

Wednesday, February 24, 2010

Page 1 of 4
REQUEST NUMBER: 10-2076

**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: 10-2076

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/24/2010

TURNAROUND/REPORT DUE: 3/26/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1		1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	

Wednesday, February 24, 2010

REQUEST NUMBER: 10-2076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1	1	1	RE36-10-7468	R	2/20/2010	
			RE36-10-7469	R	2/20/2010	
			RE36-10-7470	R	2/20/2010	
			RE36-10-7471	R	2/20/2010	
			RE36-10-7472	R	2/20/2010	
			RE36-10-7473	R	2/20/2010	
			RE36-10-7475	R	2/20/2010	
			RE36-10-7476	R	2/20/2010	
			RE36-10-7515	R	2/20/2010	
			RE36-10-7413	R	2/20/2010	
			RE36-10-7414	R	2/20/2010	
			RE36-10-7461	R	2/20/2010	
			RE36-10-7462	R	2/20/2010	
			RE36-10-7463	R	2/20/2010	
			RE36-10-7464	R	2/20/2010	
EPA:906.0	1	1	RE36-10-7465	R	2/20/2010	
			RE36-10-7466	R	2/20/2010	
			RE36-10-7467	R	2/20/2010	
			RE36-10-7468	R	2/20/2010	
			RE36-10-7469	R	2/20/2010	
			RE36-10-7470	R	2/20/2010	
			RE36-10-7471	R	2/20/2010	
			RE36-10-7472	R	2/20/2010	
			RE36-10-7473	R	2/20/2010	
			RE36-10-7475	R	2/20/2010	
			RE36-10-7476	R	2/20/2010	
			RE36-10-7515	R	2/20/2010	

Wednesday, February 24, 2010

REQUEST NUMBER: 10-2076

Page 3 of 4

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:AM-241						
1		1	RE36-10-7414	R	2/20/2010	
1		1	RE36-10-7461	R	2/20/2010	
1		1	RE36-10-7462	R	2/20/2010	
1		1	RE36-10-7463	R	2/20/2010	
1		1	RE36-10-7464	R	2/20/2010	
1		1	RE36-10-7465	R	2/20/2010	
1		1	RE36-10-7466	R	2/20/2010	
1		1	RE36-10-7467	R	2/20/2010	
1		1	RE36-10-7468	R	2/20/2010	
1		1	RE36-10-7469	R	2/20/2010	
1		1	RE36-10-7470	R	2/20/2010	
1		1	RE36-10-7471	R	2/20/2010	
1		1	RE36-10-7472	R	2/20/2010	
1		1	RE36-10-7473	R	2/20/2010	
1		1	RE36-10-7475	R	2/20/2010	
1		1	RE36-10-7476	R	2/20/2010	
1		1	RE36-10-7515	R	2/20/2010	
HASL-300:ISOPU						
1		1	RE36-10-7413	R	2/20/2010	
1		1	RE36-10-7414	R	2/20/2010	
1		1	RE36-10-7461	R	2/20/2010	
1		1	RE36-10-7462	R	2/20/2010	
1		1	RE36-10-7463	R	2/20/2010	
1		1	RE36-10-7464	R	2/20/2010	
1		1	RE36-10-7465	R	2/20/2010	
1		1	RE36-10-7466	R	2/20/2010	
1		1	RE36-10-7467	R	2/20/2010	
1		1	RE36-10-7468	R	2/20/2010	
1		1	RE36-10-7469	R	2/20/2010	

Wednesday, February 24, 2010

REQUEST NUMBER: 10-2076

Page 4 of 4

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:ISOU		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
		1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	

Wednesday, February 24, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2076

LOS ALAMOS

REQUEST NUMBER: 10-2076

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/26/2010

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
RE36-10-7414	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7414	1	POLY	H3	Ice	R
RE36-10-7413	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7413	1	POLY	H3	Ice	R
RE36-10-7462	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7462	1	POLY	H3	Ice	R
RE36-10-7465	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7465	1	POLY	H3	Ice	R
RE36-10-7473	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7473	1	POLY	H3	Ice	R
RE36-10-7471	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7471	1	POLY	H3	Ice	R
RE36-10-7472	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7472	1	POLY	H3	Ice	R
RE36-10-7468	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7468	1	POLY	H3	Ice	R
RE36-10-7464	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7464	1	POLY	H3	Ice	R
RE36-10-7463	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7463	1	POLY	H3	Ice	R
RE36-10-7475	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7475	1	POLY	H3	Ice	R
RE36-10-7466	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7466	1	POLY	H3	Ice	R
RE36-10-7476	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7476	1	POLY	H3	Ice	R
RE36-10-7461	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Wednesday, February 24, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2076

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE36-10-7461	1	POLY	H3	Ice	R
RE36-10-7467	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7467	1	POLY	H3	Ice	R
RE36-10-7469	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7469	1	POLY	H3	Ice	R
RE36-10-7470	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7470	1	POLY	H3	Ice	R
RE36-10-7515	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7515	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7413

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA: OBT3		FILL	
TIME COLLECTED(HH:MM)		1215		SUB-MEDIA: TUFF 1		NA	
PRS ID: 36-008		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 36-610579		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		0.5		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Y	
1		8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+ N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Moist dark brown sand and cobbles

SAMPLE COMMENTS: NA

LOCATION DESC: 8-3

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 0 dpm
 Beta/Gamma \leq 16.3 dpm

PID $\frac{\text{Ambient Reading}}{7.3m \ 2/20/10} = \text{ppm}$

COLLECTED BY (PRINT)

REVIEWED BY (PRINT) R Saunders

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy Zwick	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherwood (Signature) Sherwood	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7414

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3	ok	
TIME COLLECTED (HH:MM)		13:19		SUB-MEDIA:	TUFF 1	↓	
PRS ID:	36-008	ok		SAMPLE TECH CODE:	HA		
LOCATION ID:	36-610579	↓		FIELD QC TYPE:	NA	ok	
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA	↓	
TOP DEPTH:	0	2.0		SAMPLE USAGE:	INV	↓	
BOTTOM DEPTH:	0	3.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Y	
1		8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

moist gray, weathered tuff

SAMPLE COMMENTS:

FR: RE36-10-7527

LOCATION DESC:

8-3

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 5 dpm
Beta/Gamma ≤ 386 dpm

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

73m 2/20/10

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	2/20/10	(Printed Name) Sheri Sherwood	2/20/10
(Signature) Tracy Whit	1604	(Signature) Sheri Sherwood	1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7461

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	OBT3		FILL
TIME COLLECTED (HH:MM)		0955		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	36-610603	↓		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	8260B	125 ML SEPTUM AMBER GLASS	Ice	y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1		H3	500 ML POLY	Ice	y	
1		METALS+U-GEL	125 ML POLY	Ice	y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC: Brown fill, rocks

FTB: RE36-10 -7539

SAMPLE COMMENTS:

NA

LOCATION DESC: 8-1

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 0 dpm
Beta/Gamma = 11 dpm

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

72m 2/20/10

COLLECTED BY (PRINT)

T. McFarland

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) T. McFarland	2/20/10	(Printed Name) Sherri Sherwood	2/20/10
(Signature) Tracy McFarland	1604	(Signature) Sherri Sherwood	1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7462

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3		Allh
TIME COLLECTED (HH:MM)		1001		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008		OK	SAMPLE TECH CODE:	HA		OK
LOCATION ID:	36-610603		↓	FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC		↓	FIELD PREP:	NA		↓
TOP DEPTH:	0		2.0	SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0		3.0	SCREEN/PORT DESC:			NA
FIELD MATRIX:	R		S	EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown sandy silt, cobbles

SAMPLE COMMENTS:

NA

LOCATION DESC:

8-1

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 5 dpm
Beta/Gamma = 81 dpm

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

72m 2/20/10

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy Zelt	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) Sheri Sherwood	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7463

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3		711h
TIME COLLECTED (HH:MM)		1034		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	36-610604	↓		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:			WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION:		BOREHOLE DIRECTION:			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown sandy silt, rocks and roots

SAMPLE COMMENTS:

LOCATION DESC:

8-16

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 26 dpm
Beta/Gamma \leq 626 dpm

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

72m 2/20/10

COLLECTED BY (PRINT)

TLMC Farling

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Jo. Roberson (Signature) <i>Jo. Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) <i>Sherrin Sherwood</i> (Signature) <i>Sherrin Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7464

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3		ANK
TIME COLLECTED (HH:MM)		1045		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	36-610604	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	2.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	3.0		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	5		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION:	NA	BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty sand and gray tuff fragments

SAMPLE COMMENTS:

LOCATION DESC:

8-16

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 5 dpm
Beta/Gamma = 183 dpm

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

72m 2/20/10

COLLECTED BY (PRINT)

TLMcFarlang

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sheri Sheppard (Signature) <i>Sheri Sheppard</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7465

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3		Fill
TIME COLLECTED (HH:MM)		11:10		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	36-610605	↓		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	8260B	125 ML SEPTUM AMBER GLASS	Ice	y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1		H3	500 ML POLY	Ice	y	
1		METALS+U-GEL	125 ML POLY	Ice	y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC: Blackish brown moist rocky sand, roots

FD: RE36-10-7515

SAMPLE COMMENTS:

NA

LOCATION DESC:

8-2

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 0 dpm
Beta/Gamma = 183 dpm

RS 02.20.10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY

(Printed Name) Jon Roberson

(Signature) 


Date/Time

2/20/10

1604

RECEIVED BY

(Printed Name) Sheri Sherwood

(Signature) 

Date/Time

2/20/10

1604

RELINQUISHED BY

Date/Time

RECEIVED BY

Date/Time

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7466

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA: QBT3		PS 02-20-10 Atch. F.11	
TIME COLLECTED (HH:MM)		11:30		SUB-MEDIA: TUFF 1		NA	
PRS ID: 36-008		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 36-610605		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		2.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		3.0		SCREEN/PORT DESC: NA		↓	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA		NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: moist dark brown sand and rocks

SAMPLE COMMENTS:

NA

LOCATION DESC: 8-2

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 0 dpm
Beta/Gamma = 307 dpm

RS 02-20-10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TL McFarland

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherri Shewood (Signature) <i>Sherri Shewood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7467

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3		SED
TIME COLLECTED (HH:MM)		12:10		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	36-610606			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	SED		EXCAVATED: YES/NO	NA		
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO
BOREHOLE: YES/NO	NA			BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION:
					NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: brown moist loamy, glass pieces, some roots, few pebbles

SAMPLE COMMENTS:

NA

LOCATION DESC: 8-17

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 15 dpm
Beta/Gamma = 196 dpm

RS 02-20-10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TL McFarland

RELINQUISHED BY (Printed Name) Jon Robinson (Signature) <i>Jon Robinson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherrin Sherwood (Signature) <i>Sherrin Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7468

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3		SED
TIME COLLECTED (HH:MM)		12:23		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	36-610606			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:	R	SED		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

moist brown loamy sand, some rocks, and a piece of glass

SAMPLE COMMENTS:

NA

LOCATION DESC:

8-17

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 10 dpm

BX = 405 dpm

COLLECTED BY (PRINT)

L. McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Rolinda Saunders (Signature) Rolinda Saunders	Date/Time 2-20-2010 1604	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7469

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA: QBT3		SED	
TIME COLLECTED (HH:MM)		14:00		SUB-MEDIA: TUFF 1		NA	
PRS ID: 36-008		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 36-610607		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		0.5		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		SED		EXCAVATED: YES/NO NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO NA			
BOREHOLE: YES/NO NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+ N03+pH	500 ML POLY	Ice	Y	1
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: dark brown loamy silt with rocks

SAMPLE COMMENTS:

NA

LOCATION DESC: 8-15

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 20 dpm
Beta/Gamma = 510 dpm

RS 02.20.10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcfarland

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) <i>Sheri Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7470

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3	ALLH	
TIME COLLECTED(HH:MM)		14:05		SUB-MEDIA:	TUFF 1	NA	
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA	OK	
LOCATION ID:	36-610607			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	2.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	3.0		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1	✓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: dry sandy silt with tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC: 8-15

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 0 dpm
Beta/Gamma = 716 dpm

RS 02/20/10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TL McFarland

RELINQUISHED BY (Printed Name) Jan Roberson (Signature) <i>Jan Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7471

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3		FILL
TIME COLLECTED (HH:MM)		1348		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	36-610608	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	72m 2/20/10 0.8		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA	NO/NA		
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES (NO) / NA
BOREHOLE: YES/NO/NA	NO/NA			BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+ N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown moist sand and cobbles

SAMPLE COMMENTS:

NA

LOCATION DESC:

8-4

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 20 dpm
Beta/Gamma \leq 72 dpm

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

72m 2/20/10

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) <i>Shenig Newwood</i> (Signature) <i>Shenig Newwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7472

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA: QBT3		7m 2/20/10 - ALL FILL	
TIME COLLECTED (HH:MM)		1418		SUB-MEDIA: TUFF 1		NA	
PRS ID: 36-008		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 36-610608		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		2.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		3.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA		6/NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NO/NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+NO3+pH	500 ML POLY	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

moist brown sand and cobbles, some clay

SAMPLE COMMENTS:

NA

LOCATION DESC:

8-4

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 36 dpm
Beta/Gamma = 484 dpm

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

7m 2/20/10

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sheri Sheppard (Signature) <i>Sheri Sheppard</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7473

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	OBT3		SED
TIME COLLECTED (HH:MM)		14:24		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	36-610609			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	SED		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION:	NA	BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silt, rocks, roots, pine cone, saw blade, glass

SAMPLE COMMENTS:

NA

LOCATION DESC: 8-18

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 15 dpm
Beta/Gamma \leq 543 dpm

RS 02-20-10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) <i>Shenig Newwood</i> (Signature) <i>Shenig Newwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7475

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3	SED	
TIME COLLECTED (HH:MM)		1451		SUB-MEDIA:	TUFF 1	NA	
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA	OK	
LOCATION ID:	36-610610	↓		FIELD QC TYPE:	NA	↓	
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA	↓	
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV	↓	
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	SED		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

moist dark brown sand and clay, roots

SAMPLE COMMENTS:

NA

LOCATION DESC:

8-5

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 5 dpm
Beta/Gamma = 510 dpm

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

12m 2/20/10

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Jon Robertson (Signature) <i>Jon Robertson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) <i>Sheri Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7476

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA: OBT3		Allh	
TIME COLLECTED (HH:MM)		1505		SUB-MEDIA: TUFF 1		NA	
PRS ID: 36-008		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 36-610610		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		2.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		3.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES (NO) NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES (NO) NA			
BOREHOLE: YES (NO) NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+ N03+pH	500 ML POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

moist brown sand and weathered tuff

FR: RE36-10-7528

SAMPLE COMMENTS:

NA

LOCATION DESC:

8-5

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 20 dpm
Beta/Gamma \leq 736 dpm

PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$ 73m 2/20/10

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TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherrif Sherwood (Signature) <i>Sherrif Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7515

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED (MM/DD/YYYY):		02/20/2010		MEDIA:	QBT3		F.11
TIME COLLECTED (HH:MM)		11:10		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	UNK	36-610605		FIELD QC TYPE:	ED		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	QC		✓
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R			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	73m 2/20/10 8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	y	
1		8260B	125 ML SEPTUM AMBER GLASS	Ice	y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1		H3	500 ML POLY	Ice	y	
1		METALS+U- GEL	125 ML POLY	Ice	y	
1		Perchlorate+CN+ N03+pH	500 ML POLY	Ice	y	
1	✓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC: QC Sample of RE 36-10 - 7465

Blackish brown moist rocky sand, roots

SAMPLE COMMENTS:

NA

LOCATION DESC: 8-2

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 0 dpm
Beta/Gamma \leq 183 dpm

125 02.20.10
PID $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

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R Saunders

REVIEWED BY (PRINT)

Th McFarlane

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7527

WORK ORDER:

<u>AS PLANNED</u>		<u>AS COLLECTED</u>	<u>AS PLANNED</u>		<u>AS COLLECTED</u>
DATE COLLECTED(MM/DD/YYYY):		02/20/2010	MEDIA:	NA	ok
TIME COLLECTED (HH:MM)		1334	SUB-MEDIA:	OTHER	
PRS ID:	36-008	ok	SAMPLE TECH CODE:	DC	
LOCATION ID:	UNK	36-610579	FIELD QC TYPE:	ER	
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	UF	
TOP DEPTH:	0		SAMPLE USAGE:	QC	
BOTTOM DEPTH:	0		SCREEN/PORT DESC:		NA
FIELD MATRIX:	W		EXCAVATED: YES/NO/NA		
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA	
			WATER FLOWING: YES/NO/NA		
BOREHOLE: YES/NO/NA			BOREHOLE DECLINATION:	NA	
			BOREHOLE DIRECTION:		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1		NO3NO2	250 ML POLY	Sulfuric Acid (Hydrogen Sulfate)	N	
1	Normal	SW-846:6850	250 ML POLY	Ice	Y	
1	✓	TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of RE 36-10-7414

SAMPLE COMMENTS:

Rinsate

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7528

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/20/2010		MEDIA:	NA		OK
TIME COLLECTED(HH:MM)		1518		SUB-MEDIA:	OTHER		
PRS ID:	36-008	OK		SAMPLE TECH CODE:	DC		
LOCATION ID:	UNK	36-610610		FIELD QC TYPE:	ER		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	UF		
TOP DEPTH:	0			SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0			SCREEN/PORT DESC:		NA	
FIELD MATRIX:	W			EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1		NO3NO2	250 ML POLY	Sulfuric Acid (Hydrogen Sulfate)	N	
1	normal	SW-846:6850	250 ML POLY	Ice	Y	
1	normal	TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of RE36-10-7476

SAMPLE COMMENTS:

Rinsate

LOCATION DESC: 8-5

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarlane

RELINQUISHED BY (Printed Name) Tom Roberson (Signature) <i>Tom Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 2/20/10 1604
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7539

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		02/20/2010	MEDIA:	NA	ok
TIME COLLECTED (HH:MM)		0950	SUB-MEDIA:	OTHER	
PRS ID:	36-008	ok	SAMPLE TECH CODE:	DC	
LOCATION ID:	UNK	36-610603	FIELD QC TYPE:	FTB	
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	
TOP DEPTH:	0		SAMPLE USAGE:	QC	
BOTTOM DEPTH:	0		SCREEN/PORT DESC:		NA
FIELD MATRIX:	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
12m 2/20/10						
1	Normal	8260B Trip Blank	40 ML SEPTUM AMBER GLASS	Ice	Y	

SAMPLE DESC: QC Sample of RE36-10-7461

SAMPLE COMMENTS:

NA

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

Th McFarlane

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Jon Roberson (Signature) <i>Jon Roberson</i>	Date/Time 2/20/10 1604	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 2/20/10 1604
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):

RE 36-10-7413

7414

7461

7462

7463

7464

7465

7466

7467

RE 36-10-7469

7470

7471

7472

7473

7475

7476

7515

7468

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):

RE 36-10-7527
7528] Rinsate

7539 FTB

Reason:

.....

Print Last Name McFarland

Signature

Tracy McFarland

Date 2/20/10



133 State Road 4, White Rock, NM 87544
505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00065
Client Sample ID: RE36-10-7413
Sample Collection Date: 02/20/10 12:15
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-10-00065-001
Date Received: 02/22/10 00:00
Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Quel	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	19.60	24.11	37.46	24.23		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	36.71	14.92	18.42	15.58		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	34.31	0.11	34.31		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	0.96	5.91	3.05	5.91		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	-0.04	48.03	0.11	48.03		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.07	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RU-182	0.07	0.14	0.30	0.14		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	0.83	0.39	0.13	0.39		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	2.54	0.92	0.29	0.93		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	1.16	0.90	0.41	0.90		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	4.44	3.36	1.24	3.31		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.20	0.22	0.09	0.22		pCi/g	EPA 901.1M	2/22/2010	ME	N/A

NOTES: % Moisture: 3.09

Matthew J. Edin
Quality Assurance Review

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

LELAP Certificate# 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00065

Client Sample ID: RE36-10-7414

Sample Collection Date: 02/20/10 13:19

Sample Matrix: Soil/Solid

Request or PO Number:

ARS Sample ID: ARS2-10-00065-002

Date Received: 02/22/10 00:00

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	37.46	28.61	34.06	29.17		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	31.95	14.56	17.92	18.08		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	0.10	0.19	0.11	0.19		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	34.76	10.14	1.22	10.19		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.12	0.13	0.08	0.13		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.07	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-182	0.63	0.60	0.37	0.60		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.52	0.50	0.13	0.50		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	1.39	0.69	0.30	0.69		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	-0.15	-0.83	0.42	-0.83		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	3.74	3.30	1.41	3.41		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	-0.03	42.97	0.10	42.97		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 2.25										

Quality Assurance Review

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NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00065

Client Sample ID: RE36-10-7461

Sample Collection Date: 02/20/10 09:55

Sample Matrix: Soil/Solid

Request or PO Number:


ARS Sample ID: ARS2-10-00065-003

Date Received: 02/22/10 00:00

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	22.09	23.39	32.75	23.55		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	30.65	14.60	18.31	18.08		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	33.60	0.11	33.60		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	2.35	5.16	2.50	5.16		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.14	0.19	0.11	0.19		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	-0.04	47.15	0.11	47.15		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.06	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
SU-152	-0.31	-1.08	0.29	-1.09		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	0.71	0.34	0.11	0.35		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.12	0.28	0.28	0.28		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	-0.44	-4.21	0.42	-4.21		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	4.22	3.18	1.25	3.32		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.36	0.32	0.12	0.32		pCi/g	EPA 901.1M	2/22/2010	ME	N/A

NOTES: % Moisture: 1.86


Quality Assurance Review

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LELAP Certificate# 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: AR52-10-00065

Request or PO Number:

Client Sample ID: RE36-10-7462

ARS Sample ID: AR52-10-00065-004

Sample Collection Date: 02/20/10 10:01

Date Received: 02/22/10 00:00

Sample Matrix: Soil/Solid

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Trace/Chem Recovery
GROSS ALPHA	28.12	25.70	33.91	25.93		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	22.11	13.16	17.73	13.43		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.04	41.08	0.13	41.08		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	24.95	9.27	1.42	9.29		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.11	0.14	0.14	0.14		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.38	0.27	0.09	0.27		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.08	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
SU-152	-0.55	170.71	0.38	170.71		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.01	0.47	0.15	0.47		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.80	0.56	0.34	0.56		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	0.51	0.70	0.48	0.70		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	4.35	2.71	1.13	2.88		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	-0.03	31.93	0.07	31.93		pCi/g	EPA 901.1M	2/22/2010	ME	N/A

NOTES: % Moisture: 0.87

Matthew A. Eden
Quality Assurance Review

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

LELAP Certificate# 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00065

Client Sample ID: RE36-10-7463

Sample Collection Date: 02/20/10 10:34

Sample Matrix: Soil/Solid

Request or PO Number:

ARS Sample ID: ARS2-10-00065-005

Date Received: 02/22/10 00:00

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	19.61	24.11	37.46	24.23		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	34.14	14.63	18.42	15.22		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	33.60	0.11	33.60		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	-0.35	-4.68	4.09	-4.68		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.19	0.16	0.09	0.16		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	28.81	0.06	28.81		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.05	-0.11	0.31	-0.11		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	0.86	0.37	0.11	0.38		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	1.54	0.76	0.28	0.76		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	1.16	0.64	0.42	0.64		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	2.37	1.83	0.65	1.73		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.05	0.16	0.08	0.16		pCi/g	EPA 901.1M	2/22/2010	ME	N/A

NOTES: % Moisture: 0.85

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Quality Assurance Review

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ARS Sample Delivery Group: ARS2-10-00065
Client Sample ID: RE36-10-7464
Sample Collection Date: 02/20/10 10:43
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-10-00065-006
Date Received: 02/22/10 00:00
Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	37.33	28.72	33.94	29.08		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	39.35	15.29	17.78	16.03		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	33.68	0.11	33.68		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	0.47	2.45	2.12	2.45		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.05	0.08	0.10	0.08		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.06	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.45	130.38	0.29	130.38		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.42	0.45	0.08	0.45		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.72	0.74	0.36	0.74		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	0.05	0.14	0.41	0.14		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	4.13	2.23	0.81	2.42		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.46	0.34	0.11	0.34		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 0.77										

Matthew L. Eder
Quality Assurance Review

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ARS Sample Delivery Group: ARS2-10-00065

Request or PO Number:

Client Sample ID: RE36-10-7465

ARS Sample ID: ARS2-10-00065-007

Sample Collection Date: 02/20/10 11:00

Date Received: 02/22/10 00:00

Sample Matrix: Soil/Solid

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	12.43	19.18	32.75	19.24		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	31.59	14.49	18.31	15.00		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	35.04	0.11	35.04		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	0.98	3.53	1.97	3.53		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.13	0.21	0.13	0.21		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.03	0.09	0.08	0.09		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	0.44	0.47	0.30	0.48		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	0.91	0.40	0.13	0.41		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.88	0.56	0.29	0.86		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	-0.29	-2.00	0.45	-2.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	4.23	2.77	1.10	2.03		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.54	0.30	0.08	0.30		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 2.51										

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ARS Sample Delivery Group: ARS2-10-00065

Request or PO Number:

Client Sample ID: RE36-10-7466

ARS Sample ID: ARS2-10-00065-008

Sample Collection Date: 02/20/10 11:30

Date Received: 02/22/10 00:00

Sample Matrix: Soil/Solid

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	32.71	27.23	33.91	27.52		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	33.76	14.64	17.73	15.21		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	26.24	0.08	26.24		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	22.53	7.04	0.90	7.07		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.12	0.10	0.08	0.10		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.01	0.02	0.05	0.02		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.38	101.56	0.23	101.56		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.11	0.37	0.10	0.37		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.40	0.46	0.22	0.46		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	0.68	0.56	0.37	0.56		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	3.65	2.80	1.15	2.92		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.42	0.33	0.12	0.33		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 2.50										

Matthew L. Eden
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ARS Sample Delivery Group: ARS2-10-00065

Request or PO Number:

Client Sample ID: RE36-10-7467

ARS Sample ID: ARS2-10-00065-009

Sample Collection Date: 02/20/10 12:10

Date Received: 02/22/10 00:00

Sample Matrix: Soil/Solid

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	14.98	21.96	37.28	22.03		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	34.01	14.64	18.61	15.22		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	0.05	0.21	0.17	0.21		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	0.75	3.59	2.83	3.59		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.18	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.08	0.12	0.25	0.12		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.75	0.43	0.10	0.44		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	0.23	0.53	0.47	0.53		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.01	0.58	0.19	0.58		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-226	0.38	0.38	0.45	0.38		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	-0.27	-2.95	0.83	-2.95		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	7.06	4.39	1.62	4.67		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.00	0.13	0.09	0.13		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 2.14										

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ARS Sample Delivery Group: ARS2-10-00065
Client Sample ID: RE36-10-7468
Sample Collection Date: 02/20/10 12:30
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-10-00065-010
Date Received: 02/22/10 00:00
Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	18.93	22.35	33.94	22.47		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	42.55	15.31	17.75	16.17		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.05	48.76	0.15	48.76		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	0.00	4390.70	8.89	4390.70		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.20	0.28	0.16	0.28		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.12	0.17	0.23	0.17		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.66	188.74	0.42	188.74		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	0.94	0.45	0.11	0.45		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.00	0.00	0.41	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	-0.32	-1.82	0.62	-1.82		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	3.57	3.54	1.53	3.65		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.25	0.26	0.10	0.26		pCi/g	EPA 901.1M	2/22/2010	ME	N/A

NOTES: % Moisture: 2.77

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Quality Assurance Review

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ARS Sample Delivery Group: ARS2-10-00065
Client Sample ID: RE36-10-7469
Sample Collection Date: 02/20/10 14:00
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-10-00065-011
Date Received: 02/22/10 00:00
Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	17.26	21.39	32.75	21.50		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	44.14	16.07	18.31	16.95		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-8.05	53.53	0.17	53.53		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	39.25	13.27	1.84	13.32		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.18	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	-0.07	52.05	0.12	52.05		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	1.25	0.56	0.10	0.56		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.04	-0.04	0.49	-0.04		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.38	0.68	0.26	0.68		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	1.63	1.12	0.45	1.13		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	2.48	1.24	0.73	1.24		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	6.72	6.10	2.24	6.29		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	-0.04	41.62	0.09	41.62		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 1.49										

Matthew J. Eden
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ARS Sample Delivery Group: ARS2-10-00065
Client Sample ID: RE36-10-7470
Sample Collection Date: 02/20/10 14:05
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-10-00065-012
Date Received: 02/22/10 00:00
Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	18.93	22.32	33.91	22.44		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	27.19	13.99	17.73	13.99		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	0.05	0.21	0.17	0.21		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	37.08	12.91	1.85	12.95		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.32	0.38	0.18	0.38		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.15	0.22	0.12	0.22		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.50	0.35	0.10	0.35		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	0.80	0.81	0.47	0.81		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.27	0.82	0.21	0.82		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.94	0.48	0.71	0.49		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	0.08	0.11	0.70	0.11		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	5.63	4.37	1.89	4.88		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.41	0.45	0.18	0.45		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 1.53										

Matthew J. Eder
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ARS Sample Delivery Group: ARS2-10-00065
Client Sample ID: RE36-10-7471
Sample Collection Date: 02/20/10 13:48
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-10-00065-013
Date Received: 02/22/10 00:00
Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	29.48	27.76	37.46	27.99		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	47.94	16.26	18.42	17.29		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	30.45	0.10	30.45		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	1.49	2.96	1.35	2.96		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.16	0.15	0.10	0.15		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.19	0.14	0.07	0.14		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.01	0.03	0.06	0.03		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	0.39	0.39	0.26	0.39		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	0.72	0.33	0.10	0.33		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.00	0.00	0.23	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	0.43	0.55	0.40	0.55		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	3.97	3.44	1.31	3.56		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	-0.02	33.20	0.07	33.20		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 2.68										

M. J. Edin
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ARS Sample Delivery Group: ARS2-10-00065

Client Sample ID: RE36-10-7472

Sample Collection Date: 02/20/10 14:18

Sample Matrix: Soil/Solid

Request or PO Number:

ARS Sample ID: ARS2-10-00065-014

Date Received: 02/22/10 00:00

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	19.00	22.43	34.06	22.55		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	37.75	14.88	17.92	15.58		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	0.20	0.27	0.13	0.27		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	3.28	16.78	6.62	16.78		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.14	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.07	0.10	0.17	0.10		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.08	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.55	158.06	0.35	158.06		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.55	0.85	0.15	0.55		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	3.51	1.23	0.34	1.24		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	1.35	1.00	0.51	1.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	3.12	3.58	1.77	3.94		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	-0.02	-0.22	0.09	-0.22		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 2.70										

Matthew A. Edger
Quality Assurance Review

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

LELAP Certificate# 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00065

Client Sample ID: RE36-10-7473

Sample Collection Date: 02/20/10 14:24

Sample Matrix: Soli/Solid

Request or PO Number:

ARS Sample ID: ARS2-10-00065-015

Date Received: 02/22/10 00:00

Report Date: 02/23/10 00:03

Analyte Description	Analyte Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analyte Units	Analyte Test Method	Analyte Date/Time	Analyte Technician	Tracer/Chem Recovery
GROSS ALPHA	17.26	21.39	32.75	21.50		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	33.91	14.88	18.31	15.45		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	0.05	0.21	0.17	0.21		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	2.23	7.92	3.68	7.52		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.18	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.18	0.16	0.12	0.16		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.10	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	0.36	0.42	0.46	0.42		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.12	0.55	0.18	0.56		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	2.30	1.11	0.45	1.12		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	-0.03	-1.00	0.64	-1.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	2.77	3.91	1.88	3.96		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.08	0.21	0.11	0.21		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 3.12										

Matthew J. Eder
Quality Assurance Review

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

LELAP Certificate# 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00065

Client Sample ID: RE36-10-7475

Sample Collection Date: 02/20/10 14:51

Sample Matrix: Soil/Solid

Request or PO Number:

ARS Sample ID: ARS2-10-00065-016

Date Received: 02/22/10 00:00

Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	55.67	33.87	33.91	34.55		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	41.27	15.87	17.73	16.66		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	32.89	0.10	32.89		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	0.34	1.55	1.79	1.55		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.07	0.08	0.15	0.08		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.06	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.44	127.31	0.29	127.31		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	1.05	0.41	0.12	0.42		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.64	0.41	0.28	0.41		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	1.09	0.84	0.42	0.84		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	2.26	2.65	1.16	2.70		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.11	0.16	0.07	0.16		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 3.82										

Matthew J. Eden
Quality Assurance Review

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

LELAP Certificate# 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544
505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00065
Client Sample ID: RE36-10-7476
Sample Collection Date: 02/20/10 15:03
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-10-00065-017
Date Received: 02/22/10 00:00
Report Date: 02/23/10 00:03

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	19.50	24.00	37.28	24.11		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	39.69	15.35	18.61	15.11		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	0.04	0.17	0.14	0.17		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	26.30	9.94	1.55	9.97		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.15	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.62	0.40	0.21	0.40		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.16	-0.34	0.41	-0.34		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
Pb-212	1.53	0.60	0.19	0.61		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.00	167.43	0.38	167.43		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	0.10	0.43	0.54	0.43		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	4.75	3.81	1.63	3.95		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	-0.01	-0.25	0.11	-0.25		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 1.87										

[Signature]
Quality Assurance Review

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

LELAP Certificate# 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00065

Request or PO Number:

Client Sample ID: RE36-10-7515

ARS Sample ID: ARS2-10-00065-018

Sample Collection Date: 02/20/10 11:10

Date Received: 02/22/10 00:00

Sample Matrix: Soil/Solid

Report Date: 02/23/10 00:04

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	5.16	16.05	34.06	16.06		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
GROSS BETA	32.87	14.06	17.92	14.62		pCi/g	EPA 900.0M	2/22/2010	ME	N/A
NA-22	-0.03	28.61	0.09	28.61		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
K-40	1.80	4.44	2.09	4.44		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CO-60	0.00	0.00	0.10	0.00		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-134	0.04	0.08	0.09	0.08		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
CS-137	0.20	0.16	0.05	0.16		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
EU-152	-0.09	-0.19	0.26	-0.19		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
PB-212	0.72	0.37	0.15	0.37		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
RA-228	0.32	0.24	0.31	0.23		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-235	1.10	1.07	0.44	1.07		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
U-238	3.76	2.47	0.99	2.51		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
AM-241	0.11	0.17	0.08	0.17		pCi/g	EPA 901.1M	2/22/2010	ME	N/A
NOTES: % Moisture: 2.36										

Matthew A. Edger
Quality Assurance Review

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

LELAP Certificate# 30658

NELAP Certificate # E87558

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-2076 VALIDATION DATE: 04/04/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Joanne Compton 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 sample results that were rejected by the laboratory due to interference and low abundance were qualified R,R5a. In the duplicate sample, several results were also rejected by the laboratory. No sample data were qualified as a result.
2. The alpha spec tracer %R was < the laboratory LAL for U-232 in sample RE36-10-7473. The U-233/234 and U-238 sample results were detects and, thus, were qualified J+,R3b. The U-235/236 sample result was an ND and, thus, was not qualified.
3. An MS/MSD was not analyzed for tritium but an LCS was analyzed and met acceptance criteria. No sample data were qualified as a result.

Reviewed By: Charissa Lewis


Level: I

Date: 4/6/10


VALIDATOR'S SIGNATURE: _____

A handwritten signature in cursive script that reads 'Joanne Compton'.


DATE: 04/04/10

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

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

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

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. The tracer is < the Lower Acceptance Level (LAL) but $\geq 10\%R$. Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	UJ, R3a	J-, R3a
<input 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	Records Use only
<div style="display: flex; justify-content: space-between;"> <div>Rad Analytical Data Validation Checklist</div> <div>  </div> </div>	

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7414
Sample ID: 248051001
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 21.1%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.000992	0.0224	+/-0.00188	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0102	0.0327	+/-0.00994	0.050	pCi/g		CXM2	03/20/10	2015	962443	3
Plutonium-239/240	U	0.00779	0.0277	+/-0.00453	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.07	0.0934	+/-0.0971	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236	U	0.0491	0.0571	+/-0.0157	0.100	pCi/g						
Uranium-238		1.12	0.0657	+/-0.100	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.126	0.128	+/-0.0395	0.200	pCi/g		MXR1	03/10/10	1721	958225	6
Bismuth-211	UI	4.73	R,R5a	0.375	+/-0.321	pCi/g						
Bismuth-214		1.50		0.150	+/-0.123	pCi/g						
Cadmium-109	UI	5.01	R,R5a	1.17	+/-0.480	pCi/g						
Cerium-139	U	-0.000571	0.0578	+/-0.0172	0.050	pCi/g						
Cesium-134	U	0.0865	0.106	+/-0.0288	0.100	pCi/g						
Cesium-137	U	0.0115	0.0893	+/-0.027	0.100	pCi/g						
Cobalt-60	U	0.011	0.0756	+/-0.0227	0.100	pCi/g						
Europium-152	U	0.045	0.198	+/-0.0652	0.200	pCi/g						
Lanthanum-140	U	0.0926	0.193	+/-0.0578		pCi/g						
Lead-212		2.22	0.109	+/-0.137	0.100	pCi/g						
Lead-214		1.72	0.137	+/-0.126	0.100	pCi/g						
Mercury-203	U	0.00618	0.0803	+/-0.0231	0.100	pCi/g						
Potassium-40		32.3	0.608	+/-1.42	1.00	pCi/g						
Radium-223	U	-0.162	1.25	+/-0.426		pCi/g						
Radium-224	UI	5.12	R,R5a	1.17	+/-0.722	pCi/g						
Radium-226		1.50	0.150	+/-0.123		pCi/g						
Radium-228		2.16	0.288	+/-0.224	0.500	pCi/g						
Ruthenium-106	U	0.204	0.660	+/-0.194	0.800	pCi/g						
Sodium-22	U	0.0307	0.0943	+/-0.0275	0.080	pCi/g						
Strontium-85	U	0.0739	0.0853	+/-0.0266		pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7414
Sample ID: 248051001

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		0.688	0.0703	+/-0.0604	0.080	pCi/g						
Thorium-227	U	0.0484	0.511	+/-0.146		pCi/g						
Thorium-231	U	-0.162	1.25	+/-0.426		pCi/g						
Thorium-234		1.64	1.27	+/-0.581	2.00	pCi/g						
Tin-113	U	-0.00393	0.0928	+/-0.0275	0.100	pCi/g						
Uranium-235	U	-0.111	0.379	+/-0.115	0.500	pCi/g						
Yttrium-88	U	0.0272	0.0786	+/-0.0217	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	13.4	117	+/-33.7	250	pCi/L		KXK2	03/17/10	0727	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	84.3	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	79.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7413
Sample ID: 248051002
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 20.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00434	0.0211	+/-0.00252	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.028	+/-0.00223	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	-0.00117	0.0237	+/-0.00402	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.14	0.109	+/-0.106	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236	U	0.0619	0.0663	+/-0.0177	0.100	pCi/g						
Uranium-238		1.91	0.0763	+/-0.162	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.00637	0.0995	+/-0.0313	0.200	pCi/g		MXR1	03/10/10	1721	958225	7
Bismuth-211	UI	2.05	R,R5a	0.356	+/-0.205	pCi/g						
Bismuth-214		0.813		0.127	+/-0.0904	pCi/g						
Cadmium-109	UI	1.84	R,R5a	0.931	+/-0.296	pCi/g						
Cerium-139	U	-0.0384		0.0464	+/-0.014	pCi/g						
Cesium-134	U	0.0262		0.0903	+/-0.0256	pCi/g						
Cesium-137		0.321		0.0679	+/-0.0423	pCi/g						
Cobalt-60	U	0.0106		0.074	+/-0.0215	pCi/g						
Europium-152	U	0.0211		0.155	+/-0.0522	pCi/g						
Lanthanum-140	U	-0.0304		0.184	+/-0.0581	pCi/g						
Lead-212		0.919		0.0911	+/-0.0681	pCi/g						
Lead-214		0.745		0.137	+/-0.0772	pCi/g						
Mercury-203	U	0.0277		0.0709	+/-0.0202	pCi/g						
Potassium-40		22.5		0.641	+/-1.32	pCi/g						
Radium-223	U	-1.36		1.04	+/-0.378	pCi/g						
Radium-224	UI	1.73	R,R5a	0.976	+/-0.472	pCi/g						
Radium-226		0.813		0.127	+/-0.0904	pCi/g						
Radium-228		0.935		0.274	+/-0.167	pCi/g						
Ruthenium-106	U	-0.337		0.577	+/-0.186	pCi/g						
Sodium-22	U	-0.0289		0.0814	+/-0.0255	pCi/g						
Strontium-85	U	-0.103		0.0811	+/-0.0269	pCi/g						
Thallium-208		0.294		0.0672	+/-0.0371	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7413
Sample ID: 248051002
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	0.0548	0.437	+/-0.127		pCi/g						
Thorium-231	U	-1.36	1.04	+/-0.378		pCi/g						
Thorium-234		1.53	1.01	+/-0.618	2.00	pCi/g						
Tin-113	U	0.0082	0.084	+/-0.0239	0.100	pCi/g						
Uranium-235	U	0.149	0.342	+/-0.0955	0.500	pCi/g						
Yttrium-88	U	-0.000801	0.0546	+/-0.0164	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	94.9	115	+/-36.9	250	pCi/L		KXK2	03/17/10	0904	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.0	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	90.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	74.9	(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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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7462
Sample ID: 248051003
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 7.92%

