

Wednesday, December 23, 2009

REQUEST NUMBER: 10-1076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2009	
		1	RE12-10-7596	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
	HASL-300:AM-241	1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
	HASL-300:ISOPU	1	RE12-10-7596	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
	HASL-300:ISOU	1	RE12-10-7608	R	12/21/2009	
		1	RE12-10-7596	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	

Wednesday, December 23, 2009

REQUEST NUMBER: 10-1076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:ISOU						
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2009	

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Wednesday, December 23, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1076

LOS ALAMOS

REQUEST NUMBER: 10-1076

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/22/2010

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
RE12-10-7606	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7607	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7596	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7597	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7608	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7600	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7601	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7602	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7599	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7598	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7603	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7596

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/21/2009		MEDIA:	QBT3		Allh
TIME COLLECTED (HH:MM)		1155		SUB-MEDIA:	TUFF1		NA
PRS ID:	C-12-003	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	12-610634	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	0.6		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	S		EXCAVATED: YES (NO) NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES (NO) NA			
BOREHOLE: YES (NO) NA		BOREHOLE DECLINATION:	NA	BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY 12/21/09	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 L	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Light brown silty sand, small rocks and roots

SAMPLE COMMENTS: NA

LOCATION DESC: 3-5, center of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 49$ dpm
 $\text{BY} \leq 2530$ dpm

PID $\frac{\text{ambient reading}}{0.0}$ ppm
 WE negative

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) <i>TLMcFarland</i>	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name) (Signature) <i>Joey</i>	Date/Time 12/21/09 1610
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7597

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/21/2009	MEDIA:		QBT3
TIME COLLECTED (HH:MM)		1204	SUB-MEDIA:		TUFF 1
PRS ID:	C-12-003	ok	SAMPLE TECH CODE:		HA
LOCATION ID:	12-610634	↓	FIELD QC TYPE:		NA
LOCATION TYPE:	GENERIC	↓	FIELD PREP:		NA
TOP DEPTH:	0	2.5	SAMPLE USAGE:		INV
BOTTOM DEPTH:	0	3.0	SCREEN/PORT DESC:		NA
FIELD MATRIX:	B	S	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA	WATER FLOWING: YES/NO/NA		
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA	BOREHOLE DIRECTION: NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY 72M 12/21/09	None	y	
1		Met+U+CLO4+C N	LGAL POLY 1 L	Ice	y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC:

light brown silty sand, small rocks and roots

SAMPLE COMMENTS:

NA

LOCATION DESC:

3-5

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 49 dpm
β ≤ 2160 dpm

PID ambient reading 0.0 / 0.0 ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) TLMcFarland (Signature)	Date/Time 12/21/09 1616	RECEIVED BY (Printed Name) (Signature)	Date/Time 12/21/09 1616
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7598

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/21/09	MEDIA:	OBT3	Allh
TIME COLLECTED (HH:MM)		1223	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-003	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	12-610635	↓	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 7m 12/21/09	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1 L	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 slightly moist silty sand, numerous rocks, few roots

SAMPLE COMMENTS:

NA

LOCATION DESC:

3-3, south side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 33$ dpm
 $\text{BX} \leq 2280$ dpmPID $\frac{\text{ambient}}{\text{reading}} = \frac{0.0}{0.0}$ ppm
HE negative

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) TLMcFarland (Signature)	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name) (Signature)	Date/Time 12/21/09 1616
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7599

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/21/2009		MEDIA:	OBT3		ok
TIME COLLECTED (HH:MM)		1230		SUB-MEDIA:	TUFF 1		↓
PRS ID:	C-12-003	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	12-610635	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	2.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	2.9		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	B	ok		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 70M 12/21/09	None	y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1 L	Ice	y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC:

Pinkish gray dry Tuff

RE12-10-7610 FR

SAMPLE COMMENTS:

LOCATION DESC: 3-3 south side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 33$ dpm $\beta \leq 2190$ dpmPID $\frac{\text{ambient reading}}{0.0} = \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) <i>TLMcFarland</i>	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name) <i>Jeffrey G.</i> (Signature) <i>Jeffrey G.</i>	Date/Time 12/21/09 1610
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7600

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/21/2009		MEDIA:	OBT3		A114
TIME COLLECTED (HH:MM)		1310		SUB-MEDIA:	TUFF 1		NA
PRS ID:	C-12-003	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	12-610636	↓		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 TAM 12/21/09	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1L	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:

Brownish beach moist silty sand, some rocks and roots

SAMPLE COMMENTS:

LOCATION DESC: 3-4 west side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 22$ dpm PID ambient $\frac{0.0}{0.0}$ ppm
 $\beta \leq 1859$ dpm HE negative

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Nicholas Gallegos

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) <i>TLMcFarland</i>	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name) (Signature) <i>[Signature]</i>	Date/Time 12/21/09 1616
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7601

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/21/2009		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1319		SUB-MEDIA:		TUFF 1	
PRS ID: C-12-003		ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID: 12-610636		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		2.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		3.2		SCREEN/PORT DESC: NA			
FIELD MATRIX: R		ok		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 73m 12/21/09	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1 L	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: Penitish gray dry stuff

FD RE12-10-7608

SAMPLE COMMENTS:

NA

LOCATION DESC: 3-4, west side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 60$ dpm $\beta \leq 2700$ dpmPID $\frac{\text{ambient reading}}{0.0}$ ppm

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

Nicholas Gallegas

RELINQUISHED BY (Printed Name) TL McFarland (Signature)	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name) (Signature)	Date/Time 12/21/09 1616
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7602

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/21/2009	MEDIA:	QBT3	Allh
TIME COLLECTED (HH:MM)		1331	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-003	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610637	↓	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 72m 12/21/09	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1 L	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, slightly moist, numerous rocks, few roots

SAMPLE COMMENTS: NA

LOCATION DESC: 3-1, north side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

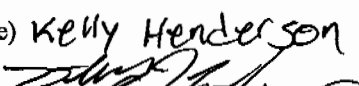
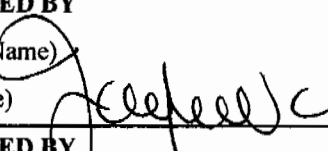
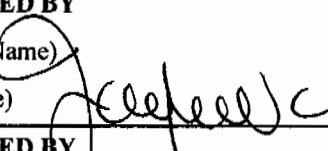
 $\alpha \leq 22$ dpm $\beta \leq 2120$ dpmPID $\frac{\text{ambient}}{\text{reading}} = \frac{0.0}{1.8}$ ppm
HE negative

COLLECTED BY (PRINT)

TLM cFar197d

REVIEWED BY (PRINT)

Nickolas Gallegos

RELINQUISHED BY (Printed Name) Kelly Henderson (Signature) 	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name)  (Signature) 	Date/Time 12/21/09 1610
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7603

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/21/2009	MEDIA:	OBT3	ok
TIME COLLECTED (HH:MM)		1405	SUB-MEDIA:	TUFF 1	↓
PRS ID:	C-12-003	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610637	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	1.9	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	2.5	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	B	ok	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA	
			WATER FLOWING: YES/NO/NA		
BOREHOLE: YES/NO/NA			BOREHOLE DECLINATION:	NA	
			BOREHOLE DIRECTION:	NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 72m 12/21/09	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1L	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Pinkish gray dry, stiff

SAMPLE COMMENTS:

NA

LOCATION DESC:

3-1, north side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

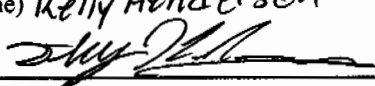
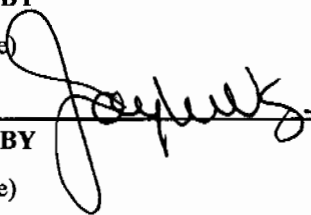
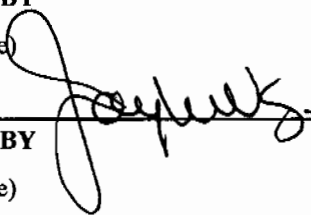
 $\alpha \leq 49$ dpm $\beta \leq 2730$ dpmPID ambient reading $\frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

Jh McFarland

REVIEWED BY (PRINT)

Nikolas Gallegos

RELINQUISHED BY (Printed Name) Kelly Henderson (Signature) 	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name)  (Signature) 	Date/Time 12/21/09 1616
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7606

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/21/2009		MEDIA: QBT3		Allh	
TIME COLLECTED (HH:MM)		1415		SUB-MEDIA: TUFF 1		NA	
PRS ID: C-12-003		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: UNK		12-410638		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		OK		FIELD PREP: NA		↓	
TOP DEPTH: 0		0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		0.5		SCREEN/PORT DESC: NA			
FIELD MATRIX: B		S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISO PU+ISOU	1 LITER POLY 7th 12/21/09	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY L	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Brown silty sand, slightly moist, few roots, few rocks

SAMPLE COMMENTS: NA

LOCATION DESC: 3-2, east side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 55 dpm

BX ≤ 2080 dpm

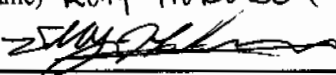
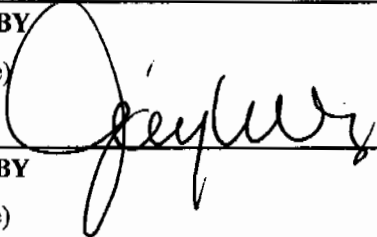
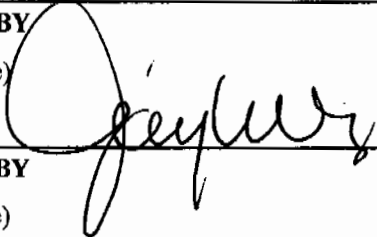
PID $\frac{\text{ambient}}{\text{reading}} = \frac{0.0}{1.3} \text{ ppm}$
HE negative

COLLECTED BY (PRINT)

T McFarland

REVIEWED BY (PRINT)

Kelly Henderson

RELINQUISHED BY (Printed Name) Kelly Henderson (Signature) 	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name)  (Signature) 	Date/Time 12/21/09 1610
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7607

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/21/2009		MEDIA:	QBT3		ok
TIME COLLECTED (HH:MM)		1438		SUB-MEDIA:	TUFF 1		↓
PRS ID:	C-12-003	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	UNK	12-G10638		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	ok		FIELD PREP:	NA		↓
TOP DEPTH:	0	2.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	2.7		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	ok		EXCAVATED: YES/NO/NA	NA		
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES/NO/NA	NO/NA			BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISO PU+ISOU	1 LITER POLY 72m 12/21/09	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1 L	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Pinkish gray tuff

SAMPLE COMMENTS: NA

LOCATION DESC: 3-2, east side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

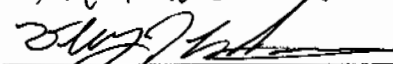
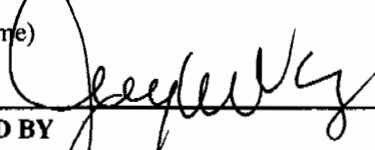
$\alpha \pm 66$ dpm
 $BY \pm 2490$ dpm
 PID $\frac{\text{ambient}}{\text{reading}} \frac{0.0}{0.6}$ ppm

COLLECTED BY (PRINT)

JL McFarlane

REVIEWED BY (PRINT)

Nicholas Gallegos

RELINQUISHED BY (Printed Name) Kelly Henderson (Signature) 	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name) (Signature) 	Date/Time 12/21/09 1610
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2489

EVENT NAME: 4thQtr. FY09 - AOC C-12-003 - Threemile Canyon

SAMPLE ID: RE12-10-7608

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/21/2009	MEDIA:	QBT3	ok
TIME COLLECTED (HH:MM)		1319	SUB-MEDIA:	TUFF 1	↓
PRS ID:	C-12-003	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	UNK	12-61063C	FIELD QC TYPE:	ED	↓
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	QC	↓
BOTTOM DEPTH:	0	3.2	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	ok	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA	
			WATER FLOWING: YES/NO/NA		
BOREHOLE: YES/NO/NA			BOREHOLE DECLINATION:	NA	
			BOREHOLE DIRECTION:	NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	12m 12/21/09 8002+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of RE12-10-7601

Pinkish gray, dry stuff

SAMPLE COMMENTS:

NA

LOCATION DESC:

3-4, west side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 60$ dpm
 $\beta \leq 2700$ dpm

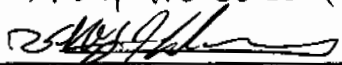
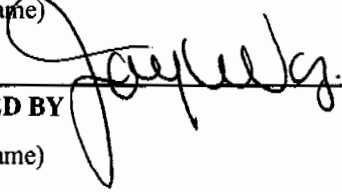
PID $\frac{\text{ambient}}{\text{reading}} = \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

Th McFarlane

REVIEWED BY (PRINT)

Nikolas Gallegos

RELINQUISHED BY (Printed Name) Kelly Henderson (Signature) 	Date/Time 12/21/09 1610	RECEIVED BY (Printed Name) (Signature) 	Date/Time 12/21/09 1010
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Rad Screening Data Release Form

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

RE12-10-75

55
56
57
58
61
62
63
96
97
98
99

RE12-16-7600

7603
7606
7601
7608
7602
7607

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

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

Reason:

.....
Print Last Name Henderson

Signature



Date

12/21/09

DATA VALIDATION COVER SHEET**5119-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1076 VALIDATION DATE: 02/08/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: John A. Bailey ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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


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

1. The gamma spec results that were rejected by the laboratory due to interference or low abundance were qualified R,R5a.


Reviewed by: Mary Donovan Level: I Date: 02/09/10

VALIDATOR'S SIGNATURE: _____


*John Bailey*DATE: 02/08/10

RAD ANALYTICAL DATA VALIDATION CHECKLIST		
5119-2	Records Use only	 Los Alamos <small>NATIONAL LABORATORY</small> <small>EST. 1945</small>
Rad Analytical Data Validation Checklist		

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

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

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	21. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6	R, R6
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6a	J-, R6a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	23. The associated matrix spike recovery was above the UAL. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6b	J+, R6b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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: January 15, 2010

Client Sample ID: RE12-10-7606
Sample ID: 243536001
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 10.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Alpha Spec Analysis											
<i>AM241 "Dry Weight Corrected"</i>											
Americium-241	U	0.0127	0.019	+/-0.00384	0.050	pCi/g		MXA1	01/07/10 0759	938070	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00132	0.0217	+/-0.00132	0.050	pCi/g		MXA1	01/05/10 2020	938071	2
Plutonium-239/240	U	0.0105	0.0248	+/-0.00459	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		1.36	0.116	+/-0.120	0.100	pCi/g		KXM4	01/14/10 0737	940301	3
Uranium-235/236	U	0.0693	0.0719	+/-0.0186	0.100	pCi/g					
Uranium-238		1.56	0.0672	+/-0.134	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	-0.10	0.329	+/-0.0933	0.200	pCi/g		MXR1	01/09/10 1407	937074	5
Bismuth-211	UI	4.00	R,R5a	0.348	+/-0.300	pCi/g					
Bismuth-214		1.20		0.110	+/-0.0905	pCi/g					
Cadmium-109	UI	2.89	R,R5a	1.36	+/-0.514	pCi/g					
Cerium-139	U	0.0353	0.0576	+/-0.0161	0.050	pCi/g					
Cesium-134	U	0.0828	0.0898	+/-0.0335	0.100	pCi/g					
Cesium-137		0.287	0.0712	+/-0.035	0.100	pCi/g					
Cobalt-60	U	0.0321	0.0717	+/-0.0199	0.100	pCi/g					
Europium-152	U	0.00736	0.183	+/-0.090	0.200	pCi/g					
Lanthanum-140	U	-0.0389	0.143	+/-0.0465	pCi/g						
Lead-212		1.60	0.0996	+/-0.0809	0.100	pCi/g					
Lead-214		1.39	0.121	+/-0.110	0.100	pCi/g					
Mercury-203	U	0.0355	0.0824	+/-0.0227	0.100	pCi/g					
Potassium-40		20.9	0.572	+/-1.09	1.00	pCi/g					
Radium-223	U	0.212	1.23	+/-0.400	pCi/g						
Radium-224	UI	4.18	R,R5a	1.13	+/-0.587	pCi/g					
Radium-226		1.20	0.110	+/-0.0905	pCi/g						
Radium-228		1.06	0.236	+/-0.224	0.500	pCi/g					
Ruthenium-106	U	0.0975	0.586	+/-0.172	0.800	pCi/g					
Sodium-22	U	-0.0131	0.0731	+/-0.023	0.080	pCi/g					
Strontium-85	UI	0.102	R,R5a	0.0825	+/-0.0216	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: January 15, 2010

Client Sample ID:
Sample ID:

RE12-10-7606
243536001

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		0.447	0.060	+/-0.047	0.080	pCi/g					
Thorium-227	U	-0.211	0.681	+/-0.211		pCi/g					
Thorium-231	U	0.212	1.23	+/-0.400		pCi/g					
Thorium-234	U	0.464	2.78	+/-0.774	2.00	pCi/g					
Tin-113	U	-0.0294	0.0761	+/-0.0231	0.100	pCi/g					
Uranium-235	U	0.0722	0.393	+/-0.113	0.500	pCi/g					
Yttrium-88	U	-0.0196	0.0575	+/-0.0194	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	84.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	93.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.9	(50%-105%)

Notes:

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

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

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7607
Sample ID: 243536002
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 6.17%

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	0.00317	0.0169	+/-0.00179	0.050	pCi/g		MXA1	01/07/10	0759	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00263	0.0217	+/-0.00186	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00263	0.0248	+/-0.00186	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.553	0.132	+/-0.0629	0.100	pCi/g		KXM4	01/14/10	0737	940301	3
Uranium-235/236	U	0.0578	0.0818	+/-0.0179	0.100	pCi/g						
Uranium-238		0.510	0.0765	+/-0.0592	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0805	0.183	+/-0.0576	0.200	pCi/g		MXR1	01/09/10	1408	937074	5
Bismuth-211	UI	3.37	R,R5a	0.312	+/-0.272	pCi/g						
Bismuth-214		1.02		0.121	+/-0.0946	0.200	pCi/g					
Cadmium-109	UI	2.82	R,R5a	1.03	+/-0.443	pCi/g						
Cerium-139	U	-0.0037		0.049	+/-0.0152	0.050	pCi/g					
Cesium-134	UI	0.179	R,R5a	0.105	+/-0.0389	0.100	pCi/g					
Cesium-137	U	0.000963		0.066	+/-0.0199	0.100	pCi/g					
Cobalt-60	U	-0.00514		0.070	+/-0.0216	0.100	pCi/g					
Europium-152	U	-0.0203		0.143	+/-0.0537	0.200	pCi/g					
Lanthanum-140	U	-0.088		0.151	+/-0.0546	pCi/g						
Lead-212		1.63		0.0854	+/-0.0972	0.100	pCi/g					
Lead-214		1.17		0.109	+/-0.0994	0.100	pCi/g					
Mercury-203	U	-0.00233		0.0706	+/-0.021	0.100	pCi/g					
Potassium-40		33.4		0.626	+/-1.73	1.00	pCi/g					
Radium-223	U	-0.322		1.12	+/-0.345	pCi/g						
Radium-224	UI	3.82	R,R5a	0.972	+/-0.578	pCi/g						
Radium-226		1.02		0.121	+/-0.0946	pCi/g						
Radium-228		1.40		0.219	+/-0.162	0.500	pCi/g					
Ruthenium-106	U	0.368		0.616	+/-0.170	0.800	pCi/g					
Sodium-22	U	-0.027		0.0814	+/-0.026	0.080	pCi/g					
Strontium-85	UI	0.0775	R,R5a	0.0736	+/-0.0215	pCi/g						
Thallium-208		0.435		0.0644	+/-0.0499	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID:
Sample ID:

RE12-10-7607
243536002

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	-0.125	0.647	+/-0.194		pCi/g					
Thorium-231	U	-0.322	1.12	+/-0.345		pCi/g					
Thorium-234	U	1.29	1.57	+/-0.680	2.00	pCi/g					
Tin-113	U	0.0313	0.0738	+/-0.0213	0.100	pCi/g					
Uranium-235	U	-0.117	0.330	+/-0.105	0.500	pCi/g					
Yttrium-88	U	0.00343	0.0548	+/-0.0162	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	95.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.5	(50%-105%)

Notes:

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

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- BD Results are either below the MDC or tracer recovery is low
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- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure

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Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7596
Sample ID: 243536003
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 10%

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	0.000517	0.0199	+/-0.00183	0.050	pCi/g		MXA1	01/07/10	0759	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0025	0.0206	+/-0.0025	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	-0.00125	0.0236	+/-0.00217	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.987	0.0775	+/-0.0838	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236		0.0495	0.0481	+/-0.0142	0.100	pCi/g						
Uranium-238		1.10	0.045	+/-0.0917	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0252	0.413	+/-0.131	0.200	pCi/g		MXR1	01/09/10	1409	937074	5
Bismuth-211	UI	4.03	R,R5a	+/-0.276		pCi/g						
Bismuth-214		1.42		+/-0.0979	0.200	pCi/g						
Cadmium-109	UI	3.31	R,R5a	+/-0.657		pCi/g						
Cerium-139	U	-0.00416	0.0509	+/-0.0156	0.050	pCi/g						
Cesium-134	UI	0.0989	R,R5a	+/-0.0219	0.100	pCi/g						
Cesium-137	U	0.000255	0.0609	+/-0.018	0.100	pCi/g						
Cobalt-60	U	0.0325	0.068	+/-0.0185	0.100	pCi/g						
Europium-152	U	-0.0039	0.158	+/-0.0486	0.200	pCi/g						
Lanthanum-140	U	-0.0335	0.179	+/-0.0574		pCi/g						
Lead-212		1.73	0.0898	+/-0.0867	0.100	pCi/g						
Lead-214		1.40	0.109	+/-0.103	0.100	pCi/g						
Mercury-203	U	0.0173	0.0716	+/-0.0232	0.100	pCi/g						
Potassium-40		19.5	0.571	+/-1.11	1.00	pCi/g						
Radium-223	U	0.424	1.08	+/-0.348		pCi/g						
Radium-224	UI	5.15	R,R5a	+/-0.597		pCi/g						
Radium-226		1.42	0.100	+/-0.0979		pCi/g						
Radium-228		1.43	0.245	+/-0.168	0.500	pCi/g						
Ruthenium-106	U	0.0923	0.532	+/-0.153	0.800	pCi/g						
Sodium-22	U	0.0187	0.072	+/-0.0206	0.080	pCi/g						
Strontium-85	U	0.0287	0.0648	+/-0.0214		pCi/g						
Thallium-208		0.593	0.0561	+/-0.0467	0.080	pCi/g						

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Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID:
Sample ID:

RE12-10-7596
243536003

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	-0.131	0.613	+/-0.182		pCi/g					
Thorium-231	U	0.424	1.08	+/-0.348		pCi/g					
Thorium-234	U	0.789	2.94	+/-1.24	2.00	pCi/g					
Tin-113	U	-0.00639	0.0699	+/-0.0212	0.100	pCi/g					
Uranium-235	U	0.226	0.370	+/-0.109	0.500	pCi/g					
Yttrium-88	U	-0.00315	0.0421	+/-0.0135	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	96.4	(50%-105%)

Notes:

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

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- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
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- M Matrix Related Failure

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7597
Sample ID: 243536004
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 5.14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00609	0.0192	+/-0.00265	0.050	pCi/g		MXA1	01/07/10	0759	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00221	0.0182	+/-0.00157	0.050	pCi/g		MXA1	01/11/10	1211	939666	2
Plutonium-239/240	U	0.00	0.0209	+/-0.00111	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.951	0.0722	+/-0.080	0.100	pCi/g		KXM4	01/14/10	0732	940301	5
Uranium-235/236		0.0662	0.0448	+/-0.0145	0.100	pCi/g						
Uranium-238		0.927	0.0419	+/-0.0785	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0167	0.230	+/-0.0704	0.200	pCi/g		MXR1	01/09/10	1409	937074	7
Bismuth-211	UI	4.04	R,R5a	0.283	+/-0.254	pCi/g						
Bismuth-214		1.23		0.098	+/-0.0976	0.200	pCi/g					
Cadmium-109	UI	2.54	R,R5a	1.10	+/-0.494	pCi/g						
Cerium-139	U	-0.00588		0.0442	+/-0.0132	0.050	pCi/g					
Cesium-134	U	0.072		0.085	+/-0.0301	0.100	pCi/g					
Cesium-137	U	-0.0248		0.0554	+/-0.0173	0.100	pCi/g					
Cobalt-60	U	0.0194		0.0592	+/-0.0168	0.100	pCi/g					
Europium-152	U	-0.0958		0.135	+/-0.0443	0.200	pCi/g					
Lanthanum-140	U	-0.0362		0.156	+/-0.0492	pCi/g						
Lead-212		1.35		0.0841	+/-0.0694	0.100	pCi/g					
Lead-214		1.41		0.0987	+/-0.0957	0.100	pCi/g					
Mercury-203	U	-0.00275		0.0658	+/-0.0215	0.100	pCi/g					
Potassium-40		20.7		0.463	+/-1.01	1.00	pCi/g					
Radium-223	U	-0.279		0.943	+/-0.324	pCi/g						
Radium-224	UI	3.37	R,R5a	0.957	+/-0.495	pCi/g						
Radium-226		1.23		0.098	+/-0.0976	pCi/g						
Radium-228		1.55		0.184	+/-0.158	0.500	pCi/g					
Ruthenium-106	U	-0.188		0.462	+/-0.143	0.800	pCi/g					
Sodium-22	U	-0.00991		0.0653	+/-0.0202	0.080	pCi/g					
Strontium-85	U	0.0242		0.0565	+/-0.0184	pCi/g						
Thallium-208		0.480		0.0536	+/-0.0379	0.080	pCi/g					

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Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID:
Sample ID:

RE12-10-7597
243536004

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	-0.166	0.540	+/-0.159		pCi/g					
Thorium-231	U	-0.279	0.943	+/-0.324		pCi/g					
Thorium-234	U	0.567	1.98	+/-0.775	2.00	pCi/g					
Tin-113	U	-0.046	0.0618	+/-0.020	0.100	pCi/g					
Uranium-235	U	-0.0437	0.317	+/-0.0938	0.500	pCi/g					
Yttrium-88	U	0.0121	0.0529	+/-0.016	0.100	pCi/g					

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, 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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	101	(50%-105%)

Notes:

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- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7608
Sample ID: 243536005
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 10.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.000613	0.0206	+/-0.00601	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00156	0.0258	+/-0.00156	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00312	0.0295	+/-0.00313	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.495	0.0754	+/-0.0488	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236		0.0692	0.0468	+/-0.0152	0.100	pCi/g						
Uranium-238		0.394	0.0437	+/-0.0413	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0301	0.112	+/-0.0347	0.200	pCi/g		MXR1	01/09/10	1410	937074	5
Bismuth-211	UI	3.05	R,R5a	0.418	+/-0.280	pCi/g						
Bismuth-214		0.879		0.167	+/-0.108	pCi/g						
Cadmium-109	UI	3.10	R,R5a	1.32	+/-0.453	pCi/g						
Cerium-139	U	0.0118		0.0596	+/-0.018	pCi/g						
Cesium-134	U	0.0812		0.126	+/-0.0351	pCi/g						
Cesium-137	U	0.0431		0.0919	+/-0.0266	pCi/g						
Cobalt-60	U	0.00368		0.0961	+/-0.0289	pCi/g						
Europium-152	U	0.0975		0.206	+/-0.0599	pCi/g						
Lanthanum-140	U	-0.0633		0.224	+/-0.0738	pCi/g						
Lead-212		1.44		0.104	+/-0.090	pCi/g						
Lead-214		1.06		0.146	+/-0.101	pCi/g						
Mercury-203	U	0.00645		0.0849	+/-0.0252	pCi/g						
Potassium-40		34.3		0.804	+/-1.53	pCi/g						
Radium-223	U	-0.111		1.28	+/-0.445	pCi/g						
Radium-224	UI	3.72	R,R5a	1.18	+/-0.768	pCi/g						
Radium-226		0.879		0.167	+/-0.108	pCi/g						
Radium-228		1.47		0.326	+/-0.197	pCi/g						
Ruthenium-106	U	0.336		0.805	+/-0.234	pCi/g						
Sodium-22	U	0.0419		0.111	+/-0.0318	pCi/g						
Strontium-85	U	0.0489		0.094	+/-0.0304	pCi/g						
Thallium-208		0.516		0.0744	+/-0.0599	pCi/g						

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Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7608
Sample ID: 243536005
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	-0.0517	0.740	+/-0.220		pCi/g					
Thorium-231	U	-0.111	1.28	+/-0.445		pCi/g					
Thorium-234	U	0.942	1.08	+/-0.587	2.00	pCi/g					
Tin-113	U	-0.0474	0.0908	+/-0.0295	0.100	pCi/g					
Uranium-235	U	0.186	0.384	+/-0.166	0.500	pCi/g					
Yttrium-88	U	-0.00826	0.071	+/-0.0223	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	94.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	72.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7600
Sample ID: 243536006
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.010	0.0201	+/-0.00737	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0346	+/-0.0021	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.0105	0.0396	+/-0.00558	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.795	0.0789	+/-0.0706	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236		0.0566	0.049	+/-0.0139	0.100	pCi/g						
Uranium-238		1.17	0.0458	+/-0.0969	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.034	0.189	+/-0.0619	0.200	pCi/g		MXR1	01/09/10	1410	937074	5
Bismuth-211	UI	2.38	R,R5a	0.301	+/-0.181	pCi/g						
Bismuth-214		0.744		0.103	+/-0.0681	0.200	pCi/g					
Cadmium-109	UI	1.67	R,R5a	1.24	+/-0.383	pCi/g						
Cerium-139	U	0.00278		0.0452	+/-0.0135	0.050	pCi/g					
Cesium-134	U	0.0399		0.0643	+/-0.0177	0.100	pCi/g					
Cesium-137		0.397		0.0557	+/-0.0367	0.100	pCi/g					
Cobalt-60	U	0.0109		0.0616	+/-0.018	0.100	pCi/g					
Europium-152	U	-0.0363		0.139	+/-0.0465	0.200	pCi/g					
Lanthanum-140	U	-0.0867		0.121	+/-0.0455	pCi/g						
Lead-212		0.899		0.0758	+/-0.0545	0.100	pCi/g					
Lead-214		0.827		0.101	+/-0.0667	0.100	pCi/g					
Mercury-203	U	0.00741		0.0649	+/-0.0187	0.100	pCi/g					
Potassium-40		22.2		0.375	+/-1.10	1.00	pCi/g					
Radium-223	U	-0.67		0.951	+/-0.302	pCi/g						
Radium-224	UI	2.83	R,R5a	0.862	+/-0.543	pCi/g						
Radium-226		0.744		0.103	+/-0.0681	pCi/g						
Radium-228		0.885		0.174	+/-0.119	0.500	pCi/g					
Ruthenium-106	U	0.0887		0.473	+/-0.140	0.800	pCi/g					
Sodium-22	U	-0.01		0.0589	+/-0.0184	0.080	pCi/g					
Strontium-85	UI	0.0805	R,R5a	0.0638	+/-0.0167	pCi/g						
Thallium-208		0.275		0.0517	+/-0.0318	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7600
Sample ID: 243536006

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	-0.0188	0.548	+/-0.160		pCi/g					
Thorium-231	U	-0.67	0.951	+/-0.302		pCi/g					
Thorium-234	U	1.13	1.64	+/-0.637	2.00	pCi/g					
Tin-113	U	0.00235	0.0656	+/-0.0193	0.100	pCi/g					
Uranium-235	U	0.258	0.338	+/-0.0999	0.500	pCi/g					
Yttrium-88	U	-0.000497	0.0474	+/-0.0148	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	94.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	56.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.0	(50%-105%)

Notes:

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

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- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7601
Sample ID: 243536007
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 10.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Alpha Spec Analysis											
<i>AM241 "Dry Weight Corrected"</i>											
Americium-241	U	0.00397	0.0197	+/-0.00271	0.050	pCi/g		MXA1	01/07/10 0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00949	0.0224	+/-0.00848	0.050	pCi/g		MXA1	01/05/10 2020	938071	2
Plutonium-239/240	U	0.00271	0.0256	+/-0.00332	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		0.567	0.0794	+/-0.0546	0.100	pCi/g		KXM4	01/14/10 0732	940301	3
Uranium-235/236	U	0.038	0.0493	+/-0.0113	0.100	pCi/g					
Uranium-238		0.425	0.0461	+/-0.0442	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	-0.417	0.501	+/-0.156	0.200	pCi/g		MXR1	01/09/10 1411	937074	5
Bismuth-211	UI	2.77	R,R5a 0.403	+/-0.263		pCi/g					
Bismuth-214		0.769	0.131	+/-0.0908	0.200	pCi/g					
Cadmium-109	U	1.43	1.76	+/-0.788		pCi/g					
Cerium-139	U	0.0369	0.0647	+/-0.0188	0.050	pCi/g					
Cesium-134	UI	0.152	R,R5a 0.115	+/-0.047	0.100	pCi/g					
Cesium-137	U	-0.00929	0.0707	+/-0.0223	0.100	pCi/g					
Cobalt-60	U	-0.0291	0.0787	+/-0.0262	0.100	pCi/g					
Europium-152	U	-0.164	0.187	+/-0.0678	0.200	pCi/g					
Lanthanum-140	U	-0.01	0.195	+/-0.0597		pCi/g					
Lead-212		1.66	0.115	+/-0.0956	0.100	pCi/g					
Lead-214		0.965	0.140	+/-0.095	0.100	pCi/g					
Mercury-203	U	-0.0405	0.0906	+/-0.0276	0.100	pCi/g					
Potassium-40		36.5	0.696	+/-1.74	1.00	pCi/g					
Radium-223	U	-0.372	1.44	+/-0.437		pCi/g					
Radium-224	UI	4.43	R,R5a 1.30	+/-0.876		pCi/g					
Radium-226		0.769	0.131	+/-0.0908		pCi/g					
Radium-228		1.53	0.269	+/-0.187	0.500	pCi/g					
Ruthenium-106	U	-0.24	0.608	+/-0.198	0.800	pCi/g					
Sodium-22	U	-0.00856	0.0945	+/-0.0296	0.080	pCi/g					
Strontium-85	UI	0.103	R,R5a 0.090	+/-0.027		pCi/g					
Thallium-208		0.470	0.0696	+/-0.0568	0.080	pCi/g					

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Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7601
Sample ID: 243536007
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	-0.0602	0.793	+/-0.233		pCi/g					
Thorium-231	U	-0.372	1.44	+/-0.437		pCi/g					
Thorium-234	U	1.28	4.05	+/-1.17	2.00	pCi/g					
Tin-113	U	0.00578	0.0949	+/-0.0282	0.100	pCi/g					
Uranium-235	U	0.110	0.460	+/-0.140	0.500	pCi/g					
Yttrium-88	U	-0.0123	0.063	+/-0.0205	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	89.0	(50%-105%)

Notes:

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

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- D Results are reported from a diluted aliquot of the sample
- 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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7602
Sample ID: 243536008
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 7.03%

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	0.00307	0.0208	+/-0.0026	0.050	pCi/g		MXA1	01/07/10 0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	-0.00528	0.0218	+/-0.00295	0.050	pCi/g		MXA1	01/05/10 2020	938071	2
Plutonium-239/240	U	0.00528	0.0249	+/-0.00374	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		0.723	0.0767	+/-0.0653	0.100	pCi/g		KXM4	01/14/10 0732	940301	3
Uranium-235/236		0.0489	0.0476	+/-0.0134	0.100	pCi/g					
Uranium-238		0.869	0.0445	+/-0.0753	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.102	0.257	+/-0.0766	0.200	pCi/g		MXR1	01/09/10 1411	937074	5
Bismuth-211	UI	3.11	R,R5a	0.230	+/-0.201	pCi/g					
Bismuth-214		0.893		0.0817	+/-0.0664	0.200	pCi/g				
Cadmium-109	UI	1.77	R,R5a	1.30	+/-0.450	pCi/g					
Cerium-139	U	-0.00191		0.0373	+/-0.0105	0.050	pCi/g				
Cesium-134	UI	0.114	R,R5a	0.0639	+/-0.0246	0.100	pCi/g				
Cesium-137		0.192		0.0442	+/-0.0267	0.100	pCi/g				
Cobalt-60	U	0.000251		0.0442	+/-0.0134	0.100	pCi/g				
Europium-152	U	0.0183		0.108	+/-0.0435	0.200	pCi/g				
Lanthanum-140	U	-0.0334		0.133	+/-0.0417	pCi/g					
Lead-212		1.33		0.0691	+/-0.0626	0.100	pCi/g				
Lead-214		1.08		0.0803	+/-0.0755	0.100	pCi/g				
Mercury-203	U	0.0341		0.0562	+/-0.0158	0.100	pCi/g				
Potassium-40		26.4		0.459	+/-1.18	1.00	pCi/g				
Radium-223	U	0.104		0.756	+/-0.255	pCi/g					
Radium-224	UI	3.43	R,R5a	0.785	+/-0.518	pCi/g					
Radium-226		0.893		0.0817	+/-0.0664	pCi/g					
Radium-228		1.24		0.150	+/-0.126	0.500	pCi/g				
Ruthenium-106	U	-0.0118		0.357	+/-0.108	0.800	pCi/g				
Sodium-22	U	-0.00741		0.0531	+/-0.0163	0.080	pCi/g				
Strontium-85	UI	0.129	R,R5a	0.0607	+/-0.017	pCi/g					
Thallium-208		0.445		0.0404	+/-0.0313	0.080	pCi/g				

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Report Date: January 15, 2010

Client Sample ID:
Sample ID:

RE12-10-7602
243536008

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	-0.0922	0.467	+/-0.138		pCi/g					
Thorium-231	U	0.104	0.756	+/-0.255		pCi/g					
Thorium-234	U	0.825	2.07	+/-0.881	2.00	pCi/g					
Tin-113	U	0.016	0.0583	+/-0.0164	0.100	pCi/g					
Uranium-235	U	-0.035	0.270	+/-0.0824	0.500	pCi/g					
Yttrium-88	U	0.00177	0.0378	+/-0.0114	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.2	(50%-105%)

Notes:

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

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- C Analyte has been confirmed by GC/MS analysis
- 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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7599
Sample ID: 243536009
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 8.97%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Alpha Spec Analysis											
<i>AM241 "Dry Weight Corrected"</i>											
Americium-241	U	-0.00182	0.0222	+/-0.00384	0.050	pCi/g		MXA1	01/07/10 0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00493	0.0204	+/-0.00524	0.050	pCi/g		MXA1	01/05/10 2020	938071	2
Plutonium-239/240	U	0.00123	0.0233	+/-0.00214	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		0.511	0.0736	+/-0.0493	0.100	pCi/g		KXM4	01/14/10 0732	940301	3
Uranium-235/236	U	0.0352	0.0457	+/-0.0112	0.100	pCi/g					
Uranium-238		0.482	0.0427	+/-0.0473	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.0394	0.224	+/-0.0722	0.200	pCi/g		MXR1	01/09/10 1412	937074	5
Bismuth-211	UI	3.18	R,R5a	0.287	+/-0.281	pCi/g					
Bismuth-214		0.873		0.109	+/-0.0766	0.200					
Cadmium-109	UI	2.72	R,R5a	1.31	+/-0.455	pCi/g					
Cerium-139	U	-0.0136	0.0499	+/-0.015	0.050	pCi/g					
Cesium-134	U	0.0613	0.0818	+/-0.0241	0.100	pCi/g					
Cesium-137	U	0.0224	0.0619	+/-0.0182	0.100	pCi/g					
Cobalt-60	U	-0.0223	0.0588	+/-0.0189	0.100	pCi/g					
Europium-152	U	0.0281	0.137	+/-0.0581	0.200	pCi/g					
Lanthanum-140	U	-0.115	0.156	+/-0.0532		pCi/g					
Lead-212		1.52	0.0944	+/-0.112	0.100	pCi/g					
Lead-214		1.11	0.100	+/-0.102	0.100	pCi/g					
Mercury-203	U	-0.00934	0.0717	+/-0.0224	0.100	pCi/g					
Potassium-40		38.1	0.498	+/-1.94	1.00	pCi/g					
Radium-223	U	0.249	1.06	+/-0.352		pCi/g					
Radium-224	UI	4.27	R,R5a	1.07	+/-0.642	pCi/g					
Radium-226		0.873	0.109	+/-0.0766		pCi/g					
Radium-228		1.33	0.219	+/-0.152	0.500	pCi/g					
Ruthenium-106	U	-0.0487	0.489	+/-0.149	0.800	pCi/g					
Sodium-22	U	-0.014	0.0686	+/-0.0213	0.080	pCi/g					
Strontium-85	UI	0.158	R,R5a	0.0769	+/-0.0236	pCi/g					
Thallium-208		0.443	0.0523	+/-0.044	0.080	pCi/g					

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7599
Sample ID: 243536009

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	0.0748	0.628	+/-0.191		pCi/g					
Thorium-231	U	0.249	1.06	+/-0.352		pCi/g					
Thorium-234	U	1.36	1.79	+/-0.868	2.00	pCi/g					
Tin-113	U	0.00688	0.073	+/-0.0218	0.100	pCi/g					
Uranium-235	U	0.00205	0.347	+/-0.103	0.500	pCi/g					
Yttrium-88	U	0.0218	0.0527	+/-0.0146	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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- < 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

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7598
Sample ID: 243536010
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 9.69%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Alpha Spec Analysis											
<i>AM241 "Dry Weight Corrected"</i>											
Americium-241	U	0.00928	0.0209	+/-0.00489	0.050	pCi/g		MXA1	01/07/10 0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00134	0.0221	+/-0.00134	0.050	pCi/g		MXA1	01/05/10 2020	938071	2
Plutonium-239/240	U	0.0214	0.0253	+/-0.00608	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		1.45	0.0795	+/-0.116	0.100	pCi/g		KXM4	01/14/10 0732	940301	3
Uranium-235/236		0.114	0.0494	+/-0.0206	0.100	pCi/g					
Uranium-238		1.73	0.0461	+/-0.136	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.151	0.294	+/-0.0888	0.200	pCi/g		MXR1	01/09/10 1413	937074	5
Bismuth-211	UI	2.43	R,R5a 0.307	+/-0.212		pCi/g					
Bismuth-214		0.624	0.107	+/-0.0808	0.200	pCi/g					
Cadmium-109	U	1.23	1.53	+/-0.469		pCi/g					
Cerium-139	U	-0.0159	0.0466	+/-0.014	0.050	pCi/g					
Cesium-134	U	0.0471	0.0764	+/-0.0204	0.100	pCi/g					
Cesium-137		0.485	0.0606	+/-0.0445	0.100	pCi/g					
Cobalt-60	U	0.0127	0.0646	+/-0.0189	0.100	pCi/g					
Europium-152	U	-0.105	0.141	+/-0.0519	0.200	pCi/g					
Lanthanum-140	U	-0.0391	0.134	+/-0.0439		pCi/g					
Lead-212		0.905	0.0803	+/-0.0553	0.100	pCi/g					
Lead-214		0.844	0.107	+/-0.0769	0.100	pCi/g					
Mercury-203	U	0.0131	0.0699	+/-0.0196	0.100	pCi/g					
Potassium-40		17.7	0.392	+/-0.968	1.00	pCi/g					
Radium-223	U	-0.367	1.08	+/-0.323		pCi/g					
Radium-224	UI	2.45	R,R5a 0.913	+/-0.467		pCi/g					
Radium-226		0.624	0.107	+/-0.0808		pCi/g					
Radium-228		1.16	0.166	+/-0.131	0.500	pCi/g					
Ruthenium-106	U	0.0254	0.488	+/-0.146	0.800	pCi/g					
Sodium-22	U	0.0312	0.0791	+/-0.0224	0.080	pCi/g					
Strontium-85	U	0.064	0.0664	+/-0.0196		pCi/g					
Thallium-208		0.282	0.0572	+/-0.0335	0.080	pCi/g					

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7598
Sample ID: 243536010
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	0.0255	0.596	+/-0.178		pCi/g					
Thorium-231	U	-0.367	1.08	+/-0.323		pCi/g					
Thorium-234		3.23	2.40	+/-0.992	2.00	pCi/g					
Tin-113	U	0.0124	0.0763	+/-0.0221	0.100	pCi/g					
Uranium-235	U	-0.0416	0.326	+/-0.0977	0.500	pCi/g					
Yttrium-88	U	0.000367	0.0372	+/-0.0112	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7603
Sample ID: 243536011
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 3.72%

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	0.00513	0.0236	+/-0.00758	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00121	0.0199	+/-0.00121	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00482	0.0228	+/-0.00296	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.450	0.0715	+/-0.0445	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236	U	0.0428	0.0444	+/-0.0114	0.100	pCi/g						
Uranium-238		0.436	0.0415	+/-0.0437	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0401	0.184	+/-0.0628	0.200	pCi/g		MXR1	01/09/10	1420	937074	5
Bismuth-211	UI	3.32	R,R5a	0.307	+/-0.307	pCi/g						
Bismuth-214		0.909		0.112	+/-0.0925	0.200	pCi/g					
Cadmium-109	U	1.18		1.33	+/-0.432	pCi/g						
Cerium-139	U	-0.00631	0.0441	+/-0.0132	0.050	pCi/g						
Cesium-134	U	0.0598	0.0876	+/-0.0276	0.100	pCi/g						
Cesium-137	U	-0.00189	0.0662	+/-0.0204	0.100	pCi/g						
Cobalt-60	U	-0.0184	0.0723	+/-0.0234	0.100	pCi/g						
Europium-152	U	-0.101	0.140	+/-0.0485	0.200	pCi/g						
Lanthanum-140	U	-0.127	0.125	+/-0.0501	pCi/g							
Lead-212		1.55	0.0968	+/-0.129	0.100	pCi/g						
Lead-214		1.15	0.107	+/-0.111	0.100	pCi/g						
Mercury-203	U	0.00185	0.0702	+/-0.0215	0.100	pCi/g						
Potassium-40		38.9	0.476	+/-1.98	1.00	pCi/g						
Radium-223	U	0.253	1.13	+/-0.343	pCi/g							
Radium-224	UI	3.07	R,R5a	1.16	+/-0.487	pCi/g						
Radium-226		0.909	0.112	+/-0.0925	pCi/g							
Radium-228		1.47	0.186	+/-0.181	0.500	pCi/g						
Ruthenium-106	U	-0.157	0.511	+/-0.164	0.800	pCi/g						
Sodium-22	U	-0.0247	0.0708	+/-0.0234	0.080	pCi/g						
Strontium-85	U	0.0372	0.0617	+/-0.0192	pCi/g							
Thallium-208		0.491	0.0566	+/-0.0462	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7603
Sample ID: 243536011
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	-0.247	0.569	+/-0.184		pCi/g					
Thorium-231	U	0.253	1.13	+/-0.343		pCi/g					
Thorium-234	U	0.712	1.58	+/-0.699	2.00	pCi/g					
Tin-113	U	-0.0154	0.0722	+/-0.0218	0.100	pCi/g					
Uranium-235	U	-0.0391	0.311	+/-0.0944	0.500	pCi/g					
Yttrium-88	U	0.00759	0.0518	+/-0.0149	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	79.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	105	(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
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure

Wednesday, December 23, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1076

LOS ALAMOS

REQUEST NUMBER: 10-1076

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/22/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

2435367.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7606	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7607	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7596	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7597	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7608	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7600	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7601	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7602	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7598	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7598	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7603	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

REQUEST NUMBER: 10-1076

Wednesday, December 23, 2009

**LOS ALAMOS
NATIONAL LABORATORY**

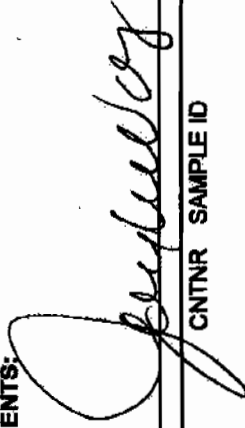
ATTN: Valerie Davis
General Engineering Laboratories, Inc., Charleston, SC.
2040 Savage Rd
Charleston, SC 29407

These Samples are on:
LANL Request Number: 10-1076
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 12/23/2009
TURNAROUND/REPORT DUE: 1/22/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Received
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature: 

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE12-10-7586	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	

Wednesday, December 23, 2009

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-301.1	1	RE12-10-7607	R	12/21/2008	
		1	RE12-10-7608	R	12/21/2008	
	HASL-300:AM-241	1	RE12-10-7596	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2008	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2008	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2008	
	HASL-300:ISOPU	1	RE12-10-7598	R	12/21/2008	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2008	
		1	RE12-10-7599	R	12/21/2008	
		1	RE12-10-7600	R	12/21/2008	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2008	
		1	RE12-10-7603	R	12/21/2008	
		1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2008	
	HASL-300:ISOU	1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	

Wednesday, December 23, 2009

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7600	R	12/21/2008	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2009	

Final Page of REQUEST NUMBER 10-1076



January 05, 2010

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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: 243536
SDG: 10-1076

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on December 24, 2009, 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: 10-1076
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 243536
SDG: 10-1076

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Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 243536
SDG # : 10-1076**

January 05, 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 December 24, 2009 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 14/15C 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>
243536001	RE12-10-7606
243536002	RE12-10-7607
243536003	RE12-10-7596
243536004	RE12-10-7597
243536005	RE12-10-7608
243536006	RE12-10-7600
243536007	RE12-10-7601
243536008	RE12-10-7602
243536009	RE12-10-7599
243536010	RE12-10-7598
243536011	RE12-10-7603

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
Shaw

Valerie Davis

Project Manager

List of current GEL Certifications as of 05 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

Wednesday, December 23, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1076

LOS ALAMOS

REQUEST NUMBER: 10-1076

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/22/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

243536%.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7606	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7607	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7596	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7597	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7608	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7600	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7601	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7602	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7599	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7598	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7603	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

Wednesday, December 23, 2009

**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: 12/23/2009

TURNAROUND/REPORT DUE: 1/22/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Received

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature: 

Page 1 of 3

REQUEST NUMBER: 10-1076

These Samples are on:

LANL Request Number: 10-1076
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1						
		1	RE12-10-7596	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	

Wednesday, December 23, 2009

Page 2 of 3

REQUEST NUMBER: 10-1076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-801.1	1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2009	
	HASL-300:AM-241	1	RE12-10-7596	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2009	
	HASL-300:ISOPU	1	RE12-10-7596	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7599	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2009	
	HASL-300:ISOU	1	RE12-10-7596	R	12/21/2009	
		1	RE12-10-7597	R	12/21/2009	
		1	RE12-10-7598	R	12/21/2009	
		1	RE12-10-7600	R	12/21/2009	

Wednesday, December 23, 2009

Page 3 of 3

REQUEST NUMBER: 10-1076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7600	R	12/21/2009	
		1	RE12-10-7601	R	12/21/2009	
		1	RE12-10-7602	R	12/21/2009	
		1	RE12-10-7603	R	12/21/2009	
		1	RE12-10-7606	R	12/21/2009	
		1	RE12-10-7607	R	12/21/2009	
		1	RE12-10-7608	R	12/21/2009	

Final Page of REQUEST NUMBER 10-1076



SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCOC/Work Order: 10-1076		
Received By: Greg Tyler			Date Received: 12/24/09		
Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.		
COC/Samples marked as radioactive?		X	Maximum Counts Observed*: 60cpm		
Classified Radioactive II by RSO?		X			
COC/Samples marked containing PCBs?		X			
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:		
Samples identified as Foreign Soil?		X			

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within 0 ≤ 6 deg. C?	X			Preservation Method: ice bags blue ice dry ice none other 3-5C 14,15C
3 Chain of custody documents included with shipment?	X			
4 Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7 Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8 Samples received within holding time?	X			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?		X		Sample ID's affected: No time on Chain of Custody.
11 Number of containers received match number indicated on COC?	X			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	X			

Comments:

Fed Ex Tracking Numbers

7209 7849 3755 3C 7209 7849 3803 5C
7209 7849 3788 4C 7209 7849 3825 14C
7209 7849 3799 4C 7209 7849 3744 14C
7209 7849 3858 4C 7209 7849 3733 15C
7209 7849 3836 5C 7209 7849 3766 15C
7209 7849 3777 5C
7209 7849 3722 5C
7209 7849 3847 5C

IGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
S ALAMOS NATL LAB
00 BLDG 1237 DPU 03

SHIP DATE: 23DEC09
ACTMGT: 57.0 LB MAN
CAD: 0014176/CAFE2434

S ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

ALERIE DAVIS
GENERAL ENGINEERING LAB
040 SAVAGE RD

HARLESTON SC 29407

(43)666-8171
EF: 6B01AMR3A0352VA00



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Express



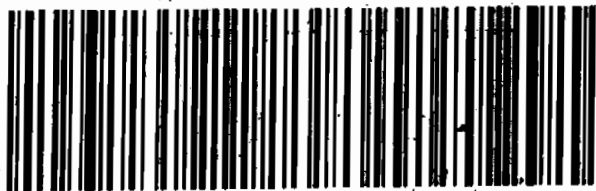
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PRIORITY OVERNIGHT

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SC-US
CHS



IGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
S ALAMOS NATL LAB
00 BLDG 1237 DPU 03

SHIP DATE: 23DEC09
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CAD: 0014176/CAFE2434

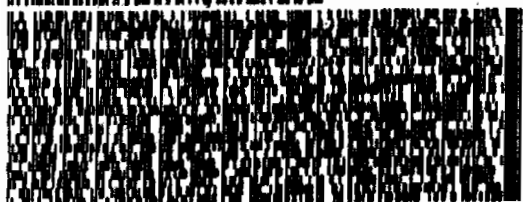
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UNITED STATES US

BILL SENDER

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GENERAL ENGINEERING LAB
040 SAVAGE RD

HARLESTON SC 29407

(43)666-8171
EF: 6B01AMR3A0325VA00



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THU - 24DEC A1
PRIORITY OVERNIGHT

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SC-US
CHS

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

SHIP DATE: 23DEC09
ACTMGT: 56.0 LB MAN
CAD: 0014176/CAFE2434

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(43)666-8171
REF: 6B01AMR2A054196D0



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THU - 24DEC A1
PRIORITY OVERNIGHT

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SC-US
CHS



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

SHIP DATE: 23DEC09
ACTMGT: 54.0 LB MAN
CAD: 0014176/CAFE2434

LOS ALAMOS, NM 87545
UNITED STATES US

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TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(43)666-8171
REF: 6B01AMR3A0352VA00



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THU - 24DEC A1
PRIORITY OVERNIGHT

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SC-US
CHS

ORIGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 23DEC89
ACTWGT: 62.0 LB MAN
CAD: 0014176/CAFE2434
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VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843)656-8171
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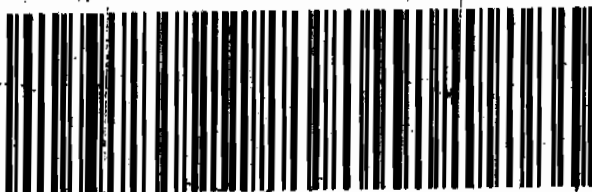


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THU - 24DEC A1
PRIORITY OVERNIGHT

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JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

ACTWGT: 62.0 LB MAN
CAD: 0014176/CAFE2434
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VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843)656-8171
REF: 6801AMR3A0352VA00



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PRIORITY OVERNIGHT

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SC-US
CHS

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Page 13 of 961

ORIGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 23DEC89
ACTWGT: 62.0 LB MAN
CAD: 0014176/CAFE2434
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VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

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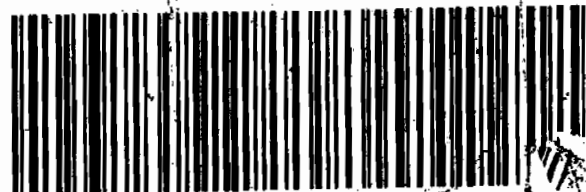


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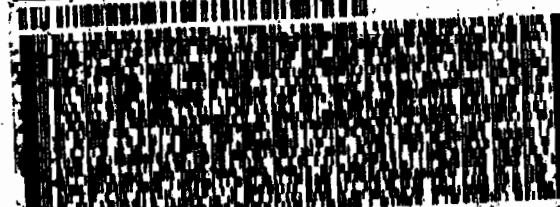
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JOYLENE VALDEZ
LOS ALAMOS NATL LAB
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UNITED STATES US

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VALERIE DAVIS
GENERAL ENGINEERING LAB
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CHARLESTON SC 29407

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THU - 24DEC A1
PRIORITY OVERNIGHT

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SC-US
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ORIGIN ID: SAFA (505) 665-8968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 83

LOS ALAMOS NM 87545
UNITED STATES US

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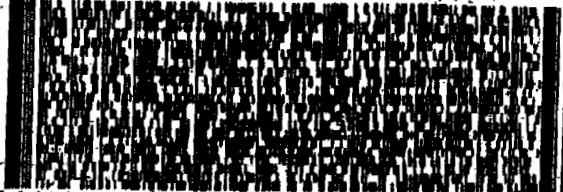
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GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

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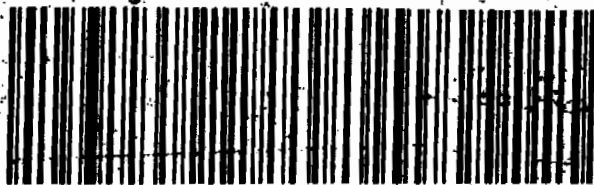
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Part 1561 48-434 NRT V3 09-09



Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or
MDL/IDL < sample value < PQL
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative
identification of the analyte (TIC). Quantitation is based on nearest internal standard
response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration
by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1076
Work Order 243536**

Method/Analysis Information

Product: AM241
Analytical Method: DOE EML HASL-300, Am-05-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 938070
Prep Batch Number: 937013

Sample ID	Client ID
243536001	RE12-10-7606
243536002	RE12-10-7607
243536003	RE12-10-7596
243536004	RE12-10-7597
243536005	RE12-10-7608
243536006	RE12-10-7600
243536007	RE12-10-7601
243536008	RE12-10-7602
243536009	RE12-10-7599
243536010	RE12-10-7598
243536011	RE12-10-7603
1202007324	Method Blank (MB)
1202007325	243536009(RE12-10-7599) Sample Duplicate (DUP)
1202007326	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 1202007324 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243536009 (RE12-10-7599). The QC was from LANL work order 243536.

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: 938071
Prep Batch Number: 937013

Sample ID	Client ID
243536001	RE12-10-7606
243536002	RE12-10-7607
243536003	RE12-10-7596
243536005	RE12-10-7608
243536006	RE12-10-7600
243536007	RE12-10-7601
243536008	RE12-10-7602
243536009	RE12-10-7599
243536010	RE12-10-7598
243536011	RE12-10-7603
1202007327	Method Blank (MB)
1202007328	243536009(RE12-10-7599) Sample Duplicate (DUP)
1202007329	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 1202007327 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243536009 (RE12-10-7599). The QC was from LANL work order 243536.

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: 939666
Prep Batch Number: 937013

Sample ID	Client ID
243536004	RE12-10-7597
1202010813	Method Blank (MB)
1202010814	243536004(RE12-10-7597) Sample Duplicate (DUP)
1202010815	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 1202010813 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243536004 (RE12-10-7597). The QC was from LANL work order 243536.

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 243536004 (RE12-10-7597) was reprep'd due to low carrier/tracer yield.

Miscellaneous Information:

Data Exception (DER) Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	ISOU
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	940301
Prep Batch Number:	937013

Sample ID	Client ID
243536001	RE12-10-7606
243536002	RE12-10-7607
243536003	RE12-10-7596
243536004	RE12-10-7597
243536005	RE12-10-7608
243536006	RE12-10-7600
243536007	RE12-10-7601
243536008	RE12-10-7602
243536009	RE12-10-7599
243536010	RE12-10-7598
243536011	RE12-10-7603
1202012274	Method Blank (MB)
1202012275	243536011(RE12-10-7603) Sample Duplicate (DUP)
1202012276	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 1202012274 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243536011 (RE12-10-7603). The QC was from LANL work order 243536.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U233/234 blank result is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Samples were reprepared due to high blank activity.

Miscellaneous Information:

Data Exception (DER) Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GAMMA SPEC
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	937074
Prep Batch Number:	937013

Sample ID	Client ID
243536001	RE12-10-7606
243536002	RE12-10-7607
243536003	RE12-10-7596
243536004	RE12-10-7597
243536005	RE12-10-7608
243536006	RE12-10-7600
243536007	RE12-10-7601
243536008	RE12-10-7602
243536009	RE12-10-7599
243536010	RE12-10-7598
243536011	RE12-10-7603
1202005192	Method Blank (MB)
1202005193	243536001(RE12-10-7606) Sample Duplicate (DUP)
1202005194	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, November 2009 and December 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: 243536001 (RE12-10-7606). The QC was from LANL work order 243536.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The method blank, 1202005192 (MB), results for Bi-211, Cs-137, Pb-214, Ra-228, Th-227 and Th-234 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 method blank, 1202005192 (MB), results for Bi-211, Cs-137, Pb-214, Ra-228 and Th-234 are greater than the decision level, but less than the MDC.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	243536001	RE12-10-7606
			243536002	RE12-10-7607
			243536003	RE12-10-7596
			243536004	RE12-10-7597
			243536005	RE12-10-7608
			243536006	RE12-10-7600
			243536007	RE12-10-7601
			243536008	RE12-10-7602
			243536009	RE12-10-7599
			243536010	RE12-10-7598
			243536011	RE12-10-7603

			1202005193	RE12-10-7606(243536001DUP)
		Cadmium-109	243536001	RE12-10-7606
			243536002	RE12-10-7607
			243536003	RE12-10-7596
			243536004	RE12-10-7597
			243536005	RE12-10-7608
			243536006	RE12-10-7600
			243536008	RE12-10-7602
			243536009	RE12-10-7599
			1202005193	RE12-10-7606(243536001DUP)
		Radium-224	243536001	RE12-10-7606
			243536002	RE12-10-7607
			243536003	RE12-10-7596
			243536004	RE12-10-7597
			243536005	RE12-10-7608
			243536006	RE12-10-7600
			243536007	RE12-10-7601
			243536008	RE12-10-7602
			243536009	RE12-10-7599
			243536010	RE12-10-7598
			243536011	RE12-10-7603
			1202005193	RE12-10-7606(243536001DUP)
UI	Data rejected due to low abundance.	Cesium-134	243536002	RE12-10-7607
			243536003	RE12-10-7596
			243536007	RE12-10-7601
			243536008	RE12-10-7602
			1202005193	RE12-10-7606(243536001DUP)
		Strontium-85	243536001	RE12-10-7606
			243536002	RE12-10-7607

243536006	RE12-10-7600
243536007	RE12-10-7601
243536008	RE12-10-7602
243536009	RE12-10-7599

Certification Statement

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

Review Validation:

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

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

Reviewer/Date: CLP 1/15/10

SAMPLE DATA SUMMARY

GEL LABORATORIES LLC

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

Certificate of Analysis Report for

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

Client SDG: 10-1076 GEL Work Order: 243536

The Qualifiers in this report are defined as follows:

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

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

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

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

Reviewed by



GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7606
Sample ID: 243536001
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 10.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0127	0.019	+/-0.00384	0.050	pCi/g		MXA1	01/07/10	0759	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00132	0.0217	+/-0.00132	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.0105	0.0248	+/-0.00459	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.36	0.116	+/-0.120	0.100	pCi/g		KXM4	01/14/10	0737	940301	3
Uranium-235/236	U	0.0693	0.0719	+/-0.0186	0.100	pCi/g						
Uranium-238		1.56	0.0672	+/-0.134	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.10	0.329	+/-0.0933	0.200	pCi/g		MXR1	01/09/10	1407	937074	5
Bismuth-211	UI	4.00	0.348	+/-0.300		pCi/g						
Bismuth-214		1.20	0.110	+/-0.0905	0.200	pCi/g						
Cadmium-109	UI	2.89	1.36	+/-0.514		pCi/g						
Cerium-139	U	0.0353	0.0576	+/-0.0161	0.050	pCi/g						
Cesium-134	U	0.0828	0.0898	+/-0.0335	0.100	pCi/g						
Cesium-137		0.287	0.0712	+/-0.035	0.100	pCi/g						
Cobalt-60	U	0.0321	0.0717	+/-0.0199	0.100	pCi/g						
Europium-152	U	0.00736	0.183	+/-0.090	0.200	pCi/g						
Lanthanum-140	U	-0.0389	0.143	+/-0.0465		pCi/g						
Lead-212		1.60	0.0996	+/-0.0809	0.100	pCi/g						
Lead-214		1.39	0.121	+/-0.110	0.100	pCi/g						
Mercury-203	U	0.0355	0.0824	+/-0.0227	0.100	pCi/g						
Potassium-40		20.9	0.572	+/-1.09	1.00	pCi/g						
Radium-223	U	0.212	1.23	+/-0.400		pCi/g						
Radium-224	UI	4.18	1.13	+/-0.587		pCi/g						
Radium-226		1.20	0.110	+/-0.0905		pCi/g						
Radium-228		1.06	0.236	+/-0.224	0.500	pCi/g						
Ruthenium-106	U	0.0975	0.586	+/-0.172	0.800	pCi/g						
Sodium-22	U	-0.0131	0.0731	+/-0.023	0.080	pCi/g						
Strontium-85	UI	0.102	0.0825	+/-0.0216		pCi/g						

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7606
Sample ID: 243536001

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		0.447	0.060	+/-0.047	0.080	pCi/g					
Thorium-227	U	-0.211	0.681	+/-0.211		pCi/g					
Thorium-231	U	0.212	1.23	+/-0.400		pCi/g					
Thorium-234	U	0.464	2.78	+/-0.774	2.00	pCi/g					
Tin-113	U	-0.0294	0.0761	+/-0.0231	0.100	pCi/g					
Uranium-235	U	0.0722	0.393	+/-0.113	0.500	pCi/g					
Yttrium-88	U	-0.0196	0.0575	+/-0.0194	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	84.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	93.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7606 Project: LANL01004
Sample ID: 243536001 Client ID: LANL010

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

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7607
Sample ID: 243536002
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 6.17%

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	0.00317	0.0169	+/-0.00179	0.050	pCi/g		MXA1	01/07/10	0759	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00263	0.0217	+/-0.00186	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00263	0.0248	+/-0.00186	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.553	0.132	+/-0.0629	0.100	pCi/g		KXM4	01/14/10	0737	940301	3
Uranium-235/236	U	0.0578	0.0818	+/-0.0179	0.100	pCi/g						
Uranium-238		0.510	0.0765	+/-0.0592	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0805	0.183	+/-0.0576	0.200	pCi/g		MXR1	01/09/10	1408	937074	5
Bismuth-211	UI	3.37	0.312	+/-0.272		pCi/g						
Bismuth-214		1.02	0.121	+/-0.0946	0.200	pCi/g						
Cadmium-109	UI	2.82	1.03	+/-0.443		pCi/g						
Cerium-139	U	-0.0037	0.049	+/-0.0152	0.050	pCi/g						
Cesium-134	UI	0.179	0.105	+/-0.0389	0.100	pCi/g						
Cesium-137	U	0.000963	0.066	+/-0.0199	0.100	pCi/g						
Cobalt-60	U	-0.00514	0.070	+/-0.0216	0.100	pCi/g						
Europium-152	U	-0.0203	0.143	+/-0.0537	0.200	pCi/g						
Lanthanum-140	U	-0.088	0.151	+/-0.0546		pCi/g						
Lead-212		1.63	0.0854	+/-0.0972	0.100	pCi/g						
Lead-214		1.17	0.109	+/-0.0994	0.100	pCi/g						
Mercury-203	U	-0.00233	0.0706	+/-0.021	0.100	pCi/g						
Potassium-40		33.4	0.626	+/-1.73	1.00	pCi/g						
Radium-223	U	-0.322	1.12	+/-0.345		pCi/g						
Radium-224	UI	3.82	0.972	+/-0.578		pCi/g						
Radium-226		1.02	0.121	+/-0.0946		pCi/g						
Radium-228		1.40	0.219	+/-0.162	0.500	pCi/g						
Ruthenium-106	U	0.368	0.616	+/-0.170	0.800	pCi/g						
Sodium-22	U	-0.027	0.0814	+/-0.026	0.080	pCi/g						
Strontium-85	UI	0.0775	0.0736	+/-0.0215		pCi/g						
Thallium-208		0.435	0.0644	+/-0.0499	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7607
Sample ID: 243536002
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	-0.125	0.647	+/-0.194		pCi/g					
Thorium-231	U	-0.322	1.12	+/-0.345		pCi/g					
Thorium-234	U	1.29	1.57	+/-0.680	2.00	pCi/g					
Tin-113	U	0.0313	0.0738	+/-0.0213	0.100	pCi/g					
Uranium-235	U	-0.117	0.330	+/-0.105	0.500	pCi/g					
Yttrium-88	U	0.00343	0.0548	+/-0.0162	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	95.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.5	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7607
Sample ID: 243536002

Project: LANL01004
Client ID: LANL010

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

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7596
Sample ID: 243536003
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 10%

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	0.000517	0.0199	+/-0.00183	0.050	pCi/g		MXA1	01/07/10	0759	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0025	0.0206	+/-0.0025	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	-0.00125	0.0236	+/-0.00217	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.987	0.0775	+/-0.0838	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236		0.0495	0.0481	+/-0.0142	0.100	pCi/g						
Uranium-238		1.10	0.045	+/-0.0917	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0252	0.413	+/-0.131	0.200	pCi/g		MXR1	01/09/10	1409	937074	5
Bismuth-211	UI	4.03	0.312	+/-0.276		pCi/g						
Bismuth-214		1.42	0.100	+/-0.0979	0.200	pCi/g						
Cadmium-109	UI	3.31	1.38	+/-0.657		pCi/g						
Cerium-139	U	-0.00416	0.0509	+/-0.0156	0.050	pCi/g						
Cesium-134	UI	0.0989	0.0854	+/-0.0219	0.100	pCi/g						
Cesium-137	U	0.000255	0.0609	+/-0.018	0.100	pCi/g						
Cobalt-60	U	0.0325	0.068	+/-0.0185	0.100	pCi/g						
Europium-152	U	-0.0039	0.158	+/-0.0486	0.200	pCi/g						
Lanthanum-140	U	-0.0335	0.179	+/-0.0574		pCi/g						
Lead-212		1.73	0.0898	+/-0.0867	0.100	pCi/g						
Lead-214		1.40	0.109	+/-0.103	0.100	pCi/g						
Mercury-203	U	0.0173	0.0716	+/-0.0232	0.100	pCi/g						
Potassium-40		19.5	0.571	+/-1.11	1.00	pCi/g						
Radium-223	U	0.424	1.08	+/-0.348		pCi/g						
Radium-224	UI	5.15	1.02	+/-0.597		pCi/g						
Radium-226		1.42	0.100	+/-0.0979		pCi/g						
Radium-228		1.43	0.245	+/-0.168	0.500	pCi/g						
Ruthenium-106	U	0.0923	0.532	+/-0.153	0.800	pCi/g						
Sodium-22	U	0.0187	0.072	+/-0.0206	0.080	pCi/g						
Strontium-85	U	0.0287	0.0648	+/-0.0214		pCi/g						
Thallium-208		0.593	0.0561	+/-0.0467	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7596
Sample ID: 243536003

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	-0.131	0.613	+/-0.182		pCi/g					
Thorium-231	U	0.424	1.08	+/-0.348		pCi/g					
Thorium-234	U	0.789	2.94	+/-1.24	2.00	pCi/g					
Tin-113	U	-0.00639	0.0699	+/-0.0212	0.100	pCi/g					
Uranium-235	U	0.226	0.370	+/-0.109	0.500	pCi/g					
Yttrium-88	U	-0.00315	0.0421	+/-0.0135	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	96.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7596
Sample ID: 243536003

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7597
Sample ID: 243536004
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 5.14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00609	0.0192	+/-0.00265	0.050	pCi/g		MXA1	01/07/10	0759	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00221	0.0182	+/-0.00157	0.050	pCi/g		MXA1	01/11/10	1211	939666	2
Plutonium-239/240	U	0.00	0.0209	+/-0.00111	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.951	0.0722	+/-0.080	0.100	pCi/g		KXM4	01/14/10	0732	940301	5
Uranium-235/236		0.0662	0.0448	+/-0.0145	0.100	pCi/g						
Uranium-238		0.927	0.0419	+/-0.0785	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0167	0.230	+/-0.0704	0.200	pCi/g		MXR1	01/09/10	1409	937074	7
Bismuth-211	UI	4.04	0.283	+/-0.254		pCi/g						
Bismuth-214		1.23	0.098	+/-0.0976	0.200	pCi/g						
Cadmium-109	UI	2.54	1.10	+/-0.494		pCi/g						
Cerium-139	U	-0.00588	0.0442	+/-0.0132	0.050	pCi/g						
Cesium-134	U	0.072	0.085	+/-0.0301	0.100	pCi/g						
Cesium-137	U	-0.0248	0.0554	+/-0.0173	0.100	pCi/g						
Cobalt-60	U	0.0194	0.0592	+/-0.0168	0.100	pCi/g						
Europium-152	U	-0.0958	0.135	+/-0.0443	0.200	pCi/g						
Lanthanum-140	U	-0.0362	0.156	+/-0.0492		pCi/g						
Lead-212		1.35	0.0841	+/-0.0694	0.100	pCi/g						
Lead-214		1.41	0.0987	+/-0.0957	0.100	pCi/g						
Mercury-203	U	-0.00275	0.0658	+/-0.0215	0.100	pCi/g						
Potassium-40		20.7	0.463	+/-1.01	1.00	pCi/g						
Radium-223	U	-0.279	0.943	+/-0.324		pCi/g						
Radium-224	UI	3.37	0.957	+/-0.495		pCi/g						
Radium-226		1.23	0.098	+/-0.0976		pCi/g						
Radium-228		1.55	0.184	+/-0.158	0.500	pCi/g						
Ruthenium-106	U	-0.188	0.462	+/-0.143	0.800	pCi/g						
Sodium-22	U	-0.00991	0.0653	+/-0.0202	0.080	pCi/g						
Strontium-85	U	0.0242	0.0565	+/-0.0184		pCi/g						
Thallium-208		0.480	0.0536	+/-0.0379	0.080	pCi/g						

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Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7597
Sample ID: 243536004

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	-0.166	0.540	+/-0.159		pCi/g						
Thorium-231	U	-0.279	0.943	+/-0.324		pCi/g						
Thorium-234	U	0.567	1.98	+/-0.775	2.00	pCi/g						
Tin-113	U	-0.046	0.0618	+/-0.020	0.100	pCi/g						
Uranium-235	U	-0.0437	0.317	+/-0.0938	0.500	pCi/g						
Yttrium-88	U	0.0121	0.0529	+/-0.016	0.100	pCi/g						

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, 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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	101	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7597
Sample ID: 243536004

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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M M if above MDC and less than LLD

M Matrix Related Failure

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

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7608
Sample ID: 243536005
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 10.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.000613	0.0206	+/-0.00601	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00156	0.0258	+/-0.00156	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00312	0.0295	+/-0.00313	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.495	0.0754	+/-0.0488	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236		0.0692	0.0468	+/-0.0152	0.100	pCi/g						
Uranium-238		0.394	0.0437	+/-0.0413	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0301	0.112	+/-0.0347	0.200	pCi/g		MXR1	01/09/10	1410	937074	5
Bismuth-211	UI	3.05	0.418	+/-0.280		pCi/g						
Bismuth-214		0.879	0.167	+/-0.108	0.200	pCi/g						
Cadmium-109	UI	3.10	1.32	+/-0.453		pCi/g						
Cerium-139	U	0.0118	0.0596	+/-0.018	0.050	pCi/g						
Cesium-134	U	0.0812	0.126	+/-0.0351	0.100	pCi/g						
Cesium-137	U	0.0431	0.0919	+/-0.0266	0.100	pCi/g						
Cobalt-60	U	0.00368	0.0961	+/-0.0289	0.100	pCi/g						
Europium-152	U	0.0975	0.206	+/-0.0599	0.200	pCi/g						
Lanthanum-140	U	-0.0633	0.224	+/-0.0738		pCi/g						
Lead-212		1.44	0.104	+/-0.090	0.100	pCi/g						
Lead-214		1.06	0.146	+/-0.101	0.100	pCi/g						
Mercury-203	U	0.00645	0.0849	+/-0.0252	0.100	pCi/g						
Potassium-40		34.3	0.804	+/-1.53	1.00	pCi/g						
Radium-223	U	-0.111	1.28	+/-0.445		pCi/g						
Radium-224	UI	3.72	1.18	+/-0.768		pCi/g						
Radium-226		0.879	0.167	+/-0.108		pCi/g						
Radium-228		1.47	0.326	+/-0.197	0.500	pCi/g						
Ruthenium-106	U	0.336	0.805	+/-0.234	0.800	pCi/g						
Sodium-22	U	0.0419	0.111	+/-0.0318	0.080	pCi/g						
Strontium-85	U	0.0489	0.094	+/-0.0304		pCi/g						
Thallium-208		0.516	0.0744	+/-0.0599	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7608
Sample ID: 243536005

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	-0.0517	0.740	+/-0.220		pCi/g					
Thorium-231	U	-0.111	1.28	+/-0.445		pCi/g					
Thorium-234	U	0.942	1.08	+/-0.587	2.00	pCi/g					
Tin-113	U	-0.0474	0.0908	+/-0.0295	0.100	pCi/g					
Uranium-235	U	0.186	0.384	+/-0.166	0.500	pCi/g					
Yttrium-88	U	-0.00826	0.071	+/-0.0223	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	94.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	72.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7608
Sample ID: 243536005
Project: LANL01004
Client ID: LANL010

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

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

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7600
Sample ID: 243536006
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.010	0.0201	+/-0.00737	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0346	+/-0.0021	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.0105	0.0396	+/-0.00558	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.795	0.0789	+/-0.0706	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236		0.0566	0.049	+/-0.0139	0.100	pCi/g						
Uranium-238		1.17	0.0458	+/-0.0969	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.034	0.189	+/-0.0619	0.200	pCi/g		MXR1	01/09/10	1410	937074	5
Bismuth-211	UI	2.38	0.301	+/-0.181		pCi/g						
Bismuth-214		0.744	0.103	+/-0.0681	0.200	pCi/g						
Cadmium-109	UI	1.67	1.24	+/-0.383		pCi/g						
Cerium-139	U	0.00278	0.0452	+/-0.0135	0.050	pCi/g						
Cesium-134	U	0.0399	0.0643	+/-0.0177	0.100	pCi/g						
Cesium-137		0.397	0.0557	+/-0.0367	0.100	pCi/g						
Cobalt-60	U	0.0109	0.0616	+/-0.018	0.100	pCi/g						
Europium-152	U	-0.0363	0.139	+/-0.0465	0.200	pCi/g						
Lanthanum-140	U	-0.0867	0.121	+/-0.0455		pCi/g						
Lead-212		0.899	0.0758	+/-0.0545	0.100	pCi/g						
Lead-214		0.827	0.101	+/-0.0667	0.100	pCi/g						
Mercury-203	U	0.00741	0.0649	+/-0.0187	0.100	pCi/g						
Potassium-40		22.2	0.375	+/-1.10	1.00	pCi/g						
Radium-223	U	-0.67	0.951	+/-0.302		pCi/g						
Radium-224	UI	2.83	0.862	+/-0.543		pCi/g						
Radium-226		0.744	0.103	+/-0.0681		pCi/g						
Radium-228		0.885	0.174	+/-0.119	0.500	pCi/g						
Ruthenium-106	U	0.0887	0.473	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.01	0.0589	+/-0.0184	0.080	pCi/g						
Strontium-85	UI	0.0805	0.0638	+/-0.0167		pCi/g						
Thallium-208		0.275	0.0517	+/-0.0318	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7600
Sample ID: 243536006

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	-0.0188	0.548	+/-0.160		pCi/g						
Thorium-231	U	-0.67	0.951	+/-0.302		pCi/g						
Thorium-234	U	1.13	1.64	+/-0.637	2.00	pCi/g						
Tin-113	U	0.00235	0.0656	+/-0.0193	0.100	pCi/g						
Uranium-235	U	0.258	0.338	+/-0.0999	0.500	pCi/g						
Yttrium-88	U	-0.000497	0.0474	+/-0.0148	0.100	pCi/g						

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	94.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	56.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.0	(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
- 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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7600
Sample ID: 243536006

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7601
Sample ID: 243536007
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 10.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00397	0.0197	+/-0.00271	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00949	0.0224	+/-0.00848	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00271	0.0256	+/-0.00332	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.567	0.0794	+/-0.0546	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236	U	0.038	0.0493	+/-0.0113	0.100	pCi/g						
Uranium-238		0.425	0.0461	+/-0.0442	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.417	0.501	+/-0.156	0.200	pCi/g		MXR1	01/09/10	1411	937074	5
Bismuth-211	UI	2.77	0.403	+/-0.263		pCi/g						
Bismuth-214		0.769	0.131	+/-0.0908	0.200	pCi/g						
Cadmium-109	U	1.43	1.76	+/-0.788		pCi/g						
Cerium-139	U	0.0369	0.0647	+/-0.0188	0.050	pCi/g						
Cesium-134	UI	0.152	0.115	+/-0.047	0.100	pCi/g						
Cesium-137	U	-0.00929	0.0707	+/-0.0223	0.100	pCi/g						
Cobalt-60	U	-0.0291	0.0787	+/-0.0262	0.100	pCi/g						
Europium-152	U	-0.164	0.187	+/-0.0678	0.200	pCi/g						
Lanthanum-140	U	-0.01	0.195	+/-0.0597		pCi/g						
Lead-212		1.66	0.115	+/-0.0956	0.100	pCi/g						
Lead-214		0.965	0.140	+/-0.095	0.100	pCi/g						
Mercury-203	U	-0.0405	0.0906	+/-0.0276	0.100	pCi/g						
Potassium-40		36.5	0.696	+/-1.74	1.00	pCi/g						
Radium-223	U	-0.372	1.44	+/-0.437		pCi/g						
Radium-224	UI	4.43	1.30	+/-0.876		pCi/g						
Radium-226		0.769	0.131	+/-0.0908		pCi/g						
Radium-228		1.53	0.269	+/-0.187	0.500	pCi/g						
Ruthenium-106	U	-0.24	0.608	+/-0.198	0.800	pCi/g						
Sodium-22	U	-0.00856	0.0945	+/-0.0296	0.080	pCi/g						
Strontium-85	UI	0.103	0.090	+/-0.027		pCi/g						
Thallium-208		0.470	0.0696	+/-0.0568	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7601
Sample ID: 243536007

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	-0.0602	0.793	+/-0.233		pCi/g					
Thorium-231	U	-0.372	1.44	+/-0.437		pCi/g					
Thorium-234	U	1.28	4.05	+/-1.17	2.00	pCi/g					
Tin-113	U	0.00578	0.0949	+/-0.0282	0.100	pCi/g					
Uranium-235	U	0.110	0.460	+/-0.140	0.500	pCi/g					
Yttrium-88	U	-0.0123	0.063	+/-0.0205	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	89.0	(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
- 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

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Report Date: January 15, 2010

Client Sample ID: RE12-10-7601
Sample ID: 243536007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7602
Sample ID: 243536008
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 7.03%

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	0.00307	0.0208	+/-0.0026	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00528	0.0218	+/-0.00295	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00528	0.0249	+/-0.00374	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.723	0.0767	+/-0.0653	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236		0.0489	0.0476	+/-0.0134	0.100	pCi/g						
Uranium-238		0.869	0.0445	+/-0.0753	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.102	0.257	+/-0.0766	0.200	pCi/g		MXR1	01/09/10	1411	937074	5
Bismuth-211	UI	3.11	0.230	+/-0.201		pCi/g						
Bismuth-214		0.893	0.0817	+/-0.0664	0.200	pCi/g						
Cadmium-109	UI	1.77	1.30	+/-0.450		pCi/g						
Cerium-139	U	-0.00191	0.0373	+/-0.0105	0.050	pCi/g						
Cesium-134	UI	0.114	0.0639	+/-0.0246	0.100	pCi/g						
Cesium-137		0.192	0.0442	+/-0.0267	0.100	pCi/g						
Cobalt-60	U	0.000251	0.0442	+/-0.0134	0.100	pCi/g						
Europium-152	U	0.0183	0.108	+/-0.0435	0.200	pCi/g						
Lanthanum-140	U	-0.0334	0.133	+/-0.0417		pCi/g						
Lead-212		1.33	0.0691	+/-0.0626	0.100	pCi/g						
Lead-214		1.08	0.0803	+/-0.0755	0.100	pCi/g						
Mercury-203	U	0.0341	0.0562	+/-0.0158	0.100	pCi/g						
Potassium-40		26.4	0.459	+/-1.18	1.00	pCi/g						
Radium-223	U	0.104	0.756	+/-0.255		pCi/g						
Radium-224	UI	3.43	0.785	+/-0.518		pCi/g						
Radium-226		0.893	0.0817	+/-0.0664		pCi/g						
Radium-228		1.24	0.150	+/-0.126	0.500	pCi/g						
Ruthenium-106	U	-0.0118	0.357	+/-0.108	0.800	pCi/g						
Sodium-22	U	-0.00741	0.0531	+/-0.0163	0.080	pCi/g						
Strontium-85	UI	0.129	0.0607	+/-0.017		pCi/g						
Thallium-208		0.445	0.0404	+/-0.0313	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID:
Sample ID:

RE12-10-7602
243536008

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	-0.0922	0.467	+/-0.138		pCi/g					
Thorium-231	U	0.104	0.756	+/-0.255		pCi/g					
Thorium-234	U	0.825	2.07	+/-0.881	2.00	pCi/g					
Tin-113	U	0.016	0.0583	+/-0.0164	0.100	pCi/g					
Uranium-235	U	-0.035	0.270	+/-0.0824	0.500	pCi/g					
Yttrium-88	U	0.00177	0.0378	+/-0.0114	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.2	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Report Date: January 15, 2010

Client Sample ID: RE12-10-7602
Sample ID: 243536008

Project: LANL01004
Client ID: LANL010

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

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

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7599
Sample ID: 243536009
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 8.97%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00182	0.0222	+/-0.00384	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00493	0.0204	+/-0.00524	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00123	0.0233	+/-0.00214	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.511	0.0736	+/-0.0493	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236	U	0.0352	0.0457	+/-0.0112	0.100	pCi/g						
Uranium-238		0.482	0.0427	+/-0.0473	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0394	0.224	+/-0.0722	0.200	pCi/g		MXR1	01/09/10	1412	937074	5
Bismuth-211	UI	3.18	0.287	+/-0.281		pCi/g						
Bismuth-214		0.873	0.109	+/-0.0766	0.200	pCi/g						
Cadmium-109	UI	2.72	1.31	+/-0.455		pCi/g						
Cerium-139	U	-0.0136	0.0499	+/-0.015	0.050	pCi/g						
Cesium-134	U	0.0613	0.0818	+/-0.0241	0.100	pCi/g						
Cesium-137	U	0.0224	0.0619	+/-0.0182	0.100	pCi/g						
Cobalt-60	U	-0.0223	0.0588	+/-0.0189	0.100	pCi/g						
Europium-152	U	0.0281	0.137	+/-0.0581	0.200	pCi/g						
Lanthanum-140	U	-0.115	0.156	+/-0.0532		pCi/g						
Lead-212		1.52	0.0944	+/-0.112	0.100	pCi/g						
Lead-214		1.11	0.100	+/-0.102	0.100	pCi/g						
Mercury-203	U	-0.00934	0.0717	+/-0.0224	0.100	pCi/g						
Potassium-40		38.1	0.498	+/-1.94	1.00	pCi/g						
Radium-223	U	0.249	1.06	+/-0.352		pCi/g						
Radium-224	UI	4.27	1.07	+/-0.642		pCi/g						
Radium-226		0.873	0.109	+/-0.0766		pCi/g						
Radium-228		1.33	0.219	+/-0.152	0.500	pCi/g						
Ruthenium-106	U	-0.0487	0.489	+/-0.149	0.800	pCi/g						
Sodium-22	U	-0.014	0.0686	+/-0.0213	0.080	pCi/g						
Strontium-85	UI	0.158	0.0769	+/-0.0236		pCi/g						
Thallium-208		0.443	0.0523	+/-0.044	0.080	pCi/g						

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7599
Sample ID: 243536009

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	0.0748	0.628	+/-0.191		pCi/g					
Thorium-231	U	0.249	1.06	+/-0.352		pCi/g					
Thorium-234	U	1.36	1.79	+/-0.868	2.00	pCi/g					
Tin-113	U	0.00688	0.073	+/-0.0218	0.100	pCi/g					
Uranium-235	U	0.00205	0.347	+/-0.103	0.500	pCi/g					
Yttrium-88	U	0.0218	0.0527	+/-0.0146	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7599
Sample ID: 243536009
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7598
Sample ID: 243536010
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 9.69%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00928	0.0209	+/-0.00489	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00134	0.0221	+/-0.00134	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.0214	0.0253	+/-0.00608	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.45	0.0795	+/-0.116	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236		0.114	0.0494	+/-0.0206	0.100	pCi/g						
Uranium-238		1.73	0.0461	+/-0.136	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.151	0.294	+/-0.0888	0.200	pCi/g		MXR1	01/09/10	1413	937074	5
Bismuth-211	UI	2.43	0.307	+/-0.212		pCi/g						
Bismuth-214		0.624	0.107	+/-0.0808	0.200	pCi/g						
Cadmium-109	U	1.23	1.53	+/-0.469		pCi/g						
Cerium-139	U	-0.0159	0.0466	+/-0.014	0.050	pCi/g						
Cesium-134	U	0.0471	0.0764	+/-0.0204	0.100	pCi/g						
Cesium-137		0.485	0.0606	+/-0.0445	0.100	pCi/g						
Cobalt-60	U	0.0127	0.0646	+/-0.0189	0.100	pCi/g						
Europium-152	U	-0.105	0.141	+/-0.0519	0.200	pCi/g						
Lanthanum-140	U	-0.0391	0.134	+/-0.0439		pCi/g						
Lead-212		0.905	0.0803	+/-0.0553	0.100	pCi/g						
Lead-214		0.844	0.107	+/-0.0769	0.100	pCi/g						
Mercury-203	U	0.0131	0.0699	+/-0.0196	0.100	pCi/g						
Potassium-40		17.7	0.392	+/-0.968	1.00	pCi/g						
Radium-223	U	-0.367	1.08	+/-0.323		pCi/g						
Radium-224	UI	2.45	0.913	+/-0.467		pCi/g						
Radium-226		0.624	0.107	+/-0.0808		pCi/g						
Radium-228		1.16	0.166	+/-0.131	0.500	pCi/g						
Ruthenium-106	U	0.0254	0.488	+/-0.146	0.800	pCi/g						
Sodium-22	U	0.0312	0.0791	+/-0.0224	0.080	pCi/g						
Strontium-85	U	0.064	0.0664	+/-0.0196		pCi/g						
Thallium-208		0.282	0.0572	+/-0.0335	0.080	pCi/g						

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7598
Sample ID: 243536010

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	0.0255	0.596	+/-0.178		pCi/g					
Thorium-231	U	-0.367	1.08	+/-0.323		pCi/g					
Thorium-234		3.23	2.40	+/-0.992	2.00	pCi/g					
Tin-113	U	0.0124	0.0763	+/-0.0221	0.100	pCi/g					
Uranium-235	U	-0.0416	0.326	+/-0.0977	0.500	pCi/g					
Yttrium-88	U	0.000367	0.0372	+/-0.0112	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7598
Sample ID: 243536010

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7603
Sample ID: 243536011
Matrix: S
Collect Date: 21-DEC-09
Receive Date: 24-DEC-09
Collector: Client
Moisture: 3.72%

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	0.00513	0.0236	+/-0.00758	0.050	pCi/g		MXA1	01/07/10	0833	938070	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00121	0.0199	+/-0.00121	0.050	pCi/g		MXA1	01/05/10	2020	938071	2
Plutonium-239/240	U	0.00482	0.0228	+/-0.00296	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.450	0.0715	+/-0.0445	0.100	pCi/g		KXM4	01/14/10	0732	940301	3
Uranium-235/236	U	0.0428	0.0444	+/-0.0114	0.100	pCi/g						
Uranium-238		0.436	0.0415	+/-0.0437	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0401	0.184	+/-0.0628	0.200	pCi/g		MXR1	01/09/10	1420	937074	5
Bismuth-211	UI	3.32	0.307	+/-0.307		pCi/g						
Bismuth-214		0.909	0.112	+/-0.0925	0.200	pCi/g						
Cadmium-109	U	1.18	1.33	+/-0.432		pCi/g						
Cerium-139	U	-0.00631	0.0441	+/-0.0132	0.050	pCi/g						
Cesium-134	U	0.0598	0.0876	+/-0.0276	0.100	pCi/g						
Cesium-137	U	-0.00189	0.0662	+/-0.0204	0.100	pCi/g						
Cobalt-60	U	-0.0184	0.0723	+/-0.0234	0.100	pCi/g						
Europium-152	U	-0.101	0.140	+/-0.0485	0.200	pCi/g						
Lanthanum-140	U	-0.127	0.125	+/-0.0501		pCi/g						
Lead-212		1.55	0.0968	+/-0.129	0.100	pCi/g						
Lead-214		1.15	0.107	+/-0.111	0.100	pCi/g						
Mercury-203	U	0.00185	0.0702	+/-0.0215	0.100	pCi/g						
Potassium-40		38.9	0.476	+/-1.98	1.00	pCi/g						
Radium-223	U	0.253	1.13	+/-0.343		pCi/g						
Radium-224	UI	3.07	1.16	+/-0.487		pCi/g						
Radium-226		0.909	0.112	+/-0.0925		pCi/g						
Radium-228		1.47	0.186	+/-0.181	0.500	pCi/g						
Ruthenium-106	U	-0.157	0.511	+/-0.164	0.800	pCi/g						
Sodium-22	U	-0.0247	0.0708	+/-0.0234	0.080	pCi/g						
Strontium-85	U	0.0372	0.0617	+/-0.0192		pCi/g						
Thallium-208		0.491	0.0566	+/-0.0462	0.080	pCi/g						

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7603
Sample ID: 243536011

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	-0.247	0.569	+/-0.184		pCi/g					
Thorium-231	U	0.253	1.13	+/-0.343		pCi/g					
Thorium-234	U	0.712	1.58	+/-0.699	2.00	pCi/g					
Tin-113	U	-0.0154	0.0722	+/-0.0218	0.100	pCi/g					
Uranium-235	U	-0.0391	0.311	+/-0.0944	0.500	pCi/g					
Yttrium-88	U	0.00759	0.0518	+/-0.0149	0.100	pCi/g					

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	79.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	105	(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
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7603
Sample ID: 243536011

Project: LANL01004
Client ID: LANL010

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

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

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

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QC Summary

Report Date: January 15, 2010

Page 1 of 7

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 243536

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch 938070											
QC1202007325 243536009 DUP											
Americium-241	U	-0.00182	U	-0.00182	pCi/g	0.00		(0-1) MXA1		01/07/1008:33	
	TPU:	+/-0.00384		+/-0.0018							
	Yield:	92.3		85.2							
QC1202007326 LCS											
Americium-241	33.2			31.8	pCi/g		95.9	(75%-125%)			
	TPU:			+/-2.27							
	Yield:			93.4							
QC1202007324 MB											
Americium-241			U	0.00303	pCi/g						
	TPU:			+/-0.00424							
	Yield:			80.5							
Batch 938071											
QC1202007328 243536009 DUP											
Plutonium-238	U	0.00493	U	0.00	pCi/g	0.378		(0-1) MXA1		01/05/1020:20	
	TPU:	+/-0.00524		+/-0.0013							
	Yield:	84.8		82.9							
Plutonium-239/240	U	0.00123	U	-0.00129	pCi/g	0.251		(0-1)			
	TPU:	+/-0.00214		+/-0.00289							
	Yield:	84.8		82.9							
QC1202007329 LCS											
Plutonium-238				7.31	pCi/g			(75%-125%)			
	TPU:			+/-0.534							
	Yield:			87.2							
Plutonium-239/240	41.8			39.7	pCi/g		95	(75%-125%)			
	TPU:			+/-2.44							
	Yield:			87.2							
QC1202007327 MB											
Plutonium-238			U	-0.00829	pCi/g						
	TPU:			+/-0.00439							
	Yield:			82.1							
Plutonium-239/240			U	0.00331	pCi/g						
	TPU:			+/-0.00524							
	Yield:			82.1							
Batch 939666											
QC1202010814 243536004 DUP											
Plutonium-238	U	0.00221	U	0.00219	pCi/g	0.0036		(0-1) MXA1		01/11/1012:11	
	TPU:	+/-0.00157		+/-0.00155							
	Yield:	88.7		86.1							
Plutonium-239/240	U	0.00	U	0.00	pCi/g	0.00		(0-1)			
	TPU:	+/-0.00111		+/-0.00109							
	Yield:	88.7		86.1							
QC1202010815 LCS											
Plutonium-238				6.42	pCi/g			(75%-125%)		01/11/1012:11	

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QC Summary

Workorder: 243536

Page 2 of 7

Parmname		NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec											
Batch	939666										
Plutonium-239/240	41.8	TPU:			+/-0.451						
		Yield:			100						
					34.3	pCi/g		82	(75%-125%)		
		TPU:			+/-2.04						
Plutonium-238	QC1202010813 MB	Yield:			100						
		U			-0.00124	pCi/g					01/11/1012:11
		TPU:			+/-0.00278						
Plutonium-239/240		Yield:			96.6						
		U			0.00124	pCi/g					
		TPU:			+/-0.00216						
Batch	940301	Yield:			96.6						
Uranium-233/234	QC1202012275 243536011 DUP		0.450		0.446	pCi/g	0.0232		(0-1) KXM4		01/14/1007:32
		TPU:	+/-0.0445		+/-0.0466						
		Yield:	105		84.8						
		U	0.0428	U	0.0169	pCi/g	0.634		(0-1)		
Uranium-235/236		TPU:	+/-0.0114		+/-0.009						
		Yield:	105		84.8						
Uranium-238			0.436		0.469	pCi/g	0.181		(0-1)		
		TPU:	+/-0.0437		+/-0.0483						
		Yield:	105		84.8						
Uranium-233/234	QC1202012276 LCS				5.65	pCi/g			(75%-125%)		01/14/1007:32
		TPU:			+/-0.482						
		Yield:			102						
Uranium-235/236					0.393	pCi/g			(75%-125%)		
		TPU:	+/-0.0795								
		Yield:	102								
Uranium-238	5.75				5.89	pCi/g		102	(75%-125%)		
		TPU:			+/-0.500						
		Yield:			102						
Uranium-233/234	QC1202012274 MB										
		U			0.0117	pCi/g					01/14/1007:32
		TPU:			+/-0.00464						
		Yield:			93.8						
Uranium-235/236											
		U			-0.00619	pCi/g					
		TPU:			+/-0.00379						
		Yield:			93.8						
Uranium-238											
		U			0.00125	pCi/g					
		TPU:			+/-0.00331						
		Yield:			93.8						
Rad Gamma Spec											
Batch	937074										
Americium-241	QC1202005193 243536001 DUP										
		U	-0.10	U	0.00781	pCi/g	0.427		(0-1) MXR1		01/09/1017:04
		TPU:	+/-0.0933		+/-0.0331						
Bismuth-211		UI	4.00	UI	3.77	pCi/g	0.225		(0-1)		

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QC Summary

Workorder: 243536

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Parname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	937074										
	TPU:	+/-0.300		+/-0.230							
Bismuth-214		1.20		1.22		pCi/g	0.0578		(0-1)		
	TPU:	+/-0.0905		+/-0.0739							
Cadmium-109	UI	2.89		UI	3.05	pCi/g	0.104		(0-1)		
	TPU:	+/-0.514		+/-0.248							
Cerium-139	U	0.0353		U	-0.00844	pCi/g	0.981		(0-1)		
	TPU:	+/-0.0161		+/-0.00616							
Cesium-134	U	0.0828		UI	0.0525	pCi/g	0.339		(0-1)		
	TPU:	+/-0.0335		+/-0.0112							
Cesium-137		0.287		0.270		pCi/g	0.166		(0-1)		
	TPU:	+/-0.035		+/-0.0186							
Cobalt-60	U	0.0321		U	-0.000532	pCi/g	0.591		(0-1)		
	TPU:	+/-0.0199		+/-0.00774							
Europium-152	U	0.00736		U	-0.0482	pCi/g	0.253		(0-1)		
	TPU:	+/-0.090		+/-0.0198							
Lanthanum-140	U	-0.0389		U	0.0137	pCi/g	0.372		(0-1)		
	TPU:	+/-0.0465		+/-0.0242							
Lead-212		1.60		1.48		pCi/g	0.352		(0-1)		
	TPU:	+/-0.0809		+/-0.0908							
Lead-214		1.39		1.31		pCi/g	0.210		(0-1)		
	TPU:	+/-0.110		+/-0.0872							
Mercury-203	U	0.0355		U	0.0202	pCi/g	0.234		(0-1)		
	TPU:	+/-0.0227		+/-0.00996							
Potassium-40		20.9		21.1		pCi/g	0.0288		(0-1)		
	TPU:	+/-1.09		+/-0.989							
Radium-223	U	0.212		U	-0.0925	pCi/g	0.273		(0-1)		
	TPU:	+/-0.400		+/-0.158							
Radium-224	UI	4.18		UI	4.53	pCi/g	0.188		(0-1)		
	TPU:	+/-0.587		+/-0.365							
Radium-226		1.20		1.22		pCi/g	0.0578		(0-1)		
	TPU:	+/-0.0905		+/-0.0739							
Radium-228		1.06		1.52		pCi/g	0.687		(0-1)		
	TPU:	+/-0.224		+/-0.109							
Ruthenium-106	U	0.0975		U	0.023	pCi/g	0.158		(0-1)		
	TPU:	+/-0.172		+/-0.0643							
Sodium-22	U	-0.0131		U	-0.00388	pCi/g	0.142		(0-1)		
	TPU:	+/-0.023		+/-0.00936							
Strontium-85	UI	0.102		U	0.0121	pCi/g	1.51		(0-1)		
	TPU:	+/-0.0216		+/-0.0082							
Thallium-208		0.447		0.479		pCi/g	0.211		(0-1)		
	TPU:	+/-0.047		+/-0.0294							
Thorium-227	U	-0.211		U	-0.0255	pCi/g	0.321		(0-1)		
	TPU:	+/-0.211		+/-0.0778							
Thorium-231	U	0.212		U	-0.0925	pCi/g	0.273		(0-1)		
	TPU:	+/-0.400		+/-0.158							
Thorium-234	U	0.464		1.85		pCi/g	0.579		(0-1)		
	TPU:	+/-0.774		+/-0.426							
Tin-113	U	-0.0294		U	-0.00172	pCi/g	0.429		(0-1)		
	TPU:	+/-0.0231		+/-0.00912							
Uranium-235	U	0.0722		U	0.0491	pCi/g	0.0672		(0-1)		
	TPU:	+/-0.113		+/-0.0591							

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 937074											
Yttrium-88	U	-0.0196	U	0.0126	pCi/g	0.617		(0-1)			
	TPU:	+/-0.0194		+/-0.00669							
QC1202005194 LCS											
Americium-241	15.9			12.3	pCi/g		77.1 (75%-125%)			01/09/1015:25	
	TPU:			+/-0.914							
Bismuth-211				2.71	pCi/g						
	TPU:			+/-0.347							
Bismuth-214				0.640	pCi/g						
	TPU:			+/-0.113							
Cadmium-109				29.7	pCi/g						
	TPU:			+/-2.25							
Cerium-139			U	0.0185	pCi/g						
	TPU:			+/-0.0201							
Cesium-134			U	0.146	pCi/g						
	TPU:			+/-0.0493							
Cesium-137	5.57			5.20	pCi/g		93.3 (75%-125%)				
	TPU:			+/-0.183							
Cobalt-60	6.48			5.77	pCi/g		89.1 (75%-125%)				
	TPU:			+/-0.262							
Europium-152			U	-0.0169	pCi/g						
	TPU:			+/-0.0881							
Lanthanum-140			U	-0.0176	pCi/g						
	TPU:			+/-0.0321							
Lead-212				1.04	pCi/g						
	TPU:			+/-0.0894							
Lead-214				0.942	pCi/g						
	TPU:			+/-0.123							
Mercury-203			U	-0.0345	pCi/g						
	TPU:			+/-0.0276							
Potassium-40				1.13	pCi/g						
	TPU:			+/-0.266							
Radium-223			U	-0.176	pCi/g						
	TPU:			+/-0.567							
Radium-224			U	1.42	pCi/g						
	TPU:			+/-0.501							
Radium-226				0.640	pCi/g						
	TPU:			+/-0.113							
Radium-228				0.694	pCi/g						
	TPU:			+/-0.255							
Ruthenium-106			U	-0.16	pCi/g						
	TPU:			+/-0.281							
Sodium-22			U	0.0533	pCi/g						
	TPU:			+/-0.0256							
Strontium-85			U	0.0216	pCi/g						
	TPU:			+/-0.0303							
Thallium-208				0.364	pCi/g						
	TPU:			+/-0.0679							
Thorium-227			U	0.235	pCi/g						
	TPU:			+/-0.312							
Thorium-231			U	-0.176	pCi/g						
	TPU:			+/-0.567							

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QC Summary

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Parinname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	937074								
Thorium-234		U	-1.22	pCi/g					
	TPU:		+/-1.39						
Tin-113		U	-0.05	pCi/g					
	TPU:		+/-0.037						
Uranium-235		U	-0.21	pCi/g					
	TPU:		+/-0.139						
Yttrium-88		U	0.0359	pCi/g					
	TPU:		+/-0.0213						
QC1202005192 MB									
Americium-241		U	0.0128	pCi/g					01/09/1017:03
	TPU:		+/-0.0128						
Bismuth-211		U	0.0778	pCi/g					
	TPU:		+/-0.0235						
Bismuth-214		U	0.0101	pCi/g					
	TPU:		+/-0.00875						
Cadmium-109		U	-0.532	pCi/g					
	TPU:		+/-0.106						
Cerium-139		U	-0.00296	pCi/g					
	TPU:		+/-0.00298						
Cesium-134		U	-0.00155	pCi/g					
	TPU:		+/-0.00527						
Cesium-137		U	0.012	pCi/g					
	TPU:		+/-0.00425						
Cobalt-60		U	-0.000485	pCi/g					
	TPU:		+/-0.00454						
Europium-152		U	-0.0123	pCi/g					
	TPU:		+/-0.0108						
Lanthanum-140		U	0.0048	pCi/g					
	TPU:		+/-0.00753						
Lead-212		U	0.007	pCi/g					
	TPU:		+/-0.0109						
Lead-214		U	0.0244	pCi/g					
	TPU:		+/-0.00821						
Mercury-203		U	0.00474	pCi/g					
	TPU:		+/-0.00412						
Potassium-40		U	0.0194	pCi/g					
	TPU:		+/-0.0826						
Radium-223		U	-0.0871	pCi/g					
	TPU:		+/-0.075						
Radium-224		U	0.0977	pCi/g					
	TPU:		+/-0.083						
Radium-226		U	0.0101	pCi/g					
	TPU:		+/-0.00875						
Radium-228		U	0.0432	pCi/g					
	TPU:		+/-0.0151						
Ruthenium-106		U	-0.0266	pCi/g					
	TPU:		+/-0.0391						
Sodium-22		U	0.00275	pCi/g					
	TPU:		+/-0.00453						
Strontium-85		U	-0.0565	pCi/g					
	TPU:		+/-0.00677						

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	937074								
Thallium-208		U	0.00105	pCi/g					
	TPU:		+/-0.00646						
Thorium-227		U	0.0696	pCi/g					
	TPU:		+/-0.0416						
Thorium-231		U	-0.0871	pCi/g					
	TPU:		+/-0.075						
Thorium-234		U	0.312	pCi/g					
	TPU:		+/-0.182						
Tin-113		U	-0.00446	pCi/g					
	TPU:		+/-0.00475						
Uranium-235		U	-0.00119	pCi/g					
	TPU:		+/-0.0302						
Yttrium-88		U	0.00107	pCi/g					
	TPU:		+/-0.00441						

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

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QC Summary

Workorder: 243536

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Paramname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
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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, Rev 9


Batch# 938070 Product: Am Date: 1/8/10

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* 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.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	/		
No blank spaces on data forms.	/		
All line outs initialed and dated.	/		
No transcription errors are apparent.	/		
Aux data is correct.			NA
Client Special requirements page has been checked.	/		
Raw Data and/ or spectrum are included and properly statused.	/		
QC data entered into QC database and batch is in REVW	/		
Hit notification complete (if necessary)	/		NA
Batch entered into Case Narrative.	/		
Batch non-conformances completed, if applicable.			NA
Batch non-conformances 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

revised 8/1/08

Primary Review Performed By:

signing for mary ADERS
 1/8/10

Secondary Review Performed By:

 1/9/10

1/10 (1/2)
 CAM

Am/Cm Que Sheet

31-DEC-09

Batch #: 938070 Analyst: MXA1 First Client Due Date: 21-JAN-10 Internal Due Dated 0-JAN-10 Comments:
 Tracer(s): (Am243) Cm244 Tracer Code: 445-96-2-SS Expiration Date: 5-11-10 Vol: 0.1g / NA
 LCS Isotope(s): (Am241) Cm244 LCS Code(s): 54M 0244-B / NA Expiration Date: 4-30-20 / NA Vol(s): 0.7g / NA
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA Expiration Date: NA / NA Vol(s): 11A / NA
 Prep Date: 1-4-10 Initials: KM Pipet ID: 2874556 Balance ID: 19350200 Witness: SAKS/110

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Am/Cm	Det #
										Aliquot		
										(g) l/n		
243536001-1	RE12-10-7606	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	1	1	1	1.254	219	
243536002-1	RE12-10-7607	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	2	2	2	1.258	220	
243536003-1	RE12-10-7596	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	3	3	3	1.254	221	
243536004-1	RE12-10-7597	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	4	4	4	1.255	222	
243536005-1	RE12-10-7608	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	5	5	5	1.257	229	
243536006-1	RE12-10-7600	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	6	6	6	1.253	30	
243536007-1	RE12-10-7601	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	7	7	7	1.254	31	
243536008-1	RE12-10-7602	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	8	8	8	1.256	33	
243536009-1	RE12-10-7599	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	9	9	9	1.253	35	
243536010-1	RE12-10-7598	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	10	10	10	1.258	36	
243536011-1	RE12-10-7603	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	11	11	11	1.254	25	
1202007324-1	MB for batch 938070	MB	.05 pCi/g	QC ACCOUNT	QC ACCOUNT	21-DEC-09	12	12	12	1.258	26	
1202007325-1	RE12-10-7599(243536009DUP)	DUP	.05 pCi/g	QC ACCOUNT	QC ACCOUNT	21-DEC-09	13	13	13	1.253	27	
1202007326-1	LCS for batch 938070	LCS	.05 pCi/g	QC ACCOUNT	QC ACCOUNT	21-DEC-09	14	14	14	0.116	28	

1 msa 1/5/10

Choose SOP Used (GL-RAD-A-011)
 GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: Andy Signing for many ADEN

1/11/10

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Blank Correction Report

Batch ID 938070

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202007325	DUP	Americium-241	1.25 g	-0.00182	0.0018	0.0216	.002424	pCi/g	YES
1202007326	LCS	Americium-241	0.112 g	31.8	2.27	0.240	.027053571	pCi/g	NO
1202007324	MB	Americium-241	1.00 g	0.00303	0.00424	0.0301	.00303	pCi/g	YES
243536001	RE12-10-7606	Americium-241	1.25 g	0.0127	0.00384	0.019	.002424	pCi/g	NO
243536002	RE12-10-7607	Americium-241	1.26 g	0.00317	0.00179	0.0169	.002404762	pCi/g	YES
243536003	RE12-10-7596	Americium-241	1.25 g	0.000517	0.00183	0.0199	.002424	pCi/g	YES
243536004	RE12-10-7597	Americium-241	1.26 g	0.00609	0.00265	0.0192	.002404762	pCi/g	YES
243536005	RE12-10-7608	Americium-241	1.26 g	0.000613	0.00601	0.0206	.002404762	pCi/g	YES
243536006	RE12-10-7600	Americium-241	1.25 g	0.010	0.00737	0.0201	.002424	pCi/g	YES
243536007	RE12-10-7601	Americium-241	1.26 g	0.00397	0.00271	0.0197	.002404762	pCi/g	YES
243536008	RE12-10-7602	Americium-241	1.26 g	0.00307	0.0026	0.0208	.002404762	pCi/g	YES
243536009	RE12-10-7599	Americium-241	1.25 g	-0.00182	0.00384	0.0222	.002424	pCi/g	YES
243536010	RE12-10-7598	Americium-241	1.26 g	0.00928	0.00489	0.0209	.002404762	pCi/g	YES
243536011	RE12-10-7603	Americium-241	1.25 g	0.00513	0.00758	0.0236	.002424	pCi/g	YES

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536001_AM
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :79412
AVERAGE %EFFICIENCY :38.2986
% YIELD : 84.069

COUNT DATE: 7-JAN-2010 07:59:34
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91660 dpm
RESULTS : 2.45197 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B219.CNF;66
BKG DATE : 3-JAN-2010
EFF FILE : W219.CNF;24
CAL DATE : 28-DEC-2009

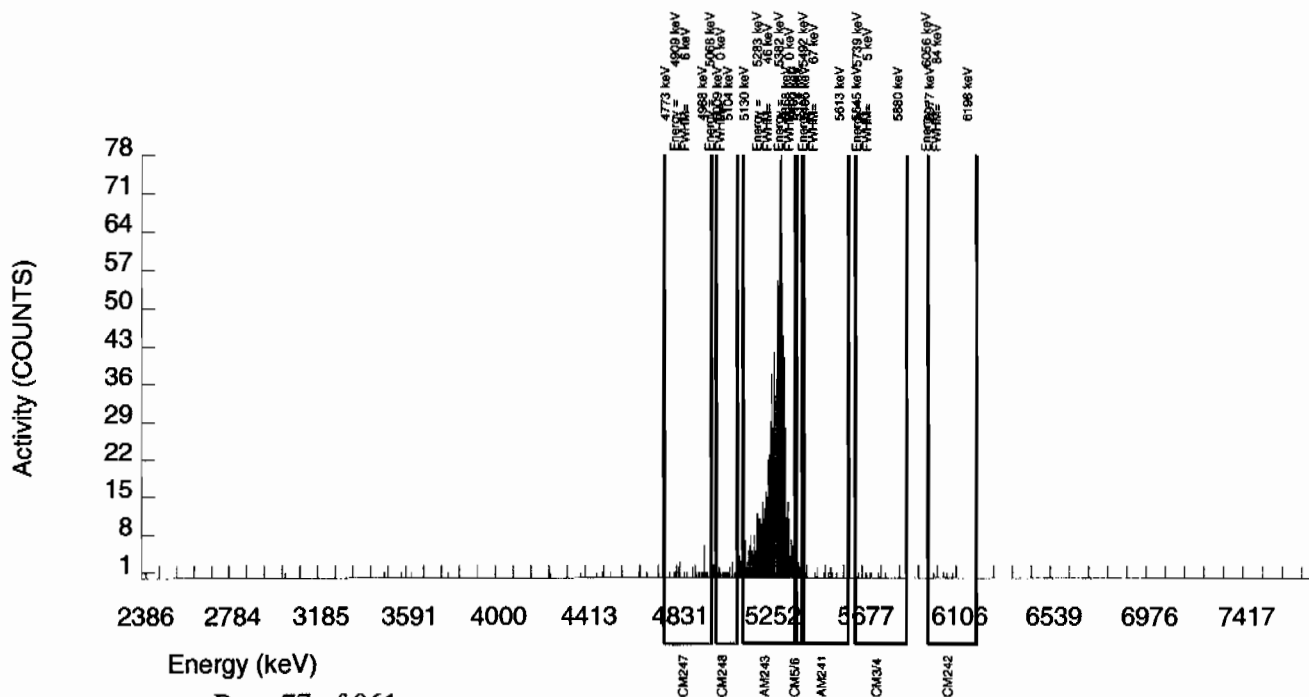
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	11.000	11.000	0.000	5.2338	100.0000	1.23E-02	3.78E-03	1.36E-02	3.02E-02	3.71E-03
CM-5/6	5386.000	17.000	17.000	0.000	19.8463	86.09000	2.20E-02	5.50E-03	5.98E-02	1.23E-01	5.34E-03
AM-241	5479.150	13.000	11.369	0.000	3.0704	99.94000	1.27E-02	3.84E-03	7.97E-03	1.90E-02	3.76E-03
CM-242	6102.000	4.000	4.000	0.000	4.3186	100.0000	4.81E-03	2.42E-03	1.12E-02	2.54E-02	2.41E-03
AM243	5270.000	939.000	937.000	2.000	1.4142	99.78000	1.05E+00	7.07E-02	3.68E-03	1.04E-02	3.43E-02
CM-247	4946.000	30.000	30.000	0.000	15.3366	79.30000	4.22E-02	8.10E-03	5.02E-02	1.04E-01	7.71E-03
CM-248	5078.600	21.000	21.000	0.000	22.1555	91.00000	2.57E-02	5.82E-03	6.32E-02	1.30E-01	5.62E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536002_AM
SAMPLE QTY: 1.258 G

DETECTOR NUMBER :79413
AVERAGE %EFFICIENCY :37.7498
% YIELD : 95.213

COUNT DATE: 7-JAN-2010 07:59:37
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91660 dpm
RESULTS : 2.77699 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B220.CNF;66
BKG DATE : 3-JAN-2010
EFF FILE : W220.CNF;26
CAL DATE : 28-DEC-2009

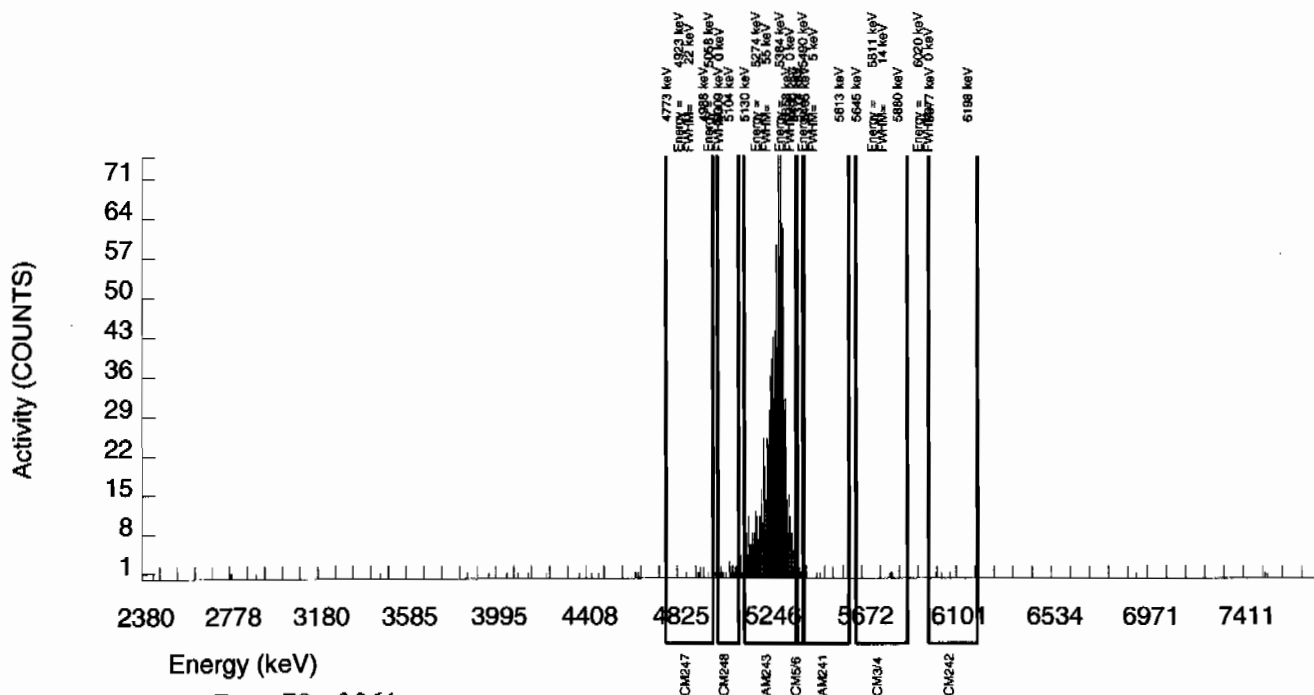
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	3.000	3.000	0.000	5.2338	100.0000	2.99E-03	1.74E-03	1.21E-02	2.70E-02	1.73E-03
CM-5/6	5386.000	8.000	8.000	0.000	19.8463	86.09000	9.26E-03	3.32E-03	5.34E-02	1.10E-01	3.27E-03
AM-241	5479.150	5.000	3.180	0.000	3.0704	99.94000	3.17E-03	1.79E-03	7.12E-03	1.69E-02	1.78E-03
CM-242	6102.000	5.000	5.000	0.000	4.3186	100.0000	5.37E-03	2.42E-03	1.00E-02	2.27E-02	2.40E-03
AM243	5270.000	1046.000	1046.000	0.000	0.0000	99.78000	1.04E+00	6.87E-02	0.00E+00	2.71E-03	3.23E-02
CM-247	4946.000	11.000	11.000	0.000	15.3366	79.30000	1.38E-02	4.24E-03	4.48E-02	9.30E-02	4.17E-03
CM-248	5078.600	24.000	24.000	0.000	22.1555	91.00000	2.63E-02	5.58E-03	5.64E-02	1.16E-01	5.36E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536003_AM
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :79414
AVERAGE %EFFICIENCY :37.2887
% YIELD : 82.476

COUNT DATE: 7-JAN-2010 07:59:39
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91660 dpm
RESULTS : 2.40549 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B221.CNF;66
BKG DATE : 3-JAN-2010
EFF FILE : W221.CNF;24
CAL DATE : 28-DEC-2009

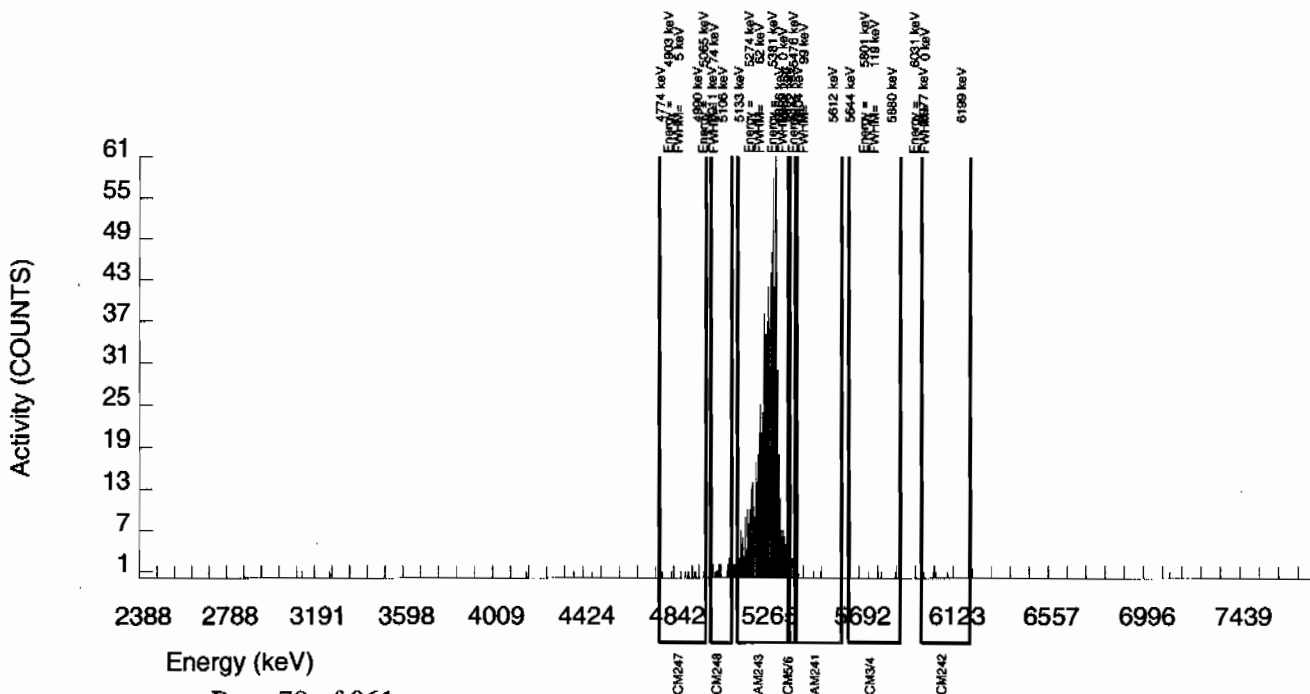
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	3.000	3.000	0.000	5.2338	100.0000	3.51E-03	2.04E-03	1.42E-02	3.16E-02	2.03E-03
CM-5/6	5386.000	15.000	14.000	1.000	19.8463	86.09000	1.90E-02	5.54E-03	6.26E-02	1.29E-01	5.43E-03
AM-241	5479.150	3.000	0.442	1.000	3.0704	99.94000	5.17E-04	1.83E-03	8.35E-03	1.99E-02	1.83E-03
CM-242	6102.000	5.000	5.000	0.000	4.3186	100.0000	6.30E-03	2.84E-03	1.17E-02	2.66E-02	2.82E-03
AM243	5270.000	895.000	895.000	0.000	0.0000	99.78000	1.05E+00	7.14E-02	0.00E+00	3.17E-03	3.50E-02
CM-247	4946.000	12.000	11.000	1.000	15.3366	79.30000	1.62E-02	5.40E-03	5.26E-02	1.09E-01	5.31E-03
CM-248	5078.600	19.000	19.000	0.000	22.1555	91.00000	2.44E-02	5.78E-03	6.62E-02	1.36E-01	5.59E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536004_AM SAMPLE QTY: 1.255 G	
DETECTOR NUMBER :79415 AVERAGE %EFFICIENCY :35.6666 % YIELD : 89.117		COUNT DATE: 7-JAN-2010 07:59:41 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.59919 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B222.CNF;66 BKG DATE : 3-JAN-2010 EFF FILE : W222.CNF;24 CAL DATE : 28-DEC-2009

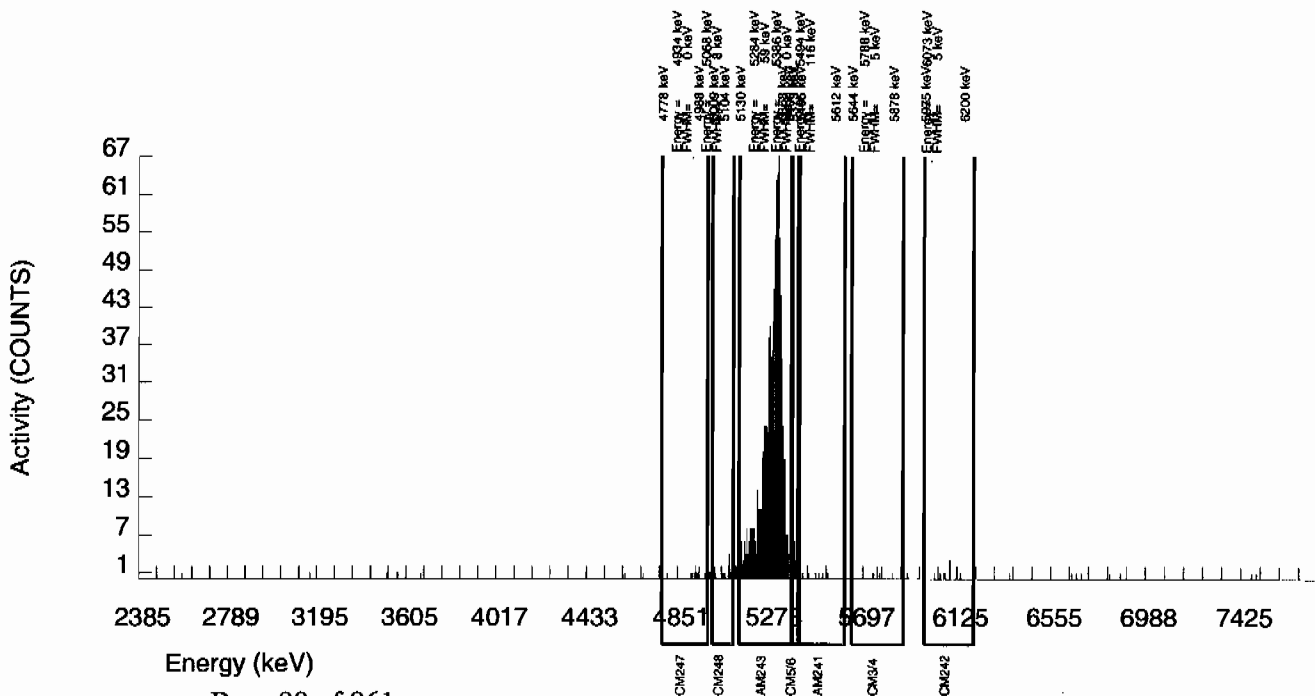
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	7.000	7.000	0.000	5.2338	100.0000	7.92E-03	3.03E-03	1.37E-02	3.06E-02	2.99E-03
CM-5/6	5386.000	27.000	27.000	0.000	19.8463	86.09000	3.54E-02	7.13E-03	6.06E-02	1.25E-01	6.82E-03
AM-241	5479.150	7.000	5.390	0.000	3.0704	99.94000	6.09E-03	2.65E-03	8.07E-03	1.92E-02	2.62E-03
CM-242	6102.000	9.000	9.000	0.000	4.3186	100.0000	1.10E-02	3.71E-03	1.13E-02	2.58E-02	3.65E-03
AM243	5270.000	925.000	925.000	0.000	0.0000	99.78000	1.05E+00	7.08E-02	0.00E+00	3.07E-03	3.44E-02
CM-247	4946.000	12.000	11.000	1.000	15.3366	79.30000	1.57E-02	5.22E-03	5.08E-02	1.05E-01	5.13E-03
CM-248	5078.600	15.000	15.000	0.000	22.1555	91.00000	1.86E-02	4.93E-03	6.40E-02	1.31E-01	4.81E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536005_AM
SAMPLE QTY: 1.257 G

DETECTOR NUMBER :33454
AVERAGE %EFFICIENCY :31.1998
% YIELD : 94.607

COUNT DATE: 7-JAN-2010 08:33:50
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :MXA1

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

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

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91660 dpm
RESULTS : 2.75930 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B029.CNF;1102
BKG DATE : 3-JAN-2010
EFF FILE : W029.CNF;318
CAL DATE : 4-JAN-2010

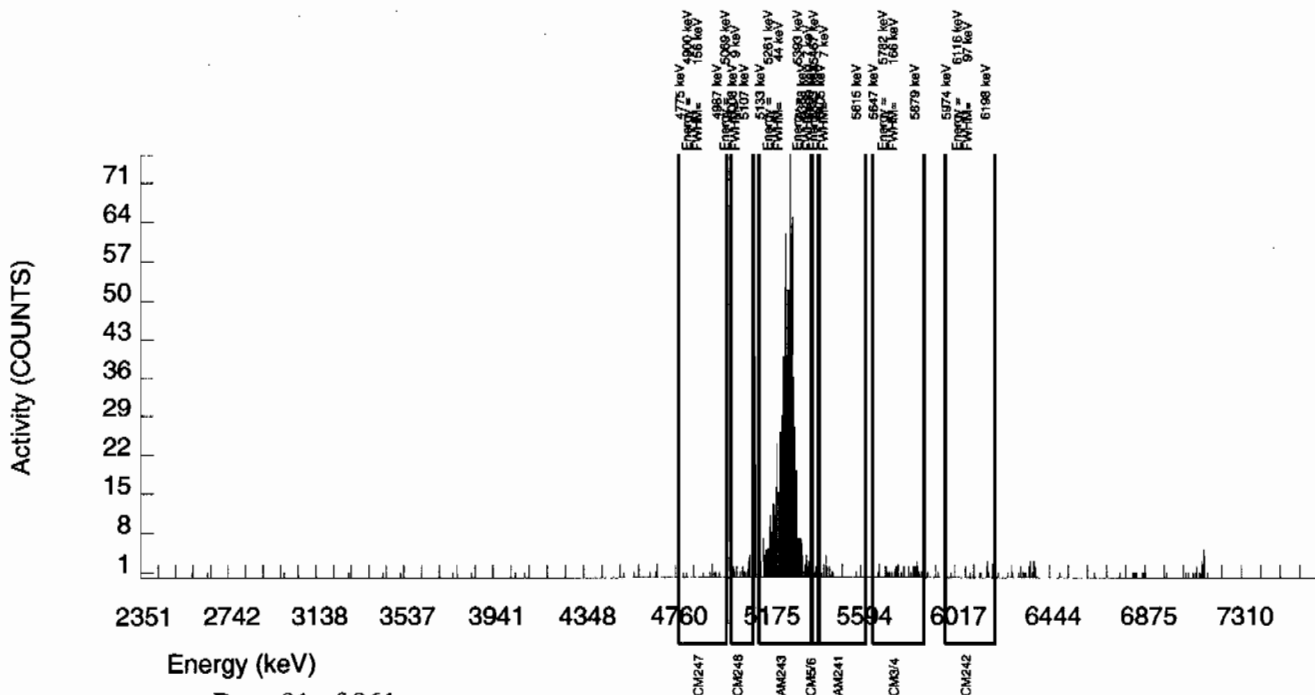
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	36.000	11.000	25.000	5.2338	100.0000	1.34E-02	9.54E-03	1.48E-02	3.29E-02	9.50E-03
CM-5/6	5386.000	3.000	2.000	1.000	19.8463	86.09000	2.82E-03	2.83E-03	6.51E-02	1.34E-01	2.82E-03
AM-241	5479.150	14.000	0.505	12.000	3.0704	99.94000	6.13E-04	6.01E-03	8.68E-03	2.06E-02	6.01E-03
CM-242	6102.000	15.000	10.000	5.000	4.3186	100.0000	1.31E-02	5.91E-03	1.22E-02	2.77E-02	5.85E-03
AM243	5270.000	866.000	859.000	7.000	2.6458	99.78000	1.05E+00	7.39E-02	7.49E-03	1.83E-02	3.60E-02
CM-247	4946.000	8.000	7.000	1.000	15.3366	79.30000	1.07E-02	4.64E-03	5.46E-02	1.13E-01	4.59E-03
CM-248	5078.600	18.000	16.000	2.000	22.1555	91.00000	2.13E-02	6.11E-03	6.88E-02	1.41E-01	5.97E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536006_AM
SAMPLE QTY: 1.253 G

DETECTOR NUMBER :33447
AVERAGE %EFFICIENCY :32.1103
% YIELD : 94.600

COUNT DATE: 7-JAN-2010 08:33:50
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :MXA1

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

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

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91660 dpm
RESULTS : 2.75909 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B030.CNF;1099
BKG DATE : 3-JAN-2010
EFF FILE : W030.CNF;303
CAL DATE : 4-JAN-2010

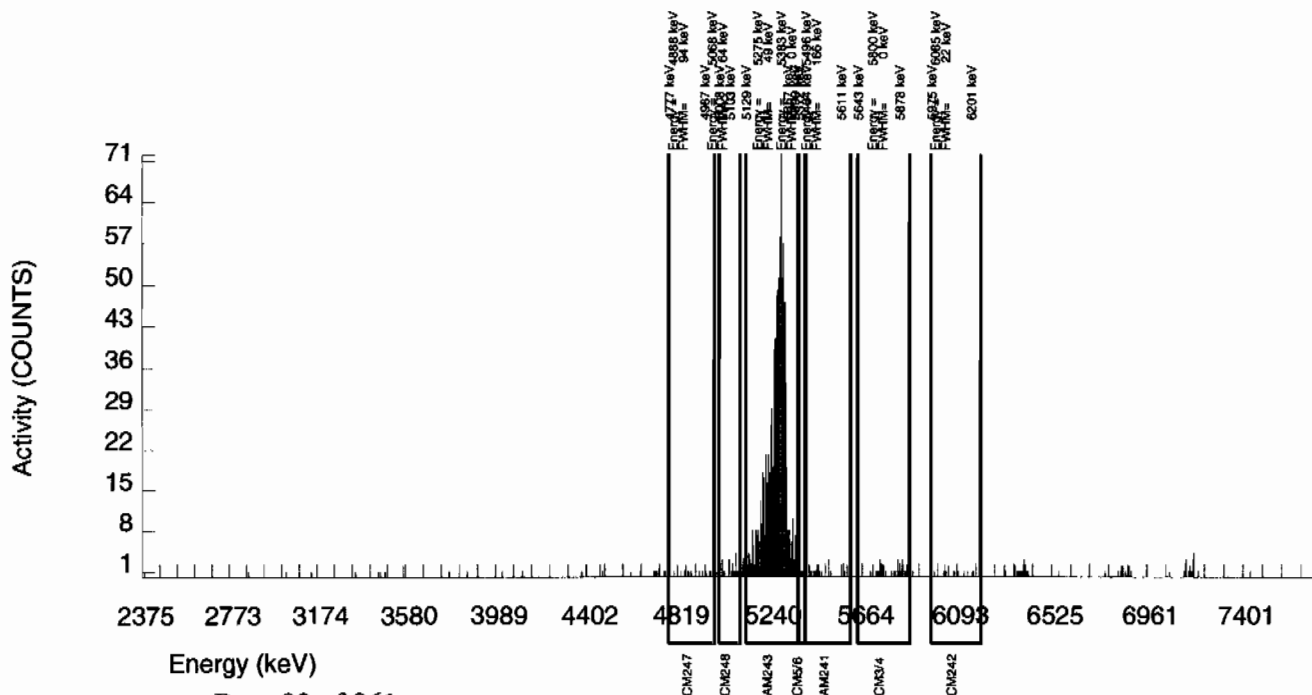
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	37.000	10.000	27.000	5.2338	100.0000	1.19E-02	9.51E-03	1.44E-02	3.20E-02	9.49E-03
CM-5/6	5386.000	8.000	5.000	3.000	19.8463	86.09000	6.87E-03	4.58E-03	6.35E-02	1.31E-01	4.56E-03
AM-241	5479.150	25.000	8.461	15.000	3.0704	99.94000	1.00E-02	7.37E-03	8.46E-03	2.01E-02	7.34E-03
CM-242	6102.000	14.000	3.000	11.000	4.3186	100.0000	3.83E-03	6.38E-03	1.19E-02	2.70E-02	6.38E-03
AM243	5270.000	887.000	884.000	3.000	1.7321	99.78000	1.05E+00	7.35E-02	4.78E-03	1.28E-02	3.54E-02
CM-247	4946.000	17.000	14.000	3.000	15.3366	79.30000	2.09E-02	6.80E-03	5.32E-02	1.11E-01	6.67E-03
CM-248	5078.600	17.000	16.000	1.000	22.1555	91.00000	2.08E-02	5.66E-03	6.70E-02	1.38E-01	5.52E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536007_AM
SAMPLE QTY: 1.256 G

DETECTOR NUMBER :79988
AVERAGE %EFFICIENCY :33.5512
% YIELD : 92.483

COUNT DATE: 7-JAN-2010 08:33:51
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91660 dpm
RESULTS : 2.69735 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B031.CNF;1097
BKG DATE : 3-JAN-2010
EFF FILE : W031.CNF;343
CAL DATE : 4-JAN-2010

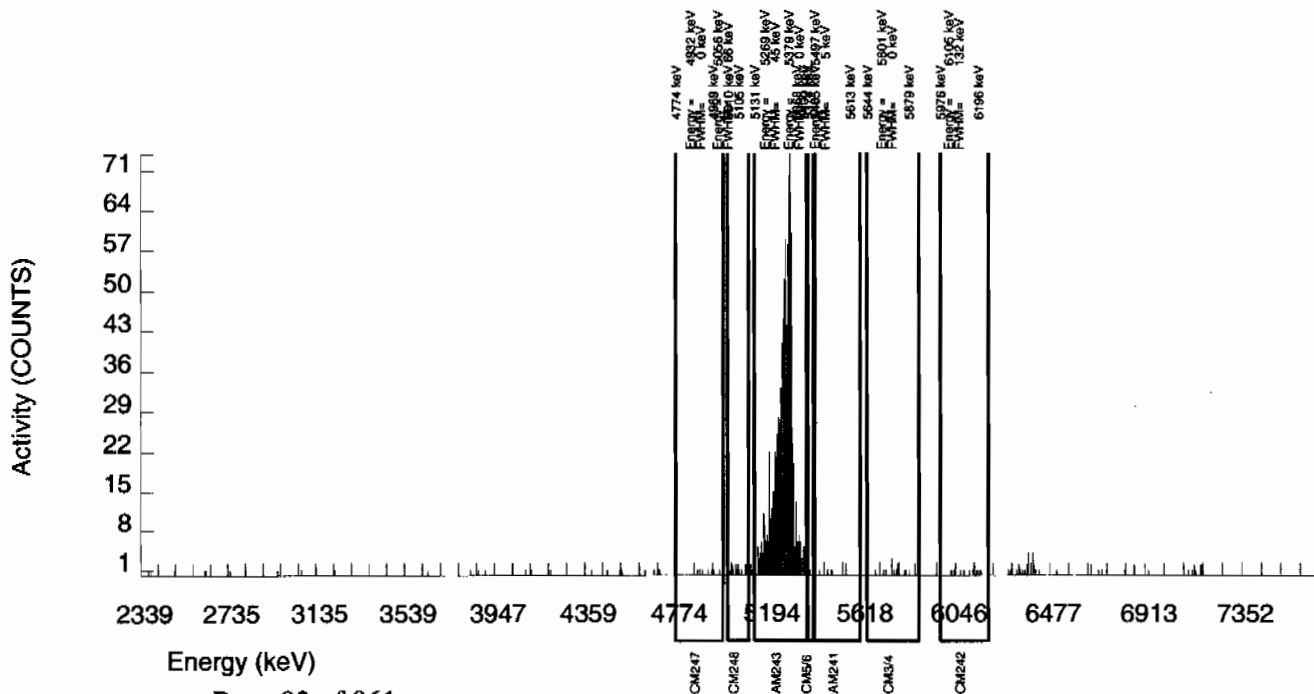
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	19.000	-7.000	26.000	5.2338	100.0000	-8.11E-03	7.77E-03	1.41E-02	3.13E-02	7.77E-03
CM-5/6	5386.000	3.000	3.000	0.000	19.8463	86.09000	4.03E-03	2.34E-03	6.20E-02	1.28E-01	2.33E-03
AM-241	5479.150	6.000	3.428	1.000	3.0704	99.94000	3.97E-03	2.71E-03	8.26E-03	1.97E-02	2.69E-03
CM-242	6102.000	11.000	7.000	4.000	4.3186	100.0000	8.72E-03	4.85E-03	1.16E-02	2.64E-02	4.83E-03
AM243	5270.000	909.000	903.000	6.000	2.4495	99.78000	1.05E+00	7.15E-02	6.60E-03	1.63E-02	3.50E-02
CM-247	4946.000	8.000	4.000	4.000	15.3366	79.30000	5.83E-03	5.06E-03	5.20E-02	1.08E-01	5.05E-03
CM-248	5078.600	18.000	11.000	7.000	22.1555	91.00000	1.40E-02	6.41E-03	6.55E-02	1.34E-01	6.35E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536008_AM SAMPLE QTY: 1.256 G	
DETECTOR NUMBER :78785 AVERAGE %EFFICIENCY :31.8010 % YIELD : 92.278		COUNT DATE: 7-JAN-2010 08:33:51 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.69138 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B033.CNF;1096 BKG DATE : 3-JAN-2010 EFF FILE : W033.CNF;328 CAL DATE : 4-JAN-2010

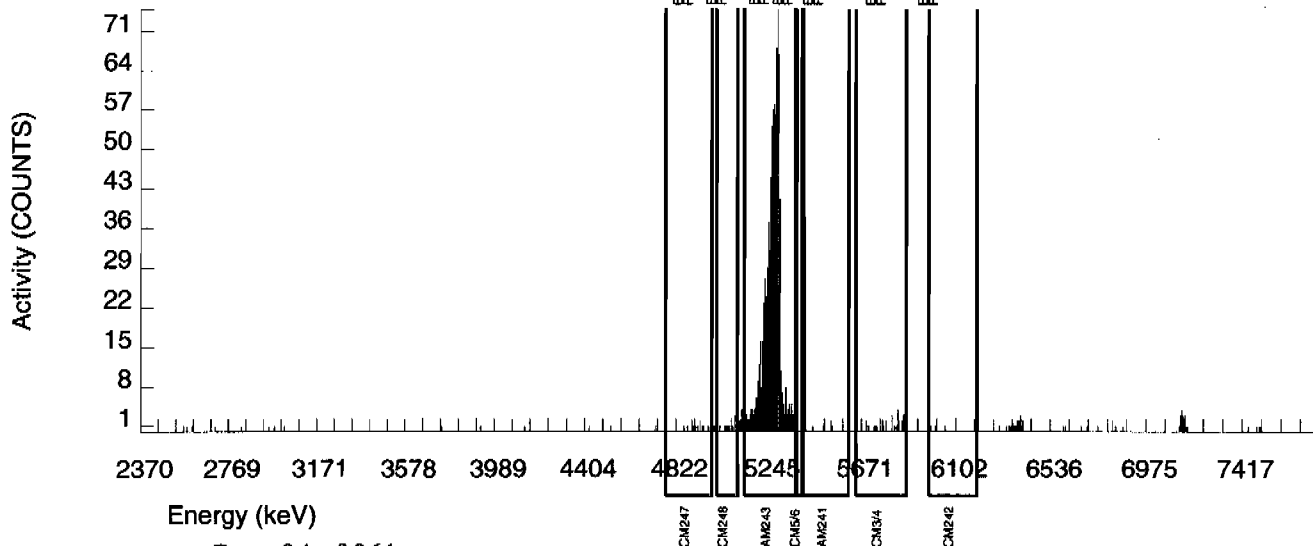
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	29.000	13.000	16.000	5.2338	100.0000	1.59E-02	8.27E-03	1.49E-02	3.31E-02	8.21E-03
CM-5/6	5386.000	2.000	2.000	0.000	19.8463	86.09000	2.84E-03	2.01E-03	6.55E-02	1.35E-01	2.01E-03
AM-241	5479.150	5.000	2.514	1.000	3.0704	99.94000	3.07E-03	2.60E-03	8.73E-03	2.08E-02	2.60E-03
CM-242	6102.000	7.000	3.000	4.000	4.3186	100.0000	3.95E-03	4.38E-03	1.23E-02	2.79E-02	4.37E-03
AM243	5270.000	855.000	854.000	1.000	1.0000	99.78000	1.05E+00	7.23E-02	2.85E-03	9.02E-03	3.58E-02
CM-247	4946.000	13.000	11.000	2.000	15.3366	79.30000	1.70E-02	6.06E-03	5.50E-02	1.14E-01	5.97E-03
CM-248	5078.600	14.000	13.000	1.000	22.1555	91.00000	1.75E-02	5.31E-03	6.92E-02	1.42E-01	5.20E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536009_AM SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :78202 AVERAGE %EFFICIENCY :29.7838 % YIELD : 92.298		COUNT DATE: 7-JAN-2010 08:33:51 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.69195 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B035.CNF;1094 BKG DATE : 3-JAN-2010 EFF FILE : W035.CNF;317 CAL DATE : 4-JAN-2010

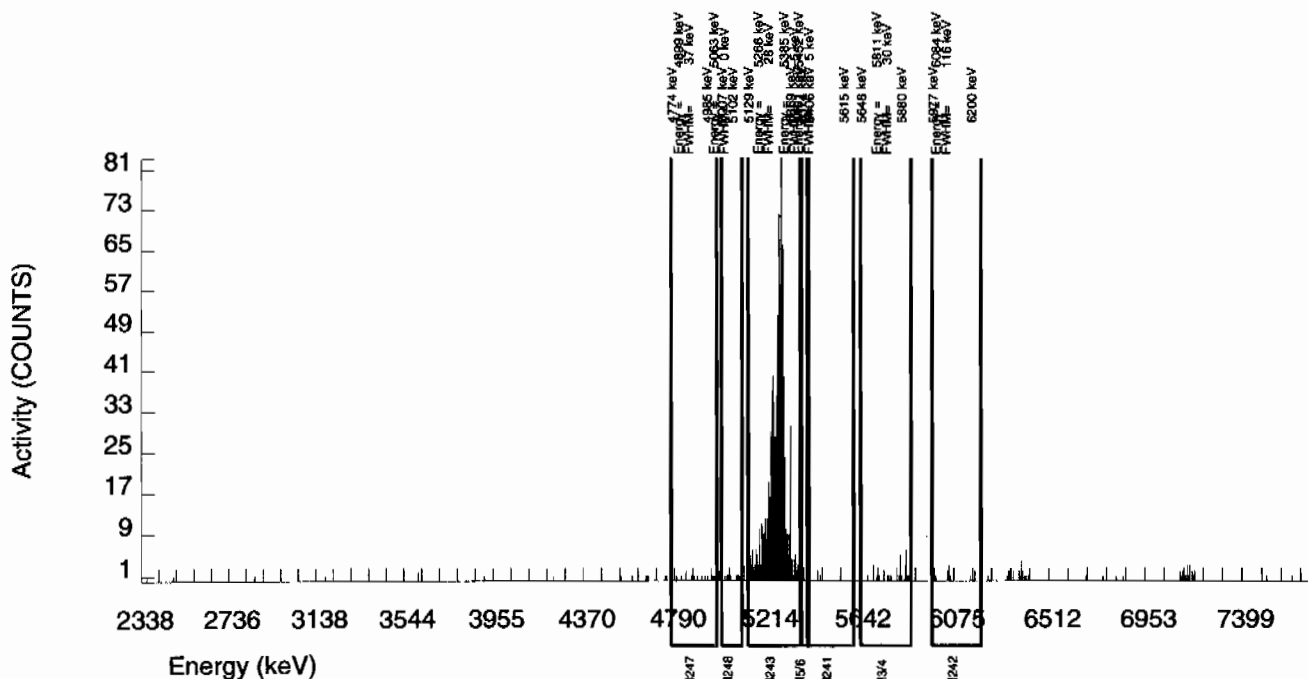
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	30.000	11.000	19.000	5.2338	100.0000	1.44E-02	9.21E-03	1.59E-02	3.54E-02	9.17E-03
CM-5/6	5386.000	1.000	0.000	1.000	19.8463	86.09000	0.00E+00	2.15E-03	7.01E-02	1.44E-01	2.15E-03
AM-241	5479.150	5.000	-1.392	5.000	3.0704	99.94000	-1.82E-03	3.84E-03	9.35E-03	2.22E-02	3.84E-03
CM-242	6102.000	12.000	6.000	6.000	4.3186	100.0000	8.46E-03	6.00E-03	1.31E-02	2.98E-02	5.98E-03
AM243	5270.000	802.000	800.000	2.000	1.4142	99.78000	1.05E+00	7.38E-02	4.31E-03	1.22E-02	3.72E-02
CM-247	4946.000	15.000	7.000	8.000	15.3366	79.30000	1.15E-02	7.94E-03	5.88E-02	1.22E-01	7.91E-03
CM-248	5078.600	10.000	3.000	7.000	22.1555	91.00000	4.31E-03	5.93E-03	7.41E-02	1.52E-01	5.93E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536010_AM
SAMPLE QTY: 1.258 G

DETECTOR NUMBER :78203
AVERAGE %EFFICIENCY :32.3142
% YIELD : 89.962

COUNT DATE: 7-JAN-2010 08:33:51
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91660 dpm
RESULTS : 2.62382 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B036.CNF;1092
BKG DATE : 3-JAN-2010
EFF FILE : W036.CNF;329
CAL DATE : 4-JAN-2010

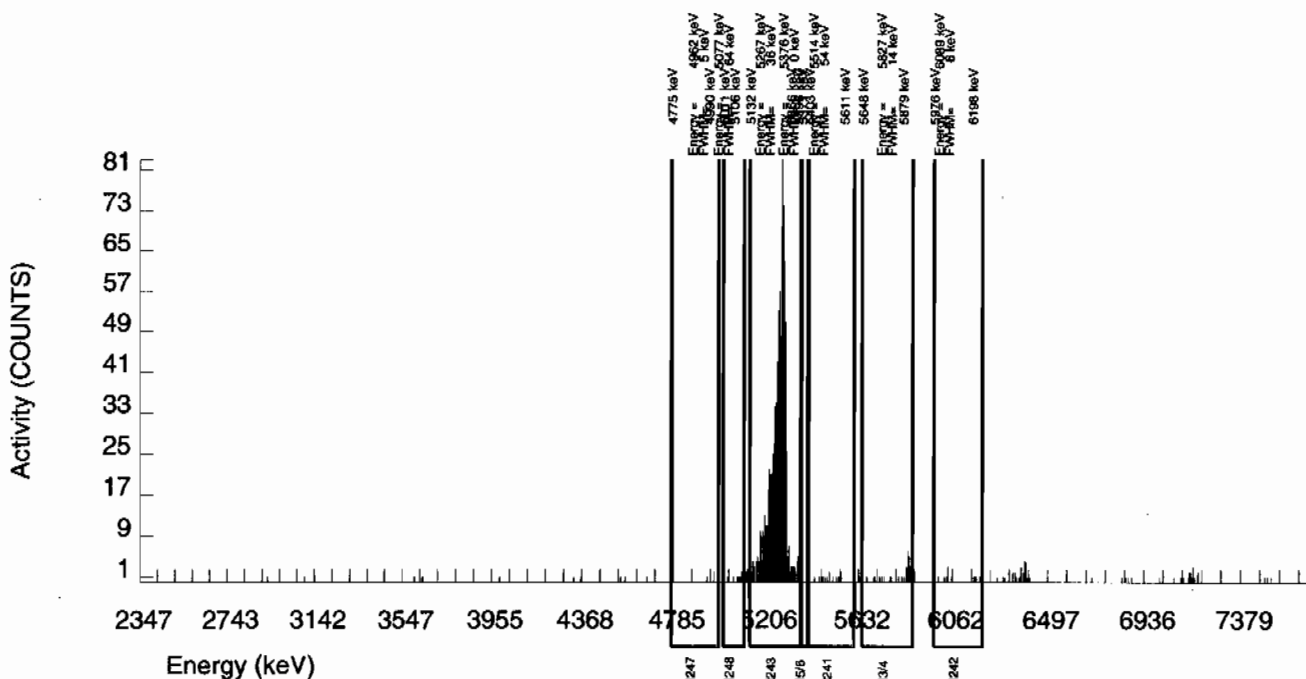
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	30.000	7.000	23.000	5.2338	100.0000	8.64E-03	9.00E-03	1.50E-02	3.33E-02	8.98E-03
CM-5/6	5386.000	2.000	2.000	0.000	19.8463	86.09000	2.86E-03	2.03E-03	6.61E-02	1.36E-01	2.02E-03
AM-241	5479.150	13.000	7.528	4.000	3.0704	99.94000	9.28E-03	4.89E-03	8.80E-03	2.09E-02	4.86E-03
CM-242	6102.000	11.000	9.000	2.000	4.3186	100.0000	1.20E-02	4.84E-03	1.24E-02	2.81E-02	4.79E-03
AM243	5270.000	848.000	846.000	2.000	1.4142	99.78000	1.04E+00	7.24E-02	4.06E-03	1.15E-02	3.60E-02
CM-247	4946.000	4.000	4.000	0.000	15.3366	79.30000	6.21E-03	3.13E-03	5.54E-02	1.15E-01	3.11E-03
CM-248	5078.600	11.000	10.000	1.000	22.1555	91.00000	1.35E-02	4.76E-03	6.98E-02	1.43E-01	4.69E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070 SAMPLE DATE : 21-DEC-2009 00:00:00			SAMPLE ID : S0243536011_AM SAMPLE QTY: 1.254 G		
DETECTOR NUMBER :45-149AA5 AVERAGE %EFFICIENCY :32.4684 % YIELD : 79.692			COUNT DATE: 7-JAN-2010 08:33:50 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :MXA1		
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.32430 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B025.CNF;1100 BKG DATE : 3-JAN-2010 EFF FILE : W025.CNF;326 CAL DATE : 4-JAN-2010		

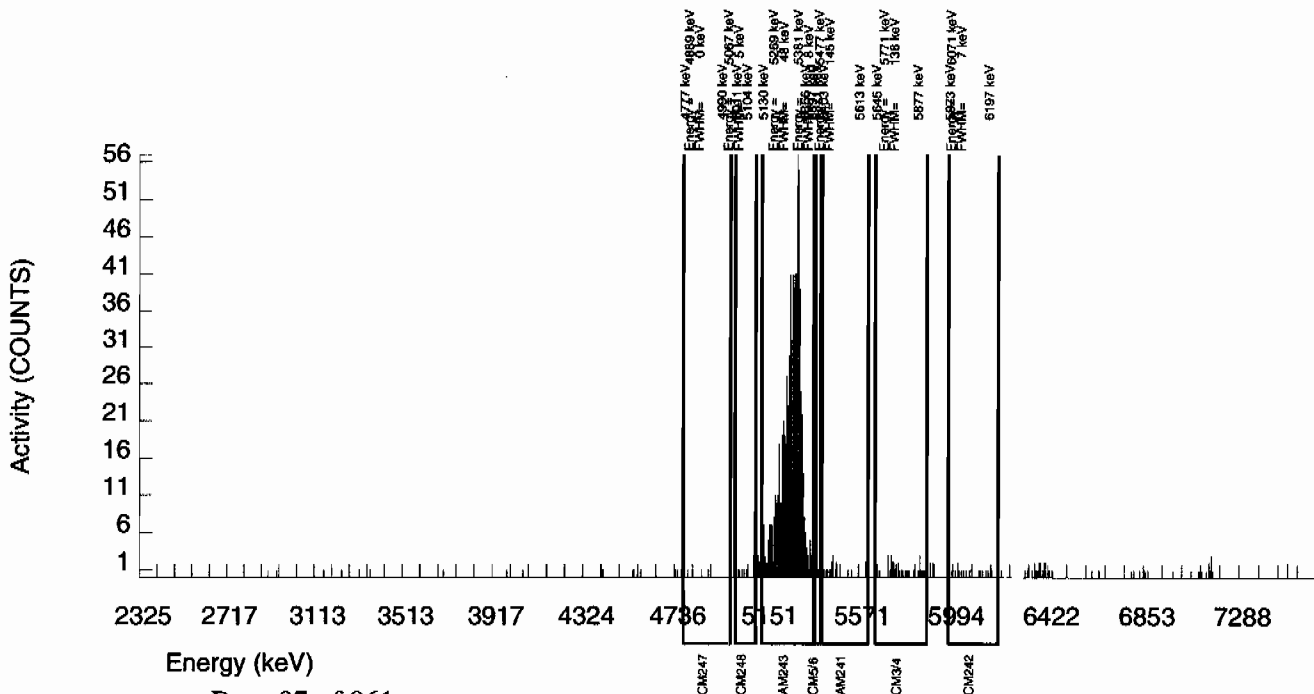
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	34.000	-1.000	35.000	5.2338	100.0000	-1.39E-03	1.16E-02	1.69E-02	3.76E-02	1.16E-02
CM-5/6	5386.000	10.000	8.000	2.000	19.8463	86.09000	1.29E-02	5.64E-03	7.45E-02	1.53E-01	5.59E-03
AM-241	5479.150	18.000	3.689	13.000	3.0704	99.94000	5.13E-03	7.58E-03	9.92E-03	2.36E-02	7.57E-03
CM-242	6102.000	18.000	10.000	8.000	4.3186	100.0000	1.50E-02	7.69E-03	1.39E-02	3.17E-02	7.63E-03
AM243	5270.000	759.000	753.000	6.000	2.4495	99.78000	1.05E+00	7.50E-02	7.93E-03	1.96E-02	3.85E-02
CM-247	4946.000	4.000	2.000	2.000	15.3366	79.30000	3.50E-03	4.29E-03	6.25E-02	1.30E-01	4.29E-03
CM-248	5078.600	8.000	6.000	2.000	22.1555	91.00000	9.15E-03	4.86E-03	7.86E-02	1.61E-01	4.82E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070 SAMPLE DATE : 4-JAN-2010 00:00:00.		SAMPLE ID : S1202007324_AM SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :78204 AVERAGE %EFFICIENCY :31.5763 % YIELD : 80.529		COUNT DATE: 7-JAN-2010 08:33:50 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.34870 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B026.CNF;1101 BKG DATE : 3-JAN-2010 EFF FILE : W026.CNF;300 CAL DATE : 4-JAN-2010

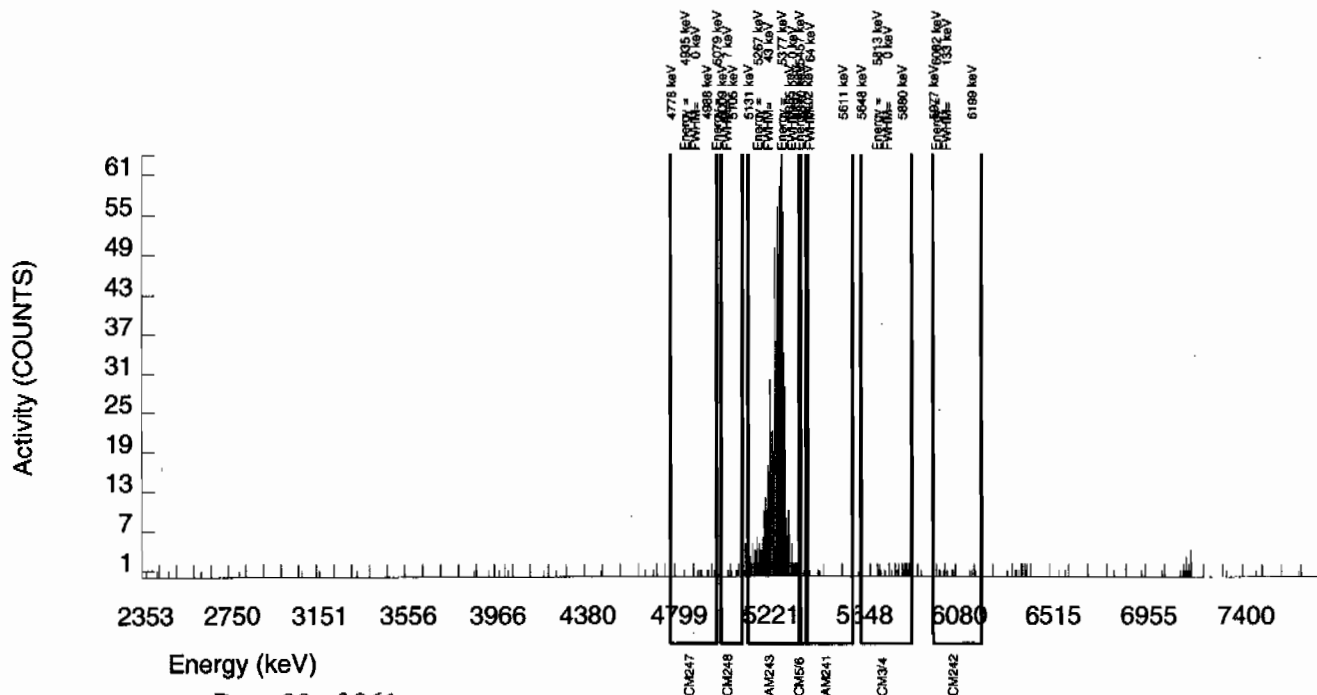
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	29.000	10.000	19.000	5.2338	100.0000	1.77E-02	1.23E-02	2.16E-02	4.79E-02	1.23E-02
CM-5/6	5386.000	4.000	4.000	0.000	19.8463	86.09000	8.23E-03	4.15E-03	9.50E-02	1.96E-01	4.12E-03
AM-241	5479.150	5.000	1.712	2.000	3.0704	99.94000	3.03E-03	4.24E-03	1.27E-02	3.01E-02	4.24E-03
CM-242	6102.000	14.000	11.000	3.000	4.3186	100.0000	1.98E-02	7.53E-03	1.78E-02	4.04E-02	7.42E-03
AM243	5270.000	746.000	740.000	6.000	2.4495	99.78000	1.31E+00	9.64E-02	1.01E-02	2.50E-02	4.87E-02
CM-247	4946.000	8.000	7.000	1.000	15.3366	79.30000	1.56E-02	6.77E-03	7.97E-02	1.65E-01	6.70E-03
CM-248	5078.600	8.000	8.000	0.000	22.1555	91.00000	1.56E-02	5.59E-03	1.00E-01	2.06E-01	5.51E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070 SAMPLE DATE : 21-DEC-2009 00:00:00			SAMPLE ID : S1202007325_AM SAMPLE QTY: 1.253 G		
DETECTOR NUMBER :42484 AVERAGE %EFFICIENCY :33.2327 % YIELD : 85.201			COUNT DATE: 7-JAN-2010 08:33:50 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :MXA1		
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.48496 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B027.CNF;1107 BKG DATE : 3-JAN-2010 EFF FILE : W027.CNF;327 CAL DATE : 4-JAN-2010		

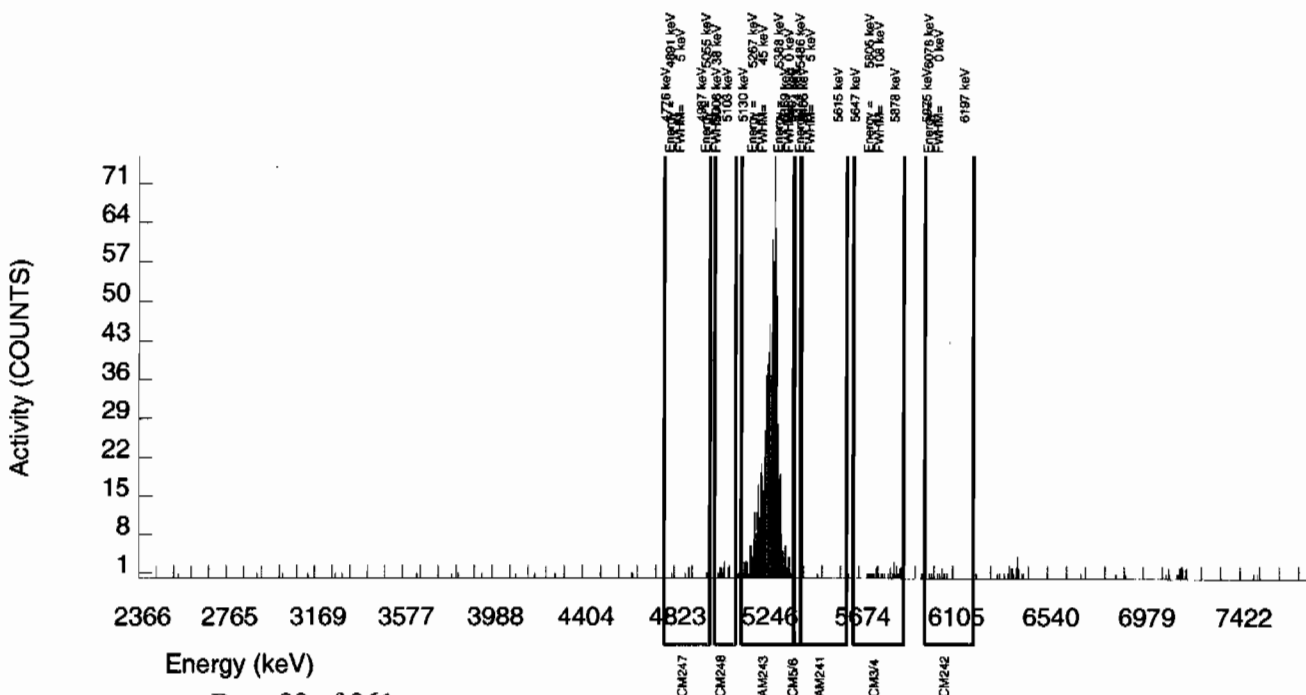
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	30.000	8.000	22.000	5.2338	100.0000	1.02E-02	9.19E-03	1.55E-02	3.44E-02	9.17E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8463	86.09000	1.47E-03	1.48E-03	6.81E-02	1.40E-01	1.47E-03
AM-241	5479.150	1.000	-1.434	1.000	3.0704	99.94000	-1.82E-03	1.80E-03	9.07E-03	2.16E-02	1.80E-03
CM-242	6102.000	10.000	8.000	2.000	4.3186	100.0000	1.10E-02	4.79E-03	1.28E-02	2.90E-02	4.74E-03
AM243	5270.000	826.000	824.000	2.000	1.4142	99.78000	1.05E+00	7.47E-02	4.19E-03	1.18E-02	3.66E-02
CM-247	4946.000	7.000	7.000	0.000	15.3366	79.30000	1.12E-02	4.29E-03	5.71E-02	1.19E-01	4.24E-03
CM-248	5078.600	15.000	14.000	1.000	22.1555	91.00000	1.95E-02	5.71E-03	7.19E-02	1.48E-01	5.58E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938070
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S1202007326_AM
SAMPLE QTY: 0.112 G

DETECTOR NUMBER :78792
AVERAGE %EFFICIENCY :30.5070
% YIELD : 93.376

COUNT DATE: 7-JAN-2010 08:33:50
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :MXA1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_AM.N
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	BKG FILE : B028.CNF;1111
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG DATE : 3-JAN-2010
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	EFF FILE : W028.CNF;319
		RESULTS : 2.72341 dpm	CAL DATE : 4-JAN-2010

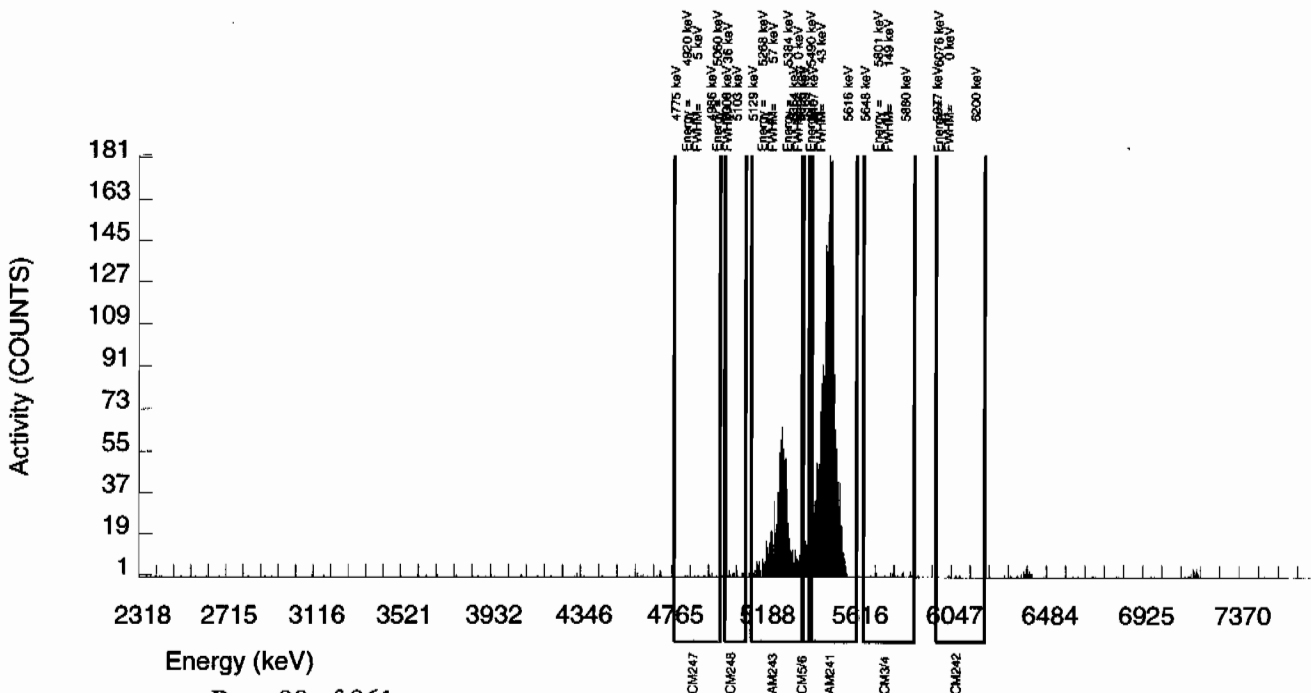
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	21.000	-11.000	32.000	5.2338	100.0000	-1.55E-01	1.03E-01	1.72E-01	3.82E-01	1.03E-01
CM-5/6	5386.000	76.000	76.000	0.000	19.8463	86.09000	1.25E+00	1.66E-01	7.57E-01	1.56E+00	1.43E-01
AM-241	5479.150	2259.000	2250.557	7.000	3.0704	99.94000	3.18E+01	2.27E+00	1.01E-01	2.40E-01	6.72E-01
CM-242	6102.000	6.000	4.000	2.000	4.3186	100.0000	5.74E-02	4.08E-02	1.42E-01	3.22E-01	4.06E-02
AM243	5270.000	829.000	829.000	0.000	0.0000	99.78000	1.17E+01	8.99E-01	0.00E+00	3.83E-02	4.07E-01
CM-247	4946.000	12.000	10.000	2.000	15.3366	79.30000	1.78E-01	6.77E-02	6.35E-01	1.32E+00	6.66E-02
CM-248	5078.600	24.000	23.000	1.000	22.1555	91.00000	3.57E-01	8.13E-02	8.00E-01	1.64E+00	7.76E-02

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

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

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



Radiochemistry Batch Checklist, Rev 9

Batch#

938071

Product:

PU

Date:

1/8/10

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% . Camer 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.	✓		
OC data entered into OC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch non-conformances completed. If applicable.			N/A
Batch non-conformances second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (if REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By:

Denise Green 1/8/10

Secondary Review Performed By:

JapLMT- 1/8/10

1/21
LAW

Plutonium Que Sheet

31-DEC-09

Batch #: 938071 Analyst: MXA1 First Client Due Date: 21-JAN-10 Internal Due Date: 10-JAN-10
 Tracer Isotope(s): Pu-242 Pu-238 Tracer Code: 1374A Expiration Date: 12-8-10 Vol: 0.1 ml
 LCS Isotope(s): Pu-239 Pu-238 LCS Code: 50A 0144-B Expiration Date: 4-30-10 Vol: 0.1 g
 Spike Isotope(s): Pu-239/Pu-238 Spike Code: NA Expiration Date: NA Vol: NA
 Prep Date: 1-4-10 Initials: KM Pipet ID: 297058 Balance ID: 19350208
 Witness: 12/14/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g) (1/1)	Pu Det #
24356001-1	RE12-10-7666	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	1	1	1.254	89
24356002-1	RE12-10-7667	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	2	2	1.258	90
24356003-1	RE12-10-7596	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	3	3	1.254	91
24356004-1	RE12-10-7597	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	4	4	1.253	92
24356005-1	RE12-10-7608	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	5	5	1.257	93
24356006-1	RE12-10-7600	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	6	6	1.253	94
24356007-1	RE12-10-7601	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	7	7	1.256	95
24356008-1	RE12-10-7602	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	8	8	1.256	96
24356009-1	RE12-10-7599	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	9	9	1.253	97
24356010-1	RE12-10-7598	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	10	10	1.258	98
24356011-1	RE12-10-7603	SAMPLE	.05 pCi/g		SOIL	LANL010	21-DEC-09	11	11	1.254	100
1202007327-1	MB for batch 938071	MB	.05 pCi/g		SOIL	QC ACCOUNT	21-DEC-09	12	12	1.258	101
1202007328-1	RE12-10-7599(243536009DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	21-DEC-09	13	13	1.253	102
1202007329-1	LCS for batch 938071	LCS	.05 pCi/g		SOIL	QC ACCOUNT	21-DEC-09	14	14	0.112	103

1 NSA 151.0

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

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

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: 12/18/10

12/18/10

Blank Correction Report

Batch ID 938071

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202007328	DUP	Plutonium-238	1.25 g	0.00	0.0013	0.0214	-.006632	pCi/g	NO
		Plutonium-239/240	1.25 g	-0.00129	0.00289	0.0244	.002648	pCi/g	YES
1202007329	LCS	Plutonium-238	0.112 g	7.31	0.534	0.230	-.07401786	pCi/g	NO
		Plutonium-239/240	0.112 g	39.7	2.44	0.264	.029553571	pCi/g	NO
1202007327	MB	Plutonium-238	1.00 g	-0.00829	0.00439	0.0274	-.00829	pCi/g	NO
		Plutonium-239/240	1.00 g	0.00331	0.00524	0.0313	.00331	pCi/g	YES
243536001	RE12-10-7606	Plutonium-238	1.25 g	0.00132	0.00132	0.0217	-.006632	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0105	0.00459	0.0248	.002648	pCi/g	YES
243536002	RE12-10-7607	Plutonium-238	1.26 g	0.00263	0.00186	0.0217	-.00657937	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00263	0.00186	0.0248	.002626984	pCi/g	YES
243536003	RE12-10-7596	Plutonium-238	1.25 g	0.0025	0.0025	0.0206	-.006632	pCi/g	NO
		Plutonium-239/240	1.25 g	-0.00125	0.00217	0.0236	.002648	pCi/g	YES
243536005	RE12-10-7608	Plutonium-238	1.26 g	0.00156	0.00156	0.0258	-.00657937	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00312	0.00313	0.0295	.002626984	pCi/g	YES
243536006	RE12-10-7600	Plutonium-238	1.25 g	0.00	0.0021	0.0346	-.006632	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0105	0.00558	0.0396	.002648	pCi/g	YES
243536007	RE12-10-7601	Plutonium-238	1.26 g	0.00949	0.00848	0.0224	-.00657937	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00271	0.00332	0.0256	.002626984	pCi/g	YES
243536008	RE12-10-7602	Plutonium-238	1.26 g	-0.00528	0.00295	0.0218	-.00657937	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00528	0.00374	0.0249	.002626984	pCi/g	YES
243536009	RE12-10-7599	Plutonium-238	1.25 g	0.00493	0.00524	0.0204	-.006632	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00123	0.00214	0.0233	.002648	pCi/g	YES
243536010	RE12-10-7598	Plutonium-238	1.26 g	0.00134	0.00134	0.0221	-.00657937	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0214	0.00808	0.0253	.002626984	pCi/g	NO
243536011	RE12-10-7603	Plutonium-238	1.25 g	0.00121	0.00121	0.0199	-.006632	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00482	0.00296	0.0228	.002648	pCi/g	YES

Signature
1/18/10

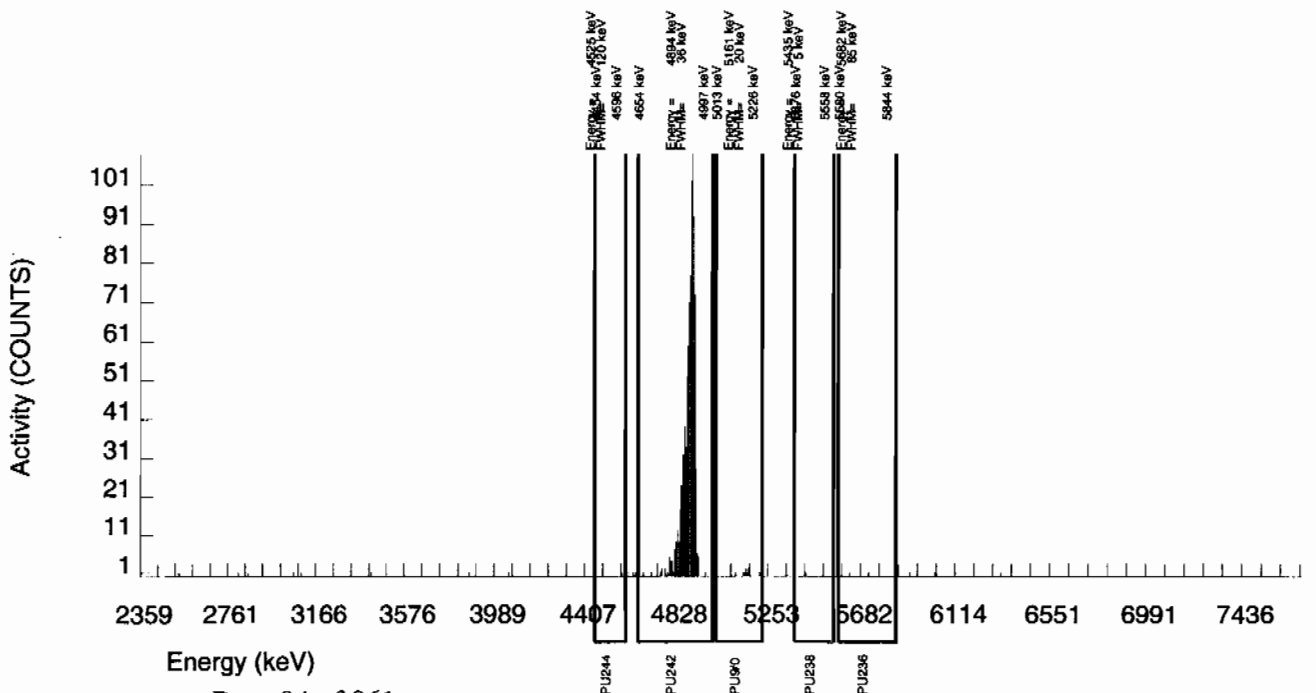
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536001_PU SAMPLE QTY: 1.254 G	
DETECTOR NUMBER :78262 AVERAGE %EFFICIENCY :29.3731 % YIELD : 93.121		COUNT DATE: 5-JAN-2010 20:20:07 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 3.15254 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B089.CNF;701 BKG DATE : 3-JAN-2010 EFF FILE : W089.CNF;191 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	10.000	8.000	2.000	3.4797	99.90000	1.05E-02	4.59E-03	1.06E-02	2.48E-02	4.55E-03
PU-236	5749.000	2.000	2.000	0.000	2.1286	100.0000	2.65E-03	1.88E-03	6.50E-03	1.66E-02	1.88E-03
PU-238	5499.000	1.000	1.000	0.000	2.9680	99.90000	1.32E-03	1.32E-03	9.08E-03	2.17E-02	1.32E-03
PU242	4890.000	928.000	926.000	2.000	1.4142	100.0000	1.22E+00	7.45E-02	4.32E-03	1.22E-02	4.00E-02
PU-244	4589.000	2.000	1.000	1.000	5.2050	99.90000	1.31E-03	2.28E-03	1.59E-02	3.54E-02	2.28E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536002_PU
SAMPLE QTY: 1.258 G

DETECTOR NUMBER :78263
AVERAGE %EFFICIENCY :32.7658
% YIELD : 83.298

COUNT DATE: 5-JAN-2010 20:20:07
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

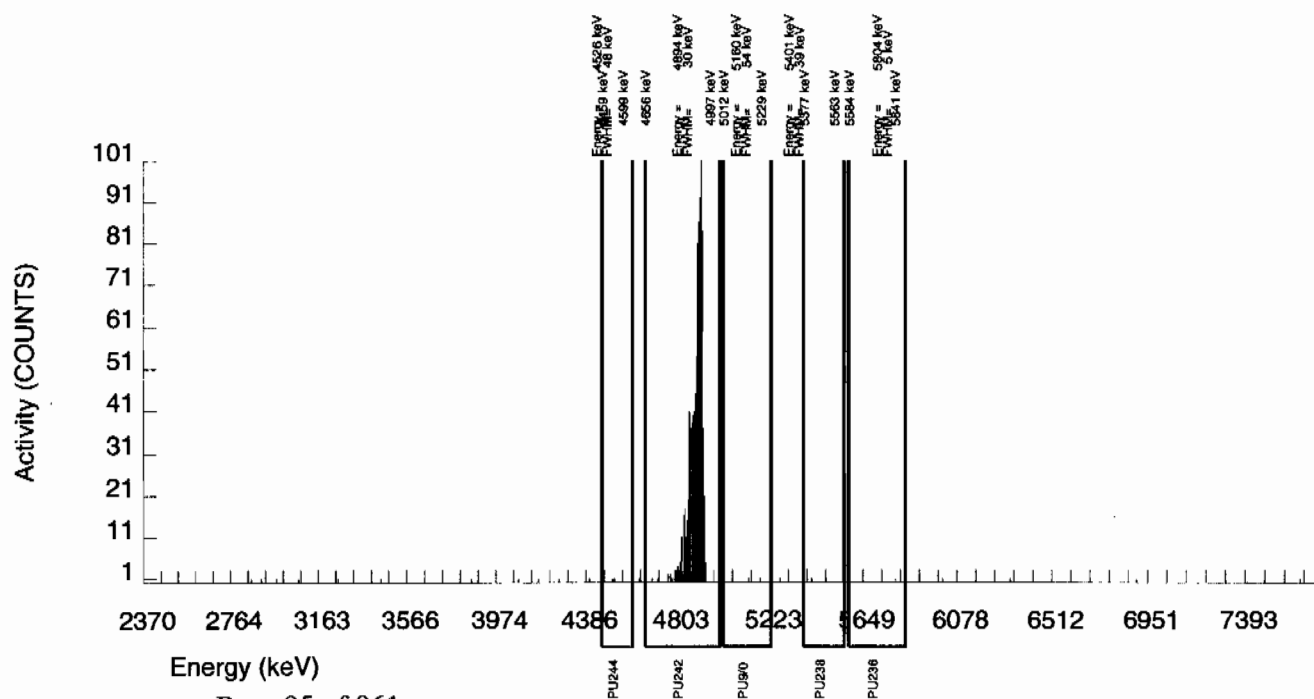
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.82001 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B090.CNF;711
BKG DATE : 3-JAN-2010
EFF FILE : W090.CNF;197
CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	2.000	0.000	3.4797	99.90000	2.63E-03	1.86E-03	1.06E-02	2.48E-02	1.86E-03
PU-236	5749.000	1.000	1.000	0.000	2.1286	100.0000	1.33E-03	1.33E-03	6.50E-03	1.65E-02	1.33E-03
PU-238	5499.000	2.000	2.000	0.000	2.9680	99.90000	2.63E-03	1.86E-03	9.07E-03	2.17E-02	1.86E-03
PU242	4890.000	927.000	924.000	3.000	1.7321	100.0000	1.21E+00	7.63E-02	5.29E-03	1.41E-02	4.00E-02
PU-244	4589.000	4.000	4.000	0.000	5.2050	99.90000	5.25E-03	2.64E-03	1.59E-02	3.54E-02	2.63E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536003_PU
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :78259
AVERAGE %EFFICIENCY :34.6765
% YIELD : 82.968

COUNT DATE: 5-JAN-2010 20:20:07
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

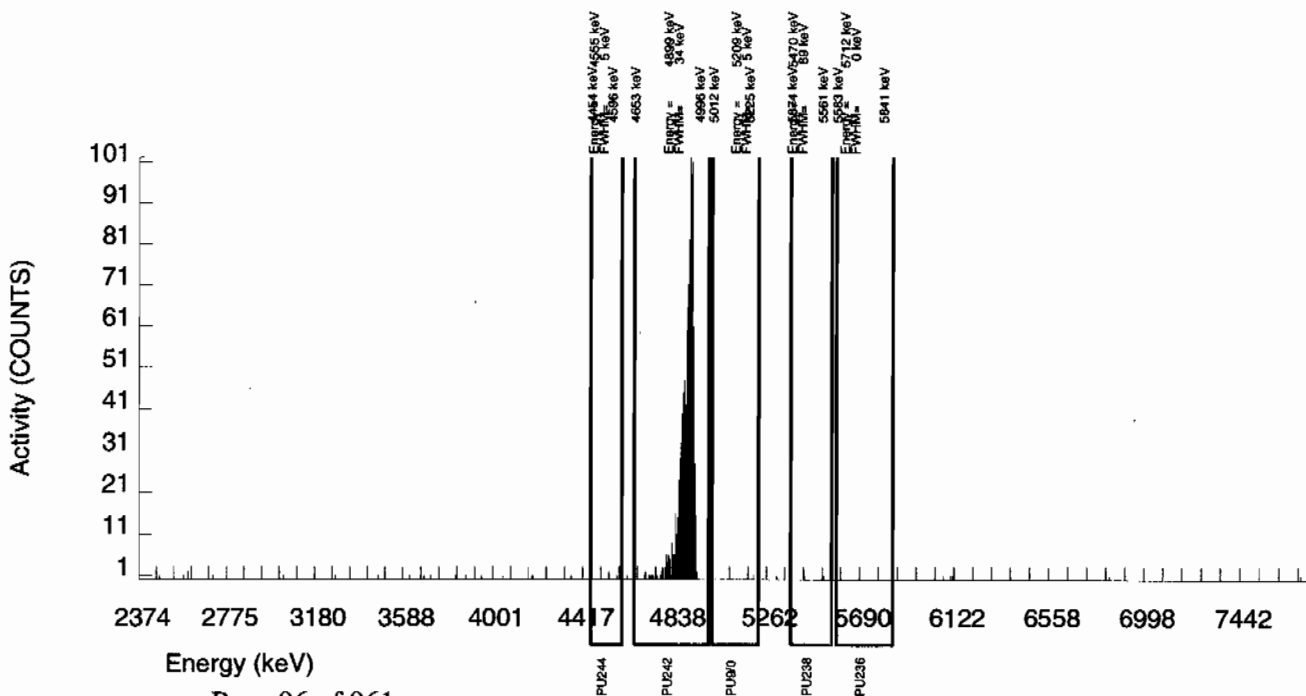
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.80881 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B091.CNF;709
BKG DATE : 3-JAN-2010
EFF FILE : W091.CNF;188
CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	1.000	-1.000	2.000	3.4797	99.90000	-1.25E-03	2.17E-03	1.01E-02	2.36E-02	2.16E-03
PU-236	5749.000	0.000	-1.000	1.000	2.1286	100.0000	-1.26E-03	1.79E-03	6.18E-03	1.57E-02	1.78E-03
PU-238	5499.000	3.000	2.000	1.000	2.9680	99.90000	2.50E-03	2.50E-03	8.63E-03	2.06E-02	2.50E-03
PU242	4890.000	977.000	974.000	3.000	1.7321	100.0000	1.22E+00	7.54E-02	5.03E-03	1.34E-02	3.91E-02
PU-244	4589.000	3.000	2.000	1.000	5.2050	99.90000	2.50E-03	2.50E-03	1.51E-02	3.37E-02	2.50E-03

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



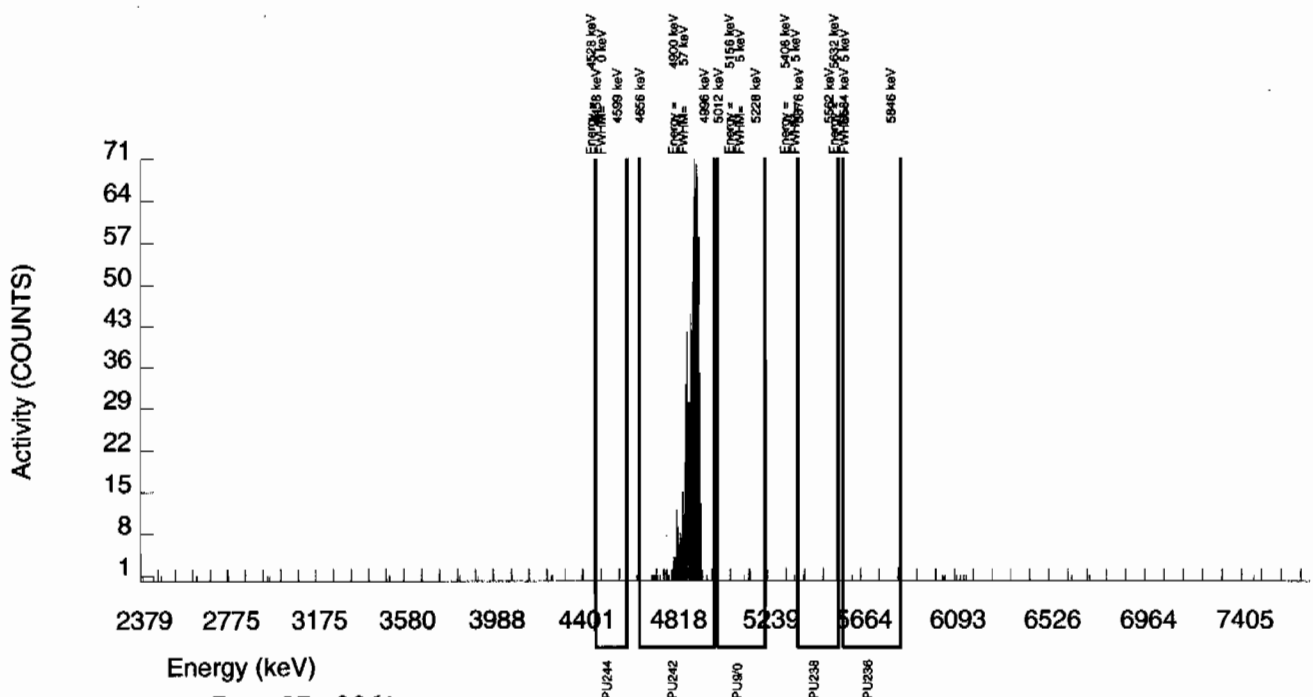
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536005_PU SAMPLE QTY: 1.257 G	
DETECTOR NUMBER :33206 AVERAGE %EFFICIENCY :31.6591 % YIELD : 72.588		COUNT DATE: 5-JAN-2010 20:20:07 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.45743 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B093.CNF;700 BKG DATE : 3-JAN-2010 EFF FILE : W093.CNF;197 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3.000	2.000	1.000	3.4797	99.90000	3.12E-03	3.13E-03	1.26E-02	2.95E-02	3.12E-03
PU-236	5749.000	1.000	1.000	0.000	2.1286	100.0000	1.58E-03	1.58E-03	7.72E-03	1.97E-02	1.58E-03
PU-238	5499.000	1.000	1.000	0.000	2.9680	99.90000	1.56E-03	1.56E-03	1.08E-02	2.58E-02	1.56E-03
PU242	4890.000	782.000	778.000	4.000	2.0000	100.0000	1.21E+00	8.03E-02	7.26E-03	1.87E-02	4.37E-02
PU-244	4589.000	0.000	0.000	0.000	5.2050	99.90000	0.00E+00	1.56E-03	1.89E-02	4.20E-02	1.56E-03

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



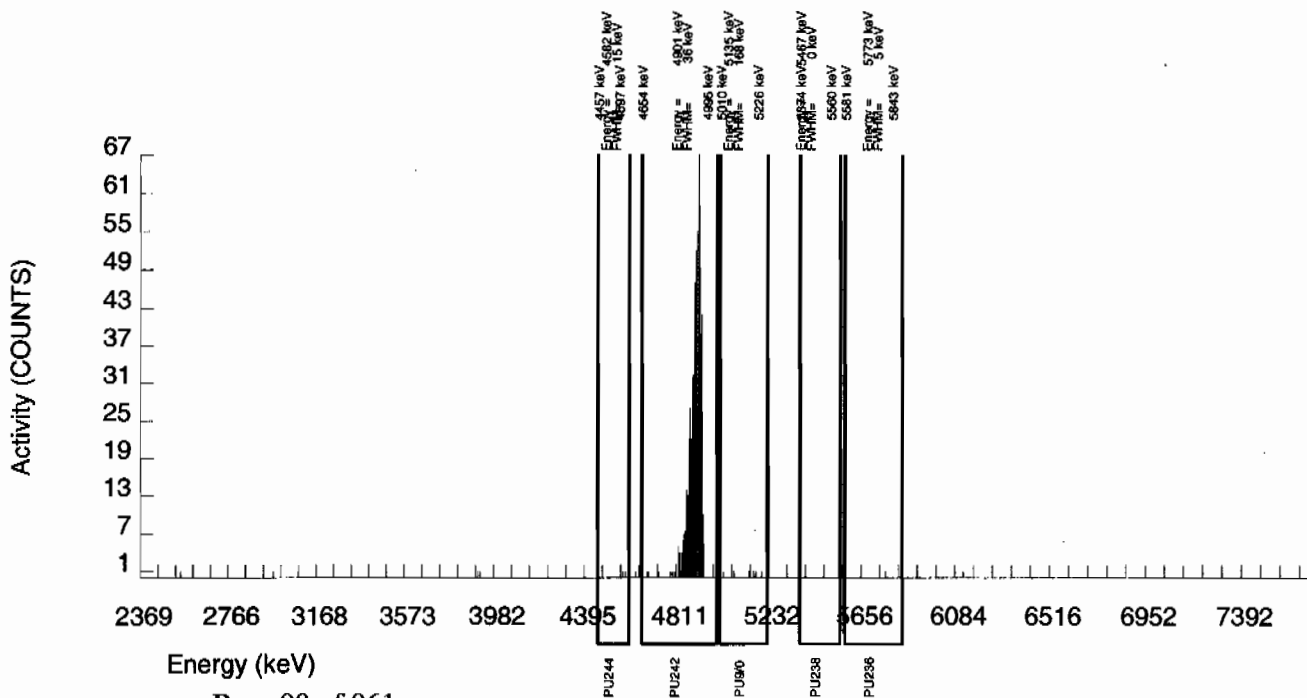
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536006_PU SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :78267 AVERAGE %EFFICIENCY :30.5804 % YIELD : 56.120		COUNT DATE: 5-JAN-2010 20:20:07 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 1.89991 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B094.CNF;701 BKG DATE : 3-JAN-2010 EFF FILE : W094.CNF;189 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	5.000	1.000	3.4797	99.90000	1.05E-02	5.58E-03	1.70E-02	3.96E-02	5.55E-03
PU-236	5749.000	1.000	0.000	1.000	2.1286	100.0000	-2.52E-10	3.00E-03	1.04E-02	2.64E-02	2.99E-03
PU-238	5499.000	0.000	0.000	0.000	2.9680	99.90000	0.00E+00	2.10E-03	1.45E-02	3.46E-02	2.10E-03
PU242	4890.000	583.000	581.000	2.000	1.4142	100.0000	1.22E+00	8.82E-02	6.89E-03	1.95E-02	5.07E-02
PU-244	4589.000	2.000	1.000	1.000	5.2050	99.90000	2.10E-03	3.63E-03	2.54E-02	5.65E-02	3.63E-03

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



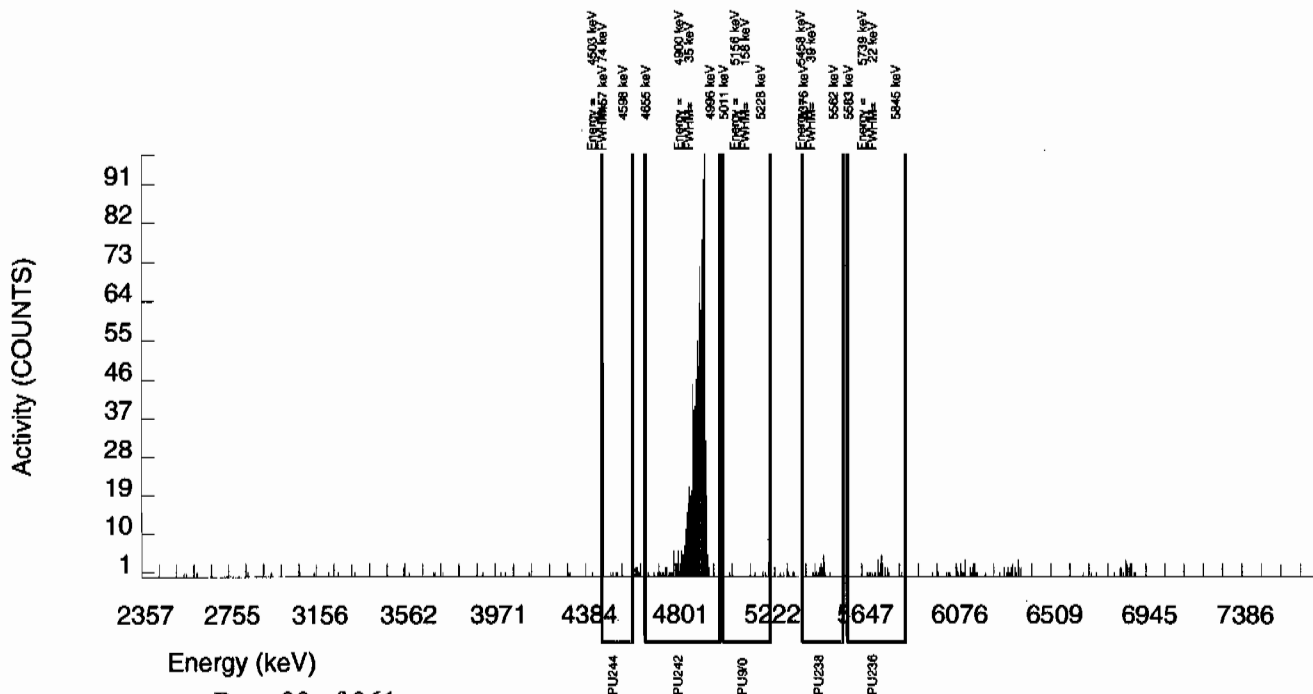
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536007_PU SAMPLE QTY: 1.256 G	
DETECTOR NUMBER :64279 AVERAGE %EFFICIENCY :30.7254 % YIELD : 86.235		COUNT DATE: 5-JAN-2010 20:20:11 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.91941 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B095.CNF;667 BKG DATE : 3-JAN-2010 EFF FILE : W095.CNF;205 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	4.000	2.000	2.000	3.4797	99.90000	2.71E-03	3.32E-03	1.10E-02	2.56E-02	3.32E-03
PU-236	5749.000	26.000	6.000	20.000	2.1286	100.0000	8.21E-03	9.29E-03	6.70E-03	1.71E-02	9.28E-03
PU-238	5499.000	23.000	7.000	16.000	2.9680	99.90000	9.49E-03	8.48E-03	9.36E-03	2.24E-02	8.46E-03
PU242	4890.000	901.000	897.000	4.000	2.0000	100.0000	1.21E+00	7.52E-02	6.30E-03	1.63E-02	4.07E-02
PU-244	4589.000	6.000	5.000	1.000	5.2050	99.90000	6.77E-03	3.60E-03	1.64E-02	3.65E-02	3.58E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536008_PU
SAMPLE QTY: 1.256 G

DETECTOR NUMBER :67605
AVERAGE %EFFICIENCY :30.7688
% YIELD : 88.417

COUNT DATE: 5-JAN-2010 20:20:11
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

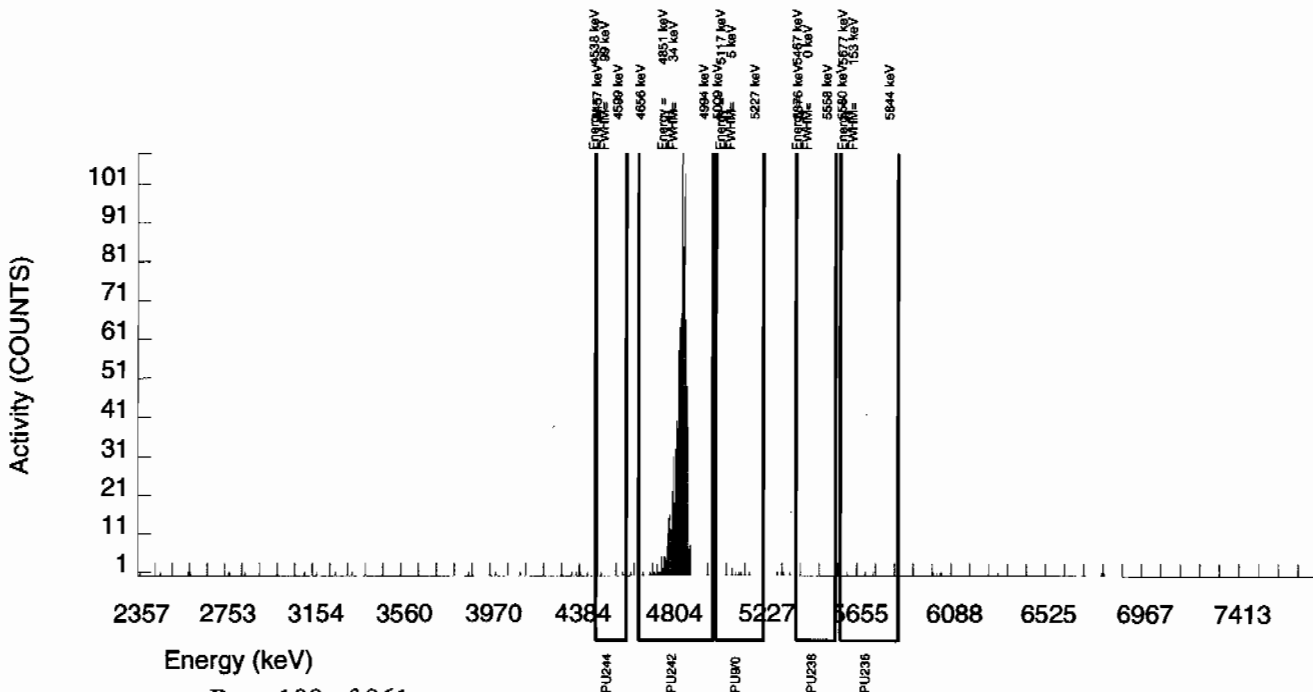
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.99329 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B096.CNF;664
BKG DATE : 3-JAN-2010
EFF FILE : W096.CNF;171
CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	4.000	2.000	3.4797	99.90000	5.28E-03	3.74E-03	1.07E-02	2.49E-02	3.73E-03
PU-236	5749.000	5.000	-2.000	7.000	2.1286	100.0000	-2.67E-03	4.62E-03	6.53E-03	1.66E-02	4.62E-03
PU-238	5499.000	0.000	-4.000	4.000	2.9680	99.90000	-5.28E-03	2.95E-03	9.11E-03	2.18E-02	2.95E-03
PU242	4890.000	923.000	921.000	2.000	1.4142	100.0000	1.21E+00	7.45E-02	4.34E-03	1.22E-02	4.01E-02
PU-244	4589.000	2.000	2.000	0.000	5.2050	99.90000	2.64E-03	1.87E-03	1.60E-02	3.55E-02	1.87E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536009_PU
SAMPLE QTY: 1.253 G

DETECTOR NUMBER :67599
AVERAGE %EFFICIENCY :34.4140
% YIELD : 84.802

COUNT DATE: 5-JAN-2010 20:20:11
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

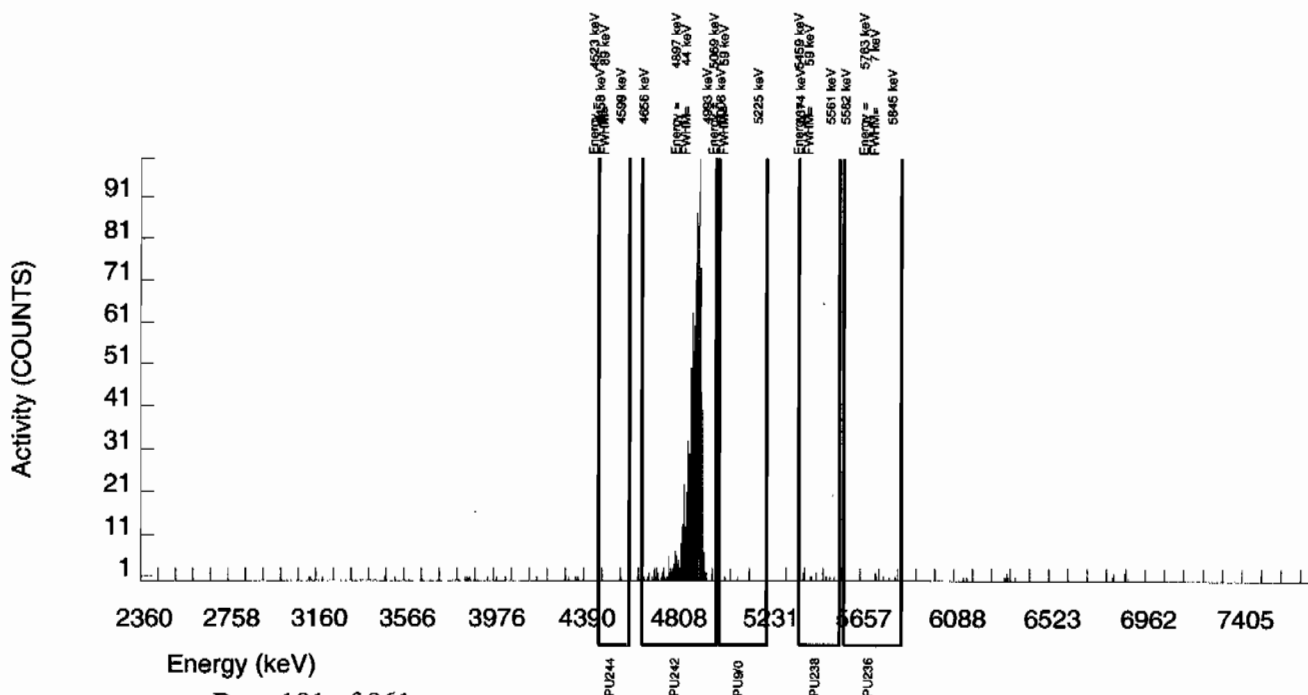
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.87092 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B097.CNF;661
BKG DATE : 3-JAN-2010
EFF FILE : W097.CNF;189
CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	1.000	1.000	3.4797	99.90000	1.23E-03	2.14E-03	9.98E-03	2.33E-02	2.14E-03
PU-236	5749.000	7.000	6.000	1.000	2.1286	100.0000	7.47E-03	3.54E-03	6.10E-03	1.55E-02	3.52E-03
PU-238	5499.000	11.000	4.000	7.000	2.9680	99.90000	4.93E-03	5.24E-03	8.51E-03	2.04E-02	5.23E-03
PU242	4890.000	993.000	988.000	5.000	2.2361	100.0000	1.22E+00	7.33E-02	6.41E-03	1.62E-02	3.89E-02
PU-244	4589.000	2.000	-2.000	4.000	5.2050	99.90000	-2.47E-03	3.02E-03	1.49E-02	3.32E-02	3.02E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S0243536010_PU
SAMPLE QTY: 1.258 G

DETECTOR NUMBER :70317
AVERAGE %EFFICIENCY :34.4553
% YIELD : 77.842

COUNT DATE: 5-JAN-2010 20:20:11
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

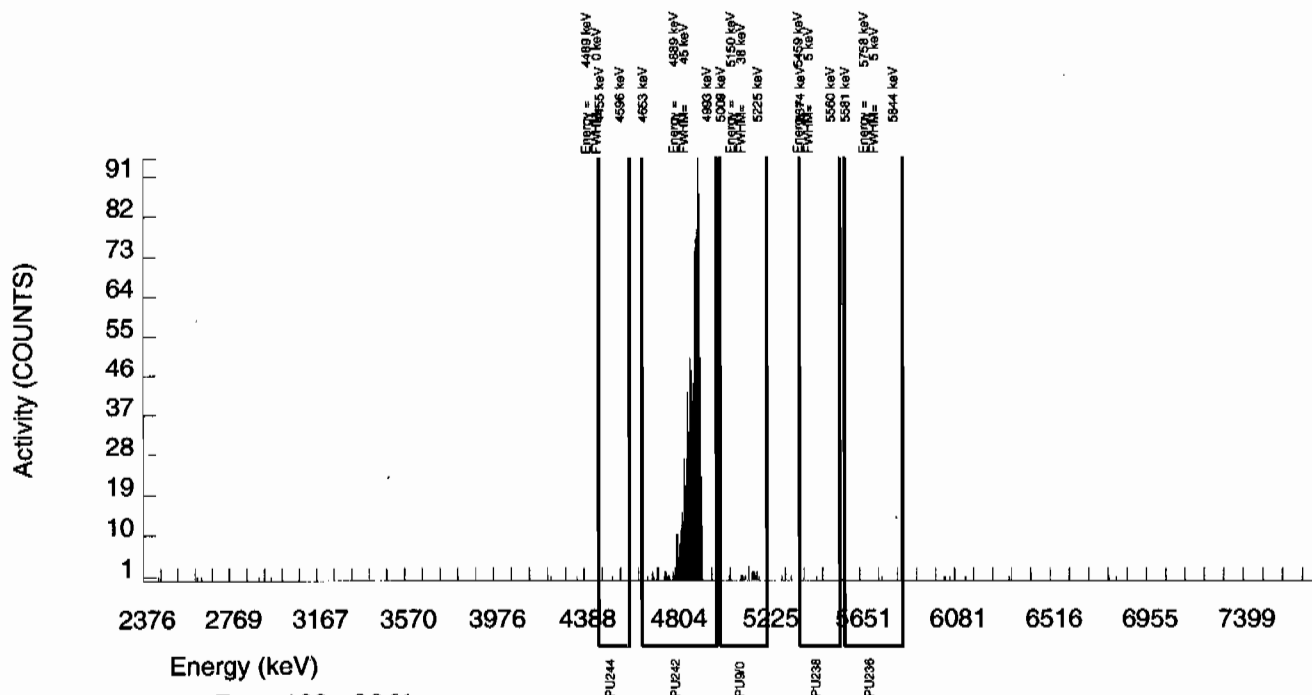
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.63529 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B099.CNF;664
BKG DATE : 3-JAN-2010
EFF FILE : W099.CNF;189
CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	18.000	16.000	2.000	3.4797	99.90000	2.14E-02	6.08E-03	1.08E-02	2.53E-02	5.98E-03
PU-236	5749.000	1.000	0.000	1.000	2.1286	100.0000	0.00E+00	1.91E-03	6.61E-03	1.68E-02	1.91E-03
PU-238	5499.000	1.000	1.000	0.000	2.9680	99.90000	1.34E-03	1.34E-03	9.23E-03	2.21E-02	1.34E-03
PU242	4890.000	911.000	908.000	3.000	1.7321	100.0000	1.21E+00	7.47E-02	5.38E-03	1.44E-02	4.04E-02
PU-244	4589.000	2.000	2.000	0.000	5.2050	99.90000	2.67E-03	1.89E-03	1.62E-02	3.60E-02	1.89E-03

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



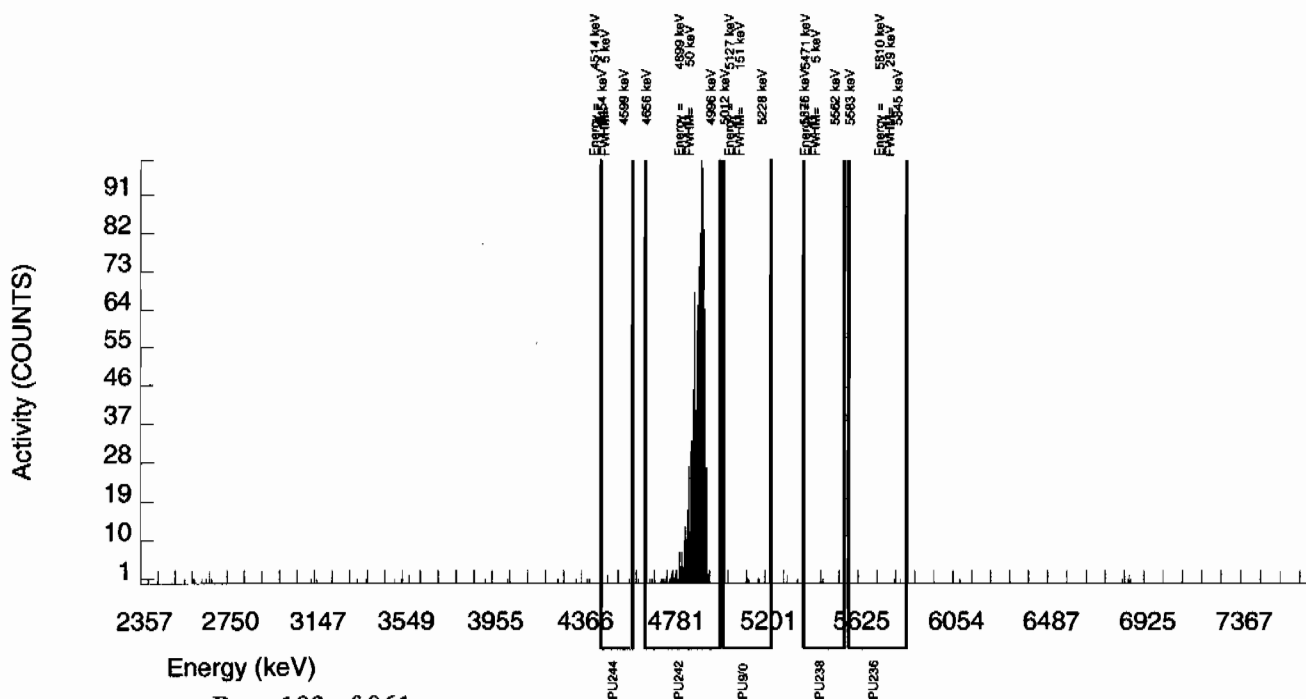
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536011_PU SAMPLE QTY: 1.254 G	
DETECTOR NUMBER :79456 AVERAGE %EFFICIENCY :34.3138 % YIELD : 86.944		COUNT DATE: 5-JAN-2010 20:20:11 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.94342 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B100.CNF;665 BKG DATE : 3-JAN-2010 EFF FILE : W100.CNF;197 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	5.000	4.000	1.000	3.4797	99.90000	4.82E-03	2.96E-03	9.76E-03	2.28E-02	2.95E-03
PU-236	5749.000	2.000	1.000	1.000	2.1286	100.0000	1.22E-03	2.11E-03	5.96E-03	1.52E-02	2.11E-03
PU-238	5499.000	1.000	1.000	0.000	2.9680	99.90000	1.21E-03	1.21E-03	8.32E-03	1.99E-02	1.21E-03
PU242	4890.000	1014.000	1010.000	4.000	2.0000	100.0000	1.22E+00	7.27E-02	5.60E-03	1.45E-02	3.84E-02
PU-244	4589.000	5.000	5.000	0.000	5.2050	99.90000	6.03E-03	2.71E-03	1.46E-02	3.25E-02	2.70E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S1202007327_PU
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :64253
AVERAGE %EFFICIENCY :33.1166
% YIELD : 82.149

COUNT DATE: 5-JAN-2010 20:20:15
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

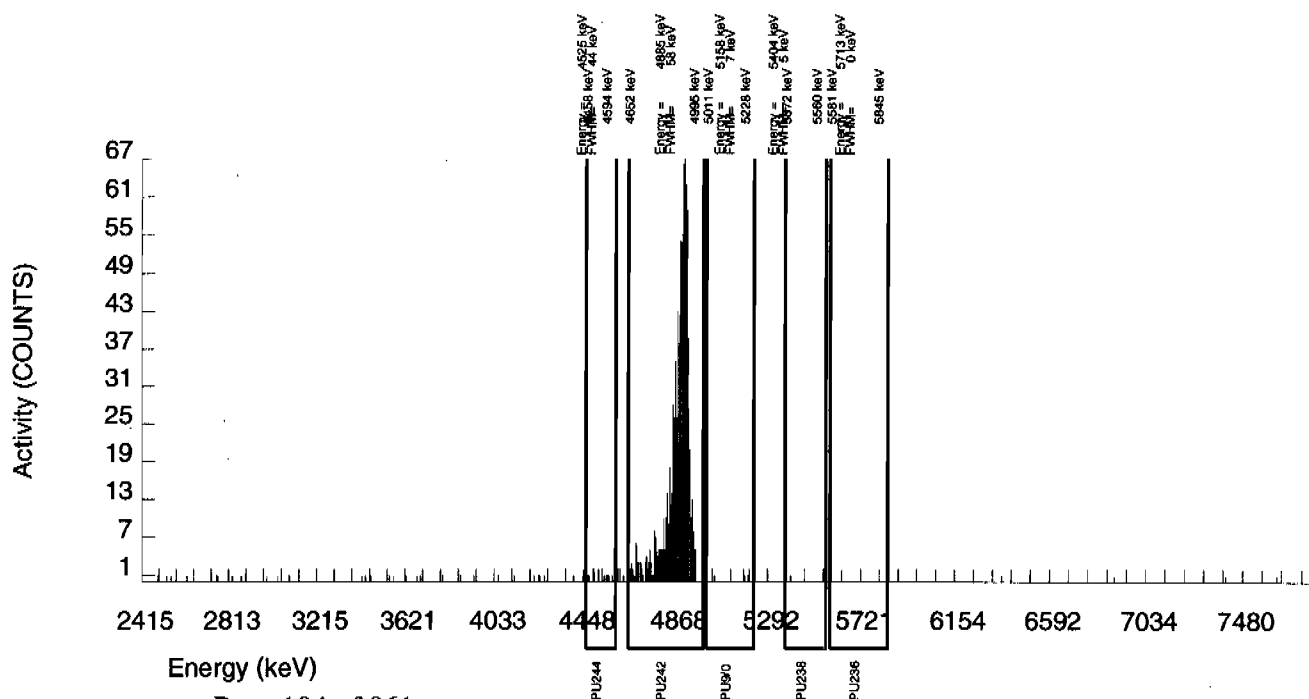
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.78108 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B101.CNF;668
BKG DATE : 3-JAN-2010
EFF FILE : W101.CNF;176
CAL DATE : 24-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	2.000	4.000	3.4797	99.90000	3.31E-03	5.24E-03	1.34E-02	3.13E-02	5.24E-03
PU-236	5749.000	0.000	-4.000	4.000	2.1286	100.0000	-6.63E-03	3.71E-03	8.20E-03	2.09E-02	3.71E-03
PU-238	5499.000	1.000	-5.000	6.000	2.9680	99.90000	-8.29E-03	4.39E-03	1.14E-02	2.74E-02	4.39E-03
PU242	4890.000	926.000	921.000	5.000	2.2361	100.0000	1.52E+00	9.38E-02	8.61E-03	2.17E-02	5.05E-02
PU-244	4589.000	17.000	11.000	6.000	5.2050	99.90000	1.82E-02	8.00E-03	2.01E-02	4.46E-02	7.95E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071
SAMPLE DATE : 21-DEC-2009 00:00:00

SAMPLE ID : S1202007328_PU
SAMPLE QTY: 1.253 G

DETECTOR NUMBER :72525
AVERAGE %EFFICIENCY :33.5773
% YIELD : 82.869

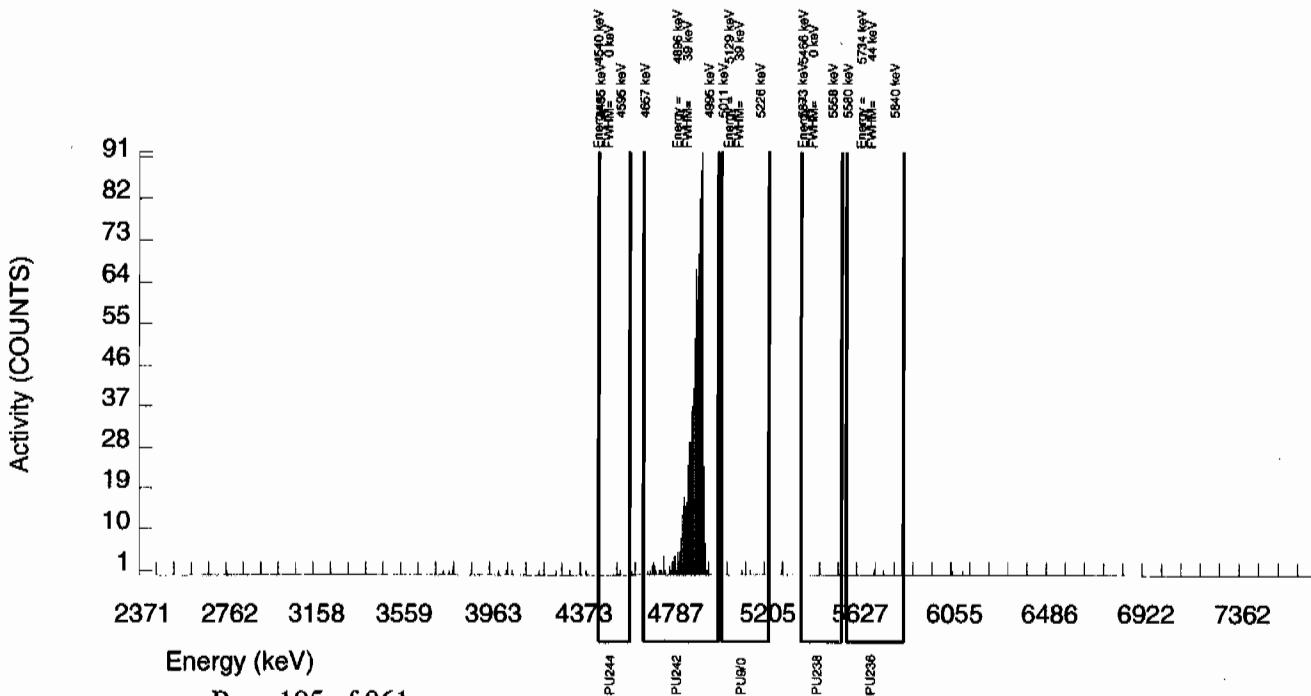
COUNT DATE: 5-JAN-2010 20:20:15
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B102.CNF;666
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 3-JAN-2010
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W102.CNF;190
		RESULTS : 2.80546 dpm	CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	-1.000	3.000	3.4797	99.90000	-1.29E-03	2.89E-03	1.05E-02	2.44E-02	2.89E-03
PU-236	5749.000	2.000	2.000	0.000	2.1286	100.0000	2.61E-03	1.85E-03	6.40E-03	1.63E-02	1.85E-03
PU-238	5499.000	0.000	0.000	0.000	2.9680	99.90000	0.00E+00	1.30E-03	8.93E-03	2.14E-02	1.29E-03
PU242	4890.000	944.000	942.000	2.000	1.4142	100.0000	1.22E+00	7.42E-02	4.25E-03	1.20E-02	3.97E-02
PU-244	4589.000	4.000	4.000	0.000	5.2050	99.90000	5.17E-03	2.60E-03	1.57E-02	3.48E-02	2.59E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938071
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S1202007329_PU
SAMPLE QTY: 0.112 G

DETECTOR NUMBER :79461
AVERAGE %EFFICIENCY :33.1045
% YIELD : 87.175

COUNT DATE: 5-JAN-2010 20:20:15
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

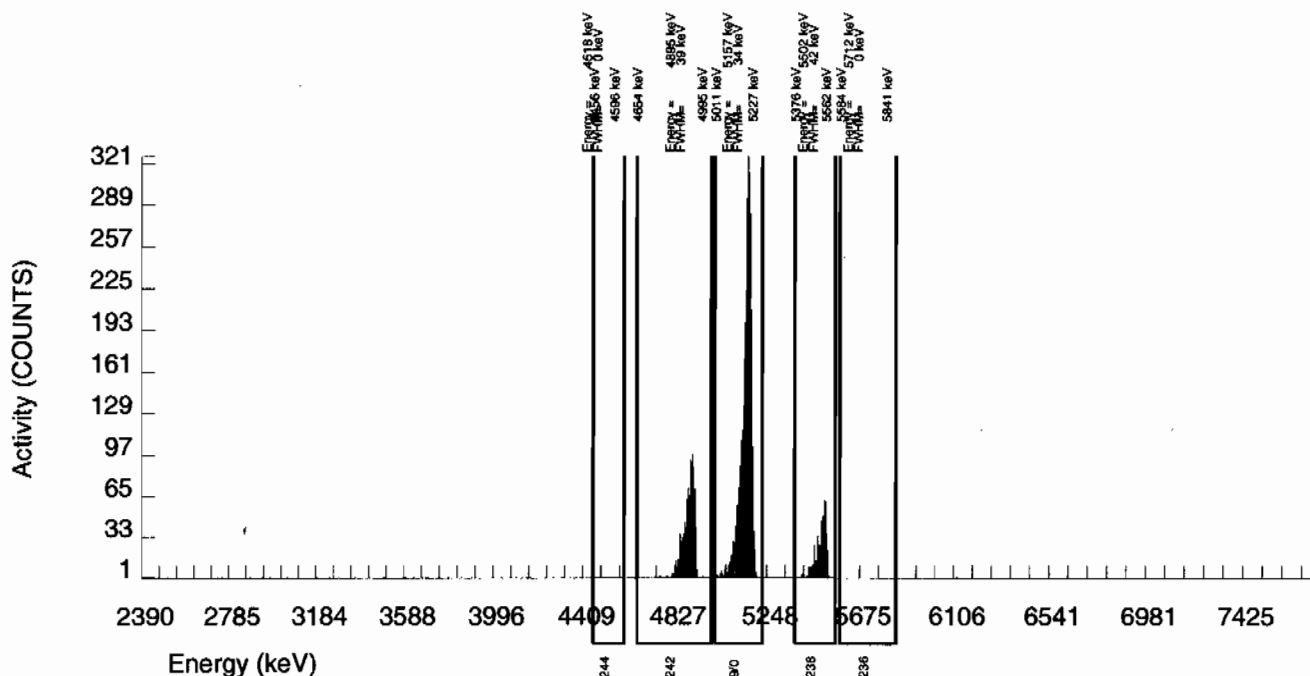
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.95126 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B103.CNF;670
BKG DATE : 3-JAN-2010
EFF FILE : W103.CNF;194
CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2844.000	2844.000	0.000	3.4797	99.90000	3.97E+01	2.44E+00	1.13E-01	2.64E-01	7.44E-01
PU-236	5749.000	0.000	-1.000	1.000	2.1286	100.0000	-1.40E-02	1.98E-02	6.90E-02	1.76E-01	1.97E-02
PU-238	5499.000	524.000	524.000	0.000	2.9680	99.90000	7.31E+00	5.34E-01	9.63E-02	2.30E-01	3.19E-01
PU242	4890.000	978.000	977.000	1.000	1.0000	100.0000	1.36E+01	9.09E-01	3.24E-02	1.03E-01	4.36E-01
PU-244	4589.000	9.000	9.000	0.000	5.2050	99.90000	1.26E-01	4.25E-02	1.69E-01	3.76E-01	4.19E-02

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



Radiochemistry Batch Checklist, Rev 9

Batch# 939666 Product: PJ Date: 1/12/10

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.			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 time 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 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 non-conformances completed, if applicable.			N/A
Batch non-conformances 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

revised 8/1/08

Primary Review Performed By: Sep L M L 1/12/10

Secondary Review Performed By: E. [Signature] 1/12/10

Plutonium Que Sheet

08-JAN-10

Batch #: 939666 Analyst: MXA1 First Client Due Date: 21-JAN-10 Internal Due Date: 15-JAN-10
 Tracer Isotope(s): Pu-242 Pu-238 Tracer Code: 1374-A Expiration Date: 12/8/10 Vol: 0.1ml
 LCS Isotope(s): Pu-239 Pu-238 LCS Code: 0244-13 Expiration Date: 4/30/20 Vol: 0.105g #SDM
 Spike Isotope(s): Pu-239/Pu-238 Spike Code: Expiration Date: Vol:
 Prep Date: 1/8/10 Initials: CMM Pipet ID: 2971058 Balance ID: 50410272 Witness: NGE/8/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/ Aliquot	Pu Det #
24354604-3	RE12-10-7597	SAMPLE	.05 pCi/g	SOIL	LANL010	21-DEC-09	1	1	1	1.255	217
1202010813-1	MB for batch 939666	MB	UCF pCi/g to pCi/g	SOIL	QC ACCOUNT	21-DEC-09	2	2	1	2.18	218
1202010814-3	RE12-10-7597(24353604DUP)	DUP	.05 pCi/g	SOIL	QC ACCOUNT	21-DEC-09	3	3	1.252	219	219
1202010815-1	LCS for batch 939666	LCS	UCF pCi/g to pCi/g	SOIL	QC ACCOUNT	21-DEC-09	4	4	0.108	220	220

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

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: JRM/LH/12/10

Blank Correction Report

Batch ID 939666

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202010814	DUP	Plutonium-238	1.25 g	0.00219	0.00155	0.018	-.000992	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00	0.00109	0.0206	.000992	pCi/g	YES
1202010815	LCS	Plutonium-238	0.108 g	6.42	0.451	0.182	-.01148148	pCi/g	NO
		Plutonium-239/240	0.108 g	34.3	2.04	0.208	.011481481	pCi/g	NO
1202010813	MB	Plutonium-238	1.00 g	-0.00124	0.00278	0.0206	-.00124	pCi/g	NO
		Plutonium-239/240	1.00 g	0.00124	0.00216	0.0235	.00124	pCi/g	YES
243536004	RE12-10-7597	Plutonium-238	1.26 g	0.00221	0.00157	0.0182	-.00098413	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00	0.00111	0.0209	.000984127	pCi/g	YES

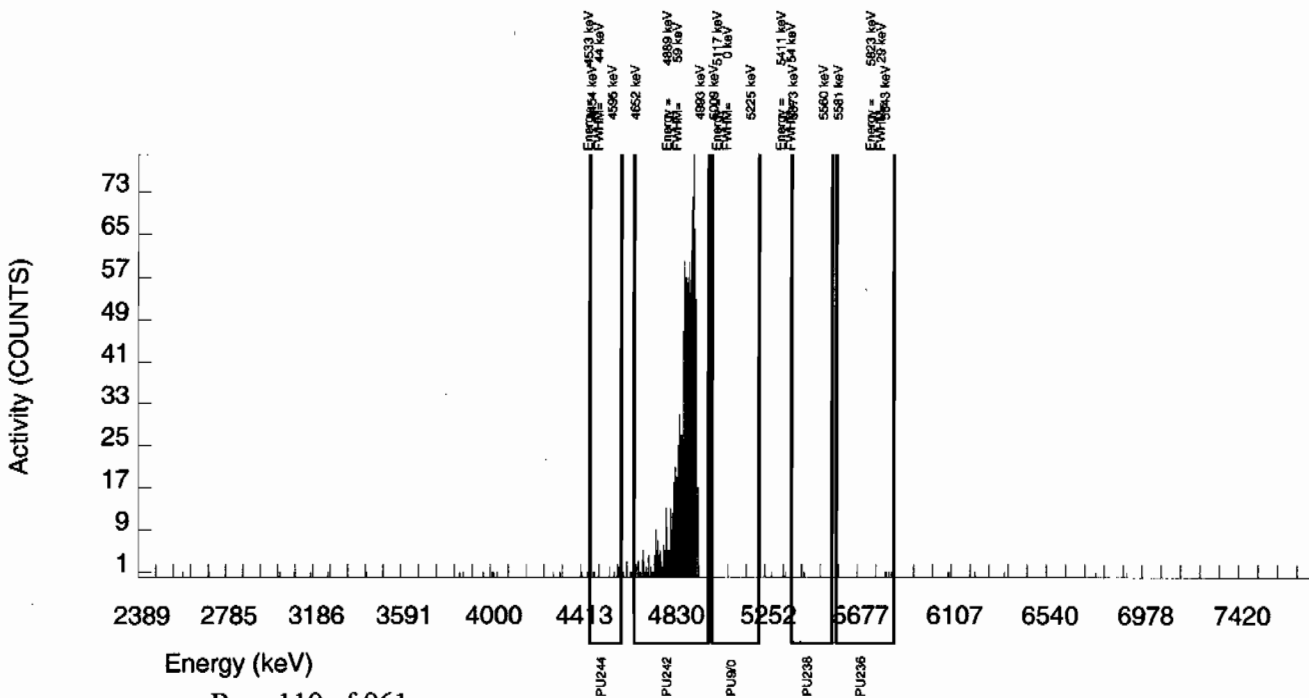
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 939666 SAMPLE DATE : 21-DEC-2009 00:00:00			SAMPLE ID : S0243536004_PU SAMPLE QTY: 1.255 G		
DETECTOR NUMBER :79410 AVERAGE %EFFICIENCY :36.7043 % YIELD : 88.685			COUNT DATE:11-JAN-2010 12:11:10 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1		
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 3.00237 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B217.CNF;70 BKG DATE : 10-JAN-2010 EFF FILE : W217.CNF;26 CAL DATE : 28-DEC-2009		

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	0.000	0.000	0.000	3.4797	99.90000	0.00E+00	1.11E-03	8.93E-03	2.09E-02	1.10E-03
PU-236	5749.000	4.000	3.000	1.000	2.1286	100.0000	3.36E-03	2.51E-03	5.46E-03	1.39E-02	2.50E-03
PU-238	5499.000	2.000	2.000	0.000	2.9680	99.90000	2.21E-03	1.57E-03	7.62E-03	1.82E-02	1.56E-03
PU242	4890.000	1103.000	1102.000	1.000	1.0000	100.0000	1.22E+00	7.07E-02	2.57E-03	8.12E-03	3.66E-02
PU-244	4589.000	8.000	7.000	1.000	5.2050	99.90000	7.73E-03	3.33E-03	1.34E-02	2.97E-02	3.31E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 939666
SAMPLE DATE : 8-JAN-2010 00:00:00.

SAMPLE ID : S1202010813_PU
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :79411
AVERAGE %EFFICIENCY :37.5005
% YIELD : 96.648

COUNT DATE:11-JAN-2010 12:11:12
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :MXA1

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

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

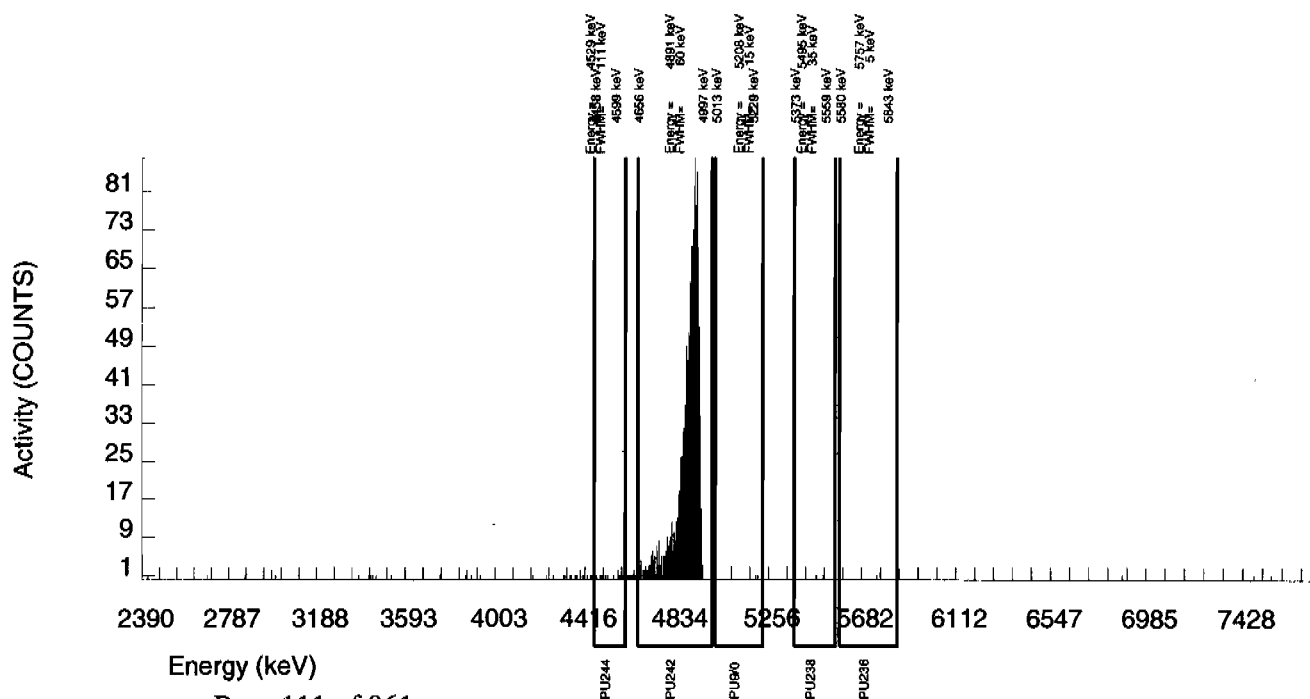
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.27196 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B218.CNF;68
BKG DATE : 10-JAN-2010
EFF FILE : W218.CNF;24
CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	1.000	1.000	3.4797	99.90000	1.24E-03	2.16E-03	1.01E-02	2.35E-02	2.15E-03
PU-236	5749.000	1.000	1.000	0.000	2.1286	100.0000	1.25E-03	1.25E-03	6.15E-03	1.57E-02	1.25E-03
PU-238	5499.000	2.000	-1.000	3.000	2.9680	99.90000	-1.24E-03	2.78E-03	8.59E-03	2.06E-02	2.78E-03
PU242	4890.000	1229.000	1227.000	2.000	1.4142	100.0000	1.52E+00	8.63E-02	4.09E-03	1.15E-02	4.36E-02
PU-244	4589.000	16.000	16.000	0.000	5.2050	99.90000	1.99E-02	5.07E-03	1.51E-02	3.35E-02	4.98E-03

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



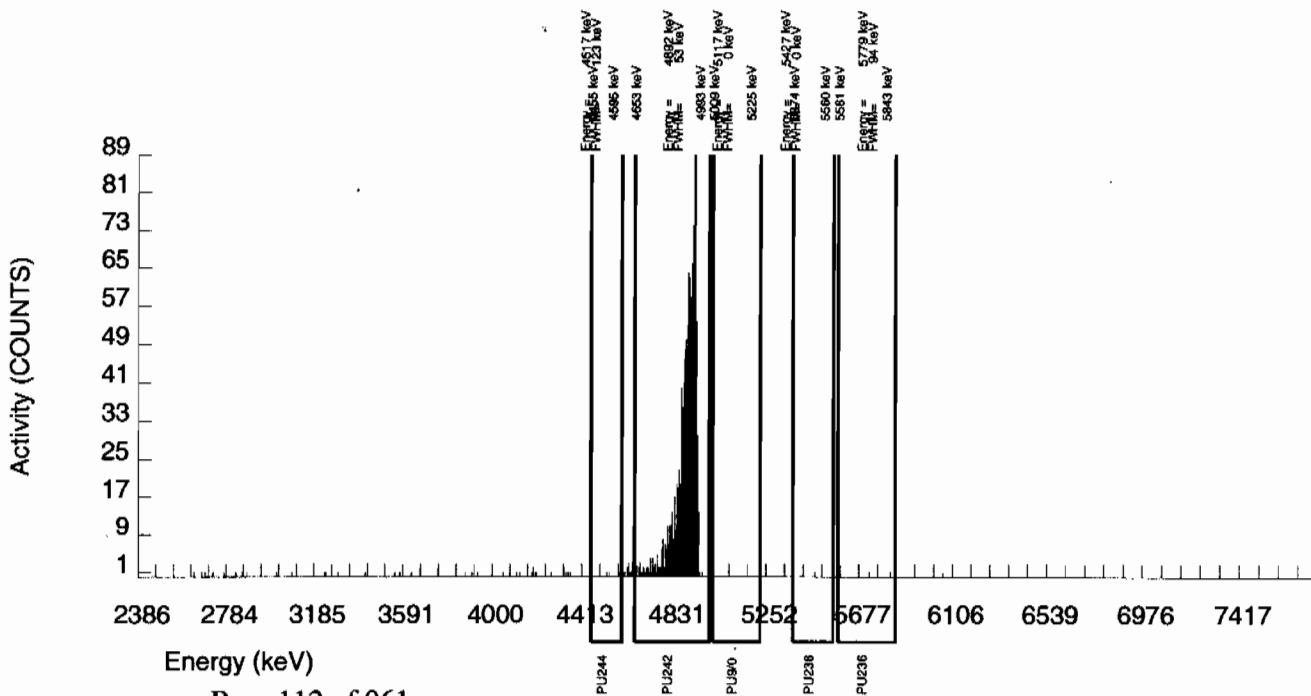
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 939666 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S1202010814_PU SAMPLE QTY: 1.252 G	
DETECTOR NUMBER :79412 AVERAGE %EFFICIENCY :38.2986 % YIELD : 86.073		COUNT DATE:11-JAN-2010 12:11:15 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.91394 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B219.CNF;68 BKG DATE : 10-JAN-2010 EFF FILE : W219.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	0.000	0.000	0.000	3.4797	99.90000	0.00E+00	1.09E-03	8.84E-03	2.06E-02	1.09E-03
PU-236	5749.000	2.000	2.000	0.000	2.1286	100.0000	2.21E-03	1.57E-03	5.40E-03	1.38E-02	1.57E-03
PU-238	5499.000	2.000	2.000	0.000	2.9680	99.90000	2.19E-03	1.55E-03	7.54E-03	1.80E-02	1.55E-03
PU242	4890.000	1116.000	1116.000	0.000	0.0000	100.0000	1.22E+00	7.06E-02	0.00E+00	2.96E-03	3.65E-02
PU-244	4589.000	6.000	6.000	0.000	5.2050	99.90000	6.56E-03	2.70E-03	1.32E-02	2.94E-02	2.68E-03

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



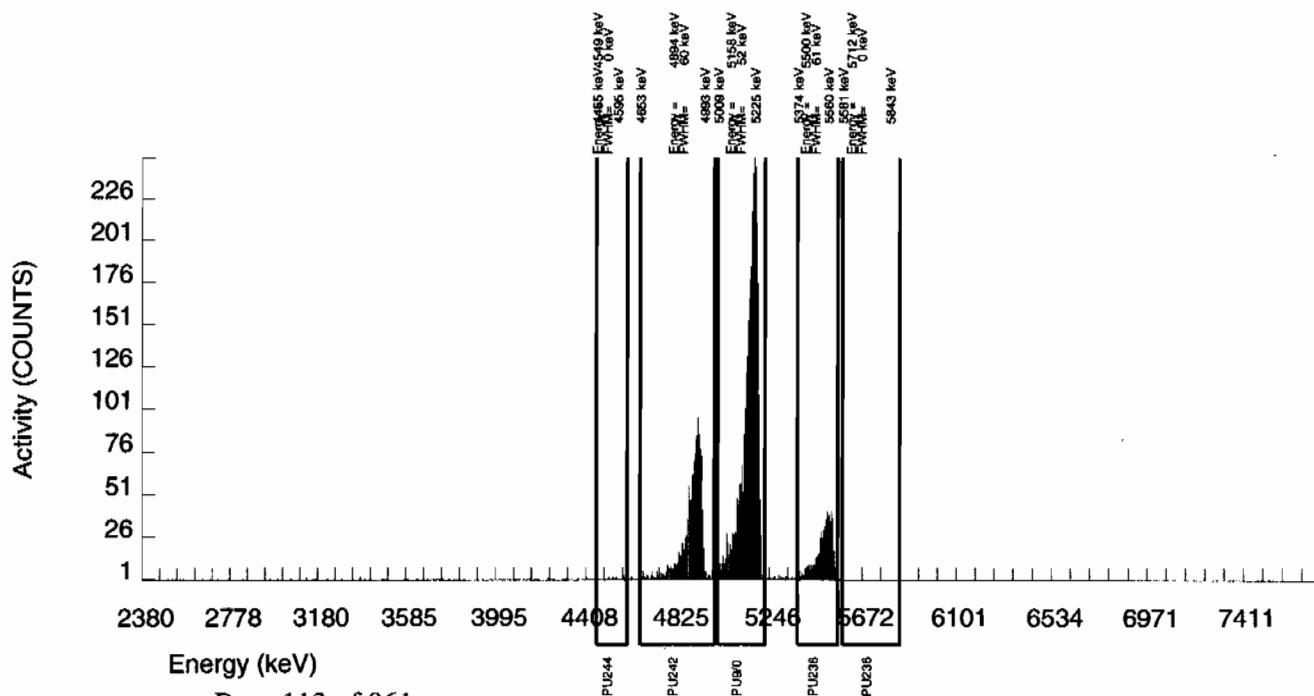
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 939666 SAMPLE DATE : 8-JAN-2010 00:00:00.		SAMPLE ID : S1202010815_PU SAMPLE QTY: 0.108 G	
DETECTOR NUMBER :79413 AVERAGE %EFFICIENCY :37.7498 % YIELD : 100.313		COUNT DATE:11-JAN-2010 12:11:17 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :MXA1	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 3.39604 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B220.CNF;68 BKG DATE : 10-JAN-2010 EFF FILE : W220.CNF;26 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3109.000	3108.000	1.000	3.4797	99.90000	3.43E+01	2.04E+00	8.92E-02	2.08E-01	6.15E-01
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.11E-02	5.45E-02	1.39E-01	1.10E-02
PU-238	5499.000	582.000	582.000	0.000	2.9680	99.90000	6.42E+00	4.51E-01	7.61E-02	1.82E-01	2.66E-01
PU242	4890.000	1282.000	1282.000	0.000	0.0000	100.0000	1.41E+01	8.94E-01	0.00E+00	2.98E-02	3.94E-01
PU-244	4589.000	22.000	22.000	0.000	5.2050	99.90000	2.43E-01	5.35E-02	1.34E-01	2.97E-01	5.17E-02

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



Radiochemistry Batch Checklist, Rev10

Batch# 940301 Product: U Date: 1/15/10

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.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: J. L. M. L. 1/15/10

Secondary Review Performed By: E. [Signature] 1/15/10

1/15
LANL

1/21
Page 114 of 961

Uranium Que Sheet

11-JAN-10

Batch #: 940301 Analyst: KXM4 First Client Due Date: 21-JAN-10 Internal Due Date: 15-JAN-10
 Tracer Isotope: U-232 U-236 Tracer Code: 1285-11 Expiration Date: 12-9-10 Vol: 0.141
 LCS Isotope: U-238 LCS Code: 28M 0244A Expiration Date: 10-31-20 Vol: 0.19
 Spike Isotope: U-238 U-238 Spike Code: 11A Expiration Date: 11A Vol: 107
 Prep Date: 11-10-10 Initials: LMA Pipet ID: 2971050 Balance ID: 50410272

Witness: JAO 01/11/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g/mL)	U Det #
243536001-2	RE12-10-7606	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	1	1	0.501	159
243536002-2	RE12-10-7607	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	2	2	0.502	160
243536003-2	RE12-10-7596	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	3	3	0.505	162
243536004-2	RE12-10-7597	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	4	4	0.506	163
243536005-2	RE12-10-7608	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	5	5	0.502	164
243536006-2	RE12-10-7600	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	6	6	0.501	165
243536007-2	RE12-10-7601	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	7	7	0.504	166
243536008-2	RE12-10-7602	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	8	8	0.500	167
243536009-2	RE12-10-7599	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	9	9	0.505	168
243536010-2	RE12-10-7598	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	10	10	0.506	169
243536011-2	RE12-10-7603	SAMPLE		.1 pCi/g	SOIL	LANL010	21-DEC-09	11	11	0.508	170
1202012274-1	MB for batch 940301	MB		UCF pCi/g to pCi	SOIL	QC ACCOUNT		12	12	0.508	171
1202012275-2	RE12-10-7603(243536011DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	21-DEC-09	13	13	0.507	172
1202012276-1	LCS for batch 940301	LCS		UCF pCi/g to pCi	SOIL	QC ACCOUNT		14	14	0.114	161

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: JALML-1/15/10

Blank Correction Report

Batch ID 940301

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202012275	DUP	Uranium-233/234	0.507 g	0.446	0.0466	0.0845	.023076923	pCi/g	NO
		Uranium-235/236	0.507 g	0.0169	0.009	0.0525	-.01220907	pCi/g	NO
		Uranium-238	0.507 g	0.469	0.0483	0.049	.002465483	pCi/g	NO
1202012276	LCS	Uranium-233/234	0.114 g	5.65	0.482	0.328	.102631579	pCi/g	NO
		Uranium-235/236	0.114 g	0.393	0.0795	0.204	-.05429825	pCi/g	NO
		Uranium-238	0.114 g	5.89	0.500	0.190	.010964912	pCi/g	NO
1202012274	MB	Uranium-233/234	1.00 g	0.0117	0.00464	0.0388	.0117	pCi/g	YES
		Uranium-235/236	1.00 g	-0.00619	0.00379	0.0241	-.00619	pCi/g	NO
		Uranium-238	1.00 g	0.00125	0.00331	0.0225	.00125	pCi/g	YES
243536001	RE12-10-7606	Uranium-233/234	0.509 g	1.36	0.120	0.116	.022986248	pCi/g	NO
		Uranium-235/236	0.509 g	0.0693	0.0186	0.0719	-.01216110	pCi/g	NO
		Uranium-238	0.509 g	1.56	0.134	0.0672	.002455796	pCi/g	NO
243536002	RE12-10-7607	Uranium-233/234	0.502 g	0.553	0.0629	0.132	.023306773	pCi/g	NO
		Uranium-235/236	0.502 g	0.0578	0.0179	0.0818	-.01233068	pCi/g	NO
		Uranium-238	0.502 g	0.510	0.0592	0.0765	.002490040	pCi/g	NO
243536003	RE12-10-7596	Uranium-233/234	0.505 g	0.987	0.0838	0.0775	.023168317	pCi/g	NO
		Uranium-235/236	0.505 g	0.0495	0.0142	0.0481	-.01225743	pCi/g	NO
		Uranium-238	0.505 g	1.10	0.0917	0.045	.002475248	pCi/g	NO
243536004	RE12-10-7597	Uranium-233/234	0.506 g	0.951	0.080	0.0722	.023122530	pCi/g	NO
		Uranium-235/236	0.506 g	0.0662	0.0145	0.0448	-.01223320	pCi/g	NO
		Uranium-238	0.506 g	0.927	0.0785	0.0419	.002470356	pCi/g	NO
243536005	RE12-10-7608	Uranium-233/234	0.502 g	0.495	0.0488	0.0754	.023306773	pCi/g	NO
		Uranium-235/236	0.502 g	0.0692	0.0152	0.0468	-.01233068	pCi/g	NO
		Uranium-238	0.502 g	0.394	0.0413	0.0437	.002490040	pCi/g	NO
243536006	RE12-10-7600	Uranium-233/234	0.501 g	0.795	0.0706	0.0789	.023353293	pCi/g	NO
		Uranium-235/236	0.501 g	0.0566	0.0139	0.049	-.01235529	pCi/g	NO
		Uranium-238	0.501 g	1.17	0.0969	0.0458	.002495010	pCi/g	NO
243536007	RE12-10-7601	Uranium-233/234	0.504 g	0.567	0.0546	0.0794	.023214286	pCi/g	NO
		Uranium-235/236	0.504 g	0.038	0.0113	0.0493	-.01228175	pCi/g	NO
		Uranium-238	0.504 g	0.425	0.0442	0.0461	.002480159	pCi/g	NO
243536008	RE12-10-7602	Uranium-233/234	0.500 g	0.723	0.0653	0.0767	.0234	pCi/g	NO
		Uranium-235/236	0.500 g	0.0489	0.0134	0.0476	-.01238	pCi/g	NO
		Uranium-238	0.500 g	0.869	0.0753	0.0445	.0025	pCi/g	NO
243536009	RE12-10-7599	Uranium-233/234	0.505 g	0.511	0.0493	0.0736	.023168317	pCi/g	NO
		Uranium-235/236	0.505 g	0.0352	0.0112	0.0457	-.01225743	pCi/g	NO
		Uranium-238	0.505 g	0.482	0.0473	0.0427	.002475248	pCi/g	NO
243536010	RE12-10-7598	Uranium-233/234	0.506 g	1.45	0.116	0.0795	.023122530	pCi/g	NO
		Uranium-235/236	0.506 g	0.114	0.0206	0.0494	-.01223320	pCi/g	NO
		Uranium-238	0.506 g	1.73	0.136	0.0461	.002470356	pCi/g	NO
243536011	RE12-10-7603	Uranium-233/234	0.508 g	0.450	0.0445	0.0715	.023031496	pCi/g	NO
		Uranium-235/236	0.508 g	0.0428	0.0114	0.0444	-.01218504	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Alliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
243536011	RE12-10-7603	Uranium-238	0.508 g	0.436	0.0437	0.0415	.002460630	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536001_UU SAMPLE QTY: 0.509 G	
DETECTOR NUMBER :76225 AVERAGE %EFFICIENCY :25.2089 % YIELD : 93.895		COUNT DATE:14-JAN-2010 07:37:47 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51090 dpm RESULTS : 4.23550 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B159.CNF;363 BKG DATE : 13-JAN-2010 EFF FILE : W159.CNF;102 CAL DATE : 15-DEC-2009

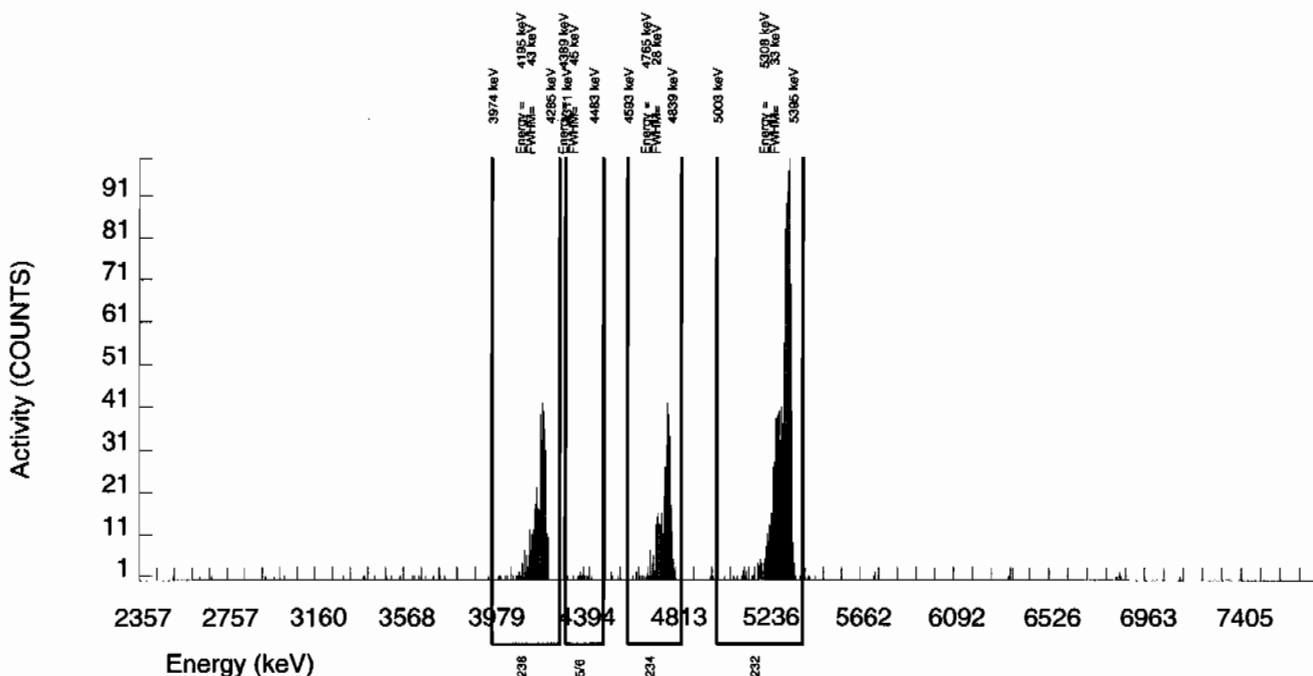
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	368.000	363.921	3.000	6.0782	100.0000	1.36E+00	1.20E-01	5.29E-02	1.16E-01	7.19E-02
U232	5302.100	1069.000	1067.000	2.000	1.4142	100.0000	3.99E+00	3.08E-01	1.23E-02	3.47E-02	1.22E-01
U-235	4391.000	15.000	15.000	0.000	2.7628	80.90000	6.93E-02	1.86E-02	2.97E-02	7.19E-02	1.79E-02
U-238	4184.730	418.000	418.000	0.000	3.2810	100.0000	1.56E+00	1.34E-01	2.85E-02	6.72E-02	7.64E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536002_UU SAMPLE QTY: 0.502 G	
DETECTOR NUMBER :79994 AVERAGE %EFFICIENCY :24.6839 % YIELD : 85.467		COUNT DATE:14-JAN-2010 07:37:50 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51089 dpm RESULTS : 3.85533 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B160.CNF;365 BKG DATE : 13-JAN-2010 EFF FILE : W160.CNF;114 CAL DATE : 15-DEC-2009

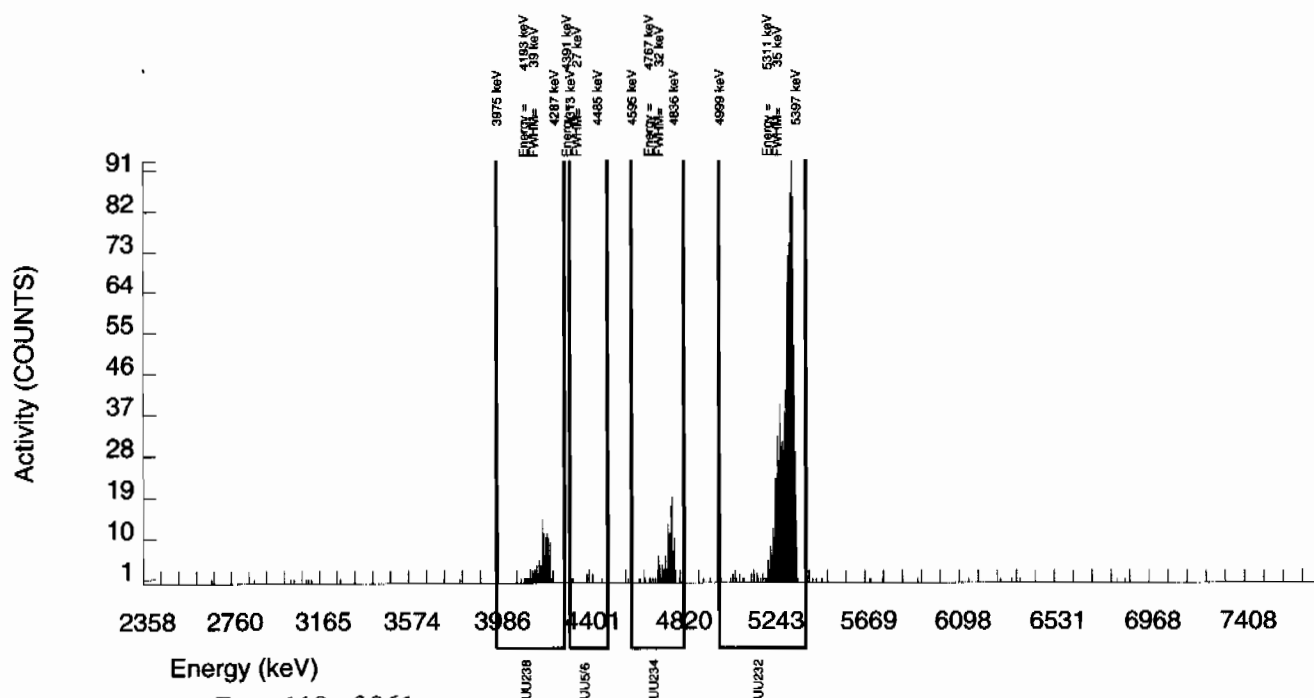
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	132.000	130.038	1.000	6.0782	100.0000	5.53E-01	6.29E-02	6.01E-02	1.32E-01	4.89E-02
U232	5302.100	952.000	951.000	1.000	1.0000	100.0000	4.05E+00	3.18E-01	9.89E-03	3.13E-02	1.31E-01
U-235	4391.000	11.000	11.000	0.000	2.7628	80.90000	5.78E-02	1.79E-02	3.38E-02	8.18E-02	1.74E-02
U-238	4184.730	120.000	120.000	0.000	3.2810	100.0000	5.10E-01	5.92E-02	3.25E-02	7.65E-02	4.66E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536003_UU SAMPLE QTY: 0.505 G	
DETECTOR NUMBER :70323 AVERAGE %EFFICIENCY :36.9748 % YIELD : 96.414		COUNT DATE:14-JAN-2010 07:32:17 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51090 dpm RESULTS : 4.34915 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B162.CNF;160 BKG DATE : 10-JAN-2010 EFF FILE : W162.CNF;63 CAL DATE : 22-DEC-2009

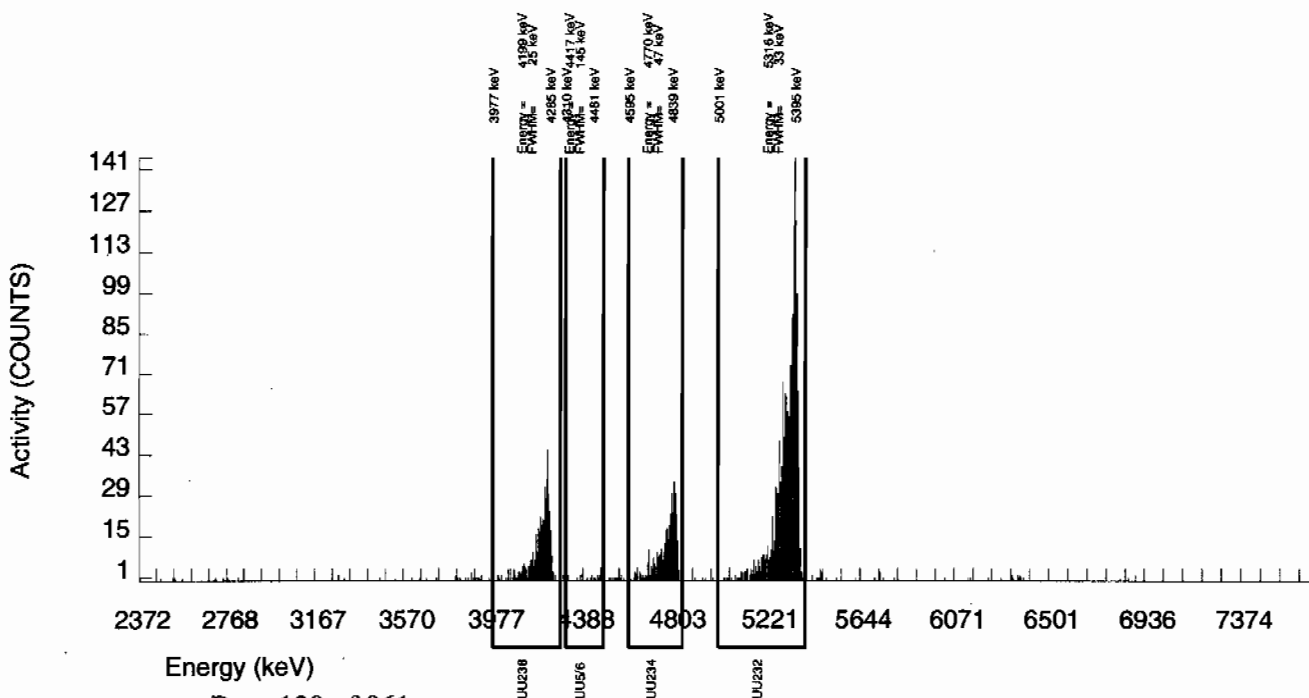
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	396.000	394.375	0.000	6.0782	100.0000	9.87E-01	8.38E-02	3.54E-02	7.75E-02	4.97E-02
U232	5302.100	1609.000	1607.000	2.000	1.4142	100.0000	4.02E+00	2.93E-01	8.23E-03	2.32E-02	1.00E-01
U-235	4391.000	18.000	16.000	2.000	2.7628	80.90000	4.95E-02	1.42E-02	1.99E-02	4.81E-02	1.38E-02
U-238	4184.730	441.000	439.000	2.000	3.2810	100.0000	1.10E+00	9.17E-02	1.91E-02	4.50E-02	5.27E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536004_UU SAMPLE QTY: 0.506 G	
DETECTOR NUMBER :70324 AVERAGE %EFFICIENCY :37.7750 % YIELD : 101.184		COUNT DATE:14-JAN-2010 07:32:21 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51090 dpm RESULTS : 4.56432 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B163.CNF;161 BKG DATE : 10-JAN-2010 EFF FILE : W163.CNF;52 CAL DATE : 21-DEC-2009

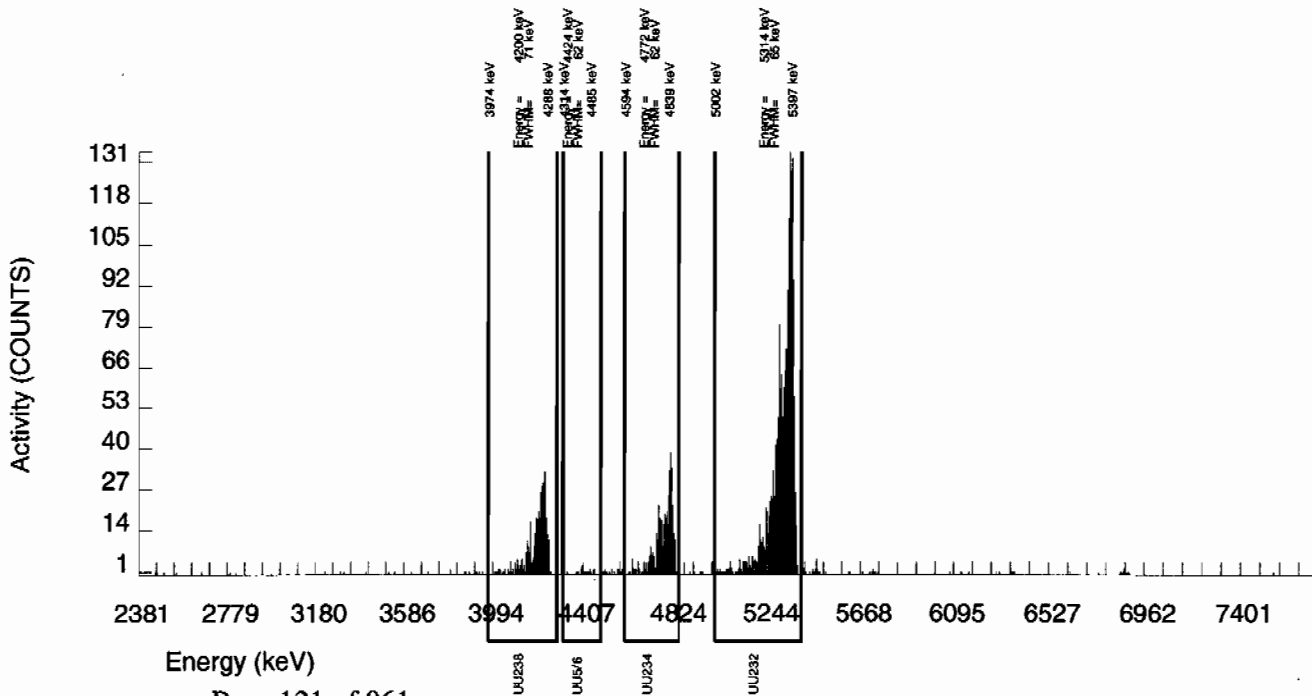
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	410.000	408.258	0.000	6.0782	100.0000	9.51E-01	8.00E-02	3.29E-02	7.22E-02	4.71E-02
U232	5302.100	1724.000	1723.000	1.000	1.0000	100.0000	4.02E+00	2.90E-01	5.42E-03	1.71E-02	9.68E-02
U-235	4391.000	23.000	23.000	0.000	2.7628	80.90000	6.62E-02	1.45E-02	1.85E-02	4.48E-02	1.38E-02
U-238	4184.730	400.000	398.000	2.000	3.2810	100.0000	9.27E-01	7.85E-02	1.78E-02	4.19E-02	4.67E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536005_UU SAMPLE QTY: 0.502 G	
DETECTOR NUMBER :70325 AVERAGE %EFFICIENCY :37.7257 % YIELD : 97.730		COUNT DATE:14-JAN-2010 07:32:23 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51089 dpm RESULTS : 4.40848 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B164.CNF;158 BKG DATE : 10-JAN-2010 EFF FILE : W164.CNF;52 CAL DATE : 21-DEC-2009

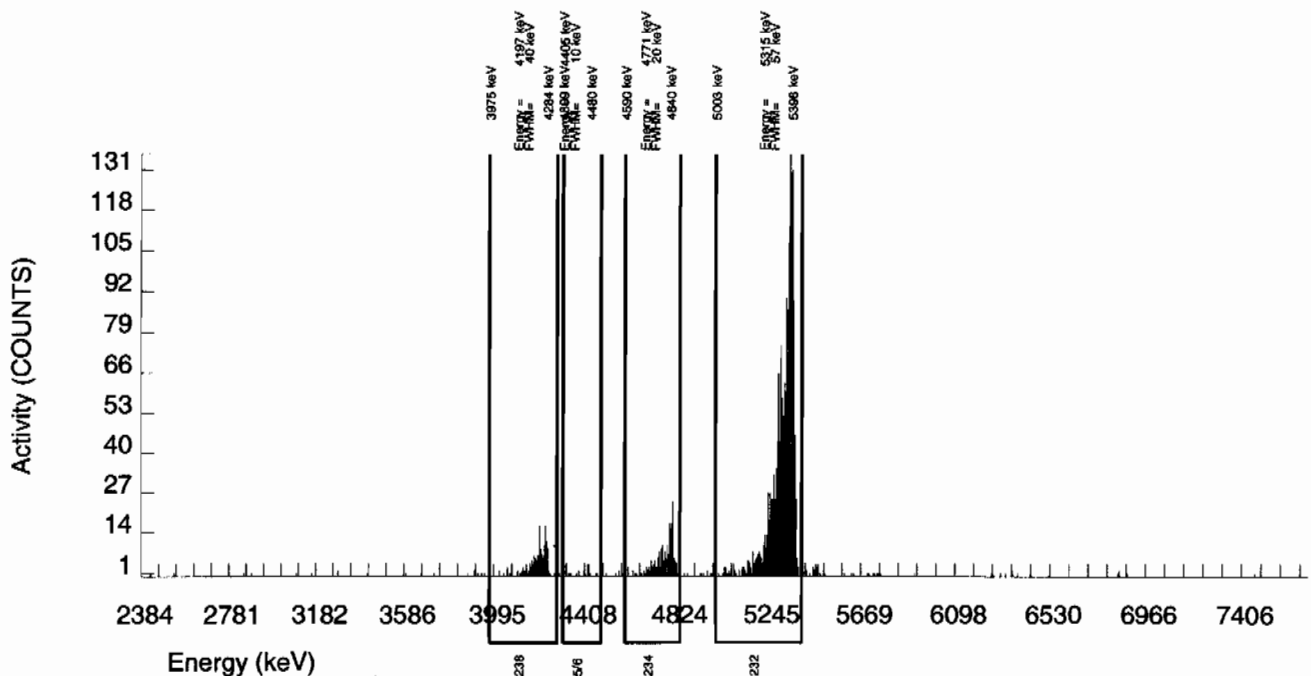
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	208.000	203.320	3.000	6.0782	100.0000	4.95E-01	4.88E-02	3.44E-02	7.54E-02	3.52E-02
U232	5302.100	1676.000	1662.000	14.000	3.7417	100.0000	4.05E+00	2.94E-01	2.12E-02	4.90E-02	1.00E-01
U-235	4391.000	23.000	23.000	0.000	2.7628	80.90000	6.92E-02	1.52E-02	1.93E-02	4.68E-02	1.44E-02
U-238	4184.730	164.000	162.000	2.000	3.2810	100.0000	3.94E-01	4.13E-02	1.86E-02	4.37E-02	3.14E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536006_UU SAMPLE QTY: 0.501 G	
DETECTOR NUMBER :72544 AVERAGE %EFFICIENCY :37.9939 % YIELD : 92.953		COUNT DATE:14-JAN-2010 07:32:25 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51089 dpm RESULTS : 4.19299 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B165.CNF;158 BKG DATE : 10-JAN-2010 EFF FILE : W165.CNF;52 CAL DATE : 21-DEC-2009

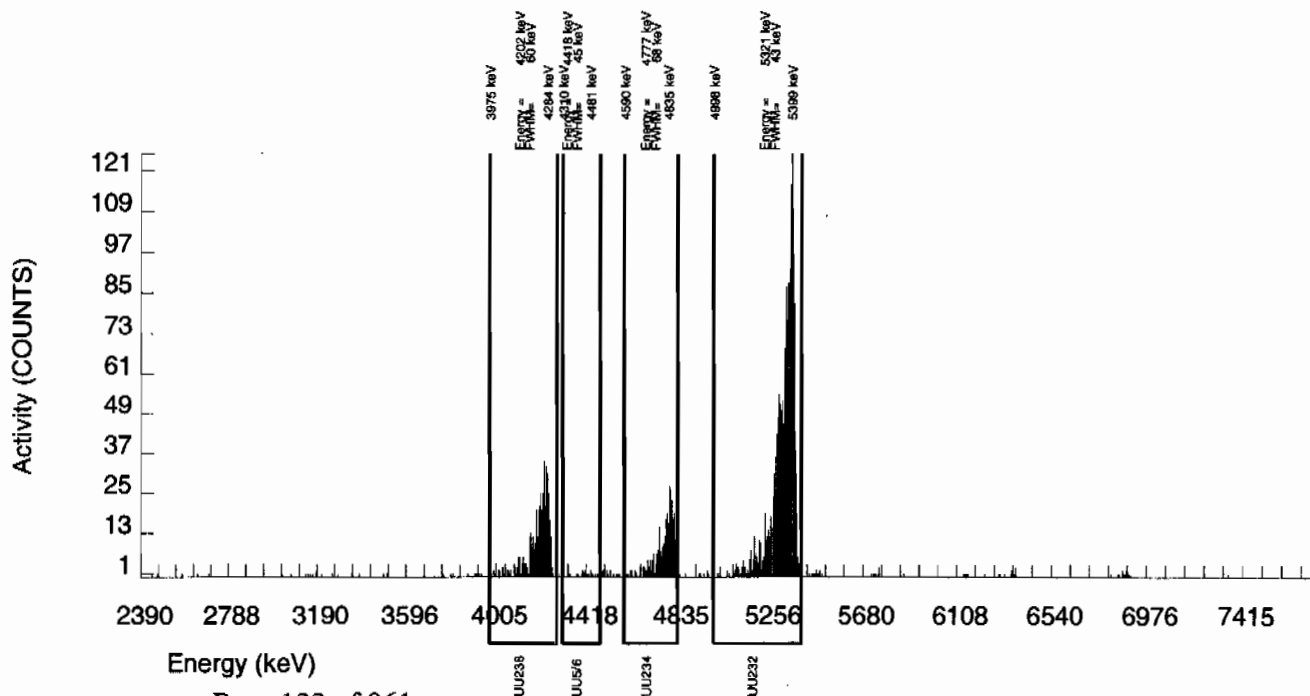
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	314.000	312.390	0.000	6.0782	100.0000	7.95E-01	7.06E-02	3.60E-02	7.89E-02	4.50E-02
U232	5302.100	1596.000	1592.000	4.000	2.0000	100.0000	4.06E+00	2.96E-01	1.18E-02	3.06E-02	1.02E-01
U-235	4391.000	18.000	18.000	0.000	2.7628	80.90000	5.66E-02	1.39E-02	2.02E-02	4.90E-02	1.34E-02
U-238	4184.730	460.000	460.000	0.000	3.2810	100.0000	1.17E+00	9.69E-02	1.94E-02	4.58E-02	5.46E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536007_UU SAMPLE QTY: 0.504 G	
DETECTOR NUMBER :74545 AVERAGE %EFFICIENCY :39.1731 % YIELD : 89.022		COUNT DATE:14-JAN-2010 07:32:26 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51089 dpm RESULTS : 4.01569 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B166.CNF;159 BKG DATE : 10-JAN-2010 EFF FILE : W166.CNF;52 CAL DATE : 21-DEC-2009

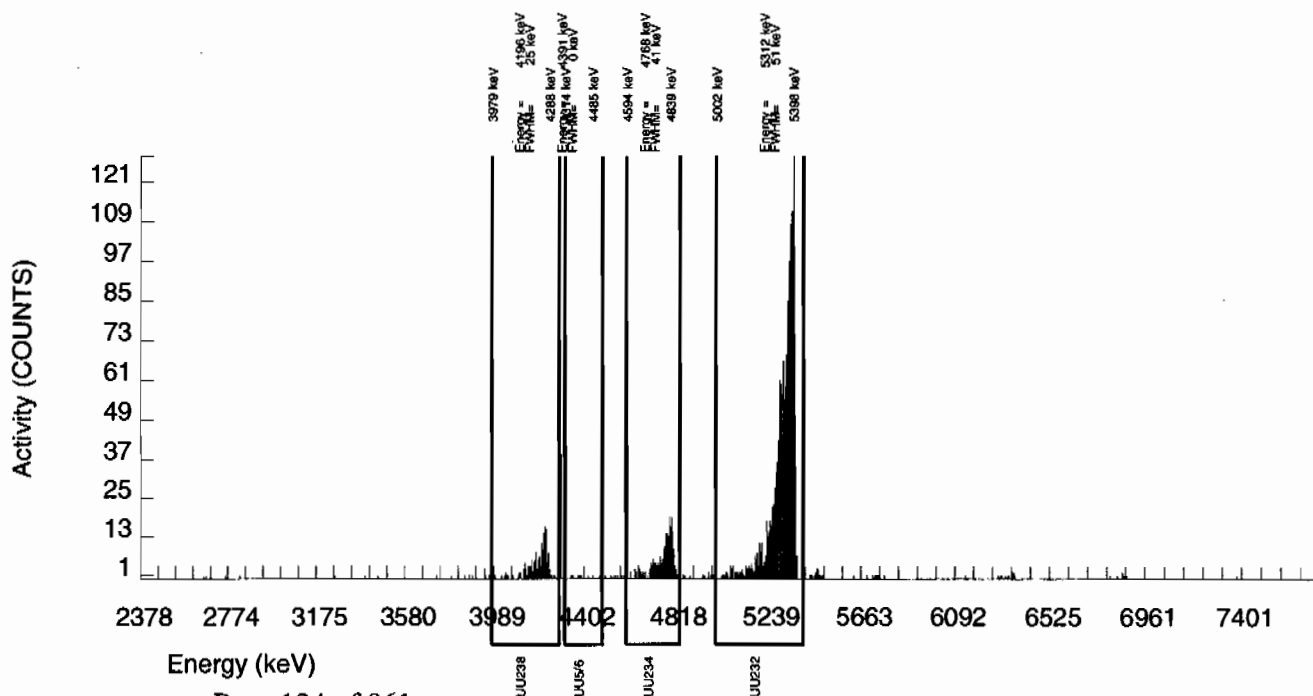
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	224.000	221.411	1.000	6.0782	100.0000	5.67E-01	5.46E-02	3.62E-02	7.94E-02	3.83E-02
U232	5302.100	1577.000	1572.000	5.000	2.2361	100.0000	4.03E+00	2.94E-01	1.33E-02	3.36E-02	1.02E-01
U-235	4391.000	12.000	12.000	0.000	2.7628	80.90000	3.80E-02	1.13E-02	2.04E-02	4.93E-02	1.10E-02
U-238	4184.730	167.000	166.000	1.000	3.2810	100.0000	4.25E-01	4.42E-02	1.96E-02	4.61E-02	3.32E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536008_UU SAMPLE QTY: 0.500 G	
DETECTOR NUMBER :72546 AVERAGE %EFFICIENCY :38.6386 % YIELD : 94.215		COUNT DATE:14-JAN-2010 07:32:29 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51090 dpm RESULTS : 4.24994 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B167.CNF;159 BKG DATE : 10-JAN-2010 EFF FILE : W167.CNF;52 CAL DATE : 21-DEC-2009

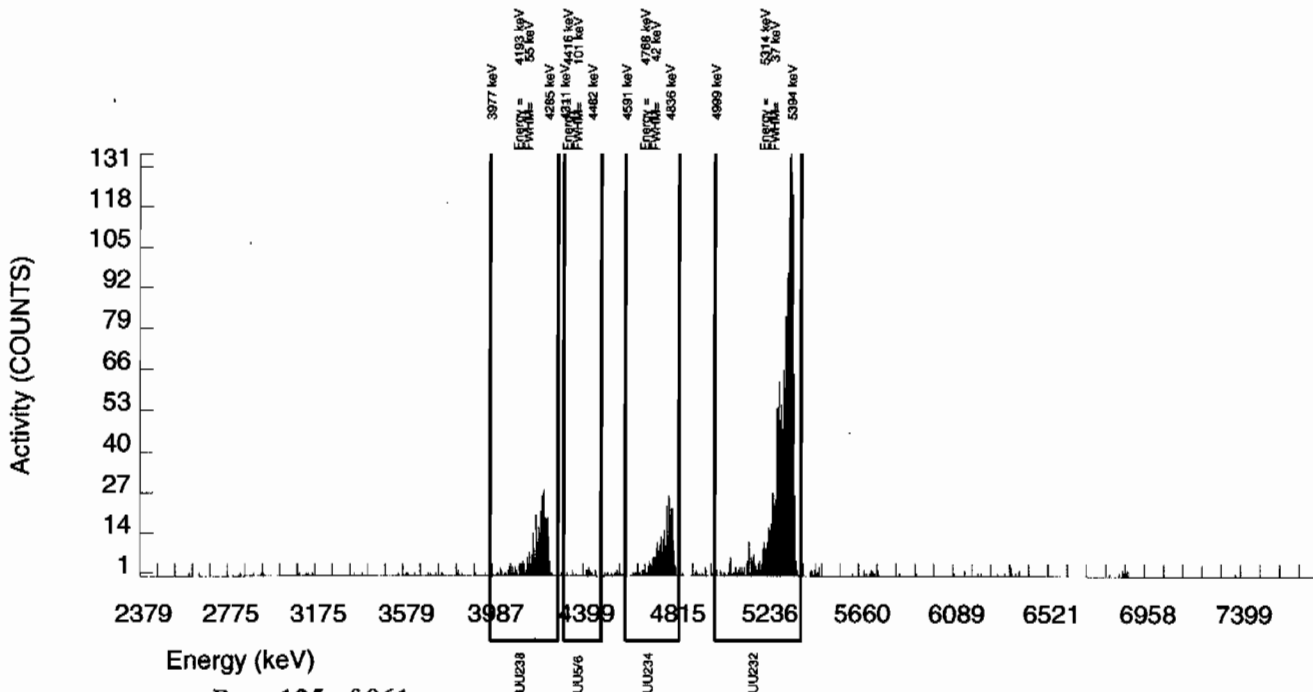
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	297.000	292.341	3.000	6.0782	100.0000	7.23E-01	6.53E-02	3.50E-02	7.67E-02	4.27E-02
U232	5302.100	1643.000	1641.000	2.000	1.4142	100.0000	4.06E+00	2.95E-01	8.14E-03	2.30E-02	1.00E-01
U-235	4391.000	17.000	16.000	1.000	2.7628	80.90000	4.89E-02	1.34E-02	1.97E-02	4.76E-02	1.30E-02
U-238	4184.730	352.000	351.000	1.000	3.2810	100.0000	8.69E-01	7.53E-02	1.89E-02	4.45E-02	4.65E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536009_UU SAMPLE QTY: 0.505 G	
DETECTOR NUMBER :72547 AVERAGE %EFFICIENCY :39.2421 % YIELD : 95.706		COUNT DATE:14-JAN-2010 07:32:32 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51089 dpm RESULTS : 4.31718 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B168.CNF;159 BKG DATE : 10-JAN-2010 EFF FILE : W168.CNF;52 CAL DATE : 21-DEC-2009

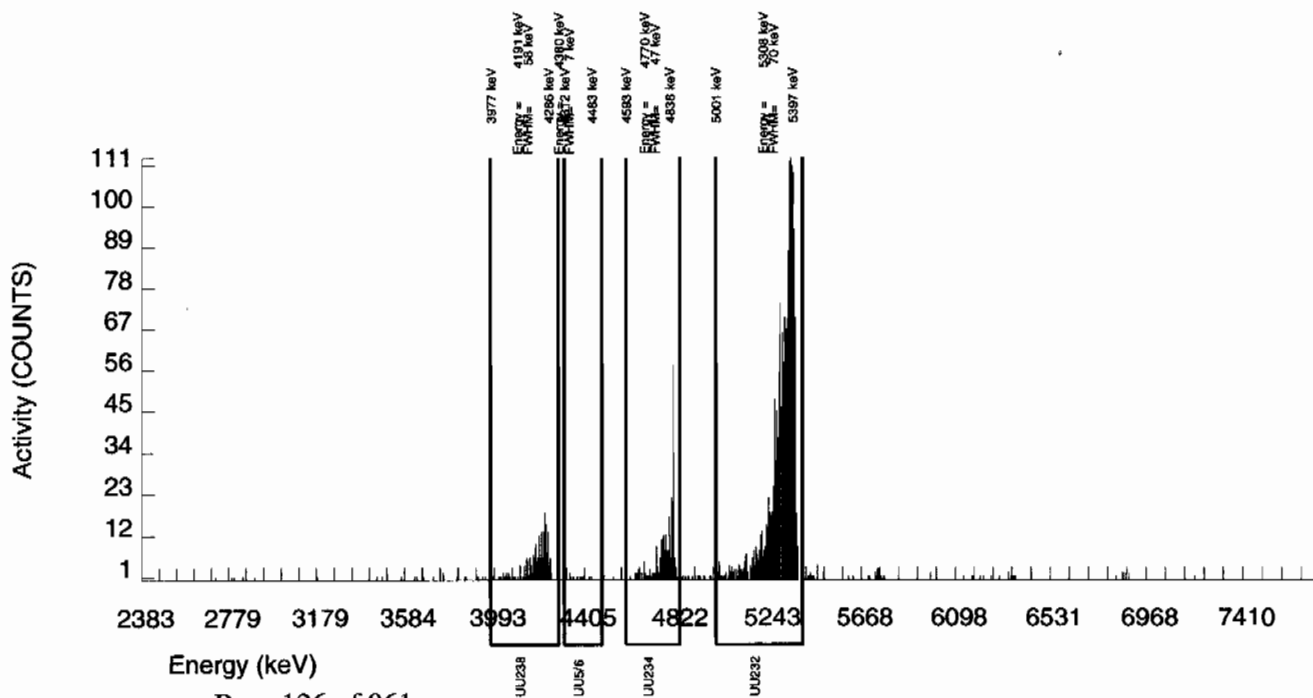
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	217.000	215.288	0.000	6.0782	100.0000	5.11E-01	4.93E-02	3.36E-02	7.36E-02	3.48E-02
U232	5302.100	1697.000	1693.000	4.000	2.0000	100.0000	4.02E+00	2.91E-01	1.11E-02	2.85E-02	9.80E-02
U-235	4391.000	13.000	12.000	1.000	2.7628	80.90000	3.52E-02	1.12E-02	1.89E-02	4.57E-02	1.10E-02
U-238	4184.730	204.000	203.000	1.000	3.2810	100.0000	4.82E-01	4.73E-02	1.81E-02	4.27E-02	3.40E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536010_UU SAMPLE QTY: 0.506 G	
DETECTOR NUMBER :72548 AVERAGE %EFFICIENCY :37.7552 % YIELD : 91.895		COUNT DATE:14-JAN-2010 07:32:35 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51090 dpm RESULTS : 4.14529 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B169.CNF;161 BKG DATE : 10-JAN-2010 EFF FILE : W169.CNF;62 CAL DATE : 21-DEC-2009

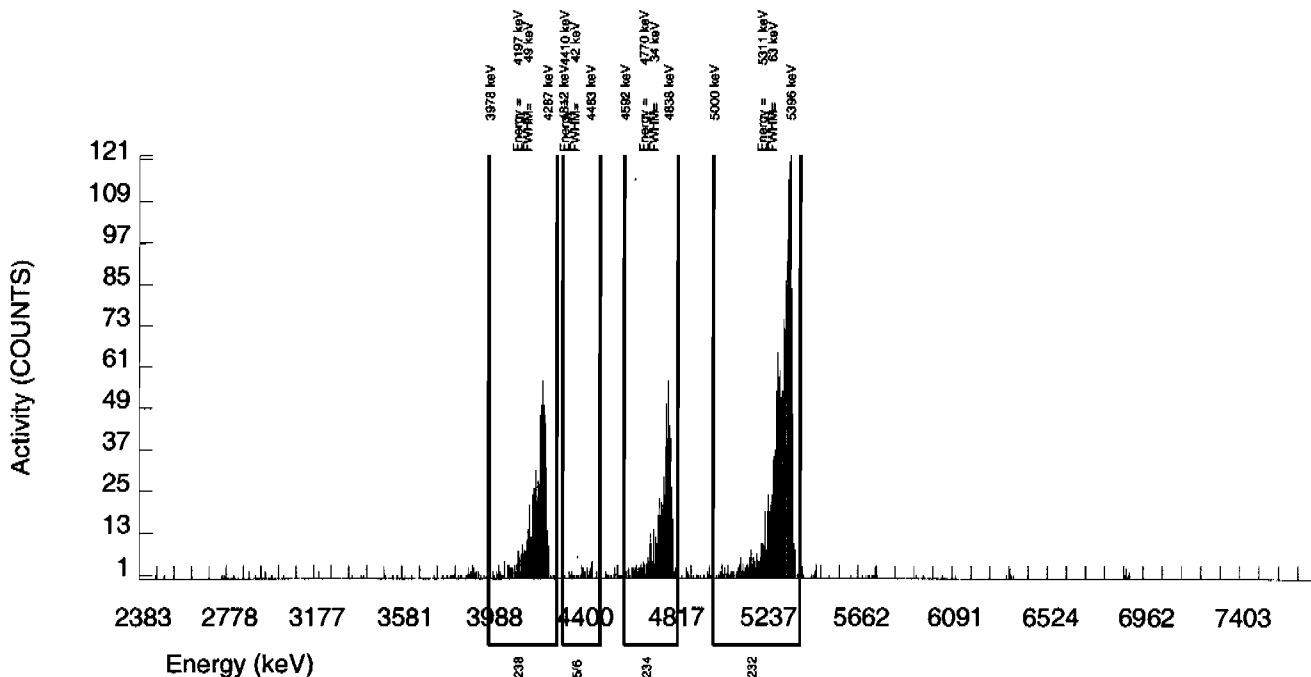
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	566.000	564.419	0.000	6.0782	100.0000	1.45E+00	1.16E-01	3.63E-02	7.95E-02	6.10E-02
U232	5302.100	1568.000	1564.000	4.000	2.0000	100.0000	4.02E+00	2.93E-01	1.19E-02	3.08E-02	1.02E-01
U-235	4391.000	36.000	36.000	0.000	2.7628	80.90000	1.14E-01	2.06E-02	2.04E-02	4.94E-02	1.90E-02
U-238	4184.730	675.000	675.000	0.000	3.2810	100.0000	1.73E+00	1.36E-01	1.96E-02	4.61E-02	6.67E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S0243536011_UU SAMPLE QTY: 0.508 G	
DETECTOR NUMBER :72549 AVERAGE %EFFICIENCY :36.7019 % YIELD : 104.747		COUNT DATE:14-JAN-2010 07:32:37 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51090 dpm RESULTS : 4.72503 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B170.CNF;159 BKG DATE : 10-JAN-2010 EFF FILE : W170.CNF;52 CAL DATE : 21-DEC-2009

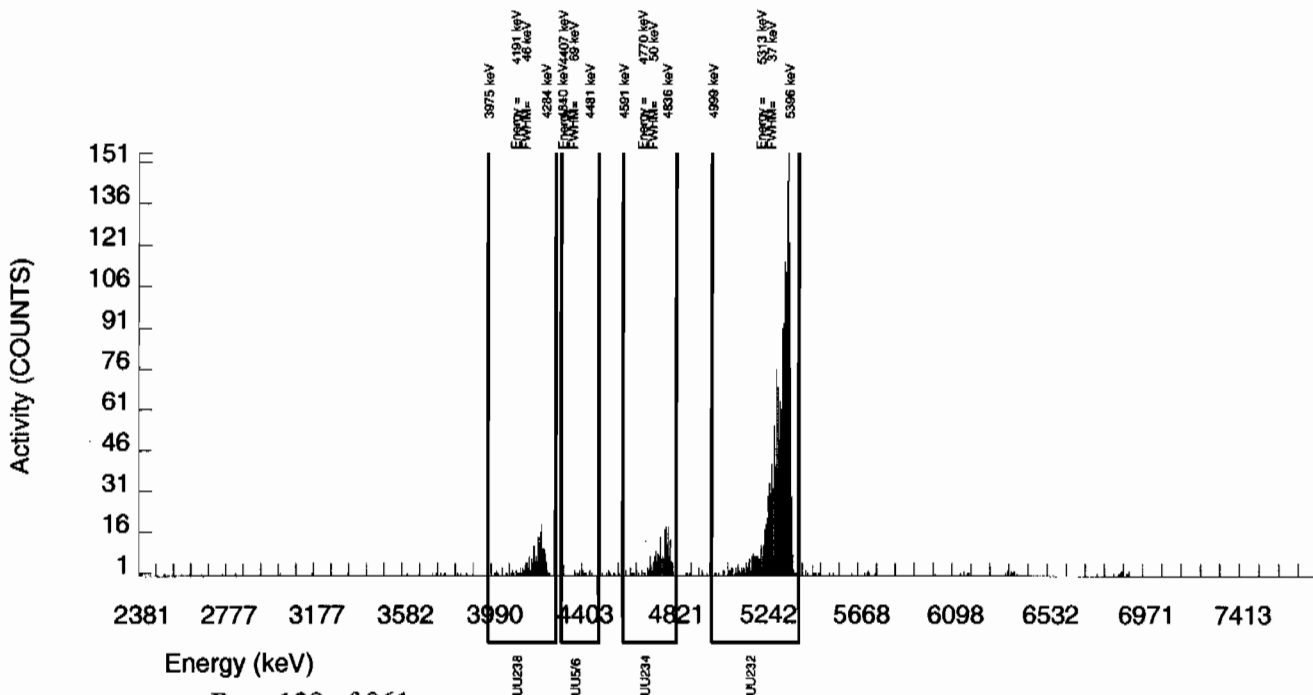
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	197.000	195.248	0.000	6.0782	100.0000	4.50E-01	4.45E-02	3.26E-02	7.15E-02	3.22E-02
U232	5302.100	1738.000	1733.000	5.000	2.2361	100.0000	4.00E+00	2.89E-01	1.20E-02	3.02E-02	9.64E-02
U-235	4391.000	15.000	15.000	0.000	2.7628	80.90000	4.28E-02	1.14E-02	1.83E-02	4.44E-02	1.10E-02
U-238	4184.730	191.000	189.000	2.000	3.2810	100.0000	4.36E-01	4.37E-02	1.76E-02	4.15E-02	3.20E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S1202012274_UU SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :78260 AVERAGE %EFFICIENCY :38.3524 % YIELD : 93.819		COUNT DATE:14-JAN-2010 07:32:40 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50829 dpm RESULTS : 4.22962 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B171.CNF;165 BKG DATE : 10-JAN-2010 EFF FILE : W171.CNF;69 CAL DATE : 21-DEC-2009

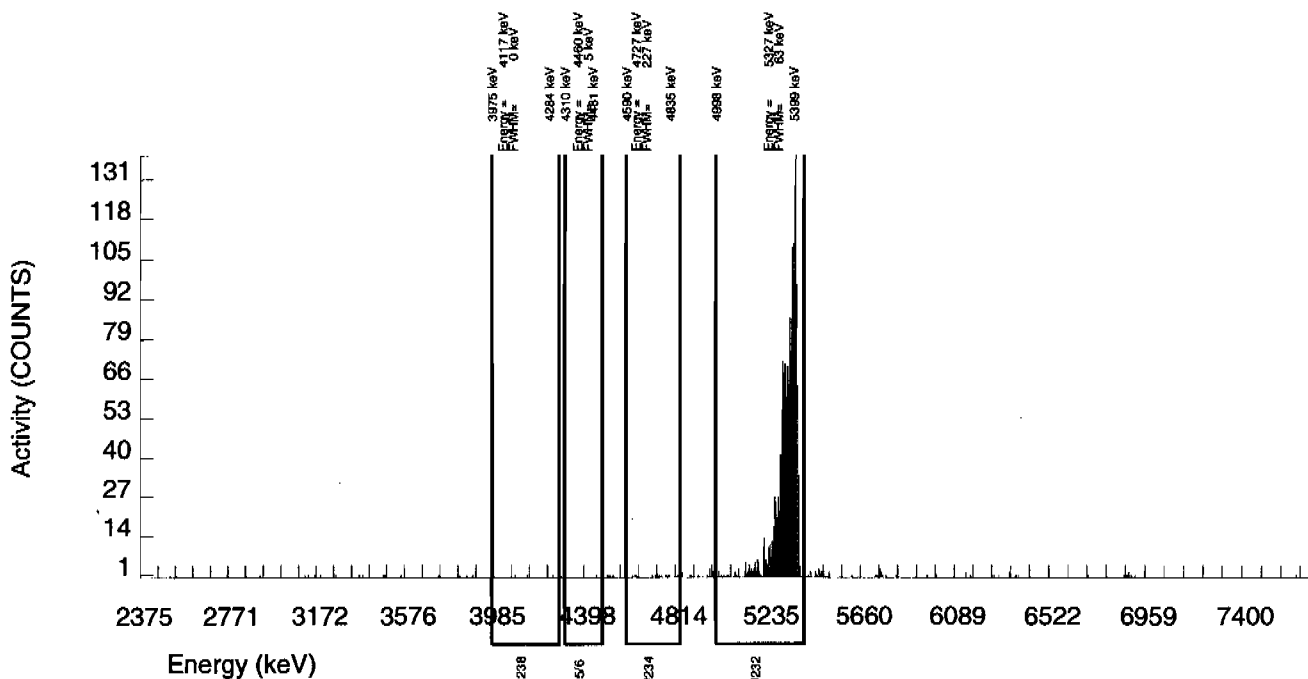
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	13.000	9.360	2.000	6.0782	100.0000	1.17E-02	4.64E-03	1.77E-02	3.88E-02	4.58E-03
U232	5302.100	1626.000	1622.000	4.000	2.0000	100.0000	2.03E+00	1.47E-01	5.82E-03	1.50E-02	5.05E-02
U-235	4391.000	1.000	-4.000	5.000	2.7628	80.90000	-6.19E-03	3.79E-03	9.95E-03	2.41E-02	3.79E-03
U-238	4184.730	4.000	1.000	3.000	3.2810	100.0000	1.25E-03	3.31E-03	9.56E-03	2.25E-02	3.31E-03

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 21-DEC-2009 00:00:00		SAMPLE ID : S1202012275_UU SAMPLE QTY: 0.507 G	
DETECTOR NUMBER :78772 AVERAGE %EFFICIENCY :38.4140 % YIELD : 84.775		COUNT DATE:14-JAN-2010 07:32:43 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51090 dpm RESULTS : 3.82411 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B172.CNF;163 BKG DATE : 10-JAN-2010 EFF FILE : W172.CNF;62 CAL DATE : 21-DEC-2009

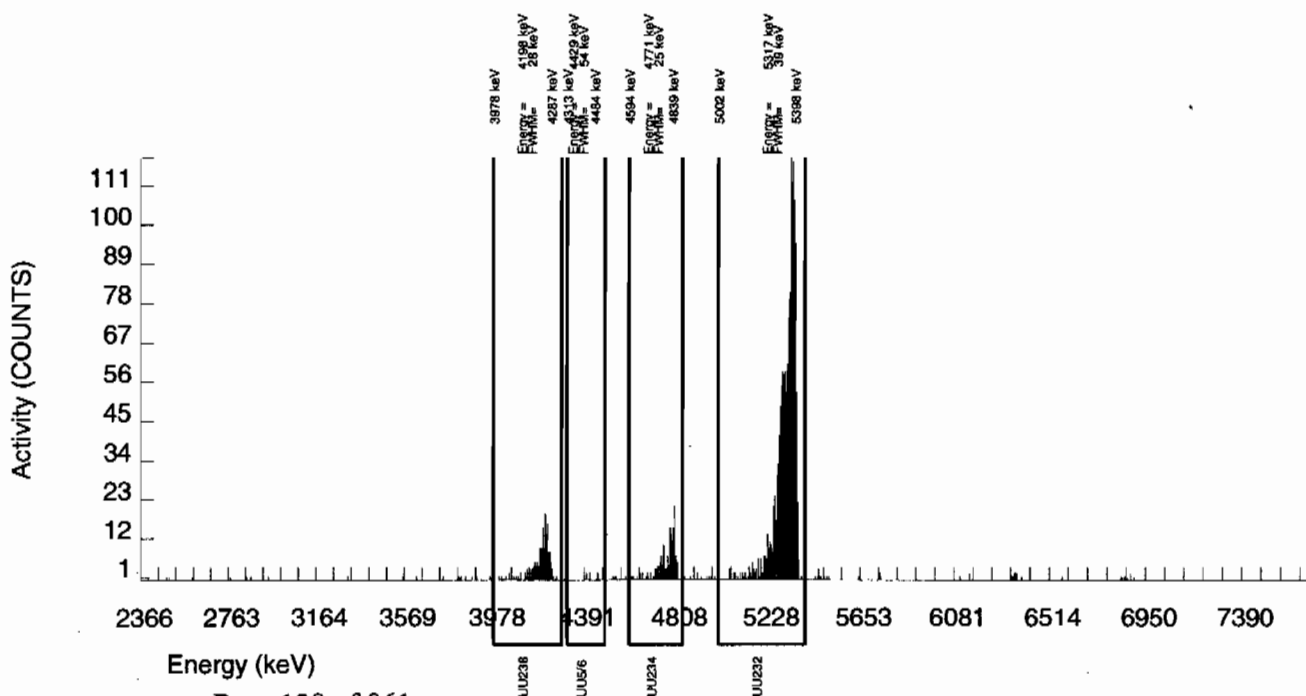
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	166.000	163.516	1.000	6.0782	100.0000	4.46E-01	4.66E-02	3.86E-02	8.45E-02	3.51E-02
U232	5302.100	1473.000	1468.000	5.000	2.2361	100.0000	4.01E+00	2.95E-01	1.42E-02	3.58E-02	1.05E-01
U-235	4391.000	6.000	5.000	1.000	2.7628	80.90000	1.69E-02	9.00E-03	2.17E-02	5.25E-02	8.92E-03
U-238	4184.730	173.000	172.000	1.000	3.2810	100.0000	4.69E-01	4.83E-02	2.08E-02	4.90E-02	3.60E-02

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940301 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S1202012276_UU SAMPLE QTY: 0.114 G	
DETECTOR NUMBER :SAMPLE AVERAGE %EFFICIENCY :36.6119 % YIELD : 101.914		COUNT DATE:14-JAN-2010 07:32:15 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50829 dpm RESULTS : 4.59460 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B161.CNF;160 BKG DATE : 10-JAN-2010 EFF FILE : W161.CNF;56 CAL DATE : 23-DEC-2009

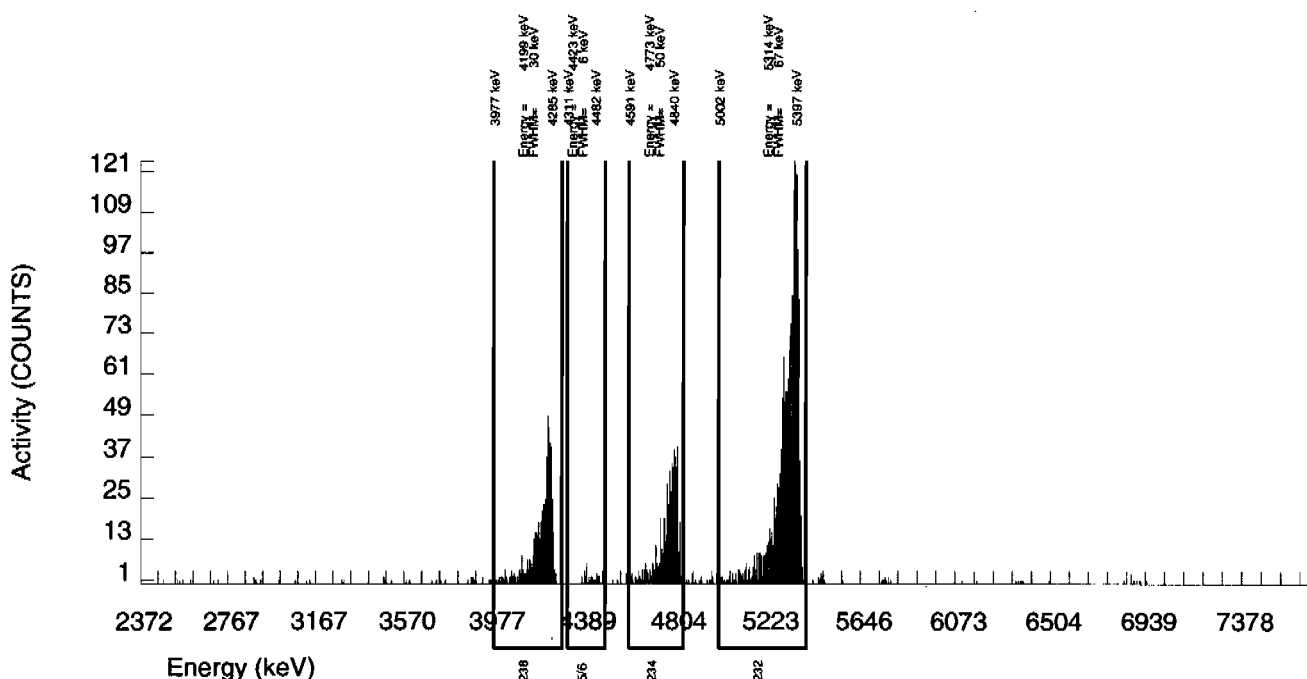
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	535.000	533.299	0.000	6.0782	100.0000	5.65E+00	4.82E-01	1.50E-01	3.28E-01	2.45E-01
U232	5302.100	1683.000	1682.000	1.000	1.0000	100.0000	1.78E+01	1.38E+00	2.46E-02	7.80E-02	4.35E-01
U-235	4391.000	31.000	30.000	1.000	2.7628	80.90000	3.93E-01	7.95E-02	8.41E-02	2.04E-01	7.40E-02
U-238	4184.730	558.000	556.000	2.000	3.2810	100.0000	5.89E+00	5.00E-01	8.08E-02	1.90E-01	2.51E-01

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

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

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



Radiochemistry Batch Checklist, Rev 9

Batch# 937074 Product: KS Date: 1/11/10

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.			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 stashed.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NT
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.			NA
Batch non-conformances second reviewed and disposition verified to be completed.			NT
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

revised 8/1/08

Primary Review Performed By: [Signature] 1/11/10

Secondary Review Performed By: [Signature] 1/12/10

Gamma Spec Que Sheet

1.4-1/9/10

12/28/2009

Batch #: 937074 Analyst: MXR1 First Client Due Date: 01/10/2010 Internal Due Date: 01/10/2010

Gamma Spike Isotope: Mixed Gamma Spike Code: HLA Expiration Date: HLA Vol: HLA Nominal Concentration: HLA

Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0mL Nominal Concentration: Am-241 15.91-6+37 S-573;

Initials: MS Prep Date: 1/2/10 Library: SOLID Witness: HLA 6-60 6.485

Wet/Dry

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Aliquot (1/g/F)	Detector	Sealing Date/Time (if Applicable)
243536001-1	RE12-10-7606	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	141.64	6	12/24/09
243536002-1	RE12-10-7607	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	121.43	7	
243536003-1	RE12-10-7596	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	126.43	10	
243536004-1	RE12-10-7597	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	143.01	12	
243536005-1	RE12-10-7608	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	117.36	13	
243536006-1	RE12-10-7600	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	131.69	14	
243536007-1	RE12-10-7601	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	120.43	15	
243536008-1	RE12-10-7602	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	145.70	18	
243536009-1	RE12-10-7599	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	115.32	22	
243536010-1	RE12-10-7598	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	139.69	23	
243536011-1	RE12-10-7603	SAMPLE		LANL010	SOIL	21-DEC-09 12:00:00	U	104.34	11	
243547002-1	WST54-10-9921	SAMPLE		LANL010	SOIL	22-DEC-09 12:00:00	U	101.37	16	
243547003-1	WST54-10-9922	SAMPLE		LANL010	SOIL	22-DEC-09 12:00:00	U	105.84	19	
243555001-1	WST21-10-9933	SAMPLE		LANL010	SOIL	23-DEC-09 12:00:00	U	30.28	20	12/09
243555002-1	WST21-10-9931	SAMPLE		LANL010	SOIL	23-DEC-09 12:00:00	U	38.69	25	12/09
1202005192-1	MB	MB		QC ACCOUNT	SOIL	12/10	U	145.70	14	12/09
1202005193-1	DUP RE12-10-7606(243536001)	DUP		QC ACCOUNT	SOIL	21-DEC-09 12:00:00	U	141.64	16	12/24/09
1202005194-1	LCS	LCS		QC ACCOUNT	SOIL	12/10	U	155.44	4	12/09

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: W. J. Peng 11/11/10

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
937074	243536001	SAMPLE	09-JAN-10		Americium-241	-0.1002	0.3293	0.200
					Cerium-139	0.03531	0.05763	0.050
					Thorium-234	0.4642	2.778	2.00
937074	243536002	SAMPLE	09-JAN-10		Sodium-22	-0.027	0.08142	0.080
937074	243536003	SAMPLE	09-JAN-10		Americium-241	0.0252	0.4132	0.200
					Cerium-139	-0.00416	0.05093	0.050
					Thorium-234	0.7886	2.944	2.00
937074	243536004	SAMPLE	09-JAN-10		Americium-241	-0.01665	0.2296	0.200
937074	243536005	SAMPLE	09-JAN-10		Cerium-139	0.01175	0.06955	0.050
					Cesium-134	0.08122	0.1259	0.100
					Europium-152	0.09745	0.2061	0.200
					Ruthenium-106	0.3358	0.8046	0.800
					Sodium-22	0.04185	0.1112	0.080
937074	243536006	SAMPLE	09-JAN-10					
937074	243536007	SAMPLE	09-JAN-10		Americium-241	-0.4168	0.5011	0.200
					Cerium-139	0.03691	0.06466	0.050
					Sodium-22	-0.00856	0.0945	0.080
					Thorium-234	1.28	4.045	2.00
937074	243536008	SAMPLE	09-JAN-10		Americium-241	0.1018	0.2567	0.200
					Thorium-234	0.8253	2.07	2.00
937074	243536009	SAMPLE	09-JAN-10		Americium-241	0.03937	0.2239	0.200
937074	243536010	SAMPLE	09-JAN-10		Americium-241	0.1509	0.2938	0.200
937074	243536011	SAMPLE	09-JAN-10					
937074	243547002	SAMPLE	09-JAN-10		Americium-241	-0.06342	0.3266	0.200
					Cerium-139	-0.02264	0.06271	0.050
					Sodium-22	-0.01319	0.08774	0.080
					Thorium-234	2.343	2.694	2.00
937074	243547003	SAMPLE	09-JAN-10		Americium-241	0.09569	0.3625	0.200
					Cerium-139	-0.02149	0.07306	0.050
					Europium-152	-0.09165	0.2255	0.200
					Mercury-203	0.08125	0.1065	0.100
					Sodium-22	0.01375	0.1005	0.080
					Tin-113	-0.00762	0.1069	0.100
					Uranium-235	0.1996	0.5232	0.500
937074	243555001	SAMPLE	09-JAN-10					
937074	243555002	SAMPLE	09-JAN-10					
937074	1202005192	MB	09-JAN-10					
937074	1202005193	DUP	09-JAN-10					
937074	1202005194	LCS	09-JAN-10		Cerium-139	0.01853	0.07111	0.050
					Cesium-134	0.146	0.158	0.100
					Europium-152	-0.01685	0.2837	0.200
					Ruthenium-106	-0.1604	0.9064	0.800
					Sodium-22	0.05326	0.09894	0.080

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
937074	1202005194	LCS	09-JAN-10		Thorium-234	-1.221	4.493	2.00
					Tin-113	-0.05002	0.1222	0.100

Gamma Review Report based on Result > MDA for Batch:937074

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243536001	21-DEC-09 12:00	09-JAN-10 14:07	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.061	0.2237	pCi/g 0.2355	N	911.6 3	1.869	IDENTIFIED 20.46	<input type="checkbox"/>	
Americium-243	INT	0.4076	0.04412	pCi/g 0.1043	N	74.62 1	1.286	IDENTIFIED 9.837	<input type="checkbox"/>	
Annihilation Rad.		0.2116	0.03648	pCi/g 0.04839	N	511.2 1	2.478	IDENTIFIED 17.01	<input type="checkbox"/>	
Barium-137m	NR	0.2719	0.03314	pCi/g 0.06733	N	661.6 2	1.56	IDENTIFIED 11.94	<input type="checkbox"/>	
Bismuth-211	INT	4.004	0.2996	pCi/g 0.3479	Y	351.6 4	1.353	IDENTIFIED 6.752	<input checked="" type="checkbox"/>	DATA
Bismuth-212	LA	1.186	0.2235	pCi/g 0.7285	N	0 11 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214	✓	1.203	0.09046	pCi/g 0.1096	0.200	609.2 4	1.609	IDENTIFIED 6.555	<input type="checkbox"/>	
Cadmium-109	INT	2.894	0.514	pCi/g 1.362	Y	86.89 3	1.246	IDENTIFIED 17.07	<input checked="" type="checkbox"/>	LA
Cerium-143		7184	1093	pCi/g 0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-137	✓	0.2874	0.03504	pCi/g 0.07117	0.100	661.6 2	1.56	IDENTIFIED 11.94	<input type="checkbox"/>	
Gross Gamma		8.088	1.262	pCi/g 3.292	N	0			<input type="checkbox"/>	
Iodine-123	HE	4.02E+08	4.65E+08	pCi/g 0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135		4.93E+19 0		pCi/g 0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Krypton-85	HE	19.09	4.038	pCi/g 15.43	N	0 11 0		NOT_IDENTI 0	<input type="checkbox"/>	
Lead-212	✓	1.598	0.08093	pCi/g 0.0996	0.100	238.4 4	1.356	IDENTIFIED 3.472	<input type="checkbox"/>	
Lead-214	✓	1.393	0.1104	pCi/g 0.1213	0.100	351.6 4	1.353	IDENTIFIED 6.752	<input type="checkbox"/>	
Lutetium-177	LA	5.886	1.189	pCi/g 3.433	N	0 11 0		FAIL_ABUND 0	<input type="checkbox"/>	
Neptunium-237	INT	0.8304	0.1706	pCi/g 0.3981	N	86.89 3	1.246	IDENTIFIED 17.07	<input type="checkbox"/>	
Niobium-95m	LA	0.5565	0.08614	pCi/g 0.2906	N	0 11 0		NOT_IDENTI 0	<input type="checkbox"/>	
Niobium-97	HE	3.27E+06	2.82E+06	pCi/g 0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Polonium-212	NR	1.598	0.08093	pCi/g 0.0996	N	238.4 4	1.356	IDENTIFIED 3.472	<input type="checkbox"/>	
Polonium-214	NR	1.393	0.1104	pCi/g 0.1213	N	351.6 4	1.353	IDENTIFIED 6.752	<input type="checkbox"/>	
Polonium-216	NR	1.598	0.08093	pCi/g 0.0996	N	238.4 4	1.356	IDENTIFIED 3.472	<input type="checkbox"/>	
Polonium-218	NR	1.393	0.1104	pCi/g 0.1213	N	351.6 4	1.353	IDENTIFIED 6.752	<input type="checkbox"/>	
Potassium-40	✓	20.93	1.093	pCi/g 0.5722	1.00	1461 1	2.242	IDENTIFIED 4.045	<input type="checkbox"/>	
Radium-224	INT	4.175	0.5868	pCi/g 1.133	Y	241.4 1	1.774	IDENTIFIED 13.75	<input checked="" type="checkbox"/>	UI
Radium-226	✓	1.203	0.09046	pCi/g 0.1096	Y	609.2 4	1.609	IDENTIFIED 6.555	<input type="checkbox"/>	
Radium-228	✓	1.061	0.2237	pCi/g 0.2355	0.500	911.6 3	1.869	IDENTIFIED 20.46	<input type="checkbox"/>	
Strontium-85	LA	0.1021	0.02159	pCi/g 0.08247	Y	0 11 0		NOT_IDENTI 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208	✓	0.4468	0.04697	pCi/g 0.05998	0.080	583.1 1	1.253	IDENTIFIED 10.03	<input type="checkbox"/>	
Thorium-228	NR	1.629	0.08248	pCi/g 0.1015	N	238.4 4	1.356	IDENTIFIED 3.472	<input type="checkbox"/>	
Thorium-230	NR	1.203	0.09046	pCi/g 0.1096	N	609.2 4	1.609	IDENTIFIED 6.555	<input type="checkbox"/>	
Thorium-232	NR	1.061	0.2237	pCi/g 0.2355	N	911.6 3	1.869	IDENTIFIED 20.46	<input type="checkbox"/>	
Tin-126	INT	0.2828	0.05022	pCi/g 0.1338	N	86.89 3	1.246	IDENTIFIED 17.07	<input type="checkbox"/>	
Titanium-44	LA	0.285	0.03006	pCi/g 0.09035	N	0 11 0		NOT_IDENTI 0	<input type="checkbox"/>	
Uranium-234	NR	1.203	0.09046	pCi/g 0.1096	N	609.2 4	1.609	IDENTIFIED 6.555	<input type="checkbox"/>	
Zirconium-97		2.36E+08	5.75E+07	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
243536002	21-DEC-09 12:00	09-JAN-10 14:08	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.401	0.1624	pCi/g 0.219	N	911.4 3	1.756	IDENTIFIED 10.02	<input type="checkbox"/>	
Americium-243	INT	0.3229	0.02979	pCi/g 0.0748	N	74.84 1	0.8949	IDENTIFIED 8.301	<input type="checkbox"/>	
Annihilation Rad.	HE	0.09413	0.03618	pCi/g 0.04509	N	511 1	1.915	IDENTIFIED 38.18	<input type="checkbox"/>	
Bismuth-211	INT	3.367	0.2719	pCi/g 0.3123	Y	351.9 4	1.241	IDENTIFIED 6.715	<input checked="" type="checkbox"/>	UI
Bismuth-212	NR	1.158	0.2957	pCi/g 0.4885	N	728.4 1	2.243	IDENTIFIED 25	<input type="checkbox"/>	
Bismuth-214	✓	1.015	0.09456	pCi/g 0.1208	0.200	609.5 4	1.522	IDENTIFIED 7.744	<input type="checkbox"/>	
Bromine-77	HE	12.67	16.14	pCi/g 0	N	0 13 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cadmium-109	INT	2.822	0.4426	pCi/g 1.029	Y	87.18 3	1.171	IDENTIFIED 14.97	<input checked="" type="checkbox"/>	UI
Cadmium-115	HE	27.69	18.23	pCi/g 0	N	0 13 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cerium-143		4027	762.4	pCi/g 0	N	0 13 0		SHORT_HLIF 0	<input type="checkbox"/>	

Cesium-134	✓	0.1788	0.03889	pCi/g	0.1045	0.100	0	13	0	FAIL_ABUND	0	UI	Data rejected due to low abundance.
Gross Gamma		8.996	2.03	pCi/g	2.881	N		0					
Iodine-123	HE	8.72E+07	4.41E+08	pCi/g	0	N	0	13	0	SHORT_HLIF	0		
Iodine-133	HE	49010	71700	pCi/g	0	N	0	13	0	SHORT_HLIF	0		
Krypton-85	HE	14.49	4.021	pCi/g	13.76	N	0	13	0	NOT_IDENTI	0		
Lead-212	✓	1.627	0.09719	pCi/g	0.08542	0.100	238.7	4	1.096	IDENTIFIED	3.577		
Lead-214	✓	1.171	0.09939	pCi/g	0.1089	0.100	351.9	4	1.241	IDENTIFIED	6.715		
Lutetium-177	HE	3.876	1.11	pCi/g	3.015	N	0	13	0	FAIL_ABUND	0		
Neptunium-237	NR	0.8098	0.152	pCi/g	0.2977	N	87.18	3	1.171	IDENTIFIED	14.97		
Polonium-212	NR	1.627	0.09719	pCi/g	0.08542	N	238.7	4	1.096	IDENTIFIED	3.577		
Polonium-214	NR	1.171	0.09939	pCi/g	0.1089	N	351.9	4	1.241	IDENTIFIED	6.715		
Polonium-216	NR	1.627	0.09719	pCi/g	0.08542	N	238.7	4	1.096	IDENTIFIED	3.577		
Polonium-218	NR	1.171	0.09939	pCi/g	0.1089	N	351.9	4	1.241	IDENTIFIED	6.715		
Potassium-40	✓	33.39	1.732	pCi/g	0.6259	1.00	1461	1	2.044	IDENTIFIED	2.914		
Promethium-149	HE	65.61	148	pCi/g	0	N	0	13	0	SHORT_HLIF	0		
Radium-224	✓	3.823	0.5783	pCi/g	0.9722	Y	241.6	1	1.504	IDENTIFIED	14.52	✓	UI
Radium-226	✓	1.015	0.09456	pCi/g	0.1208	Y	609.5	4	1.522	IDENTIFIED	7.744		
Radium-228	✓	1.401	0.1624	pCi/g	0.219	0.500	911.4	3	1.756	IDENTIFIED	10.02		
Strontium-85	LA	0.07748	0.02149	pCi/g	0.07357	Y	0	13	0	NOT_IDENTI	0	UI	Data rejected due to low abundance.
Technetium-99m		6.30E+20	0	pCi/g	0	N	0	13	0	SHORT_HLIF	0		
Thallium-208	✓	0.435	0.0499	pCi/g	0.06441	0.080	583.4	1	1.386	IDENTIFIED	10.43		
Thorium-228	NR	1.658	0.09905	pCi/g	0.08706	N	238.7	4	1.096	IDENTIFIED	3.577		
Thorium-230	NR	1.015	0.09456	pCi/g	0.1208	N	609.5	4	1.522	IDENTIFIED	7.744		
Thorium-232	NR	1.401	0.1624	pCi/g	0.219	N	911.4	3	1.756	IDENTIFIED	10.02		
Tin-126	WT	0.2758	0.04325	pCi/g	0.1008	N	87.18	3	1.171	IDENTIFIED	14.97		
Titanium-44	LA	0.3152	0.02434	pCi/g	0.06698	N	0	13	0	FAIL_ABUND	0		
Total Uranium		3.7799	2.02E-06	ug/g	2.3335	N							
Uranium-234	NR	1.015	0.09456	pCi/g	0.1208	N	609.5	4	1.522	IDENTIFIED	7.744		
Zirconium-97	HE	9.46E+07	5.04E+07	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
243S36003	21-DEC-09 12:00	09-JAN-10 14:09	19.1	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.43	0.1679	pCi/g	0.2449	N	911.5	3	1.253	IDENTIFIED	9.986
Americium-243	INT	0.4472	0.04892	pCi/g	0.1064	N	74.53	1	1.074	IDENTIFIED	9.469
Annihilation Rad.		0.1235	0.03633	pCi/g	0.04557	N	511	1	1.857	IDENTIFIED	29.23
Bismuth-211	INT	4.025	0.2756	pCi/g	0.3115	Y	351.9	4	1.285	IDENTIFIED	5.794
Bismuth-212	HE	0.9123	0.2344	pCi/g	0.6734	N	0	9	0	FAIL_ABUND	0
Bismuth-214	✓	1.419	0.09794	pCi/g	0.1002	0.200	609.5	4	1.464	IDENTIFIED	5.758
Cadmium-109	INT	3.313	0.6569	pCi/g	1.376	Y	86.84	3	0.9594	IDENTIFIED	19.01
Cerium-143		6121	911.1	pCi/g	0	N	0	9	0	SHORT_HLIF	0
Cesium-134	LA	0.09894	0.02192	pCi/g	0.08543	0.100	0	9	0	NOT_IDENTI	0
Gross Gamma		8.613	1.423	pCi/g	2.98	N					
Iodine-123	HE	8.54E+08	4.32E+08	pCi/g	0	N	0	9	0	SHORT_HLIF	0
Iodine-135		5.73E+19	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0
Lead-212	✓	1.727	0.08673	pCi/g	0.08977	0.100	238.5	4	1.173	IDENTIFIED	3.291
Lead-214	✓	1.4	0.1026	pCi/g	0.1086	0.100	351.9	4	1.285	IDENTIFIED	5.794
Lutetium-177	HE	3.325	1.083	pCi/g	3.094	N	0	9	0	FAIL_ABUND	0
Neptunium-237	WT	0.9505	0.2125	pCi/g	0.4349	N	86.84	3	0.9594	IDENTIFIED	19.01
Polonium-212	NR	1.727	0.08673	pCi/g	0.08977	N	238.5	4	1.173	IDENTIFIED	3.291
Polonium-214	NR	1.4	0.1026	pCi/g	0.1086	N	351.9	4	1.285	IDENTIFIED	5.794
Polonium-216	NR	1.727	0.08673	pCi/g	0.08977	N	238.5	4	1.173	IDENTIFIED	3.291
Polonium-218	NR	1.4	0.1026	pCi/g	0.1086	N	351.9	4	1.285	IDENTIFIED	5.794
Potassium-40	✓	19.46	1.111	pCi/g	0.5713	1.00	1461	1	1.976	IDENTIFIED	3.746
Radium-224	INT	5.147	0.5968	pCi/g	1.021	Y	241.6	1	1.584	IDENTIFIED	11.18
Radium-226	✓	1.419	0.09794	pCi/g	0.1002	Y	609.5	4	1.464	IDENTIFIED	5.758
Radium-228	✓	1.43	0.1679	pCi/g	0.2449	0.500	911.5	3	1.253	IDENTIFIED	9.986
Thallium-200	HE	2963	2892	pCi/g	0	N	0	9	0	SHORT_HLIF	0

Thallium-208	✓	0.5928	0.04667	pCi/g	0.05613	0.080	583.2	1	1.517	IDENTIFIED	7.12	
Thorium-228	NL	1.76	0.08839	pCi/g	0.0915	N	238.5	4	1.173	IDENTIFIED	3.291	
Thorium-230	NL	1.419	0.09794	pCi/g	0.1002	N	609.5	4	1.464	IDENTIFIED	5.758	
Thorium-232	NL	1.43	0.1679	pCi/g	0.2449	N	911.5	3	1.253	IDENTIFIED	9.986	
Tin-126	INT	0.3237	0.06419	pCi/g	0.1355	N	86.84	3	0.9594	IDENTIFIED	19.01	
Titanium-44	LA	0.1943	0.02598	pCi/g	0.08515	N	0	9	0	NOT_IDENTI	0	
Uranium-234	NL	1.419	0.09794	pCi/g	0.1002	N	609.5	4	1.464	IDENTIFIED	5.758	
Zirconium-97		1.23E+08	4.84E+07	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
243536004	21-DEC-09 12:00	09-JAN-10 14:09	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.551	0.1576	pCi/g	0.1838	N	910.5	3	1.676	IDENTIFIED	8.547	
Americium-243	0.4095	0.03831	pCi/g	0.07846	N	74.68	1	1.223	IDENTIFIED	8.717	
Annihilation Rad.	0.1182	0.02637	pCi/g	0.03986	N	510.4	1	1.081	IDENTIFIED	22.11	
Bismuth-211	4.041	0.2541	pCi/g	0.2832	Y	351.6	4	1.297	IDENTIFIED	5.446	✓VI
Bismuth-212	1.031	0.1689	pCi/g	0.5959	N	0	7	0	FAIL_ABUND	0	
Bismuth-214	1.229	0.09759	pCi/g	0.09803	0.200	608.8	4	1.339	IDENTIFIED	6.787	
Cadmium-109	2.541	0.4942	pCi/g	1.097	Y	86.98	3	1.095	IDENTIFIED	19.07	✓VF
Cadmium-115	9.887	16.37	pCi/g	0	N	0	7	0	SHORT_HLIF	0	
Cerium-143	6309	933.7	pCi/g	0	N	0	7	0	SHORT_HLIF	0	
Gross Gamma	8.271	1.399	pCi/g	3.581	N	0					
Iodine-123	2.50E+08	3.67E+08	pCi/g	0	N	0	7	0	SHORT_HLIF	0	
Iodine-135	4.38E+18	0	pCi/g	0	N	0	7	0	SHORT_HLIF	0	
Lead-212	1.345	0.06944	pCi/g	0.08407	0.100	238.4	4	1.107	IDENTIFIED	3.75	
Lead-214	1.406	0.0957	pCi/g	0.09872	0.100	351.6	4	1.297	IDENTIFIED	5.446	
Neptunium-237	0.7291	0.1605	pCi/g	0.32	N	86.98	3	1.095	IDENTIFIED	19.07	
Polonium-212	1.345	0.06944	pCi/g	0.08407	N	238.4	4	1.107	IDENTIFIED	3.75	
Polonium-214	1.406	0.0957	pCi/g	0.09872	N	351.6	4	1.297	IDENTIFIED	5.446	
Polonium-216	1.345	0.06944	pCi/g	0.08407	N	238.4	4	1.107	IDENTIFIED	3.75	
Polonium-218	1.406	0.0957	pCi/g	0.09872	N	351.6	4	1.297	IDENTIFIED	5.446	
Potassium-40	20.68	1.011	pCi/g	0.4634	1.00	1460	1	2.241	IDENTIFIED	3.343	
Radium-224	3.369	0.4954	pCi/g	0.9567	Y	241.4	1	1.535	IDENTIFIED	14.44	✓VI
Radium-226	1.229	0.09759	pCi/g	0.09803	Y	608.8	4	1.339	IDENTIFIED	6.787	
Radium-228	1.551	0.1576	pCi/g	0.1838	0.500	910.5	3	1.676	IDENTIFIED	8.547	
Thallium-208	0.4796	0.03789	pCi/g	0.05361	0.080	582.8	1	1.296	IDENTIFIED	7.046	
Thorium-228	1.37	0.07077	pCi/g	0.08568	N	238.4	4	1.107	IDENTIFIED	3.75	
Thorium-230	1.229	0.09758	pCi/g	0.09803	N	608.8	4	1.339	IDENTIFIED	6.787	
Thorium-232	1.551	0.1576	pCi/g	0.1838	N	910.5	3	1.676	IDENTIFIED	8.547	
Tin-126	0.2483	0.04828	pCi/g	0.1238	N	86.98	3	1.095	IDENTIFIED	19.07	
Titanium-44	0.3899	0.02607	pCi/g	0.07111	N	0	7	0	FAIL_ABUND	0	
Uranium-234	1.229	0.09758	pCi/g	0.09803	N	608.8	4	1.339	IDENTIFIED	6.787	
Zirconium-97	1.55E+08	4.23E+07	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
243536005	21-DEC-09 12:00	09-JAN-10 14:10	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.474	0.1974	pCi/g	0.3258	N	911.2	3	1.905	IDENTIFIED	12.35	
Americium-243	0.3515	0.03327	pCi/g	0.06212	N	74.75	1	1.219	IDENTIFIED	8.424	
Annihilation Rad.	0.08333	0.04923	pCi/g	0.06438	N	510.8	1	2.154	IDENTIFIED	58.97	
Bismuth-211	3.045	0.28	pCi/g	0.4176	Y	351.8	4	1.274	IDENTIFIED	8.447	✓VF
Bismuth-214	0.8787	0.1084	pCi/g	0.1668	0.200	609.1	4	1.436	IDENTIFIED	11.42	
Bromine-77	20.43	22.77	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Cadmium-109	3.098	0.4529	pCi/g	1.316	Y	87.12	3	0.9469	IDENTIFIED	14.07	✓VF
Cerium-143	4471	873.8	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Gross Gamma	8.822	1.761	pCi/g	3.248	N	0					
Iodine-123	6.01E+07	4.88E+08	pCi/g	0	N	0	10	0	SHORT_HLIF	0	

Iodine-133	HE	79340	97320	pCi/g 0	N	0	10	0	SHORT_HLIF 0
Lead-212	✓	1.442	0.09003	pCi/g 0.104	0.100	238.5	4	1.278	IDENTIFIED 4.283
Lead-214	✓	1.059	0.1013	pCi/g 0.1456	0.100	351.8	4	1.274	IDENTIFIED 8.447
Lutetium-177	HE	4.512	1.123	pCi/g 3.374	N	0	10	0	FAIL_ABUND 0
Neptunium-237	NR	0.8888	0.159	pCi/g 0.3801	N	87.12	3	0.9469	IDENTIFIED 14.07
Polonium-212	NR	1.442	0.09003	pCi/g 0.104	N	238.5	4	1.278	IDENTIFIED 4.283
Polonium-214	NR	1.059	0.1013	pCi/g 0.1456	N	351.8	4	1.274	IDENTIFIED 8.447
Polonium-216	NR	1.442	0.09003	pCi/g 0.104	N	238.5	4	1.278	IDENTIFIED 4.283
Polonium-218	NR	1.059	0.1013	pCi/g 0.1456	N	351.8	4	1.274	IDENTIFIED 8.447
Potassium-40	✓	34.29	1.528	pCi/g 0.804	1.00	1461	1	2.095	IDENTIFIED 3.244
Promethium-149	HE	274.6	188.9	pCi/g 0	N	0	10	0	SHORT_HLIF 0
Radium-224	NR	3.721	0.7676	pCi/g 1.184	Y	241.6	1	1.83	IDENTIFIED 20.25
Radium-226	✓	0.8787	0.1084	pCi/g 0.1668	Y	609.1	4	1.436	IDENTIFIED 11.42
Radium-228	✓	1.474	0.1974	pCi/g 0.3258	0.500	911.2	3	1.905	IDENTIFIED 12.35
Sodium-24	HE	4.65E+07	4.49E+07	pCi/g 0	N	0	10	0	SHORT_HLIF 0
Technetium-99m	✓	1.55E+21	0	pCi/g 0	N	0	10	0	SHORT_HLIF 0
Thallium-208	✓	0.5161	0.0599	pCi/g 0.07439	0.080	582.9	1	1.365	IDENTIFIED 10.84
Thorium-228	NR	1.47	0.09176	pCi/g 0.106	N	238.5	4	1.278	IDENTIFIED 4.283
Thorium-230	NR	0.8787	0.1084	pCi/g 0.1668	N	609.1	4	1.436	IDENTIFIED 11.42
Thorium-232	NR	1.474	0.1974	pCi/g 0.3258	N	911.2	3	1.905	IDENTIFIED 12.35
Tin-126	NR	0.3027	0.04425	pCi/g 0.1364	N	87.12	3	0.9469	IDENTIFIED 14.07
Titanium-44	NR	0.3337	0.02609	pCi/g 0.05922	N	0	10	0	FAIL_ABUND 0
Total Uranium		2.887	1.75E-06	ug/g 1.6151	N		0		
Uranium-234	NR	0.8787	0.1084	pCi/g 0.1668	N	609.1	4	1.436	IDENTIFIED 11.42
Zirconium-97		2.73E+08	6.77E+07	pCi/g 0	N	0	10	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
243536006	21-DEC-09 12:00	09-JAN-10 14:10	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	0.8846	0.1189	pCi/g 0.1736	N	911	3	1.649	IDENTIFIED	12.09	
Americium-243	NR	0.2473	0.03202	pCi/g 0.07177	N	74.85	1	1.536	IDENTIFIED	12.39	
Annihilation Rad.		0.1126	0.03214	pCi/g 0.03594	N	510.7	1	2.51	IDENTIFIED	28.4	
Barium-137m	NR	0.3751	0.03468	pCi/g 0.05268	N	661.4	2	1.452	IDENTIFIED	8.754	
Bismuth-211	NR	2.378	0.1813	pCi/g 0.3013	Y	351.6	4	1.557	IDENTIFIED	6.937	✓
Bismuth-212	NR	1.137	0.1913	pCi/g 0.5541	N	0	14	0	FAIL_ABUND	0	
Bismuth-214	✓	0.7444	0.06808	pCi/g 0.1029	0.200	609.2	4	1.419	IDENTIFIED	8.245	
Bromine-77	HE	5.639	14.36	pCi/g 0	N	0	14	0	SHORT_HLIF	0	
Cadmium-109	NR	1.672	0.3826	pCi/g 1.237	Y	87.21	3	1.489	IDENTIFIED	22.46	✓
Cerium-143		5731	862.8	pCi/g 0	N	0	14	0	SHORT_HLIF	0	
Cesium-135	HE	0.3948	0.1041	pCi/g 0.2105	N	269.6	1	1.658	IDENTIFIED	26.08	
Cesium-137	✓	0.3965	0.03667	pCi/g 0.05569	0.100	661.4	2	1.452	IDENTIFIED	8.754	
Gross Gamma		6.18	1.015	pCi/g 2.503	N	0					
Iodine-123	HE	2.90E+08	4.07E+08	pCi/g 0	N	0	14	0	SHORT_HLIF	0	
Iodine-133	HE	22770	61460	pCi/g 0	N	0	14	0	SHORT_HLIF	0	
Krypton-85	HE	15.05	3.115	pCi/g 11.93	N	0	14	0	NOT_IDENTI	0	
Lead-212	✓	0.8986	0.05453	pCi/g 0.07579	0.100	238.5	4	1.432	IDENTIFIED	4.854	
Lead-214	✓	0.8273	0.06667	pCi/g 0.1009	0.100	351.6	4	1.557	IDENTIFIED	6.937	
Lutetium-177	HE	2.566	0.7421	pCi/g 2.489	N	0	14	0	FAIL_ABUND	0	
Neptunium-237	HE	0.4798	0.1204	pCi/g 0.3437	N	87.21	3	1.489	IDENTIFIED	22.46	
Niobium-95m	NR	0.5136	0.07006	pCi/g 0.2431	N	0	14	0	NOT_IDENTI	0	
Niobium-97		6.23E+06	2.70E+06	pCi/g 0	N	0	14	0	SHORT_HLIF	0	
Polonium-212	NR	0.8986	0.05453	pCi/g 0.07579	N	238.5	4	1.432	IDENTIFIED	4.854	
Polonium-214	NR	0.8273	0.06667	pCi/g 0.1009	N	351.6	4	1.557	IDENTIFIED	6.937	
Polonium-216	NR	0.8986	0.05453	pCi/g 0.07579	N	238.5	4	1.432	IDENTIFIED	4.854	
Polonium-218	NR	0.8273	0.06667	pCi/g 0.1009	N	351.6	4	1.557	IDENTIFIED	6.937	
Potassium-40	✓	22.17	1.095	pCi/g 0.3746	1.00	1461	1	1.914	IDENTIFIED	3.345	
Radium-224	NR	2.829	0.543	pCi/g 0.8619	Y	241.7	1	2.062	IDENTIFIED	18.98	✓
Radium-226	✓	0.7444	0.06808	pCi/g 0.1029	Y	609.2	4	1.419	IDENTIFIED	8.245	

Radium-228	✓	0.8846	0.1189	pCi/g	0.1736	0.500	911	3	1.649	IDENTIFIED	12.09	
Sodium-24	HE	1.00E+07	2.68E+07	pCi/g	0	N	0	14	0	SHORT_HLIF	0	
Strontium-85	✓	0.08046	0.01665	pCi/g	0.06377	Y	0	14	0	NOT_IDENTI	0	UI Data rejected due to low abundance.
Thallium-200	HE	915.2	2573	pCi/g	0	N	0	14	0	SHORT_HLIF	0	
Thallium-208	✓	0.2745	0.03178	pCi/g	0.05166	0.080	582.9	1	1.167	IDENTIFIED	11.06	
Thorium-228	NR	0.9158	0.05557	pCi/g	0.07725	N	238.5	4	1.432	IDENTIFIED	4.854	
Thorium-230	NR	0.7444	0.06808	pCi/g	0.1029	N	609.2	4	1.419	IDENTIFIED	8.245	
Thorium-232	NR	0.8846	0.1189	pCi/g	0.1736	N	911	3	1.649	IDENTIFIED	12.09	
Tin-126	HE	0.1634	0.03738	pCi/g	0.1238	N	87.21	3	1.489	IDENTIFIED	22.46	
Titanium-44	✓	0.2332	0.02125	pCi/g	0.06454	N	0	14	0	FAIL_ABUND	0	
Total Uranium		3.4811	1.90E-06	ug/g	2.4389	N	0					
Uranium-234	NR	0.7444	0.06808	pCi/g	0.1029	N	609.2	4	1.419	IDENTIFIED	8.245	
Zirconium-97		1.91E+08	4.59E+07	pCi/g	0	N	0	14	0	SHORT_HLIF	0	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243536007	21-DEC-09 12:00	09-JAN-10 14:11	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.533	0.187	pCi/g	0.2688	N	911.1	3	1.709	IDENTIFIED 10.86
Americium-243	NR	0.3618	0.06346	pCi/g	0.1355	N	74.03	1	1.581	IDENTIFIED 16.63
Annihilation Rad.	HE	0.08633	0.03878	pCi/g	0.05965	N	510.3	1	1.249	IDENTIFIED 44.83
Bismuth-211	NR	2.774	0.2633	pCi/g	0.4029	Y	351.6	4	1.474	IDENTIFIED 8.846
Bismuth-214	✓	0.7694	0.09081	pCi/g	0.1305	0.200	609.1	4	1.156	IDENTIFIED 11.2
Bromine-77	HE	2.251	19.88	pCi/g	0	N	0	11	0	SHORT_HLIF 0
Cadmium-115	HE	13.55	22.79	pCi/g	0	N	0	11	0	SHORT_HLIF 0
Cerium-143		8045	1509	pCi/g	0	N	0	11	0	SHORT_HLIF 0
Cesium-134	✓	0.1524	0.04695	pCi/g	0.1148	0.100	0	11	0	FAIL_ABUND 0
Gross Gamma		8.841	1.601	pCi/g	3.177	N	0			
Krypton-85	HE	19.3	5.054	pCi/g	16.84	N	0	11	0	NOT_IDENTI 0
Lead-212	✓	1.658	0.09564	pCi/g	0.1145	0.100	238.1	4	1.343	IDENTIFIED 4.021
Lead-214	✓	0.9651	0.09497	pCi/g	0.1404	0.100	351.6	4	1.474	IDENTIFIED 8.846
Lutetium-177	HE	4.107	1.276	pCi/g	3.724	N	0	11	0	FAIL_ABUND 0
Niobium-95m	✓	1.692	0.1338	pCi/g	0.444	N	0	11	0	NOT_IDENTI 0
Polonium-212	NR	1.658	0.09564	pCi/g	0.1145	N	238.1	4	1.343	IDENTIFIED 4.021
Polonium-214	NR	0.9651	0.09497	pCi/g	0.1404	N	351.6	4	1.474	IDENTIFIED 8.846
Polonium-216	NR	1.658	0.09564	pCi/g	0.1145	N	238.1	4	1.343	IDENTIFIED 4.021
Polonium-218	NR	0.9651	0.09497	pCi/g	0.1404	N	351.6	4	1.474	IDENTIFIED 8.846
Potassium-40	✓	36.46	1.744	pCi/g	0.6961	1.00	1461	1	2.021	IDENTIFIED 2.875
Radium-224	NR	4.433	0.8764	pCi/g	1.302	Y	241	1	2.019	IDENTIFIED 19.46
Radium-226	✓	0.7694	0.09081	pCi/g	0.1305	Y	609.1	4	1.156	IDENTIFIED 11.2
Radium-228	✓	1.533	0.187	pCi/g	0.2688	0.500	911.1	3	1.709	IDENTIFIED 10.86
Sodium-24	HE	1.52E+07	3.52E+07	pCi/g	0	N	0	11	0	SHORT_HLIF 0
Strontium-85	✓	0.1032	0.02702	pCi/g	0.09001	Y	0	11	0	NOT_IDENTI 0
Thallium-208	✓	0.4703	0.0568	pCi/g	0.06955	0.080	582.9	1	1.667	IDENTIFIED 11.65
Thorium-228	NR	1.689	0.09748	pCi/g	0.1167	N	238.1	4	1.343	IDENTIFIED 4.021
Thorium-230	NR	0.7693	0.0908	pCi/g	0.1305	N	609.1	4	1.156	IDENTIFIED 11.2
Thorium-232	NR	1.533	0.187	pCi/g	0.2688	N	911.1	3	1.709	IDENTIFIED 10.86
Titanium-44	✓	0.1643	0.03135	pCi/g	0.1005	N	0	11	0	NOT_IDENTI 0
Uranium-234	NR	0.7693	0.0908	pCi/g	0.1305	N	609.1	4	1.156	IDENTIFIED 11.2
Zirconium-97		3.92E+08	6.97E+07	pCi/g	0	N	0	11	0	SHORT_HLIF 0

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243536008	21-DEC-09 12:00	09-JAN-10 14:11	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.239	0.1258	pCi/g	0.15	N	911.3	3	1.738	IDENTIFIED 7.692
Americium-243	NR	0.2944	0.03094	pCi/g	0.07763	N	75.21	1	1.033	IDENTIFIED 9.637
Annihilation Rad.	HE	0.07298	0.0264	pCi/g	0.03283	N	511.1	1	1.542	IDENTIFIED 36.03
Barium-137m	NR	0.1812	0.02525	pCi/g	0.0418	N	661.9	2	1.49	IDENTIFIED 13.4

Bismuth-211	INT	3.111	0.2014	pCi/g	0.2303	Y	352.1	4	1.376	IDENTIFIED	5.622	✓
Bismuth-212	LA	1.072	0.1636	pCi/g	0.47	N	0	13	0	FAIL_ABUND	0	
Bismuth-214	✓	0.8933	0.06635	pCi/g	0.08165	0.200	609.5	4	1.713	IDENTIFIED	5.934	
Cadmium-109	INT	1.766	0.4497	pCi/g	1.303	Y	87.23	3	0.8978	IDENTIFIED	25.04	✓
Cerium-143		2477	515.2	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Cesium-134	LA	0.1144	0.02463	pCi/g	0.06388	0.100	0	13	0	FAIL_ABUND	0	UI Data rejected due to low abundance.
Cesium-137	✓	0.1916	0.0267	pCi/g	0.04418	0.100	661.9	2	1.49	IDENTIFIED	13.4	
Gross Gamma		7.716	1.155	pCi/g	1.927	N	0					
Iodine-123	HE	5.30E+08	3.25E+08	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Krypton-85	LA	24.04	3.175	pCi/g	11.35	N	0	13	0	NOT_IDENTI	0	
Lead-212	✓	1.326	0.06259	pCi/g	0.06905	0.100	238.9	4	1.224	IDENTIFIED	3.088	
Lead-214	✓	1.082	0.07554	pCi/g	0.08025	0.100	352.1	4	1.376	IDENTIFIED	5.622	
Lutetium-177	HE	2.299	0.9135	pCi/g	2.23	N	0	13	0	FAIL_ABUND	0	
Neptunium-237	HE	0.5068	0.1392	pCi/g	0.3442	N	87.23	3	0.8978	IDENTIFIED	25.04	
Niobium-95	HE	0.07517	0.01666	pCi/g	0.05743	N	0	13	0	NOT_IDENTI	0	
Niobium-97	HE	5.93E+05	1.86E+06	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Polonium-212	NR	1.326	0.06259	pCi/g	0.06905	N	238.9	4	1.224	IDENTIFIED	3.088	
Polonium-214	NR	1.082	0.07554	pCi/g	0.08025	N	352.1	4	1.376	IDENTIFIED	5.622	
Polonium-216	NR	1.326	0.06259	pCi/g	0.06905	N	238.9	4	1.224	IDENTIFIED	3.088	
Polonium-218	NR	1.082	0.07554	pCi/g	0.08025	N	352.1	4	1.376	IDENTIFIED	5.622	
Potassium-40	✓	26.4	1.18	pCi/g	0.4594	1.00	1461	1	2.409	IDENTIFIED	2.361	
Promethium-149	HE	150.5	114.3	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Radium-224	INT	3.433	0.5177	pCi/g	0.7846	Y	241.8	1	1.767	IDENTIFIED	14.82	✓
Radium-226	✓	0.8933	0.06635	pCi/g	0.08165	Y	609.5	4	1.713	IDENTIFIED	5.934	
Radium-228	✓	1.239	0.1258	pCi/g	0.15	0.500	911.3	3	1.738	IDENTIFIED	7.692	
Strontium-85	LA	0.1285	0.01697	pCi/g	0.06066	Y	0	13	0	NOT_IDENTI	0	UI Data rejected due to low abundance.
Technetium-99m	✓	9.81E+20	0	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Thallium-208	✓	0.4447	0.03128	pCi/g	0.04043	0.080	583.4	1	1.507	IDENTIFIED	5.84	
Thorium-228	NR	1.351	0.0638	pCi/g	0.07037	N	238.9	4	1.224	IDENTIFIED	3.088	
Thorium-230	NR	0.8933	0.06635	pCi/g	0.08164	N	609.5	4	1.713	IDENTIFIED	5.934	
Thorium-232	NR	1.239	0.1258	pCi/g	0.15	N	911.3	3	1.738	IDENTIFIED	7.692	
Tin-126	HE	0.1726	0.04394	pCi/g	0.125	N	87.23	3	0.8978	IDENTIFIED	25.04	
Titanium-44	LA	0.3131	0.02382	pCi/g	0.07314	N	0	13	0	FAIL_ABUND	0	
Uranium-234	NR	0.8933	0.06635	pCi/g	0.08164	N	609.5	4	1.713	IDENTIFIED	5.934	
Zirconium-97	HE	5.99E+07	3.73E+07	pCi/g	0	N	0	13	0	SHORT_HLIF	0	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
243536009	21-DEC-09 12:00	09-JAN-10 14:12	19.1	SAMPLE	LOAD	1	LANL	LANL01004JGEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.328	0.1523	pCi/g	0.2189	N	911.2	3	2.07	IDENTIFIED	9.357
Americium-243	INT	0.3271	0.033	pCi/g	0.07932	N	74.86	1	1.082	IDENTIFIED	9.226
Annihilation Rad.		0.1371	0.03277	pCi/g	0.04345	N	511.1	1	2.199	IDENTIFIED	23.38
Bismuth-211	INT	3.183	0.2812	pCi/g	0.2873	Y	351.9	4	1.347	IDENTIFIED	6.648
Bismuth-212	LA	1.28	0.2563	pCi/g	0.6051	N	0	12	0	FAIL_ABUND	0
Bismuth-214	✓	0.8725	0.07656	pCi/g	0.109	0.200	609.4	4	1.733	IDENTIFIED	6.573
Bromine-77	HE	2.95	15.62	pCi/g	0	N	0	12	0	SHORT_HLIF	0
Cadmium-109	INT	2.718	0.4549	pCi/g	1.305	Y	87.19	3	1.004	IDENTIFIED	16.06
Cadmium-115	HE	5.765	17.99	pCi/g	0	N	0	12	0	SHORT_HLIF	0
Cerium-143		4835	853.5	pCi/g	0	N	0	12	0	SHORT_HLIF	0
Cesium-135	HE	0.3558	0.1361	pCi/g	0.2566	N	269.7	1	0.7394	IDENTIFIED	37.55
Gross Gamma		9.109	1.482	pCi/g	2.136	N	0				
Iodine-135		4.16E+190		pCi/g	0	N	0	12	0	SHORT_HLIF	0
Krypton-85	LA	29.56	4.407	pCi/g	14.38	N	0	12	0	NOT_IDENTI	0
Lead-212	✓	1.517	0.1121	pCi/g	0.09443	0.100	238.7	4	1.247	IDENTIFIED	3.322
Lead-214	✓	1.107	0.102	pCi/g	0.1001	0.100	351.9	4	1.347	IDENTIFIED	6.648
Lutetium-177	HE	3	1.317	pCi/g	2.962	N	0	12	0	FAIL_ABUND	0
Neptunium-237	INT	0.7798	0.1533	pCi/g	0.3763	N	87.19	3	1.004	IDENTIFIED	16.06
Polonium-212	NR	1.517	0.1121	pCi/g	0.09443	N	238.7	4	1.247	IDENTIFIED	3.322

Zirconium-97 2.06E+08 4.93E+07 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
243536011	21-DEC-09 12:00	09-JAN-10 14:20	19.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.474	0.1805	pCi/g	0.1861	N	910.5	3	1.477	IDENTIFIED	10.63
Americium-243	INT	0.3475	0.03457	pCi/g	0.07105	N	74.66	1	1.049	IDENTIFIED	9.088
Annihilation Rad.		0.1294	0.04249	pCi/g	0.04075	N	510.2	1	1.842	IDENTIFIED	32.41
Bismuth-210	HE	4.442	1.85	pCi/g	3.49	N	46.1	3	0.6817	IDENTIFIED	41.38
Bismuth-211	INT	3.316	0.3065	pCi/g	0.3073	Y	351.6	4	1.115	IDENTIFIED	6.49
Bismuth-212	NR	1.138	0.2531	pCi/g	0.4884	N	726.5	1	1.265	IDENTIFIED	21.57
Bismuth-214	✓	0.9089	0.09251	pCi/g	0.1123	0.200	608.8	4	1.095	IDENTIFIED	8.463
Cerium-143		3865	774.3	pCi/g	0	N	0	9	0	SHORT_HLIF	0
Gross Gamma		9.633	1.493	pCi/g	3.33	N	0				
Iodine-123		1.20E+09	3.94E+08	pCi/g	0	N	0	9	0	SHORT_HLIF	0
Lead-210	HE	4.442	1.85	pCi/g	3.49	N	46.1	3	0.6817	IDENTIFIED	41.38
Lead-212	✓	1.552	0.1292	pCi/g	0.09682	0.100	238.3	4	1.055	IDENTIFIED	4.512
Lead-214	✓	1.153	0.1108	pCi/g	0.1071	0.100	351.6	4	1.115	IDENTIFIED	6.49
Lutetium-177	HE	4.668	1.092	pCi/g	2.916	N	0	9	0	FAIL_ABUND	0
Neptunium-237	HE	0.4682	0.1297	pCi/g	0.4043	N	0	9	0	NOT_IDENTI	0
Niobium-97	HE	5.76E+05	2.57E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0
Polonium-210	HE	4.442	1.848	pCi/g	3.49	N	46.1	3	0.6817	IDENTIFIED	41.38
Polonium-212	NR	1.552	0.1292	pCi/g	0.09682	N	238.3	4	1.055	IDENTIFIED	4.512
Polonium-214	NR	1.153	0.1108	pCi/g	0.1071	N	351.6	4	1.115	IDENTIFIED	6.49
Polonium-216	NR	1.552	0.1292	pCi/g	0.09682	N	238.3	4	1.055	IDENTIFIED	4.512
Polonium-218	NR	1.153	0.1108	pCi/g	0.1071	N	351.6	4	1.115	IDENTIFIED	6.49
Potassium-40	✓	38.93	1.977	pCi/g	0.4758	1.00	1460	1	1.872	IDENTIFIED	2.667
Radium-224	INT	3.069	0.4867	pCi/g	1.157	Y	241.4	1	1.519	IDENTIFIED	14.37
Radium-226	✓	0.9089	0.09251	pCi/g	0.1123	Y	608.8	4	1.095	IDENTIFIED	8.463
Radium-228	✓	1.474	0.1805	pCi/g	0.1861	0.500	910.5	3	1.477	IDENTIFIED	10.63
Technetium-99m	✓	9.26E+20	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0
Thallium-208	✓	0.4907	0.04619	pCi/g	0.0566	0.080	582.7	1	1.201	IDENTIFIED	7.709
Thorium-228	NR	1.582	0.1317	pCi/g	0.09868	N	238.3	4	1.055	IDENTIFIED	4.512
Thorium-230	NR	0.9089	0.09251	pCi/g	0.1123	N	608.8	4	1.095	IDENTIFIED	8.463
Thorium-232	NR	1.474	0.1805	pCi/g	0.1861	N	910.5	3	1.477	IDENTIFIED	10.63
Tin-126	LA	0.2661	0.04279	pCi/g	0.1384	N	0	9	0	FAIL_ABUND	0
Titanium-44	LA	0.3728	0.02702	pCi/g	0.05669	N	0	9	0	FAIL_ABUND	0
Uranium-234	NR	0.9089	0.09251	pCi/g	0.1123	N	608.8	4	1.095	IDENTIFIED	8.463
Zirconium-97		1.65E+08	5.17E+07	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
243547002	22-DEC-09 12:00	09-JAN-10 14:21	18.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	2.848	0.2633	pCi/g	0.2504	N	910.8	3	1.359	IDENTIFIED	7.083
Americium-243	INT	0.7898	0.05921	pCi/g	0.1112	N	74.8	1	0.9782	IDENTIFIED	6.247
Annihilation Rad.		0.3107	0.04695	pCi/g	0.05973	N	510.4	1	1.738	IDENTIFIED	14.34
Bismuth-211	INT	9.065	0.6063	pCi/g	0.3996	Y	351.6	4	1.173	IDENTIFIED	3.863
Bismuth-212	NR	1.74	0.3826	pCi/g	0.6347	N	726.5	1	1.314	IDENTIFIED	21.36
Bismuth-214	✓	2.69	0.186	pCi/g	0.1398	0.200	608.9	4	1.26	IDENTIFIED	4.457
Cadmium-109	INT	7.954	0.7859	pCi/g	1.376	Y	87.2	3	1.143	IDENTIFIED	8.651
Cadmium-115	HE	1.988	16.48	pCi/g	0	N	0	10	0	SHORT_HLIF	0
Cerium-143		6785	1013	pCi/g	0	N	0	10	0	SHORT_HLIF	0
Cesium-134	LA	0.1383	0.03507	pCi/g	0.1198	0.100	0	10	0	NOT_IDENTI	0
Gross Gamma		18.81	2.226	pCi/g	6.221	N	0				
Iodine-123	HE	1.16E+08	1.68E+08	pCi/g	0	N	0	10	0	SHORT_HLIF	0
Lead-212	✓	3.365	0.2158	pCi/g	0.1177	0.100	238.4	4	0.9969	IDENTIFIED	2.476
Lead-214	✓	3.153	0.2264	pCi/g	0.1393	0.100	351.6	4	1.173	IDENTIFIED	3.863

UI Data rejected due to low abundance

Lutetium-177	LA	9.553	1.377	pCi/g	3.892	N	0	10	0	FAIL_ABUND	0	
Neptunium-237	INT	2.286	0.3265	pCi/g	0.4015	N	87.2	3	1.143	IDENTIFIED	8.651	
Niobium-95	HE	0.124	0.03489	pCi/g	0.1126	N	0	10	0	NOT_IDENTI	0	
Niobium-97	HE	82380	1.17E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Polonium-212	NR	3.365	0.2158	pCi/g	0.1177	N	238.4	4	0.9969	IDENTIFIED	2.476	
Polonium-214	NR	3.153	0.2264	pCi/g	0.1393	N	351.6	4	1.173	IDENTIFIED	3.863	
Polonium-216	NR	3.365	0.2158	pCi/g	0.1177	N	238.4	4	0.9969	IDENTIFIED	2.476	
Polonium-218	NR	3.153	0.2264	pCi/g	0.1393	N	351.6	4	1.173	IDENTIFIED	3.863	
Potassium-40	✓	41.62	2.17	pCi/g	0.5269	1.00	1460	1	1.719	IDENTIFIED	2.804	
Radium-224	INT	11.21	1.081	pCi/g	1.34	Y	241.4	1	1.734	IDENTIFIED	7.908	✓
Radium-226	✓	2.69	0.186	pCi/g	0.1398	Y	608.9	4	1.26	IDENTIFIED	4.457	
Radium-228	✓	2.848	0.2633	pCi/g	0.2504	0.500	910.8	3	1.359	IDENTIFIED	7.083	
Technetium-99m		1.95E+18	0	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Thallium-208	✓	1.011	0.07382	pCi/g	0.06912	0.080	582.8	1	1.318	IDENTIFIED	5.364	
Thorium-228	NR	3.426	0.2198	pCi/g	0.1198	N	238.4	4	0.9969	IDENTIFIED	2.476	
Thorium-230	NR	2.69	0.186	pCi/g	0.1398	N	608.9	4	1.26	IDENTIFIED	4.457	
Thorium-232	NR	2.848	0.2633	pCi/g	0.2504	N	910.8	3	1.359	IDENTIFIED	7.083	
Tin-126	INT	0.7784	0.0769	pCi/g	0.1352	N	87.2	3	1.143	IDENTIFIED	8.651	
Titanium-44	LA	0.8389	0.05011	pCi/g	0.09934	N	0	10	0	FAIL_ABUND	0	
Total Uranium		6.9842	3.90E-06	ug/g	4.0117	N						
Uranium-234	NR	2.69	0.186	pCi/g	0.1398	N	608.9	4	1.26	IDENTIFIED	4.457	
Zirconium-97		5.30E+07	2.43E+07	pCi/g	0	N	0	10	0	SHORT_HLIF	0	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
243547003	22-DEC-09 12:00	09-JAN-10 14:21	18.1	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	3.401	0.2832	pCi/g	0.2734	N	911.1	3	1.747	IDENTIFIED	6.111
Americium-243	INT	0.7744	0.06296	pCi/g	0.1389	N	74.9	1	1.239	IDENTIFIED	7.094
Annihilation Rad.		0.3104	0.05271	pCi/g	0.06243	N	510.5	1	1.965	IDENTIFIED	16.72
Bismuth-211	INT	8.193	0.4456	pCi/g	0.487	Y	351.7	4	1.519	IDENTIFIED	4.405
Bismuth-212	LA	1.973	0.3852	pCi/g	1.002	N	0	12	0	FAIL_ABUND	0
Bismuth-214	✓	2.876	0.1712	pCi/g	0.1725	0.200	608.9	4	1.6	IDENTIFIED	4.471
Cadmium-109	INT	8.715	0.9923	pCi/g	1.856	Y	87.25	3	1.635	IDENTIFIED	10.48
Cerium-143		11460	1456	pCi/g	0	N	0	12	0	SHORT_HLIF	0
Cesium-134	LA	0.1807	0.05116	pCi/g	0.1267	0.100	0	12	0	FAIL_ABUND	0
Cesium-135	HE	0.7042	0.1738	pCi/g	0.3847	N	269.7	1	1.455	IDENTIFIED	24.39
Gross Gamma		17.79	2.489	pCi/g	6.973	N					
Krypton-85	HE	20.47	5.438	pCi/g	17.84	N	0	12	0	NOT_IDENTI	0
Lead-212	✓	3.155	0.1425	pCi/g	0.1281	0.100	238.5	4	1.294	IDENTIFIED	2.717
Lead-214	✓	2.85	0.1719	pCi/g	0.1667	0.100	351.7	4	1.519	IDENTIFIED	4.405
Lutetium-177	HE	5.756	1.573	pCi/g	4.1	N	0	12	0	FAIL_ABUND	0
Neptunium-237	LA	2.504	0.3848	pCi/g	0.5413	N	87.25	3	1.635	IDENTIFIED	10.48
Niobium-95m	LA	1.244	0.1321	pCi/g	0.4234	N	0	12	0	NOT_IDENTI	0
Niobium-97	HE	1.45E+06	1.46E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0
Polonium-212	NR	3.155	0.1425	pCi/g	0.1281	N	238.5	4	1.294	IDENTIFIED	2.717
Polonium-214	NR	2.85	0.1719	pCi/g	0.1667	N	351.7	4	1.519	IDENTIFIED	4.405
Polonium-216	NR	3.155	0.1425	pCi/g	0.1281	N	238.5	4	1.294	IDENTIFIED	2.717
Polonium-218	NR	2.85	0.1719	pCi/g	0.1667	N	351.7	4	1.519	IDENTIFIED	4.405
Potassium-40	✓	35.7	1.708	pCi/g	0.7725	1.00	1461	1	2.071	IDENTIFIED	3.004
Radium-224	INT	10.16	1.064	pCi/g	1.457	Y	241.5	1	1.978	IDENTIFIED	10.08
Radium-226	✓	2.876	0.1712	pCi/g	0.1725	Y	608.9	4	1.6	IDENTIFIED	4.471
Radium-228	✓	3.401	0.2832	pCi/g	0.2734	0.500	911.1	3	1.747	IDENTIFIED	6.111
Sodium-24	HE	1.18E+05	1.38E+07	pCi/g	0	N	0	12	0	SHORT_HLIF	0
Strontium-85	LA	0.1003	0.02877	pCi/g	0.09436	Y	0	12	0	NOT_IDENTI	0
Technetium-99m		5.47E+19	0	pCi/g	0	N	0	12	0	SHORT_HLIF	0
Thallium-208	✓	0.932	0.0683	pCi/g	0.09001	0.080	583	1	1.578	IDENTIFIED	6.492
Thorium-228	NR	3.212	0.1451	pCi/g	0.1304	N	238.5	4	1.294	IDENTIFIED	2.717
Thorium-230	NR	2.876	0.1712	pCi/g	0.1725	N	608.9	4	1.6	IDENTIFIED	4.471

Thorium-232	NL	3.401	0.2832	pCi/g	0.2734	N	911.1	3	1.747	IDENTIFIED	6.111	
Thorium-234	✓	3.944	1.391	pCi/g	2.97	2.00	63.39	2	1.432	IDENTIFIED	34.16	
Tin-126	INT	0.8528	0.0971	pCi/g	0.1824	N	87.25	3	1.635	IDENTIFIED	10.48	
Titanium-44	LA	0.8157	0.05389	pCi/g	0.1324	N	0	12	0	FAIL_ABUND	0	
Total Uranium		11.827	4.14E-06	ug/g	4.4218	N			0			
Uranium-234	NL	2.876	0.1712	pCi/g	0.1725	N	608.9	4	1.6	IDENTIFIED	4.471	
Uranium-238	HE	3.944	1.391	pCi/g	2.97	N	63.39	2	1.432	IDENTIFIED	34.16	
Zirconium-97		1.67E+08	2.78E+07	pCi/g	0	N	0	12	0	SHORT_HLIF	0	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
243555001	23-DEC-09 12:00	09-JAN-10 14:22	17.1	SAMPLE	LOAD	1	LANL	LANL01006GEL		N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Americium-243	HE	0.05098	0.02014	pCi/g	0.03772	N	74.89	1	1.068	IDENTIFIED	39.31		
Bismuth-211	INT	0.4974	0.1444	pCi/g	0.2233	Y	352.1	4	1.324	IDENTIFIED	28.64	✓	
Bismuth-214	✓	0.1489	0.07307	pCi/g	0.08631	0.200	609.5	4	1.648	IDENTIFIED	48.77		
Cerium-143	HE	119.7	164.9	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Iodine-123	HE	9.64E+06	3.44E+07	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Iodine-133	HE	15940	13620	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Iodine-135		1.29E+17	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Lead-214	✓	0.173	0.05044	pCi/g	0.07712	0.100	352.1	4	1.324	IDENTIFIED	28.64		
Polonium-214	HE	0.173	0.05044	pCi/g	0.07712	N	352.1	4	1.324	IDENTIFIED	28.64		
Polonium-218	HE	0.173	0.05044	pCi/g	0.07712	N	352.1	4	1.324	IDENTIFIED	28.64		
Potassium-40	✓	1.133	0.405	pCi/g	0.4205	1.00	1462	1	2.422	IDENTIFIED	35.47		
Protactinium-234m	HE	7.294	3.541	pCi/g	5.887	N	0	9	0	FAIL_ABUND	0		
Radium-226	✓	0.1489	0.07307	pCi/g	0.08631	Y	609.5	4	1.648	IDENTIFIED	48.77		
Sodium-24	HE	5.58E+06	3.32E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Technetium-99m		1.56E+19	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Thorium-230	HE	0.1489	0.07307	pCi/g	0.08631	N	609.5	4	1.648	IDENTIFIED	48.77		
Thorium-234	✓	1.773	0.7705	pCi/g	0.8476	2.00	63.39	2	1.104	IDENTIFIED	42.58		
Titanium-44	HE	0.05366	0.01496	pCi/g	0.02747	N	0	9	0	FAIL_ABUND	0		
Total Uranium		5.2891	2.29E-06	ug/g	1.2624	N			0				
Tungsten-181	LA	0.5098	0.1018	pCi/g	0.2771	N	0	9	0	NOT_IDENTI	0		
Uranium-234	HE	0.1489	0.07307	pCi/g	0.08631	N	609.5	4	1.648	IDENTIFIED	48.77		
Uranium-238	HE	1.773	0.7705	pCi/g	0.8476	N	63.39	2	1.104	IDENTIFIED	42.58		

*** = 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		
243555002	23-DEC-09 12:00	09-JAN-10 14:22	17.1	SAMPLE	LOAD	1	LANL	LANL01006GEL		N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	HE ✓	0.3436	0.1093	pCi/g	0.1431	N	911.3	3	1.508	IDENTIFIED	31.24		
Americium-241		0.1138	0.02308	pCi/g	0.03378	0.200	59.58	1	0.9662	IDENTIFIED	19.61		
Americium-243	INT	0.0963	0.01288	pCi/g	0.0206	N	74.83	1	0.7943	IDENTIFIED	12.37		
Arsenic-73	HE	0.225	0.1207	pCi/g	0.1371	N	53.32	1	1.03	IDENTIFIED	53.41		
Barium-137m	HE	0.07693	0.03321	pCi/g	0.0398	N	661.5	2	1.471	IDENTIFIED	42.81		
Bismuth-210	NL	6.131	0.4745	pCi/g	0.3262	N	46.5	3	0.9424	IDENTIFIED	5.772		
Bismuth-211	INT	0.9894	0.1602	pCi/g	0.1949	Y	351.8	4	1.133	IDENTIFIED	15.32	✓	
Bismuth-214	✓	0.3861	0.06707	pCi/g	0.07794	0.200	609.2	4	1.314	IDENTIFIED	16.29		
Cadmium-109	INT	0.8046	0.1956	pCi/g	0.4536	Y	87.22	3	0.8736	IDENTIFIED	23.71	✓	
Cerium-143		647.8	158.4	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Cesium-137	✓	0.88133	0.03511	pCi/g	0.04207	0.100	661.5	2	1.471	IDENTIFIED	42.81		
Gadolinium-153	HE	0.07693	0.03149	pCi/g	0.04698	N	0	12	0	FAIL_ABUND	0		
Gold-195	HE	0.2245	0.09188	pCi/g	0.1444	N	0	12	0	FAIL_ABUND	0		
Gross Gamma	HE	3.03	1.099	pCi/g	1.347	N			0				
Iodine-135		1.28E+17	0	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Krypton-85	LA	22.81	3.24	pCi/g	9.566	N	0	12	0	NOT_IDENTI	0		
Lead-210	NL	6.131	0.4745	pCi/g	0.3262	N	46.5	3	0.9424	IDENTIFIED	5.772		
Lead-212	✓	0.3475	0.03818	pCi/g	0.04809	0.100	238.6	4	1.062	IDENTIFIED	9.4		
Lead-214	✓	0.3442	0.05646	pCi/g	0.06796	0.100	351.8	4	1.133	IDENTIFIED	15.32		

Neptunium-237	HE	0.2314	0.06112	pCi/g	0.1188	N	87.22	3	0.8736	IDENTIFIED	23.71	<input type="checkbox"/>
Niobium-95	HE	0.05447	0.01523	pCi/g	0.05098	N	0	12	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97	HE	27450	3.64E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-210	NE	6.131	0.4588	pCi/g	0.3262	N	46.5	3	0.9424	IDENTIFIED	5.772	<input type="checkbox"/>
Polonium-212	NE	0.3475	0.03818	pCi/g	0.04809	N	238.6	4	1.062	IDENTIFIED	9.4	<input type="checkbox"/>
Polonium-214	NE	0.3442	0.05646	pCi/g	0.06796	N	351.8	4	1.133	IDENTIFIED	15.32	<input type="checkbox"/>
Polonium-216	NE	0.3475	0.03818	pCi/g	0.04809	N	238.6	4	1.062	IDENTIFIED	9.4	<input type="checkbox"/>
Polonium-218	NE	0.3442	0.05646	pCi/g	0.06796	N	351.8	4	1.133	IDENTIFIED	15.32	<input type="checkbox"/>
Potassium-40	✓	7.746	0.5281	pCi/g	0.3512	1.00	1460	1	2.142	IDENTIFIED	5.325	<input type="checkbox"/>
Radium-224	IM	1.338	0.317	pCi/g	0.5481	Y	241.5	1	1.611	IDENTIFIED	23.1	<input checked="" type="checkbox"/>
Radium-226	✓	0.3861	0.06707	pCi/g	0.07794	Y	609.2	4	1.314	IDENTIFIED	16.29	<input type="checkbox"/>
Radium-228	✓	0.3436	0.1093	pCi/g	0.1431	0.500	911.3	3	1.508	IDENTIFIED	31.24	<input type="checkbox"/>
Sodium-24	HE	4.44E+06	3.17E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>
Strontium-85	LA	0.1198	0.01702	pCi/g	0.05024	Y	0	12	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	✓	0.1382	0.03208	pCi/g	0.0378	0.080	583.3	1	1.514	IDENTIFIED	22.52	<input type="checkbox"/>
Thorium-228	NE	0.3536	0.03885	pCi/g	0.04893	N	238.6	4	1.062	IDENTIFIED	9.4	<input type="checkbox"/>
Thorium-230	NE	0.3861	0.06707	pCi/g	0.07794	N	609.2	4	1.314	IDENTIFIED	16.29	<input type="checkbox"/>
Thorium-232	HE	0.3436	0.1093	pCi/g	0.1431	N	911.3	3	1.508	IDENTIFIED	31.24	<input type="checkbox"/>
Thorium-234	✓	2.366	0.3738	pCi/g	0.3479	2.00	63.28	2	0.7708	IDENTIFIED	12.76	<input type="checkbox"/>
Tin-126	HE	0.07881	0.01916	pCi/g	0.04066	N	87.22	3	0.8736	IDENTIFIED	23.71	<input type="checkbox"/>
Titanium-44	LA	0.09055	0.00934	pCi/g	0.01677	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		7.0723	1.11E-06	ug/g	0.51905	N	0					<input type="checkbox"/>
Uranium-231	HE	1.176	0.3631	pCi/g	0.8624	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NE	0.3861	0.06707	pCi/g	0.07794	N	609.2	4	1.314	IDENTIFIED	16.29	<input type="checkbox"/>
Uranium-238	NE	2.366	0.3738	pCi/g	0.3479	N	63.28	2	0.7708	IDENTIFIED	12.76	<input type="checkbox"/>
Zirconium-97		4.57E+07	7.08E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>

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

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202005192		09-JAN-10 17:03	0	MB	LOAD	1		GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Iodine-135	HE	1.15E+07	6.58E+06	pCi/g	0	N	0	2	0	SHORT_HLIF 0
Total Uranium		0.92698	5.40E-07	ug/g	0.591	N	0			
Tungsten-181	HE	0.1402	0.03096	pCi/g	0.1046	N	0	2	0	NOT_IDENTI 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
1202005193	21-DEC-09 12:00	09-JAN-10 17:04	19.2	DUP	LOAD	1		LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NE	1.518	0.1091	pCi/g	0.08558	N	910.5	3	1.555	IDENTIFIED 4.046
Americium-243	INT	0.3292	0.0204	pCi/g	0.0387	N	74.8	1	0.9583	IDENTIFIED 4.605
Annihilation Rad.		0.1448	0.01721	pCi/g	0.01854	N	510.4	1	1.629	IDENTIFIED 10.89
Barium-137m	NE	0.2551	0.01761	pCi/g	0.02758	N	661.2	2	1.307	IDENTIFIED 5.287
Bismuth-211	NE	3.766	0.2304	pCi/g	0.1424	Y	351.6	4	1.179	IDENTIFIED 2.762
Bismuth-212	NE	1.004	0.1175	pCi/g	0.1735	N	726.7	1	1.395	IDENTIFIED 10.47
Bismuth-214	✓	1.222	0.07393	pCi/g	0.04627	0.200	608.8	4	1.332	IDENTIFIED 2.943
Cadmium-109	INT	3.053	0.2475	pCi/g	0.5436	Y	87.19	3	1.04	IDENTIFIED 6.552
Cadmium-115	HE	4.83	8.004	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Cerium-143		5631	771.7	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Cesium-134	LA	0.05253	0.01119	pCi/g	0.03681	0.100	0	13	0	NOT_IDENTI 0
Cesium-137	✓	0.2696	0.01863	pCi/g	0.02915	0.100	661.2	2	1.307	IDENTIFIED 5.287
Curium-243	HE	0.08971	0.02531	pCi/g	0.06581	N	0	13	0	FAIL_ABUND 0
Europium-155	HE	0.1003	0.0283	pCi/g	0.07225	N	105.2	1	1.383	IDENTIFIED 27.89
Gold-195	HE	0.2249	0.05124	pCi/g	0.1613	N	0	13	0	FAIL_ABUND 0
Gross Gamma		8.921	0.9935	pCi/g	2.48	N	0			
Iodine-123	HE	6.49E+07	2.42E+08	pCi/g	0	N	0	13	0	SHORT_HLIF 0
Lead-212	✓	1.477	0.0908	pCi/g	0.03744	0.100	238.4	4	0.9708	IDENTIFIED 1.664
Lead-214	✓	1.31	0.08715	pCi/g	0.04965	0.100	351.6	4	1.179	IDENTIFIED 2.762
Lutetium-177	LA	3.911	0.5451	pCi/g	1.355	N	0	13	0	FAIL_ABUND 0

Neptunium-237	NR	0.8757	0.1149	pCi/g	0.1584	N	87.19	3	1.04	IDENTIFIED	6.552	
Niobium-97	HE	1.62E+06	1.41E+06	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Polonium-212	NR	1.477	0.0908	pCi/g	0.03744	N	238.4	4	0.9708	IDENTIFIED	1.664	
Polonium-214	NR	1.31	0.08715	pCi/g	0.04965	N	351.6	4	1.179	IDENTIFIED	2.762	
Polonium-216	NR	1.477	0.0908	pCi/g	0.03744	N	238.4	4	0.9708	IDENTIFIED	1.664	
Polonium-218	NR	1.31	0.08715	pCi/g	0.04965	N	351.6	4	1.179	IDENTIFIED	2.762	
Potassium-40	✓	21.05	0.9892	pCi/g	0.2146	1.00	1460	1	1.835	IDENTIFIED	1.665	
Radium-224	INT	4.533	0.3646	pCi/g	0.4261	Y	241.4	1	1.724	IDENTIFIED	5.853	✓
Radium-226	✓	1.222	0.07393	pCi/g	0.04627	Y	608.8	4	1.332	IDENTIFIED	2.943	
Radium-228	✓	1.518	0.1091	pCi/g	0.08558	0.500	910.5	3	1.555	IDENTIFIED	4.046	
Sodium-24	HE	2.89E+07	1.65E+07	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Technetium-99m		1.18E+21	0	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Thallium-200	HE	1369	1322	pCi/g	0	N	0	13	0	SHORT_HLIF	0	
Thallium-208	✓	0.479	0.02943	pCi/g	0.02434	0.080	582.8	1	1.267	IDENTIFIED	3.633	
Thorium-228	NR	1.506	0.09257	pCi/g	0.03817	N	238.4	4	0.9708	IDENTIFIED	1.664	
Thorium-230	NR	1.222	0.07393	pCi/g	0.04627	N	608.8	4	1.332	IDENTIFIED	2.943	
Thorium-232	NR	1.518	0.1091	pCi/g	0.08558	N	910.5	3	1.555	IDENTIFIED	4.046	
Thorium-234	✓	1.853	0.426	pCi/g	0.8275	2.00	63.06	2	0.9169	IDENTIFIED	21.28	
Tin-126	NR	0.2982	0.02417	pCi/g	0.05334	N	87.19	3	1.04	IDENTIFIED	6.552	
Titanium-44	✓	0.3314	0.01716	pCi/g	0.02979	N	0	13	0	FAIL_ABUND	0	
Total Uranium		5.5349	1.27E-06	ug/g	1.2321	N						
Uranium-234	NR	1.222	0.07393	pCi/g	0.04627	N	608.8	4	1.332	IDENTIFIED	2.943	
Uranium-238	NR	1.853	0.426	pCi/g	0.8275	N	63.06	2	0.9169	IDENTIFIED	21.28	
Zirconium-97		1.89E+08	2.78E+07	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
1202005194		09-JAN-10 15:25	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	0.6938	0.2546	pCi/g	0.5518	N	910.9	3	1.537 IDENTIFIED 36.29		
Americium-241	✓	12.27	0.9135	pCi/g	0.6926	0.200	59.43	1	0.8576 IDENTIFIED 3.933		
Annihilation Rad.	HE	0.09875	0.05065	pCi/g	0.08222	N	510.4	1	2.086 IDENTIFIED 51.22		
Barium-137m		4.918	0.173	pCi/g	0.1065	N	661.1	2	1.597 IDENTIFIED 2.533		
Bismuth-211		2.707	0.3468	pCi/g	0.5783	Y	351.1	4	1.367 IDENTIFIED 12.36		
Bismuth-214		0.6395	0.1131	pCi/g	0.3019	0.200	0	8	0 FAIL_ABUND 0		
Cadmium-109		29.66	2.25	pCi/g	2.17	Y	87.9	3	1.074 IDENTIFIED 4.629		
Cesium-137	✓	5.199	0.1834	pCi/g	0.1126	0.100	661.1	2	1.597 IDENTIFIED 2.533		
Cobalt-57	✓	0.1979	0.03488	pCi/g	0.06084	N	121.5	1	0.9615 IDENTIFIED 17.28		
Cobalt-60	✓	5.774	0.2617	pCi/g	0.09158	0.100	1331	1	2.034 IDENTIFIED 2.97		
Gross Gamma		24.55	2.781	pCi/g	3.955	N		0			
Lead-212		1.035	0.08935	pCi/g	0.1708	0.100	238.3	4	1.234 IDENTIFIED 7.647		
Lead-214		0.9415	0.1231	pCi/g	0.2016	0.100	351.1	4	1.367 IDENTIFIED 12.36		
Neptunium-237		8.658	1.109	pCi/g	0.6813	N	87.9	3	1.074 IDENTIFIED 4.629		
Niobium-97		519.3	77.48	pCi/g	0	N	0	8	0 SHORT_HLIF 0		
Polonium-212		1.035	0.08935	pCi/g	0.1708	N	238.3	4	1.234 IDENTIFIED 7.647		
Polonium-214		0.9415	0.1231	pCi/g	0.2016	N	351.1	4	1.367 IDENTIFIED 12.36		
Polonium-216		1.035	0.08935	pCi/g	0.1708	N	238.3	4	1.234 IDENTIFIED 7.647		
Polonium-218		0.9415	0.1231	pCi/g	0.2016	N	351.1	4	1.367 IDENTIFIED 12.36		
Potassium-40		1.131	0.2659	pCi/g	0.6756	1.00	1459	1	2.437 IDENTIFIED 23.24		
Radium-226		0.6395	0.1131	pCi/g	0.3019	Y	0	8	0 FAIL_ABUND 0		
Radium-228		0.6938	0.2546	pCi/g	0.5518	0.500	910.9	3	1.537 IDENTIFIED 36.29		
Silver-110m	HE	0.2132	0.04112	pCi/g	0.1488	N	0	8	0 NOT_IDENTI 0		
Technetium-99m	HE	2.55E+07	2.69E+07	pCi/g	0	N	0	8	0 SHORT_HLIF 0		
Thallium-208		0.364	0.06791	pCi/g	0.1051	0.080	582.9	1	1.787 IDENTIFIED 18.39		
Thorium-228		1.042	0.09004	pCi/g	0.1721	N	238.3	4	1.234 IDENTIFIED 7.647		
Thorium-230		0.6395	0.1131	pCi/g	0.3019	N	0	8	0 FAIL_ABUND 0		
Thorium-232	HE	0.6938	0.2546	pCi/g	0.5518	N	910.9	3	1.537 IDENTIFIED 36.29		
Tin-126		2.948	0.2237	pCi/g	0.2174	N	87.9	3	1.074 IDENTIFIED 4.629		
Uranium-234		0.6395	0.1131	pCi/g	0.3019	N	0	8	0 FAIL_ABUND 0		

Zirconium-97	HE	704.2	1103	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>
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*** = Number of isotopes identified with a keyline at this energy.