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	0.000101	0.0222	+/-0.00152	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00631	0.0228	+/-0.00573	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	-6.85E-05	0.0192	+/-0.00503	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.899	0.104	+/-0.0868	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236	U	0.0228	0.0635	+/-0.0122	0.100	pCi/g						
Uranium-238		1.08	0.073	+/-0.101	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0877	0.250	+/-0.0698	0.200	pCi/g		MXR1	03/10/10	1722	958225	7
Bismuth-211	UI	3.53	R,R5a	0.231	+/-0.183	pCi/g						
Bismuth-214		1.01		0.0796	+/-0.0713	0.200	pCi/g					
Cadmium-109	UI	2.60	R,R5a	1.11	+/-0.430	pCi/g						
Cerium-139	U	-0.00558		0.0382	+/-0.0107	0.050	pCi/g					
Cesium-134	UI	0.0672	R,R5a	0.0654	+/-0.027	0.100	pCi/g					
Cesium-137		0.139		0.0432	+/-0.0267	0.100	pCi/g					
Cobalt-60	U	0.00493		0.0417	+/-0.0124	0.100	pCi/g					
Europium-152	U	0.0128		0.117	+/-0.0358	0.200	pCi/g					
Lanthanum-140	U	0.0173		0.115	+/-0.0359	pCi/g						
Lead-212		1.50		0.0776	+/-0.0684	0.100	pCi/g					
Lead-214		1.28		0.0839	+/-0.0754	0.100	pCi/g					
Mercury-203	U	0.0133		0.0518	+/-0.0148	0.100	pCi/g					
Potassium-40		28.2		0.252	+/-1.24	1.00	pCi/g					
Radium-223	U	0.236		0.755	+/-0.248	pCi/g						
Radium-224	UI	3.76	R,R5a	0.771	+/-0.449	pCi/g						
Radium-226		1.01		0.0796	+/-0.0713	pCi/g						
Radium-228		1.49		0.148	+/-0.148	0.500	pCi/g					
Ruthenium-106	U	-0.0732		0.345	+/-0.106	0.800	pCi/g					
Sodium-22	U	-0.0025		0.0507	+/-0.0154	0.080	pCi/g					
Strontium-85	UI	0.0601	R,R5a	0.0521	+/-0.0156	pCi/g						
Thallium-208		0.455		0.0413	+/-0.0325	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7462
Sample ID: 248051003
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	-0.0316	0.315	+/-0.0915		pCi/g						
Thorium-231	U	0.236	0.755	+/-0.248		pCi/g						
Thorium-234	U	1.23	2.36	+/-0.637	2.00	pCi/g						
Tin-113	U	-0.0244	0.052	+/-0.0155	0.100	pCi/g						
Uranium-235	U	-0.0211	0.258	+/-0.0767	0.500	pCi/g						
Yttrium-88	U	0.0119	0.0407	+/-0.0116	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	53.4	117	+/-35.3	250	pCi/L		KXK2	03/17/10	1042	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.3	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	78.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	72.2	(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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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7465
Sample ID: 248051004
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 22.3%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.005	0.0235	+/-0.00285	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0134	0.0239	+/-0.0067	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	0.0105	0.0202	+/-0.00561	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.789	0.129	+/-0.0845	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236	U	0.051	0.079	+/-0.0192	0.100	pCi/g						
Uranium-238		1.85	0.0909	+/-0.165	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0714	0.286	+/-0.087	0.200	pCi/g		MXR1	03/10/10	1722	958225	7
Bismuth-211	UI	2.07	R,R5a	0.312	+/-0.184	pCi/g						
Bismuth-214		0.660		0.0911	+/-0.0645	pCi/g						
Cadmium-109	UI	1.85	R,R5a	1.26	+/-0.339	pCi/g						
Cerium-139	U	-0.0258	0.0411	+/-0.0125	0.050	pCi/g						
Cesium-134	U	0.0523	0.0771	+/-0.0204	0.100	pCi/g						
Cesium-137		0.256	0.0581	+/-0.0281	0.100	pCi/g						
Cobalt-60	U	0.00335	0.0567	+/-0.017	0.100	pCi/g						
Europium-152	U	-0.00745	0.157	+/-0.0497	0.200	pCi/g						
Lanthanum-140	U	-0.0384	0.112	+/-0.0374		pCi/g						
Lead-212		0.835	0.0853	+/-0.0516	0.100	pCi/g						
Lead-214		0.751	0.108	+/-0.070	0.100	pCi/g						
Mercury-203	U	-0.0276	0.0565	+/-0.0167	0.100	pCi/g						
Potassium-40		19.1	0.496	+/-1.02	1.00	pCi/g						
Radium-223	U	-0.619	0.944	+/-0.291		pCi/g						
Radium-224	UI	2.40	R,R5a	0.914	+/-0.498	pCi/g						
Radium-226		0.660	0.0911	+/-0.0645		pCi/g						
Radium-228		0.979	0.189	+/-0.132	0.500	pCi/g						
Ruthenium-106	U	-0.184	0.422	+/-0.135	0.800	pCi/g						
Sodium-22	U	0.0135	0.0667	+/-0.0195	0.080	pCi/g						
Strontium-85	U	0.0255	0.0585	+/-0.0185		pCi/g						
Thallium-208		0.325	0.0464	+/-0.0357	0.080	pCi/g						

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7465
Sample ID: 248051004
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	0.117	0.409	+/-0.119		pCi/g						
Thorium-231	U	-0.619	0.944	+/-0.291		pCi/g						
Thorium-234		2.69	2.28	+/-1.07	2.00	pCi/g						
Tin-113	U	-0.00411	0.0694	+/-0.0202	0.100	pCi/g						
Uranium-235	U	0.038	0.311	+/-0.0893	0.500	pCi/g						
Yttrium-88	U	-0.0272	0.045	+/-0.0166	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	90.1	116	+/-36.8	250	pCi/L		KXX2	03/17/10	1220	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	79.0	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	77.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	60.7	(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
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- BD Results are either below the MDC or tracer recovery is low

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7473
Sample ID: 248051005
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 23.6%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0227	0.0261	+/-0.00712	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00111	0.0314	+/-0.00741	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240		0.0587	0.0266	+/-0.0129	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.56	J+,R3b	+/-0.152	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236	U	0.0567	0.0987	+/-0.0269	0.100	pCi/g						
Uranium-238		1.91	J+,R3b	+/-0.179	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.181		+/-0.120	0.200	pCi/g		MXR1	03/10/10	1753	958225	6
Bismuth-211	UI	4.20	R,R5a	+/-0.358		pCi/g						
Bismuth-214		1.62		+/-0.130	0.200	pCi/g						
Cadmium-109	UI	2.71	R,R5a	+/-0.847		pCi/g						
Cerium-139	U	-0.00543		+/-0.0205	0.050	pCi/g						
Cesium-134	UI	0.128	R,R5a	+/-0.0324	0.100	pCi/g						
Cesium-137		1.17		+/-0.0858	0.100	pCi/g						
Cobalt-60	U	-0.0333		+/-0.0278	0.100	pCi/g						
Europium-152	U	-0.0813		+/-0.0701	0.200	pCi/g						
Lanthanum-140	U	-0.186		+/-0.0745		pCi/g						
Lead-212		1.94		+/-0.125	0.100	pCi/g						
Lead-214		1.53		+/-0.137	0.100	pCi/g						
Mercury-203	U	-0.0406		+/-0.0276	0.100	pCi/g						
Potassium-40		26.8		+/-1.70	1.00	pCi/g						
Radium-223	U	-0.619		+/-0.468		pCi/g						
Radium-224	UI	5.13	R,R5a	+/-0.788		pCi/g						
Radium-226		1.62		+/-0.130		pCi/g						
Radium-228		1.72		+/-0.231	0.500	pCi/g						
Ruthenium-106	U	0.0122		+/-0.200	0.800	pCi/g						
Sodium-22	U	-0.0324		+/-0.032	0.080	pCi/g						
Strontium-85	U	-0.237		+/-0.0366		pCi/g						
Thallium-208		0.493		+/-0.0519	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID:
Sample ID:

RE36-10-7473
248051005

Project:
Client ID:

LANL01004
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	0.0414	0.562	+/-0.168		pCi/g						
Thorium-231	U	-0.619	1.46	+/-0.468		pCi/g						
Thorium-234		3.33	2.90	+/-1.33	2.00	pCi/g						
Tin-113	U	-0.0419	0.104	+/-0.0336	0.100	pCi/g						
Uranium-235	U	-0.015	0.423	+/-0.134	0.500	pCi/g						
Yttrium-88	U	-0.00967	0.0465	+/-0.0158	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	51.1	117	+/-35.4	250	pCi/L		KXK2	03/17/10	1357	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	73.1	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	85.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	44.5 *	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7471
Sample ID: 248051006
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 29.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.000498	0.0218	+/-0.00187	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00893	0.0233	+/-0.00762	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	0.0163	0.0197	+/-0.00578	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.07	0.0937	+/-0.0974	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236	U	0.0534	0.0573	+/-0.0164	0.100	pCi/g						
Uranium-238		1.49	0.0659	+/-0.128	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0214	0.0982	+/-0.0292	0.200	pCi/g		MXR1	03/10/10	1753	958225	7
Bismuth-211	UI	2.77	R,R5a	0.321	+/-0.251	pCi/g						
Bismuth-214		1.00		0.105	+/-0.0966	0.200						
Cadmium-109	UI	2.84	R,R5a	0.896	+/-0.396	pCi/g						
Cerium-139	U	-0.000308	0.0476	+/-0.0138	0.050	pCi/g						
Cesium-134	U	0.0369	0.0919	+/-0.0286	0.100	pCi/g						
Cesium-137		0.180	0.0748	+/-0.0376	0.100	pCi/g						
Cobalt-60	U	0.0127	0.0781	+/-0.0223	0.100	pCi/g						
Europium-152	U	-0.0178	0.160	+/-0.0463	0.200	pCi/g						
Lanthanum-140	U	-0.20	0.126	+/-0.0588		pCi/g						
Lead-212		1.27	0.0915	+/-0.0834	0.100	pCi/g						
Lead-214		1.01	0.117	+/-0.0954	0.100	pCi/g						
Mercury-203	U	0.0396	0.0563	+/-0.0191	0.100	pCi/g						
Potassium-40		25.5	0.517	+/-1.47	1.00	pCi/g						
Radium-223	U	-0.498	0.876	+/-0.311		pCi/g						
Radium-224	UI	3.47	R,R5a	0.982	+/-0.672	pCi/g						
Radium-226		1.00	0.105	+/-0.0966		pCi/g						
Radium-228		1.69	0.236	+/-0.197	0.500	pCi/g						
Ruthenium-106	U	-0.11	0.576	+/-0.180	0.800	pCi/g						
Sodium-22	U	-0.0129	0.0779	+/-0.0249	0.080	pCi/g						
Strontium-85	U	0.0469	0.0699	+/-0.0211		pCi/g						
Thallium-208		0.422	0.0574	+/-0.0411	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7471
Sample ID: 248051006

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	-0.113	0.381	+/-0.119		pCi/g						
Thorium-231	U	-0.498	0.876	+/-0.311		pCi/g						
Thorium-234		1.55	0.946	+/-0.490	2.00	pCi/g						
Tin-113	U	-0.0332	0.0745	+/-0.0228	0.100	pCi/g						
Uranium-235	U	0.217	0.332	+/-0.093	0.500	pCi/g						
Yttrium-88	U	-0.0102	0.0543	+/-0.018	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		122	115	+/-38.3	250	pCi/L		KXK2	03/17/10	1535	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	75.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.1	(50%-105%)

Notes:

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7472
Sample ID: 248051007
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 21.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.000493	0.0219	+/-0.00187	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.000165	0.0296	+/-0.00765	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0141	0.0251	+/-0.00651	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.15	0.0899	+/-0.102	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236		0.0788	0.0549	+/-0.0201	0.100	pCi/g						
Uranium-238		1.19	0.0632	+/-0.105	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.112	0.243	+/-0.0753	0.200	pCi/g		MXR1	03/10/10	1754	958225	6
Bismuth-211	UI	5.49	R,R5a	0.332	+/-0.394	pCi/g						
Bismuth-214		1.53		0.116	+/-0.114	0.200						
Cadmium-109	UI	2.56	R,R5a	1.36	+/-0.612	pCi/g						
Cerium-139	U	-0.00409	0.053	+/-0.0154	0.050	pCi/g						
Cesium-134	UI	0.124	R,R5a	0.0869	+/-0.0433	0.100						
Cesium-137	U	0.0144		0.0632	+/-0.0186	0.100						
Cobalt-60	U	-0.0362		0.0563	+/-0.0193	0.100						
Europium-152	U	0.0143		0.162	+/-0.062	0.200						
Lanthanum-140	U	0.0859		0.152	+/-0.0474	pCi/g						
Lead-212		2.32		0.0909	+/-0.164	0.100						
Lead-214		1.99		0.121	+/-0.153	0.100						
Mercury-203	U	0.0309		0.073	+/-0.0217	0.100						
Potassium-40		38.7		0.468	+/-1.96	1.00						
Radium-223	U	0.374		1.09	+/-0.359	pCi/g						
Radium-224	UI	6.32	R,R5a	0.973	+/-0.627	pCi/g						
Radium-226		1.53		0.116	+/-0.114	pCi/g						
Radium-228		2.62		0.216	+/-0.232	0.500						
Ruthenium-106	U	0.078		0.488	+/-0.144	0.800						
Sodium-22	U	-0.0393		0.067	+/-0.0215	0.080						
Strontium-85	UI	0.182	R,R5a	0.0808	+/-0.0249	pCi/g						
Thallium-208		0.673		0.0541	+/-0.0532	0.080						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7472
Sample ID: 248051007
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	-0.000727	0.429	+/-0.130		pCi/g						
Thorium-231	U	0.374	1.09	+/-0.359		pCi/g						
Thorium-234		2.41	2.04	+/-0.980	2.00	pCi/g						
Tin-113	U	0.0295	0.0793	+/-0.023	0.100	pCi/g						
Uranium-235	U	0.086	0.350	+/-0.101	0.500	pCi/g						
Yttrium-88	U	-0.0218	0.0437	+/-0.0181	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	84.3	115	+/-36.3	250	pCi/L		KXX2	03/17/10	1712	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.4	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	86.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.5	(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

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7468
Sample ID: 248051008
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 26.6%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241		0.0243	0.0236	+/-0.00646	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.000531	0.0252	+/-0.00234	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240		0.0224	0.0213	+/-0.00759	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.24	0.100	+/-0.112	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236		0.0659	0.0612	+/-0.0187	0.100	pCi/g						
Uranium-238		1.53	0.0704	+/-0.133	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.138	0.325	+/-0.106	0.200	pCi/g		MXR1	03/10/10	1919	958225	7
Bismuth-211	UI	3.62	R,R5a 0.401	+/-0.334		pCi/g						
Bismuth-214		1.13	0.138	+/-0.122	0.200	pCi/g						
Cadmium-109	UI	2.48	R,R5a 1.75	+/-0.616		pCi/g						
Cerium-139	U	0.00989	0.0633	+/-0.0183	0.050	pCi/g						
Cesium-134	UI	0.131	R,R5a 0.127	+/-0.0402	0.100	pCi/g						
Cesium-137		0.621	0.0755	+/-0.0622	0.100	pCi/g						
Cobalt-60	U	0.00523	0.075	+/-0.0222	0.100	pCi/g						
Europium-152	U	-0.0126	0.186	+/-0.0615	0.200	pCi/g						
Lanthanum-140	U	0.00443	0.194	+/-0.0591		pCi/g						
Lead-212		1.77	0.117	+/-0.114	0.100	pCi/g						
Lead-214		1.32	0.146	+/-0.126	0.100	pCi/g						
Mercury-203	U	0.0672	0.0881	+/-0.0249	0.100	pCi/g						
Potassium-40		27.1	0.691	+/-1.57	1.00	pCi/g						
Radium-223	U	0.543	1.31	+/-0.430		pCi/g						
Radium-224	UI	4.55	R,R5a 1.25	+/-0.874		pCi/g						
Radium-226		1.13	0.138	+/-0.122		pCi/g						
Radium-228		2.09	0.282	+/-0.262	0.500	pCi/g						
Ruthenium-106	U	0.015	0.611	+/-0.182	0.800	pCi/g						
Sodium-22	U	0.00834	0.0932	+/-0.0276	0.080	pCi/g						
Strontium-85	UI	0.145	R,R5a 0.0974	+/-0.0282		pCi/g						
Thallium-208		0.624	0.0703	+/-0.0575	0.080	pCi/g						

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7468
Sample ID: 248051008

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	0.510	+/-0.157		pCi/g						
Thorium-231	U	0.543	1.31	+/-0.430		pCi/g						
Thorium-234	U	2.34	2.70	+/-1.15	2.00	pCi/g						
Tin-113	U	-0.0384	0.0922	+/-0.0296	0.100	pCi/g						
Uranium-235	U	-0.145	0.406	+/-0.125	0.500	pCi/g						
Yttrium-88	U	-0.00154	0.0722	+/-0.0225	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		140	115	+/-39.3	250	pCi/L		KXK2	03/17/10	1850	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	75.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	78.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	69.4	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).
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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7464
Sample ID: 248051009
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 7.05%

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	-0.00335	0.0249	+/-0.00272	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0118	0.0334	+/-0.00953	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.00131	0.0283	+/-0.00298	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.13	0.0984	+/-0.103	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236	U	0.0345	0.0601	+/-0.0139	0.100	pCi/g						
Uranium-238		1.16	0.0692	+/-0.105	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0591	0.322	+/-0.101	0.200	pCi/g		MXR1	03/10/10	1919	958225	6
Bismuth-211	UI	4.87	R,R5a 0.383	+/-0.376		pCi/g						
Bismuth-214		1.38	0.124	+/-0.111	0.200	pCi/g						
Cadmium-109	UI	4.06	R,R5a 1.35	+/-0.588		pCi/g						
Cerium-139	U	-0.0149	0.0559	+/-0.017	0.050	pCi/g						
Cesium-134	U	0.0855	0.0987	+/-0.0268	0.100	pCi/g						
Cesium-137	UI	0.133	R,R5a 0.0966	+/-0.0254	0.100	pCi/g						
Cobalt-60	U	0.0455	0.0839	+/-0.0232	0.100	pCi/g						
Europium-152	U	-0.0673	0.185	+/-0.0563	0.200	pCi/g						
Lanthanum-140	U	-0.147	0.131	+/-0.0521		pCi/g						
Lead-212		2.11	0.110	+/-0.149	0.100	pCi/g						
Lead-214		1.77	0.139	+/-0.145	0.100	pCi/g						
Mercury-203	U	0.036	0.0776	+/-0.0243	0.100	pCi/g						
Potassium-40		30.9	0.484	+/-1.75	1.00	pCi/g						
Radium-223	U	-0.00319	1.25	+/-0.415		pCi/g						
Radium-224	UI	4.93	R,R5a 1.17	+/-0.722		pCi/g						
Radium-226		1.38	0.124	+/-0.111		pCi/g						
Radium-228		1.99	0.265	+/-0.235	0.500	pCi/g						
Ruthenium-106	U	0.219	0.648	+/-0.183	0.800	pCi/g						
Sodium-22	U	0.0248	0.0928	+/-0.027	0.080	pCi/g						
Strontium-85	U	0.0626	0.072	+/-0.0221		pCi/g						
Thallium-208		0.642	0.0697	+/-0.0571	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7464
Sample ID: 248051009
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	0.116	0.478	+/-0.135		pCi/g						
Thorium-231	U	-0.00319	1.25	+/-0.415		pCi/g						
Thorium-234		4.22	2.63	+/-1.36	2.00	pCi/g						
Tin-113	U	-0.00987	0.0865	+/-0.0261	0.100	pCi/g						
Uranium-235	U	0.0534	0.392	+/-0.117	0.500	pCi/g						
Yttrium-88	U	-0.00184	0.0637	+/-0.0195	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		124	115	+/-38.4	250	pCi/L		KXK2	03/17/10	2027	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	71.7	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	79.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7463
Sample ID: 248051010
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 8.23%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00639	0.0205	+/-0.00374	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00535	0.0326	+/-0.00757	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240		0.0633	0.0276	+/-0.0136	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.936	0.0957	+/-0.088	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236		0.0755	0.0585	+/-0.0195	0.100	pCi/g						
Uranium-238		1.17	0.0673	+/-0.105	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0341	0.121	+/-0.0378	0.200	pCi/g		MXR1	03/10/10	1934	958225	6
Bismuth-211	UI	3.91	R,R5a 0.421	+/-0.303		pCi/g						
Bismuth-214		1.43	0.153	+/-0.118	0.200	pCi/g						
Cadmium-109	UI	3.63	R,R5a 1.12	+/-0.497		pCi/g						
Cerium-139	U	-0.0101	0.0578	+/-0.0166	0.050	pCi/g						
Cesium-134	U	0.0969	0.116	+/-0.0555	0.100	pCi/g						
Cesium-137		0.430	0.0967	+/-0.0466	0.100	pCi/g						
Cobalt-60	U	-0.0136	0.078	+/-0.024	0.100	pCi/g						
Europium-152	U	-0.0289	0.186	+/-0.0655	0.200	pCi/g						
Lanthanum-140	U	0.0263	0.214	+/-0.0637		pCi/g						
Lead-212		1.79	0.104	+/-0.111	0.100	pCi/g						
Lead-214		1.42	0.160	+/-0.117	0.100	pCi/g						
Mercury-203	U	0.00379	0.0808	+/-0.0238	0.100	pCi/g						
Potassium-40		29.0	0.732	+/-1.61	1.00	pCi/g						
Radium-223	U	-0.267	1.20	+/-0.426		pCi/g						
Radium-224	UI	4.20	R,R5a 1.11	+/-0.706		pCi/g						
Radium-226		1.43	0.153	+/-0.118		pCi/g						
Radium-228		1.76	0.288	+/-0.212	0.500	pCi/g						
Ruthenium-106	U	-0.0161	0.708	+/-0.213	0.800	pCi/g						
Sodium-22	U	0.0114	0.0912	+/-0.0267	0.080	pCi/g						
Strontium-85	UI	0.105	R,R5a 0.0934	+/-0.0254		pCi/g						
Thallium-208		0.572	0.0709	+/-0.0572	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7463
Sample ID: 248051010
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	-0.13	0.479	+/-0.144		pCi/g						
Thorium-231	U	-0.267	1.20	+/-0.426		pCi/g						
Thorium-234		2.14	1.15	+/-0.585	2.00	pCi/g						
Tin-113	U	-0.0147	0.0946	+/-0.0276	0.100	pCi/g						
Uranium-235	U	-0.0261	0.399	+/-0.114	0.500	pCi/g						
Yttrium-88	U	0.0371	0.0865	+/-0.0235	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		140	118	+/-40.0	250	pCi/L		KXK2	03/17/10	2205	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	80.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.5	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7475
Sample ID: 248051011
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 27.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00143	0.0209	+/-0.00143	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0129	0.0272	+/-0.008	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0108	0.0231	+/-0.00555	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.10	0.102	+/-0.101	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236	U	0.058	0.0622	+/-0.0166	0.100	pCi/g						
Uranium-238		1.32	0.0716	+/-0.118	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0262	0.294	+/-0.0838	0.200	pCi/g		MXR1	03/10/10	1935	958225	6
Bismuth-211	UI	4.19	R,R5a 0.266	+/-0.226		pCi/g						
Bismuth-214		1.19	0.0841	+/-0.0828	0.200	pCi/g						
Cadmium-109	UI	3.97	R,R5a 1.24	+/-0.569		pCi/g						
Cerium-139	U	-0.0204	0.0424	+/-0.0125	0.050	pCi/g						
Cesium-134	UI	0.107	R,R5a 0.0728	+/-0.0253	0.100	pCi/g						
Cesium-137	UI	0.0686	R,R5a 0.0458	+/-0.0311	0.100	pCi/g						
Cobalt-60	U	-0.015	0.0496	+/-0.0159	0.100	pCi/g						
Europium-152	U	-0.0264	0.127	+/-0.049	0.200	pCi/g						
Lanthanum-140	U	0.0166	0.136	+/-0.0468		pCi/g						
Lead-212		1.78	0.0772	+/-0.0807	0.100	pCi/g						
Lead-214		1.52	0.0967	+/-0.092	0.100	pCi/g						
Mercury-203	U	0.0523	0.0635	+/-0.0179	0.100	pCi/g						
Potassium-40		28.7	0.468	+/-1.30	1.00	pCi/g						
Radium-223	U	-1.17	0.811	+/-0.291		pCi/g						
Radium-224	UI	4.58	R,R5a 0.826	+/-0.545		pCi/g						
Radium-226		1.19	0.0841	+/-0.0828		pCi/g						
Radium-228		1.95	0.175	+/-0.184	0.500	pCi/g						
Ruthenium-106	U	0.0358	0.413	+/-0.125	0.800	pCi/g						
Sodium-22	U	0.026	0.0623	+/-0.018	0.080	pCi/g						
Strontium-85	UI	0.0731	R,R5a 0.0619	+/-0.019		pCi/g						
Thallium-208		0.560	0.0433	+/-0.0417	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7475
Sample ID: 248051011
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	0.00468	0.356	+/-0.105		pCi/g						
Thorium-231	U	-1.17	0.811	+/-0.291		pCi/g						
Thorium-234	U	1.64	2.67	+/-0.750	2.00	pCi/g						
Tin-113	U	0.0116	0.0662	+/-0.019	0.100	pCi/g						
Uranium-235	U	0.148	0.308	+/-0.0917	0.500	pCi/g						
Yttrium-88	U	-0.0143	0.0339	+/-0.0117	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	61.5	117	+/-35.7	250	pCi/L		KXK2	03/17/10	2343	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.3	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	88.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	78.6	(50%-105%)

Notes:

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

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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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7466
Sample ID: 248051012
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 20.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.000988	0.0221	+/-0.00186	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00711	0.0265	+/-0.00492	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	0.0111	0.0224	+/-0.0057	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.21	0.109	+/-0.111	0.100	pCi/g		CXM2	03/23/10	1803	967764	5
Uranium-235/236		0.0954	0.0665	+/-0.0234	0.100	pCi/g						
Uranium-238		2.49	0.0765	+/-0.205	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.084	0.359	+/-0.111	0.200	pCi/g		MXR1	03/10/10	1935	958225	7
Bismuth-211	UI	4.09	R,R5a	0.350	+/-0.281	pCi/g						
Bismuth-214		1.18		0.118	+/-0.0926	0.200						
Cadmium-109	UI	2.97	R,R5a	1.54	+/-0.506	pCi/g						
Cerium-139	U	-0.00382	0.0561	+/-0.0165	0.050	pCi/g						
Cesium-134	U	0.0581	0.0925	+/-0.0251	0.100	pCi/g						
Cesium-137		0.157	0.0652	+/-0.045	0.100	pCi/g						
Cobalt-60	U	0.0205	0.0701	+/-0.0202	0.100	pCi/g						
Europium-152	U	-0.0295	0.178	+/-0.0688	0.200	pCi/g						
Lanthanum-140	U	-0.0514	0.156	+/-0.0507		pCi/g						
Lead-212		1.70	0.102	+/-0.0839	0.100	pCi/g						
Lead-214		1.49	0.127	+/-0.110	0.100	pCi/g						
Mercury-203	U	0.00451	0.0708	+/-0.0201	0.100	pCi/g						
Potassium-40		28.4	0.611	+/-1.38	1.00	pCi/g						
Radium-223	U	-1.07	1.12	+/-0.359		pCi/g						
Radium-224	UI	3.71	R,R5a	1.09	+/-0.661	pCi/g						
Radium-226		1.18	0.118	+/-0.0926		pCi/g						
Radium-228		1.62	0.255	+/-0.194	0.500	pCi/g						
Ruthenium-106	U	-0.188	0.537	+/-0.169	0.800	pCi/g						
Sodium-22	U	-0.0347	0.0817	+/-0.0266	0.080	pCi/g						
Strontium-85	U	0.0342	0.0663	+/-0.021		pCi/g						
Thallium-208		0.472	0.0629	+/-0.0395	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7466
Sample ID: 248051012
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	0.126	0.464	+/-0.136		pCi/g						
Thorium-231	U	-1.07	1.12	+/-0.359		pCi/g						
Thorium-234		4.26	2.87	+/-1.23	2.00	pCi/g						
Tin-113	U	-0.0222	0.0787	+/-0.0236	0.100	pCi/g						
Uranium-235	U	0.129	0.371	+/-0.106	0.500	pCi/g						
Yttrium-88	U	0.00542	0.0658	+/-0.0194	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	73.0	118	+/-36.6	250	pCi/L		KXK2	03/18/10	0120	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	81.8	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	71.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.9	(50%-105%)

Notes:

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

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- < Result is less than value reported
- > Result is greater than value reported
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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

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7476
Sample ID: 248051013
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 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	0.00495	0.0217	+/-0.00319	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0147	0.0311	+/-0.00916	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0049	0.0264	+/-0.00555	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	0.120	+/-0.111	0.100	pCi/g		CXM2	03/23/10	1803	967764	4
Uranium-235/236		0.0787	0.0732	+/-0.0224	0.100	pCi/g						
Uranium-238		1.12	0.0842	+/-0.107	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.112	0.132	+/-0.0419	0.200	pCi/g		MXR1	03/10/10	2041	958225	6
Bismuth-211	UI	5.22	R,R5a 0.454	+/-0.362		pCi/g						
Bismuth-214		1.63	0.169	+/-0.119	0.200	pCi/g						
Cadmium-109	UI	4.77	R,R5a 1.23	+/-0.504		pCi/g						
Cerium-139	U	-0.0172	0.0624	+/-0.0192	0.050	pCi/g						
Cesium-134	UI	0.295	R,R5a 0.131	+/-0.0553	0.100	pCi/g						
Cesium-137	U	0.0155	0.0912	+/-0.0276	0.100	pCi/g						
Cobalt-60	U	-0.0164	0.0746	+/-0.0242	0.100	pCi/g						
Europium-152	U	0.0122	0.216	+/-0.0837	0.200	pCi/g						
Lanthanum-140	U	0.0652	0.204	+/-0.0647		pCi/g						
Lead-212		2.43	0.110	+/-0.150	0.100	pCi/g						
Lead-214		1.89	0.165	+/-0.141	0.100	pCi/g						
Mercury-203	U	-0.00569	0.0864	+/-0.0255	0.100	pCi/g						
Potassium-40		32.5	0.763	+/-1.48	1.00	pCi/g						
Radium-223	U	0.744	1.37	+/-0.443		pCi/g						
Radium-224	UI	6.30	R,R5a 1.18	+/-0.805		pCi/g						
Radium-226		1.63	0.169	+/-0.119		pCi/g						
Radium-228		2.15	0.273	+/-0.238	0.500	pCi/g						
Ruthenium-106	U	0.243	0.738	+/-0.218	0.800	pCi/g						
Sodium-22	U	-0.00863	0.0877	+/-0.0276	0.080	pCi/g						
Strontium-85	U	0.088	0.0966	+/-0.0304		pCi/g						
Thallium-208		0.665	0.0819	+/-0.0558	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7476
Sample ID: 248051013
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	-0.12	0.549	+/-0.163		pCi/g						
Thorium-231	U	0.744	1.37	+/-0.443		pCi/g						
Thorium-234	UI	1.37	R,R5a	1.33	+/-0.630	2.00	pCi/g					
Tin-113	U	-0.0058	0.0982	+/-0.0295	0.100	pCi/g						
Uranium-235	U	0.109	0.440	+/-0.131	0.500	pCi/g						
Yttrium-88	U	0.0271	0.083	+/-0.023	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	61.6	117	+/-35.7	250	pCi/L		KXK2	03/18/10	0258	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	81.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	76.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.4	(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

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7461
Sample ID: 248051014
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 12.7%

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	0.00453	0.0217	+/-0.00261	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0128	0.030	+/-0.00606	0.050	pCi/g		CXM2	03/22/10	2224	962443	3
Plutonium-239/240	U	0.0149	0.0253	+/-0.00644	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.682	0.106	+/-0.0713	0.100	pCi/g		CXM2	03/23/10	1803	967764	5
Uranium-235/236	U	0.028	0.0649	+/-0.0133	0.100	pCi/g						
Uranium-238		1.00	0.0747	+/-0.0953	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0176	0.129	+/-0.035	0.200	pCi/g		MXR1	03/10/10	2041	958225	7
Bismuth-211	UI	2.00	R,R5a 0.235	+/-0.168		pCi/g						
Bismuth-214		0.572	0.0903	+/-0.0606	0.200	pCi/g						
Cadmium-109	UI	2.17	R,R5a 0.794	+/-0.272		pCi/g						
Cerium-139	U	0.000818	0.0354	+/-0.0103	0.050	pCi/g						
Cesium-134	U	0.0304	0.0601	+/-0.0164	0.100	pCi/g						
Cesium-137		0.0623	0.0428	+/-0.0243	0.100	pCi/g						
Cobalt-60	U	0.000868	0.0481	+/-0.0142	0.100	pCi/g						
Europium-152	U	-0.031	0.116	+/-0.0395	0.200	pCi/g						
Lanthanum-140	U	0.0132	0.132	+/-0.0393		pCi/g						
Lead-212		0.688	0.0986	+/-0.0543	0.100	pCi/g						
Lead-214		0.725	0.0853	+/-0.0642	0.100	pCi/g						
Mercury-203	U	0.00992	0.0488	+/-0.0135	0.100	pCi/g						
Potassium-40		19.5	0.303	+/-1.04	1.00	pCi/g						
Radium-223	U	-0.24	0.726	+/-0.249		pCi/g						
Radium-224	UI	1.39	R,R5a 0.820	+/-0.287		pCi/g						
Radium-226		0.572	0.0903	+/-0.0606		pCi/g						
Radium-228		0.733	0.170	+/-0.110	0.500	pCi/g						
Ruthenium-106	U	-0.16	0.319	+/-0.100	0.800	pCi/g						
Sodium-22	U	0.00125	0.0496	+/-0.0147	0.080	pCi/g						
Strontium-85	U	0.0571	0.0586	+/-0.0167		pCi/g						
Thallium-208		0.266	0.0381	+/-0.0286	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7461
Sample ID: 248051014
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	0.0131	0.305	+/-0.085		pCi/g						
Thorium-231	U	-0.24	0.726	+/-0.249		pCi/g						
Thorium-234	U	0.753	1.34	+/-0.355	2.00	pCi/g						
Tin-113	U	-0.0173	0.0515	+/-0.0157	0.100	pCi/g						
Uranium-235	U	0.0585	0.248	+/-0.0712	0.500	pCi/g						
Yttrium-88	U	-0.00413	0.0299	+/-0.0095	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	42.6	116	+/-34.6	250	pCi/L		KXK2	03/18/10	0435	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.1	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	50.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.4	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).
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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7467
Sample ID: 248051015
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 16.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00523	0.0203	+/-0.00558	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0111	0.0312	+/-0.00573	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0136	0.0264	+/-0.00626	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.13	0.143	+/-0.114	0.100	pCi/g		CXM2	03/23/10	1803	967764	4
Uranium-235/236	U	0.0439	0.0874	+/-0.0211	0.100	pCi/g						
Uranium-238		1.40	0.101	+/-0.135	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0533	0.200	+/-0.0651	0.200	pCi/g		MXR1	03/10/10	2042	958225	6
Bismuth-211	UI	3.54	R,R5a 0.312	+/-0.209		pCi/g						
Bismuth-214		1.03	0.0973	+/-0.0767	0.200	pCi/g						
Cadmium-109	UI	3.95	R,R5a 1.08	+/-0.511		pCi/g						
Cerium-139	U	-0.0206	0.0476	+/-0.0147	0.050	pCi/g						
Cesium-134	UI	0.123	R,R5a 0.0931	+/-0.0245	0.100	pCi/g						
Cesium-137		0.671	0.0592	+/-0.0462	0.100	pCi/g						
Cobalt-60	U	0.0243	0.0582	+/-0.0163	0.100	pCi/g						
Europium-152	U	-0.0132	0.148	+/-0.0504	0.200	pCi/g						
Lanthanum-140	U	0.00524	0.145	+/-0.044		pCi/g						
Lead-212		1.41	0.0944	+/-0.0733	0.100	pCi/g						
Lead-214		1.28	0.116	+/-0.0836	0.100	pCi/g						
Mercury-203	U	-0.00814	0.064	+/-0.0199	0.100	pCi/g						
Potassium-40		24.6	0.500	+/-1.18	1.00	pCi/g						
Radium-223	U	-0.629	1.08	+/-0.335		pCi/g						
Radium-224	UI	3.32	R,R5a 1.01	+/-0.555		pCi/g						
Radium-226		1.03	0.0973	+/-0.0767		pCi/g						
Radium-228		1.72	0.195	+/-0.172	0.500	pCi/g						
Ruthenium-106	U	-0.281	0.451	+/-0.149	0.800	pCi/g						
Sodium-22	U	-0.0192	0.0591	+/-0.019	0.080	pCi/g						
Strontium-85	U	0.0653	0.0698	+/-0.0215		pCi/g						
Thallium-208		0.475	0.0486	+/-0.0367	0.080	pCi/g						

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7467
Sample ID: 248051015
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	0.159	0.412	+/-0.116		pCi/g						
Thorium-231	U	-0.629	1.08	+/-0.335		pCi/g						
Thorium-234		2.87	1.79	+/-0.785	2.00	pCi/g						
Tin-113	U	-0.0428	0.0688	+/-0.0216	0.100	pCi/g						
Uranium-235	U	0.212	0.310	+/-0.109	0.500	pCi/g						
Yttrium-88	U	-0.00583	0.0473	+/-0.0153	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		127	118	+/-39.2	250	pCi/L		KXK2	03/18/10	0728	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	83.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	65.9	(50%-105%)

Notes:

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

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

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7469
Sample ID: 248051016
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 12.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241		0.0465	0.0257	+/-0.0098	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00811	0.0293	+/-0.00561	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240		0.0558	0.0248	+/-0.0123	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.50	0.124	+/-0.137	0.100	pCi/g		CXM2	03/23/10	1803	967764	4
Uranium-235/236	U	0.065	0.0755	+/-0.0194	0.100	pCi/g						
Uranium-238		1.93	0.0869	+/-0.169	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0166	0.124	+/-0.0403	0.200	pCi/g		MXR1	03/10/10	2042	958225	6
Bismuth-211	UI	4.49	R,R5a 0.447	+/-0.359		pCi/g						
Bismuth-214		1.45	0.172	+/-0.131	0.200	pCi/g						
Cadmium-109	UI	5.24	R,R5a 1.10	+/-0.569		pCi/g						
Cerium-139	U	0.000931	0.0621	+/-0.0189	0.050	pCi/g						
Cesium-134	U	0.0657	0.123	+/-0.0341	0.100	pCi/g						
Cesium-137		1.14	0.0955	+/-0.0856	0.100	pCi/g						
Cobalt-60	U	-0.0232	0.0845	+/-0.0271	0.100	pCi/g						
Europium-152	U	-0.101	0.203	+/-0.0662	0.200	pCi/g						
Lanthanum-140	U	-0.046	0.216	+/-0.0833		pCi/g						
Lead-212		2.09	0.112	+/-0.130	0.100	pCi/g						
Lead-214		1.63	0.163	+/-0.138	0.100	pCi/g						
Mercury-203	U	-0.0767	0.078	+/-0.0254	0.100	pCi/g						
Potassium-40		29.9	0.818	+/-1.75	1.00	pCi/g						
Radium-223	U	-0.166	1.30	+/-0.444		pCi/g						
Radium-224	UI	5.49	R,R5a 1.20	+/-0.926		pCi/g						
Radium-226		1.45	0.172	+/-0.131		pCi/g						
Radium-228		1.84	0.313	+/-0.289	0.500	pCi/g						
Ruthenium-106	U	0.00767	0.722	+/-0.224	0.800	pCi/g						
Sodium-22	U	-0.0172	0.103	+/-0.0334	0.080	pCi/g						
Strontium-85	U	0.0503	0.0936	+/-0.030		pCi/g						
Thallium-208		0.610	0.0764	+/-0.0693	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7469
Sample ID: 248051016
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	-0.0306	0.515	+/-0.162		pCi/g					
Thorium-231	U	-0.166	1.30	+/-0.444		pCi/g					
Thorium-234		2.92	1.26	+/-0.647	2.00	pCi/g					
Tin-113	U	-0.0169	0.105	+/-0.032	0.100	pCi/g					
Uranium-235	U	0.151	0.419	+/-0.125	0.500	pCi/g					
Yttrium-88	U	-0.00507	0.0857	+/-0.0271	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		122	116	+/-38.6	250	pCi/L		KXK2	03/18/10 0906	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	68.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	88.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	71.9	(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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7470
Sample ID: 248051017
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 14.4%

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	0.0137	0.0201	+/-0.00443	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00467	0.0294	+/-0.00332	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	0.0187	0.0249	+/-0.00671	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.79	0.129	+/-0.160	0.100	pCi/g		CXM2	03/23/10	1803	967764	5
Uranium-235/236		0.079	0.0786	+/-0.0233	0.100	pCi/g						
Uranium-238		2.05	0.0905	+/-0.179	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.00905	0.091	+/-0.0288	0.200	pCi/g		MXR1	03/10/10	2042	958225	7
Bismuth-211	UI	4.55	R,R5a	+/-0.346		pCi/g						
Bismuth-214		1.77		+/-0.159	0.200	pCi/g						
Cadmium-109	UI	4.80	R,R5a	+/-0.473		pCi/g						
Cerium-139	U	0.00583		+/-0.014	0.050	pCi/g						
Cesium-134	UI	0.141	R,R5a	+/-0.0443	0.100	pCi/g						
Cesium-137		0.469		+/-0.0601	0.100	pCi/g						
Cobalt-60	U	0.0202		+/-0.027	0.100	pCi/g						
Europium-152	U	-0.0759		+/-0.0544	0.200	pCi/g						
Lanthanum-140	U	0.127		+/-0.0661		pCi/g						
Lead-212		2.25		+/-0.131	0.100	pCi/g						
Lead-214		1.65		+/-0.134	0.100	pCi/g						
Mercury-203	U	5.90E-05		+/-0.0223	0.100	pCi/g						
Potassium-40		30.1		+/-1.72	1.00	pCi/g						
Radium-223	U	0.983		+/-0.375		pCi/g						
Radium-224	UI	6.08	R,R5a	+/-0.602		pCi/g						
Radium-226		1.77		+/-0.159		pCi/g						
Radium-228		2.41		+/-0.274	0.500	pCi/g						
Ruthenium-106	U	-0.159		+/-0.210	0.800	pCi/g						
Sodium-22	U	-0.0641		+/-0.0383	0.080	pCi/g						
Strontium-85	U	0.0121		+/-0.0251		pCi/g						
Thallium-208		0.668		+/-0.0686	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7470
Sample ID: 248051017

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	0.0806	0.456	+/-0.134		pCi/g						
Thorium-231	U	0.983	1.21	+/-0.375		pCi/g						
Thorium-234		3.17	0.890	+/-0.564	2.00	pCi/g						
Tin-113	U	0.0444	0.0999	+/-0.0295	0.100	pCi/g						
Uranium-235	U	0.230	0.327	+/-0.0984	0.500	pCi/g						
Yttrium-88	U	0.0269	0.0946	+/-0.0261	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		206	117	+/-43.2	250	pCi/L		KXK2	03/18/10	1043	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.4	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	89.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	75.3	(50%-105%)

Notes:

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

- ** Analyte is a surrogate compound
- < Result is less than value reported
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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