GEL QUALS

Batch ID: 937074

Report run on: January 11, 2010 2:14 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
243536001-1 09-JAN-2010 14:07	Bismuth-211	UI	UI	Data rejected due to interference.		4.004			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.894			
	Radium-224	UI	UI	Data rejected due to interference.		4.175			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.1021			
243536002-1 09-JAN-2010 14:08	Bismuth-211	UI	UI	Data rejected due to interference.		3.367			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.822			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1788		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		3.823			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.07748			
243536003-1 09-JAN-2010 14:08	Bismuth-211	UI	UI	Data rejected due to interference.		4.025			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.313			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.08894		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		5.147			
243536004-1 09-JAN-2010 14:08	Bismuth-211	UI	UI	Data rejected due to interference.		4.041			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.541			
	Radium-224	UI	UI	Data rejected due to interference.		3.369			
243536005-1 09-JAN-2010 14:10	Bismuth-211	UI	UI	Data rejected due to interference.		3.045			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.098			
	Radium-224	UI	UI	Data rejected due to interference.		3.721			

GEL QUALS

Batch ID: 937074

Report run on: January 11, 2010 2:14 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243536006-1 09-JAN-2010 14:10	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.378			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.672			
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.829			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08046			
243536007-1 09-JAN-2010 14:11	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.774			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1524		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.433			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1032			
243536008-1 09-JAN-2010 14:11	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.111			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.766			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1144		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.433			
243536009-1 09-JAN-2010 14:12	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1285			
	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.183			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.718			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.272			
243536010-1 09-JAN-2010 14:13	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.159			
	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.427			
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.451			

GEL QUALS

Batch ID: 937074

Report run on: January 11, 2010 2:14 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
24354001-1 09-JAN-2010 14:20	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.316			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.069			
243547002-1 09-JAN-2010 14:21	Bismuth-211	UI	UI	UI	Data rejected due to interference.		9.065			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		7.954			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1383		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		11.21			
243547003-1 09-JAN-2010 14:21	Bismuth-211	UI	UI	UI	Data rejected due to interference.		8.193			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		8.715			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1807		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		10.16			
	Strontium-86	UI	UI	UI	Data rejected due to low abundance.		.1083			
24355001-1 09-JAN-2010 14:22	Bismuth-211	UI	UI	UI	Data rejected due to interference.		.4974			
24355002-1 09-JAN-2010 14:22	Bismuth-211	UI	UI	UI	Data rejected due to interference.		.9894			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		.8046			
	Radium-224	UI	UI	UI	Data rejected due to interference.		1.338			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1198			
1202005193-1 DUP 09-JAN-2010 17:04	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.766			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.053			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.05253		.1	.1

GEL QUALS

Batch ID: 937074

Report run on: January 11, 2010 2:14 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
1202005193-1 DUP 09-JAN-2010 17:04	Radium-224	UI	UI	UI	Data rejected due to interference.		4.533			

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Paramname	Result	Uncertainty	Units	DL	RDL
937074	243555001	SAMPLE	09-JAN-10	Sodium-24	5.58E+06	3.32E+06	pCi/g	0	N
				Technetium-99m	1.58E+19	0	pCi/g	0	N
				Thallium-208	0.0413	0.02984	pCi/g	0.02689	0.080
				Thorium-234	1.773	0.7705	pCi/g	0.4241	2.00
				Yttrium-91	19.13	5.538	pCi/g	9.683	N
937074	243555002	SAMPLE	08-JAN-10	Americium-241	0.1138	0.02308	pCi/g	0.0169	0.200
				Bismuth-210	6.131	0.4745	pCi/g	0.1632	N
				Bismuth-211	0.9894	0.1602	pCi/g	0.09749	Y
				Bismuth-214	0.3861	0.06707	pCi/g	0.03899	0.200
				Cadmium-109	0.8046	0.1856	pCi/g	0.2269	Y
				Caesium-137	647.8	158.4	pCi/g	0	N
				Cesium-137	0.08133	0.03511	pCi/g	0.02105	0.100
				Iodine-135	1.28E+17	0	pCi/g	0	N
				Krypton-85	22.81	3.24	pCi/g	4.796	N
				Lead-210	6.131	0.4745	pCi/g	0.1632	N
				Lead-212	0.3475	0.03818	pCi/g	0.02406	0.100
				Lead-214	0.3442	0.05646	pCi/g	0.034	0.100
				Niobium-87	27450	3.64E+05	pCi/g	0	N
				Polonium-210	6.131	0.4588	pCi/g	0.1632	N
				Potassium-40	7.746	0.5281	pCi/g	0.1757	1.00
				Radium-224	1.338	0.317	pCi/g	0.2742	Y
				Radium-228	0.3861	0.06707	pCi/g	0.03899	Y
				Radium-228	0.3436	0.1083	pCi/g	0.07159	0.500
				Sodium-24	4.44E+06	3.17E+06	pCi/g	0	N
				Strontium-85	0.1198	0.01702	pCi/g	0.02513	Y
				Thallium-208	0.1382	0.03208	pCi/g	0.01891	0.080
				Thorium-234	2.366	0.3738	pCi/g	0.1741	2.00
				Zirconium-97	4.57E+07	7.06E+06	pCi/g	0	N
937074	1202005192	MB	09-JAN-10	Bismuth-211	0.07781	0.02353	pCi/g	0.04336	Y
				Cesium-137	0.01197	0.00425	pCi/g	0.00773	0.100
				Iodine-135	1.15E+07	6.58E+06	pCi/g	0	N
				Lead-214	0.02444	0.00821	pCi/g	0.015	0.100
				Radium-228	0.04317	0.01511	pCi/g	0.02798	0.500
				Thorium-234	0.3118	0.1815	pCi/g	0.1986	2.00
937074	1202005193	DUP	09-JAN-10	Bismuth-211	3.766	0.2304	pCi/g	0.07125	Y
				Bismuth-214	1.222	0.07393	pCi/g	0.02315	0.200
				Cadmium-109	3.053	0.2475	pCi/g	0.272	Y

VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:08:27.50

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*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536001.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:07:55.
Sample ID          : G243536001      Sample quantity   : 1.41640E+02 GRAM
Detector name      : GAM06            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.23  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity      : 5.00000
Batch ID           : 937074           Detector SN#     :
Matrix Spike ID    :                  LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	74.62	416	402	1.29	149.24	143	18	5.78E-02	9.8	2.68E+00
2	3	76.87	610	307	0.98	153.74	143	18	8.47E-02	6.2	
3	4	83.62*	87	346	1.27	167.24	164	27	1.20E-02	34.9	1.62E+00
4	4	86.89	203	382	1.25	173.79	164	27	2.82E-02	17.1	
5	4	89.82	143	308	0.94	179.63	164	27	1.99E-02	21.1	
6	4	92.59*	224	338	1.21	185.18	164	27	3.11E-02	16.2	
7	0	129.38	40	343	1.13	258.77	254	8	5.54E-03	82.5	
8	0	185.76*	172	312	1.20	371.52	367	9	2.39E-02	20.7	
9	0	208.93	162	255	1.66	417.87	413	10	2.26E-02	20.0	
10	2	238.40*	1175	153	1.36	476.80	470	22	1.63E-01	3.5	4.07E+00
11	2	241.45	269	205	1.77	482.89	470	22	3.74E-02	13.7	
12	0	269.80	128	256	1.46	539.59	533	14	1.78E-02	27.9	
13	0	295.10	356	164	1.29	590.19	586	8	4.95E-02	8.2	
14	0	300.31	43	154	1.35	600.62	597	8	5.99E-03	52.9	
15	0	327.35	53	164	1.63	654.71	650	10	7.41E-03	46.8	
16	0	338.31*	223	235	1.33	676.62	669	15	3.09E-02	16.8	
17	0	351.58*	634	232	1.35	703.15	695	16	8.81E-02	6.8	
18	0	463.64	78	117	1.68	927.28	920	13	1.09E-02	31.0	
19	0	511.25*	192	103	2.48	1022.50	1014	21	2.67E-02	17.0	
20	0	583.06*	306	136	1.25	1166.12	1159	14	4.25E-02	10.0	
21	0	609.18*	437	75	1.61	1218.35	1213	14	6.07E-02	6.6	
22	0	661.65	179	65	1.56	1323.30	1316	13	2.48E-02	11.9	
23	0	726.99*	94	52	1.75	1453.98	1449	11	1.31E-02	18.5	
24	0	794.71	39	49	0.74	1589.41	1583	13	5.42E-03	40.3	
25	0	911.64*	162	147	1.87	1823.28	1813	20	2.25E-02	20.5	
26	0	969.38*	99	115	1.65	1938.77	1930	17	1.37E-02	28.3	
27	0	1120.84	119	42	2.11	2241.69	2235	19	1.66E-02	16.0	
28	0	1460.68*	811	47	2.24	2921.35	2911	18	1.13E-01	4.0	
29	0	1730.15	19	15	1.93	3460.30	3454	14	2.65E-03	51.2	
30	0	1764.80	72	9	2.46	3529.60	3520	18	1.00E-02	15.3	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:07:55
Sample ID         : G243536001 Sample quantity : 141.64 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA6 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.23 0.0%
Peak Width (FWHM) : 3.00 Confidence level : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio : 8.00
Errors propagated : Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.093E+01	2.187E+00	5.698E-01	3.769E-02	36.724
CD-109	+	88.03	*	2.894E+00	1.028E+00	1.279E+00	1.263E-01	2.262
SN-126		64.28		5.449E-01	5.866E-01	9.918E-01	1.526E-01	0.549
	+	86.94		1.176E+00	6.328E-01	5.263E-01	2.190E-01	2.234
	+	87.57	*	2.828E-01	1.004E-01	1.256E-01	1.237E-02	2.251
BA-137M	+	661.65	*	2.719E-01	6.628E-02	6.590E-02	3.255E-03	4.126
CS-137	+	661.65	*	2.874E-01	7.008E-02	6.966E-02	3.460E-03	4.126
TL-208		277.35		4.231E-01	4.199E-01	6.809E-01	7.252E-02	0.621
	+	510.84		9.796E-01	3.475E-01	2.180E-01	2.188E-02	4.493
	+	583.14	*	4.468E-01	9.394E-02	5.855E-02	3.701E-03	7.630
		860.37		5.830E-01	3.329E-01	6.227E-01	4.762E-02	0.936
BI-211		72.87		9.525E+00	4.065E+00	6.375E+00	5.724E-01	1.494
	+	351.07	*	4.004E+00	5.992E-01	3.360E-01	2.169E-02	11.916
PB-212	+	74.81		2.514E+00	5.929E-01	6.003E-01	7.804E-02	4.189
	+	77.11		2.076E+00	3.187E-01	3.385E-01	3.091E-02	6.132
	+	87.30		1.308E+00	4.826E-01	5.830E-01	8.169E-02	2.243
	+	238.63	*	1.598E+00	1.619E-01	9.544E-02	7.035E-03	16.747
	+	300.09		9.145E-01	9.705E-01	1.390E+00	1.164E-01	0.658
PO-212	+	74.81		2.514E+00	5.929E-01	6.003E-01	7.804E-02	4.189
	+	77.11		2.076E+00	3.187E-01	3.385E-01	3.091E-02	6.132
	+	87.30		1.308E+00	4.826E-01	5.830E-01	8.169E-02	2.243
		115.19		1.210E+00	3.650E+00	6.091E+00	4.020E-01	0.199
	+	238.63	*	1.598E+00	1.619E-01	9.544E-02	7.035E-03	16.747
	+	300.09		9.145E-01	9.705E-01	1.390E+00	1.164E-01	0.658
BI-214	+	609.31	*	1.203E+00	1.809E-01	1.071E-01	7.901E-03	11.231
	+	1120.29		1.732E+00	5.755E-01	4.576E-01	4.180E-02	3.784
	+	1764.49		1.437E+00	4.480E-01	3.538E-01	2.071E-02	4.063
PB-214	+	74.81		4.332E+00	9.912E-01	1.034E+00	1.209E-01	4.189
	+	77.11		3.559E+00	6.100E-01	5.804E-01	6.901E-02	6.132
	+	87.30		2.240E+00	8.143E-01	9.987E-01	1.247E-01	2.243
	+	241.98		2.202E+00	6.312E-01	5.748E-01	4.664E-02	3.831
	+	295.21		1.323E+00	2.446E-01	2.280E-01	1.971E-02	5.801
	+	351.92	*	1.393E+00	2.207E-01	1.171E-01	9.718E-03	11.891
PO-214	+	74.81		4.332E+00	9.912E-01	1.034E+00	1.209E-01	4.189

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.559E+00	6.100E-01	5.804E-01	6.901E-02	6.132
	+	87.30		2.240E+00	8.143E-01	9.987E-01	1.247E-01	2.243
	+	241.98		2.202E+00	6.312E-01	5.748E-01	4.664E-02	3.831
	+	295.21		1.323E+00	2.446E-01	2.280E-01	1.971E-02	5.801
	+	351.92	*	1.393E+00	2.207E-01	1.171E-01	9.718E-03	11.891
	+	74.81		2.514E+00	5.929E-01	6.003E-01	7.804E-02	4.189
	+	77.11		2.076E+00	3.187E-01	3.385E-01	3.091E-02	6.132
	+	87.30		1.308E+00	4.826E-01	5.830E-01	8.169E-02	2.243
	+	238.63	*	1.598E+00	1.619E-01	9.544E-02	7.035E-03	16.747
	+	300.09		9.145E-01	9.705E-01	1.390E+00	1.164E-01	0.658
PO-218	+	74.81		4.332E+00	9.912E-01	1.034E+00	1.209E-01	4.189
	+	77.11		3.559E+00	6.100E-01	5.804E-01	6.901E-02	6.132
	+	87.30		2.240E+00	8.143E-01	9.987E-01	1.247E-01	2.243
	+	241.98		2.202E+00	6.312E-01	5.748E-01	4.664E-02	3.831
	+	295.21		1.323E+00	2.446E-01	2.280E-01	1.971E-02	5.801
	+	351.92	*	1.393E+00	2.207E-01	1.171E-01	9.718E-03	11.891
RA-224	+	240.98	*	4.175E+00	1.174E+00	1.086E+00	6.366E-02	3.844
RA-226	+	609.31	*	1.203E+00	1.809E-01	1.071E-01	7.901E-03	11.231
AC-228	+	1120.29		1.732E+00	5.755E-01	4.576E-01	4.180E-02	3.784
	+	1764.49		1.437E+00	4.480E-01	3.538E-01	2.071E-02	4.063
	+	338.32		1.549E+00	8.179E-01	4.033E-01	1.645E-01	3.842
	+	911.07	*	1.061E+00	4.474E-01	2.321E-01	2.371E-02	4.571
RA-228	+	969.11		1.139E+00	6.952E-01	4.325E-01	9.863E-02	2.634
	+	338.32		1.549E+00	8.179E-01	4.033E-01	1.645E-01	3.842
	+	911.07	*	1.061E+00	4.474E-01	2.321E-01	2.371E-02	4.571
TH-228	+	969.11		1.139E+00	6.952E-01	4.325E-01	9.863E-02	2.634
	+	74.81		2.563E+00	5.555E-01	6.118E-01	5.571E-02	4.189
	+	77.11		2.116E+00	3.248E-01	3.450E-01	3.150E-02	6.132
	+	87.30		1.333E+00	4.735E-01	5.942E-01	5.833E-02	2.243
TH-230	+	238.63	*	1.629E+00	1.650E-01	9.727E-02	7.170E-03	16.747
	+	300.09		9.321E-01	1.129E+00	1.417E+00	8.354E-01	0.658
	+	609.31	*	1.203E+00	1.809E-01	1.071E-01	7.901E-03	11.231
	+	1120.29		1.731E+00	5.755E-01	4.576E-01	4.179E-02	3.784
TH-232	+	1764.49		1.437E+00	4.480E-01	3.538E-01	2.071E-02	4.063
	+	338.32		1.549E+00	5.273E-01	4.033E-01	2.372E-02	3.842
	+	911.07	*	1.061E+00	4.474E-01	2.321E-01	2.371E-02	4.571
U-234	+	969.11		1.139E+00	6.952E-01	4.325E-01	9.863E-02	2.634
	+	609.31	*	1.203E+00	1.809E-01	1.071E-01	7.901E-03	11.231
	+	1120.29		1.731E+00	5.755E-01	4.576E-01	4.179E-02	3.784
NP-237	+	1764.49		1.437E+00	4.480E-01	3.538E-01	2.071E-02	4.063
	+	86.50	*	8.304E-01	3.411E-01	3.737E-01	8.529E-02	2.222
	+	95.87		-8.088E-01	1.137E+00	1.569E+00	3.863E-01	-0.515
AM-243	+	74.67	*	4.076E-01	8.824E-02	9.765E-02	8.820E-03	4.174
	+	86.72		3.114E+01	1.106E+01	1.398E+01	1.365E+00	2.228
	+	117.66		-4.263E+00	3.877E+00	6.074E+00	3.894E-01	-0.702
ANH-511	+	142.18		8.581E+00	1.841E+01	3.067E+01	1.751E+00	0.280
	+	511.00	*	2.116E-01	7.296E-02	4.711E-02	2.634E-03	4.492

---- 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	*	-1.174E-01	3.316E-01	5.309E-01	3.507E-02	-0.221

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	1274.54	*		-1.308E-02	4.605E-02	7.260E-02	4.483E-03	-0.180
NA-24	1368.53	*		-2.488E+01	4.605E-02	Half-Life too short		
AL-26	1129.67			-5.109E-01	1.900E+00	2.560E+00	1.595E-01	-0.200
	1808.65	*		9.479E-04	3.105E-02	5.168E-02	2.968E-03	0.018
TI-44	67.85			3.533E-03	5.305E-02	8.595E-02	7.670E-03	0.041
	78.38	*		2.850E-01	6.012E-02	8.467E-02	7.783E-03	3.367
SC-46	889.25	*		-2.910E-02	4.132E-02	6.396E-02	4.584E-03	-0.455
	+ 1120.51			3.063E-01	9.976E-02	1.363E-01	8.570E-03	2.248
V-48	944.10			-2.673E-01	1.090E+00	1.766E+00	1.261E-01	-0.151
	983.50	*		1.195E-02	7.644E-02	1.288E-01	9.020E-03	0.093
	1312.09			1.828E-02	9.855E-02	1.640E-01	1.023E-02	0.111
CR-51	320.08	*		-2.704E-01	4.539E-01	7.158E-01	4.716E-02	-0.378
MN-52	744.21			7.759E-02	3.922E-01	6.429E-01	3.667E-02	0.121
	848.13			4.647E+00	1.032E+01	1.799E+01	1.212E+00	0.258
	935.52			2.412E-01	4.479E-01	7.788E-01	5.580E-02	0.310
	1246.25			4.317E-01	1.206E+01	1.975E+01	1.205E+00	0.022
	1333.61			5.747E+00	8.217E+00	1.457E+01	9.152E-01	0.394
	1434.06	*		1.510E-02	4.254E-01	6.914E-01	4.351E-02	0.022
MN-54	834.83	*		1.603E-02	3.879E-02	6.706E-02	4.426E-03	0.239
CO-56	846.75	*		1.273E-02	3.770E-02	6.506E-02	4.374E-03	0.196
	977.42			1.538E+00	3.203E+00	5.074E+00	3.565E-01	0.303
	1037.82			2.180E-01	3.353E-01	5.882E-01	4.317E-02	0.371
	1175.09			5.943E-01	2.311E+00	3.885E+00	2.300E-01	0.153
	1238.25			6.517E-02	9.338E-02	1.619E-01	1.041E-02	0.403
	1360.21			8.248E-01	1.082E+00	1.932E+00	1.215E-01	0.427
	1771.40			3.150E-02	2.587E-01	3.801E-01	2.219E-02	0.083
CO-57	122.06	*		1.718E-02	2.727E-02	4.591E-02	2.804E-03	0.374
	136.48			-5.057E-02	2.261E-01	3.672E-01	2.467E-02	-0.138
CO-58	810.76	*		-1.128E-02	3.957E-02	6.449E-02	4.117E-03	-0.175
FE-59	142.65			2.197E+00	2.991E+00	5.033E+00	2.871E-01	0.437
	192.34			-7.727E-01	1.114E+00	1.743E+00	2.040E-01	-0.443
	1099.22	*		1.130E-02	9.161E-02	1.528E-01	1.121E-02	0.074
	1291.56			6.415E-02	1.332E-01	2.290E-01	1.772E-02	0.280
CO-60	1173.22			-4.824E-02	4.637E-02	6.741E-02	3.988E-03	-0.716
	1332.49	*		3.214E-02	3.975E-02	7.124E-02	4.475E-03	0.451
ZN-65	1115.52	*		2.289E-02	9.808E-02	1.434E-01	9.082E-03	0.160
GE-68	1077.35	*		-7.515E-01	1.302E+00	2.012E+00	1.319E-01	-0.374
AS-73	53.44	*		5.139E-01	1.107E+00	1.888E+00	1.727E-01	0.272
AS-74	595.88	*		-1.014E-01	1.113E-01	1.668E-01	8.871E-03	-0.608
	634.78			-9.318E-02	4.070E-01	6.460E-01	3.302E-02	-0.144
SE-75	66.05			-7.558E+00	5.725E+00	9.080E+00	9.719E-01	-0.832
	96.73			-5.491E-01	9.383E-01	1.319E+00	1.784E-01	-0.416
	121.11			-3.948E-03	1.486E-01	2.442E-01	2.311E-02	-0.016
	136.00			-2.216E-03	4.296E-02	7.027E-02	4.141E-03	-0.032
	198.60			-3.292E+00	2.140E+00	3.043E+00	2.124E-01	-1.082
	264.65	*		1.831E-03	5.501E-02	7.684E-02	4.609E-03	0.024
	279.53			6.111E-02	1.153E-01	1.991E-01	1.279E-02	0.307
	303.91			1.556E+00	2.514E+00	3.840E+00	3.704E-01	0.405
	400.65			2.045E-02	2.769E-01	4.619E-01	4.138E-02	0.044

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88		1.980E-03	2.769E-01	Half-Life	too short	
		200.40		-5.172E-05	2.769E-01	Half-Life	too short	
	+	239.00		8.174E-04	2.769E-01	Half-Life	too short	
		249.79		-1.265E-04	2.769E-01	Half-Life	too short	
		281.68		-3.124E-04	2.769E-01	Half-Life	too short	
		297.23		8.655E-04	2.769E-01	Half-Life	too short	
		303.76		3.930E-04	2.769E-01	Half-Life	too short	
		439.47		-1.297E-04	2.769E-01	Half-Life	too short	
		484.57		4.226E-04	2.769E-01	Half-Life	too short	
		520.65	*	-3.678E-07	2.769E-01	Half-Life	too short	
		574.64		-4.532E-04	2.769E-01	Half-Life	too short	
		578.91		1.468E-04	2.769E-01	Half-Life	too short	
		585.48		3.293E-03	2.769E-01	Half-Life	too short	
		755.35		1.944E-04	2.769E-01	Half-Life	too short	
		817.79		1.755E-04	2.769E-01	Half-Life	too short	
SR-82		698.33		-2.868E+01	4.297E+01	6.452E+01	3.401E+00	-0.445
		776.49	*	-2.008E-01	4.242E-01	6.824E-01	4.105E-02	-0.294
		1395.20		-9.994E+00	1.194E+01	1.658E+01	1.044E+00	-0.603
RB-83		520.41	*	-1.169E-02	8.273E-02	1.155E-01	6.434E-03	-0.101
		529.64		1.859E-03	1.053E-01	1.728E-01	9.593E-03	0.011
		552.65		2.957E-02	2.160E-01	3.568E-01	1.958E-02	0.083
RB-84		881.50	*	-1.701E-03	7.592E-02	1.263E-01	8.947E-03	-0.013
KR-85		513.99	*	1.909E+01	8.076E+00	1.502E+01	8.388E-01	1.271
SR-85		513.99	*	1.021E-01	4.317E-02	8.028E-02	4.484E-03	1.271
RB-86		1076.63	*	-1.363E-01	8.980E-01	1.455E+00	9.540E-02	-0.094
Y-88		898.02		-1.179E-02	4.343E-02	7.042E-02	5.148E-03	-0.167
		1836.01	*	-1.955E-02	3.869E-02	5.758E-02	3.273E-03	-0.339
ZR-88		392.90	*	-7.197E-03	3.267E-02	5.354E-02	2.971E-03	-0.134
Y-91		1204.90	*	-1.176E+01	2.213E+01	3.441E+01	2.064E+00	-0.342
NB-94		702.63	*	-5.433E-03	3.637E-02	5.792E-02	3.076E-03	-0.094
		871.10		8.631E-03	3.357E-02	5.738E-02	4.002E-03	0.150
NB-95		765.79	*	4.948E-02	5.046E-02	8.723E-02	5.156E-03	0.567
NB-95M		235.69	*	5.565E-01	1.723E-01	2.784E-01	2.104E-02	1.999
ZR-95		724.18		1.530E-01	1.193E-01	1.900E-01	1.257E-02	0.806
		756.15	*	1.158E-02	7.977E-02	1.299E-01	9.153E-03	0.089
NB-97		657.90	*	3.273E+00	7.977E-02	Half-Life	too short	
		1024.50		2.709E+02	7.977E-02	Half-Life	too short	
ZR-97		254.15		2.599E+02	7.977E-02	Half-Life	too short	
		355.39		2.711E+01	7.977E-02	Half-Life	too short	
		507.63	*	2.362E+02	7.977E-02	Half-Life	too short	
		602.52		-4.337E+02	7.977E-02	Half-Life	too short	
		1021.30		-3.778E+02	7.977E-02	Half-Life	too short	
		1147.95		1.907E+02	7.977E-02	Half-Life	too short	
		1362.66		2.234E+02	7.977E-02	Half-Life	too short	
		1750.46		1.606E+02	7.977E-02	Half-Life	too short	
MO-99		140.51		-9.137E+01	8.172E+01	1.190E+02	3.205E+01	-0.768
		181.06		-1.841E+01	5.841E+01	8.123E+01	1.384E+01	-0.227
		366.43		-7.065E+01	2.451E+02	4.016E+02	2.304E+01	-0.176
		739.58	*	6.785E+00	3.115E+01	5.118E+01	7.023E+00	0.133

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	778.00			-4.103E+01	8.971E+01	1.443E+02	8.703E+00	-0.284
TC-99M	140.51	*		-2.853E+15	8.971E+01	Half-Life	too short	
RH-101	127.23			2.309E-03	4.106E-02	5.930E-02	3.541E-03	0.039
	198.01	*		-2.729E-02	3.771E-02	5.610E-02	3.151E-03	-0.487
	325.23			1.207E-01	2.719E-01	4.093E-01	2.426E-02	0.295
RH-102	418.52			-1.494E-02	3.059E-01	5.053E-01	2.830E-02	-0.030
	475.06	*		-6.805E-03	2.983E-02	4.831E-02	2.720E-03	-0.141
	631.29			2.907E-02	5.438E-02	9.246E-02	4.745E-03	0.314
	697.49			-7.967E-02	8.780E-02	1.289E-01	6.784E-03	-0.618
	766.84			1.438E-01	1.287E-01	2.236E-01	1.324E-02	0.643
	1046.59			-3.755E-02	1.148E-01	1.828E-01	1.228E-02	-0.205
	1112.84			-7.209E-03	2.283E-01	3.340E-01	2.117E-02	-0.022
RU-103	497.08	*		-1.134E-02	4.622E-02	7.454E-02	9.362E-03	-0.152
	610.33			1.393E+01	2.798E+00	3.296E+00	5.016E-01	4.226
RH-106	511.85	+		1.065E+00	3.672E-01	4.681E-01	2.616E-02	2.275
	621.84	*		9.752E-02	3.445E-01	5.723E-01	6.551E-02	0.170
	1050.47			-2.876E-01	2.344E+00	3.817E+00	2.557E-01	-0.075
RU-106	511.85	+		1.065E+00	3.672E-01	4.681E-01	2.616E-02	2.275
	621.84	*		9.752E-02	3.443E-01	5.723E-01	2.968E-02	0.170
	1050.47			-2.876E-01	2.344E+00	3.817E+00	2.557E-01	-0.075
AG-108M	433.93	*		7.465E-03	3.388E-02	5.689E-02	3.489E-03	0.131
	614.37			8.136E-03	4.115E-02	5.925E-02	3.417E-03	0.137
	722.95			2.657E-02	4.506E-02	6.761E-02	4.068E-03	0.393
AG-110M	657.75	*		2.105E-02	4.083E-02	6.078E-02	3.281E-03	0.346
	677.61			-1.171E-01	3.307E-01	5.174E-01	2.837E-02	-0.226
	706.67			-7.369E-02	2.410E-01	3.788E-01	2.168E-02	-0.195
	763.93			-2.452E-01	2.026E-01	2.913E-01	1.819E-02	-0.842
	884.67			1.111E-02	5.085E-02	8.649E-02	6.445E-03	0.128
	937.48			-1.882E-02	1.170E-01	1.913E-01	1.441E-02	-0.098
	1384.27			-1.513E-01	1.913E-01	2.768E-01	1.834E-02	-0.547
IN-111	171.28			-1.726E+00	2.816E+00	4.452E+00	2.420E-01	-0.388
	245.39	*		-1.459E+00	3.499E+00	4.742E+00	2.788E-01	-0.308
IN-113M	391.69	*		-2.942E-02	4.628E-02	7.371E-02	4.386E-03	-0.399
SN-113	391.69	*		-2.942E-02	4.628E-02	7.371E-02	4.386E-03	-0.399
IN-114M	190.27	*		1.692E-01	2.304E-01	3.407E-01	1.896E-02	0.497
CD-115	260.90			-2.144E-04	2.304E-01	Half-Life	too short	
	492.35			9.195E-05	2.304E-01	Half-Life	too short	
	527.90	*		-2.573E-05	2.304E-01	Half-Life	too short	
SN-117M	156.02			-4.080E-01	3.004E+00	4.873E+00	2.692E-01	-0.084
	158.56	*		-6.536E-03	7.224E-02	1.174E-01	6.446E-03	-0.056
SB-122	563.90	*		1.848E+00	6.039E+00	1.009E+01	5.499E-01	0.183
	692.80			6.684E+00	1.299E+02	2.107E+02	1.100E+01	0.032
I-123	159.00	*		4.023E+02	1.299E+02	Half-Life	too short	
	528.96			9.947E+03	1.299E+02	Half-Life	too short	
TE-123M	159.00	*		1.327E-02	3.066E-02	5.087E-02	2.833E-03	0.261
I-124	602.71	*		-1.516E+00	1.604E+00	2.002E+00	1.058E-01	-0.758
	722.78			5.363E+00	9.093E+00	1.364E+01	7.504E-01	0.393
	1325.50			-3.247E+01	6.524E+01	9.838E+01	6.167E+00	-0.330
	1376.25			9.227E+01	6.366E+01	1.205E+02	7.587E+00	0.766

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1509.49		5.364E+00	3.192E+01	5.276E+01	3.301E+00	0.102
		1691.02		-1.179E+00	8.453E+00	1.372E+01	8.252E-01	-0.086
		602.71		-4.775E-02	5.051E-02	6.303E-02	3.333E-03	-0.758
		645.85		2.562E-01	5.558E-01	9.362E-01	5.508E-02	0.274
		709.31		2.174E+00	3.164E+00	5.394E+00	2.899E-01	0.403
		713.82		-1.608E+00	1.836E+00	2.704E+00	2.703E-01	-0.595
		722.78		2.448E-01	4.151E-01	6.228E-01	3.604E-02	0.393
	+	968.20		1.227E+01	7.002E+00	7.998E+00	5.645E-01	1.535
		1045.16		-1.204E+00	2.684E+00	4.221E+00	2.840E-01	-0.285
		1325.50		-1.583E+00	3.180E+00	4.796E+00	3.006E-01	-0.330
		1368.21		-7.015E-01	1.891E+00	2.894E+00	3.508E-01	-0.242
		1436.60		-3.568E+00	4.384E+00	6.184E+00	3.892E-01	-0.577
SB-125		1691.02	*	-1.269E-02	9.101E-02	1.477E-01	9.593E-03	-0.086
		427.89	*	1.365E-01	1.055E-01	1.874E-01	1.099E-02	0.728
	+	463.38		7.793E-01	4.852E-01	6.024E-01	3.989E-02	1.294
		600.56		1.388E-01	1.825E-01	3.146E-01	1.975E-02	0.441
		635.90		-2.841E-01	2.699E-01	3.920E-01	2.434E-02	-0.725
TE-125M		109.28	*	-5.749E+00	1.051E+01	1.696E+01	1.544E+00	-0.339
I-126		388.63		1.740E-01	2.622E-01	4.532E-01	2.525E-02	0.384
		666.33	*	-8.189E-02	2.817E-01	3.791E-01	1.888E-02	-0.216
SB-126		753.82		1.248E+00	1.940E+00	3.298E+00	1.911E-01	0.378
		223.80		-1.180E+00	5.523E+00	8.798E+00	5.082E-01	-0.134
		278.60		3.031E+00	3.199E+00	5.621E+00	3.353E-01	0.539
	+	296.50		1.644E+01	2.862E+00	5.058E+00	3.021E-01	3.251
		414.70		8.825E-02	1.061E-01	1.842E-01	1.030E-02	0.479
		415.30		7.162E+00	8.643E+00	1.502E+01	8.405E-01	0.477
		555.20		-2.508E+00	5.174E+00	8.115E+00	4.446E-01	-0.309
		573.80		-1.716E-01	1.351E+00	2.182E+00	1.181E-01	-0.079
		593.00		3.162E-02	1.189E+00	1.941E+00	1.035E-01	0.016
		656.30		1.951E+00	4.941E+00	7.247E+00	3.605E-01	0.269
SB-127		666.33		-3.453E-02	1.188E-01	1.599E-01	7.962E-03	-0.216
		675.00		-8.374E-01	2.655E+00	4.171E+00	2.110E-01	-0.201
		695.00		1.268E-02	1.037E-01	1.692E-01	8.869E-03	0.075
		697.00		-4.051E-01	3.837E-01	5.548E-01	2.918E-02	-0.730
		720.50	*	-1.359E-01	2.019E-01	2.687E-01	1.472E-02	-0.506
		856.80		-1.388E-01	6.564E-01	1.077E+00	7.351E-02	-0.129
		989.30		-6.251E-01	1.505E+00	2.376E+00	1.659E-01	-0.263
		1034.80		-8.117E+00	1.136E+01	1.731E+01	1.173E+00	-0.469
		1213.00		-9.560E-01	6.457E+00	1.041E+01	6.266E-01	-0.092
		61.10		8.285E+01	1.354E+02	2.307E+02	2.944E+01	0.359
		252.40		-4.055E+00	1.024E+01	1.583E+01	6.637E+00	-0.256
		290.80		-2.320E+01	5.248E+01	7.448E+01	8.012E+00	-0.312
		411.60		-4.806E+00	2.785E+01	4.570E+01	6.991E+00	-0.105
		444.90		-6.267E+00	2.214E+01	3.589E+01	4.310E+00	-0.175
		473.00		3.474E+00	3.493E+00	6.121E+00	7.564E-01	0.568
		543.00		-2.130E+01	3.719E+01	5.796E+01	8.055E+00	-0.367
		603.60		-1.888E+01	2.979E+01	3.856E+01	4.559E+00	-0.490
		685.20	*	3.627E-01	2.883E+00	4.711E+00	4.976E-01	0.077
		698.50		-1.235E+01	3.388E+01	5.213E+01	7.966E+00	-0.237

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		722.20	-1.683E+00	6.915E+01	9.565E+01	1.004E+01	-0.018
		783.80	8.405E+00	7.791E+00	1.405E+01	1.702E+00	0.598
		57.60	-4.007E+00	7.915E+00	1.303E+01	1.200E+00	-0.307
		145.22	2.261E-01	8.010E-01	1.324E+00	7.503E-02	0.171
		172.10	-3.812E-03	1.380E-01	2.240E-01	1.219E-02	-0.017
I-131		202.84	* 2.698E-02	5.827E-02	8.916E-02	5.037E-03	0.303
		374.96	-1.349E-01	2.204E-01	3.528E-01	2.003E-02	-0.382
		80.18	-5.566E+00	1.072E+01	1.087E+01	1.019E+00	-0.512
		284.30	4.513E-01	2.174E+00	3.700E+00	2.459E-01	0.122
		364.48	* 8.833E-02	1.664E-01	2.862E-01	1.853E-02	0.309
TE-132		636.97	-1.315E+00	2.138E+00	3.261E+00	1.932E-01	-0.403
		722.89	6.302E+00	1.069E+01	1.604E+01	9.039E-01	0.393
		49.72	-1.789E+00	6.049E+01	1.017E+02	1.223E+01	-0.018
		111.76	6.044E+00	7.361E+01	1.217E+02	1.315E+01	0.050
		116.30	-2.288E+01	6.631E+01	1.076E+02	1.138E+01	-0.213
BA-133		228.16	* -4.423E-01	1.795E+00	2.851E+00	4.344E-01	-0.155
		53.15	1.777E+00	4.657E+00	7.923E+00	7.233E-01	0.224
		79.62	8.574E-01	2.009E+00	2.204E+00	3.437E-01	0.389
		81.00	-8.860E-02	1.623E-01	1.636E-01	2.663E-02	-0.542
		276.40	4.711E-01	4.521E-01	6.723E-01	8.766E-02	0.701
I-133		302.84	4.515E-02	1.715E-01	2.558E-01	3.004E-02	0.177
		356.01	* 3.324E-02	4.645E-02	7.155E-02	8.271E-03	0.465
	+	383.85	-6.384E-02	3.209E-01	5.274E-01	5.681E-02	-0.121
		510.53	5.159E+01	3.209E-01	Half-Life	too short	
		529.87	* -5.291E-02	3.209E-01	Half-Life	too short	
CS-134		706.58	-3.837E+00	3.209E-01	Half-Life	too short	
		856.28	-9.546E+00	3.209E-01	Half-Life	too short	
		875.33	-2.992E+00	3.209E-01	Half-Life	too short	
		1236.41	1.824E+00	3.209E-01	Half-Life	too short	
		1298.22	-8.629E+00	3.209E-01	Half-Life	too short	
I-135		475.35	-6.851E-01	1.956E+00	3.137E+00	1.766E-01	-0.218
		563.23	1.541E-01	3.860E-01	6.493E-01	3.624E-02	0.237
		569.32	-8.488E-02	2.157E-01	3.366E-01	1.889E-02	-0.252
		604.70	-1.429E-03	4.052E-02	5.645E-02	2.998E-03	-0.025
	+	795.84	* 8.283E-02	6.689E-02	8.827E-02	5.555E-03	0.938
CS-135		801.93	7.632E-02	4.715E-01	7.221E-01	4.574E-02	0.106
		1038.57	1.627E+00	4.109E+00	7.043E+00	4.761E-01	0.231
		1167.94	2.343E+00	2.463E+00	4.418E+00	2.632E-01	0.530
		1365.15	-3.553E-01	1.361E+00	2.128E+00	1.452E-01	-0.167
		268.24	* 2.676E-01	2.054E-01	3.104E-01	2.412E-02	0.862
I-135		288.45	5.235E+14	2.054E-01	Half-Life	too short	
		417.63	9.054E+13	2.054E-01	Half-Life	too short	
		546.56	2.311E+14	2.054E-01	Half-Life	too short	
		836.80	2.265E+14	2.054E-01	Half-Life	too short	
		1038.76	1.692E+14	2.054E-01	Half-Life	too short	
		1124.00	9.199E+14	2.054E-01	Half-Life	too short	
		1131.51	-2.282E+13	2.054E-01	Half-Life	too short	
		1260.41	* 4.934E+13	2.054E-01	Half-Life	too short	
		1457.56	1.201E+16	2.054E-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		1678.03		-1.625E+14	2.054E-01	Half-Life	too short	
		1706.46		-2.143E+14	2.054E-01	Half-Life	too short	
		1791.20		-1.270E+14	2.054E-01	Half-Life	too short	
		66.91		-1.035E+00	1.107E+00	1.776E+00	2.774E-01	-0.582
	+	86.29		4.549E+00	1.673E+00	2.571E+00	3.503E-01	1.769
		153.22		5.264E-01	8.854E-01	1.478E+00	1.040E-01	0.356
		163.89		8.020E-01	1.404E+00	2.340E+00	1.629E-01	0.343
		176.55		7.389E-02	5.032E-01	8.222E-01	5.125E-02	0.090
		273.65		-8.531E-01	7.267E-01	9.177E-01	6.204E-02	-0.930
		340.57		5.321E-01	1.958E-01	3.321E-01	2.073E-02	1.602
CE-139		818.51		4.926E-02	8.831E-02	1.554E-01	1.002E-02	0.317
		1048.07	*	-5.354E-02	1.318E-01	2.078E-01	1.493E-02	-0.258
		1235.34		-6.532E-02	7.367E-01	1.193E+00	1.211E-01	-0.055
		165.85	*	3.531E-02	3.226E-02	5.481E-02	2.964E-03	0.644
	BA-140	162.64		-3.950E-01	1.007E+00	1.614E+00	1.002E-01	-0.245
		304.84		1.399E+00	1.897E+00	2.869E+00	7.841E-01	0.488
		423.70		-1.963E+00	2.662E+00	4.078E+00	1.295E+00	-0.481
		537.32	*	2.468E-01	3.275E-01	5.524E-01	1.794E-01	0.447
	+	328.77		5.670E-01	5.321E-01	7.169E-01	4.732E-02	0.791
		432.53		7.541E-02	2.753E+00	4.563E+00	2.849E-01	0.017
LA-140		487.03		-3.945E-02	1.797E-01	2.908E-01	1.864E-02	-0.136
		751.79		-1.177E+00	2.272E+00	3.465E+00	2.453E-01	-0.340
		815.85		3.207E-02	3.836E-01	6.473E-01	4.979E-02	0.050
		867.82		4.135E-01	1.722E+00	2.937E+00	2.203E-01	0.141
		919.63		-1.292E+00	3.672E+00	4.951E+00	4.723E-01	-0.261
		925.24		-5.818E-01	1.309E+00	2.069E+00	1.621E-01	-0.281
		1596.49	*	-3.888E-02	9.296E-02	1.431E-01	8.830E-03	-0.272
	CE-141	145.44	*	1.287E-02	7.372E-02	1.214E-01	7.161E-03	0.106
	CE-143	57.37		-5.816E-03	7.372E-02	Half-Life	too short	
		231.56		-6.244E-04	7.372E-02	Half-Life	too short	
CE-144		293.26	*	7.184E-03	7.372E-02	Half-Life	too short	
	+	350.59		2.350E-01	7.372E-02	Half-Life	too short	
		490.36		3.687E-03	7.372E-02	Half-Life	too short	
		664.57		2.072E-02	7.372E-02	Half-Life	too short	
		721.93		3.159E-03	7.372E-02	Half-Life	too short	
		80.11		-1.792E+00	3.541E+00	3.595E+00	3.339E-01	-0.499
		133.54	*	1.230E-01	2.516E-01	3.704E-01	5.267E-02	0.332
	PM-144	476.78		-3.832E-02	6.772E-02	1.066E-01	7.251E-03	-0.360
		618.01		-5.084E-03	3.378E-02	5.263E-02	2.944E-03	-0.097
		696.49	*	-2.436E-02	3.795E-02	5.780E-02	3.042E-03	-0.421
PR-144		778.57		-4.487E-01	2.292E+00	3.781E+00	2.285E-01	-0.119
		696.49	*	-1.654E+00	2.577E+00	3.925E+00	2.062E-01	-0.421
		1489.15		-9.499E+00	1.298E+01	1.826E+01	1.145E+00	-0.520
	PM-146	453.90	*	4.852E-02	4.671E-02	8.207E-02	6.985E-03	0.591
		633.02		7.677E-01	1.354E+00	2.265E+00	8.316E-01	0.339
		735.90		-8.826E-02	1.598E-01	2.403E-01	6.691E-02	-0.367
		747.13		-3.226E-02	9.474E-02	1.470E-01	1.834E-02	-0.219
	+	91.11		8.537E-01	3.708E-01	7.454E-01	7.430E-02	1.145
	ND-147	319.41		-2.215E+00	4.510E+00	7.362E+00	4.378E-01	-0.301

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		439.89		2.284E-01	7.985E+00	1.312E+01	7.386E-01	0.017
		531.02	*	3.068E-01	7.065E-01	1.197E+00	1.605E-01	0.256
PM-149		285.90	*	-6.867E-05	7.065E-01	Half-Life too short		
EU-152		121.78		4.246E-02	7.810E-02	1.311E-01	1.029E-02	0.324
		244.69		8.340E-02	3.972E-01	5.641E-01	3.315E-02	0.148
		344.27	*	7.361E-03	1.801E-01	1.769E-01	1.166E-02	0.042
		443.98		2.599E-01	1.051E+00	1.765E+00	9.937E-02	0.147
		778.89		-2.766E-02	2.649E-01	4.407E-01	2.661E-02	-0.063
		867.32		-2.162E-01	8.476E-01	1.380E+00	9.572E-02	-0.157
		964.01		1.701E-01	3.779E-01	5.664E-01	4.007E-02	0.300
		1085.78		4.016E-01	4.191E-01	7.528E-01	4.897E-02	0.533
		1112.02		3.381E-02	3.050E-01	4.848E-01	3.076E-02	0.070
		1407.95		2.203E-01	1.913E-01	3.566E-01	2.245E-02	0.618
GD-153		69.67		7.501E-01	2.062E+00	3.079E+00	2.749E-01	0.244
	+	83.37		2.248E+01	1.585E+01	2.736E+01	2.600E+00	0.822
		97.43	*	5.411E-02	9.159E-02	1.372E-01	1.147E-02	0.394
		103.18		-5.311E-02	1.136E-01	1.844E-01	1.417E-02	-0.288
EU-154		123.07		4.638E-02	5.773E-02	9.455E-02	9.053E-03	0.491
		247.94		3.867E-01	4.370E-01	6.489E-01	6.227E-02	0.596
		591.81		6.428E-01	6.444E-01	1.129E+00	1.073E-01	0.569
		723.30		1.395E-01	1.939E-01	2.947E-01	2.016E-02	0.473
		756.87		5.483E-01	8.359E-01	1.420E+00	1.441E-01	0.386
		873.19		1.467E-02	2.845E-01	4.769E-01	5.323E-02	0.031
		996.32		-2.644E-01	3.962E-01	6.085E-01	1.036E-01	-0.435
		1004.76		-2.091E-01	2.326E-01	3.491E-01	3.644E-02	-0.599
		1274.45	*	-3.645E-02	1.284E-01	2.024E-01	1.937E-02	-0.180
EU-155		48.70		-8.567E-01	3.296E+00	5.499E+00	4.605E-01	-0.156
		60.01		-1.833E+00	5.943E+00	9.857E+00	9.030E-01	-0.186
	+	86.54		3.411E-01	1.212E-01	1.914E-01	1.881E-02	1.782
		105.31	*	-5.475E-02	1.156E-01	1.874E-01	1.422E-02	-0.292
TB-160	+	86.79		9.450E-01	3.357E-01	5.273E-01	5.154E-02	1.792
		197.04		5.937E-02	6.644E-01	1.028E+00	5.768E-02	0.058
		215.65		-3.227E-01	8.640E-01	1.368E+00	7.841E-02	-0.236
		298.57		4.438E-02	2.281E-01	2.305E-01	1.377E-02	0.193
		879.36	*	-3.606E-02	1.424E-01	2.314E-01	1.635E-02	-0.156
		962.29		6.224E-01	6.723E-01	1.063E+00	7.524E-02	0.586
		966.15		9.875E-01	3.373E-01	5.900E-01	4.169E-02	1.674
		1177.93		-1.938E-02	3.843E-01	6.263E-01	3.713E-02	-0.031
		1271.85		-1.565E-01	7.549E-01	1.200E+00	7.390E-02	-0.130
HO-166M		80.57		-2.285E-01	4.482E-01	4.547E-01	4.236E-02	-0.502
	+	184.41		1.224E-01	5.111E-02	7.309E-02	4.038E-03	1.675
		280.46		-2.405E-02	8.798E-02	1.464E-01	8.735E-03	-0.164
		410.95		3.877E-02	2.760E-01	4.615E-01	2.579E-02	0.084
		711.68	*	3.288E-02	6.627E-02	1.114E-01	6.008E-03	0.295
		752.31		4.284E-03	2.940E-01	4.730E-01	2.734E-02	0.009
		810.29		-5.761E-03	5.680E-02	9.422E-02	5.984E-03	-0.061
TM-171		51.35		3.029E+00	4.076E+01	6.872E+01	6.163E+00	0.044
		52.39		4.513E+00	2.066E+01	3.498E+01	3.175E+00	0.129
		59.40		-1.184E+01	3.195E+01	5.288E+01	4.860E+00	-0.224

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LU-176	+	66.72	*	-3.778E+01	3.266E+01	5.233E+01	4.675E+00	-0.722
		88.36		4.580E-01	1.983E-01	3.955E-01	3.879E-02	1.158
		201.83		-1.843E-03	3.072E-02	4.951E-02	2.794E-03	-0.037
		306.84	*	-5.223E-03	2.708E-02	4.386E-02	2.616E-03	-0.119
LU-177	+	401.10		-3.137E-01	7.155E+00	1.185E+01	6.598E-01	-0.026
		112.95		9.425E-01	2.581E+00	4.313E+00	2.923E-01	0.219
		208.36	*	5.886E+00	2.378E+00	3.280E+00	1.865E-01	1.794
		52.97		1.147E+00	2.138E+00	3.654E+00	3.332E-01	0.314
LU-177M	+	54.07		7.829E-01	1.098E+00	1.885E+00	1.729E-01	0.415
		61.30		9.662E-01	1.767E+00	3.007E+00	2.734E-01	0.321
		121.62		2.096E-01	4.066E-01	6.820E-01	4.177E-02	0.307
		147.16		-1.361E-01	7.283E-01	1.182E+00	6.665E-02	-0.115
HF-181	+	171.86		-4.566E-02	5.232E-01	8.473E-01	4.610E-02	-0.054
		218.09		5.300E-01	9.661E-01	1.595E+00	9.160E-02	0.332
		268.79		2.728E+00	1.529E+00	1.635E+00	9.726E-02	1.669
		319.02		-2.010E-02	2.768E-01	4.625E-01	2.749E-02	-0.043
W-181	+	367.43		-4.334E-01	9.912E-01	1.609E+00	9.219E-02	-0.269
		413.65	*	5.080E-02	2.060E-01	3.463E-01	1.937E-02	0.147
		56.28		-1.257E+00	1.247E+00	2.010E+00	1.851E-01	-0.625
		57.53		-4.205E-01	6.622E-01	1.085E+00	9.986E-02	-0.388
TA-182	+	65.20		7.446E-02	1.150E+00	1.927E+00	1.726E-01	0.039
		133.02		7.238E-02	8.314E-02	1.251E-01	7.328E-03	0.579
		136.25		-6.705E-02	5.203E-01	8.482E-01	4.921E-02	-0.079
		345.85		9.396E-02	2.840E-01	3.739E-01	2.187E-02	0.251
RE-183	+	482.03	*	-4.438E-03	4.526E-02	7.394E-02	4.160E-03	-0.060
		56.28		-4.722E-01	4.678E-01	7.543E-01	6.944E-02	-0.626
		57.53		-1.580E-01	2.487E-01	4.075E-01	3.750E-02	-0.388
		65.20	*	2.774E-02	4.284E-01	7.181E-01	6.432E-02	0.039
RE-184	+	67.75		1.247E-02	1.299E-01	2.107E-01	1.880E-02	0.059
		100.10		1.599E-01	1.891E-01	3.219E-01	2.584E-02	0.497
		152.43		2.250E-01	3.724E-01	6.221E-01	3.465E-02	0.362
		222.10		-4.186E-02	3.876E-01	6.209E-01	3.581E-02	-0.067
RE-183	+	1001.68		1.132E+00	2.279E+00	3.784E+00	2.622E-01	0.299
		1121.28		8.385E-01	2.731E-01	3.741E-01	2.351E-02	2.242
		1189.05		-5.380E-02	3.068E-01	4.928E-01	2.936E-02	-0.109
		1221.42	*	-4.085E-02	2.054E-01	3.290E-01	1.987E-02	-0.124
RE-183	+	1230.97		-5.294E-02	4.876E-01	7.879E-01	4.776E-02	-0.067
		57.98		-1.393E-01	2.492E-01	4.095E-01	3.768E-02	-0.340
		59.32		-5.280E-02	1.362E-01	2.253E-01	2.071E-02	-0.234
		67.20		-7.333E-02	2.328E-01	3.851E-01	3.438E-02	-0.190
RE-184	+	162.32	*	-5.171E-02	1.233E-01	1.974E-01	1.075E-02	-0.262
		208.81		3.651E+00	1.475E+00	2.044E+00	1.162E-01	1.787
		291.72		-1.719E-01	1.162E+00	1.686E+00	1.007E-01	-0.102
		57.98		-5.015E-01	8.975E-01	1.475E+00	1.357E-01	-0.340
RE-184	+	59.32		-1.900E-01	4.901E-01	8.106E-01	7.450E-02	-0.234
		67.20		-2.640E-01	8.380E-01	1.386E+00	1.238E-01	-0.190
		161.27		-4.444E-01	3.917E-01	6.065E-01	3.311E-02	-0.733
		216.55		5.865E-03	3.024E-01	4.877E-01	2.797E-02	0.012
		252.85	*	1.133E-02	2.634E-01	4.228E-01	2.497E-02	0.027

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		318.01		8.934E-02	4.855E-01	8.223E-01	4.889E-02	0.109
		792.07		2.439E-01	1.177E+00	1.746E+00	1.077E-01	0.140
		903.28		8.866E-01	1.178E+00	1.857E+00	1.346E-01	0.478
		920.93		4.276E-03	4.453E-01	6.875E-01	4.954E-02	0.006
		59.72		-1.409E-01	3.635E-01	6.012E-01	5.518E-02	-0.234
		61.14		6.869E-02	1.957E-01	3.315E-01	3.016E-02	0.207
		69.30		6.586E-02	3.796E-01	5.624E-01	5.019E-02	0.117
		592.07		2.309E+00	2.628E+00	4.587E+00	2.447E-01	0.503
		646.12	*	4.278E-03	4.717E-02	7.705E-02	3.884E-03	0.056
		717.42		-2.229E-01	9.101E-01	1.430E+00	7.794E-02	-0.156
RE-188		874.81		-3.258E-01	5.798E-01	9.100E-01	6.384E-02	-0.358
		880.27		1.035E-01	7.953E-01	1.343E+00	9.495E-02	0.077
		155.03	*	2.093E-01	1.929E-01	3.276E-01	1.814E-02	0.639
		477.96		-1.324E+00	3.162E+00	5.036E+00	2.835E-01	-0.263
W-188		633.10		1.632E+00	2.784E+00	4.762E+00	2.439E-01	0.343
		63.58		3.462E+01	6.341E+01	1.070E+02	9.627E+00	0.324
		227.08		2.900E+00	1.452E+01	2.358E+01	1.366E+00	0.123
IR-192	+	290.67	*	-4.369E+00	9.229E+00	1.308E+01	7.812E-01	-0.334
		295.96		1.047E+00	1.825E-01	3.226E-01	1.956E-02	3.245
		308.46		-5.334E-02	1.042E-01	1.702E-01	1.026E-02	-0.313
	*	316.51		1.384E-03	3.753E-02	6.309E-02	3.771E-03	0.022
		468.07		-5.747E-02	8.259E-02	1.092E-01	7.142E-03	-0.526
		604.41		-5.844E-02	5.641E-01	7.796E-01	8.647E-02	-0.075
AU-195		612.46		1.423E+00	8.690E-01	1.424E+00	1.018E-01	0.999
		65.12		1.801E-02	1.972E-01	3.309E-01	2.965E-02	0.054
		66.83		-1.198E-01	1.092E-01	1.755E-01	1.567E-02	-0.683
	+	75.70		1.339E+00	2.899E-01	5.306E-01	4.813E-02	2.524
	*	98.88		-1.141E-02	2.501E-01	3.994E-01	3.265E-02	-0.029
TL-200	+	129.76		2.332E+00	3.850E+00	5.378E+00	3.183E-01	0.434
	*	367.94		-2.369E-03	3.850E+00	Half-Life	too short	
		579.30		4.188E-02	3.850E+00	Half-Life	too short	
		828.27		-1.109E-02	3.850E+00	Half-Life	too short	
		1205.75		1.767E-03	3.850E+00	Half-Life	too short	
TL-201		68.90		5.267E+00	1.459E+01	2.179E+01	1.944E+00	0.242
		70.82		7.075E+00	8.082E+00	1.230E+01	1.099E+00	0.575
		80.30		-1.064E+01	2.049E+01	2.077E+01	1.932E+00	-0.512
		135.34		-2.496E+01	6.738E+01	1.088E+02	6.329E+00	-0.229
TL-202	*	167.43		-6.860E+00	1.856E+01	2.973E+01	1.609E+00	-0.231
		68.90		2.401E-01	6.651E-01	9.934E-01	8.864E-02	0.242
		70.82		3.217E-01	3.675E-01	5.593E-01	4.999E-02	0.575
		80.30		-4.837E-01	9.319E-01	9.448E-01	8.787E-02	-0.512
HG-203	*	439.56		-2.071E-02	9.257E-02	1.495E-01	8.409E-03	-0.139
		70.83		1.184E+00	1.355E+00	2.053E+00	2.835E-01	0.577
		72.87		2.010E+00	8.809E-01	1.345E+00	1.808E-01	1.494
BI-207	+	82.60		1.753E+00	1.250E+00	2.154E+00	3.076E-01	0.814
	*	279.20		3.550E-02	4.541E-02	7.924E-02	5.004E-03	0.448
		72.80		4.898E-01	2.345E-01	3.664E-01	3.289E-02	1.337
	+	74.97		7.319E-01	1.584E-01	2.654E-01	2.400E-02	2.758
	+	84.90		2.875E-01	2.028E-01	3.640E-01	3.502E-02	0.790

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

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TL-207		569.67		-3.007E-03	3.273E-02	5.231E-02	2.839E-03	-0.057
		1063.62	*	2.101E-02	5.359E-02	9.181E-02	6.088E-03	0.229
		1770.23		-1.172E-02	5.576E-01	7.848E-01	4.584E-02	-0.015
		81.07		-1.921E-01	3.569E-01	3.610E-01	3.374E-02	-0.532
	+	83.78		1.895E-01	1.337E-01	2.247E-01	2.142E-02	0.843
		94.90		3.817E-01	2.701E-01	4.167E-01	3.628E-02	0.916
		122.32		1.457E+00	1.867E+00	3.159E+00	2.196E-01	0.461
		144.24		9.739E-02	7.241E-01	1.191E+00	8.497E-02	0.082
		154.21		2.758E-01	4.363E-01	7.289E-01	4.961E-02	0.378
	+	269.46		6.278E-01	3.521E-01	3.866E-01	2.400E-02	1.624
		323.87	*	2.117E-01	8.003E-01	1.190E+00	1.970E-01	0.178
	+	338.28		6.470E+00	2.274E+00	2.585E+00	2.734E-01	2.503
		445.03		-7.798E-01	2.518E+00	4.075E+00	4.146E-01	-0.191
		260.50		-1.209E+00	1.040E+01	1.653E+01	9.804E-01	-0.073
PO-209		262.80		-7.219E+00	3.171E+01	4.603E+01	2.732E+00	-0.157
		896.60	*	1.907E+00	7.656E+00	1.304E+01	9.451E-01	0.146
		46.50	*	-9.594E-01	4.928E+00	8.100E+00	6.669E-01	-0.118
BI-210		46.50	*	-9.594E-01	4.928E+00	8.100E+00	6.669E-01	-0.118
PB-210		46.50	*	-9.594E-01	4.928E+00	8.100E+00	5.851E-01	-0.118
PO-210		46.50	*	-9.594E-01	4.928E+00	8.100E+00	5.851E-01	-0.118
PB-211		404.84	*	-5.688E-01	1.078E+00	1.633E+00	1.018E+00	-0.348
		427.08		3.270E+00	3.088E+00	4.183E+00	2.585E+00	0.782
BI-212		831.96		-6.618E-01	1.301E+00	1.965E+00	1.227E+00	-0.337
	+	727.18	*	1.186E+00	4.470E-01	7.145E-01	5.373E-02	1.660
		785.46		2.607E+00	1.829E+00	3.394E+00	2.072E-01	0.768
PO-215		1620.62		6.236E-01	1.218E+00	2.197E+00	1.347E-01	0.284
		81.07		-1.921E-01	3.569E-01	3.610E-01	3.374E-02	-0.532
	+	83.78		1.895E-01	1.337E-01	2.247E-01	2.142E-02	0.843
		94.90		3.817E-01	2.701E-01	4.167E-01	3.628E-02	0.916
		122.32		1.457E+00	1.867E+00	3.159E+00	2.196E-01	0.461
		144.24		9.739E-02	7.241E-01	1.191E+00	8.497E-02	0.082
		154.21		2.758E-01	4.363E-01	7.289E-01	4.961E-02	0.378
	+	269.46		6.278E-01	3.521E-01	3.866E-01	2.400E-02	1.624
		323.87	*	2.117E-01	8.003E-01	1.190E+00	1.970E-01	0.178
	+	338.28		6.470E+00	2.274E+00	2.585E+00	2.734E-01	2.503
RN-219		445.03		-7.798E-01	2.518E+00	4.075E+00	4.146E-01	-0.191
	+	271.23		8.055E-01	4.539E-01	4.749E-01	3.901E-02	1.696
		401.81	*	-2.574E-02	4.406E-01	7.290E-01	9.848E-02	-0.035
RN-220		549.76	*	1.002E+00	2.892E+01	4.740E+01	2.605E+00	0.021
RA-223		81.07		-1.921E-01	3.569E-01	3.610E-01	3.374E-02	-0.532
	+	83.78		1.895E-01	1.337E-01	2.247E-01	2.142E-02	0.843
		94.90		3.817E-01	2.701E-01	4.167E-01	3.628E-02	0.916
		122.32		1.457E+00	1.867E+00	3.159E+00	2.196E-01	0.461
		144.24		9.739E-02	7.241E-01	1.191E+00	8.497E-02	0.082
		154.21		2.758E-01	4.363E-01	7.289E-01	4.961E-02	0.378
	+	269.46		6.278E-01	3.521E-01	3.866E-01	2.400E-02	1.624
		323.87	*	2.117E-01	8.003E-01	1.190E+00	1.970E-01	0.178
	+	338.28		6.470E+00	2.274E+00	2.585E+00	2.734E-01	2.503
		445.03		-7.798E-01	2.518E+00	4.075E+00	4.146E-01	-0.191
AC-227		79.80		1.012E+00	2.546E+00	2.782E+00	6.058E-01	0.364

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		236.00		1.809E+00	3.867E-01	5.947E-01	6.228E-02	3.042
		256.20	*	-2.105E-01	4.208E-01	6.536E-01	9.156E-02	-0.322
		286.10		-3.675E-02	1.613E+00	2.715E+00	3.162E-01	-0.014
	+	299.80		1.695E+00	1.814E+00	2.780E+00	4.545E-01	0.610
		304.40		1.530E+00	2.204E+00	3.366E+00	5.842E-01	0.455
		334.20		-3.186E-01	3.022E+00	4.118E+00	7.562E-01	-0.077
		79.80		1.012E+00	2.547E+00	2.782E+00	6.134E-01	0.364
	+	94.00		7.754E+00	3.040E+00	3.973E+00	8.688E-01	1.952
		236.00		1.809E+00	3.750E-01	5.947E-01	5.401E-02	3.042
		256.20	*	-2.105E-01	4.213E-01	6.536E-01	1.107E-01	-0.322
TH-229		286.10		-3.675E-02	1.614E+00	2.715E+00	2.720E+00	-0.014
	+	299.80		1.695E+00	1.814E+00	2.780E+00	4.545E-01	0.610
		304.40		1.530E+00	2.204E+00	3.366E+00	5.842E-01	0.455
		334.20		-3.186E-01	3.022E+00	4.118E+00	7.562E-01	-0.077
	+	85.43		6.341E-01	2.252E-01	3.704E-01	3.579E-02	1.712
	+	88.47		2.636E-01	1.141E-01	2.256E-01	2.208E-02	1.169
		100.00		1.590E-01	1.915E-01	3.259E-01	2.620E-02	0.488
		193.63	*	-1.442E-01	5.492E-01	8.784E-01	4.908E-02	-0.164
		210.97		1.687E+00	9.362E-01	1.454E+00	8.291E-02	1.160
		283.67	*	-8.599E-02	1.586E+00	2.666E+00	3.693E-01	-0.032
PA-231	+	301.29		6.780E-01	7.207E-01	1.073E+00	1.131E-01	0.632
TH-231		81.07		-1.921E-01	3.569E-01	3.610E-01	3.374E-02	-0.532
	+	83.78		1.895E-01	1.337E-01	2.247E-01	2.142E-02	0.843
		94.90		3.817E-01	2.701E-01	4.167E-01	3.628E-02	0.916
		122.32		1.457E+00	1.867E+00	3.159E+00	2.196E-01	0.461
		144.24		9.739E-02	7.241E-01	1.191E+00	8.497E-02	0.082
		154.21		2.758E-01	4.363E-01	7.289E-01	4.961E-02	0.378
	+	269.46		6.278E-01	3.521E-01	3.866E-01	2.400E-02	1.624
		323.87	*	2.117E-01	8.003E-01	1.190E+00	1.970E-01	0.178
	+	338.28		6.470E+00	2.274E+00	2.585E+00	2.734E-01	2.503
		445.03		-7.798E-01	2.518E+00	4.075E+00	4.146E-01	-0.191
	+	84.21		1.572E+01	1.108E+01	1.890E+01	1.808E+00	0.832
	+	92.29		1.475E+01	4.972E+00	8.006E+00	7.290E-01	1.842
U-231		95.87	*	-1.765E+00	2.449E+00	3.425E+00	2.935E-01	-0.515
		108.00		-6.097E-01	4.208E+00	6.909E+00	4.979E-01	-0.088
PA-233	+	75.28		2.135E+01	5.359E+00	8.275E+00	1.291E+00	2.580
	+	86.59		5.536E+00	2.417E+00	3.101E+00	8.436E-01	1.785
	+	300.12		4.725E-01	5.039E-01	7.637E-01	1.032E-01	0.619
		311.98	*	-4.439E-02	6.696E-02	1.083E-01	6.831E-03	-0.410
		340.50		2.257E+00	9.257E-01	1.330E+00	3.058E-01	1.696
		398.62		-4.276E-01	2.239E+00	3.671E+00	9.473E-01	-0.116
		415.76		6.684E-01	1.858E+00	3.138E+00	6.443E-01	0.213
	PA-234	63.00		3.662E-01	1.834E+00	3.064E+00	4.820E-01	0.120
		94.67		4.467E-01	2.011E-01	3.114E-01	3.888E-02	1.434
		98.44		1.202E-02	1.046E-01	1.609E-01	8.965E-02	0.075
		99.86		3.920E-01	4.844E-01	8.240E-01	6.638E-02	0.476
		111.00		7.911E-02	1.943E-01	3.250E-01	3.561E-02	0.243
		131.20		3.150E-02	1.292E-01	1.882E-01	1.109E-02	0.167
		152.70		2.330E-01	3.532E-01	5.884E-01	9.253E-02	0.396

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	186.00		4.408E+00	2.266E+00	2.671E+00	8.148E-01	1.650
		226.40		5.071E-02	4.371E-01	7.071E-01	8.171E-02	0.072
		227.20		7.437E-02	4.706E-01	7.627E-01	4.419E-02	0.098
		248.90		5.805E-01	1.039E+00	1.500E+00	3.228E-01	0.387
	+	293.70		6.349E+00	1.459E+00	1.891E+00	3.054E-01	3.356
		369.80		4.049E-01	9.035E-01	1.539E+00	3.201E-01	0.263
		568.70		-7.595E-01	1.090E+00	1.656E+00	8.996E-02	-0.459
		569.50		-2.668E-02	2.904E-01	4.641E-01	2.519E-02	-0.057
		574.00		-6.175E-01	1.581E+00	2.497E+00	1.351E-01	-0.247
		699.00		2.660E-02	7.665E-01	1.224E+00	2.181E-01	0.022
		706.10		-6.312E-01	1.202E+00	1.800E+00	7.932E-01	-0.351
		733.00		4.402E-01	4.374E-01	6.746E-01	1.431E-01	0.652
		742.81		2.633E-01	1.354E+00	2.201E+00	1.473E+00	0.120
		796.30		7.965E-01	1.109E+00	1.708E+00	4.506E-01	0.466
		805.60		6.953E-01	1.058E+00	1.834E+00	5.518E-01	0.379
		819.60		3.872E-01	1.205E+00	2.064E+00	7.758E-01	0.188
		826.30		4.379E-01	8.072E-01	1.380E+00	6.123E-01	0.317
		831.60		-4.622E-01	6.519E-01	9.968E-01	2.922E-01	-0.464
		876.40		-4.695E-01	9.355E-01	1.256E+00	1.289E+00	-0.374
		880.51		-1.536E-03	2.834E-01	4.723E-01	3.341E-02	-0.003
		883.24		1.222E-01	3.003E-01	5.008E-01	3.357E-01	0.244
		899.00		-4.055E-01	8.624E-01	1.339E+00	5.821E-01	-0.303
		925.00		-2.237E-01	1.087E+00	1.767E+00	1.271E-01	-0.127
		926.50		-9.412E-02	1.623E-01	2.495E-01	6.193E-02	-0.377
		946.00	*	5.477E-02	3.064E-01	5.173E-01	9.378E-02	0.106
		949.00		1.039E-01	4.454E-01	7.562E-01	5.387E-02	0.137
		980.50		-2.168E-01	7.197E-01	1.154E+00	8.092E-02	-0.188
		1394.10		-6.789E-01	1.196E+00	1.612E+00	1.045E+00	-0.421
PA-234M		766.42		1.738E+01	1.572E+01	2.313E+01	1.165E+01	0.751
		1001.03	*	4.797E+00	4.705E+00	8.496E+00	7.262E-01	0.565
TH-234		63.29	*	4.642E-01	1.549E+00	2.592E+00	4.713E-01	0.179
U-235	+	92.38		2.007E+00	7.479E-01	1.087E+00	1.991E-01	1.845
	+	89.95		2.646E+00	1.388E+00	2.022E+00	6.292E-01	1.309
	+	93.35		2.412E+00	1.037E+00	1.289E+00	3.625E-01	1.872
		105.00		-3.992E-01	1.133E+00	1.837E+00	5.426E-01	-0.217
NP-236		143.76	*	7.217E-02	2.254E-01	3.728E-01	6.063E-02	0.194
		163.35		2.797E-01	5.063E-01	8.395E-01	1.500E-01	0.333
	+	185.71		1.633E-01	6.815E-02	9.893E-02	5.474E-03	1.650
		205.31		-1.423E-01	6.318E-01	8.779E-01	1.575E-01	-0.162
U-238		94.67		3.414E-01	1.497E-01	2.365E-01	2.067E-02	1.444
		98.44		9.108E-03	7.888E-02	1.216E-01	1.001E-02	0.075
		111.00		5.984E-02	1.469E-01	2.459E-01	1.707E-02	0.243
		160.31	*	-2.402E-02	8.606E-02	1.386E-01	7.586E-03	-0.173
NP-239		63.29	*	4.642E-01	1.549E+00	2.592E+00	4.713E-01	0.179
	+	92.38		2.007E+00	6.765E-01	1.087E+00	9.885E-02	1.845
U-239		99.55		3.745E-02	1.648E-01	2.749E-01	2.225E-02	0.136
		117.00	*	-1.328E-01	1.961E-01	3.137E-01	2.027E-02	-0.423
	+	209.75		2.770E+00	1.119E+00	1.537E+00	8.751E-02	1.802
		228.18		-6.260E-02	2.521E-01	4.005E-01	2.323E-02	-0.156

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		277.60		1.774E-01	1.961E-01	3.277E-01	1.955E-02	0.541
		334.30		-1.960E-01	1.711E+00	2.330E+00	1.374E-01	-0.084
AM-241		59.54	*	-1.002E-01	1.866E-01	3.070E-01	3.001E-02	-0.326
CM-243		99.55		3.854E-02	1.696E-01	2.829E-01	2.290E-02	0.136
		103.76	*	6.497E-02	1.016E-01	1.717E-01	1.309E-02	0.378
		117.00		-1.366E-01	2.018E-01	3.228E-01	2.086E-02	-0.423
	+	209.75		2.731E+00	1.103E+00	1.516E+00	8.629E-02	1.802
		228.18		-6.327E-02	2.548E-01	4.048E-01	2.348E-02	-0.156
		277.60		1.789E-01	1.978E-01	3.305E-01	1.971E-02	0.541
AM-246		798.80		-1.090E-01	1.703E-01	2.263E-01	1.411E-02	-0.482
		1036.00		-1.383E-02	2.991E-01	4.915E-01	3.329E-02	-0.028
		1062.04		1.057E-01	2.280E-01	3.937E-01	2.614E-02	0.268
		1078.86	*	-3.110E-02	1.451E-01	2.335E-01	1.528E-02	-0.133
CM-247		278.00		5.207E-01	7.978E-01	1.353E+00	8.070E-02	0.385
		287.40		3.824E-01	1.286E+00	2.197E+00	1.312E-01	0.174
		402.60	*	4.024E-03	3.902E-02	6.520E-02	3.633E-03	0.062
CF-249		252.85		4.183E-02	9.725E-01	1.561E+00	9.219E-02	0.027
		333.44		-3.251E-02	2.659E-01	3.011E-01	1.776E-02	-0.108
		387.95	*	3.732E-02	4.172E-02	7.301E-02	4.072E-03	0.511
CF-251		176.60	*	2.207E-02	1.408E-01	2.302E-01	1.260E-02	0.096
		227.00		6.965E-02	4.191E-01	6.795E-01	3.937E-02	0.103
		285.00		-9.628E-02	1.834E+00	3.083E+00	1.841E-01	-0.031

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536001      *
* Acquisition date   : 9-JAN-2010 14:07:55 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 02:00:01.23             Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536001              Analyst initials: MXR1        *
* Batch Number       : 937074                  Sample Quantity : 1.4164E+02 GRAM *
* Recovery           : 1.00000                 Carrier Weight : 0.00000      *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                                         *
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope :                      *
* MSD DPM             : 0.000                  MSD Isotope :                  *
* LCS DPM             : 0.000                  LCS Isotope :                  *
* LCSD DPM            : 0.000                  LCSD Isotope :                  *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.093E+01	2.143E+00	5.722E-01	0.000E+00
CD-109	2.894E+00	1.007E+00	1.362E+00	0.000E+00
SN-126	2.828E-01	9.843E-02	1.338E-01	0.000E+00
BA-137M	2.719E-01	6.495E-02	6.733E-02	0.000E+00
CS-137	2.874E-01	6.868E-02	7.117E-02	0.000E+00
TL-208	4.468E-01	9.206E-02	5.998E-02	0.000E+00
BI-211	4.004E+00	5.872E-01	3.479E-01	0.000E+00
PB-212	1.598E+00	1.586E-01	9.960E-02	0.000E+00
PO-212	1.598E+00	1.586E-01	9.960E-02	0.000E+00
BI-214	1.203E+00	1.773E-01	1.096E-01	0.000E+00
PB-214	1.393E+00	2.163E-01	1.213E-01	0.000E+00
PO-214	1.393E+00	2.163E-01	1.213E-01	0.000E+00
PO-216	1.598E+00	1.586E-01	9.960E-02	0.000E+00
PO-218	1.393E+00	2.163E-01	1.213E-01	0.000E+00
RA-224	4.175E+00	1.150E+00	1.133E+00	0.000E+00
RA-226	1.203E+00	1.773E-01	1.096E-01	0.000E+00
AC-228	1.061E+00	4.385E-01	2.355E-01	0.000E+00
RA-228	1.061E+00	4.385E-01	2.355E-01	0.000E+00
TH-228	1.629E+00	1.617E-01	1.015E-01	0.000E+00
TH-230	1.203E+00	1.773E-01	1.096E-01	0.000E+00
TH-232	1.061E+00	4.385E-01	2.355E-01	0.000E+00
U-234	1.203E+00	1.773E-01	1.096E-01	0.000E+00
NP-237	8.304E-01	3.343E-01	3.981E-01	0.000E+00
AM-243	4.076E-01	8.648E-02	1.043E-01	0.000E+00
ANH-511	2.116E-01	7.151E-02	4.839E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.174E-01	3.250E-01	5.462E-01	0.000E+00 NOT IDENT.
NA-22	-1.308E-02	4.513E-02	7.313E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	6.087E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	9.479E-04	3.043E-02	5.165E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.892E-02	9.035E-02	0.000E+00	NOT IDENT.
SC-46	-2.910E-02	4.049E-02	6.493E-02	0.000E+00	FAIL ABUN
V-48	1.195E-02	7.491E-02	1.305E-01	0.000E+00	NOT IDENT.
CR-51	-2.704E-01	4.448E-01	7.426E-01	0.000E+00	NOT IDENT.
MN-52	1.510E-02	4.169E-01	6.946E-01	0.000E+00	NOT IDENT.
MN-54	1.603E-02	3.802E-02	6.817E-02	0.000E+00	NOT IDENT.
CO-56	1.273E-02	3.695E-02	6.612E-02	0.000E+00	NOT IDENT.
CO-57	1.718E-02	2.672E-02	4.857E-02	0.000E+00	NOT IDENT.
CO-58	-1.128E-02	3.878E-02	6.560E-02	0.000E+00	NOT IDENT.
FE-59	1.130E-02	8.978E-02	1.544E-01	0.000E+00	NOT IDENT.
CO-60	3.214E-02	3.896E-02	7.169E-02	0.000E+00	NOT IDENT.
ZN-65	2.289E-02	9.612E-02	1.449E-01	0.000E+00	NOT IDENT.
GE-68	-7.515E-01	1.276E+00	2.034E+00	0.000E+00	NOT IDENT.
AS-73	5.139E-01	1.085E+00	2.030E+00	0.000E+00	NOT IDENT.
AS-74	-1.014E-01	1.091E-01	1.708E-01	0.000E+00	NOT IDENT.
SE-75	1.831E-03	5.391E-02	8.002E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.817E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-2.008E-01	4.157E-01	6.948E-01	0.000E+00	NOT IDENT.
RB-83	-1.169E-02	8.108E-02	1.186E-01	0.000E+00	NOT IDENT.
RB-84	-1.701E-03	7.440E-02	1.282E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.914E+00	1.543E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.231E-02	8.247E-02	0.000E+00	NOT IDENT.
RB-86	-1.363E-01	8.801E-01	1.471E+00	0.000E+00	NOT IDENT.
Y-88	-1.955E-02	3.792E-02	5.754E-02	0.000E+00	NOT IDENT.
ZR-88	-7.197E-03	3.202E-02	5.530E-02	0.000E+00	NOT IDENT.
Y-91	-1.176E+01	2.169E+01	3.470E+01	0.000E+00	NOT IDENT.
NB-94	-5.433E-03	3.564E-02	5.910E-02	0.000E+00	NOT IDENT.
NB-95	4.948E-02	4.945E-02	8.884E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.688E-01	2.906E-01	0.000E+00	NOT IDENT.
ZR-95	1.158E-02	7.818E-02	1.323E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.533E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.127E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	6.785E+00	3.053E+01	5.217E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.584E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.729E-02	3.696E-02	5.877E-02	0.000E+00	NOT IDENT.
RH-102	-6.805E-03	2.924E-02	4.970E-02	0.000E+00	NOT IDENT.
RU-103	-1.134E-02	4.530E-02	7.662E-02	0.000E+00	FAIL ABUN
RH-106	9.752E-02	3.376E-01	5.855E-01	0.000E+00	FAIL ABUN
RU-106	9.752E-02	3.375E-01	5.855E-01	0.000E+00	FAIL ABUN
AG-108M	7.465E-03	3.321E-02	5.864E-02	0.000E+00	NOT IDENT.
AG-110M	2.105E-02	4.002E-02	6.210E-02	0.000E+00	NOT IDENT.
IN-111	-1.459E+00	3.429E+00	4.946E+00	0.000E+00	NOT IDENT.
IN-113M	-2.942E-02	4.536E-02	7.614E-02	0.000E+00	NOT IDENT.
SN-113	-2.942E-02	4.536E-02	7.614E-02	0.000E+00	NOT IDENT.
IN-114M	1.692E-01	2.258E-01	3.572E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.669E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-6.536E-03	7.080E-02	1.235E-01	0.000E+00	NOT IDENT.
SB-122	1.848E+00	5.918E+00	1.035E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.110E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.327E-02	3.004E-02	5.353E-02	0.000E+00	NOT IDENT.
I-124	-1.516E+00	1.572E+00	2.049E+00	0.000E+00	NOT IDENT.
SB-124	-1.269E-02	8.919E-02	1.479E-01	0.000E+00	FAIL ABUN
SB-125	1.365E-01	1.034E-01	1.932E-01	0.000E+00	FAIL ABUN
TE-125M	-5.749E+00	1.030E+01	1.798E+01	0.000E+00	NOT IDENT.
I-126	-8.189E-02	2.760E-01	3.873E-01	0.000E+00	NOT IDENT.
SB-126	-1.359E-01	1.979E-01	2.740E-01	0.000E+00	FAIL ABUN
SB-127	3.627E-01	2.825E+00	4.809E+00	0.000E+00	NOT IDENT.
XE-127	2.698E-02	5.711E-02	9.336E-02	0.000E+00	NOT IDENT.
I-131	8.833E-02	1.631E-01	2.961E-01	0.000E+00	NOT IDENT.
TE-132	-4.423E-01	1.759E+00	2.978E+00	0.000E+00	NOT IDENT.
BA-133	3.324E-02	4.552E-02	7.407E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.415E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.283E-02	6.555E-02	8.983E-02	0.000E+00	FAIL ABUN
CS-135	2.676E-01	2.013E-01	3.231E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.199E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.354E-02	1.292E-01	2.102E-01	0.000E+00	FAIL ABUN
CE-139	3.531E-02	3.162E-02	5.763E-02	0.000E+00	NOT IDENT.
BA-140	2.468E-01	3.210E-01	5.668E-01	0.000E+00	NOT IDENT.
LA-140	-3.888E-02	9.110E-02	1.434E-01	0.000E+00	FAIL ABUN
CE-141	1.287E-02	7.225E-02	1.279E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.143E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.230E-01	2.465E-01	3.911E-01	0.000E+00	NOT IDENT.
PM-144	-2.436E-02	3.719E-02	5.899E-02	0.000E+00	NOT IDENT.
PR-144	-1.654E+00	2.525E+00	4.006E+00	0.000E+00	NOT IDENT.
PM-146	4.852E-02	4.578E-02	8.452E-02	0.000E+00	NOT IDENT.
ND-147	3.068E-01	6.924E-01	1.228E+00	0.000E+00	FAIL ABUN

PM-149	0.000E+00	3.302E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	7.361E-03	1.764E-01	1.833E-01	0.000E+00	NOT IDENT.
GD-153	5.411E-02	8.976E-02	1.458E-01	0.000E+00	FAIL ABUN
EU-154	-3.645E-02	1.258E-01	2.039E-01	0.000E+00	NOT IDENT.
EU-155	-5.475E-02	1.133E-01	1.988E-01	0.000E+00	FAIL ABUN
TB-160	-3.606E-02	1.396E-01	2.350E-01	0.000E+00	FAIL ABUN
HO-166M	3.288E-02	6.495E-02	1.136E-01	0.000E+00	FAIL ABUN
TM-171	-3.778E+01	3.201E+01	5.602E+01	0.000E+00	NOT IDENT.
LU-176	-5.223E-03	2.654E-02	4.554E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.330E+00	3.433E+00	0.000E+00	FAIL ABUN
LU-177M	5.080E-02	2.018E-01	3.573E-01	0.000E+00	FAIL ABUN
HF-181	-4.438E-03	4.436E-02	7.605E-02	0.000E+00	NOT IDENT.
W-181	2.774E-02	4.198E-01	7.690E-01	0.000E+00	NOT IDENT.
TA-182	-4.085E-02	2.013E-01	3.317E-01	0.000E+00	FAIL ABUN
RE-183	-5.171E-02	1.209E-01	2.076E-01	0.000E+00	FAIL ABUN
RE-184	1.133E-02	2.581E-01	4.407E-01	0.000E+00	NOT IDENT.
OS-185	4.278E-03	4.622E-02	7.876E-02	0.000E+00	NOT IDENT.
RE-188	2.093E-01	1.890E-01	3.449E-01	0.000E+00	NOT IDENT.
W-188	-4.369E+00	9.044E+00	1.359E+01	0.000E+00	NOT IDENT.
IR-192	1.384E-03	3.678E-02	6.546E-02	0.000E+00	FAIL ABUN
AU-195	-1.141E-02	2.451E-01	4.242E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.966E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-6.860E+00	1.819E+01	3.125E+01	0.000E+00	NOT IDENT.
TL-202	-2.071E-02	9.072E-02	1.540E-01	0.000E+00	NOT IDENT.
HG-203	3.550E-02	4.451E-02	8.243E-02	0.000E+00	FAIL ABUN
BI-207	2.101E-02	5.252E-02	9.285E-02	0.000E+00	FAIL ABUN
TL-207	2.117E-01	7.843E-01	1.234E+00	0.000E+00	FAIL ABUN
PO-209	1.907E+00	7.503E+00	1.324E+01	0.000E+00	NOT IDENT.
BI-210	-9.594E-01	4.829E+00	8.731E+00	0.000E+00	NOT IDENT.
PB-210	-9.594E-01	4.829E+00	8.731E+00	0.000E+00	NOT IDENT.
PO-210	-9.594E-01	4.829E+00	8.731E+00	0.000E+00	NOT IDENT.
PB-211	-5.688E-01	1.057E+00	1.686E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.380E-01	7.285E-01	0.000E+00	FAIL ABUN
PO-215	2.117E-01	7.843E-01	1.234E+00	0.000E+00	FAIL ABUN
RN-219	-2.574E-02	4.318E-01	7.527E-01	0.000E+00	FAIL ABUN
RN-220	1.002E+00	2.834E+01	4.862E+01	0.000E+00	NOT IDENT.
RA-223	2.117E-01	7.843E-01	1.234E+00	0.000E+00	FAIL ABUN
AC-227	-2.105E-01	4.124E-01	6.811E-01	0.000E+00	FAIL ABUN
TH-227	-2.105E-01	4.129E-01	6.811E-01	0.000E+00	FAIL ABUN
TH-229	-1.442E-01	5.382E-01	9.207E-01	0.000E+00	FAIL ABUN
PA-231	-8.599E-02	1.554E+00	2.773E+00	0.000E+00	FAIL ABUN
TH-231	2.117E-01	7.843E-01	1.234E+00	0.000E+00	FAIL ABUN
U-231	-1.765E+00	2.400E+00	3.641E+00	0.000E+00	FAIL ABUN
PA-233	-4.439E-02	6.562E-02	1.124E-01	0.000E+00	FAIL ABUN
PA-234	5.477E-02	3.003E-01	5.245E-01	0.000E+00	FAIL ABUN
PA-234M	4.797E+00	4.611E+00	8.603E+00	0.000E+00	NOT IDENT.
TH-234	4.642E-01	1.518E+00	2.778E+00	0.000E+00	FAIL ABUN
U-235	7.217E-02	2.209E-01	3.930E-01	0.000E+00	FAIL ABUN
NP-236	-2.402E-02	8.434E-02	1.459E-01	0.000E+00	NOT IDENT.
U-238	4.642E-01	1.518E+00	2.778E+00	0.000E+00	FAIL ABUN
NP-239	-1.328E-01	1.922E-01	3.321E-01	0.000E+00	FAIL ABUN
AM-241	-1.002E-01	1.829E-01	3.293E-01	0.000E+00	NOT IDENT.
CM-243	6.497E-02	9.954E-02	1.822E-01	0.000E+00	FAIL ABUN
AM-246	-3.110E-02	1.421E-01	2.360E-01	0.000E+00	NOT IDENT.
CM-247	4.024E-03	3.824E-02	6.731E-02	0.000E+00	NOT IDENT.
CF-249	3.732E-02	4.089E-02	7.543E-02	0.000E+00	NOT IDENT.
CF-251	2.207E-02	1.380E-01	2.417E-01	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536001.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:07:55.
Sample ID          : G243536001 Sample quantity : 1.41640E+02 GRAM
Detector name      : GAM06 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.23 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	811	10.67*	9.624E-01	2.093E+01	2.093E+01	10.45
CD-109	88.03	203	3.72*	5.137E+00	2.813E+00	2.894E+00	35.52
SN-126	64.28	-----	9.60	2.881E+00	-----	Line Not Found	-----
	86.94	203	8.90	5.137E+00	1.176E+00	1.176E+00	53.83
	87.57	203	37.00*	5.137E+00	2.828E-01	2.828E-01	35.52
BA-137M	661.65	179	89.98*	1.939E+00	2.716E-01	2.719E-01	24.38
CS-137	661.65	179	85.12*	1.939E+00	2.871E-01	2.874E-01	24.38
TL-208	277.35	-----	6.80	3.899E+00	-----	Line Not Found	-----
	510.84	192	21.60	2.405E+00	9.796E-01	9.796E-01	35.48
	583.14	306	84.20*	2.158E+00	4.468E-01	4.468E-01	21.02
	860.37	-----	12.46	1.539E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.913E+00	-----	Line Not Found	-----
	351.07	634	12.94*	3.243E+00	4.004E+00	4.004E+00	14.97
PB-212	74.81	416	10.70	4.100E+00	2.514E+00	2.514E+00	23.58
	77.11	610	18.00	4.326E+00	2.076E+00	2.076E+00	15.35
	87.30	203	8.00	5.137E+00	1.308E+00	1.308E+00	36.90
	238.63	1175	44.60*	4.367E+00	1.598E+00	1.598E+00	10.13
	300.09	43	3.41	3.667E+00	9.145E-01	9.145E-01	106.11
PO-212	74.81	416	10.70	4.100E+00	2.514E+00	2.514E+00	23.58
	77.11	610	18.00	4.326E+00	2.076E+00	2.076E+00	15.35
	87.30	203	8.00	5.137E+00	1.308E+00	1.308E+00	36.90
	115.19	-----	0.60	6.030E+00	-----	Line Not Found	-----
	238.63	1175	44.60*	4.367E+00	1.598E+00	1.598E+00	10.13
	300.09	43	3.41	3.667E+00	9.145E-01	9.145E-01	106.11
BI-214	609.31	437	46.30*	2.080E+00	1.203E+00	1.203E+00	15.04
	1120.29	119	15.10	1.210E+00	1.731E+00	1.732E+00	33.24
	1764.49	72	15.80	8.403E-01	1.437E+00	1.437E+00	31.17
PB-214	74.81	416	6.21	4.100E+00	4.332E+00	4.332E+00	22.88
	77.11	610	10.50	4.326E+00	3.559E+00	3.559E+00	17.14
	87.30	203	4.67	5.137E+00	2.240E+00	2.240E+00	36.35
	241.98	269	7.49	4.327E+00	2.202E+00	2.202E+00	28.67
	295.21	356	19.20	3.717E+00	1.323E+00	1.323E+00	18.50

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	634	37.20*	3.243E+00	1.393E+00	1.393E+00	15.85
	74.81	416	6.21	4.100E+00	4.332E+00	4.332E+00	22.88
	77.11	610	10.50	4.326E+00	3.559E+00	3.559E+00	17.14
	87.30	203	4.67	5.137E+00	2.240E+00	2.240E+00	36.35
	241.98	269	7.49	4.327E+00	2.202E+00	2.202E+00	28.67
PO-216	295.21	356	19.20	3.717E+00	1.323E+00	1.323E+00	18.50
	351.92	634	37.20*	3.243E+00	1.393E+00	1.393E+00	15.85
	74.81	416	10.70	4.100E+00	2.514E+00	2.514E+00	23.58
	77.11	610	18.00	4.326E+00	2.076E+00	2.076E+00	15.35
	87.30	203	8.00	5.137E+00	1.308E+00	1.308E+00	36.90
PO-218	238.63	1175	44.60*	4.367E+00	1.598E+00	1.598E+00	10.13
	300.09	43	3.41	3.667E+00	9.145E-01	9.145E-01	106.11
	74.81	416	6.21	4.100E+00	4.332E+00	4.332E+00	22.88
	77.11	610	10.50	4.326E+00	3.559E+00	3.559E+00	17.14
	87.30	203	4.67	5.137E+00	2.240E+00	2.240E+00	36.35
RA-224	241.98	269	7.49	4.327E+00	2.202E+00	2.202E+00	28.67
	295.21	356	19.20	3.717E+00	1.323E+00	1.323E+00	18.50
	351.92	634	37.20*	3.243E+00	1.393E+00	1.393E+00	15.85
	240.98	269	3.95*	4.327E+00	4.175E+00	4.175E+00	28.11
	609.31	437	46.30*	2.080E+00	1.203E+00	1.203E+00	15.04
AC-228	1120.29	119	15.10	1.210E+00	1.731E+00	1.732E+00	33.24
	1764.49	72	15.80	8.403E-01	1.437E+00	1.437E+00	31.17
	338.32	223	11.40	3.343E+00	1.549E+00	1.549E+00	52.79
	911.07	162	27.70*	1.461E+00	1.061E+00	1.061E+00	42.18
	969.11	99	16.60	1.381E+00	1.139E+00	1.139E+00	61.03
RA-228	338.32	223	11.40	3.343E+00	1.549E+00	1.549E+00	52.79
	911.07	162	27.70*	1.461E+00	1.061E+00	1.061E+00	42.18
	969.11	99	16.60	1.381E+00	1.139E+00	1.139E+00	61.03
	74.81	416	10.70	4.100E+00	2.514E+00	2.563E+00	21.68
	77.11	610	18.00	4.326E+00	2.076E+00	2.116E+00	15.35
TH-228	87.30	203	8.00	5.137E+00	1.308E+00	1.333E+00	35.52
	238.63	1175	44.60*	4.367E+00	1.598E+00	1.629E+00	10.13
	300.09	43	3.41	3.667E+00	9.145E-01	9.321E-01	121.10
	609.31	437	46.30*	2.080E+00	1.203E+00	1.203E+00	15.04
	1120.29	119	15.10	1.210E+00	1.731E+00	1.731E+00	33.24
TH-230	1764.49	72	15.80	8.403E-01	1.437E+00	1.437E+00	31.17
	338.32	223	11.40	3.343E+00	1.549E+00	1.549E+00	34.03
	911.07	162	27.70*	1.461E+00	1.061E+00	1.061E+00	42.18
	969.11	99	16.60	1.381E+00	1.139E+00	1.139E+00	61.03
	609.31	437	46.30*	2.080E+00	1.203E+00	1.203E+00	15.04
U-234	1120.29	119	15.10	1.210E+00	1.731E+00	1.731E+00	33.24
	1764.49	72	15.80	8.403E-01	1.437E+00	1.437E+00	31.17
	86.50	203	12.60*	5.137E+00	8.304E-01	8.304E-01	41.08
	95.87	-----	2.60	5.611E+00	-----	Line Not Found	-----
	74.67	416	66.00*	4.100E+00	4.076E-01	4.076E-01	21.65
AM-243	86.72	203	0.34	5.137E+00	3.114E+01	3.114E+01	35.52
	117.66	-----	0.55	6.042E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.887E+00	-----	Line Not Found	-----
	511.00	192	100.00*	2.405E+00	2.116E-01	2.116E-01	34.48

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	2.093E+01	2.093E+01	0.219E+01	10.45	
CD-109	464.00D	1.03	2.813E+00	2.894E+00	1.028E+00	35.52	
SN-126	1.00E+05Y	1.00	2.828E-01	2.828E-01	1.004E-01	35.52	
BA-137M	30.17Y	1.00	2.716E-01	2.719E-01	0.663E-01	24.38	
CS-137	30.17Y	1.00	2.871E-01	2.874E-01	0.701E-01	24.38	
TL-208	1.41E+10Y	1.00	4.468E-01	4.468E-01	0.939E-01	21.02	
BI-211	7.04E+08Y	1.00	4.004E+00	4.004E+00	0.599E+00	14.97	
PB-212	1.41E+10Y	1.00	1.598E+00	1.598E+00	0.162E+00	10.13	
PO-212	1.41E+10Y	1.00	1.598E+00	1.598E+00	0.162E+00	10.13	
BI-214	1600.00Y	1.00	1.203E+00	1.203E+00	0.181E+00	15.04	
PB-214	1600.00Y	1.00	1.393E+00	1.393E+00	0.221E+00	15.85	
PO-214	1600.00Y	1.00	1.393E+00	1.393E+00	0.221E+00	15.85	
PO-216	1.41E+10Y	1.00	1.598E+00	1.598E+00	0.162E+00	10.13	
PO-218	1600.00Y	1.00	1.393E+00	1.393E+00	0.221E+00	15.85	
RA-224	1.41E+10Y	1.00	4.175E+00	4.175E+00	1.174E+00	28.11	
RA-226	1600.00Y	1.00	1.203E+00	1.203E+00	0.181E+00	15.04	
AC-228	1.41E+10Y	1.00	1.061E+00	1.061E+00	0.447E+00	42.18	
RA-228	1.41E+10Y	1.00	1.061E+00	1.061E+00	0.447E+00	42.18	
TH-228	1.91Y	1.02	1.598E+00	1.629E+00	0.165E+00	10.13	
TH-230	4.47E+09Y	1.00	1.203E+00	1.203E+00	0.181E+00	15.04	
TH-232	1.41E+10Y	1.00	1.061E+00	1.061E+00	0.447E+00	42.18	
U-234	4.47E+09Y	1.00	1.203E+00	1.203E+00	0.181E+00	15.04	
NP-237	2.14E+06Y	1.00	8.304E-01	8.304E-01	3.411E-01	41.08	
AM-243	7380.00Y	1.00	4.076E-01	4.076E-01	0.882E-01	21.65	
ANH-511	1.00E+09Y	1.00	2.116E-01	2.116E-01	0.730E-01	34.48	

Total Activity : 5.322E+01 5.333E+01

Grand Total Activity : 5.322E+01 5.333E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	83.62	87	346	1.27	167.24	164	27	1.20E-02	69.9	4.91E+00	T
4	89.82	143	308	0.94	179.63	164	27	1.99E-02	42.2	5.32E+00	T
4	92.59	224	338	1.21	185.18	164	27	3.11E-02	32.5	5.46E+00	T
0	129.38	40	343	1.13	258.77	254	8	5.54E-03	****	6.02E+00	T
0	185.76	172	312	1.20	371.52	367	9	2.39E-02	41.4	5.18E+00	T
0	208.93	162	255	1.66	417.87	413	10	2.26E-02	40.0	4.80E+00	T
0	269.80	128	256	1.46	539.59	533	14	1.78E-02	55.7	3.98E+00	T
0	327.35	53	164	1.63	654.71	650	10	7.41E-03	93.6	3.43E+00	T
0	463.64	78	117	1.68	927.28	920	13	1.09E-02	61.9	2.60E+00	T
0	726.99	94	52	1.75	1453.98	1449	11	1.31E-02	36.9	1.79E+00	T
0	794.71	39	49	0.74	1589.41	1583	13	5.42E-03	80.5	1.65E+00	T
0	1730.15	19	15	1.93	3460.30	3454	14	2.65E-03	****	8.51E-01	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536001.CNF;1
* Acquisition date   : 9-JAN-2010 14:07:55.  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 02:00:01.23             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243536001             Analyst initials: MXR1
* Batch Number       : 937074                 Sample Quantity : 1.41640E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54.47MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.093E+01	2.187E+00	5.698E-01	3.769E-02	36.724
CD-109	2.894E+00	1.028E+00	1.279E+00	1.263E-01	2.262
SN-126	2.828E-01	1.004E-01	1.256E-01	1.237E-02	2.251
BA-137M	2.719E-01	6.628E-02	6.590E-02	3.255E-03	4.126
CS-137	2.874E-01	7.008E-02	6.966E-02	3.460E-03	4.126
TL-208	4.468E-01	9.394E-02	5.855E-02	3.701E-03	7.630
BI-211	4.004E+00	5.992E-01	3.360E-01	2.169E-02	11.916
PB-212	1.598E+00	1.619E-01	9.544E-02	7.035E-03	16.747
PO-212	1.598E+00	1.619E-01	9.544E-02	7.035E-03	16.747
BI-214	1.203E+00	1.809E-01	1.071E-01	7.901E-03	11.231
PB-214	1.393E+00	2.207E-01	1.171E-01	9.718E-03	11.891
PO-214	1.393E+00	2.207E-01	1.171E-01	9.718E-03	11.891
PO-216	1.598E+00	1.619E-01	9.544E-02	7.035E-03	16.747
PO-218	1.393E+00	2.207E-01	1.171E-01	9.718E-03	11.891
RA-224	4.175E+00	1.174E+00	1.086E+00	6.366E-02	3.844
RA-226	1.203E+00	1.809E-01	1.071E-01	7.901E-03	11.231
AC-228	1.061E+00	4.474E-01	2.321E-01	2.371E-02	4.571
RA-228	1.061E+00	4.474E-01	2.321E-01	2.371E-02	4.571

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.629E+00	1.650E-01	9.727E-02	7.170E-03	16.747
TH-230	1.203E+00	1.809E-01	1.071E-01	7.901E-03	11.231
TH-232	1.061E+00	4.474E-01	2.321E-01	2.371E-02	4.571
U-234	1.203E+00	1.809E-01	1.071E-01	7.901E-03	11.231
NP-237	8.304E-01	3.411E-01	3.737E-01	8.529E-02	2.222
AM-243	4.076E-01	8.824E-02	9.765E-02	8.820E-03	4.174
ANH-511	2.116E-01	7.296E-02	4.711E-02	2.634E-03	4.492

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.174E-01		3.316E-01	5.309E-01	3.507E-02	-0.221
NA-22	-1.308E-02		4.605E-02	7.260E-02	4.483E-03	-0.180
NA-24	-2.488E+01		3.106E+01	Half-Life too short		
AL-26	9.479E-04		3.105E-02	5.168E-02	2.968E-03	0.018
TI-44	2.850E-01		6.012E-02	8.467E-02	7.783E-03	3.367
SC-46	-2.910E-02		4.132E-02	6.396E-02	4.584E-03	-0.455
V-48	1.195E-02		7.644E-02	1.288E-01	9.020E-03	0.093
CR-51	-2.704E-01		4.539E-01	7.158E-01	4.716E-02	-0.378
MN-52	1.510E-02		4.254E-01	6.914E-01	4.351E-02	0.022
MN-54	1.603E-02		3.879E-02	6.706E-02	4.426E-03	0.239
CO-56	1.273E-02		3.770E-02	6.506E-02	4.374E-03	0.196
CO-57	1.718E-02		2.727E-02	4.591E-02	2.804E-03	0.374
CO-58	-1.128E-02		3.957E-02	6.449E-02	4.117E-03	-0.175
FE-59	1.130E-02		9.161E-02	1.528E-01	1.121E-02	0.074
CO-60	3.214E-02		3.975E-02	7.124E-02	4.475E-03	0.451
ZN-65	2.289E-02		9.808E-02	1.434E-01	9.082E-03	0.160
GE-68	-7.515E-01		1.302E+00	2.012E+00	1.319E-01	-0.374
AS-73	5.139E-01		1.107E+00	1.888E+00	1.727E-01	0.272
AS-74	-1.014E-01		1.113E-01	1.668E-01	8.871E-03	-0.608
SE-75	1.831E-03		5.501E-02	7.684E-02	4.609E-03	0.024
BR-77	-3.678E-07		1.948E-05	Half-Life too short		
SR-82	-2.008E-01		4.242E-01	6.824E-01	4.105E-02	-0.294
RB-83	-1.169E-02		8.273E-02	1.155E-01	6.434E-03	-0.101
RB-84	-1.701E-03		7.592E-02	1.263E-01	8.947E-03	-0.013
KR-85	1.909E+01		8.076E+00	1.502E+01	8.388E-01	1.271
SR-85	1.021E-01		4.317E-02	8.028E-02	4.484E-03	1.271
RB-86	-1.363E-01		8.980E-01	1.455E+00	9.540E-02	-0.094
Y-88	-1.955E-02		3.869E-02	5.758E-02	3.273E-03	-0.339
ZR-88	-7.197E-03		3.267E-02	5.354E-02	2.971E-03	-0.134
Y-91	-1.176E+01		2.213E+01	3.441E+01	2.064E+00	-0.342
NB-94	-5.433E-03		3.637E-02	5.792E-02	3.076E-03	-0.094
NB-95	4.948E-02		5.046E-02	8.723E-02	5.156E-03	0.567
NB-95M	5.565E-01		1.723E-01	2.784E-01	2.104E-02	1.999
ZR-95	1.158E-02		7.977E-02	1.299E-01	9.153E-03	0.089
NB-97	3.273E+00		2.823E+00	Half-Life too short		
ZR-97	2.362E+02		5.748E+01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	6.785E+00		3.115E+01	5.118E+01	7.023E+00	0.133
TC-99M	-2.853E+15		1.318E+15	Half-Life too short		
RH-101	-2.729E-02		3.771E-02	5.610E-02	3.151E-03	-0.487
RH-102	-6.805E-03		2.983E-02	4.831E-02	2.720E-03	-0.141
RU-103	-1.134E-02		4.622E-02	7.454E-02	9.362E-03	-0.152
RH-106	9.752E-02		3.445E-01	5.723E-01	6.551E-02	0.170
RU-106	9.752E-02		3.443E-01	5.723E-01	2.968E-02	0.170
AG-108M	7.465E-03		3.388E-02	5.689E-02	3.489E-03	0.131
AG-110M	2.105E-02		4.083E-02	6.078E-02	3.281E-03	0.346
IN-111	-1.459E+00		3.499E+00	4.742E+00	2.788E-01	-0.308
IN-113M	-2.942E-02		4.628E-02	7.371E-02	4.386E-03	-0.399
SN-113	-2.942E-02		4.628E-02	7.371E-02	4.386E-03	-0.399
IN-114M	1.692E-01		2.304E-01	3.407E-01	1.896E-02	0.497
CD-115	-2.573E-05		1.872E-05	Half-Life too short		
SN-117M	-6.536E-03		7.224E-02	1.174E-01	6.446E-03	-0.056
SB-122	1.848E+00		6.039E+00	1.009E+01	5.499E-01	0.183
I-123	4.023E+02		4.648E+02	Half-Life too short		
TE-123M	1.327E-02		3.066E-02	5.087E-02	2.833E-03	0.261
I-124	-1.516E+00		1.604E+00	2.002E+00	1.058E-01	-0.758
SB-124	-1.269E-02		9.101E-02	1.477E-01	9.593E-03	-0.086
SB-125	1.365E-01		1.055E-01	1.874E-01	1.099E-02	0.728
TE-125M	-5.749E+00		1.051E+01	1.696E+01	1.544E+00	-0.339
I-126	-8.189E-02		2.817E-01	3.791E-01	1.888E-02	-0.216
SB-126	-1.359E-01		2.019E-01	2.687E-01	1.472E-02	-0.506
SB-127	3.627E-01		2.883E+00	4.711E+00	4.976E-01	0.077
XE-127	2.698E-02		5.827E-02	8.916E-02	5.037E-03	0.303
I-131	8.833E-02		1.664E-01	2.862E-01	1.853E-02	0.309
TE-132	-4.423E-01		1.795E+00	2.851E+00	4.344E-01	-0.155
BA-133	3.324E-02		4.645E-02	7.155E-02	8.271E-03	0.465
I-133	-5.291E-02		7.221E-02	Half-Life too short		
CS-134	8.283E-02	+	6.689E-02	8.827E-02	5.555E-03	0.938
CS-135	2.676E-01		2.054E-01	3.104E-01	2.412E-02	0.862
I-135	4.934E+13		6.119E+13	Half-Life too short		
CS-136	-5.354E-02		1.318E-01	2.078E-01	1.493E-02	-0.258
CE-139	3.531E-02		3.226E-02	5.481E-02	2.964E-03	0.644
BA-140	2.468E-01		3.275E-01	5.524E-01	1.794E-01	0.447
LA-140	-3.888E-02		9.296E-02	1.431E-01	8.830E-03	-0.272
CE-141	1.287E-02		7.372E-02	1.214E-01	7.161E-03	0.106
CE-143	7.184E-03		1.093E-03	Half-Life too short		
CE-144	1.230E-01		2.516E-01	3.704E-01	5.267E-02	0.332
PM-144	-2.436E-02		3.795E-02	5.780E-02	3.042E-03	-0.421
PR-144	-1.654E+00		2.577E+00	3.925E+00	2.062E-01	-0.421
PM-146	4.852E-02		4.671E-02	8.207E-02	6.985E-03	0.591
ND-147	3.068E-01		7.065E-01	1.197E+00	1.605E-01	0.256
PM-149	-6.867E-05		1.685E-04	Half-Life too short		
EU-152	7.361E-03		1.801E-01	1.769E-01	1.166E-02	0.042
GD-153	5.411E-02		9.159E-02	1.372E-01	1.147E-02	0.394
EU-154	-3.645E-02		1.284E-01	2.024E-01	1.937E-02	-0.180

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	-5.475E-02		1.156E-01	1.874E-01	1.422E-02	-0.292
TB-160	-3.606E-02		1.424E-01	2.314E-01	1.635E-02	-0.156
HO-166M	3.288E-02		6.627E-02	1.114E-01	6.008E-03	0.295
TM-171	-3.778E+01		3.266E+01	5.233E+01	4.675E+00	-0.722
LU-176	-5.223E-03		2.708E-02	4.386E-02	2.616E-03	-0.119
LU-177	5.886E+00	+	2.378E+00	3.280E+00	1.865E-01	1.794
LU-177M	5.080E-02		2.060E-01	3.463E-01	1.937E-02	0.147
HF-181	-4.438E-03		4.526E-02	7.394E-02	4.160E-03	-0.060
W-181	2.774E-02		4.284E-01	7.181E-01	6.432E-02	0.039
TA-182	-4.085E-02		2.054E-01	3.290E-01	1.987E-02	-0.124
RE-183	-5.171E-02		1.233E-01	1.974E-01	1.075E-02	-0.262
RE-184	1.133E-02		2.634E-01	4.228E-01	2.497E-02	0.027
OS-185	4.278E-03		4.717E-02	7.705E-02	3.884E-03	0.056
RE-188	2.093E-01		1.929E-01	3.276E-01	1.814E-02	0.639
W-188	-4.369E+00		9.229E+00	1.308E+01	7.812E-01	-0.334
IR-192	1.384E-03		3.753E-02	6.309E-02	3.771E-03	0.022
AU-195	-1.141E-02		2.501E-01	3.994E-01	3.265E-02	-0.029
TL-200	-2.369E-03		3.044E-03	Half-Life too short		
TL-201	-6.860E+00		1.856E+01	2.973E+01	1.609E+00	-0.231
TL-202	-2.071E-02		9.257E-02	1.495E-01	8.409E-03	-0.139
HG-203	3.550E-02		4.541E-02	7.924E-02	5.004E-03	0.448
BI-207	2.101E-02		5.359E-02	9.181E-02	6.088E-03	0.229
TL-207	2.117E-01		8.003E-01	1.190E+00	1.970E-01	0.178
PO-209	1.907E+00		7.656E+00	1.304E+01	9.451E-01	0.146
BI-210	-9.594E-01		4.928E+00	8.100E+00	6.669E-01	-0.118
PB-210	-9.594E-01		4.928E+00	8.100E+00	6.669E-01	-0.118
PO-210	-9.594E-01		4.928E+00	8.100E+00	5.851E-01	-0.118
PB-211	-5.688E-01		1.078E+00	1.633E+00	1.018E+00	-0.348
BI-212	1.186E+00	+	4.470E-01	7.145E-01	5.373E-02	1.660
PO-215	2.117E-01		8.003E-01	1.190E+00	1.970E-01	0.178
RN-219	-2.574E-02		4.406E-01	7.290E-01	9.848E-02	-0.035
RN-220	1.002E+00		2.892E+01	4.740E+01	2.605E+00	0.021
RA-223	2.117E-01		8.003E-01	1.190E+00	1.970E-01	0.178
AC-227	-2.105E-01		4.208E-01	6.536E-01	9.156E-02	-0.322
TH-227	-2.105E-01		4.213E-01	6.536E-01	1.107E-01	-0.322
TH-229	-1.442E-01		5.492E-01	8.784E-01	4.908E-02	-0.164
PA-231	-8.599E-02		1.586E+00	2.666E+00	3.693E-01	-0.032
TH-231	2.117E-01		8.003E-01	1.190E+00	1.970E-01	0.178
U-231	-1.765E+00		2.449E+00	3.425E+00	2.935E-01	-0.515
PA-233	-4.439E-02		6.696E-02	1.083E-01	6.831E-03	-0.410
PA-234	5.477E-02		3.064E-01	5.173E-01	9.378E-02	0.106
PA-234M	4.797E+00		4.705E+00	8.496E+00	7.262E-01	0.565
TH-234	4.642E-01		1.549E+00	2.592E+00	4.713E-01	0.179
U-235	7.217E-02		2.254E-01	3.728E-01	6.063E-02	0.194
NP-236	-2.402E-02		8.606E-02	1.386E-01	7.586E-03	-0.173
U-238	4.642E-01		1.549E+00	2.592E+00	4.713E-01	0.179
NP-239	-1.328E-01		1.961E-01	3.137E-01	2.027E-02	-0.423
AM-241	-1.002E-01		1.866E-01	3.070E-01	3.001E-02	-0.326

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.497E-02		1.016E-01	1.717E-01	1.309E-02	0.378
AM-246	-3.110E-02		1.451E-01	2.335E-01	1.528E-02	-0.133
CM-247	4.024E-03		3.902E-02	6.520E-02	3.633E-03	0.062
CF-249	3.732E-02		4.172E-02	7.301E-02	4.072E-03	0.511
CF-251	2.207E-02		1.408E-01	2.302E-01	1.260E-02	0.096

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536001          *
* Acquisition date   : 9-JAN-2010 14:07:55 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 02:00:01.23                               Half life ratio  : 8.000          *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536001 Analyst initials: MXR1              *
* Batch Number       : 937074 Sample Quantity : 1.4164E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                *
*****
*                                     QC DATA                              *
*
* CALIB. DATE/TIME  : 4-FEB-2009 13:05:54 MS Isotope           :              *
* MSD DPM            : 0.000 MSD Isotope                       :              *
* LCS DPM            : 0.000 LCS Isotope                       :              *
* LCSD DPM           : 0.000 LCSD Isotope                     :              *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.093E+01	2.143E+00	2.863E-01	1.093E+00
CD-109	2.894E+00	1.007E+00	6.814E-01	5.140E-01
SN-126	2.828E-01	9.843E-02	6.694E-02	5.022E-02
BA-137M	2.719E-01	6.495E-02	3.368E-02	3.314E-02
CS-137	2.874E-01	6.868E-02	3.561E-02	3.504E-02
TL-208	4.468E-01	9.206E-02	3.001E-02	4.697E-02
BI-211	4.004E+00	5.872E-01	1.740E-01	2.996E-01
PB-212	1.598E+00	1.586E-01	4.983E-02	8.093E-02
PO-212	1.598E+00	1.586E-01	4.983E-02	8.093E-02
BI-214	1.203E+00	1.773E-01	5.483E-02	9.046E-02
PB-214	1.393E+00	2.163E-01	6.067E-02	1.104E-01
PO-214	1.393E+00	2.163E-01	6.067E-02	1.104E-01
PO-216	1.598E+00	1.586E-01	4.983E-02	8.093E-02
PO-218	1.393E+00	2.163E-01	6.067E-02	1.104E-01
RA-224	4.175E+00	1.150E+00	5.670E-01	5.868E-01
RA-226	1.203E+00	1.773E-01	5.483E-02	9.046E-02
AC-228	1.061E+00	4.385E-01	1.178E-01	2.237E-01
RA-228	1.061E+00	4.385E-01	1.178E-01	2.237E-01
TH-228	1.629E+00	1.617E-01	5.079E-02	8.248E-02
TH-230	1.203E+00	1.773E-01	5.482E-02	9.046E-02
TH-232	1.061E+00	4.385E-01	1.178E-01	2.237E-01
U-234	1.203E+00	1.773E-01	5.482E-02	9.046E-02
NP-237	8.304E-01	3.343E-01	1.991E-01	1.706E-01
AM-243	4.076E-01	8.648E-02	5.218E-02	4.412E-02
ANH-511	2.116E-01	7.151E-02	2.421E-02	3.648E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.174E-01	3.250E-01	2.732E-01	1.658E-01 NOT IDENT.
NA-22	-1.308E-02	4.513E-02	3.659E-02	2.302E-02 NOT IDENT.

NA-24	-2.488E+07	6.087E+07	0.000E+00	3.106E+07	SHORT HLIF
AL-26	9.479E-04	3.043E-02	2.584E-02	1.552E-02	NOT IDENT.
TI-44	2.850E-01	5.892E-02	4.520E-02	3.006E-02	NOT IDENT.
SC-46	-2.910E-02	4.049E-02	3.248E-02	2.066E-02	FAIL ABUN
V-48	1.195E-02	7.491E-02	6.528E-02	3.822E-02	NOT IDENT.
CR-51	-2.704E-01	4.448E-01	3.715E-01	2.270E-01	NOT IDENT.
MN-52	1.510E-02	4.169E-01	3.475E-01	2.127E-01	NOT IDENT.
MN-54	1.603E-02	3.802E-02	3.411E-02	1.940E-02	NOT IDENT.
CO-56	1.273E-02	3.695E-02	3.308E-02	1.885E-02	NOT IDENT.
CO-57	1.718E-02	2.672E-02	2.430E-02	1.363E-02	NOT IDENT.
CO-58	-1.128E-02	3.878E-02	3.282E-02	1.979E-02	NOT IDENT.
FE-59	1.130E-02	8.978E-02	7.724E-02	4.581E-02	NOT IDENT.
CO-60	3.214E-02	3.896E-02	3.586E-02	1.988E-02	NOT IDENT.
ZN-65	2.289E-02	9.612E-02	7.247E-02	4.904E-02	NOT IDENT.
GE-68	-7.515E-01	1.276E+00	1.018E+00	6.509E-01	NOT IDENT.
AS-73	5.139E-01	1.085E+00	1.016E+00	5.537E-01	NOT IDENT.
AS-74	-1.014E-01	1.091E-01	8.546E-02	5.565E-02	NOT IDENT.
SE-75	1.831E-03	5.391E-02	4.003E-02	2.751E-02	NOT IDENT.
BR-77	-3.678E-01	3.817E+01	0.000E+00	1.948E+01	SHORT HLIF
SR-82	-2.008E-01	4.157E-01	3.476E-01	2.121E-01	NOT IDENT.
RB-83	-1.169E-02	8.108E-02	5.932E-02	4.137E-02	NOT IDENT.
RB-84	-1.701E-03	7.440E-02	6.415E-02	3.796E-02	NOT IDENT.
KR-85	1.909E+01	7.914E+00	7.718E+00	4.038E+00	NOT IDENT.
SR-85	1.021E-01	4.231E-02	4.126E-02	2.159E-02	NOT IDENT.
RB-86	-1.363E-01	8.801E-01	7.358E-01	4.490E-01	NOT IDENT.
Y-88	-1.955E-02	3.792E-02	2.879E-02	1.935E-02	NOT IDENT.
ZR-88	-7.197E-03	3.202E-02	2.767E-02	1.634E-02	NOT IDENT.
Y-91	-1.176E+01	2.169E+01	1.736E+01	1.107E+01	NOT IDENT.
NB-94	-5.433E-03	3.564E-02	2.957E-02	1.819E-02	NOT IDENT.
NB-95	4.948E-02	4.945E-02	4.445E-02	2.523E-02	NOT IDENT.
NB-95M	5.565E-01	1.688E-01	1.454E-01	8.614E-02	NOT IDENT.
ZR-95	1.158E-02	7.818E-02	6.619E-02	3.989E-02	NOT IDENT.
NB-97	3.273E+06	5.533E+06	0.000E+00	2.823E+06	SHORT HLIF
ZR-97	2.362E+08	1.127E+08	0.000E+00	5.748E+07	SHORT HLIF
MO-99	6.785E+00	3.053E+01	2.610E+01	1.558E+01	NOT IDENT.
TC-99M	-2.853E+21	2.584E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.729E-02	3.696E-02	2.940E-02	1.886E-02	NOT IDENT.
RH-102	-6.805E-03	2.924E-02	2.486E-02	1.492E-02	NOT IDENT.
RU-103	-1.134E-02	4.530E-02	3.833E-02	2.311E-02	FAIL ABUN
RH-106	9.752E-02	3.376E-01	2.929E-01	1.722E-01	FAIL ABUN
RU-106	9.752E-02	3.375E-01	2.929E-01	1.722E-01	FAIL ABUN
AG-108M	7.465E-03	3.321E-02	2.934E-02	1.694E-02	NOT IDENT.
AG-110M	2.105E-02	4.002E-02	3.107E-02	2.042E-02	NOT IDENT.
IN-111	-1.459E+00	3.429E+00	2.475E+00	1.749E+00	NOT IDENT.
IN-113M	-2.942E-02	4.536E-02	3.809E-02	2.314E-02	NOT IDENT.
SN-113	-2.942E-02	4.536E-02	3.809E-02	2.314E-02	NOT IDENT.
IN-114M	1.692E-01	2.258E-01	1.787E-01	1.152E-01	NOT IDENT.
CD-115	-2.573E+01	3.669E+01	0.000E+00	1.872E+01	SHORT HLIF
SN-117M	-6.536E-03	7.080E-02	6.178E-02	3.612E-02	NOT IDENT.
SB-122	1.848E+00	5.918E+00	5.176E+00	3.019E+00	NOT IDENT.
I-123	4.023E+08	9.110E+08	0.000E+00	4.648E+08	SHORT HLIF
TE-123M	1.327E-02	3.004E-02	2.678E-02	1.533E-02	NOT IDENT.
I-124	-1.516E+00	1.572E+00	1.025E+00	8.020E-01	NOT IDENT.
SB-124	-1.269E-02	8.919E-02	7.399E-02	4.550E-02	FAIL ABUN
SB-125	1.365E-01	1.034E-01	9.666E-02	5.273E-02	FAIL ABUN
TE-125M	-5.749E+00	1.030E+01	8.997E+00	5.254E+00	NOT IDENT.
I-126	-8.189E-02	2.760E-01	1.937E-01	1.408E-01	NOT IDENT.
SB-126	-1.359E-01	1.979E-01	1.371E-01	1.010E-01	FAIL ABUN
SB-127	3.627E-01	2.825E+00	2.406E+00	1.442E+00	NOT IDENT.
XE-127	2.698E-02	5.711E-02	4.671E-02	2.914E-02	NOT IDENT.
I-131	8.833E-02	1.631E-01	1.482E-01	8.321E-02	NOT IDENT.
TE-132	-4.423E-01	1.759E+00	1.490E+00	8.976E-01	NOT IDENT.
BA-133	3.324E-02	4.552E-02	3.705E-02	2.323E-02	NOT IDENT.
I-133	-5.291E+04	1.415E+05	0.000E+00	7.221E+04	SHORT HLIF
CS-134	8.283E-02	6.555E-02	4.494E-02	3.345E-02	FAIL ABUN
CS-135	2.676E-01	2.013E-01	1.617E-01	1.027E-01	NOT IDENT.
I-135	4.934E+19	1.199E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.354E-02	1.292E-01	1.052E-01	6.591E-02	FAIL ABUN
CE-139	3.531E-02	3.162E-02	2.883E-02	1.613E-02	NOT IDENT.
BA-140	2.468E-01	3.210E-01	2.836E-01	1.638E-01	NOT IDENT.
LA-140	-3.888E-02	9.110E-02	7.177E-02	4.648E-02	FAIL ABUN
CE-141	1.287E-02	7.225E-02	6.401E-02	3.686E-02	NOT IDENT.
CE-143	7.184E+03	2.143E+03	0.000E+00	1.093E+03	SHORT HLIF
CE-144	1.230E-01	2.465E-01	1.957E-01	1.258E-01	NOT IDENT.
PM-144	-2.436E-02	3.719E-02	2.951E-02	1.897E-02	NOT IDENT.
PR-144	-1.654E+00	2.525E+00	2.004E+00	1.289E+00	NOT IDENT.
PM-146	4.852E-02	4.578E-02	4.229E-02	2.336E-02	NOT IDENT.
ND-147	3.068E-01	6.924E-01	6.145E-01	3.533E-01	FAIL ABUN

PM-149	-6.867E+01	3.302E+02	0.000E+00	1.685E+02	SHORT HLIF
EU-152	7.361E-03	1.764E-01	9.169E-02	9.003E-02	NOT IDENT.
GD-153	5.411E-02	8.976E-02	7.294E-02	4.579E-02	FAIL ABUN
EU-154	-3.645E-02	1.258E-01	1.020E-01	6.419E-02	NOT IDENT.
EU-155	-5.475E-02	1.133E-01	9.948E-02	5.779E-02	FAIL ABUN
TB-160	-3.606E-02	1.396E-01	1.176E-01	7.122E-02	FAIL ABUN
HO-166M	3.288E-02	6.495E-02	5.683E-02	3.314E-02	FAIL ABUN
TM-171	-3.778E+01	3.201E+01	2.803E+01	1.633E+01	NOT IDENT.
LU-176	-5.223E-03	2.654E-02	2.278E-02	1.354E-02	FAIL ABUN
LU-177	5.886E+00	2.330E+00	1.717E+00	1.189E+00	FAIL ABUN
LU-177M	5.080E-02	2.018E-01	1.788E-01	1.030E-01	FAIL ABUN
HF-181	-4.438E-03	4.436E-02	3.805E-02	2.263E-02	NOT IDENT.
W-181	2.774E-02	4.198E-01	3.847E-01	2.142E-01	NOT IDENT.
TA-182	-4.085E-02	2.013E-01	1.659E-01	1.027E-01	FAIL ABUN
RE-183	-5.171E-02	1.209E-01	1.039E-01	6.166E-02	FAIL ABUN
RE-184	1.133E-02	2.581E-01	2.205E-01	1.317E-01	NOT IDENT.
OS-185	4.278E-03	4.622E-02	3.940E-02	2.358E-02	NOT IDENT.
RE-188	2.093E-01	1.890E-01	1.726E-01	9.645E-02	NOT IDENT.
W-188	-4.369E+00	9.044E+00	6.801E+00	4.614E+00	NOT IDENT.
IR-192	1.384E-03	3.678E-02	3.275E-02	1.876E-02	FAIL ABUN
AU-195	-1.141E-02	2.451E-01	2.122E-01	1.251E-01	FAIL ABUN
TL-200	-2.369E+03	5.966E+03	0.000E+00	3.044E+03	SHORT HLIF
TL-201	-6.860E+00	1.819E+01	1.563E+01	9.281E+00	NOT IDENT.
TL-202	-2.071E-02	9.072E-02	7.706E-02	4.628E-02	NOT IDENT.
HG-203	3.550E-02	4.451E-02	4.124E-02	2.271E-02	FAIL ABUN
BI-207	2.101E-02	5.252E-02	4.645E-02	2.680E-02	FAIL ABUN
TL-207	2.117E-01	7.843E-01	6.173E-01	4.001E-01	FAIL ABUN
PO-209	1.907E+00	7.503E+00	6.624E+00	3.881E+00	NOT IDENT.
BI-210	-9.594E-01	4.829E+00	4.368E+00	2.464E+00	NOT IDENT.
PB-210	-9.594E-01	4.829E+00	4.368E+00	2.464E+00	NOT IDENT.
PO-210	-9.594E-01	4.829E+00	4.368E+00	2.464E+00	NOT IDENT.
PB-211	-5.688E-01	1.057E+00	8.435E-01	5.392E-01	NOT IDENT.
BI-212	1.186E+00	4.380E-01	3.645E-01	2.235E-01	FAIL ABUN
PO-215	2.117E-01	7.843E-01	6.173E-01	4.001E-01	FAIL ABUN
RN-219	-2.574E-02	4.318E-01	3.766E-01	2.203E-01	FAIL ABUN
RN-220	1.002E+00	2.834E+01	2.433E+01	1.446E+01	NOT IDENT.
RA-223	2.117E-01	7.843E-01	6.173E-01	4.001E-01	FAIL ABUN
AC-227	-2.105E-01	4.124E-01	3.407E-01	2.104E-01	FAIL ABUN
TH-227	-2.105E-01	4.129E-01	3.407E-01	2.107E-01	FAIL ABUN
TH-229	-1.442E-01	5.382E-01	4.606E-01	2.746E-01	FAIL ABUN
PA-231	-8.599E-02	1.554E+00	1.387E+00	7.931E-01	FAIL ABUN
TH-231	2.117E-01	7.843E-01	6.173E-01	4.001E-01	FAIL ABUN
U-231	-1.765E+00	2.400E+00	1.821E+00	1.225E+00	FAIL ABUN
PA-233	-4.439E-02	6.562E-02	5.624E-02	3.348E-02	FAIL ABUN
PA-234	5.477E-02	3.003E-01	2.624E-01	1.532E-01	FAIL ABUN
PA-234M	4.797E+00	4.611E+00	4.304E+00	2.353E+00	NOT IDENT.
TH-234	4.642E-01	1.518E+00	1.390E+00	7.743E-01	FAIL ABUN
U-235	7.217E-02	2.209E-01	1.966E-01	1.127E-01	FAIL ABUN
NP-236	-2.402E-02	8.434E-02	7.297E-02	4.303E-02	NOT IDENT.
U-238	4.642E-01	1.518E+00	1.390E+00	7.743E-01	FAIL ABUN
NP-239	-1.328E-01	1.922E-01	1.662E-01	9.805E-02	FAIL ABUN
AM-241	-1.002E-01	1.829E-01	1.648E-01	9.332E-02	NOT IDENT.
CM-243	6.497E-02	9.954E-02	9.116E-02	5.079E-02	FAIL ABUN
AM-246	-3.110E-02	1.421E-01	1.181E-01	7.253E-02	NOT IDENT.
CM-247	4.024E-03	3.824E-02	3.368E-02	1.951E-02	NOT IDENT.
CF-249	3.732E-02	4.089E-02	3.774E-02	2.086E-02	NOT IDENT.
CF-251	2.207E-02	1.380E-01	1.209E-01	7.041E-02	NOT IDENT.

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

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

46.50	365.8888
46.50	365.8888
46.50	365.8888
48.70	375.5049
49.72	371.6392
51.35	373.6051
52.39	368.7943
52.97	360.0196
53.15	368.3557
53.44	363.9631
54.07	348.7854
56.28	407.9431
56.28	407.9448
57.37	0.0000
57.53	406.0111
57.53	406.0119
57.60	399.6111
57.98	403.5406
57.98	403.5406
59.32	424.7153
59.32	424.7153
59.40	424.7688
59.54	438.7169
59.72	434.2225
60.01	436.2693
61.10	402.7555
61.14	420.3731
61.30	420.4779
63.00	449.4370
63.29	443.1320
63.29	443.1320
63.58	428.4576
64.28	415.8858
65.12	462.9894
65.20	463.0443
65.20	463.0443
66.05	517.7380
66.72	511.7118
66.83	511.7975
66.91	504.3858
67.20	470.9600
67.20	470.9600
67.75	451.0316
67.85	451.0979
68.90	437.6560
68.90	437.6560
69.30	451.4063
69.67	441.1454
70.82	422.3301
70.82	422.3301
70.83	422.3370
72.80	482.2930
72.87	482.3398
72.87	482.3398
74.67	460.8806
74.81	460.9700
74.81	460.9700
74.81	460.9700
74.81	460.9700
74.81	460.9700
74.81	460.9700
74.97	461.0705
75.28	461.2678
75.70	461.5322
77.11	462.4183
77.11	462.4183

77.11	462.4183
77.11	462.4183
77.11	462.4183
77.11	462.4183
77.11	462.4183
78.38	427.7726
79.62	395.5193
79.80	395.6129
79.80	395.6129
80.11	471.8872
80.18	471.9307
80.30	472.0045
80.30	472.0045
80.57	472.1729
81.00	472.4397
81.07	472.4832
81.07	472.4832
81.07	472.4832
81.07	472.4832
82.60	450.5196
83.37	430.5835
83.78	380.1926
83.78	380.1926
83.78	380.1926
83.78	380.1926
84.21	380.4035
84.90	380.7388
85.43	380.9952
86.29	381.4109
86.50	381.5125
86.54	381.5308
86.59	381.5550
86.72	381.6187
86.79	381.6506
86.94	381.7234
87.30	381.8964
87.30	381.8964
87.30	381.8964
87.30	381.8964
87.30	381.8964
87.30	381.8964
87.57	382.0254
87.88	0.0000
88.03	382.2453
88.36	382.4016
88.47	382.4547
89.95	383.1556
91.11	383.7018
92.29	384.2525
92.38	384.2950
92.38	384.2950
93.35	326.5915
94.00	336.1407
94.67	339.5081
94.67	339.5101
94.90	355.1107
94.90	355.1107
94.90	355.1107
94.90	355.1107
95.87	389.6750
95.87	389.6750
96.73	376.0852
97.43	315.7354
98.44	351.6627
98.44	351.6640
98.88	356.1091
99.55	343.0222
99.55	343.0222
99.86	313.8991
100.00	313.9495
100.10	313.9876
103.18	363.0420
103.76	319.2162
105.00	358.8837
105.31	364.8933
108.00	353.1934
109.28	371.4229

111.00	326.7145
111.00	326.7145
111.76	346.7394
112.95	329.3784
115.19	305.3776
116.30	322.6097
117.00	324.8333
117.00	324.8333
117.66	326.0518
121.11	322.2287
121.62	304.4311
121.78	304.4799
122.06	304.5672
122.32	300.6521
122.32	300.6521
122.32	300.6521
122.32	300.6521
123.07	307.3078
127.23	377.4250
129.76	346.1678
131.20	335.3695
133.02	293.9660
133.54	315.1230
135.34	339.9503
136.00	327.0020
136.25	326.0682
136.48	332.2166
140.51	356.8647
140.51	0.0000
142.18	311.5960
142.65	300.5254
143.76	330.4072
144.24	329.5328
144.24	329.5328
144.24	329.5328
144.24	329.5328
145.22	327.7863
145.44	333.9805
147.16	351.8945
152.43	311.4215
152.70	312.5236
153.22	318.8384
154.21	322.2034
154.21	322.2034
154.21	322.2034
154.21	322.2034
155.03	296.6836
156.02	326.8409
158.56	311.0309
159.00	0.0000
159.00	285.3051
160.31	317.7086
161.27	339.7214
162.32	320.3277
162.64	320.4149
163.35	289.4812
163.89	286.5002
165.85	267.2195
167.43	307.1356
171.28	295.5833
171.86	286.3211
172.10	286.3776
176.55	303.1510
176.60	303.1620
181.06	318.3538
184.41	298.9295
185.71	296.9096
186.00	304.3762
190.27	254.4873
192.34	307.9922
193.63	284.9074
197.04	255.8002
198.01	276.2526
198.60	305.1842
200.40	0.0000
201.83	272.7604
202.84	256.9080
205.31	276.2491

208.36	268.2659
208.81	267.7084
209.75	254.7634
209.75	254.7634
210.97	237.7586
215.65	276.5859
216.55	269.1940
218.09	251.0879
222.10	250.7088
223.80	252.0915
226.40	238.3917
227.00	239.5793
227.08	238.5037
227.20	238.5237
228.16	257.2067
228.18	257.2103
228.18	257.2103
231.56	0.0000
235.69	220.8369
236.00	250.6847
236.00	250.6847
238.63	227.1975
238.63	227.1975
238.63	227.1975
238.63	227.1975
239.00	0.0000
240.98	227.5512
241.98	227.7013
241.98	227.7013
241.98	227.7013
244.69	204.5236
245.39	224.0204
247.94	174.9189
248.90	196.2432
249.79	0.0000
252.40	224.8144
252.85	207.1550
252.85	207.1550
254.15	0.0000
256.20	212.0363
256.20	212.0363
260.50	192.5739
260.90	0.0000
262.80	196.1953
264.65	180.3501
268.24	195.0663
268.79	182.3776
269.46	182.4523
269.46	182.4523
269.46	182.4523
269.46	182.4523
271.23	177.4966
273.65	242.3969
276.40	167.2615
277.35	172.2413
277.60	176.6058
277.60	176.6058
278.00	185.0251
278.60	176.4861
279.20	180.1538
279.53	179.2870
280.46	192.0068
281.68	0.0000
283.67	177.9229
284.30	170.7621
285.00	180.7739
285.90	0.0000
286.10	180.8911
286.10	180.8911
287.40	171.9788
288.45	0.0000
290.67	193.4688
290.80	193.4818
291.72	187.5364
293.26	0.0000
293.70	186.2392
295.21	174.2758
295.21	174.2758

295.21	174.2758
295.96	195.5786
296.50	227.4872
297.23	0.0000
298.57	227.7557
299.80	185.3729
299.80	185.3729
300.09	199.2970
300.09	199.2970
300.09	199.2970
300.09	199.2970
300.12	199.2997
301.29	184.0085
302.84	168.9503
303.76	0.0000
303.91	153.8220
304.40	150.8183
304.40	150.8183
304.84	150.8546
306.84	171.8744
308.46	169.4855
311.98	168.8995
316.51	154.5981
318.01	156.5693
319.02	157.5759
319.41	166.8262
320.08	174.1619
323.87	157.0695
323.87	157.0695
323.87	157.0695
323.87	157.0695
325.23	160.2656
328.77	162.1164
333.44	170.2592
334.20	172.8061
334.20	172.8061
334.30	172.8152
338.28	155.4882
338.28	155.4882
338.28	155.4882
338.28	155.4882
338.32	155.4902
338.32	155.4902
338.32	155.4902
340.50	133.6086
340.57	133.6121
344.27	154.1074
345.85	142.5480
350.59	0.0000
351.07	131.2175
351.92	131.2739
351.92	131.2739
351.92	131.2739
355.39	0.0000
356.01	100.2266
364.48	114.1805
366.43	136.9623
367.43	141.7548
367.94	0.0000
369.80	122.0524
374.96	132.7966
383.85	132.4199
387.95	109.7722
388.63	111.7170
391.69	125.2672
391.69	125.2672
392.90	121.5120
398.62	129.5156
400.65	122.9172
401.10	127.7462
401.81	127.7885
402.60	122.0685
404.84	142.4012
410.95	139.9094
411.60	140.9171
413.65	138.1507
414.70	120.8191
415.30	115.0517

415.76	125.7137
417.63	0.0000
418.52	117.1567
423.70	133.9301
427.08	105.9464
427.89	107.9296
432.53	112.0506
433.93	100.4200
439.47	0.0000
439.56	104.5797
439.89	100.6853
443.98	109.6785
444.90	119.5189
445.03	119.5263
445.03	119.5263
445.03	119.5263
445.03	119.5263
453.90	90.4805
463.38	84.9229
468.07	107.1881
473.00	76.3439
475.06	94.2706
475.35	96.2671
476.78	94.3378
477.59	88.4101
477.96	90.4101
482.03	86.5816
484.57	0.0000
487.03	96.7324
490.36	0.0000
492.35	0.0000
497.08	96.1266
507.63	0.0000
510.53	0.0000
510.84	84.5737
511.00	84.5788
511.85	84.6081
511.85	84.6081
513.99	84.6788
513.99	84.6788
520.41	80.8496
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	72.0123
529.87	0.0000
531.02	67.9913
537.32	65.1031
543.00	97.8656
546.56	0.0000
549.76	90.9621
552.65	80.8284
555.20	86.0262
563.23	82.1738
563.90	81.1679
568.70	92.6323
569.32	88.5363
569.50	80.3061
569.67	80.3099
573.80	82.4941
574.00	88.6875
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	74.4961
585.48	0.0000
591.81	63.3113
592.07	61.2413
593.00	73.7214
595.88	89.3867
600.56	69.7546
602.52	0.0000
602.71	100.7165
602.71	100.7165
603.60	93.8013
604.41	79.9272
604.70	79.9347
609.31	69.9689

609.31	69.9689
609.31	69.9689
609.31	69.9689
610.33	69.9934
612.46	64.4700
614.37	61.0264
618.01	73.3240
621.84	73.4197
621.84	73.4197
631.29	57.8749
633.02	52.6440
633.10	52.6453
634.78	64.2645
635.90	74.8273
636.97	68.5293
645.85	65.5617
646.12	71.9130
656.30	63.6680
657.75	60.1599
657.90	0.0000
661.65	86.8127
661.65	86.8127
664.57	0.0000
666.33	81.6230
666.33	81.6230
675.00	74.7356
677.61	73.7303
685.20	64.2700
692.80	74.0908
695.00	73.0685
696.49	86.0039
696.49	86.0039
697.00	89.2432
697.49	87.1066
698.33	82.8258
698.50	73.1498
699.00	65.6301
702.63	78.6301
706.10	87.3420
706.58	0.0000
706.67	87.3578
709.31	65.8431
711.68	66.9724
713.82	78.9063
717.42	60.5992
720.50	69.6313
721.93	0.0000
722.20	61.4113
722.78	50.5825
722.78	50.5825
722.89	50.5848
722.95	50.5859
723.30	52.3985
724.18	59.6420
727.18	75.9780
733.00	47.1176
735.90	69.6516
739.58	52.2961
742.81	52.3477
744.21	54.5520
747.13	63.3370
751.79	69.9859
752.31	64.5284
753.82	56.8991
755.35	0.0000
756.15	63.5083
756.87	58.0464
763.93	106.4584
765.79	70.2797
766.42	69.1939
766.84	76.8923
776.49	65.1772
778.00	60.6141
778.57	60.6235
778.89	60.6289
783.80	55.1965
785.46	49.7010
792.07	61.6530

795.84	61.7196
796.30	60.1450
798.80	72.8601
801.93	63.8101
805.60	53.6930
810.29	51.9110
810.76	54.6991
815.85	48.2792
817.79	0.0000
818.51	43.6695
819.60	46.4711
826.30	42.8339
828.27	0.0000
831.60	67.1440
831.96	65.2861
834.83	58.8049
836.80	0.0000
846.75	42.1417
848.13	41.2214
856.28	0.0000
856.80	71.3691
860.37	51.6990
867.32	55.5634
867.82	48.0356
871.10	45.2500
873.19	44.3322
874.81	50.9579
875.33	0.0000
876.40	50.9788
879.36	50.0746
880.27	47.2524
880.51	50.0908
881.50	49.1584
883.24	45.3975
884.67	48.2535
889.25	57.7857
896.60	49.3562
898.02	54.1217
899.00	55.0854
903.28	44.0097
911.07	58.1183
911.07	58.1183
911.07	58.1183
919.63	42.5601
920.93	38.2080
925.00	42.0727
925.24	44.9441
926.50	44.9594
935.52	51.7753
937.48	54.6783
944.10	51.8884
946.00	47.1069
949.00	45.2186
962.29	56.2639
964.01	71.1873
966.15	74.5391
968.20	64.7713
969.11	64.7863
969.11	64.7863
969.11	64.7863
977.42	36.3358
980.50	46.5449
983.50	35.9055
989.30	44.7029
996.32	60.3551
1001.03	39.9582
1001.68	41.9135
1004.76	64.3806
1021.30	0.0000
1024.50	0.0000
1034.80	53.0574
1036.00	44.2255
1037.82	41.2959
1038.57	45.2363
1038.76	0.0000
1045.16	52.2021
1046.59	47.2930
1048.07	47.3086

1050.47	46.3498
1050.47	46.3498
1062.04	39.5540
1063.62	42.5363
1076.63	43.6563
1077.35	52.5946
1078.86	47.6484
1085.78	38.7762
1099.22	38.8953
1112.02	38.4078
1112.84	39.0159
1115.52	41.1830
1120.29	46.0955
1120.29	46.0955
1120.29	46.0955
1120.29	46.0955
1120.51	46.0973
1121.28	46.1048
1124.00	0.0000
1129.67	44.7564
1131.51	0.0000
1147.95	0.0000
1167.94	36.4541
1173.22	60.8276
1175.09	44.6248
1177.93	50.7406
1189.05	47.8109
1204.90	69.4056
1205.75	0.0000
1213.00	64.4125
1221.42	56.3338
1230.97	55.4194
1235.34	61.6333
1236.41	0.0000
1238.25	52.4194
1246.25	47.3589
1260.41	0.0000
1271.85	41.3981
1274.45	44.5257
1274.54	44.5275
1291.56	32.2109
1298.22	0.0000
1312.09	32.3434
1325.50	31.3831
1325.50	31.3831
1332.49	23.0465
1333.61	23.0509
1360.21	22.1177
1362.66	0.0000
1365.15	31.6260
1368.21	28.4810
1368.53	0.0000
1376.25	21.1296
1384.27	40.2080
1394.10	24.3813
1395.20	27.5679
1407.95	18.0680
1434.06	25.6328
1436.60	32.0557
1457.56	0.0000
1460.81	22.5398
1489.15	25.8926
1509.49	21.6553
1596.49	16.9610
1620.62	13.2461
1678.03	0.0000
1691.02	18.1882
1691.02	18.1882
1706.46	0.0000
1750.46	0.0000
1764.49	14.5297
1764.49	14.5297
1764.49	14.5297
1764.49	14.5297
1770.23	13.5732
1771.40	10.1818
1791.20	0.0000
1808.65	11.7045

1836.01

16.6514

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536001

Total Uranium Activity	1.4144E+00	ug/g
Total Uranium Counting Unc.	4.5163E+00	ug/g
Total Uranium Tpu	2.3042E-06	ug/g
Total Uranium Mda	4.1354E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID : G243536001
*  ANALYST       : MXR1            DETECTOR  : GAM06
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00 COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 9-JAN-2010 14:07:55.88 SAMPLE ALQT: 141.640 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.088E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.262E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.292E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.600E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:09:21.78

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536002.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:08:28.
Sample ID          : G243536002      Sample quantity   : 1.21430E+02 GRAM
Detector name      : GAM07           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.24 0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID           : 937074          Detector SN#     :
Matrix Spike ID    :                 LCS ID            : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	47.02*	6	357	0.88	93.70	89	8	8.10E-04	587.1	
2	0	63.41*	76	468	1.22	126.47	123	8	1.06E-02	52.0	
3	3	74.84	419	367	0.89	149.32	145	13	5.82E-02	8.3	9.59E-01
4	3	77.09*	622	360	0.97	153.82	145	13	8.64E-02	6.5	
5	4	84.17*	98	431	1.36	167.99	162	30	1.36E-02	36.7	1.76E+00
6	4	87.18	226	346	1.17	174.00	162	30	3.13E-02	15.0	
7	4	89.92	159	268	1.04	179.48	162	30	2.20E-02	18.4	
8	4	92.72*	232	317	1.30	185.08	162	30	3.22E-02	16.6	
9	0	130.35	52	422	0.62	260.32	254	11	7.17E-03	78.8	
10	0	186.03*	151	349	1.11	371.66	367	11	2.10E-02	26.2	
11	0	209.39	103	230	1.11	418.38	414	9	1.43E-02	28.3	
12	2	238.68*	1153	152	1.10	476.95	470	18	1.60E-01	3.6	1.29E+00
13	2	241.58	238	191	1.50	482.76	470	18	3.30E-02	14.5	
14	0	270.56*	107	159	1.12	540.70	536	11	1.48E-02	25.4	
15	0	295.35*	280	160	1.09	590.27	586	10	3.90E-02	10.5	
16	0	300.51	120	133	1.68	600.60	596	11	1.67E-02	20.8	
17	0	338.41*	252	176	1.19	676.37	670	13	3.51E-02	12.6	
18	0	351.92*	519	146	1.24	703.39	696	14	7.21E-02	6.7	
19	0	463.27	87	116	1.42	926.06	920	14	1.20E-02	28.5	
20	0	511.00*	84	137	1.92	1021.50	1014	17	1.17E-02	38.2	
21	0	583.40*	293	137	1.39	1166.29	1161	13	4.07E-02	10.4	
22	0	609.51*	363	101	1.52	1218.50	1213	12	5.05E-02	7.7	
23	0	728.42	91	89	2.24	1456.29	1447	15	1.26E-02	25.0	
24	0	786.10	37	31	1.67	1571.64	1568	10	5.13E-03	32.3	
25	0	795.81	83	48	1.94	1591.05	1584	15	1.16E-02	21.3	
26	0	861.55*	50	53	2.48	1722.51	1717	12	6.93E-03	34.0	
27	0	911.44*	213	52	1.76	1822.28	1815	13	2.96E-02	10.0	
28	0	969.17	113	41	1.52	1937.72	1933	10	1.57E-02	14.3	
29	0	1120.21*	100	72	2.01	2239.78	2231	19	1.39E-02	22.7	
30	0	1461.24*	1301	24	2.04	2921.77	2914	16	1.81E-01	2.9	
31	0	1765.03*	71	4	2.18	3529.32	3522	16	9.85E-03	14.2	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:08:28
Sample ID        : G243536002 Sample quantity : 121.43 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.24 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.339E+01	3.465E+00	6.272E-01	5.386E-02	53.231
CD-109	+	88.03	*	2.822E+00	8.852E-01	9.963E-01	9.386E-02	2.833
SN-126	+	64.28		5.101E-01	5.358E-01	5.607E-01	8.132E-02	0.910
	+	86.94		1.146E+00	5.868E-01	4.069E-01	1.689E-01	2.818
	+	87.57	*	2.758E-01	8.649E-02	9.756E-02	9.142E-03	2.827
TL-208		277.35		5.831E-01	3.784E-01	6.504E-01	7.964E-02	0.897
	+	510.84		4.358E-01	3.370E-01	2.063E-01	2.514E-02	2.112
	+	583.14	*	4.350E-01	9.981E-02	6.380E-02	6.103E-03	6.818
	+	860.37		6.954E-01	4.782E-01	5.113E-01	4.999E-02	1.360
BI-210	+	46.50	*	2.068E-01	2.428E+00	2.688E+00	2.522E-01	0.077
PB-210	+	46.50	*	2.068E-01	2.428E+00	2.688E+00	2.522E-01	0.077
PO-210	+	46.50	*	2.068E-01	2.428E+00	2.688E+00	2.287E-01	0.077
BI-211		72.87		2.841E+00	2.787E+00	4.265E+00	3.366E-01	0.666
	+	351.07	*	3.367E+00	5.438E-01	3.074E-01	2.758E-02	10.954
BI-212	+	727.18	*	1.158E+00	5.915E-01	4.851E-01	5.032E-02	2.388
	+	785.46		3.009E+00	1.966E+00	2.823E+00	2.581E-01	1.066
		1620.62		7.516E-01	1.283E+00	2.283E+00	1.907E-01	0.329
PB-212	+	74.81		1.992E+00	4.120E-01	4.449E-01	5.488E-02	4.478
	+	77.11		1.708E+00	2.638E-01	2.572E-01	2.123E-02	6.638
	+	87.30		1.275E+00	4.199E-01	4.518E-01	6.182E-02	2.823
	+	238.63	*	1.627E+00	1.944E-01	8.368E-02	8.004E-03	19.446
	+	300.09		2.629E+00	1.125E+00	1.043E+00	1.082E-01	2.521
PO-212	+	74.81		1.992E+00	4.120E-01	4.449E-01	5.488E-02	4.478
	+	77.11		1.708E+00	2.638E-01	2.572E-01	2.123E-02	6.638
	+	87.30		1.275E+00	4.199E-01	4.518E-01	6.182E-02	2.823
		115.19		2.587E+00	3.451E+00	5.737E+00	4.941E-01	0.451
	+	238.63	*	1.627E+00	1.944E-01	8.368E-02	8.004E-03	19.446
	+	300.09		2.629E+00	1.125E+00	1.043E+00	1.082E-01	2.521
BI-214	+	609.31	*	1.015E+00	1.891E-01	1.197E-01	1.238E-02	8.485
	+	1120.29		1.453E+00	6.771E-01	4.929E-01	5.292E-02	2.949
	+	1764.49		1.412E+00	4.186E-01	2.967E-01	2.440E-02	4.759
PB-214	+	74.81		3.432E+00	6.824E-01	7.665E-01	8.386E-02	4.478
	+	77.11		2.927E+00	5.042E-01	4.410E-01	4.953E-02	6.638
	+	87.30		2.185E+00	7.057E-01	7.740E-01	9.372E-02	2.823

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		2.016E+00	6.204E-01	5.041E-01	5.116E-02	4.000
	+	295.21		1.075E+00	2.532E-01	2.163E-01	2.289E-02	4.971
	+	351.92	*	1.171E+00	1.988E-01	1.072E-01	1.112E-02	10.930
	+	74.81		3.432E+00	6.824E-01	7.665E-01	8.386E-02	4.478
	+	77.11		2.927E+00	5.042E-01	4.410E-01	4.953E-02	6.638
	+	87.30		2.185E+00	7.057E-01	7.740E-01	9.372E-02	2.823
PO-216	+	241.98		2.016E+00	6.204E-01	5.041E-01	5.116E-02	4.000
	+	295.21		1.075E+00	2.532E-01	2.163E-01	2.289E-02	4.971
	+	351.92	*	1.171E+00	1.988E-01	1.072E-01	1.112E-02	10.930
	+	74.81		1.992E+00	4.120E-01	4.449E-01	5.488E-02	4.478
	+	77.11		1.708E+00	2.638E-01	2.572E-01	2.123E-02	6.638
	+	87.30		1.275E+00	4.199E-01	4.518E-01	6.182E-02	2.823
PO-218	+	238.63	*	1.627E+00	1.944E-01	8.368E-02	8.004E-03	19.446
	+	300.09		2.629E+00	1.125E+00	1.043E+00	1.082E-01	2.521
	+	74.81		3.432E+00	6.824E-01	7.665E-01	8.386E-02	4.478
	+	77.11		2.927E+00	5.042E-01	4.410E-01	4.953E-02	6.638
	+	87.30		2.185E+00	7.057E-01	7.740E-01	9.372E-02	2.823
	+	241.98		2.016E+00	6.204E-01	5.041E-01	5.116E-02	4.000
RA-224	+	295.21		1.075E+00	2.532E-01	2.163E-01	2.289E-02	4.971
	+	351.92	*	1.171E+00	1.988E-01	1.072E-01	1.112E-02	10.930
	+	240.98	*	3.823E+00	1.157E+00	9.525E-01	8.055E-02	4.014
RA-226	+	609.31	*	1.015E+00	1.891E-01	1.197E-01	1.238E-02	8.485
	+	1120.29		1.453E+00	6.771E-01	4.929E-01	5.292E-02	2.949
	+	1764.49		1.412E+00	4.186E-01	2.967E-01	2.440E-02	4.759
AC-228	+	338.32		1.805E+00	8.734E-01	3.361E-01	1.386E-01	5.371
	+	911.07	*	1.401E+00	3.248E-01	2.181E-01	2.541E-02	6.424
	+	969.11		1.307E+00	4.840E-01	4.751E-01	1.116E-01	2.752
RA-228	+	338.32		1.805E+00	8.734E-01	3.361E-01	1.386E-01	5.371
	+	911.07	*	1.401E+00	3.248E-01	2.181E-01	2.541E-02	6.424
	+	969.11		1.307E+00	4.840E-01	4.751E-01	1.116E-01	2.752
TH-228	+	74.81		2.030E+00	3.753E-01	4.534E-01	3.685E-02	4.478
	+	77.11		1.740E+00	2.688E-01	2.622E-01	2.164E-02	6.638
	+	87.30		1.300E+00	4.077E-01	4.605E-01	4.300E-02	2.823
TH-230	+	238.63	*	1.658E+00	1.981E-01	8.529E-02	8.158E-03	19.446
	+	300.09		2.679E+00	1.939E+00	1.063E+00	6.299E-01	2.521
	+	609.31	*	1.015E+00	1.891E-01	1.197E-01	1.238E-02	8.485
TH-232	+	1120.29		1.453E+00	6.770E-01	4.929E-01	5.292E-02	2.949
	+	1764.49		1.412E+00	4.186E-01	2.967E-01	2.440E-02	4.759
	+	338.32		1.805E+00	4.820E-01	3.361E-01	2.877E-02	5.371
TH-234	+	911.07	*	1.401E+00	3.248E-01	2.181E-01	2.541E-02	6.424
	+	969.11		1.307E+00	4.840E-01	4.751E-01	1.116E-01	2.752
	+	63.29	*	1.289E+00	1.359E+00	1.511E+00	2.629E-01	0.853
U-234	+	92.38		1.886E+00	7.162E-01	6.550E-01	1.202E-01	2.880
	+	609.31	*	1.015E+00	1.891E-01	1.197E-01	1.238E-02	8.485
	+	1120.29		1.453E+00	6.770E-01	4.929E-01	5.292E-02	2.949
NP-237	+	1764.49		1.412E+00	4.186E-01	2.967E-01	2.440E-02	4.759
	+	86.50	*	8.098E-01	3.040E-01	2.881E-01	6.513E-02	2.811
	+	95.87		-5.351E-01	8.809E-01	1.215E+00	3.011E-01	-0.440
U-238	+	63.29	*	1.289E+00	1.359E+00	1.511E+00	2.629E-01	0.853

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	92.38		1.886E+00	6.504E-01	6.550E-01	6.000E-02	2.880
	+	74.67	*	3.229E-01	5.959E-02	7.226E-02	5.808E-03	4.469
	+	86.72		3.037E+01	9.524E+00	1.079E+01	1.000E+00	2.815
		117.66		-7.717E-01	3.643E+00	5.808E+00	4.996E-01	-0.133
ANH-511		142.18		2.491E+00	1.686E+01	2.711E+01	2.238E+00	0.092
	+	511.00	*	9.413E-02	7.236E-02	4.458E-02	3.961E-03	2.111

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-5.766E-02	3.431E-01	5.422E-01	5.117E-02	-0.106
NA-22		1274.54	*	-2.700E-02	5.192E-02	8.144E-02	6.685E-03	-0.332
NA-24		1368.53	*	-3.830E+01	5.192E-02	Half-Life too short		
AL-26		1129.67		-5.242E-01	1.898E+00	2.841E+00	2.386E-01	-0.185
		1808.65	*	-3.586E-02	3.466E-02	4.598E-02	3.750E-03	-0.780
TI-44		67.85		-4.990E-03	3.777E-02	5.532E-02	4.174E-03	-0.090
	+	78.38	*	3.152E-01	4.868E-02	6.474E-02	5.420E-03	4.868
SC-46		889.25	*	5.397E-04	4.078E-02	6.629E-02	6.075E-03	0.008
	+	1120.51		2.571E-01	1.186E-01	1.380E-01	1.166E-02	1.863
V-48		944.10		-3.009E-01	1.130E+00	1.773E+00	1.612E-01	-0.170
		983.50	*	-1.147E-02	8.801E-02	1.397E-01	1.257E-02	-0.082
CR-51		1312.09		3.039E-02	9.591E-02	1.640E-01	1.345E-02	0.185
		320.08	*	1.295E-02	4.095E-01	6.747E-01	6.097E-02	0.019
MN-52		744.21		2.135E-01	4.082E-01	7.014E-01	6.367E-02	0.304
		848.13		2.814E+00	1.248E+01	2.075E+01	1.905E+00	0.136
		935.52		7.043E-01	4.792E-01	8.694E-01	7.917E-02	0.810
		1246.25		-4.176E+00	1.449E+01	2.342E+01	1.918E+00	-0.178
		1333.61		1.518E+00	8.609E+00	1.448E+01	1.186E+00	0.105
		1434.06	*	-2.054E-01	3.163E-01	4.500E-01	3.742E-02	-0.456
MN-54		834.83	*	-2.335E-03	3.997E-02	6.486E-02	5.953E-03	-0.036
CO-56		846.75	*	-2.541E-03	4.607E-02	7.469E-02	6.857E-03	-0.034
		977.42		-3.127E+00	3.315E+00	4.760E+00	4.292E-01	-0.657
		1037.82		-8.857E-02	3.428E-01	5.614E-01	5.208E-02	-0.158
		1175.09		8.017E-01	2.793E+00	4.750E+00	3.866E-01	0.169
		1238.25		1.547E-01	1.199E-01	2.142E-01	1.810E-02	0.722
		1360.21		1.316E+00	1.057E+00	2.000E+00	1.647E-01	0.658
CO-57		1771.40		-1.076E-02	1.974E-01	2.763E-01	2.269E-02	-0.039
		122.06	*	-3.733E-03	2.479E-02	3.957E-02	3.405E-03	-0.094
CO-58		136.48		-1.073E-01	2.024E-01	3.106E-01	2.796E-02	-0.345
		810.76	*	-2.172E-02	4.409E-02	6.862E-02	6.305E-03	-0.316
FE-59		142.65		-6.235E-01	2.858E+00	4.453E+00	3.673E-01	-0.140
		192.34		8.099E-01	9.969E-01	1.684E+00	2.212E-01	0.481
		1099.22	*	4.029E-02	1.106E-01	1.905E-01	1.765E-02	0.212
		1291.56		-3.341E-04	1.522E-01	2.511E-01	2.365E-02	-0.001
CO-60		1173.22		8.735E-03	5.313E-02	8.954E-02	7.287E-03	0.098
		1332.49	*	-5.135E-03	4.316E-02	7.007E-02	5.740E-03	-0.073
ZN-65		1115.52	*	3.274E-02	1.171E-01	1.742E-01	1.479E-02	0.188
GE-68		1077.35	*	-4.703E-01	1.396E+00	2.264E+00	1.962E-01	-0.208

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-73	53.44	*		1.361E-02	5.095E-01	8.236E-01	6.185E-02	0.017
AS-74	595.88	*		2.868E-02	1.095E-01	1.865E-01	1.672E-02	0.154
	634.78			-1.887E-01	4.291E-01	6.872E-01	6.126E-02	-0.275
SE-75	66.05			-4.878E-01	3.834E+00	5.622E+00	5.333E-01	-0.087
	96.73			-5.705E-01	7.453E-01	1.023E+00	1.417E-01	-0.558
	121.11			-2.126E-02	1.329E-01	2.121E-01	2.376E-02	-0.100
	136.00			-1.303E-02	3.833E-02	5.946E-02	4.999E-03	-0.219
	198.60			7.148E-01	1.739E+00	2.968E+00	2.728E-01	0.241
	264.65	*		2.071E-03	4.640E-02	7.175E-02	6.127E-03	0.029
	279.53			-5.176E-02	1.071E-01	1.724E-01	1.520E-02	-0.300
	303.91			1.399E-01	2.216E+00	3.227E+00	3.689E-01	0.043
	400.65			-4.554E-02	2.535E-01	4.054E-01	4.432E-02	-0.112
BR-77	87.88	+		1.931E-03	2.535E-01	Half-Life	too short	
	200.40			-1.237E-04	2.535E-01	Half-Life	too short	
	239.00	+		8.323E-04	2.535E-01	Half-Life	too short	
	249.79			6.653E-05	2.535E-01	Half-Life	too short	
	281.68			-2.180E-04	2.535E-01	Half-Life	too short	
	297.23			7.312E-04	2.535E-01	Half-Life	too short	
	303.76			3.200E-05	2.535E-01	Half-Life	too short	
	439.47			7.512E-04	2.535E-01	Half-Life	too short	
	484.57			5.076E-04	2.535E-01	Half-Life	too short	
	520.65	*		1.267E-05	2.535E-01	Half-Life	too short	
	574.64			-6.793E-04	2.535E-01	Half-Life	too short	
	578.91			4.281E-04	2.535E-01	Half-Life	too short	
	585.48			4.313E-03	2.535E-01	Half-Life	too short	
	755.35			5.077E-04	2.535E-01	Half-Life	too short	
	817.79			-7.292E-06	2.535E-01	Half-Life	too short	
SR-82	698.33			2.866E+01	3.916E+01	6.836E+01	6.129E+00	0.419
	776.49	*		-2.635E-01	4.322E-01	6.660E-01	6.082E-02	-0.396
	1395.20			-3.780E+00	1.297E+01	2.041E+01	1.689E+00	-0.185
RB-83	520.41	*		2.438E-02	6.895E-02	1.192E-01	1.062E-02	0.205
	529.64			1.743E-03	1.105E-01	1.862E-01	1.662E-02	0.009
	552.65			9.508E-02	2.121E-01	3.674E-01	3.290E-02	0.259
RB-84	881.50	*		2.526E-02	6.494E-02	1.105E-01	1.013E-02	0.229
KR-85	513.99	*		1.449E+01	8.041E+00	1.361E+01	1.210E+00	1.065
SR-85	513.99	*		7.748E-02	4.299E-02	7.276E-02	6.470E-03	1.065
RB-86	1076.63	*		2.003E-01	9.916E-01	1.690E+00	1.465E-01	0.119
Y-88	898.02			2.612E-03	4.700E-02	7.666E-02	7.049E-03	0.034
	1836.01	*		3.434E-03	3.235E-02	5.511E-02	4.473E-03	0.062
ZR-88	392.90	*		-2.275E-03	2.995E-02	4.835E-02	4.027E-03	-0.047
Y-91	1204.90	*		-1.443E+01	2.229E+01	3.487E+01	2.848E+00	-0.414
NB-94	702.63	*		-3.350E-02	3.343E-02	5.002E-02	4.491E-03	-0.670
	871.10			-2.370E-02	3.653E-02	5.528E-02	5.072E-03	-0.429
NB-95	765.79	*		2.584E-02	4.715E-02	8.073E-02	7.359E-03	0.320
NB-95M	235.69	*		1.213E-01	1.261E-01	1.976E-01	1.918E-02	0.614
ZR-95	724.18			-6.327E-03	1.175E-01	1.668E-01	1.626E-02	-0.038
	756.15	*		6.756E-02	7.646E-02	1.349E-01	1.339E-02	0.501
NB-97	657.90	*		-1.754E+00	7.646E-02	Half-Life	too short	
	1024.50			3.732E+02	7.646E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	254.15			8.837E+01	7.646E-02	Half-Life	too short	
	355.39			-8.208E+01	7.646E-02	Half-Life	too short	
	507.63	*		9.457E+01	7.646E-02	Half-Life	too short	
	602.52			2.887E+02	7.646E-02	Half-Life	too short	
	1021.30			-1.066E+02	7.646E-02	Half-Life	too short	
	1147.95			6.460E+01	7.646E-02	Half-Life	too short	
	1362.66			2.304E+02	7.646E-02	Half-Life	too short	
	1750.46			1.906E+02	7.646E-02	Half-Life	too short	
MO-99	140.51			2.016E+01	6.808E+01	1.100E+02	3.033E+01	0.183
	181.06			2.378E+01	4.739E+01	7.287E+01	1.314E+01	0.326
	366.43			-2.057E+02	2.403E+02	3.677E+02	3.114E+01	-0.559
	739.58	*		-1.501E+01	3.251E+01	5.109E+01	7.890E+00	-0.294
	778.00			-5.959E+01	9.215E+01	1.411E+02	1.289E+01	-0.422
TC-99M	140.51	*		6.300E+14	9.215E+01	Half-Life	too short	
RH-101	127.23			-1.402E-02	3.602E-02	5.022E-02	4.265E-03	-0.279
	198.01	*		2.420E-03	3.136E-02	5.280E-02	4.331E-03	0.046
	325.23			-2.716E-01	2.387E-01	3.640E-01	3.121E-02	-0.746
RH-102	418.52			-1.516E-01	3.226E-01	5.042E-01	4.284E-02	-0.301
	475.06	*		-4.485E-03	3.021E-02	4.784E-02	4.197E-03	-0.094
	631.29			1.265E-02	5.449E-02	9.242E-02	8.245E-03	0.137
	697.49			5.534E-02	8.132E-02	1.413E-01	1.267E-02	0.392
	766.84			1.240E-01	1.187E-01	2.095E-01	1.910E-02	0.592
	1046.59			5.324E-02	1.209E-01	2.109E-01	1.855E-02	0.252
	1112.84			1.347E-01	2.760E-01	4.224E-01	3.586E-02	0.319
RU-103	497.08	*		-2.283E-02	4.304E-02	6.524E-02	9.331E-03	-0.350
+	610.33			1.176E+01	2.692E+00	3.210E+00	5.412E-01	3.663
RH-106	511.85	+		4.737E-01	3.641E-01	4.528E-01	4.024E-02	1.046
	621.84	*		3.680E-01	3.426E-01	6.105E-01	8.282E-02	0.603
	1050.47			1.792E+00	2.496E+00	4.445E+00	3.903E-01	0.403
RU-106	511.85	+		4.737E-01	3.641E-01	4.528E-01	4.024E-02	1.046
	621.84	*		3.680E-01	3.406E-01	6.105E-01	5.457E-02	0.603
	1050.47			1.792E+00	2.496E+00	4.445E+00	3.903E-01	0.403
AG-108M	433.93	*		-1.388E-02	3.236E-02	5.034E-02	4.495E-03	-0.276
	614.37			7.155E-03	4.346E-02	6.415E-02	5.949E-03	0.112
	722.95			4.629E-03	4.722E-02	6.829E-02	6.387E-03	0.068
AG-110M.	657.75	*		-1.320E-02	3.531E-02	5.668E-02	5.164E-03	-0.233
	677.61			2.344E-01	3.042E-01	5.360E-01	4.899E-02	0.437
	706.67			4.415E-02	2.200E-01	3.691E-01	3.402E-02	0.120
	763.93			-7.190E-02	1.737E-01	2.747E-01	2.567E-02	-0.262
	884.67			-1.332E-02	4.824E-02	7.585E-02	7.151E-03	-0.176
	937.48			1.098E-01	1.211E-01	2.124E-01	1.996E-02	0.517
	1384.27			-1.257E-01	1.959E-01	2.959E-01	2.520E-02	-0.425
IN-111	171.28			7.458E-01	2.684E+00	4.304E+00	3.425E-01	0.173
	245.39	*		-1.802E+00	3.155E+00	4.405E+00	3.731E-01	-0.409
IN-113M	391.69	*		3.133E-02	4.249E-02	7.274E-02	6.253E-03	0.431
SN-113	391.69	*		3.133E-02	4.249E-02	7.274E-02	6.253E-03	0.431
IN-114M	190.27	*		8.724E-02	2.071E-01	3.169E-01	2.579E-02	0.275
CD-115	260.90			-2.184E-04	2.071E-01	Half-Life	too short	
	492.35			4.486E-05	2.071E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-117M	527.90	*		2.769E-05	2.071E-01	Half-Life	too short	
	156.02			-1.174E+00	2.776E+00	4.314E+00	3.475E-01	-0.272
	158.56	*		-4.828E-03	6.699E-02	1.060E-01	8.495E-03	-0.046
SB-122	563.90	*		-2.589E+00	5.563E+00	8.977E+00	8.048E-01	-0.288
	692.80			-1.034E+01	1.238E+02	2.032E+02	1.819E+01	-0.051
I-123	159.00	*		8.722E+01	1.238E+02	Half-Life	too short	
	528.96			1.803E+04	1.238E+02	Half-Life	too short	
TE-123M	159.00	*		2.875E-03	2.906E-02	4.636E-02	3.740E-03	0.062
I-124	602.71	*		1.438E+00	1.392E+00	2.315E+00	2.074E-01	0.621
	722.78			1.434E+00	9.568E+00	1.393E+01	1.258E+00	0.103
	1325.50			1.668E+01	7.059E+01	1.195E+02	9.796E+00	0.140
	1376.25			5.259E+01	6.626E+01	1.182E+02	9.759E+00	0.445
	1509.49			1.698E+01	2.801E+01	5.008E+01	4.187E+00	0.339
	1691.02			-4.209E+00	8.464E+00	1.234E+01	1.025E+00	-0.341
	602.71			4.527E-02	4.384E-02	7.290E-02	6.532E-03	0.621
	645.85			-8.768E-02	5.265E-01	8.623E-01	8.100E-02	-0.102
	709.31			2.949E+00	3.100E+00	5.433E+00	4.888E-01	0.543
	713.82			-4.706E-01	1.689E+00	2.714E+00	3.344E-01	-0.173
SB-124	722.78			6.546E-02	4.367E-01	6.356E-01	5.853E-02	0.103
	+			968.20	1.409E+01	4.227E+00	7.368E+00	6.661E-01
				1045.16	5.204E-01	2.721E+00	4.646E+00	4.088E-01
				1325.50	8.131E-01	3.441E+00	5.828E+00	4.775E-01
				1368.21	-1.161E+00	1.814E+00	2.683E+00	3.552E-01
				1436.60	2.465E-01	3.323E+00	5.511E+00	4.584E-01
				1691.02	-4.531E-02	9.113E-02	1.329E-01	1.151E-02
	SB-125	*		427.89	2.264E-02	9.592E-02	1.576E-01	1.374E-02
	+			463.38	8.799E-01	5.077E-01	5.801E-01	5.449E-02
				600.56	-1.384E-01	1.894E-01	2.982E-01	2.855E-02
TE-125M	635.90			7.112E-02	2.744E-01	4.661E-01	4.469E-02	0.153
	109.28	*		7.819E+00	8.673E+00	1.454E+01	1.509E+00	0.538
	I-126			388.63	9.255E-02	2.412E-01	4.030E-01	3.362E-02
SB-126				666.33	3.140E-02	2.304E-01	3.861E-01	3.423E-02
		*		753.82	1.562E+00	1.878E+00	3.303E+00	3.004E-01
				223.80	-5.298E-01	5.017E+00	8.233E+00	6.900E-01
				278.60	1.930E+00	2.979E+00	5.105E+00	4.333E-01
	+			296.50	1.336E+01	3.035E+00	4.335E+00	3.704E-01
				414.70	1.558E-02	9.980E-02	1.633E-01	1.383E-02
				415.30	1.248E+00	8.321E+00	1.361E+01	1.153E+00
				555.20	8.679E-01	5.075E+00	8.625E+00	7.726E-01
				573.80	-5.213E-01	1.262E+00	2.042E+00	1.832E-01
				593.00	-8.726E-01	1.195E+00	1.876E+00	1.682E-01
SB-126				656.30	-1.479E+00	4.018E+00	6.446E+00	5.714E-01
				666.33	1.324E-02	9.714E-02	1.628E-01	1.444E-02
				675.00	7.191E-01	2.423E+00	4.117E+00	3.662E-01
				695.00	1.329E-02	1.028E-01	1.717E-01	1.538E-02
				697.00	2.221E-01	3.531E-01	6.116E-01	5.481E-02
		*		720.50	3.288E-02	2.018E-01	2.944E-01	2.657E-02
				856.80	1.174E-01	7.453E-01	1.070E+00	9.822E-02
				989.30	1.279E+00	1.675E+00	2.906E+00	2.612E-01
								0.440

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SB-127	1034.80			1.032E+01	1.223E+01	2.197E+01	1.942E+00	0.470
	1213.00			2.469E+00	6.653E+00	1.137E+01	9.290E-01	0.217
	61.10			1.027E+02	9.000E+01	1.395E+02	1.605E+01	0.736
	252.40			-4.606E+00	9.185E+00	1.456E+01	6.167E+00	-0.316
	290.80			-6.876E-01	4.642E+01	6.734E+01	8.324E+00	-0.010
	411.60			2.560E+01	2.712E+01	4.612E+01	7.637E+00	0.555
	444.90			-1.868E+01	2.051E+01	3.030E+01	4.145E+00	-0.617
	473.00			1.510E+00	3.534E+00	5.855E+00	8.234E-01	0.258
	543.00			-1.558E+00	3.010E+01	5.037E+01	7.848E+00	-0.031
	603.60			2.399E+01	2.685E+01	4.237E+01	5.873E+00	0.566
XE-127	685.20	*		2.279E+00	2.737E+00	4.829E+00	6.198E-01	0.472
	698.50			1.612E+01	3.246E+01	5.557E+01	9.399E+00	0.290
	722.20			5.212E+01	6.674E+01	1.043E+02	1.326E+01	0.500
	783.80			1.035E+01	8.169E+00	1.334E+01	1.854E+00	0.776
	57.60			-2.430E+00	4.204E+00	6.799E+00	4.929E-01	-0.357
	145.22			-6.652E-02	7.462E-01	1.169E+00	9.598E-02	-0.057
	172.10			2.291E-02	1.279E-01	2.042E-01	1.626E-02	0.112
	202.84	*		2.197E-02	4.847E-02	8.328E-02	6.863E-03	0.264
	374.96			1.653E-02	2.132E-01	3.491E-01	2.942E-02	0.047
	80.18			-4.267E-01	7.171E+00	8.245E+00	7.121E-01	-0.052
I-131	284.30			-1.618E-01	1.916E+00	3.156E+00	2.839E-01	-0.051
	364.48	*		2.492E-01	1.587E-01	2.843E-01	2.554E-02	0.876
	636.97			4.063E-01	2.171E+00	3.667E+00	3.450E-01	0.111
	722.89			1.305E+00	1.122E+01	1.626E+01	1.482E+00	0.080
TE-132	49.72			-2.307E+00	2.625E+01	3.900E+01	4.486E+00	-0.059
	111.76			-4.160E+01	6.328E+01	9.869E+01	1.184E+01	-0.422
	116.30			-4.433E+00	6.278E+01	1.008E+02	1.208E+01	-0.044
	228.16	*		-1.180E+00	1.557E+00	2.492E+00	4.087E-01	-0.473
BA-133	53.15			2.187E-01	2.117E+00	3.434E+00	2.587E-01	0.064
	79.62			-1.020E-01	1.427E+00	1.640E+00	2.485E-01	-0.062
	81.00			-1.619E-02	1.089E-01	1.241E-01	1.972E-02	-0.130
	276.40			5.849E-01	3.944E-01	6.507E-01	9.352E-02	0.899
	302.84			1.443E-02	1.523E-01	2.224E-01	2.946E-02	0.065
	356.01	*		1.224E-02	5.004E-02	7.319E-02	9.612E-03	0.167
I-133	383.85			-3.805E-02	2.967E-01	4.779E-01	5.944E-02	-0.080
	510.53	+		2.296E+01	2.967E-01	Half-Life	too short	
	529.87	*		4.901E-02	2.967E-01	Half-Life	too short	
	706.58			2.225E+00	2.967E-01	Half-Life	too short	
	856.28			-4.093E-01	2.967E-01	Half-Life	too short	
	875.33			2.032E+00	2.967E-01	Half-Life	too short	
	1236.41			2.653E+01	2.967E-01	Half-Life	too short	
	1298.22			-2.292E+00	2.967E-01	Half-Life	too short	
	475.35			-9.663E-01	1.979E+00	3.041E+00	2.668E-01	-0.318
	563.23			-8.970E-02	3.458E-01	5.677E-01	5.134E-02	-0.158
CS-134	569.32			-4.478E-02	2.052E-01	3.284E-01	2.982E-02	-0.136
	604.70			1.962E-02	3.794E-02	5.807E-02	5.214E-03	0.338
	795.84	+	*	1.788E-01	7.778E-02	1.039E-01	9.571E-03	1.722
	801.93			-1.337E-01	4.938E-01	6.695E-01	6.164E-02	-0.200
	1038.57			-3.279E+00	4.073E+00	6.281E+00	5.543E-01	-0.522

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1167.94			-2.294E+00	3.002E+00	4.663E+00	3.810E-01	-0.492
	1365.15			-8.650E-01	1.255E+00	1.851E+00	1.601E-01	-0.467
CS-135	268.24		*	8.703E-02	1.659E-01	2.518E-01	2.483E-02	0.346
I-135	288.45			-1.442E+14	1.659E-01	Half-Life	too short	
	417.63			1.499E+14	1.659E-01	Half-Life	too short	
	546.56			-2.700E+14	1.659E-01	Half-Life	too short	
	836.80			2.656E+14	1.659E-01	Half-Life	too short	
	1038.76			-3.629E+14	1.659E-01	Half-Life	too short	
	1124.00			1.141E+15	1.659E-01	Half-Life	too short	
	1131.51			1.021E+13	1.659E-01	Half-Life	too short	
	1260.41		*	-6.162E+13	1.659E-01	Half-Life	too short	
	1457.56			7.874E+15	1.659E-01	Half-Life	too short	
	1678.03			5.335E+12	1.659E-01	Half-Life	too short	
	1706.46			1.783E+14	1.659E-01	Half-Life	too short	
	1791.20			-4.669E+13	1.659E-01	Half-Life	too short	
CS-136	66.91			-1.312E-01	7.664E-01	1.120E+00	1.662E-01	-0.117
	86.29		+	4.436E+00	1.454E+00	2.098E+00	2.783E-01	2.114
	153.22			7.925E-01	8.147E-01	1.351E+00	1.239E-01	0.587
	163.89			-2.386E-01	1.331E+00	2.089E+00	1.892E-01	-0.114
	176.55			-1.425E-01	4.253E-01	7.110E-01	6.077E-02	-0.200
	273.65			-4.675E-01	6.175E-01	8.457E-01	7.675E-02	-0.553
	340.57			5.133E-01	1.817E-01	3.092E-01	2.725E-02	1.660
	818.51			4.943E-02	1.073E-01	1.763E-01	1.619E-02	0.280
	1048.07		*	-6.295E-02	1.511E-01	2.439E-01	2.233E-02	-0.258
	1235.34			2.062E-01	8.885E-01	1.496E+00	1.726E-01	0.138
BA-137M	661.65		*	9.113E-04	3.765E-02	6.196E-02	5.484E-03	0.015
CS-137	661.65		*	9.633E-04	3.980E-02	6.550E-02	5.807E-03	0.015
CE-139	165.85		*	-3.701E-03	3.035E-02	4.776E-02	3.778E-03	-0.077
BA-140	162.64			4.157E-01	9.254E-01	1.500E+00	1.274E-01	0.277
	304.84			-4.384E-01	1.696E+00	2.392E+00	6.699E-01	-0.183
	423.70			-5.658E-02	2.574E+00	4.154E+00	1.345E+00	-0.014
	537.32		*	-3.874E-02	2.959E-01	4.919E-01	1.634E-01	-0.079
LA-140	328.77			4.921E-01	3.869E-01	6.759E-01	6.123E-02	0.728
	432.53			-5.495E-01	2.498E+00	3.958E+00	3.561E-01	-0.139
	487.03			-2.921E-03	1.783E-01	2.851E-01	2.662E-02	-0.010
	751.79			-4.141E-02	2.217E+00	3.639E+00	3.628E-01	-0.011
	815.85			8.446E-02	4.508E-01	7.489E-01	7.571E-02	0.113
	867.82			9.269E-01	2.067E+00	3.086E+00	2.965E-01	0.300
	919.63			-3.790E+00	3.877E+00	5.599E+00	6.195E-01	-0.677
	925.24			1.098E+00	1.429E+00	2.493E+00	2.403E-01	0.441
	1596.49		*	-8.801E-02	1.093E-01	1.511E-01	1.264E-02	-0.583
CE-141	145.44		*	-1.650E-02	6.822E-02	1.060E-01	8.877E-03	-0.156
CE-143	57.37			-2.330E-03	6.822E-02	Half-Life	too short	
	231.56			-2.902E-03	6.822E-02	Half-Life	too short	
	293.26		*	4.027E-03	6.822E-02	Half-Life	too short	
	350.59		+	1.977E-01	6.822E-02	Half-Life	too short	
	490.36			-2.141E-03	6.822E-02	Half-Life	too short	
	664.57			-4.051E-03	6.822E-02	Half-Life	too short	
	721.93			1.084E-02	6.822E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-144		80.11		-1.932E-01	2.365E+00	2.714E+00	2.318E-01	-0.071
		133.54	*	-4.154E-02	2.205E-01	3.102E-01	4.789E-02	-0.134
PM-144		476.78		-4.821E-02	7.029E-02	1.059E-01	1.014E-02	-0.455
		618.01		9.401E-03	3.317E-02	5.647E-02	5.181E-03	0.166
		696.49	*	7.699E-03	3.698E-02	6.211E-02	5.569E-03	0.124
		778.57		-9.344E-02	2.214E+00	3.616E+00	3.304E-01	-0.026
PR-144		696.49	*	5.228E-01	2.511E+00	4.218E+00	3.780E-01	0.124
		1489.15		-8.675E+00	1.080E+01	1.472E+01	1.230E+00	-0.589
PM-146		453.90	*	-1.433E-02	4.235E-02	6.611E-02	7.124E-03	-0.217
		633.02		3.429E-01	1.400E+00	2.367E+00	8.863E-01	0.145
		735.90		-1.176E-01	1.557E-01	2.238E-01	6.432E-02	-0.525
		747.13		-8.462E-02	9.605E-02	1.437E-01	2.058E-02	-0.589
ND-147	+	91.11		8.454E-01	3.219E-01	5.605E-01	5.547E-02	1.508
		319.41		-5.186E-01	4.275E+00	6.977E+00	5.985E-01	-0.074
		439.89		1.393E+01	7.923E+00	1.424E+01	1.228E+00	0.978
		531.02	*	-2.588E-01	7.222E-01	1.181E+00	1.787E-01	-0.219
PM-149		285.90	*	6.561E-05	7.222E-01	Half-Life too short		
EU-152		121.78		2.848E-02	7.021E-02	1.150E-01	1.139E-02	0.248
		244.69		-1.465E-01	3.532E-01	5.027E-01	4.257E-02	-0.291
		344.27	*	-2.026E-02	1.074E-01	1.402E-01	1.271E-02	-0.144
		443.98		-9.939E-01	9.826E-01	1.444E+00	1.247E-01	-0.688
		778.89		1.332E-02	2.562E-01	4.222E-01	3.857E-02	0.032
		867.32		9.038E-01	9.493E-01	1.512E+00	1.388E-01	0.598
		964.01		2.967E-01	3.372E-01	5.238E-01	4.740E-02	0.566
		1085.78		-3.155E-03	4.427E-01	7.402E-01	6.385E-02	-0.004
		1112.02		4.488E-01	3.845E-01	6.335E-01	5.382E-02	0.708
		1407.95		6.360E-02	2.059E-01	3.504E-01	2.905E-02	0.182
GD-153		69.67		-6.091E-01	1.338E+00	2.060E+00	1.578E-01	-0.296
	+	83.37		2.169E+01	1.605E+01	2.130E+01	1.893E+00	1.018
		97.43	*	-1.876E-02	7.511E-02	1.071E-01	9.582E-03	-0.175
		103.18		-1.308E-02	9.578E-02	1.542E-01	1.353E-02	-0.085
EU-154		123.07		-2.243E-02	5.121E-02	8.053E-02	9.125E-03	-0.279
		247.94		2.493E-01	3.612E-01	6.219E-01	7.070E-02	0.401
		591.81		-1.870E-01	6.244E-01	9.891E-01	1.180E-01	-0.189
		723.30		-2.096E-02	2.021E-01	2.850E-01	2.822E-02	-0.074
		756.87		8.430E-01	7.542E-01	1.355E+00	1.670E-01	0.622
		873.19		1.552E-01	3.006E-01	5.139E-01	6.495E-02	0.302
		996.32		-3.136E-01	4.005E-01	5.823E-01	1.044E-01	-0.539
		1004.76		-1.980E-01	2.467E-01	3.619E-01	4.299E-02	-0.547
		1274.45	*	-4.179E-02	1.414E-01	2.269E-01	2.494E-02	-0.184
EU-155		48.70		-4.168E-01	1.388E+00	2.038E+00	1.649E-01	-0.205
		60.01		3.208E+00	3.728E+00	5.751E+00	4.141E-01	0.558
	+	86.54		3.326E-01	1.044E-01	1.575E-01	1.469E-02	2.112
		105.31	*	6.073E-02	9.981E-02	1.657E-01	1.464E-02	0.367
TB-160	+	86.79		9.216E-01	2.890E-01	4.379E-01	4.062E-02	2.105
		197.04		-2.678E-01	5.460E-01	8.950E-01	7.334E-02	-0.299
		215.65		-1.604E-01	7.720E-01	1.285E+00	1.071E-01	-0.125
		298.57		2.468E-01	1.622E-01	2.058E-01	1.760E-02	1.199
		879.36	*	-1.578E-01	1.423E-01	1.998E-01	1.833E-02	-0.790

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	962.29			6.001E-02	6.196E-01	9.494E-01	8.596E-02	0.063
	966.15			5.912E-01	2.732E-01	4.658E-01	4.213E-02	1.269
	1177.93			-1.088E-01	4.510E-01	7.350E-01	5.984E-02	-0.148
	1271.85			5.557E-01	8.724E-01	1.524E+00	1.249E-01	0.365
	80.57			1.387E-01	2.893E-01	3.470E-01	2.980E-02	0.400
	184.41			5.893E-02	3.968E-02	6.437E-02	5.203E-03	0.916
	280.46			-5.302E-02	8.018E-02	1.274E-01	1.082E-02	-0.416
	410.95			2.905E-01	2.605E-01	4.513E-01	3.813E-02	0.644
	711.68	*		-3.596E-02	6.513E-02	1.011E-01	9.106E-03	-0.356
	752.31			3.962E-02	2.901E-01	4.825E-01	4.388E-02	0.082
TM-171	810.29			-9.021E-03	6.253E-02	1.008E-01	9.241E-03	-0.089
	51.35			6.747E+00	1.775E+01	2.869E+01	2.215E+00	0.235
	52.39			4.057E+00	9.377E+00	1.543E+01	1.174E+00	0.263
	59.40			1.265E+01	1.984E+01	3.033E+01	2.181E+00	0.417
LU-176	66.72	*		-4.728E+00	2.266E+01	3.308E+01	2.474E+00	-0.143
	88.36			6.541E-01	2.051E-01	3.090E-01	2.904E-02	2.117
	201.83			-1.979E-02	2.757E-02	4.490E-02	3.697E-03	-0.441
	306.84	*		1.686E-02	2.534E-02	4.061E-02	3.478E-03	0.415
LU-177	401.10			-1.931E+00	6.563E+00	1.040E+01	8.725E-01	-0.186
	112.95			-6.536E-01	2.335E+00	3.720E+00	3.210E-01	-0.176
	208.36	*		3.876E+00	2.221E+00	2.949E+00	2.443E-01	1.314
LU-177M	52.97			6.965E-02	9.760E-01	1.582E+00	1.194E-01	0.044
	54.07			-2.500E-01	5.326E-01	8.430E-01	6.286E-02	-0.297
	61.30			1.386E+00	1.156E+00	1.804E+00	1.306E-01	0.768
	121.62			1.510E-01	3.660E-01	5.998E-01	5.155E-02	0.252
	147.16			1.988E-01	6.581E-01	1.064E+00	8.702E-02	0.187
	171.86			1.570E-01	4.896E-01	7.868E-01	6.266E-02	0.200
	218.09			3.345E-01	8.603E-01	1.470E+00	1.227E-01	0.228
	268.79			1.551E+00	8.790E-01	1.432E+00	1.217E-01	1.083
	319.02			-8.327E-02	2.607E-01	4.199E-01	3.601E-02	-0.198
	367.43			-9.003E-01	9.594E-01	1.457E+00	1.233E-01	-0.618
HF-181	413.65	*		-9.894E-02	1.966E-01	3.068E-01	2.597E-02	-0.323
	56.28			-3.268E-01	6.119E-01	9.912E-01	7.246E-02	-0.330
	57.53			-2.137E-01	3.493E-01	5.640E-01	4.090E-02	-0.379
	65.20			3.086E-01	7.905E-01	1.189E+00	8.800E-02	0.259
	133.02			-1.060E-02	7.501E-02	1.059E-01	8.889E-03	-0.100
	136.25			-1.121E-01	4.651E-01	7.253E-01	6.050E-02	-0.155
	345.85			6.689E-02	2.047E-01	3.033E-01	2.592E-02	0.221
W-181	482.03	*		-1.660E-02	4.801E-02	7.468E-02	6.571E-03	-0.222
	56.28			-1.227E-01	2.296E-01	3.720E-01	2.719E-02	-0.330
	57.53			-8.040E-02	1.312E-01	2.118E-01	1.536E-02	-0.380
	65.20	*		1.150E-01	2.945E-01	4.431E-01	3.279E-02	0.259
TA-182	67.75			-1.249E-02	9.224E-02	1.351E-01	1.018E-02	-0.092
	100.10			7.959E-02	1.573E-01	2.608E-01	2.310E-02	0.305
	152.43			6.488E-02	3.541E-01	5.681E-01	4.605E-02	0.114
	222.10			-3.964E-01	3.598E-01	5.599E-01	4.687E-02	-0.708
	1001.68			1.486E+00	2.332E+00	4.009E+00	3.588E-01	0.371
	1121.28	+		7.039E-01	3.246E-01	3.689E-01	3.116E-02	1.908
	1189.05			-3.397E-01	3.686E-01	5.621E-01	4.583E-02	-0.604

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183	1221.42	*		-1.427E-01	2.307E-01	3.622E-01	2.962E-02	-0.394
	1230.97			-5.015E-02	5.681E-01	9.348E-01	7.650E-02	-0.054
	57.98			-3.905E-02	1.333E-01	2.181E-01	1.578E-02	-0.179
	59.32			5.046E-02	8.412E-02	1.284E-01	9.236E-03	0.393
	67.20			-2.757E-03	1.658E-01	2.444E-01	1.834E-02	-0.011
RE-184	162.32	*		4.769E-02	1.132E-01	1.833E-01	1.459E-02	0.260
	208.81			2.405E+00	1.378E+00	1.832E+00	1.518E-01	1.313
	291.72			-4.477E-01	1.074E+00	1.505E+00	1.284E-01	-0.297
	57.98			-1.406E-01	4.798E-01	7.855E-01	5.682E-02	-0.179
	59.32			1.816E-01	3.027E-01	4.621E-01	3.323E-02	0.393
OS-185	67.20			-9.923E-03	5.969E-01	8.797E-01	6.603E-02	-0.011
	161.27			1.379E-01	3.624E-01	5.855E-01	4.671E-02	0.236
	216.55			-6.730E-02	2.730E-01	4.535E-01	3.782E-02	-0.148
	252.85	*		-1.068E-01	2.361E-01	3.837E-01	3.257E-02	-0.278
	318.01			-2.337E-01	4.553E-01	7.240E-01	6.208E-02	-0.323
	792.07			1.302E+00	1.452E+00	1.718E+00	1.572E-01	0.758
	903.28			-1.210E-01	1.109E+00	1.669E+00	1.528E-01	-0.072
	920.93			-4.072E-01	4.841E-01	7.085E-01	6.468E-02	-0.575
	59.72			1.734E-01	2.262E-01	3.477E-01	2.501E-02	0.499
	61.14			1.486E-01	1.284E-01	2.001E-01	1.448E-02	0.743
RE-188	69.30			-1.234E-01	2.301E-01	3.712E-01	2.834E-02	-0.332
	592.07			-9.283E-01	2.560E+00	4.150E+00	3.721E-01	-0.224
	646.12	*		-7.924E-03	4.499E-02	7.364E-02	6.547E-03	-0.108
	717.42			3.541E-01	8.569E-01	1.468E+00	1.323E-01	0.241
	874.81			1.823E-01	5.861E-01	9.845E-01	9.031E-02	0.185
W-188	880.27			-5.667E-01	7.413E-01	1.089E+00	9.984E-02	-0.520
	155.03	*		-1.139E-01	1.829E-01	2.814E-01	2.271E-02	-0.405
	477.96			-6.926E-01	3.239E+00	5.096E+00	4.476E-01	-0.136
IR-192	633.10			6.996E-01	2.927E+00	4.965E+00	4.428E-01	0.141
	63.58			5.389E+01	5.620E+01	7.028E+01	5.148E+00	0.767
AU-195	227.08			3.077E+00	1.272E+01	2.156E+01	1.811E+00	0.143
	290.67	*		-5.838E-01	8.156E+00	1.177E+01	1.004E+00	-0.050
	295.96			8.508E-01	1.934E-01	2.842E-01	2.446E-02	2.994
	308.46			1.858E-02	9.810E-02	1.636E-01	1.409E-02	0.114
	316.51	*		-1.058E-02	3.589E-02	5.794E-02	4.980E-03	-0.183
TL-200	468.07			4.114E-02	7.885E-02	1.168E-01	1.093E-02	0.352
	604.41			3.084E-01	5.339E-01	8.204E-01	1.087E-01	0.376
	612.46			1.867E+00	9.902E-01	1.644E+00	1.675E-01	1.136
	65.12			6.804E-02	1.358E-01	2.054E-01	1.519E-02	0.331
	66.83			-1.526E-02	7.585E-02	1.108E-01	8.291E-03	-0.138
TL-201	75.70			1.061E+00	1.958E-01	4.015E-01	3.263E-02	2.642
	98.88	*		2.120E-01	2.027E-01	3.291E-01	2.927E-02	0.644
TL-200	129.76			3.050E+00	4.811E+00	4.886E+00	4.128E-01	0.624
	367.94	*		-3.177E-03	4.811E+00	Half-Life	too short	
	579.30			7.090E-02	4.811E+00	Half-Life	too short	
	828.27			8.928E-02	4.811E+00	Half-Life	too short	
TL-201	1205.75			-2.445E-02	4.811E+00	Half-Life	too short	
	68.90			-4.882E-01	8.721E+00	1.433E+01	1.090E+00	-0.034
	70.82			1.631E+00	5.754E+00	8.578E+00	6.639E-01	0.190

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		80.30		-2.952E-01	1.373E+01	1.583E+01	1.355E+00	-0.019
		135.34		-2.702E+00	6.356E+01	9.551E+01	7.981E+00	-0.028
		167.43	*	-4.108E+00	1.747E+01	2.731E+01	2.163E+00	-0.150
TL-202		68.90		-2.226E-02	3.976E-01	6.534E-01	4.972E-02	-0.034
		70.82		7.416E-02	2.616E-01	3.900E-01	3.019E-02	0.190
		80.30		-1.342E-02	6.245E-01	7.201E-01	6.165E-02	-0.019
		439.56	*	1.470E-01	9.110E-02	1.627E-01	1.401E-02	0.904
HG-203		70.83		2.816E-01	9.612E-01	1.433E+00	1.872E-01	0.197
		72.87		5.996E-01	5.912E-01	9.000E-01	1.147E-01	0.666
		82.60		1.518E+00	9.360E-01	1.586E+00	2.198E-01	0.958
		279.20	*	-2.333E-03	4.196E-02	6.933E-02	6.057E-03	-0.034
BI-207		72.80		1.473E-01	1.621E-01	2.471E-01	1.949E-02	0.596
	+	74.97		5.798E-01	1.070E-01	1.924E-01	1.551E-02	3.014
	+	84.90		2.774E-01	2.053E-01	2.732E-01	2.474E-02	1.015
		569.67		-5.201E-03	3.202E-02	5.150E-02	4.618E-03	-0.101
		1063.62	*	5.629E-04	5.350E-02	8.909E-02	7.773E-03	0.006
		1770.23		1.940E-01	4.278E-01	7.032E-01	5.777E-02	0.276
TL-207		81.07		-4.062E-02	2.400E-01	2.732E-01	2.360E-02	-0.149
	+	83.78		1.828E-01	1.353E-01	1.793E-01	1.601E-02	1.020
		94.90		3.391E-01	2.104E-01	3.297E-01	2.981E-02	1.028
		122.32		-7.835E-01	1.709E+00	2.685E+00	2.477E-01	-0.292
		144.24		8.254E-03	6.743E-01	1.062E+00	9.866E-02	0.008
		154.21		1.988E-01	3.980E-01	6.475E-01	5.822E-02	0.307
	+	269.46		5.415E-01	2.788E-01	3.422E-01	2.970E-02	1.582
		323.87	*	-3.224E-01	6.907E-01	1.099E+00	1.944E-01	-0.293
	+	338.28		7.538E+00	2.119E+00	2.644E+00	3.244E-01	2.851
		445.03		-2.017E+00	2.340E+00	3.482E+00	4.214E-01	-0.579
PO-209		260.50		-1.238E+00	9.889E+00	1.635E+01	1.389E+00	-0.076
		262.80		1.052E+01	2.646E+01	4.492E+01	3.817E+00	0.234
		896.60	*	4.177E+00	7.891E+00	1.346E+01	1.233E+00	0.310
PB-211		404.84	*	3.232E-01	9.326E-01	1.514E+00	9.485E-01	0.213
		427.08		-1.663E-01	2.157E+00	3.460E+00	2.150E+00	-0.048
		831.96		-7.511E-01	1.392E+00	2.022E+00	1.269E+00	-0.371
PO-215		81.07		-4.062E-02	2.400E-01	2.732E-01	2.360E-02	-0.149
	+	83.78		1.828E-01	1.353E-01	1.793E-01	1.601E-02	1.020
		94.90		3.391E-01	2.104E-01	3.297E-01	2.981E-02	1.028
		122.32		-7.835E-01	1.709E+00	2.685E+00	2.477E-01	-0.292
		144.24		8.254E-03	6.743E-01	1.062E+00	9.866E-02	0.008
		154.21		1.988E-01	3.980E-01	6.475E-01	5.822E-02	0.307
	+	269.46		5.415E-01	2.788E-01	3.422E-01	2.970E-02	1.582
		323.87	*	-3.224E-01	6.907E-01	1.099E+00	1.944E-01	-0.293
	+	338.28		7.538E+00	2.119E+00	2.644E+00	3.244E-01	2.851
		445.03		-2.017E+00	2.340E+00	3.482E+00	4.214E-01	-0.579
RN-219	+	271.23		6.947E-01	3.597E-01	4.496E-01	4.590E-02	1.545
		401.81	*	-9.374E-02	4.065E-01	6.474E-01	9.643E-02	-0.145
RN-220		549.76	*	1.483E+01	2.628E+01	4.592E+01	4.112E+00	0.323
RA-223		81.07		-4.062E-02	2.400E-01	2.732E-01	2.360E-02	-0.149
	+	83.78		1.828E-01	1.353E-01	1.793E-01	1.601E-02	1.020
		94.90		3.391E-01	2.104E-01	3.297E-01	2.981E-02	1.028

---- 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		-7.835E-01	1.709E+00	2.685E+00	2.477E-01	-0.292
		144.24		8.254E-03	6.743E-01	1.062E+00	9.866E-02	0.008
		154.21		1.988E-01	3.980E-01	6.475E-01	5.822E-02	0.307
	+	269.46		5.415E-01	2.788E-01	3.422E-01	2.970E-02	1.582
		323.87	*	-3.224E-01	6.907E-01	1.099E+00	1.944E-01	-0.293
	+	338.28		7.538E+00	2.119E+00	2.644E+00	3.244E-01	2.851
		445.03		-2.017E+00	2.340E+00	3.482E+00	4.214E-01	-0.579
		79.80		-1.896E-01	1.809E+00	2.073E+00	4.448E-01	-0.091
		236.00		2.552E-01	2.413E-01	3.771E-01	4.569E-02	0.677
		256.20	*	-1.246E-01	3.881E-01	6.348E-01	9.697E-02	-0.196
		286.10		6.865E-01	1.427E+00	2.426E+00	3.187E-01	0.283
	+	299.80		4.872E+00	2.195E+00	2.664E+00	4.651E-01	1.829
TH-227		304.40		4.051E-01	1.934E+00	2.851E+00	5.249E-01	0.142
		334.20		-1.650E+00	2.575E+00	3.457E+00	6.702E-01	-0.477
		79.80		-1.896E-01	1.809E+00	2.073E+00	4.505E-01	-0.091
	+	94.00		7.289E+00	2.906E+00	3.265E+00	7.172E-01	2.232
		236.00		2.552E-01	2.409E-01	3.771E-01	4.124E-02	0.677
		256.20	*	-1.246E-01	3.883E-01	6.348E-01	1.143E-01	-0.196
		286.10		6.865E-01	1.582E+00	2.426E+00	2.435E+00	0.283
	+	299.80		4.872E+00	2.195E+00	2.664E+00	4.651E-01	1.829
		304.40		4.051E-01	1.934E+00	2.851E+00	5.249E-01	0.142
		334.20		-1.650E+00	2.575E+00	3.457E+00	6.702E-01	-0.477
	+	85.43		2.737E-01	2.026E-01	2.777E-01	2.532E-02	0.985
	+	88.47		3.765E-01	1.181E-01	1.779E-01	1.671E-02	2.116
TH-229		100.00		8.839E-02	1.594E-01	2.648E-01	2.346E-02	0.334
		193.63	*	9.501E-02	4.779E-01	8.144E-01	6.650E-02	0.117
		210.97		8.076E-01	8.485E-01	1.326E+00	1.101E-01	0.609
		283.67	*	-5.208E-01	1.410E+00	2.277E+00	3.443E-01	-0.229
	+	301.29		1.949E+00	8.435E-01	1.070E+00	1.305E-01	1.822
TH-231		81.07		-4.062E-02	2.400E-01	2.732E-01	2.360E-02	-0.149
	+	83.78		1.828E-01	1.353E-01	1.793E-01	1.601E-02	1.020
		94.90		3.391E-01	2.104E-01	3.297E-01	2.981E-02	1.028
U-231		122.32		-7.835E-01	1.709E+00	2.685E+00	2.477E-01	-0.292
		144.24		8.254E-03	6.743E-01	1.062E+00	9.866E-02	0.008
		154.21		1.988E-01	3.980E-01	6.475E-01	5.822E-02	0.307
	+	269.46		5.415E-01	2.788E-01	3.422E-01	2.970E-02	1.582
		323.87	*	-3.224E-01	6.907E-01	1.099E+00	1.944E-01	-0.293
	+	338.28		7.538E+00	2.119E+00	2.644E+00	3.244E-01	2.851
		445.03		-2.017E+00	2.340E+00	3.482E+00	4.214E-01	-0.579
	+	84.21		1.516E+01	1.122E+01	1.495E+01	1.342E+00	1.015
	+	92.29		1.387E+01	4.781E+00	6.692E+00	6.133E-01	2.072
		95.87	*	-1.168E+00	1.904E+00	2.653E+00	2.388E-01	-0.440
		108.00		-1.507E+00	3.652E+00	5.790E+00	5.029E-01	-0.260
	+	75.28		1.692E+01	3.789E+00	5.924E+00	8.919E-01	2.856
PA-233	+	86.59		5.399E+00	2.179E+00	2.558E+00	6.915E-01	2.110
	+	300.12		1.358E+00	5.990E-01	7.470E-01	1.108E-01	1.818
		311.98	*	-3.721E-02	6.464E-02	1.025E-01	9.041E-03	-0.363
		340.50		2.207E+00	8.771E-01	1.247E+00	2.968E-01	1.771
		398.62		4.244E-01	1.961E+00	3.230E+00	8.575E-01	0.131

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-7.724E-01	1.798E+00	2.808E+00	6.036E-01	-0.275
		63.00		1.502E+00	1.579E+00	2.013E+00	2.981E-01	0.746
		94.67		3.504E-01	1.585E-01	2.483E-01	3.155E-02	1.411
		98.44		5.671E-02	9.163E-02	1.296E-01	7.236E-02	0.438
		99.86		2.287E-01	4.036E-01	6.709E-01	5.946E-02	0.341
		111.00		-1.989E-01	1.739E-01	2.632E-01	3.187E-02	-0.756
	+	131.20		1.126E-01	1.777E-01	1.659E-01	1.397E-02	0.679
		152.70		2.374E-01	3.277E-01	5.355E-01	8.992E-02	0.443
	+	186.00		4.016E+00	2.445E+00	2.586E+00	8.036E-01	1.553
		226.40		1.253E-01	3.833E-01	6.522E-01	8.515E-02	0.192
		227.20		-1.683E-02	4.168E-01	6.972E-01	5.856E-02	-0.024
		248.90		5.423E-01	8.266E-01	1.410E+00	3.152E-01	0.385
		293.70		4.388E+00	1.147E+00	1.620E+00	2.796E-01	2.708
		369.80		-2.313E-02	8.331E-01	1.355E+00	2.943E-01	-0.017
		568.70		4.590E-01	9.938E-01	1.721E+00	1.544E-01	0.267
		569.50		-5.371E-02	2.835E-01	4.549E-01	4.079E-02	-0.118
		574.00		-8.741E-01	1.467E+00	2.336E+00	2.095E-01	-0.374
		699.00		5.176E-01	7.394E-01	1.279E+00	2.461E-01	0.405
		706.10		7.675E-02	1.059E+00	1.759E+00	7.858E-01	0.044
		733.00		-7.988E-04	4.069E-01	5.804E-01	1.298E-01	-0.001
		742.81		1.076E+00	1.584E+00	2.471E+00	1.663E+00	0.436
	+	796.30		3.463E+00	1.748E+00	2.030E+00	5.528E-01	1.706
		805.60		1.205E+00	1.118E+00	1.900E+00	5.853E-01	0.634
		819.60		2.202E-01	1.412E+00	2.251E+00	8.589E-01	0.098
		826.30		-6.307E-01	9.533E-01	1.388E+00	6.225E-01	-0.454
		831.60		-3.778E-01	7.047E-01	1.079E+00	3.237E-01	-0.350
		876.40		2.122E-01	8.467E-01	1.367E+00	1.406E+00	0.155
		880.51		-2.453E-01	2.623E-01	3.756E-01	3.444E-02	-0.653
		883.24		3.494E-02	2.615E-01	4.297E-01	2.892E-01	0.081
		899.00		-2.679E-01	9.191E-01	1.435E+00	6.288E-01	-0.187
		925.00		3.933E-01	1.223E+00	2.046E+00	1.866E-01	0.192
		926.50		1.396E-01	1.793E-01	3.085E-01	7.852E-02	0.452
		946.00	*	2.799E-01	3.217E-01	5.585E-01	1.060E-01	0.501
		949.00		2.815E-02	5.235E-01	8.498E-01	7.718E-02	0.033
		980.50		2.863E-01	7.415E-01	1.245E+00	1.122E-01	0.230
		1394.10		-1.709E-03	1.210E+00	1.984E+00	1.291E+00	-0.001
PA-234M		766.42		1.109E+01	1.340E+01	2.138E+01	1.087E+01	0.518
		1001.03	*	5.329E+00	5.176E+00	9.165E+00	9.398E-01	0.581
U-235	+	89.95		2.620E+00	1.261E+00	1.591E+00	4.939E-01	1.647
	+	93.35		2.268E+00	9.885E-01	1.095E+00	3.086E-01	2.071
		105.00		6.760E-01	9.917E-01	1.620E+00	4.841E-01	0.417
		143.76	*	-1.168E-01	2.107E-01	3.212E-01	5.563E-02	-0.364
		163.35		2.190E-02	4.754E-01	7.553E-01	1.419E-01	0.029
	+	185.71		1.488E-01	7.880E-02	9.525E-02	7.711E-03	1.562
		205.31		2.033E-01	5.534E-01	8.394E-01	1.588E-01	0.242
NP-236		94.67		2.675E-01	1.180E-01	1.885E-01	1.707E-02	1.419
		98.44		4.285E-02	6.511E-02	9.797E-02	8.726E-03	0.437
		111.00		-1.504E-01	1.309E-01	1.991E-01	1.722E-02	-0.756
		160.31	*	-2.928E-02	8.041E-02	1.252E-01	1.000E-02	-0.234

----- 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		1.012E-01	1.346E-01	2.255E-01	2.000E-02	0.449
		117.00	*	1.942E-02	1.851E-01	2.996E-01	2.578E-02	0.065
	+	209.75		1.824E+00	1.045E+00	1.422E+00	1.179E-01	1.283
		228.18		-1.669E-01	2.175E-01	3.499E-01	2.940E-02	-0.477
		277.60		2.413E-01	1.753E-01	3.100E-01	2.631E-02	0.778
		334.30		-8.792E-01	1.453E+00	1.971E+00	1.689E-01	-0.446
AM-241		59.54	*	8.054E-02	1.153E-01	1.766E-01	1.400E-02	0.456
CM-243		99.55		1.041E-01	1.386E-01	2.321E-01	2.059E-02	0.449
		103.76	*	6.837E-02	8.708E-02	1.457E-01	1.277E-02	0.469
		117.00		1.999E-02	1.904E-01	3.083E-01	2.653E-02	0.065
	+	209.75		1.799E+00	1.030E+00	1.402E+00	1.163E-01	1.283
		228.18		-1.687E-01	2.198E-01	3.536E-01	2.972E-02	-0.477
		277.60		2.433E-01	1.767E-01	3.126E-01	2.653E-02	0.778
AM-246		798.80		-2.685E-02	1.662E-01	2.301E-01	2.107E-02	-0.117
		1036.00		1.422E-01	3.306E-01	5.755E-01	5.085E-02	0.247
		1062.04		-6.186E-02	2.236E-01	3.639E-01	3.178E-02	-0.170
		1078.86	*	-1.461E-02	1.551E-01	2.573E-01	2.228E-02	-0.057
CM-247		278.00		6.578E-01	7.366E-01	1.276E+00	1.083E-01	0.516
		287.40		7.171E-01	1.139E+00	1.954E+00	1.664E-01	0.367
		402.60	*	-3.693E-03	3.599E-02	5.790E-02	4.861E-03	-0.064
CF-249		252.85		-3.943E-01	8.714E-01	1.417E+00	1.202E-01	-0.278
		333.44		-1.187E-01	1.944E-01	2.640E-01	2.262E-02	-0.450
		387.95	*	9.797E-03	3.772E-02	6.249E-02	5.216E-03	0.157
CF-251		176.60	*	-4.164E-02	1.189E-01	1.986E-01	1.591E-02	-0.210
		227.00		8.079E-02	3.663E-01	6.204E-01	5.210E-02	0.130
		285.00		5.445E-01	1.608E+00	2.716E+00	2.311E-01	0.200

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536002      *
* Acquisition date   : 9-JAN-2010 14:08:28 Detector SN# :                   *
* Detector ID        : GAM07 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.24 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243536002 Analyst initials: MXR1                  *
* Batch Number      : 937074 Sample Quantity : 1.2143E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 20-JUL-2009 15:29:58 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.339E+01	3.396E+00	6.259E-01	0.000E+00
CD-109	2.822E+00	8.675E-01	1.029E+00	0.000E+00
SN-126	2.758E-01	8.476E-02	1.008E-01	0.000E+00
TL-208	4.350E-01	9.781E-02	6.441E-02	0.000E+00
BI-210	2.068E-01	2.379E+00	2.798E+00	0.000E+00
PB-210	2.068E-01	2.379E+00	2.798E+00	0.000E+00
PO-210	2.068E-01	2.379E+00	2.798E+00	0.000E+00
BI-211	3.367E+00	5.329E-01	3.123E-01	0.000E+00
BI-212	1.158E+00	5.796E-01	4.885E-01	0.000E+00
PB-212	1.627E+00	1.905E-01	8.542E-02	0.000E+00
PO-212	1.627E+00	1.905E-01	8.542E-02	0.000E+00
BI-214	1.015E+00	1.853E-01	1.208E-01	0.000E+00
PB-214	1.171E+00	1.948E-01	1.089E-01	0.000E+00
PO-214	1.171E+00	1.948E-01	1.089E-01	0.000E+00
PO-216	1.627E+00	1.905E-01	8.542E-02	0.000E+00
PO-218	1.171E+00	1.948E-01	1.089E-01	0.000E+00
RA-224	3.823E+00	1.133E+00	9.722E-01	0.000E+00
RA-226	1.015E+00	1.853E-01	1.208E-01	0.000E+00
AC-228	1.401E+00	3.183E-01	2.190E-01	0.000E+00
RA-228	1.401E+00	3.183E-01	2.190E-01	0.000E+00
TH-228	1.658E+00	1.941E-01	8.706E-02	0.000E+00
TH-230	1.015E+00	1.853E-01	1.208E-01	0.000E+00
TH-232	1.401E+00	3.183E-01	2.190E-01	0.000E+00
TH-234	1.289E+00	1.332E+00	1.567E+00	0.000E+00
U-234	1.015E+00	1.853E-01	1.208E-01	0.000E+00
NP-237	8.098E-01	2.979E-01	2.977E-01	0.000E+00
U-238	1.289E+00	1.332E+00	1.567E+00	0.000E+00
AM-243	3.229E-01	5.840E-02	7.480E-02	0.000E+00
ANH-511	9.413E-02	7.091E-02	4.509E-02	0.000E+00

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

Key-Line	Activity	K.L. Act error	MDA
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Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	-5.766E-02	3.363E-01	5.488E-01	0.000E+00	NOT IDENT.
NA-22	-2.700E-02	5.088E-02	8.142E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.866E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-3.586E-02	3.397E-02	4.576E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.771E-02	6.698E-02	0.000E+00	FAIL ABUN
SC-46	5.397E-04	3.996E-02	6.658E-02	0.000E+00	FAIL ABUN
V-48	-1.147E-02	8.625E-02	1.401E-01	0.000E+00	NOT IDENT.
CR-51	1.295E-02	4.013E-01	6.863E-01	0.000E+00	NOT IDENT.
MN-52	-2.054E-01	3.100E-01	4.492E-01	0.000E+00	NOT IDENT.
MN-54	-2.335E-03	3.917E-02	6.519E-02	0.000E+00	NOT IDENT.
CO-56	-2.541E-03	4.515E-02	7.505E-02	0.000E+00	NOT IDENT.
CO-57	-3.733E-03	2.429E-02	4.073E-02	0.000E+00	NOT IDENT.
CO-58	-2.172E-02	4.320E-02	6.900E-02	0.000E+00	NOT IDENT.
FE-59	4.029E-02	1.084E-01	1.908E-01	0.000E+00	NOT IDENT.
CO-60	-5.135E-03	4.230E-02	7.001E-02	0.000E+00	NOT IDENT.
ZN-65	3.274E-02	1.148E-01	1.745E-01	0.000E+00	NOT IDENT.
GE-68	-4.703E-01	1.368E+00	2.268E+00	0.000E+00	NOT IDENT.
AS-73	1.361E-02	4.993E-01	8.560E-01	0.000E+00	NOT IDENT.
AS-74	2.868E-02	1.073E-01	1.883E-01	0.000E+00	NOT IDENT.
SE-75	2.071E-03	4.547E-02	7.315E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.164E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-2.635E-01	4.235E-01	6.700E-01	0.000E+00	NOT IDENT.
RB-83	2.438E-02	6.757E-02	1.205E-01	0.000E+00	NOT IDENT.
RB-84	2.526E-02	6.364E-02	1.110E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.881E+00	1.376E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.213E-02	7.357E-02	0.000E+00	NOT IDENT.
RB-86	2.003E-01	9.718E-01	1.693E+00	0.000E+00	NOT IDENT.
Y-88	3.434E-03	3.170E-02	5.484E-02	0.000E+00	NOT IDENT.
ZR-88	-2.275E-03	2.935E-02	4.905E-02	0.000E+00	NOT IDENT.
Y-91	-1.443E+01	2.184E+01	3.489E+01	0.000E+00	NOT IDENT.
NB-94	-3.350E-02	3.276E-02	5.038E-02	0.000E+00	NOT IDENT.
NB-95	2.584E-02	4.621E-02	8.123E-02	0.000E+00	NOT IDENT.
NB-95M	1.213E-01	1.236E-01	2.018E-01	0.000E+00	NOT IDENT.
ZR-95	6.756E-02	7.493E-02	1.357E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.767E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	9.881E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.501E+01	3.186E+01	5.143E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.090E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.420E-03	3.073E-02	5.402E-02	0.000E+00	NOT IDENT.
RH-102	-4.485E-03	2.960E-02	4.843E-02	0.000E+00	NOT IDENT.
RU-103	-2.283E-02	4.218E-02	6.600E-02	0.000E+00	FAIL ABUN
RH-106	3.680E-01	3.358E-01	6.159E-01	0.000E+00	FAIL ABUN
RU-106	3.680E-01	3.338E-01	6.159E-01	0.000E+00	FAIL ABUN
AG-108M	-1.388E-02	3.172E-02	5.102E-02	0.000E+00	NOT IDENT.
AG-110M	-1.320E-02	3.460E-02	5.714E-02	0.000E+00	NOT IDENT.
IN-111	-1.802E+00	3.092E+00	4.495E+00	0.000E+00	NOT IDENT.
IN-113M	3.133E-02	4.164E-02	7.381E-02	0.000E+00	NOT IDENT.
SN-113	3.133E-02	4.164E-02	7.381E-02	0.000E+00	NOT IDENT.
IN-114M	8.724E-02	2.030E-01	3.244E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.574E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-4.828E-03	6.565E-02	1.087E-01	0.000E+00	NOT IDENT.
SB-122	-2.589E+00	5.452E+00	9.067E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.641E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.875E-03	2.848E-02	4.756E-02	0.000E+00	NOT IDENT.
I-124	1.438E+00	1.365E+00	2.337E+00	0.000E+00	NOT IDENT.
SB-124	-4.531E-02	8.931E-02	1.323E-01	0.000E+00	FAIL ABUN
SB-125	2.264E-02	9.401E-02	1.597E-01	0.000E+00	FAIL ABUN
TE-125M	7.819E+00	8.499E+00	1.498E+01	0.000E+00	NOT IDENT.
I-126	3.140E-02	2.258E-01	3.892E-01	0.000E+00	NOT IDENT.
SB-126	3.288E-02	1.977E-01	2.965E-01	0.000E+00	FAIL ABUN
SB-127	2.279E+00	2.682E+00	4.865E+00	0.000E+00	NOT IDENT.
XE-127	2.197E-02	4.750E-02	8.518E-02	0.000E+00	NOT IDENT.
I-131	2.492E-01	1.555E-01	2.887E-01	0.000E+00	NOT IDENT.
TE-132	-1.180E+00	1.526E+00	2.545E+00	0.000E+00	NOT IDENT.
BA-133	1.224E-02	4.904E-02	7.435E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.405E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.622E-02	1.045E-01	0.000E+00	FAIL ABUN
CS-135	8.703E-02	1.626E-01	2.567E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.370E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.295E-02	1.481E-01	2.445E-01	0.000E+00	FAIL ABUN
BA-137M	9.113E-04	3.690E-02	6.246E-02	0.000E+00	NOT IDENT.
CS-137	9.633E-04	3.900E-02	6.603E-02	0.000E+00	NOT IDENT.
CE-139	-3.701E-03	2.974E-02	4.897E-02	0.000E+00	NOT IDENT.
BA-140	-3.874E-02	2.900E-01	4.972E-01	0.000E+00	NOT IDENT.
LA-140	-8.801E-02	1.071E-01	1.506E-01	0.000E+00	NOT IDENT.
CE-141	-1.650E-02	6.686E-02	1.089E-01	0.000E+00	NOT IDENT.

CE-143	0.000E+00	1.494E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-4.154E-02	2.161E-01	3.189E-01	0.000E+00	NOT IDENT.
PM-144	7.699E-03	3.624E-02	6.257E-02	0.000E+00	NOT IDENT.
PR-144	5.228E-01	2.461E+00	4.249E+00	0.000E+00	NOT IDENT.
PM-146	-1.433E-02	4.151E-02	6.696E-02	0.000E+00	NOT IDENT.
ND-147	-2.588E-01	7.078E-01	1.194E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.902E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.026E-02	1.053E-01	1.425E-01	0.000E+00	NOT IDENT.
GD-153	-1.876E-02	7.361E-02	1.106E-01	0.000E+00	FAIL ABUN
EU-154	-4.179E-02	1.386E-01	2.268E-01	0.000E+00	NOT IDENT.
EU-155	6.073E-02	9.781E-02	1.708E-01	0.000E+00	FAIL ABUN
TB-160	-1.578E-01	1.395E-01	2.007E-01	0.000E+00	FAIL ABUN
HO-166M	-3.596E-02	6.383E-02	1.019E-01	0.000E+00	NOT IDENT.
TM-171	-4.728E+00	2.221E+01	3.429E+01	0.000E+00	NOT IDENT.
LU-176	1.686E-02	2.483E-02	4.132E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.176E+00	3.015E+00	0.000E+00	FAIL ABUN
LU-177M	-9.894E-02	1.926E-01	3.110E-01	0.000E+00	NOT IDENT.
HF-181	-1.660E-02	4.705E-02	7.558E-02	0.000E+00	NOT IDENT.
W-181	1.150E-01	2.886E-01	4.594E-01	0.000E+00	NOT IDENT.
TA-182	-1.427E-01	2.261E-01	3.623E-01	0.000E+00	FAIL ABUN
RE-183	4.769E-02	1.110E-01	1.880E-01	0.000E+00	FAIL ABUN
RE-184	-1.068E-01	2.313E-01	3.914E-01	0.000E+00	NOT IDENT.
OS-185	-7.924E-03	4.409E-02	7.425E-02	0.000E+00	NOT IDENT.
RE-188	-1.139E-01	1.792E-01	2.888E-01	0.000E+00	NOT IDENT.
W-188	-5.838E-01	7.992E+00	1.199E+01	0.000E+00	FAIL ABUN
IR-192	-1.058E-02	3.517E-02	5.895E-02	0.000E+00	FAIL ABUN
AU-195	2.120E-01	1.987E-01	3.395E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.733E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.108E+00	1.712E+01	2.800E+01	0.000E+00	NOT IDENT.
TL-202	1.470E-01	8.928E-02	1.648E-01	0.000E+00	NOT IDENT.
HG-203	-2.333E-03	4.112E-02	7.064E-02	0.000E+00	NOT IDENT.
BI-207	5.629E-04	5.243E-02	8.927E-02	0.000E+00	FAIL ABUN
TL-207	-3.224E-01	6.769E-01	1.118E+00	0.000E+00	FAIL ABUN
PO-209	4.177E+00	7.734E+00	1.352E+01	0.000E+00	NOT IDENT.
PB-211	3.232E-01	9.140E-01	1.536E+00	0.000E+00	NOT IDENT.
PO-215	-3.224E-01	6.769E-01	1.118E+00	0.000E+00	FAIL ABUN
RN-219	-9.374E-02	3.984E-01	6.566E-01	0.000E+00	FAIL ABUN
RN-220	1.483E+01	2.575E+01	4.640E+01	0.000E+00	NOT IDENT.
RA-223	-3.224E-01	6.769E-01	1.118E+00	0.000E+00	FAIL ABUN
AC-227	-1.246E-01	3.803E-01	6.474E-01	0.000E+00	FAIL ABUN
TH-227	-1.246E-01	3.805E-01	6.474E-01	0.000E+00	FAIL ABUN
TH-229	9.501E-02	4.683E-01	8.334E-01	0.000E+00	FAIL ABUN
PA-231	-5.208E-01	1.382E+00	2.320E+00	0.000E+00	FAIL ABUN
TH-231	-3.224E-01	6.769E-01	1.118E+00	0.000E+00	FAIL ABUN
U-231	-1.168E+00	1.866E+00	2.738E+00	0.000E+00	FAIL ABUN
PA-233	-3.721E-02	6.335E-02	1.043E-01	0.000E+00	FAIL ABUN
PA-234	2.799E-01	3.153E-01	5.604E-01	0.000E+00	FAIL ABUN
PA-234M	5.329E+00	5.073E+00	9.191E+00	0.000E+00	NOT IDENT.
U-235	-1.168E-01	2.065E-01	3.299E-01	0.000E+00	FAIL ABUN
NP-236	-2.928E-02	7.880E-02	1.284E-01	0.000E+00	NOT IDENT.
NP-239	1.942E-02	1.814E-01	3.085E-01	0.000E+00	FAIL ABUN
AM-241	8.054E-02	1.129E-01	1.833E-01	0.000E+00	NOT IDENT.
CM-243	6.837E-02	8.534E-02	1.502E-01	0.000E+00	FAIL ABUN
AM-246	-1.461E-02	1.520E-01	2.578E-01	0.000E+00	NOT IDENT.
CM-247	-3.693E-03	3.527E-02	5.872E-02	0.000E+00	NOT IDENT.
CF-249	9.797E-03	3.696E-02	6.341E-02	0.000E+00	NOT IDENT.
CF-251	-4.164E-02	1.165E-01	2.035E-01	0.000E+00	NOT IDENT.

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*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536002.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:08:28.
Sample ID          : G243536002 Sample quantity : 1.21430E+02 GRAM
Detector name      : GAM07 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.24 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1301	10.67*	1.129E+00	3.339E+01	3.339E+01	10.38
CD-109	88.03	226	3.72*	6.834E+00	2.743E+00	2.822E+00	31.36
SN-126	64.28	76	9.60	4.813E+00	5.101E-01	5.101E-01	105.03
	86.94	226	8.90	6.834E+00	1.146E+00	1.146E+00	51.18
	87.57	226	37.00*	6.834E+00	2.758E-01	2.758E-01	31.36
TL-208	277.35	-----	6.80	4.401E+00	-----	Line Not Found	-----
	510.84	84	21.60	2.755E+00	4.358E-01	4.358E-01	77.32
	583.14	293	84.20*	2.476E+00	4.350E-01	4.350E-01	22.95
	860.37	50	12.46	1.781E+00	6.954E-01	6.954E-01	68.76
BI-210	46.50	6	4.05*	2.158E+00	2.064E-01	2.068E-01	1174.29
PB-210	46.50	6	4.05*	2.158E+00	2.064E-01	2.068E-01	1174.29
PO-210	46.50	6	4.05*	2.158E+00	2.064E-01	2.068E-01	1174.28
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	519	12.94*	3.681E+00	3.367E+00	3.367E+00	16.15
BI-212	727.18	91	11.80*	2.058E+00	1.158E+00	1.158E+00	51.06
	785.46	37	1.97	1.928E+00	3.009E+00	3.009E+00	65.33
	1620.62	-----	2.75	1.043E+00	-----	Line Not Found	-----
PB-212	74.81	419	10.70	6.075E+00	1.992E+00	1.992E+00	20.68
	77.11	622	18.00	6.256E+00	1.708E+00	1.708E+00	15.45
	87.30	226	8.00	6.834E+00	1.275E+00	1.275E+00	32.92
	238.63	1153	44.60*	4.909E+00	1.627E+00	1.627E+00	11.94
	300.09	120	3.41	4.147E+00	2.629E+00	2.629E+00	42.81
PO-212	74.81	419	10.70	6.075E+00	1.992E+00	1.992E+00	20.68
	77.11	622	18.00	6.256E+00	1.708E+00	1.708E+00	15.45
	87.30	226	8.00	6.834E+00	1.275E+00	1.275E+00	32.92
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	1153	44.60*	4.909E+00	1.627E+00	1.627E+00	11.94
	300.09	120	3.41	4.147E+00	2.629E+00	2.629E+00	42.81
BI-214	609.31	363	46.30*	2.389E+00	1.015E+00	1.015E+00	18.63
	1120.29	100	15.10	1.414E+00	1.453E+00	1.453E+00	46.58
	1764.49	71	15.80	9.831E-01	1.412E+00	1.412E+00	29.65
PB-214	74.81	419	6.21	6.075E+00	3.432E+00	3.432E+00	19.88

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	77.11	622	10.50	6.256E+00	2.927E+00	2.927E+00	17.22
	87.30	226	4.67	6.834E+00	2.185E+00	2.185E+00	32.30
	241.98	238	7.49	4.867E+00	2.016E+00	2.016E+00	30.77
	295.21	280	19.20	4.201E+00	1.075E+00	1.075E+00	23.56
	351.92	519	37.20*	3.681E+00	1.171E+00	1.171E+00	16.97
	74.81	419	6.21	6.075E+00	3.432E+00	3.432E+00	19.88
	77.11	622	10.50	6.256E+00	2.927E+00	2.927E+00	17.22
	87.30	226	4.67	6.834E+00	2.185E+00	2.185E+00	32.30
	241.98	238	7.49	4.867E+00	2.016E+00	2.016E+00	30.77
	295.21	280	19.20	4.201E+00	1.075E+00	1.075E+00	23.56
PO-216	351.92	519	37.20*	3.681E+00	1.171E+00	1.171E+00	16.97
	74.81	419	10.70	6.075E+00	1.992E+00	1.992E+00	20.68
	77.11	622	18.00	6.256E+00	1.708E+00	1.708E+00	15.45
	87.30	226	8.00	6.834E+00	1.275E+00	1.275E+00	32.92
	238.63	1153	44.60*	4.909E+00	1.627E+00	1.627E+00	11.94
PO-218	300.09	120	3.41	4.147E+00	2.629E+00	2.629E+00	42.81
	74.81	419	6.21	6.075E+00	3.432E+00	3.432E+00	19.88
	77.11	622	10.50	6.256E+00	2.927E+00	2.927E+00	17.22
	87.30	226	4.67	6.834E+00	2.185E+00	2.185E+00	32.30
	241.98	238	7.49	4.867E+00	2.016E+00	2.016E+00	30.77
RA-224	295.21	280	19.20	4.201E+00	1.075E+00	1.075E+00	23.56
	351.92	519	37.20*	3.681E+00	1.171E+00	1.171E+00	16.97
RA-226	240.98	238	3.95*	4.867E+00	3.823E+00	3.823E+00	30.25
	609.31	363	46.30*	2.389E+00	1.015E+00	1.015E+00	18.63
AC-228	1120.29	100	15.10	1.414E+00	1.453E+00	1.453E+00	46.58
	1764.49	71	15.80	9.831E-01	1.412E+00	1.412E+00	29.65
	338.32	252	11.40	3.792E+00	1.805E+00	1.805E+00	48.38
RA-228	911.07	213	27.70*	1.695E+00	1.401E+00	1.401E+00	23.18
	969.11	113	16.60	1.606E+00	1.307E+00	1.307E+00	37.02
	338.32	252	11.40	3.792E+00	1.805E+00	1.805E+00	48.38
TH-228	911.07	213	27.70*	1.695E+00	1.401E+00	1.401E+00	23.18
	969.11	113	16.60	1.606E+00	1.307E+00	1.307E+00	37.02
	74.81	419	10.70	6.075E+00	1.992E+00	2.030E+00	18.49
TH-230	77.11	622	18.00	6.256E+00	1.708E+00	1.740E+00	15.45
	87.30	226	8.00	6.834E+00	1.275E+00	1.300E+00	31.36
	238.63	1153	44.60*	4.909E+00	1.627E+00	1.658E+00	11.94
	300.09	120	3.41	4.147E+00	2.629E+00	2.679E+00	72.37
	609.31	363	46.30*	2.389E+00	1.015E+00	1.015E+00	18.63
TH-232	1120.29	100	15.10	1.414E+00	1.453E+00	1.453E+00	46.58
	1764.49	71	15.80	9.831E-01	1.412E+00	1.412E+00	29.65
TH-234	338.32	252	11.40	3.792E+00	1.805E+00	1.805E+00	26.70
	911.07	213	27.70*	1.695E+00	1.401E+00	1.401E+00	23.18
	969.11	113	16.60	1.606E+00	1.307E+00	1.307E+00	37.02
U-234	63.29	76	3.80*	4.813E+00	1.289E+00	1.289E+00	105.48
	92.38	232	5.41	7.017E+00	1.886E+00	1.886E+00	37.97
NP-237	609.31	363	46.30*	2.389E+00	1.015E+00	1.015E+00	18.63
	1120.29	100	15.10	1.414E+00	1.453E+00	1.453E+00	46.58
	1764.49	71	15.80	9.831E-01	1.412E+00	1.412E+00	29.65
	86.50	226	12.60*	6.834E+00	8.098E-01	8.098E-01	37.54

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	95.87	-----	2.60	7.087E+00	-----	Line Not Found	-----
U-238	63.29	76	3.80*	4.813E+00	1.289E+00	1.289E+00	105.48
	92.38	232	5.41	7.017E+00	1.886E+00	1.886E+00	34.48
AM-243	74.67	419	66.00*	6.075E+00	3.229E-01	3.229E-01	18.45
	86.72	226	0.34	6.834E+00	3.037E+01	3.037E+01	31.36
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
ANH-511	511.00	84	100.00*	2.755E+00	9.413E-02	9.413E-02	76.87

Flag: "*" = Keyline

Total number of lines in spectrum 31
Number of unidentified lines 0
Number of lines tentatively identified by NID 31 100.00%

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	3.339E+01	3.339E+01	0.346E+01	10.38	
CD-109	464.00D	1.03	2.743E+00	2.822E+00	0.885E+00	31.36	
SN-126	1.00E+05Y	1.00	2.758E-01	2.758E-01	0.865E-01	31.36	
TL-208	1.41E+10Y	1.00	4.350E-01	4.350E-01	0.998E-01	22.95	
BI-210	22.26Y	1.00	2.064E-01	2.068E-01	24.28E-01	1174.29	
PB-210	22.26Y	1.00	2.064E-01	2.068E-01	24.28E-01	1174.29	
PO-210	22.26Y	1.00	2.064E-01	2.068E-01	24.28E-01	1174.28	
BI-211	7.04E+08Y	1.00	3.367E+00	3.367E+00	0.544E+00	16.15	
BI-212	1.41E+10Y	1.00	1.158E+00	1.158E+00	0.591E+00	51.06	
PB-212	1.41E+10Y	1.00	1.627E+00	1.627E+00	0.194E+00	11.94	
PO-212	1.41E+10Y	1.00	1.627E+00	1.627E+00	0.194E+00	11.94	
BI-214	1600.00Y	1.00	1.015E+00	1.015E+00	0.189E+00	18.63	
PB-214	1600.00Y	1.00	1.171E+00	1.171E+00	0.199E+00	16.97	
PO-214	1600.00Y	1.00	1.171E+00	1.171E+00	0.199E+00	16.97	
PO-216	1.41E+10Y	1.00	1.627E+00	1.627E+00	0.194E+00	11.94	
PO-218	1600.00Y	1.00	1.171E+00	1.171E+00	0.199E+00	16.97	
RA-224	1.41E+10Y	1.00	3.823E+00	3.823E+00	1.157E+00	30.25	
RA-226	1600.00Y	1.00	1.015E+00	1.015E+00	0.189E+00	18.63	
AC-228	1.41E+10Y	1.00	1.401E+00	1.401E+00	0.325E+00	23.18	
RA-228	1.41E+10Y	1.00	1.401E+00	1.401E+00	0.325E+00	23.18	
TH-228	1.91Y	1.02	1.627E+00	1.658E+00	0.198E+00	11.94	
TH-230	4.47E+09Y	1.00	1.015E+00	1.015E+00	0.189E+00	18.63	
TH-232	1.41E+10Y	1.00	1.401E+00	1.401E+00	0.325E+00	23.18	
TH-234	4.47E+09Y	1.00	1.289E+00	1.289E+00	1.359E+00	105.48	
U-234	4.47E+09Y	1.00	1.015E+00	1.015E+00	0.189E+00	18.63	
NP-237	2.14E+06Y	1.00	8.098E-01	8.098E-01	3.040E-01	37.54	
U-238	4.47E+09Y	1.00	1.289E+00	1.289E+00	1.359E+00	105.48	
AM-243	7380.00Y	1.00	3.229E-01	3.229E-01	0.596E-01	18.45	
ANH-511	1.00E+09Y	1.00	9.413E-02	9.413E-02	7.236E-02	76.87	

Total Activity : 6.790E+01 6.801E+01

Grand Total Activity : 6.790E+01 6.801E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	84.17	98	431	1.36	167.99	162	30	1.36E-02	73.5	6.70E+00	T
4	89.92	159	268	1.04	179.48	162	30	2.20E-02	36.8	6.93E+00	T
0	130.35	52	422	0.62	260.32	254	11	7.17E-03	****	6.95E+00	T
0	186.03	151	349	1.11	371.66	367	11	2.10E-02	52.4	5.81E+00	T
0	209.39	103	230	1.11	418.38	414	9	1.43E-02	56.7	5.38E+00	T
0	270.56	107	159	1.12	540.70	536	11	1.48E-02	50.8	4.48E+00	T
0	463.27	87	116	1.42	926.06	920	14	1.20E-02	56.9	2.98E+00	T
0	795.81	83	48	1.94	1591.05	1584	15	1.16E-02	42.5	1.91E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536002.CNF;1
* Acquisition date   : 9-JAN-2010 14:08:28. Detector SN#      :
* Detector ID        : GAM07          Sensitivity             : 5.00000
* Geometry           : CAN            Energy tolerance:       : 1.50000
* Elapsed live time  : 0 02:00:00.00  Abundance limit  :     : 75.00000
* Elapsed real time  : 0 02:00:01.24  Half life ratio  :     : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243536002          Analyst initials: MXR1
* Batch Number       : 937074             Sample Quantity : 1.21430E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58.0MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A             LCS Isotope        :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.339E+01	3.465E+00	6.272E-01	5.386E-02	53.231
CD-109	2.822E+00	8.852E-01	9.963E-01	9.386E-02	2.833
SN-126	2.758E-01	8.649E-02	9.756E-02	9.142E-03	2.827
TL-208	4.350E-01	9.981E-02	6.380E-02	6.103E-03	6.818
BI-210	2.068E-01	2.428E+00	2.688E+00	2.522E-01	0.077
PB-210	2.068E-01	2.428E+00	2.688E+00	2.522E-01	0.077
PO-210	2.068E-01	2.428E+00	2.688E+00	2.287E-01	0.077
BI-211	3.367E+00	5.438E-01	3.074E-01	2.758E-02	10.954
BI-212	1.158E+00	5.915E-01	4.851E-01	5.032E-02	2.388
PB-212	1.627E+00	1.944E-01	8.368E-02	8.004E-03	19.446
PO-212	1.627E+00	1.944E-01	8.368E-02	8.004E-03	19.446
BI-214	1.015E+00	1.891E-01	1.197E-01	1.238E-02	8.485
PB-214	1.171E+00	1.988E-01	1.072E-01	1.112E-02	10.930
PO-214	1.171E+00	1.988E-01	1.072E-01	1.112E-02	10.930
PO-216	1.627E+00	1.944E-01	8.368E-02	8.004E-03	19.446
PO-218	1.171E+00	1.988E-01	1.072E-01	1.112E-02	10.930
RA-224	3.823E+00	1.157E+00	9.525E-01	8.055E-02	4.014
RA-226	1.015E+00	1.891E-01	1.197E-01	1.238E-02	8.485

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.401E+00	3.248E-01	2.181E-01	2.541E-02	6.424
RA-228	1.401E+00	3.248E-01	2.181E-01	2.541E-02	6.424
TH-228	1.658E+00	1.981E-01	8.529E-02	8.158E-03	19.446
TH-230	1.015E+00	1.891E-01	1.197E-01	1.238E-02	8.485
TH-232	1.401E+00	3.248E-01	2.181E-01	2.541E-02	6.424
TH-234	1.289E+00	1.359E+00	1.511E+00	2.629E-01	0.853
U-234	1.015E+00	1.891E-01	1.197E-01	1.238E-02	8.485
NP-237	8.098E-01	3.040E-01	2.881E-01	6.513E-02	2.811
U-238	1.289E+00	1.359E+00	1.511E+00	2.629E-01	0.853
AM-243	3.229E-01	5.959E-02	7.226E-02	5.808E-03	4.469
ANH-511	9.413E-02	7.236E-02	4.458E-02	3.961E-03	2.111

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.766E-02		3.431E-01	5.422E-01	5.117E-02	-0.106
NA-22	-2.700E-02		5.192E-02	8.144E-02	6.685E-03	-0.332
NA-24	-3.830E+01		2.993E+01	Half-Life	too short	
AL-26	-3.586E-02		3.466E-02	4.598E-02	3.750E-03	-0.780
TI-44	3.152E-01	+	4.868E-02	6.474E-02	5.420E-03	4.868
SC-46	5.397E-04		4.078E-02	6.629E-02	6.075E-03	0.008
V-48	-1.147E-02		8.801E-02	1.397E-01	1.257E-02	-0.082
CR-51	1.295E-02		4.095E-01	6.747E-01	6.097E-02	0.019
MN-52	-2.054E-01		3.163E-01	4.500E-01	3.742E-02	-0.456
MN-54	-2.335E-03		3.997E-02	6.486E-02	5.953E-03	-0.036
CO-56	-2.541E-03		4.607E-02	7.469E-02	6.857E-03	-0.034
CO-57	-3.733E-03		2.479E-02	3.957E-02	3.405E-03	-0.094
CO-58	-2.172E-02		4.409E-02	6.862E-02	6.305E-03	-0.316
FE-59	4.029E-02		1.106E-01	1.905E-01	1.765E-02	0.212
CO-60	-5.135E-03		4.316E-02	7.007E-02	5.740E-03	-0.073
ZN-65	3.274E-02		1.171E-01	1.742E-01	1.479E-02	0.188
GE-68	-4.703E-01		1.396E+00	2.264E+00	1.962E-01	-0.208
AS-73	1.361E-02		5.095E-01	8.236E-01	6.185E-02	0.017
AS-74	2.868E-02		1.095E-01	1.865E-01	1.672E-02	0.154
SE-75	2.071E-03		4.640E-02	7.175E-02	6.127E-03	0.029
BR-77	1.267E-05		1.614E-05	Half-Life	too short	
SR-82	-2.635E-01		4.322E-01	6.660E-01	6.082E-02	-0.396
RB-83	2.438E-02		6.895E-02	1.192E-01	1.062E-02	0.205
RB-84	2.526E-02		6.494E-02	1.105E-01	1.013E-02	0.229
KR-85	1.449E+01		8.041E+00	1.361E+01	1.210E+00	1.065
SR-85	7.748E-02		4.299E-02	7.276E-02	6.470E-03	1.065
RB-86	2.003E-01		9.916E-01	1.690E+00	1.465E-01	0.119
Y-88	3.434E-03		3.235E-02	5.511E-02	4.473E-03	0.062
ZR-88	-2.275E-03		2.995E-02	4.835E-02	4.027E-03	-0.047
Y-91	-1.443E+01		2.229E+01	3.487E+01	2.848E+00	-0.414
NB-94	-3.350E-02		3.343E-02	5.002E-02	4.491E-03	-0.670
NB-95	2.584E-02		4.715E-02	8.073E-02	7.359E-03	0.320

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	1.213E-01		1.261E-01	1.976E-01	1.918E-02	0.614
ZR-95	6.756E-02		7.646E-02	1.349E-01	1.339E-02	0.501
NB-97	-1.754E+00		2.432E+00	Half-Life too short		
ZR-97	9.457E+01		5.041E+01	Half-Life too short		
MO-99	-1.501E+01		3.251E+01	5.109E+01	7.890E+00	-0.294
TC-99M	6.300E+14		1.066E+15	Half-Life too short		
RH-101	2.420E-03		3.136E-02	5.280E-02	4.331E-03	0.046
RH-102	-4.485E-03		3.021E-02	4.784E-02	4.197E-03	-0.094
RU-103	-2.283E-02		4.304E-02	6.524E-02	9.331E-03	-0.350
RH-106	3.680E-01		3.426E-01	6.105E-01	8.282E-02	0.603
RU-106	3.680E-01		3.406E-01	6.105E-01	5.457E-02	0.603
AG-108M	-1.388E-02		3.236E-02	5.034E-02	4.495E-03	-0.276
AG-110M	-1.320E-02		3.531E-02	5.668E-02	5.164E-03	-0.233
IN-111	-1.802E+00		3.155E+00	4.405E+00	3.731E-01	-0.409
IN-113M	3.133E-02		4.249E-02	7.274E-02	6.253E-03	0.431
SN-113	3.133E-02		4.249E-02	7.274E-02	6.253E-03	0.431
IN-114M	8.724E-02		2.071E-01	3.169E-01	2.579E-02	0.275
CD-115	2.769E-05		1.823E-05	Half-Life too short		
SN-117M	-4.828E-03		6.699E-02	1.060E-01	8.495E-03	-0.046
SB-122	-2.589E+00		5.563E+00	8.977E+00	8.048E-01	-0.288
I-123	8.722E+01		4.409E+02	Half-Life too short		
TE-123M	2.875E-03		2.906E-02	4.636E-02	3.740E-03	0.062
I-124	1.438E+00		1.392E+00	2.315E+00	2.074E-01	0.621
SB-124	-4.531E-02		9.113E-02	1.329E-01	1.151E-02	-0.341
SB-125	2.264E-02		9.592E-02	1.576E-01	1.374E-02	0.144
TE-125M	7.819E+00		8.673E+00	1.454E+01	1.509E+00	0.538
I-126	3.140E-02		2.304E-01	3.861E-01	3.423E-02	0.081
SB-126	3.288E-02		2.018E-01	2.944E-01	2.657E-02	0.112
SB-127	2.279E+00		2.737E+00	4.829E+00	6.198E-01	0.472
XE-127	2.197E-02		4.847E-02	8.328E-02	6.863E-03	0.264
I-131	2.492E-01		1.587E-01	2.843E-01	2.554E-02	0.876
TE-132	-1.180E+00		1.557E+00	2.492E+00	4.087E-01	-0.473
BA-133	1.224E-02		5.004E-02	7.319E-02	9.612E-03	0.167
I-133	4.901E-02		7.170E-02	Half-Life too short		
CS-134	1.788E-01	+	7.778E-02	1.039E-01	9.571E-03	1.722
CS-135	8.703E-02		1.659E-01	2.518E-01	2.483E-02	0.346
I-135	-6.162E+13		6.988E+13	Half-Life too short		
CS-136	-6.295E-02		1.511E-01	2.439E-01	2.233E-02	-0.258
BA-137M	9.113E-04		3.765E-02	6.196E-02	5.484E-03	0.015
CS-137	9.633E-04		3.980E-02	6.550E-02	5.807E-03	0.015
CE-139	-3.701E-03		3.035E-02	4.776E-02	3.778E-03	-0.077
BA-140	-3.874E-02		2.959E-01	4.919E-01	1.634E-01	-0.079
LA-140	-8.801E-02		1.093E-01	1.511E-01	1.264E-02	-0.583
CE-141	-1.650E-02		6.822E-02	1.060E-01	8.877E-03	-0.156
CE-143	4.027E-03		7.624E-04	Half-Life too short		
CE-144	-4.154E-02		2.205E-01	3.102E-01	4.789E-02	-0.134
PM-144	7.699E-03		3.698E-02	6.211E-02	5.569E-03	0.124
PR-144	5.228E-01		2.511E+00	4.218E+00	3.780E-01	0.124

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	-1.433E-02		4.235E-02	6.611E-02	7.124E-03	-0.217
ND-147	-2.588E-01		7.222E-01	1.181E+00	1.787E-01	-0.219
PM-149	6.561E-05		1.480E-04	Half-Life too short		
EU-152	-2.026E-02		1.074E-01	1.402E-01	1.271E-02	-0.144
GD-153	-1.876E-02		7.511E-02	1.071E-01	9.582E-03	-0.175
EU-154	-4.179E-02		1.414E-01	2.269E-01	2.494E-02	-0.184
EU-155	6.073E-02		9.981E-02	1.657E-01	1.464E-02	0.367
TB-160	-1.578E-01		1.423E-01	1.998E-01	1.833E-02	-0.790
HO-166M	-3.596E-02		6.513E-02	1.011E-01	9.106E-03	-0.356
TM-171	-4.728E+00		2.266E+01	3.308E+01	2.474E+00	-0.143
LU-176	1.686E-02		2.534E-02	4.061E-02	3.478E-03	0.415
LU-177	3.876E+00	+	2.221E+00	2.949E+00	2.443E-01	1.314
LU-177M	-9.894E-02		1.966E-01	3.068E-01	2.597E-02	-0.323
HF-181	-1.660E-02		4.801E-02	7.468E-02	6.571E-03	-0.222
W-181	1.150E-01		2.945E-01	4.431E-01	3.279E-02	0.259
TA-182	-1.427E-01		2.307E-01	3.622E-01	2.962E-02	-0.394
RE-183	4.769E-02		1.132E-01	1.833E-01	1.459E-02	0.260
RE-184	-1.068E-01		2.361E-01	3.837E-01	3.257E-02	-0.278
OS-185	-7.924E-03		4.499E-02	7.364E-02	6.547E-03	-0.108
RE-188	-1.139E-01		1.829E-01	2.814E-01	2.271E-02	-0.405
W-188	-5.838E-01		8.156E+00	1.177E+01	1.004E+00	-0.050
IR-192	-1.058E-02		3.589E-02	5.794E-02	4.980E-03	-0.183
AU-195	2.120E-01		2.027E-01	3.291E-01	2.927E-02	0.644
TL-200	-3.177E-03		2.925E-03	Half-Life too short		
TL-201	-4.108E+00		1.747E+01	2.731E+01	2.163E+00	-0.150
TL-202	1.470E-01		9.110E-02	1.627E-01	1.401E-02	0.904
HG-203	-2.333E-03		4.196E-02	6.933E-02	6.057E-03	-0.034
BI-207	5.629E-04		5.350E-02	8.909E-02	7.773E-03	0.006
TL-207	-3.224E-01		6.907E-01	1.099E+00	1.944E-01	-0.293
PO-209	4.177E+00		7.891E+00	1.346E+01	1.233E+00	0.310
PB-211	3.232E-01		9.326E-01	1.514E+00	9.485E-01	0.213
PO-215	-3.224E-01		6.907E-01	1.099E+00	1.944E-01	-0.293
RN-219	-9.374E-02		4.065E-01	6.474E-01	9.643E-02	-0.145
RN-220	1.483E+01		2.628E+01	4.592E+01	4.112E+00	0.323
RA-223	-3.224E-01		6.907E-01	1.099E+00	1.944E-01	-0.293
AC-227	-1.246E-01		3.881E-01	6.348E-01	9.697E-02	-0.196
TH-227	-1.246E-01		3.883E-01	6.348E-01	1.143E-01	-0.196
TH-229	9.501E-02		4.779E-01	8.144E-01	6.650E-02	0.117
PA-231	-5.208E-01		1.410E+00	2.277E+00	3.443E-01	-0.229
TH-231	-3.224E-01		6.907E-01	1.099E+00	1.944E-01	-0.293
U-231	-1.168E+00		1.904E+00	2.653E+00	2.388E-01	-0.440
PA-233	-3.721E-02		6.464E-02	1.025E-01	9.041E-03	-0.363
PA-234	2.799E-01		3.217E-01	5.585E-01	1.060E-01	0.501
PA-234M	5.329E+00		5.176E+00	9.165E+00	9.398E-01	0.581
U-235	-1.168E-01		2.107E-01	3.212E-01	5.563E-02	-0.364
NP-236	-2.928E-02		8.041E-02	1.252E-01	1.000E-02	-0.234
NP-239	1.942E-02		1.851E-01	2.996E-01	2.578E-02	0.065
AM-241	8.054E-02		1.153E-01	1.766E-01	1.400E-02	0.456

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.837E-02		8.708E-02	1.457E-01	1.277E-02	0.469
AM-246	-1.461E-02		1.551E-01	2.573E-01	2.228E-02	-0.057
CM-247	-3.693E-03		3.599E-02	5.790E-02	4.861E-03	-0.064
CF-249	9.797E-03		3.772E-02	6.249E-02	5.216E-03	0.157
CF-251	-4.164E-02		1.189E-01	1.986E-01	1.591E-02	-0.210

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536002          *
* Acquisition date   : 9-JAN-2010 14:08:28 Detector SN# :                  *
* Detector ID        : GAM07 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.24 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536002 Analyst initials: MXR1                 *
* Batch Number       : 937074 Sample Quantity : 1.2143E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                 *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                  *
* LCS DPM             : 0.000 LCS Isotope :                  *
* LCSD DPM            : 0.000 LCSD Isotope :                  *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.339E+01	3.396E+00	3.132E-01	1.732E+00
CD-109	2.822E+00	8.675E-01	5.150E-01	4.426E-01
SN-126	2.758E-01	8.476E-02	5.043E-02	4.325E-02
TL-208	4.350E-01	9.781E-02	3.223E-02	4.990E-02
BI-210	2.068E-01	2.379E+00	1.400E+00	1.214E+00
PB-210	2.068E-01	2.379E+00	1.400E+00	1.214E+00
PO-210	2.068E-01	2.379E+00	1.400E+00	1.214E+00
BI-211	3.367E+00	5.329E-01	1.562E-01	2.719E-01
BI-212	1.158E+00	5.796E-01	2.444E-01	2.957E-01
PB-212	1.627E+00	1.905E-01	4.274E-02	9.719E-02
PO-212	1.627E+00	1.905E-01	4.274E-02	9.719E-02
BI-214	1.015E+00	1.853E-01	6.042E-02	9.456E-02
PB-214	1.171E+00	1.948E-01	5.447E-02	9.939E-02
PO-214	1.171E+00	1.948E-01	5.447E-02	9.939E-02
PO-216	1.627E+00	1.905E-01	4.274E-02	9.719E-02
PO-218	1.171E+00	1.948E-01	5.447E-02	9.939E-02
RA-224	3.823E+00	1.133E+00	4.864E-01	5.783E-01
RA-226	1.015E+00	1.853E-01	6.042E-02	9.456E-02
AC-228	1.401E+00	3.183E-01	1.096E-01	1.624E-01
RA-228	1.401E+00	3.183E-01	1.096E-01	1.624E-01
TH-228	1.658E+00	1.941E-01	4.356E-02	9.905E-02
TH-230	1.015E+00	1.853E-01	6.042E-02	9.456E-02
TH-232	1.401E+00	3.183E-01	1.096E-01	1.624E-01
TH-234	1.289E+00	1.332E+00	7.840E-01	6.796E-01
U-234	1.015E+00	1.853E-01	6.042E-02	9.456E-02
NP-237	8.098E-01	2.979E-01	1.489E-01	1.520E-01
U-238	1.289E+00	1.332E+00	7.840E-01	6.796E-01
AM-243	3.229E-01	5.840E-02	3.742E-02	2.979E-02
ANH-511	9.413E-02	7.091E-02	2.256E-02	3.618E-02

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

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	-5.766E-02	3.363E-01	2.745E-01	1.716E-01	NOT IDENT.
NA-22	-2.700E-02	5.088E-02	4.073E-02	2.596E-02	NOT IDENT.
NA-24	-3.830E+07	5.866E+07	0.000E+00	2.993E+07	SHORT HLIF
AL-26	-3.586E-02	3.397E-02	2.290E-02	1.733E-02	NOT IDENT.
TI-44	3.152E-01	4.771E-02	3.351E-02	2.434E-02	FAIL ABUN
SC-46	5.397E-04	3.996E-02	3.331E-02	2.039E-02	FAIL ABUN
V-48	-1.147E-02	8.625E-02	7.010E-02	4.400E-02	NOT IDENT.
CR-51	1.295E-02	4.013E-01	3.433E-01	2.047E-01	NOT IDENT.
MN-52	-2.054E-01	3.100E-01	2.247E-01	1.581E-01	NOT IDENT.
MN-54	-2.335E-03	3.917E-02	3.261E-02	1.999E-02	NOT IDENT.
CO-56	-2.541E-03	4.515E-02	3.755E-02	2.303E-02	NOT IDENT.
CO-57	-3.733E-03	2.429E-02	2.038E-02	1.239E-02	NOT IDENT.
CO-58	-2.172E-02	4.320E-02	3.452E-02	2.204E-02	NOT IDENT.
FE-59	4.029E-02	1.084E-01	9.544E-02	5.529E-02	NOT IDENT.
CO-60	-5.135E-03	4.230E-02	3.503E-02	2.158E-02	NOT IDENT.
ZN-65	3.274E-02	1.148E-01	8.730E-02	5.855E-02	NOT IDENT.
GE-68	-4.703E-01	1.368E+00	1.135E+00	6.979E-01	NOT IDENT.
AS-73	1.361E-02	4.993E-01	4.282E-01	2.548E-01	NOT IDENT.
AS-74	2.868E-02	1.073E-01	9.418E-02	5.475E-02	NOT IDENT.
SE-75	2.071E-03	4.547E-02	3.660E-02	2.320E-02	NOT IDENT.
BR-77	1.267E+01	3.164E+01	0.000E+00	1.614E+01	SHORT HLIF
SR-82	-2.635E-01	4.235E-01	3.352E-01	2.161E-01	NOT IDENT.
RE-83	2.438E-02	6.757E-02	6.030E-02	3.447E-02	NOT IDENT.
RB-84	2.526E-02	6.364E-02	5.552E-02	3.247E-02	NOT IDENT.
KR-85	1.449E+01	7.881E+00	6.885E+00	4.021E+00	NOT IDENT.
SR-85	7.748E-02	4.213E-02	3.681E-02	2.149E-02	NOT IDENT.
RB-86	2.003E-01	9.718E-01	8.472E-01	4.958E-01	NOT IDENT.
Y-88	3.434E-03	3.170E-02	2.744E-02	1.618E-02	NOT IDENT.
ZR-88	-2.275E-03	2.935E-02	2.454E-02	1.497E-02	NOT IDENT.
Y-91	-1.443E+01	2.184E+01	1.745E+01	1.114E+01	NOT IDENT.
NB-94	-3.350E-02	3.276E-02	2.521E-02	1.671E-02	NOT IDENT.
NB-95	2.584E-02	4.621E-02	4.064E-02	2.357E-02	NOT IDENT.
NB-95M	1.213E-01	1.236E-01	1.009E-01	6.307E-02	NOT IDENT.
ZR-95	6.756E-02	7.493E-02	6.790E-02	3.823E-02	NOT IDENT.
NB-97	-1.754E+06	4.767E+06	0.000E+00	2.432E+06	SHORT HLIF
ZR-97	9.457E+07	9.881E+07	0.000E+00	5.041E+07	SHORT HLIF
MO-99	-1.501E+01	3.186E+01	2.573E+01	1.626E+01	NOT IDENT.
TC-99M	6.300E+20	2.090E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.420E-03	3.073E-02	2.702E-02	1.568E-02	NOT IDENT.
RH-102	-4.485E-03	2.960E-02	2.423E-02	1.510E-02	NOT IDENT.
RU-103	-2.283E-02	4.218E-02	3.302E-02	2.152E-02	FAIL ABUN
RH-106	3.680E-01	3.358E-01	3.081E-01	1.713E-01	FAIL ABUN
RU-106	3.680E-01	3.338E-01	3.081E-01	1.703E-01	FAIL ABUN
AG-108M	-1.388E-02	3.172E-02	2.552E-02	1.618E-02	NOT IDENT.
AG-110M	-1.320E-02	3.460E-02	2.859E-02	1.765E-02	NOT IDENT.
IN-111	-1.802E+00	3.092E+00	2.249E+00	1.578E+00	NOT IDENT.
IN-113M	3.133E-02	4.164E-02	3.692E-02	2.125E-02	NOT IDENT.
SN-113	3.133E-02	4.164E-02	3.692E-02	2.125E-02	NOT IDENT.
IN-114M	8.724E-02	2.030E-01	1.623E-01	1.036E-01	NOT IDENT.
CD-115	2.769E+01	3.574E+01	0.000E+00	1.823E+01	SHORT HLIF
SN-117M	-4.828E-03	6.565E-02	5.438E-02	3.350E-02	NOT IDENT.
SB-122	-2.589E+00	5.452E+00	4.536E+00	2.782E+00	NOT IDENT.
I-123	8.722E+07	8.641E+08	0.000E+00	4.409E+08	SHORT HLIF
TE-123M	2.875E-03	2.848E-02	2.379E-02	1.453E-02	NOT IDENT.
I-124	1.438E+00	1.365E+00	1.169E+00	6.962E-01	NOT IDENT.
SB-124	-4.531E-02	8.931E-02	6.621E-02	4.557E-02	FAIL ABUN
SB-125	2.264E-02	9.401E-02	7.992E-02	4.796E-02	FAIL ABUN
TE-125M	7.819E+00	8.499E+00	7.497E+00	4.136E+00	NOT IDENT.
I-126	3.140E-02	2.258E-01	1.947E-01	1.152E-01	NOT IDENT.
SB-126	3.288E-02	1.977E-01	1.483E-01	1.009E-01	FAIL ABUN
SB-127	2.279E+00	2.682E+00	2.434E+00	1.368E+00	NOT IDENT.
XE-127	2.197E-02	4.750E-02	4.262E-02	2.424E-02	NOT IDENT.
I-131	2.492E-01	1.555E-01	1.444E-01	7.934E-02	NOT IDENT.
TE-132	-1.180E+00	1.526E+00	1.273E+00	7.787E-01	NOT IDENT.
BA-133	1.224E-02	4.904E-02	3.720E-02	2.502E-02	NOT IDENT.
I-133	4.901E+04	1.405E+05	0.000E+00	7.170E+04	SHORT HLIF
CS-134	1.788E-01	7.622E-02	5.227E-02	3.889E-02	FAIL ABUN
CS-135	8.703E-02	1.626E-01	1.284E-01	8.294E-02	NOT IDENT.
I-135	-6.162E+19	1.370E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.295E-02	1.481E-01	1.223E-01	7.554E-02	FAIL ABUN
BA-137M	9.113E-04	3.690E-02	3.125E-02	1.883E-02	NOT IDENT.
CS-137	9.633E-04	3.900E-02	3.303E-02	1.990E-02	NOT IDENT.
CE-139	-3.701E-03	2.974E-02	2.450E-02	1.517E-02	NOT IDENT.
BA-140	-3.874E-02	2.900E-01	2.487E-01	1.480E-01	NOT IDENT.
LA-140	-8.801E-02	1.071E-01	7.535E-02	5.464E-02	NOT IDENT.
CE-141	-1.650E-02	6.686E-02	5.448E-02	3.411E-02	NOT IDENT.

CE-143	4.027E+03	1.494E+03	0.000E+00	7.624E+02	SHORT HLIF
CE-144	-4.154E-02	2.161E-01	1.595E-01	1.103E-01	NOT IDENT.
PM-144	7.699E-03	3.624E-02	3.130E-02	1.849E-02	NOT IDENT.
PR-144	5.228E-01	2.461E+00	2.126E+00	1.255E+00	NOT IDENT.
PM-146	-1.433E-02	4.151E-02	3.350E-02	2.118E-02	NOT IDENT.
ND-147	-2.588E-01	7.078E-01	5.972E-01	3.611E-01	FAIL ABUN
PM-149	6.561E+01	2.902E+02	0.000E+00	1.480E+02	SHORT HLIF
EU-152	-2.026E-02	1.053E-01	7.128E-02	5.372E-02	NOT IDENT.
GD-153	-1.876E-02	7.361E-02	5.532E-02	3.756E-02	FAIL ABUN
EU-154	-4.179E-02	1.386E-01	1.135E-01	7.072E-02	NOT IDENT.
EU-155	6.073E-02	9.781E-02	8.545E-02	4.991E-02	FAIL ABUN
TB-160	-1.578E-01	1.395E-01	1.004E-01	7.117E-02	FAIL ABUN
HO-166M	-3.596E-02	6.383E-02	5.096E-02	3.256E-02	NOT IDENT.
TM-171	-4.728E+00	2.221E+01	1.716E+01	1.133E+01	NOT IDENT.
LU-176	1.686E-02	2.483E-02	2.067E-02	1.267E-02	FAIL ABUN
LU-177	3.876E+00	2.176E+00	1.509E+00	1.110E+00	FAIL ABUN
LU-177M	-9.894E-02	1.926E-01	1.556E-01	9.829E-02	NOT IDENT.
HF-181	-1.660E-02	4.705E-02	3.781E-02	2.401E-02	NOT IDENT.
W-181	1.150E-01	2.886E-01	2.299E-01	1.473E-01	NOT IDENT.
TA-182	-1.427E-01	2.261E-01	1.813E-01	1.154E-01	FAIL ABUN
RE-183	4.769E-02	1.110E-01	9.404E-02	5.661E-02	FAIL ABUN
RE-184	-1.068E-01	2.313E-01	1.958E-01	1.180E-01	NOT IDENT.
OS-185	-7.924E-03	4.409E-02	3.715E-02	2.249E-02	NOT IDENT.
RE-188	-1.139E-01	1.792E-01	1.445E-01	9.144E-02	NOT IDENT.
W-188	-5.838E-01	7.992E+00	5.998E+00	4.078E+00	FAIL ABUN
IR-192	-1.058E-02	3.517E-02	2.949E-02	1.794E-02	FAIL ABUN
AU-195	2.120E-01	1.987E-01	1.699E-01	1.014E-01	FAIL ABUN
TL-200	-3.177E+03	5.733E+03	0.000E+00	2.925E+03	SHORT HLIF
TL-201	-4.108E+00	1.712E+01	1.401E+01	8.734E+00	NOT IDENT.
TL-202	1.470E-01	8.928E-02	8.247E-02	4.555E-02	NOT IDENT.
HG-203	-2.333E-03	4.112E-02	3.534E-02	2.098E-02	NOT IDENT.
BI-207	5.629E-04	5.243E-02	4.466E-02	2.675E-02	FAIL ABUN
TL-207	-3.224E-01	6.769E-01	5.594E-01	3.454E-01	FAIL ABUN
PO-209	4.177E+00	7.734E+00	6.764E+00	3.946E+00	NOT IDENT.
PB-211	3.232E-01	9.140E-01	7.684E-01	4.663E-01	NOT IDENT.
PO-215	-3.224E-01	6.769E-01	5.594E-01	3.454E-01	FAIL ABUN
RN-219	-9.374E-02	3.984E-01	3.285E-01	2.032E-01	FAIL ABUN
RN-220	1.483E+01	2.575E+01	2.321E+01	1.314E+01	NOT IDENT.
RA-223	-3.224E-01	6.769E-01	5.594E-01	3.454E-01	FAIL ABUN
AC-227	-1.246E-01	3.803E-01	3.239E-01	1.940E-01	FAIL ABUN
TH-227	-1.246E-01	3.805E-01	3.239E-01	1.941E-01	FAIL ABUN
TH-229	9.501E-02	4.683E-01	4.170E-01	2.389E-01	FAIL ABUN
PA-231	-5.208E-01	1.382E+00	1.161E+00	7.048E-01	FAIL ABUN
TH-231	-3.224E-01	6.769E-01	5.594E-01	3.454E-01	FAIL ABUN
U-231	-1.168E+00	1.866E+00	1.370E+00	9.519E-01	FAIL ABUN
PA-233	-3.721E-02	6.335E-02	5.219E-02	3.232E-02	FAIL ABUN
PA-234	2.799E-01	3.153E-01	2.804E-01	1.608E-01	FAIL ABUN
PA-234M	5.329E+00	5.073E+00	4.598E+00	2.588E+00	NOT IDENT.
U-235	-1.168E-01	2.065E-01	1.651E-01	1.054E-01	FAIL ABUN
NP-236	-2.928E-02	7.880E-02	6.423E-02	4.021E-02	NOT IDENT.
NP-239	1.942E-02	1.814E-01	1.543E-01	9.253E-02	FAIL ABUN
AM-241	8.054E-02	1.129E-01	9.172E-02	5.763E-02	NOT IDENT.
CM-243	6.837E-02	8.534E-02	7.516E-02	4.354E-02	FAIL ABUN
AM-246	-1.461E-02	1.520E-01	1.290E-01	7.754E-02	NOT IDENT.
CM-247	-3.693E-03	3.527E-02	2.938E-02	1.799E-02	NOT IDENT.
CF-249	9.797E-03	3.696E-02	3.172E-02	1.886E-02	NOT IDENT.
CF-251	-4.164E-02	1.165E-01	1.018E-01	5.945E-02	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 SAVAGE ROAD                          *
*                                     CHARLESTON , SC 29417                     *
*                                     GAMMA SPECTROSCOPY BACKGROUND REPORT      *
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ENERGY	MDA COUNTS
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46.50	244.7822
46.50	244.7822
46.50	244.7822
48.70	265.6581
49.72	257.8296
51.35	254.0629
52.39	256.2704
52.97	258.5632
53.15	254.8483
53.44	256.9519
54.07	282.3250
56.28	287.7266
56.28	287.7281
57.37	0.0000
57.53	317.6516
57.53	317.6533
57.60	317.7050
57.98	311.2071
57.98	311.2071
59.32	310.7385
59.32	310.7385
59.40	312.2553
59.54	312.3582
59.72	312.4904
60.01	314.1631
61.10	322.2841
61.14	322.3135
61.30	322.4326
63.00	366.8441
63.29	367.0848
63.29	367.0848
63.58	367.3250
64.28	340.8498
65.12	347.4005
65.20	347.4619
65.20	347.4619
66.05	346.6314
66.72	361.9734
66.83	362.0628
66.91	360.6419
67.20	356.4130
67.20	356.4130
67.75	368.7324
67.85	368.8118
68.90	373.6190
68.90	373.6190
69.30	399.7958
69.67	404.8903
70.82	393.5991
70.82	393.5991
70.83	393.6071
72.80	425.2773
72.87	425.3399
72.87	425.3399
74.67	404.2798
74.81	404.3943
74.81	404.3943
74.81	404.3943
74.81	404.3943
74.81	404.3943
74.81	404.3943
74.81	404.3943
74.97	404.5252
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75.70	405.1202
77.11	406.2632
77.11	406.2632

77.11	406.2632
77.11	406.2632
77.11	406.2632
77.11	406.2632
77.11	406.2632
78.38	356.6263
79.62	353.4286
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79.80	353.5526
80.11	353.7650
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80.30	353.8942
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81.07	354.4199
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81.07	354.4199
81.07	354.4199
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83.37	293.5747
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83.78	293.8039
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83.78	293.8039
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84.90	294.4200
85.43	294.7104
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86.50	295.2943
86.54	295.3162
86.59	295.3440
86.72	295.4140
86.79	295.4505
86.94	295.5337
87.30	295.7279
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87.30	295.7279
87.30	295.7279
87.30	295.7279
87.30	295.7279
87.57	295.8739
87.88	0.0000
88.03	296.1220
88.36	296.3001
88.47	296.3600
89.95	297.1512
91.11	297.7686
92.29	298.3905
92.38	298.4387
92.38	298.4387
93.35	298.9467
94.00	299.2868
94.67	241.1678
94.67	241.1702
94.90	242.8332
94.90	242.8332
94.90	242.8332
94.90	242.8332
95.87	274.6258
95.87	274.6258
96.73	278.1749
97.43	259.6240
98.44	233.2746
98.44	233.2746
98.88	224.6142
99.55	236.8687
99.55	236.8687
99.86	241.2055
100.00	241.2614
100.10	242.3570
103.18	267.9529
103.76	242.7651
105.00	256.0012
105.31	260.3810
108.00	279.6503
109.28	226.7402

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111.00	294.9150
111.76	272.7159
112.95	283.9751
115.19	259.0466
116.30	278.9436
117.00	267.3333
117.00	267.3333
117.66	264.3482
121.11	251.5483
121.62	238.6602
121.78	238.7159
122.06	258.4424
122.32	268.3581
122.32	268.3581
122.32	268.3581
122.32	268.3581
123.07	275.2046
127.23	291.6863
129.76	274.5379
131.20	241.9484
133.02	247.5429
133.54	244.3951
135.34	237.3319
136.00	235.7655
136.25	232.5078
136.48	241.4827
140.51	237.1974
140.51	0.0000
142.18	244.4494
142.65	249.0906
143.76	258.4412
144.24	240.6150
144.24	240.6150
144.24	240.6150
144.24	240.6150
145.22	244.2994
145.44	246.6201
147.16	249.4253
152.43	261.3283
152.70	237.5487
153.22	230.8799
154.21	241.4135
154.21	241.4135
154.21	241.4135
154.21	241.4135
155.03	274.7166
156.02	255.6527
158.56	238.1344
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159.00	234.8249
160.31	248.9681
161.27	229.7302
162.32	223.1205
162.64	223.2054
163.35	238.3646
163.89	243.1295
165.85	233.3015
167.43	238.3656
171.28	219.6790
171.86	212.8484
172.10	212.9080
176.55	229.7797
176.60	229.7937
181.06	201.6820
184.41	225.0824
185.71	215.3021
186.00	215.3707
190.27	216.5480
192.34	202.9544
193.63	209.1061
197.04	205.3770
198.01	199.3007
198.60	189.5413
200.40	0.0000
201.83	235.2449
202.84	208.4220
205.31	206.9590

208.36	211.9566
208.81	213.3237
209.75	223.8828
209.75	223.8828
210.97	213.9683
215.65	220.2652
216.55	226.8635
218.09	202.4698
222.10	219.8139
223.80	190.6939
226.40	180.0855
227.00	182.9603
227.08	182.9754
227.20	192.2372
228.16	203.5124
228.18	203.5175
228.18	203.5175
231.56	0.0000
235.69	152.0363
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236.00	175.9355
238.63	162.5356
238.63	162.5356
238.63	162.5356
238.63	162.5356
239.00	0.0000
240.98	162.8847
241.98	163.0327
241.98	163.0327
241.98	163.0327
244.69	175.8299
245.39	183.4602
247.94	159.1982
248.90	159.3336
249.79	0.0000
252.40	182.5248
252.85	176.9204
252.85	176.9204
254.15	0.0000
256.20	180.2863
256.20	180.2863
260.50	176.1954
260.90	0.0000
262.80	151.7313
264.65	146.5553
268.24	139.5859
268.79	115.0964
269.46	116.6979
269.46	116.6979
269.46	116.6979
269.46	116.6979
271.23	129.7492
273.65	177.2000
276.40	131.2727
277.35	126.9584
277.60	130.4352
277.60	130.4352
278.00	144.0095
278.60	142.1461
279.20	152.8576
279.53	156.7694
280.46	151.0774
281.68	0.0000
283.67	132.0530
284.30	124.3477
285.00	119.5579
285.90	0.0000
286.10	119.6630
286.10	119.6630
287.40	115.8932
288.45	0.0000
290.67	134.3561
290.80	134.3708
291.72	151.6691
293.26	0.0000
293.70	122.1511
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295.21	147.3822

295.21	147.3822
295.96	147.4694
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297.23	0.0000
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299.80	106.2136
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300.09	105.4498
300.09	105.4498
300.09	105.4498
300.12	105.4530
301.29	105.5479
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303.76	0.0000
303.91	116.8102
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304.40	113.6971
304.84	127.9527
306.84	110.7456
308.46	125.7326
311.98	141.9505
316.51	133.4684
318.01	135.6119
319.02	130.7242
319.41	130.7621
320.08	126.8314
323.87	151.2212
323.87	151.2212
323.87	151.2212
323.87	151.2212
325.23	173.4250
328.77	130.6566
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334.20	135.6079
334.20	135.6079
334.30	135.6182
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338.28	102.2052
338.28	102.2052
338.28	102.2052
338.32	102.2083
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338.32	102.2083
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340.57	95.6805
344.27	99.5896
345.85	87.8977
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351.92	104.2070
351.92	104.2070
355.39	0.0000
356.01	103.2702
364.48	77.2797
366.43	127.9374
367.43	128.0226
367.94	0.0000
369.80	101.3391
374.96	103.7598
383.85	102.2752
387.95	88.9429
388.63	88.9818
391.69	78.6667
391.69	78.6667
392.90	91.3237
398.62	85.3333
400.65	97.0453
401.10	101.2925
401.81	101.3379
402.60	97.1632
404.84	92.0114
410.95	97.6672
411.60	101.9546
413.65	125.4758
414.70	106.4041
415.30	106.4423

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423.70	110.1935
427.08	100.7686
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432.53	87.1143
433.93	91.4915
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439.89	71.2892
443.98	102.8568
444.90	100.7453
445.03	100.7538
445.03	100.7538
445.03	100.7538
445.03	100.7538
453.90	83.8451
463.38	86.4846
468.07	77.2718
473.00	79.2444
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476.78	93.7469
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490.36	0.0000
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529.87	0.0000
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555.20	76.2644
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563.90	79.3547
568.70	71.2137
569.32	78.6375
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569.67	78.6499
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574.64	0.0000
578.91	0.0000
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592.07	73.8735
593.00	85.1325
595.88	74.0046
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602.71	64.4381
603.60	67.3747
604.41	72.1015
604.70	72.1108
609.31	84.8298

609.31	84.8298
609.31	84.8298
609.31	84.8298
610.33	72.2961
612.46	83.3775
614.37	70.8545
618.01	70.9698
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633.10	63.8267
634.78	75.3142
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657.75	71.2539
657.90	0.0000
661.65	71.3731
661.65	71.3731
664.57	0.0000
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666.33	70.5494
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692.80	70.3547
695.00	73.3539
696.49	73.3978
696.49	73.3978
697.00	66.5606
697.49	66.5739
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699.00	62.6969
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722.78	62.6406
722.78	62.6406
722.89	62.6437
722.95	62.6453
723.30	67.6010
724.18	74.2218
727.18	67.3741
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735.90	65.1762
739.58	65.7116
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747.13	71.8963
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763.93	73.3671
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766.42	65.3888
766.84	66.4044
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778.00	61.6329
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778.89	51.5466
783.80	40.5029
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792.07	35.5494

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826.30	68.9040
828.27	0.0000
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867.82	46.9567
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884.67	45.1290
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896.60	46.3644
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903.28	51.4839
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911.07	50.8230
911.07	50.8230
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969.11	77.6760
969.11	77.6760
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983.50	47.6824
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1046.59	46.0266
1048.07	63.5448

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1050.47	45.1579
1062.04	46.2362
1063.62	39.7806
1076.63	51.0746
1077.35	59.4453
1078.86	54.8252
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1099.22	56.0815
1112.02	41.8111
1112.84	49.8625
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1120.29	53.5952
1120.29	53.5952
1120.51	53.5975
1121.28	53.6091
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1173.22	66.7814
1175.09	67.7701
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1189.05	79.5214
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1274.54	60.7310
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1298.22	0.0000
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1333.61	30.8121
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1362.66	0.0000
1365.15	31.0467
1368.21	29.0649
1368.53	0.0000
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1384.27	42.2546
1394.10	25.2096
1395.20	29.2502
1407.95	29.3375
1434.06	18.3193
1436.60	15.2747
1457.56	0.0000
1460.81	27.6460
1489.15	19.5783
1509.49	14.4910
1596.49	24.2531
1620.62	13.7776
1678.03	0.0000
1691.02	19.3506
1691.02	19.3506
1706.46	0.0000
1750.46	0.0000
1764.49	10.2830
1764.49	10.2830
1764.49	10.2830
1764.49	10.2830
1770.23	6.5508
1771.40	6.5525
1791.20	0.0000
1808.65	20.7393

1836.01

9.4754

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536002

Total Uranium Activity	3.7799E+00	ug/g
Total Uranium Counting Unc.	3.9642E+00	ug/g
Total Uranium Tpu	2.0225E-06	ug/g
Total Uranium Mda	2.3335E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G243536002
*  ANALYST       : MXR1            DETECTOR    : GAM07
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 9-JAN-2010 14:08:28.46  SAMPLE ALQT: 121.430 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.996E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 2.030E+00
GROSS GAMMA MDA (pCi/GRAM )     : 2.881E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.394E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:10:15.07

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536003.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:09:04.
Sample ID          : G243536003           Sample quantity  : 1.26430E+02 GRAM
Detector name      : GAM10                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.04 0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID          : 937074                Detector SN#      :
Matrix Spike ID    :                      LCS ID          : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.88*	22	414	0.83	125.93	123	7	3.11E-03	156.2	
2	1	74.53*	383	330	1.07	149.20	142	17	5.32E-02	9.5	3.06E+00
3	1	76.87	616	319	1.08	153.88	142	17	8.55E-02	6.2	
4	0	86.84	211	467	0.96	173.79	170	8	2.93E-02	19.0	
5	5	89.81	104	216	0.92	179.73	178	18	1.44E-02	21.6	1.35E+00
6	5	92.77*	256	420	1.55	185.64	178	18	3.55E-02	16.3	
7	0	128.93	74	329	1.12	257.91	253	8	1.03E-02	44.0	
8	0	185.83*	237	375	1.05	371.61	366	11	3.29E-02	17.6	
9	0	209.07	95	286	1.04	418.05	414	8	1.32E-02	32.4	
10	4	238.55*	1327	190	1.17	476.96	471	18	1.84E-01	3.3	1.46E+00
11	4	241.58	347	233	1.58	483.03	471	18	4.82E-02	11.2	
12	0	269.86	51	231	1.07	539.55	535	9	7.10E-03	55.2	
13	0	277.39	45	147	0.75	554.59	551	7	6.20E-03	47.5	
14	1	295.16*	529	109	1.36	590.11	582	23	7.35E-02	5.6	2.99E+00
15	1	300.06	130	121	1.40	599.90	582	23	1.81E-02	16.7	
16	0	328.07	63	172	1.00	655.87	651	10	8.71E-03	41.2	
17	0	338.28*	267	177	1.28	676.27	670	11	3.71E-02	11.7	
18	0	351.94*	682	207	1.29	703.58	698	12	9.47E-02	5.8	
19	0	463.26	80	106	1.80	926.09	922	10	1.12E-02	26.3	
20	0	510.97*	122	180	1.86	1021.46	1014	17	1.69E-02	29.2	
21	0	583.17*	442	108	1.52	1165.79	1157	15	6.13E-02	7.1	
22	0	609.50*	560	99	1.46	1218.42	1212	14	7.78E-02	5.8	
23	0	727.58*	78	82	1.20	1454.50	1449	11	1.09E-02	25.4	
24	0	768.91	43	65	2.37	1537.13	1532	9	5.95E-03	37.2	
25	0	860.68	75	39	1.33	1720.62	1713	13	1.04E-02	20.7	
26	0	911.48*	232	70	1.25	1822.19	1817	12	3.22E-02	10.0	
27	0	935.43	35	56	0.73	1870.09	1862	13	4.82E-03	48.4	
28	0	969.85*	120	108	1.48	1938.93	1931	13	1.66E-02	20.4	
29	0	1120.97*	136	69	2.01	2241.14	2231	17	1.90E-02	16.5	
30	0	1379.23	38	33	1.12	2757.72	2748	16	5.27E-03	38.6	
31	0	1461.26*	774	7	1.98	2921.83	2911	18	1.08E-01	3.7	
32	0	1765.31*	103	0	2.21	3530.21	3523	13	1.43E-02	10.4	

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

VMS Nuclide Identification Report V3.1 Generated 9-JAN-2010 16:10:17

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:09:04
Sample ID        : G243536003 Sample quantity : 126.43 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA10 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.04 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1:50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.946E+01	2.221E+00	5.715E-01	4.923E-02	34.052
CD-109	+	88.03	*	3.313E+00	1.314E+00	1.322E+00	1.499E-01	2.506
SN-126	+	64.28		3.121E-01	9.769E-01	1.138E+00	1.946E-01	0.274
	+	86.94		1.346E+00	7.623E-01	5.870E-01	2.465E-01	2.292
	+	87.57	*	3.237E-01	1.284E-01	1.301E-01	1.473E-02	2.487
TL-208	+	277.35		4.231E-01	4.042E-01	5.725E-01	6.244E-02	0.739
	+	510.84		5.719E-01	3.398E-01	2.077E-01	2.184E-02	2.753
	+	583.14	*	5.928E-01	9.334E-02	5.539E-02	3.722E-03	10.702
	+	860.37		9.711E-01	4.129E-01	4.063E-01	3.967E-02	2.390
BI-211		72.87		9.901E+00	3.915E+00	6.750E+00	7.423E-01	1.467
	+	351.07	*	4.025E+00	5.512E-01	3.052E-01	2.225E-02	13.191
PB-212	+	74.81		2.758E+00	6.562E-01	6.260E-01	9.012E-02	4.406
	+	77.11		2.446E+00	4.058E-01	3.469E-01	3.793E-02	7.051
	+	87.30		1.497E+00	6.123E-01	6.045E-01	9.120E-02	2.477
	+	238.63	*	1.727E+00	1.735E-01	8.746E-02	6.634E-03	19.749
	+	300.09		2.606E+00	9.001E-01	1.123E+00	9.870E-02	2.320
PO-212	+	74.81		2.758E+00	6.562E-01	6.260E-01	9.012E-02	4.406
	+	77.11		2.446E+00	4.058E-01	3.469E-01	3.793E-02	7.051
	+	87.30		1.497E+00	6.123E-01	6.045E-01	9.120E-02	2.477
	+	115.19		5.466E-01	3.590E+00	5.870E+00	4.200E-01	0.093
	+	238.63	*	1.727E+00	1.735E-01	8.746E-02	6.634E-03	19.749
	+	300.09		2.606E+00	9.001E-01	1.123E+00	9.870E-02	2.320
BI-214	+	609.31	*	1.419E+00	1.959E-01	9.898E-02	7.532E-03	14.339
	+	1120.29		1.897E+00	6.525E-01	4.387E-01	4.287E-02	4.324
	+	1764.49		1.984E+00	4.341E-01	2.608E-01	1.741E-02	7.607
PB-214	+	74.81		4.753E+00	1.098E+00	1.079E+00	1.426E-01	4.406
	+	77.11		4.193E+00	7.655E-01	5.947E-01	7.925E-02	7.051
	+	87.30		2.565E+00	1.036E+00	1.036E+00	1.416E-01	2.477
	+	241.98		2.714E+00	6.476E-01	5.265E-01	4.381E-02	5.155
	+	295.21		1.855E+00	2.665E-01	1.968E-01	1.777E-02	9.428
	+	351.92	*	1.400E+00	2.052E-01	1.064E-01	9.540E-03	13.164
PO-214	+	74.81		4.753E+00	1.098E+00	1.079E+00	1.426E-01	4.406
	+	77.11		4.193E+00	7.655E-01	5.947E-01	7.925E-02	7.051
	+	87.30		2.565E+00	1.036E+00	1.036E+00	1.416E-01	2.477

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.714E+00	6.476E-01	5.265E-01	4.381E-02	5.155
	+	295.21		1.855E+00	2.665E-01	1.968E-01	1.777E-02	9.428
	+	351.92	*	1.400E+00	2.052E-01	1.064E-01	9.540E-03	13.164
	+	74.81		2.758E+00	6.562E-01	6.260E-01	9.012E-02	4.406
	+	77.11		2.446E+00	4.058E-01	3.469E-01	3.793E-02	7.051
	+	87.30		1.497E+00	6.123E-01	6.045E-01	9.120E-02	2.477
PO-218	+	238.63	*	1.727E+00	1.735E-01	8.746E-02	6.634E-03	19.749
	+	300.09		2.606E+00	9.001E-01	1.123E+00	9.870E-02	2.320
	+	74.81		4.753E+00	1.098E+00	1.079E+00	1.426E-01	4.406
	+	77.11		4.193E+00	7.655E-01	5.947E-01	7.925E-02	7.051
	+	87.30		2.565E+00	1.036E+00	1.036E+00	1.416E-01	2.477
	+	241.98		2.714E+00	6.476E-01	5.265E-01	4.381E-02	5.155
RA-224	+	295.21		1.855E+00	2.665E-01	1.968E-01	1.777E-02	9.428
	+	351.92	*	1.400E+00	2.052E-01	1.064E-01	9.540E-03	13.164
	+	240.98	*	5.147E+00	1.194E+00	9.951E-01	6.108E-02	5.172
RA-226	+	609.31	*	1.419E+00	1.959E-01	9.898E-02	7.532E-03	14.339
	+	1120.29		1.897E+00	6.525E-01	4.387E-01	4.287E-02	4.324
	+	1764.49		1.984E+00	4.341E-01	2.608E-01	1.741E-02	7.607
AC-228	+	338.32		1.738E+00	8.182E-01	3.915E-01	1.601E-01	4.438
	+	911.07	*	1.430E+00	3.358E-01	2.432E-01	3.002E-02	5.880
	+	969.11		1.311E+00	6.175E-01	4.968E-01	1.175E-01	2.639
RA-228	+	338.32		1.738E+00	8.182E-01	3.915E-01	1.601E-01	4.438
	+	911.07	*	1.430E+00	3.358E-01	2.432E-01	3.002E-02	5.880
	+	969.11		1.311E+00	6.175E-01	4.968E-01	1.175E-01	2.639
TH-228	+	74.81		2.811E+00	6.159E-01	6.380E-01	7.023E-02	4.406
	+	77.11		2.493E+00	4.136E-01	3.535E-01	3.865E-02	7.051
	+	87.30		1.526E+00	6.051E-01	6.161E-01	6.961E-02	2.477
TH-230	+	238.63	*	1.760E+00	1.768E-01	8.913E-02	6.761E-03	19.749
	+	300.09		2.656E+00	1.801E+00	1.145E+00	6.755E-01	2.320
	+	609.31	*	1.419E+00	1.959E-01	9.898E-02	7.532E-03	14.339
TH-232	+	1120.29		1.897E+00	6.525E-01	4.387E-01	4.287E-02	4.324
	+	1764.49		1.984E+00	4.341E-01	2.608E-01	1.741E-02	7.607
	+	338.32		1.738E+00	4.218E-01	3.915E-01	2.625E-02	4.438
TH-234	+	911.07	*	1.430E+00	3.358E-01	2.432E-01	3.002E-02	5.880
	+	969.11		1.311E+00	6.175E-01	4.968E-01	1.175E-01	2.639
	+	63.29	*	7.886E-01	2.469E+00	2.816E+00	5.550E-01	0.280
U-234	+	92.38		2.450E+00	9.224E-01	7.855E-01	1.487E-01	3.119
	+	609.31	*	1.419E+00	1.959E-01	9.898E-02	7.532E-03	14.339
	+	1120.29		1.897E+00	6.525E-01	4.387E-01	4.287E-02	4.324
NP-237	+	1764.49		1.984E+00	4.341E-01	2.608E-01	1.741E-02	7.607
	+	86.50	*	9.505E-01	4.249E-01	4.177E-01	9.816E-02	2.276
	+	95.87		-6.065E-01	1.064E+00	1.492E+00	3.727E-01	-0.407
U-238	+	63.29	*	7.886E-01	2.469E+00	2.816E+00	5.550E-01	0.280
	+	92.38		2.450E+00	8.361E-01	7.855E-01	8.071E-02	3.119
AM-243	+	74.67	*	4.472E-01	9.784E-02	1.020E-01	1.117E-02	4.386
	+	86.72		3.564E+01	1.414E+01	1.561E+01	1.757E+00	2.284
	+	117.66		-1.224E+00	3.712E+00	5.933E+00	4.117E-01	-0.206
ANH-511	+	142.18		8.413E+00	1.781E+01	2.907E+01	1.735E+00	0.289
	+	511.00	*	1.235E-01	7.266E-02	4.488E-02	2.875E-03	2.752

---- 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	*	1.203E-01	3.243E-01	5.385E-01	4.005E-02	0.223
NA-22		1274.54	*	1.867E-02	4.122E-02	7.192E-02	5.571E-03	0.260
NA-24		1368.53	*	-2.264E+01	4.122E-02	Half-Life too short		
AL-26		1129.67		1.577E+00	1.784E+00	3.164E+00	2.220E-01	0.498
		1808.65	*	4.168E-03	2.532E-02	4.263E-02	2.703E-03	0.098
TI-44		67.85		4.652E-02	6.057E-02	9.863E-02	1.113E-02	0.472
		78.38	*	1.943E-01	5.197E-02	8.166E-02	8.936E-03	2.379
SC-46		889.25	*	-3.830E-02	4.047E-02	5.934E-02	5.873E-03	-0.645
	+	1120.51		3.356E-01	1.133E-01	1.540E-01	1.106E-02	2.180
V-48		944.10		-6.348E-01	1.104E+00	1.688E+00	1.636E-01	-0.376
		983.50	*	-4.879E-02	8.136E-02	1.228E-01	1.135E-02	-0.397
		1312.09		1.133E-01	9.581E-02	1.787E-01	1.492E-02	0.634
CR-51		320.08	*	-1.770E-01	3.996E-01	6.447E-01	4.656E-02	-0.275
MN-52		744.21		-6.034E-02	3.523E-01	5.742E-01	3.746E-02	-0.105
		848.13		-2.558E+00	1.108E+01	1.778E+01	1.576E+00	-0.144
	+	935.52		6.889E-01	6.696E-01	8.011E-01	7.832E-02	0.860
		1246.25		-7.387E+00	1.130E+01	1.754E+01	1.278E+00	-0.421
		1333.61		6.031E+00	7.942E+00	1.436E+01	1.248E+00	0.420
		1434.06	*	1.506E-01	3.952E-01	6.853E-01	5.791E-02	0.220
MN-54		834.83	*	-4.150E-03	3.491E-02	5.670E-02	4.844E-03	-0.073
CO-56		846.75	*	2.561E-02	4.034E-02	6.993E-02	6.175E-03	0.366
		977.42		9.978E-01	3.141E+00	5.258E+00	4.900E-01	0.190
		1037.82		-2.093E-01	3.292E-01	4.935E-01	4.437E-02	-0.424
		1175.09		1.371E+00	2.624E+00	4.573E+00	2.833E-01	0.300
		1238.25		1.339E-01	1.031E-01	1.871E-01	1.395E-02	0.716
		1360.21		-1.934E-01	1.084E+00	1.753E+00	1.515E-01	-0.110
		1771.40		-1.923E+00	4.816E-01	2.647E-01	1.754E-02	-7.262
CO-57		122.06	*	-6.094E-03	2.506E-02	4.015E-02	2.648E-03	-0.152
		136.48		8.284E-02	2.089E-01	3.425E-01	2.396E-02	0.242
CO-58		810.76	*	-1.927E-02	3.923E-02	6.148E-02	4.919E-03	-0.313
FE-59		142.65		2.654E+00	2.951E+00	4.895E+00	2.917E-01	0.542
		192.34		-1.227E-01	1.012E+00	1.592E+00	1.872E-01	-0.077
		1099.22	*	-2.390E-02	9.475E-02	1.479E-01	1.234E-02	-0.162
		1291.56		-1.037E-01	1.296E-01	1.947E-01	1.802E-02	-0.533
CO-60		1173.22		2.500E-02	5.102E-02	8.870E-02	5.469E-03	0.282
		1332.49	*	3.245E-02	3.705E-02	6.791E-02	5.901E-03	0.478
ZN-65		1115.52	*	-1.881E-02	1.103E-01	1.487E-01	1.083E-02	-0.126
GE-68		1077.35	*	7.042E-01	1.280E+00	2.179E+00	1.727E-01	0.323
AS-73		53.44	*	-1.044E+00	1.635E+00	2.592E+00	3.429E-01	-0.403
AS-74		595.88	*	-8.188E-03	9.849E-02	1.646E-01	9.404E-03	-0.050
		634.78		6.144E-02	3.752E-01	6.367E-01	3.361E-02	0.096
SE-75		66.05		-2.893E+00	7.140E+00	1.041E+01	1.340E+00	-0.278
		96.73		-8.477E-01	9.017E-01	1.227E+00	1.736E-01	-0.691
		121.11		-1.559E-03	1.356E-01	2.197E-01	2.152E-02	-0.007
		136.00		-6.843E-03	4.004E-02	6.404E-02	3.977E-03	-0.107
		198.60		-3.850E-01	1.953E+00	2.986E+00	2.115E-01	-0.129
		264.65	*	-1.070E-02	4.934E-02	7.164E-02	4.569E-03	-0.149
		279.53		7.366E-02	1.153E-01	1.772E-01	1.214E-02	0.416
		303.91		-2.980E-01	2.290E+00	3.310E+00	3.318E-01	-0.090

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	400.65		1.958E-01	2.655E-01	4.525E-01	4.419E-02	0.433
		87.88		2.267E-03	2.655E-01	Half-Life too short		
	+	200.40		2.784E-04	2.655E-01	Half-Life too short		
		239.00		8.835E-04	2.655E-01	Half-Life too short		
		249.79		-8.198E-05	2.655E-01	Half-Life too short		
		281.68		1.137E-04	2.655E-01	Half-Life too short		
		297.23		7.497E-04	2.655E-01	Half-Life too short		
		303.76		-1.264E-04	2.655E-01	Half-Life too short		
		439.47		6.482E-05	2.655E-01	Half-Life too short		
		484.57		-2.109E-04	2.655E-01	Half-Life too short		
		520.65	*	-8.857E-06	2.655E-01	Half-Life too short		
		574.64		-7.666E-05	2.655E-01	Half-Life too short		
		578.91		2.764E-04	2.655E-01	Half-Life too short		
		585.48		4.515E-03	2.655E-01	Half-Life too short		
		755.35		-4.167E-05	2.655E-01	Half-Life too short		
		817.79		1.319E-04	2.655E-01	Half-Life too short		
		698.33		-2.229E+00	3.776E+01	6.254E+01	3.509E+00	-0.036
SR-82	*	776.49		-3.395E-01	4.098E-01	6.240E-01	4.499E-02	-0.544
		1395.20		4.519E+00	1.092E+01	1.914E+01	1.639E+00	0.236
RB-83	*	520.41		-1.398E-02	6.794E-02	1.072E-01	6.800E-03	-0.130
		529.64		1.851E-02	1.114E-01	1.810E-01	1.137E-02	0.102
		552.65		-3.573E-02	1.889E-01	2.967E-01	1.813E-02	-0.120
RB-84	*	881.50		3.993E-02	8.011E-02	1.369E-01	1.327E-02	0.292
KR-85	*	513.99		5.369E+00	7.993E+00	1.195E+01	7.632E-01	0.449
SR-85	*	513.99		2.870E-02	4.273E-02	6.387E-02	4.080E-03	0.449
RB-86	*	1076.63		6.187E-01	9.320E-01	1.604E+00	1.272E-01	0.386
Y-88	*	898.02		-3.166E-02	4.548E-02	6.917E-02	7.027E-03	-0.458
		1836.01		-3.146E-03	2.707E-02	4.224E-02	2.591E-03	-0.074
ZR-88	*	392.90		-1.247E-02	3.005E-02	4.774E-02	3.244E-03	-0.261
Y-91	*	1204.90		4.913E+00	1.897E+01	3.244E+01	2.155E+00	0.151
NB-94	*	702.63		-7.337E-03	3.252E-02	5.313E-02	3.025E-03	-0.138
		871.10		6.022E-05	3.435E-02	5.625E-02	5.306E-03	0.001
NB-95	*	765.79		2.802E-02	4.812E-02	7.361E-02	5.136E-03	0.381
NB-95M	*	235.69		1.616E-01	1.330E-01	2.111E-01	1.638E-02	0.765
ZR-95	*	724.18		-7.537E-04	1.044E-01	1.503E-01	1.071E-02	-0.005
		756.15		1.215E-02	7.666E-02	1.284E-01	1.009E-02	0.095
NB-97	*	657.90		-3.526E-01	7.666E-02	Half-Life too short		
		1024.50		4.163E+02	7.666E-02	Half-Life too short		
ZR-97	*	254.15		7.182E+01	7.666E-02	Half-Life too short		
		355.39		-5.450E+01	7.666E-02	Half-Life too short		
		507.63		1.226E+02	7.666E-02	Half-Life too short		
		602.52		1.274E+01	7.666E-02	Half-Life too short		
		1021.30		-2.167E+02	7.666E-02	Half-Life too short		
		1147.95		1.062E+02	7.666E-02	Half-Life too short		
		1362.66		8.102E+01	7.666E-02	Half-Life too short		
		1750.46		1.393E+02	7.666E-02	Half-Life too short		
MO-99		140.51		-7.021E+01	7.619E+01	1.123E+02	3.032E+01	-0.625
		181.06		2.684E+00	4.953E+01	7.017E+01	1.198E+01	0.038
		366.43		3.041E+02	2.251E+02	3.988E+02	2.701E+01	0.762

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		-7.699E+00	3.129E+01	4.957E+01	6.968E+00	-0.155
	778.00			-1.046E+01	8.404E+01	1.371E+02	9.933E+00	-0.076
TC-99M	140.51	*		-2.197E+15	8.404E+01	Half-Life	too short	
RH-101	127.23			1.053E-02	3.565E-02	5.228E-02	3.341E-03	0.201
	198.01	*		-1.946E-02	3.468E-02	5.197E-02	2.986E-03	-0.375
	325.23			5.975E-02	2.335E-01	3.465E-01	2.307E-02	0.172
RH-102	418.52			-1.692E-02	2.801E-01	4.544E-01	3.076E-02	-0.037
	475.06	*		-2.088E-02	2.898E-02	4.415E-02	2.912E-03	-0.473
	631.29			-6.222E-02	4.934E-02	7.340E-02	3.905E-03	-0.848
	697.49			-2.929E-02	7.688E-02	1.242E-01	6.947E-03	-0.236
	766.84			1.710E-01	1.243E-01	2.033E-01	1.423E-02	0.841
	1046.59			-6.961E-02	1.192E-01	1.800E-01	1.512E-02	-0.387
	1112.84			3.743E-02	2.701E-01	3.813E-01	2.791E-02	0.098
RU-103	497.08	*		-8.951E-03	4.157E-02	6.487E-02	8.416E-03	-0.138
	610.33			1.644E+01	3.152E+00	3.429E+00	5.256E-01	4.793
RH-106	511.85	+		6.217E-01	3.657E-01	4.267E-01	2.731E-02	1.457
	621.84	*		9.226E-02	3.067E-01	5.257E-01	6.077E-02	0.175
	1050.47			2.010E-01	2.331E+00	3.797E+00	3.167E-01	0.053
RU-106	511.85	+		6.217E-01	3.657E-01	4.267E-01	2.731E-02	1.457
	621.84	*		9.226E-02	3.065E-01	5.257E-01	2.855E-02	0.175
	1050.47			2.010E-01	2.331E+00	3.797E+00	3.167E-01	0.053
AG-108M	433.93	*		1.152E-03	3.180E-02	5.182E-02	3.715E-03	0.022
	614.37			1.635E-02	3.763E-02	5.770E-02	3.480E-03	0.283
	722.95			-1.280E-02	4.673E-02	6.518E-02	4.276E-03	-0.196
AG-110M	657.75	*		-5.081E-03	3.268E-02	5.391E-02	2.921E-03	-0.094
	677.61			1.069E-01	2.957E-01	5.072E-01	2.847E-02	0.211
	706.67			-5.699E-03	2.051E-01	3.403E-01	2.082E-02	-0.017
	763.93			-7.890E-02	1.812E-01	2.454E-01	1.777E-02	-0.321
	884.67			8.265E-03	5.343E-02	8.861E-02	8.882E-03	0.093
	937.48			6.510E-02	1.192E-01	1.813E-01	1.819E-02	0.359
	1384.27			6.092E-02	1.718E-01	2.621E-01	2.315E-02	0.232
IN-111	171.28			8.009E-01	2.809E+00	4.534E+00	2.494E-01	0.177
	245.39	*		-1.274E+00	2.961E+00	4.257E+00	2.629E-01	-0.299
IN-113M	391.69	*		-6.391E-03	4.238E-02	6.862E-02	4.893E-03	-0.093
SN-113	391.69	*		-6.391E-03	4.238E-02	6.862E-02	4.893E-03	-0.093
IN-114M	190.27	*		5.062E-02	2.094E-01	2.994E-01	1.698E-02	0.169
CD-115	260.90			1.424E-04	2.094E-01	Half-Life	too short	
	492.35			5.946E-05	2.094E-01	Half-Life	too short	
	527.90	*		-6.598E-06	2.094E-01	Half-Life	too short	
SN-117M	156.02			-2.324E+00	2.925E+00	4.514E+00	2.556E-01	-0.515
	158.56	*		6.327E-02	6.700E-02	1.117E-01	6.264E-03	0.566
SB-122	563.90	*		1.182E+00	5.585E+00	9.074E+00	5.457E-01	0.130
	692.80			3.406E+01	1.264E+02	2.112E+02	1.163E+01	0.161
I-123	159.00	*		8.535E+02	1.264E+02	Half-Life	too short	
	528.96			1.451E+04	1.264E+02	Half-Life	too short	
TE-123M	159.00	*		2.812E-02	2.847E-02	4.757E-02	2.702E-03	0.591
I-124	602.71	*		6.535E-02	1.279E+00	1.968E+00	1.110E-01	0.033
	722.78			-2.926E+00	9.407E+00	1.306E+01	7.952E-01	-0.224
	1325.50			-4.661E+01	5.934E+01	8.696E+01	7.455E+00	-0.536

----- 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		1.253E+02	7.936E+01	1.373E+02	1.182E+01	0.912
		1509.49		2.364E+01	3.227E+01	5.808E+01	4.748E+00	0.407
		1691.02		-3.194E+00	7.932E+00	1.189E+01	8.548E-01	-0.269
		602.71		2.058E-03	4.026E-02	6.195E-02	3.497E-03	0.033
		645.85		3.029E-03	4.925E-01	8.244E-01	4.919E-02	0.004
		709.31		6.591E-03	2.830E+00	4.705E+00	2.740E-01	0.001
		713.82		7.088E-02	1.639E+00	2.733E+00	2.808E-01	0.026
		722.78		-1.335E-01	4.294E-01	5.961E-01	3.785E-02	-0.224
		968.20		1.211E+01	4.954E+00	8.065E+00	7.603E-01	1.501
		1045.16		-6.618E-01	2.678E+00	4.208E+00	3.544E-01	-0.157
		1325.50		-2.272E+00	2.893E+00	4.239E+00	3.634E-01	-0.536
		1368.21		-6.862E-01	1.925E+00	2.952E+00	3.979E-01	-0.232
		1436.60		-2.982E-01	4.181E+00	6.821E+00	5.759E-01	-0.044
		1691.02	*	-3.439E-02	8.540E-02	1.280E-01	9.721E-03	-0.269
SB-125		427.89	*	1.313E-02	9.081E-02	1.492E-01	1.039E-02	0.088
	+	463.38		7.384E-01	3.930E-01	5.617E-01	4.213E-02	1.314
		600.56		3.330E-02	1.625E-01	2.772E-01	1.827E-02	0.120
		635.90		2.254E-01	2.486E-01	4.454E-01	2.824E-02	0.506
TE-125M I-126		109.28	*	4.246E+00	9.934E+00	1.645E+01	1.581E+00	0.258
		388.63		8.957E-02	2.319E-01	3.894E-01	2.646E-02	0.230
		666.33	*	-3.350E-02	2.164E-01	3.570E-01	1.791E-02	-0.094
		753.82		1.309E+00	1.814E+00	3.174E+00	2.134E-01	0.412
SB-126		223.80		3.315E+00	4.881E+00	8.473E+00	5.073E-01	0.391
	+	278.60		3.493E+00	3.323E+00	5.303E+00	3.404E-01	0.659
	+	296.50		2.306E+01	2.982E+00	4.795E+00	3.128E-01	4.811
		414.70		-1.891E-02	9.222E-02	1.482E-01	1.004E-02	-0.128
		415.30		-2.404E+00	7.743E+00	1.235E+01	8.368E-01	-0.195
		555.20		-3.138E+00	4.707E+00	7.057E+00	4.296E-01	-0.445
		573.80		1.458E-01	1.216E+00	2.018E+00	1.196E-01	0.072
		593.00		-4.112E-01	1.087E+00	1.751E+00	1.005E-01	-0.235
		656.30		-2.204E+00	3.850E+00	6.126E+00	3.066E-01	-0.360
		666.33		-1.413E-02	9.127E-02	1.505E-01	7.552E-03	-0.094
		675.00		-5.890E-01	2.430E+00	3.975E+00	2.057E-01	-0.148
		695.00		2.318E-02	1.013E-01	1.687E-01	9.360E-03	0.137
		697.00		-2.103E-01	3.387E-01	5.365E-01	2.997E-02	-0.392
		720.50	*	1.000E-01	1.830E-01	3.014E-01	1.821E-02	0.332
SB-127		856.80		-4.891E-01	6.796E-01	8.657E-01	7.858E-02	-0.565
		989.30		4.908E-01	1.585E+00	2.652E+00	2.433E-01	0.185
		1034.80		1.127E+00	1.102E+01	1.800E+01	1.543E+00	0.063
		1213.00		-2.327E+00	5.749E+00	9.162E+00	6.199E-01	-0.254
		61.10		5.083E+00	1.903E+02	2.847E+02	4.291E+01	0.018
		252.40		2.497E+00	8.338E+00	1.409E+01	5.914E+00	0.177
		290.80		-3.712E+01	4.491E+01	6.114E+01	6.759E+00	-0.607
		411.60		-2.620E+01	2.649E+01	3.995E+01	6.301E+00	-0.656
		444.90		-7.997E+00	1.907E+01	2.991E+01	3.754E+00	-0.267
		473.00		2.966E-01	3.320E+00	5.402E+00	6.931E-01	0.055
		543.00		2.789E+00	3.188E+01	5.142E+01	7.288E+00	0.054
		603.60		4.859E+00	2.342E+01	3.506E+01	4.202E+00	0.139
		685.20	*	1.087E+00	2.709E+00	4.651E+00	4.962E-01	0.234

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	698.50			1.487E+00	3.033E+01	5.066E+01	7.802E+00	0.029
	722.20			1.829E+01	6.378E+01	9.505E+01	1.028E+01	0.192
	783.80			3.844E+00	6.947E+00	1.199E+01	1.535E+00	0.321
	57.60			1.004E+01	1.045E+01	1.796E+01	2.283E+00	0.559
	145.22			1.386E-01	7.475E-01	1.211E+00	7.141E-02	0.114
	172.10			5.760E-02	1.358E-01	2.205E-01	1.214E-02	0.261
I-131	202.84	*		-9.755E-03	4.713E-02	7.931E-02	4.593E-03	-0.123
	374.96			1.281E-01	2.045E-01	3.486E-01	2.365E-02	0.367
	80.18			-2.968E+00	7.600E+00	1.099E+01	1.213E+00	-0.270
	284.30			-8.584E-01	1.973E+00	3.210E+00	2.274E-01	-0.267
	364.48	*		-2.169E-02	1.589E-01	2.589E-01	1.914E-02	-0.084
	636.97			1.447E+00	1.975E+00	3.498E+00	2.118E-01	0.414
TE-132	722.89			-3.179E+00	1.107E+01	1.542E+01	9.582E-01	-0.206
	49.72			-6.482E+01	9.773E+01	1.587E+02	2.405E+01	-0.408
	111.76			-7.593E+01	7.222E+01	1.114E+02	1.247E+01	-0.681
	116.30			-1.018E+01	6.381E+01	1.029E+02	1.123E+01	-0.099
	228.16	*		3.606E-01	1.561E+00	2.658E+00	4.073E-01	0.136
	53.15			5.799E-01	6.757E+00	1.107E+01	1.467E+00	0.052
BA-133	79.62			2.425E-01	1.515E+00	2.254E+00	3.756E-01	0.108
	81.00			-3.657E-02	1.157E-01	1.678E-01	2.900E-02	-0.218
	276.40	+		4.184E-01	4.010E-01	6.187E-01	8.195E-02	0.676
	302.84			-1.573E-02	1.499E-01	2.172E-01	2.618E-02	-0.072
	356.01	*		-3.334E-02	4.752E-02	6.405E-02	7.728E-03	-0.521
	383.85			-7.487E-03	2.759E-01	4.511E-01	5.157E-02	-0.017
I-133	510.53	+		3.014E+01	2.759E-01	Half-Life	too short	
	529.87	*		-1.357E-02	2.759E-01	Half-Life	too short	
	706.58			-4.098E-01	2.759E-01	Half-Life	too short	
	856.28			-6.001E+00	2.759E-01	Half-Life	too short	
	875.33			-1.385E+00	2.759E-01	Half-Life	too short	
	1236.41			6.120E+00	2.759E-01	Half-Life	too short	
CS-134	1298.22			-2.229E+00	2.759E-01	Half-Life	too short	
	475.35			-7.185E-01	1.868E+00	2.926E+00	1.930E-01	-0.246
	563.23			-2.110E-01	3.717E-01	5.607E-01	3.441E-02	-0.376
	569.32			-1.453E-01	2.076E-01	3.070E-01	1.883E-02	-0.473
	604.70			-1.321E-02	3.412E-02	4.777E-02	2.701E-03	-0.276
	795.84	*		9.894E-02	4.385E-02	8.469E-02	6.529E-03	1.168
CS-135	801.93			-9.661E-02	3.392E-01	5.422E-01	4.245E-02	-0.178
	1038.57			-4.789E+00	4.114E+00	5.754E+00	4.901E-01	-0.832
	1167.94			-7.594E-01	2.593E+00	4.228E+00	2.652E-01	-0.180
	1365.15			1.780E-01	1.290E+00	2.172E+00	1.959E-01	0.082
	268.24	*		2.058E-01	1.696E-01	2.689E-01	2.173E-02	0.765
	288.45			5.767E+14	1.696E-01	Half-Life	too short	
I-135	417.63			-2.778E+14	1.696E-01	Half-Life	too short	
	546.56			7.079E+13	1.696E-01	Half-Life	too short	
	836.80			-1.494E+14	1.696E-01	Half-Life	too short	
	1038.76			-4.611E+14	1.696E-01	Half-Life	too short	
	1124.00			3.194E+14	1.696E-01	Half-Life	too short	
	1131.51			4.684E+13	1.696E-01	Half-Life	too short	
	1260.41	*		5.729E+13	1.696E-01	Half-Life	too short	

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1457.56		3.389E+15	1.696E-01	Half-Life	too short	
		1678.03		6.927E+13	1.696E-01	Half-Life	too short	
		1706.46		-1.800E+14	1.696E-01	Half-Life	too short	
		1791.20		1.149E+14	1.696E-01	Half-Life	too short	
		66.91		2.897E-02	1.366E+00	2.035E+00	3.487E-01	0.014
	+	86.29		5.207E+00	2.124E+00	2.739E+00	4.036E-01	1.901
		153.22		2.047E-01	8.533E-01	1.381E+00	9.898E-02	0.148
		163.89		1.319E+00	1.278E+00	2.136E+00	1.499E-01	0.617
		176.55		-1.700E-01	4.499E-01	7.021E-01	4.421E-02	-0.242
		273.65		-5.138E-01	8.549E-01	8.429E-01	6.018E-02	-0.610
		340.57		3.796E-01	1.842E-01	3.014E-01	2.120E-02	1.260
		818.51		6.521E-03	8.492E-02	1.408E-01	1.150E-02	0.046
		1048.07	*	5.086E-02	1.330E-01	2.233E-01	1.956E-02	0.228
		1235.34		-1.207E-01	7.725E-01	1.272E+00	1.375E-01	-0.095
BA-137M		661.65	*	2.412E-04	3.407E-02	5.693E-02	2.809E-03	0.004
CS-137		661.65	*	2.550E-04	3.601E-02	6.018E-02	2.986E-03	0.004
CE-139		165.85	*	-4.156E-03	3.111E-02	4.935E-02	2.696E-03	-0.084
BA-140		162.64		-5.914E-01	9.083E-01	1.404E+00	8.815E-02	-0.421
		304.84		-8.986E-01	1.776E+00	2.467E+00	6.776E-01	-0.364
		423.70		-7.105E-01	2.367E+00	3.756E+00	1.201E+00	-0.189
LA-140		537.32	*	-2.090E-01	3.150E-01	4.630E-01	1.510E-01	-0.451
	+	328.77		6.263E-01	5.176E-01	6.518E-01	4.749E-02	0.961
		432.53		1.783E+00	2.435E+00	4.160E+00	3.024E-01	0.429
		487.03		1.057E-02	1.545E-01	2.506E-01	1.811E-02	0.042
		751.79		-2.904E-02	2.118E+00	3.502E+00	2.744E-01	-0.008
		815.85		3.026E-01	3.687E-01	6.527E-01	5.970E-02	0.464
		867.82		-6.971E-01	1.740E+00	2.651E+00	2.591E-01	-0.263
		919.63		-6.188E-01	3.454E+00	5.367E+00	6.297E-01	-0.115
		925.24		-4.489E-01	1.356E+00	2.131E+00	2.206E-01	-0.211
		1596.49	*	-3.347E-02	1.148E-01	1.790E-01	1.389E-02	-0.187
CE-141		145.44	*	-2.882E-02	6.898E-02	1.087E-01	6.656E-03	-0.265
CE-143		57.37		1.401E-02	6.898E-02	Half-Life	too short	
		231.56		-3.219E-03	6.898E-02	Half-Life	too short	
		293.26	*	6.121E-03	6.898E-02	Half-Life	too short	
	+	350.59		2.364E-01	6.898E-02	Half-Life	too short	
		490.36		-1.848E-03	6.898E-02	Half-Life	too short	
		664.57		4.475E-03	6.898E-02	Half-Life	too short	
		721.93		4.369E-03	6.898E-02	Half-Life	too short	
CE-144		80.11		-9.233E-01	2.512E+00	3.636E+00	3.989E-01	-0.254
		133.54	*	-2.332E-01	2.127E-01	3.220E-01	4.627E-02	-0.724
PM-144		476.78		6.052E-02	6.472E-02	1.117E-01	8.507E-03	0.542
		618.01		8.699E-03	2.988E-02	5.124E-02	2.995E-03	0.170
		696.49	*	-1.561E-02	3.499E-02	5.623E-02	3.139E-03	-0.278
		778.57		-3.749E-01	2.066E+00	3.351E+00	2.433E-01	-0.112
PR-144		696.49	*	-1.060E+00	2.376E+00	3.819E+00	2.129E-01	-0.278
		1489.15		-3.927E+00	1.077E+01	1.650E+01	1.363E+00	-0.238
PM-146		453.90	*	-3.309E-04	4.243E-02	6.871E-02	6.346E-03	-0.005
		633.02		-2.144E-01	1.250E+00	2.060E+00	7.570E-01	-0.104
		735.90		5.921E-02	1.443E-01	2.460E-01	6.887E-02	0.241

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13		-2.220E-02	8.428E-02	1.361E-01	1.754E-02	-0.163
		91.11		6.712E-01	3.001E-01	6.602E-01	7.361E-02	1.017
		319.41		-1.841E+00	4.201E+00	6.782E+00	4.502E-01	-0.271
		439.89		3.705E-01	7.026E+00	1.145E+01	7.704E-01	0.032
		531.02	*	1.317E-01	7.377E-01	1.199E+00	1.647E-01	0.110
PM-149		285.90	*	-1.034E-04	7.377E-01	Half-Life too short		
EU-152		121.78		-3.301E-02	7.316E-02	1.160E-01	9.563E-03	-0.284
		244.69		-2.579E-01	3.497E-01	4.920E-01	3.035E-02	-0.524
		344.27	*	-3.903E-03	9.717E-02	1.544E-01	1.138E-02	-0.025
		443.98		-1.175E-01	9.104E-01	1.463E+00	9.818E-02	-0.080
		778.89		1.381E-02	2.358E-01	3.915E-01	2.843E-02	0.035
		867.32		-3.455E-01	8.817E-01	1.299E+00	1.213E-01	-0.266
		964.01		3.800E-01	3.641E-01	5.692E-01	5.393E-02	0.667
		1085.78		2.491E-01	3.710E-01	6.425E-01	5.002E-02	0.388
		1112.02		-8.660E-03	3.698E-01	5.097E-01	3.738E-02	-0.017
		1407.95		-1.142E-02	1.914E-01	3.134E-01	2.672E-02	-0.036
GD-153		69.67		-2.212E+00	2.318E+00	3.262E+00	3.638E-01	-0.678
		83.37		2.133E+00	1.785E+01	2.638E+01	2.924E+00	0.081
		97.43	*	-1.926E-02	8.908E-02	1.276E-01	1.188E-02	-0.151
		103.18		-7.944E-02	1.056E-01	1.664E-01	1.406E-02	-0.478
EU-154		123.07		3.760E-02	5.052E-02	8.436E-02	8.336E-03	0.446
		247.94		4.894E-02	3.494E-01	5.722E-01	5.600E-02	0.086
		591.81		-3.986E-01	5.771E-01	9.031E-01	8.803E-02	-0.441
		723.30		-6.257E-02	1.928E-01	2.671E-01	1.957E-02	-0.234
		756.87		2.770E-01	7.811E-01	1.329E+00	1.426E-01	0.208
		873.19		2.116E-01	2.970E-01	5.171E-01	6.654E-02	0.409
		996.32		-3.166E-01	3.647E-01	5.261E-01	9.469E-02	-0.602
		1004.76		-3.530E-02	2.011E-01	3.192E-01	3.801E-02	-0.111
EU-155		1274.45	*	4.499E-02	1.156E-01	2.002E-01	2.133E-02	0.225
		48.70		-3.929E+00	5.652E+00	9.192E+00	1.104E+00	-0.427
		60.01		3.490E+00	8.151E+00	1.244E+01	1.532E+00	0.281
		86.54	+	3.904E-01	1.549E-01	2.048E-01	2.318E-02	1.906
TB-160	+	105.31	*	8.892E-02	1.077E-01	1.814E-01	1.505E-02	0.490
		86.79		1.082E+00	4.290E-01	5.638E-01	6.351E-02	1.919
		197.04		-3.107E-01	6.207E-01	9.345E-01	5.360E-02	-0.333
		215.65		-3.460E-01	7.392E-01	1.225E+00	7.244E-02	-0.282
	+	298.57		3.939E-01	1.341E-01	2.136E-01	1.396E-02	1.844
		879.36	*	-6.705E-02	1.510E-01	2.363E-01	2.278E-02	-0.284
		962.29		-2.031E-01	6.683E-01	9.008E-01	8.552E-02	-0.225
		966.15		7.308E-01	2.756E-01	4.799E-01	4.535E-02	1.523
HO-166M		1177.93		-1.832E-01	4.223E-01	6.812E-01	4.249E-02	-0.269
		1271.85		-4.503E-02	6.972E-01	1.152E+00	8.859E-02	-0.039
		80.57		-1.386E-01	3.224E-01	4.650E-01	5.108E-02	-0.298
		184.41	+	1.635E-01	5.818E-02	6.687E-02	3.755E-03	2.445
		280.46		6.738E-03	9.001E-02	1.329E-01	8.549E-03	0.051
		410.95		-1.708E-02	2.582E-01	4.195E-01	2.845E-02	-0.041
		711.68	*	1.512E-02	5.914E-02	1.003E-01	5.884E-03	0.151
		752.31		4.304E-02	2.735E-01	4.586E-01	3.069E-02	0.094
		810.29		7.276E-03	5.399E-02	9.005E-02	7.175E-03	0.081

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35	1.038E+01	6.044E+01	1.020E+02	1.341E+01	0.102
		52.39	1.963E+01	3.050E+01	5.095E+01	6.748E+00	0.385
		59.40	-6.624E-01	4.541E+01	6.788E+01	8.433E+00	-0.010
		66.72	* 3.678E+00	4.037E+01	6.035E+01	6.875E+00	0.061
LU-176	+	88.36	3.600E-01	1.605E-01	3.728E-01	4.193E-02	0.966
		201.83	-3.001E-04	2.672E-02	4.534E-02	2.621E-03	-0.007
		306.84	* 1.146E-02	2.395E-02	4.079E-02	2.683E-03	0.281
		401.10	4.851E+00	6.707E+00	1.144E+01	7.770E-01	0.424
LU-177		112.95	6.415E-01	2.457E+00	4.039E+00	2.974E-01	0.159
	+	208.36	* 3.325E+00	2.166E+00	3.009E+00	1.758E-01	1.105
LU-177M		52.97	1.794E-01	3.138E+00	5.137E+00	6.806E-01	0.035
		54.07	-2.074E+00	1.626E+00	2.475E+00	3.264E-01	-0.838
		61.30	3.358E-01	2.442E+00	3.672E+00	4.443E-01	0.091
		121.62	-1.030E-01	3.790E-01	6.065E-01	4.013E-02	-0.170
		147.16	-7.612E-01	6.626E-01	1.005E+00	5.884E-02	-0.757
		171.86	2.730E-01	5.142E-01	8.389E-01	4.618E-02	0.325
		218.09	-1.306E-01	8.224E-01	1.381E+00	8.197E-02	-0.095
	+	268.79	1.033E+00	1.143E+00	1.426E+00	9.061E-02	0.724
		319.02	-2.171E-02	2.595E-01	4.278E-01	2.838E-02	-0.051
		367.43	1.106E+00	9.163E-01	1.610E+00	1.090E-01	0.687
		413.65	* -6.083E-03	1.761E-01	2.865E-01	1.942E-02	-0.021
HF-181		56.28	-3.981E-01	1.682E+00	2.783E+00	3.595E-01	-0.143
		57.53	9.991E-01	8.674E-01	1.497E+00	1.905E-01	0.667
		65.20	-2.267E+00	1.514E+00	2.051E+00	2.369E-01	-1.106
		133.02	-2.973E-02	7.480E-02	1.126E-01	6.991E-03	-0.264
		136.25	5.422E-02	4.851E-01	7.859E-01	4.810E-02	0.069
		345.85	-1.750E-01	2.156E-01	3.085E-01	2.075E-02	-0.567
		482.03	* 1.954E-02	4.339E-02	7.245E-02	4.756E-03	0.270
W-181		56.28	-1.485E-01	6.313E-01	1.044E+00	1.349E-01	-0.142
		57.53	3.751E-01	3.258E-01	5.623E-01	7.155E-02	0.667
		65.20	* -8.448E-01	5.640E-01	7.640E-01	8.827E-02	-1.106
TA-182		67.75	1.096E-01	1.481E-01	2.410E-01	2.723E-02	0.455
		100.10	1.754E-01	2.009E-01	3.072E-01	2.730E-02	0.571
		152.43	2.568E-01	3.595E-01	5.934E-01	3.405E-02	0.433
		222.10	1.727E-01	3.428E-01	5.912E-01	3.531E-02	0.292
		1001.68	3.372E-01	2.001E+00	3.222E+00	2.907E-01	0.105
	+	1121.28	9.187E-01	3.101E-01	4.201E-01	3.012E-02	2.187
		1189.05	-4.333E-02	2.949E-01	4.862E-01	3.113E-02	-0.089
		1221.42	* 1.587E-02	2.010E-01	3.379E-01	2.330E-02	0.047
		1230.97	-8.154E-02	4.669E-01	7.663E-01	5.398E-02	-0.106
RE-183		57.98	1.208E-01	3.263E-01	5.518E-01	6.981E-02	0.219
		59.32	-1.513E-02	1.935E-01	2.883E-01	3.586E-02	-0.052
		67.20	7.784E-02	2.734E-01	4.382E-01	4.972E-02	0.178
		162.32	* -9.900E-02	1.127E-01	1.721E-01	9.519E-03	-0.575
	+	208.81	2.063E+00	1.343E+00	1.875E+00	1.096E-01	1.100
		291.72	-8.869E-01	9.718E-01	1.313E+00	8.534E-02	-0.675
RE-184		57.98	4.349E-01	1.175E+00	1.987E+00	2.514E-01	0.219
		59.32	-5.443E-02	6.964E-01	1.037E+00	1.290E-01	-0.052
		67.20	2.802E-01	9.842E-01	1.577E+00	1.790E-01	0.178

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		-3.639E-01	3.471E-01	5.247E-01	2.913E-02	-0.694
		216.55		-1.497E-01	2.523E-01	4.154E-01	2.459E-02	-0.360
		252.85	*	7.726E-02	2.197E-01	3.750E-01	2.338E-02	0.206
		318.01		1.862E-01	4.456E-01	7.553E-01	5.007E-02	0.247
		792.07		-1.041E+00	9.945E-01	1.481E+00	1.119E-01	-0.703
		903.28		-9.529E-02	1.072E+00	1.735E+00	1.749E-01	-0.055
		920.93		3.958E-01	4.210E-01	7.516E-01	7.455E-02	0.527
		59.72		3.362E-01	4.998E-01	7.706E-01	9.530E-02	0.436
		61.14		9.945E-03	2.724E-01	4.077E-01	4.943E-02	0.024
		69.30		-1.256E-01	4.172E-01	6.105E-01	6.823E-02	-0.206
		592.07		-1.623E+00	2.425E+00	3.808E+00	2.190E-01	-0.426
		646.12	*	-1.885E-03	4.133E-02	6.888E-02	3.538E-03	-0.027
		717.42		-1.634E-01	8.902E-01	1.456E+00	8.707E-02	-0.112
		874.81		8.166E-02	6.047E-01	1.003E+00	9.552E-02	0.081
		880.27		-1.534E-01	8.250E-01	1.326E+00	1.281E-01	-0.116
RE-188		155.03	*	1.608E-01	1.846E-01	3.065E-01	1.741E-02	0.525
		477.96		-1.675E-01	3.173E+00	5.103E+00	3.359E-01	-0.033
		633.10		-3.383E-01	2.630E+00	4.359E+00	2.309E-01	-0.078
W-188	+	63.58		3.298E+01	1.031E+02	1.297E+02	1.525E+01	0.254
		227.08		-7.579E-01	1.277E+01	2.150E+01	1.294E+00	-0.035
		290.67	*	-4.340E+00	7.800E+00	1.091E+01	7.082E-01	-0.398
IR-192	+	295.96		1.468E+00	1.905E-01	3.215E-01	2.124E-02	4.566
		308.46		1.683E-02	9.552E-02	1.601E-01	1.064E-02	0.105
		316.51	*	2.214E-02	3.461E-02	5.937E-02	3.947E-03	0.373
AU-195		468.07		-3.257E-02	7.905E-02	1.069E-01	7.923E-03	-0.305
		604.41		-1.453E-01	4.800E-01	6.787E-01	7.643E-02	-0.214
		612.46		2.049E+00	8.384E-01	1.470E+00	1.084E-01	1.394
		65.12		-3.904E-01	2.597E-01	3.517E-01	4.067E-02	-1.110
		66.83		1.788E-03	1.354E-01	2.016E-01	2.295E-02	0.009
	+	75.70		2.191E+00	3.636E-01	5.750E-01	6.289E-02	3.811
		98.88	*	6.130E-02	2.603E-01	3.826E-01	3.472E-02	0.160
	+	129.76		4.317E+00	3.813E+00	5.112E+00	3.225E-01	0.844
		367.94	*	2.963E-03	3.813E+00	Half-Life too short		
		579.30		5.130E-02	3.813E+00	Half-Life too short		
TL-200		828.27		8.570E-03	3.813E+00	Half-Life too short		
		1205.75		2.005E-02	3.813E+00	Half-Life too short		
		68.90		7.714E+00	1.583E+01	2.407E+01	2.697E+00	0.321
		70.82		-2.852E+00	8.755E+00	1.278E+01	1.417E+00	-0.223
TL-201		80.30		-8.211E+00	1.472E+01	2.107E+01	2.313E+00	-0.390
		135.34		-3.771E+01	6.330E+01	9.927E+01	6.100E+00	-0.380
		167.43	*	1.420E-01	1.754E+01	2.800E+01	1.531E+00	0.005
		68.90		3.517E-01	7.218E-01	1.097E+00	1.230E-01	0.321
TL-202		70.82		-1.297E-01	3.981E-01	5.810E-01	6.441E-02	-0.223
		80.30		-3.734E-01	6.692E-01	9.582E-01	1.052E-01	-0.390
		439.56	*	6.648E-03	8.156E-02	1.332E-01	8.959E-03	0.050
		70.83		-4.685E-01	1.462E+00	2.133E+00	3.261E-01	-0.220
HG-203		72.87		2.089E+00	8.522E-01	1.424E+00	2.117E-01	1.467
		82.60		-1.583E-01	1.393E+00	2.041E+00	3.141E-01	-0.078
		279.20	*	1.729E-02	4.636E-02	6.990E-02	4.717E-03	0.247

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		4.882E-01	2.233E-01	3.852E-01	4.237E-02	1.267
	+	74.97		8.029E-01	1.757E-01	2.819E-01	3.086E-02	2.848
		84.90		1.333E-01	2.269E-01	3.418E-01	3.814E-02	0.390
		569.67		-2.496E-02	3.210E-02	4.709E-02	2.808E-03	-0.530
		1063.62	*	6.021E-02	5.725E-02	1.013E-01	8.244E-03	0.595
		1770.23		-3.300E-01	5.561E-01	6.215E-01	4.123E-02	-0.531
TL-207		81.07		-8.177E-02	2.548E-01	3.696E-01	4.065E-02	-0.221
		83.78		6.917E-02	1.479E-01	2.220E-01	2.464E-02	0.312
		94.90		1.504E-01	2.577E-01	3.883E-01	3.792E-02	0.387
		122.32		3.361E-01	1.691E+00	2.765E+00	2.041E-01	0.122
		144.24		7.369E-01	6.890E-01	1.149E+00	8.421E-02	0.641
		154.21		7.166E-02	4.189E-01	6.760E-01	4.685E-02	0.106
	+	269.46		2.377E-01	2.630E-01	3.373E-01	2.226E-02	0.705
		323.87	*	4.242E-01	6.967E-01	1.058E+00	1.781E-01	0.401
	+	338.28		7.255E+00	1.873E+00	2.540E+00	2.808E-01	2.857
		445.03		-1.032E+00	2.164E+00	3.378E+00	3.651E-01	-0.306
PO-209		260.50		5.337E+00	9.346E+00	1.608E+01	1.012E+00	0.332
		262.80		-1.523E+01	2.593E+01	4.212E+01	2.658E+00	-0.361
		896.60	*	7.596E-01	7.710E+00	1.271E+01	1.282E+00	0.060
BI-210		46.50	*	2.845E+00	9.204E+00	1.539E+01	1.510E+00	0.185
PB-210		46.50	*	2.845E+00	9.204E+00	1.539E+01	1.510E+00	0.185
PO-210		46.50	*	2.845E+00	9.204E+00	1.539E+01	1.382E+00	0.185
PB-211		404.84	*	-1.117E+00	1.175E+00	1.423E+00	8.885E-01	-0.785
		427.08		-4.783E-01	2.017E+00	3.191E+00	1.976E+00	-0.150
		831.96		3.595E-02	1.135E+00	1.869E+00	1.171E+00	0.019
BI-212	+	727.18	*	9.123E-01	4.687E-01	6.668E-01	5.334E-02	1.368
		785.46		2.103E+00	1.728E+00	3.123E+00	2.313E-01	0.673
		1620.62		1.691E-01	1.517E+00	2.514E+00	1.917E-01	0.067
PO-215		81.07		-8.177E-02	2.548E-01	3.696E-01	4.065E-02	-0.221
		83.78		6.917E-02	1.479E-01	2.220E-01	2.464E-02	0.312
		94.90		1.504E-01	2.577E-01	3.883E-01	3.792E-02	0.387
		122.32		3.361E-01	1.691E+00	2.765E+00	2.041E-01	0.122
		144.24		7.369E-01	6.890E-01	1.149E+00	8.421E-02	0.641
		154.21		7.166E-02	4.189E-01	6.760E-01	4.685E-02	0.106
	+	269.46		2.377E-01	2.630E-01	3.373E-01	2.226E-02	0.705
		323.87	*	4.242E-01	6.967E-01	1.058E+00	1.781E-01	0.401
	+	338.28		7.255E+00	1.873E+00	2.540E+00	2.808E-01	2.857
		445.03		-1.032E+00	2.164E+00	3.378E+00	3.651E-01	-0.306
RN-219	+	271.23		3.049E-01	3.379E-01	4.387E-01	3.738E-02	0.695
		401.81	*	7.526E-02	4.091E-01	6.760E-01	9.502E-02	0.111
RN-220		549.76	*	8.618E+00	2.453E+01	4.042E+01	2.478E+00	0.213
RA-223		81.07		-8.177E-02	2.548E-01	3.696E-01	4.065E-02	-0.221
		83.78		6.917E-02	1.479E-01	2.220E-01	2.464E-02	0.312
		94.90		1.504E-01	2.577E-01	3.883E-01	3.792E-02	0.387
		122.32		3.361E-01	1.691E+00	2.765E+00	2.041E-01	0.122
		144.24		7.369E-01	6.890E-01	1.149E+00	8.421E-02	0.641
		154.21		7.166E-02	4.189E-01	6.760E-01	4.685E-02	0.106
	+	269.46		2.377E-01	2.630E-01	3.373E-01	2.226E-02	0.705
		323.87	*	4.242E-01	6.967E-01	1.058E+00	1.781E-01	0.401

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	338.28		7.255E+00	1.873E+00	2.540E+00	2.808E-01	2.857
		445.03		-1.032E+00	2.164E+00	3.378E+00	3.651E-01	-0.306
		79.80		-4.244E-01	1.943E+00	2.833E+00	6.388E-01	-0.150
		236.00		5.222E-01	2.504E-01	4.064E-01	4.315E-02	1.285
	*	256.20		-1.309E-01	3.632E-01	5.974E-01	8.458E-02	-0.219
		286.10		-2.184E-01	1.421E+00	2.349E+00	2.797E-01	-0.093
TH-227	+	299.80		4.829E+00	1.801E+00	2.683E+00	4.444E-01	1.800
		304.40		9.740E-01	1.966E+00	2.971E+00	5.221E-01	0.328
		334.20		4.338E-01	2.657E+00	3.643E+00	6.788E-01	0.119
		79.80		-4.244E-01	1.943E+00	2.833E+00	6.462E-01	-0.150
	+	94.00		9.468E+00	3.745E+00	3.693E+00	8.247E-01	2.564
		236.00		5.222E-01	2.489E-01	4.064E-01	3.758E-02	1.285
TH-229	*	256.20		-1.309E-01	3.634E-01	5.974E-01	1.019E-01	-0.219
		286.10		-2.184E-01	1.438E+00	2.349E+00	2.354E+00	-0.093
	+	299.80		4.829E+00	1.801E+00	2.683E+00	4.444E-01	1.800
		304.40		9.740E-01	1.966E+00	2.971E+00	5.221E-01	0.328
		334.20		4.338E-01	2.657E+00	3.643E+00	6.788E-01	0.119
	+	85.43		7.259E-01	2.879E-01	3.573E-01	3.996E-02	2.032
PA-231	+	88.47		2.073E-01	9.237E-02	2.118E-01	2.376E-02	0.979
		100.00		1.786E-01	2.037E-01	3.115E-01	2.773E-02	0.573
	*	193.63		1.251E-01	5.079E-01	8.138E-01	4.641E-02	0.154
		210.97		8.270E-01	8.498E-01	1.335E+00	7.837E-02	0.619
	*	283.67		-5.911E-01	1.434E+00	2.334E+00	3.284E-01	-0.253
	+	301.29		1.932E+00	6.787E-01	1.040E+00	1.132E-01	1.857
TH-231		81.07		-8.177E-02	2.548E-01	3.696E-01	4.065E-02	-0.221
		83.78		6.917E-02	1.479E-01	2.220E-01	2.464E-02	0.312
		94.90		1.504E-01	2.577E-01	3.883E-01	3.792E-01	0.387
		122.32		3.361E-01	1.691E+00	2.765E+00	2.041E-01	0.122
		144.24		7.369E-01	6.890E-01	1.149E+00	8.421E-02	0.641
		154.21		7.166E-02	4.189E-01	6.760E-01	4.685E-02	0.106
U-231	+	269.46		2.377E-01	2.630E-01	3.373E-01	2.226E-02	0.705
	*	323.87		4.242E-01	6.967E-01	1.058E+00	1.781E-01	0.401
	+	338.28		7.255E+00	1.873E+00	2.540E+00	2.808E-01	2.857
		445.03		-1.032E+00	2.164E+00	3.378E+00	3.651E-01	-0.306
		84.21		7.442E+00	1.228E+01	1.853E+01	2.061E+00	0.402
	+	92.29		1.801E+01	6.147E+00	7.884E+00	8.117E-01	2.285
PA-233	*	95.87		-1.324E+00	2.303E+00	3.256E+00	3.120E-01	-0.407
		108.00		7.905E-01	4.060E+00	6.669E+00	5.249E-01	0.119
	+	75.28		2.342E+01	5.925E+00	8.600E+00	1.442E+00	2.724
	+	86.59		6.337E+00	2.984E+00	3.323E+00	9.230E-01	1.907
	+	300.12		1.346E+00	4.865E-01	7.453E-01	1.027E-01	1.806
	*	311.98		-7.822E-03	6.112E-02	1.006E-01	6.964E-03	-0.078
PA-234		340.50		1.681E+00	8.237E-01	1.214E+00	2.817E-01	1.385
		398.62		-1.318E-01	2.097E+00	3.413E+00	8.907E-01	-0.039
		415.76		-6.453E-02	1.620E+00	2.632E+00	5.497E-01	-0.025
	+	63.00		9.192E-01	2.877E+00	3.746E+00	6.554E-01	0.245
		94.67		1.921E-01	1.886E-01	2.881E-01	3.819E-02	0.667
		98.44		5.467E-02	1.062E-01	1.521E-01	8.500E-02	0.359
		99.86		4.550E-01	5.161E-01	7.895E-01	7.045E-02	0.576

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-7.809E-02	1.882E-01	3.004E-01	3.411E-02	-0.260
		131.20		1.042E-01	1.159E-01	1.753E-01	1.098E-02	0.594
		152.70		3.019E-01	3.397E-01	5.600E-01	8.838E-02	0.539
	+	186.00		5.887E+00	2.740E+00	2.647E+00	8.081E-01	2.224
		226.40		-5.971E-02	3.911E-01	6.557E-01	7.650E-02	-0.091
		227.20		-4.852E-03	4.131E-01	6.969E-01	4.194E-02	-0.007
		248.90		-6.794E-02	7.587E-01	1.269E+00	2.740E-01	-0.054
	+	293.70		8.905E+00	1.764E+00	1.781E+00	2.912E-01	5.000
		369.80		-1.867E-01	8.339E-01	1.348E+00	2.847E-01	-0.139
		568.70		3.293E-01	9.724E-01	1.595E+00	9.526E-02	0.206
		569.50		-2.112E-01	2.855E-01	4.204E-01	2.508E-02	-0.502
		574.00		1.677E-01	1.399E+00	2.321E+00	1.375E-01	0.072
		699.00		-1.979E-01	7.024E-01	1.142E+00	2.046E-01	-0.173
		706.10		6.098E-02	1.014E+00	1.694E+00	7.474E-01	0.036
		733.00		-2.435E-01	4.176E-01	5.519E-01	1.181E-01	-0.441
		742.81		-4.837E-01	1.288E+00	1.991E+00	1.333E+00	-0.243
		796.30		1.590E+00	9.365E-01	1.596E+00	4.271E-01	0.996
		805.60		2.690E-01	9.070E-01	1.530E+00	4.659E-01	0.176
		819.60		-1.198E-01	1.183E+00	1.925E+00	7.301E-01	-0.062
		826.30		-2.225E-01	8.554E-01	1.364E+00	6.094E-01	-0.163
		831.60		-1.098E-01	5.970E-01	9.624E-01	2.868E-01	-0.114
		876.40		-3.951E-01	9.519E-01	1.346E+00	1.385E+00	-0.293
		880.51		-3.446E-02	2.914E-01	4.714E-01	4.560E-02	-0.073
		883.24		2.400E-01	3.340E-01	5.144E-01	3.466E-01	0.467
		899.00		-1.885E-01	8.899E-01	1.418E+00	6.246E-01	-0.133
		925.00		8.838E-04	1.099E+00	1.791E+00	1.770E-01	0.000
		926.50		-1.777E-01	1.761E-01	2.347E-01	6.038E-02	-0.757
		946.00	*	-1.025E-01	3.074E-01	4.821E-01	9.289E-02	-0.213
		949.00		7.646E-02	4.657E-01	7.695E-01	7.416E-02	0.099
		980.50		7.327E-02	6.994E-01	1.148E+00	1.066E-01	0.064
		1394.10		6.127E-01	1.130E+00	1.897E+00	1.234E+00	0.323
PA-234M		766.42		1.432E+01	1.451E+01	2.030E+01	1.025E+01	0.705
		1001.03	*	-7.415E-01	4.526E+00	7.033E+00	7.259E-01	-0.105
U-235	+	89.95		2.080E+00	1.113E+00	1.894E+00	5.974E-01	1.099
	+	93.35		2.946E+00	1.276E+00	1.267E+00	3.612E-01	2.325
		105.00		8.033E-01	1.071E+00	1.760E+00	5.231E-01	0.457
		143.76	*	2.259E-01	2.175E-01	3.582E-01	5.857E-02	0.631
		163.35		2.471E-01	4.531E-01	7.396E-01	1.323E-01	0.334
	+	185.71		2.180E-01	7.757E-02	9.742E-02	5.483E-03	2.238
		205.31		-2.018E-02	5.349E-01	8.000E-01	1.439E-01	-0.025
NP-236		94.67		1.475E-01	1.426E-01	2.187E-01	2.146E-02	0.674
		98.44		4.130E-02	7.701E-02	1.150E-01	1.052E-02	0.359
		111.00		-5.906E-02	1.422E-01	2.273E-01	1.717E-02	-0.260
		160.31	*	-9.372E-02	7.951E-02	1.196E-01	6.664E-03	-0.784
NP-239		99.55		1.110E-01	1.740E-01	2.630E-01	2.359E-02	0.422
		117.00	*	-6.849E-02	1.877E-01	2.996E-01	2.096E-02	-0.229
	+	209.75		1.565E+00	1.019E+00	1.423E+00	8.331E-02	1.100
		228.18		5.066E-02	2.191E-01	3.734E-01	2.250E-02	0.136
	+	277.60		2.040E-01	1.941E-01	3.055E-01	1.959E-02	0.668

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		2.313E-01	1.504E+00	2.062E+00	1.379E-01	0.112
AM-241		59.54	*	2.520E-02	2.627E-01	3.948E-01	5.070E-02	0.064
CM-243		99.55		1.143E-01	1.791E-01	2.707E-01	2.428E-02	0.422
		103.76	*	-6.934E-02	9.574E-02	1.509E-01	1.264E-02	-0.459
		117.00		-7.048E-02	1.931E-01	3.083E-01	2.156E-02	-0.229
	+	209.75		1.543E+00	1.005E+00	1.403E+00	8.215E-02	1.100
		228.18		5.121E-02	2.215E-01	3.774E-01	2.275E-02	0.136
	+	277.60		2.058E-01	1.957E-01	3.080E-01	1.975E-02	0.668
AM-246		798.80		-2.368E-01	1.341E-01	1.804E-01	1.390E-02	-1.313
		1036.00		-1.523E-01	3.107E-01	4.748E-01	4.062E-02	-0.321
		1062.04		1.245E-01	2.411E-01	4.088E-01	3.338E-02	0.304
		1078.86	*	-5.815E-02	1.491E-01	2.299E-01	1.815E-02	-0.253
CM-247	+	278.00		8.462E-01	8.050E-01	1.286E+00	8.247E-02	0.658
		287.40		8.277E-01	1.174E+00	1.970E+00	1.275E-01	0.420
		402.60	*	1.146E-02	3.699E-02	6.159E-02	4.182E-03	0.186
CF-249		252.85		2.852E-01	8.110E-01	1.385E+00	8.632E-02	0.206
		333.44		-7.371E-02	2.226E-01	2.619E-01	1.752E-02	-0.281
		387.95	*	2.231E-02	3.666E-02	6.243E-02	4.242E-03	0.357
CF-251		176.60	*	-5.581E-02	1.264E-01	1.966E-01	1.090E-02	-0.284
		227.00		-6.199E-02	3.701E-01	6.200E-01	3.730E-02	-0.100
		285.00		-7.027E-01	1.652E+00	2.690E+00	1.738E-01	-0.261

VAX/VMS Nuclide Identification Report Generated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*                               *                                               *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536003          *
* Acquisition date   : 9-JAN-2010 14:09:04 Detector SN# :                      *
* Detector ID        : GAM10 Sensitivity : 5.000                               *
* Geometry           : CAN Energy tolerance: 1.500                             *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000                  *
* Elapsed real time  : 0 02:00:01.04 Half life ratio : 8.000                  *
*****
*                               SAMPLE DATA                               *
*                               *                                               *
* Sample date       : 21-DEC-2009 12:00:00 Nuclide Library : SOLID              *
* Sample ID         : G243536003 Analyst initials: MXR1                      *
* Batch Number      : 937074 Sample Quantity : 1.2643E+02 GRAM               *
* Recovery          : 1.00000 Carrier Weight : 0.00000                      *
*****
*                               QC DATA                                       *
*                               *                                               *
* Standard Weight   : 0.00000                                                  *
* CALIB. DATE/TIME  : 16-MAR-2009 13:18:08 MS Isotope :                      *
* MSD DPM           : 0.000 MSD Isotope :                                  *
* LCS DPM           : 0.000 LCS Isotope :                                  *
* LCSD DPM          : 0.000 LCSD Isotope :                                  *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.946E+01	2.177E+00	5.713E-01	0.000E+00
CD-109	3.313E+00	1.288E+00	1.376E+00	0.000E+00
SN-126	3.237E-01	1.258E-01	1.355E-01	0.000E+00
TL-208	5.928E-01	9.147E-02	5.613E-02	0.000E+00
BI-211	4.025E+00	5.402E-01	3.115E-01	0.000E+00
PB-212	1.727E+00	1.700E-01	8.977E-02	0.000E+00
PO-212	1.727E+00	1.700E-01	8.977E-02	0.000E+00
BI-214	1.419E+00	1.920E-01	1.002E-01	0.000E+00
PB-214	1.400E+00	2.011E-01	1.086E-01	0.000E+00
PO-214	1.400E+00	2.011E-01	1.086E-01	0.000E+00
PO-216	1.727E+00	1.700E-01	8.977E-02	0.000E+00
PO-218	1.400E+00	2.011E-01	1.086E-01	0.000E+00
RA-224	5.147E+00	1.170E+00	1.021E+00	0.000E+00
RA-226	1.419E+00	1.920E-01	1.002E-01	0.000E+00
AC-228	1.430E+00	3.291E-01	2.449E-01	0.000E+00
RA-228	1.430E+00	3.291E-01	2.449E-01	0.000E+00
TH-228	1.760E+00	1.732E-01	9.150E-02	0.000E+00
TH-230	1.419E+00	1.920E-01	1.002E-01	0.000E+00
TH-232	1.430E+00	3.291E-01	2.449E-01	0.000E+00
TH-234	7.886E-01	2.420E+00	2.944E+00	0.000E+00
U-234	1.419E+00	1.920E-01	1.002E-01	0.000E+00
NP-237	9.505E-01	4.165E-01	4.349E-01	0.000E+00
U-238	7.886E-01	2.420E+00	2.944E+00	0.000E+00
AM-243	4.472E-01	9.588E-02	1.064E-01	0.000E+00
ANH-511	1.235E-01	7.121E-02	4.557E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.203E-01	3.178E-01	5.472E-01	0.000E+00 NOT IDENT.
NA-22	1.867E-02	4.040E-02	7.203E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	6.225E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	4.168E-03	2.481E-02	4.247E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.093E-02	8.515E-02	0.000E+00	NOT IDENT.
SC-46	-3.830E-02	3.966E-02	5.976E-02	0.000E+00	FAIL ABUN
V-48	-4.879E-02	7.973E-02	1.235E-01	0.000E+00	NOT IDENT.
CR-51	-1.770E-01	3.917E-01	6.590E-01	0.000E+00	NOT IDENT.
MN-52	1.506E-01	3.873E-01	6.852E-01	0.000E+00	FAIL ABUN
MN-54	-4.150E-03	3.421E-02	5.715E-02	0.000E+00	NOT IDENT.
CO-56	2.561E-02	3.953E-02	7.047E-02	0.000E+00	NOT IDENT.
CO-57	-6.094E-03	2.456E-02	4.160E-02	0.000E+00	NOT IDENT.
CO-58	-1.927E-02	3.844E-02	6.200E-02	0.000E+00	NOT IDENT.
FE-59	-2.390E-02	9.285E-02	1.485E-01	0.000E+00	NOT IDENT.
CO-60	3.245E-02	3.631E-02	6.798E-02	0.000E+00	NOT IDENT.
ZN-65	-1.881E-02	1.081E-01	1.492E-01	0.000E+00	NOT IDENT.
GE-68	7.042E-01	1.254E+00	2.188E+00	0.000E+00	NOT IDENT.
AS-73	-1.044E+00	1.602E+00	2.717E+00	0.000E+00	NOT IDENT.
AS-74	-8.188E-03	9.652E-02	1.668E-01	0.000E+00	NOT IDENT.
SE-75	-1.070E-02	4.836E-02	7.343E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.090E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-3.395E-01	4.016E-01	6.297E-01	0.000E+00	NOT IDENT.
RB-83	-1.398E-02	6.658E-02	1.088E-01	0.000E+00	NOT IDENT.
RB-84	3.993E-02	7.851E-02	1.378E-01	0.000E+00	NOT IDENT.
KR-85	5.369E+00	7.833E+00	1.213E+01	0.000E+00	NOT IDENT.
SR-85	2.870E-02	4.188E-02	6.484E-02	0.000E+00	NOT IDENT.
RB-86	6.187E-01	9.134E-01	1.610E+00	0.000E+00	NOT IDENT.
Y-88	-3.146E-03	2.653E-02	4.207E-02	0.000E+00	NOT IDENT.
ZR-88	-1.247E-02	2.945E-02	4.865E-02	0.000E+00	NOT IDENT.
Y-91	4.913E+00	1.859E+01	3.252E+01	0.000E+00	NOT IDENT.
NB-94	-7.337E-03	3.187E-02	5.369E-02	0.000E+00	NOT IDENT.
NB-95	2.802E-02	4.716E-02	7.429E-02	0.000E+00	NOT IDENT.
NB-95M	1.616E-01	1.304E-01	2.168E-01	0.000E+00	NOT IDENT.
ZR-95	1.215E-02	7.512E-02	1.296E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.438E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	9.478E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-7.699E+00	3.066E+01	5.005E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.389E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.946E-02	3.399E-02	5.349E-02	0.000E+00	NOT IDENT.
RH-102	-2.088E-02	2.840E-02	4.487E-02	0.000E+00	NOT IDENT.
RU-103	-8.951E-03	4.074E-02	6.588E-02	0.000E+00	FAIL ABUN
RH-106	9.226E-02	3.006E-01	5.322E-01	0.000E+00	FAIL ABUN
RU-106	9.226E-02	3.004E-01	5.322E-01	0.000E+00	FAIL ABUN
AG-108M	1.152E-03	3.116E-02	5.273E-02	0.000E+00	NOT IDENT.
AG-110M	-5.081E-03	3.202E-02	5.453E-02	0.000E+00	NOT IDENT.
IN-111	-1.274E+00	2.901E+00	4.368E+00	0.000E+00	NOT IDENT.
IN-113M	-6.391E-03	4.154E-02	6.993E-02	0.000E+00	NOT IDENT.
SN-113	-6.391E-03	4.154E-02	6.993E-02	0.000E+00	NOT IDENT.
IN-114M	5.062E-02	2.052E-01	3.084E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.671E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	6.327E-02	6.566E-02	1.153E-01	0.000E+00	NOT IDENT.
SB-122	1.182E+00	5.474E+00	9.199E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.468E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.812E-02	2.790E-02	4.912E-02	0.000E+00	NOT IDENT.
I-124	6.535E-02	1.253E+00	1.993E+00	0.000E+00	NOT IDENT.
SB-124	-3.439E-02	8.369E-02	1.276E-01	0.000E+00	NOT IDENT.
SB-125	1.313E-02	8.899E-02	1.519E-01	0.000E+00	FAIL ABUN
TE-125M	4.246E+00	9.735E+00	1.708E+01	0.000E+00	NOT IDENT.
I-126	-3.350E-02	2.121E-01	3.610E-01	0.000E+00	NOT IDENT.
SB-126	1.000E-01	1.794E-01	3.045E-01	0.000E+00	FAIL ABUN
SB-127	1.087E+00	2.654E+00	4.702E+00	0.000E+00	NOT IDENT.
XE-127	-9.755E-03	4.619E-02	8.160E-02	0.000E+00	NOT IDENT.
I-131	-2.169E-02	1.557E-01	2.641E-01	0.000E+00	NOT IDENT.
TE-132	3.606E-01	1.529E+00	2.730E+00	0.000E+00	NOT IDENT.
BA-133	-3.334E-02	4.657E-02	6.537E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.478E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.297E-02	8.543E-02	0.000E+00	NOT IDENT.
CS-135	2.058E-01	1.662E-01	2.756E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.083E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.086E-02	1.303E-01	2.243E-01	0.000E+00	FAIL ABUN
BA-137M	2.412E-04	3.338E-02	5.758E-02	0.000E+00	NOT IDENT.
CS-137	2.550E-04	3.529E-02	6.086E-02	0.000E+00	NOT IDENT.
CE-139	-4.156E-03	3.049E-02	5.093E-02	0.000E+00	NOT IDENT.
BA-140	-2.090E-01	3.087E-01	4.698E-01	0.000E+00	NOT IDENT.
LA-140	-3.347E-02	1.125E-01	1.787E-01	0.000E+00	FAIL ABUN
CE-141	-2.882E-02	6.760E-02	1.124E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.786E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.332E-01	2.085E-01	3.333E-01	0.000E+00	NOT IDENT.
PM-144	-1.561E-02	3.429E-02	5.683E-02	0.000E+00	NOT IDENT.
PR-144	-1.060E+00	2.328E+00	3.859E+00	0.000E+00	NOT IDENT.

PM-146	-3.309E-04	4.158E-02	6.988E-02	0.000E+00	NOT IDENT.
ND-147	1.317E-01	7.229E-01	1.217E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.936E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.903E-03	9.523E-02	1.577E-01	0.000E+00	NOT IDENT.
GD-153	-1.926E-02	8.730E-02	1.327E-01	0.000E+00	NOT IDENT.
EU-154	4.499E-02	1.133E-01	2.006E-01	0.000E+00	NOT IDENT.
EU-155	8.892E-02	1.055E-01	1.884E-01	0.000E+00	FAIL ABUN
TB-160	-6.705E-02	1.480E-01	2.380E-01	0.000E+00	FAIL ABUN
HO-166M	1.512E-02	5.795E-02	1.013E-01	0.000E+00	FAIL ABUN
TM-171	3.678E+00	3.956E+01	6.307E+01	0.000E+00	NOT IDENT.
LU-176	1.146E-02	2.347E-02	4.172E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.122E+00	3.094E+00	0.000E+00	FAIL ABUN
LU-177M	-6.083E-03	1.726E-01	2.918E-01	0.000E+00	FAIL ABUN
HF-181	1.954E-02	4.252E-02	7.362E-02	0.000E+00	NOT IDENT.
W-181	-8.448E-01	5.527E-01	7.987E-01	0.000E+00	NOT IDENT.
TA-182	1.587E-02	1.970E-01	3.387E-01	0.000E+00	FAIL ABUN
RE-183	-9.900E-02	1.104E-01	1.776E-01	0.000E+00	FAIL ABUN
RE-184	7.726E-02	2.153E-01	3.847E-01	0.000E+00	NOT IDENT.
OS-185	-1.885E-03	4.050E-02	6.969E-02	0.000E+00	NOT IDENT.
RE-188	1.608E-01	1.809E-01	3.165E-01	0.000E+00	NOT IDENT.
W-188	-4.340E+00	7.644E+00	1.117E+01	0.000E+00	FAIL ABUN
IR-192	2.214E-02	3.392E-02	6.069E-02	0.000E+00	FAIL ABUN
AU-195	6.130E-02	2.551E-01	3.976E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.668E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.420E-01	1.719E+01	2.888E+01	0.000E+00	NOT IDENT.
TL-202	6.648E-03	7.992E-02	1.356E-01	0.000E+00	NOT IDENT.
HG-203	1.729E-02	4.543E-02	7.159E-02	0.000E+00	NOT IDENT.
BI-207	6.021E-02	5.610E-02	1.017E-01	0.000E+00	FAIL ABUN
TL-207	4.242E-01	6.828E-01	1.081E+00	0.000E+00	FAIL ABUN
PO-209	7.596E-01	7.556E+00	1.280E+01	0.000E+00	NOT IDENT.
BI-210	2.845E+00	9.020E+00	1.617E+01	0.000E+00	NOT IDENT.
PB-210	2.845E+00	9.020E+00	1.617E+01	0.000E+00	NOT IDENT.
PO-210	2.845E+00	9.020E+00	1.617E+01	0.000E+00	NOT IDENT.
PB-211	-1.117E+00	1.151E+00	1.450E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.593E-01	6.734E-01	0.000E+00	FAIL ABUN
PO-215	4.242E-01	6.828E-01	1.081E+00	0.000E+00	FAIL ABUN
RN-219	7.526E-02	4.009E-01	6.887E-01	0.000E+00	FAIL ABUN
RN-220	8.618E+00	2.403E+01	4.099E+01	0.000E+00	NOT IDENT.
RA-223	4.242E-01	6.828E-01	1.081E+00	0.000E+00	FAIL ABUN
AC-227	-1.309E-01	3.559E-01	6.126E-01	0.000E+00	FAIL ABUN
TH-227	-1.309E-01	3.562E-01	6.126E-01	0.000E+00	FAIL ABUN
TH-229	1.251E-01	4.977E-01	8.379E-01	0.000E+00	FAIL ABUN
PA-231	-5.911E-01	1.406E+00	2.390E+00	0.000E+00	FAIL ABUN
TH-231	4.242E-01	6.828E-01	1.081E+00	0.000E+00	FAIL ABUN
U-231	-1.324E+00	2.257E+00	3.386E+00	0.000E+00	FAIL ABUN
PA-233	-7.822E-03	5.990E-02	1.029E-01	0.000E+00	FAIL ABUN
PA-234	-1.025E-01	3.012E-01	4.850E-01	0.000E+00	FAIL ABUN
PA-234M	-7.415E-01	4.436E+00	7.070E+00	0.000E+00	NOT IDENT.
U-235	2.259E-01	2.132E-01	3.703E-01	0.000E+00	FAIL ABUN
NP-236	-9.372E-02	7.792E-02	1.235E-01	0.000E+00	NOT IDENT.
NP-239	-6.849E-02	1.839E-01	3.106E-01	0.000E+00	FAIL ABUN
AM-241	2.520E-02	2.574E-01	4.132E-01	0.000E+00	NOT IDENT.
CM-243	-6.934E-02	9.382E-02	1.567E-01	0.000E+00	FAIL ABUN
AM-246	-5.815E-02	1.461E-01	2.308E-01	0.000E+00	NOT IDENT.
CM-247	1.146E-02	3.625E-02	6.275E-02	0.000E+00	FAIL ABUN
CF-249	2.231E-02	3.593E-02	6.364E-02	0.000E+00	NOT IDENT.
CF-251	-5.581E-02	1.238E-01	2.026E-01	0.000E+00	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536003.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:09:04.
Sample ID          : G243536003          Sample quantity  : 1.26430E+02 GRAM
Detector name      : GAM10              Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00      Elapsed real time: 0 02:00:01.04 0.0%
Energy tolerance    : 1.50000 keV        Analyst Initials : MXR1
Abundance limit     : 75.00000           Sensitivity       : 5.00000
Batch ID           : 937074              Detector SN#      :
Matrix Spike ID     :                    LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	774	10.67*	1.107E+00	1.946E+01	1.946E+01	11.41
CD-109	88.03	211	3.72*	5.238E+00	3.220E+00	3.313E+00	39.66
SN-126	64.28	22	9.60	2.219E+00	3.121E-01	3.121E-01	312.95
	86.94	211	8.90	5.238E+00	1.346E+00	1.346E+00	56.65
	87.57	211	37.00*	5.238E+00	3.237E-01	3.237E-01	39.66
TL-208	277.35	45	6.80	4.609E+00	4.231E-01	4.231E-01	95.54
	510.84	122	21.60	2.929E+00	5.719E-01	5.719E-01	59.41
	583.14	442	84.20*	2.627E+00	5.928E-01	5.928E-01	15.75
	860.37	75	12.46	1.840E+00	9.711E-01	9.711E-01	42.51
BI-211	72.87	-----	1.27	3.633E+00	-----	Line Not Found	-----
	351.07	682	12.94*	3.887E+00	4.025E+00	4.025E+00	13.69
PB-212	74.81	383	10.70	3.854E+00	2.758E+00	2.758E+00	23.79
	77.11	616	18.00	4.154E+00	2.446E+00	2.446E+00	16.59
	87.30	211	8.00	5.238E+00	1.497E+00	1.497E+00	40.90
	238.63	1327	44.60*	5.115E+00	1.727E+00	1.727E+00	10.04
	300.09	130	3.41	4.360E+00	2.606E+00	2.606E+00	34.54
PO-212	74.81	383	10.70	3.854E+00	2.758E+00	2.758E+00	23.79
	77.11	616	18.00	4.154E+00	2.446E+00	2.446E+00	16.59
	87.30	211	8.00	5.238E+00	1.497E+00	1.497E+00	40.90
	115.19	-----	0.60	6.657E+00	-----	Line Not Found	-----
	238.63	1327	44.60*	5.115E+00	1.727E+00	1.727E+00	10.04
	300.09	130	3.41	4.360E+00	2.606E+00	2.606E+00	34.54
BI-214	609.31	560	46.30*	2.530E+00	1.419E+00	1.419E+00	13.80
	1120.29	136	15.10	1.414E+00	1.897E+00	1.897E+00	34.40
	1764.49	103	15.80	9.762E-01	1.984E+00	1.984E+00	21.88
PB-214	74.81	383	6.21	3.854E+00	4.753E+00	4.753E+00	23.10
	77.11	616	10.50	4.154E+00	4.193E+00	4.193E+00	18.26
	87.30	211	4.67	5.238E+00	2.565E+00	2.565E+00	40.40
	241.98	347	7.49	5.071E+00	2.714E+00	2.714E+00	23.86
	295.21	529	19.20	4.411E+00	1.855E+00	1.855E+00	14.36
	351.92	682	37.20*	3.887E+00	1.400E+00	1.400E+00	14.65
PO-214	74.81	383	6.21	3.854E+00	4.753E+00	4.753E+00	23.10

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	616	10.50	4.154E+00	4.193E+00	4.193E+00	18.26
	87.30	211	4.67	5.238E+00	2.565E+00	2.565E+00	40.40
	241.98	347	7.49	5.071E+00	2.714E+00	2.714E+00	23.86
	295.21	529	19.20	4.411E+00	1.855E+00	1.855E+00	14.36
	351.92	682	37.20*	3.887E+00	1.400E+00	1.400E+00	14.65
	74.81	383	10.70	3.854E+00	2.758E+00	2.758E+00	23.79
	77.11	616	18.00	4.154E+00	2.446E+00	2.446E+00	16.59
	87.30	211	8.00	5.238E+00	1.497E+00	1.497E+00	40.90
	238.63	1327	44.60*	5.115E+00	1.727E+00	1.727E+00	10.04
	300.09	130	3.41	4.360E+00	2.606E+00	2.606E+00	34.54
PO-218	74.81	383	6.21	3.854E+00	4.753E+00	4.753E+00	23.10
	77.11	616	10.50	4.154E+00	4.193E+00	4.193E+00	18.26
	87.30	211	4.67	5.238E+00	2.565E+00	2.565E+00	40.40
	241.98	347	7.49	5.071E+00	2.714E+00	2.714E+00	23.86
	295.21	529	19.20	4.411E+00	1.855E+00	1.855E+00	14.36
	351.92	682	37.20*	3.887E+00	1.400E+00	1.400E+00	14.65
RA-224	240.98	347	3.95*	5.071E+00	5.147E+00	5.147E+00	23.19
RA-226	609.31	560	46.30*	2.530E+00	1.419E+00	1.419E+00	13.80
AC-228	1120.29	136	15.10	1.414E+00	1.897E+00	1.897E+00	34.40
	1764.49	103	15.80	9.762E-01	1.984E+00	1.984E+00	21.88
	338.32	267	11.40	4.000E+00	1.738E+00	1.738E+00	47.09
	911.07	232	27.70*	1.739E+00	1.430E+00	1.430E+00	23.48
	969.11	120	16.60	1.635E+00	1.311E+00	1.311E+00	47.09
RA-228	338.32	267	11.40	4.000E+00	1.738E+00	1.738E+00	47.09
	911.07	232	27.70*	1.739E+00	1.430E+00	1.430E+00	23.48
	969.11	120	16.60	1.635E+00	1.311E+00	1.311E+00	47.09
TH-228	74.81	383	10.70	3.854E+00	2.758E+00	2.811E+00	21.91
	77.11	616	18.00	4.154E+00	2.446E+00	2.493E+00	16.59
	87.30	211	8.00	5.238E+00	1.497E+00	1.526E+00	39.66
	238.63	1327	44.60*	5.115E+00	1.727E+00	1.760E+00	10.04
TH-230	300.09	130	3.41	4.360E+00	2.606E+00	2.656E+00	67.81
	609.31	560	46.30*	2.530E+00	1.419E+00	1.419E+00	13.80
	1120.29	136	15.10	1.414E+00	1.897E+00	1.897E+00	34.40
	1764.49	103	15.80	9.762E-01	1.984E+00	1.984E+00	21.88
TH-232	338.32	267	11.40	4.000E+00	1.738E+00	1.738E+00	24.27
	911.07	232	27.70*	1.739E+00	1.430E+00	1.430E+00	23.48
	969.11	120	16.60	1.635E+00	1.311E+00	1.311E+00	47.09
TH-234	63.29	22	3.80*	2.219E+00	7.886E-01	7.886E-01	313.10
	92.38	256	5.41	5.724E+00	2.450E+00	2.450E+00	37.65
U-234	609.31	560	46.30*	2.530E+00	1.419E+00	1.419E+00	13.80
	1120.29	136	15.10	1.414E+00	1.897E+00	1.897E+00	34.40
	1764.49	103	15.80	9.762E-01	1.984E+00	1.984E+00	21.88
NP-237	86.50	211	12.60*	5.238E+00	9.505E-01	9.505E-01	44.71
	95.87	-----	2.60	5.933E+00	-----	Line Not Found	-----
U-238	63.29	22	3.80*	2.219E+00	7.886E-01	7.886E-01	313.10
	92.38	256	5.41	5.724E+00	2.450E+00	2.450E+00	34.13
AM-243	74.67	383	66.00*	3.854E+00	4.472E-01	4.472E-01	21.88
	86.72	211	0.34	5.238E+00	3.564E+01	3.564E+01	39.66
	117.66	-----	0.55	6.694E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	6.676E+00	-----	Line Not Found	-----
ANH-511	511.00	122	100.00*	2.929E+00	1.235E-01	1.235E-01	58.82

Flag: "*" = Keyline

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

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.946E+01	1.946E+01	0.222E+01	11.41	
CD-109	464.00D	1.03	3.220E+00	3.313E+00	1.314E+00	39.66	
SN-126	1.00E+05Y	1.00	3.237E-01	3.237E-01	1.284E-01	39.66	
TL-208	1.41E+10Y	1.00	5.928E-01	5.928E-01	0.933E-01	15.75	
BI-211	7.04E+08Y	1.00	4.025E+00	4.025E+00	0.551E+00	13.69	
PB-212	1.41E+10Y	1.00	1.727E+00	1.727E+00	0.173E+00	10.04	
PO-212	1.41E+10Y	1.00	1.727E+00	1.727E+00	0.173E+00	10.04	
BI-214	1600.00Y	1.00	1.419E+00	1.419E+00	0.196E+00	13.80	
PB-214	1600.00Y	1.00	1.400E+00	1.400E+00	0.205E+00	14.65	
PO-214	1600.00Y	1.00	1.400E+00	1.400E+00	0.205E+00	14.65	
PO-216	1.41E+10Y	1.00	1.727E+00	1.727E+00	0.173E+00	10.04	
PO-218	1600.00Y	1.00	1.400E+00	1.400E+00	0.205E+00	14.65	
RA-224	1.41E+10Y	1.00	5.147E+00	5.147E+00	1.194E+00	23.19	
RA-226	1600.00Y	1.00	1.419E+00	1.419E+00	0.196E+00	13.80	
AC-228	1.41E+10Y	1.00	1.430E+00	1.430E+00	0.336E+00	23.48	
RA-228	1.41E+10Y	1.00	1.430E+00	1.430E+00	0.336E+00	23.48	
TH-228	1.91Y	1.02	1.727E+00	1.760E+00	0.177E+00	10.04	
TH-230	4.47E+09Y	1.00	1.419E+00	1.419E+00	0.196E+00	13.80	
TH-232	1.41E+10Y	1.00	1.430E+00	1.430E+00	0.336E+00	23.48	
TH-234	4.47E+09Y	1.00	7.886E-01	7.886E-01	24.69E-01	313.10	
U-234	4.47E+09Y	1.00	1.419E+00	1.419E+00	0.196E+00	13.80	
NP-237	2.14E+06Y	1.00	9.505E-01	9.505E-01	4.249E-01	44.71	
U-238	4.47E+09Y	1.00	7.886E-01	7.886E-01	24.69E-01	313.10	
AM-243	7380.00Y	1.00	4.472E-01	4.472E-01	0.978E-01	21.88	
ANH-511	1.00E+09Y	1.00	1.235E-01	1.235E-01	0.727E-01	58.82	

Total Activity : 5.695E+01 5.707E+01

Grand Total Activity : 5.695E+01 5.707E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	89.81	104	216	0.92	179.73	178	18	1.44E-02	43.2	5.50E+00	T
0	128.93	74	329	1.12	257.91	253	8	1.03E-02	88.1	6.76E+00	T
0	185.83	237	375	1.05	371.61	366	11	3.29E-02	35.1	5.98E+00	T
0	209.07	95	286	1.04	418.05	414	8	1.32E-02	64.9	5.58E+00	T
0	269.86	51	231	1.07	539.55	535	9	7.10E-03	****	4.70E+00	T
0	328.07	63	172	1.00	655.87	651	10	8.71E-03	82.3	4.09E+00	T
0	463.26	80	106	1.80	926.09	922	10	1.12E-02	52.7	3.16E+00	T
0	727.58	78	82	1.20	1454.50	1449	11	1.09E-02	50.8	2.16E+00	T
0	768.91	43	65	2.37	1537.13	1532	9	5.95E-03	74.5	2.05E+00	
0	935.43	35	56	0.73	1870.09	1862	13	4.82E-03	96.7	1.69E+00	T
0	1379.23	38	33	1.12	2757.72	2748	16	5.27E-03	77.3	1.16E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536003.CNF;1  *
* Acquisition date   : 9-JAN-2010 14:09:04.  Detector SN#      :              *
* Detector ID        : GAM10                      Sensitivity    : 5.00000      *
* Geometry           : CAN                      Energy tolerance: 1.50000      *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000      *
* Elapsed real time  : 0 02:00:01.04             Half life ratio: 8.00000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00  Nuclide Library : SOLID          *
* Sample ID          : G243536003             Analyst initials: MXR1          *
* Batch Number       : 937074                 Sample Quantity : 1.26430E+02 GRAM  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08.8MS Isotope      :              *
* MSD ID             :                      MSD Isotope       :              *
* LCS ID             : 1032-A                 LCS Isotope     :              *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.946E+01	2.221E+00	5.715E-01	4.923E-02	34.052
CD-109	3.313E+00	1.314E+00	1.322E+00	1.499E-01	2.506
SN-126	3.237E-01	1.284E-01	1.301E-01	1.473E-02	2.487
TL-208	5.928E-01	9.334E-02	5.539E-02	3.722E-03	10.702
BI-211	4.025E+00	5.512E-01	3.052E-01	2.225E-02	13.191
PB-212	1.727E+00	1.735E-01	8.746E-02	6.634E-03	19.749
PO-212	1.727E+00	1.735E-01	8.746E-02	6.634E-03	19.749
BI-214	1.419E+00	1.959E-01	9.898E-02	7.532E-03	14.339
PB-214	1.400E+00	2.052E-01	1.064E-01	9.540E-03	13.164
PO-214	1.400E+00	2.052E-01	1.064E-01	9.540E-03	13.164
PO-216	1.727E+00	1.735E-01	8.746E-02	6.634E-03	19.749
PO-218	1.400E+00	2.052E-01	1.064E-01	9.540E-03	13.164
RA-224	5.147E+00	1.194E+00	9.951E-01	6.108E-02	5.172
RA-226	1.419E+00	1.959E-01	9.898E-02	7.532E-03	14.339
AC-228	1.430E+00	3.358E-01	2.432E-01	3.002E-02	5.880
RA-228	1.430E+00	3.358E-01	2.432E-01	3.002E-02	5.880
TH-228	1.760E+00	1.768E-01	8.913E-02	6.761E-03	19.749
TH-230	1.419E+00	1.959E-01	9.898E-02	7.532E-03	14.339

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.430E+00	3.358E-01	2.432E-01	3.002E-02	5.880
TH-234	7.886E-01	2.469E+00	2.816E+00	5.550E-01	0.280
U-234	1.419E+00	1.959E-01	9.898E-02	7.532E-03	14.339
NP-237	9.505E-01	4.249E-01	4.177E-01	9.816E-02	2.276
U-238	7.886E-01	2.469E+00	2.816E+00	5.550E-01	0.280
AM-243	4.472E-01	9.784E-02	1.020E-01	1.117E-02	4.386
ANH-511	1.235E-01	7.266E-02	4.488E-02	2.875E-03	2.752

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.203E-01		3.243E-01	5.385E-01	4.005E-02	0.223
NA-22	1.867E-02		4.122E-02	7.192E-02	5.571E-03	0.260
NA-24	-2.264E+01		3.176E+01	Half-Life too short		
AL-26	4.168E-03		2.532E-02	4.263E-02	2.703E-03	0.098
TI-44	1.943E-01		5.197E-02	8.166E-02	8.936E-03	2.379
SC-46	-3.830E-02		4.047E-02	5.934E-02	5.873E-03	-0.645
V-48	-4.879E-02		8.136E-02	1.228E-01	1.135E-02	-0.397
CR-51	-1.770E-01		3.996E-01	6.447E-01	4.656E-02	-0.275
MN-52	1.506E-01		3.952E-01	6.853E-01	5.791E-02	0.220
MN-54	-4.150E-03		3.491E-02	5.670E-02	4.844E-03	-0.073
CO-56	2.561E-02		4.034E-02	6.993E-02	6.175E-03	0.366
CO-57	-6.094E-03		2.506E-02	4.015E-02	2.648E-03	-0.152
CO-58	-1.927E-02		3.923E-02	6.148E-02	4.919E-03	-0.313
FE-59	-2.390E-02		9.475E-02	1.479E-01	1.234E-02	-0.162
CO-60	3.245E-02		3.705E-02	6.791E-02	5.901E-03	0.478
ZN-65	-1.881E-02		1.103E-01	1.487E-01	1.083E-02	-0.126
GE-68	7.042E-01		1.280E+00	2.179E+00	1.727E-01	0.323
AS-73	-1.044E+00		1.635E+00	2.592E+00	3.429E-01	-0.403
AS-74	-8.188E-03		9.849E-02	1.646E-01	9.404E-03	-0.050
SE-75	-1.070E-02		4.934E-02	7.164E-02	4.569E-03	-0.149
BR-77	-8.857E-06		1.577E-05	Half-Life too short		
SR-82	-3.395E-01		4.098E-01	6.240E-01	4.499E-02	-0.544
RB-83	-1.398E-02		6.794E-02	1.072E-01	6.800E-03	-0.130
RB-84	3.993E-02		8.011E-02	1.369E-01	1.327E-02	0.292
KR-85	5.369E+00		7.993E+00	1.195E+01	7.632E-01	0.449
SR-85	2.870E-02		4.273E-02	6.387E-02	4.080E-03	0.449
RB-86	6.187E-01		9.320E-01	1.604E+00	1.272E-01	0.386
Y-88	-3.146E-03		2.707E-02	4.224E-02	2.591E-03	-0.074
ZR-88	-1.247E-02		3.005E-02	4.774E-02	3.244E-03	-0.261
Y-91	4.913E+00		1.897E+01	3.244E+01	2.155E+00	0.151
NB-94	-7.337E-03		3.252E-02	5.313E-02	3.025E-03	-0.138
NB-95	2.802E-02		4.812E-02	7.361E-02	5.136E-03	0.381
NB-95M	1.616E-01		1.330E-01	2.111E-01	1.638E-02	0.765
ZR-95	1.215E-02		7.666E-02	1.284E-01	1.009E-02	0.095
NB-97	-3.526E-01		2.264E+00	Half-Life too short		
ZR-97	1.226E+02		4.836E+01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-7.699E+00		3.129E+01	4.957E+01	6.968E+00	-0.155
TC-99M	-2.197E+15		1.219E+15	Half-Life too short		
RH-101	-1.946E-02		3.468E-02	5.197E-02	2.986E-03	-0.375
RH-102	-2.088E-02		2.898E-02	4.415E-02	2.912E-03	-0.473
RU-103	-8.951E-03		4.157E-02	6.487E-02	8.416E-03	-0.138
RH-106	9.226E-02		3.067E-01	5.257E-01	6.077E-02	0.175
RU-106	9.226E-02		3.065E-01	5.257E-01	2.855E-02	0.175
AG-108M	1.152E-03		3.180E-02	5.182E-02	3.715E-03	0.022
AG-110M	-5.081E-03		3.268E-02	5.391E-02	2.921E-03	-0.094
IN-111	-1.274E+00		2.961E+00	4.257E+00	2.629E-01	-0.299
IN-113M	-6.391E-03		4.238E-02	6.862E-02	4.893E-03	-0.093
SN-113	-6.391E-03		4.238E-02	6.862E-02	4.893E-03	-0.093
IN-114M	5.062E-02		2.094E-01	2.994E-01	1.698E-02	0.169
CD-115	-6.598E-06		1.873E-05	Half-Life too short		
SN-117M	6.327E-02		6.700E-02	1.117E-01	6.264E-03	0.566
SB-122	1.182E+00		5.585E+00	9.074E+00	5.457E-01	0.130
I-123	8.535E+02		4.321E+02	Half-Life too short		
TE-123M	2.812E-02		2.847E-02	4.757E-02	2.702E-03	0.591
I-124	6.535E-02		1.279E+00	1.968E+00	1.110E-01	0.033
SB-124	-3.439E-02		8.540E-02	1.280E-01	9.721E-03	-0.269
SB-125	1.313E-02		9.081E-02	1.492E-01	1.039E-02	0.088
TE-125M	4.246E+00		9.934E+00	1.645E+01	1.581E+00	0.258
I-126	-3.350E-02		2.164E-01	3.570E-01	1.791E-02	-0.094
SB-126	1.000E-01		1.830E-01	3.014E-01	1.821E-02	0.332
SB-127	1.087E+00		2.709E+00	4.651E+00	4.962E-01	0.234
XE-127	-9.755E-03		4.713E-02	7.931E-02	4.593E-03	-0.123
I-131	-2.169E-02		1.589E-01	2.589E-01	1.914E-02	-0.084
TE-132	3.606E-01		1.561E+00	2.658E+00	4.073E-01	0.136
BA-133	-3.334E-02		4.752E-02	6.405E-02	7.728E-03	-0.521
I-133	-1.357E-02		7.540E-02	Half-Life too short		
CS-134	9.894E-02		4.385E-02	8.469E-02	6.529E-03	1.168
CS-135	2.058E-01		1.696E-01	2.689E-01	2.173E-02	0.765
I-135	5.729E+13		5.524E+13	Half-Life too short		
CS-136	5.086E-02		1.330E-01	2.233E-01	1.956E-02	0.228
BA-137M	2.412E-04		3.407E-02	5.693E-02	2.809E-03	0.004
CS-137	2.550E-04		3.601E-02	6.018E-02	2.986E-03	0.004
CE-139	-4.156E-03		3.111E-02	4.935E-02	2.696E-03	-0.084
BA-140	-2.090E-01		3.150E-01	4.630E-01	1.510E-01	-0.451
LA-140	-3.347E-02		1.148E-01	1.790E-01	1.389E-02	-0.187
CE-141	-2.882E-02		6.898E-02	1.087E-01	6.656E-03	-0.265
CE-143	6.121E-03		9.111E-04	Half-Life too short		
CE-144	-2.332E-01		2.127E-01	3.220E-01	4.627E-02	-0.724
PM-144	-1.561E-02		3.499E-02	5.623E-02	3.139E-03	-0.278
PR-144	-1.060E+00		2.376E+00	3.819E+00	2.129E-01	-0.278
PM-146	-3.309E-04		4.243E-02	6.871E-02	6.346E-03	-0.005
ND-147	1.317E-01		7.377E-01	1.199E+00	1.647E-01	0.110
PM-149	-1.034E-04		1.498E-04	Half-Life too short		
EU-152	-3.903E-03		9.717E-02	1.544E-01	1.138E-02	-0.025

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.926E-02		8.908E-02	1.276E-01	1.188E-02	-0.151
EU-154	4.499E-02		1.156E-01	2.002E-01	2.133E-02	0.225
EU-155	8.892E-02		1.077E-01	1.814E-01	1.505E-02	0.490
TB-160	-6.705E-02		1.510E-01	2.363E-01	2.278E-02	-0.284
HO-166M	1.512E-02		5.914E-02	1.003E-01	5.884E-03	0.151
TM-171	3.678E+00		4.037E+01	6.035E+01	6.875E+00	0.061
LU-176	1.146E-02		2.395E-02	4.079E-02	2.683E-03	0.281
LU-177	3.325E+00	+	2.166E+00	3.009E+00	1.758E-01	1.105
LU-177M	-6.083E-03		1.127E-01	2.865E-01	1.942E-02	-0.021
HF-181	1.954E-02		4.339E-02	7.245E-02	4.756E-03	0.270
W-181	-8.448E-01		5.640E-01	7.640E-01	8.827E-02	-1.106
TA-182	1.587E-02		2.010E-01	3.379E-01	2.330E-02	0.047
RE-183	-9.900E-02		1.127E-01	1.721E-01	9.519E-03	-0.575
RE-184	7.726E-02		2.197E-01	3.750E-01	2.338E-02	0.206
OS-185	-1.885E-03		4.133E-02	6.888E-02	3.538E-03	-0.027
RE-188	1.608E-01		1.846E-01	3.065E-01	1.741E-02	0.525
W-188	-4.340E+00		7.800E+00	1.091E+01	7.082E-01	-0.398
IR-192	2.214E-02		3.461E-02	5.937E-02	3.947E-03	0.373
AU-195	6.130E-02		2.603E-01	3.826E-01	3.472E-02	0.160
TL-200	2.963E-03		2.892E-03	Half-Life too short		
TL-201	1.420E-01		1.754E+01	2.800E+01	1.531E+00	0.005
TL-202	6.648E-03		8.156E-02	1.332E-01	8.959E-03	0.050
HG-203	1.729E-02		4.636E-02	6.990E-02	4.717E-03	0.247
BI-207	6.021E-02		5.725E-02	1.013E-01	8.244E-03	0.595
TL-207	4.242E-01		6.967E-01	1.058E+00	1.781E-01	0.401
PO-209	7.596E-01		7.710E+00	1.271E+01	1.282E+00	0.060
BI-210	2.845E+00		9.204E+00	1.539E+01	1.510E+00	0.185
PB-210	2.845E+00		9.204E+00	1.539E+01	1.510E+00	0.185
PO-210	2.845E+00		9.204E+00	1.539E+01	1.382E+00	0.185
PB-211	-1.117E+00		1.175E+00	1.423E+00	8.885E-01	-0.785
BI-212	9.123E-01	+	4.687E-01	6.668E-01	5.334E-02	1.368
PO-215	4.242E-01		6.967E-01	1.058E+00	1.781E-01	0.401
RN-219	7.526E-02		4.091E-01	6.760E-01	9.502E-02	0.111
RN-220	8.618E+00		2.453E+01	4.042E+01	2.478E+00	0.213
RA-223	4.242E-01		6.967E-01	1.058E+00	1.781E-01	0.401
AC-227	-1.309E-01		3.632E-01	5.974E-01	8.458E-02	-0.219
TH-227	-1.309E-01		3.634E-01	5.974E-01	1.019E-01	-0.219
TH-229	1.251E-01		5.079E-01	8.138E-01	4.641E-02	0.154
PA-231	-5.911E-01		1.434E+00	2.334E+00	3.284E-01	-0.253
TH-231	4.242E-01		6.967E-01	1.058E+00	1.781E-01	0.401
U-231	-1.324E+00		2.303E+00	3.256E+00	3.120E-01	-0.407
PA-233	-7.822E-03		6.112E-02	1.006E-01	6.964E-03	-0.078
PA-234	-1.025E-01		3.074E-01	4.821E-01	9.289E-02	-0.213
PA-234M	-7.415E-01		4.526E+00	7.033E+00	7.259E-01	-0.105
U-235	2.259E-01		2.175E-01	3.582E-01	5.857E-02	0.631
NP-236	-9.372E-02		7.951E-02	1.196E-01	6.664E-03	-0.784
NP-239	-6.849E-02		1.877E-01	2.996E-01	2.096E-02	-0.229
AM-241	2.520E-02		2.627E-01	3.948E-01	5.070E-02	0.064

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-6.934E-02		9.574E-02	1.509E-01	1.264E-02	-0.459
AM-246	-5.815E-02		1.491E-01	2.299E-01	1.815E-02	-0.253
CM-247	1.146E-02		3.699E-02	6.159E-02	4.182E-03	0.186
CF-249	2.231E-02		3.666E-02	6.243E-02	4.242E-03	0.357
CF-251	-5.581E-02		1.264E-01	1.966E-01	1.090E-02	-0.284

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536003           *
* Acquisition date   : 9-JAN-2010 14:09:04 Detector SN# :                 *
* Detector ID        : GAM10 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.04 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243536003 Analyst initials: MXR1                 *
* Batch Number       : 937074 Sample Quantity : 1.2643E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08 MS Isotope :                 *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.946E+01	2.177E+00	2.858E-01	1.111E+00
CD-109	3.313E+00	1.288E+00	6.886E-01	6.569E-01
SN-126	3.237E-01	1.258E-01	6.778E-02	6.419E-02
TL-208	5.928E-01	9.147E-02	2.808E-02	4.667E-02
BI-211	4.025E+00	5.402E-01	1.559E-01	2.756E-01
PB-212	1.727E+00	1.700E-01	4.491E-02	8.673E-02
PO-212	1.727E+00	1.700E-01	4.491E-02	8.673E-02
BI-214	1.419E+00	1.920E-01	5.015E-02	9.794E-02
PB-214	1.400E+00	2.011E-01	5.433E-02	1.026E-01
PO-214	1.400E+00	2.011E-01	5.433E-02	1.026E-01
PO-216	1.727E+00	1.700E-01	4.491E-02	8.673E-02
PO-218	1.400E+00	2.011E-01	5.433E-02	1.026E-01
RA-224	5.147E+00	1.170E+00	5.110E-01	5.968E-01
RA-226	1.419E+00	1.920E-01	5.015E-02	9.794E-02
AC-228	1.430E+00	3.291E-01	1.225E-01	1.679E-01
RA-228	1.430E+00	3.291E-01	1.225E-01	1.679E-01
TH-228	1.760E+00	1.732E-01	4.578E-02	8.839E-02
TH-230	1.419E+00	1.920E-01	5.014E-02	9.794E-02
TH-232	1.430E+00	3.291E-01	1.225E-01	1.679E-01
TH-234	7.886E-01	2.420E+00	1.473E+00	1.235E+00
U-234	1.419E+00	1.920E-01	5.014E-02	9.794E-02
NP-237	9.505E-01	4.165E-01	2.176E-01	2.125E-01
U-238	7.886E-01	2.420E+00	1.473E+00	1.235E+00
AM-243	4.472E-01	9.588E-02	5.322E-02	4.892E-02
ANH-511	1.235E-01	7.121E-02	2.280E-02	3.633E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.203E-01	3.178E-01	2.738E-01	1.621E-01 NOT IDENT.
NA-22	1.867E-02	4.040E-02	3.604E-02	2.061E-02 NOT IDENT.

NA-24	-2.264E+07	6.225E+07	0.000E+00	3.176E+07	SHORT HLIF
AL-26	4.168E-03	2.481E-02	2.125E-02	1.266E-02	NOT IDENT.
TI-44	1.943E-01	5.093E-02	4.260E-02	2.598E-02	NOT IDENT.
SC-46	-3.830E-02	3.966E-02	2.990E-02	2.023E-02	FAIL ABUN
V-48	-4.879E-02	7.973E-02	6.177E-02	4.068E-02	NOT IDENT.
CR-51	-1.770E-01	3.917E-01	3.297E-01	1.998E-01	NOT IDENT.
MN-52	1.506E-01	3.873E-01	3.428E-01	1.976E-01	FAIL ABUN
MN-54	-4.150E-03	3.421E-02	2.859E-02	1.745E-02	NOT IDENT.
CO-56	2.561E-02	3.953E-02	3.526E-02	2.017E-02	NOT IDENT.
CO-57	-6.094E-03	2.456E-02	2.081E-02	1.253E-02	NOT IDENT.
CO-58	-1.927E-02	3.844E-02	3.102E-02	1.961E-02	NOT IDENT.
FE-59	-2.390E-02	9.285E-02	7.427E-02	4.737E-02	NOT IDENT.
CO-60	3.245E-02	3.631E-02	3.401E-02	1.853E-02	NOT IDENT.
ZN-65	-1.881E-02	1.081E-01	7.467E-02	5.515E-02	NOT IDENT.
GE-68	7.042E-01	1.254E+00	1.095E+00	6.400E-01	NOT IDENT.
AS-73	-1.044E+00	1.602E+00	1.359E+00	8.174E-01	NOT IDENT.
AS-74	-8.188E-03	9.652E-02	8.343E-02	4.925E-02	NOT IDENT.
SE-75	-1.070E-02	4.836E-02	3.674E-02	2.467E-02	NOT IDENT.
BR-77	-8.857E+00	3.090E+01	0.000E+00	1.577E+01	SHORT HLIF
SR-82	-3.395E-01	4.016E-01	3.150E-01	2.049E-01	NOT IDENT.
RB-83	-1.398E-02	6.658E-02	5.441E-02	3.397E-02	NOT IDENT.
RB-84	3.993E-02	7.851E-02	6.896E-02	4.006E-02	NOT IDENT.
KR-85	5.369E+00	7.833E+00	6.068E+00	3.997E+00	NOT IDENT.
SR-85	2.870E-02	4.188E-02	3.244E-02	2.137E-02	NOT IDENT.
RB-86	6.187E-01	9.134E-01	8.057E-01	4.660E-01	NOT IDENT.
Y-88	-3.146E-03	2.653E-02	2.105E-02	1.354E-02	NOT IDENT.
ZR-88	-1.247E-02	2.945E-02	2.434E-02	1.503E-02	NOT IDENT.
Y-91	4.913E+00	1.859E+01	1.627E+01	9.484E+00	NOT IDENT.
NB-94	-7.337E-03	3.187E-02	2.686E-02	1.626E-02	NOT IDENT.
NB-95	2.802E-02	4.716E-02	3.717E-02	2.406E-02	NOT IDENT.
NB-95M	1.616E-01	1.304E-01	1.085E-01	6.651E-02	NOT IDENT.
ZR-95	1.215E-02	7.512E-02	6.486E-02	3.833E-02	NOT IDENT.
NB-97	-3.526E+05	4.438E+06	0.000E+00	2.264E+06	SHORT HLIF
ZR-97	1.226E+08	9.478E+07	0.000E+00	4.836E+07	SHORT HLIF
MO-99	-7.699E+00	3.066E+01	2.504E+01	1.564E+01	NOT IDENT.
TC-99M	-2.197E+21	2.389E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.946E-02	3.399E-02	2.676E-02	1.734E-02	NOT IDENT.
RH-102	-2.088E-02	2.840E-02	2.245E-02	1.449E-02	NOT IDENT.
RU-103	-8.951E-03	4.074E-02	3.296E-02	2.078E-02	FAIL ABUN
RH-106	9.226E-02	3.006E-01	2.662E-01	1.533E-01	FAIL ABUN
RU-106	9.226E-02	3.004E-01	2.662E-01	1.533E-01	FAIL ABUN
AG-108M	1.152E-03	3.116E-02	2.638E-02	1.590E-02	NOT IDENT.
AG-110M	-5.081E-03	3.202E-02	2.728E-02	1.634E-02	NOT IDENT.
IN-111	-1.274E+00	2.901E+00	2.185E+00	1.480E+00	NOT IDENT.
IN-113M	-6.391E-03	4.154E-02	3.499E-02	2.119E-02	NOT IDENT.
SN-113	-6.391E-03	4.154E-02	3.499E-02	2.119E-02	NOT IDENT.
IN-114M	5.062E-02	2.052E-01	1.543E-01	1.047E-01	NOT IDENT.
CD-115	-6.598E+00	3.671E+01	0.000E+00	1.873E+01	SHORT HLIF
SN-117M	6.327E-02	6.566E-02	5.770E-02	3.350E-02	NOT IDENT.
SB-122	1.182E+00	5.474E+00	4.602E+00	2.793E+00	NOT IDENT.
I-123	8.535E+08	8.468E+08	0.000E+00	4.321E+08	SHORT HLIF
TE-123M	2.812E-02	2.790E-02	2.457E-02	1.423E-02	NOT IDENT.
I-124	6.535E-02	1.253E+00	9.970E-01	6.394E-01	NOT IDENT.
SB-124	-3.439E-02	8.369E-02	6.384E-02	4.270E-02	NOT IDENT.
SB-125	1.313E-02	8.899E-02	7.598E-02	4.540E-02	FAIL ABUN
TE-125M	4.246E+00	9.735E+00	8.543E+00	4.967E+00	NOT IDENT.
I-126	-3.350E-02	2.121E-01	1.806E-01	1.082E-01	NOT IDENT.
SB-126	1.000E-01	1.794E-01	1.523E-01	9.151E-02	FAIL ABUN
SB-127	1.087E+00	2.654E+00	2.352E+00	1.354E+00	NOT IDENT.
XE-127	-9.755E-03	4.619E-02	4.082E-02	2.357E-02	NOT IDENT.
I-131	-2.169E-02	1.557E-01	1.321E-01	7.945E-02	NOT IDENT.
TE-132	3.606E-01	1.529E+00	1.366E+00	7.803E-01	NOT IDENT.
BA-133	-3.334E-02	4.657E-02	3.271E-02	2.376E-02	FAIL ABUN
I-133	-1.357E+04	1.478E+05	0.000E+00	7.540E+04	SHORT HLIF
CS-134	9.894E-02	4.297E-02	4.274E-02	2.192E-02	NOT IDENT.
CS-135	2.058E-01	1.662E-01	1.379E-01	8.481E-02	NOT IDENT.
I-135	5.729E+19	1.083E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.086E-02	1.303E-01	1.122E-01	6.649E-02	FAIL ABUN
BA-137M	2.412E-04	3.338E-02	2.881E-02	1.703E-02	NOT IDENT.
CS-137	2.550E-04	3.529E-02	3.045E-02	1.801E-02	NOT IDENT.
CE-139	-4.156E-03	3.049E-02	2.548E-02	1.556E-02	NOT IDENT.
BA-140	-2.090E-01	3.087E-01	2.350E-01	1.575E-01	NOT IDENT.
LA-140	-3.347E-02	1.125E-01	8.941E-02	5.741E-02	FAIL ABUN
CE-141	-2.882E-02	6.760E-02	5.624E-02	3.449E-02	NOT IDENT.
CE-143	6.121E+03	1.786E+03	0.000E+00	9.111E+02	SHORT HLIF
CE-144	-2.332E-01	2.085E-01	1.668E-01	1.064E-01	NOT IDENT.
PM-144	-1.561E-02	3.429E-02	2.843E-02	1.749E-02	NOT IDENT.
PR-144	-1.060E+00	2.328E+00	1.931E+00	1.188E+00	NOT IDENT.

PM-146	-3.309E-04	4.158E-02	3.496E-02	2.121E-02	NOT IDENT.
ND-147	1.317E-01	7.229E-01	6.087E-01	3.688E-01	FAIL ABUN
PM-149	-1.034E+02	2.936E+02	0.000E+00	1.498E+02	SHORT HLIF
EU-152	-3.903E-03	9.523E-02	7.889E-02	4.858E-02	NOT IDENT.
GD-153	-1.926E-02	8.730E-02	6.637E-02	4.454E-02	NOT IDENT.
EU-154	4.499E-02	1.133E-01	1.003E-01	5.778E-02	NOT IDENT.
EU-155	8.892E-02	1.055E-01	9.425E-02	5.384E-02	FAIL ABUN
TB-160	-6.705E-02	1.480E-01	1.191E-01	7.549E-02	FAIL ABUN
HO-166M	1.512E-02	5.795E-02	5.068E-02	2.957E-02	FAIL ABUN
TM-171	3.678E+00	3.956E+01	3.155E+01	2.018E+01	NOT IDENT.
LU-176	1.146E-02	2.347E-02	2.087E-02	1.197E-02	FAIL ABUN
LU-177	3.325E+00	2.122E+00	1.548E+00	1.083E+00	FAIL ABUN
LU-177M	-6.083E-03	1.726E-01	1.460E-01	8.807E-02	FAIL ABUN
HF-181	1.954E-02	4.252E-02	3.683E-02	2.169E-02	NOT IDENT.
W-181	-8.448E-01	5.527E-01	3.996E-01	2.820E-01	NOT IDENT.
TA-182	1.587E-02	1.970E-01	1.694E-01	1.005E-01	FAIL ABUN
RE-183	-9.900E-02	1.104E-01	8.887E-02	5.633E-02	FAIL ABUN
RE-184	7.726E-02	2.153E-01	1.924E-01	1.098E-01	NOT IDENT.
OS-185	-1.885E-03	4.050E-02	3.487E-02	2.066E-02	NOT IDENT.
RE-188	1.608E-01	1.809E-01	1.584E-01	9.229E-02	NOT IDENT.
W-188	-4.340E+00	7.644E+00	5.586E+00	3.900E+00	FAIL ABUN
IR-192	2.214E-02	3.392E-02	3.037E-02	1.730E-02	FAIL ABUN
AU-195	6.130E-02	2.551E-01	1.989E-01	1.302E-01	FAIL ABUN
TL-200	2.963E+03	5.668E+03	0.000E+00	2.892E+03	SHORT HLIF
TL-201	1.420E-01	1.719E+01	1.445E+01	8.771E+00	NOT IDENT.
TL-202	6.648E-03	7.992E-02	6.783E-02	4.078E-02	NOT IDENT.
HG-203	1.729E-02	4.543E-02	3.582E-02	2.318E-02	NOT IDENT.
BI-207	6.021E-02	5.610E-02	5.088E-02	2.862E-02	FAIL ABUN
TL-207	4.242E-01	6.828E-01	5.408E-01	3.484E-01	FAIL ABUN
PO-209	7.596E-01	7.556E+00	6.405E+00	3.855E+00	NOT IDENT.
BI-210	2.845E+00	9.020E+00	8.087E+00	4.602E+00	NOT IDENT.
PB-210	2.845E+00	9.020E+00	8.087E+00	4.602E+00	NOT IDENT.
PO-210	2.845E+00	9.020E+00	8.087E+00	4.602E+00	NOT IDENT.
PB-211	-1.117E+00	1.151E+00	7.253E-01	5.875E-01	NOT IDENT.
BI-212	9.123E-01	4.593E-01	3.369E-01	2.344E-01	FAIL ABUN
PO-215	4.242E-01	6.828E-01	5.408E-01	3.484E-01	FAIL ABUN
RN-219	7.526E-02	4.009E-01	3.446E-01	2.046E-01	FAIL ABUN
RN-220	8.618E+00	2.403E+01	2.051E+01	1.226E+01	NOT IDENT.
RA-223	4.242E-01	6.828E-01	5.408E-01	3.484E-01	FAIL ABUN
AC-227	-1.309E-01	3.559E-01	3.065E-01	1.816E-01	FAIL ABUN
TH-227	-1.309E-01	3.562E-01	3.065E-01	1.817E-01	FAIL ABUN
TH-229	1.251E-01	4.977E-01	4.192E-01	2.539E-01	FAIL ABUN
PA-231	-5.911E-01	1.406E+00	1.196E+00	7.172E-01	FAIL ABUN
TH-231	4.242E-01	6.828E-01	5.408E-01	3.484E-01	FAIL ABUN
U-231	-1.324E+00	2.257E+00	1.694E+00	1.152E+00	FAIL ABUN
PA-233	-7.822E-03	5.990E-02	5.148E-02	3.056E-02	FAIL ABUN
PA-234	-1.025E-01	3.012E-01	2.426E-01	1.537E-01	FAIL ABUN
PA-234M	-7.415E-01	4.436E+00	3.537E+00	2.263E+00	NOT IDENT.
U-235	2.259E-01	2.132E-01	1.853E-01	1.088E-01	FAIL ABUN
NP-236	-9.372E-02	7.792E-02	6.177E-02	3.975E-02	NOT IDENT.
NP-239	-6.849E-02	1.839E-01	1.554E-01	9.384E-02	FAIL ABUN
AM-241	2.520E-02	2.574E-01	2.067E-01	1.313E-01	NOT IDENT.
CM-243	-6.934E-02	9.382E-02	7.842E-02	4.787E-02	FAIL ABUN
AM-246	-5.815E-02	1.461E-01	1.155E-01	7.455E-02	NOT IDENT.
CM-247	1.146E-02	3.625E-02	3.139E-02	1.849E-02	FAIL ABUN
CF-249	2.231E-02	3.593E-02	3.184E-02	1.833E-02	NOT IDENT.
CF-251	-5.581E-02	1.238E-01	1.014E-01	6.318E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
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46.50	269.4736
46.50	269.4736
46.50	269.4736
48.70	306.9294
49.72	293.0212
51.35	260.9599
52.39	231.9679
52.97	254.6131
53.15	252.8701
53.44	281.8964
54.07	297.2534
56.28	295.1347
56.28	295.1371
57.37	0.0000
57.53	258.4426
57.53	258.4437
57.60	267.8855
57.98	287.8875
57.98	287.8875
59.32	318.5374
59.32	318.5374
59.40	318.5975
59.54	318.7031
59.72	290.4975
60.01	302.0395
61.10	336.9283
61.14	336.9591
61.30	337.0838
63.00	326.5027
63.29	311.4773
63.29	311.4773
63.58	311.6819
64.28	366.5898
65.12	394.5383
65.20	394.6081
65.20	394.6081
66.05	362.2865
66.72	346.9818
66.83	352.8268
66.91	352.8885
67.20	340.1413
67.20	340.1413
67.75	327.8498
67.85	327.9208
68.90	328.3752
68.90	328.3752
69.30	366.3011
69.67	394.1232
70.82	361.6743
70.82	361.6743
70.83	361.6819
72.80	354.9100
72.87	354.9620
72.87	354.9620
74.67	356.2764
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.97	356.4936
75.28	356.7182
75.70	357.0208
77.11	358.0326
77.11	358.0326

77.11	358.0326
77.11	358.0326
77.11	358.0326
77.11	358.0326
77.11	358.0326
78.38	349.5945
79.62	337.1381
79.80	355.0067
79.80	355.0067
80.11	355.2228
80.18	355.2704
80.30	368.6785
80.30	368.6785
80.57	368.8723
81.00	363.2495
81.07	363.2980
81.07	363.2980
81.07	363.2980
81.07	363.2980
82.60	368.8270
83.37	350.0043
83.78	333.8826
83.78	333.8826
83.78	333.8826
83.78	333.8826
84.21	337.1361
84.90	355.4984
85.43	369.3071
86.29	393.8579
86.50	394.0124
86.54	394.0405
86.59	394.0766
86.72	394.1729
86.79	394.2211
86.94	394.3315
87.30	342.0818
87.30	342.0818
87.30	342.0818
87.30	342.0818
87.30	342.0818
87.30	342.0818
87.57	342.2505
87.88	0.0000
88.03	342.5392
88.36	342.7462
88.47	342.8141
89.95	355.7969
91.11	306.6838
92.29	307.3281
92.38	307.3776
92.38	307.3776
93.35	307.9042
94.00	308.2558
94.67	308.6135
94.67	308.6166
94.90	308.7405
94.90	308.7405
94.90	308.7405
94.90	308.7405
95.87	309.2594
95.87	309.2594
96.73	308.1936
97.43	276.4837
98.44	254.0077
98.44	254.0077
98.88	274.1047
99.55	262.1503
99.55	262.1503
99.86	251.5504
100.00	251.6105
100.10	251.6543
103.18	290.9873
103.76	287.1483
105.00	255.7601
105.31	258.9854
108.00	295.3428
109.28	285.5603

111.00	305.0757
111.00	305.0757
111.76	335.6705
112.95	281.9833
115.19	282.9570
116.30	279.2359
117.00	276.3795
117.00	276.3795
117.66	269.2917
121.11	256.9355
121.62	270.8854
121.78	278.3580
122.06	265.7657
122.32	248.9189
122.32	248.9189
122.32	248.9189
122.32	248.9189
123.07	241.7711
127.23	280.0324
129.76	298.7052
131.20	257.4707
133.02	302.0034
133.54	317.5037
135.34	299.9478
136.00	281.8606
136.25	273.3138
136.48	264.7562
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140.51	0.0000
142.18	274.4125
142.65	271.3128
143.76	265.1633
144.24	257.6857
144.24	257.6857
144.24	257.6857
144.24	257.6857
145.22	285.3493
145.44	304.0229
147.16	311.2779
152.43	286.8982
152.70	280.3730
153.22	304.8567
154.21	308.5507
154.21	308.5507
154.21	308.5507
154.21	308.5507
155.03	276.7639
156.02	325.8751
158.56	244.6175
159.00	0.0000
159.00	233.6246
160.31	291.9409
161.27	268.8549
162.32	279.2511
162.64	268.1836
163.35	232.6247
163.89	227.1793
165.85	279.3119
167.43	268.5978
171.28	276.5870
171.86	265.4771
172.10	270.0712
176.55	256.6892
176.60	260.1106
181.06	234.5970
184.41	244.0668
185.71	254.7431
186.00	254.8244
190.27	230.0651
192.34	249.6489
193.63	238.4201
197.04	264.8380
198.01	258.1306
198.60	255.9640
200.40	0.0000
201.83	243.4027
202.84	247.1631
205.31	237.5985

208.36	225.6445
208.81	257.4939
209.75	247.1469
209.75	247.1469
210.97	255.9343
215.65	244.1666
216.55	236.3867
218.09	231.4038
222.10	220.6948
223.80	215.6868
226.40	234.1696
227.00	230.7122
227.08	226.2409
227.20	223.5742
228.16	222.8787
228.18	222.8825
228.18	222.8825
231.56	0.0000
235.69	199.8406
236.00	199.8995
236.00	199.8995
238.63	208.7341
238.63	208.7341
238.63	208.7341
238.63	208.7341
239.00	0.0000
240.98	209.1833
241.98	209.3745
241.98	209.3745
241.98	209.3745
244.69	211.7156
245.39	198.6991
247.94	178.8621
248.90	178.6230
249.79	0.0000
252.40	169.9908
252.85	168.2200
252.85	168.2200
254.15	0.0000
256.20	189.9188
256.20	189.9188
260.50	174.8977
260.90	0.0000
262.80	194.7153
264.65	184.2532
268.24	163.9473
268.79	172.9720
269.46	179.0361
269.46	179.0361
269.46	179.0361
269.46	179.0361
271.23	180.7969
273.65	209.6104
276.40	166.5705
277.35	168.9532
277.60	172.7443
277.60	172.7443
278.00	163.7847
278.60	165.3706
279.20	166.9553
279.53	150.4517
280.46	164.1174
281.68	0.0000
283.67	165.1119
284.30	165.1974
285.00	167.1799
285.90	0.0000
286.10	155.9841
286.10	155.9841
287.40	139.5168
288.45	0.0000
290.67	156.3659
290.80	163.9723
291.72	158.0160
293.26	0.0000
293.70	145.5200
295.21	145.6927
295.21	145.6927

295.21	145.6927
295.96	145.7791
296.50	145.8398
297.23	0.0000
298.57	146.0779
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299.80	146.2180
300.09	146.2507
300.09	146.2507
300.09	146.2507
300.09	146.2507
300.12	146.2530
301.29	157.6760
302.84	150.2037
303.76	0.0000
303.91	154.9300
304.40	138.1069
304.40	138.1069
304.84	171.9266
306.84	144.1315
308.46	145.2721
311.98	146.6261
316.51	134.5438
318.01	141.4776
319.02	153.2216
319.41	159.0852
320.08	155.2832
323.87	127.6886
323.87	127.6886
323.87	127.6886
323.87	127.6886
325.23	135.6104
328.77	140.6514
333.44	156.8066
334.20	143.1663
334.20	143.1663
334.30	143.1752
338.28	167.1855
338.28	167.1855
338.28	167.1855
338.28	167.1855
338.32	167.1907
338.32	167.1907
338.32	167.1907
340.50	146.5681
340.57	146.5749
344.27	137.7032
345.85	151.6043
350.59	0.0000
351.07	124.0406
351.92	124.1150
351.92	124.1150
351.92	124.1150
355.39	0.0000
356.01	140.1963
364.48	127.1860
366.43	102.2848
367.43	108.3741
367.94	0.0000
369.80	127.6414
374.96	108.9179
383.85	107.5236
387.95	98.6562
388.63	101.7517
391.69	111.1272
391.69	111.1272
392.90	118.3541
398.62	125.9523
400.65	115.8605
401.10	113.8421
401.81	120.0493
402.60	120.1082
404.84	148.0320
410.95	141.3711
411.60	153.8154
413.65	117.8321
414.70	117.9087
415.30	121.0562

415.76	113.8454
417.63	0.0000
418.52	110.9266
423.70	118.5540
427.08	109.4156
427.89	106.3423
432.53	88.8638
433.93	102.5384
439.47	0.0000
439.56	94.4810
439.89	94.4989
443.98	97.8830
444.90	102.1463
445.03	102.1552
445.03	102.1552
445.03	102.1552
445.03	102.1552
453.90	99.5021
463.38	108.5524
468.07	109.2656
473.00	92.0180
475.06	107.1198
475.35	99.6370
476.78	77.1987
477.59	85.8142
477.96	97.6345
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487.03	77.6327
490.36	0.0000
492.35	0.0000
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507.63	0.0000
510.53	0.0000
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511.00	90.6413
511.85	90.6806
511.85	90.6806
513.99	96.2507
513.99	96.2507
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528.96	0.0000
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529.87	0.0000
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537.32	87.4429
543.00	74.3711
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552.65	73.6115
555.20	82.6380
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563.90	79.6258
568.70	77.5618
569.32	95.5757
569.50	95.5835
569.67	95.5913
573.80	77.1253
574.00	77.1316
574.64	0.0000
578.91	0.0000
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583.14	78.7758
585.48	0.0000
591.81	80.0057
592.07	80.0164
593.00	77.3218
595.88	78.3364
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602.52	0.0000
602.71	79.6264
602.71	79.6264
603.60	71.6073
604.41	82.3030
604.70	82.3140
609.31	70.5727

609.31	70.5727
609.31	70.5727
609.31	70.5727
610.33	70.6046
612.46	65.7773
614.37	62.7729
618.01	70.8509
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621.84	72.8166
631.29	80.5281
633.02	67.6212
633.10	67.6248
634.78	63.9665
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636.97	57.5332
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646.12	70.8065
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657.90	0.0000
661.65	75.9731
661.65	75.9731
664.57	0.0000
666.33	79.8826
666.33	79.8826
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677.61	65.1558
685.20	67.2576
692.80	74.1209
695.00	75.1406
696.49	88.5089
696.49	88.5089
697.00	91.3852
697.49	86.6411
698.33	81.9100
698.50	78.1062
699.00	82.8858
702.63	79.1925
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713.82	68.0498
717.42	71.0281
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721.93	0.0000
722.20	62.5085
722.78	78.5543
722.78	78.5543
722.89	78.5583
722.95	78.5603
723.30	76.9688
724.18	70.5780
727.18	62.6323
733.00	72.4347
735.90	59.9490
739.58	63.9085
742.81	62.0500
744.21	58.2041
747.13	61.1835
751.79	69.0777
752.31	67.1453
753.82	60.3683
755.35	0.0000
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756.87	66.2884
763.93	71.6808
765.79	63.5797
766.42	61.9649
766.84	63.6051
776.49	71.6954
778.00	56.0134
778.57	55.0430
778.89	52.0994
783.80	55.1510
785.46	52.2288
792.07	80.0172

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798.80	80.2169
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805.60	48.6471
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810.76	61.6700
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818.51	49.8743
819.60	54.8832
826.30	66.0177
828.27	0.0000
831.60	59.1282
831.96	55.1262
834.83	58.1926
836.80	0.0000
846.75	50.3784
848.13	60.4834
856.28	0.0000
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860.37	45.5570
867.32	59.6206
867.82	57.5161
871.10	54.8714
873.19	45.7592
874.81	52.9064
875.33	0.0000
876.40	62.0976
879.36	63.1791
880.27	59.1215
880.51	59.1257
881.50	54.0468
883.24	46.9366
884.67	59.2093
889.25	62.3686
896.60	56.3737
898.02	68.7061
899.00	62.5741
903.28	62.6635
911.07	72.0952
911.07	72.0952
911.07	72.0952
919.63	50.4954
920.93	34.0989
925.00	44.4918
925.24	50.7035
926.50	55.2096
935.52	44.9901
937.48	39.8242
944.10	60.3860
946.00	56.2557
949.00	54.2242
962.29	73.3035
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969.11	95.5011
969.11	95.5011
977.42	48.4022
980.50	43.1821
983.50	50.6027
989.30	45.4135
996.32	56.0964
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1001.68	41.3461
1004.76	45.6298
1021.30	0.0000
1024.50	0.0000
1034.80	44.9757
1036.00	54.6333
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1038.57	63.2521
1038.76	0.0000
1045.16	52.6343
1046.59	55.8822
1048.07	43.0039

1050.47	46.2628
1050.47	46.2628
1062.04	46.4203
1063.62	44.2812
1076.63	41.1970
1077.35	42.2906
1078.86	54.2432
1085.78	33.6974
1099.22	46.9221
1112.02	49.2825
1112.84	51.1191
1115.52	58.4661
1120.29	46.1036
1120.29	46.1036
1120.29	46.1036
1120.29	46.1036
1120.51	46.1077
1121.28	46.1180
1124.00	0.0000
1129.67	46.0255
1131.51	0.0000
1147.95	0.0000
1167.94	60.2472
1173.22	63.1191
1175.09	62.2209
1177.93	73.4228
1189.05	49.4050
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1205.75	0.0000
1213.00	55.3485
1221.42	57.3513
1230.97	57.4928
1235.34	76.4319
1236.41	0.0000
1238.25	64.2121
1246.25	52.9899
1260.41	0.0000
1271.85	38.0973
1274.45	34.3110
1274.54	33.3580
1291.56	44.9881
1298.22	0.0000
1312.09	25.0140
1325.50	30.8880
1325.50	30.8880
1332.49	21.2713
1333.61	23.2119
1360.21	32.1218
1362.66	0.0000
1365.15	28.2613
1368.21	30.8537
1368.53	0.0000
1376.25	28.4752
1384.27	20.1387
1394.10	16.6811
1395.20	17.6667
1407.95	29.5325
1434.06	21.7878
1436.60	26.7550
1457.56	0.0000
1460.81	23.9141
1489.15	18.0491
1509.49	20.1449
1596.49	24.6299
1620.62	24.7539
1678.03	0.0000
1691.02	17.7865
1691.02	17.7865
1706.46	0.0000
1750.46	0.0000
1764.49	8.4915
1764.49	8.4915
1764.49	8.4915
1764.49	8.4915
1770.23	16.3947
1771.40	87.1550
1791.20	0.0000
1808.65	7.4930

1836.01

7.5315

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536003

Total Uranium Activity	2.4506E+00	ug/g
Total Uranium Counting Unc.	7.1993E+00	ug/g
Total Uranium Tpu	3.6731E-06	ug/g
Total Uranium Mda	4.3834E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G243536003
*  ANALYST       : MXR1            DETECTOR    : GAM10
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 9-JAN-2010 14:09:04.88  SAMPLE ALQT: 126.430 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.613E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.423E+00
GROSS GAMMA MDA (pCi/GRAM ) : 2.980E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.442E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:11:08.50

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536004.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:09:39.
Sample ID          : G243536004           Sample quantity : 1.43010E+02 GRAM
Detector name      : GAM12                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.50 0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 937074               Detector SN#      :
Matrix Spike ID    :                     LCS ID          : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.99*	26	418	0.72	125.45	122	7	3.61E-03	136.4	
2	3	74.68*	472	438	1.22	148.85	142	24	6.55E-02	8.7	1.89E+00
3	3	76.99	698	341	0.98	153.47	142	24	9.69E-02	5.7	
4	0	83.90*	72	401	1.05	167.30	165	7	9.94E-03	48.9	
5	0	86.98*	197	436	1.09	173.47	171	7	2.74E-02	19.1	
6	4	89.93	120	233	1.05	179.36	177	12	1.66E-02	19.7	7.32E-01
7	4	92.65*	201	372	1.23	184.81	177	12	2.79E-02	18.8	
8	0	128.71	127	308	0.87	256.97	253	8	1.77E-02	25.4	
9	0	185.60*	234	327	0.85	370.79	366	9	3.25E-02	16.1	
10	0	209.12*	68	243	0.93	417.87	414	8	9.43E-03	41.9	
11	4	238.39*	1146	236	1.11	476.43	472	17	1.59E-01	3.8	1.04E+00
12	4	241.38*	252	254	1.53	482.41	472	17	3.50E-02	14.4	
13	0	269.91	110	237	1.50	539.50	535	11	1.53E-02	28.7	
14	0	276.78	51	196	0.96	553.25	548	10	7.15E-03	52.7	
15	0	294.91*	465	178	1.18	589.52	584	11	6.46E-02	7.3	
16	0	299.49	83	141	1.22	598.68	595	9	1.15E-02	28.0	
17	0	328.22	37	198	1.04	656.16	651	9	5.19E-03	69.8	
18	0	337.97*	238	160	1.07	675.67	671	9	3.31E-02	11.8	
19	0	351.60*	750	195	1.30	702.96	696	14	1.04E-01	5.4	
20	0	463.17	73	127	1.08	926.17	920	12	1.02E-02	33.1	
21	0	510.44*	126	105	1.08	1020.73	1015	12	1.75E-02	22.1	
22	0	582.80*	385	88	1.30	1165.51	1160	11	5.35E-02	7.0	
23	0	608.84*	524	148	1.34	1217.60	1211	15	7.28E-02	6.8	
24	0	726.85*	96	35	1.04	1453.67	1449	10	1.34E-02	15.8	
25	1	765.51	38	33	1.68	1531.00	1528	23	5.22E-03	26.9	2.47E+00
26	1	768.01	60	53	1.68	1536.00	1528	23	8.28E-03	26.3	
27	0	795.05	40	61	1.11	1590.09	1585	11	5.53E-03	41.6	
28	0	860.29	52	35	1.58	1720.61	1716	10	7.27E-03	26.1	
29	0	910.53*	280	58	1.68	1821.10	1815	15	3.88E-02	8.5	
30	1	963.93	52	53	2.00	1927.90	1922	31	7.26E-03	29.0	2.32E+00
31	1	968.50*	138	35	2.00	1937.05	1922	31	1.92E-02	13.1	
32	0	1119.78	135	49	1.37	2239.63	2234	14	1.87E-02	14.0	
33	0	1237.32	63	46	1.93	2474.69	2468	14	8.79E-03	25.9	
34	0	1459.88*	956	10	2.24	2919.78	2913	17	1.33E-01	3.3	
35	0	1496.32	19	8	1.52	2992.65	2988	10	2.68E-03	37.4	
36	0	1728.63	38	9	1.29	3457.16	3449	17	5.21E-03	24.2	
37	0	1763.37*	83	19	1.08	3526.63	3519	15	1.15E-02	16.5	
38	0	1845.73*	19	3	1.83	3691.29	3683	15	2.66E-03	34.2	

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

VMS Nuclide Identification Report V3.1 Generated 9-JAN-2010 16:11:11

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:09:39
Sample ID         : G243536004 Sample quantity : 143.01 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA12 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.50 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.068E+01	2.021E+00	4.612E-01	3.288E-02	44.836
NB-95	+	765.79	*	6.115E-02	3.323E-02	6.051E-02	4.426E-03	1.011
CD-109	+	88.03	*	2.541E+00	9.883E-01	1.028E+00	7.868E-02	2.471
SN-126	+	64.28		2.245E-01	6.132E-01	7.331E-01	1.029E-01	0.306
	+	86.94		1.032E+00	5.792E-01	5.092E-01	2.096E-01	2.027
	+	87.57	*	2.483E-01	9.657E-02	1.160E-01	8.841E-03	2.140
TL-208	+	277.35		4.403E-01	4.661E-01	5.280E-01	5.529E-02	0.834
	+	510.84		5.470E-01	2.484E-01	1.794E-01	1.852E-02	3.049
	+	583.14	*	4.796E-01	7.579E-02	5.228E-02	3.740E-03	9.173
	+	860.37		6.144E-01	3.255E-01	3.990E-01	3.487E-02	1.540
BI-211		72.87		7.007E+00	2.942E+00	4.820E+00	3.234E-01	1.454
	+	351.07	*	4.041E+00	5.082E-01	2.732E-01	1.717E-02	14.795
PB-212	+	74.81		2.526E+00	5.283E-01	4.508E-01	5.211E-02	5.603
	+	77.11		2.112E+00	2.825E-01	2.558E-01	1.771E-02	8.257
	+	87.30		1.148E+00	4.611E-01	5.381E-01	6.758E-02	2.134
	+	238.63	*	1.345E+00	1.389E-01	8.044E-02	5.711E-03	16.717
	+	300.09		1.501E+00	8.480E-01	1.023E+00	8.352E-02	1.467
PO-212	+	74.81		2.526E+00	5.283E-01	4.508E-01	5.211E-02	5.603
	+	77.11		2.112E+00	2.825E-01	2.558E-01	1.771E-02	8.257
	+	87.30		1.148E+00	4.611E-01	5.381E-01	6.758E-02	2.134
		115.19		1.254E-01	3.093E+00	5.089E+00	3.228E-01	0.025
	+	238.63	*	1.345E+00	1.389E-01	8.044E-02	5.711E-03	16.717
	+	300.09		1.501E+00	8.480E-01	1.023E+00	8.352E-02	1.467
BI-214	+	609.31	*	1.229E+00	1.952E-01	9.569E-02	7.878E-03	12.849
	+	1120.29		1.649E+00	4.844E-01	4.157E-01	3.776E-02	3.966
	+	1764.49		1.391E+00	4.676E-01	2.268E-01	1.344E-02	6.135
PB-214	+	74.81		4.352E+00	8.759E-01	7.768E-01	7.812E-02	5.603
	+	77.11		3.621E+00	5.574E-01	4.386E-01	4.515E-02	8.257
	+	87.30		1.967E+00	7.800E-01	9.218E-01	9.978E-02	2.134
	+	241.98		1.777E+00	5.319E-01	4.845E-01	3.812E-02	3.667
	+	295.21		1.478E+00	2.498E-01	1.872E-01	1.580E-02	7.893
	+	351.92	*	1.406E+00	1.914E-01	9.523E-02	7.779E-03	14.762
PO-214	+	74.81		4.352E+00	8.759E-01	7.768E-01	7.812E-02	5.603
	+	77.11		3.621E+00	5.574E-01	4.386E-01	4.515E-02	8.257

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	87.30		1.967E+00	7.800E-01	9.218E-01	9.978E-02	2.134
	+	241.98		1.777E+00	5.319E-01	4.845E-01	3.812E-02	3.667
	+	295.21		1.478E+00	2.498E-01	1.872E-01	1.580E-02	7.893
	+	351.92	*	1.406E+00	1.914E-01	9.523E-02	7.779E-03	14.762
PO-216	+	74.81		2.526E+00	5.283E-01	4.508E-01	5.211E-02	5.603
	+	77.11		2.112E+00	2.825E-01	2.558E-01	1.771E-02	8.257
	+	87.30		1.148E+00	4.611E-01	5.381E-01	6.758E-02	2.134
	+	238.63	*	1.345E+00	1.389E-01	8.044E-02	5.711E-03	16.717
	+	300.09		1.501E+00	8.480E-01	1.023E+00	8.352E-02	1.467
PO-218	+	74.81		4.352E+00	8.759E-01	7.768E-01	7.812E-02	5.603
	+	77.11		3.621E+00	5.574E-01	4.386E-01	4.515E-02	8.257
	+	87.30		1.967E+00	7.800E-01	9.218E-01	9.978E-02	2.134
	+	241.98		1.777E+00	5.319E-01	4.845E-01	3.812E-02	3.667
	+	295.21		1.478E+00	2.498E-01	1.872E-01	1.580E-02	7.893
	+	351.92	*	1.406E+00	1.914E-01	9.523E-02	7.779E-03	14.762
RA-224	+	240.98	*	3.369E+00	9.907E-01	9.155E-01	5.050E-02	3.680
RA-226	+	609.31	*	1.229E+00	1.952E-01	9.569E-02	7.878E-03	12.849
	+	1120.29		1.649E+00	4.844E-01	4.157E-01	3.776E-02	3.966
	+	1764.49		1.391E+00	4.676E-01	2.268E-01	1.344E-02	6.135
AC-228	+	338.32		1.414E+00	6.651E-01	3.391E-01	1.382E-01	4.169
	+	911.07	*	1.551E+00	3.152E-01	1.810E-01	1.987E-02	8.570
	+	969.11		1.354E+00	4.728E-01	3.556E-01	8.199E-02	3.807
RA-228	+	338.32		1.414E+00	6.651E-01	3.391E-01	1.382E-01	4.169
	+	911.07	*	1.551E+00	3.152E-01	1.810E-01	1.987E-02	8.570
	+	969.11		1.354E+00	4.728E-01	3.556E-01	8.199E-02	3.807
TH-228	+	74.81		2.574E+00	4.826E-01	4.595E-01	3.167E-02	5.603
	+	77.11		2.153E+00	2.880E-01	2.607E-01	1.805E-02	8.257
	+	87.30		1.170E+00	4.552E-01	5.484E-01	4.168E-02	2.134
	+	238.63	*	1.370E+00	1.415E-01	8.198E-02	5.821E-03	16.717
	+	300.09		1.529E+00	1.242E+00	1.043E+00	6.144E-01	1.467
TH-230	+	609.31	*	1.229E+00	1.952E-01	9.569E-02	7.878E-03	12.849
	+	1120.29		1.649E+00	4.843E-01	4.157E-01	3.776E-02	3.966
	+	1764.49		1.391E+00	4.676E-01	2.268E-01	1.344E-02	6.135
TH-232	+	338.32		1.414E+00	3.419E-01	3.391E-01	1.921E-02	4.169
	+	911.07	*	1.551E+00	3.152E-01	1.810E-01	1.987E-02	8.570
	+	969.11		1.354E+00	4.728E-01	3.556E-01	8.199E-02	3.807
TH-234	+	63.29	*	5.673E-01	1.550E+00	1.847E+00	3.145E-01	0.307
	+	92.38		1.631E+00	6.769E-01	6.766E-01	1.183E-01	2.411
U-234	+	609.31	*	1.229E+00	1.952E-01	9.569E-02	7.878E-03	12.849
	+	1120.29		1.649E+00	4.843E-01	4.157E-01	3.776E-02	3.966
	+	1764.49		1.391E+00	4.676E-01	2.268E-01	1.344E-02	6.135
NP-237	+	86.50	*	7.291E-01	3.210E-01	2.998E-01	6.587E-02	2.432
		95.87		-3.389E-01	8.931E-01	1.294E+00	3.122E-01	-0.262
U-238	+	63.29	*	5.673E-01	1.550E+00	1.847E+00	3.145E-01	0.307
	+	92.38		1.631E+00	6.253E-01	6.766E-01	4.926E-02	2.411
AM-243	+	74.67	*	4.095E-01	7.663E-02	7.331E-02	4.981E-03	5.586
	+	86.72		2.734E+01	1.063E+01	1.122E+01	8.475E-01	2.437
		117.66		-2.469E+00	3.278E+00	5.191E+00	3.270E-01	-0.476
		142.18		1.313E+01	1.526E+01	2.567E+01	1.453E+00	0.511

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	1.182E-01	5.273E-02	3.876E-02	2.363E-03	3.048

---- 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	*	1.137E-01	3.244E-01	5.216E-01	3.589E-02	0.218
NA-22		1274.54	*	-9.912E-03	4.045E-02	6.477E-02	4.171E-03	-0.153
NA-24		1368.53	*	-5.008E+01	4.045E-02	Half-Life too short		
AL-26		1129.67		8.211E-02	1.586E+00	2.647E+00	1.613E-01	0.031
		1808.65	*	-7.072E-03	2.767E-02	4.349E-02	2.495E-03	-0.163
TI-44		67.85		2.684E-02	3.946E-02	6.798E-02	4.425E-03	0.395
	+	78.38	*	3.899E-01	5.215E-02	6.650E-02	4.651E-03	5.863
SC-46		889.25	*	-2.110E-02	3.781E-02	5.771E-02	4.783E-03	-0.366
	+	1120.51		2.917E-01	8.348E-02	1.324E-01	8.225E-03	2.204
V-48		944.10		6.295E-03	9.861E-01	1.590E+00	1.277E-01	0.004
		983.50	*	1.428E-02	7.735E-02	1.266E-01	9.754E-03	0.113
		1312.09		-1.174E-02	7.349E-02	1.178E-01	7.995E-03	-0.100
CR-51		320.08	*	2.654E-01	3.368E-01	5.840E-01	3.713E-02	0.454
MN-52		744.21		-7.797E-02	3.842E-01	6.215E-01	4.439E-02	-0.125
		848.13		1.050E+00	9.225E+00	1.515E+01	1.207E+00	0.069
		935.52		2.524E-01	4.258E-01	7.218E-01	5.844E-02	0.350
		1246.25		-5.997E+00	1.157E+01	1.767E+01	1.089E+00	-0.339
		1333.61		4.831E+00	7.019E+00	1.247E+01	8.711E-01	0.387
		1434.06	*	-1.298E-01	3.454E-01	5.294E-01	3.637E-02	-0.245
MN-54		834.83	*	-1.082E-02	3.474E-02	5.499E-02	4.323E-03	-0.197
CO-56		846.75	*	-1.651E-02	3.467E-02	5.340E-02	4.248E-03	-0.309
		977.42		-2.938E-01	3.131E+00	4.266E+00	3.310E-01	-0.069
		1037.82		8.482E-02	2.654E-01	4.582E-01	3.539E-02	0.185
		1175.09		9.242E-01	2.121E+00	3.648E+00	2.011E-01	0.253
	+	1238.25		2.249E-01	1.172E-01	1.656E-01	1.066E-02	1.358
		1360.21		4.251E-01	8.073E-01	1.418E+00	9.873E-02	0.300
		1771.40		-3.233E-02	2.305E-01	3.259E-01	1.922E-02	-0.099
CO-57		122.06	*	-3.444E-03	2.286E-02	3.660E-02	2.289E-03	-0.094
		136.48		2.070E-02	1.810E-01	2.961E-01	1.991E-02	0.070
CO-58		810.76	*	-4.477E-03	3.851E-02	6.223E-02	4.788E-03	-0.072
FE-59		142.65		3.895E-01	2.589E+00	4.223E+00	2.386E-01	0.092
		192.34		2.875E-01	8.926E-01	1.444E+00	1.669E-01	0.199
		1099.22	*	3.882E-03	8.684E-02	1.452E-01	1.072E-02	0.027
		1291.56		1.508E-02	1.047E-01	1.749E-01	1.408E-02	0.086
CO-60		1173.22		-1.062E-03	4.067E-02	6.718E-02	3.693E-03	-0.016
		1332.49	*	1.937E-02	3.350E-02	5.880E-02	4.107E-03	0.329
ZN-65		1115.52	*	1.386E-02	8.964E-02	1.311E-01	8.246E-03	0.106
GE-68		1077.35	*	5.781E-01	1.114E+00	1.948E+00	1.313E-01	0.297
AS-73		53.44	*	1.646E-01	7.087E-01	1.202E+00	7.758E-02	0.137
AS-74		595.88	*	-2.400E-02	8.511E-02	1.391E-01	8.853E-03	-0.173
		634.78		1.860E-01	3.596E-01	6.233E-01	4.017E-02	0.298
SE-75		66.05		-3.016E-01	4.682E+00	7.058E+00	6.162E-01	-0.043
		96.73		-9.612E-01	7.965E-01	1.093E+00	1.384E-01	-0.879

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		1.640E-02	1.245E-01	2.020E-01	1.924E-02	0.081
		136.00		2.311E-03	3.450E-02	5.633E-02	3.326E-03	0.041
		198.60		1.149E+00	1.567E+00	2.583E+00	1.735E-01	0.445
		264.65	*	-7.926E-03	4.352E-02	6.355E-02	3.602E-03	-0.125
		279.53		-3.443E-02	1.099E-01	1.583E-01	9.698E-03	-0.218
		303.91		1.827E-01	2.008E+00	2.959E+00	2.802E-01	0.062
		400.65		6.359E-02	2.309E-01	3.835E-01	3.427E-02	0.166
BR-77	+	87.88		1.739E-03	2.309E-01	Half-Life	too short	
		200.40		-2.354E-04	2.309E-01	Half-Life	too short	
	+	239.00		6.879E-04	2.309E-01	Half-Life	too short	
		249.79		-2.028E-04	2.309E-01	Half-Life	too short	
		281.68		7.440E-05	2.309E-01	Half-Life	too short	
		297.23		4.717E-04	2.309E-01	Half-Life	too short	
		303.76		-1.276E-04	2.309E-01	Half-Life	too short	
		439.47		2.154E-04	2.309E-01	Half-Life	too short	
		484.57		1.829E-04	2.309E-01	Half-Life	too short	
		520.65	*	-5.519E-06	2.309E-01	Half-Life	too short	
		574.64		-3.949E-04	2.309E-01	Half-Life	too short	
		578.91		-1.075E-04	2.309E-01	Half-Life	too short	
		585.48		1.635E-03	2.309E-01	Half-Life	too short	
		755.35		1.959E-04	2.309E-01	Half-Life	too short	
		817.79		-2.070E-04	2.309E-01	Half-Life	too short	
SR-82		698.33		-1.224E+01	3.843E+01	6.161E+01	4.175E+00	-0.199
		776.49	*	1.341E-01	4.290E-01	6.330E-01	4.684E-02	0.212
RB-83		1395.20		-8.575E+00	1.044E+01	1.479E+01	1.024E+00	-0.580
		520.41	*	3.816E-03	6.154E-02	9.892E-02	6.065E-03	0.039
		529.64		-1.267E-01	1.028E-01	1.463E-01	9.020E-03	-0.866
		552.65		2.110E-02	1.676E-01	2.848E-01	1.778E-02	0.074
RB-84		881.50	*	3.631E-02	6.614E-02	1.132E-01	9.312E-03	0.321
KR-85		513.99	*	4.534E+00	6.877E+00	1.028E+01	6.276E-01	0.441
SR-85		513.99	*	2.424E-02	3.676E-02	5.494E-02	3.355E-03	0.441
RB-86		1076.63	*	5.651E-01	8.031E-01	1.427E+00	9.630E-02	0.396
Y-88		898.02		2.106E-02	4.165E-02	7.049E-02	5.922E-03	0.299
		1836.01	*	1.209E-02	3.202E-02	5.295E-02	2.981E-03	0.228
ZR-88		392.90	*	-1.619E-02	2.802E-02	4.395E-02	2.410E-03	-0.368
Y-91		1204.90	*	-5.150E+00	1.886E+01	3.042E+01	1.759E+00	-0.169
NB-94		702.63	*	9.235E-03	3.150E-02	5.319E-02	3.623E-03	0.174
		871.10		-3.152E-03	3.223E-02	5.182E-02	4.221E-03	-0.061
NB-95M		235.69	*	1.664E-01	1.244E-01	1.989E-01	1.451E-02	0.837
ZR-95		724.18		9.167E-02	1.029E-01	1.608E-01	1.268E-02	0.570
		756.15	*	2.245E-02	6.110E-02	1.038E-01	8.571E-03	0.216
NB-97		657.90	*	-2.016E-01	6.110E-02	Half-Life	too short	
		1024.50		4.664E-01	6.110E-02	Half-Life	too short	
ZR-97		254.15		1.380E+01	6.110E-02	Half-Life	too short	
		355.39		8.447E+01	6.110E-02	Half-Life	too short	
		507.63	*	1.548E+02	6.110E-02	Half-Life	too short	
		602.52		2.773E+02	6.110E-02	Half-Life	too short	
		1021.30		-1.881E+02	6.110E-02	Half-Life	too short	
		1147.95		3.361E+01	6.110E-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
	1362.66			6.956E+01	6.110E-02	Half-Life	too short	
	1750.46			2.699E+01	6.110E-02	Half-Life	too short	
MO-99	140.51			-3.030E+01	6.432E+01	1.015E+02	2.734E+01	-0.298
	181.06			-1.707E+01	4.647E+01	6.446E+01	1.092E+01	-0.265
	366.43			5.851E-02	2.011E+02	3.302E+02	1.846E+01	0.000
	739.58	*		9.210E+00	2.952E+01	4.977E+01	7.157E+00	0.185
	778.00			-3.209E+01	9.844E+01	1.336E+02	9.906E+00	-0.240
TC-99M	140.51	*		-9.491E+14	9.844E+01	Half-Life	too short	
RH-101	127.23	+		7.480E-02	3.832E-02	4.688E-02	2.845E-03	1.596
	198.01	*		1.485E-02	2.804E-02	4.580E-02	2.423E-03	0.324
	325.23			6.941E-02	2.140E-01	3.195E-01	1.815E-02	0.217
RH-102	418.52			6.923E-02	2.425E-01	4.026E-01	2.271E-02	0.172
	475.06	*		2.412E-02	2.625E-02	4.514E-02	2.681E-03	0.534
	631.29			5.055E-03	4.744E-02	7.971E-02	5.132E-03	0.063
	697.49			4.830E-02	7.418E-02	1.274E-01	8.624E-03	0.379
	766.84	+		2.352E-01	1.250E-01	1.948E-01	1.427E-02	1.207
	1046.59			-1.444E-02	1.007E-01	1.661E-01	1.177E-02	-0.087
	1112.84			-4.112E-02	2.212E-01	3.220E-01	2.032E-02	-0.128
RU-103	497.08	*		2.337E-03	3.995E-02	6.440E-02	8.215E-03	0.036
	610.33	+		1.424E+01	2.950E+00	3.066E+00	4.799E-01	4.644
RH-106	511.85	+		5.946E-01	2.654E-01	3.933E-01	2.398E-02	1.512
	621.84	*		-1.881E-01	2.862E-01	4.511E-01	5.439E-02	-0.417
	1050.47			9.087E-01	2.119E+00	3.678E+00	2.591E-01	0.247
RU-106	511.85	+		5.946E-01	2.654E-01	3.933E-01	2.398E-02	1.512
	621.84	*		-1.881E-01	2.856E-01	4.511E-01	2.897E-02	-0.417
	1050.47			9.087E-01	2.119E+00	3.678E+00	2.591E-01	0.247
AG-108M	433.93	*		-1.245E-02	2.796E-02	4.377E-02	2.727E-03	-0.285
	614.37			3.679E-03	3.848E-02	5.644E-02	3.869E-03	0.065
	722.95			-1.847E-02	4.357E-02	5.907E-02	4.363E-03	-0.313
AG-110M	657.75	*		-4.417E-03	3.081E-02	5.057E-02	3.447E-03	-0.087
	677.61			1.872E-02	2.467E-01	4.116E-01	2.850E-02	0.045
	706.67			9.287E-02	1.984E-01	3.391E-01	2.421E-02	0.274
	763.93			2.134E-01	1.588E-01	2.615E-01	1.984E-02	0.816
	884.67			-1.881E-02	4.501E-02	6.971E-02	5.954E-03	-0.270
	937.48			-9.931E-02	1.121E-01	1.645E-01	1.384E-02	-0.604
	1384.27			-8.881E-02	1.322E-01	1.926E-01	1.393E-02	-0.461
IN-111	171.28			-5.469E-01	2.343E+00	3.718E+00	1.912E-01	-0.147
	245.39	*		3.155E-01	2.545E+00	3.823E+00	2.116E-01	0.083
IN-113M	391.69	*		-4.602E-02	3.991E-02	5.978E-02	3.520E-03	-0.770
SN-113	391.69	*		-4.602E-02	3.991E-02	5.978E-02	3.520E-03	-0.770
IN-114M	190.27	*		4.828E-03	1.786E-01	2.712E-01	1.423E-02	0.018
CD-115	260.90			-1.221E-04	1.786E-01	Half-Life	too short	
	492.35			1.985E-06	1.786E-01	Half-Life	too short	
	527.90	*		9.887E-06	1.786E-01	Half-Life	too short	
SN-117M	156.02			-2.300E-01	2.415E+00	3.883E+00	2.073E-01	-0.059
	158.56	*		1.533E-02	5.795E-02	9.464E-02	4.999E-03	0.162
SB-122	563.90	*		5.823E-01	4.660E+00	7.907E+00	4.965E-01	0.074
	692.80			-4.082E+00	1.143E+02	1.885E+02	1.269E+01	-0.022
I-123	159.00	*		2.502E+02	1.143E+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
	528.96			-2.803E+04	1.143E+02	Half-Life too short		
TE-123M	159.00	*		8.239E-03	2.414E-02	3.958E-02	2.121E-03	0.208
I-124	602.71	*		1.215E+00	1.169E+00	1.890E+00	1.206E-01	0.643
	722.78			-4.115E+00	8.768E+00	1.181E+01	8.237E-01	-0.348
	1325.50			-5.578E+01	6.027E+01	8.660E+01	5.989E+00	-0.644
	1376.25			8.835E+01	5.577E+01	1.064E+02	7.392E+00	0.830
	1509.49			3.703E+01	2.566E+01	5.010E+01	3.372E+00	0.739
	1691.02			-5.325E+00	7.095E+00	1.025E+01	6.362E-01	-0.519
SB-124	602.71			3.826E-02	3.679E-02	5.951E-02	3.799E-03	0.643
	645.85			2.683E-01	4.731E-01	8.166E-01	5.828E-02	0.329
	709.31			-4.461E-01	2.571E+00	4.183E+00	2.871E-01	-0.107
	713.82			-7.720E-01	1.493E+00	2.347E+00	2.552E-01	-0.329
	722.78			-1.878E-01	4.002E-01	5.392E-01	3.883E-02	-0.348
+	968.20			1.459E+01	3.994E+00	6.871E+00	5.385E-01	2.123
	1045.16			-1.721E-01	2.279E+00	3.783E+00	2.686E-01	-0.046
	1325.50			-2.719E+00	2.938E+00	4.221E+00	2.919E-01	-0.644
	1368.21			-1.676E+00	1.438E+00	1.844E+00	2.301E-01	-0.909
	1436.60			-3.459E+00	3.683E+00	5.118E+00	3.514E-01	-0.676
	1691.02	*		-5.732E-02	7.639E-02	1.103E-01	7.363E-03	-0.519
SB-125	427.89	*		-1.029E-02	8.187E-02	1.317E-01	7.829E-03	-0.078
+	463.38			6.210E-01	4.137E-01	5.119E-01	3.498E-02	1.213
	600.56			-3.960E-02	1.548E-01	2.468E-01	1.780E-02	-0.160
	635.90			4.273E-02	2.382E-01	4.022E-01	2.957E-02	0.106
TE-125M	109.28	*		-5.379E+00	8.141E+00	1.300E+01	1.122E+00	-0.414
I-126	388.63			1.032E-01	2.238E-01	3.768E-01	2.070E-02	0.274
	666.33	*		1.444E-01	2.033E-01	3.550E-01	2.315E-02	0.407
	753.82			5.504E-01	1.455E+00	2.477E+00	1.788E-01	0.222
SB-126	223.80			-2.158E+00	4.295E+00	7.123E+00	3.870E-01	-0.303
	278.60			-6.983E-02	3.138E+00	4.616E+00	2.606E-01	-0.015
	296.50			1.382E+01	2.483E+00	3.961E+00	2.248E-01	3.489
	414.70			-1.820E-02	8.256E-02	1.322E-01	7.431E-03	-0.138
	415.30			7.326E-02	6.960E+00	1.133E+01	6.372E-01	0.006
	555.20			1.054E-01	4.124E+00	6.952E+00	4.347E-01	0.015
	573.80			-2.008E-01	1.098E+00	1.817E+00	1.146E-01	-0.111
	593.00			-4.230E-01	9.592E-01	1.548E+00	9.840E-02	-0.273
	656.30			-6.942E-01	3.671E+00	6.004E+00	3.888E-01	-0.116
	666.33			6.089E-02	8.575E-02	1.497E-01	9.761E-03	0.407
	675.00			-1.550E+00	2.147E+00	3.331E+00	2.195E-01	-0.465
	695.00			2.640E-02	9.420E-02	1.589E-01	1.073E-02	0.166
	697.00			1.879E-01	3.231E-01	5.564E-01	3.764E-02	0.338
	720.50	*		1.418E-01	1.777E-01	2.876E-01	2.000E-02	0.493
	856.80			2.664E-01	6.004E-01	8.930E-01	7.174E-02	0.298
	989.30			-6.167E-01	1.383E+00	2.104E+00	1.610E-01	-0.293
	1034.80			-3.666E+00	8.908E+00	1.424E+01	1.027E+00	-0.257
	1213.00			-2.735E+00	5.235E+00	8.159E+00	4.777E-01	-0.335
SB-127	61.10			4.166E+01	1.042E+02	1.618E+02	1.771E+01	0.258
	252.40			5.918E+00	7.604E+00	1.260E+01	5.278E+00	0.470
	290.80			8.479E+00	4.042E+01	6.029E+01	6.386E+00	0.141
	411.60			-6.275E+00	2.290E+01	3.658E+01	5.597E+00	-0.172

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

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		444.90		3.346E+00	1.751E+01	2.875E+01	3.474E+00	0.116
		473.00		-1.462E+00	3.069E+00	4.749E+00	5.934E-01	-0.308
		543.00		1.581E+01	3.034E+01	5.281E+01	7.493E+00	0.299
		603.60		1.343E+01	2.163E+01	3.353E+01	4.143E+00	0.401
		685.20	*	2.791E+00	2.476E+00	4.434E+00	5.048E-01	0.630
		698.50		-1.114E+01	3.130E+01	4.997E+01	7.927E+00	-0.223
		722.20		-1.001E+01	6.441E+01	9.035E+01	1.025E+01	-0.111
		783.80		1.298E+01	6.840E+00	1.259E+01	1.619E+00	1.031
XE-127		57.60		1.053E+00	5.427E+00	9.276E+00	5.862E-01	0.114
		145.22		-2.624E-01	6.570E-01	1.043E+00	5.828E-02	-0.252
		172.10		9.659E-02	1.123E-01	1.876E-01	9.656E-03	0.515
		202.84	*	1.463E-02	4.421E-02	7.138E-02	3.796E-03	0.205
		374.96		9.569E-02	1.805E-01	3.063E-01	1.702E-02	0.312
I-131		80.18		1.415E+00	5.826E+00	8.849E+00	6.379E-01	0.160
		284.30		-7.360E-01	1.834E+00	2.999E+00	1.909E-01	-0.245
		364.48	*	1.686E-02	1.456E-01	2.409E-01	1.527E-02	0.070
		636.97		2.729E-01	1.866E+00	3.144E+00	2.238E-01	0.087
		722.89		-4.556E+00	1.032E+01	1.396E+01	9.886E-01	-0.326
TE-132		49.72		-2.547E+00	3.593E+01	6.114E+01	6.474E+00	-0.042
		111.76		1.873E+01	5.962E+01	9.934E+01	1.044E+01	0.189
		116.30		-2.473E+01	5.488E+01	8.820E+01	9.221E+00	-0.280
		228.16	*	-5.190E-01	1.385E+00	2.305E+00	3.482E-01	-0.225
BA-133		53.15		5.289E-01	2.969E+00	5.025E+00	3.249E-01	0.105
		79.62		4.617E-01	1.172E+00	1.791E+00	2.580E-01	0.258
		81.00		-3.049E-02	8.639E-02	1.271E-01	1.924E-02	-0.240
	+	276.40		4.354E-01	4.621E-01	5.556E-01	7.163E-02	0.784
		302.84		-1.178E-02	1.349E-01	1.960E-01	2.273E-02	-0.060
		356.01	*	1.086E-02	3.750E-02	5.565E-02	6.385E-03	0.195
		383.85		3.195E-02	2.576E-01	4.252E-01	4.559E-02	0.075
I-133	+	510.53		2.884E+01	2.576E-01	Half-Life	too short	
		529.87	*	-1.755E-01	2.576E-01	Half-Life	too short	
		706.58		4.223E+00	2.576E-01	Half-Life	too short	
		856.28		5.916E+00	2.576E-01	Half-Life	too short	
		875.33		-1.695E+00	2.576E-01	Half-Life	too short	
	+	1236.41		3.775E+01	2.576E-01	Half-Life	too short	
		1298.22		1.546E+00	2.576E-01	Half-Life	too short	
CS-134		475.35		1.866E+00	1.719E+00	2.989E+00	1.775E-01	0.624
		563.23		1.309E-01	2.946E-01	5.115E-01	3.268E-02	0.256
		569.32		1.148E-01	1.656E-01	2.864E-01	1.849E-02	0.401
		604.70		5.873E-03	3.252E-02	4.819E-02	3.092E-03	0.122
	+	795.84	*	7.202E-02	6.020E-02	8.345E-02	6.362E-03	0.863
		801.93		-1.755E-01	3.993E-01	5.782E-01	4.427E-02	-0.304
		1038.57		2.018E+00	3.143E+00	5.593E+00	4.011E-01	0.361
		1167.94		-1.369E+00	2.287E+00	3.571E+00	1.990E-01	-0.383
		1365.15		-1.370E-01	8.970E-01	1.427E+00	1.062E-01	-0.096
CS-135		268.24	*	2.211E-01	1.540E-01	2.476E-01	1.862E-02	0.893
I-135		288.45		-9.714E+13	1.540E-01	Half-Life	too short	
		417.63		-1.011E+14	1.540E-01	Half-Life	too short	
		546.56		-9.552E+13	1.540E-01	Half-Life	too short	

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CS-136		836.80		2.501E+14	1.540E-01	Half-Life	too short	
		1038.76		2.041E+14	1.540E-01	Half-Life	too short	
		1124.00		-1.184E+14	1.540E-01	Half-Life	too short	
		1131.51		9.376E+13	1.540E-01	Half-Life	too short	
		1260.41	*	4.382E+12	1.540E-01	Half-Life	too short	
		1457.56		1.702E+16	1.540E-01	Half-Life	too short	
		1678.03		-8.448E+13	1.540E-01	Half-Life	too short	
		1706.46		1.330E+14	1.540E-01	Half-Life	too short	
		1791.20		-5.654E+13	1.540E-01	Half-Life	too short	
	+	66.91		-5.480E-01	8.791E-01	1.369E+00	1.965E-01	-0.400
		86.29		3.994E+00	1.600E+00	2.219E+00	2.695E-01	1.800
		153.22		5.901E-01	7.266E-01	1.214E+00	8.394E-02	0.486
		163.89		3.557E-01	1.106E+00	1.808E+00	1.222E-01	0.197
		176.55		-1.059E-01	3.857E-01	6.093E-01	3.638E-02	-0.174
		273.65		-2.057E-01	6.923E-01	7.117E-01	4.608E-02	-0.289
		340.57		1.861E-01	1.472E-01	2.338E-01	1.413E-02	0.796
		818.51		-8.297E-02	7.793E-02	1.120E-01	8.679E-03	-0.741
		1048.07	*	-1.418E-02	1.223E-01	2.022E-01	1.520E-02	-0.070
		1235.34		1.044E+00	7.737E-01	1.255E+00	1.273E-01	0.832
		661.65	*	-2.347E-02	3.276E-02	5.127E-02	3.324E-03	-0.458
		661.65	*	-2.481E-02	3.463E-02	5.420E-02	3.525E-03	-0.458
BA-137M		661.65	*	-2.481E-02	3.463E-02	5.420E-02	3.525E-03	-0.458
CS-137		661.65	*	-2.481E-02	3.463E-02	5.420E-02	3.525E-03	-0.458
CE-139		165.85	*	-5.879E-03	2.635E-02	4.194E-02	2.149E-03	-0.140
BA-140		162.64		-2.263E-01	7.818E-01	1.241E+00	7.433E-02	-0.182
		304.84		-2.836E-01	1.434E+00	2.178E+00	5.938E-01	-0.130
LA-140		423.70		-5.262E-01	2.002E+00	3.178E+00	1.009E+00	-0.166
		537.32	*	6.849E-02	2.835E-01	4.848E-01	1.580E-01	0.141
	+	328.77		3.398E-01	4.752E-01	6.244E-01	3.988E-02	0.544
		432.53		3.770E-01	2.177E+00	3.579E+00	2.267E-01	0.105
		487.03		-4.349E-03	1.463E-01	2.346E-01	1.581E-02	-0.019
		751.79		-2.168E+00	1.808E+00	2.604E+00	2.157E-01	-0.833
		815.85		-1.005E-01	3.396E-01	5.372E-01	4.731E-02	-0.187
		867.82		2.414E-01	1.616E+00	2.591E+00	2.229E-01	0.093
		919.63		1.529E-02	3.218E+00	5.058E+00	5.220E-01	0.003
		925.24		1.035E+00	1.265E+00	2.207E+00	1.929E-01	0.469
CE-141		1596.49	*	-3.621E-02	9.833E-02	1.559E-01	1.015E-02	-0.232
		145.44	*	-5.954E-02	6.048E-02	9.328E-02	5.431E-03	-0.638
CE-143		57.37		1.537E-03	6.048E-02	Half-Life	too short	
		231.56		-4.814E-03	6.048E-02	Half-Life	too short	
		293.26	*	6.309E-03	6.048E-02	Half-Life	too short	
	+	350.59		2.374E-01	6.048E-02	Half-Life	too short	
		490.36		-9.632E-03	6.048E-02	Half-Life	too short	
		664.57		8.205E-03	6.048E-02	Half-Life	too short	
		721.93		-1.689E-03	6.048E-02	Half-Life	too short	
CE-144		80.11		5.426E-01	1.926E+00	2.930E+00	2.080E-01	0.185
		133.54	*	-1.306E-01	1.827E-01	2.867E-01	4.081E-02	-0.456
PM-144		476.78		6.804E-03	6.377E-02	1.035E-01	7.314E-03	0.066
		618.01		3.444E-02	2.812E-02	5.105E-02	3.437E-03	0.675
		696.49	*	1.773E-02	3.299E-02	5.667E-02	3.835E-03	0.313
		778.57		-1.104E+00	2.495E+00	3.334E+00	2.475E-01	-0.331

---- 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	*		1.204E+00	2.240E+00	3.848E+00	2.602E-01	0.313
	1489.15			-9.239E+00	1.254E+01	1.508E+01	1.021E+00	-0.613
PM-146	453.90	*		3.103E-02	3.882E-02	6.628E-02	5.730E-03	0.468
	633.02			-7.637E-02	1.219E+00	2.020E+00	7.459E-01	-0.038
	735.90			-9.907E-02	1.400E-01	2.115E-01	5.960E-02	-0.468
	747.13			4.246E-02	8.424E-02	1.440E-01	1.901E-02	0.295
ND-147	91.11	+		6.454E-01	2.599E-01	5.729E-01	4.698E-02	1.127
	319.41			2.539E+00	3.520E+00	6.081E+00	3.459E-01	0.417
	439.89			6.021E+00	6.688E+00	1.152E+01	6.640E-01	0.523
	531.02	*		-4.003E-01	6.561E-01	9.879E-01	1.352E-01	-0.405
PM-149	285.90	*		-1.023E-04	6.561E-01	Half-Life too short		
EU-152	121.78			-3.931E-04	6.550E-02	1.056E-01	8.396E-03	-0.004
	244.69			2.992E-02	2.992E-01	4.487E-01	2.482E-02	0.067
	344.27	*		-9.584E-02	8.855E-02	1.303E-01	8.349E-03	-0.736
	443.98			-8.838E-02	8.246E-01	1.324E+00	7.656E-02	-0.067
	778.89			-4.776E-02	2.688E-01	3.912E-01	2.902E-02	-0.122
	867.32			-1.314E-01	8.375E-01	1.258E+00	1.021E-01	-0.105
	964.01	+		5.883E-01	3.445E-01	5.480E-01	4.314E-02	1.074
	1085.78			7.315E-02	3.135E-01	5.356E-01	3.558E-02	0.137
	1112.02			-5.373E-03	2.890E-01	4.449E-01	2.812E-02	-0.012
	1407.95			2.424E-02	1.723E-01	2.844E-01	1.964E-02	0.085
GD-153	69.67			-9.455E-01	1.594E+00	2.331E+00	1.533E-01	-0.406
	83.37	+		1.666E+01	1.633E+01	2.186E+01	1.598E+00	0.762
	97.43	*		-3.576E-02	7.325E-02	1.124E-01	7.814E-03	-0.318
	103.18			-8.460E-02	8.853E-02	1.398E-01	9.340E-03	-0.605
EU-154	123.07			1.265E-02	4.530E-02	7.503E-02	7.250E-03	0.169
	247.94			-6.583E-02	2.941E-01	4.734E-01	4.445E-02	-0.139
	591.81			-2.238E-01	5.359E-01	8.674E-01	8.773E-02	-0.258
	723.30			-9.721E-03	1.771E-01	2.513E-01	2.028E-02	-0.039
	756.87			9.666E-02	6.418E-01	1.069E+00	1.179E-01	0.090
	873.19			7.157E-02	2.707E-01	4.505E-01	5.373E-02	0.159
	996.32			-4.177E-01	3.340E-01	4.792E-01	8.285E-02	-0.872
	1004.76			-1.192E-01	1.857E-01	2.914E-01	3.160E-02	-0.409
	1274.45	*		-2.973E-02	1.125E-01	1.798E-01	1.752E-02	-0.165
EU-155	48.70			-1.564E+00	1.937E+00	3.193E+00	2.087E-01	-0.490
	60.01			-4.499E-01	4.499E+00	6.824E+00	4.288E-01	-0.066
	86.54	+		2.995E-01	1.165E-01	1.680E-01	1.283E-02	1.783
	105.31	*		1.486E-01	9.153E-02	1.603E-01	1.081E-02	0.927
TB-160	86.79	+		8.298E-01	3.227E-01	4.663E-01	3.526E-02	1.779
	197.04			-8.982E-02	5.033E-01	7.935E-01	4.193E-02	-0.113
	215.65			1.103E+00	7.032E-01	1.196E+00	6.447E-02	0.922
	298.57	+		2.268E-01	1.275E-01	1.738E-01	9.868E-03	1.305
	879.36	*		-3.263E-02	1.317E-01	2.082E-01	1.709E-02	-0.157
	962.29			6.181E-01	6.736E-01	1.026E+00	8.090E-02	0.602
	966.15			1.111E+00	2.763E-01	5.277E-01	4.145E-02	2.106
	1177.93			-1.398E-02	3.380E-01	5.574E-01	3.087E-02	-0.025
	1271.85			-6.623E-01	6.614E-01	9.615E-01	6.155E-02	-0.689
HO-166M	80.57			-4.129E-03	2.414E-01	3.620E-01	2.580E-02	-0.011
	184.41	+		1.456E-01	4.749E-02	6.454E-02	3.364E-03	2.256

---- 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		1.131E-02	8.296E-02	1.234E-01	6.968E-03	0.092
		410.95		-1.133E-02	2.283E-01	3.706E-01	2.074E-02	-0.031
		711.68	*	-5.187E-02	5.235E-02	7.846E-02	5.400E-03	-0.661
		752.31		-2.218E-01	2.300E-01	3.411E-01	2.458E-02	-0.650
		810.29		-2.485E-02	5.415E-02	8.454E-02	6.482E-03	-0.294
		51.35		-2.137E+00	2.492E+01	4.233E+01	2.759E+00	-0.050
		52.39		-1.325E-01	1.300E+01	2.184E+01	1.418E+00	-0.006
		59.40		-2.619E+00	2.437E+01	3.696E+01	2.318E+00	-0.071
		66.72	*	-1.600E+01	2.755E+01	4.050E+01	2.621E+00	-0.395
		88.36		5.889E-01	2.290E-01	3.149E-01	2.400E-02	1.870
LU-176	+	201.83		-8.639E-03	2.549E-02	3.978E-02	2.113E-03	-0.217
		306.84	*	6.870E-03	2.082E-02	3.526E-02	2.004E-03	0.195
		401.10		3.807E-01	5.973E+00	9.785E+00	5.417E-01	0.039
LU-177		112.95		9.022E-01	2.121E+00	3.548E+00	2.267E-01	0.254
	+	208.36	*	2.139E+00	1.797E+00	2.453E+00	1.312E-01	0.872
LU-177M		52.97		2.212E-01	1.365E+00	2.309E+00	1.494E-01	0.096
		54.07		-2.159E-01	7.232E-01	1.200E+00	7.722E-02	-0.180
		61.30		6.409E-01	1.342E+00	2.091E+00	1.321E-01	0.306
		121.62		1.426E-02	3.423E-01	5.528E-01	3.452E-02	0.026
		147.16		2.493E-01	5.638E-01	9.316E-01	5.162E-02	0.268
		171.86		3.259E-01	4.250E-01	7.070E-01	3.639E-02	0.461
		218.09		-2.408E-01	7.909E-01	1.230E+00	6.643E-02	-0.196
	+	268.79		2.016E+00	1.163E+00	1.375E+00	7.726E-02	1.466
		319.02		8.081E-02	2.196E-01	3.721E-01	2.115E-02	0.217
		367.43		8.258E-02	8.081E-01	1.336E+00	7.461E-02	0.062
HF-181		413.65	*	-9.884E-02	1.613E-01	2.513E-01	1.411E-02	-0.393
		56.28		2.730E-01	8.394E-01	1.443E+00	9.180E-02	0.189
		57.53		9.314E-02	4.521E-01	7.732E-01	4.888E-02	0.120
		65.20		-8.106E-01	9.687E-01	1.406E+00	9.035E-02	-0.576
		133.02		3.052E-02	6.574E-02	9.832E-02	5.799E-03	0.310
		136.25		7.883E-02	4.177E-01	6.856E-01	3.984E-02	0.115
W-181		345.85		-1.346E-01	1.991E-01	2.705E-01	1.528E-02	-0.497
		482.03	*	-3.407E-02	4.019E-02	6.001E-02	3.583E-03	-0.568
		56.28		1.021E-01	3.150E-01	5.415E-01	3.444E-02	0.188
		57.53		3.504E-02	1.698E-01	2.904E-01	1.836E-02	0.121
		65.20	*	-3.020E-01	3.609E-01	5.239E-01	3.366E-02	-0.576
		67.75		6.153E-02	9.632E-02	1.657E-01	1.078E-02	0.371
TA-182		100.10		2.118E-01	1.535E-01	2.674E-01	1.822E-02	0.792
		152.43		1.712E-01	3.094E-01	5.122E-01	2.776E-02	0.334
		222.10		1.010E-01	2.981E-01	5.131E-01	2.783E-02	0.197
		1001.68		1.005E+00	2.007E+00	3.350E+00	2.525E-01	0.300
RE-183	+	1121.28		7.985E-01	2.285E-01	3.542E-01	2.197E-02	2.255
		1189.05		-1.493E-02	2.692E-01	4.428E-01	2.496E-02	-0.034
		1221.42	*	3.741E-02	1.699E-01	2.861E-01	1.697E-02	0.131
		1230.97		1.895E-01	4.508E-01	6.766E-01	4.073E-02	0.280
		57.98		4.597E-02	1.710E-01	2.930E-01	1.849E-02	0.157
RE-183		59.32		-3.542E-02	1.051E-01	1.575E-01	9.882E-03	-0.225
		67.20		-3.490E-02	1.883E-01	2.995E-01	1.943E-02	-0.117
		162.32	*	-2.998E-02	9.571E-02	1.518E-01	7.890E-03	-0.198

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		1.327E+00	1.115E+00	1.521E+00	8.137E-02	0.873
		291.72		3.492E-01	9.018E-01	1.363E+00	7.724E-02	0.256
		57.98		1.655E-01	6.158E-01	1.055E+00	6.657E-02	0.157
		59.32		-1.274E-01	3.781E-01	5.667E-01	3.555E-02	-0.225
		67.20		-1.256E-01	6.778E-01	1.078E+00	6.995E-02	-0.117
		161.27		-1.745E-01	2.997E-01	4.686E-01	2.447E-02	-0.372
		216.55		1.179E-01	2.483E-01	4.020E-01	2.169E-02	0.293
		252.85	*	1.893E-01	1.913E-01	3.376E-01	1.879E-02	0.561
		318.01		-1.953E-01	3.877E-01	6.233E-01	3.543E-02	-0.313
		792.07		1.226E+00	1.019E+00	1.647E+00	1.239E-01	0.744
OS-185		903.28		-6.383E-01	1.074E+00	1.452E+00	1.208E-01	-0.440
		920.93		-1.948E-01	4.168E-01	6.390E-01	5.242E-02	-0.305
		59.72		-3.630E-02	2.749E-01	4.163E-01	2.613E-02	-0.087
		61.14		6.013E-02	1.492E-01	2.318E-01	1.463E-02	0.259
		69.30		-1.414E-01	2.918E-01	4.291E-01	2.816E-02	-0.330
		592.07		-1.188E+00	2.244E+00	3.599E+00	2.287E-01	-0.330
		646.12	*	2.545E-02	3.893E-02	6.802E-02	4.395E-03	0.374
		717.42		4.426E-01	8.411E-01	1.446E+00	1.002E-01	0.306
		874.81		-1.316E-01	5.257E-01	8.300E-01	6.786E-02	-0.159
		880.27		1.850E-01	7.273E-01	1.209E+00	9.934E-02	0.153
RE-188		155.03	*	-5.738E-02	1.609E-01	2.558E-01	1.371E-02	-0.224
		477.96		8.951E-01	3.091E+00	4.949E+00	2.946E-01	0.181
		633.10		-1.086E-01	2.564E+00	4.256E+00	2.742E-01	-0.026
W-188	+	63.58		2.372E+01	6.471E+01	8.347E+01	5.325E+00	0.284
		227.08		5.125E+00	1.138E+01	1.965E+01	1.071E+00	0.261
IR-192	+	290.67	*	1.000E+00	7.166E+00	1.063E+01	6.027E-01	0.094
		295.96		1.169E+00	1.841E-01	2.758E-01	1.591E-02	4.239
		308.46		1.846E-02	8.348E-02	1.405E-01	8.082E-03	0.131
		316.51	*	-8.894E-03	3.067E-02	5.000E-02	2.857E-03	-0.178
		468.07		3.812E-02	6.178E-02	9.322E-02	6.318E-03	0.409
		604.41		1.158E-01	4.484E-01	6.699E-01	7.811E-02	0.173
AU-195		612.46		4.092E-01	7.477E-01	1.144E+00	9.202E-02	0.358
		65.12		-1.690E-01	1.678E-01	2.414E-01	1.551E-02	-0.700
		66.83		-5.449E-02	9.203E-02	1.352E-01	8.754E-03	-0.403
	+	75.70		1.345E+00	2.517E-01	4.305E-01	2.948E-02	3.125
		98.88	*	1.761E-01	2.027E-01	3.436E-01	2.363E-02	0.513
TL-200	+	129.76		6.678E+00	3.421E+00	4.601E+00	2.757E-01	1.451
		367.94	*	-1.233E-03	3.421E+00	Half-Life	too short	
		579.30		-1.121E-03	3.421E+00	Half-Life	too short	
		828.27		-1.666E-02	3.421E+00	Half-Life	too short	
TL-201		1205.75		-3.058E-05	3.421E+00	Half-Life	too short	
		68.90		-1.632E-01	1.124E+01	1.692E+01	1.108E+00	-0.010
		70.82		-1.627E+00	6.227E+00	9.266E+00	6.135E-01	-0.176
		80.30		1.956E+00	1.111E+01	1.682E+01	1.196E+00	0.116
		135.34		-2.816E+00	5.407E+01	8.783E+01	5.125E+00	-0.032
TL-202		167.43	*	1.152E+01	1.481E+01	2.468E+01	1.265E+00	0.467
		68.90		-7.441E-03	5.125E-01	7.714E-01	5.050E-02	-0.010
		70.82		-7.395E-02	2.831E-01	4.212E-01	2.789E-02	-0.176
		80.30		8.896E-02	5.051E-01	7.648E-01	5.438E-02	0.116

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	4.631E-02	7.659E-02	1.295E-01	7.457E-03	0.358
		70.83		-2.710E-01	1.039E+00	1.546E+00	1.923E-01	-0.175
		72.87		1.479E+00	6.382E-01	1.017E+00	1.225E-01	1.454
	+	82.60		1.299E+00	1.281E+00	1.595E+00	2.063E-01	0.815
BI-207		279.20	*	-2.751E-03	4.308E-02	6.318E-02	3.799E-03	-0.044
		72.80		3.648E-01	1.700E-01	2.769E-01	1.857E-02	1.318
	+	74.97		7.353E-01	1.376E-01	2.109E-01	1.436E-02	3.486
	+	84.90		2.131E-01	2.089E-01	2.854E-01	2.118E-02	0.747
TL-207		569.67		2.300E-02	2.542E-02	4.459E-02	2.808E-03	0.516
		1063.62	*	-5.288E-03	4.158E-02	6.848E-02	4.724E-03	-0.077
		1770.23		5.117E-02	4.162E-01	6.123E-01	3.614E-02	0.084
		81.07		-7.151E-02	1.901E-01	2.797E-01	2.003E-02	-0.256
	+	83.78		1.405E-01	1.377E-01	1.862E-01	1.367E-02	0.754
		94.90		9.331E-02	2.075E-01	3.157E-01	2.243E-02	0.296
		122.32		-1.665E-01	1.568E+00	2.515E+00	1.780E-01	-0.066
		144.24		1.553E-01	5.948E-01	9.741E-01	6.898E-02	0.159
		154.21		1.501E-02	3.561E-01	5.764E-01	3.845E-02	0.026
	+	269.46		4.640E-01	2.677E-01	3.261E-01	1.921E-02	1.423
PO-209		323.87	*	-2.791E-01	6.487E-01	9.082E-01	1.496E-01	-0.307
	+	338.28		5.904E+00	1.519E+00	2.286E+00	2.390E-01	2.583
		445.03		8.557E-01	1.974E+00	3.297E+00	3.384E-01	0.259
		260.50		-2.839E+00	8.207E+00	1.355E+01	7.578E-01	-0.210
BI-210		262.80		1.750E+01	2.254E+01	3.927E+01	2.200E+00	0.446
		896.60	*	3.585E+00	7.289E+00	1.232E+01	1.029E+00	0.291
		46.50	*	1.332E+00	2.828E+00	4.857E+00	3.659E-01	0.274
		46.50	*	1.332E+00	2.828E+00	4.857E+00	3.659E-01	0.274
PB-210		46.50	*	1.332E+00	2.828E+00	4.857E+00	3.115E-01	0.274
PB-211		404.84	*	-6.472E-01	9.262E-01	1.287E+00	8.021E-01	-0.503
		427.08		-1.589E+00	2.067E+00	2.760E+00	1.706E+00	-0.576
BI-212		831.96		-1.497E-01	1.036E+00	1.656E+00	1.036E+00	-0.090
	+	727.18	*	1.031E+00	3.379E-01	5.839E-01	5.055E-02	1.765
		785.46		1.535E+00	1.622E+00	2.858E+00	2.135E-01	0.537
		1620.62		4.688E-01	1.195E+00	2.105E+00	1.355E-01	0.223
PO-215		81.07		-7.151E-02	1.901E-01	2.797E-01	2.003E-02	-0.256
	+	83.78		1.405E-01	1.377E-01	1.862E-01	1.367E-02	0.754
		94.90		9.331E-02	2.075E-01	3.157E-01	2.243E-02	0.296
		122.32		-1.665E-01	1.568E+00	2.515E+00	1.780E-01	-0.066
		144.24		1.553E-01	5.948E-01	9.741E-01	6.898E-02	0.159
		154.21		1.501E-02	3.561E-01	5.764E-01	3.845E-02	0.026
	+	269.46		4.640E-01	2.677E-01	3.261E-01	1.921E-02	1.423
		323.87	*	-2.791E-01	6.487E-01	9.082E-01	1.496E-01	-0.307
	+	338.28		5.904E+00	1.519E+00	2.286E+00	2.390E-01	2.583
		445.03		8.557E-01	1.974E+00	3.297E+00	3.384E-01	0.259
RN-219	+	271.23		5.953E-01	3.450E-01	3.924E-01	3.132E-02	1.517
		401.81	*	3.762E-02	3.577E-01	5.876E-01	7.931E-02	0.064
RN-220		549.76	*	2.748E-03	2.187E+01	3.682E+01	2.296E+00	0.000
RA-223		81.07		-7.151E-02	1.901E-01	2.797E-01	2.003E-02	-0.256
	+	83.78		1.405E-01	1.377E-01	1.862E-01	1.367E-02	0.754
		94.90		9.331E-02	2.075E-01	3.157E-01	2.243E-02	0.296

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32	-1.665E-01	1.568E+00	2.515E+00	1.780E-01	-0.066
		144.24	1.553E-01	5.948E-01	9.741E-01	6.898E-02	0.159
		154.21	1.501E-02	3.561E-01	5.764E-01	3.845E-02	0.026
	+	269.46	4.640E-01	2.677E-01	3.261E-01	1.921E-02	1.423
		323.87	* -2.791E-01	6.487E-01	9.082E-01	1.496E-01	-0.307
	+	338.28	5.904E+00	1.519E+00	2.286E+00	2.390E-01	2.583
		445.03	8.557E-01	1.974E+00	3.297E+00	3.384E-01	0.259
		79.80	5.476E-01	1.486E+00	2.265E+00	4.741E-01	0.242
		236.00	7.401E-01	2.492E-01	4.098E-01	4.215E-02	1.806
		256.20	* -1.662E-01	3.167E-01	5.171E-01	7.172E-02	-0.321
		286.10	-5.152E-01	1.293E+00	2.111E+00	2.425E-01	-0.244
	+	299.80	2.781E+00	1.619E+00	2.216E+00	3.599E-01	1.255
TH-227		304.40	-3.466E-01	1.790E+00	2.577E+00	4.448E-01	-0.134
		334.20	-1.318E+00	2.272E+00	3.120E+00	5.708E-01	-0.422
		79.80	5.476E-01	1.486E+00	2.265E+00	4.805E-01	0.242
	+	94.00	6.302E+00	2.725E+00	3.092E+00	6.569E-01	2.038
		236.00	7.401E-01	2.462E-01	4.098E-01	3.633E-02	1.806
		256.20	* -1.662E-01	3.171E-01	5.171E-01	8.700E-02	-0.321
		286.10	-5.152E-01	1.391E+00	2.111E+00	2.114E+00	-0.244
	+	299.80	2.781E+00	1.619E+00	2.216E+00	3.599E-01	1.255
		304.40	-3.466E-01	1.790E+00	2.577E+00	4.448E-01	-0.134
		334.20	-1.318E+00	2.272E+00	3.120E+00	5.708E-01	-0.422
		85.43	4.086E-01	2.139E-01	2.875E-01	2.144E-02	1.422
	+	88.47	1.993E-01	7.995E-02	1.795E-01	1.366E-02	1.110
TH-229		100.00	2.535E-01	1.559E-01	2.735E-01	1.866E-02	0.927
		193.63	* 3.816E-02	4.444E-01	7.110E-01	3.743E-02	0.054
		210.97	7.881E-02	7.395E-01	1.048E+00	5.620E-02	0.075
		283.67	* 3.441E-01	1.304E+00	2.209E+00	3.031E-01	0.156
		301.29	6.060E-01	5.488E-01	8.624E-01	8.957E-02	0.703
		81.07	-7.151E-02	1.901E-01	2.797E-01	2.003E-02	-0.256
	+	83.78	1.405E-01	1.377E-01	1.862E-01	1.367E-02	0.754
		94.90	9.331E-02	2.075E-01	3.157E-01	2.243E-02	0.296
		122.32	-1.665E-01	1.568E+00	2.515E+00	1.780E-01	-0.066
		144.24	1.553E-01	5.948E-01	9.741E-01	6.898E-02	0.159
		154.21	1.501E-02	3.561E-01	5.764E-01	3.845E-02	0.026
	+	269.46	4.640E-01	2.677E-01	3.261E-01	1.921E-02	1.423
U-231		323.87	* -2.791E-01	6.487E-01	9.082E-01	1.496E-01	-0.307
	+	338.28	5.904E+00	1.519E+00	2.286E+00	2.390E-01	2.583
		445.03	8.557E-01	1.974E+00	3.297E+00	3.384E-01	0.259
	+	84.21	1.165E+01	1.142E+01	1.552E+01	1.144E+00	0.751
	+	92.29	1.199E+01	4.597E+00	6.900E+00	5.028E-01	1.738
		95.87	* -7.399E-01	1.942E+00	2.825E+00	1.990E-01	-0.262
		108.00	-1.513E+00	3.376E+00	5.456E+00	3.555E-01	-0.277
	+	75.28	2.145E+01	4.851E+00	6.441E+00	9.285E-01	3.331
	+	86.59	4.861E+00	2.258E+00	2.731E+00	7.236E-01	1.780
	+	300.12	7.753E-01	4.458E-01	6.095E-01	8.158E-02	1.272
		311.98	* 1.333E-02	5.414E-02	9.119E-02	5.518E-03	0.146
		340.50	8.208E-01	6.115E-01	9.354E-01	2.145E-01	0.877
PA-233		398.62	9.114E-01	1.870E+00	3.126E+00	8.064E-01	0.292

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		5.594E-01	1.440E+00	2.399E+00	4.928E-01	0.233
		63.00		6.612E-01	1.806E+00	2.365E+00	3.398E-01	0.280
		94.67		1.565E-01	1.525E-01	2.371E-01	2.706E-02	0.660
		98.44		8.325E-02	9.297E-02	1.379E-01	7.658E-02	0.604
		99.86		5.869E-01	3.976E-01	6.942E-01	4.740E-02	0.845
		111.00		-4.514E-02	1.550E-01	2.518E-01	2.679E-02	-0.179
		131.20		1.289E-01	9.992E-02	1.560E-01	9.283E-03	0.826
		152.70		2.209E-01	2.926E-01	4.853E-01	7.604E-02	0.455
		186.00		5.241E+00	2.323E+00	2.415E+00	7.354E-01	2.170
		226.40		1.037E-01	3.407E-01	5.848E-01	6.659E-02	0.177
		227.20		5.082E-02	3.747E-01	6.386E-01	3.481E-02	0.080
		248.90		-7.742E-01	6.805E-01	1.035E+00	2.216E-01	-0.748
		293.70		7.092E+00	1.540E+00	1.658E+00	2.659E-01	4.277
		369.80		-1.154E-01	7.203E-01	1.169E+00	2.426E-01	-0.099
		568.70		1.125E-01	8.364E-01	1.389E+00	8.744E-02	0.081
		569.50		1.516E-01	2.278E-01	3.931E-01	2.475E-02	0.386
		574.00		-1.687E-01	1.268E+00	2.106E+00	1.329E-01	-0.080
		699.00		-2.666E-01	7.028E-01	1.118E+00	2.048E-01	-0.239
		706.10		6.054E-01	9.863E-01	1.645E+00	7.285E-01	0.368
		733.00		2.766E-01	3.548E-01	5.691E-01	1.231E-01	0.486
		742.81		6.441E-01	1.364E+00	2.215E+00	1.485E+00	0.291
		796.30		1.395E+00	1.219E+00	1.583E+00	4.231E-01	0.881
		805.60		2.170E-02	9.309E-01	1.524E+00	4.631E-01	0.014
		819.60		-9.515E-02	1.032E+00	1.667E+00	6.306E-01	-0.057
		826.30		-6.245E-01	7.280E-01	9.830E-01	4.383E-01	-0.635
		831.60		-1.969E-01	5.358E-01	8.357E-01	2.476E-01	-0.236
		876.40		-1.541E-01	7.714E-01	1.199E+00	1.232E+00	-0.129
		880.51		7.522E-02	2.538E-01	4.236E-01	3.482E-02	0.178
		883.24		1.266E-01	2.653E-01	4.284E-01	2.877E-01	0.296
		899.00		7.474E-02	8.240E-01	1.344E+00	5.867E-01	0.056
		925.00		9.842E-01	1.049E+00	1.851E+00	1.513E-01	0.532
		926.50		-1.041E-01	1.699E-01	2.539E-01	6.379E-02	-0.410
		946.00	*	7.542E-02	2.940E-01	4.850E-01	8.969E-02	0.156
		949.00		1.571E-01	4.417E-01	7.350E-01	5.875E-02	0.214
		980.50		2.604E-01	6.942E-01	1.098E+00	8.487E-02	0.237
		1394.10		-7.935E-01	1.077E+00	1.325E+00	8.600E-01	-0.599
PA-234M	+	766.42		1.550E+01	1.145E+01	2.044E+01	1.033E+01	0.758
		1001.03	*	8.992E-01	4.450E+00	7.246E+00	6.558E-01	0.124
U-235	+	89.95		2.000E+00	9.976E-01	1.629E+00	4.979E-01	1.228
	+	93.35		1.961E+00	9.157E-01	1.092E+00	3.017E-01	1.795
		105.00		1.250E+00	9.735E-01	1.574E+00	4.615E-01	0.794
		143.76	*	-4.372E-02	1.875E-01	3.004E-01	4.879E-02	-0.146
		163.35		1.244E-01	3.873E-01	6.326E-01	1.125E-01	0.197
	+	185.71		1.941E-01	6.332E-02	8.967E-02	4.681E-03	2.165
		205.31		-2.905E-01	5.250E-01	7.069E-01	1.261E-01	-0.411
NP-236		94.67		1.202E-01	1.153E-01	1.801E-01	1.282E-02	0.667
		98.44		6.293E-02	6.112E-02	1.042E-01	7.190E-03	0.604
		111.00		-3.415E-02	1.172E-01	1.905E-01	1.225E-02	-0.179
		160.31	*	-1.267E-02	6.687E-02	1.068E-01	5.599E-03	-0.119

---- 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		1.686E-01	1.347E-01	2.315E-01	1.584E-02	0.728
		117.00	*	-5.130E-02	1.637E-01	2.649E-01	1.672E-02	-0.194
	+	209.75		1.006E+00	8.454E-01	1.163E+00	6.231E-02	0.865
		228.18		-4.888E-03	1.914E-01	3.239E-01	1.767E-02	-0.015
	+	277.60		2.123E-01	2.240E-01	2.708E-01	1.528E-02	0.784
AM-241		334.30		-8.126E-01	1.277E+00	1.755E+00	9.950E-02	-0.463
		59.54	*	-1.665E-02	1.409E-01	2.135E-01	1.517E-02	-0.078
		99.55		1.735E-01	1.387E-01	2.383E-01	1.631E-02	0.728
		103.76	*	-1.299E-02	8.078E-02	1.325E-01	8.823E-03	-0.098
		117.00		-5.280E-02	1.685E-01	2.727E-01	1.721E-02	-0.194
CM-243	+	209.75		9.923E-01	8.336E-01	1.147E+00	6.144E-02	0.865
		228.18		-4.940E-03	1.935E-01	3.274E-01	1.786E-02	-0.015
	+	277.60		2.141E-01	2.259E-01	2.730E-01	1.540E-02	0.784
		798.80		-9.455E-03	1.396E-01	1.956E-01	1.482E-02	-0.048
		1036.00		-1.883E-01	2.423E-01	3.704E-01	2.666E-02	-0.508
AM-246		1062.04		-2.869E-02	1.789E-01	2.934E-01	2.030E-02	-0.098
		1078.86	*	2.932E-03	1.293E-01	2.160E-01	1.453E-02	0.014
	+	278.00		8.806E-01	9.289E-01	1.130E+00	6.376E-02	0.779
		287.40		-3.424E-01	1.039E+00	1.704E+00	9.646E-02	-0.201
		402.60	*	-5.294E-03	3.225E-02	5.201E-02	2.884E-03	-0.102
CF-249		252.85		6.989E-01	7.064E-01	1.246E+00	6.936E-02	0.561
		333.44		-5.245E-02	1.822E-01	2.397E-01	1.359E-02	-0.219
		387.95	*	3.712E-02	3.519E-02	6.135E-02	3.372E-03	0.605
CF-251		176.60	*	-3.161E-02	1.078E-01	1.701E-01	8.797E-03	-0.186
		227.00		1.425E-01	3.279E-01	5.659E-01	3.084E-02	0.252
		285.00		-8.207E-01	1.511E+00	2.450E+00	1.386E-01	-0.335

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536004      *
* Acquisition date   : 9-JAN-2010 14:09:39 Detector SN#                   *
* Detector ID        : GAM12 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000              *
* Elapsed real time  : 0 02:00:01.50 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536004 Analyst initials: MXR1                  *
* Batch Number       : 937074 Sample Quantity : 1.4301E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                              *
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.068E+01	1.981E+00	4.634E-01	0.000E+00
NB-95	6.115E-02	3.256E-02	6.168E-02	0.000E+00
CD-109	2.541E+00	9.686E-01	1.097E+00	0.000E+00
SN-126	2.483E-01	9.464E-02	1.238E-01	0.000E+00
TL-208	4.796E-01	7.427E-02	5.361E-02	0.000E+00
BI-211	4.041E+00	4.981E-01	2.832E-01	0.000E+00
PB-212	1.345E+00	1.361E-01	8.407E-02	0.000E+00
PO-212	1.345E+00	1.361E-01	8.407E-02	0.000E+00
BI-214	1.229E+00	1.913E-01	9.803E-02	0.000E+00
PB-214	1.406E+00	1.876E-01	9.872E-02	0.000E+00
PO-214	1.406E+00	1.876E-01	9.872E-02	0.000E+00
PO-216	1.345E+00	1.361E-01	8.407E-02	0.000E+00
PO-218	1.406E+00	1.876E-01	9.872E-02	0.000E+00
RA-224	3.369E+00	9.709E-01	9.567E-01	0.000E+00
RA-226	1.229E+00	1.913E-01	9.803E-02	0.000E+00
AC-228	1.551E+00	3.089E-01	1.838E-01	0.000E+00
RA-228	1.551E+00	3.089E-01	1.838E-01	0.000E+00
TH-228	1.370E+00	1.387E-01	8.568E-02	0.000E+00
TH-230	1.229E+00	1.913E-01	9.803E-02	0.000E+00
TH-232	1.551E+00	3.089E-01	1.838E-01	0.000E+00
TH-234	5.673E-01	1.519E+00	1.984E+00	0.000E+00
U-234	1.229E+00	1.913E-01	9.803E-02	0.000E+00
NP-237	7.291E-01	3.146E-01	3.200E-01	0.000E+00
U-238	5.673E-01	1.519E+00	1.984E+00	0.000E+00
AM-243	4.095E-01	7.509E-02	7.846E-02	0.000E+00
ANH-511	1.182E-01	5.168E-02	3.986E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.137E-01	3.179E-01	5.372E-01	0.000E+00 NOT IDENT.

NA-22	-9.912E-03	3.964E-02	6.527E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	4.615E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-7.072E-03	2.712E-02	4.348E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.110E-02	7.111E-02	0.000E+00	FAIL ABUN
SC-46	-2.110E-02	3.706E-02	5.863E-02	0.000E+00	FAIL ABUN
V-48	1.428E-02	7.580E-02	1.283E-01	0.000E+00	NOT IDENT.
CR-51	2.654E-01	3.301E-01	6.066E-01	0.000E+00	NOT IDENT.
MN-52	-1.298E-01	3.384E-01	5.321E-01	0.000E+00	NOT IDENT.
MN-54	-1.082E-02	3.405E-02	5.594E-02	0.000E+00	NOT IDENT.
CO-56	-1.651E-02	3.397E-02	5.431E-02	0.000E+00	FAIL ABUN
CO-57	-3.444E-03	2.241E-02	3.879E-02	0.000E+00	NOT IDENT.
CO-58	-4.477E-03	3.774E-02	6.335E-02	0.000E+00	NOT IDENT.
FE-59	3.882E-03	8.510E-02	1.468E-01	0.000E+00	NOT IDENT.
CO-60	1.937E-02	3.283E-02	5.920E-02	0.000E+00	NOT IDENT.
ZN-65	1.386E-02	8.785E-02	1.325E-01	0.000E+00	NOT IDENT.
GE-68	5.781E-01	1.092E+00	1.971E+00	0.000E+00	NOT IDENT.
AS-73	1.646E-01	6.945E-01	1.295E+00	0.000E+00	NOT IDENT.
AS-74	-2.400E-02	8.340E-02	1.425E-01	0.000E+00	NOT IDENT.
SE-75	-7.926E-03	4.265E-02	6.628E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	2.901E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	1.341E-01	4.204E-01	6.450E-01	0.000E+00	NOT IDENT.
RB-83	3.816E-03	6.030E-02	1.017E-01	0.000E+00	NOT IDENT.
RB-84	3.631E-02	6.482E-02	1.150E-01	0.000E+00	NOT IDENT.
KR-85	4.534E+00	6.739E+00	1.057E+01	0.000E+00	NOT IDENT.
SR-85	2.424E-02	3.603E-02	5.649E-02	0.000E+00	NOT IDENT.
RB-86	5.651E-01	7.870E-01	1.443E+00	0.000E+00	NOT IDENT.
Y-88	1.209E-02	3.138E-02	5.292E-02	0.000E+00	NOT IDENT.
ZR-88	-1.619E-02	2.746E-02	4.545E-02	0.000E+00	NOT IDENT.
Y-91	-5.150E+00	1.849E+01	3.070E+01	0.000E+00	NOT IDENT.
NB-94	9.235E-03	3.087E-02	5.432E-02	0.000E+00	NOT IDENT.
NB-95M	1.664E-01	1.219E-01	2.079E-01	0.000E+00	NOT IDENT.
ZR-95	2.245E-02	5.988E-02	1.058E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.109E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.287E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	9.210E+00	2.892E+01	5.077E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.986E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.485E-02	2.748E-02	4.805E-02	0.000E+00	FAIL ABUN
RH-102	2.412E-02	2.572E-02	4.650E-02	0.000E+00	FAIL ABUN
RU-103	2.337E-03	3.915E-02	6.627E-02	0.000E+00	FAIL ABUN
RH-106	-1.881E-01	2.805E-01	4.619E-01	0.000E+00	FAIL ABUN
RU-106	-1.881E-01	2.799E-01	4.619E-01	0.000E+00	FAIL ABUN
AG-108M	-1.245E-02	2.740E-02	4.517E-02	0.000E+00	NOT IDENT.
AG-110M	-4.417E-03	3.019E-02	5.172E-02	0.000E+00	NOT IDENT.
IN-111	3.155E-01	2.494E+00	3.993E+00	0.000E+00	NOT IDENT.
IN-113M	-4.602E-02	3.911E-02	6.183E-02	0.000E+00	NOT IDENT.
SN-113	-4.602E-02	3.911E-02	6.183E-02	0.000E+00	NOT IDENT.
IN-114M	4.828E-03	1.750E-01	2.848E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.209E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.533E-02	5.679E-02	9.976E-02	0.000E+00	NOT IDENT.
SB-122	5.823E-01	4.567E+00	8.113E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.185E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	8.239E-03	2.366E-02	4.172E-02	0.000E+00	NOT IDENT.
I-124	1.215E+00	1.145E+00	1.937E+00	0.000E+00	NOT IDENT.
SB-124	-5.732E-02	7.486E-02	1.105E-01	0.000E+00	FAIL ABUN
SB-125	-1.029E-02	8.023E-02	1.360E-01	0.000E+00	FAIL ABUN
TE-125M	-5.379E+00	7.978E+00	1.380E+01	0.000E+00	NOT IDENT.
I-126	1.444E-01	1.993E-01	3.630E-01	0.000E+00	NOT IDENT.
SB-126	1.418E-01	1.741E-01	2.936E-01	0.000E+00	NOT IDENT.
SB-127	2.791E+00	2.427E+00	4.531E+00	0.000E+00	NOT IDENT.
XE-127	1.463E-02	4.332E-02	7.486E-02	0.000E+00	NOT IDENT.
I-131	1.686E-02	1.427E-01	2.495E-01	0.000E+00	NOT IDENT.
TE-132	-5.190E-01	1.358E+00	2.411E+00	0.000E+00	NOT IDENT.
BA-133	1.086E-02	3.675E-02	5.768E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.360E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.202E-02	5.899E-02	8.498E-02	0.000E+00	FAIL ABUN
CS-135	2.211E-01	1.509E-01	2.581E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.686E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.418E-02	1.198E-01	2.047E-01	0.000E+00	FAIL ABUN
BA-137M	-2.347E-02	3.210E-02	5.243E-02	0.000E+00	NOT IDENT.
CS-137	-2.481E-02	3.394E-02	5.542E-02	0.000E+00	NOT IDENT.
CE-139	-5.879E-03	2.583E-02	4.416E-02	0.000E+00	NOT IDENT.
BA-140	6.849E-02	2.779E-01	4.980E-01	0.000E+00	NOT IDENT.
LA-140	-3.621E-02	9.637E-02	1.563E-01	0.000E+00	FAIL ABUN
CE-141	-5.954E-02	5.928E-02	9.850E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.830E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.306E-01	1.790E-01	3.032E-01	0.000E+00	NOT IDENT.
PM-144	1.773E-02	3.233E-02	5.788E-02	0.000E+00	NOT IDENT.
PR-144	1.204E+00	2.195E+00	3.931E+00	0.000E+00	NOT IDENT.

PM-146	3.103E-02	3.804E-02	6.834E-02	0.000E+00	NOT IDENT.
ND-147	-4.003E-01	6.430E-01	1.015E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.646E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-9.584E-02	8.678E-02	1.351E-01	0.000E+00	FAIL ABUN
GD-153	-3.576E-02	7.178E-02	1.196E-01	0.000E+00	FAIL ABUN
EU-154	-2.973E-02	1.103E-01	1.812E-01	0.000E+00	NOT IDENT.
EU-155	1.486E-01	8.970E-02	1.704E-01	0.000E+00	FAIL ABUN
TB-160	-3.263E-02	1.291E-01	2.116E-01	0.000E+00	FAIL ABUN
HO-166M	-5.187E-02	5.130E-02	8.010E-02	0.000E+00	FAIL ABUN
TM-171	-1.600E+01	2.700E+01	4.344E+01	0.000E+00	NOT IDENT.
LU-176	6.870E-03	2.041E-02	3.666E-02	0.000E+00	FAIL ABUN
LU-177	2.139E+00	1.761E+00	2.571E+00	0.000E+00	FAIL ABUN
LU-177M	-9.884E-02	1.581E-01	2.596E-01	0.000E+00	FAIL ABUN
HF-181	-3.407E-02	3.939E-02	6.179E-02	0.000E+00	NOT IDENT.
W-181	-3.020E-01	3.537E-01	5.623E-01	0.000E+00	NOT IDENT.
TA-182	3.741E-02	1.665E-01	2.886E-01	0.000E+00	FAIL ABUN
RE-183	-2.998E-02	9.380E-02	1.599E-01	0.000E+00	FAIL ABUN
RE-184	1.893E-01	1.875E-01	3.524E-01	0.000E+00	NOT IDENT.
OS-185	2.545E-02	3.815E-02	6.959E-02	0.000E+00	NOT IDENT.
RE-188	-5.738E-02	1.577E-01	2.697E-01	0.000E+00	NOT IDENT.
W-188	1.000E+00	7.022E+00	1.107E+01	0.000E+00	FAIL ABUN
IR-192	-8.894E-03	3.005E-02	5.195E-02	0.000E+00	FAIL ABUN
AU-195	1.761E-01	1.986E-01	3.657E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.930E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.152E+01	1.452E+01	2.599E+01	0.000E+00	NOT IDENT.
TL-202	4.631E-02	7.506E-02	1.336E-01	0.000E+00	NOT IDENT.
HG-203	-2.751E-03	4.221E-02	6.581E-02	0.000E+00	FAIL ABUN
BI-207	-5.288E-03	4.075E-02	6.930E-02	0.000E+00	FAIL ABUN
TL-207	-2.791E-01	6.357E-01	9.432E-01	0.000E+00	FAIL ABUN
PO-209	3.585E+00	7.143E+00	1.252E+01	0.000E+00	NOT IDENT.
BI-210	1.332E+00	2.771E+00	5.247E+00	0.000E+00	NOT IDENT.
PB-210	1.332E+00	2.771E+00	5.247E+00	0.000E+00	NOT IDENT.
PO-210	1.332E+00	2.771E+00	5.247E+00	0.000E+00	NOT IDENT.
PB-211	-6.472E-01	9.077E-01	1.330E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.311E-01	5.959E-01	0.000E+00	FAIL ABUN
PO-215	-2.791E-01	6.357E-01	9.432E-01	0.000E+00	FAIL ABUN
RN-219	3.762E-02	3.505E-01	6.074E-01	0.000E+00	FAIL ABUN
RN-220	2.748E-03	2.143E+01	3.781E+01	0.000E+00	NOT IDENT.
RA-223	-2.791E-01	6.357E-01	9.432E-01	0.000E+00	FAIL ABUN
AC-227	-1.662E-01	3.104E-01	5.397E-01	0.000E+00	FAIL ABUN
TH-227	-1.662E-01	3.108E-01	5.397E-01	0.000E+00	FAIL ABUN
TH-229	3.816E-02	4.355E-01	7.463E-01	0.000E+00	FAIL ABUN
PA-231	3.441E-01	1.278E+00	2.300E+00	0.000E+00	NOT IDENT.
TH-231	-2.791E-01	6.357E-01	9.432E-01	0.000E+00	FAIL ABUN
U-231	-7.399E-01	1.903E+00	3.009E+00	0.000E+00	FAIL ABUN
PA-233	1.333E-02	5.306E-02	9.477E-02	0.000E+00	FAIL ABUN
PA-234	7.542E-02	2.882E-01	4.920E-01	0.000E+00	FAIL ABUN
PA-234M	8.992E-01	4.361E+00	7.343E+00	0.000E+00	FAIL ABUN
U-235	-4.372E-02	1.837E-01	3.173E-01	0.000E+00	FAIL ABUN
NP-236	-1.267E-02	6.553E-02	1.125E-01	0.000E+00	NOT IDENT.
NP-239	-5.130E-02	1.604E-01	2.810E-01	0.000E+00	FAIL ABUN
AM-241	-1.665E-02	1.380E-01	2.296E-01	0.000E+00	NOT IDENT.
CM-243	-1.299E-02	7.916E-02	1.409E-01	0.000E+00	FAIL ABUN
AM-246	2.932E-03	1.267E-01	2.185E-01	0.000E+00	NOT IDENT.
CM-247	-5.294E-03	3.161E-02	5.376E-02	0.000E+00	FAIL ABUN
CF-249	3.712E-02	3.449E-02	6.346E-02	0.000E+00	NOT IDENT.
CF-251	-3.161E-02	1.056E-01	1.789E-01	0.000E+00	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536004.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:09:39.
Sample ID          : G243536004           Sample quantity  : 1.43010E+02 GRAM
Detector name      : GAM12                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.50  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 937074               Detector SN#      :
Matrix Spike ID    :                     LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	956	10.67*	1.138E+00	2.068E+01	2.068E+01	9.78
NB-95	765.79	38	99.81*	1.987E+00	4.971E-02	6.115E-02	54.34
CD-109	88.03	197	3.72*	5.636E+00	2.470E+00	2.541E+00	38.89
SN-126	64.28	26	9.60	3.165E+00	2.245E-01	2.245E-01	273.08
	86.94	197	8.90	5.636E+00	1.032E+00	1.032E+00	56.11
	87.57	197	37.00*	5.636E+00	2.483E-01	2.483E-01	38.89
TL-208	277.35	51	6.80	4.511E+00	4.403E-01	4.403E-01	105.86
	510.84	126	21.60	2.796E+00	5.470E-01	5.470E-01	45.40
	583.14	385	84.20*	2.506E+00	4.796E-01	4.796E-01	15.80
	860.37	52	12.46	1.795E+00	6.144E-01	6.144E-01	52.97
BI-211	72.87	-----	1.27	4.387E+00	-----	Line Not Found	-----
	351.07	750	12.94*	3.764E+00	4.041E+00	4.041E+00	12.58
PB-212	74.81	472	10.70	4.581E+00	2.526E+00	2.526E+00	20.92
	77.11	698	18.00	4.815E+00	2.112E+00	2.112E+00	13.37
	87.30	197	8.00	5.636E+00	1.148E+00	1.148E+00	40.16
	238.63	1146	44.60*	5.017E+00	1.345E+00	1.345E+00	10.33
	300.09	83	3.41	4.255E+00	1.501E+00	1.501E+00	56.51
PO-212	74.81	472	10.70	4.581E+00	2.526E+00	2.526E+00	20.92
	77.11	698	18.00	4.815E+00	2.112E+00	2.112E+00	13.37
	87.30	197	8.00	5.636E+00	1.148E+00	1.148E+00	40.16
	115.19	-----	0.60	6.604E+00	-----	Line Not Found	-----
	238.63	1146	44.60*	5.017E+00	1.345E+00	1.345E+00	10.33
	300.09	83	3.41	4.255E+00	1.501E+00	1.501E+00	56.51
BI-214	609.31	524	46.30*	2.416E+00	1.229E+00	1.229E+00	15.87
	1120.29	135	15.10	1.423E+00	1.649E+00	1.649E+00	29.37
	1764.49	83	15.80	9.905E-01	1.391E+00	1.391E+00	33.60
PB-214	74.81	472	6.21	4.581E+00	4.352E+00	4.352E+00	20.12
	77.11	698	10.50	4.815E+00	3.621E+00	3.621E+00	15.39
	87.30	197	4.67	5.636E+00	1.967E+00	1.967E+00	39.65
	241.98	252	7.49	4.975E+00	1.777E+00	1.777E+00	29.94
	295.21	465	19.20	4.304E+00	1.477E+00	1.478E+00	16.91
	351.92	750	37.20*	3.764E+00	1.406E+00	1.406E+00	13.62

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	472	6.21	4.581E+00	4.352E+00	4.352E+00	20.12
	77.11	698	10.50	4.815E+00	3.621E+00	3.621E+00	15.39
	87.30	197	4.67	5.636E+00	1.967E+00	1.967E+00	39.65
	241.98	252	7.49	4.975E+00	1.777E+00	1.777E+00	29.94
	295.21	465	19.20	4.304E+00	1.477E+00	1.478E+00	16.91
	351.92	750	37.20*	3.764E+00	1.406E+00	1.406E+00	13.62
PO-216	74.81	472	10.70	4.581E+00	2.526E+00	2.526E+00	20.92
	77.11	698	18.00	4.815E+00	2.112E+00	2.112E+00	13.37
	87.30	197	8.00	5.636E+00	1.148E+00	1.148E+00	40.16
	238.63	1146	44.60*	5.017E+00	1.345E+00	1.345E+00	10.33
	300.09	83	3.41	4.255E+00	1.501E+00	1.501E+00	56.51
	74.81	472	6.21	4.581E+00	4.352E+00	4.352E+00	20.12
PO-218	77.11	698	10.50	4.815E+00	3.621E+00	3.621E+00	15.39
	87.30	197	4.67	5.636E+00	1.967E+00	1.967E+00	39.65
	241.98	252	7.49	4.975E+00	1.777E+00	1.777E+00	29.94
	295.21	465	19.20	4.304E+00	1.477E+00	1.478E+00	16.91
	351.92	750	37.20*	3.764E+00	1.406E+00	1.406E+00	13.62
	240.98	252	3.95*	4.975E+00	3.369E+00	3.369E+00	29.41
RA-224	609.31	524	46.30*	2.416E+00	1.229E+00	1.229E+00	15.87
RA-226	1120.29	135	15.10	1.423E+00	1.649E+00	1.649E+00	29.37
	1764.49	83	15.80	9.905E-01	1.391E+00	1.391E+00	33.60
	338.32	238	11.40	3.881E+00	1.414E+00	1.414E+00	47.04
	911.07	280	27.70*	1.707E+00	1.551E+00	1.551E+00	20.32
	969.11	138	16.60	1.617E+00	1.354E+00	1.354E+00	34.92
	338.32	238	11.40	3.881E+00	1.414E+00	1.414E+00	47.04
RA-228	911.07	280	27.70*	1.707E+00	1.551E+00	1.551E+00	20.32
	969.11	138	16.60	1.617E+00	1.354E+00	1.354E+00	34.92
	74.81	472	10.70	4.581E+00	2.526E+00	2.574E+00	18.74
	77.11	698	18.00	4.815E+00	2.112E+00	2.153E+00	13.37
	87.30	197	8.00	5.636E+00	1.148E+00	1.170E+00	38.89
	238.63	1146	44.60*	5.017E+00	1.345E+00	1.370E+00	10.33
TH-228	300.09	83	3.41	4.255E+00	1.501E+00	1.529E+00	81.24
	609.31	524	46.30*	2.416E+00	1.229E+00	1.229E+00	15.87
	1120.29	135	15.10	1.423E+00	1.649E+00	1.649E+00	29.37
	1764.49	83	15.80	9.905E-01	1.391E+00	1.391E+00	33.60
	338.32	238	11.40	3.881E+00	1.414E+00	1.414E+00	24.18
	911.07	280	27.70*	1.707E+00	1.551E+00	1.551E+00	20.32
TH-232	969.11	138	16.60	1.617E+00	1.354E+00	1.354E+00	34.92
	63.29	26	3.80*	3.165E+00	5.673E-01	5.673E-01	273.25
	92.38	201	5.41	5.971E+00	1.631E+00	1.631E+00	41.50
	609.31	524	46.30*	2.416E+00	1.229E+00	1.229E+00	15.87
	1120.29	135	15.10	1.423E+00	1.649E+00	1.649E+00	29.37
	1764.49	83	15.80	9.905E-01	1.391E+00	1.391E+00	33.60
TH-234	86.50	197	12.60*	5.636E+00	7.291E-01	7.291E-01	44.03
	95.87	-----	2.60	6.124E+00	-----	Line Not Found	-----
	63.29	26	3.80*	3.165E+00	5.673E-01	5.673E-01	273.25
	92.38	201	5.41	5.971E+00	1.631E+00	1.631E+00	38.34
	74.67	472	66.00*	4.581E+00	4.095E-01	4.095E-01	18.71
	86.72	197	0.34	5.636E+00	2.734E+01	2.734E+01	38.89

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	-----	0.55	6.624E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.534E+00	-----	Line Not Found	-----
ANH-511	511.00	126	100.00*	2.796E+00	1.182E-01	1.182E-01	44.63

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	2.068E+01	2.068E+01	0.202E+01	9.78	
NB-95	64.02D	1.23	4.971E-02	6.115E-02	3.323E-02	54.34	
CD-109	464.00D	1.03	2.470E+00	2.541E+00	0.988E+00	38.89	
SN-126	1.00E+05Y	1.00	2.483E-01	2.483E-01	0.966E-01	38.89	
TL-208	1.41E+10Y	1.00	4.796E-01	4.796E-01	0.758E-01	15.80	
BI-211	7.04E+08Y	1.00	4.041E+00	4.041E+00	0.508E+00	12.58	
PB-212	1.41E+10Y	1.00	1.345E+00	1.345E+00	0.139E+00	10.33	
PO-212	1.41E+10Y	1.00	1.345E+00	1.345E+00	0.139E+00	10.33	
BI-214	1600.00Y	1.00	1.229E+00	1.229E+00	0.195E+00	15.87	
PB-214	1600.00Y	1.00	1.406E+00	1.406E+00	0.191E+00	13.62	
PO-214	1600.00Y	1.00	1.406E+00	1.406E+00	0.191E+00	13.62	
PO-216	1.41E+10Y	1.00	1.345E+00	1.345E+00	0.139E+00	10.33	
PO-218	1600.00Y	1.00	1.406E+00	1.406E+00	0.191E+00	13.62	
RA-224	1.41E+10Y	1.00	3.369E+00	3.369E+00	0.991E+00	29.41	
RA-226	1600.00Y	1.00	1.229E+00	1.229E+00	0.195E+00	15.87	
AC-228	1.41E+10Y	1.00	1.551E+00	1.551E+00	0.315E+00	20.32	
RA-228	1.41E+10Y	1.00	1.551E+00	1.551E+00	0.315E+00	20.32	
TH-228	1.91Y	1.02	1.345E+00	1.370E+00	0.142E+00	10.33	
TH-230	4.47E+09Y	1.00	1.229E+00	1.229E+00	0.195E+00	15.87	
TH-232	1.41E+10Y	1.00	1.551E+00	1.551E+00	0.315E+00	20.32	
TH-234	4.47E+09Y	1.00	5.673E-01	5.673E-01	15.50E-01	273.25	
U-234	4.47E+09Y	1.00	1.229E+00	1.229E+00	0.195E+00	15.87	
NP-237	2.14E+06Y	1.00	7.291E-01	7.291E-01	3.210E-01	44.03	
U-238	4.47E+09Y	1.00	5.673E-01	5.673E-01	15.50E-01	273.25	
AM-243	7380.00Y	1.00	4.095E-01	4.095E-01	0.766E-01	18.71	
ANH-511	1.00E+09Y	1.00	1.182E-01	1.182E-01	0.527E-01	44.63	

Total Activity : 5.289E+01 5.300E+01

Grand Total Activity : 5.289E+01 5.300E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	83.90	72	401	1.05	167.30	165	7	9.94E-03	97.7	5.42E+00	T
4	89.93	120	233	1.05	179.36	177	12	1.66E-02	39.4	5.82E+00	T
0	128.71	127	308	0.87	256.97	253	8	1.77E-02	50.9	6.64E+00	T
0	185.60	234	327	0.85	370.79	366	9	3.25E-02	32.2	5.86E+00	T
0	209.12	68	243	0.93	417.87	414	8	9.43E-03	83.8	5.47E+00	T
0	269.91	110	237	1.50	539.50	535	11	1.53E-02	57.4	4.60E+00	T
0	328.22	37	198	1.04	656.16	651	9	5.19E-03	****	3.97E+00	T
0	463.17	73	127	1.08	926.17	920	12	1.02E-02	66.3	3.03E+00	T
0	726.85	96	35	1.04	1453.67	1449	10	1.34E-02	31.6	2.08E+00	T
1	768.01	60	53	1.68	1536.00	1528	23	8.28E-03	52.6	1.98E+00	T
0	795.05	40	61	1.11	1590.09	1585	11	5.53E-03	83.2	1.92E+00	T
1	963.93	52	53	2.00	1927.90	1922	31	7.26E-03	58.0	1.62E+00	T
0	1237.32	63	46	1.93	2474.69	2468	14	8.79E-03	51.7	1.31E+00	T
0	1496.32	19	8	1.52	2992.65	2988	10	2.68E-03	74.7	1.12E+00	
0	1728.63	38	9	1.29	3457.16	3449	17	5.21E-03	48.3	1.00E+00	
0	1845.73	19	3	1.83	3691.29	3683	15	2.66E-03	68.4	9.62E-01	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536004.CNF;1
* Acquisition date   : 9-JAN-2010 14:09:39. Detector SN#      :
* Detector ID        : GAM12          Sensitivity             : 5.00000
* Geometry           : CAN            Energy tolerance:       : 1.50000
* Elapsed live time  : 0 02:00:00.00 Abundance limit :       : 75.00000
* Elapsed real time  : 0 02:00:01.50 Half life ratio :       : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243536004       Analyst initials: MXR1
* Batch Number       : 937074          Sample Quantity : 1.43010E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24.5MS Isotope      :
* MSD ID              :                  MSD Isotope          :
* LCS ID              : 1032-A         LCS Isotope            :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.068E+01	2.021E+00	4.612E-01	3.288E-02	44.836
NB-95	6.115E-02	3.323E-02	6.051E-02	4.426E-03	1.011
CD-109	2.541E+00	9.883E-01	1.028E+00	7.868E-02	2.471
SN-126	2.483E-01	9.657E-02	1.160E-01	8.841E-03	2.140
TL-208	4.796E-01	7.579E-02	5.228E-02	3.740E-03	9.173
BI-211	4.041E+00	5.082E-01	2.732E-01	1.717E-02	14.795
PB-212	1.345E+00	1.389E-01	8.044E-02	5.711E-03	16.717
PO-212	1.345E+00	1.389E-01	8.044E-02	5.711E-03	16.717
BI-214	1.229E+00	1.952E-01	9.569E-02	7.878E-03	12.849
PB-214	1.406E+00	1.914E-01	9.523E-02	7.779E-03	14.762
PO-214	1.406E+00	1.914E-01	9.523E-02	7.779E-03	14.762
PO-216	1.345E+00	1.389E-01	8.044E-02	5.711E-03	16.717
PO-218	1.406E+00	1.914E-01	9.523E-02	7.779E-03	14.762
RA-224	3.369E+00	9.907E-01	9.155E-01	5.050E-02	3.680
RA-226	1.229E+00	1.952E-01	9.569E-02	7.878E-03	12.849
AC-228	1.551E+00	3.152E-01	1.810E-01	1.987E-02	8.570
RA-228	1.551E+00	3.152E-01	1.810E-01	1.987E-02	8.570
TH-228	1.370E+00	1.415E-01	8.198E-02	5.821E-03	16.717

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

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.229E+00	1.952E-01	9.569E-02	7.878E-03	12.849
TH-232	1.551E+00	3.152E-01	1.810E-01	1.987E-02	8.570
TH-234	5.673E-01	1.550E+00	1.847E+00	3.145E-01	0.307
U-234	1.229E+00	1.952E-01	9.569E-02	7.878E-03	12.849
NP-237	7.291E-01	3.210E-01	2.998E-01	6.587E-02	2.432
U-238	5.673E-01	1.550E+00	1.847E+00	3.145E-01	0.307
AM-243	4.095E-01	7.663E-02	7.331E-02	4.981E-03	5.586
ANH-511	1.182E-01	5.273E-02	3.876E-02	2.363E-03	3.048

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.137E-01		3.244E-01	5.216E-01	3.589E-02	0.218
NA-22	-9.912E-03		4.045E-02	6.477E-02	4.171E-03	-0.153
NA-24	-5.008E+01		2.355E+01	Half-Life too short		
AL-26	-7.072E-03		2.767E-02	4.349E-02	2.495E-03	-0.163
TI-44	3.899E-01	+	5.215E-02	6.650E-02	4.651E-03	5.863
SC-46	-2.110E-02		3.781E-02	5.771E-02	4.783E-03	-0.366
V-48	1.428E-02		7.735E-02	1.266E-01	9.754E-03	0.113
CR-51	2.654E-01		3.368E-01	5.840E-01	3.713E-02	0.454
MN-52	-1.298E-01		3.454E-01	5.294E-01	3.637E-02	-0.245
MN-54	-1.082E-02		3.474E-02	5.499E-02	4.323E-03	-0.197
CO-56	-1.651E-02		3.467E-02	5.340E-02	4.248E-03	-0.309
CO-57	-3.444E-03		2.286E-02	3.660E-02	2.289E-03	-0.094
CO-58	-4.477E-03		3.851E-02	6.223E-02	4.788E-03	-0.072
FE-59	3.882E-03		8.684E-02	1.452E-01	1.072E-02	0.027
CO-60	1.937E-02		3.350E-02	5.880E-02	4.107E-03	0.329
ZN-65	1.386E-02		8.964E-02	1.311E-01	8.246E-03	0.106
GE-68	5.781E-01		1.114E+00	1.948E+00	1.313E-01	0.297
AS-73	1.646E-01		7.087E-01	1.202E+00	7.758E-02	0.137
AS-74	-2.400E-02		8.511E-02	1.391E-01	8.853E-03	-0.173
SE-75	-7.926E-03		4.352E-02	6.355E-02	3.602E-03	-0.125
BR-77	-5.519E-06		1.480E-05	Half-Life too short		
SR-82	1.341E-01		4.290E-01	6.330E-01	4.684E-02	0.212
RB-83	3.816E-03		6.154E-02	9.892E-02	6.065E-03	0.039
RB-84	3.631E-02		6.614E-02	1.132E-01	9.312E-03	0.321
KR-85	4.534E+00		6.877E+00	1.028E+01	6.276E-01	0.441
SR-85	2.424E-02		3.676E-02	5.494E-02	3.355E-03	0.441
RB-86	5.651E-01		8.031E-01	1.427E+00	9.630E-02	0.396
Y-88	1.209E-02		3.202E-02	5.295E-02	2.981E-03	0.228
ZR-88	-1.619E-02		2.802E-02	4.395E-02	2.410E-03	-0.368
Y-91	-5.150E+00		1.886E+01	3.042E+01	1.759E+00	-0.169
NB-94	9.235E-03		3.150E-02	5.319E-02	3.623E-03	0.174
NB-95M	1.664E-01		1.244E-01	1.989E-01	1.451E-02	0.837
ZR-95	2.245E-02		6.110E-02	1.038E-01	8.571E-03	0.216
NB-97	-2.016E-01		2.096E+00	Half-Life too short		
ZR-97	1.548E+02		4.228E+01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	9.210E+00		2.952E+01	4.977E+01	7.157E+00	0.185
TC-99M	-9.491E+14		1.013E+15	Half-Life too short		
RH-101	1.485E-02		2.804E-02	4.580E-02	2.423E-03	0.324
RH-102	2.412E-02		2.625E-02	4.514E-02	2.681E-03	0.534
RU-103	2.337E-03		3.995E-02	6.440E-02	8.215E-03	0.036
RH-106	-1.881E-01		2.862E-01	4.511E-01	5.439E-02	-0.417
RU-106	-1.881E-01		2.856E-01	4.511E-01	2.897E-02	-0.417
AG-108M	-1.245E-02		2.796E-02	4.377E-02	2.727E-03	-0.285
AG-110M	-4.417E-03		3.081E-02	5.057E-02	3.447E-03	-0.087
IN-111	3.155E-01		2.545E+00	3.823E+00	2.116E-01	0.083
IN-113M	-4.602E-02		3.991E-02	5.978E-02	3.520E-03	-0.770
SN-113	-4.602E-02		3.991E-02	5.978E-02	3.520E-03	-0.770
IN-114M	4.828E-03		1.786E-01	2.712E-01	1.423E-02	0.018
CD-115	9.887E-06		1.637E-05	Half-Life too short		
SN-117M	1.533E-02		5.795E-02	9.464E-02	4.999E-03	0.162
SB-122	5.823E-01		4.660E+00	7.907E+00	4.965E-01	0.074
I-123	2.502E+02		3.666E+02	Half-Life too short		
TE-123M	8.239E-03		2.414E-02	3.958E-02	2.121E-03	0.208
I-124	1.215E+00		1.169E+00	1.890E+00	1.206E-01	0.643
SB-124	-5.732E-02		7.639E-02	1.103E-01	7.363E-03	-0.519
SB-125	-1.029E-02		8.187E-02	1.317E-01	7.829E-03	-0.078
TE-125M	-5.379E+00		8.141E+00	1.300E+01	1.122E+00	-0.414
I-126	1.444E-01		2.033E-01	3.550E-01	2.315E-02	0.407
SB-126	1.418E-01		1.777E-01	2.876E-01	2.000E-02	0.493
SB-127	2.791E+00		2.476E+00	4.434E+00	5.048E-01	0.630
XE-127	1.463E-02		4.421E-02	7.138E-02	3.796E-03	0.205
I-131	1.686E-02		1.456E-01	2.409E-01	1.527E-02	0.070
TE-132	-5.190E-01		1.385E+00	2.305E+00	3.482E-01	-0.225
BA-133	1.086E-02		3.750E-02	5.565E-02	6.385E-03	0.195
I-133	-1.755E-01		6.938E-02	Half-Life too short		
CS-134	7.202E-02	+	6.020E-02	8.345E-02	6.362E-03	0.863
CS-135	2.211E-01		1.540E-01	2.476E-01	1.862E-02	0.893
I-135	4.382E+12		4.942E+13	Half-Life too short		
CS-136	-1.418E-02		1.223E-01	2.022E-01	1.520E-02	-0.070
BA-137M	-2.347E-02		3.276E-02	5.127E-02	3.324E-03	-0.458
CS-137	-2.481E-02		3.463E-02	5.420E-02	3.525E-03	-0.458
CE-139	-5.879E-03		2.635E-02	4.194E-02	2.149E-03	-0.140
BA-140	6.849E-02		2.835E-01	4.848E-01	1.580E-01	0.141
LA-140	-3.621E-02		9.833E-02	1.559E-01	1.015E-02	-0.232
CE-141	-5.954E-02		6.048E-02	9.328E-02	5.431E-03	-0.638
CE-143	6.309E-03		9.337E-04	Half-Life too short		
CE-144	-1.306E-01		1.827E-01	2.867E-01	4.081E-02	-0.456
PM-144	1.773E-02		3.299E-02	5.667E-02	3.835E-03	0.313
PR-144	1.204E+00		2.240E+00	3.848E+00	2.602E-01	0.313
PM-146	3.103E-02		3.882E-02	6.628E-02	5.730E-03	0.468
ND-147	-4.003E-01		6.561E-01	9.879E-01	1.352E-01	-0.405
PM-149	-1.023E-04		1.350E-04	Half-Life too short		
EU-152	-9.584E-02		8.855E-02	1.303E-01	8.349E-03	-0.736

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-3.576E-02		7.325E-02	1.124E-01	7.814E-03	-0.318
EU-154	-2.973E-02		1.125E-01	1.798E-01	1.752E-02	-0.165
EU-155	1.486E-01		9.153E-02	1.603E-01	1.081E-02	0.927
TB-160	-3.263E-02		1.317E-01	2.082E-01	1.709E-02	-0.157
HO-166M	-5.187E-02		5.235E-02	7.846E-02	5.400E-03	-0.661
TM-171	-1.600E+01		2.755E+01	4.050E+01	2.621E+00	-0.395
LU-176	6.870E-03		2.082E-02	3.526E-02	2.004E-03	0.195
LU-177	2.139E+00	+	1.797E+00	2.453E+00	1.312E-01	0.872
LU-177M	-9.884E-02		1.613E-01	2.513E-01	1.411E-02	-0.393
HF-181	-3.407E-02		4.019E-02	6.001E-02	3.583E-03	-0.568
W-181	-3.020E-01		3.609E-01	5.239E-01	3.366E-02	-0.576
TA-182	3.741E-02		1.699E-01	2.861E-01	1.697E-02	0.131
RE-183	-2.998E-02		9.571E-02	1.518E-01	7.890E-03	-0.198
RE-184	1.893E-01		1.913E-01	3.376E-01	1.879E-02	0.561
OS-185	2.545E-02		3.893E-02	6.802E-02	4.395E-03	0.374
RE-188	-5.738E-02		1.609E-01	2.558E-01	1.371E-02	-0.224
W-188	1.000E+00		7.166E+00	1.063E+01	6.027E-01	0.094
IR-192	-8.894E-03		3.067E-02	5.000E-02	2.857E-03	-0.178
AU-195	1.761E-01		2.027E-01	3.436E-01	2.363E-02	0.513
TL-200	-1.233E-03		2.515E-03	Half-Life too short		
TL-201	1.152E+01		1.481E+01	2.468E+01	1.265E+00	0.467
TL-202	4.631E-02		7.659E-02	1.295E-01	7.457E-03	0.358
HG-203	-2.751E-03		4.308E-02	6.318E-02	3.799E-03	-0.044
BI-207	-5.288E-03		4.158E-02	6.848E-02	4.724E-03	-0.077
TL-207	-2.791E-01		6.487E-01	9.082E-01	1.496E-01	-0.307
PO-209	3.585E+00		7.289E+00	1.232E+01	1.029E+00	0.291
BI-210	1.332E+00		2.828E+00	4.857E+00	3.659E-01	0.274
PB-210	1.332E+00		2.828E+00	4.857E+00	3.659E-01	0.274
PO-210	1.332E+00		2.828E+00	4.857E+00	3.115E-01	0.274
PB-211	-6.472E-01		9.262E-01	1.287E+00	8.021E-01	-0.503
BI-212	1.031E+00	+	3.379E-01	5.839E-01	5.055E-02	1.765
PO-215	-2.791E-01		6.487E-01	9.082E-01	1.496E-01	-0.307
RN-219	3.762E-02		3.577E-01	5.876E-01	7.931E-02	0.064
RN-220	2.748E-03		2.187E+01	3.682E+01	2.296E+00	0.000
RA-223	-2.791E-01		6.487E-01	9.082E-01	1.496E-01	-0.307
AC-227	-1.662E-01		3.167E-01	5.171E-01	7.172E-02	-0.321
TH-227	-1.662E-01		3.171E-01	5.171E-01	8.700E-02	-0.321
TH-229	3.816E-02		4.444E-01	7.110E-01	3.743E-02	0.054
PA-231	3.441E-01		1.304E+00	2.209E+00	3.031E-01	0.156
TH-231	-2.791E-01		6.487E-01	9.082E-01	1.496E-01	-0.307
U-231	-7.399E-01		1.942E+00	2.825E+00	1.990E-01	-0.262
PA-233	1.333E-02		5.414E-02	9.119E-02	5.518E-03	0.146
PA-234	7.542E-02		2.940E-01	4.850E-01	8.969E-02	0.156
PA-234M	8.992E-01		4.450E+00	7.246E+00	6.558E-01	0.124
U-235	-4.372E-02		1.875E-01	3.004E-01	4.879E-02	-0.146
NP-236	-1.267E-02		6.687E-02	1.068E-01	5.599E-03	-0.119
NP-239	-5.130E-02		1.637E-01	2.649E-01	1.672E-02	-0.194
AM-241	-1.665E-02		1.409E-01	2.135E-01	1.517E-02	-0.078

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.299E-02		8.078E-02	1.325E-01	8.823E-03	-0.098
AM-246	2.932E-03		1.293E-01	2.160E-01	1.453E-02	0.014
CM-247	-5.294E-03		3.225E-02	5.201E-02	2.884E-03	-0.102
CF-249	3.712E-02		3.519E-02	6.135E-02	3.372E-03	0.605
CF-251	-3.161E-02		1.078E-01	1.701E-01	8.797E-03	-0.186

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536004          *
* Acquisition date   : 9-JAN-2010 14:09:39 Detector SN#      :              *
* Detector ID        : GAM12                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.50             Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536004              Analyst initials: MXR1         *
* Batch Number       : 937074                  Sample Quantity : 1.4301E+02 GRAM *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 MS Isotope      :              *
* MSD DPM             : 0.000                     MSD Isotope   :              *
* LCS DPM             : 0.000                     LCS Isotope    :              *
* LCSD DPM            : 0.000                     LCSD Isotope   :              *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.068E+01	1.981E+00	2.318E-01	1.011E+00
NB-95	6.115E-02	3.256E-02	3.086E-02	1.661E-02
CD-109	2.541E+00	9.686E-01	5.488E-01	4.942E-01
SN-126	2.483E-01	9.464E-02	6.192E-02	4.828E-02
TL-208	4.796E-01	7.427E-02	2.682E-02	3.789E-02
BI-211	4.041E+00	4.981E-01	1.417E-01	2.541E-01
PB-212	1.345E+00	1.361E-01	4.206E-02	6.944E-02
PO-212	1.345E+00	1.361E-01	4.206E-02	6.944E-02
BI-214	1.229E+00	1.913E-01	4.904E-02	9.759E-02
PB-214	1.406E+00	1.876E-01	4.939E-02	9.570E-02
PO-214	1.406E+00	1.876E-01	4.939E-02	9.570E-02
PO-216	1.345E+00	1.361E-01	4.206E-02	6.944E-02
PO-218	1.406E+00	1.876E-01	4.939E-02	9.570E-02
RA-224	3.369E+00	9.709E-01	4.786E-01	4.954E-01
RA-226	1.229E+00	1.913E-01	4.904E-02	9.759E-02
AC-228	1.551E+00	3.089E-01	9.195E-02	1.576E-01
RA-228	1.551E+00	3.089E-01	9.195E-02	1.576E-01
TH-228	1.370E+00	1.387E-01	4.287E-02	7.077E-02
TH-230	1.229E+00	1.913E-01	4.904E-02	9.758E-02
TH-232	1.551E+00	3.089E-01	9.195E-02	1.576E-01
TH-234	5.673E-01	1.519E+00	9.923E-01	7.750E-01
U-234	1.229E+00	1.913E-01	4.904E-02	9.758E-02
NP-237	7.291E-01	3.146E-01	1.601E-01	1.605E-01
U-238	5.673E-01	1.519E+00	9.923E-01	7.750E-01
AM-243	4.095E-01	7.509E-02	3.926E-02	3.831E-02
ANH-511	1.182E-01	5.168E-02	1.994E-02	2.637E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.137E-01	3.179E-01	2.687E-01	1.622E-01 NOT IDENT.

NA-22	-9.912E-03	3.964E-02	3.265E-02	2.022E-02	NOT IDENT.
NA-24	-5.008E+07	4.615E+07	0.000E+00	2.355E+07	SHORT HLIF
AL-26	-7.072E-03	2.712E-02	2.175E-02	1.383E-02	NOT IDENT.
TI-44	3.899E-01	5.110E-02	3.558E-02	2.607E-02	FAIL ABUN
SC-46	-2.110E-02	3.706E-02	2.933E-02	1.891E-02	FAIL ABUN
V-48	1.428E-02	7.580E-02	6.421E-02	3.867E-02	NOT IDENT.
CR-51	2.654E-01	3.301E-01	3.035E-01	1.684E-01	NOT IDENT.
MN-52	-1.298E-01	3.384E-01	2.662E-01	1.727E-01	NOT IDENT.
MN-54	-1.082E-02	3.405E-02	2.799E-02	1.737E-02	NOT IDENT.
CO-56	-1.651E-02	3.397E-02	2.717E-02	1.733E-02	FAIL ABUN
CO-57	-3.444E-03	2.241E-02	1.941E-02	1.143E-02	NOT IDENT.
CO-58	-4.477E-03	3.774E-02	3.169E-02	1.926E-02	NOT IDENT.
FE-59	3.882E-03	8.510E-02	7.346E-02	4.342E-02	NOT IDENT.
CO-60	1.937E-02	3.283E-02	2.962E-02	1.675E-02	NOT IDENT.
ZN-65	1.386E-02	8.785E-02	6.630E-02	4.482E-02	NOT IDENT.
GE-68	5.781E-01	1.092E+00	9.860E-01	5.572E-01	NOT IDENT.
AS-73	1.646E-01	6.945E-01	6.477E-01	3.543E-01	NOT IDENT.
AS-74	-2.400E-02	8.340E-02	7.131E-02	4.255E-02	NOT IDENT.
SE-75	-7.926E-03	4.265E-02	3.316E-02	2.176E-02	NOT IDENT.
BR-77	-5.519E+00	2.901E+01	0.000E+00	1.480E+01	SHORT HLIF
SR-82	1.341E-01	4.204E-01	3.227E-01	2.145E-01	NOT IDENT.
RB-83	3.816E-03	6.030E-02	5.087E-02	3.077E-02	NOT IDENT.
RB-84	3.631E-02	6.482E-02	5.753E-02	3.307E-02	NOT IDENT.
KR-85	4.534E+00	6.739E+00	5.287E+00	3.438E+00	NOT IDENT.
SR-85	2.424E-02	3.603E-02	2.826E-02	1.838E-02	NOT IDENT.
RB-86	5.651E-01	7.870E-01	7.220E-01	4.015E-01	NOT IDENT.
Y-88	1.209E-02	3.138E-02	2.648E-02	1.601E-02	NOT IDENT.
ZR-88	-1.619E-02	2.746E-02	2.274E-02	1.401E-02	NOT IDENT.
Y-91	-5.150E+00	1.849E+01	1.536E+01	9.432E+00	NOT IDENT.
NB-94	9.235E-03	3.087E-02	2.718E-02	1.575E-02	NOT IDENT.
NB-95M	1.664E-01	1.219E-01	1.040E-01	6.219E-02	NOT IDENT.
ZR-95	2.245E-02	5.988E-02	5.293E-02	3.055E-02	NOT IDENT.
NB-97	-2.016E+05	4.109E+06	0.000E+00	2.096E+06	SHORT HLIF
ZR-97	1.548E+08	8.287E+07	0.000E+00	4.228E+07	SHORT HLIF
MO-99	9.210E+00	2.892E+01	2.540E+01	1.476E+01	NOT IDENT.
TC-99M	-9.491E+20	1.986E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.485E-02	2.748E-02	2.404E-02	1.402E-02	FAIL ABUN
RH-102	2.412E-02	2.572E-02	2.326E-02	1.312E-02	FAIL ABUN
RU-103	2.337E-03	3.915E-02	3.315E-02	1.997E-02	FAIL ABUN
RH-106	-1.881E-01	2.805E-01	2.311E-01	1.431E-01	FAIL ABUN
RU-106	-1.881E-01	2.799E-01	2.311E-01	1.428E-01	FAIL ABUN
AG-108M	-1.245E-02	2.740E-02	2.260E-02	1.398E-02	NOT IDENT.
AG-110M	-4.417E-03	3.019E-02	2.588E-02	1.540E-02	NOT IDENT.
IN-111	3.155E-01	2.494E+00	1.998E+00	1.273E+00	NOT IDENT.
IN-113M	-4.602E-02	3.911E-02	3.093E-02	1.996E-02	NOT IDENT.
SN-113	-4.602E-02	3.911E-02	3.093E-02	1.996E-02	NOT IDENT.
IN-114M	4.828E-03	1.750E-01	1.425E-01	8.929E-02	NOT IDENT.
CD-115	9.887E+00	3.209E+01	0.000E+00	1.637E+01	SHORT HLIF
SN-117M	1.533E-02	5.679E-02	4.991E-02	2.898E-02	NOT IDENT.
SB-122	5.823E-01	4.567E+00	4.059E+00	2.330E+00	NOT IDENT.
I-123	2.502E+08	7.185E+08	0.000E+00	3.666E+08	SHORT HLIF
TE-123M	8.239E-03	2.366E-02	2.087E-02	1.207E-02	NOT IDENT.
I-124	1.215E+00	1.145E+00	9.690E-01	5.843E-01	NOT IDENT.
SB-124	-5.732E-02	7.486E-02	5.528E-02	3.820E-02	FAIL ABUN
SB-125	-1.029E-02	8.023E-02	6.802E-02	4.093E-02	FAIL ABUN
TE-125M	-5.379E+00	7.978E+00	6.907E+00	4.071E+00	NOT IDENT.
I-126	1.444E-01	1.993E-01	1.816E-01	1.017E-01	NOT IDENT.
SB-126	1.418E-01	1.741E-01	1.469E-01	8.884E-02	NOT IDENT.
SB-127	2.791E+00	2.427E+00	2.267E+00	1.238E+00	NOT IDENT.
XE-127	1.463E-02	4.332E-02	3.745E-02	2.210E-02	NOT IDENT.
I-131	1.686E-02	1.427E-01	1.248E-01	7.279E-02	NOT IDENT.
TE-132	-5.190E-01	1.358E+00	1.206E+00	6.927E-01	NOT IDENT.
BA-133	1.086E-02	3.675E-02	2.886E-02	1.875E-02	FAIL ABUN
I-133	-1.755E+05	1.360E+05	0.000E+00	6.938E+04	SHORT HLIF
CS-134	7.202E-02	5.899E-02	4.252E-02	3.010E-02	FAIL ABUN
CS-135	2.211E-01	1.509E-01	1.291E-01	7.698E-02	NOT IDENT.
I-135	4.382E+18	9.686E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.418E-02	1.198E-01	1.024E-01	6.114E-02	FAIL ABUN
BA-137M	-2.347E-02	3.210E-02	2.623E-02	1.638E-02	NOT IDENT.
CS-137	-2.481E-02	3.394E-02	2.773E-02	1.731E-02	NOT IDENT.
CE-139	-5.879E-03	2.583E-02	2.210E-02	1.318E-02	NOT IDENT.
BA-140	6.849E-02	2.779E-01	2.491E-01	1.418E-01	NOT IDENT.
LA-140	-3.621E-02	9.637E-02	7.820E-02	4.917E-02	FAIL ABUN
CE-141	-5.954E-02	5.928E-02	4.928E-02	3.024E-02	NOT IDENT.
CE-143	6.309E+03	1.830E+03	0.000E+00	9.337E+02	SHORT HLIF
CE-144	-1.306E-01	1.790E-01	1.517E-01	9.135E-02	NOT IDENT.
PM-144	1.773E-02	3.233E-02	2.896E-02	1.649E-02	NOT IDENT.
PR-144	1.204E+00	2.195E+00	1.967E+00	1.120E+00	NOT IDENT.

PM-146	3.103E-02	3.804E-02	3.419E-02	1.941E-02	NOT IDENT.
ND-147	-4.003E-01	6.430E-01	5.079E-01	3.281E-01	FAIL ABUN
PM-149	-1.023E+02	2.646E+02	0.000E+00	1.350E+02	SHORT HLIF
EU-152	-9.584E-02	8.678E-02	6.760E-02	4.427E-02	FAIL ABUN
GD-153	-3.576E-02	7.178E-02	5.985E-02	3.662E-02	FAIL ABUN
EU-154	-2.973E-02	1.103E-01	9.065E-02	5.627E-02	NOT IDENT.
EU-155	1.486E-01	8.970E-02	8.527E-02	4.576E-02	FAIL ABUN
TB-160	-3.263E-02	1.291E-01	1.058E-01	6.587E-02	FAIL ABUN
HO-166M	-5.187E-02	5.130E-02	4.008E-02	2.618E-02	FAIL ABUN
TM-171	-1.600E+01	2.700E+01	2.173E+01	1.377E+01	NOT IDENT.
LU-176	6.870E-03	2.041E-02	1.834E-02	1.041E-02	FAIL ABUN
LU-177	2.139E+00	1.761E+00	1.286E+00	8.984E-01	FAIL ABUN
LU-177M	-9.884E-02	1.581E-01	1.299E-01	8.067E-02	FAIL ABUN
HF-181	-3.407E-02	3.939E-02	3.091E-02	2.010E-02	NOT IDENT.
W-181	-3.020E-01	3.537E-01	2.813E-01	1.805E-01	NOT IDENT.
TA-182	3.741E-02	1.665E-01	1.444E-01	8.494E-02	FAIL ABUN
RE-183	-2.998E-02	9.380E-02	7.999E-02	4.786E-02	FAIL ABUN
RE-184	1.893E-01	1.875E-01	1.763E-01	9.567E-02	NOT IDENT.
OS-185	2.545E-02	3.815E-02	3.482E-02	1.947E-02	NOT IDENT.
RE-188	-5.738E-02	1.577E-01	1.349E-01	8.047E-02	NOT IDENT.
W-188	1.000E+00	7.022E+00	5.538E+00	3.583E+00	FAIL ABUN
IR-192	-8.894E-03	3.005E-02	2.599E-02	1.533E-02	FAIL ABUN
AU-195	1.761E-01	1.986E-01	1.830E-01	1.013E-01	FAIL ABUN
TL-200	-1.233E+03	4.930E+03	0.000E+00	2.515E+03	SHORT HLIF
TL-201	1.152E+01	1.452E+01	1.300E+01	7.406E+00	NOT IDENT.
TL-202	4.631E-02	7.506E-02	6.683E-02	3.829E-02	NOT IDENT.
HG-203	-2.751E-03	4.221E-02	3.293E-02	2.154E-02	FAIL ABUN
BI-207	-5.288E-03	4.075E-02	3.467E-02	2.079E-02	FAIL ABUN
TL-207	-2.791E-01	6.357E-01	4.719E-01	3.243E-01	FAIL ABUN
PO-209	3.585E+00	7.143E+00	6.263E+00	3.645E+00	NOT IDENT.
BI-210	1.332E+00	2.771E+00	2.625E+00	1.414E+00	NOT IDENT.
PB-210	1.332E+00	2.771E+00	2.625E+00	1.414E+00	NOT IDENT.
PO-210	1.332E+00	2.771E+00	2.625E+00	1.414E+00	NOT IDENT.
PB-211	-6.472E-01	9.077E-01	6.655E-01	4.631E-01	NOT IDENT.
BI-212	1.031E+00	3.311E-01	2.981E-01	1.689E-01	FAIL ABUN
PO-215	-2.791E-01	6.357E-01	4.719E-01	3.243E-01	FAIL ABUN
RN-219	3.762E-02	3.505E-01	3.039E-01	1.788E-01	FAIL ABUN
RN-220	2.748E-03	2.143E+01	1.891E+01	1.093E+01	NOT IDENT.
RA-223	-2.791E-01	6.357E-01	4.719E-01	3.243E-01	FAIL ABUN
AC-227	-1.662E-01	3.104E-01	2.700E-01	1.584E-01	FAIL ABUN
TH-227	-1.662E-01	3.108E-01	2.700E-01	1.586E-01	FAIL ABUN
TH-229	3.816E-02	4.355E-01	3.734E-01	2.222E-01	FAIL ABUN
PA-231	3.441E-01	1.278E+00	1.151E+00	6.522E-01	NOT IDENT.
TH-231	-2.791E-01	6.357E-01	4.719E-01	3.243E-01	FAIL ABUN
U-231	-7.399E-01	1.903E+00	1.505E+00	9.710E-01	FAIL ABUN
PA-233	1.333E-02	5.306E-02	4.741E-02	2.707E-02	FAIL ABUN
PA-234	7.542E-02	2.882E-01	2.462E-01	1.470E-01	FAIL ABUN
PA-234M	8.992E-01	4.361E+00	3.673E+00	2.225E+00	FAIL ABUN
U-235	-4.372E-02	1.837E-01	1.587E-01	9.375E-02	FAIL ABUN
NP-236	-1.267E-02	6.553E-02	5.630E-02	3.343E-02	NOT IDENT.
NP-239	-5.130E-02	1.604E-01	1.406E-01	8.186E-02	FAIL ABUN
AM-241	-1.665E-02	1.380E-01	1.149E-01	7.043E-02	NOT IDENT.
CM-243	-1.299E-02	7.916E-02	7.048E-02	4.039E-02	FAIL ABUN
AM-246	2.932E-03	1.267E-01	1.093E-01	6.463E-02	NOT IDENT.
CM-247	-5.294E-03	3.161E-02	2.690E-02	1.613E-02	FAIL ABUN
CF-249	3.712E-02	3.449E-02	3.175E-02	1.759E-02	NOT IDENT.
CF-251	-3.161E-02	1.056E-01	8.952E-02	5.390E-02	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT             *
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ENERGY	MDA COUNTS
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46.50	226.0737
46.50	226.0737
46.50	226.0737
48.70	258.4865
49.72	241.3914
51.35	247.8472
52.39	240.9073
52.97	241.3529
53.15	241.4905
53.44	239.1128
54.07	257.8168
56.28	263.9505
56.28	263.9528
57.37	0.0000
57.53	272.8487
57.53	272.8503
57.60	272.9064
57.98	271.4602
57.98	271.4602
59.32	304.2931
59.32	304.2931
59.40	292.4542
59.54	292.5748
59.72	292.7291
60.01	294.3035
61.10	284.5963
61.14	284.6294
61.30	284.7600
63.00	322.6921
63.29	339.9061
63.29	339.9061
63.58	340.1837
64.28	370.3733
65.12	387.3779
65.20	375.3554
65.20	375.3554
66.05	347.9138
66.72	376.9178
66.83	377.0327
66.91	378.4674
67.20	363.6137
67.20	363.6137
67.75	341.3916
67.85	341.4858
68.90	358.7521
68.90	358.7521
69.30	374.0967
69.67	375.8255
70.82	361.9347
70.82	361.9347
70.83	361.9448
72.80	328.0980
72.87	328.1582
72.87	328.1582
74.67	329.6589
74.81	329.7756
74.81	329.7756
74.81	329.7756
74.81	329.7756
74.81	329.7756
74.81	329.7756
74.97	329.9078
75.28	330.1640
75.70	330.5104
77.11	331.6665
77.11	331.6665

77.11	331.6665
77.11	331.6665
77.11	331.6665
77.11	331.6665
77.11	331.6665
78.38	332.6985
79.62	333.6978
79.80	333.8418
79.80	333.8418
80.11	334.0916
80.18	334.1463
80.30	334.2430
80.30	334.2430
80.57	334.4581
81.00	334.8009
81.07	334.8575
81.07	334.8575
81.07	334.8575
81.07	334.8575
82.60	264.3549
83.37	264.8297
83.78	265.0850
83.78	265.0850
83.78	265.0850
83.78	265.0850
84.21	352.8576
84.90	299.7004
85.43	300.0659
86.29	300.6547
86.50	300.7986
86.54	300.8261
86.59	300.8601
86.72	300.9490
86.79	300.9959
86.94	437.4464
87.30	398.0011
87.30	398.0011
87.30	398.0011
87.30	398.0011
87.30	398.0011
87.30	398.0011
87.57	398.2446
87.88	0.0000
88.03	301.8402
88.36	302.0634
88.47	302.1378
89.95	317.4313
91.11	318.2443
92.29	319.0640
92.38	319.1267
92.38	319.1267
93.35	283.7827
94.00	300.0474
94.67	286.0284
94.67	286.0314
94.90	286.1719
94.90	286.1719
94.90	286.1719
94.90	286.1719
95.87	305.5888
95.87	305.5888
96.73	352.5754
97.43	301.0717
98.44	260.1566
98.44	260.1580
98.88	266.2249
99.55	237.4038
99.55	237.4038
99.86	237.5552
100.00	229.8326
100.10	235.7262
103.18	279.3495
103.76	262.0106
105.00	239.0486
105.31	227.3836
108.00	283.0107
109.28	274.7852

111.00	267.7303
111.00	267.7303
111.76	270.1110
112.95	267.7219
115.19	272.8577
116.30	271.4090
117.00	268.7383
117.00	268.7383
117.66	278.1338
121.11	258.5797
121.62	259.8307
121.78	259.9050
122.06	265.1140
122.32	265.2361
122.32	265.2361
122.32	265.2361
122.32	265.2361
123.07	258.4661
127.23	252.1541
129.76	271.7827
131.20	232.2006
133.02	240.6762
133.54	290.0973
135.34	262.9086
136.00	256.9525
136.25	251.8568
136.48	255.0737
140.51	301.8135
140.51	0.0000
142.18	254.2866
142.65	271.3010
143.76	274.9416
144.24	250.9018
144.24	250.9018
144.24	250.9018
144.24	250.9018
145.22	280.8526
145.44	296.7931
147.16	247.8181
152.43	267.9820
152.70	262.7513
153.22	260.8187
154.21	280.4778
154.21	280.4778
154.21	280.4778
154.21	280.4778
155.03	290.4710
156.02	262.9917
158.56	242.4339
159.00	0.0000
159.00	222.1042
160.31	238.7355
161.27	241.2340
162.32	240.5181
162.64	240.6287
163.35	217.0044
163.89	226.9460
165.85	251.5401
167.43	221.5480
171.28	250.1798
171.86	219.6330
172.10	219.7062
176.55	233.2110
176.60	233.2271
181.06	265.2143
184.41	227.8606
185.71	232.7241
186.00	236.7305
190.27	243.1121
192.34	232.4729
193.63	230.5936
197.04	233.8602
198.01	211.4108
198.60	208.1536
200.40	0.0000
201.83	245.5340
202.84	222.9713
205.31	246.0082

208.36	229.6511
208.81	206.1639
209.75	212.7388
209.75	212.7388
210.97	226.9053
215.65	193.9109
216.55	223.1738
218.09	232.8898
222.10	210.5750
223.80	232.9607
226.40	210.7260
227.00	211.7505
227.08	211.7706
227.20	225.0355
228.16	230.5793
228.18	216.4498
228.18	216.4498
231.56	0.0000
235.69	215.2303
236.00	216.7299
236.00	216.7299
238.63	217.1746
238.63	217.1746
238.63	217.1746
238.63	217.1746
239.00	0.0000
240.98	217.7271
241.98	217.9606
241.98	217.9606
241.98	217.9606
244.69	164.0796
245.39	158.4406
247.94	162.9954
248.90	179.8124
249.79	0.0000
252.40	148.7301
252.85	145.1709
252.85	145.1709
254.15	0.0000
256.20	181.1818
256.20	181.1818
260.50	183.8094
260.90	0.0000
262.80	155.8238
264.65	176.3174
268.24	162.2043
268.79	160.8176
269.46	169.7822
269.46	169.7822
269.46	169.7822
269.46	169.7822
271.23	166.3824
273.65	166.7780
276.40	170.9390
277.35	175.5625
277.60	183.0436
277.60	183.0436
278.00	183.1156
278.60	196.6272
279.20	184.8193
279.53	184.8768
280.46	170.1205
281.68	0.0000
283.67	155.2982
284.30	174.1139
285.00	173.2935
285.90	0.0000
286.10	162.2218
286.10	162.2218
287.40	161.4810
288.45	0.0000
290.67	150.6763
290.80	147.6819
291.72	146.3004
293.26	0.0000
293.70	170.7442
295.21	160.3923
295.21	160.3923

295.21	160.3923
295.96	105.9929
296.50	106.0442
297.23	0.0000
298.57	106.2458
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299.80	139.7946
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300.09	147.4324
300.09	147.4324
300.09	147.4324
300.12	147.4348
301.29	144.5503
302.84	147.7995
303.76	0.0000
303.91	141.8409
304.40	151.0596
304.40	151.0596
304.84	150.1024
306.84	134.7607
308.46	133.9993
311.98	133.4579
316.51	143.6299
318.01	144.7838
319.02	125.5904
319.41	116.9344
320.08	114.1018
323.87	150.5631
323.87	150.5631
323.87	150.5631
323.87	150.5631
325.23	136.7545
328.77	154.3129
333.44	154.5307
334.20	155.0210
334.20	155.0210
334.30	155.0331
338.28	150.8344
338.28	150.8344
338.28	150.8344
338.28	150.8344
338.32	150.8414
338.32	150.8414
338.32	150.8414
340.50	122.7795
340.57	122.7853
344.27	153.3866
345.85	137.5475
350.59	0.0000
351.07	119.0790
351.92	119.1614
351.92	119.1614
351.92	119.1614
355.39	0.0000
356.01	94.0471
364.48	123.3641
366.43	118.5294
367.43	117.6159
367.94	0.0000
369.80	112.7964
374.96	102.1235
383.85	108.9217
387.95	101.0892
388.63	111.3568
391.69	131.0645
391.69	131.0645
392.90	124.0076
398.62	108.0618
400.65	110.2833
401.10	116.5054
401.81	109.3448
402.60	114.5670
404.84	130.2605
410.95	129.7932
411.60	127.7765
413.65	124.8413
414.70	111.3985
415.30	110.4043

415.76	98.9806
417.63	0.0000
418.52	92.9084
423.70	99.5314
427.08	115.5171
427.89	105.0751
432.53	90.6533
433.93	99.1794
439.47	0.0000
439.56	90.0272
439.89	87.9291
443.98	93.4825
444.90	92.4773
445.03	87.1700
445.03	87.1700
445.03	87.1700
445.03	87.1700
453.90	85.5457
463.38	81.7728
468.07	67.3426
473.00	98.5176
475.06	80.2182
475.35	78.0645
476.78	99.8403
477.59	93.3762
477.96	95.5706
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484.57	0.0000
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490.36	0.0000
492.35	0.0000
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510.53	0.0000
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511.00	78.6898
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511.85	69.1936
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513.99	81.7168
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529.87	0.0000
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543.00	80.3998
546.56	0.0000
549.76	76.1742
552.65	70.8475
555.20	73.6772
563.23	68.5254
563.90	72.2071
568.70	68.7323
569.32	61.4221
569.50	61.4287
569.67	56.8490
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574.00	79.9610
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	81.5897
585.48	0.0000
591.81	81.6578
592.07	82.5988
593.00	75.2098
595.88	69.7449
600.56	81.8288
602.52	0.0000
602.71	59.1075
602.71	59.1075
603.60	65.3601
604.41	76.2854
604.70	79.4115
609.31	76.7929

609.31	76.7929
609.31	76.7929
609.31	76.7929
610.33	76.8330
612.46	84.4233
614.37	79.8120
618.01	60.2062
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621.84	84.8298
631.29	69.1379
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633.10	72.9921
634.78	63.5666
635.90	69.2983
636.97	66.4846
645.85	63.9183
646.12	63.9264
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657.75	73.8888
657.90	0.0000
661.65	90.3717
661.65	90.3717
664.57	0.0000
666.33	70.3409
666.33	70.3409
675.00	75.4730
677.61	55.2215
685.20	55.4205
692.80	83.9151
695.00	84.9779
696.49	78.1953
696.49	78.1953
697.00	80.1682
697.49	73.3411
698.33	95.8706
698.50	95.8778
699.00	91.0088
702.63	79.3982
706.10	68.7251
706.58	0.0000
706.67	75.6183
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711.68	76.7755
713.82	71.9235
717.42	65.1347
720.50	62.1190
721.93	0.0000
722.20	79.1211
722.78	80.7914
722.78	80.7914
722.89	80.7954
722.95	80.7974
723.30	72.5635
724.18	69.2925
727.18	76.3251
733.00	52.5307
735.90	77.6172
739.58	66.7808
742.81	66.8757
744.21	80.8991
747.13	62.0030
751.79	71.1473
752.31	67.1554
753.82	48.1430
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756.15	51.2030
756.87	54.2320
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765.79	63.8513
766.42	71.5998
766.84	71.6136
776.49	57.3916
778.00	69.2526
778.57	72.6482
778.89	68.0723
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785.46	57.9491
792.07	50.9741

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796.30	52.7653
798.80	59.6364
801.93	65.2581
805.60	64.5888
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810.76	65.7531
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817.79	0.0000
818.51	60.8077
819.60	49.4930
826.30	55.8312
828.27	0.0000
831.60	58.0221
831.96	55.9578
834.83	70.5467
836.80	0.0000
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848.13	38.5889
856.28	0.0000
856.80	52.3254
860.37	53.4467
867.32	61.7348
867.82	53.7178
871.10	58.9312
873.19	50.5535
874.81	51.6390
875.33	0.0000
876.40	54.8336
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880.27	50.6906
880.51	49.6392
881.50	43.3193
883.24	44.4045
884.67	56.0654
889.25	61.4622
896.60	56.3190
898.02	56.3500
899.00	61.6887
903.28	66.9622
911.07	49.1468
911.07	49.1468
911.07	49.1468
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920.93	55.7603
925.00	39.7353
925.24	41.8869
926.50	63.3962
935.52	61.4489
937.48	73.3606
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949.00	57.4162
962.29	76.1934
964.01	60.9916
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968.20	61.0818
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969.11	61.1023
969.11	61.1023
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983.50	48.2518
989.30	49.4484
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1001.03	46.8901
1001.68	43.2220
1004.76	57.0768
1021.30	0.0000
1024.50	0.0000
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1036.00	48.3797
1037.82	40.0308
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1038.76	0.0000
1045.16	50.3943
1046.59	50.4163
1048.07	55.1132

1050.47	48.6125
1050.47	48.6125
1062.04	40.3510
1063.62	41.3109
1076.63	41.4863
1077.35	44.3245
1078.86	51.8937
1085.78	36.8799
1099.22	51.2842
1112.02	48.3143
1112.84	54.3676
1115.52	50.7296
1120.29	53.5368
1120.29	53.5368
1120.29	53.5368
1120.29	53.5368
1120.51	53.5413
1121.28	49.1832
1124.00	0.0000
1129.67	57.5293
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1147.95	0.0000
1167.94	63.0560
1173.22	56.3551
1175.09	52.4993
1177.93	56.4353
1189.05	51.7406
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1235.34	55.9798
1236.41	0.0000
1238.25	78.0967
1246.25	66.0554
1260.41	0.0000
1271.85	52.9914
1274.45	49.0279
1274.54	49.0299
1291.56	31.1652
1298.22	0.0000
1312.09	28.3088
1325.50	41.6039
1325.50	41.6039
1332.49	25.4161
1333.61	24.4063
1360.21	14.3384
1362.66	0.0000
1365.15	19.4847
1368.21	28.7383
1368.53	0.0000
1376.25	22.6275
1384.27	27.8284
1394.10	26.8665
1395.20	29.9747
1407.95	26.9627
1434.06	27.1426
1436.60	33.4271
1457.56	0.0000
1460.81	21.0189
1489.15	26.9879
1509.49	11.6996
1596.49	26.0557
1620.62	19.6501
1678.03	0.0000
1691.02	21.8625
1691.02	21.8625
1706.46	0.0000
1750.46	0.0000
1764.49	8.4497
1764.49	8.4497
1764.49	8.4497
1764.49	8.4497
1770.23	10.1517
1771.40	13.5391
1791.20	0.0000
1808.65	14.6191

1836.01

9.6052

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536004

Total Uranium Activity	1.6674E+00	ug/g
Total Uranium Counting Unc.	4.5200E+00	ug/g
Total Uranium Tpu	2.3061E-06	ug/g
Total Uranium Mda	2.9531E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G243536004
*  ANALYST       : MXR1            DETECTOR    : GAM12
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 9-JAN-2010 14:09:39.31  SAMPLE ALQT: 143.010 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.271E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.399E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.581E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.734E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:12:05.86

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536005.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:10:13.
Sample ID          : G243536005      Sample quantity      : 1.17360E+02 GRAM
Detector name      : GAM13           Detector geometry    : CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time  : 0 02:00:01.56 0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials   : MXR1
Abundance limit    : 75.00000        Sensitivity        : 5.00000
Batch ID           : 937074          Detector SN#       :
Matrix Spike ID    :                 LCS ID              : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.31*	48	492	1.12	92.38	89	8	6.72E-03	86.0	
2	0	63.20*	83	632	1.02	126.17	122	9	1.15E-02	61.7	
3	3	74.75*	534	491	1.22	149.28	142	17	7.41E-02	8.4	1.16E+00
4	3	76.99*	747	489	1.09	153.75	142	17	1.04E-01	6.6	
5	3	83.86*	132	477	1.24	167.49	161	17	1.83E-02	29.8	6.97E-01
6	3	87.12	254	406	0.95	174.01	161	17	3.52E-02	14.1	
7	0	92.78*	285	565	1.46	185.34	182	11	3.96E-02	19.9	
8	0	144.32*	38	328	1.20	288.44	284	8	5.33E-03	88.5	
9	0	185.76*	89	296	1.23	371.35	367	8	1.24E-02	39.8	
10	0	209.34	111	207	1.42	418.52	415	8	1.54E-02	24.6	
11	4	238.50*	948	204	1.28	476.86	469	20	1.32E-01	4.3	1.29E+00
12	4	241.57*	215	230	1.83	482.99	469	20	2.98E-02	20.2	
13	0	270.36	70	178	1.06	540.59	537	8	9.76E-03	35.1	
14	0	294.98*	214	233	1.19	589.85	585	11	2.97E-02	15.7	
15	0	328.47	41	220	1.88	656.83	650	11	5.65E-03	72.6	
16	0	338.16*	211	180	1.32	676.24	669	11	2.94E-02	14.4	
17	0	351.80*	431	204	1.27	703.51	698	12	5.98E-02	8.4	
18	0	463.04	55	117	0.86	926.05	920	10	7.57E-03	39.6	
19	0	510.77*	66	225	2.15	1021.55	1013	17	9.18E-03	59.0	
20	0	582.90*	307	147	1.37	1165.85	1158	16	4.26E-02	10.8	
21	0	609.13*	276	163	1.44	1218.33	1212	12	3.83E-02	11.4	
22	0	727.95	52	105	1.29	1456.05	1449	11	7.15E-03	40.9	
23	0	911.17*	195	85	1.90	1822.62	1818	12	2.71E-02	12.3	
24	0	963.78	82	88	5.79	1927.88	1918	16	1.14E-02	27.9	
25	0	968.91*	109	84	1.69	1938.15	1934	13	1.51E-02	20.0	
26	0	1121.45	114	78	2.34	2243.36	2237	19	1.58E-02	20.6	
27	0	1460.52	1191	53	2.10	2921.82	2913	19	1.65E-01	3.2	
28	0	1717.47	29	0	3.57	3436.00	3427	17	4.03E-03	18.6	
29	0	1764.77	55	30	1.79	3530.64	3524	13	7.64E-03	25.1	

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


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536005.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:10:13
Sample ID         : G243536005 Sample quantity : 117.36 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA13 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.56 0.0%
Peak Width (FWHM) : 3.00 Confidence level : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.429E+01	3.057E+00	8.066E-01	4.932E-02	42.505
CD-109	+	88.03	*	3.098E+00	9.057E-01	1.282E+00	1.011E-01	2.417
SN-126	+	64.28		3.727E-01	4.633E-01	4.308E-01	6.708E-02	0.865
	+	86.94		1.258E+00	6.280E-01	5.247E-01	2.163E-01	2.398
	+	87.57	*	3.027E-01	8.850E-02	1.329E-01	1.051E-02	2.278
CE-141	+	145.44	*	6.066E-02	1.076E-01	1.174E-01	1.218E-02	0.517
TL-208		277.35		1.920E-01	4.669E-01	7.533E-01	8.823E-02	0.255
	+	510.84		3.858E-01	4.569E-01	2.956E-01	3.213E-02	1.305
	+	583.14	*	5.161E-01	1.198E-01	7.390E-02	6.117E-03	6.983
		860.37		4.276E-01	4.384E-01	7.739E-01	6.525E-02	0.552
BI-210	+	46.50	*	5.247E-01	9.036E-01	8.915E-01	7.267E-02	0.589
PB-210	+	46.50	*	5.247E-01	9.036E-01	8.915E-01	7.267E-02	0.589
PO-210	+	46.50	*	5.247E-01	9.034E-01	8.915E-01	6.356E-02	0.589
BI-211		72.87		5.182E+00	2.167E+00	3.688E+00	3.225E-01	1.405
	+	351.07	*	3.045E+00	5.601E-01	4.126E-01	3.007E-02	7.380
PB-212	+	74.81		2.168E+00	4.577E-01	3.727E-01	4.741E-02	5.817
	+	77.11		1.808E+00	2.827E-01	2.228E-01	1.893E-02	8.115
	+	87.30		1.400E+00	4.326E-01	5.844E-01	7.456E-02	2.395
	+	238.63	*	1.442E+00	1.801E-01	1.024E-01	9.300E-03	14.085
		300.09		1.797E+00	1.076E+00	1.705E+00	1.622E-01	1.054
PO-212	+	74.81		2.168E+00	4.577E-01	3.727E-01	4.741E-02	5.817
	+	77.11		1.808E+00	2.827E-01	2.228E-01	1.893E-02	8.115
	+	87.30		1.400E+00	4.326E-01	5.844E-01	7.456E-02	2.395
		115.19		-1.738E+00	3.774E+00	6.047E+00	7.013E-01	-0.287
	+	238.63	*	1.442E+00	1.801E-01	1.024E-01	9.300E-03	14.085
		300.09		1.797E+00	1.076E+00	1.705E+00	1.622E-01	1.054
BI-214	+	609.31	*	8.787E-01	2.168E-01	1.658E-01	1.550E-02	5.301
	+	1120.29		1.876E+00	7.926E-01	6.845E-01	6.123E-02	2.741
	+	1764.49		1.240E+00	6.261E-01	4.680E-01	2.658E-02	2.648
PB-214	+	74.81		3.735E+00	7.594E-01	6.422E-01	7.304E-02	5.817
	+	77.11		3.099E+00	5.391E-01	3.819E-01	4.358E-02	8.115
	+	87.30		2.398E+00	7.251E-01	1.001E+00	1.107E-01	2.395
	+	241.98		1.962E+00	8.171E-01	6.169E-01	5.972E-02	3.181
	+	295.21		8.851E-01	2.916E-01	2.863E-01	2.804E-02	3.092

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.059E+00	2.025E-01	1.439E-01	1.288E-02	7.362
	+	74.81		3.735E+00	7.594E-01	6.422E-01	7.304E-02	5.817
	+	77.11		3.099E+00	5.391E-01	3.819E-01	4.358E-02	8.115
	+	87.30		2.398E+00	7.251E-01	1.001E+00	1.107E-01	2.395
	+	241.98		1.962E+00	8.171E-01	6.169E-01	5.972E-02	3.181
PO-216	+	295.21		8.851E-01	2.916E-01	2.863E-01	2.804E-02	3.092
	+	351.92	*	1.059E+00	2.025E-01	1.439E-01	1.288E-02	7.362
	+	74.81		2.168E+00	4.577E-01	3.727E-01	4.741E-02	5.817
	+	77.11		1.808E+00	2.827E-01	2.228E-01	1.893E-02	8.115
	+	87.30		1.400E+00	4.326E-01	5.844E-01	7.456E-02	2.395
PO-218	+	238.63	*	1.442E+00	1.801E-01	1.024E-01	9.300E-03	14.085
	+	300.09		1.797E+00	1.076E+00	1.705E+00	1.622E-01	1.054
	+	74.81		3.735E+00	7.594E-01	6.422E-01	7.304E-02	5.817
	+	77.11		3.099E+00	5.391E-01	3.819E-01	4.358E-02	8.115
	+	87.30		2.398E+00	7.251E-01	1.001E+00	1.107E-01	2.395
RA-224	+	241.98		1.962E+00	8.171E-01	6.169E-01	5.972E-02	3.181
	+	295.21		8.851E-01	2.916E-01	2.863E-01	2.804E-02	3.092
	+	351.92	*	1.059E+00	2.025E-01	1.439E-01	1.288E-02	7.362
	+	240.98	*	3.721E+00	1.535E+00	1.166E+00	9.201E-02	3.192
	+	609.31	*	8.787E-01	2.168E-01	1.658E-01	1.550E-02	5.301
RA-226	+	1120.29		1.876E+00	7.926E-01	6.845E-01	6.123E-02	2.741
	+	1764.49		1.240E+00	6.261E-01	4.680E-01	2.658E-02	2.648
	+	338.32		1.641E+00	8.210E-01	4.425E-01	1.812E-01	3.709
	+	911.07	*	1.474E+00	3.948E-01	3.252E-01	3.377E-02	4.533
	+	969.11		1.441E+00	6.644E-01	5.867E-01	1.340E-01	2.456
TH-228	+	338.32		1.641E+00	8.210E-01	4.425E-01	1.812E-01	3.709
	+	911.07	*	1.474E+00	3.948E-01	3.252E-01	3.377E-02	4.533
	+	969.11		1.441E+00	6.644E-01	5.867E-01	1.340E-01	2.456
	+	74.81		2.209E+00	4.190E-01	3.799E-01	3.306E-02	5.817
	+	77.11		1.843E+00	2.881E-01	2.271E-01	1.929E-02	8.115
TH-230	+	87.30		1.427E+00	4.172E-01	5.956E-01	4.720E-02	2.395
	+	238.63	*	1.470E+00	1.835E-01	1.043E-01	9.479E-03	14.085
	+	300.09		1.832E+00	1.531E+00	1.737E+00	1.027E+00	1.054
	+	609.31	*	8.787E-01	2.168E-01	1.658E-01	1.550E-02	5.301
	+	1120.29		1.876E+00	7.926E-01	6.845E-01	6.123E-02	2.741
TH-232	+	1764.49		1.240E+00	6.260E-01	4.680E-01	2.658E-02	2.648
	+	338.32		1.641E+00	4.853E-01	4.425E-01	3.081E-02	3.709
	+	911.07	*	1.474E+00	3.948E-01	3.252E-01	3.377E-02	4.533
	+	969.11		1.441E+00	6.644E-01	5.867E-01	1.340E-01	2.456
	+	63.29	*	9.415E-01	1.174E+00	1.052E+00	1.930E-01	0.895
U-234	+	92.38		2.350E+00	1.026E+00	8.195E-01	1.475E-01	2.868
	+	609.31	*	8.787E-01	2.168E-01	1.658E-01	1.550E-02	5.301
	+	1120.29		1.876E+00	7.926E-01	6.845E-01	6.123E-02	2.741
	+	1764.49		1.240E+00	6.260E-01	4.680E-01	2.658E-02	2.648
	+	89.95		1.375E+00	1.442E+00	1.736E+00	5.335E-01	0.792
U-235	+	93.35		2.825E+00	1.373E+00	9.882E-01	2.768E-01	2.859
	+	105.00		1.146E+00	1.143E+00	1.866E+00	5.658E-01	0.614
	+	143.76	*	1.859E-01	3.309E-01	3.762E-01	6.946E-02	0.494
	+	163.35		1.766E-01	5.751E-01	9.029E-01	1.704E-01	0.196

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	185.71		9.539E-02	7.625E-02	8.011E-02	6.324E-03	1.191
		205.31		-1.869E-03	6.799E-01	9.939E-01	1.866E-01	-0.002
NP-237	+	86.50	*	8.888E-01	3.181E-01	3.702E-01	8.188E-02	2.401
		95.87		-9.230E-01	9.840E-01	1.346E+00	3.328E-01	-0.686
U-238	+	63.29	*	9.415E-01	1.174E+00	1.052E+00	1.930E-01	0.895
	+	92.38		2.350E+00	9.552E-01	8.195E-01	6.917E-02	2.868
AM-243	+	74.67	*	3.515E-01	6.653E-02	6.040E-02	5.218E-03	5.819
	+	86.72		3.333E+01	9.745E+00	1.389E+01	1.105E+00	2.400
		117.66		8.365E-01	3.943E+00	6.504E+00	7.783E-01	0.129
		142.18		-2.433E+01	2.459E+01	3.300E+01	3.497E+00	-0.737
ANH-511	+	511.00	*	8.333E-02	9.845E-02	6.387E-02	4.457E-03	1.305

---- 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	*	1.839E-01	4.307E-01	7.389E-01	5.556E-02	0.249
NA-22		1274.54	*	4.185E-02	6.360E-02	1.114E-01	6.286E-03	0.376
NA-24		1368.53	*	4.654E+01	6.360E-02	Half-Life too short		
AL-26		1129.67		1.613E+00	2.879E+00	4.255E+00	2.522E-01	0.379
		1808.65	*	1.498E-02	4.594E-02	7.997E-02	4.512E-03	0.187
TI-44		67.85		1.036E-02	2.765E-02	4.521E-02	4.093E-03	0.229
	+	78.38	*	3.337E-01	5.217E-02	5.761E-02	4.852E-03	5.792
SC-46		889.25	*	4.969E-02	6.240E-02	1.091E-01	8.262E-03	0.455
	+	1120.51		3.319E-01	1.385E-01	1.619E-01	9.733E-03	2.050
V-48		944.10		8.182E-01	1.560E+00	2.674E+00	1.952E-01	0.306
		983.50	*	-4.374E-02	1.244E-01	1.980E-01	1.400E-02	-0.221
		1312.09		9.103E-02	1.434E-01	2.507E-01	1.421E-02	0.363
CR-51		320.08	*	-2.067E-01	4.982E-01	7.942E-01	6.181E-02	-0.260
MN-52		744.21		8.009E-02	5.719E-01	9.294E-01	7.545E-02	0.086
		848.13		3.063E+00	1.652E+01	2.785E+01	2.169E+00	0.110
		935.52		7.904E-01	5.950E-01	1.076E+00	7.906E-02	0.734
		1246.25		1.169E+00	1.706E+01	2.857E+01	1.599E+00	0.041
		1333.61		4.921E+00	1.187E+01	2.044E+01	1.163E+00	0.241
		1434.06	*	-2.031E-01	5.801E-01	9.152E-01	5.259E-02	-0.222
MN-54		834.83	*	-2.058E-02	5.529E-02	8.961E-02	7.032E-03	-0.230
CO-56		846.75	*	4.200E-04	6.032E-02	1.004E-01	7.822E-03	0.004
		977.42		-5.038E-01	5.452E+00	7.924E+00	5.635E-01	-0.064
		1037.82		-3.056E-01	5.018E-01	7.767E-01	5.658E-02	-0.393
		1175.09		6.110E-01	3.597E+00	5.876E+00	3.232E-01	0.104
		1238.25		8.397E-02	1.340E-01	2.324E-01	1.386E-02	0.361
		1360.21		7.436E-01	1.527E+00	2.646E+00	1.510E-01	0.281
		1771.40		5.021E-01	3.311E-01	6.359E-01	3.608E-02	0.790
CO-57		122.06	*	1.926E-02	2.754E-02	4.610E-02	5.832E-03	0.418
		136.48		-7.153E-02	2.442E-01	3.900E-01	4.565E-02	-0.183
CO-58		810.76	*	-5.386E-02	5.836E-02	9.025E-02	7.188E-03	-0.597
FE-59		142.65		-3.469E+00	4.128E+00	5.606E+00	5.912E-01	-0.619
		192.34		-1.179E+00	1.116E+00	1.792E+00	2.326E-01	-0.658
		1099.22	*	2.853E-02	1.526E-01	2.513E-01	1.795E-02	0.114

---- 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		1.025E-01	1.821E-01	3.174E-01	2.318E-02	0.323
		1173.22		1.928E-02	7.149E-02	1.177E-01	6.467E-03	0.164
		1332.49	*	3.678E-03	5.783E-02	9.633E-02	5.479E-03	0.038
ZN-65		1115.52	*	-4.376E-02	1.551E-01	2.075E-01	1.260E-02	-0.211
GE-68		1077.35	*	5.279E-01	1.822E+00	3.037E+00	1.941E-01	0.174
AS-73		53.44	*	-9.172E-02	2.686E-01	4.341E-01	3.667E-02	-0.211
AS-74		595.88	*	2.723E-02	1.468E-01	2.439E-01	1.873E-02	0.112
SE-75		634.78		4.103E-01	6.140E-01	1.046E+00	8.336E-02	0.392
		66.05		4.985E-01	2.942E+00	4.507E+00	4.909E-01	0.111
		96.73		-6.011E-01	8.309E-01	1.178E+00	1.635E-01	-0.510
		121.11		-2.808E-02	1.480E-01	2.394E-01	3.451E-02	-0.117
		136.00		2.364E-02	4.589E-02	7.581E-02	8.564E-03	0.312
		198.60		-2.764E-01	2.141E+00	3.494E+00	3.122E-01	-0.079
		264.65	*	2.539E-02	5.441E-02	8.941E-02	7.004E-03	0.284
		279.53		-4.139E-02	1.310E-01	2.129E-01	1.713E-02	-0.194
		303.91		-4.665E+00	2.894E+00	4.115E+00	4.372E-01	-1.134
		400.65		1.609E-01	3.575E-01	5.887E-01	5.411E-02	0.273
	+	87.88		2.120E-03	3.575E-01	Half-Life	too short	
		200.40		-3.590E-04	3.575E-01	Half-Life	too short	
BR-77	+	239.00		7.378E-04	3.575E-01	Half-Life	too short	
		249.79		-9.749E-05	3.575E-01	Half-Life	too short	
		281.68		-2.888E-04	3.575E-01	Half-Life	too short	
		297.23		8.696E-05	3.575E-01	Half-Life	too short	
		303.76		-1.188E-03	3.575E-01	Half-Life	too short	
		439.47		2.210E-04	3.575E-01	Half-Life	too short	
		484.57		6.421E-05	3.575E-01	Half-Life	too short	
		520.65	*	2.041E-05	3.575E-01	Half-Life	too short	
		574.64		3.653E-04	3.575E-01	Half-Life	too short	
		578.91		2.848E-04	3.575E-01	Half-Life	too short	
		585.48		3.305E-03	3.575E-01	Half-Life	too short	
		755.35		1.420E-04	3.575E-01	Half-Life	too short	
SR-82		817.79		-1.638E-04	3.575E-01	Half-Life	too short	
		698.33		-2.669E+01	5.360E+01	8.329E+01	6.800E+00	-0.320
		776.49	*	-3.662E-01	6.009E-01	9.615E-01	7.739E-02	-0.381
RB-83		1395.20		-6.693E+00	1.582E+01	2.467E+01	1.413E+00	-0.271
		520.41	*	6.400E-02	9.689E-02	1.674E-01	1.182E-02	0.382
		529.64		1.062E-01	1.441E-01	2.500E-01	1.785E-02	0.425
RB-84		552.65		-1.772E-01	2.862E-01	4.524E-01	3.318E-02	-0.392
		881.50	*	2.359E-03	1.239E-01	1.884E-01	1.435E-02	0.013
KR-85		513.99	*	9.137E+00	1.138E+01	1.744E+01	1.222E+00	0.524
SR-85		513.99	*	4.885E-02	6.082E-02	9.323E-02	6.531E-03	0.524
RB-86		1076.63	*	1.001E+00	1.309E+00	2.267E+00	1.450E-01	0.441
Y-88		898.02		-3.022E-02	6.593E-02	1.052E-01	7.965E-03	-0.287
ZR-88		1836.01	*	-8.261E-03	4.459E-02	7.141E-02	4.021E-03	-0.116
		392.90	*	-4.132E-03	4.067E-02	6.491E-02	3.802E-03	-0.064
Y-91		1204.90	*	2.370E+01	2.996E+01	5.269E+01	2.920E+00	0.450
NB-94		702.63	*	1.583E-02	4.907E-02	8.112E-02	6.621E-03	0.195
NB-95		871.10		2.202E-02	5.427E-02	9.256E-02	7.102E-03	0.238
		765.79	*	5.683E-02	6.304E-02	1.115E-01	9.006E-03	0.510

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M		235.69	*	8.879E-02	1.685E-01	2.556E-01	2.364E-02	0.347
ZR-95		724.18		3.331E-02	1.687E-01	2.390E-01	2.135E-02	0.139
		756.15	*	6.694E-02	1.101E-01	1.847E-01	1.666E-02	0.362
NB-97		657.90	*	-3.602E+00	1.101E-01	Half-Life too short		
		1024.50		-3.939E+02	1.101E-01	Half-Life too short		
ZR-97		254.15		1.237E+02	1.101E-01	Half-Life too short		
		355.39		-9.952E+01	1.101E-01	Half-Life too short		
		507.63	*	2.734E+02	1.101E-01	Half-Life too short		
		602.52		-1.741E+02	1.101E-01	Half-Life too short		
		1021.30		-3.644E+02	1.101E-01	Half-Life too short		
		1147.95		2.450E+01	1.101E-01	Half-Life too short		
		1362.66		6.958E+01	1.101E-01	Half-Life too short		
		1750.46		3.199E+02	1.101E-01	Half-Life too short		
MO-99		140.51		4.935E+01	9.216E+01	1.352E+02	3.845E+01	0.365
		181.06		-3.714E+01	6.154E+01	8.275E+01	1.485E+01	-0.449
		366.43		-4.764E+01	2.878E+02	4.602E+02	2.961E+01	-0.104
		739.58	*	5.989E-01	4.855E+01	7.816E+01	1.165E+01	0.008
		778.00		-3.666E+01	1.296E+02	2.126E+02	1.711E+01	-0.172
TC-99M		140.51	*	1.547E+15	1.296E+02	Half-Life too short		
RH-101		127.23		-2.560E-02	3.696E-02	5.817E-02	7.063E-03	-0.440
		198.01	*	-3.253E-03	3.817E-02	6.240E-02	4.941E-03	-0.052
		325.23		1.063E-01	3.011E-01	4.423E-01	3.171E-02	0.240
RH-102		418.52		-2.674E-01	3.929E-01	5.989E-01	3.661E-02	-0.446
		475.06	*	3.544E-02	3.802E-02	6.703E-02	4.460E-03	0.529
		631.29		2.665E-02	8.174E-02	1.363E-01	1.083E-02	0.196
		697.49		-1.663E-02	1.065E-01	1.701E-01	1.389E-02	-0.098
		766.84		2.095E-01	1.515E-01	2.747E-01	2.217E-02	0.763
		1046.59		-1.347E-01	1.722E-01	2.612E-01	1.734E-02	-0.516
		1112.84		-8.599E-03	3.599E-01	5.541E-01	3.371E-02	-0.016
RU-103		497.08	*	1.207E-02	5.824E-02	9.825E-02	1.293E-02	0.123
	+	610.33		1.018E+01	2.853E+00	3.659E+00	5.954E-01	2.781
RH-106		511.85		4.193E-01	4.955E-01	5.513E-01	3.851E-02	0.761
		621.84	*	3.358E-01	4.686E-01	7.998E-01	1.031E-01	0.420
		1050.47		3.830E+00	3.436E+00	6.094E+00	4.026E-01	0.629
RU-106		511.85		4.193E-01	4.955E-01	5.513E-01	3.851E-02	0.761
		621.84	*	3.358E-01	4.673E-01	7.998E-01	6.298E-02	0.420
		1050.47		3.830E+00	3.436E+00	6.094E+00	4.026E-01	0.629
AG-108M		433.93	*	-1.059E-02	4.289E-02	7.123E-02	4.791E-03	-0.149
		614.37		-2.476E-02	6.450E-02	8.781E-02	7.193E-03	-0.282
		722.95		-1.674E-03	6.948E-02	9.626E-02	8.185E-03	-0.017
AG-110M		657.75	*	-2.144E-02	5.109E-02	8.046E-02	6.759E-03	-0.266
		677.61		-2.210E-01	4.610E-01	7.201E-01	6.063E-02	-0.307
		706.67		1.360E-01	3.348E-01	5.552E-01	4.670E-02	0.245
		763.93		-1.304E-01	2.311E-01	3.723E-01	3.104E-02	-0.350
		884.67		-5.398E-02	7.497E-02	1.169E-01	9.250E-03	-0.462
		937.48		-4.822E-02	1.601E-01	2.571E-01	1.980E-02	-0.188
		1384.27		6.280E-02	2.523E-01	4.263E-01	2.593E-02	0.147
IN-111		171.28		2.486E+00	2.981E+00	4.933E+00	3.872E-01	0.504
		245.39	*	-1.204E+00	3.528E+00	5.055E+00	3.983E-01	-0.238

---- 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	*		-4.744E-02	5.907E-02	8.979E-02	5.594E-03	-0.528
SN-113	391.69	*		-4.744E-02	5.907E-02	8.979E-02	5.594E-03	-0.528
IN-114M	190.27	*		1.663E-01	2.356E-01	3.672E-01	2.902E-02	0.453
CD-115	260.90			-2.869E-04	2.356E-01	Half-Life	too short	
	492.35			-4.966E-05	2.356E-01	Half-Life	too short	
	527.90	*		-1.451E-05	2.356E-01	Half-Life	too short	
SN-117M	156.02			-3.305E+00	3.328E+00	5.075E+00	4.585E-01	-0.651
	158.56	*		-4.931E-03	7.524E-02	1.201E-01	1.049E-02	-0.041
SB-122	563.90	*		3.183E+00	7.730E+00	1.309E+01	9.719E-01	0.243
	692.80			2.351E+01	1.712E+02	2.799E+02	2.285E+01	0.084
I-123	159.00	*		6.006E+01	1.712E+02	Half-Life	too short	
	528.96			5.391E+04	1.712E+02	Half-Life	too short	
TE-123M	159.00	*		1.977E-03	3.209E-02	5.153E-02	4.500E-03	0.038
I-124	602.71	*		-7.169E-01	2.125E+00	2.916E+00	2.255E-01	-0.246
	722.78			1.940E+00	1.378E+01	1.943E+01	1.583E+00	0.100
	1325.50			-8.564E+01	1.065E+02	1.580E+02	8.975E+00	-0.542
	1376.25			2.017E+01	9.385E+01	1.579E+02	9.027E+00	0.128
	1509.49			3.329E+01	3.810E+01	6.938E+01	4.000E+00	0.480
	1691.02			6.589E+00	9.583E+00	1.731E+01	9.910E-01	0.381
SB-124	602.71			-2.257E-02	6.691E-02	9.180E-02	7.099E-03	-0.246
	645.85			3.568E-01	7.651E-01	1.286E+00	1.106E-01	0.277
	709.31			4.556E+00	4.556E+00	7.829E+00	6.387E-01	0.582
	713.82			-2.964E+00	2.596E+00	3.779E+00	4.426E-01	-0.784
	722.78			8.854E-02	6.287E-01	8.867E-01	7.399E-02	0.100
+	968.20			1.553E+01	6.319E+00	9.377E+00	6.720E-01	1.656
	1045.16			-3.260E+00	3.957E+00	5.989E+00	3.981E-01	-0.544
	1325.50			-4.174E+00	5.188E+00	7.700E+00	4.375E-01	-0.542
	1368.21			-2.458E-01	2.806E+00	4.592E+00	5.432E-01	-0.054
	1436.60			-7.778E-01	5.925E+00	9.593E+00	5.514E-01	-0.081
	1691.02	*		7.093E-02	1.032E-01	1.863E-01	1.160E-02	0.381
SB-125	427.89	*		5.989E-02	1.140E-01	1.981E-01	1.275E-02	0.302
+	463.38			6.173E-01	4.908E-01	6.812E-01	5.049E-02	0.906
	600.56			-1.661E-02	2.422E-01	3.951E-01	3.326E-02	-0.042
	635.90			-1.669E-01	3.955E-01	6.248E-01	5.451E-02	-0.267
TE-125M	109.28	*		5.751E+00	1.019E+01	1.707E+01	2.075E+00	0.337
I-126	388.63			1.781E-01	3.076E-01	5.134E-01	3.040E-02	0.347
	666.33	*		1.045E-01	3.286E-01	5.453E-01	4.449E-02	0.192
	753.82			1.318E+00	2.813E+00	4.671E+00	3.784E-01	0.282
SB-126	223.80			6.427E+00	5.592E+00	9.823E+00	7.787E-01	0.654
	278.60			1.531E+00	3.632E+00	6.122E+00	4.709E-01	0.250
	296.50			4.203E+00	3.043E+00	4.660E+00	3.509E-01	0.902
	414.70			1.844E-02	1.282E-01	2.069E-01	1.257E-02	0.089
	415.30			2.839E+00	1.065E+01	1.731E+01	1.053E+00	0.164
	555.20			-1.190E+00	6.996E+00	1.142E+01	8.397E-01	-0.104
	573.80			4.187E-01	1.779E+00	2.901E+00	2.177E-01	0.144
	593.00			-7.635E-01	1.624E+00	2.575E+00	1.972E-01	-0.297
	656.30			-4.409E+00	6.283E+00	9.688E+00	7.866E-01	-0.455
	666.33			4.407E-02	1.386E-01	2.299E-01	1.876E-02	0.192
	675.00			-8.250E-01	3.684E+00	5.877E+00	4.798E-01	-0.140

---- 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		4.600E-02	1.343E-01	2.228E-01	1.820E-02	0.206
		697.00		5.946E-02	4.635E-01	7.569E-01	6.179E-02	0.079
		720.50	*	4.332E-02	2.964E-01	4.186E-01	3.411E-02	0.104
		856.80		-3.094E-01	8.781E-01	1.421E+00	1.101E-01	-0.218
		989.30		-3.829E-01	2.211E+00	3.568E+00	2.511E-01	-0.107
		1034.80		1.533E+00	1.710E+01	2.811E+01	1.890E+00	0.055
		1213.00		-5.545E+00	8.696E+00	1.386E+01	7.695E-01	-0.400
		61.10		2.584E+01	5.651E+01	8.796E+01	1.148E+01	0.294
		252.40		-9.970E-01	1.031E+01	1.708E+01	7.212E+00	-0.058
		290.80		-2.506E+01	5.898E+01	8.243E+01	9.669E+00	-0.304
		411.60		-1.283E+01	3.526E+01	5.509E+01	8.523E+00	-0.233
		444.90		1.355E+01	2.616E+01	4.519E+01	5.592E+00	0.300
		473.00		-1.593E+00	4.555E+00	7.450E+00	9.571E-01	-0.214
		543.00		-2.960E+01	4.650E+01	7.322E+01	1.074E+01	-0.404
		603.60		1.252E+01	3.577E+01	5.244E+01	6.874E+00	0.239
		685.20	*	7.125E-01	4.096E+00	6.718E+00	8.276E-01	0.106
		698.50		-2.467E+01	4.415E+01	6.804E+01	1.123E+01	-0.363
XE-127		722.20		3.903E+01	9.892E+01	1.432E+02	1.733E+01	0.273
		783.80		9.827E+00	1.035E+01	1.832E+01	2.418E+00	0.536
		57.60		-6.843E-01	2.475E+00	4.173E+00	3.857E-01	-0.164
	+	145.22		6.628E-01	1.175E+00	1.428E+00	1.466E-01	0.464
		172.10		3.236E-02	1.477E-01	2.377E-01	1.866E-02	0.136
I-131		202.84	*	2.998E-02	5.748E-02	9.912E-02	7.855E-03	0.302
		374.96		-1.214E-01	2.937E-01	4.620E-01	2.885E-02	-0.263
		80.18		1.120E+00	6.640E+00	8.021E+00	6.746E-01	0.140
		284.30		-5.558E-01	2.565E+00	4.185E+00	3.424E-01	-0.133
		364.48	*	6.865E-02	2.039E-01	3.365E-01	2.397E-02	0.204
TE-132		636.97		-3.808E+00	3.302E+00	4.911E+00	4.191E-01	-0.775
		722.89		-3.970E-01	1.648E+01	2.283E+01	1.881E+00	-0.017
		49.72		-1.767E-01	1.031E+01	1.594E+01	1.812E+00	-0.011
		111.76		-4.008E+01	7.794E+01	1.202E+02	1.666E+01	-0.334
		116.30		-2.567E+01	6.769E+01	1.088E+02	1.567E+01	-0.236
BA-133		228.16	*	-3.979E-01	1.788E+00	2.966E+00	4.794E-01	-0.134
		53.15		-4.827E-01	1.095E+00	1.764E+00	1.480E-01	-0.274
		79.62		1.855E-01	1.312E+00	1.583E+00	2.386E-01	0.117
		81.00		2.549E-02	1.026E-01	1.244E-01	1.953E-02	0.205
		276.40		4.041E-01	4.653E-01	7.630E-01	1.062E-01	0.530
I-133		302.84		-3.159E-01	1.949E-01	2.754E-01	3.461E-02	-1.147
		356.01	*	-5.209E-03	6.658E-02	9.403E-02	1.129E-02	-0.055
		383.85		-3.193E-01	3.797E-01	5.742E-01	6.317E-02	-0.556
	+	510.53		2.034E+01	3.797E-01	Half-Life	too short	
		529.87	*	7.934E-02	3.797E-01	Half-Life	too short	
CS-134		706.58		6.738E+00	3.797E-01	Half-Life	too short	
		856.28		-1.281E+01	3.797E-01	Half-Life	too short	
		875.33		-8.139E-02	3.797E-01	Half-Life	too short	
		1236.41		1.162E+01	3.797E-01	Half-Life	too short	
		1298.22		-8.123E+00	3.797E-01	Half-Life	too short	
CS-134		475.35		2.612E+00	2.499E+00	4.430E+00	2.949E-01	0.590
		563.23		1.701E-01	4.940E-01	8.327E-01	6.259E-02	0.204

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	569.32			-1.702E-01	2.624E-01	4.118E-01	3.132E-02	-0.413
	604.70			3.252E-02	4.994E-02	7.531E-02	5.853E-03	0.432
	795.84	*		8.122E-02	7.018E-02	1.255E-01	1.011E-02	0.647
	801.93			-1.180E-01	5.552E-01	9.130E-01	7.327E-02	-0.129
	1038.57			-5.266E+00	6.019E+00	9.077E+00	6.079E-01	-0.580
	1167.94			-1.411E+00	4.120E+00	6.469E+00	3.590E-01	-0.218
	1365.15			-1.971E+00	1.920E+00	2.820E+00	1.773E-01	-0.699
CS-135	268.24	*		1.191E-01	2.139E-01	3.224E-01	2.978E-02	0.369
I-135	288.45			-7.245E+14	2.139E-01	Half-Life	too short	
	417.63			-1.562E+13	2.139E-01	Half-Life	too short	
	546.56			2.543E+14	2.139E-01	Half-Life	too short	
	836.80			-3.159E+14	2.139E-01	Half-Life	too short	
	1038.76			-6.146E+14	2.139E-01	Half-Life	too short	
	1124.00			1.041E+15	2.139E-01	Half-Life	too short	
	1131.51			-8.046E+13	2.139E-01	Half-Life	too short	
	1260.41	*		-4.820E+13	2.139E-01	Half-Life	too short	
	1457.56			2.417E+16	2.139E-01	Half-Life	too short	
	1678.03			1.218E+14	2.139E-01	Half-Life	too short	
	1706.46			1.989E+14	2.139E-01	Half-Life	too short	
	1791.20			1.605E+14	2.139E-01	Half-Life	too short	
CS-136	66.91			9.291E-02	5.909E-01	9.039E-01	1.421E-01	0.103
	86.29	+		4.869E+00	1.498E+00	2.217E+00	2.757E-01	2.196
	153.22			1.280E+00	9.648E-01	1.622E+00	1.672E-01	0.789
	163.89			2.657E-01	1.643E+00	2.569E+00	2.360E-01	0.103
	176.55			-7.996E-02	5.316E-01	8.383E-01	7.054E-02	-0.095
	273.65			-4.078E-01	7.555E-01	1.056E+00	8.835E-02	-0.386
	340.57			1.515E-01	2.198E-01	3.284E-01	2.378E-02	0.461
	818.51			9.745E-03	1.324E-01	2.220E-01	1.760E-02	0.044
	1048.07	*		-1.221E-01	2.060E-01	3.189E-01	2.264E-02	-0.383
	1235.34			9.812E-02	1.060E+00	1.779E+00	1.755E-01	0.055
BA-137M	661.65	*		4.081E-02	5.039E-02	8.644E-02	7.050E-03	0.472
CS-137	661.65	*		4.314E-02	5.327E-02	9.138E-02	7.468E-03	0.472
CE-139	165.85	*		1.175E-02	3.604E-02	5.838E-02	4.577E-03	0.201
BA-140	162.64			-3.991E-02	1.128E+00	1.745E+00	1.529E-01	-0.023
	304.84			-9.998E-01	1.899E+00	2.991E+00	8.281E-01	-0.334
	423.70			6.322E-01	3.099E+00	5.005E+00	1.594E+00	0.126
	537.32	*		3.822E-01	4.657E-01	7.821E-01	2.565E-01	0.489
LA-140	328.77	+		4.841E-01	7.040E-01	8.128E-01	6.254E-02	0.596
	432.53			-1.948E+00	3.284E+00	5.338E+00	3.639E-01	-0.365
	487.03			-6.945E-02	2.104E-01	3.433E-01	2.551E-02	-0.202
	751.79			4.650E-01	3.229E+00	5.241E+00	4.758E-01	0.089
	815.85			3.330E-01	5.734E-01	9.964E-01	8.961E-02	0.334
	867.82			-2.709E-01	2.646E+00	4.357E+00	3.572E-01	-0.062
	919.63			2.790E+00	5.401E+00	8.880E+00	8.618E-01	0.314
	925.24			4.513E-01	1.999E+00	3.359E+00	2.694E-01	0.134
	1596.49	*		-6.328E-02	1.476E-01	2.253E-01	1.298E-02	-0.281
CE-143	57.37			-4.575E-04	1.476E-01	Half-Life	too short	
	231.56			1.207E-02	1.476E-01	Half-Life	too short	
	293.26	*		4.471E-03	1.476E-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
	+	350.59		1.789E-01	1.476E-01	Half-Life	too short	
		490.36		-4.930E-03	1.476E-01	Half-Life	too short	
		664.57		-5.449E-03	1.476E-01	Half-Life	too short	
		721.93		7.862E-03	1.476E-01	Half-Life	too short	
CE-144		80.11		3.531E-01	2.188E+00	2.642E+00	2.199E-01	0.134
		133.54	*	-3.339E-03	2.339E-01	3.789E-01	6.568E-02	-0.009
PM-144		476.78		3.547E-02	8.835E-02	1.513E-01	1.163E-02	0.234
		618.01		6.305E-03	4.668E-02	7.702E-02	6.246E-03	0.082
		696.49	*	6.891E-03	4.810E-02	7.864E-02	6.425E-03	0.088
		778.57		-2.255E+00	3.253E+00	5.165E+00	4.157E-01	-0.437
PR-144		696.49	*	4.679E-01	3.266E+00	5.340E+00	4.360E-01	0.088
		1489.15		-3.794E+00	1.688E+01	2.681E+01	1.545E+00	-0.142
PM-146		453.90	*	3.347E-02	5.412E-02	9.412E-02	8.543E-03	0.356
		633.02		2.224E+00	2.174E+00	3.530E+00	1.314E+00	0.630
		735.90		-3.378E-02	2.293E-01	3.645E-01	1.037E-01	-0.093
		747.13		-1.762E-02	1.343E-01	2.135E-01	2.932E-02	-0.083
ND-147		91.11		-6.993E-01	5.040E-01	6.907E-01	6.230E-02	-1.012
		319.41		-1.097E+00	5.091E+00	8.216E+00	5.961E-01	-0.134
		439.89		4.558E+00	1.046E+01	1.799E+01	1.138E+00	0.253
		531.02	*	3.115E-01	9.793E-01	1.655E+00	2.342E-01	0.188
PM-149		285.90	*	2.746E-04	9.793E-01	Half-Life	too short	
EU-152		121.78		2.673E-02	7.974E-02	1.318E-01	1.783E-02	0.203
		244.69		-1.952E-03	3.953E-01	5.802E-01	4.573E-02	-0.003
		344.27	*	9.745E-02	1.199E-01	2.036E-01	1.526E-02	0.479
		443.98		7.597E-01	1.283E+00	2.227E+00	1.417E-01	0.341
		778.89		-3.309E-01	3.756E-01	5.870E-01	4.721E-02	-0.564
		867.32		-7.875E-01	1.300E+00	2.059E+00	1.584E-01	-0.382
	+	964.01		1.252E+00	7.037E-01	8.416E-01	6.052E-02	1.488
		1085.78		-1.322E-01	5.802E-01	9.234E-01	5.837E-02	-0.143
		1112.02		2.106E-01	4.862E-01	7.990E-01	4.866E-02	0.264
		1407.95		-6.937E-02	2.213E-01	3.493E-01	2.003E-02	-0.199
GD-153		69.67		-5.236E-01	1.134E+00	1.683E+00	1.504E-01	-0.311
	+	83.37		2.783E+01	1.676E+01	2.309E+01	1.880E+00	1.205
		97.43	*	-2.785E-02	8.914E-02	1.270E-01	1.156E-02	-0.219
		103.18		-1.185E-01	1.123E-01	1.764E-01	1.742E-02	-0.672
EU-154		123.07		2.379E-02	5.593E-02	9.268E-02	1.351E-02	0.257
		247.94		1.949E-01	4.239E-01	6.993E-01	7.639E-02	0.279
		591.81		7.584E-01	8.381E-01	1.456E+00	1.597E-01	0.521
		723.30		4.480E-03	2.915E-01	4.055E-01	3.691E-02	0.011
		756.87		6.895E-01	1.142E+00	1.914E+00	2.221E-01	0.360
		873.19		3.184E-01	4.733E-01	8.197E-01	9.500E-02	0.388
		996.32		-3.659E-01	5.891E-01	9.129E-01	1.555E-01	-0.401
		1004.76		-5.775E-02	3.363E-01	5.430E-01	5.677E-02	-0.106
		1274.45	*	1.110E-01	1.770E-01	3.089E-01	2.854E-02	0.359
EU-155		48.70		-3.315E-01	5.109E-01	7.659E-01	5.781E-02	-0.433
		60.01		-3.218E-01	2.292E+00	3.484E+00	3.335E-01	-0.092
	+	86.54		3.651E-01	1.068E-01	1.689E-01	1.362E-02	2.161
		105.31	*	1.117E-01	1.118E-01	1.902E-01	1.952E-02	0.587
TB-160	+	86.79		1.012E+00	2.958E-01	4.691E-01	3.731E-02	2.156

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		197.04		1.821E-01	6.654E-01	1.103E+00	8.734E-02	0.165
		215.65		8.017E-01	8.380E-01	1.466E+00	1.163E-01	0.547
		298.57		1.833E-01	1.617E-01	2.502E-01	1.878E-02	0.733
		879.36	*	-1.052E-02	2.392E-01	3.631E-01	2.770E-02	-0.029
	+	962.29		2.401E+00	1.349E+00	1.601E+00	1.153E-01	1.499
		966.15		1.519E+00	5.471E-01	7.272E-01	5.220E-02	2.089
		1177.93		-3.349E-01	5.766E-01	8.839E-01	4.865E-02	-0.379
		1271.85		-2.660E-01	1.080E+00	1.759E+00	9.897E-02	-0.151
		80.57		6.026E-02	2.801E-01	3.392E-01	2.815E-02	0.178
	+	184.41		7.154E-02	5.719E-02	8.286E-02	6.538E-03	0.863
		280.46		-9.340E-02	1.035E-01	1.627E-01	1.249E-02	-0.574
		410.95		1.414E-01	3.356E-01	5.507E-01	3.325E-02	0.257
		711.68	*	-9.583E-03	9.425E-02	1.476E-01	1.204E-02	-0.065
		752.31		1.712E-01	4.128E-01	6.835E-01	5.539E-02	0.251
		810.29		-2.978E-02	8.281E-02	1.344E-01	1.068E-02	-0.222
TM-171		51.35		-1.491E+00	7.507E+00	1.276E+01	1.027E+00	-0.117
		52.39		-1.770E+00	4.527E+00	7.297E+00	6.018E-01	-0.243
		59.40		4.350E+00	1.189E+01	1.850E+01	1.773E+00	0.235
LU-176		66.72	*	3.598E+00	1.741E+01	2.669E+01	2.436E+00	0.135
	+	88.36		7.179E-01	2.099E-01	3.280E-01	2.602E-02	2.189
		201.83		-5.026E-03	3.271E-02	5.498E-02	4.357E-03	-0.091
LU-177		306.84	*	1.085E-02	3.002E-02	5.019E-02	3.721E-03	0.216
		401.10		4.996E+00	8.913E+00	1.478E+01	8.782E-01	0.338
		112.95		-1.738E+00	2.778E+00	4.258E+00	4.797E-01	-0.408
LU-177M	+	208.36	*	4.512E+00	2.245E+00	3.316E+00	2.629E-01	1.361
		52.97		-2.645E-01	4.981E-01	7.994E-01	6.681E-02	-0.331
		54.07		4.749E-02	2.837E-01	4.667E-01	3.999E-02	0.102
HF-181		61.30		4.717E-01	7.561E-01	1.184E+00	1.123E-01	0.398
		121.62		8.043E-02	4.128E-01	6.789E-01	8.535E-02	0.118
		147.16		-7.320E-02	8.257E-01	1.178E+00	1.184E-01	-0.062
		171.86		1.722E-01	5.624E-01	9.085E-01	7.134E-02	0.190
		218.09		-1.338E-01	9.240E-01	1.544E+00	1.225E-01	-0.087
		268.79		8.643E-01	1.142E+00	1.739E+00	1.350E-01	0.497
		319.02		-3.202E-02	3.161E-01	5.137E-01	3.728E-02	-0.062
		367.43		-1.086E+00	1.197E+00	1.820E+00	1.167E-01	-0.597
		413.65	*	7.683E-02	2.482E-01	4.045E-01	2.454E-02	0.190
		56.28		-4.267E-02	3.536E-01	6.002E-01	5.395E-02	-0.071
		57.53		-2.673E-02	2.042E-01	3.461E-01	3.194E-02	-0.077
		65.20		4.038E-02	5.872E-01	8.965E-01	8.269E-02	0.045
		133.02		-2.963E-02	7.922E-02	1.262E-01	1.459E-02	-0.235
		136.25		2.024E-01	5.546E-01	9.111E-01	1.023E-01	0.222
		345.85		1.452E-01	2.878E-01	4.255E-01	2.908E-02	0.341
W-181		482.03	*	2.097E-03	5.733E-02	9.599E-02	6.449E-03	0.022
		56.28		-1.609E-02	1.327E-01	2.253E-01	2.025E-02	-0.071
		57.53		-1.006E-02	7.667E-02	1.300E-01	1.199E-02	-0.077
TA-182		65.20	*	1.504E-02	2.188E-01	3.340E-01	3.081E-02	0.045
		67.75		2.199E-02	6.725E-02	1.098E-01	9.948E-03	0.200
		100.10		9.098E-02	1.876E-01	3.151E-01	2.980E-02	0.289
		152.43		1.415E-01	4.067E-01	6.628E-01	6.265E-02	0.213

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		222.10		2.534E-01	3.855E-01	6.659E-01	5.280E-02	0.381
		1001.68		7.163E-01	3.443E+00	5.669E+00	3.944E-01	0.126
	+	1121.28		9.085E-01	3.791E-01	4.515E-01	2.712E-02	2.012
		1189.05		5.073E-01	5.050E-01	8.984E-01	4.959E-02	0.565
		1221.42	*	1.522E-02	3.109E-01	5.208E-01	2.898E-02	0.029
		1230.97		9.919E-02	7.194E-01	1.211E+00	6.757E-02	0.082
		57.98		-8.717E-03	7.958E-02	1.349E-01	1.257E-02	-0.065
		59.32		1.649E-02	5.040E-02	7.827E-02	7.493E-03	0.211
		67.20		1.425E-02	1.287E-01	1.965E-01	1.787E-02	0.073
		162.32	*	-4.450E-02	1.379E-01	2.104E-01	1.742E-02	-0.211
RE-184	+	208.81		2.799E+00	1.393E+00	2.053E+00	1.628E-01	1.364
		291.72		-4.632E-01	1.331E+00	1.873E+00	1.419E-01	-0.247
		57.98		-3.139E-02	2.866E-01	4.859E-01	4.526E-02	-0.065
		59.32		5.934E-02	1.813E-01	2.816E-01	2.696E-02	0.211
		67.20		5.130E-02	4.633E-01	7.072E-01	6.432E-02	0.073
		161.27		-5.293E-01	4.184E-01	6.244E-01	5.248E-02	-0.848
		216.55		2.031E-02	2.937E-01	4.958E-01	3.932E-02	0.041
		252.85	*	-5.126E-02	2.751E-01	4.537E-01	3.562E-02	-0.113
		318.01		-2.486E-02	5.547E-01	9.047E-01	6.578E-02	-0.027
		792.07		6.455E-01	1.483E+00	2.550E+00	2.041E-01	0.253
OS-185		903.28		-4.492E-01	1.637E+00	2.521E+00	1.890E-01	-0.178
		920.93		3.199E-01	6.663E-01	1.141E+00	8.464E-02	0.280
		59.72		-9.428E-05	1.391E-01	2.129E-01	2.042E-02	0.000
		61.14		4.480E-02	8.132E-02	1.271E-01	1.207E-02	0.352
		69.30		-3.176E-02	2.011E-01	3.028E-01	2.714E-02	-0.105
		592.07		2.989E+00	3.497E+00	6.072E+00	4.645E-01	0.492
		646.12	*	1.596E-02	6.566E-02	1.087E-01	8.751E-03	0.147
		717.42		-9.644E-03	1.294E+00	2.086E+00	1.701E-01	-0.005
		874.81		2.324E-01	9.537E-01	1.609E+00	1.231E-01	0.144
		880.27		-8.624E-02	1.321E+00	2.000E+00	1.525E-01	-0.043
RE-188		155.03	*	1.702E-02	2.113E-01	3.401E-01	3.112E-02	0.050
		477.96		8.420E-01	4.152E+00	7.027E+00	4.695E-01	0.120
		633.10		4.553E+00	4.229E+00	7.388E+00	5.878E-01	0.616
	+	63.58		3.937E+01	4.870E+01	6.252E+01	5.833E+00	0.630
W-188		227.08		-5.471E+00	1.458E+01	2.403E+01	1.904E+00	-0.228
		290.67	*	-2.847E+00	1.032E+01	1.460E+01	1.108E+00	-0.195
IR-192	+	295.96		7.005E-01	2.267E-01	3.033E-01	2.307E-02	2.309
		308.46		5.634E-02	1.220E-01	2.049E-01	1.526E-02	0.275
		316.51	*	6.433E-03	4.338E-02	7.156E-02	5.235E-03	0.090
		468.07		3.713E-02	1.000E-01	1.504E-01	1.111E-02	0.247
AU-195		604.41		4.456E-01	6.989E-01	1.051E+00	1.309E-01	0.424
		612.46		1.884E+00	1.261E+00	1.994E+00	1.834E-01	0.945
		65.12		3.491E-02	1.012E-01	1.563E-01	1.442E-02	0.223
		66.83		1.038E-02	5.835E-02	8.935E-02	8.148E-03	0.116
	+	75.70		1.155E+00	2.186E-01	3.566E-01	3.059E-02	3.238
		98.88	*	2.761E-01	2.511E-01	4.012E-01	3.728E-02	0.688
TL-200		129.76		6.639E+00	3.376E+00	5.760E+00	6.849E-01	1.153
	*	367.94		-7.905E-03	3.376E+00	Half-Life too short		
		579.30		7.339E-02	3.376E+00	Half-Life too short		

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	828.27			-3.656E-02	3.376E+00	Half-Life	too short	
	1205.75			2.702E-02	3.376E+00	Half-Life	too short	
TL-201	68.90			-3.109E+00	7.781E+00	1.159E+01	1.042E+00	-0.268
	70.82			-5.766E-01	4.553E+00	6.857E+00	6.081E-01	-0.084
	80.30			2.307E+00	1.272E+01	1.538E+01	1.279E+00	0.150
	135.34			4.634E+01	7.037E+01	1.169E+02	1.323E+01	0.396
	167.43	*		-8.946E+00	2.038E+01	3.182E+01	2.493E+00	-0.281
TL-202	68.90			-1.417E-01	3.547E-01	5.285E-01	4.750E-02	-0.268
	70.82			-2.621E-02	2.070E-01	3.117E-01	2.764E-02	-0.084
	80.30			1.049E-01	5.786E-01	6.995E-01	5.815E-02	0.150
	439.56	*		5.041E-02	1.209E-01	2.080E-01	1.314E-02	0.242
HG-203	70.83			-9.306E-02	7.601E-01	1.145E+00	1.576E-01	-0.081
	72.87			1.094E+00	4.702E-01	7.782E-01	1.034E-01	1.405
	82.60			2.170E+00	1.327E+00	1.698E+00	2.287E-01	1.278
	279.20	*		6.449E-03	5.034E-02	8.370E-02	6.664E-03	0.077
BI-207	72.80			2.775E-01	1.252E-01	2.126E-01	1.860E-02	1.306
	74.97			6.310E-01	1.195E-01	1.725E-01	1.487E-02	3.658
	84.90			3.560E-01	2.144E-01	2.867E-01	2.310E-02	1.241
	569.67			-3.144E-02	4.046E-02	6.279E-02	4.693E-03	-0.501
	1063.62	*		8.292E-03	7.933E-02	1.303E-01	8.471E-03	0.064
	1770.23			8.715E-01	6.580E-01	1.218E+00	6.911E-02	0.716
TL-207	81.07			5.793E-02	2.265E-01	2.749E-01	2.273E-02	0.211
	83.78			2.347E-01	1.413E-01	1.946E-01	1.580E-02	1.206
	94.90			-4.062E-01	2.297E-01	3.523E-01	3.089E-02	-1.153
	122.32			9.181E-01	1.891E+00	3.142E+00	4.106E-01	0.292
	144.24			6.026E-01	1.069E+00	1.342E+00	1.508E-01	0.449
	154.21			5.244E-01	4.655E-01	7.789E-01	7.830E-02	0.673
	269.46			3.837E-01	2.710E-01	4.017E-01	3.196E-02	0.955
	323.87	*		-1.108E-01	8.900E-01	1.259E+00	2.148E-01	-0.088
	338.28			6.853E+00	2.114E+00	2.812E+00	3.154E-01	2.437
	445.03			1.811E+00	2.965E+00	5.150E+00	5.460E-01	0.352
PO-209	260.50			-6.609E+00	1.062E+01	1.703E+01	1.331E+00	-0.388
	262.80			-1.705E+01	3.015E+01	4.851E+01	3.784E+00	-0.351
	896.60	*		5.700E+00	1.143E+01	1.958E+01	1.474E+00	0.291
PB-211	404.84	*		-1.167E+00	1.453E+00	1.895E+00	1.182E+00	-0.616
	427.08			2.792E+00	3.186E+00	4.571E+00	2.827E+00	0.611
	831.96			9.594E-01	1.880E+00	3.023E+00	1.892E+00	0.317
BI-212	727.18	*		7.523E-01	6.194E-01	8.503E-01	8.162E-02	0.885
	785.46			7.958E-01	2.512E+00	4.296E+00	3.447E-01	0.185
	1620.62			-3.438E-01	1.694E+00	2.665E+00	1.533E-01	-0.129
PO-215	81.07			5.793E-02	2.265E-01	2.749E-01	2.273E-02	0.211
	83.78			2.347E-01	1.413E-01	1.946E-01	1.580E-02	1.206
	94.90			-4.062E-01	2.297E-01	3.523E-01	3.089E-02	-1.153
	122.32			9.181E-01	1.891E+00	3.142E+00	4.106E-01	0.292
	144.24			6.026E-01	1.069E+00	1.342E+00	1.508E-01	0.449
	154.21			5.244E-01	4.655E-01	7.789E-01	7.830E-02	0.673
	269.46			3.837E-01	2.710E-01	4.017E-01	3.196E-02	0.955
	323.87	*		-1.108E-01	8.900E-01	1.259E+00	2.148E-01	-0.088
	338.28			6.853E+00	2.114E+00	2.812E+00	3.154E-01	2.437

---- 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		1.811E+00	2.965E+00	5.150E+00	5.460E-01	0.352
		271.23		4.923E-01	3.487E-01	5.138E-01	4.930E-02	0.958
		401.81	*	2.885E-01	5.558E-01	9.175E-01	1.254E-01	0.314
RN-220		549.76	*	3.376E+01	3.539E+01	6.200E+01	4.532E+00	0.545
RA-223	+	81.07		5.793E-02	2.265E-01	2.749E-01	2.273E-02	0.211
		83.78		2.347E-01	1.413E-01	1.946E-01	1.580E-02	1.206
		94.90		-4.062E-01	2.297E-01	3.523E-01	3.089E-02	-1.153
	+	122.32		9.181E-01	1.891E+00	3.142E+00	4.106E-01	0.292
		144.24		6.026E-01	1.069E+00	1.342E+00	1.508E-01	0.449
		154.21		5.244E-01	4.655E-01	7.789E-01	7.830E-02	0.673
	+	269.46		3.837E-01	2.710E-01	4.017E-01	3.196E-02	0.955
		323.87	*	-1.108E-01	8.900E-01	1.259E+00	2.148E-01	-0.088
		338.28		6.853E+00	2.114E+00	2.812E+00	3.154E-01	2.437
AC-227		445.03		1.811E+00	2.965E+00	5.150E+00	5.460E-01	0.352
		79.80		1.999E-01	1.668E+00	2.007E+00	4.295E-01	0.100
		236.00		5.071E-01	3.170E-01	4.988E-01	5.862E-02	1.017
	+	256.20	*	-5.168E-02	4.408E-01	7.286E-01	1.087E-01	-0.071
		286.10		1.442E+00	1.827E+00	3.120E+00	3.925E-01	0.462
		299.80		2.632E+00	2.088E+00	3.188E+00	5.408E-01	0.826
	+	304.40		-3.560E+00	2.525E+00	3.550E+00	6.359E-01	-1.003
		334.20		-2.686E+00	3.659E+00	4.483E+00	8.409E-01	-0.599
		79.80		1.999E-01	1.668E+00	2.007E+00	4.350E-01	0.100
TH-227	+	94.00		9.081E+00	4.114E+00	3.945E+00	8.597E-01	2.302
		236.00		5.071E-01	3.159E-01	4.988E-01	5.253E-02	1.017
		256.20	*	-5.168E-02	4.408E-01	7.286E-01	1.290E-01	-0.071
	+	286.10		1.442E+00	2.323E+00	3.120E+00	3.129E+00	0.462
		299.80		2.632E+00	2.088E+00	3.188E+00	5.408E-01	0.826
		304.40		-3.560E+00	2.525E+00	3.550E+00	6.359E-01	-1.003
	+	334.20		-2.686E+00	3.659E+00	4.483E+00	8.409E-01	-0.599
		85.43		1.349E-02	1.775E-01	2.832E-01	2.273E-02	0.048
		88.47		4.132E-01	1.208E-01	1.866E-01	1.483E-02	2.214
TH-229	+	100.00		1.119E-01	1.908E-01	3.215E-01	3.036E-02	0.348
		193.63	*	-8.042E-02	5.476E-01	9.231E-01	7.302E-02	-0.087
		210.97		7.154E-01	9.124E-01	1.418E+00	1.125E-01	0.505
PA-231	+	283.67	*	8.256E-01	1.824E+00	3.074E+00	4.505E-01	0.269
		301.29		7.576E-01	7.699E-01	1.232E+00	1.412E-01	0.615
		81.07		5.793E-02	2.265E-01	2.749E-01	2.273E-02	0.211
TH-231	+	83.78		2.347E-01	1.413E-01	1.946E-01	1.580E-02	1.206
		94.90		-4.062E-01	2.297E-01	3.523E-01	3.089E-02	-1.153
		122.32		9.181E-01	1.891E+00	3.142E+00	4.106E-01	0.292
	+	144.24		6.026E-01	1.069E+00	1.342E+00	1.508E-01	0.449
		154.21		5.244E-01	4.655E-01	7.789E-01	7.830E-02	0.673
		269.46		3.837E-01	2.710E-01	4.017E-01	3.196E-02	0.955
	+	323.87	*	-1.108E-01	8.900E-01	1.259E+00	2.148E-01	-0.088
		338.28		6.853E+00	2.114E+00	2.812E+00	3.154E-01	2.437
		445.03		1.811E+00	2.965E+00	5.150E+00	5.460E-01	0.352
U-231	+	84.21		1.947E+01	1.172E+01	1.610E+01	1.303E+00	1.209
		92.29		1.728E+01	7.023E+00	9.047E+00	7.627E-01	1.910
		95.87	*	-2.015E+00	2.097E+00	2.938E+00	2.613E-01	-0.686

---- 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		-5.127E+00	4.245E+00	6.581E+00	6.944E-01	-0.779
	+	75.28		1.841E+01	4.197E+00	5.339E+00	8.189E-01	3.448
	+	86.59		5.925E+00	2.295E+00	2.743E+00	7.301E-01	2.160
		300.12		9.222E-01	5.640E-01	8.798E-01	1.254E-01	1.048
		311.98	*	-1.379E-02	7.895E-02	1.280E-01	9.778E-03	-0.108
		340.50		7.591E-01	8.887E-01	1.318E+00	3.069E-01	0.576
		398.62		7.157E-01	2.901E+00	4.715E+00	1.220E+00	0.152
PA-234		415.76		2.707E-01	2.284E+00	3.678E+00	7.601E-01	0.074
	+	63.00		1.097E+00	1.365E+00	1.736E+00	2.766E-01	0.632
		94.67		-1.082E-01	1.686E-01	2.725E-01	3.402E-02	-0.397
		98.44		1.096E-01	1.203E-01	1.580E-01	8.828E-02	0.694
		99.86		2.258E-01	5.048E-01	8.202E-01	7.731E-02	0.275
		111.00		6.970E-02	1.964E-01	3.265E-01	4.529E-02	0.213
		131.20		-5.178E-02	1.230E-01	1.959E-01	2.301E-02	-0.264
		152.70		2.698E-01	3.864E-01	6.346E-01	1.108E-01	0.425
	+	186.00		2.575E+00	2.199E+00	3.098E+00	9.610E-01	0.831
		226.40		-1.916E-01	4.528E-01	7.443E-01	9.496E-02	-0.257
		227.20		-3.417E-01	4.781E-01	7.744E-01	6.136E-02	-0.441
		248.90		-1.154E-01	9.475E-01	1.569E+00	3.473E-01	-0.074
	+	293.70		4.248E+00	1.515E+00	1.767E+00	2.967E-01	2.405
		369.80		2.579E-01	1.097E+00	1.795E+00	3.767E-01	0.144
		568.70		-9.009E-01	1.334E+00	2.091E+00	1.561E-01	-0.431
		569.50		-2.574E-01	3.603E-01	5.623E-01	4.201E-02	-0.458
		574.00		4.537E-01	2.045E+00	3.330E+00	2.500E-01	0.136
		699.00		-6.883E-01	1.029E+00	1.566E+00	2.956E-01	-0.439
		706.10		4.506E-01	1.651E+00	2.696E+00	1.200E+00	0.167
		733.00		-1.140E-01	6.709E-01	9.128E-01	2.009E-01	-0.125
		742.81		6.294E-01	2.054E+00	3.310E+00	2.223E+00	0.190
		796.30		1.688E+00	1.430E+00	2.446E+00	6.569E-01	0.690
		805.60		6.208E-01	1.406E+00	2.403E+00	7.322E-01	0.258
		819.60		-8.908E-01	1.830E+00	2.888E+00	1.094E+00	-0.308
		826.30		-7.369E-01	1.229E+00	1.879E+00	8.382E-01	-0.392
		831.60		4.401E-01	9.550E-01	1.598E+00	4.736E-01	0.275
		876.40		-5.397E-01	1.427E+00	2.113E+00	2.171E+00	-0.255
		880.51		-5.426E-02	4.619E-01	6.960E-01	5.305E-02	-0.078
		883.24		-2.351E-01	4.526E-01	6.719E-01	4.508E-01	-0.350
		899.00		-1.338E+00	1.415E+00	1.961E+00	8.533E-01	-0.682
		925.00		2.119E-01	1.696E+00	2.825E+00	2.090E-01	0.075
		926.50		6.254E-02	2.414E-01	4.061E-01	1.010E-01	0.154
		946.00	*	-1.466E-01	4.567E-01	7.314E-01	1.331E-01	-0.200
		949.00		3.547E-01	6.769E-01	1.158E+00	8.423E-02	0.306
		980.50		1.415E+00	1.107E+00	1.988E+00	1.410E-01	0.712
PA-234M		1394.10		-6.460E-01	1.540E+00	2.303E+00	1.492E+00	-0.280
		766.42		2.339E+01	1.982E+01	2.910E+01	1.474E+01	0.804
NP-236		1001.03	*	3.313E+00	7.557E+00	1.264E+01	1.083E+00	0.262
		94.67		-7.809E-02	1.278E-01	2.071E-01	1.809E-02	-0.377
		98.44		8.282E-02	7.861E-02	1.194E-01	1.103E-02	0.694
		111.00		5.272E-02	1.485E-01	2.470E-01	2.712E-02	0.213
		160.31	*	-1.113E-01	9.172E-02	1.373E-01	1.170E-02	-0.811

---- 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		1.825E-01	1.657E-01	2.745E-01	2.575E-02	0.665
		117.00	*	7.582E-02	1.967E-01	3.268E-01	3.878E-02	0.232
	+	209.75		2.123E+00	1.056E+00	1.545E+00	1.225E-01	1.374
		228.18		-1.260E-02	2.494E-01	4.172E-01	3.305E-02	-0.030
		277.60		8.740E-02	2.250E-01	3.627E-01	2.793E-02	0.241
		334.30		-1.541E+00	2.056E+00	2.537E+00	1.783E-01	-0.608
AM-241		59.54	*	3.006E-02	6.945E-02	1.083E-01	1.101E-02	0.278
CM-243		99.55		1.879E-01	1.706E-01	2.825E-01	2.651E-02	0.665
		103.76	*	1.729E-02	1.003E-01	1.663E-01	1.656E-02	0.104
		117.00		7.802E-02	2.025E-01	3.363E-01	3.991E-02	0.232
	+	209.75		2.093E+00	1.042E+00	1.524E+00	1.208E-01	1.374
		228.18		-1.273E-02	2.520E-01	4.217E-01	3.341E-02	-0.030
		277.60		8.814E-02	2.269E-01	3.658E-01	2.817E-02	0.241
AM-246		798.80		-2.686E-01	2.080E-01	3.138E-01	2.505E-02	-0.856
		1036.00		-7.681E-02	4.623E-01	7.442E-01	4.999E-02	-0.103
		1062.04		2.196E-02	3.430E-01	5.614E-01	3.658E-02	0.039
		1078.86	*	-3.349E-02	2.078E-01	3.330E-01	2.124E-02	-0.101
CM-247		278.00		9.585E-02	9.478E-01	1.509E+00	1.161E-01	0.064
		287.40		-3.993E-01	1.504E+00	2.445E+00	1.862E-01	-0.163
		402.60	*	6.461E-03	4.938E-02	7.982E-02	4.753E-03	0.081
CF-249		252.85		-1.892E-01	1.016E+00	1.675E+00	1.315E-01	-0.113
		333.44		-8.570E-02	2.951E-01	3.425E-01	2.412E-02	-0.250
		387.95	*	-6.999E-03	4.951E-02	7.888E-02	4.684E-03	-0.089
CF-251		176.60	*	1.762E-02	1.468E-01	2.345E-01	1.845E-02	0.075
		227.00		-1.305E-01	4.218E-01	6.973E-01	5.525E-02	-0.187
		285.00		3.899E-02	2.139E+00	3.531E+00	2.698E-01	0.011

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536005      *
* Acquisition date   : 9-JAN-2010 14:10:13 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 02:00:01.56 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243536005 Analyst initials: MXR1                  *
* Batch Number       : 937074 Sample Quantity : 1.1736E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.429E+01	2.995E+00	8.040E-01	0.000E+00
CD-109	3.098E+00	8.876E-01	1.316E+00	0.000E+00
SN-126	3.027E-01	8.673E-02	1.364E-01	0.000E+00
CE-141	6.066E-02	1.054E-01	1.199E-01	0.000E+00
TL-208	5.161E-01	1.174E-01	7.439E-02	0.000E+00
BI-210	5.247E-01	8.855E-01	9.212E-01	0.000E+00
PB-210	5.247E-01	8.855E-01	9.212E-01	0.000E+00
PO-210	5.247E-01	8.853E-01	9.212E-01	0.000E+00
BI-211	3.045E+00	5.489E-01	4.176E-01	0.000E+00
PB-212	1.442E+00	1.765E-01	1.040E-01	0.000E+00
PO-212	1.442E+00	1.765E-01	1.040E-01	0.000E+00
BI-214	8.787E-01	2.125E-01	1.668E-01	0.000E+00
PB-214	1.059E+00	1.985E-01	1.456E-01	0.000E+00
PO-214	1.059E+00	1.985E-01	1.456E-01	0.000E+00
PO-216	1.442E+00	1.765E-01	1.040E-01	0.000E+00
PO-218	1.059E+00	1.985E-01	1.456E-01	0.000E+00
RA-224	3.721E+00	1.504E+00	1.184E+00	0.000E+00
RA-226	8.787E-01	2.125E-01	1.668E-01	0.000E+00
AC-228	1.474E+00	3.869E-01	3.258E-01	0.000E+00
RA-228	1.474E+00	3.869E-01	3.258E-01	0.000E+00
TH-228	1.470E+00	1.798E-01	1.060E-01	0.000E+00
TH-230	8.787E-01	2.125E-01	1.668E-01	0.000E+00
TH-232	1.474E+00	3.869E-01	3.258E-01	0.000E+00
TH-234	9.415E-01	1.150E+00	1.084E+00	0.000E+00
U-234	8.787E-01	2.125E-01	1.668E-01	0.000E+00
U-235	1.859E-01	3.243E-01	3.843E-01	0.000E+00
NP-237	8.888E-01	3.117E-01	3.801E-01	0.000E+00
U-238	9.415E-01	1.150E+00	1.084E+00	0.000E+00
AM-243	3.515E-01	6.520E-02	6.212E-02	0.000E+00
ANH-511	8.333E-02	9.649E-02	6.438E-02	0.000E+00

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

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.839E-01	4.221E-01	7.454E-01	0.000E+00	NOT IDENT.
NA-22	4.185E-02	6.233E-02	1.112E-01	0.000E+00	NOT IDENT.
NA-24	0.000E+00	8.800E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.498E-02	4.502E-02	7.952E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.113E-02	5.922E-02	0.000E+00	FAIL ABUN
SC-46	4.969E-02	6.115E-02	1.093E-01	0.000E+00	FAIL ABUN
V-48	-4.374E-02	1.219E-01	1.982E-01	0.000E+00	NOT IDENT.
CR-51	-2.067E-01	4.882E-01	8.046E-01	0.000E+00	NOT IDENT.
MN-52	-2.031E-01	5.685E-01	9.124E-01	0.000E+00	NOT IDENT.
MN-54	-2.058E-02	5.419E-02	8.986E-02	0.000E+00	NOT IDENT.
CO-56	4.200E-04	5.911E-02	1.006E-01	0.000E+00	NOT IDENT.
CO-57	1.926E-02	2.699E-02	4.717E-02	0.000E+00	NOT IDENT.
CO-58	-5.386E-02	5.719E-02	9.053E-02	0.000E+00	NOT IDENT.
FE-59	2.853E-02	1.495E-01	2.512E-01	0.000E+00	NOT IDENT.
CO-60	3.678E-03	5.668E-02	9.611E-02	0.000E+00	NOT IDENT.
ZN-65	-4.376E-02	1.520E-01	2.074E-01	0.000E+00	NOT IDENT.
GE-68	5.279E-01	1.786E+00	3.037E+00	0.000E+00	NOT IDENT.
AS-73	-9.172E-02	2.632E-01	4.480E-01	0.000E+00	NOT IDENT.
AS-74	2.723E-02	1.438E-01	2.454E-01	0.000E+00	NOT IDENT.
SE-75	2.539E-02	5.332E-02	9.075E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	4.462E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-3.662E-01	5.889E-01	9.649E-01	0.000E+00	NOT IDENT.
RB-83	6.400E-02	9.496E-02	1.687E-01	0.000E+00	NOT IDENT.
RB-84	2.359E-03	1.214E-01	1.889E-01	0.000E+00	NOT IDENT.
KR-85	9.137E+00	1.115E+01	1.758E+01	0.000E+00	NOT IDENT.
SR-85	4.885E-02	5.960E-02	9.398E-02	0.000E+00	NOT IDENT.
RB-86	1.001E+00	1.283E+00	2.267E+00	0.000E+00	NOT IDENT.
Y-88	-8.261E-03	4.370E-02	7.100E-02	0.000E+00	NOT IDENT.
ZR-88	-4.132E-03	3.986E-02	6.561E-02	0.000E+00	NOT IDENT.
Y-91	2.370E+01	2.936E+01	5.263E+01	0.000E+00	NOT IDENT.
NB-94	1.583E-02	4.809E-02	8.149E-02	0.000E+00	NOT IDENT.
NB-95	5.683E-02	6.178E-02	1.119E-01	0.000E+00	NOT IDENT.
NB-95M	8.879E-02	1.652E-01	2.597E-01	0.000E+00	NOT IDENT.
ZR-95	6.694E-02	1.079E-01	1.854E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.891E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.327E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	5.989E-01	4.758E+01	7.848E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.854E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.253E-03	3.741E-02	6.353E-02	0.000E+00	NOT IDENT.
RH-102	3.544E-02	3.726E-02	6.762E-02	0.000E+00	NOT IDENT.
RU-103	1.207E-02	5.707E-02	9.907E-02	0.000E+00	FAIL ABUN
RH-106	3.358E-01	4.592E-01	8.046E-01	0.000E+00	FAIL ABUN
RU-106	3.358E-01	4.580E-01	8.046E-01	0.000E+00	FAIL ABUN
AG-108M	-1.059E-02	4.203E-02	7.192E-02	0.000E+00	NOT IDENT.
AG-110M	-2.144E-02	5.006E-02	8.089E-02	0.000E+00	NOT IDENT.
IN-111	-1.204E+00	3.457E+00	5.135E+00	0.000E+00	NOT IDENT.
IN-113M	-4.744E-02	5.788E-02	9.076E-02	0.000E+00	NOT IDENT.
SN-113	-4.744E-02	5.788E-02	9.076E-02	0.000E+00	NOT IDENT.
IN-114M	1.663E-01	2.309E-01	3.740E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.704E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-4.931E-03	7.374E-02	1.226E-01	0.000E+00	NOT IDENT.
SB-122	3.183E+00	7.575E+00	1.318E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.556E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.977E-03	3.145E-02	5.259E-02	0.000E+00	NOT IDENT.
I-124	-7.169E-01	2.083E+00	2.934E+00	0.000E+00	NOT IDENT.
SB-124	7.093E-02	1.011E-01	1.854E-01	0.000E+00	FAIL ABUN
SB-125	5.989E-02	1.117E-01	2.000E-01	0.000E+00	FAIL ABUN
TE-125M	5.751E+00	9.982E+00	1.749E+01	0.000E+00	NOT IDENT.
I-126	1.045E-01	3.220E-01	5.481E-01	0.000E+00	NOT IDENT.
SB-126	4.332E-02	2.905E-01	4.204E-01	0.000E+00	NOT IDENT.
SB-127	7.125E-01	4.014E+00	6.751E+00	0.000E+00	NOT IDENT.
XE-127	2.998E-02	5.633E-02	1.009E-01	0.000E+00	FAIL ABUN
I-131	6.865E-02	1.998E-01	3.404E-01	0.000E+00	NOT IDENT.
TE-132	-3.979E-01	1.752E+00	3.016E+00	0.000E+00	NOT IDENT.
BA-133	-5.209E-03	6.524E-02	9.515E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.907E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.122E-02	6.878E-02	1.259E-01	0.000E+00	NOT IDENT.
CS-135	1.191E-01	2.096E-01	3.272E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.890E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.221E-01	2.019E-01	3.190E-01	0.000E+00	FAIL ABUN
BA-137M	4.081E-02	4.938E-02	8.690E-02	0.000E+00	NOT IDENT.
CS-137	4.314E-02	5.220E-02	9.186E-02	0.000E+00	NOT IDENT.
CE-139	1.175E-02	3.532E-02	5.955E-02	0.000E+00	NOT IDENT.
BA-140	3.822E-01	4.564E-01	7.880E-01	0.000E+00	NOT IDENT.
LA-140	-6.328E-02	1.446E-01	2.244E-01	0.000E+00	FAIL ABUN

CE-143	0.000E+00	1.713E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.339E-03	2.292E-01	3.874E-01	0.000E+00	NOT IDENT.
PM-144	6.891E-03	4.714E-02	7.901E-02	0.000E+00	NOT IDENT.
PR-144	4.679E-01	3.201E+00	5.366E+00	0.000E+00	NOT IDENT.
PM-146	3.347E-02	5.303E-02	9.500E-02	0.000E+00	NOT IDENT.
ND-147	3.115E-01	9.598E-01	1.667E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	3.702E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	9.745E-02	1.175E-01	2.061E-01	0.000E+00	FAIL ABUN
GD-153	-2.785E-02	8.736E-02	1.303E-01	0.000E+00	FAIL ABUN
EU-154	1.110E-01	1.734E-01	3.084E-01	0.000E+00	NOT IDENT.
EU-155	1.117E-01	1.096E-01	1.950E-01	0.000E+00	FAIL ABUN
TB-160	-1.052E-02	2.344E-01	3.639E-01	0.000E+00	FAIL ABUN
HO-166M	-9.583E-03	9.237E-02	1.482E-01	0.000E+00	FAIL ABUN
TM-171	3.598E+00	1.706E+01	2.748E+01	0.000E+00	NOT IDENT.
LU-176	1.085E-02	2.942E-02	5.087E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.200E+00	3.374E+00	0.000E+00	FAIL ABUN
LU-177M	7.683E-02	2.433E-01	4.087E-01	0.000E+00	NOT IDENT.
HF-181	2.097E-03	5.618E-02	9.682E-02	0.000E+00	NOT IDENT.
W-181	1.504E-02	2.144E-01	3.440E-01	0.000E+00	NOT IDENT.
TA-182	1.522E-02	3.047E-01	5.201E-01	0.000E+00	FAIL ABUN
RE-183	-4.450E-02	1.352E-01	2.147E-01	0.000E+00	FAIL ABUN
RE-184	-5.126E-02	2.696E-01	4.608E-01	0.000E+00	NOT IDENT.
OS-185	1.596E-02	6.435E-02	1.093E-01	0.000E+00	NOT IDENT.
RE-188	1.702E-02	2.070E-01	3.471E-01	0.000E+00	NOT IDENT.
W-188	-2.847E+00	1.011E+01	1.481E+01	0.000E+00	FAIL ABUN
IR-192	6.433E-03	4.252E-02	7.250E-02	0.000E+00	FAIL ABUN
AU-195	2.761E-01	2.460E-01	4.114E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.289E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-8.946E+00	1.998E+01	3.245E+01	0.000E+00	NOT IDENT.
TL-202	5.041E-02	1.185E-01	2.100E-01	0.000E+00	NOT IDENT.
HG-203	6.449E-03	4.933E-02	8.491E-02	0.000E+00	FAIL ABUN
BI-207	8.292E-03	7.774E-02	1.303E-01	0.000E+00	FAIL ABUN
TL-207	-1.108E-01	8.722E-01	1.276E+00	0.000E+00	FAIL ABUN
PO-209	5.700E+00	1.120E+01	1.962E+01	0.000E+00	NOT IDENT.
PB-211	-1.167E+00	1.424E+00	1.915E+00	0.000E+00	NOT IDENT.
BI-212	7.523E-01	6.070E-01	8.539E-01	0.000E+00	FAIL ABUN
PO-215	-1.108E-01	8.722E-01	1.276E+00	0.000E+00	FAIL ABUN
RN-219	2.885E-01	5.447E-01	9.272E-01	0.000E+00	FAIL ABUN
RN-220	3.376E+01	3.468E+01	6.245E+01	0.000E+00	NOT IDENT.
RA-223	-1.108E-01	8.722E-01	1.276E+00	0.000E+00	FAIL ABUN
AC-227	-5.168E-02	4.319E-01	7.398E-01	0.000E+00	NOT IDENT.
TH-227	-5.168E-02	4.320E-01	7.398E-01	0.000E+00	FAIL ABUN
TH-229	-8.042E-02	5.366E-01	9.400E-01	0.000E+00	FAIL ABUN
PA-231	8.256E-01	1.788E+00	3.118E+00	0.000E+00	NOT IDENT.
TH-231	-1.108E-01	8.722E-01	1.276E+00	0.000E+00	FAIL ABUN
U-231	-2.015E+00	2.055E+00	3.014E+00	0.000E+00	FAIL ABUN
PA-233	-1.379E-02	7.737E-02	1.297E-01	0.000E+00	FAIL ABUN
PA-234	-1.466E-01	4.476E-01	7.324E-01	0.000E+00	FAIL ABUN
PA-234M	3.313E+00	7.406E+00	1.265E+01	0.000E+00	NOT IDENT.
NP-236	-1.113E-01	8.989E-02	1.401E-01	0.000E+00	NOT IDENT.
NP-239	7.582E-02	1.928E-01	3.345E-01	0.000E+00	FAIL ABUN
AM-241	3.006E-02	6.806E-02	1.116E-01	0.000E+00	NOT IDENT.
CM-243	1.729E-02	9.828E-02	1.705E-01	0.000E+00	FAIL ABUN
AM-246	-3.349E-02	2.036E-01	3.330E-01	0.000E+00	NOT IDENT.
CM-247	6.461E-03	4.840E-02	8.067E-02	0.000E+00	NOT IDENT.
CF-249	-6.999E-03	4.852E-02	7.975E-02	0.000E+00	NOT IDENT.
CF-251	1.762E-02	1.438E-01	2.391E-01	0.000E+00	NOT IDENT.

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*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536005.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:10:13.
Sample ID          : G243536005      Sample quantity   : 1.17360E+02 GRAM
Detector name      : GAM13           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.56  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials  : MXR1
Abundance limit    : 75.00000        Sensitivity       : 5.00000
Batch ID           : 937074          Detector SN#      :
Matrix Spike ID    :                 LCS ID            : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1191	10.67*	1.041E+00	3.429E+01	3.429E+01	8.91
CD-109	88.03	254	3.72*	7.248E+00	3.010E+00	3.098E+00	29.24
SN-126	64.28	83	9.60	7.391E+00	3.727E-01	3.727E-01	124.31
	86.94	254	8.90	7.248E+00	1.258E+00	1.258E+00	49.91
	87.57	254	37.00*	7.248E+00	3.027E-01	3.027E-01	29.24
CE-141	145.44	38	48.40*	6.282E+00	4.034E-02	6.066E-02	177.32
TL-208	277.35	-----	6.80	4.225E+00	-----	Line Not Found	-----
	510.84	66	21.60	2.537E+00	3.858E-01	3.858E-01	118.44
	583.14	307	84.20*	2.257E+00	5.161E-01	5.161E-01	23.21
	860.37	-----	12.46	1.606E+00	-----	Line Not Found	-----
BI-210	46.50	48	4.05*	7.295E+00	5.238E-01	5.247E-01	172.22
PB-210	46.50	48	4.05*	7.295E+00	5.238E-01	5.247E-01	172.22
PO-210	46.50	48	4.05*	7.295E+00	5.238E-01	5.247E-01	172.17
BI-211	72.87	-----	1.27	7.369E+00	-----	Line Not Found	-----
	351.07	431	12.94*	3.498E+00	3.045E+00	3.045E+00	18.39
PB-212	74.81	534	10.70	7.358E+00	2.168E+00	2.168E+00	21.11
	77.11	747	18.00	7.344E+00	1.808E+00	1.808E+00	15.64
	87.30	254	8.00	7.248E+00	1.400E+00	1.400E+00	30.90
	238.63	948	44.60*	4.715E+00	1.442E+00	1.442E+00	12.49
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
PO-212	74.81	534	10.70	7.358E+00	2.168E+00	2.168E+00	21.11
	77.11	747	18.00	7.344E+00	1.808E+00	1.808E+00	15.64
	87.30	254	8.00	7.248E+00	1.400E+00	1.400E+00	30.90
	115.19	-----	0.60	6.822E+00	-----	Line Not Found	-----
	238.63	948	44.60*	4.715E+00	1.442E+00	1.442E+00	12.49
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
BI-214	609.31	276	46.30*	2.171E+00	8.787E-01	8.787E-01	24.67
	1120.29	114	15.10	1.286E+00	1.876E+00	1.876E+00	42.25
	1764.49	55	15.80	8.986E-01	1.240E+00	1.240E+00	50.51
PB-214	74.81	534	6.21	7.358E+00	3.735E+00	3.735E+00	20.33
	77.11	747	10.50	7.344E+00	3.099E+00	3.099E+00	17.39
	87.30	254	4.67	7.248E+00	2.398E+00	2.398E+00	30.24

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	215	7.49	4.673E+00	1.962E+00	1.962E+00	41.64
	295.21	214	19.20	4.030E+00	8.851E-01	8.851E-01	32.95
	351.92	431	37.20*	3.498E+00	1.059E+00	1.059E+00	19.12
	74.81	534	6.21	7.358E+00	3.735E+00	3.735E+00	20.33
	77.11	747	10.50	7.344E+00	3.099E+00	3.099E+00	17.39
	87.30	254	4.67	7.248E+00	2.398E+00	2.398E+00	30.24
	241.98	215	7.49	4.673E+00	1.962E+00	1.962E+00	41.64
PO-216	295.21	214	19.20	4.030E+00	8.851E-01	8.851E-01	32.95
	351.92	431	37.20*	3.498E+00	1.059E+00	1.059E+00	19.12
	74.81	534	10.70	7.358E+00	2.168E+00	2.168E+00	21.11
	77.11	747	18.00	7.344E+00	1.808E+00	1.808E+00	15.64
	87.30	254	8.00	7.248E+00	1.400E+00	1.400E+00	30.90
	238.63	948	44.60*	4.715E+00	1.442E+00	1.442E+00	12.49
	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
PO-218	74.81	534	6.21	7.358E+00	3.735E+00	3.735E+00	20.33
	77.11	747	10.50	7.344E+00	3.099E+00	3.099E+00	17.39
	87.30	254	4.67	7.248E+00	2.398E+00	2.398E+00	30.24
	241.98	215	7.49	4.673E+00	1.962E+00	1.962E+00	41.64
	295.21	214	19.20	4.030E+00	8.851E-01	8.851E-01	32.95
	351.92	431	37.20*	3.498E+00	1.059E+00	1.059E+00	19.12
	240.98	215	3.95*	4.673E+00	3.721E+00	3.721E+00	41.26
RA-224	609.31	276	46.30*	2.171E+00	8.787E-01	8.787E-01	24.67
RA-226	1120.29	114	15.10	1.286E+00	1.876E+00	1.876E+00	42.25
	1764.49	55	15.80	8.986E-01	1.240E+00	1.240E+00	50.51
	338.32	211	11.40	3.613E+00	1.641E+00	1.641E+00	50.03
AC-228	911.07	195	27.70*	1.529E+00	1.474E+00	1.474E+00	26.79
	969.11	109	16.60	1.452E+00	1.441E+00	1.441E+00	46.11
	338.32	211	11.40	3.613E+00	1.641E+00	1.641E+00	50.03
RA-228	911.07	195	27.70*	1.529E+00	1.474E+00	1.474E+00	26.79
	969.11	109	16.60	1.452E+00	1.441E+00	1.441E+00	46.11
	74.81	534	10.70	7.358E+00	2.168E+00	2.209E+00	18.96
TH-228	77.11	747	18.00	7.344E+00	1.808E+00	1.843E+00	15.64
	87.30	254	8.00	7.248E+00	1.400E+00	1.427E+00	29.24
	238.63	948	44.60*	4.715E+00	1.442E+00	1.470E+00	12.49
TH-230	300.09	-----	3.41	3.976E+00	-----	Line Not Found	-----
	609.31	276	46.30*	2.171E+00	8.787E-01	8.787E-01	24.67
	1120.29	114	15.10	1.286E+00	1.876E+00	1.876E+00	42.25
TH-232	1764.49	55	15.80	8.986E-01	1.240E+00	1.240E+00	50.51
	338.32	211	11.40	3.613E+00	1.641E+00	1.641E+00	29.58
	911.07	195	27.70*	1.529E+00	1.474E+00	1.474E+00	26.79
TH-234	969.11	109	16.60	1.452E+00	1.441E+00	1.441E+00	46.11
	63.29	83	3.80*	7.391E+00	9.415E-01	9.415E-01	124.69
	92.38	285	5.41	7.177E+00	2.350E+00	2.350E+00	43.64
U-234	609.31	276	46.30*	2.171E+00	8.787E-01	8.787E-01	24.67
	1120.29	114	15.10	1.286E+00	1.876E+00	1.876E+00	42.25
	1764.49	55	15.80	8.986E-01	1.240E+00	1.240E+00	50.51
U-235	89.95	-----	2.70	7.214E+00	-----	Line Not Found	-----
	93.35	285	4.50	7.177E+00	2.825E+00	2.825E+00	48.61
	105.00	-----	2.10	6.995E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	143.76	38	10.50*	6.282E+00	1.859E-01	1.859E-01	177.97
	163.35	-----	4.70	5.928E+00	-----	Line Not Found	-----
	185.71	89	54.00	5.530E+00	9.539E-02	9.539E-02	79.94
	205.31	-----	4.70	5.207E+00	-----	Line Not Found	-----
NP-237	86.50	254	12.60*	7.248E+00	8.888E-01	8.888E-01	35.79
	95.87	-----	2.60	7.135E+00	-----	Line Not Found	-----
U-238	63.29	83	3.80*	7.391E+00	9.415E-01	9.415E-01	124.69
	92.38	285	5.41	7.177E+00	2.350E+00	2.350E+00	40.65
AM-243	74.67	534	66.00*	7.358E+00	3.515E-01	3.515E-01	18.93
	86.72	254	0.34	7.248E+00	3.333E+01	3.333E+01	29.24
	117.66	-----	0.55	6.778E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.323E+00	-----	Line Not Found	-----
ANH-511	511.00	66	100.00*	2.537E+00	8.333E-02	8.333E-02	118.15

Flag: "*" = Keyline

Total number of lines in spectrum 29
Number of unidentified lines 1
Number of lines tentatively identified by NID 28 96.55%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.429E+01	3.429E+01	0.306E+01	8.91	
CD-109	464.00D	1.03	3.010E+00	3.098E+00	0.906E+00	29.24	
SN-126	1.00E+05Y	1.00	3.027E-01	3.027E-01	0.885E-01	29.24	
CE-141	32.50D	1.50	4.034E-02	6.066E-02	10.76E-02	177.32	
TL-208	1.41E+10Y	1.00	5.161E-01	5.161E-01	1.198E-01	23.21	
BI-210	22.26Y	1.00	5.238E-01	5.247E-01	9.036E-01	172.22	
PB-210	22.26Y	1.00	5.238E-01	5.247E-01	9.036E-01	172.22	
PO-210	22.26Y	1.00	5.238E-01	5.247E-01	9.034E-01	172.17	
BI-211	7.04E+08Y	1.00	3.045E+00	3.045E+00	0.560E+00	18.39	
PB-212	1.41E+10Y	1.00	1.442E+00	1.442E+00	0.180E+00	12.49	
PO-212	1.41E+10Y	1.00	1.442E+00	1.442E+00	0.180E+00	12.49	
BI-214	1600.00Y	1.00	8.787E-01	8.787E-01	2.168E-01	24.67	
PB-214	1600.00Y	1.00	1.059E+00	1.059E+00	0.203E+00	19.12	
PO-214	1600.00Y	1.00	1.059E+00	1.059E+00	0.203E+00	19.12	
PO-216	1.41E+10Y	1.00	1.442E+00	1.442E+00	0.180E+00	12.49	
PO-218	1600.00Y	1.00	1.059E+00	1.059E+00	0.203E+00	19.12	
RA-224	1.41E+10Y	1.00	3.721E+00	3.721E+00	1.535E+00	41.26	
RA-226	1600.00Y	1.00	8.787E-01	8.787E-01	2.168E-01	24.67	
AC-228	1.41E+10Y	1.00	1.474E+00	1.474E+00	0.395E+00	26.79	
RA-228	1.41E+10Y	1.00	1.474E+00	1.474E+00	0.395E+00	26.79	
TH-228	1.91Y	1.02	1.442E+00	1.470E+00	0.184E+00	12.49	
TH-230	4.47E+09Y	1.00	8.787E-01	8.787E-01	2.168E-01	24.67	
TH-232	1.41E+10Y	1.00	1.474E+00	1.474E+00	0.395E+00	26.79	
TH-234	4.47E+09Y	1.00	9.415E-01	9.415E-01	11.74E-01	124.69	
U-234	4.47E+09Y	1.00	8.787E-01	8.787E-01	2.168E-01	24.67	
U-235	7.04E+08Y	1.00	1.859E-01	1.859E-01	3.309E-01	177.97	
NP-237	2.14E+06Y	1.00	8.888E-01	8.888E-01	3.181E-01	35.79	
U-238	4.47E+09Y	1.00	9.415E-01	9.415E-01	11.74E-01	124.69	
AM-243	7380.00Y	1.00	3.515E-01	3.515E-01	0.665E-01	18.93	
ANH-511	1.00E+09Y	1.00	8.333E-02	8.333E-02	9.845E-02	118.15	

Total Activity : 6.677E+01 6.690E+01

Grand Total Activity : 6.677E+01 6.690E+01

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

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

Unidentified Energy Lines
Sample ID : G243536005

Page : 5
Acquisition date : 9-JAN-2010 14:10:13

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	83.86	132	477	1.24	167.49	161	17	1.83E-02	59.7	7.28E+00	T
0	209.34	111	207	1.42	418.52	415	8	1.54E-02	49.1	5.14E+00	T
0	270.36	70	178	1.06	540.59	537	8	9.76E-03	70.2	4.31E+00	T
0	328.47	41	220	1.88	656.83	650	11	5.65E-03	****	3.70E+00	T
0	463.04	55	117	0.86	926.05	920	10	7.57E-03	79.2	2.77E+00	T
0	727.95	52	105	1.29	1456.05	1449	11	7.15E-03	81.8	1.86E+00	T
0	963.78	82	88	5.79	1927.88	1918	16	1.14E-02	55.7	1.46E+00	T
0	1717.47	29	0	3.57	3436.00	3427	17	4.03E-03	37.1	9.18E-01	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536005.CNF;1
* Acquisition date   : 9-JAN-2010 14:10:13. 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 02:00:01.56             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00   Nuclide Library : SOLID
* Sample ID          : G243536005             Analyst initials: MXR1
* Batch Number       : 937074                 Sample Quantity : 1.17360E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22.03MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                     LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.429E+01	3.057E+00	8.066E-01	4.932E-02	42.505
CD-109	3.098E+00	9.057E-01	1.282E+00	1.011E-01	2.417
SN-126	3.027E-01	8.850E-02	1.329E-01	1.051E-02	2.278
CE-141	6.066E-02	1.076E-01	1.174E-01	1.218E-02	0.517
TL-208	5.161E-01	1.198E-01	7.390E-02	6.117E-03	6.983
BI-210	5.247E-01	9.036E-01	8.915E-01	7.267E-02	0.589
PB-210	5.247E-01	9.036E-01	8.915E-01	7.267E-02	0.589
PO-210	5.247E-01	9.034E-01	8.915E-01	6.356E-02	0.589
BI-211	3.045E+00	5.601E-01	4.126E-01	3.007E-02	7.380
PB-212	1.442E+00	1.801E-01	1.024E-01	9.300E-03	14.085
PO-212	1.442E+00	1.801E-01	1.024E-01	9.300E-03	14.085
BI-214	8.787E-01	2.168E-01	1.658E-01	1.550E-02	5.301
PB-214	1.059E+00	2.025E-01	1.439E-01	1.288E-02	7.362
PO-214	1.059E+00	2.025E-01	1.439E-01	1.288E-02	7.362
PO-216	1.442E+00	1.801E-01	1.024E-01	9.300E-03	14.085
PO-218	1.059E+00	2.025E-01	1.439E-01	1.288E-02	7.362
RA-224	3.721E+00	1.535E+00	1.166E+00	9.201E-02	3.192
RA-226	8.787E-01	2.168E-01	1.658E-01	1.550E-02	5.301

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.474E+00	3.948E-01	3.252E-01	3.377E-02	4.533
RA-228	1.474E+00	3.948E-01	3.252E-01	3.377E-02	4.533
TH-228	1.470E+00	1.835E-01	1.043E-01	9.479E-03	14.085
TH-230	8.787E-01	2.168E-01	1.658E-01	1.550E-02	5.301
TH-232	1.474E+00	3.948E-01	3.252E-01	3.377E-02	4.533
TH-234	9.415E-01	1.174E+00	1.052E+00	1.930E-01	0.895
U-234	8.787E-01	2.168E-01	1.658E-01	1.550E-02	5.301
U-235	1.859E-01	3.309E-01	3.762E-01	6.946E-02	0.494
NP-237	8.888E-01	3.181E-01	3.702E-01	8.188E-02	2.401
U-238	9.415E-01	1.174E+00	1.052E+00	1.930E-01	0.895
AM-243	3.515E-01	6.653E-02	6.040E-02	5.218E-03	5.819
ANH-511	8.333E-02	9.845E-02	6.387E-02	4.457E-03	1.305

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.839E-01		4.307E-01	7.389E-01	5.556E-02	0.249
NA-22	4.185E-02		6.360E-02	1.114E-01	6.286E-03	0.376
NA-24	4.654E+01		4.490E+01	Half-Life too short		
AL-26	1.498E-02		4.594E-02	7.997E-02	4.512E-03	0.187
TI-44	3.337E-01	+	5.217E-02	5.761E-02	4.852E-03	5.792
SC-46	4.969E-02		6.240E-02	1.091E-01	8.262E-03	0.455
V-48	-4.374E-02		1.244E-01	1.980E-01	1.400E-02	-0.221
CR-51	-2.067E-01		4.982E-01	7.942E-01	6.181E-02	-0.260
MN-52	-2.031E-01		5.801E-01	9.152E-01	5.259E-02	-0.222
MN-54	-2.058E-02		5.529E-02	8.961E-02	7.032E-03	-0.230
CO-56	4.200E-04		6.032E-02	1.004E-01	7.822E-03	0.004
CO-57	1.926E-02		2.754E-02	4.610E-02	5.832E-03	0.418
CO-58	-5.386E-02		5.836E-02	9.025E-02	7.188E-03	-0.597
FE-59	2.853E-02		1.526E-01	2.513E-01	1.795E-02	0.114
CO-60	3.678E-03		5.783E-02	9.633E-02	5.479E-03	0.038
ZN-65	-4.376E-02		1.551E-01	2.075E-01	1.260E-02	-0.211
GE-68	5.279E-01		1.822E+00	3.037E+00	1.941E-01	0.174
AS-73	-9.172E-02		2.686E-01	4.341E-01	3.667E-02	-0.211
AS-74	2.723E-02		1.468E-01	2.439E-01	1.873E-02	0.112
SE-75	2.539E-02		5.441E-02	8.941E-02	7.004E-03	0.284
BR-77	2.041E-05		2.277E-05	Half-Life too short		
SR-82	-3.662E-01		6.009E-01	9.615E-01	7.739E-02	-0.381
RB-83	6.400E-02		9.689E-02	1.674E-01	1.182E-02	0.382
RB-84	2.359E-03		1.239E-01	1.884E-01	1.435E-02	0.013
KR-85	9.137E+00		1.138E+01	1.744E+01	1.222E+00	0.524
SR-85	4.885E-02		6.082E-02	9.323E-02	6.531E-03	0.524
RB-86	1.001E+00		1.309E+00	2.267E+00	1.450E-01	0.441
Y-88	-8.261E-03		4.459E-02	7.141E-02	4.021E-03	-0.116
ZR-88	-4.132E-03		4.067E-02	6.491E-02	3.802E-03	-0.064
Y-91	2.370E+01		2.996E+01	5.269E+01	2.920E+00	0.450
NB-94	1.583E-02		4.907E-02	8.112E-02	6.621E-03	0.195

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	5.683E-02		6.304E-02	1.115E-01	9.006E-03	0.510
NB-95M	8.879E-02		1.685E-01	2.556E-01	2.364E-02	0.347
ZR-95	6.694E-02		1.101E-01	1.847E-01	1.666E-02	0.362
NB-97	-3.602E+00		3.516E+00	Half-Life	too short	
ZR-97	2.734E+02		6.772E+01	Half-Life	too short	
MO-99	5.989E-01		4.855E+01	7.816E+01	1.165E+01	0.008
TC-99M	1.547E+15		1.456E+15	Half-Life	too short	
RH-101	-3.253E-03		3.817E-02	6.240E-02	4.941E-03	-0.052
RH-102	3.544E-02		3.802E-02	6.703E-02	4.460E-03	0.529
RU-103	1.207E-02		5.824E-02	9.825E-02	1.293E-02	0.123
RH-106	3.358E-01		4.686E-01	7.998E-01	1.031E-01	0.420
RU-106	3.358E-01		4.673E-01	7.998E-01	6.298E-02	0.420
AG-108M	-1.059E-02		4.289E-02	7.123E-02	4.791E-03	-0.149
AG-110M	-2.144E-02		5.109E-02	8.046E-02	6.759E-03	-0.266
IN-111	-1.204E+00		3.528E+00	5.055E+00	3.983E-01	-0.238
IN-113M	-4.744E-02		5.907E-02	8.979E-02	5.594E-03	-0.528
SN-113	-4.744E-02		5.907E-02	8.979E-02	5.594E-03	-0.528
IN-114M	1.663E-01		2.356E-01	3.672E-01	2.902E-02	0.453
CD-115	-1.451E-05		2.400E-05	Half-Life	too short	
SN-117M	-4.931E-03		7.524E-02	1.201E-01	1.049E-02	-0.041
SB-122	3.183E+00		7.730E+00	1.309E+01	9.719E-01	0.243
I-123	6.006E+01		4.875E+02	Half-Life	too short	
TE-123M	1.977E-03		3.209E-02	5.153E-02	4.500E-03	0.038
I-124	-7.169E-01		2.125E+00	2.916E+00	2.255E-01	-0.246
SB-124	7.093E-02		1.032E-01	1.863E-01	1.160E-02	0.381
SB-125	5.989E-02		1.140E-01	1.981E-01	1.275E-02	0.302
TE-125M	5.751E+00		1.019E+01	1.707E+01	2.075E+00	0.337
I-126	1.045E-01		3.286E-01	5.453E-01	4.449E-02	0.192
SB-126	4.332E-02		2.964E-01	4.186E-01	3.411E-02	0.104
SB-127	7.125E-01		4.096E+00	6.718E+00	8.276E-01	0.106
XE-127	2.998E-02		5.748E-02	9.912E-02	7.855E-03	0.302
I-131	6.865E-02		2.039E-01	3.365E-01	2.397E-02	0.204
TE-132	-3.979E-01		1.788E+00	2.966E+00	4.794E-01	-0.134
BA-133	-5.209E-03		6.658E-02	9.403E-02	1.129E-02	-0.055
I-133	7.934E-02		9.732E-02	Half-Life	too short	
CS-134	8.122E-02		7.018E-02	1.255E-01	1.011E-02	0.647
CS-135	1.191E-01		2.139E-01	3.224E-01	2.978E-02	0.369
I-135	-4.820E+13		9.645E+13	Half-Life	too short	
CS-136	-1.221E-01		2.060E-01	3.189E-01	2.264E-02	-0.383
BA-137M	4.081E-02		5.039E-02	8.644E-02	7.050E-03	0.472
CS-137	4.314E-02		5.327E-02	9.138E-02	7.468E-03	0.472
CE-139	1.175E-02		3.604E-02	5.838E-02	4.577E-03	0.201
BA-140	3.822E-01		4.657E-01	7.821E-01	2.565E-01	0.489
LA-140	-6.328E-02		1.476E-01	2.253E-01	1.298E-02	-0.281
CE-143	4.471E-03		8.738E-04	Half-Life	too short	
CE-144	-3.339E-03		2.339E-01	3.789E-01	6.568E-02	-0.009
PM-144	6.891E-03		4.810E-02	7.864E-02	6.425E-03	0.088
PR-144	4.679E-01		3.266E+00	5.340E+00	4.360E-01	0.088

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	3.347E-02		5.412E-02	9.412E-02	8.543E-03	0.356
ND-147	3.115E-01		9.793E-01	1.655E+00	2.342E-01	0.188
PM-149	2.746E-04		1.889E-04	Half-Life too short		
EU-152	9.745E-02		1.199E-01	2.036E-01	1.526E-02	0.479
GD-153	-2.785E-02		8.914E-02	1.270E-01	1.156E-02	-0.219
EU-154	1.110E-01		1.770E-01	3.089E-01	2.854E-02	0.359
EU-155	1.117E-01		1.118E-01	1.902E-01	1.952E-02	0.587
TB-160	-1.052E-02		2.392E-01	3.631E-01	2.770E-02	-0.029
HO-166M	-9.583E-03		9.425E-02	1.476E-01	1.204E-02	-0.065
TM-171	3.598E+00		1.741E+01	2.669E+01	2.436E+00	0.135
LU-176	1.085E-02		3.002E-02	5.019E-02	3.721E-03	0.216
LU-177	4.512E+00	+	2.245E+00	3.316E+00	2.629E-01	1.361
LU-177M	7.683E-02		2.482E-01	4.045E-01	2.454E-02	0.190
HF-181	2.097E-03		5.733E-02	9.599E-02	6.449E-03	0.022
W-181	1.504E-02		2.188E-01	3.340E-01	3.081E-02	0.045
TA-182	1.522E-02		3.109E-01	5.208E-01	2.898E-02	0.029
RE-183	-4.450E-02		1.379E-01	2.104E-01	1.742E-02	-0.211
RE-184	-5.126E-02		2.751E-01	4.537E-01	3.562E-02	-0.113
OS-185	1.596E-02		6.566E-02	1.087E-01	8.751E-03	0.147
RE-188	1.702E-02		2.113E-01	3.401E-01	3.112E-02	0.050
W-188	-2.847E+00		1.032E+01	1.460E+01	1.108E+00	-0.195
IR-192	6.433E-03		4.338E-02	7.156E-02	5.235E-03	0.090
AU-195	2.761E-01		2.511E-01	4.012E-01	3.728E-02	0.688
TL-200	-7.905E-03		3.719E-03	Half-Life too short		
TL-201	-8.946E+00		2.038E+01	3.182E+01	2.493E+00	-0.281
TL-202	5.041E-02		1.209E-01	2.080E-01	1.314E-02	0.242
HG-203	6.449E-03		5.034E-02	8.370E-02	6.664E-03	0.077
BI-207	8.292E-03		7.933E-02	1.303E-01	8.471E-03	0.064
TL-207	-1.108E-01		8.900E-01	1.259E+00	2.148E-01	-0.088
PO-209	5.700E+00		1.143E+01	1.958E+01	1.474E+00	0.291
PB-211	-1.167E+00		1.453E+00	1.895E+00	1.182E+00	-0.616
BI-212	7.523E-01	+	6.194E-01	8.503E-01	8.162E-02	0.885
PO-215	-1.108E-01		8.900E-01	1.259E+00	2.148E-01	-0.088
RN-219	2.885E-01		5.558E-01	9.175E-01	1.254E-01	0.314
RN-220	3.376E+01		3.539E+01	6.200E+01	4.532E+00	0.545
RA-223	-1.108E-01		8.900E-01	1.259E+00	2.148E-01	-0.088
AC-227	-5.168E-02		4.408E-01	7.286E-01	1.087E-01	-0.071
TH-227	-5.168E-02		4.408E-01	7.286E-01	1.290E-01	-0.071
TH-229	-8.042E-02		5.476E-01	9.231E-01	7.302E-02	-0.087
PA-231	8.256E-01		1.824E+00	3.074E+00	4.505E-01	0.269
TH-231	-1.108E-01		8.900E-01	1.259E+00	2.148E-01	-0.088
U-231	-2.015E+00		2.097E+00	2.938E+00	2.613E-01	-0.686
PA-233	-1.379E-02		7.895E-02	1.280E-01	9.778E-03	-0.108
PA-234	-1.466E-01		4.567E-01	7.314E-01	1.331E-01	-0.200
PA-234M	3.313E+00		7.557E+00	1.264E+01	1.083E+00	0.262
NP-236	-1.113E-01		9.172E-02	1.373E-01	1.170E-02	-0.811
NP-239	7.582E-02		1.967E-01	3.268E-01	3.878E-02	0.232
AM-241	3.006E-02		6.945E-02	1.083E-01	1.101E-02	0.278

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.729E-02		1.003E-01	1.663E-01	1.656E-02	0.104
AM-246	-3.349E-02		2.078E-01	3.330E-01	2.124E-02	-0.101
CM-247	6.461E-03		4.938E-02	7.982E-02	4.753E-03	0.081
CF-249	-6.999E-03		4.951E-02	7.888E-02	4.684E-03	-0.089
CF-251	1.762E-02		1.468E-01	2.345E-01	1.845E-02	0.075

VAX/VMS Nuclide Identification Report Generated

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
*                               DETECTOR DATA                          *
*                               *                                         *
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536005      *
* Acquisition date   : 9-JAN-2010 14:10:13 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 02:00:01.56 Half life ratio : 8.000          *
*****
*                               SAMPLE DATA                             *
*                               *                                         *
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID     *
* Sample ID          : G243536005 Analyst initials: MXR1              *
* Batch Number       : 937074 Sample Quantity : 1.1736E+02 GRAM      *
* Recovery           : 1.00000 Carrier Weight : 0.00000              *
*****
*                               QC DATA                                 *
*                               *                                         *
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 MS Isotope :              *
* MSD DPM             : 0.000 MSD Isotope :                          *
* LCS DPM             : 0.000 LCS Isotope :                          *
* LCSD DPM            : 0.000 LCSD Isotope :                          *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.429E+01	2.995E+00	4.022E-01	1.528E+00
CD-109	3.098E+00	8.876E-01	6.583E-01	4.529E-01
SN-126	3.027E-01	8.673E-02	6.826E-02	4.425E-02
CE-141	6.066E-02	1.054E-01	6.001E-02	5.378E-02
TL-208	5.161E-01	1.174E-01	3.722E-02	5.990E-02
BI-210	5.247E-01	8.855E-01	4.609E-01	4.518E-01
PB-210	5.247E-01	8.855E-01	4.609E-01	4.518E-01
PO-210	5.247E-01	8.853E-01	4.609E-01	4.517E-01
BI-211	3.045E+00	5.489E-01	2.089E-01	2.800E-01
PB-212	1.442E+00	1.765E-01	5.205E-02	9.003E-02
PO-212	1.442E+00	1.765E-01	5.205E-02	9.003E-02
BI-214	8.787E-01	2.125E-01	8.344E-02	1.084E-01
PB-214	1.059E+00	1.985E-01	7.284E-02	1.013E-01
PO-214	1.059E+00	1.985E-01	7.284E-02	1.013E-01
PO-216	1.442E+00	1.765E-01	5.205E-02	9.003E-02
PO-218	1.059E+00	1.985E-01	7.284E-02	1.013E-01
RA-224	3.721E+00	1.504E+00	5.925E-01	7.676E-01
RA-226	8.787E-01	2.125E-01	8.344E-02	1.084E-01
AC-228	1.474E+00	3.869E-01	1.630E-01	1.974E-01
RA-228	1.474E+00	3.869E-01	1.630E-01	1.974E-01
TH-228	1.470E+00	1.798E-01	5.304E-02	9.176E-02
TH-230	8.787E-01	2.125E-01	8.344E-02	1.084E-01
TH-232	1.474E+00	3.869E-01	1.630E-01	1.974E-01
TH-234	9.415E-01	1.150E+00	5.421E-01	5.870E-01
U-234	8.787E-01	2.125E-01	8.344E-02	1.084E-01
U-235	1.859E-01	3.243E-01	1.923E-01	1.655E-01
NP-237	8.888E-01	3.117E-01	1.902E-01	1.590E-01
U-238	9.415E-01	1.150E+00	5.421E-01	5.870E-01
AM-243	3.515E-01	6.520E-02	3.108E-02	3.327E-02
ANH-511	8.333E-02	9.649E-02	3.221E-02	4.923E-02

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

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.839E-01	4.221E-01	3.729E-01	2.154E-01 NOT IDENT.
NA-22	4.185E-02	6.233E-02	5.562E-02	3.180E-02 NOT IDENT.
NA-24	4.654E+07	8.800E+07	0.000E+00	4.490E+07 SHORT HLIF
AL-26	1.498E-02	4.502E-02	3.978E-02	2.297E-02 NOT IDENT.
TI-44	3.337E-01	5.113E-02	2.963E-02	2.609E-02 FAIL ABUN
SC-46	4.969E-02	6.115E-02	5.470E-02	3.120E-02 FAIL ABUN
V-48	-4.374E-02	1.219E-01	9.914E-02	6.221E-02 NOT IDENT.
CR-51	-2.067E-01	4.882E-01	4.025E-01	2.491E-01 NOT IDENT.
MN-52	-2.031E-01	5.685E-01	4.565E-01	2.900E-01 NOT IDENT.
MN-54	-2.058E-02	5.419E-02	4.496E-02	2.765E-02 NOT IDENT.
CO-56	4.200E-04	5.911E-02	5.034E-02	3.016E-02 NOT IDENT.
CO-57	1.926E-02	2.699E-02	2.360E-02	1.377E-02 NOT IDENT.
CO-58	-5.386E-02	5.719E-02	4.529E-02	2.918E-02 NOT IDENT.
FE-59	2.853E-02	1.495E-01	1.257E-01	7.630E-02 NOT IDENT.
CO-60	3.678E-03	5.668E-02	4.809E-02	2.892E-02 NOT IDENT.
ZN-65	-4.376E-02	1.520E-01	1.038E-01	7.755E-02 NOT IDENT.
GE-68	5.279E-01	1.786E+00	1.520E+00	9.112E-01 NOT IDENT.
AS-73	-9.172E-02	2.632E-01	2.241E-01	1.343E-01 NOT IDENT.
AS-74	2.723E-02	1.438E-01	1.228E-01	7.339E-02 NOT IDENT.
SE-75	2.539E-02	5.332E-02	4.540E-02	2.720E-02 NOT IDENT.
BR-77	2.041E+01	4.462E+01	0.000E+00	2.277E+01 SHORT HLIF
SR-82	-3.662E-01	5.889E-01	4.828E-01	3.005E-01 NOT IDENT.
RB-83	6.400E-02	9.496E-02	8.439E-02	4.845E-02 NOT IDENT.
RB-84	2.359E-03	1.214E-01	8.448E-02	6.194E-02 NOT IDENT.
KR-85	9.137E+00	1.115E+01	9.795E+00	5.688E+00 NOT IDENT.
SR-85	4.885E-02	5.960E-02	4.702E-02	3.041E-02 NOT IDENT.
RB-86	1.001E+00	1.283E+00	1.134E+00	6.547E-01 NOT IDENT.
Y-88	-8.261E-03	4.370E-02	3.552E-02	2.230E-02 NOT IDENT.
ZR-88	-4.132E-03	3.986E-02	3.283E-02	2.033E-02 NOT IDENT.
Y-91	2.370E+01	2.936E+01	2.633E+01	1.498E+01 NOT IDENT.
NB-94	1.583E-02	4.809E-02	4.077E-02	2.454E-02 NOT IDENT.
NB-95	5.683E-02	6.178E-02	5.600E-02	3.152E-02 NOT IDENT.
NB-95M	8.879E-02	1.652E-01	1.300E-01	8.427E-02 NOT IDENT.
ZR-95	6.694E-02	1.079E-01	9.275E-02	5.503E-02 NOT IDENT.
NB-97	-3.602E+06	6.891E+06	0.000E+00	3.516E+06 SHORT HLIF
ZR-97	2.734E+08	1.327E+08	0.000E+00	6.772E+07 SHORT HLIF
MO-99	5.989E-01	4.758E+01	3.926E+01	2.428E+01 NOT IDENT.
TC-99M	1.547E+21	2.854E+21	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-3.253E-03	3.741E-02	3.178E-02	1.908E-02 NOT IDENT.
RH-102	3.544E-02	3.726E-02	3.383E-02	1.901E-02 NOT IDENT.
RU-103	1.207E-02	5.707E-02	4.957E-02	2.912E-02 FAIL ABUN
RH-106	3.358E-01	4.592E-01	4.025E-01	2.343E-01 FAIL ABUN
RU-106	3.358E-01	4.580E-01	4.025E-01	2.337E-01 FAIL ABUN
AG-108M	-1.059E-02	4.203E-02	3.598E-02	2.144E-02 NOT IDENT.
AG-110M	-2.144E-02	5.006E-02	4.047E-02	2.554E-02 NOT IDENT.
IN-111	-1.204E+00	3.457E+00	2.569E+00	1.764E+00 NOT IDENT.
IN-113M	-4.744E-02	5.788E-02	4.541E-02	2.953E-02 NOT IDENT.
SN-113	-4.744E-02	5.788E-02	4.541E-02	2.953E-02 NOT IDENT.
IN-114M	1.663E-01	2.309E-01	1.871E-01	1.178E-01 NOT IDENT.
CD-115	-1.451E+01	4.704E+01	0.000E+00	2.400E+01 SHORT HLIF
SN-117M	-4.931E-03	7.374E-02	6.132E-02	3.762E-02 NOT IDENT.
SB-122	3.183E+00	7.575E+00	6.593E+00	3.865E+00 NOT IDENT.
I-123	6.006E+07	9.556E+08	0.000E+00	4.875E+08 SHORT HLIF
TE-123M	1.977E-03	3.145E-02	2.631E-02	1.605E-02 NOT IDENT.
I-124	-7.169E-01	2.083E+00	1.468E+00	1.063E+00 NOT IDENT.
SB-124	7.093E-02	1.011E-01	9.275E-02	5.158E-02 FAIL ABUN
SB-125	5.989E-02	1.117E-01	1.001E-01	5.701E-02 FAIL ABUN
TE-125M	5.751E+00	9.982E+00	8.748E+00	5.093E+00 NOT IDENT.
I-126	1.045E-01	3.220E-01	2.742E-01	1.643E-01 NOT IDENT.
SB-126	4.332E-02	2.905E-01	2.103E-01	1.482E-01 NOT IDENT.
SB-127	7.125E-01	4.014E+00	3.378E+00	2.048E+00 NOT IDENT.
XE-127	2.998E-02	5.633E-02	5.047E-02	2.874E-02 FAIL ABUN
I-131	6.865E-02	1.998E-01	1.703E-01	1.019E-01 NOT IDENT.
TE-132	-3.979E-01	1.752E+00	1.509E+00	8.940E-01 NOT IDENT.
BA-133	-5.209E-03	6.524E-02	4.760E-02	3.329E-02 NOT IDENT.
I-133	7.934E+04	1.907E+05	0.000E+00	9.732E+04 SHORT HLIF
CS-134	8.122E-02	6.878E-02	6.299E-02	3.509E-02 NOT IDENT.
CS-135	1.191E-01	2.096E-01	1.637E-01	1.069E-01 NOT IDENT.
I-135	-4.820E+19	1.890E+20	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-1.221E-01	2.019E-01	1.596E-01	1.030E-01 FAIL ABUN
BA-137M	4.081E-02	4.938E-02	4.347E-02	2.519E-02 NOT IDENT.
CS-137	4.314E-02	5.220E-02	4.596E-02	2.663E-02 NOT IDENT.
CE-139	1.175E-02	3.532E-02	2.979E-02	1.802E-02 NOT IDENT.
BA-140	3.822E-01	4.564E-01	3.942E-01	2.328E-01 NOT IDENT.
LA-140	-6.328E-02	1.446E-01	1.122E-01	7.379E-02 FAIL ABUN

CE-143	4.471E+03	1.713E+03	0.000E+00	8.738E+02	SHORT HLIF
CE-144	-3.339E-03	2.292E-01	1.938E-01	1.170E-01	NOT IDENT.
PM-144	6.891E-03	4.714E-02	3.953E-02	2.405E-02	NOT IDENT.
PR-144	4.679E-01	3.201E+00	2.684E+00	1.633E+00	NOT IDENT.
PM-146	3.347E-02	5.303E-02	4.753E-02	2.706E-02	NOT IDENT.
ND-147	3.115E-01	9.598E-01	8.342E-01	4.897E-01	NOT IDENT.
PM-149	2.746E+02	3.702E+02	0.000E+00	1.889E+02	SHORT HLIF
EU-152	9.745E-02	1.175E-01	1.031E-01	5.993E-02	FAIL ABUN
GD-153	-2.785E-02	8.736E-02	6.517E-02	4.457E-02	FAIL ABUN
EU-154	1.110E-01	1.734E-01	1.543E-01	8.848E-02	NOT IDENT.
EU-155	1.117E-01	1.096E-01	9.754E-02	5.589E-02	FAIL ABUN
TB-160	-1.052E-02	2.344E-01	1.821E-01	1.196E-01	FAIL ABUN
HO-166M	-9.583E-03	9.237E-02	7.415E-02	4.713E-02	FAIL ABUN
TM-171	3.598E+00	1.706E+01	1.375E+01	8.704E+00	NOT IDENT.
LU-176	1.085E-02	2.942E-02	2.545E-02	1.501E-02	FAIL ABUN
LU-177	4.512E+00	2.200E+00	1.688E+00	1.123E+00	FAIL ABUN
LU-177M	7.683E-02	2.433E-01	2.045E-01	1.241E-01	NOT IDENT.
HF-181	2.097E-03	5.618E-02	4.844E-02	2.866E-02	NOT IDENT.
W-181	1.504E-02	2.144E-01	1.721E-01	1.094E-01	NOT IDENT.
TA-182	1.522E-02	3.047E-01	2.602E-01	1.555E-01	FAIL ABUN
RE-183	-4.450E-02	1.352E-01	1.074E-01	6.897E-02	FAIL ABUN
RE-184	-5.126E-02	2.696E-01	2.305E-01	1.376E-01	NOT IDENT.
OS-185	1.596E-02	6.435E-02	5.470E-02	3.283E-02	NOT IDENT.
RE-188	1.702E-02	2.070E-01	1.737E-01	1.056E-01	NOT IDENT.
W-188	-2.847E+00	1.011E+01	7.407E+00	5.159E+00	FAIL ABUN
IR-192	6.433E-03	4.252E-02	3.627E-02	2.169E-02	FAIL ABUN
AU-195	2.761E-01	2.460E-01	2.058E-01	1.255E-01	FAIL ABUN
TL-200	-7.905E+03	7.289E+03	0.000E+00	3.719E+03	SHORT HLIF
TL-201	-8.946E+00	1.998E+01	1.623E+01	1.019E+01	NOT IDENT.
TL-202	5.041E-02	1.185E-01	1.051E-01	6.047E-02	NOT IDENT.
HG-203	6.449E-03	4.933E-02	4.248E-02	2.517E-02	FAIL ABUN
BI-207	8.292E-03	7.774E-02	6.518E-02	3.966E-02	FAIL ABUN
TL-207	-1.108E-01	8.722E-01	6.382E-01	4.450E-01	FAIL ABUN
PO-209	5.700E+00	1.120E+01	9.817E+00	5.713E+00	NOT IDENT.
PB-211	-1.167E+00	1.424E+00	9.580E-01	7.264E-01	NOT IDENT.
BI-212	7.523E-01	6.070E-01	4.272E-01	3.097E-01	FAIL ABUN
PO-215	-1.108E-01	8.722E-01	6.382E-01	4.450E-01	FAIL ABUN
RN-219	2.885E-01	5.447E-01	4.639E-01	2.779E-01	FAIL ABUN
RN-220	3.376E+01	3.468E+01	3.124E+01	1.770E+01	NOT IDENT.
RA-223	-1.108E-01	8.722E-01	6.382E-01	4.450E-01	FAIL ABUN
AC-227	-5.168E-02	4.319E-01	3.701E-01	2.204E-01	NOT IDENT.
TH-227	-5.168E-02	4.320E-01	3.701E-01	2.204E-01	FAIL ABUN
TH-229	-8.042E-02	5.366E-01	4.703E-01	2.738E-01	FAIL ABUN
PA-231	8.256E-01	1.788E+00	1.560E+00	9.122E-01	NOT IDENT.
TH-231	-1.108E-01	8.722E-01	6.382E-01	4.450E-01	FAIL ABUN
U-231	-2.015E+00	2.055E+00	1.508E+00	1.049E+00	FAIL ABUN
PA-233	-1.379E-02	7.737E-02	6.490E-02	3.947E-02	FAIL ABUN
PA-234	-1.466E-01	4.476E-01	3.664E-01	2.284E-01	FAIL ABUN
PA-234M	3.313E+00	7.406E+00	6.328E+00	3.779E+00	NOT IDENT.
NP-236	-1.113E-01	8.989E-02	7.010E-02	4.586E-02	NOT IDENT.
NP-239	7.582E-02	1.928E-01	1.674E-01	9.837E-02	FAIL ABUN
AM-241	3.006E-02	6.806E-02	5.584E-02	3.472E-02	NOT IDENT.
CM-243	1.729E-02	9.828E-02	8.529E-02	5.014E-02	FAIL ABUN
AM-246	-3.349E-02	2.036E-01	1.666E-01	1.039E-01	NOT IDENT.
CM-247	6.461E-03	4.840E-02	4.036E-02	2.469E-02	NOT IDENT.
CF-249	-6.999E-03	4.852E-02	3.990E-02	2.475E-02	NOT IDENT.
CF-251	1.762E-02	1.438E-01	1.196E-01	7.338E-02	NOT IDENT.