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Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7515
Sample ID: 248051018
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 20.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00363	0.0207	+/-0.00318	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0333	+/-0.00265	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0106	0.0282	+/-0.00534	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.897	0.111	+/-0.088	0.100	pCi/g		CXM2	03/23/10	1829	967764	4
Uranium-235/236	U	0.0581	0.0675	+/-0.0173	0.100	pCi/g						
Uranium-238		2.07	0.0777	+/-0.175	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0284	0.170	+/-0.0531	0.200	pCi/g		MXR1	03/10/10	2043	958225	6
Bismuth-211	UI	2.25	R,R5a	0.247	+/-0.193	pCi/g						
Bismuth-214		0.652		0.0856	+/-0.0632	pCi/g						
Cadmium-109	UI	1.82	R,R5a	1.07	+/-0.371	pCi/g						
Cerium-139	U	-0.00915		0.039	+/-0.0112	pCi/g						
Cesium-134	UI	0.0642	R,R5a	0.0578	+/-0.0177	pCi/g						
Cesium-137		0.263		0.0413	+/-0.031	pCi/g						
Cobalt-60	U	0.022		0.0509	+/-0.0151	pCi/g						
Europium-152	U	-0.0252		0.118	+/-0.0383	pCi/g						
Lanthanum-140	U	-0.0595		0.111	+/-0.0366	pCi/g						
Lead-212		0.872		0.076	+/-0.0689	pCi/g						
Lead-214		0.817		0.0896	+/-0.0735	pCi/g						
Mercury-203	U	0.0233		0.0536	+/-0.0155	pCi/g						
Potassium-40		21.2		0.351	+/-1.12	pCi/g						
Radium-223	U	-0.194		0.795	+/-0.269	pCi/g						
Radium-224	UI	2.46	R,R5a	0.814	+/-0.440	pCi/g						
Radium-226		0.652		0.0856	+/-0.0632	pCi/g						
Radium-228		1.11		0.161	+/-0.142	pCi/g						
Ruthenium-106	U	0.0884		0.394	+/-0.114	pCi/g						
Sodium-22	U	-0.00368		0.0502	+/-0.0151	pCi/g						
Strontium-85	UI	0.131	R,R5a	0.0631	+/-0.0188	pCi/g						
Thallium-208		0.316		0.0423	+/-0.0341	pCi/g						

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Certificate of Analysis

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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: March 24, 2010

Client Sample ID:
Sample ID:

RE36-10-7515
248051018

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.132	0.316	+/-0.0969		pCi/g						
Thorium-231	U	-0.194	0.795	+/-0.269		pCi/g						
Thorium-234		3.09	1.47	+/-0.777	2.00	pCi/g						
Tin-113	U	0.0188	0.0567	+/-0.0161	0.100	pCi/g						
Uranium-235	U	0.0237	0.276	+/-0.0785	0.500	pCi/g						
Yttrium-88	U	0.00154	0.0359	+/-0.0108	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	45.1	116	+/-34.7	250	pCi/L		KXK2	03/18/10	1221	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.4	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	83.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	84.9	(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

Wednesday, February 24, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2076

LOS ALAMOS

REQUEST NUMBER: 10-2076

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/26/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

048051%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE36-10-7414	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7414	1	POLY	H3	Ice	R
RE36-10-7413	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7413	1	POLY	H3	Ice	R
RE36-10-7462	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7462	1	POLY	H3	Ice	R
RE36-10-7465	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7465	1	POLY	H3	Ice	R
RE36-10-7473	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7473	1	POLY	H3	Ice	R
RE36-10-7471	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7471	1	POLY	H3	Ice	R
RE36-10-7472	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7472	1	POLY	H3	Ice	R
RE36-10-7468	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7468	1	POLY	H3	Ice	R
RE36-10-7464	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7464	1	POLY	H3	Ice	R
RE36-10-7483	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7463	1	POLY	H3	Ice	R
RE36-10-7475	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7475	1	POLY	H3	Ice	R
RE36-10-7466	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7466	1	POLY	H3	Ice	R
RE36-10-7476	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7476	1	POLY	H3	Ice	R
RE36-10-7461	1	POLY	AM241+GS+ISOPU+ISO	None	R

Wednesday, February 24, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2076

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE36-10-7461	1	POLY	H3	Ice	R
RE36-10-7467	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7467	1	POLY	H3	Ice	R
RE36-10-7469	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7469	1	POLY	H3	Ice	R
RE36-10-7470	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7470	1	POLY	H3	Ice	R
RE36-10-7515	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7515	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

Wednesday, February 24, 2010

**LOS ALAMOS
NATIONAL LABORATORY**

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

These Samples are on:
LANL Request Number: 10-2076
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

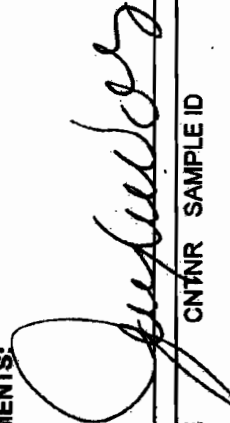
SHIP DATE: 2/24/2010
TURNAROUND/REPORT DUE: 3/26/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNT/NR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1						
		1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	

Wednesday, February 24, 2010

REQUEST NUMBER: 10-2076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
	EPA:906.0	1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
		1	RE36-10-7516	R	2/20/2010	

Wednesday, February 24, 2010

REQUEST NUMBER: 10-2076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
	HASL-300:ISOPU	1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	

REQUEST NUMBER: 10-2076

Wednesday, February 24, 2010

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
	HASL-300:ISOU	1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	

Final Page of REQUEST NUMBER 10-2076



a member of **The GEL Group** INC



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

March 03, 2010

www.gel.com

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

Re: LANL ER Project
Work Order: 248051
SDG: 10-2076

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on February 25, 2010, and analyzed for Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

Sincerely,

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-2076
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 248051
SDG: 10-2076

TABLE OF CONTENTS

Case Narrative.....	1
Chain of Custody and Supporting Documentation.....	5
Data Review Qualifier Flag Definition Sheet.....	22
Radiological Analysis.....	24
Sample Data Summary.....	39
Quality Control Data.....	95
Raw Data.....	102
Background and Efficiency Data.....	841
Standards Data.....	1053
Runlogs.....	1084

Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 248051
SDG # : 10-2076**

March 03, 2010

Laboratory Identification:

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

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on February 25, 2010 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 12-14C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following samples:

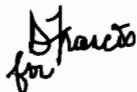
<u>Laboratory ID</u>	<u>Client ID</u>
248051001	RE36-10-7414
248051002	RE36-10-7413
248051003	RE36-10-7462
248051004	RE36-10-7465
248051005	RE36-10-7473
248051006	RE36-10-7471
248051007	RE36-10-7472
248051008	RE36-10-7468
248051009	RE36-10-7464
248051010	RE36-10-7463
248051011	RE36-10-7475
248051012	RE36-10-7466
248051013	RE36-10-7476
248051014	RE36-10-7461
248051015	RE36-10-7467
248051016	RE36-10-7469
248051017	RE36-10-7470
248051018	RE36-10-7515

Case Narrative

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

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

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

A handwritten signature in black ink, appearing to read "Valerie Davis" with a stylized flourish at the end.

Valerie Davis

Project Manager

List of current GEL Certifications as of 03 March 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, February 24, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2076

LOS ALAMOS

REQUEST NUMBER: 10-2076

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/26/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

048051%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE36-10-7414	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7414	1	POLY	H3	Ice	R
RE36-10-7413	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7413	1	POLY	H3	Ice	R
RE36-10-7462	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7462	1	POLY	H3	Ice	R
RE36-10-7465	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7465	1	POLY	H3	Ice	R
RE36-10-7473	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7473	1	POLY	H3	Ice	R
RE36-10-7471	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7471	1	POLY	H3	Ice	R
RE36-10-7472	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7472	1	POLY	H3	Ice	R
RE36-10-7468	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7468	1	POLY	H3	Ice	R
RE36-10-7464	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7464	1	POLY	H3	Ice	R
RE36-10-7463	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7463	1	POLY	H3	Ice	R
RE36-10-7475	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7475	1	POLY	H3	Ice	R
RE36-10-7466	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7466	1	POLY	H3	Ice	R
RE36-10-7476	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7476	1	POLY	H3	Ice	R
RE36-10-7461	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Wednesday, February 24, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2076

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE36-10-7461	1	POLY	H3	Ice	R
RE36-10-7467	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7467	1	POLY	H3	Ice	R
RE36-10-7469	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7469	1	POLY	H3	Ice	R
RE36-10-7470	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7470	1	POLY	H3	Ice	R
RE36-10-7515	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE36-10-7515	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

Wednesday, February 24, 2010

**LOS ALAMOS
NATIONAL LABORATORY**

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

Please analyse the enclosed samples
according to the schedule indicated:


SHIP DATE: 2/24/2010
TURNAROUND/REPORT DUE: 3/26/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



These Samples are on:
LANL Request Number:10-2076
Per Agreement Number:126310011
Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	

Wednesday, February 24, 2010

Page 2 of 4

REQUEST NUMBER: 10-2076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
	EPA:906.0	1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
		1	RE36-10-7413	R	2/20/2010	

Wednesday, February 24, 2010

Page 3 of 4

REQUEST NUMBER: 10-2076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
	HASL-300:ISOPU	1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	

Wednesday, February 24, 2010

Page 4 of 4

REQUEST NUMBER: 10-2076

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	
	HASL-300:ISOU	1	RE36-10-7413	R	2/20/2010	
		1	RE36-10-7414	R	2/20/2010	
		1	RE36-10-7461	R	2/20/2010	
		1	RE36-10-7462	R	2/20/2010	
		1	RE36-10-7463	R	2/20/2010	
		1	RE36-10-7464	R	2/20/2010	
		1	RE36-10-7465	R	2/20/2010	
		1	RE36-10-7466	R	2/20/2010	
		1	RE36-10-7467	R	2/20/2010	
		1	RE36-10-7468	R	2/20/2010	
		1	RE36-10-7469	R	2/20/2010	
		1	RE36-10-7470	R	2/20/2010	
		1	RE36-10-7471	R	2/20/2010	
		1	RE36-10-7472	R	2/20/2010	
		1	RE36-10-7473	R	2/20/2010	
		1	RE36-10-7475	R	2/20/2010	
		1	RE36-10-7476	R	2/20/2010	
		1	RE36-10-7515	R	2/20/2010	

Final Page of REQUEST NUMBER 10-2076

SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCOC/Work Order: 10-2076		
Received By: Patricia Dover-Dent			Date Received: FEB-25-2010		
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*: 80 CPM		
Classified Radioactive II by RSO?		X			
COC/Samples marked containing PCBs?		X			
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:		
Samples identified as Foreign Soil?		X			

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?	X			Preservation Method: ice bags blue ice dry ice none other (describe) 0-6, 12-14
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: FEDEX#s

7209 7850 1919 0C	7209 7850 2076 2C	7209 7850 2238 3C	7209 7850 1893 12C
7209 7850 2146 1C	7209 7850 2065 2C	7209 7850 2124 3C	7209 7850 1849 12C
7209 7850 1952 1C	7209 7850 1996 3C	7209 7850 1974 4C	7209 7850 1838 13C
7209 7850 2054 1C	7209 7850 2135 3C	7209 7850 1985 4C	7209 7850 1860 13C
7209 7850 1963 1C	7209 7850 2032 3C	7209 7850 2000 4C	7209 7850 1850 13C
7209 7850 2021 2C	7209 7850 2249 3C	7209 7850 2087 4C	7209 7850 2098 13C
7209 7850 2113 2C	7209 7850 2168 3C	7209 7850 2010 5C	7209 7850 1908 14C
7209 7850 2102 2C	7209 7850 1941 3C	7209 7850 2157 6C	
7209 7850 1882 2C	7209 7850 2043 3C	7209 7850 1871 12C	

JOYLENE VALDEZ
LOS ALAMOS NATL LAB
A00 BLDG 1237 DPU 03

ACFWGT: 49.0 LB M
CAD: 0014176/CAFE2

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

SHIP DATE: 24FEB10
ACTWGT: 63.0 LB MAN
CAD: 0014176/CAFE2450

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

CHARLESTON SC 29407

(43) 556-8171
EF: 6B010AMR3A0532VA00

(845) 556-8171
REF: 6B010AMR1A015AGWMO

UNITED STATES US

UNITED STATES US



FedEx



FedEx
Express



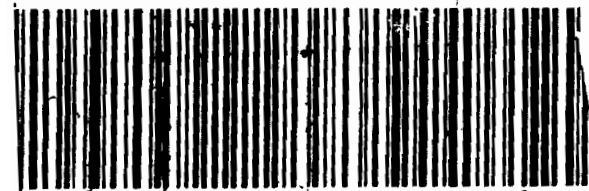
2 of 2
7209 7850 1919

THU - 25FEB
PRIORITY OVERNIGHT

Matr# 7209 7850 1908 0201

X CHSA

29



LOS ALAMOS, NM 87545
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(43) 556-8171
EF: 6B010AMR3A05529E00

UNITED STATES US



FedEx
Express



THU - 25FEB A1
PRIORITY OVERNIGHT

2 of 3
7209 7850 1952

Matr# 7209 7850 1941 0201

X CHSA



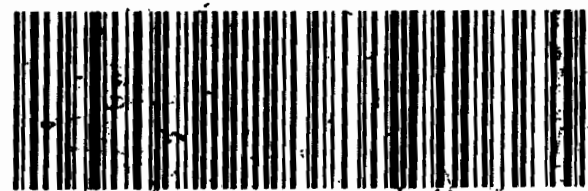
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7209 7850 2146

THU - 25FEB A1
PRIORITY OVERNIGHT

MPS# 0263
Matr# 7209 7850 2135 0201

XX CHSA

29407
SC-US
CHS



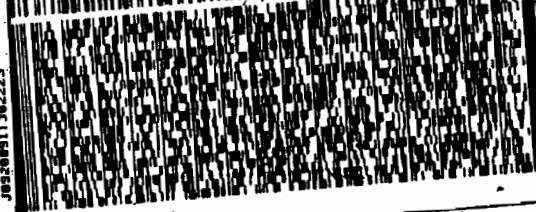
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 6B010AMR1A015AGWMO

UNITED STATES US



FedEx
Express



THU - 25FEB A1
PRIORITY OVERNIGHT

1 of 2
TRK# 7209 7850 2054
Matr# MASTER MM

XX CHSA

29407
SC-US
CHS



ALAMOS, NM 87546
ED STATES US

SHIP DATE: 24FEB10
ACTWGT: 49.0 LB MAN
CAD: 0014176/CAFE2450

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

1c

CHARLESTON SC 29407

(556) 556-8171
REF: 6B010AMR3A05529E00

FedEx
Express



ORIGIN ID: 6AFA (605) 665-9900
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
1A00 BLDG 1237 DPU 03

SHIP DATE: 24FEB10
ACTWGT: 49.0 LB MAN
CAD: 0014176/CAFE2450

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

2c

CHARLESTON SC 29407

(543) 556-8171
REF: 6B010AMR2A0515BYDO

FedEx
Express



3 of 3
7209 7850 1963

THU - 25FEB A1
PRIORITY OVERNIGHT

7209 7850 1941 0201

CHSA

29407
SC-US
CHS



ALAMOS, NM 87546
ED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(556) 556-8171
REF: 6B010AMR1A015AGWMO

2c

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Express

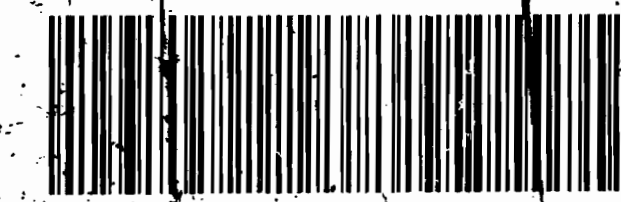


TRKH 7209 7850 2021

THU - 25FEB A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(543) 556-8171
REF: 6B010AMR1A015AGWMO

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1 of 2
7209 7850 2113

THU - 25FEB A1
PRIORITY OVERNIGHT

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2 of 2
MPSH 7209 7850 2102
0263
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THU - 25FEB A1
PRIORITY OVERNIGHT

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29407
SC-US
CHS



ORIGIN ID: SAFA (606) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 24FEB10
ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2450

BILL SENDER

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

ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2450

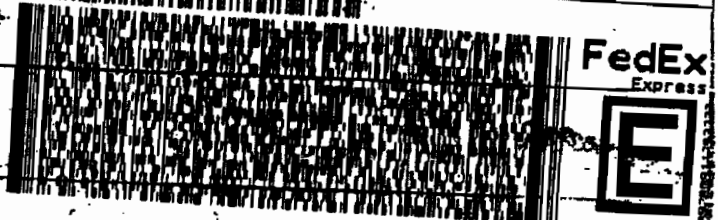
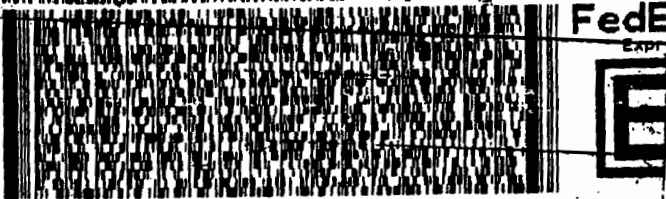
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CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A0532VA00

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GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR1A015AGNMO



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Matr# 7209 7850 1871 0201

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PRIORITY OVERNIGHT

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1 of 2
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PRIORITY OVERNIGHT

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LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
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CHARLESTON SC 29407
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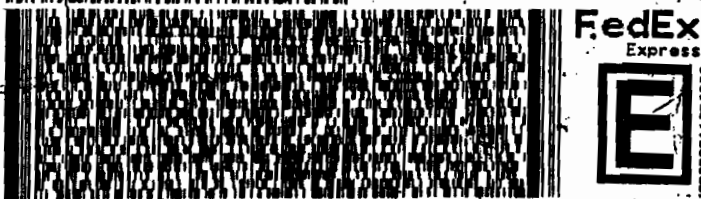
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CHARLESTON SC 29407
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PRIORITY OVERNIGHT

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THU - 25FEB A1
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XX CHSA

29407
SC-US
CHS



ORIGIN-ID: SAFA (505) 665-8968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
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UNITED STATES US

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(843) 556-8171

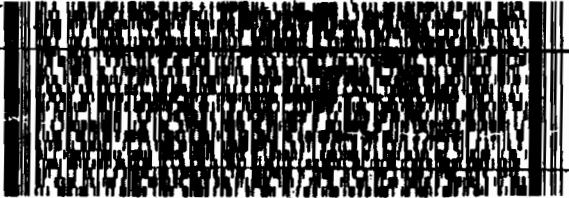
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CHARLESTON SC 29407

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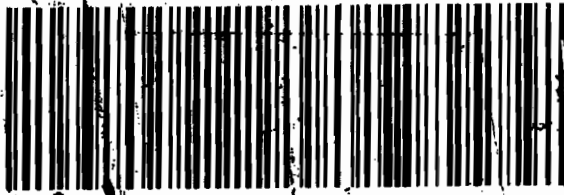
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Part # 156148-434 NRT V3 04-05

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THU - 25FEB A1
PRIORITY OVERNIGHT

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CHS

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JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

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LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

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GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

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GENERAL ENGINEERING LAB
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CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AAREW0140T500



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2 of 2
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0263
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PRIORITY OVERNIGHT

29407
SC-US
CHS

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TRKH: 7209 7850 2168
0201

THU - 25FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



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

SHIP DATE: 24FEB10
ACTWGT: 52.0 LB MAN
CAD: 0014176/CAFE2450

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ORIGIN ID: SARA (505) 656-8988
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 24FEB10
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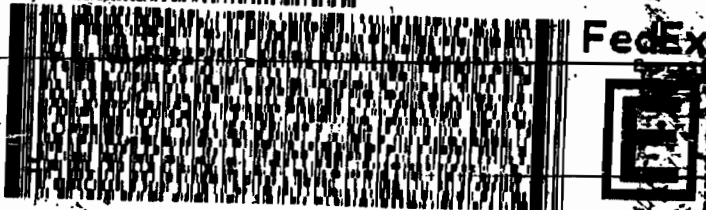
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TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A0223KY10

3c



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MM MASTER MM

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PRIORITY OVERNIGHT

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CHS

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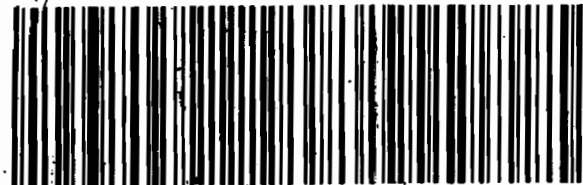


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THU - 25FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

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ORIGIN ID: SARA (505) 656-8988
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 24FEB10
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BILL SENDER

ORIGIN ID: SARA (505) 656-8988
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 24FEB10
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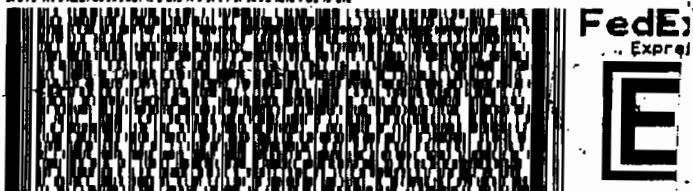
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CHARLESTON SC 29407
(843) 556-8171
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1 of 2
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MM MASTER MM

THU - 25FEB A1
PRIORITY OVERNIGHT

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Page 17 of 1080

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THU - 25FEB A1
PRIORITY OVERNIGHT

29407
SC-US
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ORIGIN ID: SAFA (506) 666-9960
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

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JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

ACTWGT: 51.0 LB MAN
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CHARLESTON SC 29407

(843) 556-8171

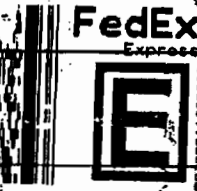
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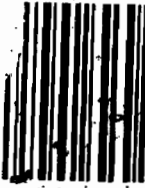
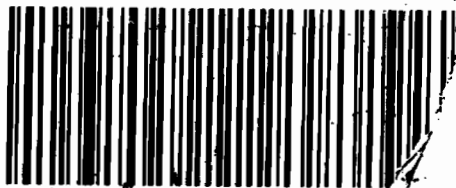
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LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
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CHARLESTON SC 29407

(843) 556-8171

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PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

ACTWGT: 55.0 LB MAN
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TO VALERIE DAVIS
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CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR1A015AGWM0



TRKH
0263 7209 7850 2087

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THU - 25FEB A1
PRIORITY OVERNIGHT

29407
SC-US
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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: 24FEB10
ACTWGT: 62.0 LB MAN
CAD: 0014176/CAFE2450

BILL SENDER

ORIGIN ID: SAFA (505) 665-9968
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LOS ALAMOS, NM 87545
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SHIP DATE: 24FEB10
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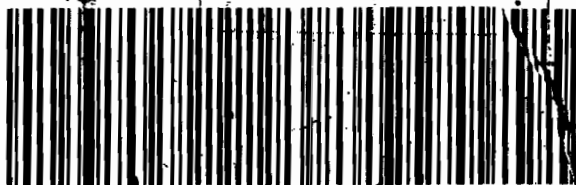
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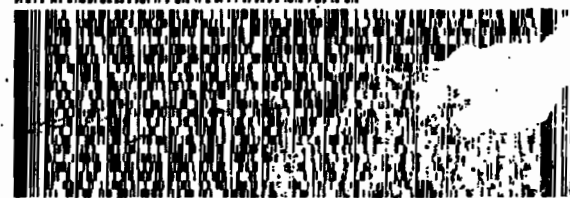
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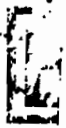
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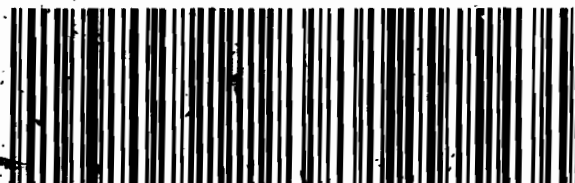
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UNITED STATES US

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PRIORITY OVERNIGHT

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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: 24FEB10
ACTWGT: 56.0 LB MAN
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(843) 556-8171

REF: 6B010AMR3A0532VA00

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ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
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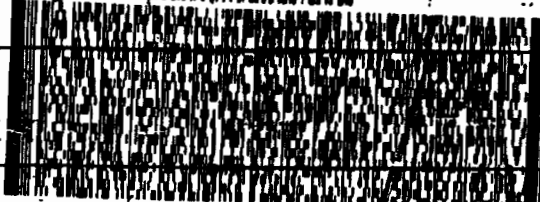
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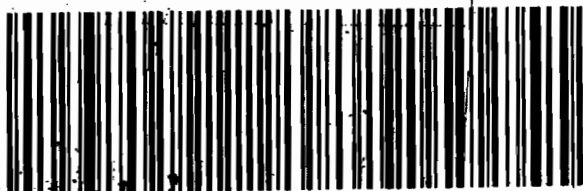


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2 of 3
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THU - 25FEB A1
PRIORITY OVERNIGHT

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CHS

XX CHSA



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: 24FEB10
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ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
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LOS ALAMOS, NM 87545
UNITED STATES US

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CHARLESTON SC 29407

(843) 556-8171

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UNITED STATES



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PRIORITY OVERNIGHT

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ORIGIN ID: SAFA (505) 865-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

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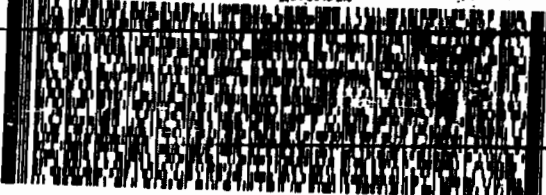
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29407
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CHS

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ORIGIN ID: SAFA (505) 865-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 24FEB10
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BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 555-8171

REF: 6B010AMR3A0532VA00

1 of 2



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Express



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NM MASTER NM

THU - 25FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

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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 10-2076**

Method/Analysis Information

Product: AM241
Analytical Method: DOE EML HASL-300, Am-05-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 967763
Prep Batch Number: 958211

Sample ID	Client ID
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248051002	RE36-10-7413
248051003	RE36-10-7462
248051004	RE36-10-7465
248051005	RE36-10-7473
248051006	RE36-10-7471
248051007	RE36-10-7472
248051008	RE36-10-7468
248051009	RE36-10-7464
248051010	RE36-10-7463
248051011	RE36-10-7475
248051012	RE36-10-7466
248051013	RE36-10-7476
248051014	RE36-10-7461
248051015	RE36-10-7467
248051016	RE36-10-7469
248051017	RE36-10-7470
248051018	RE36-10-7515
1202077308	Method Blank (MB)
1202077309	248051001(RE36-10-7414) Sample Duplicate (DUP)
1202077310	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in

accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information

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

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202077308 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 248051001 (RE36-10-7414). The QC was from LANL work order 248051.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Samples were reprep'd due to poor resolution.

Miscellaneous Information:

Data Exception (DER) Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population. Sample, 1202077310 (LCS), did not meet the client tracer yield requirements, however it is less than 110 percent and does meet the GEL standard

tracer yield requirements.

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:	962443
Prep Batch Number:	958211

Sample ID	Client ID
248051001	RE36-10-7414
248051002	RE36-10-7413
248051003	RE36-10-7462
248051004	RE36-10-7465
248051005	RE36-10-7473
248051006	RE36-10-7471
248051007	RE36-10-7472
248051008	RE36-10-7468
248051009	RE36-10-7464
248051010	RE36-10-7463
248051011	RE36-10-7475
248051012	RE36-10-7466
248051013	RE36-10-7476
248051014	RE36-10-7461
248051015	RE36-10-7467
248051016	RE36-10-7469
248051017	RE36-10-7470
248051018	RE36-10-7515
1202064618	Method Blank (MB)
1202064619	248051001(RE36-10-7414) Sample Duplicate (DUP)
1202064620	Laboratory Control Sample (LCS)

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

SOP Reference

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

Calibration Information:

Calibration Information

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

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202064618 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 248051001 (RE36-10-7414). The QC was from LANL work order 248051.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Samples 248051002 (RE36-10-7413) and 248051017 (RE36-10-7470) were recounted due to a suspected false positive. Samples 248051003 (RE36-10-7462), 248051004 (RE36-10-7465), 248051006 (RE36-10-7471), 248051008 (RE36-10-7468), 248051012 (RE36-10-7466) and 248051014 (RE36-10-7461) were recounted in order to achieve the client's 400 tracer count requirement.

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:	967764
Prep Batch Number:	958211

Sample ID	Client ID
248051001	RE36-10-7414
248051002	RE36-10-7413
248051003	RE36-10-7462
248051004	RE36-10-7465
248051005	RE36-10-7473
248051006	RE36-10-7471
248051007	RE36-10-7472
248051008	RE36-10-7468
248051009	RE36-10-7464
248051010	RE36-10-7463
248051011	RE36-10-7475
248051012	RE36-10-7466
248051013	RE36-10-7476
248051014	RE36-10-7461
248051015	RE36-10-7467
248051016	RE36-10-7469
248051017	RE36-10-7470
248051018	RE36-10-7515
1202077311	Method Blank (MB)
1202077312	248051001(RE36-10-7414) Sample Duplicate (DUP)
1202077313	Laboratory Control Sample (LCS)

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

SOP Reference

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

Calibration Information:

Calibration Information

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

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202077311 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 248051001 (RE36-10-7414). The QC was from LANL work order 248051.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U-233/234 and U-238 blank, 1202077311 (MB) result is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Samples were reprepared due to poor resolution.

Miscellaneous Information:

Data Exception (DER) Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population. Sample 248051005 (RE36-10-7473) did not meet the client's yield requirement. However, there are 400 tracer counts, GEL's standard tracer yield requirements are met, and the client's detection limits are met.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GAMMA SPEC
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	958225
Prep Batch Number:	958211

Sample ID	Client ID
248051001	RE36-10-7414
248051002	RE36-10-7413
248051003	RE36-10-7462
248051004	RE36-10-7465
248051005	RE36-10-7473
248051006	RE36-10-7471
248051007	RE36-10-7472
248051008	RE36-10-7468
248051009	RE36-10-7464
248051010	RE36-10-7463
248051011	RE36-10-7475
248051012	RE36-10-7466
248051013	RE36-10-7476
248051014	RE36-10-7461
248051015	RE36-10-7467
248051016	RE36-10-7469
248051017	RE36-10-7470
248051018	RE36-10-7515
1202054965	Method Blank (MB)
1202054966	248051001(RE36-10-7414) Sample Duplicate (DUP)
1202054967	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 19.

Calibration Information:

Calibration Information

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

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 248051001 (RE36-10-7414). The QC was from LANL work order 248051.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank 1202054965 (MB) result for Y-88 is greater than 1.65 times the CSU but less than the MDC.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

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

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

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

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank 1202054965 (MB) result for Y-88 is greater than the decision level but less than the MDC.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to high counting uncertainty.	Cesium-137	248051011	RE36-10-7475
		Thorium-234	248051013	RE36-10-7476
UI	Data rejected due to interference.	Bismuth-211	248051001	RE36-10-7414
			248051002	RE36-10-7413
			248051003	RE36-10-7462

	248051004	RE36-10-7465
	248051005	RE36-10-7473
	248051006	RE36-10-7471
	248051007	RE36-10-7472
	248051008	RE36-10-7468
	248051009	RE36-10-7464
	248051010	RE36-10-7463
	248051011	RE36-10-7475
	248051012	RE36-10-7466
	248051013	RE36-10-7476
	248051014	RE36-10-7461
	248051015	RE36-10-7467
	248051016	RE36-10-7469
	248051017	RE36-10-7470
	248051018	RE36-10-7515
	1202054966	RE36-10-7414(248051001DUP)
Cadmium-109	248051001	RE36-10-7414
	248051002	RE36-10-7413
	248051003	RE36-10-7462
	248051004	RE36-10-7465
	248051005	RE36-10-7473
	248051006	RE36-10-7471
	248051007	RE36-10-7472
	248051008	RE36-10-7468
	248051009	RE36-10-7464
	248051010	RE36-10-7463
	248051011	RE36-10-7475
	248051012	RE36-10-7466
	248051013	RE36-10-7476
	248051014	RE36-10-7461

			248051015	RE36-10-7467
			248051016	RE36-10-7469
			248051017	RE36-10-7470
			248051018	RE36-10-7515
			1202054966	RE36-10-7414(248051001DUP)
		Radium-224	248051001	RE36-10-7414
			248051002	RE36-10-7413
			248051003	RE36-10-7462
			248051004	RE36-10-7465
			248051005	RE36-10-7473
			248051006	RE36-10-7471
			248051007	RE36-10-7472
			248051008	RE36-10-7468
			248051009	RE36-10-7464
			248051010	RE36-10-7463
			248051011	RE36-10-7475
			248051012	RE36-10-7466
			248051013	RE36-10-7476
			248051014	RE36-10-7461
			248051015	RE36-10-7467
			248051016	RE36-10-7469
			248051017	RE36-10-7470
			248051018	RE36-10-7515
			1202054966	RE36-10-7414(248051001DUP)
UI	Data rejected due to low abundance.	Cesium-134	248051003	RE36-10-7462
			248051005	RE36-10-7473
			248051007	RE36-10-7472
			248051008	RE36-10-7468
			248051011	RE36-10-7475

	248051013	RE36-10-7476
	248051015	RE36-10-7467
	248051017	RE36-10-7470
	248051018	RE36-10-7515
Cesium-137	248051009	RE36-10-7464
Strontium-85	248051003	RE36-10-7462
	248051007	RE36-10-7472
	248051008	RE36-10-7468
	248051010	RE36-10-7463
	248051011	RE36-10-7475
	248051018	RE36-10-7515
	1202054966	RE36-10-7414(248051001DUP)

Method/Analysis Information

Product: H3
Analytical Method: GL-RAD-A-002
Analytical Batch Number: 964054

Sample ID	Client ID
248051001	RE36-10-7414
248051002	RE36-10-7413
248051003	RE36-10-7462
248051004	RE36-10-7465
248051005	RE36-10-7473
248051006	RE36-10-7471
248051007	RE36-10-7472
248051008	RE36-10-7468
248051009	RE36-10-7464
248051010	RE36-10-7463
248051011	RE36-10-7475
248051012	RE36-10-7466
248051013	RE36-10-7476
248051014	RE36-10-7461
248051015	RE36-10-7467
248051016	RE36-10-7469
248051017	RE36-10-7470
248051018	RE36-10-7515
1202068210	Method Blank (MB)
1202068211	248051004(RE36-10-7465) Sample Duplicate (DUP)
1202068212	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 248051004 (RE36-10-7465). The QC was from LANL work

order 248051.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

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

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

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

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Certification Statement

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

Review Validation:

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

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

Reviewer/Date: _____

Pamela Nilla 3/24/20

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: 10-2076 GEL Work Order: 248051

The Qualifiers in this report are defined as follows:

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

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

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

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

Reviewed by



GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7414
Sample ID: 248051001
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 21.1%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.000992	0.0224	+/-0.00188	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0102	0.0327	+/-0.00994	0.050	pCi/g		CXM2	03/20/10	2015	962443	3
Plutonium-239/240	U	0.00779	0.0277	+/-0.00453	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.07	0.0934	+/-0.0971	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236	U	0.0491	0.0571	+/-0.0157	0.100	pCi/g						
Uranium-238		1.12	0.0657	+/-0.100	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.126	0.128	+/-0.0395	0.200	pCi/g		MXR1	03/10/10	1721	958225	6
Bismuth-211	UI	4.73	0.375	+/-0.321		pCi/g						
Bismuth-214		1.50	0.150	+/-0.123	0.200	pCi/g						
Cadmium-109	UI	5.01	1.17	+/-0.480		pCi/g						
Cerium-139	U	-0.000571	0.0578	+/-0.0172	0.050	pCi/g						
Cesium-134	U	0.0865	0.106	+/-0.0288	0.100	pCi/g						
Cesium-137	U	0.0115	0.0893	+/-0.027	0.100	pCi/g						
Cobalt-60	U	0.011	0.0756	+/-0.0227	0.100	pCi/g						
Europium-152	U	0.045	0.198	+/-0.0652	0.200	pCi/g						
Lanthanum-140	U	0.0926	0.193	+/-0.0578		pCi/g						
Lead-212		2.22	0.109	+/-0.137	0.100	pCi/g						
Lead-214		1.72	0.137	+/-0.126	0.100	pCi/g						
Mercury-203	U	0.00618	0.0803	+/-0.0231	0.100	pCi/g						
Potassium-40		32.3	0.608	+/-1.42	1.00	pCi/g						
Radium-223	U	-0.162	1.25	+/-0.426		pCi/g						
Radium-224	UI	5.12	1.17	+/-0.722		pCi/g						
Radium-226		1.50	0.150	+/-0.123		pCi/g						
Radium-228		2.16	0.288	+/-0.224	0.500	pCi/g						
Ruthenium-106	U	0.204	0.660	+/-0.194	0.800	pCi/g						
Sodium-22	U	0.0307	0.0943	+/-0.0275	0.080	pCi/g						
Strontium-85	U	0.0739	0.0853	+/-0.0266		pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7414
Sample ID: 248051001
Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Thallium-208		0.688	0.0703	+/-0.0604	0.080	pCi/g						
Thorium-227	U	0.0484	0.511	+/-0.146		pCi/g						
Thorium-231	U	-0.162	1.25	+/-0.426		pCi/g						
Thorium-234		1.64	1.27	+/-0.581	2.00	pCi/g						
Tin-113	U	-0.00393	0.0928	+/-0.0275	0.100	pCi/g						
Uranium-235	U	-0.111	0.379	+/-0.115	0.500	pCi/g						
Yttrium-88	U	0.0272	0.0786	+/-0.0217	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium	U	13.4	117	+/-33.7	250	pCi/L		KXK2	03/17/10	0727	964054	7
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	84.3	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	79.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.7	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7414
Sample ID: 248051001

Project: LANL01004
Client ID: LANL010

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

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Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7413
Sample ID: 248051002
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 20.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00434	0.0211	+/-0.00252	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.028	+/-0.00223	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	-0.00117	0.0237	+/-0.00402	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.14	0.109	+/-0.106	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236	U	0.0619	0.0663	+/-0.0177	0.100	pCi/g						
Uranium-238		1.91	0.0763	+/-0.162	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.00637	0.0995	+/-0.0313	0.200	pCi/g		MXR1	03/10/10	1721	958225	7
Bismuth-211	UI	2.05	0.356	+/-0.205		pCi/g						
Bismuth-214		0.813	0.127	+/-0.0904	0.200	pCi/g						
Cadmium-109	UI	1.84	0.931	+/-0.296		pCi/g						
Cerium-139	U	-0.0384	0.0464	+/-0.014	0.050	pCi/g						
Cesium-134	U	0.0262	0.0903	+/-0.0256	0.100	pCi/g						
Cesium-137		0.321	0.0679	+/-0.0423	0.100	pCi/g						
Cobalt-60	U	0.0106	0.074	+/-0.0215	0.100	pCi/g						
Europium-152	U	0.0211	0.155	+/-0.0522	0.200	pCi/g						
Lanthanum-140	U	-0.0304	0.184	+/-0.0581		pCi/g						
Lead-212		0.919	0.0911	+/-0.0681	0.100	pCi/g						
Lead-214		0.745	0.137	+/-0.0772	0.100	pCi/g						
Mercury-203	U	0.0277	0.0709	+/-0.0202	0.100	pCi/g						
Potassium-40		22.5	0.641	+/-1.32	1.00	pCi/g						
Radium-223	U	-1.36	1.04	+/-0.378		pCi/g						
Radium-224	UI	1.73	0.976	+/-0.472		pCi/g						
Radium-226		0.813	0.127	+/-0.0904		pCi/g						
Radium-228		0.935	0.274	+/-0.167	0.500	pCi/g						
Ruthenium-106	U	-0.337	0.577	+/-0.186	0.800	pCi/g						
Sodium-22	U	-0.0289	0.0814	+/-0.0255	0.080	pCi/g						
Strontium-85	U	-0.103	0.0811	+/-0.0269		pCi/g						
Thallium-208		0.294	0.0672	+/-0.0371	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7413
Sample ID: 248051002
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	0.0548	0.437	+/-0.127		pCi/g						
Thorium-231	U	-1.36	1.04	+/-0.378		pCi/g						
Thorium-234		1.53	1.01	+/-0.618	2.00	pCi/g						
Tin-113	U	0.0082	0.084	+/-0.0239	0.100	pCi/g						
Uranium-235	U	0.149	0.342	+/-0.0955	0.500	pCi/g						
Yttrium-88	U	-0.000801	0.0546	+/-0.0164	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	94.9	115	+/-36.9	250	pCi/L		KXK2	03/17/10	0904	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.0	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	90.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	74.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7413
Sample ID: 248051002

Project: LANL01004
Client ID: LANL010

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

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7462
Sample ID: 248051003
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 7.92%

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	0.000101	0.0222	+/-0.00152	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00631	0.0228	+/-0.00573	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	-6.85E-05	0.0192	+/-0.00503	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.899	0.104	+/-0.0868	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236	U	0.0228	0.0635	+/-0.0122	0.100	pCi/g						
Uranium-238		1.08	0.073	+/-0.101	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0877	0.250	+/-0.0698	0.200	pCi/g		MXR1	03/10/10	1722	958225	7
Bismuth-211	UI	3.53	0.231	+/-0.183		pCi/g						
Bismuth-214		1.01	0.0796	+/-0.0713	0.200	pCi/g						
Cadmium-109	UI	2.60	1.11	+/-0.430		pCi/g						
Cerium-139	U	-0.00558	0.0382	+/-0.0107	0.050	pCi/g						
Cesium-134	UI	0.0672	0.0654	+/-0.027	0.100	pCi/g						
Cesium-137		0.139	0.0432	+/-0.0267	0.100	pCi/g						
Cobalt-60	U	0.00493	0.0417	+/-0.0124	0.100	pCi/g						
Europium-152	U	0.0128	0.117	+/-0.0358	0.200	pCi/g						
Lanthanum-140	U	0.0173	0.115	+/-0.0359		pCi/g						
Lead-212		1.50	0.0776	+/-0.0684	0.100	pCi/g						
Lead-214		1.28	0.0839	+/-0.0754	0.100	pCi/g						
Mercury-203	U	0.0133	0.0518	+/-0.0148	0.100	pCi/g						
Potassium-40		28.2	0.252	+/-1.24	1.00	pCi/g						
Radium-223	U	0.236	0.755	+/-0.248		pCi/g						
Radium-224	UI	3.76	0.771	+/-0.449		pCi/g						
Radium-226		1.01	0.0796	+/-0.0713		pCi/g						
Radium-228		1.49	0.148	+/-0.148	0.500	pCi/g						
Ruthenium-106	U	-0.0732	0.345	+/-0.106	0.800	pCi/g						
Sodium-22	U	-0.0025	0.0507	+/-0.0154	0.080	pCi/g						
Strontium-85	UI	0.0601	0.0521	+/-0.0156		pCi/g						
Thallium-208		0.455	0.0413	+/-0.0325	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7462
Sample ID: 248051003
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	-0.0316	0.315	+/-0.0915		pCi/g						
Thorium-231	U	0.236	0.755	+/-0.248		pCi/g						
Thorium-234	U	1.23	2.36	+/-0.637	2.00	pCi/g						
Tin-113	U	-0.0244	0.052	+/-0.0155	0.100	pCi/g						
Uranium-235	U	-0.0211	0.258	+/-0.0767	0.500	pCi/g						
Yttrium-88	U	0.0119	0.0407	+/-0.0116	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	53.4	117	+/-35.3	250	pCi/L		KXK2	03/17/10	1042	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.3	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	78.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	72.2	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7462
Sample ID: 248051003
Project: LANL01004
Client ID: LANL010