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*****
*                                     *
*               GEL Laboratories LLC   *
*               2040 SAVAGE ROAD      *
*               CHARLESTON ,SC 29417  *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT *
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ENERGY	MDA COUNTS
46.50	312.7871
46.50	312.7871
46.50	312.7871
48.70	330.7473
49.72	309.4979
51.35	330.9713
52.39	324.7147
52.97	338.2032
53.15	335.0407
53.44	335.4204
54.07	322.5876
56.28	356.2961
56.28	356.3003
57.37	0.0000
57.53	361.4235
57.53	361.4266
57.60	369.3009
57.98	364.6223
57.98	364.6223
59.32	347.2630
59.32	347.2630
59.40	347.3635
59.54	347.5390
59.72	371.2983
60.01	371.6861
61.10	365.2504
61.14	365.3024
61.30	385.2309
63.00	394.1449
63.29	394.5405
63.29	394.5405
63.58	394.9361
64.28	422.4554
65.12	417.0022
65.20	417.1150
65.20	417.1150
66.05	407.6192
66.72	409.8685
66.83	410.0226
66.91	410.1299
67.20	410.5245
67.20	410.5245
67.75	403.2051
67.85	403.3401
68.90	434.4072
68.90	434.4072
69.30	418.7597
69.67	442.2566
70.82	419.4528
70.82	419.4528
70.83	419.4669
72.80	386.8397
72.87	386.9239
72.87	386.9239
74.67	389.0846
74.81	389.2509
74.81	389.2509
74.81	389.2509
74.81	389.2509
74.81	389.2509
74.81	389.2509
74.81	389.2509
74.97	389.4432
75.28	389.8105
75.70	390.3097
77.11	391.9734
77.11	391.9734

77.11	391.9734
77.11	391.9734
77.11	391.9734
77.11	391.9734
77.11	391.9734
78.38	361.2253
79.62	362.5464
79.80	362.7368
79.80	362.7368
80.11	363.0641
80.18	363.1395
80.30	363.2645
80.30	363.2645
80.57	363.5501
81.00	366.8024
81.07	366.8773
81.07	366.8773
81.07	366.8773
81.07	366.8773
82.60	511.9500
83.37	513.0636
83.78	513.6635
83.78	513.6635
83.78	513.6635
83.78	513.6635
84.21	514.2855
84.90	515.2797
85.43	516.0406
86.29	517.2709
86.50	517.5709
86.54	517.6264
86.59	517.6986
86.72	517.8819
86.79	517.9791
86.94	518.1957
87.30	518.7067
87.30	518.7067
87.30	518.7067
87.30	518.7067
87.30	518.7067
87.30	518.7067
87.57	573.2806
87.88	0.0000
88.03	508.3169
88.36	508.7732
88.47	431.7288
89.95	433.4499
91.11	434.7909
92.29	580.5648
92.38	458.3989
92.38	458.3989
93.35	459.5610
94.00	460.3358
94.67	461.1274
94.67	461.1347
94.90	461.4059
94.90	461.4059
94.90	461.4059
94.90	461.4059
95.87	335.2541
95.87	335.2541
96.73	337.4519
97.43	321.9484
98.44	284.6208
98.44	284.6208
98.88	293.7469
99.55	289.3328
99.55	289.3328
99.86	320.9642
100.00	328.9307
100.10	329.0142
103.18	361.1812
103.76	316.1038
105.00	287.2287
105.31	287.4404
108.00	355.3286
109.28	292.1367

111.00	301.3572
111.00	301.3572
111.76	306.9270
112.95	307.7558
115.19	301.1640
116.30	289.6653
117.00	256.4015
117.00	256.4015
117.66	259.8420
121.11	270.0343
121.62	267.2334
121.78	267.3243
122.06	253.0251
122.32	260.3979
122.32	260.3979
122.32	260.3979
122.32	260.3979
123.07	261.8469
127.23	337.2099
129.76	263.4014
131.20	329.4231
133.02	301.0498
133.54	290.7860
135.34	265.2944
136.00	277.3258
136.25	277.4612
136.48	304.1747
140.51	282.9707
140.51	0.0000
142.18	329.0316
142.65	345.4675
143.76	279.3266
144.24	255.8290
144.24	255.8290
144.24	255.8290
144.24	255.8290
145.22	251.4304
145.44	253.1572
147.16	271.8719
152.43	287.0929
152.70	280.6537
153.22	263.3569
154.21	261.6223
154.21	261.6223
154.21	261.6223
154.21	261.6223
155.03	292.8289
156.02	320.9099
158.56	253.6648
159.00	0.0000
159.00	242.7727
160.31	289.9876
161.27	293.8069
162.32	254.1992
162.64	248.7608
163.35	243.4759
163.89	260.4682
165.85	268.0605
167.43	278.8915
171.28	217.2949
171.86	239.0256
172.10	240.2511
176.55	259.1066
176.60	246.5706
181.06	275.9106
184.41	249.6182
185.71	258.8038
186.00	258.9198
190.27	233.6736
192.34	273.7022
193.63	242.5887
197.04	230.5634
198.01	245.9288
198.60	250.5679
200.40	0.0000
201.83	269.5357
202.84	250.3278
205.31	251.7496

208.36	257.1464
208.81	257.3081
209.75	204.3902
209.75	204.3902
210.97	216.2732
215.65	196.8119
216.55	218.8475
218.09	212.0273
222.10	198.5353
223.80	193.4821
226.40	232.7943
227.00	220.0856
227.08	220.1093
227.20	231.1953
228.16	221.3416
228.18	214.8911
228.18	214.8911
231.56	0.0000
235.69	248.8325
236.00	248.9303
236.00	248.9303
238.63	209.3796
238.63	209.3796
238.63	209.3796
238.63	209.3796
239.00	0.0000
240.98	209.9991
241.98	210.2615
241.98	210.2615
241.98	210.2615
244.69	182.3390
245.39	200.5943
247.94	182.6364
248.90	200.7022
249.79	0.0000
252.40	197.7517
252.85	200.7134
252.85	200.7134
254.15	0.0000
256.20	195.7887
256.20	195.7887
260.50	183.3496
260.90	0.0000
262.80	187.6923
264.65	179.6911
268.24	199.9185
268.79	214.0044
269.46	217.2700
269.46	217.2700
269.46	217.2700
269.46	217.2700
271.23	192.8297
273.65	221.4278
276.40	178.9008
277.35	186.9198
277.60	186.9723
277.60	186.9723
278.00	199.7884
278.60	187.1821
279.20	184.3654
279.53	196.2036
280.46	217.0309
281.68	0.0000
283.67	171.4804
284.30	192.3072
285.00	188.5082
285.90	0.0000
286.10	162.0531
286.10	162.0531
287.40	192.9588
288.45	0.0000
290.67	185.8946
290.80	190.6890
291.72	195.6499
293.26	0.0000
293.70	173.7480
295.21	221.5258
295.21	221.5258

295.21	221.5258
295.96	257.2541
296.50	279.7821
297.23	0.0000
298.57	177.8520
299.80	186.1013
299.80	186.1013
300.09	165.2954
300.09	165.2954
300.09	165.2954
300.09	165.2954
300.12	165.3004
301.29	184.7861
302.84	224.3134
303.76	0.0000
303.91	220.5338
304.40	206.5421
304.40	206.5421
304.84	178.4125
306.84	160.6013
308.46	159.8564
311.98	170.5840
316.51	156.0653
318.01	160.3850
319.02	157.4801
319.41	157.5412
320.08	165.8340
323.87	156.1841
323.87	156.1841
323.87	156.1841
323.87	156.1841
325.23	153.1003
328.77	170.1487
333.44	185.2996
334.20	195.1229
334.20	195.1229
334.30	195.1429
338.28	150.0381
338.28	150.0381
338.28	150.0381
338.28	150.0381
338.32	150.0447
338.32	150.0447
338.32	150.0447
340.50	167.0605
340.57	167.0728
344.27	137.2666
345.85	142.7174
350.59	0.0000
351.07	158.1711
351.92	158.2947
351.92	158.2947
351.92	158.2947
355.39	0.0000
356.01	150.8394
364.48	132.3555
366.43	139.0018
367.43	161.5988
367.94	0.0000
369.80	139.4164
374.96	170.2136
383.85	146.5583
387.95	131.8194
388.63	115.5445
391.69	151.9082
391.69	151.9082
392.90	136.7474
398.62	151.6913
400.65	144.2367
401.10	135.4800
401.81	138.8661
402.60	143.3678
404.84	164.6239
410.95	146.5684
411.60	167.7529
413.65	145.7739
414.70	141.4429
415.30	138.1680

415.76	143.7924
417.63	0.0000
418.52	150.8121
423.70	123.3891
427.08	106.8475
427.89	114.3419
432.53	139.1527
433.93	138.3985
439.47	0.0000
439.56	142.6339
439.89	142.6703
443.98	125.7953
444.90	120.4097
445.03	117.6842
445.03	117.6842
445.03	117.6842
445.03	117.6842
453.90	104.6944
463.38	118.6848
468.07	111.3589
473.00	128.5192
475.06	102.5946
475.35	101.6819
476.78	111.1253
477.59	105.5830
477.96	113.0874
482.03	107.7914
484.57	0.0000
487.03	106.2906
490.36	0.0000
492.35	0.0000
497.08	112.7188
507.63	0.0000
510.53	0.0000
510.84	118.5614
511.00	118.5742
511.85	118.6431
511.85	118.6431
513.99	132.5472
513.99	132.5472
520.41	102.9640
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	93.9095
529.87	0.0000
531.02	104.6540
537.32	102.1648
543.00	118.1611
546.56	0.0000
549.76	91.2108
552.65	120.8529
555.20	115.1433
563.23	104.8432
563.90	100.9267
568.70	114.1296
569.32	112.1862
569.50	112.2000
569.67	112.2110
573.80	98.4471
574.00	98.4592
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	89.1065
585.48	0.0000
591.81	84.5373
592.07	84.5496
593.00	111.7886
595.88	100.8838
600.56	107.2318
602.52	0.0000
602.71	124.9232
602.71	124.9232
603.60	97.9647
604.41	91.2502
604.70	91.2656
609.31	125.4049

609.31	125.4049
609.31	125.4049
609.31	125.4049
610.33	111.9148
612.46	110.3540
614.37	122.3730
618.01	107.2994
621.84	96.2697
621.84	96.2697
631.29	103.9935
633.02	86.5737
633.10	86.5778
634.78	95.9448
635.90	108.3940
636.97	127.0510
645.85	94.4614
646.12	102.7802
656.30	120.0593
657.75	108.6617
657.90	0.0000
661.65	87.9519
661.65	87.9519
664.57	0.0000
666.33	102.8689
666.33	102.8689
675.00	105.4565
677.61	107.7126
685.20	96.4831
692.80	94.7385
695.00	88.4509
696.49	91.7193
696.49	91.7193
697.00	91.7445
697.49	96.0359
698.33	104.6179
698.50	106.7603
699.00	109.9932
702.63	99.5005
706.10	113.6110
706.58	0.0000
706.67	113.6420
709.31	98.7652
711.68	103.1859
713.82	117.2841
717.42	87.3163
720.50	89.9699
721.93	0.0000
722.20	88.2463
722.78	93.6766
722.78	93.6766
722.89	99.0855
722.95	99.0900
723.30	99.1056
724.18	106.3613
727.18	112.6582
733.00	105.0188
735.90	101.1806
739.58	98.0925
742.81	86.2404
744.21	87.3926
747.13	90.7975
751.79	94.2935
752.31	88.8330
753.82	93.2883
755.35	0.0000
756.15	83.5054
756.87	82.4341
763.93	103.8523
765.79	91.0662
766.42	81.8930
766.84	81.9093
776.49	97.0767
778.00	89.7435
778.57	96.2453
778.89	99.9624
783.80	76.0726
785.46	89.1289
792.07	94.0608

795.84	86.7618
796.30	85.8457
798.80	115.8388
801.93	86.0684
805.60	75.9045
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810.76	94.8704
815.85	73.4344
817.79	0.0000
818.51	81.0642
819.60	89.5901
826.30	89.8607
828.27	0.0000
831.60	77.7458
831.96	72.0695
834.83	100.6452
836.80	0.0000
846.75	85.9021
848.13	84.0451
856.28	0.0000
856.80	95.8659
860.37	81.6105
867.32	100.1512
867.82	89.5791
871.10	86.8103
873.19	82.0601
874.81	87.9137
875.33	0.0000
876.40	95.7068
879.36	82.2763
880.27	82.3074
880.51	82.3161
881.50	78.4737
883.24	86.2876
884.67	90.2205
889.25	74.8428
896.60	78.9730
898.02	93.6523
899.00	100.5210
903.28	92.6823
911.07	85.7512
911.07	85.7512
911.07	85.7512
919.63	72.0458
920.93	67.9485
925.00	71.0200
925.24	68.0679
926.50	63.1667
935.52	58.4442
937.48	77.3256
944.10	68.5845
946.00	84.5504
949.00	74.6933
962.29	82.3778
964.01	66.1182
966.15	66.1732
968.20	66.2256
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969.11	90.3406
969.11	90.3406
977.42	87.6107
980.50	60.4919
983.50	77.7222
989.30	67.7783
996.32	96.3607
1001.03	73.1602
1001.68	78.2611
1004.76	88.5275
1021.30	0.0000
1024.50	0.0000
1034.80	77.1729
1036.00	80.2947
1037.82	87.5594
1038.57	89.6444
1038.76	0.0000
1045.16	87.7946
1046.59	83.7059
1048.07	86.8540

1050.47	58.9877
1050.47	58.9877
1062.04	73.7821
1063.62	74.8623
1076.63	58.4974
1077.35	65.8250
1078.86	72.1333
1085.78	72.3102
1099.22	81.0731
1112.02	73.8381
1112.84	82.5132
1115.52	83.4969
1120.29	79.9986
1120.29	79.9986
1120.29	79.9986
1120.29	79.9986
1120.51	80.0047
1121.28	85.9373
1124.00	0.0000
1129.67	67.4858
1131.51	0.0000
1147.95	0.0000
1167.94	101.3017
1173.22	87.4435
1175.09	84.2556
1177.93	92.9847
1189.05	87.4300
1204.90	84.1396
1205.75	0.0000
1213.00	102.1647
1221.42	101.4986
1230.97	95.2088
1235.34	101.9468
1236.41	0.0000
1238.25	92.5928
1246.25	77.6672
1260.41	0.0000
1271.85	69.6902
1274.45	58.2810
1274.54	58.2832
1291.56	49.9415
1298.22	0.0000
1312.09	52.1807
1325.50	55.2983
1325.50	55.2983
1332.49	50.5527
1333.61	44.7342
1360.21	41.1606
1362.66	0.0000
1365.15	58.8846
1368.21	48.1301
1368.53	0.0000
1376.25	57.1018
1384.27	46.3787
1394.10	33.6431
1395.20	35.6334
1407.95	31.7879
1434.06	43.0240
1436.60	41.0515
1457.56	0.0000
1460.81	36.2838
1489.15	31.4822
1509.49	20.4206
1596.49	31.3194
1620.62	25.2054
1678.03	0.0000
1691.02	12.8186
1691.02	12.8186
1706.46	0.0000
1750.46	0.0000
1764.49	19.9669
1764.49	19.9669
1764.49	19.9669
1764.49	19.9669
1770.23	8.4625
1771.40	6.7719
1791.20	0.0000
1808.65	18.2456

1836.01

15.4580

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536005

Total Uranium Activity	2.8870E+00	ug/g
Total Uranium Counting Unc.	3.4258E+00	ug/g
Total Uranium Tpu	1.7479E-06	ug/g
Total Uranium Mda	1.6151E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G243536005
*  ANALYST       : MXR1            DETECTOR    : GAM13
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 9-JAN-2010 14:10:13.22  SAMPLE ALQT: 117.360 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.822E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.761E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.248E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.576E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:13:00.19

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536006.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:10:49.
Sample ID          : G243536006 Sample quantity : 1.31690E+02 GRAM
Detector name      : GAM14 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.60*	70	432	1.24	126.76	122	9	9.78E-03	55.7	
2	1	74.85*	348	411	1.54	149.22	144	16	4.84E-02	12.4	1.93E+00
3	1	77.23*	504	330	1.29	153.99	144	16	7.00E-02	8.3	
4	0	87.21*	149	346	1.49	173.92	171	7	2.08E-02	22.5	
5	0	92.91*	140	565	1.46	185.31	181	11	1.95E-02	35.7	
6	0	185.87*	160	242	1.85	371.06	366	9	2.23E-02	20.1	
7	0	208.97	83	166	0.90	417.21	414	8	1.16E-02	28.8	
8	3	238.48*	783	178	1.43	476.19	469	22	1.09E-01	4.9	1.54E+00
9	3	241.66	216	185	2.06	482.54	469	22	3.01E-02	19.0	
10	0	269.56	113	191	1.66	538.30	533	12	1.57E-02	26.1	
11	0	294.85	311	178	1.32	588.84	583	12	4.32E-02	10.3	
12	0	338.13	141	171	1.18	675.34	668	12	1.95E-02	20.4	
13	0	351.57	451	133	1.56	702.20	697	12	6.27E-02	6.9	
14	0	463.12*	55	111	1.20	925.16	918	12	7.65E-03	41.2	
15	0	510.70*	122	127	2.51	1020.26	1010	23	1.69E-02	28.4	
16	0	582.92*	224	92	1.17	1164.63	1160	12	3.11E-02	11.1	
17	0	609.21	321	84	1.42	1217.20	1211	13	4.46E-02	8.2	
18	0	661.36	292	80	1.45	1321.46	1314	14	4.06E-02	8.8	
19	0	726.47	107	41	1.87	1451.63	1444	15	1.48E-02	16.3	
20	0	768.09*	49	39	1.66	1534.86	1528	13	6.80E-03	34.3	
21	0	861.11	68	53	1.35	1720.87	1713	15	9.38E-03	27.0	
22	0	910.98	159	50	1.65	1820.60	1815	13	2.20E-02	12.1	
23	0	970.08	51	80	1.83	1938.80	1930	12	7.14E-03	37.6	
24	0	1120.04*	73	60	1.53	2238.77	2230	17	1.01E-02	27.2	
25	0	1460.68*	1005	16	1.91	2920.34	2909	22	1.40E-01	3.3	
26	0	1729.89	16	12	2.55	3459.19	3451	13	2.27E-03	51.2	
27	0	1764.98	43	30	1.64	3529.43	3520	18	5.98E-03	34.0	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536006.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:10:49
Sample ID         : G243536006 Sample quantity : 131.69 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA14 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00 %
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.217E+01	2.189E+00	3.742E-01	2.717E-02	59.257
CD-109	+	88.03	*	1.672E+00	7.651E-01	1.179E+00	1.031E-01	1.419
SN-126	+	64.28		4.473E-01	5.023E-01	6.341E-01	9.036E-02	0.705
	+	86.94		6.793E-01	4.148E-01	4.901E-01	2.027E-01	1.386
	+	87.57	*	1.634E-01	7.476E-02	1.180E-01	1.026E-02	1.385
CS-135	+	268.24	*	3.948E-01	2.081E-01	2.043E-01	1.567E-02	1.933
BA-137M	+	661.65	*	3.751E-01	6.936E-02	5.190E-02	3.086E-03	7.227
CS-137	+	661.65	*	3.965E-01	7.335E-02	5.486E-02	3.275E-03	7.227
TL-208		277.35		3.297E-01	3.297E-01	5.607E-01	5.929E-02	0.588
	+	510.84		5.212E-01	3.008E-01	1.632E-01	1.663E-02	3.194
	+	583.14	*	2.745E-01	6.355E-02	5.079E-02	3.474E-03	5.404
	+	860.37		7.949E-01	4.355E-01	3.939E-01	3.706E-02	2.018
BI-211		72.87		8.963E+00	2.862E+00	4.508E+00	3.322E-01	1.988
	+	351.07	*	2.378E+00	3.627E-01	2.937E-01	1.861E-02	8.098
PB-212	+	74.81		1.525E+00	4.199E-01	4.198E-01	5.035E-02	3.633
	+	77.11		1.263E+00	2.303E-01	2.410E-01	1.855E-02	5.243
	+	87.30		7.557E-01	3.539E-01	5.565E-01	7.367E-02	1.358
	+	238.63	*	8.986E-01	1.091E-01	7.341E-02	5.347E-03	12.241
		300.09		1.101E+00	7.588E-01	1.202E+00	9.941E-02	0.916
PO-212	+	74.81		1.525E+00	4.199E-01	4.198E-01	5.035E-02	3.633
	+	77.11		1.263E+00	2.303E-01	2.410E-01	1.855E-02	5.243
	+	87.30		7.557E-01	3.539E-01	5.565E-01	7.367E-02	1.358
		115.19		1.695E+00	3.039E+00	5.012E+00	3.647E-01	0.338
	+	238.63	*	8.986E-01	1.091E-01	7.341E-02	5.347E-03	12.241
		300.09		1.101E+00	7.588E-01	1.202E+00	9.941E-02	0.916
BI-214	+	609.31	*	7.444E-01	1.362E-01	1.012E-01	8.013E-03	7.353
	+	1120.29		8.990E-01	4.962E-01	3.766E-01	3.489E-02	2.387
	+	1764.49		7.342E-01	5.014E-01	2.949E-01	1.769E-02	2.490
PB-214	+	74.81		2.628E+00	7.078E-01	7.234E-01	7.634E-02	3.633
	+	77.11		2.166E+00	4.279E-01	4.131E-01	4.475E-02	5.243
	+	87.30		1.295E+00	6.007E-01	9.534E-01	1.106E-01	1.358
	+	241.98		1.492E+00	5.788E-01	4.417E-01	3.548E-02	3.378
	+	295.21		9.671E-01	2.149E-01	1.972E-01	1.686E-02	4.903
	+	351.92	*	8.273E-01	1.333E-01	9.838E-02	8.073E-03	8.409

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		2.628E+00	7.078E-01	7.234E-01	7.634E-02	3.633
	+	77.11		2.166E+00	4.279E-01	4.131E-01	4.475E-02	5.243
	+	87.30		1.295E+00	6.007E-01	9.534E-01	1.106E-01	1.358
	+	241.98		1.492E+00	5.788E-01	4.417E-01	3.548E-02	3.378
	+	295.21		9.671E-01	2.149E-01	1.972E-01	1.686E-02	4.903
	+	351.92	*	8.273E-01	1.333E-01	9.838E-02	8.073E-03	8.409
PO-216	+	74.81		1.525E+00	4.199E-01	4.198E-01	5.035E-02	3.633
	+	77.11		1.263E+00	2.303E-01	2.410E-01	1.855E-02	5.243
	+	87.30		7.557E-01	3.539E-01	5.565E-01	7.367E-02	1.358
	+	238.63	*	8.986E-01	1.091E-01	7.341E-02	5.347E-03	12.241
PO-218		300.09		1.101E+00	7.588E-01	1.202E+00	9.941E-02	0.916
	+	74.81		2.628E+00	7.078E-01	7.234E-01	7.634E-02	3.633
	+	77.11		2.166E+00	4.279E-01	4.131E-01	4.475E-02	5.243
	+	87.30		1.295E+00	6.007E-01	9.534E-01	1.106E-01	1.358
	+	241.98		1.492E+00	5.788E-01	4.417E-01	3.548E-02	3.378
	+	295.21		9.671E-01	2.149E-01	1.972E-01	1.686E-02	4.903
RA-224	+	351.92	*	8.273E-01	1.333E-01	9.838E-02	8.073E-03	8.409
	+	240.98	*	2.829E+00	1.086E+00	8.350E-01	4.800E-02	3.389
RA-226	+	609.31	*	7.444E-01	1.362E-01	1.012E-01	8.013E-03	7.353
	+	1120.29		8.990E-01	4.962E-01	3.766E-01	3.489E-02	2.387
	+	1764.49		7.342E-01	5.014E-01	2.949E-01	1.769E-02	2.490
AC-228	+	338.32		8.160E-01	4.709E-01	3.006E-01	1.225E-01	2.715
	+	911.07	*	8.846E-01	2.378E-01	1.720E-01	2.020E-02	5.142
	+	969.11		5.071E-01	3.997E-01	2.800E-01	6.538E-02	1.812
RA-228	+	338.32		8.160E-01	4.709E-01	3.006E-01	1.225E-01	2.715
	+	911.07	*	8.846E-01	2.378E-01	1.720E-01	2.020E-02	5.142
	+	969.11		5.071E-01	3.997E-01	2.800E-01	6.538E-02	1.812
TH-228	+	74.81		1.554E+00	4.029E-01	4.279E-01	3.251E-02	3.633
	+	77.11		1.288E+00	2.347E-01	2.456E-01	1.891E-02	5.243
	+	87.30		7.702E-01	3.524E-01	5.672E-01	4.919E-02	1.358
	+	238.63	*	9.158E-01	1.111E-01	7.482E-02	5.450E-03	12.241
TH-230		300.09		1.122E+00	1.013E+00	1.225E+00	7.220E-01	0.916
	+	609.31	*	7.444E-01	1.362E-01	1.012E-01	8.013E-03	7.353
	+	1120.29		8.990E-01	4.962E-01	3.766E-01	3.489E-02	2.387
	+	1764.49		7.342E-01	5.014E-01	2.949E-01	1.769E-02	2.490
TH-232	+	338.32		8.160E-01	3.367E-01	3.006E-01	1.727E-02	2.715
	+	911.07	*	8.846E-01	2.378E-01	1.720E-01	2.020E-02	5.142
	+	969.11		5.071E-01	3.997E-01	2.800E-01	6.538E-02	1.812
TH-234	+	63.29	*	1.130E+00	1.274E+00	1.553E+00	2.669E-01	0.728
	+	92.38		1.010E+00	7.444E-01	8.110E-01	1.457E-01	1.246
U-234	+	609.31	*	7.444E-01	1.362E-01	1.012E-01	8.013E-03	7.353
	+	1120.29		8.990E-01	4.962E-01	3.766E-01	3.489E-02	2.387
	+	1764.49		7.342E-01	5.014E-01	2.949E-01	1.769E-02	2.490
	+	86.50	*	4.798E-01	2.408E-01	3.275E-01	7.320E-02	1.465
NP-237		95.87		-7.324E-01	9.557E-01	1.271E+00	3.108E-01	-0.576
	+	63.29	*	1.130E+00	1.274E+00	1.553E+00	2.669E-01	0.728
U-238	+	92.38		1.010E+00	7.269E-01	8.110E-01	6.785E-02	1.246
	+	74.67	*	2.473E-01	6.403E-02	6.822E-02	5.120E-03	3.624
AM-243	+	86.72		1.799E+01	8.232E+00	1.287E+01	1.108E+00	1.398

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		7.260E-01	3.279E+00	5.333E+00	3.845E-01	0.136
		142.18		-3.862E+00	1.634E+01	2.549E+01	1.603E+00	-0.152
ANH-511	+	511.00	*	1.126E-01	6.428E-02	3.525E-02	2.071E-03	3.193

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.628E-01	2.994E-01	5.094E-01	3.433E-02	0.320
NA-22		1274.54	*	-1.004E-02	3.685E-02	5.871E-02	3.835E-03	-0.171
NA-24		1368.53	*	1.004E+01	3.685E-02	Half-Life too short		
AL-26		1129.67		-2.063E-01	1.509E+00	2.407E+00	1.520E-01	-0.086
		1808.65	*	-1.464E-02	2.656E-02	3.730E-02	2.162E-03	-0.393
TI-44		67.85		-1.344E-02	4.149E-02	5.818E-02	4.095E-03	-0.231
	+	78.38	*	2.332E-01	4.251E-02	6.140E-02	4.794E-03	3.798
SC-46		889.25	*	-8.405E-03	3.470E-02	5.668E-02	5.238E-03	-0.148
	+	1120.51		1.590E-01	8.714E-02	1.070E-01	6.927E-03	1.487
V-48		944.10		-4.303E-01	9.478E-01	1.511E+00	1.351E-01	-0.285
		983.50	*	-1.078E-02	7.707E-02	1.267E-01	1.076E-02	-0.085
		1312.09		3.040E-03	8.948E-02	1.472E-01	1.017E-02	0.021
CR-51		320.08	*	-2.091E-01	3.686E-01	5.927E-01	3.830E-02	-0.353
MN-52		744.21		1.463E-01	3.322E-01	5.578E-01	3.936E-02	0.262
		848.13		-2.148E+00	9.677E+00	1.590E+01	1.366E+00	-0.135
		935.52		6.976E-02	3.855E-01	6.536E-01	5.899E-02	0.107
		1246.25		-2.736E+00	9.474E+00	1.510E+01	9.410E-01	-0.181
		1333.61		4.809E+00	7.085E+00	1.261E+01	8.987E-01	0.381
		1434.06	*	-1.996E-02	2.994E-01	4.842E-01	3.394E-02	-0.041
MN-54		834.83	*	-7.154E-03	2.996E-02	4.914E-02	4.122E-03	-0.146
CO-56		846.75	*	-3.354E-03	3.467E-02	5.762E-02	4.939E-03	-0.058
		977.42		8.333E-01	2.569E+00	4.417E+00	3.783E-01	0.189
		1037.82		-8.576E-02	2.447E-01	3.898E-01	3.229E-02	-0.220
		1175.09		-6.962E-01	2.085E+00	3.333E+00	1.842E-01	-0.209
		1238.25		1.254E-01	8.199E-02	1.515E-01	9.842E-03	0.828
		1360.21		-3.961E-01	9.682E-01	1.502E+00	1.067E-01	-0.264
		1771.40		1.222E-01	1.663E-01	2.965E-01	1.770E-02	0.412
CO-57		122.06	*	2.313E-03	2.206E-02	3.568E-02	2.538E-03	0.065
		136.48		1.070E-01	1.863E-01	3.065E-01	2.250E-02	0.349
CO-58		810.76	*	-2.478E-02	3.346E-02	4.900E-02	3.942E-03	-0.506
FE-59		142.65		9.512E-01	2.653E+00	4.244E+00	2.661E-01	0.224
		192.34		3.574E-01	8.215E-01	1.374E+00	1.604E-01	0.260
		1099.22	*	-3.729E-02	8.683E-02	1.377E-01	1.060E-02	-0.271
		1291.56		-1.852E-02	1.131E-01	1.824E-01	1.485E-02	-0.102
CO-60		1173.22		-2.623E-02	4.174E-02	6.480E-02	3.569E-03	-0.405
		1332.49	*	1.091E-02	3.608E-02	6.138E-02	4.374E-03	0.178
ZN-65		1115.52	*	2.826E-02	8.427E-02	1.260E-01	8.285E-03	0.224
GE-68		1077.35	*	1.075E-01	1.095E+00	1.835E+00	1.319E-01	0.059
AS-73		53.44	*	-2.733E-01	5.524E-01	8.841E-01	5.763E-02	-0.309
AS-74		595.88	*	-1.308E-01	9.457E-02	1.346E-01	8.049E-03	-0.972
		634.78		1.012E-01	3.761E-01	6.236E-01	3.724E-02	0.162

----- 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		4.248E+00	4.175E+00	6.219E+00	5.655E-01	0.683
		96.73		-1.461E-01	7.663E-01	1.071E+00	1.423E-01	-0.136
		121.11		-1.030E-02	1.207E-01	1.935E-01	1.958E-02	-0.053
		136.00		2.398E-02	3.553E-02	5.868E-02	3.876E-03	0.409
		198.60		-5.082E-01	1.485E+00	2.462E+00	1.704E-01	-0.206
		264.65	*	5.862E-03	4.210E-02	6.178E-02	3.627E-03	0.095
		279.53		-6.098E-03	9.580E-02	1.592E-01	1.003E-02	-0.038
		303.91		-1.396E+00	1.913E+00	3.052E+00	2.917E-01	-0.457
		400.65		1.018E-01	2.237E-01	3.795E-01	3.380E-02	0.268
BR-77	+	87.88		1.145E-03	2.237E-01	Half-Life	too short	
		200.40		-1.267E-04	2.237E-01	Half-Life	too short	
	+	239.00		4.598E-04	2.237E-01	Half-Life	too short	
		249.79		-7.389E-05	2.237E-01	Half-Life	too short	
		281.68		-1.431E-04	2.237E-01	Half-Life	too short	
		297.23		4.460E-04	2.237E-01	Half-Life	too short	
		303.76		-2.572E-04	2.237E-01	Half-Life	too short	
		439.47		1.074E-04	2.237E-01	Half-Life	too short	
		484.57		6.271E-05	2.237E-01	Half-Life	too short	
		520.65	*	5.639E-06	2.237E-01	Half-Life	too short	
		574.64		-2.683E-04	2.237E-01	Half-Life	too short	
		578.91		1.305E-04	2.237E-01	Half-Life	too short	
		585.48		2.141E-03	2.237E-01	Half-Life	too short	
		755.35		1.262E-04	2.237E-01	Half-Life	too short	
		817.79		-2.705E-04	2.237E-01	Half-Life	too short	
SR-82		698.33		-7.719E-01	3.443E+01	5.550E+01	3.567E+00	-0.014
		776.49	*	-5.215E-02	3.612E-01	5.720E-01	4.301E-02	-0.091
		1395.20		2.342E+00	8.780E+00	1.504E+01	1.062E+00	0.156
RB-83		520.41	*	1.322E-02	6.159E-02	9.341E-02	5.506E-03	0.142
		529.64		2.762E-02	8.947E-02	1.498E-01	8.859E-03	0.184
		552.65		5.267E-02	1.558E-01	2.618E-01	1.557E-02	0.201
RB-84		881.50	*	3.416E-03	6.436E-02	1.083E-01	9.871E-03	0.032
KR-85		513.99	*	1.505E+01	6.230E+00	1.170E+01	6.882E-01	1.286
SR-85		513.99	*	8.046E-02	3.331E-02	6.256E-02	3.679E-03	1.286
RB-86		1076.63	*	8.514E-02	8.144E-01	1.365E+00	9.828E-02	0.062
Y-88		898.02		-4.499E-03	3.738E-02	6.181E-02	5.822E-03	-0.073
		1836.01	*	-4.972E-04	2.955E-02	4.751E-02	2.698E-03	-0.010
ZR-88		392.90	*	1.033E-02	2.735E-02	4.621E-02	2.516E-03	0.224
Y-91		1204.90	*	-8.068E+00	1.654E+01	2.592E+01	1.508E+00	-0.311
NB-94		702.63	*	-1.935E-03	3.091E-02	4.964E-02	3.219E-03	-0.039
		871.10		3.810E-03	2.980E-02	5.048E-02	4.519E-03	0.075
NB-95		765.79	*	1.052E-04	5.044E-02	6.494E-02	4.782E-03	0.002
NB-95M		235.69	*	5.136E-01	1.401E-01	2.354E-01	1.760E-02	2.182
ZR-95		724.18		1.490E-01	9.865E-02	1.608E-01	1.239E-02	0.927
		756.15	*	5.981E-03	6.285E-02	1.021E-01	8.423E-03	0.059
NB-97		657.90	*	6.225E+00	6.285E-02	Half-Life	too short	
		1024.50		3.993E+01	6.285E-02	Half-Life	too short	
ZR-97		254.15		3.107E+01	6.285E-02	Half-Life	too short	
		355.39		-4.489E+01	6.285E-02	Half-Life	too short	
		507.63	*	1.908E+02	6.285E-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			2.961E+02	6.285E-02	Half-Life	too short	
	1021.30			-5.036E+01	6.285E-02	Half-Life	too short	
	1147.95			-2.112E+02	6.285E-02	Half-Life	too short	
	1362.66			3.043E+01	6.285E-02	Half-Life	too short	
	1750.46			-2.174E+02	6.285E-02	Half-Life	too short	
MO-99	140.51			-5.187E+01	6.446E+01	9.724E+01	2.633E+01	-0.533
	181.06			6.327E-01	4.465E+01	6.570E+01	1.119E+01	0.010
	366.43			-3.348E+01	2.068E+02	3.387E+02	1.901E+01	-0.099
	739.58	*		-1.263E+01	2.539E+01	3.859E+01	5.527E+00	-0.327
	778.00			1.768E+01	7.725E+01	1.271E+02	9.585E+00	0.139
TC-99M	140.51	*		-1.628E+15	7.725E+01	Half-Life	too short	
RH-101	127.23			1.889E-03	2.848E-02	4.594E-02	3.160E-03	0.041
	198.01	*		-8.798E-03	2.646E-02	4.387E-02	2.434E-03	-0.201
	325.23			3.376E-02	1.977E-01	3.312E-01	1.917E-02	0.102
RH-102	418.52			-2.223E-01	2.385E-01	3.656E-01	2.035E-02	-0.608
	475.06	*		3.024E-02	2.594E-02	4.587E-02	2.651E-03	0.659
	631.29			5.262E-02	4.914E-02	8.657E-02	5.173E-03	0.608
	697.49			-2.490E-03	6.927E-02	1.115E-01	7.157E-03	-0.022
+	766.84			1.926E-01	1.329E-01	1.726E-01	1.273E-02	1.116
	1046.59			-5.558E-03	9.011E-02	1.486E-01	1.138E-02	-0.037
	1112.84			3.536E-02	1.992E-01	2.920E-01	1.929E-02	0.121
RU-103	497.08	*		-5.290E-03	3.644E-02	5.894E-02	7.464E-03	-0.090
+	610.33			8.621E+00	1.950E+00	2.442E+00	3.782E-01	3.531
RH-106	511.85	+		5.665E-01	3.235E-01	3.693E-01	2.170E-02	1.534
	621.84	*		8.873E-02	2.796E-01	4.657E-01	5.508E-02	0.191
	1050.47			-1.666E-01	1.882E+00	3.096E+00	2.352E-01	-0.054
RU-106	511.85	+		5.665E-01	3.235E-01	3.693E-01	2.170E-02	1.534
	621.84	*		8.873E-02	2.794E-01	4.657E-01	2.785E-02	0.191
	1050.47			-1.666E-01	1.882E+00	3.096E+00	2.352E-01	-0.054
AG-108M	433.93	*		-2.511E-02	2.788E-02	4.276E-02	2.626E-03	-0.587
	614.37			2.620E-03	3.727E-02	5.270E-02	3.404E-03	0.050
	722.95			1.926E-02	3.958E-02	5.857E-02	4.210E-03	0.329
AG-110M	657.75	*		3.360E-02	3.832E-02	5.876E-02	3.712E-03	0.572
	677.61			-2.345E-01	2.636E-01	3.881E-01	2.518E-02	-0.604
	706.67			-1.279E-01	1.917E-01	2.906E-01	1.990E-02	-0.440
	763.93			-4.179E-02	1.583E-01	2.109E-01	1.607E-02	-0.198
	884.67			9.661E-04	4.273E-02	7.165E-02	6.756E-03	0.013
	937.48			-1.181E-03	1.031E-01	1.719E-01	1.600E-02	-0.007
	1384.27			-5.439E-03	1.390E-01	2.265E-01	1.670E-02	-0.024
IN-111	171.28			-8.671E-01	2.393E+00	3.703E+00	1.997E-01	-0.234
	245.39	*		1.409E+00	2.523E+00	3.820E+00	2.201E-01	0.369
IN-113M	391.69	*		2.354E-03	3.864E-02	6.403E-02	3.747E-03	0.037
SN-113	391.69	*		2.354E-03	3.864E-02	6.403E-02	3.747E-03	0.037
IN-114M	190.27	*		-2.588E-02	1.768E-01	2.572E-01	1.416E-02	-0.101
CD-115	260.90			-2.962E-04	1.768E-01	Half-Life	too short	
	492.35			4.307E-05	1.768E-01	Half-Life	too short	
	527.90	*		-1.298E-05	1.768E-01	Half-Life	too short	
SN-117M	156.02			6.617E-02	2.554E+00	4.092E+00	2.356E-01	0.016
	158.56	*		2.185E-02	6.163E-02	1.001E-01	5.664E-03	0.218

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		-1.405E+01	6.171E+00	8.326E+00	4.963E-01	-1.688
	692.80			-1.247E+01	1.042E+02	1.665E+02	1.058E+01	-0.075
I-123	159.00	*		2.895E+02	1.042E+02	Half-Life too short		
	528.96			-2.391E+04	1.042E+02	Half-Life too short		
TE-123M	159.00	*		9.522E-03	2.677E-02	4.349E-02	2.487E-03	0.219
I-124	602.71	*		9.722E-01	1.356E+00	2.047E+00	1.224E-01	0.475
	722.78			3.156E+00	7.931E+00	1.162E+01	7.852E-01	0.272
	1325.50			5.323E+01	6.149E+01	1.109E+02	7.820E+00	0.480
	1376.25			-2.866E+00	5.037E+01	8.194E+01	5.808E+00	-0.035
	1509.49			2.173E+01	2.452E+01	4.547E+01	3.119E+00	0.478
	1691.02			3.567E+00	5.960E+00	1.085E+01	6.839E-01	0.329
SB-124	602.71			3.060E-02	4.269E-02	6.443E-02	3.856E-03	0.475
	645.85			-1.525E-01	4.612E-01	7.181E-01	4.804E-02	-0.212
	709.31			-1.298E+00	2.651E+00	4.089E+00	2.688E-01	-0.317
	713.82			-2.379E-01	1.503E+00	2.390E+00	2.559E-01	-0.100
	722.78			1.440E-01	3.619E-01	5.301E-01	3.708E-02	0.272
	968.20			7.085E+00	2.989E+00	5.610E+00	4.865E-01	1.263
	1045.16			-3.328E-01	2.081E+00	3.340E+00	2.563E-01	-0.100
	1325.50			2.594E+00	2.997E+00	5.404E+00	3.811E-01	0.480
	1368.21			2.354E-01	1.612E+00	2.695E+00	3.384E-01	0.087
	1436.60			-1.252E+00	3.060E+00	4.644E+00	3.253E-01	-0.270
	1691.02	*		3.840E-02	6.415E-02	1.168E-01	7.897E-03	0.329
SB-125	427.89	*		3.649E-02	8.025E-02	1.360E-01	7.973E-03	0.268
	463.38			4.583E-01	3.786E-01	4.741E-01	3.183E-02	0.967
	600.56			7.954E-02	1.622E-01	2.733E-01	1.876E-02	0.291
	635.90			-1.514E-01	2.374E-01	3.620E-01	2.512E-02	-0.418
TE-125M	109.28	*		4.935E+00	8.333E+00	1.376E+01	1.293E+00	0.359
I-126	388.63			-1.030E-02	2.130E-01	3.505E-01	1.915E-02	-0.029
	666.33	*		-1.839E-01	2.274E-01	2.830E-01	1.700E-02	-0.650
	753.82			1.290E-01	1.493E+00	2.425E+00	1.744E-01	0.053
SB-126	223.80			-5.140E-01	4.305E+00	7.184E+00	4.080E-01	-0.072
	278.60			1.013E+00	2.653E+00	4.506E+00	2.627E-01	0.225
	296.50			7.224E+00	2.256E+00	3.740E+00	2.181E-01	1.932
	414.70			-2.522E-02	7.695E-02	1.238E-01	6.870E-03	-0.204
	415.30			-1.982E+00	6.169E+00	9.919E+00	5.507E-01	-0.200
	555.20			-1.286E+00	3.916E+00	6.190E+00	3.684E-01	-0.208
	573.80			-2.271E+00	1.231E+00	1.690E+00	1.009E-01	-1.343
	593.00			7.373E-01	9.272E-01	1.612E+00	9.641E-02	0.457
	656.30			1.686E+00	4.544E+00	6.621E+00	3.941E-01	0.255
	666.33			-7.757E-02	9.591E-02	1.193E-01	7.167E-03	-0.650
	675.00			1.386E+00	2.197E+00	3.746E+00	2.292E-01	0.370
	695.00			2.092E-02	8.393E-02	1.386E-01	8.846E-03	0.151
	697.00			6.623E-02	2.954E-01	4.864E-01	3.117E-02	0.136
	720.50	*		5.759E-02	1.593E-01	2.333E-01	1.570E-02	0.247
	856.80			-2.641E-01	6.450E-01	8.854E-01	7.727E-02	-0.298
	989.30			7.928E-01	1.482E+00	2.585E+00	2.176E-01	0.307
	1034.80			-6.739E-01	8.804E+00	1.451E+01	1.135E+00	-0.046
	1213.00			-1.380E+00	4.953E+00	7.944E+00	4.685E-01	-0.174
SB-127	61.10			1.011E+02	9.469E+01	1.415E+02	1.581E+01	0.715

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

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	252.40			3.516E+00	7.560E+00	1.269E+01	5.318E+00	0.277
	290.80			-2.902E+01	4.276E+01	5.847E+01	6.245E+00	-0.496
	411.60			1.834E+01	2.004E+01	3.476E+01	5.311E+00	0.528
	444.90			1.394E+01	1.780E+01	3.066E+01	3.689E+00	0.455
	473.00			-9.348E-01	3.121E+00	5.005E+00	6.217E-01	-0.187
	543.00			-1.766E+00	2.857E+01	4.637E+01	6.524E+00	-0.038
	603.60			-9.759E+00	2.675E+01	3.606E+01	4.383E+00	-0.271
	685.20	*		7.854E-01	2.253E+00	3.762E+00	4.192E-01	0.209
	698.50			-2.494E-01	2.812E+01	4.538E+01	7.133E+00	-0.005
	722.20			2.257E+00	5.864E+01	8.194E+01	9.184E+00	0.028
	783.80			4.973E+00	6.264E+00	1.079E+01	1.397E+00	0.461
XE-127	57.60			1.835E+00	4.922E+00	7.557E+00	4.977E-01	0.243
	145.22			3.825E-01	6.866E-01	1.126E+00	6.948E-02	0.340
	172.10			-4.256E-02	1.161E-01	1.796E-01	9.693E-03	-0.237
	202.84	*		1.097E-03	4.340E-02	6.908E-02	3.851E-03	0.016
	374.96			1.732E-02	1.937E-01	3.218E-01	1.789E-02	0.054
I-131	80.18			-4.038E+00	5.850E+00	8.003E+00	6.452E-01	-0.505
	284.30			-6.649E-01	1.786E+00	2.917E+00	1.902E-01	-0.228
	364.48	*		-1.843E-02	1.444E-01	2.370E-01	1.508E-02	-0.078
	636.97			-1.615E+00	1.872E+00	2.782E+00	1.861E-01	-0.580
	722.89			4.265E+00	9.364E+00	1.381E+01	9.490E-01	0.309
TE-132	49.72			-1.101E+01	2.774E+01	4.461E+01	4.698E+00	-0.247
	111.76			-9.310E+00	6.066E+01	9.589E+01	1.067E+01	-0.097
	116.30			-1.175E+01	5.615E+01	8.964E+01	9.895E+00	-0.131
	228.16	*		3.014E-01	1.348E+00	2.281E+00	3.466E-01	0.132
BA-133	53.15			-1.033E+00	2.300E+00	3.688E+00	2.403E-01	-0.280
	79.62			2.137E+00	1.203E+00	1.792E+00	2.659E-01	1.192
	81.00			-1.229E-01	9.040E-02	1.164E-01	1.812E-02	-1.056
	276.40			3.886E-01	3.525E-01	5.580E-01	7.241E-02	0.696
	302.84			7.631E-03	1.260E-01	2.102E-01	2.453E-02	0.036
	356.01	*		-2.477E-02	4.119E-02	5.569E-02	6.401E-03	-0.445
	383.85			-8.080E-03	2.549E-01	4.201E-01	4.500E-02	-0.019
I-133	510.53	+		2.749E+01	2.549E-01	Half-Life	too short	
	529.87	*		2.277E-02	2.549E-01	Half-Life	too short	
	706.58			-7.433E+00	2.549E-01	Half-Life	too short	
	856.28			-1.523E+00	2.549E-01	Half-Life	too short	
	875.33			1.708E+00	2.549E-01	Half-Life	too short	
	1236.41			1.109E+01	2.549E-01	Half-Life	too short	
	1298.22			1.419E+00	2.549E-01	Half-Life	too short	
CS-134	475.35			1.872E+00	1.750E+00	3.071E+00	1.775E-01	0.610
	563.23			-7.451E-01	3.707E-01	5.093E-01	3.096E-02	-1.463
	569.32			5.196E-01	2.078E-01	3.874E-01	2.376E-02	1.341
	604.70			-1.463E-02	3.783E-02	5.091E-02	3.061E-03	-0.287
	795.84	*		3.988E-02	3.547E-02	6.351E-02	4.998E-03	0.628
	801.93			-1.825E-01	3.691E-01	5.693E-01	4.523E-02	-0.321
	1038.57			-3.631E-01	2.915E+00	4.772E+00	3.707E-01	-0.076
	1167.94			4.889E-01	2.471E+00	4.154E+00	2.330E-01	0.118
	1365.15			-7.693E-01	1.124E+00	1.662E+00	1.259E-01	-0.463
I-135	288.45			5.627E+14	1.124E+00	Half-Life	too short	

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	417.63			-6.212E+14	1.124E+00	Half-Life too short		
	546.56			2.233E+14	1.124E+00	Half-Life too short		
	836.80			2.318E+14	1.124E+00	Half-Life too short		
	1038.76			-5.050E+13	1.124E+00	Half-Life too short		
	1124.00			3.068E+14	1.124E+00	Half-Life too short		
	1131.51			-3.472E+13	1.124E+00	Half-Life too short		
	1260.41	*		-4.058E+13	1.124E+00	Half-Life too short		
	1457.56			1.025E+16	1.124E+00	Half-Life too short		
	1678.03			1.147E+14	1.124E+00	Half-Life too short		
	1706.46			1.721E+14	1.124E+00	Half-Life too short		
	1791.20			8.919E+12	1.124E+00	Half-Life too short		
CS-136	66.91			-1.053E-01	8.411E-01	1.191E+00	1.738E-01	-0.088
	86.29	+		2.629E+00	1.229E+00	2.010E+00	2.577E-01	1.307
	153.22			2.864E-01	7.343E-01	1.195E+00	8.703E-02	0.240
	163.89			3.282E-01	1.173E+00	1.899E+00	1.325E-01	0.173
	176.55			-1.860E-02	4.075E-01	6.488E-01	4.017E-02	-0.029
	273.65			-6.299E-01	5.633E-01	7.498E-01	4.981E-02	-0.840
	340.57			2.169E-01	1.537E-01	2.438E-01	1.491E-02	0.890
	818.51			-7.540E-02	7.516E-02	1.132E-01	9.229E-03	-0.666
	1048.07	*		7.471E-03	1.046E-01	1.751E-01	1.409E-02	0.043
	1235.34			-2.694E-01	6.684E-01	1.063E+00	1.082E-01	-0.253
CE-139	165.85	*		2.777E-03	2.709E-02	4.350E-02	2.335E-03	0.064
BA-140	162.64			-3.827E-01	8.734E-01	1.349E+00	8.440E-02	-0.284
	304.84			-1.393E+00	1.441E+00	2.186E+00	5.968E-01	-0.637
	423.70			1.513E+00	2.087E+00	3.509E+00	1.114E+00	0.431
	537.32	*		2.279E-01	2.923E-01	4.901E-01	1.595E-01	0.465
LA-140	328.77			4.067E-01	3.186E-01	5.623E-01	3.641E-02	0.723
	432.53			3.493E-01	2.182E+00	3.629E+00	2.268E-01	0.096
	487.03			-8.851E-02	1.443E-01	2.246E-01	1.478E-02	-0.394
	751.79			-2.119E+00	1.823E+00	2.559E+00	2.112E-01	-0.828
	815.85			2.333E-02	3.007E-01	5.088E-01	4.656E-02	0.046
	867.82			-5.584E-01	1.730E+00	2.387E+00	2.230E-01	-0.234
	919.63			4.396E-02	2.951E+00	4.716E+00	5.239E-01	0.009
	925.24			-1.170E-01	1.128E+00	1.863E+00	1.796E-01	-0.063
	1596.49	*		-8.666E-02	9.108E-02	1.214E-01	8.050E-03	-0.714
CE-141	145.44	*		8.964E-03	6.377E-02	1.028E-01	6.563E-03	0.087
CE-143	57.37			2.686E-03	6.377E-02	Half-Life too short		
	231.56			-2.355E-02	6.377E-02	Half-Life too short		
	293.26	*		5.731E-03	6.377E-02	Half-Life too short		
	350.59	+		1.398E-01	6.377E-02	Half-Life too short		
	490.36			5.315E-04	6.377E-02	Half-Life too short		
	664.57			1.656E-02	6.377E-02	Half-Life too short		
	721.93			-1.518E-04	6.377E-02	Half-Life too short		
CE-144	80.11			-1.162E+00	1.935E+00	2.660E+00	2.118E-01	-0.437
	133.54	*		-9.478E-02	1.912E-01	3.000E-01	4.366E-02	-0.316
PM-144	476.78			4.064E-02	6.184E-02	1.058E-01	7.337E-03	0.384
	618.01			-6.561E-03	2.897E-02	4.612E-02	2.916E-03	-0.142
	696.49	*		1.280E-02	3.111E-02	5.201E-02	3.333E-03	0.246
	778.57			6.436E-02	1.930E+00	3.113E+00	2.351E-01	0.021

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PR-144	696.49	*		8.694E-01	2.113E+00	3.532E+00	2.261E-01	0.246
	1489.15			-2.550E+00	8.532E+00	1.306E+01	9.021E-01	-0.195
PM-146	453.90	*		-4.072E-03	3.725E-02	6.067E-02	5.194E-03	-0.067
	633.02			1.347E+00	1.349E+00	2.213E+00	8.154E-01	0.609
	735.90			1.610E-02	1.161E-01	1.897E-01	5.340E-02	0.085
	747.13			4.426E-02	7.916E-02	1.340E-01	1.763E-02	0.330
ND-147	91.11			3.620E-01	5.223E-01	5.801E-01	5.333E-02	0.624
	319.41			-1.515E+00	3.815E+00	6.197E+00	3.598E-01	-0.244
	439.89			2.451E+00	6.445E+00	1.087E+01	6.154E-01	0.225
	531.02	*		3.648E-01	6.238E-01	1.062E+00	1.442E-01	0.343
PM-149	285.90	*		-5.582E-05	6.238E-01	Half-Life too short		
EU-152	121.78			3.116E-03	6.337E-02	1.022E-01	8.844E-03	0.030
	244.69			3.513E-01	2.938E-01	4.629E-01	2.667E-02	0.759
	344.27	*		-3.630E-02	9.296E-02	1.358E-01	8.784E-03	-0.267
	443.98			5.399E-01	8.518E-01	1.459E+00	8.274E-02	0.370
	778.89			-3.062E-02	2.222E-01	3.520E-01	2.659E-02	-0.087
	867.32			7.933E-02	7.715E-01	1.131E+00	1.006E-01	0.070
	964.01			2.640E-01	2.945E-01	4.668E-01	4.070E-02	0.566
	1085.78			-3.676E-02	3.367E-01	5.519E-01	3.894E-02	-0.067
	1112.02			4.029E-02	2.743E-01	4.005E-01	2.652E-02	0.101
	1407.95			1.681E-01	1.751E-01	3.195E-01	2.252E-02	0.526
GD-153	69.67			5.620E-01	1.470E+00	2.131E+00	1.524E-01	0.264
	83.37			8.504E+00	1.574E+01	1.945E+01	1.608E+00	0.437
	97.43	*		3.619E-02	7.676E-02	1.113E-01	8.926E-03	0.325
	103.18			-4.543E-02	9.085E-02	1.435E-01	1.107E-02	-0.317
EU-154	123.07			-1.215E-02	4.539E-02	7.215E-02	7.383E-03	-0.168
	247.94			-1.732E-01	3.426E-01	4.794E-01	4.566E-02	-0.361
	591.81			2.522E-01	4.868E-01	8.280E-01	8.182E-02	0.305
	723.30			1.622E-01	1.624E-01	2.550E-01	2.012E-02	0.636
	756.87			1.785E-01	6.478E-01	1.071E+00	1.180E-01	0.167
	873.19			1.586E-01	2.555E-01	4.509E-01	5.638E-02	0.352
	996.32			-4.229E-01	3.501E-01	5.066E-01	8.930E-02	-0.835
	1004.76			-1.743E-01	1.730E-01	2.538E-01	2.881E-02	-0.687
	1274.45	*		-2.584E-02	1.030E-01	1.645E-01	1.613E-02	-0.157
EU-155	48.70			4.613E-01	1.443E+00	2.390E+00	1.532E-01	0.193
	60.01			1.169E+00	3.962E+00	5.744E+00	3.819E-01	0.204
	86.54			1.971E-01	9.021E-02	1.490E-01	1.293E-02	1.323
	105.31	*		-2.326E-03	9.159E-02	1.477E-01	1.144E-02	-0.016
TB-160	86.79	+		5.460E-01	2.498E-01	4.093E-01	3.527E-02	1.334
	197.04			-9.612E-02	4.658E-01	7.769E-01	4.306E-02	-0.124
	215.65			4.046E-01	6.649E-01	1.118E+00	6.308E-02	0.362
	298.57			6.197E-02	1.168E-01	1.751E-01	1.021E-02	0.354
	879.36	*		-1.131E-01	1.268E-01	1.931E-01	1.754E-02	-0.585
	962.29			2.912E-01	5.436E-01	8.324E-01	7.274E-02	0.350
	966.15			5.439E-01	2.426E-01	4.193E-01	3.645E-02	1.297
	1177.93			2.360E-02	3.306E-01	5.500E-01	3.054E-02	0.043
	1271.85			1.823E-01	6.214E-01	1.056E+00	6.859E-02	0.173
HO-166M	80.57			-3.873E-01	2.487E-01	3.221E-01	2.578E-02	-1.202
	184.41	+		9.725E-02	3.950E-02	5.887E-02	3.220E-03	1.652

---- 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		-2.527E-02	7.292E-02	1.194E-01	6.963E-03	-0.212
		410.95		1.414E-01	1.979E-01	3.415E-01	1.889E-02	0.414
		711.68	*	5.367E-02	5.177E-02	9.120E-02	6.026E-03	0.588
		752.31		-1.547E-01	2.273E-01	3.391E-01	2.432E-02	-0.456
		810.29		-6.328E-02	5.036E-02	6.868E-02	5.506E-03	-0.921
		51.35		-7.535E+00	1.915E+01	3.081E+01	1.998E+00	-0.245
		52.39		-4.017E+00	9.991E+00	1.606E+01	1.044E+00	-0.250
		59.40		2.222E+00	2.154E+01	3.093E+01	2.049E+00	0.072
		66.72	*	5.559E+00	2.458E+01	3.540E+01	2.468E+00	0.157
		88.36		3.875E-01	1.773E-01	2.995E-01	2.609E-02	1.294
LU-176	+	201.83		2.519E-03	2.353E-02	3.977E-02	2.215E-03	0.063
		306.84	*	-4.856E-03	2.101E-02	3.449E-02	2.009E-03	-0.141
LU-177		401.10		2.225E+00	5.735E+00	9.692E+00	5.316E-01	0.230
		112.95		-2.125E+00	2.202E+00	3.351E+00	2.461E-01	-0.634
LU-177M	+	208.36	*	2.566E+00	1.484E+00	2.405E+00	1.348E-01	1.067
		52.97		-6.228E-01	1.062E+00	1.693E+00	1.103E-01	-0.368
		54.07		-4.472E-01	5.712E-01	9.027E-01	5.893E-02	-0.495
		61.30		1.527E+00	1.221E+00	1.845E+00	1.237E-01	0.828
		121.62		6.525E-03	3.306E-01	5.328E-01	3.789E-02	0.012
		147.16		2.001E-01	6.102E-01	9.914E-01	6.045E-02	0.202
		171.86		-1.440E-01	4.420E-01	6.852E-01	3.698E-02	-0.210
		218.09		-2.971E-02	7.323E-01	1.227E+00	6.937E-02	-0.024
	+	268.79		2.018E+00	1.059E+00	1.302E+00	7.576E-02	1.550
		319.02		-6.550E-03	2.353E-01	3.903E-01	2.265E-02	-0.017
		367.43		2.208E-02	8.264E-01	1.369E+00	7.674E-02	0.016
		413.65	*	-6.927E-02	1.467E-01	2.336E-01	1.295E-02	-0.297
HF-181		56.28		2.394E-01	6.833E-01	1.131E+00	7.419E-02	0.212
		57.53		1.489E-01	4.094E-01	6.284E-01	4.137E-02	0.237
		65.20		6.108E-01	8.793E-01	1.293E+00	8.909E-02	0.472
		133.02		-4.776E-02	6.484E-02	1.008E-01	6.697E-03	-0.474
		136.25		2.890E-01	4.329E-01	7.148E-01	4.658E-02	0.404
W-181		345.85		1.068E-01	1.965E-01	2.956E-01	1.689E-02	0.361
		482.03	*	-2.439E-02	3.931E-02	6.131E-02	3.556E-03	-0.398
		56.28		9.014E-02	2.564E-01	4.243E-01	2.784E-02	0.212
		57.53		5.587E-02	1.537E-01	2.360E-01	1.554E-02	0.237
		65.20	*	2.276E-01	3.276E-01	4.818E-01	3.319E-02	0.472
		67.75		-3.399E-02	1.013E-01	1.420E-01	9.988E-03	-0.239
		100.10		1.793E-01	1.596E-01	2.606E-01	2.050E-02	0.688
		152.43		-7.831E-02	3.134E-01	4.964E-01	2.926E-02	-0.158
		222.10		3.372E-01	2.975E-01	5.228E-01	2.965E-02	0.645
		1001.68		1.570E+00	1.704E+00	3.082E+00	2.547E-01	0.509
TA-182	+	1121.28		4.354E-01	2.386E-01	2.882E-01	1.863E-02	1.510
		1189.05		1.776E-01	2.783E-01	4.866E-01	2.755E-02	0.365
		1221.42	*	-1.808E-01	1.806E-01	2.686E-01	1.607E-02	-0.673
		1230.97		-9.376E-02	4.412E-01	7.134E-01	4.335E-02	-0.131
		57.98		7.158E-02	1.642E-01	2.399E-01	1.582E-02	0.298
		59.32		7.388E-03	9.166E-02	1.315E-01	8.708E-03	0.056
		67.20		-1.367E-02	1.822E-01	2.588E-01	1.811E-02	-0.053
		162.32	*	-5.673E-02	1.069E-01	1.644E-01	9.053E-03	-0.345
RE-183								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		1.591E+00	9.206E-01	1.468E+00	8.233E-02	1.084
		291.72		1.689E-01	9.463E-01	1.388E+00	8.096E-02	0.122
		57.98		2.577E-01	5.912E-01	8.640E-01	5.697E-02	0.298
		59.32		2.658E-02	3.298E-01	4.731E-01	3.133E-02	0.056
		67.20		-4.921E-02	6.560E-01	9.315E-01	6.520E-02	-0.053
		161.27		-1.428E-01	3.343E-01	5.167E-01	2.867E-02	-0.276
		216.55		2.312E-02	2.291E-01	3.863E-01	2.181E-02	0.060
		252.85	*	4.474E-02	1.973E-01	3.336E-01	1.930E-02	0.134
		318.01		2.450E-01	3.954E-01	6.790E-01	3.941E-02	0.361
		792.07		-6.654E-01	8.159E-01	1.191E+00	9.222E-02	-0.559
OS-185		903.28		2.953E-01	8.646E-01	1.397E+00	1.304E-01	0.211
		920.93		-1.339E-01	3.775E-01	6.073E-01	5.569E-02	-0.220
		59.72		6.503E-02	2.420E-01	3.505E-01	2.326E-02	0.186
		61.14		1.499E-01	1.352E-01	2.032E-01	1.361E-02	0.737
		69.30		2.008E-01	2.849E-01	3.916E-01	2.791E-02	0.513
		592.07		1.258E+00	2.061E+00	3.534E+00	2.113E-01	0.356
		646.12	*	-9.326E-03	3.829E-02	6.012E-02	3.585E-03	-0.155
		717.42		-3.305E-01	8.076E-01	1.211E+00	8.098E-02	-0.273
		874.81		3.947E-01	5.236E-01	9.342E-01	8.418E-02	0.422
		880.27		-4.509E-01	6.729E-01	1.049E+00	9.543E-02	-0.430
RE-188		155.03	*	5.133E-02	1.633E-01	2.649E-01	1.535E-02	0.194
		477.96		1.206E+00	2.854E+00	4.817E+00	2.788E-01	0.250
W-188	+	633.10		2.795E+00	2.636E+00	4.638E+00	2.771E-01	0.603
		63.58		4.726E+01	5.274E+01	6.964E+01	4.741E+00	0.679
		227.08		2.469E+00	1.121E+01	1.899E+01	1.081E+00	0.130
		290.67	*	-5.347E+00	7.508E+00	1.026E+01	5.985E-01	-0.521
IR-192	+	295.96		7.654E-01	1.634E-01	2.429E-01	1.439E-02	3.151
		308.46		-1.919E-02	8.401E-02	1.379E-01	8.117E-03	-0.139
		316.51	*	2.784E-02	3.075E-02	5.357E-02	3.127E-03	0.520
		468.07		-1.328E-02	6.819E-02	9.480E-02	6.304E-03	-0.140
		604.41		-2.838E-01	5.383E-01	7.124E-01	8.153E-02	-0.398
		612.46		7.944E-01	7.433E-01	1.159E+00	8.938E-02	0.686
AU-195		65.12		1.135E-01	1.508E-01	2.223E-01	1.531E-02	0.511
		66.83		1.535E-02	8.209E-02	1.180E-01	8.238E-03	0.130
	+	75.70		8.123E-01	2.104E-01	3.627E-01	2.751E-02	2.240
		98.88	*	2.192E-01	2.184E-01	3.252E-01	2.581E-02	0.674
		129.76		2.375E+00	2.567E+00	4.277E+00	2.898E-01	0.555
TL-200		367.94	*	9.152E-04	2.567E+00	Half-Life	too short	
		579.30		4.367E-02	2.567E+00	Half-Life	too short	
		828.27		2.659E-02	2.567E+00	Half-Life	too short	
		1205.75		-9.866E-03	2.567E+00	Half-Life	too short	
TL-201		68.90		9.137E+00	1.195E+01	1.502E+01	1.067E+00	0.608
		70.82		-4.332E+00	6.049E+00	8.305E+00	6.002E-01	-0.522
		80.30		-9.420E+00	1.115E+01	1.510E+01	1.205E+00	-0.624
		135.34		3.511E+01	5.553E+01	9.156E+01	5.999E+00	0.383
		167.43	*	-5.132E+00	1.528E+01	2.402E+01	1.290E+00	-0.214
TL-202		68.90		4.165E-01	5.446E-01	6.847E-01	4.863E-02	0.608
		70.82		-1.969E-01	2.750E-01	3.775E-01	2.728E-02	-0.522
		80.30		-4.283E-01	5.068E-01	6.868E-01	5.480E-02	-0.624

----- 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	*		2.138E-02	7.490E-02	1.256E-01	7.100E-03	0.170
	70.83			-7.191E-01	1.012E+00	1.386E+00	1.770E-01	-0.519
	72.87			1.891E+00	6.328E-01	9.512E-01	1.182E-01	1.988
	82.60			1.197E+00	1.387E+00	1.516E+00	2.043E-01	0.790
BI-207	279.20	*		7.408E-03	3.745E-02	6.306E-02	3.902E-03	0.117
	72.80			4.912E-01	1.657E-01	2.603E-01	1.917E-02	1.887
	+	74.97		4.439E-01	1.150E-01	1.831E-01	1.378E-02	2.425
	84.90			3.383E-01	1.737E-01	2.651E-01	2.233E-02	1.276
	569.67			6.093E-02	3.226E-02	5.849E-02	3.490E-03	1.042
TL-207	1063.62	*		-1.092E-02	4.374E-02	7.067E-02	5.230E-03	-0.155
	1770.23			1.770E-01	3.962E-01	6.305E-01	3.766E-02	0.281
	81.07			-2.682E-01	1.961E-01	2.570E-01	2.069E-02	-1.043
	83.78			1.160E-01	1.183E-01	1.642E-01	1.364E-02	0.707
	94.90			3.276E-01	2.373E-01	3.557E-01	2.910E-02	0.921
	122.32			-1.450E-01	1.527E+00	2.447E+00	1.920E-01	-0.059
	144.24			9.249E-01	6.346E-01	1.055E+00	7.978E-02	0.877
	154.21			2.683E-01	3.537E-01	5.843E-01	4.111E-02	0.459
	+	269.46		4.645E-01	2.439E-01	3.061E-01	1.861E-02	1.517
	+	323.87	*	-6.704E-01	6.049E-01	9.261E-01	1.529E-01	-0.724
	+	338.28		3.408E+00	1.437E+00	1.893E+00	1.988E-01	1.800
PO-209	445.03			1.497E+00	2.018E+00	3.473E+00	3.542E-01	0.431
	260.50			-3.306E+00	7.954E+00	1.300E+01	7.544E-01	-0.254
	262.80			-9.571E+00	2.339E+01	3.596E+01	2.089E+00	-0.266
	896.60	*		-9.797E-01	6.415E+00	1.057E+01	9.894E-01	-0.093
BI-210	46.50	*		5.059E-01	2.012E+00	3.282E+00	2.434E-01	0.154
PB-210	46.50	*		5.059E-01	2.012E+00	3.282E+00	2.434E-01	0.154
PO-210	46.50	*		5.059E-01	2.012E+00	3.282E+00	2.059E-01	0.154
PB-211	404.84	*		-1.120E+00	1.050E+00	1.165E+00	7.262E-01	-0.961
	427.08			-1.096E-02	1.835E+00	3.018E+00	1.865E+00	-0.004
	831.96			-1.292E-01	9.914E-01	1.638E+00	1.026E+00	-0.079
BI-212	+	727.18	*	1.137E+00	3.826E-01	5.468E-01	4.652E-02	2.079
		785.46		1.012E+00	1.487E+00	2.546E+00	1.947E-01	0.398
	1620.62			1.334E-01	1.139E+00	1.887E+00	1.236E-01	0.071
PO-215	81.07			-2.682E-01	1.961E-01	2.570E-01	2.069E-02	-1.043
	83.78			1.160E-01	1.183E-01	1.642E-01	1.364E-02	0.707
	94.90			3.276E-01	2.373E-01	3.557E-01	2.910E-02	0.921
	122.32			-1.450E-01	1.527E+00	2.447E+00	1.920E-01	-0.059
	144.24			9.249E-01	6.346E-01	1.055E+00	7.978E-02	0.877
	154.21			2.683E-01	3.537E-01	5.843E-01	4.111E-02	0.459
	+	269.46		4.645E-01	2.439E-01	3.061E-01	1.861E-02	1.517
	+	323.87	*	-6.704E-01	6.049E-01	9.261E-01	1.529E-01	-0.724
	+	338.28		3.408E+00	1.437E+00	1.893E+00	1.988E-01	1.800
	445.03			1.497E+00	2.018E+00	3.473E+00	3.542E-01	0.431
RN-219	271.23			3.471E-01	2.421E-01	3.820E-01	3.102E-02	0.909
	401.81	*		1.735E-01	3.444E-01	5.854E-01	7.890E-02	0.296
RN-220	549.76	*		-1.564E+01	2.131E+01	3.243E+01	1.927E+00	-0.482
RA-223	81.07			-2.682E-01	1.961E-01	2.570E-01	2.069E-02	-1.043
	83.78			1.160E-01	1.183E-01	1.642E-01	1.364E-02	0.707
	94.90			3.276E-01	2.373E-01	3.557E-01	2.910E-02	0.921

---- 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		-1.450E-01	1.527E+00	2.447E+00	1.920E-01	-0.059
		144.24		9.249E-01	6.346E-01	1.055E+00	7.978E-02	0.877
		154.21		2.683E-01	3.537E-01	5.843E-01	4.111E-02	0.459
	+	269.46		4.645E-01	2.439E-01	3.061E-01	1.861E-02	1.517
		323.87	*	-6.704E-01	6.049E-01	9.261E-01	1.529E-01	-0.724
	+	338.28		3.408E+00	1.437E+00	1.893E+00	1.988E-01	1.800
		445.03		1.497E+00	2.018E+00	3.473E+00	3.542E-01	0.431
		79.80		1.950E+00	1.506E+00	2.192E+00	4.655E-01	0.890
		236.00		1.559E+00	3.062E-01	4.834E-01	5.034E-02	3.226
		256.20	*	-1.879E-02	3.189E-01	5.316E-01	7.419E-02	-0.035
		286.10		-2.416E-01	1.325E+00	2.187E+00	2.532E-01	-0.110
		299.80		2.066E+00	1.436E+00	2.230E+00	3.634E-01	0.926
		304.40		-2.067E+00	1.706E+00	2.591E+00	4.484E-01	-0.798
		334.20		-3.848E-01	2.184E+00	3.096E+00	5.671E-01	-0.124
TH-227		79.80		1.950E+00	1.508E+00	2.192E+00	4.716E-01	0.890
	+	94.00		3.903E+00	2.915E+00	3.228E+00	6.984E-01	1.209
		236.00		1.559E+00	2.952E-01	4.834E-01	4.356E-02	3.226
		256.20	*	-1.879E-02	3.189E-01	5.316E-01	8.982E-02	-0.035
		286.10		-2.416E-01	1.347E+00	2.187E+00	2.191E+00	-0.110
		299.80		2.066E+00	1.436E+00	2.230E+00	3.634E-01	0.926
		304.40		-2.067E+00	1.706E+00	2.591E+00	4.484E-01	-0.798
		334.20		-3.848E-01	2.184E+00	3.096E+00	5.671E-01	-0.124
TH-229		85.43		5.020E-01	1.759E-01	2.741E-01	2.323E-02	1.831
	+	88.47		2.231E-01	1.021E-01	1.726E-01	1.502E-02	1.292
		100.00		1.944E-01	1.622E-01	2.656E-01	2.091E-02	0.732
		193.63	*	6.454E-02	4.105E-01	6.959E-01	3.843E-02	0.093
		210.97		4.877E-01	7.348E-01	1.116E+00	6.272E-02	0.437
		283.67	*	9.360E-02	1.297E+00	2.171E+00	2.994E-01	0.043
PA-231		301.29		5.938E-01	5.502E-01	8.842E-01	9.256E-02	0.672
TH-231		81.07		-2.682E-01	1.961E-01	2.570E-01	2.069E-02	-1.043
		83.78		1.160E-01	1.183E-01	1.642E-01	1.364E-02	0.707
		94.90		3.276E-01	2.373E-01	3.557E-01	2.910E-02	0.921
U-231		122.32		-1.450E-01	1.527E+00	2.447E+00	1.920E-01	-0.059
		144.24		9.249E-01	6.346E-01	1.055E+00	7.978E-02	0.877
		154.21		2.683E-01	3.537E-01	5.843E-01	4.111E-02	0.459
	+	269.46		4.645E-01	2.439E-01	3.061E-01	1.861E-02	1.517
		323.87	*	-6.704E-01	6.049E-01	9.261E-01	1.529E-01	-0.724
	+	338.28		3.408E+00	1.437E+00	1.893E+00	1.988E-01	1.800
		445.03		1.497E+00	2.018E+00	3.473E+00	3.542E-01	0.431
		84.21		1.003E+01	9.248E+00	1.373E+01	1.146E+00	0.731
	+	92.29		7.427E+00	5.345E+00	6.627E+00	5.549E-01	1.121
		95.87	*	-1.599E+00	2.054E+00	2.774E+00	2.252E-01	-0.576
		108.00		-5.098E-01	3.401E+00	5.454E+00	4.098E-01	-0.093
	+	75.28		1.295E+01	3.736E+00	5.610E+00	8.288E-01	2.309
	+	86.59		3.199E+00	1.674E+00	2.412E+00	6.468E-01	1.326
		300.12		5.644E-01	3.964E-01	6.204E-01	8.344E-02	0.910
PA-233		311.98	*	-2.449E-02	5.400E-02	8.737E-02	5.395E-03	-0.280
		340.50		9.566E-01	6.460E-01	9.761E-01	2.240E-01	0.980
		398.62		6.239E-01	1.829E+00	3.070E+00	7.916E-01	0.203

----- 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		1.835E-01	1.290E+00	2.146E+00	4.403E-01	0.086
		63.00		1.317E+00	1.480E+00	1.972E+00	2.871E-01	0.668
		94.67		4.501E-01	1.754E-01	2.658E-01	3.220E-02	1.693
		98.44		8.760E-02	1.004E-01	1.309E-01	7.291E-02	0.669
		99.86		6.176E-01	4.094E-01	6.774E-01	5.339E-02	0.912
		111.00		1.078E-01	1.617E-01	2.639E-01	2.970E-02	0.408
		131.20		7.092E-02	9.518E-02	1.575E-01	1.058E-02	0.450
		152.70		-4.537E-02	2.958E-01	4.704E-01	7.452E-02	-0.096
	+	186.00		3.501E+00	1.768E+00	2.150E+00	6.558E-01	1.628
		226.40		2.527E-01	3.381E-01	5.838E-01	6.717E-02	0.433
		227.20		8.221E-02	3.642E-01	6.168E-01	3.512E-02	0.133
		248.90		-5.909E-01	8.023E-01	1.090E+00	2.341E-01	-0.542
	+	293.70		4.642E+00	1.210E+00	1.450E+00	2.334E-01	3.201
		369.80		3.651E-01	7.647E-01	1.294E+00	2.688E-01	0.282
		568.70		3.268E+00	1.078E+00	2.048E+00	1.222E-01	1.596
		569.50		5.906E-01	2.898E-01	5.284E-01	3.153E-02	1.118
		574.00		-1.345E+00	1.310E+00	1.943E+00	1.160E-01	-0.692
		699.00		2.975E-01	6.514E-01	1.089E+00	1.981E-01	0.273
		706.10		-5.570E-01	9.763E-01	1.445E+00	6.391E-01	-0.386
		733.00		1.033E-01	3.330E-01	4.833E-01	1.043E-01	0.214
		742.81		2.224E-01	1.142E+00	1.860E+00	1.247E+00	0.120
		796.30		3.730E-01	7.238E-01	1.214E+00	3.253E-01	0.307
		805.60		7.225E-01	8.962E-01	1.509E+00	4.597E-01	0.479
		819.60		-8.255E-01	1.059E+00	1.563E+00	5.928E-01	-0.528
		826.30		4.752E-02	7.195E-01	1.214E+00	5.423E-01	0.039
		831.60		-2.073E-01	5.277E-01	8.477E-01	2.523E-01	-0.244
		876.40		1.411E-01	7.179E-01	1.200E+00	1.234E+00	0.118
		880.51		-1.231E-01	2.397E-01	3.807E-01	3.465E-02	-0.323
		883.24		5.875E-02	2.441E-01	4.126E-01	2.776E-01	0.142
		899.00		1.142E-01	7.240E-01	1.226E+00	5.377E-01	0.093
		925.00		-3.214E-01	9.518E-01	1.533E+00	1.400E-01	-0.210
		926.50		5.183E-02	1.375E-01	2.377E-01	6.049E-02	0.218
		946.00	*	1.918E-03	2.603E-01	4.346E-01	8.215E-02	0.004
		949.00		-8.326E-02	3.900E-01	6.372E-01	5.661E-02	-0.131
		980.50		6.532E-02	6.425E-01	1.081E+00	9.218E-02	0.060
		1394.10		3.105E-01	9.345E-01	1.575E+00	1.022E+00	0.197
PA-234M		766.42		8.000E+00	1.340E+01	1.777E+01	8.983E+00	0.450
U-235		1001.03	*	1.996E+00	3.932E+00	6.855E+00	6.627E-01	0.291
	+	89.95		8.845E-02	1.568E+00	1.599E+00	4.933E-01	0.055
		93.35		1.214E+00	9.319E-01	1.032E+00	2.881E-01	1.177
		105.00		1.163E-01	8.886E-01	1.442E+00	4.264E-01	0.081
		143.76	*	2.576E-01	1.998E-01	3.246E-01	5.344E-02	0.793
		163.35		-1.694E-02	4.307E-01	6.773E-01	1.211E-01	-0.025
	+	185.71		1.297E-01	5.267E-02	7.973E-02	4.367E-03	1.626
NP-236		205.31		8.141E-02	4.811E-01	7.117E-01	1.275E-01	0.114
		94.67		3.433E-01	1.296E-01	2.018E-01	1.655E-02	1.701
		98.44		6.624E-02	6.650E-02	9.897E-02	7.879E-03	0.669
		111.00		8.154E-02	1.221E-01	1.996E-01	1.478E-02	0.408
		160.31	*	4.405E-04	7.298E-02	1.168E-01	6.524E-03	0.004

----- 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		1.686E-01	1.436E-01	2.260E-01	1.785E-02	0.746
		117.00	*	4.201E-02	1.641E-01	2.673E-01	1.932E-02	0.157
	+	209.75		1.207E+00	6.983E-01	1.123E+00	6.302E-02	1.075
		228.18		4.160E-02	1.891E-01	3.203E-01	1.825E-02	0.130
		277.60		1.339E-01	1.543E-01	2.679E-01	1.561E-02	0.500
		334.30		-1.857E-01	1.238E+00	1.760E+00	1.014E-01	-0.105
AM-241		59.54	*	3.397E-02	1.238E-01	1.793E-01	1.331E-02	0.189
CM-243		99.55		1.735E-01	1.478E-01	2.326E-01	1.837E-02	0.746
		103.76	*	2.818E-02	8.117E-02	1.330E-01	1.023E-02	0.212
		117.00		4.323E-02	1.689E-01	2.751E-01	1.988E-02	0.157
	+	209.75		1.190E+00	6.885E-01	1.107E+00	6.214E-02	1.075
		228.18		4.204E-02	1.912E-01	3.237E-01	1.845E-02	0.130
		277.60		1.350E-01	1.556E-01	2.701E-01	1.575E-02	0.500
AM-246		798.80		-1.343E-01	1.217E-01	1.717E-01	1.347E-02	-0.782
		1036.00		-1.729E-01	2.325E-01	3.518E-01	2.746E-02	-0.492
		1062.04		3.305E-03	1.814E-01	3.017E-01	2.240E-02	0.011
		1078.86	*	7.246E-02	1.252E-01	2.193E-01	1.571E-02	0.330
CM-247		278.00		3.874E-01	6.395E-01	1.097E+00	6.398E-02	0.353
		287.40		2.145E-01	1.100E+00	1.752E+00	1.022E-01	0.122
		402.60	*	1.134E-02	3.067E-02	5.181E-02	2.846E-03	0.219
CF-249		252.85		1.652E-01	7.283E-01	1.232E+00	7.124E-02	0.134
		333.44		-6.280E-02	1.663E-01	2.319E-01	1.336E-02	-0.271
		387.95	*	-2.072E-02	3.411E-02	5.403E-02	2.954E-03	-0.384
CF-251		176.60	*	-3.764E-03	1.140E-01	1.817E-01	9.854E-03	-0.021
		227.00		6.995E-02	3.234E-01	5.475E-01	3.117E-02	0.128
		285.00		7.142E-02	1.486E+00	2.484E+00	1.449E-01	0.029

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536006      *
* Acquisition date   : 9-JAN-2010 14:10:49 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 02:00:01.17 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536006 Analyst initials: MXR1                 *
* Batch Number       : 937074 Sample Quantity : 1.3169E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.217E+01	2.145E+00	3.746E-01	0.000E+00
CD-109	1.672E+00	7.498E-01	1.237E+00	0.000E+00
SN-126	1.634E-01	7.326E-02	1.238E-01	0.000E+00
CS-135	3.948E-01	2.040E-01	2.105E-01	0.000E+00
BA-137M	3.751E-01	6.797E-02	5.268E-02	0.000E+00
CS-137	3.965E-01	7.188E-02	5.569E-02	0.000E+00
TL-208	2.745E-01	6.228E-02	5.166E-02	0.000E+00
BI-211	2.378E+00	3.554E-01	3.013E-01	0.000E+00
PB-212	8.986E-01	1.069E-01	7.579E-02	0.000E+00
PO-212	8.986E-01	1.069E-01	7.579E-02	0.000E+00
BI-214	7.444E-01	1.334E-01	1.029E-01	0.000E+00
PB-214	8.273E-01	1.307E-01	1.009E-01	0.000E+00
PO-214	8.273E-01	1.307E-01	1.009E-01	0.000E+00
PO-216	8.986E-01	1.069E-01	7.579E-02	0.000E+00
PO-218	8.273E-01	1.307E-01	1.009E-01	0.000E+00
RA-224	2.829E+00	1.064E+00	8.619E-01	0.000E+00
RA-226	7.444E-01	1.334E-01	1.029E-01	0.000E+00
AC-228	8.846E-01	2.330E-01	1.736E-01	0.000E+00
RA-228	8.846E-01	2.330E-01	1.736E-01	0.000E+00
TH-228	9.158E-01	1.089E-01	7.725E-02	0.000E+00
TH-230	7.444E-01	1.334E-01	1.029E-01	0.000E+00
TH-232	8.846E-01	2.330E-01	1.736E-01	0.000E+00
TH-234	1.130E+00	1.248E+00	1.638E+00	0.000E+00
U-234	7.444E-01	1.334E-01	1.029E-01	0.000E+00
NP-237	4.798E-01	2.360E-01	3.437E-01	0.000E+00
U-238	1.130E+00	1.248E+00	1.638E+00	0.000E+00
AM-243	2.473E-01	6.275E-02	7.177E-02	0.000E+00
ANH-511	1.126E-01	6.300E-02	3.594E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	1.628E-01	2.934E-01	5.199E-01	0.000E+00	NOT IDENT.
NA-22	-1.004E-02	3.612E-02	5.892E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.250E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.464E-02	2.603E-02	3.720E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.166E-02	6.454E-02	0.000E+00	FAIL ABUN
SC-46	-8.405E-03	3.400E-02	5.724E-02	0.000E+00	FAIL ABUN
V-48	-1.078E-02	7.553E-02	1.277E-01	0.000E+00	NOT IDENT.
CR-51	-2.091E-01	3.612E-01	6.089E-01	0.000E+00	NOT IDENT.
MN-52	-1.996E-02	2.934E-01	4.850E-01	0.000E+00	NOT IDENT.
MN-54	-7.154E-03	2.936E-02	4.968E-02	0.000E+00	NOT IDENT.
CO-56	-3.354E-03	3.398E-02	5.823E-02	0.000E+00	NOT IDENT.
CO-57	2.313E-03	2.162E-02	3.724E-02	0.000E+00	NOT IDENT.
CO-58	-2.478E-02	3.279E-02	4.956E-02	0.000E+00	NOT IDENT.
FE-59	-3.729E-02	8.509E-02	1.385E-01	0.000E+00	NOT IDENT.
CO-60	1.091E-02	3.536E-02	6.155E-02	0.000E+00	NOT IDENT.
ZN-65	2.826E-02	8.259E-02	1.268E-01	0.000E+00	NOT IDENT.
GE-68	1.075E-01	1.073E+00	1.847E+00	0.000E+00	NOT IDENT.
AS-73	-2.733E-01	5.413E-01	9.350E-01	0.000E+00	NOT IDENT.
AS-74	-1.308E-01	9.268E-02	1.368E-01	0.000E+00	NOT IDENT.
SE-75	5.862E-03	4.125E-02	6.367E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	2.814E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-5.215E-02	3.539E-01	5.790E-01	0.000E+00	NOT IDENT.
RB-83	1.322E-02	6.036E-02	9.519E-02	0.000E+00	NOT IDENT.
RB-84	3.416E-03	6.308E-02	1.094E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.106E+00	1.193E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.264E-02	6.377E-02	0.000E+00	NOT IDENT.
RB-86	8.514E-02	7.981E-01	1.374E+00	0.000E+00	NOT IDENT.
Y-88	-4.972E-04	2.896E-02	4.738E-02	0.000E+00	NOT IDENT.
ZR-88	1.033E-02	2.680E-02	4.731E-02	0.000E+00	NOT IDENT.
Y-91	-8.068E+00	1.621E+01	2.604E+01	0.000E+00	NOT IDENT.
NB-94	-1.935E-03	3.029E-02	5.033E-02	0.000E+00	NOT IDENT.
NB-95	1.052E-04	4.943E-02	6.575E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.373E-01	2.431E-01	0.000E+00	NOT IDENT.
ZR-95	5.981E-03	6.159E-02	1.034E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.285E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.987E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.263E+01	2.488E+01	3.909E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.017E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-8.798E-03	2.593E-02	4.543E-02	0.000E+00	NOT IDENT.
RH-102	3.024E-02	2.542E-02	4.682E-02	0.000E+00	FAIL ABUN
RU-103	-5.290E-03	3.571E-02	6.011E-02	0.000E+00	FAIL ABUN
RH-106	8.873E-02	2.740E-01	4.732E-01	0.000E+00	FAIL ABUN
RU-106	8.873E-02	2.738E-01	4.732E-01	0.000E+00	FAIL ABUN
AG-108M	-2.511E-02	2.732E-02	4.371E-02	0.000E+00	NOT IDENT.
AG-110M	3.360E-02	3.755E-02	5.964E-02	0.000E+00	NOT IDENT.
IN-111	1.409E+00	2.472E+00	3.942E+00	0.000E+00	NOT IDENT.
IN-113M	2.354E-03	3.787E-02	6.557E-02	0.000E+00	NOT IDENT.
SN-113	2.354E-03	3.787E-02	6.557E-02	0.000E+00	NOT IDENT.
IN-114M	-2.588E-02	1.733E-01	2.666E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.035E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	2.185E-02	6.040E-02	1.041E-01	0.000E+00	NOT IDENT.
SB-122	-1.405E+01	6.048E+00	8.474E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.975E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	9.522E-03	2.623E-02	4.520E-02	0.000E+00	NOT IDENT.
I-124	9.722E-01	1.329E+00	2.081E+00	0.000E+00	NOT IDENT.
SB-124	3.840E-02	6.287E-02	1.167E-01	0.000E+00	NOT IDENT.
SB-125	3.649E-02	7.864E-02	1.391E-01	0.000E+00	FAIL ABUN
TE-125M	4.935E+00	8.166E+00	1.439E+01	0.000E+00	NOT IDENT.
I-126	-1.839E-01	2.229E-01	2.872E-01	0.000E+00	NOT IDENT.
SB-126	5.759E-02	1.561E-01	2.364E-01	0.000E+00	NOT IDENT.
SB-127	7.854E-01	2.208E+00	3.816E+00	0.000E+00	NOT IDENT.
XE-127	1.097E-03	4.253E-02	7.151E-02	0.000E+00	NOT IDENT.
I-131	-1.843E-02	1.415E-01	2.430E-01	0.000E+00	NOT IDENT.
TE-132	3.014E-01	1.321E+00	2.357E+00	0.000E+00	NOT IDENT.
BA-133	-2.477E-02	4.036E-02	5.712E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.205E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.988E-02	3.476E-02	6.426E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.128E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.471E-03	1.025E-01	1.763E-01	0.000E+00	FAIL ABUN
CE-139	2.777E-03	2.655E-02	4.518E-02	0.000E+00	NOT IDENT.
BA-140	2.279E-01	2.865E-01	4.992E-01	0.000E+00	NOT IDENT.
LA-140	-8.666E-02	8.926E-02	1.214E-01	0.000E+00	NOT IDENT.
CE-141	8.964E-03	6.249E-02	1.070E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.691E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-9.478E-02	1.874E-01	3.126E-01	0.000E+00	NOT IDENT.
PM-144	1.280E-02	3.049E-02	5.274E-02	0.000E+00	NOT IDENT.
PR-144	8.694E-01	2.071E+00	3.581E+00	0.000E+00	NOT IDENT.

PM-146	-4.072E-03	3.650E-02	6.198E-02	0.000E+00	NOT IDENT.
ND-147	3.648E-01	6.113E-01	1.082E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.698E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.630E-02	9.110E-02	1.393E-01	0.000E+00	NOT IDENT.
GD-153	3.619E-02	7.522E-02	1.166E-01	0.000E+00	NOT IDENT.
EU-154	-2.584E-02	1.009E-01	1.651E-01	0.000E+00	NOT IDENT.
EU-155	-2.326E-03	8.976E-02	1.546E-01	0.000E+00	FAIL ABUN
TB-160	-1.131E-01	1.242E-01	1.951E-01	0.000E+00	FAIL ABUN
HO-166M	5.367E-02	5.074E-02	9.245E-02	0.000E+00	FAIL ABUN
TM-171	5.559E+00	2.408E+01	3.731E+01	0.000E+00	NOT IDENT.
LU-176	-4.856E-03	2.059E-02	3.546E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.455E+00	2.489E+00	0.000E+00	FAIL ABUN
LU-177M	-6.927E-02	1.438E-01	2.390E-01	0.000E+00	FAIL ABUN
HF-181	-2.439E-02	3.853E-02	6.257E-02	0.000E+00	NOT IDENT.
W-181	2.276E-01	3.211E-01	5.080E-01	0.000E+00	NOT IDENT.
TA-182	-1.808E-01	1.770E-01	2.698E-01	0.000E+00	FAIL ABUN
RE-183	-5.673E-02	1.047E-01	1.708E-01	0.000E+00	FAIL ABUN
RE-184	4.474E-02	1.933E-01	3.441E-01	0.000E+00	NOT IDENT.
OS-185	-9.326E-03	3.753E-02	6.104E-02	0.000E+00	NOT IDENT.
RE-188	5.133E-02	1.600E-01	2.755E-01	0.000E+00	NOT IDENT.
W-188	-5.347E+00	7.358E+00	1.056E+01	0.000E+00	FAIL ABUN
IR-192	2.784E-02	3.013E-02	5.505E-02	0.000E+00	FAIL ABUN
AU-195	2.192E-01	2.140E-01	3.406E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.043E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-5.132E+00	1.498E+01	2.495E+01	0.000E+00	NOT IDENT.
TL-202	2.138E-02	7.340E-02	1.283E-01	0.000E+00	NOT IDENT.
HG-203	7.408E-03	3.670E-02	6.494E-02	0.000E+00	NOT IDENT.
BI-207	-1.092E-02	4.287E-02	7.114E-02	0.000E+00	FAIL ABUN
TL-207	-6.704E-01	5.928E-01	9.514E-01	0.000E+00	FAIL ABUN
PO-209	-9.797E-01	6.286E+00	1.067E+01	0.000E+00	NOT IDENT.
BI-210	5.059E-01	1.972E+00	3.479E+00	0.000E+00	NOT IDENT.
PB-210	5.059E-01	1.972E+00	3.479E+00	0.000E+00	NOT IDENT.
PO-210	5.059E-01	1.972E+00	3.479E+00	0.000E+00	NOT IDENT.
PB-211	-1.120E+00	1.029E+00	1.193E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.750E-01	5.541E-01	0.000E+00	FAIL ABUN
PO-215	-6.704E-01	5.928E-01	9.514E-01	0.000E+00	FAIL ABUN
RN-219	1.735E-01	3.375E-01	5.992E-01	0.000E+00	NOT IDENT.
RN-220	-1.564E+01	2.088E+01	3.302E+01	0.000E+00	NOT IDENT.
RA-223	-6.704E-01	5.928E-01	9.514E-01	0.000E+00	FAIL ABUN
AC-227	-1.879E-02	3.126E-01	5.482E-01	0.000E+00	NOT IDENT.
TH-227	-1.879E-02	3.126E-01	5.482E-01	0.000E+00	FAIL ABUN
TH-229	6.454E-02	4.023E-01	7.209E-01	0.000E+00	FAIL ABUN
PA-231	9.360E-02	1.271E+00	2.235E+00	0.000E+00	NOT IDENT.
TH-231	-6.704E-01	5.928E-01	9.514E-01	0.000E+00	FAIL ABUN
U-231	-1.599E+00	2.013E+00	2.907E+00	0.000E+00	FAIL ABUN
PA-233	-2.449E-02	5.292E-02	8.981E-02	0.000E+00	FAIL ABUN
PA-234	1.918E-03	2.551E-01	4.384E-01	0.000E+00	FAIL ABUN
PA-234M	1.996E+00	3.853E+00	6.908E+00	0.000E+00	NOT IDENT.
U-235	2.576E-01	1.958E-01	3.380E-01	0.000E+00	FAIL ABUN
NP-236	4.405E-04	7.152E-02	1.213E-01	0.000E+00	NOT IDENT.
NP-239	4.201E-02	1.608E-01	2.792E-01	0.000E+00	FAIL ABUN
AM-241	3.397E-02	1.213E-01	1.893E-01	0.000E+00	NOT IDENT.
CM-243	2.818E-02	7.955E-02	1.392E-01	0.000E+00	FAIL ABUN
AM-246	7.246E-02	1.227E-01	2.207E-01	0.000E+00	NOT IDENT.
CM-247	1.134E-02	3.006E-02	5.303E-02	0.000E+00	NOT IDENT.
CF-249	-2.072E-02	3.342E-02	5.533E-02	0.000E+00	NOT IDENT.
CF-251	-3.764E-03	1.118E-01	1.885E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536006.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:10:49.
Sample ID          : G243536006 Sample quantity   : 1.31690E+02 GRAM
Detector name      : GAM14 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity        : 5.00000
Batch ID           : 937074 Detector SN#         :
Matrix Spike ID    : LCS ID                       : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1005	10.67*	1.211E+00	2.217E+01	2.217E+01	9.87
CD-109	88.03	149	3.72*	7.048E+00	1.625E+00	1.672E+00	45.76
SN-126	64.28	70	9.60	4.674E+00	4.473E-01	4.473E-01	112.30
	86.94	149	8.90	7.048E+00	6.793E-01	6.793E-01	61.07
	87.57	149	37.00*	7.048E+00	1.634E-01	1.634E-01	45.76
CS-135	268.24	113	16.00*	5.106E+00	3.948E-01	3.948E-01	52.72
BA-137M	661.65	292	89.98*	2.470E+00	3.747E-01	3.751E-01	18.49
CS-137	661.65	292	85.12*	2.470E+00	3.960E-01	3.965E-01	18.50
TL-208	277.35	-----	6.80	5.002E+00	-----	Line Not Found	-----
	510.84	122	21.60	3.089E+00	5.212E-01	5.212E-01	57.71
	583.14	224	84.20*	2.759E+00	2.745E-01	2.745E-01	23.15
	860.37	68	12.46	1.943E+00	7.949E-01	7.949E-01	54.79
BI-211	72.87	-----	1.27	5.875E+00	-----	Line Not Found	-----
	351.07	451	12.94*	4.180E+00	2.378E+00	2.378E+00	15.25
PB-212	74.81	348	10.70	6.085E+00	1.525E+00	1.525E+00	27.53
	77.11	504	18.00	6.316E+00	1.263E+00	1.263E+00	18.23
	87.30	149	8.00	7.048E+00	7.557E-01	7.557E-01	46.84
	238.63	783	44.60*	5.570E+00	8.986E-01	8.986E-01	12.14
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
PO-212	74.81	348	10.70	6.085E+00	1.525E+00	1.525E+00	27.53
	77.11	504	18.00	6.316E+00	1.263E+00	1.263E+00	18.23
	87.30	149	8.00	7.048E+00	7.557E-01	7.557E-01	46.84
	115.19	-----	0.60	7.689E+00	-----	Line Not Found	-----
	238.63	783	44.60*	5.570E+00	8.986E-01	8.986E-01	12.14
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
BI-214	609.31	321	46.30*	2.655E+00	7.444E-01	7.444E-01	18.29
	1120.29	73	15.10	1.524E+00	8.990E-01	8.990E-01	55.19
	1764.49	43	15.80	1.059E+00	7.342E-01	7.342E-01	68.29
PB-214	74.81	348	6.21	6.085E+00	2.628E+00	2.628E+00	26.94
	77.11	504	10.50	6.316E+00	2.166E+00	2.166E+00	19.76
	87.30	149	4.67	7.048E+00	1.295E+00	1.295E+00	46.40
	241.98	216	7.49	5.519E+00	1.492E+00	1.492E+00	38.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	311	19.20	4.780E+00	9.671E-01	9.671E-01	22.22
	351.92	451	37.20*	4.180E+00	8.273E-01	8.273E-01	16.12
	74.81	348	6.21	6.085E+00	2.628E+00	2.628E+00	26.94
	77.11	504	10.50	6.316E+00	2.166E+00	2.166E+00	19.76
	87.30	149	4.67	7.048E+00	1.295E+00	1.295E+00	46.40
	241.98	216	7.49	5.519E+00	1.492E+00	1.492E+00	38.79
PO-216	295.21	311	19.20	4.780E+00	9.671E-01	9.671E-01	22.22
	351.92	451	37.20*	4.180E+00	8.273E-01	8.273E-01	16.12
	74.81	348	10.70	6.085E+00	1.525E+00	1.525E+00	27.53
	77.11	504	18.00	6.316E+00	1.263E+00	1.263E+00	18.23
	87.30	149	8.00	7.048E+00	7.557E-01	7.557E-01	46.84
	238.63	783	44.60*	5.570E+00	8.986E-01	8.986E-01	12.14
PO-218	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
	74.81	348	6.21	6.085E+00	2.628E+00	2.628E+00	26.94
	77.11	504	10.50	6.316E+00	2.166E+00	2.166E+00	19.76
	87.30	149	4.67	7.048E+00	1.295E+00	1.295E+00	46.40
	241.98	216	7.49	5.519E+00	1.492E+00	1.492E+00	38.79
	295.21	311	19.20	4.780E+00	9.671E-01	9.671E-01	22.22
RA-224	351.92	451	37.20*	4.180E+00	8.273E-01	8.273E-01	16.12
	240.98	216	3.95*	5.519E+00	2.829E+00	2.829E+00	38.38
RA-226	609.31	321	46.30*	2.655E+00	7.444E-01	7.444E-01	18.29
	1120.29	73	15.10	1.524E+00	8.990E-01	8.990E-01	55.19
AC-228	1764.49	43	15.80	1.059E+00	7.342E-01	7.342E-01	68.29
	338.32	141	11.40	4.308E+00	8.160E-01	8.160E-01	57.71
	911.07	159	27.70*	1.844E+00	8.846E-01	8.846E-01	26.88
RA-228	969.11	51	16.60	1.740E+00	5.071E-01	5.071E-01	78.81
	338.32	141	11.40	4.308E+00	8.160E-01	8.160E-01	57.71
	911.07	159	27.70*	1.844E+00	8.846E-01	8.846E-01	26.88
TH-228	969.11	51	16.60	1.740E+00	5.071E-01	5.071E-01	78.81
	74.81	348	10.70	6.085E+00	1.525E+00	1.554E+00	25.92
	77.11	504	18.00	6.316E+00	1.263E+00	1.288E+00	18.23
TH-230	87.30	149	8.00	7.048E+00	7.557E-01	7.702E-01	45.76
	238.63	783	44.60*	5.570E+00	8.986E-01	9.158E-01	12.14
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
TH-232	609.31	321	46.30*	2.655E+00	7.444E-01	7.444E-01	18.29
	1120.29	73	15.10	1.524E+00	8.990E-01	8.990E-01	55.19
	1764.49	43	15.80	1.059E+00	7.342E-01	7.342E-01	68.29
TH-234	338.32	141	11.40	4.308E+00	8.160E-01	8.160E-01	41.26
	911.07	159	27.70*	1.844E+00	8.846E-01	8.846E-01	26.88
	969.11	51	16.60	1.740E+00	5.071E-01	5.071E-01	78.81
U-234	63.29	70	3.80*	4.674E+00	1.130E+00	1.130E+00	112.71
	92.38	140	5.41	7.319E+00	1.010E+00	1.010E+00	73.69
	609.31	321	46.30*	2.655E+00	7.444E-01	7.444E-01	18.29
NP-237	1120.29	73	15.10	1.524E+00	8.990E-01	8.990E-01	55.19
	1764.49	43	15.80	1.059E+00	7.342E-01	7.342E-01	68.29
	86.50	149	12.60*	7.048E+00	4.798E-01	4.798E-01	50.19
U-238	95.87	-----	2.60	7.425E+00	-----	Line Not Found	-----
	63.29	70	3.80*	4.674E+00	1.130E+00	1.130E+00	112.71
	92.38	140	5.41	7.319E+00	1.010E+00	1.010E+00	71.96

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	348	66.00*	6.085E+00	2.473E-01	2.473E-01	25.90
	86.72	149	0.34	7.048E+00	1.799E+01	1.799E+01	45.76
	117.66	-----	0.55	7.685E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.399E+00	-----	Line Not Found	-----
ANH-511	511.00	122	100.00*	3.089E+00	1.126E-01	1.126E-01	57.10

Flag: "*" = Keyline

Total number of lines in spectrum 27
Number of unidentified lines 1
Number of lines tentatively identified by NID 26 96.30%

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	2.217E+01	2.217E+01	0.219E+01	9.87	
CD-109	464.00D	1.03	1.625E+00	1.672E+00	0.765E+00	45.76	
SN-126	1.00E+05Y	1.00	1.634E-01	1.634E-01	0.748E-01	45.76	
CS-135	2.30E+06Y	1.00	3.948E-01	3.948E-01	2.081E-01	52.72	
BA-137M	30.17Y	1.00	3.747E-01	3.751E-01	0.694E-01	18.49	
CS-137	30.17Y	1.00	3.960E-01	3.965E-01	0.733E-01	18.50	
TL-208	1.41E+10Y	1.00	2.745E-01	2.745E-01	0.636E-01	23.15	
BI-211	7.04E+08Y	1.00	2.378E+00	2.378E+00	0.363E+00	15.25	
PB-212	1.41E+10Y	1.00	8.986E-01	8.986E-01	1.091E-01	12.14	
PO-212	1.41E+10Y	1.00	8.986E-01	8.986E-01	1.091E-01	12.14	
BI-214	1600.00Y	1.00	7.444E-01	7.444E-01	1.362E-01	18.29	
PB-214	1600.00Y	1.00	8.273E-01	8.273E-01	1.333E-01	16.12	
PO-214	1600.00Y	1.00	8.273E-01	8.273E-01	1.333E-01	16.12	
PO-216	1.41E+10Y	1.00	8.986E-01	8.986E-01	1.091E-01	12.14	
PO-218	1600.00Y	1.00	8.273E-01	8.273E-01	1.333E-01	16.12	
RA-224	1.41E+10Y	1.00	2.829E+00	2.829E+00	1.086E+00	38.38	
RA-226	1600.00Y	1.00	7.444E-01	7.444E-01	1.362E-01	18.29	
AC-228	1.41E+10Y	1.00	8.846E-01	8.846E-01	2.378E-01	26.88	
RA-228	1.41E+10Y	1.00	8.846E-01	8.846E-01	2.378E-01	26.88	
TH-228	1.91Y	1.02	8.986E-01	9.158E-01	1.111E-01	12.14	
TH-230	4.47E+09Y	1.00	7.444E-01	7.444E-01	1.362E-01	18.29	
TH-232	1.41E+10Y	1.00	8.846E-01	8.846E-01	2.378E-01	26.88	
TH-234	4.47E+09Y	1.00	1.130E+00	1.130E+00	1.274E+00	112.71	
U-234	4.47E+09Y	1.00	7.444E-01	7.444E-01	1.362E-01	18.29	
NP-237	2.14E+06Y	1.00	4.798E-01	4.798E-01	2.408E-01	50.19	
U-238	4.47E+09Y	1.00	1.130E+00	1.130E+00	1.274E+00	112.71	
AM-243	7380.00Y	1.00	2.473E-01	2.473E-01	0.640E-01	25.90	
ANH-511	1.00E+09Y	1.00	1.126E-01	1.126E-01	0.643E-01	57.10	

Total Activity : 4.541E+01 4.548E+01

Grand Total Activity : 4.541E+01 4.548E+01

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

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

Unidentified Energy Lines
Sample ID : G243536006

Page : 5
Acquisition date : 9-JAN-2010 14:10:49

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.87	160	242	1.85	371.06	366	9	2.23E-02	40.2	6.53E+00	T
0	208.97	83	166	0.90	417.21	414	8	1.16E-02	57.6	6.08E+00	T
0	463.12	55	111	1.20	925.16	918	12	7.65E-03	82.3	3.35E+00	T
0	726.47	107	41	1.87	1451.63	1444	15	1.48E-02	32.6	2.27E+00	T
0	768.09	49	39	1.66	1534.86	1528	13	6.80E-03	68.6	2.16E+00	T
0	1729.89	16	12	2.55	3459.19	3451	13	2.27E-03	****	1.07E+00	

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536006.CNF;1
* Acquisition date   : 9-JAN-2010 14:10:49.  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 02:00:01.17             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 21-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243536006           Analyst initials: MXR1
* Batch Number       : 937074              Sample Quantity : 1.31690E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06.61MS Isotope      :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A              LCS Isotope        :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.217E+01	2.189E+00	3.742E-01	2.717E-02	59.257
CD-109	1.672E+00	7.651E-01	1.179E+00	1.031E-01	1.419
SN-126	1.634E-01	7.476E-02	1.180E-01	1.026E-02	1.385
CS-135	3.948E-01	2.081E-01	2.043E-01	1.567E-02	1.933
BA-137M	3.751E-01	6.936E-02	5.190E-02	3.086E-03	7.227
CS-137	3.965E-01	7.335E-02	5.486E-02	3.275E-03	7.227
TL-208	2.745E-01	6.355E-02	5.079E-02	3.474E-03	5.404
BI-211	2.378E+00	3.627E-01	2.937E-01	1.861E-02	8.098
PB-212	8.986E-01	1.091E-01	7.341E-02	5.347E-03	12.241
PO-212	8.986E-01	1.091E-01	7.341E-02	5.347E-03	12.241
BI-214	7.444E-01	1.362E-01	1.012E-01	8.013E-03	7.353
PB-214	8.273E-01	1.333E-01	9.838E-02	8.073E-03	8.409
PO-214	8.273E-01	1.333E-01	9.838E-02	8.073E-03	8.409
PO-216	8.986E-01	1.091E-01	7.341E-02	5.347E-03	12.241
PO-218	8.273E-01	1.333E-01	9.838E-02	8.073E-03	8.409
RA-224	2.829E+00	1.086E+00	8.350E-01	4.800E-02	3.389
RA-226	7.444E-01	1.362E-01	1.012E-01	8.013E-03	7.353
AC-228	8.846E-01	2.378E-01	1.720E-01	2.020E-02	5.142

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	8.846E-01	2.378E-01	1.720E-01	2.020E-02	5.142
TH-228	9.158E-01	1.111E-01	7.482E-02	5.450E-03	12.241
TH-230	7.444E-01	1.362E-01	1.012E-01	8.013E-03	7.353
TH-232	8.846E-01	2.378E-01	1.720E-01	2.020E-02	5.142
TH-234	1.130E+00	1.274E+00	1.553E+00	2.669E-01	0.728
U-234	7.444E-01	1.362E-01	1.012E-01	8.013E-03	7.353
NP-237	4.798E-01	2.408E-01	3.275E-01	7.320E-02	1.465
U-238	1.130E+00	1.274E+00	1.553E+00	2.669E-01	0.728
AM-243	2.473E-01	6.403E-02	6.822E-02	5.120E-03	3.624
ANH-511	1.126E-01	6.428E-02	3.525E-02	2.071E-03	3.193

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.628E-01		2.994E-01	5.094E-01	3.433E-02	0.320
NA-22	-1.004E-02		3.685E-02	5.871E-02	3.835E-03	-0.171
NA-24	1.004E+01		2.678E+01	Half-Life too short		
AL-26	-1.464E-02		2.656E-02	3.730E-02	2.162E-03	-0.393
TI-44	2.332E-01	+	4.251E-02	6.140E-02	4.794E-03	3.798
SC-46	-8.405E-03		3.470E-02	5.668E-02	5.238E-03	-0.148
V-48	-1.078E-02		7.707E-02	1.267E-01	1.076E-02	-0.085
CR-51	-2.091E-01		3.686E-01	5.927E-01	3.830E-02	-0.353
MN-52	-1.996E-02		2.994E-01	4.842E-01	3.394E-02	-0.041
MN-54	-7.154E-03		2.996E-02	4.914E-02	4.122E-03	-0.146
CO-56	-3.354E-03		3.467E-02	5.762E-02	4.939E-03	-0.058
CO-57	2.313E-03		2.206E-02	3.568E-02	2.538E-03	0.065
CO-58	-2.478E-02		3.346E-02	4.900E-02	3.942E-03	-0.506
FE-59	-3.729E-02		8.683E-02	1.377E-01	1.060E-02	-0.271
CO-60	1.091E-02		3.608E-02	6.138E-02	4.374E-03	0.178
ZN-65	2.826E-02		8.427E-02	1.260E-01	8.285E-03	0.224
GE-68	1.075E-01		1.095E+00	1.835E+00	1.319E-01	0.059
AS-73	-2.733E-01		5.524E-01	8.841E-01	5.763E-02	-0.309
AS-74	-1.308E-01		9.457E-02	1.346E-01	8.049E-03	-0.972
SE-75	5.862E-03		4.210E-02	6.178E-02	3.627E-03	0.095
BR-77	5.639E-06		1.436E-05	Half-Life too short		
SR-82	-5.215E-02		3.612E-01	5.720E-01	4.301E-02	-0.091
RB-83	1.322E-02		6.159E-02	9.341E-02	5.506E-03	0.142
RB-84	3.416E-03		6.436E-02	1.083E-01	9.871E-03	0.032
KR-85	1.505E+01		6.230E+00	1.170E+01	6.882E-01	1.286
SR-85	8.046E-02		3.331E-02	6.256E-02	3.679E-03	1.286
RB-86	8.514E-02		8.144E-01	1.365E+00	9.828E-02	0.062
Y-88	-4.972E-04		2.955E-02	4.751E-02	2.698E-03	-0.010
ZR-88	1.033E-02		2.735E-02	4.621E-02	2.516E-03	0.224
Y-91	-8.068E+00		1.654E+01	2.592E+01	1.508E+00	-0.311
NB-94	-1.935E-03		3.091E-02	4.964E-02	3.219E-03	-0.039
NB-95	1.052E-04		5.044E-02	6.494E-02	4.782E-03	0.002
NB-95M	5.136E-01		1.401E-01	2.354E-01	1.760E-02	2.182

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	5.981E-03		6.285E-02	1.021E-01	8.423E-03	0.059
NB-97	6.225E+00		2.696E+00	Half-Life too short		
ZR-97	1.908E+02		4.585E+01	Half-Life too short		
MO-99	-1.263E+01		2.539E+01	3.859E+01	5.527E+00	-0.327
TC-99M	-1.628E+15		1.029E+15	Half-Life too short		
RH-101	-8.798E-03		2.646E-02	4.387E-02	2.434E-03	-0.201
RH-102	3.024E-02		2.594E-02	4.587E-02	2.651E-03	0.659
RU-103	-5.290E-03		3.644E-02	5.894E-02	7.464E-03	-0.090
RH-106	8.873E-02		2.796E-01	4.657E-01	5.508E-02	0.191
RU-106	8.873E-02		2.794E-01	4.657E-01	2.785E-02	0.191
AG-108M	-2.511E-02		2.788E-02	4.276E-02	2.626E-03	-0.587
AG-110M	3.360E-02		3.832E-02	5.876E-02	3.712E-03	0.572
IN-111	1.409E+00		2.523E+00	3.820E+00	2.201E-01	0.369
IN-113M	2.354E-03		3.864E-02	6.403E-02	3.747E-03	0.037
SN-113	2.354E-03		3.864E-02	6.403E-02	3.747E-03	0.037
IN-114M	-2.588E-02		1.768E-01	2.572E-01	1.416E-02	-0.101
CD-115	-1.298E-05		1.549E-05	Half-Life too short		
SN-117M	2.185E-02		6.163E-02	1.001E-01	5.664E-03	0.218
SB-122	-1.405E+01		6.171E+00	8.326E+00	4.963E-01	-1.688
I-123	2.895E+02		4.069E+02	Half-Life too short		
TE-123M	9.522E-03		2.677E-02	4.349E-02	2.487E-03	0.219
I-124	9.722E-01		1.356E+00	2.047E+00	1.224E-01	0.475
SB-124	3.840E-02		6.415E-02	1.168E-01	7.897E-03	0.329
SB-125	3.649E-02		8.025E-02	1.360E-01	7.973E-03	0.268
TE-125M	4.935E+00		8.333E+00	1.376E+01	1.293E+00	0.359
I-126	-1.839E-01		2.274E-01	2.830E-01	1.700E-02	-0.650
SB-126	5.759E-02		1.593E-01	2.333E-01	1.570E-02	0.247
SB-127	7.854E-01		2.253E+00	3.762E+00	4.192E-01	0.209
XE-127	1.097E-03		4.340E-02	6.908E-02	3.851E-03	0.016
I-131	-1.843E-02		1.444E-01	2.370E-01	1.508E-02	-0.078
TE-132	3.014E-01		1.348E+00	2.281E+00	3.466E-01	0.132
BA-133	-2.477E-02		4.119E-02	5.569E-02	6.401E-03	-0.445
I-133	2.277E-02		6.146E-02	Half-Life too short		
CS-134	3.988E-02		3.547E-02	6.351E-02	4.998E-03	0.628
I-135	-4.058E+13		5.757E+13	Half-Life too short		
CS-136	7.471E-03		1.046E-01	1.751E-01	1.409E-02	0.043
CE-139	2.777E-03		2.709E-02	4.350E-02	2.335E-03	0.064
BA-140	2.279E-01		2.923E-01	4.901E-01	1.595E-01	0.465
LA-140	-8.666E-02		9.108E-02	1.214E-01	8.050E-03	-0.714
CE-141	8.964E-03		6.377E-02	1.028E-01	6.563E-03	0.087
CE-143	5.731E-03		8.628E-04	Half-Life too short		
CE-144	-9.478E-02		1.912E-01	3.000E-01	4.366E-02	-0.316
PM-144	1.280E-02		3.111E-02	5.201E-02	3.333E-03	0.246
PR-144	8.694E-01		2.113E+00	3.532E+00	2.261E-01	0.246
PM-146	-4.072E-03		3.725E-02	6.067E-02	5.194E-03	-0.067
ND-147	3.648E-01		6.238E-01	1.062E+00	1.442E-01	0.343
PM-149	-5.582E-05		1.376E-04	Half-Life too short		
EU-152	-3.630E-02		9.296E-02	1.358E-01	8.784E-03	-0.267

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	3.619E-02		7.676E-02	1.113E-01	8.926E-03	0.325
EU-154	-2.584E-02		1.030E-01	1.645E-01	1.613E-02	-0.157
EU-155	-2.326E-03		9.159E-02	1.477E-01	1.144E-02	-0.016
TB-160	-1.131E-01		1.268E-01	1.931E-01	1.754E-02	-0.585
HO-166M	5.367E-02		5.177E-02	9.120E-02	6.026E-03	0.588
TM-171	5.559E+00		2.458E+01	3.540E+01	2.468E+00	0.157
LU-176	-4.856E-03		2.101E-02	3.449E-02	2.009E-03	-0.141
LU-177	2.566E+00	+	1.484E+00	2.405E+00	1.348E-01	1.067
LU-177M	-6.927E-02		1.467E-01	2.336E-01	1.295E-02	-0.297
HF-181	-2.439E-02		3.931E-02	6.131E-02	3.556E-03	-0.398
W-181	2.276E-01		3.276E-01	4.818E-01	3.319E-02	0.472
TA-182	-1.808E-01		1.806E-01	2.686E-01	1.607E-02	-0.673
RE-183	-5.673E-02		1.069E-01	1.644E-01	9.053E-03	-0.345
RE-184	4.474E-02		1.973E-01	3.336E-01	1.930E-02	0.134
OS-185	-9.326E-03		3.829E-02	6.012E-02	3.585E-03	-0.155
RE-188	5.133E-02		1.633E-01	2.649E-01	1.535E-02	0.194
W-188	-5.347E+00		7.508E+00	1.026E+01	5.985E-01	-0.521
IR-192	2.784E-02		3.075E-02	5.357E-02	3.127E-03	0.520
AU-195	2.192E-01		2.184E-01	3.252E-01	2.581E-02	0.674
TL-200	9.152E-04		2.573E-03	Half-Life too short		
TL-201	-5.132E+00		1.528E+01	2.402E+01	1.290E+00	-0.214
TL-202	2.138E-02		7.490E-02	1.256E-01	7.100E-03	0.170
HG-203	7.408E-03		3.745E-02	6.306E-02	3.902E-03	0.117
BI-207	-1.092E-02		4.374E-02	7.067E-02	5.230E-03	-0.155
TL-207	-6.704E-01		6.049E-01	9.261E-01	1.529E-01	-0.724
PO-209	-9.797E-01		6.415E+00	1.057E+01	9.894E-01	-0.093
BI-210	5.059E-01		2.012E+00	3.282E+00	2.434E-01	0.154
PB-210	5.059E-01		2.012E+00	3.282E+00	2.434E-01	0.154
PO-210	5.059E-01		2.012E+00	3.282E+00	2.059E-01	0.154
PB-211	-1.120E+00		1.050E+00	1.165E+00	7.262E-01	-0.961
BI-212	1.137E+00	+	3.826E-01	5.468E-01	4.652E-02	2.079
PO-215	-6.704E-01		6.049E-01	9.261E-01	1.529E-01	-0.724
RN-219	1.735E-01		3.444E-01	5.854E-01	7.890E-02	0.296
RN-220	-1.564E+01		2.131E+01	3.243E+01	1.927E+00	-0.482
RA-223	-6.704E-01		6.049E-01	9.261E-01	1.529E-01	-0.724
AC-227	-1.879E-02		3.189E-01	5.316E-01	7.419E-02	-0.035
TH-227	-1.879E-02		3.189E-01	5.316E-01	8.982E-02	-0.035
TH-229	6.454E-02		4.105E-01	6.959E-01	3.843E-02	0.093
PA-231	9.360E-02		1.297E+00	2.171E+00	2.994E-01	0.043
TH-231	-6.704E-01		6.049E-01	9.261E-01	1.529E-01	-0.724
U-231	-1.599E+00		2.054E+00	2.774E+00	2.252E-01	-0.576
PA-233	-2.449E-02		5.400E-02	8.737E-02	5.395E-03	-0.280
PA-234	1.918E-03		2.603E-01	4.346E-01	8.215E-02	0.004
PA-234M	1.996E+00		3.932E+00	6.855E+00	6.627E-01	0.291
U-235	2.576E-01		1.998E-01	3.246E-01	5.344E-02	0.793
NP-236	4.405E-04		7.298E-02	1.168E-01	6.524E-03	0.004
NP-239	4.201E-02		1.641E-01	2.673E-01	1.932E-02	0.157
AM-241	3.397E-02		1.238E-01	1.793E-01	1.331E-02	0.189

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.818E-02		8.117E-02	1.330E-01	1.023E-02	0.212
AM-246	7.246E-02		1.252E-01	2.193E-01	1.571E-02	0.330
CM-247	1.134E-02		3.067E-02	5.181E-02	2.846E-03	0.219
CF-249	-2.072E-02		3.411E-02	5.403E-02	2.954E-03	-0.384
CF-251	-3.764E-03		1.140E-01	1.817E-01	9.854E-03	-0.021

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536006
* Acquisition date   : 9-JAN-2010 14:10:49 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 02:00:01.17             Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243536006             Analyst initials: MXR1
* Batch Number       : 937074                 Sample Quantity : 1.3169E+02 GRAM
* Recovery           : 1.00000                 Carrier Weight  : 0.00000
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 6-MAR-2009 11:43:06 MS Isotope       :
* MSD DPM           : 0.000                     MSD Isotope   :
* LCS DPM           : 0.000                     LCS Isotope   :
* LCSD DPM          : 0.000                     LCSD Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.217E+01	2.145E+00	1.874E-01	1.095E+00
CD-109	1.672E+00	7.498E-01	6.187E-01	3.826E-01
SN-126	1.634E-01	7.326E-02	6.193E-02	3.738E-02
CS-135	3.948E-01	2.040E-01	1.053E-01	1.041E-01
BA-137M	3.751E-01	6.797E-02	2.635E-02	3.468E-02
CS-137	3.965E-01	7.188E-02	2.786E-02	3.667E-02
TL-208	2.745E-01	6.228E-02	2.585E-02	3.178E-02
BI-211	2.378E+00	3.554E-01	1.507E-01	1.813E-01
PB-212	8.986E-01	1.069E-01	3.792E-02	5.453E-02
PO-212	8.986E-01	1.069E-01	3.792E-02	5.453E-02
BI-214	7.444E-01	1.334E-01	5.148E-02	6.808E-02
PB-214	8.273E-01	1.307E-01	5.049E-02	6.667E-02
PO-214	8.273E-01	1.307E-01	5.049E-02	6.667E-02
PO-216	8.986E-01	1.069E-01	3.792E-02	5.453E-02
PO-218	8.273E-01	1.307E-01	5.049E-02	6.667E-02
RA-224	2.829E+00	1.064E+00	4.312E-01	5.430E-01
RA-226	7.444E-01	1.334E-01	5.148E-02	6.808E-02
AC-228	8.846E-01	2.330E-01	8.687E-02	1.189E-01
RA-228	8.846E-01	2.330E-01	8.687E-02	1.189E-01
TH-228	9.158E-01	1.089E-01	3.865E-02	5.557E-02
TH-230	7.444E-01	1.334E-01	5.148E-02	6.808E-02
TH-232	8.846E-01	2.330E-01	8.687E-02	1.189E-01
TH-234	1.130E+00	1.248E+00	8.194E-01	6.369E-01
U-234	7.444E-01	1.334E-01	5.148E-02	6.808E-02
NP-237	4.798E-01	2.360E-01	1.720E-01	1.204E-01
U-238	1.130E+00	1.248E+00	8.194E-01	6.369E-01
AM-243	2.473E-01	6.275E-02	3.591E-02	3.202E-02
ANH-511	1.126E-01	6.300E-02	1.798E-02	3.214E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	1.628E-01	2.934E-01	2.601E-01	1.497E-01	NOT IDENT.
NA-22	-1.004E-02	3.612E-02	2.948E-02	1.843E-02	NOT IDENT.
NA-24	1.004E+07	5.250E+07	0.000E+00	2.678E+07	SHORT HLIF
AL-26	-1.464E-02	2.603E-02	1.861E-02	1.328E-02	NOT IDENT.
TI-44	2.332E-01	4.166E-02	3.229E-02	2.125E-02	FAIL ABUN
SC-46	-8.405E-03	3.400E-02	2.864E-02	1.735E-02	FAIL ABUN
V-48	-1.078E-02	7.553E-02	6.389E-02	3.853E-02	NOT IDENT.
CR-51	-2.091E-01	3.612E-01	3.046E-01	1.843E-01	NOT IDENT.
MN-52	-1.996E-02	2.934E-01	2.426E-01	1.497E-01	NOT IDENT.
MN-54	-7.154E-03	2.936E-02	2.485E-02	1.498E-02	NOT IDENT.
CO-56	-3.354E-03	3.398E-02	2.913E-02	1.734E-02	NOT IDENT.
CO-57	2.313E-03	2.162E-02	1.863E-02	1.103E-02	NOT IDENT.
CO-58	-2.478E-02	3.279E-02	2.479E-02	1.673E-02	NOT IDENT.
FE-59	-3.729E-02	8.509E-02	6.930E-02	4.342E-02	NOT IDENT.
CO-60	1.091E-02	3.536E-02	3.079E-02	1.804E-02	NOT IDENT.
ZN-65	2.826E-02	8.259E-02	6.343E-02	4.214E-02	NOT IDENT.
GE-68	1.075E-01	1.073E+00	9.241E-01	5.477E-01	NOT IDENT.
AS-73	-2.733E-01	5.413E-01	4.678E-01	2.762E-01	NOT IDENT.
AS-74	-1.308E-01	9.268E-02	6.846E-02	4.728E-02	NOT IDENT.
SE-75	5.862E-03	4.125E-02	3.186E-02	2.105E-02	NOT IDENT.
BR-77	5.639E+00	2.814E+01	0.000E+00	1.436E+01	SHORT HLIF
SR-82	-5.215E-02	3.539E-01	2.897E-01	1.806E-01	NOT IDENT.
RB-83	1.322E-02	6.036E-02	4.763E-02	3.079E-02	NOT IDENT.
RB-84	3.416E-03	6.308E-02	5.471E-02	3.218E-02	NOT IDENT.
KR-85	1.505E+01	6.106E+00	5.968E+00	3.115E+00	NOT IDENT.
SR-85	8.046E-02	3.264E-02	3.190E-02	1.665E-02	NOT IDENT.
RB-86	8.514E-02	7.981E-01	6.874E-01	4.072E-01	NOT IDENT.
Y-88	-4.972E-04	2.896E-02	2.370E-02	1.477E-02	NOT IDENT.
ZR-88	1.033E-02	2.680E-02	2.367E-02	1.367E-02	NOT IDENT.
Y-91	-8.068E+00	1.621E+01	1.303E+01	8.268E+00	NOT IDENT.
NB-94	-1.935E-03	3.029E-02	2.518E-02	1.545E-02	NOT IDENT.
NB-95	1.052E-04	4.943E-02	3.289E-02	2.522E-02	NOT IDENT.
NB-95M	5.136E-01	1.373E-01	1.216E-01	7.006E-02	NOT IDENT.
ZR-95	5.981E-03	6.159E-02	5.173E-02	3.142E-02	NOT IDENT.
NB-97	6.225E+06	5.285E+06	0.000E+00	2.696E+06	SHORT HLIF
ZR-97	1.908E+08	8.987E+07	0.000E+00	4.585E+07	SHORT HLIF
MO-99	-1.263E+01	2.488E+01	1.956E+01	1.269E+01	NOT IDENT.
TC-99M	-1.628E+21	2.017E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-8.798E-03	2.593E-02	2.273E-02	1.323E-02	NOT IDENT.
RH-102	3.024E-02	2.542E-02	2.342E-02	1.297E-02	FAIL ABUN
RU-103	-5.290E-03	3.571E-02	3.007E-02	1.822E-02	FAIL ABUN
RH-106	8.873E-02	2.740E-01	2.367E-01	1.398E-01	FAIL ABUN
RU-106	8.873E-02	2.738E-01	2.367E-01	1.397E-01	FAIL ABUN
AG-108M	-2.511E-02	2.732E-02	2.187E-02	1.394E-02	NOT IDENT.
AG-110M	3.360E-02	3.755E-02	2.984E-02	1.916E-02	NOT IDENT.
IN-111	1.409E+00	2.472E+00	1.972E+00	1.261E+00	NOT IDENT.
IN-113M	2.354E-03	3.787E-02	3.280E-02	1.932E-02	NOT IDENT.
SN-113	2.354E-03	3.787E-02	3.280E-02	1.932E-02	NOT IDENT.
IN-114M	-2.588E-02	1.733E-01	1.334E-01	8.842E-02	NOT IDENT.
CD-115	-1.298E+01	3.035E+01	0.000E+00	1.549E+01	SHORT HLIF
SN-117M	2.185E-02	6.040E-02	5.207E-02	3.082E-02	NOT IDENT.
SB-122	-1.405E+01	6.048E+00	4.240E+00	3.086E+00	NOT IDENT.
I-123	2.895E+08	7.975E+08	0.000E+00	4.069E+08	SHORT HLIF
TE-123M	9.522E-03	2.623E-02	2.261E-02	1.338E-02	NOT IDENT.
I-124	9.722E-01	1.329E+00	1.041E+00	6.781E-01	NOT IDENT.
SB-124	3.840E-02	6.287E-02	5.836E-02	3.208E-02	NOT IDENT.
SB-125	3.649E-02	7.864E-02	6.960E-02	4.012E-02	FAIL ABUN
TE-125M	4.935E+00	8.166E+00	7.199E+00	4.166E+00	NOT IDENT.
I-126	-1.839E-01	2.229E-01	1.437E-01	1.137E-01	NOT IDENT.
SB-126	5.759E-02	1.561E-01	1.183E-01	7.965E-02	NOT IDENT.
SB-127	7.854E-01	2.208E+00	1.909E+00	1.126E+00	NOT IDENT.
XE-127	1.097E-03	4.253E-02	3.578E-02	2.170E-02	NOT IDENT.
I-131	-1.843E-02	1.415E-01	1.216E-01	7.219E-02	NOT IDENT.
TE-132	3.014E-01	1.321E+00	1.179E+00	6.738E-01	NOT IDENT.
BA-133	-2.477E-02	4.036E-02	2.857E-02	2.059E-02	NOT IDENT.
I-133	2.277E+04	1.205E+05	0.000E+00	6.146E+04	SHORT HLIF
CS-134	3.988E-02	3.476E-02	3.215E-02	1.773E-02	NOT IDENT.
I-135	-4.058E+19	1.128E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.471E-03	1.025E-01	8.820E-02	5.228E-02	FAIL ABUN
CE-139	2.777E-03	2.655E-02	2.260E-02	1.354E-02	NOT IDENT.
BA-140	2.279E-01	2.865E-01	2.497E-01	1.462E-01	NOT IDENT.
LA-140	-8.666E-02	8.926E-02	6.074E-02	4.554E-02	NOT IDENT.
CE-141	8.964E-03	6.249E-02	5.355E-02	3.188E-02	NOT IDENT.
CE-143	5.731E+03	1.691E+03	0.000E+00	8.628E+02	SHORT HLIF
CE-144	-9.478E-02	1.874E-01	1.564E-01	9.562E-02	NOT IDENT.
PM-144	1.280E-02	3.049E-02	2.638E-02	1.556E-02	NOT IDENT.
PR-144	8.694E-01	2.071E+00	1.792E+00	1.056E+00	NOT IDENT.

PM-146	-4.072E-03	3.650E-02	3.101E-02	1.862E-02	NOT IDENT.
ND-147	3.648E-01	6.113E-01	5.414E-01	3.119E-01	NOT IDENT.
PM-149	-5.582E+01	2.698E+02	0.000E+00	1.376E+02	SHORT HLIF
EU-152	-3.630E-02	9.110E-02	6.971E-02	4.648E-02	NOT IDENT.
GD-153	3.619E-02	7.522E-02	5.833E-02	3.838E-02	NOT IDENT.
EU-154	-2.584E-02	1.009E-01	8.258E-02	5.149E-02	NOT IDENT.
EU-155	-2.326E-03	8.976E-02	7.734E-02	4.580E-02	FAIL ABUN
TB-160	-1.131E-01	1.242E-01	9.760E-02	6.338E-02	FAIL ABUN
HO-166M	5.367E-02	5.074E-02	4.625E-02	2.589E-02	FAIL ABUN
TM-171	5.559E+00	2.408E+01	1.867E+01	1.229E+01	NOT IDENT.
LU-176	-4.856E-03	2.059E-02	1.774E-02	1.051E-02	FAIL ABUN
LU-177	2.566E+00	1.455E+00	1.245E+00	7.421E-01	FAIL ABUN
LU-177M	-6.927E-02	1.438E-01	1.196E-01	7.337E-02	FAIL ABUN
HF-181	-2.439E-02	3.853E-02	3.130E-02	1.966E-02	NOT IDENT.
W-181	2.276E-01	3.211E-01	2.541E-01	1.638E-01	NOT IDENT.
TA-182	-1.808E-01	1.770E-01	1.350E-01	9.031E-02	FAIL ABUN
RE-183	-5.673E-02	1.047E-01	8.544E-02	5.343E-02	FAIL ABUN
RE-184	4.474E-02	1.933E-01	1.722E-01	9.864E-02	NOT IDENT.
OS-185	-9.326E-03	3.753E-02	3.054E-02	1.915E-02	NOT IDENT.
RE-188	5.133E-02	1.600E-01	1.378E-01	8.165E-02	NOT IDENT.
W-188	-5.347E+00	7.358E+00	5.281E+00	3.754E+00	FAIL ABUN
IR-192	2.784E-02	3.013E-02	2.754E-02	1.537E-02	FAIL ABUN
AU-195	2.192E-01	2.140E-01	1.704E-01	1.092E-01	FAIL ABUN
TL-200	9.152E+02	5.043E+03	0.000E+00	2.573E+03	SHORT HLIF
TL-201	-5.132E+00	1.498E+01	1.248E+01	7.641E+00	NOT IDENT.
TL-202	2.138E-02	7.340E-02	6.420E-02	3.745E-02	NOT IDENT.
HG-203	7.408E-03	3.670E-02	3.249E-02	1.873E-02	NOT IDENT.
BI-207	-1.092E-02	4.287E-02	3.559E-02	2.187E-02	FAIL ABUN
TL-207	-6.704E-01	5.928E-01	4.760E-01	3.024E-01	FAIL ABUN
PO-209	-9.797E-01	6.286E+00	5.340E+00	3.207E+00	NOT IDENT.
BI-210	5.059E-01	1.972E+00	1.740E+00	1.006E+00	NOT IDENT.
PB-210	5.059E-01	1.972E+00	1.740E+00	1.006E+00	NOT IDENT.
PO-210	5.059E-01	1.972E+00	1.740E+00	1.006E+00	NOT IDENT.
PB-211	-1.120E+00	1.029E+00	5.967E-01	5.252E-01	NOT IDENT.
BI-212	1.137E+00	3.750E-01	2.772E-01	1.913E-01	FAIL ABUN
PO-215	-6.704E-01	5.928E-01	4.760E-01	3.024E-01	FAIL ABUN
RN-219	1.735E-01	3.375E-01	2.998E-01	1.722E-01	NOT IDENT.
RN-220	-1.564E+01	2.088E+01	1.652E+01	1.065E+01	NOT IDENT.
RA-223	-6.704E-01	5.928E-01	4.760E-01	3.024E-01	FAIL ABUN
AC-227	-1.879E-02	3.126E-01	2.743E-01	1.595E-01	NOT IDENT.
TH-227	-1.879E-02	3.126E-01	2.743E-01	1.595E-01	FAIL ABUN
TH-229	6.454E-02	4.023E-01	3.607E-01	2.053E-01	FAIL ABUN
PA-231	9.360E-02	1.271E+00	1.118E+00	6.487E-01	NOT IDENT.
TH-231	-6.704E-01	5.928E-01	4.760E-01	3.024E-01	FAIL ABUN
U-231	-1.599E+00	2.013E+00	1.454E+00	1.027E+00	FAIL ABUN
PA-233	-2.449E-02	5.292E-02	4.493E-02	2.700E-02	FAIL ABUN
PA-234	1.918E-03	2.551E-01	2.193E-01	1.301E-01	FAIL ABUN
PA-234M	1.996E+00	3.853E+00	3.456E+00	1.966E+00	NOT IDENT.
U-235	2.576E-01	1.958E-01	1.691E-01	9.990E-02	FAIL ABUN
NP-236	4.405E-04	7.152E-02	6.071E-02	3.649E-02	NOT IDENT.
NP-239	4.201E-02	1.608E-01	1.397E-01	8.205E-02	FAIL ABUN
AM-241	3.397E-02	1.213E-01	9.470E-02	6.189E-02	NOT IDENT.
CM-243	2.818E-02	7.955E-02	6.964E-02	4.059E-02	FAIL ABUN
AM-246	7.246E-02	1.227E-01	1.104E-01	6.262E-02	NOT IDENT.
CM-247	1.134E-02	3.006E-02	2.653E-02	1.534E-02	NOT IDENT.
CF-249	-2.072E-02	3.342E-02	2.768E-02	1.705E-02	NOT IDENT.
CF-251	-3.764E-03	1.118E-01	9.431E-02	5.702E-02	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY	MDA COUNTS
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46.50	290.5970
46.50	290.5970
46.50	290.5970
48.70	310.7069
49.72	338.6117
51.35	326.9794
52.39	326.3384
52.97	338.8336
53.15	331.7340
53.44	332.8645
54.07	350.5192
56.28	333.8948
56.28	333.8957
57.37	0.0000
57.53	351.1439
57.53	351.1445
57.60	351.1699
57.98	349.1155
57.98	349.1155
59.32	377.6410
59.32	377.6410
59.40	377.6725
59.54	367.8309
59.72	367.8996
60.01	368.0099
61.10	361.8152
61.14	361.8299
61.30	361.8893
63.00	413.8287
63.29	424.2983
63.29	424.2983
63.58	470.3832
64.28	480.6577
65.12	437.9288
65.20	437.9638
65.20	437.9638
66.05	395.1611
66.72	433.6321
66.83	433.6799
66.91	453.6542
67.20	453.7825
67.20	453.7825
67.75	473.9812
67.85	474.0265
68.90	402.3593
68.90	402.3593
69.30	418.4745
69.67	436.5345
70.82	495.3885
70.82	495.3885
70.83	495.3922
72.80	409.4113
72.87	409.4374
72.87	409.4374
74.67	424.7649
74.81	424.8191
74.81	424.8191
74.81	424.8191
74.81	424.8191
74.81	424.8191
74.81	424.8191
74.81	424.8191
74.97	424.8810
75.28	425.0010
75.70	425.1629
77.11	425.7050
77.11	425.7050

77.11	425.7050
77.11	425.7050
77.11	425.7050
77.11	425.7050
77.11	425.7050
78.38	349.3483
79.62	378.3170
79.80	378.3774
79.80	378.3774
80.11	445.7658
80.18	445.7933
80.30	445.8402
80.30	445.8402
80.57	476.2359
81.00	461.2646
81.07	461.2930
81.07	461.2930
81.07	461.2930
81.07	461.2930
82.60	349.8016
83.37	382.3644
83.78	360.7031
83.78	360.7031
83.78	360.7031
83.78	360.7031
84.21	368.0107
84.90	364.8494
85.43	351.4938
86.29	394.0266
86.50	476.0083
86.54	476.0255
86.59	476.0444
86.72	524.4324
86.79	524.4608
86.94	535.8091
87.30	561.3576
87.30	561.3576
87.30	561.3576
87.30	561.3576
87.30	561.3576
87.30	561.3576
87.57	541.7344
87.88	0.0000
88.03	519.9250
88.36	525.1514
88.47	542.1406
89.95	542.8047
91.11	543.3203
92.29	583.4969
92.38	583.5409
92.38	583.5409
93.35	431.3160
94.00	348.8804
94.67	357.5793
94.67	357.5806
94.90	398.5198
94.90	398.5198
94.90	398.5198
94.90	398.5198
95.87	392.0107
95.87	392.0107
96.73	349.6399
97.43	317.4079
98.44	295.4568
98.44	295.4568
98.88	290.4329
99.55	290.5844
99.55	290.5844
99.86	275.9991
100.00	287.0220
100.10	287.0445
103.18	324.6064
103.76	290.4527
105.00	297.1613
105.31	306.8873
108.00	316.1052
109.28	291.6519

111.00	282.3208
111.00	282.3208
111.76	307.2743
112.95	338.8325
115.19	278.8511
116.30	307.1950
117.00	283.5392
117.00	283.5392
117.66	282.5884
121.11	284.3547
121.62	279.0271
121.78	277.9717
122.06	276.9394
122.32	287.8513
122.32	287.8513
122.32	287.8513
122.32	287.8513
123.07	295.6074
127.23	311.7019
129.76	292.5791
131.20	298.3230
133.02	344.6322
133.54	334.8976
135.34	279.4101
136.00	276.2402
136.25	277.3808
136.48	277.4233
140.51	319.9153
140.51	0.0000
142.18	315.8506
142.65	296.1295
143.76	276.5075
144.24	269.9781
144.24	269.9781
144.24	269.9781
144.24	269.9781
145.22	308.7344
145.44	328.6271
147.16	311.3141
152.43	310.1038
152.70	310.1550
153.22	292.5225
154.21	273.8498
154.21	273.8498
154.21	273.8498
154.21	273.8498
155.03	298.3890
156.02	306.3349
158.56	286.7876
159.00	0.0000
159.00	287.9743
160.31	293.7592
161.27	298.3798
162.32	307.4741
162.64	306.4167
163.35	280.9064
163.89	269.8424
165.85	271.2652
167.43	273.7465
171.28	259.7875
171.86	258.7523
172.10	258.7876
176.55	267.2943
176.60	267.3015
181.06	268.7076
184.41	266.1896
185.71	258.2501
186.00	230.2938
190.27	238.3614
192.34	216.4712
193.63	229.4140
197.04	236.1820
198.01	239.9356
198.60	243.6454
200.40	0.0000
201.83	236.7644
202.84	232.3311
205.31	232.6237

208.36	245.7728
208.81	243.0871
209.75	243.2007
209.75	243.2007
210.97	242.4336
215.65	214.9780
216.55	232.0948
218.09	230.4331
222.10	196.8489
223.80	231.0720
226.40	201.8639
227.00	215.7516
227.08	215.7602
227.20	215.7716
228.16	211.2575
228.18	211.2603
228.18	211.2603
231.56	0.0000
235.69	205.2175
236.00	200.6177
236.00	200.6177
238.63	189.1196
238.63	189.1196
238.63	189.1196
238.63	189.1196
239.00	0.0000
240.98	189.3250
241.98	189.4122
241.98	189.4122
241.98	189.4122
244.69	153.3904
245.39	162.7391
247.94	187.7541
248.90	198.7018
249.79	0.0000
252.40	170.7159
252.85	175.4158
252.85	175.4158
254.15	0.0000
256.20	181.2836
256.20	181.2836
260.50	179.7539
260.90	0.0000
262.80	176.8886
264.65	161.0087
268.24	159.6925
268.79	176.9579
269.46	171.9959
269.46	171.9959
269.46	171.9959
269.46	171.9959
271.23	175.5742
273.65	225.9727
276.40	158.9041
277.35	167.6476
277.60	169.7629
277.60	169.7629
278.00	174.5079
278.60	180.2120
279.20	182.1461
279.53	184.0574
280.46	185.0731
281.68	0.0000
283.67	163.5750
284.30	171.1833
285.00	163.6658
285.90	0.0000
286.10	173.2044
286.10	173.2044
287.40	158.6200
288.45	0.0000
290.67	181.7487
290.80	181.7581
291.72	167.5961
293.26	0.0000
293.70	153.4906
295.21	186.2024
295.21	186.2024

295.21	186.2024
295.96	234.4056
296.50	243.9618
297.23	0.0000
298.57	175.9916
299.80	150.6969
299.80	150.6969
300.09	150.7143
300.09	150.7143
300.09	150.7143
300.09	150.7143
300.12	150.7162
301.29	163.2589
302.84	171.5273
303.76	0.0000
303.91	188.7598
304.40	197.3803
304.40	197.3803
304.84	186.9226
306.84	153.6654
308.46	149.9434
311.98	151.1087
316.51	130.2974
318.01	138.0428
319.02	159.1934
319.41	165.9317
320.08	169.8115
323.87	186.3934
323.87	186.3934
323.87	186.3934
323.87	186.3934
325.23	161.4970
328.77	138.6123
333.44	154.2852
334.20	143.0768
334.20	143.0768
334.30	143.0823
338.28	133.6339
338.28	133.6339
338.28	133.6339
338.28	133.6339
338.32	123.9767
338.32	123.9767
338.32	123.9767
340.50	136.9681
340.57	136.9715
344.27	146.6096
345.85	121.0922
350.59	0.0000
351.07	143.9713
351.92	133.0131
351.92	133.0131
351.92	133.0131
355.39	0.0000
356.01	129.6436
364.48	132.6382
366.43	135.6590
367.43	131.8013
367.94	0.0000
369.80	123.1176
374.96	133.1296
383.85	115.8653
387.95	126.8442
388.63	115.0719
391.69	113.2228
391.69	113.2228
392.90	111.2992
398.62	113.4881
400.65	107.6402
401.10	109.6315
401.81	101.7540
402.60	102.7698
404.84	133.5020
410.95	93.1451
411.60	86.2279
413.65	109.0963
414.70	105.1654
415.30	97.2475

415.76	88.3308
417.63	0.0000
418.52	113.2444
423.70	95.5242
427.08	112.5614
427.89	99.6387
432.53	97.7906
433.93	111.8100
439.47	0.0000
439.56	97.0095
439.89	95.0186
443.98	96.1430
444.90	93.1646
445.03	93.1692
445.03	93.1692
445.03	93.1692
445.03	93.1692
453.90	97.4440
463.38	85.6381
468.07	97.5316
473.00	107.1076
475.06	80.8867
475.35	87.9717
476.78	93.0669
477.59	89.0420
477.96	92.0886
482.03	99.2920
484.57	0.0000
487.03	93.3510
490.36	0.0000
492.35	0.0000
497.08	83.4504
507.63	0.0000
510.53	0.0000
510.84	67.4353
511.00	67.4385
511.85	67.4546
511.85	67.4546
513.99	67.4957
513.99	67.4957
520.41	65.8630
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	69.8494
529.87	0.0000
531.02	72.9587
537.32	73.0870
543.00	76.2944
546.56	0.0000
549.76	78.5030
552.65	56.8557
555.20	68.2752
563.23	142.0305
563.90	158.6441
568.70	73.7145
569.32	77.8802
569.50	88.2684
569.67	88.2726
573.80	118.5199
574.00	93.5728
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	79.2081
585.48	0.0000
591.81	55.3627
592.07	55.3666
593.00	54.3347
595.88	96.2024
600.56	81.6620
602.52	0.0000
602.71	82.0568
602.71	82.0568
603.60	110.0167
604.41	115.2798
604.70	110.0475
609.31	88.1426

609.31	88.1426
609.31	88.1426
609.31	88.1426
610.33	83.9668
612.46	73.5103
614.37	71.7950
618.01	80.9760
621.84	67.3703
621.84	67.3703
631.29	60.1436
633.02	61.2243
633.10	61.2257
634.78	70.7557
635.90	76.0570
636.97	76.0781
645.85	66.7145
646.12	64.6010
656.30	76.0863
657.75	70.8024
657.90	0.0000
661.65	75.4774
661.65	75.4774
664.57	0.0000
666.33	79.8193
666.33	79.8193
675.00	60.7879
677.61	71.4983
685.20	52.3843
692.80	68.5422
695.00	65.3635
696.49	68.6016
696.49	68.6016
697.00	68.6094
697.49	75.0500
698.33	76.1378
698.50	76.1413
699.00	70.7873
702.63	78.3609
706.10	80.5719
706.58	0.0000
706.67	81.6573
709.31	78.4821
711.68	50.5571
713.82	66.7257
717.42	64.6260
720.50	46.7071
721.93	0.0000
722.20	61.1034
722.78	55.7183
722.78	55.7183
722.89	55.7208
722.95	55.7208
723.30	48.5354
724.18	53.9392
727.18	52.8963
733.00	45.0389
735.90	46.5105
739.58	55.2097
742.81	51.9996
744.21	52.0160
747.13	52.0500
751.79	69.4719
752.31	60.7947
753.82	52.1273
755.35	0.0000
756.15	55.4139
756.87	52.1625
763.93	59.8635
765.79	61.7025
766.42	54.4507
766.84	43.5645
776.49	56.7531
778.00	50.2215
778.57	52.4109
778.89	54.5996
783.80	48.0981
785.46	49.2089
792.07	60.2301

795.84	35.0711
796.30	44.9398
798.80	69.0908
801.93	58.1628
805.60	46.1272
810.29	62.6638
810.76	53.8737
815.85	41.2738
817.79	0.0000
818.51	59.6521
819.60	57.8295
826.30	56.0718
828.27	0.0000
831.60	59.8148
831.96	54.2982
834.83	55.2502
836.80	0.0000
846.75	54.4638
848.13	58.1730
856.28	0.0000
856.80	72.9435
860.37	51.8381
867.32	44.4951
867.82	55.6250
871.10	51.0232
873.19	43.6198
874.81	43.6341
875.33	0.0000
876.40	46.4345
879.36	61.3298
880.27	54.8348
880.51	54.8372
881.50	48.3406
883.24	45.5676
884.67	49.3015
889.25	52.1400
896.60	52.2163
898.02	54.0953
899.00	49.4417
903.28	41.0808
911.07	43.9487
911.07	43.9487
911.07	43.9487
919.63	43.8350
920.93	47.7803
925.00	45.9435
925.24	43.1325
926.50	36.5776
935.52	57.3104
937.48	57.3327
944.10	56.4636
946.00	48.9531
949.00	52.7484
962.29	50.1836
964.01	55.0579
966.15	56.6992
968.20	59.5573
969.11	37.2803
969.11	37.2803
969.11	37.2803
977.42	41.6672
980.50	47.3765
983.50	54.0394
989.30	49.3520
996.32	65.5719
1001.03	36.1430
1001.68	36.1472
1004.76	51.3962
1021.30	0.0000
1024.50	0.0000
1034.80	39.2349
1036.00	43.0719
1037.82	38.2992
1038.57	35.4312
1038.76	0.0000
1045.16	35.4734
1046.59	38.3594
1048.07	37.4099

1050.47	41.2643
1050.47	41.2643
1062.04	38.4635
1063.62	45.2080
1076.63	47.2395
1077.35	45.3171
1078.86	41.4708
1085.78	44.4184
1099.22	54.1999
1112.02	34.9189
1112.84	36.5864
1115.52	41.5946
1120.29	42.7378
1120.29	42.7378
1120.29	42.7378
1120.29	42.7378
1120.51	42.7396
1121.28	44.9655
1124.00	0.0000
1129.67	49.8812
1131.51	0.0000
1147.95	0.0000
1167.94	61.6824
1173.22	63.6961
1175.09	56.8554
1177.93	50.9971
1189.05	46.1777
1204.90	54.1764
1205.75	0.0000
1213.00	54.2458
1221.42	69.1341
1230.97	64.2938
1235.34	74.2371
1236.41	0.0000
1238.25	46.5429
1246.25	43.6276
1260.41	0.0000
1271.85	34.8433
1274.45	39.8372
1274.54	39.8372
1291.56	37.9443
1298.22	0.0000
1312.09	36.0601
1325.50	27.1000
1325.50	27.1000
1332.49	31.1476
1333.61	24.1191
1360.21	34.3044
1362.66	0.0000
1365.15	33.3196
1368.21	25.2533
1368.53	0.0000
1376.25	29.3292
1384.27	25.3133
1394.10	17.2380
1395.20	15.2124
1407.95	23.3687
1434.06	18.3574
1436.60	20.4045
1457.56	0.0000
1460.81	13.3084
1489.15	14.3891
1509.49	13.3988
1596.49	23.9855
1620.62	17.7851
1678.03	0.0000
1691.02	8.4456
1691.02	8.4456
1706.46	0.0000
1750.46	0.0000
1764.49	13.8511
1764.49	13.8511
1764.49	13.8511
1764.49	13.8511
1770.23	7.3111
1771.40	3.6561
1791.20	0.0000
1808.65	13.9262

1836.01

10.7475

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536006

Total Uranium Activity	3.4811E+00	ug/g
Total Uranium Counting Unc.	3.7148E+00	ug/g
Total Uranium Tpu	1.8953E-06	ug/g
Total Uranium Mda	2.4389E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON , SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID : G243536006
*  ANALYST       : MXR1           DETECTOR   : GAM14
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00 COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 9-JAN-2010 14:10:49.35 SAMPLE ALQT: 131.690 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 6.180E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.015E+00
GROSS GAMMA MDA (pCi/GRAM ) : 2.503E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.214E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:13:56.31

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536007.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:11:18.
Sample ID          : G243536007 Sample quantity : 1.20630E+02 GRAM
Detector name      : GAM15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.21 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.03	240	376	1.58	148.55	143	16	3.34E-02	16.6	2.00E+00
2	2	76.44*	413	337	1.41	153.36	143	16	5.74E-02	10.1	
3	3	86.54*	73	523	1.44	173.56	168	22	1.02E-02	54.8	4.73E+00
4	3	92.22*	135	345	1.36	184.92	168	22	1.87E-02	28.2	
5	0	129.16	72	389	1.43	258.75	254	13	9.96E-03	58.0	
6	0	185.65*	202	319	1.75	371.68	366	12	2.81E-02	20.1	
7	0	208.51	93	225	1.05	417.40	413	9	1.29E-02	30.9	
8	3	238.11*	1002	156	1.34	476.56	472	18	1.39E-01	4.0	1.67E+00
9	3	240.99*	235	199	2.02	482.33	472	18	3.27E-02	19.5	
10	0	269.96	69	199	1.59	540.24	535	11	9.62E-03	41.1	
11	0	294.55*	255	248	1.31	589.40	582	14	3.54E-02	14.7	
12	0	338.03*	146	169	1.20	676.31	669	11	2.03E-02	19.4	
13	0	351.63*	370	158	1.47	703.51	698	12	5.13E-02	8.8	
14	0	464.37	79	138	6.56	928.92	920	19	1.09E-02	38.5	
15	0	510.26*	68	149	1.25	1020.67	1015	13	9.49E-03	44.8	
16	0	582.90*	284	142	1.67	1165.88	1158	17	3.94E-02	11.6	
17	0	609.06*	247	103	1.16	1218.20	1211	14	3.43E-02	11.2	
18	0	726.97*	52	41	1.98	1453.94	1450	9	7.20E-03	28.5	
19	0	794.56	64	64	1.57	1589.08	1582	16	8.89E-03	30.6	
20	0	911.07*	209	56	1.71	1822.04	1815	16	2.90E-02	10.9	
21	0	933.78	36	35	1.37	1867.44	1863	10	5.00E-03	35.0	
22	9	965.07	36	54	3.26	1930.01	1925	27	4.93E-03	37.8	2.84E+00
23	9	968.94*	122	33	2.05	1937.76	1925	27	1.70E-02	14.4	
24	0	1120.70*	44	77	1.33	2241.22	2235	14	6.06E-03	46.6	
25	0	1460.78*	1249	5	2.02	2921.29	2912	18	1.73E-01	2.9	
26	0	1542.87	9	4	0.80	3085.44	3081	8	1.25E-03	50.9	
27	0	1764.71*	49	0	2.75	3529.11	3523	12	6.81E-03	16.7	

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


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536007.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:11:18
Sample ID        : G243536007 Sample quantity : 120.63 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.21 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.646E+01	3.488E+00	6.977E-01	5.333E-02	52.264
CD-109	+	88.03	*	1.431E+00	1.576E+00	1.702E+00	1.968E-01	0.841
SN-126		64.28		3.574E-01	8.621E-01	1.430E+00	2.451E-01	0.250
	+	86.94		5.814E-01	6.820E-01	7.044E-01	2.962E-01	0.825
	+	87.57	*	1.398E-01	1.540E-01	1.676E-01	1.934E-02	0.835
TL-208		277.35		1.925E-01	4.876E-01	8.103E-01	9.079E-02	0.238
	+	510.84		3.997E-01	3.606E-01	2.732E-01	2.750E-02	1.463
	+	583.14	*	4.703E-01	1.136E-01	6.893E-02	4.388E-03	6.824
		860.37		6.567E-01	3.976E-01	7.163E-01	6.157E-02	0.917
BI-211	+	72.87		1.880E+01	6.596E+00	7.350E+00	8.195E-01	2.558
	+	351.07	*	2.774E+00	5.265E-01	3.969E-01	2.727E-02	6.990
PB-212	+	74.81		2.232E+00	8.102E-01	8.042E-01	1.168E-01	2.775
	+	77.11		2.097E+00	4.837E-01	4.346E-01	4.826E-02	4.826
	+	87.30		6.468E-01	7.151E-01	7.787E-01	1.188E-01	0.831
	+	238.63	*	1.658E+00	1.913E-01	1.122E-01	9.290E-03	14.768
		300.09		1.648E+00	1.104E+00	1.744E+00	1.564E-01	0.945
PO-212	+	74.81		2.232E+00	8.102E-01	8.042E-01	1.168E-01	2.775
	+	77.11		2.097E+00	4.837E-01	4.346E-01	4.826E-02	4.826
	+	87.30		6.468E-01	7.151E-01	7.787E-01	1.188E-01	0.831
		115.19		3.819E+00	4.559E+00	7.680E+00	5.876E-01	0.497
	+	238.63	*	1.658E+00	1.913E-01	1.122E-01	9.290E-03	14.768
		300.09		1.648E+00	1.104E+00	1.744E+00	1.564E-01	0.945
BI-214	+	609.31	*	7.694E-01	1.816E-01	1.294E-01	9.606E-03	5.946
	+	1120.29		7.125E-01	6.676E-01	6.450E-01	5.951E-02	1.105
	+	1764.49		1.096E+00	3.723E-01	3.584E-01	2.230E-02	3.057
PB-214	+	74.81		3.845E+00	1.379E+00	1.386E+00	1.850E-01	2.775
	+	77.11		3.595E+00	8.734E-01	7.450E-01	1.003E-01	4.826
	+	87.30		1.108E+00	1.223E+00	1.334E+00	1.849E-01	0.831
	+	241.98		2.338E+00	9.337E-01	6.756E-01	6.039E-02	3.460
	+	295.21		1.140E+00	3.508E-01	3.036E-01	2.808E-02	3.753
	+	351.92	*	9.651E-01	1.899E-01	1.383E-01	1.192E-02	6.977
PO-214	+	74.81		3.845E+00	1.379E+00	1.386E+00	1.850E-01	2.775
	+	77.11		3.595E+00	8.734E-01	7.450E-01	1.003E-01	4.826
	+	87.30		1.108E+00	1.223E+00	1.334E+00	1.849E-01	0.831

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.338E+00	9.337E-01	6.756E-01	6.039E-02	3.460
	+	295.21		1.140E+00	3.508E-01	3.036E-01	2.808E-02	3.753
	+	351.92	*	9.651E-01	1.899E-01	1.383E-01	1.192E-02	6.977
	+	74.81		2.232E+00	8.102E-01	8.042E-01	1.168E-01	2.775
	+	77.11		2.097E+00	4.837E-01	4.346E-01	4.826E-02	4.826
	+	87.30		6.468E-01	7.151E-01	7.787E-01	1.188E-01	0.831
	+	238.63	*	1.658E+00	1.913E-01	1.122E-01	9.290E-03	14.768
PO-218		300.09		1.648E+00	1.104E+00	1.744E+00	1.564E-01	0.945
	+	74.81		3.845E+00	1.379E+00	1.386E+00	1.850E-01	2.775
	+	77.11		3.595E+00	8.734E-01	7.450E-01	1.003E-01	4.826
	+	87.30		1.108E+00	1.223E+00	1.334E+00	1.849E-01	0.831
	+	241.98		2.338E+00	9.337E-01	6.756E-01	6.039E-02	3.460
	+	295.21		1.140E+00	3.508E-01	3.036E-01	2.808E-02	3.753
	+	351.92	*	9.651E-01	1.899E-01	1.383E-01	1.192E-02	6.977
RA-224	+	240.98	*	4.433E+00	1.753E+00	1.277E+00	8.888E-02	3.471
RA-226	+	609.31	*	7.694E-01	1.816E-01	1.294E-01	9.606E-03	5.946
AC-228	+	1120.29		7.125E-01	6.676E-01	6.450E-01	5.951E-02	1.105
	+	1764.49		1.096E+00	3.723E-01	3.584E-01	2.230E-02	3.057
	+	338.32		1.212E+00	6.830E-01	4.446E-01	2.817E-01	2.726
	+	911.07	*	1.533E+00	3.740E-01	2.679E-01	2.978E-02	5.723
	+	969.11		1.582E+00	5.836E-01	4.729E-01	1.093E-01	3.345
	+	338.32		1.212E+00	6.830E-01	4.446E-01	1.817E-01	2.726
	+	911.07	*	1.533E+00	3.740E-01	2.679E-01	2.978E-02	5.723
TH-228	+	969.11		1.582E+00	5.836E-01	4.729E-01	1.093E-01	3.345
	+	74.81		2.274E+00	7.983E-01	8.196E-01	9.153E-02	2.775
	+	77.11		2.138E+00	4.930E-01	4.429E-01	4.918E-02	4.826
	+	87.30		6.592E-01	7.259E-01	7.936E-01	9.142E-02	0.831
	+	238.63	*	1.689E+00	1.950E-01	1.144E-01	9.469E-03	14.768
		300.09		1.679E+00	1.492E+00	1.777E+00	1.049E+00	0.945
	+	609.31	*	7.693E-01	1.816E-01	1.294E-01	9.606E-03	5.946
TH-230	+	1120.29		7.125E-01	6.676E-01	6.450E-01	5.951E-02	1.105
	+	1764.49		1.096E+00	3.723E-01	3.584E-01	2.230E-02	3.057
	+	338.32		1.212E+00	4.768E-01	4.446E-01	2.862E-02	2.726
	+	911.07	*	1.533E+00	3.740E-01	2.679E-01	2.978E-02	5.723
	+	969.11		1.582E+00	5.836E-01	4.729E-01	1.093E-01	3.345
	+	609.31	*	7.693E-01	1.816E-01	1.294E-01	9.606E-03	5.946
	+	1120.29		7.125E-01	6.676E-01	6.450E-01	5.951E-02	1.105
U-234	+	1764.49		1.096E+00	3.723E-01	3.584E-01	2.230E-02	3.057
	+	86.50	*	4.107E-01	4.601E-01	5.015E-01	1.184E-01	0.819
	+	95.87		-1.385E+00	1.453E+00	1.894E+00	4.753E-01	-0.731
	+	74.67	*	3.618E-01	1.269E-01	1.310E-01	1.456E-02	2.761
	+	86.72		1.540E+01	1.696E+01	1.873E+01	2.150E+00	0.822
		117.66		-3.304E+00	4.925E+00	7.799E+00	5.826E-01	-0.424
		142.18		-1.389E+01	2.323E+01	3.578E+01	2.438E+00	-0.388
ANH-511	+	511.00	*	8.633E-02	7.756E-02	5.902E-02	3.333E-03	1.463

---- 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	*	1.375E-01	4.256E-01	7.113E-01	4.740E-02	0.193

---- 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	*		-8.564E-03	5.927E-02	9.455E-02	6.489E-03	-0.091
NA-24	1368.53	*		1.523E+01	5.927E-02	Half-Life too short		
AL-26	1129.67			-1.594E-01	2.275E+00	3.510E+00	2.211E-01	-0.045
	1808.65	*		4.993E-06	2.861E-02	4.705E-02	2.815E-03	0.000
TI-44	67.85			-5.457E-04	7.901E-02	1.212E-01	1.383E-02	-0.005
	78.38	*		1.643E-01	6.270E-02	9.728E-02	1.082E-02	1.689
SC-46	889.25	*		-3.542E-02	4.756E-02	7.275E-02	6.102E-03	-0.487
	1120.51	+		1.260E-01	1.178E-01	1.516E-01	9.733E-03	0.831
V-48	944.10			-5.060E-01	1.346E+00	2.141E+00	1.760E-01	-0.236
	983.50	*		-7.554E-02	1.024E-01	1.556E-01	1.229E-02	-0.486
	1312.09			0.000E+00	1.196E-01	1.933E-01	1.411E-02	0.000
CR-51	320.08	*		-3.842E-02	5.174E-01	8.575E-01	6.184E-02	-0.045
MN-52	744.21			2.028E-01	4.308E-01	7.489E-01	4.594E-02	0.271
	848.13			-2.164E+00	1.267E+01	2.068E+01	1.594E+00	-0.105
	935.52			6.707E-01	6.001E-01	9.660E-01	8.002E-02	0.694
	1246.25			-1.061E+01	1.541E+01	2.326E+01	1.517E+00	-0.456
	1333.61			5.201E+00	1.029E+01	1.764E+01	1.331E+00	0.295
	1434.06	*		5.684E-02	4.368E-01	7.305E-01	5.416E-02	0.078
MN-54	834.83	*		-3.120E-03	4.751E-02	7.850E-02	5.884E-03	-0.040
CO-56	846.75	*		1.743E-02	4.719E-02	8.091E-02	6.218E-03	0.215
	977.42			1.658E+00	4.036E+00	6.049E+00	4.811E-01	0.274
	1037.82			-1.578E-01	4.125E-01	6.512E-01	5.153E-02	-0.242
	1175.09			1.303E+00	3.132E+00	5.282E+00	3.019E-01	0.247
	1238.25			8.229E-02	1.273E-01	2.166E-01	1.464E-02	0.380
	1360.21			-6.254E-01	1.321E+00	1.991E+00	1.498E-01	-0.314
	1771.40			-7.531E-01	3.965E-01	4.490E-01	2.778E-02	-1.677
CO-57	122.06	*		1.523E-02	3.290E-02	5.461E-02	3.927E-03	0.279
	136.48			5.195E-02	2.898E-01	4.389E-01	3.369E-02	0.118
CO-58	810.76	*		9.586E-03	4.934E-02	8.344E-02	5.960E-03	0.115
FE-59	142.65			-5.674E-01	3.777E+00	5.936E+00	4.042E-01	-0.096
	192.34			-2.909E-01	1.298E+00	1.984E+00	2.446E-01	-0.147
	1099.22	*		-7.463E-03	1.257E-01	2.043E-01	1.546E-02	-0.037
	1291.56			2.774E-03	1.705E-01	2.763E-01	2.331E-02	0.010
CO-60	1173.22			3.876E-03	6.389E-02	1.045E-01	5.953E-03	0.037
	1332.49	*		-2.908E-02	5.245E-02	7.881E-02	5.949E-03	-0.369
ZN-65	1115.52	*		3.971E-02	1.362E-01	1.978E-01	1.285E-02	0.201
GE-68	1077.35	*		4.239E-01	1.647E+00	2.760E+00	1.918E-01	0.154
AS-73	53.44	*		1.051E-01	2.245E+00	3.744E+00	5.116E-01	0.028
AS-74	595.88	*		1.809E-01	1.441E-01	2.531E-01	1.361E-02	0.715
	634.78			-3.285E-01	5.282E-01	8.046E-01	4.173E-02	-0.408
SE-75	66.05			-1.084E+01	8.479E+00	1.300E+01	1.686E+00	-0.834
	96.73			2.397E-01	1.148E+00	1.649E+00	2.366E-01	0.145
	121.11			-8.602E-02	1.793E-01	2.859E-01	2.916E-02	-0.301
	136.00			6.385E-03	5.825E-02	8.329E-02	5.800E-03	0.077
	198.60			3.292E-01	2.452E+00	3.854E+00	3.076E-01	0.085
	264.65	*		-8.626E-04	6.005E-02	8.755E-02	6.123E-03	-0.010
	279.53			-1.195E-01	1.422E-01	2.276E-01	1.661E-02	-0.525
	303.91			-4.089E+00	2.749E+00	4.166E+00	4.229E-01	-0.982
	400.65			-6.956E-02	3.317E-01	5.376E-01	4.855E-02	-0.129

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88	9.797E-04	3.317E-01	Half-Life too short		
		200.40	6.366E-04	3.317E-01	Half-Life too short		
	+	239.00	8.483E-04	3.317E-01	Half-Life too short		
		249.79	-1.589E-04	3.317E-01	Half-Life too short		
		281.68	1.006E-04	3.317E-01	Half-Life too short		
		297.23	5.822E-04	3.317E-01	Half-Life too short		
		303.76	-1.067E-03	3.317E-01	Half-Life too short		
		439.47	-1.311E-04	3.317E-01	Half-Life too short		
		484.57	-3.037E-04	3.317E-01	Half-Life too short		
		520.65	* 2.251E-06	3.317E-01	Half-Life too short		
		574.64	-5.593E-04	3.317E-01	Half-Life too short		
		578.91	2.580E-04	3.317E-01	Half-Life too short		
		585.48	3.881E-03	3.317E-01	Half-Life too short		
		755.35	5.177E-04	3.317E-01	Half-Life too short		
		817.79	-6.428E-04	3.317E-01	Half-Life too short		
SR-82		698.33	7.640E+00	4.747E+01	8.051E+01	4.432E+00	0.095
		776.49	* -7.955E-01	5.001E-01	7.089E-01	4.680E-02	-1.122
		1395.20	-4.865E+00	1.403E+01	2.235E+01	1.671E+00	-0.218
RB-83		520.41	* 1.684E-02	8.342E-02	1.379E-01	7.762E-03	0.122
		529.64	1.626E-02	1.295E-01	2.127E-01	1.192E-02	0.076
		552.65	-3.198E-02	2.453E-01	3.937E-01	2.180E-02	-0.081
RB-84		881.50	* -6.404E-02	8.908E-02	1.368E-01	1.129E-02	-0.468
KR-85		513.99	* 1.930E+01	1.011E+01	1.666E+01	9.398E-01	1.158
SR-85		513.99	* 1.032E-01	5.404E-02	8.907E-02	5.024E-03	1.158
RB-86		1076.63	* 1.223E-01	1.253E+00	2.069E+00	1.439E-01	0.059
Y-88		898.02	7.589E-03	5.036E-02	8.447E-02	7.247E-03	0.090
		1836.01	* -1.229E-02	4.105E-02	6.327E-02	3.696E-03	-0.194
ZR-88		392.90	* -2.061E-02	3.924E-02	6.250E-02	3.544E-03	-0.330
Y-91		1204.90	* -6.086E+00	2.803E+01	4.473E+01	2.705E+00	-0.136
NB-94		702.63	* 2.831E-02	4.117E-02	7.233E-02	4.023E-03	0.391
		871.10	-1.458E-03	3.871E-02	6.391E-02	5.166E-03	-0.023
NB-95		765.79	* 9.565E-03	5.659E-02	9.516E-02	6.133E-03	0.101
NB-95M		235.69	* 1.692E+00	2.676E-01	4.353E-01	3.678E-02	3.887
ZR-95		724.18	1.823E-01	1.301E-01	2.151E-01	1.486E-02	0.847
		756.15	* 6.744E-02	9.411E-02	1.653E-01	1.233E-02	0.408
NB-97		657.90	* -1.367E+00	9.411E-02	Half-Life too short		
		1024.50	-6.903E+02	9.411E-02	Half-Life too short		
ZR-97		254.15	-1.108E+02	9.411E-02	Half-Life too short		
		355.39	6.122E+01	9.411E-02	Half-Life too short		
		507.63	* 3.919E+02	9.411E-02	Half-Life too short		
		602.52	-3.184E+02	9.411E-02	Half-Life too short		
		1021.30	1.394E+02	9.411E-02	Half-Life too short		
		1147.95	1.762E+02	9.411E-02	Half-Life too short		
		1362.66	-3.901E+02	9.411E-02	Half-Life too short		
		1750.46	2.296E+02	9.411E-02	Half-Life too short		
MO-99		140.51	-5.476E+01	9.140E+01	1.425E+02	3.875E+01	-0.384
		181.06	-1.751E+01	6.933E+01	9.567E+01	1.672E+01	-0.183
		366.43	9.239E+01	2.801E+02	4.729E+02	2.873E+01	0.195
		739.58	* 2.460E+00	3.687E+01	6.197E+01	8.611E+00	0.040

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	778.00			-9.627E+01	1.034E+02	1.572E+02	1.041E+01	-0.612
TC-99M	140.51	*		-1.720E+15	1.034E+02	Half-Life	too short	
RH-101	127.23			5.979E-04	4.663E-02	6.647E-02	4.683E-03	0.009
	198.01	*		1.243E-02	4.375E-02	6.922E-02	4.722E-03	0.180
	325.23			2.928E-01	2.917E-01	5.086E-01	3.344E-02	0.576
RH-102	418.52			2.686E-01	3.448E-01	5.959E-01	3.399E-02	0.451
	475.06	*		2.068E-02	3.623E-02	6.159E-02	3.511E-03	0.336
	631.29			-5.359E-02	6.762E-02	1.011E-01	5.264E-03	-0.530
	697.49			5.458E-03	9.294E-02	1.565E-01	8.600E-03	0.035
	766.84			2.521E-02	1.378E-01	2.319E-01	1.498E-02	0.109
	1046.59			-2.128E-02	1.436E-01	2.320E-01	1.692E-02	-0.092
	1112.84			-2.829E-01	3.368E-01	4.386E-01	2.859E-02	-0.645
RU-103	497.08	*		1.225E-02	5.057E-02	8.403E-02	1.058E-02	0.146
	610.33		+	8.910E+00	2.415E+00	3.122E+00	4.758E-01	2.854
RH-106	511.85			3.915E-01	3.018E-01	5.321E-01	3.004E-02	0.736
	621.84	*		-2.404E-01	3.960E-01	6.031E-01	6.922E-02	-0.399
	1050.47			1.292E+00	2.851E+00	4.874E+00	3.533E-01	0.265
RU-106	511.85			3.915E-01	3.018E-01	5.321E-01	3.004E-02	0.736
	621.84	*		-2.404E-01	3.952E-01	6.031E-01	3.169E-02	-0.399
	1050.47			1.292E+00	2.851E+00	4.874E+00	3.533E-01	0.265
AG-108M	433.93	*		-2.309E-02	4.127E-02	6.512E-02	4.049E-03	-0.355
	614.37			-2.217E-02	5.635E-02	7.412E-02	4.318E-03	-0.299
	722.95			-2.726E-03	5.366E-02	7.700E-02	4.871E-03	-0.035
AG-110M	657.75	*		-1.300E-02	4.510E-02	7.072E-02	3.876E-03	-0.184
	677.61			-5.337E-02	3.960E-01	6.280E-01	3.532E-02	-0.085
	706.67			-6.184E-02	2.525E-01	4.152E-01	2.481E-02	-0.149
	763.93			-3.886E-02	2.054E-01	3.378E-01	2.277E-02	-0.115
	884.67			7.142E-02	5.770E-02	1.059E-01	9.102E-03	0.675
	937.48			7.940E-02	1.445E-01	2.210E-01	1.899E-02	0.359
	1384.27			-1.546E-01	1.852E-01	2.736E-01	2.126E-02	-0.565
IN-111	171.28			-2.367E-01	3.240E+00	5.204E+00	3.473E-01	-0.045
	245.39	*		2.027E-01	3.511E+00	5.165E+00	3.596E-01	0.039
IN-113M	391.69	*		5.778E-03	5.637E-02	9.359E-02	5.677E-03	0.062
SN-113	391.69	*		5.778E-03	5.637E-02	9.359E-02	5.677E-03	0.062
IN-114M	190.27	*		1.257E-01	2.628E-01	3.799E-01	2.576E-02	0.331
CD-115	260.90			-2.610E-04	2.628E-01	Half-Life	too short	
	492.35			-1.439E-05	2.628E-01	Half-Life	too short	
	527.90	*		1.355E-05	2.628E-01	Half-Life	too short	
SN-117M	156.02			2.872E-01	3.577E+00	5.803E+00	3.889E-01	0.049
	158.56	*		-2.092E-02	8.410E-02	1.343E-01	8.983E-03	-0.156
SB-122	563.90	*		-8.877E-02	6.866E+00	1.111E+01	6.115E-01	-0.008
	692.80			-6.818E+01	1.403E+02	2.262E+02	1.229E+01	-0.301
I-123	159.00	*		-5.525E+02	1.403E+02	Half-Life	too short	
	528.96			-3.087E+03	1.403E+02	Half-Life	too short	
TE-123M	159.00	*		-1.817E-02	3.609E-02	5.693E-02	3.843E-03	-0.319
I-124	602.71	*		-9.006E-01	1.900E+00	2.504E+00	1.339E-01	-0.360
	722.78			-1.521E+00	1.076E+01	1.527E+01	8.909E-01	-0.100
	1325.50			3.596E+01	9.725E+01	1.632E+02	1.217E+01	0.220
	1376.25			5.020E+01	7.094E+01	1.245E+02	9.339E+00	0.403

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	1509.49			1.753E+01	3.686E+01	6.515E+01	4.719E+00	0.269
	1691.02			-4.603E+00	7.226E+00	1.010E+01	6.651E-01	-0.456
	602.71			-2.835E-02	5.980E-02	7.882E-02	4.216E-03	-0.360
	645.85			-2.934E-01	6.599E-01	1.020E+00	6.074E-02	-0.288
	709.31			-6.671E-01	3.429E+00	5.658E+00	3.198E-01	-0.118
	713.82			1.041E-02	2.055E+00	3.443E+00	3.498E-01	0.003
	722.78			-6.941E-02	4.909E-01	6.966E-01	4.255E-02	-0.100
	968.20		+	1.704E+01	5.089E+00	8.671E+00	6.962E-01	1.966
	1045.16			-4.636E-01	3.198E+00	5.168E+00	3.775E-01	-0.090
	1325.50			1.752E+00	4.739E+00	7.951E+00	5.933E-01	0.220
SB-125	1368.21			4.605E-01	2.129E+00	3.538E+00	4.527E-01	0.130
	1436.60			-3.337E-01	4.227E+00	6.839E+00	5.067E-01	-0.049
	1691.02		*	-4.954E-02	7.778E-02	1.087E-01	7.638E-03	-0.456
	427.89		*	8.871E-02	1.179E-01	2.028E-01	1.209E-02	0.438
	463.38		+	9.092E-01	7.025E-01	6.511E-01	4.353E-02	1.396
	600.56			-2.887E-02	2.474E-01	3.722E-01	2.355E-02	-0.078
TE-125M	635.90			-3.925E-02	3.452E-01	5.505E-01	3.452E-02	-0.071
	109.28		*	4.111E+00	1.249E+01	2.069E+01	2.059E+00	0.199
I-126	388.63			1.884E-02	3.133E-01	5.190E-01	2.970E-02	0.036
	666.33		*	1.914E-03	2.568E-01	4.128E-01	2.101E-02	0.005
SB-126	753.82			2.637E+00	2.278E+00	4.122E+00	2.585E-01	0.640
	223.80			1.232E+00	6.479E+00	1.044E+01	7.230E-01	0.118
	278.60			-1.037E+00	3.898E+00	6.439E+00	4.443E-01	-0.161
	296.50			9.077E+00	3.156E+00	5.182E+00	3.528E-01	1.752
	414.70			6.883E-03	1.107E-01	1.830E-01	1.043E-02	0.038
	415.30			-3.919E-01	9.168E+00	1.504E+01	8.574E-01	-0.026
	555.20			-1.752E+00	5.857E+00	9.257E+00	5.120E-01	-0.189
	573.80			-8.833E-01	1.614E+00	2.415E+00	1.320E-01	-0.366
	593.00			-6.802E-01	1.555E+00	2.427E+00	1.308E-01	-0.280
	656.30			-6.966E-01	5.389E+00	8.569E+00	4.339E-01	-0.081
SB-127	666.33			8.072E-04	1.083E-01	1.741E-01	8.859E-03	0.005
	675.00			2.909E+00	3.007E+00	5.224E+00	2.717E-01	0.557
	695.00			3.764E-02	1.155E-01	1.985E-01	1.084E-02	0.190
	697.00			1.137E-01	4.036E-01	6.907E-01	3.790E-02	0.165
	720.50		*	-1.508E-01	2.335E-01	3.257E-01	1.890E-02	-0.463
	856.80			-1.737E-01	7.748E-01	1.262E+00	9.903E-02	-0.138
	989.30			2.533E+00	1.934E+00	3.547E+00	2.784E-01	0.714
	1034.80			1.080E+00	1.430E+01	2.362E+01	1.751E+00	0.046
	1213.00			2.893E+00	8.167E+00	1.365E+01	8.378E-01	0.212
	61.10			9.941E+01	2.178E+02	3.671E+02	5.523E+01	0.271
SB-127	252.40			-7.617E-01	1.066E+01	1.784E+01	7.505E+00	-0.043
	290.80			-9.417E-02	6.135E+01	8.911E+01	1.004E+01	-0.001
	411.60			4.456E+00	2.998E+01	4.982E+01	7.641E+00	0.089
	444.90			3.722E+00	2.573E+01	4.260E+01	5.133E+00	0.087
	473.00			1.941E-01	4.630E+00	6.890E+00	8.537E-01	0.028
	543.00			-4.671E+00	4.214E+01	6.783E+01	9.440E+00	-0.069
	603.60			-2.701E+01	3.480E+01	4.395E+01	5.209E+00	-0.615
	685.20		*	-1.641E+00	3.191E+00	5.122E+00	5.457E-01	-0.320
	698.50			1.571E+01	3.852E+01	6.632E+01	1.019E+01	0.237

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	722.20			-1.345E+01	7.804E+01	1.103E+02	1.178E+01	-0.122
	783.80			1.065E+01	8.776E+00	1.586E+01	1.972E+00	0.672
	57.60			-2.261E+00	1.410E+01	2.310E+01	2.942E+00	-0.098
	145.22			8.471E-01	9.554E-01	1.602E+00	1.087E-01	0.529
	172.10			4.214E-02	1.558E-01	2.542E-01	1.698E-02	0.166
I-131	202.84	*		-2.680E-02	7.187E-02	1.038E-01	7.109E-03	-0.258
	374.96			2.945E-01	2.611E-01	4.604E-01	2.736E-02	0.640
	80.18			-1.174E+01	1.255E+01	1.421E+01	1.595E+00	-0.826
	284.30			-6.227E-01	2.630E+00	4.343E+00	3.244E-01	-0.143
	364.48	*		2.125E-01	2.033E-01	3.565E-01	2.420E-02	0.596
TE-132	636.97			1.502E+00	2.761E+00	4.642E+00	2.781E-01	0.324
	722.89			-1.049E+00	1.270E+01	1.815E+01	1.083E+00	-0.058
	49.72			1.161E+01	1.414E+02	2.365E+02	3.746E+01	0.049
	111.76			-4.141E+01	9.070E+01	1.453E+02	1.670E+01	-0.285
	116.30			-5.095E+00	8.330E+01	1.356E+02	1.526E+01	-0.038
BA-133	228.16	*		-5.240E-02	1.954E+00	3.291E+00	5.168E-01	-0.016
	53.15			2.846E-01	9.526E+00	1.588E+01	2.177E+00	0.018
	79.62			-2.010E+00	2.288E+00	2.892E+00	4.854E-01	-0.695
	81.00			-9.941E-02	2.181E-01	2.177E-01	3.788E-02	-0.457
	276.40			4.762E-01	5.119E-01	8.179E-01	1.104E-01	0.582
I-133	302.84			-2.970E-01	1.861E-01	2.781E-01	3.384E-02	-1.068
	356.01	*		2.552E-02	5.792E-02	8.643E-02	1.018E-02	0.295
	383.85			1.851E-01	3.617E-01	6.158E-01	6.696E-02	0.301
	510.53	+		2.109E+01	3.617E-01	Half-Life	too short	
	529.87	*		-8.218E-02	3.617E-01	Half-Life	too short	
CS-134	706.58			-2.555E+00	3.617E-01	Half-Life	too short	
	856.28			-1.547E+01	3.617E-01	Half-Life	too short	
	875.33			1.483E-01	3.617E-01	Half-Life	too short	
	1236.41			2.621E+01	3.617E-01	Half-Life	too short	
	1298.22			-2.287E-01	3.617E-01	Half-Life	too short	
CS-135	475.35			5.736E-01	2.412E+00	4.009E+00	2.285E-01	0.143
	563.23			6.209E-03	4.418E-01	7.169E-01	4.037E-02	0.009
	569.32			-5.721E-02	2.422E-01	3.849E-01	2.180E-02	-0.149
	604.70			-2.833E-02	4.836E-02	6.276E-02	3.372E-03	-0.451
	795.84	+	*	1.524E-01	9.390E-02	1.142E-01	7.955E-03	1.335
I-135	801.93			-2.366E-01	5.706E-01	7.811E-01	5.501E-02	-0.303
	1038.57			-5.403E-01	4.884E+00	7.923E+00	5.843E-01	-0.068
	1167.94			-2.591E-01	3.679E+00	5.956E+00	3.437E-01	-0.044
	1365.15			-2.938E-03	1.449E+00	2.335E+00	1.860E-01	-0.001
	268.24	*		2.305E-01	2.225E-01	3.459E-01	2.957E-02	0.666
I-135	288.45			1.175E+14	2.225E-01	Half-Life	too short	
	417.63			1.477E+14	2.225E-01	Half-Life	too short	
	546.56			2.618E+14	2.225E-01	Half-Life	too short	
	836.80			5.881E+14	2.225E-01	Half-Life	too short	
	1038.76			-2.778E+13	2.225E-01	Half-Life	too short	
I-135	1124.00			4.006E+14	2.225E-01	Half-Life	too short	
	1131.51			-8.535E+13	2.225E-01	Half-Life	too short	
	1260.41	*		-1.329E+14	2.225E-01	Half-Life	too short	
	1457.56			1.910E+16	2.225E-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		1678.03		-8.015E+13	2.225E-01	Half-Life	too short	
		1706.46		7.823E+13	2.225E-01	Half-Life	too short	
		1791.20		8.873E+13	2.225E-01	Half-Life	too short	
		66.91		-1.898E+00	1.643E+00	2.516E+00	4.328E-01	-0.754
	+	86.29		2.250E+00	2.487E+00	3.158E+00	4.705E-01	0.713
		153.22		5.584E-01	1.041E+00	1.720E+00	1.374E-01	0.325
		163.89		1.089E-01	1.639E+00	2.653E+00	2.112E-01	0.041
		176.55		-3.289E-01	5.783E-01	9.055E-01	6.644E-02	-0.363
		273.65		-1.977E-01	8.093E-01	1.160E+00	8.836E-02	-0.170
		340.57		4.207E-01	2.096E-01	3.459E-01	2.335E-02	1.216
		818.51		-1.203E-01	1.034E-01	1.514E-01	1.098E-02	-0.794
		1048.07	*	-6.128E-03	1.664E-01	2.719E-01	2.096E-02	-0.023
BA-137M		1235.34		4.237E-01	9.830E-01	1.648E+00	1.705E-01	0.257
		661.65	*	-8.784E-03	4.211E-02	6.639E-02	3.340E-03	-0.132
		661.65	*	-9.286E-03	4.452E-02	7.018E-02	3.551E-03	-0.132
CS-137		661.65	*	-9.286E-03	4.452E-02	7.018E-02	3.551E-03	-0.132
CE-139		165.85	*	3.691E-02	3.754E-02	6.313E-02	4.198E-03	0.585
BA-140		162.64		1.549E-01	1.150E+00	1.868E+00	1.364E-01	0.083
		304.84		-1.633E+00	2.001E+00	3.103E+00	8.535E-01	-0.526
LA-140		423.70		-2.534E+00	3.081E+00	4.606E+00	1.463E+00	-0.550
		537.32	*	-1.032E-01	3.792E-01	5.997E-01	1.948E-01	-0.172
		328.77		2.974E-01	4.741E-01	8.123E-01	5.820E-02	0.366
		432.53		-1.906E+00	3.241E+00	5.105E+00	3.230E-01	-0.373
		487.03		-2.314E-02	1.963E-01	3.174E-01	2.052E-02	-0.073
		751.79		9.780E-02	2.606E+00	4.367E+00	3.259E-01	0.022
		815.85		2.142E-01	4.566E-01	7.910E-01	6.613E-02	0.271
		867.82		-1.154E+00	1.974E+00	3.080E+00	2.623E-01	-0.375
		919.63		-1.508E+00	5.077E+00	7.241E+00	7.578E-01	-0.208
		925.24		7.887E-01	1.770E+00	3.007E+00	2.681E-01	0.262
CE-141		1596.49	*	-1.002E-02	1.194E-01	1.954E-01	1.362E-02	-0.051
		145.44	*	7.507E-02	8.770E-02	1.469E-01	1.025E-02	0.511
CE-143		57.37		-1.239E-03	8.770E-02	Half-Life	too short	
		231.56		-1.056E-02	8.770E-02	Half-Life	too short	
+		293.26	*	8.045E-03	8.770E-02	Half-Life	too short	
		350.59		1.631E-01	8.770E-02	Half-Life	too short	
+		490.36		5.224E-04	8.770E-02	Half-Life	too short	
		664.57		-1.103E-02	8.770E-02	Half-Life	too short	
CE-144		721.93		-3.738E-03	8.770E-02	Half-Life	too short	
		80.11		-3.908E+00	4.145E+00	4.689E+00	5.231E-01	-0.833
PM-144		133.54	*	6.912E-02	2.910E-01	4.194E-01	6.164E-02	0.165
		476.78		6.090E-04	8.557E-02	1.399E-01	9.600E-03	0.004
PR-144		618.01		8.919E-03	3.919E-02	6.440E-02	3.643E-03	0.138
		696.49	*	3.739E-03	4.191E-02	7.075E-02	3.883E-03	0.053
		778.57		-1.948E+00	2.577E+00	3.992E+00	2.649E-01	-0.488
PM-146		696.49	*	2.539E-01	2.846E+00	4.804E+00	2.633E-01	0.053
		1489.15		3.362E+00	1.296E+01	2.248E+01	1.640E+00	0.150
PM-146		453.90	*	-5.598E-02	5.413E-02	8.164E-02	6.992E-03	-0.686
		633.02		-1.956E+00	1.860E+00	2.477E+00	9.100E-01	-0.790
		735.90		-2.394E-02	1.735E-01	2.866E-01	8.004E-02	-0.084
		747.13		-1.378E-01	1.054E-01	1.528E-01	1.938E-02	-0.902

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	91.11		1.038E+00	5.973E-01	8.981E-01	1.022E-01	1.155
		319.41		-4.045E+00	5.481E+00	8.740E+00	5.799E-01	-0.463
		439.89		-1.347E+00	9.579E+00	1.557E+01	8.904E-01	-0.087
		531.02	*	-2.850E-01	8.811E-01	1.394E+00	1.873E-01	-0.204
PM-149		285.90	*	-1.710E-04	8.811E-01	Half-Life too short		
EU-152		121.78		5.423E-02	9.358E-02	1.560E-01	1.361E-02	0.348
		244.69		2.495E-01	4.142E-01	6.326E-01	4.404E-02	0.394
		344.27	*	-1.637E-01	1.355E-01	1.844E-01	1.300E-02	-0.888
		443.98		2.283E-01	1.224E+00	2.032E+00	1.161E-01	0.112
		778.89		-1.878E-01	2.889E-01	4.519E-01	2.999E-02	-0.416
		867.32		-6.060E-01	9.617E-01	1.494E+00	1.198E-01	-0.406
	+	964.01		5.298E-01	4.032E-01	7.057E-01	5.691E-02	0.751
		1085.78		-4.359E-01	5.264E-01	7.904E-01	5.414E-02	-0.551
		1112.02		-2.640E-01	4.363E-01	6.342E-01	4.140E-02	-0.416
		1407.95		7.316E-02	2.322E-01	4.023E-01	3.001E-02	0.182
GD-153		69.67		2.017E+00	2.870E+00	4.312E+00	4.868E-01	0.468
		83.37		3.070E+00	2.391E+01	3.414E+01	3.852E+00	0.090
		97.43	*	5.154E-02	1.179E-01	1.714E-01	1.645E-02	0.301
		103.18		5.674E-03	1.342E-01	2.202E-01	1.938E-02	0.026
EU-154		123.07		3.034E-02	7.068E-02	1.088E-01	1.120E-02	0.279
		247.94		-3.931E-01	4.629E-01	6.657E-01	6.850E-02	-0.590
		591.81		-3.209E-01	8.652E-01	1.270E+00	1.212E-01	-0.253
		723.30		1.217E-01	2.189E-01	3.367E-01	2.396E-02	0.361
		756.87		3.803E-01	9.847E-01	1.691E+00	1.765E-01	0.225
		873.19		9.165E-02	3.364E-01	5.719E-01	6.803E-02	0.160
		996.32		-7.313E-01	4.728E-01	6.249E-01	1.086E-01	-1.170
		1004.76		-5.953E-02	2.753E-01	4.433E-01	4.868E-02	-0.134
		1274.45	*	-2.670E-02	1.650E-01	2.627E-01	2.634E-02	-0.102
EU-155		48.70		2.398E+00	8.015E+00	1.352E+01	1.740E+00	0.177
		60.01		-9.748E+00	9.777E+00	1.546E+01	1.890E+00	-0.631
	+	86.54		1.687E-01	1.858E-01	2.351E-01	2.712E-02	0.717
		105.31	*	2.848E-02	1.371E-01	2.263E-01	1.959E-02	0.126
TB-160	+	86.79		4.674E-01	5.146E-01	6.568E-01	7.543E-02	0.712
		197.04		2.764E-01	7.388E-01	1.205E+00	8.215E-02	0.229
		215.65		3.137E-02	1.028E+00	1.645E+00	1.135E-01	0.019
		298.57		2.127E-01	1.714E-01	2.674E-01	1.817E-02	0.795
		879.36	*	-4.854E-02	1.638E-01	2.632E-01	2.164E-02	-0.184
		962.29		1.321E+00	7.619E-01	1.285E+00	1.038E-01	1.028
	+	966.15		3.777E-01	2.875E-01	6.430E-01	5.174E-02	0.587
		1177.93		-2.676E-01	5.032E-01	7.787E-01	4.475E-02	-0.344
		1271.85		1.512E-01	9.479E-01	1.561E+00	1.064E-01	0.097
HO-166M		80.57		-4.842E-01	6.161E-01	5.955E-01	6.651E-02	-0.813
	+	184.41		1.756E-01	7.156E-02	9.077E-02	6.125E-03	1.935
		280.46		-8.211E-02	1.084E-01	1.743E-01	1.202E-02	-0.471
		410.95		1.997E-01	2.892E-01	4.970E-01	2.832E-02	0.402
		711.68	*	1.146E-03	7.100E-02	1.191E-01	6.770E-03	0.010
		752.31		2.654E-01	3.363E-01	5.951E-01	3.719E-02	0.446
		810.29		1.078E-02	7.169E-02	1.208E-01	8.589E-03	0.089
TM-171		51.35		-1.154E+01	8.909E+01	1.476E+02	2.039E+01	-0.078

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176		52.39		4.849E+00	4.367E+01	7.304E+01	1.008E+01	0.066
		59.40		-6.612E+01	5.381E+01	8.384E+01	1.032E+01	-0.789
		66.72	*	-5.886E+01	4.827E+01	7.452E+01	8.570E+00	-0.790
		88.36		6.618E-01	2.725E-01	4.654E-01	5.340E-02	1.422
		201.83		-1.153E-02	3.749E-02	5.917E-02	4.048E-03	-0.195
		306.84	*	-4.712E-04	3.015E-02	5.021E-02	3.383E-03	-0.009
LU-177		401.10		-2.555E+00	8.455E+00	1.362E+01	7.742E-01	-0.188
		112.95		1.157E+00	3.159E+00	5.234E+00	4.097E-01	0.221
LU-177M	+	208.36	*	4.107E+00	2.552E+00	3.645E+00	2.505E-01	1.127
		52.97		7.285E-01	4.396E+00	7.368E+00	1.012E+00	0.099
HF-181		54.07		9.776E-01	2.187E+00	3.700E+00	5.015E-01	0.264
		61.30		-2.558E-01	2.865E+00	4.706E+00	5.681E-01	-0.054
		121.62		2.347E-01	4.857E-01	8.074E-01	5.817E-02	0.291
		147.16		1.633E-02	8.507E-01	1.379E+00	9.332E-02	0.012
		171.86		9.177E-02	5.930E-01	9.626E-01	6.428E-02	0.095
		218.09		3.816E-01	1.150E+00	1.865E+00	1.289E-01	0.205
	+	268.79		1.784E+00	1.473E+00	1.800E+00	1.248E-01	0.991
		319.02		-2.045E-01	3.367E-01	5.411E-01	3.590E-02	-0.378
		367.43		-5.904E-01	1.142E+00	1.827E+00	1.106E-01	-0.323
		413.65	*	-1.798E-01	2.139E-01	3.311E-01	1.887E-02	-0.543
		56.28		-6.034E-01	2.313E+00	3.772E+00	4.927E-01	-0.160
		57.53		2.474E-02	1.168E+00	1.928E+00	2.459E-01	0.013
W-181		65.20		-1.856E+00	1.732E+00	2.693E+00	3.135E-01	-0.689
		133.02		3.602E-02	9.725E-02	1.413E-01	9.802E-03	0.255
		136.25		8.661E-02	6.709E-01	1.014E+00	6.981E-02	0.085
		345.85		-1.673E-01	2.863E-01	3.906E-01	2.480E-02	-0.428
		482.03	*	-1.356E-02	5.409E-02	8.665E-02	4.933E-03	-0.156
		56.28		-2.262E-01	8.677E-01	1.415E+00	1.849E-01	-0.160
TA-182		57.53		9.253E-03	4.387E-01	7.241E-01	9.235E-02	0.013
		65.20	*	-6.914E-01	6.452E-01	1.003E+00	1.168E-01	-0.689
		67.75		-1.194E-02	1.932E-01	2.956E-01	3.375E-02	-0.040
RE-183		100.10		1.342E-01	2.296E-01	3.848E-01	3.539E-02	0.349
		152.43		9.011E-03	4.471E-01	7.240E-01	4.869E-02	0.012
		222.10		-5.366E-02	4.641E-01	7.363E-01	5.097E-02	-0.073
		1001.68		4.121E+00	2.604E+00	4.794E+00	3.709E-01	0.860
	+	1121.28		3.451E-01	3.225E-01	4.028E-01	2.582E-02	0.857
		1189.05		9.132E-02	4.003E-01	6.647E-01	3.902E-02	0.137
RE-184		1221.42	*	-3.188E-02	2.767E-01	4.448E-01	2.773E-02	-0.072
		1230.97		-4.694E-01	6.851E-01	1.047E+00	6.645E-02	-0.448
		57.98		-3.626E-02	4.356E-01	7.158E-01	9.051E-02	-0.051
		59.32		-2.788E-01	2.301E-01	3.589E-01	4.423E-02	-0.777
		67.20		-1.780E-01	3.459E-01	5.408E-01	6.197E-02	-0.329
		162.32	*	-2.372E-02	1.408E-01	2.256E-01	1.504E-02	-0.105
RE-184	+	208.81		2.548E+00	1.583E+00	2.265E+00	1.557E-01	1.125
		291.72		3.426E-01	1.439E+00	2.124E+00	1.452E-01	0.161
		57.98		-1.306E-01	1.569E+00	2.578E+00	3.259E-01	-0.051
		59.32		-1.003E+00	8.278E-01	1.291E+00	1.592E-01	-0.777
		67.20		-6.407E-01	1.245E+00	1.947E+00	2.231E-01	-0.329
		161.27		-4.687E-02	4.372E-01	7.026E-01	4.687E-02	-0.067

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		216.55		-2.126E-02	3.583E-01	5.708E-01	3.941E-02	-0.037
		252.85	*	-9.961E-02	2.808E-01	4.631E-01	3.223E-02	-0.215
		318.01		-2.948E-01	5.834E-01	9.436E-01	6.269E-02	-0.312
		792.07		1.151E+00	1.463E+00	2.277E+00	1.556E-01	0.506
		903.28		-7.899E-02	1.366E+00	2.008E+00	1.708E-01	-0.039
		920.93		-1.263E-01	6.059E-01	9.594E-01	8.046E-02	-0.132
		59.72		-7.588E-01	6.072E-01	9.452E-01	1.159E-01	-0.803
		61.14		-4.296E-02	3.205E-01	5.255E-01	6.354E-02	-0.082
		69.30		4.409E-01	5.288E-01	7.988E-01	9.035E-02	0.552
		592.07		-3.999E-01	3.436E+00	5.348E+00	2.884E-01	-0.075
		646.12	*	-9.887E-04	5.315E-02	8.537E-02	4.374E-03	-0.012
		717.42		4.615E-01	1.075E+00	1.860E+00	1.072E-01	0.248
		874.81		-2.104E-01	6.733E-01	1.080E+00	8.795E-02	-0.195
		880.27		-7.773E-01	9.356E-01	1.418E+00	1.168E-01	-0.548
RE-188		155.03	*	2.901E-01	2.289E-01	3.884E-01	2.606E-02	0.747
W-188		477.96		1.451E+00	4.041E+00	6.769E+00	3.856E-01	0.214
		633.10		-4.063E+00	3.613E+00	5.216E+00	2.710E-01	-0.779
		63.58		4.372E+01	9.588E+01	1.604E+02	1.895E+01	0.272
IR-192		227.08		-1.318E+00	1.615E+01	2.714E+01	1.883E+00	-0.049
		290.67	*	5.504E-02	1.081E+01	1.571E+01	1.075E+00	0.004
	+	295.96		9.019E-01	2.720E-01	3.424E-01	2.359E-02	2.634
		308.46		2.533E-02	1.202E-01	2.026E-01	1.374E-02	0.125
AU-195		316.51	*	1.988E-02	4.504E-02	7.675E-02	5.129E-03	0.259
		468.07		-6.295E-02	9.165E-02	1.194E-01	7.886E-03	-0.527
		604.41		-4.562E-01	6.740E-01	8.620E-01	9.587E-02	-0.529
		612.46		3.981E-01	1.033E+00	1.498E+00	1.078E-01	0.266
		65.12		-3.176E-01	2.973E-01	4.624E-01	5.386E-02	-0.687
		66.83		-1.915E-01	1.610E-01	2.490E-01	2.861E-02	-0.769
TL-200	+	75.70		1.879E+00	4.334E-01	6.749E-01	7.494E-02	2.784
		98.88	*	1.877E-01	2.940E-01	4.936E-01	4.626E-02	0.380
	+	129.76		5.170E+00	6.005E+00	5.940E+00	4.154E-01	0.870
		367.94	*	-6.893E-03	6.005E+00	Half-Life	too short	
TL-201		579.30		8.888E-02	6.005E+00	Half-Life	too short	
		828.27		6.430E-03	6.005E+00	Half-Life	too short	
		1205.75		-4.330E-02	6.005E+00	Half-Life	too short	
		68.90		2.047E+01	2.055E+01	3.124E+01	3.542E+00	0.655
TL-202		70.82		7.762E+00	1.137E+01	1.705E+01	1.915E+00	0.455
		80.30		-2.212E+01	2.397E+01	2.716E+01	3.032E+00	-0.814
		135.34		4.386E+00	9.001E+01	1.283E+02	8.848E+00	0.034
		167.43	*	5.283E+00	2.147E+01	3.501E+01	2.330E+00	0.151
HG-203		68.90		9.330E-01	9.365E-01	1.424E+00	1.614E-01	0.655
		70.82		3.528E-01	5.169E-01	7.751E-01	8.703E-02	0.455
		80.30		-1.006E+00	1.090E+00	1.235E+00	1.378E-01	-0.814
		439.56	*	-2.759E-02	1.112E-01	1.793E-01	1.025E-02	-0.154
BI-207		70.83		1.299E+00	1.902E+00	2.845E+00	4.378E-01	0.457
	+	72.87		3.968E+00	1.447E+00	1.898E+00	2.843E-01	2.090
		82.60		8.274E-01	2.041E+00	2.769E+00	4.300E-01	0.299
BI-207		279.20	*	-4.047E-02	5.523E-02	8.899E-02	6.409E-03	-0.455
	+	72.80		1.097E+00	3.847E-01	5.216E-01	5.817E-02	2.102

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

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TL-207	+	74.97		6.496E-01	2.279E-01	3.752E-01	4.168E-02	1.731
		84.90		2.660E-01	3.136E-01	4.612E-01	5.241E-02	0.577
		569.67		-2.254E-02	3.824E-02	5.899E-02	3.233E-03	-0.382
		1063.62	*	1.416E-02	6.964E-02	1.161E-01	8.252E-03	0.122
		1770.23		-1.171E-01	5.765E-01	7.570E-01	4.688E-02	-0.155
		81.07		-2.508E-01	4.838E-01	4.808E-01	5.378E-02	-0.522
		83.78		3.136E-02	2.011E-01	2.876E-01	3.250E-02	0.109
		94.90		-8.253E-02	3.330E-01	4.726E-01	4.739E-02	-0.175
		122.32		9.444E-01	2.231E+00	3.699E+00	2.928E-01	0.255
		144.24		7.039E-01	9.011E-01	1.469E+00	1.182E-01	0.479
		154.21		5.126E-01	5.068E-01	8.521E-01	6.633E-02	0.602
	+	269.46		4.106E-01	3.391E-01	4.198E-01	3.003E-02	0.978
		323.87	*	-3.721E-01	8.739E-01	1.417E+00	2.382E-01	-0.263
	+	338.28		5.061E+00	2.040E+00	2.870E+00	3.127E-01	1.763
PO-209		445.03		2.458E-01	2.919E+00	4.813E+00	4.919E-01	0.051
		260.50		-6.864E+00	1.176E+01	1.914E+01	1.331E+00	-0.359
		262.80		-3.256E+01	3.420E+01	5.093E+01	3.539E+00	-0.639
		896.60	*	6.561E+00	8.216E+00	1.462E+01	1.244E+00	0.449
		46.50	*	-7.258E+00	1.335E+01	2.117E+01	2.199E+00	-0.343
PB-210		46.50	*	-7.258E+00	1.335E+01	2.117E+01	2.199E+00	-0.343
PO-210		46.50	*	-7.258E+00	1.335E+01	2.117E+01	2.034E+00	-0.343
PB-211		404.84	*	-7.704E-01	1.323E+00	1.896E+00	1.182E+00	-0.406
BI-212		427.08		1.451E+00	2.788E+00	4.489E+00	2.775E+00	0.323
		831.96		-1.105E+00	1.613E+00	2.261E+00	1.413E+00	-0.489
	+	727.18	*	7.317E-01	4.212E-01	7.273E-01	5.662E-02	1.006
		785.46		1.757E+00	2.147E+00	3.668E+00	2.470E-01	0.479
		1620.62		1.208E+00	1.481E+00	2.752E+00	1.893E-01	0.439
PO-215		81.07		-2.508E-01	4.838E-01	4.808E-01	5.378E-02	-0.522
		83.78		3.136E-02	2.011E-01	2.876E-01	3.250E-02	0.109
		94.90		-8.253E-02	3.330E-01	4.726E-01	4.739E-02	-0.175
		122.32		9.444E-01	2.231E+00	3.699E+00	2.928E-01	0.255
		144.24		7.039E-01	9.011E-01	1.469E+00	1.182E-01	0.479
RN-219		154.21		5.126E-01	5.068E-01	8.521E-01	6.633E-02	0.602
	+	269.46		4.106E-01	3.391E-01	4.198E-01	3.003E-02	0.978
		323.87	*	-3.721E-01	8.739E-01	1.417E+00	2.382E-01	-0.263
	+	338.28		5.061E+00	2.040E+00	2.870E+00	3.127E-01	1.763
		445.03		2.458E-01	2.919E+00	4.813E+00	4.919E-01	0.051
RN-220	+	271.23		5.268E-01	4.359E-01	5.487E-01	4.909E-02	0.960
		401.81	*	-8.416E-02	5.162E-01	8.415E-01	1.141E-01	-0.100
		549.76	*	-9.398E-02	3.270E+01	5.306E+01	2.944E+00	-0.002
RA-223		81.07		-2.508E-01	4.838E-01	4.808E-01	5.378E-02	-0.522
		83.78		3.136E-02	2.011E-01	2.876E-01	3.250E-02	0.109
		94.90		-8.253E-02	3.330E-01	4.726E-01	4.739E-02	-0.175
		122.32		9.444E-01	2.231E+00	3.699E+00	2.928E-01	0.255
		144.24		7.039E-01	9.011E-01	1.469E+00	1.182E-01	0.479
		154.21		5.126E-01	5.068E-01	8.521E-01	6.633E-02	0.602
	+	269.46		4.106E-01	3.391E-01	4.198E-01	3.003E-02	0.978
		323.87	*	-3.721E-01	8.739E-01	1.417E+00	2.382E-01	-0.263
	+	338.28		5.061E+00	2.040E+00	2.870E+00	3.127E-01	1.763

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	445.03			2.458E-01	2.919E+00	4.813E+00	4.919E-01	0.051
	79.80			-2.735E+00	2.922E+00	3.633E+00	8.224E-01	-0.753
	236.00			4.324E+00	6.516E-01	8.795E-01	9.793E-02	4.916
	256.20	*		-6.018E-02	4.664E-01	7.779E-01	1.126E-01	-0.077
	286.10			-7.962E-01	1.981E+00	3.149E+00	3.820E-01	-0.253
	299.80			2.833E+00	2.104E+00	3.242E+00	5.402E-01	0.874
TH-227	304.40			-3.284E+00	2.442E+00	3.662E+00	6.459E-01	-0.897
	334.20			-1.006E+00	3.327E+00	4.676E+00	8.679E-01	-0.215
	79.80			-2.735E+00	2.924E+00	3.633E+00	8.320E-01	-0.753
	94.00			7.508E+00	3.239E+00	4.513E+00	1.013E+00	1.664
	236.00			4.324E+00	6.113E-01	8.795E-01	8.651E-02	4.916
	256.20	*		-6.018E-02	4.664E-01	7.779E-01	1.348E-01	-0.077
TH-229	286.10			-7.962E-01	2.133E+00	3.149E+00	3.157E+00	-0.253
	299.80			2.833E+00	2.104E+00	3.242E+00	5.402E-01	0.874
	304.40			-3.284E+00	2.442E+00	3.662E+00	6.459E-01	-0.897
	334.20			-1.006E+00	3.327E+00	4.676E+00	8.679E-01	-0.215
	85.43		+	3.136E-01	3.453E-01	4.550E-01	5.185E-02	0.689
	88.47			3.548E-01	1.549E-01	2.648E-01	3.031E-02	1.340
PA-231	100.00			1.648E-01	2.325E-01	3.914E-01	3.605E-02	0.421
	193.63	*		1.675E-02	6.352E-01	1.020E+00	6.937E-02	0.016
	210.97			5.619E-01	1.094E+00	1.576E+00	1.085E-01	0.357
	283.67	*		4.381E-01	1.910E+00	3.230E+00	4.608E-01	0.136
	301.29			6.312E-01	7.810E-01	1.242E+00	1.369E-01	0.508
	81.07			-2.508E-01	4.838E-01	4.808E-01	5.378E-02	-0.522
TH-231	83.78			3.136E-02	2.011E-01	2.876E-01	3.250E-02	0.109
	94.90			-8.253E-02	3.330E-01	4.726E-01	4.739E-02	-0.175
	122.32			9.444E-01	2.231E+00	3.699E+00	2.928E-01	0.255
	144.24			7.039E-01	9.011E-01	1.469E+00	1.182E-01	0.479
	154.21			5.126E-01	5.068E-01	8.521E-01	6.633E-02	0.602
	269.46		+	4.106E-01	3.391E-01	4.198E-01	3.003E-02	0.978
U-231	323.87	*		-3.721E-01	8.739E-01	1.417E+00	2.382E-01	-0.263
	338.28		+	5.061E+00	2.040E+00	2.870E+00	3.127E-01	1.763
	445.03			2.458E-01	2.919E+00	4.813E+00	4.919E-01	0.051
	84.21			4.624E+00	1.688E+01	2.427E+01	2.749E+00	0.191
	92.29		+	1.180E+01	6.780E+00	9.656E+00	1.018E+00	1.222
	95.87	*		-3.024E+00	3.095E+00	4.135E+00	4.075E-01	-0.731
PA-233	108.00			-6.871E-01	5.035E+00	8.189E+00	6.774E-01	-0.084
	75.28		+	2.996E+01	7.889E+00	1.097E+01	1.850E+00	2.732
	86.59		+	2.738E+00	3.094E+00	3.822E+00	1.065E+00	0.716
	300.12			8.475E-01	5.772E-01	9.005E-01	1.251E-01	0.941
	311.98	*		-3.134E-03	8.032E-02	1.335E-01	9.358E-03	-0.023
	340.50			1.813E+00	9.256E-01	1.387E+00	3.207E-01	1.307
PA-234	398.62			1.645E+00	2.598E+00	4.383E+00	1.132E+00	0.375
	415.76			-7.041E-01	1.962E+00	3.138E+00	6.453E-01	-0.224
	63.00			1.499E+00	2.764E+00	4.627E+00	8.106E-01	0.324
	94.67			4.531E-02	2.416E-01	3.511E-01	4.722E-02	0.129
	98.44			-4.849E-03	1.256E-01	1.951E-01	1.091E-01	-0.025
	99.86			5.357E-01	5.896E-01	9.990E-01	9.223E-02	0.536
	111.00			-9.282E-02	2.397E-01	3.853E-01	4.488E-02	-0.241

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		-7.736E-02	1.485E-01	2.043E-01	1.423E-02	-0.379
		152.70		1.452E-01	4.184E-01	6.858E-01	1.109E-01	0.212
	+	186.00		6.322E+00	3.199E+00	3.314E+00	1.019E+00	1.908
		226.40		-2.340E-01	4.853E-01	7.995E-01	9.729E-02	-0.293
		227.20		-3.700E-03	5.263E-01	8.871E-01	6.154E-02	-0.004
		248.90		-6.671E-01	9.796E-01	1.525E+00	3.330E-01	-0.437
	+	293.70		5.470E+00	1.842E+00	2.072E+00	3.414E-01	2.640
		369.80		-1.190E+00	1.085E+00	1.621E+00	3.385E-01	-0.734
		568.70		2.402E-01	1.218E+00	2.003E+00	1.099E-01	0.120
		569.50		-1.476E-01	3.370E-01	5.266E-01	2.887E-02	-0.280
		574.00		-1.175E+00	1.870E+00	2.778E+00	1.518E-01	-0.423
		699.00		7.485E-01	8.926E-01	1.567E+00	2.804E-01	0.478
		706.10		-1.774E-01	1.260E+00	2.085E+00	9.195E-01	-0.085
		733.00		-1.873E-02	5.197E-01	7.465E-01	1.591E-01	-0.025
		742.81		2.610E-01	1.543E+00	2.600E+00	1.741E+00	0.100
		796.30		2.404E+00	1.395E+00	2.157E+00	5.727E-01	1.115
		805.60		9.812E-01	1.212E+00	2.092E+00	6.327E-01	0.469
		819.60		-2.193E-01	1.355E+00	2.213E+00	8.353E-01	-0.099
		826.30		-9.874E-01	1.046E+00	1.420E+00	6.320E-01	-0.696
		831.60		-8.383E-01	8.033E-01	1.147E+00	3.386E-01	-0.731
		876.40		-8.687E-02	9.308E-01	1.520E+00	1.562E+00	-0.057
		880.51		-3.087E-01	3.342E-01	5.016E-01	4.133E-02	-0.615
		883.24		1.161E-02	3.362E-01	5.583E-01	3.750E-01	0.021
		899.00		-3.812E-01	1.015E+00	1.596E+00	6.973E-01	-0.239
		925.00		7.596E-01	1.492E+00	2.548E+00	2.130E-01	0.298
		926.50		-1.007E-01	2.418E-01	3.502E-01	8.820E-02	-0.288
		946.00	*	1.615E-01	3.901E-01	6.647E-01	1.235E-01	0.243
		949.00		1.594E-01	5.852E-01	9.873E-01	8.079E-02	0.161
		980.50		4.887E-01	9.514E-01	1.536E+00	1.218E-01	0.318
PA-234M		1394.10		1.711E-01	1.222E+00	2.078E+00	1.349E+00	0.082
		766.42		1.228E+00	1.436E+01	2.398E+01	1.209E+01	0.051
		1001.03	*	6.505E+00	5.660E+00	1.011E+01	9.323E-01	0.643
TH-234		63.29	*	1.280E+00	2.336E+00	3.905E+00	7.708E-01	0.328
	+	92.38		1.605E+00	9.567E-01	1.309E+00	2.496E-01	1.226
U-235		89.95		3.544E+00	1.848E+00	2.604E+00	8.235E-01	1.361
	+	93.35		1.929E+00	1.222E+00	1.525E+00	4.361E-01	1.265
		105.00		2.707E-02	1.354E+00	2.217E+00	6.615E-01	0.012
		143.76	*	1.097E-01	2.793E-01	4.483E-01	7.479E-02	0.245
		163.35		-2.237E-01	5.865E-01	9.278E-01	1.696E-01	-0.241
	+	185.71		2.341E-01	9.541E-02	1.230E-01	8.308E-03	1.904
		205.31		-3.710E-01	7.653E-01	1.029E+00	1.888E-01	-0.361
NP-236		94.67		3.608E-02	1.833E-01	2.665E-01	2.684E-02	0.135
		98.44		-3.676E-03	9.491E-02	1.475E-01	1.392E-02	-0.025
		111.00		-7.021E-02	1.812E-01	2.914E-01	2.329E-02	-0.241
		160.31	*	-8.591E-02	1.002E-01	1.553E-01	1.037E-02	-0.553
U-238		63.29	*	1.280E+00	2.336E+00	3.905E+00	7.708E-01	0.328
	+	92.38		1.605E+00	9.220E-01	1.309E+00	1.378E-01	1.226
NP-239		99.55		2.216E-01	1.991E-01	3.394E-01	3.148E-02	0.653
		117.00	*	-1.736E-01	2.514E-01	3.981E-01	2.992E-02	-0.436

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	209.75		1.932E+00	1.200E+00	1.708E+00	1.175E-01	1.131
		228.18		-8.428E-03	2.744E-01	4.620E-01	3.206E-02	-0.018
		277.60		9.030E-02	2.294E-01	3.909E-01	2.699E-02	0.231
		334.30		-4.953E-01	1.886E+00	2.664E+00	1.727E-01	-0.186
AM-241		59.54	*	-4.168E-01	3.126E-01	4.834E-01	6.152E-02	-0.862
CM-243		99.55		2.281E-01	2.049E-01	3.493E-01	3.240E-02	0.653
		103.76	*	4.661E-02	1.227E-01	2.039E-01	1.780E-02	0.229
		117.00		-1.786E-01	2.587E-01	4.096E-01	3.079E-02	-0.436
	+	209.75		1.905E+00	1.184E+00	1.684E+00	1.158E-01	1.131
		228.18		-8.519E-03	2.773E-01	4.670E-01	3.240E-02	-0.018
		277.60		9.106E-02	2.314E-01	3.942E-01	2.722E-02	0.231
AM-246		798.80		-7.932E-02	1.870E-01	2.531E-01	1.756E-02	-0.313
		1036.00		-1.245E-01	3.794E-01	6.023E-01	4.458E-02	-0.207
		1062.04		1.155E-01	2.964E-01	5.027E-01	3.581E-02	0.230
		1078.86	*	1.189E-01	1.867E-01	3.229E-01	2.238E-02	0.368
CM-247		278.00		1.675E-01	9.528E-01	1.608E+00	1.110E-01	0.104
		287.40		-4.786E-01	1.798E+00	2.561E+00	1.757E-01	-0.187
		402.60	*	-3.531E-02	4.860E-02	7.409E-02	4.213E-03	-0.477
CF-249		252.85		-3.677E-01	1.037E+00	1.710E+00	1.190E-01	-0.215
		333.44		-1.042E-01	2.471E-01	3.444E-01	2.236E-02	-0.303
		387.95	*	-2.439E-02	5.029E-02	8.044E-02	4.612E-03	-0.303
CF-251		176.60	*	-9.028E-02	1.618E-01	2.535E-01	1.699E-02	-0.356
		227.00		-6.216E-02	4.647E-01	7.789E-01	5.403E-02	-0.080
		285.00		-6.978E-01	2.196E+00	3.611E+00	2.482E-01	-0.193

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536007      *
* Acquisition date   : 9-JAN-2010 14:11:18 Detector SN# :                  *
* Detector ID        : GAM15 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000           *
* Elapsed real time  : 0 02:00:01.21 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243536007 Analyst initials: MXR1                  *
* Batch Number      : 937074 Sample Quantity : 1.2063E+02 GRAM          *
* Recovery          : 1.00000 Carrier Weight  : 0.00000                  *
*****
*                                     QC DATA                               *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 16-FEB-2009 10:54:12 MS Isotope :                  *
* MSD DPM           : 0.000 MSD Isotope :                  *
* LCS DPM           : 0.000 LCS Isotope :                  *
* LCSD DPM          : 0.000 LCSD Isotope :                  *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.646E+01	3.418E+00	6.961E-01	0.000E+00
CD-109	1.431E+00	1.544E+00	1.756E+00	0.000E+00
SN-126	1.398E-01	1.509E-01	1.729E-01	0.000E+00
TL-208	4.703E-01	1.113E-01	6.955E-02	0.000E+00
BI-211	2.774E+00	5.160E-01	4.029E-01	0.000E+00
PB-212	1.658E+00	1.875E-01	1.145E-01	0.000E+00
PO-212	1.658E+00	1.875E-01	1.145E-01	0.000E+00
BI-214	7.694E-01	1.780E-01	1.305E-01	0.000E+00
PB-214	9.651E-01	1.861E-01	1.404E-01	0.000E+00
PO-214	9.651E-01	1.861E-01	1.404E-01	0.000E+00
PO-216	1.658E+00	1.875E-01	1.145E-01	0.000E+00
PO-218	9.651E-01	1.861E-01	1.404E-01	0.000E+00
RA-224	4.433E+00	1.718E+00	1.302E+00	0.000E+00
RA-226	7.694E-01	1.780E-01	1.305E-01	0.000E+00
AC-228	1.533E+00	3.665E-01	2.688E-01	0.000E+00
RA-228	1.533E+00	3.665E-01	2.688E-01	0.000E+00
TH-228	1.689E+00	1.911E-01	1.167E-01	0.000E+00
TH-230	7.693E-01	1.780E-01	1.305E-01	0.000E+00
TH-232	1.533E+00	3.665E-01	2.688E-01	0.000E+00
U-234	7.693E-01	1.780E-01	1.305E-01	0.000E+00
NP-237	4.107E-01	4.509E-01	5.176E-01	0.000E+00
AM-243	3.618E-01	1.244E-01	1.355E-01	0.000E+00
ANH-511	8.633E-02	7.601E-02	5.965E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.375E-01	4.171E-01	7.194E-01	0.000E+00 NOT IDENT.
NA-22	-8.564E-03	5.809E-02	9.450E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	6.896E+07	0.000E+00	0.000E+00 SHORT HLIF
AL-26	4.993E-06	2.804E-02	4.682E-02	0.000E+00 NOT IDENT.

TI-44	0.000E+00	6.145E-02	1.005E-01	0.000E+00	NOT IDENT.
SC-46	-3.542E-02	4.661E-02	7.304E-02	0.000E+00	FAIL ABUN
V-48	-7.554E-02	1.003E-01	1.560E-01	0.000E+00	NOT IDENT.
CR-51	-3.842E-02	5.071E-01	8.715E-01	0.000E+00	NOT IDENT.
MN-52	5.684E-02	4.281E-01	7.290E-01	0.000E+00	NOT IDENT.
MN-54	-3.120E-03	4.656E-02	7.887E-02	0.000E+00	NOT IDENT.
CO-56	1.743E-02	4.625E-02	8.127E-02	0.000E+00	NOT IDENT.
CO-57	1.523E-02	3.224E-02	5.614E-02	0.000E+00	NOT IDENT.
CO-58	9.586E-03	4.836E-02	8.385E-02	0.000E+00	NOT IDENT.
FE-59	-7.463E-03	1.232E-01	2.046E-01	0.000E+00	NOT IDENT.
CO-60	-2.908E-02	5.140E-02	7.873E-02	0.000E+00	NOT IDENT.
ZN-65	3.971E-02	1.335E-01	1.980E-01	0.000E+00	NOT IDENT.
GE-68	4.239E-01	1.615E+00	2.764E+00	0.000E+00	NOT IDENT.
AS-73	1.051E-01	2.200E+00	3.885E+00	0.000E+00	NOT IDENT.
AS-74	1.809E-01	1.412E-01	2.554E-01	0.000E+00	NOT IDENT.
SE-75	-8.626E-04	5.885E-02	8.918E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.896E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-7.955E-01	4.901E-01	7.129E-01	0.000E+00	NOT IDENT.
RB-83	1.684E-02	8.175E-02	1.394E-01	0.000E+00	NOT IDENT.
RB-84	-6.404E-02	8.730E-02	1.373E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	9.907E+00	1.684E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.296E-02	9.001E-02	0.000E+00	NOT IDENT.
RB-86	1.223E-01	1.228E+00	2.072E+00	0.000E+00	NOT IDENT.
Y-88	-1.229E-02	4.023E-02	6.295E-02	0.000E+00	NOT IDENT.
ZR-88	-2.061E-02	3.846E-02	6.336E-02	0.000E+00	NOT IDENT.
Y-91	-6.086E+00	2.747E+01	4.473E+01	0.000E+00	NOT IDENT.
NB-94	2.831E-02	4.034E-02	7.282E-02	0.000E+00	NOT IDENT.
NB-95	9.565E-03	5.545E-02	9.571E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.622E-01	4.440E-01	0.000E+00	NOT IDENT.
ZR-95	6.744E-02	9.223E-02	1.663E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.125E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.367E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.460E+00	3.614E+01	6.235E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.841E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.243E-02	4.287E-02	7.075E-02	0.000E+00	NOT IDENT.
RH-102	2.068E-02	3.551E-02	6.230E-02	0.000E+00	NOT IDENT.
RU-103	1.225E-02	4.956E-02	8.495E-02	0.000E+00	FAIL ABUN
RH-106	-2.404E-01	3.881E-01	6.081E-01	0.000E+00	NOT IDENT.
RU-106	-2.404E-01	3.873E-01	6.081E-01	0.000E+00	NOT IDENT.
AG-108M	-2.309E-02	4.045E-02	6.594E-02	0.000E+00	NOT IDENT.
AG-110M	-1.300E-02	4.420E-02	7.125E-02	0.000E+00	NOT IDENT.
IN-111	2.027E-01	3.441E+00	5.266E+00	0.000E+00	NOT IDENT.
IN-113M	5.778E-03	5.524E-02	9.489E-02	0.000E+00	NOT IDENT.
SN-113	5.778E-03	5.524E-02	9.489E-02	0.000E+00	NOT IDENT.
IN-114M	1.257E-01	2.575E-01	3.885E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.467E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-2.092E-02	8.241E-02	1.377E-01	0.000E+00	NOT IDENT.
SB-122	-8.877E-02	6.728E+00	1.122E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.076E+09	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.817E-02	3.537E-02	5.834E-02	0.000E+00	NOT IDENT.
I-124	-9.006E-01	1.862E+00	2.526E+00	0.000E+00	NOT IDENT.
SB-124	-4.954E-02	7.623E-02	1.083E-01	0.000E+00	FAIL ABUN
SB-125	8.871E-02	1.155E-01	2.054E-01	0.000E+00	FAIL ABUN
TE-125M	4.111E+00	1.224E+01	2.130E+01	0.000E+00	NOT IDENT.
I-126	1.914E-03	2.517E-01	4.158E-01	0.000E+00	NOT IDENT.
SB-126	-1.508E-01	2.289E-01	3.278E-01	0.000E+00	NOT IDENT.
SB-127	-1.641E+00	3.127E+00	5.158E+00	0.000E+00	NOT IDENT.
XE-127	-2.680E-02	7.044E-02	1.061E-01	0.000E+00	NOT IDENT.
I-131	2.125E-01	1.993E-01	3.618E-01	0.000E+00	NOT IDENT.
TE-132	-5.240E-02	1.915E+00	3.358E+00	0.000E+00	NOT IDENT.
BA-133	2.552E-02	5.676E-02	8.773E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.755E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	9.202E-02	1.148E-01	0.000E+00	FAIL ABUN
CS-135	2.305E-01	2.181E-01	3.523E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.572E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.128E-03	1.631E-01	2.724E-01	0.000E+00	FAIL ABUN
BA-137M	-8.784E-03	4.127E-02	6.688E-02	0.000E+00	NOT IDENT.
CS-137	-9.286E-03	4.362E-02	7.070E-02	0.000E+00	NOT IDENT.
CE-139	3.691E-02	3.679E-02	6.466E-02	0.000E+00	NOT IDENT.
BA-140	-1.032E-01	3.716E-01	6.057E-01	0.000E+00	NOT IDENT.
LA-140	-1.002E-02	1.170E-01	1.948E-01	0.000E+00	NOT IDENT.
CE-141	7.507E-02	8.594E-02	1.507E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.958E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	6.912E-02	2.852E-01	4.307E-01	0.000E+00	NOT IDENT.
PM-144	3.739E-03	4.107E-02	7.124E-02	0.000E+00	NOT IDENT.
PR-144	2.539E-01	2.789E+00	4.837E+00	0.000E+00	NOT IDENT.
PM-146	-5.598E-02	5.305E-02	8.263E-02	0.000E+00	NOT IDENT.
ND-147	-2.850E-01	8.635E-01	1.408E+00	0.000E+00	FAIL ABUN

PM-149	0.000E+00	4.048E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.637E-01	1.328E-01	1.873E-01	0.000E+00	FAIL ABUN
GD-153	5.154E-02	1.155E-01	1.767E-01	0.000E+00	NOT IDENT.
EU-154	-2.670E-02	1.617E-01	2.625E-01	0.000E+00	NOT IDENT.
EU-155	2.848E-02	1.343E-01	2.330E-01	0.000E+00	FAIL ABUN
TB-160	-4.854E-02	1.605E-01	2.643E-01	0.000E+00	FAIL ABUN
HO-166M	1.146E-03	6.958E-02	1.199E-01	0.000E+00	FAIL ABUN
TM-171	-5.886E+01	4.731E+01	7.714E+01	0.000E+00	NOT IDENT.
LU-176	-4.712E-04	2.955E-02	5.106E-02	0.000E+00	NOT IDENT.
LU-177	0.000E+00	2.501E+00	3.724E+00	0.000E+00	FAIL ABUN
LU-177M	-1.798E-01	2.097E-01	3.355E-01	0.000E+00	FAIL ABUN
HF-181	-1.356E-02	5.301E-02	8.763E-02	0.000E+00	NOT IDENT.
W-181	-6.914E-01	6.323E-01	1.039E+00	0.000E+00	NOT IDENT.
TA-182	-3.188E-02	2.712E-01	4.448E-01	0.000E+00	FAIL ABUN
RE-183	-2.372E-02	1.380E-01	2.311E-01	0.000E+00	FAIL ABUN
RE-184	-9.961E-02	2.752E-01	4.720E-01	0.000E+00	NOT IDENT.
OS-185	-9.887E-04	5.209E-02	8.604E-02	0.000E+00	NOT IDENT.
RE-188	2.901E-01	2.243E-01	3.982E-01	0.000E+00	NOT IDENT.
W-188	5.504E-02	1.060E+01	1.599E+01	0.000E+00	NOT IDENT.
IR-192	1.988E-02	4.414E-02	7.801E-02	0.000E+00	FAIL ABUN
AU-195	1.877E-01	2.881E-01	5.086E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.062E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.283E+00	2.104E+01	3.586E+01	0.000E+00	NOT IDENT.
TL-202	-2.759E-02	1.089E-01	1.816E-01	0.000E+00	NOT IDENT.
HG-203	-4.047E-02	5.413E-02	9.059E-02	0.000E+00	FAIL ABUN
BI-207	1.416E-02	6.825E-02	1.163E-01	0.000E+00	FAIL ABUN
TL-207	-3.721E-01	8.564E-01	1.440E+00	0.000E+00	FAIL ABUN
PO-209	6.561E+00	8.051E+00	1.467E+01	0.000E+00	NOT IDENT.
BI-210	-7.258E+00	1.308E+01	2.201E+01	0.000E+00	NOT IDENT.
PB-210	-7.258E+00	1.308E+01	2.201E+01	0.000E+00	NOT IDENT.
PO-210	-7.258E+00	1.308E+01	2.201E+01	0.000E+00	NOT IDENT.
PB-211	-7.704E-01	1.296E+00	1.921E+00	0.000E+00	NOT IDENT.
BI-212	7.317E-01	4.127E-01	7.319E-01	0.000E+00	FAIL ABUN
PO-215	-3.721E-01	8.564E-01	1.440E+00	0.000E+00	FAIL ABUN
RN-219	-8.416E-02	5.059E-01	8.529E-01	0.000E+00	FAIL ABUN
RN-220	-9.398E-02	3.205E+01	5.358E+01	0.000E+00	NOT IDENT.
RA-223	-3.721E-01	8.564E-01	1.440E+00	0.000E+00	FAIL ABUN
AC-227	-6.018E-02	4.571E-01	7.927E-01	0.000E+00	NOT IDENT.
TH-227	-6.018E-02	4.571E-01	7.927E-01	0.000E+00	NOT IDENT.
TH-229	1.675E-02	6.225E-01	1.043E+00	0.000E+00	FAIL ABUN
PA-231	4.381E-01	1.872E+00	3.287E+00	0.000E+00	NOT IDENT.
TH-231	-3.721E-01	8.564E-01	1.440E+00	0.000E+00	FAIL ABUN
U-231	-3.024E+00	3.033E+00	4.263E+00	0.000E+00	FAIL ABUN
PA-233	-3.134E-03	7.871E-02	1.357E-01	0.000E+00	FAIL ABUN
PA-234	1.615E-01	3.823E-01	6.668E-01	0.000E+00	FAIL ABUN
PA-234M	6.505E+00	5.547E+00	1.014E+01	0.000E+00	NOT IDENT.
TH-234	1.280E+00	2.289E+00	4.045E+00	0.000E+00	FAIL ABUN
U-235	1.097E-01	2.738E-01	4.599E-01	0.000E+00	FAIL ABUN
NP-236	-8.591E-02	9.821E-02	1.591E-01	0.000E+00	NOT IDENT.
U-238	1.280E+00	2.289E+00	4.045E+00	0.000E+00	FAIL ABUN
NP-239	-1.736E-01	2.464E-01	4.094E-01	0.000E+00	FAIL ABUN
AM-241	-4.168E-01	3.064E-01	5.011E-01	0.000E+00	NOT IDENT.
CM-243	4.661E-02	1.202E-01	2.100E-01	0.000E+00	FAIL ABUN
AM-246	1.189E-01	1.830E-01	3.233E-01	0.000E+00	NOT IDENT.
CM-247	-3.531E-02	4.763E-02	7.510E-02	0.000E+00	NOT IDENT.
CF-249	-2.439E-02	4.928E-02	8.156E-02	0.000E+00	NOT IDENT.
CF-251	-9.028E-02	1.586E-01	2.595E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536007.CNF;1
Sample date   : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:11:18.
Sample ID     : G243536007 Sample quantity : 1.20630E+02 GRAM
Detector name : GAM15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.21 0.0%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit: 75.00000 Sensitivity : 5.00000
Batch ID      : 937074 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1249	10.67*	9.987E-01	3.646E+01	3.646E+01	9.57
CD-109	88.03	73	3.72*	4.399E+00	1.391E+00	1.431E+00	110.11
SN-126	64.28	-----	9.60	1.930E+00	-----	Line Not Found	-----
	86.94	73	8.90	4.399E+00	5.814E-01	5.814E-01	117.31
	87.57	73	37.00*	4.399E+00	1.398E-01	1.398E-01	110.11
TL-208	277.35	-----	6.80	3.788E+00	-----	Line Not Found	-----
	510.84	68	21.60	2.462E+00	3.997E-01	3.997E-01	90.22
	583.14	284	84.20*	2.229E+00	4.703E-01	4.703E-01	24.15
	860.37	-----	12.46	1.613E+00	-----	Line Not Found	-----
BI-211	72.87	240	1.27	3.130E+00	1.880E+01	1.880E+01	35.08
	351.07	370	12.94*	3.204E+00	2.774E+00	2.774E+00	18.98
PB-212	74.81	240	10.70	3.130E+00	2.232E+00	2.232E+00	36.30
	77.11	413	18.00	3.407E+00	2.097E+00	2.097E+00	23.07
	87.30	73	8.00	4.399E+00	6.468E-01	6.468E-01	110.57
	238.63	1002	44.60*	4.220E+00	1.658E+00	1.658E+00	11.54
	300.09	-----	3.41	3.583E+00	-----	Line Not Found	-----
PO-212	74.81	240	10.70	3.130E+00	2.232E+00	2.232E+00	36.30
	77.11	413	18.00	3.407E+00	2.097E+00	2.097E+00	23.07
	87.30	73	8.00	4.399E+00	6.468E-01	6.468E-01	110.57
	115.19	-----	0.60	5.666E+00	-----	Line Not Found	-----
	238.63	1002	44.60*	4.220E+00	1.658E+00	1.658E+00	11.54
	300.09	-----	3.41	3.583E+00	-----	Line Not Found	-----
BI-214	609.31	247	46.30*	2.155E+00	7.693E-01	7.694E-01	23.61
	1120.29	44	15.10	1.263E+00	7.125E-01	7.125E-01	93.70
	1764.49	49	15.80	8.815E-01	1.096E+00	1.096E+00	33.98
PB-214	74.81	240	6.21	3.130E+00	3.845E+00	3.845E+00	35.85
	77.11	413	10.50	3.407E+00	3.595E+00	3.595E+00	24.29
	87.30	73	4.67	4.399E+00	1.108E+00	1.108E+00	110.38
	241.98	235	7.49	4.184E+00	2.338E+00	2.338E+00	39.94
	295.21	255	19.20	3.630E+00	1.140E+00	1.140E+00	30.78
	351.92	370	37.20*	3.204E+00	9.651E-01	9.651E-01	19.68
PO-214	74.81	240	6.21	3.130E+00	3.845E+00	3.845E+00	35.85

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	413	10.50	3.407E+00	3.595E+00	3.595E+00	24.29
	87.30	73	4.67	4.399E+00	1.108E+00	1.108E+00	110.38
	241.98	235	7.49	4.184E+00	2.338E+00	2.338E+00	39.94
	295.21	255	19.20	3.630E+00	1.140E+00	1.140E+00	30.78
	351.92	370	37.20*	3.204E+00	9.651E-01	9.651E-01	19.68
	74.81	240	10.70	3.130E+00	2.232E+00	2.232E+00	36.30
	77.11	413	18.00	3.407E+00	2.097E+00	2.097E+00	23.07
	87.30	73	8.00	4.399E+00	6.468E-01	6.468E-01	110.57
	238.63	1002	44.60*	4.220E+00	1.658E+00	1.658E+00	11.54
	300.09	-----	3.41	3.583E+00	-----	Line Not Found	-----
PO-218	74.81	240	6.21	3.130E+00	3.845E+00	3.845E+00	35.85
	77.11	413	10.50	3.407E+00	3.595E+00	3.595E+00	24.29
	87.30	73	4.67	4.399E+00	1.108E+00	1.108E+00	110.38
	241.98	235	7.49	4.184E+00	2.338E+00	2.338E+00	39.94
	295.21	255	19.20	3.630E+00	1.140E+00	1.140E+00	30.78
	351.92	370	37.20*	3.204E+00	9.651E-01	9.651E-01	19.68
RA-224	240.98	235	3.95*	4.184E+00	4.433E+00	4.433E+00	39.54
RA-226	609.31	247	46.30*	2.155E+00	7.693E-01	7.693E-01	23.61
AC-228	1120.29	44	15.10	1.263E+00	7.125E-01	7.125E-01	93.70
	1764.49	49	15.80	8.815E-01	1.096E+00	1.096E+00	33.98
	338.32	146	11.40	3.294E+00	1.212E+00	1.212E+00	56.36
	911.07	209	27.70*	1.531E+00	1.533E+00	1.533E+00	24.40
	969.11	122	16.60	1.447E+00	1.582E+00	1.582E+00	36.90
RA-228	338.32	146	11.40	3.294E+00	1.212E+00	1.212E+00	56.36
	911.07	209	27.70*	1.531E+00	1.533E+00	1.533E+00	24.40
TH-228	969.11	122	16.60	1.447E+00	1.582E+00	1.582E+00	36.90
	74.81	240	10.70	3.130E+00	2.232E+00	2.274E+00	35.10
	77.11	413	18.00	3.407E+00	2.097E+00	2.138E+00	23.07
	87.30	73	8.00	4.399E+00	6.468E-01	6.592E-01	110.11
TH-230	238.63	1002	44.60*	4.220E+00	1.658E+00	1.689E+00	11.54
	300.09	-----	3.41	3.583E+00	-----	Line Not Found	-----
	609.31	247	46.30*	2.155E+00	7.693E-01	7.693E-01	23.61
	1120.29	44	15.10	1.263E+00	7.125E-01	7.125E-01	93.70
	1764.49	49	15.80	8.815E-01	1.096E+00	1.096E+00	33.98
TH-232	338.32	146	11.40	3.294E+00	1.212E+00	1.212E+00	39.34
	911.07	209	27.70*	1.531E+00	1.533E+00	1.533E+00	24.40
	969.11	122	16.60	1.447E+00	1.582E+00	1.582E+00	36.90
U-234	609.31	247	46.30*	2.155E+00	7.693E-01	7.693E-01	23.61
	1120.29	44	15.10	1.263E+00	7.125E-01	7.125E-01	93.70
	1764.49	49	15.80	8.815E-01	1.096E+00	1.096E+00	33.98
NP-237	86.50	73	12.60*	4.399E+00	4.107E-01	4.107E-01	112.03
AM-243	95.87	-----	2.60	5.041E+00	-----	Line Not Found	-----
	74.67	240	66.00*	3.130E+00	3.618E-01	3.618E-01	35.08
	86.72	73	0.34	4.399E+00	1.540E+01	1.540E+01	110.11
	117.66	-----	0.55	5.694E+00	-----	Line Not Found	-----
ANH-511	142.18	-----	0.13	5.637E+00	-----	Line Not Found	-----
	511.00	68	100.00*	2.462E+00	8.633E-02	8.633E-02	89.84

Flag: "*" = Keyline

Total number of lines in spectrum 27
Number of unidentified lines 2
Number of lines tentatively identified by NID 25 92.59%

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	3.646E+01	3.646E+01	0.349E+01	9.57	
CD-109	464.00D	1.03	1.391E+00	1.431E+00	1.576E+00	110.11	
SN-126	1.00E+05Y	1.00	1.398E-01	1.398E-01	1.540E-01	110.11	
TL-208	1.41E+10Y	1.00	4.703E-01	4.703E-01	1.136E-01	24.15	
BI-211	7.04E+08Y	1.00	2.774E+00	2.774E+00	0.527E+00	18.98	
PB-212	1.41E+10Y	1.00	1.658E+00	1.658E+00	0.191E+00	11.54	
PO-212	1.41E+10Y	1.00	1.658E+00	1.658E+00	0.191E+00	11.54	
BI-214	1600.00Y	1.00	7.693E-01	7.694E-01	1.816E-01	23.61	
PB-214	1600.00Y	1.00	9.651E-01	9.651E-01	1.899E-01	19.68	
PO-214	1600.00Y	1.00	9.651E-01	9.651E-01	1.899E-01	19.68	
PO-216	1.41E+10Y	1.00	1.658E+00	1.658E+00	0.191E+00	11.54	
PO-218	1600.00Y	1.00	9.651E-01	9.651E-01	1.899E-01	19.68	
RA-224	1.41E+10Y	1.00	4.433E+00	4.433E+00	1.753E+00	39.54	
RA-226	1600.00Y	1.00	7.693E-01	7.694E-01	1.816E-01	23.61	
AC-228	1.41E+10Y	1.00	1.533E+00	1.533E+00	0.374E+00	24.40	
RA-228	1.41E+10Y	1.00	1.533E+00	1.533E+00	0.374E+00	24.40	
TH-228	1.91Y	1.02	1.658E+00	1.689E+00	0.195E+00	11.54	
TH-230	4.47E+09Y	1.00	7.693E-01	7.693E-01	1.816E-01	23.61	
TH-232	1.41E+10Y	1.00	1.533E+00	1.533E+00	0.374E+00	24.40	
U-234	4.47E+09Y	1.00	7.693E-01	7.693E-01	1.816E-01	23.61	
NP-237	2.14E+06Y	1.00	4.107E-01	4.107E-01	4.601E-01	112.03	
AM-243	7380.00Y	1.00	3.618E-01	3.618E-01	1.269E-01	35.08	
ANH-511	1.00E+09Y	1.00	8.633E-02	8.633E-02	7.756E-02	89.84	

Total Activity : 6.373E+01 6.381E+01

Grand Total Activity : 6.373E+01 6.381E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	92.22	135	345	1.36	184.92	168	22	1.87E-02	56.5	4.82E+00	T
0	129.16	72	389	1.43	258.75	254	13	9.96E-03	***	5.73E+00	T
0	185.65	202	319	1.75	371.68	366	12	2.81E-02	40.2	4.98E+00	T
0	208.51	93	225	1.05	417.40	413	9	1.29E-02	61.7	4.62E+00	T
0	269.96	69	199	1.59	540.24	535	11	9.62E-03	82.3	3.86E+00	T
0	464.37	79	138	6.56	928.92	920	19	1.09E-02	77.0	2.64E+00	T
0	726.97	52	41	1.98	1453.94	1450	9	7.20E-03	57.0	1.87E+00	T
0	794.56	64	64	1.57	1589.08	1582	16	8.89E-03	61.2	1.73E+00	T
0	933.78	36	35	1.37	1867.44	1863	10	5.00E-03	69.9	1.50E+00	
9	965.07	36	54	3.26	1930.01	1925	27	4.93E-03	75.7	1.45E+00	T
0	1542.87	9	4	0.80	3085.44	3081	8	1.25E-03	***	9.58E-01	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536007.CNF;1
* Acquisition date   : 9-JAN-2010 14:11:18.  Detector SN#      :
* Detector ID        : GAM15                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.21             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243536007             Analyst initials: MXR1
* Batch Number       : 937074                 Sample Quantity : 1.20630E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12.9MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.646E+01	3.488E+00	6.977E-01	5.333E-02	52.264
CD-109	1.431E+00	1.576E+00	1.702E+00	1.968E-01	0.841
SN-126	1.398E-01	1.540E-01	1.676E-01	1.934E-02	0.835
TL-208	4.703E-01	1.136E-01	6.893E-02	4.388E-03	6.824
BI-211	2.774E+00	5.265E-01	3.969E-01	2.727E-02	6.990
PB-212	1.658E+00	1.913E-01	1.122E-01	9.290E-03	14.768
PO-212	1.658E+00	1.913E-01	1.122E-01	9.290E-03	14.768
BI-214	7.694E-01	1.816E-01	1.294E-01	9.606E-03	5.946
PB-214	9.651E-01	1.899E-01	1.383E-01	1.192E-02	6.977
PO-214	9.651E-01	1.899E-01	1.383E-01	1.192E-02	6.977
PO-216	1.658E+00	1.913E-01	1.122E-01	9.290E-03	14.768
PO-218	9.651E-01	1.899E-01	1.383E-01	1.192E-02	6.977
RA-224	4.433E+00	1.753E+00	1.277E+00	8.888E-02	3.471
RA-226	7.694E-01	1.816E-01	1.294E-01	9.606E-03	5.946
AC-228	1.533E+00	3.740E-01	2.679E-01	2.978E-02	5.723
RA-228	1.533E+00	3.740E-01	2.679E-01	2.978E-02	5.723
TH-228	1.689E+00	1.950E-01	1.144E-01	9.469E-03	14.768
TH-230	7.693E-01	1.816E-01	1.294E-01	9.606E-03	5.946

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.533E+00	3.740E-01	2.679E-01	2.978E-02	5.723
U-234	7.693E-01	1.816E-01	1.294E-01	9.606E-03	5.946
NP-237	4.107E-01	4.601E-01	5.015E-01	1.184E-01	0.819
AM-243	3.618E-01	1.269E-01	1.310E-01	1.456E-02	2.761
ANH-511	8.633E-02	7.756E-02	5.902E-02	3.333E-03	1.463

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.375E-01		4.256E-01	7.113E-01	4.740E-02	0.193
NA-22	-8.564E-03		5.927E-02	9.455E-02	6.489E-03	-0.091
NA-24	1.523E+01		3.518E+01	Half-Life	too short	
AL-26	4.993E-06		2.861E-02	4.705E-02	2.815E-03	0.000
TI-44	1.643E-01		6.270E-02	9.728E-02	1.082E-02	1.689
SC-46	-3.542E-02		4.756E-02	7.275E-02	6.102E-03	-0.487
V-48	-7.554E-02		1.024E-01	1.556E-01	1.229E-02	-0.486
CR-51	-3.842E-02		5.174E-01	8.575E-01	6.184E-02	-0.045
MN-52	5.684E-02		4.368E-01	7.305E-01	5.416E-02	0.078
MN-54	-3.120E-03		4.751E-02	7.850E-02	5.884E-03	-0.040
CO-56	1.743E-02		4.719E-02	8.091E-02	6.218E-03	0.215
CO-57	1.523E-02		3.290E-02	5.461E-02	3.927E-03	0.279
CO-58	9.586E-03		4.934E-02	8.344E-02	5.960E-03	0.115
FE-59	-7.463E-03		1.257E-01	2.043E-01	1.546E-02	-0.037
CO-60	-2.908E-02		5.245E-02	7.881E-02	5.949E-03	-0.369
ZN-65	3.971E-02		1.362E-01	1.978E-01	1.285E-02	0.201
GE-68	4.239E-01		1.647E+00	2.760E+00	1.918E-01	0.154
AS-73	1.051E-01		2.245E+00	3.744E+00	5.116E-01	0.028
AS-74	1.809E-01		1.441E-01	2.531E-01	1.361E-02	0.715
SE-75	-8.626E-04		6.005E-02	8.755E-02	6.123E-03	-0.010
BR-77	2.251E-06		1.988E-05	Half-Life	too short	
SR-82	-7.955E-01		5.001E-01	7.089E-01	4.680E-02	-1.122
RB-83	1.684E-02		8.342E-02	1.379E-01	7.762E-03	0.122
RB-84	-6.404E-02		8.908E-02	1.368E-01	1.129E-02	-0.468
KR-85	1.930E+01		1.011E+01	1.666E+01	9.398E-01	1.158
SR-85	1.032E-01		5.404E-02	8.907E-02	5.024E-03	1.158
RB-86	1.223E-01		1.253E+00	2.069E+00	1.439E-01	0.059
Y-88	-1.229E-02		4.105E-02	6.327E-02	3.696E-03	-0.194
ZR-88	-2.061E-02		3.924E-02	6.250E-02	3.544E-03	-0.330
Y-91	-6.086E+00		2.803E+01	4.473E+01	2.705E+00	-0.136
NB-94	2.831E-02		4.117E-02	7.233E-02	4.023E-03	0.391
NB-95	9.565E-03		5.659E-02	9.516E-02	6.133E-03	0.101
NB-95M	1.692E+00		2.676E-01	4.353E-01	3.678E-02	3.887
ZR-95	6.744E-02		9.411E-02	1.653E-01	1.233E-02	0.408
NB-97	-1.367E+00		3.125E+00	Half-Life	too short	
ZR-97	3.919E+02		6.974E+01	Half-Life	too short	
MO-99	2.460E+00		3.687E+01	6.197E+01	8.611E+00	0.040
TC-99M	-1.720E+15		1.449E+15	Half-Life	too short	

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	1.243E-02		4.375E-02	6.922E-02	4.722E-03	0.180
RH-102	2.068E-02		3.623E-02	6.159E-02	3.511E-03	0.336
RU-103	1.225E-02		5.057E-02	8.403E-02	1.058E-02	0.146
RH-106	-2.404E-01		3.960E-01	6.031E-01	6.922E-02	-0.399
RU-106	-2.404E-01		3.952E-01	6.031E-01	3.169E-02	-0.399
AG-108M	-2.309E-02		4.127E-02	6.512E-02	4.049E-03	-0.355
AG-110M	-1.300E-02		4.510E-02	7.072E-02	3.876E-03	-0.184
IN-111	2.027E-01		3.511E+00	5.165E+00	3.596E-01	0.039
IN-113M	5.778E-03		5.637E-02	9.359E-02	5.677E-03	0.062
SN-113	5.778E-03		5.637E-02	9.359E-02	5.677E-03	0.062
IN-114M	1.257E-01		2.628E-01	3.799E-01	2.576E-02	0.331
CD-115	1.355E-05		2.279E-05	Half-Life	too short	
SN-117M	-2.092E-02		8.410E-02	1.343E-01	8.983E-03	-0.156
SB-122	-8.877E-02		6.866E+00	1.111E+01	6.115E-01	-0.008
I-123	-5.525E+02		5.488E+02	Half-Life	too short	
TE-123M	-1.817E-02		3.609E-02	5.693E-02	3.843E-03	-0.319
I-124	-9.006E-01		1.900E+00	2.504E+00	1.339E-01	-0.360
SB-124	-4.954E-02		7.778E-02	1.087E-01	7.638E-03	-0.456
SB-125	8.871E-02		1.179E-01	2.028E-01	1.209E-02	0.438
TE-125M	4.111E+00		1.249E+01	2.069E+01	2.059E+00	0.199
I-126	1.914E-03		2.568E-01	4.128E-01	2.101E-02	0.005
SB-126	-1.508E-01		2.335E-01	3.257E-01	1.890E-02	-0.463
SB-127	-1.641E+00		3.191E+00	5.122E+00	5.457E-01	-0.320
XE-127	-2.680E-02		7.187E-02	1.038E-01	7.109E-03	-0.258
I-131	2.125E-01		2.033E-01	3.565E-01	2.420E-02	0.596
TE-132	-5.240E-02		1.954E+00	3.291E+00	5.168E-01	-0.016
BA-133	2.552E-02		5.792E-02	8.643E-02	1.018E-02	0.295
I-133	-8.218E-02		8.954E-02	Half-Life	too short	
CS-134	1.524E-01	+	9.390E-02	1.142E-01	7.955E-03	1.335
CS-135	2.305E-01		2.225E-01	3.459E-01	2.957E-02	0.666
I-135	-1.329E+14		8.019E+13	Half-Life	too short	
CS-136	-6.128E-03		1.664E-01	2.719E-01	2.096E-02	-0.023
BA-137M	-8.784E-03		4.211E-02	6.639E-02	3.340E-03	-0.132
CS-137	-9.286E-03		4.452E-02	7.018E-02	3.551E-03	-0.132
CE-139	3.691E-02		3.754E-02	6.313E-02	4.198E-03	0.585
BA-140	-1.032E-01		3.792E-01	5.997E-01	1.948E-01	-0.172
LA-140	-1.002E-02		1.194E-01	1.954E-01	1.362E-02	-0.051
CE-141	7.507E-02		8.770E-02	1.469E-01	1.025E-02	0.511
CE-143	8.045E-03	+	1.509E-03	Half-Life	too short	
CE-144	6.912E-02		2.910E-01	4.194E-01	6.164E-02	0.165
PM-144	3.739E-03		4.191E-02	7.075E-02	3.883E-03	0.053
PR-144	2.539E-01		2.846E+00	4.804E+00	2.633E-01	0.053
PM-146	-5.598E-02		5.413E-02	8.164E-02	6.992E-03	-0.686
ND-147	-2.850E-01		8.811E-01	1.394E+00	1.873E-01	-0.204
PM-149	-1.710E-04		2.065E-04	Half-Life	too short	
EU-152	-1.637E-01		1.355E-01	1.844E-01	1.300E-02	-0.888
GD-153	5.154E-02		1.179E-01	1.714E-01	1.645E-02	0.301
EU-154	-2.670E-02		1.650E-01	2.627E-01	2.634E-02	-0.102

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	2.848E-02		1.371E-01	2.263E-01	1.959E-02	0.126
TB-160	-4.854E-02		1.638E-01	2.632E-01	2.164E-02	-0.184
HO-166M	1.146E-03		7.100E-02	1.191E-01	6.770E-03	0.010
TM-171	-5.886E+01		4.827E+01	7.452E+01	8.570E+00	-0.790
LU-176	-4.712E-04		3.015E-02	5.021E-02	3.383E-03	-0.009
LU-177	4.107E+00	+	2.552E+00	3.645E+00	2.505E-01	1.127
LU-177M	-1.798E-01		2.139E-01	3.311E-01	1.887E-02	-0.543
HF-181	-1.356E-02		5.409E-02	8.665E-02	4.933E-03	-0.156
W-181	-6.914E-01		6.452E-01	1.003E+00	1.168E-01	-0.689
TA-182	-3.188E-02		2.767E-01	4.448E-01	2.773E-02	-0.072
RE-183	-2.372E-02		1.408E-01	2.256E-01	1.504E-02	-0.105
RE-184	-9.961E-02		2.808E-01	4.631E-01	3.223E-02	-0.215
OS-185	-9.887E-04		5.315E-02	8.537E-02	4.374E-03	-0.012
RE-188	2.901E-01		2.289E-01	3.884E-01	2.606E-02	0.747
W-188	5.504E-02		1.081E+01	1.571E+01	1.075E+00	0.004
IR-192	1.988E-02		4.504E-02	7.675E-02	5.129E-03	0.259
AU-195	1.877E-01		2.940E-01	4.936E-01	4.626E-02	0.380
TL-200	-6.893E-03		3.603E-03	Half-Life too short		
TL-201	5.283E+00		2.147E+01	3.501E+01	2.330E+00	0.151
TL-202	-2.759E-02		1.112E-01	1.793E-01	1.025E-02	-0.154
HG-203	-4.047E-02		5.523E-02	8.899E-02	6.409E-03	-0.455
BI-207	1.416E-02		6.964E-02	1.161E-01	8.252E-03	0.122
TL-207	-3.721E-01		8.739E-01	1.417E+00	2.382E-01	-0.263
PO-209	6.561E+00		8.216E+00	1.462E+01	1.244E+00	0.449
BI-210	-7.258E+00		1.335E+01	2.117E+01	2.199E+00	-0.343
PB-210	-7.258E+00		1.335E+01	2.117E+01	2.199E+00	-0.343
PO-210	-7.258E+00		1.335E+01	2.117E+01	2.034E+00	-0.343
PB-211	-7.704E-01		1.323E+00	1.896E+00	1.182E+00	-0.406
BI-212	7.317E-01	+	4.212E-01	7.273E-01	5.662E-02	1.006
PO-215	-3.721E-01		8.739E-01	1.417E+00	2.382E-01	-0.263
RN-219	-8.416E-02		5.162E-01	8.415E-01	1.141E-01	-0.100
RN-220	-9.398E-02		3.270E+01	5.306E+01	2.944E+00	-0.002
RA-223	-3.721E-01		8.739E-01	1.417E+00	2.382E-01	-0.263
AC-227	-6.018E-02		4.664E-01	7.779E-01	1.126E-01	-0.077
TH-227	-6.018E-02		4.664E-01	7.779E-01	1.348E-01	-0.077
TH-229	1.675E-02		6.352E-01	1.020E+00	6.937E-02	0.016
PA-231	4.381E-01		1.910E+00	3.230E+00	4.608E-01	0.136
TH-231	-3.721E-01		8.739E-01	1.417E+00	2.382E-01	-0.263
U-231	-3.024E+00		3.095E+00	4.135E+00	4.075E-01	-0.731
PA-233	-3.134E-03		8.032E-02	1.335E-01	9.358E-03	-0.023
PA-234	1.615E-01		3.901E-01	6.647E-01	1.235E-01	0.243
PA-234M	6.505E+00		5.660E+00	1.011E+01	9.323E-01	0.643
TH-234	1.280E+00		2.336E+00	3.905E+00	7.708E-01	0.328
U-235	1.097E-01		2.793E-01	4.483E-01	7.479E-02	0.245
NP-236	-8.591E-02		1.002E-01	1.553E-01	1.037E-02	-0.553
U-238	1.280E+00		2.336E+00	3.905E+00	7.708E-01	0.328
NP-239	-1.736E-01		2.514E-01	3.981E-01	2.992E-02	-0.436
AM-241	-4.168E-01		3.126E-01	4.834E-01	6.152E-02	-0.862

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.661E-02		1.227E-01	2.039E-01	1.780E-02	0.229
AM-246	1.189E-01		1.867E-01	3.229E-01	2.238E-02	0.368
CM-247	-3.531E-02		4.860E-02	7.409E-02	4.213E-03	-0.477
CF-249	-2.439E-02		5.029E-02	8.044E-02	4.612E-03	-0.303
CF-251	-9.028E-02		1.618E-01	2.535E-01	1.699E-02	-0.356

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536007           *
* Acquisition date   : 9-JAN-2010 14:11:18 Detector SN# :                   *
* Detector ID        : GAM15                      Sensitivity      : 5.000    *
* Geometry           : CAN                        Energy tolerance: 1.500    *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000    *
* Elapsed real time  : 0 02:00:01.21             Half life ratio  : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536007              Analyst initials: MXR1        *
* Batch Number       : 937074                  Sample Quantity : 1.2063E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight  : 0.00000    *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 MS Isotope      :                *
* MSD DPM             : 0.000                      MSD Isotope :                *
* LCS DPM             : 0.000                      LCS Isotope  :                *
* LCSD DPM            : 0.000                      LCSD Isotope :                *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.646E+01	3.418E+00	3.483E-01	1.744E+00
CD-109	1.431E+00	1.544E+00	8.785E-01	7.880E-01
SN-126	1.398E-01	1.509E-01	8.651E-02	7.699E-02
TL-208	4.703E-01	1.113E-01	3.480E-02	5.680E-02
BI-211	2.774E+00	5.160E-01	2.016E-01	2.633E-01
PB-212	1.658E+00	1.875E-01	5.727E-02	9.564E-02
PO-212	1.658E+00	1.875E-01	5.727E-02	9.564E-02
BI-214	7.694E-01	1.780E-01	6.528E-02	9.081E-02
PB-214	9.651E-01	1.861E-01	7.025E-02	9.497E-02
PO-214	9.651E-01	1.861E-01	7.025E-02	9.497E-02
PO-216	1.658E+00	1.875E-01	5.727E-02	9.564E-02
PO-218	9.651E-01	1.861E-01	7.025E-02	9.497E-02
RA-224	4.433E+00	1.718E+00	6.515E-01	8.764E-01
RA-226	7.694E-01	1.780E-01	6.528E-02	9.081E-02
AC-228	1.533E+00	3.665E-01	1.345E-01	1.870E-01
RA-228	1.533E+00	3.665E-01	1.345E-01	1.870E-01
TH-228	1.689E+00	1.911E-01	5.837E-02	9.748E-02
TH-230	7.693E-01	1.780E-01	6.528E-02	9.080E-02
TH-232	1.533E+00	3.665E-01	1.345E-01	1.870E-01
U-234	7.693E-01	1.780E-01	6.528E-02	9.080E-02
NP-237	4.107E-01	4.509E-01	2.590E-01	2.300E-01
AM-243	3.618E-01	1.244E-01	6.777E-02	6.346E-02
ANH-511	8.633E-02	7.601E-02	2.984E-02	3.878E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.375E-01	4.171E-01	3.599E-01	2.128E-01 NOT IDENT.
NA-22	-8.564E-03	5.809E-02	4.728E-02	2.964E-02 NOT IDENT.
NA-24	1.523E+07	6.896E+07	0.000E+00	3.518E+07 SHORT HLIF
AL-26	4.993E-06	2.804E-02	2.342E-02	1.430E-02 NOT IDENT.

TI-44	1.643E-01	6.145E-02	5.029E-02	3.135E-02	NOT IDENT.
SC-46	-3.542E-02	4.661E-02	3.654E-02	2.378E-02	FAIL ABUN
V-48	-7.554E-02	1.003E-01	7.803E-02	5.119E-02	NOT IDENT.
CR-51	-3.842E-02	5.071E-01	4.360E-01	2.587E-01	NOT IDENT.
MN-52	5.684E-02	4.281E-01	3.647E-01	2.184E-01	NOT IDENT.
MN-54	-3.120E-03	4.656E-02	3.946E-02	2.376E-02	NOT IDENT.
CO-56	1.743E-02	4.625E-02	4.066E-02	2.360E-02	NOT IDENT.
CO-57	1.523E-02	3.224E-02	2.809E-02	1.645E-02	NOT IDENT.
CO-58	9.586E-03	4.836E-02	4.195E-02	2.467E-02	NOT IDENT.
FE-59	-7.463E-03	1.232E-01	1.024E-01	6.286E-02	NOT IDENT.
CO-60	-2.908E-02	5.140E-02	3.939E-02	2.623E-02	NOT IDENT.
ZN-65	3.971E-02	1.335E-01	9.905E-02	6.811E-02	NOT IDENT.
GE-68	4.239E-01	1.615E+00	1.383E+00	8.237E-01	NOT IDENT.
AS-73	1.051E-01	2.200E+00	1.944E+00	1.122E+00	NOT IDENT.
AS-74	1.809E-01	1.412E-01	1.278E-01	7.204E-02	NOT IDENT.
SE-75	-8.626E-04	5.885E-02	4.462E-02	3.003E-02	NOT IDENT.
BR-77	2.251E+00	3.896E+01	0.000E+00	1.988E+01	SHORT HLIF
SR-82	-7.955E-01	4.901E-01	3.566E-01	2.501E-01	NOT IDENT.
RB-83	1.684E-02	8.175E-02	6.974E-02	4.171E-02	NOT IDENT.
RB-84	-6.404E-02	8.730E-02	6.870E-02	4.454E-02	NOT IDENT.
KR-85	1.930E+01	9.907E+00	8.424E+00	5.054E+00	NOT IDENT.
SR-85	1.032E-01	5.296E-02	4.503E-02	2.702E-02	NOT IDENT.
RB-86	1.223E-01	1.228E+00	1.037E+00	6.267E-01	NOT IDENT.
Y-88	-1.229E-02	4.023E-02	3.149E-02	2.053E-02	NOT IDENT.
ZR-88	-2.061E-02	3.846E-02	3.170E-02	1.962E-02	NOT IDENT.
Y-91	-6.086E+00	2.747E+01	2.238E+01	1.402E+01	NOT IDENT.
NB-94	2.831E-02	4.034E-02	3.643E-02	2.058E-02	NOT IDENT.
NB-95	9.565E-03	5.545E-02	4.788E-02	2.829E-02	NOT IDENT.
NB-95M	1.692E+00	2.622E-01	2.221E-01	1.338E-01	NOT IDENT.
ZR-95	6.744E-02	9.223E-02	8.320E-02	4.706E-02	NOT IDENT.
NB-97	-1.367E+06	6.125E+06	0.000E+00	3.125E+06	SHORT HLIF
ZR-97	3.919E+08	1.367E+08	0.000E+00	6.974E+07	SHORT HLIF
MO-99	2.460E+00	3.614E+01	3.119E+01	1.844E+01	NOT IDENT.
TC-99M	-1.720E+21	2.841E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.243E-02	4.287E-02	3.540E-02	2.187E-02	NOT IDENT.
RH-102	2.068E-02	3.551E-02	3.117E-02	1.812E-02	NOT IDENT.
RU-103	1.225E-02	4.956E-02	4.250E-02	2.529E-02	FAIL ABUN
RH-106	-2.404E-01	3.881E-01	3.042E-01	1.980E-01	NOT IDENT.
RU-106	-2.404E-01	3.873E-01	3.042E-01	1.976E-01	NOT IDENT.
AG-108M	-2.309E-02	4.045E-02	3.299E-02	2.064E-02	NOT IDENT.
AG-110M	-1.300E-02	4.420E-02	3.565E-02	2.255E-02	NOT IDENT.
IN-111	2.027E-01	3.441E+00	2.635E+00	1.756E+00	NOT IDENT.
IN-113M	5.778E-03	5.524E-02	4.747E-02	2.819E-02	NOT IDENT.
SN-113	5.778E-03	5.524E-02	4.747E-02	2.819E-02	NOT IDENT.
IN-114M	1.257E-01	2.575E-01	1.944E-01	1.314E-01	NOT IDENT.
CD-115	1.355E+01	4.467E+01	0.000E+00	2.279E+01	SHORT HLIF
SN-117M	-2.092E-02	8.241E-02	6.888E-02	4.205E-02	NOT IDENT.
SB-122	-8.877E-02	6.728E+00	5.613E+00	3.433E+00	NOT IDENT.
I-123	-5.525E+08	1.076E+09	0.000E+00	5.488E+08	SHORT HLIF
TE-123M	-1.817E-02	3.537E-02	2.919E-02	1.804E-02	NOT IDENT.
I-124	-9.006E-01	1.862E+00	1.264E+00	9.499E-01	NOT IDENT.
SB-124	-4.954E-02	7.623E-02	5.419E-02	3.889E-02	FAIL ABUN
SB-125	8.871E-02	1.155E-01	1.027E-01	5.893E-02	FAIL ABUN
TE-125M	4.111E+00	1.224E+01	1.065E+01	6.247E+00	NOT IDENT.
I-126	1.914E-03	2.517E-01	2.080E-01	1.284E-01	NOT IDENT.
SB-126	-1.508E-01	2.289E-01	1.640E-01	1.168E-01	NOT IDENT.
SB-127	-1.641E+00	3.127E+00	2.581E+00	1.595E+00	NOT IDENT.
XE-127	-2.680E-02	7.044E-02	5.309E-02	3.594E-02	NOT IDENT.
I-131	2.125E-01	1.993E-01	1.810E-01	1.017E-01	NOT IDENT.
TE-132	-5.240E-02	1.915E+00	1.680E+00	9.771E-01	NOT IDENT.
BA-133	2.552E-02	5.676E-02	4.389E-02	2.896E-02	NOT IDENT.
I-133	-8.218E+04	1.755E+05	0.000E+00	8.954E+04	SHORT HLIF
CS-134	1.524E-01	9.202E-02	5.741E-02	4.695E-02	FAIL ABUN
CS-135	2.305E-01	2.181E-01	1.763E-01	1.113E-01	NOT IDENT.
I-135	-1.329E+20	1.572E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.128E-03	1.631E-01	1.363E-01	8.322E-02	FAIL ABUN
BA-137M	-8.784E-03	4.127E-02	3.346E-02	2.106E-02	NOT IDENT.
CS-137	-9.286E-03	4.362E-02	3.537E-02	2.226E-02	NOT IDENT.
CE-139	3.691E-02	3.679E-02	3.235E-02	1.877E-02	NOT IDENT.
BA-140	-1.032E-01	3.716E-01	3.030E-01	1.896E-01	NOT IDENT.
LA-140	-1.002E-02	1.170E-01	9.744E-02	5.972E-02	NOT IDENT.
CE-141	7.507E-02	8.594E-02	7.537E-02	4.385E-02	NOT IDENT.
CE-143	8.045E+03	2.958E+03	0.000E+00	1.509E+03	SHORT HLIF
CE-144	6.912E-02	2.852E-01	2.155E-01	1.455E-01	NOT IDENT.
PM-144	3.739E-03	4.107E-02	3.564E-02	2.095E-02	NOT IDENT.
PR-144	2.539E-01	2.789E+00	2.420E+00	1.423E+00	NOT IDENT.
PM-146	-5.598E-02	5.305E-02	4.134E-02	2.706E-02	NOT IDENT.
ND-147	-2.850E-01	8.635E-01	7.045E-01	4.406E-01	FAIL ABUN

PM-149	-1.710E+02	4.048E+02	0.000E+00	2.065E+02	SHORT HLIF
EU-152	-1.637E-01	1.328E-01	9.371E-02	6.775E-02	FAIL ABUN
GD-153	5.154E-02	1.155E-01	8.840E-02	5.895E-02	NOT IDENT.
EU-154	-2.670E-02	1.617E-01	1.313E-01	8.248E-02	NOT IDENT.
EU-155	2.848E-02	1.343E-01	1.166E-01	6.854E-02	FAIL ABUN
TB-160	-4.854E-02	1.605E-01	1.322E-01	8.191E-02	FAIL ABUN
HO-166M	1.146E-03	6.958E-02	5.998E-02	3.550E-02	FAIL ABUN
TM-171	-5.886E+01	4.731E+01	3.859E+01	2.414E+01	NOT IDENT.
LU-176	-4.712E-04	2.955E-02	2.554E-02	1.507E-02	NOT IDENT.
LU-177	4.107E+00	2.501E+00	1.863E+00	1.276E+00	FAIL ABUN
LU-177M	-1.798E-01	2.097E-01	1.679E-01	1.070E-01	FAIL ABUN
HF-181	-1.356E-02	5.301E-02	4.384E-02	2.704E-02	NOT IDENT.
W-181	-6.914E-01	6.323E-01	5.198E-01	3.226E-01	NOT IDENT.
TA-182	-3.188E-02	2.712E-01	2.225E-01	1.383E-01	FAIL ABUN
RE-183	-2.372E-02	1.380E-01	1.156E-01	7.041E-02	FAIL ABUN
RE-184	-9.961E-02	2.752E-01	2.361E-01	1.404E-01	NOT IDENT.
OS-185	-9.887E-04	5.209E-02	4.304E-02	2.658E-02	NOT IDENT.
RE-188	2.901E-01	2.243E-01	1.992E-01	1.144E-01	NOT IDENT.
W-188	5.504E-02	1.060E+01	7.998E+00	5.406E+00	NOT IDENT.
IR-192	1.988E-02	4.414E-02	3.903E-02	2.252E-02	FAIL ABUN
AU-195	1.877E-01	2.881E-01	2.545E-01	1.470E-01	FAIL ABUN
TL-200	-6.893E+03	7.062E+03	0.000E+00	3.603E+03	SHORT HLIF
TL-201	5.283E+00	2.104E+01	1.794E+01	1.073E+01	NOT IDENT.
TL-202	-2.759E-02	1.089E-01	9.085E-02	5.558E-02	NOT IDENT.
HG-203	-4.047E-02	5.413E-02	4.532E-02	2.762E-02	FAIL ABUN
BI-207	1.416E-02	6.825E-02	5.820E-02	3.482E-02	FAIL ABUN
TL-207	-3.721E-01	8.564E-01	7.206E-01	4.369E-01	FAIL ABUN
PO-209	6.561E+00	8.051E+00	7.341E+00	4.108E+00	NOT IDENT.
BI-210	-7.258E+00	1.308E+01	1.101E+01	6.676E+00	NOT IDENT.
PB-210	-7.258E+00	1.308E+01	1.101E+01	6.676E+00	NOT IDENT.
PO-210	-7.258E+00	1.308E+01	1.101E+01	6.674E+00	NOT IDENT.
PB-211	-7.704E-01	1.296E+00	9.613E-01	6.615E-01	NOT IDENT.
BI-212	7.317E-01	4.127E-01	3.661E-01	2.106E-01	FAIL ABUN
PO-215	-3.721E-01	8.564E-01	7.206E-01	4.369E-01	FAIL ABUN
RN-219	-8.416E-02	5.059E-01	4.267E-01	2.581E-01	FAIL ABUN
RN-220	-9.398E-02	3.205E+01	2.681E+01	1.635E+01	NOT IDENT.
RA-223	-3.721E-01	8.564E-01	7.206E-01	4.369E-01	FAIL ABUN
AC-227	-6.018E-02	4.571E-01	3.966E-01	2.332E-01	NOT IDENT.
TH-227	-6.018E-02	4.571E-01	3.966E-01	2.332E-01	NOT IDENT.
TH-229	1.675E-02	6.225E-01	5.219E-01	3.176E-01	FAIL ABUN
PA-231	4.381E-01	1.872E+00	1.645E+00	9.552E-01	NOT IDENT.
TH-231	-3.721E-01	8.564E-01	7.206E-01	4.369E-01	FAIL ABUN
U-231	-3.024E+00	3.033E+00	2.133E+00	1.547E+00	FAIL ABUN
PA-233	-3.134E-03	7.871E-02	6.791E-02	4.016E-02	FAIL ABUN
PA-234	1.615E-01	3.823E-01	3.336E-01	1.950E-01	FAIL ABUN
PA-234M	6.505E+00	5.547E+00	5.073E+00	2.830E+00	NOT IDENT.
TH-234	1.280E+00	2.289E+00	2.024E+00	1.168E+00	FAIL ABUN
U-235	1.097E-01	2.738E-01	2.301E-01	1.397E-01	FAIL ABUN
NP-236	-8.591E-02	9.821E-02	7.959E-02	5.010E-02	NOT IDENT.
U-238	1.280E+00	2.289E+00	2.024E+00	1.168E+00	FAIL ABUN
NP-239	-1.736E-01	2.464E-01	2.048E-01	1.257E-01	FAIL ABUN
AM-241	-4.168E-01	3.064E-01	2.507E-01	1.563E-01	NOT IDENT.
CM-243	4.661E-02	1.202E-01	1.051E-01	6.134E-02	FAIL ABUN
AM-246	1.189E-01	1.830E-01	1.618E-01	9.334E-02	NOT IDENT.
CM-247	-3.531E-02	4.763E-02	3.757E-02	2.430E-02	NOT IDENT.
CF-249	-2.439E-02	4.928E-02	4.081E-02	2.515E-02	NOT IDENT.
CF-251	-9.028E-02	1.586E-01	1.298E-01	8.091E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
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46.50	253.7219
46.50	253.7219
46.50	253.7219
48.70	250.9229
49.72	262.6998
51.35	273.8441
52.39	272.4176
52.97	268.8767
53.15	275.6086
53.44	274.7878
54.07	261.7438
56.28	278.9056
56.28	278.9068
57.37	0.0000
57.53	269.8839
57.53	269.8850
57.60	278.5277
57.98	273.9035
57.98	273.9035
59.32	325.3330
59.32	325.3330
59.40	325.3731
59.54	332.1623
59.72	332.2541
60.01	326.6364
61.10	292.5332
61.14	292.5506
61.30	292.6208
63.00	283.7126
63.29	285.7643
63.29	285.7643
63.58	291.6815
64.28	302.6158
65.12	352.3539
65.20	352.3945
65.20	352.3945
66.05	368.3352
66.72	372.5684
66.83	372.6284
66.91	372.6709
67.20	349.5232
67.20	349.5232
67.75	334.2486
67.85	334.2959
68.90	303.6473
68.90	303.6473
69.30	311.6077
69.67	314.8865
70.82	331.0003
70.82	331.0003
70.83	331.0055
72.80	372.6013
72.87	372.6362
72.87	372.6362
74.67	366.8694
74.81	366.9379
74.81	366.9379
74.81	366.9379
74.81	366.9379
74.81	366.9379
74.81	366.9379
74.81	366.9379
74.97	367.0163
75.28	367.1675
75.70	367.3716
77.11	354.2761
77.11	354.2761

77.11	354.2761
77.11	354.2761
77.11	354.2761
77.11	354.2761
77.11	354.2761
78.38	376.9428
79.62	424.5427
79.80	424.6411
79.80	424.6411
80.11	426.7859
80.18	426.8238
80.30	426.8897
80.30	426.8897
80.57	430.9904
81.00	411.4456
81.07	419.3952
81.07	419.3952
81.07	419.3952
81.07	419.3952
82.60	380.5635
83.37	382.5169
83.78	387.4781
83.78	387.4781
83.78	387.4781
83.78	387.4781
84.21	401.9849
84.90	410.2805
85.43	416.9133
86.29	368.3698
86.50	368.4644
86.54	368.4827
86.59	368.5053
86.72	368.5632
86.79	368.5942
86.94	368.6620
87.30	368.8243
87.30	368.8243
87.30	368.8243
87.30	368.8243
87.30	368.8243
87.30	368.8243
87.57	368.9442
87.88	0.0000
88.03	369.1503
88.36	369.2971
88.47	369.3465
89.95	370.0014
91.11	370.5124
92.29	371.0275
92.38	371.0670
92.38	371.0670
93.35	290.7644
94.00	297.4160
94.67	347.5208
94.67	347.5222
94.90	347.6145
94.90	347.6145
94.90	347.6145
94.90	347.6145
95.87	344.7811
95.87	344.7811
96.73	293.5144
97.43	290.5192
98.44	308.1647
98.44	308.1647
98.88	290.9960
99.55	269.9812
99.55	269.9812
99.86	270.0749
100.00	275.1750
100.10	279.2544
103.18	293.4054
103.76	286.4805
105.00	305.1785
105.31	296.1219
108.00	310.2471
109.28	303.5157

111.00	328.6373
111.00	328.6373
111.76	340.1701
112.95	307.7625
115.19	285.8529
116.30	313.9716
117.00	336.8589
117.00	336.8589
117.66	322.6523
121.11	309.2882
121.62	277.3626
121.78	277.4066
122.06	286.8017
122.32	282.7320
122.32	282.7320
122.32	282.7320
122.32	282.7320
123.07	279.1411
127.23	313.0193
129.76	299.3840
131.20	300.8364
133.02	269.5433
133.54	278.0500
135.34	291.9385
136.00	295.4746
136.25	295.2635
136.48	293.9261
140.51	321.3516
140.51	0.0000
142.18	323.9460
142.65	309.3040
143.76	302.2145
144.24	288.6004
144.24	288.6004
144.24	288.6004
144.24	288.6004
145.22	288.8524
145.44	291.0252
147.16	309.4859
152.43	308.7777
152.70	297.1357
153.22	289.8093
154.21	274.0586
154.21	274.0586
154.21	274.0586
154.21	274.0586
155.03	267.8480
156.02	299.0466
158.56	280.4239
159.00	0.0000
159.00	280.5258
160.31	295.8400
161.27	258.5300
162.32	269.4910
162.64	263.1201
163.35	277.2429
163.89	267.6913
165.85	239.0473
167.43	256.6056
171.28	246.5866
171.86	236.9632
172.10	233.7616
176.55	279.1134
176.60	279.1232
181.06	292.9541
184.41	298.9515
185.71	275.6231
186.00	275.6827
190.27	221.2567
192.34	248.7327
193.63	245.3549
197.04	248.1760
198.01	252.7680
198.60	259.5001
200.40	0.0000
201.83	273.3900
202.84	274.6955
205.31	269.8557

208.36	242.4159
208.81	229.5891
209.75	247.5513
209.75	247.5513
210.97	238.8494
215.65	250.3577
216.55	251.6298
218.09	239.5810
222.10	237.9905
223.80	221.4056
226.40	229.6728
227.00	224.3584
227.08	224.3705
227.20	224.3872
228.16	221.8264
228.18	221.8294
228.18	221.8294
231.56	0.0000
235.69	205.4070
236.00	202.4272
236.00	202.4272
238.63	212.4567
238.63	212.4567
238.63	212.4567
238.63	212.4567
239.00	0.0000
240.98	212.7780
241.98	212.9137
241.98	212.9137
241.98	212.9137
244.69	157.9868
245.39	161.0962
247.94	187.8863
248.90	181.7617
249.79	0.0000
252.40	181.3457
252.85	183.2288
252.85	183.2288
254.15	0.0000
256.20	189.1167
256.20	189.1167
260.50	193.2977
260.90	0.0000
262.80	192.4159
264.65	161.4862
268.24	174.1647
268.79	168.0550
269.46	181.3885
269.46	181.3885
269.46	181.3885
269.46	181.3885
271.23	205.3555
273.65	211.8355
276.40	177.8846
277.35	192.1505
277.60	192.4883
277.60	192.4883
278.00	197.1843
278.60	201.9064
279.20	210.3549
279.53	211.3245
280.46	205.8494
281.68	0.0000
283.67	168.9053
284.30	177.3689
285.00	180.2425
285.90	0.0000
286.10	181.7054
286.10	181.7054
287.40	182.3602
288.45	0.0000
290.67	171.7676
290.80	171.7810
291.72	187.4951
293.26	0.0000
293.70	213.0453
295.21	213.2254
295.21	213.2254

295.21	213.2254
295.96	249.0230
296.50	236.5673
297.23	0.0000
298.57	156.8481
299.80	145.9672
299.80	145.9672
300.09	139.7125
300.09	139.7125
300.09	139.7125
300.09	139.7125
300.12	139.7144
301.29	165.6116
302.84	207.5283
303.76	0.0000
303.91	201.0447
304.40	197.3203
304.40	197.3203
304.84	176.5931
306.84	150.3163
308.46	141.9324
311.98	155.4757
316.51	145.4023
318.01	167.3934
319.02	169.3868
319.41	173.2288
320.08	155.2002
323.87	182.2264
323.87	182.2264
323.87	182.2264
323.87	182.2264
325.23	155.6240
328.77	164.5212
333.44	167.7966
334.20	164.6655
334.20	164.6655
334.30	164.6738
338.28	132.9702
338.28	132.9702
338.28	132.9702
338.28	132.9702
338.32	132.9736
338.32	132.9736
338.32	132.9736
340.50	113.8742
340.57	113.8785
344.27	165.2846
345.85	143.1312
350.59	0.0000
351.07	129.6407
351.92	129.6947
351.92	129.6947
351.92	129.6947
355.39	0.0000
356.01	113.1476
364.48	111.0220
366.43	116.0018
367.43	133.6135
367.94	0.0000
369.80	143.5296
374.96	103.7537
383.85	108.1241
387.95	135.9061
388.63	123.1430
391.69	120.3588
391.69	120.3588
392.90	129.3097
398.62	104.9079
400.65	126.7984
401.10	127.8158
401.81	126.8656
402.60	130.8785
404.84	132.0032
410.95	101.5156
411.60	112.4951
413.65	122.5631
414.70	104.6757
415.30	104.7039

415.76	110.7100
417.63	0.0000
418.52	94.8678
423.70	129.1149
427.08	110.2618
427.89	105.2871
432.53	121.5761
433.93	119.6377
439.47	0.0000
439.56	117.9126
439.89	115.9139
443.98	109.0481
444.90	111.1105
445.03	111.1172
445.03	111.1172
445.03	111.1172
445.03	111.1172
453.90	118.6310
463.38	93.6509
468.07	96.8914
473.00	96.3574
475.06	91.0316
475.35	99.2261
476.78	102.3547
477.59	97.2683
477.96	97.2834
482.03	93.3394
484.57	0.0000
487.03	84.2772
490.36	0.0000
492.35	0.0000
497.08	79.4542
507.63	0.0000
510.53	0.0000
510.84	100.6292
511.00	100.6357
511.85	91.6744
511.85	91.6744
513.99	83.0938
513.99	83.0938
520.41	78.0927
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	80.4552
529.87	0.0000
531.02	89.9053
537.32	82.7822
543.00	89.2583
546.56	0.0000
549.76	88.4276
552.65	82.1990
555.20	81.2203
563.23	86.7466
563.90	83.5923
568.70	83.7369
569.32	90.1174
569.50	94.3626
569.67	97.5501
573.80	89.6707
574.00	92.0368
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	79.9054
585.48	0.0000
591.81	97.5145
592.07	90.2479
593.00	102.6328
595.88	82.4009
600.56	100.4883
602.52	0.0000
602.71	101.9047
602.71	101.9047
603.60	105.5115
604.41	100.1750
604.70	100.1852
609.31	79.5572

609.31	79.5572
609.31	79.5572
609.31	79.5572
610.33	102.1714
612.46	86.0996
614.37	91.5410
618.01	75.4790
621.84	85.2934
621.84	85.2934
631.29	85.5634
633.02	89.9484
633.10	89.9504
634.78	87.8324
635.90	81.3556
636.97	72.7038
645.85	82.7112
646.12	71.8346
656.30	85.1773
657.75	86.3098
657.90	0.0000
661.65	74.3850
661.65	74.3850
664.57	0.0000
666.33	67.9230
666.33	67.9230
675.00	59.3222
677.61	79.1631
685.20	74.3917
692.80	80.0934
695.00	74.6208
696.49	80.1854
696.49	80.1854
697.00	77.4324
697.49	81.1322
698.33	85.7628
698.50	81.1572
699.00	74.7131
702.63	74.7971
706.10	81.3470
706.58	0.0000
706.67	81.3613
709.31	76.8010
711.68	71.3008
713.82	74.1260
717.42	64.0038
720.50	77.9912
721.93	0.0000
722.20	68.4758
722.78	68.4878
722.78	68.4878
722.89	68.4908
722.95	68.4923
723.30	58.9417
724.18	58.9571
727.18	79.0788
733.00	71.8945
735.90	67.1587
739.58	60.6968
742.81	58.8856
744.21	53.2995
747.13	76.7415
751.79	72.1609
752.31	62.7989
753.82	60.9520
755.35	0.0000
756.15	68.4999
756.87	73.2075
763.93	82.7632
765.79	80.9259
766.42	81.8811
766.84	81.8917
776.49	83.0640
778.00	67.9907
778.57	66.1121
778.89	62.3409
783.80	52.9694
785.46	56.7798
792.07	68.2632

795.84	45.5566
796.30	48.8170
798.80	66.7637
801.93	68.4521
805.60	52.3435
810.29	61.9412
810.76	60.9974
815.85	49.6302
817.79	0.0000
818.51	64.9481
819.60	51.5918
826.30	67.0022
828.27	0.0000
831.60	79.5602
831.96	73.8167
834.83	75.7935
836.80	0.0000
846.75	51.9752
848.13	55.8465
856.28	0.0000
856.80	78.1738
860.37	54.0973
867.32	60.0032
867.82	58.0762
871.10	50.3761
873.19	46.5264
874.81	51.3944
875.33	0.0000
876.40	48.5057
879.36	52.4268
880.27	61.1799
880.51	64.0973
881.50	60.2277
883.24	52.4806
884.67	37.9169
889.25	60.3501
896.60	39.0096
898.02	52.6816
899.00	59.5269
903.28	58.6145
911.07	61.6683
911.07	61.6683
911.07	61.6683
919.63	67.6888
920.93	64.2321
925.00	51.0817
925.24	51.0849
926.50	64.2035
935.52	48.9658
937.48	42.2320
944.10	63.1706
946.00	57.2755
949.00	61.2709
962.29	47.5918
964.01	52.7125
966.15	61.5308
968.20	61.5610
969.11	61.5749
969.11	61.5749
969.11	61.5749
977.42	42.6496
980.50	46.4749
983.50	59.7974
989.30	38.9222
996.32	72.9777
1001.03	39.0317
1001.68	36.0352
1004.76	63.1077
1021.30	0.0000
1024.50	0.0000
1034.80	56.4922
1036.00	58.5263
1037.82	60.5713
1038.57	55.5326
1038.76	0.0000
1045.16	54.6064
1046.59	55.6356
1048.07	54.6416

1050.47	47.5852
1050.47	47.5852
1062.04	53.8022
1063.62	58.8992
1076.63	63.1479
1077.35	56.0272
1078.86	51.9691
1085.78	68.3795
1099.22	59.3735
1112.02	68.9855
1112.84	73.9277
1115.52	61.6406
1120.29	72.2848
1120.29	72.2848
1120.29	72.2848
1120.29	72.2848
1120.51	68.9084
1121.28	56.4286
1124.00	0.0000
1129.67	59.3602
1131.51	0.0000
1147.95	0.0000
1167.94	80.0078
1173.22	73.8572
1175.09	62.4390
1177.93	72.8882
1189.05	58.4473
1204.90	81.6785
1205.75	0.0000
1213.00	73.4237
1221.42	77.7548
1230.97	91.5914
1235.34	77.9746
1236.41	0.0000
1238.25	78.0228
1246.25	67.5885
1260.41	0.0000
1271.85	46.7070
1274.45	55.2267
1274.54	55.2267
1291.56	45.8240
1298.22	0.0000
1312.09	38.5181
1325.50	43.9812
1325.50	43.9812
1332.49	44.0413
1333.61	30.0838
1360.21	35.6359
1362.66	0.0000
1365.15	25.9414
1368.21	23.7931
1368.53	0.0000
1376.25	25.9951
1384.27	32.5427
1394.10	19.5615
1395.20	27.9513
1407.95	29.8850
1434.06	18.7674
1436.60	17.8377
1457.56	0.0000
1460.81	26.4014
1489.15	16.1106
1509.49	21.8753
1596.49	19.3073
1620.62	13.5693
1678.03	0.0000
1691.02	12.7456
1691.02	12.7456
1706.46	0.0000
1750.46	0.0000
1764.49	11.9025
1764.49	11.9025
1764.49	11.9025
1764.49	11.9025
1770.23	12.1611
1771.40	40.7097
1791.20	0.0000
1808.65	7.9888

1836.01

14.0386

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536007

Total Uranium Activity	3.8592E+00	ug/g
Total Uranium Counting Unc.	6.8112E+00	ug/g
Total Uranium Tpu	3.4751E-06	ug/g
Total Uranium Mda	6.0216E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G243536007
*  ANALYST       : MXR1            DETECTOR    : GAM15
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 9-JAN-2010 14:11:18.21  SAMPLE ALQT: 120.630 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.841E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.601E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.177E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.536E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:14:47.28

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536008.CNF;1
Sample date   : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:11:46.
Sample ID     : G243536008 Sample quantity : 1.45700E+02 GRAM
Detector name : GAM18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.66 0.0%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 937074 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.99*	37	479	1.39	125.11	122	8	5.12E-03	106.3	
2	3	75.21*	375	352	1.03	149.55	143	15	5.20E-02	9.6	1.32E+00
3	3	77.45	626	350	0.99	154.01	143	15	8.69E-02	6.3	
4	0	87.23	160	525	0.90	173.57	171	7	2.22E-02	25.0	
5	0	93.29*	176	514	1.39	185.69	182	8	2.44E-02	24.8	
6	0	129.06	124	422	0.76	257.19	253	9	1.73E-02	31.0	
7	0	186.16*	165	383	1.43	371.36	368	9	2.29E-02	23.8	
8	0	209.46	99	412	0.99	417.93	414	10	1.37E-02	39.6	
9	3	238.94*	1558	244	1.22	476.88	470	20	2.16E-01	3.1	1.40E+00
10	3	241.85	355	340	1.77	482.70	470	20	4.93E-02	14.8	
11	0	270.50	112	273	1.41	539.98	535	10	1.55E-02	29.3	
12	2	295.54*	497	175	1.25	590.05	585	22	6.91E-02	6.3	2.40E+00
13	2	300.22	115	205	1.72	599.40	585	22	1.60E-02	26.1	
14	0	328.08	115	208	1.10	655.10	650	11	1.60E-02	25.9	
15	0	338.88*	383	241	1.53	676.70	670	16	5.31E-02	10.6	
16	0	352.11*	851	276	1.38	703.15	695	16	1.18E-01	5.6	
17	0	463.02	93	133	1.62	924.90	921	9	1.29E-02	24.6	
18	0	511.10*	122	276	1.54	1021.04	1013	17	1.69E-02	36.0	
19	0	583.44*	571	109	1.51	1165.67	1159	14	7.94E-02	5.8	
20	0	609.51*	612	144	1.71	1217.80	1210	14	8.50E-02	5.9	
21	0	661.89	227	148	1.49	1322.53	1316	15	3.15E-02	13.4	
22	0	727.19	164	88	1.61	1453.11	1445	14	2.28E-02	14.4	
23	0	770.02	98	190	4.03	1538.73	1531	23	1.36E-02	37.5	
24	0	794.98	104	79	2.93	1588.66	1580	15	1.45E-02	21.0	
25	0	861.66	63	103	1.18	1721.98	1714	14	8.79E-03	36.5	
26	0	911.32*	370	86	1.74	1821.29	1814	15	5.14E-02	7.7	
27	0	969.95*	168	205	1.84	1938.51	1929	15	2.34E-02	20.6	
28	0	1120.42	166	63	1.90	2239.41	2232	14	2.31E-02	12.7	
29	0	1238.59*	71	101	1.52	2475.71	2467	17	9.81E-03	35.2	
30	0	1378.24	39	28	1.17	2754.97	2750	10	5.36E-03	30.9	
31	0	1460.80*	2070	46	2.41	2920.09	2908	20	2.87E-01	2.4	
32	0	1622.14	15	19	1.21	3242.75	3236	11	2.08E-03	62.3	
33	0	1764.51*	113	26	2.14	3527.47	3516	17	1.57E-02	14.6	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536008.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:11:46
Sample ID         : G243536008 Sample quantity : 145.70 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA18 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.66 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.640E+01	2.359E+00	4.569E-01	3.467E-02	57.786
CD-109	+	88.03	*	1.766E+00	8.994E-01	1.216E+00	1.125E-01	1.452
SN-126	+	64.28		3.267E-01	6.964E-01	7.654E-01	1.131E-01	0.427
	+	86.94		7.175E-01	4.666E-01	4.743E-01	1.967E-01	1.513
	+	87.57	*	1.726E-01	8.788E-02	1.167E-01	1.075E-02	1.479
BA-137M	+	661.65	*	1.812E-01	5.051E-02	4.080E-02	3.110E-03	4.442
CS-137	+	661.65	*	1.916E-01	5.340E-02	4.313E-02	3.296E-03	4.442
TL-208		277.35		2.034E-01	2.756E-01	4.626E-01	4.858E-02	0.440
	+	510.84		3.379E-01	2.461E-01	1.474E-01	1.568E-02	2.291
	+	583.14	*	4.447E-01	6.256E-02	3.935E-02	3.085E-03	11.300
	+	860.37		4.495E-01	3.319E-01	3.221E-01	3.603E-02	1.395
BI-211		72.87		1.457E-01	2.676E+00	3.977E+00	3.284E-01	0.037
	+	351.07	*	3.111E+00	4.028E-01	2.216E-01	1.422E-02	14.039
PB-212	+	74.81		1.816E+00	4.177E-01	4.438E-01	5.563E-02	4.092
	+	77.11		1.696E+00	2.581E-01	2.483E-01	2.105E-02	6.832
	+	87.30		7.982E-01	4.142E-01	5.419E-01	7.360E-02	1.473
	+	238.63	*	1.326E+00	1.252E-01	6.587E-02	4.706E-03	20.122
	+	300.09		1.450E+00	7.675E-01	8.274E-01	6.794E-02	1.753
PO-212	+	74.81		1.816E+00	4.177E-01	4.438E-01	5.563E-02	4.092
	+	77.11		1.696E+00	2.581E-01	2.483E-01	2.105E-02	6.832
	+	87.30		7.982E-01	4.142E-01	5.419E-01	7.360E-02	1.473
		115.19		-1.050E+00	2.821E+00	4.473E+00	2.818E-01	-0.235
	+	238.63	*	1.326E+00	1.252E-01	6.587E-02	4.706E-03	20.122
	+	300.09		1.450E+00	7.675E-01	8.274E-01	6.794E-02	1.753
BI-214	+	609.31	*	8.933E-01	1.327E-01	7.955E-02	7.106E-03	11.230
	+	1120.29		1.216E+00	3.311E-01	3.274E-01	3.135E-02	3.713
	+	1764.49		1.088E+00	3.240E-01	2.150E-01	1.307E-02	5.061
PB-214	+	74.81		3.129E+00	6.973E-01	7.647E-01	8.537E-02	4.092
	+	77.11		2.908E+00	4.948E-01	4.257E-01	4.851E-02	6.832
	+	87.30		1.367E+00	7.042E-01	9.283E-01	1.114E-01	1.473
	+	241.98		1.811E+00	5.554E-01	3.960E-01	3.131E-02	4.573
	+	295.21		1.105E+00	1.680E-01	1.452E-01	1.232E-02	7.612
	+	351.92	*	1.082E+00	1.511E-01	7.723E-02	6.389E-03	14.013
PO-214	+	74.81		3.129E+00	6.973E-01	7.647E-01	8.537E-02	4.092

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.908E+00	4.948E-01	4.257E-01	4.851E-02	6.832
	+	87.30		1.367E+00	7.042E-01	9.283E-01	1.114E-01	1.473
	+	241.98		1.811E+00	5.554E-01	3.960E-01	3.131E-02	4.573
	+	295.21		1.105E+00	1.680E-01	1.452E-01	1.232E-02	7.612
	+	351.92	*	1.082E+00	1.511E-01	7.723E-02	6.389E-03	14.013
PO-216	+	74.81		1.816E+00	4.177E-01	4.438E-01	5.563E-02	4.092
	+	77.11		1.696E+00	2.581E-01	2.483E-01	2.105E-02	6.832
	+	87.30		7.982E-01	4.142E-01	5.419E-01	7.360E-02	1.473
	+	238.63	*	1.326E+00	1.252E-01	6.587E-02	4.706E-03	20.122
	+	300.09		1.450E+00	7.675E-01	8.274E-01	6.794E-02	1.753
PO-218	+	74.81		3.129E+00	6.973E-01	7.647E-01	8.537E-02	4.092
	+	77.11		2.908E+00	4.948E-01	4.257E-01	4.851E-02	6.832
	+	87.30		1.367E+00	7.042E-01	9.283E-01	1.114E-01	1.473
	+	241.98		1.811E+00	5.554E-01	3.960E-01	3.131E-02	4.573
	+	295.21		1.105E+00	1.680E-01	1.452E-01	1.232E-02	7.612
	+	351.92	*	1.082E+00	1.511E-01	7.723E-02	6.389E-03	14.013
RA-224	+	240.98	*	3.433E+00	1.035E+00	7.487E-01	4.171E-02	4.586
RA-226	+	609.31	*	8.933E-01	1.327E-01	7.955E-02	7.106E-03	11.230
	+	1120.29		1.216E+00	3.311E-01	3.274E-01	3.135E-02	3.713
	+	1764.49		1.088E+00	3.240E-01	2.150E-01	1.307E-02	5.061
AC-228	+	338.32		1.551E+00	7.122E-01	2.470E-01	1.007E-01	6.280
	+	911.07	*	1.239E+00	2.516E-01	1.475E-01	1.955E-02	8.402
	+	969.11		9.906E-01	4.728E-01	2.922E-01	6.997E-02	3.390
RA-228	+	338.32		1.551E+00	7.122E-01	2.470E-01	1.007E-01	6.280
	+	911.07	*	1.239E+00	2.516E-01	1.475E-01	1.955E-02	8.402
	+	969.11		9.906E-01	4.728E-01	2.922E-01	6.997E-02	3.390
TH-228	+	74.81		1.851E+00	3.895E-01	4.523E-01	3.812E-02	4.092
	+	77.11		1.729E+00	2.630E-01	2.531E-01	2.145E-02	6.832
	+	87.30		8.135E-01	4.142E-01	5.523E-01	5.076E-02	1.473
	+	238.63	*	1.351E+00	1.276E-01	6.714E-02	4.796E-03	20.122
	+	300.09		1.478E+00	1.165E+00	8.433E-01	4.970E-01	1.753
TH-230	+	609.31	*	8.933E-01	1.327E-01	7.955E-02	7.106E-03	11.230
	+	1120.29		1.216E+00	3.311E-01	3.274E-01	3.135E-02	3.713
	+	1764.49		1.088E+00	3.240E-01	2.150E-01	1.307E-02	5.061
TH-232	+	338.32		1.551E+00	3.398E-01	2.470E-01	1.429E-02	6.280
	+	911.07	*	1.239E+00	2.516E-01	1.475E-01	1.955E-02	8.402
	+	969.11		9.906E-01	4.728E-01	2.922E-01	6.997E-02	3.390
TH-234	+	63.29	*	8.253E-01	1.761E+00	1.920E+00	3.385E-01	0.430
	+	92.38		1.196E+00	6.311E-01	7.711E-01	1.390E-01	1.552
U-234	+	609.31	*	8.933E-01	1.327E-01	7.955E-02	7.106E-03	11.230
	+	1120.29		1.216E+00	3.311E-01	3.274E-01	3.135E-02	3.713
	+	1764.49		1.088E+00	3.240E-01	2.150E-01	1.307E-02	5.061
NP-237	+	86.50	*	5.068E-01	2.784E-01	3.213E-01	7.249E-02	1.577
	+	95.87		1.814E-01	8.248E-01	1.212E+00	2.960E-01	0.150
U-238	+	63.29	*	8.253E-01	1.761E+00	1.920E+00	3.385E-01	0.430
	+	92.38		1.196E+00	6.018E-01	7.711E-01	6.554E-02	1.552
AM-243	+	74.67	*	2.944E-01	6.187E-02	7.224E-02	6.028E-03	4.076
	+	86.72		1.900E+01	9.677E+00	1.260E+01	1.152E+00	1.508
		117.66		-7.273E-01	2.979E+00	4.741E+00	2.916E-01	-0.153

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	142.18			-6.280E+00	1.379E+01	2.109E+01	1.162E+00	-0.298
ANH-511	+	511.00	*	7.298E-02	5.280E-02	3.186E-02	2.104E-03	2.291

---- 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	*	-1.316E-03	2.338E-01	3.855E-01	2.794E-02	-0.003
NA-22		1274.54	*	-7.408E-03	3.261E-02	5.260E-02	3.579E-03	-0.141
NA-24		1368.53	*	-2.838E+01	3.261E-02	Half-Life too short		
AL-26		1129.67		-1.698E-01	1.228E+00	1.939E+00	1.295E-01	-0.088
		1808.65	*	-4.685E-03	1.936E-02	3.050E-02	1.780E-03	-0.154
TI-44		67.85		-2.739E-02	4.326E-02	6.579E-02	5.291E-03	-0.416
	+	78.38	*	3.131E-01	4.763E-02	6.813E-02	5.825E-03	4.596
SC-46		889.25	*	-2.197E-02	2.769E-02	4.215E-02	4.701E-03	-0.521
	+	1120.51		2.151E-01	5.682E-02	9.136E-02	6.312E-03	2.354
V-48		944.10		-1.023E+00	7.746E-01	1.111E+00	1.176E-01	-0.921
		983.50	*	7.011E-03	6.171E-02	1.008E-01	9.968E-03	0.070
		1312.09		-6.907E-02	6.924E-02	1.028E-01	7.486E-03	-0.672
CR-51		320.08	*	1.972E-01	2.936E-01	4.894E-01	3.151E-02	0.403
MN-52		744.21		-1.682E-01	2.565E-01	4.053E-01	3.574E-02	-0.415
		848.13		5.891E+00	7.600E+00	1.314E+01	1.375E+00	0.448
		935.52		1.948E-01	3.091E-01	5.241E-01	5.622E-02	0.372
		1246.25		6.802E+00	8.464E+00	1.302E+01	8.371E-01	0.522
		1333.61		-6.044E-01	5.574E+00	9.015E+00	6.810E-01	-0.067
		1434.06	*	4.368E-02	2.588E-01	4.282E-01	3.155E-02	0.102
MN-54		834.83	*	-1.740E-02	2.787E-02	4.383E-02	4.489E-03	-0.397
CO-56		846.75	*	-1.431E-02	2.894E-02	4.574E-02	4.775E-03	-0.313
		977.42		-4.785E-01	2.352E+00	3.447E+00	3.448E-01	-0.139
		1037.82		-3.274E-01	2.252E-01	3.202E-01	2.967E-02	-1.022
		1175.09		-1.067E+00	1.602E+00	2.517E+00	1.397E-01	-0.424
	+	1238.25		1.496E-01	1.058E-01	1.234E-01	8.226E-03	1.212
		1360.21		3.014E-01	6.921E-01	1.180E+00	8.866E-02	0.255
		1771.40		-1.366E+00	3.005E-01	2.324E-01	1.405E-02	-5.876
CO-57		122.06	*	-8.652E-03	2.043E-02	3.219E-02	1.907E-03	-0.269
		136.48		-6.144E-02	1.615E-01	2.529E-01	1.655E-02	-0.243
CO-58		810.76	*	-1.154E-02	2.830E-02	4.522E-02	4.464E-03	-0.255
FE-59		142.65		-1.853E+00	2.288E+00	3.444E+00	1.895E-01	-0.538
		192.34		3.989E-01	7.573E-01	1.250E+00	1.449E-01	0.319
		1099.22	*	-4.736E-02	6.952E-02	1.098E-01	9.042E-03	-0.431
		1291.56		-2.367E-02	9.348E-02	1.500E-01	1.261E-02	-0.158
CO-60		1173.22		6.597E-03	3.021E-02	5.080E-02	2.808E-03	0.130
		1332.49	*	2.512E-04	2.682E-02	4.390E-02	3.317E-03	0.006
ZN-65		1115.52	*	3.307E-02	6.992E-02	1.044E-01	7.356E-03	0.317
GE-68		1077.35	*	-7.459E-01	8.402E-01	1.300E+00	1.032E-01	-0.574
AS-73		53.44	*	8.338E-01	9.249E-01	1.566E+00	1.242E-01	0.532
AS-74		595.88	*	-4.319E-02	7.790E-02	1.214E-01	8.721E-03	-0.356
		634.78		5.384E-02	2.982E-01	4.857E-01	3.616E-02	0.111
SE-75		66.05		-2.547E+00	4.998E+00	7.189E+00	7.120E-01	-0.354

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73	-3.859E-01	7.085E-01	9.982E-01	1.316E-01	-0.387
		121.11	5.890E-02	1.104E-01	1.810E-01	1.690E-02	0.325
		136.00	1.371E-02	3.074E-02	4.988E-02	2.841E-03	0.275
		198.60	3.458E-03	1.369E+00	2.237E+00	1.518E-01	0.002
		264.65 *	-6.115E-04	3.555E-02	5.371E-02	3.072E-03	-0.011
		279.53	4.779E-02	8.105E-02	1.355E-01	8.370E-03	0.353
		303.91	-1.100E+00	1.684E+00	2.256E+00	2.146E-01	-0.488
		400.65	-1.129E-01	1.902E-01	3.003E-01	2.736E-02	-0.376
BR-77	+	87.88	1.209E-03	1.902E-01	Half-Life too short		
		200.40	1.781E-04	1.902E-01	Half-Life too short		
	+	239.00	6.785E-04	1.902E-01	Half-Life too short		
		249.79	1.146E-04	1.902E-01	Half-Life too short		
		281.68	-2.116E-04	1.902E-01	Half-Life too short		
		297.23	1.103E-03	1.902E-01	Half-Life too short		
		303.76	-2.866E-04	1.902E-01	Half-Life too short		
		439.47	-7.803E-05	1.902E-01	Half-Life too short		
		484.57	1.632E-04	1.902E-01	Half-Life too short		
		520.65 *	-7.411E-06	1.902E-01	Half-Life too short		
		574.64	-1.097E-04	1.902E-01	Half-Life too short		
		578.91	5.141E-05	1.902E-01	Half-Life too short		
		585.48	4.988E-03	1.902E-01	Half-Life too short		
		755.35	6.244E-05	1.902E-01	Half-Life too short		
		817.79	-1.080E-04	1.902E-01	Half-Life too short		
SR-82		698.33	-1.248E+01	2.657E+01	4.308E+01	3.508E+00	-0.290
		776.49 *	3.027E-02	3.557E-01	5.102E-01	4.751E-02	0.059
		1395.20	-1.388E+00	8.039E+00	1.282E+01	9.558E-01	-0.108
RB-83		520.41 *	-1.808E-02	4.879E-02	7.795E-02	5.199E-03	-0.232
		529.64	-3.229E-02	7.062E-02	1.117E-01	7.524E-03	-0.289
		552.65	6.582E-02	1.278E-01	2.158E-01	1.487E-02	0.305
RB-84		881.50 *	3.013E-02	5.205E-02	8.874E-02	9.780E-03	0.340
KR-85		513.99 *	2.404E+01	6.349E+00	1.101E+01	7.296E-01	2.183
SR-85		513.99 *	1.285E-01	3.394E-02	5.888E-02	3.901E-03	2.183
RB-86		1076.63 *	-6.653E-01	6.098E-01	9.243E-01	7.358E-02	-0.720
Y-88		898.02	-3.129E-02	3.063E-02	4.405E-02	4.993E-03	-0.710
		1836.01 *	1.767E-03	2.279E-02	3.778E-02	2.152E-03	0.047
ZR-88		392.90 *	-4.911E-03	2.272E-02	3.766E-02	2.166E-03	-0.130
Y-91		1204.90 *	5.721E+00	1.469E+01	2.486E+01	1.470E+00	0.230
NB-94		702.63 *	4.727E-03	2.381E-02	4.020E-02	3.298E-03	0.118
		871.10	-2.941E-03	2.376E-02	3.853E-02	4.179E-03	-0.076
NB-95		765.79 *	7.517E-02	3.332E-02	5.625E-02	5.145E-03	1.336
NB-95M		235.69 *	2.239E-02	1.080E-01	1.580E-01	1.159E-02	0.142
ZR-95		724.18	1.384E-01	7.337E-02	1.214E-01	1.126E-02	1.140
		756.15 *	1.010E-02	4.952E-02	8.326E-02	8.192E-03	0.121
NB-97		657.90 *	5.929E-01	4.952E-02	Half-Life too short		
		1024.50	-9.623E+01	4.952E-02	Half-Life too short		
ZR-97		254.15	-1.366E+02	4.952E-02	Half-Life too short		
		355.39	2.119E+02	4.952E-02	Half-Life too short		
		507.63 *	5.989E+01	4.952E-02	Half-Life too short		
		602.52	4.330E+00	4.952E-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			-2.549E+02	4.952E-02	Half-Life	too short	
	1147.95			-4.214E+01	4.952E-02	Half-Life	too short	
	1362.66			3.032E+01	4.952E-02	Half-Life	too short	
	1750.46			3.536E+00	4.952E-02	Half-Life	too short	
MO-99	140.51			3.119E+01	5.670E+01	8.975E+01	2.413E+01	0.348
	181.06			3.140E+00	3.508E+01	5.495E+01	9.329E+00	0.057
	366.43			1.076E+02	1.526E+02	2.661E+02	1.538E+01	0.404
	739.58	*		6.617E+00	2.044E+01	3.470E+01	5.295E+00	0.191
	778.00			1.127E+01	7.422E+01	1.072E+02	1.001E+01	0.105
TC-99M	140.51	*		9.805E+14	7.422E+01	Half-Life	too short	
RH-101	127.23			1.557E-02	2.744E-02	4.028E-02	2.327E-03	0.387
	198.01	*		2.542E-03	2.457E-02	4.029E-02	2.166E-03	0.063
	325.23			-6.501E-02	1.809E-01	2.470E-01	1.427E-02	-0.263
RH-102	418.52			-2.948E-02	1.990E-01	3.291E-01	1.956E-02	-0.090
	475.06	*		-5.448E-03	2.035E-02	3.304E-02	2.098E-03	-0.165
	631.29			1.920E-03	3.882E-02	6.270E-02	4.654E-03	0.031
	697.49			-9.412E-03	5.247E-02	8.666E-02	7.045E-03	-0.109
	766.84			1.712E-01	8.770E-02	1.437E-01	1.317E-02	1.191
	1046.59			6.602E-02	7.960E-02	1.406E-01	1.213E-02	0.470
	1112.84			1.354E-01	1.753E-01	2.697E-01	1.915E-02	0.502
RU-103	497.08	*		1.377E-03	3.079E-02	5.075E-02	6.590E-03	0.027
	610.33	+		1.035E+01	2.064E+00	2.129E+00	3.413E-01	4.860
RH-106	511.85	+		3.673E-01	2.657E-01	3.230E-01	2.135E-02	1.137
	621.84	*		-1.179E-02	2.168E-01	3.481E-01	4.379E-02	-0.034
	1050.47			-1.226E+00	1.584E+00	2.487E+00	2.125E-01	-0.493
RU-106	511.85	+		3.673E-01	2.657E-01	3.230E-01	2.135E-02	1.137
	621.84	*		-1.179E-02	2.168E-01	3.481E-01	2.562E-02	-0.034
	1050.47			-1.226E+00	1.584E+00	2.487E+00	2.125E-01	-0.493
AG-108M	433.93	*		-1.250E-02	2.260E-02	3.637E-02	2.376E-03	-0.344
	614.37			3.103E-02	3.059E-02	4.645E-02	3.579E-03	0.668
	722.95			1.691E-02	2.909E-02	4.414E-02	3.903E-03	0.383
AG-110M	657.75	*		1.418E-03	2.680E-02	3.903E-02	3.078E-03	0.036
	677.61			-2.733E-02	2.115E-01	3.512E-01	2.849E-02	-0.078
	706.67			-4.995E-02	1.446E-01	2.359E-01	2.008E-02	-0.212
	763.93			8.048E-02	1.237E-01	1.874E-01	1.752E-02	0.430
	884.67			1.083E-04	3.421E-02	5.595E-02	6.318E-03	0.002
	937.48			6.975E-02	8.157E-02	1.404E-01	1.536E-02	0.497
	1384.27			5.364E-02	1.118E-01	1.679E-01	1.302E-02	0.319
IN-111	171.28			3.624E-02	1.810E+00	3.054E+00	1.607E-01	0.012
	245.39	*		-6.049E-01	2.289E+00	3.245E+00	1.814E-01	-0.186
IN-113M	391.69	*		1.597E-02	3.277E-02	5.620E-02	3.448E-03	0.284
SN-113	391.69	*		1.597E-02	3.277E-02	5.620E-02	3.448E-03	0.284
IN-114M	190.27	*		-1.098E-02	1.579E-01	2.320E-01	1.239E-02	-0.047
CD-115	260.90			-1.404E-04	1.579E-01	Half-Life	too short	
	492.35			-1.911E-05	1.579E-01	Half-Life	too short	
	527.90	*		-6.307E-06	1.579E-01	Half-Life	too short	
SN-117M	156.02			1.265E-01	2.042E+00	3.470E+00	1.853E-01	0.036
	158.56	*		2.585E-02	4.947E-02	8.530E-02	4.534E-03	0.303
SB-122	563.90	*		3.613E+00	4.075E+00	6.975E+00	4.860E-01	0.518

---- 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			-8.724E+00	7.890E+01	1.309E+02	1.055E+01	-0.067
	159.00	*		5.300E+02	7.890E+01	Half-Life	too short	
	528.96			-1.775E+04	7.890E+01	Half-Life	too short	
TE-123M	159.00	*		1.742E-02	2.139E-02	3.722E-02	2.008E-03	0.468
I-124	602.71	*		-2.589E-01	1.114E+00	1.522E+00	1.100E-01	-0.170
	722.78			3.028E+00	5.846E+00	8.823E+00	7.498E-01	0.343
	1325.50			-2.064E+01	4.898E+01	7.698E+01	5.745E+00	-0.268
SB-124	1376.25			7.164E+01	5.393E+01	8.633E+01	6.465E+00	0.830
	1509.49			8.861E+00	1.907E+01	3.345E+01	2.396E+00	0.265
	1691.02			5.890E-01	3.787E+00	6.429E+00	4.147E-01	0.092
	602.71			-8.148E-03	3.507E-02	4.790E-02	3.464E-03	-0.170
	645.85			3.325E-02	3.579E-01	5.789E-01	4.693E-02	0.057
	709.31			1.603E+00	1.902E+00	3.337E+00	2.770E-01	0.480
	713.82			-9.910E-01	1.046E+00	1.609E+00	1.908E-01	-0.616
	722.78			1.382E-01	2.668E-01	4.026E-01	3.497E-02	0.343
	968.20			1.567E+01	3.284E+00	5.719E+00	5.816E-01	2.739
	1045.16			2.256E+00	1.796E+00	3.250E+00	2.814E-01	0.694
	1325.50			-1.006E+00	2.387E+00	3.751E+00	2.799E-01	-0.268
	1368.21			-9.644E-01	1.376E+00	2.076E+00	2.656E-01	-0.464
	1436.60			1.417E+00	2.612E+00	4.501E+00	3.314E-01	0.315
	1691.02	*		6.339E-03	4.076E-02	6.919E-02	4.774E-03	0.092
	427.89	*		1.156E-02	6.294E-02	1.058E-01	6.611E-03	0.109
SB-125	463.38		+	5.101E-01	2.539E-01	3.976E-01	2.850E-02	1.283
	600.56			6.669E-02	1.348E-01	2.188E-01	1.743E-02	0.305
	635.90			1.753E-01	1.901E-01	3.245E-01	2.676E-02	0.540
TE-125M	109.28	*		-6.532E+00	7.659E+00	1.191E+01	1.048E+00	-0.549
I-126	388.63			-8.080E-04	1.802E-01	3.021E-01	1.736E-02	-0.003
	666.33	*		7.188E-02	1.817E-01	2.718E-01	2.089E-02	0.264
	753.82			3.443E-01	1.255E+00	2.119E+00	1.900E-01	0.162
SB-126	223.80			-1.067E+00	3.590E+00	5.868E+00	3.225E-01	-0.182
	278.60			2.705E+00	2.243E+00	3.843E+00	2.190E-01	0.704
	296.50		+	1.374E+01	1.904E+00	3.409E+00	1.957E-01	4.031
	414.70			-1.259E-02	6.674E-02	1.103E-01	6.521E-03	-0.114
	415.30			-2.393E+00	5.525E+00	9.003E+00	5.329E-01	-0.266
	555.20			-4.988E-01	3.268E+00	5.263E+00	3.637E-01	-0.095
	573.80			-2.269E-01	8.993E-01	1.435E+00	1.010E-01	-0.158
	593.00			-3.465E-01	8.106E-01	1.273E+00	9.123E-02	-0.272
	656.30			9.821E-01	3.072E+00	4.587E+00	3.481E-01	0.214
	666.33			3.031E-02	7.664E-02	1.146E-01	8.810E-03	0.264
	675.00			-4.124E-01	1.736E+00	2.865E+00	2.238E-01	-0.144
	695.00			-1.589E-02	6.489E-02	1.067E-01	8.637E-03	-0.149
	697.00			-3.993E-02	2.281E-01	3.769E-01	3.061E-02	-0.106
	720.50	*		1.148E-01	1.161E-01	1.842E-01	1.559E-02	0.623
	856.80			1.489E-01	4.583E-01	6.671E-01	7.075E-02	0.223
SB-127	989.30			-8.376E-01	1.126E+00	1.704E+00	1.667E-01	-0.492
	1034.80			8.140E-01	7.407E+00	1.205E+01	1.070E+00	0.068
	1213.00			6.180E-01	4.357E+00	7.254E+00	4.361E-01	0.085
	61.10			4.157E+01	1.118E+02	1.707E+02	2.017E+01	0.244
	252.40			1.353E+00	6.399E+00	1.056E+01	4.422E+00	0.128

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	290.80			-3.185E+01	3.642E+01	4.831E+01	5.133E+00	-0.659
	411.60			2.221E+01	1.804E+01	3.138E+01	4.836E+00	0.708
	444.90			2.072E+00	1.405E+01	2.349E+01	2.879E+00	0.088
	473.00			6.988E-01	2.406E+00	4.036E+00	5.123E-01	0.173
	543.00			2.341E+00	2.070E+01	3.405E+01	4.926E+00	0.069
	603.60			-1.826E+01	2.076E+01	2.649E+01	3.395E+00	-0.689
	685.20	*		-3.332E-01	1.806E+00	2.984E+00	3.634E-01	-0.112
	698.50			-1.160E+01	2.166E+01	3.485E+01	5.748E+00	-0.333
	722.20			3.085E+01	4.128E+01	6.359E+01	7.843E+00	0.485
	783.80			9.010E-01	5.179E+00	8.658E+00	1.220E+00	0.104
XE-127	57.60			-2.114E+00	6.283E+00	1.039E+01	8.006E-01	-0.204
	145.22			2.157E-01	5.699E-01	9.180E-01	5.018E-02	0.235
	172.10			-5.798E-02	8.954E-02	1.470E-01	7.739E-03	-0.394
	202.84	*		-2.473E-02	3.695E-02	5.997E-02	3.237E-03	-0.412
	374.96			8.634E-03	1.395E-01	2.354E-01	1.358E-02	0.037
I-131	80.18			1.122E+00	5.423E+00	8.070E+00	7.061E-01	0.139
	284.30			-5.548E-01	1.499E+00	2.391E+00	1.534E-01	-0.232
	364.48	*		3.336E-02	1.084E-01	1.854E-01	1.205E-02	0.180
	636.97			1.059E+00	1.515E+00	2.553E+00	2.054E-01	0.415
	722.89			3.851E+00	6.890E+00	1.043E+01	8.962E-01	0.369
TE-132	49.72			-1.575E+01	5.173E+01	8.621E+01	9.827E+00	-0.183
	111.76			3.858E+01	5.411E+01	8.958E+01	9.477E+00	0.431
	116.30			-1.173E+01	5.091E+01	8.114E+01	8.440E+00	-0.145
	228.16	*		-7.988E-02	1.145E+00	1.887E+00	2.854E-01	-0.042
BA-133	53.15			9.420E-01	3.957E+00	6.554E+00	5.200E-01	0.144
	79.62			3.479E-01	1.130E+00	1.687E+00	2.570E-01	0.206
	81.00			-7.074E-03	8.374E-02	1.228E-01	1.956E-02	-0.058
	276.40			-5.259E-02	3.161E-01	4.556E-01	5.885E-02	-0.115
	302.84			-6.903E-02	1.164E-01	1.570E-01	1.827E-02	-0.440
	356.01	*		2.107E-03	3.446E-02	4.818E-02	5.565E-03	0.044
	383.85			2.067E-02	2.081E-01	3.510E-01	3.807E-02	0.059
I-133	510.53	+		1.783E+01	2.081E-01	Half-Life	too short	
	529.87	*		-5.113E-02	2.081E-01	Half-Life	too short	
	706.58			-2.506E+00	2.081E-01	Half-Life	too short	
	856.28			-3.030E+00	2.081E-01	Half-Life	too short	
	875.33			-2.173E+00	2.081E-01	Half-Life	too short	
	1236.41			1.451E+01	2.081E-01	Half-Life	too short	
	1298.22			1.377E+00	2.081E-01	Half-Life	too short	
CS-134	475.35			-4.236E-01	1.346E+00	2.179E+00	1.385E-01	-0.194
	563.23			1.023E-01	2.559E-01	4.263E-01	3.012E-02	0.240
	569.32			-1.231E-01	1.457E-01	2.179E-01	1.558E-02	-0.565
	604.70			-1.404E-02	2.898E-02	3.863E-02	2.809E-03	-0.363
	795.84	+	*	1.144E-01	4.925E-02	6.262E-02	6.057E-03	1.827
	801.93			1.908E-01	3.085E-01	4.804E-01	4.687E-02	0.397
	1038.57			-2.991E+00	2.767E+00	4.114E+00	3.620E-01	-0.727
	1167.94			-7.737E-02	1.845E+00	3.047E+00	1.728E-01	-0.025
	1365.15			-1.197E-01	8.852E-01	1.424E+00	1.133E-01	-0.084
CS-135	268.24	*		1.601E-01	1.293E-01	1.983E-01	1.499E-02	0.807
I-135	288.45			1.681E+14	1.293E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		417.63		-1.482E+14	1.293E-01	Half-Life too short		
		546.56		-4.591E+13	1.293E-01	Half-Life too short		
		836.80		1.172E+14	1.293E-01	Half-Life too short		
		1038.76		-1.894E+14	1.293E-01	Half-Life too short		
		1124.00		1.404E+15	1.293E-01	Half-Life too short		
		1131.51		1.565E+13	1.293E-01	Half-Life too short		
		1260.41	*	-5.508E+12	1.293E-01	Half-Life too short		
		1457.56		1.652E+16	1.293E-01	Half-Life too short		
		1678.03		1.263E+14	1.293E-01	Half-Life too short		
		1706.46		-2.591E+13	1.293E-01	Half-Life too short		
		1791.20		3.810E+13	1.293E-01	Half-Life too short		
CS-136		66.91		2.769E-01	9.364E-01	1.398E+00	2.112E-01	0.198
	+	86.29		2.777E+00	1.438E+00	2.003E+00	2.642E-01	1.386
		153.22		2.663E-01	5.757E-01	9.929E-01	6.840E-02	0.268
		163.89		1.735E-01	9.420E-01	1.586E+00	1.084E-01	0.109
		176.55		3.097E-01	3.188E-01	5.550E-01	3.367E-02	0.558
		273.65		-9.248E-02	4.677E-01	6.593E-01	4.299E-02	-0.140
		340.57		5.949E-01	1.324E-01	2.434E-01	1.499E-02	2.444
		818.51		-7.694E-03	6.472E-02	1.057E-01	1.055E-02	-0.073
		1048.07	*	-3.475E-03	9.273E-02	1.547E-01	1.387E-02	-0.022
		1235.34		5.174E-01	6.333E-01	9.511E-01	9.781E-02	0.544
CE-139		165.85	*	-1.914E-03	2.099E-02	3.534E-02	1.855E-03	-0.054
BA-140		162.64		-2.576E-01	6.763E-01	1.116E+00	6.765E-02	-0.231
		304.84		-4.858E-02	1.226E+00	1.727E+00	4.712E-01	-0.028
		423.70		-4.837E-01	1.620E+00	2.641E+00	8.402E-01	-0.183
		537.32	*	-7.887E-02	2.143E-01	3.387E-01	1.108E-01	-0.233
LA-140	+	328.77		7.190E-01	3.751E-01	4.825E-01	3.126E-02	1.490
		432.53		-1.574E-01	1.798E+00	2.975E+00	1.972E-01	-0.053
		487.03		2.064E-02	1.129E-01	1.881E-01	1.342E-02	0.110
		751.79		3.263E-01	1.441E+00	2.428E+00	2.385E-01	0.134
		815.85		6.373E-02	2.742E-01	4.592E-01	4.963E-02	0.139
		867.82		3.845E-01	1.333E+00	1.933E+00	2.157E-01	0.199
		919.63		1.396E+00	2.462E+00	3.799E+00	4.799E-01	0.367
		925.24		-7.237E-03	9.659E-01	1.572E+00	1.780E-01	-0.005
		1596.49	*	-3.335E-02	8.336E-02	1.329E-01	9.115E-03	-0.251
CE-141		145.44	*	1.589E-02	5.204E-02	8.357E-02	4.771E-03	0.190
CE-143		57.37		-4.278E-03	5.204E-02	Half-Life too short		
		231.56		-2.608E-03	5.204E-02	Half-Life too short		
		293.26	*	2.477E-03	5.204E-02	Half-Life too short		
		350.59		1.582E-01	5.204E-02	Half-Life too short		
		490.36		4.661E-03	5.204E-02	Half-Life too short		
		664.57		2.307E-02	5.204E-02	Half-Life too short		
		721.93		4.840E-03	5.204E-02	Half-Life too short		
CE-144		80.11		4.244E-01	1.792E+00	2.671E+00	2.312E-01	0.159
		133.54	*	1.169E-01	1.815E-01	2.655E-01	3.755E-02	0.440
PM-144		476.78		-9.510E-03	4.715E-02	7.684E-02	5.703E-03	-0.124
		618.01		7.118E-03	2.321E-02	3.818E-02	2.907E-03	0.186
		696.49	*	6.585E-03	2.333E-02	3.965E-02	3.220E-03	0.166
		778.57		2.911E-01	1.835E+00	2.652E+00	2.480E-01	0.110

---- 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	*		4.471E-01	1.584E+00	2.692E+00	2.185E-01	0.166
	1489.15			-7.832E+00	8.562E+00	1.220E+01	8.811E-01	-0.642
PM-146	453.90	*		-9.745E-03	3.062E-02	4.977E-02	4.428E-03	-0.196
	633.02			-4.052E-01	1.018E+00	1.574E+00	5.844E-01	-0.257
	735.90			-4.477E-02	9.798E-02	1.562E-01	4.471E-02	-0.287
	747.13			-3.471E-02	6.046E-02	9.591E-02	1.361E-02	-0.362
ND-147	91.11			4.164E-01	3.904E-01	4.807E-01	4.522E-02	0.866
	319.41			1.323E+00	3.009E+00	4.962E+00	2.867E-01	0.267
	439.89			-4.171E-01	5.283E+00	8.594E+00	5.245E-01	-0.049
	531.02	*		-2.153E-01	4.684E-01	7.394E-01	1.032E-01	-0.291
PM-149	285.90	*		1.505E-04	4.684E-01	Half-Life too short		
EU-152	121.78			-5.174E-03	5.849E-02	9.352E-02	7.207E-03	-0.055
	244.69			3.183E-01	2.649E-01	4.088E-01	2.283E-02	0.779
	344.27	*		1.828E-02	8.699E-02	1.042E-01	6.800E-03	0.175
	443.98			6.314E-01	6.764E-01	1.177E+00	7.215E-02	0.536
	778.89			2.927E-02	2.101E-01	3.031E-01	2.834E-02	0.097
	867.32			-7.954E-02	6.568E-01	9.098E-01	9.810E-02	-0.087
	964.01			3.282E-01	2.602E-01	3.989E-01	4.086E-02	0.823
	1085.78			-1.534E-01	2.915E-01	4.673E-01	3.621E-02	-0.328
	1112.02			3.146E-02	2.460E-01	3.675E-01	2.617E-02	0.086
	1407.95			5.335E-02	1.365E-01	2.302E-01	1.710E-02	0.232
GD-153	69.67			-2.015E-01	1.570E+00	2.320E+00	1.883E-01	-0.087
	83.37			6.904E+00	1.328E+01	1.973E+01	1.752E+00	0.350
	97.43	*		-3.588E-02	7.103E-02	1.004E-01	7.847E-03	-0.357
	103.18			-9.577E-02	8.387E-02	1.291E-01	9.311E-03	-0.742
EU-154	123.07			-1.379E-02	4.099E-02	6.476E-02	6.125E-03	-0.213
	247.94			-2.117E-01	3.064E-01	4.213E-01	3.969E-02	-0.503
	591.81			-7.343E-02	4.347E-01	6.756E-01	7.186E-02	-0.109
	723.30			1.111E-01	1.235E-01	1.923E-01	1.813E-02	0.578
	756.87			5.035E-02	5.202E-01	8.684E-01	1.065E-01	0.058
	873.19			1.330E-01	2.026E-01	3.471E-01	4.834E-02	0.383
	996.32			-2.041E-01	2.825E-01	4.276E-01	7.819E-02	-0.477
	1004.76			1.792E-02	1.719E-01	2.798E-01	3.440E-02	0.064
	1274.45	*		-5.594E-03	8.990E-02	1.469E-01	1.467E-02	-0.038
EU-155	48.70			5.620E-01	2.812E+00	4.788E+00	3.632E-01	0.117
	60.01			1.115E+00	4.878E+00	7.408E+00	5.653E-01	0.150
	86.54	+		2.082E-01	1.060E-01	1.517E-01	1.397E-02	1.372
	105.31	*		7.788E-02	8.244E-02	1.384E-01	9.897E-03	0.563
TB-160	86.79	+		5.768E-01	2.937E-01	4.223E-01	3.863E-02	1.366
	197.04			3.961E-02	4.218E-01	7.070E-01	3.797E-02	0.056
	215.65			-1.353E-01	6.030E-01	9.173E-01	5.007E-02	-0.148
	298.57			1.877E-01	8.640E-02	1.525E-01	8.758E-03	1.231
	879.36	*		1.786E-03	9.992E-02	1.637E-01	1.798E-02	0.011
	962.29			2.413E-01	4.743E-01	6.919E-01	7.109E-02	0.349
	966.15			8.418E-01	2.388E-01	3.896E-01	3.976E-02	2.161
	1177.93			-4.832E-02	2.562E-01	4.179E-01	2.334E-02	-0.116
	1271.85			1.642E-01	5.367E-01	9.023E-01	6.098E-02	0.182
HO-166M	80.57			5.347E-02	2.275E-01	3.388E-01	2.944E-02	0.158
	184.41			6.688E-02	2.771E-02	4.530E-02	2.407E-03	1.476

---- 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		-5.118E-02	6.322E-02	9.885E-02	5.638E-03	-0.518
		410.95		2.001E-01	1.755E-01	3.086E-01	1.816E-02	0.648
		711.68	*	1.628E-02	3.812E-02	6.538E-02	5.450E-03	0.249
		752.31		4.734E-02	1.872E-01	3.158E-01	2.824E-02	0.150
		810.29		-3.032E-02	4.132E-02	6.428E-02	6.329E-03	-0.472
		51.35		-2.949E-01	3.411E+01	5.746E+01	4.554E+00	-0.005
		52.39		-1.160E+00	1.771E+01	2.899E+01	2.303E+00	-0.040
		59.40		1.977E+01	2.664E+01	4.149E+01	3.150E+00	0.477
		66.72	*	8.420E+00	2.798E+01	4.183E+01	3.344E+00	0.201
		88.36		4.093E-01	2.084E-01	2.955E-01	2.713E-02	1.385
LU-176	+	201.83		-8.588E-03	2.081E-02	3.415E-02	1.842E-03	-0.251
		306.84	*	-1.050E-02	2.091E-02	2.844E-02	1.637E-03	-0.369
		401.10		-2.065E+00	4.869E+00	7.773E+00	4.518E-01	-0.266
LU-177		112.95		2.960E-01	1.956E+00	3.174E+00	2.045E-01	0.093
	+	208.36	*	2.299E+00	1.827E+00	2.121E+00	1.151E-01	1.084
LU-177M		52.97		1.947E-01	1.837E+00	3.028E+00	2.404E-01	0.064
		54.07		4.962E-01	9.354E-01	1.564E+00	1.237E-01	0.317
		61.30		5.051E-01	1.430E+00	2.182E+00	1.686E-01	0.231
		121.62		1.013E-02	3.065E-01	4.925E-01	2.922E-02	0.021
		147.16		-1.737E-01	5.180E-01	8.087E-01	4.400E-02	-0.215
		171.86		-5.843E-02	3.370E-01	5.641E-01	2.969E-02	-0.104
		218.09		-1.891E-01	6.222E-01	1.019E+00	5.573E-02	-0.186
		268.79		1.068E+00	6.800E-01	1.060E+00	6.011E-02	1.007
		319.02		1.836E-02	1.905E-01	3.084E-01	1.781E-02	0.060
		367.43		-1.251E-01	6.190E-01	1.032E+00	5.958E-02	-0.121
HF-181		413.65	*	-5.919E-02	1.280E-01	2.084E-01	1.231E-02	-0.284
		56.28		-8.002E-01	9.797E-01	1.586E+00	1.236E-01	-0.504
		57.53		-2.735E-01	5.273E-01	8.652E-01	6.671E-02	-0.316
		65.20		-5.111E-01	1.054E+00	1.522E+00	1.207E-01	-0.336
		133.02		4.180E-02	6.070E-02	8.935E-02	5.055E-03	0.468
		136.25		3.574E-02	3.721E-01	5.950E-01	3.332E-02	0.060
		345.85		1.408E-01	2.023E-01	2.232E-01	1.292E-02	0.631
		482.03	*	-1.650E-02	3.171E-02	5.058E-02	3.238E-03	-0.326
		56.28		-3.016E-01	3.676E-01	5.950E-01	4.635E-02	-0.507
		57.53		-1.028E-01	1.980E-01	3.249E-01	2.505E-02	-0.316
TA-182		65.20	*	-1.904E-01	3.928E-01	5.671E-01	4.498E-02	-0.336
		67.75		-8.527E-02	1.062E-01	1.603E-01	1.289E-02	-0.532
		100.10		9.867E-02	1.420E-01	2.368E-01	1.780E-02	0.417
		152.43		-2.868E-01	2.666E-01	4.003E-01	2.154E-02	-0.716
		222.10		-1.109E-02	2.569E-01	4.247E-01	2.331E-02	-0.026
W-181		1001.68		9.411E-01	1.668E+00	2.787E+00	2.660E-01	0.338
	+	1121.28		5.888E-01	1.556E-01	2.489E-01	1.715E-02	2.366
		1189.05		3.741E-03	2.237E-01	3.702E-01	2.117E-02	0.010
		1221.42	*	-1.698E-02	1.446E-01	2.366E-01	1.447E-02	-0.072
		1230.97		1.190E-01	4.129E-01	5.966E-01	3.721E-02	0.199
RE-183		57.98		-1.525E-02	1.960E-01	3.274E-01	2.515E-02	-0.047
		59.32		8.955E-02	1.139E-01	1.777E-01	1.350E-02	0.504
		67.20		-1.119E-01	2.080E-01	2.986E-01	2.394E-02	-0.375
		162.32	*	-3.789E-02	8.354E-02	1.375E-01	7.259E-03	-0.276

---- 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		1.426E+00	1.133E+00	1.335E+00	7.244E-02	1.068
		291.72		-3.264E-01	7.700E-01	1.059E+00	6.068E-02	-0.308
		57.98		-5.493E-02	7.059E-01	1.179E+00	9.057E-02	-0.047
		59.32		3.222E-01	4.098E-01	6.395E-01	4.859E-02	0.504
		67.20		-4.030E-01	7.488E-01	1.075E+00	8.616E-02	-0.375
		161.27		-9.760E-02	2.634E-01	4.398E-01	2.326E-02	-0.222
		216.55		8.567E-02	1.942E-01	3.278E-01	1.791E-02	0.261
		252.85	*	-3.795E-02	1.705E-01	2.769E-01	1.555E-02	-0.137
		318.01		-1.421E-01	3.335E-01	5.250E-01	3.030E-02	-0.271
		792.07		-2.458E-01	8.823E-01	1.220E+00	1.166E-01	-0.201
OS-185		903.28		5.335E-01	7.838E-01	1.217E+00	1.366E-01	0.439
		920.93		2.390E-02	3.140E-01	5.034E-01	5.517E-02	0.047
		59.72		4.533E-02	3.037E-01	4.595E-01	3.495E-02	0.099
		61.14		5.806E-02	1.599E-01	2.441E-01	1.884E-02	0.238
		69.30		3.810E-02	2.842E-01	4.255E-01	3.447E-02	0.090
		592.07		1.699E-01	1.764E+00	2.875E+00	2.059E-01	0.059
		646.12	*	1.605E-03	2.988E-02	4.819E-02	3.624E-03	0.033
		717.42		-4.541E-01	5.606E-01	8.509E-01	7.164E-02	-0.534
		874.81		-3.230E-01	4.236E-01	6.494E-01	7.084E-02	-0.497
		880.27		8.173E-04	5.647E-01	9.239E-01	1.016E-01	0.001
RE-188		155.03	*	7.235E-02	1.294E-01	2.236E-01	1.197E-02	0.324
		477.96		-3.220E-01	2.211E+00	3.615E+00	2.304E-01	-0.089
		633.10		-1.107E+00	2.119E+00	3.282E+00	2.440E-01	-0.337
W-188	+	63.58		3.451E+01	7.345E+01	8.570E+01	6.733E+00	0.403
		227.08		7.819E+00	9.331E+00	1.596E+01	8.793E-01	0.490
IR-192		290.67	*	-5.979E+00	6.382E+00	8.451E+00	4.841E-01	-0.708
	+	295.96		8.748E-01	1.215E-01	2.155E-01	1.257E-02	4.059
		308.46		2.521E-02	7.173E-02	1.180E-01	6.875E-03	0.214
		316.51	*	1.507E-02	2.518E-02	4.188E-02	2.429E-03	0.360
AU-195		468.07		1.300E-02	5.374E-02	7.855E-02	5.598E-03	0.166
		604.41		-2.035E-01	4.054E-01	5.388E-01	6.547E-02	-0.378
		612.46		3.360E+00	8.297E-01	1.369E+00	1.201E-01	2.455
		65.12		-7.456E-02	1.811E-01	2.625E-01	2.081E-02	-0.284
		66.83		3.129E-02	9.282E-02	1.390E-01	1.112E-02	0.225
	+	75.70		9.673E-01	2.033E-01	3.528E-01	2.963E-02	2.742
TL-200		98.88	*	-3.922E-02	1.810E-01	2.917E-01	2.232E-02	-0.134
	+	129.76		5.162E+00	3.213E+00	4.008E+00	2.293E-01	1.288
		367.94	*	-1.844E-03	3.213E+00	Half-Life	too short	
		579.30		1.991E-02	3.213E+00	Half-Life	too short	
TL-201		828.27		1.492E-02	3.213E+00	Half-Life	too short	
		1205.75		6.863E-04	3.213E+00	Half-Life	too short	
		68.90		3.381E+00	1.039E+01	1.667E+01	1.347E+00	0.203
		70.82		3.638E-01	6.028E+00	8.979E+00	7.331E-01	0.041
TL-202		80.30		1.891E+00	1.040E+01	1.545E+01	1.339E+00	0.122
		135.34		2.461E+01	4.836E+01	7.868E+01	4.418E+00	0.313
		167.43	*	-6.696E+00	1.186E+01	1.959E+01	1.028E+00	-0.342
		68.90		1.541E-01	4.734E-01	7.596E-01	6.141E-02	0.203
		70.82		1.653E-02	2.740E-01	4.081E-01	3.332E-02	0.041
		80.30		8.598E-02	4.726E-01	7.024E-01	6.090E-02	0.122

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203	439.56	*		-1.232E-02	6.134E-02	9.909E-02	6.041E-03	-0.124
	70.83			5.499E-02	1.005E+00	1.497E+00	1.994E-01	0.037
	72.87			3.074E-02	5.646E-01	8.393E-01	1.088E-01	0.037
	82.60			-8.743E-01	9.416E-01	1.484E+00	2.059E-01	-0.589
BI-207	279.20	*		3.408E-02	3.155E-02	5.380E-02	3.263E-03	0.633
	72.80			-6.985E-03	1.559E-01	2.306E-01	1.903E-02	-0.030
	74.97		+	5.286E-01	1.111E-01	1.800E-01	1.505E-02	2.937
	84.90			2.886E-01	1.690E-01	2.611E-01	2.350E-02	1.105
	569.67			-2.073E-02	2.296E-02	3.425E-02	2.400E-03	-0.605
	1063.62	*		3.421E-03	3.757E-02	6.314E-02	5.212E-03	0.054
TL-207	1770.23			-6.620E-02	3.758E-01	5.044E-01	3.051E-02	-0.131
	81.07			-1.432E-02	1.846E-01	2.707E-01	2.361E-02	-0.053
	83.78			8.922E-02	1.127E-01	1.692E-01	1.508E-02	0.527
	94.90			5.179E-01	2.088E-01	3.326E-01	2.707E-02	1.557
	122.32			-5.235E-01	1.401E+00	2.211E+00	1.502E-01	-0.237
	144.24			3.398E-02	5.278E-01	8.251E-01	5.758E-02	0.041
	154.21			3.685E-01	2.865E-01	5.059E-01	3.366E-02	0.728
	269.46		+	3.338E-01	1.965E-01	2.515E-01	1.494E-02	1.327
	323.87	*		1.035E-01	5.091E-01	7.260E-01	1.198E-01	0.143
	338.28		+	6.478E+00	1.529E+00	1.721E+00	1.811E-01	3.764
PO-209	445.03			6.909E-01	1.577E+00	2.677E+00	2.801E-01	0.258
	260.50			-3.900E+00	7.238E+00	1.140E+01	6.431E-01	-0.342
	262.80			-1.583E+01	2.003E+01	3.110E+01	1.757E+00	-0.509
	896.60	*		-8.898E-01	4.956E+00	7.973E+00	8.993E-01	-0.112
BI-210	46.50	*		3.824E-02	4.201E+00	7.115E+00	5.505E-01	0.005
PB-210	46.50	*		3.824E-02	4.201E+00	7.115E+00	5.505E-01	0.005
PO-210	46.50	*		3.824E-02	4.201E+00	7.115E+00	4.733E-01	0.005
PB-211	404.84	*		-2.023E-01	6.727E-01	1.088E+00	6.780E-01	-0.186
	427.08			-2.154E-01	1.409E+00	2.315E+00	1.431E+00	-0.093
	831.96			-3.139E-01	8.996E-01	1.408E+00	8.856E-01	-0.223
	727.18	*	+	1.072E+00	3.271E-01	4.598E-01	4.579E-02	2.333
BI-212	785.46			6.874E-01	1.377E+00	2.175E+00	2.056E-01	0.316
	1620.62			7.928E-01	8.506E-01	1.558E+00	1.054E-01	0.509
	81.07			-1.432E-02	1.846E-01	2.707E-01	2.361E-02	-0.053
	83.78			8.922E-02	1.127E-01	1.692E-01	1.508E-02	0.527
PO-215	94.90			5.179E-01	2.088E-01	3.326E-01	2.707E-02	1.557
	122.32			-5.235E-01	1.401E+00	2.211E+00	1.502E-01	-0.237
	144.24			3.398E-02	5.278E-01	8.251E-01	5.758E-02	0.041
	154.21			3.685E-01	2.865E-01	5.059E-01	3.366E-02	0.728
	269.46		+	3.338E-01	1.965E-01	2.515E-01	1.494E-02	1.327
	323.87	*		1.035E-01	5.091E-01	7.260E-01	1.198E-01	0.143
	338.28		+	6.478E+00	1.529E+00	1.721E+00	1.811E-01	3.764
	445.03			6.909E-01	1.577E+00	2.677E+00	2.801E-01	0.258
	271.23		+	4.283E-01	2.532E-01	3.267E-01	2.620E-02	1.311
	401.81	*		-3.461E-02	2.982E-01	4.837E-01	6.585E-02	-0.072
RN-220	549.76	*		-6.819E+00	1.603E+01	2.528E+01	1.737E+00	-0.270
RA-223	81.07			-1.432E-02	1.846E-01	2.707E-01	2.361E-02	-0.053
	83.78			8.922E-02	1.127E-01	1.692E-01	1.508E-02	0.527
	94.90			5.179E-01	2.088E-01	3.326E-01	2.707E-02	1.557

---- 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		-5.235E-01	1.401E+00	2.211E+00	1.502E-01	-0.237
		144.24		3.398E-02	5.278E-01	8.251E-01	5.758E-02	0.041
		154.21		3.685E-01	2.865E-01	5.059E-01	3.366E-02	0.728
	+	269.46		3.338E-01	1.965E-01	2.515E-01	1.494E-02	1.327
		323.87	*	1.035E-01	5.091E-01	7.260E-01	1.198E-01	0.143
	+	338.28		6.478E+00	1.529E+00	1.721E+00	1.811E-01	3.764
		445.03		6.909E-01	1.577E+00	2.677E+00	2.801E-01	0.258
		79.80		5.104E-01	1.387E+00	2.075E+00	4.464E-01	0.246
		236.00		3.219E-01	1.953E-01	3.025E-01	3.121E-02	1.064
		256.20	*	-9.221E-02	2.767E-01	4.461E-01	6.196E-02	-0.207
		286.10		7.988E-01	1.105E+00	1.852E+00	2.134E-01	0.431
	+	299.80		2.688E+00	1.472E+00	1.858E+00	3.022E-01	1.447
TH-227		304.40		-8.948E-01	1.478E+00	1.980E+00	3.421E-01	-0.452
		334.20		1.541E+00	2.120E+00	2.658E+00	4.871E-01	0.580
		79.80		5.104E-01	1.387E+00	2.075E+00	4.521E-01	0.246
	+	94.00		4.623E+00	2.503E+00	3.091E+00	6.689E-01	1.496
		236.00		3.219E-01	1.945E-01	3.025E-01	2.692E-02	1.064
		256.20	*	-9.221E-02	2.769E-01	4.461E-01	7.513E-02	-0.207
		286.10		7.988E-01	1.361E+00	1.852E+00	1.856E+00	0.431
	+	299.80		2.688E+00	1.472E+00	1.858E+00	3.022E-01	1.447
		304.40		-8.948E-01	1.478E+00	1.980E+00	3.421E-01	-0.452
		334.20		1.541E+00	2.120E+00	2.658E+00	4.871E-01	0.580
		85.43		3.173E-01	1.675E-01	2.599E-01	2.349E-02	1.221
	+	88.47		2.356E-01	1.200E-01	1.694E-01	1.552E-02	1.391
PA-231		100.00		9.999E-02	1.439E-01	2.401E-01	1.807E-02	0.417
		193.63	*	-6.631E-02	3.725E-01	6.188E-01	3.313E-02	-0.107
		210.97		1.195E+00	6.566E-01	1.041E+00	5.657E-02	1.149
		283.67	*	-8.876E-01	1.121E+00	1.739E+00	2.391E-01	-0.510
	+	301.29		1.075E+00	5.731E-01	7.003E-01	7.300E-02	1.535
		81.07		-1.432E-02	1.846E-01	2.707E-01	2.361E-02	-0.053
		83.78		8.922E-02	1.127E-01	1.692E-01	1.508E-02	0.527
		94.90		5.179E-01	2.088E-01	3.326E-01	2.707E-02	1.557
		122.32		-5.235E-01	1.401E+00	2.211E+00	1.502E-01	-0.237
		144.24		3.398E-02	5.278E-01	8.251E-01	5.758E-02	0.041
		154.21		3.685E-01	2.865E-01	5.059E-01	3.366E-02	0.728
	+	269.46		3.338E-01	1.965E-01	2.515E-01	1.494E-02	1.327
U-231		323.87	*	1.035E-01	5.091E-01	7.260E-01	1.198E-01	0.143
	+	338.28		6.478E+00	1.529E+00	1.721E+00	1.811E-01	3.764
		445.03		6.909E-01	1.577E+00	2.677E+00	2.801E-01	0.258
		84.21		7.551E+00	9.279E+00	1.393E+01	1.246E+00	0.542
	+	92.29		8.798E+00	4.425E+00	6.030E+00	5.133E-01	1.459
		95.87	*	3.960E-01	1.799E+00	2.646E+00	2.120E-01	0.150
		108.00		-3.395E+00	3.099E+00	4.769E+00	3.243E-01	-0.712
	+	75.28		1.542E+01	3.787E+00	5.287E+00	8.042E-01	2.917
	+	86.59		3.378E+00	1.922E+00	2.467E+00	6.658E-01	1.370
	+	300.12		7.494E-01	4.044E-01	5.176E-01	6.944E-02	1.448
		311.98	*	5.299E-03	4.483E-02	7.282E-02	4.461E-03	0.073
		340.50		2.484E+00	7.627E-01	9.739E-01	2.236E-01	2.551
PA-233		398.62		-7.200E-01	1.435E+00	2.317E+00	5.990E-01	-0.311

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76	-4.356E-01	1.159E+00	1.889E+00	3.894E-01	-0.231
	+	63.00	9.620E-01	2.051E+00	2.448E+00	3.691E-01	0.393
	+	94.67	4.123E-01	2.106E-01	2.480E-01	3.000E-02	1.662
		98.44	-2.862E-02	7.477E-02	1.170E-01	6.512E-02	-0.245
		99.86	2.532E-01	3.645E-01	6.080E-01	4.587E-02	0.416
		111.00	7.625E-02	1.450E-01	2.388E-01	2.561E-02	0.319
		131.20	8.485E-03	9.571E-02	1.366E-01	7.773E-03	0.062
		152.70	-1.011E-01	2.473E-01	3.828E-01	5.994E-02	-0.264
	+	186.00	2.775E+00	1.568E+00	1.857E+00	5.657E-01	1.495
		226.40	2.097E-01	2.857E-01	4.853E-01	5.540E-02	0.432
		227.20	2.331E-01	3.031E-01	5.169E-01	2.849E-02	0.451
		248.90	-8.530E-03	6.094E-01	9.662E-01	2.071E-01	-0.009
		293.70	3.458E+00	8.486E-01	1.152E+00	1.850E-01	3.002
		369.80	2.565E-01	5.726E-01	9.817E-01	2.044E-01	0.261
		568.70	-3.223E-02	6.891E-01	1.116E+00	7.815E-02	-0.029
		569.50	-1.979E-01	2.030E-01	3.009E-01	2.108E-02	-0.658
		574.00	-2.983E-01	1.032E+00	1.643E+00	1.156E-01	-0.182
		699.00	-5.608E-02	4.921E-01	8.158E-01	1.540E-01	-0.069
		706.10	-3.869E-01	7.474E-01	1.173E+00	5.224E-01	-0.330
		733.00	1.656E-01	2.628E-01	3.980E-01	8.840E-02	0.416
		742.81	2.016E-01	8.947E-01	1.493E+00	1.004E+00	0.135
	+	796.30	2.215E+00	1.110E+00	1.199E+00	3.284E-01	1.847
		805.60	1.696E-01	7.682E-01	1.205E+00	3.733E-01	0.141
		819.60	-3.862E-01	8.926E-01	1.403E+00	5.384E-01	-0.275
		826.30	-3.092E-01	6.090E-01	9.392E-01	4.231E-01	-0.329
		831.60	-9.225E-02	4.495E-01	7.274E-01	2.206E-01	-0.127
		876.40	-3.681E-01	7.082E-01	9.328E-01	9.610E-01	-0.395
		880.51	7.460E-02	1.949E-01	3.278E-01	3.608E-02	0.228
		883.24	1.541E-01	2.217E-01	3.394E-01	2.293E-01	0.454
		899.00	-5.532E-01	6.537E-01	8.886E-01	3.938E-01	-0.623
		925.00	1.516E-01	8.061E-01	1.332E+00	1.451E-01	0.114
		926.50	-8.443E-02	1.235E-01	1.866E-01	4.877E-02	-0.452
		946.00 *	-5.943E-02	2.086E-01	3.305E-01	6.520E-02	-0.180
		949.00	1.342E-01	3.072E-01	5.158E-01	5.417E-02	0.260
		980.50	2.753E-01	5.173E-01	8.719E-01	8.672E-02	0.316
		1394.10	-2.134E-01	7.612E-01	1.177E+00	7.642E-01	-0.181
PA-234M		766.42	1.992E+01	1.349E+01	1.513E+01	7.688E+00	1.317
		1001.03 *	5.926E-01	3.730E+00	6.074E+00	6.552E-01	0.098
U-235		89.95	-7.847E-01	1.368E+00	1.493E+00	4.618E-01	-0.526
	+	93.35	1.438E+00	8.189E-01	9.901E-01	2.767E-01	1.453
		105.00	6.895E-01	8.362E-01	1.360E+00	4.002E-01	0.507
		143.76 *	-3.500E-02	1.649E-01	2.547E-01	4.125E-02	-0.137
		163.35	-6.609E-02	3.401E-01	5.647E-01	1.006E-01	-0.117
	+	185.71	1.028E-01	4.919E-02	6.879E-02	3.659E-03	1.494
		205.31	1.085E-01	4.142E-01	6.149E-01	1.098E-01	0.176
NP-236	+	94.67	3.127E-01	1.573E-01	1.883E-01	1.538E-02	1.661
		98.44	-2.166E-02	5.525E-02	8.845E-02	6.811E-03	-0.245
		111.00	5.767E-02	1.096E-01	1.806E-01	1.188E-02	0.319
		160.31 *	1.625E-02	5.772E-02	9.869E-02	5.228E-03	0.165

---- 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		-1.575E-03	1.239E-01	2.013E-01	1.525E-02	-0.008
		117.00	*	5.585E-03	1.506E-01	2.427E-01	1.502E-02	0.023
	+	209.75		1.081E+00	8.594E-01	1.045E+00	5.678E-02	1.034
		228.18		-1.426E-02	1.606E-01	2.645E-01	1.459E-02	-0.054
		277.60		8.502E-02	1.321E-01	2.214E-01	1.261E-02	0.384
		334.30		8.189E-01	1.190E+00	1.497E+00	8.659E-02	0.547
AM-241		59.54	*	1.018E-01	1.532E-01	2.378E-01	1.972E-02	0.428
CM-243		99.55		-1.621E-03	1.275E-01	2.072E-01	1.570E-02	-0.008
		103.76	*	-3.307E-02	7.507E-02	1.194E-01	8.549E-03	-0.277
		117.00		5.748E-03	1.550E-01	2.497E-01	1.546E-02	0.023
	+	209.75		1.066E+00	8.474E-01	1.031E+00	5.599E-02	1.034
		228.18		-1.441E-02	1.623E-01	2.673E-01	1.475E-02	-0.054
		277.60		8.574E-02	1.333E-01	2.232E-01	1.271E-02	0.384
AM-246		798.80		-4.125E-02	1.173E-01	1.604E-01	1.550E-02	-0.257
		1036.00		-1.116E-01	1.954E-01	3.120E-01	2.762E-02	-0.358
		1062.04		-7.173E-02	1.644E-01	2.659E-01	2.204E-02	-0.270
		1078.86	*	-1.905E-02	9.619E-02	1.580E-01	1.250E-02	-0.121
CM-247		278.00		2.125E-01	5.524E-01	9.151E-01	5.213E-02	0.232
		287.40		4.358E-01	8.787E-01	1.462E+00	8.363E-02	0.298
		402.60	*	4.433E-03	2.667E-02	4.388E-02	2.556E-03	0.101
CF-249		252.85		-1.401E-01	6.295E-01	1.022E+00	5.741E-02	-0.137
		333.44		1.329E-01	1.817E-01	1.999E-01	1.156E-02	0.665
CF-251		387.95	*	-8.437E-03	2.830E-02	4.674E-02	2.687E-03	-0.180
		176.60	*	8.607E-02	8.912E-02	1.552E-01	8.195E-03	0.555
		227.00		2.303E-01	2.693E-01	4.608E-01	2.540E-02	0.500
		285.00		2.323E-01	1.250E+00	2.050E+00	1.171E-01	0.113

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536008      *
* Acquisition date   : 9-JAN-2010 14:11:46 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 02:00:01.66 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G243536008 Analyst initials: MXR1                 *
* Batch Number       : 937074 Sample Quantity : 1.4570E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.640E+01	2.312E+00	4.594E-01	0.000E+00
CD-109	1.766E+00	8.814E-01	1.303E+00	0.000E+00
SN-126	1.726E-01	8.612E-02	1.250E-01	0.000E+00
BA-137M	1.812E-01	4.950E-02	4.180E-02	0.000E+00
CS-137	1.916E-01	5.234E-02	4.418E-02	0.000E+00
TL-208	4.447E-01	6.131E-02	4.043E-02	0.000E+00
BI-211	3.111E+00	3.947E-01	2.303E-01	0.000E+00
PB-212	1.326E+00	1.227E-01	6.905E-02	0.000E+00
PO-212	1.326E+00	1.227E-01	6.905E-02	0.000E+00
BI-214	8.933E-01	1.301E-01	8.165E-02	0.000E+00
PB-214	1.082E+00	1.480E-01	8.025E-02	0.000E+00
PO-214	1.082E+00	1.480E-01	8.025E-02	0.000E+00
PO-216	1.326E+00	1.227E-01	6.905E-02	0.000E+00
PO-218	1.082E+00	1.480E-01	8.025E-02	0.000E+00
RA-224	3.433E+00	1.015E+00	7.846E-01	0.000E+00
RA-226	8.933E-01	1.301E-01	8.165E-02	0.000E+00
AC-228	1.239E+00	2.466E-01	1.500E-01	0.000E+00
RA-228	1.239E+00	2.466E-01	1.500E-01	0.000E+00
TH-228	1.351E+00	1.250E-01	7.037E-02	0.000E+00
TH-230	8.933E-01	1.300E-01	8.164E-02	0.000E+00
TH-232	1.239E+00	2.466E-01	1.500E-01	0.000E+00
TH-234	8.253E-01	1.726E+00	2.070E+00	0.000E+00
U-234	8.933E-01	1.300E-01	8.164E-02	0.000E+00
NP-237	5.068E-01	2.729E-01	3.442E-01	0.000E+00
U-238	8.253E-01	1.726E+00	2.070E+00	0.000E+00
AM-243	2.944E-01	6.064E-02	7.763E-02	0.000E+00
ANH-511	7.298E-02	5.175E-02	3.283E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-1.316E-03	2.291E-01	3.979E-01	0.000E+00	NOT IDENT.
NA-22	-7.408E-03	3.196E-02	5.307E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	4.556E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-4.685E-03	1.897E-02	3.051E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.668E-02	7.314E-02	0.000E+00	FAIL ABUN
SC-46	-2.197E-02	2.714E-02	4.288E-02	0.000E+00	FAIL ABUN
V-48	7.011E-03	6.048E-02	1.023E-01	0.000E+00	NOT IDENT.
CR-51	1.972E-01	2.877E-01	5.096E-01	0.000E+00	NOT IDENT.
MN-52	4.368E-02	2.536E-01	4.308E-01	0.000E+00	NOT IDENT.
MN-54	-1.740E-02	2.731E-02	4.465E-02	0.000E+00	NOT IDENT.
CO-56	-1.431E-02	2.837E-02	4.659E-02	0.000E+00	FAIL ABUN
CO-57	-8.652E-03	2.002E-02	3.424E-02	0.000E+00	NOT IDENT.
CO-58	-1.154E-02	2.773E-02	4.611E-02	0.000E+00	NOT IDENT.
FE-59	-4.736E-02	6.813E-02	1.112E-01	0.000E+00	NOT IDENT.
CO-60	2.512E-04	2.629E-02	4.424E-02	0.000E+00	NOT IDENT.
ZN-65	3.307E-02	6.852E-02	1.057E-01	0.000E+00	NOT IDENT.
GE-68	-7.459E-01	8.234E-01	1.316E+00	0.000E+00	NOT IDENT.
AS-73	8.338E-01	9.064E-01	1.695E+00	0.000E+00	NOT IDENT.
AS-74	-4.319E-02	7.634E-02	1.246E-01	0.000E+00	NOT IDENT.
SE-75	-6.115E-04	3.484E-02	5.617E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	2.239E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	3.027E-02	3.486E-01	5.207E-01	0.000E+00	NOT IDENT.
RB-83	-1.808E-02	4.782E-02	8.029E-02	0.000E+00	NOT IDENT.
RB-84	3.013E-02	5.101E-02	9.030E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.222E+00	1.135E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.326E-02	6.066E-02	0.000E+00	NOT IDENT.
RB-86	-6.653E-01	5.976E-01	9.361E-01	0.000E+00	NOT IDENT.
Y-88	1.767E-03	2.233E-02	3.778E-02	0.000E+00	NOT IDENT.
ZR-88	-4.911E-03	2.227E-02	3.904E-02	0.000E+00	NOT IDENT.
Y-91	5.721E+00	1.440E+01	2.511E+01	0.000E+00	NOT IDENT.
NB-94	4.727E-03	2.333E-02	4.112E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	3.265E-02	5.743E-02	0.000E+00	NOT IDENT.
NB-95M	2.239E-02	1.058E-01	1.657E-01	0.000E+00	NOT IDENT.
ZR-95	1.010E-02	4.852E-02	8.502E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.646E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.304E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	6.617E+00	2.003E+01	3.546E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.761E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.542E-03	2.407E-02	4.240E-02	0.000E+00	NOT IDENT.
RH-102	-5.448E-03	1.994E-02	3.410E-02	0.000E+00	NOT IDENT.
RU-103	1.377E-03	3.018E-02	5.233E-02	0.000E+00	FAIL ABUN
RH-106	-1.179E-02	2.125E-01	3.571E-01	0.000E+00	FAIL ABUN
RU-106	-1.179E-02	2.125E-01	3.571E-01	0.000E+00	FAIL ABUN
AG-108M	-1.250E-02	2.215E-02	3.762E-02	0.000E+00	NOT IDENT.
AG-110M	1.418E-03	2.626E-02	3.998E-02	0.000E+00	NOT IDENT.
IN-111	-6.049E-01	2.243E+00	3.400E+00	0.000E+00	NOT IDENT.
IN-113M	1.597E-02	3.212E-02	5.826E-02	0.000E+00	NOT IDENT.
SN-113	1.597E-02	3.212E-02	5.826E-02	0.000E+00	NOT IDENT.
IN-114M	-1.098E-02	1.548E-01	2.444E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.392E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	2.585E-02	4.848E-02	9.021E-02	0.000E+00	NOT IDENT.
SB-122	3.613E+00	3.993E+00	7.171E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.378E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.742E-02	2.096E-02	3.936E-02	0.000E+00	NOT IDENT.
I-124	-2.589E-01	1.092E+00	1.562E+00	0.000E+00	NOT IDENT.
SB-124	6.339E-03	3.994E-02	6.933E-02	0.000E+00	NOT IDENT.
SB-125	1.156E-02	6.168E-02	1.095E-01	0.000E+00	FAIL ABUN
TE-125M	-6.532E+00	7.506E+00	1.269E+01	0.000E+00	NOT IDENT.
I-126	7.188E-02	1.781E-01	2.784E-01	0.000E+00	NOT IDENT.
SB-126	1.148E-01	1.138E-01	1.884E-01	0.000E+00	FAIL ABUN
SB-127	-3.332E-01	1.770E+00	3.054E+00	0.000E+00	NOT IDENT.
XE-127	-2.473E-02	3.621E-02	6.308E-02	0.000E+00	NOT IDENT.
I-131	3.336E-02	1.062E-01	1.926E-01	0.000E+00	NOT IDENT.
TE-132	-7.988E-02	1.122E+00	1.979E+00	0.000E+00	NOT IDENT.
BA-133	2.107E-03	3.377E-02	5.005E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	9.111E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.827E-02	6.388E-02	0.000E+00	FAIL ABUN
CS-135	1.601E-01	1.267E-01	2.073E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.238E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.475E-03	9.087E-02	1.567E-01	0.000E+00	FAIL ABUN
CE-139	-1.914E-03	2.057E-02	3.734E-02	0.000E+00	NOT IDENT.
BA-140	-7.887E-02	2.101E-01	3.486E-01	0.000E+00	NOT IDENT.
LA-140	-3.335E-02	8.170E-02	1.333E-01	0.000E+00	FAIL ABUN
CE-141	1.589E-02	5.100E-02	8.854E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.010E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.169E-01	1.779E-01	2.819E-01	0.000E+00	NOT IDENT.
PM-144	6.585E-03	2.287E-02	4.057E-02	0.000E+00	NOT IDENT.
PR-144	4.471E-01	1.553E+00	2.755E+00	0.000E+00	NOT IDENT.

PM-146	-9.745E-03	3.000E-02	5.143E-02	0.000E+00	NOT IDENT.
ND-147	-2.153E-01	4.590E-01	7.613E-01	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.240E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	1.828E-02	8.525E-02	1.083E-01	0.000E+00	NOT IDENT.
GD-153	-3.588E-02	6.961E-02	1.073E-01	0.000E+00	NOT IDENT.
EU-154	-5.594E-03	8.811E-02	1.482E-01	0.000E+00	NOT IDENT.
EU-155	7.788E-02	8.079E-02	1.477E-01	0.000E+00	FAIL ABUN
TB-160	1.786E-03	9.792E-02	1.666E-01	0.000E+00	FAIL ABUN
HO-166M	1.628E-02	3.736E-02	6.686E-02	0.000E+00	NOT IDENT.
TM-171	8.420E+00	2.742E+01	4.505E+01	0.000E+00	NOT IDENT.
LU-176	-1.050E-02	2.049E-02	2.964E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.790E+00	2.230E+00	0.000E+00	FAIL ABUN
LU-177M	-5.919E-02	1.254E-01	2.158E-01	0.000E+00	NOT IDENT.
HF-181	-1.650E-02	3.107E-02	5.219E-02	0.000E+00	NOT IDENT.
W-181	-1.904E-01	3.849E-01	6.111E-01	0.000E+00	NOT IDENT.
TA-182	-1.698E-02	1.418E-01	2.389E-01	0.000E+00	FAIL ABUN
RE-183	-3.789E-02	8.187E-02	1.454E-01	0.000E+00	FAIL ABUN
RE-184	-3.795E-02	1.671E-01	2.898E-01	0.000E+00	NOT IDENT.
OS-185	1.605E-03	2.929E-02	4.940E-02	0.000E+00	NOT IDENT.
RE-188	7.235E-02	1.268E-01	2.366E-01	0.000E+00	NOT IDENT.
W-188	-5.979E+00	6.254E+00	8.820E+00	0.000E+00	FAIL ABUN
IR-192	1.507E-02	2.467E-02	4.362E-02	0.000E+00	FAIL ABUN
AU-195	-3.922E-02	1.774E-01	3.117E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.795E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-6.696E+00	1.163E+01	2.069E+01	0.000E+00	NOT IDENT.
TL-202	-1.232E-02	6.011E-02	1.025E-01	0.000E+00	NOT IDENT.
HG-203	3.408E-02	3.092E-02	5.619E-02	0.000E+00	NOT IDENT.
BI-207	3.421E-03	3.682E-02	6.397E-02	0.000E+00	FAIL ABUN
TL-207	1.035E-01	4.989E-01	7.559E-01	0.000E+00	FAIL ABUN
PO-209	-8.898E-01	4.856E+00	8.110E+00	0.000E+00	NOT IDENT.
BI-210	3.824E-02	4.117E+00	7.722E+00	0.000E+00	NOT IDENT.
PB-210	3.824E-02	4.117E+00	7.722E+00	0.000E+00	NOT IDENT.
PO-210	3.824E-02	4.117E+00	7.722E+00	0.000E+00	NOT IDENT.
PB-211	-2.023E-01	6.593E-01	1.127E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.206E-01	4.700E-01	0.000E+00	FAIL ABUN
PO-215	1.035E-01	4.989E-01	7.559E-01	0.000E+00	FAIL ABUN
RN-219	-3.461E-02	2.922E-01	5.012E-01	0.000E+00	FAIL ABUN
RN-220	-6.819E+00	1.571E+01	2.601E+01	0.000E+00	NOT IDENT.
RA-223	1.035E-01	4.989E-01	7.559E-01	0.000E+00	FAIL ABUN
AC-227	-9.221E-02	2.712E-01	4.668E-01	0.000E+00	FAIL ABUN
TH-227	-9.221E-02	2.713E-01	4.668E-01	0.000E+00	FAIL ABUN
TH-229	-6.631E-02	3.651E-01	6.515E-01	0.000E+00	FAIL ABUN
PA-231	-8.876E-01	1.098E+00	1.816E+00	0.000E+00	FAIL ABUN
TH-231	1.035E-01	4.989E-01	7.559E-01	0.000E+00	FAIL ABUN
U-231	3.960E-01	1.763E+00	2.829E+00	0.000E+00	FAIL ABUN
PA-233	5.299E-03	4.393E-02	7.588E-02	0.000E+00	FAIL ABUN
PA-234	-5.943E-02	2.044E-01	3.358E-01	0.000E+00	FAIL ABUN
PA-234M	5.926E-01	3.656E+00	6.162E+00	0.000E+00	NOT IDENT.
U-235	-3.500E-02	1.616E-01	2.699E-01	0.000E+00	FAIL ABUN
NP-236	1.625E-02	5.656E-02	1.043E-01	0.000E+00	FAIL ABUN
NP-239	5.585E-03	1.476E-01	2.583E-01	0.000E+00	FAIL ABUN
AM-241	1.018E-01	1.502E-01	2.567E-01	0.000E+00	NOT IDENT.
CM-243	-3.307E-02	7.357E-02	1.275E-01	0.000E+00	FAIL ABUN
AM-246	-1.905E-02	9.426E-02	1.600E-01	0.000E+00	NOT IDENT.
CM-247	4.433E-03	2.613E-02	4.547E-02	0.000E+00	NOT IDENT.
CF-249	-8.437E-03	2.773E-02	4.847E-02	0.000E+00	NOT IDENT.
CF-251	8.607E-02	8.734E-02	1.637E-01	0.000E+00	NOT IDENT.

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536008.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:11:46.
Sample ID          : G243536008 Sample quantity : 1.45700E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.66 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	2070	10.67*	1.893E+00	2.640E+01	2.640E+01	8.94
CD-109	88.03	160	3.72*	6.440E+00	1.716E+00	1.766E+00	50.92
SN-126	64.28	37	9.60	3.031E+00	3.267E-01	3.267E-01	213.17
	86.94	160	8.90	6.440E+00	7.175E-01	7.175E-01	65.03
	87.57	160	37.00*	6.440E+00	1.726E-01	1.726E-01	50.92
BA-137M	661.65	227	89.98*	3.586E+00	1.810E-01	1.812E-01	27.87
CS-137	661.65	227	85.12*	3.586E+00	1.914E-01	1.916E-01	27.87
TL-208	277.35	-----	6.80	6.258E+00	-----	Line Not Found	-----
	510.84	122	21.60	4.308E+00	3.379E-01	3.379E-01	72.83
	583.14	571	84.20*	3.932E+00	4.447E-01	4.447E-01	14.07
	860.37	63	12.46	2.911E+00	4.495E-01	4.495E-01	73.85
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	851	12.94*	5.449E+00	3.111E+00	3.111E+00	12.95
PB-212	74.81	375	10.70	4.967E+00	1.816E+00	1.816E+00	23.00
	77.11	626	18.00	5.280E+00	1.696E+00	1.696E+00	15.21
	87.30	160	8.00	6.440E+00	7.982E-01	7.982E-01	51.89
	238.63	1558	44.60*	6.789E+00	1.326E+00	1.326E+00	9.44
	300.09	115	3.41	5.983E+00	1.450E+00	1.450E+00	52.91
PO-212	74.81	375	10.70	4.967E+00	1.816E+00	1.816E+00	23.00
	77.11	626	18.00	5.280E+00	1.696E+00	1.696E+00	15.21
	87.30	160	8.00	6.440E+00	7.982E-01	7.982E-01	51.89
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1558	44.60*	6.789E+00	1.326E+00	1.326E+00	9.44
	300.09	115	3.41	5.983E+00	1.450E+00	1.450E+00	52.91
BI-214	609.31	612	46.30*	3.811E+00	8.933E-01	8.933E-01	14.85
	1120.29	166	15.10	2.334E+00	1.216E+00	1.216E+00	27.24
	1764.49	113	15.80	1.694E+00	1.088E+00	1.088E+00	29.78
PB-214	74.81	375	6.21	4.967E+00	3.129E+00	3.129E+00	22.28
	77.11	626	10.50	5.280E+00	2.908E+00	2.908E+00	17.01
	87.30	160	4.67	6.440E+00	1.367E+00	1.367E+00	51.50
	241.98	355	7.49	6.746E+00	1.811E+00	1.811E+00	30.67
	295.21	497	19.20	6.037E+00	1.105E+00	1.105E+00	15.20

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	851	37.20*	5.449E+00	1.082E+00	1.082E+00	13.96
	74.81	375	6.21	4.967E+00	3.129E+00	3.129E+00	22.28
	77.11	626	10.50	5.280E+00	2.908E+00	2.908E+00	17.01
	87.30	160	4.67	6.440E+00	1.367E+00	1.367E+00	51.50
	241.98	355	7.49	6.746E+00	1.811E+00	1.811E+00	30.67
PO-216	295.21	497	19.20	6.037E+00	1.105E+00	1.105E+00	15.20
	351.92	851	37.20*	5.449E+00	1.082E+00	1.082E+00	13.96
	74.81	375	10.70	4.967E+00	1.816E+00	1.816E+00	23.00
	77.11	626	18.00	5.280E+00	1.696E+00	1.696E+00	15.21
	87.30	160	8.00	6.440E+00	7.982E-01	7.982E-01	51.89
PO-218	238.63	1558	44.60*	6.789E+00	1.326E+00	1.326E+00	9.44
	300.09	115	3.41	5.983E+00	1.450E+00	1.450E+00	52.91
	74.81	375	6.21	4.967E+00	3.129E+00	3.129E+00	22.28
	77.11	626	10.50	5.280E+00	2.908E+00	2.908E+00	17.01
	87.30	160	4.67	6.440E+00	1.367E+00	1.367E+00	51.50
RA-224	241.98	355	7.49	6.746E+00	1.811E+00	1.811E+00	30.67
	295.21	497	19.20	6.037E+00	1.105E+00	1.105E+00	15.20
	351.92	851	37.20*	5.449E+00	1.082E+00	1.082E+00	13.96
	240.98	355	3.95*	6.746E+00	3.433E+00	3.433E+00	30.16
	609.31	612	46.30*	3.811E+00	8.933E-01	8.933E-01	14.85
AC-228	1120.29	166	15.10	2.334E+00	1.216E+00	1.216E+00	27.24
	1764.49	113	15.80	1.694E+00	1.088E+00	1.088E+00	29.78
	338.32	383	11.40	5.575E+00	1.551E+00	1.551E+00	45.91
	911.07	370	27.70*	2.779E+00	1.239E+00	1.239E+00	20.30
	969.11	168	16.60	2.637E+00	9.906E-01	9.906E-01	47.72
RA-228	338.32	383	11.40	5.575E+00	1.551E+00	1.551E+00	45.91
	911.07	370	27.70*	2.779E+00	1.239E+00	1.239E+00	20.30
	969.11	168	16.60	2.637E+00	9.906E-01	9.906E-01	47.72
	74.81	375	10.70	4.967E+00	1.816E+00	1.816E+00	21.04
	77.11	626	18.00	5.280E+00	1.696E+00	1.729E+00	15.21
TH-228	87.30	160	8.00	6.440E+00	7.982E-01	8.135E-01	50.92
	238.63	1558	44.60*	6.789E+00	1.326E+00	1.351E+00	9.44
	300.09	115	3.41	5.983E+00	1.450E+00	1.478E+00	78.77
	609.31	612	46.30*	3.811E+00	8.933E-01	8.933E-01	14.85
	1120.29	166	15.10	2.334E+00	1.216E+00	1.216E+00	27.24
TH-230	1764.49	113	15.80	1.694E+00	1.088E+00	1.088E+00	29.78
	338.32	383	11.40	5.575E+00	1.551E+00	1.551E+00	21.90
	911.07	370	27.70*	2.779E+00	1.239E+00	1.239E+00	20.30
	969.11	168	16.60	2.637E+00	9.906E-01	9.906E-01	47.72
	63.29	37	3.80*	3.031E+00	8.253E-01	8.253E-01	213.39
TH-234	92.38	176	5.41	6.986E+00	1.196E+00	1.196E+00	52.75
	609.31	612	46.30*	3.811E+00	8.933E-01	8.933E-01	14.85
	1120.29	166	15.10	2.334E+00	1.216E+00	1.216E+00	27.24
	1764.49	113	15.80	1.694E+00	1.088E+00	1.088E+00	29.78
	86.50	160	12.60*	6.440E+00	5.068E-01	5.068E-01	54.94
NP-237	95.87	---	2.60	7.180E+00	-----	Line Not Found	-----
	63.29	37	3.80*	3.031E+00	8.253E-01	8.253E-01	213.39
	92.38	176	5.41	6.986E+00	1.196E+00	1.196E+00	50.30
	74.67	375	66.00*	4.967E+00	2.944E-01	2.944E-01	21.01

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	160	0.34	6.440E+00	1.900E+01	1.900E+01	50.92
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	122	100.00*	4.308E+00	7.298E-02	7.298E-02	72.35

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	2.640E+01	2.640E+01	0.236E+01	8.94	
CD-109	464.00D	1.03	1.716E+00	1.766E+00	0.899E+00	50.92	
SN-126	1.00E+05Y	1.00	1.726E-01	1.726E-01	0.879E-01	50.92	
BA-137M	30.17Y	1.00	1.810E-01	1.812E-01	0.505E-01	27.87	
CS-137	30.17Y	1.00	1.914E-01	1.916E-01	0.534E-01	27.87	
TL-208	1.41E+10Y	1.00	4.447E-01	4.447E-01	0.626E-01	14.07	
BI-211	7.04E+08Y	1.00	3.111E+00	3.111E+00	0.403E+00	12.95	
PB-212	1.41E+10Y	1.00	1.326E+00	1.326E+00	0.125E+00	9.44	
PO-212	1.41E+10Y	1.00	1.326E+00	1.326E+00	0.125E+00	9.44	
BI-214	1600.00Y	1.00	8.933E-01	8.933E-01	1.327E-01	14.85	
PB-214	1600.00Y	1.00	1.082E+00	1.082E+00	0.151E+00	13.96	
PO-214	1600.00Y	1.00	1.082E+00	1.082E+00	0.151E+00	13.96	
PO-216	1.41E+10Y	1.00	1.326E+00	1.326E+00	0.125E+00	9.44	
PO-218	1600.00Y	1.00	1.082E+00	1.082E+00	0.151E+00	13.96	
RA-224	1.41E+10Y	1.00	3.433E+00	3.433E+00	1.035E+00	30.16	
RA-226	1600.00Y	1.00	8.933E-01	8.933E-01	1.327E-01	14.85	
AC-228	1.41E+10Y	1.00	1.239E+00	1.239E+00	0.252E+00	20.30	
RA-228	1.41E+10Y	1.00	1.239E+00	1.239E+00	0.252E+00	20.30	
TH-228	1.91Y	1.02	1.326E+00	1.351E+00	0.128E+00	9.44	
TH-230	4.47E+09Y	1.00	8.933E-01	8.933E-01	1.327E-01	14.85	
TH-232	1.41E+10Y	1.00	1.239E+00	1.239E+00	0.252E+00	20.30	
TH-234	4.47E+09Y	1.00	8.253E-01	8.253E-01	17.61E-01	213.39	
U-234	4.47E+09Y	1.00	8.933E-01	8.933E-01	1.327E-01	14.85	
NP-237	2.14E+06Y	1.00	5.068E-01	5.068E-01	2.784E-01	54.94	
U-238	4.47E+09Y	1.00	8.253E-01	8.253E-01	17.61E-01	213.39	
AM-243	7380.00Y	1.00	2.944E-01	2.944E-01	0.619E-01	21.01	
ANH-511	1.00E+09Y	1.00	7.298E-02	7.298E-02	5.280E-02	72.35	
Total Activity :			5.402E+01	5.409E+01			

Grand Total Activity : 5.402E+01 5.409E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.06	124	422	0.76	257.19	253	9	1.73E-02	62.0	8.25E+00	T
0	186.16	165	383	1.43	371.36	368	9	2.29E-02	47.6	7.64E+00	T
0	209.46	99	412	0.99	417.93	414	10	1.37E-02	79.3	7.25E+00	T
0	270.50	112	273	1.41	539.98	535	10	1.55E-02	58.6	6.35E+00	T
0	328.08	115	208	1.10	655.10	650	11	1.60E-02	51.8	5.68E+00	T
0	463.02	93	133	1.62	924.90	921	9	1.29E-02	49.3	4.60E+00	T
0	727.19	164	88	1.61	1453.11	1445	14	2.28E-02	28.8	3.34E+00	T
0	770.02	98	190	4.03	1538.73	1531	23	1.36E-02	74.9	3.19E+00	
0	794.98	104	79	2.93	1588.66	1580	15	1.45E-02	42.0	3.11E+00	T
0	1238.59	71	101	1.52	2475.71	2467	17	9.81E-03	70.4	2.15E+00	T
0	1378.24	39	28	1.17	2754.97	2750	10	5.36E-03	61.8	1.97E+00	
0	1622.14	15	19	1.21	3242.75	3236	11	2.08E-03	****	1.77E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536008.CNF;1
* Acquisition date   : 9-JAN-2010 14:11:46. 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 02:00:01.66 Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243536008 Analyst initials: MXR1
* Batch Number       : 937074 Sample Quantity : 1.45700E+02 GRAM
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23.2MS Isotope      :
* MSD ID              : MSD Isotope      :
* LCS ID              : 1032-A LCS Isotope :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.640E+01	2.359E+00	4.569E-01	3.467E-02	57.786
CD-109	1.766E+00	8.994E-01	1.216E+00	1.125E-01	1.452
SN-126	1.726E-01	8.788E-02	1.167E-01	1.075E-02	1.479
BA-137M	1.812E-01	5.051E-02	4.080E-02	3.110E-03	4.442
CS-137	1.916E-01	5.340E-02	4.313E-02	3.296E-03	4.442
TL-208	4.447E-01	6.256E-02	3.935E-02	3.085E-03	11.300
BI-211	3.111E+00	4.028E-01	2.216E-01	1.422E-02	14.039
PB-212	1.326E+00	1.252E-01	6.587E-02	4.706E-03	20.122
PO-212	1.326E+00	1.252E-01	6.587E-02	4.706E-03	20.122
BI-214	8.933E-01	1.327E-01	7.955E-02	7.106E-03	11.230
PB-214	1.082E+00	1.511E-01	7.723E-02	6.389E-03	14.013
PO-214	1.082E+00	1.511E-01	7.723E-02	6.389E-03	14.013
PO-216	1.326E+00	1.252E-01	6.587E-02	4.706E-03	20.122
PO-218	1.082E+00	1.511E-01	7.723E-02	6.389E-03	14.013
RA-224	3.433E+00	1.035E+00	7.487E-01	4.171E-02	4.586
RA-226	8.933E-01	1.327E-01	7.955E-02	7.106E-03	11.230
AC-228	1.239E+00	2.516E-01	1.475E-01	1.955E-02	8.402
RA-228	1.239E+00	2.516E-01	1.475E-01	1.955E-02	8.402

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.351E+00	1.276E-01	6.714E-02	4.796E-03	20.122
TH-230	8.933E-01	1.327E-01	7.955E-02	7.106E-03	11.230
TH-232	1.239E+00	2.516E-01	1.475E-01	1.955E-02	8.402
TH-234	8.253E-01	1.761E+00	1.920E+00	3.385E-01	0.430
U-234	8.933E-01	1.327E-01	7.955E-02	7.106E-03	11.230
NP-237	5.068E-01	2.784E-01	3.213E-01	7.249E-02	1.577
U-238	8.253E-01	1.761E+00	1.920E+00	3.385E-01	0.430
AM-243	2.944E-01	6.187E-02	7.224E-02	6.028E-03	4.076
ANH-511	7.298E-02	5.280E-02	3.186E-02	2.104E-03	2.291

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.316E-03		2.338E-01	3.855E-01	2.794E-02	-0.003
NA-22	-7.408E-03		3.261E-02	5.260E-02	3.579E-03	-0.141
NA-24	-2.838E+01		2.325E+01	Half-Life	too short	
AL-26	-4.685E-03		1.936E-02	3.050E-02	1.780E-03	-0.154
TI-44	3.131E-01	+	4.763E-02	6.813E-02	5.825E-03	4.596
SC-46	-2.197E-02		2.769E-02	4.215E-02	4.701E-03	-0.521
V-48	7.011E-03		6.171E-02	1.008E-01	9.968E-03	0.070
CR-51	1.972E-01		2.936E-01	4.894E-01	3.151E-02	0.403
MN-52	4.368E-02		2.588E-01	4.282E-01	3.155E-02	0.102
MN-54	-1.740E-02		2.787E-02	4.383E-02	4.489E-03	-0.397
CO-56	-1.431E-02		2.894E-02	4.574E-02	4.775E-03	-0.313
CO-57	-8.652E-03		2.043E-02	3.219E-02	1.907E-03	-0.269
CO-58	-1.154E-02		2.830E-02	4.522E-02	4.464E-03	-0.255
FE-59	-4.736E-02		6.952E-02	1.098E-01	9.042E-03	-0.431
CO-60	2.512E-04		2.682E-02	4.390E-02	3.317E-03	0.006
ZN-65	3.307E-02		6.992E-02	1.044E-01	7.356E-03	0.317
GE-68	-7.459E-01		8.402E-01	1.300E+00	1.032E-01	-0.574
AS-73	8.338E-01		9.249E-01	1.566E+00	1.242E-01	0.532
AS-74	-4.319E-02		7.790E-02	1.214E-01	8.721E-03	-0.356
SE-75	-6.115E-04		3.555E-02	5.371E-02	3.072E-03	-0.011
BR-77	-7.411E-06		1.142E-05	Half-Life	too short	
SR-82	3.027E-02		3.557E-01	5.102E-01	4.751E-02	0.059
RB-83	-1.808E-02		4.879E-02	7.795E-02	5.199E-03	-0.232
RB-84	3.013E-02		5.205E-02	8.874E-02	9.780E-03	0.340
KR-85	2.404E+01		6.349E+00	1.101E+01	7.296E-01	2.183
SR-85	1.285E-01		3.394E-02	5.888E-02	3.901E-03	2.183
RB-86	-6.653E-01		6.098E-01	9.243E-01	7.358E-02	-0.720
Y-88	1.767E-03		2.279E-02	3.778E-02	2.152E-03	0.047
ZR-88	-4.911E-03		2.272E-02	3.766E-02	2.166E-03	-0.130
Y-91	5.721E+00		1.469E+01	2.486E+01	1.470E+00	0.230
NB-94	4.727E-03		2.381E-02	4.020E-02	3.298E-03	0.118
NB-95	7.517E-02		3.332E-02	5.625E-02	5.145E-03	1.336
NB-95M	2.239E-02		1.080E-01	1.580E-01	1.159E-02	0.142
ZR-95	1.010E-02		4.952E-02	8.326E-02	8.192E-03	0.121

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	5.929E-01		1.860E+00	Half-Life too short		
ZR-97	5.989E+01		3.726E+01	Half-Life too short		
MO-99	6.617E+00		2.044E+01	3.470E+01	5.295E+00	0.191
TC-99M	9.805E+14		8.985E+14	Half-Life too short		
RH-101	2.542E-03		2.457E-02	4.029E-02	2.166E-03	0.063
RH-102	-5.448E-03		2.035E-02	3.304E-02	2.098E-03	-0.165
RU-103	1.377E-03		3.079E-02	5.075E-02	6.590E-03	0.027
RH-106	-1.179E-02		2.168E-01	3.481E-01	4.379E-02	-0.034
RU-106	-1.179E-02		2.168E-01	3.481E-01	2.562E-02	-0.034
AG-108M	-1.250E-02		2.260E-02	3.637E-02	2.376E-03	-0.344
AG-110M	1.418E-03		2.680E-02	3.903E-02	3.078E-03	0.036
IN-111	-6.049E-01		2.289E+00	3.245E+00	1.814E-01	-0.186
IN-113M	1.597E-02		3.277E-02	5.620E-02	3.448E-03	0.284
SN-113	1.597E-02		3.277E-02	5.620E-02	3.448E-03	0.284
IN-114M	-1.098E-02		1.579E-01	2.320E-01	1.239E-02	-0.047
CD-115	-6.307E-06		1.220E-05	Half-Life too short		
SN-117M	2.585E-02		4.947E-02	8.530E-02	4.534E-03	0.303
SB-122	3.613E+00		4.075E+00	6.975E+00	4.860E-01	0.518
I-123	5.300E+02		3.254E+02	Half-Life too short		
TE-123M	1.742E-02		2.139E-02	3.722E-02	2.008E-03	0.468
I-124	-2.589E-01		1.114E+00	1.522E+00	1.100E-01	-0.170
SB-124	6.339E-03		4.076E-02	6.919E-02	4.774E-03	0.092
SB-125	1.156E-02		6.294E-02	1.058E-01	6.611E-03	0.109
TE-125M	-6.532E+00		7.659E+00	1.191E+01	1.048E+00	-0.549
I-126	7.188E-02		1.817E-01	2.718E-01	2.089E-02	0.264
SB-126	1.148E-01		1.161E-01	1.842E-01	1.559E-02	0.623
SB-127	-3.332E-01		1.806E+00	2.984E+00	3.634E-01	-0.112
XE-127	-2.473E-02		3.695E-02	5.997E-02	3.237E-03	-0.412
I-131	3.336E-02		1.084E-01	1.854E-01	1.205E-02	0.180
TE-132	-7.988E-02		1.145E+00	1.887E+00	2.854E-01	-0.042
BA-133	2.107E-03		3.446E-02	4.818E-02	5.565E-03	0.044
I-133	-5.113E-02		4.648E-02	Half-Life too short		
CS-134	1.144E-01	+	4.925E-02	6.262E-02	6.057E-03	1.827
CS-135	1.601E-01		1.293E-01	1.983E-01	1.499E-02	0.807
I-135	-5.508E+12		4.203E+13	Half-Life too short		
CS-136	-3.475E-03		9.273E-02	1.547E-01	1.387E-02	-0.022
CE-139	-1.914E-03		2.099E-02	3.534E-02	1.855E-03	-0.054
BA-140	-7.887E-02		2.143E-01	3.387E-01	1.108E-01	-0.233
LA-140	-3.335E-02		8.336E-02	1.329E-01	9.115E-03	-0.251
CE-141	1.589E-02		5.204E-02	8.357E-02	4.771E-03	0.190
CE-143	2.477E-03		5.152E-04	Half-Life too short		
CE-144	1.169E-01		1.815E-01	2.655E-01	3.755E-02	0.440
PM-144	6.585E-03		2.333E-02	3.965E-02	3.220E-03	0.166
PR-144	4.471E-01		1.584E+00	2.692E+00	2.185E-01	0.166
PM-146	-9.745E-03		3.062E-02	4.977E-02	4.428E-03	-0.196
ND-147	-2.153E-01		4.684E-01	7.394E-01	1.032E-01	-0.291
PM-149	1.505E-04		1.143E-04	Half-Life too short		
EU-152	1.828E-02		8.699E-02	1.042E-01	6.800E-03	0.175

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-3.588E-02		7.103E-02	1.004E-01	7.847E-03	-0.357
EU-154	-5.594E-03		8.990E-02	1.469E-01	1.467E-02	-0.038
EU-155	7.788E-02		8.244E-02	1.384E-01	9.897E-03	0.563
TB-160	1.786E-03		9.992E-02	1.637E-01	1.798E-02	0.011
HO-166M	1.628E-02		3.812E-02	6.538E-02	5.450E-03	0.249
TM-171	8.420E+00		2.798E+01	4.183E+01	3.344E+00	0.201
LU-176	-1.050E-02		2.091E-02	2.844E-02	1.637E-03	-0.369
LU-177	2.299E+00	+	1.827E+00	2.121E+00	1.151E-01	1.084
LU-177M	-5.919E-02		1.280E-01	2.084E-01	1.231E-02	-0.284
HF-181	-1.650E-02		3.171E-02	5.058E-02	3.238E-03	-0.326
W-181	-1.904E-01		3.928E-01	5.671E-01	4.498E-02	-0.336
TA-182	-1.698E-02		1.446E-01	2.366E-01	1.447E-02	-0.072
RE-183	-3.789E-02		8.354E-02	1.375E-01	7.259E-03	-0.276
RE-184	-3.795E-02		1.705E-01	2.769E-01	1.555E-02	-0.137
OS-185	1.605E-03		2.988E-02	4.819E-02	3.624E-03	0.033
RE-188	7.235E-02		1.294E-01	2.236E-01	1.197E-02	0.324
W-188	-5.979E+00		6.382E+00	8.451E+00	4.841E-01	-0.708
IR-192	1.507E-02		2.518E-02	4.188E-02	2.429E-03	0.360
AU-195	-3.922E-02		1.810E-01	2.917E-01	2.232E-02	-0.134
TL-200	-1.844E-03		1.936E-03	Half-Life too short		
TL-201	-6.696E+00		1.186E+01	1.959E+01	1.028E+00	-0.342
TL-202	-1.232E-02		6.134E-02	9.909E-02	6.041E-03	-0.124
HG-203	3.408E-02		3.155E-02	5.380E-02	3.263E-03	0.633
BI-207	3.421E-03		3.757E-02	6.314E-02	5.212E-03	0.054
TL-207	1.035E-01		5.091E-01	7.260E-01	1.198E-01	0.143
PO-209	-8.898E-01		4.956E+00	7.973E+00	8.993E-01	-0.112
BI-210	3.824E-02		4.201E+00	7.115E+00	5.505E-01	0.005
PB-210	3.824E-02		4.201E+00	7.115E+00	5.505E-01	0.005
PO-210	3.824E-02		4.201E+00	7.115E+00	4.733E-01	0.005
PB-211	-2.023E-01		6.727E-01	1.088E+00	6.780E-01	-0.186
BI-212	1.072E+00	+	3.271E-01	4.598E-01	4.579E-02	2.333
PO-215	1.035E-01		5.091E-01	7.260E-01	1.198E-01	0.143
RN-219	-3.461E-02		2.982E-01	4.837E-01	6.585E-02	-0.072
RN-220	-6.819E+00		1.603E+01	2.528E+01	1.737E+00	-0.270
RA-223	1.035E-01		5.091E-01	7.260E-01	1.198E-01	0.143
AC-227	-9.221E-02		2.767E-01	4.461E-01	6.196E-02	-0.207
TH-227	-9.221E-02		2.769E-01	4.461E-01	7.513E-02	-0.207
TH-229	-6.631E-02		3.725E-01	6.188E-01	3.313E-02	-0.107
PA-231	-8.876E-01		1.121E+00	1.739E+00	2.391E-01	-0.510
TH-231	1.035E-01		5.091E-01	7.260E-01	1.198E-01	0.143
U-231	3.960E-01		1.799E+00	2.646E+00	2.120E-01	0.150
PA-233	5.299E-03		4.483E-02	7.282E-02	4.461E-03	0.073
PA-234	-5.943E-02		2.086E-01	3.305E-01	6.520E-02	-0.180
PA-234M	5.926E-01		3.730E+00	6.074E+00	6.552E-01	0.098
U-235	-3.500E-02		1.649E-01	2.547E-01	4.125E-02	-0.137
NP-236	1.625E-02		5.772E-02	9.869E-02	5.228E-03	0.165
NP-239	5.585E-03		1.506E-01	2.427E-01	1.502E-02	0.023
AM-241	1.018E-01		1.532E-01	2.378E-01	1.972E-02	0.428

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.307E-02		7.507E-02	1.194E-01	8.549E-03	-0.277
AM-246	-1.905E-02		9.619E-02	1.580E-01	1.250E-02	-0.121
CM-247	4.433E-03		2.667E-02	4.388E-02	2.556E-03	0.101
CF-249	-8.437E-03		2.830E-02	4.674E-02	2.687E-03	-0.180
CF-251	8.607E-02		8.912E-02	1.552E-01	8.195E-03	0.555

VAX/VMS Nuclide Identification Report Generated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536008             *
* Acquisition date   : 9-JAN-2010 14:11:46 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 02:00:01.66 Half life ratio        : 8.000      *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library   : SOLID          *
* Sample ID          : G243536008 Analyst initials: MXR1          *
* Batch Number       : 937074 Sample Quantity : 1.4570E+02 GRAM      *
* Recovery           : 1.00000 Carrier Weight  : 0.00000          *
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope       :               *
* MSD DPM             : 0.000 MSD Isotope                    :               *
* LCS DPM             : 0.000 LCS Isotope                    :               *
* LCSD DPM            : 0.000 LCSD Isotope                   :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.640E+01	2.312E+00	2.298E-01	1.180E+00
CD-109	1.766E+00	8.814E-01	6.517E-01	4.497E-01
SN-126	1.726E-01	8.612E-02	6.254E-02	4.394E-02
BA-137M	1.812E-01	4.950E-02	2.091E-02	2.525E-02
CS-137	1.916E-01	5.234E-02	2.210E-02	2.670E-02
TL-208	4.447E-01	6.131E-02	2.023E-02	3.128E-02
BI-211	3.111E+00	3.947E-01	1.152E-01	2.014E-01
PB-212	1.326E+00	1.227E-01	3.454E-02	6.259E-02
PO-212	1.326E+00	1.227E-01	3.454E-02	6.259E-02
BI-214	8.933E-01	1.301E-01	4.085E-02	6.635E-02
PB-214	1.082E+00	1.480E-01	4.015E-02	7.554E-02
PO-214	1.082E+00	1.480E-01	4.015E-02	7.554E-02
PO-216	1.326E+00	1.227E-01	3.454E-02	6.259E-02
PO-218	1.082E+00	1.480E-01	4.015E-02	7.554E-02
RA-224	3.433E+00	1.015E+00	3.925E-01	5.177E-01
RA-226	8.933E-01	1.301E-01	4.085E-02	6.635E-02
AC-228	1.239E+00	2.466E-01	7.504E-02	1.258E-01
RA-228	1.239E+00	2.466E-01	7.504E-02	1.258E-01
TH-228	1.351E+00	1.250E-01	3.521E-02	6.380E-02
TH-230	8.933E-01	1.300E-01	4.085E-02	6.635E-02
TH-232	1.239E+00	2.466E-01	7.504E-02	1.258E-01
TH-234	8.253E-01	1.726E+00	1.036E+00	8.805E-01
U-234	8.933E-01	1.300E-01	4.085E-02	6.635E-02
NP-237	5.068E-01	2.729E-01	1.722E-01	1.392E-01
U-238	8.253E-01	1.726E+00	1.036E+00	8.805E-01
AM-243	2.944E-01	6.064E-02	3.884E-02	3.094E-02
ANH-511	7.298E-02	5.175E-02	1.642E-02	2.640E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-1.316E-03	2.291E-01	1.991E-01	1.169E-01	NOT IDENT.
NA-22	-7.408E-03	3.196E-02	2.655E-02	1.631E-02	NOT IDENT.
NA-24	-2.838E+07	4.556E+07	0.000E+00	2.325E+07	SHORT HLIF
AL-26	-4.685E-03	1.897E-02	1.526E-02	9.679E-03	NOT IDENT.
TI-44	3.131E-01	4.668E-02	3.659E-02	2.382E-02	FAIL ABUN
SC-46	-2.197E-02	2.714E-02	2.145E-02	1.384E-02	FAIL ABUN
V-48	7.011E-03	6.048E-02	5.118E-02	3.086E-02	NOT IDENT.
CR-51	1.972E-01	2.877E-01	2.550E-01	1.468E-01	NOT IDENT.
MN-52	4.368E-02	2.536E-01	2.155E-01	1.294E-01	NOT IDENT.
MN-54	-1.740E-02	2.731E-02	2.234E-02	1.393E-02	NOT IDENT.
CO-56	-1.431E-02	2.837E-02	2.331E-02	1.447E-02	FAIL ABUN
CO-57	-8.652E-03	2.002E-02	1.713E-02	1.022E-02	NOT IDENT.
CO-58	-1.154E-02	2.773E-02	2.307E-02	1.415E-02	NOT IDENT.
FE-59	-4.736E-02	6.813E-02	5.563E-02	3.476E-02	NOT IDENT.
CO-60	2.512E-04	2.629E-02	2.213E-02	1.341E-02	NOT IDENT.
ZN-65	3.307E-02	6.852E-02	5.288E-02	3.496E-02	NOT IDENT.
GE-68	-7.459E-01	8.234E-01	6.585E-01	4.201E-01	NOT IDENT.
AS-73	8.338E-01	9.064E-01	8.480E-01	4.625E-01	NOT IDENT.
AS-74	-4.319E-02	7.634E-02	6.236E-02	3.895E-02	NOT IDENT.
SE-75	-6.115E-04	3.484E-02	2.810E-02	1.777E-02	NOT IDENT.
BR-77	-7.411E+00	2.239E+01	0.000E+00	1.142E+01	SHORT HLIF
SR-82	3.027E-02	3.486E-01	2.605E-01	1.779E-01	NOT IDENT.
RB-83	-1.808E-02	4.782E-02	4.017E-02	2.440E-02	NOT IDENT.
RB-84	3.013E-02	5.101E-02	4.518E-02	2.602E-02	NOT IDENT.
KR-85	2.404E+01	6.222E+00	5.677E+00	3.175E+00	NOT IDENT.
SR-85	1.285E-01	3.326E-02	3.035E-02	1.697E-02	NOT IDENT.
RB-86	-6.653E-01	5.976E-01	4.684E-01	3.049E-01	NOT IDENT.
Y-88	1.767E-03	2.233E-02	1.890E-02	1.139E-02	NOT IDENT.
ZR-88	-4.911E-03	2.227E-02	1.953E-02	1.136E-02	NOT IDENT.
Y-91	5.721E+00	1.440E+01	1.256E+01	7.346E+00	NOT IDENT.
NB-94	4.727E-03	2.333E-02	2.057E-02	1.190E-02	NOT IDENT.
NB-95	7.517E-02	3.265E-02	2.873E-02	1.666E-02	NOT IDENT.
NB-95M	2.239E-02	1.058E-01	8.290E-02	5.400E-02	NOT IDENT.
ZR-95	1.010E-02	4.852E-02	4.254E-02	2.476E-02	NOT IDENT.
NB-97	5.929E+05	3.646E+06	0.000E+00	1.860E+06	SHORT HLIF
ZR-97	5.989E+07	7.304E+07	0.000E+00	3.726E+07	SHORT HLIF
MO-99	6.617E+00	2.003E+01	1.774E+01	1.022E+01	NOT IDENT.
TC-99M	9.805E+20	1.761E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.542E-03	2.407E-02	2.121E-02	1.228E-02	NOT IDENT.
RH-102	-5.448E-03	1.994E-02	1.706E-02	1.017E-02	NOT IDENT.
RU-103	1.377E-03	3.018E-02	2.618E-02	1.540E-02	FAIL ABUN
RH-106	-1.179E-02	2.125E-01	1.787E-01	1.084E-01	FAIL ABUN
RU-106	-1.179E-02	2.125E-01	1.787E-01	1.084E-01	FAIL ABUN
AG-108M	-1.250E-02	2.215E-02	1.882E-02	1.130E-02	NOT IDENT.
AG-110M	1.418E-03	2.626E-02	2.000E-02	1.340E-02	NOT IDENT.
IN-111	-6.049E-01	2.243E+00	1.701E+00	1.144E+00	NOT IDENT.
IN-113M	1.597E-02	3.212E-02	2.915E-02	1.639E-02	NOT IDENT.
SN-113	1.597E-02	3.212E-02	2.915E-02	1.639E-02	NOT IDENT.
IN-114M	-1.098E-02	1.548E-01	1.223E-01	7.896E-02	NOT IDENT.
CD-115	-6.307E+00	2.392E+01	0.000E+00	1.220E+01	SHORT HLIF
SN-117M	2.585E-02	4.848E-02	4.513E-02	2.473E-02	NOT IDENT.
SB-122	3.613E+00	3.993E+00	3.588E+00	2.037E+00	NOT IDENT.
I-123	5.300E+08	6.378E+08	0.000E+00	3.254E+08	SHORT HLIF
TE-123M	1.742E-02	2.096E-02	1.969E-02	1.069E-02	NOT IDENT.
I-124	-2.589E-01	1.092E+00	7.815E-01	5.572E-01	NOT IDENT.
SB-124	6.339E-03	3.994E-02	3.469E-02	2.038E-02	NOT IDENT.
SB-125	1.156E-02	6.168E-02	5.477E-02	3.147E-02	FAIL ABUN
TE-125M	-6.532E+00	7.506E+00	6.350E+00	3.830E+00	NOT IDENT.
I-126	7.188E-02	1.781E-01	1.393E-01	9.086E-02	NOT IDENT.
SB-126	1.148E-01	1.138E-01	9.423E-02	5.806E-02	FAIL ABUN
SB-127	-3.332E-01	1.770E+00	1.528E+00	9.032E-01	NOT IDENT.
XE-127	-2.473E-02	3.621E-02	3.156E-02	1.847E-02	NOT IDENT.
I-131	3.336E-02	1.062E-01	9.634E-02	5.418E-02	NOT IDENT.
TE-132	-7.988E-02	1.122E+00	9.903E-01	5.723E-01	NOT IDENT.
BA-133	2.107E-03	3.377E-02	2.504E-02	1.723E-02	NOT IDENT.
I-133	-5.113E+04	9.111E+04	0.000E+00	4.648E+04	SHORT HLIF
CS-134	1.144E-01	4.827E-02	3.196E-02	2.463E-02	FAIL ABUN
CS-135	1.601E-01	1.267E-01	1.037E-01	6.463E-02	NOT IDENT.
I-135	-5.508E+18	8.238E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.475E-03	9.087E-02	7.842E-02	4.636E-02	FAIL ABUN
CE-139	-1.914E-03	2.057E-02	1.868E-02	1.050E-02	NOT IDENT.
BA-140	-7.887E-02	2.101E-01	1.744E-01	1.072E-01	NOT IDENT.
LA-140	-3.335E-02	8.170E-02	6.669E-02	4.168E-02	FAIL ABUN
CE-141	1.589E-02	5.100E-02	4.430E-02	2.602E-02	NOT IDENT.
CE-143	2.477E+03	1.010E+03	0.000E+00	5.152E+02	SHORT HLIF
CE-144	1.169E-01	1.779E-01	1.410E-01	9.075E-02	NOT IDENT.
PM-144	6.585E-03	2.287E-02	2.030E-02	1.167E-02	NOT IDENT.
PR-144	4.471E-01	1.553E+00	1.378E+00	7.922E-01	NOT IDENT.