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7465
Sample ID: 248051004
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 22.3%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.005	0.0235	+/-0.00285	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0134	0.0239	+/-0.0067	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	0.0105	0.0202	+/-0.00561	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.789	0.129	+/-0.0845	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236	U	0.051	0.079	+/-0.0192	0.100	pCi/g						
Uranium-238		1.85	0.0909	+/-0.165	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0714	0.286	+/-0.087	0.200	pCi/g		MXR1	03/10/10	1722	958225	7
Bismuth-211	UI	2.07	0.312	+/-0.184		pCi/g						
Bismuth-214		0.660	0.0911	+/-0.0645	0.200	pCi/g						
Cadmium-109	UI	1.85	1.26	+/-0.339		pCi/g						
Cerium-139	U	-0.0258	0.0411	+/-0.0125	0.050	pCi/g						
Cesium-134	U	0.0523	0.0771	+/-0.0204	0.100	pCi/g						
Cesium-137		0.256	0.0581	+/-0.0281	0.100	pCi/g						
Cobalt-60	U	0.00335	0.0567	+/-0.017	0.100	pCi/g						
Europium-152	U	-0.00745	0.157	+/-0.0497	0.200	pCi/g						
Lanthanum-140	U	-0.0384	0.112	+/-0.0374		pCi/g						
Lead-212		0.835	0.0853	+/-0.0516	0.100	pCi/g						
Lead-214		0.751	0.108	+/-0.070	0.100	pCi/g						
Mercury-203	U	-0.0276	0.0565	+/-0.0167	0.100	pCi/g						
Potassium-40		19.1	0.496	+/-1.02	1.00	pCi/g						
Radium-223	U	-0.619	0.944	+/-0.291		pCi/g						
Radium-224	UI	2.40	0.914	+/-0.498		pCi/g						
Radium-226		0.660	0.0911	+/-0.0645		pCi/g						
Radium-228		0.979	0.189	+/-0.132	0.500	pCi/g						
Ruthenium-106	U	-0.184	0.422	+/-0.135	0.800	pCi/g						
Sodium-22	U	0.0135	0.0667	+/-0.0195	0.080	pCi/g						
Strontium-85	U	0.0255	0.0585	+/-0.0185		pCi/g						
Thallium-208		0.325	0.0464	+/-0.0357	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7465
Sample ID: 248051004
Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Thorium-227	U	0.117	0.409	+/-0.119		pCi/g						
Thorium-231	U	-0.619	0.944	+/-0.291		pCi/g						
Thorium-234		2.69	2.28	+/-1.07	2.00	pCi/g						
Tin-113	U	-0.00411	0.0694	+/-0.0202	0.100	pCi/g						
Uranium-235	U	0.038	0.311	+/-0.0893	0.500	pCi/g						
Yttrium-88	U	-0.0272	0.045	+/-0.0166	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium	U	90.1	116	+/-36.8	250	pCi/L		KXK2	03/17/10	1220	964054	8
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	79.0	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	77.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	60.7	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7465
Sample ID: 248051004
Project: LANL01004
Client ID: LANL010

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

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

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7473
Sample ID: 248051005
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 23.6%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0227	0.0261	+/-0.00712	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00111	0.0314	+/-0.00741	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240		0.0587	0.0266	+/-0.0129	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.56	0.162	+/-0.152	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236	U	0.0567	0.0987	+/-0.0269	0.100	pCi/g						
Uranium-238		1.91	0.114	+/-0.179	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.181	0.374	+/-0.120	0.200	pCi/g		MXR1	03/10/10	1753	958225	6
Bismuth-211	UI	4.20	0.490	+/-0.358		pCi/g						
Bismuth-214		1.62	0.164	+/-0.130	0.200	pCi/g						
Cadmium-109	UI	2.71	1.88	+/-0.847		pCi/g						
Cerium-139	U	-0.00543	0.0646	+/-0.0205	0.050	pCi/g						
Cesium-134	UI	0.128	0.122	+/-0.0324	0.100	pCi/g						
Cesium-137		1.17	0.084	+/-0.0858	0.100	pCi/g						
Cobalt-60	U	-0.0333	0.0824	+/-0.0278	0.100	pCi/g						
Europium-152	U	-0.0813	0.211	+/-0.0701	0.200	pCi/g						
Lanthanum-140	U	-0.186	0.195	+/-0.0745		pCi/g						
Lead-212		1.94	0.129	+/-0.125	0.100	pCi/g						
Lead-214		1.53	0.164	+/-0.137	0.100	pCi/g						
Mercury-203	U	-0.0406	0.0872	+/-0.0276	0.100	pCi/g						
Potassium-40		26.8	0.823	+/-1.70	1.00	pCi/g						
Radium-223	U	-0.619	1.46	+/-0.468		pCi/g						
Radium-224	UI	5.13	1.38	+/-0.788		pCi/g						
Radium-226		1.62	0.164	+/-0.130		pCi/g						
Radium-228		1.72	0.329	+/-0.231	0.500	pCi/g						
Ruthenium-106	U	0.0122	0.661	+/-0.200	0.800	pCi/g						
Sodium-22	U	-0.0324	0.0981	+/-0.032	0.080	pCi/g						
Strontium-85	U	-0.237	0.0955	+/-0.0366		pCi/g						
Thallium-208		0.493	0.0642	+/-0.0519	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID:
Sample ID:

RE36-10-7473
248051005

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	0.0414	0.562	+/-0.168		pCi/g						
Thorium-231	U	-0.619	1.46	+/-0.468		pCi/g						
Thorium-234		3.33	2.90	+/-1.33	2.00	pCi/g						
Tin-113	U	-0.0419	0.104	+/-0.0336	0.100	pCi/g						
Uranium-235	U	-0.015	0.423	+/-0.134	0.500	pCi/g						
Yttrium-88	U	-0.00967	0.0465	+/-0.0158	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	51.1	117	+/-35.4	250	pCi/L		KXK2	03/17/10	1357	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	73.1	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	85.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	44.5 *	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7473
Sample ID: 248051005
Project: LANL01004
Client ID: LANL010

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

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7471
Sample ID: 248051006
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 29.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.000498	0.0218	+/-0.00187	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00893	0.0233	+/-0.00762	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	0.0163	0.0197	+/-0.00578	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.07	0.0937	+/-0.0974	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236	U	0.0534	0.0573	+/-0.0164	0.100	pCi/g						
Uranium-238		1.49	0.0659	+/-0.128	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0214	0.0982	+/-0.0292	0.200	pCi/g		MXR1	03/10/10	1753	958225	7
Bismuth-211	UI	2.77	0.321	+/-0.251		pCi/g						
Bismuth-214		1.00	0.105	+/-0.0966	0.200	pCi/g						
Cadmium-109	UI	2.84	0.896	+/-0.396		pCi/g						
Cerium-139	U	-0.000308	0.0476	+/-0.0138	0.050	pCi/g						
Cesium-134	U	0.0369	0.0919	+/-0.0286	0.100	pCi/g						
Cesium-137		0.180	0.0748	+/-0.0376	0.100	pCi/g						
Cobalt-60	U	0.0127	0.0781	+/-0.0223	0.100	pCi/g						
Europium-152	U	-0.0178	0.160	+/-0.0463	0.200	pCi/g						
Lanthanum-140	U	-0.20	0.126	+/-0.0588		pCi/g						
Lead-212		1.27	0.0915	+/-0.0834	0.100	pCi/g						
Lead-214		1.01	0.117	+/-0.0954	0.100	pCi/g						
Mercury-203	U	0.0396	0.0563	+/-0.0191	0.100	pCi/g						
Potassium-40		25.5	0.517	+/-1.47	1.00	pCi/g						
Radium-223	U	-0.498	0.876	+/-0.311		pCi/g						
Radium-224	UI	3.47	0.982	+/-0.672		pCi/g						
Radium-226		1.00	0.105	+/-0.0966		pCi/g						
Radium-228		1.69	0.236	+/-0.197	0.500	pCi/g						
Ruthenium-106	U	-0.11	0.576	+/-0.180	0.800	pCi/g						
Sodium-22	U	-0.0129	0.0779	+/-0.0249	0.080	pCi/g						
Strontium-85	U	0.0469	0.0699	+/-0.0211		pCi/g						
Thallium-208		0.422	0.0574	+/-0.0411	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7471
Sample ID: 248051006

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	-0.113	0.381	+/-0.119		pCi/g						
Thorium-231	U	-0.498	0.876	+/-0.311		pCi/g						
Thorium-234		1.55	0.946	+/-0.490	2.00	pCi/g						
Tin-113	U	-0.0332	0.0745	+/-0.0228	0.100	pCi/g						
Uranium-235	U	0.217	0.332	+/-0.093	0.500	pCi/g						
Yttrium-88	U	-0.0102	0.0543	+/-0.018	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		122	115	+/-38.3	250	pCi/L		KXK2	03/17/10	1535	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	75.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.1	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7471
Sample ID: 248051006

Project: LANL01004
Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7472
Sample ID: 248051007
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 21.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.000493	0.0219	+/-0.00187	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.000165	0.0296	+/-0.00765	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0141	0.0251	+/-0.00651	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.15	0.0899	+/-0.102	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236		0.0788	0.0549	+/-0.0201	0.100	pCi/g						
Uranium-238		1.19	0.0632	+/-0.105	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.112	0.243	+/-0.0753	0.200	pCi/g		MXR1	03/10/10	1754	958225	6
Bismuth-211	UI	5.49	0.332	+/-0.394		pCi/g						
Bismuth-214		1.53	0.116	+/-0.114	0.200	pCi/g						
Cadmium-109	UI	2.56	1.36	+/-0.612		pCi/g						
Cerium-139	U	-0.00409	0.053	+/-0.0154	0.050	pCi/g						
Cesium-134	UI	0.124	0.0869	+/-0.0433	0.100	pCi/g						
Cesium-137	U	0.0144	0.0632	+/-0.0186	0.100	pCi/g						
Cobalt-60	U	-0.0362	0.0563	+/-0.0193	0.100	pCi/g						
Europium-152	U	0.0143	0.162	+/-0.062	0.200	pCi/g						
Lanthanum-140	U	0.0859	0.152	+/-0.0474		pCi/g						
Lead-212		2.32	0.0909	+/-0.164	0.100	pCi/g						
Lead-214		1.99	0.121	+/-0.153	0.100	pCi/g						
Mercury-203	U	0.0309	0.073	+/-0.0217	0.100	pCi/g						
Potassium-40		38.7	0.468	+/-1.96	1.00	pCi/g						
Radium-223	U	0.374	1.09	+/-0.359		pCi/g						
Radium-224	UI	6.32	0.973	+/-0.627		pCi/g						
Radium-226		1.53	0.116	+/-0.114		pCi/g						
Radium-228		2.62	0.216	+/-0.232	0.500	pCi/g						
Ruthenium-106	U	0.078	0.488	+/-0.144	0.800	pCi/g						
Sodium-22	U	-0.0393	0.067	+/-0.0215	0.080	pCi/g						
Strontium-85	UI	0.182	0.0808	+/-0.0249		pCi/g						
Thallium-208		0.673	0.0541	+/-0.0532	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7472
Sample ID: 248051007
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	-0.000727	0.429	+/-0.130		pCi/g						
Thorium-231	U	0.374	1.09	+/-0.359		pCi/g						
Thorium-234		2.41	2.04	+/-0.980	2.00	pCi/g						
Tin-113	U	0.0295	0.0793	+/-0.023	0.100	pCi/g						
Uranium-235	U	0.086	0.350	+/-0.101	0.500	pCi/g						
Yttrium-88	U	-0.0218	0.0437	+/-0.0181	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	84.3	115	+/-36.3	250	pCi/L		KXK2	03/17/10	1712	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.4	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	86.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.5	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7472 Project: LANL01004
Sample ID: 248051007 Client ID: LANL010

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7468
Sample ID: 248051008
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 26.6%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241		0.0243	0.0236	+/-0.00646	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.000531	0.0252	+/-0.00234	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240		0.0224	0.0213	+/-0.00759	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.24	0.100	+/-0.112	0.100	pCi/g		CXM2	03/23/10	1804	967764	5
Uranium-235/236		0.0659	0.0612	+/-0.0187	0.100	pCi/g						
Uranium-238		1.53	0.0704	+/-0.133	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.138	0.325	+/-0.106	0.200	pCi/g		MXR1	03/10/10	1919	958225	7
Bismuth-211	UI	3.62	0.401	+/-0.334		pCi/g						
Bismuth-214		1.13	0.138	+/-0.122	0.200	pCi/g						
Cadmium-109	UI	2.48	1.75	+/-0.616		pCi/g						
Cerium-139	U	0.00989	0.0633	+/-0.0183	0.050	pCi/g						
Cesium-134	UI	0.131	0.127	+/-0.0402	0.100	pCi/g						
Cesium-137		0.621	0.0755	+/-0.0622	0.100	pCi/g						
Cobalt-60	U	0.00523	0.075	+/-0.0222	0.100	pCi/g						
Europium-152	U	-0.0126	0.186	+/-0.0615	0.200	pCi/g						
Lanthanum-140	U	0.00443	0.194	+/-0.0591		pCi/g						
Lead-212		1.77	0.117	+/-0.114	0.100	pCi/g						
Lead-214		1.32	0.146	+/-0.126	0.100	pCi/g						
Mercury-203	U	0.0672	0.0881	+/-0.0249	0.100	pCi/g						
Potassium-40		27.1	0.691	+/-1.57	1.00	pCi/g						
Radium-223	U	0.543	1.31	+/-0.430		pCi/g						
Radium-224	UI	4.55	1.25	+/-0.874		pCi/g						
Radium-226		1.13	0.138	+/-0.122		pCi/g						
Radium-228		2.09	0.282	+/-0.262	0.500	pCi/g						
Ruthenium-106	U	0.015	0.611	+/-0.182	0.800	pCi/g						
Sodium-22	U	0.00834	0.0932	+/-0.0276	0.080	pCi/g						
Strontium-85	UI	0.145	0.0974	+/-0.0282		pCi/g						
Thallium-208		0.624	0.0703	+/-0.0575	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7468 Project: LANL01004
Sample ID: 248051008 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	0.510	+/-0.157		pCi/g						
Thorium-231	U	0.543	1.31	+/-0.430		pCi/g						
Thorium-234	U	2.34	2.70	+/-1.15	2.00	pCi/g						
Tin-113	U	-0.0384	0.0922	+/-0.0296	0.100	pCi/g						
Uranium-235	U	-0.145	0.406	+/-0.125	0.500	pCi/g						
Yttrium-88	U	-0.00154	0.0722	+/-0.0225	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium	140	115	+/-39.3	250	pCi/L	KXK2	03/17/10	1850	964054	8
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	75.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	78.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	69.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7468
Sample ID: 248051008

Project: LANL01004
Client ID: LANL010

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7464
Sample ID: 248051009
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 7.05%

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	-0.00335	0.0249	+/-0.00272	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0118	0.0334	+/-0.00953	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.00131	0.0283	+/-0.00298	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.13	0.0984	+/-0.103	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236	U	0.0345	0.0601	+/-0.0139	0.100	pCi/g						
Uranium-238		1.16	0.0692	+/-0.105	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0591	0.322	+/-0.101	0.200	pCi/g		MXR1	03/10/10	1919	958225	6
Bismuth-211	UI	4.87	0.383	+/-0.376		pCi/g						
Bismuth-214		1.38	0.124	+/-0.111	0.200	pCi/g						
Cadmium-109	UI	4.06	1.35	+/-0.588		pCi/g						
Cerium-139	U	-0.0149	0.0559	+/-0.017	0.050	pCi/g						
Cesium-134	U	0.0855	0.0987	+/-0.0268	0.100	pCi/g						
Cesium-137	UI	0.133	0.0966	+/-0.0254	0.100	pCi/g						
Cobalt-60	U	0.0455	0.0839	+/-0.0232	0.100	pCi/g						
Europium-152	U	-0.0673	0.185	+/-0.0563	0.200	pCi/g						
Lanthanum-140	U	-0.147	0.131	+/-0.0521		pCi/g						
Lead-212		2.11	0.110	+/-0.149	0.100	pCi/g						
Lead-214		1.77	0.139	+/-0.145	0.100	pCi/g						
Mercury-203	U	0.036	0.0776	+/-0.0243	0.100	pCi/g						
Potassium-40		30.9	0.484	+/-1.75	1.00	pCi/g						
Radium-223	U	-0.00319	1.25	+/-0.415		pCi/g						
Radium-224	UI	4.93	1.17	+/-0.722		pCi/g						
Radium-226		1.38	0.124	+/-0.111		pCi/g						
Radium-228		1.99	0.265	+/-0.235	0.500	pCi/g						
Ruthenium-106	U	0.219	0.648	+/-0.183	0.800	pCi/g						
Sodium-22	U	0.0248	0.0928	+/-0.027	0.080	pCi/g						
Strontium-85	U	0.0626	0.072	+/-0.0221		pCi/g						
Thallium-208		0.642	0.0697	+/-0.0571	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7464
Sample ID: 248051009

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	0.116	0.478	+/-0.135		pCi/g						
Thorium-231	U	-0.00319	1.25	+/-0.415		pCi/g						
Thorium-234		4.22	2.63	+/-1.36	2.00	pCi/g						
Tin-113	U	-0.00987	0.0865	+/-0.0261	0.100	pCi/g						
Uranium-235	U	0.0534	0.392	+/-0.117	0.500	pCi/g						
Yttrium-88	U	-0.00184	0.0637	+/-0.0195	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		124	115	+/-38.4	250	pCi/L		KXK2	03/17/10	2027	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	71.7	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	79.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7464
Sample ID: 248051009

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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D Results are reported from a diluted aliquot of the sample

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

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

ND Analyte concentration is not detected above the detection limit

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

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

UJ Gamma Spectroscopy--Uncertain identification

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

Y QC Samples were not spiked with this compound

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

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7463
Sample ID: 248051010
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 8.23%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00639	0.0205	+/-0.00374	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00535	0.0326	+/-0.00757	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240		0.0633	0.0276	+/-0.0136	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.936	0.0957	+/-0.088	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236		0.0755	0.0585	+/-0.0195	0.100	pCi/g						
Uranium-238		1.17	0.0673	+/-0.105	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0341	0.121	+/-0.0378	0.200	pCi/g		MXR1	03/10/10	1934	958225	6
Bismuth-211	UI	3.91	0.421	+/-0.303		pCi/g						
Bismuth-214		1.43	0.153	+/-0.118	0.200	pCi/g						
Cadmium-109	UI	3.63	1.12	+/-0.497		pCi/g						
Cerium-139	U	-0.0101	0.0578	+/-0.0166	0.050	pCi/g						
Cesium-134	U	0.0969	0.116	+/-0.0555	0.100	pCi/g						
Cesium-137		0.430	0.0967	+/-0.0466	0.100	pCi/g						
Cobalt-60	U	-0.0136	0.078	+/-0.024	0.100	pCi/g						
Europium-152	U	-0.0289	0.186	+/-0.0655	0.200	pCi/g						
Lanthanum-140	U	0.0263	0.214	+/-0.0637		pCi/g						
Lead-212		1.79	0.104	+/-0.111	0.100	pCi/g						
Lead-214		1.42	0.160	+/-0.117	0.100	pCi/g						
Mercury-203	U	0.00379	0.0808	+/-0.0238	0.100	pCi/g						
Potassium-40		29.0	0.732	+/-1.61	1.00	pCi/g						
Radium-223	U	-0.267	1.20	+/-0.426		pCi/g						
Radium-224	UI	4.20	1.11	+/-0.706		pCi/g						
Radium-226		1.43	0.153	+/-0.118		pCi/g						
Radium-228		1.76	0.288	+/-0.212	0.500	pCi/g						
Ruthenium-106	U	-0.0161	0.708	+/-0.213	0.800	pCi/g						
Sodium-22	U	0.0114	0.0912	+/-0.0267	0.080	pCi/g						
Strontium-85	UI	0.105	0.0934	+/-0.0254		pCi/g						
Thallium-208		0.572	0.0709	+/-0.0572	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7463
Sample ID: 248051010
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	-0.13	0.479	+/-0.144		pCi/g						
Thorium-231	U	-0.267	1.20	+/-0.426		pCi/g						
Thorium-234		2.14	1.15	+/-0.585	2.00	pCi/g						
Tin-113	U	-0.0147	0.0946	+/-0.0276	0.100	pCi/g						
Uranium-235	U	-0.0261	0.399	+/-0.114	0.500	pCi/g						
Yttrium-88	U	0.0371	0.0865	+/-0.0235	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		140	118	+/-40.0	250	pCi/L		KXK2	03/17/10	2205	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	80.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.5	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7463 Project: LANL01004
Sample ID: 248051010 Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7475
Sample ID: 248051011
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 27.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00143	0.0209	+/-0.00143	0.050	pCi/g		CXM2	03/23/10	1729	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0129	0.0272	+/-0.008	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0108	0.0231	+/-0.00555	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.10	0.102	+/-0.101	0.100	pCi/g		CXM2	03/23/10	1804	967764	4
Uranium-235/236	U	0.058	0.0622	+/-0.0166	0.100	pCi/g						
Uranium-238		1.32	0.0716	+/-0.118	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0262	0.294	+/-0.0838	0.200	pCi/g		MXR1	03/10/10	1935	958225	6
Bismuth-211	UI	4.19	0.266	+/-0.226		pCi/g						
Bismuth-214		1.19	0.0841	+/-0.0828	0.200	pCi/g						
Cadmium-109	UI	3.97	1.24	+/-0.569		pCi/g						
Cerium-139	U	-0.0204	0.0424	+/-0.0125	0.050	pCi/g						
Cesium-134	UI	0.107	0.0728	+/-0.0253	0.100	pCi/g						
Cesium-137	UI	0.0686	0.0458	+/-0.0311	0.100	pCi/g						
Cobalt-60	U	-0.015	0.0496	+/-0.0159	0.100	pCi/g						
Europium-152	U	-0.0264	0.127	+/-0.049	0.200	pCi/g						
Lanthanum-140	U	0.0166	0.136	+/-0.0468		pCi/g						
Lead-212		1.78	0.0772	+/-0.0807	0.100	pCi/g						
Lead-214		1.52	0.0967	+/-0.092	0.100	pCi/g						
Mercury-203	U	0.0523	0.0635	+/-0.0179	0.100	pCi/g						
Potassium-40		28.7	0.468	+/-1.30	1.00	pCi/g						
Radium-223	U	-1.17	0.811	+/-0.291		pCi/g						
Radium-224	UI	4.58	0.826	+/-0.545		pCi/g						
Radium-226		1.19	0.0841	+/-0.0828		pCi/g						
Radium-228		1.95	0.175	+/-0.184	0.500	pCi/g						
Ruthenium-106	U	0.0358	0.413	+/-0.125	0.800	pCi/g						
Sodium-22	U	0.026	0.0623	+/-0.018	0.080	pCi/g						
Strontium-85	UI	0.0731	0.0619	+/-0.019		pCi/g						
Thallium-208		0.560	0.0433	+/-0.0417	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: March 24, 2010

Client Sample ID:
Sample ID:

RE36-10-7475
248051011

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	0.00468	0.356	+/-0.105		pCi/g						
Thorium-231	U	-1.17	0.811	+/-0.291		pCi/g						
Thorium-234	U	1.64	2.67	+/-0.750	2.00	pCi/g						
Tin-113	U	0.0116	0.0662	+/-0.019	0.100	pCi/g						
Uranium-235	U	0.148	0.308	+/-0.0917	0.500	pCi/g						
Yttrium-88	U	-0.0143	0.0339	+/-0.0117	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	61.5	117	+/-35.7	250	pCi/L		KXK2	03/17/10	2343	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.3	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	88.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	78.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7475
Sample ID: 248051011

Project: LANL01004
Client ID: LANL010

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

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7466
Sample ID: 248051012
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 20.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.000988	0.0221	+/-0.00186	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00711	0.0265	+/-0.00492	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	0.0111	0.0224	+/-0.0057	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.21	0.109	+/-0.111	0.100	pCi/g		CXM2	03/23/10	1803	967764	5
Uranium-235/236		0.0954	0.0665	+/-0.0234	0.100	pCi/g						
Uranium-238		2.49	0.0765	+/-0.205	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.084	0.359	+/-0.111	0.200	pCi/g		MXR1	03/10/10	1935	958225	7
Bismuth-211	UI	4.09	0.350	+/-0.281		pCi/g						
Bismuth-214		1.18	0.118	+/-0.0926	0.200	pCi/g						
Cadmium-109	UI	2.97	1.54	+/-0.506		pCi/g						
Cerium-139	U	-0.00382	0.0561	+/-0.0165	0.050	pCi/g						
Cesium-134	U	0.0581	0.0925	+/-0.0251	0.100	pCi/g						
Cesium-137		0.157	0.0652	+/-0.045	0.100	pCi/g						
Cobalt-60	U	0.0205	0.0701	+/-0.0202	0.100	pCi/g						
Europium-152	U	-0.0295	0.178	+/-0.0688	0.200	pCi/g						
Lanthanum-140	U	-0.0514	0.156	+/-0.0507		pCi/g						
Lead-212		1.70	0.102	+/-0.0839	0.100	pCi/g						
Lead-214		1.49	0.127	+/-0.110	0.100	pCi/g						
Mercury-203	U	0.00451	0.0708	+/-0.0201	0.100	pCi/g						
Potassium-40		28.4	0.611	+/-1.38	1.00	pCi/g						
Radium-223	U	-1.07	1.12	+/-0.359		pCi/g						
Radium-224	UI	3.71	1.09	+/-0.661		pCi/g						
Radium-226		1.18	0.118	+/-0.0926		pCi/g						
Radium-228		1.62	0.255	+/-0.194	0.500	pCi/g						
Ruthenium-106	U	-0.188	0.537	+/-0.169	0.800	pCi/g						
Sodium-22	U	-0.0347	0.0817	+/-0.0266	0.080	pCi/g						
Strontium-85	U	0.0342	0.0663	+/-0.021		pCi/g						
Thallium-208		0.472	0.0629	+/-0.0395	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7466
Sample ID: 248051012

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	0.126	0.464	+/-0.136		pCi/g						
Thorium-231	U	-1.07	1.12	+/-0.359		pCi/g						
Thorium-234		4.26	2.87	+/-1.23	2.00	pCi/g						
Tin-113	U	-0.0222	0.0787	+/-0.0236	0.100	pCi/g						
Uranium-235	U	0.129	0.371	+/-0.106	0.500	pCi/g						
Yttrium-88	U	0.00542	0.0658	+/-0.0194	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	73.0	118	+/-36.6	250	pCi/L		KXK2	03/18/10	0120	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	81.8	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	71.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.9	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7466
Sample ID: 248051012
Project: LANL01004
Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7476
Sample ID: 248051013
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 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	0.00495	0.0217	+/-0.00319	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0147	0.0311	+/-0.00916	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0049	0.0264	+/-0.00555	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	0.120	+/-0.111	0.100	pCi/g		CXM2	03/23/10	1803	967764	4
Uranium-235/236		0.0787	0.0732	+/-0.0224	0.100	pCi/g						
Uranium-238		1.12	0.0842	+/-0.107	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.112	0.132	+/-0.0419	0.200	pCi/g		MXR1	03/10/10	2041	958225	6
Bismuth-211	UI	5.22	0.454	+/-0.362		pCi/g						
Bismuth-214		1.63	0.169	+/-0.119	0.200	pCi/g						
Cadmium-109	UI	4.77	1.23	+/-0.504		pCi/g						
Cerium-139	U	-0.0172	0.0624	+/-0.0192	0.050	pCi/g						
Cesium-134	UI	0.295	0.131	+/-0.0553	0.100	pCi/g						
Cesium-137	U	0.0155	0.0912	+/-0.0276	0.100	pCi/g						
Cobalt-60	U	-0.0164	0.0746	+/-0.0242	0.100	pCi/g						
Europium-152	U	0.0122	0.216	+/-0.0837	0.200	pCi/g						
Lanthanum-140	U	0.0652	0.204	+/-0.0647		pCi/g						
Lead-212		2.43	0.110	+/-0.150	0.100	pCi/g						
Lead-214		1.89	0.165	+/-0.141	0.100	pCi/g						
Mercury-203	U	-0.00569	0.0864	+/-0.0255	0.100	pCi/g						
Potassium-40		32.5	0.763	+/-1.48	1.00	pCi/g						
Radium-223	U	0.744	1.37	+/-0.443		pCi/g						
Radium-224	UI	6.30	1.18	+/-0.805		pCi/g						
Radium-226		1.63	0.169	+/-0.119		pCi/g						
Radium-228		2.15	0.273	+/-0.238	0.500	pCi/g						
Ruthenium-106	U	0.243	0.738	+/-0.218	0.800	pCi/g						
Sodium-22	U	-0.00863	0.0877	+/-0.0276	0.080	pCi/g						
Strontium-85	U	0.088	0.0966	+/-0.0304		pCi/g						
Thallium-208		0.665	0.0819	+/-0.0558	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID:
Sample ID:

RE36-10-7476
248051013

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	-0.12	0.549	+/-0.163		pCi/g						
Thorium-231	U	0.744	1.37	+/-0.443		pCi/g						
Thorium-234	UI	1.37	1.33	+/-0.630	2.00	pCi/g						
Tin-113	U	-0.0058	0.0982	+/-0.0295	0.100	pCi/g						
Uranium-235	U	0.109	0.440	+/-0.131	0.500	pCi/g						
Yttrium-88	U	0.0271	0.083	+/-0.023	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	61.6	117	+/-35.7	250	pCi/L		KXX2	03/18/10	0258	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	81.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	76.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

C Analyte has been confirmed by GC/MS analysis

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7476 Project: LANL01004
Sample ID: 248051013 Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7461
Sample ID: 248051014
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 12.7%

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	0.00453	0.0217	+/-0.00261	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0128	0.030	+/-0.00606	0.050	pCi/g		CXM2	03/22/10	2224	962443	3
Plutonium-239/240	U	0.0149	0.0253	+/-0.00644	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.682	0.106	+/-0.0713	0.100	pCi/g		CXM2	03/23/10	1803	967764	5
Uranium-235/236	U	0.028	0.0649	+/-0.0133	0.100	pCi/g						
Uranium-238		1.00	0.0747	+/-0.0953	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0176	0.129	+/-0.035	0.200	pCi/g		MXR1	03/10/10	2041	958225	7
Bismuth-211	UI	2.00	0.235	+/-0.168		pCi/g						
Bismuth-214		0.572	0.0903	+/-0.0606	0.200	pCi/g						
Cadmium-109	UI	2.17	0.794	+/-0.272		pCi/g						
Cerium-139	U	0.000818	0.0354	+/-0.0103	0.050	pCi/g						
Cesium-134	U	0.0304	0.0601	+/-0.0164	0.100	pCi/g						
Cesium-137		0.0623	0.0428	+/-0.0243	0.100	pCi/g						
Cobalt-60	U	0.000868	0.0481	+/-0.0142	0.100	pCi/g						
Europium-152	U	-0.031	0.116	+/-0.0395	0.200	pCi/g						
Lanthanum-140	U	0.0132	0.132	+/-0.0393		pCi/g						
Lead-212		0.688	0.0986	+/-0.0543	0.100	pCi/g						
Lead-214		0.725	0.0853	+/-0.0642	0.100	pCi/g						
Mercury-203	U	0.00992	0.0488	+/-0.0135	0.100	pCi/g						
Potassium-40		19.5	0.303	+/-1.04	1.00	pCi/g						
Radium-223	U	-0.24	0.726	+/-0.249		pCi/g						
Radium-224	UI	1.39	0.820	+/-0.287		pCi/g						
Radium-226		0.572	0.0903	+/-0.0606		pCi/g						
Radium-228		0.733	0.170	+/-0.110	0.500	pCi/g						
Ruthenium-106	U	-0.16	0.319	+/-0.100	0.800	pCi/g						
Sodium-22	U	0.00125	0.0496	+/-0.0147	0.080	pCi/g						
Strontium-85	U	0.0571	0.0586	+/-0.0167		pCi/g						
Thallium-208		0.266	0.0381	+/-0.0286	0.080	pCi/g						

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7461
Sample ID: 248051014

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	0.0131	0.305	+/-0.085		pCi/g						
Thorium-231	U	-0.24	0.726	+/-0.249		pCi/g						
Thorium-234	U	0.753	1.34	+/-0.355	2.00	pCi/g						
Tin-113	U	-0.0173	0.0515	+/-0.0157	0.100	pCi/g						
Uranium-235	U	0.0585	0.248	+/-0.0712	0.500	pCi/g						
Yttrium-88	U	-0.00413	0.0299	+/-0.0095	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	42.6	116	+/-34.6	250	pCi/L		KXK2	03/18/10	0435	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.1	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	50.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7461
Sample ID: 248051014
Project: LANL01004
Client ID: LANL010

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7467
Sample ID: 248051015
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 16.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00523	0.0203	+/-0.00558	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0111	0.0312	+/-0.00573	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0136	0.0264	+/-0.00626	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.13	0.143	+/-0.114	0.100	pCi/g		CXM2	03/23/10	1803	967764	4
Uranium-235/236	U	0.0439	0.0874	+/-0.0211	0.100	pCi/g						
Uranium-238		1.40	0.101	+/-0.135	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0533	0.200	+/-0.0651	0.200	pCi/g		MXR1	03/10/10	2042	958225	6
Bismuth-211	UI	3.54	0.312	+/-0.209		pCi/g						
Bismuth-214		1.03	0.0973	+/-0.0767	0.200	pCi/g						
Cadmium-109	UI	3.95	1.08	+/-0.511		pCi/g						
Cerium-139	U	-0.0206	0.0476	+/-0.0147	0.050	pCi/g						
Cesium-134	UI	0.123	0.0931	+/-0.0245	0.100	pCi/g						
Cesium-137		0.671	0.0592	+/-0.0462	0.100	pCi/g						
Cobalt-60	U	0.0243	0.0582	+/-0.0163	0.100	pCi/g						
Europium-152	U	-0.0132	0.148	+/-0.0504	0.200	pCi/g						
Lanthanum-140	U	0.00524	0.145	+/-0.044		pCi/g						
Lead-212		1.41	0.0944	+/-0.0733	0.100	pCi/g						
Lead-214		1.28	0.116	+/-0.0836	0.100	pCi/g						
Mercury-203	U	-0.00814	0.064	+/-0.0199	0.100	pCi/g						
Potassium-40		24.6	0.500	+/-1.18	1.00	pCi/g						
Radium-223	U	-0.629	1.08	+/-0.335		pCi/g						
Radium-224	UI	3.32	1.01	+/-0.555		pCi/g						
Radium-226		1.03	0.0973	+/-0.0767		pCi/g						
Radium-228		1.72	0.195	+/-0.172	0.500	pCi/g						
Ruthenium-106	U	-0.281	0.451	+/-0.149	0.800	pCi/g						
Sodium-22	U	-0.0192	0.0591	+/-0.019	0.080	pCi/g						
Strontium-85	U	0.0653	0.0698	+/-0.0215		pCi/g						
Thallium-208		0.475	0.0486	+/-0.0367	0.080	pCi/g						

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7467
Sample ID: 248051015

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	0.159	0.412	+/-0.116		pCi/g						
Thorium-231	U	-0.629	1.08	+/-0.335		pCi/g						
Thorium-234		2.87	1.79	+/-0.785	2.00	pCi/g						
Tin-113	U	-0.0428	0.0688	+/-0.0216	0.100	pCi/g						
Uranium-235	U	0.212	0.310	+/-0.109	0.500	pCi/g						
Yttrium-88	U	-0.00583	0.0473	+/-0.0153	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		127	118	+/-39.2	250	pCi/L		KXK2	03/18/10	0728	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	83.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	65.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7467
Sample ID: 248051015
Project: LANL01004
Client ID: LANL010

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7469
Sample ID: 248051016
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 12.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241		0.0465	0.0257	+/-0.0098	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00811	0.0293	+/-0.00561	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240		0.0558	0.0248	+/-0.0123	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.50	0.124	+/-0.137	0.100	pCi/g		CXM2	03/23/10	1803	967764	4
Uranium-235/236	U	0.065	0.0755	+/-0.0194	0.100	pCi/g						
Uranium-238		1.93	0.0869	+/-0.169	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0166	0.124	+/-0.0403	0.200	pCi/g		MXR1	03/10/10	2042	958225	6
Bismuth-211	UI	4.49	0.447	+/-0.359		pCi/g						
Bismuth-214		1.45	0.172	+/-0.131	0.200	pCi/g						
Cadmium-109	UI	5.24	1.10	+/-0.569		pCi/g						
Cerium-139	U	0.000931	0.0621	+/-0.0189	0.050	pCi/g						
Cesium-134	U	0.0657	0.123	+/-0.0341	0.100	pCi/g						
Cesium-137		1.14	0.0955	+/-0.0856	0.100	pCi/g						
Cobalt-60	U	-0.0232	0.0845	+/-0.0271	0.100	pCi/g						
Europium-152	U	-0.101	0.203	+/-0.0662	0.200	pCi/g						
Lanthanum-140	U	-0.046	0.216	+/-0.0833		pCi/g						
Lead-212		2.09	0.112	+/-0.130	0.100	pCi/g						
Lead-214		1.63	0.163	+/-0.138	0.100	pCi/g						
Mercury-203	U	-0.0767	0.078	+/-0.0254	0.100	pCi/g						
Potassium-40		29.9	0.818	+/-1.75	1.00	pCi/g						
Radium-223	U	-0.166	1.30	+/-0.444		pCi/g						
Radium-224	UI	5.49	1.20	+/-0.926		pCi/g						
Radium-226		1.45	0.172	+/-0.131		pCi/g						
Radium-228		1.84	0.313	+/-0.289	0.500	pCi/g						
Ruthenium-106	U	0.00767	0.722	+/-0.224	0.800	pCi/g						
Sodium-22	U	-0.0172	0.103	+/-0.0334	0.080	pCi/g						
Strontium-85	U	0.0503	0.0936	+/-0.030		pCi/g						
Thallium-208		0.610	0.0764	+/-0.0693	0.080	pCi/g						

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Report Date: March 24, 2010

Client Sample ID: RE36-10-7469
Sample ID: 248051016

Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Thorium-227	U	-0.0306	0.515	+/-0.162		pCi/g						
Thorium-231	U	-0.166	1.30	+/-0.444		pCi/g						
Thorium-234		2.92	1.26	+/-0.647	2.00	pCi/g						
Tin-113	U	-0.0169	0.105	+/-0.032	0.100	pCi/g						
Uranium-235	U	0.151	0.419	+/-0.125	0.500	pCi/g						
Yttrium-88	U	-0.00507	0.0857	+/-0.0271	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		122	116	+/-38.6	250	pCi/L		KXK2	03/18/10	0906	964054	7
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	68.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	88.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	71.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7469 Project: LANL01004
Sample ID: 248051016 Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7470
Sample ID: 248051017
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 14.4%

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	0.0137	0.0201	+/-0.00443	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00467	0.0294	+/-0.00332	0.050	pCi/g		CXM2	03/22/10	2153	962443	3
Plutonium-239/240	U	0.0187	0.0249	+/-0.00671	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.79	0.129	+/-0.160	0.100	pCi/g		CXM2	03/23/10	1803	967764	5
Uranium-235/236		0.079	0.0786	+/-0.0233	0.100	pCi/g						
Uranium-238		2.05	0.0905	+/-0.179	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.00905	0.091	+/-0.0288	0.200	pCi/g		MXR1	03/10/10	2042	958225	7
Bismuth-211	UI	4.55	0.377	+/-0.346		pCi/g						
Bismuth-214		1.77	0.140	+/-0.159	0.200	pCi/g						
Cadmium-109	UI	4.80	0.773	+/-0.473		pCi/g						
Cerium-139	U	0.00583	0.0492	+/-0.014	0.050	pCi/g						
Cesium-134	UI	0.141	0.126	+/-0.0443	0.100	pCi/g						
Cesium-137		0.469	0.0929	+/-0.0601	0.100	pCi/g						
Cobalt-60	U	0.0202	0.0948	+/-0.027	0.100	pCi/g						
Europium-152	U	-0.0759	0.167	+/-0.0544	0.200	pCi/g						
Lanthanum-140	U	0.127	0.241	+/-0.0661		pCi/g						
Lead-212		2.25	0.101	+/-0.131	0.100	pCi/g						
Lead-214		1.65	0.137	+/-0.134	0.100	pCi/g						
Mercury-203	U	5.90E-05	0.0741	+/-0.0223	0.100	pCi/g						
Potassium-40		30.1	0.531	+/-1.72	1.00	pCi/g						
Radium-223	U	0.983	1.21	+/-0.375		pCi/g						
Radium-224	UI	6.08	1.08	+/-0.602		pCi/g						
Radium-226		1.77	0.140	+/-0.159		pCi/g						
Radium-228		2.41	0.337	+/-0.274	0.500	pCi/g						
Ruthenium-106	U	-0.159	0.666	+/-0.210	0.800	pCi/g						
Sodium-22	U	-0.0641	0.111	+/-0.0383	0.080	pCi/g						
Strontium-85	U	0.0121	0.0763	+/-0.0251		pCi/g						
Thallium-208		0.668	0.0659	+/-0.0686	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: March 24, 2010

Client Sample ID: RE36-10-7470
Sample ID: 248051017
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	0.0806	0.456	+/-0.134		pCi/g						
Thorium-231	U	0.983	1.21	+/-0.375		pCi/g						
Thorium-234		3.17	0.890	+/-0.564	2.00	pCi/g						
Tin-113	U	0.0444	0.0999	+/-0.0295	0.100	pCi/g						
Uranium-235	U	0.230	0.327	+/-0.0984	0.500	pCi/g						
Yttrium-88	U	0.0269	0.0946	+/-0.0261	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		206	117	+/-43.2	250	pCi/L		KXK2	03/18/10	1043	964054	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, 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
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.4	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	89.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	75.3	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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Certificate of Analysis