PM-146	-9.745E-03	3.000E-02	2.573E-02	1.531E-02	NOT IDENT.
ND-147	-2.153E-01	4.590E-01	3.809E-01	2.342E-01	NOT IDENT.
PM-149	1.505E+02	2.240E+02	0.000E+00	1.143E+02	SHORT HLIF
EU-152	1.828E-02	8.525E-02	5.420E-02	4.350E-02	NOT IDENT.
GD-153	-3.588E-02	6.961E-02	5.366E-02	3.552E-02	NOT IDENT.
EU-154	-5.594E-03	8.811E-02	7.415E-02	4.495E-02	NOT IDENT.
EU-155	7.788E-02	8.079E-02	7.388E-02	4.122E-02	FAIL ABUN
TB-160	1.786E-03	9.792E-02	8.334E-02	4.996E-02	FAIL ABUN
HO-166M	1.628E-02	3.736E-02	3.345E-02	1.906E-02	NOT IDENT.
TM-171	8.420E+00	2.742E+01	2.254E+01	1.399E+01	NOT IDENT.
LU-176	-1.050E-02	2.049E-02	1.483E-02	1.046E-02	FAIL ABUN
LU-177	2.299E+00	1.790E+00	1.116E+00	9.135E-01	FAIL ABUN
LU-177M	-5.919E-02	1.254E-01	1.080E-01	6.400E-02	NOT IDENT.
HF-181	-1.650E-02	3.107E-02	2.611E-02	1.585E-02	NOT IDENT.
W-181	-1.904E-01	3.849E-01	3.057E-01	1.964E-01	NOT IDENT.
TA-182	-1.698E-02	1.418E-01	1.195E-01	7.232E-02	FAIL ABUN
RE-183	-3.789E-02	8.187E-02	7.272E-02	4.177E-02	FAIL ABUN
RE-184	-3.795E-02	1.671E-01	1.450E-01	8.526E-02	NOT IDENT.
OS-185	1.605E-03	2.929E-02	2.471E-02	1.494E-02	NOT IDENT.
RE-188	7.235E-02	1.268E-01	1.184E-01	6.468E-02	NOT IDENT.
W-188	-5.979E+00	6.254E+00	4.412E+00	3.191E+00	FAIL ABUN
IR-192	1.507E-02	2.467E-02	2.182E-02	1.259E-02	FAIL ABUN
AU-195	-3.922E-02	1.774E-01	1.559E-01	9.049E-02	FAIL ABUN
TL-200	-1.844E+03	3.795E+03	0.000E+00	1.936E+03	SHORT HLIF
TL-201	-6.696E+00	1.163E+01	1.035E+01	5.932E+00	NOT IDENT.
TL-202	-1.232E-02	6.011E-02	5.126E-02	3.067E-02	NOT IDENT.
HG-203	3.408E-02	3.092E-02	2.811E-02	1.577E-02	NOT IDENT.
BI-207	3.421E-03	3.682E-02	3.200E-02	1.878E-02	FAIL ABUN
TL-207	1.035E-01	4.989E-01	3.782E-01	2.545E-01	FAIL ABUN
PO-209	-8.898E-01	4.856E+00	4.058E+00	2.478E+00	NOT IDENT.
BI-210	3.824E-02	4.117E+00	3.863E+00	2.101E+00	NOT IDENT.
PB-210	3.824E-02	4.117E+00	3.863E+00	2.101E+00	NOT IDENT.
PO-210	3.824E-02	4.117E+00	3.863E+00	2.101E+00	NOT IDENT.
PB-211	-2.023E-01	6.593E-01	5.636E-01	3.364E-01	NOT IDENT.
BI-212	1.072E+00	3.206E-01	2.351E-01	1.636E-01	FAIL ABUN
PO-215	1.035E-01	4.989E-01	3.782E-01	2.545E-01	FAIL ABUN
RN-219	-3.461E-02	2.922E-01	2.507E-01	1.491E-01	FAIL ABUN
RN-220	-6.819E+00	1.571E+01	1.301E+01	8.017E+00	NOT IDENT.
RA-223	1.035E-01	4.989E-01	3.782E-01	2.545E-01	FAIL ABUN
AC-227	-9.221E-02	2.712E-01	2.336E-01	1.384E-01	FAIL ABUN
TH-227	-9.221E-02	2.713E-01	2.336E-01	1.384E-01	FAIL ABUN
TH-229	-6.631E-02	3.651E-01	3.260E-01	1.863E-01	FAIL ABUN
PA-231	-8.876E-01	1.098E+00	9.087E-01	5.603E-01	FAIL ABUN
TH-231	1.035E-01	4.989E-01	3.782E-01	2.545E-01	FAIL ABUN
U-231	3.960E-01	1.763E+00	1.415E+00	8.993E-01	FAIL ABUN
PA-233	5.299E-03	4.393E-02	3.796E-02	2.242E-02	FAIL ABUN
PA-234	-5.943E-02	2.044E-01	1.680E-01	1.043E-01	FAIL ABUN
PA-234M	5.926E-01	3.656E+00	3.083E+00	1.865E+00	NOT IDENT.
U-235	-3.500E-02	1.616E-01	1.350E-01	8.244E-02	FAIL ABUN
NP-236	1.625E-02	5.656E-02	5.220E-02	2.886E-02	FAIL ABUN
NP-239	5.585E-03	1.476E-01	1.292E-01	7.529E-02	FAIL ABUN
AM-241	1.018E-01	1.502E-01	1.284E-01	7.662E-02	NOT IDENT.
CM-243	-3.307E-02	7.357E-02	6.377E-02	3.753E-02	FAIL ABUN
AM-246	-1.905E-02	9.426E-02	8.006E-02	4.809E-02	NOT IDENT.
CM-247	4.433E-03	2.613E-02	2.275E-02	1.333E-02	NOT IDENT.
CF-249	-8.437E-03	2.773E-02	2.425E-02	1.415E-02	NOT IDENT.
CF-251	8.607E-02	8.734E-02	8.191E-02	4.456E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	264.9266
46.50	264.9266
46.50	264.9266
48.70	266.4400
49.72	288.1829
51.35	283.7160
52.39	278.5107
52.97	280.0391
53.15	273.8621
53.44	245.9283
54.07	265.6873
56.28	299.1680
56.28	299.1713
57.37	0.0000
57.53	311.6275
57.53	311.6292
57.60	303.3810
57.98	295.4597
57.98	295.4597
59.32	272.2073
59.32	272.2073
59.40	272.2840
59.54	272.4178
59.72	294.9560
60.01	286.8596
61.10	287.9473
61.14	287.9872
61.30	288.1460
63.00	351.5543
63.29	351.8977
63.29	351.8977
63.58	352.2401
64.28	396.1337
65.12	412.8985
65.20	413.0075
65.20	413.0075
66.05	394.1663
66.72	357.8110
66.83	352.2136
66.91	352.3037
67.20	398.5051
67.20	398.5051
67.75	404.3789
67.85	397.6149
68.90	364.3547
68.90	364.3547
69.30	369.4336
69.67	385.7599
70.82	366.8434
70.82	366.8434
70.83	366.8550
72.80	376.3766
72.87	376.4573
72.87	376.4573
74.67	378.5045
74.81	378.6629
74.81	378.6629
74.81	378.6629
74.81	378.6629
74.81	378.6629
74.81	378.6629
74.81	378.6629
74.97	378.8430
75.28	379.1934
75.70	379.6658
77.11	381.2405
77.11	381.2405

77.11	381.2405
77.11	381.2405
77.11	381.2405
77.11	381.2405
77.11	381.2405
78.38	375.2322
79.62	378.0583
79.80	352.9360
79.80	352.9360
80.11	353.2470
80.18	353.3175
80.30	356.4195
80.30	356.4195
80.57	356.6930
81.00	379.5388
81.07	379.6144
81.07	379.6144
81.07	379.6144
81.07	379.6144
82.60	439.2769
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83.78	387.0039
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83.78	387.0039
83.78	387.0039
84.21	385.9531
84.90	361.0017
85.43	364.5467
86.29	462.4285
86.50	462.6891
86.54	462.7380
86.59	462.8008
86.72	510.0165
86.79	510.1088
86.94	510.3164
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.57	544.6450
87.88	0.0000
88.03	572.7293
88.36	583.3921
88.47	583.5614
89.95	563.3793
91.11	429.9506
92.29	579.1178
92.38	579.2526
92.38	579.2526
93.35	472.5780
94.00	355.7918
94.67	328.4955
94.67	328.5004
94.90	328.6896
94.90	328.6896
94.90	328.6896
94.90	328.6896
95.87	343.4747
95.87	343.4747
96.73	372.2468
97.43	357.2849
98.44	353.4767
98.44	353.4767
98.88	343.4178
99.55	336.6581
99.55	336.6581
99.86	306.5674
100.00	306.6718
100.10	306.7478
103.18	357.5184
103.76	329.4926
105.00	294.4375
105.31	288.2917
108.00	359.3995
109.28	356.1668

111.00	321.0393
111.00	321.0393
111.76	316.2046
112.95	345.0749
115.19	347.8529
116.30	341.0858
117.00	329.6324
117.00	329.6324
117.66	329.0099
121.11	312.7610
121.62	331.7702
121.78	331.8808
122.06	343.0702
122.32	343.2543
122.32	343.2543
122.32	343.2543
122.32	343.2543
123.07	337.1777
127.23	313.3795
129.76	328.3716
131.20	362.9114
133.02	311.9363
133.54	317.3131
135.34	312.7747
136.00	308.6469
136.25	314.4496
136.48	329.2991
140.51	311.2906
140.51	0.0000
142.18	347.7180
142.65	367.4827
143.76	342.9965
144.24	327.2235
144.24	327.2235
144.24	327.2235
144.24	327.2235
145.22	323.2083
145.44	323.3398
147.16	354.3567
152.43	360.0254
152.70	334.5501
153.22	314.1469
154.21	301.5406
154.21	301.5406
154.21	301.5406
154.21	301.5406
155.03	323.9167
156.02	345.5751
158.56	324.1210
159.00	0.0000
159.00	314.6398
160.31	320.6525
161.27	342.4649
162.32	329.7369
162.64	322.7984
163.35	313.3872
163.89	297.6293
165.85	298.5951
167.43	303.8513
171.28	278.6922
171.86	287.9791
172.10	305.2475
176.55	273.7549
176.60	273.7756
181.06	308.9537
184.41	293.1072
185.71	339.4325
186.00	339.5813
190.27	322.4352
192.34	303.4039
193.63	326.6430
197.04	317.9418
198.01	303.3571
198.60	306.4333
200.40	0.0000
201.83	327.6740
202.84	337.5964
205.31	297.5817

208.36	307.9908
208.81	315.8089
209.75	307.4320
209.75	307.4320
210.97	310.6232
215.65	297.7079
216.55	279.4374
218.09	293.5305
222.10	288.2920
223.80	283.0940
226.40	253.7892
227.00	246.1707
227.08	246.1956
227.20	248.1883
228.16	273.9310
228.18	273.9374
228.18	273.9374
231.56	0.0000
235.69	323.9611
236.00	295.6299
236.00	295.6299
238.63	277.5647
238.63	277.5647
238.63	277.5647
238.63	277.5647
239.00	0.0000
240.98	278.3679
241.98	278.7097
241.98	278.7097
241.98	278.7097
244.69	230.0959
245.39	260.6766
247.94	272.7076
248.90	242.0480
249.79	0.0000
252.40	232.8347
252.85	245.0597
252.85	245.0597
254.15	0.0000
256.20	250.0764
256.20	250.0764
260.50	254.3793
260.90	0.0000
262.80	255.0545
264.65	238.5529
268.24	221.7316
268.79	228.4439
269.46	246.7053
269.46	246.7053
269.46	246.7053
269.46	246.7053
271.23	260.3799
273.65	267.6916
276.40	250.9847
277.35	236.4331
277.60	236.4957
277.60	236.4957
278.00	245.9396
278.60	218.0653
279.20	217.1673
279.53	226.5988
280.46	263.2496
281.68	0.0000
283.67	240.1495
284.30	220.4592
285.00	210.1704
285.90	0.0000
286.10	200.9941
286.10	200.9941
287.40	203.3720
288.45	0.0000
290.67	247.4165
290.80	247.4524
291.72	219.0481
293.26	0.0000
293.70	217.8135
295.21	197.6546
295.21	197.6546

295.21	197.6546
295.96	197.8087
296.50	197.9199
297.23	0.0000
298.57	198.3451
299.80	198.5962
299.80	198.5962
300.09	198.6561
300.09	198.6561
300.09	198.6561
300.09	198.6561
300.12	198.6618
301.29	198.8987
302.84	219.8826
303.76	0.0000
303.91	204.7646
304.40	203.1600
304.40	203.1600
304.84	187.8809
306.84	220.7771
308.46	192.8540
311.98	183.8584
316.51	173.8852
318.01	208.7555
319.02	194.8865
319.41	178.7139
320.08	178.8297
323.87	172.3122
323.87	172.3122
323.87	172.3122
323.87	172.3122
325.23	205.6501
328.77	234.3299
333.44	166.8693
334.20	166.9875
334.20	166.9875
334.30	167.0038
338.28	172.0389
338.28	172.0389
338.28	172.0389
338.28	172.0389
338.32	172.0461
338.32	172.0461
338.32	172.0461
340.50	172.3960
340.57	172.4079
344.27	150.8190
345.85	128.8256
350.59	0.0000
351.07	170.7266
351.92	170.8596
351.92	170.8596
351.92	170.8596
355.39	0.0000
356.01	166.7802
364.48	155.3900
366.43	145.7019
367.43	166.6624
367.94	0.0000
369.80	153.3914
374.96	153.1646
383.85	169.0230
387.95	186.1966
388.63	182.6134
391.69	173.8311
391.69	173.8311
392.90	185.1123
398.62	172.0351
400.65	181.6318
401.10	179.8373
401.81	171.5488
402.60	165.1273
404.84	185.0546
410.95	161.5419
411.60	155.0480
413.65	185.4186
414.70	175.2106
415.30	177.1794

415.76	171.5870
417.63	0.0000
418.52	161.5649
423.70	158.4258
427.08	153.1328
427.89	146.5669
432.53	157.5939
433.93	159.6754
439.47	0.0000
439.56	149.7939
439.89	146.9506
443.98	136.8033
444.90	149.4297
445.03	139.8032
445.03	139.8032
445.03	139.8032
445.03	139.8032
453.90	156.2498
463.38	143.6480
468.07	135.6349
473.00	138.7349
475.06	145.8338
475.35	149.8068
476.78	144.0378
477.59	139.1841
477.96	141.1951
482.03	148.5297
484.57	0.0000
487.03	121.2241
490.36	0.0000
492.35	0.0000
497.08	138.0691
507.63	0.0000
510.53	0.0000
510.84	131.2727
511.00	131.2862
511.85	131.3608
511.85	131.3608
513.99	118.0538
513.99	118.0538
520.41	131.0849
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	117.5605
529.87	0.0000
531.02	116.6413
537.32	120.1964
543.00	94.8525
546.56	0.0000
549.76	102.5046
552.65	92.3158
555.20	112.2003
563.23	126.3292
563.90	119.0682
568.70	126.7516
569.32	133.0864
569.50	138.3390
569.67	138.3551
573.80	128.1923
574.00	128.2072
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	118.3438
585.48	0.0000
591.81	116.8267
592.07	111.5343
593.00	126.4724
595.88	142.6563
600.56	135.2142
602.52	0.0000
602.71	154.9794
602.71	154.9794
603.60	169.3154
604.41	160.4810
604.70	160.5066
609.31	137.3281

609.31	137.3281
609.31	137.3281
609.31	137.3281
610.33	159.2374
612.46	154.0553
614.37	107.5977
618.01	120.7582
621.84	108.0518
621.84	108.0518
631.29	114.0568
633.02	126.1245
633.10	128.3048
634.78	114.2772
635.90	96.9222
636.97	99.1602
645.85	102.9272
646.12	102.9433
656.30	97.5324
657.75	108.6283
657.90	0.0000
661.65	120.5577
661.65	120.5577
664.57	0.0000
666.33	121.7788
666.33	121.7788
675.00	122.3374
677.61	113.2233
685.20	103.4234
692.80	109.4399
695.00	117.9917
696.49	111.5213
696.49	111.5213
697.00	121.8618
697.49	122.8312
698.33	134.1382
698.50	134.1498
699.00	124.8011
702.63	125.9712
706.10	130.9007
706.58	0.0000
706.67	123.4042
709.31	92.4393
711.68	88.7714
713.82	100.2117
717.42	92.9883
720.50	63.4172
721.93	0.0000
722.20	76.4897
722.78	84.6523
722.78	84.6523
722.89	84.6560
722.95	84.6578
723.30	83.0458
724.18	81.4523
727.18	88.0984
733.00	75.2618
735.90	101.3094
739.58	88.0862
742.81	90.1426
744.21	104.5958
747.13	103.7834
751.79	99.1987
752.31	100.1872
753.82	102.1872
755.35	0.0000
756.15	96.5108
756.87	99.4397
763.93	91.3316
765.79	73.1297
766.42	88.1140
766.84	94.7820
776.49	111.9151
778.00	100.2916
778.57	98.6468
778.89	98.6612
783.80	108.5226
785.46	98.6262
792.07	132.9102

795.84	101.1182
796.30	107.8817
798.80	118.1299
801.93	93.1599
805.60	91.8326
810.29	107.8579
810.76	101.9438
815.85	88.2866
817.79	0.0000
818.51	98.3232
819.60	104.3335
826.30	108.6297
828.27	0.0000
831.60	109.8814
831.96	114.8947
834.83	129.0420
836.80	0.0000
846.75	104.5734
848.13	79.4838
856.28	0.0000
856.80	86.5601
860.37	95.3619
867.32	86.9472
867.82	78.2697
871.10	89.4090
873.19	74.2342
874.81	98.7070
875.33	0.0000
876.40	100.8087
879.36	85.6406
880.27	89.7528
880.51	81.6016
881.50	76.5335
883.24	73.5249
884.67	83.7867
889.25	93.1606
896.60	82.1468
898.02	96.5799
899.00	97.6460
903.28	80.3121
911.07	89.8639
911.07	89.8639
911.07	89.8639
919.63	63.5707
920.93	76.9286
925.00	78.9425
925.24	82.0667
926.50	92.5019
935.52	91.7902
937.48	82.4669
944.10	107.8009
946.00	86.9328
949.00	77.5982
962.29	104.8013
964.01	112.1047
966.15	119.4362
968.20	114.0952
969.11	114.1370
969.11	114.1370
969.11	114.1370
977.42	87.6416
980.50	76.4224
983.50	88.1976
989.30	93.7166
996.32	109.9802
1001.03	105.8965
1001.68	97.3614
1004.76	110.3281
1021.30	0.0000
1024.50	0.0000
1034.80	71.4785
1036.00	81.7266
1037.82	94.7890
1038.57	93.8843
1038.76	0.0000
1045.16	68.0200
1046.59	73.6492
1048.07	86.7464

1050.47	92.4223
1050.47	92.4223
1062.04	97.4891
1063.62	90.0402
1076.63	91.3976
1077.35	89.5330
1078.86	82.9819
1085.78	101.1410
1099.22	101.6112
1112.02	87.5365
1112.84	75.1328
1115.52	81.8860
1120.29	92.7779
1120.29	92.7779
1120.29	92.7779
1120.29	92.7779
1120.51	90.3933
1121.28	98.7883
1124.00	0.0000
1129.67	91.7929
1131.51	0.0000
1147.95	0.0000
1167.94	103.9735
1173.22	83.7114
1175.09	100.3201
1177.93	92.6144
1189.05	98.8160
1204.90	107.1828
1205.75	0.0000
1213.00	113.3756
1221.42	110.7070
1230.97	111.0391
1235.34	119.8782
1236.41	0.0000
1238.25	103.3398
1246.25	61.0129
1260.41	0.0000
1271.85	77.3035
1274.45	84.3955
1274.54	88.4174
1291.56	75.7403
1298.22	0.0000
1312.09	79.2514
1325.50	68.3413
1325.50	68.3413
1332.49	54.1719
1333.61	54.1886
1360.21	42.2412
1362.66	0.0000
1365.15	52.6187
1368.21	62.9892
1368.53	0.0000
1376.25	56.1478
1384.27	30.8602
1394.10	40.5670
1395.20	42.6602
1407.95	51.1636
1434.06	37.8595
1436.60	33.6763
1457.56	0.0000
1460.81	59.3184
1489.15	45.8915
1509.49	31.9196
1596.49	52.7844
1620.62	25.1010
1678.03	0.0000
1691.02	13.7454
1691.02	13.7454
1706.46	0.0000
1750.46	0.0000
1764.49	23.0773
1764.49	23.0773
1764.49	23.0773
1764.49	23.0773
1770.23	26.6618
1771.40	136.0125
1791.20	0.0000
1808.65	21.1769

1836.01

20.2899

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536008

Total Uranium Activity	2.4391E+00	ug/g
Total Uranium Counting Unc.	5.1350E+00	ug/g
Total Uranium Tpu	2.6199E-06	ug/g
Total Uranium Mda	3.0820E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 937074              SAMPLE ID   : G243536008              *
*  ANALYST       : MXR1                DETECTOR    : GAM18                  *
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00      *
*  ANALYSIS DATE : 9-JAN-2010 14:11:46.83  SAMPLE ALQT: 145.700 GRAM        *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 7.716E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.155E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 1.927E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 9.324E-01

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:15:38.29

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536009.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:12:15.
Sample ID          : G243536009          Sample quantity  : 1.15320E+02 GRAM
Detector name      : GAM22              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:02.03 0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity      : 5.00000
Batch ID           : 937074             Detector SN#     :
Matrix Spike ID    :                    LCS ID          : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.15*	69	515	1.33	126.55	122	9	9.53E-03	63.0	
2	3	74.86*	409	388	1.08	149.96	144	16	5.69E-02	9.2	1.87E+00
3	3	77.08*	594	442	1.09	154.39	144	16	8.25E-02	7.5	
4	2	87.19*	226	424	1.00	174.59	172	12	3.14E-02	16.1	3.13E+00
5	2	89.90*	106	482	1.15	180.01	172	12	1.48E-02	35.5	
6	0	92.95*	209	490	1.56	186.09	183	9	2.90E-02	21.6	
7	0	186.00*	219	493	1.80	372.01	366	12	3.05E-02	22.4	
8	0	209.57	101	487	1.17	419.11	413	11	1.40E-02	43.5	
9	3	238.67*	1394	233	1.25	477.25	470	23	1.94E-01	3.3	1.22E+00
10	3	241.62	346	322	1.89	483.16	470	23	4.80E-02	13.6	
11	0	269.72	110	375	0.74	539.31	533	13	1.52E-02	37.6	
12	2	295.28*	358	187	1.38	590.38	583	21	4.97E-02	8.7	1.90E+00
13	2	299.89	120	187	1.84	599.59	583	21	1.66E-02	22.9	
14	0	327.95	105	235	1.76	655.67	651	11	1.45E-02	30.0	
15	0	338.65*	319	232	1.38	677.04	672	13	4.43E-02	11.7	
16	0	351.92*	684	257	1.35	703.56	696	16	9.49E-02	6.6	
17	0	408.78	62	158	1.54	817.20	814	11	8.59E-03	41.3	
18	0	463.01	125	130	1.14	925.58	920	12	1.74E-02	20.4	
19	0	478.74	20	199	4.04	957.03	952	14	2.75E-03	152.7	
20	0	511.12*	181	215	2.20	1021.74	1013	18	2.51E-02	23.4	
21	0	583.29*	450	195	1.64	1165.99	1159	14	6.26E-02	8.3	
22	7	609.38*	473	125	1.73	1218.14	1210	20	6.57E-02	6.6	2.46E+00
23	7	613.14	41	82	2.49	1225.67	1210	20	5.70E-03	48.1	
24	0	727.96*	155	124	1.76	1455.17	1448	17	2.15E-02	19.1	
25	0	742.38	49	116	4.36	1484.00	1477	16	6.75E-03	51.6	
26	0	911.24*	315	109	2.07	1821.60	1815	13	4.38E-02	9.4	
27	0	969.12*	152	98	2.31	1937.31	1934	10	2.11E-02	15.8	
28	0	1120.63*	131	105	2.48	2240.29	2232	17	1.82E-02	20.4	
29	0	1460.70*	2383	65	2.61	2920.43	2907	23	3.31E-01	2.2	
30	0	1729.94	41	9	2.17	3459.06	3453	12	5.72E-03	21.3	
31	0	1764.29*	94	26	2.66	3527.78	3515	19	1.31E-02	18.5	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:12:15
Sample ID        : G243536009 Sample quantity : 115.32 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA22 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.03 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	+	477.59	*	1.772E-01	5.413E-01	4.985E-01	5.203E-02	0.355
K-40	+	1460.81	*	3.808E+01	3.882E+00	5.000E-01	4.580E-02	76.169
CD-109	+	88.03	*	2.718E+00	9.097E-01	1.275E+00	1.210E-01	2.132
SN-126	+	64.28		5.401E-01	6.850E-01	6.874E-01	9.983E-02	0.786
	+	86.94		1.104E+00	5.796E-01	5.293E-01	2.197E-01	2.086
	+	87.57	*	2.656E-01	8.889E-02	1.251E-01	1.181E-02	2.123
CS-135	+	268.24	*	3.558E-01	2.721E-01	2.534E-01	3.665E-02	1.404
TL-208		277.35		5.433E-01	3.903E-01	6.462E-01	1.065E-01	0.841
	+	510.84		6.345E-01	3.080E-01	1.998E-01	2.604E-02	3.175
	+	583.14	*	4.431E-01	8.799E-02	5.205E-02	5.644E-03	8.513
		860.37		6.580E-01	3.000E-01	5.430E-01	6.328E-02	1.212
BI-211		72.87		3.313E+00	2.937E+00	4.509E+00	3.609E-01	0.735
	+	351.07	*	3.183E+00	5.623E-01	2.844E-01	3.318E-02	11.193
PB-212	+	74.81		2.017E+00	4.486E-01	4.760E-01	5.906E-02	4.238
	+	77.11		1.664E+00	2.849E-01	2.710E-01	2.267E-02	6.138
	+	87.30		1.228E+00	4.291E-01	5.799E-01	7.964E-02	2.118
	+	238.63	*	1.517E+00	2.243E-01	9.315E-02	1.231E-02	16.281
	+	300.09		1.932E+00	9.289E-01	1.144E+00	1.668E-01	1.689
PO-212	+	74.81		2.017E+00	4.486E-01	4.760E-01	5.906E-02	4.238
	+	77.11		1.664E+00	2.849E-01	2.710E-01	2.267E-02	6.138
	+	87.30		1.228E+00	4.291E-01	5.799E-01	7.964E-02	2.118
		115.19		-2.839E-01	3.594E+00	5.704E+00	4.725E-01	-0.050
	+	238.63	*	1.517E+00	2.243E-01	9.315E-02	1.231E-02	16.281
	+	300.09		1.932E+00	9.289E-01	1.144E+00	1.668E-01	1.689
BI-214	+	609.31	*	8.725E-01	1.531E-01	1.085E-01	1.261E-02	8.043
	+	1120.29		1.204E+00	5.101E-01	4.414E-01	4.877E-02	2.728
	+	1764.49		1.131E+00	4.287E-01	2.684E-01	2.236E-02	4.214
PB-214	+	74.81		3.476E+00	7.472E-01	8.202E-01	9.040E-02	4.238
	+	77.11		2.852E+00	5.346E-01	4.646E-01	5.256E-02	6.138
	+	87.30		2.104E+00	7.227E-01	9.935E-01	1.209E-01	2.118
	+	241.98		2.253E+00	6.884E-01	5.601E-01	7.702E-02	4.023
	+	295.21		1.016E+00	2.326E-01	2.042E-01	3.041E-02	4.976
	+	351.92	*	1.107E+00	2.040E-01	9.912E-02	1.263E-02	11.172
PO-214	+	74.81		3.476E+00	7.472E-01	8.202E-01	9.040E-02	4.238

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.852E+00	5.346E-01	4.646E-01	5.256E-02	6.138
	+	87.30		2.104E+00	7.227E-01	9.935E-01	1.209E-01	2.118
	+	241.98		2.253E+00	6.884E-01	5.601E-01	7.702E-02	4.023
	+	295.21		1.016E+00	2.326E-01	2.042E-01	3.041E-02	4.976
	+	351.92	*	1.107E+00	2.040E-01	9.912E-02	1.263E-02	11.172
PO-216	+	74.81		2.017E+00	4.486E-01	4.760E-01	5.906E-02	4.238
	+	77.11		1.664E+00	2.849E-01	2.710E-01	2.267E-02	6.138
	+	87.30		1.228E+00	4.291E-01	5.799E-01	7.964E-02	2.118
	+	238.63	*	1.517E+00	2.243E-01	9.315E-02	1.231E-02	16.281
	+	300.09		1.932E+00	9.289E-01	1.144E+00	1.668E-01	1.689
PO-218	+	74.81		3.476E+00	7.472E-01	8.202E-01	9.040E-02	4.238
	+	77.11		2.852E+00	5.346E-01	4.646E-01	5.256E-02	6.138
	+	87.30		2.104E+00	7.227E-01	9.935E-01	1.209E-01	2.118
	+	241.98		2.253E+00	6.884E-01	5.601E-01	7.702E-02	4.023
	+	295.21		1.016E+00	2.326E-01	2.042E-01	3.041E-02	4.976
	+	351.92	*	1.107E+00	2.040E-01	9.912E-02	1.263E-02	11.172
RA-224	+	240.98	*	4.272E+00	1.283E+00	1.059E+00	1.326E-01	4.034
RA-226	+	609.31	*	8.725E-01	1.531E-01	1.085E-01	1.261E-02	8.043
	+	1120.29		1.204E+00	5.101E-01	4.414E-01	4.877E-02	2.728
	+	1764.49		1.131E+00	4.287E-01	2.684E-01	2.236E-02	4.214
AC-228	+	338.32		1.648E+00	7.922E-01	3.424E-01	1.440E-01	4.812
	+	911.07	*	1.328E+00	3.046E-01	2.188E-01	2.899E-02	6.072
	+	969.11		1.127E+00	4.487E-01	4.025E-01	9.720E-02	2.800
RA-228	+	338.32		1.648E+00	7.922E-01	3.424E-01	1.440E-01	4.812
	+	911.07	*	1.328E+00	3.046E-01	2.188E-01	2.899E-02	6.072
	+	969.11		1.127E+00	4.487E-01	4.025E-01	9.720E-02	2.800
TH-228	+	74.81		2.056E+00	4.155E-01	4.851E-01	3.997E-02	4.238
	+	77.11		1.695E+00	2.904E-01	2.762E-01	2.310E-02	6.138
	+	87.30		1.252E+00	4.190E-01	5.911E-01	5.563E-02	2.118
	+	238.63	*	1.546E+00	2.286E-01	9.493E-02	1.254E-02	16.281
	+	300.09		1.969E+00	1.489E+00	1.166E+00	7.012E-01	1.689
TH-230	+	609.31	*	8.725E-01	1.531E-01	1.085E-01	1.261E-02	8.043
	+	1120.29		1.204E+00	5.100E-01	4.414E-01	4.877E-02	2.728
	+	1764.49		1.131E+00	4.287E-01	2.684E-01	2.236E-02	4.214
TH-232	+	338.32		1.648E+00	4.309E-01	3.424E-01	4.072E-02	4.812
	+	911.07	*	1.328E+00	3.046E-01	2.188E-01	2.899E-02	6.072
	+	969.11		1.127E+00	4.487E-01	4.025E-01	9.720E-02	2.800
TH-234	+	63.29	*	1.364E+00	1.736E+00	1.741E+00	3.030E-01	0.784
	+	92.38		1.597E+00	7.501E-01	6.447E-01	1.181E-01	2.477
U-234	+	609.31	*	8.725E-01	1.531E-01	1.085E-01	1.261E-02	8.043
	+	1120.29		1.204E+00	5.100E-01	4.414E-01	4.877E-02	2.728
	+	1764.49		1.131E+00	4.287E-01	2.684E-01	2.236E-02	4.214
NP-237	+	86.50	*	7.798E-01	3.066E-01	3.676E-01	8.324E-02	2.121
	+	95.87		1.067E+00	9.379E-01	1.377E+00	3.405E-01	0.775
U-238	+	63.29	*	1.364E+00	1.736E+00	1.741E+00	3.030E-01	0.784
	+	92.38		1.597E+00	7.058E-01	6.447E-01	5.875E-02	2.477
AM-243	+	74.67	*	3.271E-01	6.600E-02	7.739E-02	6.308E-03	4.226
	+	86.72		2.924E+01	9.788E+00	1.376E+01	1.286E+00	2.126
	+	117.66		-9.472E-01	3.750E+00	5.896E+00	4.870E-01	-0.161

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	142.18	*	-1.261E+01	1.679E+01	2.752E+01	2.431E+00	-0.458
		511.00	*	1.371E-01	6.555E-02	4.317E-02	4.326E-03	3.174

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22		1274.54	*	-1.398E-02	4.256E-02	6.874E-02	5.924E-03	-0.203
NA-24		1368.53	*	-8.409E+01	4.256E-02	Half-Life too short		
AL-26		1129.67		-7.962E-01	1.881E+00	2.571E+00	2.239E-01	-0.310
		1808.65	*	9.687E-03	2.458E-02	4.282E-02	3.502E-03	0.226
TI-44		67.85		-2.200E-02	4.192E-02	6.399E-02	4.884E-03	-0.344
	+	78.38	*	3.070E-01	5.259E-02	6.681E-02	5.665E-03	4.595
SC-46		889.25	*	-9.328E-04	3.793E-02	6.281E-02	7.031E-03	-0.015
	+	1120.51		2.130E-01	8.912E-02	1.167E-01	1.031E-02	1.826
V-48		944.10		-8.306E-01	9.601E-01	1.472E+00	1.597E-01	-0.564
		983.50	*	-1.873E-02	7.965E-02	1.286E-01	1.348E-02	-0.146
		1312.09		-3.589E-03	9.923E-02	1.633E-01	1.439E-02	-0.022
CR-51		320.08	*	-2.015E-01	3.903E-01	6.362E-01	8.238E-02	-0.317
MN-52		744.21		2.020E-01	4.329E-01	6.276E-01	6.820E-02	0.322
		848.13		7.460E+00	9.511E+00	1.665E+01	1.853E+00	0.448
		935.52		1.004E-01	3.965E-01	6.653E-01	7.263E-02	0.151
		1246.25		-6.905E+00	1.228E+01	1.964E+01	1.660E+00	-0.352
		1333.61		-4.647E+00	8.059E+00	1.261E+01	1.124E+00	-0.369
		1434.06	*	-3.560E-03	3.435E-01	5.612E-01	5.015E-02	-0.006
MN-54		834.83	*	8.780E-03	4.001E-02	6.752E-02	7.501E-03	0.130
CO-56		846.75	*	1.009E-02	3.693E-02	6.263E-02	6.971E-03	0.161
		977.42		1.178E+00	3.353E+00	5.178E+00	5.461E-01	0.228
		1037.82		-1.432E-01	3.194E-01	5.045E-01	5.202E-02	-0.284
		1175.09		7.592E-01	2.281E+00	3.882E+00	3.126E-01	0.196
		1238.25		1.566E-01	9.323E-02	1.669E-01	1.446E-02	0.938
		1360.21		7.038E-01	9.034E-01	1.592E+00	1.422E-01	0.442
		1771.40		-2.519E-01	2.783E-01	3.148E-01	2.616E-02	-0.800
CO-57		122.06	*	1.637E-02	2.571E-02	4.178E-02	3.445E-03	0.392
		136.48		-1.482E-01	2.025E-01	3.331E-01	3.091E-02	-0.445
CO-58		810.76	*	-6.898E-03	3.814E-02	6.307E-02	6.984E-03	-0.109
FE-59		142.65		-2.029E+00	2.864E+00	4.596E+00	4.067E-01	-0.441
		192.34		2.504E-01	1.033E+00	1.662E+00	2.468E-01	0.151
		1099.22	*	-9.950E-02	9.811E-02	1.469E-01	1.439E-02	-0.678
		1291.56		3.868E-02	1.311E-01	2.211E-01	2.179E-02	0.175
CO-60		1173.22		3.295E-03	4.428E-02	7.422E-02	5.969E-03	0.044
		1332.49	*	-2.230E-02	3.780E-02	5.901E-02	5.262E-03	-0.378
ZN-65		1115.52	*	5.129E-02	1.107E-01	1.591E-01	1.419E-02	0.322
GE-68		1077.35	*	-4.292E-02	1.236E+00	2.007E+00	1.892E-01	-0.021
AS-73		53.44	*	8.795E-03	7.567E-01	1.242E+00	9.385E-02	0.007
AS-74		595.88	*	1.669E-02	9.968E-02	1.668E-01	1.729E-02	0.100
		634.78		-1.639E-01	3.920E-01	6.288E-01	6.590E-02	-0.261
SE-75		66.05		-2.752E+00	4.612E+00	6.589E+00	6.286E-01	-0.418
		96.73		-8.539E-02	8.025E-01	1.146E+00	1.577E-01	-0.074

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		7.367E-02	1.409E-01	2.279E-01	2.492E-02	0.323
		136.00		-3.228E-02	3.856E-02	6.318E-02	5.483E-03	-0.511
		198.60		2.809E-03	1.948E+00	3.071E+00	3.589E-01	0.001
		264.65	*	4.930E-02	5.133E-02	7.580E-02	1.020E-02	0.650
		279.53		-5.634E-02	1.143E-01	1.783E-01	2.530E-02	-0.316
		303.91		-1.101E+00	2.297E+00	3.250E+00	4.952E-01	-0.339
		400.65		6.609E-02	2.438E-01	4.058E-01	4.749E-02	0.163
BR-77	+	87.88		1.861E-03	2.438E-01	Half-Life	too short	
		200.40		-2.521E-05	2.438E-01	Half-Life	too short	
	+	239.00		7.763E-04	2.438E-01	Half-Life	too short	
		249.79		-2.353E-05	2.438E-01	Half-Life	too short	
		281.68		-3.343E-04	2.438E-01	Half-Life	too short	
		297.23		8.332E-04	2.438E-01	Half-Life	too short	
		303.76		-3.032E-04	2.438E-01	Half-Life	too short	
		439.47		2.025E-04	2.438E-01	Half-Life	too short	
		484.57		-1.796E-04	2.438E-01	Half-Life	too short	
		520.65	*	2.950E-06	2.438E-01	Half-Life	too short	
		574.64		-6.175E-05	2.438E-01	Half-Life	too short	
		578.91		-5.406E-05	2.438E-01	Half-Life	too short	
		585.48		5.863E-03	2.438E-01	Half-Life	too short	
		755.35		-1.457E-05	2.438E-01	Half-Life	too short	
		817.79		3.764E-04	2.438E-01	Half-Life	too short	
SR-82		698.33		2.027E+01	3.606E+01	6.078E+01	6.503E+00	0.334
		776.49	*	-6.259E-02	4.058E-01	6.490E-01	7.117E-02	-0.096
		1395.20		-8.828E+00	1.078E+01	1.608E+01	1.437E+00	-0.549
RB-83		520.41	*	7.144E-04	6.655E-02	1.067E-01	1.074E-02	0.007
		529.64		-2.632E-02	1.022E-01	1.687E-01	1.705E-02	-0.156
		552.65		5.432E-02	1.912E-01	3.239E-01	3.306E-02	0.168
RB-84		881.50	*	8.863E-03	7.129E-02	1.193E-01	1.335E-02	0.074
KR-85		513.99	*	2.956E+01	8.813E+00	1.429E+01	1.434E+00	2.069
SR-85		513.99	*	1.580E-01	4.712E-02	7.638E-02	7.664E-03	2.069
RB-86		1076.63	*	-1.127E-02	8.921E-01	1.451E+00	1.369E-01	-0.008
Y-88		898.02		2.487E-03	4.104E-02	6.828E-02	7.672E-03	0.036
		1836.01	*	2.175E-02	2.921E-02	5.300E-02	4.285E-03	0.410
ZR-88		392.90	*	2.995E-02	3.001E-02	5.163E-02	4.807E-03	0.580
Y-91		1204.90	*	1.116E+01	2.071E+01	3.547E+01	2.916E+00	0.315
NB-94		702.63	*	1.588E-02	3.056E-02	5.144E-02	5.513E-03	0.309
		871.10		-6.791E-03	3.045E-02	4.979E-02	5.562E-03	-0.136
NB-95		765.79	*	2.547E-02	4.329E-02	7.242E-02	7.920E-03	0.352
NB-95M		235.69	*	1.324E-01	1.510E-01	2.227E-01	2.943E-02	0.595
ZR-95		724.18		1.922E-01	1.164E-01	1.807E-01	2.060E-02	1.063
		756.15	*	-2.340E-02	7.076E-02	1.120E-01	1.301E-02	-0.209
NB-97		657.90	*	-2.307E+00	7.076E-02	Half-Life	too short	
		1024.50		-2.764E+02	7.076E-02	Half-Life	too short	
ZR-97		254.15		1.126E+02	7.076E-02	Half-Life	too short	
		355.39		2.860E+02	7.076E-02	Half-Life	too short	
		507.63	*	2.496E+02	7.076E-02	Half-Life	too short	
		602.52		-4.001E+01	7.076E-02	Half-Life	too short	
		1021.30		-2.984E+02	7.076E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	1147.95			-1.446E+02	7.076E-02	Half-Life	too short	
	1362.66			1.845E+02	7.076E-02	Half-Life	too short	
	1750.46			-1.621E+02	7.076E-02	Half-Life	too short	
	140.51			3.716E+00	6.855E+01	1.159E+02	3.214E+01	0.032
	181.06			1.086E+01	5.404E+01	7.938E+01	1.520E+01	0.137
	366.43			-9.615E+01	2.107E+02	3.399E+02	3.605E+01	-0.283
TC-99M	739.58	*		1.283E+01	3.510E+01	5.042E+01	8.346E+00	0.255
	778.00			-6.611E+01	8.921E+01	1.362E+02	1.495E+01	-0.485
	140.51	*		1.169E+14	8.921E+01	Half-Life	too short	
RH-101	127.23			1.053E-02	3.431E-02	5.484E-02	4.584E-03	0.192
	198.01	*		8.857E-03	3.485E-02	5.543E-02	6.047E-03	0.160
RH-102	325.23			-7.508E-03	2.421E-01	3.511E-01	4.364E-02	-0.021
	418.52			-1.001E-01	2.715E-01	4.348E-01	4.126E-02	-0.230
	475.06	*		-1.296E-02	3.457E-02	4.672E-02	4.594E-03	-0.277
	631.29			1.405E-02	4.937E-02	8.283E-02	8.674E-03	0.170
	697.49			3.356E-02	7.318E-02	1.227E-01	1.312E-02	0.274
	766.84			5.917E-02	1.050E-01	1.754E-01	1.918E-02	0.337
RU-103	1046.59			-9.151E-03	1.166E-01	1.893E-01	1.856E-02	-0.048
	1112.84			1.522E-01	2.590E-01	3.779E-01	3.382E-02	0.403
	497.08	*		2.856E-02	4.204E-02	7.006E-02	1.051E-02	0.408
RH-106	610.33	+		1.010E+01	2.226E+00	2.532E+00	4.475E-01	3.991
	511.85	+		6.897E-01	3.299E-01	4.151E-01	4.160E-02	1.662
RU-106	621.84	*		-4.874E-02	2.977E-01	4.865E-01	7.104E-02	-0.100
	1050.47			1.274E+00	2.313E+00	3.912E+00	3.819E-01	0.326
	511.85	+		6.897E-01	3.299E-01	4.151E-01	4.160E-02	1.662
AG-108M	621.84	*		-4.874E-02	2.976E-01	4.865E-01	5.082E-02	-0.100
	1050.47			1.274E+00	2.313E+00	3.912E+00	3.819E-01	0.326
	433.93	*		-1.017E-02	3.078E-02	4.920E-02	4.871E-03	-0.207
AG-110M	614.37	+		4.299E-02	4.165E-02	6.297E-02	6.740E-03	0.683
	722.95			4.772E-03	4.582E-02	6.447E-02	7.133E-03	0.074
	657.75	*		-1.883E-02	3.362E-02	5.322E-02	5.720E-03	-0.354
IN-111	677.61			-7.660E-02	2.993E-01	4.823E-01	5.215E-02	-0.159
	706.67			-1.335E-01	2.003E-01	3.121E-01	3.409E-02	-0.428
	763.93			-1.254E-01	1.665E-01	2.559E-01	2.846E-02	-0.490
	884.67			2.796E-02	4.649E-02	8.010E-02	9.134E-03	0.349
	937.48			3.996E-02	1.050E-01	1.776E-01	1.980E-02	0.225
	1384.27			-3.174E-01	1.531E-01	1.906E-01	1.748E-02	-1.665
IN-113M	171.28			6.152E-01	2.563E+00	4.300E+00	4.292E-01	0.143
	245.39	*		9.728E-01	3.088E+00	4.446E+00	5.641E-01	0.219
SN-113	391.69	*		6.883E-03	4.367E-02	7.239E-02	6.913E-03	0.095
IN-114M	391.69	*		6.883E-03	4.367E-02	7.239E-02	6.913E-03	0.095
CD-115	190.27	*		-1.192E-02	2.095E-01	3.027E-01	3.218E-02	-0.039
SN-117M	260.90			-1.354E-04	2.095E-01	Half-Life	too short	
	492.35			8.947E-06	2.095E-01	Half-Life	too short	
	527.90	*		5.765E-06	2.095E-01	Half-Life	too short	
SB-122	156.02			-1.305E-01	2.657E+00	4.442E+00	4.165E-01	-0.029
	158.56	*		-2.491E-02	6.763E-02	1.058E-01	1.004E-02	-0.235
SB-122	563.90	*		1.573E+00	5.463E+00	9.237E+00	9.468E-01	0.170
	692.80			5.487E+01	1.135E+02	1.908E+02	2.038E+01	0.288

---- 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	*		-4.749E+02	1.135E+02	Half-Life	too short	
	528.96			-4.241E+03	1.135E+02	Half-Life	too short	
TE-123M	159.00	*		-1.560E-02	2.975E-02	4.633E-02	4.424E-03	-0.337
I-124	602.71	*		-1.631E-01	1.444E+00	2.038E+00	2.117E-01	-0.080
	722.78			9.634E-01	9.251E+00	1.302E+01	1.405E+00	0.074
	1325.50			-1.122E+00	6.070E+01	9.990E+01	8.872E+00	-0.011
	1376.25			6.726E+01	5.628E+01	1.009E+02	9.018E+00	0.667
	1509.49			1.367E+01	2.658E+01	4.563E+01	4.055E+00	0.300
	1691.02			1.105E-01	5.852E+00	9.718E+00	8.310E-01	0.011
SB-124	602.71			-5.132E-03	4.546E-02	6.416E-02	6.665E-03	-0.080
	645.85			2.463E-01	4.774E-01	8.099E-01	8.858E-02	0.304
	709.31			1.580E-01	2.779E+00	4.549E+00	4.886E-01	0.035
	713.82			1.125E+00	1.712E+00	2.889E+00	3.945E-01	0.389
	722.78			4.395E-02	4.221E-01	5.939E-01	6.498E-02	0.074
	+ 968.20			1.214E+01	4.055E+00	6.912E+00	7.350E-01	1.757
	1045.16			-1.558E-01	2.623E+00	4.264E+00	4.189E-01	-0.037
	1325.50			-5.467E-02	2.958E+00	4.868E+00	4.323E-01	-0.011
	1368.21			-2.314E+00	1.722E+00	2.391E+00	3.271E-01	-0.968
	1436.60			-1.135E+00	3.634E+00	5.744E+00	5.133E-01	-0.198
	1691.02	*		1.190E-03	6.298E-02	1.046E-01	9.303E-03	0.011
SB-125	427.89	*		-7.524E-02	8.782E-02	1.359E-01	1.319E-02	-0.554
	+ 463.38			8.713E-01	3.664E-01	5.000E-01	5.185E-02	1.743
	600.56			8.748E-02	1.834E-01	2.902E-01	3.167E-02	0.301
	635.90			-4.001E-02	2.539E-01	4.142E-01	4.582E-02	-0.097
TE-125M	109.28	*		-2.957E+00	9.654E+00	1.523E+01	1.544E+00	-0.194
I-126	388.63			-4.820E-02	2.429E-01	3.957E-01	3.746E-02	-0.122
	666.33	*		-7.535E-02	2.199E-01	3.533E-01	3.733E-02	-0.213
	753.82			3.084E-01	1.706E+00	2.798E+00	3.050E-01	0.110
SB-126	223.80			-2.992E+00	4.944E+00	7.833E+00	9.293E-01	-0.382
	278.60			2.969E+00	3.149E+00	5.207E+00	7.279E-01	0.570
	+ 296.50			1.264E+01	2.782E+00	3.916E+00	5.276E-01	3.226
	414.70			2.809E-03	9.904E-02	1.405E-01	1.330E-02	0.020
	415.30			2.090E+00	8.183E+00	1.182E+01	1.119E+00	0.177
	555.20			4.154E+00	4.616E+00	8.050E+00	8.223E-01	0.516
	573.80			3.339E-01	1.298E+00	2.143E+00	2.205E-01	0.156
	593.00			8.700E-02	1.055E+00	1.758E+00	1.821E-01	0.049
	656.30			-2.349E+00	3.960E+00	6.254E+00	6.588E-01	-0.376
	666.33			-3.177E-02	9.273E-02	1.490E-01	1.574E-02	-0.213
	675.00			-1.326E+00	2.365E+00	3.731E+00	3.956E-01	-0.355
	695.00			8.746E-03	9.296E-02	1.528E-01	1.632E-02	0.057
	697.00			6.611E-02	3.235E-01	5.349E-01	5.720E-02	0.124
	720.50	*		-1.509E-01	2.131E-01	2.772E-01	2.990E-02	-0.544
	856.80			-2.900E-01	5.748E-01	9.254E-01	1.032E-01	-0.313
	989.30			-6.010E-01	1.417E+00	2.247E+00	2.344E-01	-0.267
	1034.80			-6.402E+00	1.090E+01	1.703E+01	1.693E+00	-0.376
	1213.00			-1.555E+00	6.011E+00	9.845E+00	8.140E-01	-0.158
SB-127	61.10			2.494E+01	1.080E+02	1.624E+02	1.863E+01	0.154
	252.40			5.524E+00	9.269E+00	1.484E+01	6.452E+00	0.372
	290.80			-1.772E+01	4.688E+01	6.719E+01	1.097E+01	-0.264

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		411.60		1.948E+01	2.652E+01	3.936E+01	6.726E+00	0.495
		444.90		4.428E+00	1.841E+01	3.035E+01	4.354E+00	0.146
		473.00		-1.140E+00	4.133E+00	5.416E+00	7.988E-01	-0.211
		543.00		8.085E+00	3.094E+01	5.243E+01	8.551E+00	0.154
		603.60		-1.248E+01	2.676E+01	3.660E+01	5.427E+00	-0.341
		685.20	*	-1.496E+00	2.660E+00	4.183E+00	5.892E-01	-0.358
		698.50		1.743E+01	2.959E+01	4.976E+01	8.904E+00	0.350
		722.20		-3.078E+01	6.895E+01	9.200E+01	1.290E+01	-0.335
		783.80		1.674E+00	7.719E+00	1.222E+01	1.854E+00	0.137
XE-127		57.60		7.950E-01	5.630E+00	9.427E+00	6.771E-01	0.084
		145.22		1.669E-01	7.319E-01	1.212E+00	1.084E-01	0.138
		172.10		1.041E-02	1.259E-01	2.100E-01	2.102E-02	0.050
		202.84	*	-2.273E-02	5.551E-02	8.272E-02	9.169E-03	-0.275
		374.96		8.841E-02	1.976E-01	3.334E-01	3.395E-02	0.265
I-131		80.18		2.916E+00	6.048E+00	9.015E+00	7.877E-01	0.323
		284.30		1.511E+00	2.136E+00	3.509E+00	4.968E-01	0.431
		364.48	*	6.980E-02	1.449E-01	2.455E-01	2.726E-02	0.284
		636.97		9.510E-01	2.048E+00	3.465E+00	3.781E-01	0.274
		722.89		1.132E+00	1.087E+01	1.529E+01	1.661E+00	0.074
TE-132		49.72		-2.879E+01	3.781E+01	6.133E+01	7.087E+00	-0.469
		111.76		2.789E+01	7.169E+01	1.125E+02	1.326E+01	0.248
		116.30		-3.656E+01	6.492E+01	1.007E+02	1.182E+01	-0.363
		228.16	*	2.812E-01	1.615E+00	2.645E+00	4.901E-01	0.106
BA-133		53.15		6.123E-01	3.105E+00	5.221E+00	3.962E-01	0.117
		79.62		8.792E-01	1.209E+00	1.814E+00	2.760E-01	0.485
		81.00		-8.733E-02	9.645E-02	1.330E-01	2.120E-02	-0.657
		276.40		6.186E-01	4.186E-01	6.448E-01	1.167E-01	0.959
		302.84		-8.629E-04	1.546E-01	2.262E-01	3.772E-02	-0.004
		356.01	*	6.644E-02	4.287E-02	6.710E-02	1.003E-02	0.990
		383.85		1.119E-01	2.871E-01	4.817E-01	6.446E-02	0.232
I-133	+	510.53		3.350E+01	2.871E-01	Half-Life	too short	
		529.87	*	-5.884E-02	2.871E-01	Half-Life	too short	
		706.58		-6.371E+00	2.871E-01	Half-Life	too short	
		856.28		-1.630E+01	2.871E-01	Half-Life	too short	
		875.33		-2.050E-01	2.871E-01	Half-Life	too short	
		1236.41		2.434E+01	2.871E-01	Half-Life	too short	
		1298.22		-4.326E+00	2.871E-01	Half-Life	too short	
CS-134		475.35		-4.082E-01	2.225E+00	3.055E+00	3.005E-01	-0.134
		563.23		1.984E-01	3.421E-01	5.867E-01	6.053E-02	0.338
		569.32		-9.068E-02	2.043E-01	3.197E-01	3.315E-02	-0.284
		604.70		2.732E-03	3.673E-02	5.261E-02	5.477E-03	0.052
		795.84	*	6.129E-02	4.828E-02	8.160E-02	9.032E-03	0.751
		801.93		-3.388E-01	3.802E-01	5.701E-01	6.313E-02	-0.594
		1038.57		-6.856E-02	3.816E+00	6.226E+00	6.164E-01	-0.011
		1167.94		-6.778E-01	2.486E+00	4.079E+00	3.315E-01	-0.166
I-135		1365.15		-4.695E-01	1.126E+00	1.738E+00	1.619E-01	-0.270
		288.45		-1.545E+14	1.126E+00	Half-Life	too short	
		417.63		-3.649E+14	1.126E+00	Half-Life	too short	
		546.56		7.770E+12	1.126E+00	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		836.80		4.117E+14	1.126E+00	Half-Life	too short	
		1038.76		8.253E+13	1.126E+00	Half-Life	too short	
		1124.00		1.814E+15	1.126E+00	Half-Life	too short	
		1131.51		8.547E+13	1.126E+00	Half-Life	too short	
		1260.41	*	4.155E+13	1.126E+00	Half-Life	too short	
		1457.56		3.067E+16	1.126E+00	Half-Life	too short	
		1678.03		4.346E+13	1.126E+00	Half-Life	too short	
		1706.46		3.860E+14	1.126E+00	Half-Life	too short	
		1791.20		-2.319E+13	1.126E+00	Half-Life	too short	
	+	66.91		2.205E-01	8.876E-01	1.321E+00	1.966E-01	0.167
		86.29		4.273E+00	1.487E+00	2.313E+00	3.081E-01	1.847
		153.22		6.970E-01	7.743E-01	1.333E+00	1.362E-01	0.523
		163.89		1.415E+00	1.302E+00	2.240E+00	2.386E-01	0.632
		176.55		8.378E-02	4.689E-01	7.680E-01	8.130E-02	0.109
		273.65		-1.035E+00	7.019E-01	8.710E-01	1.232E-01	-1.189
		340.57		7.383E-01	1.897E-01	3.026E-01	3.626E-02	2.440
		818.51		5.372E-02	8.197E-02	1.426E-01	1.580E-02	0.377
	*	1048.07		7.754E-03	1.336E-01	2.190E-01	2.216E-02	0.035
		1235.34		8.606E-01	7.483E-01	1.306E+00	1.527E-01	0.659
BA-137M		661.65	*	2.118E-02	3.439E-02	5.836E-02	6.154E-03	0.363
CS-137		661.65	*	2.239E-02	3.635E-02	6.169E-02	6.514E-03	0.363
CE-139		165.85	*	-1.358E-02	2.994E-02	4.908E-02	4.814E-03	-0.277
BA-140		162.64		7.598E-01	9.181E-01	1.572E+00	1.589E-01	0.483
		304.84		-3.541E-02	1.689E+00	2.467E+00	7.341E-01	-0.014
		423.70		5.033E-01	2.281E+00	3.761E+00	1.229E+00	0.134
	*	537.32		-1.198E-01	3.028E-01	4.910E-01	1.648E-01	-0.244
LA-140	+	328.77		8.324E-01	5.102E-01	6.515E-01	8.230E-02	1.278
		432.53		7.033E-01	2.354E+00	3.902E+00	3.886E-01	0.180
		487.03		6.759E-02	1.809E-01	2.712E-01	2.811E-02	0.249
		751.79		5.692E-01	2.078E+00	3.186E+00	3.707E-01	0.179
		815.85		-2.723E-02	3.684E-01	6.131E-01	7.270E-02	-0.044
		867.82		-1.727E+00	1.684E+00	2.590E+00	2.984E-01	-0.667
		919.63		2.139E+00	3.489E+00	5.666E+00	7.190E-01	0.378
		925.24		-1.138E+00	1.333E+00	2.057E+00	2.351E-01	-0.553
	*	1596.49		-1.146E-01	1.063E-01	1.570E-01	1.376E-02	-0.730
CE-141		145.44	*	5.927E-02	6.393E-02	1.106E-01	1.007E-02	0.536
CE-143		57.37		-8.245E-04	6.393E-02	Half-Life	too short	
		231.56		1.258E-02	6.393E-02	Half-Life	too short	
	*	293.26		4.835E-03	6.393E-02	Half-Life	too short	
	+	350.59		1.872E-01	6.393E-02	Half-Life	too short	
		490.36		-3.591E-03	6.393E-02	Half-Life	too short	
		664.57		-7.456E-04	6.393E-02	Half-Life	too short	
		721.93		-5.125E-03	6.393E-02	Half-Life	too short	
CE-144		80.11		9.884E-01	1.997E+00	2.978E+00	2.574E-01	0.332
	*	133.54		-1.919E-02	1.972E-01	3.327E-01	5.165E-02	-0.058
PM-144		476.78		9.946E-03	7.565E-02	1.066E-01	1.125E-02	0.093
		618.01		2.207E-02	3.353E-02	5.028E-02	5.346E-03	0.439
	*	696.49		3.632E-03	3.335E-02	5.484E-02	5.865E-03	0.066
		778.57		-1.997E+00	2.234E+00	3.368E+00	3.697E-01	-0.593

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

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PR-144	696.49	*		2.467E-01	2.265E+00	3.724E+00	3.981E-01	0.066
	1489.15			-8.668E+00	1.043E+01	1.515E+01	1.350E+00	-0.572
PM-146	453.90	*		5.231E-02	4.093E-02	7.051E-02	8.193E-03	0.742
	633.02			-2.460E-01	1.302E+00	2.116E+00	8.008E-01	-0.116
	735.90			3.091E-01	2.082E-01	2.281E-01	6.693E-02	1.355
	747.13			-1.424E-02	9.665E-02	1.321E-01	2.051E-02	-0.108
ND-147	91.11	+		5.392E-01	3.864E-01	5.856E-01	5.786E-02	0.921
	319.41			-3.597E+00	4.112E+00	6.567E+00	8.313E-01	-0.548
	439.89			3.206E+00	7.121E+00	1.187E+01	1.143E+00	0.270
	531.02	*		-1.283E-01	6.846E-01	1.134E+00	1.799E-01	-0.113
PM-149	285.90	*		1.782E-04	6.846E-01	Half-Life too short		
EU-152	121.78			1.799E-03	7.503E-02	1.191E-01	1.143E-02	0.015
	244.69			1.749E-01	3.700E-01	5.369E-01	6.798E-02	0.326
	344.27	*		2.811E-02	1.161E-01	1.358E-01	1.633E-02	0.207
	443.98			2.873E-01	8.999E-01	1.490E+00	1.438E-01	0.193
	778.89			-1.740E-01	2.534E-01	3.887E-01	4.265E-02	-0.448
	867.32			-1.075E+00	8.301E-01	1.248E+00	1.394E-01	-0.862
	964.01			2.579E-01	3.526E-01	5.162E-01	5.509E-02	0.500
	1085.78			-1.272E-02	4.233E-01	6.867E-01	6.398E-02	-0.019
	1112.02			2.012E-01	3.713E-01	5.393E-01	4.833E-02	0.373
	1407.95			1.583E-01	1.910E-01	3.336E-01	2.983E-02	0.475
GD-153	69.67			-9.349E-02	1.580E+00	2.322E+00	1.802E-01	-0.040
	83.37			2.286E+00	1.498E+01	2.175E+01	1.952E+00	0.105
	97.43	*		-1.045E-01	8.566E-02	1.142E-01	1.005E-02	-0.915
	103.18			-7.931E-04	1.049E-01	1.682E-01	1.438E-02	-0.005
EU-154	123.07			-1.297E-02	5.266E-02	8.255E-02	9.156E-03	-0.157
	247.94			-2.296E-01	4.176E-01	5.673E-01	8.431E-02	-0.405
	591.81			-3.367E-01	5.944E-01	9.013E-01	1.172E-01	-0.374
	723.30			4.131E-02	1.954E-01	2.774E-01	3.199E-02	0.149
	756.87			-2.285E-01	7.458E-01	1.183E+00	1.622E-01	-0.193
	873.19			-7.132E-04	2.627E-01	4.363E-01	6.178E-02	-0.002
	996.32			-1.488E-01	3.502E-01	5.551E-01	1.036E-01	-0.268
	1004.76			2.769E-02	2.097E-01	3.468E-01	4.478E-02	0.080
	1274.45	*		-3.819E-02	1.187E-01	1.918E-01	2.168E-02	-0.199
EU-155	48.70			-1.943E+00	2.073E+00	3.348E+00	2.727E-01	-0.580
	60.01			1.368E+00	4.631E+00	6.996E+00	4.968E-01	0.196
	86.54	+		3.203E-01	1.073E-01	1.738E-01	1.634E-02	1.843
	105.31	*		1.651E-01	1.074E-01	1.806E-01	1.551E-02	0.914
TB-160	86.79	+		8.876E-01	2.971E-01	4.772E-01	4.463E-02	1.860
	197.04			-2.505E-01	6.190E-01	9.602E-01	1.044E-01	-0.261
	215.65			-5.745E-01	7.979E-01	1.215E+00	1.404E-01	-0.473
	298.57	+		2.921E-01	1.394E-01	1.973E-01	2.645E-02	1.480
	879.36	*		-9.399E-03	1.311E-01	2.166E-01	2.422E-02	-0.043
	962.29			5.983E-01	6.050E-01	9.467E-01	1.012E-01	0.632
	966.15			1.139E+00	3.115E-01	5.073E-01	5.404E-02	2.245
	1177.93			-1.428E-02	3.687E-01	6.135E-01	4.950E-02	-0.023
	1271.85			-5.661E-01	7.288E-01	1.136E+00	9.760E-02	-0.499
HO-166M	80.57			8.213E-02	2.517E-01	3.725E-01	3.236E-02	0.220
	184.41			2.406E-02	4.275E-02	6.523E-02	6.801E-03	0.369

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

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	280.46			-1.552E-01	9.112E-02	1.298E-01	1.812E-02	-1.196
	410.95			2.299E-01	2.631E-01	3.956E-01	3.734E-02	0.581
	711.68	*		9.276E-03	5.976E-02	9.834E-02	1.057E-02	0.094
	752.31			6.687E-02	2.580E-01	4.165E-01	4.537E-02	0.161
	810.29			1.280E-02	5.495E-02	9.325E-02	1.031E-02	0.137
TM-171	51.35			3.565E+00	2.619E+01	4.402E+01	3.434E+00	0.081
	52.39			7.327E+00	1.377E+01	2.344E+01	1.799E+00	0.313
	59.40			7.778E+00	2.500E+01	3.782E+01	2.674E+00	0.206
	66.72	*		5.540E+00	2.623E+01	3.902E+01	2.948E+00	0.142
LU-176	88.36	+		6.299E-01	2.108E-01	3.315E-01	3.135E-02	1.900
	201.83			-1.122E-02	2.888E-02	4.672E-02	5.162E-03	-0.240
	306.84	*		4.595E-03	2.337E-02	3.956E-02	5.190E-03	0.116
	401.10			3.448E+00	6.152E+00	1.038E+01	9.728E-01	0.332
LU-177	112.95			-2.816E-01	2.585E+00	3.983E+00	3.311E-01	-0.071
	208.36	*		3.000E+00	2.634E+00	2.918E+00	3.294E-01	1.028
LU-177M	52.97	+		5.774E-01	1.427E+00	2.418E+00	1.839E-01	0.239
	54.07			5.478E-02	7.702E-01	1.267E+00	9.488E-02	0.043
	61.30			5.469E-01	1.395E+00	2.113E+00	1.520E-01	0.259
	121.62			-1.958E-02	3.901E-01	6.173E-01	5.085E-02	-0.032
	147.16			-6.005E-01	6.180E-01	9.995E-01	9.012E-02	-0.601
	171.86			1.787E-02	4.776E-01	7.955E-01	7.956E-02	0.022
	218.09			1.652E-01	8.592E-01	1.414E+00	1.647E-01	0.117
	268.79	+		1.819E+00	1.388E+00	1.432E+00	1.947E-01	1.270
	319.02			-1.595E-01	2.529E-01	4.099E-01	5.194E-02	-0.389
	367.43			-1.811E-01	8.314E-01	1.359E+00	1.435E-01	-0.133
	413.65	*		-6.382E-03	1.866E-01	2.635E-01	2.492E-02	-0.024
HF-181	56.28			-5.400E-02	8.608E-01	1.432E+00	1.043E-01	-0.038
	57.53			7.893E-03	4.698E-01	7.831E-01	5.628E-02	0.010
	65.20			-9.776E-01	9.632E-01	1.348E+00	1.005E-01	-0.725
	133.02			-6.250E-02	6.803E-02	1.113E-01	9.490E-03	-0.561
	136.25			-3.884E-01	4.693E-01	7.692E-01	6.635E-02	-0.505
	345.85			-3.762E-02	2.509E-01	2.798E-01	3.236E-02	-0.134
	482.03	*		-1.217E-02	5.357E-02	7.317E-02	7.223E-03	-0.166
W-181	56.28			-2.019E-02	3.230E-01	5.375E-01	3.915E-02	-0.038
	57.53			2.663E-03	1.764E-01	2.941E-01	2.114E-02	0.009
	65.20	*		-3.642E-01	3.589E-01	5.023E-01	3.744E-02	-0.725
TA-182	67.75			-5.857E-02	1.023E-01	1.559E-01	1.189E-02	-0.376
	100.10			6.676E-02	1.707E-01	2.787E-01	2.415E-02	0.239
	152.43			2.500E-01	3.273E-01	5.622E-01	5.187E-02	0.445
	222.10			3.381E-02	3.516E-01	5.756E-01	6.792E-02	0.059
	1001.68			5.241E-01	2.019E+00	3.366E+00	3.468E-01	0.156
	1121.28	+		5.831E-01	2.440E-01	3.175E-01	2.804E-02	1.836
	1189.05			9.296E-02	3.085E-01	5.233E-01	4.256E-02	0.178
	1221.42	*		1.200E-01	2.080E-01	3.565E-01	2.965E-02	0.337
	1230.97			-6.466E-01	5.223E-01	8.027E-01	6.717E-02	-0.806
RE-183	57.98			-1.875E-03	1.866E-01	2.965E-01	2.122E-02	-0.006
	59.32			3.552E-02	1.066E-01	1.615E-01	1.142E-02	0.220
	67.20			-1.046E-01	1.995E-01	2.863E-01	2.173E-02	-0.365
	162.32	*		1.068E-01	1.121E-01	1.926E-01	1.858E-02	0.554

---- 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		1.860E+00	1.633E+00	1.837E+00	2.077E-01	1.013
		291.72		2.290E-01	1.017E+00	1.514E+00	2.063E-01	0.151
		57.98		-6.753E-03	6.720E-01	1.068E+00	7.640E-02	-0.006
		59.32		1.278E-01	3.837E-01	5.812E-01	4.111E-02	0.220
		67.20		-3.767E-01	7.182E-01	1.031E+00	7.821E-02	-0.365
		161.27		-2.748E-01	3.552E-01	5.756E-01	5.526E-02	-0.477
		216.55		2.633E-03	2.652E-01	4.335E-01	5.026E-02	0.006
		252.85	*	2.317E-01	2.381E-01	3.976E-01	5.159E-02	0.583
		318.01		-2.143E-01	4.391E-01	7.176E-01	9.121E-02	-0.299
		792.07		3.203E-01	1.049E+00	1.723E+00	1.897E-01	0.186
OS-185		903.28		4.741E-02	1.160E+00	1.708E+00	1.907E-01	0.028
		920.93		2.259E-01	4.379E-01	7.360E-01	8.121E-02	0.307
		59.72		4.995E-02	2.827E-01	4.248E-01	3.008E-02	0.118
		61.14		3.847E-02	1.547E-01	2.329E-01	1.673E-02	0.165
		69.30		2.381E-02	2.846E-01	4.212E-01	3.258E-02	0.057
		592.07		-1.116E+00	2.413E+00	3.794E+00	3.927E-01	-0.294
		646.12	*	2.171E-02	4.020E-02	6.828E-02	7.176E-03	0.318
		717.42		-1.684E-01	9.227E-01	1.486E+00	1.601E-01	-0.113
		874.81		9.897E-03	5.291E-01	8.802E-01	9.837E-02	0.011
		880.27		-2.066E-01	7.285E-01	1.185E+00	1.325E-01	-0.174
RE-188		155.03	*	8.572E-02	1.716E-01	2.921E-01	2.727E-02	0.293
	+	477.96		1.677E+00	5.122E+00	5.136E+00	5.059E-01	0.326
W-188		633.10		-1.901E-02	2.686E+00	4.426E+00	4.637E-01	-0.004
	+	63.58		5.706E+01	7.202E+01	8.348E+01	6.134E+00	0.684
IR-192		227.08		-4.463E+00	1.328E+01	2.130E+01	2.554E+00	-0.210
		290.67	*	-3.378E+00	8.245E+00	1.180E+01	1.611E+00	-0.286
	+	295.96		8.043E-01	1.773E-01	2.507E-01	3.392E-02	3.208
		308.46		8.306E-03	9.504E-02	1.601E-01	2.096E-02	0.052
AU-195		316.51	*	5.216E-03	3.369E-02	5.679E-02	7.258E-03	0.092
		468.07		1.806E-02	7.489E-02	1.067E-01	1.103E-02	0.169
		604.41		-7.230E-02	5.137E-01	7.229E-01	1.030E-01	-0.100
	+	612.46		7.893E-01	7.655E-01	1.669E+00	1.920E-01	0.473
		65.12		-1.509E-01	1.645E-01	2.316E-01	1.725E-02	-0.652
		66.83		2.045E-02	8.774E-02	1.306E-01	9.879E-03	0.157
TL-200	+	75.70		1.074E+00	2.168E-01	4.043E-01	3.331E-02	2.658
		98.88	*	2.450E-02	2.126E-01	3.438E-01	2.998E-02	0.071
		129.76		3.382E+00	2.886E+00	5.046E+00	4.253E-01	0.670
		367.94	*	-8.167E-04	2.886E+00	Half-Life	too short	
TL-201		579.30		1.649E-02	2.886E+00	Half-Life	too short	
		828.27		1.864E-02	2.886E+00	Half-Life	too short	
		1205.75		2.140E-02	2.886E+00	Half-Life	too short	
		68.90		1.034E+00	1.029E+01	1.623E+01	1.251E+00	0.064
TL-202		70.82		3.366E+00	6.191E+00	9.335E+00	7.324E-01	0.361
		80.30		5.020E+00	1.155E+01	1.717E+01	1.488E+00	0.292
		135.34		5.380E+00	5.903E+01	1.002E+02	8.611E+00	0.054
		167.43	*	-5.072E+00	1.699E+01	2.800E+01	2.760E+00	-0.181
		68.90		4.714E-02	4.688E-01	7.398E-01	5.701E-02	0.064
		70.82		1.530E-01	2.814E-01	4.243E-01	3.329E-02	0.361
		80.30		2.282E-01	5.249E-01	7.807E-01	6.763E-02	0.292

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203	439.56	*		3.948E-02	8.414E-02	1.403E-01	1.351E-02	0.281
	70.83			5.673E-01	1.035E+00	1.558E+00	2.045E-01	0.364
	72.87			6.990E-01	6.238E-01	9.515E-01	1.219E-01	0.735
	82.60			-5.496E-01	1.162E+00	1.650E+00	2.296E-01	-0.333
BI-207	279.20	*		-9.340E-03	4.473E-02	7.085E-02	1.003E-02	-0.132
	72.80			1.646E-01	1.705E-01	2.604E-01	2.083E-02	0.632
	74.97		+	5.872E-01	1.185E-01	1.966E-01	1.607E-02	2.988
	84.90			3.383E-01	1.901E-01	2.919E-01	2.668E-02	1.159
TL-207	569.67			-8.387E-03	3.154E-02	4.985E-02	5.120E-03	-0.168
	1063.62	*		1.240E-02	5.112E-02	8.475E-02	8.136E-03	0.146
	1770.23			1.911E-01	5.451E-01	8.065E-01	6.704E-02	0.237
	81.07			-1.957E-01	2.111E-01	2.929E-01	2.560E-02	-0.668
	83.78			5.425E-02	1.262E-01	1.854E-01	1.672E-02	0.293
	94.90			4.195E-01	2.332E-01	3.606E-01	3.223E-02	1.163
	122.32			1.320E+00	1.769E+00	2.884E+00	2.566E-01	0.458
	144.24			1.847E-01	6.654E-01	1.104E+00	1.093E-01	0.167
	154.21			2.433E-01	3.809E-01	6.511E-01	6.577E-02	0.374
	269.46		+	4.185E-01	3.196E-01	3.356E-01	4.609E-02	1.247
	323.87	*		2.492E-01	7.044E-01	1.045E+00	2.077E-01	0.238
	338.28		+	6.880E+00	1.898E+00	2.208E+00	3.266E-01	3.116
PO-209	445.03			5.195E-01	2.098E+00	3.459E+00	4.445E-01	0.150
	260.50			-3.119E+00	9.881E+00	1.566E+01	2.079E+00	-0.199
	262.80			2.131E+01	2.991E+01	4.591E+01	6.135E+00	0.464
	896.60	*		1.105E+00	7.142E+00	1.196E+01	1.339E+00	0.092
BI-210	46.50	*		1.307E+00	3.002E+00	5.039E+00	4.681E-01	0.259
PB-210	46.50	*		1.307E+00	3.002E+00	5.039E+00	4.681E-01	0.259
PO-210	46.50	*		1.307E+00	3.001E+00	5.039E+00	4.237E-01	0.259
PB-211	404.84	*		-9.900E-02	9.942E-01	1.398E+00	8.774E-01	-0.071
	427.08			-1.370E+00	2.139E+00	3.078E+00	1.917E+00	-0.445
	831.96			1.002E+00	1.412E+00	2.200E+00	1.387E+00	0.456
	727.18	*	+	1.280E+00	5.127E-01	6.033E-01	7.206E-02	2.122
	785.46			1.274E+00	1.823E+00	2.964E+00	3.258E-01	0.430
PO-215	1620.62			1.340E+00	1.216E+00	2.233E+00	1.947E-01	0.600
	81.07			-1.957E-01	2.111E-01	2.929E-01	2.560E-02	-0.668
	83.78			5.425E-02	1.262E-01	1.854E-01	1.672E-02	0.293
	94.90			4.195E-01	2.332E-01	3.606E-01	3.223E-02	1.163
	122.32			1.320E+00	1.769E+00	2.884E+00	2.566E-01	0.458
	144.24			1.847E-01	6.654E-01	1.104E+00	1.093E-01	0.167
	154.21			2.433E-01	3.809E-01	6.511E-01	6.577E-02	0.374
	269.46		+	4.185E-01	3.196E-01	3.356E-01	4.609E-02	1.247
	323.87	*		2.492E-01	7.044E-01	1.045E+00	2.077E-01	0.238
	338.28		+	6.880E+00	1.898E+00	2.208E+00	3.266E-01	3.116
	445.03			5.195E-01	2.098E+00	3.459E+00	4.445E-01	0.150
	271.23			3.522E-01	2.957E-01	4.355E-01	6.451E-02	0.809
RN-219	401.81	*		2.038E-01	3.806E-01	6.400E-01	9.902E-02	0.318
RN-220	549.76	*		-1.712E+01	2.379E+01	3.795E+01	3.868E+00	-0.451
RA-223	81.07			-1.957E-01	2.111E-01	2.929E-01	2.560E-02	-0.668
	83.78			5.425E-02	1.262E-01	1.854E-01	1.672E-02	0.293
	94.90			4.195E-01	2.332E-01	3.606E-01	3.223E-02	1.163

----- 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		1.320E+00	1.769E+00	2.884E+00	2.566E-01	0.458
		144.24		1.847E-01	6.654E-01	1.104E+00	1.093E-01	0.167
		154.21		2.433E-01	3.809E-01	6.511E-01	6.577E-02	0.374
	+	269.46		4.185E-01	3.196E-01	3.356E-01	4.609E-02	1.247
		323.87	*	2.492E-01	7.044E-01	1.045E+00	2.077E-01	0.238
	+	338.28		6.880E+00	1.898E+00	2.208E+00	3.266E-01	3.116
		445.03		5.195E-01	2.098E+00	3.459E+00	4.445E-01	0.150
		79.80		9.828E-01	1.534E+00	2.284E+00	4.912E-01	0.430
		236.00		8.964E-01	3.179E-01	4.666E-01	7.039E-02	1.921
		256.20	*	7.478E-02	3.814E-01	6.197E-01	1.131E-01	0.121
		286.10		3.332E-01	1.585E+00	2.553E+00	4.351E-01	0.131
	+	299.80		3.581E+00	1.793E+00	2.400E+00	4.860E-01	1.492
TH-227		304.40		1.492E-01	1.963E+00	2.885E+00	6.050E-01	0.052
		334.20		-1.387E+00	3.789E+00	3.495E+00	7.399E-01	-0.397
		79.80		9.828E-01	1.534E+00	2.284E+00	4.974E-01	0.430
	+	94.00		6.171E+00	2.994E+00	3.435E+00	7.534E-01	1.796
		236.00		8.964E-01	3.145E-01	4.666E-01	6.605E-02	1.921
		256.20	*	7.478E-02	3.815E-01	6.197E-01	1.276E-01	0.121
		286.10		3.332E-01	1.619E+00	2.553E+00	2.577E+00	0.131
	+	299.80		3.581E+00	1.793E+00	2.400E+00	4.860E-01	1.492
		304.40		1.492E-01	1.963E+00	2.885E+00	6.050E-01	0.052
		334.20		-1.387E+00	3.789E+00	3.495E+00	7.399E-01	-0.397
		85.43		4.482E-01	1.938E-01	3.005E-01	2.764E-02	1.492
	+	88.47		3.626E-01	1.214E-01	1.902E-01	1.796E-02	1.907
PA-231		100.00		4.958E-02	1.734E-01	2.820E-01	2.444E-02	0.176
		193.63	*	7.652E-02	5.031E-01	8.340E-01	8.967E-02	0.092
	+	210.97		1.401E+00	1.230E+00	1.373E+00	1.563E-01	1.020
		283.67	*	7.265E-01	1.552E+00	2.525E+00	4.715E-01	0.288
TH-231	+	301.29		1.432E+00	6.947E-01	9.596E-01	1.526E-01	1.493
		81.07		-1.957E-01	2.111E-01	2.929E-01	2.560E-02	-0.668
		83.78		5.425E-02	1.262E-01	1.854E-01	1.672E-02	0.293
		94.90		4.195E-01	2.332E-01	3.606E-01	3.223E-02	1.163
U-231		122.32		1.320E+00	1.769E+00	2.884E+00	2.566E-01	0.458
		144.24		1.847E-01	6.654E-01	1.104E+00	1.093E-01	0.167
		154.21		2.433E-01	3.809E-01	6.511E-01	6.577E-02	0.374
	+	269.46		4.185E-01	3.196E-01	3.356E-01	4.609E-02	1.247
		323.87	*	2.492E-01	7.044E-01	1.045E+00	2.077E-01	0.238
	+	338.28		6.880E+00	1.898E+00	2.208E+00	3.266E-01	3.116
		445.03		5.195E-01	2.098E+00	3.459E+00	4.445E-01	0.150
		84.21		1.290E+01	1.034E+01	1.565E+01	1.418E+00	0.825
	+	92.29		1.174E+01	5.190E+00	6.927E+00	6.316E-01	1.696
		95.87	*	2.330E+00	1.976E+00	3.007E+00	2.670E-01	0.775
		108.00		-4.348E+00	3.962E+00	6.033E+00	5.072E-01	-0.721
	+	75.28		1.713E+01	4.085E+00	6.001E+00	9.072E-01	2.855
PA-233	+	86.59		5.199E+00	2.184E+00	2.819E+00	7.627E-01	1.844
	+	300.12		9.984E-01	4.915E-01	6.759E-01	1.219E-01	1.477
		311.98	*	-3.143E-02	6.152E-02	1.006E-01	1.317E-02	-0.312
		340.50		3.071E+00	1.020E+00	1.210E+00	3.044E-01	2.538
		398.62		-1.976E+00	2.060E+00	3.097E+00	8.325E-01	-0.638

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-4.067E-01	1.785E+00	2.478E+00	5.428E-01	-0.164
		63.00		1.590E+00	2.018E+00	2.354E+00	3.487E-01	0.676
		94.67		4.045E-01	1.753E-01	2.688E-01	3.396E-02	1.505
		98.44		5.124E-03	8.936E-02	1.372E-01	7.658E-02	0.037
		99.86		1.029E-01	4.380E-01	7.111E-01	6.169E-02	0.145
		111.00		1.108E-01	1.842E-01	3.003E-01	3.572E-02	0.369
		131.20		6.839E-03	1.040E-01	1.766E-01	1.496E-02	0.039
		152.70		2.311E-01	3.113E-01	5.312E-01	9.226E-02	0.435
		186.00		4.696E+00	2.578E+00	2.514E+00	7.990E-01	1.868
		226.40		-2.716E-02	3.967E-01	6.441E-01	1.004E-01	-0.042
		227.20		-1.577E-01	4.314E-01	6.910E-01	8.288E-02	-0.228
		248.90		1.271E-01	9.240E-01	1.315E+00	3.200E-01	0.097
		293.70		4.062E+00	1.134E+00	1.493E+00	3.019E-01	2.721
		369.80		-2.679E-01	7.684E-01	1.243E+00	2.804E-01	-0.216
		568.70		-5.566E-01	1.027E+00	1.596E+00	1.639E-01	-0.349
	+	569.50		-7.943E-02	2.796E-01	4.413E-01	4.533E-02	-0.180
		574.00		-4.805E-02	1.512E+00	2.456E+00	2.527E-01	-0.020
		699.00		1.890E-01	6.761E-01	1.121E+00	2.254E-01	0.169
		706.10		-9.195E-01	1.066E+00	1.506E+00	6.784E-01	-0.611
		733.00		1.673E-02	4.340E-01	5.414E-01	1.253E-01	0.031
		742.81		2.005E+00	2.472E+00	2.187E+00	1.477E+00	0.917
		796.30		1.237E+00	9.571E-01	1.564E+00	4.364E-01	0.791
		805.60		-6.046E-01	1.069E+00	1.551E+00	4.872E-01	-0.390
		819.60		3.284E-01	1.113E+00	1.885E+00	7.287E-01	0.174
		826.30		-9.364E-01	9.023E-01	1.230E+00	5.568E-01	-0.762
		831.60		3.811E-01	6.603E-01	1.120E+00	3.433E-01	0.340
		876.40		-1.834E-01	7.587E-01	1.198E+00	1.235E+00	-0.153
		880.51		-6.185E-02	2.578E-01	4.206E-01	4.704E-02	-0.147
		883.24		9.651E-02	2.728E-01	4.506E-01	3.046E-01	0.214
		899.00		5.230E-02	8.215E-01	1.366E+00	6.052E-01	0.038
		925.00		-9.998E-01	1.124E+00	1.731E+00	1.904E-01	-0.578
		926.50		-1.127E-01	1.715E-01	2.662E-01	6.970E-02	-0.423
		946.00	*	-1.932E-01	2.870E-01	4.463E-01	8.870E-02	-0.433
949.00		3.698E-01	4.186E-01	7.285E-01	7.871E-02	0.508		
980.50		4.392E-01	7.146E-01	1.221E+00	1.284E-01	0.360		
1394.10		-1.903E-01	1.038E+00	1.658E+00	1.080E+00	-0.115		
PA-234M		766.42		5.214E+00	1.133E+01	1.833E+01	9.383E+00	0.284
		1001.03	*	-6.674E-01	4.492E+00	7.287E+00	8.350E-01	-0.092
U-235	+	89.95		1.671E+00	1.294E+00	1.651E+00	5.129E-01	1.012
	+	93.35		1.920E+00	9.910E-01	1.137E+00	3.201E-01	1.689
		105.00		1.408E+00	1.126E+00	1.761E+00	5.249E-01	0.799
		143.76	*	2.049E-03	2.069E-01	3.406E-01	6.009E-02	0.006
		163.35		4.621E-01	4.746E-01	8.041E-01	1.575E-01	0.575
	+	185.71		1.739E-01	7.994E-02	9.377E-02	9.819E-03	1.855
		205.31		-2.804E-02	5.996E-01	8.491E-01	1.729E-01	-0.033
NP-236		94.67		3.086E-01	1.302E-01	2.040E-01	1.827E-02	1.513
		98.44		3.868E-03	6.752E-02	1.037E-01	9.068E-03	0.037
		111.00		8.382E-02	1.392E-01	2.272E-01	1.896E-02	0.369
		160.31	*	-1.108E-01	8.314E-02	1.247E-01	1.192E-02	-0.889

---- 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-02	1.464E-01	2.347E-01	2.040E-02	-0.055
		117.00	*	4.103E-03	1.891E-01	3.011E-01	2.488E-02	0.014
	+	209.75		1.411E+00	1.239E+00	1.392E+00	1.578E-01	1.014
		228.18		3.967E-02	2.267E-01	3.715E-01	4.469E-02	0.107
		277.60		2.439E-01	1.853E-01	3.089E-01	4.306E-02	0.789
		334.30		1.504E-01	1.724E+00	1.985E+00	2.394E-01	0.076
AM-241		59.54	*	3.937E-02	1.444E-01	2.180E-01	1.704E-02	0.181
CM-243		99.55		-1.319E-02	1.507E-01	2.416E-01	2.099E-02	-0.055
		103.76	*	6.183E-02	9.611E-02	1.578E-01	1.345E-02	0.392
		117.00		4.223E-03	1.946E-01	3.098E-01	2.561E-02	0.014
	+	209.75		1.391E+00	1.222E+00	1.372E+00	1.556E-01	1.014
		228.18		4.009E-02	2.292E-01	3.755E-01	4.517E-02	0.107
		277.60		2.459E-01	1.869E-01	3.115E-01	4.342E-02	0.789
AM-246		798.80		-8.714E-02	1.385E-01	2.132E-01	2.351E-02	-0.409
		1036.00		-1.285E-01	2.934E-01	4.638E-01	4.606E-02	-0.277
		1062.04		8.499E-02	2.267E-01	3.789E-01	3.645E-02	0.224
		1078.86	*	1.339E-02	1.438E-01	2.374E-01	2.234E-02	0.056
CM-247		278.00		1.033E+00	7.680E-01	1.281E+00	1.787E-01	0.807
		287.40		-3.993E-01	1.314E+00	1.987E+00	2.735E-01	-0.201
		402.60	*	8.844E-03	3.620E-02	5.682E-02	5.330E-03	0.156
CF-249		252.85		8.553E-01	8.789E-01	1.468E+00	1.905E-01	0.583
		333.44		2.681E-01	2.328E-01	2.613E-01	3.161E-02	1.026
		387.95	*	6.288E-03	3.817E-02	6.334E-02	6.020E-03	0.099
CF-251		176.60	*	2.437E-02	1.312E-01	2.149E-01	2.183E-02	0.113
		227.00		-1.262E-01	3.831E-01	6.147E-01	7.368E-02	-0.205
		285.00		1.459E+00	1.781E+00	2.936E+00	4.061E-01	0.497

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536009      *
* Acquisition date   : 9-JAN-2010 14:12:15 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 02:00:02.03             Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536009              Analyst initials: MXR1        *
* Batch Number       : 937074                  Sample Quantity : 1.1532E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                                         *
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope :                      *
* MSD DPM            : 0.000                      MSD Isotope :              *
* LCS DPM            : 0.000                      LCS Isotope :              *
* LCSD DPM           : 0.000                      LCSD Isotope :             *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
BE-7	1.772E-01	5.305E-01	5.020E-01	0.000E+00
K-40	3.808E+01	3.804E+00	4.980E-01	0.000E+00
CD-109	2.718E+00	8.915E-01	1.305E+00	0.000E+00
SN-126	2.656E-01	8.711E-02	1.280E-01	0.000E+00
CS-135	3.558E-01	2.667E-01	2.566E-01	0.000E+00
TL-208	4.431E-01	8.623E-02	5.231E-02	0.000E+00
BI-211	3.183E+00	5.511E-01	2.873E-01	0.000E+00
PB-212	1.517E+00	2.198E-01	9.443E-02	0.000E+00
PO-212	1.517E+00	2.198E-01	9.443E-02	0.000E+00
BI-214	8.725E-01	1.501E-01	1.090E-01	0.000E+00
PB-214	1.107E+00	1.999E-01	1.001E-01	0.000E+00
PO-214	1.107E+00	1.999E-01	1.001E-01	0.000E+00
PO-216	1.517E+00	2.198E-01	9.443E-02	0.000E+00
PO-218	1.107E+00	1.999E-01	1.001E-01	0.000E+00
RA-224	4.272E+00	1.257E+00	1.073E+00	0.000E+00
RA-226	8.725E-01	1.501E-01	1.090E-01	0.000E+00
AC-228	1.328E+00	2.985E-01	2.189E-01	0.000E+00
RA-228	1.328E+00	2.985E-01	2.189E-01	0.000E+00
TH-228	1.546E+00	2.240E-01	9.624E-02	0.000E+00
TH-230	8.725E-01	1.501E-01	1.090E-01	0.000E+00
TH-232	1.328E+00	2.985E-01	2.189E-01	0.000E+00
TH-234	1.364E+00	1.701E+00	1.787E+00	0.000E+00
U-234	8.725E-01	1.501E-01	1.090E-01	0.000E+00
NP-237	7.798E-01	3.005E-01	3.763E-01	0.000E+00
U-238	1.364E+00	1.701E+00	1.787E+00	0.000E+00
AM-243	3.271E-01	6.468E-02	7.932E-02	0.000E+00
ANH-511	1.371E-01	6.424E-02	4.345E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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NA-22	-1.398E-02	4.171E-02	6.857E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.693E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	9.687E-03	2.409E-02	4.257E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.154E-02	6.845E-02	0.000E+00	FAIL ABUN
SC-46	-9.328E-04	3.717E-02	6.288E-02	0.000E+00	FAIL ABUN
V-48	-1.873E-02	7.805E-02	1.286E-01	0.000E+00	NOT IDENT.
CR-51	-2.015E-01	3.825E-01	6.431E-01	0.000E+00	NOT IDENT.
MN-52	-3.560E-03	3.367E-01	5.591E-01	0.000E+00	NOT IDENT.
MN-54	8.780E-03	3.921E-02	6.763E-02	0.000E+00	NOT IDENT.
CO-56	1.009E-02	3.619E-02	6.272E-02	0.000E+00	NOT IDENT.
CO-57	1.637E-02	2.520E-02	4.263E-02	0.000E+00	NOT IDENT.
CO-58	-6.898E-03	3.738E-02	6.319E-02	0.000E+00	NOT IDENT.
FE-59	-9.950E-02	9.615E-02	1.467E-01	0.000E+00	NOT IDENT.
CO-60	-2.230E-02	3.704E-02	5.884E-02	0.000E+00	NOT IDENT.
ZN-65	5.129E-02	1.085E-01	1.589E-01	0.000E+00	NOT IDENT.
GE-68	-4.292E-02	1.212E+00	2.006E+00	0.000E+00	NOT IDENT.
AS-73	8.795E-03	7.415E-01	1.277E+00	0.000E+00	NOT IDENT.
AS-74	1.669E-02	9.769E-02	1.676E-01	0.000E+00	NOT IDENT.
SE-75	4.930E-02	5.030E-02	7.676E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.061E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-6.259E-02	3.976E-01	6.505E-01	0.000E+00	NOT IDENT.
RB-83	7.144E-04	6.522E-02	1.074E-01	0.000E+00	NOT IDENT.
RB-84	8.863E-03	6.987E-02	1.195E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.637E+00	1.438E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.617E-02	7.687E-02	0.000E+00	NOT IDENT.
RB-86	-1.127E-02	8.742E-01	1.450E+00	0.000E+00	NOT IDENT.
Y-88	2.175E-02	2.862E-02	5.267E-02	0.000E+00	NOT IDENT.
SR-88	2.995E-02	2.941E-02	5.209E-02	0.000E+00	NOT IDENT.
Y-91	1.116E+01	2.029E+01	3.539E+01	0.000E+00	NOT IDENT.
NB-94	1.588E-02	2.995E-02	5.161E-02	0.000E+00	NOT IDENT.
NB-95	2.547E-02	4.242E-02	7.260E-02	0.000E+00	NOT IDENT.
NB-95M	1.324E-01	1.480E-01	2.258E-01	0.000E+00	NOT IDENT.
ZR-95	-2.340E-02	6.934E-02	1.123E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.561E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.044E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.283E+01	3.440E+01	5.056E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.114E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	8.857E-03	3.416E-02	5.629E-02	0.000E+00	NOT IDENT.
RH-102	-1.296E-02	3.388E-02	4.705E-02	0.000E+00	NOT IDENT.
RU-103	2.856E-02	4.120E-02	7.052E-02	0.000E+00	FAIL ABUN
RH-106	-4.874E-02	2.917E-01	4.887E-01	0.000E+00	FAIL ABUN
RU-106	-4.874E-02	2.917E-01	4.887E-01	0.000E+00	FAIL ABUN
AG-108M	-1.017E-02	3.017E-02	4.960E-02	0.000E+00	FAIL ABUN
AG-110M	-1.883E-02	3.294E-02	5.343E-02	0.000E+00	NOT IDENT.
IN-111	9.728E-01	3.026E+00	4.506E+00	0.000E+00	NOT IDENT.
IN-113M	6.883E-03	4.279E-02	7.304E-02	0.000E+00	NOT IDENT.
SN-113	6.883E-03	4.279E-02	7.304E-02	0.000E+00	NOT IDENT.
IN-114M	-1.192E-02	2.054E-01	3.076E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.526E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-2.491E-02	6.628E-02	1.077E-01	0.000E+00	NOT IDENT.
SB-122	1.573E+00	5.353E+00	9.287E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.875E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.560E-02	2.916E-02	4.715E-02	0.000E+00	NOT IDENT.
I-124	-1.631E-01	1.415E+00	2.048E+00	0.000E+00	NOT IDENT.
SB-124	1.190E-03	6.172E-02	1.040E-01	0.000E+00	FAIL ABUN
SB-125	-7.524E-02	8.606E-02	1.370E-01	0.000E+00	FAIL ABUN
TE-125M	-2.957E+00	9.461E+00	1.556E+01	0.000E+00	NOT IDENT.
I-126	-7.535E-02	2.155E-01	3.546E-01	0.000E+00	NOT IDENT.
SB-126	-1.509E-01	2.089E-01	2.781E-01	0.000E+00	FAIL ABUN
SB-127	-1.496E+00	2.607E+00	4.198E+00	0.000E+00	NOT IDENT.
XE-127	-2.273E-02	5.440E-02	8.399E-02	0.000E+00	NOT IDENT.
I-131	6.980E-02	1.420E-01	2.478E-01	0.000E+00	NOT IDENT.
TE-132	2.812E-01	1.583E+00	2.683E+00	0.000E+00	NOT IDENT.
BA-133	6.644E-02	4.202E-02	6.777E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.344E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.129E-02	4.731E-02	8.177E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.207E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.754E-03	1.310E-01	2.189E-01	0.000E+00	FAIL ABUN
BA-137M	2.118E-02	3.370E-02	5.858E-02	0.000E+00	NOT IDENT.
CS-137	2.239E-02	3.562E-02	6.193E-02	0.000E+00	NOT IDENT.
CE-139	-1.358E-02	2.935E-02	4.993E-02	0.000E+00	NOT IDENT.
BA-140	-1.198E-01	2.967E-01	4.939E-01	0.000E+00	NOT IDENT.
LA-140	-1.146E-01	1.042E-01	1.562E-01	0.000E+00	FAIL ABUN
CE-141	5.927E-02	6.265E-02	1.127E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.673E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.919E-02	1.932E-01	3.392E-01	0.000E+00	NOT IDENT.
PM-144	3.632E-03	3.268E-02	5.502E-02	0.000E+00	NOT IDENT.
PR-144	2.467E-01	2.219E+00	3.736E+00	0.000E+00	NOT IDENT.

PM-146	5.231E-02	4.011E-02	7.104E-02	0.000E+00	NOT IDENT.
ND-147	-1.283E-01	6.709E-01	1.141E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.192E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	2.811E-02	1.138E-01	1.372E-01	0.000E+00	NOT IDENT.
GD-153	-1.045E-01	8.395E-02	1.168E-01	0.000E+00	NOT IDENT.
EU-154	-3.819E-02	1.164E-01	1.913E-01	0.000E+00	NOT IDENT.
EU-155	1.651E-01	1.052E-01	1.845E-01	0.000E+00	FAIL ABUN
TB-160	-9.399E-03	1.285E-01	2.169E-01	0.000E+00	FAIL ABUN
HO-166M	9.276E-03	5.856E-02	9.866E-02	0.000E+00	NOT IDENT.
TM-171	5.540E+00	2.571E+01	4.003E+01	0.000E+00	NOT IDENT.
LU-176	4.595E-03	2.291E-02	4.001E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.581E+00	2.962E+00	0.000E+00	FAIL ABUN
LU-177M	-6.382E-03	1.828E-01	2.657E-01	0.000E+00	FAIL ABUN
HF-181	-1.217E-02	5.250E-02	7.368E-02	0.000E+00	NOT IDENT.
W-181	-3.642E-01	3.517E-01	5.155E-01	0.000E+00	NOT IDENT.
TA-182	1.200E-01	2.039E-01	3.558E-01	0.000E+00	FAIL ABUN
RE-183	1.068E-01	1.099E-01	1.960E-01	0.000E+00	FAIL ABUN
RE-184	2.317E-01	2.333E-01	4.029E-01	0.000E+00	NOT IDENT.
OS-185	2.171E-02	3.940E-02	6.856E-02	0.000E+00	NOT IDENT.
RE-188	8.572E-02	1.681E-01	2.974E-01	0.000E+00	FAIL ABUN
W-188	-3.378E+00	8.080E+00	1.194E+01	0.000E+00	FAIL ABUN
IR-192	5.216E-03	3.301E-02	5.742E-02	0.000E+00	FAIL ABUN
AU-195	2.450E-02	2.084E-01	3.515E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.078E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-5.072E+00	1.665E+01	2.848E+01	0.000E+00	NOT IDENT.
TL-202	3.948E-02	8.245E-02	1.414E-01	0.000E+00	NOT IDENT.
HG-203	-9.340E-03	4.383E-02	7.172E-02	0.000E+00	NOT IDENT.
BI-207	1.240E-02	5.010E-02	8.468E-02	0.000E+00	FAIL ABUN
TL-207	2.492E-01	6.903E-01	1.056E+00	0.000E+00	FAIL ABUN
PO-209	1.105E+00	6.999E+00	1.197E+01	0.000E+00	NOT IDENT.
BI-210	1.307E+00	2.942E+00	5.187E+00	0.000E+00	NOT IDENT.
PB-210	1.307E+00	2.942E+00	5.187E+00	0.000E+00	NOT IDENT.
PO-210	1.307E+00	2.941E+00	5.187E+00	0.000E+00	NOT IDENT.
PB-211	-9.900E-02	9.743E-01	1.410E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.024E-01	6.051E-01	0.000E+00	FAIL ABUN
PO-215	2.492E-01	6.903E-01	1.056E+00	0.000E+00	FAIL ABUN
RN-219	2.038E-01	3.730E-01	6.456E-01	0.000E+00	NOT IDENT.
RN-220	-1.712E+01	2.332E+01	3.817E+01	0.000E+00	NOT IDENT.
RA-223	2.492E-01	6.903E-01	1.056E+00	0.000E+00	FAIL ABUN
AC-227	7.478E-02	3.738E-01	6.279E-01	0.000E+00	FAIL ABUN
TH-227	7.478E-02	3.738E-01	6.279E-01	0.000E+00	FAIL ABUN
TH-229	7.652E-02	4.931E-01	8.472E-01	0.000E+00	FAIL ABUN
PA-231	7.265E-01	1.521E+00	2.555E+00	0.000E+00	FAIL ABUN
TH-231	2.492E-01	6.903E-01	1.056E+00	0.000E+00	FAIL ABUN
U-231	2.330E+00	1.937E+00	3.075E+00	0.000E+00	FAIL ABUN
PA-233	-3.143E-02	6.029E-02	1.017E-01	0.000E+00	FAIL ABUN
PA-234	-1.932E-01	2.813E-01	4.464E-01	0.000E+00	FAIL ABUN
PA-234M	-6.674E-01	4.402E+00	7.285E+00	0.000E+00	NOT IDENT.
U-235	2.049E-03	2.027E-01	3.470E-01	0.000E+00	FAIL ABUN
NP-236	-1.108E-01	8.148E-02	1.269E-01	0.000E+00	NOT IDENT.
NP-239	4.103E-03	1.854E-01	3.073E-01	0.000E+00	FAIL ABUN
AM-241	3.937E-02	1.415E-01	2.239E-01	0.000E+00	NOT IDENT.
CM-243	6.183E-02	9.419E-02	1.612E-01	0.000E+00	FAIL ABUN
AM-246	1.339E-02	1.409E-01	2.372E-01	0.000E+00	NOT IDENT.
CM-247	8.844E-03	3.547E-02	5.732E-02	0.000E+00	NOT IDENT.
CF-249	6.288E-03	3.740E-02	6.392E-02	0.000E+00	NOT IDENT.
CF-251	2.437E-02	1.286E-01	2.185E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536009.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:12:15.
Sample ID          : G243536009 Sample quantity : 1.15320E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.03 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BE-7	477.59	20	10.42*	4.483E+00	1.382E-01	1.772E-01	305.55
K-40	1460.81	2383	10.67*	1.909E+00	3.808E+01	3.808E+01	10.19
CD-109	88.03	226	3.72*	7.478E+00	2.641E+00	2.718E+00	33.47
SN-126	64.28	69	9.60	4.308E+00	5.401E-01	5.401E-01	126.83
	86.94	226	8.90	7.478E+00	1.104E+00	1.104E+00	52.50
	87.57	226	37.00*	7.478E+00	2.656E-01	2.656E-01	33.47
CS-135	268.24	110	16.00*	6.278E+00	3.558E-01	3.558E-01	76.50
TL-208	277.35	-----	6.80	6.182E+00	-----	Line Not Found	-----
	510.84	181	21.60	4.297E+00	6.345E-01	6.345E-01	48.55
	583.14	450	84.20*	3.930E+00	4.431E-01	4.431E-01	19.86
	860.37	-----	12.46	2.924E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	5.897E+00	-----	Line Not Found	-----
	351.07	684	12.94*	5.401E+00	3.183E+00	3.183E+00	17.67
PB-212	74.81	409	10.70	6.173E+00	2.017E+00	2.017E+00	22.24
	77.11	594	18.00	6.458E+00	1.664E+00	1.664E+00	17.13
	87.30	226	8.00	7.478E+00	1.228E+00	1.228E+00	34.93
	238.63	1394	44.60*	6.710E+00	1.517E+00	1.517E+00	14.79
	300.09	120	3.41	5.918E+00	1.932E+00	1.932E+00	48.07
PO-212	74.81	409	10.70	6.173E+00	2.017E+00	2.017E+00	22.24
	77.11	594	18.00	6.458E+00	1.664E+00	1.664E+00	17.13
	87.30	226	8.00	7.478E+00	1.228E+00	1.228E+00	34.93
	115.19	-----	0.60	8.535E+00	-----	Line Not Found	-----
	238.63	1394	44.60*	6.710E+00	1.517E+00	1.517E+00	14.79
	300.09	120	3.41	5.918E+00	1.932E+00	1.932E+00	48.07
BI-214	609.31	473	46.30*	3.811E+00	8.725E-01	8.725E-01	17.55
	1120.29	131	15.10	2.345E+00	1.204E+00	1.204E+00	42.36
	1764.49	94	15.80	1.716E+00	1.131E+00	1.131E+00	37.90
PB-214	74.81	409	6.21	6.173E+00	3.476E+00	3.476E+00	21.50
	77.11	594	10.50	6.458E+00	2.852E+00	2.852E+00	18.75
	87.30	226	4.67	7.478E+00	2.104E+00	2.104E+00	34.35
	241.98	346	7.49	6.665E+00	2.253E+00	2.253E+00	30.55
	295.21	358	19.20	5.970E+00	1.016E+00	1.016E+00	22.88

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	684	37.20*	5.401E+00	1.107E+00	1.107E+00	18.42
	74.81	409	6.21	6.173E+00	3.476E+00	3.476E+00	21.50
	77.11	594	10.50	6.458E+00	2.852E+00	2.852E+00	18.75
	87.30	226	4.67	7.478E+00	2.104E+00	2.104E+00	34.35
	241.98	346	7.49	6.665E+00	2.253E+00	2.253E+00	30.55
PO-216	295.21	358	19.20	5.970E+00	1.016E+00	1.016E+00	22.88
	351.92	684	37.20*	5.401E+00	1.107E+00	1.107E+00	18.42
	74.81	409	10.70	6.173E+00	2.017E+00	2.017E+00	22.24
	77.11	594	18.00	6.458E+00	1.664E+00	1.664E+00	17.13
	87.30	226	8.00	7.478E+00	1.228E+00	1.228E+00	34.93
PO-218	238.63	1394	44.60*	6.710E+00	1.517E+00	1.517E+00	14.79
	300.09	120	3.41	5.918E+00	1.932E+00	1.932E+00	48.07
	74.81	409	6.21	6.173E+00	3.476E+00	3.476E+00	21.50
	77.11	594	10.50	6.458E+00	2.852E+00	2.852E+00	18.75
	87.30	226	4.67	7.478E+00	2.104E+00	2.104E+00	34.35
RA-224	241.98	346	7.49	6.665E+00	2.253E+00	2.253E+00	30.55
	295.21	358	19.20	5.970E+00	1.016E+00	1.016E+00	22.88
	351.92	684	37.20*	5.401E+00	1.107E+00	1.107E+00	18.42
	240.98	346	3.95*	6.665E+00	4.272E+00	4.272E+00	30.03
	609.31	473	46.30*	3.811E+00	8.725E-01	8.725E-01	17.55
RA-226	1120.29	131	15.10	2.345E+00	1.204E+00	1.204E+00	42.36
	1764.49	94	15.80	1.716E+00	1.131E+00	1.131E+00	37.90
	338.32	319	11.40	5.523E+00	1.648E+00	1.648E+00	48.09
	911.07	315	27.70*	2.788E+00	1.328E+00	1.328E+00	22.93
	969.11	152	16.60	2.649E+00	1.127E+00	1.127E+00	39.82
RA-228	338.32	319	11.40	5.523E+00	1.648E+00	1.648E+00	48.09
	911.07	315	27.70*	2.788E+00	1.328E+00	1.328E+00	22.93
	969.11	152	16.60	2.649E+00	1.127E+00	1.127E+00	39.82
	74.81	409	10.70	6.173E+00	2.017E+00	2.056E+00	20.21
	77.11	594	18.00	6.458E+00	1.664E+00	1.695E+00	17.13
TH-228	87.30	226	8.00	7.478E+00	1.228E+00	1.252E+00	33.47
	238.63	1394	44.60*	6.710E+00	1.517E+00	1.546E+00	14.79
	300.09	120	3.41	5.918E+00	1.932E+00	1.969E+00	75.61
	609.31	473	46.30*	3.811E+00	8.725E-01	8.725E-01	17.55
	1120.29	131	15.10	2.345E+00	1.204E+00	1.204E+00	42.36
TH-230	1764.49	94	15.80	1.716E+00	1.131E+00	1.131E+00	37.90
	338.32	319	11.40	5.523E+00	1.648E+00	1.648E+00	26.16
	911.07	315	27.70*	2.788E+00	1.328E+00	1.328E+00	22.93
	969.11	152	16.60	2.649E+00	1.127E+00	1.127E+00	39.82
	63.29	69	3.80*	4.308E+00	1.364E+00	1.364E+00	127.20
TH-234	92.38	209	5.41	7.874E+00	1.597E+00	1.597E+00	46.97
	609.31	473	46.30*	3.811E+00	8.725E-01	8.725E-01	17.55
	1120.29	131	15.10	2.345E+00	1.204E+00	1.204E+00	42.36
	1764.49	94	15.80	1.716E+00	1.131E+00	1.131E+00	37.90
	86.50	226	12.60*	7.478E+00	7.798E-01	7.798E-01	39.32
NP-237	95.87	---	2.60	8.032E+00	-----	Line Not Found	-----
	63.29	69	3.80*	4.308E+00	1.364E+00	1.364E+00	127.20
	92.38	209	5.41	7.874E+00	1.597E+00	1.597E+00	44.20
	74.67	409	66.00*	6.173E+00	3.271E-01	3.271E-01	20.18

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	226	0.34	7.478E+00	2.924E+01	2.924E+01	33.47
	117.66	-----	0.55	8.550E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.387E+00	-----	Line Not Found	-----
ANH-511	511.00	181	100.00*	4.297E+00	1.371E-01	1.371E-01	47.83

Flag: "*" = Keyline

Total number of lines in spectrum 31
Number of unidentified lines 2
Number of lines tentatively identified by NID 29 93.55%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
BE-7	53.44D	1.28	1.382E-01	1.772E-01	5.413E-01	305.55	
K-40	1.28E+09Y	1.00	3.808E+01	3.808E+01	0.388E+01	10.19	
CD-109	464.00D	1.03	2.641E+00	2.718E+00	0.910E+00	33.47	
SN-126	1.00E+05Y	1.00	2.656E-01	2.656E-01	0.889E-01	33.47	
CS-135	2.30E+06Y	1.00	3.558E-01	3.558E-01	2.721E-01	76.50	
TL-208	1.41E+10Y	1.00	4.431E-01	4.431E-01	0.880E-01	19.86	
BI-211	7.04E+08Y	1.00	3.183E+00	3.183E+00	0.562E+00	17.67	
PB-212	1.41E+10Y	1.00	1.517E+00	1.517E+00	0.224E+00	14.79	
PO-212	1.41E+10Y	1.00	1.517E+00	1.517E+00	0.224E+00	14.79	
BI-214	1600.00Y	1.00	8.725E-01	8.725E-01	1.531E-01	17.55	
PB-214	1600.00Y	1.00	1.107E+00	1.107E+00	0.204E+00	18.42	
PO-214	1600.00Y	1.00	1.107E+00	1.107E+00	0.204E+00	18.42	
PO-216	1.41E+10Y	1.00	1.517E+00	1.517E+00	0.224E+00	14.79	
PO-218	1600.00Y	1.00	1.107E+00	1.107E+00	0.204E+00	18.42	
RA-224	1.41E+10Y	1.00	4.272E+00	4.272E+00	1.283E+00	30.03	
RA-226	1600.00Y	1.00	8.725E-01	8.725E-01	1.531E-01	17.55	
AC-228	1.41E+10Y	1.00	1.328E+00	1.328E+00	0.305E+00	22.93	
RA-228	1.41E+10Y	1.00	1.328E+00	1.328E+00	0.305E+00	22.93	
TH-228	1.91Y	1.02	1.517E+00	1.546E+00	0.229E+00	14.79	
TH-230	4.47E+09Y	1.00	8.725E-01	8.725E-01	1.531E-01	17.55	
TH-232	1.41E+10Y	1.00	1.328E+00	1.328E+00	0.305E+00	22.93	
TH-234	4.47E+09Y	1.00	1.364E+00	1.364E+00	1.736E+00	127.20	
U-234	4.47E+09Y	1.00	8.725E-01	8.725E-01	1.531E-01	17.55	
NP-237	2.14E+06Y	1.00	7.798E-01	7.798E-01	3.066E-01	39.32	
U-238	4.47E+09Y	1.00	1.364E+00	1.364E+00	1.736E+00	127.20	
AM-243	7380.00Y	1.00	3.271E-01	3.271E-01	0.660E-01	20.18	
ANH-511	1.00E+09Y	1.00	1.371E-01	1.371E-01	0.655E-01	47.83	
Total Activity :			7.022E+01	7.036E+01			

Grand Total Activity : 7.022E+01 7.036E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	89.90	106	482	1.15	180.01	172	12	1.48E-02	71.0	7.68E+00	T
0	186.00	219	493	1.80	372.01	366	12	3.05E-02	44.7	7.60E+00	T
0	209.57	101	487	1.17	419.11	413	11	1.40E-02	87.1	7.18E+00	T
0	327.95	105	235	1.76	655.67	651	11	1.45E-02	60.0	5.63E+00	T
0	408.78	62	158	1.54	817.20	814	11	8.59E-03	82.5	4.94E+00	
0	463.01	125	130	1.14	925.58	920	12	1.74E-02	40.8	4.58E+00	T
7	613.14	41	82	2.49	1225.67	1210	20	5.70E-03	96.3	3.79E+00	T
0	727.96	155	124	1.76	1455.17	1448	17	2.15E-02	38.2	3.34E+00	T
0	742.38	49	116	4.36	1484.00	1477	16	6.75E-03	****	3.29E+00	T
0	1729.94	41	9	2.17	3459.06	3453	12	5.72E-03	42.6	1.73E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536009.CNF;1 *
* Acquisition date   : 9-JAN-2010 14:12:15.  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 02:00:02.03        Half life ratio    : 8.00000      *
*****
*                                     SAMPLE DATA                            *
* Sample date        : 21-DEC-2009 12:00:00  Nuclide Library   : SOLID        *
* Sample ID          : G243536009           Analyst initials: MXR1          *
* Batch Number       : 937074              Sample Quantity  : 1.15320E+02 GRAM *
*****
*                                     QC DATA                               *
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28.08MS Isotope       :             *
* MSD ID             :                      MSD Isotope        :             *
* LCS ID             : 1032-A              LCS Isotope         :             *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.772E-01	5.413E-01	4.985E-01	5.203E-02	0.355
K-40	3.808E+01	3.882E+00	5.000E-01	4.580E-02	76.169
CD-109	2.718E+00	9.097E-01	1.275E+00	1.210E-01	2.132
SN-126	2.656E-01	8.889E-02	1.251E-01	1.181E-02	2.123
CS-135	3.558E-01	2.721E-01	2.534E-01	3.665E-02	1.404
TL-208	4.431E-01	8.799E-02	5.205E-02	5.644E-03	8.513
BI-211	3.183E+00	5.623E-01	2.844E-01	3.318E-02	11.193
PB-212	1.517E+00	2.243E-01	9.315E-02	1.231E-02	16.281
PO-212	1.517E+00	2.243E-01	9.315E-02	1.231E-02	16.281
BI-214	8.725E-01	1.531E-01	1.085E-01	1.261E-02	8.043
PB-214	1.107E+00	2.040E-01	9.912E-02	1.263E-02	11.172
PO-214	1.107E+00	2.040E-01	9.912E-02	1.263E-02	11.172
PO-216	1.517E+00	2.243E-01	9.315E-02	1.231E-02	16.281
PO-218	1.107E+00	2.040E-01	9.912E-02	1.263E-02	11.172
RA-224	4.272E+00	1.283E+00	1.059E+00	1.326E-01	4.034
RA-226	8.725E-01	1.531E-01	1.085E-01	1.261E-02	8.043
AC-228	1.328E+00	3.046E-01	2.188E-01	2.899E-02	6.072
RA-228	1.328E+00	3.046E-01	2.188E-01	2.899E-02	6.072

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.546E+00	2.286E-01	9.493E-02	1.254E-02	16.281
TH-230	8.725E-01	1.531E-01	1.085E-01	1.261E-02	8.043
TH-232	1.328E+00	3.046E-01	2.188E-01	2.899E-02	6.072
TH-234	1.364E+00	1.736E+00	1.741E+00	3.030E-01	0.784
U-234	8.725E-01	1.531E-01	1.085E-01	1.261E-02	8.043
NP-237	7.798E-01	3.066E-01	3.676E-01	8.324E-02	2.121
U-238	1.364E+00	1.736E+00	1.741E+00	3.030E-01	0.784
AM-243	3.271E-01	6.600E-02	7.739E-02	6.308E-03	4.226
ANH-511	1.371E-01	6.555E-02	4.317E-02	4.326E-03	3.174

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	-1.398E-02		4.256E-02	6.874E-02	5.924E-03	-0.203
NA-24	-8.409E+01		2.904E+01	Half-Life too short		
AL-26	9.687E-03		2.458E-02	4.282E-02	3.502E-03	0.226
TI-44	3.070E-01	+	5.259E-02	6.681E-02	5.665E-03	4.595
SC-46	-9.328E-04		3.793E-02	6.281E-02	7.031E-03	-0.015
V-48	-1.873E-02		7.965E-02	1.286E-01	1.348E-02	-0.146
CR-51	-2.015E-01		3.903E-01	6.362E-01	8.238E-02	-0.317
MN-52	-3.560E-03		3.435E-01	5.612E-01	5.015E-02	-0.006
MN-54	8.780E-03		4.001E-02	6.752E-02	7.501E-03	0.130
CO-56	1.009E-02		3.693E-02	6.263E-02	6.971E-03	0.161
CO-57	1.637E-02		2.571E-02	4.178E-02	3.445E-03	0.392
CO-58	-6.898E-03		3.814E-02	6.307E-02	6.984E-03	-0.109
FE-59	-9.950E-02		9.811E-02	1.469E-01	1.439E-02	-0.678
CO-60	-2.230E-02		3.780E-02	5.901E-02	5.262E-03	-0.378
ZN-65	5.129E-02		1.107E-01	1.591E-01	1.419E-02	0.322
GE-68	-4.292E-02		1.236E+00	2.007E+00	1.892E-01	-0.021
AS-73	8.795E-03		7.567E-01	1.242E+00	9.385E-02	0.007
AS-74	1.669E-02		9.968E-02	1.668E-01	1.729E-02	0.100
SE-75	4.930E-02		5.133E-02	7.580E-02	1.020E-02	0.650
BR-77	2.950E-06		1.562E-05	Half-Life too short		
SR-82	-6.259E-02		4.058E-01	6.490E-01	7.117E-02	-0.096
RB-83	7.144E-04		6.655E-02	1.067E-01	1.074E-02	0.007
RB-84	8.863E-03		7.129E-02	1.193E-01	1.335E-02	0.074
KR-85	2.956E+01		8.813E+00	1.429E+01	1.434E+00	2.069
SR-85	1.580E-01		4.712E-02	7.638E-02	7.664E-03	2.069
RB-86	-1.127E-02		8.921E-01	1.451E+00	1.369E-01	-0.008
Y-88	2.175E-02		2.921E-02	5.300E-02	4.285E-03	0.410
ZR-88	2.995E-02		3.001E-02	5.163E-02	4.807E-03	0.580
Y-91	1.116E+01		2.071E+01	3.547E+01	2.916E+00	0.315
NB-94	1.588E-02		3.056E-02	5.144E-02	5.513E-03	0.309
NB-95	2.547E-02		4.329E-02	7.242E-02	7.920E-03	0.352
NB-95M	1.324E-01		1.510E-01	2.227E-01	2.943E-02	0.595
ZR-95	-2.340E-02		7.076E-02	1.120E-01	1.301E-02	-0.209
NB-97	-2.307E+00		2.327E+00	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	2.496E+02		5.326E+01	Half-Life too short		
MO-99	1.283E+01		3.510E+01	5.042E+01	8.346E+00	0.255
TC-99M	1.169E+14		1.078E+15	Half-Life too short		
RH-101	8.857E-03		3.485E-02	5.543E-02	6.047E-03	0.160
RH-102	-1.296E-02		3.457E-02	4.672E-02	4.594E-03	-0.277
RU-103	2.856E-02		4.204E-02	7.006E-02	1.051E-02	0.408
RH-106	-4.874E-02		2.977E-01	4.865E-01	7.104E-02	-0.100
RU-106	-4.874E-02		2.976E-01	4.865E-01	5.082E-02	-0.100
AG-108M	-1.017E-02		3.078E-02	4.920E-02	4.871E-03	-0.207
AG-110M	-1.883E-02		3.362E-02	5.322E-02	5.720E-03	-0.354
IN-111	9.728E-01		3.088E+00	4.446E+00	5.641E-01	0.219
IN-113M	6.883E-03		4.367E-02	7.239E-02	6.913E-03	0.095
SN-113	6.883E-03		4.367E-02	7.239E-02	6.913E-03	0.095
IN-114M	-1.192E-02		2.095E-01	3.027E-01	3.218E-02	-0.039
CD-115	5.765E-06		1.799E-05	Half-Life too short		
SN-117M	-2.491E-02		6.763E-02	1.058E-01	1.004E-02	-0.235
SB-122	1.573E+00		5.463E+00	9.237E+00	9.468E-01	0.170
I-123	-4.749E+02		4.528E+02	Half-Life too short		
TE-123M	-1.560E-02		2.975E-02	4.633E-02	4.424E-03	-0.337
I-124	-1.631E-01		1.444E+00	2.038E+00	2.117E-01	-0.080
SB-124	1.190E-03		6.298E-02	1.046E-01	9.303E-03	0.011
SB-125	-7.524E-02		8.782E-02	1.359E-01	1.319E-02	-0.554
TE-125M	-2.957E+00		9.654E+00	1.523E+01	1.544E+00	-0.194
I-126	-7.535E-02		2.199E-01	3.533E-01	3.733E-02	-0.213
SB-126	-1.509E-01		2.131E-01	2.772E-01	2.990E-02	-0.544
SB-127	-1.496E+00		2.660E+00	4.183E+00	5.892E-01	-0.358
XE-127	-2.273E-02		5.551E-02	8.272E-02	9.169E-03	-0.275
I-131	6.980E-02		1.449E-01	2.455E-01	2.726E-02	0.284
TE-132	2.812E-01		1.615E+00	2.645E+00	4.901E-01	0.106
BA-133	6.644E-02		4.287E-02	6.710E-02	1.003E-02	0.990
I-133	-5.884E-02		6.858E-02	Half-Life too short		
CS-134	6.129E-02		4.828E-02	8.160E-02	9.032E-03	0.751
I-135	4.155E+13		6.156E+13	Half-Life too short		
CS-136	7.754E-03		1.336E-01	2.190E-01	2.216E-02	0.035
BA-137M	2.118E-02		3.439E-02	5.836E-02	6.154E-03	0.363
CS-137	2.239E-02		3.635E-02	6.169E-02	6.514E-03	0.363
CE-139	-1.358E-02		2.994E-02	4.908E-02	4.814E-03	-0.277
BA-140	-1.198E-01		3.028E-01	4.910E-01	1.648E-01	-0.244
LA-140	-1.146E-01		1.063E-01	1.570E-01	1.376E-02	-0.730
CE-141	5.927E-02		6.393E-02	1.106E-01	1.007E-02	0.536
CE-143	4.835E-03		8.535E-04	Half-Life too short		
CE-144	-1.919E-02		1.972E-01	3.327E-01	5.165E-02	-0.058
PM-144	3.632E-03		3.335E-02	5.484E-02	5.865E-03	0.066
PR-144	2.467E-01		2.265E+00	3.724E+00	3.981E-01	0.066
PM-146	5.231E-02		4.093E-02	7.051E-02	8.193E-03	0.742
ND-147	-1.283E-01		6.846E-01	1.134E+00	1.799E-01	-0.113
PM-149	1.782E-04		1.628E-04	Half-Life too short		
EU-152	2.811E-02		1.161E-01	1.358E-01	1.633E-02	0.207

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.045E-01		8.566E-02	1.142E-01	1.005E-02	-0.915
EU-154	-3.819E-02		1.187E-01	1.918E-01	2.168E-02	-0.199
EU-155	1.651E-01		1.074E-01	1.806E-01	1.551E-02	0.914
TB-160	-9.399E-03		1.311E-01	2.166E-01	2.422E-02	-0.043
HO-166M	9.276E-03		5.976E-02	9.834E-02	1.057E-02	0.094
TM-171	5.540E+00		2.623E+01	3.902E+01	2.948E+00	0.142
LU-176	4.595E-03		2.337E-02	3.956E-02	5.190E-03	0.116
LU-177	3.000E+00	+	2.634E+00	2.918E+00	3.294E-01	1.028
LU-177M	-6.382E-03		1.866E-01	2.635E-01	2.492E-02	-0.024
HF-181	-1.217E-02		5.357E-02	7.317E-02	7.223E-03	-0.166
W-181	-3.642E-01		3.589E-01	5.023E-01	3.744E-02	-0.725
TA-182	1.200E-01		2.080E-01	3.565E-01	2.965E-02	0.337
RE-183	1.068E-01		1.121E-01	1.926E-01	1.858E-02	0.554
RE-184	2.317E-01		2.381E-01	3.976E-01	5.159E-02	0.583
OS-185	2.171E-02		4.020E-02	6.828E-02	7.176E-03	0.318
RE-188	8.572E-02		1.716E-01	2.921E-01	2.727E-02	0.293
W-188	-3.378E+00		8.245E+00	1.180E+01	1.611E+00	-0.286
IR-192	5.216E-03		3.369E-02	5.679E-02	7.258E-03	0.092
AU-195	2.450E-02		2.126E-01	3.438E-01	2.998E-02	0.071
TL-200	-8.167E-04		2.591E-03	Half-Life too short		
TL-201	-5.072E+00		1.699E+01	2.800E+01	2.760E+00	-0.181
TL-202	3.948E-02		8.414E-02	1.403E-01	1.351E-02	0.281
HG-203	-9.340E-03		4.473E-02	7.085E-02	1.003E-02	-0.132
BI-207	1.240E-02		5.112E-02	8.475E-02	8.136E-03	0.146
TL-207	2.492E-01		7.044E-01	1.045E+00	2.077E-01	0.238
PO-209	1.105E+00		7.142E+00	1.196E+01	1.339E+00	0.092
BI-210	1.307E+00		3.002E+00	5.039E+00	4.681E-01	0.259
PB-210	1.307E+00		3.002E+00	5.039E+00	4.681E-01	0.259
PO-210	1.307E+00		3.001E+00	5.039E+00	4.237E-01	0.259
PB-211	-9.900E-02		9.942E-01	1.398E+00	8.774E-01	-0.071
BI-212	1.280E+00	+	5.127E-01	6.033E-01	7.206E-02	2.122
PO-215	2.492E-01		7.044E-01	1.045E+00	2.077E-01	0.238
RN-219	2.038E-01		3.806E-01	6.400E-01	9.902E-02	0.318
RN-220	-1.712E+01		2.379E+01	3.795E+01	3.868E+00	-0.451
RA-223	2.492E-01		7.044E-01	1.045E+00	2.077E-01	0.238
AC-227	7.478E-02		3.814E-01	6.197E-01	1.131E-01	0.121
TH-227	7.478E-02		3.815E-01	6.197E-01	1.276E-01	0.121
TH-229	7.652E-02		5.031E-01	8.340E-01	8.967E-02	0.092
PA-231	7.265E-01		1.552E+00	2.525E+00	4.715E-01	0.288
TH-231	2.492E-01		7.044E-01	1.045E+00	2.077E-01	0.238
U-231	2.330E+00		1.976E+00	3.007E+00	2.670E-01	0.775
PA-233	-3.143E-02		6.152E-02	1.006E-01	1.317E-02	-0.312
PA-234	-1.932E-01		2.870E-01	4.463E-01	8.870E-02	-0.433
PA-234M	-6.674E-01		4.492E+00	7.287E+00	8.350E-01	-0.092
U-235	2.049E-03		2.069E-01	3.406E-01	6.009E-02	0.006
NP-236	-1.108E-01		8.314E-02	1.247E-01	1.192E-02	-0.889
NP-239	4.103E-03		1.891E-01	3.011E-01	2.488E-02	0.014
AM-241	3.937E-02		1.444E-01	2.180E-01	1.704E-02	0.181

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.183E-02		9.611E-02	1.578E-01	1.345E-02	0.392
AM-246	1.339E-02		1.438E-01	2.374E-01	2.234E-02	0.056
CM-247	8.844E-03		3.620E-02	5.682E-02	5.330E-03	0.156
CF-249	6.288E-03		3.817E-02	6.334E-02	6.020E-03	0.099
CF-251	2.437E-02		1.312E-01	2.149E-01	2.183E-02	0.113

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536009          *
* Acquisition date   : 9-JAN-2010 14:12:15 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 02:00:02.03             Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536009              Analyst initials: MXR1         *
* Batch Number       : 937074                  Sample Quantity : 1.1532E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope         :              *
* MSD DPM             : 0.000                      MSD Isotope    :              *
* LCS DPM             : 0.000                      LCS Isotope    :              *
* LCSD DPM           : 0.000                      LCSD Isotope   :              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
BE-7	1.772E-01	5.305E-01	2.512E-01	2.707E-01
K-40	3.808E+01	3.804E+00	2.492E-01	1.941E+00
CD-109	2.718E+00	8.915E-01	6.528E-01	4.549E-01
SN-126	2.656E-01	8.711E-02	6.405E-02	4.444E-02
CS-135	3.558E-01	2.667E-01	1.284E-01	1.361E-01
TL-208	4.431E-01	8.623E-02	2.617E-02	4.400E-02
BI-211	3.183E+00	5.511E-01	1.437E-01	2.812E-01
PB-212	1.517E+00	2.198E-01	4.724E-02	1.121E-01
PO-212	1.517E+00	2.198E-01	4.724E-02	1.121E-01
BI-214	8.725E-01	1.501E-01	5.452E-02	7.656E-02
PB-214	1.107E+00	1.999E-01	5.008E-02	1.020E-01
PO-214	1.107E+00	1.999E-01	5.008E-02	1.020E-01
PO-216	1.517E+00	2.198E-01	4.724E-02	1.121E-01
PO-218	1.107E+00	1.999E-01	5.008E-02	1.020E-01
RA-224	4.272E+00	1.257E+00	5.370E-01	6.416E-01
RA-226	8.725E-01	1.501E-01	5.452E-02	7.656E-02
AC-228	1.328E+00	2.985E-01	1.095E-01	1.523E-01
RA-228	1.328E+00	2.985E-01	1.095E-01	1.523E-01
TH-228	1.546E+00	2.240E-01	4.815E-02	1.143E-01
TH-230	8.725E-01	1.501E-01	5.452E-02	7.656E-02
TH-232	1.328E+00	2.985E-01	1.095E-01	1.523E-01
TH-234	1.364E+00	1.701E+00	8.941E-01	8.678E-01
U-234	8.725E-01	1.501E-01	5.452E-02	7.656E-02
NP-237	7.798E-01	3.005E-01	1.883E-01	1.533E-01
U-238	1.364E+00	1.701E+00	8.941E-01	8.678E-01
AM-243	3.271E-01	6.468E-02	3.968E-02	3.300E-02
ANH-511	1.371E-01	6.424E-02	2.174E-02	3.277E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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NA-22	-1.398E-02	4.171E-02	3.430E-02	2.128E-02	NOT IDENT.
NA-24	-8.409E+07	5.693E+07	0.000E+00	2.904E+07	SHORT HLIF
AL-26	9.687E-03	2.409E-02	2.130E-02	1.229E-02	NOT IDENT.
TI-44	3.070E-01	5.154E-02	3.425E-02	2.629E-02	FAIL ABUN
SC-46	-9.328E-04	3.717E-02	3.146E-02	1.897E-02	FAIL ABUN
V-48	-1.873E-02	7.805E-02	6.431E-02	3.982E-02	NOT IDENT.
CR-51	-2.015E-01	3.825E-01	3.218E-01	1.951E-01	NOT IDENT.
MN-52	-3.560E-03	3.367E-01	2.797E-01	1.718E-01	NOT IDENT.
MN-54	8.780E-03	3.921E-02	3.383E-02	2.001E-02	NOT IDENT.
CO-56	1.009E-02	3.619E-02	3.138E-02	1.847E-02	NOT IDENT.
CO-57	1.637E-02	2.520E-02	2.133E-02	1.286E-02	NOT IDENT.
CO-58	-6.898E-03	3.738E-02	3.161E-02	1.907E-02	NOT IDENT.
FE-59	-9.950E-02	9.615E-02	7.339E-02	4.906E-02	NOT IDENT.
CO-60	-2.230E-02	3.704E-02	2.944E-02	1.890E-02	NOT IDENT.
ZN-65	5.129E-02	1.085E-01	7.950E-02	5.536E-02	NOT IDENT.
GE-68	-4.292E-02	1.212E+00	1.003E+00	6.182E-01	NOT IDENT.
AS-73	8.795E-03	7.415E-01	6.389E-01	3.783E-01	NOT IDENT.
AS-74	1.669E-02	9.769E-02	8.386E-02	4.984E-02	NOT IDENT.
SE-75	4.930E-02	5.030E-02	3.841E-02	2.566E-02	NOT IDENT.
BR-77	2.950E+00	3.061E+01	0.000E+00	1.562E+01	SHORT HLIF
SR-82	-6.259E-02	3.976E-01	3.254E-01	2.029E-01	NOT IDENT.
RB-83	7.144E-04	6.522E-02	5.374E-02	3.328E-02	NOT IDENT.
RB-84	8.863E-03	6.987E-02	5.977E-02	3.565E-02	NOT IDENT.
KR-85	2.956E+01	8.637E+00	7.193E+00	4.407E+00	NOT IDENT.
SR-85	1.580E-01	4.617E-02	3.846E-02	2.356E-02	NOT IDENT.
RB-86	-1.127E-02	8.742E-01	7.252E-01	4.460E-01	NOT IDENT.
Y-88	2.175E-02	2.862E-02	2.635E-02	1.460E-02	NOT IDENT.
SR-88	2.995E-02	2.941E-02	2.606E-02	1.501E-02	NOT IDENT.
Y-91	1.116E+01	2.029E+01	1.771E+01	1.035E+01	NOT IDENT.
NB-94	1.588E-02	2.995E-02	2.582E-02	1.528E-02	NOT IDENT.
NB-95	2.547E-02	4.242E-02	3.632E-02	2.164E-02	NOT IDENT.
NB-95M	1.324E-01	1.480E-01	1.129E-01	7.551E-02	NOT IDENT.
ZR-95	-2.340E-02	6.934E-02	5.620E-02	3.538E-02	NOT IDENT.
NB-97	-2.307E+06	4.561E+06	0.000E+00	2.327E+06	SHORT HLIF
ZR-97	2.496E+08	1.044E+08	0.000E+00	5.326E+07	SHORT HLIF
MO-99	1.283E+01	3.440E+01	2.530E+01	1.755E+01	NOT IDENT.
TC-99M	1.169E+20	2.114E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	8.857E-03	3.416E-02	2.816E-02	1.743E-02	NOT IDENT.
RH-102	-1.296E-02	3.388E-02	2.354E-02	1.729E-02	NOT IDENT.
RU-103	2.856E-02	4.120E-02	3.528E-02	2.102E-02	FAIL ABUN
RH-106	-4.874E-02	2.917E-01	2.445E-01	1.488E-01	FAIL ABUN
RU-106	-4.874E-02	2.917E-01	2.445E-01	1.488E-01	FAIL ABUN
AG-108M	-1.017E-02	3.017E-02	2.481E-02	1.539E-02	FAIL ABUN
AG-110M	-1.883E-02	3.294E-02	2.673E-02	1.681E-02	NOT IDENT.
IN-111	9.728E-01	3.026E+00	2.254E+00	1.544E+00	NOT IDENT.
IN-113M	6.883E-03	4.279E-02	3.654E-02	2.183E-02	NOT IDENT.
SN-113	6.883E-03	4.279E-02	3.654E-02	2.183E-02	NOT IDENT.
IN-114M	-1.192E-02	2.054E-01	1.539E-01	1.048E-01	NOT IDENT.
CD-115	5.765E+00	3.526E+01	0.000E+00	1.799E+01	SHORT HLIF
SN-117M	-2.491E-02	6.628E-02	5.389E-02	3.381E-02	NOT IDENT.
SB-122	1.573E+00	5.353E+00	4.646E+00	2.731E+00	NOT IDENT.
I-123	-4.749E+08	8.875E+08	0.000E+00	4.528E+08	SHORT HLIF
TE-123M	-1.560E-02	2.916E-02	2.359E-02	1.488E-02	NOT IDENT.
I-124	-1.631E-01	1.415E+00	1.025E+00	7.221E-01	NOT IDENT.
SB-124	1.190E-03	6.172E-02	5.204E-02	3.149E-02	FAIL ABUN
SB-125	-7.524E-02	8.606E-02	6.854E-02	4.391E-02	FAIL ABUN
TE-125M	-2.957E+00	9.461E+00	7.784E+00	4.827E+00	NOT IDENT.
I-126	-7.535E-02	2.155E-01	1.774E-01	1.099E-01	NOT IDENT.
SB-126	-1.509E-01	2.089E-01	1.391E-01	1.066E-01	FAIL ABUN
SB-127	-1.496E+00	2.607E+00	2.100E+00	1.330E+00	NOT IDENT.
XE-127	-2.273E-02	5.440E-02	4.202E-02	2.775E-02	NOT IDENT.
I-131	6.980E-02	1.420E-01	1.240E-01	7.243E-02	NOT IDENT.
TE-132	2.812E-01	1.583E+00	1.342E+00	8.076E-01	NOT IDENT.
BA-133	6.644E-02	4.202E-02	3.390E-02	2.144E-02	NOT IDENT.
I-133	-5.884E+04	1.344E+05	0.000E+00	6.858E+04	SHORT HLIF
CS-134	6.129E-02	4.731E-02	4.091E-02	2.414E-02	NOT IDENT.
I-135	4.155E+19	1.207E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.754E-03	1.310E-01	1.095E-01	6.682E-02	FAIL ABUN
BA-137M	2.118E-02	3.370E-02	2.931E-02	1.719E-02	NOT IDENT.
CS-137	2.239E-02	3.562E-02	3.098E-02	1.818E-02	NOT IDENT.
CE-139	-1.358E-02	2.935E-02	2.498E-02	1.497E-02	NOT IDENT.
BA-140	-1.198E-01	2.967E-01	2.471E-01	1.514E-01	NOT IDENT.
LA-140	-1.146E-01	1.042E-01	7.816E-02	5.315E-02	FAIL ABUN
CE-141	5.927E-02	6.265E-02	5.637E-02	3.197E-02	NOT IDENT.
CE-143	4.835E+03	1.673E+03	0.000E+00	8.535E+02	SHORT HLIF
CE-144	-1.919E-02	1.932E-01	1.697E-01	9.859E-02	NOT IDENT.
PM-144	3.632E-03	3.268E-02	2.753E-02	1.667E-02	NOT IDENT.
PR-144	2.467E-01	2.219E+00	1.869E+00	1.132E+00	NOT IDENT.

PM-146	5.231E-02	4.011E-02	3.554E-02	2.047E-02	NOT IDENT.
ND-147	-1.283E-01	6.709E-01	5.710E-01	3.423E-01	FAIL ABUN
PM-149	1.782E+02	3.192E+02	0.000E+00	1.628E+02	SHORT HLIF
EU-152	2.811E-02	1.138E-01	6.866E-02	5.806E-02	NOT IDENT.
GD-153	-1.045E-01	8.395E-02	5.844E-02	4.283E-02	NOT IDENT.
EU-154	-3.819E-02	1.164E-01	9.572E-02	5.937E-02	NOT IDENT.
EU-155	1.651E-01	1.052E-01	9.232E-02	5.368E-02	FAIL ABUN
TB-160	-9.399E-03	1.285E-01	1.085E-01	6.556E-02	FAIL ABUN
HO-166M	9.276E-03	5.856E-02	4.936E-02	2.988E-02	NOT IDENT.
TM-171	5.540E+00	2.571E+01	2.003E+01	1.312E+01	NOT IDENT.
LU-176	4.595E-03	2.291E-02	2.002E-02	1.169E-02	FAIL ABUN
LU-177	3.000E+00	2.581E+00	1.482E+00	1.317E+00	FAIL ABUN
LU-177M	-6.382E-03	1.828E-01	1.329E-01	9.328E-02	FAIL ABUN
HF-181	-1.217E-02	5.250E-02	3.686E-02	2.678E-02	NOT IDENT.
W-181	-3.642E-01	3.517E-01	2.579E-01	1.794E-01	NOT IDENT.
TA-182	1.200E-01	2.039E-01	1.780E-01	1.040E-01	FAIL ABUN
RE-183	1.068E-01	1.099E-01	9.805E-02	5.605E-02	FAIL ABUN
RE-184	2.317E-01	2.333E-01	2.015E-01	1.190E-01	NOT IDENT.
OS-185	2.171E-02	3.940E-02	3.430E-02	2.010E-02	NOT IDENT.
RE-188	8.572E-02	1.681E-01	1.488E-01	8.579E-02	FAIL ABUN
W-188	-3.378E+00	8.080E+00	5.972E+00	4.122E+00	FAIL ABUN
IR-192	5.216E-03	3.301E-02	2.873E-02	1.684E-02	FAIL ABUN
AU-195	2.450E-02	2.084E-01	1.759E-01	1.063E-01	FAIL ABUN
TL-200	-8.167E+02	5.078E+03	0.000E+00	2.591E+03	SHORT HLIF
TL-201	-5.072E+00	1.665E+01	1.425E+01	8.496E+00	NOT IDENT.
TL-202	3.948E-02	8.245E-02	7.076E-02	4.207E-02	NOT IDENT.
HG-203	-9.340E-03	4.383E-02	3.588E-02	2.236E-02	NOT IDENT.
BI-207	1.240E-02	5.010E-02	4.236E-02	2.556E-02	FAIL ABUN
TL-207	2.492E-01	6.903E-01	5.284E-01	3.522E-01	FAIL ABUN
PO-209	1.105E+00	6.999E+00	5.987E+00	3.571E+00	NOT IDENT.
BI-210	1.307E+00	2.942E+00	2.595E+00	1.501E+00	NOT IDENT.
PB-210	1.307E+00	2.942E+00	2.595E+00	1.501E+00	NOT IDENT.
PO-210	1.307E+00	2.941E+00	2.595E+00	1.501E+00	NOT IDENT.
PB-211	-9.900E-02	9.743E-01	7.053E-01	4.971E-01	NOT IDENT.
BI-212	1.280E+00	5.024E-01	3.027E-01	2.563E-01	FAIL ABUN
PO-215	2.492E-01	6.903E-01	5.284E-01	3.522E-01	FAIL ABUN
RN-219	2.038E-01	3.730E-01	3.230E-01	1.903E-01	NOT IDENT.
RN-220	-1.712E+01	2.332E+01	1.910E+01	1.190E+01	NOT IDENT.
RA-223	2.492E-01	6.903E-01	5.284E-01	3.522E-01	FAIL ABUN
AC-227	7.478E-02	3.738E-01	3.141E-01	1.907E-01	FAIL ABUN
TH-227	7.478E-02	3.738E-01	3.141E-01	1.907E-01	FAIL ABUN
TH-229	7.652E-02	4.931E-01	4.238E-01	2.516E-01	FAIL ABUN
PA-231	7.265E-01	1.521E+00	1.279E+00	7.759E-01	FAIL ABUN
TH-231	2.492E-01	6.903E-01	5.284E-01	3.522E-01	FAIL ABUN
U-231	2.330E+00	1.937E+00	1.538E+00	9.881E-01	FAIL ABUN
PA-233	-3.143E-02	6.029E-02	5.088E-02	3.076E-02	FAIL ABUN
PA-234	-1.932E-01	2.813E-01	2.234E-01	1.435E-01	FAIL ABUN
PA-234M	-6.674E-01	4.402E+00	3.645E+00	2.246E+00	NOT IDENT.
U-235	2.049E-03	2.027E-01	1.736E-01	1.034E-01	FAIL ABUN
NP-236	-1.108E-01	8.148E-02	6.347E-02	4.157E-02	NOT IDENT.
NP-239	4.103E-03	1.854E-01	1.537E-01	9.457E-02	FAIL ABUN
AM-241	3.937E-02	1.415E-01	1.120E-01	7.219E-02	NOT IDENT.
CM-243	6.183E-02	9.419E-02	8.065E-02	4.806E-02	FAIL ABUN
AM-246	1.339E-02	1.409E-01	1.187E-01	7.191E-02	NOT IDENT.
CM-247	8.844E-03	3.547E-02	2.868E-02	1.810E-02	NOT IDENT.
CF-249	6.288E-03	3.740E-02	3.198E-02	1.908E-02	NOT IDENT.
CF-251	2.437E-02	1.286E-01	1.093E-01	6.559E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
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46.50	263.7265
46.50	263.7265
46.50	263.7265
48.70	322.1182
49.72	308.0376
51.35	289.0547
52.39	294.0894
52.97	295.7619
53.15	302.5080
53.44	301.9537
54.07	307.4418
56.28	326.3408
56.28	326.3443
57.37	0.0000
57.53	341.2967
57.53	341.2994
57.60	336.6531
57.98	344.2015
57.98	344.2015
59.32	338.0382
59.32	338.0382
59.40	338.1454
59.54	338.3335
59.72	342.8796
60.01	343.2735
61.10	351.9572
61.14	352.0117
61.30	352.2309
63.00	358.4182
63.29	358.8144
63.29	358.8144
63.58	359.2086
64.28	386.9261
65.12	402.7896
65.20	407.3051
65.20	407.3051
66.05	379.1914
66.72	350.6556
66.83	350.7972
66.91	350.9008
67.20	402.9287
67.20	402.9287
67.75	402.2517
67.85	402.3980
68.90	392.0361
68.90	392.0361
69.30	397.0554
69.67	412.4695
70.82	388.7206
70.82	388.7206
70.83	388.7344
72.80	421.4975
72.87	421.6000
72.87	421.6000
74.67	430.2382
74.81	430.4397
74.81	430.4397
74.81	430.4397
74.81	430.4397
74.81	430.4397
74.81	430.4397
74.81	430.4397
74.97	430.6715
75.28	431.1179
75.70	431.7202
77.11	433.7331
77.11	433.7331

77.11	433.7331
77.11	433.7331
77.11	433.7331
77.11	433.7331
77.11	433.7331
78.38	423.2630
79.62	377.2255
79.80	377.4423
79.80	377.4423
80.11	387.0688
80.18	387.1549
80.30	387.3024
80.30	387.3024
80.57	387.6337
81.00	459.2995
81.07	459.4015
81.07	459.4015
81.07	459.4015
81.07	459.4015
82.60	455.3915
83.37	433.1067
83.78	428.9784
83.78	428.9784
83.78	428.9784
83.78	428.9784
84.21	395.1832
84.90	386.6253
85.43	396.6559
86.29	515.5780
86.50	515.9033
86.54	515.9659
86.59	516.0435
86.72	516.2462
86.79	538.3906
86.94	538.6359
87.30	526.6019
87.30	526.6019
87.30	526.6019
87.30	526.6019
87.30	526.6019
87.30	526.6019
87.57	527.0250
87.88	0.0000
88.03	527.7461
88.36	528.2609
88.47	528.4341
89.95	530.7326
91.11	325.2542
92.29	326.3592
92.38	326.4433
92.38	326.4433
93.35	351.4139
94.00	352.0605
94.67	338.2251
94.67	338.2299
94.90	338.4478
94.90	338.4478
94.90	338.4478
94.90	338.4478
95.87	292.4997
95.87	292.4997
96.73	354.7539
97.43	405.7484
98.44	348.9300
98.44	348.9316
98.88	347.6107
99.55	353.6835
99.55	353.6835
99.86	344.1753
100.00	344.3055
100.10	340.0424
103.18	377.9927
103.76	362.0610
105.00	342.2538
105.31	334.7937
108.00	413.8738
109.28	385.0752

111.00	360.9496
111.00	360.9496
111.76	363.8754
112.95	389.7216
115.19	379.3900
116.30	386.0815
117.00	354.8784
117.00	354.8784
117.66	354.2962
121.11	342.2435
121.62	362.1952
121.78	362.3282
122.06	334.9383
122.32	335.1382
122.32	335.1382
122.32	335.1382
122.32	335.1382
123.07	368.0195
127.23	414.5828
129.76	391.7336
131.20	407.0663
133.02	413.0965
133.54	375.4803
135.34	358.2578
136.00	395.2580
136.25	395.4680
136.48	392.0966
140.51	385.5213
140.51	0.0000
142.18	403.9800
142.65	388.1194
143.76	359.1422
144.24	344.0967
144.24	344.0967
144.24	344.0967
144.24	344.0967
145.22	343.8707
145.44	335.8545
147.16	381.6400
152.43	340.5094
152.70	345.2911
153.22	340.1071
154.21	352.7596
154.21	352.7596
154.21	352.7596
154.21	352.7596
155.03	356.0880
156.02	366.0272
158.56	350.0961
159.00	0.0000
159.00	366.2247
160.31	401.6848
161.27	392.1060
162.32	342.2321
162.64	349.0026
163.35	348.5173
163.89	340.3969
165.85	381.2466
167.43	371.9246
171.28	334.4585
171.86	346.2447
172.10	346.3915
176.55	363.5055
176.60	363.5372
181.06	393.8271
184.41	411.6331
185.71	358.4153
186.00	358.5888
190.27	338.4675
192.34	347.4963
193.63	348.2161
197.04	356.0717
198.01	332.7055
198.60	342.9817
200.40	0.0000
201.83	374.7733
202.84	380.0389
205.31	351.3893

208.36	355.2418
208.81	355.4828
209.75	326.1662
209.75	326.1662
210.97	310.5032
215.65	346.0956
216.55	321.6708
218.09	319.3117
222.10	317.0294
223.80	324.0087
226.40	313.7715
227.00	327.5546
227.08	327.5907
227.20	328.6861
228.16	316.6288
228.18	316.6381
228.18	316.6381
231.56	0.0000
235.69	351.9247
236.00	358.8135
236.00	358.8135
238.63	339.1694
238.63	339.1694
238.63	339.1694
238.63	339.1694
239.00	0.0000
240.98	340.2396
241.98	340.6952
241.98	340.6952
241.98	340.6952
244.69	281.2050
245.39	266.1122
247.94	292.6768
248.90	265.6229
249.79	0.0000
252.40	262.5245
252.85	249.7568
252.85	249.7568
254.15	0.0000
256.20	268.1271
256.20	268.1271
260.50	289.1516
260.90	0.0000
262.80	264.5465
264.65	237.7643
268.24	284.4690
268.79	269.0678
269.46	269.2884
269.46	269.2884
269.46	269.2884
269.46	269.2884
271.23	292.5588
273.65	365.8836
276.40	248.2744
277.35	251.8835
277.60	250.8463
277.60	250.8463
278.00	248.7461
278.60	258.9252
279.20	291.3599
279.53	291.4718
280.46	325.2029
281.68	0.0000
283.67	243.7032
284.30	237.1705
285.00	235.1253
285.90	0.0000
286.10	258.9691
286.10	258.9691
287.40	268.1785
288.45	0.0000
290.67	259.9576
290.80	259.9963
291.72	237.7040
293.26	0.0000
293.70	238.8407
295.21	239.2500
295.21	239.2500

295.21	239.2500
295.96	239.4530
296.50	239.5980
297.23	0.0000
298.57	240.1556
299.80	236.8406
299.80	236.8406
300.09	232.3638
300.09	232.3638
300.09	232.3638
300.09	232.3638
300.12	232.3700
301.29	223.5475
302.84	243.7370
303.76	0.0000
303.91	245.5486
304.40	224.3192
304.40	224.3192
304.84	233.5871
306.84	224.9203
308.46	229.9164
311.98	241.8703
316.51	216.1450
318.01	239.7208
319.02	241.8362
319.41	247.5209
320.08	234.6566
323.87	213.4688
323.87	213.4688
323.87	213.4688
323.87	213.4688
325.23	235.6149
328.77	208.2914
333.44	151.0684
334.20	245.6765
334.20	245.6765
334.30	214.2017
338.28	203.0466
338.28	203.0466
338.28	203.0466
338.28	203.0466
338.32	203.0571
338.32	203.0571
338.32	203.0571
340.50	158.4900
340.57	158.5002
344.27	155.9044
345.85	168.8965
350.59	0.0000
351.07	172.9688
351.92	173.1116
351.92	173.1116
351.92	173.1116
355.39	0.0000
356.01	136.7865
364.48	161.5845
366.43	188.2127
367.43	178.6283
367.94	0.0000
369.80	180.0020
374.96	174.9710
383.85	185.3176
387.95	191.9704
388.63	201.0457
391.69	190.6176
391.69	190.6176
392.90	166.8451
398.62	208.8582
400.65	177.0398
401.10	167.0476
401.81	168.1579
402.60	175.0756
404.84	181.7249
410.95	169.1508
411.60	164.1671
413.65	167.8440
414.70	167.9951
415.30	161.2885

415.76	178.3368
417.63	0.0000
418.52	182.8370
423.70	177.4770
427.08	188.2630
427.89	188.3881
432.53	153.9727
433.93	171.7366
439.47	0.0000
439.56	166.2871
439.89	160.0946
443.98	156.4490
444.90	151.3455
445.03	151.3615
445.03	151.3615
445.03	151.3615
453.90	134.5563
463.38	157.0863
468.07	155.8817
473.00	177.8035
475.06	186.9843
475.35	178.1209
476.78	158.6978
477.59	144.5202
477.96	148.1308
482.03	180.8042
484.57	0.0000
487.03	149.3905
490.36	0.0000
492.35	0.0000
497.08	141.1862
507.63	0.0000
510.53	0.0000
510.84	150.2652
511.00	150.2819
511.85	150.3714
511.85	150.3714
513.99	137.4084
513.99	137.4084
520.41	139.1322
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	156.5086
529.87	0.0000
531.02	157.5869
537.32	156.4028
543.00	136.4443
546.56	0.0000
549.76	151.1439
552.65	141.0889
555.20	127.1942
563.23	144.9130
563.90	152.5589
568.70	169.1927
569.32	169.2579
569.50	163.5736
569.67	163.5911
573.80	158.1298
574.00	167.5142
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	129.5096
585.48	0.0000
591.81	143.5294
592.07	139.9724
593.00	132.2449
595.88	141.1850
600.56	150.0001
602.52	0.0000
602.71	168.1408
602.71	168.1408
603.60	178.2263
604.41	163.3174
604.70	160.0112
609.31	159.9060

609.31	159.9060
609.31	159.9060
609.31	159.9060
610.33	160.0061
612.46	145.6989
614.37	132.4529
618.01	117.6221
621.84	135.5770
621.84	135.5770
631.29	117.5667
633.02	134.5003
633.10	127.5828
634.78	139.5886
635.90	132.7459
636.97	123.9090
645.85	113.5895
646.12	114.6046
656.30	145.3481
657.75	147.4755
657.90	0.0000
661.65	133.7252
661.65	133.7252
664.57	0.0000
666.33	156.2582
666.33	156.2582
675.00	140.8099
677.61	137.9700
685.20	139.5699
692.80	125.8278
695.00	139.2926
696.49	140.4311
696.49	140.4311
697.00	140.4702
697.49	132.3016
698.33	130.3099
698.50	130.3228
699.00	134.4621
702.63	119.2993
706.10	149.4014
706.58	0.0000
706.67	146.3566
709.31	134.1762
711.68	137.4458
713.82	130.3605
717.42	144.0847
720.50	158.4102
721.93	0.0000
722.20	147.8611
722.78	133.6513
722.78	133.6513
722.89	133.6591
722.95	133.6618
723.30	137.2529
724.18	131.9648
727.18	144.6739
733.00	107.8485
735.90	50.2383
739.58	115.0469
742.81	114.4886
744.21	113.5173
747.13	110.0774
751.79	105.5155
752.31	109.3820
753.82	115.1295
755.35	0.0000
756.15	126.8970
756.87	129.0591
763.93	158.1822
765.79	134.9504
766.42	138.1805
766.84	136.0833
776.49	121.7802
778.00	130.4218
778.57	133.6670
778.89	128.3398
783.80	126.5057
785.46	114.8064
792.07	143.1606

795.84	108.9132
796.30	111.0951
798.80	138.2266
801.93	127.6197
805.60	115.1515
810.29	108.8938
810.76	116.3657
815.85	108.2463
817.79	0.0000
818.51	90.6296
819.60	96.2841
826.30	136.9106
828.27	0.0000
831.60	135.3666
831.96	133.5088
834.83	156.2821
836.80	0.0000
846.75	99.3951
848.13	80.5131
856.28	0.0000
856.80	133.1323
860.37	97.1512
867.32	138.5394
867.82	129.0132
871.10	96.6619
873.19	91.0041
874.81	90.1101
875.33	0.0000
876.40	94.0112
879.36	97.0159
880.27	100.8984
880.51	101.8705
881.50	100.9534
883.24	94.2949
884.67	91.4663
889.25	102.2624
896.60	105.4930
898.02	108.4629
899.00	112.3831
903.28	123.8074
911.07	124.6540
911.07	124.6540
911.07	124.6540
919.63	93.2989
920.93	91.6271
925.00	114.6169
925.24	112.6697
926.50	114.6904
935.52	104.3012
937.48	96.5081
944.10	102.6978
946.00	110.6855
949.00	87.0746
962.29	119.1658
964.01	134.1531
966.15	134.2706
968.20	146.5975
969.11	136.6775
969.11	136.6775
969.11	136.6775
977.42	105.1025
980.50	94.2082
983.50	100.3418
989.30	92.5278
996.32	106.9058
1001.03	99.0203
1001.68	91.9712
1004.76	106.2488
1021.30	0.0000
1024.50	0.0000
1034.80	110.5614
1036.00	107.5378
1037.82	110.6857
1038.57	102.5181
1038.76	0.0000
1045.16	110.9946
1046.59	111.0548
1048.07	107.0033

1050.47	97.8296
1050.47	97.8296
1062.04	99.2879
1063.62	98.3133
1076.63	100.8669
1077.35	102.9742
1078.86	100.9514
1085.78	116.8555
1099.22	124.7690
1112.02	105.0659
1112.84	101.4096
1115.52	123.6539
1120.29	106.6960
1120.29	106.6960
1120.29	106.6960
1120.29	106.6960
1120.51	106.7066
1121.28	85.0708
1124.00	0.0000
1129.67	112.1159
1131.51	0.0000
1147.95	0.0000
1167.94	125.0000
1173.22	118.6326
1175.09	113.9988
1177.93	120.7109
1189.05	116.4311
1204.90	135.1314
1205.75	0.0000
1213.00	145.9915
1221.42	134.9156
1230.97	183.3292
1235.34	139.3758
1236.41	0.0000
1238.25	123.1523
1246.25	137.9377
1260.41	0.0000
1271.85	106.9788
1274.45	98.3061
1274.54	98.3092
1291.56	88.0719
1298.22	0.0000
1312.09	90.6046
1325.50	63.2891
1325.50	63.2891
1332.49	76.3068
1333.61	78.3153
1360.21	42.9698
1362.66	0.0000
1365.15	52.0397
1368.21	69.1158
1368.53	0.0000
1376.25	40.1624
1384.27	77.4958
1394.10	48.4482
1395.20	55.5304
1407.95	59.7904
1434.06	44.9238
1436.60	51.0880
1457.56	0.0000
1460.81	45.2649
1489.15	43.5471
1509.49	37.5337
1596.49	61.6410
1620.62	32.4431
1678.03	0.0000
1691.02	22.3355
1691.02	22.3355
1706.46	0.0000
1750.46	0.0000
1764.49	23.1277
1764.49	23.1277
1764.49	23.1277
1764.49	23.1277
1770.23	32.0660
1771.40	39.2025
1791.20	0.0000
1808.65	17.9741

1836.01

17.0821

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536009

Total Uranium Activity	4.0602E+00	ug/g
Total Uranium Counting Unc.	5.0610E+00	ug/g
Total Uranium Tpu	2.5822E-06	ug/g
Total Uranium Mda	2.6611E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G243536009
*  ANALYST       : MXR1            DETECTOR    : GAM22
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 9-JAN-2010 14:12:15.54  SAMPLE ALQT: 115.320 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.109E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.482E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.136E+00
GROSS GAMMA DLC       (pCi/GRAM ) : 1.035E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:16:30.15

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536010.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:13:04.
Sample ID          : G243536010 Sample quantity : 1.39690E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.46 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 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*	118	310	1.10	126.45	122	9	1.63E-02	29.4	
2	1	74.63*	250	344	1.38	149.25	143	18	3.47E-02	14.4	5.37E+00
3	1	77.02	450	319	1.39	154.04	143	18	6.25E-02	8.5	
4	3	89.72	87	175	1.07	179.43	177	13	1.21E-02	23.0	1.69E+00
5	3	92.64*	233	306	1.35	185.29	177	13	3.24E-02	15.7	
6	0	185.70*	207	295	1.19	371.40	366	12	2.88E-02	18.7	
7	0	209.04	65	240	1.40	418.07	413	9	8.99E-03	45.0	
8	1	238.35*	697	154	1.33	476.71	468	21	9.68E-02	4.9	2.97E+00
9	1	241.55	165	191	1.61	483.11	468	21	2.30E-02	18.8	
10	0	269.63	92	135	1.30	539.27	533	11	1.28E-02	26.5	
11	0	294.73	214	189	1.20	589.46	583	12	2.98E-02	14.5	
12	0	337.92	157	118	1.24	675.83	670	10	2.18E-02	15.2	
13	0	351.54*	402	135	1.24	703.08	696	14	5.59E-02	8.1	
14	0	510.92*	78	141	2.03	1021.84	1014	19	1.09E-02	41.8	
15	0	582.77*	201	69	1.32	1165.55	1160	13	2.79E-02	11.4	
16	0	608.92*	236	120	1.51	1217.83	1210	16	3.28E-02	12.4	
17	0	661.09	314	94	1.63	1322.18	1315	15	4.36E-02	8.8	
18	0	910.48	182	26	1.98	1820.96	1812	17	2.53E-02	9.8	
19	0	968.46	96	45	2.31	1936.92	1932	17	1.33E-02	19.3	
20	0	1377.21	18	13	0.64	2754.42	2745	13	2.44E-03	48.8	
21	0	1459.79*	700	14	1.97	2919.57	2909	18	9.72E-02	4.0	
22	0	1763.19	58	4	3.49	3526.37	3518	16	8.08E-03	15.2	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536010.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:13:04
Sample ID        : G243536010 Sample quantity : 139.69 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.46 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.767E+01	1.935E+00	3.904E-01	2.920E-02	45.253
CS-135	+	268.24	*	3.667E-01	1.961E-01	2.201E-01	1.681E-02	1.666
BA-137M	+	661.65	*	4.592E-01	8.406E-02	5.621E-02	2.871E-03	8.169
CS-137	+	661.65	*	4.854E-01	8.890E-02	5.942E-02	3.052E-03	8.169
TL-208		277.35		-7.440E-02	3.696E-01	5.824E-01	6.154E-02	-0.128
	+	510.84		3.835E-01	3.232E-01	1.976E-01	2.007E-02	1.941
	+	583.14	*	2.818E-01	6.700E-02	5.589E-02	3.628E-03	5.043
		860.37		1.027E-01	2.879E-01	4.952E-01	4.476E-02	0.207
BI-211		72.87		7.196E+00	3.628E+00	5.717E+00	5.043E-01	1.259
	+	351.07	*	2.427E+00	4.239E-01	2.973E-01	1.937E-02	8.164
PB-212	+	74.81		1.556E+00	4.908E-01	5.303E-01	6.841E-02	2.934
	+	77.11		1.563E+00	3.015E-01	2.971E-01	2.673E-02	5.261
		87.30		-7.552E-02	4.265E-01	6.174E-01	8.604E-02	-0.122
	+	238.63	*	9.051E-01	1.106E-01	7.706E-02	5.540E-03	11.745
		300.09		1.044E+00	8.291E-01	1.317E+00	1.094E-01	0.793
PO-212	+	74.81		1.556E+00	4.908E-01	5.303E-01	6.841E-02	2.934
	+	77.11		1.563E+00	3.015E-01	2.971E-01	2.673E-02	5.261
		87.30		-7.552E-02	4.265E-01	6.174E-01	8.604E-02	-0.122
		115.19		3.677E+00	3.231E+00	5.567E+00	3.551E-01	0.660
	+	238.63	*	9.051E-01	1.106E-01	7.706E-02	5.540E-03	11.745
		300.09		1.044E+00	8.291E-01	1.317E+00	1.094E-01	0.793
BI-214	+	609.31	*	6.241E-01	1.615E-01	1.045E-01	7.858E-03	5.971
		1120.29		6.107E-01	3.366E-01	6.251E-01	5.808E-02	0.977
	+	1764.49		1.132E+00	3.507E-01	3.117E-01	1.938E-02	3.633
PB-214	+	74.81		2.681E+00	8.318E-01	9.137E-01	1.057E-01	2.934
	+	77.11		2.680E+00	5.557E-01	5.093E-01	6.005E-02	5.261
		87.30		-1.294E-01	7.306E-01	1.058E+00	1.311E-01	-0.122
	+	241.98		1.293E+00	4.974E-01	4.641E-01	3.691E-02	2.785
	+	295.21		7.599E-01	2.301E-01	2.454E-01	2.104E-02	3.097
	+	351.92	*	8.443E-01	1.539E-01	1.036E-01	8.650E-03	8.147
PO-214	+	74.81		2.681E+00	8.318E-01	9.137E-01	1.057E-01	2.934
	+	77.11		2.680E+00	5.557E-01	5.093E-01	6.005E-02	5.261
		87.30		-1.294E-01	7.306E-01	1.058E+00	1.311E-01	-0.122
	+	241.98		1.293E+00	4.974E-01	4.641E-01	3.691E-02	2.785

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	295.21		7.599E-01	2.301E-01	2.454E-01	2.104E-02	3.097
	+	351.92	*	8.443E-01	1.539E-01	1.036E-01	8.650E-03	8.147
	+	74.81		1.556E+00	4.908E-01	5.303E-01	6.841E-02	2.934
	+	77.11		1.563E+00	3.015E-01	2.971E-01	2.673E-02	5.261
	+	87.30		-7.552E-02	4.265E-01	6.174E-01	8.604E-02	-0.122
PO-218	+	238.63	*	9.051E-01	1.106E-01	7.706E-02	5.540E-03	11.745
	+	300.09		1.044E+00	8.291E-01	1.317E+00	1.094E-01	0.793
	+	74.81		2.681E+00	8.318E-01	9.137E-01	1.057E-01	2.934
	+	77.11		2.680E+00	5.557E-01	5.093E-01	6.005E-02	5.261
	+	87.30		-1.294E-01	7.306E-01	1.058E+00	1.311E-01	-0.122
RA-224	+	241.98		1.293E+00	4.974E-01	4.641E-01	3.691E-02	2.785
	+	295.21		7.599E-01	2.301E-01	2.454E-01	2.104E-02	3.097
	+	351.92	*	8.443E-01	1.539E-01	1.036E-01	8.650E-03	8.147
RA-226	+	240.98	*	2.451E+00	9.331E-01	8.770E-01	4.942E-02	2.795
AC-228	+	609.31	*	6.241E-01	1.615E-01	1.045E-01	7.858E-03	5.971
	+	1120.29		6.107E-01	3.366E-01	6.251E-01	5.808E-02	0.977
	+	1764.49		1.132E+00	3.507E-01	3.117E-01	1.938E-02	3.633
	+	338.32		1.044E+00	5.305E-01	3.570E-01	1.456E-01	2.923
	+	911.07	*	1.159E+00	2.627E-01	1.633E-01	1.884E-02	7.100
RA-228	+	969.11		1.074E+00	4.838E-01	4.207E-01	9.795E-02	2.553
	+	338.32		1.044E+00	5.305E-01	3.570E-01	1.456E-01	2.923
	+	911.07	*	1.159E+00	2.627E-01	1.633E-01	1.884E-02	7.100
TH-228	+	969.11		1.074E+00	4.838E-01	4.207E-01	9.795E-02	2.553
	+	74.81		1.586E+00	4.781E-01	5.404E-01	4.844E-02	2.934
	+	77.11		1.593E+00	3.072E-01	3.028E-01	2.724E-02	5.261
TH-230	+	87.30		-7.697E-02	4.346E-01	6.292E-01	6.108E-02	-0.122
	+	238.63	*	9.224E-01	1.127E-01	7.854E-02	5.647E-03	11.745
	+	300.09		1.064E+00	1.049E+00	1.342E+00	7.911E-01	0.793
	+	609.31	*	6.240E-01	1.615E-01	1.045E-01	7.857E-03	5.971
	+	1120.29		6.107E-01	3.366E-01	6.251E-01	5.808E-02	0.977
TH-232	+	1764.49		1.132E+00	3.507E-01	3.117E-01	1.938E-02	3.633
	+	338.32		1.044E+00	3.226E-01	3.570E-01	2.109E-02	2.923
	+	911.07	*	1.159E+00	2.627E-01	1.633E-01	1.884E-02	7.100
TH-234	+	969.11		1.074E+00	4.838E-01	4.207E-01	9.795E-02	2.553
	+	63.29	*	3.226E+00	1.985E+00	2.244E+00	4.043E-01	1.438
	+	92.38		2.075E+00	7.521E-01	8.020E-01	1.463E-01	2.587
U-234	+	609.31	*	6.240E-01	1.615E-01	1.045E-01	7.857E-03	5.971
	+	1120.29		6.107E-01	3.366E-01	6.251E-01	5.808E-02	0.977
	+	1764.49		1.132E+00	3.507E-01	3.117E-01	1.938E-02	3.633
U-238	+	63.29	*	3.226E+00	1.985E+00	2.244E+00	4.043E-01	1.438
	+	92.38		2.075E+00	6.759E-01	8.020E-01	7.166E-02	2.587
AM-243	+	74.67	*	2.523E-01	7.600E-02	8.630E-02	7.669E-03	2.923
	+	86.72		2.061E+00	1.002E+01	1.477E+01	1.427E+00	0.140
	+	117.66		-4.398E+00	3.499E+00	5.418E+00	3.355E-01	-0.812
ANH-511	+	142.18		1.395E+01	1.604E+01	2.663E+01	1.450E+00	0.524
	+	511.00	*	8.284E-02	6.948E-02	4.269E-02	2.480E-03	1.940

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	9.102E-02	3.313E-01	5.565E-01	3.782E-02	0.164

---- 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	*		3.124E-02	4.486E-02	7.855E-02	5.275E-03	0.398
NA-24	1368.53	*		-1.609E+00	4.486E-02	Half-Life too short		
AL-26	1129.67			-7.011E-01	1.583E+00	2.470E+00	1.574E-01	-0.284
	1808.65	*		-1.373E-02	2.705E-02	3.928E-02	2.361E-03	-0.349
TI-44	67.85			-2.970E-02	5.614E-02	7.418E-02	6.460E-03	-0.400
	78.38	*	+	2.885E-01	5.564E-02	7.294E-02	6.611E-03	3.956
SC-46	889.25	*		-1.273E-03	3.823E-02	6.348E-02	5.672E-03	-0.020
	1120.51			1.103E-01	5.933E-02	1.111E-01	7.241E-03	0.992
V-48	944.10			6.016E-02	9.301E-01	1.555E+00	1.355E-01	0.039
	983.50	*		1.342E-02	7.652E-02	1.292E-01	1.074E-02	0.104
	1312.09			-3.390E-02	1.061E-01	1.662E-01	1.182E-02	-0.204
CR-51	320.08	*		2.545E-02	3.633E-01	6.118E-01	4.011E-02	0.042
MN-52	744.21			-4.454E-01	4.031E-01	5.225E-01	3.327E-02	-0.852
	848.13			-4.366E+00	9.989E+00	1.593E+01	1.300E+00	-0.274
	935.52			-1.187E-01	3.846E-01	6.183E-01	5.436E-02	-0.192
	1246.25			2.171E+00	1.185E+01	1.971E+01	1.261E+00	0.110
	1333.61			3.425E+00	7.902E+00	1.359E+01	9.975E-01	0.252
	1434.06	*		-2.784E-01	3.653E-01	5.092E-01	3.684E-02	-0.547
MN-54	834.83	*		-6.578E-03	3.464E-02	5.690E-02	4.506E-03	-0.116
CO-56	846.75	*		-4.694E-02	3.829E-02	5.563E-02	4.526E-03	-0.844
	977.42			-5.129E-01	3.247E+00	4.508E+00	3.780E-01	-0.114
	1037.82			1.267E-01	2.564E-01	4.491E-01	3.681E-02	0.282
	1175.09			-8.850E-01	1.968E+00	3.044E+00	1.723E-01	-0.291
	1238.25			5.168E-02	9.254E-02	1.586E-01	1.055E-02	0.326
	1360.21			2.979E-02	9.716E-01	1.584E+00	1.160E-01	0.019
	1771.40			-2.529E-01	2.864E-01	4.015E-01	2.484E-02	-0.630
CO-57	122.06	*		1.889E-02	2.363E-02	4.017E-02	2.368E-03	0.470
	136.48			-4.693E-02	1.931E-01	3.129E-01	2.035E-02	-0.150
CO-58	810.76	*		-5.300E-02	5.103E-02	5.855E-02	4.399E-03	-0.905
FE-59	142.65			2.180E-01	2.666E+00	4.283E+00	2.329E-01	0.051
	192.34			6.359E-01	9.821E-01	1.523E+00	1.762E-01	0.417
	1099.22	*		-3.986E-02	8.821E-02	1.374E-01	1.058E-02	-0.290
	1291.56			3.128E-03	1.062E-01	1.736E-01	1.441E-02	0.018
CO-60	1173.22			-1.778E-03	4.037E-02	6.582E-02	3.713E-03	-0.027
	1332.49	*		1.267E-02	3.782E-02	6.424E-02	4.716E-03	0.197
ZN-65	1115.52	*		-8.581E-02	9.668E-02	1.451E-01	9.584E-03	-0.591
GE-68	1077.35	*		-5.186E-01	1.224E+00	1.922E+00	1.375E-01	-0.270
AS-73	53.44	*		6.866E-02	1.056E+00	1.753E+00	1.548E-01	0.039
AS-74	595.88	*		6.080E-02	1.023E-01	1.748E-01	9.641E-03	0.348
	634.78			5.197E-02	3.944E-01	6.477E-01	3.428E-02	0.080
SE-75	66.05			-3.430E+00	5.648E+00	7.983E+00	8.378E-01	-0.430
	96.73			-4.536E-01	8.104E-01	1.136E+00	1.524E-01	-0.399
	121.11			1.443E-01	1.271E-01	2.182E-01	2.036E-02	0.661
	136.00			-1.516E-03	3.670E-02	6.003E-02	3.390E-03	-0.025
	198.60			3.920E-01	1.679E+00	2.746E+00	1.854E-01	0.143
	264.65	*		3.142E-02	4.414E-02	6.545E-02	3.810E-03	0.480
	279.53			-5.882E-03	1.013E-01	1.703E-01	1.071E-02	-0.035
	303.91			-3.737E+00	2.092E+00	3.119E+00	2.992E-01	-1.198
	400.65			1.562E-02	2.399E-01	4.001E-01	3.640E-02	0.039

---- 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		7.686E-04	2.399E-01	Half-Life	too short	
		200.40		-3.259E-05	2.399E-01	Half-Life	too short	
	+	239.00		4.634E-04	2.399E-01	Half-Life	too short	
		249.79		7.242E-05	2.399E-01	Half-Life	too short	
		281.68		-2.030E-04	2.399E-01	Half-Life	too short	
		297.23		4.349E-04	2.399E-01	Half-Life	too short	
		303.76		-9.824E-04	2.399E-01	Half-Life	too short	
		439.47		2.258E-04	2.399E-01	Half-Life	too short	
		484.57		-1.331E-04	2.399E-01	Half-Life	too short	
		520.65	*	6.122E-06	2.399E-01	Half-Life	too short	
		574.64		-1.533E-04	2.399E-01	Half-Life	too short	
		578.91		8.662E-05	2.399E-01	Half-Life	too short	
		585.48		1.354E-03	2.399E-01	Half-Life	too short	
		755.35		-1.021E-04	2.399E-01	Half-Life	too short	
		817.79		-8.321E-05	2.399E-01	Half-Life	too short	
SR-82		698.33		1.477E+01	3.691E+01	6.169E+01	3.485E+00	0.239
		776.49	*	-4.620E-01	3.857E-01	5.700E-01	3.932E-02	-0.810
		1395.20		-3.188E+00	1.065E+01	1.633E+01	1.190E+00	-0.195
RB-83		520.41	*	3.955E-03	6.975E-02	1.084E-01	6.275E-03	0.036
		529.64		-9.925E-02	9.995E-02	1.490E-01	8.591E-03	-0.666
		552.65		-1.366E-01	1.816E-01	2.756E-01	1.570E-02	-0.496
RB-84		881.50	*	-8.165E-02	7.000E-02	1.012E-01	8.888E-03	-0.807
KR-85		513.99	*	1.197E+01	7.312E+00	1.211E+01	7.028E-01	0.988
SR-85		513.99	*	6.400E-02	3.909E-02	6.475E-02	3.757E-03	0.988
RB-86		1076.63	*	-1.498E-01	8.638E-01	1.396E+00	1.000E-01	-0.107
Y-88		898.02		1.946E-02	3.807E-02	6.665E-02	6.094E-03	0.292
		1836.01	*	3.670E-04	2.241E-02	3.722E-02	2.191E-03	0.010
ZR-88		392.90	*	-5.200E-03	3.140E-02	5.101E-02	2.945E-03	-0.102
Y-91		1204.90	*	8.734E+00	1.850E+01	3.171E+01	1.892E+00	0.275
NB-94		702.63	*	-1.858E-02	3.403E-02	5.217E-02	2.981E-03	-0.356
		871.10		-1.348E-03	3.219E-02	5.347E-02	4.592E-03	-0.025
NB-95		765.79	*	-3.971E-03	4.167E-02	6.626E-02	4.453E-03	-0.060
NB-95M		235.69	*	3.373E-01	1.463E-01	2.323E-01	1.714E-02	1.452
ZR-95		724.18		1.109E-01	9.636E-02	1.701E-01	1.202E-02	0.652
		756.15	*	-6.387E-03	7.220E-02	1.149E-01	8.820E-03	-0.056
NB-97		657.90	*	1.408E+01	7.220E-02	Half-Life	too short	
		1024.50		4.824E+02	7.220E-02	Half-Life	too short	
ZR-97		254.15		-8.275E+01	7.220E-02	Half-Life	too short	
		355.39		-5.988E+01	7.220E-02	Half-Life	too short	
		507.63	*	2.055E+02	7.220E-02	Half-Life	too short	
		602.52		-2.388E+02	7.220E-02	Half-Life	too short	
		1021.30		3.214E+02	7.220E-02	Half-Life	too short	
		1147.95		9.016E+01	7.220E-02	Half-Life	too short	
		1362.66		6.064E+01	7.220E-02	Half-Life	too short	
		1750.46		1.098E+02	7.220E-02	Half-Life	too short	
MO-99		140.51		-1.761E+01	6.499E+01	1.048E+02	2.818E+01	-0.168
		181.06		3.003E+00	4.640E+01	6.613E+01	1.121E+01	0.045
		366.43		9.910E+01	1.926E+02	3.327E+02	1.950E+01	0.298
		739.58	*	1.653E+01	2.869E+01	4.877E+01	6.825E+00	0.339

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	778.00			-2.254E+01	8.115E+01	1.325E+02	9.179E+00	-0.170
TC-99M	140.51	*		-5.547E+14	8.115E+01	Half-Life	too short	
RH-101	127.23			2.363E-02	3.029E-02	5.129E-02	2.946E-03	0.461
	198.01	*		5.128E-03	3.010E-02	4.909E-02	2.617E-03	0.104
	325.23			5.509E-02	2.176E-01	3.696E-01	2.184E-02	0.149
RH-102	418.52			-2.161E-01	2.649E-01	4.124E-01	2.403E-02	-0.524
	475.06	*		6.127E-03	2.946E-02	4.814E-02	2.818E-03	0.127
	631.29			2.228E-02	5.140E-02	8.672E-02	4.610E-03	0.257
	697.49			5.440E-02	7.518E-02	1.290E-01	7.269E-03	0.422
	766.84			2.934E-02	1.034E-01	1.703E-01	1.147E-02	0.172
	1046.59			2.986E-02	9.387E-02	1.609E-01	1.219E-02	0.186
	1112.84			-3.016E-01	2.220E-01	3.085E-01	2.047E-02	-0.978
RU-103	497.08	*		8.783E-03	4.109E-02	6.865E-02	8.690E-03	0.128
	610.33			7.227E+00	2.104E+00	2.477E+00	3.786E-01	2.918
RH-106	511.85	+		4.169E-01	3.496E-01	4.011E-01	2.329E-02	1.039
	621.84	*		2.537E-02	2.919E-01	4.780E-01	5.513E-02	0.053
	1050.47			-1.010E+00	2.019E+00	3.125E+00	2.351E-01	-0.323
RU-106	511.85	+		4.169E-01	3.496E-01	4.011E-01	2.329E-02	1.039
	621.84	*		2.537E-02	2.919E-01	4.780E-01	2.568E-02	0.053
	1050.47			-1.010E+00	2.019E+00	3.125E+00	2.351E-01	-0.323
AG-108M	433.93	*		-3.636E-02	3.175E-02	4.801E-02	3.044E-03	-0.757
	614.37			7.869E-03	4.275E-02	6.135E-02	3.645E-03	0.128
	722.95			-5.928E-02	4.381E-02	6.149E-02	3.998E-03	-0.964
CD-109	88.03	*		1.230E+00	9.382E-01	1.439E+00	1.405E-01	0.855
AG-110M	657.75	*		7.211E-02	4.602E-02	7.457E-02	4.144E-03	0.967
	677.61			7.285E-02	2.915E-01	4.825E-01	2.761E-02	0.151
	706.67			9.755E-02	2.097E-01	3.521E-01	2.157E-02	0.277
	763.93			-1.287E-01	1.555E-01	2.276E-01	1.593E-02	-0.566
	884.67			6.327E-03	4.346E-02	7.356E-02	6.706E-03	0.086
	937.48			7.469E-03	9.878E-02	1.654E-01	1.502E-02	0.045
	1384.27			4.620E-02	1.544E-01	2.510E-01	1.904E-02	0.184
IN-111	171.28			-1.838E-01	2.434E+00	3.944E+00	2.023E-01	-0.047
	245.39	*		4.207E-01	2.913E+00	4.122E+00	2.333E-01	0.102
IN-113M	391.69	*		1.244E-02	4.426E-02	7.397E-02	4.557E-03	0.168
SN-113	391.69	*		1.244E-02	4.426E-02	7.397E-02	4.557E-03	0.168
IN-114M	190.27	*		2.413E-02	1.971E-01	2.815E-01	1.484E-02	0.086
CD-115	260.90			-1.478E-04	1.971E-01	Half-Life	too short	
	492.35			3.902E-05	1.971E-01	Half-Life	too short	
	527.90	*		-1.557E-05	1.971E-01	Half-Life	too short	
SN-117M	156.02			1.820E+00	2.662E+00	4.467E+00	2.338E-01	0.407
	158.56	*		-1.831E-02	6.268E-02	1.008E-01	5.239E-03	-0.182
SB-122	563.90	*		1.478E+00	5.382E+00	8.988E+00	5.084E-01	0.164
	692.80			-2.007E+00	1.072E+02	1.728E+02	9.615E+00	-0.012
I-123	159.00	*		-6.466E+02	1.072E+02	Half-Life	too short	
	528.96			-4.942E+04	1.072E+02	Half-Life	too short	
TE-123M	159.00	*		-2.123E-02	2.733E-02	4.292E-02	2.265E-03	-0.495
I-124	602.71	*		-8.324E-01	1.485E+00	1.877E+00	1.029E-01	-0.443
	722.78			-1.221E+01	8.823E+00	1.234E+01	7.438E-01	-0.989
	1325.50			-6.166E-01	7.011E+01	1.138E+02	8.267E+00	-0.005

---- 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		6.638E+01	6.499E+01	9.640E+01	7.045E+00	0.689
		1509.49		3.681E+01	2.755E+01	5.378E+01	3.814E+00	0.684
		1691.02		4.210E+00	6.192E+00	1.171E+01	7.646E-01	0.359
		602.71		-2.620E-02	4.674E-02	5.909E-02	3.240E-03	-0.443
		645.85		-2.062E-01	4.653E-01	7.195E-01	4.343E-02	-0.287
		709.31		-1.612E+00	2.975E+00	4.557E+00	2.651E-01	-0.354
		713.82		1.123E+00	1.729E+00	2.943E+00	3.019E-01	0.382
		722.78		-5.570E-01	4.026E-01	5.631E-01	3.542E-02	-0.989
	+	968.20		1.157E+01	4.569E+00	6.257E+00	5.306E-01	1.850
		1045.16		2.826E-01	2.126E+00	3.565E+00	2.707E-01	0.079
SB-125		1325.50		-3.004E-02	3.416E+00	5.546E+00	4.028E-01	-0.005
		1368.21		-8.407E-01	2.119E+00	2.671E+00	3.387E-01	-0.315
		1436.60		-1.072E-01	3.753E+00	6.038E+00	4.367E-01	-0.018
		1691.02	*	4.530E-02	6.664E-02	1.260E-01	8.788E-03	0.359
		427.89	*	-1.120E-02	8.254E-02	1.353E-01	8.228E-03	-0.083
		463.38		3.032E-01	2.789E-01	4.913E-01	3.347E-02	0.617
		600.56		-2.039E-02	1.785E-01	2.705E-01	1.743E-02	-0.075
		635.90		-4.948E-02	2.574E-01	4.099E-01	2.607E-02	-0.121
	TE-125M	109.28	*	-4.023E+00	8.934E+00	1.445E+01	1.290E+00	-0.278
	I-126	388.63		-9.038E-03	2.400E-01	3.981E-01	2.302E-02	-0.023
SB-126		666.33	*	1.153E-02	2.388E-01	3.355E-01	1.736E-02	0.034
		753.82		2.662E-01	1.722E+00	2.811E+00	1.833E-01	0.095
		223.80		1.030E+00	4.676E+00	7.615E+00	4.205E-01	0.135
		278.60		1.012E+00	2.834E+00	4.864E+00	2.829E-01	0.208
		296.50		5.859E+00	2.298E+00	3.804E+00	2.233E-01	1.540
		414.70		-2.419E-02	8.374E-02	1.359E-01	7.909E-03	-0.178
		415.30		-2.349E+00	6.886E+00	1.113E+01	6.477E-01	-0.211
		555.20		1.993E+00	4.318E+00	7.350E+00	4.181E-01	0.271
		573.80		2.403E-01	1.246E+00	2.066E+00	1.160E-01	0.116
		593.00		-9.055E-01	1.140E+00	1.726E+00	9.543E-02	-0.525
SN-126		656.30		-2.556E-01	4.471E+00	6.198E+00	3.190E-01	-0.041
		666.33		4.864E-03	1.007E-01	1.415E-01	7.322E-03	0.034
		675.00		4.844E-02	2.394E+00	3.877E+00	2.056E-01	0.012
		695.00		-8.862E-03	9.310E-02	1.490E-01	8.339E-03	-0.059
		697.00		1.846E-01	3.208E-01	5.444E-01	3.064E-02	0.339
		720.50	*	-2.693E-02	1.690E-01	2.679E-01	1.605E-02	-0.101
		856.80		8.487E-02	5.744E-01	9.717E-01	8.085E-02	0.087
		989.30		9.518E-01	1.431E+00	2.535E+00	2.093E-01	0.375
		1034.80		-8.462E-01	8.877E+00	1.448E+01	1.118E+00	-0.058
		1213.00		-1.644E+00	5.765E+00	9.153E+00	5.537E-01	-0.180
SB-127	+	64.28		1.277E+00	7.760E-01	9.650E-01	1.469E-01	1.323
		86.94		5.949E-02	3.774E-01	5.540E-01	2.304E-01	0.107
		87.57	*	1.795E-02	9.291E-02	1.368E-01	1.331E-02	0.131
		61.10		1.989E+02	1.347E+02	2.117E+02	2.640E+01	0.940
		252.40		6.373E-01	8.346E+00	1.342E+01	5.622E+00	0.047
		290.80		-2.237E+00	4.438E+01	6.484E+01	6.934E+00	-0.034
		411.60		9.985E+00	2.337E+01	3.977E+01	6.118E+00	0.251
		444.90		1.289E+00	1.984E+01	3.293E+01	3.990E+00	0.039
		473.00		4.074E-01	3.325E+00	5.528E+00	6.889E-01	0.074

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		543.00		-1.394E+01	3.260E+01	5.132E+01	7.176E+00	-0.272
		603.60		2.325E+00	2.537E+01	3.480E+01	4.146E+00	0.067
		685.20	*	1.075E+00	2.491E+00	4.194E+00	4.494E-01	0.256
		698.50		6.697E+00	3.016E+01	4.962E+01	7.649E+00	0.135
		722.20		-1.008E+02	6.387E+01	8.596E+01	9.269E+00	-1.172
		783.80		5.366E+00	6.494E+00	1.165E+01	1.468E+00	0.461
		57.60		-3.317E+00	7.801E+00	1.188E+01	1.040E+00	-0.279
		145.22		6.900E-01	6.532E-01	1.118E+00	6.029E-02	0.617
		172.10		-3.030E-02	1.187E-01	1.906E-01	9.788E-03	-0.159
		202.84	*	4.549E-03	5.122E-02	7.686E-02	4.126E-03	0.059
I-131		374.96		4.468E-02	1.863E-01	3.154E-01	1.840E-02	0.142
		80.18		-4.338E+00	6.894E+00	9.745E+00	9.017E-01	-0.445
		284.30		-8.201E-01	1.962E+00	3.232E+00	2.109E-01	-0.254
		364.48	*	-5.272E-02	1.392E-01	2.258E-01	1.485E-02	-0.234
TE-132		636.97		1.490E-01	2.078E+00	3.393E+00	2.063E-01	0.044
		722.89		-1.416E+01	1.038E+01	1.456E+01	8.956E-01	-0.973
		49.72		-2.586E+01	5.842E+01	9.632E+01	1.139E+01	-0.269
		111.76		-1.405E+01	6.374E+01	1.041E+02	1.110E+01	-0.135
BA-133		116.30		-8.719E+00	5.868E+01	9.601E+01	1.002E+01	-0.091
		228.16	*	-7.885E-01	1.513E+00	2.356E+00	3.567E-01	-0.335
		53.15		3.990E-01	4.398E+00	7.309E+00	6.447E-01	0.055
		79.62		6.131E-01	1.357E+00	2.028E+00	3.149E-01	0.302
I-133		81.00		-2.004E-01	1.113E-01	1.405E-01	2.278E-02	-1.426
		276.40		3.806E-01	3.550E-01	5.962E-01	7.732E-02	0.638
		302.84		-1.589E-01	1.393E-01	2.178E-01	2.548E-02	-0.730
		356.01	*	-6.579E-03	4.224E-02	6.035E-02	7.002E-03	-0.109
I-133	+	383.85		1.236E-01	2.827E-01	4.831E-01	5.252E-02	0.256
		510.53		2.026E+01	2.827E-01	Half-Life	too short	
		529.87	*	-1.614E-01	2.827E-01	Half-Life	too short	
		706.58		4.434E+00	2.827E-01	Half-Life	too short	
CS-134		856.28		-4.963E+00	2.827E-01	Half-Life	too short	
		875.33		1.171E+00	2.827E-01	Half-Life	too short	
		1236.41		3.701E+00	2.827E-01	Half-Life	too short	
		1298.22		2.698E+00	2.827E-01	Half-Life	too short	
I-135		475.35		8.635E-02	1.954E+00	3.157E+00	1.848E-01	0.027
		563.23		1.861E-01	3.421E-01	5.832E-01	3.373E-02	0.319
		569.32		-4.604E-02	1.933E-01	3.030E-01	1.761E-02	-0.152
		604.70		2.619E-02	3.565E-02	5.442E-02	2.996E-03	0.481
I-135		795.84	*	4.713E-02	4.079E-02	7.516E-02	5.489E-03	0.627
		801.93		1.956E-01	3.582E-01	6.299E-01	4.656E-02	0.311
		1038.57		-3.328E-01	3.108E+00	5.060E+00	3.884E-01	-0.066
		1167.94		2.734E-01	2.459E+00	4.076E+00	2.337E-01	0.067
I-135		1365.15		-3.774E-01	1.151E+00	1.767E+00	1.375E-01	-0.214
		288.45		-3.491E+13	1.151E+00	Half-Life	too short	
		417.63		-5.032E+14	1.151E+00	Half-Life	too short	
		546.56		6.654E+13	1.151E+00	Half-Life	too short	
I-135		836.80		-1.172E+14	1.151E+00	Half-Life	too short	
		1038.76		-1.008E+14	1.151E+00	Half-Life	too short	
		1124.00		-1.563E+15	1.151E+00	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136	1131.51			5.985E+13	1.151E+00	Half-Life	too short	
	1260.41	*		-7.923E+13	1.151E+00	Half-Life	too short	
	1457.56			1.486E+16	1.151E+00	Half-Life	too short	
	1678.03			6.344E+13	1.151E+00	Half-Life	too short	
	1706.46			-9.868E+13	1.151E+00	Half-Life	too short	
	1791.20			1.294E+14	1.151E+00	Half-Life	too short	
	66.91			-1.239E+00	1.104E+00	1.492E+00	2.309E-01	-0.831
	86.29			1.794E+00	1.446E+00	2.206E+00	2.988E-01	0.813
	153.22			3.560E-01	7.877E-01	1.310E+00	8.923E-02	0.272
	163.89			8.796E-01	1.215E+00	1.987E+00	1.337E-01	0.443
	176.55			4.193E-02	4.119E-01	6.724E-01	4.013E-02	0.062
	273.65			-3.529E-01	6.202E-01	8.213E-01	5.437E-02	-0.430
	340.57			4.100E-01	1.545E-01	2.690E-01	1.687E-02	1.525
	818.51			-3.054E-02	7.972E-02	1.281E-01	9.783E-03	-0.238
	1048.07	*		-2.466E-02	1.114E-01	1.787E-01	1.425E-02	-0.138
CE-139	1235.34			3.894E-01	6.950E-01	1.193E+00	1.226E-01	0.327
	165.85	*		-1.592E-02	2.804E-02	4.440E-02	2.263E-03	-0.359
BA-140	162.64			-1.256E-01	8.753E-01	1.377E+00	8.184E-02	-0.091
	304.84			-1.120E+00	1.507E+00	2.376E+00	6.487E-01	-0.472
LA-140	423.70			6.081E-01	2.174E+00	3.657E+00	1.163E+00	0.166
	537.32	*		-2.705E-01	3.249E-01	4.600E-01	1.495E-01	-0.588
	328.77			3.978E-01	3.621E-01	6.388E-01	4.213E-02	0.623
	432.53			-3.900E-01	2.349E+00	3.839E+00	2.475E-01	-0.102
	487.03			-3.632E-02	1.519E-01	2.449E-01	1.618E-02	-0.148
	751.79			1.042E+00	2.042E+00	3.445E+00	2.643E-01	0.303
	815.85			1.636E-01	3.497E-01	6.121E-01	5.320E-02	0.267
	867.82			-6.845E-01	1.671E+00	2.675E+00	2.404E-01	-0.256
	919.63			-3.716E+00	2.898E+00	3.829E+00	4.174E-01	-0.970
	925.24			1.008E+00	1.180E+00	2.140E+00	2.013E-01	0.471
CE-141	1596.49	*		-3.913E-02	8.776E-02	1.339E-01	9.183E-03	-0.292
CE-143	145.44	*		5.345E-02	5.961E-02	1.013E-01	5.715E-03	0.527
	57.37			-7.961E-03	5.961E-02	Half-Life	too short	
+	231.56			7.652E-03	5.961E-02	Half-Life	too short	
	293.26	*		5.368E-03	5.961E-02	Half-Life	too short	
	350.59			1.427E-01	5.961E-02	Half-Life	too short	
	490.36			-1.017E-02	5.961E-02	Half-Life	too short	
	664.57			2.069E-02	5.961E-02	Half-Life	too short	
	721.93			-1.960E-02	5.961E-02	Half-Life	too short	
	80.11			-1.331E+00	2.278E+00	3.230E+00	2.960E-01	-0.412
CE-144	133.54	*		-7.694E-02	1.909E-01	3.069E-01	4.335E-02	-0.251
PM-144	476.78			2.449E-02	6.543E-02	1.107E-01	7.737E-03	0.221
	618.01			8.163E-03	3.105E-02	5.160E-02	2.978E-03	0.158
	696.49	*		2.589E-02	3.302E-02	5.702E-02	3.209E-03	0.454
PR-144	778.57			-2.813E-01	1.954E+00	3.234E+00	2.244E-01	-0.087
	696.49	*		1.758E+00	2.242E+00	3.872E+00	2.177E-01	0.454
PM-146	1489.15			-5.348E+00	8.360E+00	1.113E+01	7.945E-01	-0.480
	453.90	*		-6.995E-03	4.419E-02	7.214E-02	6.248E-03	-0.097
	633.02			4.988E-01	1.333E+00	2.216E+00	8.143E-01	0.225
	735.90			2.619E-02	1.353E-01	2.218E-01	6.204E-02	0.118

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13		-4.184E-02	8.545E-02	1.298E-01	1.662E-02	-0.322
		91.11		5.173E-01	2.435E-01	6.721E-01	6.608E-02	0.770
		319.41		-2.060E+00	3.734E+00	6.045E+00	3.572E-01	-0.341
		439.89		3.682E+00	7.544E+00	1.287E+01	7.537E-01	0.286
		531.02	*	-7.254E-01	6.752E-01	9.885E-01	1.335E-01	-0.734
PM-149		285.90	*	2.203E-04	6.752E-01	Half-Life too short		
EU-152		121.78		5.934E-02	6.824E-02	1.162E-01	8.933E-03	0.511
		244.69		-5.453E-02	3.466E-01	4.786E-01	2.707E-02	-0.114
		344.27	*	-1.053E-01	1.039E-01	1.367E-01	9.061E-03	-0.770
		443.98		-2.027E-01	9.488E-01	1.544E+00	9.041E-02	-0.131
		778.89		-3.221E-02	2.240E-01	3.707E-01	2.572E-02	-0.087
		867.32		-4.469E-01	8.067E-01	1.272E+00	1.083E-01	-0.351
		964.01		5.332E-01	3.119E-01	5.354E-01	4.563E-02	0.996
		1085.78		-1.842E-01	3.733E-01	5.796E-01	4.079E-02	-0.318
		1112.02		-2.154E-01	2.875E-01	4.308E-01	2.864E-02	-0.500
		1407.95		-5.577E-02	1.502E-01	2.262E-01	1.645E-02	-0.247
GD-153		69.67		1.061E-01	1.826E+00	2.694E+00	2.353E-01	0.039
		83.37		-1.866E+01	1.617E+01	2.355E+01	2.211E+00	-0.792
		97.43	*	-1.139E-02	8.256E-02	1.191E-01	9.729E-03	-0.096
		103.18		-3.387E-02	9.911E-02	1.614E-01	1.206E-02	-0.210
EU-154		123.07		1.384E-02	4.830E-02	8.036E-02	7.586E-03	0.172
		247.94		-4.016E-02	3.774E-01	5.539E-01	5.243E-02	-0.073
		591.81		-3.171E-01	5.836E-01	9.023E-01	8.679E-02	-0.351
		723.30		-1.575E-01	1.810E-01	2.679E-01	1.949E-02	-0.588
		756.87		5.426E-02	7.428E-01	1.202E+00	1.274E-01	0.045
		873.19		-6.533E-02	2.876E-01	4.688E-01	5.743E-02	-0.139
		996.32		4.843E-02	3.710E-01	6.216E-01	1.091E-01	0.078
		1004.76		-2.033E-02	1.902E-01	3.109E-01	3.497E-02	-0.065
EU-155		1274.45	*	8.219E-02	1.246E-01	2.173E-01	2.157E-02	0.378
		48.70		-2.524E+00	3.211E+00	5.212E+00	4.204E-01	-0.484
		60.01		4.411E+00	5.702E+00	8.778E+00	7.624E-01	0.503
		86.54		7.209E-02	1.087E-01	1.634E-01	1.588E-02	0.441
TB-160		105.31	*	5.069E-02	9.919E-02	1.673E-01	1.233E-02	0.303
		86.79		5.292E-02	3.036E-01	4.469E-01	4.318E-02	0.118
		197.04		-5.129E-02	5.267E-01	8.477E-01	4.513E-02	-0.061
		215.65		-5.592E-01	7.317E-01	1.131E+00	6.179E-02	-0.494
		298.57		2.403E-01	1.232E-01	2.043E-01	1.200E-02	1.177
		879.36	*	4.736E-02	1.330E-01	2.295E-01	2.007E-02	0.206
		962.29		6.515E-01	5.752E-01	9.467E-01	8.083E-02	0.688
		966.15		7.445E-01	2.794E-01	4.934E-01	4.194E-02	1.509
HO-166M	+	1177.93		-2.355E-01	3.153E-01	4.673E-01	2.659E-02	-0.504
		1271.85		9.812E-02	7.376E-01	1.220E+00	8.146E-02	0.080
		80.57		-3.479E-01	2.926E-01	3.993E-01	3.671E-02	-0.871
		184.41		1.410E-01	5.331E-02	6.652E-02	3.476E-03	2.120
		280.46		-8.513E-02	7.712E-02	1.220E-01	7.108E-03	-0.698
		410.95		1.713E-01	2.318E-01	4.024E-01	2.339E-02	0.426
		711.68	*	-1.570E-02	6.341E-02	9.994E-02	5.849E-03	-0.157
		752.31		8.251E-02	2.689E-01	4.449E-01	2.891E-02	0.185
		810.29		-8.998E-02	7.446E-02	8.371E-02	6.261E-03	-1.075

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		1.560E+01	3.810E+01	6.514E+01	5.662E+00	0.239
		52.39		-8.769E+00	1.982E+01	3.217E+01	2.826E+00	-0.273
		59.40		2.635E+01	3.079E+01	4.763E+01	4.138E+00	0.553
LU-176	+	66.72	*	-3.794E+01	3.252E+01	4.433E+01	3.855E+00	-0.856
		88.36		2.775E-01	1.302E-01	3.352E-01	3.249E-02	0.828
		201.83		-2.860E-03	2.702E-02	4.343E-02	2.328E-03	-0.066
		306.84	*	1.859E-02	2.187E-02	3.849E-02	2.267E-03	0.483
		401.10		-2.213E+00	6.231E+00	1.010E+01	5.849E-01	-0.219
LU-177	+	112.95		5.159E-01	2.272E+00	3.781E+00	2.480E-01	0.136
		208.36	*	2.242E+00	2.020E+00	2.768E+00	1.497E-01	0.810
LU-177M	+	52.97		6.484E-01	2.006E+00	3.364E+00	2.965E-01	0.193
		54.07		4.639E-01	1.060E+00	1.785E+00	1.578E-01	0.260
		61.30		2.201E+00	1.767E+00	2.768E+00	2.405E-01	0.795
		121.62		2.965E-01	3.556E-01	6.052E-01	3.577E-02	0.490
		147.16		-6.037E-01	5.964E-01	9.276E-01	4.976E-02	-0.651
		171.86		-1.152E-01	4.512E-01	7.244E-01	3.719E-02	-0.159
		218.09		6.780E-01	8.163E-01	1.370E+00	7.509E-02	0.495
		268.79		1.874E+00	9.984E-01	1.342E+00	7.756E-02	1.397
		319.02		-1.212E-01	2.317E-01	3.759E-01	2.220E-02	-0.322
		367.43		1.299E-01	7.757E-01	1.309E+00	7.664E-02	0.099
		413.65	*	-5.590E-02	1.664E-01	2.694E-01	1.568E-02	-0.207
HF-181		56.28		-8.188E-01	1.165E+00	1.895E+00	1.669E-01	-0.432
		57.53		-3.364E-01	6.511E-01	9.861E-01	8.640E-02	-0.341
		65.20		1.540E+00	1.164E+00	1.811E+00	1.573E-01	0.850
		133.02		-3.994E-02	6.464E-02	1.031E-01	5.785E-03	-0.388
		136.25		-1.120E-01	4.441E-01	7.194E-01	3.993E-02	-0.156
		345.85		-1.968E-01	2.218E-01	2.963E-01	1.748E-02	-0.664
W-181		482.03	*	3.649E-03	4.194E-02	6.950E-02	4.065E-03	0.053
		56.28		-3.079E-01	4.372E-01	7.110E-01	6.260E-02	-0.433
		57.53		-1.266E-01	2.445E-01	3.703E-01	3.245E-02	-0.342
		65.20	*	5.738E-01	4.338E-01	6.747E-01	5.861E-02	0.850
TA-182		67.75		-7.587E-02	1.373E-01	1.811E-01	1.577E-02	-0.419
		100.10		1.714E-01	1.680E-01	2.886E-01	2.259E-02	0.594
		152.43		1.526E-01	3.289E-01	5.475E-01	2.894E-02	0.279
		222.10		-2.023E-01	3.367E-01	5.244E-01	2.890E-02	-0.386
		1001.68		-2.731E-01	2.041E+00	3.332E+00	2.705E-01	-0.082
		1121.28		3.087E-01	1.596E-01	3.010E-01	1.958E-02	1.026
		1189.05		-5.161E-02	3.065E-01	4.929E-01	2.860E-02	-0.105
		1221.42	*	-1.955E-01	1.977E-01	2.889E-01	1.773E-02	-0.677
RE-183		1230.97		-2.434E-01	4.769E-01	7.385E-01	4.607E-02	-0.330
		57.98		7.733E-04	2.556E-01	3.779E-01	3.304E-02	0.002
		59.32		1.167E-01	1.316E-01	2.039E-01	1.772E-02	0.572
		67.20		-2.521E-01	2.372E-01	3.258E-01	2.834E-02	-0.774
		162.32	*	-2.192E-02	1.091E-01	1.714E-01	8.817E-03	-0.128
RE-184	+	208.81		1.391E+00	1.253E+00	1.720E+00	9.311E-02	0.809
		291.72		-1.621E-01	1.030E+00	1.492E+00	8.742E-02	-0.109
		57.98		2.785E-03	9.203E-01	1.361E+00	1.190E-01	0.002
		59.32		4.199E-01	4.734E-01	7.335E-01	6.375E-02	0.572
		67.20		-9.077E-01	8.539E-01	1.173E+00	1.020E-01	-0.774

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		-2.439E-01	3.288E-01	5.164E-01	2.664E-02	-0.472
		216.55		6.951E-03	2.524E-01	4.074E-01	2.229E-02	0.017
		252.85	*	1.001E-01	2.220E-01	3.648E-01	2.080E-02	0.274
		318.01		-2.588E-01	4.061E-01	6.542E-01	3.863E-02	-0.396
		792.07		7.125E-01	8.707E-01	1.566E+00	1.122E-01	0.455
		903.28		-1.092E+00	1.026E+00	1.191E+00	1.080E-01	-0.917
		920.93		-3.578E-01	3.584E-01	5.145E-01	4.589E-02	-0.695
		59.72		2.411E-01	3.496E-01	5.362E-01	4.656E-02	0.450
		61.14		2.067E-01	1.956E-01	3.042E-01	2.643E-02	0.679
		69.30		7.517E-02	3.290E-01	4.896E-01	4.274E-02	0.154
		592.07		-1.701E+00	2.475E+00	3.777E+00	2.090E-01	-0.450
		646.12	*	-3.497E-03	3.793E-02	6.090E-02	3.178E-03	-0.057
		717.42		-6.142E-01	9.391E-01	1.418E+00	8.425E-02	-0.433
		874.81		2.256E-02	5.803E-01	9.714E-01	8.411E-02	0.023
		880.27		-2.436E-01	7.279E-01	1.170E+00	1.025E-01	-0.208
RE-188		155.03	*	2.052E-01	1.734E-01	2.964E-01	1.555E-02	0.692
		477.96		1.233E+00	3.080E+00	5.220E+00	3.055E-01	0.236
		633.10		1.008E+00	2.770E+00	4.643E+00	2.463E-01	0.217
W-188	+	63.58		1.349E+02	8.023E+01	1.059E+02	9.201E+00	1.273
		227.08		2.570E+00	1.227E+01	1.997E+01	1.107E+00	0.129
IR-192		290.67	*	-2.342E-01	7.824E+00	1.145E+01	6.706E-01	-0.020
	+	295.96		6.014E-01	1.783E-01	2.431E-01	1.449E-02	2.474
		308.46		-1.395E-02	9.225E-02	1.536E-01	9.154E-03	-0.091
		316.51	*	-1.391E-02	3.153E-02	5.145E-02	3.052E-03	-0.270
		468.07		-2.298E-02	6.729E-02	1.081E-01	7.284E-03	-0.213
AU-195		604.41		3.006E-01	4.945E-01	7.443E-01	8.325E-02	0.404
		612.46		1.818E-01	8.214E-01	1.183E+00	8.623E-02	0.154
		65.12		2.960E-01	2.011E-01	3.144E-01	2.731E-02	0.942
		66.83		-1.288E-01	1.085E-01	1.477E-01	1.284E-02	-0.872
	+	75.70		8.288E-01	2.497E-01	4.394E-01	3.925E-02	1.886
		98.88	*	2.940E-01	2.089E-01	3.634E-01	2.900E-02	0.809
TL-200		129.76		2.496E+00	2.706E+00	4.605E+00	2.617E-01	0.542
		367.94	*	1.136E-03	2.706E+00	Half-Life	too short	
		579.30		4.249E-02	2.706E+00	Half-Life	too short	
		828.27		-8.662E-03	2.706E+00	Half-Life	too short	
TL-201		1205.75		1.231E-02	2.706E+00	Half-Life	too short	
		68.90		-2.958E+00	1.378E+01	1.864E+01	1.626E+00	-0.159
		70.82		1.120E+01	7.075E+00	1.115E+01	9.770E-01	1.005
		80.30		-9.029E+00	1.315E+01	1.852E+01	1.700E+00	-0.487
TL-202		135.34		2.888E+01	5.618E+01	9.418E+01	5.244E+00	0.307
		167.43	*	-2.950E+00	1.552E+01	2.503E+01	1.277E+00	-0.118
		68.90		-1.348E-01	6.280E-01	8.495E-01	7.411E-02	-0.159
		70.82		5.091E-01	3.215E-01	5.067E-01	4.440E-02	1.005
		80.30		-4.104E-01	5.978E-01	8.421E-01	7.729E-02	-0.487
HG-203		439.56	*	4.024E-02	8.841E-02	1.505E-01	8.806E-03	0.267
		70.83		1.867E+00	1.196E+00	1.859E+00	2.547E-01	1.004
		72.87		1.519E+00	7.805E-01	1.206E+00	1.609E-01	1.259
		82.60		3.628E-01	1.231E+00	1.826E+00	2.593E-01	0.199
		279.20	*	1.305E-02	3.927E-02	6.733E-02	4.159E-03	0.194

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		3.810E-01	2.102E-01	3.299E-01	2.910E-02	1.155
	+	74.97		4.529E-01	1.364E-01	2.191E-01	1.950E-02	2.067
		84.90		1.363E-01	1.924E-01	3.049E-01	2.898E-02	0.447
		569.67		-6.005E-04	2.937E-02	4.687E-02	2.641E-03	-0.013
		1063.62	*	-2.979E-02	5.036E-02	7.750E-02	5.694E-03	-0.384
TL-207		1770.23		-8.742E-01	6.108E-01	7.723E-01	4.782E-02	-1.132
		81.07		-4.535E-01	2.381E-01	3.081E-01	2.843E-02	-1.472
		83.78		-1.467E-01	1.275E-01	1.946E-01	1.833E-02	-0.754
		94.90		1.376E-01	2.387E-01	3.578E-01	3.053E-02	0.385
		122.32		6.837E-01	1.636E+00	2.738E+00	1.853E-01	0.250
		144.24		4.942E-02	6.265E-01	1.005E+00	6.961E-02	0.049
		154.21		1.804E-01	3.886E-01	6.463E-01	4.248E-02	0.279
	+	269.46		4.314E-01	2.299E-01	3.054E-01	1.846E-02	1.412
		323.87	*	-3.670E-01	6.453E-01	1.043E+00	1.727E-01	-0.352
	+	338.28		4.358E+00	1.401E+00	2.090E+00	2.214E-01	2.085
		445.03		8.396E-02	2.255E+00	3.735E+00	3.847E-01	0.022
	PO-209	260.50		-4.426E+00	8.811E+00	1.364E+01	7.829E-01	-0.325
		262.80		-1.195E+01	2.668E+01	3.794E+01	2.182E+00	-0.315
		896.60	*	-1.216E+00	6.978E+00	1.141E+01	1.036E+00	-0.107
BI-210		46.50	*	2.339E-01	5.059E+00	8.349E+00	6.501E-01	0.028
PB-210		46.50	*	2.339E-01	5.059E+00	8.349E+00	6.501E-01	0.028
PO-210		46.50	*	2.339E-01	5.058E+00	8.349E+00	5.602E-01	0.028
PB-211		404.84	*	-6.271E-01	9.772E-01	1.417E+00	8.836E-01	-0.442
		427.08		-1.590E+00	2.109E+00	2.890E+00	1.786E+00	-0.550
BI-212		831.96		3.433E-01	1.065E+00	1.801E+00	1.127E+00	0.191
		727.18	*	5.995E-01	2.956E-01	5.501E-01	4.366E-02	1.090
		785.46		1.064E+00	1.549E+00	2.757E+00	1.944E-01	0.386
PO-215		1620.62		-6.178E-02	1.102E+00	1.818E+00	1.233E-01	-0.034
		81.07		-4.535E-01	2.381E-01	3.081E-01	2.843E-02	-1.472
		83.78		-1.467E-01	1.275E-01	1.946E-01	1.833E-02	-0.754
		94.90		1.376E-01	2.387E-01	3.578E-01	3.053E-02	0.385
		122.32		6.837E-01	1.636E+00	2.738E+00	1.853E-01	0.250
		144.24		4.942E-02	6.265E-01	1.005E+00	6.961E-02	0.049
		154.21		1.804E-01	3.886E-01	6.463E-01	4.248E-02	0.279
	+	269.46		4.314E-01	2.299E-01	3.054E-01	1.846E-02	1.412
		323.87	*	-3.670E-01	6.453E-01	1.043E+00	1.727E-01	-0.352
	+	338.28		4.358E+00	1.401E+00	2.090E+00	2.214E-01	2.085
		445.03		8.396E-02	2.255E+00	3.735E+00	3.847E-01	0.022
	RN-219	271.23		9.500E-02	2.738E-01	3.910E-01	3.166E-02	0.243
		401.81	*	-2.126E-01	3.833E-01	6.104E-01	8.304E-02	-0.348
RN-220		549.76	*	-1.021E+01	2.334E+01	3.662E+01	2.090E+00	-0.279
RA-223		81.07		-4.535E-01	2.381E-01	3.081E-01	2.843E-02	-1.472
		83.78		-1.467E-01	1.275E-01	1.946E-01	1.833E-02	-0.754
		94.90		1.376E-01	2.387E-01	3.578E-01	3.053E-02	0.385
		122.32		6.837E-01	1.636E+00	2.738E+00	1.853E-01	0.250
		144.24		4.942E-02	6.265E-01	1.005E+00	6.961E-02	0.049
		154.21		1.804E-01	3.886E-01	6.463E-01	4.248E-02	0.279
	+	269.46		4.314E-01	2.299E-01	3.054E-01	1.846E-02	1.412
		323.87	*	-3.670E-01	6.453E-01	1.043E+00	1.727E-01	-0.352

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	338.28		4.358E+00	1.401E+00	2.090E+00	2.214E-01	2.085
		445.03		8.396E-02	2.255E+00	3.735E+00	3.847E-01	0.022
		79.80		4.795E-01	1.707E+00	2.531E+00	5.497E-01	0.189
		236.00		1.417E+00	2.896E-01	4.909E-01	5.078E-02	2.886
		256.20	*	2.551E-02	3.566E-01	5.731E-01	7.982E-02	0.045
		286.10		1.449E+00	1.404E+00	2.476E+00	2.867E-01	0.585
		299.80		1.709E+00	1.582E+00	2.458E+00	4.010E-01	0.695
TH-227		304.40		-2.168E+00	1.842E+00	2.833E+00	4.908E-01	-0.765
		334.20		-1.157E-01	2.327E+00	3.374E+00	6.197E-01	-0.034
		79.80		4.795E-01	1.707E+00	2.531E+00	5.566E-01	0.189
	+	94.00		8.019E+00	3.065E+00	3.585E+00	7.815E-01	2.237
		236.00		1.417E+00	2.800E-01	4.909E-01	4.385E-02	2.886
		256.20	*	2.551E-02	3.566E-01	5.731E-01	9.670E-02	0.045
		286.10		1.449E+00	2.012E+00	2.476E+00	2.480E+00	0.585
TH-229		299.80		1.709E+00	1.582E+00	2.458E+00	4.010E-01	0.695
		304.40		-2.168E+00	1.842E+00	2.833E+00	4.908E-01	-0.765
		334.20		-1.157E-01	2.327E+00	3.374E+00	6.197E-01	-0.034
		85.43		3.827E-01	2.003E-01	3.144E-01	3.002E-02	1.217
	+	88.47		1.597E-01	7.495E-02	1.920E-01	1.857E-02	0.832
		100.00		1.744E-01	1.703E-01	2.926E-01	2.294E-02	0.596
		193.63	*	-3.500E-01	4.683E-01	7.286E-01	3.860E-02	-0.480
PA-231		210.97		1.186E+00	7.897E-01	1.222E+00	6.636E-02	0.970
		283.67	*	-5.594E-01	1.418E+00	2.336E+00	3.223E-01	-0.239
TH-231		301.29		4.391E-01	5.678E-01	9.408E-01	9.876E-02	0.467
		81.07		-4.535E-01	2.381E-01	3.081E-01	2.843E-02	-1.472
		83.78		-1.467E-01	1.275E-01	1.946E-01	1.833E-02	-0.754
		94.90		1.376E-01	2.387E-01	3.578E-01	3.053E-02	0.385
		122.32		6.837E-01	1.636E+00	2.738E+00	1.853E-01	0.250
		144.24		4.942E-02	6.265E-01	1.005E+00	6.961E-02	0.049
		154.21		1.804E-01	3.886E-01	6.463E-01	4.248E-02	0.279
U-231	+	269.46		4.314E-01	2.299E-01	3.054E-01	1.846E-02	1.412
		323.87	*	-3.670E-01	6.453E-01	1.043E+00	1.727E-01	-0.352
	+	338.28		4.358E+00	1.401E+00	2.090E+00	2.214E-01	2.085
		445.03		8.396E-02	2.255E+00	3.735E+00	3.847E-01	0.022
		84.21		-1.051E+01	1.010E+01	1.609E+01	1.521E+00	-0.653
	+	92.29		1.526E+01	4.971E+00	7.476E+00	6.692E-01	2.041
		95.87	*	-2.385E+00	2.130E+00	2.880E+00	2.416E-01	-0.828
PA-233		108.00		-5.151E-01	3.616E+00	5.932E+00	4.145E-01	-0.087
	+	75.28		1.321E+01	4.320E+00	6.763E+00	1.049E+00	1.954
		86.59		1.120E+00	1.784E+00	2.645E+00	7.185E-01	0.423
		300.12		5.418E-01	4.324E-01	6.808E-01	9.172E-02	0.796
		311.98	*	6.914E-03	5.766E-02	9.747E-02	6.094E-03	0.071
		340.50		1.748E+00	7.278E-01	1.081E+00	2.486E-01	1.617
		398.62		9.338E-01	1.945E+00	3.309E+00	8.556E-01	0.282
PA-234		415.76		-1.288E+00	1.503E+00	2.293E+00	4.723E-01	-0.562
	+	63.00		3.760E+00	2.288E+00	3.027E+00	4.704E-01	1.242
		94.67		2.671E-01	1.773E-01	2.736E-01	3.383E-02	0.976
		98.44		8.417E-02	9.814E-02	1.440E-01	8.023E-02	0.584
		99.86		4.444E-01	4.314E-01	7.415E-01	5.826E-02	0.599

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-3.052E-02	1.696E-01	2.775E-01	3.001E-02	-0.110
		131.20		-3.397E-02	9.810E-02	1.585E-01	8.960E-03	-0.214
		152.70		2.006E-01	3.079E-01	5.143E-01	8.036E-02	0.390
	+	186.00		5.076E+00	2.450E+00	2.458E+00	7.486E-01	2.065
		226.40		3.233E-02	3.739E-01	6.043E-01	6.908E-02	0.054
		227.20		5.752E-02	3.972E-01	6.440E-01	3.571E-02	0.089
		248.90		4.028E-01	7.764E-01	1.274E+00	2.734E-01	0.316
	+	293.70		3.647E+00	1.211E+00	1.474E+00	2.375E-01	2.474
		369.80		2.688E-02	7.112E-01	1.189E+00	2.477E-01	0.023
		568.70		-6.572E-01	9.683E-01	1.455E+00	8.204E-02	-0.452
		569.50		-1.773E-03	2.609E-01	4.168E-01	2.348E-02	-0.004
		574.00		4.132E-01	1.405E+00	2.348E+00	1.319E-01	0.176
		699.00		7.446E-02	7.043E-01	1.147E+00	2.057E-01	0.065
		706.10		3.281E-01	1.049E+00	1.723E+00	7.603E-01	0.190
		733.00		-2.226E-02	3.365E-01	5.377E-01	1.149E-01	-0.041
		742.81		-9.542E-01	1.546E+00	1.941E+00	1.300E+00	-0.492
		796.30		6.783E-01	8.057E-01	1.419E+00	3.780E-01	0.478
		805.60		8.259E-01	9.331E-01	1.632E+00	4.951E-01	0.506
		819.60		-5.998E-01	1.090E+00	1.679E+00	6.348E-01	-0.357
		826.30		1.454E-01	7.249E-01	1.232E+00	5.494E-01	0.118
		831.60		6.357E-02	5.391E-01	9.117E-01	2.702E-01	0.070
		876.40		3.260E-01	8.565E-01	1.367E+00	1.406E+00	0.238
		880.51		-1.216E-01	2.517E-01	3.974E-01	3.484E-02	-0.306
		883.24		-2.068E-01	2.948E-01	3.958E-01	2.661E-01	-0.523
		899.00		3.728E-01	7.388E-01	1.266E+00	5.545E-01	0.295
		925.00		6.022E-01	9.977E-01	1.767E+00	1.570E-01	0.341
		926.50		1.150E-01	1.521E-01	2.689E-01	6.821E-02	0.428
		946.00	*	7.719E-02	2.667E-01	4.560E-01	8.572E-02	0.169
		949.00		1.918E-01	3.572E-01	6.295E-01	5.456E-02	0.305
		980.50		-1.321E-01	6.611E-01	1.070E+00	8.940E-02	-0.123
PA-234M		1394.10		-3.331E-03	1.020E+00	1.651E+00	1.072E+00	-0.002
		766.42		8.557E-01	1.084E+01	1.752E+01	8.838E+00	0.049
		1001.03	*	1.014E+00	4.639E+00	7.834E+00	7.475E-01	0.129
U-235	+	89.95		1.603E+00	8.897E-01	1.757E+00	5.461E-01	0.912
	+	93.35		2.495E+00	1.050E+00	1.195E+00	3.356E-01	2.087
		105.00		4.932E-01	9.869E-01	1.647E+00	4.855E-01	0.300
		143.76	*	-4.155E-02	1.955E-01	3.096E-01	5.007E-02	-0.134
		163.35		1.380E-01	4.395E-01	7.050E-01	1.253E-01	0.196
	+	185.71		1.880E-01	7.108E-02	9.096E-02	4.763E-03	2.067
		205.31		-3.194E-01	5.615E-01	7.567E-01	1.351E-01	-0.422
NP-236		94.67		2.051E-01	1.334E-01	2.078E-01	1.780E-02	0.987
		98.44		6.361E-02	6.537E-02	1.089E-01	8.749E-03	0.584
		111.00		-2.308E-02	1.282E-01	2.099E-01	1.410E-02	-0.110
		160.31	*	-8.662E-02	7.446E-02	1.145E-01	5.922E-03	-0.756
NP-237		86.50	*	1.816E-01	2.677E-01	3.987E-01	9.081E-02	0.455
		95.87		-1.092E+00	1.008E+00	1.319E+00	3.239E-01	-0.828
NP-239		99.55		1.909E-01	1.436E-01	2.493E-01	1.968E-02	0.766
		117.00	*	-1.430E-01	1.744E-01	2.763E-01	1.725E-02	-0.517
	+	209.75		1.055E+00	9.503E-01	1.314E+00	7.122E-02	0.803

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		228.18		-1.118E-01	2.118E-01	3.306E-01	1.835E-02	-0.338
		277.60		-2.402E-03	1.761E-01	2.806E-01	1.632E-02	-0.009
		334.30		-6.552E-02	1.318E+00	1.912E+00	1.130E-01	-0.034
AM-241		59.54	*	1.509E-01	1.777E-01	2.747E-01	2.556E-02	0.549
CM-243		99.55		1.965E-01	1.479E-01	2.566E-01	2.026E-02	0.766
		103.76	*	1.490E-02	9.030E-02	1.503E-01	1.113E-02	0.099
		117.00		-1.472E-01	1.795E-01	2.844E-01	1.775E-02	-0.517
	+	209.75		1.040E+00	9.370E-01	1.296E+00	7.022E-02	0.803
		228.18		-1.130E-01	2.140E-01	3.341E-01	1.855E-02	-0.338
		277.60		-2.422E-03	1.776E-01	2.830E-01	1.645E-02	-0.009
AM-246		798.80		-2.169E-01	1.326E-01	1.858E-01	1.352E-02	-1.168
		1036.00		-1.376E-02	2.414E-01	3.956E-01	3.049E-02	-0.035
		1062.04		-1.177E-01	2.238E-01	3.476E-01	2.561E-02	-0.339
		1078.86	*	3.055E-02	1.354E-01	2.284E-01	1.630E-02	0.134
CM-247		278.00		2.640E-01	6.826E-01	1.173E+00	6.823E-02	0.225
		287.40		8.760E-01	1.195E+00	1.988E+00	1.162E-01	0.441
		402.60	*	-6.010E-03	3.393E-02	5.565E-02	3.226E-03	-0.108
CF-249		252.85		3.695E-01	8.195E-01	1.347E+00	7.680E-02	0.274
		333.44		-1.344E-01	1.852E-01	2.532E-01	1.496E-02	-0.531
		387.95	*	2.292E-03	3.781E-02	6.312E-02	3.652E-03	0.036
CF-251		176.60	*	9.852E-03	1.151E-01	1.878E-01	9.704E-03	0.052
		227.00		1.404E-01	3.513E-01	5.773E-01	3.200E-02	0.243
		285.00		9.103E-02	1.625E+00	2.746E+00	1.604E-01	0.033

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536010      *
* Acquisition date   : 9-JAN-2010 14:13:04 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 02:00:01.46 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243536010 Analyst initials: MXR1                  *
* Batch Number      : 937074 Sample Quantity : 1.3969E+02 GRAM          *
* Recovery          : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* Standard Weight   : 0.00000                                             *
* CALIB. DATE/TIME : 2-JUN-2009 11:17:00 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.767E+01	1.897E+00	3.918E-01	0.000E+00
CS-135	3.667E-01	1.922E-01	2.287E-01	0.000E+00
BA-137M	4.592E-01	8.238E-02	5.735E-02	0.000E+00
CS-137	4.854E-01	8.712E-02	6.063E-02	0.000E+00
TL-208	2.818E-01	6.566E-02	5.717E-02	0.000E+00
BI-211	2.427E+00	4.154E-01	3.073E-01	0.000E+00
PB-212	9.051E-01	1.084E-01	8.025E-02	0.000E+00
PO-212	9.051E-01	1.084E-01	8.025E-02	0.000E+00
BI-214	6.241E-01	1.583E-01	1.068E-01	0.000E+00
PB-214	8.443E-01	1.508E-01	1.071E-01	0.000E+00
PO-214	8.443E-01	1.508E-01	1.071E-01	0.000E+00
PO-216	9.051E-01	1.084E-01	8.025E-02	0.000E+00
PO-218	8.443E-01	1.508E-01	1.071E-01	0.000E+00
RA-224	2.451E+00	9.144E-01	9.132E-01	0.000E+00
RA-226	6.241E-01	1.583E-01	1.068E-01	0.000E+00
AC-228	1.159E+00	2.574E-01	1.655E-01	0.000E+00
RA-228	1.159E+00	2.574E-01	1.655E-01	0.000E+00
TH-228	9.224E-01	1.105E-01	8.179E-02	0.000E+00
TH-230	6.240E-01	1.583E-01	1.068E-01	0.000E+00
TH-232	1.159E+00	2.574E-01	1.655E-01	0.000E+00
TH-234	3.226E+00	1.945E+00	2.397E+00	0.000E+00
U-234	6.240E-01	1.583E-01	1.068E-01	0.000E+00
U-238	3.226E+00	1.945E+00	2.397E+00	0.000E+00
AM-243	2.523E-01	7.448E-02	9.191E-02	0.000E+00
ANH-511	8.284E-02	6.809E-02	4.379E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	9.102E-02	3.247E-01	5.716E-01	0.000E+00 NOT IDENT.
NA-22	3.124E-02	4.396E-02	7.906E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	6.405E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.373E-02	2.651E-02	3.924E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.453E-02	7.761E-02	0.000E+00	FAIL ABUN
SC-46	-1.273E-03	3.746E-02	6.438E-02	0.000E+00	NOT IDENT.
V-48	1.342E-02	7.499E-02	1.307E-01	0.000E+00	NOT IDENT.
CR-51	2.545E-02	3.560E-01	6.334E-01	0.000E+00	NOT IDENT.
MN-52	-2.784E-01	3.580E-01	5.113E-01	0.000E+00	NOT IDENT.
MN-54	-6.578E-03	3.395E-02	5.779E-02	0.000E+00	NOT IDENT.
CO-56	-4.694E-02	3.752E-02	5.648E-02	0.000E+00	NOT IDENT.
CO-57	1.889E-02	2.316E-02	4.239E-02	0.000E+00	NOT IDENT.
CO-58	-5.300E-02	5.001E-02	5.949E-02	0.000E+00	NOT IDENT.
FE-59	-3.986E-02	8.645E-02	1.387E-01	0.000E+00	NOT IDENT.
CO-60	1.267E-02	3.707E-02	6.460E-02	0.000E+00	NOT IDENT.
ZN-65	-8.581E-02	9.475E-02	1.465E-01	0.000E+00	NOT IDENT.
GE-68	-5.186E-01	1.199E+00	1.941E+00	0.000E+00	NOT IDENT.
AS-73	6.866E-02	1.035E+00	1.879E+00	0.000E+00	NOT IDENT.
AS-74	6.080E-02	1.003E-01	1.788E-01	0.000E+00	NOT IDENT.
SE-75	3.142E-02	4.326E-02	6.803E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.226E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-4.620E-01	3.780E-01	5.797E-01	0.000E+00	NOT IDENT.
RB-83	3.955E-03	6.835E-02	1.111E-01	0.000E+00	NOT IDENT.
RB-84	-8.165E-02	6.860E-02	1.026E-01	0.000E+00	NOT IDENT.
KR-85	1.197E+01	7.166E+00	1.242E+01	0.000E+00	NOT IDENT.
SR-85	6.400E-02	3.831E-02	6.641E-02	0.000E+00	NOT IDENT.
RB-86	-1.498E-01	8.466E-01	1.410E+00	0.000E+00	NOT IDENT.
Y-88	3.670E-04	2.196E-02	3.717E-02	0.000E+00	NOT IDENT.
ZR-88	-5.200E-03	3.077E-02	5.260E-02	0.000E+00	NOT IDENT.
Y-91	8.734E+00	1.813E+01	3.196E+01	0.000E+00	NOT IDENT.
NB-94	-1.858E-02	3.335E-02	5.317E-02	0.000E+00	NOT IDENT.
NB-95	-3.971E-03	4.084E-02	6.741E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.434E-01	2.420E-01	0.000E+00	NOT IDENT.
ZR-95	-6.387E-03	7.076E-02	1.170E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.495E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	9.653E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.653E+01	2.812E+01	4.965E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.011E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.128E-03	2.949E-02	5.131E-02	0.000E+00	NOT IDENT.
RH-102	6.127E-03	2.887E-02	4.945E-02	0.000E+00	NOT IDENT.
RU-103	8.783E-03	4.027E-02	7.045E-02	0.000E+00	FAIL ABUN
RH-106	2.537E-02	2.861E-01	4.884E-01	0.000E+00	FAIL ABUN
RU-106	2.537E-02	2.860E-01	4.884E-01	0.000E+00	FAIL ABUN
AG-108M	-3.636E-02	3.112E-02	4.941E-02	0.000E+00	NOT IDENT.
CD-109	1.230E+00	9.194E-01	1.528E+00	0.000E+00	NOT IDENT.
AG-110M	7.211E-02	4.510E-02	7.610E-02	0.000E+00	NOT IDENT.
IN-111	4.207E-01	2.855E+00	4.291E+00	0.000E+00	NOT IDENT.
IN-113M	1.244E-02	4.337E-02	7.628E-02	0.000E+00	NOT IDENT.
SN-113	1.244E-02	4.337E-02	7.628E-02	0.000E+00	NOT IDENT.
IN-114M	2.413E-02	1.932E-01	2.945E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.361E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.831E-02	6.143E-02	1.058E-01	0.000E+00	NOT IDENT.
SB-122	1.478E+00	5.274E+00	9.202E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.157E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.123E-02	2.678E-02	4.505E-02	0.000E+00	NOT IDENT.
I-124	-8.324E-01	1.455E+00	1.919E+00	0.000E+00	FAIL ABUN
SB-124	4.530E-02	6.530E-02	1.261E-01	0.000E+00	FAIL ABUN
SB-125	-1.120E-02	8.089E-02	1.392E-01	0.000E+00	NOT IDENT.
TE-125M	-4.023E+00	8.755E+00	1.527E+01	0.000E+00	NOT IDENT.
I-126	1.153E-02	2.340E-01	3.423E-01	0.000E+00	NOT IDENT.
SB-126	-2.693E-02	1.656E-01	2.729E-01	0.000E+00	NOT IDENT.
SN-126	1.795E-02	9.105E-02	1.452E-01	0.000E+00	FAIL ABUN
SB-127	1.075E+00	2.441E+00	4.276E+00	0.000E+00	NOT IDENT.
XE-127	4.549E-03	5.020E-02	8.030E-02	0.000E+00	NOT IDENT.
I-131	-5.272E-02	1.364E-01	2.332E-01	0.000E+00	NOT IDENT.
TE-132	-7.885E-01	1.482E+00	2.456E+00	0.000E+00	NOT IDENT.
BA-133	-6.579E-03	4.139E-02	6.236E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.341E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	4.713E-02	3.997E-02	7.640E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.157E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.466E-02	1.092E-01	1.806E-01	0.000E+00	NOT IDENT.
CE-139	-1.592E-02	2.748E-02	4.657E-02	0.000E+00	NOT IDENT.
BA-140	-2.705E-01	3.184E-01	4.713E-01	0.000E+00	NOT IDENT.
LA-140	-3.913E-02	8.600E-02	1.341E-01	0.000E+00	NOT IDENT.
CE-141	5.345E-02	5.842E-02	1.066E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.952E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-7.694E-02	1.871E-01	3.233E-01	0.000E+00	NOT IDENT.
PM-144	2.589E-02	3.236E-02	5.812E-02	0.000E+00	NOT IDENT.
PR-144	1.758E+00	2.197E+00	3.947E+00	0.000E+00	NOT IDENT.
PM-146	-6.995E-03	4.330E-02	7.418E-02	0.000E+00	NOT IDENT.

ND-147	-7.254E-01	6.617E-01	1.013E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.880E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.053E-01	1.018E-01	1.413E-01	0.000E+00	NOT IDENT.
GD-153	-1.139E-02	8.091E-02	1.262E-01	0.000E+00	NOT IDENT.
EU-154	8.219E-02	1.221E-01	2.187E-01	0.000E+00	NOT IDENT.
EU-155	5.069E-02	9.721E-02	1.770E-01	0.000E+00	NOT IDENT.
TB-160	4.736E-02	1.303E-01	2.328E-01	0.000E+00	NOT IDENT.
HO-166M	-1.570E-02	6.214E-02	1.018E-01	0.000E+00	FAIL ABUN
TM-171	-3.794E+01	3.187E+01	4.731E+01	0.000E+00	NOT IDENT.
LU-176	1.859E-02	2.143E-02	3.988E-02	0.000E+00	FAIL ABUN
LU-177	2.242E+00	1.980E+00	2.890E+00	0.000E+00	FAIL ABUN
LU-177M	-5.590E-02	1.630E-01	2.775E-01	0.000E+00	FAIL ABUN
HF-181	3.649E-03	4.110E-02	7.137E-02	0.000E+00	NOT IDENT.
W-181	5.738E-01	4.251E-01	7.204E-01	0.000E+00	NOT IDENT.
TA-182	-1.955E-01	1.937E-01	2.911E-01	0.000E+00	NOT IDENT.
RE-183	-2.192E-02	1.070E-01	1.799E-01	0.000E+00	FAIL ABUN
RE-184	1.001E-01	2.175E-01	3.795E-01	0.000E+00	NOT IDENT.
OS-185	-3.497E-03	3.717E-02	6.217E-02	0.000E+00	NOT IDENT.
RE-188	2.052E-01	1.699E-01	3.113E-01	0.000E+00	NOT IDENT.
W-188	-2.342E-01	7.668E+00	1.188E+01	0.000E+00	FAIL ABUN
IR-192	-1.391E-02	3.090E-02	5.329E-02	0.000E+00	FAIL ABUN
AU-195	2.940E-01	2.047E-01	3.850E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.739E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.950E+00	1.521E+01	2.624E+01	0.000E+00	NOT IDENT.
TL-202	4.024E-02	8.664E-02	1.548E-01	0.000E+00	NOT IDENT.
HG-203	1.305E-02	3.848E-02	6.991E-02	0.000E+00	NOT IDENT.
BI-207	-2.979E-02	4.935E-02	7.831E-02	0.000E+00	FAIL ABUN
TL-207	-3.670E-01	6.324E-01	1.080E+00	0.000E+00	FAIL ABUN
PO-209	-1.216E+00	6.838E+00	1.157E+01	0.000E+00	NOT IDENT.
BI-210	2.339E-01	4.957E+00	8.971E+00	0.000E+00	NOT IDENT.
PB-210	2.339E-01	4.957E+00	8.971E+00	0.000E+00	NOT IDENT.
PO-210	2.339E-01	4.957E+00	8.971E+00	0.000E+00	NOT IDENT.
PB-211	-6.271E-01	9.576E-01	1.461E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	2.897E-01	5.602E-01	0.000E+00	NOT IDENT.
PO-215	-3.670E-01	6.324E-01	1.080E+00	0.000E+00	FAIL ABUN
RN-219	-2.126E-01	3.756E-01	6.292E-01	0.000E+00	NOT IDENT.
RN-220	-1.021E+01	2.287E+01	3.751E+01	0.000E+00	NOT IDENT.
RA-223	-3.670E-01	6.324E-01	1.080E+00	0.000E+00	FAIL ABUN
AC-227	2.551E-02	3.494E-01	5.961E-01	0.000E+00	NOT IDENT.
TH-227	2.551E-02	3.494E-01	5.961E-01	0.000E+00	FAIL ABUN
TH-229	-3.500E-01	4.589E-01	7.620E-01	0.000E+00	FAIL ABUN
PA-231	-5.594E-01	1.390E+00	2.425E+00	0.000E+00	NOT IDENT.
TH-231	-3.670E-01	6.324E-01	1.080E+00	0.000E+00	FAIL ABUN
U-231	-2.385E+00	2.088E+00	3.053E+00	0.000E+00	FAIL ABUN
PA-233	6.914E-03	5.650E-02	1.010E-01	0.000E+00	FAIL ABUN
PA-234	7.719E-02	2.614E-01	4.619E-01	0.000E+00	FAIL ABUN
PA-234M	1.014E+00	4.547E+00	7.926E+00	0.000E+00	NOT IDENT.
U-235	-4.155E-02	1.916E-01	3.256E-01	0.000E+00	FAIL ABUN
NP-236	-8.662E-02	7.297E-02	1.202E-01	0.000E+00	NOT IDENT.
NP-237	1.816E-01	2.623E-01	4.235E-01	0.000E+00	NOT IDENT.
NP-239	-1.430E-01	1.709E-01	2.918E-01	0.000E+00	FAIL ABUN
AM-241	1.509E-01	1.741E-01	2.938E-01	0.000E+00	NOT IDENT.
CM-243	1.490E-02	8.850E-02	1.590E-01	0.000E+00	FAIL ABUN
AM-246	3.055E-02	1.327E-01	2.307E-01	0.000E+00	NOT IDENT.
CM-247	-6.010E-03	3.325E-02	5.736E-02	0.000E+00	NOT IDENT.
CF-249	2.292E-03	3.705E-02	6.511E-02	0.000E+00	NOT IDENT.
CF-251	9.852E-03	1.128E-01	1.967E-01	0.000E+00	NOT IDENT.

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536010.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:13:04.
Sample ID          : G243536010 Sample quantity : 1.39690E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.46 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	700	10.67*	9.972E-01	1.767E+01	1.767E+01	10.95
CS-135	268.24	92	16.00*	4.230E+00	3.667E-01	3.667E-01	53.50
BA-137M	661.65	314	89.98*	2.042E+00	4.586E-01	4.592E-01	18.31
CS-137	661.65	314	85.12*	2.042E+00	4.848E-01	4.854E-01	18.31
TL-208	277.35	-----	6.80	4.140E+00	-----	Line Not Found	-----
	510.84	78	21.60	2.544E+00	3.835E-01	3.835E-01	84.28
	583.14	201	84.20*	2.277E+00	2.818E-01	2.818E-01	23.77
	860.37	-----	12.46	1.609E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	402	12.94*	3.441E+00	2.427E+00	2.427E+00	17.46
PB-212	74.81	250	10.70	4.035E+00	1.556E+00	1.556E+00	31.54
	77.11	450	18.00	4.300E+00	1.563E+00	1.563E+00	19.29
	87.30	-----	8.00	5.232E+00	-----	Line Not Found	-----
	238.63	697	44.60*	4.638E+00	9.051E-01	9.051E-01	12.22
	300.09	-----	3.41	3.896E+00	-----	Line Not Found	-----
PO-212	74.81	250	10.70	4.035E+00	1.556E+00	1.556E+00	31.54
	77.11	450	18.00	4.300E+00	1.563E+00	1.563E+00	19.29
	87.30	-----	8.00	5.232E+00	-----	Line Not Found	-----
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	697	44.60*	4.638E+00	9.051E-01	9.051E-01	12.22
	300.09	-----	3.41	3.896E+00	-----	Line Not Found	-----
BI-214	609.31	236	46.30*	2.193E+00	6.240E-01	6.241E-01	25.88
	1120.29	-----	15.10	1.258E+00	-----	Line Not Found	-----
	1764.49	58	15.80	8.744E-01	1.132E+00	1.132E+00	30.98
PB-214	74.81	250	6.21	4.035E+00	2.681E+00	2.681E+00	31.02
	77.11	450	10.50	4.300E+00	2.680E+00	2.680E+00	20.74
	87.30	-----	4.67	5.232E+00	-----	Line Not Found	-----
	241.98	165	7.49	4.593E+00	1.293E+00	1.293E+00	38.48
	295.21	214	19.20	3.950E+00	7.599E-01	7.599E-01	30.28
	351.92	402	37.20*	3.441E+00	8.443E-01	8.443E-01	18.23
PO-214	74.81	250	6.21	4.035E+00	2.681E+00	2.681E+00	31.02
	77.11	450	10.50	4.300E+00	2.680E+00	2.680E+00	20.74

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	87.30	-----	4.67	5.232E+00	-----	Line Not Found	-----
	241.98	165	7.49	4.593E+00	1.293E+00	1.293E+00	38.48
	295.21	214	19.20	3.950E+00	7.599E-01	7.599E-01	30.28
	351.92	402	37.20*	3.441E+00	8.443E-01	8.443E-01	18.23
PO-216	74.81	250	10.70	4.035E+00	1.556E+00	1.556E+00	31.54
	77.11	450	18.00	4.300E+00	1.563E+00	1.563E+00	19.29
	87.30	-----	8.00	5.232E+00	-----	Line Not Found	-----
	238.63	697	44.60*	4.638E+00	9.051E-01	9.051E-01	12.22
	300.09	-----	3.41	3.896E+00	-----	Line Not Found	-----
PO-218	74.81	250	6.21	4.035E+00	2.681E+00	2.681E+00	31.02
	77.11	450	10.50	4.300E+00	2.680E+00	2.680E+00	20.74
	87.30	-----	4.67	5.232E+00	-----	Line Not Found	-----
	241.98	165	7.49	4.593E+00	1.293E+00	1.293E+00	38.48
	295.21	214	19.20	3.950E+00	7.599E-01	7.599E-01	30.28
	351.92	402	37.20*	3.441E+00	8.443E-01	8.443E-01	18.23
RA-224	240.98	165	3.95*	4.593E+00	2.451E+00	2.451E+00	38.07
RA-226	609.31	236	46.30*	2.193E+00	6.240E-01	6.241E-01	25.88
	1120.29	-----	15.10	1.258E+00	-----	Line Not Found	-----
	1764.49	58	15.80	8.744E-01	1.132E+00	1.132E+00	30.98
AC-228	338.32	157	11.40	3.550E+00	1.044E+00	1.044E+00	50.83
	911.07	182	27.70*	1.527E+00	1.159E+00	1.159E+00	22.66
	969.11	96	16.60	1.441E+00	1.074E+00	1.074E+00	45.04
RA-228	338.32	157	11.40	3.550E+00	1.044E+00	1.044E+00	50.83
	911.07	182	27.70*	1.527E+00	1.159E+00	1.159E+00	22.66
	969.11	96	16.60	1.441E+00	1.074E+00	1.074E+00	45.04
TH-228	74.81	250	10.70	4.035E+00	1.556E+00	1.586E+00	30.15
	77.11	450	18.00	4.300E+00	1.563E+00	1.593E+00	19.29
	87.30	-----	8.00	5.232E+00	-----	Line Not Found	-----
	238.63	697	44.60*	4.638E+00	9.051E-01	9.224E-01	12.22
	300.09	-----	3.41	3.896E+00	-----	Line Not Found	-----
TH-230	609.31	236	46.30*	2.193E+00	6.240E-01	6.240E-01	25.88
	1120.29	-----	15.10	1.258E+00	-----	Line Not Found	-----
	1764.49	58	15.80	8.744E-01	1.132E+00	1.132E+00	30.98
TH-232	338.32	157	11.40	3.550E+00	1.044E+00	1.044E+00	30.91
	911.07	182	27.70*	1.527E+00	1.159E+00	1.159E+00	22.66
	969.11	96	16.60	1.441E+00	1.074E+00	1.074E+00	45.04
TH-234	63.29	118	3.80*	2.580E+00	3.226E+00	3.226E+00	61.53
	92.38	233	5.41	5.585E+00	2.075E+00	2.075E+00	36.24
U-234	609.31	236	46.30*	2.193E+00	6.240E-01	6.240E-01	25.88
	1120.29	-----	15.10	1.258E+00	-----	Line Not Found	-----
	1764.49	58	15.80	8.744E-01	1.132E+00	1.132E+00	30.98
U-238	63.29	118	3.80*	2.580E+00	3.226E+00	3.226E+00	61.53
	92.38	233	5.41	5.585E+00	2.075E+00	2.075E+00	32.57
AM-243	74.67	250	66.00*	4.035E+00	2.523E-01	2.523E-01	30.13
	86.72	-----	0.34	5.188E+00	-----	Line Not Found	-----
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.209E+00	-----	Line Not Found	-----
ANH-511	511.00	78	100.00*	2.544E+00	8.284E-02	8.284E-02	83.87

Flag: "*" = Keyline

Total number of lines in spectrum 22
Number of unidentified lines 0
Number of lines tentatively identified by NID 22 100.00%

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	1.767E+01	1.767E+01	0.194E+01	10.95	
CS-135	2.30E+06Y	1.00	3.667E-01	3.667E-01	1.961E-01	53.50	
BA-137M	30.17Y	1.00	4.586E-01	4.592E-01	0.841E-01	18.31	
CS-137	30.17Y	1.00	4.848E-01	4.854E-01	0.889E-01	18.31	
TL-208	1.41E+10Y	1.00	2.818E-01	2.818E-01	0.670E-01	23.77	
BI-211	7.04E+08Y	1.00	2.427E+00	2.427E+00	0.424E+00	17.46	
PB-212	1.41E+10Y	1.00	9.051E-01	9.051E-01	1.106E-01	12.22	
PO-212	1.41E+10Y	1.00	9.051E-01	9.051E-01	1.106E-01	12.22	
BI-214	1600.00Y	1.00	6.240E-01	6.241E-01	1.615E-01	25.88	
PB-214	1600.00Y	1.00	8.443E-01	8.443E-01	1.539E-01	18.23	
PO-214	1600.00Y	1.00	8.443E-01	8.443E-01	1.539E-01	18.23	
PO-216	1.41E+10Y	1.00	9.051E-01	9.051E-01	1.106E-01	12.22	
PO-218	1600.00Y	1.00	8.443E-01	8.443E-01	1.539E-01	18.23	
RA-224	1.41E+10Y	1.00	2.451E+00	2.451E+00	0.933E+00	38.07	
RA-226	1600.00Y	1.00	6.240E-01	6.241E-01	1.615E-01	25.88	
AC-228	1.41E+10Y	1.00	1.159E+00	1.159E+00	0.263E+00	22.66	
RA-228	1.41E+10Y	1.00	1.159E+00	1.159E+00	0.263E+00	22.66	
TH-228	1.91Y	1.02	9.051E-01	9.224E-01	1.127E-01	12.22	
TH-230	4.47E+09Y	1.00	6.240E-01	6.240E-01	1.615E-01	25.88	
TH-232	1.41E+10Y	1.00	1.159E+00	1.159E+00	0.263E+00	22.66	
TH-234	4.47E+09Y	1.00	3.226E+00	3.226E+00	1.985E+00	61.53	
U-234	4.47E+09Y	1.00	6.240E-01	6.240E-01	1.615E-01	25.88	
U-238	4.47E+09Y	1.00	3.226E+00	3.226E+00	1.985E+00	61.53	
AM-243	7380.00Y	1.00	2.523E-01	2.523E-01	0.760E-01	30.13	
ANH-511	1.00E+09Y	1.00	8.284E-02	8.284E-02	6.948E-02	83.87	
Total Activity :			4.305E+01	4.307E+01			

Grand Total Activity : 4.305E+01 4.307E+01

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

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

Unidentified Energy Lines
Sample ID : G243536010

Page : 5
Acquisition date : 9-JAN-2010 14:13:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.72	87	175	1.07	179.43	177	13	1.21E-02	46.0	5.40E+00	T
0	185.70	207	295	1.19	371.40	366	12	2.88E-02	37.4	5.49E+00	T
0	209.04	65	240	1.40	418.07	413	9	8.99E-03	89.9	5.09E+00	T
0	1377.21	18	13	0.64	2754.42	2745	13	2.44E-03	97.6	1.05E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536010.CNF;1
* Acquisition date   : 9-JAN-2010 14:13:04. 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 02:00:01.46 Half life ratio :       : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243536010         Analyst initials: MXR1
* Batch Number       : 937074             Sample Quantity : 1.39690E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00.62MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A             LCS Isotope        :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.767E+01	1.935E+00	3.904E-01	2.920E-02	45.253
CS-135	3.667E-01	1.961E-01	2.201E-01	1.681E-02	1.666
BA-137M	4.592E-01	8.406E-02	5.621E-02	2.871E-03	8.169
CS-137	4.854E-01	8.890E-02	5.942E-02	3.052E-03	8.169
TL-208	2.818E-01	6.700E-02	5.589E-02	3.628E-03	5.043
BI-211	2.427E+00	4.239E-01	2.973E-01	1.937E-02	8.164
PB-212	9.051E-01	1.106E-01	7.706E-02	5.540E-03	11.745
PO-212	9.051E-01	1.106E-01	7.706E-02	5.540E-03	11.745
BI-214	6.241E-01	1.615E-01	1.045E-01	7.858E-03	5.971
PB-214	8.443E-01	1.539E-01	1.036E-01	8.650E-03	8.147
PO-214	8.443E-01	1.539E-01	1.036E-01	8.650E-03	8.147
PO-216	9.051E-01	1.106E-01	7.706E-02	5.540E-03	11.745
PO-218	8.443E-01	1.539E-01	1.036E-01	8.650E-03	8.147
RA-224	2.451E+00	9.331E-01	8.770E-01	4.942E-02	2.795
RA-226	6.241E-01	1.615E-01	1.045E-01	7.858E-03	5.971
AC-228	1.159E+00	2.627E-01	1.633E-01	1.884E-02	7.100
RA-228	1.159E+00	2.627E-01	1.633E-01	1.884E-02	7.100
TH-228	9.224E-01	1.127E-01	7.854E-02	5.647E-03	11.745

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	6.240E-01	1.615E-01	1.045E-01	7.857E-03	5.971
TH-232	1.159E+00	2.627E-01	1.633E-01	1.884E-02	7.100
TH-234	3.226E+00	1.985E+00	2.244E+00	4.043E-01	1.438
U-234	6.240E-01	1.615E-01	1.045E-01	7.857E-03	5.971
U-238	3.226E+00	1.985E+00	2.244E+00	4.043E-01	1.438
AM-243	2.523E-01	7.600E-02	8.630E-02	7.669E-03	2.923
ANH-511	8.284E-02	6.948E-02	4.269E-02	2.480E-03	1.940

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.102E-02		3.313E-01	5.565E-01	3.782E-02	0.164
NA-22	3.124E-02		4.486E-02	7.855E-02	5.275E-03	0.398
NA-24	-1.609E+00		3.268E+01	Half-Life too short		
AL-26	-1.373E-02		2.705E-02	3.928E-02	2.361E-03	-0.349
TI-44	2.885E-01	+	5.564E-02	7.294E-02	6.611E-03	3.956
SC-46	-1.273E-03		3.823E-02	6.348E-02	5.672E-03	-0.020
V-48	1.342E-02		7.652E-02	1.292E-01	1.074E-02	0.104
CR-51	2.545E-02		3.633E-01	6.118E-01	4.011E-02	0.042
MN-52	-2.784E-01		3.653E-01	5.092E-01	3.684E-02	-0.547
MN-54	-6.578E-03		3.464E-02	5.690E-02	4.506E-03	-0.116
CO-56	-4.694E-02		3.829E-02	5.563E-02	4.526E-03	-0.844
CO-57	1.889E-02		2.363E-02	4.017E-02	2.368E-03	0.470
CO-58	-5.300E-02		5.103E-02	5.855E-02	4.399E-03	-0.905
FE-59	-3.986E-02		8.821E-02	1.374E-01	1.058E-02	-0.290
CO-60	1.267E-02		3.782E-02	6.424E-02	4.716E-03	0.197
ZN-65	-8.581E-02		9.668E-02	1.451E-01	9.584E-03	-0.591
GE-68	-5.186E-01		1.224E+00	1.922E+00	1.375E-01	-0.270
AS-73	6.866E-02		1.056E+00	1.753E+00	1.548E-01	0.039
AS-74	6.080E-02		1.023E-01	1.748E-01	9.641E-03	0.348
SE-75	3.142E-02		4.414E-02	6.545E-02	3.810E-03	0.480
BR-77	6.122E-06		1.646E-05	Half-Life too short		
SR-82	-4.620E-01		3.857E-01	5.700E-01	3.932E-02	-0.810
RB-83	3.955E-03		6.975E-02	1.084E-01	6.275E-03	0.036
RB-84	-8.165E-02		7.000E-02	1.012E-01	8.888E-03	-0.807
KR-85	1.197E+01		7.312E+00	1.211E+01	7.028E-01	0.988
SR-85	6.400E-02		3.909E-02	6.475E-02	3.757E-03	0.988
RB-86	-1.498E-01		8.638E-01	1.396E+00	1.000E-01	-0.107
Y-88	3.670E-04		2.241E-02	3.722E-02	2.191E-03	0.010
ZR-88	-5.200E-03		3.140E-02	5.101E-02	2.945E-03	-0.102
Y-91	8.734E+00		1.850E+01	3.171E+01	1.892E+00	0.275
NB-94	-1.858E-02		3.403E-02	5.217E-02	2.981E-03	-0.356
NB-95	-3.971E-03		4.167E-02	6.626E-02	4.453E-03	-0.060
NB-95M	3.373E-01		1.463E-01	2.323E-01	1.714E-02	1.452
ZR-95	-6.387E-03		7.220E-02	1.149E-01	8.820E-03	-0.056
NB-97	1.408E+01		3.314E+00	Half-Life too short		
ZR-97	2.055E+02		4.925E+01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	1.653E+01		2.869E+01	4.877E+01	6.825E+00	0.339
TC-99M	-5.547E+14		1.026E+15	Half-Life too short		
RH-101	5.128E-03		3.010E-02	4.909E-02	2.617E-03	0.104
RH-102	6.127E-03		2.946E-02	4.814E-02	2.818E-03	0.127
RU-103	8.783E-03		4.109E-02	6.865E-02	8.690E-03	0.128
RH-106	2.537E-02		2.919E-01	4.780E-01	5.513E-02	0.053
RU-106	2.537E-02		2.919E-01	4.780E-01	2.568E-02	0.053
AG-108M	-3.636E-02		3.175E-02	4.801E-02	3.044E-03	-0.757
CD-109	1.230E+00		9.382E-01	1.439E+00	1.405E-01	0.855
AG-110M	7.211E-02		4.602E-02	7.457E-02	4.144E-03	0.967
IN-111	4.207E-01		2.913E+00	4.122E+00	2.333E-01	0.102
IN-113M	1.244E-02		4.426E-02	7.397E-02	4.557E-03	0.168
SN-113	1.244E-02		4.426E-02	7.397E-02	4.557E-03	0.168
IN-114M	2.413E-02		1.971E-01	2.815E-01	1.484E-02	0.086
CD-115	-1.557E-05		1.715E-05	Half-Life too short		
SN-117M	-1.831E-02		6.268E-02	1.008E-01	5.239E-03	-0.182
SB-122	1.478E+00		5.382E+00	8.988E+00	5.084E-01	0.164
I-123	-6.466E+02		4.162E+02	Half-Life too short		
TE-123M	-2.123E-02		2.733E-02	4.292E-02	2.265E-03	-0.495
I-124	-8.324E-01		1.485E+00	1.877E+00	1.029E-01	-0.443
SB-124	4.530E-02		6.664E-02	1.260E-01	8.788E-03	0.359
SB-125	-1.120E-02		8.254E-02	1.353E-01	8.228E-03	-0.083
TE-125M	-4.023E+00		8.934E+00	1.445E+01	1.290E+00	-0.278
I-126	1.153E-02		2.388E-01	3.355E-01	1.736E-02	0.034
SB-126	-2.693E-02		1.690E-01	2.679E-01	1.605E-02	-0.101
SN-126	1.795E-02		9.291E-02	1.368E-01	1.331E-02	0.131
SB-127	1.075E+00		2.491E+00	4.194E+00	4.494E-01	0.256
XE-127	4.549E-03		5.122E-02	7.686E-02	4.126E-03	0.059
I-131	-5.272E-02		1.392E-01	2.258E-01	1.485E-02	-0.234
TE-132	-7.885E-01		1.513E+00	2.356E+00	3.567E-01	-0.335
BA-133	-6.579E-03		4.224E-02	6.035E-02	7.002E-03	-0.109
I-133	-1.614E-01		6.840E-02	Half-Life too short		
CS-134	4.713E-02		4.079E-02	7.516E-02	5.489E-03	0.627
I-135	-7.923E+13		5.903E+13	Half-Life too short		
CS-136	-2.466E-02		1.114E-01	1.787E-01	1.425E-02	-0.138
CE-139	-1.592E-02		2.804E-02	4.440E-02	2.263E-03	-0.359
BA-140	-2.705E-01		3.249E-01	4.600E-01	1.495E-01	-0.588
LA-140	-3.913E-02		8.776E-02	1.339E-01	9.183E-03	-0.292
CE-141	5.345E-02		5.961E-02	1.013E-01	5.715E-03	0.527
CE-143	5.368E-03	+	9.961E-04	Half-Life too short		
CE-144	-7.694E-02		1.909E-01	3.069E-01	4.335E-02	-0.251
PM-144	2.589E-02		3.302E-02	5.702E-02	3.209E-03	0.454
PR-144	1.758E+00		2.242E+00	3.872E+00	2.177E-01	0.454
PM-146	-6.995E-03		4.419E-02	7.214E-02	6.248E-03	-0.097
ND-147	-7.254E-01		6.752E-01	9.885E-01	1.335E-01	-0.734
PM-149	2.203E-04		1.469E-04	Half-Life too short		
EU-152	-1.053E-01		1.039E-01	1.367E-01	9.061E-03	-0.770
GD-153	-1.139E-02		8.256E-02	1.191E-01	9.729E-03	-0.096

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	8.219E-02		1.246E-01	2.173E-01	2.157E-02	0.378
EU-155	5.069E-02		9.919E-02	1.673E-01	1.233E-02	0.303
TB-160	4.736E-02		1.330E-01	2.295E-01	2.007E-02	0.206
HO-166M	-1.570E-02		6.341E-02	9.994E-02	5.849E-03	-0.157
TM-171	-3.794E+01		3.252E+01	4.433E+01	3.855E+00	-0.856
LU-176	1.859E-02		2.187E-02	3.849E-02	2.267E-03	0.483
LU-177	2.242E+00	+	2.020E+00	2.768E+00	1.497E-01	0.810
LU-177M	-5.590E-02		1.664E-01	2.694E-01	1.568E-02	-0.207
HF-181	3.649E-03		4.194E-02	6.950E-02	4.065E-03	0.053
W-181	5.738E-01		4.338E-01	6.747E-01	5.861E-02	0.850
TA-182	-1.955E-01		1.977E-01	2.889E-01	1.773E-02	-0.677
RE-183	-2.192E-02		1.091E-01	1.714E-01	8.817E-03	-0.128
RE-184	1.001E-01		2.220E-01	3.648E-01	2.080E-02	0.274
OS-185	-3.497E-03		3.793E-02	6.090E-02	3.178E-03	-0.057
RE-188	2.052E-01		1.734E-01	2.964E-01	1.555E-02	0.692
W-188	-2.342E-01		7.824E+00	1.145E+01	6.706E-01	-0.020
IR-192	-1.391E-02		3.153E-02	5.145E-02	3.052E-03	-0.270
AU-195	2.940E-01		2.089E-01	3.634E-01	2.900E-02	0.809
TL-200	1.136E-03		2.418E-03	Half-Life too short		
TL-201	-2.950E+00		1.552E+01	2.503E+01	1.277E+00	-0.118
TL-202	4.024E-02		8.841E-02	1.505E-01	8.806E-03	0.267
HG-203	1.305E-02		3.927E-02	6.733E-02	4.159E-03	0.194
BI-207	-2.979E-02		5.036E-02	7.750E-02	5.694E-03	-0.384
TL-207	-3.670E-01		6.453E-01	1.043E+00	1.727E-01	-0.352
PO-209	-1.216E+00		6.978E+00	1.141E+01	1.036E+00	-0.107
BI-210	2.339E-01		5.059E+00	8.349E+00	6.501E-01	0.028
PB-210	2.339E-01		5.059E+00	8.349E+00	6.501E-01	0.028
PO-210	2.339E-01		5.058E+00	8.349E+00	5.602E-01	0.028
PB-211	-6.271E-01		9.772E-01	1.417E+00	8.836E-01	-0.442
BI-212	5.995E-01		2.956E-01	5.501E-01	4.366E-02	1.090
PO-215	-3.670E-01		6.453E-01	1.043E+00	1.727E-01	-0.352
RN-219	-2.126E-01		3.833E-01	6.104E-01	8.304E-02	-0.348
RN-220	-1.021E+01		2.334E+01	3.662E+01	2.090E+00	-0.279
RA-223	-3.670E-01		6.453E-01	1.043E+00	1.727E-01	-0.352
AC-227	2.551E-02		3.566E-01	5.731E-01	7.982E-02	0.045
TH-227	2.551E-02		3.566E-01	5.731E-01	9.670E-02	0.045
TH-229	-3.500E-01		4.683E-01	7.286E-01	3.860E-02	-0.480
PA-231	-5.594E-01		1.418E+00	2.336E+00	3.223E-01	-0.239
TH-231	-3.670E-01		6.453E-01	1.043E+00	1.727E-01	-0.352
U-231	-2.385E+00		2.130E+00	2.880E+00	2.416E-01	-0.828
PA-233	6.914E-03		5.766E-02	9.747E-02	6.094E-03	0.071
PA-234	7.719E-02		2.667E-01	4.560E-01	8.572E-02	0.169
PA-234M	1.014E+00		4.639E+00	7.834E+00	7.475E-01	0.129
U-235	-4.155E-02		1.955E-01	3.096E-01	5.007E-02	-0.134
NP-236	-8.662E-02		7.446E-02	1.145E-01	5.922E-03	-0.756
NP-237	1.816E-01		2.677E-01	3.987E-01	9.081E-02	0.455
NP-239	-1.430E-01		1.744E-01	2.763E-01	1.725E-02	-0.517
AM-241	1.509E-01		1.777E-01	2.747E-01	2.556E-02	0.549

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.490E-02		9.030E-02	1.503E-01	1.113E-02	0.099
AM-246	3.055E-02		1.354E-01	2.284E-01	1.630E-02	0.134
CM-247	-6.010E-03		3.393E-02	5.565E-02	3.226E-03	-0.108
CF-249	2.292E-03		3.781E-02	6.312E-02	3.652E-03	0.036
CF-251	9.852E-03		1.151E-01	1.878E-01	9.704E-03	0.052

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536010          *
* Acquisition date   : 9-JAN-2010 14:13:04 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 02:00:01.46 Half life ratio      : 8.000          *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536010 Analyst initials: MXR1              *
* Batch Number       : 937074 Sample Quantity : 1.3969E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000              *
*****
*                                     QC DATA                              *
*
* CALIB. DATE/TIME  : 2-JUN-2009 11:17:00 MS Isotope       :              *
* MSD DPM           : 0.000 MSD Isotope                   :              *
* LCS DPM           : 0.000 LCS Isotope                    :              *
* LCSD DPM          : 0.000 LCSD Isotope                   :              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.767E+01	1.897E+00	1.960E-01	9.676E-01
CS-135	3.667E-01	1.922E-01	1.144E-01	9.807E-02
BA-137M	4.592E-01	8.238E-02	2.869E-02	4.203E-02
CS-137	4.854E-01	8.712E-02	3.033E-02	4.445E-02
TL-208	2.818E-01	6.566E-02	2.860E-02	3.350E-02
BI-211	2.427E+00	4.154E-01	1.537E-01	2.119E-01
PB-212	9.051E-01	1.084E-01	4.015E-02	5.530E-02
PO-212	9.051E-01	1.084E-01	4.015E-02	5.530E-02
BI-214	6.241E-01	1.583E-01	5.345E-02	8.076E-02
PB-214	8.443E-01	1.508E-01	5.358E-02	7.694E-02
PO-214	8.443E-01	1.508E-01	5.358E-02	7.694E-02
PO-216	9.051E-01	1.084E-01	4.015E-02	5.530E-02
PO-218	8.443E-01	1.508E-01	5.358E-02	7.694E-02
RA-224	2.451E+00	9.144E-01	4.569E-01	4.665E-01
RA-226	6.241E-01	1.583E-01	5.345E-02	8.076E-02
AC-228	1.159E+00	2.574E-01	8.279E-02	1.313E-01
RA-228	1.159E+00	2.574E-01	8.279E-02	1.313E-01
TH-228	9.224E-01	1.105E-01	4.092E-02	5.636E-02
TH-230	6.240E-01	1.583E-01	5.344E-02	8.076E-02
TH-232	1.159E+00	2.574E-01	8.279E-02	1.313E-01
TH-234	3.226E+00	1.945E+00	1.199E+00	9.924E-01
U-234	6.240E-01	1.583E-01	5.344E-02	8.076E-02
U-238	3.226E+00	1.945E+00	1.199E+00	9.924E-01
AM-243	2.523E-01	7.448E-02	4.598E-02	3.800E-02
ANH-511	8.284E-02	6.809E-02	2.191E-02	3.474E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	9.102E-02	3.247E-01	2.860E-01	1.657E-01 NOT IDENT.
NA-22	3.124E-02	4.396E-02	3.955E-02	2.243E-02 NOT IDENT.

NA-24	-1.609E+06	6.405E+07	0.000E+00	3.268E+07	SHORT HLIF
AL-26	-1.373E-02	2.651E-02	1.963E-02	1.353E-02	NOT IDENT.
TI-44	2.885E-01	5.453E-02	3.883E-02	2.782E-02	FAIL ABUN
SC-46	-1.273E-03	3.746E-02	3.221E-02	1.911E-02	NOT IDENT.
V-48	1.342E-02	7.499E-02	6.539E-02	3.826E-02	NOT IDENT.
CR-51	2.545E-02	3.560E-01	3.169E-01	1.816E-01	NOT IDENT.
MN-52	-2.784E-01	3.580E-01	2.558E-01	1.827E-01	NOT IDENT.
MN-54	-6.578E-03	3.395E-02	2.891E-02	1.732E-02	NOT IDENT.
CO-56	-4.694E-02	3.752E-02	2.825E-02	1.914E-02	NOT IDENT.
CO-57	1.889E-02	2.316E-02	2.121E-02	1.182E-02	NOT IDENT.
CO-58	-5.300E-02	5.001E-02	2.976E-02	2.552E-02	NOT IDENT.
FE-59	-3.986E-02	8.645E-02	6.941E-02	4.411E-02	NOT IDENT.
CO-60	1.267E-02	3.707E-02	3.232E-02	1.891E-02	NOT IDENT.
ZN-65	-8.581E-02	9.475E-02	7.328E-02	4.834E-02	NOT IDENT.
GE-68	-5.186E-01	1.199E+00	9.712E-01	6.119E-01	NOT IDENT.
AS-73	6.866E-02	1.035E+00	9.401E-01	5.280E-01	NOT IDENT.
AS-74	6.080E-02	1.003E-01	8.943E-02	5.116E-02	NOT IDENT.
SE-75	3.142E-02	4.326E-02	3.403E-02	2.207E-02	NOT IDENT.
BR-77	6.122E+00	3.226E+01	0.000E+00	1.646E+01	SHORT HLIF
SR-82	-4.620E-01	3.780E-01	2.900E-01	1.929E-01	NOT IDENT.
RB-83	3.955E-03	6.835E-02	5.561E-02	3.487E-02	NOT IDENT.
RB-84	-8.165E-02	6.860E-02	5.134E-02	3.500E-02	NOT IDENT.
KR-85	1.197E+01	7.166E+00	6.215E+00	3.656E+00	NOT IDENT.
SR-85	6.400E-02	3.831E-02	3.322E-02	1.955E-02	NOT IDENT.
RB-86	-1.498E-01	8.466E-01	7.052E-01	4.319E-01	NOT IDENT.
Y-88	3.670E-04	2.196E-02	1.860E-02	1.120E-02	NOT IDENT.
ZR-88	-5.200E-03	3.077E-02	2.632E-02	1.570E-02	NOT IDENT.
Y-91	8.734E+00	1.813E+01	1.599E+01	9.249E+00	NOT IDENT.
NB-94	-1.858E-02	3.335E-02	2.660E-02	1.702E-02	NOT IDENT.
NB-95	-3.971E-03	4.084E-02	3.372E-02	2.084E-02	NOT IDENT.
NB-95M	3.373E-01	1.434E-01	1.211E-01	7.316E-02	NOT IDENT.
ZR-95	-6.387E-03	7.076E-02	5.852E-02	3.610E-02	NOT IDENT.
NB-97	1.408E+07	6.495E+06	0.000E+00	3.314E+06	SHORT HLIF
ZR-97	2.055E+08	9.653E+07	0.000E+00	4.925E+07	SHORT HLIF
MO-99	1.653E+01	2.812E+01	2.484E+01	1.434E+01	NOT IDENT.
TC-99M	-5.547E+20	2.011E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.128E-03	2.949E-02	2.567E-02	1.505E-02	NOT IDENT.
RH-102	6.127E-03	2.887E-02	2.474E-02	1.473E-02	NOT IDENT.
RU-103	8.783E-03	4.027E-02	3.525E-02	2.055E-02	FAIL ABUN
RH-106	2.537E-02	2.861E-01	2.443E-01	1.459E-01	FAIL ABUN
RU-106	2.537E-02	2.860E-01	2.443E-01	1.459E-01	FAIL ABUN
AG-108M	-3.636E-02	3.112E-02	2.472E-02	1.588E-02	NOT IDENT.
CD-109	1.230E+00	9.194E-01	7.644E-01	4.691E-01	NOT IDENT.
AG-110M	7.211E-02	4.510E-02	3.807E-02	2.301E-02	NOT IDENT.
IN-111	4.207E-01	2.855E+00	2.147E+00	1.457E+00	NOT IDENT.
IN-113M	1.244E-02	4.337E-02	3.816E-02	2.213E-02	NOT IDENT.
SN-113	1.244E-02	4.337E-02	3.816E-02	2.213E-02	NOT IDENT.
IN-114M	2.413E-02	1.932E-01	1.473E-01	9.856E-02	NOT IDENT.
CD-115	-1.557E+01	3.361E+01	0.000E+00	1.715E+01	SHORT HLIF
SN-117M	-1.831E-02	6.143E-02	5.295E-02	3.134E-02	NOT IDENT.
SB-122	1.478E+00	5.274E+00	4.603E+00	2.691E+00	NOT IDENT.
I-123	-6.466E+08	8.157E+08	0.000E+00	4.162E+08	SHORT HLIF
TE-123M	-2.123E-02	2.678E-02	2.254E-02	1.366E-02	NOT IDENT.
I-124	-8.324E-01	1.455E+00	9.603E-01	7.426E-01	FAIL ABUN
SB-124	4.530E-02	6.530E-02	6.310E-02	3.332E-02	FAIL ABUN
SB-125	-1.120E-02	8.089E-02	6.966E-02	4.127E-02	NOT IDENT.
TE-125M	-4.023E+00	8.755E+00	7.641E+00	4.467E+00	NOT IDENT.
I-126	1.153E-02	2.340E-01	1.713E-01	1.194E-01	NOT IDENT.
SB-126	-2.693E-02	1.656E-01	1.365E-01	8.450E-02	NOT IDENT.
SN-126	1.795E-02	9.105E-02	7.267E-02	4.645E-02	FAIL ABUN
SB-127	1.075E+00	2.441E+00	2.139E+00	1.245E+00	NOT IDENT.
XE-127	4.549E-03	5.020E-02	4.017E-02	2.561E-02	NOT IDENT.
I-131	-5.272E-02	1.364E-01	1.167E-01	6.958E-02	NOT IDENT.
TE-132	-7.885E-01	1.482E+00	1.229E+00	7.563E-01	NOT IDENT.
BA-133	-6.579E-03	4.139E-02	3.120E-02	2.112E-02	NOT IDENT.
I-133	-1.614E+05	1.341E+05	0.000E+00	6.840E+04	SHORT HLIF
CS-134	4.713E-02	3.997E-02	3.822E-02	2.039E-02	NOT IDENT.
I-135	-7.923E+19	1.157E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.466E-02	1.092E-01	9.037E-02	5.569E-02	NOT IDENT.
CE-139	-1.592E-02	2.748E-02	2.330E-02	1.402E-02	NOT IDENT.
BA-140	-2.705E-01	3.184E-01	2.358E-01	1.624E-01	NOT IDENT.
LA-140	-3.913E-02	8.600E-02	6.709E-02	4.388E-02	NOT IDENT.
CE-141	5.345E-02	5.842E-02	5.331E-02	2.981E-02	NOT IDENT.
CE-143	5.368E+03	1.952E+03	0.000E+00	9.961E+02	SHORT HLIF
CE-144	-7.694E-02	1.871E-01	1.617E-01	9.544E-02	NOT IDENT.
PM-144	2.589E-02	3.236E-02	2.908E-02	1.651E-02	NOT IDENT.
PR-144	1.758E+00	2.197E+00	1.975E+00	1.121E+00	NOT IDENT.
PM-146	-6.995E-03	4.330E-02	3.711E-02	2.209E-02	NOT IDENT.

ND-147	-7.254E-01	6.617E-01	5.069E-01	3.376E-01	FAIL ABUN
PM-149	2.203E+02	2.880E+02	0.000E+00	1.469E+02	SHORT HLIF
EU-152	-1.053E-01	1.018E-01	7.071E-02	5.194E-02	NOT IDENT.
GD-153	-1.139E-02	8.091E-02	6.314E-02	4.128E-02	NOT IDENT.
EU-154	8.219E-02	1.221E-01	1.094E-01	6.232E-02	NOT IDENT.
EU-155	5.069E-02	9.721E-02	8.854E-02	4.960E-02	NOT IDENT.
TB-160	4.736E-02	1.303E-01	1.165E-01	6.650E-02	NOT IDENT.
HO-166M	-1.570E-02	6.214E-02	5.094E-02	3.170E-02	FAIL ABUN
TM-171	-3.794E+01	3.187E+01	2.367E+01	1.626E+01	NOT IDENT.
LU-176	1.859E-02	2.143E-02	1.995E-02	1.093E-02	FAIL ABUN
LU-177	2.242E+00	1.980E+00	1.446E+00	1.010E+00	FAIL ABUN
LU-177M	-5.590E-02	1.630E-01	1.388E-01	8.319E-02	FAIL ABUN
HF-181	3.649E-03	4.110E-02	3.571E-02	2.097E-02	NOT IDENT.
W-181	5.738E-01	4.251E-01	3.604E-01	2.169E-01	NOT IDENT.
TA-182	-1.955E-01	1.937E-01	1.456E-01	9.883E-02	NOT IDENT.
RE-183	-2.192E-02	1.070E-01	8.998E-02	5.457E-02	FAIL ABUN
RE-184	1.001E-01	2.175E-01	1.899E-01	1.110E-01	NOT IDENT.
OS-185	-3.497E-03	3.717E-02	3.110E-02	1.897E-02	NOT IDENT.
RE-188	2.052E-01	1.699E-01	1.557E-01	8.669E-02	NOT IDENT.
W-188	-2.342E-01	7.668E+00	5.944E+00	3.912E+00	FAIL ABUN
IR-192	-1.391E-02	3.090E-02	2.666E-02	1.577E-02	FAIL ABUN
AU-195	2.940E-01	2.047E-01	1.926E-01	1.044E-01	FAIL ABUN
TL-200	1.136E+03	4.739E+03	0.000E+00	2.418E+03	SHORT HLIF
TL-201	-2.950E+00	1.521E+01	1.313E+01	7.761E+00	NOT IDENT.
TL-202	4.024E-02	8.664E-02	7.747E-02	4.421E-02	NOT IDENT.
HG-203	1.305E-02	3.848E-02	3.497E-02	1.963E-02	NOT IDENT.
BI-207	-2.979E-02	4.935E-02	3.918E-02	2.518E-02	FAIL ABUN
TL-207	-3.670E-01	6.324E-01	5.402E-01	3.227E-01	FAIL ABUN
PO-209	-1.216E+00	6.838E+00	5.790E+00	3.489E+00	NOT IDENT.
BI-210	2.339E-01	4.957E+00	4.488E+00	2.529E+00	NOT IDENT.
PB-210	2.339E-01	4.957E+00	4.488E+00	2.529E+00	NOT IDENT.
PO-210	2.339E-01	4.957E+00	4.488E+00	2.529E+00	NOT IDENT.
PB-211	-6.271E-01	9.576E-01	7.308E-01	4.886E-01	NOT IDENT.
BI-212	5.995E-01	2.897E-01	2.803E-01	1.478E-01	NOT IDENT.
PO-215	-3.670E-01	6.324E-01	5.402E-01	3.227E-01	FAIL ABUN
RN-219	-2.126E-01	3.756E-01	3.148E-01	1.916E-01	NOT IDENT.
RN-220	-1.021E+01	2.287E+01	1.877E+01	1.167E+01	NOT IDENT.
RA-223	-3.670E-01	6.324E-01	5.402E-01	3.227E-01	FAIL ABUN
AC-227	2.551E-02	3.494E-01	2.982E-01	1.783E-01	NOT IDENT.
TH-227	2.551E-02	3.494E-01	2.982E-01	1.783E-01	FAIL ABUN
TH-229	-3.500E-01	4.589E-01	3.812E-01	2.341E-01	FAIL ABUN
PA-231	-5.594E-01	1.390E+00	1.213E+00	7.090E-01	NOT IDENT.
TH-231	-3.670E-01	6.324E-01	5.402E-01	3.227E-01	FAIL ABUN
U-231	-2.385E+00	2.088E+00	1.528E+00	1.065E+00	FAIL ABUN
PA-233	6.914E-03	5.650E-02	5.052E-02	2.883E-02	FAIL ABUN
PA-234	7.719E-02	2.614E-01	2.311E-01	1.334E-01	FAIL ABUN
PA-234M	1.014E+00	4.547E+00	3.965E+00	2.320E+00	NOT IDENT.
U-235	-4.155E-02	1.916E-01	1.629E-01	9.773E-02	FAIL ABUN
NP-236	-8.662E-02	7.297E-02	6.013E-02	3.723E-02	NOT IDENT.
NP-237	1.816E-01	2.623E-01	2.119E-01	1.338E-01	NOT IDENT.
NP-239	-1.430E-01	1.709E-01	1.460E-01	8.721E-02	FAIL ABUN
AM-241	1.509E-01	1.741E-01	1.470E-01	8.884E-02	NOT IDENT.
CM-243	1.490E-02	8.850E-02	7.956E-02	4.515E-02	FAIL ABUN
AM-246	3.055E-02	1.327E-01	1.154E-01	6.771E-02	NOT IDENT.
CM-247	-6.010E-03	3.325E-02	2.870E-02	1.697E-02	NOT IDENT.
CF-249	2.292E-03	3.705E-02	3.257E-02	1.890E-02	NOT IDENT.
CF-251	9.852E-03	1.128E-01	9.842E-02	5.757E-02	NOT IDENT.

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*               GEL Laboratories LLC   *
*               2040 SAVAGE ROAD      *
*               CHARLESTON , SC 29417 *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT *
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ENERGY	MDA COUNTS
46.50	231.2778
46.50	231.2778
46.50	231.2778
48.70	256.6857
49.72	251.6970
51.35	228.7192
52.39	252.8614
52.97	227.5251
53.15	239.4769
53.44	245.0807
54.07	239.8472
56.28	279.3124
56.28	279.3136
57.37	0.0000
57.53	271.2878
57.53	271.2884
57.60	268.8628
57.98	256.4971
57.98	256.4971
59.32	227.4996
59.32	227.4996
59.40	227.5283
59.54	227.5786
59.72	236.5127
60.01	236.6206
61.10	232.5797
61.14	256.2979
61.30	256.3618
63.00	312.0059
63.29	312.1433
63.29	312.1433
63.58	297.4109
64.28	272.4191
65.12	278.7252
65.20	278.7583
65.20	278.7583
66.05	325.3820
66.72	340.6432
66.83	340.7002
66.91	337.7516
67.20	342.3804
67.20	342.3804
67.75	329.1890
67.85	329.2373
68.90	318.4997
68.90	318.4997
69.30	305.9365
69.67	321.1058
70.82	273.5377
70.82	273.5377
70.83	273.5421
72.80	364.7341
72.87	364.7695
72.87	364.7695
74.67	339.0495
74.81	339.1152
74.81	339.1152
74.81	339.1152
74.81	339.1152
74.81	339.1152
74.81	339.1152
74.97	339.1891
75.28	339.3343
75.70	339.5288
77.11	340.1807
77.11	340.1807

77.11	340.1807
77.11	340.1807
77.11	340.1807
77.11	340.1807
77.11	340.1807
78.38	317.4124
79.62	328.5853
79.80	328.6631
79.80	328.6631
80.11	366.8542
80.18	366.8881
80.30	366.9455
80.30	366.9455
80.57	389.9234
81.00	417.5757
81.07	417.6142
81.07	417.6142
81.07	417.6142
81.07	417.6142
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83.78	429.3554
83.78	429.3554
83.78	429.3554
84.21	423.7181
84.90	359.9513
85.43	326.4734
86.29	359.0523
86.50	388.3096
86.54	388.3281
86.59	388.3528
86.72	411.4464
86.79	411.4807
86.94	411.5593
87.30	439.4003
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87.30	439.4003
87.30	439.4003
87.30	439.4003
87.30	439.4003
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88.03	396.7443
88.36	366.1385
88.47	366.1894
89.95	491.7164
91.11	373.3650
92.29	373.9009
92.38	373.9422
92.38	373.9422
93.35	252.2958
94.00	261.7870
94.67	294.5504
94.67	294.5522
94.90	302.3869
94.90	302.3869
94.90	302.3869
94.90	302.3869
95.87	310.4980
95.87	310.4980
96.73	289.0572
97.43	278.4070
98.44	249.1484
98.44	249.1494
98.88	236.6178
99.55	239.7258
99.55	239.7258
99.86	249.5596
100.00	249.5996
100.10	249.6299
103.18	285.7366
103.76	273.1942
105.00	261.8086
105.31	258.9565
108.00	273.5035
109.28	281.7691

111.00	275.3878
111.00	275.3878
111.76	280.5527
112.95	272.0092
115.19	232.9991
116.30	264.0436
117.00	277.1513
117.00	277.1513
117.66	287.2835
121.11	222.4675
121.62	239.5523
121.78	238.5925
122.06	238.6608
122.32	253.7064
122.32	253.7064
122.32	253.7064
122.32	253.7064
123.07	256.8990
127.23	268.0119
129.76	263.6511
131.20	283.1696
133.02	279.6311
133.54	272.7026
135.34	235.7394
136.00	257.1471
136.25	259.2344
136.48	262.3296
140.51	268.4110
140.51	0.0000
142.18	227.0782
142.65	254.6825
143.76	263.1021
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144.24	249.9553
144.24	249.9553
144.24	249.9553
145.22	217.5031
145.44	219.5896
147.16	274.1504
152.43	266.1986
152.70	257.0095
153.22	276.6695
154.21	281.0272
154.21	281.0272
154.21	281.0272
154.21	281.0272
155.03	256.5077
156.02	259.8231
158.56	259.3646
159.00	0.0000
159.00	272.9006
160.31	278.3831
161.27	255.8268
162.32	248.7982
162.64	238.4966
163.35	223.0769
163.89	208.6468
165.85	254.7423
167.43	231.1326
171.28	230.8266
171.86	236.1627
172.10	236.2092
176.55	222.3807
176.60	222.3888
181.06	213.9203
184.41	229.6859
185.71	218.7199
186.00	218.7704
190.27	213.7693
192.34	199.6639
193.63	237.0685
197.04	218.4960
198.01	216.5223
198.60	215.5497
200.40	0.0000
201.83	232.1138
202.84	224.0808
205.31	243.6482

208.36	223.5549
208.81	232.2290
209.75	197.9581
209.75	197.9581
210.97	187.7948
215.65	225.8065
216.55	205.4091
218.09	189.3982
222.10	217.0639
223.80	190.1552
226.40	191.5842
227.00	179.6845
227.08	186.2289
227.20	186.2446
228.16	204.8935
228.18	204.8964
228.18	204.8964
231.56	0.0000
235.69	192.7941
236.00	162.1562
236.00	162.1562
238.63	162.4407
238.63	162.4407
238.63	162.4407
238.63	162.4407
239.00	0.0000
240.98	162.6936
241.98	162.8009
241.98	162.8009
241.98	162.8009
244.69	176.3135
245.39	162.2825
247.94	176.6858
248.90	156.9061
249.79	0.0000
252.40	160.5817
252.85	153.9815
252.85	153.9815
254.15	0.0000
256.20	158.7497
256.20	158.7497
260.50	158.0664
260.90	0.0000
262.80	156.0645
264.65	117.8525
268.24	143.1680
268.79	136.5035
269.46	136.5594
269.46	136.5594
269.46	136.5594
269.46	136.5594
271.23	179.2896
273.65	186.7354
276.40	145.0049
277.35	179.9536
277.60	172.1063
277.60	172.1063
278.00	160.2217
278.60	162.0791
279.20	154.9323
279.53	162.1692
280.46	176.6823
281.68	0.0000
283.67	161.6659
284.30	163.5341
285.00	153.6578
285.90	0.0000
286.10	129.3371
286.10	129.3371
287.40	138.0356
288.45	0.0000
290.67	146.6130
290.80	146.6229
291.72	161.8257
293.26	0.0000
293.70	166.2525
295.21	221.2545
295.21	221.2545

295.21	221.2545
295.96	234.9976
296.50	209.2882
297.23	0.0000
298.57	129.0616
299.80	153.4644
299.80	153.4644
300.09	144.3709
300.09	144.3709
300.09	144.3709
300.09	144.3709
300.12	144.3729
301.29	151.6930
302.84	183.5622
303.76	0.0000
303.91	192.8105
304.40	180.9819
304.40	180.9819
304.84	161.8258
306.84	112.5828
308.46	140.1691
311.98	125.7567
316.51	126.9913
318.01	132.6234
319.02	128.0880
319.41	127.1935
320.08	119.8644
323.87	160.7652
323.87	160.7652
323.87	160.7652
323.87	160.7652
325.23	150.7113
328.77	142.6624
333.44	154.7811
334.20	125.4238
334.20	125.4238
334.30	125.4304
338.28	133.4529
338.28	133.4529
338.28	133.4529
338.28	133.4529
338.32	133.4547
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338.32	133.4547
340.50	85.4474
340.57	85.4496
344.27	138.5410
345.85	140.2112
350.59	0.0000
351.07	112.4722
351.92	112.5205
351.92	112.5205
351.92	112.5205
355.39	0.0000
356.01	101.7926
364.48	99.0822
366.43	82.1774
367.43	87.8880
367.94	0.0000
369.80	87.9913
374.96	92.9576
383.85	102.8874
387.95	110.7268
388.63	112.6719
391.69	104.2299
391.69	104.2299
392.90	114.8145
398.62	95.9375
400.65	100.8305
401.10	110.4573
401.81	112.4154
402.60	104.7675
404.84	123.1578
410.95	98.4190
411.60	99.4141
413.65	106.2698
414.70	95.6887
415.30	93.7817

415.76	103.4721
417.63	0.0000
418.52	106.5061
423.70	89.2867
427.08	101.0864
427.89	88.4828
432.53	91.5892
433.93	115.0442
439.47	0.0000
439.56	101.6476
439.89	98.7302
443.98	103.8029
444.90	99.9256
445.03	99.9319
445.03	99.9319
445.03	99.9319
445.03	99.9319
453.90	106.2163
463.38	90.8478
468.07	99.9323
473.00	88.2417
475.06	86.3320
475.35	91.3048
476.78	83.4145
477.59	87.4167
477.96	82.4620
482.03	78.6200
484.57	0.0000
487.03	75.7903
490.36	0.0000
492.35	0.0000
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507.63	0.0000
510.53	0.0000
510.84	75.5122
511.00	75.5168
511.85	75.5429
511.85	75.5429
513.99	63.8451
513.99	63.8451
520.41	72.0067
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	82.1549
529.87	0.0000
531.02	84.2280
537.32	82.3961
543.00	80.5353
546.56	0.0000
549.76	69.4991
552.65	71.6201
555.20	55.3025
563.23	67.7934
563.90	69.8660
568.70	76.1644
569.32	72.0645
569.50	65.8922
569.67	65.8953
573.80	72.1824
574.00	68.0625
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	73.4614
585.48	0.0000
591.81	73.6902
592.07	76.8111
593.00	83.0664
595.88	64.4416
600.56	74.1793
602.52	0.0000
602.71	83.3516
602.71	83.3516
603.60	66.0083
604.41	64.2893
604.70	64.2953
609.31	72.0575

609.31	72.0575
609.31	72.0575
609.31	72.0575
610.33	76.6097
612.46	78.4094
614.37	71.4881
618.01	65.9916
621.84	58.7357
621.84	58.7357
631.29	56.8226
633.02	58.9613
633.10	58.9627
634.78	61.1039
635.90	64.2883
636.97	62.2035
645.85	58.1595
646.12	51.8197
656.30	60.1309
657.75	70.7764
657.90	0.0000
661.65	68.0328
661.65	68.0328
664.57	0.0000
666.33	60.3301
666.33	60.3301
675.00	61.9238
677.61	55.5648
685.20	48.2025
692.80	54.7627
695.00	65.5467
696.49	54.8275
696.49	54.8275
697.00	58.0619
697.49	59.1465
698.33	62.3882
698.50	64.5439
699.00	67.7819
702.63	78.6301
706.10	64.6978
706.58	0.0000
706.67	62.5525
709.31	76.6370
711.68	74.5338
713.82	58.3690
717.42	73.5848
720.50	59.5735
721.93	0.0000
722.20	92.1169
722.78	92.1324
722.78	92.1324
722.89	92.1366
722.95	92.1387
723.30	84.5603
724.18	55.3044
727.18	45.5868
733.00	51.1045
735.90	47.8854
739.58	43.5801
742.81	49.0759
744.21	53.4610
747.13	56.7849
751.79	50.3024
752.31	54.6851
753.82	52.5223
755.35	0.0000
756.15	58.0335
756.87	54.7607
763.93	65.8506
765.79	61.4947
766.42	62.6040
766.84	60.4154
776.49	65.1772
778.00	51.4302
778.57	46.8455
778.89	46.8496
783.80	42.3173
785.46	44.1787
792.07	41.4972

795.84	38.7726
796.30	41.5475
798.80	74.8400
801.93	44.3896
805.60	39.8068
810.29	51.9110
810.76	48.2094
815.85	38.9948
817.79	0.0000
818.51	46.4569
819.60	47.4006
826.30	41.9028
828.27	0.0000
831.60	43.8301
831.96	41.9696
834.83	56.0046
836.80	0.0000
846.75	61.8079
848.13	49.6530
856.28	0.0000
856.80	54.4659
860.37	55.4589
867.32	56.5051
867.82	54.6287
871.10	47.1354
873.19	50.9348
874.81	48.1269
875.33	0.0000
876.40	42.4823
879.36	40.6266
880.27	46.3074
880.51	46.3103
881.50	54.8305
883.24	50.1264
884.67	37.8459
889.25	46.4180
896.60	47.4579
898.02	37.0306
899.00	34.1909
903.28	48.8996
911.07	30.4883
911.07	30.4883
911.07	30.4883
919.63	43.7506
920.93	38.2080
925.00	30.5983
925.24	27.7315
926.50	29.6541
935.52	47.9401
937.48	39.3300
944.10	37.4750
946.00	36.5319
949.00	27.9008
962.29	38.0609
964.01	38.0769
966.15	51.3492
968.20	79.5486
969.11	64.7863
969.11	64.7863
969.11	64.7863
977.42	41.5266
980.50	40.7268
983.50	37.8463
989.30	33.0413
996.32	48.6735
1001.03	49.7040
1001.68	50.6860
1004.76	39.9940
1021.30	0.0000
1024.50	0.0000
1034.80	30.4589
1036.00	30.4664
1037.82	25.5641
1038.57	30.4854
1038.76	0.0000
1045.16	30.5333
1046.59	28.5728
1048.07	34.4958

1050.47	39.4466
1050.47	39.4466
1062.04	49.4425
1063.62	48.4716
1076.63	42.6641
1077.35	47.6328
1078.86	39.7070
1085.78	44.7418
1099.22	42.8845
1112.02	47.0096
1112.84	61.0248
1115.52	69.0674
1120.29	47.0975
1120.29	47.0975
1120.29	47.0975
1120.29	47.0975
1120.51	47.0994
1121.28	44.1003
1124.00	0.0000
1129.67	46.1909
1131.51	0.0000
1147.95	0.0000
1167.94	46.5802
1173.22	40.5518
1175.09	39.5538
1177.93	41.6073
1189.05	49.8454
1204.90	41.8475
1205.75	0.0000
1213.00	55.2107
1221.42	62.4793
1230.97	59.5246
1235.34	50.3339
1236.41	0.0000
1238.25	55.5029
1246.25	46.3293
1260.41	0.0000
1271.85	38.2933
1274.45	35.2064
1274.54	35.2078
1291.56	23.8984
1298.22	0.0000
1312.09	43.8201
1325.50	33.4753
1325.50	33.4753
1332.49	25.1416
1333.61	24.0987
1360.21	23.1709
1362.66	0.0000
1365.15	24.2466
1368.21	27.1247
1368.53	0.0000
1376.25	25.3555
1384.27	19.0459
1394.10	18.0210
1395.20	20.1458
1407.95	19.1309
1434.06	24.5648
1436.60	20.3019
1457.56	0.0000
1460.81	11.0399
1489.15	11.8674
1509.49	9.7449
1596.49	16.0187
1620.62	14.1922
1678.03	0.0000
1691.02	6.7009
1691.02	6.7009
1706.46	0.0000
1750.46	0.0000
1764.49	11.8659
1764.49	11.8659
1764.49	11.8659
1764.49	11.8659
1770.23	32.9636
1771.40	24.2423
1791.20	0.0000
1808.65	11.7045

1836.01

4.8975

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536010

Total Uranium Activity	9.5775E+00	ug/g
Total Uranium Counting Unc.	5.7875E+00	ug/g
Total Uranium Tpu	2.9528E-06	ug/g
Total Uranium Mda	3.5686E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 937074                      SAMPLE ID   : G243536010          *
*  ANALYST       : MXR1                        DETECTOR    : GAM23           *
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00    COUNT TIME   : 0 02:00:00.00      *
*  ANALYSIS DATE : 9-JAN-2010 14:13:04.04    SAMPLE ALQT : 139.690 GRAM        *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 5.630E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 8.274E-01
GROSS GAMMA MDA      (pCi/GRAM ) : 1.816E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 8.744E-01

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:21:16.36

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                      *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536011.CNF;1
Sample date   : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:20:47.
Sample ID     : G243536011 Sample quantity : 1.09340E+02 GRAM
Detector name : GAM11 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.58 0.0%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 937074 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.10*	76	280	0.68	91.05	87	8	1.05E-02	41.4	
2	0	62.93*	33	348	0.79	124.73	122	7	4.62E-03	97.8	
3	3	74.66	386	334	1.05	148.21	142	17	5.36E-02	9.1	2.55E+00
4	3	76.98	637	286	0.98	152.86	142	17	8.84E-02	5.9	
5	0	89.81	103	251	0.91	178.53	177	5	1.43E-02	25.1	
6	0	92.91*	237	404	1.52	184.75	181	9	3.29E-02	17.5	
7	0	128.75	128	297	1.05	256.48	252	10	1.78E-02	26.6	
8	0	185.62*	176	325	1.19	370.31	364	12	2.44E-02	22.7	
9	0	209.16*	118	192	0.89	417.42	414	8	1.64E-02	22.7	
10	0	238.29*	1052	323	1.05	475.71	470	10	1.46E-01	4.5	
11	0	241.38	182	172	1.52	481.91	480	7	2.53E-02	14.4	
12	0	270.43	115	207	1.41	540.04	535	12	1.60E-02	27.0	
13	0	295.02*	304	134	0.98	589.25	585	10	4.22E-02	9.3	
14	0	299.68	107	144	0.93	598.58	595	10	1.48E-02	23.0	
15	0	337.86*	216	146	1.18	675.00	671	9	2.99E-02	12.5	
16	0	351.57*	490	121	1.12	702.44	697	12	6.81E-02	6.5	
17	0	462.28	101	73	1.24	924.00	919	10	1.41E-02	18.6	
18	0	510.21*	111	177	1.84	1019.92	1012	18	1.55E-02	32.4	
19	0	582.70*	320	69	1.20	1164.98	1161	11	4.45E-02	7.7	
20	0	608.78*	315	100	1.09	1217.17	1212	11	4.38E-02	8.5	
21	0	726.54	87	67	1.26	1452.83	1448	12	1.21E-02	21.6	
22	0	794.33	40	41	1.06	1588.46	1584	9	5.52E-03	33.5	
23	0	910.48*	218	66	1.48	1820.87	1815	14	3.03E-02	10.6	
24	2	963.99	49	68	1.91	1927.95	1922	20	6.87E-03	32.5	1.57E+00
25	2	968.28*	117	38	1.50	1936.52	1922	20	1.62E-02	14.3	
26	0	1119.85*	42	64	1.35	2239.78	2235	11	5.89E-03	41.1	
27	0	1459.70*	1483	13	1.87	2919.69	2911	17	2.06E-01	2.7	
28	0	1587.20	13	26	1.14	3174.74	3170	11	1.78E-03	80.8	
29	0	1619.21	21	0	1.48	3238.76	3233	12	2.92E-03	21.8	
30	0	1629.75*	10	0	1.45	3259.85	3257	6	1.46E-03	36.8	
31	0	1728.06	22	3	1.18	3456.51	3450	11	3.06E-03	25.9	
32	0	1763.27*	48	11	1.98	3526.93	3521	11	6.61E-03	20.8	

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

VMS Nuclide Identification Report V3.1 Generated 9-JAN-2010 16:21:20

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536011.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:20:47
Sample ID        : G243536011 Sample quantity : 109.34 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA11 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.58 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	*	3.893E+01	3.954E+00	4.786E-01	4.138E-02	81.340
TL-208		277.35		7.058E-03	3.754E-01	6.072E-01	1.077E-01	0.012
	+	510.84		5.990E-01	3.966E-01	1.883E-01	2.553E-02	3.181
	+	583.14	*	4.907E-01	9.237E-02	5.656E-02	6.108E-03	8.675
		860.37		5.418E-01	3.200E-01	6.005E-01	6.255E-02	0.902
BI-210	+	46.50	*	4.442E+00	3.701E+00	3.428E+00	3.191E-01	1.296
PB-210	+	46.50	*	4.442E+00	3.701E+00	3.428E+00	3.191E-01	1.296
PO-210	+	46.50	*	4.442E+00	3.697E+00	3.428E+00	2.890E-01	1.296
BI-211		72.87		4.155E+00	2.571E+00	4.300E+00	3.415E-01	0.966
	+	351.07	*	3.316E+00	6.131E-01	3.060E-01	4.037E-02	10.835
BI-212	+	727.18	*	1.138E+00	5.063E-01	4.888E-01	5.342E-02	2.328
		785.46		3.694E-01	2.160E+00	3.526E+00	3.453E-01	0.105
	+	1620.62		2.311E+00	1.027E+00	2.264E+00	1.901E-01	1.021
PB-212	+	74.81		2.144E+00	4.712E-01	4.308E-01	5.329E-02	4.976
	+	77.11		2.020E+00	2.928E-01	2.469E-01	2.052E-02	8.182
		87.30		1.282E+00	4.137E-01	6.299E-01	8.645E-02	2.035
	+	238.63	*	1.552E+00	2.584E-01	9.616E-02	1.347E-02	16.141
	+	300.09		2.427E+00	1.182E+00	1.137E+00	1.822E-01	2.134
PO-212	+	74.81		2.144E+00	4.712E-01	4.308E-01	5.329E-02	4.976
	+	77.11		2.020E+00	2.928E-01	2.469E-01	2.052E-02	8.182
		87.30		1.282E+00	4.137E-01	6.299E-01	8.645E-02	2.035
		115.19		8.113E-02	2.977E+00	5.078E+00	4.302E-01	0.016
	+	238.63	*	1.552E+00	2.584E-01	9.616E-02	1.347E-02	16.141
	+	300.09		2.427E+00	1.182E+00	1.137E+00	1.822E-01	2.134
BI-214	+	609.31	*	9.089E-01	1.850E-01	1.123E-01	1.269E-02	8.094
	+	1120.29		6.297E-01	5.215E-01	6.103E-01	6.590E-02	1.032
	+	1764.49		9.647E-01	4.091E-01	2.997E-01	2.470E-02	3.219
PB-214	+	74.81		3.694E+00	7.842E-01	7.422E-01	8.149E-02	4.976
	+	77.11		3.463E+00	5.671E-01	4.233E-01	4.772E-02	8.182
		87.30		2.196E+00	6.947E-01	1.079E+00	1.312E-01	2.035
	+	241.98		1.618E+00	5.213E-01	4.984E-01	7.261E-02	3.247
	+	295.21		1.214E+00	3.013E-01	1.858E-01	3.030E-02	6.536
	+	351.92	*	1.153E+00	2.216E-01	1.067E-01	1.509E-02	10.812
PO-214	+	74.81		3.694E+00	7.842E-01	7.422E-01	8.149E-02	4.976

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.463E+00	5.671E-01	4.233E-01	4.772E-02	8.182
		87.30		2.196E+00	6.947E-01	1.079E+00	1.312E-01	2.035
	+	241.98		1.618E+00	5.213E-01	4.984E-01	7.261E-02	3.247
	+	295.21		1.214E+00	3.013E-01	1.858E-01	3.030E-02	6.536
	+	351.92	*	1.153E+00	2.216E-01	1.067E-01	1.509E-02	10.812
	+	74.81		2.144E+00	4.712E-01	4.308E-01	5.329E-02	4.976
	+	77.11		2.020E+00	2.928E-01	2.469E-01	2.052E-02	8.182
		87.30		1.282E+00	4.137E-01	6.299E-01	8.645E-02	2.035
	+	238.63	*	1.552E+00	2.584E-01	9.616E-02	1.347E-02	16.141
	+	300.09		2.427E+00	1.182E+00	1.137E+00	1.822E-01	2.134
PO-218	+	74.81		3.694E+00	7.842E-01	7.422E-01	8.149E-02	4.976
	+	77.11		3.463E+00	5.671E-01	4.233E-01	4.772E-02	8.182
		87.30		2.196E+00	6.947E-01	1.079E+00	1.312E-01	2.035
	+	241.98		1.618E+00	5.213E-01	4.984E-01	7.261E-02	3.247
RA-224	+	295.21		1.214E+00	3.013E-01	1.858E-01	3.030E-02	6.536
	+	351.92	*	1.153E+00	2.216E-01	1.067E-01	1.509E-02	10.812
	+	240.98	*	3.069E+00	9.735E-01	1.149E+00	1.539E-01	2.670
	+	609.31	*	9.089E-01	1.850E-01	1.123E-01	1.269E-02	8.094
RA-226	+	1120.29		6.297E-01	5.215E-01	6.103E-01	6.590E-02	1.032
	+	1764.49		9.647E-01	4.091E-01	2.997E-01	2.470E-02	3.219
	+	338.32		1.606E+00	7.924E-01	3.780E-01	1.608E-01	4.249
	+	911.07	*	1.474E+00	3.610E-01	1.866E-01	2.272E-02	7.898
RA-228	+	969.11		1.388E+00	5.145E-01	3.262E-01	7.732E-02	4.254
	+	338.32		1.606E+00	7.924E-01	3.780E-01	1.608E-01	4.249
	+	911.07	*	1.474E+00	3.610E-01	1.866E-01	2.272E-02	7.898
	+	969.11		1.388E+00	5.145E-01	3.262E-01	7.732E-02	4.254
TH-228	+	74.81		2.185E+00	4.354E-01	4.390E-01	3.592E-02	4.976
	+	77.11		2.059E+00	2.984E-01	2.516E-01	2.091E-02	8.182
		87.30		1.306E+00	4.009E-01	6.420E-01	6.035E-02	2.035
	+	238.63	*	1.582E+00	2.633E-01	9.800E-02	1.373E-02	16.141
TH-230	+	300.09		2.474E+00	1.880E+00	1.159E+00	7.013E-01	2.134
	+	609.31	*	9.089E-01	1.850E-01	1.123E-01	1.269E-02	8.094
	+	1120.29		6.296E-01	5.215E-01	6.103E-01	6.590E-02	1.032
	+	1764.49		9.647E-01	4.091E-01	2.997E-01	2.470E-02	3.219
TH-232	+	338.32		1.606E+00	4.558E-01	3.780E-01	5.098E-02	4.249
	+	911.07	*	1.474E+00	3.610E-01	1.866E-01	2.272E-02	7.898
	+	969.11		1.388E+00	5.145E-01	3.262E-01	7.732E-02	4.254
	+	63.29	*	7.115E-01	1.397E+00	1.551E+00	2.699E-01	0.459
TH-234	+	92.38		2.125E+00	8.407E-01	6.269E-01	1.150E-01	3.390
	+	609.31	*	9.089E-01	1.850E-01	1.123E-01	1.269E-02	8.094
	+	1120.29		6.296E-01	5.215E-01	6.103E-01	6.590E-02	1.032
	+	1764.49		9.647E-01	4.091E-01	2.997E-01	2.470E-02	3.219
U-238	+	63.29	*	7.115E-01	1.397E+00	1.551E+00	2.699E-01	0.459
	+	92.38		2.125E+00	7.698E-01	6.269E-01	5.741E-02	3.390
	+	74.67	*	3.475E-01	6.914E-02	7.000E-02	5.665E-03	4.965
		86.72		2.154E+01	9.586E+00	1.498E+01	1.398E+00	1.438
AM-243		117.66		-2.404E+00	3.233E+00	5.303E+00	4.486E-01	-0.453
		142.18		-2.810E+00	1.544E+01	2.579E+01	2.300E+00	-0.109
	+	511.00	*	1.294E-01	8.499E-02	4.068E-02	4.350E-03	3.180

---- 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	*	1.908E-01	3.154E-01	5.505E-01	6.231E-02	0.347
NA-22		1274.54	*	-2.469E-02	4.670E-02	7.116E-02	5.844E-03	-0.347
NA-24		1368.53	*	-2.349E+01	4.670E-02	Half-Life	too short	
AL-26		1129.67		-4.333E-01	1.990E+00	3.205E+00	2.707E-01	-0.135
		1808.65	*	-1.027E-02	2.810E-02	4.221E-02	3.446E-03	-0.243
TI-44		67.85		1.600E-02	3.686E-02	5.945E-02	4.505E-03	0.269
	+	78.38	*	3.728E-01	5.404E-02	5.588E-02	4.710E-03	6.672
SC-46		889.25	*	3.400E-03	4.114E-02	6.956E-02	6.851E-03	0.049
	+	1120.51		1.114E-01	9.196E-02	1.293E-01	1.103E-02	0.862
V-48		944.10		-4.793E-02	1.117E+00	1.858E+00	1.797E-01	-0.026
		983.50	*	-3.388E-02	8.319E-02	1.322E-01	1.254E-02	-0.256
		1312.09		-7.067E-04	1.052E-01	1.705E-01	1.406E-02	-0.004
CR-51		320.08	*	-6.789E-02	4.212E-01	6.656E-01	9.660E-02	-0.102
MN-52		744.21		2.544E-01	4.483E-01	7.574E-01	7.359E-02	0.336
		848.13		-3.062E+00	1.117E+01	1.833E+01	1.806E+00	-0.167
		935.52		2.954E-01	4.293E-01	7.611E-01	7.390E-02	0.388
		1246.25		4.017E+00	1.325E+01	2.222E+01	1.814E+00	0.181
		1333.61		-4.336E+00	9.506E+00	1.464E+01	1.210E+00	-0.296
		1434.06	*	1.037E-01	3.850E-01	6.464E-01	5.416E-02	0.160
MN-54		834.83	*	4.335E-02	3.787E-02	6.950E-02	6.844E-03	0.624
CO-56		846.75	*	-1.705E-02	3.990E-02	6.439E-02	6.344E-03	-0.265
		977.42		1.343E+00	2.727E+00	4.787E+00	4.556E-01	0.281
		1037.82		-1.322E-01	3.568E-01	5.691E-01	5.461E-02	-0.232
		1175.09		-6.599E-01	2.672E+00	4.275E+00	3.436E-01	-0.154
		1238.25		1.117E-01	1.098E-01	1.926E-01	1.621E-02	0.580
		1360.21		8.660E-01	1.074E+00	1.918E+00	1.593E-01	0.451
		1771.40		4.274E-02	2.153E-01	3.710E-01	3.053E-02	0.115
CO-57		122.06	*	-1.875E-02	2.237E-02	3.644E-02	3.083E-03	-0.515
		136.48		-1.218E-01	1.713E-01	2.781E-01	2.613E-02	-0.438
CO-58		810.76	*	1.509E-02	4.378E-02	7.244E-02	7.133E-03	0.208
FE-59		142.65		-4.802E-01	2.602E+00	4.259E+00	3.804E-01	-0.113
		192.34		-5.825E-01	9.251E-01	1.473E+00	2.211E-01	-0.395
		1099.22	*	-8.879E-02	1.030E-01	1.537E-01	1.445E-02	-0.578
		1291.56		8.673E-02	1.540E-01	2.645E-01	2.496E-02	0.328
CO-60		1173.22		2.410E-04	5.204E-02	8.529E-02	6.852E-03	0.003
		1332.49	*	-1.837E-02	4.675E-02	7.270E-02	6.008E-03	-0.253
ZN-65		1115.52	*	-4.709E-02	1.151E-01	1.547E-01	1.328E-02	-0.304
GE-68		1077.35	*	-5.675E-03	1.428E+00	2.357E+00	2.093E-01	-0.002
AS-73		53.44	*	8.019E-02	6.381E-01	1.004E+00	7.538E-02	0.080
AS-74		595.88	*	-1.375E-02	1.104E-01	1.793E-01	1.823E-02	-0.077
		634.78		1.225E-01	4.021E-01	6.753E-01	6.606E-02	0.181
SE-75		66.05		3.945E-01	4.285E+00	6.273E+00	5.961E-01	0.063
		96.73		-2.983E-01	7.499E-01	1.037E+00	1.433E-01	-0.288
		121.11		-6.600E-02	1.217E-01	2.014E-01	2.234E-02	-0.328
		136.00		-1.933E-03	3.248E-02	5.469E-02	4.815E-03	-0.035
		198.60		-8.257E-01	1.788E+00	2.821E+00	3.373E-01	-0.293
		264.65	*	-3.172E-02	4.669E-02	6.807E-02	1.001E-02	-0.466
		279.53		-1.006E-02	1.120E-01	1.799E-01	2.816E-02	-0.056
		303.91		-7.289E-02	2.334E+00	3.326E+00	5.528E-01	-0.022

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

	Line Nuclide	Energy Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77		400.65	-1.692E-01	2.566E-01	4.130E-01	5.283E-02	-0.410
		87.88	1.556E-03	2.566E-01	Half-Life	too short	
		200.40	-1.880E-05	2.566E-01	Half-Life	too short	
	+	239.00	7.959E-04	2.566E-01	Half-Life	too short	
		249.79	-1.867E-04	2.566E-01	Half-Life	too short	
		281.68	-7.020E-05	2.566E-01	Half-Life	too short	
		297.23	2.516E-04	2.566E-01	Half-Life	too short	
		303.76	-6.332E-05	2.566E-01	Half-Life	too short	
		439.47	-6.543E-05	2.566E-01	Half-Life	too short	
		484.57	-2.117E-04	2.566E-01	Half-Life	too short	
		520.65 *	-1.622E-05	2.566E-01	Half-Life	too short	
		574.64	-3.227E-04	2.566E-01	Half-Life	too short	
		578.91	3.711E-05	2.566E-01	Half-Life	too short	
		585.48	1.389E-04	2.566E-01	Half-Life	too short	
		755.35	8.277E-06	2.566E-01	Half-Life	too short	
		817.79	5.964E-04	2.566E-01	Half-Life	too short	
SR-82		698.33	-1.525E+01	4.126E+01	6.459E+01	6.195E+00	-0.236
		776.49 *	-1.010E-01	4.229E-01	6.609E-01	6.464E-02	-0.153
		1395.20	-6.758E+00	1.285E+01	1.898E+01	1.583E+00	-0.356
RB-83		520.41 *	-2.619E-02	6.867E-02	1.101E-01	1.173E-02	-0.238
		529.64	-4.733E-02	1.048E-01	1.666E-01	1.768E-02	-0.284
		552.65	1.989E-01	1.923E-01	3.441E-01	3.609E-02	0.578
RB-84		881.50 *	9.091E-02	8.164E-02	1.495E-01	1.473E-02	0.608
KR-85		513.99 *	6.949E+00	7.165E+00	1.152E+01	1.231E+00	0.603
SR-85		513.99 *	3.715E-02	3.831E-02	6.159E-02	6.580E-03	0.603
RB-86		1076.63 *	-1.254E-01	1.066E+00	1.740E+00	1.546E-01	-0.072
Y-88		898.02	-1.364E-02	4.609E-02	7.370E-02	7.283E-03	-0.185
		1836.01 *	7.592E-03	2.989E-02	5.220E-02	4.237E-03	0.145
ZR-88		392.90 *	-1.891E-02	2.972E-02	4.795E-02	5.114E-03	-0.394
Y-91		1204.90 *	1.085E+01	2.358E+01	4.003E+01	3.241E+00	0.271
NB-94		702.63 *	4.435E-02	3.595E-02	6.388E-02	6.135E-03	0.694
		871.10	-7.650E-03	3.519E-02	5.791E-02	5.707E-03	-0.132
NB-95		765.79 *	3.294E-02	4.908E-02	8.325E-02	8.127E-03	0.396
NB-95M		235.69 *	6.743E-02	1.367E-01	2.061E-01	2.878E-02	0.327
ZR-95		724.18	1.020E-01	1.204E-01	1.862E-01	1.924E-02	0.548
		756.15 *	2.217E-02	7.708E-02	1.275E-01	1.341E-02	0.174
NB-97		657.90 *	5.764E-01	7.708E-02	Half-Life	too short	
		1024.50	-2.180E+01	7.708E-02	Half-Life	too short	
ZR-97		254.15	5.254E+01	7.708E-02	Half-Life	too short	
		355.39	4.712E+01	7.708E-02	Half-Life	too short	
		507.63 *	1.651E+02	7.708E-02	Half-Life	too short	
		602.52	-5.498E+00	7.708E-02	Half-Life	too short	
		1021.30	-4.090E+02	7.708E-02	Half-Life	too short	
		1147.95	-1.425E+02	7.708E-02	Half-Life	too short	
		1362.66	-2.220E+02	7.708E-02	Half-Life	too short	
		1750.46	-1.437E+02	7.708E-02	Half-Life	too short	
MO-99		140.51	2.898E+01	6.518E+01	1.083E+02	3.008E+01	0.268
		181.06	-3.527E+01	4.725E+01	6.599E+01	1.266E+01	-0.535
		366.43	-2.540E+02	2.523E+02	3.646E+02	4.418E+01	-0.697

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		1.043E+01	3.656E+01	6.035E+01	9.552E+00	0.173
	778.00			-6.296E+01	9.221E+01	1.363E+02	1.333E+01	-0.462
TC-99M	140.51	*		9.255E+14	9.221E+01	Half-Life	too short	
RH-101	127.23			6.040E-03	2.854E-02	4.412E-02	3.768E-03	0.137
	198.01	*		-5.295E-04	3.180E-02	5.141E-02	5.754E-03	-0.010
	325.23			-2.105E-01	2.449E-01	3.657E-01	5.131E-02	-0.576
RH-102	418.52			-5.259E-02	2.735E-01	4.544E-01	4.885E-02	-0.116
	475.06	*		4.934E-03	2.850E-02	4.821E-02	5.197E-03	0.102
	631.29			-2.008E-02	5.609E-02	8.852E-02	8.693E-03	-0.227
	697.49			-6.156E-02	8.620E-02	1.306E-01	1.252E-02	-0.471
	766.84			1.784E-01	1.170E-01	2.104E-01	2.054E-02	0.848
	1046.59			-3.353E-02	1.343E-01	2.171E-01	1.976E-02	-0.154
	1112.84			-3.341E-02	2.510E-01	3.834E-01	3.295E-02	-0.087
RU-103	497.08	*		-1.004E-02	3.999E-02	6.506E-02	1.011E-02	-0.154
	610.33			9.038E+00	2.131E+00	2.876E+00	5.021E-01	3.142
RH-106	511.85			2.288E-01	2.286E-01	4.423E-01	4.728E-02	0.517
	621.84	*		-1.571E-01	3.277E-01	5.111E-01	7.274E-02	-0.307
	1050.47			1.726E+00	2.847E+00	4.946E+00	4.490E-01	0.349
RU-106	511.85			2.288E-01	2.286E-01	4.423E-01	4.728E-02	0.517
	621.84	*		-1.571E-01	3.273E-01	5.111E-01	5.070E-02	-0.307
	1050.47			1.726E+00	2.847E+00	4.946E+00	4.490E-01	0.349
AG-108M	433.93	*		-3.204E-02	3.026E-02	4.582E-02	5.065E-03	-0.699
	614.37			-3.748E-02	4.346E-02	5.505E-02	5.664E-03	-0.681
	722.95			8.118E-03	4.850E-02	6.991E-02	6.966E-03	0.116
CD-109	88.03	*		1.177E+00	8.640E-01	1.315E+00	1.247E-01	0.896
AG-110M	657.75	*		-2.304E-03	3.768E-02	6.100E-02	5.944E-03	-0.038
	677.61			5.091E-02	3.005E-01	4.960E-01	4.832E-02	0.103
	706.67			-9.495E-02	2.201E-01	3.413E-01	3.355E-02	-0.278
	763.93			-6.608E-02	1.819E-01	2.822E-01	2.815E-02	-0.234
	884.67			-3.320E-02	5.272E-02	8.300E-02	8.379E-03	-0.400
	937.48			6.770E-02	1.166E-01	2.050E-01	2.045E-02	0.330
	1384.27			-3.978E-02	1.616E-01	2.505E-01	2.150E-02	-0.159
IN-111	171.28			-2.154E+00	2.349E+00	3.709E+00	3.691E-01	-0.581
	245.39	*		2.273E+00	2.757E+00	4.267E+00	5.815E-01	0.533
IN-113M	391.69	*		-1.541E-02	4.356E-02	7.193E-02	7.824E-03	-0.214
SN-113	391.69	*		-1.541E-02	4.356E-02	7.193E-02	7.824E-03	-0.214
IN-114M	190.27	*		8.081E-02	1.879E-01	2.870E-01	3.105E-02	0.282
CD-115	260.90			1.529E-04	1.879E-01	Half-Life	too short	
	492.35			1.323E-04	1.879E-01	Half-Life	too short	
	527.90	*		-9.285E-06	1.879E-01	Half-Life	too short	
SN-117M	156.02			-3.460E+00	2.364E+00	3.621E+00	3.390E-01	-0.956
	158.56	*		8.471E-02	5.966E-02	1.057E-01	9.994E-03	0.801
SB-122	563.90	*		1.581E+00	5.862E+00	9.869E+00	1.028E+00	0.160
	692.80			9.292E+01	1.228E+02	2.122E+02	2.031E+01	0.438
I-123	159.00	*		1.203E+03	1.228E+02	Half-Life	too short	
	528.96			-2.647E+04	1.228E+02	Half-Life	too short	
TE-123M	159.00	*		3.922E-02	2.571E-02	4.573E-02	4.351E-03	0.858
I-124	602.71	*		6.125E-02	1.368E+00	2.086E+00	2.108E-01	0.029
	722.78			1.640E+00	9.802E+00	1.413E+01	1.365E+00	0.116

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1325.50		-3.147E+01	7.917E+01	1.220E+02	1.008E+01	-0.258
		1376.25		5.592E+01	6.497E+01	1.158E+02	9.638E+00	0.483
		1509.49		4.517E+01	2.963E+01	5.943E+01	5.001E+00	0.760
		1691.02		-3.547E+00	5.179E+00	6.761E+00	5.638E-01	-0.525
		602.71		1.926E-03	4.302E-02	6.558E-02	6.629E-03	0.029
		645.85		2.540E-02	5.149E-01	8.434E-01	8.536E-02	0.030
		709.31		2.961E+00	2.778E+00	4.936E+00	4.750E-01	0.600
		713.82		-1.832E+00	1.812E+00	2.610E+00	3.337E-01	-0.702
		722.78		7.474E-02	4.468E-01	6.440E-01	6.330E-02	0.116
	+	968.20		1.496E+01	4.498E+00	7.691E+00	7.355E-01	1.945
		1045.16		3.205E-01	2.859E+00	4.782E+00	4.358E-01	0.067
		1325.50		-1.532E+00	3.854E+00	5.940E+00	4.905E-01	-0.258
		1368.21		-5.990E-01	1.759E+00	2.678E+00	3.557E-01	-0.224
		1436.60		-4.880E-01	4.011E+00	6.318E+00	5.295E-01	-0.077
SB-125		1691.02	*	-3.814E-02	5.569E-02	7.270E-02	6.317E-03	-0.525
		427.89	*	9.540E-02	9.092E-02	1.629E-01	1.776E-02	0.586
	+	463.38		1.068E+00	4.151E-01	5.852E-01	6.635E-02	1.824
		600.56		-7.835E-02	1.831E-01	2.890E-01	3.085E-02	-0.271
		635.90		7.663E-02	2.701E-01	4.523E-01	4.699E-02	0.169
TE-125M		109.28	*	-1.275E+00	8.210E+00	1.393E+01	1.431E+00	-0.092
I-126		388.63		1.327E-01	2.558E-01	4.465E-01	4.843E-02	0.297
		666.33	*	-7.532E-02	2.230E-01	3.507E-01	3.324E-02	-0.215
SB-126		753.82		-1.236E+00	1.964E+00	2.955E+00	2.877E-01	-0.418
		223.80		1.818E+00	4.617E+00	7.732E+00	9.657E-01	0.235
		278.60		5.674E-01	3.064E+00	5.003E+00	7.729E-01	0.113
	+	296.50		1.510E+01	3.626E+00	3.683E+00	5.534E-01	4.101
		414.70		2.804E-02	8.881E-02	1.530E-01	1.643E-02	0.183
		415.30		-1.672E+00	7.402E+00	1.228E+01	1.319E+00	-0.136
		555.20		7.449E-01	4.743E+00	7.934E+00	8.311E-01	0.094
		573.80		-6.469E-01	1.310E+00	2.061E+00	2.132E-01	-0.314
		593.00		3.089E-01	1.208E+00	2.025E+00	2.064E-01	0.153
		656.30		-2.175E+00	4.526E+00	7.046E+00	6.715E-01	-0.309
		666.33		-3.176E-02	9.402E-02	1.479E-01	1.402E-02	-0.215
		675.00		-1.203E+00	2.424E+00	3.734E+00	3.552E-01	-0.322
		695.00		-2.255E-03	1.002E-01	1.621E-01	1.552E-02	-0.014
		697.00		-2.287E-01	3.713E-01	5.677E-01	5.442E-02	-0.403
SN-126		720.50	*	-2.968E-02	2.143E-01	3.148E-01	3.039E-02	-0.094
		856.80		-1.186E+00	6.884E-01	9.719E-01	9.578E-02	-1.220
		989.30		1.165E+00	1.706E+00	3.013E+00	2.849E-01	0.387
		1034.80		9.954E-01	1.214E+01	2.027E+01	1.861E+00	0.049
		1213.00		3.640E+00	6.602E+00	1.130E+01	9.166E-01	0.322
	+	64.28		2.816E-01	5.524E-01	6.511E-01	9.445E-02	0.433
		86.94		7.941E-01	4.828E-01	5.627E-01	2.336E-01	1.411
		87.57	*	2.661E-01	8.558E-02	1.365E-01	1.287E-02	1.950
	SB-127	61.10		-8.665E+01	9.016E+01	1.227E+02	1.408E+01	-0.706
		252.40		1.009E+01	9.510E+00	1.470E+01	6.440E+00	0.686
		290.80		-4.330E+01	4.761E+01	6.152E+01	1.085E+01	-0.704
		411.60		-1.394E+01	2.401E+01	3.866E+01	6.894E+00	-0.361
		444.90		-1.413E+01	2.004E+01	3.169E+01	4.796E+00	-0.446

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		473.00		7.627E-01	3.295E+00	5.599E+00	8.626E-01	0.136
		543.00		-1.325E+01	3.362E+01	5.357E+01	8.867E+00	-0.247
		603.60		1.411E+01	2.506E+01	3.837E+01	5.612E+00	0.368
		685.20	*	1.779E-01	2.836E+00	4.628E+00	6.144E-01	0.038
		698.50		-1.058E+01	3.388E+01	5.328E+01	9.194E+00	-0.198
		722.20		2.031E+01	6.893E+01	1.010E+02	1.330E+01	0.201
		783.80		4.806E+00	8.633E+00	1.453E+01	2.084E+00	0.331
XE-127		57.60		-2.211E-01	4.973E+00	7.908E+00	5.693E-01	-0.028
		145.22		-4.431E-01	6.710E-01	1.069E+00	9.632E-02	-0.414
		172.10		2.281E-02	1.125E-01	1.894E-01	1.891E-02	0.120
		202.84	*	-3.773E-02	4.615E-02	7.241E-02	8.275E-03	-0.521
		374.96		8.267E-02	2.097E-01	3.418E-01	3.982E-02	0.242
I-131		80.18		6.454E+00	5.247E+00	8.117E+00	7.058E-01	0.795
		284.30		7.063E-02	1.969E+00	3.184E+00	4.977E-01	0.022
		364.48	*	1.868E-01	1.780E-01	3.009E-01	3.784E-02	0.621
		636.97		-3.605E-01	2.096E+00	3.362E+00	3.434E-01	-0.107
		722.89		1.926E+00	1.151E+01	1.659E+01	1.616E+00	0.116
TE-132		49.72		2.904E+00	3.261E+01	4.857E+01	5.591E+00	0.060
		111.76		4.833E+01	5.931E+01	1.042E+02	1.240E+01	0.464
		116.30		5.801E+00	5.298E+01	9.066E+01	1.077E+01	0.064
		228.16	*	4.525E-03	1.582E+00	2.557E+00	4.853E-01	0.002
BA-133		53.15		-9.431E-01	2.710E+00	4.159E+00	3.135E-01	-0.227
		79.62		7.687E-01	1.058E+00	1.588E+00	2.412E-01	0.484
		81.00		7.661E-02	8.139E-02	1.230E-01	1.957E-02	0.623
		276.40		2.601E-01	3.863E-01	6.173E-01	1.186E-01	0.421
		302.84		-5.649E-02	1.599E-01	2.207E-01	3.961E-02	-0.256
		356.01	*	-1.406E-03	4.377E-02	6.143E-02	9.908E-03	-0.023
		383.85		9.150E-02	2.953E-01	5.100E-01	7.365E-02	0.179
I-133	+	510.53		3.177E+01	2.953E-01	Half-Life	too short	
		529.87	*	-7.187E-02	2.953E-01	Half-Life	too short	
		706.58		-4.237E+00	2.953E-01	Half-Life	too short	
		856.28		-2.154E+01	2.953E-01	Half-Life	too short	
		875.33		-1.172E+00	2.953E-01	Half-Life	too short	
		1236.41		1.477E+01	2.953E-01	Half-Life	too short	
		1298.22		-1.574E+00	2.953E-01	Half-Life	too short	
CS-134		475.35		5.319E-01	1.882E+00	3.209E+00	3.459E-01	0.166
		563.23		1.890E-01	3.692E-01	6.326E-01	6.636E-02	0.299
		569.32		-7.117E-02	2.065E-01	3.297E-01	3.454E-02	-0.216
		604.70		4.972E-03	3.691E-02	5.387E-02	5.445E-03	0.092
		795.84	*	5.976E-02	5.524E-02	8.778E-02	8.659E-03	0.681
		801.93		-1.083E-01	4.687E-01	7.362E-01	7.259E-02	-0.147
		1038.57		-1.281E+00	4.458E+00	7.180E+00	6.575E-01	-0.178
		1167.94		-1.507E+00	2.989E+00	4.670E+00	3.776E-01	-0.323
		1365.15		8.147E-02	1.165E+00	1.904E+00	1.660E-01	0.043
CS-135		268.24	*	2.146E-01	1.764E-01	2.744E-01	4.306E-02	0.782
I-135		288.45		3.523E+14	1.764E-01	Half-Life	too short	
		417.63		-8.356E+13	1.764E-01	Half-Life	too short	
		546.56		3.262E+14	1.764E-01	Half-Life	too short	
		836.80		1.677E+13	1.764E-01	Half-Life	too short	

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	1038.76			4.758E+13	1.764E-01	Half-Life	too short	
	1124.00			-1.508E+14	1.764E-01	Half-Life	too short	
	1131.51			-4.908E+13	1.764E-01	Half-Life	too short	
	1260.41	*		-2.572E+13	1.764E-01	Half-Life	too short	
	1457.56			3.036E+16	1.764E-01	Half-Life	too short	
	1678.03			-1.012E+14	1.764E-01	Half-Life	too short	
	1706.46			3.101E+14	1.764E-01	Half-Life	too short	
	1791.20			-1.008E+14	1.764E-01	Half-Life	too short	
CS-136	66.91			-3.590E-01	8.549E-01	1.212E+00	1.799E-01	-0.296
	86.29			2.188E+00	1.319E+00	2.147E+00	2.856E-01	1.019
	153.22			3.477E-01	6.740E-01	1.158E+00	1.184E-01	0.300
	163.89			1.430E-01	1.188E+00	1.960E+00	2.074E-01	0.073
	176.55			-7.927E-02	4.110E-01	6.770E-01	7.185E-02	-0.117
	273.65			-3.414E-01	5.795E-01	7.879E-01	1.222E-01	-0.433
	340.57			1.731E-01	1.550E-01	2.415E-01	3.273E-02	0.716
	818.51			9.910E-02	9.620E-02	1.694E-01	1.667E-02	0.585
	1048.07	*		-6.905E-03	1.584E-01	2.611E-01	2.466E-02	-0.026
	1235.34			-1.219E-01	8.921E-01	1.439E+00	1.657E-01	-0.085
BA-137M	661.65	*		-1.786E-03	3.866E-02	6.264E-02	5.927E-03	-0.029
CS-137	661.65	*		-1.888E-03	4.086E-02	6.622E-02	6.276E-03	-0.029
CE-139	165.85	*		-6.306E-03	2.647E-02	4.366E-02	4.243E-03	-0.144
BA-140	162.64			-8.720E-01	8.838E-01	1.375E+00	1.382E-01	-0.634
	304.84			4.930E-01	1.711E+00	2.501E+00	7.622E-01	0.197
	423.70			-8.166E-01	2.311E+00	3.767E+00	1.245E+00	-0.217
	537.32	*		1.213E-01	3.186E-01	5.394E-01	1.818E-01	0.225
LA-140	328.77			4.739E-01	3.938E-01	6.674E-01	9.473E-02	0.710
	432.53			-8.096E-01	2.315E+00	3.752E+00	4.170E-01	-0.216
	487.03			1.265E-01	1.513E-01	2.688E-01	3.009E-02	0.471
	751.79			3.504E-01	2.159E+00	3.531E+00	3.728E-01	0.099
	815.85			-3.038E-01	4.661E-01	6.937E-01	7.432E-02	-0.438
	867.82			4.281E-01	1.677E+00	2.887E+00	2.961E-01	0.148
	919.63			3.408E+00	3.284E+00	6.027E+00	6.991E-01	0.565
	925.24			1.483E+00	1.468E+00	2.671E+00	2.733E-01	0.555
	1596.49	*		-1.265E-01	1.002E-01	1.258E-01	1.058E-02	-1.005
CE-141	145.44	*		-1.519E-02	5.838E-02	9.698E-02	8.889E-03	-0.157
CE-143	57.37			-4.051E-04	5.838E-02	Half-Life	too short	
	231.56			-6.744E-03	5.838E-02	Half-Life	too short	
	293.26	*		3.865E-03	5.838E-02	Half-Life	too short	
	350.59			1.955E-01	5.838E-02	Half-Life	too short	
	490.36			-3.927E-03	5.838E-02	Half-Life	too short	
	664.57			4.251E-03	5.838E-02	Half-Life	too short	
	721.93			1.956E-04	5.838E-02	Half-Life	too short	
CE-144	80.11			2.123E+00	1.730E+00	2.676E+00	2.302E-01	0.793
	133.54	*		8.246E-02	1.863E-01	2.908E-01	4.538E-02	0.284
PM-144	476.78			1.344E-02	6.436E-02	1.092E-01	1.249E-02	0.123
	618.01			2.383E-02	3.093E-02	5.399E-02	5.490E-03	0.441
	696.49	*		-1.976E-02	3.739E-02	5.760E-02	5.523E-03	-0.343
	778.57			-2.225E+00	2.337E+00	3.332E+00	3.262E-01	-0.668
PR-144	696.49	*		-1.342E+00	2.539E+00	3.912E+00	3.749E-01	-0.343

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PM-146		1489.15		-1.810E+00	1.120E+01	1.829E+01	1.538E+00	-0.099
		453.90	*	-2.710E-02	4.033E-02	6.367E-02	7.983E-03	-0.426
		633.02		-6.149E-01	1.432E+00	2.214E+00	8.337E-01	-0.278
		735.90		-6.404E-02	1.611E-01	2.479E-01	7.175E-02	-0.258
ND-147	+	747.13		-4.251E-02	1.009E-01	1.555E-01	2.292E-02	-0.273
		91.11		6.117E-01	3.130E-01	5.150E-01	5.104E-02	1.188
		319.41		-2.176E-01	4.318E+00	6.881E+00	9.810E-01	-0.032
		439.89		-7.425E-01	7.251E+00	1.208E+01	1.304E+00	-0.061
PM-149		531.02	*	8.913E-02	6.701E-01	1.122E+00	1.816E-01	0.079
EU-152		285.90	*	-2.498E-04	6.701E-01	Half-Life too short		
		121.78		-5.451E-02	6.414E-02	1.043E-01	1.021E-02	-0.522
		244.69		1.019E-01	3.277E-01	4.889E-01	6.645E-02	0.208
		344.27	*	-1.006E-01	9.700E-02	1.398E-01	1.896E-02	-0.719
		443.98		4.411E-02	9.261E-01	1.560E+00	1.683E-01	0.028
		778.89		-2.101E-01	2.690E-01	3.931E-01	3.846E-02	-0.535
		867.32		-3.012E-01	8.322E-01	1.349E+00	1.330E-01	-0.223
	+	964.01		6.772E-01	4.448E-01	6.336E-01	6.071E-02	1.069
		1085.78		-3.655E-02	4.517E-01	7.216E-01	6.361E-02	-0.051
		1112.02		-3.125E-02	3.381E-01	5.514E-01	4.743E-02	-0.057
		1407.95		2.328E-01	1.860E-01	3.511E-01	2.934E-02	0.663
		69.67		-2.403E-01	1.448E+00	2.085E+00	1.605E-01	-0.115
GD-153		83.37		5.523E+00	1.301E+01	2.074E+01	1.855E+00	0.266
		97.43	*	-7.946E-02	8.224E-02	1.080E-01	9.596E-03	-0.736
		103.18		-6.192E-02	9.030E-02	1.499E-01	1.301E-02	-0.413
		123.07		1.897E-02	4.423E-02	7.646E-02	8.601E-03	0.248
EU-154		247.94		-1.562E-01	3.264E-01	5.130E-01	8.060E-02	-0.304
		591.81		9.544E-02	6.390E-01	1.062E+00	1.369E-01	0.090
		723.30		2.113E-02	2.103E-01	3.004E-01	3.149E-02	0.070
		756.87		5.506E-01	8.054E-01	1.377E+00	1.763E-01	0.400
		873.19		1.942E-01	3.047E-01	5.403E-01	7.101E-02	0.359
		996.32		-2.353E-01	3.941E-01	6.123E-01	1.112E-01	-0.384
		1004.76		7.405E-02	2.295E-01	3.925E-01	4.790E-02	0.189
		1274.45	*	-6.626E-02	1.305E-01	1.993E-01	2.192E-02	-0.332
EU-155		48.70		5.560E-03	1.657E+00	2.456E+00	1.986E-01	0.002
		60.01		-9.277E-01	3.910E+00	5.643E+00	4.026E-01	-0.164
		86.54		2.599E-01	9.783E-02	1.643E-01	1.543E-02	1.582
		105.31	*	7.308E-02	9.155E-02	1.615E-01	1.409E-02	0.453
TB-160		86.79		6.491E-01	2.906E-01	4.540E-01	4.240E-02	1.430
		197.04		2.652E-02	5.666E-01	9.198E-01	1.025E-01	0.029
		215.65		5.882E-02	7.419E-01	1.224E+00	1.478E-01	0.048
	+	298.57		3.669E-01	1.774E-01	2.143E-01	3.207E-02	1.712
		879.36	*	4.106E-02	1.586E-01	2.723E-01	2.683E-02	0.151
		962.29		6.771E-01	7.523E-01	1.189E+00	1.140E-01	0.570
		966.15		1.027E+00	3.036E-01	5.786E-01	5.539E-02	1.775
		1177.93		-3.180E-02	4.337E-01	7.055E-01	5.675E-02	-0.045
HO-166M		1271.85		1.860E-01	7.732E-01	1.292E+00	1.059E-01	0.144
		80.57		2.816E-01	2.202E-01	3.413E-01	2.951E-02	0.825
	+	184.41		1.358E-01	6.339E-02	6.426E-02	6.775E-03	2.114
		280.46		8.508E-03	8.365E-02	1.359E-01	2.100E-02	0.063

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TM-171		410.95		-1.397E-01	2.352E-01	3.799E-01	4.076E-02	-0.368
		711.68	*	-1.691E-02	5.967E-02	9.367E-02	9.022E-03	-0.181
		752.31		-2.108E-02	2.721E-01	4.343E-01	4.228E-02	-0.049
		810.29		1.715E-03	6.408E-02	1.027E-01	1.010E-02	0.017
		51.35		-7.019E+00	2.151E+01	3.384E+01	2.617E+00	-0.207
		52.39		-4.526E+00	1.174E+01	1.796E+01	1.368E+00	-0.252
		59.40		2.353E+00	2.124E+01	3.137E+01	2.232E+00	0.075
		66.72	*	-9.022E+00	2.530E+01	3.606E+01	2.706E+00	-0.250
		88.36		3.280E-01	1.674E-01	2.877E-01	2.720E-02	1.140
		201.83		-5.068E-03	2.575E-02	4.203E-02	4.783E-03	-0.121
LU-176	+	306.84	*	1.146E-02	2.354E-02	3.900E-02	5.732E-03	0.294
		401.10		-7.191E-01	6.497E+00	1.090E+01	1.166E+00	-0.066
		112.95		6.730E-01	2.090E+00	3.612E+00	3.067E-01	0.186
LU-177		208.36	*	4.668E+00	2.185E+00	2.893E+00	3.386E-01	1.613
	+	52.97		-5.054E-01	1.242E+00	1.900E+00	1.435E-01	-0.266
LU-177M		54.07		3.148E-01	6.501E-01	1.041E+00	7.758E-02	0.302
		61.30		-9.634E-01	1.159E+00	1.600E+00	1.152E-01	-0.602
		121.62		-2.924E-01	3.337E-01	5.425E-01	4.584E-02	-0.539
		147.16		2.120E-01	5.558E-01	9.514E-01	8.627E-02	0.223
		171.86		-2.110E-02	4.214E-01	7.005E-01	6.987E-02	-0.030
		218.09		-1.501E-01	8.165E-01	1.327E+00	1.618E-01	-0.113
		268.79		1.484E+00	9.562E-01	1.502E+00	2.239E-01	0.988
		319.02		-8.944E-02	2.644E-01	4.118E-01	5.877E-02	-0.217
		367.43		-1.102E+00	9.506E-01	1.341E+00	1.618E-01	-0.822
		413.65	*	3.654E-02	1.664E-01	2.848E-01	3.058E-02	0.128
HF-181		56.28		-7.054E-01	7.492E-01	1.132E+00	8.240E-02	-0.623
		57.53		-4.122E-02	4.129E-01	6.547E-01	4.715E-02	-0.063
		65.20		-7.600E-01	9.001E-01	1.245E+00	9.232E-02	-0.610
		133.02		1.336E-02	6.416E-02	9.889E-02	8.574E-03	0.135
		136.25		-1.303E-01	3.947E-01	6.552E-01	5.734E-02	-0.199
		345.85		1.192E-01	2.057E-01	3.246E-01	4.267E-02	0.367
		482.03	*	-3.348E-02	3.929E-02	6.012E-02	6.475E-03	-0.557
		56.28		-2.642E-01	2.812E-01	4.249E-01	3.093E-02	-0.622
		57.53		-1.573E-02	1.550E-01	2.458E-01	1.770E-02	-0.064
		65.20	*	-2.831E-01	3.353E-01	4.640E-01	3.439E-02	-0.610
TA-182		67.75		3.837E-02	9.006E-02	1.452E-01	1.099E-02	0.264
		100.10		1.398E-01	1.532E-01	2.717E-01	2.384E-02	0.515
		152.43		-6.792E-02	2.856E-01	4.733E-01	4.373E-02	-0.143
W-181		222.10		7.253E-02	3.345E-01	5.551E-01	6.884E-02	0.131
		1001.68		-1.335E+00	2.290E+00	3.561E+00	3.342E-01	-0.375
	+	1121.28		3.049E-01	2.518E-01	3.466E-01	2.953E-02	0.880
		1189.05		1.836E-01	3.569E-01	6.109E-01	4.927E-02	0.301
		1221.42	*	3.315E-02	2.269E-01	3.753E-01	3.049E-02	0.088
		1230.97		1.171E-01	5.793E-01	9.491E-01	7.725E-02	0.123
		57.98		1.398E-01	1.548E-01	2.574E-01	1.847E-02	0.543
		59.32		1.461E-02	9.069E-02	1.344E-01	9.564E-03	0.109
		67.20		-4.495E-02	1.690E-01	2.625E-01	1.978E-02	-0.171
		162.32	*	-1.973E-02	1.020E-01	1.690E-01	1.620E-02	-0.117
RE-183	+	208.81		2.893E+00	1.354E+00	1.806E+00	2.118E-01	1.602

Sample ID : G243536011

Acquisition date : 9-JAN-2010 14:20:47

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	291.72			-3.898E-01	9.847E-01	1.355E+00	2.054E-01	-0.288
	57.98			5.035E-01	5.573E-01	9.267E-01	6.652E-02	0.543
	59.32			5.258E-02	3.263E-01	4.835E-01	3.441E-02	0.109
	67.20			-1.618E-01	6.082E-01	9.448E-01	7.119E-02	-0.171
	161.27			-1.727E-02	3.316E-01	5.533E-01	5.283E-02	-0.031
	216.55			4.375E-02	2.559E-01	4.242E-01	5.140E-02	0.103
	252.85	*		2.989E-01	2.288E-01	3.952E-01	5.545E-02	0.756
	318.01			-4.504E-02	4.557E-01	7.236E-01	1.035E-01	-0.062
	792.07			4.150E-01	1.331E+00	1.930E+00	1.892E-01	0.215
	903.28			1.282E+00	1.131E+00	1.988E+00	1.953E-01	0.645
OS-185	920.93			1.236E-01	4.520E-01	7.766E-01	7.584E-02	0.159
	59.72			-9.926E-02	2.456E-01	3.508E-01	2.498E-02	-0.283
	61.14			-1.222E-01	1.286E-01	1.758E-01	1.264E-02	-0.695
	69.30			-2.040E-01	2.718E-01	3.773E-01	2.896E-02	-0.541
	592.07			2.203E-01	2.688E+00	4.444E+00	4.533E-01	0.050
	646.12	*		8.444E-03	4.291E-02	7.127E-02	6.879E-03	0.118
	717.42			2.370E-01	9.737E-01	1.609E+00	1.552E-01	0.147
	874.81			-3.291E-01	6.578E-01	1.044E+00	1.029E-01	-0.315
	880.27			9.188E-01	8.832E-01	1.606E+00	1.582E-01	0.572
	155.03	*		2.410E-02	1.473E-01	2.490E-01	2.323E-02	0.097
RE-188	477.96			2.056E+00	2.949E+00	5.183E+00	5.586E-01	0.397
	633.10			-1.313E+00	2.969E+00	4.643E+00	4.550E-01	-0.283
W-188	63.58	+		2.976E+01	5.825E+01	7.235E+01	5.297E+00	0.411
	227.08			-5.914E+00	1.275E+01	2.000E+01	2.532E+00	-0.296
IR-192	290.67	*		-8.358E+00	8.435E+00	1.083E+01	1.645E+00	-0.772
	295.96	+		9.612E-01	2.310E-01	2.797E-01	4.217E-02	3.437
	308.46			-4.216E-02	9.281E-02	1.432E-01	2.102E-02	-0.294
	316.51	*		3.493E-03	3.547E-02	5.716E-02	8.217E-03	0.061
	468.07			-7.070E-05	6.522E-02	1.054E-01	1.190E-02	-0.001
	604.41			7.557E-02	5.104E-01	7.463E-01	1.048E-01	0.101
	612.46			5.413E-01	7.603E-01	1.183E+00	1.318E-01	0.457
	65.12			-8.383E-02	1.512E-01	2.131E-01	1.579E-02	-0.393
	66.83			-3.328E-02	8.450E-02	1.201E-01	9.024E-03	-0.277
	75.70	+		1.142E+00	2.272E-01	3.739E-01	3.059E-02	3.054
AU-195	98.88	*		5.988E-02	1.963E-01	3.338E-01	2.945E-02	0.179
	129.76	+		8.003E+00	4.318E+00	4.659E+00	4.004E-01	1.718
	367.94	*		-3.136E-03	4.318E+00	Half-Life	too short	
	579.30			-1.038E-02	4.318E+00	Half-Life	too short	
	828.27			-6.712E-03	4.318E+00	Half-Life	too short	
	1205.75			2.577E-02	4.318E+00	Half-Life	too short	
	68.90			-5.393E+00	9.497E+00	1.458E+01	1.115E+00	-0.370
	70.82			-6.203E-01	5.895E+00	8.511E+00	6.625E-01	-0.073
	80.30			1.241E+01	1.005E+01	1.554E+01	1.340E+00	0.798
	135.34			2.224E+01	5.125E+01	8.834E+01	7.710E+00	0.252
TL-202	167.43	*		-3.319E+00	1.475E+01	2.433E+01	2.380E+00	-0.136
	68.90			-2.455E-01	4.324E-01	6.639E-01	5.077E-02	-0.370
	70.82			-2.816E-02	2.677E-01	3.864E-01	3.008E-02	-0.073
	80.30			5.634E-01	4.562E-01	7.060E-01	6.085E-02	0.798
	439.56	*		-1.424E-02	8.494E-02	1.409E-01	1.520E-02	-0.101

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		70.83		-9.685E-02	9.824E-01	1.419E+00	-0.068
		72.87		8.767E-01	5.495E-01	9.073E-01	0.966
		82.60		-1.188E+00	1.017E+00	1.479E+00	-0.803
		279.20	*	1.852E-03	4.308E-02	6.977E-02	0.027
BI-207		72.80		2.220E-01	1.491E-01	2.486E-01	0.893
	+	74.97		6.240E-01	1.241E-01	1.934E-01	3.227
		84.90		-3.563E-01	1.874E-01	2.642E-01	-1.349
		569.67		-1.117E-02	3.187E-02	5.085E-02	-0.220
		1063.62	*	2.713E-03	6.250E-02	1.019E-01	0.027
		1770.23		-3.605E-01	4.751E-01	6.570E-01	-0.549
TL-207		81.07		1.659E-01	1.779E-01	2.707E-01	0.613
		83.78		2.072E-01	1.067E-01	1.794E-01	1.155
		94.90		1.228E-01	2.145E-01	3.171E-01	0.387
		122.32		-1.138E+00	1.532E+00	2.508E+00	-0.454
		144.24		-3.019E-01	6.097E-01	9.806E-01	-0.308
		154.21		3.111E-01	3.267E-01	5.714E-01	0.544
	+	269.46		6.108E-01	3.428E-01	3.556E-01	1.718
		323.87	*	2.528E-01	6.868E-01	1.122E+00	0.225
	+	338.28		6.708E+00	1.992E+00	2.640E+00	2.541
		445.03		-1.723E+00	2.271E+00	3.574E+00	-0.482
PO-209		260.50		2.778E+00	9.475E+00	1.564E+01	0.178
		262.80		-7.017E+00	2.564E+01	4.081E+01	-0.172
		896.60	*	8.220E-01	7.416E+00	1.257E+01	0.065
PB-211		404.84	*	-5.142E-01	9.751E-01	1.496E+00	-0.344
		427.08		1.511E+00	2.252E+00	3.520E+00	0.429
		831.96		-8.499E-01	1.410E+00	1.937E+00	-0.439
PO-215		81.07		1.659E-01	1.779E-01	2.707E-01	0.613
		83.78		2.072E-01	1.067E-01	1.794E-01	1.155
		94.90		1.228E-01	2.145E-01	3.171E-01	0.387
		122.32		-1.138E+00	1.532E+00	2.508E+00	-0.454
		144.24		-3.019E-01	6.097E-01	9.806E-01	-0.308
		154.21		3.111E-01	3.267E-01	5.714E-01	0.544
	+	269.46		6.108E-01	3.428E-01	3.556E-01	1.718
		323.87	*	2.528E-01	6.868E-01	1.122E+00	0.225
	+	338.28		6.708E+00	1.992E+00	2.640E+00	2.541
		445.03		-1.723E+00	2.271E+00	3.574E+00	-0.482
RN-219	+	271.23		7.837E-01	4.418E-01	4.369E-01	1.794
		401.81	*	1.731E-02	4.032E-01	6.833E-01	0.025
RN-220		549.76	*	-1.745E+01	2.582E+01	3.999E+01	-0.436
RA-223		81.07		1.659E-01	1.779E-01	2.707E-01	0.613
		83.78		2.072E-01	1.067E-01	1.794E-01	1.155
		94.90		1.228E-01	2.145E-01	3.171E-01	0.387
		122.32		-1.138E+00	1.532E+00	2.508E+00	-0.454
		144.24		-3.019E-01	6.097E-01	9.806E-01	-0.308
		154.21		3.111E-01	3.267E-01	5.714E-01	0.544
	+	269.46		6.108E-01	3.428E-01	3.556E-01	1.718
		323.87	*	2.528E-01	6.868E-01	1.122E+00	0.225
	+	338.28		6.708E+00	1.992E+00	2.640E+00	2.541
		445.03		-1.723E+00	2.271E+00	3.574E+00	-0.482

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		79.80		1.045E+00	1.355E+00	2.024E+00	4.348E-01	0.516
		236.00		2.836E-01	2.499E-01	3.871E-01	6.096E-02	0.733
		256.20	*	-2.471E-01	3.671E-01	5.655E-01	1.078E-01	-0.437
		286.10		-3.323E-01	1.435E+00	2.273E+00	4.157E-01	-0.146
	+	299.80		4.498E+00	2.280E+00	2.776E+00	5.917E-01	1.620
		304.40		1.292E+00	1.983E+00	2.979E+00	6.554E-01	0.434
TH-227		334.20		-1.545E+00	2.608E+00	3.447E+00	7.624E-01	-0.448
		79.80		1.045E+00	1.355E+00	2.024E+00	4.403E-01	0.516
	+	94.00		8.213E+00	3.398E+00	3.198E+00	7.020E-01	2.568
		236.00		2.836E-01	2.494E-01	3.871E-01	5.752E-02	0.733
		256.20	*	-2.471E-01	3.679E-01	5.655E-01	1.205E-01	-0.437
		286.10		-3.323E-01	1.473E+00	2.273E+00	2.300E+00	-0.146
TH-229	+	299.80		4.498E+00	2.280E+00	2.776E+00	5.917E-01	1.620
		304.40		1.292E+00	1.983E+00	2.979E+00	6.554E-01	0.434
		334.20		-1.545E+00	2.608E+00	3.447E+00	7.624E-01	-0.448
		85.43		-5.167E-01	1.925E-01	2.566E-01	2.355E-02	-2.013
	+	88.47		1.888E-01	9.638E-02	1.626E-01	1.536E-02	1.161
		100.00		1.734E-01	1.545E-01	2.757E-01	2.421E-02	0.629
PA-231		193.63	*	-2.107E-01	4.686E-01	7.561E-01	8.303E-02	-0.279
		210.97		5.819E-01	7.757E-01	1.186E+00	1.403E-01	0.491
TH-231		283.67	*	2.359E-01	1.412E+00	2.304E+00	4.565E-01	0.102
		301.29		8.810E-01	6.577E-01	1.019E+00	1.756E-01	0.865
		81.07		1.659E-01	1.779E-01	2.707E-01	2.355E-02	0.613
		83.78		2.072E-01	1.067E-01	1.794E-01	1.613E-02	1.155
		94.90		1.228E-01	2.145E-01	3.171E-01	2.856E-02	0.387
		122.32		-1.138E+00	1.532E+00	2.508E+00	2.281E-01	-0.454
		144.24		-3.019E-01	6.097E-01	9.806E-01	9.771E-02	-0.308
		154.21		3.111E-01	3.267E-01	5.714E-01	5.772E-02	0.544
	+	269.46		6.108E-01	3.428E-01	3.556E-01	5.349E-02	1.718
		323.87	*	2.528E-01	6.868E-01	1.122E+00	2.346E-01	0.225
	+	338.28		6.708E+00	1.992E+00	2.640E+00	4.250E-01	2.541
		445.03		-1.723E+00	2.271E+00	3.574E+00	4.904E-01	-0.482
U-231		84.21		1.274E+01	9.111E+00	1.503E+01	1.359E+00	0.848
	+	92.29		1.564E+01	5.667E+00	6.986E+00	6.401E-01	2.239
PA-233		95.87	*	3.759E-01	1.884E+00	2.724E+00	2.440E-01	0.138
		108.00		-3.288E+00	3.316E+00	5.400E+00	4.624E-01	-0.609
	+	75.28		1.820E+01	4.297E+00	5.743E+00	8.665E-01	3.170
		86.59		3.884E+00	1.973E+00	2.672E+00	7.227E-01	1.454
	+	300.12		1.254E+00	6.252E-01	7.746E-01	1.489E-01	1.619
		311.98	*	3.945E-02	6.073E-02	1.015E-01	1.490E-02	0.389
PA-234		340.50		6.778E-01	6.274E-01	9.492E-01	2.463E-01	0.714
		398.62		3.360E-01	2.011E+00	3.435E+00	9.402E-01	0.098
		415.76		-4.348E-01	1.549E+00	2.553E+00	5.742E-01	-0.170
	+	63.00		8.294E-01	1.627E+00	2.050E+00	3.034E-01	0.405
		94.67		1.723E-01	1.578E-01	2.384E-01	3.025E-02	0.722
		98.44		-9.153E-03	7.806E-02	1.302E-01	7.269E-02	-0.070
		99.86		4.444E-01	3.913E-01	6.988E-01	6.139E-02	0.636
		111.00		9.836E-02	1.556E-01	2.720E-01	3.268E-02	0.362
		131.20		4.795E-02	9.569E-02	1.502E-01	1.296E-02	0.319

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		152.70	-1.313E-02	2.712E-01	4.540E-01	7.888E-02	-0.029
	+	186.00	4.890E+00	2.713E+00	2.537E+00	8.073E-01	1.928
		226.40	-3.559E-01	3.896E-01	5.888E-01	9.482E-02	-0.605
		227.20	-1.632E-01	4.139E-01	6.525E-01	8.265E-02	-0.250
		248.90	-5.146E-01	7.538E-01	1.153E+00	2.869E-01	-0.446
	+	293.70	5.829E+00	1.650E+00	1.631E+00	3.472E-01	3.575
		369.80	1.163E-01	8.233E-01	1.317E+00	3.067E-01	0.088
		568.70	-3.219E-01	1.059E+00	1.697E+00	1.762E-01	-0.190
		569.50	-9.516E-02	2.831E-01	4.522E-01	4.693E-02	-0.210
		574.00	-7.154E-01	1.508E+00	2.377E+00	2.459E-01	-0.301
		699.00	5.076E-02	7.741E-01	1.261E+00	2.463E-01	0.040
		706.10	-3.983E-01	1.098E+00	1.692E+00	7.578E-01	-0.235
		733.00	1.598E-01	4.541E-01	6.672E-01	1.510E-01	0.240
		742.81	5.812E-01	1.645E+00	2.655E+00	1.789E+00	0.219
		796.30	4.809E-01	1.052E+00	1.551E+00	4.259E-01	0.310
		805.60	7.690E-01	1.177E+00	1.958E+00	6.070E-01	0.393
		819.60	-4.864E-02	1.317E+00	2.096E+00	8.030E-01	-0.023
		826.30	7.152E-02	8.371E-01	1.348E+00	6.065E-01	0.053
		831.60	-4.622E-01	6.878E-01	9.954E-01	3.008E-01	-0.464
		876.40	-6.688E-01	1.138E+00	1.405E+00	1.445E+00	-0.476
		880.51	3.082E-01	3.086E-01	5.597E-01	5.514E-02	0.551
		883.24	5.219E-02	3.166E-01	5.360E-01	3.612E-01	0.097
		899.00	-3.854E-01	9.474E-01	1.477E+00	6.494E-01	-0.261
		925.00	1.167E+00	1.232E+00	2.232E+00	2.176E-01	0.523
		926.50	2.417E-01	1.912E-01	3.394E-01	8.716E-02	0.712
		946.00 *	-4.482E-02	3.244E-01	5.342E-01	1.029E-01	-0.084
		949.00	4.332E-01	4.825E-01	8.669E-01	8.367E-02	0.500
		980.50	1.632E-01	6.726E-01	1.149E+00	1.092E-01	0.142
		1394.10	-7.042E-01	1.290E+00	1.759E+00	1.144E+00	-0.400
PA-234M		766.42	1.883E+01	1.548E+01	2.210E+01	1.126E+01	0.852
		1001.03 *	-5.703E-01	5.076E+00	8.285E+00	8.813E-01	-0.069
U-235	+	89.95	1.895E+00	1.119E+00	1.602E+00	4.976E-01	1.183
	+	93.35	2.555E+00	1.149E+00	1.138E+00	3.206E-01	2.245
		105.00	5.209E-01	9.146E-01	1.579E+00	4.713E-01	0.330
		143.76 *	-3.914E-02	1.888E-01	3.082E-01	5.448E-02	-0.127
		163.35	-1.834E-01	4.382E-01	7.021E-01	1.373E-01	-0.261
	+	185.71	1.811E-01	8.452E-02	9.469E-02	1.004E-02	1.913
		205.31	2.589E-01	4.968E-01	7.572E-01	1.558E-01	0.342
NP-236		94.67	1.321E-01	1.192E-01	1.811E-01	1.633E-02	0.729
		98.44	-6.951E-03	5.888E-02	9.843E-02	8.702E-03	-0.071
		111.00	7.440E-02	1.176E-01	2.058E-01	1.752E-02	0.362
		160.31 *	-3.568E-03	7.353E-02	1.228E-01	1.168E-02	-0.029
NP-237		86.50 *	4.682E-01	2.593E-01	3.987E-01	9.025E-02	1.174
		95.87	1.720E-01	8.629E-01	1.246E+00	3.085E-01	0.138
NP-239		99.55	1.231E-01	1.345E-01	2.337E-01	2.055E-02	0.527
		117.00 *	-1.153E-01	1.610E-01	2.646E-01	2.238E-02	-0.436
	+	209.75	2.194E+00	1.027E+00	1.408E+00	1.658E-01	1.558
		228.18	-1.029E-02	2.226E-01	3.588E-01	4.563E-02	-0.029
		277.60	5.571E-02	1.784E-01	2.935E-01	4.517E-02	0.190

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		-8.837E-01	1.470E+00	1.951E+00	2.666E-01	-0.453
AM-241		59.54	*	-4.011E-02	1.257E-01	1.805E-01	1.419E-02	-0.222
CM-243		99.55		1.267E-01	1.385E-01	2.405E-01	2.116E-02	0.527
		103.76	*	-1.178E-02	8.231E-02	1.401E-01	1.213E-02	-0.084
		117.00		-1.187E-01	1.657E-01	2.723E-01	2.304E-02	-0.436
	+	209.75		2.164E+00	1.013E+00	1.389E+00	1.635E-01	1.558
		228.18		-1.040E-02	2.250E-01	3.627E-01	4.612E-02	-0.029
		277.60		5.618E-02	1.799E-01	2.959E-01	4.555E-02	0.190
AM-246		798.80		-1.219E-01	1.757E-01	2.202E-01	2.161E-02	-0.553
		1036.00		1.187E-01	3.218E-01	5.520E-01	5.064E-02	0.215
		1062.04		1.568E-01	2.777E-01	4.733E-01	4.257E-02	0.331
		1078.86	*	3.715E-02	1.565E-01	2.642E-01	2.343E-02	0.141
CM-247		278.00		3.085E-01	7.570E-01	1.251E+00	1.928E-01	0.247
		287.40		9.794E-01	1.160E+00	1.962E+00	2.998E-01	0.499
		402.60	*	1.475E-02	3.499E-02	6.075E-02	6.502E-03	0.243
CF-249		252.85		1.103E+00	8.445E-01	1.459E+00	2.047E-01	0.756
		333.44		-8.920E-03	1.788E-01	2.521E-01	3.452E-02	-0.035
		387.95	*	3.426E-02	4.024E-02	7.143E-02	7.779E-03	0.480
CF-251		176.60	*	-2.186E-02	1.149E-01	1.894E-01	1.929E-02	-0.115
		227.00		-1.822E-01	3.670E-01	5.745E-01	7.271E-02	-0.317
		285.00		-8.390E-01	1.701E+00	2.641E+00	4.051E-01	-0.318

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536011      *
* Acquisition date   : 9-JAN-2010 14:20:47 Detector SN# :                  *
* Detector ID        : GAM11 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.58 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536011 Analyst initials: MXR1                 *
* Batch Number       : 937074 Sample Quantity : 1.0934E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.893E+01	3.875E+00	4.758E-01	0.000E+00
TL-208	4.907E-01	9.053E-02	5.660E-02	0.000E+00
BI-210	4.442E+00	3.627E+00	3.490E+00	0.000E+00
PB-210	4.442E+00	3.627E+00	3.490E+00	0.000E+00
PO-210	4.442E+00	3.623E+00	3.490E+00	0.000E+00
BI-211	3.316E+00	6.008E-01	3.073E-01	0.000E+00
BI-212	1.138E+00	4.962E-01	4.884E-01	0.000E+00
PB-212	1.552E+00	2.532E-01	9.682E-02	0.000E+00
PO-212	1.552E+00	2.532E-01	9.682E-02	0.000E+00
BI-214	9.089E-01	1.813E-01	1.123E-01	0.000E+00
PB-214	1.153E+00	2.172E-01	1.071E-01	0.000E+00
PO-214	1.153E+00	2.172E-01	1.071E-01	0.000E+00
PO-216	1.552E+00	2.532E-01	9.682E-02	0.000E+00
PO-218	1.153E+00	2.172E-01	1.071E-01	0.000E+00
RA-224	3.069E+00	9.540E-01	1.157E+00	0.000E+00
RA-226	9.089E-01	1.813E-01	1.123E-01	0.000E+00
AC-228	1.474E+00	3.537E-01	1.861E-01	0.000E+00
RA-228	1.474E+00	3.537E-01	1.861E-01	0.000E+00
TH-228	1.582E+00	2.581E-01	9.868E-02	0.000E+00
TH-230	9.089E-01	1.813E-01	1.123E-01	0.000E+00
TH-232	1.474E+00	3.537E-01	1.861E-01	0.000E+00
TH-234	7.115E-01	1.369E+00	1.576E+00	0.000E+00
U-234	9.089E-01	1.813E-01	1.123E-01	0.000E+00
U-238	7.115E-01	1.369E+00	1.576E+00	0.000E+00
AM-243	3.475E-01	6.776E-02	7.105E-02	0.000E+00
ANH-511	1.294E-01	8.329E-02	4.075E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.908E-01	3.091E-01	5.517E-01	0.000E+00 NOT IDENT.