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 24, 2010

Client Sample ID: RE36-10-7470
Sample ID: 248051017

Project: LANL01004
Client ID: LANL010

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

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

Report Date: March 24, 2010

Client Sample ID: RE36-10-7515
Sample ID: 248051018
Matrix: R
Collect Date: 20-FEB-10
Receive Date: 25-FEB-10
Collector: Client
Moisture: 20.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00363	0.0207	+/-0.00318	0.050	pCi/g		CXM2	03/23/10	1730	967763	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0333	+/-0.00265	0.050	pCi/g		CXM2	03/20/10	1833	962443	3
Plutonium-239/240	U	0.0106	0.0282	+/-0.00534	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.897	0.111	+/-0.088	0.100	pCi/g		CXM2	03/23/10	1829	967764	4
Uranium-235/236	U	0.0581	0.0675	+/-0.0173	0.100	pCi/g						
Uranium-238		2.07	0.0777	+/-0.175	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0284	0.170	+/-0.0531	0.200	pCi/g		MXR1	03/10/10	2043	958225	6
Bismuth-211	UI	2.25	0.247	+/-0.193		pCi/g						
Bismuth-214		0.652	0.0856	+/-0.0632	0.200	pCi/g						
Cadmium-109	UI	1.82	1.07	+/-0.371		pCi/g						
Cerium-139	U	-0.00915	0.039	+/-0.0112	0.050	pCi/g						
Cesium-134	UI	0.0642	0.0578	+/-0.0177	0.100	pCi/g						
Cesium-137		0.263	0.0413	+/-0.031	0.100	pCi/g						
Cobalt-60	U	0.022	0.0509	+/-0.0151	0.100	pCi/g						
Europium-152	U	-0.0252	0.118	+/-0.0383	0.200	pCi/g						
Lanthanum-140	U	-0.0595	0.111	+/-0.0366		pCi/g						
Lead-212		0.872	0.076	+/-0.0689	0.100	pCi/g						
Lead-214		0.817	0.0896	+/-0.0735	0.100	pCi/g						
Mercury-203	U	0.0233	0.0536	+/-0.0155	0.100	pCi/g						
Potassium-40		21.2	0.351	+/-1.12	1.00	pCi/g						
Radium-223	U	-0.194	0.795	+/-0.269		pCi/g						
Radium-224	UI	2.46	0.814	+/-0.440		pCi/g						
Radium-226		0.652	0.0856	+/-0.0632		pCi/g						
Radium-228		1.11	0.161	+/-0.142	0.500	pCi/g						
Ruthenium-106	U	0.0884	0.394	+/-0.114	0.800	pCi/g						
Sodium-22	U	-0.00368	0.0502	+/-0.0151	0.080	pCi/g						
Strontium-85	UI	0.131	0.0631	+/-0.0188		pCi/g						
Thallium-208		0.316	0.0423	+/-0.0341	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: March 24, 2010

Client Sample ID: RE36-10-7515
Sample ID: 248051018

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.132	0.316	+/-0.0969		pCi/g						
Thorium-231	U	-0.194	0.795	+/-0.269		pCi/g						
Thorium-234		3.09	1.47	+/-0.777	2.00	pCi/g						
Tin-113	U	0.0188	0.0567	+/-0.0161	0.100	pCi/g						
Uranium-235	U	0.0237	0.276	+/-0.0785	0.500	pCi/g						
Yttrium-88	U	0.00154	0.0359	+/-0.0108	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	45.1	116	+/-34.7	250	pCi/L		KXK2	03/18/10	1221	964054	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.4	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	83.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	84.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Report Date: March 24, 2010

Client Sample ID: RE36-10-7515
Sample ID: 248051018
Project: LANL01004
Client ID: LANL010

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

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

QUALITY CONTROL DATA

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QC Summary

Report Date: March 24, 2010

Page 1 of 6

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 248051

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 962443										
QC1202064619 248051001 DUP										
Plutonium-238	U	0.0102	U	0.00617	pCi/g	0.140		(0-1)	CXM2	03/20/1018:33
	TPU:	+/-0.00994		+/-0.00448						
	Yield:	79.9		86.8						
Plutonium-239/240	U	0.00779	U	0.0136	pCi/g	0.269		(0-1)		
	TPU:	+/-0.00453		+/-0.00624						
	Yield:	79.9		86.8						
QC1202064620 LCS										
Plutonium-238				4.08	pCi/g			(75%-125%)		
	TPU:			+/-0.462						
	Yield:			81.6						
Plutonium-239/240	41.8			41.8	pCi/g		100	(75%-125%)		
	TPU:			+/-3.21						
	Yield:			81.6						
QC1202064618 MB										
Plutonium-238			U	0.00431	pCi/g					
	TPU:			+/-0.00434						
	Yield:			92.9						
Plutonium-239/240			U	0.0072	pCi/g					
	TPU:			+/-0.00522						
	Yield:			92.9						
Batch 967763										
QC1202077309 248051001 DUP										
Americium-241	U	-0.000992	U	0.00178	pCi/g	0.388		(0-1)	CXM2	03/23/1021:41
	TPU:	+/-0.00188		+/-0.00169						
	Yield:	84.3		80.1						
QC1202077310 LCS										
Americium-241	33.1			31.0	pCi/g		93.5	(75%-125%)		03/23/1021:41
	TPU:			+/-2.29						
	Yield:			106						
QC1202077308 MB										
Americium-241			U	-0.0069	pCi/g					03/23/1021:41
	TPU:			+/-0.00373						
	Yield:			80.1						
Batch 967764										
QC1202077312 248051001 DUP										
Uranium-233/234		1.07		0.933	pCi/g	0.376		(0-1)	CXM2	03/23/1018:29
	TPU:	+/-0.0971		+/-0.0889						
	Yield:	76.7		90.3						
Uranium-235/236	U	0.0491		0.0671	pCi/g	0.266		(0-1)		
	TPU:	+/-0.0157		+/-0.018						
	Yield:	76.7		90.3						
Uranium-238		1.12		1.04	pCi/g	0.198		(0-1)		
	TPU:	+/-0.100		+/-0.0967						

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QC Summary

Workorder: 248051

Page 2 of 6

Paramname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch	967764									
QC1202077313	LCS	Yield:	76.7	90.3						
Uranium-233/234				5.83	pCi/g					03/23/1018:29
		TPU:		+/-0.559						
Uranium-235/236		Yield:		93.5						
				0.377	pCi/g					
		TPU:		+/-0.0961						
Uranium-238	5.75	Yield:		93.5						
				5.36	pCi/g		93.3 (75%-125%)			
		TPU:		+/-0.521						
		Yield:		93.5						
QC1202077311	MB									
Uranium-233/234			U	0.00721	pCi/g					03/23/1018:29
		TPU:		+/-0.00369						
		Yield:		93.6						
Uranium-235/236			U	0.00458	pCi/g					
		TPU:		+/-0.00326						
		Yield:		93.6						
Uranium-238			U	0.00926	pCi/g					
		TPU:		+/-0.0042						
		Yield:		93.6						
Rad Gamma Spec										
Batch	958225									
QC1202054966	248051001	DUP								
Americium-241		U	0.126	U	-0.0541	pCi/g	0.894	(0-1) MXR1		03/10/1020:47
		TPU:	+/-0.0395		+/-0.061					
Bismuth-211		U1	4.73	U1	5.21	pCi/g	0.328	(0-1)		
		TPU:	+/-0.321		+/-0.410					
Bismuth-214			1.50		1.57	pCi/g	0.136	(0-1)		
		TPU:	+/-0.123		+/-0.123					
Cadmium-109		U1	5.01	U1	5.01	pCi/g	0.002	(0-1)		
		TPU:	+/-0.480		+/-0.521					
Cerium-139		U	-0.000571	U	-0.00152	pCi/g	0.0157	(0-1)		
		TPU:	+/-0.0172		+/-0.0131					
Cesium-134		U	0.0865	U	0.0896	pCi/g	0.0249	(0-1)		
		TPU:	+/-0.0288		+/-0.0324					
Cesium-137		U	0.0115		0.076	pCi/g	0.620	(0-1)		
		TPU:	+/-0.027		+/-0.025					
Cobalt-60		U	0.011	U	0.00703	pCi/g	0.0495	(0-1)		
		TPU:	+/-0.0227		+/-0.017					
Europium-152		U	0.045	U	0.0644	pCi/g	0.0849	(0-1)		
		TPU:	+/-0.0652		+/-0.0492					
Lanthanum-140		U	0.0926	U	-0.0701	pCi/g	0.706	(0-1)		
		TPU:	+/-0.0578		+/-0.0575					
Lead-212			2.22		1.96	pCi/g	0.463	(0-1)		
		TPU:	+/-0.137		+/-0.148					
Lead-214			1.72		1.89	pCi/g	0.307	(0-1)		
		TPU:	+/-0.126		+/-0.158					
Mercury-203		U	0.00618	U	0.0588	pCi/g	0.491	(0-1)		
		TPU:	+/-0.0231		+/-0.0305					

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QC Summary

Workorder: 248051

Page 3 of 6

Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	958225										
Potassium-40		32.3		35.7	pCi/g	0.530		(0-1)			
		TPU: +/-1.42		+/-1.80							
Radium-223		U -0.162	U	0.281	pCi/g	0.296		(0-1)			
		TPU: +/-0.426		+/-0.320							
Radium-224		UI 5.12	UI	5.41	pCi/g	0.0964		(0-1)			
		TPU: +/-0.722		+/-0.756							
Radium-226		1.50		1.57	pCi/g	0.136		(0-1)			
		TPU: +/-0.123		+/-0.123							
Radium-228		2.16		2.11	pCi/g	0.0589		(0-1)			
		TPU: +/-0.224		+/-0.200							
Ruthenium-106		U 0.204	U	-0.112	pCi/g	0.456		(0-1)			
		TPU: +/-0.194		+/-0.153							
Sodium-22		U 0.0307	U	0.00234	pCi/g	0.295		(0-1)			
		TPU: +/-0.0275		+/-0.0206							
Strontium-85		U 0.0739	UI	0.0674	pCi/g	0.0707		(0-1)			
		TPU: +/-0.0266		+/-0.0196							
Thallium-208		0.688		0.620	pCi/g	0.302		(0-1)			
		TPU: +/-0.0604		+/-0.0519							
Thorium-227		U 0.0484	U	-0.159	pCi/g	0.396		(0-1)			
		TPU: +/-0.146		+/-0.115							
Thorium-231		U -0.162	U	0.281	pCi/g	0.296		(0-1)			
		TPU: +/-0.426		+/-0.320							
Thorium-234		1.64		2.14	pCi/g	0.189		(0-1)			
		TPU: +/-0.581		+/-0.755							
Tin-113		U -0.00393	U	-0.022	pCi/g	0.195		(0-1)			
		TPU: +/-0.0275		+/-0.019							
Uranium-235		U -0.111	U	-0.0573	pCi/g	0.130		(0-1)			
		TPU: +/-0.115		+/-0.0935							
Yttrium-88		U 0.0272	U	0.033	pCi/g	0.0814		(0-1)			
		TPU: +/-0.0217		+/-0.0138							
QC1202054967	LCS										
Americium-241	15.9			13.5	pCi/g		84.6 (75%-125%)			03/10/10	21:20
		TPU: +/-0.613		+/-0.613							
Bismuth-211				2.57	pCi/g						
		TPU: +/-0.325		+/-0.325							
Bismuth-214				0.609	pCi/g						
		TPU: +/-0.111		+/-0.111							
Cadmium-109				28.4	pCi/g						
		TPU: +/-1.83		+/-1.83							
Cerium-139			U	0.038	pCi/g						
		TPU: +/-0.0206		+/-0.0206							
Cesium-134			U	0.0532	pCi/g						
		TPU: +/-0.0413		+/-0.0413							
Cesium-137	5.55			5.76	pCi/g		104 (75%-125%)				
		TPU: +/-0.318		+/-0.318							
Cobalt-60	6.35			6.24	pCi/g		98.3 (75%-125%)				
		TPU: +/-0.304		+/-0.304							
Europium-152			U	-0.0261	pCi/g						
		TPU: +/-0.0865		+/-0.0865							
Lanthanum-140			U	-0.0286	pCi/g						
		TPU: +/-0.0428		+/-0.0428							

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QC Summary

Workorder: 248051

Page 4 of 6

Paramname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	958225								
Lead-212			1.13	pCi/g					
	TPU:		+/-0.0927						
Lead-214			0.931	pCi/g					
	TPU:		+/-0.121						
Mercury-203		U	0.0203	pCi/g					
	TPU:		+/-0.0272						
Potassium-40			1.16	pCi/g					
	TPU:		+/-0.316						
Radium-223		U	-0.122	pCi/g					
	TPU:		+/-0.520						
Radium-224			1.94	pCi/g					
	TPU:		+/-0.648						
Radium-226			0.609	pCi/g					
	TPU:		+/-0.111						
Radium-228			1.39	pCi/g					
	TPU:		+/-0.243						
Ruthenium-106		U	-0.213	pCi/g					
	TPU:		+/-0.292						
Sodium-22		U	0.0207	pCi/g					
	TPU:		+/-0.0243						
Strontium-85		U	0.0349	pCi/g					
	TPU:		+/-0.0372						
Thallium-208			0.347	pCi/g					
	TPU:		+/-0.0505						
Thorium-227		U	0.188	pCi/g					
	TPU:		+/-0.196						
Thorium-231		U	-0.122	pCi/g					
	TPU:		+/-0.520						
Thorium-234		U	-1.21	pCi/g					
	TPU:		+/-0.842						
Tin-113		U	-0.0349	pCi/g					
	TPU:		+/-0.0394						
Uranium-235		U	-0.11	pCi/g					
	TPU:		+/-0.145						
Yttrium-88		U	-0.000186	pCi/g					
	TPU:		+/-0.0215						
QC1202054965	MB								
Americium-241		U	-0.0412	pCi/g					03/10/1020:47
	TPU:		+/-0.0336						
Bismuth-211		U	-0.0105	pCi/g					
	TPU:		+/-0.0492						
Bismuth-214		U	-0.0305	pCi/g					
	TPU:		+/-0.0191						
Cadmium-109		U	-0.271	pCi/g					
	TPU:		+/-0.117						
Cerium-139		U	-0.000499	pCi/g					
	TPU:		+/-0.00497						
Cesium-134		U	0.00565	pCi/g					
	TPU:		+/-0.00846						
Cesium-137		U	-0.00665	pCi/g					
	TPU:		+/-0.00936						

GEL LABORATORIES LLC

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QC Summary

Workorder: 248051

Page 5 of 6

Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	958225								
Cobalt-60		U	-0.00467	pCi/g					
	TPU:		+/-0.00763						
Europium-152		U	0.011	pCi/g					
	TPU:		+/-0.019						
Lanthanum-140		U	-0.00542	pCi/g					
	TPU:		+/-0.0143						
Lead-212		U	0.0106	pCi/g					
	TPU:		+/-0.013						
Lead-214		U	0.0213	pCi/g					
	TPU:		+/-0.0181						
Mercury-203		U	-0.00643	pCi/g					
	TPU:		+/-0.00614						
Potassium-40		U	0.0973	pCi/g					
	TPU:		+/-0.102						
Radium-223		U	0.0639	pCi/g					
	TPU:		+/-0.123						
Radium-224		U	-0.279	pCi/g					
	TPU:		+/-0.138						
Radium-226		U	-0.0305	pCi/g					
	TPU:		+/-0.0191						
Radium-228		U	0.0259	pCi/g					
	TPU:		+/-0.0289						
Ruthenium-106		U	0.00496	pCi/g					
	TPU:		+/-0.0636						
Sodium-22		U	-0.00559	pCi/g					
	TPU:		+/-0.00755						
Strontium-85		U	-0.0502	pCi/g					
	TPU:		+/-0.013						
Thallium-208		U	-0.00715	pCi/g					
	TPU:		+/-0.00926						
Thorium-227		U	0.0336	pCi/g					
	TPU:		+/-0.0501						
Thorium-231		U	0.0639	pCi/g					
	TPU:		+/-0.123						
Thorium-234		U	0.148	pCi/g					
	TPU:		+/-0.321						
Tin-113		U	0.000579	pCi/g					
	TPU:		+/-0.00794						
Uranium-235		U	-0.0209	pCi/g					
	TPU:		+/-0.0329						
Yttrium-88		U	0.0197	pCi/g					
	TPU:		+/-0.00954						
Rad Liquid Scintillation									
Batch	964054								
QC1202068211	248051004	DUP							
Tritium		U	90.1	pCi/L	0.418		(0-1)	KXK2	03/18/1015:37
		TPU:	+/-36.8		+/-40.3				
QC1202068212	LCS								
Tritium	5530		5430	pCi/L		98.1	(80%-120%)		03/18/1017:14
		TPU:	+/-491						

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QC Summary

Workorder: 248051

Page 6 of 6

Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation									
Batch	964054								
QC1202068210	MB								
Tritium		U	-31.5	pCi/L					03/18/1013:58
	TPU:		+/-30.9						

03/18/1013:58

Notes:

The Qualifiers in this report are defined as follows:

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

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

** Indicates analyte is a surrogate compound.

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

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

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

RAW DATA

Radiochemistry Batch Checklist, Rev10

Batch# 962443 Product: PJ Date: 3/24/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Jop LML- 3/24/10Secondary Review Performed By: K Bell 3/24/10

3/25

LANL

Plutonium Que Sheet

08-MAR-10

Internal Due Date: 14-MAR-10

First Client Due Date: 25-MAR-10

Analyst: CXM2

Batch #: 962443

Vol: 0.111

Expiration Date: 3/4/11

Tracer Isotope(s): Pu-238

Tracer Code: 1430-C

Vol: 0.18

Expiration Date: 4/30/20

LCS Code: SLM 0244-B

LCS Isotope(s): Pu-239

Vol: 1.1

Expiration Date: 1/1/11

Spike Code: 1/1

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

Witness: KM 3-12-10

Balance ID: 5010277

Pipet ID: 2971058

Prep Date: 3/12/10 Initials: MDA

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/1/1)	Pu Det #
248051001-1	RE36-10-7414	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	1	101	1.259	25
248051002-1	RE36-10-7413	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	2	102	1.251	26
248051003-1	RE36-10-7462	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	3	103	1.256	27
248051004-1	RE36-10-7465	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	4	104	1.251	28
248051005-1	RE36-10-7473	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	5	105	1.253	29
248051006-1	RE36-10-7471	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	6	106	1.255	30
248051007-1	RE36-10-7472	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	7	107	1.258	31
248051008-1	RE36-10-7468	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	8	108	1.250	32
248051009-1	RE36-10-7464	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	9	109	1.252	33
248051010-1	RE36-10-7463	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	10	110	1.251	34
248051011-1	RE36-10-7475	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	11	111	1.258	35
248051012-1	RE36-10-7466	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	12	112	1.260	36
248051013-1	RE36-10-7476	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	13	113	1.259	37
248051014-1	RE36-10-7461	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	14	114	1.258	38
248051015-1	RE36-10-7467	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	15	115	1.251	39
248051016-1	RE36-10-7469	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	16	116	1.251	40
248051017-1	RE36-10-7470	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	17	117	1.258	41
248051018-1	RE36-10-7515	SAMPLE	.05 pCi/g		SOIL	LANL010	20-FEB-10	18	118	1.252	42
1202064618-1	MB for batch 962443	MB	.05 pCi/g		SOIL	QC ACCOUNT	20-FEB-10	19	119	1	43
1202064619-1	RE36-10-7414(248051001DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	20-FEB-10	20	120	1.253	44
1202064620-1	LCS for batch 962443	LCS	.05 pCi/g		SOIL	QC ACCOUNT	20-FEB-10	21	121	0.103	45

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

Blank Correction Report

Batch ID 962443

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202064619	DUP	Plutonium-238	1.25 g	0.00617	0.00448	0.0311	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0136	0.00624	0.0264	.00576	pCi/g	YES
1202064620	LCS	Plutonium-238	0.103 g	4.08	0.462	0.395	.041844660	pCi/g	NO
		Plutonium-239/240	0.103 g	41.8	3.21	0.335	.069902913	pCi/g	NO
1202064618	MB	Plutonium-238	1.00 g	0.00431	0.00434	0.0363	.00431	pCi/g	YES
		Plutonium-239/240	1.00 g	0.0072	0.00522	0.0308	.0072	pCi/g	YES
248051001	RE36-10-7414	Plutonium-238	1.26 g	0.0102	0.00994	0.0327	.003420635	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00779	0.00453	0.0277	.005714286	pCi/g	YES
248051002	RE36-10-7413	Plutonium-238	1.25 g	0.00	0.00223	0.028	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	-0.00117	0.00402	0.0237	.00576	pCi/g	YES
248051003	RE36-10-7462	Plutonium-238	1.26 g	0.00631	0.00573	0.0228	.003420635	pCi/g	YES
		Plutonium-239/240	1.26 g	-6.85E-05	0.00503	0.0192	.005714286	pCi/g	YES
248051004	RE36-10-7465	Plutonium-238	1.25 g	0.0134	0.0067	0.0239	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0105	0.00561	0.0202	.00576	pCi/g	YES
248051005	RE36-10-7473	Plutonium-238	1.25 g	0.00111	0.00741	0.0314	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0587	0.0129	0.0266	.00576	pCi/g	NO
248051006	RE36-10-7471	Plutonium-238	1.26 g	0.00893	0.00762	0.0233	.003420635	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0163	0.00578	0.0197	.005714286	pCi/g	YES
248051007	RE36-10-7472	Plutonium-238	1.26 g	-0.000165	0.00765	0.0296	.003420635	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0141	0.00651	0.0251	.005714286	pCi/g	YES
248051008	RE36-10-7468	Plutonium-238	1.25 g	0.000531	0.00234	0.0252	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0224	0.00759	0.0213	.00576	pCi/g	YES
248051009	RE36-10-7464	Plutonium-238	1.25 g	0.0118	0.00953	0.0334	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00131	0.00298	0.0283	.00576	pCi/g	YES
248051010	RE36-10-7463	Plutonium-238	1.25 g	-0.00535	0.00757	0.0326	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0633	0.0136	0.0276	.00576	pCi/g	NO
248051011	RE36-10-7475	Plutonium-238	1.26 g	0.0129	0.008	0.0272	.003420635	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0108	0.00555	0.0231	.005714286	pCi/g	YES
248051012	RE36-10-7466	Plutonium-238	1.26 g	0.00711	0.00492	0.0265	.003420635	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0111	0.0057	0.0224	.005714286	pCi/g	YES
248051013	RE36-10-7476	Plutonium-238	1.26 g	0.0147	0.00916	0.0311	.003420635	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0049	0.00555	0.0264	.005714286	pCi/g	YES
248051014	RE36-10-7461	Plutonium-238	1.26 g	0.0128	0.00606	0.030	.003420635	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0149	0.00644	0.0253	.005714286	pCi/g	YES
248051015	RE36-10-7467	Plutonium-238	1.25 g	0.0111	0.00573	0.0312	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0136	0.00626	0.0264	.00576	pCi/g	YES
248051016	RE36-10-7469	Plutonium-238	1.25 g	0.00811	0.00561	0.0293	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0558	0.0123	0.0248	.00576	pCi/g	NO
248051017	RE36-10-7470	Plutonium-238	1.25 g	0.00467	0.00332	0.0294	.003448	pCi/g	YES

Blank Correction Report

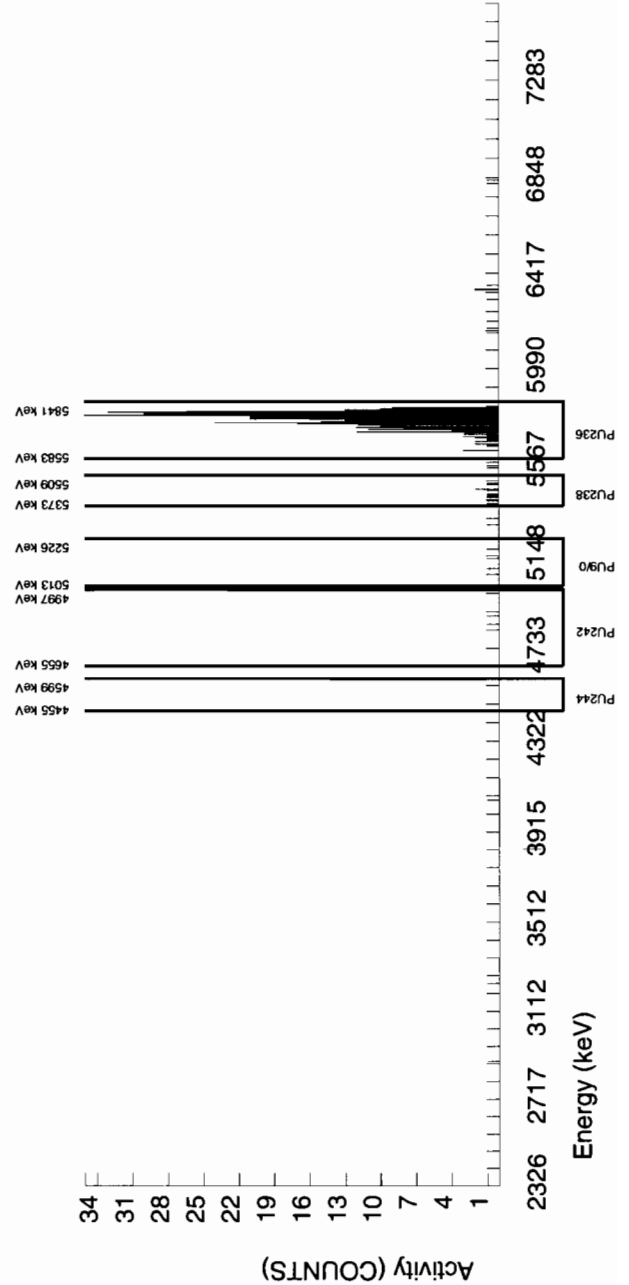
GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
248051017	RE36-10-7470	Plutonium-239/240	1.25 g	0.0187	0.00671	0.0249	.00576	pCi/g	YES
248051018	RE36-10-7515	Plutonium-238	1.25 g	0.00	0.00265	0.0333	.003448	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0106	0.00534	0.0282	.00576	pCi/g	YES

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051001_PU SAMPLE QTY : 1.259 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 79.921				CHAMBER : 025 DETECTOR S/N : 45-149AA5 AVERAGE %EFFICIENCY : 34.1770 COUNT DATE : 20-MAR-2010 20:15:21 ELAPSED LIVE TIME(SEC) : 30299.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B025.CNF;1121 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W025.CNF;330 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.4185E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5766.876	56.096	415.000	409.445	5.555	2.3569	100.0000	1.08E+00	8.88E-02	1.23E-02	3.17E-02	5.40E-02
PU-238	5499.000	5434.104	7.144	11.000	3.930	7.070	2.4495	99.90000	1.02E-02	9.94E-03	1.28E-02	3.27E-02	9.92E-03
PU-9/0	5155.000	5140.936	87.553	3.000	3.000	0.000	1.9732	99.90000	7.79E-03	4.53E-03	1.03E-02	2.77E-02	4.50E-03
PU242	4890.000	4877.657	58.368	3.000	1.485	1.515	*****	100.0000	3.85E-03	5.04E-03	6.52E-01	1.31E+00	5.03E-03
PU-244	4589.000	4526.817	0.000	0.000	-0.505	0.505	6.4609	99.90000	-1.31E-03	2.91E-03	3.39E-02	7.47E-02	2.91E-03

NOTES:

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



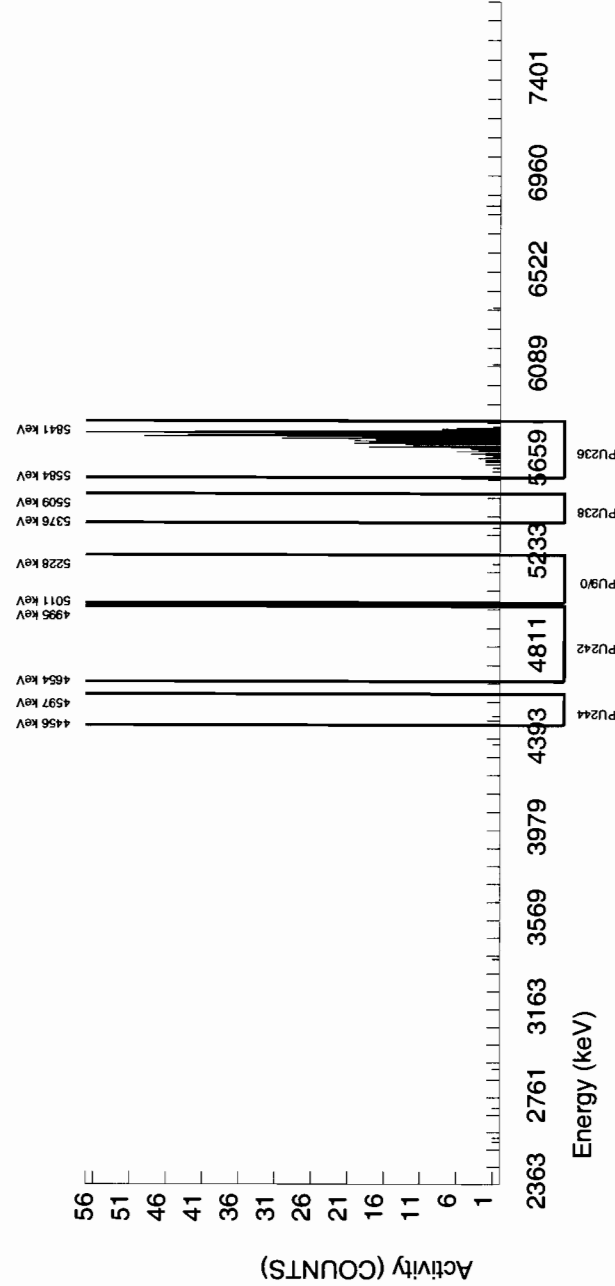
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051002_PU SAMPLE QTY : 1.254 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 90.088				CHAMBER : 044 DETECTOR S/N : 79459 AVERAGE %EFFICIENCY : 35.5933 COUNT DATE : 22-MAR-2010 21:53:28 ELAPSED LIVE TIME(SEC) : 30299.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B044.CNF.1127 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W044.CNF.309 CAL DATE : 5-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.7261E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5767.840	35.675	480.000	480.000	0.000	0.0000	100.0000	1.09E+00	8.35E-02	0.00E+00	6.01E-03	4.96E-02
PU-238	5499.000	5442.889	0.000	0.000	0.000	0.000	2.4495	99.900000	0.00E+00	2.23E-03	1.10E-02	2.80E-02	2.22E-03
PU-9/0	5155.000	5172.260	39.629	2.000	-0.525	2.525	1.9732	99.900000	-1.17E-03	4.02E-03	8.84E-03	2.37E-02	4.02E-03
PU242	4890.000	4824.403	0.000	0.000	-2.020	2.020	*****	100.0000	-4.48E-03	3.16E-03	5.58E-01	1.12E+00	3.15E-03
PU-244	4589.000	4502.670	4.954	1.000	1.000	0.000	6.4609	99.900000	2.22E-03	2.22E-03	2.90E-02	6.39E-02	2.22E-03

NOTES:

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

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



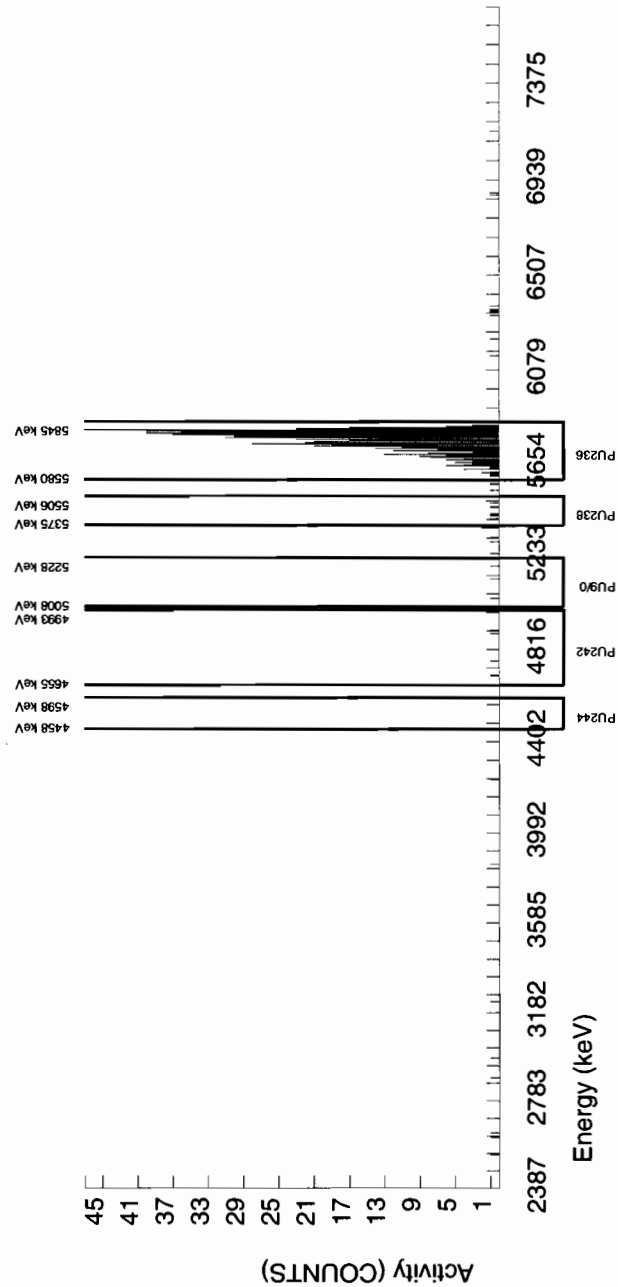
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051003_PU SAMPLE QTY : 1.256 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 78.505				CHAMBER : 037 DETECTOR S/N : 45-149BB5 AVERAGE %EFFICIENCY : 37.0710 COUNT DATE : 22-MAR-2010 21:53:31 ELAPSED LIVE TIME(SEC) : 43199.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B037.CNF;1127 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W037.CNF;309 CAL DATE : 5-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0260E+00 dpm RESULTS : 2.3756E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5765.036	65.921	629.000	621.080	7.920	2.8142	100.0000	1.09E+00	7.70E-02	1.04E-02	2.54E-02	4.40E-02
PU-238	5499.000	5434.580	98.462	8.000	3.680	4.320	2.4495	99.900000	6.31E-03	5.73E-03	9.05E-03	2.28E-02	5.71E-03
PU-9/0	5155.000	5122.085	142.769	5.000	-0.040	5.040	1.9732	99.900000	-6.85E-05	5.03E-03	7.29E-03	1.92E-02	5.03E-03
PU242	4890.000	4795.887	201.231	5.000	0.680	4.320	*****	100.0000	1.16E-03	4.88E-03	4.60E-01	9.25E-01	4.87E-03
PU-244	4589.000	4528.159	0.000	0.000	-0.720	0.720	6.4609	99.900000	-1.23E-03	2.11E-03	2.39E-02	5.24E-02	2.11E-03

NOTES:

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

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



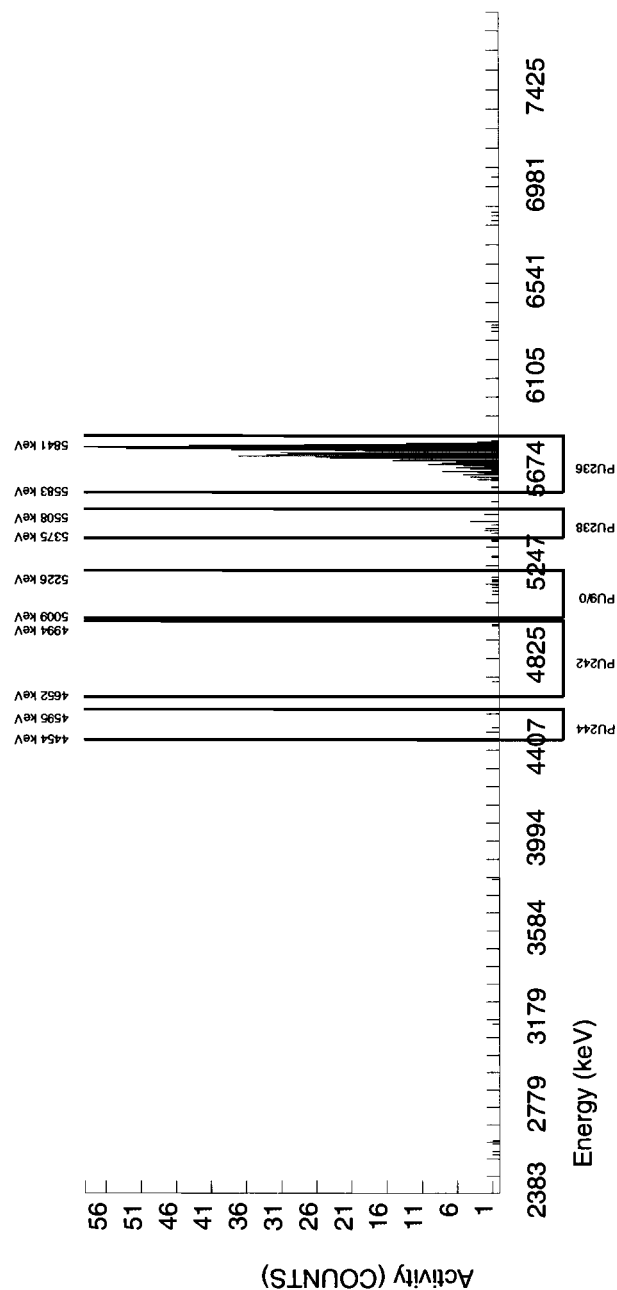
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051004_PU SAMPLE QTY : 1.251 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 77.895				CHAMBER : 038 DETECTOR S/N : 72532 AVERAGE %EFFICIENCY : 35.6360 COUNT DATE : 22-MAR-2010 21:53:31 ELAPSED LIVE TIME(SEC) : 43199.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B038.CNF;1124 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W038.CNF;323 CAL DATE : 5-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0260E+00 dpm RESULTS : 2.3571E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5768.537	51.409	596.000	592.400	3.600	1.8974	100.0000	1.09E+00	7.82E-02	7.37E-03	1.96E-02	4.50E-02
PU-238	5499.000	5439.920	4.923	11.000	7.400	3.600	2.4495	99.900000	1.34E-02	6.70E-03	9.53E-03	2.39E-02	6.65E-03
PU-9/0	5155.000	5165.292	78.775	8.000	5.840	2.160	1.9732	99.900000	1.05E-02	5.61E-03	7.68E-03	2.02E-02	5.57E-03
PU242	4890.000	4895.198	246.172	3.000	3.000	0.000	*****	100.0000	5.40E-03	3.14E-03	4.84E-01	9.74E-01	3.12E-03
PU-244	4589.000	4516.425	4.923	1.000	1.000	0.000	6.4609	99.900000	1.80E-03	1.81E-03	2.51E-02	5.52E-02	1.80E-03

NOTES:

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

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

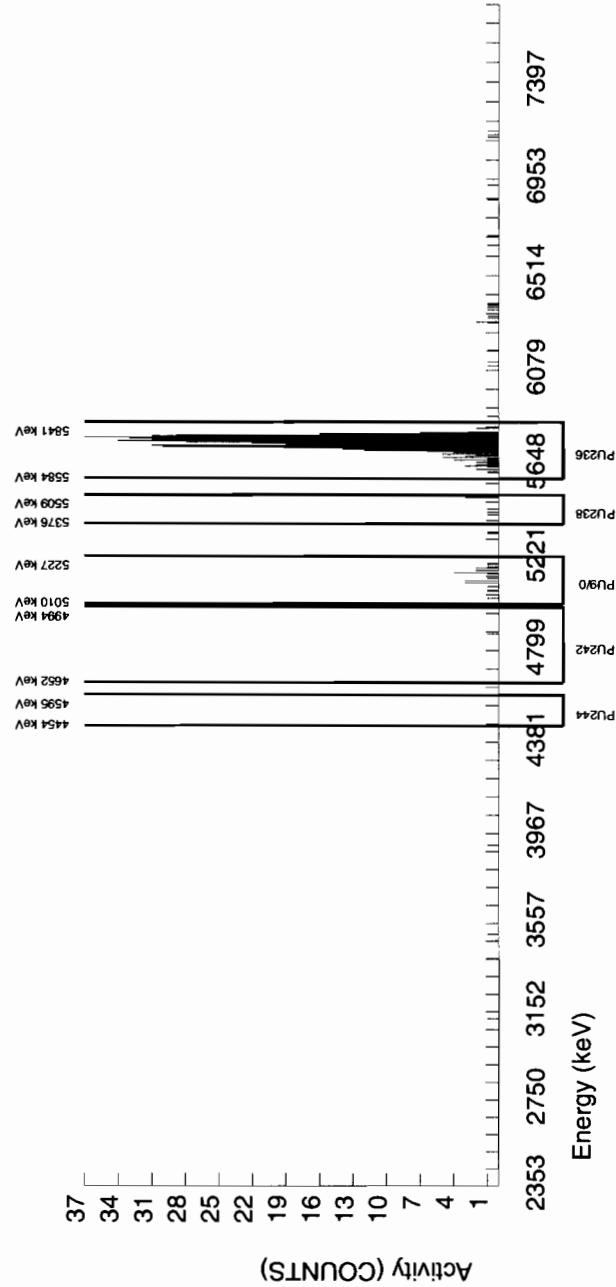


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051005_PU SAMPLE QTY : 1.253 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 85.194				CHAMBER : 018 DETECTOR S/N : 78782 AVERAGE %EFFICIENCY : 33.5036 COUNT DATE : 20-MAR-2010 18:33:37 ELAPSED LIVE TIME(SEC) : 30300.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B018.CNF;1098 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W018.CNF;308 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.5780E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5752.063	58.567	440.000	427.880	12.120	3.4814	100.0000	1.09E+00	8.85E-02	1.75E-02	4.18E-02	5.37E-02
PU-238	5499.000	5469.714	4.936	6.000	0.445	5.555	2.4495	99.90000	1.11E-03	7.41E-03	1.23E-02	3.14E-02	7.41E-03
PU-9/0	5155.000	5137.876	48.511	24.000	23.495	0.505	1.9732	99.90000	5.87E-02	1.29E-02	9.94E-03	2.66E-02	1.23E-02
PU242	4890.000	4877.854	4.936	1.000	0.495	0.505	*****	100.0000	1.23E-03	2.80E-03	6.27E-01	1.26E+00	2.79E-03
PU-244	4589.000	4524.079	0.000	0.000	-0.505	0.505	6.4609	99.90000	-1.26E-03	2.80E-03	3.26E-02	7.19E-02	2.80E-03