NA-22	-2.469E-02	4.577E-02	7.082E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.690E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.027E-02	2.754E-02	4.191E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.296E-02	5.669E-02	0.000E+00	FAIL ABUN
SC-46	3.400E-03	4.031E-02	6.940E-02	0.000E+00	FAIL ABUN
V-48	-3.388E-02	8.153E-02	1.319E-01	0.000E+00	NOT IDENT.
CR-51	-6.789E-02	4.128E-01	6.689E-01	0.000E+00	NOT IDENT.
MN-52	1.037E-01	3.773E-01	6.428E-01	0.000E+00	NOT IDENT.
MN-54	4.335E-02	3.711E-02	6.938E-02	0.000E+00	NOT IDENT.
CO-56	-1.705E-02	3.910E-02	6.426E-02	0.000E+00	NOT IDENT.
CO-57	-1.875E-02	2.192E-02	3.686E-02	0.000E+00	NOT IDENT.
CO-58	1.509E-02	4.291E-02	7.232E-02	0.000E+00	NOT IDENT.
FE-59	-8.879E-02	1.010E-01	1.531E-01	0.000E+00	NOT IDENT.
CO-60	-1.837E-02	4.581E-02	7.233E-02	0.000E+00	NOT IDENT.
ZN-65	-4.709E-02	1.128E-01	1.541E-01	0.000E+00	NOT IDENT.
GE-68	-5.675E-03	1.400E+00	2.349E+00	0.000E+00	NOT IDENT.
AS-73	8.019E-02	6.253E-01	1.021E+00	0.000E+00	NOT IDENT.
AS-74	-1.375E-02	1.082E-01	1.794E-01	0.000E+00	NOT IDENT.
SE-75	-3.172E-02	4.576E-02	6.849E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.251E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-1.010E-01	4.144E-01	6.600E-01	0.000E+00	NOT IDENT.
RB-83	-2.619E-02	6.729E-02	1.102E-01	0.000E+00	NOT IDENT.
RB-84	9.091E-02	8.001E-02	1.492E-01	0.000E+00	NOT IDENT.
KR-85	6.949E+00	7.022E+00	1.154E+01	0.000E+00	NOT IDENT.
SR-85	3.715E-02	3.754E-02	6.169E-02	0.000E+00	NOT IDENT.
RB-86	-1.254E-01	1.044E+00	1.734E+00	0.000E+00	NOT IDENT.
Y-88	7.592E-03	2.929E-02	5.181E-02	0.000E+00	NOT IDENT.
ZR-88	-1.891E-02	2.912E-02	4.811E-02	0.000E+00	NOT IDENT.
Y-91	1.085E+01	2.311E+01	3.985E+01	0.000E+00	NOT IDENT.
NB-94	4.435E-02	3.523E-02	6.383E-02	0.000E+00	NOT IDENT.
NB-95	3.294E-02	4.809E-02	8.315E-02	0.000E+00	NOT IDENT.
NB-95M	6.743E-02	1.340E-01	2.075E-01	0.000E+00	NOT IDENT.
ZR-95	2.217E-02	7.554E-02	1.273E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.044E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.014E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.043E+01	3.583E+01	6.029E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.051E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.295E-04	3.116E-02	5.183E-02	0.000E+00	NOT IDENT.
RH-102	4.934E-03	2.793E-02	4.831E-02	0.000E+00	NOT IDENT.
RU-103	-1.004E-02	3.919E-02	6.517E-02	0.000E+00	NOT IDENT.
RH-106	-1.571E-01	3.212E-01	5.112E-01	0.000E+00	NOT IDENT.
RU-106	-1.571E-01	3.208E-01	5.112E-01	0.000E+00	NOT IDENT.
AG-108M	-3.204E-02	2.966E-02	4.594E-02	0.000E+00	NOT IDENT.
CD-109	1.177E+00	8.468E-01	1.333E+00	0.000E+00	NOT IDENT.
AG-110M	-2.304E-03	3.692E-02	6.099E-02	0.000E+00	NOT IDENT.
IN-111	2.273E+00	2.702E+00	4.295E+00	0.000E+00	NOT IDENT.
IN-113M	-1.541E-02	4.269E-02	7.217E-02	0.000E+00	NOT IDENT.
SN-113	-1.541E-02	4.269E-02	7.217E-02	0.000E+00	NOT IDENT.
IN-114M	8.081E-02	1.841E-01	2.894E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.480E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	8.471E-02	5.847E-02	1.068E-01	0.000E+00	NOT IDENT.
SB-122	1.581E+00	5.745E+00	9.878E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.727E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	3.922E-02	2.520E-02	4.617E-02	0.000E+00	NOT IDENT.
I-124	6.125E-02	1.341E+00	2.087E+00	0.000E+00	NOT IDENT.
SB-124	-3.814E-02	5.458E-02	7.220E-02	0.000E+00	FAIL ABUN
SB-125	9.540E-02	8.910E-02	1.634E-01	0.000E+00	FAIL ABUN
TE-125M	-1.275E+00	8.045E+00	1.410E+01	0.000E+00	NOT IDENT.
I-126	-7.532E-02	2.185E-01	3.506E-01	0.000E+00	NOT IDENT.
SB-126	-2.968E-02	2.100E-01	3.145E-01	0.000E+00	FAIL ABUN
SN-126	0.000E+00	8.387E-02	1.384E-01	0.000E+00	FAIL ABUN
SB-127	1.779E-01	2.779E+00	4.626E+00	0.000E+00	NOT IDENT.
XE-127	-3.773E-02	4.523E-02	7.299E-02	0.000E+00	NOT IDENT.
I-131	1.868E-01	1.745E-01	3.021E-01	0.000E+00	NOT IDENT.
TE-132	4.525E-03	1.550E+00	2.575E+00	0.000E+00	NOT IDENT.
BA-133	-1.406E-03	4.289E-02	6.169E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.372E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.976E-02	5.413E-02	8.764E-02	0.000E+00	NOT IDENT.
CS-135	2.146E-01	1.729E-01	2.761E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.221E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.905E-03	1.552E-01	2.602E-01	0.000E+00	NOT IDENT.
BA-137M	-1.786E-03	3.788E-02	6.263E-02	0.000E+00	NOT IDENT.
CS-137	-1.888E-03	4.004E-02	6.620E-02	0.000E+00	NOT IDENT.
CE-139	-6.306E-03	2.594E-02	4.407E-02	0.000E+00	NOT IDENT.
BA-140	1.213E-01	3.123E-01	5.401E-01	0.000E+00	NOT IDENT.
LA-140	-1.265E-01	9.820E-02	1.250E-01	0.000E+00	NOT IDENT.
CE-141	-1.519E-02	5.721E-02	9.798E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.518E+03	0.000E+00	0.000E+00	SHORT HLIF

CE-144	8.246E-02	1.826E-01	2.940E-01	0.000E+00	NOT IDENT.
PM-144	-1.976E-02	3.664E-02	5.757E-02	0.000E+00	NOT IDENT.
PR-144	-1.342E+00	2.488E+00	3.909E+00	0.000E+00	NOT IDENT.
PM-146	-2.710E-02	3.952E-02	6.382E-02	0.000E+00	NOT IDENT.
ND-147	8.913E-02	6.567E-01	1.124E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.052E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.006E-01	9.506E-02	1.404E-01	0.000E+00	FAIL ABUN
GD-153	-7.946E-02	8.059E-02	1.094E-01	0.000E+00	NOT IDENT.
EU-154	-6.626E-02	1.279E-01	1.984E-01	0.000E+00	NOT IDENT.
EU-155	7.308E-02	8.972E-02	1.635E-01	0.000E+00	NOT IDENT.
TB-160	4.106E-02	1.554E-01	2.717E-01	0.000E+00	FAIL ABUN
HO-166M	-1.691E-02	5.848E-02	9.361E-02	0.000E+00	FAIL ABUN
TM-171	-9.022E+00	2.480E+01	3.663E+01	0.000E+00	NOT IDENT.
LU-176	1.146E-02	2.307E-02	3.920E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.141E+00	2.916E+00	0.000E+00	FAIL ABUN
LU-177M	3.654E-02	1.630E-01	2.857E-01	0.000E+00	NOT IDENT.
HF-181	-3.348E-02	3.850E-02	6.024E-02	0.000E+00	NOT IDENT.
W-181	-2.831E-01	3.286E-01	4.714E-01	0.000E+00	NOT IDENT.
TA-182	3.315E-02	2.224E-01	3.736E-01	0.000E+00	FAIL ABUN
RE-183	-1.973E-02	9.999E-02	1.706E-01	0.000E+00	FAIL ABUN
RE-184	2.989E-01	2.242E-01	3.978E-01	0.000E+00	NOT IDENT.
OS-185	8.444E-03	4.206E-02	7.126E-02	0.000E+00	NOT IDENT.
RE-188	2.410E-02	1.444E-01	2.515E-01	0.000E+00	NOT IDENT.
W-188	-8.358E+00	8.266E+00	1.089E+01	0.000E+00	FAIL ABUN
IR-192	3.493E-03	3.476E-02	5.745E-02	0.000E+00	FAIL ABUN
AU-195	5.988E-02	1.923E-01	3.381E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.576E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.319E+00	1.446E+01	2.456E+01	0.000E+00	NOT IDENT.
TL-202	-1.424E-02	8.324E-02	1.413E-01	0.000E+00	NOT IDENT.
HG-203	1.852E-03	4.222E-02	7.017E-02	0.000E+00	NOT IDENT.
BI-207	2.713E-03	6.125E-02	1.015E-01	0.000E+00	FAIL ABUN
TL-207	2.528E-01	6.730E-01	1.127E+00	0.000E+00	FAIL ABUN
PO-209	8.220E-01	7.268E+00	1.254E+01	0.000E+00	NOT IDENT.
PB-211	-5.142E-01	9.556E-01	1.501E+00	0.000E+00	NOT IDENT.
PO-215	2.528E-01	6.730E-01	1.127E+00	0.000E+00	FAIL ABUN
RN-219	1.731E-02	3.951E-01	6.856E-01	0.000E+00	FAIL ABUN
RN-220	-1.745E+01	2.530E+01	4.003E+01	0.000E+00	NOT IDENT.
RA-223	2.528E-01	6.730E-01	1.127E+00	0.000E+00	FAIL ABUN
AC-227	-2.471E-01	3.598E-01	5.691E-01	0.000E+00	FAIL ABUN
TH-227	-2.471E-01	3.605E-01	5.691E-01	0.000E+00	FAIL ABUN
TH-229	-2.107E-01	4.593E-01	7.624E-01	0.000E+00	FAIL ABUN
PA-231	2.359E-01	1.384E+00	2.317E+00	0.000E+00	NOT IDENT.
TH-231	2.528E-01	6.730E-01	1.127E+00	0.000E+00	FAIL ABUN
U-231	3.759E-01	1.847E+00	2.760E+00	0.000E+00	FAIL ABUN
PA-233	3.945E-02	5.951E-02	1.020E-01	0.000E+00	FAIL ABUN
PA-234	-4.482E-02	3.179E-01	5.328E-01	0.000E+00	FAIL ABUN
PA-234M	-5.703E-01	4.974E+00	8.259E+00	0.000E+00	NOT IDENT.
U-235	-3.914E-02	1.850E-01	3.114E-01	0.000E+00	FAIL ABUN
NP-236	-3.568E-03	7.206E-02	1.239E-01	0.000E+00	NOT IDENT.
NP-237	0.000E+00	2.542E-01	4.043E-01	0.000E+00	NOT IDENT.
NP-239	-1.153E-01	1.578E-01	2.677E-01	0.000E+00	FAIL ABUN
AM-241	-4.011E-02	1.232E-01	1.835E-01	0.000E+00	NOT IDENT.
CM-243	-1.178E-02	8.067E-02	1.419E-01	0.000E+00	FAIL ABUN
AM-246	3.715E-02	1.533E-01	2.632E-01	0.000E+00	NOT IDENT.
CM-247	1.475E-02	3.429E-02	6.094E-02	0.000E+00	NOT IDENT.
CF-249	3.426E-02	3.943E-02	7.169E-02	0.000E+00	NOT IDENT.
CF-251	-2.186E-02	1.126E-01	1.911E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536011.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 14:20:47.
Sample ID          : G243536011          Sample quantity  : 1.09340E+02 GRAM
Detector name      : GAM11              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.58  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 937074             Detector SN#      :
Matrix Spike ID    :                   LCS ID             : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1483	10.67*	1.226E+00	3.893E+01	3.893E+01	10.16
TL-208	277.35	-----	6.80	4.676E+00	-----	Line Not Found	-----
	510.84	111	21.60	2.957E+00	5.990E-01	5.990E-01	66.22
	583.14	320	84.20*	2.663E+00	4.907E-01	4.907E-01	18.83
	860.37	-----	12.46	1.927E+00	-----	Line Not Found	-----
BI-210	46.50	76	4.05*	1.449E+00	4.435E+00	4.442E+00	83.32
PB-210	46.50	76	4.05*	1.449E+00	4.435E+00	4.442E+00	83.32
PO-210	46.50	76	4.05*	1.449E+00	4.435E+00	4.442E+00	83.22
BI-211	72.87	-----	1.27	5.576E+00	-----	Line Not Found	-----
	351.07	490	12.94*	3.924E+00	3.316E+00	3.316E+00	18.49
BI-212	727.18	87	11.80*	2.224E+00	1.138E+00	1.138E+00	44.49
	785.46	-----	1.97	2.083E+00	-----	Line Not Found	-----
	1620.62	21	2.75	1.134E+00	2.311E+00	2.311E+00	44.44
PB-212	74.81	386	10.70	5.773E+00	2.144E+00	2.144E+00	21.98
	77.11	637	18.00	6.010E+00	2.020E+00	2.020E+00	14.50
	87.30	-----	8.00	6.795E+00	-----	Line Not Found	-----
	238.63	1052	44.60*	5.215E+00	1.552E+00	1.552E+00	16.65
	300.09	107	3.41	4.418E+00	2.427E+00	2.427E+00	48.72
PO-212	74.81	386	10.70	5.773E+00	2.144E+00	2.144E+00	21.98
	77.11	637	18.00	6.010E+00	2.020E+00	2.020E+00	14.50
	87.30	-----	8.00	6.795E+00	-----	Line Not Found	-----
	115.19	-----	0.60	7.407E+00	-----	Line Not Found	-----
	238.63	1052	44.60*	5.215E+00	1.552E+00	1.552E+00	16.65
	300.09	107	3.41	4.418E+00	2.427E+00	2.427E+00	48.72
BI-214	609.31	315	46.30*	2.571E+00	9.089E-01	9.089E-01	20.36
	1120.29	42	15.10	1.532E+00	6.296E-01	6.297E-01	82.82
	1764.49	48	15.80	1.071E+00	9.647E-01	9.647E-01	42.41
PB-214	74.81	386	6.21	5.773E+00	3.694E+00	3.694E+00	21.23
	77.11	637	10.50	6.010E+00	3.463E+00	3.463E+00	16.38
	87.30	-----	4.67	6.795E+00	-----	Line Not Found	-----
	241.98	182	7.49	5.168E+00	1.618E+00	1.618E+00	32.21
	295.21	304	19.20	4.469E+00	1.214E+00	1.214E+00	24.81

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	490	37.20*	3.924E+00	1.153E+00	1.153E+00	19.21
	74.81	386	6.21	5.773E+00	3.694E+00	3.694E+00	21.23
	77.11	637	10.50	6.010E+00	3.463E+00	3.463E+00	16.38
	87.30	-----	4.67	6.795E+00	-----	Line Not Found	-----
	241.98	182	7.49	5.168E+00	1.618E+00	1.618E+00	32.21
PO-216	295.21	304	19.20	4.469E+00	1.214E+00	1.214E+00	24.81
	351.92	490	37.20*	3.924E+00	1.153E+00	1.153E+00	19.21
	74.81	386	10.70	5.773E+00	2.144E+00	2.144E+00	21.98
	77.11	637	18.00	6.010E+00	2.020E+00	2.020E+00	14.50
	87.30	-----	8.00	6.795E+00	-----	Line Not Found	-----
PO-218	238.63	1052	44.60*	5.215E+00	1.552E+00	1.552E+00	16.65
	300.09	107	3.41	4.418E+00	2.427E+00	2.427E+00	48.72
	74.81	386	6.21	5.773E+00	3.694E+00	3.694E+00	21.23
	77.11	637	10.50	6.010E+00	3.463E+00	3.463E+00	16.38
	87.30	-----	4.67	6.795E+00	-----	Line Not Found	-----
RA-224	241.98	182	7.49	5.168E+00	1.618E+00	1.618E+00	32.21
	295.21	304	19.20	4.469E+00	1.214E+00	1.214E+00	24.81
	351.92	490	37.20*	3.924E+00	1.153E+00	1.153E+00	19.21
	240.98	182	3.95*	5.168E+00	3.069E+00	3.069E+00	31.72
	609.31	315	46.30*	2.571E+00	9.089E-01	9.089E-01	20.36
AC-228	1120.29	42	15.10	1.532E+00	6.296E-01	6.297E-01	82.82
	1764.49	48	15.80	1.071E+00	9.647E-01	9.647E-01	42.41
	338.32	216	11.40	4.042E+00	1.606E+00	1.606E+00	49.33
	911.07	218	27.70*	1.835E+00	1.474E+00	1.474E+00	24.49
	969.11	117	16.60	1.739E+00	1.388E+00	1.388E+00	37.07
RA-228	338.32	216	11.40	4.042E+00	1.606E+00	1.606E+00	49.33
	911.07	218	27.70*	1.835E+00	1.474E+00	1.474E+00	24.49
	969.11	117	16.60	1.739E+00	1.388E+00	1.388E+00	37.07
	74.81	386	10.70	5.773E+00	2.144E+00	2.185E+00	19.93
	77.11	637	18.00	6.010E+00	2.020E+00	2.059E+00	14.50
TH-228	87.30	-----	8.00	6.795E+00	-----	Line Not Found	-----
	238.63	1052	44.60*	5.215E+00	1.552E+00	1.582E+00	16.65
	300.09	107	3.41	4.418E+00	2.427E+00	2.474E+00	76.02
	609.31	315	46.30*	2.571E+00	9.089E-01	9.089E-01	20.36
	1120.29	42	15.10	1.532E+00	6.296E-01	6.296E-01	82.82
TH-230	1764.49	48	15.80	1.071E+00	9.647E-01	9.647E-01	42.41
	338.32	216	11.40	4.042E+00	1.606E+00	1.606E+00	28.37
	911.07	218	27.70*	1.835E+00	1.474E+00	1.474E+00	24.49
	969.11	117	16.60	1.739E+00	1.388E+00	1.388E+00	37.07
	63.29	33	3.80*	4.226E+00	7.115E-01	7.115E-01	196.38
TH-232	92.38	237	5.41	7.064E+00	2.125E+00	2.125E+00	39.56
	609.31	315	46.30*	2.571E+00	9.089E-01	9.089E-01	20.36
	1120.29	42	15.10	1.532E+00	6.296E-01	6.296E-01	82.82
	1764.49	48	15.80	1.071E+00	9.647E-01	9.647E-01	42.41
	63.29	33	3.80*	4.226E+00	7.115E-01	7.115E-01	196.38
U-234	92.38	237	5.41	7.064E+00	2.125E+00	2.125E+00	36.22
	74.67	386	66.00*	5.773E+00	3.475E-01	3.475E-01	19.90
	86.72	-----	0.34	6.761E+00	-----	Line Not Found	-----
	117.66	-----	0.55	7.397E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	7.065E+00	-----	Line Not Found	-----
ANH-511	511.00	111	100.00*	2.957E+00	1.294E-01	1.294E-01	65.69

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 4
Number of lines tentatively identified by NID 28 87.50%

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	3.893E+01	3.893E+01	0.395E+01	10.16	
TL-208	1.41E+10Y	1.00	4.907E-01	4.907E-01	0.924E-01	18.83	
BI-210	22.26Y	1.00	4.435E+00	4.442E+00	3.701E+00	83.32	
PB-210	22.26Y	1.00	4.435E+00	4.442E+00	3.701E+00	83.32	
PO-210	22.26Y	1.00	4.435E+00	4.442E+00	3.697E+00	83.22	
BI-211	7.04E+08Y	1.00	3.316E+00	3.316E+00	0.613E+00	18.49	
BI-212	1.41E+10Y	1.00	1.138E+00	1.138E+00	0.506E+00	44.49	
PB-212	1.41E+10Y	1.00	1.552E+00	1.552E+00	0.258E+00	16.65	
PO-212	1.41E+10Y	1.00	1.552E+00	1.552E+00	0.258E+00	16.65	
BI-214	1600.00Y	1.00	9.089E-01	9.089E-01	1.850E-01	20.36	
PB-214	1600.00Y	1.00	1.153E+00	1.153E+00	0.222E+00	19.21	
PO-214	1600.00Y	1.00	1.153E+00	1.153E+00	0.222E+00	19.21	
PO-216	1.41E+10Y	1.00	1.552E+00	1.552E+00	0.258E+00	16.65	
PO-218	1600.00Y	1.00	1.153E+00	1.153E+00	0.222E+00	19.21	
RA-224	1.41E+10Y	1.00	3.069E+00	3.069E+00	0.973E+00	31.72	
RA-226	1600.00Y	1.00	9.089E-01	9.089E-01	1.850E-01	20.36	
AC-228	1.41E+10Y	1.00	1.474E+00	1.474E+00	0.361E+00	24.49	
RA-228	1.41E+10Y	1.00	1.474E+00	1.474E+00	0.361E+00	24.49	
TH-228	1.91Y	1.02	1.552E+00	1.582E+00	0.263E+00	16.65	
TH-230	4.47E+09Y	1.00	9.089E-01	9.089E-01	1.850E-01	20.36	
TH-232	1.41E+10Y	1.00	1.474E+00	1.474E+00	0.361E+00	24.49	
TH-234	4.47E+09Y	1.00	7.115E-01	7.115E-01	13.97E-01	196.38	
U-234	4.47E+09Y	1.00	9.089E-01	9.089E-01	1.850E-01	20.36	
U-238	4.47E+09Y	1.00	7.115E-01	7.115E-01	13.97E-01	196.38	
AM-243	7380.00Y	1.00	3.475E-01	3.475E-01	0.691E-01	19.90	
ANH-511	1.00E+09Y	1.00	1.294E-01	1.294E-01	0.850E-01	65.69	

Total Activity : 7.987E+01 7.992E+01

Grand Total Activity : 7.987E+01 7.992E+01

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

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

Unidentified Energy Lines
Sample ID : G243536011

Page : 5
Acquisition date : 9-JAN-2010 14:20:47

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	89.81	103	251	0.91	178.53	177	5	1.43E-02	50.2	6.93E+00	T
0	128.75	128	297	1.05	256.48	252	10	1.78E-02	53.3	7.29E+00	T
0	185.62	176	325	1.19	370.31	364	12	2.44E-02	45.4	6.16E+00	T
0	209.16	118	192	0.89	417.42	414	8	1.64E-02	45.3	5.71E+00	T
0	270.43	115	207	1.41	540.04	535	12	1.60E-02	54.0	4.76E+00	T
0	462.28	101	73	1.24	924.00	919	10	1.41E-02	37.2	3.19E+00	T
0	794.33	40	41	1.06	1588.46	1584	9	5.52E-03	66.9	2.06E+00	
2	963.99	49	68	1.91	1927.95	1922	20	6.87E-03	65.0	1.75E+00	T
0	1587.20	13	26	1.14	3174.74	3170	11	1.78E-03	****	1.15E+00	
0	1629.75	10	0	1.45	3259.85	3257	6	1.46E-03	73.6	1.13E+00	
0	1728.06	22	3	1.18	3456.51	3450	11	3.06E-03	51.8	1.09E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243536011.CNF;1
* Acquisition date   : 9-JAN-2010 14:20:47.  Detector SN#      :
* Detector ID        : GAM11                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.58             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243536011           Analyst initials: MXR1
* Batch Number       : 937074              Sample Quantity : 1.09340E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22.2MS Isotope      :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A              LCS Isotope        :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.893E+01	3.954E+00	4.786E-01	4.138E-02	81.340
TL-208	4.907E-01	9.237E-02	5.656E-02	6.108E-03	8.675
BI-210	4.442E+00	3.701E+00	3.428E+00	3.191E-01	1.296
PB-210	4.442E+00	3.701E+00	3.428E+00	3.191E-01	1.296
PO-210	4.442E+00	3.697E+00	3.428E+00	2.890E-01	1.296
BI-211	3.316E+00	6.131E-01	3.060E-01	4.037E-02	10.835
BI-212	1.138E+00	5.063E-01	4.888E-01	5.342E-02	2.328
PB-212	1.552E+00	2.584E-01	9.616E-02	1.347E-02	16.141
PO-212	1.552E+00	2.584E-01	9.616E-02	1.347E-02	16.141
BI-214	9.089E-01	1.850E-01	1.123E-01	1.269E-02	8.094
PB-214	1.153E+00	2.216E-01	1.067E-01	1.509E-02	10.812
PO-214	1.153E+00	2.216E-01	1.067E-01	1.509E-02	10.812
PO-216	1.552E+00	2.584E-01	9.616E-02	1.347E-02	16.141
PO-218	1.153E+00	2.216E-01	1.067E-01	1.509E-02	10.812
RA-224	3.069E+00	9.735E-01	1.149E+00	1.539E-01	2.670
RA-226	9.089E-01	1.850E-01	1.123E-01	1.269E-02	8.094
AC-228	1.474E+00	3.610E-01	1.866E-01	2.272E-02	7.898
RA-228	1.474E+00	3.610E-01	1.866E-01	2.272E-02	7.898

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.582E+00	2.633E-01	9.800E-02	1.373E-02	16.141
TH-230	9.089E-01	1.850E-01	1.123E-01	1.269E-02	8.094
TH-232	1.474E+00	3.610E-01	1.866E-01	2.272E-02	7.898
TH-234	7.115E-01	1.397E+00	1.551E+00	2.699E-01	0.459
U-234	9.089E-01	1.850E-01	1.123E-01	1.269E-02	8.094
U-238	7.115E-01	1.397E+00	1.551E+00	2.699E-01	0.459
AM-243	3.475E-01	6.914E-02	7.000E-02	5.665E-03	4.965
ANH-511	1.294E-01	8.499E-02	4.068E-02	4.350E-03	3.180

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.908E-01		3.154E-01	5.505E-01	6.231E-02	0.347
NA-22	-2.469E-02		4.670E-02	7.116E-02	5.844E-03	-0.347
NA-24	-2.349E+01		2.903E+01	Half-Life too short		
AL-26	-1.027E-02		2.810E-02	4.221E-02	3.446E-03	-0.243
TI-44	3.728E-01	+	5.404E-02	5.588E-02	4.710E-03	6.672
SC-46	3.400E-03		4.114E-02	6.956E-02	6.851E-03	0.049
V-48	-3.388E-02		8.319E-02	1.322E-01	1.254E-02	-0.256
CR-51	-6.789E-02		4.212E-01	6.656E-01	9.660E-02	-0.102
MN-52	1.037E-01		3.850E-01	6.464E-01	5.416E-02	0.160
MN-54	4.335E-02		3.787E-02	6.950E-02	6.844E-03	0.624
CO-56	-1.705E-02		3.990E-02	6.439E-02	6.344E-03	-0.265
CO-57	-1.875E-02		2.237E-02	3.644E-02	3.083E-03	-0.515
CO-58	1.509E-02		4.378E-02	7.244E-02	7.133E-03	0.208
FE-59	-8.879E-02		1.030E-01	1.537E-01	1.445E-02	-0.578
CO-60	-1.837E-02		4.675E-02	7.270E-02	6.008E-03	-0.253
ZN-65	-4.709E-02		1.151E-01	1.547E-01	1.328E-02	-0.304
GE-68	-5.675E-03		1.428E+00	2.357E+00	2.093E-01	-0.002
AS-73	8.019E-02		6.381E-01	1.004E+00	7.538E-02	0.080
AS-74	-1.375E-02		1.104E-01	1.793E-01	1.823E-02	-0.077
SE-75	-3.172E-02		4.669E-02	6.807E-02	1.001E-02	-0.466
BR-77	-1.622E-05		1.658E-05	Half-Life too short		
SR-82	-1.010E-01		4.229E-01	6.609E-01	6.464E-02	-0.153
RB-83	-2.619E-02		6.867E-02	1.101E-01	1.173E-02	-0.238
RB-84	9.091E-02		8.164E-02	1.495E-01	1.473E-02	0.608
KR-85	6.949E+00		7.165E+00	1.152E+01	1.231E+00	0.603
SR-85	3.715E-02		3.831E-02	6.159E-02	6.580E-03	0.603
RB-86	-1.254E-01		1.066E+00	1.740E+00	1.546E-01	-0.072
Y-88	7.592E-03		2.989E-02	5.220E-02	4.237E-03	0.145
ZR-88	-1.891E-02		2.972E-02	4.795E-02	5.114E-03	-0.394
Y-91	1.085E+01		2.358E+01	4.003E+01	3.241E+00	0.271
NB-94	4.435E-02		3.595E-02	6.388E-02	6.135E-03	0.694
NB-95	3.294E-02		4.908E-02	8.325E-02	8.127E-03	0.396
NB-95M	6.743E-02		1.367E-01	2.061E-01	2.878E-02	0.327
ZR-95	2.217E-02		7.708E-02	1.275E-01	1.341E-02	0.174
NB-97	5.764E-01		2.573E+00	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	1.651E+02		5.174E+01	Half-Life too short		
MO-99	1.043E+01		3.656E+01	6.035E+01	9.552E+00	0.173
TC-99M	9.255E+14		1.046E+15	Half-Life too short		
RH-101	-5.295E-04		3.180E-02	5.141E-02	5.754E-03	-0.010
RH-102	4.934E-03		2.850E-02	4.821E-02	5.197E-03	0.102
RU-103	-1.004E-02		3.999E-02	6.506E-02	1.011E-02	-0.154
RH-106	-1.571E-01		3.277E-01	5.111E-01	7.274E-02	-0.307
RU-106	-1.571E-01		3.273E-01	5.111E-01	5.070E-02	-0.307
AG-108M	-3.204E-02		3.026E-02	4.582E-02	5.065E-03	-0.699
CD-109	1.177E+00		8.640E-01	1.315E+00	1.247E-01	0.896
AG-110M	-2.304E-03		3.768E-02	6.100E-02	5.944E-03	-0.038
IN-111	2.273E+00		2.757E+00	4.267E+00	5.815E-01	0.533
IN-113M	-1.541E-02		4.356E-02	7.193E-02	7.824E-03	-0.214
SN-113	-1.541E-02		4.356E-02	7.193E-02	7.824E-03	-0.214
IN-114M	8.081E-02		1.879E-01	2.870E-01	3.105E-02	0.282
CD-115	-9.285E-06		1.775E-05	Half-Life too short		
SN-117M	8.471E-02		5.966E-02	1.057E-01	9.994E-03	0.801
SB-122	1.581E+00		5.862E+00	9.869E+00	1.028E+00	0.160
I-123	1.203E+03		3.942E+02	Half-Life too short		
TE-123M	3.922E-02		2.571E-02	4.573E-02	4.351E-03	0.858
I-124	6.125E-02		1.368E+00	2.086E+00	2.108E-01	0.029
SB-124	-3.814E-02		5.569E-02	7.270E-02	6.317E-03	-0.525
SB-125	9.540E-02		9.092E-02	1.629E-01	1.776E-02	0.586
TE-125M	-1.275E+00		8.210E+00	1.393E+01	1.431E+00	-0.092
I-126	-7.532E-02		2.230E-01	3.507E-01	3.324E-02	-0.215
SB-126	-2.968E-02		2.143E-01	3.148E-01	3.039E-02	-0.094
SN-126	2.661E-01		8.558E-02	1.365E-01	1.287E-02	1.950
SB-127	1.779E-01		2.836E+00	4.628E+00	6.144E-01	0.038
XE-127	-3.773E-02		4.615E-02	7.241E-02	8.275E-03	-0.521
I-131	1.868E-01		1.780E-01	3.009E-01	3.784E-02	0.621
TE-132	4.525E-03		1.582E+00	2.557E+00	4.853E-01	0.002
BA-133	-1.406E-03		4.377E-02	6.143E-02	9.908E-03	-0.023
I-133	-7.187E-02		7.000E-02	Half-Life too short		
CS-134	5.976E-02		5.524E-02	8.778E-02	8.659E-03	0.681
CS-135	2.146E-01		1.764E-01	2.744E-01	4.306E-02	0.782
I-135	-2.572E+13		6.232E+13	Half-Life too short		
CS-136	-6.905E-03		1.584E-01	2.611E-01	2.466E-02	-0.026
BA-137M	-1.786E-03		3.866E-02	6.264E-02	5.927E-03	-0.029
CS-137	-1.888E-03		4.086E-02	6.622E-02	6.276E-03	-0.029
CE-139	-6.306E-03		2.647E-02	4.366E-02	4.243E-03	-0.144
BA-140	1.213E-01		3.186E-01	5.394E-01	1.818E-01	0.225
LA-140	-1.265E-01		1.002E-01	1.258E-01	1.058E-02	-1.005
CE-141	-1.519E-02		5.838E-02	9.698E-02	8.889E-03	-0.157
CE-143	3.865E-03		7.743E-04	Half-Life too short		
CE-144	8.246E-02		1.863E-01	2.908E-01	4.538E-02	0.284
PM-144	-1.976E-02		3.739E-02	5.760E-02	5.523E-03	-0.343
PR-144	-1.342E+00		2.539E+00	3.912E+00	3.749E-01	-0.343
PM-146	-2.710E-02		4.033E-02	6.367E-02	7.983E-03	-0.426

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	8.913E-02		6.701E-01	1.122E+00	1.816E-01	0.079
PM-149	-2.498E-04		1.557E-04	Half-Life too short		
EU-152	-1.006E-01		9.700E-02	1.398E-01	1.896E-02	-0.719
GD-153	-7.946E-02		8.224E-02	1.080E-01	9.596E-03	-0.736
EU-154	-6.626E-02		1.305E-01	1.993E-01	2.192E-02	-0.332
EU-155	7.308E-02		9.155E-02	1.615E-01	1.409E-02	0.453
TB-160	4.106E-02		1.586E-01	2.723E-01	2.683E-02	0.151
HO-166M	-1.691E-02		5.967E-02	9.367E-02	9.022E-03	-0.181
TM-171	-9.022E+00		2.530E+01	3.606E+01	2.706E+00	-0.250
LU-176	1.146E-02		2.354E-02	3.900E-02	5.732E-03	0.294
LU-177	4.668E+00	+	2.185E+00	2.893E+00	3.386E-01	1.613
LU-177M	3.654E-02		1.664E-01	2.848E-01	3.058E-02	0.128
HF-181	-3.348E-02		3.929E-02	6.012E-02	6.475E-03	-0.557
W-181	-2.831E-01		3.353E-01	4.640E-01	3.439E-02	-0.610
TA-182	3.315E-02		2.269E-01	3.753E-01	3.049E-02	0.088
RE-183	-1.973E-02		1.020E-01	1.690E-01	1.620E-02	-0.117
RE-184	2.989E-01		2.288E-01	3.952E-01	5.545E-02	0.756
OS-185	8.444E-03		4.291E-02	7.127E-02	6.879E-03	0.118
RE-188	2.410E-02		1.473E-01	2.490E-01	2.323E-02	0.097
W-188	-8.358E+00		8.435E+00	1.083E+01	1.645E+00	-0.772
IR-192	3.493E-03		3.547E-02	5.716E-02	8.217E-03	0.061
AU-195	5.988E-02		1.963E-01	3.338E-01	2.945E-02	0.179
TL-200	-3.136E-03		2.845E-03	Half-Life too short		
TL-201	-3.319E+00		1.475E+01	2.433E+01	2.380E+00	-0.136
TL-202	-1.424E-02		8.494E-02	1.409E-01	1.520E-02	-0.101
HG-203	1.852E-03		4.308E-02	6.977E-02	1.090E-02	0.027
BI-207	2.713E-03		6.250E-02	1.019E-01	9.151E-03	0.027
TL-207	2.528E-01		6.868E-01	1.122E+00	2.346E-01	0.225
PO-209	8.220E-01		7.416E+00	1.257E+01	1.237E+00	0.065
PB-211	-5.142E-01		9.751E-01	1.496E+00	9.422E-01	-0.344
PO-215	2.528E-01		6.868E-01	1.122E+00	2.346E-01	0.225
RN-219	1.731E-02		4.032E-01	6.833E-01	1.114E-01	0.025
RN-220	-1.745E+01		2.582E+01	3.999E+01	4.202E+00	-0.436
RA-223	2.528E-01		6.868E-01	1.122E+00	2.346E-01	0.225
AC-227	-2.471E-01		3.671E-01	5.655E-01	1.078E-01	-0.437
TH-227	-2.471E-01		3.679E-01	5.655E-01	1.205E-01	-0.437
TH-229	-2.107E-01		4.686E-01	7.561E-01	8.303E-02	-0.279
PA-231	2.359E-01		1.412E+00	2.304E+00	4.565E-01	0.102
TH-231	2.528E-01		6.868E-01	1.122E+00	2.346E-01	0.225
U-231	3.759E-01		1.884E+00	2.724E+00	2.440E-01	0.138
PA-233	3.945E-02		6.073E-02	1.015E-01	1.490E-02	0.389
PA-234	-4.482E-02		3.244E-01	5.342E-01	1.029E-01	-0.084
PA-234M	-5.703E-01		5.076E+00	8.285E+00	8.813E-01	-0.069
U-235	-3.914E-02		1.888E-01	3.082E-01	5.448E-02	-0.127
NP-236	-3.568E-03		7.353E-02	1.228E-01	1.168E-02	-0.029
NP-237	4.682E-01		2.593E-01	3.987E-01	9.025E-02	1.174
NP-239	-1.153E-01		1.610E-01	2.646E-01	2.238E-02	-0.436
AM-241	-4.011E-02		1.257E-01	1.805E-01	1.419E-02	-0.222

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.178E-02		8.231E-02	1.401E-01	1.213E-02	-0.084
AM-246	3.715E-02		1.565E-01	2.642E-01	2.343E-02	0.141
CM-247	1.475E-02		3.499E-02	6.075E-02	6.502E-03	0.243
CF-249	3.426E-02		4.024E-02	7.143E-02	7.779E-03	0.480
CF-251	-2.186E-02		1.149E-01	1.894E-01	1.929E-02	-0.115

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243536011          *
* Acquisition date   : 9-JAN-2010 14:20:47 Detector SN# :                  *
* Detector ID        : GAM11 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.58 Half life ratio : 8.000             *
*****
*
*                                     SAMPLE DATA                          *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243536011 Analyst initials: MXR1                 *
* Batch Number       : 937074 Sample Quantity : 1.0934E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*
*                                     QC DATA                              *
*
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.893E+01	3.875E+00	2.380E-01	1.977E+00
TL-208	4.907E-01	9.053E-02	2.832E-02	4.619E-02
BI-210	4.442E+00	3.627E+00	1.746E+00	1.850E+00
PB-210	4.442E+00	3.627E+00	1.746E+00	1.850E+00
PO-210	4.442E+00	3.623E+00	1.746E+00	1.848E+00
BI-211	3.316E+00	6.008E-01	1.537E-01	3.065E-01
BI-212	1.138E+00	4.962E-01	2.443E-01	2.531E-01
PB-212	1.552E+00	2.532E-01	4.844E-02	1.292E-01
PO-212	1.552E+00	2.532E-01	4.844E-02	1.292E-01
BI-214	9.089E-01	1.813E-01	5.620E-02	9.251E-02
PB-214	1.153E+00	2.172E-01	5.359E-02	1.108E-01
PO-214	1.153E+00	2.172E-01	5.359E-02	1.108E-01
PO-216	1.552E+00	2.532E-01	4.844E-02	1.292E-01
PO-218	1.153E+00	2.172E-01	5.359E-02	1.108E-01
RA-224	3.069E+00	9.540E-01	5.789E-01	4.867E-01
RA-226	9.089E-01	1.813E-01	5.620E-02	9.251E-02
AC-228	1.474E+00	3.537E-01	9.313E-02	1.805E-01
RA-228	1.474E+00	3.537E-01	9.313E-02	1.805E-01
TH-228	1.582E+00	2.581E-01	4.937E-02	1.317E-01
TH-230	9.089E-01	1.813E-01	5.620E-02	9.251E-02
TH-232	1.474E+00	3.537E-01	9.313E-02	1.805E-01
TH-234	7.115E-01	1.369E+00	7.886E-01	6.986E-01
U-234	9.089E-01	1.813E-01	5.620E-02	9.251E-02
U-238	7.115E-01	1.369E+00	7.886E-01	6.986E-01
AM-243	3.475E-01	6.776E-02	3.555E-02	3.457E-02
ANH-511	1.294E-01	8.329E-02	2.039E-02	4.249E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.908E-01	3.091E-01	2.760E-01	1.577E-01 NOT IDENT.

NA-22	-2.469E-02	4.577E-02	3.543E-02	2.335E-02	NOT IDENT.
NA-24	-2.349E+07	5.690E+07	0.000E+00	2.903E+07	SHORT HLIF
AL-26	-1.027E-02	2.754E-02	2.097E-02	1.405E-02	NOT IDENT.
TI-44	3.728E-01	5.296E-02	2.836E-02	2.702E-02	FAIL ABUN
SC-46	3.400E-03	4.031E-02	3.472E-02	2.057E-02	FAIL ABUN
V-48	-3.388E-02	8.153E-02	6.596E-02	4.160E-02	NOT IDENT.
CR-51	-6.789E-02	4.128E-01	3.346E-01	2.106E-01	NOT IDENT.
MN-52	1.037E-01	3.773E-01	3.216E-01	1.925E-01	NOT IDENT.
MN-54	4.335E-02	3.711E-02	3.471E-02	1.893E-02	NOT IDENT.
CO-56	-1.705E-02	3.910E-02	3.215E-02	1.995E-02	NOT IDENT.
CO-57	-1.875E-02	2.192E-02	1.844E-02	1.118E-02	NOT IDENT.
CO-58	1.509E-02	4.291E-02	3.618E-02	2.189E-02	NOT IDENT.
FE-59	-8.879E-02	1.010E-01	7.660E-02	5.152E-02	NOT IDENT.
CO-60	-1.837E-02	4.581E-02	3.619E-02	2.337E-02	NOT IDENT.
ZN-65	-4.709E-02	1.128E-01	7.711E-02	5.755E-02	NOT IDENT.
GE-68	-5.675E-03	1.400E+00	1.175E+00	7.142E-01	NOT IDENT.
AS-73	8.019E-02	6.253E-01	5.109E-01	3.190E-01	NOT IDENT.
AS-74	-1.375E-02	1.082E-01	8.974E-02	5.521E-02	NOT IDENT.
SE-75	-3.172E-02	4.576E-02	3.427E-02	2.334E-02	NOT IDENT.
BR-77	-1.622E+01	3.251E+01	0.000E+00	1.658E+01	SHORT HLIF
SR-82	-1.010E-01	4.144E-01	3.302E-01	2.114E-01	NOT IDENT.
RB-83	-2.619E-02	6.729E-02	5.515E-02	3.433E-02	NOT IDENT.
RB-84	9.091E-02	8.001E-02	7.462E-02	4.082E-02	NOT IDENT.
KR-85	6.949E+00	7.022E+00	5.773E+00	3.583E+00	NOT IDENT.
SR-85	3.715E-02	3.754E-02	3.086E-02	1.915E-02	NOT IDENT.
RB-86	-1.254E-01	1.044E+00	8.674E-01	5.329E-01	NOT IDENT.
Y-88	7.592E-03	2.929E-02	2.592E-02	1.494E-02	NOT IDENT.
ZR-88	-1.891E-02	2.912E-02	2.407E-02	1.486E-02	NOT IDENT.
Y-91	1.085E+01	2.311E+01	1.994E+01	1.179E+01	NOT IDENT.
NB-94	4.435E-02	3.523E-02	3.194E-02	1.797E-02	NOT IDENT.
NB-95	3.294E-02	4.809E-02	4.160E-02	2.454E-02	NOT IDENT.
NB-95M	6.743E-02	1.340E-01	1.038E-01	6.836E-02	NOT IDENT.
ZR-95	2.217E-02	7.554E-02	6.370E-02	3.854E-02	NOT IDENT.
NB-97	5.764E+05	5.044E+06	0.000E+00	2.573E+06	SHORT HLIF
ZR-97	1.651E+08	1.014E+08	0.000E+00	5.174E+07	SHORT HLIF
MO-99	1.043E+01	3.583E+01	3.017E+01	1.828E+01	NOT IDENT.
TC-99M	9.255E+20	2.051E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.295E-04	3.116E-02	2.593E-02	1.590E-02	NOT IDENT.
RH-102	4.934E-03	2.793E-02	2.417E-02	1.425E-02	NOT IDENT.
RU-103	-1.004E-02	3.919E-02	3.261E-02	1.999E-02	NOT IDENT.
RH-106	-1.571E-01	3.212E-01	2.558E-01	1.639E-01	NOT IDENT.
RU-106	-1.571E-01	3.208E-01	2.558E-01	1.637E-01	NOT IDENT.
AG-108M	-3.204E-02	2.966E-02	2.299E-02	1.513E-02	NOT IDENT.
CD-109	1.177E+00	8.468E-01	6.667E-01	4.320E-01	NOT IDENT.
AG-110M	-2.304E-03	3.692E-02	3.051E-02	1.884E-02	NOT IDENT.
IN-111	2.273E+00	2.702E+00	2.149E+00	1.378E+00	NOT IDENT.
IN-113M	-1.541E-02	4.269E-02	3.611E-02	2.178E-02	NOT IDENT.
SN-113	-1.541E-02	4.269E-02	3.611E-02	2.178E-02	NOT IDENT.
IN-114M	8.081E-02	1.841E-01	1.448E-01	9.394E-02	NOT IDENT.
CD-115	-9.285E+00	3.480E+01	0.000E+00	1.775E+01	SHORT HLIF
SN-117M	8.471E-02	5.847E-02	5.342E-02	2.983E-02	NOT IDENT.
SB-122	1.581E+00	5.745E+00	4.942E+00	2.931E+00	NOT IDENT.
I-123	1.203E+09	7.727E+08	0.000E+00	3.942E+08	SHORT HLIF
TE-123M	3.922E-02	2.520E-02	2.310E-02	1.286E-02	NOT IDENT.
I-124	6.125E-02	1.341E+00	1.044E+00	6.841E-01	NOT IDENT.
SB-124	-3.814E-02	5.458E-02	3.612E-02	2.784E-02	FAIL ABUN
SB-125	9.540E-02	8.910E-02	8.173E-02	4.546E-02	FAIL ABUN
TE-125M	-1.275E+00	8.045E+00	7.053E+00	4.105E+00	NOT IDENT.
I-126	-7.532E-02	2.185E-01	1.754E-01	1.115E-01	NOT IDENT.
SB-126	-2.968E-02	2.100E-01	1.573E-01	1.072E-01	FAIL ABUN
SN-126	2.661E-01	8.387E-02	6.922E-02	4.279E-02	FAIL ABUN
SB-127	1.779E-01	2.779E+00	2.314E+00	1.418E+00	NOT IDENT.
XE-127	-3.773E-02	4.523E-02	3.651E-02	2.308E-02	NOT IDENT.
I-131	1.868E-01	1.745E-01	1.511E-01	8.902E-02	NOT IDENT.
TE-132	4.525E-03	1.550E+00	1.288E+00	7.910E-01	NOT IDENT.
BA-133	-1.406E-03	4.289E-02	3.086E-02	2.188E-02	NOT IDENT.
I-133	-7.187E+04	1.372E+05	0.000E+00	7.000E+04	SHORT HLIF
CS-134	5.976E-02	5.413E-02	4.385E-02	2.762E-02	NOT IDENT.
CS-135	2.146E-01	1.729E-01	1.381E-01	8.821E-02	NOT IDENT.
I-135	-2.572E+19	1.221E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.905E-03	1.552E-01	1.302E-01	7.920E-02	NOT IDENT.
BA-137M	-1.786E-03	3.788E-02	3.133E-02	1.933E-02	NOT IDENT.
CS-137	-1.888E-03	4.004E-02	3.312E-02	2.043E-02	NOT IDENT.
CE-139	-6.306E-03	2.594E-02	2.205E-02	1.324E-02	NOT IDENT.
BA-140	1.213E-01	3.123E-01	2.702E-01	1.593E-01	NOT IDENT.
LA-140	-1.265E-01	9.820E-02	6.254E-02	5.010E-02	NOT IDENT.
CE-141	-1.519E-02	5.721E-02	4.902E-02	2.919E-02	NOT IDENT.
CE-143	3.865E+03	1.518E+03	0.000E+00	7.743E+02	SHORT HLIF

CE-144	8.246E-02	1.826E-01	1.471E-01	9.315E-02	NOT IDENT.
PM-144	-1.976E-02	3.664E-02	2.880E-02	1.870E-02	NOT IDENT.
PR-144	-1.342E+00	2.488E+00	1.956E+00	1.270E+00	NOT IDENT.
PM-146	-2.710E-02	3.952E-02	3.193E-02	2.017E-02	NOT IDENT.
ND-147	8.913E-02	6.567E-01	5.623E-01	3.351E-01	FAIL ABUN
PM-149	-2.498E+02	3.052E+02	0.000E+00	1.557E+02	SHORT HLIF
EU-152	-1.006E-01	9.506E-02	7.026E-02	4.850E-02	FAIL ABUN
GD-153	-7.946E-02	8.059E-02	5.475E-02	4.112E-02	NOT IDENT.
EU-154	-6.626E-02	1.279E-01	9.925E-02	6.527E-02	NOT IDENT.
EU-155	7.308E-02	8.972E-02	8.179E-02	4.578E-02	NOT IDENT.
TB-160	4.106E-02	1.554E-01	1.359E-01	7.929E-02	FAIL ABUN
HO-166M	-1.691E-02	5.848E-02	4.683E-02	2.984E-02	FAIL ABUN
TM-171	-9.022E+00	2.480E+01	1.832E+01	1.265E+01	NOT IDENT.
LU-176	1.146E-02	2.307E-02	1.961E-02	1.177E-02	FAIL ABUN
LU-177	4.668E+00	2.141E+00	1.459E+00	1.092E+00	FAIL ABUN
LU-177M	3.654E-02	1.630E-01	1.429E-01	8.318E-02	NOT IDENT.
HF-181	-3.348E-02	3.850E-02	3.014E-02	1.964E-02	NOT IDENT.
W-181	-2.831E-01	3.286E-01	2.358E-01	1.677E-01	NOT IDENT.
TA-182	3.315E-02	2.224E-01	1.869E-01	1.134E-01	FAIL ABUN
RE-183	-1.973E-02	9.999E-02	8.534E-02	5.102E-02	FAIL ABUN
RE-184	2.989E-01	2.242E-01	1.990E-01	1.144E-01	NOT IDENT.
OS-185	8.444E-03	4.206E-02	3.565E-02	2.146E-02	NOT IDENT.
RE-188	2.410E-02	1.444E-01	1.258E-01	7.365E-02	NOT IDENT.
W-188	-8.358E+00	8.266E+00	5.448E+00	4.217E+00	FAIL ABUN
IR-192	3.493E-03	3.476E-02	2.874E-02	1.773E-02	FAIL ABUN
AU-195	5.988E-02	1.923E-01	1.692E-01	9.814E-02	FAIL ABUN
TL-200	-3.136E+03	5.576E+03	0.000E+00	2.845E+03	SHORT HLIF
TL-201	-3.319E+00	1.446E+01	1.229E+01	7.377E+00	NOT IDENT.
TL-202	-1.424E-02	8.324E-02	7.067E-02	4.247E-02	NOT IDENT.
HG-203	1.852E-03	4.222E-02	3.511E-02	2.154E-02	NOT IDENT.
BI-207	2.713E-03	6.125E-02	5.078E-02	3.125E-02	FAIL ABUN
TL-207	2.528E-01	6.730E-01	5.638E-01	3.434E-01	FAIL ABUN
PO-209	8.220E-01	7.268E+00	6.273E+00	3.708E+00	NOT IDENT.
PB-211	-5.142E-01	9.556E-01	7.508E-01	4.875E-01	NOT IDENT.
PO-215	2.528E-01	6.730E-01	5.638E-01	3.434E-01	FAIL ABUN
RN-219	1.731E-02	3.951E-01	3.430E-01	2.016E-01	FAIL ABUN
RN-220	-1.745E+01	2.530E+01	2.003E+01	1.291E+01	NOT IDENT.
RA-223	2.528E-01	6.730E-01	5.638E-01	3.434E-01	FAIL ABUN
AC-227	-2.471E-01	3.598E-01	2.847E-01	1.836E-01	FAIL ABUN
TH-227	-2.471E-01	3.605E-01	2.847E-01	1.839E-01	FAIL ABUN
TH-229	-2.107E-01	4.593E-01	3.814E-01	2.343E-01	FAIL ABUN
PA-231	2.359E-01	1.384E+00	1.159E+00	7.061E-01	NOT IDENT.
TH-231	2.528E-01	6.730E-01	5.638E-01	3.434E-01	FAIL ABUN
U-231	3.759E-01	1.847E+00	1.381E+00	9.421E-01	FAIL ABUN
PA-233	3.945E-02	5.951E-02	5.105E-02	3.036E-02	FAIL ABUN
PA-234	-4.482E-02	3.179E-01	2.665E-01	1.622E-01	FAIL ABUN
PA-234M	-5.703E-01	4.974E+00	4.132E+00	2.538E+00	NOT IDENT.
U-235	-3.914E-02	1.850E-01	1.558E-01	9.438E-02	FAIL ABUN
NP-236	-3.568E-03	7.206E-02	6.201E-02	3.676E-02	NOT IDENT.
NP-237	4.682E-01	2.542E-01	2.023E-01	1.297E-01	NOT IDENT.
NP-239	-1.153E-01	1.578E-01	1.339E-01	8.050E-02	FAIL ABUN
AM-241	-4.011E-02	1.232E-01	9.181E-02	6.284E-02	NOT IDENT.
CM-243	-1.178E-02	8.067E-02	7.098E-02	4.116E-02	FAIL ABUN
AM-246	3.715E-02	1.533E-01	1.317E-01	7.823E-02	NOT IDENT.
CM-247	1.475E-02	3.429E-02	3.049E-02	1.750E-02	NOT IDENT.
CF-249	3.426E-02	3.943E-02	3.586E-02	2.012E-02	NOT IDENT.
CF-251	-2.186E-02	1.126E-01	9.559E-02	5.747E-02	NOT IDENT.

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

ENERGY MDA COUNTS

46.50	171.8222
46.50	171.8222
46.50	171.8222
48.70	169.4977
49.72	184.7536
51.35	204.5675
52.39	208.6005
52.97	214.5555
53.15	214.6814
53.44	197.0690
54.07	191.8918
56.28	235.9320
56.28	235.9344
57.37	0.0000
57.53	231.2123
57.53	231.2139
57.60	231.2623
57.98	204.4266
57.98	204.4266
59.32	220.7599
59.32	220.7599
59.40	220.8134
59.54	239.0629
59.72	240.7062
60.01	225.7641
61.10	232.5786
61.14	232.6058
61.30	232.7155
63.00	249.9261
63.29	250.1357
63.29	250.1357
63.58	250.3452
64.28	273.0953
65.12	287.5897
65.20	304.5758
65.20	304.5758
66.05	266.7576
66.72	288.8833
66.83	288.9746
66.91	289.0374
67.20	280.7634
67.20	280.7634
67.75	264.9227
67.85	264.9957
68.90	293.7340
68.90	293.7340
69.30	308.0557
69.67	280.3345
70.82	292.1361
70.82	292.1361
70.83	292.1437
72.80	277.9687
72.87	278.0191
72.87	278.0191
74.67	279.3227
74.81	279.4236
74.81	279.4236
74.81	279.4236
74.81	279.4236
74.81	279.4236
74.81	279.4236
74.81	279.4236
74.97	279.5388
75.28	279.7621
75.70	280.0627
77.11	281.0656
77.11	281.0656

77.11	281.0656
77.11	281.0656
77.11	281.0656
77.11	281.0656
77.11	281.0656
78.38	281.9623
79.62	214.1200
79.80	214.2154
79.80	214.2154
80.11	199.9804
80.18	200.0148
80.30	200.0732
80.30	200.0732
80.57	200.2055
81.00	213.2432
81.07	213.2798
81.07	213.2798
81.07	213.2798
81.07	213.2798
82.60	317.4833
83.37	291.4608
83.78	234.8508
83.78	234.8508
83.78	234.8508
83.78	234.8508
84.21	269.0212
84.90	433.3234
85.43	480.0441
86.29	334.8814
86.50	335.0450
86.54	297.3043
86.59	311.9629
86.72	312.0566
86.79	312.1055
86.94	312.2148
87.30	257.1422
87.30	257.1422
87.30	257.1422
87.30	257.1422
87.30	257.1422
87.30	257.1422
87.57	268.7007
87.88	0.0000
88.03	329.3041
88.36	329.5548
88.47	329.6370
89.95	335.6629
91.11	206.8495
92.29	223.8555
92.38	223.8997
92.38	223.8997
93.35	227.6809
94.00	228.0066
94.67	223.3754
94.67	223.3781
94.90	223.4894
94.90	223.4894
94.90	223.4894
94.90	223.4894
95.87	202.3951
95.87	202.3951
96.73	222.7172
97.43	249.6826
98.44	221.0274
98.44	221.0288
98.88	214.5562
99.55	197.3029
99.55	197.3029
99.86	197.4325
100.00	197.4901
100.10	205.0664
103.18	237.5474
103.76	225.1808
105.00	210.5307
105.31	202.2033
108.00	233.0689
109.28	217.4571

111.00	196.8011
111.00	196.8011
111.76	199.6631
112.95	207.8530
115.19	200.1184
116.30	189.3025
117.00	212.9215
117.00	212.9215
117.66	214.0521
121.11	214.5506
121.62	219.1156
121.78	219.1794
122.06	220.1655
122.32	218.5211
122.32	218.5211
122.32	218.5211
122.32	218.5211
123.07	185.5582
127.23	175.9212
129.76	177.1469
131.20	173.1502
133.02	177.7020
133.54	165.8246
135.34	166.3317
136.00	171.8887
136.25	176.4391
136.48	184.5710
140.51	186.7136
140.51	0.0000
142.18	210.7391
142.65	197.3252
143.76	194.0529
144.24	197.8330
144.24	197.8330
144.24	197.8330
144.24	197.8330
145.22	199.9636
145.44	197.3052
147.16	175.0547
152.43	177.4271
152.70	177.5017
153.22	163.8384
154.21	151.1808
154.21	151.1808
154.21	151.1808
154.21	151.1808
155.03	167.0628
156.02	204.2919
158.56	156.8249
159.00	0.0000
159.00	152.2852
160.31	203.7553
161.27	201.2520
162.32	193.1676
162.64	204.4615
163.35	184.1143
163.89	161.8127
165.85	181.0376
167.43	171.1101
171.28	189.0747
171.86	164.6295
172.10	164.6862
176.55	184.7642
176.60	184.7780
181.06	198.3729
184.41	169.4312
185.71	169.7284
186.00	169.7928
190.27	158.6285
192.34	188.7308
193.63	187.0977
197.04	176.1768
198.01	173.4547
198.60	185.3528
200.40	0.0000
201.83	171.3414
202.84	186.3487
205.31	145.3850

208.36	162.3125
208.81	167.8654
209.75	170.0468
209.75	170.0468
210.97	150.8805
215.65	172.2642
216.55	166.4340
218.09	168.7485
222.10	158.4454
223.80	144.6031
226.40	165.3230
227.00	156.3029
227.08	156.3170
227.20	155.3237
228.16	155.4949
228.18	157.5307
228.18	157.5307
231.56	0.0000
235.69	169.1240
236.00	164.5687
236.00	164.5687
238.63	195.9008
238.63	195.9008
238.63	195.9008
238.63	195.9008
239.00	0.0000
240.98	216.5134
241.98	145.5339
241.98	145.5339
241.98	145.5339
244.69	125.7777
245.39	110.3330
247.94	129.8561
248.90	134.1493
249.79	0.0000
252.40	112.7307
252.85	111.7402
252.85	111.7402
254.15	0.0000
256.20	144.6232
256.20	144.6232
260.50	133.6921
260.90	0.0000
262.80	134.0099
264.65	145.8922
268.24	125.7351
268.79	133.7673
269.46	130.6725
269.46	130.6725
269.46	130.6725
269.46	130.6725
271.23	130.9052
273.65	137.6215
276.40	130.9390
277.35	145.6234
277.60	136.0201
277.60	136.0201
278.00	140.3602
278.60	138.2986
279.20	138.3800
279.53	142.7169
280.46	131.0323
281.68	0.0000
283.67	107.7393
284.30	112.1165
285.00	128.3744
285.90	0.0000
286.10	115.5509
286.10	115.5509
287.40	99.4776
288.45	0.0000
290.67	138.2936
290.80	135.0574
291.72	114.0021
293.26	0.0000
293.70	107.6891
295.21	99.6723
295.21	99.6723

295.21	99.6723
295.96	99.7430
296.50	75.2540
297.23	0.0000
298.57	75.4000
299.80	114.8694
299.80	114.8694
300.09	114.9014
300.09	114.9014
300.09	114.9014
300.09	114.9014
300.12	114.9036
301.29	115.0275
302.84	128.3568
303.76	0.0000
303.91	116.9524
304.40	98.8788
304.40	98.8788
304.84	108.8110
306.84	97.9974
308.46	105.8613
311.98	91.8181
316.51	107.7416
318.01	112.3325
319.02	116.8860
319.41	114.6994
320.08	119.2234
323.87	117.3859
323.87	117.3859
323.87	117.3859
323.87	117.3859
325.23	153.3418
328.77	115.6403
333.44	101.4514
334.20	123.5128
334.20	123.5128
334.30	123.5239
338.28	118.8470
338.28	118.8470
338.28	118.8470
338.28	118.8470
338.32	118.8513
338.32	118.8513
338.32	118.8513
340.50	79.9465
340.57	79.9522
344.27	116.0345
345.85	77.9130
350.59	0.0000
351.07	94.9522
351.92	95.0180
351.92	95.0180
351.92	95.0180
355.39	0.0000
356.01	80.9778
364.48	93.6727
366.43	122.7738
367.43	111.2793
367.94	0.0000
369.80	83.6162
374.96	82.7886
383.85	95.0999
387.95	91.8633
388.63	98.0972
391.69	98.3242
391.69	98.3242
392.90	97.5256
398.62	90.8204
400.65	106.1151
401.10	97.2311
401.81	96.3902
402.60	84.8370
404.84	107.3383
410.95	102.4254
411.60	100.6763
413.65	81.9203
414.70	81.9828
415.30	89.2278

415.76	87.4548
417.63	0.0000
418.52	87.6280
423.70	92.4842
427.08	73.6176
427.89	72.7502
432.53	71.1612
433.93	82.1887
439.47	0.0000
439.56	86.1758
439.89	83.4449
443.98	80.0000
444.90	94.7724
445.03	94.7802
445.03	94.7802
445.03	94.7802
445.03	94.7802
453.90	80.5377
463.38	73.0334
468.07	70.4818
473.00	71.2430
475.06	74.1541
475.35	74.1674
476.78	69.5376
477.59	62.0522
477.96	59.2461
482.03	67.8856
484.57	0.0000
487.03	51.0757
490.36	0.0000
492.35	0.0000
497.08	66.6280
507.63	0.0000
510.53	0.0000
510.84	56.6345
511.00	56.6399
511.85	56.6697
511.85	56.6697
513.99	58.4737
513.99	58.4737
520.41	71.4436
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	70.8658
529.87	0.0000
531.02	59.2650
537.32	63.3853
543.00	72.4011
546.56	0.0000
549.76	74.6478
552.65	48.2075
555.20	60.1009
563.23	67.3007
563.90	70.2958
568.70	73.4648
569.32	71.5034
569.50	70.5168
569.67	70.5233
573.80	75.6637
574.00	75.6707
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	63.0442
585.48	0.0000
591.81	67.3619
592.07	68.3777
593.00	67.4048
595.88	72.5471
600.56	78.7903
602.52	0.0000
602.71	68.7678
602.71	68.7678
603.60	56.6580
604.41	64.7813
604.70	66.4108
609.31	70.0234

609.31	70.0234
609.31	70.0234
609.31	70.0234
610.33	71.4807
612.46	53.6717
614.37	74.8893
618.01	49.9525
621.84	69.4609
621.84	69.4609
631.29	66.7198
633.02	66.7793
633.10	66.7813
634.78	52.4428
635.90	55.5590
636.97	56.6180
645.85	55.8391
646.12	53.7773
656.30	75.8805
657.75	69.6928
657.90	0.0000
661.65	72.9544
661.65	72.9544
664.57	0.0000
666.33	64.7643
666.33	64.7643
675.00	59.7936
677.61	51.4659
685.20	57.9793
692.80	52.8992
695.00	64.6040
696.49	76.3066
696.49	76.3066
697.00	81.6269
697.49	84.8267
698.33	76.3748
698.50	76.3792
699.00	71.0914
702.63	54.2077
706.10	68.1348
706.58	0.0000
706.67	69.2172
709.31	41.5815
711.68	57.6387
713.82	72.6526
717.42	58.8622
720.50	70.0188
721.93	0.0000
722.20	54.9156
722.78	60.0793
722.78	60.0793
722.89	60.0828
722.95	60.0845
723.30	65.2438
724.18	61.8346
727.18	64.4989
733.00	56.9089
735.90	64.7552
739.58	65.9425
742.81	67.1219
744.21	61.7471
747.13	67.2505
751.79	52.1719
752.31	52.1851
753.82	67.4492
755.35	0.0000
756.15	53.3620
756.87	49.0210
763.93	72.1210
765.79	64.5240
766.42	51.4149
766.84	51.4235
776.49	52.7373
778.00	56.0707
778.57	60.4836
778.89	59.3921
783.80	60.6195
785.46	72.7938
792.07	67.2477

795.84	46.0853
796.30	49.6398
798.80	67.4389
801.93	63.3074
805.60	56.7307
810.29	54.6121
810.76	50.1636
815.85	68.1429
817.79	0.0000
818.51	39.1411
819.60	51.4664
826.30	45.9986
828.27	0.0000
831.60	62.9624
831.96	62.9727
834.83	44.1323
836.80	0.0000
846.75	52.4889
848.13	53.4241
856.28	0.0000
856.80	90.8618
860.37	43.6758
867.32	52.0069
867.82	42.8909
871.10	52.0835
873.19	42.0671
874.81	57.6490
875.33	0.0000
876.40	59.5172
879.36	53.1686
880.27	44.9338
880.51	44.9380
881.50	41.2855
883.24	54.1659
884.67	57.8705
889.25	46.9297
896.60	45.2173
898.02	53.5509
899.00	58.1889
903.28	41.6316
911.07	35.2595
911.07	35.2595
911.07	35.2595
919.63	30.7184
920.93	40.9771
925.00	39.1740
925.24	38.2453
926.50	34.5303
935.52	43.0722
937.48	44.0407
944.10	49.7833
946.00	53.5780
949.00	43.2856
962.29	69.3390
964.01	56.7671
966.15	56.8096
968.20	56.8521
969.11	34.7546
969.11	34.7546
969.11	34.7546
977.42	30.4211
980.50	34.2606
983.50	45.7301
989.30	42.9587
996.32	56.4634
1001.03	49.8456
1001.68	54.6510
1004.76	47.9907
1021.30	0.0000
1024.50	0.0000
1034.80	49.4561
1036.00	44.6254
1037.82	55.3301
1038.57	58.2568
1038.76	0.0000
1045.16	50.6035
1046.59	60.3622
1048.07	60.3925

1050.47	56.5415
1050.47	56.5415
1062.04	48.9307
1063.62	52.8715
1076.63	58.0147
1077.35	54.0950
1078.86	48.2176
1085.78	48.3253
1099.22	56.4601
1112.02	51.7182
1112.84	50.9872
1115.52	61.4017
1120.29	78.1153
1120.29	78.1153
1120.29	78.1153
1120.29	78.1153
1120.51	78.1191
1121.28	79.8008
1124.00	0.0000
1129.67	63.0092
1131.51	0.0000
1147.95	0.0000
1167.94	69.8322
1173.22	60.8203
1175.09	62.8840
1177.93	61.9233
1189.05	53.9834
1204.90	63.4501
1205.75	0.0000
1213.00	56.4207
1221.42	61.7021
1230.97	64.9688
1235.34	86.7357
1236.41	0.0000
1238.25	66.1406
1246.25	51.7920
1260.41	0.0000
1271.85	37.5645
1274.45	45.9465
1274.54	45.9465
1291.56	40.9214
1298.22	0.0000
1312.09	36.9346
1325.50	42.3672
1325.50	42.3672
1332.49	35.0190
1333.61	32.9072
1360.21	18.1754
1362.66	0.0000
1365.15	20.3406
1368.21	23.5716
1368.53	0.0000
1376.25	25.7695
1384.27	24.7475
1394.10	26.9690
1395.20	28.0566
1407.95	15.1573
1434.06	18.5298
1436.60	21.8135
1457.56	0.0000
1460.81	15.3638
1489.15	17.4986
1509.49	10.1818
1596.49	23.6257
1620.62	19.5494
1678.03	0.0000
1691.02	8.6895
1691.02	8.6895
1706.46	0.0000
1750.46	0.0000
1764.49	10.0907
1764.49	10.0907
1764.49	10.0907
1764.49	10.0907
1770.23	16.6984
1771.40	8.8425
1791.20	0.0000
1808.65	10.8926

1836.01

6.9709

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243536011

Total Uranium Activity	2.0986E+00	ug/g
Total Uranium Counting Unc.	4.0746E+00	ug/g
Total Uranium Tpu	2.0789E-06	ug/g
Total Uranium Mda	2.3472E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G243536011
*  ANALYST       : MXR1            DETECTOR    : GAM11
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 9-JAN-2010 14:20:47.88  SAMPLE ALQT: 109.340 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.633E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.493E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.330E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.603E+00

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VAX/VMS Nuclide Identification Report Generated 10-JAN-2010 01:24:18.94

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005192.CNF;1
Sample date        : 2-JAN-2010 00:00:00. Acquisition date : 9-JAN-2010 17:03:42.
Sample ID          : G1202005192      Sample quantity   : 1.45700E+02 GRAM
Detector name      : GAM14             Detector geometry: CAN
Elapsed live time  : 0 08:20:00.00     Elapsed real time: 0 08:20:02.09  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 937074            Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.61*	90	467	1.21	126.77	122	12	2.99E-03	57.6	
2	0	84.59*	47	413	1.53	168.70	165	9	1.56E-03	89.9	
3	0	185.64*	36	359	1.29	370.59	366	11	1.21E-03	132.6	
4	0	238.46*	28	321	1.14	476.15	472	10	9.37E-04	155.1	
5	0	1460.77*	4	27	1.04	2920.51	2915	13	1.35E-04	426.7	

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

VMS Nuclide Identification Report V3.1 Generated 10-JAN-2010 01:24:23

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005192.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 2-JAN-2010 00:00:00 Acquisition date : 9-JAN-2010 17:03:42
Sample ID        : G1202005192 Sample quantity : 145.70 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 08:20:00.00 Elapsed real time: 0 08:20:02.09 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.935E-02	1.651E-01	1.388E-01	1.008E-02	0.139

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-1.476E-02	6.531E-02	1.055E-01	7.111E-03	-0.140
NA-22		1274.54	*	2.746E-03	9.049E-03	1.534E-02	1.002E-03	0.179
NA-24		1368.53	*	-3.039E-05	9.049E-03	Half-Life too short		
AL-26		1129.67		-4.972E-02	3.281E-01	5.351E-01	3.379E-02	-0.093
		1808.65	*	-1.789E-03	8.786E-03	1.377E-02	7.981E-04	-0.130
TI-44		67.85		-9.408E-04	7.797E-03	1.103E-02	7.766E-04	-0.085
		78.38	*	-1.035E-02	7.470E-03	9.406E-03	7.344E-04	-1.101
SC-46		889.25	*	5.297E-03	8.220E-03	1.441E-02	1.332E-03	0.367
		1120.51		-6.097E-03	1.132E-02	1.662E-02	1.076E-03	-0.367
V-48		944.10		-5.641E-02	1.454E-01	2.347E-01	2.097E-02	-0.240
		983.50	*	1.247E-03	1.088E-02	1.830E-02	1.554E-03	0.068
		1312.09		-1.213E-02	1.605E-02	2.035E-02	1.406E-03	-0.596
CR-51		320.08	*	1.066E-02	6.941E-02	1.161E-01	7.503E-03	0.092
MN-52		744.21		2.078E-02	2.312E-02	3.966E-02	2.799E-03	0.524
		848.13		-3.348E-01	6.549E-01	1.056E+00	9.076E-02	-0.317
		935.52		1.399E-02	2.232E-02	3.906E-02	3.525E-03	0.358
		1246.25		2.387E-01	4.968E-01	8.612E-01	5.366E-02	0.277
		1333.61		4.126E-01	4.368E-01	7.894E-01	5.625E-02	0.523
		1434.06	*	-5.267E-04	2.296E-02	3.746E-02	2.626E-03	-0.014
MN-54		834.83	*	-3.360E-04	7.508E-03	1.255E-02	1.053E-03	-0.027
CO-56		846.75	*	2.080E-03	8.842E-03	1.506E-02	1.291E-03	0.138
		977.42		1.225E-01	5.845E-01	9.915E-01	8.491E-02	0.124
		1037.82		1.575E-02	6.278E-02	1.066E-01	8.830E-03	0.148
		1175.09		-1.292E-01	4.104E-01	6.574E-01	3.633E-02	-0.197
		1238.25		-8.800E-04	1.429E-02	2.341E-02	1.521E-03	-0.038
		1360.21		4.407E-02	2.134E-01	3.582E-01	2.545E-02	0.123
		1771.40		3.924E-03	6.626E-02	1.080E-01	6.445E-03	0.036
CO-57		122.06	*	-2.530E-03	5.086E-03	8.012E-03	5.701E-04	-0.316

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		136.48		-3.114E-02	4.240E-02	6.590E-02	4.837E-03	-0.473
CO-58		810.76	*	-2.924E-04	8.870E-03	1.420E-02	1.142E-03	-0.021
FE-59		142.65		-1.135E-01	6.973E-01	8.414E-01	5.275E-02	-0.135
		192.34		3.148E-02	1.887E-01	2.919E-01	3.407E-02	0.108
		1099.22	*	1.206E-03	1.630E-02	2.721E-02	2.094E-03	0.044
		1291.56		-8.351E-03	2.398E-02	3.801E-02	3.094E-03	-0.220
CO-60		1173.22		9.089E-03	8.704E-03	1.573E-02	8.665E-04	0.578
		1332.49	*	-4.845E-04	9.086E-03	1.484E-02	1.057E-03	-0.033
ZN-65		1115.52	*	-9.097E-03	1.847E-02	2.926E-02	1.923E-03	-0.311
GE-68		1077.35	*	1.776E-01	2.668E-01	4.673E-01	3.359E-02	0.380
AS-73		53.44	*	-4.956E-02	1.052E-01	1.684E-01	1.098E-02	-0.294
AS-74		595.88	*	1.343E-02	1.706E-02	2.905E-02	1.737E-03	0.462
		634.78		-2.684E-02	6.628E-02	1.044E-01	6.238E-03	-0.257
SE-75		66.05		7.859E-01	7.780E-01	1.163E+00	1.058E-01	0.676
		96.73		-4.928E-01	1.701E-01	2.246E-01	2.984E-02	-2.194
		121.11		-3.697E-03	2.672E-02	4.277E-02	4.328E-03	-0.086
		136.00		-3.871E-03	7.815E-03	1.229E-02	8.115E-04	-0.315
		198.60		4.111E-01	3.645E-01	6.356E-01	4.400E-02	0.647
		264.65	*	2.965E-03	9.350E-03	1.582E-02	9.288E-04	0.187
		279.53		8.246E-03	2.345E-02	3.966E-02	2.498E-03	0.208
		303.91		-2.235E-01	4.437E-01	7.203E-01	6.884E-02	-0.310
		400.65		-1.406E-02	5.359E-02	8.705E-02	7.753E-03	-0.161
BR-77		87.88		-4.302E+00	5.024E+00	5.812E+00	5.077E-01	-0.740
		200.40		1.814E+00	4.170E+00	7.121E+00	3.960E-01	0.255
	+	239.00		1.346E-01	4.177E-01	4.753E-01	2.729E-02	0.283
		249.79		-2.188E+00	1.724E+00	2.720E+00	1.571E-01	-0.804
		281.68		-9.069E-01	2.455E+00	4.029E+00	2.350E-01	-0.225
		297.23		6.480E-01	1.399E+00	2.373E+00	1.384E-01	0.273
		303.76		-3.295E+00	4.777E+00	7.691E+00	4.482E-01	-0.428
		439.47		3.072E+00	3.999E+00	6.848E+00	3.872E-01	0.449
		484.57		1.006E-01	6.273E+00	1.029E+01	5.974E-01	0.010
		520.65	*	1.289E-01	2.902E-01	4.874E-01	2.873E-02	0.265
		574.64		1.113E-01	5.921E+00	9.651E+00	5.762E-01	0.012
		578.91		-1.997E+00	2.575E+00	3.985E+00	2.380E-01	-0.501
		585.48		2.764E+00	4.793E+00	8.067E+00	4.821E-01	0.343
		755.35		-1.053E+00	4.570E+00	7.218E+00	5.208E-01	-0.146
		817.79		-3.429E+00	3.742E+00	5.839E+00	4.746E-01	-0.587
SR-82		698.33		-2.327E-01	6.957E+00	1.121E+01	7.206E-01	-0.021
		776.49	*	1.472E-03	7.219E-02	1.163E-01	8.740E-03	0.013
		1395.20		-6.362E-01	2.126E+00	3.361E+00	2.375E-01	-0.189
RB-83		520.41	*	7.388E-03	1.515E-02	2.550E-02	1.503E-03	0.290
		529.64		-6.766E-03	2.193E-02	3.504E-02	2.072E-03	-0.193
		552.65		2.615E-03	4.397E-02	7.196E-02	4.280E-03	0.036
RB-84		881.50	*	1.141E-02	1.471E-02	2.589E-02	2.360E-03	0.441
KR-85		513.99	*	-1.190E+01	2.851E+00	3.791E+00	2.230E-01	-3.139
SR-85		513.99	*	-5.651E-02	1.354E-02	1.801E-02	1.059E-03	-3.139
RB-86		1076.63	*	1.114E-01	1.316E-01	2.336E-01	1.682E-02	0.477
Y-88		898.02		6.028E-03	9.137E-03	1.600E-02	1.507E-03	0.377
		1836.01	*	1.066E-03	8.819E-03	1.450E-02	8.234E-04	0.074

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-88	392.90	*		1.955E-03	6.240E-03	1.048E-02	5.704E-04	0.187
Y-91	1204.90	*		2.839E+00	3.018E+00	5.437E+00	3.163E-01	0.522
NB-94	702.63	*		-2.710E-03	8.436E-03	1.332E-02	8.639E-04	-0.203
	871.10			-9.291E-04	7.903E-03	1.312E-02	1.174E-03	-0.071
NB-95	765.79	*		-5.172E-03	2.117E-02	1.517E-02	1.117E-03	-0.341
NB-95M	235.69	*		9.493E-03	2.621E-02	3.897E-02	2.913E-03	0.244
ZR-95	724.18			1.503E-02	1.904E-02	3.246E-02	2.501E-03	0.463
	756.15	*		-4.367E-03	1.504E-02	2.362E-02	1.949E-03	-0.185
NB-97	657.90	*		-1.459E-05	1.504E-02	Half-Life	too short	
	1024.50			1.515E-03	1.504E-02	Half-Life	too short	
ZR-97	254.15			4.484E-04	1.504E-02	Half-Life	too short	
	355.39			-1.220E-03	1.504E-02	Half-Life	too short	
	507.63	*		-1.934E-03	1.504E-02	Half-Life	too short	
	602.52			-9.321E-04	1.504E-02	Half-Life	too short	
	1021.30			-4.610E-04	1.504E-02	Half-Life	too short	
	1147.95			-2.479E-04	1.504E-02	Half-Life	too short	
	1362.66			-9.569E-04	1.504E-02	Half-Life	too short	
	1750.46			4.880E-04	1.504E-02	Half-Life	too short	
MO-99	140.51			-3.127E-01	8.940E-01	1.408E+00	3.812E-01	-0.222
	181.06			9.527E-02	6.354E-01	9.411E-01	1.602E-01	0.101
	366.43			-1.351E+00	2.999E+00	4.840E+00	2.716E-01	-0.279
	739.58	*		-4.844E-02	4.532E-01	7.242E-01	1.037E-01	-0.067
	778.00			-1.134E-01	1.277E+00	2.038E+00	1.537E-01	-0.056
TC-99M	140.51	*		-5.109E+00	1.277E+00	Half-Life	too short	
RH-101	127.23			1.474E-03	6.223E-03	1.011E-02	6.953E-04	0.146
	198.01	*		4.788E-03	6.854E-03	1.181E-02	6.553E-04	0.405
	325.23			-1.240E-02	4.955E-02	8.129E-02	4.705E-03	-0.153
RH-102	418.52			4.486E-02	6.620E-02	1.129E-01	6.284E-03	0.397
	475.06	*		-1.777E-03	6.597E-03	1.063E-02	6.146E-04	-0.167
	631.29			1.188E-02	1.314E-02	2.258E-02	1.349E-03	0.526
	697.49			-3.342E-03	1.888E-02	3.012E-02	1.933E-03	-0.111
	766.84			-3.947E-02	5.766E-02	3.871E-02	2.856E-03	-1.020
	1046.59			-4.398E-03	2.621E-02	4.292E-02	3.285E-03	-0.102
	1112.84			6.238E-03	4.628E-02	7.758E-02	5.126E-03	0.080
RU-103	497.08	*		-1.343E-03	8.610E-03	1.396E-02	1.768E-03	-0.096
	610.33			9.334E-02	1.656E-01	2.770E-01	4.289E-02	0.337
RH-106	511.85			5.545E-01	6.789E-02	1.244E-01	7.310E-03	4.458
	621.84	*		-2.661E-02	7.814E-02	1.238E-01	1.464E-02	-0.215
	1050.47			2.503E-01	5.039E-01	8.712E-01	6.618E-02	0.287
RU-106	511.85			5.545E-01	6.789E-02	1.244E-01	7.310E-03	4.458
	621.84	*		-2.661E-02	7.810E-02	1.238E-01	7.403E-03	-0.215
	1050.47			2.503E-01	5.039E-01	8.712E-01	6.618E-02	0.287
AG-108M	433.93	*		-5.881E-04	7.412E-03	1.214E-02	7.455E-04	-0.048
	614.37			-6.363E-03	9.389E-03	1.455E-02	9.400E-04	-0.437
	722.95			2.203E-03	9.386E-03	1.540E-02	1.107E-03	0.143
CD-109	88.03	*		-5.321E-01	2.114E-01	2.220E-01	1.942E-02	-2.397
AG-110M	657.75	*		-6.713E-03	8.139E-03	1.237E-02	7.814E-04	-0.543
	677.61			3.171E-02	6.898E-02	1.153E-01	7.483E-03	0.275
	706.67			1.094E-02	5.076E-02	8.313E-02	5.695E-03	0.132

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	763.93			1.425E-02	3.697E-02	6.119E-02	4.664E-03	0.233
	884.67			-2.884E-03	1.158E-02	1.902E-02	1.793E-03	-0.152
	937.48			1.861E-02	2.412E-02	4.258E-02	3.962E-03	0.437
	1384.27			-1.399E-02	4.226E-02	6.694E-02	4.935E-03	-0.209
IN-111	171.28			-2.403E-02	4.657E-02	5.809E-02	3.133E-03	-0.414
	245.39	*		4.880E-03	4.168E-02	6.625E-02	3.818E-03	0.074
IN-113M	391.69	*		-4.462E-03	9.495E-03	1.526E-02	8.931E-04	-0.292
SN-113	391.69	*		-4.462E-03	9.495E-03	1.526E-02	8.931E-04	-0.292
IN-114M	190.27	*		-6.094E-03	3.788E-02	5.513E-02	3.034E-03	-0.111
CD-115	260.90			-5.678E-01	2.993E+00	4.960E+00	2.879E-01	-0.114
	492.35			3.993E-01	8.745E-01	1.471E+00	8.575E-02	0.271
	527.90	*		-1.066E-02	2.548E-01	4.149E-01	2.452E-02	-0.026
SN-117M	156.02			-2.215E-02	3.233E-01	5.160E-01	2.970E-02	-0.043
	158.56	*		-3.236E-03	7.901E-03	1.242E-02	7.024E-04	-0.261
SB-122	563.90	*		-9.126E-02	8.504E-02	1.295E-01	7.719E-03	-0.705
	692.80			7.646E-01	1.671E+00	2.783E+00	1.768E-01	0.275
I-123	159.00	*		-5.222E-05	1.671E+00	Half-Life too short		
	528.96			-2.408E-03	1.671E+00	Half-Life too short		
TE-123M	159.00	*		-2.507E-03	5.696E-03	8.939E-03	5.112E-04	-0.280
I-124	602.71	*		-3.475E-02	5.009E-02	7.783E-02	4.656E-03	-0.447
	722.78			6.888E-02	2.935E-01	4.816E-01	3.255E-02	0.143
	1325.50			3.690E-01	2.405E+00	4.012E+00	2.830E-01	0.092
	1376.25			-1.685E+00	2.297E+00	3.480E+00	2.466E-01	-0.484
	1509.49			6.942E-01	1.140E+00	1.990E+00	1.365E-01	0.349
SB-124	1691.02			-1.264E-01	3.479E-01	5.374E-01	3.386E-02	-0.235
	602.71			-6.207E-03	8.947E-03	1.390E-02	8.319E-04	-0.447
	645.85			-5.064E-02	1.304E-01	1.658E-01	1.109E-02	-0.305
	709.31			2.482E-01	6.216E-01	1.031E+00	6.780E-02	0.241
	713.82			-8.542E-02	3.631E-01	5.755E-01	6.163E-02	-0.148
	722.78			1.783E-02	7.597E-02	1.247E-01	8.722E-03	0.143
	968.20			-1.080E-01	5.980E-01	8.227E-01	7.134E-02	-0.131
	1045.16			-4.892E-01	7.061E-01	8.317E-01	6.382E-02	-0.588
	1325.50			1.020E-01	6.650E-01	1.109E+00	7.824E-02	0.092
	1368.21			-2.215E-01	4.083E-01	6.288E-01	7.895E-02	-0.352
	1436.60			1.151E-01	8.354E-01	1.389E+00	9.726E-02	0.083
SB-125	1691.02	*		-7.716E-03	2.124E-02	3.282E-02	2.219E-03	-0.235
	427.89	*		-1.735E-03	2.038E-02	3.336E-02	1.955E-03	-0.052
	463.38			-1.638E-02	8.077E-02	1.035E-01	6.948E-03	-0.158
	600.56			5.328E-03	4.434E-02	7.258E-02	4.984E-03	0.073
	635.90			-1.940E-02	6.545E-02	1.039E-01	7.209E-03	-0.187
TE-125M	109.28	*		-1.598E+00	1.689E+00	2.609E+00	2.444E-01	-0.613
I-126	388.63			2.284E-02	3.139E-02	5.373E-02	2.935E-03	0.425
	666.33	*		-2.073E-02	2.798E-02	4.272E-02	2.566E-03	-0.485
	753.82			5.228E-02	2.251E-01	3.692E-01	2.655E-02	0.142
SB-126	223.80			-2.642E-01	5.499E-01	9.044E-01	5.137E-02	-0.292
	278.60			3.649E-01	3.663E-01	6.347E-01	3.700E-02	0.575
	296.50			4.367E-02	2.019E-01	3.391E-01	1.978E-02	0.129
	414.70			-9.760E-03	1.142E-02	1.788E-02	9.924E-04	-0.546
	415.30			2.778E-02	9.345E-01	1.542E+00	8.560E-02	0.018

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		555.20		1.177E-01	6.557E-01	1.081E+00	6.431E-02	0.109
		573.80		-1.166E-01	1.659E-01	2.574E-01	1.536E-02	-0.453
		593.00		8.022E-02	1.459E-01	2.457E-01	1.469E-02	0.327
		656.30		-5.020E-01	5.281E-01	7.939E-01	4.726E-02	-0.632
		666.33		-8.518E-03	1.150E-02	1.756E-02	1.054E-03	-0.485
		675.00		8.400E-03	3.072E-01	4.978E-01	3.046E-02	0.017
		695.00		1.255E-03	1.278E-02	2.079E-02	1.327E-03	0.060
		697.00		-1.939E-02	4.492E-02	7.039E-02	4.512E-03	-0.276
		720.50	*	-1.720E-02	2.197E-02	3.320E-02	2.234E-03	-0.518
		856.80		-1.002E-01	6.892E-02	1.011E-01	8.820E-03	-0.991
		989.30		-8.505E-02	1.849E-01	2.954E-01	2.487E-02	-0.288
		1034.80		-7.523E-01	1.214E+00	1.897E+00	1.484E-01	-0.397
		1213.00		3.803E-01	5.606E-01	9.848E-01	5.808E-02	0.386
SN-126	+	64.28		1.234E-01	1.432E-01	1.439E-01	2.051E-02	0.857
		86.94		-2.229E-02	7.997E-02	9.535E-02	3.944E-02	-0.234
		87.57	*	-1.778E-02	1.909E-02	2.196E-02	1.910E-03	-0.810
SB-127		61.10		3.997E+00	2.610E+00	3.994E+00	3.052E-01	1.001
		252.40		3.121E-03	2.518E-01	4.213E-01	1.732E-01	0.007
		290.80		3.721E-01	1.260E+00	2.125E+00	1.467E-01	0.175
		411.60		1.602E-01	7.160E-01	1.194E+00	1.543E-01	0.134
		444.90		-6.571E-02	6.124E-01	1.000E+00	8.849E-02	-0.066
		473.00		6.239E-02	1.048E-01	1.777E-01	1.665E-02	0.351
		543.00		2.476E-01	9.347E-01	1.553E+00	1.781E-01	0.159
		603.60		-3.242E-01	7.967E-01	1.262E+00	1.138E-01	-0.257
		685.20	*	4.519E-02	8.629E-02	1.447E-01	1.099E-02	0.312
		698.50		4.201E-02	1.028E+00	1.664E+00	2.237E-01	0.025
		722.20		-2.260E-01	1.812E+00	2.895E+00	2.227E-01	-0.078
		783.80		1.262E-01	2.121E-01	3.571E-01	3.595E-02	0.353
XE-127		57.60		5.608E-01	8.204E-01	1.278E+00	8.419E-02	0.439
		145.22		9.461E-02	1.253E-01	2.068E-01	1.277E-02	0.457
		172.10		-3.153E-03	2.871E-02	3.660E-02	1.976E-03	-0.086
		202.84	*	-6.163E-03	8.652E-03	1.416E-02	7.895E-04	-0.435
		374.96		1.570E-02	4.119E-02	6.934E-02	3.854E-03	0.226
I-131		80.18		-5.818E-01	4.819E-01	6.386E-01	5.098E-02	-0.911
		284.30		7.800E-02	1.770E-01	3.006E-01	1.931E-02	0.259
		364.48	*	-4.811E-03	1.371E-02	2.225E-02	1.393E-03	-0.216
		636.97		-2.045E-02	1.994E-01	3.209E-01	2.117E-02	-0.064
		722.89		1.982E-01	8.444E-01	1.386E+00	9.395E-02	0.143
TE-132		49.72		-1.111E+00	5.937E-01	8.923E-01	6.515E-02	-1.245
		111.76		1.006E-01	1.617E+00	2.096E+00	1.706E-01	0.048
		116.30		-9.149E-01	1.222E+00	1.906E+00	1.528E-01	-0.480
		228.16	*	3.750E-03	2.987E-02	5.033E-02	6.628E-03	0.074
BA-133		53.15		-3.487E-01	4.884E-01	7.736E-01	5.040E-02	-0.451
		79.62		-2.324E-01	2.548E-01	3.417E-01	5.070E-02	-0.680
		81.00		-2.801E-02	1.939E-02	2.473E-02	3.851E-03	-1.132
		276.40		-5.591E-02	1.069E-01	1.364E-01	1.770E-02	-0.410
		302.84		-1.975E-03	3.219E-02	5.341E-02	6.234E-03	-0.037
		356.01	*	-2.021E-02	1.029E-02	1.489E-02	1.711E-03	-1.358
		383.85		-4.695E-02	7.103E-02	1.130E-01	1.211E-02	-0.415

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	510.53			-6.933E-04	7.103E-02	Half-Life too short		
	529.87	*		-1.401E-06	7.103E-02	Half-Life too short		
	706.58			3.740E-05	7.103E-02	Half-Life too short		
	856.28			-4.200E-04	7.103E-02	Half-Life too short		
	875.33			4.425E-05	7.103E-02	Half-Life too short		
	1236.41			1.905E-04	7.103E-02	Half-Life too short		
CS-134	1298.22			-7.765E-06	7.103E-02	Half-Life too short		
	475.35			-2.667E-01	4.375E-01	6.899E-01	3.988E-02	-0.387
	563.23			-1.747E-01	9.712E-02	1.404E-01	8.533E-03	-1.244
	569.32			5.172E-02	5.102E-02	8.770E-02	5.380E-03	0.590
	604.70			-1.039E-03	8.511E-03	1.373E-02	8.255E-04	-0.076
	795.84	*		-1.549E-03	1.053E-02	1.671E-02	1.316E-03	-0.093
	801.93			-1.009E-01	1.293E-01	1.539E-01	1.223E-02	-0.655
	1038.57			-1.691E-03	8.417E-01	1.398E+00	1.086E-01	-0.001
	1167.94			-1.689E-01	4.883E-01	7.801E-01	4.376E-02	-0.217
	1365.15			2.068E-01	2.901E-01	5.115E-01	3.873E-02	0.404
CS-135	268.24	*		-1.614E-02	3.410E-02	5.576E-02	4.278E-03	-0.289
I-135	288.45			-4.370E+01	3.410E-02	Half-Life too short		
	417.63			-1.315E+00	3.410E-02	Half-Life too short		
	546.56			-2.499E+01	3.410E-02	Half-Life too short		
	836.80			3.310E+01	3.410E-02	Half-Life too short		
	1038.76			3.574E+00	3.410E-02	Half-Life too short		
	1124.00			1.523E+01	3.410E-02	Half-Life too short		
	1131.51			-1.354E+01	3.410E-02	Half-Life too short		
	1260.41	*		1.148E+01	3.410E-02	Half-Life too short		
	1457.56			4.511E+01	3.410E-02	Half-Life too short		
	1678.03			9.184E+00	3.410E-02	Half-Life too short		
	1706.46			-1.075E+01	3.410E-02	Half-Life too short		
	1791.20			-3.545E+01	3.410E-02	Half-Life too short		
CS-136	66.91			7.228E-02	8.883E-02	1.312E-01	1.914E-02	0.551
	86.29			1.096E-01	1.715E-01	2.160E-01	2.767E-02	0.508
	153.22			6.649E-02	9.133E-02	1.505E-01	1.094E-02	0.442
	163.89			-1.736E-02	1.521E-01	2.420E-01	1.685E-02	-0.072
	176.55			-4.522E-02	5.528E-02	8.503E-02	5.252E-03	-0.532
	273.65			6.482E-03	6.750E-02	1.131E-01	7.496E-03	0.057
	340.57			-7.677E-03	1.845E-02	2.996E-02	1.828E-03	-0.256
	818.51			-8.721E-03	1.165E-02	1.843E-02	1.501E-03	-0.473
	1048.07	*		1.359E-03	1.654E-02	2.767E-02	2.224E-03	0.049
	1235.34			2.520E-02	7.016E-02	1.195E-01	1.215E-02	0.211
BA-137M	661.65	*		1.132E-02	8.048E-03	1.427E-02	8.486E-04	0.793
CS-137	661.65	*		1.197E-02	8.508E-03	1.509E-02	9.007E-04	0.793
CE-139	165.85	*		-2.959E-03	5.960E-03	9.314E-03	5.001E-04	-0.318
BA-140	162.64			2.909E-02	1.302E-01	1.712E-01	1.070E-02	0.170
	304.84			-4.328E-02	1.878E-01	3.084E-01	8.418E-02	-0.140
	423.70			4.766E-02	2.951E-01	4.894E-01	1.554E-01	0.097
LA-140	537.32	*		2.521E-02	3.908E-02	6.514E-02	2.120E-02	0.387
	328.77			3.796E-02	4.444E-02	7.645E-02	4.951E-03	0.497
	432.53			-3.639E-02	3.156E-01	5.157E-01	3.223E-02	-0.071
	487.03			2.489E-03	2.071E-02	3.418E-02	2.249E-03	0.073

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	751.79			2.621E-01	2.574E-01	4.466E-01	3.684E-02	0.587
	815.85			5.691E-03	4.988E-02	8.444E-02	7.726E-03	0.067
	867.82			-2.493E-02	2.040E-01	3.383E-01	3.160E-02	-0.074
	919.63			-2.445E-02	3.572E-01	5.929E-01	6.586E-02	-0.041
	925.24			4.371E-02	1.565E-01	2.677E-01	2.581E-02	0.163
	1596.49	*		4.799E-03	1.505E-02	2.541E-02	1.685E-03	0.189
CE-141	145.44	*		5.391E-03	1.119E-02	1.828E-02	1.167E-03	0.295
CE-143	57.37			1.501E+00	4.069E+00	6.514E+00	5.312E-01	0.230
	231.56			-7.926E-01	1.393E+01	2.269E+01	7.016E+00	-0.035
	293.26	*		4.139E-01	7.240E-01	1.227E+00	2.514E-01	0.337
	350.59			1.235E+01	1.026E+01	1.675E+01	5.084E+00	0.737
	490.36			-4.466E+00	1.701E+01	2.731E+01	8.449E+00	-0.164
	664.57			-3.345E+00	7.769E+00	1.207E+01	3.826E+00	-0.277
	721.93			-3.400E+00	8.016E+00	1.241E+01	3.558E+00	-0.274
CE-144	80.11			-4.850E-01	4.082E-01	5.416E-01	4.312E-02	-0.896
	133.54	*		-4.698E-03	4.051E-02	6.475E-02	9.426E-03	-0.073
PM-144	476.78			-7.341E-03	1.538E-02	2.446E-02	1.694E-03	-0.300
	618.01			4.379E-03	7.498E-03	1.264E-02	7.982E-04	0.347
	696.49	*		-3.841E-03	8.575E-03	1.342E-02	8.597E-04	-0.286
	778.57			2.332E-03	5.208E-01	8.375E-01	6.322E-02	0.003
PR-144	696.49	*		-2.593E-01	5.789E-01	9.062E-01	5.802E-02	-0.286
	1489.15			8.525E-01	2.754E+00	4.675E+00	3.229E-01	0.182
PM-146	453.90	*		4.874E-04	1.044E-02	1.720E-02	1.472E-03	0.028
	633.02			-5.052E-02	3.426E-01	5.491E-01	2.024E-01	-0.092
	735.90			2.096E-02	3.410E-02	5.679E-02	1.598E-02	0.369
	747.13			-7.174E-03	2.190E-02	3.433E-02	4.518E-03	-0.209
ND-147	91.11			-6.079E-02	4.796E-02	5.978E-02	5.494E-03	-1.017
	319.41			-1.079E-01	4.774E-01	7.846E-01	4.552E-02	-0.137
	439.89			3.395E-01	8.595E-01	1.444E+00	8.167E-02	0.235
	531.02	*		-4.219E-02	7.785E-02	1.219E-01	1.655E-02	-0.346
PM-149	285.90	*		-1.850E-01	2.033E+00	3.373E+00	4.779E-01	-0.055
EU-152	121.78			-6.611E-03	1.510E-02	2.385E-02	2.063E-03	-0.277
	244.69			3.961E-02	7.692E-02	1.203E-01	6.928E-03	0.329
	344.27	*		-1.233E-02	2.165E-02	3.484E-02	2.254E-03	-0.354
	443.98			-1.218E-01	2.257E-01	3.592E-01	2.037E-02	-0.339
	778.89			2.115E-02	6.053E-02	1.000E-01	7.555E-03	0.211
	867.32			-2.798E-02	1.831E-01	3.030E-01	2.695E-02	-0.092
	964.01			4.159E-04	5.996E-02	1.000E-01	8.721E-03	0.004
	1085.78			2.579E-02	8.802E-02	1.496E-01	1.055E-02	0.172
	1112.02			-1.434E-02	6.472E-02	1.050E-01	6.953E-03	-0.137
	1407.95			4.886E-03	4.602E-02	7.619E-02	5.370E-03	0.064
GD-153	69.67			-4.057E-01	2.915E-01	3.821E-01	2.733E-02	-1.062
	83.37			1.959E+00	3.525E+00	4.215E+00	3.485E-01	0.465
	97.43	*		-1.836E-02	1.560E-02	2.399E-02	1.924E-03	-0.765
	103.18			1.947E-03	1.916E-02	3.108E-02	2.398E-03	0.063
EU-154	123.07			-4.107E-04	1.049E-02	1.686E-02	1.725E-03	-0.024
	247.94			-7.541E-03	7.763E-02	1.294E-01	1.232E-02	-0.058
	591.81			-7.850E-02	1.466E-01	2.294E-01	2.267E-02	-0.342
	723.30			2.268E-02	3.842E-02	6.467E-02	5.104E-03	0.351

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		756.87		-1.093E-01	1.762E-01	2.683E-01	2.957E-02	-0.408
		873.19		2.964E-02	6.972E-02	1.202E-01	1.503E-02	0.247
		996.32		-1.407E-01	1.012E-01	1.335E-01	2.353E-02	-1.054
		1004.76		-4.780E-02	4.864E-02	7.372E-02	8.368E-03	-0.648
		1274.45	*	7.699E-03	2.538E-02	4.301E-02	4.217E-03	0.179
		48.70		5.092E-02	3.356E-01	5.523E-01	3.539E-02	0.092
		60.01		4.625E-01	8.148E-01	1.199E+00	7.968E-02	0.386
		86.54		7.840E-03	2.303E-02	2.862E-02	2.484E-03	0.274
		105.31	*	-1.650E-02	2.022E-02	3.146E-02	2.435E-03	-0.524
		86.79		5.562E-03	5.705E-02	6.983E-02	6.018E-03	0.080
TB-160		197.04		4.958E-02	1.093E-01	1.869E-01	1.036E-02	0.265
		215.65		-1.167E-01	1.366E-01	2.210E-01	1.247E-02	-0.528
		298.57		5.969E-03	2.353E-02	3.958E-02	2.308E-03	0.151
		879.36	*	1.002E-02	3.182E-02	5.443E-02	4.943E-03	0.184
		962.29		-9.246E-02	1.401E-01	1.701E-01	1.487E-02	-0.543
		966.15		1.078E-02	3.845E-02	6.546E-02	5.692E-03	0.165
		1177.93		9.502E-03	6.303E-02	1.057E-01	5.868E-03	0.090
		1271.85		7.702E-02	1.348E-01	2.344E-01	1.522E-02	0.329
		80.57		-6.334E-02	5.283E-02	6.999E-02	5.601E-03	-0.905
	+	184.41		4.770E-03	1.266E-02	1.418E-02	7.758E-04	0.336
HO-166M		280.46		7.449E-03	1.914E-02	3.242E-02	1.890E-03	0.230
		410.95		2.932E-02	5.278E-02	8.960E-02	4.957E-03	0.327
		711.68	*	-6.831E-04	1.487E-02	2.392E-02	1.580E-03	-0.029
		752.31		3.488E-02	6.126E-02	1.031E-01	7.392E-03	0.338
		810.29		2.861E-03	1.422E-02	2.319E-02	1.859E-03	0.123
		51.35		-2.436E+00	4.131E+00	6.588E+00	4.272E-01	-0.370
		52.39		3.336E-01	2.085E+00	3.431E+00	2.231E-01	0.097
		59.40		2.702E+00	4.324E+00	6.382E+00	4.228E-01	0.423
		66.72	*	4.605E+00	4.612E+00	6.913E+00	4.820E-01	0.666
		88.36		-1.249E-01	4.970E-02	5.223E-02	4.551E-03	-2.392
LU-176		201.83		-6.501E-03	6.173E-03	9.973E-03	5.554E-04	-0.652
		306.84	*	-4.743E-03	5.442E-03	8.662E-03	5.045E-04	-0.548
		401.10		1.995E-01	1.406E+00	2.337E+00	1.282E-01	0.085
		112.95		6.447E-02	1.974E-01	2.590E-01	1.902E-02	0.249
		208.36	*	7.539E-02	1.030E-01	1.775E-01	9.948E-03	0.425
		52.97		-1.124E-01	2.130E-01	3.403E-01	2.216E-02	-0.330
		54.07		-9.200E-02	1.155E-01	1.822E-01	1.189E-02	-0.505
		61.30		4.585E-01	2.454E-01	3.806E-01	2.551E-02	1.205
		121.62		-1.900E-02	7.487E-02	1.192E-01	8.481E-03	-0.159
		147.16		-1.259E-01	1.323E-01	2.034E-01	1.240E-02	-0.619
LU-177		171.86		-1.967E-02	1.286E-01	1.635E-01	8.822E-03	-0.120
		218.09		-1.903E-02	1.635E-01	2.732E-01	1.544E-02	-0.070
		268.79		-1.129E-01	1.678E-01	2.720E-01	1.583E-02	-0.415
		319.02		-3.543E-03	5.653E-02	9.362E-02	5.432E-03	-0.038
		367.43		2.914E-02	1.907E-01	3.179E-01	1.782E-02	0.092
		413.65	*	-3.454E-02	3.832E-02	5.984E-02	3.318E-03	-0.577
		56.28		-9.804E-02	1.214E-01	1.915E-01	1.257E-02	-0.512
		57.53		4.860E-02	7.038E-02	1.097E-01	7.223E-03	0.443
		65.20		3.340E-01	1.475E-01	2.311E-01	1.592E-02	1.445
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	133.02			-5.613E-03	1.185E-02	1.865E-02	1.239E-03	-0.301
	136.25			-4.313E-02	8.356E-02	1.312E-01	8.551E-03	-0.329
	345.85			-2.753E-02	3.879E-02	6.198E-02	3.543E-03	-0.444
	482.03	*		5.788E-03	8.368E-03	1.429E-02	8.289E-04	0.405
	56.28			-4.143E-02	5.134E-02	8.100E-02	5.315E-03	-0.511
	57.53			2.057E-02	2.978E-02	4.642E-02	3.057E-03	0.443
	65.20	*		1.402E-01	6.193E-02	9.703E-02	6.685E-03	1.445
	67.75			-1.031E-03	1.784E-02	2.534E-02	1.782E-03	-0.041
	100.10			2.006E-02	3.207E-02	5.309E-02	4.177E-03	0.378
	152.43			3.321E-02	6.590E-02	1.077E-01	6.350E-03	0.308
TA-182	222.10			-3.443E-03	6.604E-02	1.106E-01	6.272E-03	-0.031
	1001.68			7.902E-01	4.417E-01	8.257E-01	6.825E-02	0.957
	1121.28			3.033E-03	2.864E-02	4.784E-02	3.091E-03	0.063
	1189.05			1.947E-02	5.253E-02	8.998E-02	5.095E-03	0.216
	1221.42	*		9.506E-03	3.556E-02	6.009E-02	3.594E-03	0.158
	1230.97			-4.124E-02	8.369E-02	1.313E-01	7.977E-03	-0.314
	57.98			3.176E-02	2.957E-02	4.469E-02	2.947E-03	0.711
	59.32			1.059E-02	1.666E-02	2.461E-02	1.630E-03	0.430
	67.20			2.174E-02	3.080E-02	4.551E-02	3.186E-03	0.478
	162.32	*		6.635E-03	2.625E-02	3.457E-02	1.904E-03	0.192
RE-183	208.81			1.032E-01	1.826E-01	3.131E-01	1.755E-02	0.330
	291.72			6.523E-02	1.897E-01	3.207E-01	1.871E-02	0.203
	57.98			1.221E-01	1.137E-01	1.718E-01	1.133E-02	0.711
	59.32			4.067E-02	6.400E-02	9.451E-02	6.260E-03	0.430
	67.20			8.354E-02	1.183E-01	1.749E-01	1.224E-02	0.478
	161.27			4.786E-02	8.863E-02	1.184E-01	6.569E-03	0.404
	216.55			-2.300E-02	4.999E-02	8.231E-02	4.647E-03	-0.279
	252.85	*		-1.247E-03	4.831E-02	8.070E-02	4.668E-03	-0.015
	318.01			1.390E-02	1.005E-01	1.680E-01	9.753E-03	0.083
	792.07			4.040E-03	2.149E-01	3.457E-01	2.678E-02	0.012
RE-184	903.28			8.307E-02	2.257E-01	3.874E-01	3.616E-02	0.214
	920.93			3.258E-03	8.679E-02	1.455E-01	1.334E-02	0.022
	59.72			2.420E-02	4.596E-02	6.748E-02	4.478E-03	0.359
	61.14			4.180E-02	2.610E-02	4.010E-02	2.685E-03	1.042
	69.30			-9.441E-02	5.143E-02	6.545E-02	4.664E-03	-1.443
	592.07			-2.452E-01	5.738E-01	9.057E-01	5.416E-02	-0.271
	646.12	*		-5.013E-03	1.148E-02	1.456E-02	8.684E-04	-0.344
	717.42			-3.289E-02	1.940E-01	3.088E-01	2.065E-02	-0.106
	874.81			3.190E-02	1.332E-01	2.269E-01	2.044E-02	0.141
	880.27			1.745E-01	1.794E-01	3.195E-01	2.907E-02	0.546
OS-185	155.03	*		2.244E-02	3.267E-02	5.376E-02	3.115E-03	0.417
	477.96			-8.601E-02	6.357E-01	1.033E+00	5.979E-02	-0.083
	633.10			-8.197E-02	6.454E-01	1.038E+00	6.198E-02	-0.079
	63.58			1.165E+01	1.344E+01	1.377E+01	9.376E-01	0.846
	227.08			2.936E-01	2.428E+00	4.091E+00	2.329E-01	0.072
	290.67	*		3.804E-01	1.500E+00	2.527E+00	1.474E-01	0.151
	295.96			-8.275E-03	2.219E-02	3.636E-02	2.154E-03	-0.228
	308.46			-1.603E-02	2.006E-02	3.207E-02	1.888E-03	-0.500
	316.51	*		-1.969E-03	7.510E-03	1.233E-02	7.196E-04	-0.160
RE-188								
W-188								
IR-192								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195	468.07			-1.077E-02	1.489E-02	2.338E-02	1.554E-03	-0.461
	604.41			-3.141E-02	1.094E-01	1.747E-01	2.000E-02	-0.180
	612.46			-1.807E-01	1.610E-01	2.416E-01	1.863E-02	-0.748
	65.12			7.074E-02	2.929E-02	4.609E-02	3.173E-03	1.535
	66.83			1.542E-02	1.497E-02	2.246E-02	1.568E-03	0.687
	75.70			3.389E-02	3.559E-02	5.115E-02	3.880E-03	0.663
	98.88	*		-1.743E-02	4.177E-02	6.637E-02	5.266E-03	-0.263
TL-200	129.76			1.536E-01	5.360E-01	8.718E-01	5.907E-02	0.176
	367.94	*		-2.669E-01	9.939E-01	1.620E+00	9.077E-02	-0.165
	579.30			-5.434E+00	8.404E+00	1.312E+01	7.835E-01	-0.414
	828.27			4.882E-01	1.024E+01	1.725E+01	1.430E+00	0.028
TL-201	1205.75			3.858E+00	4.133E+00	7.449E+00	4.340E-01	0.518
	68.90			-2.731E-01	1.650E-01	2.126E-01	1.510E-02	-1.284
	70.82			-6.193E-02	8.434E-02	1.283E-01	9.272E-03	-0.483
	80.30			-2.325E-01	1.875E-01	2.479E-01	1.978E-02	-0.938
	135.34			-1.229E-01	9.869E-01	1.577E+00	1.033E-01	-0.078
TL-202	167.43	*		-7.989E-02	2.773E-01	4.374E-01	2.350E-02	-0.183
	68.90			-8.522E-02	5.150E-02	6.636E-02	4.713E-03	-1.284
	70.82			-1.928E-02	2.625E-02	3.994E-02	2.886E-03	-0.483
	80.30			-7.239E-02	5.838E-02	7.719E-02	6.158E-03	-0.938
	439.56	*		7.676E-03	1.067E-02	1.822E-02	1.030E-03	0.421
HG-203	70.83			-1.127E-01	1.547E-01	2.346E-01	2.996E-02	-0.480
	72.87			2.657E-02	8.975E-02	1.473E-01	1.830E-02	0.180
	82.60			1.452E-01	1.878E-01	2.755E-01	3.714E-02	0.527
BI-207	279.20	*		4.740E-03	8.244E-03	1.406E-02	8.701E-04	0.337
	72.80			6.251E-03	2.924E-02	4.790E-02	3.527E-03	0.131
	74.97			1.797E-02	2.036E-02	2.913E-02	2.193E-03	0.617
	84.90	+		2.586E-02	4.654E-02	5.539E-02	4.665E-03	0.467
	569.67			9.225E-04	8.068E-03	1.322E-02	7.890E-04	0.070
	1063.62	*		4.142E-03	1.075E-02	1.846E-02	1.366E-03	0.224
	1770.23			-1.164E-01	1.522E-01	2.222E-01	1.327E-02	-0.524
TL-207	81.07			-6.408E-02	4.201E-02	5.439E-02	4.378E-03	-1.178
	83.78	+		1.705E-02	3.070E-02	3.650E-02	3.033E-03	0.467
	94.90			-1.750E-02	4.855E-02	7.759E-02	6.349E-03	-0.226
	122.32			-2.466E-01	3.601E-01	5.623E-01	4.412E-02	-0.439
	144.24			-2.917E-02	1.964E-01	2.366E-01	1.790E-02	-0.123
	154.21			9.936E-02	8.025E-02	1.346E-01	9.472E-03	0.738
	269.46			-8.181E-03	4.008E-02	6.633E-02	4.033E-03	-0.123
TL-208	323.87	*		-8.705E-02	1.500E-01	2.412E-01	3.983E-02	-0.361
	338.28			2.007E-01	2.151E-01	3.704E-01	3.890E-02	0.542
	445.03			-3.687E-02	5.297E-01	8.670E-01	8.843E-02	-0.043
	277.35			5.112E-02	8.332E-02	1.421E-01	1.503E-02	0.360
	510.84			-9.675E-02	8.083E-02	1.193E-01	1.216E-02	-0.811
	583.14	*		1.051E-03	1.292E-02	1.577E-02	1.079E-03	0.067
	860.37			-9.553E-03	6.015E-02	9.951E-02	9.361E-03	-0.096
PO-209	260.50			-6.395E-01	2.117E+00	3.491E+00	2.026E-01	-0.183
	262.80			3.820E+00	5.918E+00	1.014E+01	5.890E-01	0.377
	896.60	*		8.081E-01	1.662E+00	2.881E+00	2.697E-01	0.280
BI-210	46.50	*		-2.440E-01	6.863E-01	8.238E-01	6.108E-02	-0.296

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PB-210	46.50	*		-2.440E-01	6.863E-01	8.238E-01	6.108E-02	-0.296
PO-210	46.50	*		-2.440E-01	6.863E-01	8.238E-01	5.169E-02	-0.296
BI-211	72.87			1.488E-01	5.026E-01	8.253E-01	6.082E-02	0.180
	351.07	*		7.781E-02	4.706E-02	8.340E-02	5.284E-03	0.933
PB-211	404.84	*		1.932E-02	2.069E-01	3.422E-01	2.132E-01	0.056
	427.08			-1.202E-03	4.647E-01	7.647E-01	4.725E-01	-0.002
	831.96			-1.511E-01	2.654E-01	3.955E-01	2.477E-01	-0.382
BI-212	727.18	*		5.555E-02	6.389E-02	1.095E-01	9.317E-03	0.507
	785.46			7.406E-02	3.817E-01	6.233E-01	4.767E-02	0.119
	1620.62			2.541E-02	3.405E-01	5.585E-01	3.658E-02	0.045
PB-212	74.81			3.637E-02	7.077E-02	1.002E-01	1.202E-02	0.363
	77.11			2.669E-02	4.106E-02	5.663E-02	4.361E-03	0.471
	87.30			-5.025E-02	8.775E-02	1.029E-01	1.362E-02	-0.488
+	238.63	*		6.998E-03	2.171E-02	2.450E-02	1.784E-03	0.286
	300.09			1.064E-01	1.714E-01	2.923E-01	2.418E-02	0.364
PO-212	74.81			3.637E-02	7.077E-02	1.002E-01	1.202E-02	0.363
	77.11			2.669E-02	4.106E-02	5.663E-02	4.361E-03	0.471
	87.30			-5.025E-02	8.775E-02	1.029E-01	1.362E-02	-0.488
	115.19			-3.705E-01	7.334E-01	1.158E+00	8.424E-02	-0.320
+	238.63	*		6.998E-03	2.171E-02	2.450E-02	1.784E-03	0.286
	300.09			1.064E-01	1.714E-01	2.923E-01	2.418E-02	0.364
BI-214	609.31	*		1.014E-02	1.750E-02	2.937E-02	2.325E-03	0.345
	1120.29			-3.169E-02	6.951E-02	1.026E-01	9.505E-03	-0.309
	1764.49			7.494E-02	6.705E-02	1.217E-01	7.297E-03	0.616
PB-214	74.81			6.267E-02	1.219E-01	1.727E-01	1.822E-02	0.363
	77.11			4.575E-02	7.048E-02	9.709E-02	1.052E-02	0.471
	87.30			-8.608E-02	1.502E-01	1.763E-01	2.045E-02	-0.488
	241.98			-1.753E-02	8.431E-02	1.214E-01	9.750E-03	-0.144
	295.21			-1.737E-02	3.070E-02	4.983E-02	4.260E-03	-0.349
	351.92	*		2.444E-02	1.642E-02	2.884E-02	2.367E-03	0.847
PO-214	74.81			6.267E-02	1.219E-01	1.727E-01	1.822E-02	0.363
	77.11			4.575E-02	7.048E-02	9.709E-02	1.052E-02	0.471
	87.30			-8.608E-02	1.502E-01	1.763E-01	2.045E-02	-0.488
	241.98			-1.753E-02	8.431E-02	1.214E-01	9.750E-03	-0.144
	295.21			-1.737E-02	3.070E-02	4.983E-02	4.260E-03	-0.349
	351.92	*		2.444E-02	1.642E-02	2.884E-02	2.367E-03	0.847
PO-215	81.07			-6.408E-02	4.201E-02	5.439E-02	4.378E-03	-1.178
+	83.78			1.705E-02	3.070E-02	3.650E-02	3.033E-03	0.467
	94.90			-1.750E-02	4.855E-02	7.759E-02	6.349E-03	-0.226
	122.32			-2.466E-01	3.601E-01	5.623E-01	4.412E-02	-0.439
	144.24			-2.917E-02	1.964E-01	2.366E-01	1.790E-02	-0.123
	154.21			9.936E-02	8.025E-02	1.346E-01	9.472E-03	0.738
	269.46			-8.181E-03	4.008E-02	6.633E-02	4.033E-03	-0.123
	323.87	*		-8.705E-02	1.500E-01	2.412E-01	3.983E-02	-0.361
	338.28			2.007E-01	2.151E-01	3.704E-01	3.890E-02	0.542
	445.03			-3.687E-02	5.297E-01	8.670E-01	8.843E-02	-0.043
PO-216	74.81			3.637E-02	7.077E-02	1.002E-01	1.202E-02	0.363
	77.11			2.669E-02	4.106E-02	5.663E-02	4.361E-03	0.471
	87.30			-5.025E-02	8.775E-02	1.029E-01	1.362E-02	-0.488

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218	+	238.63	*	6.998E-03	2.171E-02	2.450E-02	1.784E-03	0.286
		300.09		1.064E-01	1.714E-01	2.923E-01	2.418E-02	0.364
		74.81		6.267E-02	1.219E-01	1.727E-01	1.822E-02	0.363
		77.11		4.575E-02	7.048E-02	9.709E-02	1.052E-02	0.471
		87.30		-8.608E-02	1.502E-01	1.763E-01	2.045E-02	-0.488
		241.98		-1.753E-02	8.431E-02	1.214E-01	9.750E-03	-0.144
RN-219		295.21		-1.737E-02	3.070E-02	4.983E-02	4.260E-03	-0.349
		351.92	*	2.444E-02	1.642E-02	2.884E-02	2.367E-03	0.847
		271.23		4.865E-02	5.196E-02	8.979E-02	7.291E-03	0.542
		401.81	*	1.986E-02	8.828E-02	1.474E-01	1.986E-02	0.135
RN-220		549.76	*	-2.491E+00	5.940E+00	9.405E+00	5.590E-01	-0.265
RA-223		81.07		-6.408E-02	4.201E-02	5.439E-02	4.378E-03	-1.178
	+	83.78		1.705E-02	3.070E-02	3.650E-02	3.033E-03	0.467
		94.90		-1.750E-02	4.855E-02	7.759E-02	6.349E-03	-0.226
		122.32		-2.466E-01	3.601E-01	5.623E-01	4.412E-02	-0.439
		144.24		-2.917E-02	1.964E-01	2.366E-01	1.790E-02	-0.123
		154.21		9.936E-02	8.025E-02	1.346E-01	9.472E-03	0.738
		269.46		-8.181E-03	4.008E-02	6.633E-02	4.033E-03	-0.123
		323.87	*	-8.705E-02	1.500E-01	2.412E-01	3.983E-02	-0.361
		338.28		2.007E-01	2.151E-01	3.704E-01	3.890E-02	0.542
		445.03		-3.687E-02	5.297E-01	8.670E-01	8.843E-02	-0.043
RA-224		240.98	*	9.765E-02	1.659E-01	2.490E-01	1.431E-02	0.392
RA-226		609.31	*	1.014E-02	1.750E-02	2.937E-02	2.325E-03	0.345
AC-227		1120.29		-3.169E-02	6.951E-02	1.026E-01	9.505E-03	-0.309
		1764.49		7.494E-02	6.705E-02	1.217E-01	7.297E-03	0.616
		79.80		-3.106E-01	3.270E-01	4.323E-01	9.180E-02	-0.718
		236.00		4.286E-02	5.381E-02	8.155E-02	8.493E-03	0.526
		256.20	*	6.963E-02	8.302E-02	1.426E-01	1.991E-02	0.488
TH-227		286.10		-1.273E-01	3.350E-01	5.482E-01	6.347E-02	-0.232
		299.80		7.740E-02	3.207E-01	5.388E-01	8.780E-02	0.144
		304.40		-8.305E-02	4.104E-01	6.759E-01	1.170E-01	-0.123
		334.20		-6.905E-01	5.323E-01	8.030E-01	1.471E-01	-0.860
		79.80		-3.106E-01	3.272E-01	4.323E-01	9.300E-02	-0.718
		94.00		-2.854E-01	5.604E-01	7.259E-01	1.570E-01	-0.393
		236.00		4.286E-02	5.376E-02	8.155E-02	7.350E-03	0.526
		256.20	*	6.963E-02	8.328E-02	1.426E-01	2.410E-02	0.488
		286.10		-1.273E-01	3.582E-01	5.482E-01	5.491E-01	-0.232
		299.80		7.740E-02	3.207E-01	5.388E-01	8.780E-02	0.144
AC-228		304.40		-8.305E-02	4.104E-01	6.759E-01	1.170E-01	-0.123
		334.20		-6.905E-01	5.323E-01	8.030E-01	1.471E-01	-0.860
		338.32		5.756E-02	5.595E-02	8.867E-02	3.614E-02	0.649
RA-228		911.07	*	4.317E-02	3.022E-02	5.501E-02	6.461E-03	0.785
		969.11		7.984E-03	6.296E-02	8.889E-02	2.076E-02	0.090
		338.32		5.756E-02	5.595E-02	8.867E-02	3.614E-02	0.649
TH-228		911.07	*	4.317E-02	3.022E-02	5.501E-02	6.461E-03	0.785
		969.11		7.984E-03	6.296E-02	8.889E-02	2.076E-02	0.090
		74.81		3.666E-02	7.125E-02	1.010E-01	7.675E-03	0.363
		77.11		2.690E-02	4.139E-02	5.708E-02	4.395E-03	0.471
		87.30		-5.065E-02	8.829E-02	1.037E-01	8.993E-03	-0.488

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229	+	238.63	*	7.053E-03	2.188E-02	2.469E-02	1.798E-03	0.286
		300.09		1.073E-01	1.837E-01	2.946E-01	1.737E-01	0.364
	+	85.43		2.553E-02	4.595E-02	5.530E-02	4.687E-03	0.462
		88.47		-1.348E-01	3.242E-02	2.998E-02	2.609E-03	-4.497
		100.00		2.120E-02	3.476E-02	5.750E-02	4.528E-03	0.369
TH-230		193.63	*	-1.591E-02	1.051E-01	1.760E-01	9.718E-03	-0.090
		210.97		1.007E-02	1.514E-01	2.549E-01	1.432E-02	0.040
		609.31	*	1.014E-02	1.750E-02	2.937E-02	2.325E-03	0.345
		1120.29		-3.169E-02	6.951E-02	1.026E-01	9.505E-03	-0.309
		1764.49		7.494E-02	6.705E-02	1.217E-01	7.297E-03	0.616
PA-231		283.67	*	-1.341E-01	3.439E-01	5.627E-01	7.762E-02	-0.238
TH-231		301.29		7.927E-02	1.245E-01	2.123E-01	2.223E-02	0.373
		81.07		-6.408E-02	4.201E-02	5.439E-02	4.378E-03	-1.178
	+	83.78		1.705E-02	3.070E-02	3.650E-02	3.033E-03	0.467
		94.90		-1.750E-02	4.855E-02	7.759E-02	6.349E-03	-0.226
		122.32		-2.466E-01	3.601E-01	5.623E-01	4.412E-02	-0.439
U-231		144.24		-2.917E-02	1.964E-01	2.366E-01	1.790E-02	-0.123
		154.21		9.936E-02	8.025E-02	1.346E-01	9.472E-03	0.738
		269.46		-8.181E-03	4.008E-02	6.633E-02	4.033E-03	-0.123
		323.87	*	-8.705E-02	1.500E-01	2.412E-01	3.983E-02	-0.361
		338.28		2.007E-01	2.151E-01	3.704E-01	3.890E-02	0.542
TH-232		445.03		-3.687E-02	5.297E-01	8.670E-01	8.843E-02	-0.043
	+	84.21		2.211E-01	3.979E-01	4.717E-01	3.940E-02	0.469
		92.29		-7.851E-02	1.685E-01	2.207E-01	1.848E-02	-0.356
		95.87	*	-3.529E-01	7.801E-02	9.735E-02	7.903E-03	-3.625
		108.00		-8.154E-02	1.188E-01	1.860E-01	1.397E-02	-0.438
PA-233		338.32		5.756E-02	5.090E-02	8.867E-02	5.095E-03	0.649
		911.07	*	4.317E-02	3.022E-02	5.501E-02	6.461E-03	0.785
		969.11		7.984E-03	6.296E-02	8.889E-02	2.076E-02	0.090
		75.28		3.802E-01	5.986E-01	8.496E-01	1.255E-01	0.447
		86.59		1.110E-01	3.758E-01	4.645E-01	1.245E-01	0.239
PA-234		300.12		5.499E-02	8.876E-02	1.511E-01	2.032E-02	0.364
		311.98	*	4.970E-03	1.453E-02	2.452E-02	1.514E-03	0.203
		340.50		-5.102E-02	1.319E-01	2.137E-01	4.905E-02	-0.239
		398.62		-3.713E-01	4.701E-01	7.245E-01	1.868E-01	-0.512
		415.76		-1.194E-02	3.749E-01	6.165E-01	1.265E-01	-0.019
PA-234	+	63.00		3.634E-01	4.219E-01	4.289E-01	6.243E-02	0.847
		94.67		2.936E-02	3.539E-02	5.849E-02	7.085E-03	0.502
		98.44		-1.164E-02	1.875E-02	2.770E-02	1.542E-02	-0.420
		99.86		3.756E-02	8.846E-02	1.454E-01	1.146E-02	0.258
		111.00		1.992E-03	4.729E-02	6.113E-02	6.881E-03	0.033
		131.20		9.092E-03	2.053E-02	3.359E-02	2.256E-03	0.271
		152.70		3.886E-02	6.678E-02	1.091E-01	1.728E-02	0.356
	+	186.00		1.717E-01	4.585E-01	5.152E-01	1.571E-01	0.333
		226.40		-1.166E-02	8.348E-02	1.392E-01	1.602E-02	-0.084
		227.20		8.408E-03	8.808E-02	1.483E-01	8.444E-03	0.057
		248.90		-1.566E-01	1.820E-01	2.883E-01	6.193E-02	-0.543
		293.70		6.649E-02	1.430E-01	2.421E-01	3.897E-02	0.275
		369.80		-1.764E-01	1.990E-01	3.081E-01	6.399E-02	-0.573

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		568.70		5.088E-01	2.622E-01	4.700E-01	2.804E-02	1.083
		569.50		2.108E-02	7.234E-02	1.197E-01	7.144E-03	0.176
		574.00		-1.853E-01	3.545E-01	5.570E-01	3.325E-02	-0.333
		699.00		2.648E-02	1.784E-01	2.908E-01	5.292E-02	0.091
		706.10		-2.825E-02	2.583E-01	4.133E-01	1.828E-01	-0.068
		733.00		-4.299E-02	8.468E-02	1.300E-01	2.806E-02	-0.331
		742.81		1.140E-01	3.394E-01	5.465E-01	3.664E-01	0.209
		796.30		-4.044E-02	2.032E-01	3.204E-01	8.588E-02	-0.126
		805.60		3.159E-02	2.356E-01	3.819E-01	1.164E-01	0.083
		819.60		-3.655E-02	2.825E-01	4.692E-01	1.780E-01	-0.078
		826.30		1.163E-01	1.837E-01	3.106E-01	1.388E-01	0.375
		831.60		-3.743E-02	1.282E-01	2.092E-01	6.225E-02	-0.179
		876.40		-1.109E-02	2.053E-01	3.418E-01	3.515E-01	-0.032
		880.51		6.276E-02	6.812E-02	1.210E-01	1.101E-02	0.519
		883.24		-3.295E-02	7.366E-02	1.135E-01	7.639E-02	-0.290
		899.00		7.020E-02	2.043E-01	3.462E-01	1.519E-01	0.203
		925.00		-7.555E-03	2.437E-01	4.060E-01	3.707E-02	-0.019
		926.50		2.199E-02	3.628E-02	6.302E-02	1.604E-02	0.349
		946.00	*	4.255E-02	6.597E-02	1.150E-01	2.174E-02	0.370
		949.00		-9.901E-03	1.024E-01	1.696E-01	1.507E-02	-0.058
		980.50		-7.720E-02	1.576E-01	2.510E-01	2.140E-02	-0.308
		1394.10		-2.192E-01	3.175E-01	4.224E-01	2.741E-01	-0.519
PA-234M		766.42		-2.677E+00	6.223E+00	4.233E+00	2.139E+00	-0.632
		1001.03	*	4.928E-01	1.451E+00	2.006E+00	1.939E-01	0.246
TH-234	+	63.29	*	3.118E-01	3.630E-01	3.681E-01	6.326E-02	0.847
		92.38		-3.948E-02	1.459E-01	1.919E-01	3.447E-02	-0.206
U-234		609.31	*	1.014E-02	1.750E-02	2.937E-02	2.325E-03	0.345
		1120.29		-3.169E-02	6.951E-02	1.026E-01	9.505E-03	-0.309
		1764.49		7.494E-02	6.705E-02	1.217E-01	7.297E-03	0.616
U-235		89.95		-8.787E-01	3.739E-01	3.082E-01	9.507E-02	-2.851
		93.35		-2.998E-02	1.745E-01	2.302E-01	6.428E-02	-0.130
		105.00		-1.437E-01	2.023E-01	3.096E-01	9.155E-02	-0.464
		143.76	*	-1.188E-03	6.048E-02	7.333E-02	1.207E-02	-0.016
		163.35		-2.090E-02	1.223E-01	1.582E-01	2.828E-02	-0.132
	+	185.71		6.360E-03	1.687E-02	1.908E-02	1.045E-03	0.333
		205.31		1.297E-02	1.085E-01	1.832E-01	3.281E-02	0.071
NP-236		94.67		2.277E-02	2.679E-02	4.441E-02	3.641E-03	0.513
		98.44		-8.794E-03	1.332E-02	2.094E-02	1.667E-03	-0.420
		111.00		1.507E-03	3.577E-02	4.624E-02	3.425E-03	0.033
		160.31	*	4.019E-03	1.663E-02	2.687E-02	1.501E-03	0.150
NP-237		86.50	*	2.119E-02	5.655E-02	7.022E-02	1.569E-02	0.302
		95.87		-1.035E+00	3.306E-01	2.854E-01	6.982E-02	-3.625
U-238	+	63.29	*	3.118E-01	3.630E-01	3.681E-01	6.326E-02	0.847
		92.38		-3.948E-02	1.458E-01	1.919E-01	1.605E-02	-0.206
NP-239		99.55		4.134E-03	2.974E-02	4.834E-02	3.818E-03	0.086
		117.00	*	-1.999E-02	3.924E-02	6.188E-02	4.472E-03	-0.323
		209.75		2.779E-02	1.557E-01	2.634E-01	1.478E-02	0.106
		228.18		6.127E-03	4.593E-02	7.744E-02	4.413E-03	0.079
		277.60		2.351E-02	4.003E-02	6.833E-02	3.983E-03	0.344

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	334.30			-3.871E-01	2.940E-01	4.557E-01	2.625E-02	-0.849
AM-241	59.54	*		1.283E-02	2.552E-02	3.743E-02	2.779E-03	0.343
AM-243	74.67	*		5.563E-03	1.148E-02	1.625E-02	1.219E-03	0.342
	86.72			3.502E-01	2.099E+00	2.580E+00	2.222E-01	0.136
	117.66			-1.195E-01	7.759E-01	1.242E+00	8.955E-02	-0.096
	142.18			4.810E-01	5.050E+00	6.150E+00	3.867E-01	0.078
CM-243	99.55			4.252E-03	3.058E-02	4.972E-02	3.927E-03	0.086
	103.76	*		9.104E-03	1.772E-02	2.923E-02	2.247E-03	0.311
	117.00			-2.055E-02	4.035E-02	6.363E-02	4.598E-03	-0.323
	209.75			2.738E-02	1.534E-01	2.595E-01	1.456E-02	0.106
	228.18			6.188E-03	4.639E-02	7.821E-02	4.457E-03	0.079
	277.60			2.369E-02	4.034E-02	6.885E-02	4.013E-03	0.344
AM-246	798.80			-1.823E-02	3.299E-02	5.054E-02	3.965E-03	-0.361
	1036.00			6.800E-03	6.370E-02	1.069E-01	8.340E-03	0.064
	1062.04			2.847E-02	4.760E-02	8.314E-02	6.173E-03	0.342
	1078.86	*		3.236E-02	3.117E-02	5.607E-02	4.017E-03	0.577
CM-247	278.00			1.091E-01	1.658E-01	2.838E-01	1.655E-02	0.384
	287.40			-3.339E-01	2.761E-01	4.340E-01	2.532E-02	-0.769
	402.60	*		3.824E-03	7.906E-03	1.339E-02	7.352E-04	0.286
CF-249	252.85			-4.821E-03	1.868E-01	3.120E-01	1.805E-02	-0.015
	333.44			-3.446E-02	3.855E-02	6.119E-02	3.526E-03	-0.563
	387.95	*		1.236E-02	8.901E-03	1.571E-02	8.589E-04	0.787
CF-251	176.60	*		-2.334E-02	2.794E-02	4.295E-02	2.330E-03	-0.543
	227.00			1.087E-02	7.839E-02	1.322E-01	7.527E-03	0.082
	285.00			2.322E-01	3.798E-01	6.497E-01	3.790E-02	0.357
ANH-511	511.00	*		-2.326E-02	1.742E-02	2.573E-02	1.512E-03	-0.904

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005192      *
* Acquisition date   : 9-JAN-2010 17:03:42 Detector SN# :                    *
* Detector ID        : GAM14                      Sensitivity      : 5.000      *
* Geometry           : CAN                        Energy tolerance: 1.500      *
* Elapsed live time  : 0 08:20:00.00             Abundance limit : 75.000      *
* Elapsed real time  : 0 08:20:02.09             Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-JAN-2010 00:00:00 Nuclide Library : SOLID            *
* Sample ID          : G1202005192             Analyst initials: MXR1          *
* Batch Number       : 937074                  Sample Quantity : 1.4570E+02 GRAM  *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                                         *
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope :                      *
* MSD DPM             : 0.000                  MSD Isotope :                      *
* LCS DPM             : 0.000                  LCS Isotope :                      *
* LCSD DPM            : 0.000                  LCSD Isotope :                      *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.935E-02	1.618E-01	1.395E-01	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.476E-02	6.400E-02	1.089E-01	0.000E+00 NOT IDENT.
NA-22	2.746E-03	8.868E-03	1.547E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	5.787E+01	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-1.789E-03	8.610E-03	1.377E-02	0.000E+00 NOT IDENT.
TI-44	-1.035E-02	7.321E-03	1.010E-02	0.000E+00 NOT IDENT.
SC-46	5.297E-03	8.055E-03	1.467E-02	0.000E+00 NOT IDENT.
V-48	1.247E-03	1.066E-02	1.857E-02	0.000E+00 NOT IDENT.
CR-51	1.066E-02	6.802E-02	1.209E-01	0.000E+00 NOT IDENT.
MN-52	-5.267E-04	2.250E-02	3.769E-02	0.000E+00 NOT IDENT.
MN-54	-3.360E-04	7.358E-03	1.279E-02	0.000E+00 NOT IDENT.
CO-56	2.080E-03	8.665E-03	1.534E-02	0.000E+00 NOT IDENT.
CO-57	-2.530E-03	4.984E-03	8.522E-03	0.000E+00 NOT IDENT.
CO-58	-2.924E-04	8.693E-03	1.447E-02	0.000E+00 NOT IDENT.
FE-59	1.206E-03	1.598E-02	2.754E-02	0.000E+00 NOT IDENT.
CO-60	-4.845E-04	8.904E-03	1.495E-02	0.000E+00 NOT IDENT.
ZN-65	-9.097E-03	1.810E-02	2.961E-02	0.000E+00 NOT IDENT.
GE-68	1.776E-01	2.615E-01	4.732E-01	0.000E+00 NOT IDENT.
AS-73	-4.956E-02	1.031E-01	1.823E-01	0.000E+00 NOT IDENT.
AS-74	1.343E-02	1.671E-02	2.983E-02	0.000E+00 NOT IDENT.
SE-75	2.965E-03	9.163E-03	1.654E-02	0.000E+00 NOT IDENT.
BR-77	1.289E-01	2.844E-01	5.020E-01	0.000E+00 FAIL ABUN
SR-82	1.472E-03	7.075E-02	1.187E-01	0.000E+00 NOT IDENT.
RB-83	7.388E-03	1.485E-02	2.627E-02	0.000E+00 NOT IDENT.
RB-84	1.141E-02	1.441E-02	2.634E-02	0.000E+00 NOT IDENT.
KR-85	-1.190E+01	2.794E+00	3.906E+00	0.000E+00 NOT IDENT.
SR-85	-5.651E-02	1.327E-02	1.855E-02	0.000E+00 NOT IDENT.

RB-86	1.114E-01	1.290E-01	2.366E-01	0.000E+00	NOT IDENT.
Y-88	1.066E-03	8.642E-03	1.450E-02	0.000E+00	NOT IDENT.
ZR-88	1.955E-03	6.115E-03	1.086E-02	0.000E+00	NOT IDENT.
Y-91	2.839E+00	2.957E+00	5.492E+00	0.000E+00	NOT IDENT.
NB-94	-2.710E-03	8.267E-03	1.363E-02	0.000E+00	NOT IDENT.
NB-95	-5.172E-03	2.075E-02	1.549E-02	0.000E+00	NOT IDENT.
NB-95M	9.493E-03	2.569E-02	4.086E-02	0.000E+00	NOT IDENT.
ZR-95	-4.367E-03	1.474E-02	2.413E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.756E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.319E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.844E-02	4.441E-01	7.399E-01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.427E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.788E-03	6.717E-03	1.243E-02	0.000E+00	NOT IDENT.
RH-102	-1.777E-03	6.465E-03	1.098E-02	0.000E+00	NOT IDENT.
RU-103	-1.343E-03	8.438E-03	1.439E-02	0.000E+00	NOT IDENT.
RH-106	-2.661E-02	7.658E-02	1.270E-01	0.000E+00	NOT IDENT.
RU-106	-2.661E-02	7.653E-02	1.270E-01	0.000E+00	NOT IDENT.
AG-108M	-5.881E-04	7.264E-03	1.255E-02	0.000E+00	NOT IDENT.
CD-109	-5.321E-01	2.072E-01	2.378E-01	0.000E+00	NOT IDENT.
AG-110M	-6.713E-03	7.976E-03	1.267E-02	0.000E+00	NOT IDENT.
IN-111	4.880E-03	4.084E-02	6.940E-02	0.000E+00	NOT IDENT.
IN-113M	-4.462E-03	9.305E-03	1.582E-02	0.000E+00	NOT IDENT.
SN-113	-4.462E-03	9.305E-03	1.582E-02	0.000E+00	NOT IDENT.
IN-114M	-6.094E-03	3.713E-02	5.807E-02	0.000E+00	NOT IDENT.
CD-115	-1.066E-02	2.497E-01	4.273E-01	0.000E+00	NOT IDENT.
SN-117M	-3.236E-03	7.743E-03	1.313E-02	0.000E+00	NOT IDENT.
SB-122	-9.126E-02	8.334E-02	1.331E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.163E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.507E-03	5.582E-03	9.453E-03	0.000E+00	NOT IDENT.
I-124	-3.475E-02	4.909E-02	7.990E-02	0.000E+00	NOT IDENT.
SB-124	-7.716E-03	2.082E-02	3.289E-02	0.000E+00	NOT IDENT.
SB-125	-1.735E-03	1.997E-02	3.452E-02	0.000E+00	NOT IDENT.
TE-125M	-1.598E+00	1.655E+00	2.781E+00	0.000E+00	NOT IDENT.
I-126	-2.073E-02	2.742E-02	4.376E-02	0.000E+00	NOT IDENT.
SB-126	-1.720E-02	2.153E-02	3.394E-02	0.000E+00	NOT IDENT.
SN-126	-1.778E-02	1.871E-02	2.352E-02	0.000E+00	FAIL ABUN
SB-127	4.519E-02	8.457E-02	1.481E-01	0.000E+00	NOT IDENT.
XE-127	-6.163E-03	8.479E-03	1.490E-02	0.000E+00	NOT IDENT.
I-131	-4.811E-03	1.343E-02	2.310E-02	0.000E+00	NOT IDENT.
TE-132	3.750E-03	2.927E-02	5.281E-02	0.000E+00	NOT IDENT.
BA-133	-2.021E-02	1.008E-02	1.547E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.857E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-1.549E-03	1.032E-02	1.705E-02	0.000E+00	NOT IDENT.
CS-135	-1.614E-02	3.342E-02	5.830E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.290E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.359E-03	1.621E-02	2.804E-02	0.000E+00	NOT IDENT.
BA-137M	1.132E-02	7.887E-03	1.462E-02	0.000E+00	NOT IDENT.
CS-137	1.197E-02	8.338E-03	1.545E-02	0.000E+00	NOT IDENT.
CE-139	-2.959E-03	5.840E-03	9.841E-03	0.000E+00	NOT IDENT.
BA-140	2.521E-02	3.830E-02	6.705E-02	0.000E+00	NOT IDENT.
LA-140	4.799E-03	1.475E-02	2.550E-02	0.000E+00	NOT IDENT.
CE-141	5.391E-03	1.097E-02	1.937E-02	0.000E+00	NOT IDENT.
CE-143	4.139E-01	7.096E-01	1.280E+00	0.000E+00	NOT IDENT.
CE-144	-4.698E-03	3.970E-02	6.874E-02	0.000E+00	NOT IDENT.
PM-144	-3.841E-03	8.404E-03	1.374E-02	0.000E+00	NOT IDENT.
PR-144	-2.593E-01	5.673E-01	9.272E-01	0.000E+00	NOT IDENT.
PM-146	4.874E-04	1.024E-02	1.777E-02	0.000E+00	NOT IDENT.
ND-147	-4.219E-02	7.630E-02	1.256E-01	0.000E+00	NOT IDENT.
PM-149	-1.850E-01	1.992E+00	3.522E+00	0.000E+00	NOT IDENT.
EU-152	-1.233E-02	2.122E-02	3.622E-02	0.000E+00	NOT IDENT.
GD-153	-1.836E-02	1.529E-02	2.564E-02	0.000E+00	FAIL ABUN
EU-154	7.699E-03	2.487E-02	4.338E-02	0.000E+00	NOT IDENT.
EU-155	-1.650E-02	1.982E-02	3.357E-02	0.000E+00	NOT IDENT.
TB-160	1.002E-02	3.118E-02	5.539E-02	0.000E+00	NOT IDENT.
HO-166M	-6.831E-04	1.457E-02	2.446E-02	0.000E+00	FAIL ABUN
TM-171	4.605E+00	4.520E+00	7.446E+00	0.000E+00	NOT IDENT.
LU-176	-4.743E-03	5.333E-03	9.029E-03	0.000E+00	NOT IDENT.
LU-177	7.539E-02	1.009E-01	1.866E-01	0.000E+00	NOT IDENT.
LU-177M	-3.454E-02	3.756E-02	6.196E-02	0.000E+00	NOT IDENT.
HF-181	5.788E-03	8.201E-03	1.475E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	6.069E-02	1.046E-01	0.000E+00	NOT IDENT.
TA-182	9.506E-03	3.484E-02	6.068E-02	0.000E+00	NOT IDENT.
RE-183	6.635E-03	2.573E-02	3.654E-02	0.000E+00	NOT IDENT.
RE-184	-1.247E-03	4.735E-02	8.448E-02	0.000E+00	NOT IDENT.
OS-185	-5.013E-03	1.125E-02	1.492E-02	0.000E+00	NOT IDENT.
RE-188	2.244E-02	3.202E-02	5.688E-02	0.000E+00	NOT IDENT.
W-188	3.804E-01	1.470E+00	2.637E+00	0.000E+00	FAIL ABUN
IR-192	-1.969E-03	7.360E-03	1.284E-02	0.000E+00	NOT IDENT.

AU-195	-1.743E-02	4.093E-02	7.090E-02	0.000E+00	NOT IDENT.
TL-200	-2.669E-01	9.741E-01	1.682E+00	0.000E+00	NOT IDENT.
TL-201	-7.989E-02	2.717E-01	4.620E-01	0.000E+00	NOT IDENT.
TL-202	7.676E-03	1.045E-02	1.884E-02	0.000E+00	NOT IDENT.
HG-203	4.740E-03	8.079E-03	1.469E-02	0.000E+00	NOT IDENT.
BI-207	4.142E-03	1.053E-02	1.870E-02	0.000E+00	FAIL ABUN
TL-207	-8.705E-02	1.470E-01	2.511E-01	0.000E+00	FAIL ABUN
TL-208	1.051E-03	1.266E-02	1.620E-02	0.000E+00	NOT IDENT.
PO-209	8.081E-01	1.629E+00	2.931E+00	0.000E+00	NOT IDENT.
BI-210	-2.440E-01	6.726E-01	8.940E-01	0.000E+00	NOT IDENT.
PB-210	-2.440E-01	6.726E-01	8.940E-01	0.000E+00	NOT IDENT.
PO-210	-2.440E-01	6.725E-01	8.940E-01	0.000E+00	NOT IDENT.
BI-211	7.781E-02	4.612E-02	8.667E-02	0.000E+00	NOT IDENT.
PB-211	1.932E-02	2.027E-01	3.545E-01	0.000E+00	NOT IDENT.
BI-212	5.555E-02	6.261E-02	1.119E-01	0.000E+00	NOT IDENT.
PB-212	6.998E-03	2.128E-02	2.568E-02	0.000E+00	FAIL ABUN
PO-212	6.998E-03	2.128E-02	2.568E-02	0.000E+00	FAIL ABUN
BI-214	1.014E-02	1.715E-02	3.014E-02	0.000E+00	NOT IDENT.
PB-214	2.444E-02	1.609E-02	2.997E-02	0.000E+00	NOT IDENT.
PO-214	2.444E-02	1.609E-02	2.997E-02	0.000E+00	NOT IDENT.
PO-215	-8.705E-02	1.470E-01	2.511E-01	0.000E+00	FAIL ABUN
PO-216	6.998E-03	2.128E-02	2.568E-02	0.000E+00	FAIL ABUN
PO-218	2.444E-02	1.609E-02	2.997E-02	0.000E+00	NOT IDENT.
RN-219	1.986E-02	8.651E-02	1.527E-01	0.000E+00	NOT IDENT.
RN-220	-2.491E+00	5.821E+00	9.675E+00	0.000E+00	NOT IDENT.
RA-223	-8.705E-02	1.470E-01	2.511E-01	0.000E+00	FAIL ABUN
RA-224	9.765E-02	1.626E-01	2.609E-01	0.000E+00	NOT IDENT.
RA-226	1.014E-02	1.715E-02	3.014E-02	0.000E+00	NOT IDENT.
AC-227	6.963E-02	8.136E-02	1.493E-01	0.000E+00	NOT IDENT.
TH-227	6.963E-02	8.162E-02	1.493E-01	0.000E+00	NOT IDENT.
AC-228	4.317E-02	2.962E-02	5.593E-02	0.000E+00	NOT IDENT.
RA-228	4.317E-02	2.962E-02	5.593E-02	0.000E+00	NOT IDENT.
TH-228	7.053E-03	2.145E-02	2.588E-02	0.000E+00	FAIL ABUN
TH-229	-1.591E-02	1.030E-01	1.853E-01	0.000E+00	FAIL ABUN
TH-230	1.014E-02	1.715E-02	3.014E-02	0.000E+00	NOT IDENT.
PA-231	-1.341E-01	3.370E-01	5.875E-01	0.000E+00	NOT IDENT.
TH-231	-8.705E-02	1.470E-01	2.511E-01	0.000E+00	FAIL ABUN
U-231	-3.529E-01	7.645E-02	1.041E-01	0.000E+00	FAIL ABUN
TH-232	4.317E-02	2.962E-02	5.593E-02	0.000E+00	NOT IDENT.
PA-233	4.970E-03	1.424E-02	2.555E-02	0.000E+00	NOT IDENT.
PA-234	4.255E-02	6.465E-02	1.168E-01	0.000E+00	FAIL ABUN
PA-234M	4.928E-01	1.422E+00	2.035E+00	0.000E+00	NOT IDENT.
TH-234	3.118E-01	3.558E-01	3.969E-01	0.000E+00	FAIL ABUN
U-234	1.014E-02	1.715E-02	3.014E-02	0.000E+00	NOT IDENT.
U-235	-1.188E-03	5.927E-02	7.771E-02	0.000E+00	FAIL ABUN
NP-236	4.019E-03	1.630E-02	2.841E-02	0.000E+00	NOT IDENT.
NP-237	2.119E-02	5.542E-02	7.522E-02	0.000E+00	NOT IDENT.
U-238	3.118E-01	3.558E-01	3.969E-01	0.000E+00	FAIL ABUN
NP-239	-1.999E-02	3.845E-02	6.587E-02	0.000E+00	NOT IDENT.
AM-241	1.283E-02	2.501E-02	4.041E-02	0.000E+00	NOT IDENT.
AM-243	5.563E-03	1.125E-02	1.746E-02	0.000E+00	NOT IDENT.
CM-243	9.104E-03	1.737E-02	3.119E-02	0.000E+00	NOT IDENT.
AM-246	3.236E-02	3.055E-02	5.678E-02	0.000E+00	NOT IDENT.
CM-247	3.824E-03	7.748E-03	1.387E-02	0.000E+00	NOT IDENT.
CF-249	1.236E-02	8.723E-03	1.629E-02	0.000E+00	NOT IDENT.
CF-251	-2.334E-02	2.738E-02	4.532E-02	0.000E+00	NOT IDENT.
ANH-511	-2.326E-02	1.707E-02	2.652E-02	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005192.CNF;1
Sample date        : 2-JAN-2010 00:00:00. Acquisition date : 9-JAN-2010 17:03:42.
Sample ID          : G1202005192      Sample quantity   : 1.45700E+02 GRAM
Detector name      : GAM14             Detector geometry: CAN
Elapsed live time  : 0 08:20:00.00     Elapsed real time: 0 08:20:02.09 0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 937074            Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	4	10.67*	1.211E+00	1.935E-02	1.935E-02	853.44

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202005192

Page : 2
Acquisition date : 9-JAN-2010 17:03:42

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
K-40	1.28E+09Y	1.00	1.935E-02	1.935E-02	16.51E-02	853.44	
Total Activity :			1.935E-02	1.935E-02			

Grand Total Activity : 1.935E-02 1.935E-02

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

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

Unidentified Energy Lines
Sample ID : G1202005192

Page : 3
Acquisition date : 9-JAN-2010 17:03:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	63.61	90	467	1.21	126.77	122	12	2.99E-03	****	4.67E+00	T
0	84.59	47	413	1.53	168.70	165	9	1.56E-03	****	6.89E+00	T
0	185.64	36	359	1.29	370.59	366	11	1.21E-03	****	6.53E+00	T
0	238.46	28	321	1.14	476.15	472	10	9.37E-04	****	5.57E+00	T

Flags: "T" = Tentatively associated


```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005192.CNF;1
* Acquisition date   : 9-JAN-2010 17:03:42.  Detector SN#      :
* Detector ID        : GAM14                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 08:20:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 08:20:02.09             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-JAN-2010 00:00:00.  Nuclide Library : SOLID
* Sample ID          : G1202005192             Analyst initials: MXR1
* Batch Number       : 937074                  Sample Quantity : 1.45700E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06.61MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A                 LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.935E-02	1.651E-01	1.388E-01	1.008E-02	0.139

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.476E-02		6.531E-02	1.055E-01	7.111E-03	-0.140
NA-22	2.746E-03		9.049E-03	1.534E-02	1.002E-03	0.179
NA-24	-3.039E-05		2.953E-05	Half-Life too short		
AL-26	-1.789E-03		8.786E-03	1.377E-02	7.981E-04	-0.130
TI-44	-1.035E-02		7.470E-03	9.406E-03	7.344E-04	-1.101
SC-46	5.297E-03		8.220E-03	1.441E-02	1.332E-03	0.367
V-48	1.247E-03		1.088E-02	1.830E-02	1.554E-03	0.068
CR-51	1.066E-02		6.941E-02	1.161E-01	7.503E-03	0.092
MN-52	-5.267E-04		2.296E-02	3.746E-02	2.626E-03	-0.014
MN-54	-3.360E-04		7.508E-03	1.255E-02	1.053E-03	-0.027
CO-56	2.080E-03		8.842E-03	1.506E-02	1.291E-03	0.138

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	-2.530E-03		5.086E-03	8.012E-03	5.701E-04	-0.316
CO-58	-2.924E-04		8.870E-03	1.420E-02	1.142E-03	-0.021
FE-59	1.206E-03		1.630E-02	2.721E-02	2.094E-03	0.044
CO-60	-4.845E-04		9.086E-03	1.484E-02	1.057E-03	-0.033
ZN-65	-9.097E-03		1.847E-02	2.926E-02	1.923E-03	-0.311
GE-68	1.776E-01		2.668E-01	4.673E-01	3.359E-02	0.380
AS-73	-4.956E-02		1.052E-01	1.684E-01	1.098E-02	-0.294
AS-74	1.343E-02		1.706E-02	2.905E-02	1.737E-03	0.462
SE-75	2.965E-03		9.350E-03	1.582E-02	9.288E-04	0.187
BR-77	1.289E-01		2.902E-01	4.874E-01	2.873E-02	0.265
SR-82	1.472E-03		7.219E-02	1.163E-01	8.740E-03	0.013
RB-83	7.388E-03		1.515E-02	2.550E-02	1.503E-03	0.290
RB-84	1.141E-02		1.471E-02	2.589E-02	2.360E-03	0.441
KR-85	-1.190E+01		2.851E+00	3.791E+00	2.230E-01	-3.139
SR-85	-5.651E-02		1.354E-02	1.801E-02	1.059E-03	-3.139
RB-86	1.114E-01		1.316E-01	2.336E-01	1.682E-02	0.477
Y-88	1.066E-03		8.819E-03	1.450E-02	8.234E-04	0.074
ZR-88	1.955E-03		6.240E-03	1.048E-02	5.704E-04	0.187
Y-91	2.839E+00		3.018E+00	5.437E+00	3.163E-01	0.522
NB-94	-2.710E-03		8.436E-03	1.332E-02	8.639E-04	-0.203
NB-95	-5.172E-03		2.117E-02	1.517E-02	1.117E-03	-0.341
NB-95M	9.493E-03		2.621E-02	3.897E-02	2.913E-03	0.244
ZR-95	-4.367E-03		1.504E-02	2.362E-02	1.949E-03	-0.185
NB-97	-1.459E-05		8.958E-06	Half-Life	too short	
ZR-97	-1.934E-03		2.714E-04	Half-Life	too short	
MO-99	-4.844E-02		4.532E-01	7.242E-01	1.037E-01	-0.067
TC-99M	-5.109E+00		7.282E+00	Half-Life	too short	
RH-101	4.788E-03		6.854E-03	1.181E-02	6.553E-04	0.405
RH-102	-1.777E-03		6.597E-03	1.063E-02	6.146E-04	-0.167
RU-103	-1.343E-03		8.610E-03	1.396E-02	1.768E-03	-0.096
RH-106	-2.661E-02		7.814E-02	1.238E-01	1.464E-02	-0.215
RU-106	-2.661E-02		7.810E-02	1.238E-01	7.403E-03	-0.215
AG-108M	-5.881E-04		7.412E-03	1.214E-02	7.455E-04	-0.048
CD-109	-5.321E-01		2.114E-01	2.220E-01	1.942E-02	-2.397
AG-110M	-6.713E-03		8.139E-03	1.237E-02	7.814E-04	-0.543
IN-111	4.880E-03		4.168E-02	6.625E-02	3.818E-03	0.074
IN-113M	-4.462E-03		9.495E-03	1.526E-02	8.931E-04	-0.292
SN-113	-4.462E-03		9.495E-03	1.526E-02	8.931E-04	-0.292
IN-114M	-6.094E-03		3.788E-02	5.513E-02	3.034E-03	-0.111
CD-115	-1.066E-02		2.548E-01	4.149E-01	2.452E-02	-0.026
SN-117M	-3.236E-03		7.901E-03	1.242E-02	7.024E-04	-0.261
SB-122	-9.126E-02		8.504E-02	1.295E-01	7.719E-03	-0.705
I-123	-5.222E-05		5.933E-05	Half-Life	too short	
TE-123M	-2.507E-03		5.696E-03	8.939E-03	5.112E-04	-0.280
I-124	-3.475E-02		5.009E-02	7.783E-02	4.656E-03	-0.447
SB-124	-7.716E-03		2.124E-02	3.282E-02	2.219E-03	-0.235
SB-125	-1.735E-03		2.038E-02	3.336E-02	1.955E-03	-0.052
TE-125M	-1.598E+00		1.689E+00	2.609E+00	2.444E-01	-0.613

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-126	-2.073E-02		2.798E-02	4.272E-02	2.566E-03	-0.485
SB-126	-1.720E-02		2.197E-02	3.320E-02	2.234E-03	-0.518
SN-126	-1.778E-02		1.909E-02	2.196E-02	1.910E-03	-0.810
SB-127	4.519E-02		8.629E-02	1.447E-01	1.099E-02	0.312
XE-127	-6.163E-03		8.652E-03	1.416E-02	7.895E-04	-0.435
I-131	-4.811E-03		1.371E-02	2.225E-02	1.393E-03	-0.216
TE-132	3.750E-03		2.987E-02	5.033E-02	6.628E-03	0.074
BA-133	-2.021E-02		1.029E-02	1.489E-02	1.711E-03	-1.358
I-133	-1.401E-06		1.968E-06	Half-Life too short		
CS-134	-1.549E-03		1.053E-02	1.671E-02	1.316E-03	-0.093
CS-135	-1.614E-02		3.410E-02	5.576E-02	4.278E-03	-0.289
I-135	1.148E+01		6.584E+00	Half-Life too short		
CS-136	1.359E-03		1.654E-02	2.767E-02	2.224E-03	0.049
BA-137M	1.132E-02		8.048E-03	1.427E-02	8.486E-04	0.793
CS-137	1.197E-02		8.508E-03	1.509E-02	9.007E-04	0.793
CE-139	-2.959E-03		5.960E-03	9.314E-03	5.001E-04	-0.318
BA-140	2.521E-02		3.908E-02	6.514E-02	2.120E-02	0.387
LA-140	4.799E-03		1.505E-02	2.541E-02	1.685E-03	0.189
CE-141	5.391E-03		1.119E-02	1.828E-02	1.167E-03	0.295
CE-143	4.139E-01		7.240E-01	1.227E+00	2.514E-01	0.337
CE-144	-4.698E-03		4.051E-02	6.475E-02	9.426E-03	-0.073
PM-144	-3.841E-03		8.575E-03	1.342E-02	8.597E-04	-0.286
PR-144	-2.593E-01		5.789E-01	9.062E-01	5.802E-02	-0.286
PM-146	4.874E-04		1.044E-02	1.720E-02	1.472E-03	0.028
ND-147	-4.219E-02		7.785E-02	1.219E-01	1.655E-02	-0.346
PM-149	-1.850E-01		2.033E+00	3.373E+00	4.779E-01	-0.055
EU-152	-1.233E-02		2.165E-02	3.484E-02	2.254E-03	-0.354
GD-153	-1.836E-02		1.560E-02	2.399E-02	1.924E-03	-0.765
EU-154	7.699E-03		2.538E-02	4.301E-02	4.217E-03	0.179
EU-155	-1.650E-02		2.022E-02	3.146E-02	2.435E-03	-0.524
TB-160	1.002E-02		3.182E-02	5.443E-02	4.943E-03	0.184
HO-166M	-6.831E-04		1.487E-02	2.392E-02	1.580E-03	-0.029
TM-171	4.605E+00		4.612E+00	6.913E+00	4.820E-01	0.666
LU-176	-4.743E-03		5.442E-03	8.662E-03	5.045E-04	-0.548
LU-177	7.539E-02		1.030E-01	1.775E-01	9.948E-03	0.425
LU-177M	-3.454E-02		3.832E-02	5.984E-02	3.318E-03	-0.577
HF-181	5.788E-03		8.368E-03	1.429E-02	8.289E-04	0.405
W-181	1.402E-01		6.193E-02	9.703E-02	6.685E-03	1.445
TA-182	9.506E-03		3.556E-02	6.009E-02	3.594E-03	0.158
RE-183	6.635E-03		2.625E-02	3.457E-02	1.904E-03	0.192
RE-184	-1.247E-03		4.831E-02	8.070E-02	4.668E-03	-0.015
OS-185	-5.013E-03		1.148E-02	1.456E-02	8.684E-04	-0.344
RE-188	2.244E-02		3.267E-02	5.376E-02	3.115E-03	0.417
W-188	3.804E-01		1.500E+00	2.527E+00	1.474E-01	0.151
IR-192	-1.969E-03		7.510E-03	1.233E-02	7.196E-04	-0.160
AU-195	-1.743E-02		4.177E-02	6.637E-02	5.266E-03	-0.263
TL-200	-2.669E-01		9.939E-01	1.620E+00	9.077E-02	-0.165
TL-201	-7.989E-02		2.773E-01	4.374E-01	2.350E-02	-0.183

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202	7.676E-03		1.067E-02	1.822E-02	1.030E-03	0.421
HG-203	4.740E-03		8.244E-03	1.406E-02	8.701E-04	0.337
BI-207	4.142E-03		1.075E-02	1.846E-02	1.366E-03	0.224
TL-207	-8.705E-02		1.500E-01	2.412E-01	3.983E-02	-0.361
TL-208	1.051E-03		1.292E-02	1.577E-02	1.079E-03	0.067
PO-209	8.081E-01		1.662E+00	2.881E+00	2.697E-01	0.280
BI-210	-2.440E-01		6.863E-01	8.238E-01	6.108E-02	-0.296
PB-210	-2.440E-01		6.863E-01	8.238E-01	6.108E-02	-0.296
PO-210	-2.440E-01		6.863E-01	8.238E-01	5.169E-02	-0.296
BI-211	7.781E-02		4.706E-02	8.340E-02	5.284E-03	0.933
PB-211	1.932E-02		2.069E-01	3.422E-01	2.132E-01	0.056
BI-212	5.555E-02		6.389E-02	1.095E-01	9.317E-03	0.507
PB-212	6.998E-03	+	2.171E-02	2.450E-02	1.784E-03	0.286
PO-212	6.998E-03	+	2.171E-02	2.450E-02	1.784E-03	0.286
BI-214	1.014E-02		1.750E-02	2.937E-02	2.325E-03	0.345
PB-214	2.444E-02		1.642E-02	2.884E-02	2.367E-03	0.847
PO-214	2.444E-02		1.642E-02	2.884E-02	2.367E-03	0.847
PO-215	-8.705E-02		1.500E-01	2.412E-01	3.983E-02	-0.361
PO-216	6.998E-03	+	2.171E-02	2.450E-02	1.784E-03	0.286
PO-218	2.444E-02		1.642E-02	2.884E-02	2.367E-03	0.847
RN-219	1.986E-02		8.828E-02	1.474E-01	1.986E-02	0.135
RN-220	-2.491E+00		5.940E+00	9.405E+00	5.590E-01	-0.265
RA-223	-8.705E-02		1.500E-01	2.412E-01	3.983E-02	-0.361
RA-224	9.765E-02		1.659E-01	2.490E-01	1.431E-02	0.392
RA-226	1.014E-02		1.750E-02	2.937E-02	2.325E-03	0.345
AC-227	6.963E-02		8.302E-02	1.426E-01	1.991E-02	0.488
TH-227	6.963E-02		8.328E-02	1.426E-01	2.410E-02	0.488
AC-228	4.317E-02		3.022E-02	5.501E-02	6.461E-03	0.785
RA-228	4.317E-02		3.022E-02	5.501E-02	6.461E-03	0.785
TH-228	7.053E-03	+	2.188E-02	2.469E-02	1.798E-03	0.286
TH-229	-1.591E-02		1.051E-01	1.760E-01	9.718E-03	-0.090
TH-230	1.014E-02		1.750E-02	2.937E-02	2.325E-03	0.345
PA-231	-1.341E-01		3.439E-01	5.627E-01	7.762E-02	-0.238
TH-231	-8.705E-02		1.500E-01	2.412E-01	3.983E-02	-0.361
U-231	-3.529E-01		7.801E-02	9.735E-02	7.903E-03	-3.625
TH-232	4.317E-02		3.022E-02	5.501E-02	6.461E-03	0.785
PA-233	4.970E-03		1.453E-02	2.452E-02	1.514E-03	0.203
PA-234	4.255E-02		6.597E-02	1.150E-01	2.174E-02	0.370
PA-234M	4.928E-01		1.451E+00	2.006E+00	1.939E-01	0.246
TH-234	3.118E-01	+	3.630E-01	3.681E-01	6.326E-02	0.847
U-234	1.014E-02		1.750E-02	2.937E-02	2.325E-03	0.345
U-235	-1.188E-03		6.048E-02	7.333E-02	1.207E-02	-0.016
NP-236	4.019E-03		1.663E-02	2.687E-02	1.501E-03	0.150
NP-237	2.119E-02		5.655E-02	7.022E-02	1.569E-02	0.302
U-238	3.118E-01	+	3.630E-01	3.681E-01	6.326E-02	0.847
NP-239	-1.999E-02		3.924E-02	6.188E-02	4.472E-03	-0.323
AM-241	1.283E-02		2.552E-02	3.743E-02	2.779E-03	0.343
AM-243	5.563E-03		1.148E-02	1.625E-02	1.219E-03	0.342

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	9.104E-03		1.772E-02	2.923E-02	2.247E-03	0.311
AM-246	3.236E-02		3.117E-02	5.607E-02	4.017E-03	0.577
CM-247	3.824E-03		7.906E-03	1.339E-02	7.352E-04	0.286
CF-249	1.236E-02		8.901E-03	1.571E-02	8.589E-04	0.787
CF-251	-2.334E-02		2.794E-02	4.295E-02	2.330E-03	-0.543
ANH-511	-2.326E-02		1.742E-02	2.573E-02	1.512E-03	-0.904

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202005192          *
* Acquisition date   : 9-JAN-2010 17:03:42 Detector SN# :                   *
* Detector ID        : GAM14                      Sensitivity      : 5.000    *
* Geometry           : CAN                          Energy tolerance: 1.500    *
* Elapsed live time  : 0 08:20:00.00              Abundance limit : 75.000    *
* Elapsed real time  : 0 08:20:02.09              Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202005192              Analyst initials: MXR1       *
* Batch Number       : 937074                   Sample Quantity : 1.4570E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 6-MAR-2009 11:43:06 MS Isotope      :                   *
* MSD DPM           : 0.000                      MSD Isotope   :                   *
* LCS DPM           : 0.000                      LCS Isotope   :                   *
* LCSD DPM          : 0.000                      LCSD Isotope  :                   *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.935E-02	1.618E-01	6.981E-02	8.257E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-1.476E-02	6.400E-02	5.448E-02	3.265E-02	NOT IDENT.
NA-22	2.746E-03	8.868E-03	7.742E-03	4.525E-03	NOT IDENT.
NA-24	-3.039E+01	5.787E+01	0.000E+00	2.953E+01	SHORT HLIF
AL-26	-1.789E-03	8.610E-03	6.891E-03	4.393E-03	NOT IDENT.
TI-44	-1.035E-02	7.321E-03	5.052E-03	3.735E-03	NOT IDENT.
SC-46	5.297E-03	8.055E-03	7.337E-03	4.110E-03	NOT IDENT.
V-48	1.247E-03	1.066E-02	9.292E-03	5.438E-03	NOT IDENT.
CR-51	1.066E-02	6.802E-02	6.049E-02	3.470E-02	NOT IDENT.
MN-52	-5.267E-04	2.250E-02	1.885E-02	1.148E-02	NOT IDENT.
MN-54	-3.360E-04	7.358E-03	6.398E-03	3.754E-03	NOT IDENT.
CO-56	2.080E-03	8.665E-03	7.676E-03	4.421E-03	NOT IDENT.
CO-57	-2.530E-03	4.984E-03	4.263E-03	2.543E-03	NOT IDENT.
CO-58	-2.924E-04	8.693E-03	7.241E-03	4.435E-03	NOT IDENT.
FE-59	1.206E-03	1.598E-02	1.378E-02	8.151E-03	NOT IDENT.
CO-60	-4.845E-04	8.904E-03	7.479E-03	4.543E-03	NOT IDENT.
ZN-65	-9.097E-03	1.810E-02	1.481E-02	9.236E-03	NOT IDENT.
GE-68	1.776E-01	2.615E-01	2.368E-01	1.334E-01	NOT IDENT.
AS-73	-4.956E-02	1.031E-01	9.118E-02	5.260E-02	NOT IDENT.
AS-74	1.343E-02	1.671E-02	1.492E-02	8.528E-03	NOT IDENT.
SE-75	2.965E-03	9.163E-03	8.277E-03	4.675E-03	NOT IDENT.
BR-77	1.289E-01	2.844E-01	2.512E-01	1.451E-01	FAIL ABUN
SR-82	1.472E-03	7.075E-02	5.936E-02	3.610E-02	NOT IDENT.
RB-83	7.388E-03	1.485E-02	1.314E-02	7.574E-03	NOT IDENT.
RB-84	1.141E-02	1.441E-02	1.318E-02	7.353E-03	NOT IDENT.
KR-85	-1.190E+01	2.794E+00	1.954E+00	1.425E+00	NOT IDENT.
SR-85	-5.651E-02	1.327E-02	9.281E-03	6.770E-03	NOT IDENT.

RB-86	1.114E-01	1.290E-01	1.183E-01	6.580E-02	NOT IDENT.
Y-88	1.066E-03	8.642E-03	7.253E-03	4.409E-03	NOT IDENT.
ZR-88	1.955E-03	6.115E-03	5.433E-03	3.120E-03	NOT IDENT.
Y-91	2.839E+00	2.957E+00	2.748E+00	1.509E+00	NOT IDENT.
NB-94	-2.710E-03	8.267E-03	6.817E-03	4.218E-03	NOT IDENT.
NB-95	-5.172E-03	2.075E-02	7.749E-03	1.059E-02	NOT IDENT.
NB-95M	9.493E-03	2.569E-02	2.044E-02	1.311E-02	NOT IDENT.
ZR-95	-4.367E-03	1.474E-02	1.207E-02	7.519E-03	NOT IDENT.
NB-97	-1.459E+01	1.756E+01	0.000E+00	8.958E+00	SHORT HLIF
ZR-97	-1.934E+03	5.319E+02	0.000E+00	2.714E+02	SHORT HLIF
MO-99	-4.844E-02	4.441E-01	3.702E-01	2.266E-01	NOT IDENT.
TC-99M	-5.109E+06	1.427E+07	0.000E+00	7.282E+06	SHORT HLIF
RH-101	4.788E-03	6.717E-03	6.219E-03	3.427E-03	NOT IDENT.
RH-102	-1.777E-03	6.465E-03	5.492E-03	3.299E-03	NOT IDENT.
RU-103	-1.343E-03	8.438E-03	7.201E-03	4.305E-03	NOT IDENT.
RH-106	-2.661E-02	7.658E-02	6.355E-02	3.907E-02	NOT IDENT.
RU-106	-2.661E-02	7.653E-02	6.355E-02	3.905E-02	NOT IDENT.
AG-108M	-5.881E-04	7.264E-03	6.279E-03	3.706E-03	NOT IDENT.
CD-109	-5.321E-01	2.072E-01	1.190E-01	1.057E-01	NOT IDENT.
AG-110M	-6.713E-03	7.976E-03	6.341E-03	4.070E-03	NOT IDENT.
IN-111	4.880E-03	4.084E-02	3.472E-02	2.084E-02	NOT IDENT.
IN-113M	-4.462E-03	9.305E-03	7.916E-03	4.748E-03	NOT IDENT.
SN-113	-4.462E-03	9.305E-03	7.916E-03	4.748E-03	NOT IDENT.
IN-114M	-6.094E-03	3.713E-02	2.905E-02	1.894E-02	NOT IDENT.
CD-115	-1.066E-02	2.497E-01	2.138E-01	1.274E-01	NOT IDENT.
SN-117M	-3.236E-03	7.743E-03	6.569E-03	3.951E-03	NOT IDENT.
SB-122	-9.126E-02	8.334E-02	6.661E-02	4.252E-02	NOT IDENT.
I-123	-5.222E+01	1.163E+02	0.000E+00	5.933E+01	SHORT HLIF
TE-123M	-2.507E-03	5.582E-03	4.729E-03	2.848E-03	NOT IDENT.
I-124	-3.475E-02	4.909E-02	3.997E-02	2.505E-02	NOT IDENT.
SB-124	-7.716E-03	2.082E-02	1.645E-02	1.062E-02	NOT IDENT.
SB-125	-1.735E-03	1.997E-02	1.727E-02	1.019E-02	NOT IDENT.
TE-125M	-1.598E+00	1.655E+00	1.391E+00	8.443E-01	NOT IDENT.
I-126	-2.073E-02	2.742E-02	2.189E-02	1.399E-02	NOT IDENT.
SB-126	-1.720E-02	2.153E-02	1.698E-02	1.099E-02	NOT IDENT.
SN-126	-1.778E-02	1.871E-02	1.176E-02	9.547E-03	FAIL ABUN
SB-127	4.519E-02	8.457E-02	7.409E-02	4.315E-02	NOT IDENT.
XE-127	-6.163E-03	8.479E-03	7.453E-03	4.326E-03	NOT IDENT.
I-131	-4.811E-03	1.343E-02	1.156E-02	6.853E-03	NOT IDENT.
TE-132	3.750E-03	2.927E-02	2.642E-02	1.494E-02	NOT IDENT.
BA-133	-2.021E-02	1.008E-02	7.738E-03	5.145E-03	NOT IDENT.
I-133	-1.401E+00	3.857E+00	0.000E+00	1.968E+00	SHORT HLIF
CS-134	-1.549E-03	1.032E-02	8.529E-03	5.267E-03	NOT IDENT.
CS-135	-1.614E-02	3.342E-02	2.917E-02	1.705E-02	NOT IDENT.
I-135	1.148E+07	1.290E+07	0.000E+00	6.584E+06	SHORT HLIF
CS-136	1.359E-03	1.621E-02	1.403E-02	8.272E-03	NOT IDENT.
BA-137M	1.132E-02	7.887E-03	7.314E-03	4.024E-03	NOT IDENT.
CS-137	1.197E-02	8.338E-03	7.732E-03	4.254E-03	NOT IDENT.
CE-139	-2.959E-03	5.840E-03	4.923E-03	2.980E-03	NOT IDENT.
BA-140	2.521E-02	3.830E-02	3.354E-02	1.954E-02	NOT IDENT.
LA-140	4.799E-03	1.475E-02	1.276E-02	7.527E-03	NOT IDENT.
CE-141	5.391E-03	1.097E-02	9.692E-03	5.596E-03	NOT IDENT.
CE-143	4.139E-01	7.096E-01	6.404E-01	3.620E-01	NOT IDENT.
CE-144	-4.698E-03	3.970E-02	3.439E-02	2.025E-02	NOT IDENT.
PM-144	-3.841E-03	8.404E-03	6.872E-03	4.288E-03	NOT IDENT.
PR-144	-2.593E-01	5.673E-01	4.639E-01	2.894E-01	NOT IDENT.
PM-146	4.874E-04	1.024E-02	8.889E-03	5.222E-03	NOT IDENT.
ND-147	-4.219E-02	7.630E-02	6.281E-02	3.893E-02	NOT IDENT.
PM-149	-1.850E-01	1.992E+00	1.762E+00	1.016E+00	NOT IDENT.
EU-152	-1.233E-02	2.122E-02	1.812E-02	1.083E-02	NOT IDENT.
GD-153	-1.836E-02	1.529E-02	1.283E-02	7.801E-03	FAIL ABUN
EU-154	7.699E-03	2.487E-02	2.170E-02	1.269E-02	NOT IDENT.
EU-155	-1.650E-02	1.982E-02	1.679E-02	1.011E-02	NOT IDENT.
TB-160	1.002E-02	3.118E-02	2.771E-02	1.591E-02	NOT IDENT.
HO-166M	-6.831E-04	1.457E-02	1.224E-02	7.435E-03	FAIL ABUN
TM-171	4.605E+00	4.520E+00	3.725E+00	2.306E+00	NOT IDENT.
LU-176	-4.743E-03	5.333E-03	4.517E-03	2.721E-03	NOT IDENT.
LU-177	7.539E-02	1.009E-01	9.337E-02	5.148E-02	NOT IDENT.
LU-177M	-3.454E-02	3.756E-02	3.100E-02	1.916E-02	NOT IDENT.
HF-181	5.788E-03	8.201E-03	7.377E-03	4.184E-03	NOT IDENT.
W-181	1.402E-01	6.069E-02	5.231E-02	3.096E-02	NOT IDENT.
TA-182	9.506E-03	3.484E-02	3.036E-02	1.778E-02	NOT IDENT.
RE-183	6.635E-03	2.573E-02	1.828E-02	1.313E-02	NOT IDENT.
RE-184	-1.247E-03	4.735E-02	4.227E-02	2.416E-02	NOT IDENT.
OS-185	-5.013E-03	1.125E-02	7.467E-03	5.738E-03	NOT IDENT.
RE-188	2.244E-02	3.202E-02	2.846E-02	1.634E-02	NOT IDENT.
W-188	3.804E-01	1.470E+00	1.319E+00	7.502E-01	FAIL ABUN
IR-192	-1.969E-03	7.360E-03	6.425E-03	3.755E-03	NOT IDENT.

AU-195	-1.743E-02	4.093E-02	3.547E-02	2.088E-02	NOT IDENT.
TL-200	-2.669E-01	9.741E-01	8.415E-01	4.970E-01	NOT IDENT.
TL-201	-7.989E-02	2.717E-01	2.311E-01	1.386E-01	NOT IDENT.
TL-202	7.676E-03	1.045E-02	9.428E-03	5.334E-03	NOT IDENT.
HG-203	4.740E-03	8.079E-03	7.349E-03	4.122E-03	NOT IDENT.
BI-207	4.142E-03	1.053E-02	9.357E-03	5.374E-03	FAIL ABUN
TL-207	-8.705E-02	1.470E-01	1.256E-01	7.501E-02	FAIL ABUN
TL-208	1.051E-03	1.266E-02	8.106E-03	6.460E-03	NOT IDENT.
PO-209	8.081E-01	1.629E+00	1.466E+00	8.310E-01	NOT IDENT.
BI-210	-2.440E-01	6.726E-01	4.473E-01	3.432E-01	NOT IDENT.
PB-210	-2.440E-01	6.726E-01	4.473E-01	3.432E-01	NOT IDENT.
PO-210	-2.440E-01	6.725E-01	4.473E-01	3.431E-01	NOT IDENT.
BI-211	7.781E-02	4.612E-02	4.336E-02	2.353E-02	NOT IDENT.
PB-211	1.932E-02	2.027E-01	1.774E-01	1.034E-01	NOT IDENT.
BI-212	5.555E-02	6.261E-02	5.600E-02	3.195E-02	NOT IDENT.
PB-212	6.998E-03	2.128E-02	1.285E-02	1.086E-02	FAIL ABUN
PO-212	6.998E-03	2.128E-02	1.285E-02	1.086E-02	FAIL ABUN
BI-214	1.014E-02	1.715E-02	1.508E-02	8.749E-03	NOT IDENT.
PB-214	2.444E-02	1.609E-02	1.500E-02	8.209E-03	NOT IDENT.
PO-214	2.444E-02	1.609E-02	1.500E-02	8.209E-03	NOT IDENT.
PO-215	-8.705E-02	1.470E-01	1.256E-01	7.501E-02	FAIL ABUN
PO-216	6.998E-03	2.128E-02	1.285E-02	1.086E-02	FAIL ABUN
PO-218	2.444E-02	1.609E-02	1.500E-02	8.209E-03	NOT IDENT.
RN-219	1.986E-02	8.651E-02	7.638E-02	4.414E-02	NOT IDENT.
RN-220	-2.491E+00	5.821E+00	4.841E+00	2.970E+00	NOT IDENT.
RA-223	-8.705E-02	1.470E-01	1.256E-01	7.501E-02	FAIL ABUN
RA-224	9.765E-02	1.626E-01	1.305E-01	8.296E-02	NOT IDENT.
RA-226	1.014E-02	1.715E-02	1.508E-02	8.749E-03	NOT IDENT.
AC-227	6.963E-02	8.136E-02	7.468E-02	4.151E-02	NOT IDENT.
TH-227	6.963E-02	8.162E-02	7.468E-02	4.164E-02	NOT IDENT.
AC-228	4.317E-02	2.962E-02	2.798E-02	1.511E-02	NOT IDENT.
RA-228	4.317E-02	2.962E-02	2.798E-02	1.511E-02	NOT IDENT.
TH-228	7.053E-03	2.145E-02	1.295E-02	1.094E-02	FAIL ABUN
TH-229	-1.591E-02	1.030E-01	9.270E-02	5.255E-02	FAIL ABUN
TH-230	1.014E-02	1.715E-02	1.508E-02	8.749E-03	NOT IDENT.
PA-231	-1.341E-01	3.370E-01	2.939E-01	1.720E-01	NOT IDENT.
TH-231	-8.705E-02	1.470E-01	1.256E-01	7.501E-02	FAIL ABUN
U-231	-3.529E-01	7.645E-02	5.207E-02	3.900E-02	FAIL ABUN
TH-232	4.317E-02	2.962E-02	2.798E-02	1.511E-02	NOT IDENT.
PA-233	4.970E-03	1.424E-02	1.278E-02	7.264E-03	NOT IDENT.
PA-234	4.255E-02	6.465E-02	5.845E-02	3.298E-02	FAIL ABUN
PA-234M	4.928E-01	1.422E+00	1.018E+00	7.255E-01	NOT IDENT.
TH-234	3.118E-01	3.558E-01	1.986E-01	1.815E-01	FAIL ABUN
U-234	1.014E-02	1.715E-02	1.508E-02	8.749E-03	NOT IDENT.
U-235	-1.188E-03	5.927E-02	3.888E-02	3.024E-02	FAIL ABUN
NP-236	4.019E-03	1.630E-02	1.421E-02	8.314E-03	NOT IDENT.
NP-237	2.119E-02	5.542E-02	3.763E-02	2.827E-02	NOT IDENT.
U-238	3.118E-01	3.558E-01	1.986E-01	1.815E-01	FAIL ABUN
NP-239	-1.999E-02	3.845E-02	3.295E-02	1.962E-02	NOT IDENT.
AM-241	1.283E-02	2.501E-02	2.022E-02	1.276E-02	NOT IDENT.
AM-243	5.563E-03	1.125E-02	8.737E-03	5.738E-03	NOT IDENT.
CM-243	9.104E-03	1.737E-02	1.560E-02	8.861E-03	NOT IDENT.
AM-246	3.236E-02	3.055E-02	2.841E-02	1.559E-02	NOT IDENT.
CM-247	3.824E-03	7.748E-03	6.938E-03	3.953E-03	NOT IDENT.
CF-249	1.236E-02	8.723E-03	8.149E-03	4.450E-03	NOT IDENT.
CF-251	-2.334E-02	2.738E-02	2.267E-02	1.397E-02	NOT IDENT.
ANH-511	-2.326E-02	1.707E-02	1.327E-02	8.710E-03	NOT IDENT.


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*               GEL Laboratories LLC   *
*               2040 SAVAGE ROAD       *
*               CHARLESTON ,SC 29417  *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT *
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ENERGY	MDA COUNTS
46.50	345.4649
46.50	345.4649
46.50	345.4649
48.70	365.7173
49.72	428.3641
51.35	335.1539
52.39	295.6483
52.97	318.3603
53.15	325.5908
53.44	311.3564
54.07	336.1705
56.28	352.3874
56.28	352.3884
57.37	323.2643
57.53	309.9942
57.53	309.9948
57.60	310.0172
57.98	284.8914
57.98	284.8914
59.32	318.2739
59.32	318.2739
59.40	318.3004
59.54	326.5942
59.72	326.6553
60.01	326.7532
61.10	323.8163
61.14	323.8295
61.30	323.8827
63.00	392.3096
63.29	368.4151
63.29	368.4151
63.58	368.5221
64.28	368.7805
65.12	330.1054
65.20	330.1318
65.20	330.1318
66.05	330.4078
66.72	312.3480
66.83	312.3824
66.91	325.7005
67.20	325.7926
67.20	325.7926
67.75	352.5755
67.85	352.6092
68.90	439.5429
68.90	439.5429
69.30	451.3695
69.67	428.2037
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70.83	421.7625
72.80	440.7437
72.87	440.7719
72.87	440.7719
74.67	440.4582
74.81	440.5143
74.81	440.5143
74.81	440.5143
74.81	440.5143
74.81	440.5143
74.81	440.5143
74.97	415.4625
75.28	437.5627
75.70	423.0685
77.11	419.4138
77.11	419.4138

77.11	419.4138
77.11	419.4138
77.11	419.4138
77.11	419.4138
77.11	419.4138
78.38	493.3705
79.62	452.2989
79.80	452.3712
79.80	452.3712
80.11	457.5407
80.18	457.5690
80.30	457.6171
80.30	457.6171
80.57	450.9937
81.00	452.8473
81.07	452.8752
81.07	452.8752
81.07	452.8752
81.07	452.8752
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83.78	347.6250
83.78	347.6250
83.78	347.6250
83.78	347.6250
84.21	373.0751
84.90	374.7729
85.43	398.8103
86.29	402.4821
86.50	411.0102
86.54	411.0251
86.59	411.0414
86.72	411.0873
86.79	411.1096
86.94	429.7753
87.30	429.9040
87.30	429.9040
87.30	429.9040
87.30	429.9040
87.30	429.9040
87.30	429.9040
87.57	450.3167
87.88	450.4336
88.03	606.2969
88.36	606.4652
88.47	801.3516
89.95	709.0386
91.11	430.5328
92.29	390.8863
92.38	371.7949
92.38	371.7949
93.35	366.7704
94.00	376.5355
94.67	501.2496
94.67	501.2514
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98.44	372.5233
98.88	358.7701
99.55	338.6590
99.55	338.6590
99.86	325.9171
100.00	317.4036
100.10	317.4285
103.18	312.8220
103.76	290.4527
105.00	334.7087
105.31	339.0782
108.00	348.3608
109.28	372.3673

111.00	330.8111
111.00	330.8111
111.76	333.1501
112.95	324.8044
115.19	375.0439
116.30	382.9121
117.00	364.7050
117.00	364.7050
117.66	346.4685
121.11	338.6209
121.62	341.9982
121.78	348.5504
122.06	346.4457
122.32	354.1114
122.32	354.1114
122.32	354.1114
122.32	354.1114
123.07	331.4716
127.23	316.0613
129.76	312.2299
131.20	302.6940
133.02	346.8203
133.54	329.4254
135.34	335.2922
136.00	355.1660
136.25	348.6447
136.48	357.4703
140.51	379.2810
140.51	0.0000
142.18	330.1575
142.65	346.7687
143.76	337.0968
144.24	342.7069
144.24	342.7069
144.24	342.7069
144.24	342.7069
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145.44	338.5521
147.16	375.3432
152.43	314.5338
152.70	314.5858
153.22	305.8190
154.21	287.1542
154.21	287.1542
154.21	287.1542
154.21	287.1542
155.03	308.3723
156.02	330.7529
158.56	334.5855
159.00	0.0000
159.00	335.7847
160.31	318.2392
161.27	295.0398
162.32	304.1320
162.64	305.3025
163.35	325.4947
163.89	325.5950
165.85	327.0811
167.43	319.5571
171.28	321.3751
171.86	308.0385
172.10	308.0805
176.55	360.5103
176.60	360.5201
181.06	331.7563
184.41	336.8727
185.71	319.6523
186.00	319.7019
190.27	318.3180
192.34	310.6829
193.63	328.2525
197.04	324.2961
198.01	317.1876
198.60	311.8298
200.40	330.3180
201.83	377.0018
202.84	356.2410
205.31	332.9712

208.36	299.6784
208.81	303.4019
209.75	315.4295
209.75	315.4295
210.97	302.8133
215.65	287.0109
216.55	270.6243
218.09	270.8278
222.10	267.6777
223.80	289.9907
226.40	287.5869
227.00	271.9945
227.08	272.0053
227.20	272.0197
228.16	267.5314
228.18	267.5349
228.18	267.5349
231.56	287.4683
235.69	285.4530
236.00	290.1240
236.00	290.1240
238.63	287.3876
238.63	287.3876
238.63	287.3876
238.63	287.3876
239.00	293.6183
240.98	323.2756
241.98	315.6870
241.98	315.6870
241.98	315.6870
244.69	266.9391
245.39	288.2807
247.94	262.5454
248.90	286.8758
249.79	289.7858
252.40	252.8087
252.85	251.9269
252.85	251.9269
254.15	0.0000
256.20	236.4162
256.20	236.4162
260.50	265.8860
260.90	264.0617
262.80	243.6611
264.65	250.4233
268.24	274.2954
268.79	283.7591
269.46	265.9827
269.46	265.9827
269.46	265.9827
269.46	265.9827
271.23	240.7875
273.65	271.1672
276.40	279.9675
277.35	254.6147
277.60	253.7013
277.60	253.7013
278.00	250.9141
278.60	243.4277
279.20	253.8720
279.53	256.7365
280.46	252.1149
281.68	270.1953
283.67	254.3449
284.30	228.8749
285.00	214.7522
285.90	229.9749
286.10	238.5110
286.10	238.5110
287.40	268.9437
288.45	0.0000
290.67	234.2188
290.80	234.2309
291.72	233.3697
293.26	236.3646
293.70	240.2048
295.21	278.3536
295.21	278.3536

295.21	278.3536
295.96	281.2867
296.50	254.7341
297.23	247.2031
298.57	256.8527
299.80	254.1226
299.80	254.1226
300.09	239.8737
300.09	239.8737
300.09	239.8737
300.09	239.8737
300.12	239.8768
301.29	227.6102
302.84	242.0441
303.76	248.8071
303.91	239.2865
304.40	227.8931
304.40	227.8931
304.84	225.0700
306.84	230.9753
308.46	234.9432
311.98	213.2737
316.51	234.7269
318.01	221.4436
319.02	215.7742
319.41	223.4803
320.08	208.1870
323.87	234.4330
323.87	234.4330
323.87	234.4330
323.87	234.4330
325.23	227.8261
328.77	208.8810
333.44	243.9634
334.20	250.7864
334.20	250.7864
334.30	250.7959
338.28	191.2735
338.28	191.2735
338.28	191.2735
338.28	191.2735
338.32	183.5499
338.32	183.5499
338.32	183.5499
340.50	221.4049
340.57	221.4105
344.27	208.1579
345.85	218.9347
350.59	190.2028
351.07	178.5892
351.92	181.5580
351.92	181.5580
351.92	181.5580
355.39	0.0000
356.01	245.9986
364.48	180.4269
366.43	180.5534
367.43	162.0668
367.94	180.6483
369.80	201.2876
374.96	190.8843
383.85	203.2552
387.95	143.5601
388.63	162.2809
391.69	176.2337
391.69	176.2337
392.90	150.6972
398.62	175.6598
400.65	163.9291
401.10	145.1876
401.81	149.1733
402.60	144.2730
404.84	163.1691
410.95	146.6541
411.60	153.6245
413.65	179.5130
414.70	180.5670
415.30	158.7715

415.76	162.7668
417.63	0.0000
418.52	153.9726
423.70	158.2120
427.08	153.4022
427.89	149.4580
432.53	152.6732
433.93	150.7438
439.47	143.0087
439.56	143.0140
439.89	150.0293
443.98	167.2487
444.90	154.2726
445.03	154.2801
445.03	154.2801
445.03	154.2801
445.03	154.2801
453.90	160.7324
463.38	150.1186
468.07	171.5211
473.00	131.3584
475.06	140.5407
475.35	150.6642
476.78	148.7047
477.59	134.5748
477.96	131.5552
482.03	115.5029
484.57	133.8418
487.03	124.8063
490.36	139.1490
492.35	127.0355
497.08	146.5471
507.63	0.0000
510.53	0.0000
510.84	160.4142
511.00	169.6181
511.85	171.7027
511.85	171.7027
513.99	564.5096
513.99	564.5096
520.41	119.8707
520.65	119.8793
527.90	119.0982
528.96	0.0000
529.64	117.1005
529.87	0.0000
531.02	118.1726
537.32	99.8513
543.00	94.8525
546.56	0.0000
549.76	121.8863
552.65	121.9813
555.20	132.4125
563.23	200.0867
563.90	181.4557
568.70	121.4732
569.32	137.0692
569.50	155.7678
569.67	155.7751
573.80	139.3129
574.00	134.1209
574.64	124.7842
578.91	157.2007
579.30	154.0920
583.14	120.8966
585.48	128.2701
591.81	126.3942
592.07	127.4477
593.00	108.6693
595.88	119.2074
600.56	140.2911
602.52	0.0000
602.71	158.1777
602.71	158.1777
603.60	160.3101
604.41	163.4877
604.70	157.2107
609.31	137.4604

609.31	137.4604
609.31	137.4604
609.31	137.4604
610.33	135.3965
612.46	159.6223
614.37	141.8390
618.01	107.2668
621.84	128.4247
621.84	128.4247
631.29	99.1842
633.02	120.3373
633.10	120.3401
634.78	123.5584
635.90	117.2546
636.97	113.0605
645.85	87.8937
646.12	90.0178
656.30	122.0920
657.75	122.1342
657.90	0.0000
661.65	80.7927
661.65	80.7927
664.57	114.8897
666.33	113.8756
666.33	113.8756
675.00	99.1803
677.61	89.6396
685.20	93.0089
692.80	111.3811
695.00	116.7971
696.49	130.7717
696.49	130.7717
697.00	129.7146
697.49	122.2244
698.33	123.3218
698.50	123.3274
699.00	120.1238
702.63	127.7391
706.10	118.1721
706.58	0.0000
706.67	113.8905
709.31	104.2845
711.68	109.7197
713.82	107.6221
717.42	94.7848
720.50	105.6299
721.93	101.3529
722.20	98.1249
722.78	93.8224
722.78	93.8224
722.89	93.8266
722.95	93.8266
723.30	85.2066
724.18	84.1452
727.18	79.8842
733.00	94.0411
735.90	77.8781
739.58	100.6766
742.81	93.1660
744.21	82.3587
747.13	99.7625
751.79	69.4719
752.31	75.9934
753.82	82.5350
755.35	91.2536
756.15	91.2700
756.87	94.5445
763.93	90.3395
765.79	75.1318
766.42	82.7650
766.84	92.5745
776.49	87.3125
778.00	89.5253
778.57	85.1678
778.89	79.7154
783.80	72.1472
785.46	76.5471
792.07	84.3221

795.84	89.8697
796.30	87.6875
798.80	97.6045
801.93	73.5266
805.60	83.4683
810.29	83.5518
810.76	87.9570
815.85	81.6304
817.79	98.1813
818.51	92.6902
819.60	83.5315
826.30	64.3447
828.27	72.6481
831.60	73.6182
831.96	78.2262
834.83	74.5878
836.80	0.0000
846.75	86.7729
848.13	95.1082
856.28	0.0000
856.80	96.2009
860.37	74.0544
867.32	75.0855
867.82	72.3125
871.10	79.7817
873.19	74.2464
874.81	80.7695
875.33	0.0000
876.40	88.2256
879.36	82.7023
880.27	72.4934
880.51	72.4966
881.50	76.2294
883.24	92.9952
884.67	85.5799
889.25	63.3128
896.60	66.2028
898.02	69.0182
899.00	80.2261
903.28	76.5597
911.07	59.8451
911.07	59.8451
911.07	59.8451
919.63	51.5155
920.93	54.3384
925.00	60.0078
925.24	55.3221
926.50	51.5838
935.52	61.0684
937.48	61.0922
944.10	73.4027
946.00	58.3672
949.00	75.3548
962.29	78.3782
964.01	76.5143
966.15	72.7640
968.20	69.9561
969.11	64.2951
969.11	64.2951
969.11	64.2951
977.42	57.7658
980.50	67.2746
983.50	57.8316
989.30	69.2826
996.32	86.4789
1001.03	54.2145
1001.68	50.4159
1004.76	82.8051
1021.30	0.0000
1024.50	0.0000
1034.80	61.2448
1036.00	57.4292
1037.82	57.4487
1038.57	62.2441
1038.76	0.0000
1045.16	66.1531
1046.59	70.9648
1048.07	65.2275

1050.47	58.5378
1050.47	58.5378
1062.04	50.0026
1063.62	50.9793
1076.63	52.0598
1077.35	53.9948
1078.86	50.1507
1085.78	59.8682
1099.22	52.2642
1112.02	60.1382
1112.84	58.2056
1115.52	70.8494
1120.29	67.0206
1120.29	67.0206
1120.29	67.0206
1120.29	67.0206
1120.51	69.9375
1121.28	68.9748
1124.00	0.0000
1129.67	52.5344
1131.51	0.0000
1147.95	0.0000
1167.94	57.7660
1173.22	42.1374
1175.09	56.8554
1177.93	48.0549
1189.05	42.2476
1204.90	36.4460
1205.75	35.4653
1213.00	42.4104
1221.42	52.3444
1230.97	59.3481
1235.34	49.4914
1236.41	0.0000
1238.25	51.4943
1246.25	34.7038
1260.41	0.0000
1271.85	40.8165
1274.45	45.8128
1274.54	45.8128
1291.56	52.9224
1298.22	0.0000
1312.09	50.0834
1325.50	45.1666
1325.50	45.1666
1332.49	46.2190
1333.61	30.1489
1360.21	37.3312
1362.66	0.0000
1365.15	34.3293
1368.21	51.5167
1368.53	0.0000
1376.25	60.6812
1384.27	55.6893
1394.10	46.6439
1395.20	41.5806
1407.95	44.7054
1434.06	36.7148
1436.60	35.7078
1457.56	0.0000
1460.81	38.9015
1489.15	27.7504
1509.49	30.9204
1596.49	33.3711
1620.62	34.5240
1678.03	0.0000
1691.02	36.9497
1691.02	36.9497
1706.46	0.0000
1750.46	0.0000
1764.49	29.8332
1764.49	29.8332
1764.49	29.8332
1764.49	29.8332
1770.23	44.7805
1771.40	31.9910
1791.20	0.0000
1808.65	27.8525

1836.01

22.5697

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202005192

Total Uranium Activity	9.2698E-01	ug/g
Total Uranium Counting Unc.	1.0588E+00	ug/g
Total Uranium Tpu	5.4021E-07	ug/g
Total Uranium Mda	5.9100E-01	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G1202005192
*  ANALYST       : MXR1            DETECTOR    : GAM14
*  SAMPLE DATE   : 2-JAN-2010 00:00:00.00  COUNT TIME : 0 08:20:00.00
*  ANALYSIS DATE : 9-JAN-2010 17:03:42.33  SAMPLE ALQT: 145.700 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.468E-02
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.847E-02
GROSS GAMMA MDA     (pCi/GRAM ) : 8.891E-02
GROSS GAMMA DLC     (pCi/GRAM ) : 4.321E-02

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VAX/VMS Nuclide Identification Report Generated 10-JAN-2010 01:25:21.37

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005193.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 17:04:16.
Sample ID          : G1202005193 Sample quantity : 1.41640E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time: 0 08:20:00.00 Elapsed real time: 0 08:20:08.07 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.06*	387	1913	0.92	126.30	122	8	1.29E-02	21.3	
2	2	74.80*	1744	1726	0.96	149.79	144	14	5.81E-02	4.6	5.59E+00
3	2	77.07*	2723	1303	0.89	154.33	144	14	9.08E-02	3.0	
4	4	84.08	375	1516	0.99	168.35	165	19	1.25E-02	17.6	6.47E+00
5	4	87.19	1085	1618	1.04	174.57	165	19	3.62E-02	6.6	
6	4	89.77*	465	1438	0.88	179.74	165	19	1.55E-02	13.6	
7	0	92.91*	1237	2325	1.38	186.01	183	11	4.12E-02	8.6	
8	0	105.22	228	1388	1.38	210.63	207	7	7.60E-03	27.9	
9	0	128.81	257	1551	0.79	257.82	255	8	8.57E-03	27.2	
10	0	143.49*	56	1332	0.93	287.17	284	7	1.88E-03	120.1	
11	0	153.71	86	1118	0.79	307.62	306	6	2.87E-03	62.2	
12	0	185.70*	960	1423	1.25	371.59	367	9	3.20E-02	8.6	
13	0	209.02	522	1247	1.01	418.23	414	9	1.74E-02	13.0	
14	7	238.41*	5415	803	0.97	477.02	472	16	1.80E-01	1.7	5.21E+00
15	7	241.40	1459	1079	1.72	482.99	472	16	4.86E-02	5.9	
16	0	270.13	446	927	1.24	540.46	536	10	1.49E-02	13.7	
17	0	277.39	194	907	1.01	554.98	551	9	6.46E-03	29.0	
18	0	294.95*	1805	957	1.09	590.09	585	11	6.02E-02	4.2	
19	0	299.94	340	700	1.24	600.07	596	9	1.13E-02	15.1	
20	0	327.62	343	756	0.94	655.43	650	10	1.14E-02	16.0	
21	0	337.93*	1149	946	1.06	676.05	670	12	3.83E-02	6.3	
22	0	351.60*	3021	866	1.18	703.38	697	12	1.01E-01	2.8	
23	0	409.18	179	592	1.14	818.54	814	10	5.96E-03	26.6	
24	0	462.55	372	612	1.19	925.27	918	14	1.24E-02	15.0	
25	0	510.36*	676	649	1.63	1020.88	1014	15	2.25E-02	10.9	
26	0	582.76*	1692	440	1.27	1165.67	1160	12	5.64E-02	3.6	
27	0	608.84*	2291	464	1.33	1217.82	1212	13	7.64E-02	2.9	
28	0	661.18	867	355	1.31	1322.48	1318	10	2.89E-02	5.3	
29	0	726.74	414	345	1.40	1453.57	1448	13	1.38E-02	10.5	
30	0	767.50	130	465	0.84	1535.08	1531	12	4.34E-03	34.2	
31	0	785.45	138	299	1.53	1570.97	1566	14	4.59E-03	28.1	
32	0	793.92	219	247	1.48	1587.90	1582	12	7.31E-03	15.8	
33	0	835.55	39	226	1.00	1671.14	1665	9	1.29E-03	71.9	
34	0	860.03	255	241	1.32	1720.10	1714	13	8.50E-03	14.1	
35	0	910.53*	1207	220	1.56	1821.07	1814	14	4.02E-02	4.0	
36	0	933.75	140	208	1.32	1867.48	1860	13	4.67E-03	22.8	
37	3	964.12	251	216	1.81	1928.22	1922	26	8.36E-03	12.8	1.13E+00
38	3	968.28	725	169	1.54	1936.54	1922	26	2.42E-02	4.9	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1000.53*	27	202	1.47	2001.01	1996	11	8.89E-04	114.0	
40	0	1119.58*	432	273	1.61	2239.04	2233	13	1.44E-02	9.7	
41	0	1237.40	230	306	1.63	2474.59	2469	15	7.66E-03	17.7	
42	0	1376.89	183	137	2.42	2753.46	2745	19	6.09E-03	17.1	
43	0	1407.70	44	92	1.29	2815.06	2809	11	1.47E-03	44.9	
44	0	1459.82*	4267	113	1.83	2919.23	2910	18	1.42E-01	1.7	
45	0	1508.56	84	91	1.98	3016.68	3010	16	2.82E-03	25.9	
46	0	1587.17	103	58	1.56	3173.83	3169	10	3.44E-03	16.9	
47	0	1591.63	45	74	2.24	3182.73	3179	9	1.50E-03	37.2	
48	0	1620.38	44	67	1.80	3240.20	3233	13	1.47E-03	41.5	
49	0	1631.80*	86	87	8.60	3263.03	3251	27	2.87E-03	32.9	
50	0	1728.92	96	47	1.70	3457.17	3450	16	3.20E-03	19.1	
51	0	1763.33*	383	35	1.89	3525.95	3519	14	1.28E-02	6.8	
52	0	1845.97	68	44	1.75	3691.12	3684	12	2.27E-03	21.4	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005193.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 17:04:16
Sample ID         : G1202005193 Sample quantity : 141.64 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA16 Detector geometry: CAN
Elapsed live time : 0 08:20:00.00 Elapsed real time: 0 08:20:08.07 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00 %
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.105E+01	1.978E+00	2.137E-01	1.878E-02	98.495
MN-54	+	834.83	*	1.306E-02	1.883E-02	2.643E-02	2.482E-03	0.494
CD-109	+	88.03	*	3.053E+00	4.950E-01	5.106E-01	4.920E-02	5.980
SN-126	+	64.28		7.334E-01	3.298E-01	3.034E-01	4.420E-02	2.418
	+	86.94		1.240E+00	5.403E-01	2.096E-01	8.709E-02	5.915
	+	87.57	*	2.982E-01	4.834E-02	5.010E-02	4.803E-03	5.953
BA-137M	+	661.65	*	2.551E-01	3.522E-02	2.699E-02	2.396E-03	9.449
CS-137	+	661.65	*	2.696E-01	3.726E-02	2.854E-02	2.537E-03	9.449
EU-155		48.70		-1.251E+00	1.034E+00	1.569E+00	1.289E-01	-0.797
		60.01		-1.835E+00	2.150E+00	3.000E+00	2.143E-01	-0.612
	+	86.54		3.597E-01	5.849E-02	6.107E-02	5.831E-03	5.890
	+	105.31	*	1.003E-01	5.660E-02	6.810E-02	5.892E-03	1.473
RE-188	+	155.03	*	6.546E-02	8.163E-02	1.163E-01	1.023E-02	0.563
		477.96		-5.857E-01	1.323E+00	2.156E+00	2.050E-01	-0.272
		633.10		-4.333E-01	1.182E+00	1.886E+00	1.712E-01	-0.230
TL-208	+	277.35		3.864E-01	2.310E-01	2.433E-01	3.617E-02	1.588
	+	510.84		6.706E-01	1.689E-01	8.353E-02	1.056E-02	8.028
	+	583.14	*	4.790E-01	5.887E-02	2.376E-02	2.355E-03	20.160
	+	860.37		6.778E-01	2.025E-01	1.709E-01	1.711E-02	3.967
BI-211		72.87		2.602E+00	1.286E+00	2.041E+00	1.659E-01	1.275
	+	351.07	*	3.766E+00	4.609E-01	1.376E-01	1.504E-02	27.380
BI-212	+	727.18	*	1.004E+00	2.349E-01	1.702E-01	1.778E-02	5.898
	+	785.46		2.139E+00	1.220E+00	1.170E+00	1.087E-01	1.828
	+	1620.62		9.101E-01	7.594E-01	7.993E-01	6.790E-02	1.139
PB-212	+	74.81		2.031E+00	3.152E-01	2.055E-01	2.568E-02	9.880
	+	77.11		1.796E+00	1.860E-01	1.166E-01	9.904E-03	15.399
	+	87.30		1.379E+00	2.627E-01	2.323E-01	3.213E-02	5.937
	+	238.63	*	1.477E+00	1.816E-01	3.588E-02	4.248E-03	41.172
	+	300.09		1.432E+00	4.708E-01	4.568E-01	5.984E-02	3.135
PO-212	+	74.81		2.031E+00	3.152E-01	2.055E-01	2.568E-02	9.880
	+	77.11		1.796E+00	1.860E-01	1.166E-01	9.904E-03	15.399
	+	87.30		1.379E+00	2.627E-01	2.323E-01	3.213E-02	5.937
		115.19		1.159E+00	1.353E+00	2.306E+00	1.924E-01	0.503
	+	238.63	*	1.477E+00	1.816E-01	3.588E-02	4.248E-03	41.172

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-214	+	300.09		1.432E+00	4.708E-01	4.568E-01	5.984E-02	3.135
	+	609.31	*	1.222E+00	1.479E-01	4.521E-02	4.780E-03	27.024
	+	1120.29		1.199E+00	2.668E-01	1.798E-01	1.930E-02	6.670
	+	1764.49		1.461E+00	2.326E-01	1.284E-01	1.062E-02	11.379
PB-214	+	74.81		3.499E+00	5.051E-01	3.541E-01	3.937E-02	9.880
	+	77.11		3.078E+00	3.958E-01	1.999E-01	2.281E-02	15.399
	+	87.30		2.363E+00	4.241E-01	3.980E-01	4.886E-02	5.937
	+	241.98		2.391E+00	4.073E-01	2.161E-01	2.677E-02	11.064
PO-214	+	295.21		1.332E+00	2.098E-01	8.330E-02	1.112E-02	15.988
	+	351.92	*	1.310E+00	1.743E-01	4.795E-02	5.799E-03	27.322
	+	74.81		3.499E+00	5.051E-01	3.541E-01	3.937E-02	9.880
	+	77.11		3.078E+00	3.958E-01	1.999E-01	2.281E-02	15.399
PO-216	+	87.30		2.363E+00	4.241E-01	3.980E-01	4.886E-02	5.937
	+	241.98		2.391E+00	4.073E-01	2.161E-01	2.677E-02	11.064
	+	295.21		1.332E+00	2.098E-01	8.330E-02	1.112E-02	15.988
	+	351.92	*	1.310E+00	1.743E-01	4.795E-02	5.799E-03	27.322
PO-218	+	74.81		2.031E+00	3.152E-01	2.055E-01	2.568E-02	9.880
	+	77.11		1.796E+00	1.860E-01	1.166E-01	9.904E-03	15.399
	+	87.30		1.379E+00	2.627E-01	2.323E-01	3.213E-02	5.937
	+	238.63	*	1.477E+00	1.816E-01	3.588E-02	4.248E-03	41.172
RA-224	+	300.09		1.432E+00	4.708E-01	4.568E-01	5.984E-02	3.135
	+	74.81		3.499E+00	5.051E-01	3.541E-01	3.937E-02	9.880
	+	77.11		3.078E+00	3.958E-01	1.999E-01	2.281E-02	15.399
	+	87.30		2.363E+00	4.241E-01	3.980E-01	4.886E-02	5.937
RA-226	+	241.98		2.391E+00	4.073E-01	2.161E-01	2.677E-02	11.064
	+	295.21		1.332E+00	2.098E-01	8.330E-02	1.112E-02	15.988
	+	351.92	*	1.310E+00	1.743E-01	4.795E-02	5.799E-03	27.322
	+	240.98	*	4.533E+00	7.292E-01	4.084E-01	4.500E-02	11.101
AC-228	+	609.31	*	1.222E+00	1.479E-01	4.521E-02	4.780E-03	27.024
	+	1120.29		1.199E+00	2.668E-01	1.798E-01	1.930E-02	6.670
	+	1764.49		1.461E+00	2.326E-01	1.284E-01	1.062E-02	11.379
	+	338.32		1.579E+00	6.891E-01	1.530E-01	6.398E-02	10.316
RA-228	+	911.07	*	1.518E+00	2.182E-01	8.434E-02	1.002E-02	18.001
	+	969.11		1.609E+00	4.112E-01	1.454E-01	3.428E-02	11.066
	+	338.32		1.579E+00	6.891E-01	1.530E-01	6.398E-02	10.316
	+	911.07	*	1.518E+00	2.182E-01	8.434E-02	1.002E-02	18.001
TH-228	+	969.11		1.609E+00	4.112E-01	1.454E-01	3.428E-02	11.066
	+	74.81		2.070E+00	2.576E-01	2.095E-01	1.753E-02	9.880
	+	77.11		1.831E+00	1.896E-01	1.189E-01	1.010E-02	15.399
	+	87.30		1.406E+00	2.279E-01	2.368E-01	2.263E-02	5.937
TH-230	+	238.63	*	1.506E+00	1.851E-01	3.658E-02	4.331E-03	41.172
	+	300.09		1.460E+00	9.777E-01	4.656E-01	2.785E-01	3.135
	+	609.31	*	1.222E+00	1.479E-01	4.521E-02	4.780E-03	27.024
	+	1120.29		1.199E+00	2.668E-01	1.798E-01	1.930E-02	6.670
TH-232	+	1764.49		1.460E+00	2.326E-01	1.284E-01	1.062E-02	11.379
	+	338.32		1.579E+00	2.627E-01	1.530E-01	1.671E-02	10.316
	+	911.07	*	1.518E+00	2.182E-01	8.434E-02	1.002E-02	18.001
	+	969.11		1.609E+00	4.112E-01	1.454E-01	3.428E-02	11.066
PA-234M	+	766.42		1.219E+01	1.039E+01	7.244E+00	3.683E+00	1.683

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	1001.03	*	1.204E+00	2.746E+00	2.620E+00	2.728E-01	0.459
TH-234	+	63.29	*	1.853E+00	8.520E-01	7.723E-01	1.347E-01	2.399
	+	92.38		2.203E+00	5.540E-01	2.838E-01	5.216E-02	7.765
U-234	+	609.31	*	1.222E+00	1.479E-01	4.521E-02	4.780E-03	27.024
	+	1120.29		1.199E+00	2.668E-01	1.798E-01	1.930E-02	6.670
	+	1764.49		1.460E+00	2.326E-01	1.284E-01	1.062E-02	11.379
U-235	+	89.95		1.705E+00	7.054E-01	6.717E-01	2.089E-01	2.538
	+	93.35		2.649E+00	8.748E-01	3.433E-01	9.678E-02	7.717
	+	105.00		9.812E-01	6.206E-01	6.548E-01	1.953E-01	1.499
	+	143.76	*	4.907E-02	1.182E-01	1.334E-01	2.331E-02	0.368
		163.35		1.081E-01	2.096E-01	3.166E-01	6.097E-02	0.341
	+	185.71		1.840E-01	3.611E-02	2.796E-02	2.671E-03	6.580
		205.31		-5.876E-02	2.485E-01	3.345E-01	6.616E-02	-0.176
NP-237	+	86.50	*	8.757E-01	2.298E-01	1.487E-01	3.376E-02	5.888
		95.87		-4.882E-01	4.279E-01	5.652E-01	1.400E-01	-0.864
U-238	+	63.29	*	1.853E+00	8.520E-01	7.723E-01	1.347E-01	2.399
	+	92.38		2.203E+00	4.292E-01	2.838E-01	2.618E-02	7.765
AM-243	+	74.67	*	3.292E-01	4.080E-02	3.342E-02	2.767E-03	9.850
	+	86.72		3.284E+01	5.324E+00	5.564E+00	5.280E-01	5.902
		117.66		-2.119E+00	1.427E+00	2.302E+00	1.915E-01	-0.921
	+	142.18		4.122E+00	9.909E+00	1.145E+01	9.766E-01	0.360
ANH-511	+	511.00	*	1.448E-01	3.442E-02	1.805E-02	1.716E-03	8.026

---- 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	*	-1.396E-01	1.426E-01	2.270E-01	2.296E-02	-0.615
NA-22		1274.54	*	-3.876E-03	1.872E-02	3.000E-02	2.497E-03	-0.129
NA-24		1368.53	*	2.888E+01	1.872E-02	Half-Life too short		
AL-26		1129.67		-3.291E-01	6.637E-01	1.058E+00	8.870E-02	-0.311
		1808.65	*	-6.605E-03	1.265E-02	1.973E-02	1.613E-03	-0.335
TI-44		67.85		-1.142E-02	1.837E-02	2.807E-02	2.173E-03	-0.407
	+	78.38	*	3.314E-01	3.432E-02	2.791E-02	2.404E-03	11.874
SC-46		889.25	*	-8.216E-03	1.534E-02	2.492E-02	2.356E-03	-0.330
	+	1120.51		2.126E-01	4.516E-02	5.919E-02	5.000E-03	3.592
V-48		944.10		-1.753E-01	4.048E-01	6.575E-01	6.143E-02	-0.267
		983.50	*	-2.335E-02	3.385E-02	5.404E-02	4.974E-03	-0.432
		1312.09		-3.560E-02	3.801E-02	5.744E-02	4.822E-03	-0.620
CR-51		320.08	*	7.807E-02	1.742E-01	2.793E-01	3.266E-02	0.279
MN-52		744.21		-1.469E-01	1.672E-01	2.556E-01	2.346E-02	-0.575
		848.13		7.343E-01	4.334E+00	7.322E+00	6.892E-01	0.100
		935.52		3.949E-01	2.009E-01	3.214E-01	3.011E-02	1.229
		1246.25		9.864E-01	5.323E+00	8.232E+00	6.785E-01	0.120
		1333.61		-1.369E+00	3.413E+00	5.358E+00	4.521E-01	-0.255
		1434.06	*	4.863E-02	1.528E-01	2.514E-01	2.145E-02	0.193
CO-56		846.75	*	9.477E-03	1.536E-02	2.645E-02	2.489E-03	0.358
		977.42		2.325E-01	1.336E+00	2.035E+00	1.878E-01	0.114
		1037.82		-2.393E-03	1.272E-01	2.097E-01	1.971E-02	-0.011

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1175.09			4.562E-01	9.498E-01	1.586E+00	1.276E-01	0.288
	1238.25		+	1.863E-01	6.796E-02	7.853E-02	6.663E-03	2.372
	1360.21			2.033E-01	3.878E-01	6.492E-01	5.499E-02	0.313
	1771.40			4.612E-02	8.586E-02	1.406E-01	1.162E-02	0.328
CO-57	122.06		*	-1.110E-03	9.704E-03	1.622E-02	1.348E-03	-0.068
	136.48			-1.351E-02	8.162E-02	1.355E-01	1.232E-02	-0.100
CO-58	810.76		*	-1.908E-02	1.787E-02	2.491E-02	2.334E-03	-0.766
FE-59	142.65		+	6.760E-01	1.625E+00	1.951E+00	1.665E-01	0.346
	192.34			-6.557E-02	4.026E-01	6.556E-01	9.281E-02	-0.100
	1099.22		*	-4.361E-02	3.839E-02	5.886E-02	5.472E-03	-0.741
	1291.56			1.202E-02	5.381E-02	8.827E-02	8.429E-03	0.136
CO-60	1173.22			-7.247E-03	1.854E-02	2.969E-02	2.387E-03	-0.244
	1332.49		*	-5.320E-04	1.548E-02	2.494E-02	2.104E-03	-0.021
ZN-65	1115.52		*	3.675E-02	4.166E-02	6.255E-02	5.312E-03	0.588
GE-68	1077.35		*	4.176E-01	5.167E-01	8.815E-01	7.699E-02	0.474
AS-73	53.44		*	1.992E-01	3.447E-01	5.477E-01	4.178E-02	0.364
AS-74	595.88		*	-3.254E-03	4.262E-02	6.927E-02	6.429E-03	-0.047
	634.78			1.176E-01	1.671E-01	2.790E-01	2.529E-02	0.421
SE-75	66.05			-9.864E-02	2.208E+00	3.022E+00	2.907E-01	-0.033
	96.73			-4.529E-01	3.307E-01	4.771E-01	6.595E-02	-0.949
	121.11			1.018E-02	5.224E-02	8.788E-02	9.649E-03	0.116
	136.00			-1.751E-03	1.546E-02	2.570E-02	2.181E-03	-0.068
	198.60			-1.694E-01	8.325E-01	1.213E+00	1.300E-01	-0.140
	264.65		*	5.040E-03	1.962E-02	3.017E-02	3.520E-03	0.167
	279.53			2.578E-02	5.083E-02	7.353E-02	9.000E-03	0.351
	303.91			1.583E-01	9.572E-01	1.360E+00	1.891E-01	0.116
	400.65			1.645E-02	1.061E-01	1.787E-01	2.081E-02	0.092
BR-77	87.88		+	2.248E-03	1.061E-01	Half-Life	too short	
	200.40			-1.914E-05	1.061E-01	Half-Life	too short	
	239.00		+	8.134E-04	1.061E-01	Half-Life	too short	
	249.79			-4.782E-06	1.061E-01	Half-Life	too short	
	281.68			-5.400E-05	1.061E-01	Half-Life	too short	
	297.23			1.919E-04	1.061E-01	Half-Life	too short	
	303.76			1.020E-04	1.061E-01	Half-Life	too short	
	439.47			1.307E-04	1.061E-01	Half-Life	too short	
	484.57			-3.250E-04	1.061E-01	Half-Life	too short	
	520.65		*	-3.859E-08	1.061E-01	Half-Life	too short	
	574.64			1.983E-04	1.061E-01	Half-Life	too short	
	578.91			-1.066E-05	1.061E-01	Half-Life	too short	
	585.48			9.999E-04	1.061E-01	Half-Life	too short	
	755.35			2.830E-04	1.061E-01	Half-Life	too short	
	817.79			4.651E-05	1.061E-01	Half-Life	too short	
SR-82	698.33			-6.746E-01	1.563E+01	2.513E+01	2.267E+00	-0.027
	776.49		*	7.980E-04	1.676E-01	2.676E-01	2.481E-02	0.003
	1395.20			-4.498E+00	5.007E+00	7.472E+00	6.355E-01	-0.602
RB-83	520.41		*	4.174E-03	2.870E-02	4.752E-02	4.515E-03	0.088
	529.64			-4.748E-03	4.264E-02	6.982E-02	6.625E-03	-0.068
	552.65			-2.225E-02	8.216E-02	1.332E-01	1.257E-02	-0.167
RB-84	881.50		*	9.111E-03	2.916E-02	4.945E-02	4.672E-03	0.184

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
KR-85	513.99	*		2.263E+00	3.060E+00	4.581E+00	4.356E-01	0.494
SR-85	513.99	*		1.213E-02	1.640E-02	2.456E-02	2.335E-03	0.494
RB-86	1076.63	*		1.640E-02	3.865E-01	6.371E-01	5.567E-02	0.026
Y-88	898.02			-7.701E-04	1.748E-02	2.913E-02	2.767E-03	-0.026
	1836.01	*		1.259E-02	1.339E-02	2.402E-02	1.950E-03	0.524
ZR-88	392.90	*		-4.644E-04	1.238E-02	2.076E-02	1.920E-03	-0.022
Y-91	1204.90	*		3.773E+00	8.353E+00	1.389E+01	1.129E+00	0.272
NB-94	702.63	*		-4.257E-03	1.388E-02	2.203E-02	1.991E-03	-0.193
	871.10			-6.560E-03	1.355E-02	2.213E-02	2.089E-03	-0.296
NB-95	765.79	*		3.423E-02	2.241E-02	3.362E-02	3.107E-03	1.018
NB-95M	235.69	*		4.750E-02	5.805E-02	8.542E-02	1.016E-02	0.556
ZR-95	724.18			6.728E-02	4.683E-02	7.045E-02	6.921E-03	0.955
	756.15	*		1.832E-02	3.615E-02	5.179E-02	5.199E-03	0.354
NB-97	657.90	*		1.615E+00	3.615E-02	Half-Life	too short	
	1024.50			1.290E+01	3.615E-02	Half-Life	too short	
ZR-97	254.15			-1.820E+01	3.615E-02	Half-Life	too short	
	355.39			6.056E+01	3.615E-02	Half-Life	too short	
	507.63	*		1.892E+02	3.615E-02	Half-Life	too short	
	602.52			1.651E+02	3.615E-02	Half-Life	too short	
	1021.30			3.428E+01	3.615E-02	Half-Life	too short	
	1147.95			-6.144E+01	3.615E-02	Half-Life	too short	
	1362.66			-1.140E+02	3.615E-02	Half-Life	too short	
	1750.46			1.065E+01	3.615E-02	Half-Life	too short	
MO-99	140.51			2.073E+01	3.517E+01	4.940E+01	1.366E+01	0.420
	181.06			1.160E+01	2.196E+01	3.256E+01	6.084E+00	0.356
	366.43			3.839E+01	9.658E+01	1.647E+02	1.666E+01	0.233
	739.58	*		-3.097E+00	1.399E+01	2.217E+01	3.436E+00	-0.140
	778.00			-1.671E+01	4.010E+01	6.260E+01	5.807E+00	-0.267
TC-99M	140.51	*		1.184E+15	4.010E+01	Half-Life	too short	
RH-101	127.23			8.774E-03	1.370E-02	2.088E-02	1.739E-03	0.420
	198.01	*		-4.154E-03	1.497E-02	2.179E-02	2.152E-03	-0.191
	325.23			4.090E-02	1.047E-01	1.493E-01	1.676E-02	0.274
RH-102	418.52			-8.279E-02	1.145E-01	1.864E-01	1.746E-02	-0.444
	475.06	*		3.586E-03	1.182E-02	1.980E-02	1.882E-03	0.181
	631.29			-1.522E-02	2.203E-02	3.459E-02	3.143E-03	-0.440
	697.49			2.082E-02	3.117E-02	5.157E-02	4.651E-03	0.404
+	766.84			1.162E-01	8.025E-02	9.130E-02	8.441E-03	1.273
	1046.59			-2.195E-02	4.180E-02	6.680E-02	5.952E-03	-0.329
	1112.84			-5.060E-02	1.093E-01	1.501E-01	1.276E-02	-0.337
RU-103	497.08	*		2.423E-03	1.730E-02	2.874E-02	4.231E-03	0.084
	610.33			1.421E+01	2.557E+00	1.388E+00	2.360E-01	10.238
RH-106	511.85	+		7.292E-01	1.733E-01	1.778E-01	1.691E-02	4.101
	621.84	*		2.297E-02	1.287E-01	2.106E-01	2.886E-02	0.109
	1050.47			3.990E-01	8.807E-01	1.485E+00	1.320E-01	0.269
RU-106	511.85	+		7.292E-01	1.733E-01	1.778E-01	1.691E-02	4.101
	621.84	*		2.297E-02	1.287E-01	2.106E-01	1.926E-02	0.109
	1050.47			3.990E-01	8.807E-01	1.485E+00	1.320E-01	0.269
AG-108M	433.93	*		7.768E-03	1.327E-02	2.253E-02	2.193E-03	0.345
	614.37			1.087E-02	1.649E-02	2.436E-02	2.315E-03	0.446

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AG-110M	722.95			-1.481E-02	1.925E-02	2.555E-02	2.410E-03	-0.580
	657.75	*		2.005E-03	1.615E-02	2.301E-02	2.106E-03	0.087
	677.61			3.800E-02	1.270E-01	2.077E-01	1.906E-02	0.183
	706.67			-4.493E-03	9.877E-02	1.402E-01	1.301E-02	-0.032
	763.93			2.013E-02	7.621E-02	1.080E-01	1.022E-02	0.186
	884.67			-6.588E-03	1.901E-02	3.121E-02	3.029E-03	-0.211
	937.48			6.102E-03	5.803E-02	7.265E-02	7.011E-03	0.084
IN-111	1384.27			8.793E-02	6.959E-02	1.090E-01	9.530E-03	0.807
	171.28			6.809E-01	1.131E+00	1.883E+00	1.732E-01	0.362
	245.39	*		1.840E+00	1.254E+00	1.879E+00	2.092E-01	0.979
IN-113M	391.69	*		-1.724E-03	1.824E-02	3.054E-02	2.899E-03	-0.056
SN-113	391.69	*		-1.724E-03	1.824E-02	3.054E-02	2.899E-03	-0.056
IN-114M	190.27	*		2.225E-02	7.920E-02	1.244E-01	1.203E-02	0.179
CD-115	260.90			-1.671E-04	7.920E-02	Half-Life	too short	
	492.35			2.832E-05	7.920E-02	Half-Life	too short	
	527.90	*		4.830E-06	7.920E-02	Half-Life	too short	
SN-117M	156.02			-5.235E-01	1.269E+00	1.858E+00	1.639E-01	-0.282
SB-122	158.56	*		-1.694E-03	2.849E-02	4.485E-02	3.984E-03	-0.038
	563.90	*		-7.434E-01	2.551E+00	4.129E+00	3.884E-01	-0.180
	692.80			-7.143E+01	6.041E+01	8.063E+01	7.259E+00	-0.886
I-123	159.00	*		6.493E+01	6.041E+01	Half-Life	too short	
	528.96			7.135E+03	6.041E+01	Half-Life	too short	
TE-123M	159.00	*		1.565E-03	1.165E-02	1.931E-02	1.727E-03	0.081
I-124	602.71	*		4.706E-01	6.189E-01	9.167E-01	8.478E-02	0.513
	722.78			-3.524E+00	4.039E+00	5.317E+00	4.845E-01	-0.663
	1325.50			1.141E+00	2.778E+01	4.501E+01	3.790E+00	0.025
+ SB-124	1376.25			1.409E+02	4.959E+01	5.779E+01	4.905E+00	2.438
	1509.49			3.902E+01	2.049E+01	2.614E+01	2.235E+00	1.493
	1691.02			2.524E-02	2.744E+00	4.548E+00	3.824E-01	0.006
SB-124	602.71			1.425E-02	1.874E-02	2.776E-02	2.568E-03	0.513
	645.85			-7.436E-03	2.191E-01	3.544E-01	3.363E-02	-0.021
	709.31			-7.526E-01	1.381E+00	1.907E+00	1.729E-01	-0.395
+ SB-124	713.82			1.395E-02	7.026E-01	1.130E+00	1.399E-01	0.012
	722.78			-1.547E-01	1.773E-01	2.334E-01	2.168E-02	-0.663
	968.20			1.739E+01	2.353E+00	3.352E+00	3.105E-01	5.186
+ SB-124	1045.16			-4.076E-01	9.432E-01	1.517E+00	1.352E-01	-0.269
	1325.50			5.348E-02	1.302E+00	2.110E+00	1.777E-01	0.025
	1368.21			6.028E-01	7.566E-01	1.183E+00	1.583E-01	0.510
SB-125	1436.60			-8.815E-01	1.476E+00	2.368E+00	2.021E-01	-0.372
	1691.02	*		2.613E-04	2.841E-02	4.709E-02	4.124E-03	0.006
	427.89	*		1.397E-02	3.654E-02	6.173E-02	5.898E-03	0.226
+ SB-125	463.38			7.243E-01	2.295E-01	2.334E-01	2.359E-02	3.104
	600.56			-1.704E-02	7.340E-02	1.185E-01	1.167E-02	-0.144
	635.90			6.838E-02	1.105E-01	1.838E-01	1.787E-02	0.372
TE-125M	109.28	*		1.305E+00	3.876E+00	6.281E+00	6.400E-01	0.208
I-126	388.63			1.106E-02	1.042E-01	1.756E-01	1.643E-02	0.063
	666.33	*		1.347E-01	1.071E-01	1.613E-01	1.435E-02	0.835
	753.82			4.895E-01	7.612E-01	1.253E+00	1.154E-01	0.391
SB-126	223.80			-2.628E-02	2.120E+00	3.435E+00	3.628E-01	-0.008

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	+	278.60		3.235E+00	1.913E+00	2.228E+00	2.672E-01	1.452
		296.50		1.057E+01	1.719E+00	1.813E+00	2.135E-01	5.829
		414.70		2.445E-02	4.084E-02	6.480E-02	6.060E-03	0.377
		415.30		2.024E+00	3.247E+00	5.359E+00	5.013E-01	0.378
		555.20		-1.351E+00	1.980E+00	3.147E+00	2.969E-01	-0.429
		573.80		3.227E-01	5.247E-01	8.776E-01	8.226E-02	0.368
		593.00		-4.667E-02	4.679E-01	7.598E-01	7.063E-02	-0.061
		656.30		-1.087E+00	1.987E+00	2.712E+00	2.418E-01	-0.401
		666.33		5.685E-02	4.519E-02	6.807E-02	6.055E-03	0.835
		675.00		-3.316E-01	1.008E+00	1.602E+00	1.430E-01	-0.207
		695.00		4.810E-03	3.935E-02	6.374E-02	5.743E-03	0.075
		697.00		5.769E-02	1.376E-01	2.256E-01	2.034E-02	0.256
		720.50	*	-1.370E-02	7.951E-02	1.167E-01	1.062E-02	-0.117
		856.80		1.538E-01	2.584E-01	3.908E-01	3.682E-02	0.394
		989.30		4.926E-01	5.961E-01	1.027E+00	9.430E-02	0.480
		1034.80		2.568E+00	4.471E+00	7.582E+00	6.803E-01	0.339
		1213.00		-1.818E+00	2.469E+00	3.872E+00	3.157E-01	-0.469
		61.10		5.557E+01	5.145E+01	7.543E+01	8.749E+00	0.737
		252.40		2.916E+00	3.998E+00	6.237E+00	2.685E+00	0.468
		290.80		-1.338E+01	2.039E+01	2.793E+01	4.169E+00	-0.479
		411.60		2.429E+00	1.189E+01	1.767E+01	3.021E+00	0.137
		444.90		2.895E+00	8.963E+00	1.398E+01	1.997E+00	0.207
		473.00		-8.059E-02	1.476E+00	2.443E+00	3.569E-01	-0.033
		543.00		8.037E+00	1.366E+01	2.287E+01	3.647E+00	0.351
		603.60		5.207E+00	1.127E+01	1.644E+01	2.323E+00	0.317
		685.20	*	-8.540E-01	1.223E+00	1.903E+00	2.464E-01	-0.449
		698.50		-2.009E+00	1.327E+01	2.122E+01	3.609E+00	-0.095
		722.20		-3.216E+01	2.961E+01	3.810E+01	4.896E+00	-0.844
		783.80		7.903E+00	3.846E+00	5.801E+00	8.165E-01	1.362
XE-127		57.60		2.811E+00	2.671E+00	4.266E+00	3.084E-01	0.659
		145.22		3.254E-02	3.682E-01	4.963E-01	4.261E-02	0.066
		172.10		4.750E-02	5.216E-02	8.725E-02	8.039E-03	0.544
		202.84	*	-6.366E-03	2.044E-02	3.306E-02	3.307E-03	-0.193
I-131		374.96		5.858E-02	8.240E-02	1.415E-01	1.391E-02	0.414
		80.18		2.681E+00	3.051E+00	3.869E+00	3.433E-01	0.693
		284.30		1.935E-01	8.895E-01	1.428E+00	1.757E-01	0.136
		364.48	*	3.801E-02	6.552E-02	1.122E-01	1.190E-02	0.339
TE-132		636.97		6.098E-01	9.032E-01	1.505E+00	1.436E-01	0.405
		722.89		-3.744E+00	4.662E+00	6.171E+00	5.675E-01	-0.607
		49.72		1.189E+01	1.922E+01	3.061E+01	3.577E+00	0.388
		111.76		2.829E+00	2.769E+01	4.667E+01	5.554E+00	0.061
BA-133		116.30		1.326E+01	2.530E+01	4.286E+01	5.082E+00	0.309
		228.16	*	4.679E-01	7.079E-01	1.157E+00	2.051E-01	0.405
		53.15		7.304E-01	1.442E+00	2.288E+00	1.753E-01	0.319
		79.62		-2.176E-01	5.342E-01	7.442E-01	1.138E-01	-0.292
+		81.00		-8.934E-03	4.048E-02	5.672E-02	9.083E-03	-0.158
		276.40		3.821E-01	2.302E-01	2.664E-01	4.433E-02	1.435
		302.84		1.242E-02	6.235E-02	8.877E-02	1.371E-02	0.140
		356.01	*	1.410E-02	1.915E-02	2.925E-02	4.227E-03	0.482

---- 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		-1.182E-02	1.213E-01	2.034E-01	2.694E-02	-0.058
		510.53		4.315E+01	1.213E-01	Half-Life	too short	
		529.87	*	-1.229E-02	1.213E-01	Half-Life	too short	
		706.58		-2.388E-01	1.213E-01	Half-Life	too short	
		856.28		3.079E+00	1.213E-01	Half-Life	too short	
		875.33		1.805E-01	1.213E-01	Half-Life	too short	
CS-134	+	1236.41		3.809E+01	1.213E-01	Half-Life	too short	
		1298.22		-9.374E-01	1.213E-01	Half-Life	too short	
		475.35		1.929E-01	7.751E-01	1.296E+00	1.232E-01	0.149
		563.23		5.617E-03	1.524E-01	2.498E-01	2.370E-02	0.022
		569.32		2.583E-02	7.866E-02	1.303E-01	1.237E-02	0.198
		604.70		-2.393E-03	1.546E-02	2.184E-02	2.022E-03	-0.110
CS-135	+	795.84	*	5.253E-02	2.239E-02	3.617E-02	3.392E-03	1.452
		801.93		-2.023E-01	1.814E-01	2.562E-01	2.402E-02	-0.790
		1038.57		-3.533E-02	1.529E+00	2.520E+00	2.256E-01	-0.014
		1167.94		2.455E-02	9.995E-01	1.635E+00	1.322E-01	0.015
		1365.15		-4.516E-01	5.475E-01	7.449E-01	6.611E-02	-0.606
		268.24	*	9.354E-02	7.631E-02	1.122E-01	1.431E-02	0.834
I-135	+	288.45		-8.464E+13	7.631E-02	Half-Life	too short	
		417.63		-3.261E+14	7.631E-02	Half-Life	too short	
		546.56		-2.134E+14	7.631E-02	Half-Life	too short	
		836.80		2.799E+14	7.631E-02	Half-Life	too short	
		1038.76		3.594E+13	7.631E-02	Half-Life	too short	
		1124.00		4.846E+14	7.631E-02	Half-Life	too short	
CS-136	+	1131.51		6.338E+13	7.631E-02	Half-Life	too short	
		1260.41	*	-5.200E+13	7.631E-02	Half-Life	too short	
		1457.56		2.864E+16	7.631E-02	Half-Life	too short	
		1678.03		8.105E+13	7.631E-02	Half-Life	too short	
		1706.46		-4.074E+14	7.631E-02	Half-Life	too short	
		1791.20		-8.782E+12	7.631E-02	Half-Life	too short	
CE-139	+	66.91		9.814E-03	4.027E-01	5.950E-01	8.885E-02	0.016
		86.29		4.862E+00	9.144E-01	1.002E+00	1.344E-01	4.852
		153.22		3.011E-01	3.756E-01	5.549E-01	5.417E-02	0.543
		163.89		3.511E-01	5.917E-01	8.978E-01	8.992E-02	0.391
		176.55		1.450E-01	1.847E-01	3.079E-01	3.014E-02	0.471
		273.65		2.727E-01	3.066E-01	3.594E-01	4.417E-02	0.759
BA-140	+	340.57		1.173E-01	6.744E-02	1.056E-01	1.168E-02	1.110
		818.51		2.329E-03	3.432E-02	5.789E-02	5.427E-03	0.040
		1048.07	*	-2.598E-02	5.051E-02	8.083E-02	7.487E-03	-0.321
		1235.34		9.062E-01	3.707E-01	5.741E-01	6.638E-02	1.578
		165.85	*	-8.436E-03	1.232E-02	1.997E-02	1.811E-03	-0.422
		162.64		1.324E-01	4.165E-01	6.287E-01	5.952E-02	0.211
LA-140	+	304.84		4.815E-01	7.313E-01	1.042E+00	3.033E-01	0.462
		423.70		-3.385E-01	9.553E-01	1.567E+00	5.112E-01	-0.216
		537.32	*	1.028E-01	1.355E-01	2.219E-01	7.404E-02	0.463
		328.77		7.322E-01	2.484E-01	2.843E-01	3.276E-02	2.576
		432.53		3.638E-02	1.042E+00	1.741E+00	1.706E-01	0.021
		487.03		-4.585E-02	9.879E-02	1.139E-01	1.139E-02	-0.403
		751.79		-7.544E-01	8.826E-01	1.348E+00	1.357E-01	-0.560

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		815.85		1.357E-02	1.520E-01	2.567E-01	2.639E-02	0.053
		867.82		5.255E-01	6.717E-01	1.136E+00	1.119E-01	0.463
		919.63		4.539E-02	1.366E+00	2.280E+00	2.575E-01	0.020
		925.24		-1.153E-01	5.618E-01	9.011E-01	8.916E-02	-0.128
		1596.49	*	1.368E-02	4.840E-02	7.154E-02	6.093E-03	0.191
CE-141		145.44	*	-8.253E-03	3.355E-02	4.471E-02	3.911E-03	-0.185
CE-143		57.37		4.631E-03	3.355E-02	Half-Life	too short	
		231.56		-7.821E-03	3.355E-02	Half-Life	too short	
		293.26	*	5.631E-03	3.355E-02	Half-Life	too short	
	+	350.59		2.511E-01	3.355E-02	Half-Life	too short	
		490.36		-5.384E-03	3.355E-02	Half-Life	too short	
		664.57		8.282E-03	3.355E-02	Half-Life	too short	
		721.93		-5.661E-03	3.355E-02	Half-Life	too short	
CE-144		80.11		8.528E-01	9.856E-01	1.249E+00	1.097E-01	0.683
		133.54	*	-4.257E-02	8.855E-02	1.303E-01	2.012E-02	-0.327
PM-144		476.78		-1.800E-02	2.816E-02	4.551E-02	4.663E-03	-0.395
		618.01		-6.676E-03	1.259E-02	1.996E-02	1.875E-03	-0.334
		696.49	*	1.600E-03	1.402E-02	2.270E-02	2.048E-03	0.070
		778.57		-2.063E-01	9.835E-01	1.496E+00	1.388E-01	-0.138
PR-144		696.49	*	1.087E-01	9.524E-01	1.542E+00	1.390E-01	0.070
		1489.15		-3.103E+00	4.584E+00	7.256E+00	6.205E-01	-0.428
PM-146		453.90	*	1.511E-02	1.828E-02	3.107E-02	3.548E-03	0.486
		633.02		-3.013E-01	5.727E-01	8.895E-01	3.334E-01	-0.339
		735.90		3.337E-03	6.061E-02	9.744E-02	2.803E-02	0.034
		747.13		-2.499E-03	3.573E-02	5.702E-02	8.208E-03	-0.044
ND-147	+	91.11		5.589E-01	1.626E-01	2.486E-01	2.485E-02	2.248
		319.41		8.210E-01	1.810E+00	2.904E+00	3.298E-01	0.283
		439.89		1.844E+00	3.079E+00	5.224E+00	4.932E-01	0.353
		531.02	*	-9.156E-02	2.951E-01	4.789E-01	7.407E-02	-0.191
PM-149		285.90	*	-4.703E-06	2.951E-01	Half-Life	too short	
EU-152		121.78		-1.404E-03	2.782E-02	4.655E-02	4.494E-03	-0.030
		244.69		6.403E-02	1.378E-01	2.011E-01	2.236E-02	0.318
		344.27	*	-4.820E-02	3.953E-02	6.169E-02	6.895E-03	-0.781
		443.98		-1.834E-01	4.163E-01	6.330E-01	5.981E-02	-0.290
		778.89		-2.211E-02	1.127E-01	1.716E-01	1.592E-02	-0.129
		867.32		1.091E-01	3.310E-01	5.328E-01	5.027E-02	0.205
	+	964.01		6.404E-01	1.739E-01	2.434E-01	2.258E-02	2.631
		1085.78		-2.815E-02	1.555E-01	2.532E-01	2.198E-02	-0.111
		1112.02		8.441E-03	1.399E-01	2.170E-01	1.847E-02	0.039
	+	1407.95		1.092E-01	9.861E-02	1.333E-01	1.135E-02	0.819
GD-153		69.67		1.196E-01	6.653E-01	1.035E+00	8.152E-02	0.116
	+	83.37		1.904E+01	6.917E+00	9.661E+00	8.805E-01	1.971
		97.43	*	-1.438E-02	3.539E-02	5.000E-02	4.442E-03	-0.288
		103.18		5.062E-02	4.253E-02	6.632E-02	5.715E-03	0.763
EU-154		123.07		3.033E-03	1.980E-02	3.326E-02	3.700E-03	0.091
		247.94		-7.147E-02	1.420E-01	2.247E-01	3.039E-02	-0.318
		591.81		1.034E-01	2.429E-01	4.028E-01	4.906E-02	0.257
		723.30		-5.344E-02	8.084E-02	1.082E-01	1.079E-02	-0.494
		756.87		1.715E-01	3.774E-01	5.395E-01	6.697E-02	0.318

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	+	873.19		4.100E-02	1.161E-01	1.973E-01	2.533E-02	0.208
		996.32		9.235E-03	1.537E-01	2.217E-01	3.998E-02	0.042
		1004.76		-2.742E-02	8.866E-02	1.240E-01	1.490E-02	-0.221
		1274.45	*	-4.509E-03	5.189E-02	8.374E-02	9.277E-03	-0.054
		86.79		9.990E-01	1.620E-01	2.106E-01	2.000E-02	4.743
		197.04		-8.239E-02	2.667E-01	3.886E-01	3.827E-02	-0.212
		215.65		-5.072E-02	3.211E-01	5.195E-01	5.373E-02	-0.098
		298.57		2.170E-01	7.020E-02	8.490E-02	9.968E-03	2.556
		879.36	*	2.075E-02	5.769E-02	9.800E-02	9.257E-03	0.212
		962.29		9.099E-01	2.708E-01	4.437E-01	4.119E-02	2.051
HO-166M	+	966.15		1.157E+00	1.587E-01	2.451E-01	2.272E-02	4.722
		1177.93		2.451E-04	1.550E-01	2.530E-01	2.038E-02	0.001
		1271.85		2.447E-01	3.013E-01	5.096E-01	4.232E-02	0.480
		80.57		3.656E-02	1.271E-01	1.580E-01	1.394E-02	0.231
		184.41		1.380E-01	2.709E-02	2.827E-02	2.691E-03	4.881
		280.46		-1.636E-02	3.863E-02	5.385E-02	6.459E-03	-0.304
		410.95		1.455E-01	1.145E-01	1.765E-01	1.648E-02	0.824
		711.68	*	-6.069E-03	2.497E-02	3.970E-02	3.602E-03	-0.153
		752.31		-7.382E-02	1.131E-01	1.749E-01	1.610E-02	-0.422
		810.29		-3.000E-02	2.613E-02	3.640E-02	3.403E-03	-0.824
TM-171		51.35		-2.472E+00	1.248E+01	1.949E+01	1.535E+00	-0.127
		52.39		-8.443E-01	6.411E+00	1.002E+01	7.769E-01	-0.084
		59.40		1.408E+00	1.150E+01	1.655E+01	1.175E+00	0.085
LU-176	+	66.72	*	4.663E+00	1.262E+01	1.746E+01	1.338E+00	0.267
		88.36		7.073E-01	1.147E-01	1.417E-01	1.360E-02	4.991
		201.83		-4.976E-03	1.151E-02	1.856E-02	1.852E-03	-0.268
LU-177		306.84	*	2.270E-03	1.035E-02	1.654E-02	1.919E-03	0.137
		401.10		3.859E-01	2.713E+00	4.568E+00	4.244E-01	0.084
		112.95		-3.012E-01	9.523E-01	1.590E+00	1.332E-01	-0.189
LU-177M	+	208.36	*	3.911E+00	1.090E+00	1.295E+00	1.314E-01	3.020
		52.97		3.291E-01	6.647E-01	1.055E+00	8.102E-02	0.312
		54.07		-1.686E-01	3.521E-01	5.445E-01	4.116E-02	-0.310
HF-181		61.30		7.571E-01	6.307E-01	9.312E-01	6.755E-02	0.813
		121.62		-9.190E-03	1.451E-01	2.428E-01	2.015E-02	-0.038
		147.16		-1.000E-01	2.858E-01	4.205E-01	3.627E-02	-0.238
		171.86		1.884E-01	1.978E-01	3.310E-01	3.048E-02	0.569
		218.09		7.030E-02	3.607E-01	5.880E-01	6.121E-02	0.120
		268.79		1.896E+00	5.645E-01	6.149E-01	7.222E-02	3.083
		319.02		-1.961E-02	1.111E-01	1.748E-01	1.986E-02	-0.112
		367.43		1.924E-01	3.649E-01	6.241E-01	6.292E-02	0.308
		413.65	*	3.156E-02	8.055E-02	1.207E-01	1.128E-02	0.261
		56.28		-2.906E-01	4.174E-01	6.408E-01	4.703E-02	-0.453
W-181		57.53		2.330E-01	2.223E-01	3.550E-01	2.568E-02	0.656
		65.20		-2.250E-01	4.527E-01	6.115E-01	4.618E-02	-0.368
		133.02		5.248E-03	2.972E-02	4.468E-02	3.747E-03	0.117
		136.25		-3.512E-02	1.895E-01	3.144E-01	2.650E-02	-0.112
		345.85		-4.690E-04	9.074E-02	1.356E-01	1.454E-02	-0.003
		482.03	*	1.126E-02	1.831E-02	3.094E-02	2.942E-03	0.364
W-181		56.28		-1.085E-01	1.562E-01	2.398E-01	1.760E-02	-0.453

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182		57.53		8.728E-02	8.325E-02	1.330E-01	9.620E-03	0.656
		65.20	*	-8.362E-02	1.682E-01	2.272E-01	1.716E-02	-0.368
		67.75		-2.258E-02	4.508E-02	6.908E-02	5.344E-03	-0.327
		100.10		-2.802E-02	7.480E-02	1.155E-01	1.010E-02	-0.243
	+	152.43		1.269E-01	1.582E-01	2.252E-01	1.968E-02	0.563
		222.10		2.178E-02	1.475E-01	2.399E-01	2.523E-02	0.091
	+	1001.68		5.439E-01	1.241E+00	1.442E+00	1.316E-01	0.377
		1121.28		5.627E-01	9.510E-02	1.548E-01	1.307E-02	3.635
		1189.05		-6.318E-02	1.369E-01	2.143E-01	1.733E-02	-0.295
		1221.42	*	-2.070E-02	8.535E-02	1.373E-01	1.123E-02	-0.151
RE-183		1230.97		1.381E-01	2.234E-01	3.267E-01	2.680E-02	0.423
		57.98		6.582E-02	8.419E-02	1.338E-01	9.630E-03	0.492
		59.32		6.059E-03	4.919E-02	7.082E-02	5.033E-03	0.086
		67.20		3.356E-02	8.601E-02	1.281E-01	9.859E-03	0.262
		162.32	*	1.809E-02	5.015E-02	7.568E-02	6.793E-03	0.239
	+	208.81		2.370E+00	6.605E-01	7.862E-01	7.988E-02	3.014
		291.72		-6.902E-03	4.271E-01	6.044E-01	7.160E-02	-0.011
	RE-184	57.98		2.367E-01	3.027E-01	4.809E-01	3.463E-02	0.492
		59.32		2.177E-02	1.767E-01	2.544E-01	1.808E-02	0.086
		67.20		1.206E-01	3.092E-01	4.604E-01	3.544E-02	0.262
		161.27		-1.331E-01	1.446E-01	2.332E-01	2.087E-02	-0.571
OS-185		216.55		1.638E-02	1.124E-01	1.831E-01	1.898E-02	0.089
		252.85	*	5.956E-02	9.682E-02	1.580E-01	1.791E-02	0.377
		318.01		-2.429E-01	1.949E-01	2.926E-01	3.331E-02	-0.830
		792.07		1.371E+00	5.745E-01	7.228E-01	6.729E-02	1.897
		903.28		2.891E-01	4.541E-01	7.132E-01	6.738E-02	0.405
		920.93		1.411E-02	1.810E-01	3.028E-01	2.848E-02	0.047
	OS-185	59.72		-2.031E-03	1.289E-01	1.848E-01	1.315E-02	-0.011
		61.14		7.786E-02	7.025E-02	1.035E-01	7.497E-03	0.752
		69.30		-5.025E-02	1.156E-01	1.883E-01	1.479E-02	-0.267
		592.07		4.352E-01	1.021E+00	1.695E+00	1.576E-01	0.257
W-188		646.12	*	-5.266E-03	1.844E-02	2.949E-02	2.651E-03	-0.179
		717.42		1.890E-01	3.832E-01	6.288E-01	5.717E-02	0.301
		874.81		4.637E-04	2.384E-01	3.988E-01	3.766E-02	0.001
		880.27		1.784E-01	3.130E-01	5.364E-01	5.067E-02	0.333
	W-188	63.58	+	7.768E+01	3.355E+01	3.762E+01	2.796E+00	2.065
		227.08		-6.687E-01	5.528E+00	8.921E+00	9.501E-01	-0.075
	IR-192	290.67	*	-2.314E+00	3.435E+00	4.709E+00	5.586E-01	-0.491
		295.96	+	1.057E+00	1.532E-01	1.305E-01	1.543E-02	8.098
		308.46		-3.181E-03	4.179E-02	6.615E-02	7.675E-03	-0.048
		316.51	*	-7.247E-03	1.519E-02	2.364E-02	2.702E-03	-0.307
AU-195		468.07		2.047E-02	3.093E-02	4.647E-02	4.677E-03	0.440
		604.41		-2.801E-02	2.168E-01	3.067E-01	4.121E-02	-0.091
		612.46		1.537E-01	3.176E-01	4.642E-01	4.831E-02	0.331
	AU-195	65.12		-3.608E-02	7.736E-02	1.046E-01	7.893E-03	-0.345
		66.83		1.370E-02	4.216E-02	5.825E-02	4.468E-03	0.235
	+	75.70		1.083E+00	1.341E-01	1.791E-01	1.499E-02	6.044
		98.88	*	2.249E-01	1.025E-01	1.518E-01	1.337E-02	1.482
	+	129.76		3.046E+00	1.679E+00	2.012E+00	1.680E-01	1.514

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200		367.94	*	1.369E-03	1.679E+00	Half-Life	too short	
		579.30		3.130E-03	1.679E+00	Half-Life	too short	
		828.27		-6.891E-03	1.679E+00	Half-Life	too short	
		1205.75		3.673E-03	1.679E+00	Half-Life	too short	
TL-201		68.90		-3.936E+00	4.492E+00	7.583E+00	5.931E-01	-0.519
		70.82		4.390E+00	2.830E+00	4.492E+00	3.579E-01	0.977
		80.30		5.451E+00	6.046E+00	7.671E+00	6.749E-01	0.711
		135.34		-2.401E+00	2.521E+01	4.192E+01	3.528E+00	-0.057
		167.43	*	5.680E+00	7.309E+00	1.222E+01	1.112E+00	0.465
TL-202		68.90		-1.718E-01	1.962E-01	3.311E-01	2.590E-02	-0.519
		70.82		1.912E-01	1.232E-01	1.956E-01	1.559E-02	0.977
		80.30		2.374E-01	2.633E-01	3.342E-01	2.940E-02	0.711
		439.56	*	2.092E-02	3.567E-02	6.051E-02	5.710E-03	0.346
HG-203		70.83		6.963E-01	4.535E-01	7.106E-01	9.381E-02	0.980
		72.87		5.512E-01	2.778E-01	4.323E-01	5.571E-02	1.275
	+	82.60		1.489E+00	5.640E-01	7.155E-01	1.002E-01	2.082
		279.20	*	2.022E-02	1.992E-02	2.922E-02	3.561E-03	0.692
BI-207		72.80		1.443E-01	7.488E-02	1.188E-01	9.651E-03	1.214
	+	74.97		5.911E-01	7.325E-02	9.066E-02	7.529E-03	6.520
	+	84.90		2.434E-01	8.841E-02	1.213E-01	1.126E-02	2.006
		569.67		2.548E-03	1.214E-02	2.002E-02	1.880E-03	0.127
		1063.62	*	2.247E-02	2.130E-02	3.673E-02	3.238E-03	0.612
		1770.23		7.525E-02	1.805E-01	2.727E-01	2.254E-02	0.276
TL-207		81.07		-1.867E-02	8.923E-02	1.251E-01	1.110E-02	-0.149
	+	83.78		1.604E-01	5.828E-02	8.217E-02	7.526E-03	1.952
		94.90		2.371E-02	9.790E-02	1.407E-01	1.272E-02	0.169
		122.32		-1.454E-01	6.669E-01	1.112E+00	9.955E-02	-0.131
	+	144.24		1.590E-01	3.824E-01	4.619E-01	4.432E-02	0.344
	+	154.21		1.450E-01	1.809E-01	2.689E-01	2.587E-02	0.539
	+	269.46		4.357E-01	1.300E-01	1.454E-01	1.730E-02	2.996
		323.87	*	-9.251E-02	3.159E-01	4.371E-01	8.361E-02	-0.212
	+	338.28		6.593E+00	1.241E+00	1.110E+00	1.555E-01	5.941
		445.03		3.024E-01	9.750E-01	1.520E+00	1.930E-01	0.199
PO-209		260.50		-1.606E+00	3.916E+00	6.202E+00	7.152E-01	-0.259
		262.80		-8.301E+00	1.114E+01	1.741E+01	2.019E+00	-0.477
		896.60	*	8.460E-01	3.043E+00	5.142E+00	4.863E-01	0.165
BI-210		46.50	*	-5.510E-01	1.609E+00	2.346E+00	2.188E-01	-0.235
PB-210		46.50	*	-5.510E-01	1.609E+00	2.346E+00	2.188E-01	-0.235
PO-210		46.50	*	-5.510E-01	1.608E+00	2.346E+00	1.982E-01	-0.235
PB-211		404.84	*	2.026E-01	4.575E-01	6.613E-01	4.150E-01	0.306
		427.08		-6.854E-02	8.102E-01	1.347E+00	8.386E-01	-0.051
		831.96		5.698E-01	6.176E-01	7.903E-01	4.961E-01	0.721
PO-215		81.07		-1.867E-02	8.923E-02	1.251E-01	1.110E-02	-0.149
	+	83.78		1.604E-01	5.828E-02	8.217E-02	7.526E-03	1.952
		94.90		2.371E-02	9.790E-02	1.407E-01	1.272E-02	0.169
		122.32		-1.454E-01	6.669E-01	1.112E+00	9.955E-02	-0.131
	+	144.24		1.590E-01	3.824E-01	4.619E-01	4.432E-02	0.344
	+	154.21		1.450E-01	1.809E-01	2.689E-01	2.587E-02	0.539
	+	269.46		4.357E-01	1.300E-01	1.454E-01	1.730E-02	2.996

---- 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	*	-9.251E-02	3.159E-01	4.371E-01	8.361E-02	-0.212
	+	338.28		6.593E+00	1.241E+00	1.110E+00	1.555E-01	5.941
		445.03		3.024E-01	9.750E-01	1.520E+00	1.930E-01	0.199
	+	271.23		5.591E-01	1.695E-01	1.795E-01	2.350E-02	3.115
		401.81	*	-6.633E-02	1.700E-01	2.811E-01	4.335E-02	-0.236
RN-220		549.76	*	1.011E+01	1.059E+01	1.795E+01	1.696E+00	0.563
RA-223		81.07		-1.867E-02	8.923E-02	1.251E-01	1.110E-02	-0.149
	+	83.78		1.604E-01	5.828E-02	8.217E-02	7.526E-03	1.952
		94.90		2.371E-02	9.790E-02	1.407E-01	1.272E-02	0.169
		122.32		-1.454E-01	6.669E-01	1.112E+00	9.955E-02	-0.131
	+	144.24		1.590E-01	3.824E-01	4.619E-01	4.432E-02	0.344
	+	154.21		1.450E-01	1.809E-01	2.689E-01	2.587E-02	0.539
	+	269.46		4.357E-01	1.300E-01	1.454E-01	1.730E-02	2.996
AC-227		323.87	*	-9.251E-02	3.159E-01	4.371E-01	8.361E-02	-0.212
	+	338.28		6.593E+00	1.241E+00	1.110E+00	1.555E-01	5.941
		445.03		3.024E-01	9.750E-01	1.520E+00	1.930E-01	0.199
		79.80		-1.478E-01	6.783E-01	9.510E-01	2.050E-01	-0.155
		236.00		1.536E-01	1.068E-01	1.576E-01	2.196E-02	0.975
		256.20	*	-2.547E-02	1.555E-01	2.485E-01	4.244E-02	-0.102
		286.10		1.279E-02	6.324E-01	1.009E+00	1.571E-01	0.013
	+	299.80		2.653E+00	9.488E-01	1.068E+00	2.051E-01	2.485
		304.40		3.948E-01	8.441E-01	1.210E+00	2.424E-01	0.326
TH-227		334.20		-2.530E-01	9.992E-01	1.481E+00	3.050E-01	-0.171
		79.80		-1.478E-01	6.784E-01	9.510E-01	2.076E-01	-0.155
	+	94.00		8.515E+00	2.377E+00	1.450E+00	3.186E-01	5.873
		236.00		1.536E-01	1.065E-01	1.576E-01	2.036E-02	0.975
		256.20	*	-2.547E-02	1.555E-01	2.485E-01	4.860E-02	-0.102
		286.10		1.279E-02	6.325E-01	1.009E+00	1.016E+00	0.013
	+	299.80		2.653E+00	9.488E-01	1.068E+00	2.051E-01	2.485
		304.40		3.948E-01	8.441E-01	1.210E+00	2.424E-01	0.326
TH-229		334.20		-2.530E-01	9.992E-01	1.481E+00	3.050E-01	-0.171
	+	85.43		2.402E-01	8.724E-02	1.197E-01	1.118E-02	2.007
	+	88.47		4.072E-01	6.601E-02	8.104E-02	7.771E-03	5.024
		100.00		-1.335E-02	7.594E-02	1.179E-01	1.032E-02	-0.113
		193.63	*	-1.025E-01	2.057E-01	3.319E-01	3.238E-02	-0.309
PA-231		210.97		2.160E-01	3.368E-01	4.977E-01	5.086E-02	0.434
		283.67	*	2.300E-01	6.324E-01	1.018E+00	1.762E-01	0.226
	+	301.29		1.061E+00	3.556E-01	4.003E-01	5.834E-02	2.651
TH-231		81.07		-1.867E-02	8.923E-02	1.251E-01	1.110E-02	-0.149
	+	83.78		1.604E-01	5.828E-02	8.217E-02	7.526E-03	1.952
		94.90		2.371E-02	9.790E-02	1.407E-01	1.272E-02	0.169
		122.32		-1.454E-01	6.669E-01	1.112E+00	9.955E-02	-0.131
	+	144.24		1.590E-01	3.824E-01	4.619E-01	4.432E-02	0.344
	+	154.21		1.450E-01	1.809E-01	2.689E-01	2.587E-02	0.539
	+	269.46		4.357E-01	1.300E-01	1.454E-01	1.730E-02	2.996
U-231		323.87	*	-9.251E-02	3.159E-01	4.371E-01	8.361E-02	-0.212
	+	338.28		6.593E+00	1.241E+00	1.110E+00	1.555E-01	5.941
		445.03		3.024E-01	9.750E-01	1.520E+00	1.930E-01	0.199
	+	84.21		1.387E+01	5.040E+00	7.103E+00	6.538E-01	1.953

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	92.29		1.689E+01	3.290E+00	3.325E+00	3.070E-01	5.079
		95.87	*	-1.111E+00	9.395E-01	1.286E+00	1.155E-01	-0.864
		108.00		8.982E-01	1.723E+00	2.643E+00	2.238E-01	0.340
	+	75.28		1.724E+01	3.060E+00	2.662E+00	4.042E-01	6.479
	+	86.59		5.838E+00	1.759E+00	1.224E+00	3.317E-01	4.771
	+	300.12		7.398E-01	2.556E-01	2.968E-01	5.004E-02	2.492
		311.98	*	1.896E-03	2.644E-02	4.202E-02	4.912E-03	0.045
		340.50		4.875E-01	2.846E-01	4.129E-01	1.021E-01	1.181
		398.62		-1.667E-02	8.265E-01	1.386E+00	3.721E-01	-0.012
		415.76		4.019E-01	6.623E-01	1.119E+00	2.447E-01	0.359
PA-234	+	63.00		2.160E+00	9.734E-01	1.085E+00	1.612E-01	1.990
		94.67		1.141E-01	7.303E-02	1.066E-01	1.355E-02	1.070
		98.44		1.004E-01	6.880E-02	6.071E-02	3.389E-02	1.653
		99.86		8.176E-02	1.919E-01	3.013E-01	2.639E-02	0.271
		111.00		-2.913E-02	6.987E-02	1.165E-01	1.390E-02	-0.250
		131.20		-1.738E-03	4.489E-02	6.716E-02	5.617E-03	-0.026
	+	152.70		1.190E-01	1.494E-01	2.155E-01	3.687E-02	0.552
	+	186.00		4.968E+00	1.781E+00	1.124E+00	3.538E-01	4.421
		226.40		-1.556E-01	1.692E-01	2.652E-01	3.871E-02	-0.587
		227.20		-1.273E-02	1.792E-01	2.896E-01	3.085E-02	-0.044
		248.90		-4.825E-01	3.452E-01	5.018E-01	1.181E-01	-0.961
	+	293.70		6.393E+00	1.332E+00	7.504E-01	1.433E-01	8.519
		369.80		-6.031E-02	3.320E-01	5.561E-01	1.244E-01	-0.108
		568.70		2.054E-01	3.913E-01	6.530E-01	6.132E-02	0.315
		569.50		2.718E-02	1.081E-01	1.785E-01	1.676E-02	0.152
		574.00		3.990E-01	5.965E-01	9.994E-01	9.367E-02	0.399
		699.00		-1.466E-01	2.969E-01	4.655E-01	8.969E-02	-0.315
		706.10		5.991E-02	4.301E-01	6.948E-01	3.104E-01	0.086
		733.00		4.296E-02	1.759E-01	2.497E-01	5.594E-02	0.172
		742.81		5.810E-01	6.753E-01	9.266E-01	6.235E-01	0.627
		796.30		9.315E-01	4.790E-01	6.720E-01	1.833E-01	1.386
		805.60		3.771E-01	4.156E-01	6.977E-01	2.153E-01	0.540
		819.60		-3.931E-02	4.549E-01	7.612E-01	2.908E-01	-0.052
		826.30		-2.260E-01	3.176E-01	4.873E-01	2.188E-01	-0.464
		831.60		3.122E-01	2.777E-01	4.117E-01	1.238E-01	0.758
		876.40		7.834E-02	3.400E-01	5.584E-01	5.745E-01	0.140
		880.51		5.488E-02	1.095E-01	1.872E-01	1.768E-02	0.293
		883.24		-6.529E-02	1.189E-01	1.794E-01	1.208E-01	-0.364
		899.00		-1.601E-01	3.595E-01	5.767E-01	2.531E-01	-0.278
		925.00		-2.153E-01	4.752E-01	7.516E-01	7.063E-02	-0.286
		926.50		5.857E-03	7.655E-02	1.114E-01	2.845E-02	0.053
		946.00	*	-7.114E-02	1.193E-01	1.913E-01	3.655E-02	-0.372
		949.00		2.108E-01	1.749E-01	3.054E-01	2.849E-02	0.690
		980.50		8.664E-02	2.913E-01	4.898E-01	4.515E-02	0.177
NP-236		1394.10		8.514E-02	4.564E-01	7.394E-01	4.811E-01	0.115
		94.67		8.810E-02	5.490E-02	8.097E-02	7.333E-03	1.088
		98.44		7.585E-02	3.093E-02	4.589E-02	4.051E-03	1.653
		111.00		-2.204E-02	5.282E-02	8.809E-02	7.404E-03	-0.250
		160.31	*	-3.233E-02	3.195E-02	5.140E-02	4.588E-03	-0.629

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		7.123E-02	6.463E-02	1.025E-01	8.994E-03	0.695
		117.00	*	-5.282E-02	7.093E-02	1.170E-01	9.738E-03	-0.452
	+	209.75		1.793E+00	4.997E-01	5.897E-01	6.006E-02	3.040
		228.18		6.177E-02	9.382E-02	1.540E-01	1.644E-02	0.401
	+	277.60		1.863E-01	1.102E-01	1.318E-01	1.578E-02	1.414
AM-241		334.30		-1.617E-01	5.652E-01	8.376E-01	9.226E-02	-0.193
		59.54	*	7.806E-03	6.611E-02	9.514E-02	7.465E-03	0.082
CM-243		99.55		7.332E-02	6.652E-02	1.055E-01	9.258E-03	0.695
	+	103.76	*	8.971E-02	5.062E-02	6.201E-02	5.331E-03	1.447
		117.00		-5.435E-02	7.299E-02	1.204E-01	1.002E-02	-0.452
	+	209.75		1.768E+00	4.927E-01	5.815E-01	5.922E-02	3.040
		228.18		6.243E-02	9.483E-02	1.556E-01	1.662E-02	0.401
AM-246	+	277.60		1.879E-01	1.111E-01	1.329E-01	1.591E-02	1.414
		798.80		-5.383E-02	6.213E-02	8.595E-02	8.014E-03	-0.626
		1036.00		1.457E-02	1.191E-01	1.978E-01	1.774E-02	0.074
		1062.04		7.920E-02	9.287E-02	1.589E-01	1.402E-02	0.498
		1078.86	*	8.386E-02	5.856E-02	1.022E-01	8.921E-03	0.820
CM-247	+	278.00		7.727E-01	4.569E-01	5.461E-01	6.542E-02	1.415
		287.40		3.537E-01	4.972E-01	8.076E-01	9.615E-02	0.438
		402.60	*	-3.665E-03	1.534E-02	2.552E-02	2.373E-03	-0.144
CF-249		252.85		2.196E-01	3.571E-01	5.827E-01	6.604E-02	0.377
		333.44		3.302E-02	7.326E-02	1.116E-01	1.232E-02	0.296
		387.95	*	2.656E-03	1.629E-02	2.749E-02	2.579E-03	0.097
CF-251		176.60	*	3.961E-02	5.097E-02	8.497E-02	7.922E-03	0.466
		227.00		-5.032E-02	1.595E-01	2.561E-01	2.726E-02	-0.197
		285.00		7.370E-02	7.251E-01	1.160E+00	1.385E-01	0.064

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                                     DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005193
* Acquisition date   : 9-JAN-2010 17:04:16 Detector SN#      :
* Detector ID        : GAM16 Sensitivity                    : 5.000
* Geometry           : CAN Energy tolerance                : 1.500
* Elapsed live time  : 0 08:20:00.00 Abundance limit       : 75.000
* Elapsed real time  : 0 08:20:08.07 Half life ratio      : 8.000
*****
*
*                                     SAMPLE DATA
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202005193 Analyst initials      : MXR1
* Batch Number       : 937074 Sample Quantity          : 1.4164E+02 GRAM
* Recovery           : 1.00000 Carrier Weight           : 0.00000
*****
*
*                                     QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope                    :
* LCS DPM            : 0.000 LCS Isotope                     :
* LCSD DPM           : 0.000 LCSD Isotope                   :
*****
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.105E+01	1.939E+00	2.146E-01	0.000E+00
MN-54	1.306E-02	1.845E-02	2.687E-02	0.000E+00
CD-109	3.053E+00	4.851E-01	5.436E-01	0.000E+00
SN-126	2.982E-01	4.738E-02	5.334E-02	0.000E+00
BA-137M	2.551E-01	3.451E-02	2.758E-02	0.000E+00
CS-137	2.696E-01	3.651E-02	2.915E-02	0.000E+00
EU-155	1.003E-01	5.547E-02	7.225E-02	0.000E+00
RE-188	6.546E-02	7.999E-02	1.225E-01	0.000E+00
TL-208	4.790E-01	5.769E-02	2.434E-02	0.000E+00
BI-211	3.766E+00	4.517E-01	1.424E-01	0.000E+00
BI-212	1.004E+00	2.302E-01	1.735E-01	0.000E+00
PB-212	1.477E+00	1.780E-01	3.744E-02	0.000E+00
PO-212	1.477E+00	1.780E-01	3.744E-02	0.000E+00
BI-214	1.222E+00	1.449E-01	4.627E-02	0.000E+00
PB-214	1.310E+00	1.708E-01	4.965E-02	0.000E+00
PO-214	1.310E+00	1.708E-01	4.965E-02	0.000E+00
PO-216	1.477E+00	1.780E-01	3.744E-02	0.000E+00
PO-218	1.310E+00	1.708E-01	4.965E-02	0.000E+00
RA-224	4.533E+00	7.146E-01	4.261E-01	0.000E+00
RA-226	1.222E+00	1.449E-01	4.627E-02	0.000E+00
AC-228	1.518E+00	2.138E-01	8.558E-02	0.000E+00
RA-228	1.518E+00	2.138E-01	8.558E-02	0.000E+00
TH-228	1.506E+00	1.814E-01	3.817E-02	0.000E+00
TH-230	1.222E+00	1.449E-01	4.627E-02	0.000E+00
TH-232	1.518E+00	2.138E-01	8.558E-02	0.000E+00
PA-234M	1.204E+00	2.691E+00	2.653E+00	0.000E+00
TH-234	1.853E+00	8.350E-01	8.275E-01	0.000E+00
U-234	1.222E+00	1.449E-01	4.627E-02	0.000E+00
U-235	4.907E-02	1.158E-01	1.407E-01	0.000E+00
NP-237	8.757E-01	2.252E-01	1.584E-01	0.000E+00
U-238	1.853E+00	8.350E-01	8.275E-01	0.000E+00
AM-243	3.292E-01	3.998E-02	3.570E-02	0.000E+00
ANH-511	1.448E-01	3.373E-02	1.854E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.396E-01	1.397E-01	2.335E-01	0.000E+00	NOT IDENT.
NA-22	-3.876E-03	1.834E-02	3.022E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	3.238E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-6.605E-03	1.240E-02	1.972E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	3.364E-02	2.979E-02	0.000E+00	FAIL ABUN
SC-46	-8.216E-03	1.504E-02	2.530E-02	0.000E+00	FAIL ABUN
V-48	-2.335E-02	3.318E-02	5.474E-02	0.000E+00	NOT IDENT.
CR-51	7.807E-02	1.707E-01	2.898E-01	0.000E+00	NOT IDENT.
MN-52	4.863E-02	1.497E-01	2.525E-01	0.000E+00	NOT IDENT.
CO-56	9.477E-03	1.506E-02	2.688E-02	0.000E+00	FAIL ABUN
CO-57	-1.110E-03	9.510E-03	1.715E-02	0.000E+00	NOT IDENT.
CO-58	-1.908E-02	1.751E-02	2.534E-02	0.000E+00	NOT IDENT.
FE-59	-4.361E-02	3.762E-02	5.948E-02	0.000E+00	FAIL ABUN
CO-60	-5.320E-04	1.517E-02	2.510E-02	0.000E+00	NOT IDENT.
ZN-65	3.675E-02	4.083E-02	6.319E-02	0.000E+00	NOT IDENT.
GE-68	4.176E-01	5.064E-01	8.912E-01	0.000E+00	NOT IDENT.
AS-73	1.992E-01	3.378E-01	5.888E-01	0.000E+00	NOT IDENT.
AS-74	-3.254E-03	4.177E-02	7.092E-02	0.000E+00	NOT IDENT.
SE-75	5.040E-03	1.923E-02	3.142E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	1.402E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	7.980E-04	1.642E-01	2.725E-01	0.000E+00	NOT IDENT.
RB-83	4.174E-03	2.812E-02	4.879E-02	0.000E+00	NOT IDENT.
RB-84	9.111E-03	2.857E-02	5.022E-02	0.000E+00	NOT IDENT.
KR-85	2.263E+00	2.998E+00	4.705E+00	0.000E+00	NOT IDENT.
SR-85	1.213E-02	1.607E-02	2.522E-02	0.000E+00	NOT IDENT.
RB-86	1.640E-02	3.788E-01	6.442E-01	0.000E+00	NOT IDENT.
Y-88	1.259E-02	1.312E-02	2.400E-02	0.000E+00	NOT IDENT.
ZR-88	-4.644E-04	1.213E-02	2.144E-02	0.000E+00	NOT IDENT.
Y-91	3.773E+00	8.186E+00	1.400E+01	0.000E+00	NOT IDENT.
NB-94	-4.257E-03	1.360E-02	2.248E-02	0.000E+00	NOT IDENT.
NB-95	3.423E-02	2.196E-02	3.424E-02	0.000E+00	NOT IDENT.
NB-95M	4.750E-02	5.689E-02	8.917E-02	0.000E+00	NOT IDENT.
ZR-95	1.832E-02	3.542E-02	5.276E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.762E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.446E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-3.097E+00	1.371E+01	2.259E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.987E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.154E-03	1.467E-02	2.283E-02	0.000E+00	NOT IDENT.
RH-102	3.586E-03	1.159E-02	2.037E-02	0.000E+00	FAIL ABUN
RU-103	2.423E-03	1.696E-02	2.954E-02	0.000E+00	FAIL ABUN
RH-106	2.297E-02	1.261E-01	2.155E-01	0.000E+00	FAIL ABUN
RU-106	2.297E-02	1.261E-01	2.155E-01	0.000E+00	FAIL ABUN
AG-108M	7.768E-03	1.301E-02	2.322E-02	0.000E+00	NOT IDENT.
AG-110M	2.005E-03	1.583E-02	2.351E-02	0.000E+00	NOT IDENT.
IN-111	1.840E+00	1.229E+00	1.960E+00	0.000E+00	NOT IDENT.
IN-113M	-1.724E-03	1.787E-02	3.155E-02	0.000E+00	NOT IDENT.
SN-113	-1.724E-03	1.787E-02	3.155E-02	0.000E+00	NOT IDENT.
IN-114M	2.225E-02	7.762E-02	1.304E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	1.569E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.694E-03	2.792E-02	4.720E-02	0.000E+00	NOT IDENT.
SB-122	-7.434E-01	2.500E+00	4.233E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	4.737E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.565E-03	1.142E-02	2.032E-02	0.000E+00	NOT IDENT.
I-124	4.706E-01	6.065E-01	9.384E-01	0.000E+00	FAIL ABUN
SB-124	2.613E-04	2.784E-02	4.714E-02	0.000E+00	FAIL ABUN
SB-125	1.397E-02	3.581E-02	6.365E-02	0.000E+00	FAIL ABUN
TE-125M	1.305E+00	3.799E+00	6.658E+00	0.000E+00	NOT IDENT.
I-126	1.347E-01	1.050E-01	1.648E-01	0.000E+00	NOT IDENT.
SB-126	-1.370E-02	7.792E-02	1.190E-01	0.000E+00	FAIL ABUN
SB-127	-8.540E-01	1.199E+00	1.943E+00	0.000E+00	NOT IDENT.
XE-127	-6.366E-03	2.004E-02	3.462E-02	0.000E+00	NOT IDENT.
I-131	3.801E-02	6.421E-02	1.161E-01	0.000E+00	NOT IDENT.
TE-132	4.679E-01	6.938E-01	1.208E+00	0.000E+00	NOT IDENT.
BA-133	1.410E-02	1.877E-02	3.028E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	6.823E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	2.194E-02	3.681E-02	0.000E+00	NOT IDENT.
CS-135	9.354E-02	7.478E-02	1.168E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.812E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.598E-02	4.950E-02	8.177E-02	0.000E+00	FAIL ABUN
CE-139	-8.436E-03	1.207E-02	2.099E-02	0.000E+00	NOT IDENT.
BA-140	1.028E-01	1.328E-01	2.277E-01	0.000E+00	NOT IDENT.
LA-140	1.368E-02	4.743E-02	7.170E-02	0.000E+00	FAIL ABUN

CE-141	-8.253E-03	3.288E-02	4.713E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.513E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-4.257E-02	8.678E-02	1.376E-01	0.000E+00	NOT IDENT.
PM-144	1.600E-03	1.374E-02	2.316E-02	0.000E+00	NOT IDENT.
PR-144	1.087E-01	9.333E-01	1.573E+00	0.000E+00	NOT IDENT.
PM-146	1.511E-02	1.791E-02	3.200E-02	0.000E+00	NOT IDENT.
ND-147	-9.156E-02	2.892E-01	4.915E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.394E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-4.820E-02	3.874E-02	6.390E-02	0.000E+00	FAIL ABUN
GD-153	-1.438E-02	3.469E-02	5.313E-02	0.000E+00	FAIL ABUN
EU-154	-4.509E-03	5.085E-02	8.435E-02	0.000E+00	NOT IDENT.
TB-160	2.075E-02	5.654E-02	9.952E-02	0.000E+00	FAIL ABUN
HO-166M	-6.069E-03	2.447E-02	4.049E-02	0.000E+00	FAIL ABUN
TM-171	4.663E+00	1.237E+01	1.869E+01	0.000E+00	NOT IDENT.
LU-176	2.270E-03	1.015E-02	1.718E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.068E+00	1.355E+00	0.000E+00	FAIL ABUN
LU-177M.	3.156E-02	7.894E-02	1.245E-01	0.000E+00	FAIL ABUN
HF-181	1.126E-02	1.795E-02	3.182E-02	0.000E+00	NOT IDENT.
W-181	-8.362E-02	1.649E-01	2.433E-01	0.000E+00	NOT IDENT.
TA-182	-2.070E-02	8.364E-02	1.385E-01	0.000E+00	FAIL ABUN
RE-183	1.809E-02	4.914E-02	7.960E-02	0.000E+00	FAIL ABUN
RE-184	5.956E-02	9.489E-02	1.647E-01	0.000E+00	NOT IDENT.
OS-185	-5.266E-03	1.807E-02	3.015E-02	0.000E+00	NOT IDENT.
W-188	-2.314E+00	3.366E+00	4.895E+00	0.000E+00	FAIL ABUN
IR-192	-7.247E-03	1.488E-02	2.453E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	1.004E-01	1.613E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.591E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.680E+00	7.162E+00	1.284E+01	0.000E+00	NOT IDENT.
TL-202	2.092E-02	3.496E-02	6.236E-02	0.000E+00	NOT IDENT.
HG-203	2.022E-02	1.952E-02	3.039E-02	0.000E+00	FAIL ABUN
BI-207	2.247E-02	2.087E-02	3.715E-02	0.000E+00	FAIL ABUN
TL-207	-9.251E-02	3.095E-01	4.533E-01	0.000E+00	FAIL ABUN
PO-209	8.460E-01	2.982E+00	5.219E+00	0.000E+00	NOT IDENT.
BI-210	-5.510E-01	1.576E+00	2.529E+00	0.000E+00	NOT IDENT.
PB-210	-5.510E-01	1.576E+00	2.529E+00	0.000E+00	NOT IDENT.
PO-210	-5.510E-01	1.576E+00	2.529E+00	0.000E+00	NOT IDENT.
PB-211	2.026E-01	4.484E-01	6.826E-01	0.000E+00	NOT IDENT.
PO-215	-9.251E-02	3.095E-01	4.533E-01	0.000E+00	FAIL ABUN
RN-219	-6.633E-02	1.666E-01	2.902E-01	0.000E+00	FAIL ABUN
RN-220	1.011E+01	1.038E+01	1.841E+01	0.000E+00	NOT IDENT.
RA-223	-9.251E-02	3.095E-01	4.533E-01	0.000E+00	FAIL ABUN
AC-227	-2.547E-02	1.524E-01	2.590E-01	0.000E+00	FAIL ABUN
TH-227	-2.547E-02	1.524E-01	2.590E-01	0.000E+00	FAIL ABUN
TH-229	-1.025E-01	2.015E-01	3.478E-01	0.000E+00	FAIL ABUN
PA-231	2.300E-01	6.198E-01	1.059E+00	0.000E+00	FAIL ABUN
TH-231	-9.251E-02	3.095E-01	4.533E-01	0.000E+00	FAIL ABUN
U-231	-1.111E+00	9.207E-01	1.367E+00	0.000E+00	FAIL ABUN
PA-233	1.896E-03	2.591E-02	4.362E-02	0.000E+00	FAIL ABUN
PA-234	-7.114E-02	1.170E-01	1.940E-01	0.000E+00	FAIL ABUN
NP-236	-3.233E-02	3.131E-02	5.408E-02	0.000E+00	NOT IDENT.
NP-239	-5.282E-02	6.951E-02	1.238E-01	0.000E+00	FAIL ABUN
AM-241	7.806E-03	6.478E-02	1.021E-01	0.000E+00	NOT IDENT.
CM-243	0.000E+00	4.961E-02	6.581E-02	0.000E+00	FAIL ABUN
AM-246	8.386E-02	5.739E-02	1.034E-01	0.000E+00	NOT IDENT.
CM-247	-3.665E-03	1.503E-02	2.635E-02	0.000E+00	FAIL ABUN
CF-249	2.656E-03	1.596E-02	2.841E-02	0.000E+00	NOT IDENT.
CF-251	3.961E-02	4.995E-02	8.923E-02	0.000E+00	NOT IDENT.


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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005193.CNF;1
Sample date        : 21-DEC-2009 12:00:00 Acquisition date : 9-JAN-2010 17:04:16.
Sample ID          : G1202005193 Sample quantity : 1.41640E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time  : 0 08:20:00.00 Elapsed real time: 0 08:20:08.07 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937074 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	4267	10.67*	1.209E+00	2.105E+01	2.105E+01	9.40
MN-54	834.83	39	99.97*	1.970E+00	1.251E-02	1.306E-02	144.17
CD-109	88.03	1085	3.72*	6.255E+00	2.966E+00	3.053E+00	16.21
SN-126	64.28	387	9.60	3.495E+00	7.334E-01	7.334E-01	44.96
	86.94	1085	8.90	6.255E+00	1.240E+00	1.240E+00	43.58
	87.57	1085	37.00*	6.255E+00	2.982E-01	2.982E-01	16.21
BA-137M	661.65	867	89.98*	2.407E+00	2.548E-01	2.551E-01	13.81
CS-137	661.65	867	85.12*	2.407E+00	2.693E-01	2.696E-01	13.82
EU-155	48.70	-----	4.60	1.302E+00	-----	Line Not Found	-----
	60.01	-----	1.11	3.019E+00	-----	Line Not Found	-----
	86.54	1085	30.90	6.255E+00	3.571E-01	3.597E-01	16.26
	105.31	228	20.70*	7.039E+00	9.955E-02	1.003E-01	56.44
RE-188	155.03	86	15.00*	6.770E+00	5.394E-02	6.546E-02	124.69
	477.96	-----	1.04	3.122E+00	-----	Line Not Found	-----
	633.10	-----	1.26	2.495E+00	-----	Line Not Found	-----
TL-208	277.35	194	6.80	4.694E+00	3.864E-01	3.864E-01	59.78
	510.84	676	21.60	2.966E+00	6.706E-01	6.706E-01	25.18
	583.14	1692	84.20*	2.669E+00	4.790E-01	4.790E-01	12.29
	860.37	255	12.46	1.920E+00	6.778E-01	6.778E-01	29.88
BI-211	72.87	-----	1.27	4.872E+00	-----	Line Not Found	-----
	351.07	3021	12.94*	3.942E+00	3.766E+00	3.766E+00	12.24
BI-212	727.18	414	11.80*	2.222E+00	1.004E+00	1.004E+00	23.41
	785.46	138	1.97	2.079E+00	2.139E+00	2.139E+00	57.06
	1620.62	44	2.75	1.117E+00	9.101E-01	9.101E-01	83.44
PB-212	74.81	1744	10.70	5.104E+00	2.031E+00	2.031E+00	15.52
	77.11	2723	18.00	5.358E+00	1.796E+00	1.796E+00	10.36
	87.30	1085	8.00	6.255E+00	1.379E+00	1.379E+00	19.05
	238.63	5415	44.60*	5.228E+00	1.477E+00	1.477E+00	12.29
	300.09	340	3.41	4.434E+00	1.432E+00	1.432E+00	32.88
PO-212	74.81	1744	10.70	5.104E+00	2.031E+00	2.031E+00	15.52
	77.11	2723	18.00	5.358E+00	1.796E+00	1.796E+00	10.36
	87.30	1085	8.00	6.255E+00	1.379E+00	1.379E+00	19.05

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	115.19	-----	0.60	7.166E+00	-----	Line Not Found	-----
	238.63	5415	44.60*	5.228E+00	1.477E+00	1.477E+00	12.29
	300.09	340	3.41	4.434E+00	1.432E+00	1.432E+00	32.88
BI-214	609.31	2291	46.30*	2.576E+00	1.222E+00	1.222E+00	12.10
	1120.29	432	15.10	1.517E+00	1.199E+00	1.199E+00	22.25
	1764.49	383	15.80	1.056E+00	1.460E+00	1.461E+00	15.93
PB-214	74.81	1744	6.21	5.104E+00	3.499E+00	3.499E+00	14.44
	77.11	2723	10.50	5.358E+00	3.078E+00	3.078E+00	12.86
	87.30	1085	4.67	6.255E+00	2.363E+00	2.363E+00	17.95
	241.98	1459	7.49	5.183E+00	2.391E+00	2.391E+00	17.03
	295.21	1805	19.20	4.489E+00	1.332E+00	1.332E+00	15.76
	351.92	3021	37.20*	3.942E+00	1.310E+00	1.310E+00	13.30
PO-214	74.81	1744	6.21	5.104E+00	3.499E+00	3.499E+00	14.44
	77.11	2723	10.50	5.358E+00	3.078E+00	3.078E+00	12.86
	87.30	1085	4.67	6.255E+00	2.363E+00	2.363E+00	17.95
	241.98	1459	7.49	5.183E+00	2.391E+00	2.391E+00	17.03
	295.21	1805	19.20	4.489E+00	1.332E+00	1.332E+00	15.76
	351.92	3021	37.20*	3.942E+00	1.310E+00	1.310E+00	13.30
PO-216	74.81	1744	10.70	5.104E+00	2.031E+00	2.031E+00	15.52
	77.11	2723	18.00	5.358E+00	1.796E+00	1.796E+00	10.36
	87.30	1085	8.00	6.255E+00	1.379E+00	1.379E+00	19.05
	238.63	5415	44.60*	5.228E+00	1.477E+00	1.477E+00	12.29
	300.09	340	3.41	4.434E+00	1.432E+00	1.432E+00	32.88
PO-218	74.81	1744	6.21	5.104E+00	3.499E+00	3.499E+00	14.44
	77.11	2723	10.50	5.358E+00	3.078E+00	3.078E+00	12.86
	87.30	1085	4.67	6.255E+00	2.363E+00	2.363E+00	17.95
	241.98	1459	7.49	5.183E+00	2.391E+00	2.391E+00	17.03
	295.21	1805	19.20	4.489E+00	1.332E+00	1.332E+00	15.76
	351.92	3021	37.20*	3.942E+00	1.310E+00	1.310E+00	13.30
RA-224	240.98	1459	3.95*	5.183E+00	4.533E+00	4.533E+00	16.08
RA-226	609.31	2291	46.30*	2.576E+00	1.222E+00	1.222E+00	12.10
	1120.29	432	15.10	1.517E+00	1.199E+00	1.199E+00	22.25
	1764.49	383	15.80	1.056E+00	1.460E+00	1.461E+00	15.93
AC-228	338.32	1149	11.40	4.060E+00	1.579E+00	1.579E+00	43.65
	911.07	1207	27.70*	1.825E+00	1.518E+00	1.518E+00	14.37
	969.11	725	16.60	1.728E+00	1.609E+00	1.609E+00	25.56
RA-228	338.32	1149	11.40	4.060E+00	1.579E+00	1.579E+00	43.65
	911.07	1207	27.70*	1.825E+00	1.518E+00	1.518E+00	14.37
	969.11	725	16.60	1.728E+00	1.609E+00	1.609E+00	25.56
TH-228	74.81	1744	10.70	5.104E+00	2.031E+00	2.070E+00	12.44
	77.11	2723	18.00	5.358E+00	1.796E+00	1.831E+00	10.36
	87.30	1085	8.00	6.255E+00	1.379E+00	1.406E+00	16.21
	238.63	5415	44.60*	5.228E+00	1.477E+00	1.506E+00	12.29
	300.09	340	3.41	4.434E+00	1.432E+00	1.460E+00	66.98
TH-230	609.31	2291	46.30*	2.576E+00	1.222E+00	1.222E+00	12.10
	1120.29	432	15.10	1.517E+00	1.199E+00	1.199E+00	22.25
	1764.49	383	15.80	1.056E+00	1.460E+00	1.460E+00	15.93
TH-232	338.32	1149	11.40	4.060E+00	1.579E+00	1.579E+00	16.64
	911.07	1207	27.70*	1.825E+00	1.518E+00	1.518E+00	14.37

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	969.11	725	16.60	1.728E+00	1.609E+00	1.609E+00	25.56
PA-234M	766.42	130	0.32	2.121E+00	1.219E+01	1.219E+01	85.24
	1001.03	27	0.84*	1.678E+00	1.204E+00	1.204E+00	228.15
TH-234	63.29	387	3.80*	3.495E+00	1.853E+00	1.853E+00	45.99
	92.38	1237	5.41	6.602E+00	2.203E+00	2.203E+00	25.14
U-234	609.31	2291	46.30*	2.576E+00	1.222E+00	1.222E+00	12.10
	1120.29	432	15.10	1.517E+00	1.199E+00	1.199E+00	22.25
	1764.49	383	15.80	1.056E+00	1.460E+00	1.460E+00	15.93
U-235	89.95	465	2.70	6.424E+00	1.705E+00	1.705E+00	41.38
	93.35	1237	4.50	6.602E+00	2.649E+00	2.649E+00	33.02
	105.00	228	2.10	7.039E+00	9.812E-01	9.812E-01	63.25
	143.76	56	10.50*	6.947E+00	4.907E-02	4.907E-02	240.89
	163.35	-----	4.70	6.588E+00	-----	Line Not Found	-----
	185.71	960	54.00	6.148E+00	1.840E-01	1.840E-01	19.63
	205.31	-----	4.70	5.780E+00	-----	Line Not Found	-----
NP-237	86.50	1085	12.60*	6.255E+00	8.757E-01	8.757E-01	26.24
	95.87	-----	2.60	6.742E+00	-----	Line Not Found	-----
U-238	63.29	387	3.80*	3.495E+00	1.853E+00	1.853E+00	45.99
	92.38	1237	5.41	6.602E+00	2.203E+00	2.203E+00	19.48
AM-243	74.67	1744	66.00*	5.104E+00	3.292E-01	3.292E-01	12.39
	86.72	1085	0.34	6.255E+00	3.284E+01	3.284E+01	16.21
	117.66	-----	0.55	7.175E+00	-----	Line Not Found	-----
	142.18	56	0.13	6.947E+00	4.122E+00	4.122E+00	240.41
ANH-511	511.00	676	100.00*	2.966E+00	1.448E-01	1.448E-01	23.77

Flag: "*" = Keyline

Total number of lines in spectrum 52
Number of unidentified lines 8
Number of lines tentatively identified by NID 44 84.62%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.105E+01	2.105E+01	0.198E+01	9.40	
MN-54	312.70D	1.04	1.251E-02	1.306E-02	1.883E-02	144.17	
CD-109	464.00D	1.03	2.966E+00	3.053E+00	0.495E+00	16.21	
SN-126	1.00E+05Y	1.00	2.982E-01	2.982E-01	0.483E-01	16.21	
BA-137M	30.17Y	1.00	2.548E-01	2.551E-01	0.352E-01	13.81	
CS-137	30.17Y	1.00	2.693E-01	2.696E-01	0.373E-01	13.82	
EU-155	4.96Y	1.01	9.955E-02	1.003E-01	0.566E-01	56.44	
RE-188	69.40D	1.21	5.394E-02	6.546E-02	8.163E-02	124.69	
TL-208	1.41E+10Y	1.00	4.790E-01	4.790E-01	0.589E-01	12.29	
BI-211	7.04E+08Y	1.00	3.766E+00	3.766E+00	0.461E+00	12.24	
BI-212	1.41E+10Y	1.00	1.004E+00	1.004E+00	0.235E+00	23.41	
PB-212	1.41E+10Y	1.00	1.477E+00	1.477E+00	0.182E+00	12.29	
PO-212	1.41E+10Y	1.00	1.477E+00	1.477E+00	0.182E+00	12.29	
BI-214	1600.00Y	1.00	1.222E+00	1.222E+00	0.148E+00	12.10	
PB-214	1600.00Y	1.00	1.310E+00	1.310E+00	0.174E+00	13.30	
PO-214	1600.00Y	1.00	1.310E+00	1.310E+00	0.174E+00	13.30	
PO-216	1.41E+10Y	1.00	1.477E+00	1.477E+00	0.182E+00	12.29	
PO-218	1600.00Y	1.00	1.310E+00	1.310E+00	0.174E+00	13.30	
RA-224	1.41E+10Y	1.00	4.533E+00	4.533E+00	0.729E+00	16.08	
RA-226	1600.00Y	1.00	1.222E+00	1.222E+00	0.148E+00	12.10	
AC-228	1.41E+10Y	1.00	1.518E+00	1.518E+00	0.218E+00	14.37	
RA-228	1.41E+10Y	1.00	1.518E+00	1.518E+00	0.218E+00	14.37	
TH-228	1.91Y	1.02	1.477E+00	1.506E+00	0.185E+00	12.29	
TH-230	4.47E+09Y	1.00	1.222E+00	1.222E+00	0.148E+00	12.10	
TH-232	1.41E+10Y	1.00	1.518E+00	1.518E+00	0.218E+00	14.37	
PA-234M	4.47E+09Y	1.00	1.204E+00	1.204E+00	2.746E+00	228.15	
TH-234	4.47E+09Y	1.00	1.853E+00	1.853E+00	0.852E+00	45.99	
U-234	4.47E+09Y	1.00	1.222E+00	1.222E+00	0.148E+00	12.10	
U-235	7.04E+08Y	1.00	4.907E-02	4.907E-02	11.82E-02	240.89	
NP-237	2.14E+06Y	1.00	8.757E-01	8.757E-01	2.298E-01	26.24	
U-238	4.47E+09Y	1.00	1.853E+00	1.853E+00	0.852E+00	45.99	
AM-243	7380.00Y	1.00	3.292E-01	3.292E-01	0.408E-01	12.39	
ANH-511	1.00E+09Y	1.00	1.448E-01	1.448E-01	0.344E-01	23.77	

Total Activity : 6.037E+01 6.050E+01

Grand Total Activity : 6.037E+01 6.050E+01

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

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

Unidentified Energy Lines
Sample ID : G1202005193

Page : 5
Acquisition date : 9-JAN-2010 17:04:16

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	84.08	375	1516	0.99	168.35	165	19	1.25E-02	35.1	6.02E+00	T
0	128.81	257	1551	0.79	257.82	255	8	8.57E-03	54.5	7.13E+00	T
0	209.02	522	1247	1.01	418.23	414	9	1.74E-02	26.0	5.71E+00	T
0	270.13	446	927	1.24	540.46	536	10	1.49E-02	27.4	4.78E+00	T
0	327.62	343	756	0.94	655.43	650	10	1.14E-02	31.9	4.15E+00	T
0	409.18	179	592	1.14	818.54	814	10	5.96E-03	53.1	3.52E+00	
0	462.55	372	612	1.19	925.27	918	14	1.24E-02	30.0	3.20E+00	T
0	793.92	219	247	1.48	1587.90	1582	12	7.31E-03	31.7	2.06E+00	
0	933.75	140	208	1.32	1867.48	1860	13	4.67E-03	45.7	1.78E+00	
3	964.12	251	216	1.81	1928.22	1922	26	8.36E-03	25.5	1.73E+00	T
0	1237.40	230	306	1.63	2474.59	2469	15	7.66E-03	35.5	1.39E+00	T
0	1376.89	183	137	2.42	2753.46	2745	19	6.09E-03	34.2	1.27E+00	T
0	1407.70	44	92	1.29	2815.06	2809	11	1.47E-03	89.9	1.24E+00	T
0	1508.56	84	91	1.98	3016.68	3010	16	2.82E-03	51.8	1.18E+00	T
0	1587.17	103	58	1.56	3173.83	3169	10	3.44E-03	33.9	1.13E+00	
0	1591.63	45	74	2.24	3182.73	3179	9	1.50E-03	74.4	1.13E+00	
0	1631.80	86	87	8.60	3263.03	3251	27	2.87E-03	65.8	1.11E+00	
0	1728.92	96	47	1.70	3457.17	3450	16	3.20E-03	38.1	1.07E+00	
0	1845.97	68	44	1.75	3691.12	3684	12	2.27E-03	42.7	1.03E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005193.CNF;1
* Acquisition date   : 9-JAN-2010 17:04:16. Detector SN#      :
* Detector ID        : GAM16          Sensitivity             : 5.00000
* Geometry           : CAN            Energy tolerance:       : 1.50000
* Elapsed live time  : 0 08:20:00.00 Abundance limit :       : 75.00000
* Elapsed real time  : 0 08:20:08.07 Half life ratio :       : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202005193       Analyst initials: MXR1
* Batch Number       : 937074           Sample Quantity : 1.41640E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16.1MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A             LCS Isotope       :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.105E+01	1.978E+00	2.137E-01	1.878E-02	98.495
MN-54	1.306E-02	1.883E-02	2.643E-02	2.482E-03	0.494
CD-109	3.053E+00	4.950E-01	5.106E-01	4.920E-02	5.980
SN-126	2.982E-01	4.834E-02	5.010E-02	4.803E-03	5.953
BA-137M	2.551E-01	3.522E-02	2.699E-02	2.396E-03	9.449
CS-137	2.696E-01	3.726E-02	2.854E-02	2.537E-03	9.449
EU-155	1.003E-01	5.660E-02	6.810E-02	5.892E-03	1.473
RE-188	6.546E-02	8.163E-02	1.163E-01	1.023E-02	0.563
TL-208	4.790E-01	5.887E-02	2.376E-02	2.355E-03	20.160
BI-211	3.766E+00	4.609E-01	1.376E-01	1.504E-02	27.380
BI-212	1.004E+00	2.349E-01	1.702E-01	1.778E-02	5.898
PB-212	1.477E+00	1.816E-01	3.588E-02	4.248E-03	41.172
PO-212	1.477E+00	1.816E-01	3.588E-02	4.248E-03	41.172
BI-214	1.222E+00	1.479E-01	4.521E-02	4.780E-03	27.024
PB-214	1.310E+00	1.743E-01	4.795E-02	5.799E-03	27.322
PO-214	1.310E+00	1.743E-01	4.795E-02	5.799E-03	27.322
PO-216	1.477E+00	1.816E-01	3.588E-02	4.248E-03	41.172
PO-218	1.310E+00	1.743E-01	4.795E-02	5.799E-03	27.322

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	4.533E+00	7.292E-01	4.084E-01	4.500E-02	11.101
RA-226	1.222E+00	1.479E-01	4.521E-02	4.780E-03	27.024
AC-228	1.518E+00	2.182E-01	8.434E-02	1.002E-02	18.001
RA-228	1.518E+00	2.182E-01	8.434E-02	1.002E-02	18.001
TH-228	1.506E+00	1.851E-01	3.658E-02	4.331E-03	41.172
TH-230	1.222E+00	1.479E-01	4.521E-02	4.780E-03	27.024
TH-232	1.518E+00	2.182E-01	8.434E-02	1.002E-02	18.001
PA-234M	1.204E+00	2.746E+00	2.620E+00	2.728E-01	0.459
TH-234	1.853E+00	8.520E-01	7.723E-01	1.347E-01	2.399
U-234	1.222E+00	1.479E-01	4.521E-02	4.780E-03	27.024
U-235	4.907E-02	1.182E-01	1.334E-01	2.331E-02	0.368
NP-237	8.757E-01	2.298E-01	1.487E-01	3.376E-02	5.888
U-238	1.853E+00	8.520E-01	7.723E-01	1.347E-01	2.399
AM-243	3.292E-01	4.080E-02	3.342E-02	2.767E-03	9.850
ANH-511	1.448E-01	3.442E-02	1.805E-02	1.716E-03	8.026

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.396E-01		1.426E-01	2.270E-01	2.296E-02	-0.615
NA-22	-3.876E-03		1.872E-02	3.000E-02	2.497E-03	-0.129
NA-24	2.888E+01		1.652E+01	Half-Life too short		
AL-26	-6.605E-03		1.265E-02	1.973E-02	1.613E-03	-0.335
TI-44	3.314E-01	+	3.432E-02	2.791E-02	2.404E-03	11.874
SC-46	-8.216E-03		1.534E-02	2.492E-02	2.356E-03	-0.330
V-48	-2.335E-02		3.385E-02	5.404E-02	4.974E-03	-0.432
CR-51	7.807E-02		1.742E-01	2.793E-01	3.266E-02	0.279
MN-52	4.863E-02		1.528E-01	2.514E-01	2.145E-02	0.193
CO-56	9.477E-03		1.536E-02	2.645E-02	2.489E-03	0.358
CO-57	-1.110E-03		9.704E-03	1.622E-02	1.348E-03	-0.068
CO-58	-1.908E-02		1.787E-02	2.491E-02	2.334E-03	-0.766
FE-59	-4.361E-02		3.839E-02	5.886E-02	5.472E-03	-0.741
CO-60	-5.320E-04		1.548E-02	2.494E-02	2.104E-03	-0.021
ZN-65	3.675E-02		4.166E-02	6.255E-02	5.312E-03	0.588
GE-68	4.176E-01		5.167E-01	8.815E-01	7.699E-02	0.474
AS-73	1.992E-01		3.447E-01	5.477E-01	4.178E-02	0.364
AS-74	-3.254E-03		4.262E-02	6.927E-02	6.429E-03	-0.047
SE-75	5.040E-03		1.962E-02	3.017E-02	3.520E-03	0.167
BR-77	-3.859E-08		7.152E-06	Half-Life too short		
SR-82	7.980E-04		1.676E-01	2.676E-01	2.481E-02	0.003
RB-83	4.174E-03		2.870E-02	4.752E-02	4.515E-03	0.088
RB-84	9.111E-03		2.916E-02	4.945E-02	4.672E-03	0.184
KR-85	2.263E+00		3.060E+00	4.581E+00	4.356E-01	0.494
SR-85	1.213E-02		1.640E-02	2.456E-02	2.335E-03	0.494
RB-86	1.640E-02		3.865E-01	6.371E-01	5.567E-02	0.026
Y-88	1.259E-02		1.339E-02	2.402E-02	1.950E-03	0.524
ZR-88	-4.644E-04		1.238E-02	2.076E-02	1.920E-03	-0.022

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	3.773E+00		8.353E+00	1.389E+01	1.129E+00	0.272
NB-94	-4.257E-03		1.388E-02	2.203E-02	1.991E-03	-0.193
NB-95	3.423E-02		2.241E-02	3.362E-02	3.107E-03	1.018
NB-95M	4.750E-02		5.805E-02	8.542E-02	1.016E-02	0.556
ZR-95	1.832E-02		3.615E-02	5.179E-02	5.199E-03	0.354
NB-97	1.615E+00		1.409E+00	Half-Life	too short	
ZR-97	1.892E+02		2.779E+01	Half-Life	too short	
MO-99	-3.097E+00		1.399E+01	2.217E+01	3.436E+00	-0.140
TC-99M	1.184E+15		1.014E+15	Half-Life	too short	
RH-101	-4.154E-03		1.497E-02	2.179E-02	2.152E-03	-0.191
RH-102	3.586E-03		1.182E-02	1.980E-02	1.882E-03	0.181
RU-103	2.423E-03		1.730E-02	2.874E-02	4.231E-03	0.084
RH-106	2.297E-02		1.287E-01	2.106E-01	2.886E-02	0.109
RU-106	2.297E-02		1.287E-01	2.106E-01	1.926E-02	0.109
AG-108M	7.768E-03		1.327E-02	2.253E-02	2.193E-03	0.345
AG-110M	2.005E-03		1.615E-02	2.301E-02	2.106E-03	0.087
IN-111	1.840E+00		1.254E+00	1.879E+00	2.092E-01	0.979
IN-113M	-1.724E-03		1.824E-02	3.054E-02	2.899E-03	-0.056
SN-113	-1.724E-03		1.824E-02	3.054E-02	2.899E-03	-0.056
IN-114M	2.225E-02		7.920E-02	1.244E-01	1.203E-02	0.179
CD-115	4.830E-06		8.004E-06	Half-Life	too short	
SN-117M	-1.694E-03		2.849E-02	4.485E-02	3.984E-03	-0.038
SB-122	-7.434E-01		2.551E+00	4.129E+00	3.884E-01	-0.180
I-123	6.493E+01		2.417E+02	Half-Life	too short	
TE-123M	1.565E-03		1.165E-02	1.931E-02	1.727E-03	0.081
I-124	4.706E-01		6.189E-01	9.167E-01	8.478E-02	0.513
SB-124	2.613E-04		2.841E-02	4.709E-02	4.124E-03	0.006
SB-125	1.397E-02		3.654E-02	6.173E-02	5.898E-03	0.226
TE-125M	1.305E+00		3.876E+00	6.281E+00	6.400E-01	0.208
I-126	1.347E-01		1.071E-01	1.613E-01	1.435E-02	0.835
SB-126	-1.370E-02		7.951E-02	1.167E-01	1.062E-02	-0.117
SB-127	-8.540E-01		1.223E+00	1.903E+00	2.464E-01	-0.449
XE-127	-6.366E-03		2.044E-02	3.306E-02	3.307E-03	-0.193
I-131	3.801E-02		6.552E-02	1.122E-01	1.190E-02	0.339
TE-132	4.679E-01		7.079E-01	1.157E+00	2.051E-01	0.405
BA-133	1.410E-02		1.915E-02	2.925E-02	4.227E-03	0.482
I-133	-1.229E-02		3.481E-02	Half-Life	too short	
CS-134	5.253E-02		2.239E-02	3.617E-02	3.392E-03	1.452
CS-135	9.354E-02		7.631E-02	1.122E-01	1.431E-02	0.834
I-135	-5.200E+13		4.496E+13	Half-Life	too short	
CS-136	-2.598E-02		5.051E-02	8.083E-02	7.487E-03	-0.321
CE-139	-8.436E-03		1.232E-02	1.997E-02	1.811E-03	-0.422
BA-140	1.028E-01		1.355E-01	2.219E-01	7.404E-02	0.463
LA-140	1.368E-02		4.840E-02	7.154E-02	6.093E-03	0.191
CE-141	-8.253E-02		3.355E-02	4.471E-02	3.911E-03	-0.185
CE-143	5.631E-03		7.717E-04	Half-Life	too short	
CE-144	-4.257E-02		8.855E-02	1.303E-01	2.012E-02	-0.327
PM-144	1.600E-03		1.402E-02	2.270E-02	2.048E-03	0.070

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	1.087E-01		9.524E-01	1.542E+00	1.390E-01	0.070
PM-146	1.511E-02		1.828E-02	3.107E-02	3.548E-03	0.486
ND-147	-9.156E-02		2.951E-01	4.789E-01	7.407E-02	-0.191
PM-149	-4.703E-06		7.113E-05	Half-Life too short		
EU-152	-4.820E-02		3.953E-02	6.169E-02	6.895E-03	-0.781
GD-153	-1.438E-02		3.539E-02	5.000E-02	4.442E-03	-0.288
EU-154	-4.509E-03		5.189E-02	8.374E-02	9.277E-03	-0.054
TB-160	2.075E-02		5.769E-02	9.800E-02	9.257E-03	0.212
HO-166M	-6.069E-03		2.497E-02	3.970E-02	3.602E-03	-0.153
TM-171	4.663E+00		1.262E+01	1.746E+01	1.338E+00	0.267
LU-176	2.270E-03		1.035E-02	1.654E-02	1.919E-03	0.137
LU-177	3.911E+00	+	1.090E+00	1.295E+00	1.314E-01	3.020
LU-177M	3.156E-02		8.055E-02	1.207E-01	1.128E-02	0.261
HF-181	1.126E-02		1.831E-02	3.094E-02	2.942E-03	0.364
W-181	-8.362E-02		1.682E-01	2.272E-01	1.716E-02	-0.368
TA-182	-2.070E-02		8.535E-02	1.373E-01	1.123E-02	-0.151
RE-183	1.809E-02		5.015E-02	7.568E-02	6.793E-03	0.239
RE-184	5.956E-02		9.682E-02	1.580E-01	1.791E-02	0.377
OS-185	-5.266E-03		1.844E-02	2.949E-02	2.651E-03	-0.179
W-188	-2.314E+00		3.435E+00	4.709E+00	5.586E-01	-0.491
IR-192	-7.247E-03		1.519E-02	2.364E-02	2.702E-03	-0.307
AU-195	2.249E-01		1.025E-01	1.518E-01	1.337E-02	1.482
TL-200	1.369E-03		1.322E-03	Half-Life too short		
TL-201	5.680E+00		7.309E+00	1.222E+01	1.112E+00	0.465
TL-202	2.092E-02		3.567E-02	6.051E-02	5.710E-03	0.346
HG-203	2.022E-02		1.992E-02	2.922E-02	3.561E-03	0.692
BI-207	2.247E-02		2.130E-02	3.673E-02	3.238E-03	0.612
TL-207	-9.251E-02		3.159E-01	4.371E-01	8.361E-02	-0.212
PO-209	8.460E-01		3.043E+00	5.142E+00	4.863E-01	0.165
BI-210	-5.510E-01		1.609E+00	2.346E+00	2.188E-01	-0.235
PB-210	-5.510E-01		1.609E+00	2.346E+00	2.188E-01	-0.235
PO-210	-5.510E-01		1.608E+00	2.346E+00	1.982E-01	-0.235
PB-211	2.026E-01		4.575E-01	6.613E-01	4.150E-01	0.306
PO-215	-9.251E-02		3.159E-01	4.371E-01	8.361E-02	-0.212
RN-219	-6.633E-02		1.700E-01	2.811E-01	4.335E-02	-0.236
RN-220	1.011E+01		1.059E+01	1.795E+01	1.696E+00	0.563
RA-223	-9.251E-02		3.159E-01	4.371E-01	8.361E-02	-0.212
AC-227	-2.547E-02		1.555E-01	2.485E-01	4.244E-02	-0.102
TH-227	-2.547E-02		1.555E-01	2.485E-01	4.860E-02	-0.102
TH-229	-1.025E-01		2.057E-01	3.319E-01	3.238E-02	-0.309
PA-231	2.300E-01		6.324E-01	1.018E+00	1.762E-01	0.226
TH-231	-9.251E-02		3.159E-01	4.371E-01	8.361E-02	-0.212
U-231	-1.111E+00		9.395E-01	1.286E+00	1.155E-01	-0.864
PA-233	1.896E-03		2.644E-02	4.202E-02	4.912E-03	0.045
PA-234	-7.114E-02		1.193E-01	1.913E-01	3.655E-02	-0.372
NP-236	-3.233E-02		3.195E-02	5.140E-02	4.588E-03	-0.629
NP-239	-5.282E-02		7.093E-02	1.170E-01	9.738E-03	-0.452
AM-241	7.806E-03		6.611E-02	9.514E-02	7.465E-03	0.082

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	8.971E-02	+	5.062E-02	6.201E-02	5.331E-03	1.447
AM-246	8.386E-02		5.856E-02	1.022E-01	8.921E-03	0.820
CM-247	-3.665E-03		1.534E-02	2.552E-02	2.373E-03	-0.144
CF-249	2.656E-03		1.629E-02	2.749E-02	2.579E-03	0.097
CF-251	3.961E-02		5.097E-02	8.497E-02	7.922E-03	0.466

VAX/VMS Nuclide Identification Report Generated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202005193
* Acquisition date   : 9-JAN-2010 17:04:16 Detector SN#      :
* Detector ID        : GAM16 Sensitivity                    : 5.000
* Geometry           : CAN Energy tolerance                : 1.500
* Elapsed live time  : 0 08:20:00.00 Abundance limit        : 75.000
* Elapsed real time  : 0 08:20:08.07 Half life ratio        : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 21-DEC-2009 12:00:00 Nuclide Library   : SOLID
* Sample ID          : G1202005193 Analyst initials: MXR1
* Batch Number       : 937074 Sample Quantity              : 1.4164E+02 GRAM
* Recovery           : 1.00000 Carrier Weight              : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                   :
* LCS DPM             : 0.000 LCS Isotope                   :
* LCSD DPM            : 0.000 LCSD Isotope                  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.105E+01	1.939E+00	1.074E-01	9.892E-01
MN-54	1.306E-02	1.845E-02	1.344E-02	9.415E-03
CD-109	3.053E+00	4.851E-01	2.720E-01	2.475E-01
SN-126	2.982E-01	4.738E-02	2.669E-02	2.417E-02
BA-137M	2.551E-01	3.451E-02	1.380E-02	1.761E-02
CS-137	2.696E-01	3.651E-02	1.459E-02	1.863E-02
EU-155	1.003E-01	5.547E-02	3.615E-02	2.830E-02
RE-188	6.546E-02	7.999E-02	6.127E-02	4.081E-02
TL-208	4.790E-01	5.769E-02	1.218E-02	2.943E-02
BI-211	3.766E+00	4.517E-01	7.125E-02	2.304E-01
BI-212	1.004E+00	2.302E-01	8.680E-02	1.175E-01
PB-212	1.477E+00	1.780E-01	1.873E-02	9.080E-02
PO-212	1.477E+00	1.780E-01	1.873E-02	9.080E-02
BI-214	1.222E+00	1.449E-01	2.315E-02	7.393E-02
PB-214	1.310E+00	1.708E-01	2.484E-02	8.715E-02
PO-214	1.310E+00	1.708E-01	2.484E-02	8.715E-02
PO-216	1.477E+00	1.780E-01	1.873E-02	9.080E-02
PO-218	1.310E+00	1.708E-01	2.484E-02	8.715E-02
RA-224	4.533E+00	7.146E-01	2.132E-01	3.646E-01
RA-226	1.222E+00	1.449E-01	2.315E-02	7.393E-02
AC-228	1.518E+00	2.138E-01	4.281E-02	1.091E-01
RA-228	1.518E+00	2.138E-01	4.281E-02	1.091E-01
TH-228	1.506E+00	1.814E-01	1.910E-02	9.257E-02
TH-230	1.222E+00	1.449E-01	2.315E-02	7.393E-02
TH-232	1.518E+00	2.138E-01	4.281E-02	1.091E-01
PA-234M	1.204E+00	2.691E+00	1.327E+00	1.373E+00
TH-234	1.853E+00	8.350E-01	4.140E-01	4.260E-01
U-234	1.222E+00	1.449E-01	2.315E-02	7.393E-02
U-235	4.907E-02	1.158E-01	7.037E-02	5.910E-02
NF-237	8.757E-01	2.252E-01	7.925E-02	1.149E-01
U-238	1.853E+00	8.350E-01	4.140E-01	4.260E-01
AM-243	3.292E-01	3.998E-02	1.786E-02	2.040E-02
ANH-511	1.448E-01	3.373E-02	9.275E-03	1.721E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.396E-01	1.397E-01	1.168E-01	7.128E-02 NOT IDENT.
NA-22	-3.876E-03	1.834E-02	1.512E-02	9.358E-03 NOT IDENT.
NA-24	2.888E+07	3.238E+07	0.000E+00	1.652E+07 SHORT HLIF
AL-26	-6.605E-03	1.240E-02	9.865E-03	6.325E-03 NOT IDENT.
TI-44	3.314E-01	3.364E-02	1.490E-02	1.716E-02 FAIL ABUN
SC-46	-8.216E-03	1.504E-02	1.266E-02	7.672E-03 FAIL ABUN
V-48	-2.335E-02	3.318E-02	2.739E-02	1.693E-02 NOT IDENT.
CR-51	7.807E-02	1.707E-01	1.450E-01	8.708E-02 NOT IDENT.
MN-52	4.863E-02	1.497E-01	1.263E-01	7.638E-02 NOT IDENT.
CO-56	9.477E-03	1.506E-02	1.345E-02	7.682E-03 FAIL ABUN
CO-57	-1.110E-03	9.510E-03	8.582E-03	4.852E-03 NOT IDENT.
CO-58	-1.908E-02	1.751E-02	1.268E-02	8.935E-03 NOT IDENT.
FE-59	-4.361E-02	3.762E-02	2.976E-02	1.920E-02 FAIL ABUN
CO-60	-5.320E-04	1.517E-02	1.256E-02	7.739E-03 NOT IDENT.
ZN-65	3.675E-02	4.083E-02	3.161E-02	2.083E-02 NOT IDENT.
GE-68	4.176E-01	5.064E-01	4.459E-01	2.584E-01 NOT IDENT.
AS-73	1.992E-01	3.378E-01	2.946E-01	1.723E-01 NOT IDENT.
AS-74	-3.254E-03	4.177E-02	3.548E-02	2.131E-02 NOT IDENT.
SE-75	5.040E-03	1.923E-02	1.572E-02	9.811E-03 NOT IDENT.
BR-77	-3.859E-02	1.402E+01	0.000E+00	7.152E+00 SHORT HLIF
SR-82	7.980E-04	1.642E-01	1.363E-01	8.379E-02 NOT IDENT.
RB-83	4.174E-03	2.812E-02	2.441E-02	1.435E-02 NOT IDENT.
RB-84	9.111E-03	2.857E-02	2.512E-02	1.458E-02 NOT IDENT.
KR-85	2.263E+00	2.998E+00	2.354E+00	1.530E+00 NOT IDENT.
SR-85	1.213E-02	1.607E-02	1.262E-02	8.200E-03 NOT IDENT.
RB-86	1.640E-02	3.788E-01	3.223E-01	1.932E-01 NOT IDENT.
Y-88	1.259E-02	1.312E-02	1.201E-02	6.693E-03 NOT IDENT.
ZR-88	-4.644E-04	1.213E-02	1.073E-02	6.188E-03 NOT IDENT.
Y-91	3.773E+00	8.186E+00	7.006E+00	4.177E+00 NOT IDENT.
NB-94	-4.257E-03	1.360E-02	1.124E-02	6.939E-03 NOT IDENT.
NB-95	3.423E-02	2.196E-02	1.713E-02	1.120E-02 NOT IDENT.
NB-95M	4.750E-02	5.689E-02	4.461E-02	2.903E-02 NOT IDENT.
ZR-95	1.832E-02	3.542E-02	2.640E-02	1.807E-02 NOT IDENT.
NB-97	1.615E+06	2.762E+06	0.000E+00	1.409E+06 SHORT HLIF
ZR-97	1.892E+08	5.446E+07	0.000E+00	2.779E+07 SHORT HLIF
MO-99	-3.097E+00	1.371E+01	1.130E+01	6.994E+00 NOT IDENT.
TC-99M	1.184E+21	1.987E+21	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-4.154E-03	1.467E-02	1.142E-02	7.487E-03 NOT IDENT.
RH-102	3.586E-03	1.159E-02	1.019E-02	5.912E-03 FAIL ABUN
RU-103	2.423E-03	1.696E-02	1.478E-02	8.652E-03 FAIL ABUN
RH-106	2.297E-02	1.261E-01	1.078E-01	6.434E-02 FAIL ABUN
RU-106	2.297E-02	1.261E-01	1.078E-01	6.433E-02 FAIL ABUN
AG-108M	7.768E-03	1.301E-02	1.162E-02	6.637E-03 NOT IDENT.
AG-110M	2.005E-03	1.583E-02	1.176E-02	8.074E-03 NOT IDENT.
IN-111	1.840E+00	1.229E+00	9.804E-01	6.272E-01 NOT IDENT.
IN-113M	-1.724E-03	1.787E-02	1.578E-02	9.120E-03 NOT IDENT.
SN-113	-1.724E-03	1.787E-02	1.578E-02	9.120E-03 NOT IDENT.
IN-114M	2.225E-02	7.762E-02	6.524E-02	3.960E-02 NOT IDENT.
CD-115	4.830E+00	1.569E+01	0.000E+00	8.004E+00 SHORT HLIF
SN-117M	-1.694E-03	2.792E-02	2.361E-02	1.425E-02 NOT IDENT.
SB-122	-7.434E-01	2.500E+00	2.118E+00	1.276E+00 NOT IDENT.
I-123	6.493E+07	4.737E+08	0.000E+00	2.417E+08 SHORT HLIF
TE-123M	1.565E-03	1.142E-02	1.017E-02	5.826E-03 NOT IDENT.
I-124	4.706E-01	6.065E-01	4.695E-01	3.095E-01 FAIL ABUN
SB-124	2.613E-04	2.784E-02	2.358E-02	1.421E-02 FAIL ABUN
SB-125	1.397E-02	3.581E-02	3.184E-02	1.827E-02 FAIL ABUN
TE-125M	1.305E+00	3.799E+00	3.331E+00	1.938E+00 NOT IDENT.
I-126	1.347E-01	1.050E-01	8.245E-02	5.355E-02 NOT IDENT.
SB-126	-1.370E-02	7.792E-02	5.953E-02	3.976E-02 FAIL ABUN
SB-127	-8.540E-01	1.199E+00	9.718E-01	6.116E-01 NOT IDENT.
XE-127	-6.366E-03	2.004E-02	1.732E-02	1.022E-02 NOT IDENT.
I-131	3.801E-02	6.421E-02	5.809E-02	3.276E-02 NOT IDENT.
TE-132	4.679E-01	6.938E-01	6.045E-01	3.540E-01 NOT IDENT.
BA-133	1.410E-02	1.877E-02	1.515E-02	9.574E-03 FAIL ABUN
I-133	-1.229E+04	6.823E+04	0.000E+00	3.481E+04 SHORT HLIF
CS-134	5.253E-02	2.194E-02	1.842E-02	1.119E-02 NOT IDENT.
CS-135	9.354E-02	7.478E-02	5.844E-02	3.815E-02 NOT IDENT.
I-135	-5.200E+19	8.812E+19	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-2.598E-02	4.950E-02	4.091E-02	2.525E-02 FAIL ABUN
CE-139	-8.436E-03	1.207E-02	1.050E-02	6.158E-03 NOT IDENT.
BA-140	1.028E-01	1.328E-01	1.139E-01	6.775E-02 NOT IDENT.
LA-140	1.368E-02	4.743E-02	3.587E-02	2.420E-02 FAIL ABUN

CE-141	-8.253E-03	3.288E-02	2.358E-02	1.678E-02	NOT IDENT.
CE-143	5.631E+03	1.513E+03	0.000E+00	7.717E+02	SHORT HLIF
CE-144	-4.257E-02	8.678E-02	6.884E-02	4.427E-02	NOT IDENT.
PM-144	1.600E-03	1.374E-02	1.159E-02	7.011E-03	NOT IDENT.
PR-144	1.087E-01	9.333E-01	7.871E-01	4.762E-01	NOT IDENT.
PM-146	1.511E-02	1.791E-02	1.601E-02	9.138E-03	NOT IDENT.
ND-147	-9.156E-02	2.892E-01	2.459E-01	1.476E-01	FAIL ABUN
PM-149	-4.703E+00	1.394E+02	0.000E+00	7.113E+01	SHORT HLIF
EU-152	-4.820E-02	3.874E-02	3.197E-02	1.977E-02	FAIL ABUN
GD-153	-1.438E-02	3.469E-02	2.658E-02	1.770E-02	FAIL ABUN
EU-154	-4.509E-03	5.085E-02	4.220E-02	2.595E-02	NOT IDENT.
TB-160	2.075E-02	5.654E-02	4.979E-02	2.885E-02	FAIL ABUN
HO-166M	-6.069E-03	2.447E-02	2.026E-02	1.249E-02	FAIL ABUN
TM-171	4.663E+00	1.237E+01	9.350E+00	6.310E+00	NOT IDENT.
LU-176	2.270E-03	1.015E-02	8.594E-03	5.177E-03	FAIL ABUN
LU-177	3.911E+00	1.068E+00	6.781E-01	5.451E-01	FAIL ABUN
LU-177M	3.156E-02	7.894E-02	6.231E-02	4.027E-02	FAIL ABUN
HF-181	1.126E-02	1.795E-02	1.592E-02	9.156E-03	NOT IDENT.
W-181	-8.362E-02	1.649E-01	1.217E-01	8.411E-02	NOT IDENT.
TA-182	-2.070E-02	8.364E-02	6.927E-02	4.267E-02	FAIL ABUN
RE-183	1.809E-02	4.914E-02	3.982E-02	2.507E-02	FAIL ABUN
RE-184	5.956E-02	9.489E-02	8.241E-02	4.841E-02	NOT IDENT.
OS-185	-5.266E-03	1.807E-02	1.508E-02	9.219E-03	NOT IDENT.
W-188	-2.314E+00	3.366E+00	2.449E+00	1.717E+00	FAIL ABUN
IR-192	-7.247E-03	1.488E-02	1.227E-02	7.594E-03	FAIL ABUN
AU-195	2.249E-01	1.004E-01	8.068E-02	5.124E-02	FAIL ABUN
TL-200	1.369E+03	2.591E+03	0.000E+00	1.322E+03	SHORT HLIF
TL-201	5.680E+00	7.162E+00	6.425E+00	3.654E+00	NOT IDENT.
TL-202	2.092E-02	3.496E-02	3.120E-02	1.784E-02	NOT IDENT.
HG-203	2.022E-02	1.952E-02	1.521E-02	9.961E-03	FAIL ABUN
BI-207	2.247E-02	2.087E-02	1.858E-02	1.065E-02	FAIL ABUN
TL-207	-9.251E-02	3.095E-01	2.268E-01	1.579E-01	FAIL ABUN
PO-209	8.460E-01	2.982E+00	2.611E+00	1.521E+00	NOT IDENT.
BI-210	-5.510E-01	1.576E+00	1.265E+00	8.043E-01	NOT IDENT.
PB-210	-5.510E-01	1.576E+00	1.265E+00	8.043E-01	NOT IDENT.
PO-210	-5.510E-01	1.576E+00	1.265E+00	8.042E-01	NOT IDENT.
PB-211	2.026E-01	4.484E-01	3.415E-01	2.288E-01	NOT IDENT.
PO-215	-9.251E-02	3.095E-01	2.268E-01	1.579E-01	FAIL ABUN
RN-219	-6.633E-02	1.666E-01	1.452E-01	8.498E-02	FAIL ABUN
RN-220	1.011E+01	1.038E+01	9.211E+00	5.297E+00	NOT IDENT.
RA-223	-9.251E-02	3.095E-01	2.268E-01	1.579E-01	FAIL ABUN
AC-227	-2.547E-02	1.524E-01	1.296E-01	7.774E-02	FAIL ABUN
TH-227	-2.547E-02	1.524E-01	1.296E-01	7.775E-02	FAIL ABUN
TH-229	-1.025E-01	2.015E-01	1.740E-01	1.028E-01	FAIL ABUN
PA-231	2.300E-01	6.198E-01	5.299E-01	3.162E-01	FAIL ABUN
TH-231	-9.251E-02	3.095E-01	2.268E-01	1.579E-01	FAIL ABUN
U-231	-1.111E+00	9.207E-01	6.841E-01	4.698E-01	FAIL ABUN
PA-233	1.896E-03	2.591E-02	2.182E-02	1.322E-02	FAIL ABUN
PA-234	-7.114E-02	1.170E-01	9.704E-02	5.967E-02	FAIL ABUN
NP-236	-3.233E-02	3.131E-02	2.706E-02	1.597E-02	NOT IDENT.
NP-239	-5.282E-02	6.951E-02	6.195E-02	3.546E-02	FAIL ABUN
AM-241	7.806E-03	6.478E-02	5.106E-02	3.305E-02	NOT IDENT.
CM-243	8.971E-02	4.961E-02	3.293E-02	2.531E-02	FAIL ABUN
AM-246	8.386E-02	5.739E-02	5.172E-02	2.928E-02	NOT IDENT.
CM-247	-3.665E-03	1.503E-02	1.318E-02	7.669E-03	FAIL ABUN
CF-249	2.656E-03	1.596E-02	1.421E-02	8.143E-03	NOT IDENT.
CF-251	3.961E-02	4.995E-02	4.464E-02	2.549E-02	NOT IDENT.

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

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

46.50	1013.2604
46.50	1013.2604
46.50	1013.2604
48.70	1111.3623
49.72	942.6751
51.35	1002.1719
52.39	1010.0318
52.97	978.1781
53.15	978.6901
53.44	972.3096
54.07	1052.2404
56.28	1154.4301
56.28	1154.4374
57.37	0.0000
57.53	1080.7306
57.53	1080.7356
57.60	1080.9393
57.98	1106.3826
57.98	1106.3826
59.32	1156.7889
59.32	1156.7889
59.40	1153.7838
59.54	1142.8245
59.72	1143.3761
60.01	1233.9175
61.10	1121.4353
61.14	1121.5521
61.30	1122.0249
63.00	1226.0111
63.29	1226.9335
63.29	1226.9335
63.58	1301.4819
64.28	1313.7094
65.12	1329.7417
65.20	1330.0057
65.20	1330.0057
66.05	1311.3391
66.72	1277.0514
66.83	1277.4038
66.91	1311.6781
67.20	1292.6930
67.20	1292.6930
67.75	1411.6749
67.85	1412.0291
68.90	1459.8615
68.90	1459.8615
69.30	1466.1266
69.67	1415.8278
70.82	1375.7759
70.82	1375.7759
70.83	1375.8093
72.80	1569.0940
72.87	1569.3501
72.87	1569.3501
74.67	1440.2981
74.81	1440.7574
74.81	1440.7574
74.81	1440.7574
74.81	1440.7574
74.81	1440.7574
74.81	1440.7574
74.81	1440.7574
74.97	1441.2948
75.28	1442.3262
75.70	1443.7129
77.11	1448.3584
77.11	1448.3584

77.11	1448.3584
77.11	1448.3584
77.11	1448.3584
77.11	1448.3584
77.11	1448.3584
78.38	1359.1708
79.62	1340.2825
79.80	1340.8168
79.80	1340.8168
80.11	1219.3691
80.18	1219.5576
80.30	1219.8765
80.30	1219.8765
80.57	1295.1222
81.00	1342.6431
81.07	1342.8501
81.07	1342.8501
81.07	1342.8501
81.07	1342.8501
82.60	1296.9954
83.37	1354.7274
83.78	1537.0620
83.78	1537.0620
83.78	1537.0620
83.78	1537.0620
84.21	1538.4760
84.90	1540.7328
85.43	1542.4640
86.29	1545.2646
86.50	1545.9445
86.54	1546.0714
86.59	1546.2345
86.72	1546.6515
86.79	1546.8690
86.94	1547.3674
87.30	1548.5276
87.30	1548.5276
87.30	1548.5276
87.30	1548.5276
87.30	1548.5276
87.30	1548.5276
87.30	1548.5276
87.57	1549.3977
87.88	0.0000
88.03	1550.8751
88.36	1551.9355
88.47	1552.2891
89.95	1557.0022
91.11	1161.3088
92.29	1164.0741
92.38	1164.2832
92.38	1164.2832
93.35	1196.8868
94.00	1198.4369
94.67	1200.0077
94.67	1200.0215
94.90	1200.5613
94.90	1200.5613
94.90	1200.5613
94.90	1200.5613
95.87	1212.1281
95.87	1212.1281
96.73	1258.0089
97.43	1165.2621
98.44	958.2736
98.44	958.2791
98.88	985.7637
99.55	1076.5104
99.55	1076.5104
99.86	1100.3113
100.00	1139.8120
100.10	1140.0397
103.18	966.8804
103.76	984.0771
105.00	1069.5304
105.31	1109.7427
108.00	1093.4609
109.28	1116.1006

111.00	1136.6017
111.00	1136.6017
111.76	1129.0164
112.95	1133.1936
115.19	1052.4143
116.30	1017.7114
117.00	1057.5187
117.00	1057.5187
117.66	1089.0549
121.11	995.4565
121.62	1025.9291
121.78	1027.1257
122.06	1034.0914
122.32	1048.4392
122.32	1048.4392
122.32	1048.4392
122.32	1048.4392
123.07	1043.2365
127.23	1084.8767
129.76	1063.9210
131.20	1088.9116
133.02	1041.0869
133.54	1082.9718
135.34	1041.0298
136.00	1062.9348
136.25	1075.6545
136.48	1076.0355
140.51	1037.2979
140.51	0.0000
142.18	1137.4086
142.65	1136.7719
143.76	1081.1262
144.24	1073.2515
144.24	1073.2515
144.24	1073.2515
144.24	1073.2515
145.22	1058.9513
145.44	1059.2878
147.16	1086.4963
152.43	1029.2041
152.70	1013.5734
153.22	1042.0065
154.21	1066.3101
154.21	1066.3101
154.21	1066.3101
154.21	1066.3101
155.03	1075.3286
156.02	1145.5748
158.56	1067.6755
159.00	0.0000
159.00	1059.6895
160.31	1109.6696
161.27	1099.3301
162.32	1002.5080
162.64	1021.6334
163.35	1018.6747
163.89	1011.5239
165.85	1098.1952
167.43	989.5490
171.28	972.6370
171.86	962.4133
172.10	962.7081
176.55	965.2042
176.60	965.2727
181.06	984.3077
184.41	995.9917
185.71	985.4077
186.00	985.7637
190.27	928.4872
192.34	957.5693
193.63	997.9309
197.04	997.8372
198.01	978.3970
198.60	965.6808
200.40	0.0000
201.83	971.3735
202.84	967.3289
205.31	936.8588

208.36	911.9832
208.81	912.4465
209.75	902.4606
209.75	902.4606
210.97	909.9579
215.65	930.9421
216.55	925.5590
218.09	911.3332
222.10	893.0934
223.80	890.4827
226.40	929.0466
227.00	896.6985
227.08	884.0255
227.20	884.1354
228.16	844.6104
228.18	844.6265
228.18	844.6265
231.56	0.0000
235.69	871.6114
236.00	894.4138
236.00	894.4138
238.63	798.9684
238.63	798.9684
238.63	798.9684
238.63	798.9684
239.00	0.0000
240.98	800.8730
241.98	801.6818
241.98	801.6818
241.98	801.6818
244.69	641.0312
245.39	583.0189
247.94	682.7220
248.90	734.4307
249.79	0.0000
252.40	675.9113
252.85	680.5703
252.85	680.5703
254.15	0.0000
256.20	704.6666
256.20	704.6666
260.50	693.3015
260.90	0.0000
262.80	725.6481
264.65	680.3599
268.24	738.7695
268.79	780.6750
269.46	695.8442
269.46	695.8442
269.46	695.8442
269.46	695.8442
271.23	714.1840
273.65	597.3185
276.40	749.3691
277.35	689.7429
277.60	689.9064
277.60	689.9064
278.00	623.1522
278.60	625.1689
279.20	628.8528
279.53	640.7896
280.46	654.7568
281.68	0.0000
283.67	620.7299
284.30	625.5711
285.00	631.5754
285.90	0.0000
286.10	626.5684
286.10	626.5684
287.40	573.2360
288.45	0.0000
290.67	618.3770
290.80	618.4438
291.72	586.7260
293.26	0.0000
293.70	580.9449
295.21	588.5104
295.21	588.5104

295.21	588.5104
295.96	588.9011
296.50	589.1757
297.23	0.0000
298.57	590.2210
299.80	544.7377
299.80	544.7377
300.09	544.8740
300.09	544.8740
300.09	544.8740
300.09	544.8740
300.12	544.8934
301.29	572.7960
302.84	534.1743
303.76	0.0000
303.91	555.2238
304.40	550.3081
304.40	550.3081
304.84	538.5089
306.84	579.5034
308.46	583.7366
311.98	553.2498
316.51	587.6511
318.01	612.6508
319.02	574.9799
319.41	542.7583
320.08	552.3173
323.87	601.0652
323.87	601.0652
323.87	601.0652
323.87	601.0652
325.23	573.8223
328.77	577.1979
333.44	542.1340
334.20	574.7769
334.20	574.7769
334.30	574.8268
338.28	572.7471
338.28	572.7471
338.28	572.7471
338.28	572.7471
338.32	572.7669
338.32	572.7669
338.32	572.7669
338.32	572.7669
340.50	504.1841
340.57	504.2102
344.27	567.5742
345.85	526.1298
350.59	0.0000
351.07	564.1823
351.92	564.5499
351.92	564.5499
351.92	564.5499
355.39	0.0000
356.01	481.6196
364.48	459.3199
366.43	462.6831
367.43	461.2188
367.94	0.0000
369.80	469.2426
374.96	425.7152
383.85	490.4193
387.95	494.5904
388.63	492.9922
391.69	475.7210
391.69	475.7210
392.90	446.7684
398.62	456.8337
400.65	474.9935
401.10	477.9106
401.81	509.5236
402.60	512.5722
404.84	495.7771
410.95	459.2000
411.60	465.3430
413.65	434.7207
414.70	424.5985
415.30	417.3135

415.76	418.3752
417.63	0.0000
418.52	450.8816
423.70	432.7584
427.08	411.1864
427.89	400.1355
432.53	414.5343
433.93	402.6451
439.47	0.0000
439.56	398.4262
439.89	396.6166
443.98	398.6014
444.90	360.8481
445.03	360.8829
445.03	360.8829
445.03	360.8829
453.90	403.9593
463.38	365.9893
468.07	359.1363
473.00	396.1552
475.06	371.4961
475.35	374.4634
476.78	415.4563
477.59	433.0995
477.96	405.0906
482.03	349.7278
484.57	0.0000
487.03	330.3047
490.36	0.0000
492.35	0.0000
497.08	339.1155
507.63	0.0000
510.53	0.0000
510.84	326.9847
511.00	327.0150
511.85	327.1691
511.85	327.1691
513.99	345.1808
513.99	345.1808
520.41	333.7134
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	316.4679
529.87	0.0000
531.02	337.6906
537.32	308.7802
543.00	280.5667
546.56	0.0000
549.76	299.7644
552.65	323.4766
555.20	318.8548
563.23	361.8884
563.90	363.0248
568.70	298.6958
569.32	313.0710
569.50	313.0992
569.67	312.1073
573.80	299.4916
574.00	299.5185
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	325.5809
585.48	0.0000
591.81	277.5048
592.07	277.5376
593.00	299.3457
595.88	301.8468
600.56	348.1509
602.52	0.0000
602.71	318.6469
602.71	318.6469
603.60	322.1082
604.41	345.4953
604.70	345.5461
609.31	331.9672

609.31	331.9672
609.31	331.9672
609.31	331.9672
610.33	303.1882
612.46	293.5023
614.37	262.0627
618.01	291.5843
621.84	281.6586
621.84	281.6586
631.29	294.5178
633.02	294.7656
633.10	290.5631
634.78	254.9759
635.90	267.7589
636.97	264.7342
645.85	293.3826
646.12	302.9586
656.30	301.4186
657.75	276.0645
657.90	0.0000
661.65	389.2365
661.65	389.2365
664.57	0.0000
666.33	272.0235
666.33	272.0235
675.00	272.6733
677.61	266.5500
685.20	301.9775
692.80	309.4958
695.00	275.1382
696.49	281.8201
696.49	281.8201
697.00	276.4627
697.49	271.1029
698.33	295.0679
698.50	298.3475
699.00	313.6066
702.63	305.4143
706.10	286.2838
706.58	0.0000
706.67	279.8232
709.31	293.2254
711.68	281.5261
713.82	268.6796
717.42	261.4427
720.50	267.2697
721.93	0.0000
722.20	296.4019
722.78	292.9676
722.78	292.9676
722.89	292.9839
722.95	292.9921
723.30	293.0328
724.18	270.3271
727.18	227.3917
733.00	255.4917
735.90	248.0850
739.58	262.8256
742.81	221.1670
744.21	275.5125
747.13	228.2106
751.79	268.6165
752.31	268.6755
753.82	241.0721
755.35	0.0000
756.15	246.8639
756.87	250.2754
763.93	255.2424
765.79	289.3773
766.42	276.9490
766.84	264.4850
776.49	224.2615
778.00	246.8420
778.57	247.5370
778.89	247.5707
783.80	219.5285
785.46	262.3782
792.07	153.4565

795.84	232.0402
796.30	213.9996
798.80	260.9713
801.93	260.0868
805.60	225.0709
810.29	254.5840
810.76	245.5378
815.85	202.2878
817.79	0.0000
818.51	196.1088
819.60	197.1053
826.30	209.5104
828.27	0.0000
831.60	183.3545
831.96	183.3789
834.83	284.5476
836.80	0.0000
846.75	190.8686
848.13	202.0403
856.28	0.0000
856.80	202.0809
860.37	190.9222
867.32	189.3243
867.82	176.5803
871.10	221.4574
873.19	195.5522
874.81	208.7148
875.33	0.0000
876.40	204.1737
879.36	203.4649
880.27	191.3967
880.51	192.3455
881.50	187.7456
883.24	209.3602
884.67	198.2480
889.25	199.5159
896.60	216.9516
898.02	226.4612
899.00	248.1639
903.28	215.1897
911.07	207.6948
911.07	207.6948
911.07	207.6948
919.63	196.0183
920.93	198.0040
925.00	206.6124
925.24	192.9234
926.50	183.5204
935.52	179.3351
937.48	168.3423
944.10	189.1055
946.00	211.2072
949.00	172.2041
962.29	193.8087
964.01	198.0889
966.15	198.2348
968.20	198.3706
969.11	198.4359
969.11	198.4359
969.11	198.4359
977.42	191.8134
980.50	188.5587
983.50	207.1401
989.30	153.2322
996.32	165.2520
1001.03	155.7734
1001.68	167.1696
1004.76	168.9619
1021.30	0.0000
1024.50	0.0000
1034.80	177.1787
1036.00	186.1115
1037.82	186.2130
1038.57	185.2736
1038.76	0.0000
1045.16	166.9040
1046.59	167.9663
1048.07	177.9258

1050.47	164.2168
1050.47	164.2168
1062.04	179.7097
1063.62	175.8246
1076.63	207.4516
1077.35	183.5598
1078.86	169.6680
1085.78	184.0359
1099.22	208.8937
1112.02	218.0239
1112.84	233.6349
1115.52	196.8091
1120.29	193.7256
1120.29	193.7256
1120.29	193.7256
1120.29	193.7256
1120.51	193.7349
1121.28	192.0967
1124.00	0.0000
1129.67	200.6877
1131.51	0.0000
1147.95	0.0000
1167.94	202.9500
1173.22	226.8703
1175.09	204.4025
1177.93	219.9874
1189.05	240.2812
1204.90	233.0750
1205.75	0.0000
1213.00	256.4555
1221.42	258.0992
1230.97	217.3869
1235.34	226.3574
1236.41	0.0000
1238.25	236.2958
1246.25	205.6505
1260.41	0.0000
1271.85	154.0557
1274.45	186.9044
1274.54	191.1282
1291.56	154.8755
1298.22	0.0000
1312.09	147.1843
1325.50	124.1563
1325.50	124.1563
1332.49	120.0883
1333.61	129.7796
1360.21	88.5504
1362.66	0.0000
1365.15	105.9625
1368.21	80.3831
1368.53	0.0000
1376.25	100.8378
1384.27	74.2424
1394.10	89.3111
1395.20	115.4820
1407.95	116.5781
1434.06	80.2964
1436.60	95.3884
1457.56	0.0000
1460.81	86.7213
1489.15	86.3777
1509.49	75.5914
1596.49	75.0645
1620.62	68.9033
1678.03	0.0000
1691.02	45.6651
1691.02	45.6651
1706.46	0.0000
1750.46	0.0000
1764.49	52.4271
1764.49	52.4271
1764.49	52.4271
1764.49	52.4271
1770.23	35.5562
1771.40	32.9305
1791.20	0.0000
1808.65	58.7263

1836.01

36.0278

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202005193

Total Uranium Activity	5.5349E+00	ug/g
Total Uranium Counting Unc.	2.4847E+00	ug/g
Total Uranium Tpu	1.2677E-06	ug/g
Total Uranium Mda	1.2321E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G1202005193
*  ANALYST       : MXR1            DETECTOR    : GAM16
*  SAMPLE DATE   : 21-DEC-2009 12:00:00.00  COUNT TIME : 0 08:20:00.00
*  ANALYSIS DATE: 9-JAN-2010 17:04:16.32  SAMPLE ALQT: 141.640 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.921E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 9.935E-01
GROSS GAMMA MDA     (pCi/GRAM ) : 2.480E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.221E+00

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VAX/VMS Nuclide Identification Report Generated 9-JAN-2010 16:26:19.90

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005194.CNF;1
Sample date        : 2-JAN-2010 00:00:00. Acquisition date : 9-JAN-2010 15:25:49.
Sample ID          : G1202005194      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM04             Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00     Elapsed real time: 0 01:00:01.25 0.0%
Energy tolerance  : 1.50000 keV        Analyst Initials : MXR1
Abundance limit   : 75.00000           Sensitivity       : 5.00000
Batch ID          : 937074             Detector SN#      :
Matrix Spike ID   :                    LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.43	1419	475	0.86	118.89	114	10	3.94E-01	3.9	
2	0	77.03	83	379	0.81	154.10	151	7	2.32E-02	40.9	
3	0	87.90	1146	438	1.07	175.84	171	11	3.18E-01	4.6	
4	0	92.87*	112	238	1.89	185.77	182	9	3.12E-02	27.2	
5	0	121.52	223	335	0.96	243.09	237	11	6.19E-02	17.3	
6	0	136.23	90	182	1.03	272.52	269	8	2.50E-02	27.9	
7	0	238.27*	461	216	1.23	476.60	471	10	1.28E-01	7.6	
8	0	241.79	55	141	2.23	483.66	482	5	1.54E-02	35.1	
9	0	294.79*	133	198	1.33	589.66	584	11	3.69E-02	22.3	
10	0	337.91*	82	143	1.20	675.89	672	8	2.28E-02	27.7	
11	0	351.12*	263	175	1.37	702.33	695	14	7.32E-02	12.4	
12	0	510.45*	56	142	2.09	1020.99	1014	15	1.55E-02	51.2	
13	0	582.87*	156	131	1.79	1165.83	1157	16	4.33E-02	18.4	
14	0	608.94*	145	105	1.28	1217.98	1211	14	4.03E-02	17.3	
15	0	661.14*	2023	125	1.60	1322.37	1314	15	5.62E-01	2.5	
16	0	726.96	43	63	1.29	1454.00	1447	12	1.20E-02	39.9	
17	0	794.54	43	52	1.09	1589.17	1584	9	1.20E-02	33.6	
18	0	910.87*	66	121	1.54	1821.81	1817	11	1.83E-02	36.3	
19	0	968.75	71	86	1.53	1937.55	1934	11	1.97E-02	28.6	
20	0	1172.37	1531	71	1.83	2344.74	2337	16	4.25E-01	2.8	
21	0	1331.48*	1383	49	2.03	2662.90	2653	21	3.84E-01	3.0	
22	0	1459.38	27	3	2.44	2918.65	2912	12	7.46E-03	23.2	
23	0	1762.93	35	0	2.30	3525.57	3518	13	9.72E-03	16.9	

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

VMS Nuclide Identification Report V3.1 Generated 9-JAN-2010 16:26:22

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005194.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 2-JAN-2010 00:00:00   Acquisition date : 9-JAN-2010 15:25:49