NOTES:

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



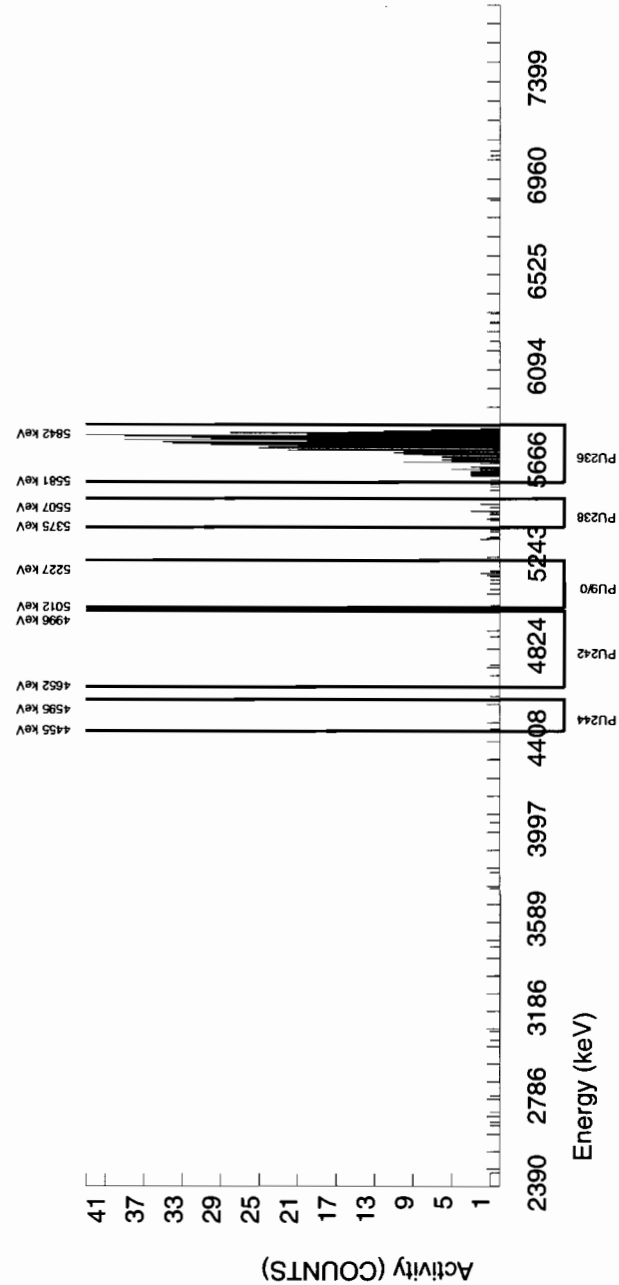
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051006_PU SAMPLE QTY : 1.255 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 75.888				CHAMBER : 039 DETECTOR S/N : 45-149BB2 AVERAGE %EFFICIENCY : 37.4332 COUNT DATE : 22-MAR-2010 21:53:31 ELAPSED LIVE TIME(SEC) : 43199.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B039.CNF;1124 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W039.CNF;300 CAL DATE : 5-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0260E+00 dpm RESULTS : 2.2964E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5759.163	69.571	612.000	606.240	5.760	2.4000	100.0000	1.09E+00	7.75E-02	9.09E-03	2.29E-02	4.45E-02
PU-238	5499.000	5450.146	34.385	13.000	5.080	7.920	2.4495	99.900000	8.93E-03	7.62E-03	9.28E-03	2.33E-02	7.60E-03
PU-9/0	5155.000	5143.635	7.227	10.000	9.280	0.720	1.9732	99.900000	1.63E-02	5.78E-03	7.48E-03	1.97E-02	5.70E-03
PU242	4890.000	4783.733	172.229	3.000	1.560	1.440	*****	100.0000	2.74E-03	3.53E-03	4.72E-01	9.49E-01	3.53E-03
PU-244	4589.000	4470.368	4.921	1.000	1.000	0.000	6.4609	99.900000	1.76E-03	1.76E-03	2.45E-02	5.37E-02	1.76E-03

NOTES:

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

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

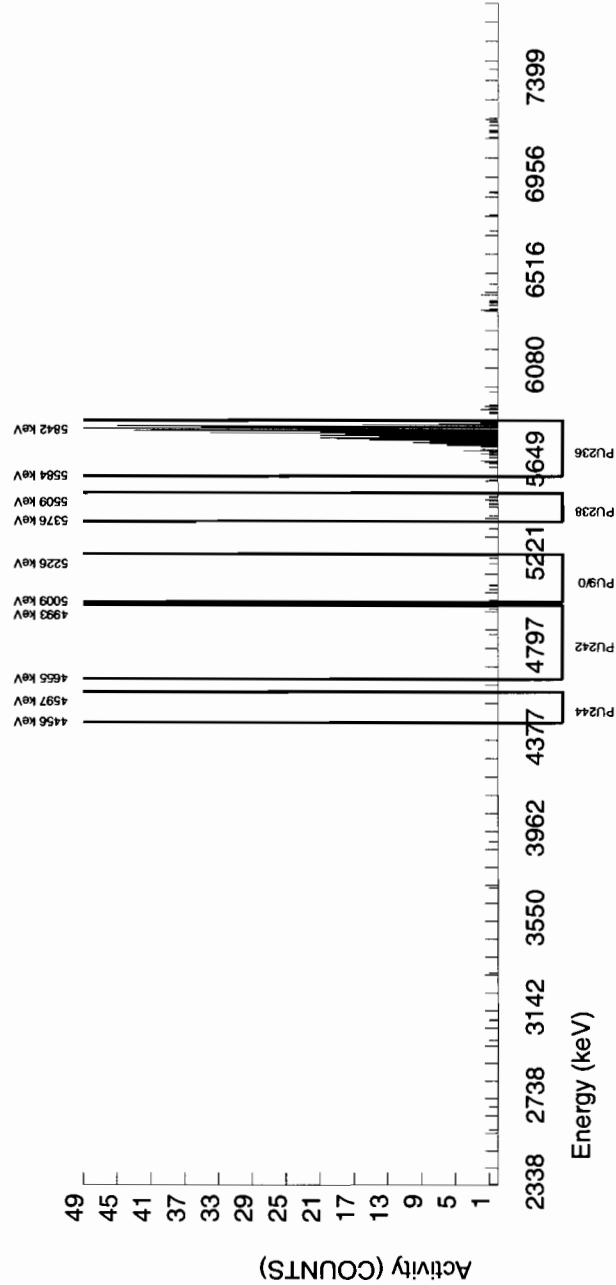


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051007_PU SAMPLE QTY : 1.258 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 86.457				CHAMBER : 020 DETECTOR S/N : 78787 AVERAGE %EFFICIENCY : 34.9079 COUNT DATE : 20-MAR-2010 18:33:38 ELAPSED LIVE TIME(SEC) : 30299.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B020.CNF;1105 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W020.CNF;322 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.6162E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5788.219	36.269	460.000	452.425	7.575	2.7523	100.0000	1.08E+00	8.58E-02	1.30E-02	3.25E-02	5.16E-02
PU-238	5499.000	5464.854	89.544	7.000	-0.070	7.070	2.4495	99.900000	-1.65E-04	7.65E-03	1.16E-02	2.96E-02	7.65E-03
PU-9/0	5155.000	5117.647	184.064	7.000	5.990	1.010	1.9732	99.900000	1.41E-02	6.51E-03	9.36E-03	2.51E-02	6.44E-03
PU242	4890.000	4946.792	0.000	3.000	2.495	0.505	*****	100.0000	5.86E-03	4.25E-03	5.91E-01	1.19E+00	4.24E-03
PU-244	4589.000	4526.460	0.000	0.000	0.000	0.000	6.4609	99.900000	0.00E+00	2.36E-03	3.07E-02	6.77E-02	2.35E-03

NOTES:

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



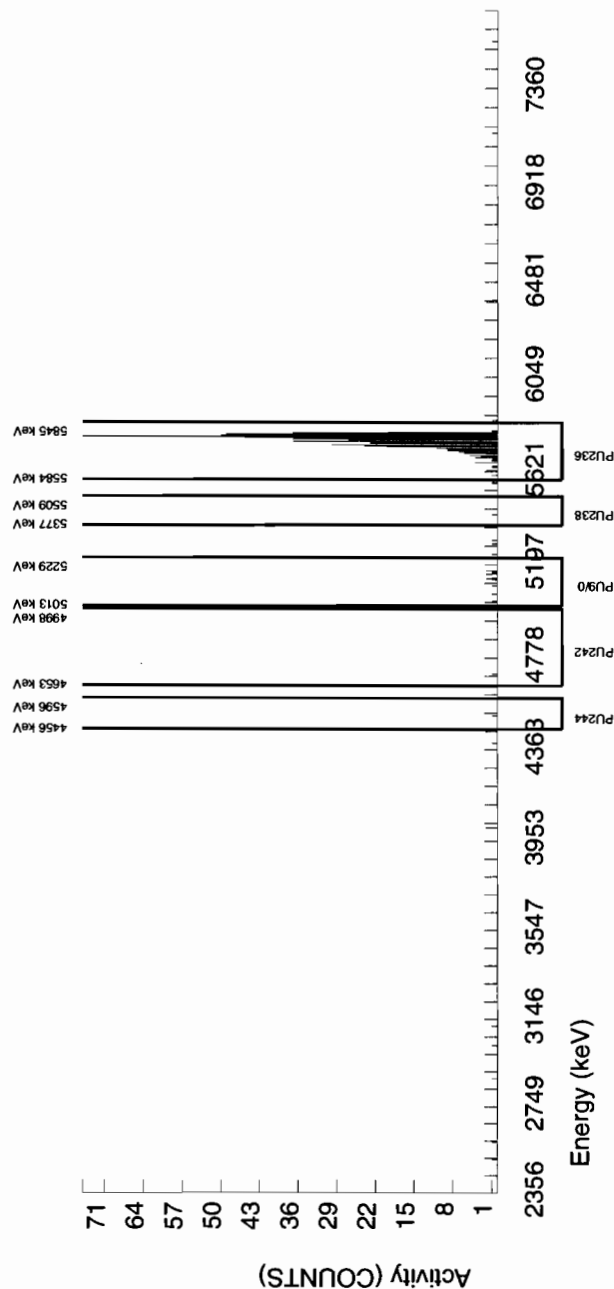
BATCH NUMBER : 962443 SAMPLE ID : S0248051008_PU SAMPLE QTY : 1.250 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 78.601				CHAMBER : 040 DETECTOR S/N : 78773 AVERAGE %EFFICIENCY : 33.6397 COUNT DATE : 22-MAR-2010 21:53:31 ELAPSED LIVE TIME(SEC) : 43199.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B040.CNF;1127 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W040.CNF;319 CAL DATE : 5-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0260E+00 dpm RESULTS : 2.3785E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5768.276	23.799	565.000	564.280	0.720	0.8485	100.0000	1.09E+00	7.94E-02	3.47E-03	1.21E-02	4.60E-02
PU-238	5499.000	5429.673	4.879	1.000	0.280	0.720	2.4495	99.900000	5.31E-04	2.34E-03	1.00E-02	2.52E-02	2.34E-03
PU-9/0	5155.000	5129.944	41.472	14.000	11.840	2.160	1.9732	99.900000	2.24E-02	7.59E-03	8.07E-03	2.13E-02	7.47E-03
PU242	4890.000	4710.357	4.879	1.000	-0.440	1.440	*****	100.0000	-8.33E-04	2.70E-03	5.09E-01	1.02E+00	2.70E-03
PU-244	4589.000	4523.496	4.879	1.000	1.000	0.000	6.4609	99.900000	1.89E-03	1.90E-03	2.64E-02	5.80E-02	1.89E-03

NOTES:

* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

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

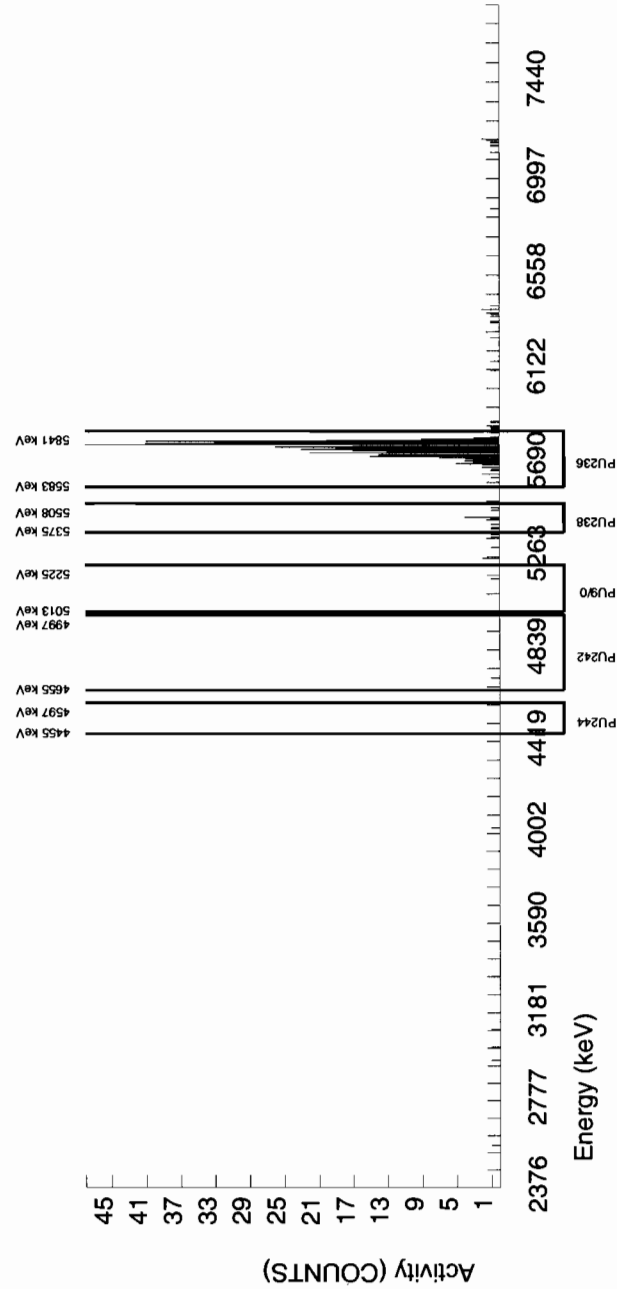


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051009_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 79.936				CHAMBER : 023 DETECTOR S/N : 78264 AVERAGE %EFFICIENCY : 33.6228 COUNT DATE : 20-MAR-2010 18:33:38 ELAPSED LIVE TIME(SEC) : 30299.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B023.CNF;1117 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W023.CNF;303 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.4189E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5767.479	29.497	413.000	402.900	10.100	3.1780	100.0000	1.09E+00	9.04E-02	1.70E-02	4.12E-02	5.53E-02
PU-238	5499.000	5442.990	5.792	10.000	4.445	5.555	2.4495	99.900000	1.18E-02	9.53E-03	1.31E-02	3.34E-02	9.50E-03
PU-9/0	5155.000	5167.007	4.987	1.000	0.495	0.505	1.9732	99.900000	1.31E-03	2.98E-03	1.06E-02	2.83E-02	2.97E-03
PU242	4890.000	4717.622	4.987	1.000	0.495	0.505	*****	100.0000	1.31E-03	2.97E-03	6.67E-01	1.34E+00	2.97E-03
PU-244	4589.000	4525.979	0.000	0.000	0.000	0.000	6.4609	99.900000	0.00E+00	2.66E-03	3.46E-02	7.64E-02	2.65E-03

NOTES:

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

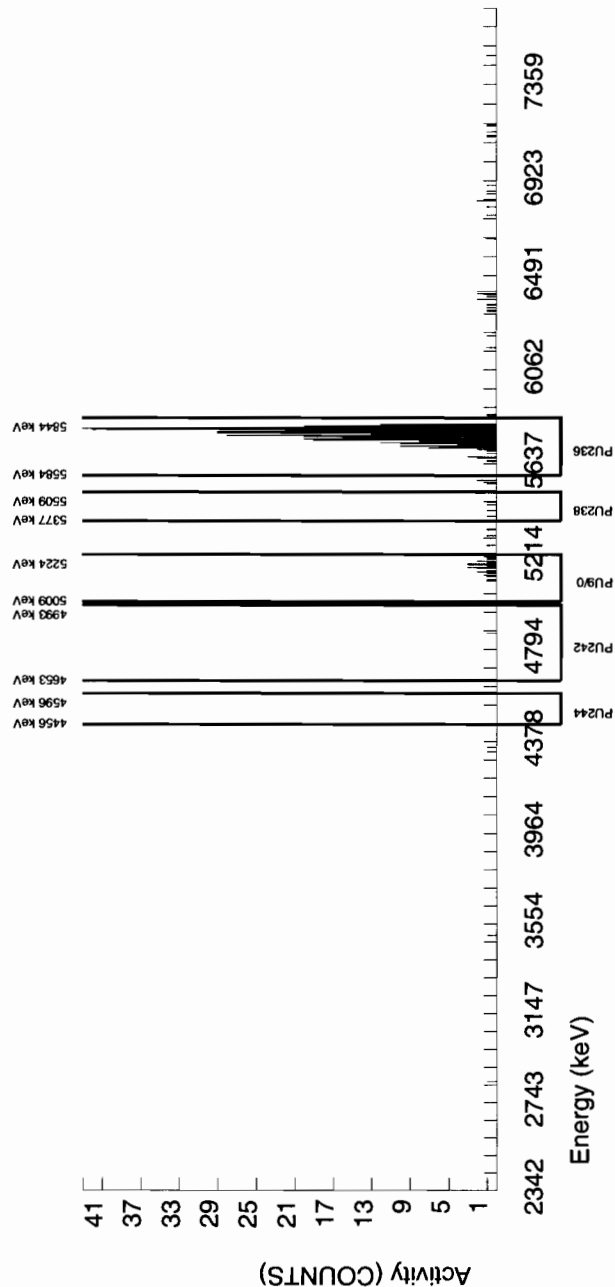


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051010_PU SAMPLE QTY : 1.251 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 80.660				CHAMBER : 024 DETECTOR S/N : 76542 AVERAGE %EFFICIENCY : 34.2324 COUNT DATE : 20-MAR-2010 18:33:38 ELAPSED LIVE TIME(SEC) : 30299.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B024.CNF:1110 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W024.CNF:303 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.4408E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5775.260	43.060	422.000	413.920	8.080	2.8425	100.0000	1.09E+00	8.93E-02	1.48E-02	3.66E-02	5.43E-02
PU-238	5499.000	5427.971	84.855	5.000	-2.070	7.070	2.4495	99.90000	-5.35E-03	7.57E-03	1.28E-02	3.26E-02	7.57E-03
PU-9/0	5155.000	5169.415	48.511	25.000	24.495	0.505	1.9732	99.90000	6.33E-02	1.36E-02	1.03E-02	2.76E-02	1.30E-02
PU242	4890.000	4872.664	4.991	1.000	-0.010	1.010	*****	100.0000	-2.58E-05	3.18E-03	6.50E-01	1.31E+00	3.17E-03
PU-244	4589.000	4525.752	0.000	0.000	-0.505	0.505	6.4609	99.90000	-1.31E-03	2.90E-03	3.37E-02	7.44E-02	2.90E-03

NOTES:

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

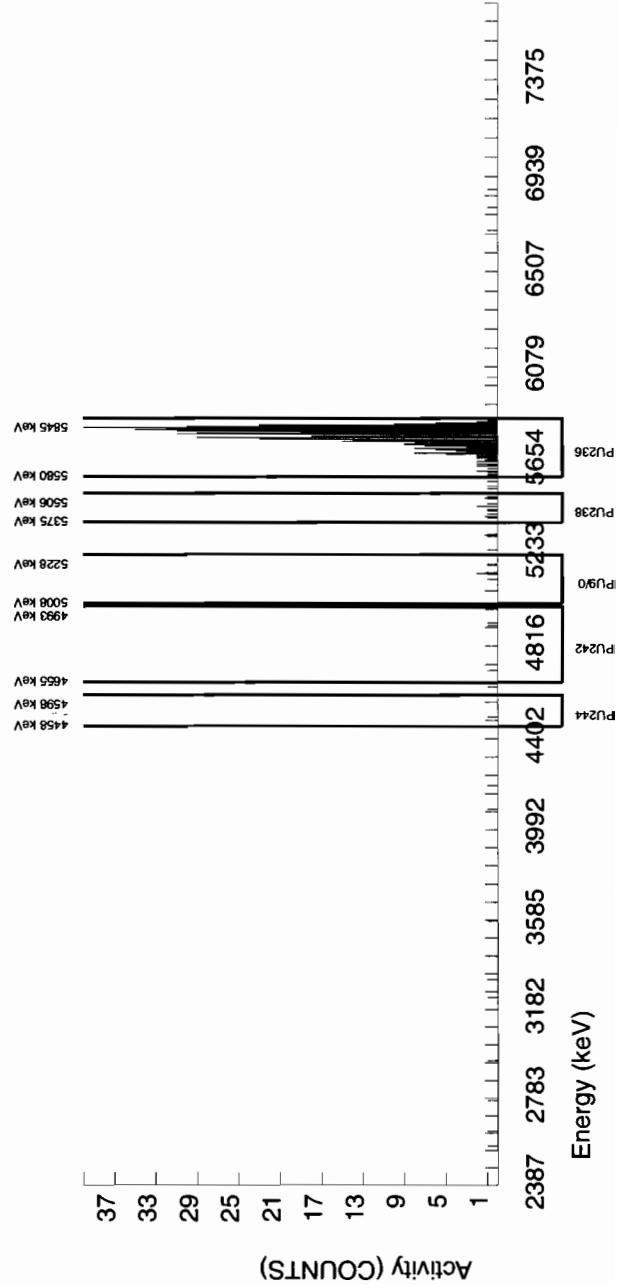


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051011_PU SAMPLE QTY : 1.258 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 88.617				CHAMBER : 037 DETECTOR S/N : 45-149BB5 AVERAGE %EFFICIENCY : 37.0710 COUNT DATE : 20-MAR-2010 18:33:39 ELAPSED LIVE TIME(SEC) : 30299.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B037.CNF;1125 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W037.CNF;309 CAL DATE : 5-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.6816E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5771.882	61.841	496.000	492.465	3.535	1.8802	100.0000	1.08E+00	8.28E-02	8.19E-03	2.22E-02	4.91E-02
PU-238	5499.000	5448.874	4.923	11.000	5.950	5.050	2.4495	99.900000	1.29E-02	8.00E-03	1.07E-02	2.72E-02	7.96E-03
PU-9/0	5155.000	5157.129	7.231	6.000	4.990	1.010	1.9732	99.900000	1.08E-02	5.55E-03	8.60E-03	2.31E-02	5.51E-03
PU242	4890.000	4850.273	206.770	3.000	1.485	1.515	*****	100.0000	3.21E-03	4.19E-03	5.43E-01	1.09E+00	4.19E-03
PU-244	4589.000	4504.928	4.923	1.000	1.000	0.000	6.4609	99.900000	2.16E-03	2.16E-03	2.82E-02	6.22E-02	2.16E-03

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

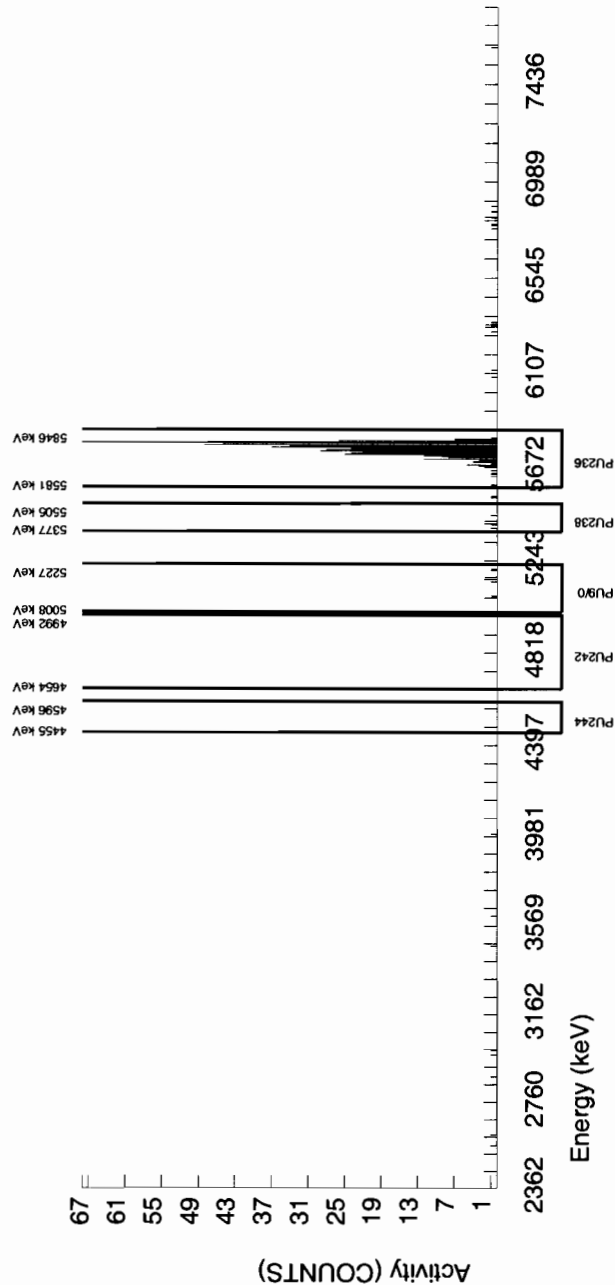
BATCH NUMBER : 962443 SAMPLE ID : S0248051012_PU SAMPLE QTY : 1.260 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 71.722		CHAMBER : 041 DETECTOR S/N : 78205 AVERAGE %EFFICIENCY : 34.7283 COUNT DATE : 22-MAR-2010 21:53:31 ELAPSED LIVE TIME(SEC) : 43199.99	LIB FILE : ENV_ALPHA_PU BKG FILE : B041.CNF:1120 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W041.CNF:323 CAL DATE : 5-MAR-2010
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0260E+00 dpm RESULTS : 2.1703E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5766.336	28.926	533.000	531.560	1.440	1.2000	100.0000	1.08E+00	8.04E-02	5.16E-03	1.57E-02	4.70E-02
PU-238	5499.000	5425.847	4.945	5.000	3.560	1.440	2.4495	99.900000	7.11E-03	4.92E-03	1.05E-02	2.65E-02	4.91E-03
PU-9/0	5155.000	5155.035	4.945	7.000	5.560	1.440	1.9732	99.900000	1.11E-02	5.70E-03	8.49E-03	2.24E-02	5.66E-03
PU242	4890.000	4822.850	0.000	0.000	-3.600	3.600	*****	100.0000	-7.18E-03	3.78E-03	5.36E-01	1.08E+00	3.78E-03
PU-244	4589.000	4525.279	0.000	0.000	-1.440	1.440	6.4609	99.900000	-2.87E-03	2.85E-03	2.78E-02	6.10E-02	2.85E-03

NOTES:

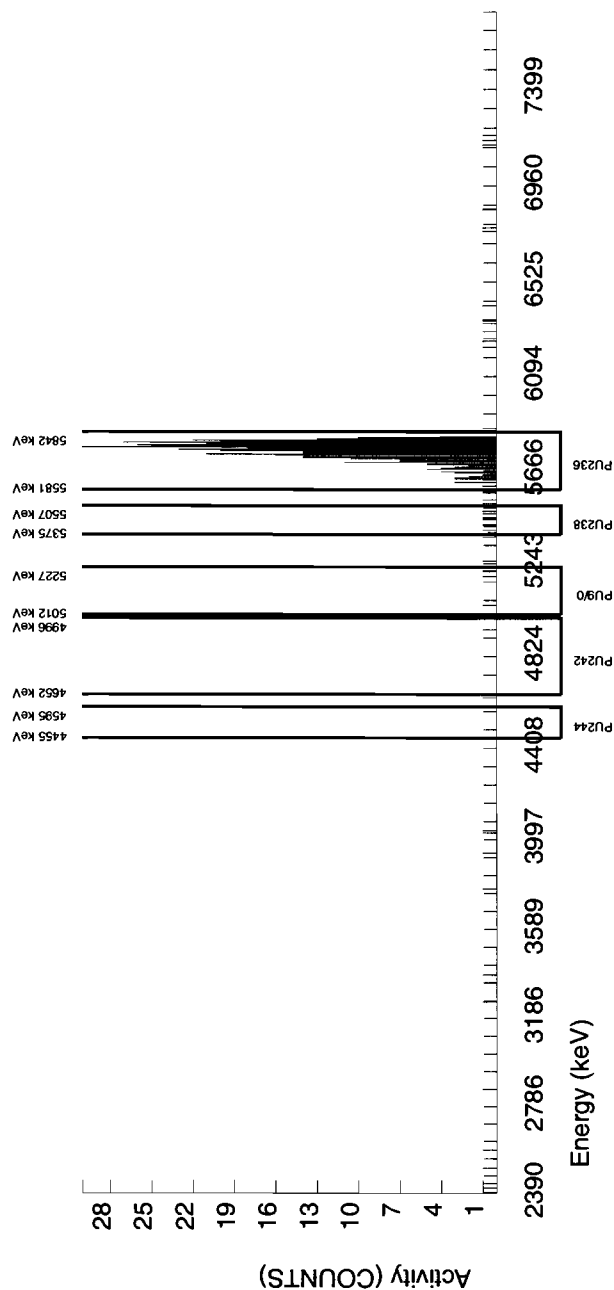
- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



NOTES:

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

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

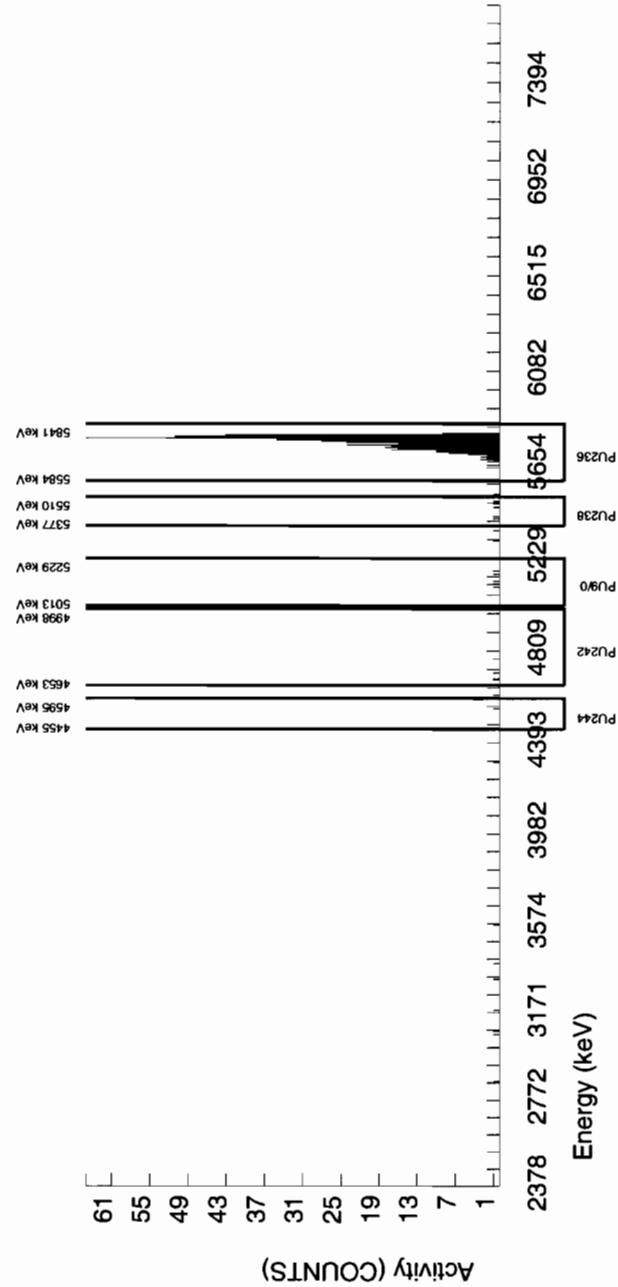


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051014_PU SAMPLE QTY : 1.258 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 50.285		CHAMBER : 112 DETECTOR S/N : 78261 AVERAGE %EFFICIENCY : 33.5504 COUNT DATE : 22-MAR-2010 22:24:09 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_PU BKG FILE : B112.CNF:698 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W112.CNF:223 CAL DATE : 12-MAR-2010
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0259E+00 dpm RESULTS : 1.5216E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	FWHM
PU-236	5749.000	5765.234	27.544
PU-238	5499.000	5456.774	0.000
PU-9/0	5155.000	5117.183	7.204
PU242	4890.000	4716.428	92.577
PU-244	4589.000	4553.842	4.905
	GROSS AREA	NET AREA	BKG AREA
	501.000	500.000	1.000
	7.000	6.000	1.000
	8.000	7.000	1.000
	4.000	1.000	3.000
	1.000	1.000	0.000
	BKG Sg	%ABUN	ACTIVITY pCi/G
	1.0000	100.0000	1.08E+00
	2.4495	99.90000	1.28E-02
	1.9732	99.90000	1.49E-02
	*****	100.0000	2.12E-03
	6.4609	99.90000	2.12E-03
			TPU 1-SIGMA
			8.22E-02
			6.06E-03
			6.44E-03
			5.62E-03
			2.13E-03
			DLC pCi/G
			4.94E-03
			1.21E-02
			9.75E-03
			6.15E-01
			3.19E-02
			MDC pCi/G
			1.56E-02
			3.00E-02
			2.53E-02
			1.24E+00
			6.96E-02
			UNC pCi/G
			4.86E-02
			6.01E-03
			6.37E-03
			5.62E-03
			2.12E-03

NOTES:

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



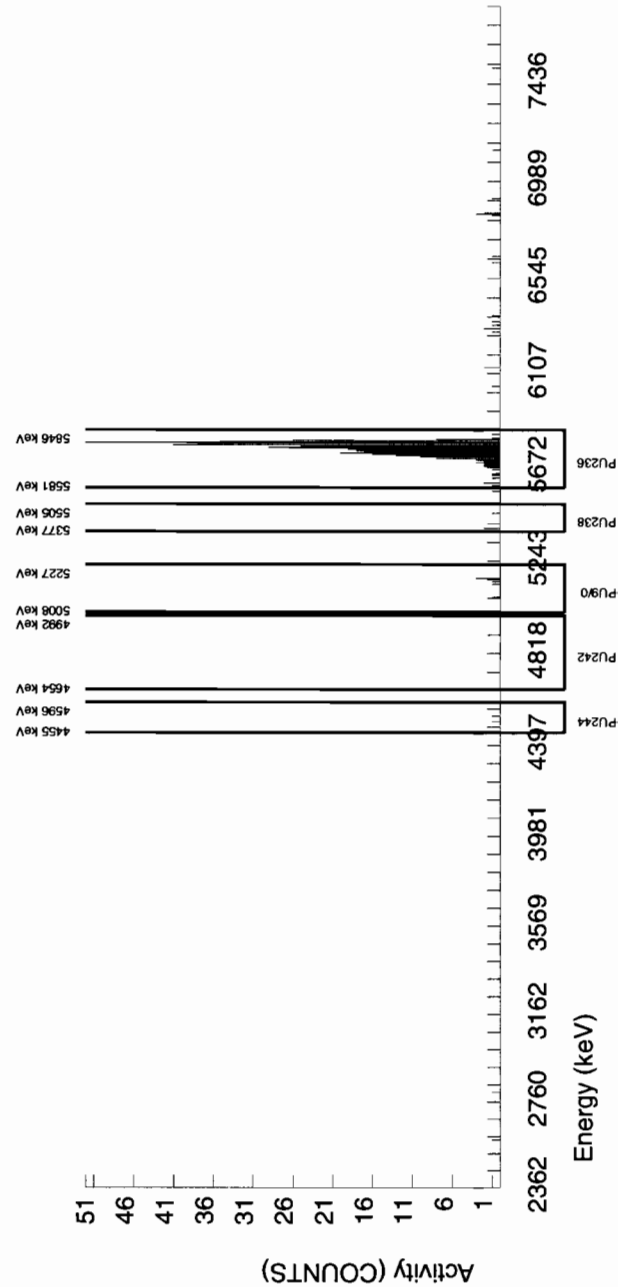
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051015_PU SAMPLE QTY : 1.251 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 82.977				CHAMBER : 041 DETECTOR S/N : 78205 AVERAGE %EFFICIENCY : 34.7283 COUNT DATE : 20-MAR-2010 18:33:39 ELAPSED LIVE TIME(SEC) : 30299.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B041.CNF;1118 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W041.CNF;323 CAL DATE : 5-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.5109E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5766.218	34.578	434.000	431.980	2.020	1.4213	100.0000	1.09E+00	8.72E-02	7.10E-03	2.09E-02	5.26E-02
PU-238	5499.000	5454.838	0.000	5.000	4.495	0.505	2.4495	99.90000	1.11E-02	5.73E-03	1.22E-02	3.12E-02	5.68E-03
PU-9/0	5155.000	5146.659	4.945	6.000	5.495	0.505	1.9732	99.90000	1.36E-02	6.26E-03	9.86E-03	2.64E-02	6.19E-03
PU242	4890.000	4907.528	4.945	1.000	0.495	0.505	*****	100.0000	1.22E-03	2.78E-03	6.22E-01	1.25E+00	2.77E-03
PU-244	4589.000	4525.279	29.672	2.000	1.495	0.505	6.4609	99.90000	3.70E-03	3.73E-03	3.23E-02	7.13E-02	3.72E-03

NOTES:

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

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

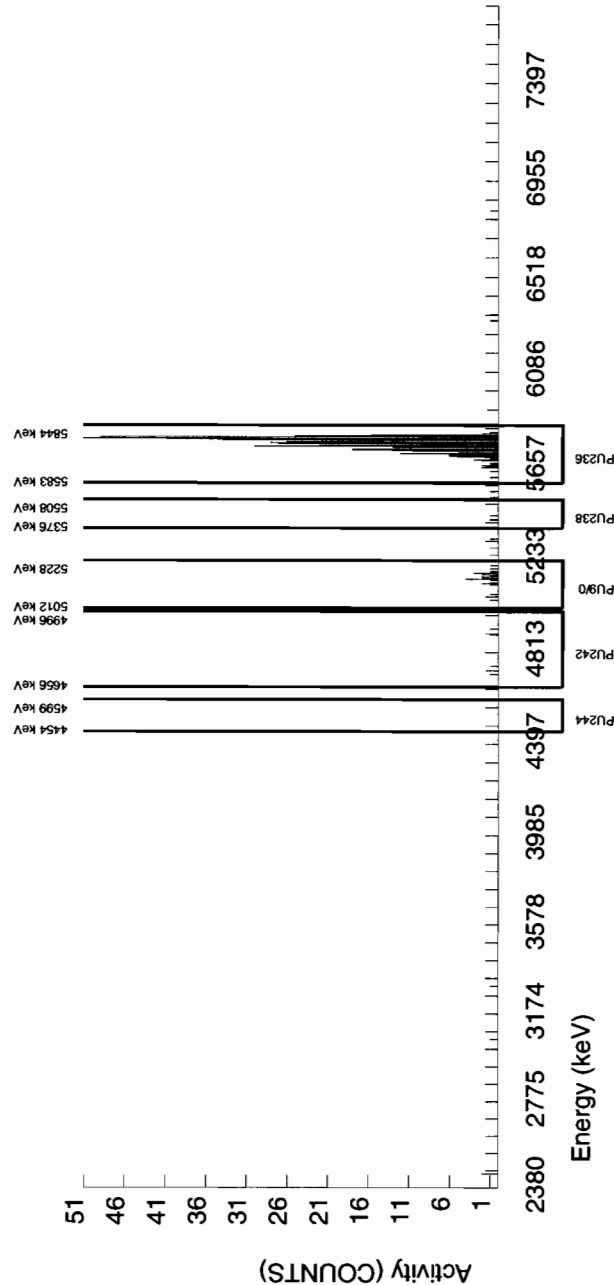


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 962443 SAMPLE ID : S0248051016_PU SAMPLE QTY : 1.251 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 88.578</p>		<p>CHAMBER : 042 DETECTOR S/N : 78793 AVERAGE %EFFICIENCY : 34.6417 COUNT DATE : 20-MAR-2010 18:33:39 ELAPSED LIVE TIME(SEC) : 30299.99</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B042.CNF;1117 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W042.CNF;296 CAL DATE : 5-MAR-2010</p>
<p>TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.6804E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
PU-236	5749.000	5767.813	45.237
PU-238	5499.000	5407.345	0.000
PU-9/0	5155.000	5152.248	30.218
PU242	4890.000	4823.146	196.342
PU-244	4589.000	4526.305	0.000
	GROSS AREA	NET AREA	BKG AREA
PU-236	461.000	459.990	1.010
PU-238	5.000	3.485	1.515
PU-9/0	25.000	23.990	1.010
PU242	4.000	1.980	2.020
PU-244	0.000	-0.505	0.505
	%ABUN	BKG Sg	ACTIVITY pCi/G
PU-236	100.0000	1.0050	1.09E+00
PU-238	99.90000	2.4495	8.11E-03
PU-9/0	99.90000	1.9732	5.58E-02
PU242	100.0000	*****	4.60E-03
PU-244	99.90000	6.4609	-1.17E-03
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
PU-236	8.52E-02	4.71E-03	1.57E-02
PU-238	5.61E-03	1.15E-02	2.93E-02
PU-9/0	1.23E-02	9.26E-03	2.48E-02
PU242	5.21E-03	5.84E-01	1.18E+00
PU-244	2.61E-03	3.03E-02	6.70E-02
	UNC pCi/G		
PU-236	5.09E-02		
PU-238	5.59E-03		
PU-9/0	1.17E-02		
PU242	5.21E-03		
PU-244	2.61E-03		

NOTES:

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

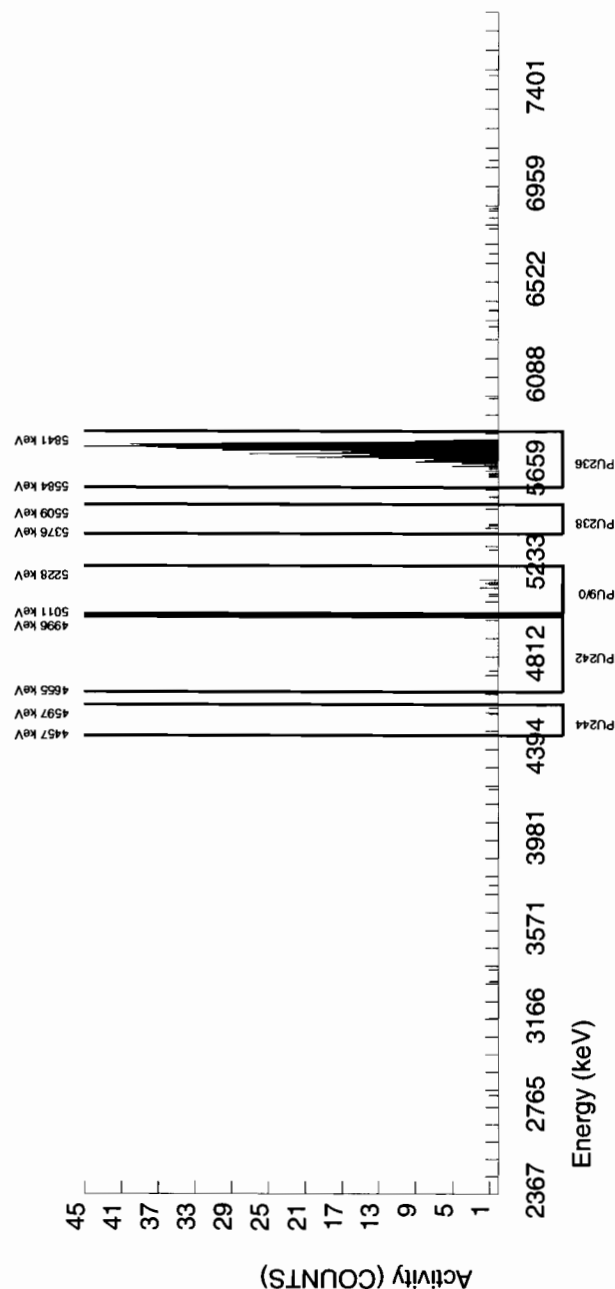


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051017_PU SAMPLE QTY : 1.253 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 89.872				CHAMBER : 045 DETECTOR S/N : 78783 AVERAGE %EFFICIENCY : 33.9687 COUNT DATE : 22-MAR-2010 21:53:28 ELAPSED LIVE TIME(SEC) : 30299.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B045.CNF:1116 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W045.CNF:300 CAL DATE : 5-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.7196E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5759.384	48.819	458.000	456.990	1.010	1.0050	100.0000	1.09E+00	8.52E-02	4.73E-03	1.58E-02	5.10E-02
PU-238	5499.000	5421.390	9.266	2.000	2.000	0.000	2.4495	99.90000	4.67E-03	3.32E-03	1.15E-02	2.94E-02	3.30E-03
PU-9/0	5155.000	5139.226	39.533	8.000	8.000	0.000	1.9732	99.90000	1.87E-02	6.71E-03	9.29E-03	2.49E-02	6.60E-03
PU242	4890.000	4753.989	4.942	1.000	-0.010	1.010	*****	100.0000	-2.33E-05	2.87E-03	5.87E-01	1.18E+00	2.87E-03
PU-244	4589.000	4573.712	29.650	2.000	2.000	0.000	6.4609	99.90000	4.67E-03	3.31E-03	3.04E-02	6.72E-02	3.30E-03

NOTES:

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

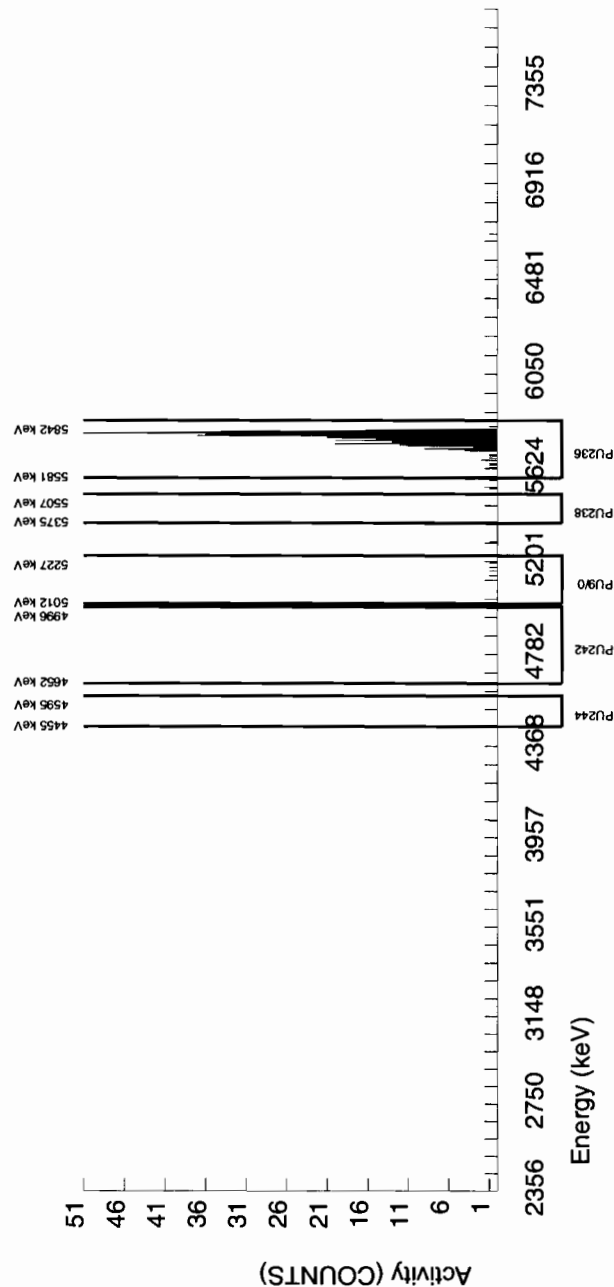


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S0248051018_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 83.583				CHAMBER : 079 DETECTOR S/N : 79466 AVERAGE %EFFICIENCY : 32.2433 COUNT DATE : 20-MAR-2010 18:33:40 ELAPSED LIVE TIME(SEC) : 30300.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B079.CNF;1027 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W079.CNF;270 CAL DATE : 12-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0261E+00 dpm RESULTS : 2.5293E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5769.042	25.332	404.000	404.000	0.000	0.0000	100.0000	1.09E+00	8.90E-02	0.00E+00	7.16E-03	5.42E-02
PU-238	5499.000	5440.698	0.000	0.000	0.000	0.000	2.4495	99.900000	0.00E+00	2.65E-03	1.31E-02	3.33E-02	2.65E-03
PU-9/0	5155.000	5171.842	58.803	4.000	4.000	0.000	1.9732	99.900000	1.06E-02	5.34E-03	1.05E-02	2.82E-02	5.29E-03
PU242	4890.000	4823.773	0.000	0.000	-1.010	1.010	*****	100.0000	-2.67E-03	3.25E-03	6.65E-01	1.34E+00	3.25E-03
PU-244	4589.000	4525.091	0.000	0.000	-1.010	1.010	6.4609	99.900000	-2.67E-03	3.26E-03	3.45E-02	7.62E-02	3.25E-03

NOTES:

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

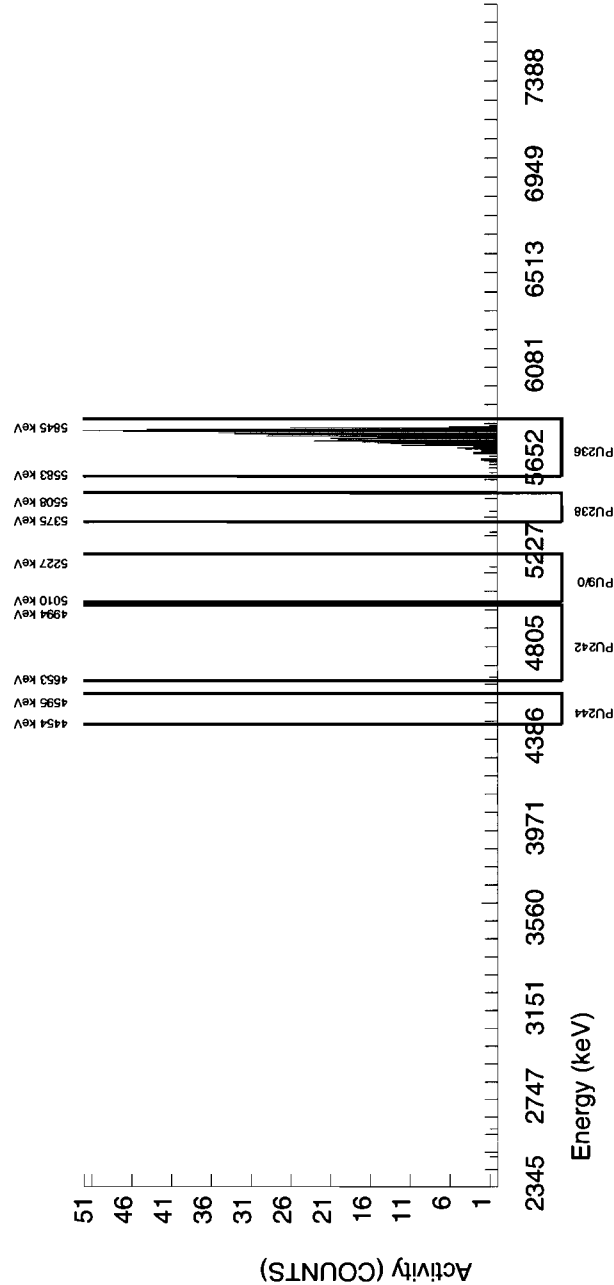


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 962443 SAMPLE ID : S1202064618_PU SAMPLE QTY : 1.000 G SAMPLE DATE : 12-MAR-2010 00:00:00 ANALYST : CXM2 % YIELD : 92.904				CHAMBER : 080 DETECTOR S/N : 78197 AVERAGE %EFFICIENCY : 33.3151 COUNT DATE : 20-MAR-2010 18:33:40 ELAPSED LIVE TIME(SEC) : 30300.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B080.CNF;1028 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W080.CNF;278 CAL DATE : 12-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 2.9862E+00 dpm RESULTS : 2.7743E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5771.438	36.009	466.000	463.980	2.020	1.4213	100.0000	1.35E+00	1.05E-01	8.27E-03	2.43E-02	6.27E-02
PU-238	5499.000	5401.830	0.000	2.000	1.495	0.505	2.4495	99.90000	4.31E-03	4.34E-03	1.43E-02	3.63E-02	4.33E-03
PU-9/0	5155.000	5182.688	0.000	3.000	2.495	0.505	1.9732	99.90000	7.20E-03	5.22E-03	1.15E-02	3.08E-02	5.20E-03
PU242	4890.000	4673.744	4.995	1.000	0.495	0.505	*****	100.0000	1.43E-03	3.23E-03	7.25E-01	1.46E+00	3.23E-03
PU-244	4589.000	4524.647	0.000	1.000	1.000	0.000	6.4609	99.90000	2.88E-03	2.89E-03	3.76E-02	8.30E-02	2.88E-03

NOTES:

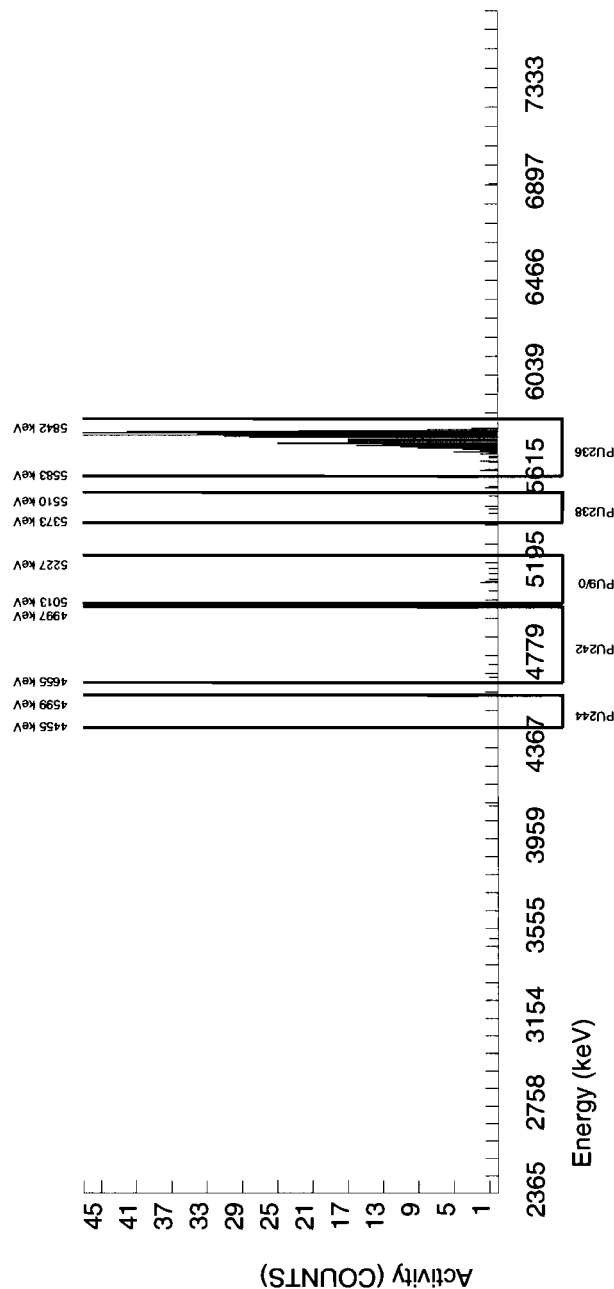
- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



NOTES:

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

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

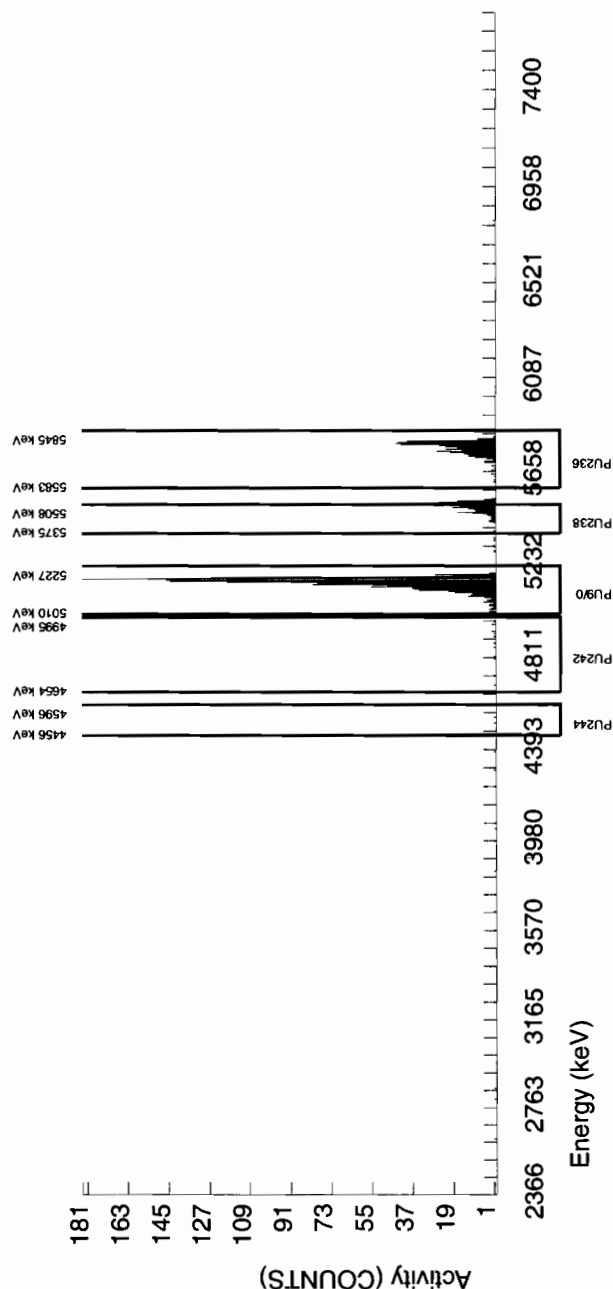
<p>BATCH NUMBER : 962443 SAMPLE ID : S1202064620_PU SAMPLE QTY : 0.103 G SAMPLE DATE : 12-MAR-2010 00:00:00 ANALYST : CXM2 % YIELD : 81.596</p>		<p>CHAMBER : 082 DETECTOR S/N : 79997 AVERAGE %EFFICIENCY : 33.8443 COUNT DATE : 20-MAR-2010 18:33:40 ELAPSED LIVE TIME(SEC) : 30300.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B082.CNF:1025 BKG DATE : 14-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W082.CNF:259 CAL DATE : 12-MAR-2010</p>
<p>TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 2.9862E+00 dpm RESULTS : 2.4366E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5771.720	51.756	416.000	413.980	2.020	1.4213	100.0000	1.31E+01	1.14E+00	8.99E-02	2.65E-01	6.44E-01
PU-238	5499.000	5482.710	0.000	130.000	130.000	0.000	2.4495	99.900000	4.08E+00	4.62E-01	1.55E-01	3.95E-01	3.58E-01
PU-9/0	5155.000	5156.791	27.708	1333.000	1331.990	1.010	1.9732	99.900000	4.18E+01	3.21E+00	1.25E-01	3.35E-01	1.15E+00
PU242	4890.000	4888.423	34.597	16.000	13.980	2.020	*****	100.0000	4.38E-01	1.33E-01	7.89E+00	1.59E+01	1.29E-01
PU-244	4589.000	4542.349	49.424	3.000	3.000	0.000	6.4609	99.900000	9.42E-02	5.48E-02	4.09E-01	9.04E-01	5.44E-02

NOTES:

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



Radiochemistry Batch Checklist, Rev10

Batch# 967764 Product: U Date: 3/24/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Debbie Green 3/24/10Secondary Review Performed By: My L Green 3/24/103/25
LANC

Uranium Que Sheet

22-MAR-10

Batch #: 967764 Analyst: CXM2 First Client Due Date: 25-MAR-10 Internal Due Date: 19-MAR-10
 Tracer Isotope: U-235 Tracer Code: 1283-4 Expiration Date: 12-9-10 Vol: 0.1-1
 LCS Isotope: U-238 LCS Code: SM 0244-A Expiration Date: 10-31-20 Vol: 0.1-5
 Spike Isotope: U-238 Spike Code: NA Expiration Date: NA Vol: NA
 Prep Date: 3-12-10 Initials: VM Pipet ID: 4497063 Balance ID: 50410272 Witness: JEH 3-22-10

Sample ID	Client Description	Type	Hazard Code	Mln CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet Weight Allotment (g/l/h)	U Det #
248051001-2	RE36-10-7414	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	1	0.509		1
248051002-2	RE36-10-7413	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	2	0.512		2
248051003-2	RE36-10-7462	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	3	0.526		3
248051004-2	RE36-10-7465	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	4	0.514		4
248051005-2	RE36-10-7473	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	5	0.527		5
248051006-2	RE36-10-7471	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	6	0.515		6
248051007-2	RE36-10-7472	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	7	0.507		7
248051008-2	RE36-10-7468	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	8	0.546		8
248051009-2	RE36-10-7464	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	9	0.512		9
248051010-2	RE36-10-7463	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	10	0.513		10
248051011-2	RE36-10-7475	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	11	0.508		11
248051012-2	RE36-10-7466	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	12	0.523		12
248051013-2	RE36-10-7476	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	13	0.538		13
248051014-2	RE36-10-7461	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	14	0.541		14
248051015-2	RE36-10-7467	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	15	0.526		15
248051016-2	RE36-10-7469	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	16	0.527		16
248051017-2	RE36-10-7470	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	17	0.508		17
248051018-2	RE36-10-7515	SAMPLE		.1 pCi/g	SOIL	LANL010	20-FEB-10	18	0.513		18
1202077311-1	MB for batch 967764	MB		UCF pCi/g to pCi SOIL		QC ACCOUNT		19	1		115
1202077312-2	RE36-10-7414(248051001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	20-FEB-10	20	0.507		116
1202077313-1	LCS for batch 967764	LCS		UCF pCi/g to pCi SOIL		QC ACCOUNT		21	0.105		117

*SM 0244-A exp 10/31/20

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION

Data Reviewed By:

3/24/10

Blank Correction Report

Batch ID 967764

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202077312	DUP	Uranium-233/234	0.507 g	0.933	0.0889	0.102	.014220907	pCi/g	NO
		Uranium-235/236	0.507 g	0.0671	0.018	0.0623	.009033531	pCi/g	NO
		Uranium-238	0.507 g	1.04	0.0967	0.0717	.018264300	pCi/g	NO
1202077313	LCS	Uranium-233/234	0.105 g	5.83	0.559	0.506	.068666667	pCi/g	NO
		Uranium-235/236	0.105 g	0.377	0.0961	0.309	.043619048	pCi/g	NO
		Uranium-238	0.105 g	5.36	0.521	0.356	.088190476	pCi/g	NO
1202077311	MB	Uranium-233/234	1.00 g	0.00721	0.00369	0.0522	.00721	pCi/g	YES
		Uranium-235/236	1.00 g	0.00458	0.00326	0.0319	.00458	pCi/g	YES
		Uranium-238	1.00 g	0.00926	0.0042	0.0367	.00926	pCi/g	YES
248051001	RE36-10-7414	Uranium-233/234	0.509 g	1.07	0.0971	0.0934	.014165029	pCi/g	NO
		Uranium-235/236	0.509 g	0.0491	0.0157	0.0571	.008998035	pCi/g	NO
		Uranium-238	0.509 g	1.12	0.100	0.0657	.018192534	pCi/g	NO
248051002	RE36-10-7413	Uranium-233/234	0.512 g	1.14	0.106	0.109	.014082031	pCi/g	NO
		Uranium-235/236	0.512 g	0.0619	0.0177	0.0663	.008945313	pCi/g	NO
		Uranium-238	0.512 g	1.91	0.162	0.0763	.018085938	pCi/g	NO
248051003	RE36-10-7462	Uranium-233/234	0.526 g	0.899	0.0868	0.104	.013707224	pCi/g	NO
		Uranium-235/236	0.526 g	0.0228	0.0122	0.0635	.008707224	pCi/g	YES
		Uranium-238	0.526 g	1.08	0.101	0.073	.017604563	pCi/g	NO
248051004	RE36-10-7465	Uranium-233/234	0.519 g	0.789	0.0845	0.129	.013892100	pCi/g	NO
		Uranium-235/236	0.519 g	0.051	0.0192	0.079	.008824663	pCi/g	NO
		Uranium-238	0.519 g	1.85	0.165	0.0909	.017842004	pCi/g	NO
248051005	RE36-10-7473	Uranium-233/234	0.527 g	1.56	0.152	0.162	.013681214	pCi/g	NO
		Uranium-235/236	0.527 g	0.0567	0.0269	0.0987	.008690702	pCi/g	NO
		Uranium-238	0.527 g	1.91	0.179	0.114	.017571157	pCi/g	NO
248051006	RE36-10-7471	Uranium-233/234	0.515 g	1.07	0.0974	0.0937	.014	pCi/g	NO
		Uranium-235/236	0.515 g	0.0534	0.0164	0.0573	.008893204	pCi/g	NO
		Uranium-238	0.515 g	1.49	0.128	0.0659	.017980583	pCi/g	NO
248051007	RE36-10-7472	Uranium-233/234	0.507 g	1.15	0.102	0.0899	.014220907	pCi/g	NO
		Uranium-235/236	0.507 g	0.0788	0.0201	0.0549	.009033531	pCi/g	NO
		Uranium-238	0.507 g	1.19	0.105	0.0632	.018264300	pCi/g	NO
248051008	RE36-10-7468	Uranium-233/234	0.546 g	1.24	0.112	0.100	.013205128	pCi/g	NO
		Uranium-235/236	0.546 g	0.0659	0.0187	0.0612	.008388278	pCi/g	NO
		Uranium-238	0.546 g	1.53	0.133	0.0704	.016959707	pCi/g	NO
248051009	RE36-10-7464	Uranium-233/234	0.512 g	1.13	0.103	0.0984	.014082031	pCi/g	NO
		Uranium-235/236	0.512 g	0.0345	0.0139	0.0601	.008945313	pCi/g	YES
		Uranium-238	0.512 g	1.16	0.105	0.0692	.018085938	pCi/g	NO
248051010	RE36-10-7463	Uranium-233/234	0.513 g	0.936	0.088	0.0957	.014054581	pCi/g	NO
		Uranium-235/236	0.513 g	0.0755	0.0195	0.0585	.008927875	pCi/g	NO
		Uranium-238	0.513 g	1.17	0.105	0.0673	.018050682	pCi/g	NO
248051011	RE36-10-7475	Uranium-233/234	0.508 g	1.10	0.101	0.102	.014192913	pCi/g	NO
		Uranium-235/236	0.508 g	0.058	0.0166	0.0622	.009015748	pCi/g	NO

Blank Correction Report

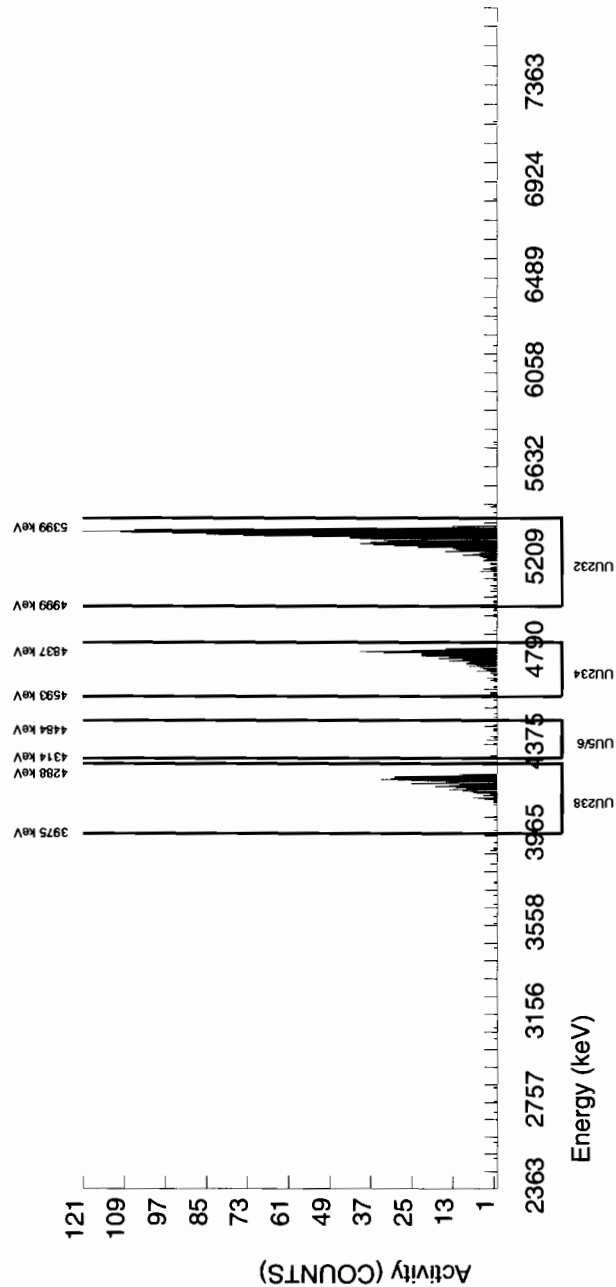
GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
248051011	RE36-10-7475	Uranium-238	0.508 g	1.32	0.118	0.0716	.018228346	pCi/g	NO
248051012	RE36-10-7466	Uranium-233/234	0.523 g	1.21	0.111	0.109	.013785851	pCi/g	NO
		Uranium-235/236	0.523 g	0.0954	0.0234	0.0665	.008757170	pCi/g	NO
		Uranium-238	0.523 g	2.49	0.205	0.0765	.017705545	pCi/g	NO
248051013	RE36-10-7476	Uranium-233/234	0.538 g	1.16	0.111	0.120	.013401487	pCi/g	NO
		Uranium-235/236	0.538 g	0.0787	0.0224	0.0732	.008513011	pCi/g	NO
		Uranium-238	0.538 g	1.12	0.107	0.0842	.017211896	pCi/g	NO
248051014	RE36-10-7461	Uranium-233/234	0.541 g	0.682	0.0713	0.106	.013327172	pCi/g	NO
		Uranium-235/236	0.541 g	0.028	0.0133	0.0649	.008465804	pCi/g	YES
		Uranium-238	0.541 g	1.00	0.0953	0.0747	.017116451	pCi/g	NO
248051015	RE36-10-7467	Uranium-233/234	0.526 g	1.13	0.114	0.143	.013707224	pCi/g	NO
		Uranium-235/236	0.526 g	0.0439	0.0211	0.0874	.008707224	pCi/g	NO
		Uranium-238	0.526 g	1.40	0.135	0.101	.017604563	pCi/g	NO
248051016	RE36-10-7469	Uranium-233/234	0.527 g	1.50	0.137	0.124	.013681214	pCi/g	NO
		Uranium-235/236	0.527 g	0.065	0.0194	0.0755	.008690702	pCi/g	NO
		Uranium-238	0.527 g	1.93	0.169	0.0869	.017571157	pCi/g	NO
248051017	RE36-10-7470	Uranium-233/234	0.508 g	1.79	0.160	0.129	.014192913	pCi/g	NO
		Uranium-235/236	0.508 g	0.079	0.0233	0.0786	.009015748	pCi/g	NO
		Uranium-238	0.508 g	2.05	0.179	0.0905	.018228346	pCi/g	NO
248051018	RE36-10-7515	Uranium-233/234	0.513 g	0.897	0.088	0.111	.014054581	pCi/g	NO
		Uranium-235/236	0.513 g	0.0581	0.0173	0.0675	.008927875	pCi/g	NO
		Uranium-238	0.513 g	2.07	0.175	0.0777	.018050682	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051001_UU SAMPLE QTY : 0.509 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 76.735				CHAMBER : 001 DETECTOR S/N : 79451 AVERAGE %EFFICIENCY : 34.8147 COUNT DATE : 23-MAR-2010 18:04:36 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B001.CNF:1135 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W001.CNF:384 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.4556E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5315.983	34.586	1208.000	1202.000	6.000	2.4495	100.0000	3.99E+00	3.07E-01	1.89E-02	4.67E-02	1.16E-01
U-3/4	4763.020	4769.739	28.007	325.000	323.782	0.000	5.4790	100.0000	1.07E+00	9.71E-02	4.22E-02	9.34E-02	5.96E-02
U-235	4391.000	4408.005	85.848	13.000	12.000	1.000	2.4127	80.90000	4.91E-02	1.57E-02	2.30E-02	5.71E-02	1.53E-02
U-238	4184.730	4203.522	47.957	338.000	337.000	1.000	3.6781	100.0000	1.12E+00	1.00E-01	2.83E-02	6.57E-02	6.10E-02

NOTES:

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

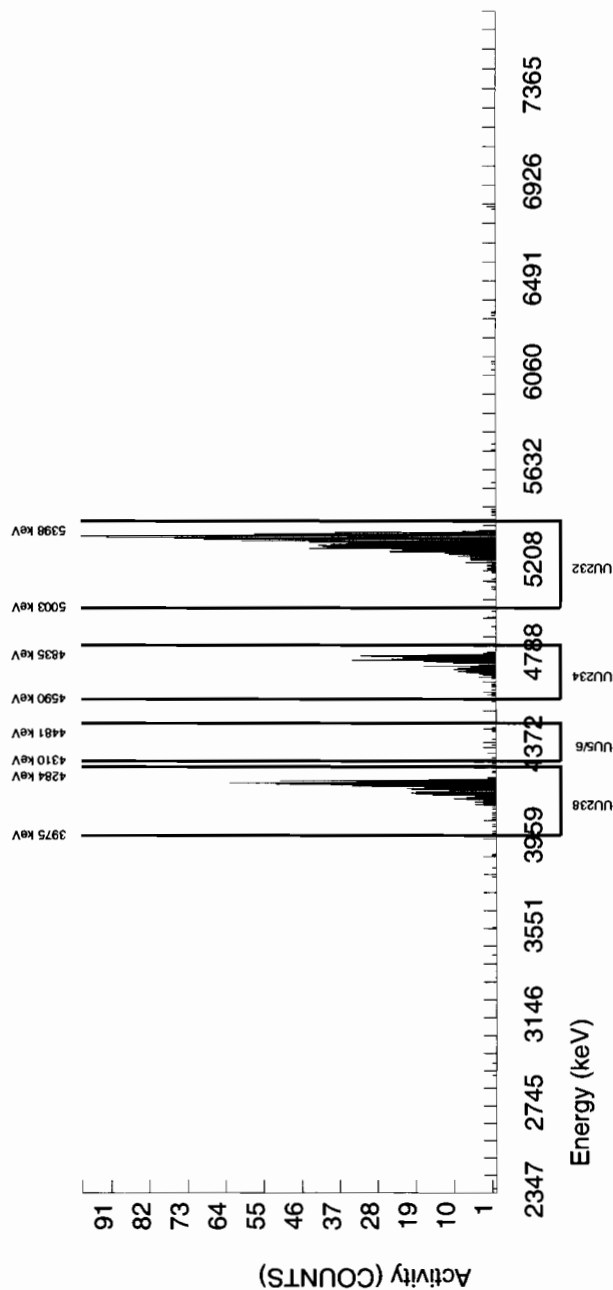


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 967764 SAMPLE ID : S0248051002_UU SAMPLE QTY : 0.512 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 74.919</p>		<p>CHAMBER : 002 DETECTOR S/N : 79452 AVERAGE %EFFICIENCY : 30.4967 COUNT DATE : 23-MAR-2010 18:04:36 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B002.CNF:1125 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W002.CNF:330 CAL DATE : 4-MAR-2010</p>
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.3738E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	
<p>NUCLIDE ACTIVITY SUMMARY</p>			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5307.629	35.132
U-3/4	4763.020	4761.200	29.255
U-235	4391.000	4402.599	48.191
U-238	4184.730	4194.545	27.882
	GROSS AREA	NET AREA	BKG AREA
	1033.000	1028.000	5.000
	301.000	294.959	5.000
	13.000	13.000	0.000
	495.000	495.000	0.000
	BKG Sg	%ABUN	ACTIVITY pCi/G
	2.2361	100.0000	3.96E+00
	5.4790	100.0000	1.14E+00
	2.4127	80.90000	6.19E-02
	3.6781	100.0000	1.91E+00
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
	3.13E-01	2.00E-02	5.05E-02
	1.06E-01	4.91E-02	1.09E-01
	1.77E-02	2.67E-02	6.63E-02
	1.62E-01	3.29E-02	7.63E-02
			UNC pCi/G
			1.24E-01
			6.72E-02
			1.72E-02
			8.57E-02

NOTES:

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

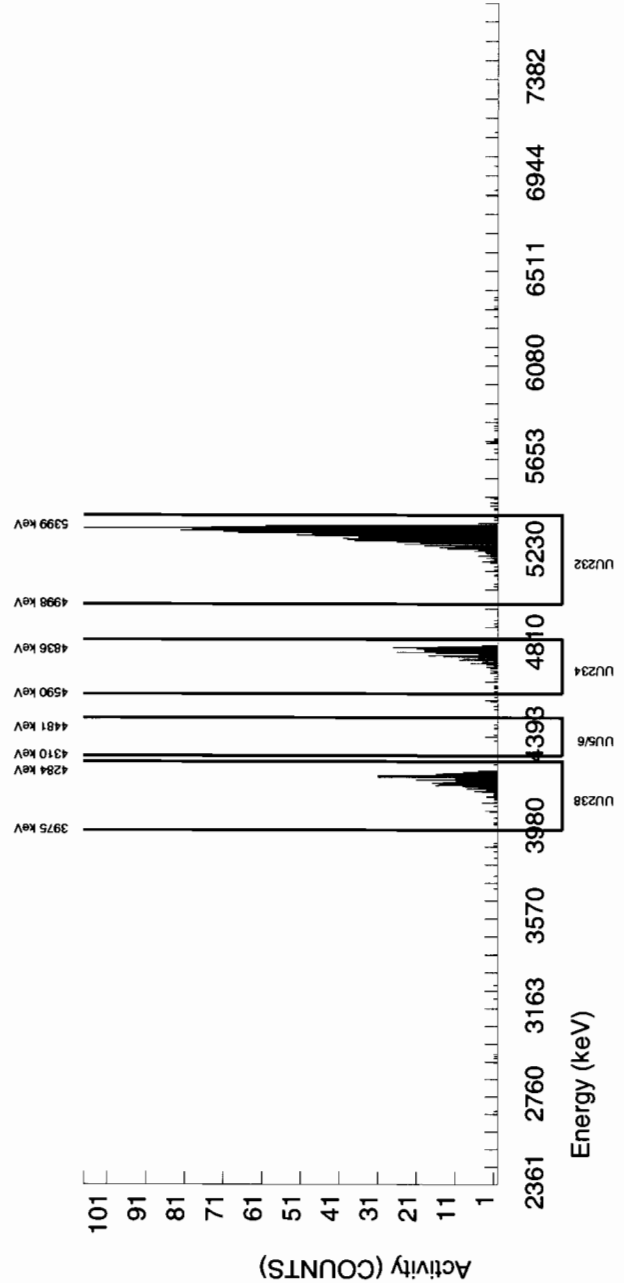


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051003_UU SAMPLE QTY : 0.526 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 72.237				CHAMBER : 003 DETECTOR S/N : 79453 AVERAGE %EFFICIENCY : 32.1827 COUNT DATE : 23-MAR-2010 18:04:36 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B003.CNF;1120 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W003.CNF;343 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.2531E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5316.660	34.404	1052.000	1046.000	6.000	2.4495	100.0000	3.86E+00	3.03E-01	2.10E-02	5.20E-02	1.20E-01
U-3/4	4763.020	4771.697	45.113	245.000	243.940	0.000	5.4790	100.0000	8.99E-01	8.68E-02	4.70E-02	1.04E-01	5.75E-02
U-235	4391.000	4419.735	74.596	6.000	5.000	1.000	2.4127	80.90000	2.28E-02	1.22E-02	2.56E-02	6.35E-02	1.20E-02
U-238	4184.730	4198.834	39.992	294.000	294.000	0.000	3.6781	100.0000	1.08E+00	1.01E-01	3.15E-02	7.30E-02	6.32E-02

NOTES:

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

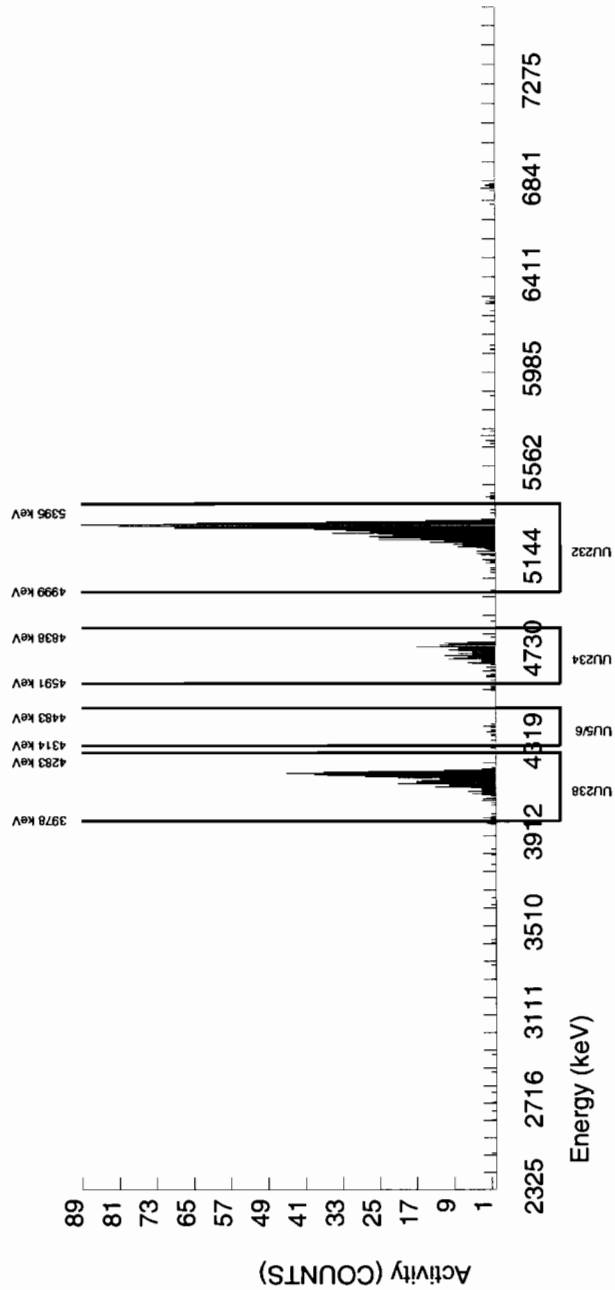


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051004_UU SAMPLE QTY : 0.519 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 60.676		CHAMBER : 004 DETECTOR S/N : 68548 AVERAGE %EFFICIENCY : 31.2086 COUNT DATE : 23-MAR-2010 18:04:36 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B004.CNF:1129 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W004.CNF:332 CAL DATE : 4-MAR-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 2.7324E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5281.606	31.556
U-3/4	4763.020	4733.159	71.557
U-235	4391.000	4383.957	7.144
U-238	4184.730	4172.115	29.696
	GROSS AREA	NET AREA	BKG AREA
	858.000	852.000	6.000
	176.000	172.137	3.000
	10.000	9.000	1.000
	408.000	403.000	5.000
	BKG Sg	%ABUN	ACTIVITY pCi/G
	2.4495	100.0000	3.91E+00
	5.4790	100.0000	7.89E-01
	2.4127	80.90000	5.10E-02
	3.6781	100.0000	1.85E+00
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
	3.18E-01	2.61E-02	6.47E-02
	8.45E-02	5.84E-02	1.29E-01
	1.92E-02	3.18E-02	7.90E-02
	1.65E-01	3.92E-02	9.09E-02
	UNC pCi/G		
	1.35E-01		
	6.12E-02		
	1.88E-02		
	9.31E-02		