Sample ID        : G1202005194           Sample quantity  : 155.44 GRAM
Sample type      : SOLID                 Sample geometry   :
Detector name    : GAMMA4                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:01.25   0.0%
Peak Width (FWHM): 3.00                  Confidence level  : 5.00 %
Energy tolerance : 1.50 keV              Half life ratio   : 8.00
Errors propagated: Yes                   Systematic Error  : 0.00 %
Efficiency type  : Empirical              Efficiencies at   : Peak Energy
Abundance limit  : 75.00                 WTM error limit   : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.131E+00	5.318E-01	6.698E-01	4.760E-02	1.688
CO-57	+	122.06	*	1.979E-01	6.976E-02	5.649E-02	3.922E-03	3.502
	+	136.48		6.467E-01	3.642E-01	4.273E-01	3.178E-02	1.513
CO-60	+	1173.22		5.700E+00	4.691E-01	1.083E-01	6.443E-03	52.614
	+	1332.49	*	5.774E+00	5.233E-01	9.057E-02	6.206E-03	63.752
CD-109	+	88.03	*	2.966E+01	4.500E+00	1.999E+00	2.402E-01	14.841
SN-126		64.28		4.665E-01	9.404E-01	1.557E+00	2.682E-01	0.300
	+	86.94		1.226E+01	5.295E+00	8.413E-01	3.548E-01	14.570
	+	87.57	*	2.948E+00	4.473E-01	2.002E-01	2.401E-02	14.728
BA-137M	+	661.65	*	4.918E+00	3.460E-01	1.034E-01	5.041E-03	47.585
CS-137	+	661.65	*	5.199E+00	3.668E-01	1.093E-01	5.360E-03	47.585
TL-208		277.35		-3.260E-01	5.538E-01	9.029E-01	9.978E-02	-0.361
	+	510.84		4.572E-01	4.705E-01	3.666E-01	3.679E-02	1.247
	+	583.14	*	3.640E-01	1.358E-01	1.016E-01	6.394E-03	3.582
		860.37		-1.852E-01	5.750E-01	9.254E-01	7.718E-02	-0.200
BI-211		72.87		-2.730E+00	5.772E+00	8.481E+00	9.724E-01	-0.322
	+	351.07	*	2.707E+00	6.936E-01	5.516E-01	3.726E-02	4.907
PB-212		74.81		7.642E-01	6.939E-01	1.089E+00	1.609E-01	0.702
	+	77.11		5.716E-01	4.717E-01	5.690E-01	6.528E-02	1.005
	+	87.30		1.364E+01	2.478E+00	9.301E-01	1.451E-01	14.661
	+	238.63	*	1.035E+00	1.787E-01	1.613E-01	1.296E-02	6.413
		300.09		2.169E+00	1.351E+00	2.291E+00	2.017E-01	0.947
PO-212		74.81		7.642E-01	6.939E-01	1.089E+00	1.609E-01	0.702
	+	77.11		5.716E-01	4.717E-01	5.690E-01	6.528E-02	1.005
	+	87.30		1.364E+01	2.478E+00	9.301E-01	1.451E-01	14.661
	+	115.19		3.632E-02	4.847E+00	7.991E+00	6.013E-01	0.005
	+	238.63	*	1.035E+00	1.787E-01	1.613E-01	1.296E-02	6.413
		300.09		2.169E+00	1.351E+00	2.291E+00	2.017E-01	0.947
PB-214		74.81		1.317E+00	1.193E+00	1.876E+00	2.558E-01	0.702
	+	77.11		9.799E-01	8.121E-01	9.754E-01	1.343E-01	1.005
	+	87.30		2.336E+01	3.975E+00	1.593E+00	2.269E-01	14.661
	+	241.98		7.485E-01	5.302E-01	7.716E-01	6.723E-02	0.970
	+	295.21		8.087E-01	3.684E-01	3.534E-01	3.210E-02	2.288
	+	351.92	*	9.415E-01	2.462E-01	1.923E-01	1.640E-02	4.897

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214		74.81		1.317E+00	1.193E+00	1.876E+00	2.558E-01	0.702
	+	77.11		9.799E-01	8.121E-01	9.754E-01	1.343E-01	1.005
	+	87.30		2.336E+01	3.975E+00	1.593E+00	2.269E-01	14.661
	+	241.98		7.485E-01	5.302E-01	7.716E-01	6.723E-02	0.970
	+	295.21		8.087E-01	3.684E-01	3.534E-01	3.210E-02	2.288
	+	351.92	*	9.415E-01	2.462E-01	1.923E-01	1.640E-02	4.897
PO-216		74.81		7.642E-01	6.939E-01	1.089E+00	1.609E-01	0.702
	+	77.11		5.716E-01	4.717E-01	5.690E-01	6.528E-02	1.005
	+	87.30		1.364E+01	2.478E+00	9.301E-01	1.451E-01	14.661
	+	238.63	*	1.035E+00	1.787E-01	1.613E-01	1.296E-02	6.413
		300.09		2.169E+00	1.351E+00	2.291E+00	2.017E-01	0.947
PO-218		74.81		1.317E+00	1.193E+00	1.876E+00	2.558E-01	0.702
	+	77.11		9.799E-01	8.121E-01	9.754E-01	1.343E-01	1.005
	+	87.30		2.336E+01	3.975E+00	1.593E+00	2.269E-01	14.661
	+	241.98		7.485E-01	5.302E-01	7.716E-01	6.723E-02	0.970
	+	295.21		8.087E-01	3.684E-01	3.534E-01	3.210E-02	2.288
	+	351.92	*	9.415E-01	2.462E-01	1.923E-01	1.640E-02	4.897
RA-224	+	240.98	*	1.419E+00	1.002E+00	1.617E+00	1.078E-01	0.878
AC-228	+	338.32		9.322E-01	6.413E-01	6.889E-01	2.813E-01	1.353
	+	911.07	*	6.938E-01	5.092E-01	5.400E-01	5.887E-02	1.285
	+	969.11		1.326E+00	8.187E-01	1.000E+00	2.306E-01	1.325
RA-228	+	338.32		9.322E-01	6.413E-01	6.889E-01	2.813E-01	1.353
	+	911.07	*	6.938E-01	5.092E-01	5.400E-01	5.887E-02	1.285
	+	969.11		1.326E+00	8.187E-01	1.000E+00	2.306E-01	1.325
TH-228		74.81		7.701E-01	6.955E-01	1.097E+00	1.262E-01	0.702
	+	77.11		5.760E-01	4.753E-01	5.733E-01	6.577E-02	1.005
	+	87.30		1.374E+01	2.085E+00	9.372E-01	1.122E-01	14.661
	+	238.63	*	1.042E+00	1.801E-01	1.626E-01	1.306E-02	6.413
		300.09		2.186E+00	1.865E+00	2.308E+00	1.362E+00	0.947
TH-232	+	338.32		9.322E-01	5.194E-01	6.889E-01	4.330E-02	1.353
	+	911.07	*	6.938E-01	5.092E-01	5.400E-01	5.887E-02	1.285
	+	969.11		1.326E+00	8.187E-01	1.000E+00	2.306E-01	1.325
NP-237	+	86.50	*	8.658E+00	2.217E+00	6.272E-01	1.494E-01	13.804
		95.87		9.560E-02	1.328E+00	1.989E+00	5.011E-01	0.048
AM-241	+	59.54	*	1.227E+01	1.827E+00	6.319E-01	7.978E-02	19.422
ANH-511	+	511.00	*	9.875E-02	1.013E-01	7.920E-02	4.429E-03	1.247

---- 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	*	1.084E-01	6.252E-01	1.030E+00	6.820E-02	0.105
NA-22		1274.54	*	5.326E-02	5.122E-02	9.773E-02	6.390E-03	0.545
NA-24		1368.53	*	-9.095E-05	5.122E-02	Half-Life too short		
AL-26		1129.67		5.926E-02	3.061E+00	4.952E+00	3.195E-01	0.012
		1808.65	*	-3.030E-02	4.062E-02	5.119E-02	3.036E-03	-0.592
TI-44		67.85		6.374E-03	8.072E-02	1.365E-01	1.587E-02	0.047
	+	78.38	*	1.054E-01	8.702E-02	9.859E-02	1.134E-02	1.070
SC-46		889.25	*	1.154E-02	8.607E-02	1.431E-01	1.157E-02	0.081

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
V-48	1120.51			1.537E-01	9.449E-02	1.720E-01	1.126E-02	0.894
	944.10			-5.420E-01	1.693E+00	2.716E+00	2.171E-01	-0.200
	983.50	*		-1.152E-01	1.136E-01	1.695E-01	1.313E-02	-0.680
CR-51	1312.09			4.723E-02	6.440E-02	1.202E-01	8.097E-03	0.393
	320.08	*		1.226E-01	5.319E-01	9.011E-01	6.346E-02	0.136
	744.21			-7.245E-02	1.677E-01	2.702E-01	1.604E-02	-0.268
MN-52	848.13			6.380E+00	5.717E+00	1.016E+01	7.558E-01	0.628
	935.52			4.564E-02	2.567E-01	4.258E-01	3.424E-02	0.107
	1246.25			-2.156E+00	3.017E+00	4.487E+00	2.856E-01	-0.481
MN-54	1333.61			2.376E+02	2.182E+01	3.344E+01	2.291E+00	7.106
	1434.06	*		-2.403E-02	9.438E-02	1.467E-01	1.001E-02	-0.164
	834.83	*		-2.722E-02	6.664E-02	1.065E-01	7.710E-03	-0.255
CO-56	846.75	*		5.602E-02	8.010E-02	1.387E-01	1.029E-02	0.404
	977.42			6.989E+00	6.172E+00	1.091E+01	8.494E-01	0.641
	1037.82			-2.811E-01	6.677E-01	1.051E+00	8.271E-02	-0.267
CO-58	1175.09			1.328E+02	1.290E+01	2.286E+01	1.362E+00	5.807
	1238.25			1.146E-01	9.327E-02	1.781E-01	1.185E-02	0.644
	1360.21			-5.622E-01	9.623E-01	1.391E+00	9.534E-02	-0.404
FE-59	1771.40			1.327E-01	2.662E-01	4.885E-01	2.966E-02	0.272
	810.76	*		-2.717E-02	6.862E-02	1.107E-01	7.642E-03	-0.245
	142.65			1.496E-01	3.084E+00	5.020E+00	3.281E-01	0.030
ZN-65	192.34			5.147E-01	1.352E+00	2.209E+00	2.687E-01	0.233
	1099.22	*		1.014E-01	1.686E-01	2.868E-01	2.191E-02	0.354
	1291.56			8.079E-02	1.372E-01	2.478E-01	2.002E-02	0.326
GE-68	1115.52	*		-9.784E-02	1.811E-01	2.790E-01	1.845E-02	-0.351
	1077.35	*		9.254E-01	2.656E+00	4.430E+00	3.094E-01	0.209
	53.44	*		5.900E-01	2.650E+00	4.541E+00	5.941E-01	0.130
AS-73	595.88	*		-8.457E-02	1.308E-01	1.991E-01	1.051E-02	-0.425
	634.78			-1.902E-01	4.861E-01	7.496E-01	3.792E-02	-0.254
	66.05			-5.192E+00	8.331E+00	1.362E+01	1.787E+00	-0.381
SE-75	96.73			1.992E-01	1.083E+00	1.632E+00	2.367E-01	0.122
	121.11	+		1.038E+00	3.736E-01	4.334E-01	4.350E-02	2.396
	136.00	+		1.187E-01	6.674E-02	9.110E-02	6.105E-03	1.303
BR-77	198.60			-8.188E-01	2.579E+00	4.049E+00	3.125E-01	-0.202
	264.65	*		-3.009E-02	6.595E-02	1.090E-01	7.329E-03	-0.276
	279.53			-8.609E-02	1.580E-01	2.585E-01	1.825E-02	-0.333
BR-77	303.91			-4.357E+00	3.403E+00	5.277E+00	5.283E-01	-0.826
	400.65			3.124E-01	4.430E-01	7.598E-01	6.841E-02	0.411
	87.88	+		7.284E+02	1.105E+02	1.080E+02	1.298E+01	6.745
BR-77	200.40			1.055E+01	2.702E+01	4.419E+01	2.883E+00	0.239
	239.00	+		1.867E+01	3.115E+00	4.639E+00	3.091E-01	4.025
	249.79			-3.850E+00	1.175E+01	1.963E+01	1.311E+00	-0.196
BR-77	281.68			1.087E+01	1.569E+01	2.738E+01	1.818E+00	0.397
	297.23			-4.641E+00	1.146E+01	1.652E+01	1.087E+00	-0.281
	303.76			-3.168E+01	3.345E+01	5.321E+01	3.483E+00	-0.595
BR-77	439.47			1.163E+01	3.228E+01	5.403E+01	3.065E+00	0.215
	484.57			-3.068E+01	4.948E+01	7.714E+01	4.352E+00	-0.398
	520.65	*		1.806E-01	1.993E+00	3.252E+00	1.811E-01	0.056
BR-77	574.64			-6.824E+01	4.532E+01	5.624E+01	3.026E+00	-1.213

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

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SR-82	578.91			1.658E+01	1.808E+01	2.798E+01	1.500E+00	0.593
	585.48			3.542E+01	3.735E+01	5.750E+01	3.065E+00	0.616
	755.35			-2.199E+01	3.238E+01	5.092E+01	3.100E+00	-0.432
	817.79			1.400E+01	2.767E+01	4.772E+01	3.331E+00	0.293
	698.33			-6.908E+00	4.666E+01	7.738E+01	4.126E+00	-0.089
RB-83	776.49	*		-1.628E-01	5.605E-01	9.108E-01	5.813E-02	-0.179
	1395.20			9.163E+00	1.026E+01	1.978E+01	1.354E+00	0.463
	520.41	*		7.018E-03	1.115E-01	1.815E-01	1.011E-02	0.039
RB-84	529.64			-1.376E-01	1.820E-01	2.771E-01	1.536E-02	-0.497
	552.65			2.423E-01	3.348E-01	5.696E-01	3.115E-02	0.425
KR-85	881.50	*		-8.934E-03	1.326E-01	2.173E-01	1.731E-02	-0.041
SR-85	513.99	*		4.557E+00	1.277E+01	1.880E+01	1.050E+00	0.242
RB-86	513.99	*		2.160E-02	6.054E-02	8.909E-02	4.976E-03	0.242
Y-88	1076.63	*		8.085E-01	1.309E+00	2.228E+00	1.557E-01	0.363
ZR-88	898.02			-1.805E-02	8.743E-02	1.416E-01	1.172E-02	-0.127
	1836.01	*		3.585E-02	4.262E-02	8.329E-02	4.860E-03	0.431
Y-91	392.90	*		2.267E-02	4.964E-02	8.429E-02	4.744E-03	0.269
NB-94	1204.90	*		-2.322E+00	2.318E+01	3.674E+01	2.251E+00	-0.063
NB-95	702.63	*		6.261E-03	5.912E-02	9.985E-02	5.379E-03	0.063
	871.10			-7.349E-02	7.493E-02	1.139E-01	8.882E-03	-0.645
NB-95M	765.79	*		-1.699E-02	6.735E-02	1.100E-01	6.854E-03	-0.155
ZR-95	235.69	*		7.533E-02	1.860E-01	2.701E-01	2.217E-02	0.279
NB-97	724.18			1.185E-02	1.493E-01	2.192E-01	1.479E-02	0.054
	756.15	*		-3.951E-02	1.147E-01	1.858E-01	1.353E-02	-0.213
ZR-97	657.90	*		5.193E-04	1.147E-01	Half-Life too short		
	1024.50			5.519E-03	1.147E-01	Half-Life too short		
MO-99	254.15			1.696E-03	1.147E-01	Half-Life too short		
	355.39			-7.104E-04	1.147E-01	Half-Life too short		
	507.63	*		7.042E-04	1.147E-01	Half-Life too short		
	602.52			-2.536E-03	1.147E-01	Half-Life too short		
	1021.30			4.081E-03	1.147E-01	Half-Life too short		
	1147.95			4.333E-03	1.147E-01	Half-Life too short		
	1362.66			3.179E-03	1.147E-01	Half-Life too short		
	1750.46			-5.221E-05	1.147E-01	Half-Life too short		
	140.51			2.616E+00	5.549E+00	8.309E+00	2.254E+00	0.315
	181.06			-3.816E-01	3.558E+00	5.694E+00	9.885E-01	-0.067
TC-99M	366.43			-8.206E+00	2.147E+01	3.478E+01	2.078E+00	-0.236
	739.58	*		3.088E-01	3.102E+00	5.220E+00	7.210E-01	0.059
	778.00			-1.710E+00	9.421E+00	1.545E+01	9.892E-01	-0.111
RH-101	140.51	*		2.549E+01	9.421E+00	Half-Life too short		
RH-102	127.23			-8.182E-03	4.365E-02	7.091E-02	4.816E-03	-0.115
	198.01	*		-4.388E-02	5.014E-02	7.618E-02	4.961E-03	-0.576
	325.23			1.858E-02	3.789E-01	6.352E-01	4.066E-02	0.029
	418.52			8.711E-02	5.332E-01	8.859E-01	5.016E-02	0.098
	475.06	*		5.101E-02	6.039E-02	1.033E-01	5.841E-03	0.494
	631.29			3.654E-04	9.722E-02	1.553E-01	7.892E-03	0.002
	697.49			3.464E-02	1.259E-01	2.155E-01	1.147E-02	0.161
	766.84			-1.098E-01	1.847E-01	2.933E-01	1.832E-02	-0.374
	1046.59			-1.543E-01	2.323E-01	3.542E-01	2.572E-02	-0.436

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

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	1112.84			-1.420E-01	4.602E-01	7.238E-01	4.799E-02	-0.196
RU-103	497.08	*		-5.386E-03	7.275E-02	1.177E-01	1.479E-02	-0.046
	610.33			6.052E+00	2.288E+00	2.697E+00	4.101E-01	2.243
RH-106	511.85	+		4.863E-01	4.989E-01	5.348E-01	2.990E-02	0.909
	621.84	*		-1.604E-01	5.631E-01	8.778E-01	1.003E-01	-0.183
	1050.47			2.156E+00	4.783E+00	8.062E+00	5.828E-01	0.267
RU-106	511.85	+		4.863E-01	4.989E-01	5.348E-01	2.990E-02	0.909
	621.84	*		-1.604E-01	5.628E-01	8.778E-01	4.510E-02	-0.183
	1050.47			2.156E+00	4.783E+00	8.062E+00	5.828E-01	0.267
AG-108M	433.93	*		-1.863E-02	6.414E-02	1.034E-01	6.389E-03	-0.180
	614.37			5.450E-02	7.169E-02	1.090E-01	6.241E-03	0.500
	722.95			-8.390E-02	7.852E-02	9.908E-02	6.097E-03	-0.847
AG-110M	657.75	*		2.132E-01	8.224E-02	1.443E-01	7.709E-03	1.478
	677.61			4.880E-03	5.058E-01	8.506E-01	4.656E-02	0.006
	706.67			-1.253E-02	3.797E-01	6.348E-01	3.687E-02	-0.020
	763.93			9.010E-02	2.824E-01	4.816E-01	3.150E-02	0.187
	884.67			1.505E-02	1.135E-01	1.887E-01	1.568E-02	0.080
	937.48			-4.440E-02	2.830E-01	4.594E-01	3.843E-02	-0.097
	1384.27			7.637E-02	1.737E-01	3.129E-01	2.238E-02	0.244
IN-111	171.28			-4.395E-02	2.285E-01	3.651E-01	2.327E-02	-0.120
	245.39	*		-1.226E-01	3.194E-01	4.353E-01	2.905E-02	-0.282
IN-113M	391.69	*		-5.002E-02	7.398E-02	1.169E-01	7.046E-03	-0.428
SN-113	391.69	*		-5.002E-02	7.398E-02	1.169E-01	7.046E-03	-0.428
IN-114M	190.27	*		7.184E-02	2.518E-01	4.103E-01	2.655E-02	0.175
CD-115	260.90			1.756E+00	2.043E+01	3.475E+01	2.320E+00	0.051
	492.35			-1.169E+00	7.031E+00	1.131E+01	6.369E-01	-0.103
	527.90	*		7.290E-01	1.816E+00	3.031E+00	1.682E-01	0.241
SN-117M	156.02			2.192E+00	2.203E+00	3.749E+00	2.404E-01	0.585
	158.56	*		-6.828E-03	5.330E-02	8.586E-02	5.492E-03	-0.080
SB-122	563.90	*		-2.165E-01	5.015E-01	7.778E-01	4.220E-02	-0.278
	692.80			1.314E+00	1.025E+01	1.736E+01	9.136E-01	0.076
I-123	159.00	*		-5.244E-04	1.025E+01	Half-Life	too short	
	528.96			-4.639E-03	1.025E+01	Half-Life	too short	
TE-123M	159.00	*		-3.299E-02	3.904E-02	6.033E-02	3.900E-03	-0.547
I-124	602.71	*		-8.031E-02	3.992E-01	5.457E-01	2.862E-02	-0.147
	722.78			-2.542E+00	2.365E+00	2.983E+00	1.685E-01	-0.852
	1325.50			5.565E+00	1.321E+01	2.095E+01	1.427E+00	0.266
	1376.25			8.214E+00	9.878E+00	1.873E+01	1.283E+00	0.439
	1509.49			3.369E+00	5.708E+00	1.044E+01	7.038E-01	0.323
	1691.02			-3.940E-01	1.506E+00	2.302E+00	1.459E-01	-0.171
SB-124	602.71			-1.484E-02	7.375E-02	1.008E-01	5.290E-03	-0.147
	645.85			2.208E-01	7.455E-01	1.286E+00	7.501E-02	0.172
	709.31			8.578E-01	4.600E+00	7.806E+00	4.272E-01	0.110
	713.82			-1.045E+00	2.749E+00	4.470E+00	4.497E-01	-0.234
	722.78			-6.808E-01	6.336E-01	7.989E-01	4.737E-02	-0.852
	968.20	+		1.252E+01	7.239E+00	9.959E+00	7.816E-01	1.257
	1045.16			4.695E-01	4.618E+00	7.574E+00	5.509E-01	0.062
	1325.50			1.592E+00	3.779E+00	5.992E+00	4.083E-01	0.266
	1368.21			-6.287E-01	1.694E+00	2.587E+00	3.214E-01	-0.243

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125	1436.60			-1.619E+00	3.715E+00	5.527E+00	3.770E-01	-0.293
	1691.02	*		-2.489E-02	9.515E-02	1.454E-01	9.881E-03	-0.171
	427.89	*		1.327E-03	1.812E-01	2.978E-01	1.763E-02	0.004
	463.38			2.634E-01	5.621E-01	9.427E-01	6.267E-02	0.279
	600.56			-2.655E-02	3.271E-01	5.212E-01	3.254E-02	-0.051
TE-125M	635.90			-2.526E-01	4.930E-01	7.513E-01	4.632E-02	-0.336
I-126	109.28	*		-1.606E+00	1.130E+01	1.854E+01	1.837E+00	-0.087
	388.63			-8.271E-03	2.432E-01	4.013E-01	2.276E-02	-0.021
	666.33	*		5.159E-02	2.179E-01	3.279E-01	1.618E-02	0.157
SB-126	753.82			-1.984E-02	1.800E+00	2.998E+00	1.819E-01	-0.007
	223.80			1.052E+00	4.208E+00	6.785E+00	4.494E-01	0.155
	278.60			-9.006E-01	2.416E+00	3.993E+00	2.655E-01	-0.226
	296.50			7.219E-01	1.801E+00	2.737E+00	1.802E-01	0.264
	414.70			-2.744E-03	9.399E-02	1.545E-01	8.740E-03	-0.018
	415.30			-4.485E+00	7.755E+00	1.231E+01	6.968E-01	-0.364
	555.20			-2.465E+00	5.000E+00	7.762E+00	4.237E-01	-0.318
	573.80			-1.377E+00	1.205E+00	1.747E+00	9.405E-02	-0.788
	593.00			-1.496E-01	1.132E+00	1.798E+00	9.519E-02	-0.083
	656.30			-1.477E+00	4.413E+00	6.246E+00	3.070E-01	-0.236
	666.33			2.119E-02	8.950E-02	1.347E-01	6.644E-03	0.157
	675.00			-5.957E-01	2.075E+00	3.406E+00	1.716E-01	-0.175
	695.00			-1.202E-02	8.426E-02	1.398E-01	7.394E-03	-0.086
	697.00			2.122E-01	2.848E-01	5.044E-01	2.681E-02	0.421
	720.50	*		-2.020E-01	1.977E-01	2.542E-01	1.429E-02	-0.795
SB-127	856.80			9.209E-02	6.260E-01	1.045E+00	7.916E-02	0.088
	989.30			1.639E-01	1.843E+00	3.031E+00	2.336E-01	0.054
	1034.80			1.117E+01	1.352E+01	2.333E+01	1.717E+00	0.479
	1213.00			2.652E+00	3.862E+00	6.763E+00	4.177E-01	0.392
	61.10			2.013E+02	4.862E+01	7.670E+01	9.664E+00	2.625
	252.40			5.546E-01	1.819E+00	3.107E+00	1.281E+00	0.179
	290.80			2.236E-01	9.729E+00	1.447E+01	1.088E+00	0.015
	411.60			-4.886E-01	6.049E+00	9.918E+00	1.284E+00	-0.049
	444.90			-9.599E-01	5.069E+00	8.210E+00	7.229E-01	-0.117
	473.00			-4.813E-01	9.054E-01	1.427E+00	1.322E-01	-0.337
	543.00			3.300E+00	7.379E+00	1.233E+01	1.383E+00	0.268
	603.60			1.013E-02	5.979E+00	8.358E+00	7.101E-01	0.001
	685.20	*		2.047E-01	6.052E-01	1.042E+00	6.954E-02	0.196
	698.50			-2.568E+00	6.709E+00	1.091E+01	1.410E+00	-0.235
	722.20			-1.454E+01	1.454E+01	1.852E+01	1.238E+00	-0.785
XE-127	783.80			4.939E-01	1.614E+00	2.749E+00	2.528E-01	0.180
	57.60			6.793E+01	2.120E+01	3.387E+01	4.240E+00	2.006
	145.22			3.214E-01	7.672E-01	1.278E+00	8.320E-02	0.251
	172.10			-1.071E-01	1.491E-01	2.309E-01	1.473E-02	-0.464
	202.84	*		-2.772E-02	6.264E-02	9.773E-02	6.388E-03	-0.284
I-131	374.96			-1.392E-01	3.226E-01	5.214E-01	3.058E-02	-0.267
	80.18			-6.428E-01	4.103E+00	6.112E+00	7.069E-01	-0.105
	284.30			-1.135E-01	1.248E+00	2.093E+00	1.498E-01	-0.054
	364.48	*		2.350E-02	1.028E-01	1.730E-01	1.142E-02	0.136
	636.97			7.916E-01	1.437E+00	2.401E+00	1.385E-01	0.330

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	722.89			-7.436E+00	6.927E+00	8.736E+00	4.955E-01	-0.851
	49.72			4.718E+00	1.525E+01	2.628E+01	3.356E+00	0.180
	111.76			1.273E+00	7.976E+00	1.327E+01	1.134E+00	0.096
	116.30			3.917E-01	8.425E+00	1.246E+01	1.014E+00	0.031
BA-133	228.16	*		-6.775E-02	2.318E-01	3.618E-01	4.912E-02	-0.187
	53.15			5.210E+00	1.227E+01	2.117E+01	2.771E+00	0.246
	79.62			-1.191E+00	2.222E+00	3.225E+00	5.498E-01	-0.369
	81.00			-1.673E-01	1.765E-01	2.477E-01	4.376E-02	-0.675
I-133	276.40			-3.018E-01	5.479E-01	8.950E-01	1.196E-01	-0.337
	302.84			-2.520E-01	2.427E-01	3.822E-01	4.605E-02	-0.659
	356.01	*		-2.650E-02	8.274E-02	1.176E-01	1.378E-02	-0.225
	383.85			2.380E-01	5.329E-01	9.040E-01	9.800E-02	0.263
CS-134	510.53	+		2.505E-03	5.329E-01	Half-Life	too short	
	529.87	*		-2.020E-05	5.329E-01	Half-Life	too short	
	706.58			-7.586E-05	5.329E-01	Half-Life	too short	
	856.28			3.741E-04	5.329E-01	Half-Life	too short	
I-135	875.33			1.965E-04	5.329E-01	Half-Life	too short	
	1236.41			1.156E-03	5.329E-01	Half-Life	too short	
	1298.22			-2.288E-04	5.329E-01	Half-Life	too short	
	475.35			2.040E+00	3.961E+00	6.654E+00	3.762E-01	0.307
CS-135	563.23			-2.132E-01	6.014E-01	9.398E-01	5.223E-02	-0.227
	569.32			2.966E-01	3.529E-01	6.037E-01	3.373E-02	0.491
	604.70			5.930E-03	6.518E-02	9.201E-02	4.849E-03	0.064
	795.84	+	*	1.460E-01	9.853E-02	1.540E-01	1.038E-02	0.948
I-135	801.93			-3.188E-01	7.693E-01	1.246E+00	8.483E-02	-0.256
	1038.57			-3.805E+00	8.697E+00	1.363E+01	9.992E-01	-0.279
	1167.94			6.508E+00	5.307E+00	8.525E+00	5.124E-01	0.763
	1365.15			1.361E-01	1.304E+00	2.217E+00	1.627E-01	0.061
CS-136	268.24	*		9.389E-02	2.450E-01	4.219E-01	3.517E-02	0.223
	288.45			9.411E+01	2.450E-01	Half-Life	too short	
	417.63			-1.280E+02	2.450E-01	Half-Life	too short	
	546.56			-6.476E+01	2.450E-01	Half-Life	too short	
I-135	836.80			-1.956E+02	2.450E-01	Half-Life	too short	
	1038.76			-7.669E+01	2.450E-01	Half-Life	too short	
	1124.00			-3.558E+02	2.450E-01	Half-Life	too short	
	1131.51			1.385E+01	2.450E-01	Half-Life	too short	
CS-136	1260.41	*		-7.068E+00	2.450E-01	Half-Life	too short	
	1457.56			2.236E+02	2.450E-01	Half-Life	too short	
	1678.03			-1.592E+01	2.450E-01	Half-Life	too short	
	1706.46			-8.105E+01	2.450E-01	Half-Life	too short	
I-135	1791.20			2.556E+01	2.450E-01	Half-Life	too short	
	66.91			-2.389E-01	9.217E-01	1.535E+00	2.660E-01	-0.156
	86.29			7.644E+00	1.911E+00	2.721E+00	4.147E-01	2.809
	153.22			-5.903E-01	6.359E-01	9.805E-01	7.585E-02	-0.602
CS-136	163.89			2.479E-01	9.889E-01	1.623E+00	1.250E-01	0.153
	176.55			1.807E-01	3.541E-01	5.865E-01	4.134E-02	0.308
	273.65			-1.605E-01	4.703E-01	7.805E-01	5.756E-02	-0.206
	340.57			1.338E-01	1.556E-01	2.428E-01	1.602E-02	0.551
CS-136	818.51			8.364E-02	9.194E-02	1.633E-01	1.142E-02	0.512

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

	Line Energy Nuclide Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1048.07 *	-1.316E-01	1.555E-01	2.334E-01	1.791E-02	-0.564
	1235.34	2.190E-01	4.543E-01	8.041E-01	8.268E-02	0.272
CE-139	165.85 *	1.853E-02	4.013E-02	6.653E-02	4.227E-03	0.279
BA-140	162.64	-4.125E-01	6.837E-01	1.069E+00	7.518E-02	-0.386
	304.84	1.778E-01	1.377E+00	2.326E+00	6.388E-01	0.076
	423.70	6.478E-01	2.448E+00	4.072E+00	1.293E+00	0.159
	537.32 *	-1.783E-01	3.263E-01	4.974E-01	1.615E-01	-0.358
LA-140	328.77	4.505E-02	3.213E-01	5.409E-01	3.793E-02	0.083
	432.53	-1.826E+00	2.760E+00	4.348E+00	2.735E-01	-0.420
	487.03	6.054E-02	1.741E-01	2.900E-01	1.863E-02	0.209
	751.79	4.997E-01	2.094E+00	3.555E+00	2.593E-01	0.141
	815.85	-1.271E-01	4.063E-01	6.561E-01	5.348E-02	-0.194
	867.82	5.552E-01	2.015E+00	3.389E+00	2.797E-01	0.164
	919.63	-1.525E-01	4.520E+00	7.406E+00	7.592E-01	-0.021
	925.24	-3.803E-01	1.819E+00	2.941E+00	2.550E-01	-0.129
	1596.49 *	-1.761E-02	6.419E-02	9.826E-02	6.472E-03	-0.179
CE-141	145.44 *	1.443E-02	6.849E-02	1.129E-01	7.577E-03	0.128
CE-143	57.37	1.381E+02	8.662E+01	1.387E+02	1.859E+01	0.996
	231.56	3.105E+01	9.292E+01	1.495E+02	4.646E+01	0.208
	293.26 *	8.096E+00	5.740E+00	8.947E+00	1.851E+00	0.905
	350.59	4.906E+02	1.923E+02	1.585E+02	4.820E+01	3.096
	490.36	4.520E+01	1.284E+02	2.126E+02	6.565E+01	0.213
	664.57	1.532E+02	7.644E+01	1.075E+02	3.388E+01	1.425
	721.93	-6.392E+01	6.266E+01	7.591E+01	2.157E+01	-0.842
CE-144	80.11	-1.531E+00	3.592E+00	5.264E+00	6.082E-01	-0.291
	133.54 *	-2.435E-02	2.910E-01	4.228E-01	6.163E-02	-0.058
PM-144	476.78	-9.481E-03	1.427E-01	2.318E-01	1.580E-02	-0.041
	618.01	-1.369E-02	5.762E-02	9.035E-02	5.011E-03	-0.152
	696.49 *	6.155E-02	5.525E-02	1.002E-01	5.322E-03	0.614
	778.57	-1.089E+00	4.184E+00	6.818E+00	4.372E-01	-0.160
PR-144	696.49 *	4.155E+00	3.729E+00	6.764E+00	3.591E-01	0.614
	1489.15	1.874E+00	1.472E+01	2.495E+01	1.689E+00	0.075
PM-146	453.90 *	-1.800E-02	8.904E-02	1.439E-01	1.228E-02	-0.125
	633.02	9.446E-01	2.502E+00	4.086E+00	1.500E+00	0.231
	735.90	-5.965E-02	2.593E-01	4.242E-01	1.183E-01	-0.141
	747.13	4.218E-02	1.680E-01	2.855E-01	3.594E-02	0.148
ND-147	91.11	1.675E-01	2.956E-01	3.786E-01	4.439E-02	0.442
	319.41	-6.934E-01	3.584E+00	5.937E+00	3.827E-01	-0.117
	439.89	-2.314E+00	7.428E+00	1.196E+01	6.783E-01	-0.194
	531.02 *	5.897E-02	6.182E-01	1.008E+00	1.351E-01	0.059
PM-149	285.90 *	-5.135E+00	1.423E+01	2.350E+01	3.410E+00	-0.219
EU-152	121.78	5.848E-01	2.082E-01	2.424E-01	2.066E-02	2.412
	244.69	3.222E-02	5.980E-01	8.445E-01	5.634E-02	0.038
	344.27 *	-1.685E-02	1.762E-01	2.704E-01	1.872E-02	-0.062
	443.98	-6.558E-01	1.953E+00	3.136E+00	1.779E-01	-0.209
	778.89	-1.445E-01	4.851E-01	7.878E-01	5.055E-02	-0.183
	867.32	1.275E+00	1.762E+00	3.057E+00	2.366E-01	0.417
	964.01	3.716E-01	7.728E-01	1.142E+00	8.989E-02	0.326
	1085.78	2.448E-01	8.860E-01	1.468E+00	1.013E-01	0.167

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1112.02			5.570E-02	6.512E-01	1.061E+00	7.044E-02	0.053
	1407.95			2.569E-01	2.054E-01	4.158E-01	2.844E-02	0.618
	69.67			5.682E-01	2.778E+00	4.716E+00	5.446E-01	0.120
	83.37			1.589E+01	2.494E+01	3.876E+01	4.537E+00	0.410
	97.43	*		2.620E-02	1.170E-01	1.772E-01	1.739E-02	0.148
EU-154	103.18			5.628E-03	1.419E-01	2.356E-01	2.096E-02	0.024
	123.07			2.622E-01	9.807E-02	1.597E-01	1.617E-02	1.642
	247.94			2.182E-01	5.904E-01	9.533E-01	9.625E-02	0.229
	591.81			3.848E-01	1.122E+00	1.850E+00	1.755E-01	0.208
	723.30			-1.801E-01	3.078E-01	4.143E-01	2.885E-02	-0.435
	756.87			-6.734E-01	1.379E+00	2.207E+00	2.277E-01	-0.305
	873.19			3.751E-01	6.253E-01	1.075E+00	1.259E-01	0.349
	996.32			-2.720E-01	8.008E-01	1.269E+00	2.197E-01	-0.214
	1004.76			-3.758E-02	4.594E-01	7.442E-01	8.114E-02	-0.051
	1274.45	*		1.593E-01	1.425E-01	2.738E-01	2.685E-02	0.582
EU-155	48.70			5.191E+00	9.719E+00	1.690E+01	1.947E+00	0.307
	60.01			3.981E+02	5.775E+01	4.903E+01	5.956E+00	8.120
	86.54			3.541E+00	5.390E-01	4.326E-01	5.181E-02	8.186
TB-160	105.31	*		8.314E-02	1.443E-01	2.455E-01	2.139E-02	0.339
	86.79			8.828E+00	1.339E+00	1.213E+00	1.448E-01	7.276
	197.04			-8.243E-01	8.237E-01	1.244E+00	8.098E-02	-0.662
	215.65			-3.930E-01	1.112E+00	1.737E+00	1.146E-01	-0.226
	298.57			1.611E-01	1.871E-01	2.937E-01	1.931E-02	0.548
	879.36	*		-1.404E-01	2.881E-01	4.572E-01	3.625E-02	-0.307
	962.29			1.304E+00	1.181E+00	1.968E+00	1.552E-01	0.663
	966.15			7.805E-01	5.115E-01	8.138E-01	6.397E-02	0.959
	1177.93			-7.527E-01	6.759E-01	7.627E-01	4.556E-02	-0.987
	1271.85			-3.593E-02	7.671E-01	1.275E+00	8.300E-02	-0.028
HO-166M	80.57			-5.415E-02	4.613E-01	6.887E-01	7.969E-02	-0.079
	184.41			4.417E-02	5.037E-02	8.493E-02	5.470E-03	0.520
	280.46			6.844E-02	1.306E-01	2.262E-01	1.503E-02	0.303
	410.95			-1.108E-01	4.643E-01	7.543E-01	4.265E-02	-0.147
	711.68	*		-5.155E-02	1.119E-01	1.811E-01	9.968E-03	-0.285
	752.31			1.310E-01	5.039E-01	8.567E-01	5.180E-02	0.153
	810.29			-5.715E-02	1.115E-01	1.781E-01	1.224E-02	-0.321
	51.35			-4.440E+01	1.109E+02	1.855E+02	2.403E+01	-0.239
TM-171	52.39			-1.187E+01	5.450E+01	9.188E+01	1.202E+01	-0.129
	59.40			2.084E+03	3.023E+02	2.772E+02	3.380E+01	7.519
	66.72	*		-1.216E+01	4.947E+01	8.249E+01	9.644E+00	-0.147
LU-176	88.36			6.993E+00	1.061E+00	1.013E+00	1.207E-01	6.904
	201.83			2.724E-03	4.229E-02	6.792E-02	4.436E-03	0.040
	306.84	*		5.460E-03	4.064E-02	6.869E-02	4.485E-03	0.079
LU-177	401.10			2.084E+00	1.189E+01	1.983E+01	1.119E+00	0.105
	112.95			5.078E-01	1.010E+00	1.708E+00	1.322E-01	0.297
	208.36	*		1.114E+00	7.831E-01	1.335E+00	8.764E-02	0.834
LU-177M	52.97			7.350E-01	5.454E+00	9.321E+00	1.220E+00	0.079
	54.07			9.299E-01	2.869E+00	4.724E+00	6.160E-01	0.197
	61.30			1.084E+01	3.877E+00	6.375E+00	7.692E-01	1.700
	121.62			2.907E+00	1.025E+00	1.210E+00	8.428E-02	2.402

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181		147.16		-5.240E-01	8.613E-01	1.356E+00	8.796E-02	-0.387
		171.86		-3.833E-01	6.757E-01	1.056E+00	6.735E-02	-0.363
		218.09		-7.083E-01	1.292E+00	1.991E+00	1.315E-01	-0.356
		268.79		1.504E+00	1.206E+00	2.154E+00	1.436E-01	0.698
		319.02		-9.211E-02	4.285E-01	7.089E-01	4.571E-02	-0.130
		367.43		-1.434E+00	1.489E+00	2.315E+00	1.381E-01	-0.619
		413.65	*	2.236E-01	3.203E-01	5.483E-01	3.102E-02	0.408
		56.28		9.015E-01	2.938E+00	4.552E+00	5.803E-01	0.198
		57.53		4.682E+00	1.737E+00	2.797E+00	3.505E-01	1.674
		65.20		-5.228E-01	1.505E+00	2.498E+00	2.945E-01	-0.209
		133.02		3.088E-02	8.410E-02	1.262E-01	8.425E-03	0.245
	+	136.25		1.278E+00	7.187E-01	9.940E-01	6.581E-02	1.286
W-181		345.85		1.111E-01	3.055E-01	4.614E-01	2.866E-02	0.241
		482.03	*	-2.781E-02	7.586E-02	1.207E-01	6.813E-03	-0.230
		56.28		3.851E-01	1.245E+00	1.929E+00	2.460E-01	0.200
		57.53		1.972E+00	7.360E-01	1.185E+00	1.485E-01	1.664
TA-182		65.20	*	-2.200E-01	6.333E-01	1.051E+00	1.239E-01	-0.209
		67.75		3.763E-03	1.841E-01	3.105E-01	3.613E-02	0.012
		100.10		-4.881E-02	2.337E-01	3.839E-01	3.593E-02	-0.127
		152.43		-3.084E-01	4.655E-01	7.301E-01	4.703E-02	-0.422
RE-183		222.10		-4.440E-01	5.319E-01	8.043E-01	5.323E-02	-0.552
		1001.68		-4.176E-01	4.093E+00	6.620E+00	5.044E-01	-0.063
		1121.28		2.733E-01	2.708E-01	4.725E-01	3.091E-02	0.578
		1189.05		2.188E-01	3.723E-01	6.462E-01	3.902E-02	0.339
		1221.42	*	1.436E-01	2.148E-01	3.899E-01	2.426E-02	0.368
		1230.97		-5.387E-02	4.987E-01	8.249E-01	5.178E-02	-0.065
	+	57.98		1.390E+01	2.016E+00	1.454E+00	1.811E-01	9.557
	+	59.32		7.989E+00	1.159E+00	1.070E+00	1.307E-01	7.465
		67.20		-7.299E-02	3.228E-01	5.387E-01	6.283E-02	-0.135
		162.32	*	-9.251E-02	1.417E-01	2.210E-01	1.408E-02	-0.419
RE-184		208.81		1.375E+00	1.442E+00	2.408E+00	1.581E-01	0.571
		291.72		3.472E-01	1.523E+00	2.298E+00	1.518E-01	0.151
	+	57.98		5.349E+01	7.759E+00	5.597E+00	6.969E-01	9.557
	+	59.32		3.072E+01	4.456E+00	4.115E+00	5.024E-01	7.465
		67.20		-2.808E-01	1.242E+00	2.073E+00	2.417E-01	-0.135
		161.27		-3.135E-01	4.631E-01	7.206E-01	4.596E-02	-0.435
		216.55		-2.074E-01	4.107E-01	6.355E-01	4.193E-02	-0.326
		252.85	*	7.129E-02	3.626E-01	6.210E-01	4.147E-02	0.115
		318.01		-1.648E-02	7.638E-01	1.277E+00	8.247E-02	-0.013
		792.07		9.982E-01	1.865E+00	2.856E+00	1.886E-01	0.349
OS-185		903.28		5.633E-01	2.223E+00	3.628E+00	2.977E-01	0.155
		920.93		8.440E-02	1.032E+00	1.705E+00	1.384E-01	0.050
	+	59.72		2.221E+01	3.221E+00	2.841E+00	3.456E-01	7.816
		61.14		1.903E+00	4.813E-01	7.747E-01	9.356E-02	2.456
		69.30		-2.070E-02	4.838E-01	8.133E-01	9.404E-02	-0.025
		592.07		9.580E-01	4.327E+00	7.069E+00	3.746E-01	0.136
		646.12	*	-1.168E-02	6.608E-02	1.099E-01	5.478E-03	-0.106
		717.42		2.541E+00	1.513E+00	2.823E+00	1.575E-01	0.900
		874.81		2.137E-01	1.200E+00	2.005E+00	1.575E-01	0.107

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-188		880.27		-1.226E+00	1.647E+00	2.559E+00	2.033E-01	-0.479
		155.03	*	3.963E-02	2.260E-01	3.703E-01	2.378E-02	0.107
		477.96		1.548E+00	6.092E+00	1.008E+01	5.696E-01	0.154
W-188		633.10		1.776E+00	4.660E+00	7.682E+00	3.894E-01	0.231
		63.58		3.570E+01	9.807E+01	1.530E+02	1.821E+01	0.233
		227.08		-1.286E+01	1.940E+01	2.963E+01	1.966E+00	-0.434
IR-192		290.67	*	4.401E-01	1.206E+01	1.795E+01	1.187E+00	0.025
	+	295.96		5.749E-01	2.595E-01	3.107E-01	2.071E-02	1.850
		308.46		1.084E-02	1.445E-01	2.434E-01	1.601E-02	0.045
		316.51	*	1.990E-02	5.416E-02	9.249E-02	6.004E-03	0.215
		468.07		3.087E-02	1.252E-01	2.074E-01	1.362E-02	0.149
		604.41		7.510E-02	8.103E-01	1.144E+00	1.267E-01	0.066
AU-195		612.46		-2.257E-01	1.292E+00	1.768E+00	1.258E-01	-0.128
		65.12		-9.890E-02	2.985E-01	4.960E-01	5.849E-02	-0.199
		66.83		-3.836E-02	1.598E-01	2.665E-01	3.113E-02	-0.144
	+	75.70		4.904E-01	4.047E-01	5.811E-01	6.657E-02	0.844
		98.88	*	-3.781E-02	3.050E-01	5.034E-01	4.813E-02	-0.075
		129.76		2.855E+00	3.739E+00	6.354E+00	4.280E-01	0.449
TL-200		367.94	*	-4.593E+00	6.558E+00	1.039E+01	6.192E-01	-0.442
		579.30		5.962E+01	5.561E+01	8.721E+01	4.674E+00	0.684
		828.27		-1.302E+01	8.498E+01	1.391E+02	9.926E+00	-0.094
TL-201		1205.75		3.789E+00	2.699E+01	4.417E+01	2.709E+00	0.086
		68.90		1.974E-01	1.504E+00	2.547E+00	2.949E-01	0.078
		70.82		-1.162E-01	8.401E-01	1.405E+00	1.617E-01	-0.083
	+	80.30		-1.969E-01	1.548E+00	2.310E+00	2.670E-01	-0.085
		135.34	*	1.452E+01	8.165E+00	1.080E+01	7.168E-01	1.345
		167.43	*	-1.651E+00	1.828E+00	2.805E+00	1.783E-01	-0.589
TL-202		68.90		6.396E-02	4.873E-01	8.252E-01	9.556E-02	0.078
		70.82		-3.754E-02	2.715E-01	4.541E-01	5.226E-02	-0.083
		80.30		-6.365E-02	5.003E-01	7.466E-01	8.631E-02	-0.085
HG-203		439.56	*	2.750E-02	9.060E-02	1.512E-01	8.576E-03	0.182
		70.83		-2.254E-01	1.609E+00	2.691E+00	4.197E-01	-0.084
		72.87		-4.857E-01	1.028E+00	1.509E+00	2.296E-01	-0.322
		82.60		9.784E-01	1.615E+00	2.639E+00	4.177E-01	0.371
		279.20	*	-3.450E-02	5.523E-02	8.996E-02	6.264E-03	-0.384
		72.80		-3.782E-01	3.287E-01	4.958E-01	5.684E-02	-0.763
BI-207		74.97		2.398E-01	2.006E-01	3.172E-01	3.633E-02	0.756
		84.90		1.393E-01	3.246E-01	4.991E-01	5.889E-02	0.279
		569.67		7.859E-02	5.458E-02	9.710E-02	5.244E-03	0.809
		1063.62	*	-4.375E-02	1.163E-01	1.828E-01	1.300E-02	-0.239
		1770.23		-5.739E-01	6.981E-01	9.039E-01	5.491E-02	-0.635
		81.07		-3.746E-01	3.866E-01	5.461E-01	6.331E-02	-0.686
TL-207		83.78		5.489E-02	2.188E-01	3.339E-01	3.917E-02	0.164
		94.90		-6.830E-02	3.174E-01	4.659E-01	4.801E-02	-0.147
	+	122.32		1.394E+01	4.937E+00	5.736E+00	4.413E-01	2.431
		144.24		-5.456E-01	8.884E-01	1.391E+00	1.087E-01	-0.392
		154.21		-3.254E-01	5.672E-01	8.929E-01	6.733E-02	-0.364
		269.46		4.127E-01	2.961E-01	5.311E-01	3.663E-02	0.777
		323.87	*	-1.759E-01	1.133E+00	1.879E+00	3.146E-01	-0.094

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209	+	338.28		3.893E+00	2.196E+00	3.376E+00	3.648E-01	1.153
		445.03		-5.443E-01	4.571E+00	7.435E+00	7.582E-01	-0.073
		260.50		3.076E-01	1.543E+01	2.616E+01	1.747E+00	0.012
		262.80		2.810E+01	4.210E+01	7.355E+01	4.911E+00	0.382
BI-210		896.60	*	-4.254E+00	1.697E+01	2.742E+01	2.250E+00	-0.155
		46.50	*	-1.110E+01	1.546E+01	2.555E+01	2.227E+00	-0.434
PB-210		46.50	*	-1.110E+01	1.546E+01	2.555E+01	2.227E+00	-0.434
PO-210		46.50	*	-1.110E+01	1.545E+01	2.555E+01	1.985E+00	-0.434
PB-211		404.84	*	-1.233E+00	1.900E+00	2.745E+00	1.711E+00	-0.449
BI-212		427.08		1.348E-01	4.080E+00	6.714E+00	4.149E+00	0.020
		831.96		1.567E+00	2.479E+00	3.969E+00	2.480E+00	0.395
	+	727.18	*	8.673E-01	6.945E-01	8.877E-01	6.785E-02	0.977
		785.46		2.936E-01	2.983E+00	4.999E+00	3.254E-01	0.059
BI-214		1620.62		1.594E+00	1.625E+00	3.180E+00	2.076E-01	0.501
	+	609.31	*	6.395E-01	2.263E-01	2.922E-01	2.147E-02	2.188
		1120.29		9.667E-01	5.874E-01	1.065E+00	9.923E-02	0.908
		1764.49		7.641E-01	4.294E-01	8.626E-01	5.259E-02	0.886
PO-215		81.07		-3.746E-01	3.866E-01	5.461E-01	6.331E-02	-0.686
		83.78		5.489E-02	2.188E-01	3.339E-01	3.917E-02	0.164
		94.90		-6.830E-02	3.174E-01	4.659E-01	4.801E-02	-0.147
	+	122.32		1.394E+01	4.937E+00	5.736E+00	4.413E-01	2.431
		144.24		-5.456E-01	8.884E-01	1.391E+00	1.087E-01	-0.392
		154.21		-3.254E-01	5.672E-01	8.929E-01	6.733E-02	-0.364
		269.46		4.127E-01	2.961E-01	5.311E-01	3.663E-02	0.777
		323.87	*	-1.759E-01	1.133E+00	1.879E+00	3.146E-01	-0.094
RN-219	+	338.28		3.893E+00	2.196E+00	3.376E+00	3.648E-01	1.153
		445.03		-5.443E-01	4.571E+00	7.435E+00	7.582E-01	-0.073
		271.23		2.261E-01	3.870E-01	6.712E-01	5.869E-02	0.337
		401.81	*	-6.907E-01	7.457E-01	1.150E+00	1.557E-01	-0.601
RN-220		549.76	*	1.836E+01	4.580E+01	7.624E+01	4.177E+00	0.241
RA-223		81.07		-3.746E-01	3.866E-01	5.461E-01	6.331E-02	-0.686
		83.78		5.489E-02	2.188E-01	3.339E-01	3.917E-02	0.164
		94.90		-6.830E-02	3.174E-01	4.659E-01	4.801E-02	-0.147
	+	122.32		1.394E+01	4.937E+00	5.736E+00	4.413E-01	2.431
		144.24		-5.456E-01	8.884E-01	1.391E+00	1.087E-01	-0.392
		154.21		-3.254E-01	5.672E-01	8.929E-01	6.733E-02	-0.364
		269.46		4.127E-01	2.961E-01	5.311E-01	3.663E-02	0.777
		323.87	*	-1.759E-01	1.133E+00	1.879E+00	3.146E-01	-0.094
RA-226	+	338.28		3.893E+00	2.196E+00	3.376E+00	3.648E-01	1.153
		445.03		-5.443E-01	4.571E+00	7.435E+00	7.582E-01	-0.073
	+	609.31	*	6.395E-01	2.263E-01	2.922E-01	2.147E-02	2.188
		1120.29		9.667E-01	5.874E-01	1.065E+00	9.923E-02	0.908
AC-227		1764.49		7.641E-01	4.294E-01	8.626E-01	5.259E-02	0.886
		79.80		-1.449E+00	2.826E+00	4.096E+00	9.353E-01	-0.354
		236.00		2.340E-01	3.881E-01	5.701E-01	6.243E-02	0.411
		256.20	*	2.352E-01	6.238E-01	1.075E+00	1.542E-01	0.219
		286.10		-6.278E-01	2.476E+00	4.115E+00	4.937E-01	-0.153
		299.80		3.596E+00	2.668E+00	4.219E+00	6.993E-01	0.852
		304.40		-1.850E+00	3.066E+00	4.949E+00	8.691E-01	-0.374

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		334.20		3.672E+00	4.017E+00	6.257E+00	1.158E+00	0.587
		79.80		-1.449E+00	2.827E+00	4.096E+00	9.459E-01	-0.354
	+	94.00		7.075E+00	4.174E+00	4.242E+00	9.582E-01	1.668
		236.00		2.340E-01	3.879E-01	5.701E-01	5.489E-02	0.411
		256.20	*	2.352E-01	6.242E-01	1.075E+00	1.851E-01	0.219
		286.10		-6.278E-01	2.553E+00	4.115E+00	4.124E+00	-0.153
		299.80		3.596E+00	2.668E+00	4.219E+00	6.993E-01	0.852
TH-229		304.40		-1.850E+00	3.066E+00	4.949E+00	8.691E-01	-0.374
		334.20		3.672E+00	4.017E+00	6.257E+00	1.158E+00	0.587
	+	85.43		2.117E-01	3.215E-01	4.990E-01	5.905E-02	0.424
		88.47		4.025E+00	6.107E-01	5.789E-01	6.881E-02	6.954
		100.00		-4.894E-02	2.542E-01	4.178E-01	3.917E-02	-0.117
		193.63	*	3.768E-01	8.242E-01	1.352E+00	8.772E-02	0.279
		210.97		-3.529E-01	1.222E+00	1.921E+00	1.263E-01	-0.184
TH-230	+	609.31	*	6.395E-01	2.263E-01	2.922E-01	2.147E-02	2.188
		1120.29		9.667E-01	5.874E-01	1.065E+00	9.923E-02	0.908
		1764.49		7.641E-01	4.294E-01	8.626E-01	5.259E-02	0.886
PA-231		283.67	*	-1.475E-01	2.465E+00	4.142E+00	5.861E-01	-0.036
		301.29		5.767E-01	9.361E-01	1.617E+00	1.761E-01	0.357
TH-231		81.07		-3.746E-01	3.866E-01	5.461E-01	6.331E-02	-0.686
		83.78		5.489E-02	2.188E-01	3.339E-01	3.917E-02	0.164
		94.90		-6.830E-02	3.174E-01	4.659E-01	4.801E-02	-0.147
	+	122.32		1.394E+01	4.937E+00	5.736E+00	4.413E-01	2.431
		144.24		-5.456E-01	8.884E-01	1.391E+00	1.087E-01	-0.392
		154.21		-3.254E-01	5.672E-01	8.929E-01	6.733E-02	-0.364
		269.46		4.127E-01	2.961E-01	5.311E-01	3.663E-02	0.777
U-231		323.87	*	-1.759E-01	1.133E+00	1.879E+00	3.146E-01	-0.094
	+	338.28		3.893E+00	2.196E+00	3.376E+00	3.648E-01	1.153
		445.03		-5.443E-01	4.571E+00	7.435E+00	7.582E-01	-0.073
	+	84.21		1.412E+00	2.703E+00	4.177E+00	4.910E-01	0.338
		92.29		2.028E+00	1.126E+00	1.409E+00	1.533E-01	1.439
		95.87	*	3.145E-02	4.369E-01	6.542E-01	6.614E-02	0.048
		108.00		-1.040E-01	7.868E-01	1.292E+00	1.069E-01	-0.080
PA-233		75.28		6.929E+00	5.971E+00	9.321E+00	1.594E+00	0.743
	+	86.59		5.772E+01	1.708E+01	7.240E+00	2.031E+00	7.972
		300.12		1.117E+00	7.076E-01	1.183E+00	1.631E-01	0.944
		311.98	*	-1.601E-02	1.044E-01	1.736E-01	1.184E-02	-0.092
		340.50		1.080E+00	1.152E+00	1.768E+00	4.083E-01	0.611
		398.62		2.098E+00	3.850E+00	6.494E+00	1.677E+00	0.323
		415.76		-1.915E+00	3.150E+00	4.953E+00	1.018E+00	-0.387
PA-234		63.00		2.055E-01	3.167E+00	4.859E+00	8.537E-01	0.042
		94.67		-5.805E-02	2.321E-01	3.399E-01	4.645E-02	-0.171
		98.44		6.682E-02	1.297E-01	2.119E-01	1.185E-01	0.315
		99.86		-1.100E-01	6.445E-01	1.061E+00	9.970E-02	-0.104
		111.00		-9.045E-02	2.493E-01	4.036E-01	4.688E-02	-0.224
		131.20		-5.006E-02	1.438E-01	2.312E-01	1.551E-02	-0.217
		152.70		-4.575E-01	4.766E-01	7.269E-01	1.167E-01	-0.629
		186.00		2.395E+00	1.978E+00	3.159E+00	9.692E-01	0.758
		226.40		-4.442E-03	6.371E-01	1.012E+00	1.214E-01	-0.004

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	227.20			-4.356E-01	7.079E-01	1.085E+00	7.195E-02	-0.402
	248.90			-1.510E-01	1.377E+00	2.161E+00	4.698E-01	-0.070
+	293.70			3.882E+00	1.846E+00	2.085E+00	3.417E-01	1.861
	369.80			-3.401E-01	1.476E+00	2.412E+00	5.031E-01	-0.141
	568.70			5.101E-01	1.831E+00	3.010E+00	1.627E-01	0.169
	569.50			4.937E-01	4.920E-01	8.505E-01	4.594E-02	0.580
	574.00			-3.220E+00	2.599E+00	3.726E+00	2.005E-01	-0.864
	699.00			-9.636E-01	1.224E+00	1.908E+00	3.404E-01	-0.505
	706.10			-2.208E-02	1.891E+00	3.165E+00	1.395E+00	-0.007
	733.00			-6.226E-02	6.884E-01	1.037E+00	2.204E-01	-0.060
	742.81			-1.006E+00	2.506E+00	3.896E+00	2.607E+00	-0.258
	796.30			1.483E+00	1.973E+00	3.012E+00	7.981E-01	0.492
	805.60			1.294E+00	2.004E+00	3.419E+00	1.032E+00	0.379
	819.60			3.238E-01	2.313E+00	3.871E+00	1.459E+00	0.084
	826.30			-2.483E-02	1.598E+00	2.643E+00	1.175E+00	-0.009
	831.60			7.999E-01	1.216E+00	2.075E+00	6.113E-01	0.385
	876.40			5.784E-01	1.867E+00	2.990E+00	3.072E+00	0.193
	880.51			-4.465E-01	6.312E-01	9.836E-01	7.817E-02	-0.454
	883.24			-1.203E-01	6.610E-01	1.067E+00	7.162E-01	-0.113
	899.00			5.630E-02	1.874E+00	3.090E+00	1.349E+00	0.018
	925.00			-1.670E+00	2.875E+00	4.521E+00	3.661E-01	-0.369
	926.50			8.866E-03	4.184E-01	6.878E-01	1.726E-01	0.013
	946.00	*		-4.294E-01	7.926E-01	1.246E+00	2.302E-01	-0.345
	949.00			1.753E-01	1.158E+00	1.915E+00	1.525E-01	0.092
	980.50			-8.572E-01	1.620E+00	2.532E+00	1.967E-01	-0.339
PA-234M	1394.10			2.371E-01	1.330E+00	2.273E+00	1.475E+00	0.104
	766.42			-1.092E+01	2.064E+01	3.176E+01	1.600E+01	-0.344
TH-234	1001.03	*		-3.072E+00	9.607E+00	1.529E+01	1.394E+00	-0.201
+	63.29	*		-1.221E+00	2.770E+00	4.105E+00	8.122E-01	-0.297
U-234	92.38			1.831E+00	1.057E+00	1.272E+00	2.449E-01	1.439
+	609.31	*		6.395E-01	2.263E-01	2.922E-01	2.147E-02	2.188
	1120.29			9.667E-01	5.874E-01	1.065E+00	9.923E-02	0.908
U-235	1764.49			7.641E-01	4.294E-01	8.626E-01	5.259E-02	0.886
+	89.95			4.370E+00	2.432E+00	2.827E+00	8.984E-01	1.546
	93.35			2.201E+00	1.355E+00	1.480E+00	4.250E-01	1.487
	105.00			6.263E-01	1.462E+00	2.451E+00	7.318E-01	0.255
	143.76	*		-2.104E-01	2.774E-01	4.276E-01	7.088E-02	-0.492
	163.35			-1.002E-01	6.483E-01	1.040E+00	1.891E-01	-0.096
	185.71			1.055E-01	6.839E-02	1.183E-01	7.628E-03	0.892
	205.31			1.185E-01	7.974E-01	1.284E+00	2.342E-01	0.092
NP-236	94.67			-4.336E-02	1.761E-01	2.579E-01	2.671E-02	-0.168
	98.44			5.053E-02	9.402E-02	1.602E-01	1.543E-02	0.316
	111.00			-6.842E-02	1.885E-01	3.053E-01	2.425E-02	-0.224
	160.31	*		1.450E-02	1.072E-01	1.750E-01	1.118E-02	0.083
U-238	63.29	*		-1.221E+00	2.770E+00	4.105E+00	8.122E-01	-0.297
+	92.38			1.831E+00	1.016E+00	1.272E+00	1.381E-01	1.439
NP-239	99.55			-5.675E-02	2.176E-01	3.565E-01	3.369E-02	-0.159
	117.00	*		9.734E-02	2.816E-01	4.250E-01	3.127E-02	0.229
	209.75			2.013E-01	1.244E+00	2.003E+00	1.315E-01	0.101

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243		228.18		-1.081E-01	3.732E-01	5.831E-01	3.870E-02	-0.185
		277.60		-7.001E-02	2.631E-01	4.376E-01	2.911E-02	-0.160
		334.30		1.967E+00	2.240E+00	3.523E+00	2.228E-01	0.558
		74.67	*	1.206E-01	1.122E-01	1.769E-01	2.025E-02	0.682
	+	86.72		3.247E+02	4.926E+01	4.333E+01	5.169E+00	7.492
CM-243		117.66		-3.016E-01	5.674E+00	8.326E+00	6.078E-01	-0.036
		142.18		8.288E+00	2.154E+01	3.590E+01	2.348E+00	0.231
		99.55		-5.837E-02	2.238E-01	3.667E-01	3.465E-02	-0.159
		103.76	*	4.304E-02	1.326E-01	2.231E-01	1.967E-02	0.193
		117.00		1.001E-01	2.896E-01	4.370E-01	3.215E-02	0.229
AM-246		209.75		1.983E-01	1.226E+00	1.973E+00	1.296E-01	0.101
		228.18		-1.091E-01	3.769E-01	5.889E-01	3.909E-02	-0.185
		277.60		-7.054E-02	2.651E-01	4.409E-01	2.933E-02	-0.160
		798.80		-5.449E-02	2.941E-01	4.149E-01	2.781E-02	-0.131
		1036.00		2.353E-01	6.815E-01	1.140E+00	8.384E-02	0.206
CM-247		1062.04		2.481E-01	4.787E-01	8.108E-01	5.778E-02	0.306
		1078.86	*	-1.397E-01	3.193E-01	4.984E-01	3.474E-02	-0.280
		278.00		-3.046E-01	1.092E+00	1.814E+00	1.207E-01	-0.168
		287.40		5.626E-01	1.970E+00	3.368E+00	2.230E-01	0.167
		402.60	*	-7.304E-02	6.775E-02	1.042E-01	5.879E-03	-0.701
CF-249		252.85		2.758E-01	1.403E+00	2.403E+00	1.605E-01	0.115
		333.44		3.441E-01	2.962E-01	4.747E-01	3.005E-02	0.725
		387.95	*	-1.446E-02	7.280E-02	1.190E-01	6.760E-03	-0.122
CF-251		176.60	*	8.831E-02	1.810E-01	2.994E-01	1.916E-02	0.295
		227.00		-4.885E-01	6.296E-01	9.549E-01	6.334E-02	-0.512
		285.00		-5.860E-01	2.781E+00	4.633E+00	3.072E-01	-0.126

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005194      *
* Acquisition date   : 9-JAN-2010 15:25:49 Detector SN# :                   *
* Detector ID        : GAM04 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 01:00:01.25 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 2-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202005194 Analyst initials: MXR1                 *
* Batch Number      : 937074 Sample Quantity : 1.5544E+02 GRAM          *
* Recovery          : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 5-MAY-2009 14:25:41 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.131E+00	5.212E-01	6.756E-01	0.000E+00
CO-57	1.979E-01	6.836E-02	6.084E-02	0.000E+00
CO-60	5.774E+00	5.129E-01	9.158E-02	0.000E+00
CD-109	2.966E+01	4.410E+00	2.170E+00	0.000E+00
SN-126	2.948E+00	4.384E-01	2.174E-01	0.000E+00
BA-137M	4.918E+00	3.390E-01	1.065E-01	0.000E+00
CS-137	5.199E+00	3.594E-01	1.126E-01	0.000E+00
TL-208	3.640E-01	1.331E-01	1.051E-01	0.000E+00
BI-211	2.707E+00	6.797E-01	5.783E-01	0.000E+00
PB-212	1.035E+00	1.751E-01	1.708E-01	0.000E+00
PO-212	1.035E+00	1.751E-01	1.708E-01	0.000E+00
PB-214	9.415E-01	2.413E-01	2.016E-01	0.000E+00
PO-214	9.415E-01	2.413E-01	2.016E-01	0.000E+00
PO-216	1.035E+00	1.751E-01	1.708E-01	0.000E+00
PO-218	9.415E-01	2.413E-01	2.016E-01	0.000E+00
RA-224	1.419E+00	9.822E-01	1.712E+00	0.000E+00
AC-228	6.938E-01	4.990E-01	5.518E-01	0.000E+00
RA-228	6.938E-01	4.990E-01	5.518E-01	0.000E+00
TH-228	1.042E+00	1.765E-01	1.721E-01	0.000E+00
TH-232	6.938E-01	4.990E-01	5.518E-01	0.000E+00
NP-237	8.658E+00	2.173E+00	6.813E-01	0.000E+00
AM-241	1.227E+01	1.790E+00	6.926E-01	0.000E+00
ANH-511	9.875E-02	9.928E-02	8.222E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.084E-01	6.127E-01	1.071E+00	0.000E+00 NOT IDENT.
NA-22	5.326E-02	5.020E-02	9.894E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.914E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-3.030E-02	3.981E-02	5.132E-02	0.000E+00 NOT IDENT.

TI-44	1.054E-01	8.528E-02	1.073E-01	0.000E+00	FAIL ABUN
SC-46	1.154E-02	8.435E-02	1.463E-01	0.000E+00	NOT IDENT.
V-48	-1.152E-01	1.114E-01	1.728E-01	0.000E+00	NOT IDENT.
CR-51	1.226E-01	5.213E-01	9.470E-01	0.000E+00	NOT IDENT.
MN-52	-2.403E-02	9.249E-02	1.480E-01	0.000E+00	NOT IDENT.
MN-54	-2.722E-02	6.530E-02	1.091E-01	0.000E+00	NOT IDENT.
CO-56	5.602E-02	7.849E-02	1.420E-01	0.000E+00	NOT IDENT.
CO-58	-2.717E-02	6.725E-02	1.135E-01	0.000E+00	NOT IDENT.
FE-59	1.014E-01	1.653E-01	2.915E-01	0.000E+00	NOT IDENT.
ZN-65	-9.784E-02	1.775E-01	2.835E-01	0.000E+00	NOT IDENT.
GE-68	9.254E-01	2.603E+00	4.506E+00	0.000E+00	NOT IDENT.
AS-73	5.900E-01	2.597E+00	4.990E+00	0.000E+00	NOT IDENT.
AS-74	-8.457E-02	1.281E-01	2.058E-01	0.000E+00	NOT IDENT.
SE-75	-3.009E-02	6.464E-02	1.151E-01	0.000E+00	FAIL ABUN
BR-77	1.806E-01	1.953E+00	3.374E+00	0.000E+00	FAIL ABUN
SR-82	-1.628E-01	5.492E-01	9.349E-01	0.000E+00	NOT IDENT.
RB-83	7.018E-03	1.093E-01	1.884E-01	0.000E+00	NOT IDENT.
RB-84	-8.934E-03	1.299E-01	2.223E-01	0.000E+00	NOT IDENT.
KR-85	4.557E+00	1.252E+01	1.951E+01	0.000E+00	NOT IDENT.
SR-85	2.160E-02	5.933E-02	9.247E-02	0.000E+00	NOT IDENT.
RB-86	8.085E-01	1.283E+00	2.266E+00	0.000E+00	NOT IDENT.
Y-88	3.585E-02	4.177E-02	8.345E-02	0.000E+00	NOT IDENT.
ZR-88	2.267E-02	4.864E-02	8.811E-02	0.000E+00	NOT IDENT.
Y-91	-2.322E+00	2.272E+01	3.725E+01	0.000E+00	NOT IDENT.
NB-94	6.261E-03	5.794E-02	1.028E-01	0.000E+00	NOT IDENT.
NB-95	-1.699E-02	6.600E-02	1.129E-01	0.000E+00	NOT IDENT.
NB-95M	7.533E-02	1.823E-01	2.861E-01	0.000E+00	NOT IDENT.
ZR-95	-3.951E-02	1.124E-01	1.909E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.519E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.161E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.088E-01	3.040E+00	5.365E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.268E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.388E-02	4.913E-02	8.105E-02	0.000E+00	NOT IDENT.
RH-102	5.101E-02	5.918E-02	1.074E-01	0.000E+00	NOT IDENT.
RU-103	-5.386E-03	7.129E-02	1.223E-01	0.000E+00	FAIL ABUN
RH-106	-1.604E-01	5.518E-01	9.064E-01	0.000E+00	FAIL ABUN
RU-106	-1.604E-01	5.516E-01	9.064E-01	0.000E+00	FAIL ABUN
AG-108M	-1.863E-02	6.286E-02	1.078E-01	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	8.060E-02	1.488E-01	0.000E+00	NOT IDENT.
IN-111	-1.226E-01	3.130E-01	4.607E-01	0.000E+00	NOT IDENT.
IN-113M	-5.002E-02	7.250E-02	1.222E-01	0.000E+00	NOT IDENT.
SN-113	-5.002E-02	7.250E-02	1.222E-01	0.000E+00	NOT IDENT.
IN-114M	7.184E-02	2.468E-01	4.370E-01	0.000E+00	NOT IDENT.
CD-115	7.290E-01	1.779E+00	3.143E+00	0.000E+00	NOT IDENT.
SN-117M	-6.828E-03	5.224E-02	9.188E-02	0.000E+00	NOT IDENT.
SB-122	-2.165E-01	4.914E-01	8.053E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.081E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.299E-02	3.826E-02	6.455E-02	0.000E+00	NOT IDENT.
I-124	-8.031E-02	3.912E-01	5.640E-01	0.000E+00	NOT IDENT.
SB-124	-2.489E-02	9.325E-02	1.460E-01	0.000E+00	FAIL ABUN
SB-125	1.327E-03	1.775E-01	3.106E-01	0.000E+00	NOT IDENT.
TE-125M	-1.606E+00	1.107E+01	2.002E+01	0.000E+00	NOT IDENT.
I-126	5.159E-02	2.135E-01	3.380E-01	0.000E+00	NOT IDENT.
SB-126	-2.020E-01	1.937E-01	2.615E-01	0.000E+00	NOT IDENT.
SB-127	2.047E-01	5.931E-01	1.073E+00	0.000E+00	NOT IDENT.
XE-127	-2.772E-02	6.139E-02	1.039E-01	0.000E+00	NOT IDENT.
I-131	2.350E-02	1.007E-01	1.812E-01	0.000E+00	NOT IDENT.
TE-132	-6.775E-02	2.271E-01	3.836E-01	0.000E+00	NOT IDENT.
BA-133	-2.650E-02	8.108E-02	1.233E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.656E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.460E-01	9.656E-02	1.580E-01	0.000E+00	FAIL ABUN
CS-135	9.389E-02	2.401E-01	4.454E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.749E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.316E-01	1.524E-01	2.376E-01	0.000E+00	NOT IDENT.
CE-139	1.853E-02	3.933E-02	7.111E-02	0.000E+00	NOT IDENT.
BA-140	-1.783E-01	3.198E-01	5.156E-01	0.000E+00	NOT IDENT.
LA-140	-1.761E-02	6.291E-02	9.885E-02	0.000E+00	NOT IDENT.
CE-141	1.443E-02	6.712E-02	1.211E-01	0.000E+00	NOT IDENT.
CE-143	8.096E+00	5.625E+00	9.424E+00	0.000E+00	FAIL ABUN
CE-144	-2.435E-02	2.852E-01	4.544E-01	0.000E+00	NOT IDENT.
PM-144	6.155E-02	5.414E-02	1.032E-01	0.000E+00	NOT IDENT.
PR-144	4.155E+00	3.654E+00	6.964E+00	0.000E+00	NOT IDENT.
PM-146	-1.800E-02	8.726E-02	1.499E-01	0.000E+00	NOT IDENT.
ND-147	5.897E-02	6.058E-01	1.045E+00	0.000E+00	NOT IDENT.
PM-149	-5.135E+00	1.394E+01	2.477E+01	0.000E+00	NOT IDENT.
EU-152	-1.685E-02	1.726E-01	2.837E-01	0.000E+00	FAIL ABUN
GD-153	2.620E-02	1.147E-01	1.919E-01	0.000E+00	NOT IDENT.
EU-154	1.593E-01	1.397E-01	2.772E-01	0.000E+00	NOT IDENT.

EU-155	8.314E-02	1.414E-01	2.653E-01	0.000E+00	FAIL ABUN
TB-160	-1.404E-01	2.824E-01	4.677E-01	0.000E+00	FAIL ABUN
HO-166M	-5.155E-02	1.097E-01	1.863E-01	0.000E+00	NOT IDENT.
TM-171	-1.216E+01	4.848E+01	9.016E+01	0.000E+00	FAIL ABUN
LU-176	5.460E-03	3.983E-02	7.227E-02	0.000E+00	FAIL ABUN
LU-177	1.114E+00	7.674E-01	1.419E+00	0.000E+00	NOT IDENT.
LU-177M	2.236E-01	3.139E-01	5.724E-01	0.000E+00	FAIL ABUN
HF-181	-2.781E-02	7.434E-02	1.255E-01	0.000E+00	FAIL ABUN
W-181	-2.200E-01	6.206E-01	1.150E+00	0.000E+00	NOT IDENT.
TA-182	1.436E-01	2.105E-01	3.952E-01	0.000E+00	NOT IDENT.
RE-183	-9.251E-02	1.388E-01	2.363E-01	0.000E+00	FAIL ABUN
RE-184	7.129E-02	3.554E-01	6.566E-01	0.000E+00	FAIL ABUN
OS-185	-1.168E-02	6.476E-02	1.134E-01	0.000E+00	FAIL ABUN
RE-188	3.963E-02	2.215E-01	3.965E-01	0.000E+00	NOT IDENT.
W-188	4.401E-01	1.182E+01	1.891E+01	0.000E+00	NOT IDENT.
IR-192	1.990E-02	5.308E-02	9.723E-02	0.000E+00	FAIL ABUN
AU-195	-3.781E-02	2.989E-01	5.450E-01	0.000E+00	FAIL ABUN
TL-200	-4.593E+00	6.427E+00	1.088E+01	0.000E+00	NOT IDENT.
TL-201	-1.651E+00	1.792E+00	2.997E+00	0.000E+00	FAIL ABUN
TL-202	2.750E-02	8.879E-02	1.576E-01	0.000E+00	NOT IDENT.
HG-203	-3.450E-02	5.413E-02	9.489E-02	0.000E+00	NOT IDENT.
BI-207	-4.375E-02	1.140E-01	1.860E-01	0.000E+00	NOT IDENT.
TL-207	-1.759E-01	1.111E+00	1.974E+00	0.000E+00	FAIL ABUN
PO-209	-4.254E+00	1.664E+01	2.803E+01	0.000E+00	NOT IDENT.
BI-210	-1.110E+01	1.515E+01	2.817E+01	0.000E+00	NOT IDENT.
PB-210	-1.110E+01	1.515E+01	2.817E+01	0.000E+00	NOT IDENT.
PO-210	-1.110E+01	1.514E+01	2.817E+01	0.000E+00	NOT IDENT.
PB-211	-1.233E+00	1.862E+00	2.867E+00	0.000E+00	NOT IDENT.
BI-212	8.673E-01	6.806E-01	9.127E-01	0.000E+00	FAIL ABUN
BI-214	0.000E+00	2.217E-01	3.019E-01	0.000E+00	FAIL ABUN
PO-215	-1.759E-01	1.111E+00	1.974E+00	0.000E+00	FAIL ABUN
RN-219	-6.907E-01	7.308E-01	1.201E+00	0.000E+00	NOT IDENT.
RN-220	1.836E+01	4.489E+01	7.899E+01	0.000E+00	NOT IDENT.
RA-223	-1.759E-01	1.111E+00	1.974E+00	0.000E+00	FAIL ABUN
RA-226	0.000E+00	2.217E-01	3.019E-01	0.000E+00	FAIL ABUN
AC-227	2.352E-01	6.113E-01	1.136E+00	0.000E+00	NOT IDENT.
TH-227	2.352E-01	6.117E-01	1.136E+00	0.000E+00	FAIL ABUN
TH-229	3.768E-01	8.077E-01	1.439E+00	0.000E+00	FAIL ABUN
TH-230	0.000E+00	2.217E-01	3.019E-01	0.000E+00	FAIL ABUN
PA-231	-1.475E-01	2.415E+00	4.366E+00	0.000E+00	NOT IDENT.
TH-231	-1.759E-01	1.111E+00	1.974E+00	0.000E+00	FAIL ABUN
U-231	3.145E-02	4.282E-01	7.088E-01	0.000E+00	FAIL ABUN
PA-233	-1.601E-02	1.024E-01	1.825E-01	0.000E+00	FAIL ABUN
PA-234	-4.294E-01	7.767E-01	1.272E+00	0.000E+00	FAIL ABUN
PA-234M	-3.072E+00	9.415E+00	1.558E+01	0.000E+00	NOT IDENT.
TH-234	-1.221E+00	2.715E+00	4.493E+00	0.000E+00	FAIL ABUN
U-234	0.000E+00	2.217E-01	3.019E-01	0.000E+00	FAIL ABUN
U-235	-2.104E-01	2.718E-01	4.587E-01	0.000E+00	FAIL ABUN
NP-236	1.450E-02	1.050E-01	1.872E-01	0.000E+00	NOT IDENT.
U-238	-1.221E+00	2.715E+00	4.493E+00	0.000E+00	FAIL ABUN
NP-239	9.734E-02	2.760E-01	4.582E-01	0.000E+00	NOT IDENT.
AM-243	1.206E-01	1.100E-01	1.928E-01	0.000E+00	FAIL ABUN
CM-243	4.304E-02	1.299E-01	2.412E-01	0.000E+00	NOT IDENT.
AM-246	-1.397E-01	3.129E-01	5.070E-01	0.000E+00	NOT IDENT.
CM-247	-7.304E-02	6.639E-02	1.088E-01	0.000E+00	NOT IDENT.
CF-249	-1.446E-02	7.135E-02	1.244E-01	0.000E+00	NOT IDENT.
CF-251	8.831E-02	1.773E-01	3.195E-01	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005194.CNF;1
Sample date        : 2-JAN-2010 00:00:00. Acquisition date : 9-JAN-2010 15:25:49.
Sample ID          : G1202005194      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM04             Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00     Elapsed real time: 0 01:00:01.25 0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 937074             Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	27	10.67*	1.075E+00	1.131E+00	1.131E+00	47.03
CO-57	122.06	223	85.51*	6.483E+00	1.940E-01	1.979E-01	35.26
	136.48	90	10.60	6.471E+00	6.342E-01	6.467E-01	56.32
CO-60	1173.22	1531	100.00	1.301E+00	5.684E+00	5.700E+00	8.23
	1332.49	1383	100.00*	1.160E+00	5.758E+00	5.774E+00	9.06
CD-109	88.03	1146	3.72*	5.076E+00	2.933E+01	2.966E+01	15.17
SN-126	64.28	-----	9.60	2.203E+00	-----	Line Not Found	-----
	86.94	1146	8.90	5.076E+00	1.226E+01	1.226E+01	43.20
	87.57	1146	37.00*	5.076E+00	2.948E+00	2.948E+00	15.17
BA-137M	661.65	2023	89.98*	2.209E+00	4.916E+00	4.918E+00	7.03
CS-137	661.65	2023	85.12*	2.209E+00	5.196E+00	5.199E+00	7.05
TL-208	277.35	-----	6.80	4.326E+00	-----	Line Not Found	-----
	510.84	56	21.60	2.732E+00	4.572E-01	4.572E-01	102.92
	583.14	156	84.20*	2.456E+00	3.640E-01	3.640E-01	37.31
	860.37	-----	12.46	1.744E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.384E+00	-----	Line Not Found	-----
	351.07	263	12.94*	3.632E+00	2.707E+00	2.707E+00	25.63
PB-212	74.81	-----	10.70	3.638E+00	-----	Line Not Found	-----
	77.11	83	18.00	3.918E+00	5.716E-01	5.716E-01	82.52
	87.30	1146	8.00	5.076E+00	1.364E+01	1.364E+01	18.17
	238.63	461	44.60*	4.831E+00	1.035E+00	1.035E+00	17.27
	300.09	-----	3.41	4.082E+00	-----	Line Not Found	-----
PO-212	74.81	-----	10.70	3.638E+00	-----	Line Not Found	-----
	77.11	83	18.00	3.918E+00	5.716E-01	5.716E-01	82.52
	87.30	1146	8.00	5.076E+00	1.364E+01	1.364E+01	18.17
	115.19	-----	0.60	6.408E+00	-----	Line Not Found	-----
	238.63	461	44.60*	4.831E+00	1.035E+00	1.035E+00	17.27
	300.09	-----	3.41	4.082E+00	-----	Line Not Found	-----
PB-214	74.81	-----	6.21	3.638E+00	-----	Line Not Found	-----
	77.11	83	10.50	3.918E+00	9.799E-01	9.799E-01	82.88
	87.30	1146	4.67	5.076E+00	2.336E+01	2.336E+01	17.02
	241.98	55	7.49	4.780E+00	7.485E-01	7.485E-01	70.83

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	133	19.20	4.136E+00	8.087E-01	8.087E-01	45.55
	351.92	263	37.20*	3.632E+00	9.415E-01	9.415E-01	26.15
	74.81	-----	6.21	3.638E+00	-----	Line Not Found	-----
	77.11	83	10.50	3.918E+00	9.799E-01	9.799E-01	82.88
	87.30	1146	4.67	5.076E+00	2.336E+01	2.336E+01	17.02
PO-216	241.98	55	7.49	4.780E+00	7.485E-01	7.485E-01	70.83
	295.21	133	19.20	4.136E+00	8.087E-01	8.087E-01	45.55
	351.92	263	37.20*	3.632E+00	9.415E-01	9.415E-01	26.15
	74.81	-----	10.70	3.638E+00	-----	Line Not Found	-----
	77.11	83	18.00	3.918E+00	5.716E-01	5.716E-01	82.52
PO-218	87.30	1146	8.00	5.076E+00	1.364E+01	1.364E+01	18.17
	238.63	461	44.60*	4.831E+00	1.035E+00	1.035E+00	17.27
	300.09	-----	3.41	4.082E+00	-----	Line Not Found	-----
	74.81	-----	6.21	3.638E+00	-----	Line Not Found	-----
	77.11	83	10.50	3.918E+00	9.799E-01	9.799E-01	82.88
RA-224	87.30	1146	4.67	5.076E+00	2.336E+01	2.336E+01	17.02
	241.98	55	7.49	4.780E+00	7.485E-01	7.485E-01	70.83
	295.21	133	19.20	4.136E+00	8.087E-01	8.087E-01	45.55
	351.92	263	37.20*	3.632E+00	9.415E-01	9.415E-01	26.15
	240.98	55	3.95*	4.780E+00	1.419E+00	1.419E+00	70.61
AC-228	338.32	82	11.40	3.738E+00	9.322E-01	9.322E-01	68.79
	911.07	66	27.70*	1.653E+00	6.938E-01	6.938E-01	73.40
	969.11	71	16.60	1.559E+00	1.326E+00	1.326E+00	61.77
	338.32	82	11.40	3.738E+00	9.322E-01	9.322E-01	68.79
	911.07	66	27.70*	1.653E+00	6.938E-01	6.938E-01	73.40
TH-228	969.11	71	16.60	1.559E+00	1.326E+00	1.326E+00	61.77
	74.81	-----	10.70	3.638E+00	-----	Line Not Found	-----
	77.11	83	18.00	3.918E+00	5.716E-01	5.760E-01	82.52
	87.30	1146	8.00	5.076E+00	1.364E+01	1.374E+01	15.17
	238.63	461	44.60*	4.831E+00	1.035E+00	1.042E+00	17.27
TH-232	300.09	-----	3.41	4.082E+00	-----	Line Not Found	-----
	338.32	82	11.40	3.738E+00	9.322E-01	9.322E-01	55.71
	911.07	66	27.70*	1.653E+00	6.938E-01	6.938E-01	73.40
	969.11	71	16.60	1.559E+00	1.326E+00	1.326E+00	61.77
	86.50	1146	12.60*	5.076E+00	8.658E+00	8.658E+00	25.61
NP-237	95.87	-----	2.60	5.678E+00	-----	Line Not Found	-----
	59.54	1419	35.90*	1.555E+00	1.227E+01	1.227E+01	14.89
ANH-511	511.00	56	100.00*	2.732E+00	9.875E-02	9.875E-02	102.59

Flag: "*" = Keyline

Total number of lines in spectrum 23
Number of unidentified lines 1
Number of lines tentatively identified by NID 22 95.65%

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	1.131E+00	1.131E+00	0.532E+00	47.03	
CO-57	270.90D	1.02	1.940E-01	1.979E-01	0.698E-01	35.26	
CO-60	5.27Y	1.00	5.758E+00	5.774E+00	0.523E+00	9.06	
CD-109	464.00D	1.01	2.933E+01	2.966E+01	0.450E+01	15.17	
SN-126	1.00E+05Y	1.00	2.948E+00	2.948E+00	0.447E+00	15.17	
BA-137M	30.17Y	1.00	4.916E+00	4.918E+00	0.346E+00	7.03	
CS-137	30.17Y	1.00	5.196E+00	5.199E+00	0.367E+00	7.05	
TL-208	1.41E+10Y	1.00	3.640E-01	3.640E-01	1.358E-01	37.31	
BI-211	7.04E+08Y	1.00	2.707E+00	2.707E+00	0.694E+00	25.63	
PB-212	1.41E+10Y	1.00	1.035E+00	1.035E+00	0.179E+00	17.27	
PO-212	1.41E+10Y	1.00	1.035E+00	1.035E+00	0.179E+00	17.27	
PB-214	1600.00Y	1.00	9.415E-01	9.415E-01	2.462E-01	26.15	
PO-214	1600.00Y	1.00	9.415E-01	9.415E-01	2.462E-01	26.15	
PO-216	1.41E+10Y	1.00	1.035E+00	1.035E+00	0.179E+00	17.27	
PO-218	1600.00Y	1.00	9.415E-01	9.415E-01	2.462E-01	26.15	
RA-224	1.41E+10Y	1.00	1.419E+00	1.419E+00	1.002E+00	70.61	
AC-228	1.41E+10Y	1.00	6.938E-01	6.938E-01	5.092E-01	73.40	
RA-228	1.41E+10Y	1.00	6.938E-01	6.938E-01	5.092E-01	73.40	
TH-228	1.91Y	1.01	1.035E+00	1.042E+00	0.180E+00	17.27	
TH-232	1.41E+10Y	1.00	6.938E-01	6.938E-01	5.092E-01	73.40	
NP-237	2.14E+06Y	1.00	8.658E+00	8.658E+00	2.217E+00	25.61	
AM-241	432.20Y	1.00	1.227E+01	1.227E+01	0.183E+01	14.89	
ANH-511	1.00E+09Y	1.00	9.875E-02	9.875E-02	10.13E-02	102.59	
Total Activity :			8.403E+01	8.440E+01			

Grand Total Activity : 8.403E+01 8.440E+01

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

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

Unidentified Energy Lines
Sample ID : G1202005194

Page : 4
Acquisition date : 9-JAN-2010 15:25:49

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.87	112	238	1.89	185.77	182	9	3.12E-02	54.5	5.48E+00	T
0	608.94	145	105	1.28	1217.98	1211	14	4.03E-02	34.6	2.37E+00	T
0	726.96	43	63	1.29	1454.00	1447	12	1.20E-02	79.7	2.03E+00	T
0	794.54	43	52	1.09	1589.17	1584	9	1.20E-02	67.1	1.88E+00	T
0	1762.93	35	0	2.30	3525.57	3518	13	9.72E-03	33.8	9.53E-01	

Flags: "T" = Tentatively associated


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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202005194.CNF;1
* Acquisition date   : 9-JAN-2010 15:25:49.  Detector SN#      :
* Detector ID        : GAM04                      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 01:00:01.25             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-JAN-2010 00:00:00.  Nuclide Library : SOLID
* Sample ID          : G1202005194             Analyst initials: MXR1
* Batch Number       : 937074                 Sample Quantity : 1.55440E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.131E+00	5.318E-01	6.698E-01	4.760E-02	1.688
CO-57	1.979E-01	6.976E-02	5.649E-02	3.922E-03	3.502
CO-60	5.774E+00	5.233E-01	9.057E-02	6.206E-03	63.752
CD-109	2.966E+01	4.500E+00	1.999E+00	2.402E-01	14.841
SN-126	2.948E+00	4.473E-01	2.002E-01	2.401E-02	14.728
BA-137M	4.918E+00	3.460E-01	1.034E-01	5.041E-03	47.585
CS-137	5.199E+00	3.668E-01	1.093E-01	5.360E-03	47.585
TL-208	3.640E-01	1.358E-01	1.016E-01	6.394E-03	3.582
BI-211	2.707E+00	6.936E-01	5.516E-01	3.726E-02	4.907
PB-212	1.035E+00	1.787E-01	1.613E-01	1.296E-02	6.413
PO-212	1.035E+00	1.787E-01	1.613E-01	1.296E-02	6.413
PB-214	9.415E-01	2.462E-01	1.923E-01	1.640E-02	4.897
PO-214	9.415E-01	2.462E-01	1.923E-01	1.640E-02	4.897
PO-216	1.035E+00	1.787E-01	1.613E-01	1.296E-02	6.413
PO-218	9.415E-01	2.462E-01	1.923E-01	1.640E-02	4.897
RA-224	1.419E+00	1.002E+00	1.617E+00	1.078E-01	0.878
AC-228	6.938E-01	5.092E-01	5.400E-01	5.887E-02	1.285
RA-228	6.938E-01	5.092E-01	5.400E-01	5.887E-02	1.285

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.042E+00	1.801E-01	1.626E-01	1.306E-02	6.413
TH-232	6.938E-01	5.092E-01	5.400E-01	5.887E-02	1.285
NP-237	8.658E+00	2.217E+00	6.272E-01	1.494E-01	13.804
AM-241	1.227E+01	1.827E+00	6.319E-01	7.978E-02	19.422
ANH-511	9.875E-02	1.013E-01	7.920E-02	4.429E-03	1.247

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.084E-01		6.252E-01	1.030E+00	6.820E-02	0.105
NA-22	5.326E-02		5.122E-02	9.773E-02	6.390E-03	0.545
NA-24	-9.095E-05		9.765E-05	Half-Life too short		
AL-26	-3.030E-02		4.062E-02	5.119E-02	3.036E-03	-0.592
TI-44	1.054E-01	+	8.702E-02	9.859E-02	1.134E-02	1.070
SC-46	1.154E-02		8.607E-02	1.431E-01	1.157E-02	0.081
V-48	-1.152E-01		1.136E-01	1.695E-01	1.313E-02	-0.680
CR-51	1.226E-01		5.319E-01	9.011E-01	6.346E-02	0.136
MN-52	-2.403E-02		9.438E-02	1.467E-01	1.001E-02	-0.164
MN-54	-2.722E-02		6.664E-02	1.065E-01	7.710E-03	-0.255
CO-56	5.602E-02		8.010E-02	1.387E-01	1.029E-02	0.404
CO-58	-2.717E-02		6.862E-02	1.107E-01	7.642E-03	-0.245
FE-59	1.014E-01		1.686E-01	2.868E-01	2.191E-02	0.354
ZN-65	-9.784E-02		1.811E-01	2.790E-01	1.845E-02	-0.351
GE-68	9.254E-01		2.656E+00	4.430E+00	3.094E-01	0.209
AS-73	5.900E-01		2.650E+00	4.541E+00	5.941E-01	0.130
AS-74	-8.457E-02		1.308E-01	1.991E-01	1.051E-02	-0.425
SE-75	-3.009E-02		6.595E-02	1.090E-01	7.329E-03	-0.276
BR-77	1.806E-01		1.993E+00	3.252E+00	1.811E-01	0.056
SR-82	-1.628E-01		5.605E-01	9.108E-01	5.813E-02	-0.179
RB-83	7.018E-03		1.115E-01	1.815E-01	1.011E-02	0.039
RB-84	-8.934E-03		1.326E-01	2.173E-01	1.731E-02	-0.041
KR-85	4.557E+00		1.277E+01	1.880E+01	1.050E+00	0.242
SR-85	2.160E-02		6.054E-02	8.909E-02	4.976E-03	0.242
RB-86	8.085E-01		1.309E+00	2.228E+00	1.557E-01	0.363
Y-88	3.585E-02		4.262E-02	8.329E-02	4.860E-03	0.431
ZR-88	2.267E-02		4.964E-02	8.429E-02	4.744E-03	0.269
Y-91	-2.322E+00		2.318E+01	3.674E+01	2.251E+00	-0.063
NB-94	6.261E-03		5.912E-02	9.985E-02	5.379E-03	0.063
NB-95	-1.699E-02		6.735E-02	1.100E-01	6.854E-03	-0.155
NB-95M	7.533E-02		1.860E-01	2.701E-01	2.217E-02	0.279
ZR-95	-3.951E-02		1.147E-01	1.858E-01	1.353E-02	-0.213
NB-97	5.193E-04		7.748E-05	Half-Life too short		
ZR-97	7.042E-04		1.103E-03	Half-Life too short		
MO-99	3.088E-01		3.102E+00	5.220E+00	7.210E-01	0.059
TC-99M	2.549E+01		2.688E+01	Half-Life too short		
RH-101	-4.388E-02		5.014E-02	7.618E-02	4.961E-03	-0.576
RH-102	5.101E-02		6.039E-02	1.033E-01	5.841E-03	0.494

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-103	-5.386E-03		7.275E-02	1.177E-01	1.479E-02	-0.046
RH-106	-1.604E-01		5.631E-01	8.778E-01	1.003E-01	-0.183
RU-106	-1.604E-01		5.628E-01	8.778E-01	4.510E-02	-0.183
AG-108M	-1.863E-02		6.414E-02	1.034E-01	6.389E-03	-0.180
AG-110M	2.132E-01		8.224E-02	1.443E-01	7.709E-03	1.478
IN-111	-1.226E-01		3.194E-01	4.353E-01	2.905E-02	-0.282
IN-113M	-5.002E-02		7.398E-02	1.169E-01	7.046E-03	-0.428
SN-113	-5.002E-02		7.398E-02	1.169E-01	7.046E-03	-0.428
IN-114M	7.184E-02		2.518E-01	4.103E-01	2.655E-02	0.175
CD-115	7.290E-01		1.816E+00	3.031E+00	1.682E-01	0.241
SN-117M	-6.828E-03		5.330E-02	8.586E-02	5.492E-03	-0.080
SB-122	-2.165E-01		5.015E-01	7.778E-01	4.220E-02	-0.278
I-123	-5.244E-04		3.102E-04	Half-Life	too short	
TE-123M	-3.299E-02		3.904E-02	6.033E-02	3.900E-03	-0.547
I-124	-8.031E-02		3.992E-01	5.457E-01	2.862E-02	-0.147
SB-124	-2.489E-02		9.515E-02	1.454E-01	9.881E-03	-0.171
SB-125	1.327E-03		1.812E-01	2.978E-01	1.763E-02	0.004
TE-125M	-1.606E+00		1.130E+01	1.854E+01	1.837E+00	-0.087
I-126	5.159E-02		2.179E-01	3.279E-01	1.618E-02	0.157
SB-126	-2.020E-01		1.977E-01	2.542E-01	1.429E-02	-0.795
SB-127	2.047E-01		6.052E-01	1.042E+00	6.954E-02	0.196
XE-127	-2.772E-02		6.264E-02	9.773E-02	6.388E-03	-0.284
I-131	2.350E-02		1.028E-01	1.730E-01	1.142E-02	0.136
TE-132	-6.775E-02		2.318E-01	3.618E-01	4.912E-02	-0.187
BA-133	-2.650E-02		8.274E-02	1.176E-01	1.378E-02	-0.225
I-133	-2.020E-05		1.376E-05	Half-Life	too short	
CS-134	1.460E-01	+	9.853E-02	1.540E-01	1.038E-02	0.948
CS-135	9.389E-02		2.450E-01	4.219E-01	3.517E-02	0.223
I-135	-7.068E+00		1.913E+01	Half-Life	too short	
CS-136	-1.316E-01		1.555E-01	2.334E-01	1.791E-02	-0.564
CE-139	1.853E-02		4.013E-02	6.653E-02	4.227E-03	0.279
BA-140	-1.783E-01		3.263E-01	4.974E-01	1.615E-01	-0.358
LA-140	-1.761E-02		6.419E-02	9.826E-02	6.472E-03	-0.179
CE-141	1.443E-02		6.849E-02	1.129E-01	7.577E-03	0.128
CE-143	8.096E+00		5.740E+00	8.947E+00	1.851E+00	0.905
CE-144	-2.435E-02		2.910E-01	4.228E-01	6.163E-02	-0.058
PM-144	6.155E-02		5.525E-02	1.002E-01	5.322E-03	0.614
PR-144	4.155E+00		3.729E+00	6.764E+00	3.591E-01	0.614
PM-146	-1.800E-02		8.904E-02	1.439E-01	1.228E-02	-0.125
ND-147	5.897E-02		6.182E-01	1.008E+00	1.351E-01	0.059
PM-149	-5.135E+00		1.423E+01	2.350E+01	3.410E+00	-0.219
EU-152	-1.685E-02		1.762E-01	2.704E-01	1.872E-02	-0.062
GD-153	2.620E-02		1.170E-01	1.772E-01	1.739E-02	0.148
EU-154	1.593E-01		1.425E-01	2.738E-01	2.685E-02	0.582
EU-155	8.314E-02		1.443E-01	2.455E-01	2.139E-02	0.339
TB-160	-1.404E-01		2.881E-01	4.572E-01	3.625E-02	-0.307
HO-166M	-5.155E-02		1.119E-01	1.811E-01	9.968E-03	-0.285
TM-171	-1.216E+01		4.947E+01	8.249E+01	9.644E+00	-0.147

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	5.460E-03		4.064E-02	6.869E-02	4.485E-03	0.079
LU-177	1.114E+00		7.831E-01	1.335E+00	8.764E-02	0.834
LU-177M	2.236E-01		3.203E-01	5.483E-01	3.102E-02	0.408
HF-181	-2.781E-02		7.586E-02	1.207E-01	6.813E-03	-0.230
W-181	-2.200E-01		6.333E-01	1.051E+00	1.239E-01	-0.209
TA-182	1.436E-01		2.148E-01	3.899E-01	2.426E-02	0.368
RE-183	-9.251E-02		1.417E-01	2.210E-01	1.408E-02	-0.419
RE-184	7.129E-02		3.626E-01	6.210E-01	4.147E-02	0.115
OS-185	-1.168E-02		6.608E-02	1.099E-01	5.478E-03	-0.106
RE-188	3.963E-02		2.260E-01	3.703E-01	2.378E-02	0.107
W-188	4.401E-01		1.206E+01	1.795E+01	1.187E+00	0.025
IR-192	1.990E-02		5.416E-02	9.249E-02	6.004E-03	0.215
AU-195	-3.781E-02		3.050E-01	5.034E-01	4.813E-02	-0.075
TL-200	-4.593E+00		6.558E+00	1.039E+01	6.192E-01	-0.442
TL-201	-1.651E+00		1.828E+00	2.805E+00	1.783E-01	-0.589
TL-202	2.750E-02		9.060E-02	1.512E-01	8.576E-03	0.182
HG-203	-3.450E-02		5.523E-02	8.996E-02	6.264E-03	-0.384
BI-207	-4.375E-02		1.163E-01	1.828E-01	1.300E-02	-0.239
TL-207	-1.759E-01		1.133E+00	1.879E+00	3.146E-01	-0.094
PO-209	-4.254E+00		1.697E+01	2.742E+01	2.250E+00	-0.155
BI-210	-1.110E+01		1.546E+01	2.555E+01	2.227E+00	-0.434
PB-210	-1.110E+01		1.546E+01	2.555E+01	2.227E+00	-0.434
PO-210	-1.110E+01		1.545E+01	2.555E+01	1.985E+00	-0.434
PB-211	-1.233E+00		1.900E+00	2.745E+00	1.711E+00	-0.449
BI-212	8.673E-01	+	6.945E-01	8.877E-01	6.785E-02	0.977
BI-214	6.395E-01	+	2.263E-01	2.922E-01	2.147E-02	2.188
PO-215	-1.759E-01		1.133E+00	1.879E+00	3.146E-01	-0.094
RN-219	-6.907E-01		7.457E-01	1.150E+00	1.557E-01	-0.601
RN-220	1.836E+01		4.580E+01	7.624E+01	4.177E+00	0.241
RA-223	-1.759E-01		1.133E+00	1.879E+00	3.146E-01	-0.094
RA-226	6.395E-01	+	2.263E-01	2.922E-01	2.147E-02	2.188
AC-227	2.352E-01		6.238E-01	1.075E+00	1.542E-01	0.219
TH-227	2.352E-01		6.242E-01	1.075E+00	1.851E-01	0.219
TH-229	3.768E-01		8.242E-01	1.352E+00	8.772E-02	0.279
TH-230	6.395E-01	+	2.263E-01	2.922E-01	2.147E-02	2.188
PA-231	-1.475E-01		2.465E+00	4.142E+00	5.861E-01	-0.036
TH-231	-1.759E-01		1.133E+00	1.879E+00	3.146E-01	-0.094
U-231	3.145E-02		4.369E-01	6.542E-01	6.614E-02	0.048
PA-233	-1.601E-02		1.044E-01	1.736E-01	1.184E-02	-0.092
PA-234	-4.294E-01		7.926E-01	1.246E+00	2.302E-01	-0.345
PA-234M	-3.072E+00		9.607E+00	1.529E+01	1.394E+00	-0.201
TH-234	-1.221E+00		2.770E+00	4.105E+00	8.122E-01	-0.297
U-234	6.395E-01	+	2.263E-01	2.922E-01	2.147E-02	2.188
U-235	-2.104E-01		2.774E-01	4.276E-01	7.088E-02	-0.492
NP-236	1.450E-02		1.072E-01	1.750E-01	1.118E-02	0.083
U-238	-1.221E+00		2.770E+00	4.105E+00	8.122E-01	-0.297
NP-239	9.734E-02		2.816E-01	4.250E-01	3.127E-02	0.229
AM-243	1.206E-01		1.122E-01	1.769E-01	2.025E-02	0.682

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.304E-02		1.326E-01	2.231E-01	1.967E-02	0.193
AM-246	-1.397E-01		3.193E-01	4.984E-01	3.474E-02	-0.280
CM-247	-7.304E-02		6.775E-02	1.042E-01	5.879E-03	-0.701
CF-249	-1.446E-02		7.280E-02	1.190E-01	6.760E-03	-0.122
CF-251	8.831E-02		1.810E-01	2.994E-01	1.916E-02	0.295

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202005194          *
* Acquisition date   : 9-JAN-2010 15:25:49 Detector SN# :                  *
* Detector ID        : GAM04 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 01:00:01.25 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202005194 Analyst initials: MXR1                 *
* Batch Number       : 937074 Sample Quantity : 1.5544E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.131E+00	5.212E-01	3.380E-01	2.659E-01
CO-57	1.979E-01	6.836E-02	3.044E-02	3.488E-02
CO-60	5.774E+00	5.129E-01	4.582E-02	2.617E-01
CD-109	2.966E+01	4.410E+00	1.086E+00	2.250E+00
SN-126	2.948E+00	4.384E-01	1.088E-01	2.237E-01
BA-137M	4.918E+00	3.390E-01	5.331E-02	1.730E-01
CS-137	5.199E+00	3.594E-01	5.635E-02	1.834E-01
TL-208	3.640E-01	1.331E-01	5.259E-02	6.791E-02
BI-211	2.707E+00	6.797E-01	2.893E-01	3.468E-01
PB-212	1.035E+00	1.751E-01	8.547E-02	8.935E-02
PO-212	1.035E+00	1.751E-01	8.547E-02	8.935E-02
PB-214	9.415E-01	2.413E-01	1.008E-01	1.231E-01
PO-214	9.415E-01	2.413E-01	1.008E-01	1.231E-01
PO-216	1.035E+00	1.751E-01	8.547E-02	8.935E-02
PO-218	9.415E-01	2.413E-01	1.008E-01	1.231E-01
RA-224	1.419E+00	9.822E-01	8.565E-01	5.011E-01
AC-228	6.938E-01	4.990E-01	2.761E-01	2.546E-01
RA-228	6.938E-01	4.990E-01	2.761E-01	2.546E-01
TH-228	1.042E+00	1.765E-01	8.612E-02	9.004E-02
TH-232	6.938E-01	4.990E-01	2.761E-01	2.546E-01
NP-237	8.658E+00	2.173E+00	3.408E-01	1.109E+00
AM-241	1.227E+01	1.790E+00	3.465E-01	9.135E-01
ANH-511	9.875E-02	9.928E-02	4.113E-02	5.065E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.084E-01	6.127E-01	5.357E-01	3.126E-01 NOT IDENT.
NA-22	5.326E-02	5.020E-02	4.950E-02	2.561E-02 NOT IDENT.
NA-24	-9.095E+01	1.914E+02	0.000E+00	9.765E+01 SHORT HLIF
AL-26	-3.030E-02	3.981E-02	2.567E-02	2.031E-02 NOT IDENT.

TI-44	1.054E-01	8.528E-02	5.370E-02	4.351E-02	FAIL ABUN
SC-46	1.154E-02	8.435E-02	7.319E-02	4.304E-02	NOT IDENT.
V-48	-1.152E-01	1.114E-01	8.645E-02	5.682E-02	NOT IDENT.
CR-51	1.226E-01	5.213E-01	4.738E-01	2.660E-01	NOT IDENT.
MN-52	-2.403E-02	9.249E-02	7.407E-02	4.719E-02	NOT IDENT.
MN-54	-2.722E-02	6.530E-02	5.460E-02	3.332E-02	NOT IDENT.
CO-56	5.602E-02	7.849E-02	7.104E-02	4.005E-02	NOT IDENT.
CO-58	-2.717E-02	6.725E-02	5.678E-02	3.431E-02	NOT IDENT.
FE-59	1.014E-01	1.653E-01	1.458E-01	8.432E-02	NOT IDENT.
ZN-65	-9.784E-02	1.775E-01	1.418E-01	9.056E-02	NOT IDENT.
GE-68	9.254E-01	2.603E+00	2.254E+00	1.328E+00	NOT IDENT.
AS-73	5.900E-01	2.597E+00	2.497E+00	1.325E+00	NOT IDENT.
AS-74	-8.457E-02	1.281E-01	1.030E-01	6.538E-02	NOT IDENT.
SE-75	-3.009E-02	6.464E-02	5.757E-02	3.298E-02	FAIL ABUN
BR-77	1.806E-01	1.953E+00	1.688E+00	9.963E-01	FAIL ABUN
SR-82	-1.628E-01	5.492E-01	4.677E-01	2.802E-01	NOT IDENT.
RB-83	7.018E-03	1.093E-01	9.424E-02	5.574E-02	NOT IDENT.
RB-84	-8.934E-03	1.299E-01	1.112E-01	6.628E-02	NOT IDENT.
KR-85	4.557E+00	1.252E+01	9.762E+00	6.387E+00	NOT IDENT.
SR-85	2.160E-02	5.933E-02	4.626E-02	3.027E-02	NOT IDENT.
RB-86	8.085E-01	1.283E+00	1.134E+00	6.545E-01	NOT IDENT.
Y-88	3.585E-02	4.177E-02	4.175E-02	2.131E-02	NOT IDENT.
ZR-88	2.267E-02	4.864E-02	4.408E-02	2.482E-02	NOT IDENT.
Y-91	-2.322E+00	2.272E+01	1.864E+01	1.159E+01	NOT IDENT.
NB-94	6.261E-03	5.794E-02	5.141E-02	2.956E-02	NOT IDENT.
NB-95	-1.699E-02	6.600E-02	5.650E-02	3.368E-02	NOT IDENT.
NB-95M	7.533E-02	1.823E-01	1.432E-01	9.301E-02	NOT IDENT.
ZR-95	-3.951E-02	1.124E-01	9.549E-02	5.735E-02	NOT IDENT.
NB-97	5.193E+02	1.519E+02	0.000E+00	7.748E+01	SHORT HLIF
ZR-97	7.042E+02	2.161E+03	0.000E+00	1.103E+03	SHORT HLIF
MO-99	3.088E-01	3.040E+00	2.684E+00	1.551E+00	NOT IDENT.
TC-99M	2.549E+07	5.268E+07	0.000E+00	2.688E+07	SHORT HLIF
RH-101	-4.388E-02	4.913E-02	4.055E-02	2.507E-02	NOT IDENT.
RH-102	5.101E-02	5.918E-02	5.375E-02	3.020E-02	NOT IDENT.
RU-103	-5.386E-03	7.129E-02	6.117E-02	3.637E-02	FAIL ABUN
RH-106	-1.604E-01	5.518E-01	4.535E-01	2.815E-01	FAIL ABUN
RU-106	-1.604E-01	5.516E-01	4.535E-01	2.814E-01	FAIL ABUN
AG-108M	-1.863E-02	6.286E-02	5.394E-02	3.207E-02	NOT IDENT.
AG-110M	2.132E-01	8.060E-02	7.443E-02	4.112E-02	NOT IDENT.
IN-111	-1.226E-01	3.130E-01	2.305E-01	1.597E-01	NOT IDENT.
IN-113M	-5.002E-02	7.250E-02	6.116E-02	3.699E-02	NOT IDENT.
SN-113	-5.002E-02	7.250E-02	6.116E-02	3.699E-02	NOT IDENT.
IN-114M	7.184E-02	2.468E-01	2.186E-01	1.259E-01	NOT IDENT.
CD-115	7.290E-01	1.779E+00	1.573E+00	9.079E-01	NOT IDENT.
SN-117M	-6.828E-03	5.224E-02	4.597E-02	2.665E-02	NOT IDENT.
SB-122	-2.165E-01	4.914E-01	4.029E-01	2.507E-01	NOT IDENT.
I-123	-5.244E+02	6.081E+02	0.000E+00	3.102E+02	SHORT HLIF
TE-123M	-3.299E-02	3.826E-02	3.229E-02	1.952E-02	NOT IDENT.
I-124	-8.031E-02	3.912E-01	2.822E-01	1.996E-01	NOT IDENT.
SB-124	-2.489E-02	9.325E-02	7.307E-02	4.757E-02	FAIL ABUN
SB-125	1.327E-03	1.775E-01	1.554E-01	9.059E-02	NOT IDENT.
TE-125M	-1.606E+00	1.107E+01	1.001E+01	5.650E+00	NOT IDENT.
I-126	5.159E-02	2.135E-01	1.691E-01	1.089E-01	NOT IDENT.
SB-126	-2.020E-01	1.937E-01	1.308E-01	9.884E-02	NOT IDENT.
SB-127	2.047E-01	5.931E-01	5.368E-01	3.026E-01	NOT IDENT.
XE-127	-2.772E-02	6.139E-02	5.199E-02	3.132E-02	NOT IDENT.
I-131	2.350E-02	1.007E-01	9.066E-02	5.140E-02	NOT IDENT.
TE-132	-6.775E-02	2.271E-01	1.919E-01	1.159E-01	NOT IDENT.
BA-133	-2.650E-02	8.108E-02	6.168E-02	4.137E-02	NOT IDENT.
I-133	-2.020E+01	2.696E+01	0.000E+00	1.376E+01	SHORT HLIF
CS-134	1.460E-01	9.656E-02	7.904E-02	4.926E-02	FAIL ABUN
CS-135	9.389E-02	2.401E-01	2.229E-01	1.225E-01	NOT IDENT.
I-135	-7.068E+06	3.749E+07	0.000E+00	1.913E+07	SHORT HLIF
CS-136	-1.316E-01	1.524E-01	1.189E-01	7.777E-02	NOT IDENT.
CE-139	1.853E-02	3.933E-02	3.558E-02	2.007E-02	NOT IDENT.
BA-140	-1.783E-01	3.198E-01	2.580E-01	1.632E-01	NOT IDENT.
LA-140	-1.761E-02	6.291E-02	4.946E-02	3.209E-02	NOT IDENT.
CE-141	1.443E-02	6.712E-02	6.056E-02	3.425E-02	NOT IDENT.
CE-143	8.096E+00	5.625E+00	4.715E+00	2.870E+00	FAIL ABUN
CE-144	-2.435E-02	2.852E-01	2.273E-01	1.455E-01	NOT IDENT.
PM-144	6.155E-02	5.414E-02	5.162E-02	2.762E-02	NOT IDENT.
PR-144	4.155E+00	3.654E+00	3.484E+00	1.864E+00	NOT IDENT.
PM-146	-1.800E-02	8.726E-02	7.498E-02	4.452E-02	NOT IDENT.
ND-147	5.897E-02	6.058E-01	5.228E-01	3.091E-01	NOT IDENT.
PM-149	-5.135E+00	1.394E+01	1.239E+01	7.114E+00	NOT IDENT.
EU-152	-1.685E-02	1.726E-01	1.419E-01	8.809E-02	FAIL ABUN
GD-153	2.620E-02	1.147E-01	9.601E-02	5.852E-02	NOT IDENT.
EU-154	1.593E-01	1.397E-01	1.387E-01	7.125E-02	NOT IDENT.

EU-155	8.314E-02	1.414E-01	1.328E-01	7.214E-02	FAIL ABUN
TB-160	-1.404E-01	2.824E-01	2.340E-01	1.441E-01	FAIL ABUN
HO-166M	-5.155E-02	1.097E-01	9.322E-02	5.597E-02	NOT IDENT.
TM-171	-1.216E+01	4.848E+01	4.511E+01	2.474E+01	FAIL ABUN
LU-176	5.460E-03	3.983E-02	3.616E-02	2.032E-02	FAIL ABUN
LU-177	1.114E+00	7.674E-01	7.100E-01	3.916E-01	NOT IDENT.
LU-177M	2.236E-01	3.139E-01	2.864E-01	1.602E-01	FAIL ABUN
HF-181	-2.781E-02	7.434E-02	6.277E-02	3.793E-02	FAIL ABUN
W-181	-2.200E-01	6.206E-01	5.753E-01	3.167E-01	NOT IDENT.
TA-182	1.436E-01	2.105E-01	1.977E-01	1.074E-01	NOT IDENT.
RE-183	-9.251E-02	1.388E-01	1.182E-01	7.084E-02	FAIL ABUN
RE-184	7.129E-02	3.554E-01	3.285E-01	1.813E-01	FAIL ABUN
OS-185	-1.168E-02	6.476E-02	5.671E-02	3.304E-02	FAIL ABUN
RE-188	3.963E-02	2.215E-01	1.984E-01	1.130E-01	NOT IDENT.
W-188	4.401E-01	1.182E+01	9.463E+00	6.030E+00	NOT IDENT.
IR-192	1.990E-02	5.308E-02	4.864E-02	2.708E-02	FAIL ABUN
AU-195	-3.781E-02	2.989E-01	2.727E-01	1.525E-01	FAIL ABUN
TL-200	-4.593E+00	6.427E+00	5.445E+00	3.279E+00	NOT IDENT.
TL-201	-1.651E+00	1.792E+00	1.500E+00	9.141E-01	FAIL ABUN
TL-202	2.750E-02	8.879E-02	7.884E-02	4.530E-02	NOT IDENT.
HG-203	-3.450E-02	5.413E-02	4.747E-02	2.762E-02	NOT IDENT.
BI-207	-4.375E-02	1.140E-01	9.307E-02	5.816E-02	NOT IDENT.
TL-207	-1.759E-01	1.111E+00	9.877E-01	5.667E-01	FAIL ABUN
PO-209	-4.254E+00	1.664E+01	1.402E+01	8.487E+00	NOT IDENT.
BI-210	-1.110E+01	1.515E+01	1.409E+01	7.730E+00	NOT IDENT.
PB-210	-1.110E+01	1.515E+01	1.409E+01	7.730E+00	NOT IDENT.
PO-210	-1.110E+01	1.514E+01	1.409E+01	7.727E+00	NOT IDENT.
PB-211	-1.233E+00	1.862E+00	1.435E+00	9.501E-01	NOT IDENT.
BI-212	8.673E-01	6.806E-01	4.566E-01	3.472E-01	FAIL ABUN
BI-214	6.395E-01	2.217E-01	1.511E-01	1.131E-01	FAIL ABUN
PO-215	-1.759E-01	1.111E+00	9.877E-01	5.667E-01	FAIL ABUN
RN-219	-6.907E-01	7.308E-01	6.009E-01	3.729E-01	NOT IDENT.
RN-220	1.836E+01	4.489E+01	3.952E+01	2.290E+01	NOT IDENT.
RA-223	-1.759E-01	1.111E+00	9.877E-01	5.667E-01	FAIL ABUN
RA-226	6.395E-01	2.217E-01	1.511E-01	1.131E-01	FAIL ABUN
AC-227	2.352E-01	6.113E-01	5.683E-01	3.119E-01	NOT IDENT.
TH-227	2.352E-01	6.117E-01	5.683E-01	3.121E-01	FAIL ABUN
TH-229	3.768E-01	8.077E-01	7.200E-01	4.121E-01	FAIL ABUN
TH-230	6.395E-01	2.217E-01	1.511E-01	1.131E-01	FAIL ABUN
PA-231	-1.475E-01	2.415E+00	2.185E+00	1.232E+00	NOT IDENT.
TH-231	-1.759E-01	1.111E+00	9.877E-01	5.667E-01	FAIL ABUN
U-231	3.145E-02	4.282E-01	3.546E-01	2.185E-01	FAIL ABUN
PA-233	-1.601E-02	1.024E-01	9.132E-02	5.222E-02	FAIL ABUN
PA-234	-4.294E-01	7.767E-01	6.362E-01	3.963E-01	FAIL ABUN
PA-234M	-3.072E+00	9.415E+00	7.796E+00	4.804E+00	NOT IDENT.
TH-234	-1.221E+00	2.715E+00	2.248E+00	1.385E+00	FAIL ABUN
U-234	6.395E-01	2.217E-01	1.511E-01	1.131E-01	FAIL ABUN
U-235	-2.104E-01	2.718E-01	2.295E-01	1.387E-01	FAIL ABUN
NP-236	1.450E-02	1.050E-01	9.368E-02	5.359E-02	NOT IDENT.
U-238	-1.221E+00	2.715E+00	2.248E+00	1.385E+00	FAIL ABUN
NP-239	9.734E-02	2.760E-01	2.292E-01	1.408E-01	NOT IDENT.
AM-243	1.206E-01	1.100E-01	9.645E-02	5.612E-02	FAIL ABUN
CM-243	4.304E-02	1.299E-01	1.207E-01	6.630E-02	NOT IDENT.
AM-246	-1.397E-01	3.129E-01	2.536E-01	1.596E-01	NOT IDENT.
CM-247	-7.304E-02	6.639E-02	5.444E-02	3.387E-02	NOT IDENT.
CF-249	-1.446E-02	7.135E-02	6.224E-02	3.640E-02	NOT IDENT.
CF-251	8.831E-02	1.773E-01	1.599E-01	9.048E-02	NOT IDENT.


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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY	MDA COUNTS
46.50	243.2389
46.50	243.2389
46.50	243.2389
48.70	226.7844
49.72	242.9627
51.35	270.0579
52.39	269.1072
52.97	274.7561
53.15	264.4538
53.44	274.2407
54.07	274.1901
56.28	307.9284
56.28	307.9311
57.37	303.5372
57.53	303.6640
57.53	303.6657
57.60	302.3996
57.98	302.6988
57.98	302.6988
59.32	251.1333
59.32	251.1333
59.40	251.1846
59.54	251.2742
59.72	251.3897
60.01	251.5753
61.10	203.8586
61.14	203.8790
61.30	203.9613
63.00	194.1144
63.29	218.3672
63.29	218.3672
63.58	190.3694
64.28	186.9342
65.12	221.5840
65.20	221.6267
65.20	221.6267
66.05	235.5652
66.72	224.2327
66.83	224.2923
66.91	225.2363
67.20	224.4886
67.20	224.4886
67.75	223.8771
67.85	223.9301
68.90	232.6252
68.90	232.6252
69.30	238.2769
69.67	233.9490
70.82	255.4752
70.82	255.4752
70.83	255.4809
72.80	321.0964
72.87	287.7166
72.87	287.7166
74.67	294.3692
74.81	294.4606
74.81	294.4606
74.81	294.4606
74.81	294.4606
74.81	294.4606
74.81	294.4606
74.97	294.5635
75.28	307.1609
75.70	315.7154
77.11	320.8302
77.11	320.8302

77.11	320.8302
77.11	320.8302
77.11	320.8302
77.11	320.8302
77.11	320.8302
78.38	246.8251
79.62	265.5496
79.80	265.6502
79.80	265.6502
80.11	269.9988
80.18	257.5105
80.30	257.5747
80.30	257.5747
80.57	259.1146
81.00	303.9662
81.07	304.0095
81.07	304.0095
81.07	304.0095
81.07	304.0095
82.60	258.5299
83.37	255.0127
83.78	273.4585
83.78	273.4585
83.78	273.4585
83.78	273.4585
84.21	265.2766
84.90	269.8652
85.43	271.5594
86.29	303.0376
86.50	303.1639
86.54	303.1885
86.59	303.2180
86.72	276.4938
86.79	276.5312
86.94	276.6149
87.30	276.8138
87.30	276.8138
87.30	276.8138
87.30	276.8138
87.30	276.8138
87.30	276.8138
87.57	276.9619
87.88	277.1308
88.03	277.2131
88.36	277.3940
88.47	277.4538
89.95	190.2368
91.11	190.6642
92.29	178.2618
92.38	178.2923
92.38	178.2923
93.35	178.6213
94.00	184.5645
94.67	187.6599
94.67	187.6619
94.90	179.1439
94.90	179.1439
94.90	179.1439
94.90	179.1439
95.87	167.9831
95.87	167.9831
96.73	176.8801
97.43	181.4278
98.44	171.1854
98.44	171.1854
98.88	194.4227
99.55	195.6237
99.55	195.6237
99.86	189.9480
100.00	189.9961
100.10	190.0321
103.18	189.1403
103.76	180.5962
105.00	180.9897
105.31	170.3786
108.00	180.9548
109.28	179.3904

111.00	188.7627
111.00	188.7627
111.76	178.1746
112.95	177.5436
115.19	188.1020
116.30	181.5014
117.00	168.3034
117.00	168.3034
117.66	177.4296
121.11	186.9087
121.62	187.0599
121.78	187.1065
122.06	187.1893
122.32	198.2820
122.32	198.2820
122.32	198.2820
122.32	198.2820
123.07	206.0352
127.23	200.8092
129.76	179.2993
131.20	199.9919
133.02	164.9070
133.54	171.1479
135.34	170.0704
136.00	163.5889
136.25	163.6491
136.48	163.7036
140.51	152.8249
140.51	0.0000
142.18	150.6100
142.65	165.1611
143.76	188.1652
144.24	183.1200
144.24	183.1200
144.24	183.1200
144.24	183.1200
145.22	161.6161
145.44	165.8105
147.16	202.5656
152.43	222.8630
152.70	231.3189
153.22	224.1488
154.21	216.0544
154.21	216.0544
154.21	216.0544
154.21	216.0544
155.03	197.3939
156.02	179.7810
158.56	196.2078
159.00	0.0000
159.00	212.1537
160.31	170.2256
161.27	184.2006
162.32	196.1108
162.64	188.7683
163.35	182.5733
163.89	174.2016
165.85	174.6387
167.43	209.1333
171.28	186.5565
171.86	198.4933
172.10	198.5517
176.55	172.6611
176.60	172.6725
181.06	177.9436
184.41	192.8141
185.71	183.2903
186.00	187.7173
190.27	202.9102
192.34	213.2887
193.63	215.8046
197.04	227.6909
198.01	211.3427
198.60	192.6578
200.40	176.4036
201.83	183.3507
202.84	209.1420
205.31	200.7843

208.36	185.7824
208.81	202.6676
209.75	225.2908
209.75	225.2908
210.97	227.8298
215.65	205.2776
216.55	205.4720
218.09	196.7589
222.10	207.7980
223.80	180.8612
226.40	183.6243
227.00	211.1248
227.08	207.7178
227.20	207.7437
228.16	203.3753
228.18	203.3789
228.18	203.3789
231.56	176.5555
235.69	164.0437
236.00	174.4568
236.00	174.4568
238.63	238.9837
238.63	238.9837
238.63	238.9837
238.63	238.9837
239.00	194.0278
240.98	185.7234
241.98	151.1561
241.98	151.1561
241.98	151.1561
244.69	172.4554
245.39	188.2584
247.94	158.4301
248.90	174.8978
249.79	181.1724
252.40	171.9666
252.85	175.5508
252.85	175.5508
254.15	0.0000
256.20	176.9799
256.20	176.9799
260.50	173.2645
260.90	173.3273
262.80	152.3687
264.65	170.3701
268.24	163.8020
268.79	149.6327
269.46	150.6136
269.46	150.6136
269.46	150.6136
269.46	150.6136
271.23	172.2735
273.65	177.1172
276.40	160.5089
277.35	159.7453
277.60	149.9066
277.60	149.9066
278.00	149.9575
278.60	156.3255
279.20	162.7000
279.53	160.9487
280.46	143.0820
281.68	139.6291
283.67	159.7202
284.30	156.1979
285.00	157.1937
285.90	164.5487
286.10	160.0551
286.10	160.0551
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288.45	0.0000
290.67	151.0564
290.80	151.0717
291.72	148.2810
293.26	151.3865
293.70	155.6289
295.21	155.8246
295.21	155.8246

295.21	155.8246
295.96	196.9563
296.50	198.5016
297.23	198.6244
298.57	147.6706
299.80	143.4303
299.80	143.4303
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300.09	139.0743
300.09	139.0743
300.09	139.0743
300.12	139.0767
301.29	159.3602
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303.76	179.8740
303.91	189.9911
304.40	165.2756
304.40	165.2756
304.84	149.7209
306.84	146.2846
308.46	140.9488
311.98	145.0434
316.51	142.7888
318.01	162.4523
319.02	157.9353
319.41	161.7019
320.08	152.4888
323.87	162.2674
323.87	162.2674
323.87	162.2674
323.87	162.2674
325.23	161.5064
328.77	149.7803
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334.20	112.8040
334.20	112.8040
334.30	112.8113
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338.28	170.4821
338.28	170.4821
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338.32	170.4877
338.32	170.4877
338.32	170.4877
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340.57	136.0173
344.27	141.4447
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350.59	133.2260
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351.92	133.3563
351.92	133.3563
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367.43	140.6333
367.94	136.8301
369.80	134.1154
374.96	160.7466
383.85	126.6635
387.95	145.5828
388.63	135.8737
391.69	138.1149
391.69	138.1149
392.90	116.6594
398.62	128.9171
400.65	124.1639
401.10	129.1290
401.81	149.9010
402.60	157.8711
404.84	158.1055
410.95	155.7615
411.60	153.8435
413.65	131.1883
414.70	144.2079
415.30	150.2327

415.76	151.2717
417.63	0.0000
418.52	132.5982
423.70	137.0397
427.08	147.3566
427.89	146.4300
432.53	158.9282
433.93	144.9712
439.47	139.4087
439.56	139.4171
439.89	156.6248
443.98	153.9784
444.90	144.9442
445.03	144.9551
445.03	144.9551
445.03	144.9551
445.03	144.9551
453.90	150.8342
463.38	145.5405
468.07	137.7234
473.00	152.5527
475.06	128.9997
475.35	136.2458
476.78	153.9200
477.59	148.8252
477.96	145.7569
482.03	137.8097
484.57	128.6716
487.03	110.1487
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511.85	92.7225
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513.99	86.0799
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529.87	0.0000
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555.20	108.8999
563.23	86.6138
563.90	85.5600
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569.32	80.3661
569.50	78.2007
569.67	69.5176
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574.00	101.2391
574.64	107.4409
578.91	68.0938
579.30	68.1072
583.14	87.4829
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591.81	83.4659
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593.00	93.4045
595.88	108.9399
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602.71	98.9242
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604.41	83.0945
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609.31	87.4984
609.31	87.4984
609.31	87.4984
610.33	74.4659
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614.37	65.7274
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621.84	84.6766
631.29	78.3377
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661.65	83.5165
664.57	56.0540
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666.33	66.7108
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677.61	73.1406
685.20	71.5482
692.80	69.0234
695.00	76.4589
696.49	58.9945
696.49	58.9945
697.00	62.6958
697.49	71.9310
698.33	81.1809
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720.50	96.2266
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722.78	83.8916
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722.89	83.8938
722.95	83.8960
723.30	69.9243
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867.82	86.7689
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884.67	99.1968
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911.07	121.1448
911.07	121.1448
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969.11	132.7295
969.11	132.7295
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1764.49	5.3515
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1764.49	5.3515
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1791.20	0.0000
1808.65	10.4964

1836.01

4.2210

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202005194

Total Uranium Activity	-3.7286E+00	ug/g
Total Uranium Counting Unc.	8.0783E+00	ug/g
Total Uranium Tpu	4.1216E-06	ug/g
Total Uranium Mda	6.6876E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937074          SAMPLE ID   : G1202005194   *
*  ANALYST       : MXR1            DETECTOR    : GAM04        *
*  SAMPLE DATE   : 2-JAN-2010 00:00:00.00  COUNT TIME : 0 01:00:00.00 *
*  ANALYSIS DATE : 9-JAN-2010 15:25:49.66  SAMPLE ALQT: 155.440 GRAM *
*
*****

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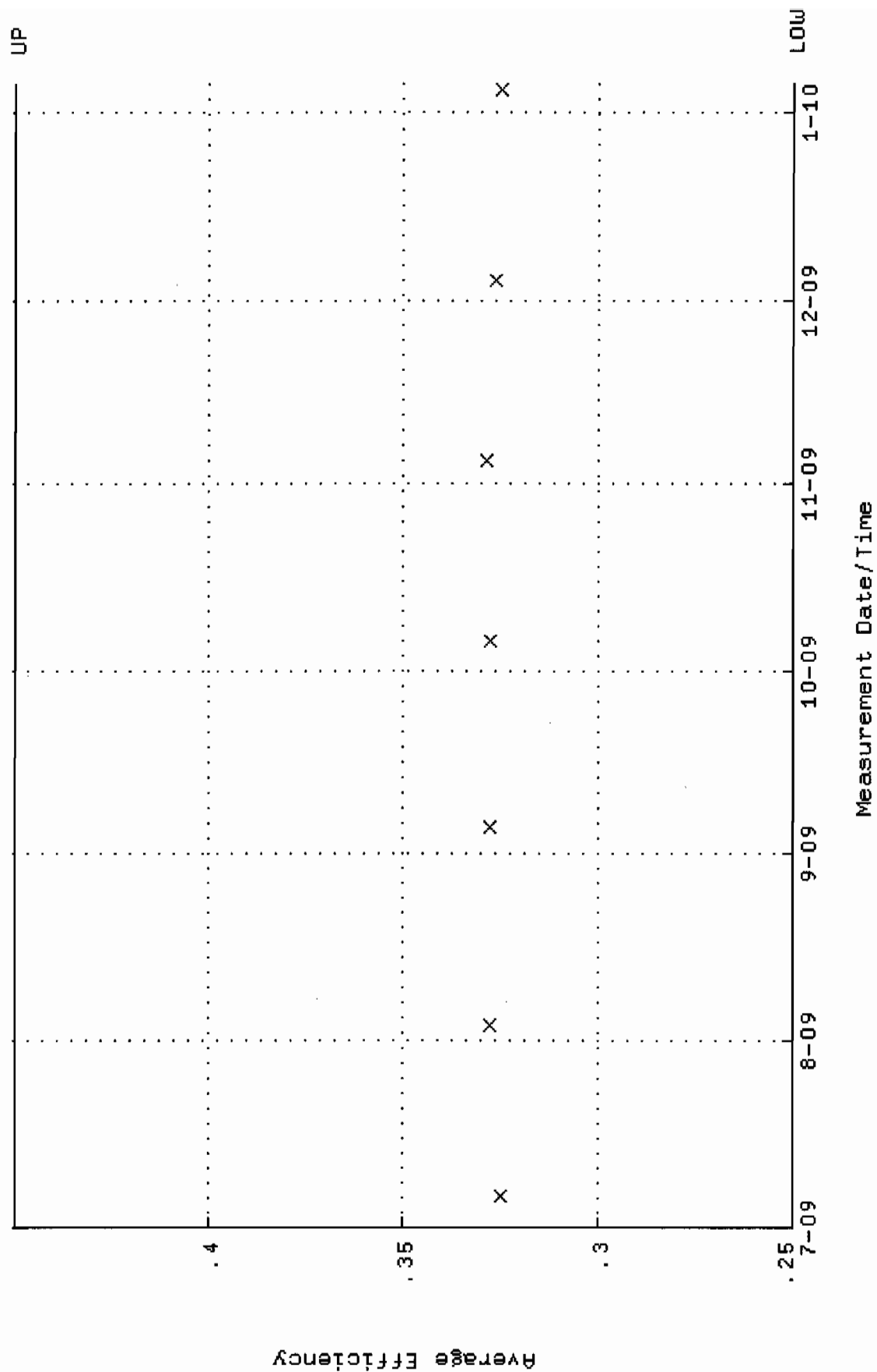
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.455E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.781E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.955E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.911E+00

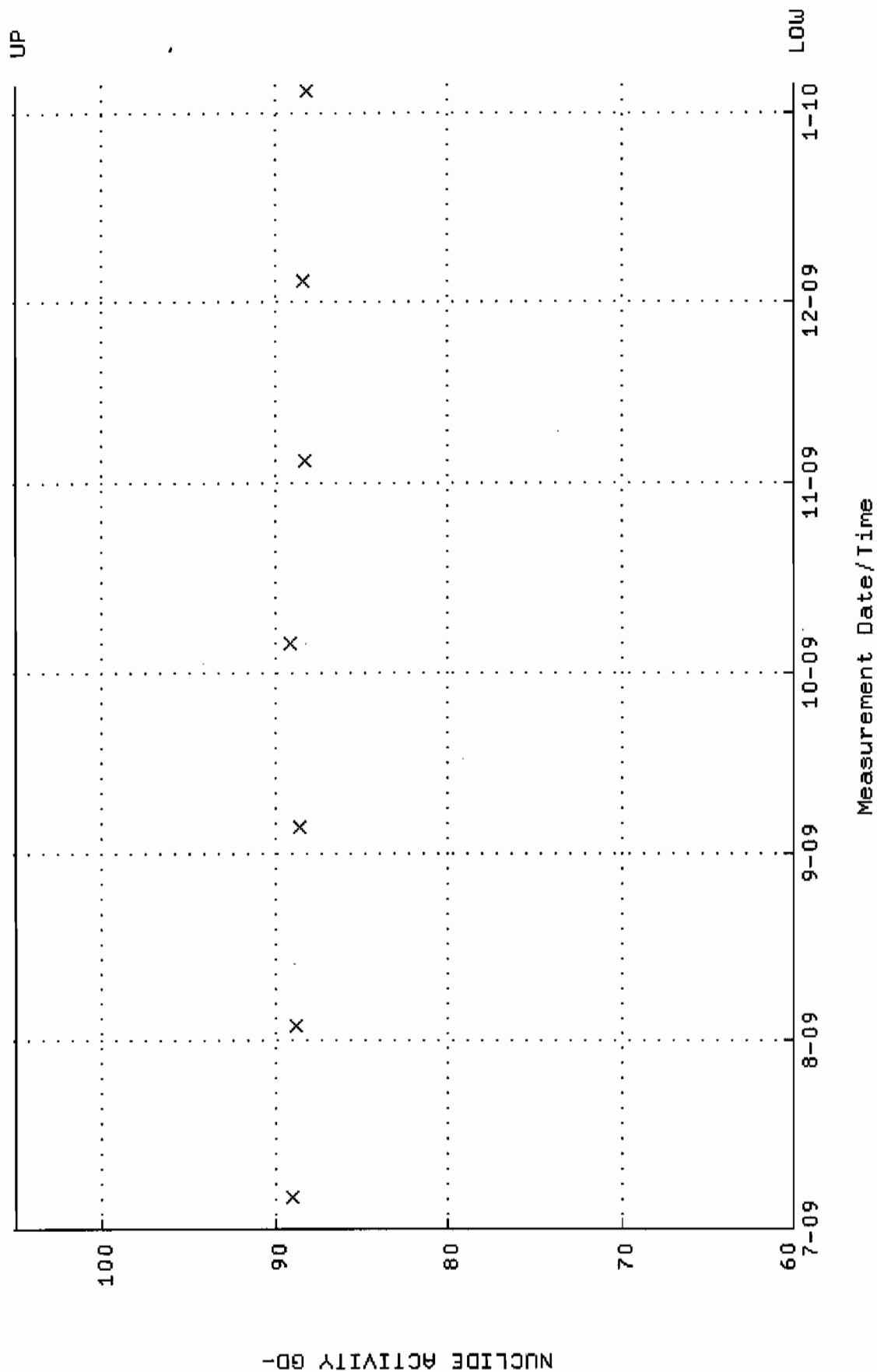
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BACKGROUND AND EFFICIENCY DATA

QA filename : DKA100:[ENV_ALPHA.QA.W]W025.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



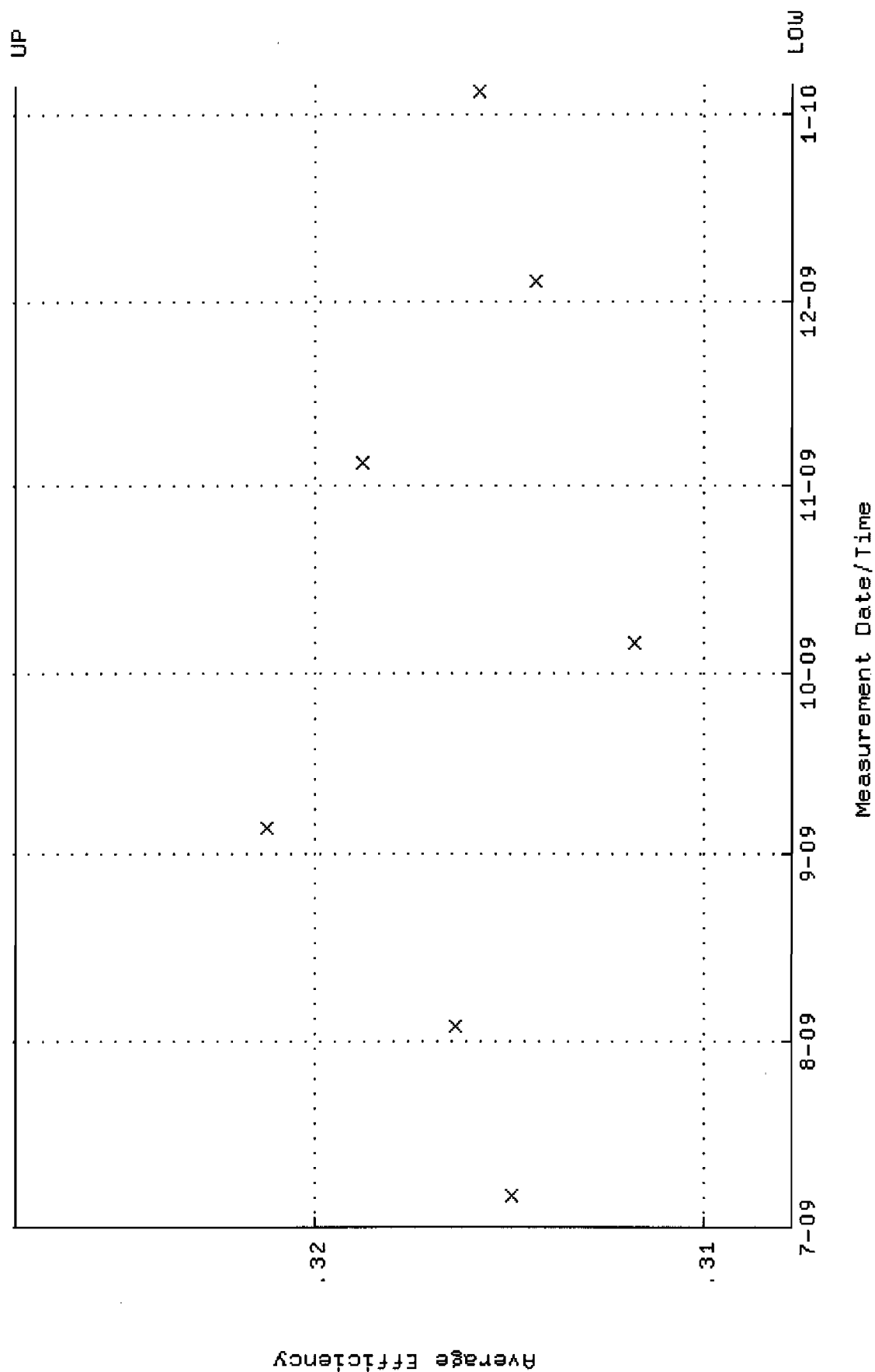
QA filename : DKA100:[ENV_ALPHA,QA.W]W025.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



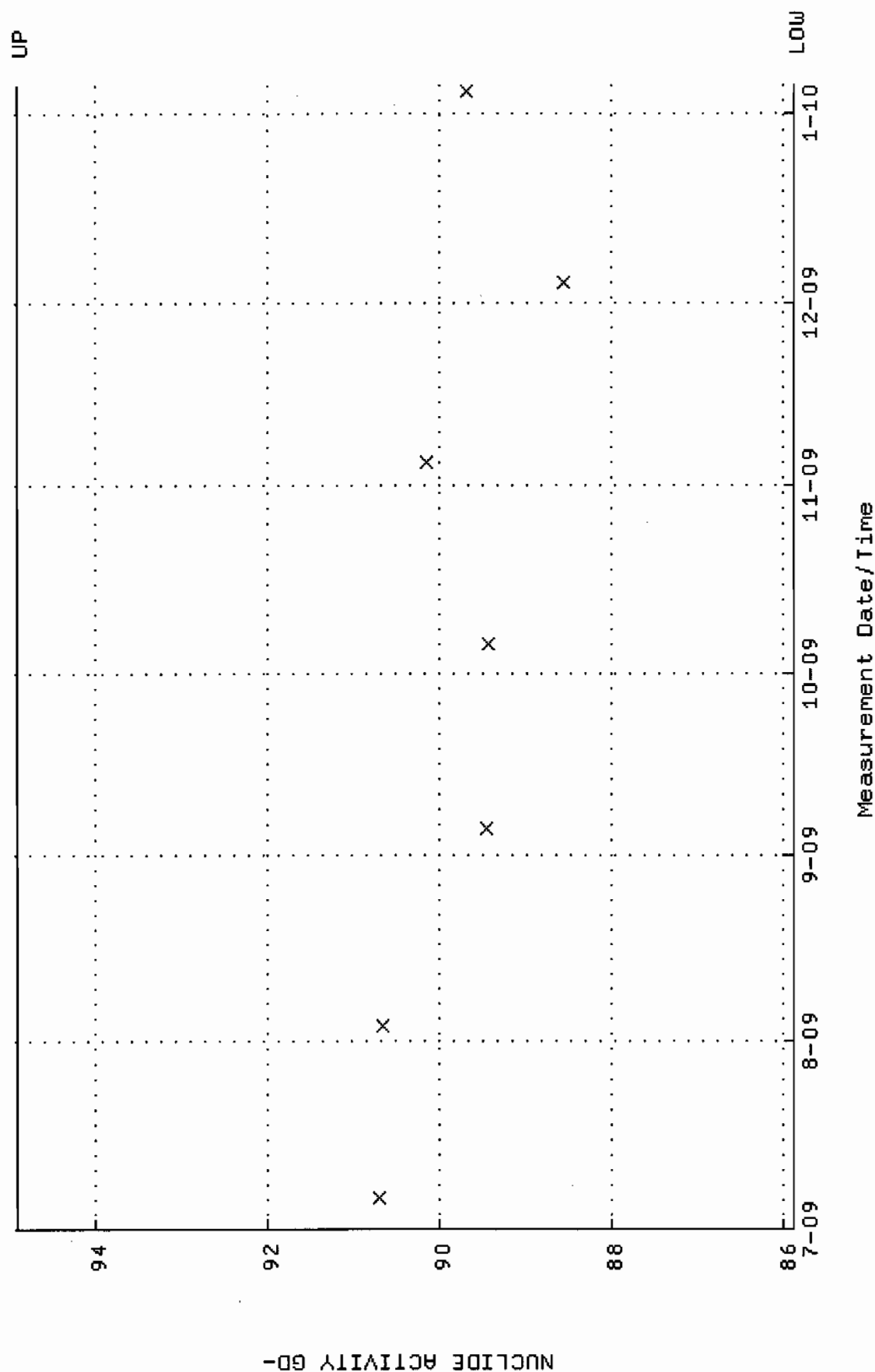
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



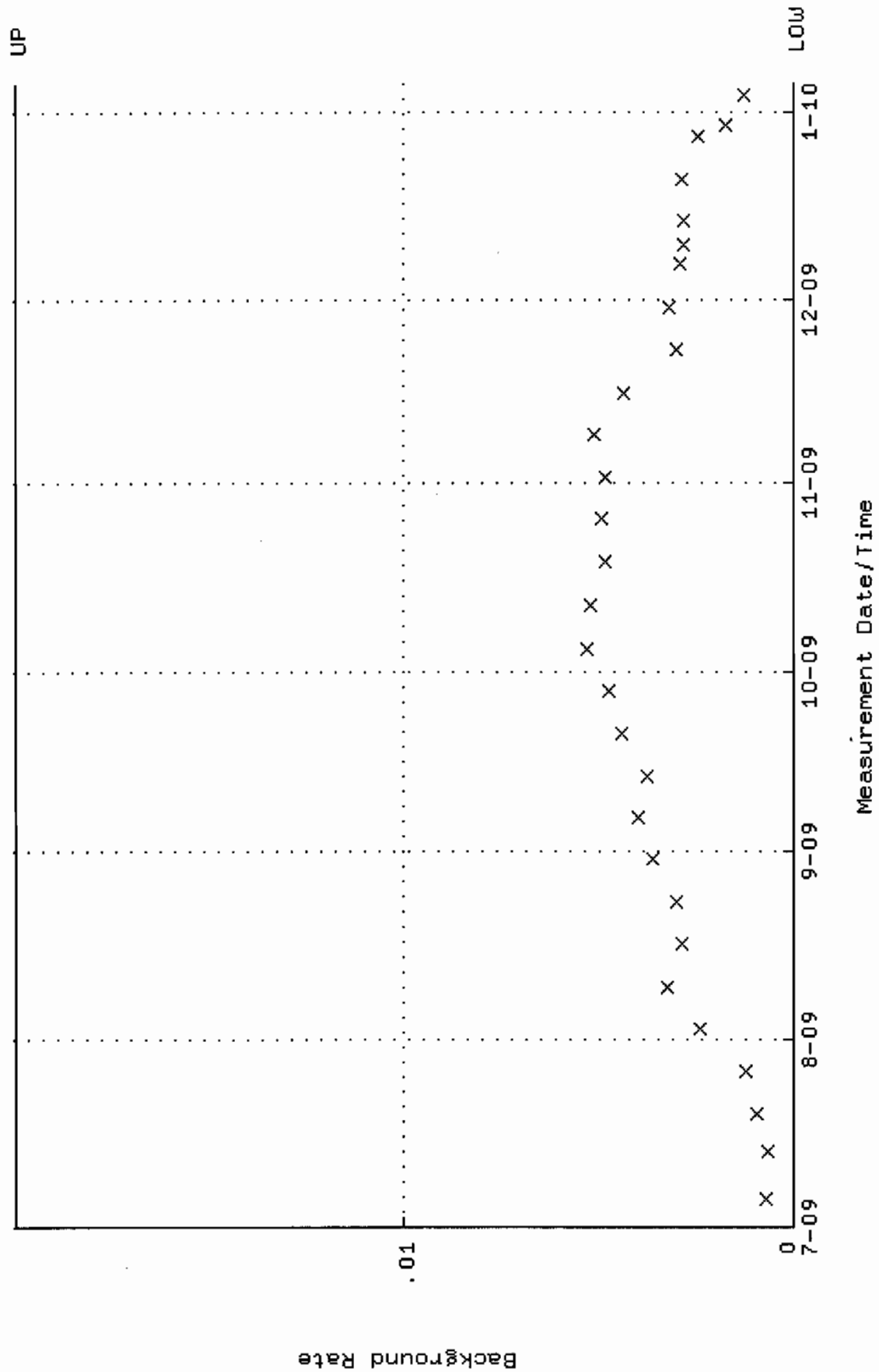
QA filename : DKA100:[ENV_ALPHA.QA.W]W026.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.307728 through 0.327728



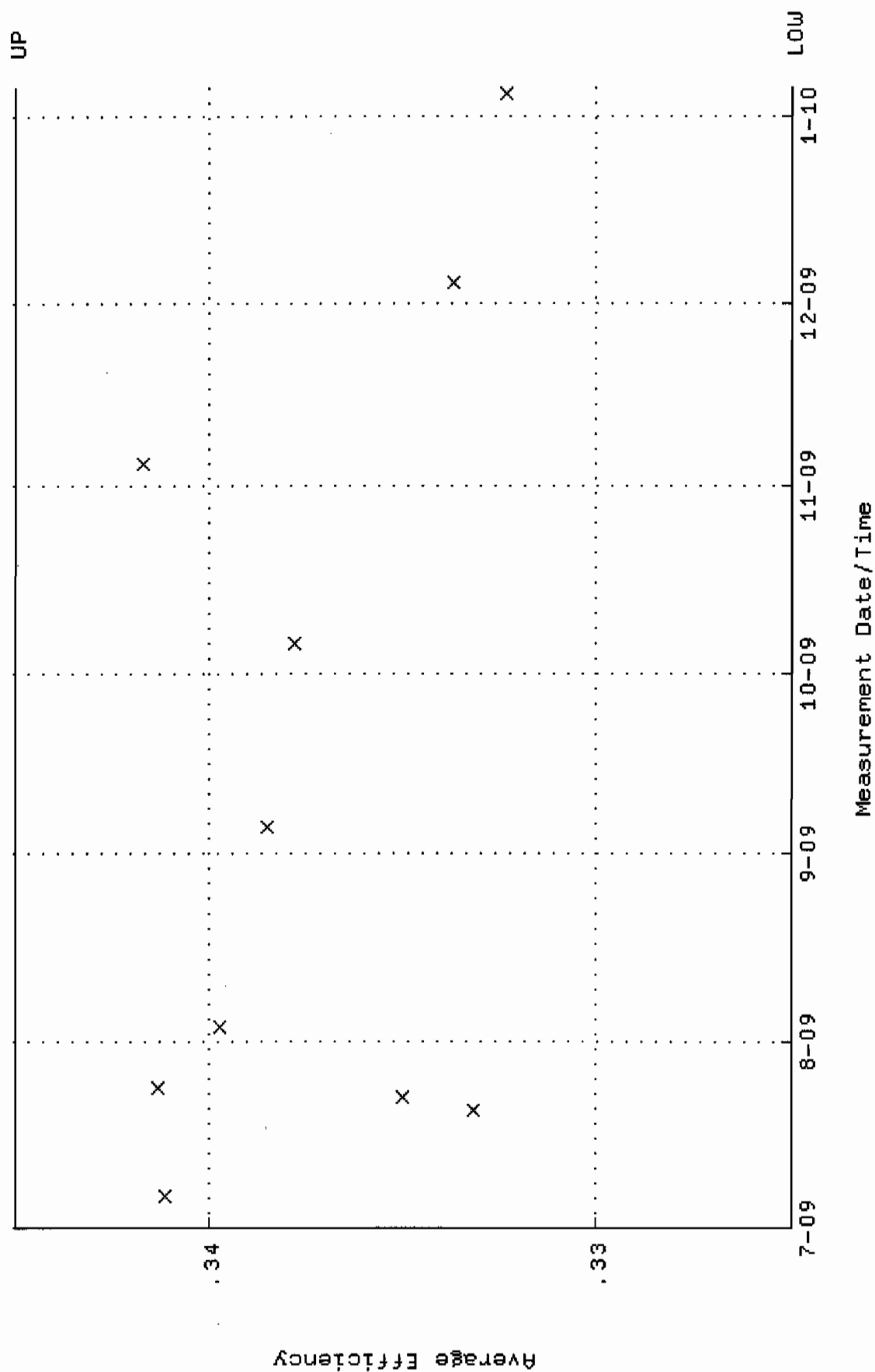
QA filename : DKA100:[ENV_ALPHA.QA.W]W026.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.8763 through 94.9159



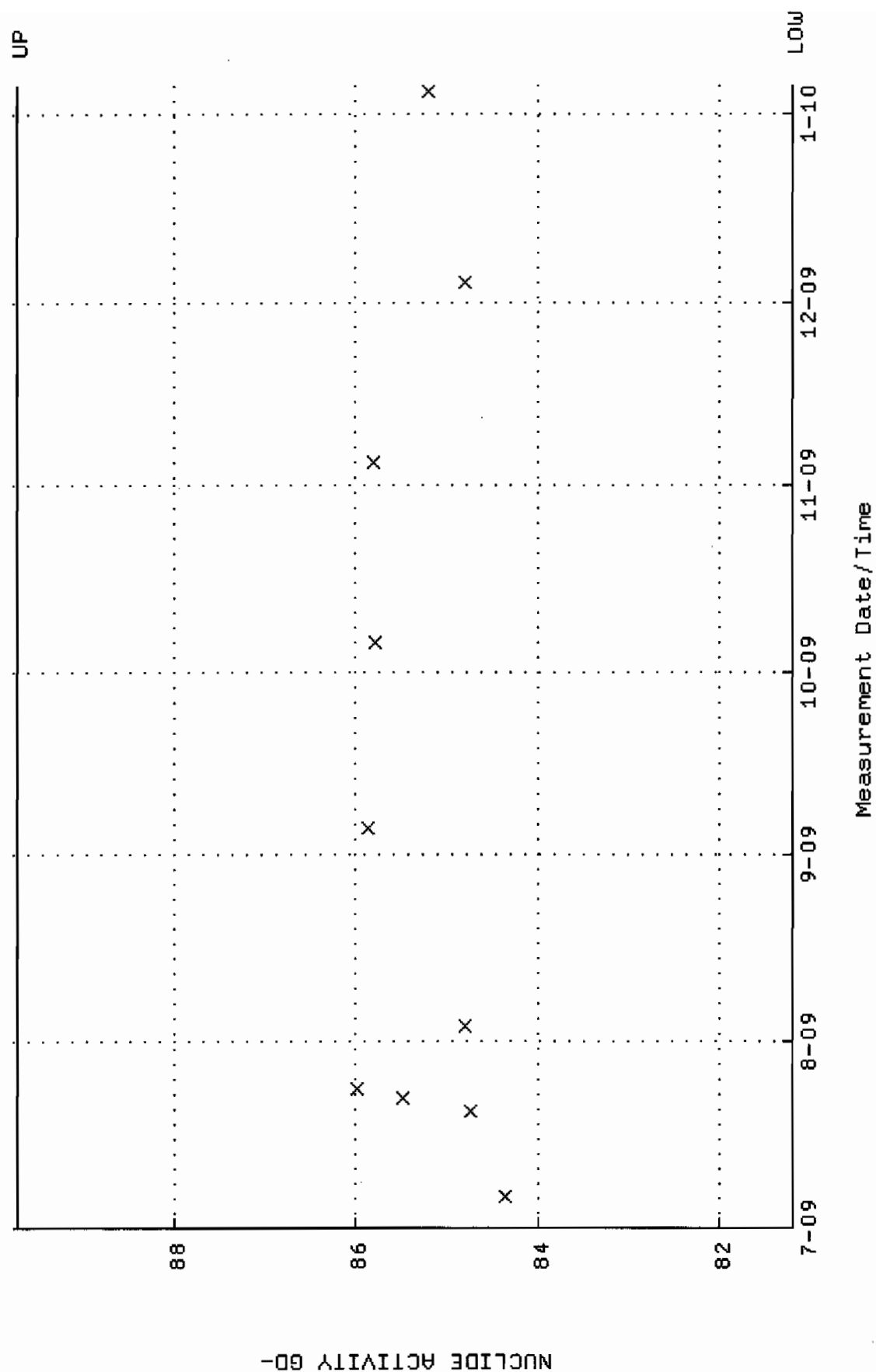
QA filename : DKA100:[ENV_ALPHA.QA.B]B026.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV_ALPHA.QA.W]W027.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.324980 through 0.344980



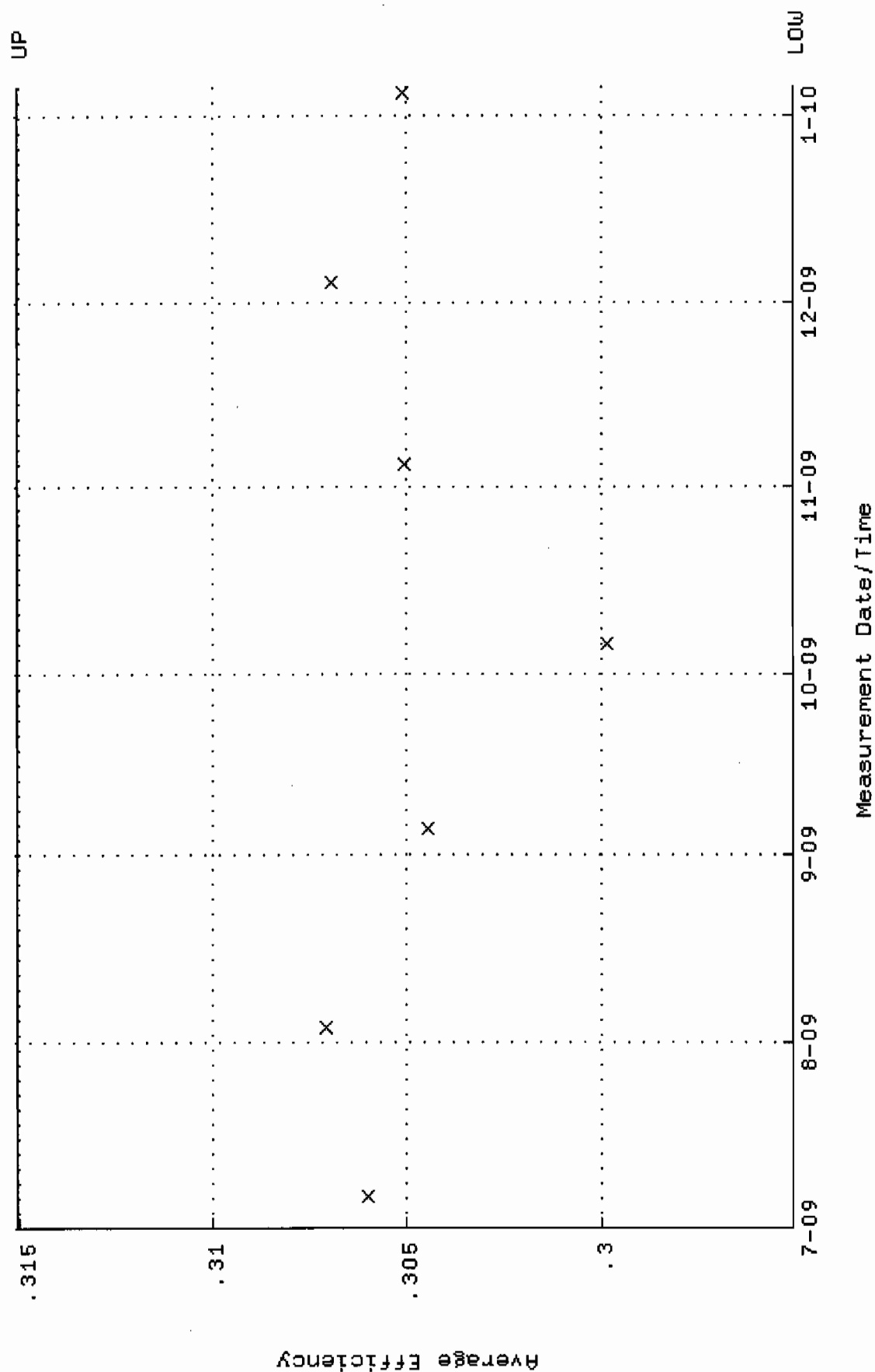
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 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 81.2030 through 89.7506



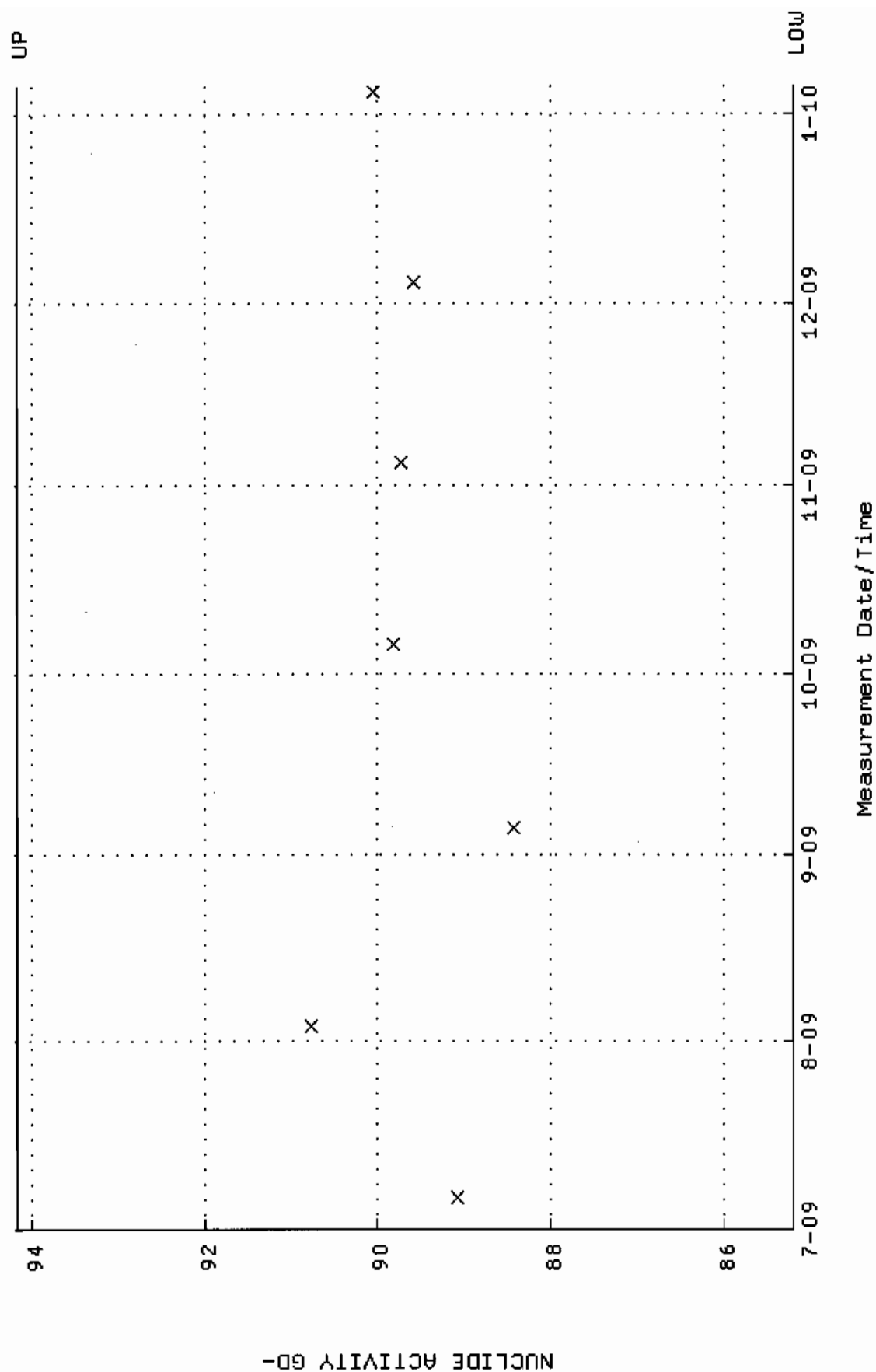
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



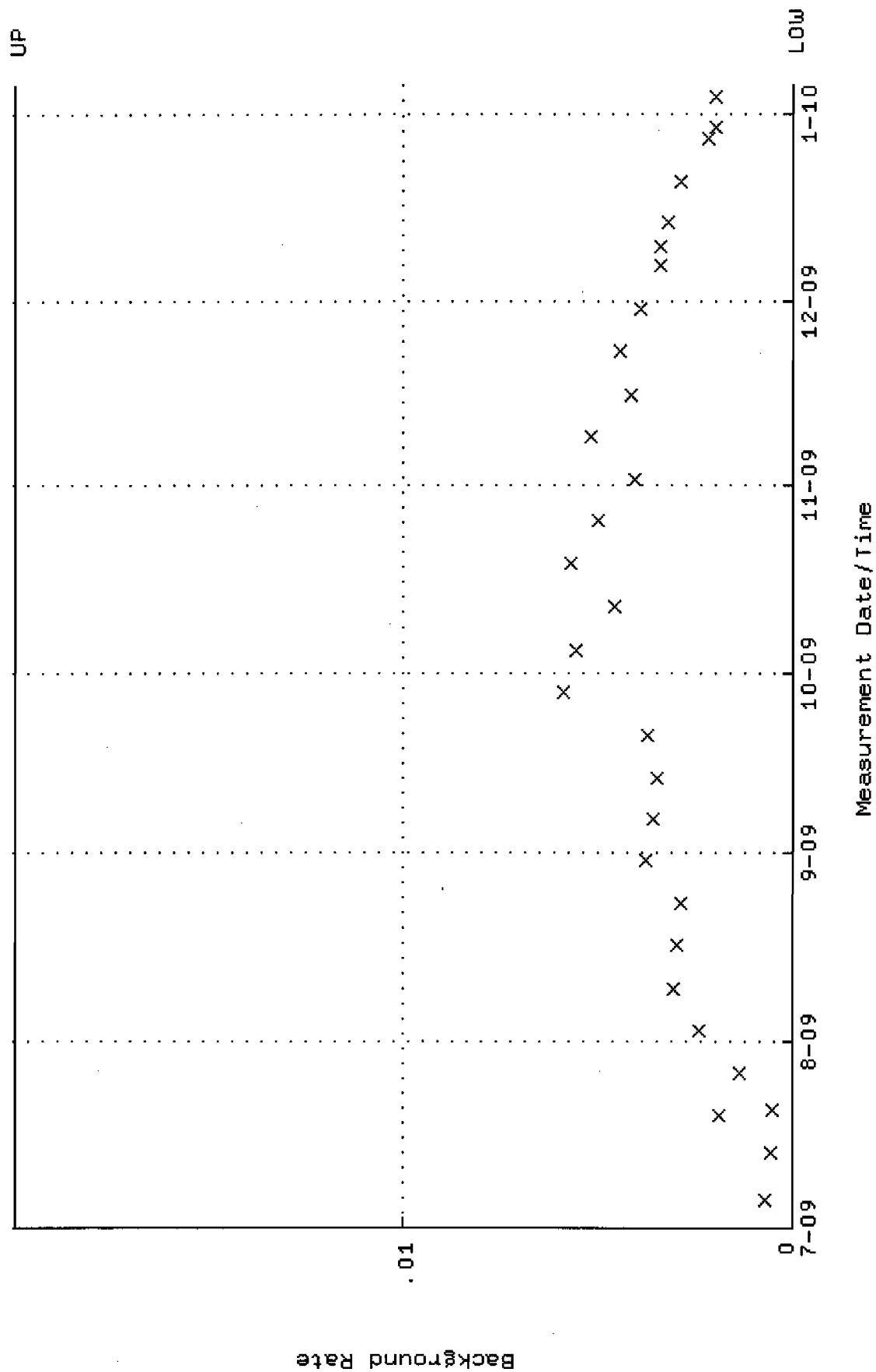
QA filename : DKA100:[ENV_ALPHA.QA.W]w028.QAF; 4
 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.295040 through 0.315040



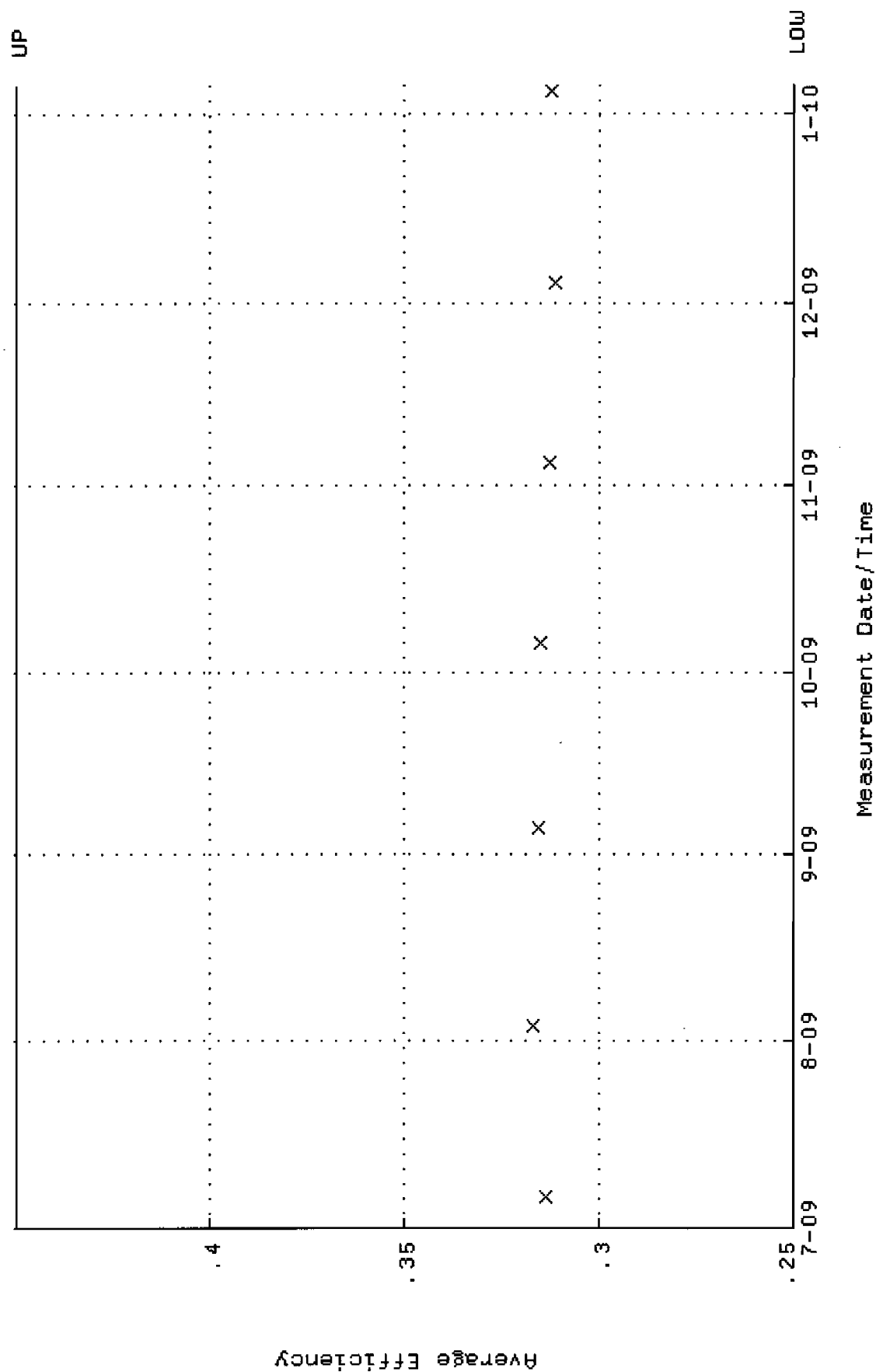
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 Lower/Upper Lmts: 85.1965 through 94.1645



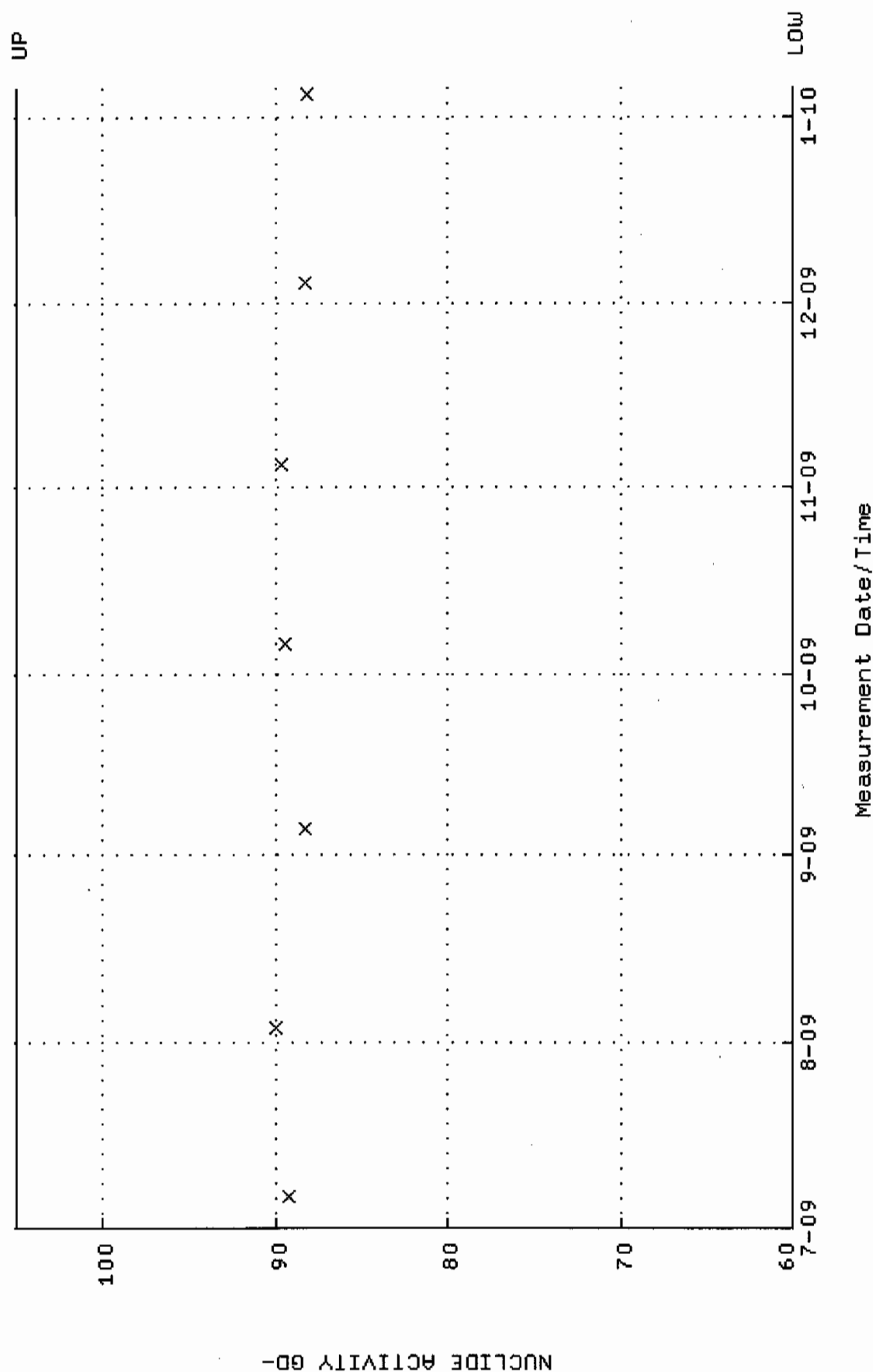
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 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



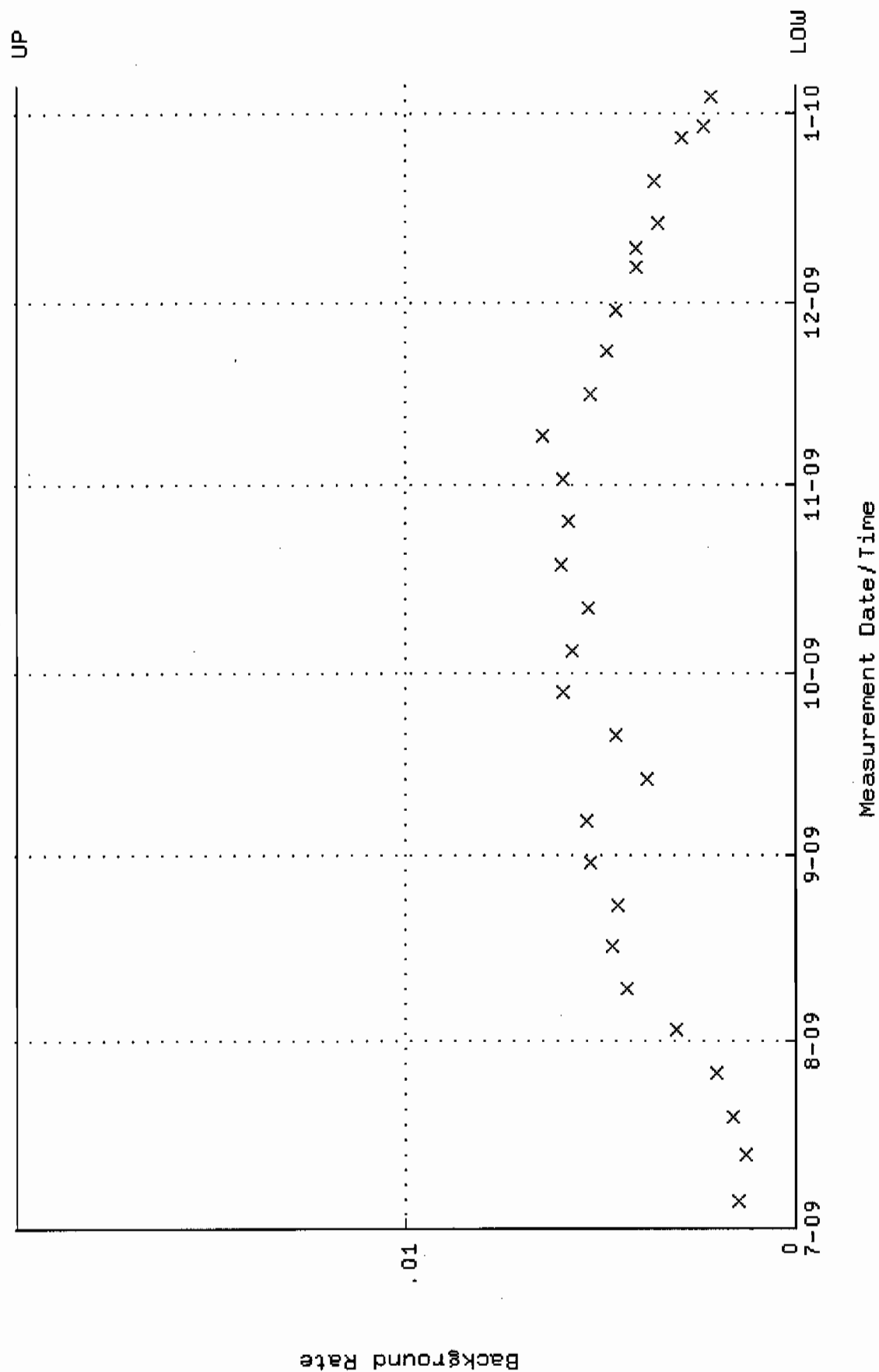
QA filename : DKA100:[ENV_ALPHA.QA.W]W029.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



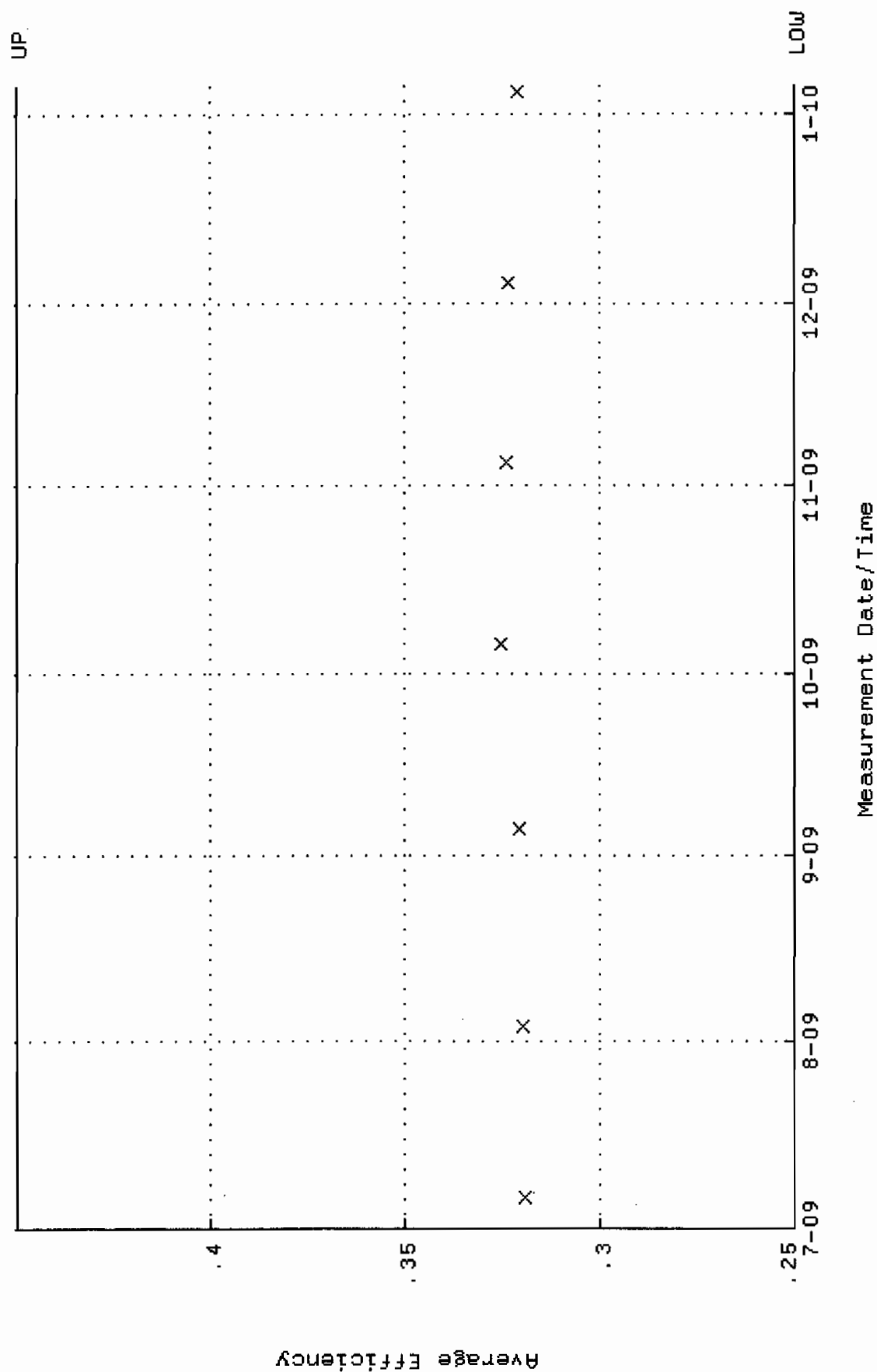
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



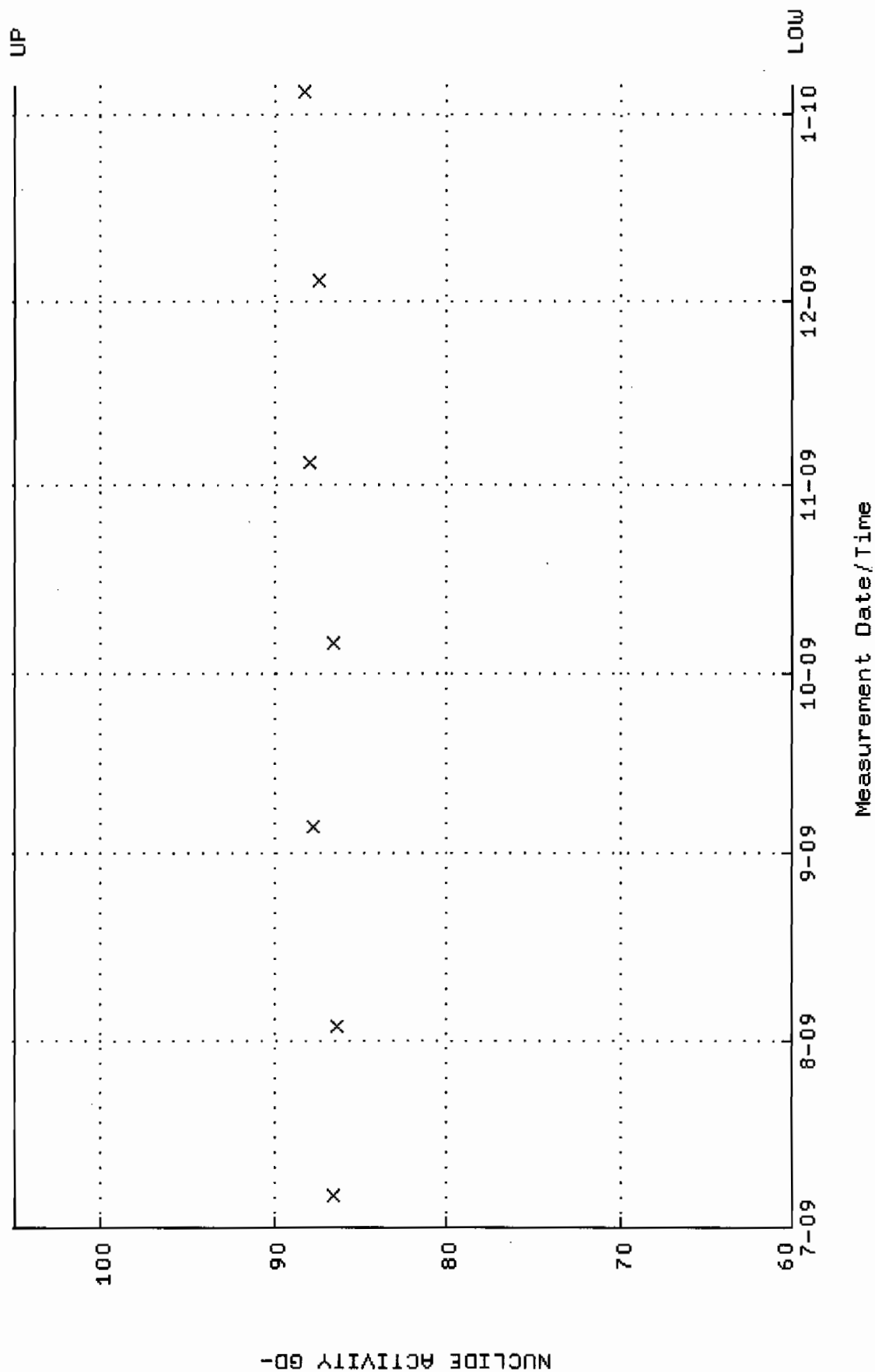
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 Parameter Name : BACKRATE (Background Rate)
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



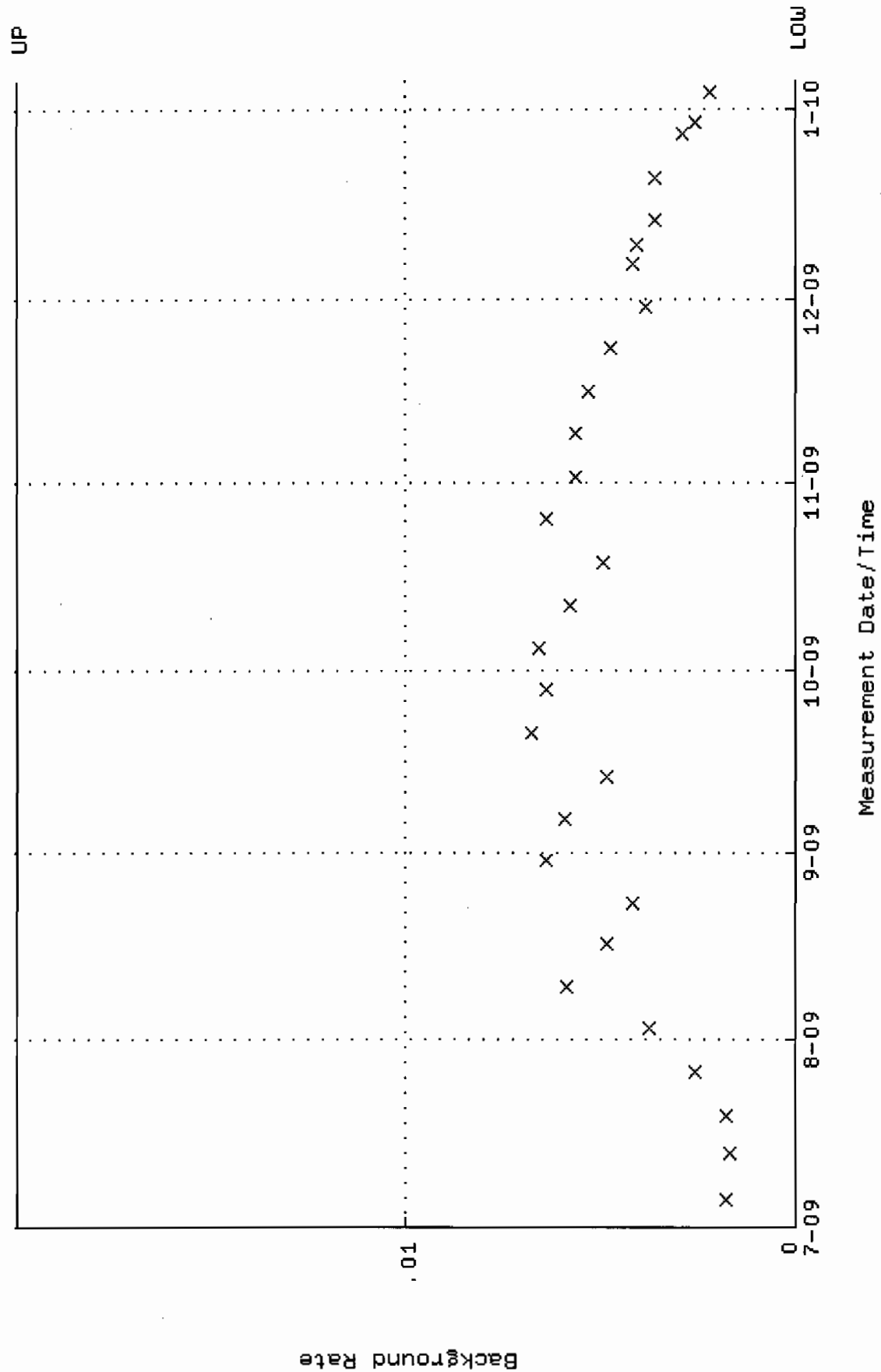
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.250000 through 0.450000



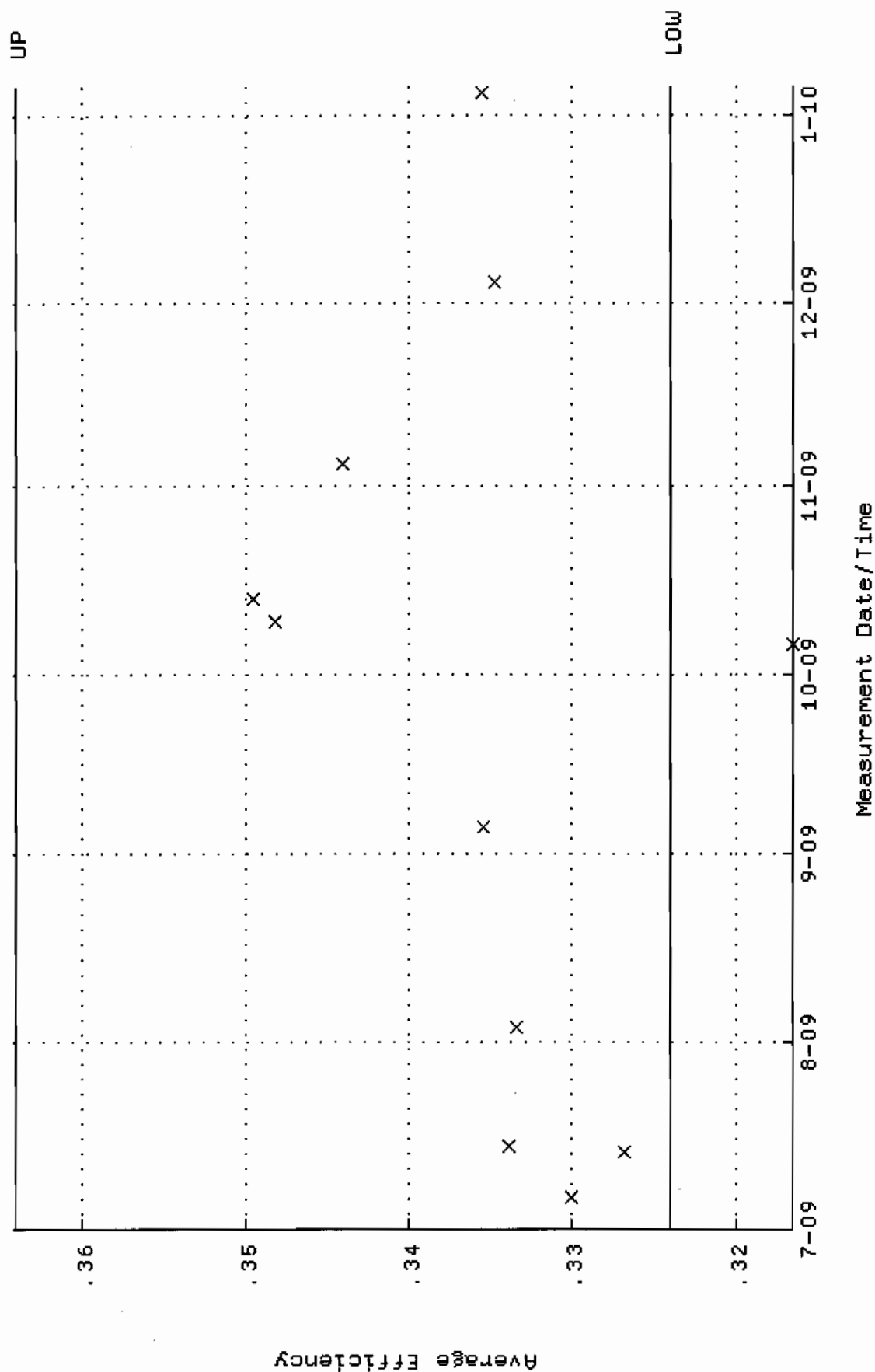
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 Lower/Upper Lmts: 60.0000 through 105.000



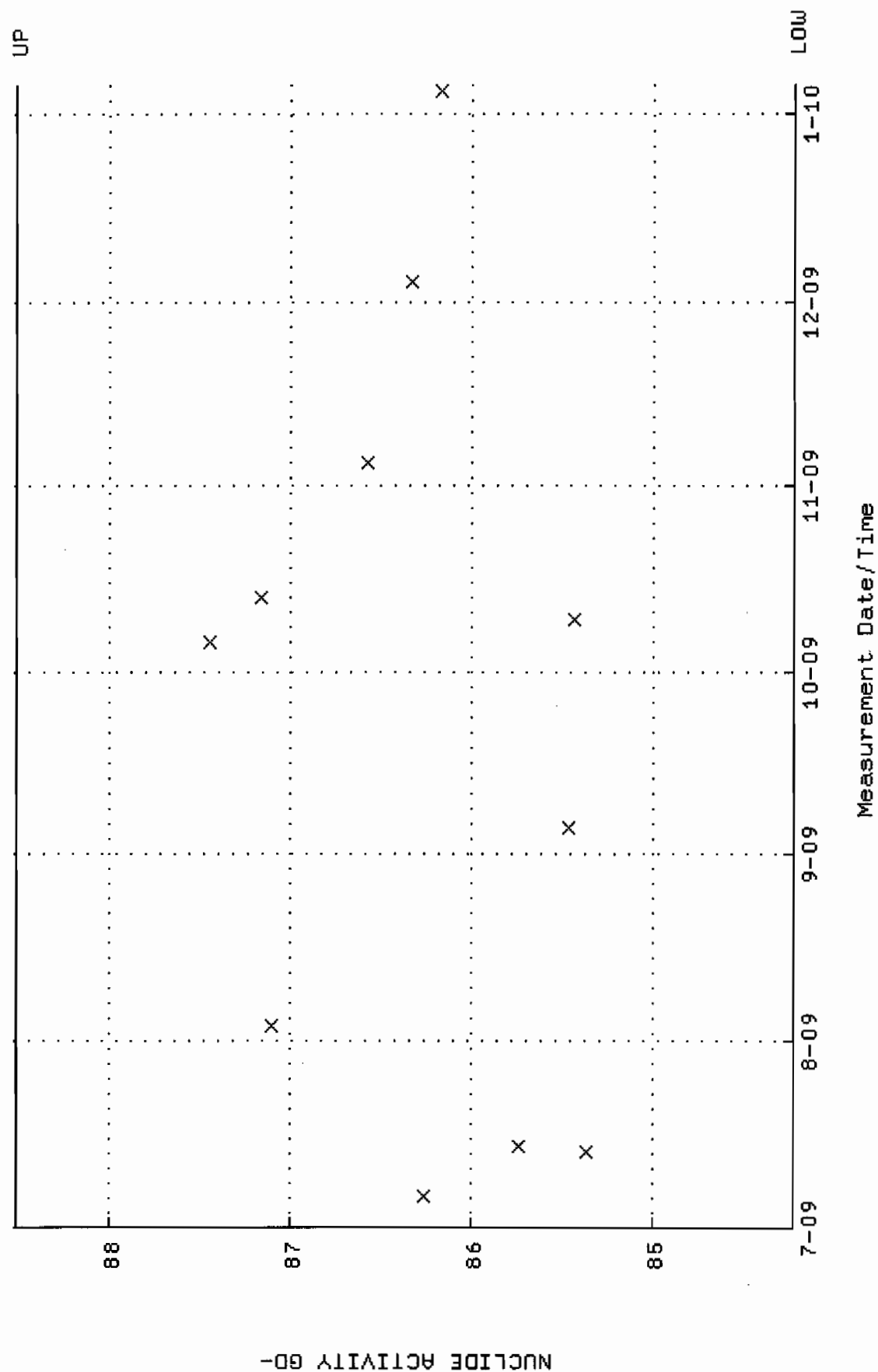
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



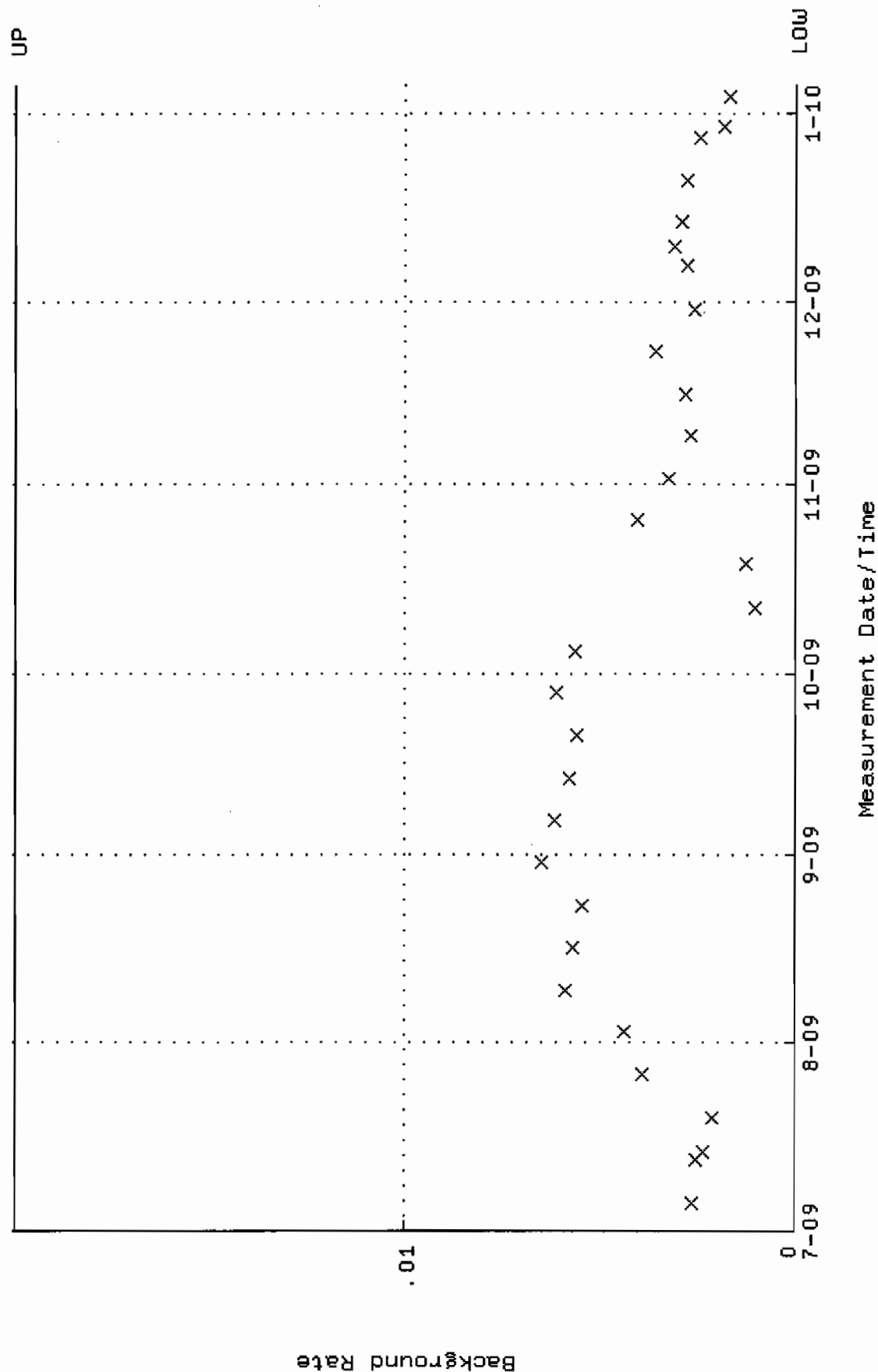
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.324029 through 0.364065



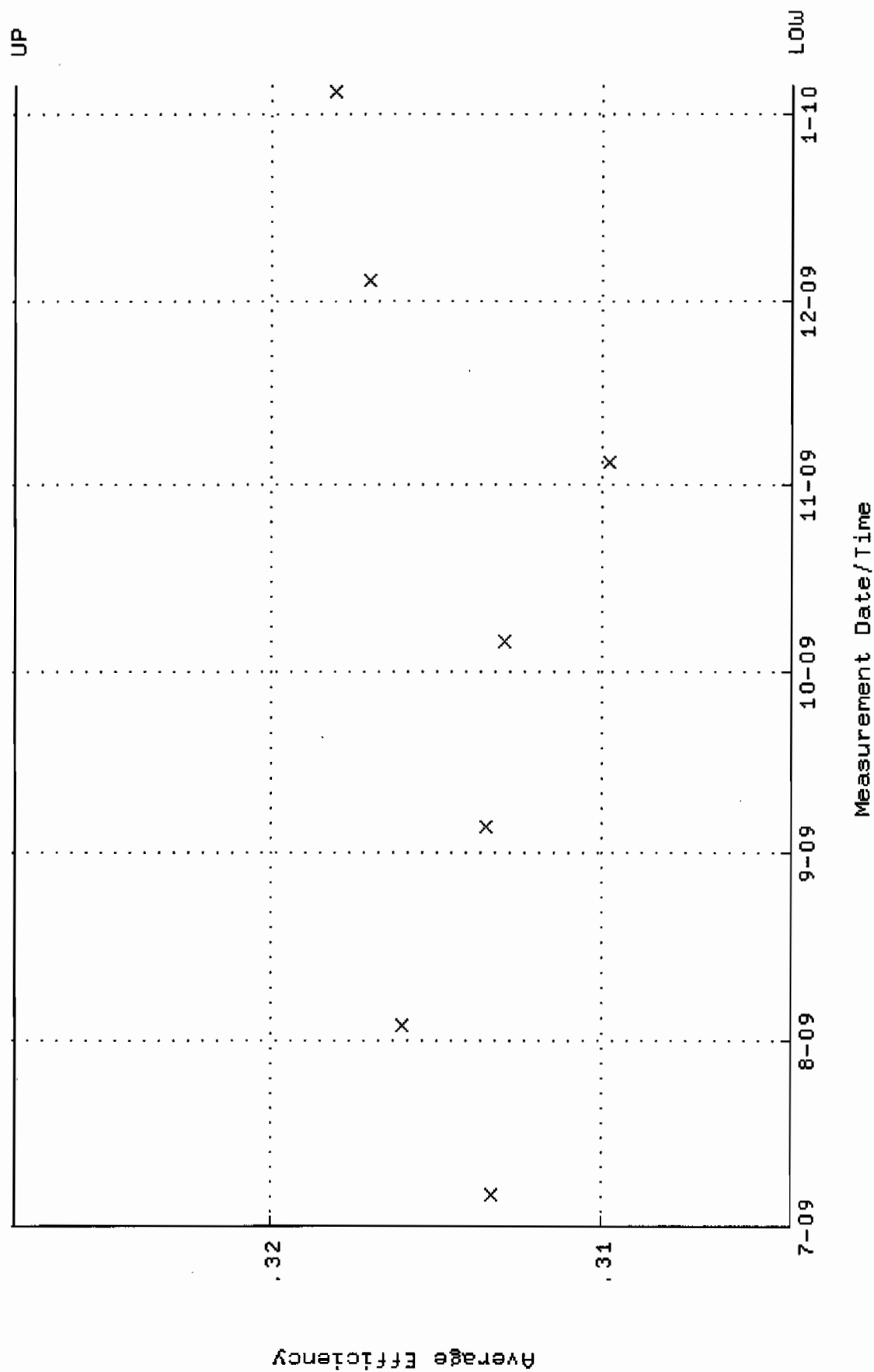
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 Parameter Name : NLAactivity-GD148 (NUCLIDE ACTIVITY GD-148)
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 Lower/Upper Lmts: 84.2165 through 88.5165



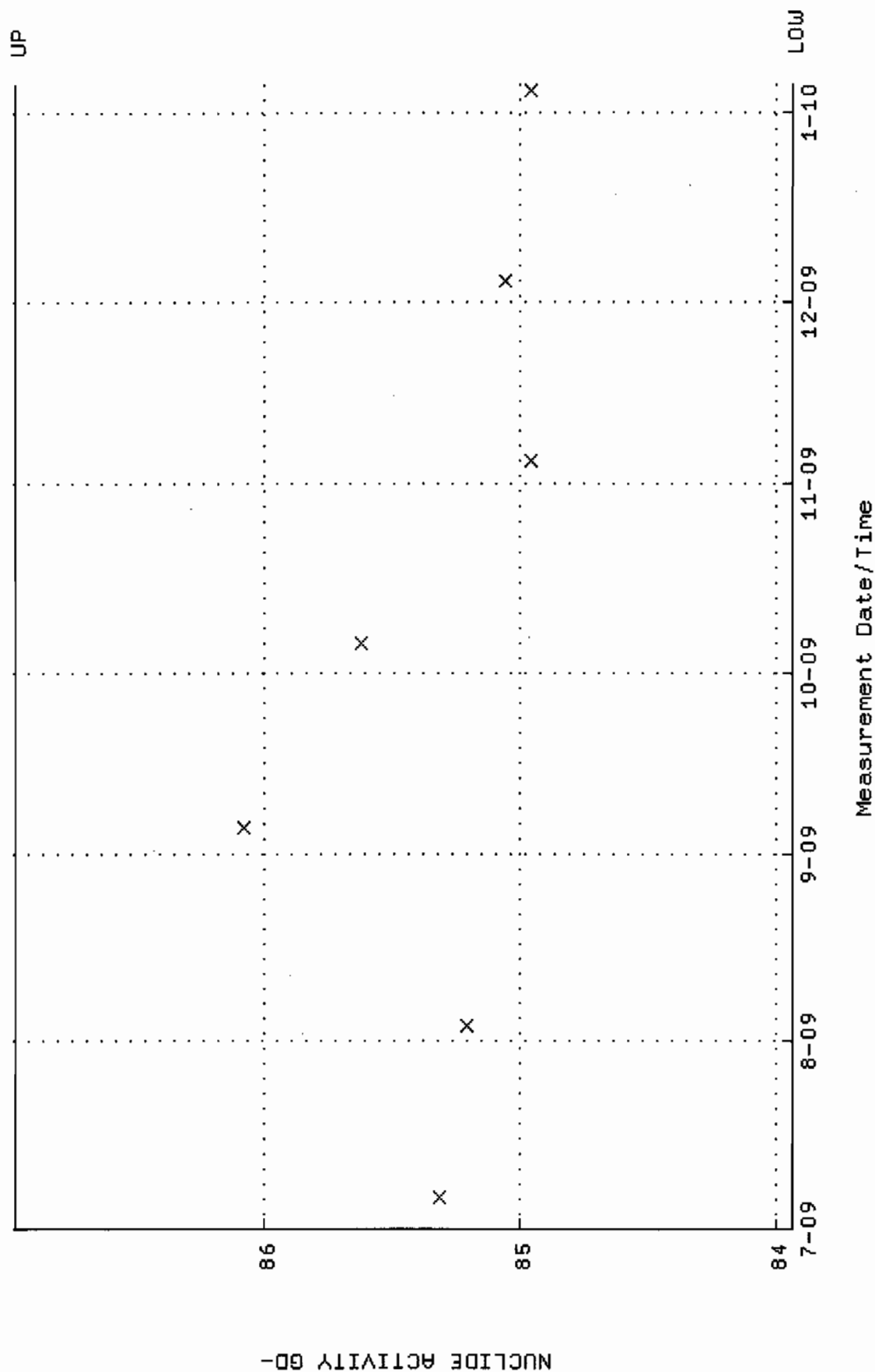
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV-ALPHA.QA.W]W033.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.304222 through 0.327748



QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.9373 through 86.9661

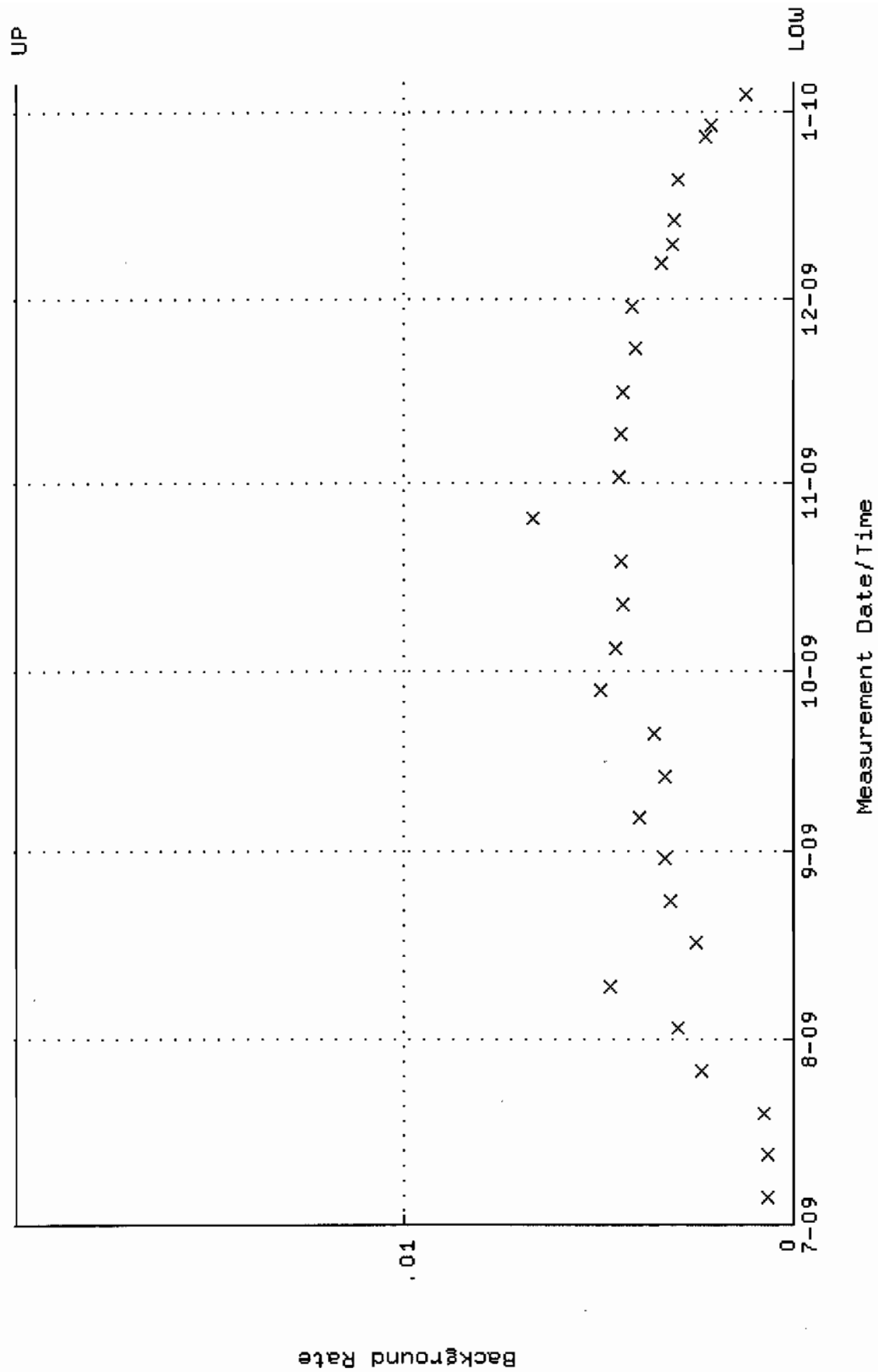


QA filename : DKA100:[ENV_ALPHA.QA.B]B033.QAF;1

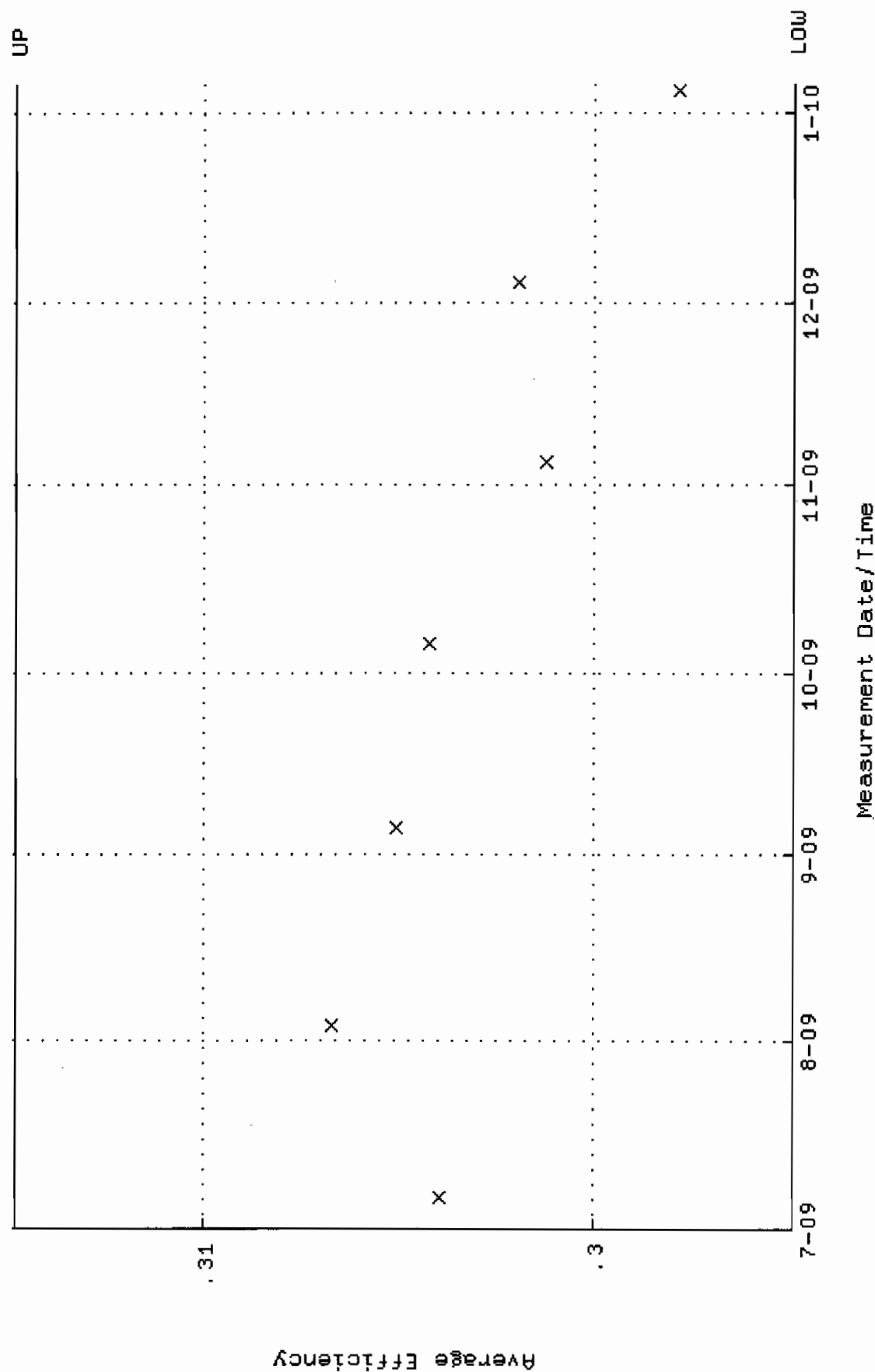
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00

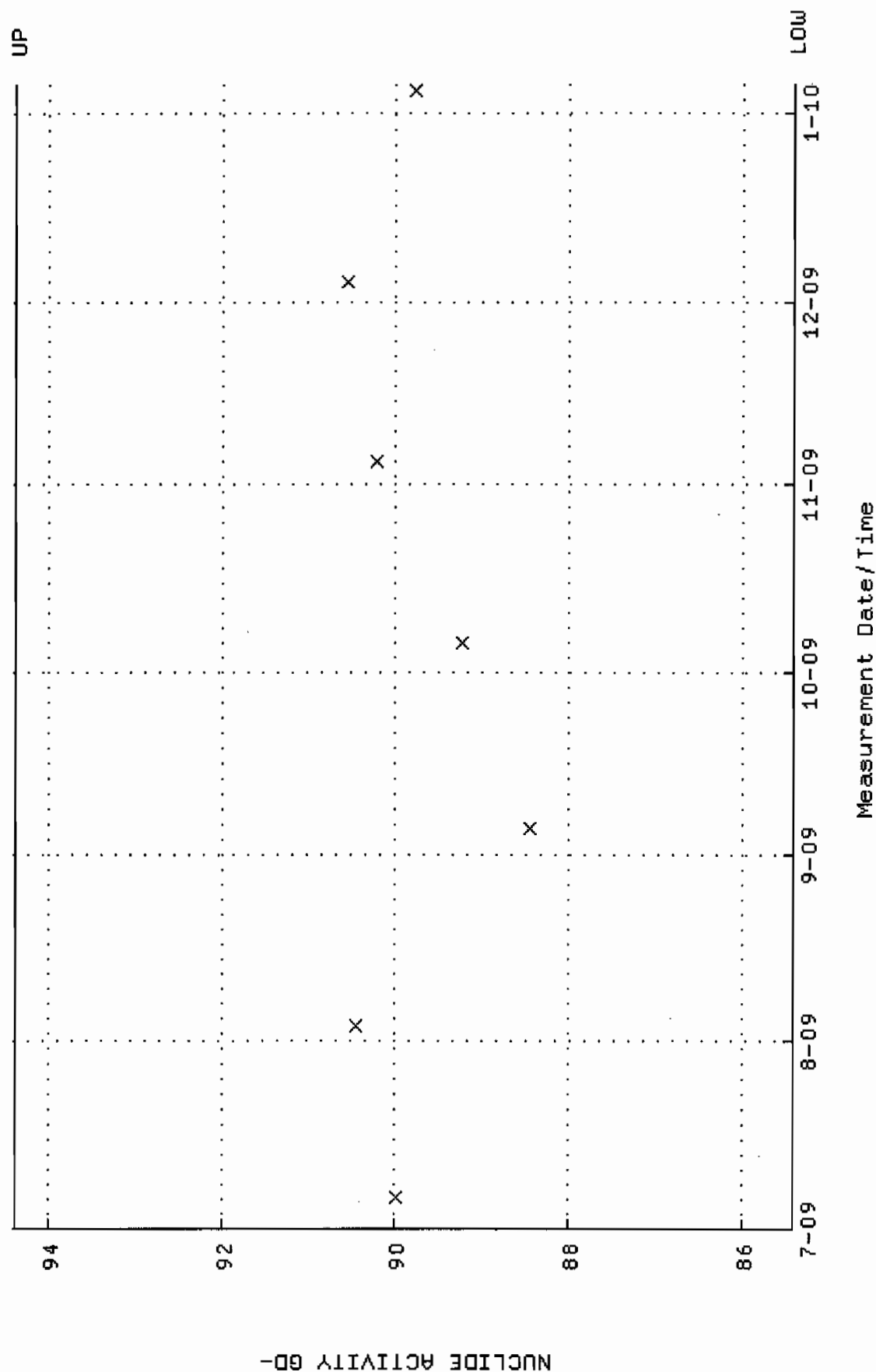
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



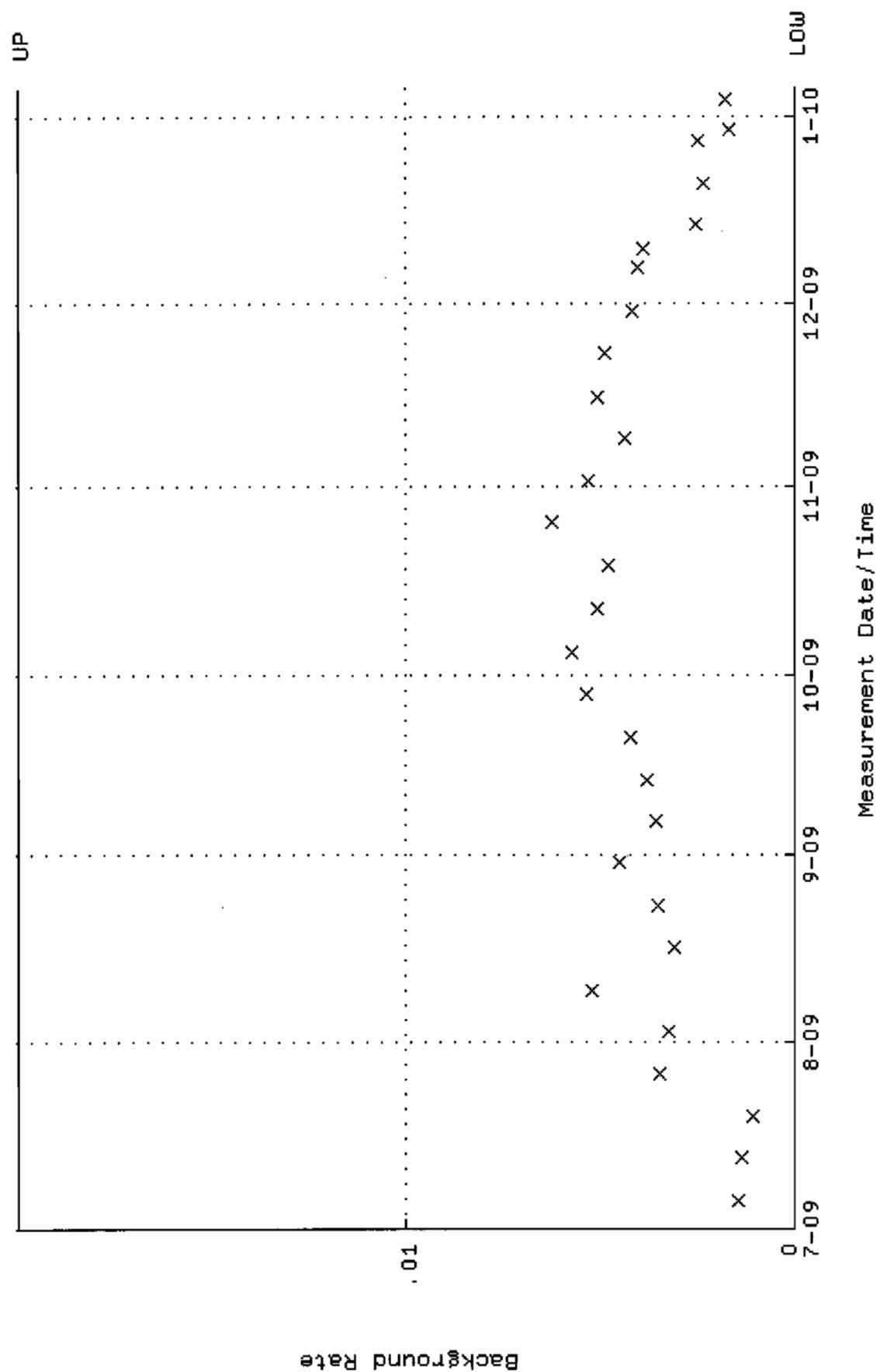
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.294859 through 0.314859



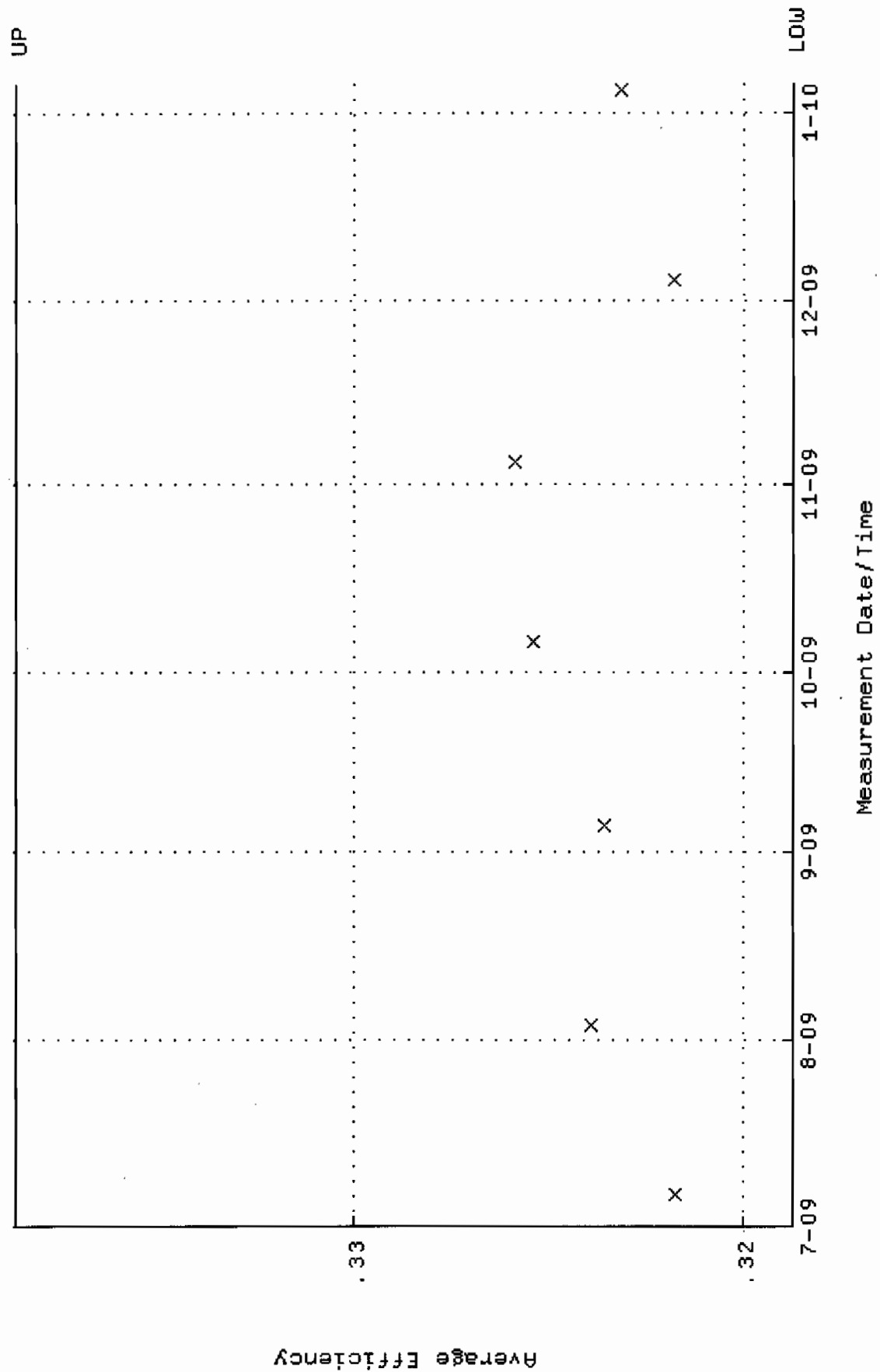
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.3984 through 94.3878



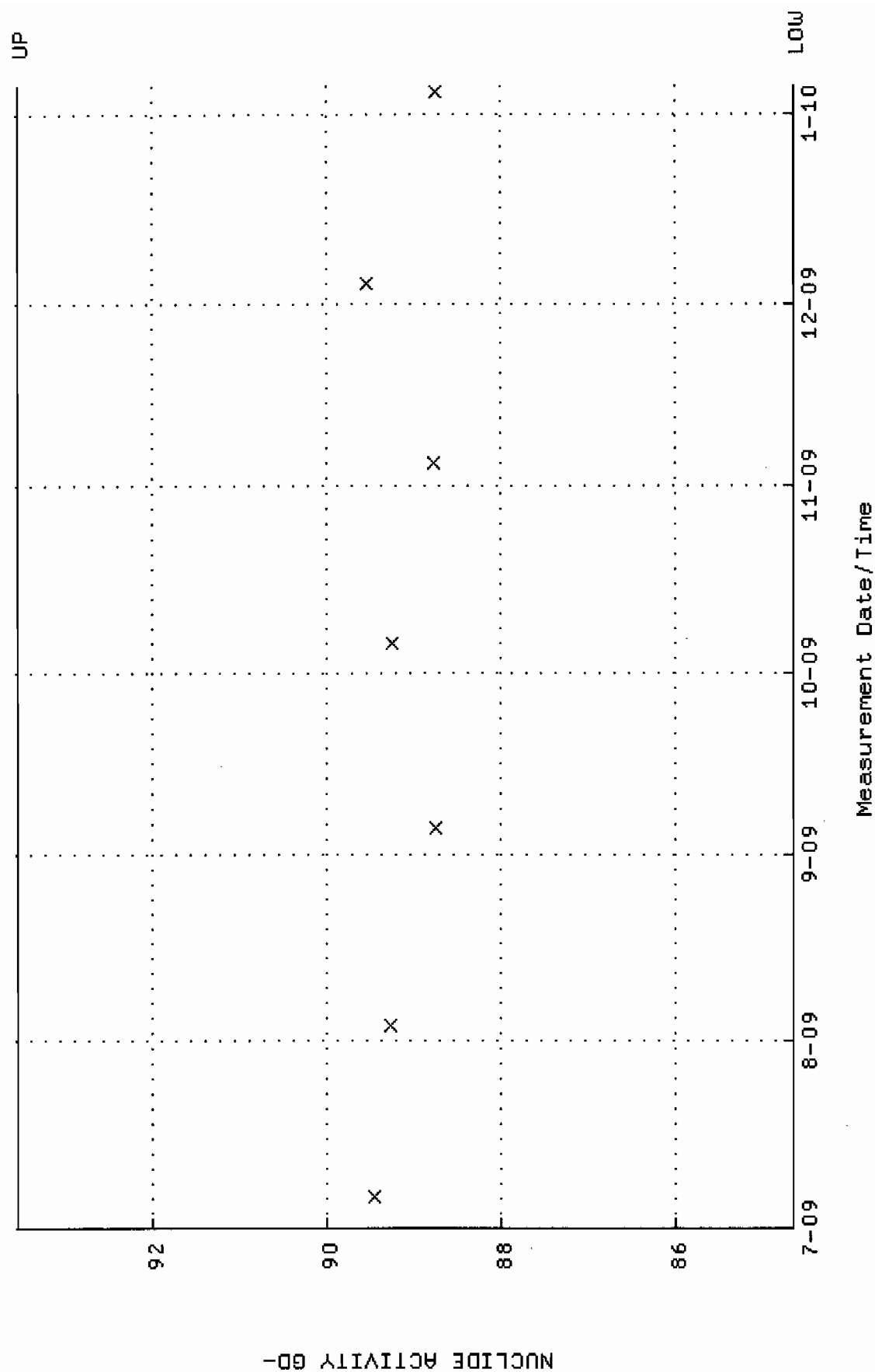
QA filename : DKA100:[ENV_ALPHA.QA.B]B035.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



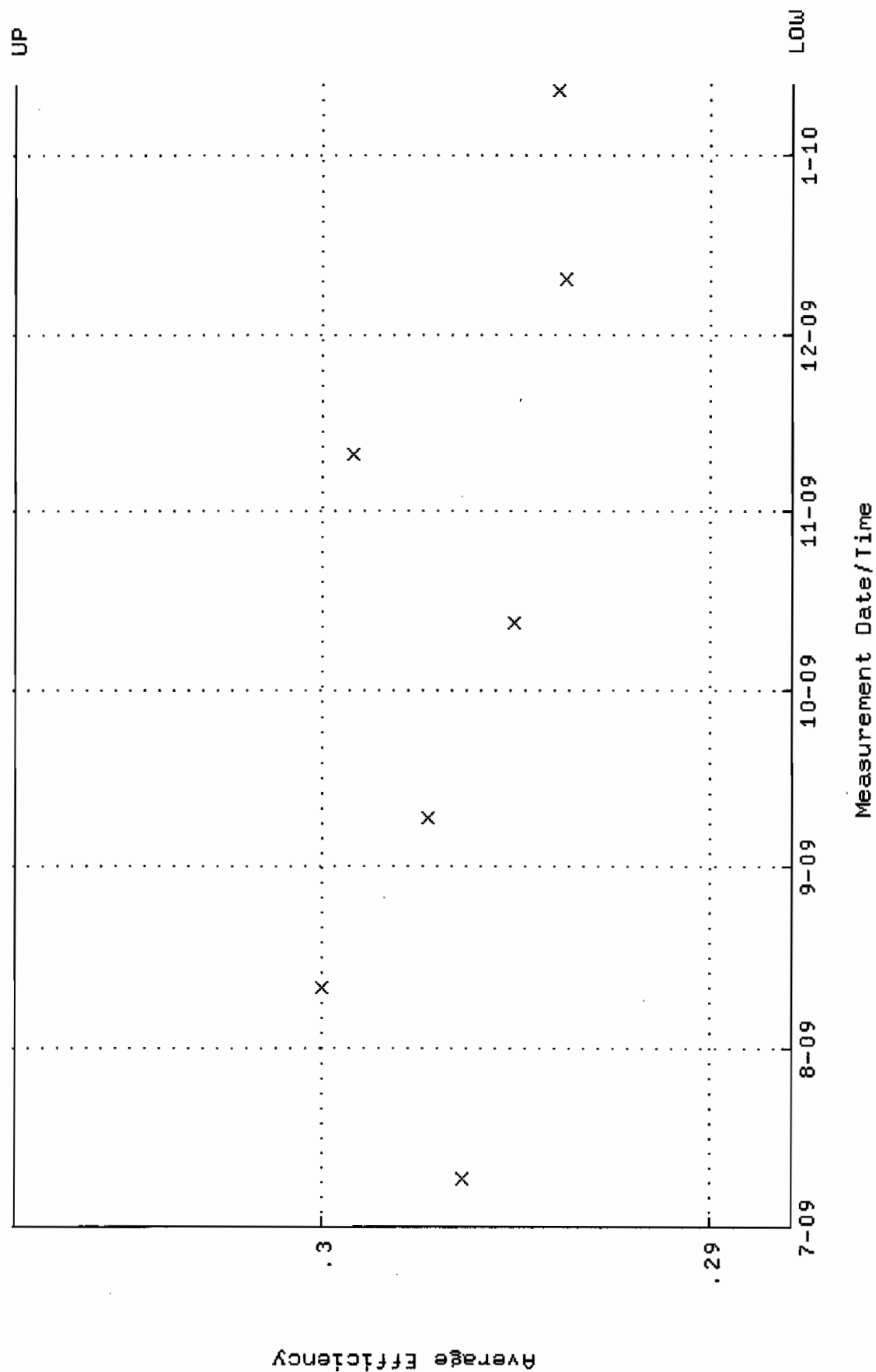
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.318717 through 0.338717



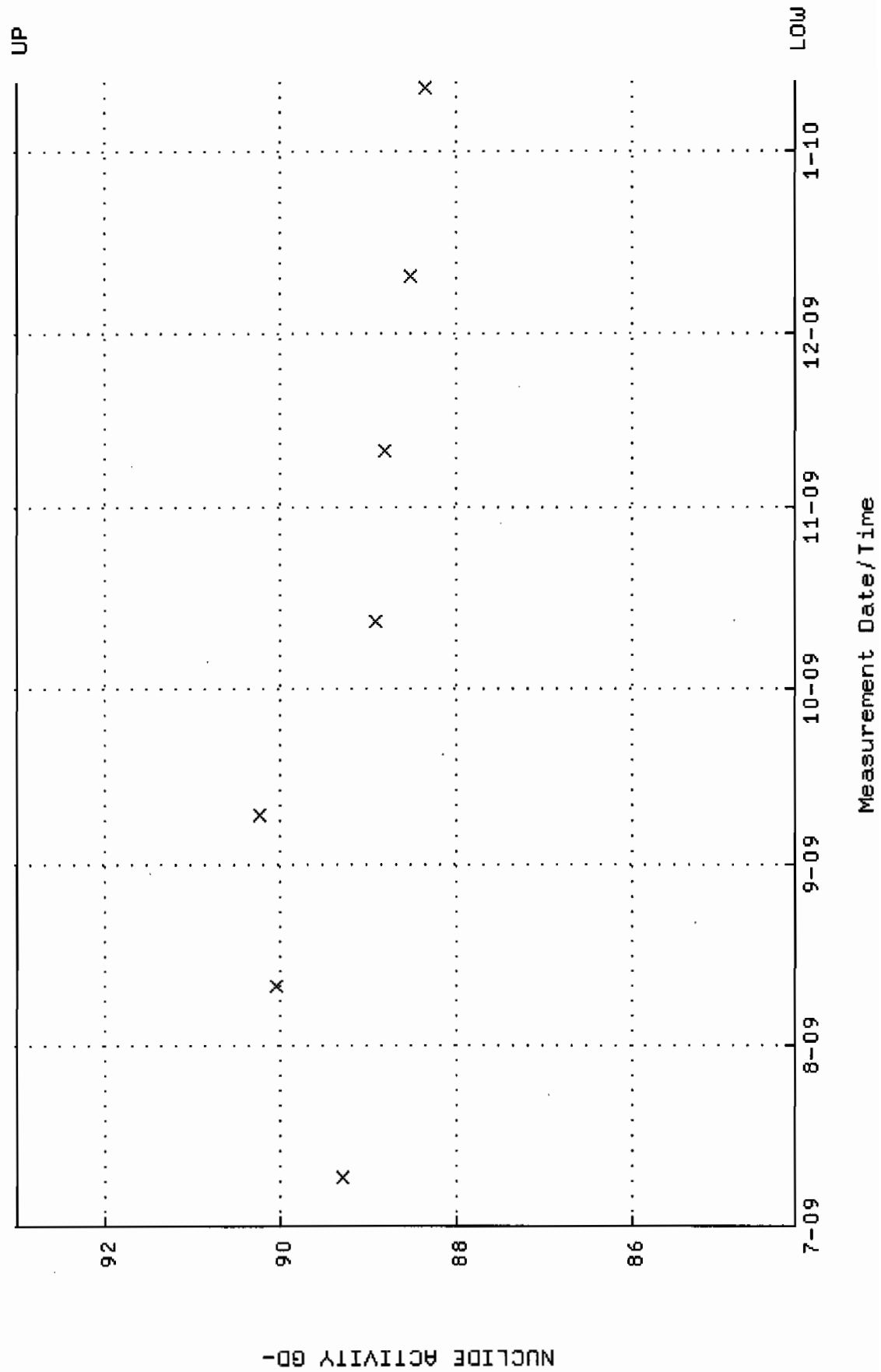
QA filename : DKA100:[ENV-ALPHA.QA.W]W036.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.6422 through 93.5518



QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.287888 through 0.307888



QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.1413 through 92.9983

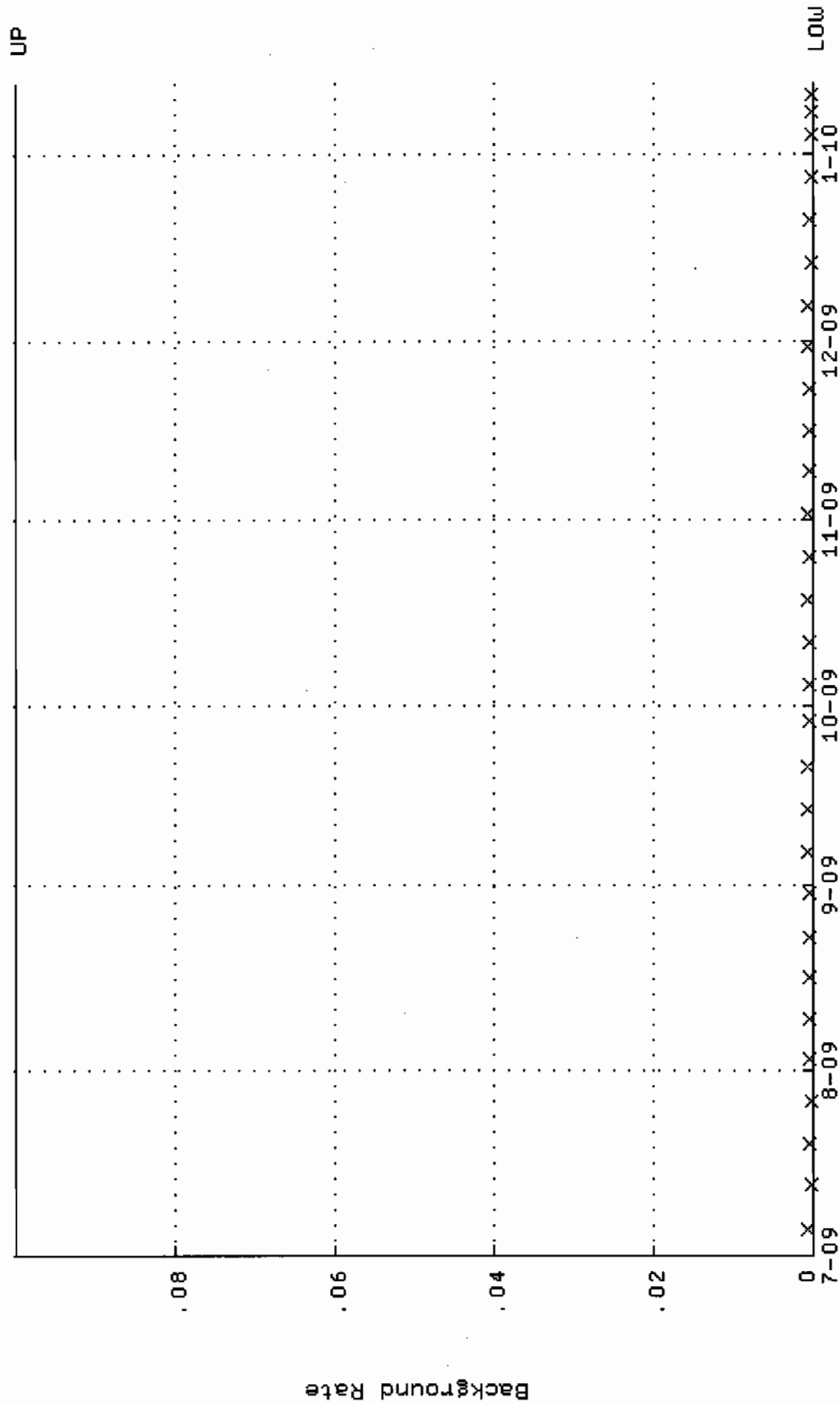


QA filename : DKA100:[ENV_ALPHA.QA.B]B089.QAF;1

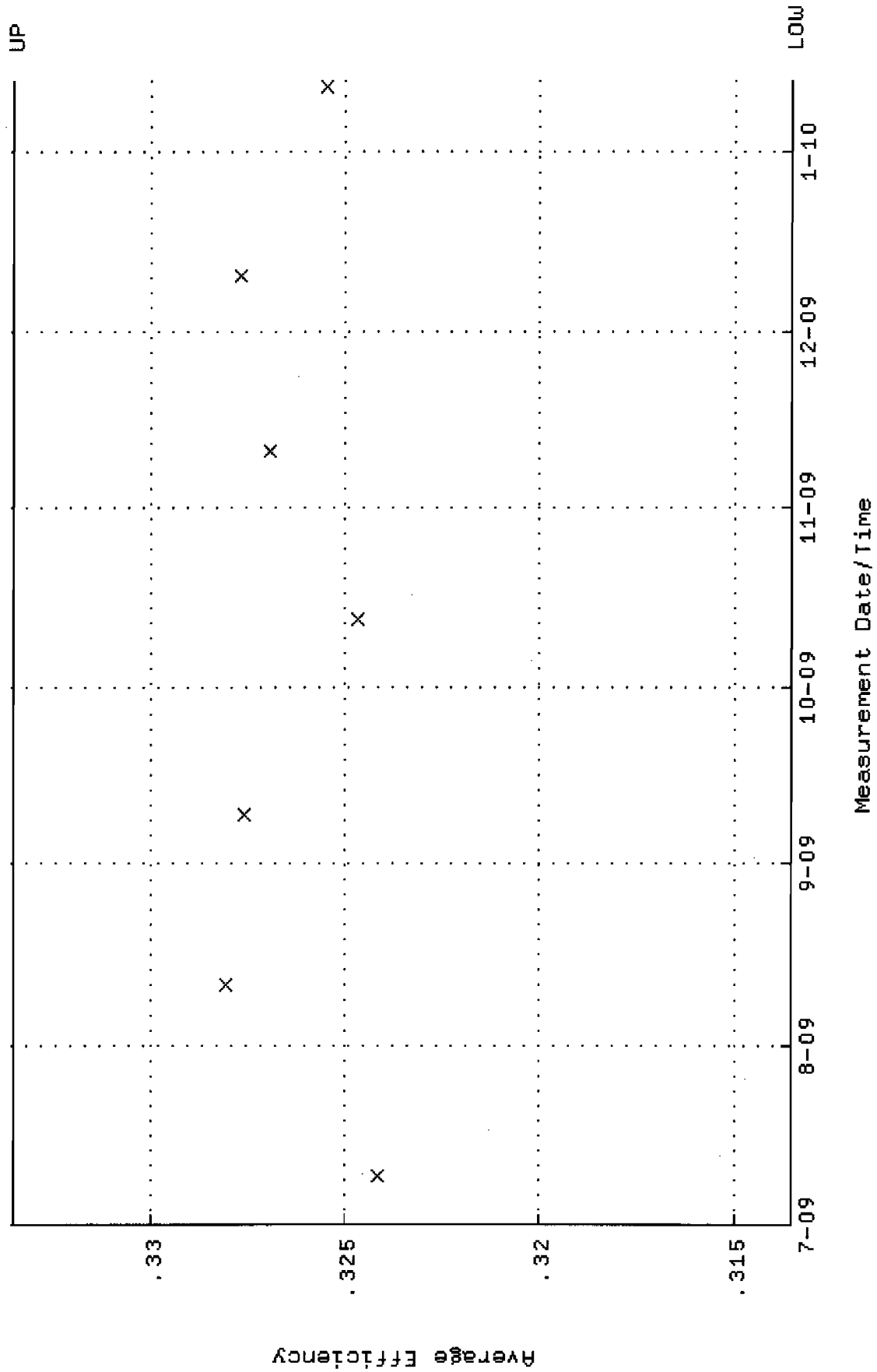
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00

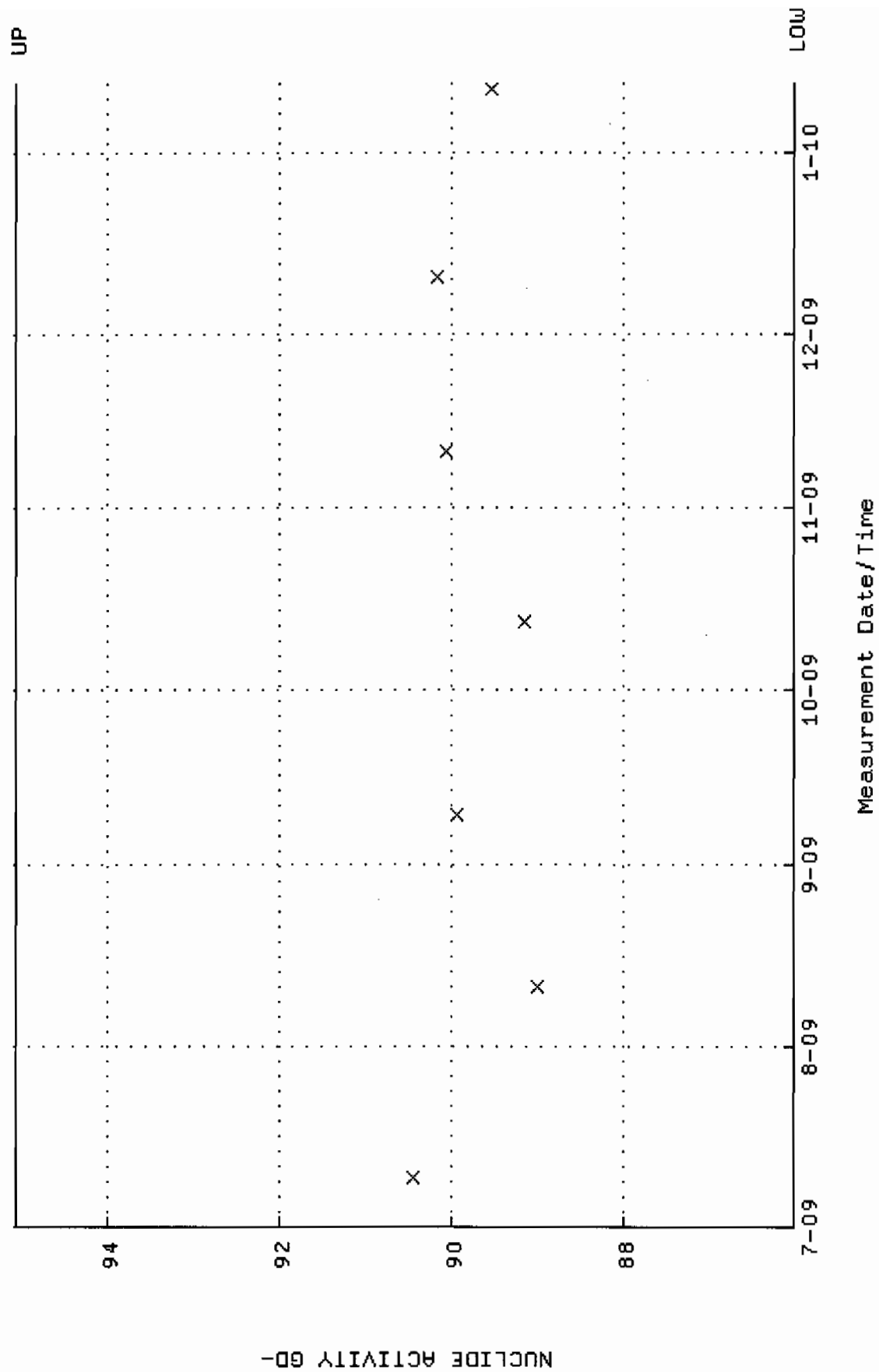
Lower/Upper Lmts: 0.000000E+00 through 0.100000



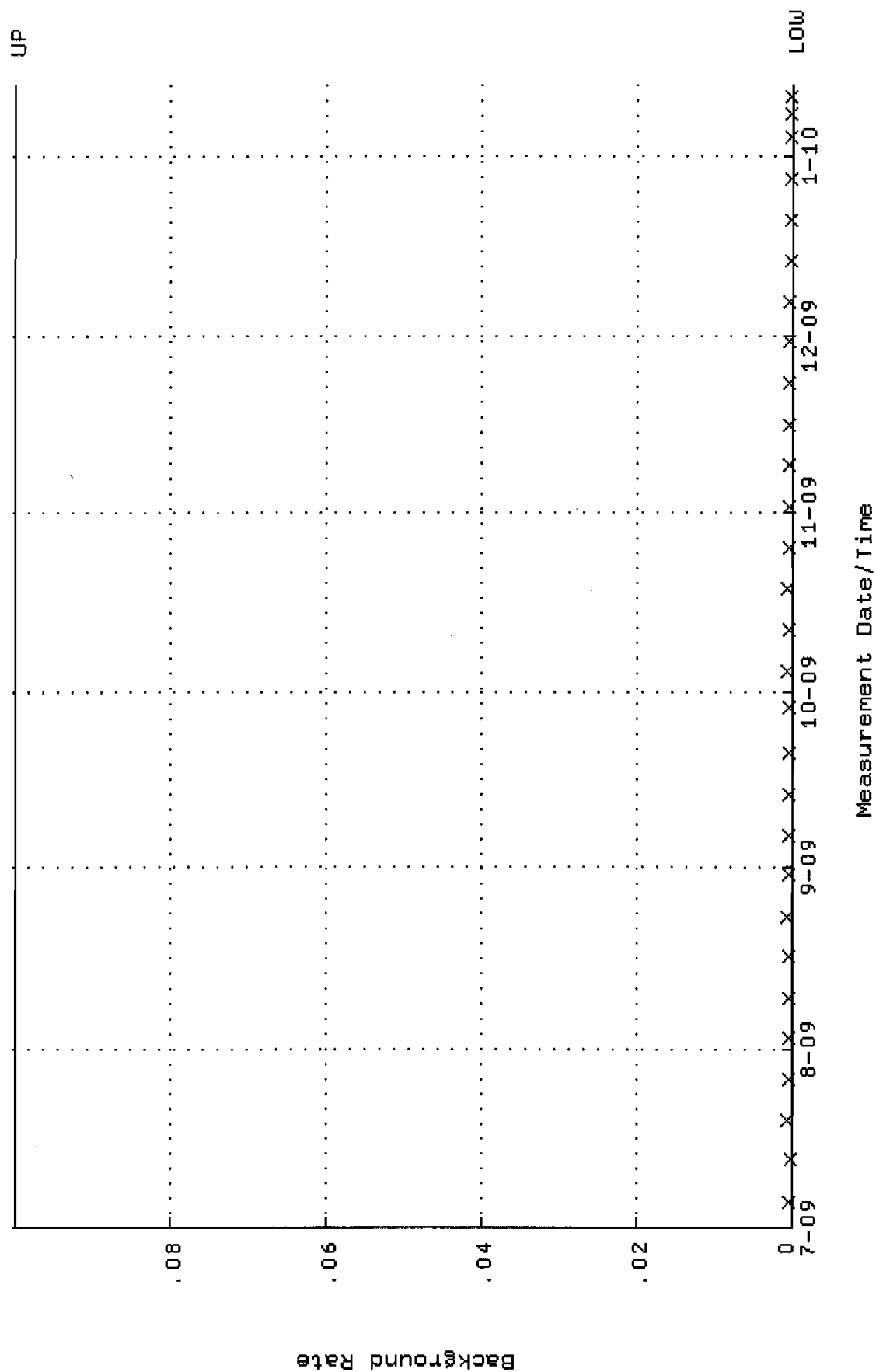
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.313529 through 0.333529



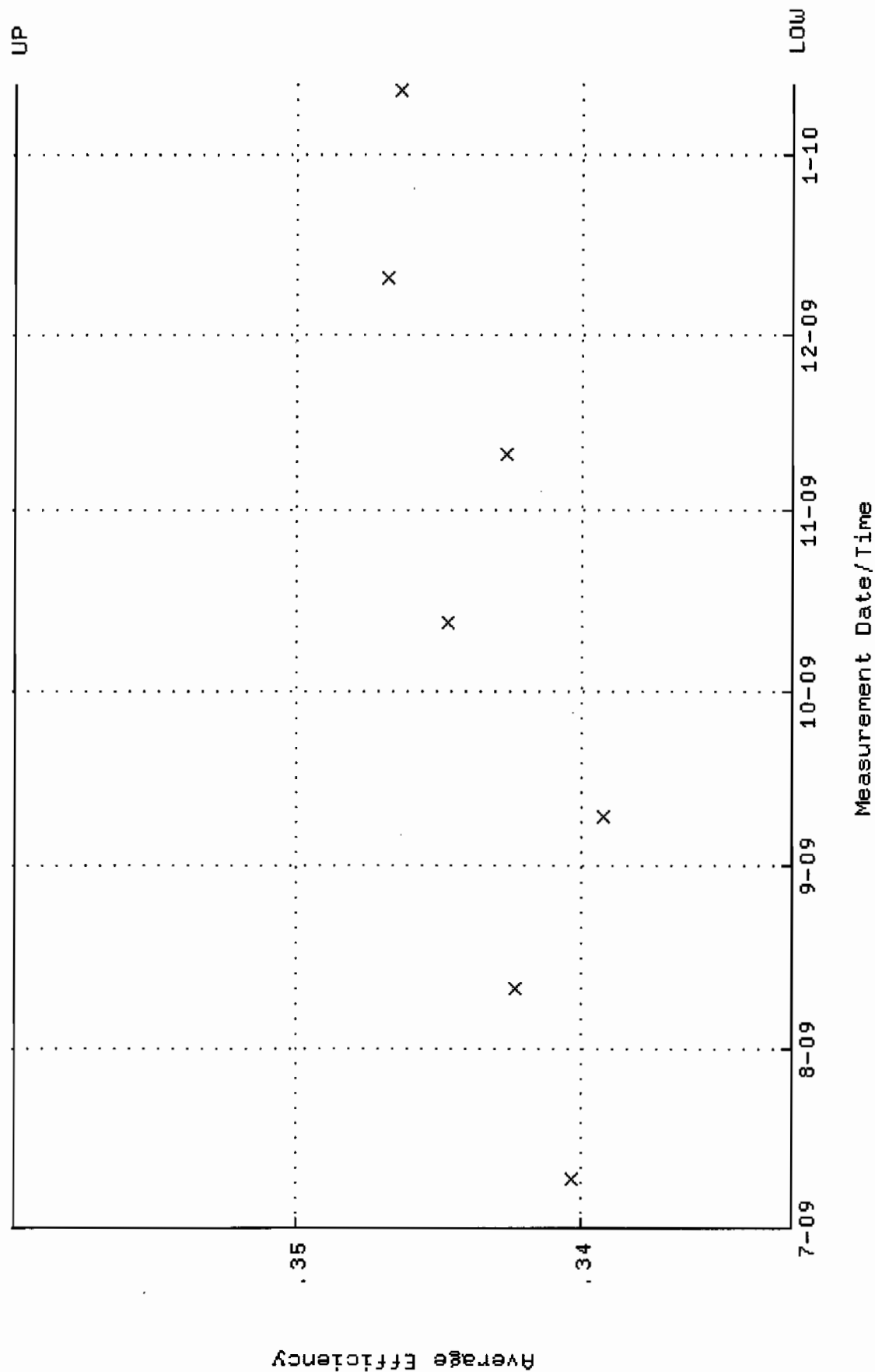
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.0139 through 95.0680



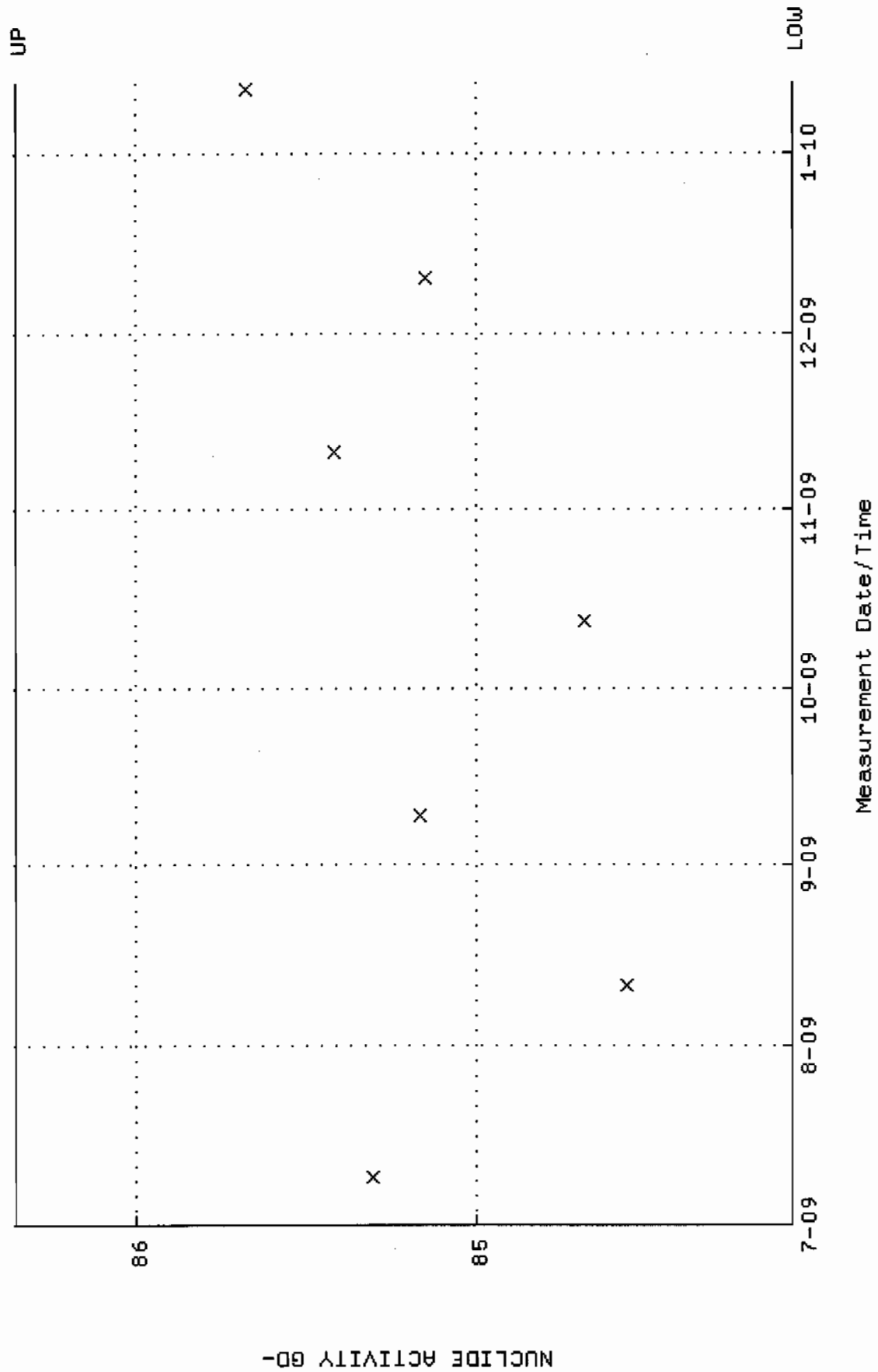
QA filename : DKA100:[ENVY_ALPHA.QA.B]B090.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



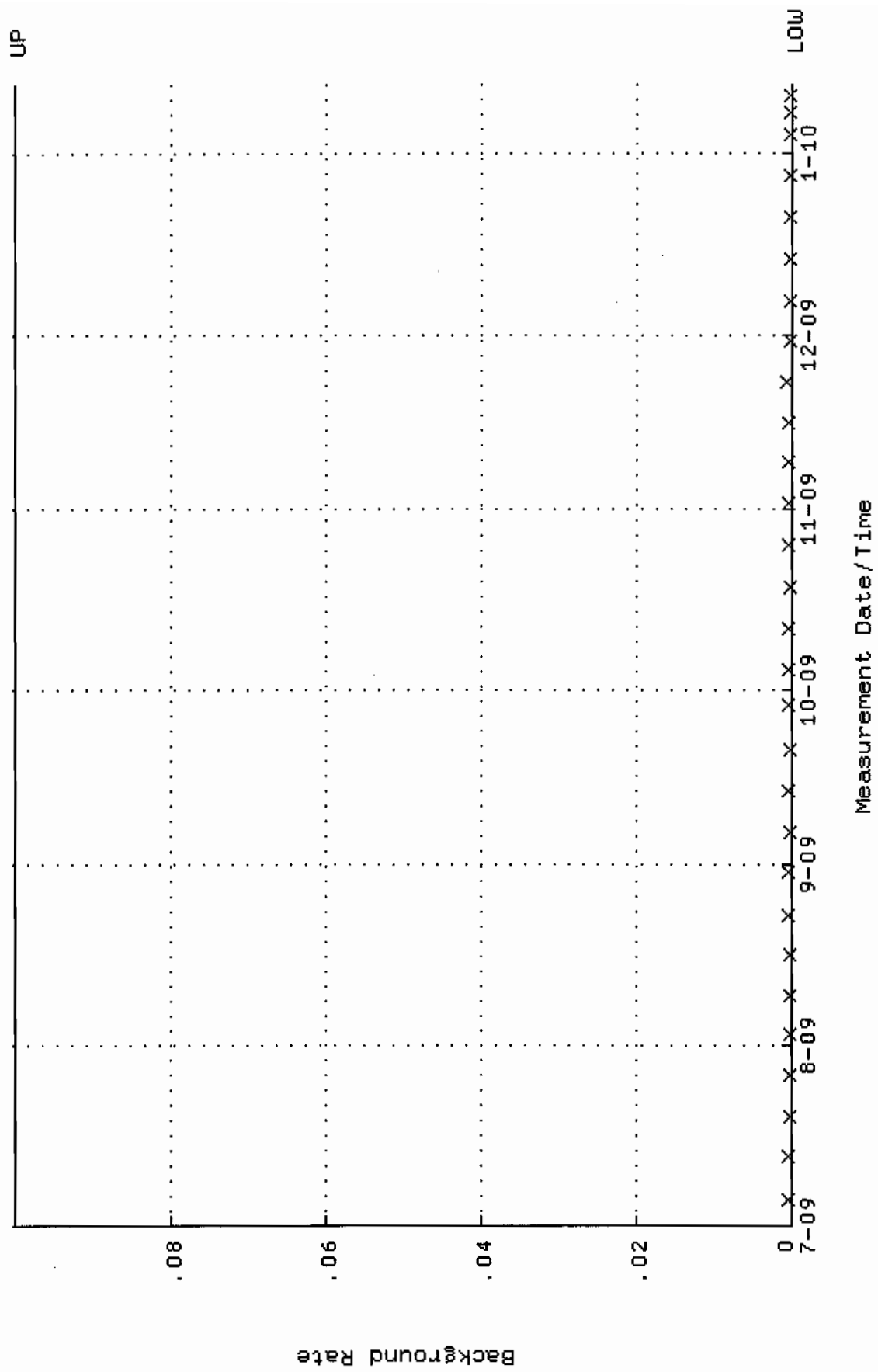
QA filename : DKA100:[ENV-ALPHA.QA.W]W091.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.332648 through 0.359902



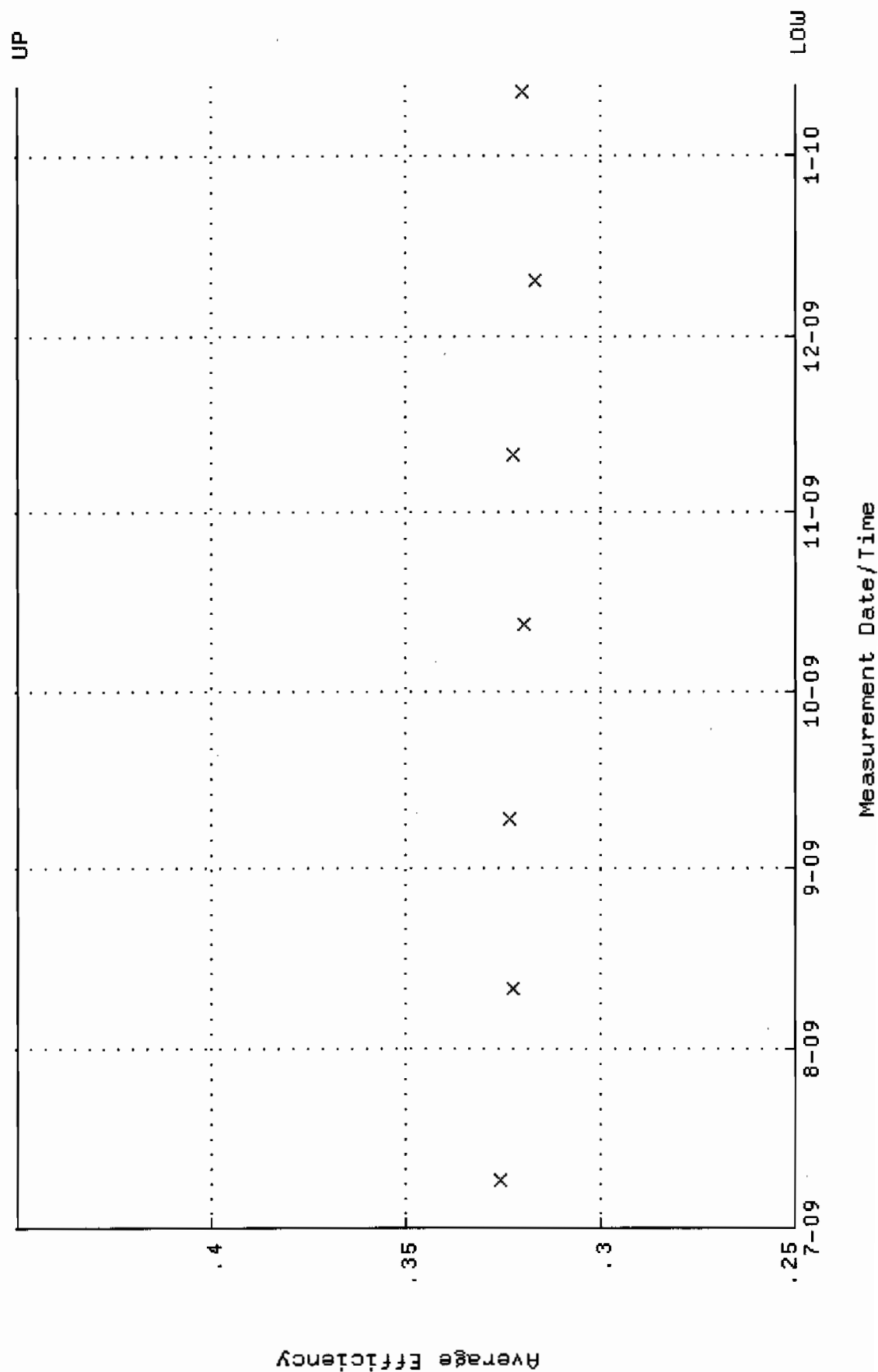
QA filename : DKA100:[ENV_ALPHA.QA.W]W091.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.0764 through 86.3518



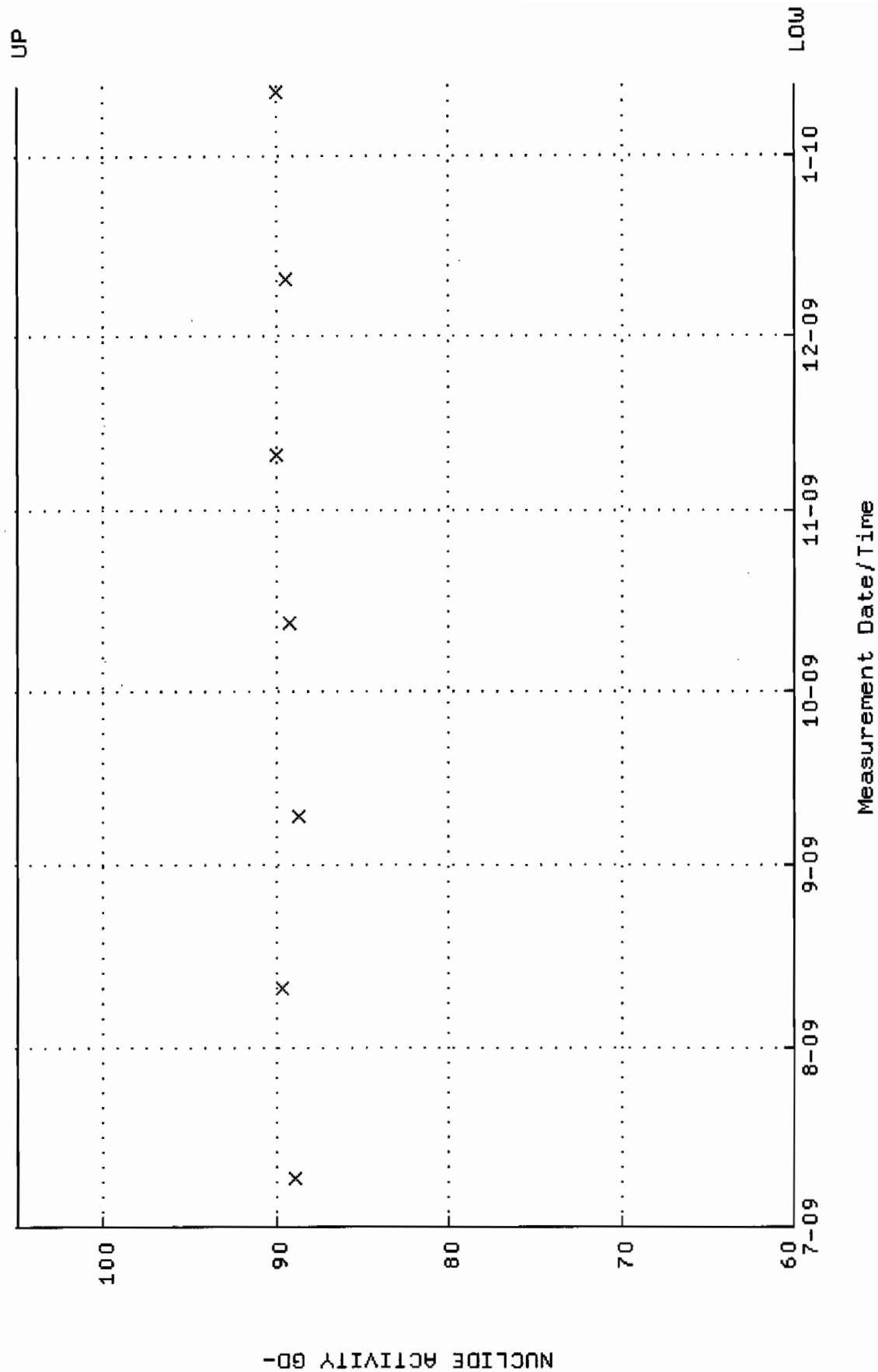
QA filename : DKA100:[ENV_ALPHA.QA.B]B091.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



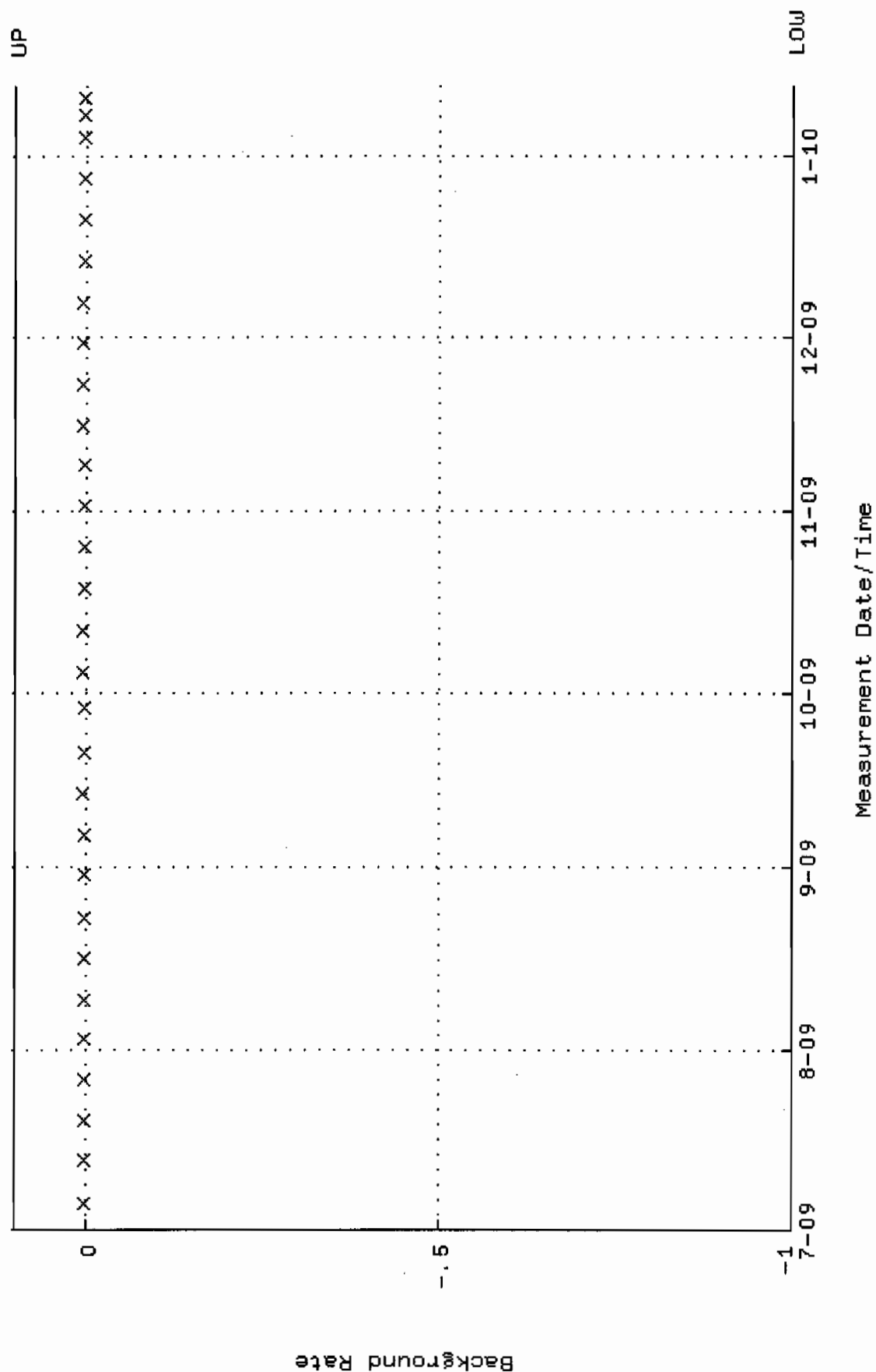
QA filename : DKA100:[ENV_ALPHA.QA.W]W093.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



QA filename : DKA100:[ENV_ALPHA.QA.W]W093.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



QA filename : DKA100:[ENV_ALPHA.QA.B]B093.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: -1.00000 through 0.100000

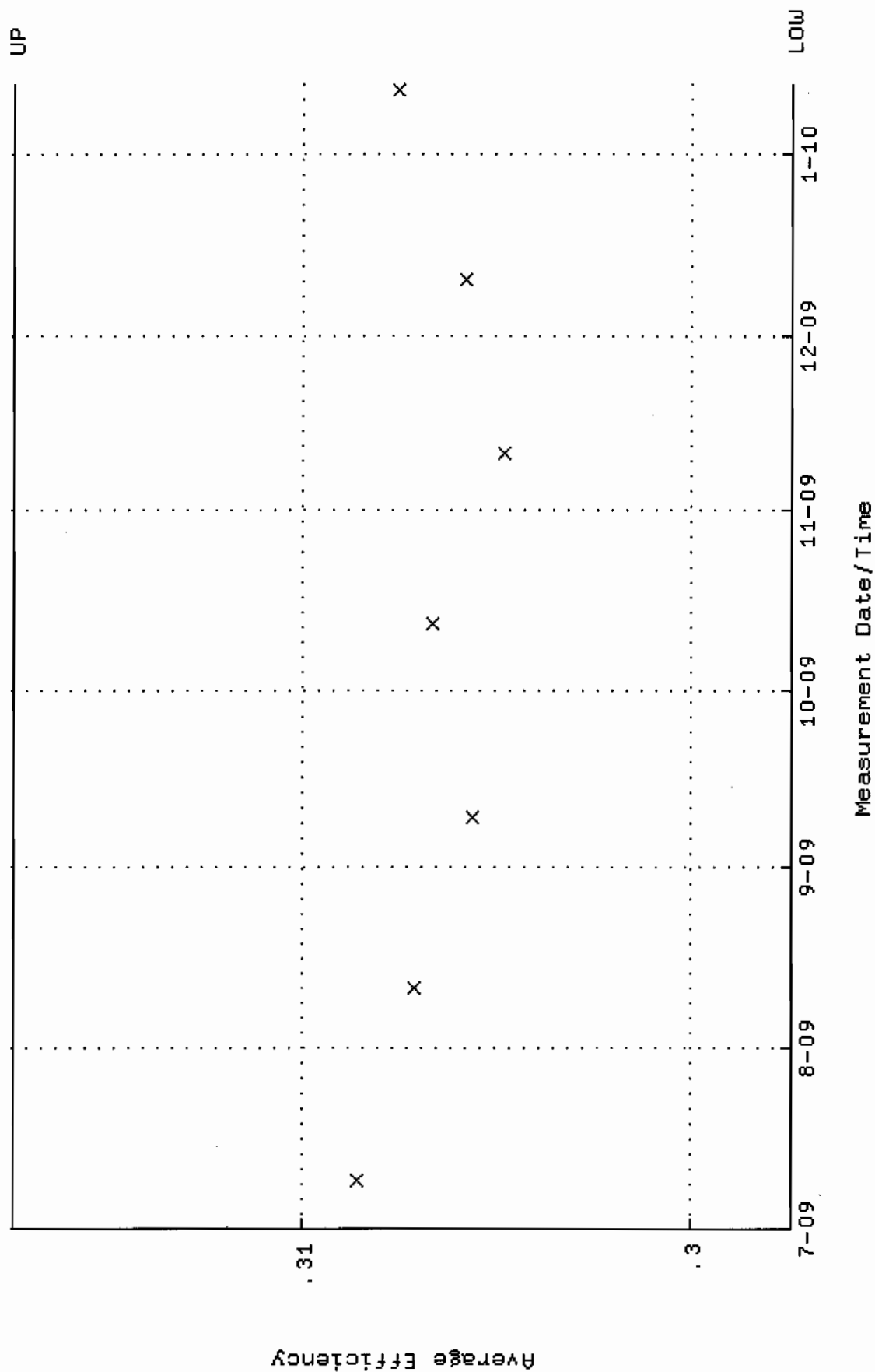


QA filename : DKA100:[ENV_ALPHA.QA.W]W094.QAF;1

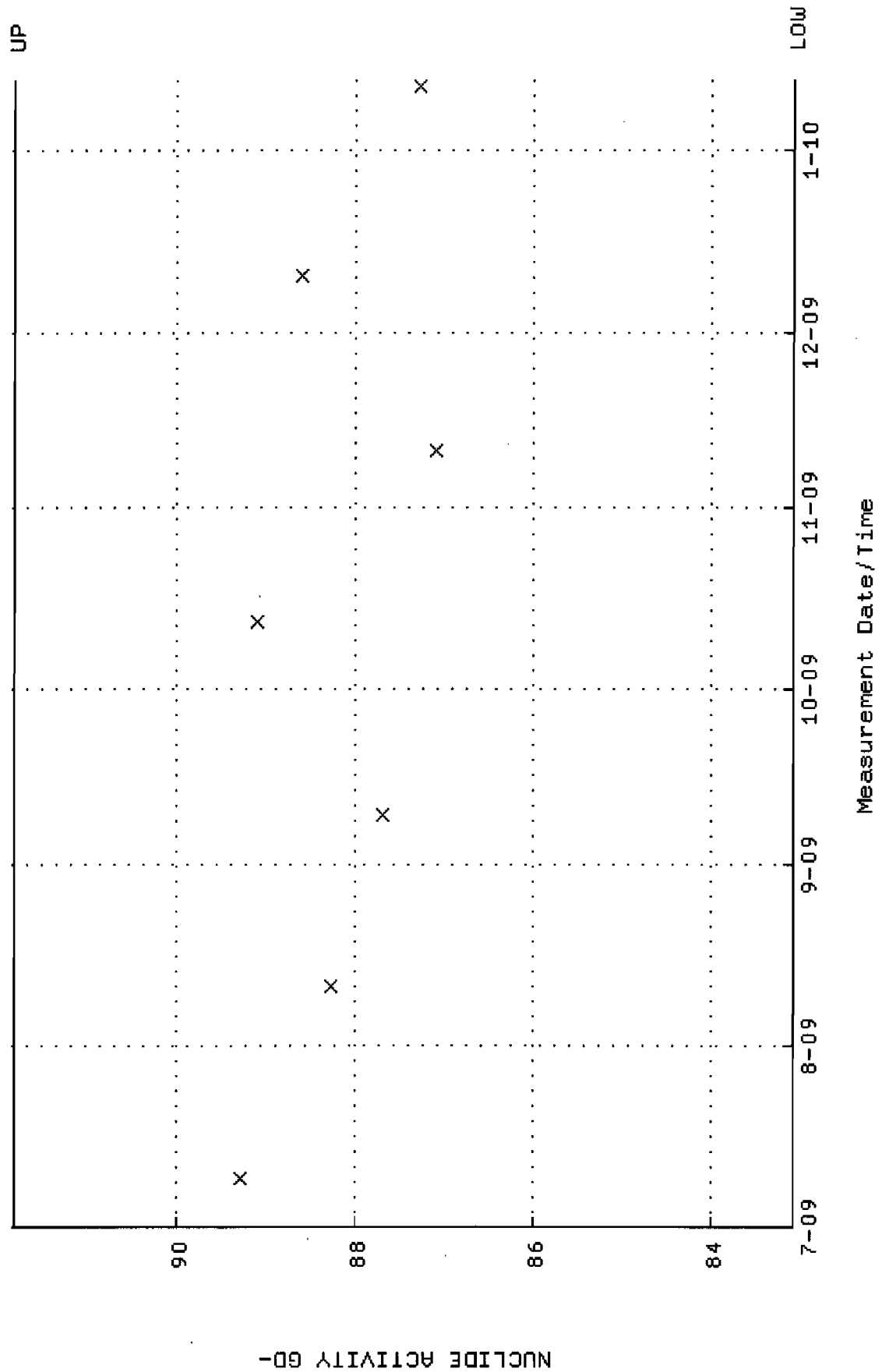
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00

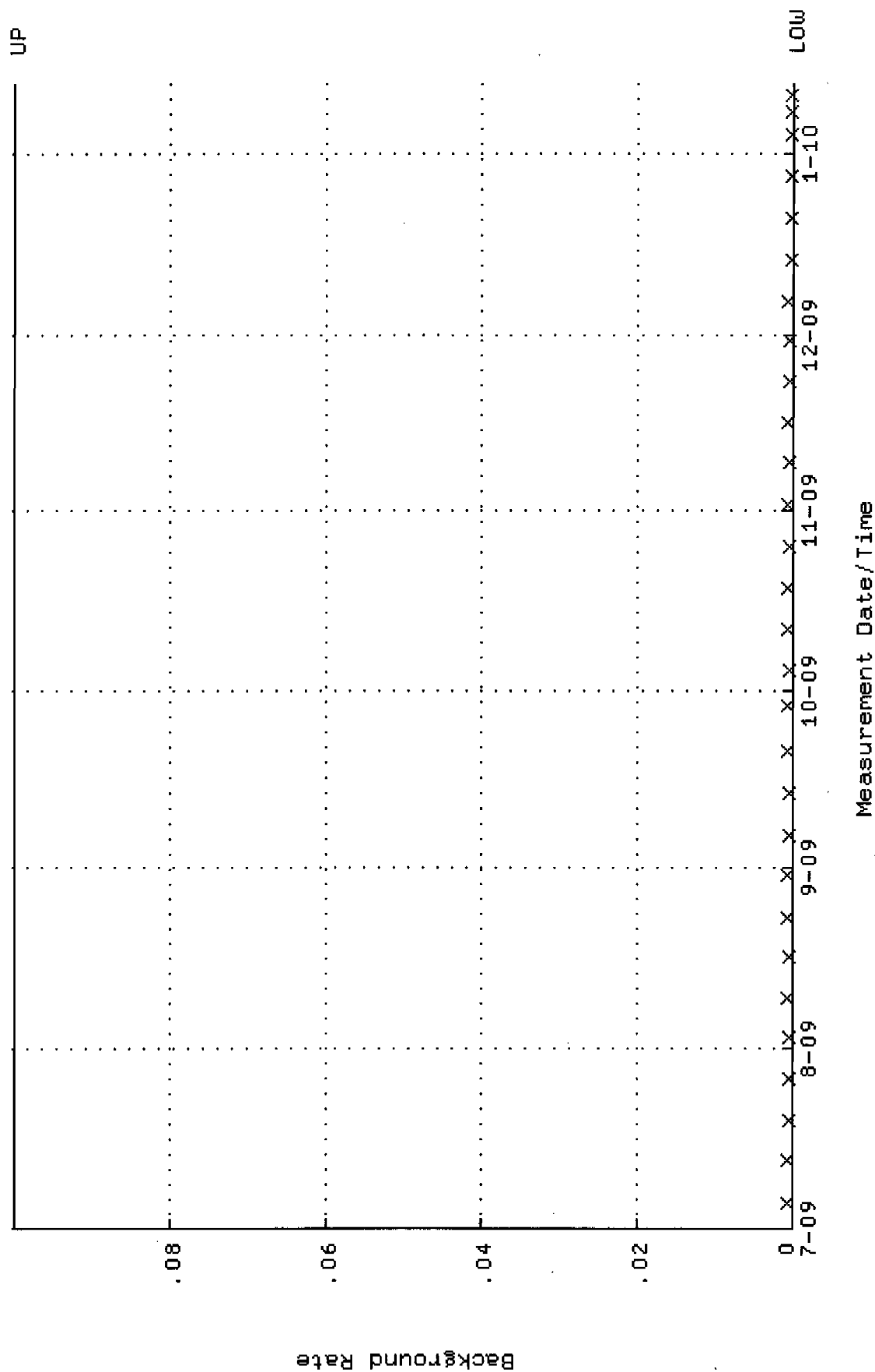
Lower/Upper Lmts: 0.297429 through 0.317429



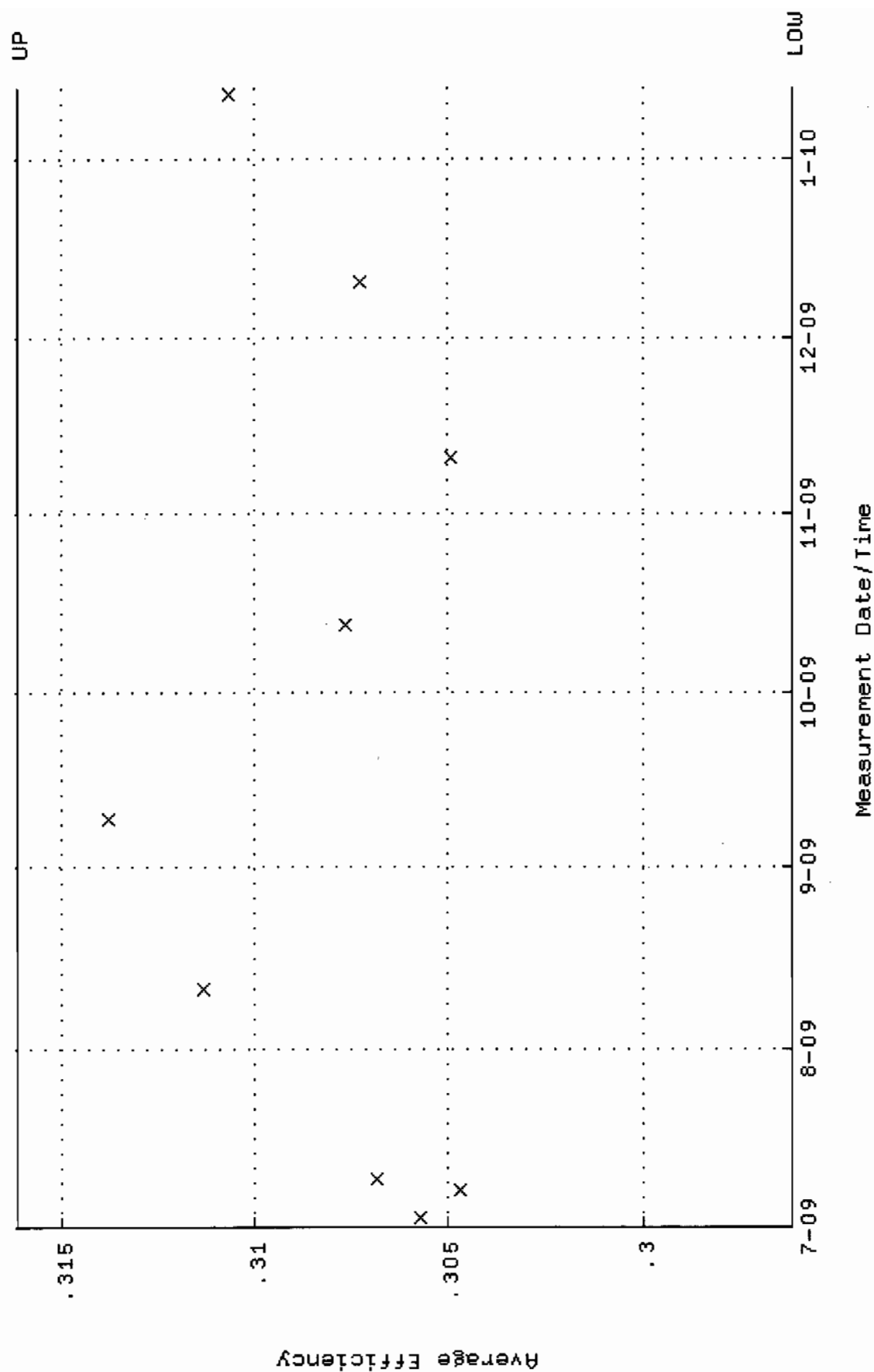
QA filename : DKA100:[ENV_ALPHA.QA.W]W094.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.0827 through 91.8283



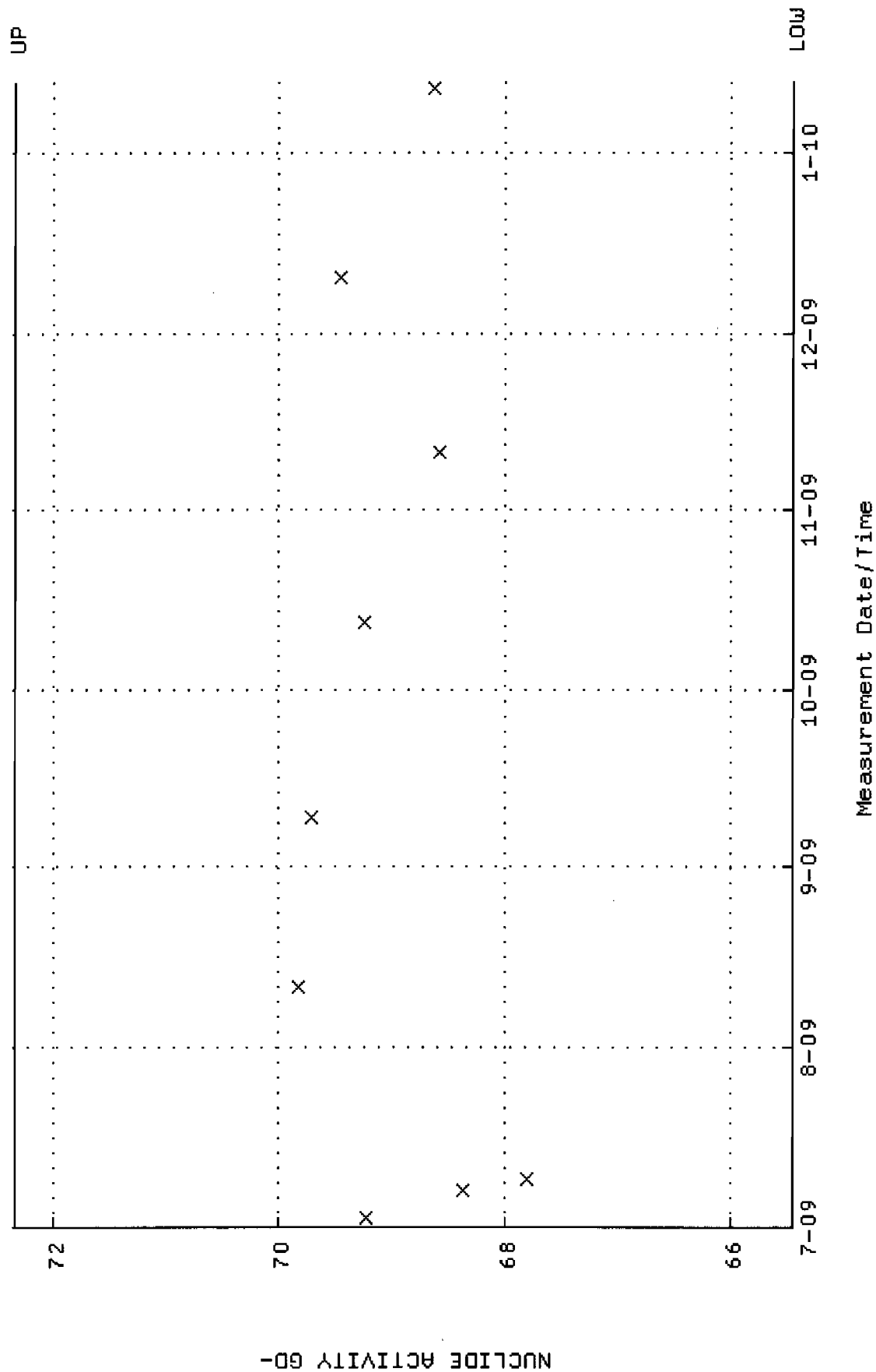
QA filename : DKA100:[ENV_ALPHA.QA.B]B094.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W095.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUL-2009 15:04:15 through 12-JAN-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 : 2-JUL-2009 15:04:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 65.4492 through 72.3386

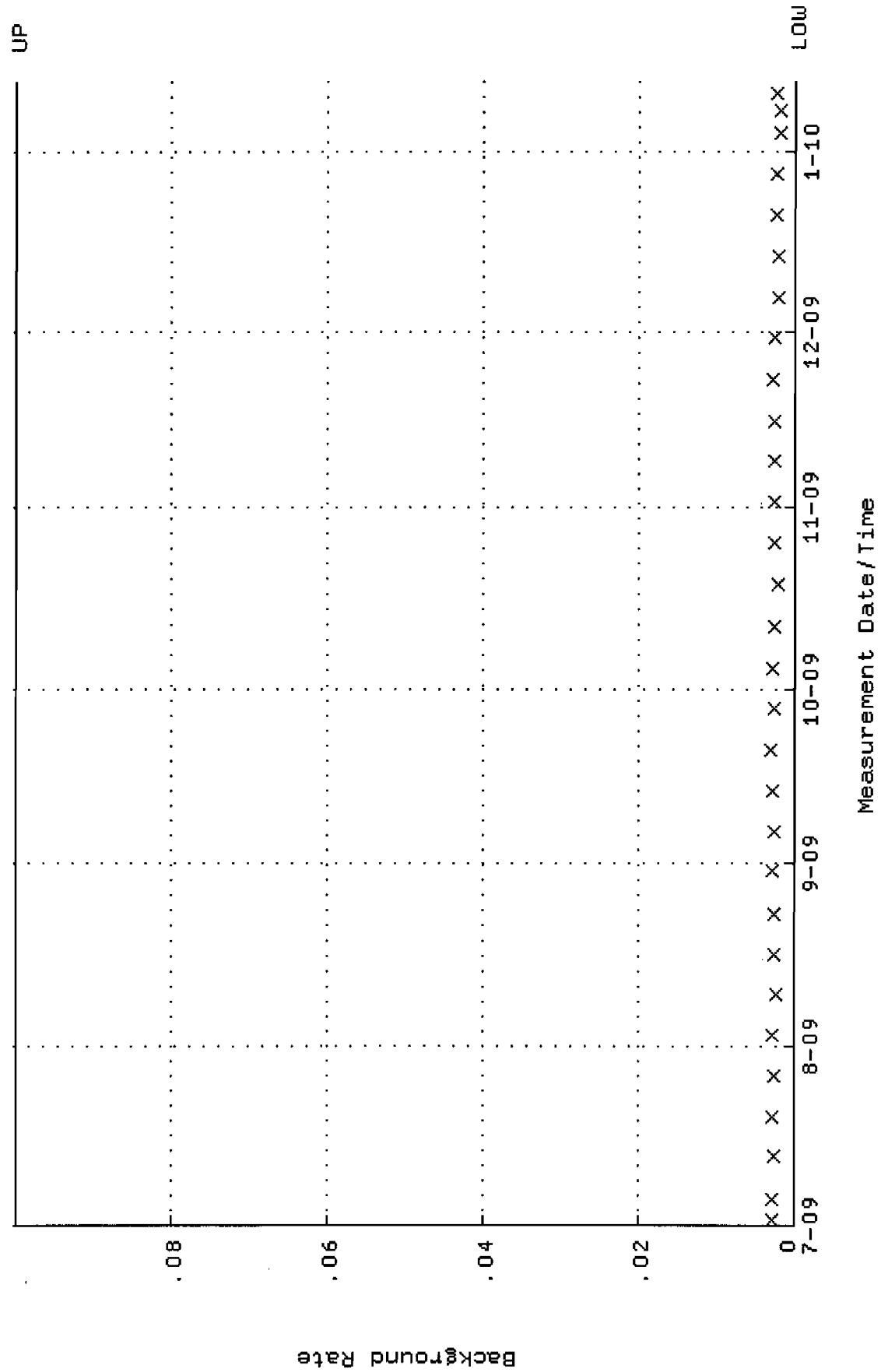


QA filename : DKA100:[ENV_ALPHA.QA.B]B095.QAF;2

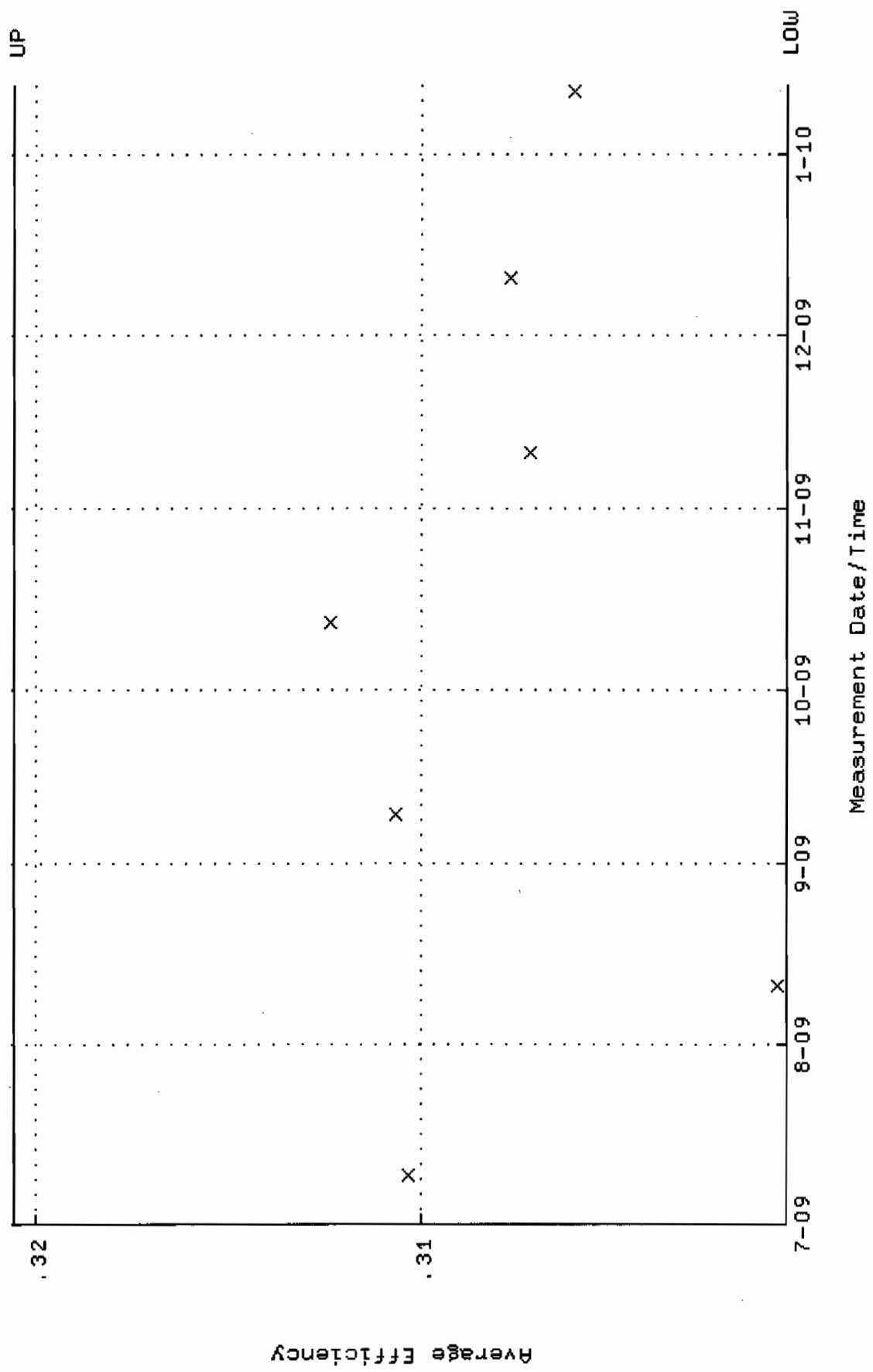
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 1-JUL-2009 21:40:00 through 12-JAN-2010 12:00:00

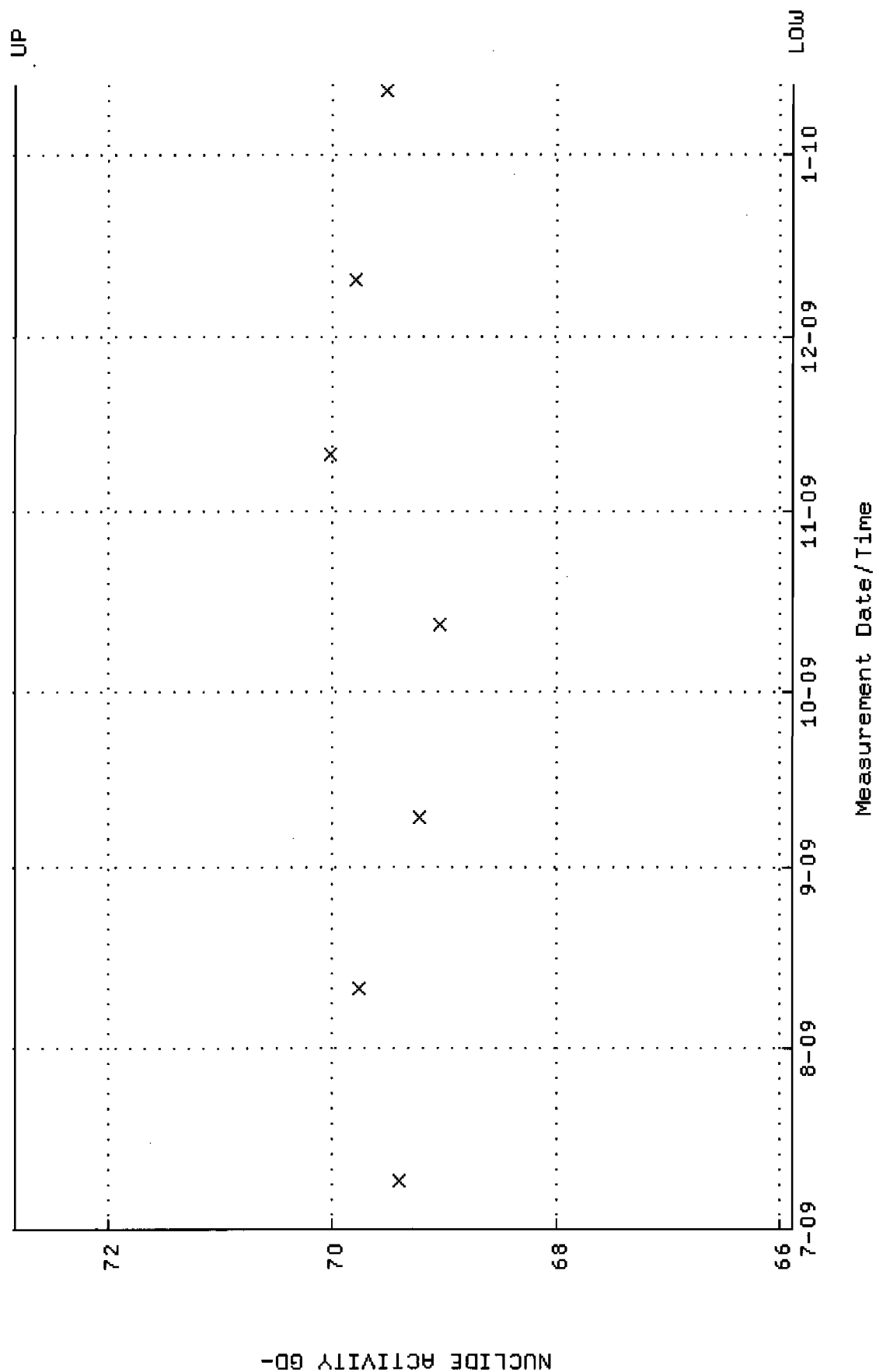
Lower/Upper Lmts: 0.000000E+00 through 0.100000



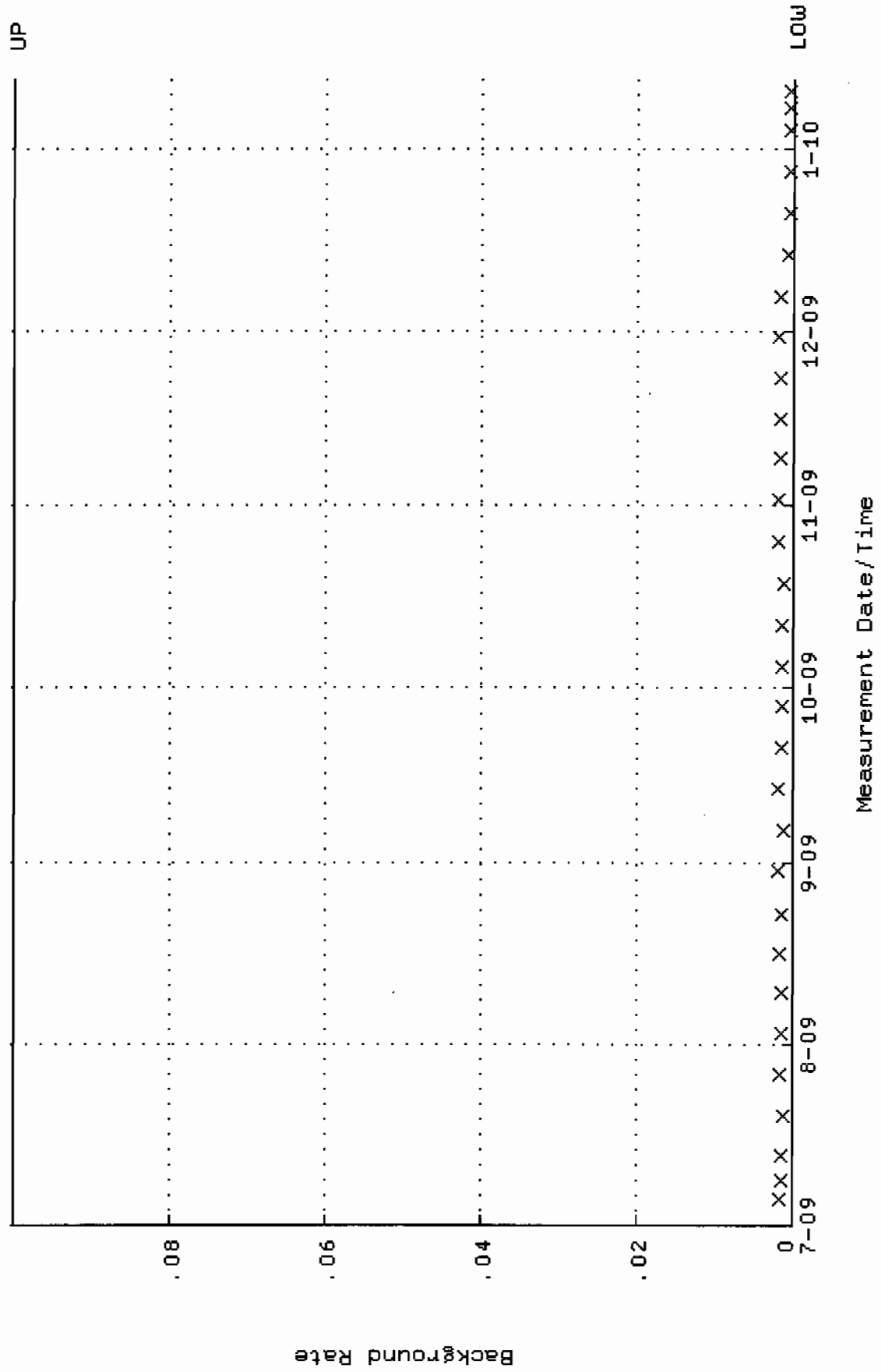
QA filename : DKA100:[ENV_ALPHA.QA.W]W096.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.300551 through 0.320551



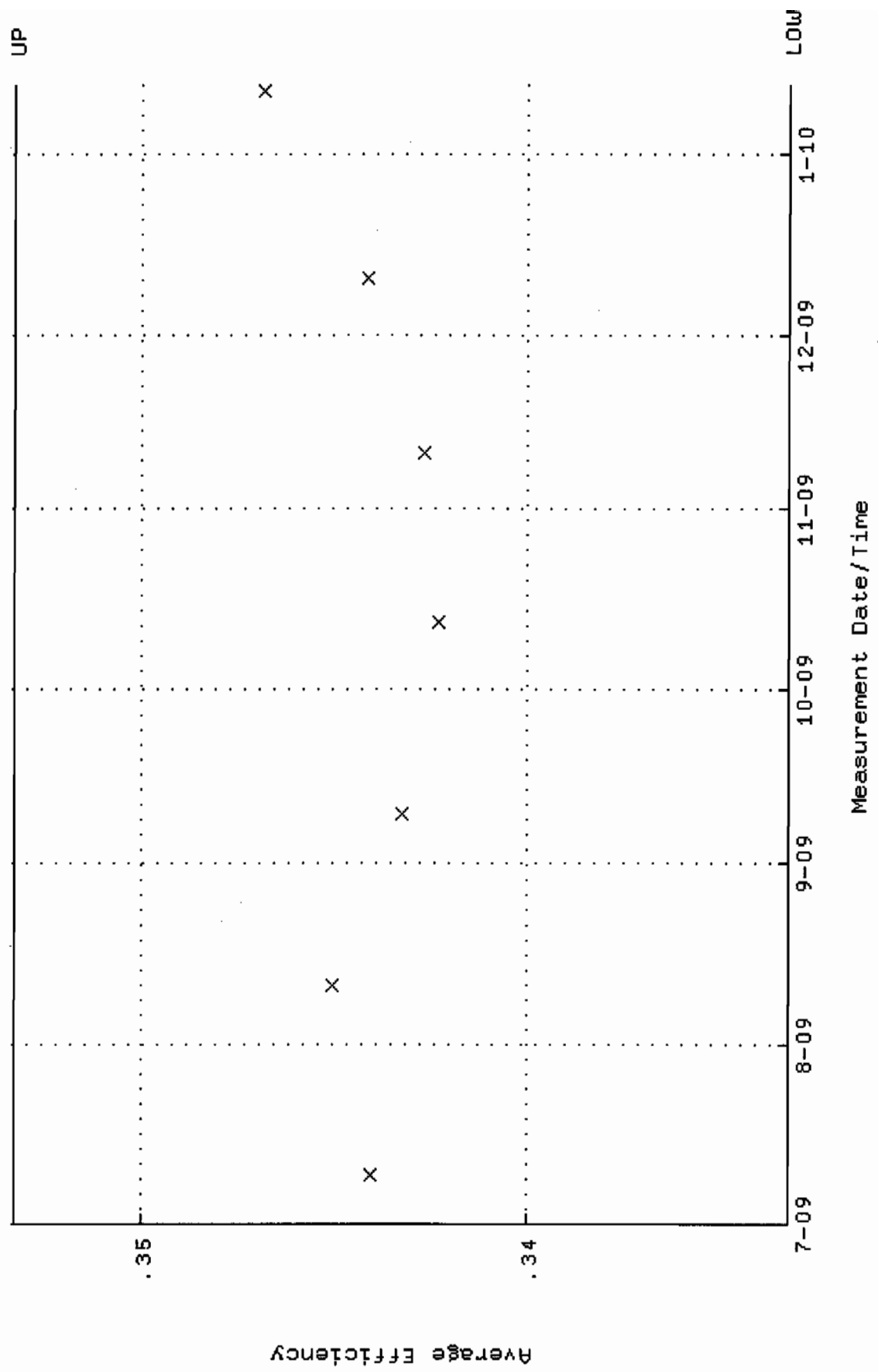
QA filename : DKA100:[ENV-ALPHA.QA.W]W096.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 65.8889 through 72.8245



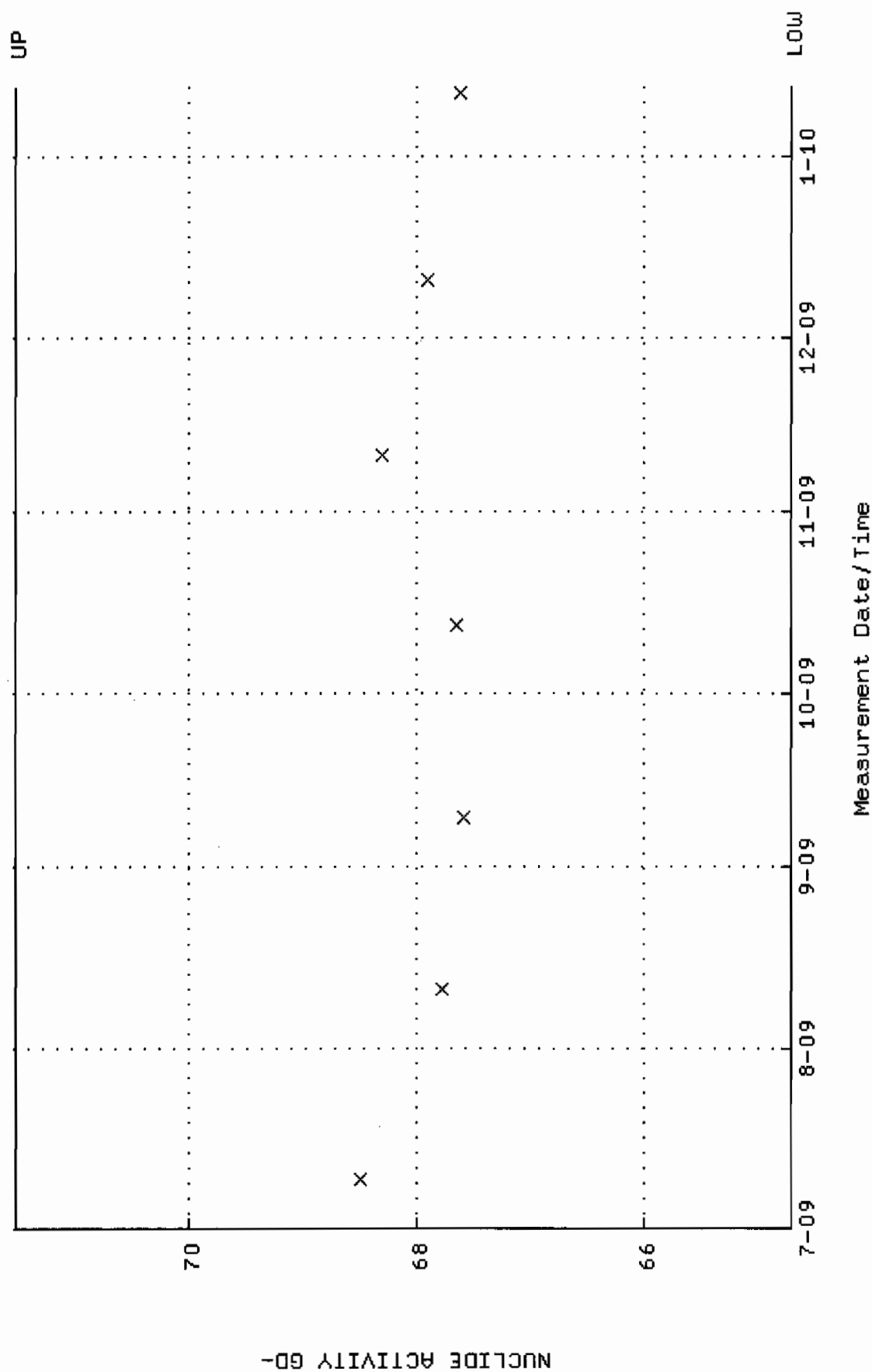
QA filename : DKA100:[ENV_ALPHA.QA.B]B096.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:05 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



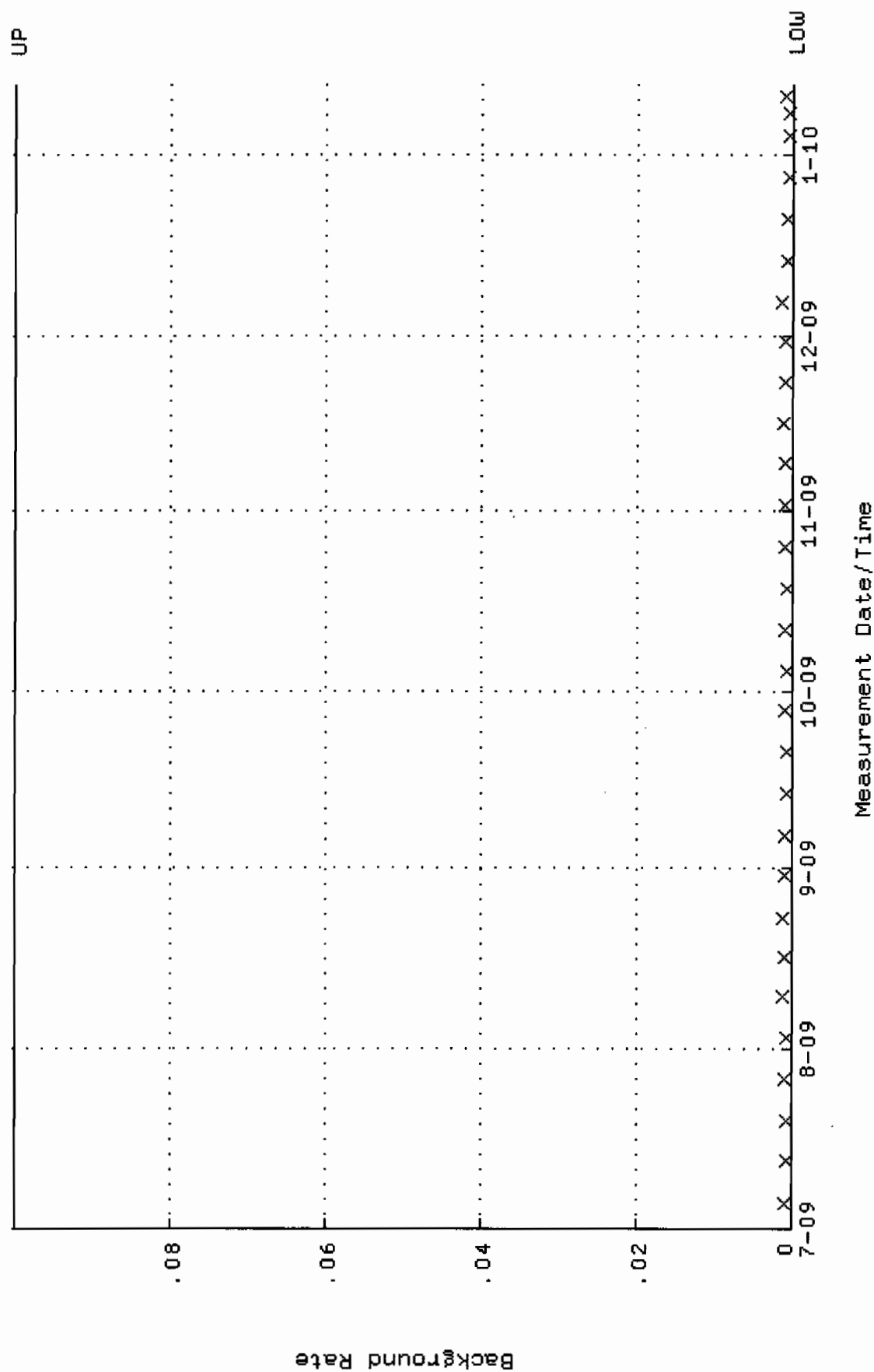
QA filename : DKA100:[ENV_ALPHA.QA.W]W097.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.333275 through 0.353275



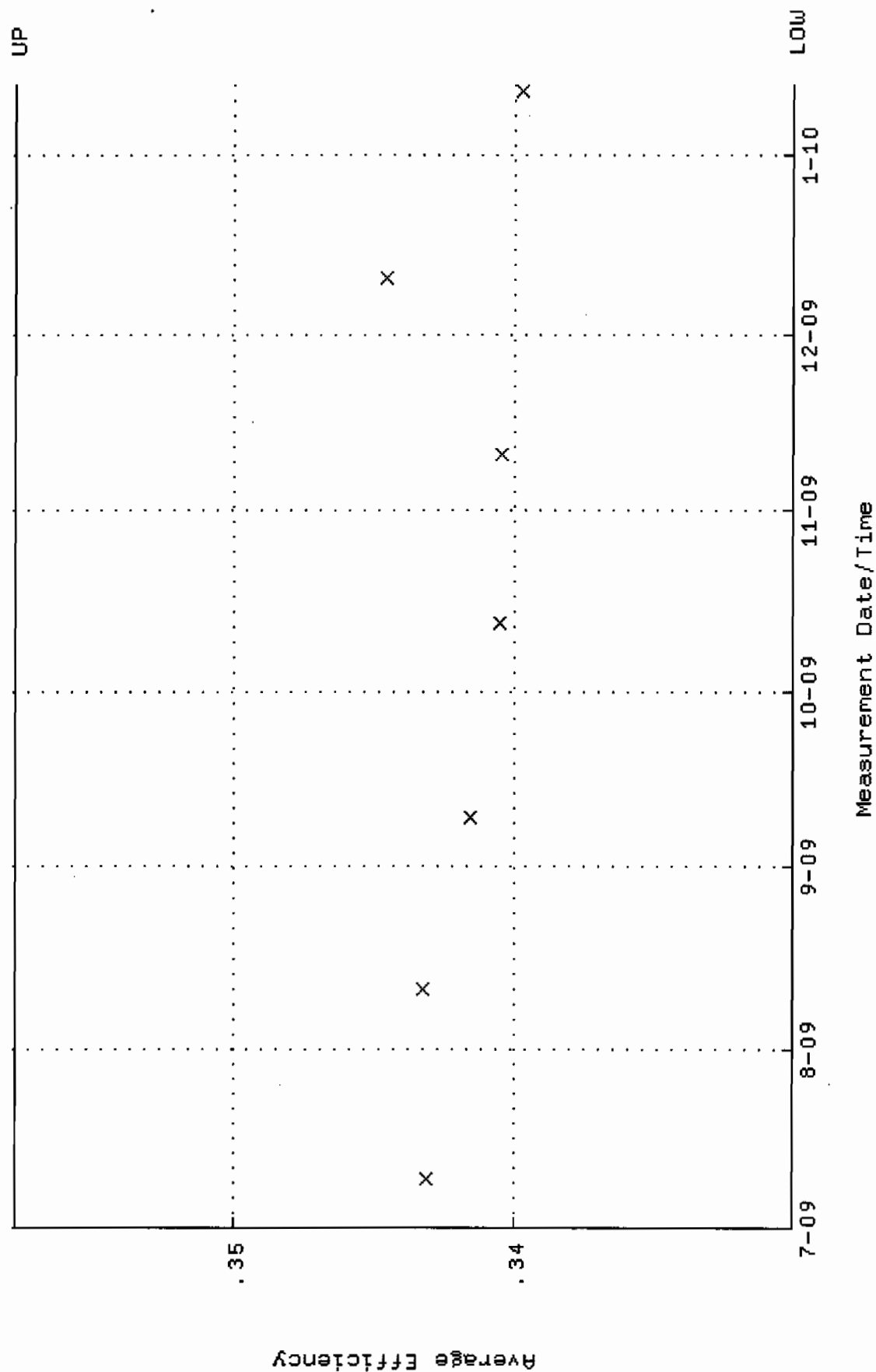
QA filename : DKA100:[ENV-ALPHA.QA.W]W097.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 64.7068 through 71.5180



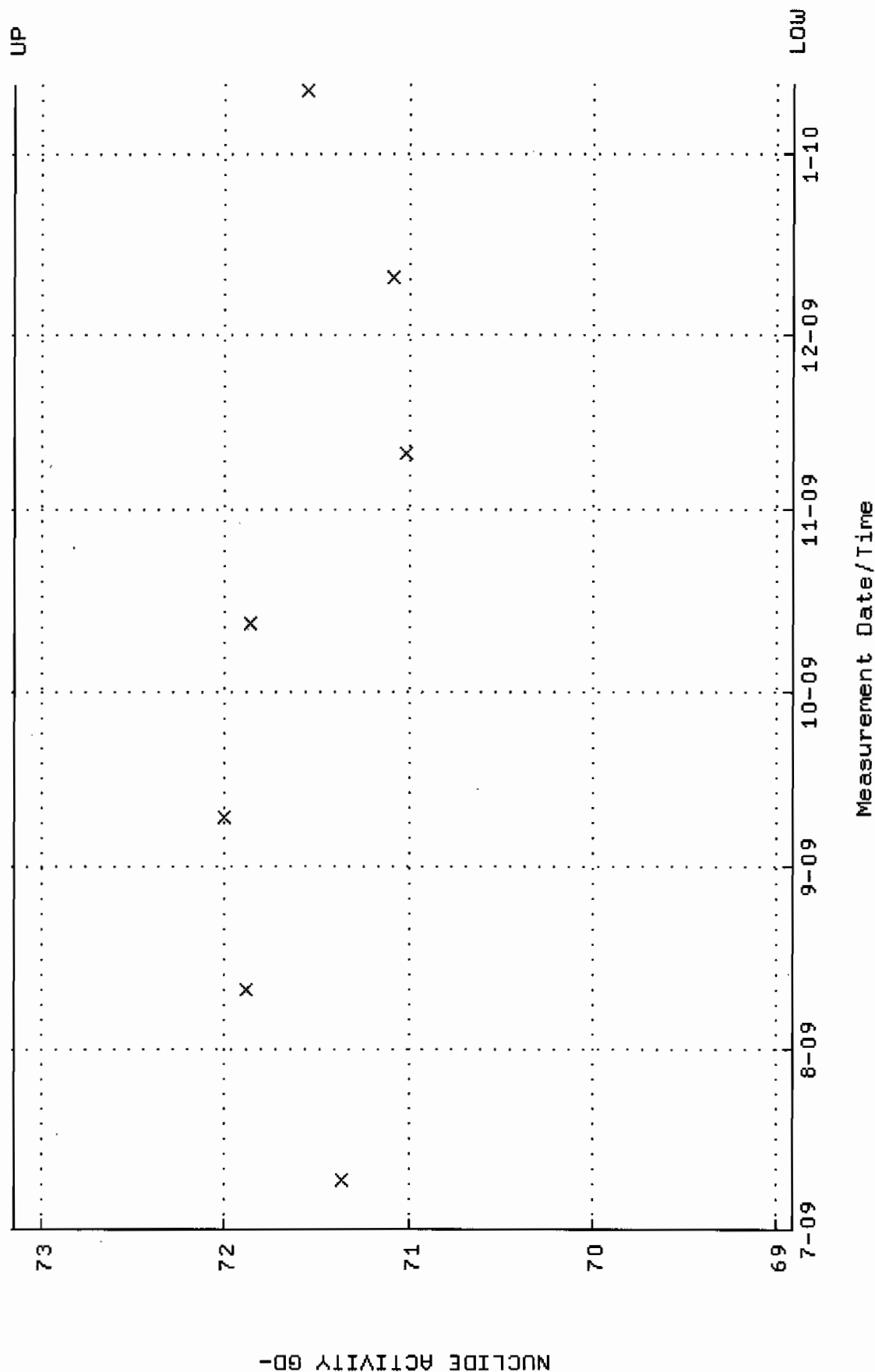
QA filename : DKA100:[ENV_ALPHA.QA.B]B097.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:05 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



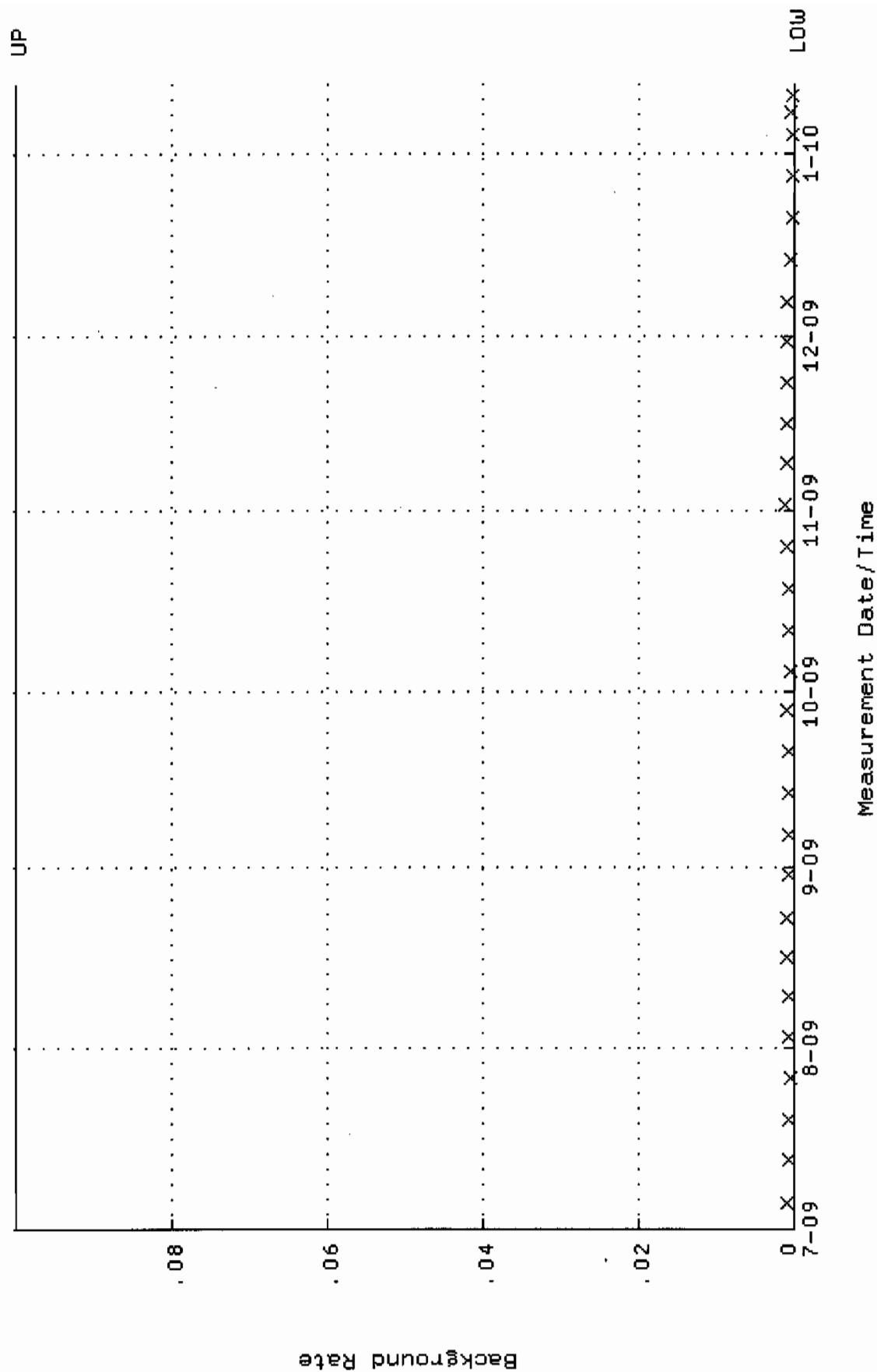
QA filename : DKA100:[ENV_ALPHA.QA.W]WD99.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.330127 through 0.357809



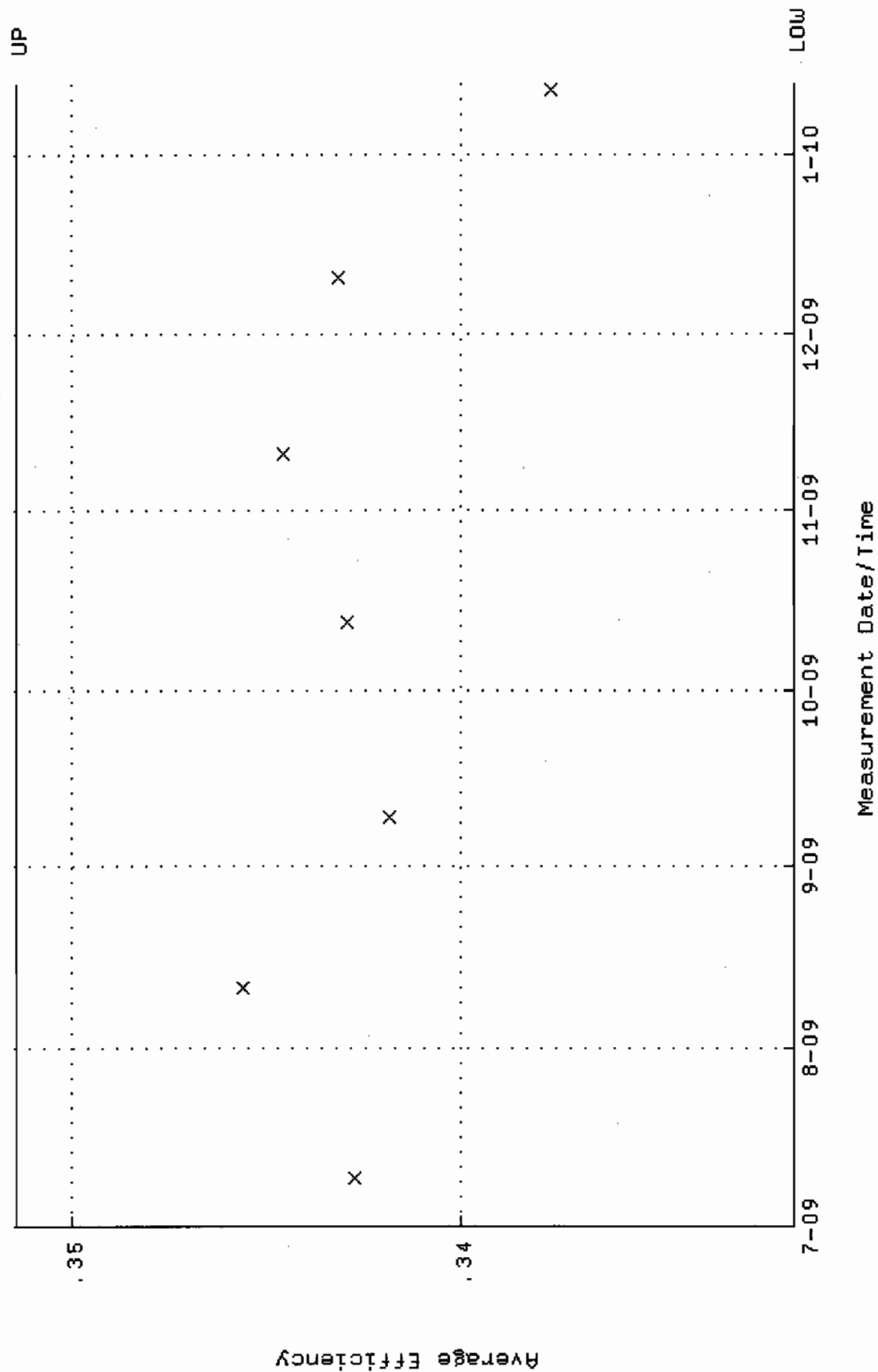
QA filename : DKA100:[ENV-ALPHA.QA.W]W099.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 68.9116 through 73.1498



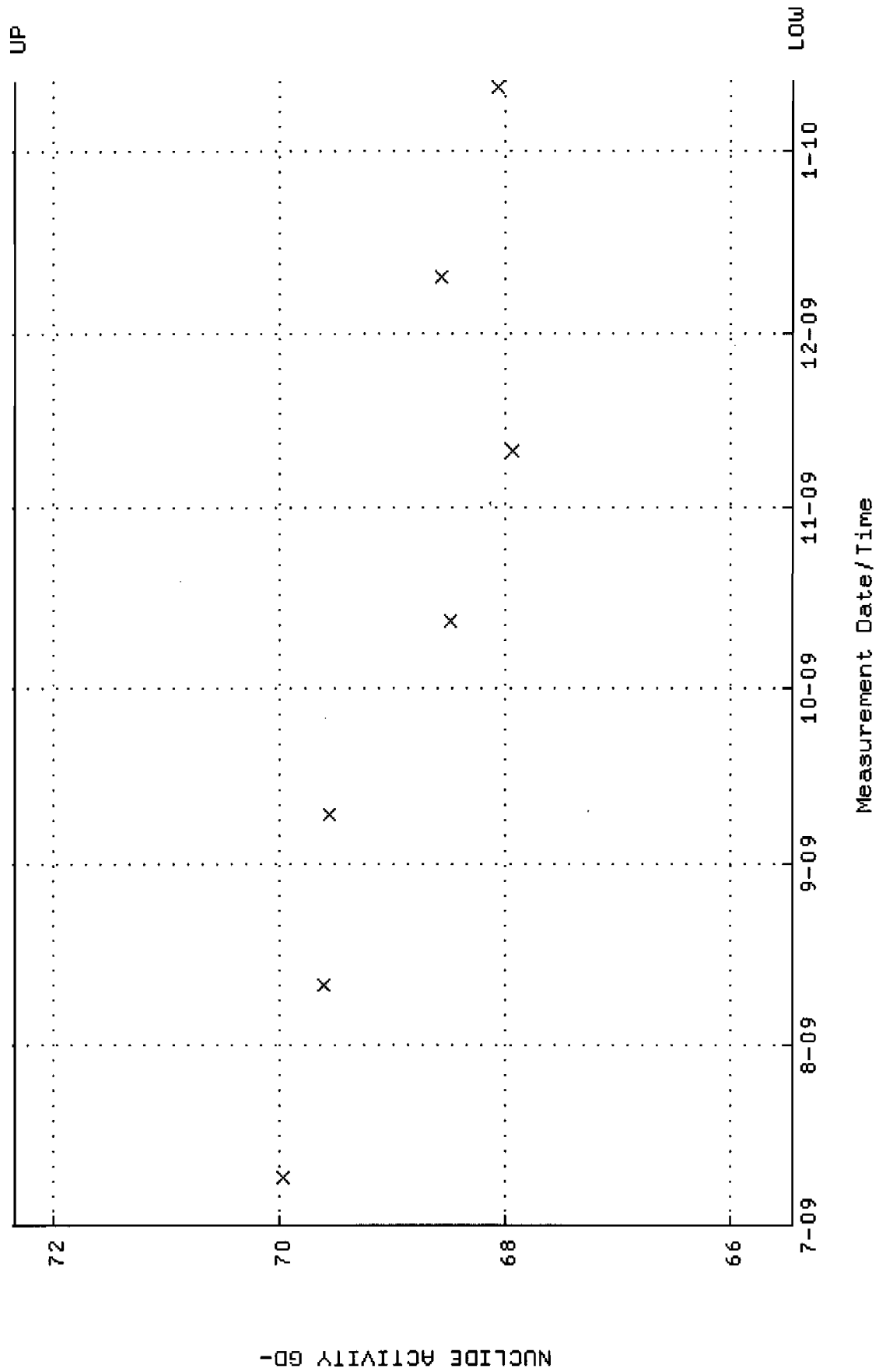
QA filename : DKA100:[ENV_ALPHA.QA.B]B099.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:05 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



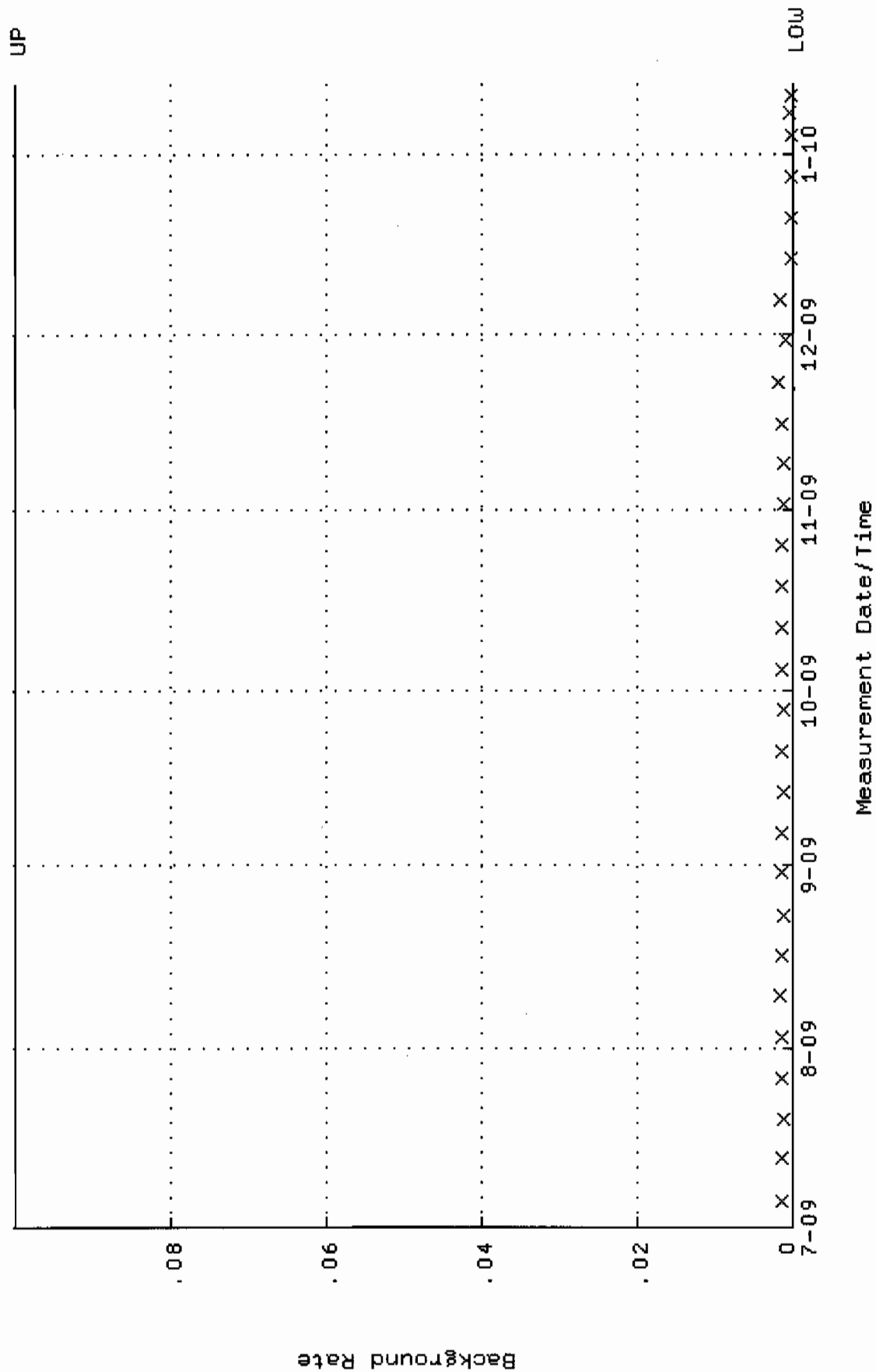
QA filename : DKA100:[ENV_ALPHA.QA.W]W100.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.331433 through 0.351433



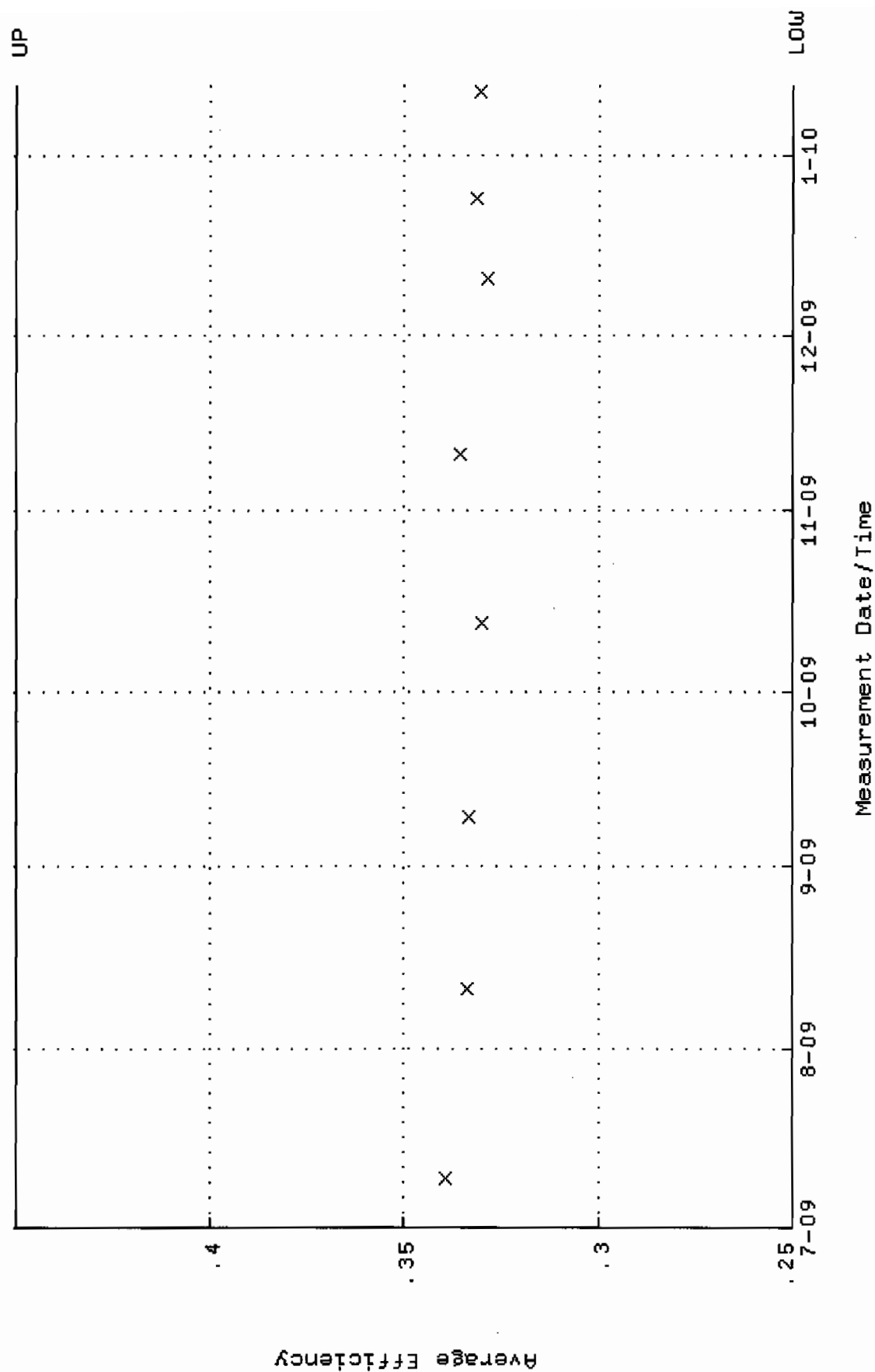
QA filename : DKA100:[ENV-ALPHA.QA.W]W100.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 65.4550 through 72.3450



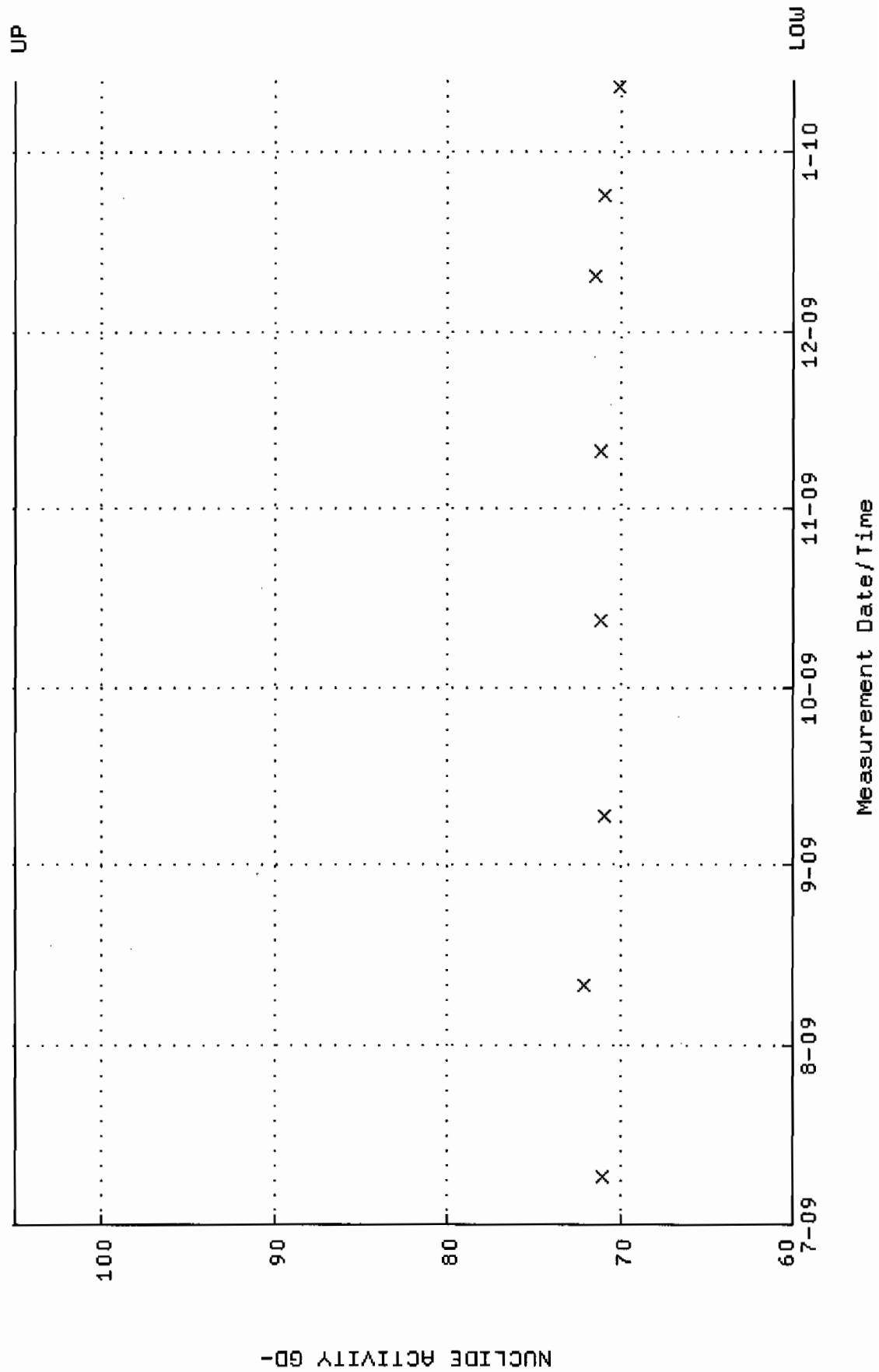
QA filename : DKA100:[ENV_ALPHA.QA.B]B100.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:05 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W101.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



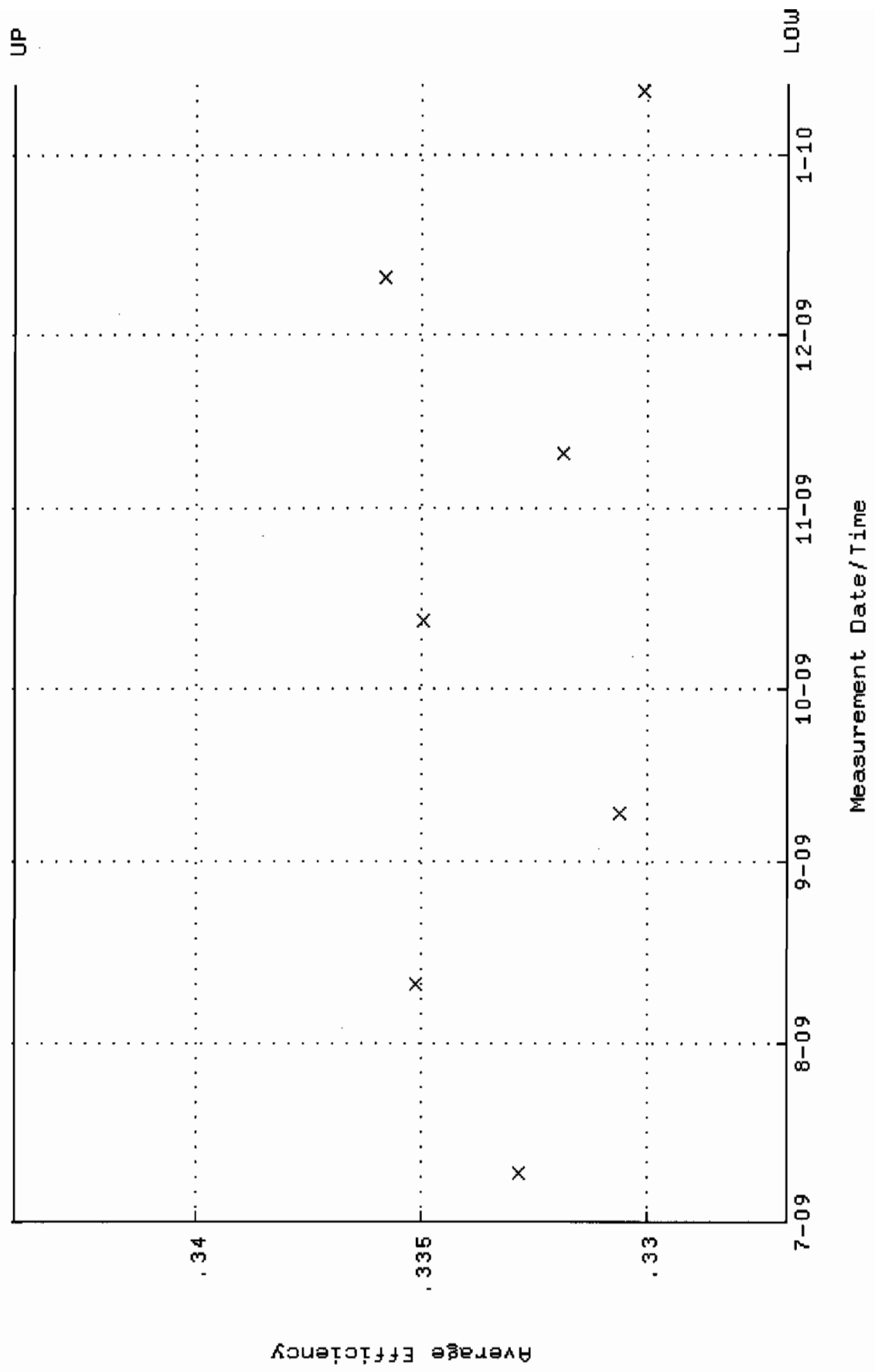
QA filename : DKA100:[ENV_ALPHA.QA.W]W101.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



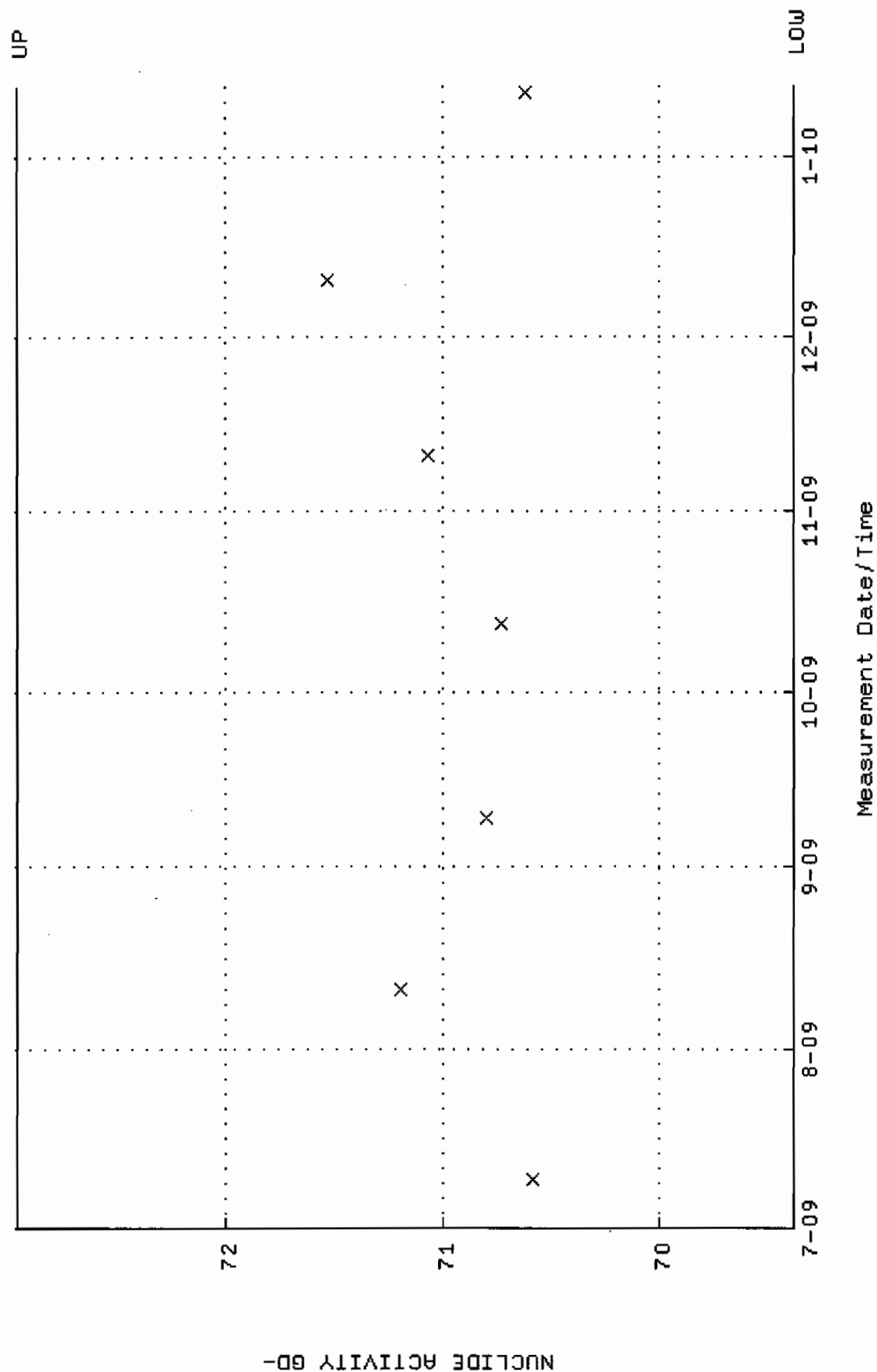
Lower/Upper Lmts: 0.00000E+00 through 0.100000



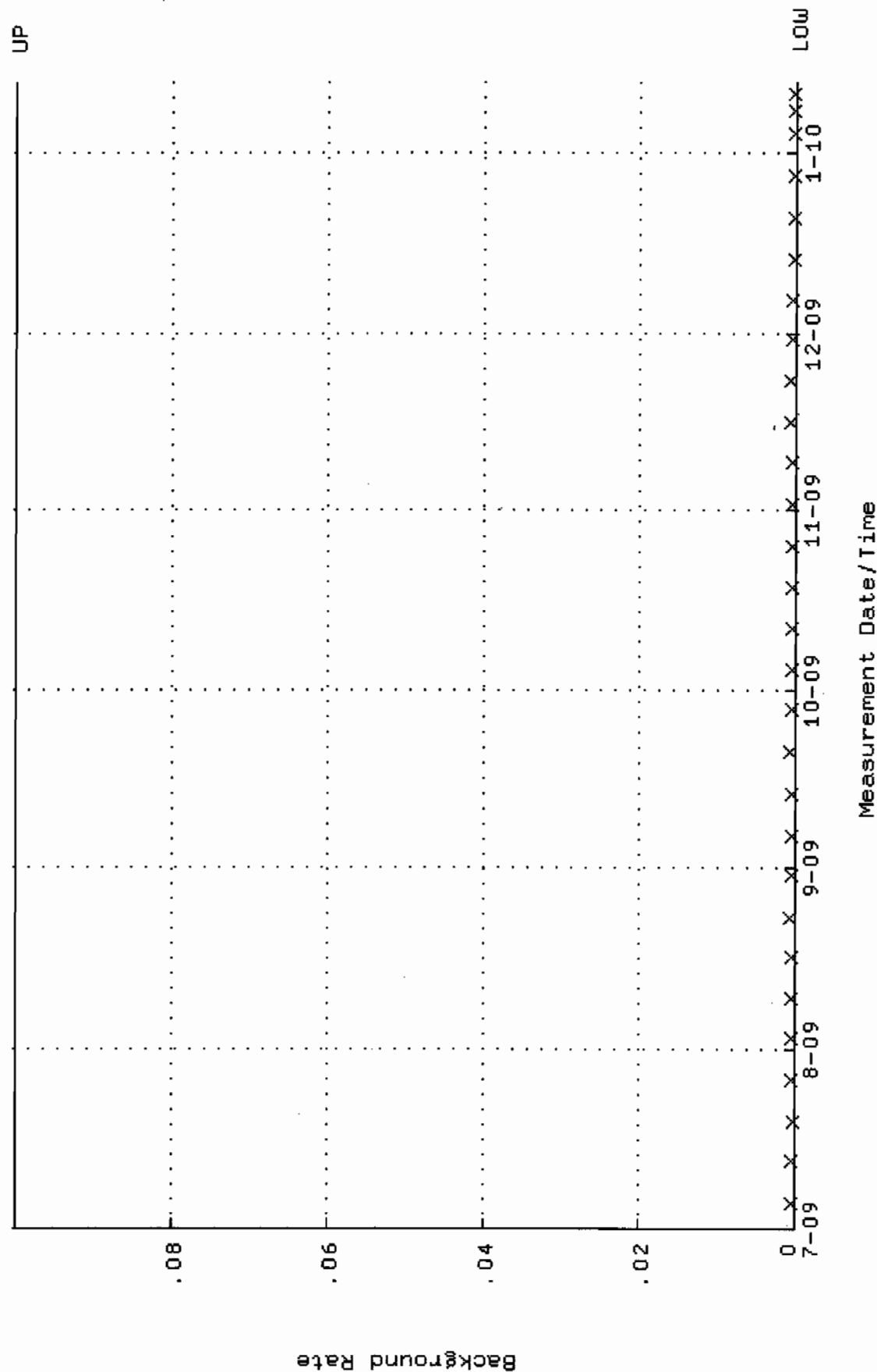
QA filename : DKA100:[ENV_ALPHA.QA.W]W102.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.326915 through 0.344021



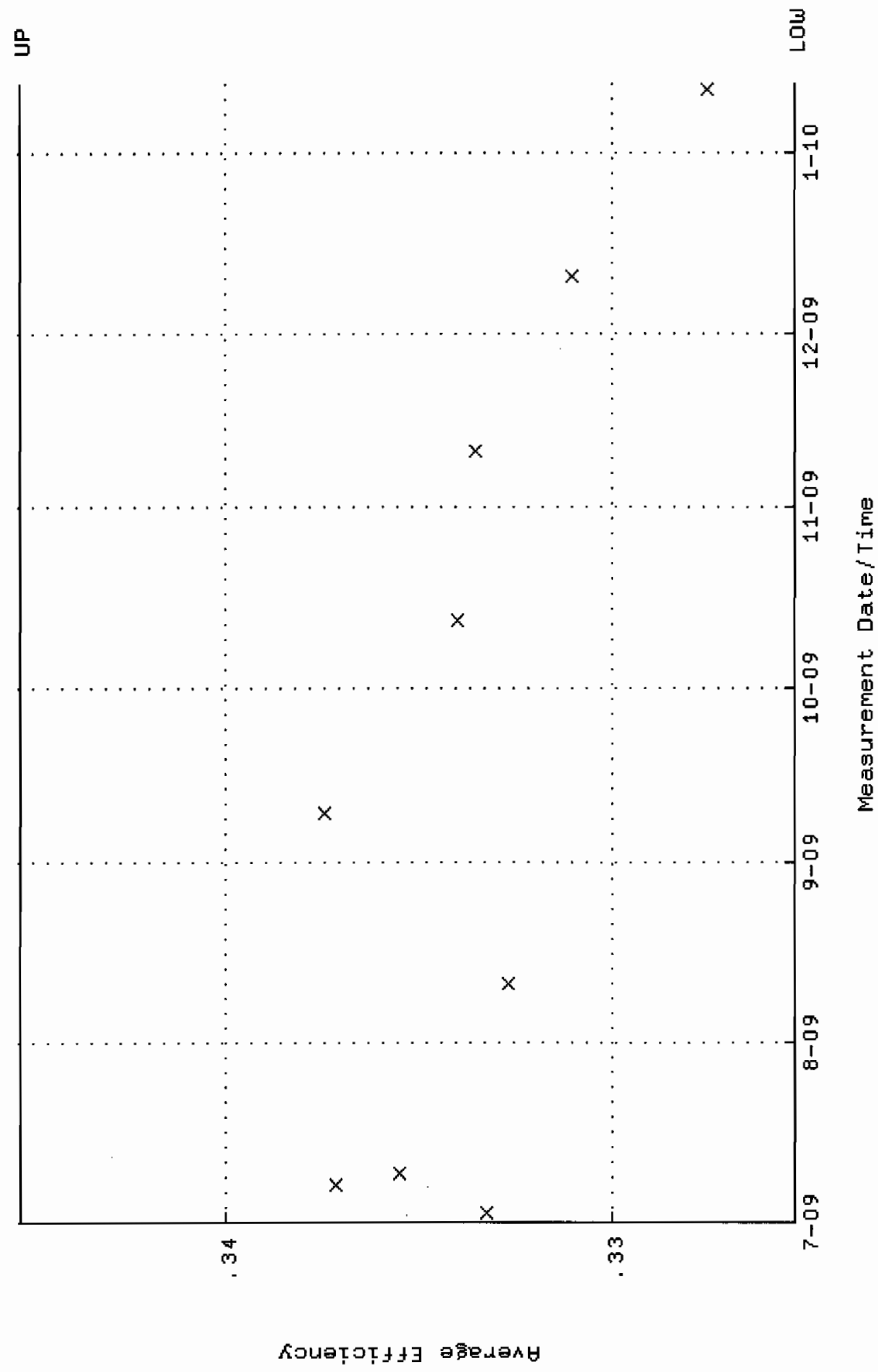
QA filename : DKA100:[ENV_ALPHA.QA.W]w102.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 69.3731 through 72.9663



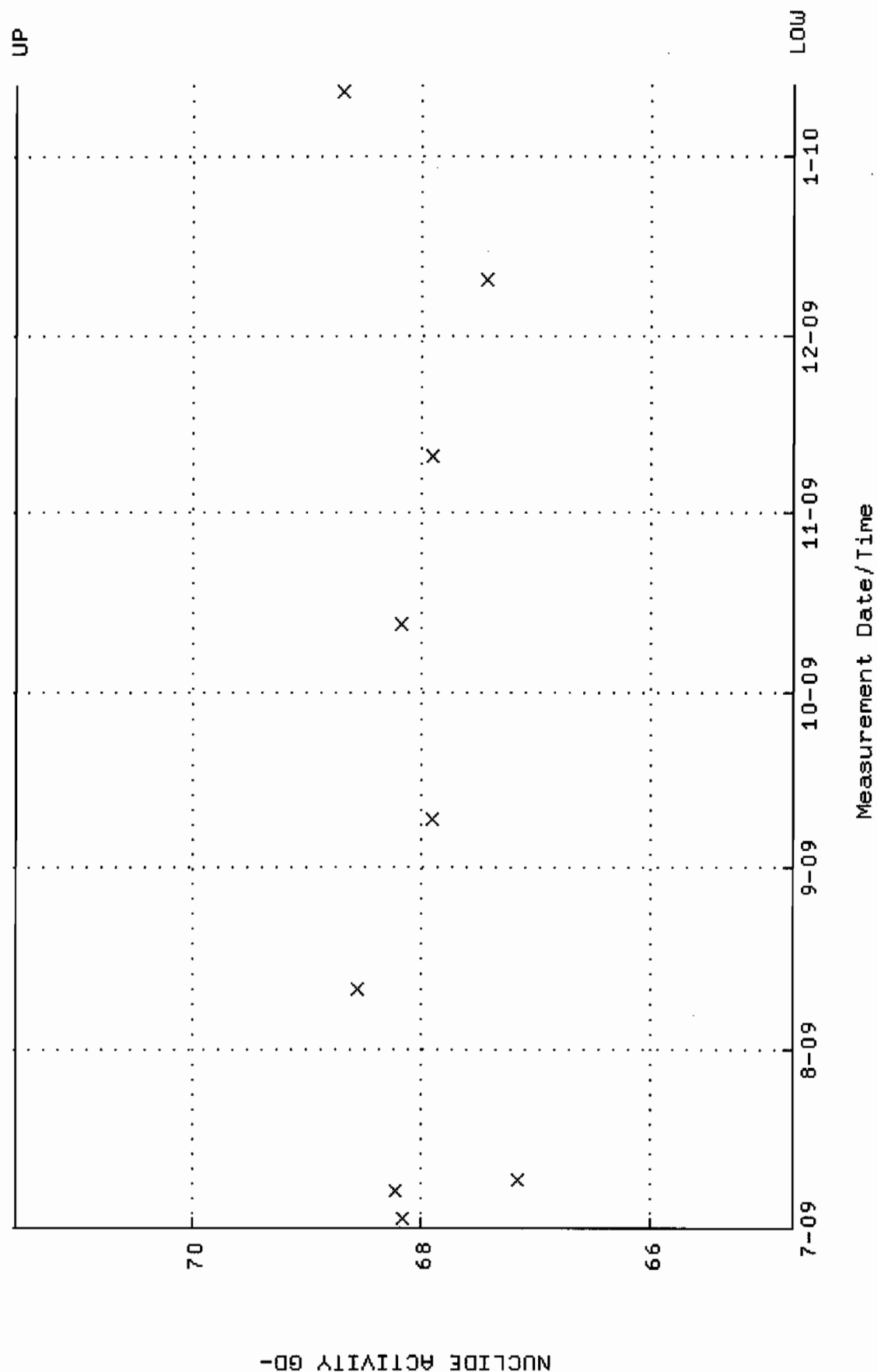
QA filename : DKA100:[ENV_ALPHA.QA.B]B102.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:06 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



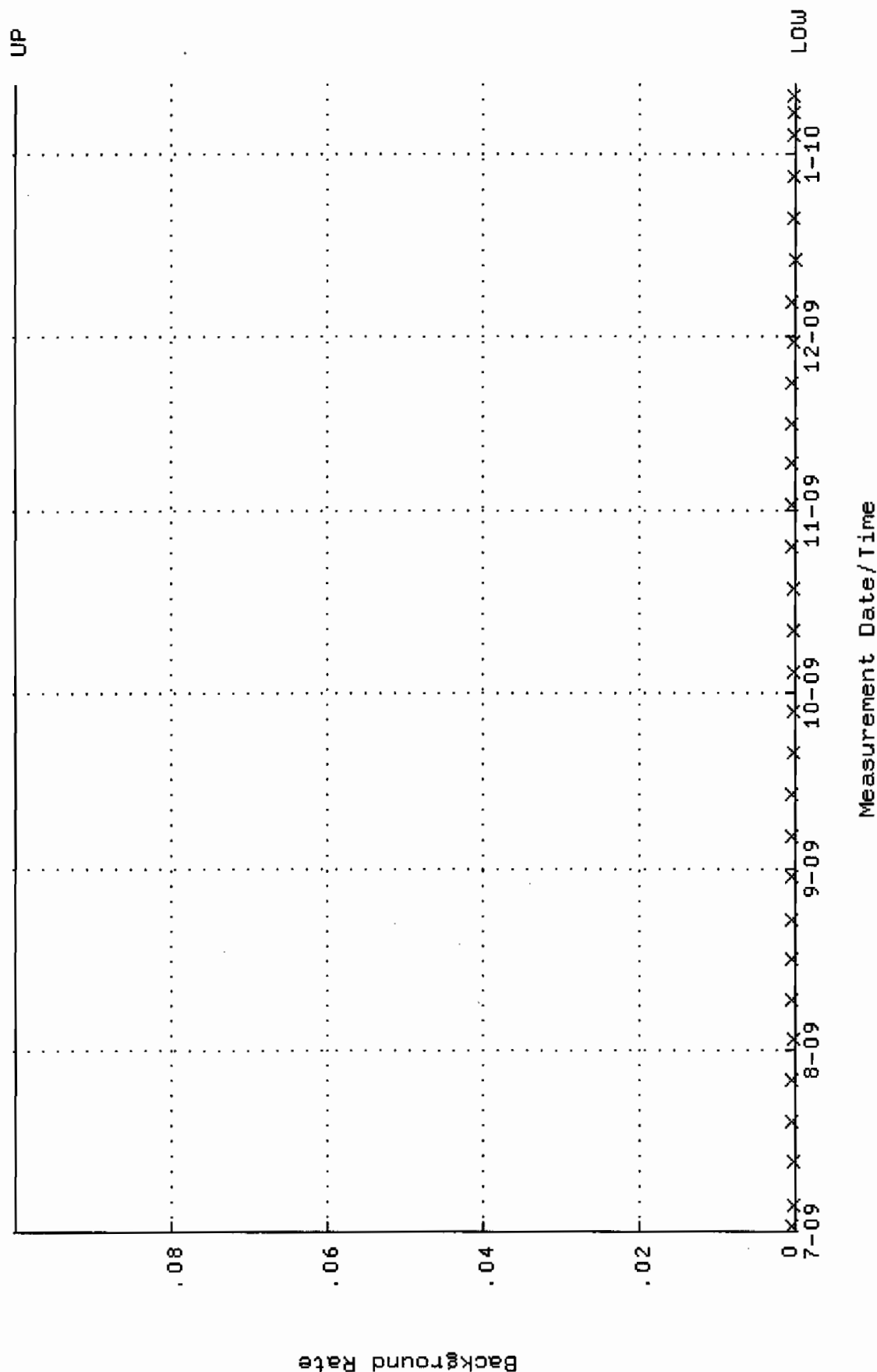
QA filename : DKA100:[ENV_ALPHA.QA.W]w103.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUL-2009 15:04:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.325314 through 0.345314



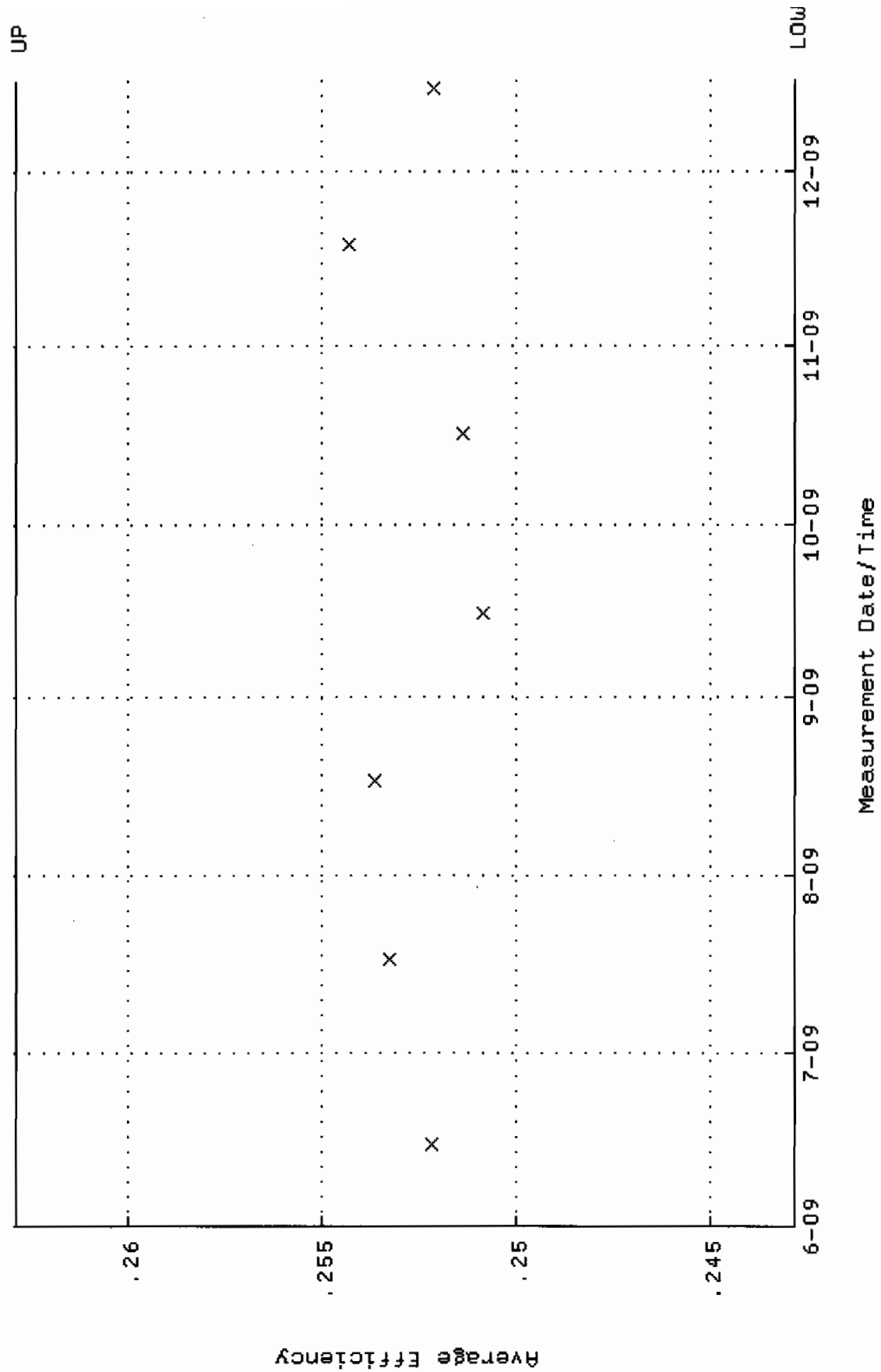
QA filename : DKA100:[ENV_ALPHA.QA.W]W103.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUL-2009 15:04:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 64.7479 through 71.5635



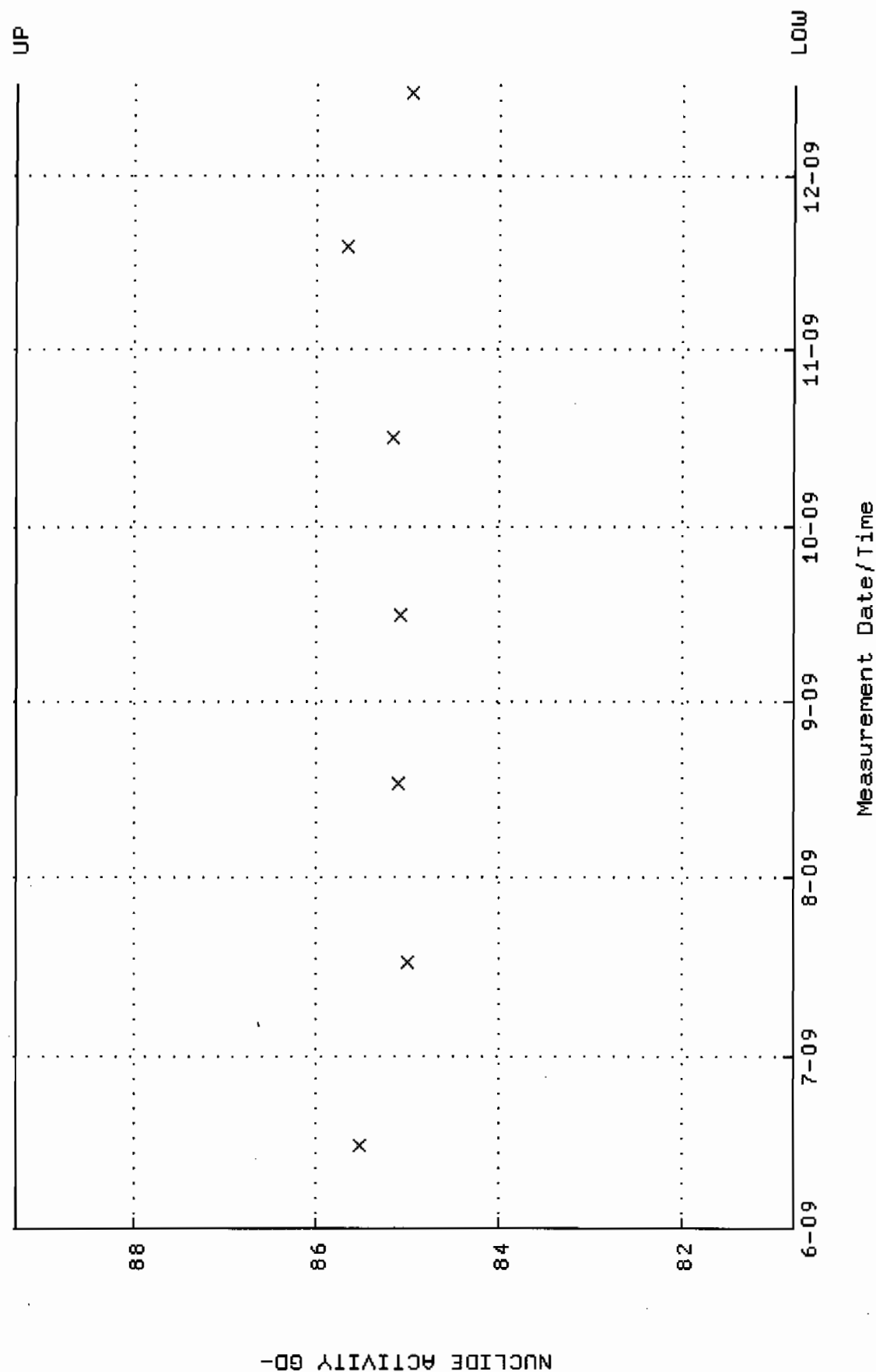
QA filename : DKA100:[ENV_ALPHA.QA.B]B103.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUL-2009 21:40:01 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



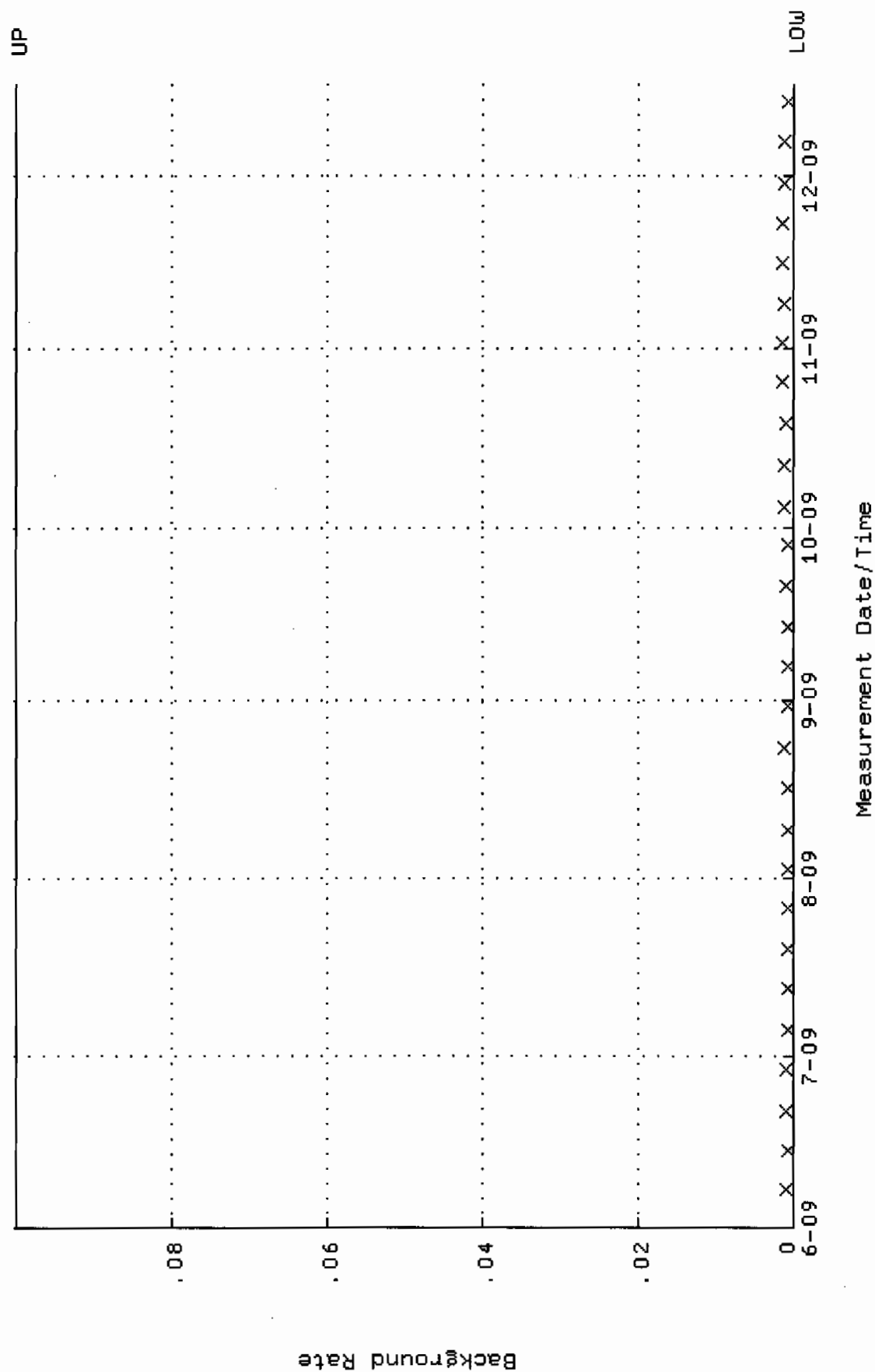
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:38:17 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.242851 through 0.262851



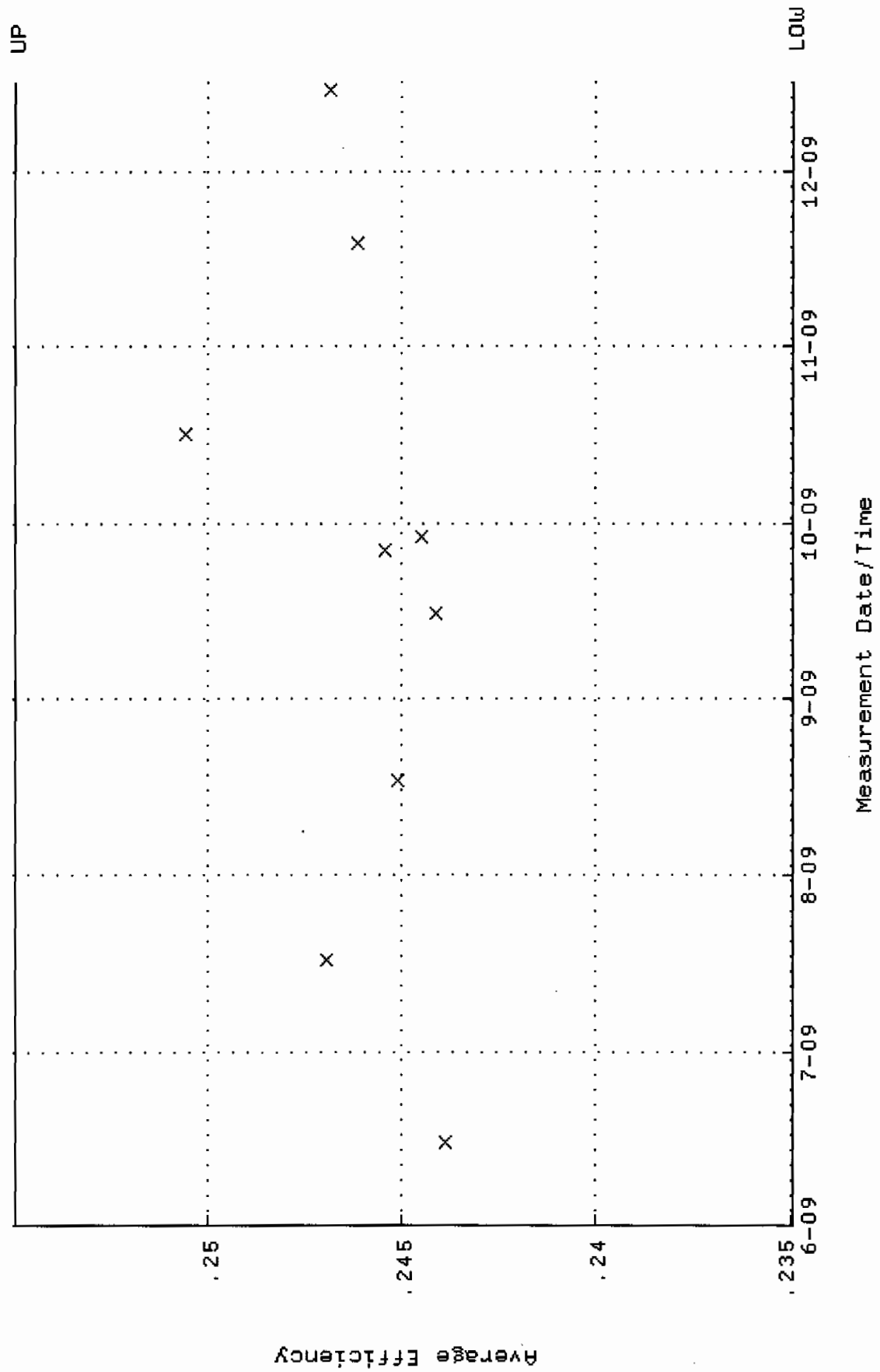
QA filename : DKA100:[ENV-ALPHA.QA.W]W159.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:38:17 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 80.7870 through 89.2909



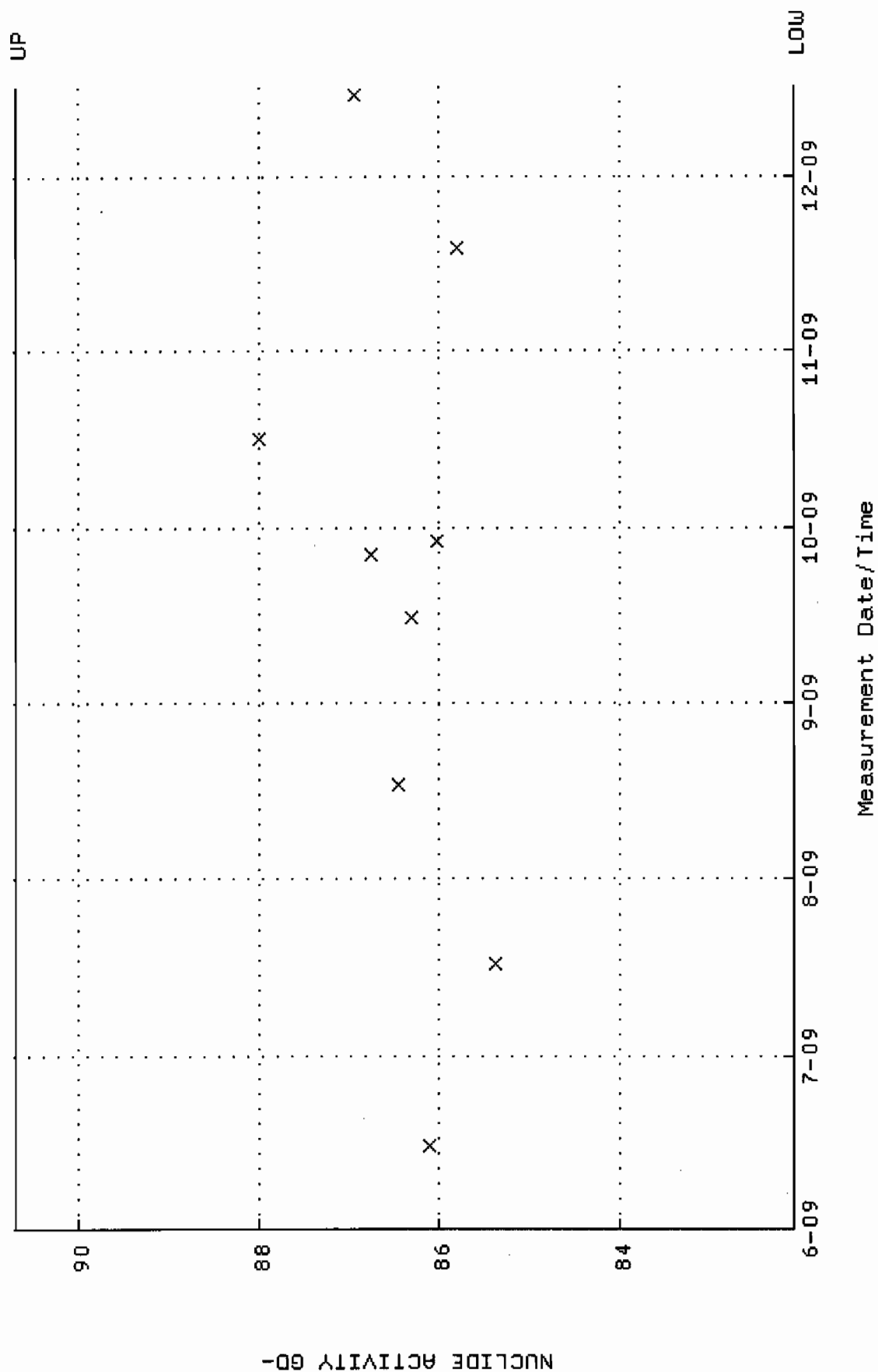
QA filename : DKA100:[ENV_ALPHA.QA.B]B159.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:11:53 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



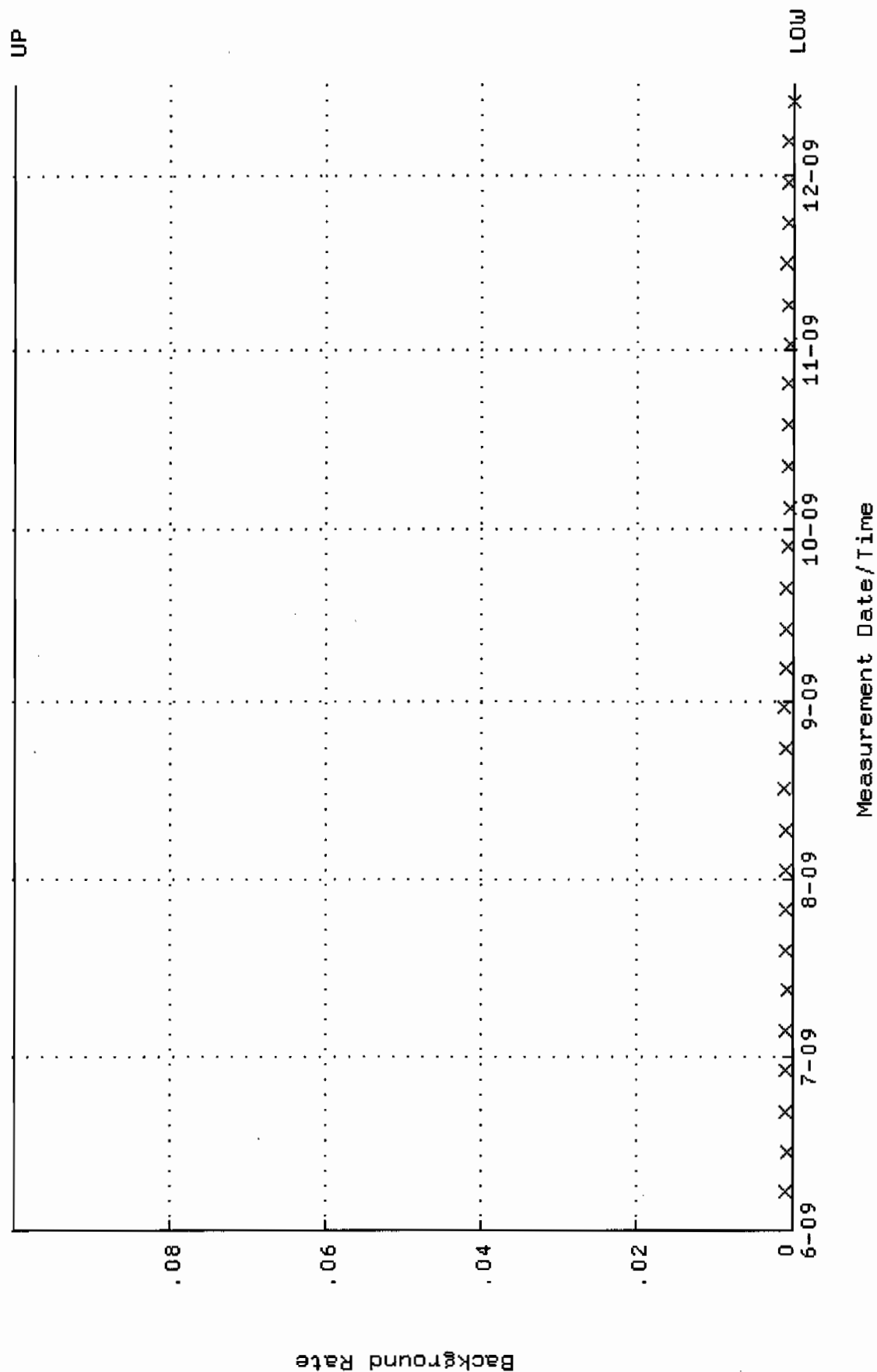
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:38:22 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.234941 through 0.254941



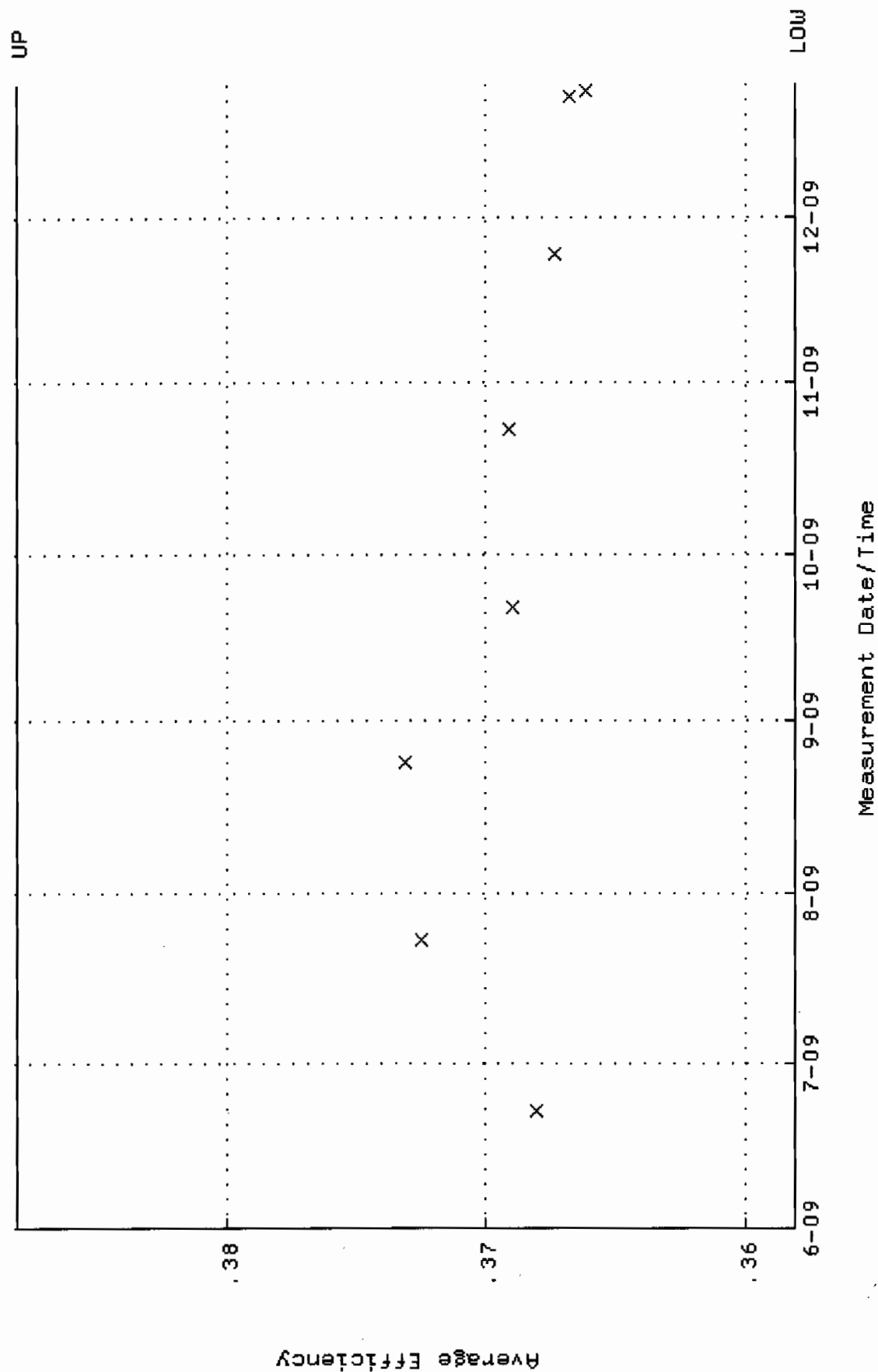
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:38:22 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 82.0594 through 90.6972



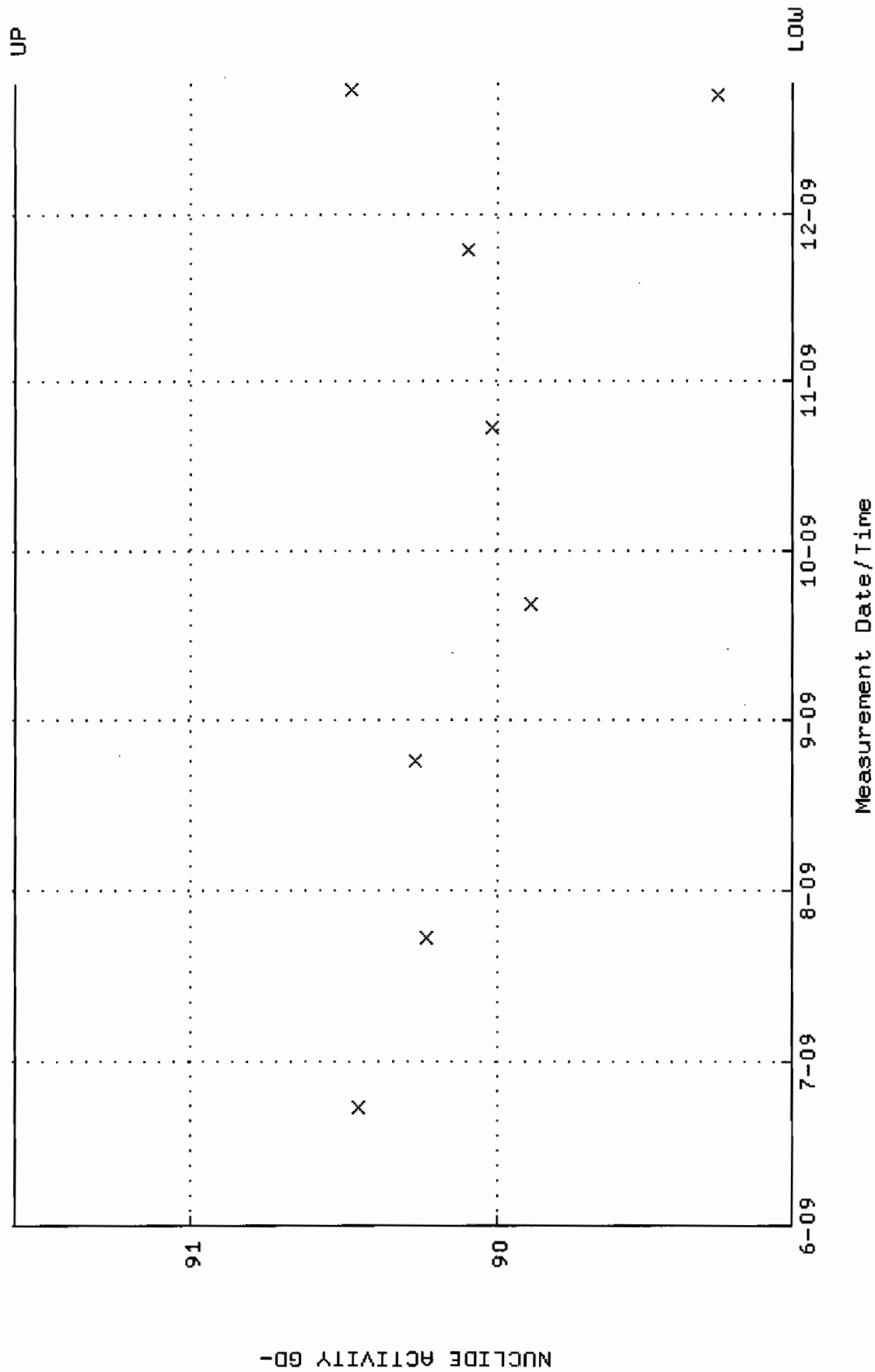
QA filename : DKA100:[ENV_ALPHA.QA.B]B160.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:11:57 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



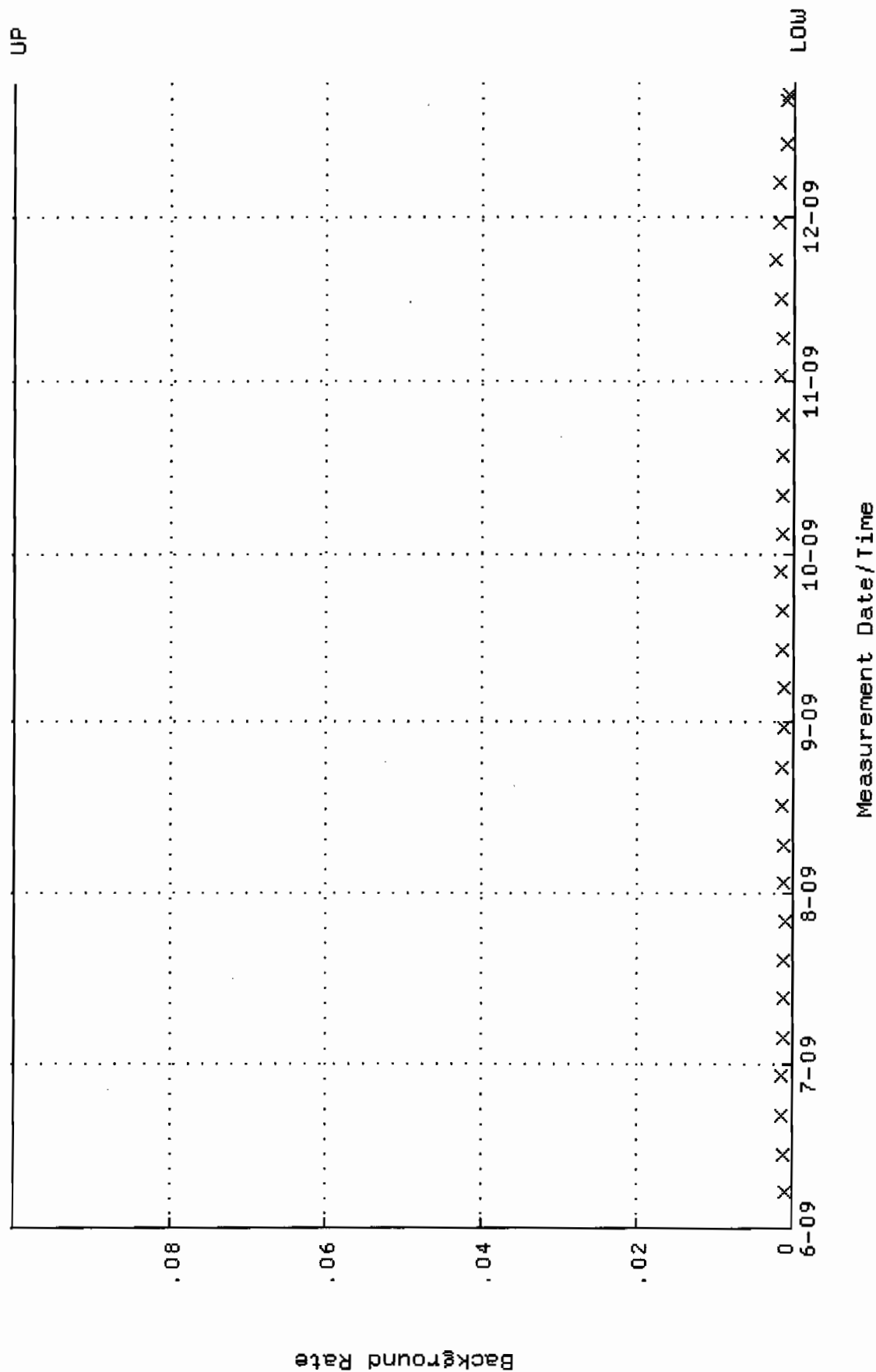
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:48:54 through 24-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.358070 through 0.388144



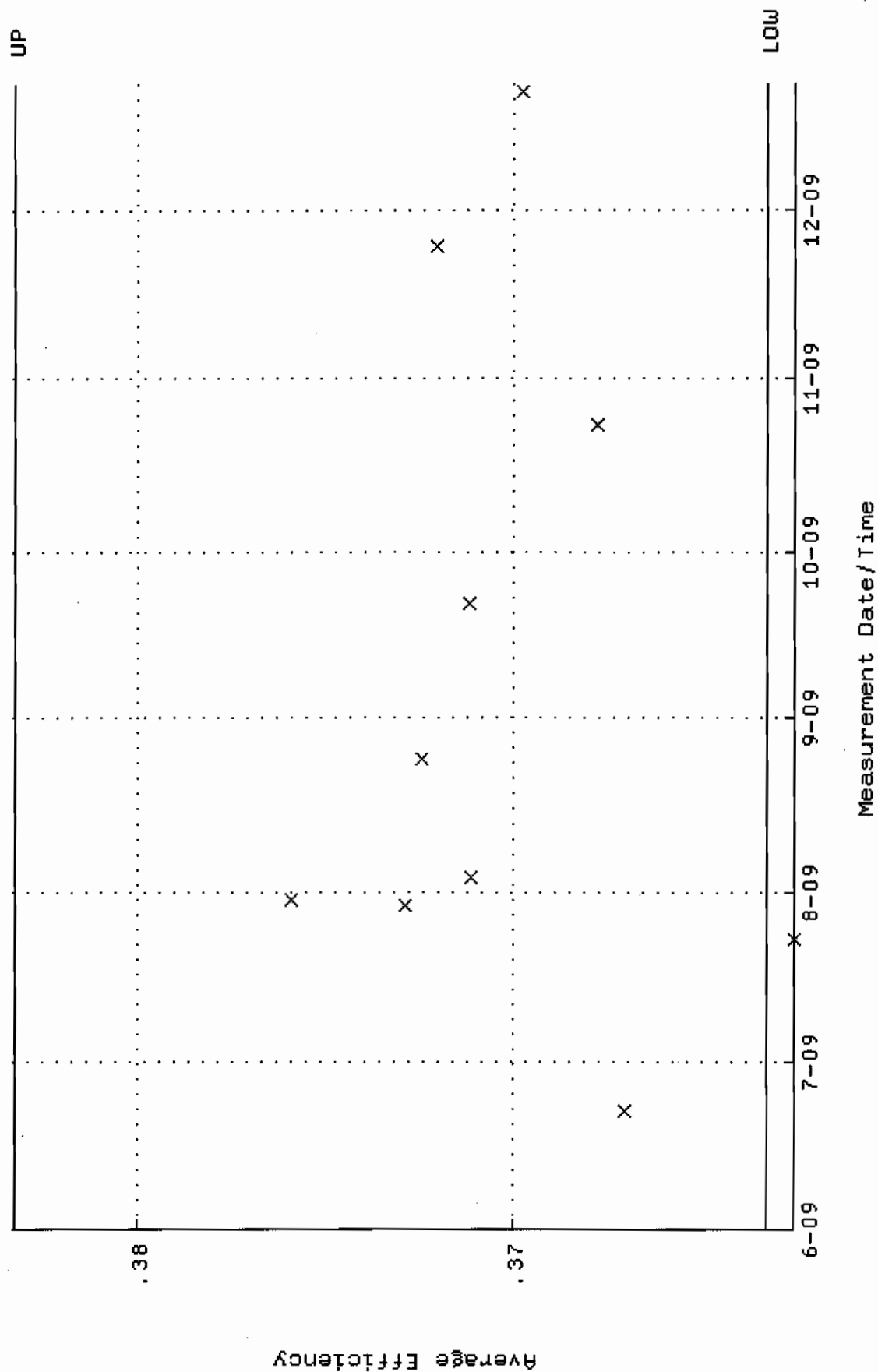
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:48:54 through 24-DEC-2009 12:00:00
 Lower/Upper Lmts: 89.0418 through 91.5702



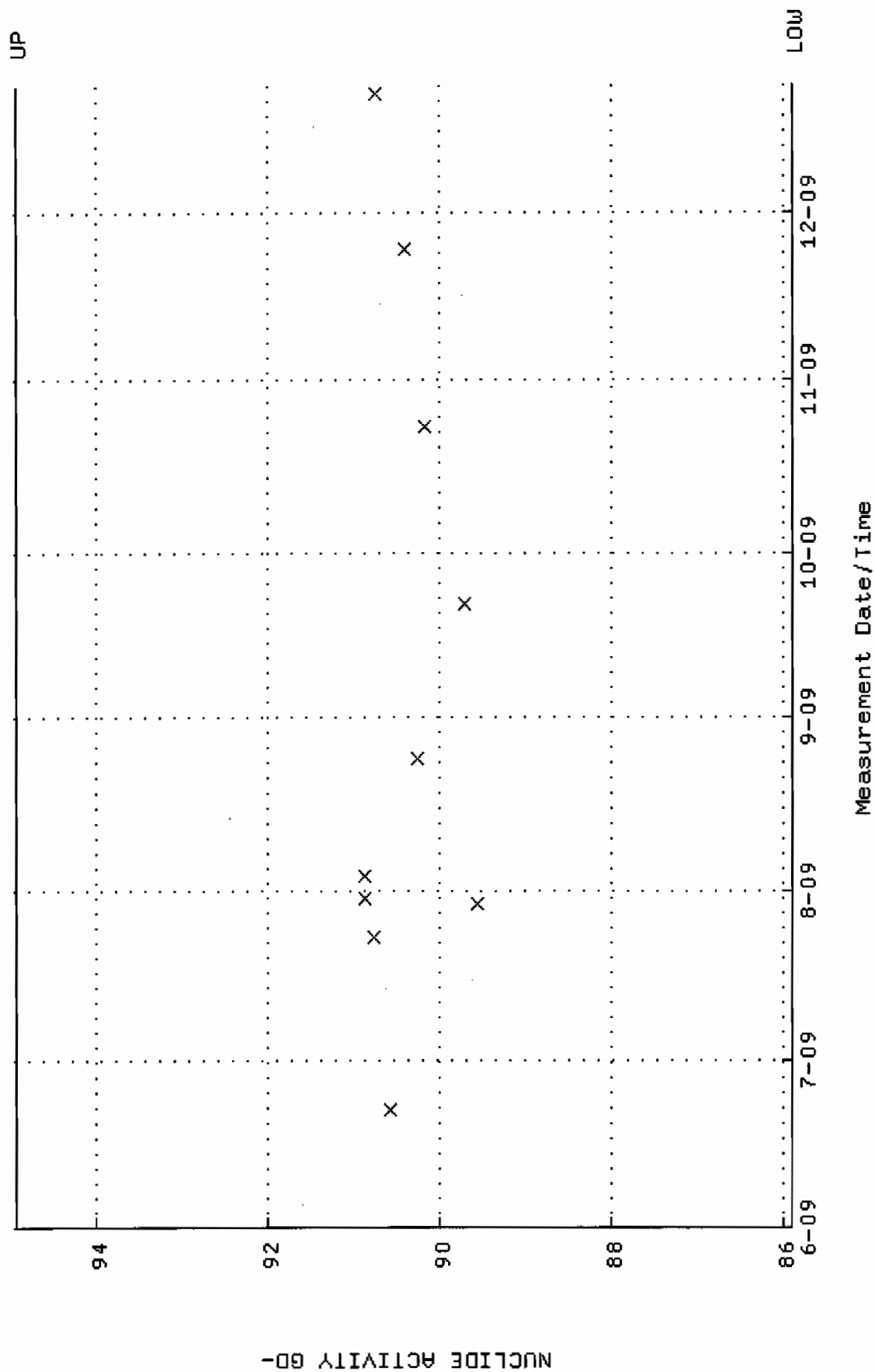
QA filename : DKA100:[ENV_ALPHA.QA.B]B161.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:00 through 24-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W162.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:01 through 23-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.363287 through 0.383287



QA filename : DKA100:[ENV_ALPHA.QA.W]w162.QAF;1
 Parameter Name : NLACTVY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:01 through 23-DEC-2009 12:00:00
 Lower/Upper Lmts: 85.8969 through 94.9387

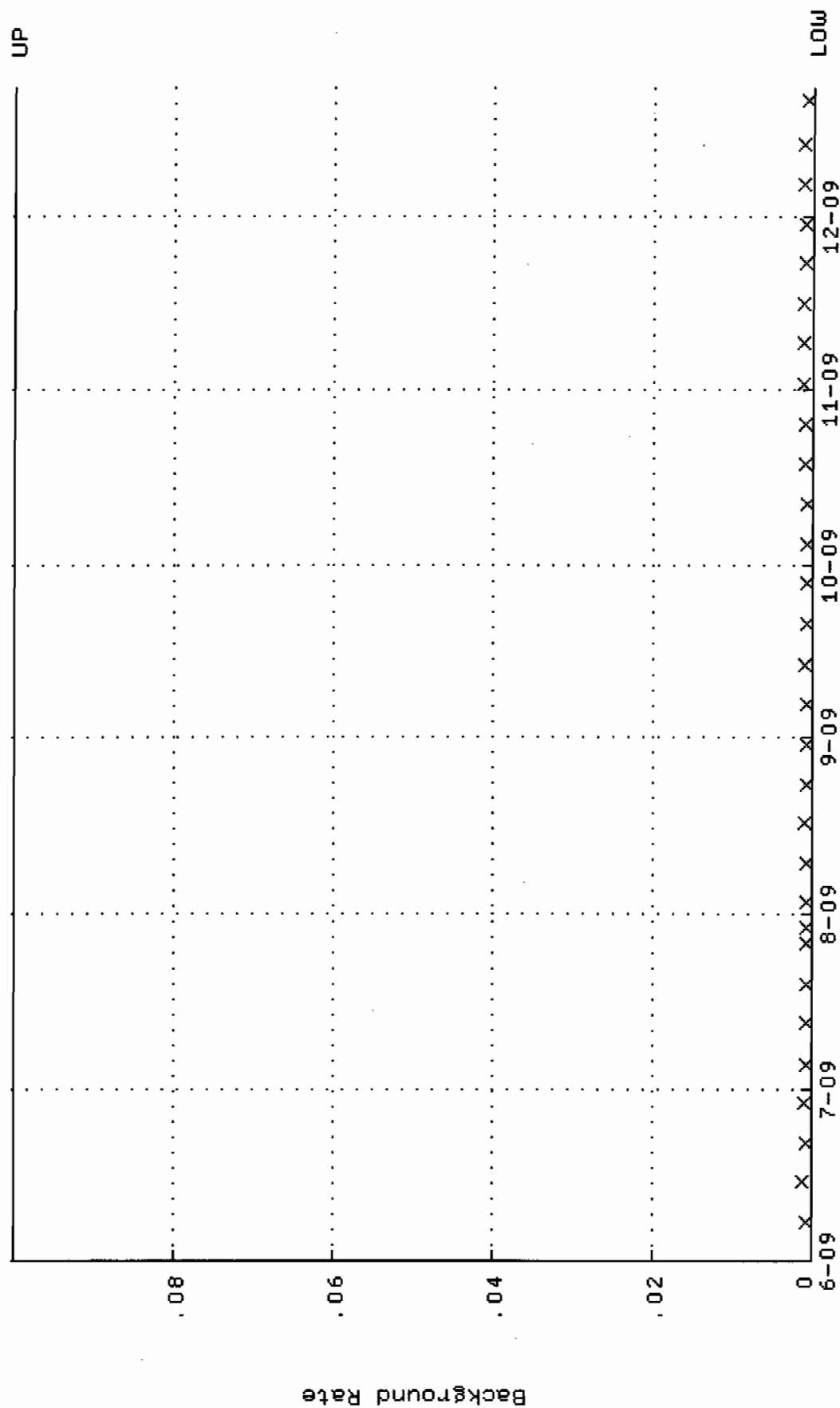


QA filename : DKA100:[ENV_ALPHA.QA.B]B162.QAF;1

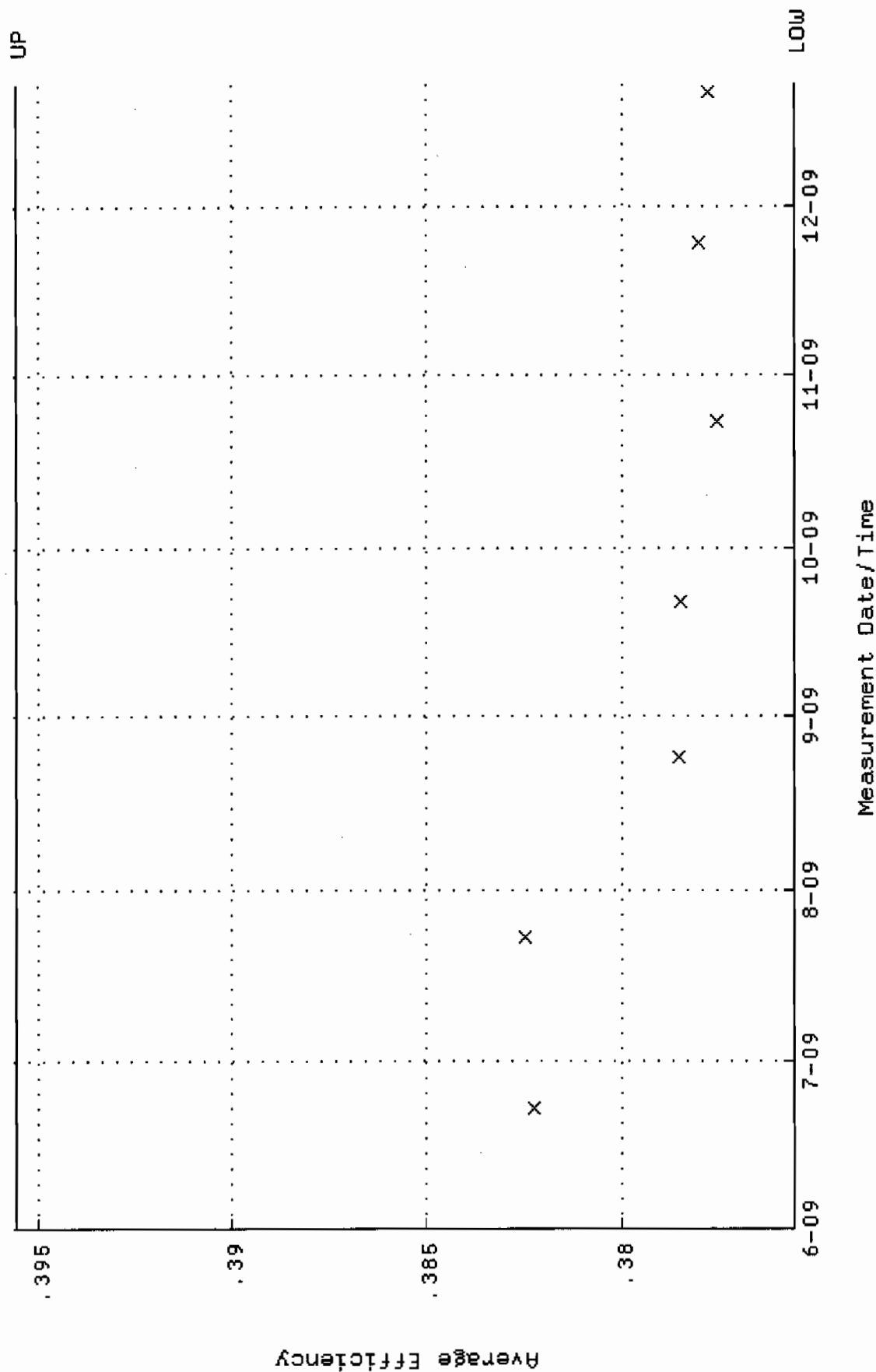
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 7-JUN-2009 17:12:04 through 23-DEC-2009 12:00:00

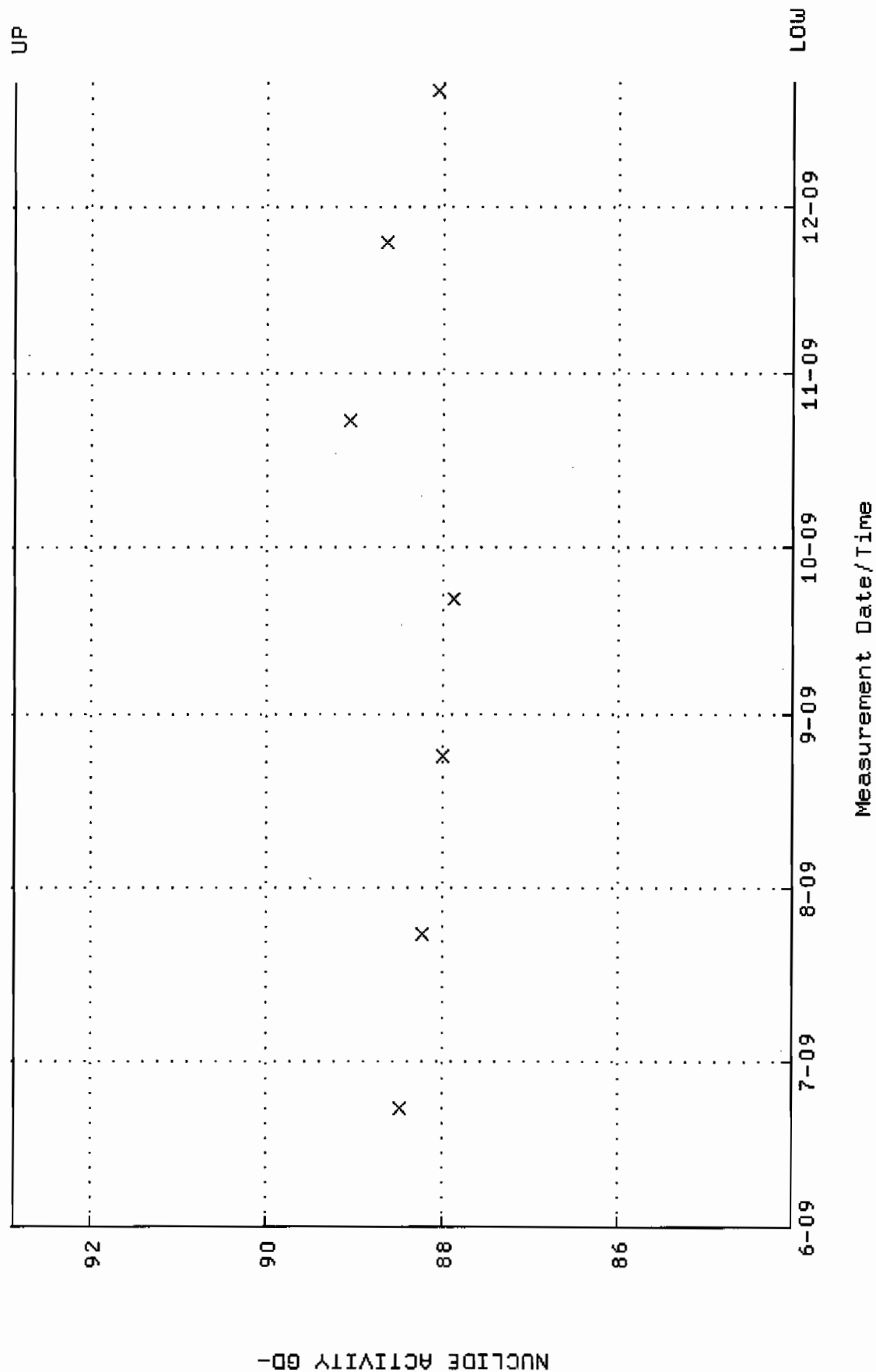
Lower/Upper Lmts: 0.000000E+00 through 0.100000



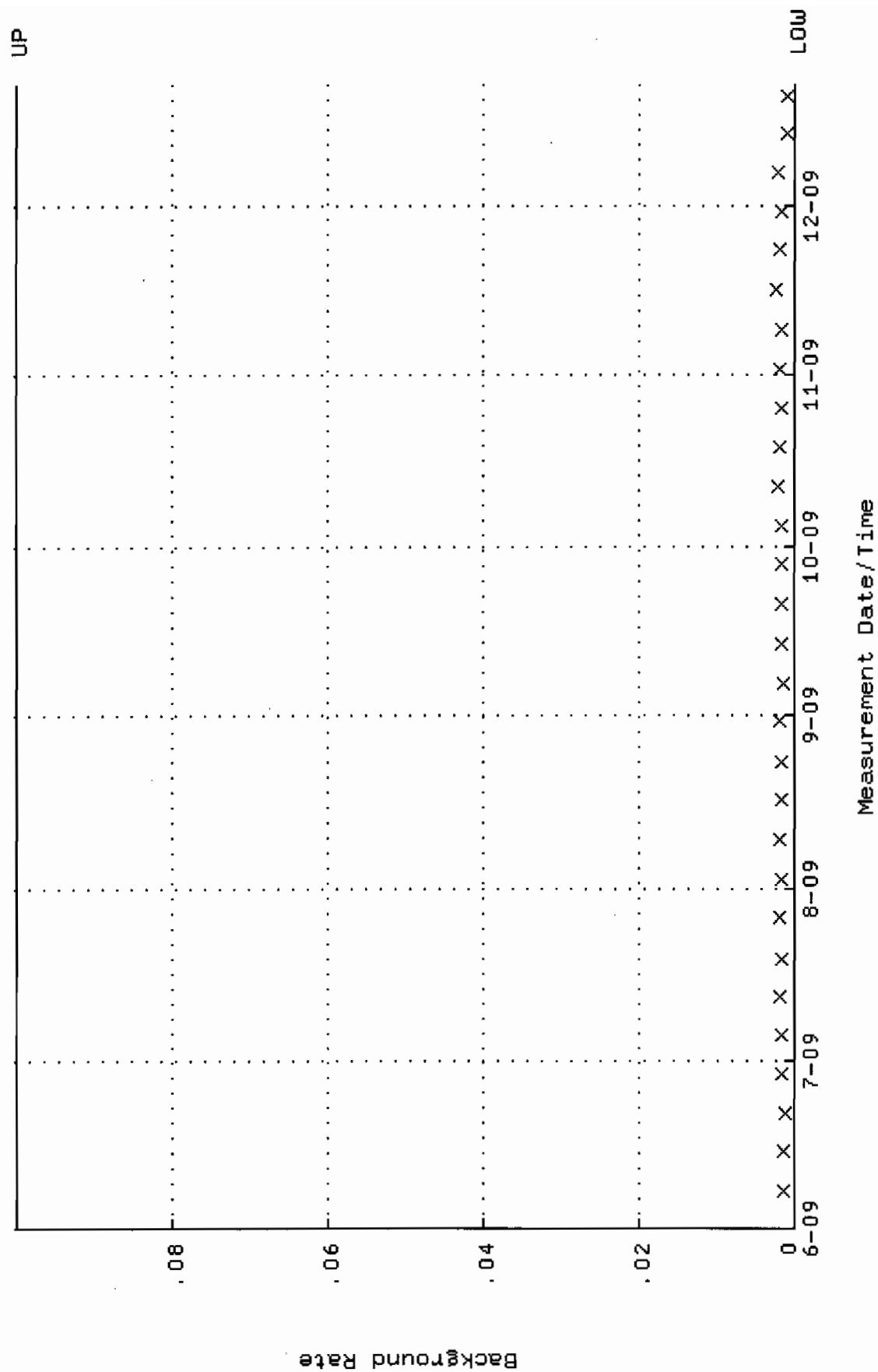
QA filename : DKA100:[ENV_ALPHA.QA.W]w163.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:05 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.375557 through 0.395557



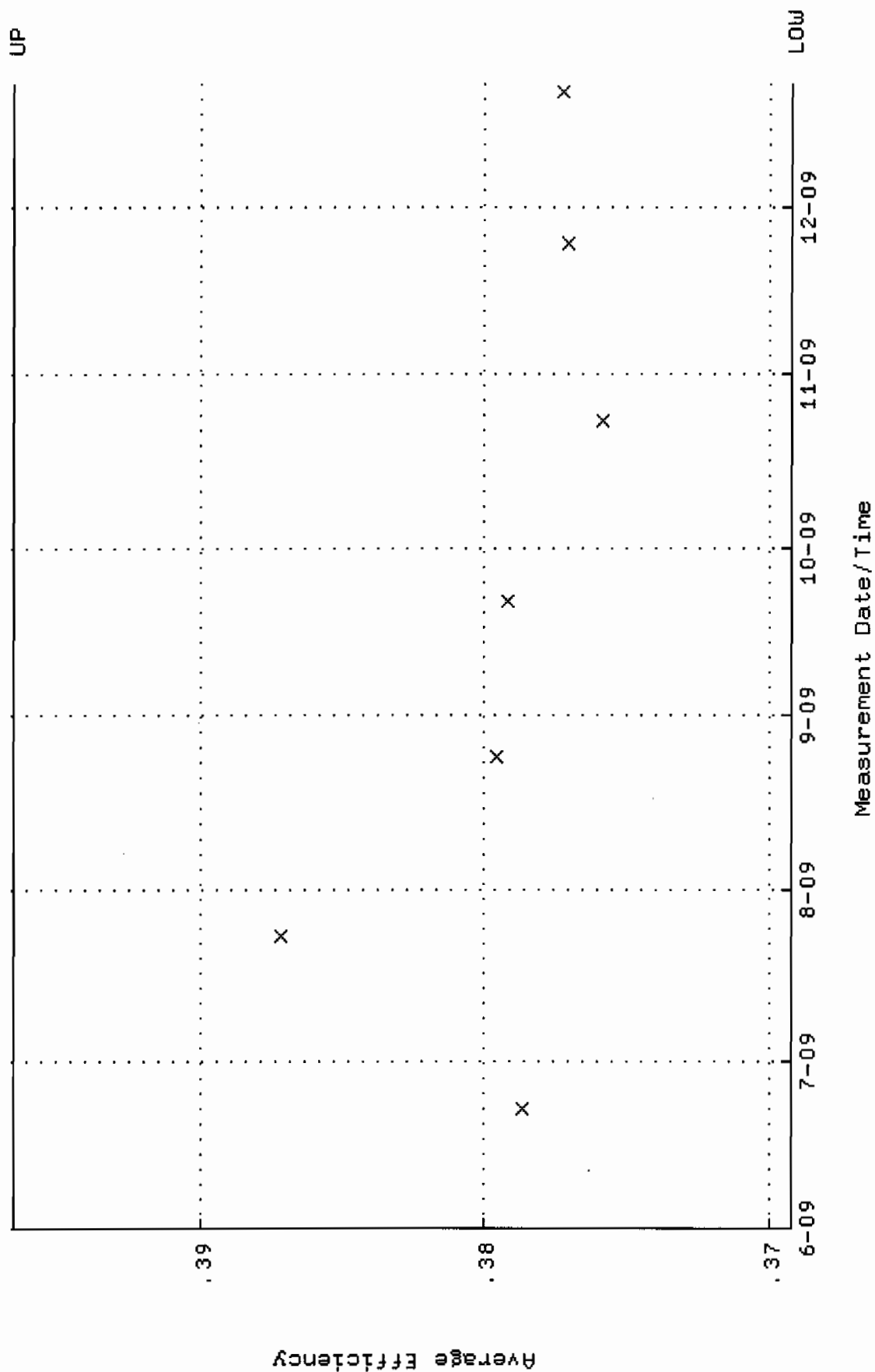
QA filename : DKA100:[ENV_ALPHA.QA.W]w163.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:05 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.0322 through 92.8777



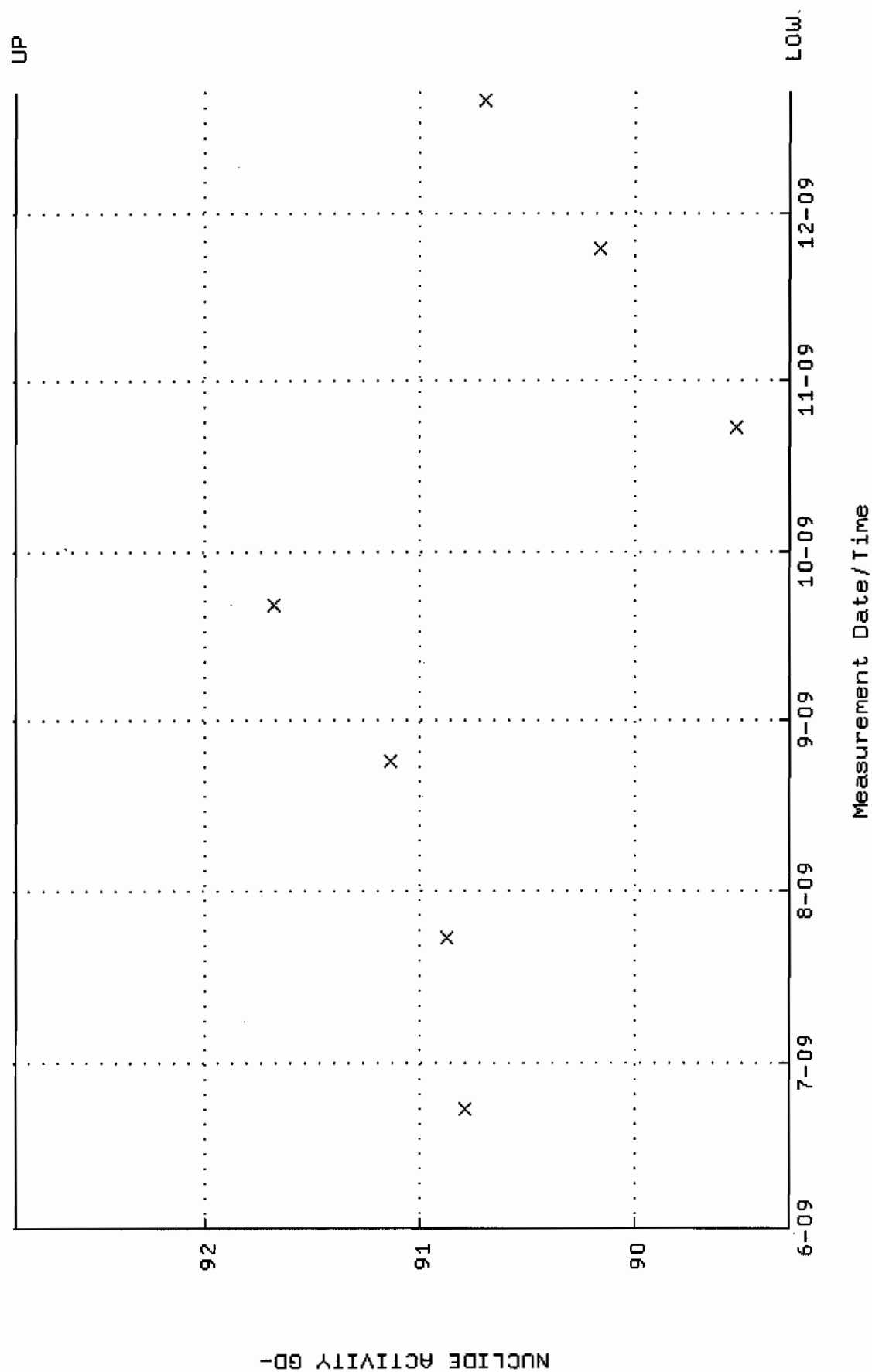
QA filename : DKA100:[ENV_ALPHA.QA.B]B163.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:08 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



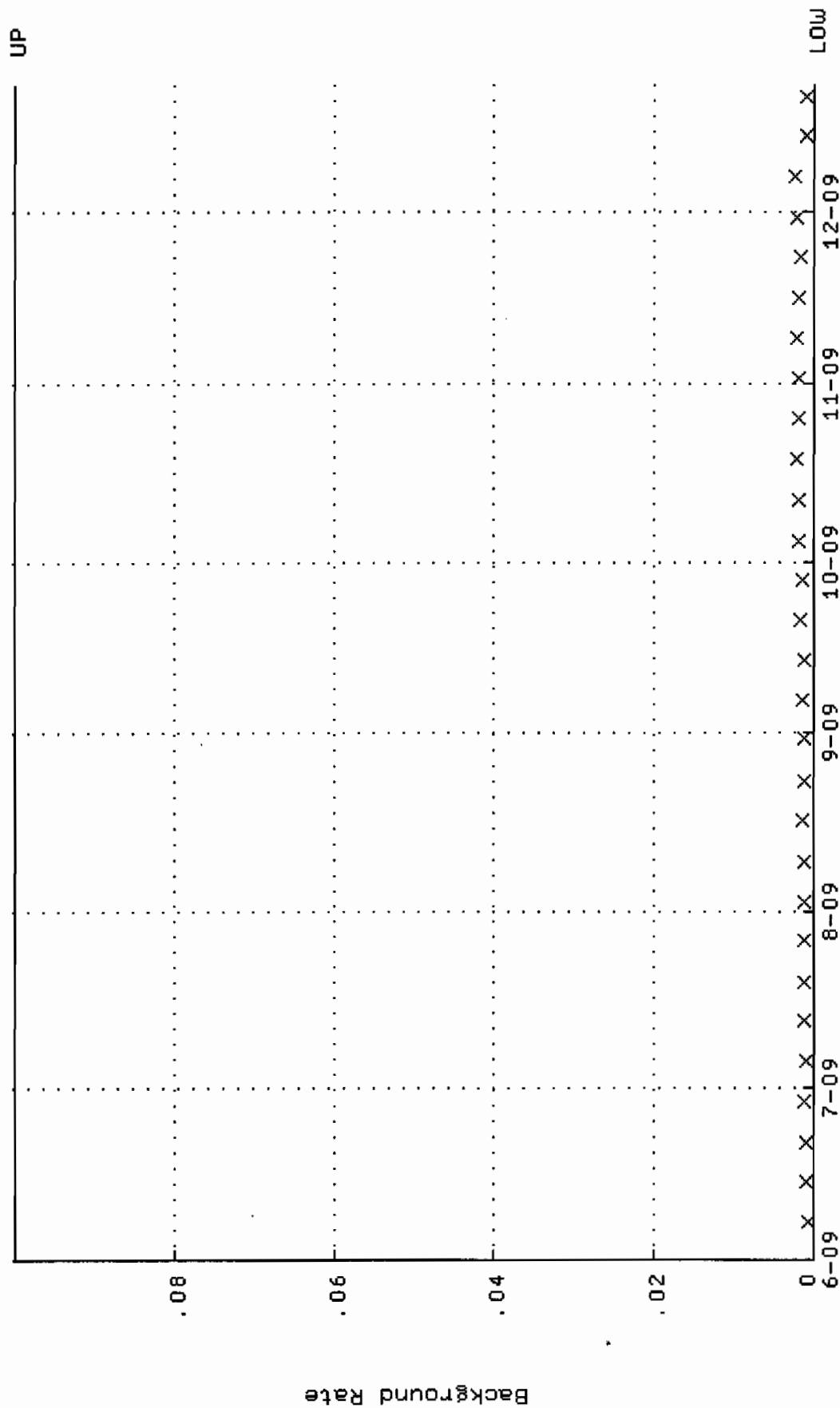
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:10 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.369199 through 0.396555



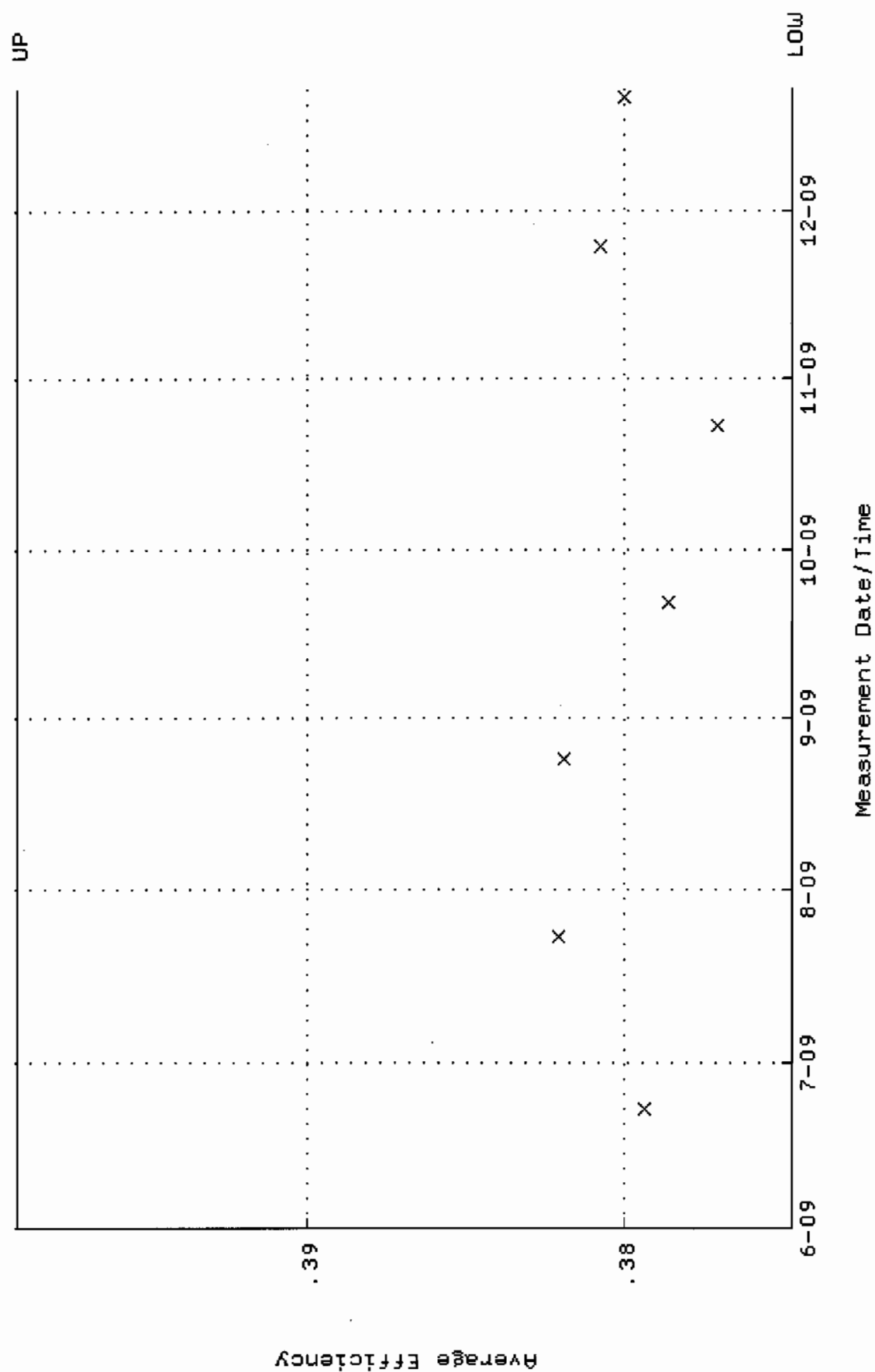
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:10 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 89.2764 through 92.8786



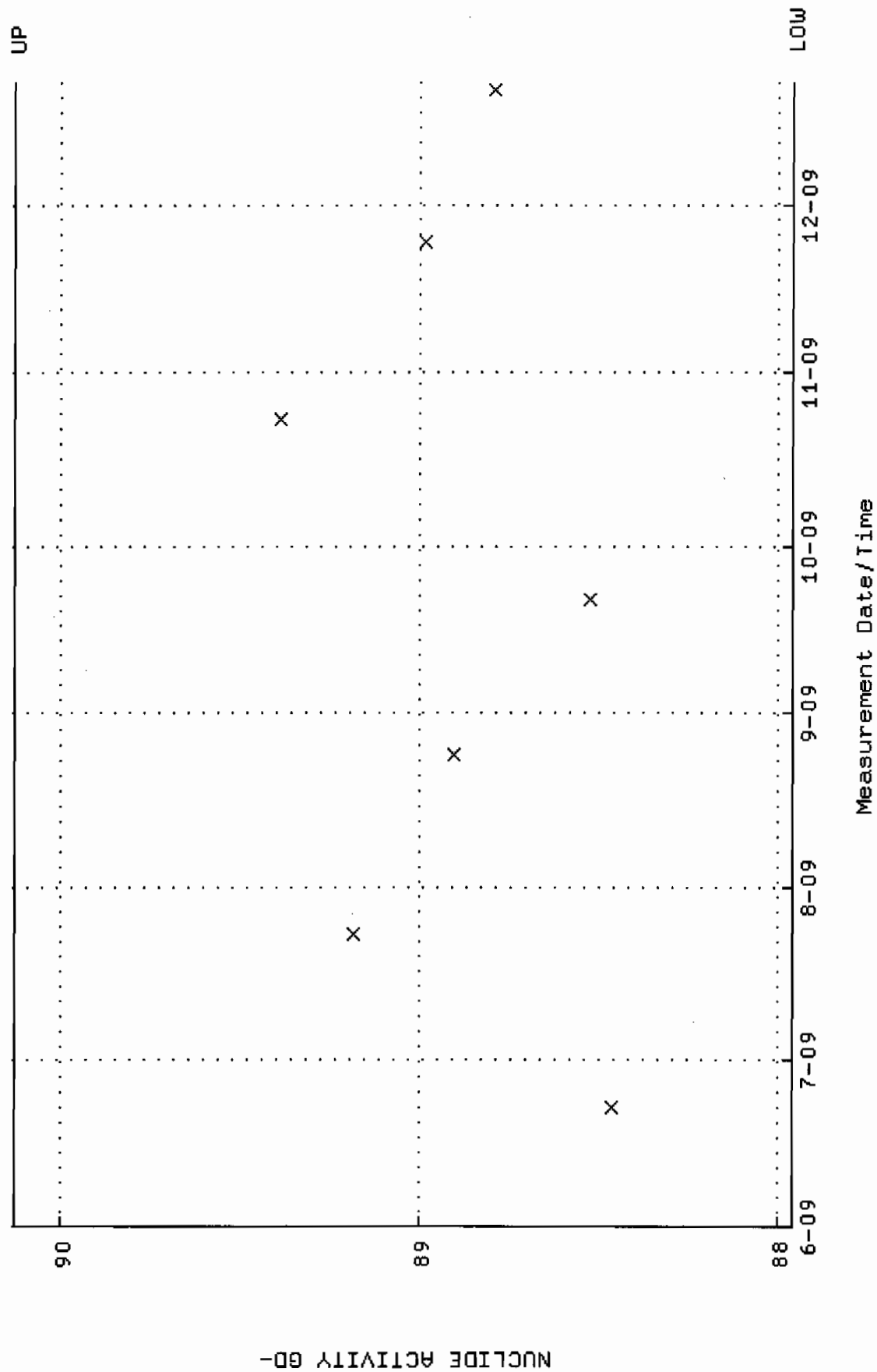
QA filename : DKA100:[ENV_ALPHA.QA.B]B164.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:13 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



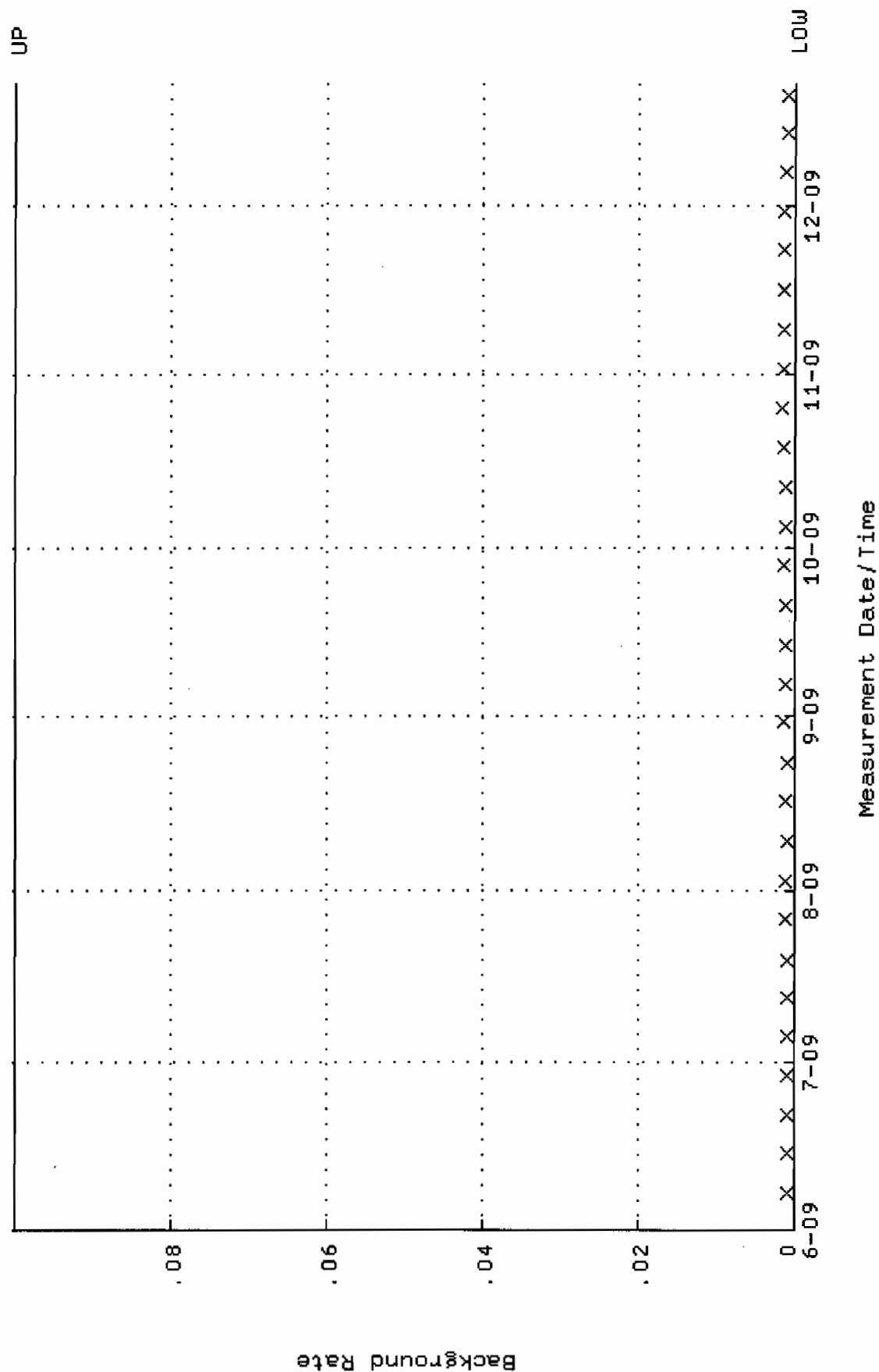
QA filename : DKA100:[ENV_ALPHA.QA.W]W165.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:16 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.374689 through 0.399127



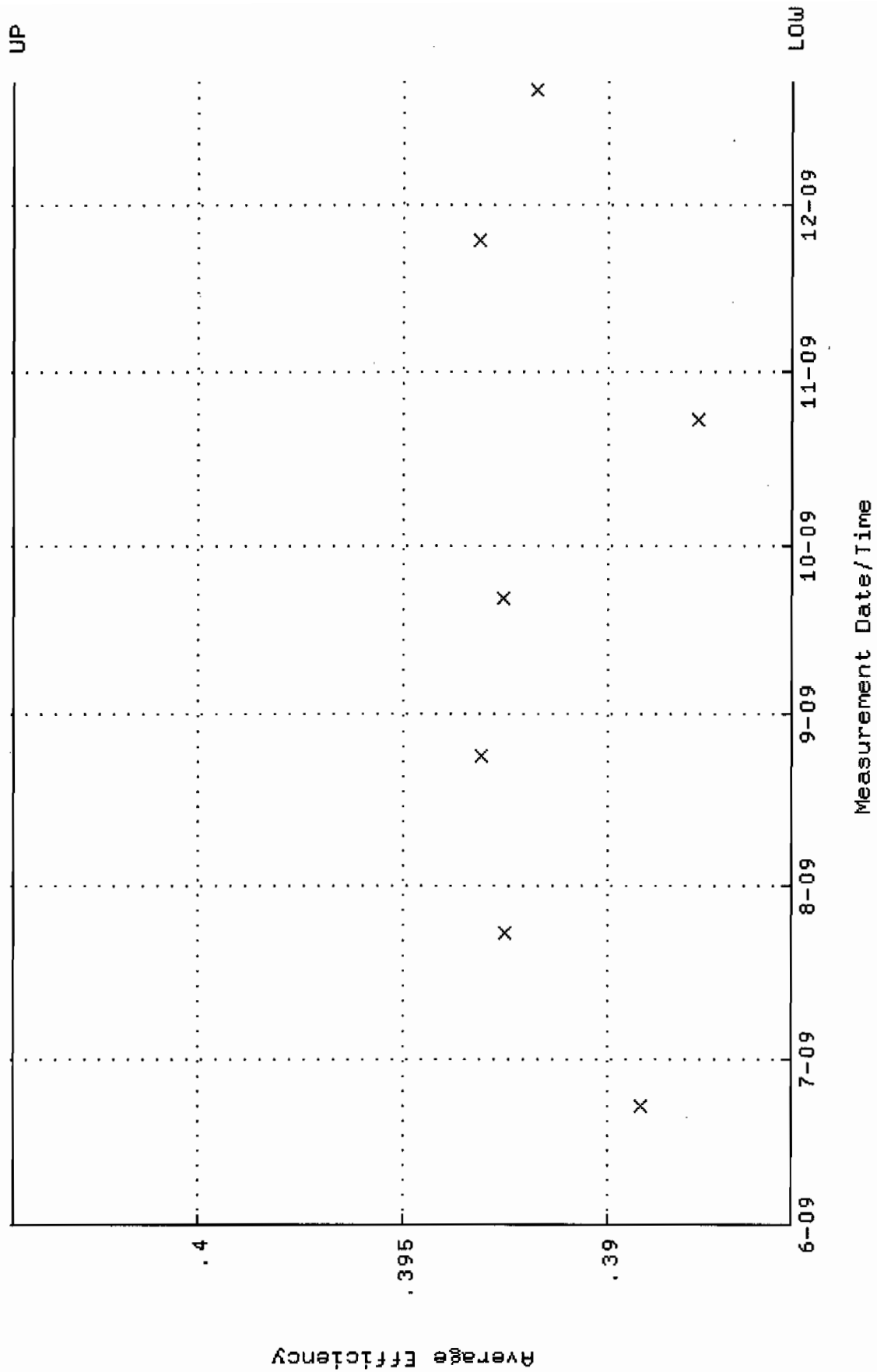
QA filename : DKA100:[ENV-ALPHA.QA.W]W165.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:16 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 87.9613 through 90.1269



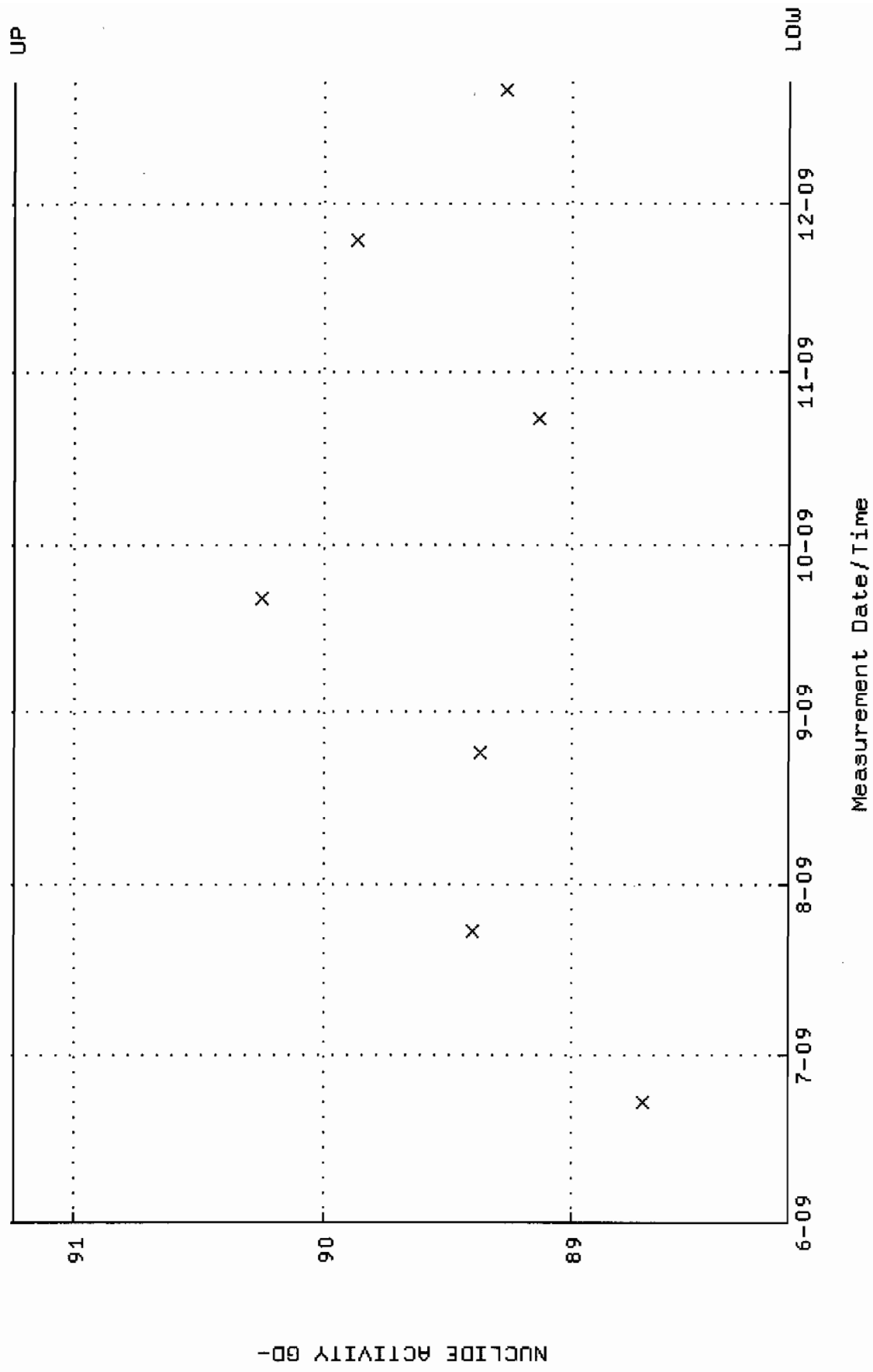
QA filename : DKA100:[ENV-ALPHA.QA.B]B165.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:17 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



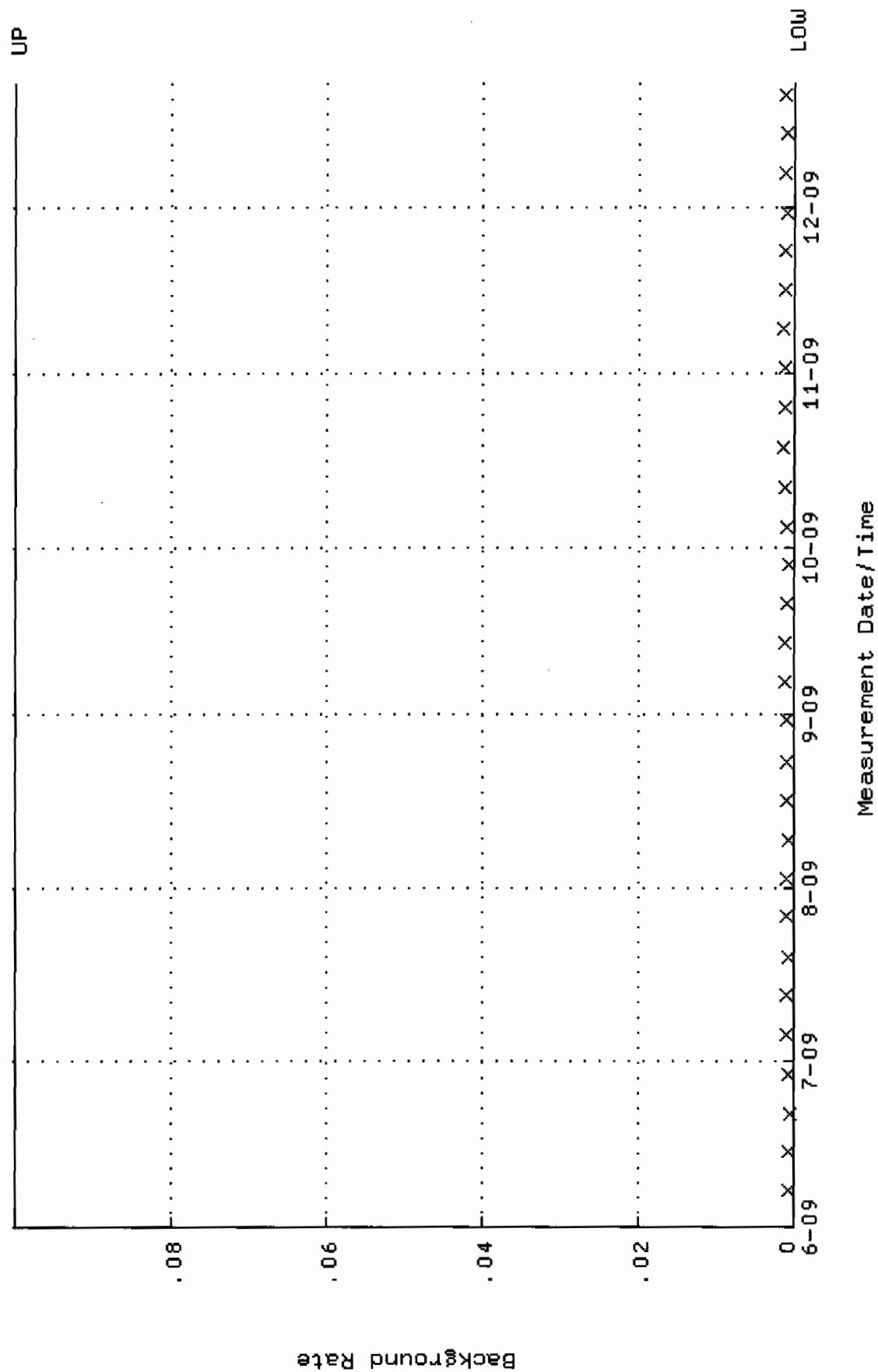
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:22 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.385564 through 0.404504



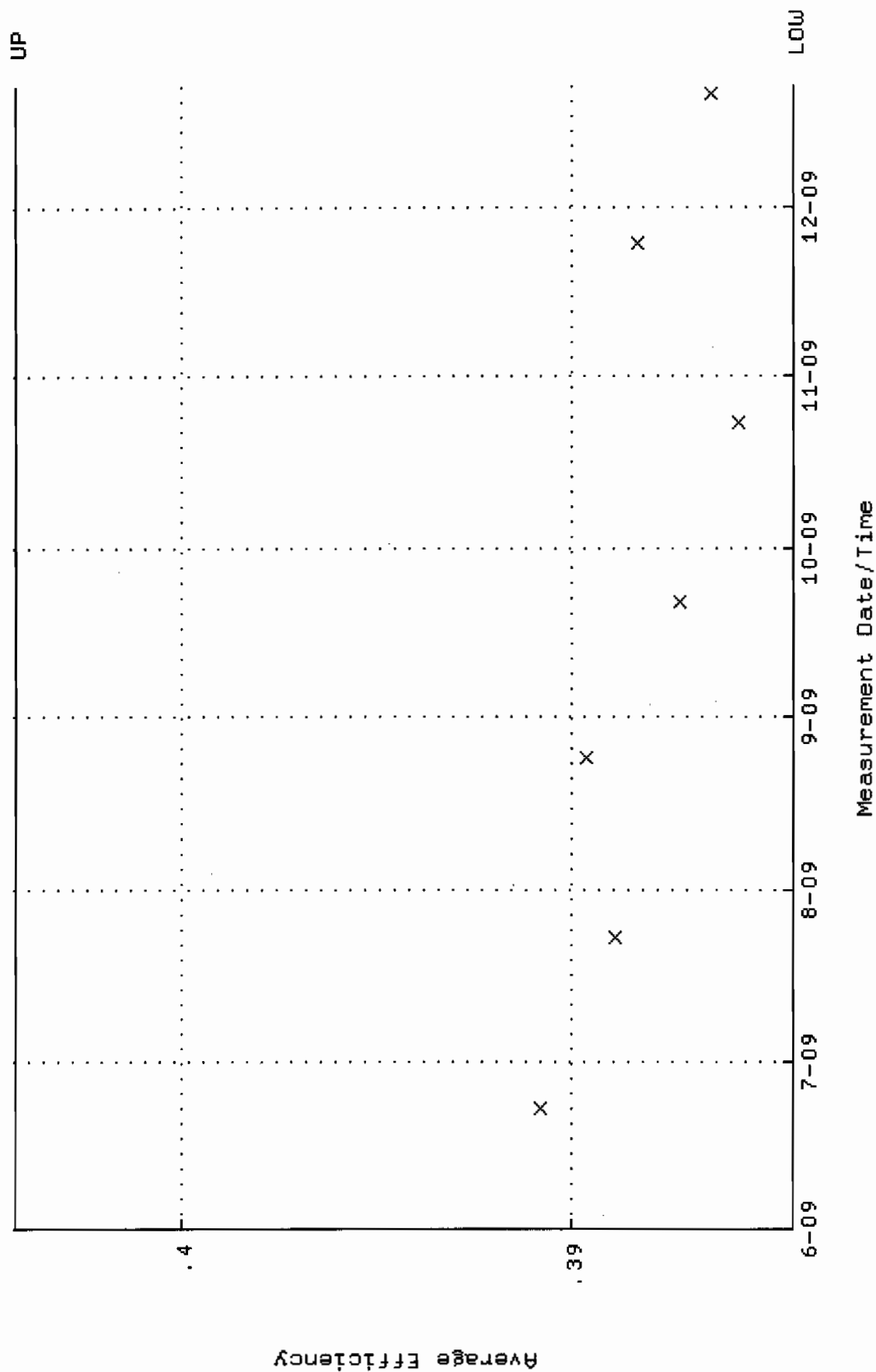
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:22 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 88.1264 through 91.2442



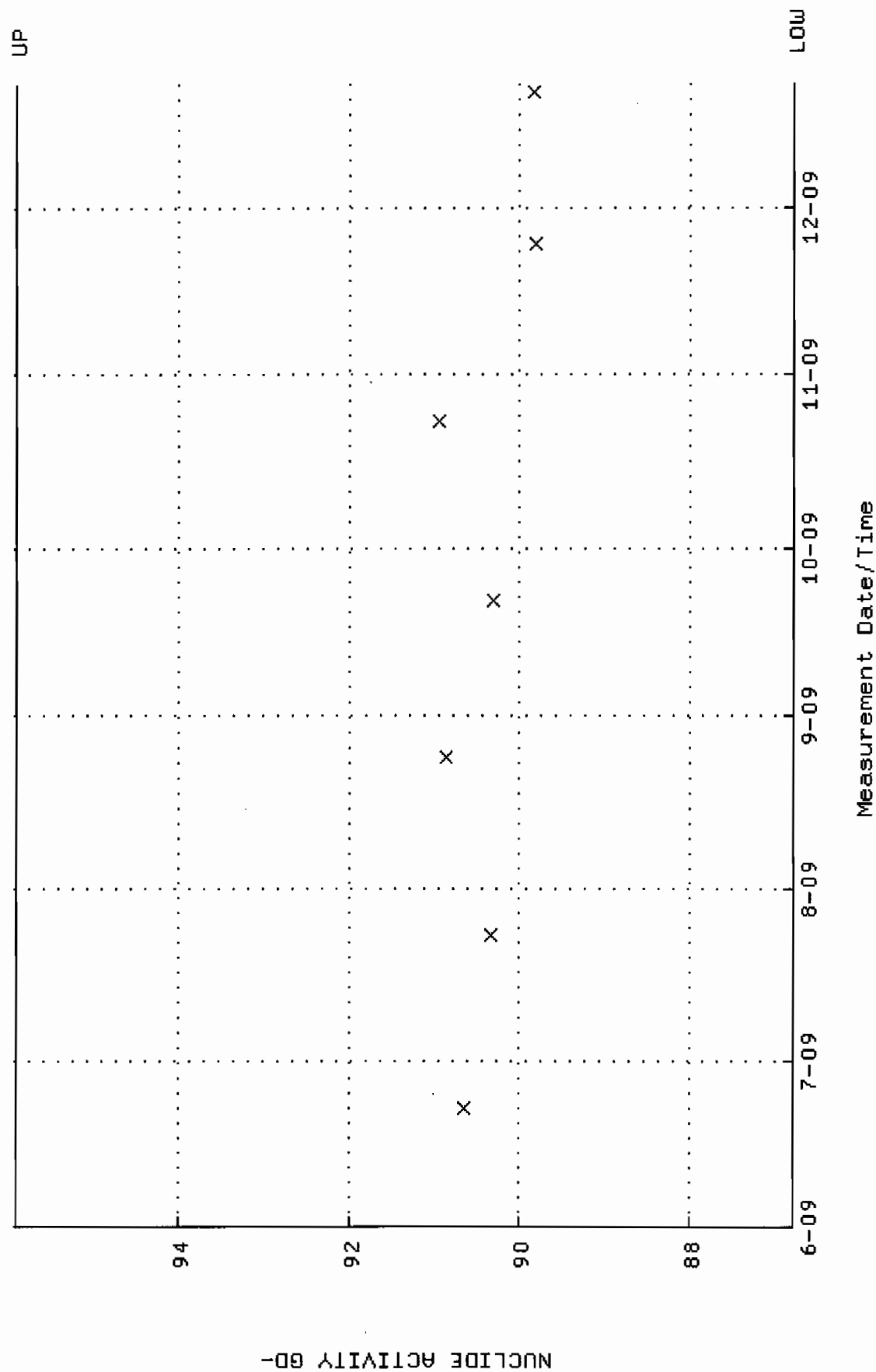
QA filename : DKA100:[ENV_ALPHA.QA.B]B166.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:20 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



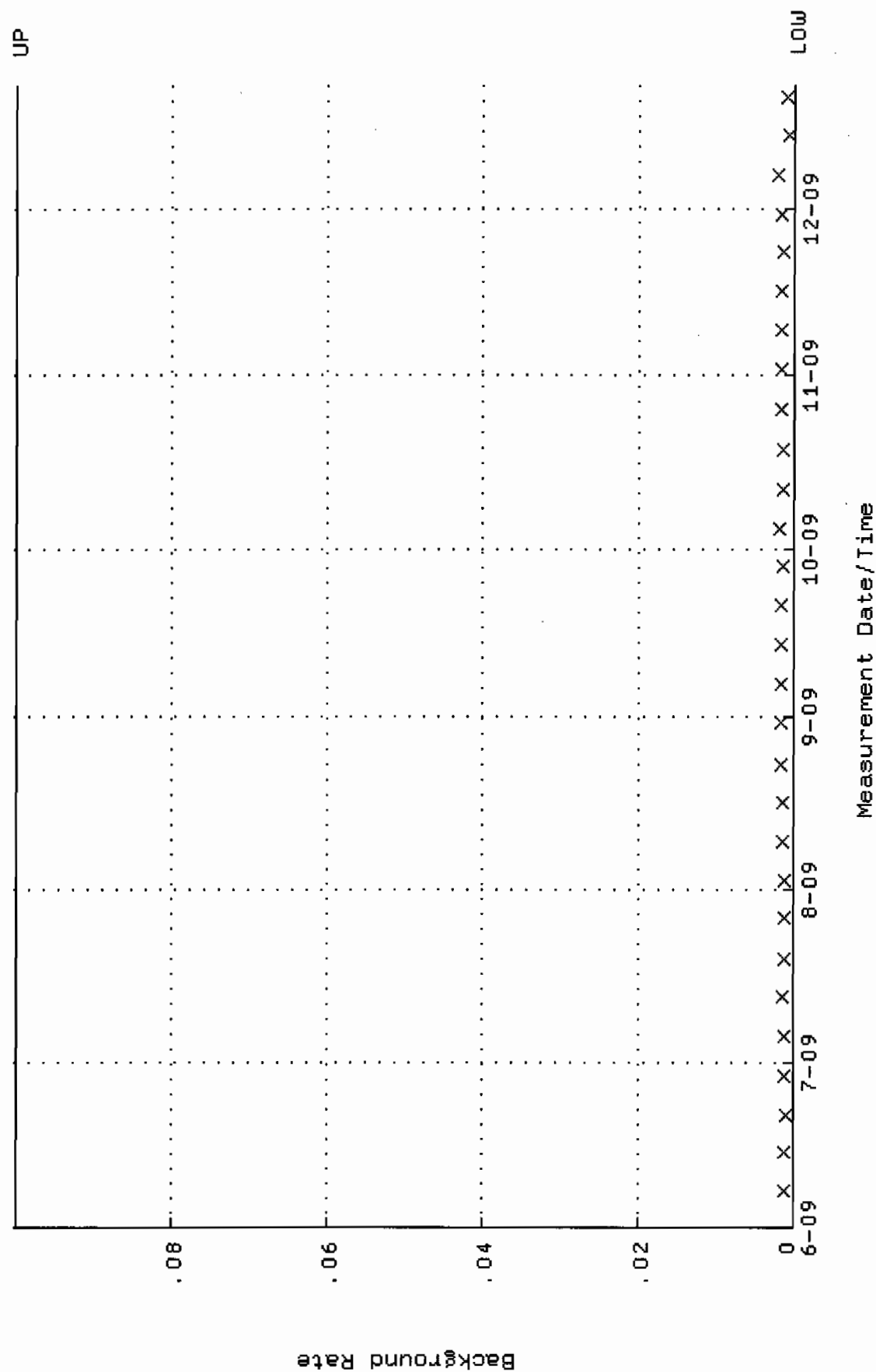
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:28 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.384285 through 0.404285



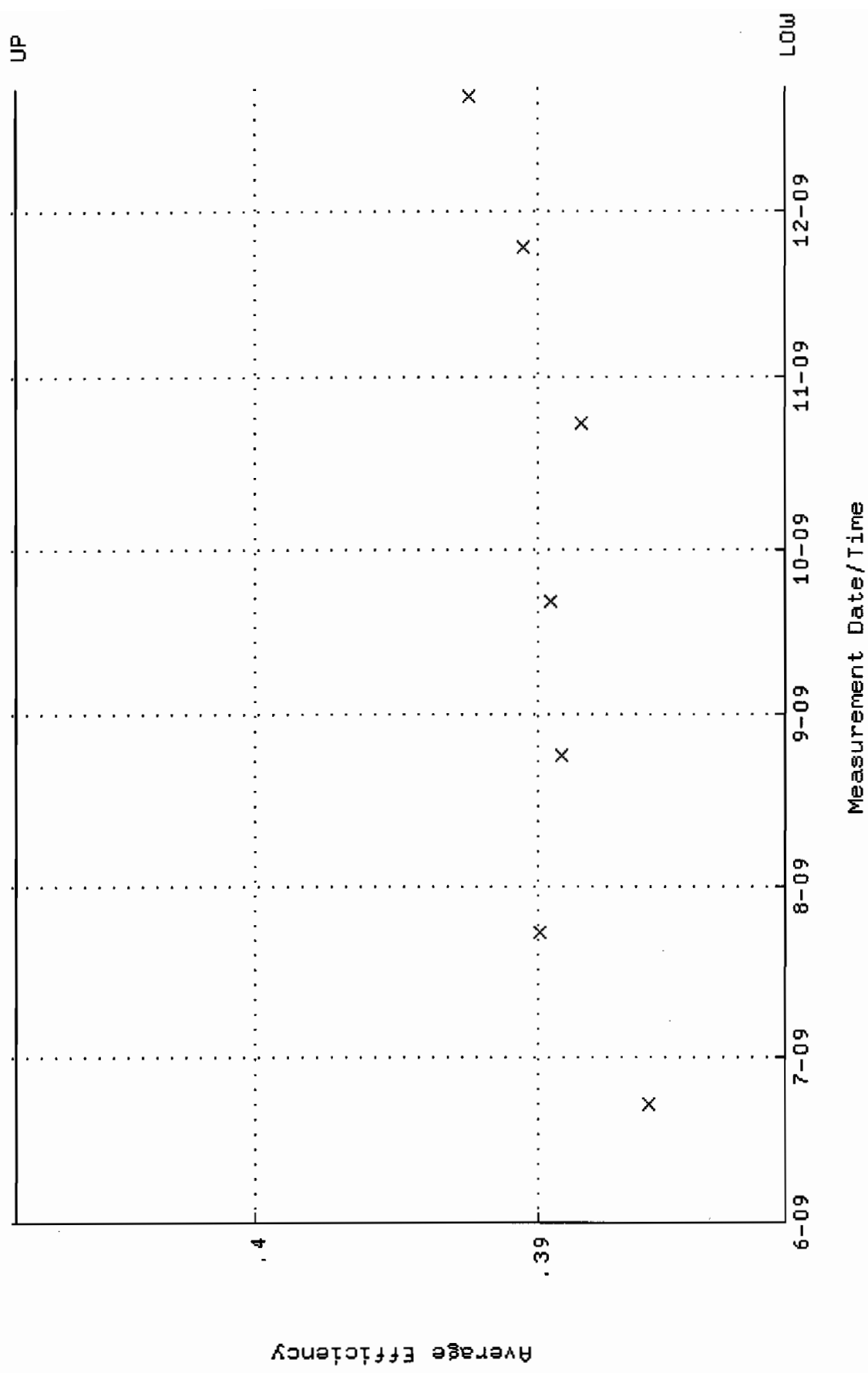
QA filename : DKA100:[ENV-ALPHA.QA.W]w167.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:28 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.7740 through 95.9082



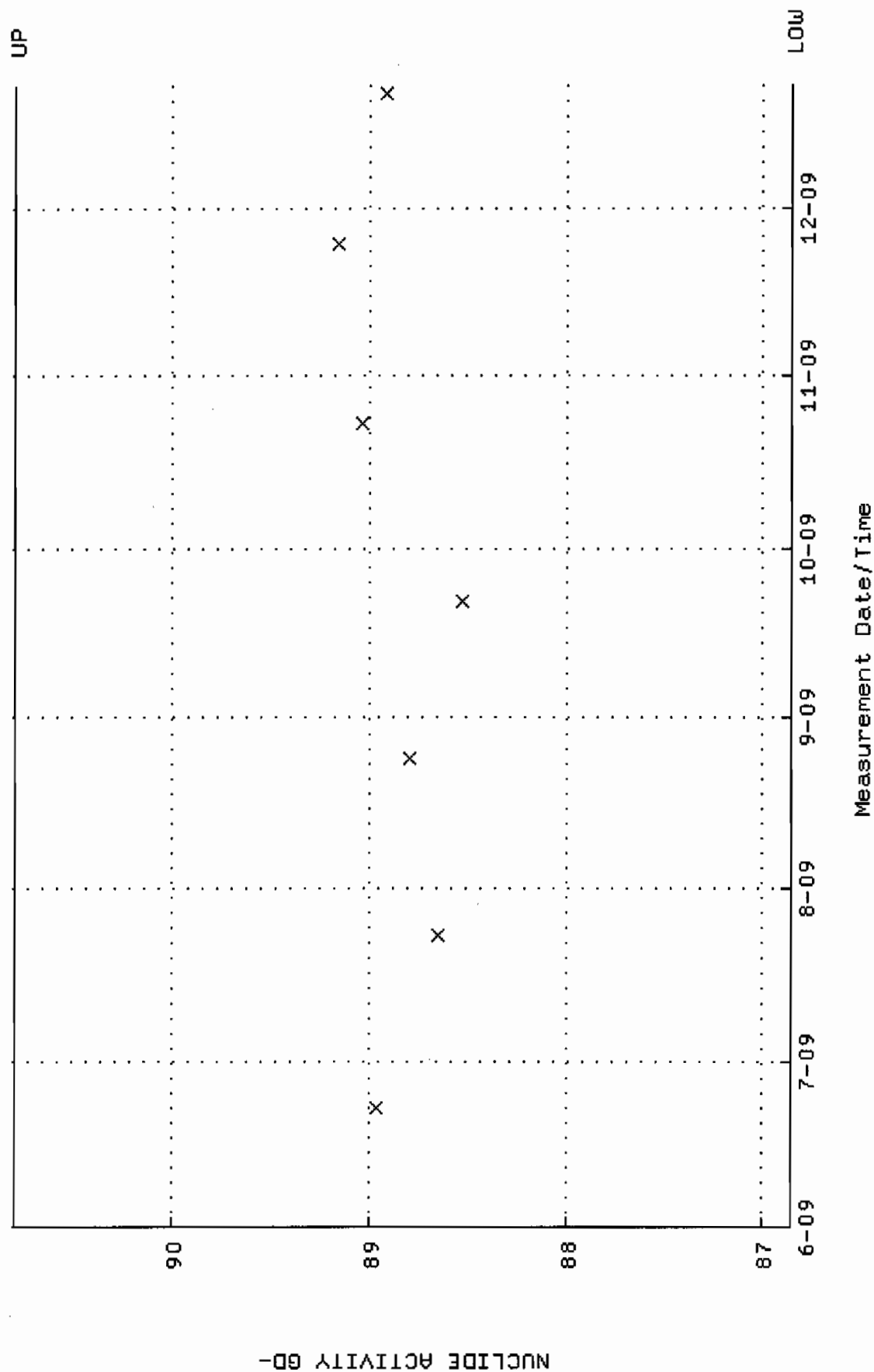
QA filename : DKA100:[ENV_ALPHA.QA.B]B167.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:24 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



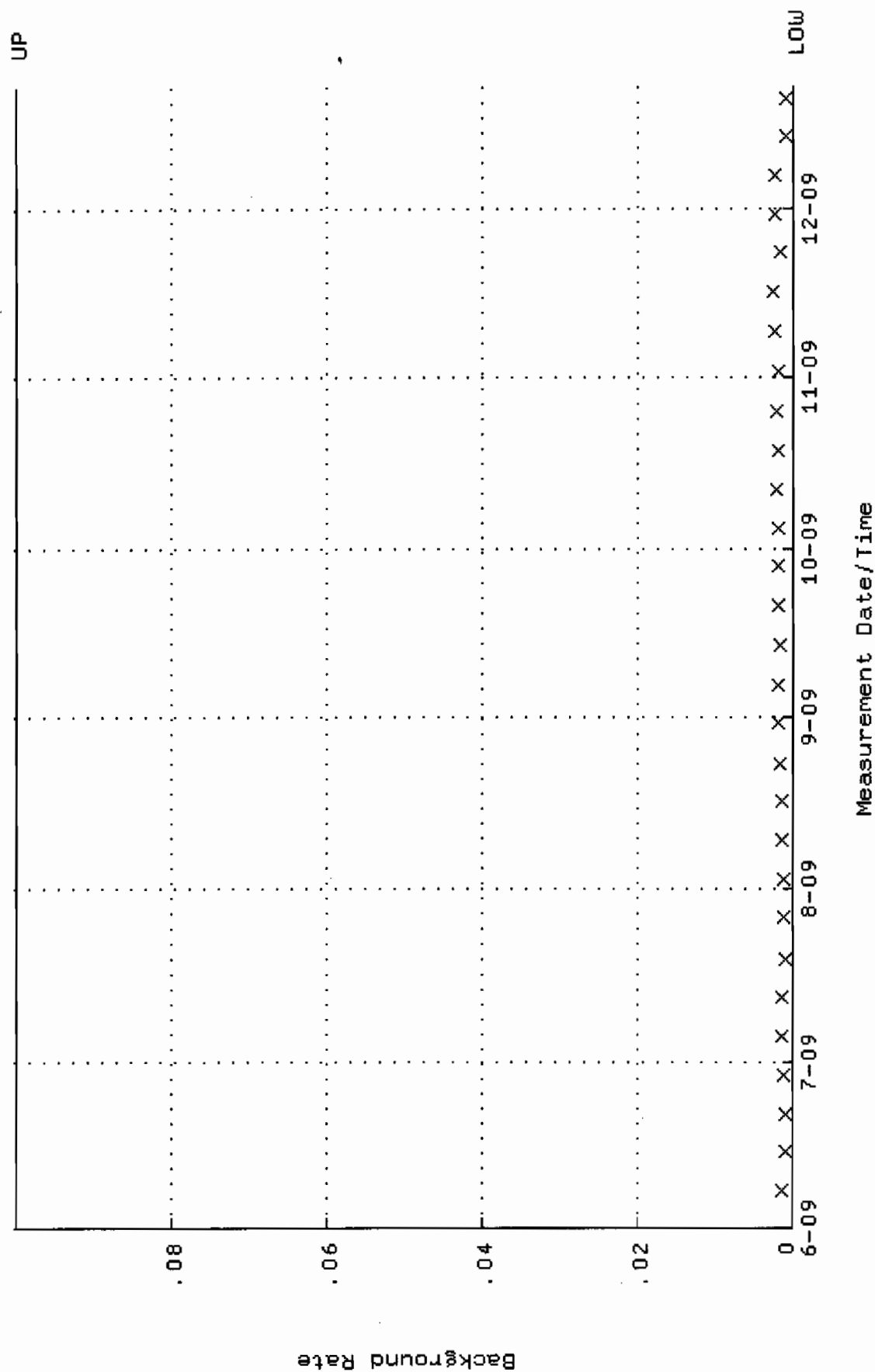
QA filename : DKA100:[ENV_ALPHA.QA.W]w168.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:33 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.381339 through 0.408495



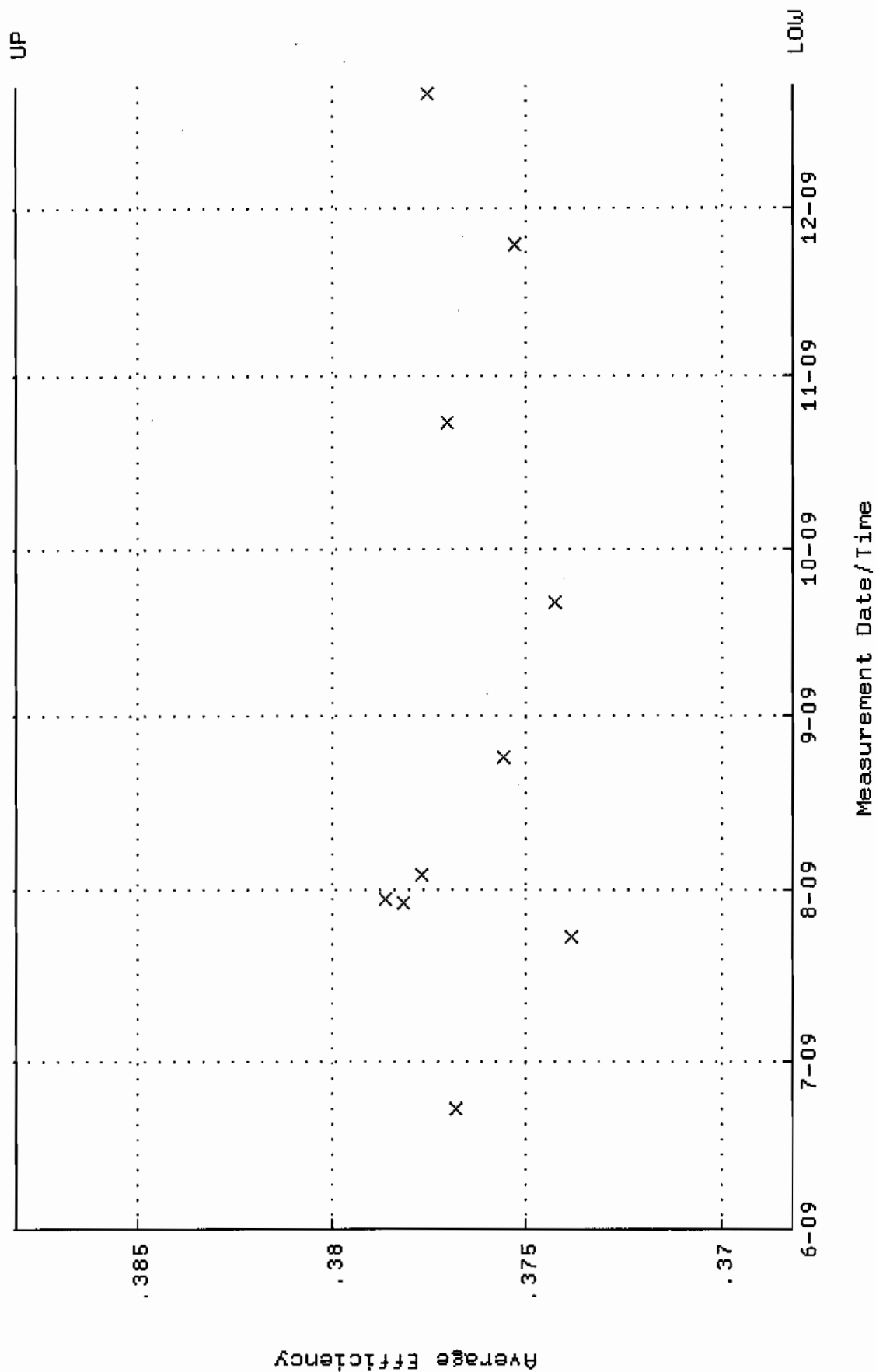
QA filename : DKA100:[ENV_ALPHA.QA.W]W168.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:33 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.8544 through 90.7976



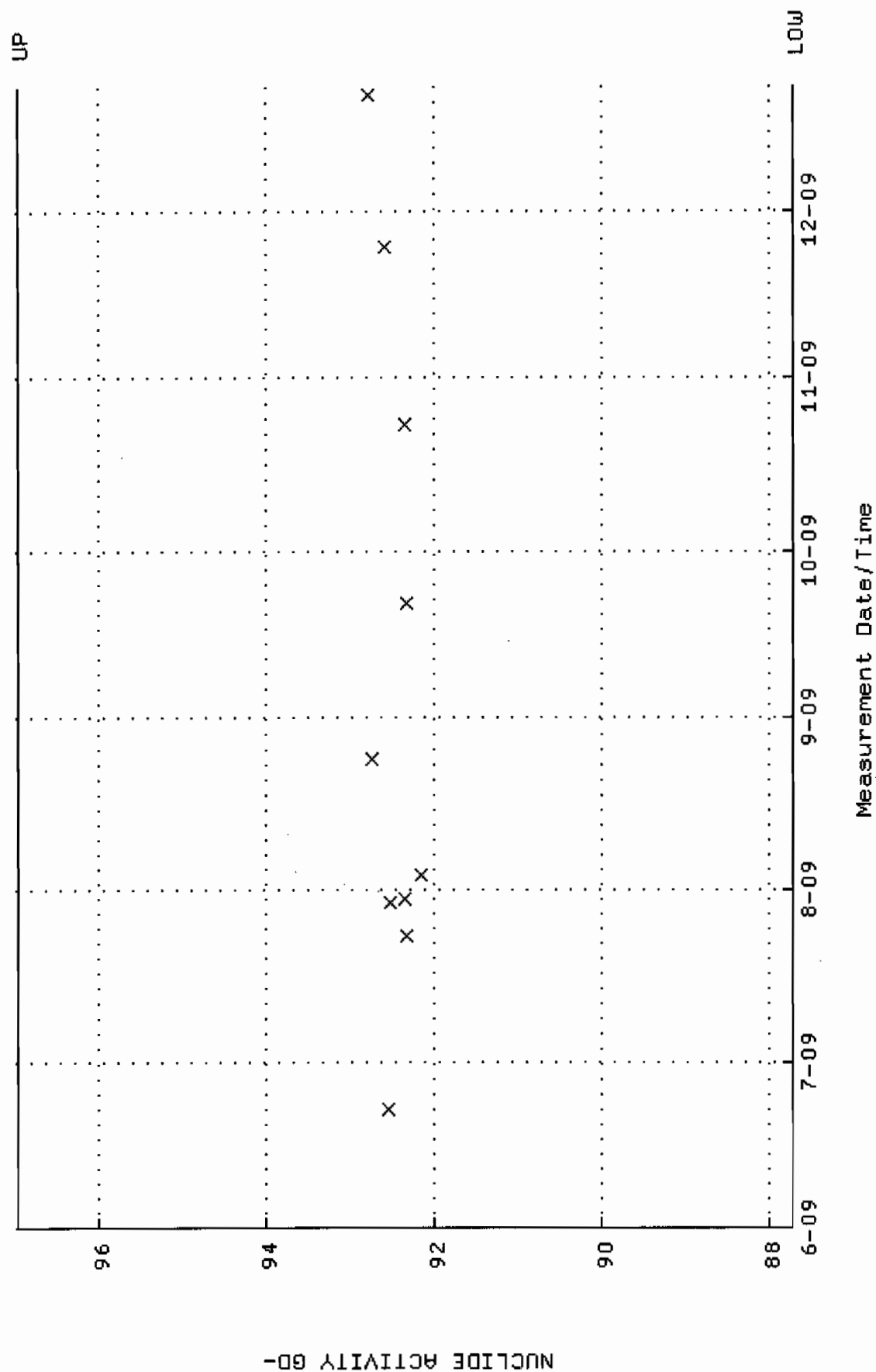
QA filename : DKA100:[ENV_ALPHA.QA.B]B168.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:28 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



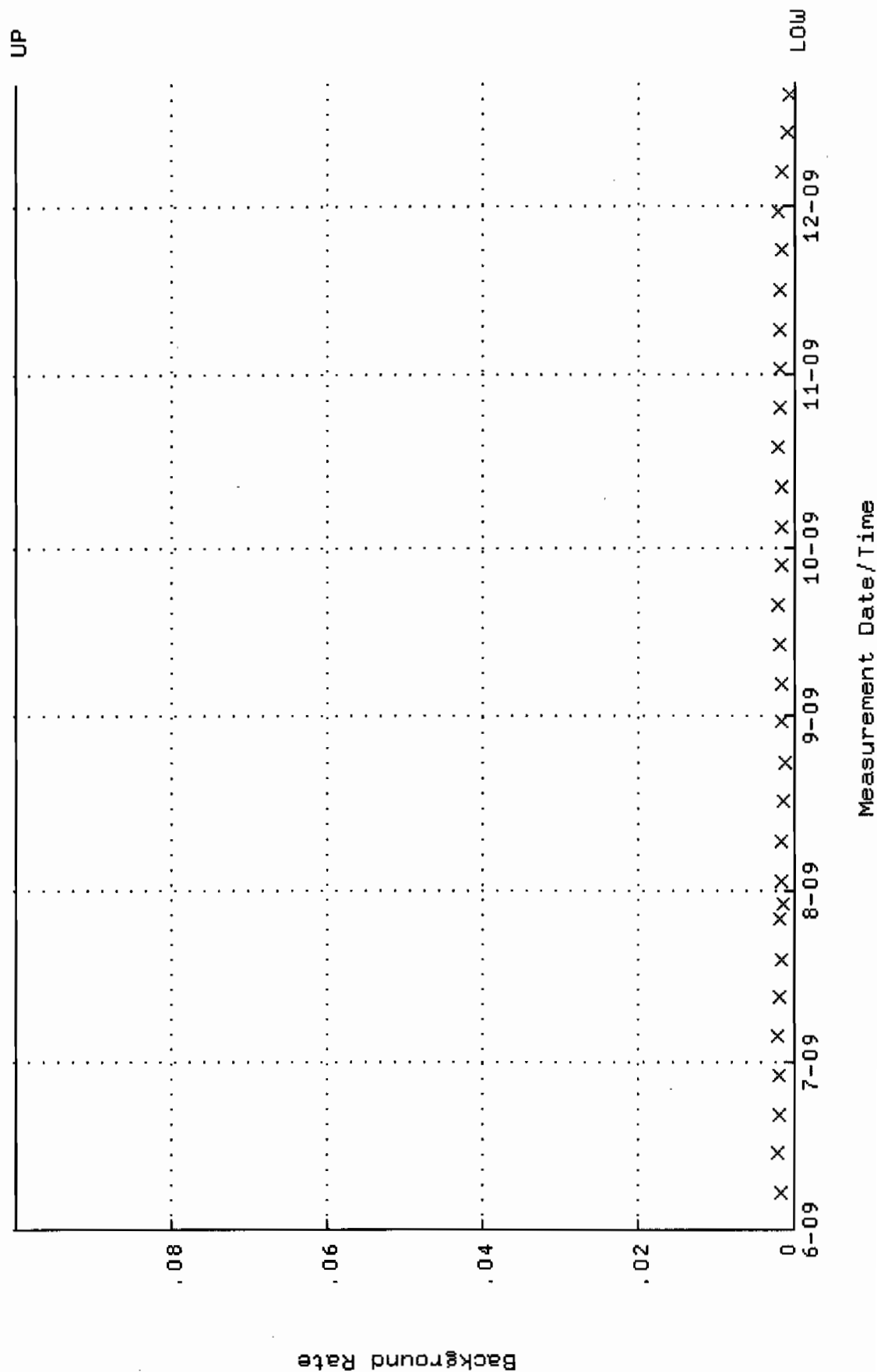
QA filename : DKA100:[ENV_ALPHA.QA.W]W169.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:39 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.368144 through 0.388144



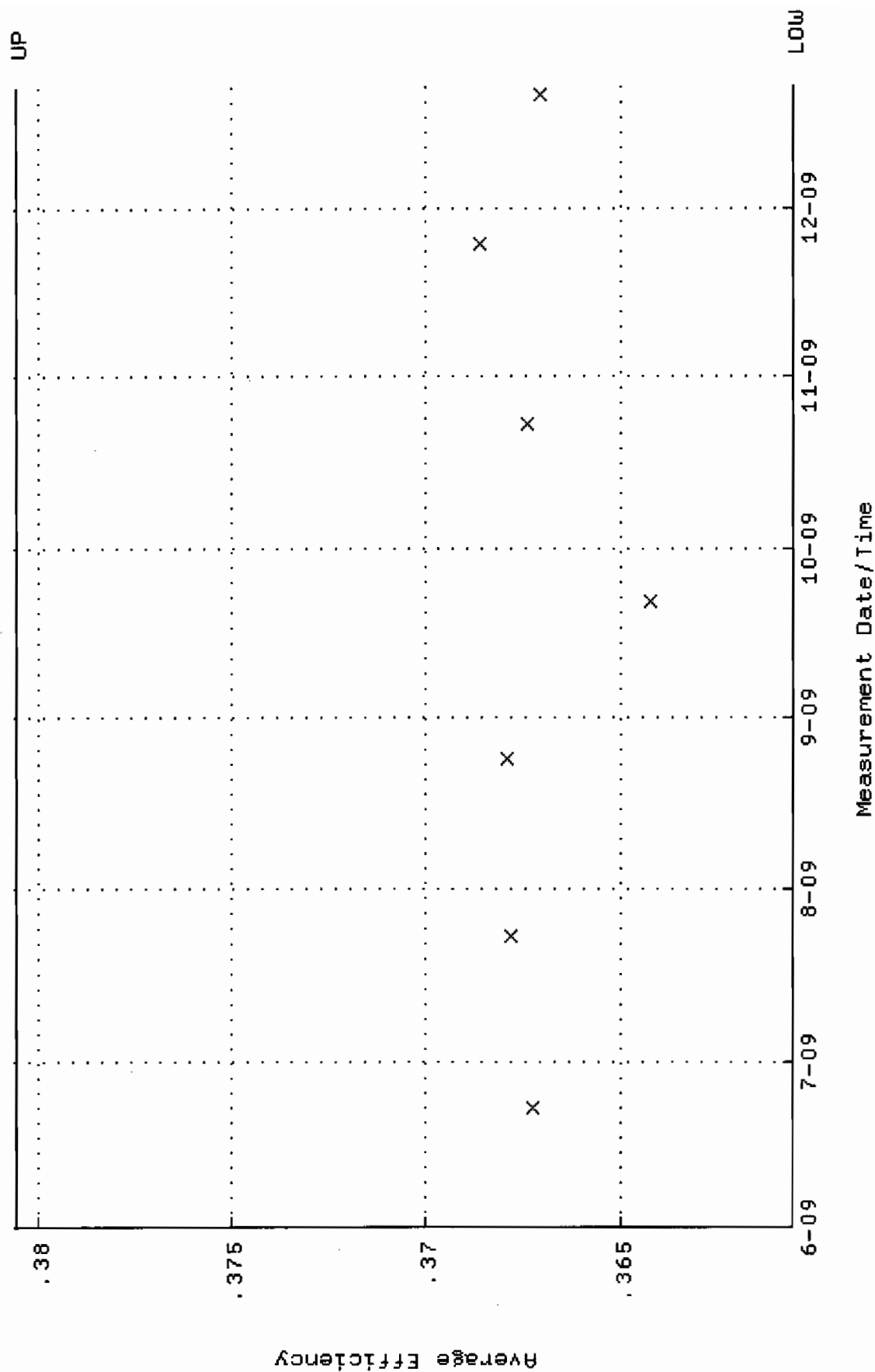
QA filename : DKA100:[ENV_ALPHA.QA.W]W169.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:39 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 87.7141 through 96.9471



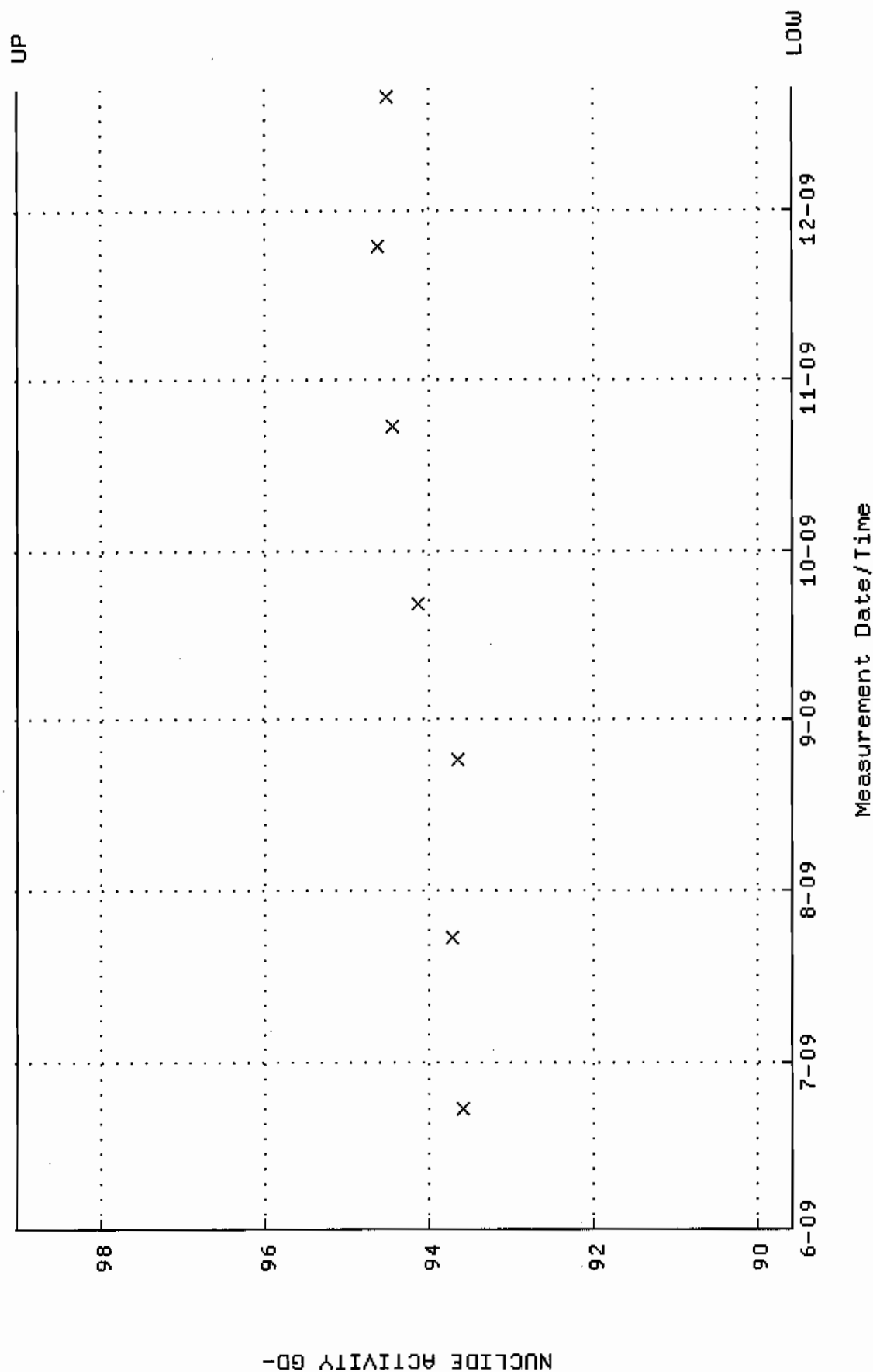
QA filename : DKA100:[ENV_ALPHA.QA.B]B169.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:32 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



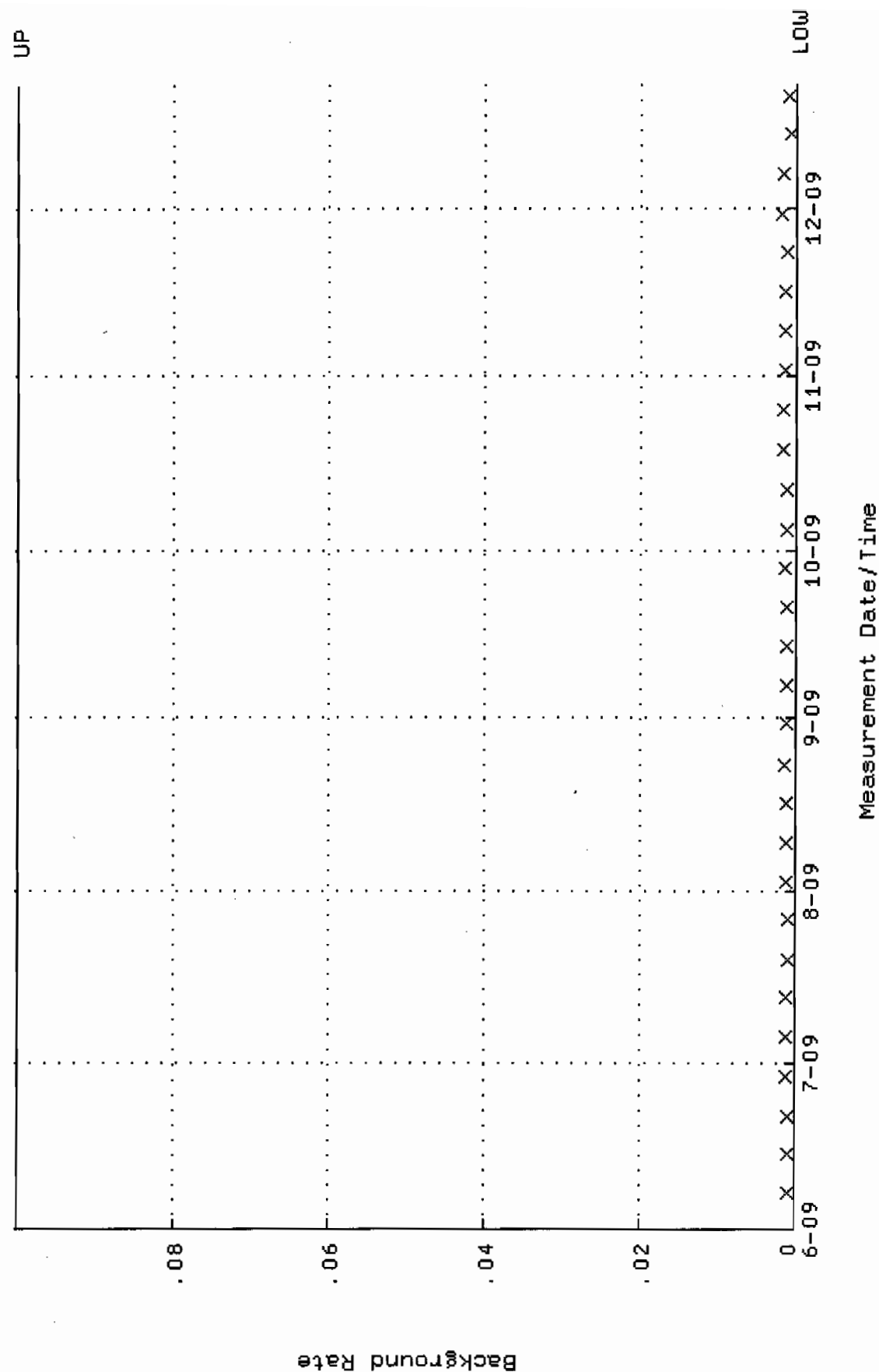
QA filename : DKA100:[ENV_ALPHA.QA.W]W170.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:44 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.360563 through 0.380563



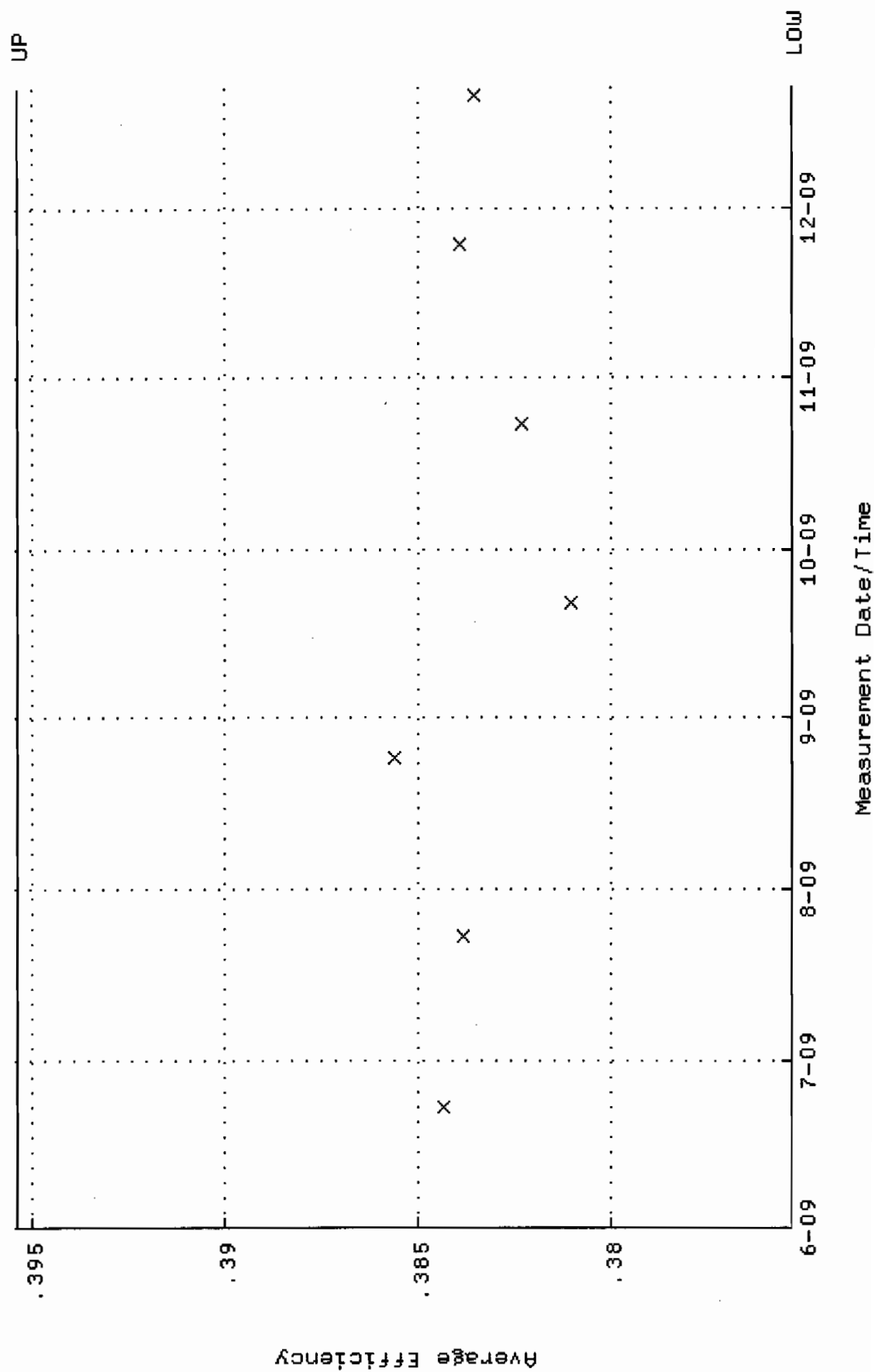
QA filename : DKA100:[ENV-ALPHA.QA.W]W170.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:44 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 89.5841 through 99.0139



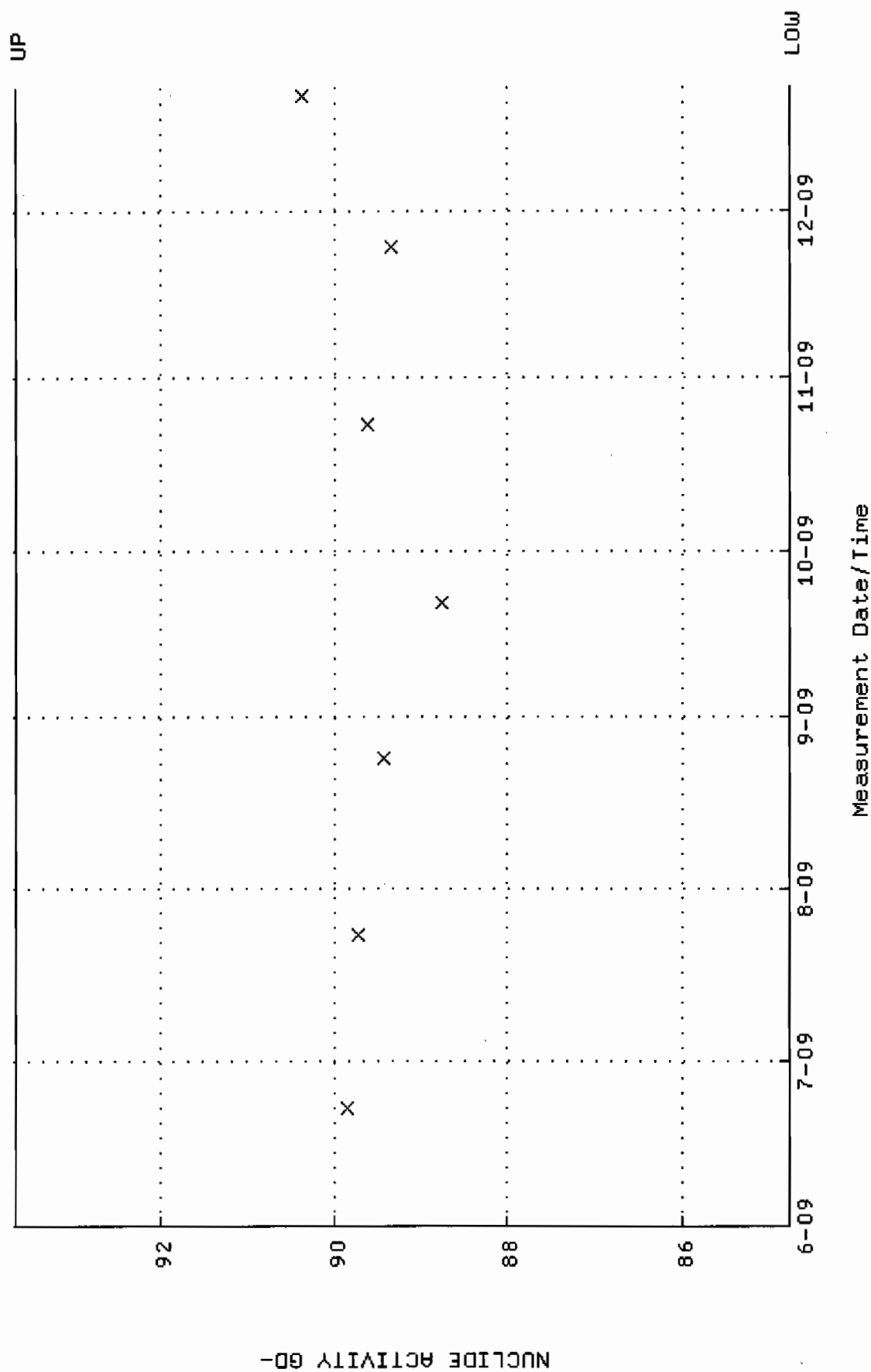
QA filename : DKA100:[ENV_ALPHA.QA.B]B170.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:36 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



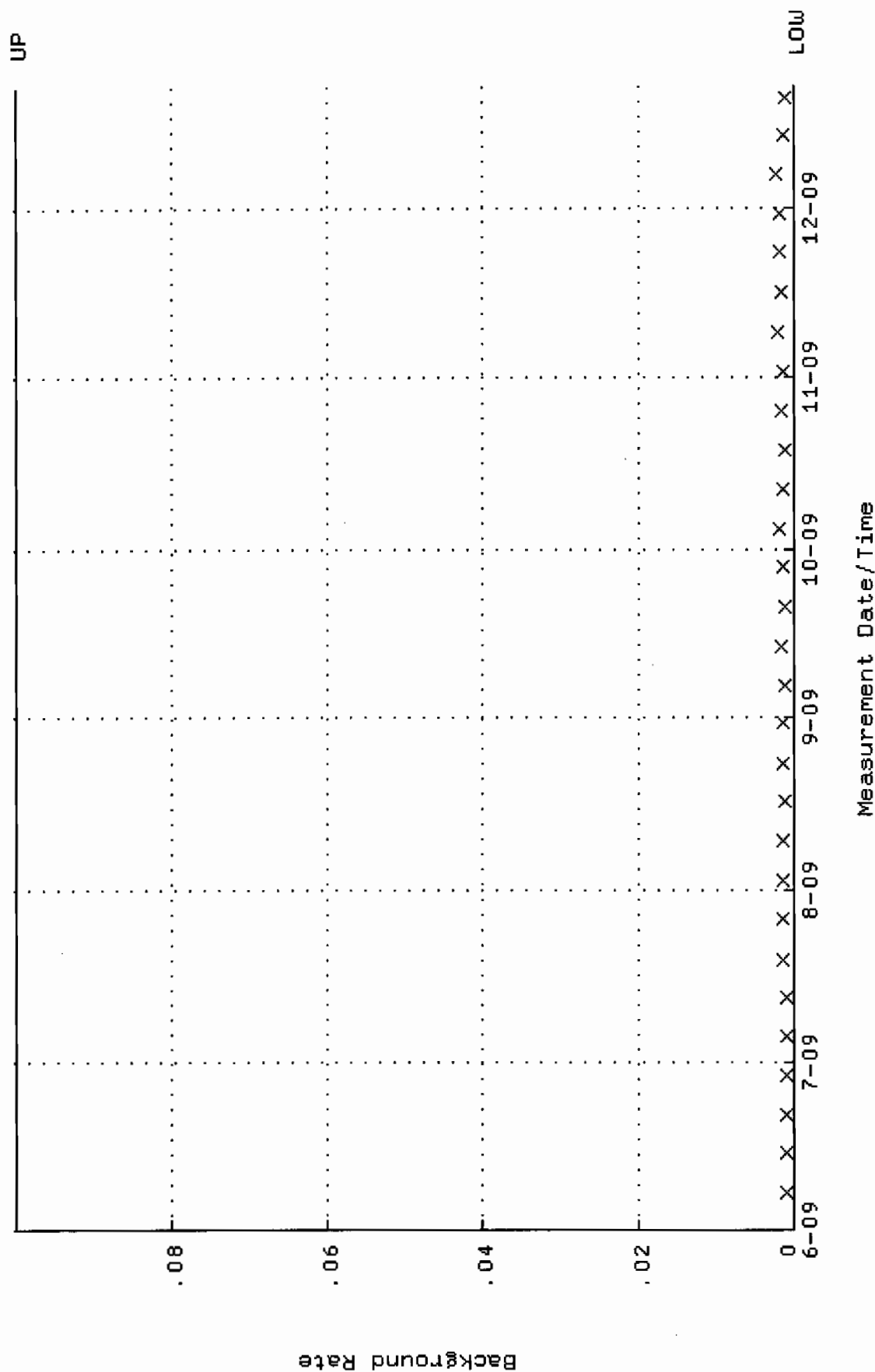
QA filename : DKA100:[ENV_ALPHA.QA.W]W171.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:50 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.375364 through 0.395364



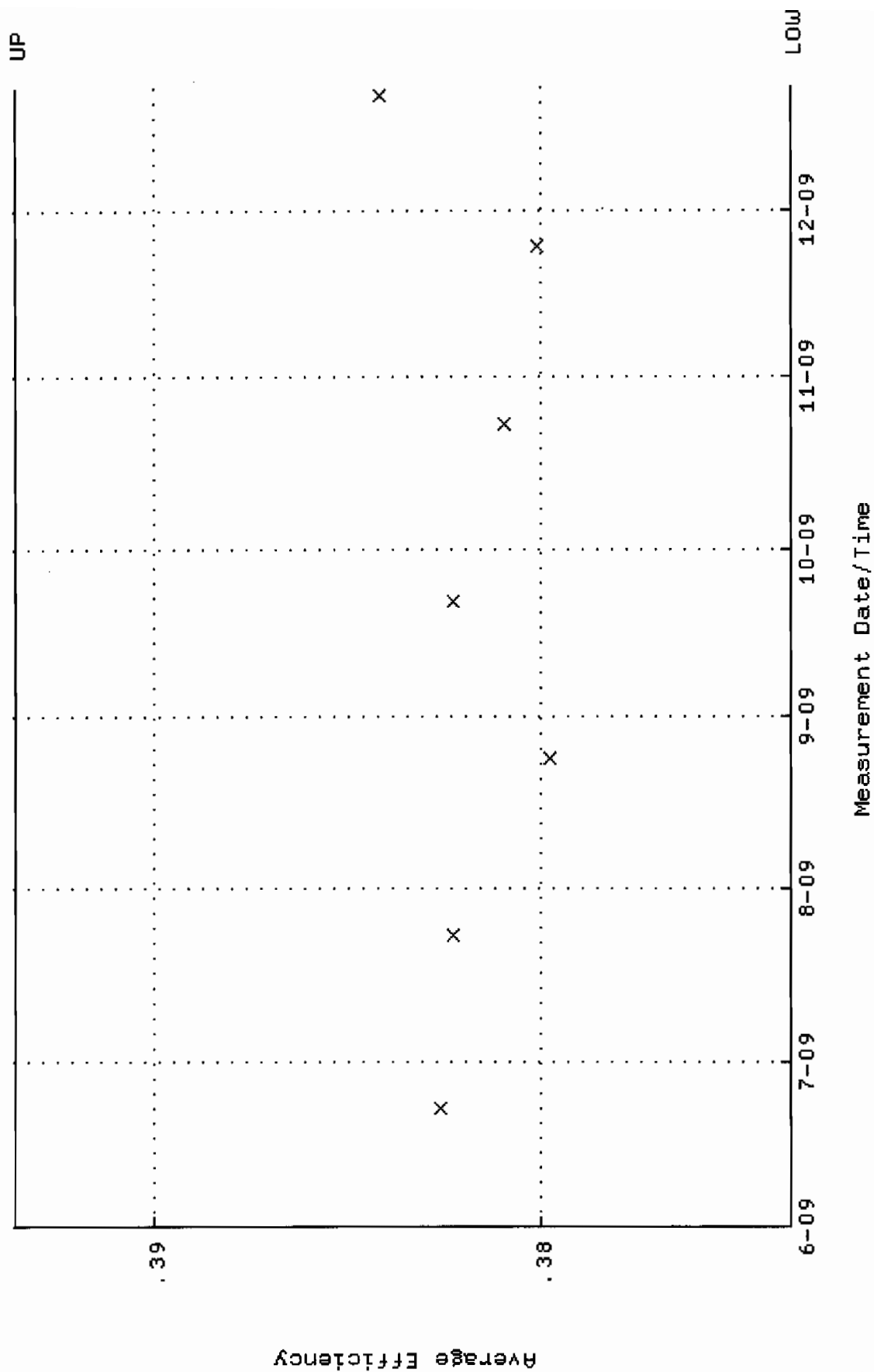
QA filename : DKA100:[ENV_ALPHA.QA.W]W171.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:50 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.7539 through 93.6753



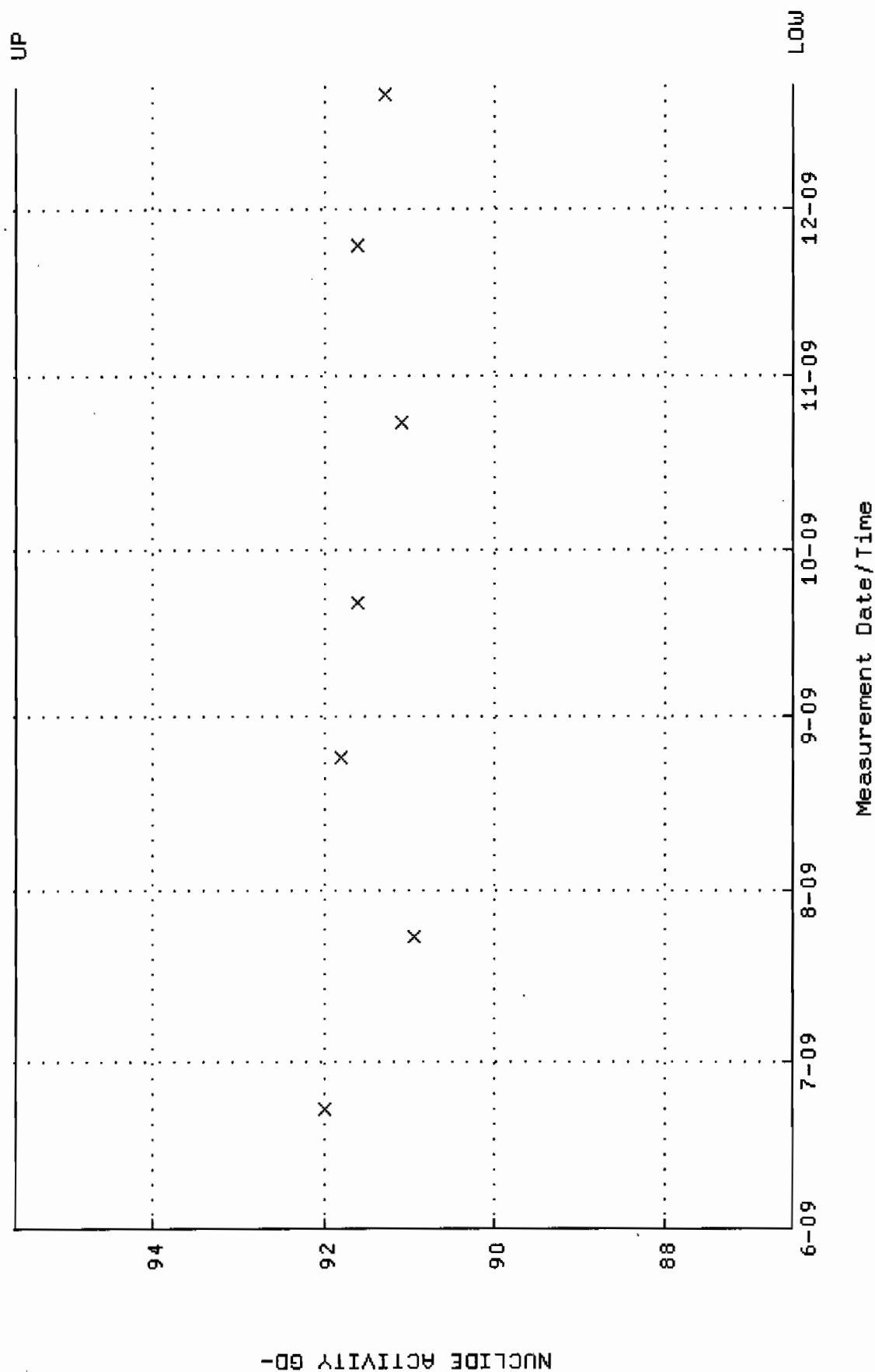
QA filename : DKA100:[ENV_ALPHA.QA.B]B171.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:40 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



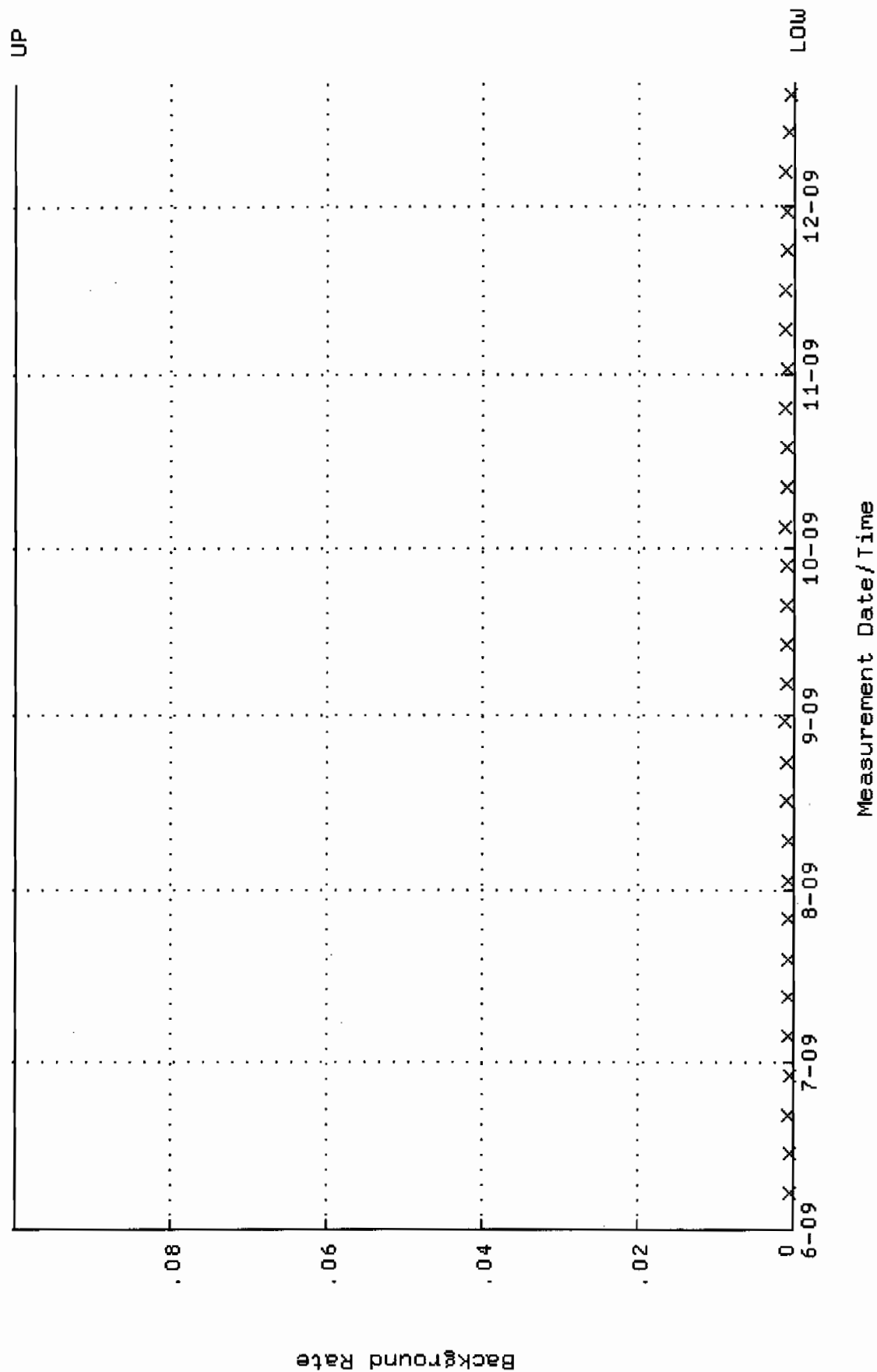
QA filename : DKA100:[ENV_ALPHA.QA.W]w172.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 22-JUN-2009 09:49:55 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.373575 through 0.393575



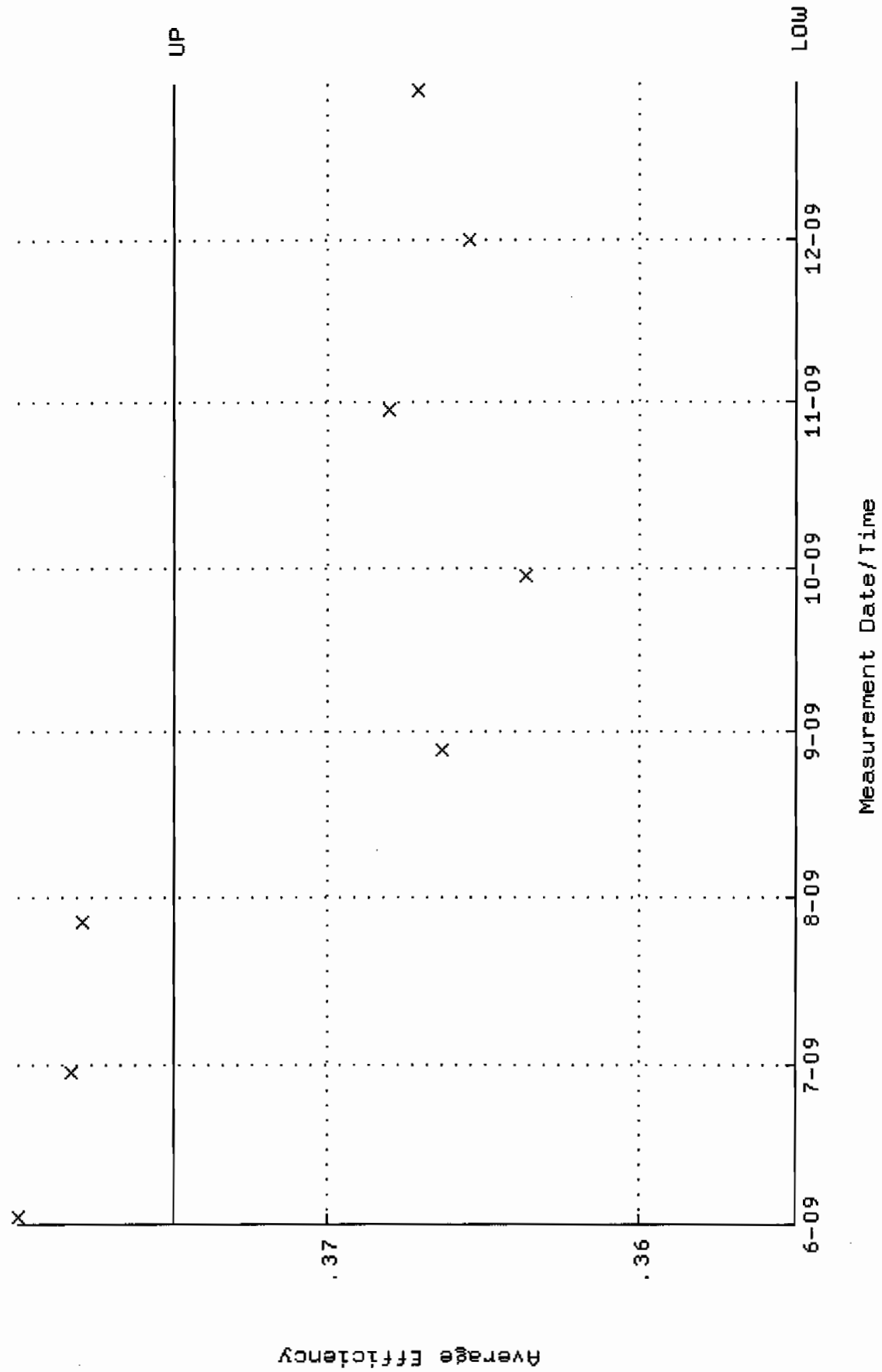
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 22-JUN-2009 09:49:55 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.5089 through 95.6151



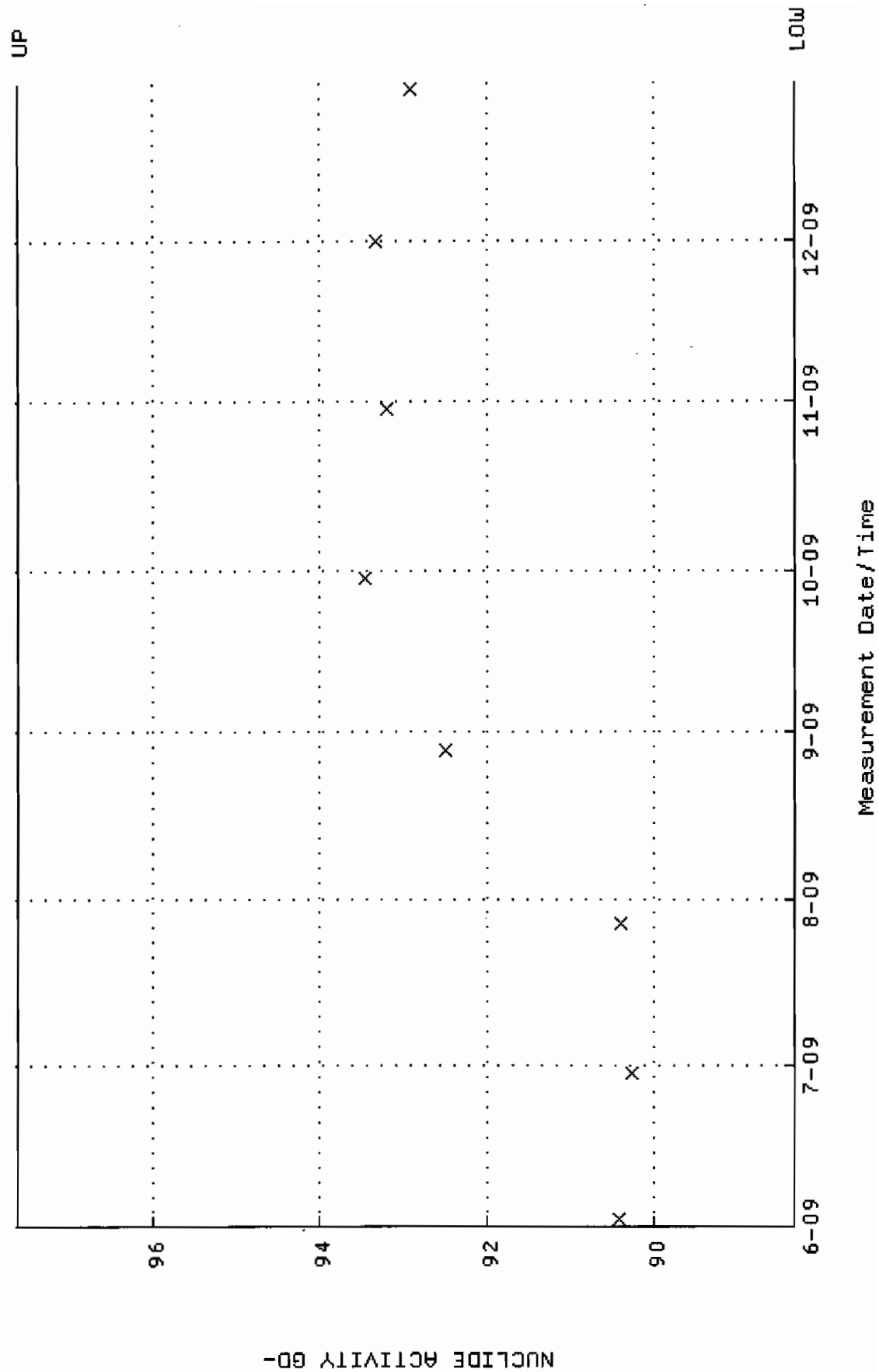
QA filename : DKA100:[ENV_ALPHA.QA.B]B172.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:12:44 through 22-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



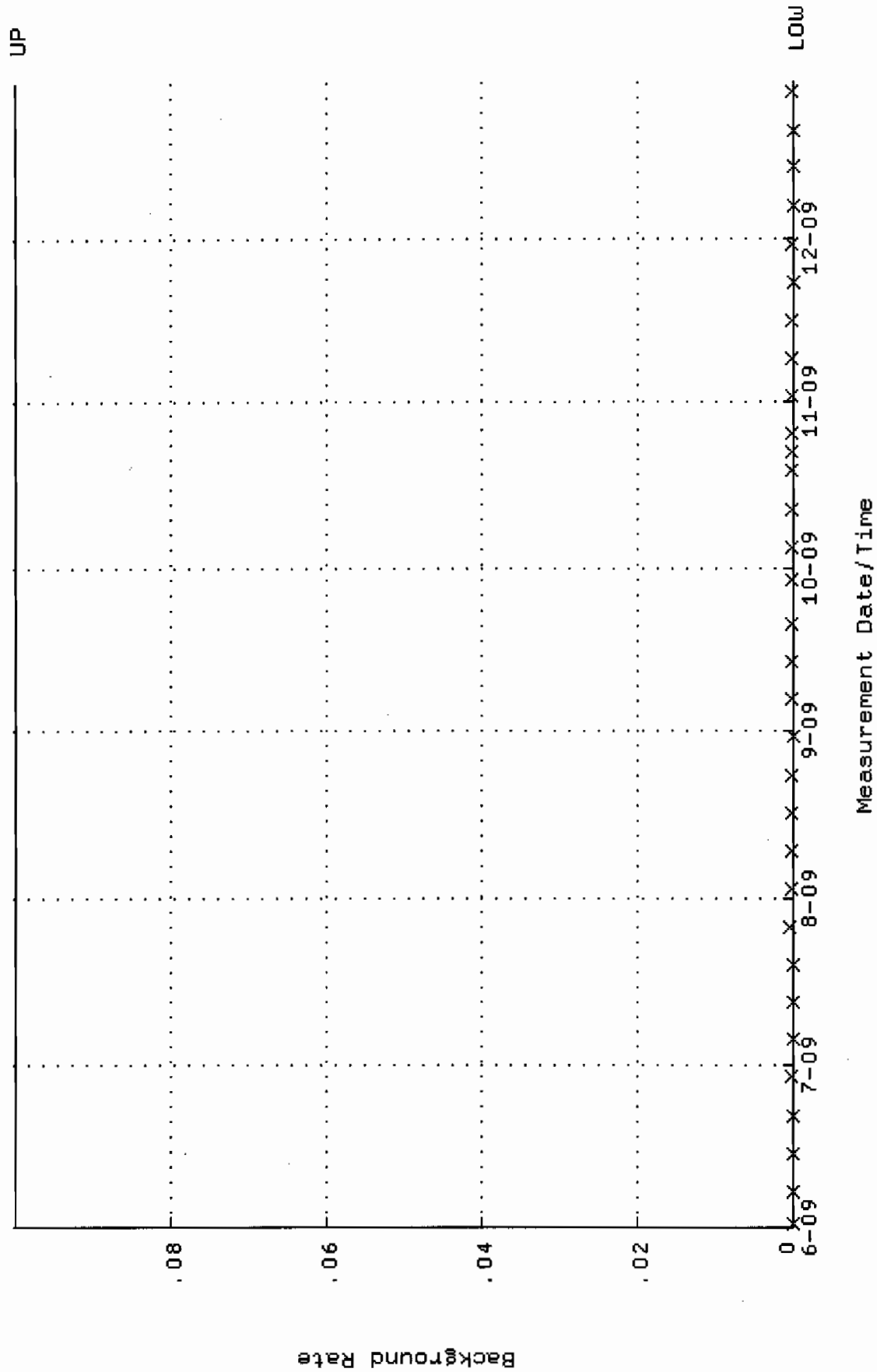
QA filename : DKA100: [ENV_ALPHA.QA.W]W217.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:17:48 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.354934 through 0.374934



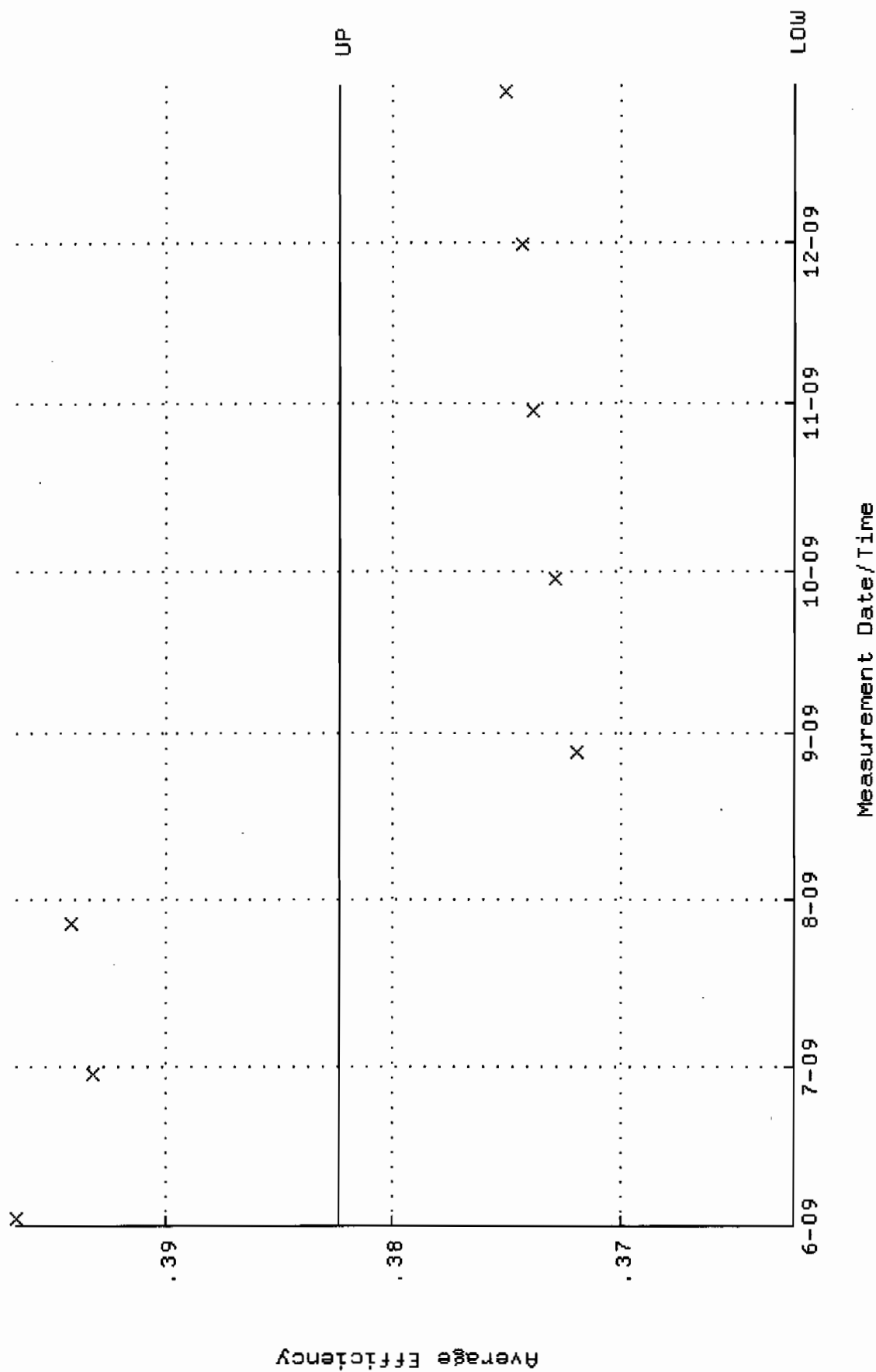
QA filename : DKA100:[ENV_ALPHA.QA.W]w217.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:17:48 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 88.3174 through 97.6140



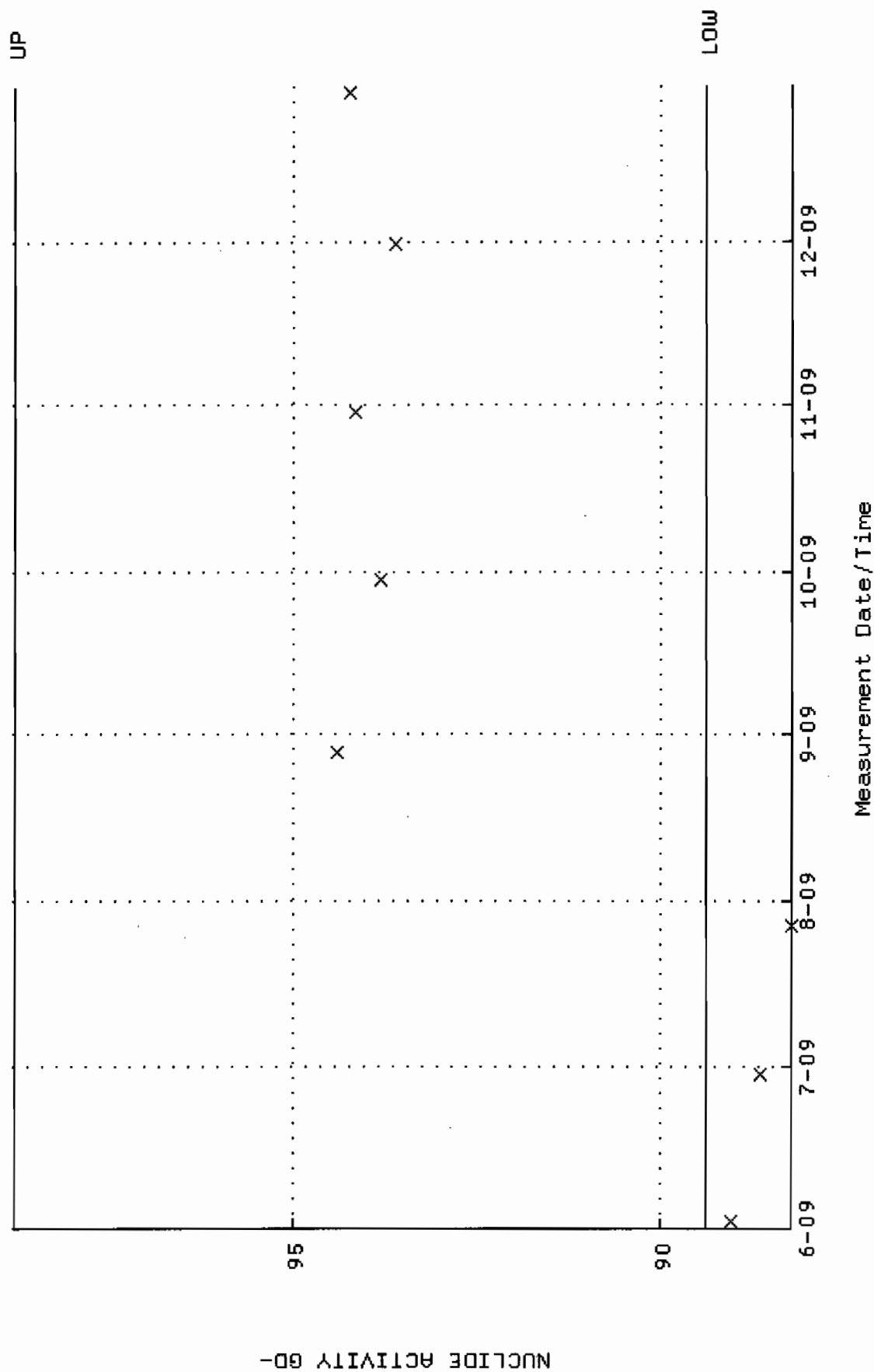
QA filename : DKA100:[ENV_ALPHA.QA.B]B217.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:07 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



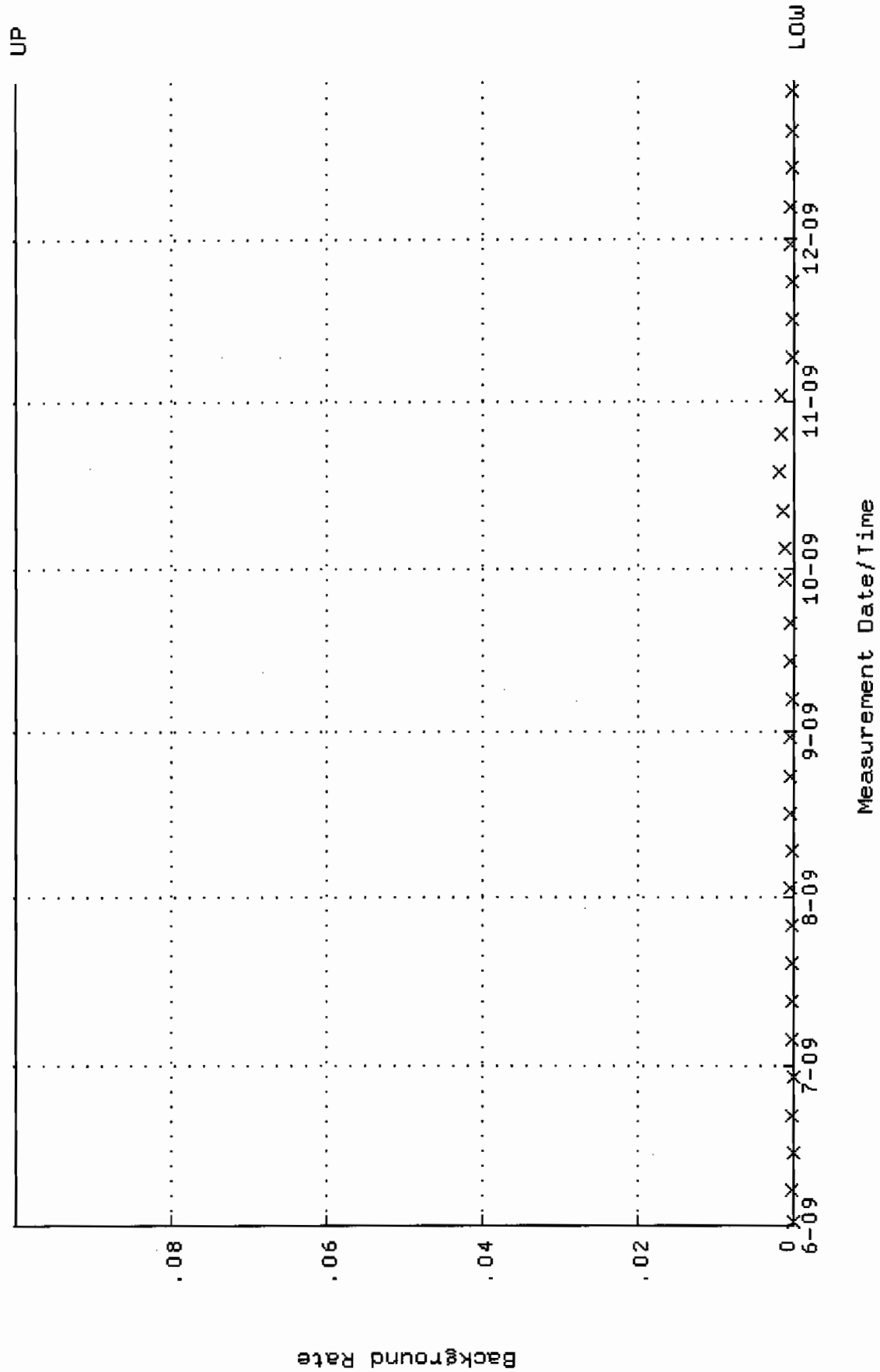
QA filename : DKA100:[ENV_ALPHA.QA.W]W218.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:17:54 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.362380 through 0.382380



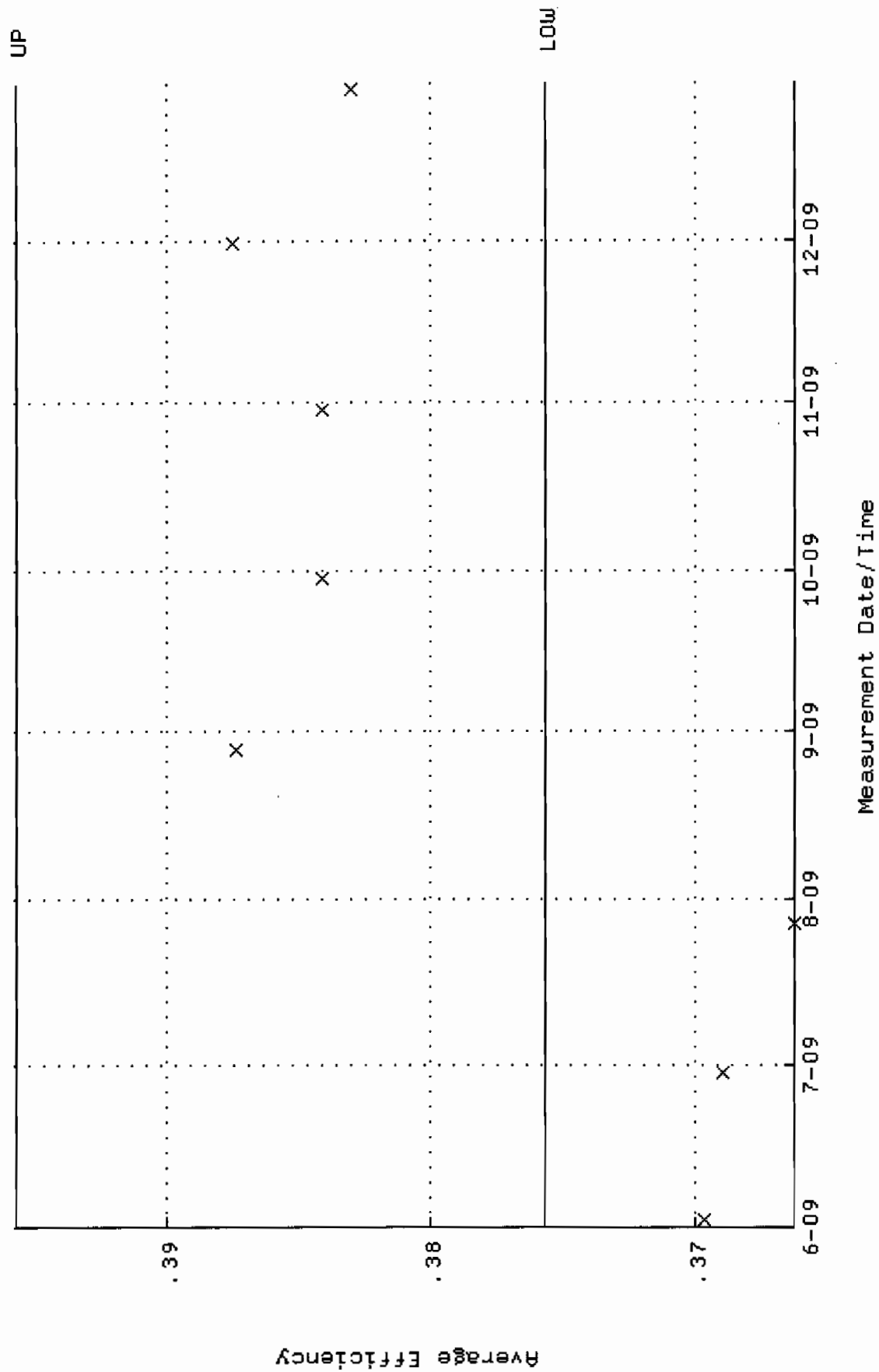
QA filename : DKA100:[ENV_ALPHA.QA.W]W218.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:17:54 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 89.3892 through 98.7986



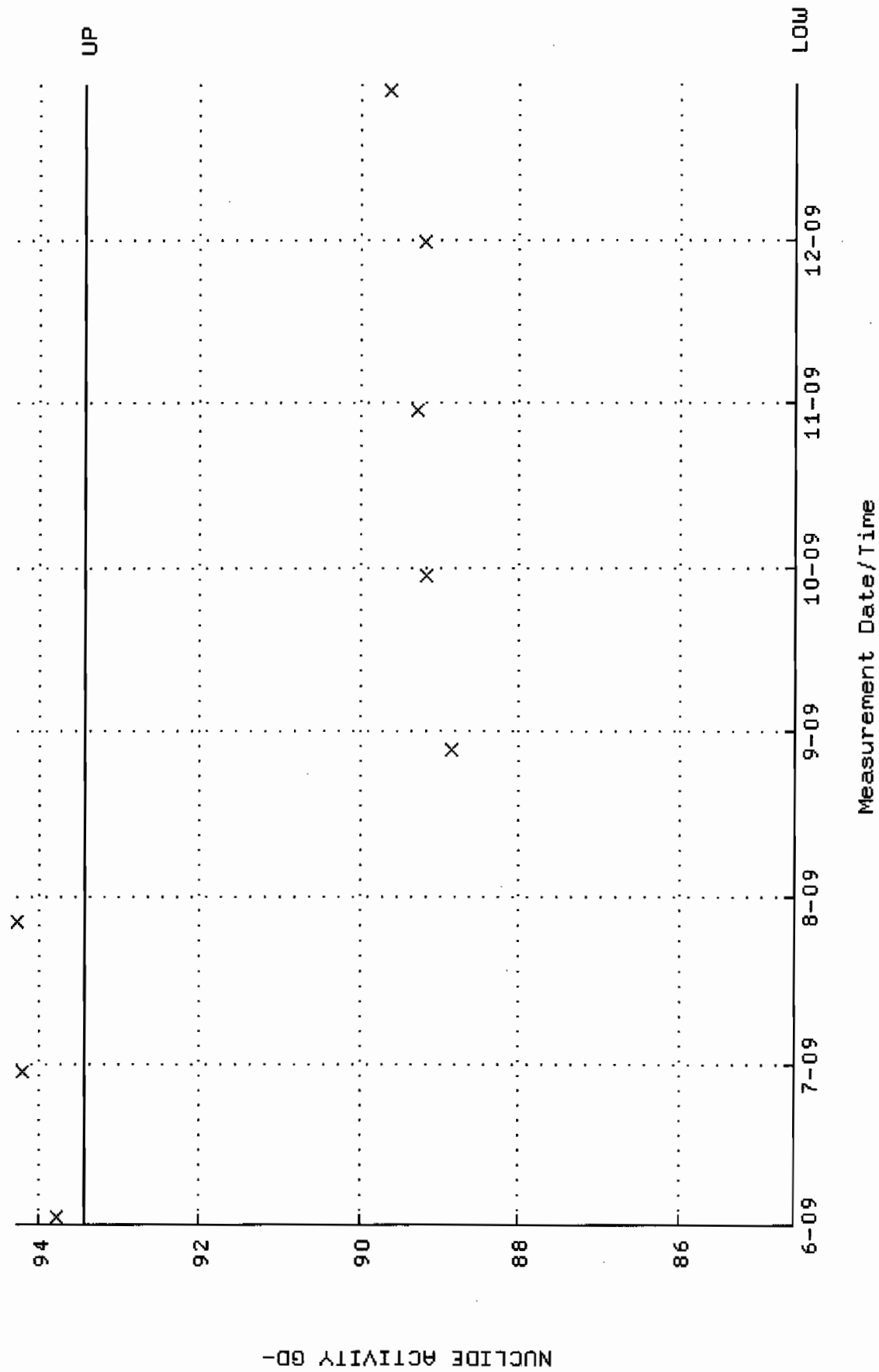
QA filename : DKA100:[ENV_ALPHA.QA.B]B218.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:11 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



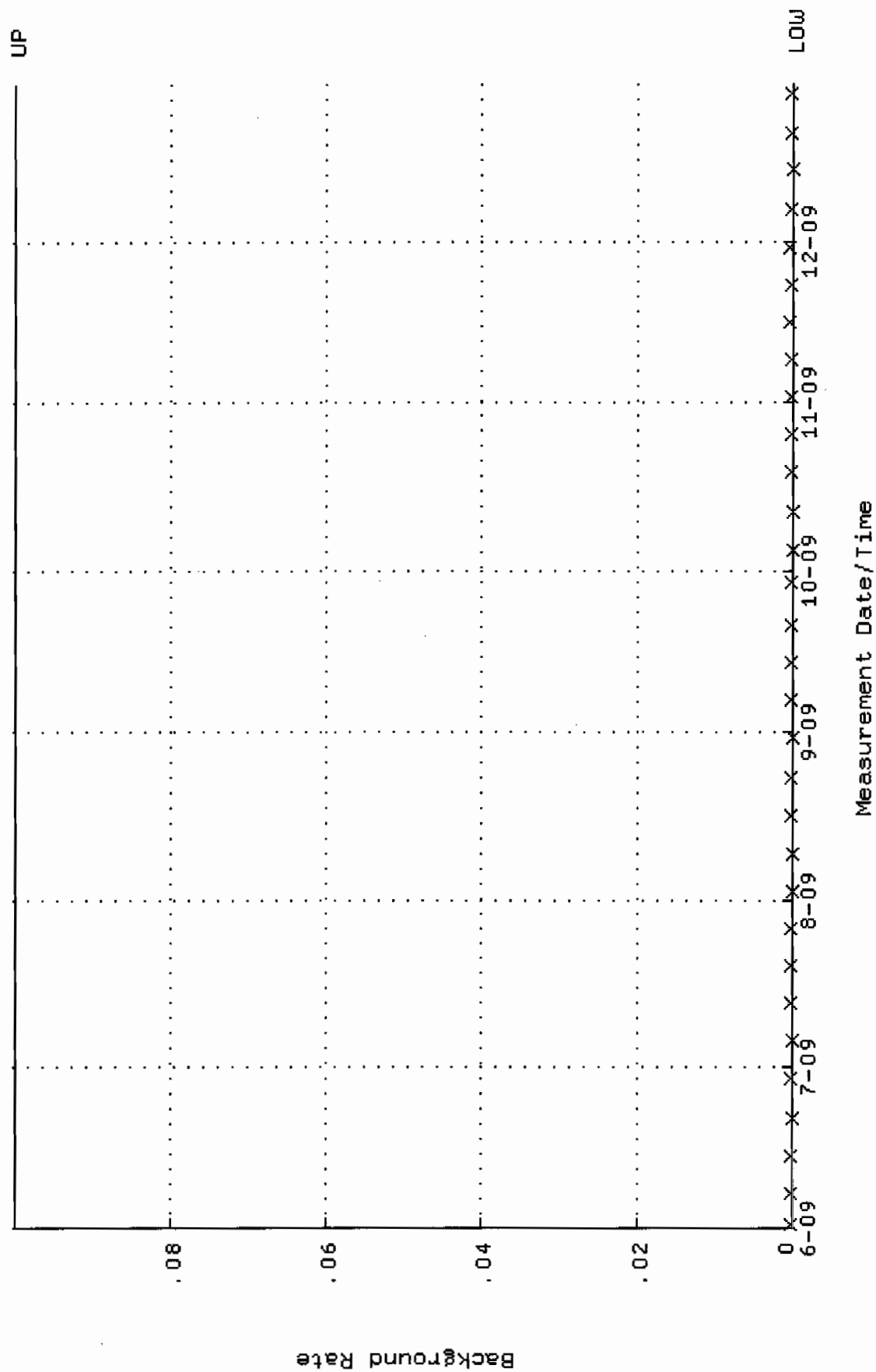
QA filename : DKA100:[ENV_ALPHA.QA.W]W219.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:17:59 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.375667 through 0.395667



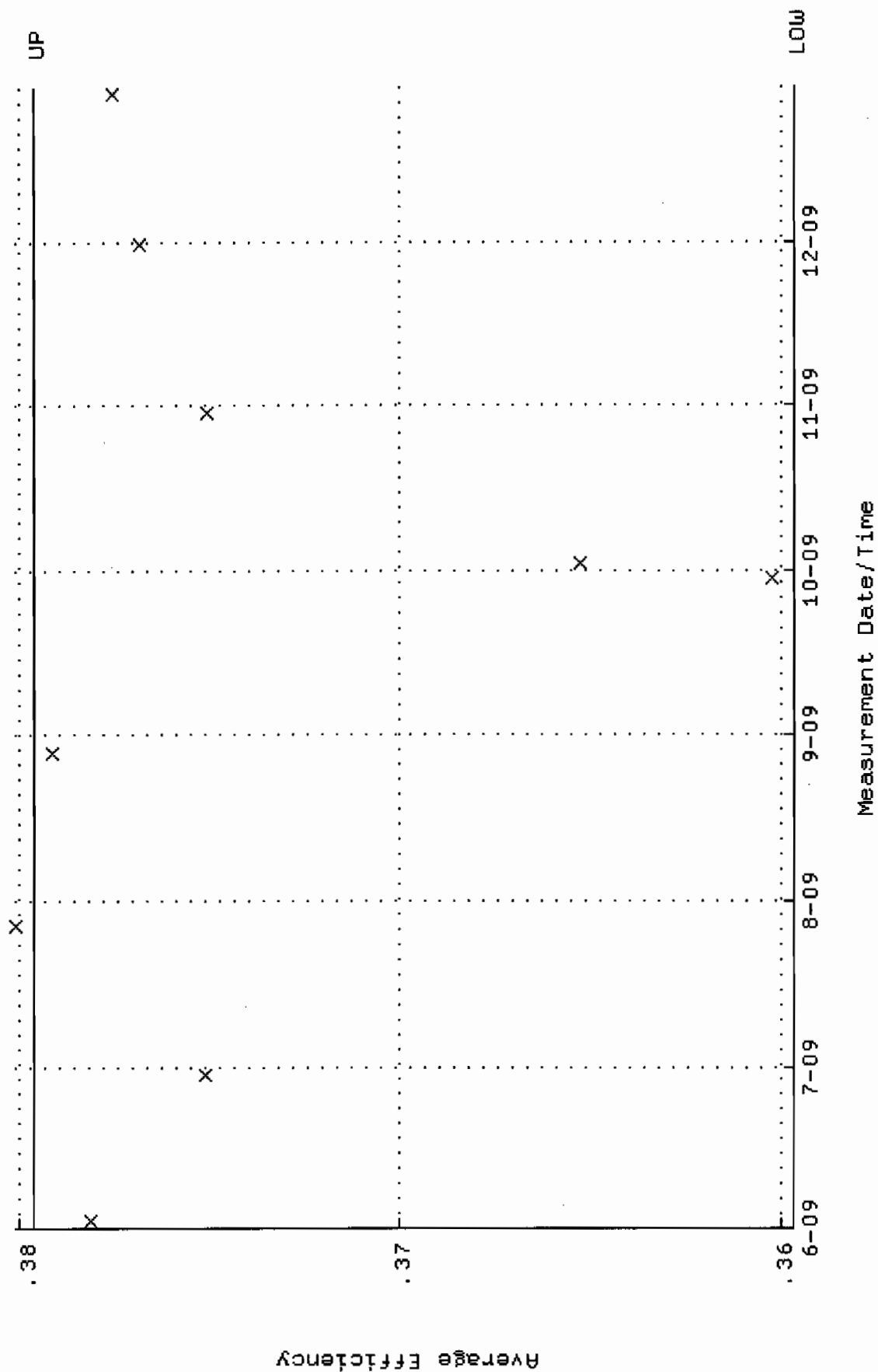
QA filename : DKA100:[ENV_ALPHA.QA.W]W219.QAF;1
 Parameter Name : NLACTVY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:17:59 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.5518 through 93.4520



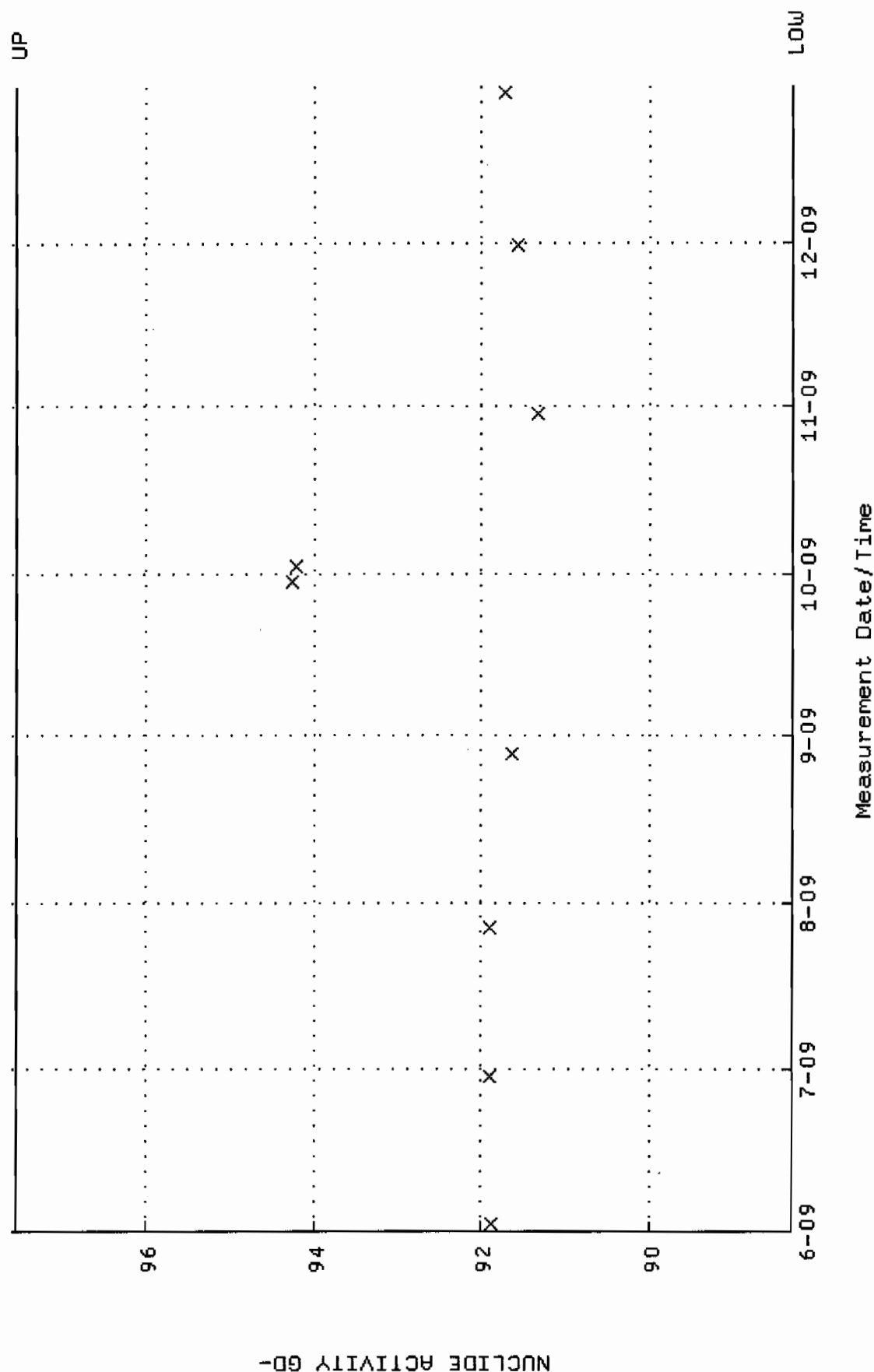
QA filename : DKA100:[ENV_ALPHA.QA.B]B219.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:16 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



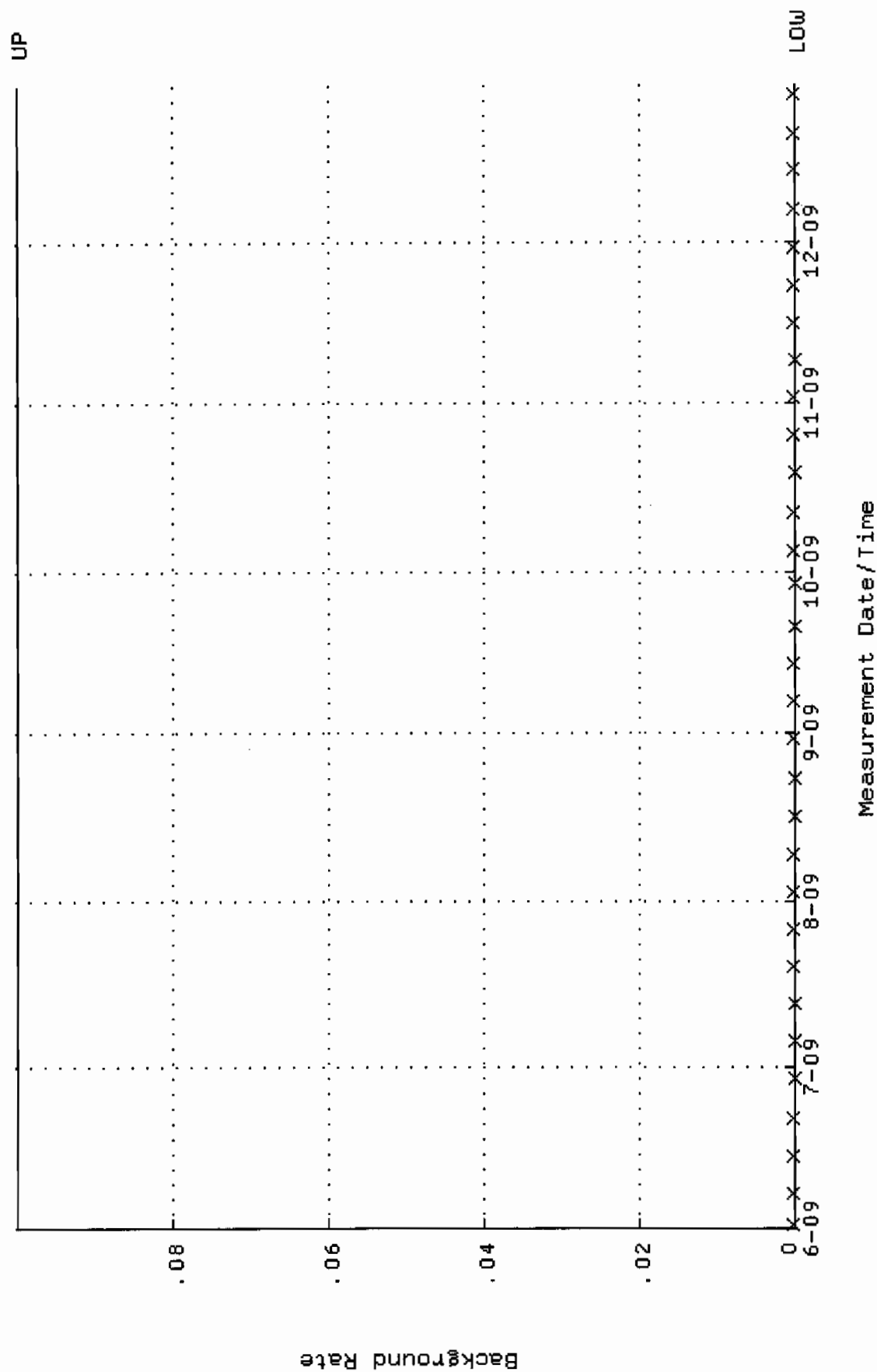
QA filename : DKA100:[ENV_ALPHA.QA.W]W220.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:04 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.359644 through 0.379644



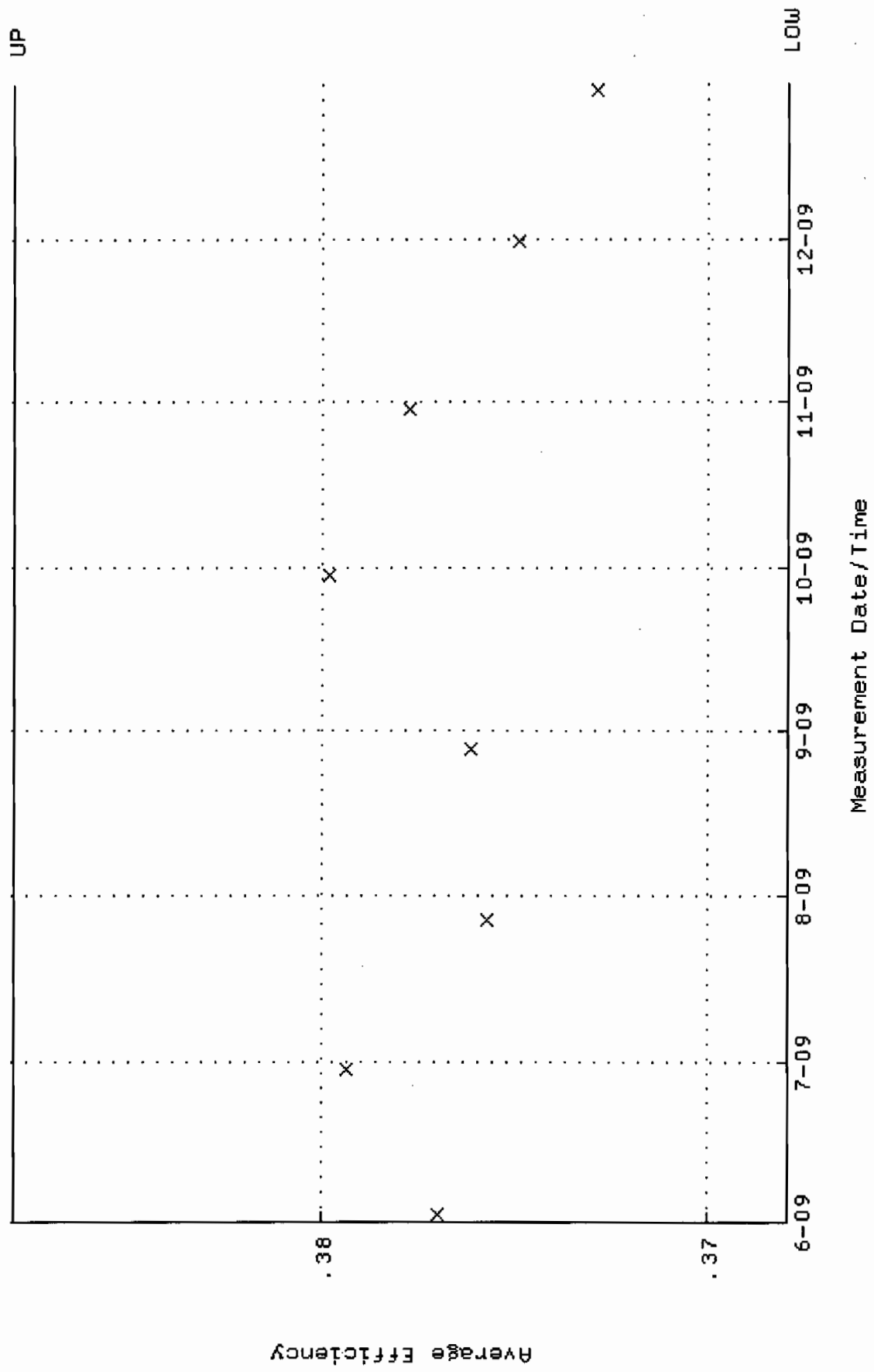
QA filename : DKA100:[ENV_ALPHA.QA.W]W220.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:04 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 88.2863 through 97.5795



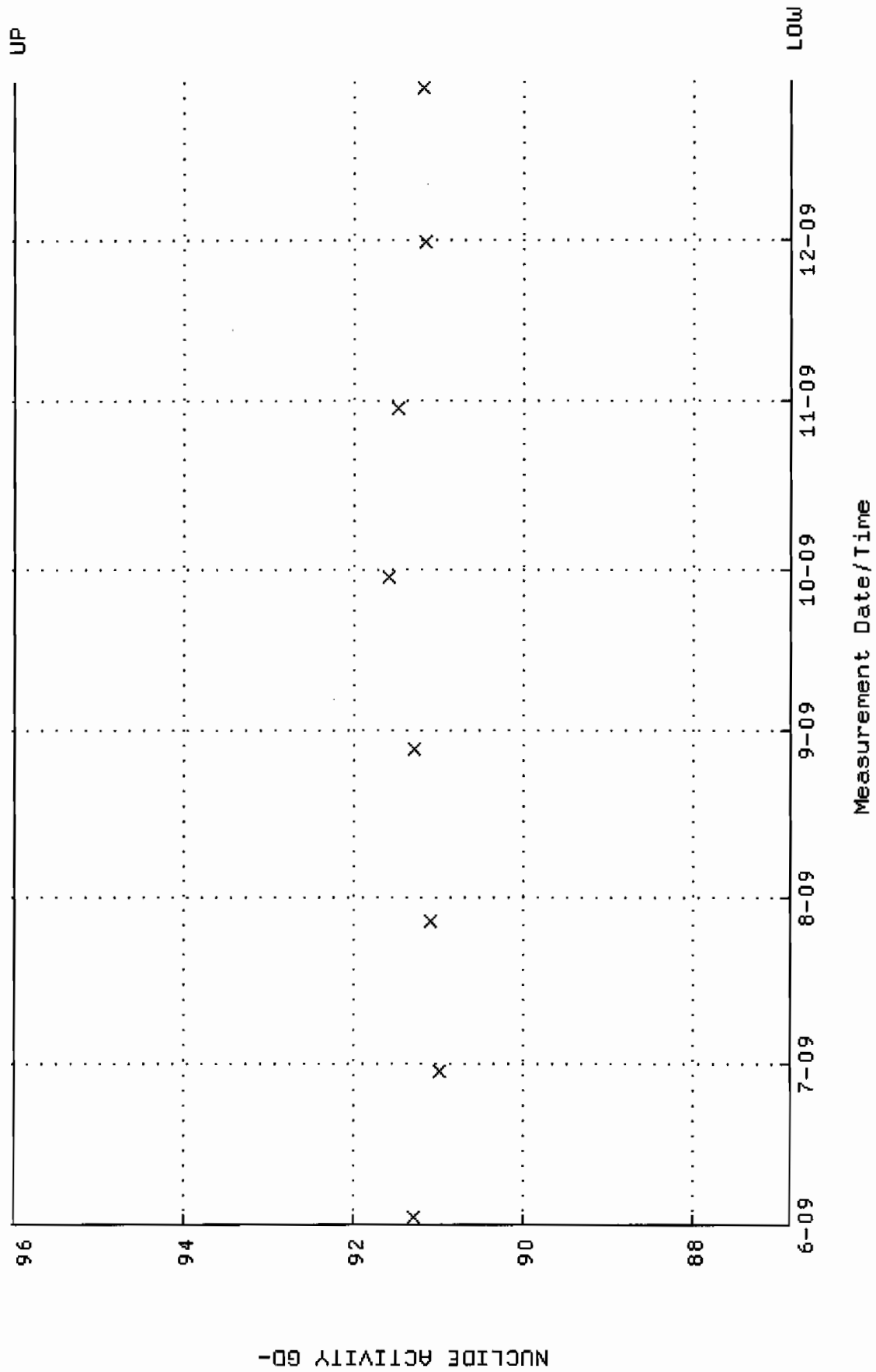
QA filename : DKA100:[ENV_ALPHA.QA.B]B220.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:21 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



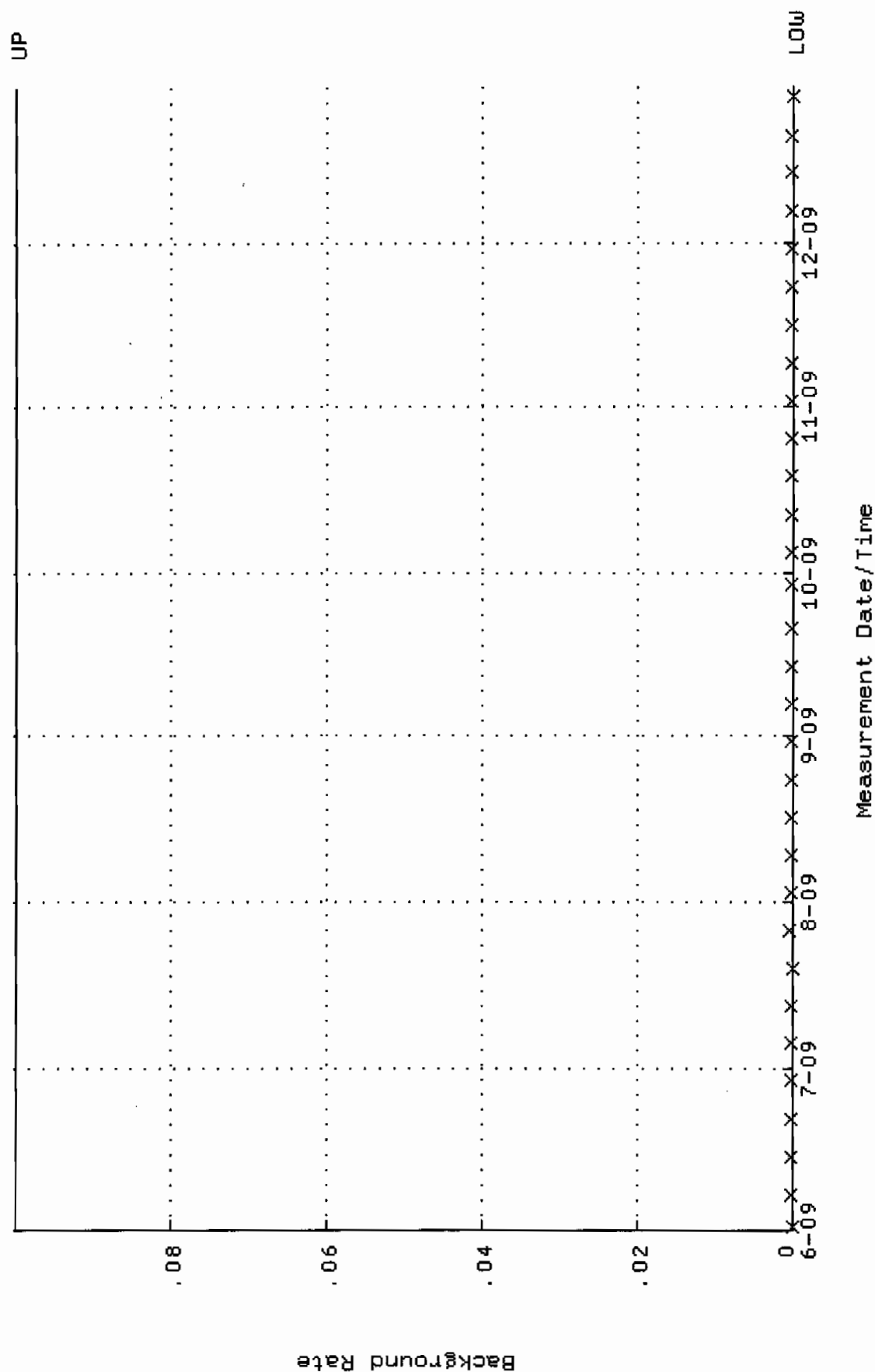
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:10 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.367948 through 0.387948



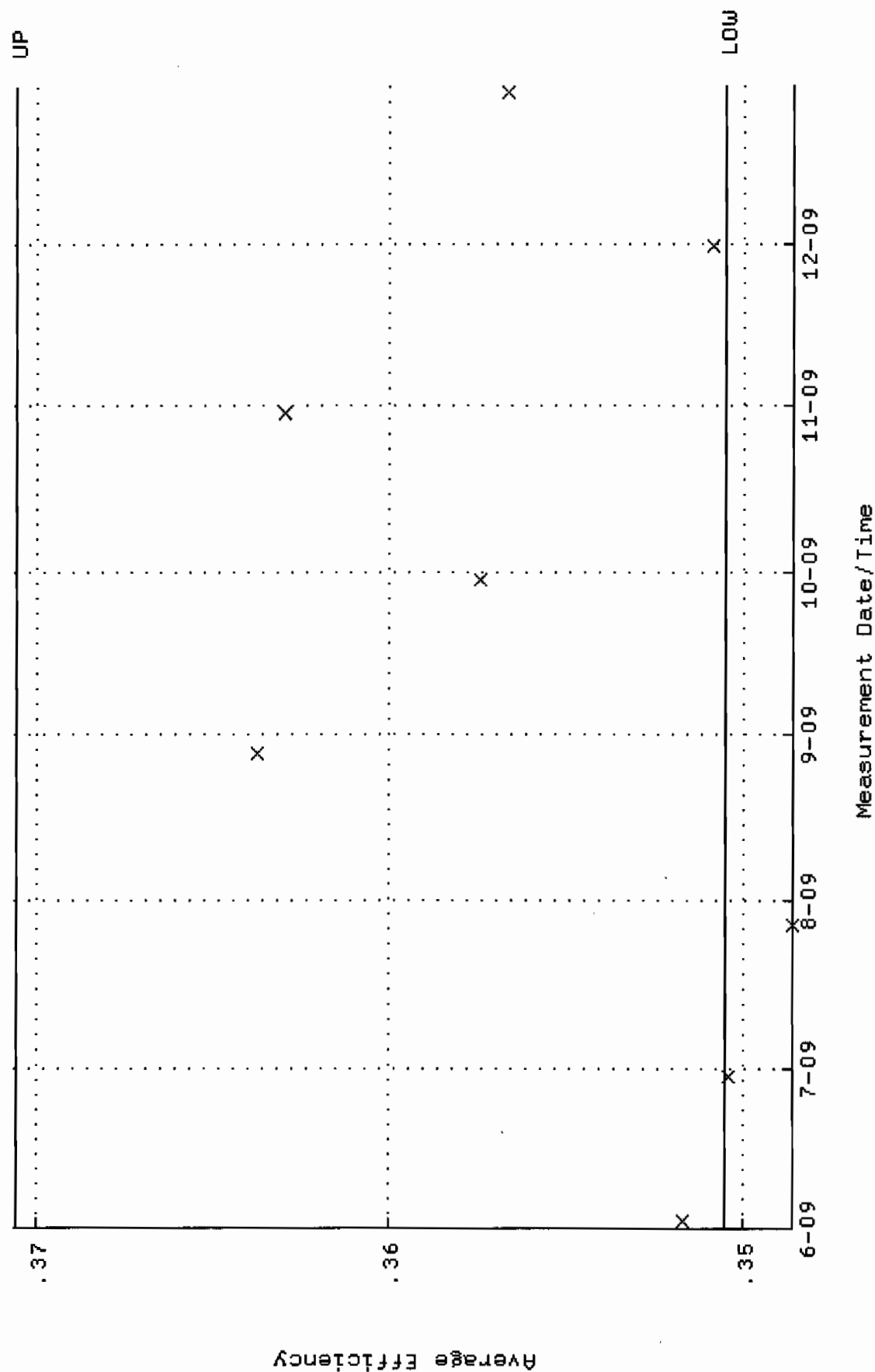
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:10 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.8591 through 96.0021



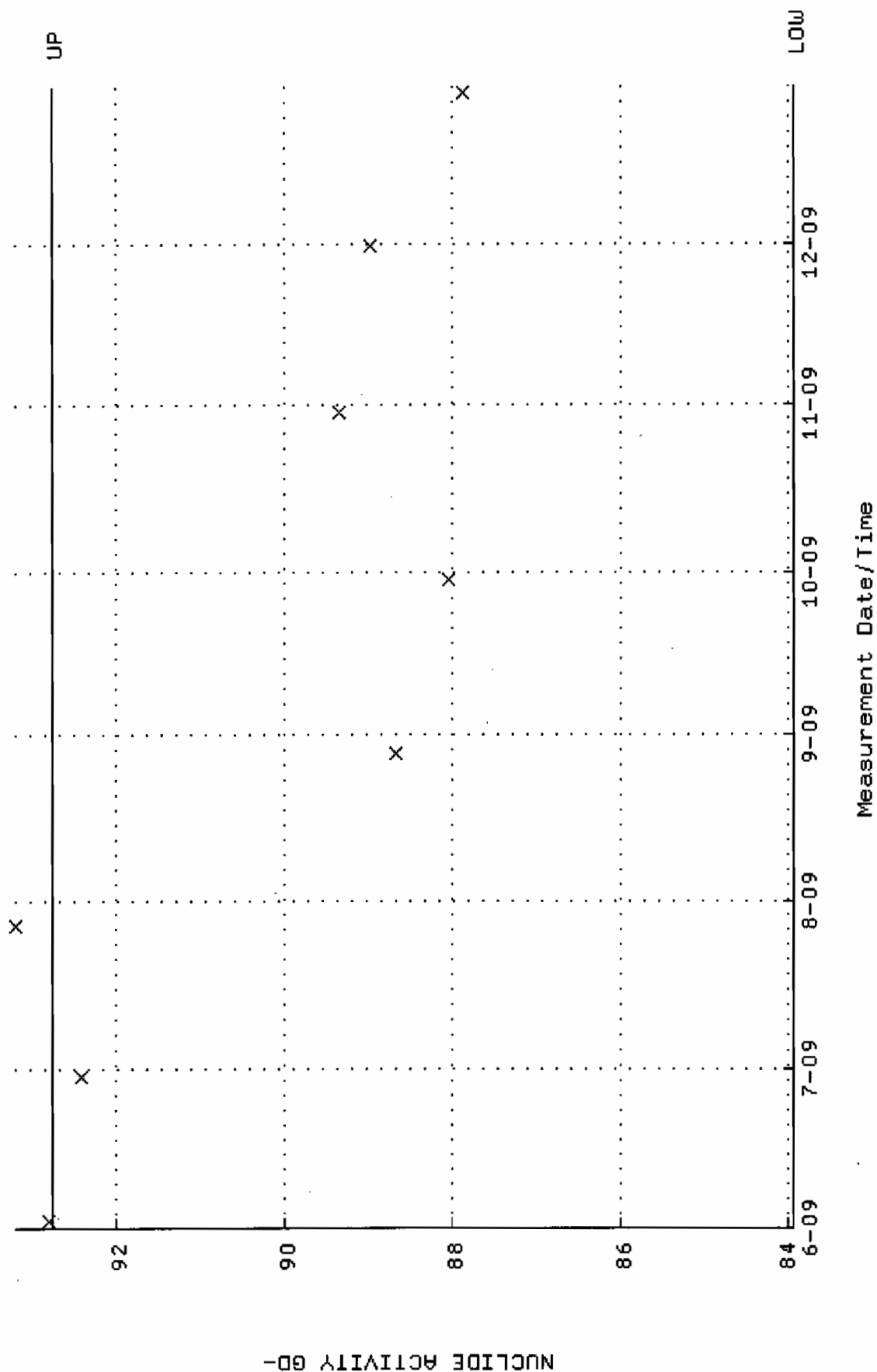
QA filename : DKA100:[ENV_ALPHA.QA.B]B221.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:25 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



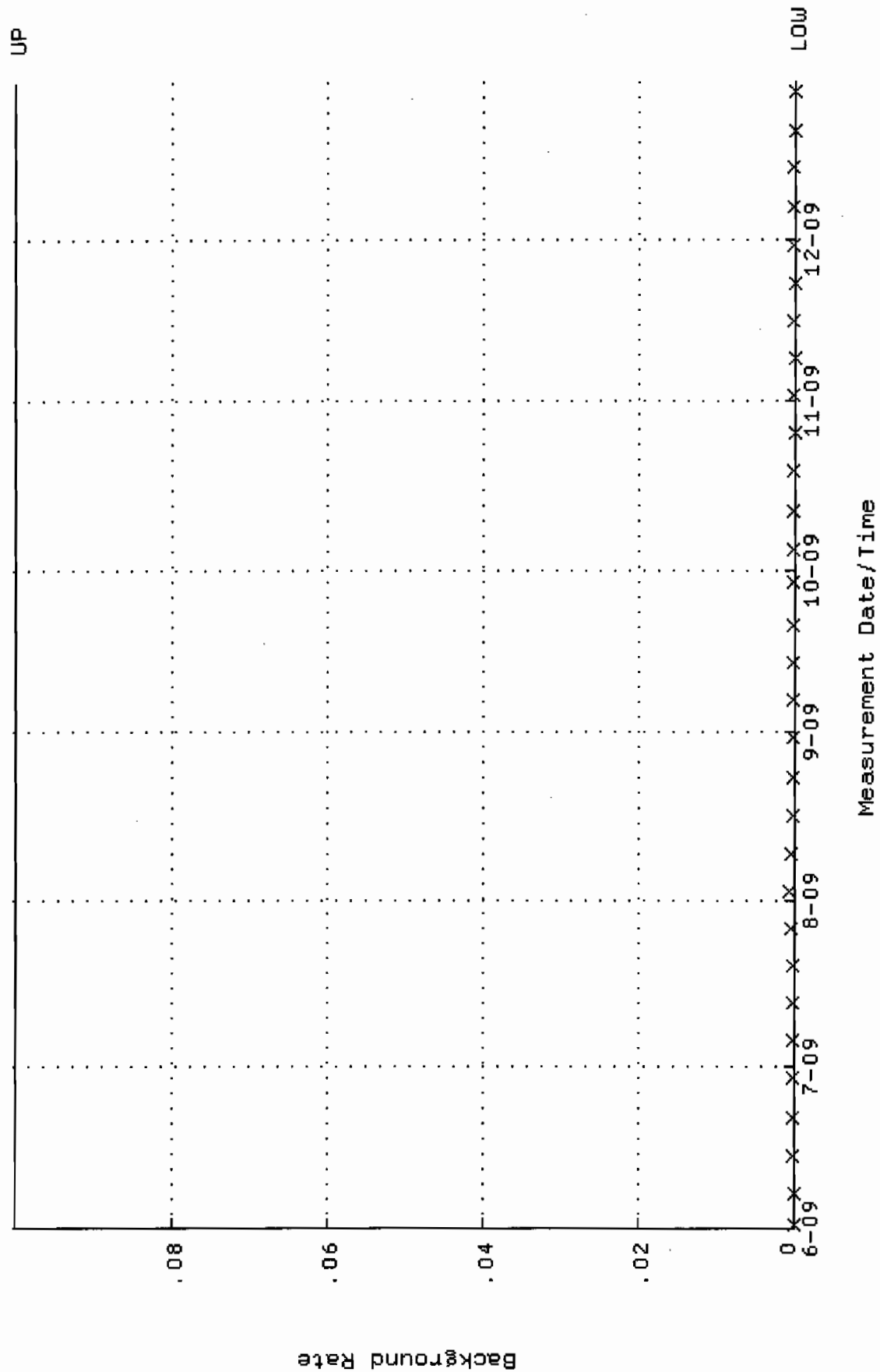
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:15 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.350566 through 0.370566



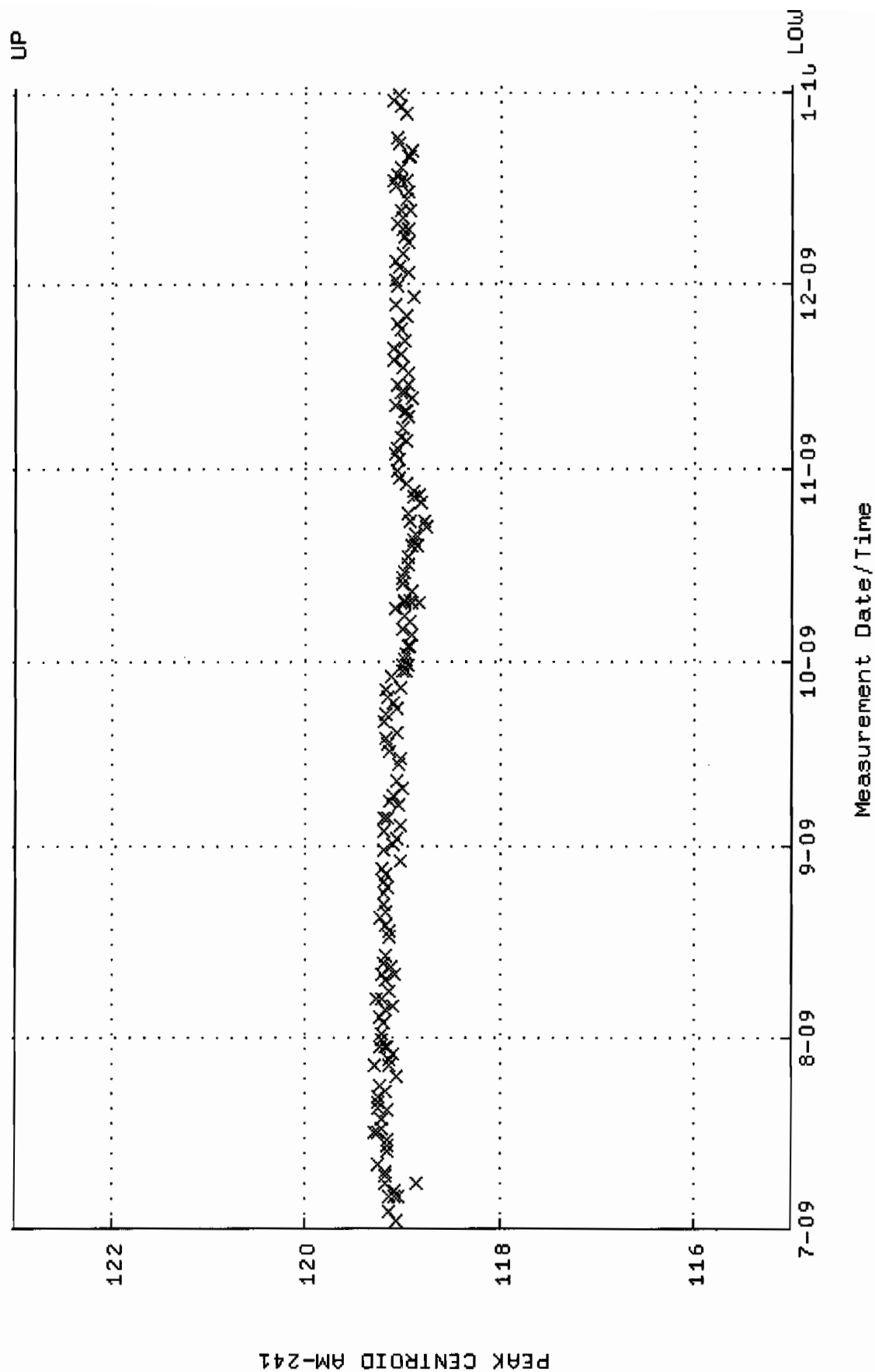
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:15 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 83.9445 through 92.7807



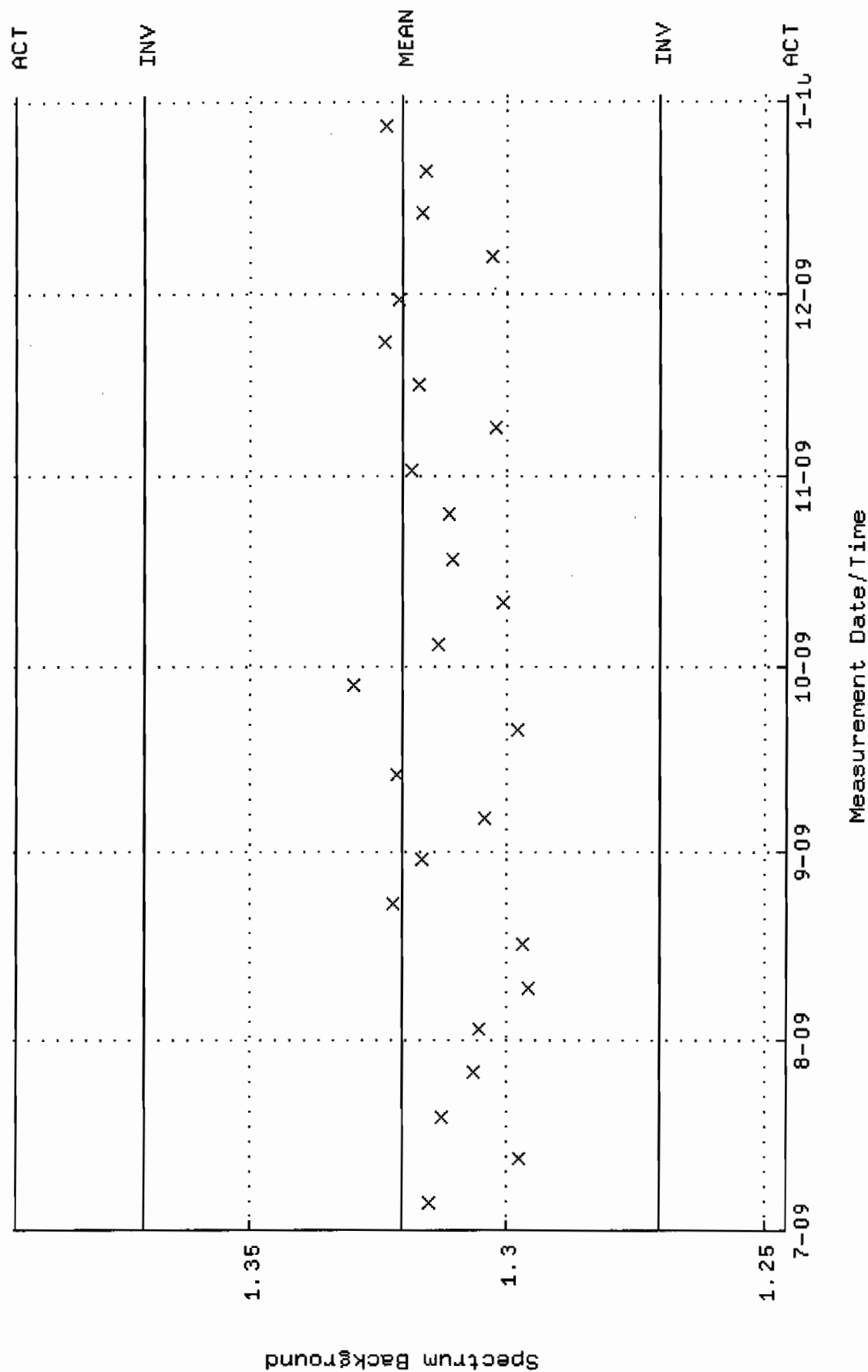
QA filename : DKA100:[ENV_ALPHA.QA.B]B222.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:30 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



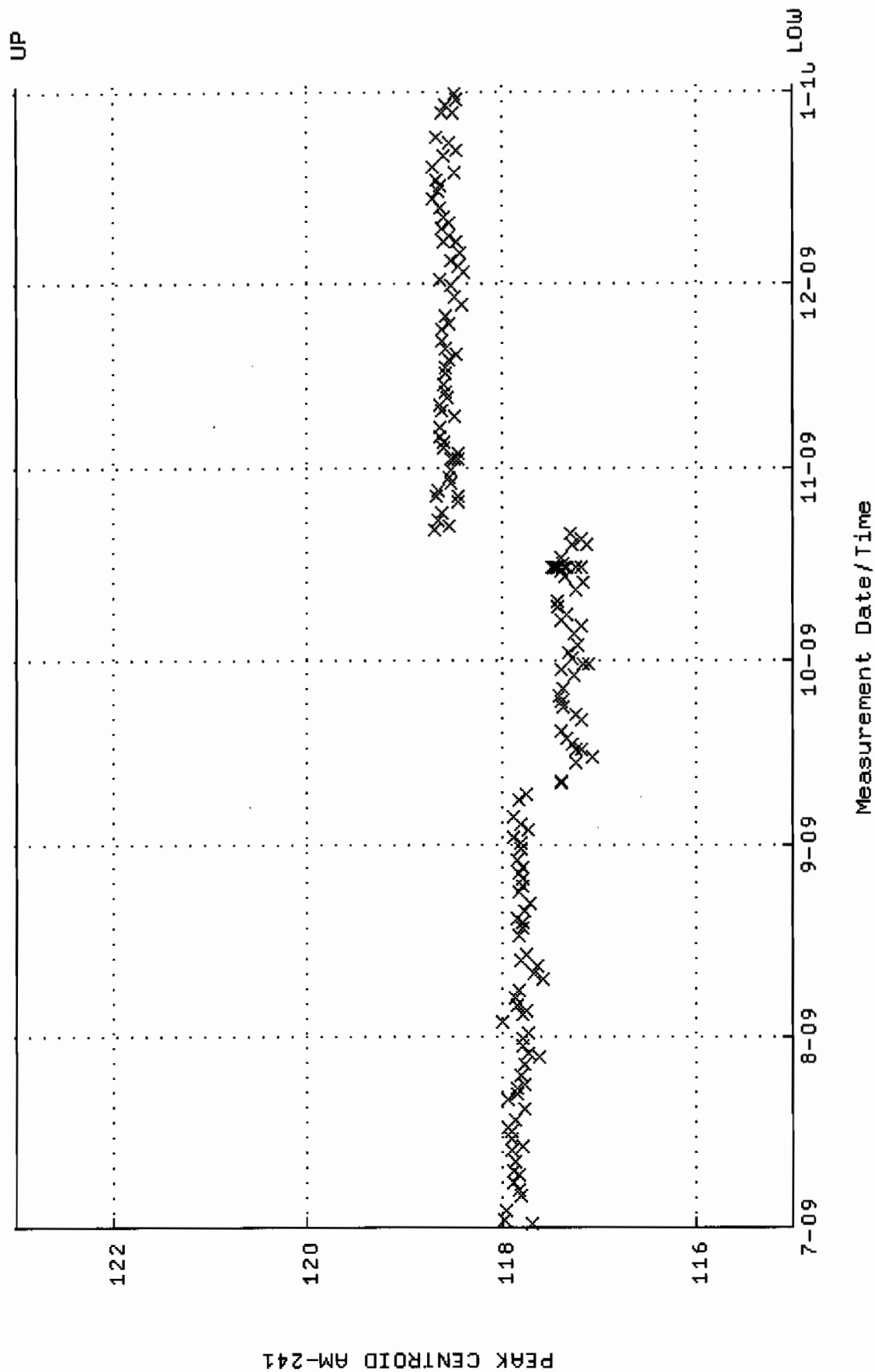
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:59:00 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



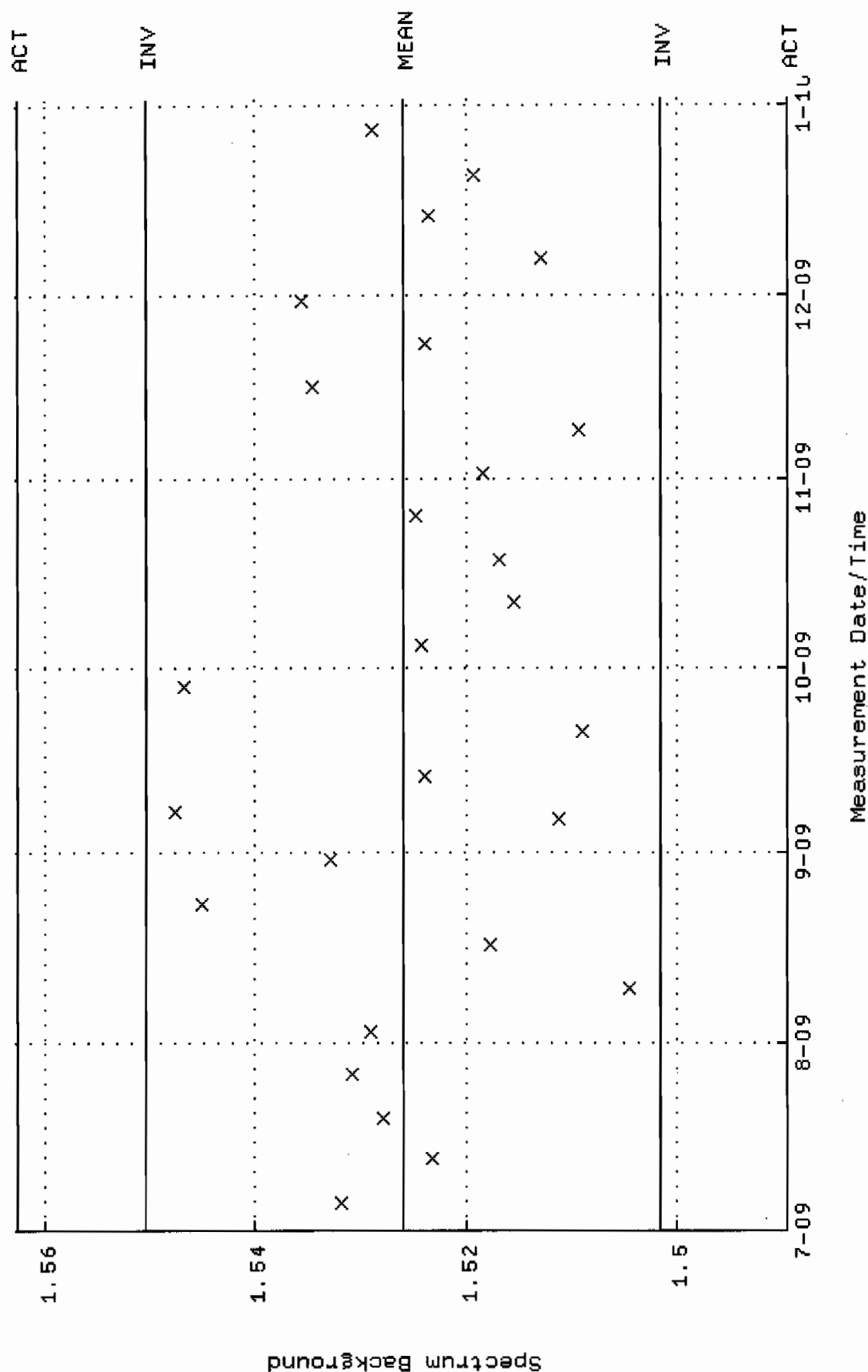
QA filename : DKA100: [CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:49:51 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.32050 +- 2.495234E-02 (1.89 %)



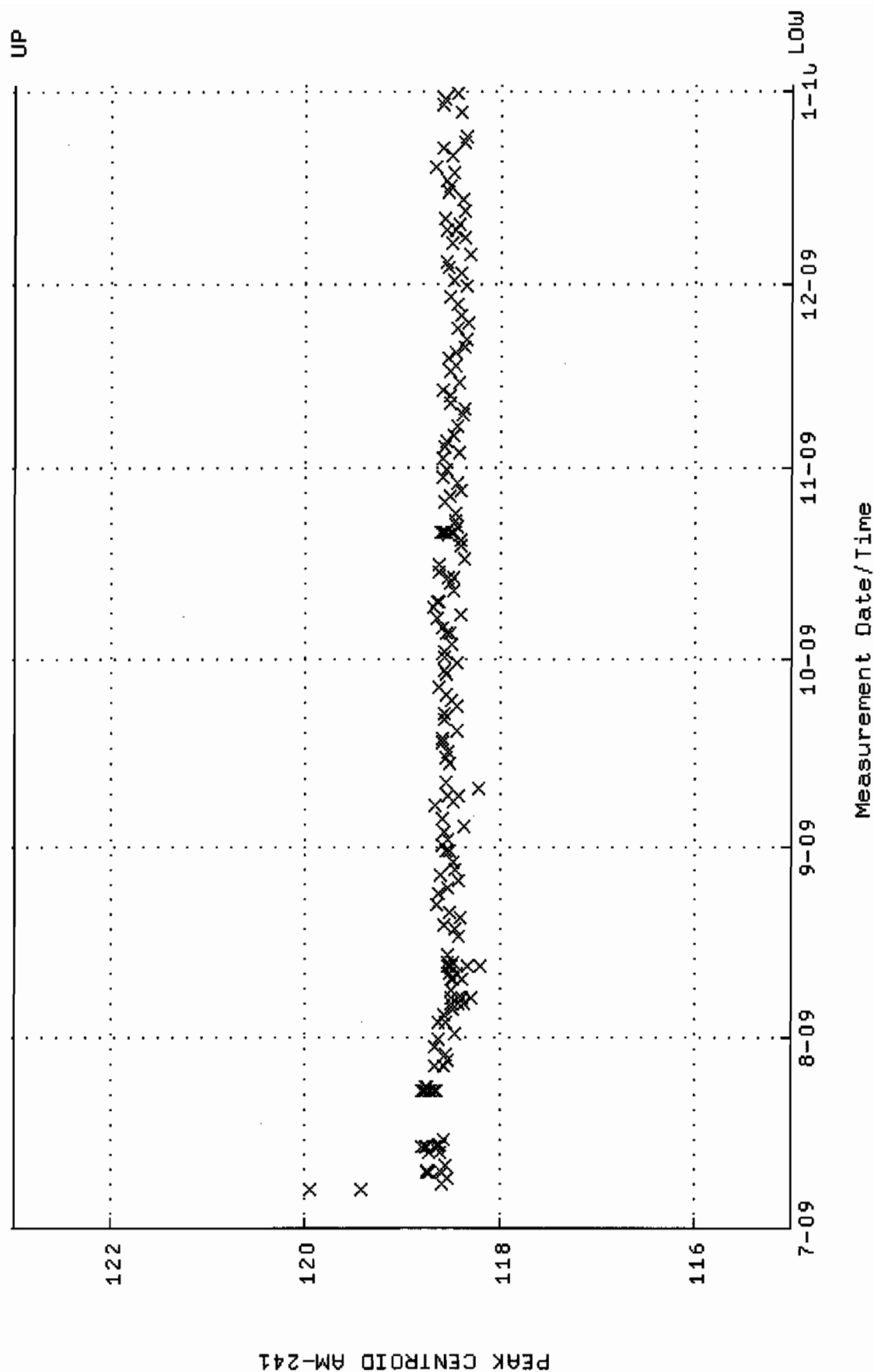
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM06_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-JUL-2009 14:30:59 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



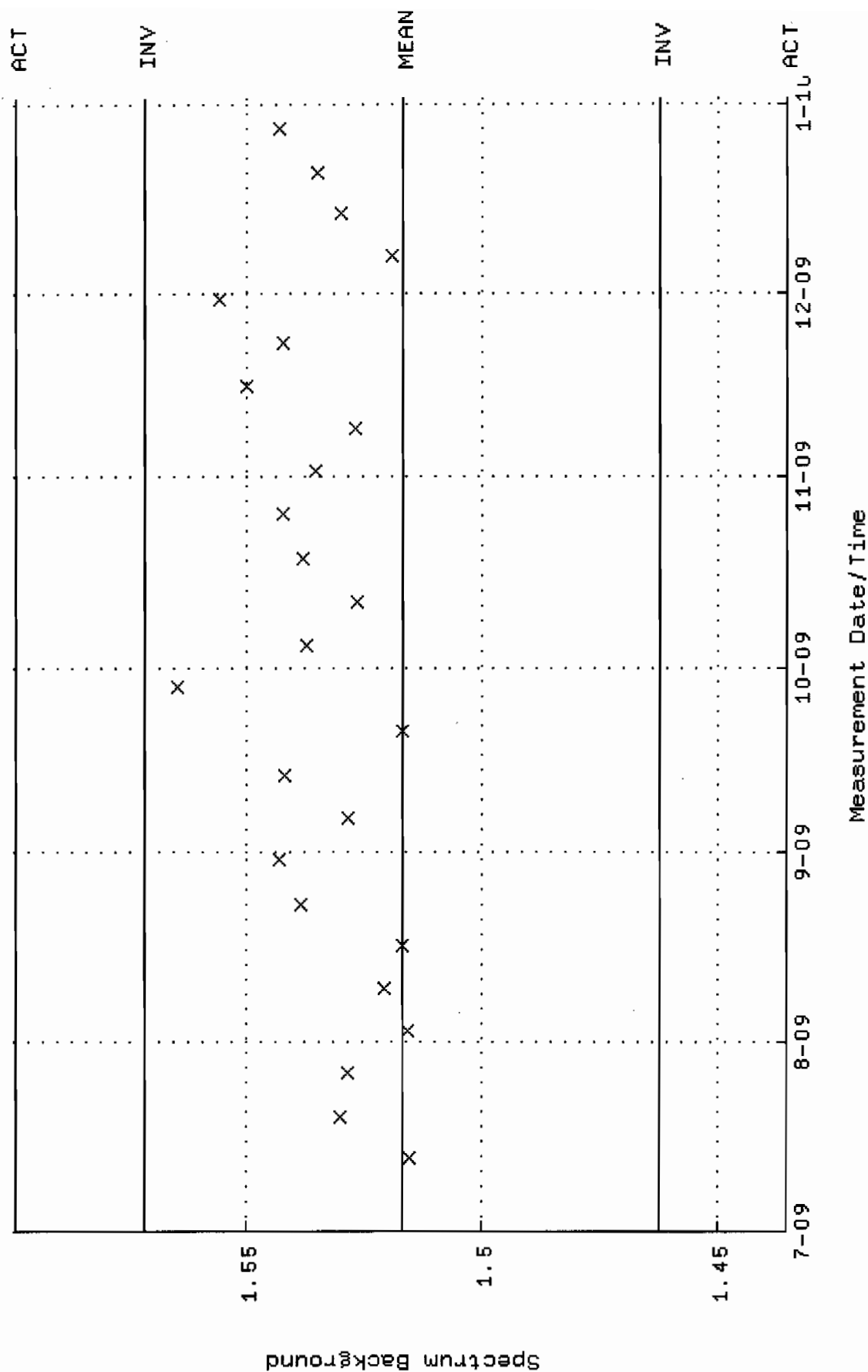
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM06.QAF;1
 Parameter Name : BACKRATE (Spectrum-Background Rate)
 Start/End Dates : 5-JUL-2009 13:50:15 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.52603 +- 1.215987E-02 (0.80 %)



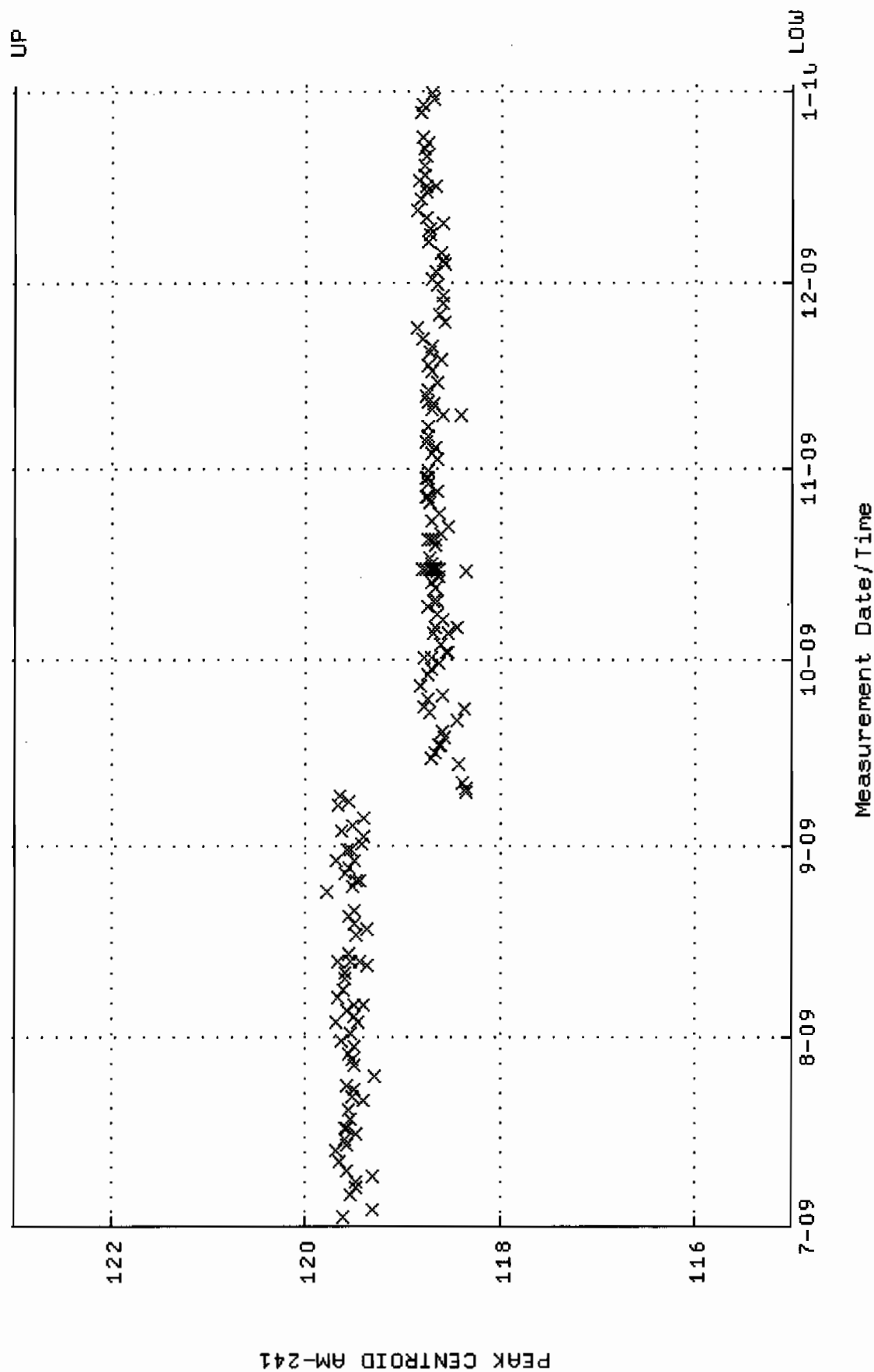
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 7-JUL-2009 09:02:00 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



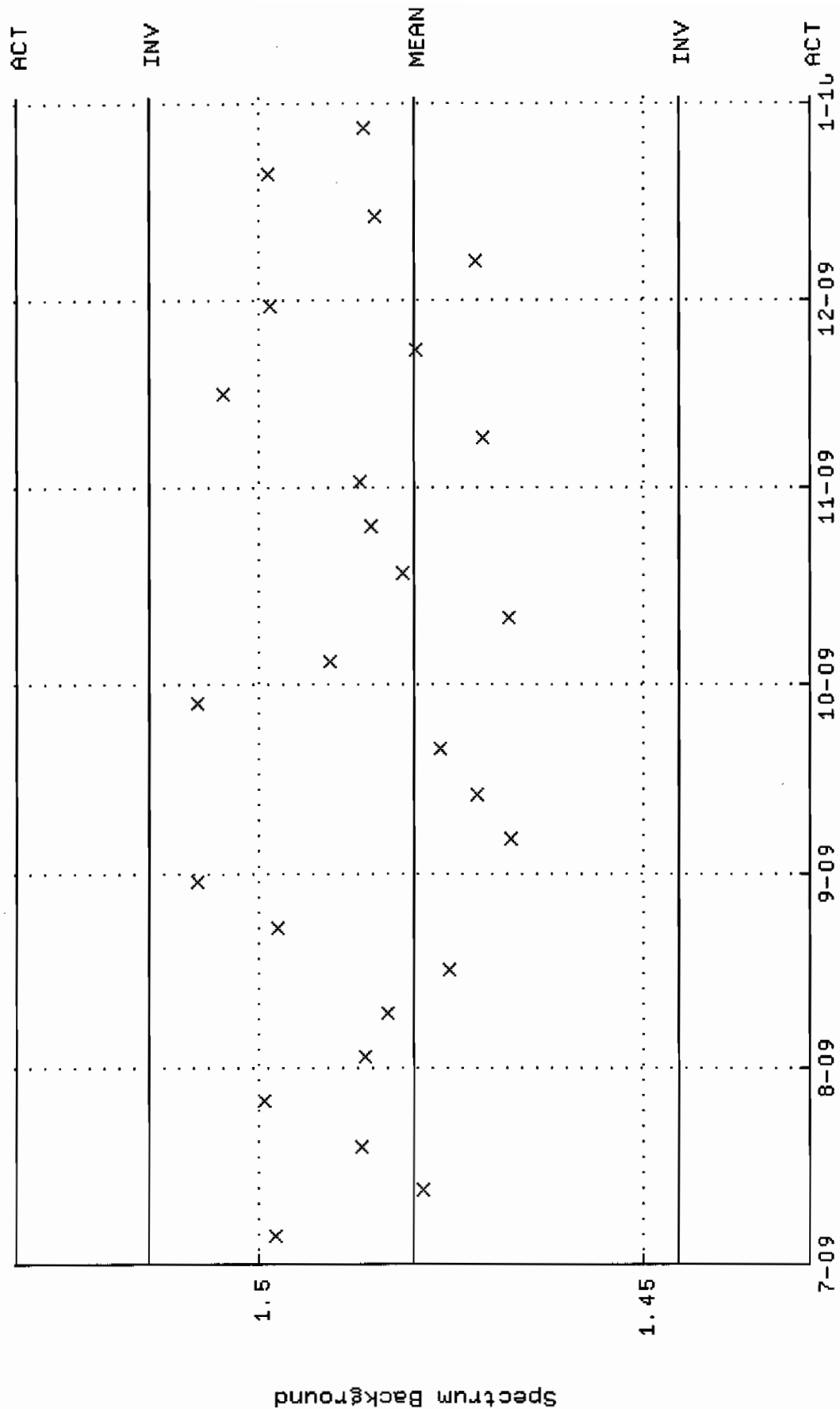
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 12-JUL-2009 17:17:31 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



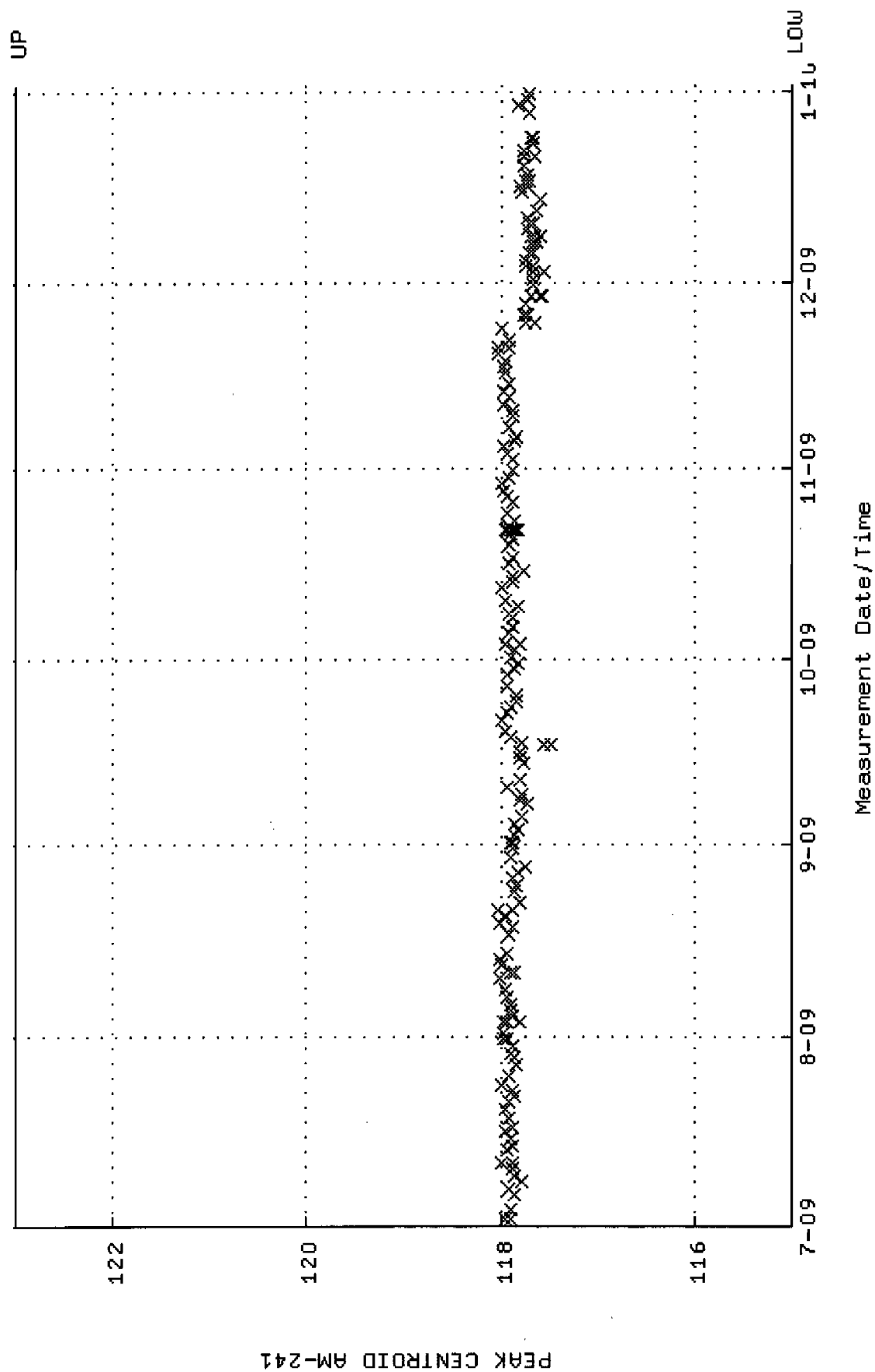
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM10_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:17 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



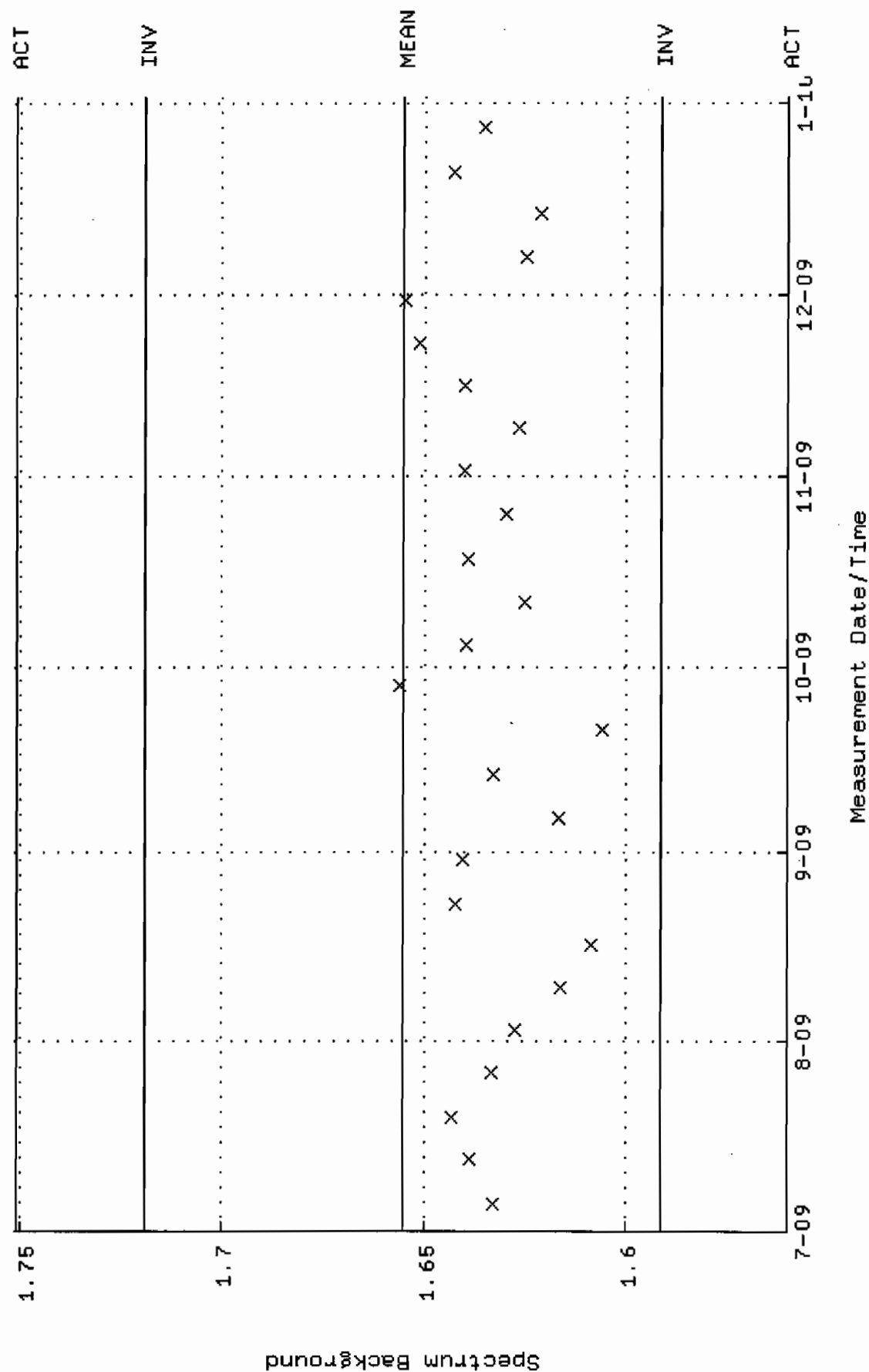
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM10.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:51:14 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48000 +- 1.723892E-02 (1.16 %)



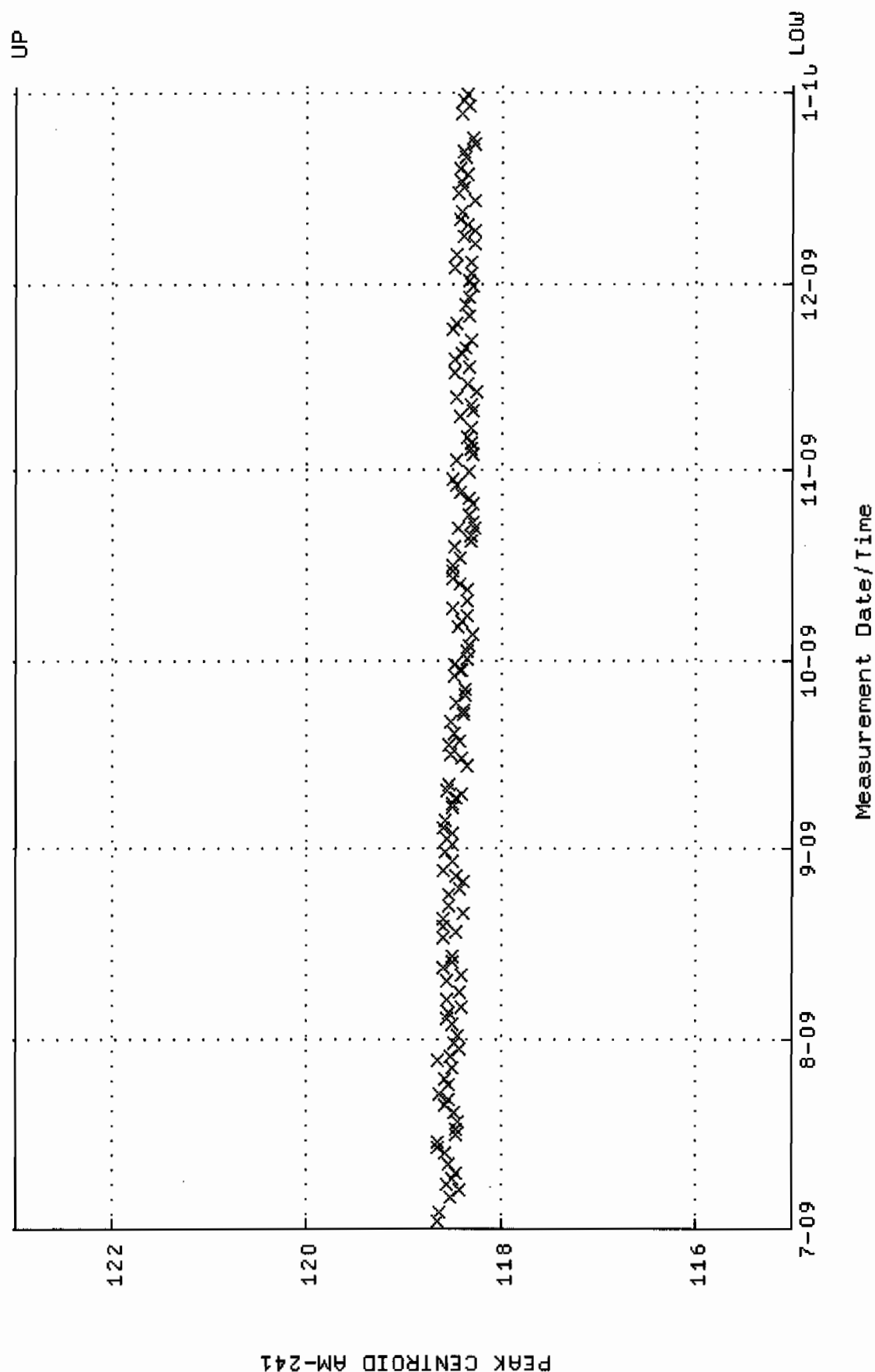
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM11-JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:04 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



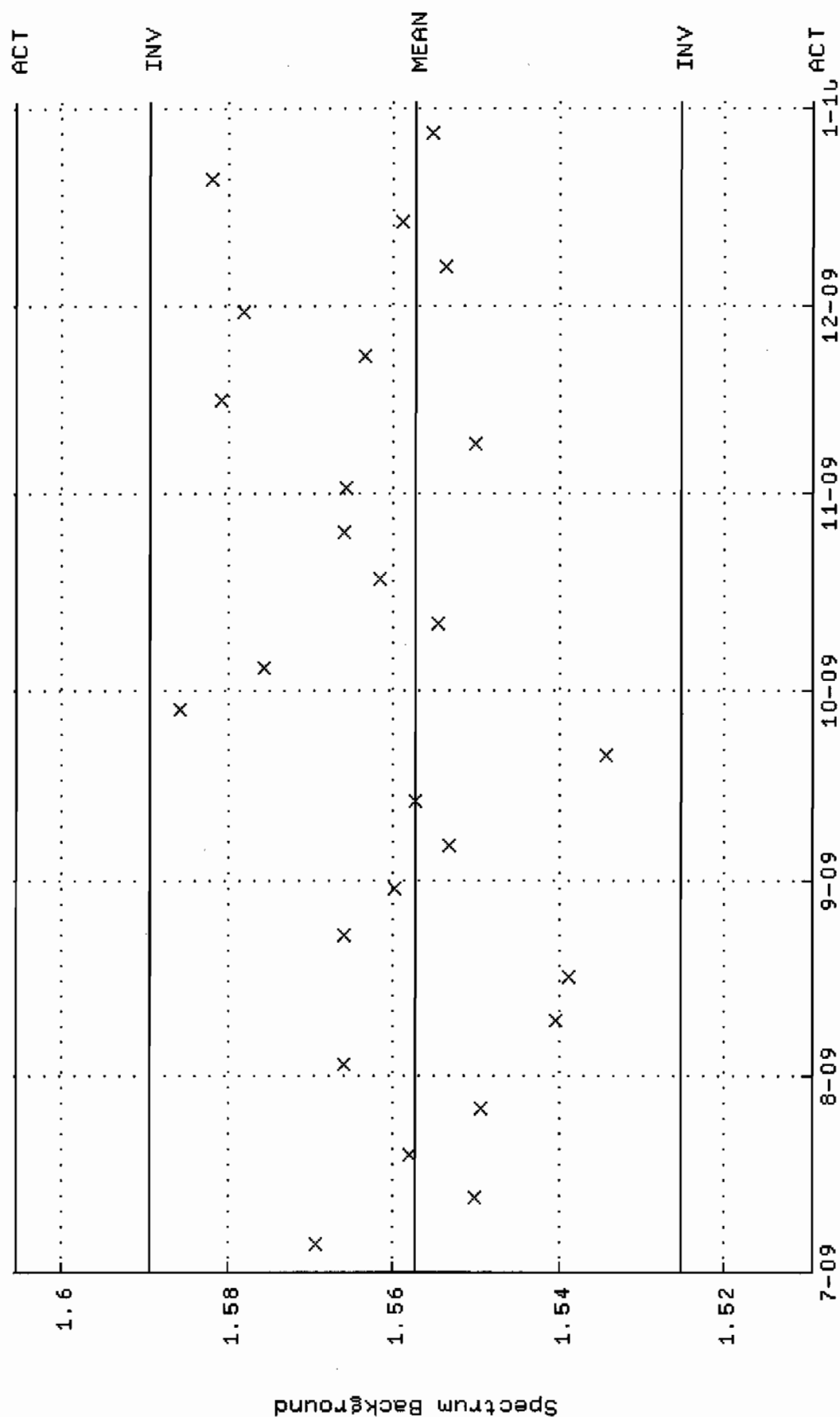
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM11.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:51:39 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



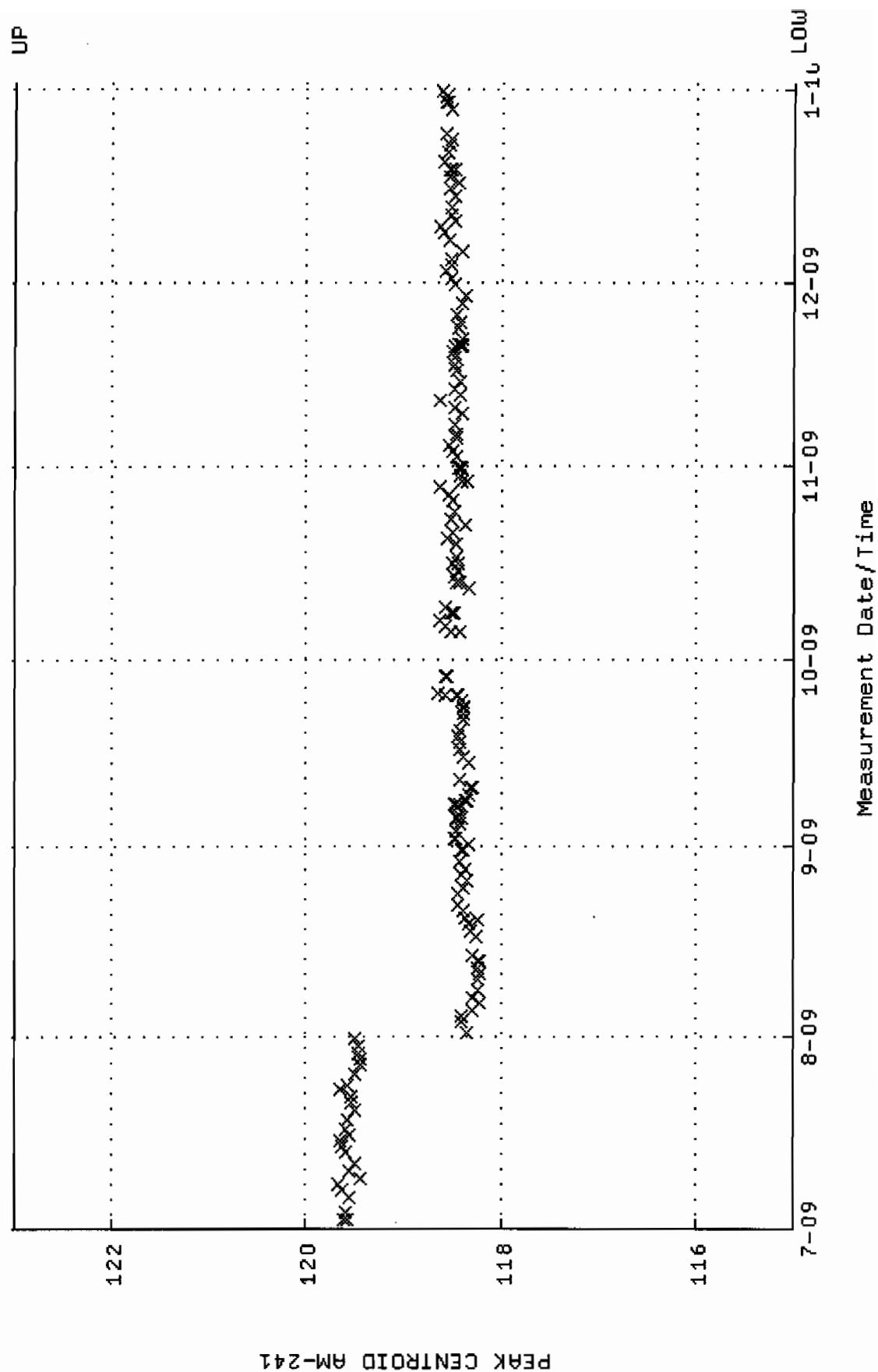
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM12-CAN.QAF;1
 Parameter Name : PSCENTROD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:11 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



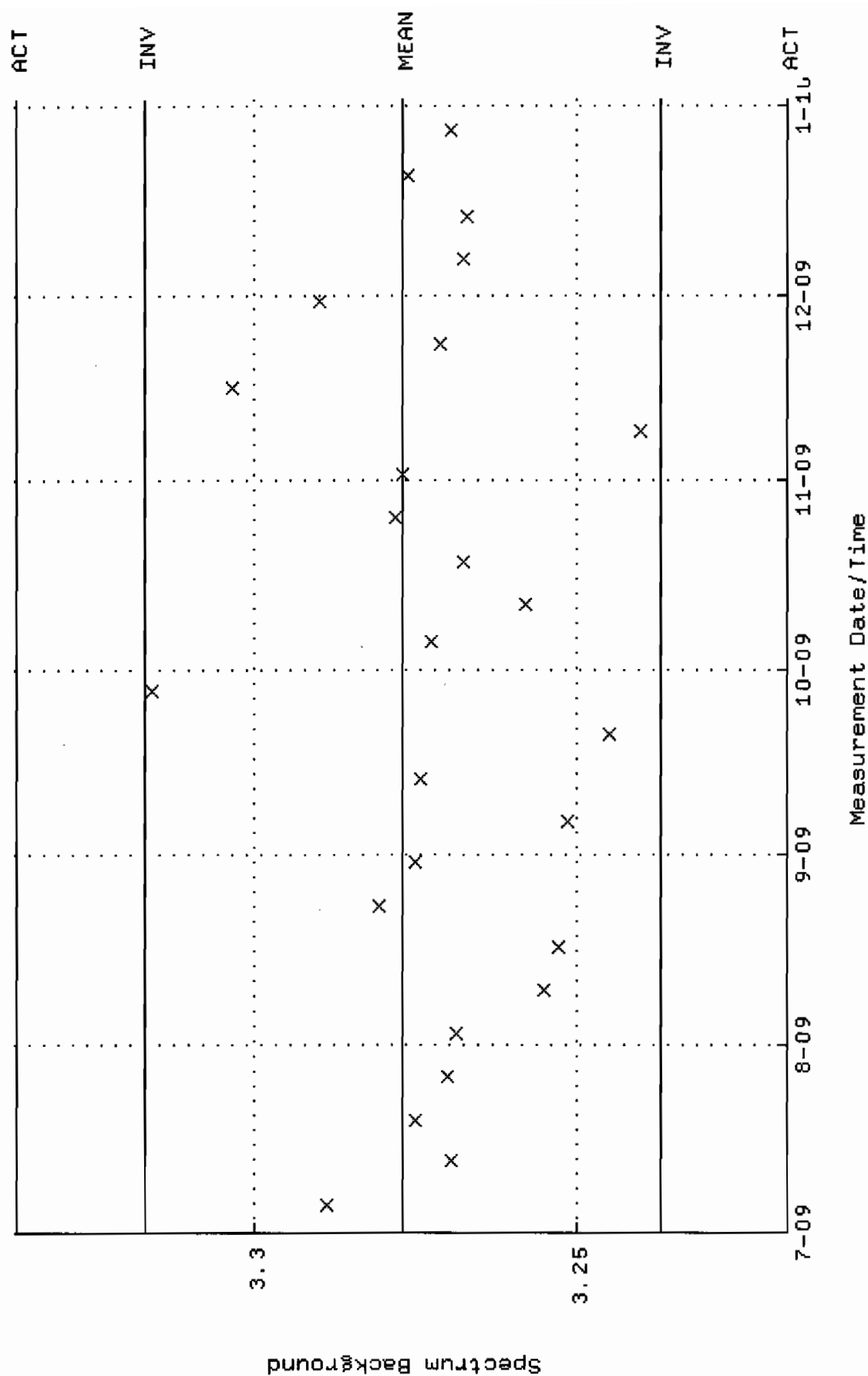
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM12.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:04 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



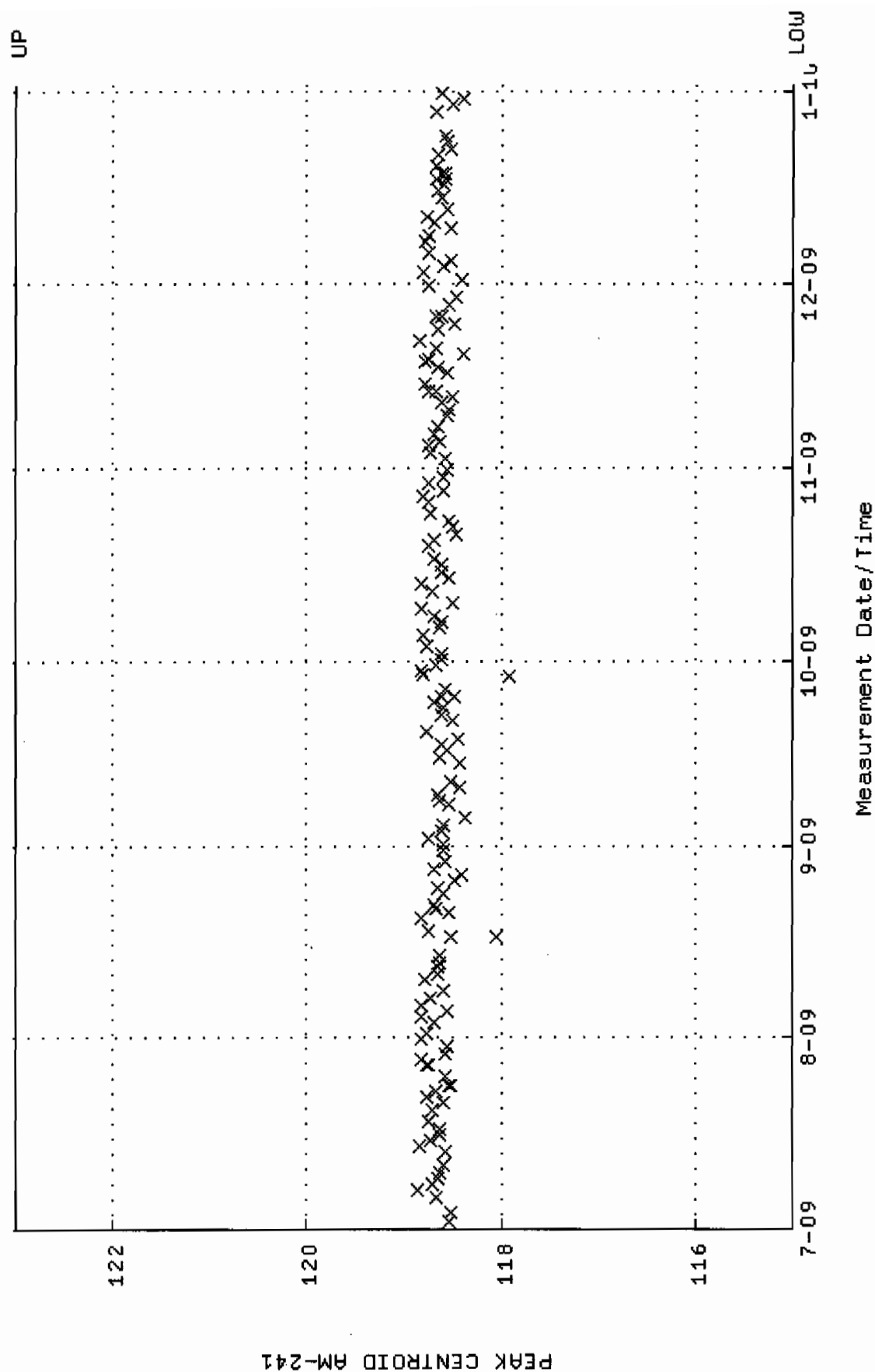
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM13_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:30 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



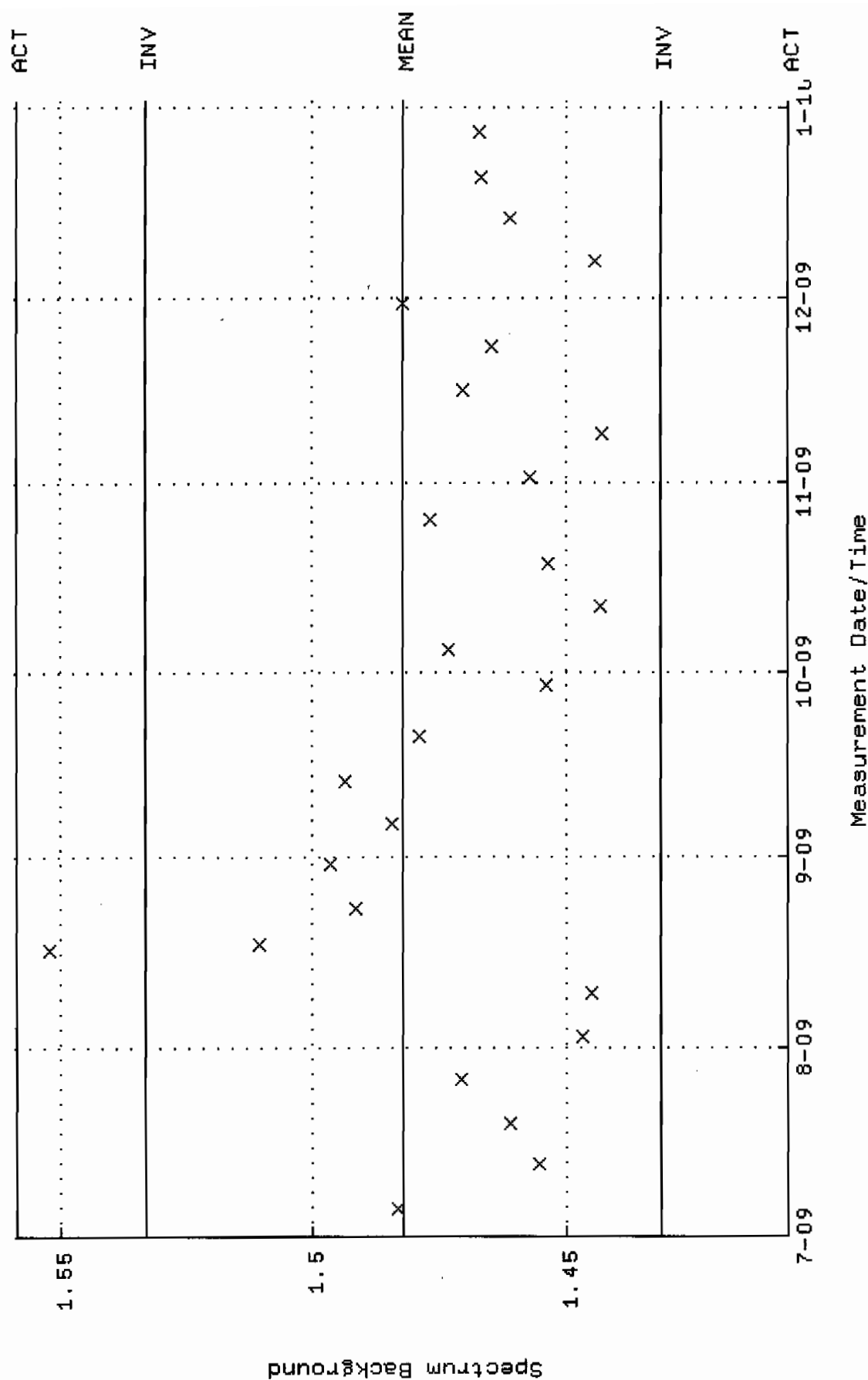
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM13.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:16 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 3.27712 +- 1.999120E-02 (0.61 %)



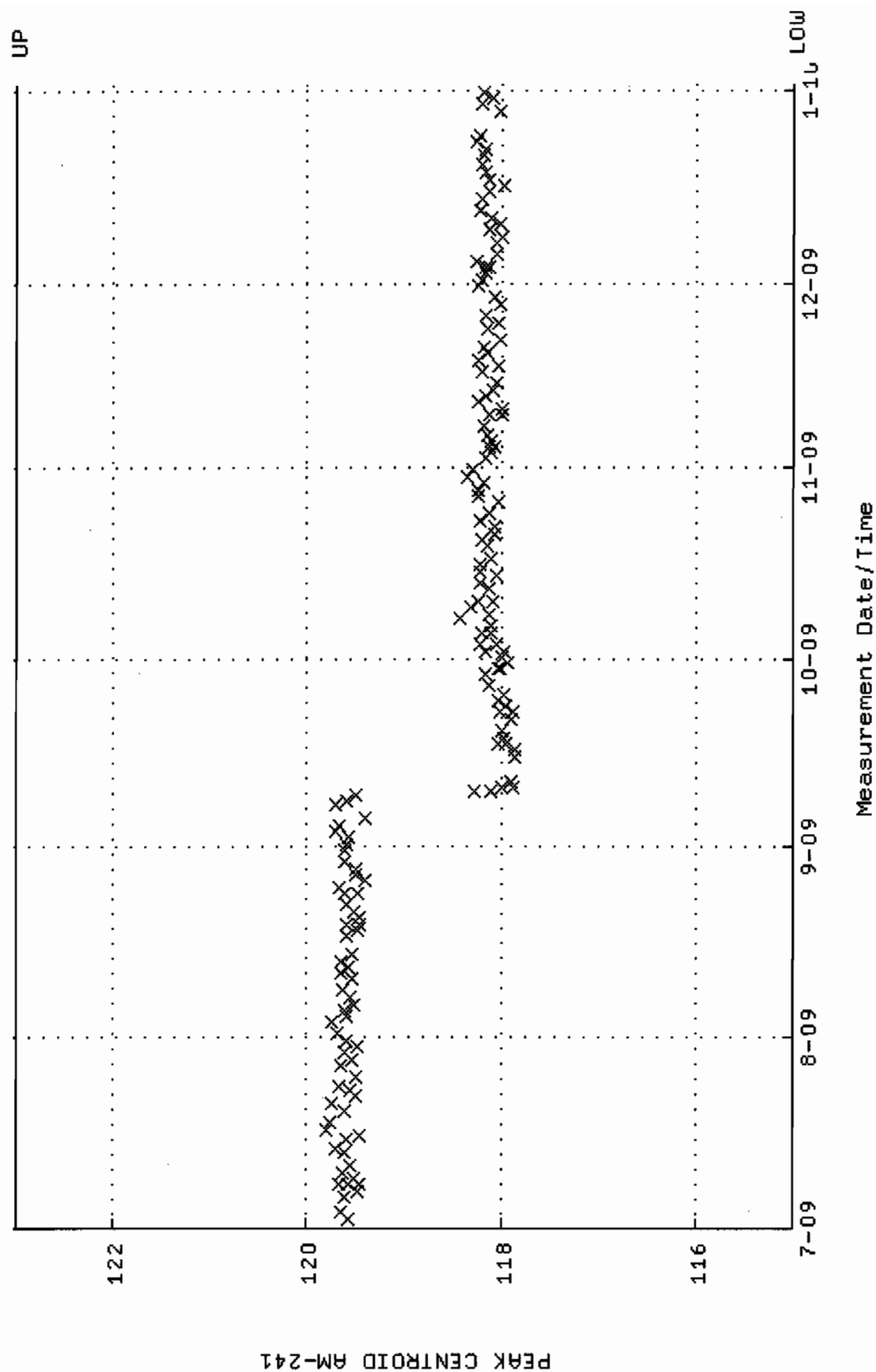
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM14_2LMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:59:23 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



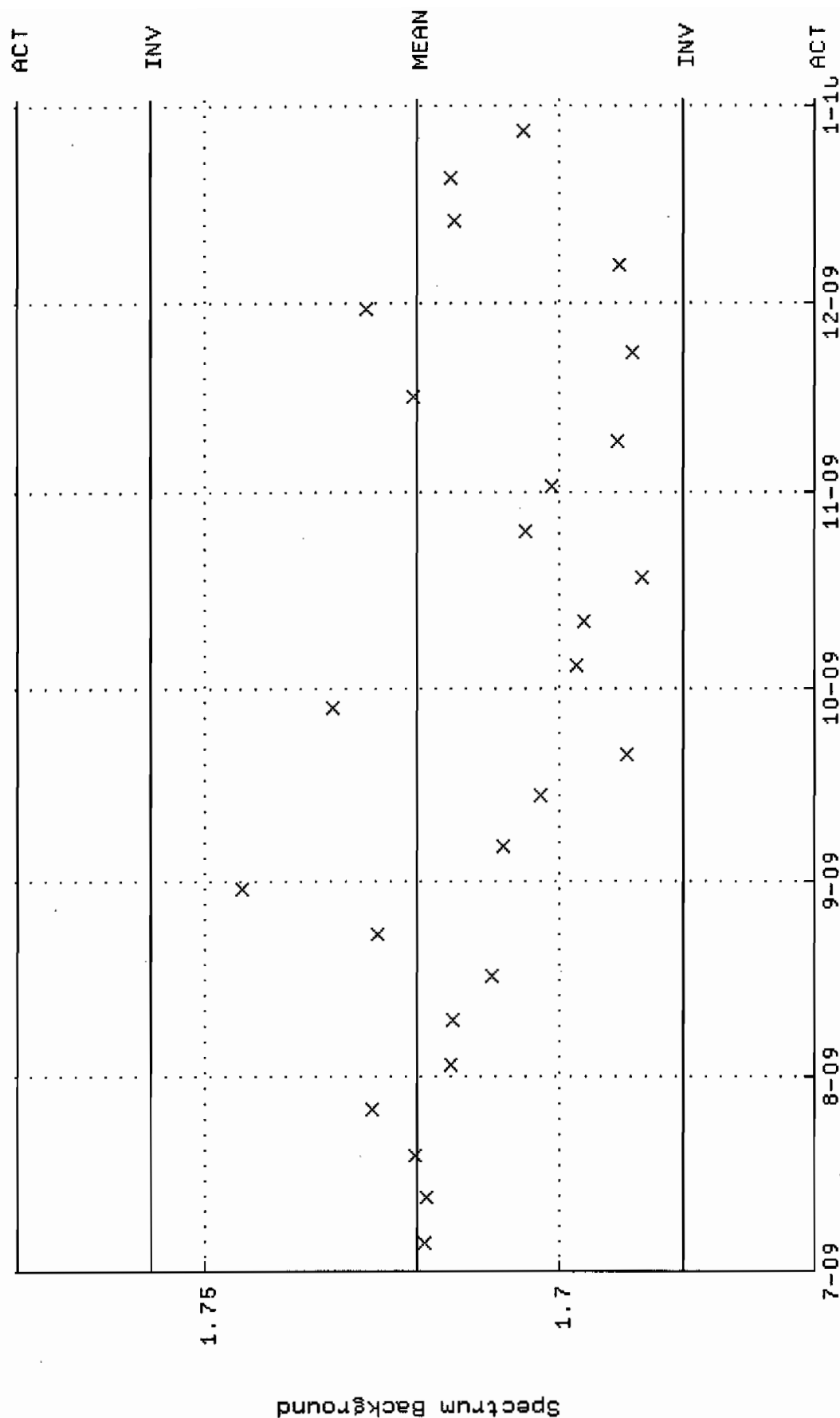
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:31 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



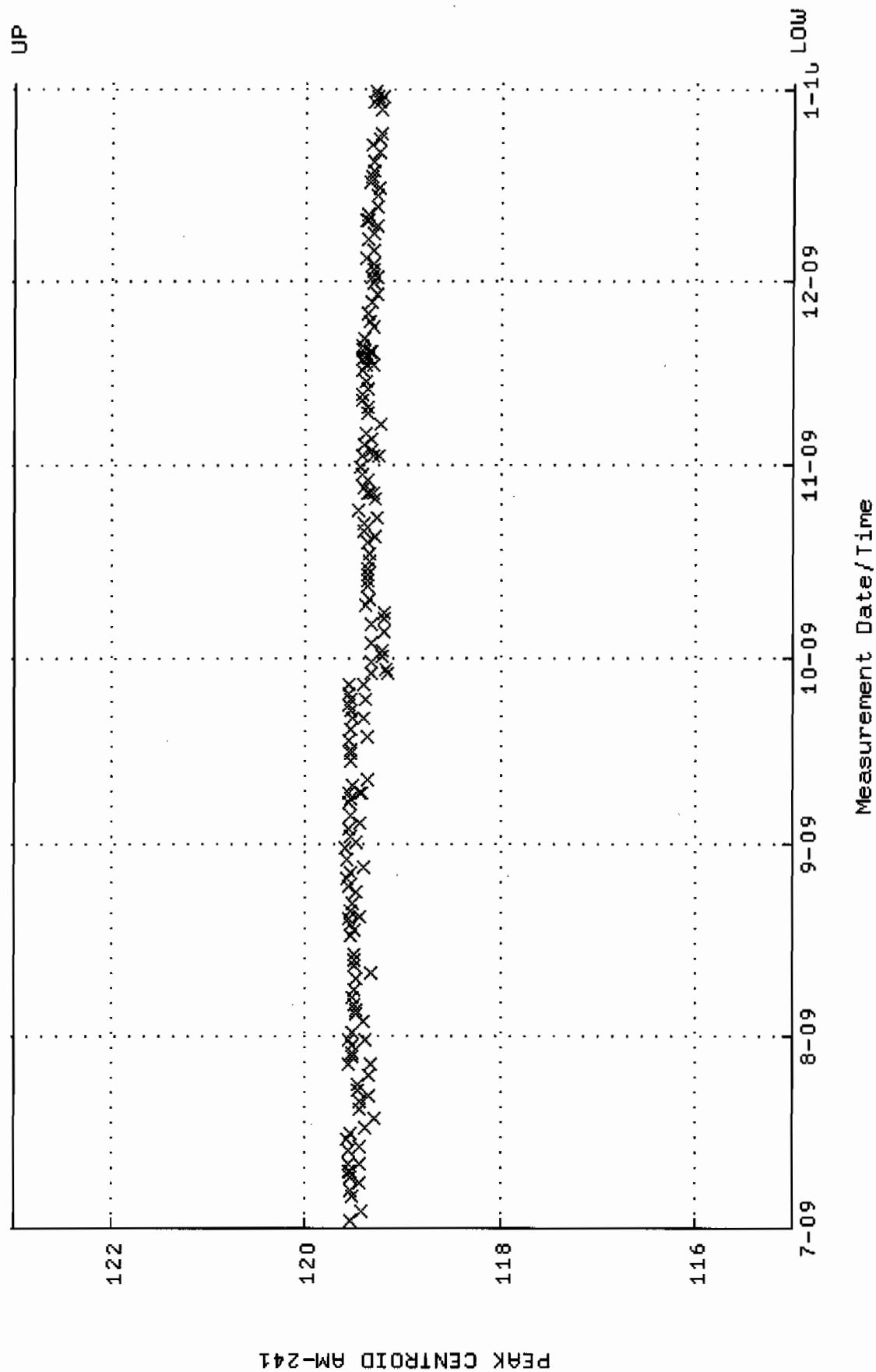
QA filename : DKA100:[CANNBERRA.GAMMA.SCUSR.QA]QCC-GAM15-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:40 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



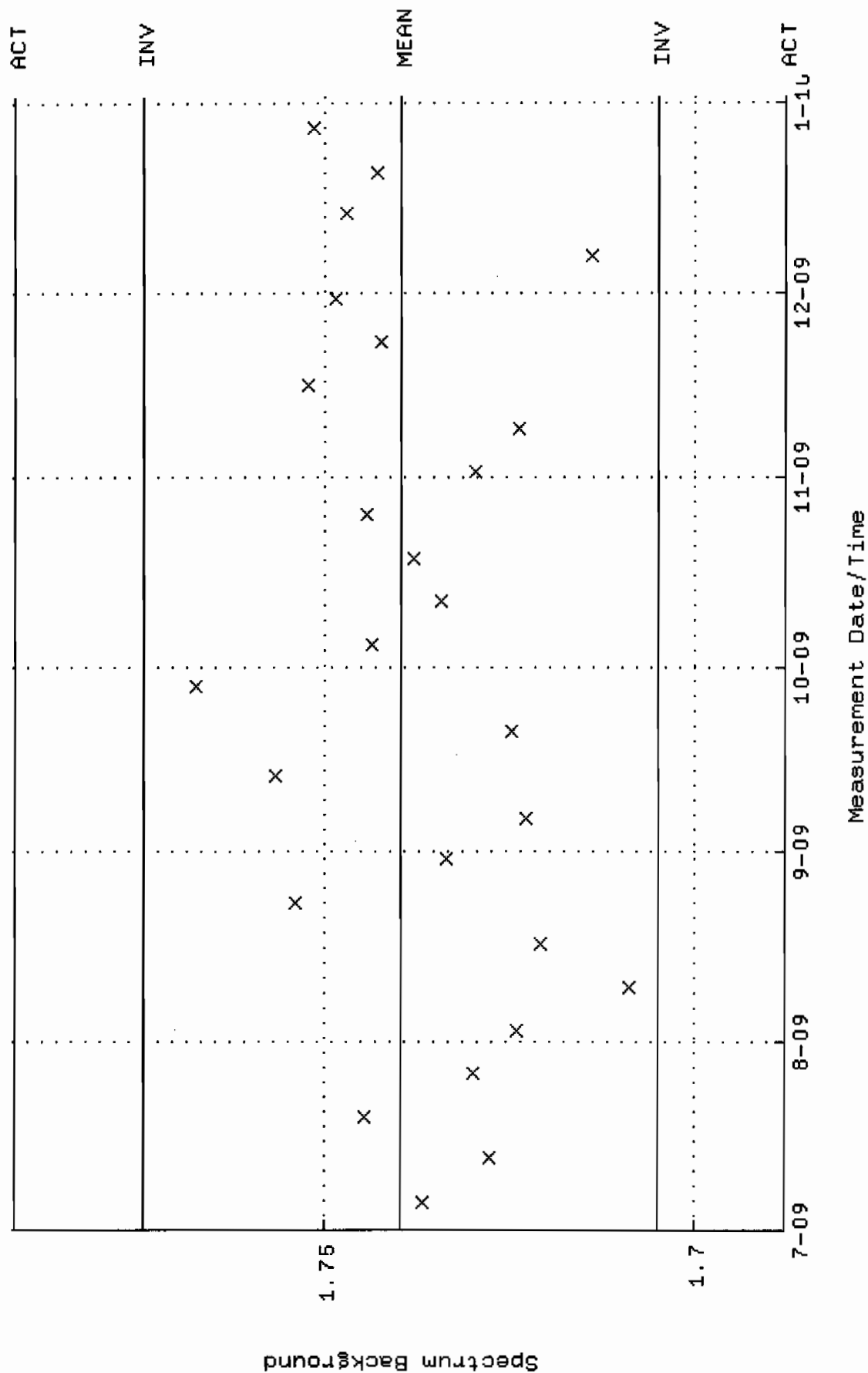
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:45 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



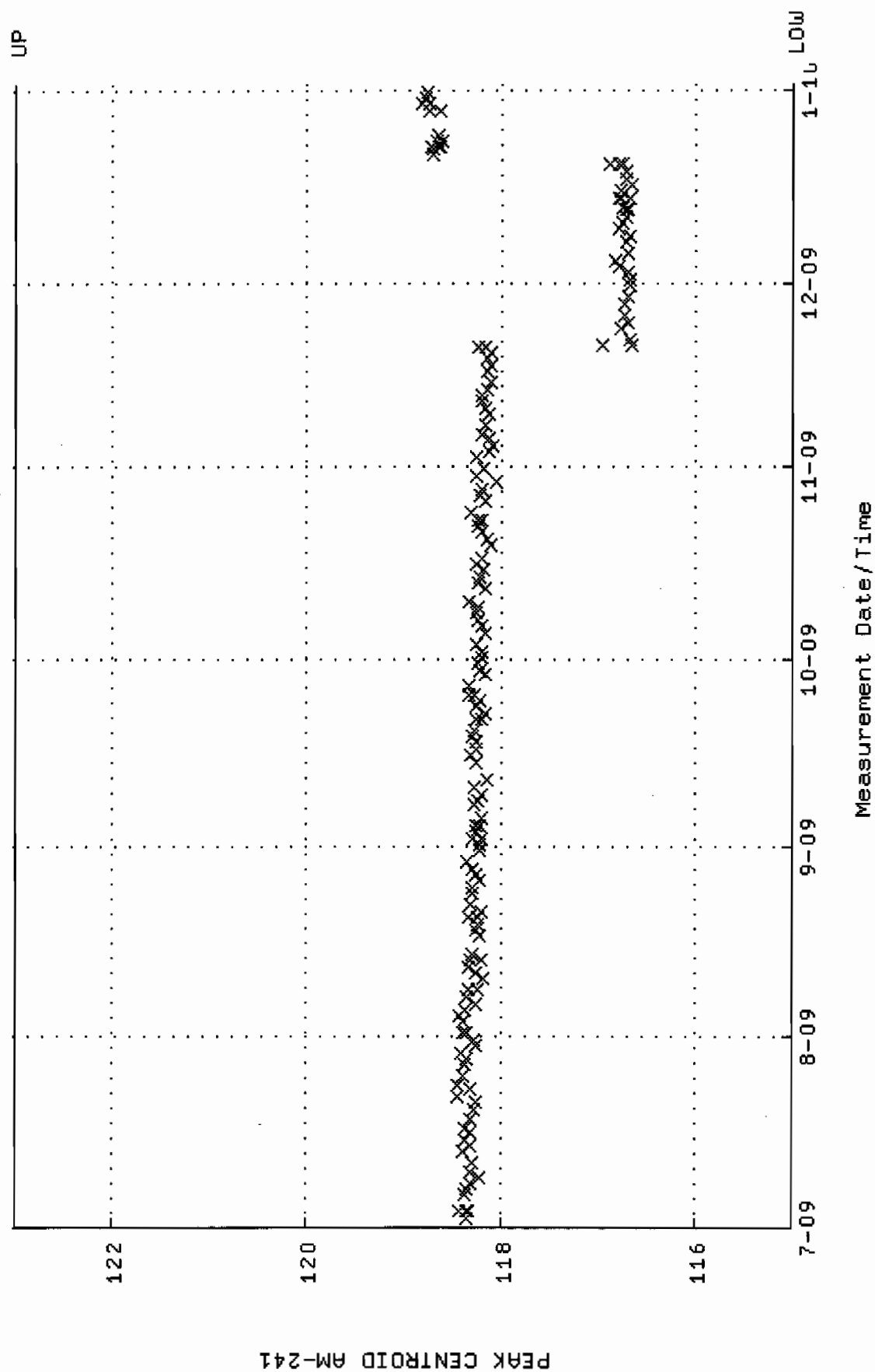
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM16-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:19 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



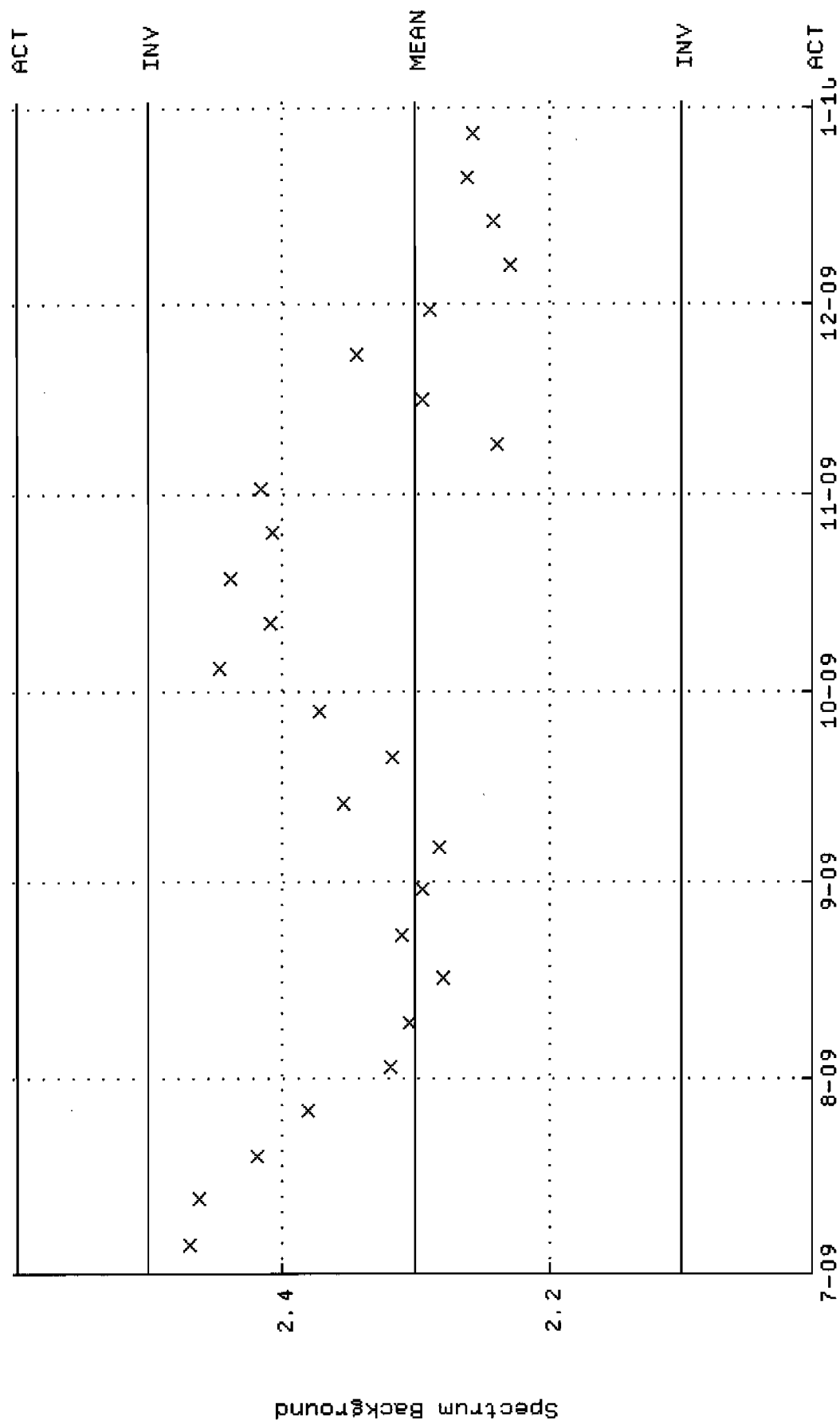
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM16.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:58 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.73980 +- 1.729897E-02 (0.99 %)



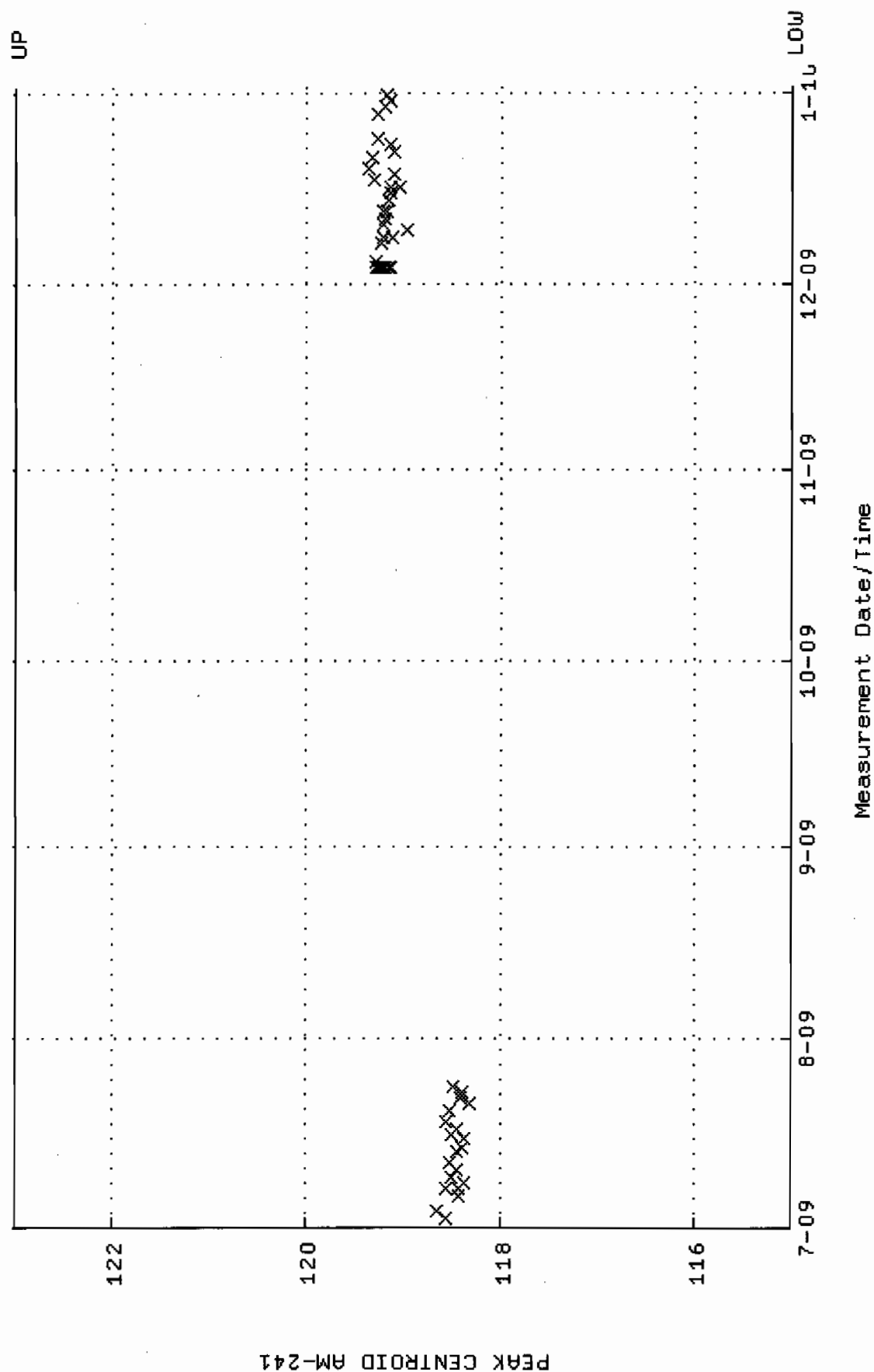
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM18-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



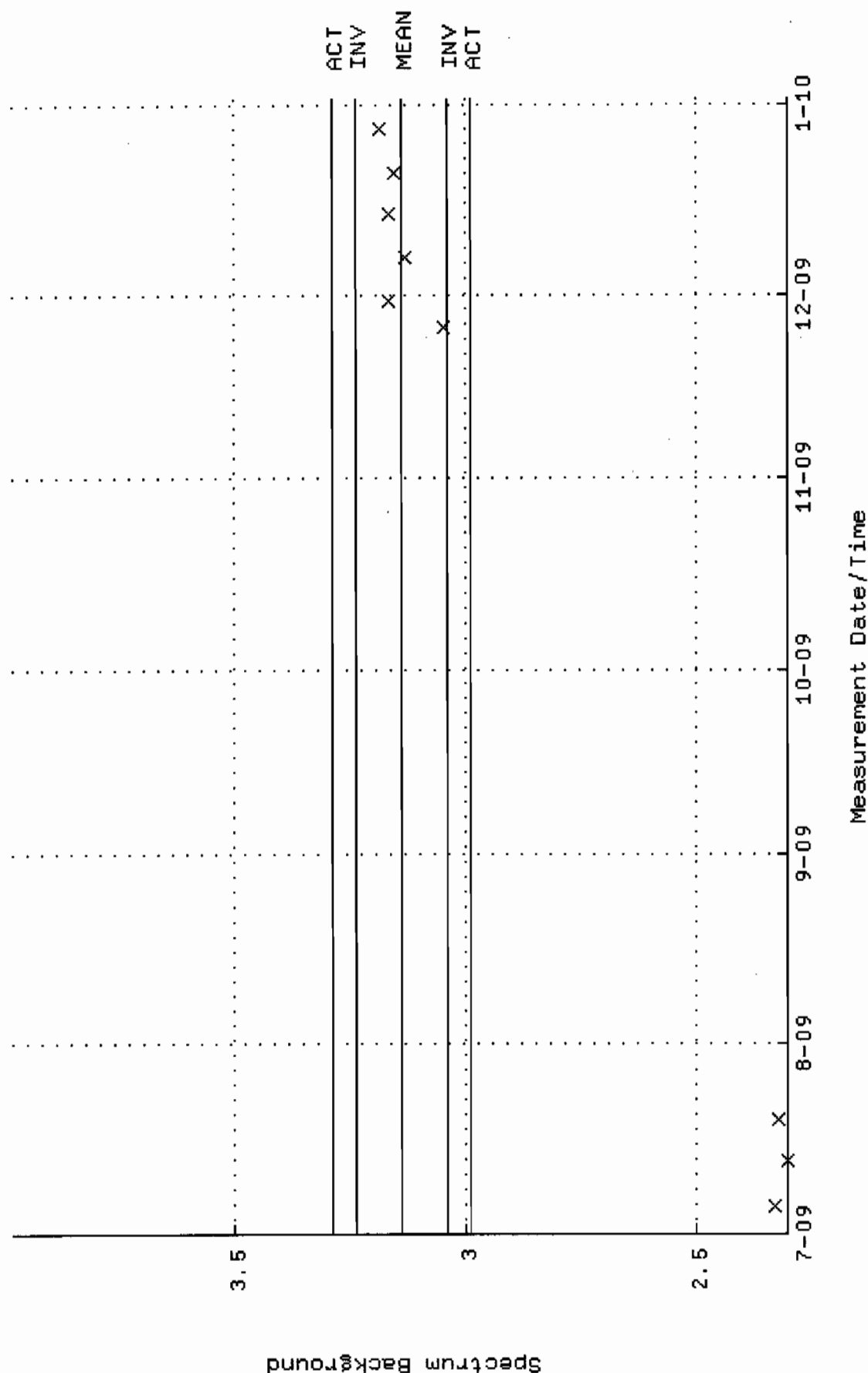
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



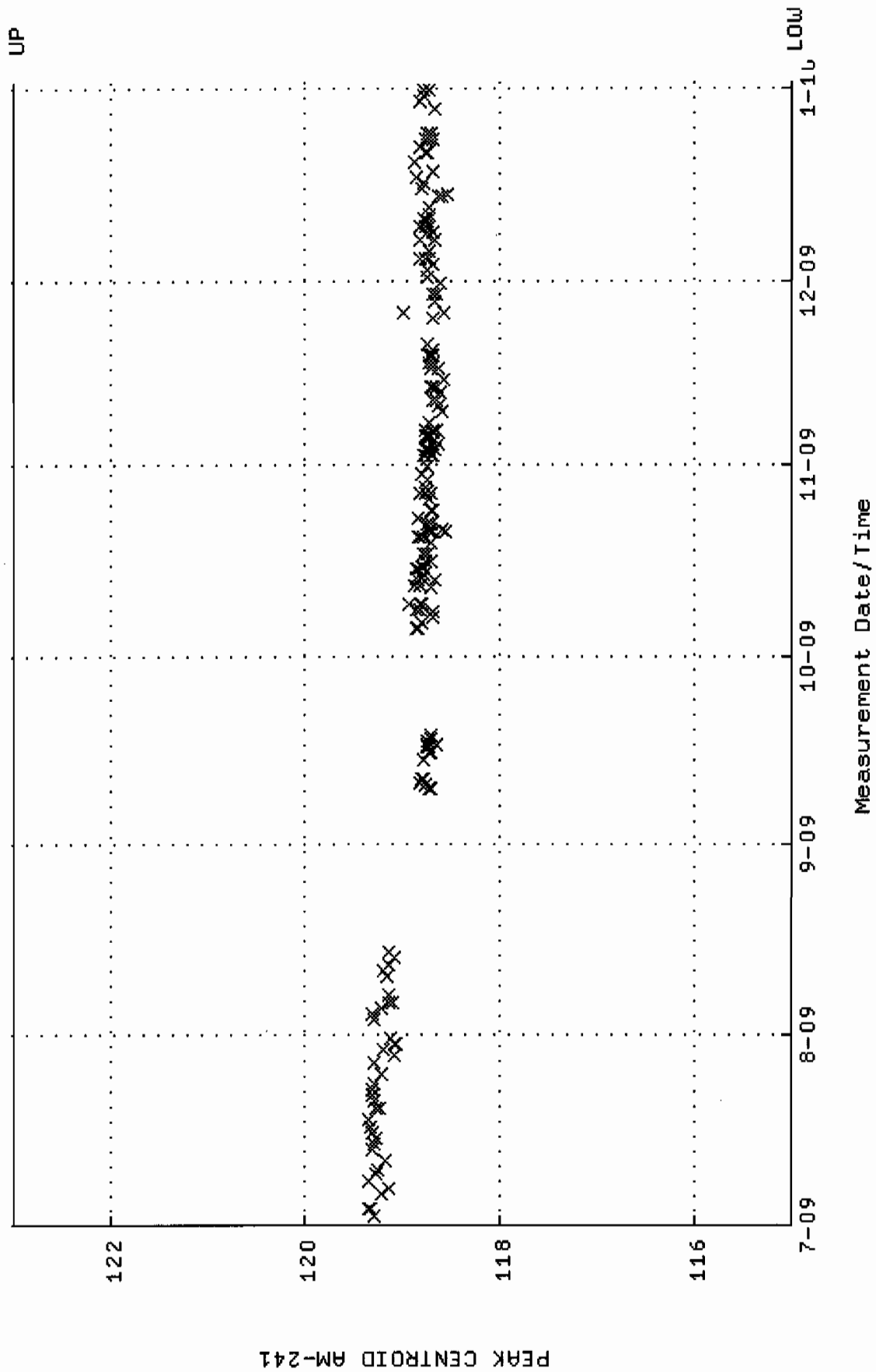
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM22-CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 10:47:50 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



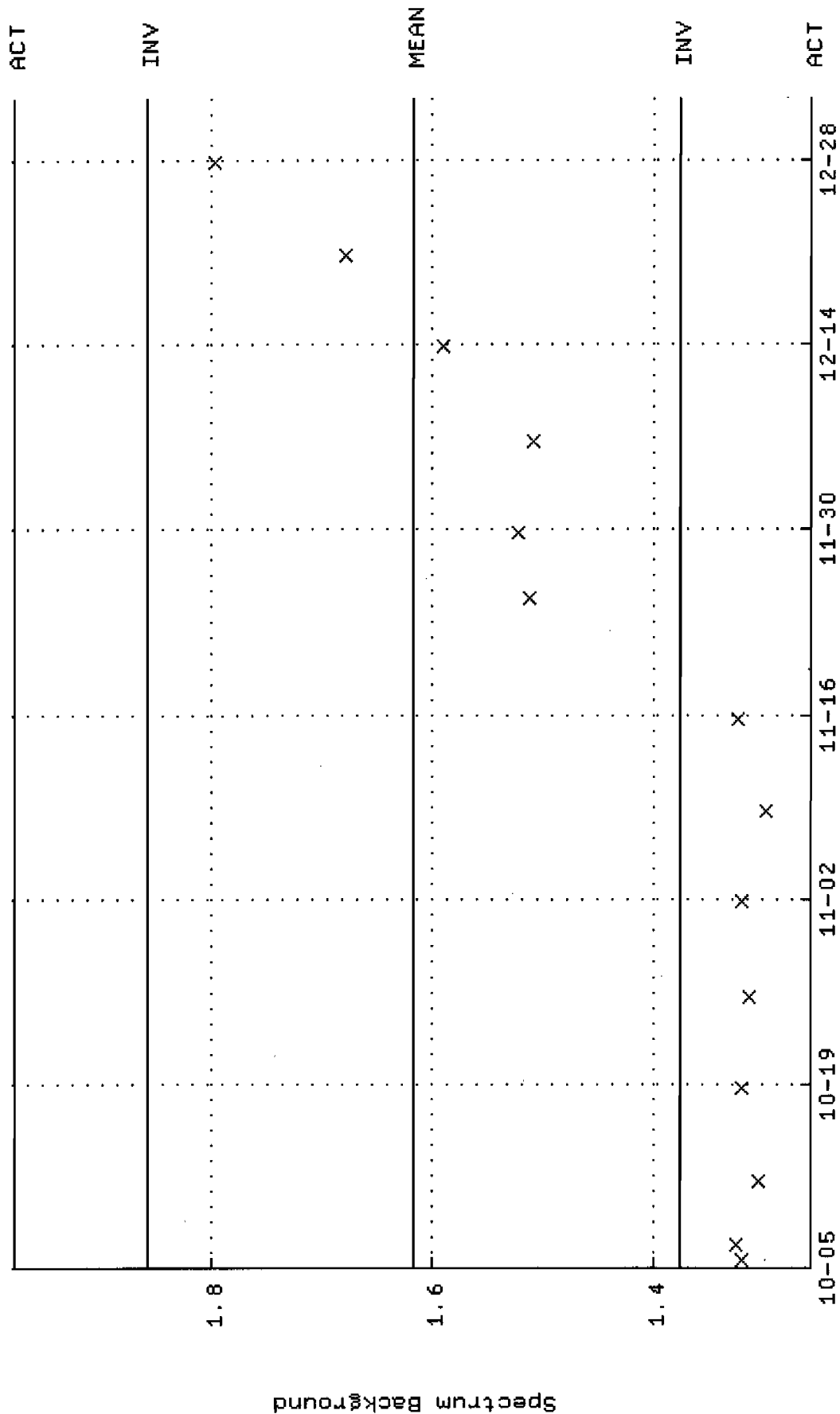
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM22.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:54:18 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM23-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 11:00:38 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)



STANDARDS DATA

1032

 1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318
 Tel 404-352-8677
 Fax 404-352-2837
 www.analytixinc.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. Analytix maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE	GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432 y	3339	3.0
Cd-109	88	462.6 d	4815	3.3
Co-57	122	271.79 d	2409	3.0
Ce-139	166	137.6 d	3408	2.8
Hg-203	279	46.61 d	7522	2.7
Sn-113	392	115.1 d	4728	2.6
Cs-137	662	30.07 y	2973	3.0
Y-88	898	106.6 d	11600	2.6
Co-60	1173	5.2714 y	5780	2.7
Co-60	1332	5.2714 y	5783	2.6
Y-88	1836	106.6 d	12260	2.6

5.31725 grams 4M HCl solution.

P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY:

M. Dimitrova, Radiochemist

Q A APPROVED:

J.M. [Signature] 11-28-06

This standard will expire one year after the calibration date.

 rec'd 11/30/06
 RC-S-045-073-0

1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytiscinc.com

ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS BATCH 127

CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method ¹	Statistics ²	Calibration ²	Peak Fitting ²	Geometry ²	Impurities ²	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertainty (k=2)
Cd-109	88	HPGe	0.16	1.1	0.88	0.8	0	0.2	1.64	3.3
Co-57	122	HPGe	0.23	1.1	0.71	0.7	0	0.2	1.52	3.0
Ce-139	166	HPGe	0.17	1.0	0.58	0.7	0	0.2	1.38	2.8
Hg-203	279	HPGe	0.11	1.1	0.34	0.7	0	0.2	1.37	2.7
Sn-113	392	HPGe	0.21	1.0	0.35	0.7	0	0.2	1.30	2.6
Cs-137	662	HPGe	0.36	1.1	0.60	0.7	0	0.2	1.49	3.0
Y-88	898	HPGe	0.19	1.0	0.33	0.7	0	0.2	1.29	2.6
Co-60	1173	HPGe	0.31	.97	0.45	0.7	0	0.2	1.33	2.7
Co-60	1332	HPGe	0.33	.93	0.48	0.7	0	0.2	1.32	2.6
Y-88	1836	HPGe	0.24	1.0	0.35	0.7	0	0.2	1.31	2.6

Optional Additional Isotopes

Pb-210	46.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Am-241	59.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Sr-85	514	IC	0.30	1.1	0	0.7	0.17	0.2	1.36	2.7
Cs-134	605	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Cs-134	796	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Mn-54	835	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Zn-65	1116	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7

Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)

HPGe (High Purity Germanium Gamma Ray Spectrometer)

IC (Gamma Ray Ionization Chamber)

²As Percent (%) from counting data

No interfering gamma emitting impurities were detected during calibration. Depending on the resolution and energy dispersion (keV/channel) of the measuring system, the following spectral conflicts may occur: (1) between the 88 keV gamma-ray and the X-rays emitted in the decay of Hg-203, (2) between the 1333 keV gamma-ray and the 1325 keV single escape peak from the 1836 keV gamma-ray.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1032	Isotope:	Mixed Gamma
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL	Prep Date:	11/30/2006
Reference Date:	10/01/2006	Verification Date:	12/02/2009
Ampoule Mass (g):	5.31725 g	Expiration Date:	12/02/2010
Uncertainty:	+/- 2.81 %	Primary Code:	1032-A
LogBook No:	RC-S-045-073	Dilution(mL):	100 mL
		Mass of Parent(g):	5.2579 g
		Density(g/mL):	1.0611
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL/dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

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. IAR-1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L

Mean Value (Counting) = 2485.67 Pass
Stdev = 64.065 Rule 3 (Pass/Fail)

Certificate Value = 2485.68018
Lower Limit = 2357.536524
Upper Limit = 2613.796809
Rule 1 (Pass/Fail) Pass
Two sigma = 128.1301422
10 % of Mean = 248.56666667
Rule 2 (Pass/Fail) Pass

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

M. Stamps
12/2/09
independent
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137

Isotope	Result	pCi/L - Ver. 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) =
Stdev =

886.90
28.651

95.01
Rule 3 (Pass/Fail)

Certificate Value =
Lower Limit =
Upper Limit =
Rule 1 (Pass/Fail)
Two sigma =
10 % of Mean =
Rule 2 (Pass/Fail)

933.44144
829.597644
944.202356
Pass
57.30235597
88.69000000
Pass

pCi/L
pCi/L
pCi/L

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

Handwritten:
12/2/09
M. Stamps
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - Ver - Jar-5
Mixed Gamma N1	1572	pCi/L
Mixed Gamma N2	1495	pCi/L
Mixed Gamma N3	1501	pCi/L

Mean Value (Counting) = 1522.67
Stdev = 42.829
98.50 Pass
Rule 3 (Pass/Fail)

Certificate Value = 1545.8378
Lower Limit = 1437.008431
Upper Limit = 1608.324902
Rule 1 (Pass/Fail) Pass
Two sigma = 85.65823564
10 % of Mean = 152.26666667
Rule 2 (Pass/Fail) Pass

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

U.S. Stamp issued 12/2/09

0244-A Characterization

Sample #	Uranium-233/234 Result (pCi/g)	Uranium-238 Result (pCi/g)	Thorium-230 Result (pCi/g)
0244-A 1	6.59	6.12	25.3
0244-A 2	6.36	6.07	28.5
0244-A 3	5.78	5.53	26.5
0244-A 4	6.48	5.97	25.5
0244-A 5	5.65	5.59	26.2
0244-A 6	6.96	5.78	27.0
0244-A 7	5.95	5.75	24.2
0244-A 8	5.29	5.67	27.2
0244-A 9	5.51	6.05	24.3
0244-A 10	6.37	5.57	25.6
0244-A 11	6.50	5.80	25.8
0244-A 12	6.13	5.42	22.4
0244-A 13	5.49	5.24	24.7
0244-A 14	6.19	5.21	26.9
0244-A 15	6.50	6.27	27.6
0244-A 16	6.50	5.24	24.9
0244-A 17	6.25	6.05	24.7
0244-A 18	6.14	6.00	25.4
0244-A 19	6.19	6.14	26.4
0244-A 20	5.67	5.61	23.2
Mean Value	6.13	5.75	25.62
1 sigma	0.439	0.325	1.493
2 sigma	0.878	0.650	2.986
75% Limit	4.60	4.31	19.22
125% Limit	7.66	7.19	32.03
Expected Result	6.2 +/- 4.0	6.0 +/- 4.0	24.5 +/- 0.6
Achieved Results	6.13 +/- 0.439	5.75 +/- 0.325	25.62 +/- 1.493

REFERENCE DATA 4/11/2000 *lett c held 12/1/04*

angela d. johnson 12/13/04

TRM

Invoice:

5 boxes of TRM-1
 10 " " TRM-2 and 3
 5 " each of TRM-1 through 6
 7 " baghouse dirt

Use 1/4 gm x 10 samples with together
 for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM-1	TRM-2	TRM-3	TRM-4
U-238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Th-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	24 ± 2	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

My Sister At 6 EL
Not For Lead-In

SF 2001-COC (10-97)
Supercedes (3-97) Issue

Internal Lab
Batch No.

Press F1 for instructions for each field.

SARWR No. N/A

AR/COC- 602945

Page 1 of 1

[illegible]

Original	1 st Copy	2 nd Copy	3 rd Copy
To Accompany Samples, Laboratory Copy (White)	To Accompany Samples, Return to SMO (Blue)	SMO Suspense Copy (Yellow)	Field Copy (Pink)

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATE 4/14/2000

Amanda L. Feby 4/30/04
 Lott & Sheld 5/1/04

PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

9911627-01-20

Attention Nancy Slater At GEL
Not For Log In

SF 2001-COC (10-97)
Supervisors (8-47) issue

Internal Lab
Batch No.

SARWR No. N/A

ANALYSIS REQUEST AND CHAIN OF CUSTODY
Press F1 for Instructions for each field.

ARICOC- 602945

Page 1 of 1

Dept. No./Mail Stop: 7132 / 1042 Project/Task Manager: PAM PUISSANT Project Name: Record Center Code: N/A Logbook Ref. No.: N/A Service Order No.:		Contract No.: AJ-2480A Case No.: 10204 13 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154	
Lab Contact: EDIE KENT Lab Destination: GEL SMO Contact/Phone: Doug Salimi / 844-3110 Send Report to SMO: Suzi Jensen / 844-3184		Contract No.: AJ-2480A Case No.: 10204 13 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154	
Location Building N/A Sample No. - Fraction Tech Area VI Room N/A		Reference LOV (available at SMO)	
Sample No. - Fraction 050484 - 001 050485 - 001 050486 - 001 - - - - -		Sample Matrix S S S - - - - -	
Date/Time Collected 11/15/99 1100 11/15/99 1100 11/15/99 1100 - - - - -		Container Type P G G - - - - -	
Volume 1 L 1 L 1 L - - - - -		Preservative 4 C 4 C 4 C - - - - -	
Parameter & Method Requested See Special Instructions Below		Sample Type SA SA SA - - - - -	
LAB USE Lab Sample ID		Lab Sample ID	
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No. Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date Sample Team Members 1. Relinquished by Douglas E. Perry 2. Relinquished by 3. Relinquished by 3. Relinquished by		Special Instructions/QC Requirements EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No These "samples" are well characterized and materials being sent to GEL for backup at Hank Hinton. Please list as separate report.	
1. Relinquished by Douglas E. Perry 2. Relinquished by 3. Relinquished by 3. Relinquished by		4. Relinquished by 4. Received by 5. Relinquished by 5. Received by 6. Relinquished by 6. Received by	
Date 11-16-99 Time 0900 Date Date Date Date		Date Date Date Date Date Date	

Original To Accompany Samples, Laboratory Copy (White)
1st Copy To Accompany Samples, Return to SMO (Blue)
2nd Copy SMO Suspense Copy (Yellow)
3rd Copy Field Copy (Pink)

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.

M. Aders 5/15/09
Taheri 07509



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.
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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 4.15, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:

Impurities: U-233 <0.3%, Am-241 <0.15%
5.20453 grams 1M HNO₃ solution.

Source Prepared By:

WLS
W. Mao, Radiochemist

QA Approved:

DM Montgomery
D. M. Montgomery, QA Manager

Date: *12-11-08*

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1283	Isotope:	Uranium-232
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3	Prep Date:	12/16/2008
Reference Date:	12/09/2008	Verification Date:	12/30/2008
Ampoule Mass (g):	5.20453 g	Expiration Date:	12/30/2009
Uncertainty:	+/- 5 %	Primary Code:	1283-A
LogBook No:	RC-S-051-002	Dilution(mL):	100 mL
		Mass of Parent(g):	5.0245 g
		Density(g/mL):	1.0285
		Balance ID:	

Calculations Converting parent activity to dpm/mL/dpm/g

$(\text{Mass of parent(g)}) * (\text{Parent Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$

$(\text{Mass of parent(g)}) * (\text{Parent Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$

$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$

$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/mL	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/30/2008	12/30/2009
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	01/09/2009	12/30/2009
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter
Date: 12/10/09

Serial #	Value	Uncertainty
1283-H N1	2.020	pCi/L 0.238
1283-H N2	2.000	pCi/L 0.234
1283-H N3	2.060	pCi/L 0.242

Mean Value (Counting) =	2.027	pCi/L	99.66904	Pass
Stdev =	0.030550505	pCi/L	Rule 3 (Pass/Fail)	

Target =	2.033	pCi/L
Lower Limit =	1.965565657	pCi/L
Upper Limit =	2.087767676	pCi/L
Rule 1 Pass/Fail	Pass	
Two sigma =	0.061101009	
10 % of Mean =	0.202666667	
Rule 2 (Pass/Fail)	Pass	

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for standard 1283-H using 0.1 mL for each source. Each standard was combined with 0.1 mL of U-238 standard 1163-G and was diluted to 10 mL with DI water. 50 micrograms of neodymium carrier and 1ml of Titanium Chloride were added. The solution was allowed to sit for 30 seconds. One mL of 49% HF was then added to precipitate neodymium (and uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-238 were calculated by comparison to U-232 certified values.

A. Drochter
12/14/09

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. 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
January 17, 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	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 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 , $u_i(y) \equiv |\partial y / \partial x_i| \cdot u(x_i)$, 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 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		A Solution Material Info	
Parent Code:	1374	Isotope:	Phutonium-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
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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: JOT call 12/11/09 12/9/09

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 937074

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243536001	SAMPLE	MXR1	GAM06	09-JAN-10 14:07	DONE	CAN	04-FEB-09 00:00
243536002	SAMPLE	MXR1	GAM07	09-JAN-10 14:08	DONE	CAN	20-JUL-09 00:00
243536003	SAMPLE	MXR1	GAM10	09-JAN-10 14:09	DONE	CAN	16-MAR-09 00:00
243536004	SAMPLE	MXR1	GAM12	09-JAN-10 14:09	DONE	CAN	10-FEB-09 00:00
243536005	SAMPLE	MXR1	GAM13	09-JAN-10 14:10	DONE	CAN	02-FEB-09 00:00
243536006	SAMPLE	MXR1	GAM14	09-JAN-10 14:10	DONE	CAN	06-MAR-09 00:00
243536007	SAMPLE	MXR1	GAM15	09-JAN-10 14:11	DONE	CAN	16-FEB-09 00:00
243536008	SAMPLE	MXR1	GAM18	09-JAN-10 14:11	DONE	CAN	23-APR-09 00:00
243536009	SAMPLE	MXR1	GAM22	09-JAN-10 14:12	DONE	CAN	02-DEC-09 00:00
243536010	SAMPLE	MXR1	GAM23	09-JAN-10 14:13	DONE	CAN	02-JUN-09 00:00
243536011	SAMPLE	MXR1	GAM11	09-JAN-10 14:20	DONE	CAN	18-NOV-09 00:00
243547002	SAMPLE	MXR1	GAM16	09-JAN-10 14:21	DONE	CAN	16-NOV-09 00:00
243547003	SAMPLE	MXR1	GAM19	09-JAN-10 14:21	DONE	CAN	12-MAR-09 00:00
243555001	SAMPLE	MXR1	GAM20	09-JAN-10 14:22	DONE	CAN	26-AUG-09 00:00
243555002	SAMPLE	MXR1	GAM25	09-JAN-10 14:22	DONE	CAN	07-OCT-09 00:00
1202005194	LCS	MXR1	GAM04	09-JAN-10 15:25	DONE	CAN	05-MAY-09 00:00
1202005192	MB	MXR1	GAM14	09-JAN-10 17:03	DONE	CAN	06-MAR-09 00:00
1202005193	DUP	MXR1	GAM16	09-JAN-10 17:04	DONE	CAN	16-NOV-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:938070

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243536001	SAMPLE	MXA1	1219	07-JAN-10 07:59	DONE		
243536002	SAMPLE	MXA1	1220	07-JAN-10 07:59	DONE		
243536003	SAMPLE	MXA1	1221	07-JAN-10 07:59	DONE		
243536004	SAMPLE	MXA1	1222	07-JAN-10 07:59	DONE		
243536011	SAMPLE	MXA1	1025	07-JAN-10 08:33	DONE		
1202007324	MB	MXA1	1026	07-JAN-10 08:33	DONE		
1202007325	DUP	MXA1	1027	07-JAN-10 08:33	DONE		
1202007326	LCS	MXA1	1028	07-JAN-10 08:33	DONE		
243536005	SAMPLE	MXA1	1029	07-JAN-10 08:33	DONE		
243536006	SAMPLE	MXA1	1030	07-JAN-10 08:33	DONE		
243536007	SAMPLE	MXA1	1031	07-JAN-10 08:33	DONE		
243536008	SAMPLE	MXA1	1033	07-JAN-10 08:33	DONE		
243536009	SAMPLE	MXA1	1035	07-JAN-10 08:33	DONE		
243536010	SAMPLE	MXA1	1036	07-JAN-10 08:33	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 938071

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243536001	SAMPLE	MXA1	1089	05-JAN-10 20:20	DONE		
243536002	SAMPLE	MXA1	1090	05-JAN-10 20:20	DONE		
243536003	SAMPLE	MXA1	1091	05-JAN-10 20:20	DONE		
243536004	SAMPLE	MXA1	1092	05-JAN-10 20:20	DUSE		
243536005	SAMPLE	MXA1	1093	05-JAN-10 20:20	DONE		
243536006	SAMPLE	MXA1	1094	05-JAN-10 20:20	DONE		
243536007	SAMPLE	MXA1	1095	05-JAN-10 20:20	DONE		
243536008	SAMPLE	MXA1	1096	05-JAN-10 20:20	DONE		
243536009	SAMPLE	MXA1	1097	05-JAN-10 20:20	DONE		
243536010	SAMPLE	MXA1	1099	05-JAN-10 20:20	DONE		
243536011	SAMPLE	MXA1	1100	05-JAN-10 20:20	DONE		
1202007327	MB	MXA1	1101	05-JAN-10 20:20	DONE		
1202007328	DUP	MXA1	1102	05-JAN-10 20:20	DONE		
1202007329	LCS	MXA1	1103	05-JAN-10 20:20	DONE		
243536004	SAMPLE	MXA1	1042	07-JAN-10 09:28	DUSE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 939666

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243536004	SAMPLE	MXA1	1217	11-JAN-10 12:11	DONE		
1202010813	MB	MXA1	1218	11-JAN-10 12:11	DONE		
1202010814	DUP	MXA1	1219	11-JAN-10 12:11	DONE		
1202010815	LCS	MXA1	1220	11-JAN-10 12:11	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 940301

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202012276	LCS	KXM4	1161	14-JAN-10 07:32	DONE		
243536003	SAMPLE	KXM4	1162	14-JAN-10 07:32	DONE		
243536004	SAMPLE	KXM4	1163	14-JAN-10 07:32	DONE		
243536005	SAMPLE	KXM4	1164	14-JAN-10 07:32	DONE		
243536006	SAMPLE	KXM4	1165	14-JAN-10 07:32	DONE		
243536007	SAMPLE	KXM4	1166	14-JAN-10 07:32	DONE		
243536008	SAMPLE	KXM4	1167	14-JAN-10 07:32	DONE		
243536009	SAMPLE	KXM4	1168	14-JAN-10 07:32	DONE		
243536010	SAMPLE	KXM4	1169	14-JAN-10 07:32	DONE		
243536011	SAMPLE	KXM4	1170	14-JAN-10 07:32	DONE		
1202012274	MB	KXM4	1171	14-JAN-10 07:32	DONE		
1202012275	DUP	KXM4	1172	14-JAN-10 07:32	DONE		
243536001	SAMPLE	KXM4	1159	14-JAN-10 07:37	DONE		
243536002	SAMPLE	KXM4	1160	14-JAN-10 07:37	DONE		