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

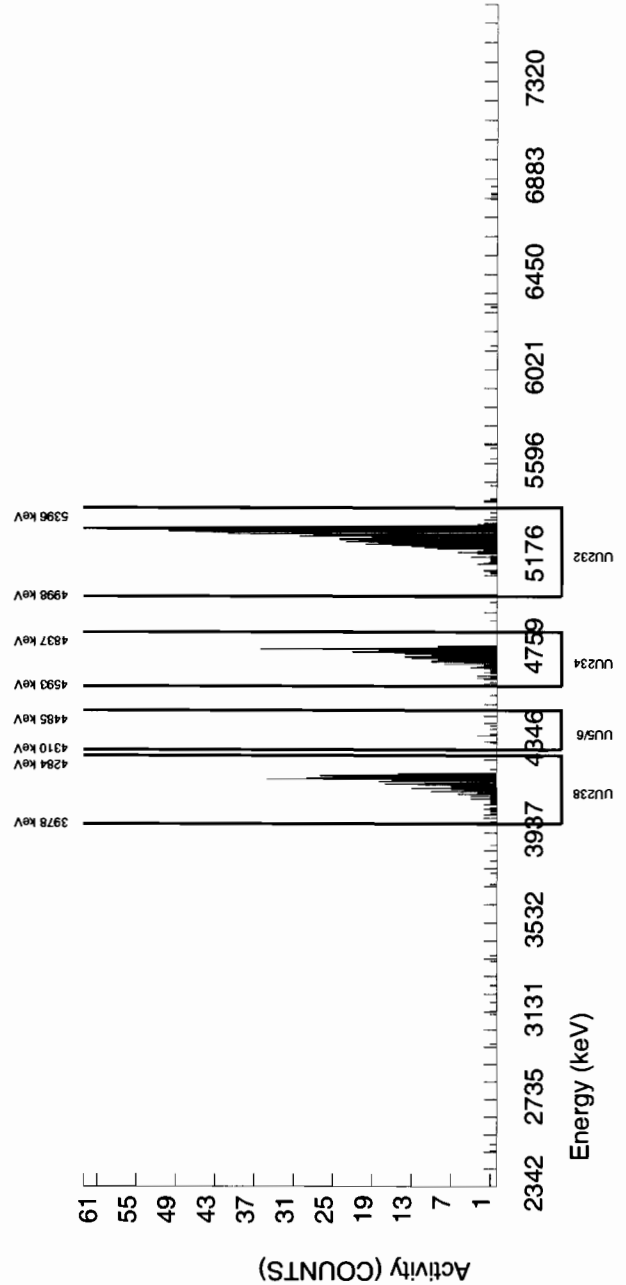
BATCH NUMBER : 967764 SAMPLE ID : S0248051005_UU SAMPLE QTY : 0.527 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 44.455		CHAMBER : 005 DETECTOR S/N : 79454 AVERAGE %EFFICIENCY : 33.5469 COUNT DATE : 23-MAR-2010 18:04:36 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B005.CNF:1115 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W005.CNF:339 CAL DATE : 4-MAR-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 2.0020E+00 dpm		MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/g	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/g

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
U232	5302.100	5277.286	34.458	676.000	671.000	5.000	2.2361	100.0000	3.85E+00	3.28E-01	2.98E-02	7.52E-02	1.50E-01
U-3/4	4763.020	4735.194	23.288	274.000	272.320	1.000	5.4790	100.0000	1.56E+00	1.52E-01	7.31E-02	1.62E-01	9.49E-02
U-235	4391.000	4403.325	86.627	11.000	8.000	3.000	2.4127	80.90000	5.67E-02	2.69E-02	3.98E-02	9.87E-02	2.65E-02
U-238	4184.730	4167.872	33.056	333.000	333.000	0.000	3.6781	100.0000	1.91E+00	1.79E-01	4.90E-02	1.14E-01	1.05E-01

NOTES:

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

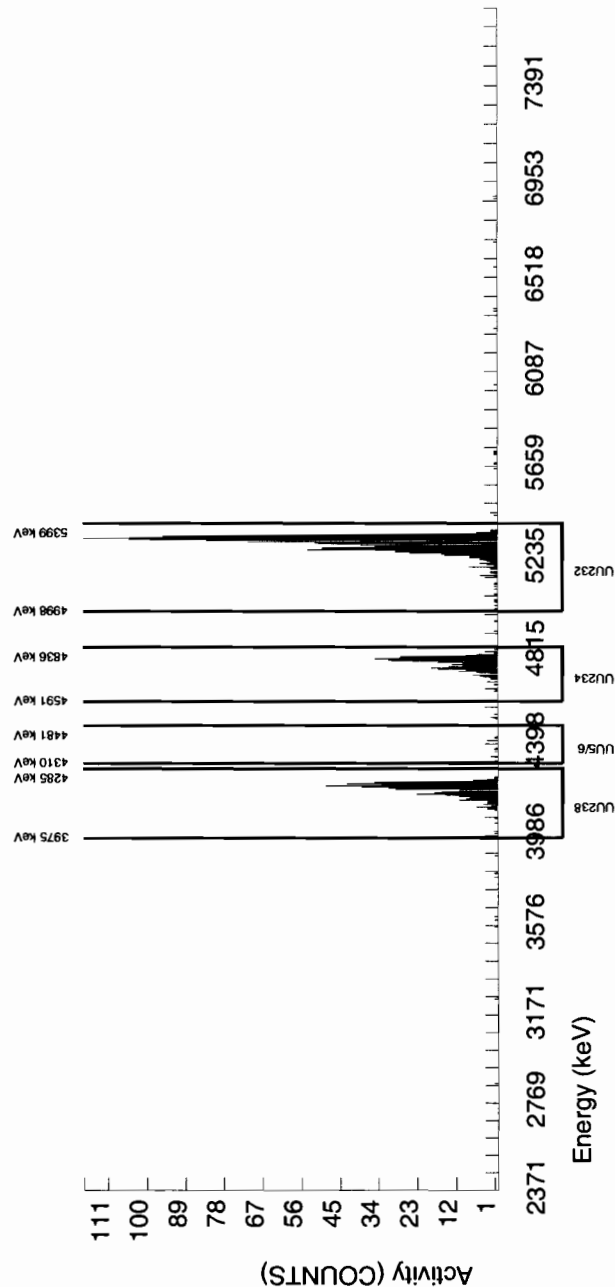


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051006_UU SAMPLE QTY : 0.515 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 82.062				CHAMBER : 006 DETECTOR S/N : 79455 AVERAGE %EFFICIENCY : 32.0671 COUNT DATE : 23-MAR-2010 18:04:36 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B006.CNF:1128 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W006.CNF:363 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.6955E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5310.258	33.085	1185.000	1184.000	1.000	1.0000	100.0000	3.94E+00	3.04E-01	7.73E-03	2.45E-02	1.15E-01
U-3/4	4763.020	4765.705	55.714	326.000	322.801	2.000	5.4790	100.0000	1.07E+00	9.74E-02	4.24E-02	9.37E-02	6.01E-02
U-235	4391.000	4386.973	74.289	14.000	13.000	1.000	2.4127	80.90000	5.34E-02	1.64E-02	2.31E-02	5.73E-02	1.59E-02
U-238	4184.730	4195.978	34.897	449.000	449.000	0.000	3.6781	100.0000	1.49E+00	1.28E-01	2.84E-02	6.59E-02	7.04E-02

NOTES:

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

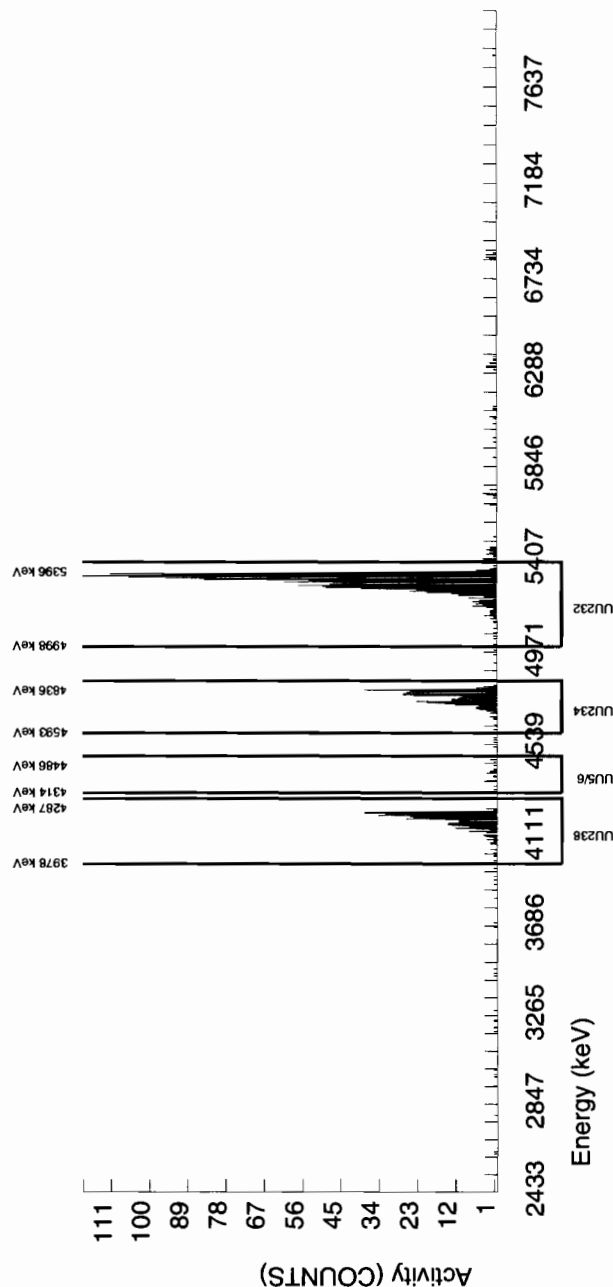


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051007_UU SAMPLE QTY : 0.507 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 90.453				CHAMBER : 007 DETECTOR S/N : 67607 AVERAGE %EFFICIENCY : 30.8124 COUNT DATE : 23-MAR-2010 18:04:37 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B007.CNF;1123 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W007.CNF;314 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 4.0734E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5308.606	41.470	1271.000	1254.000	17.000	4.1231	100.0000	4.00E+00	3.07E-01	3.06E-02	6.98E-02	1.15E-01
U-3/4	4763.020	4765.521	65.221	363.000	359.730	2.000	5.4790	100.0000	1.15E+00	1.02E-01	4.06E-02	8.99E-02	6.08E-02
U-235	4391.000	4409.906	96.649	22.000	20.000	2.000	2.4127	80.90000	7.88E-02	2.01E-02	2.21E-02	5.49E-02	1.93E-02
U-238	4184.730	4191.931	38.484	374.000	372.000	2.000	3.6781	100.0000	1.19E+00	1.05E-01	2.73E-02	6.32E-02	6.18E-02

NOTES:

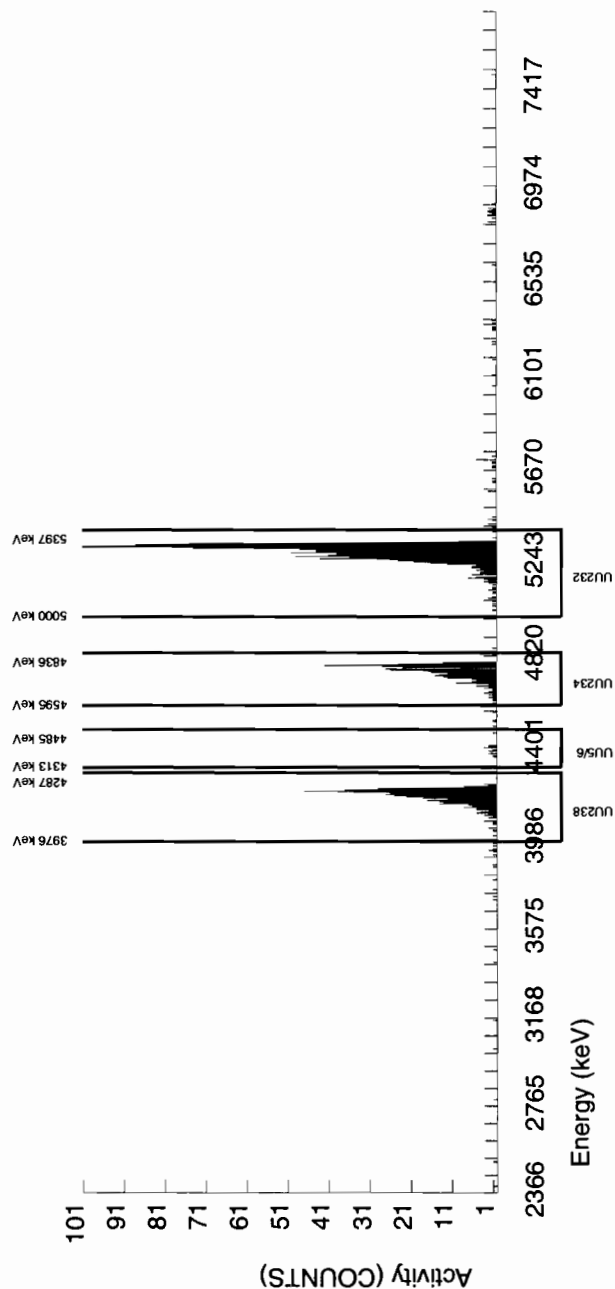
- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



BATCH NUMBER : 967764 SAMPLE ID : S0248051008_UU SAMPLE QTY : 0.546 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 69.426				CHAMBER : 008 DETECTOR S/N : 78788 AVERAGE %EFFICIENCY : 33.4538 COUNT DATE : 23-MAR-2010 18:04:37 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B008.CNF:1125 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W008.CNF:345 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.1265E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5297.219	26.865	1052.000	1045.000	7.000	2.6458	100.0000	3.72E+00	2.92E-01	2.19E-02	5.34E-02	1.16E-01
U-3/4	4763.020	4752.303	29.241	353.000	348.941	3.000	5.4790	100.0000	1.24E+00	1.12E-01	4.53E-02	1.00E-01	6.69E-02
U-235	4391.000	4406.921	36.917	16.000	15.000	1.000	2.4127	80.90000	6.59E-02	1.87E-02	2.46E-02	6.12E-02	1.81E-02
U-238	4184.730	4185.012	37.895	432.000	430.000	2.000	3.6781	100.0000	1.53E+00	1.33E-01	3.04E-02	7.04E-02	7.40E-02

NOTES:

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

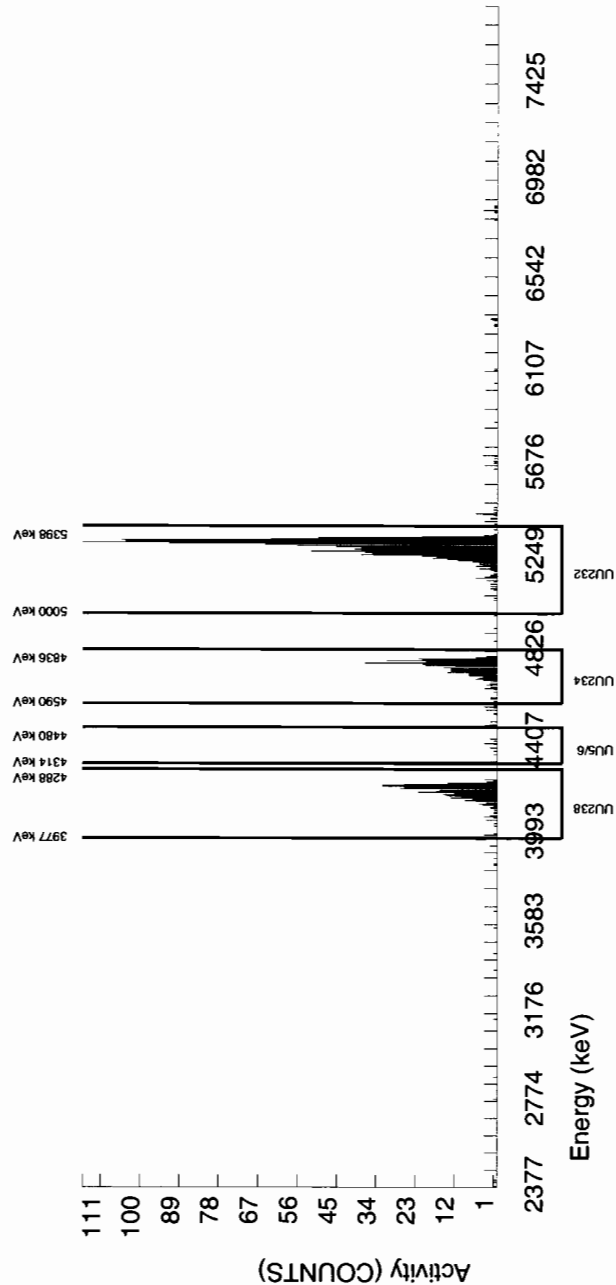


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051009_UU SAMPLE QTY : 0.512 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 73.425				CHAMBER : 009 DETECTOR S/N : 72528 AVERAGE %EFFICIENCY : 34.3260 COUNT DATE : 23-MAR-2010 18:04:37 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B009.CNF;1116 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W009.CNF;309 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.3065E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5306.748	30.246	1144.000	1134.000	10.000	3.1623	100.0000	3.96E+00	3.08E-01	2.57E-02	6.08E-02	1.19E-01
U-3/4	4763.020	4759.496	31.815	325.000	323.851	0.000	5.4790	100.0000	1.13E+00	1.03E-01	4.45E-02	9.84E-02	6.28E-02
U-235	4391.000	4403.266	44.513	9.000	8.000	1.000	2.4127	80.90000	3.45E-02	1.39E-02	2.42E-02	6.01E-02	1.36E-02
U-238	4184.730	4190.289	41.371	333.000	332.000	1.000	3.6781	100.0000	1.16E+00	1.05E-01	2.99E-02	6.92E-02	6.38E-02

NOTES:

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

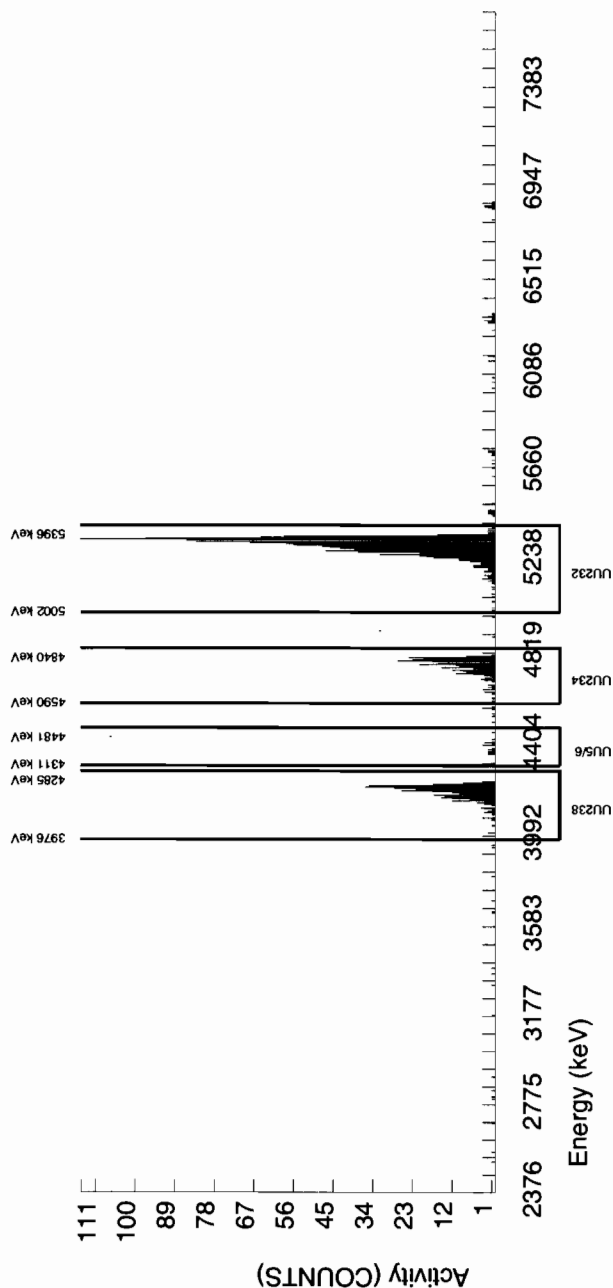


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051010_UU SAMPLE QTY : 0.513 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 82.530				CHAMBER : 010 DETECTOR S/N : 72529 AVERAGE %EFFICIENCY : 31.3468 COUNT DATE : 23-MAR-2010 18:04:37 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B010.CNF:1134 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W010.CNF:337 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.7166E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5309.311	36.948	1172.000	1164.000	8.000	2.8284	100.0000	3.95E+00	3.06E-01	2.23E-02	5.39E-02	1.17E-01
U-3/4	4763.020	4763.209	48.697	280.000	275.821	3.000	5.4790	100.0000	9.36E-01	8.80E-02	4.33E-02	9.57E-02	5.70E-02
U-235	4391.000	4404.002	54.613	19.000	18.000	1.000	2.4127	80.90000	7.55E-02	1.95E-02	2.35E-02	5.85E-02	1.88E-02
U-238	4184.730	4194.524	32.535	348.000	346.000	2.000	3.6781	100.0000	1.17E+00	1.05E-01	2.90E-02	6.73E-02	6.35E-02

NOTES:

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

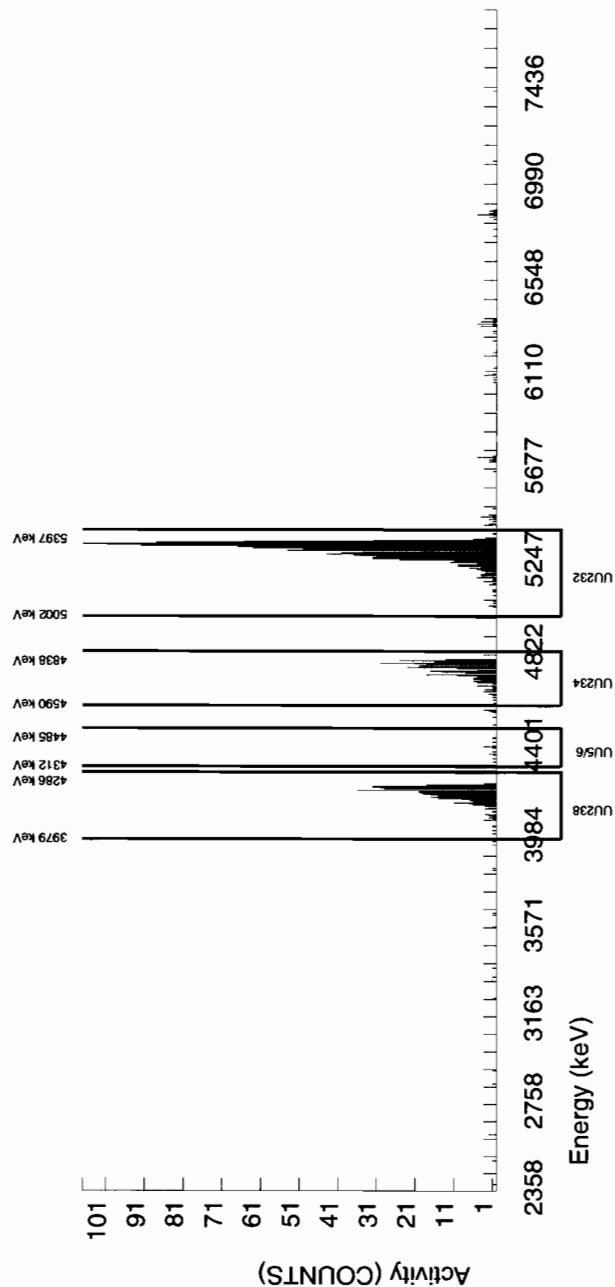


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051011_UU SAMPLE QTY : 0.508 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 78.603				CHAMBER : 011 DETECTOR S/N : 72531 AVERAGE %EFFICIENCY : 31.2445 COUNT DATE : 23-MAR-2010 18:04:37 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B011.CNF:1126 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W011.CNF:315 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.5398E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.786	41.579	1114.000	1105.000	9.000	3.0000	100.0000	3.99E+00	3.12E-01	2.52E-02	6.02E-02	1.21E-01
U-3/4	4763.020	4760.746	65.738	309.000	303.881	4.000	5.4790	100.0000	1.10E+00	1.01E-01	4.60E-02	1.02E-01	6.38E-02
U-235	4391.000	4388.558	7.311	13.000	13.000	0.000	2.4127	80.90000	5.80E-02	1.66E-02	2.50E-02	6.22E-02	1.61E-02
U-238	4184.730	4192.366	41.654	370.000	366.000	4.000	3.6781	100.0000	1.32E+00	1.18E-01	3.09E-02	7.16E-02	6.98E-02

NOTES:

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

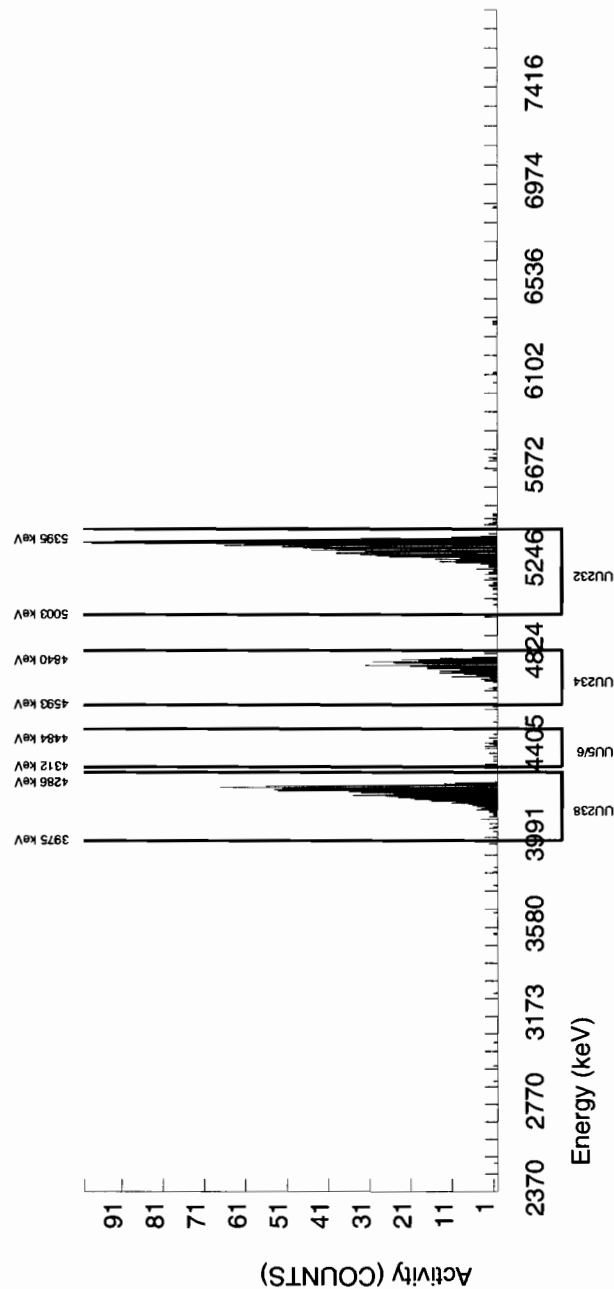


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051012_UU SAMPLE QTY : 0.523 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 82.904		CHAMBER : 155 DETECTOR S/N : 75553 AVERAGE %EFFICIENCY : 26.9160 COUNT DATE : 23-MAR-2010 18:03:35 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B155.CNF;408 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W155.CNF;119 CAL DATE : 17-MAR-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.7334E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5314.638	33.364
U-3/4	4763.020	4769.359	44.194
U-235	4391.000	4405.449	67.055
U-238	4184.730	4197.763	44.935
	GROSS AREA	NET AREA	%ABUN
	1008.000	1004.000	100.0000
	314.000	312.983	100.0000
	21.000	20.000	80.90000
	644.000	644.000	100.0000
	BKG AREA	BKG Sg	ACTIVITY pCi/G
	4.000	2.0000	3.88E+00
	0.000	5.4790	1.21E+00
	1.000	2.4127	9.54E-02
	0.000	3.6781	2.49E+00
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
	3.07E-01	1.80E-02	4.64E-02
	1.11E-01	4.92E-02	1.09E-01
	2.34E-02	2.68E-02	6.65E-02
	2.05E-01	3.30E-02	7.65E-02
			UNC pCi/G
			1.23E-01
			6.83E-02
			2.24E-02
			9.79E-02

NOTES:

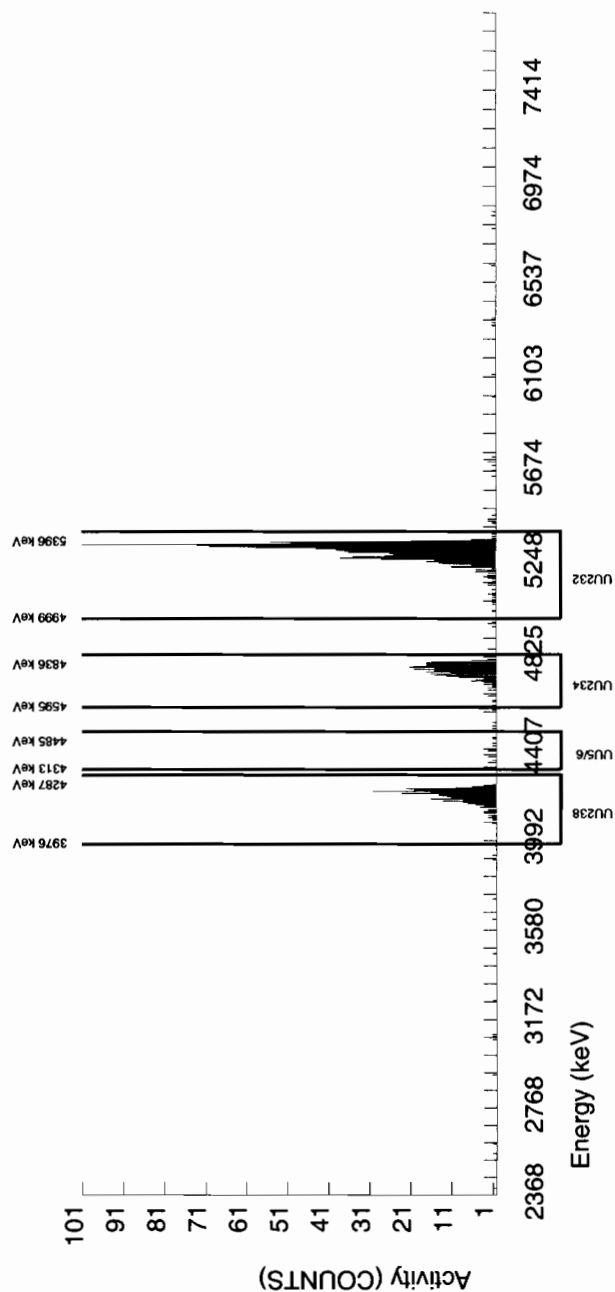
- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



BATCH NUMBER : 967764 SAMPLE ID : S0248051013_UU SAMPLE QTY : 0.538 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 76.410			CHAMBER : 156 DETECTOR S/N : 75554 AVERAGE %EFFICIENCY : 25.8005 COUNT DATE : 23-MAR-2010 18:03:36 ELAPSED LIVE TIME(SEC) : 60000.00			LIB FILE : ENV_ALPHA_UU BKG FILE : B156.CNF;409 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W156.CNF;123 CAL DATE : 17-MAR-2010		
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.4410E+00 dpm			MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G			LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G		
NUCLIDE ACTIVITY SUMMARY								
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN
U232	5302.100	5310.017	27.794	894.000	887.000	7.000	2.6458	100.0000
U-3/4	4763.020	4766.699	68.515	277.000	274.101	2.000	5.4790	100.0000
U-235	4391.000	4398.182	57.300	16.000	15.000	1.000	2.4127	80.90000
U-238	4184.730	4197.473	48.330	264.000	263.000	1.000	3.6781	100.0000
				ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
				3.77E+00	3.05E-01	2.61E-02	6.38E-02	1.28E-01
				1.16E+00	1.11E-01	5.41E-02	1.20E-01	7.08E-02
				7.87E-02	2.24E-02	2.95E-02	7.32E-02	2.16E-02
				1.12E+00	1.07E-01	3.63E-02	8.42E-02	6.91E-02

NOTES:

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

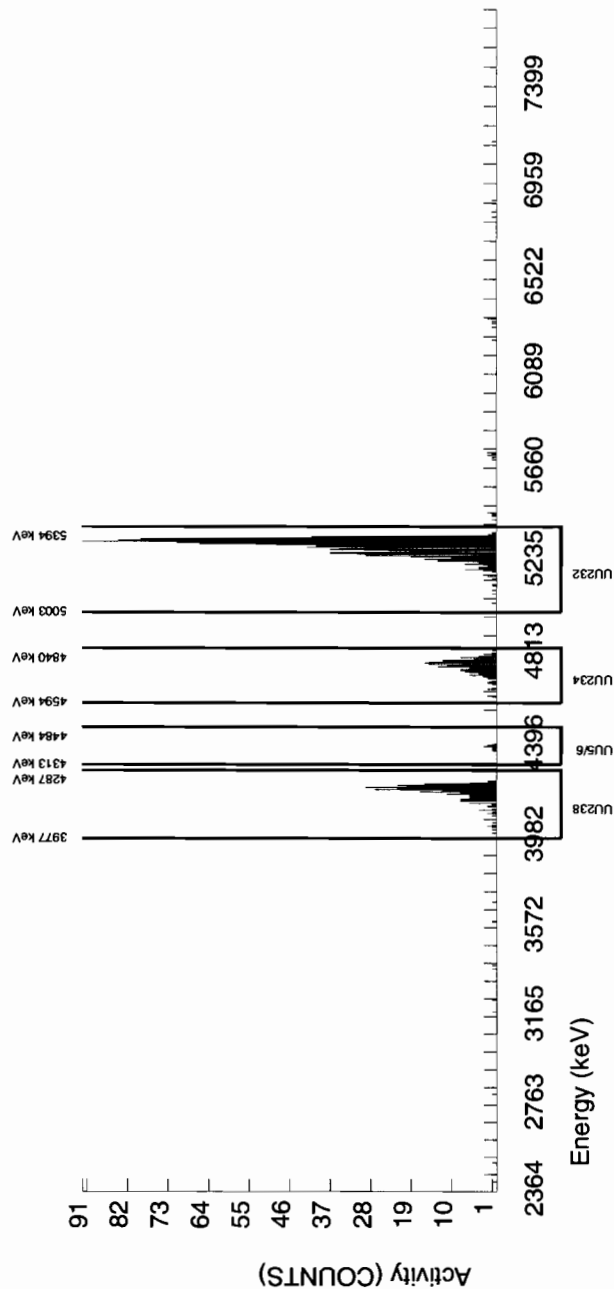


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051014_UU SAMPLE QTY : 0.541 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 85.407				CHAMBER : 157 DETECTOR S/N : 75555 AVERAGE %EFFICIENCY : 25.8668 COUNT DATE : 23-MAR-2010 18:03:39 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B157.CNF;409 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W157.CNF;113 CAL DATE : 17-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.8462E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.219	35.604	999.000	994.000	5.000	2.2361	100.0000	3.75E+00	2.97E-01	1.96E-02	4.94E-02	1.20E-01
U-3/4	4763.020	4759.104	36.141	184.000	180.993	2.000	5.4790	100.0000	6.82E-01	7.13E-02	4.80E-02	1.06E-01	5.13E-02
U-235	4391.000	4396.479	7.286	7.000	6.000	1.000	2.4127	80.90000	2.80E-02	1.33E-02	2.61E-02	6.49E-02	1.32E-02
U-238	4184.730	4190.550	36.829	266.000	266.000	0.000	3.6781	100.0000	1.00E+00	9.53E-02	3.22E-02	7.47E-02	6.15E-02

NOTES:

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

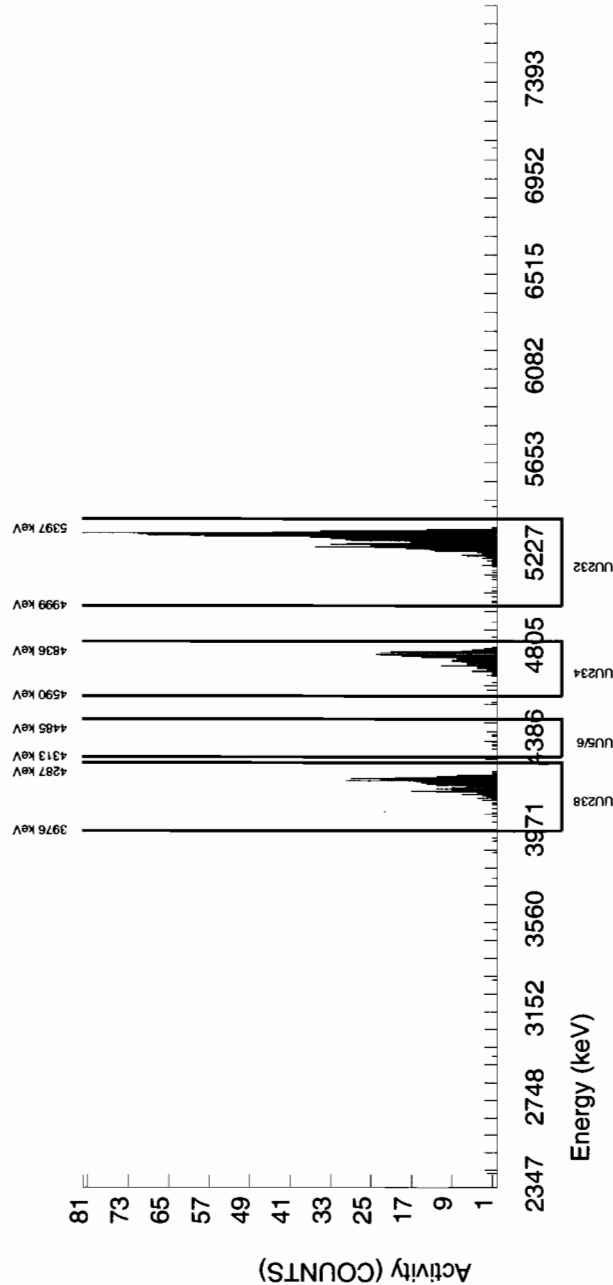


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051015_UU SAMPLE QTY : 0.526 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 65.882				CHAMBER : 158 DETECTOR S/N : 80007 AVERAGE %EFFICIENCY : 25.6053 COUNT DATE : 23-MAR-2010 18:03:42 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B158.CNF:410 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W158.CNF:118 CAL DATE : 17-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 2.9669E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5306.649	25.596	760.000	759.000	1.000	1.0000	100.0000	3.86E+00	3.20E-01	1.18E-02	3.74E-02	1.40E-01
U-3/4	4763.020	4762.298	30.250	226.000	223.231	2.000	5.4790	100.0000	1.13E+00	1.14E-01	6.47E-02	1.43E-01	7.65E-02
U-235	4391.000	4400.461	4.982	9.000	7.000	2.000	2.4127	80.90000	4.39E-02	2.11E-02	3.52E-02	8.74E-02	2.08E-02
U-238	4184.730	4191.620	64.072	277.000	276.000	1.000	3.6781	100.0000	1.40E+00	1.35E-01	4.34E-02	1.01E-01	8.46E-02

NOTES:

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

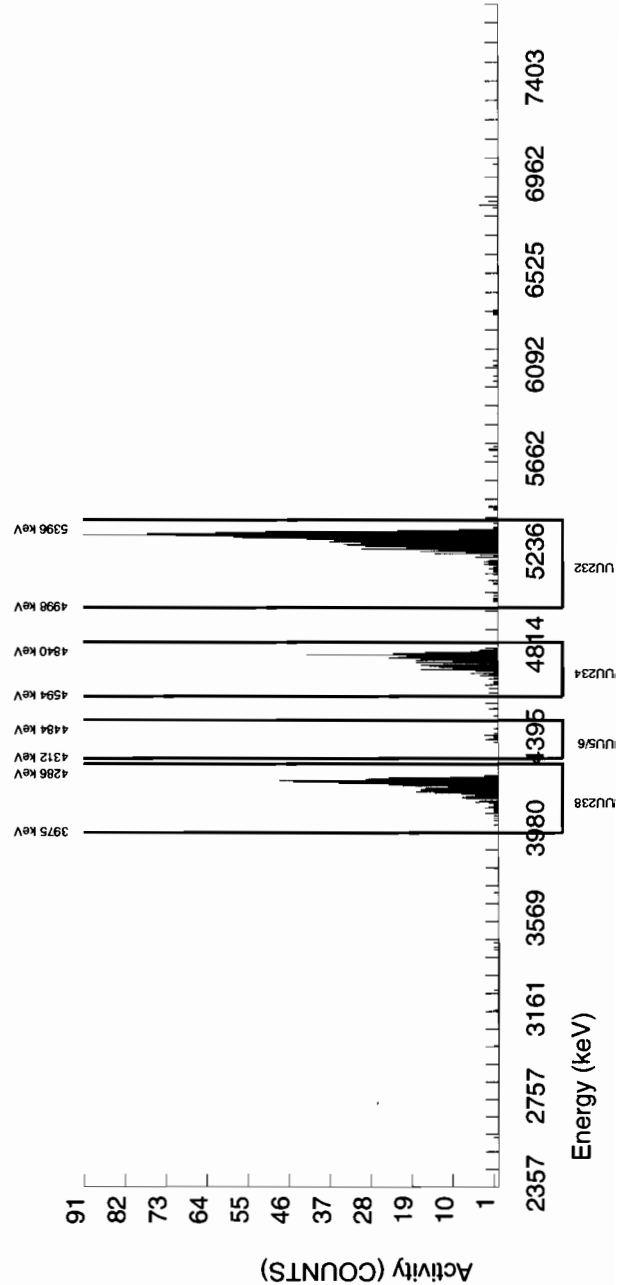


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S0248051016_UU SAMPLE QTY : 0.527 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 71.905				CHAMBER : 159 DETECTOR S/N : 76225 AVERAGE %EFFICIENCY : 27.1076 COUNT DATE : 23-MAR-2010 18:03:44 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B159.CNF;383 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W159.CNF;108 CAL DATE : 17-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.2381E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.645	34.529	881.000	877.000	4.000	2.0000	100.0000	3.85E+00	3.12E-01	2.04E-02	5.27E-02	1.31E-01
U-3/4	4763.020	4758.379	23.460	342.000	341.112	0.000	5.4790	100.0000	1.50E+00	1.37E-01	5.59E-02	1.24E-01	8.10E-02
U-235	4391.000	4409.582	19.922	12.000	12.000	0.000	2.4127	80.90000	6.50E-02	1.94E-02	3.04E-02	7.55E-02	1.88E-02
U-238	4184.730	4191.969	28.830	441.000	440.000	1.000	3.6781	100.0000	1.93E+00	1.69E-01	3.75E-02	8.69E-02	9.22E-02

NOTES:

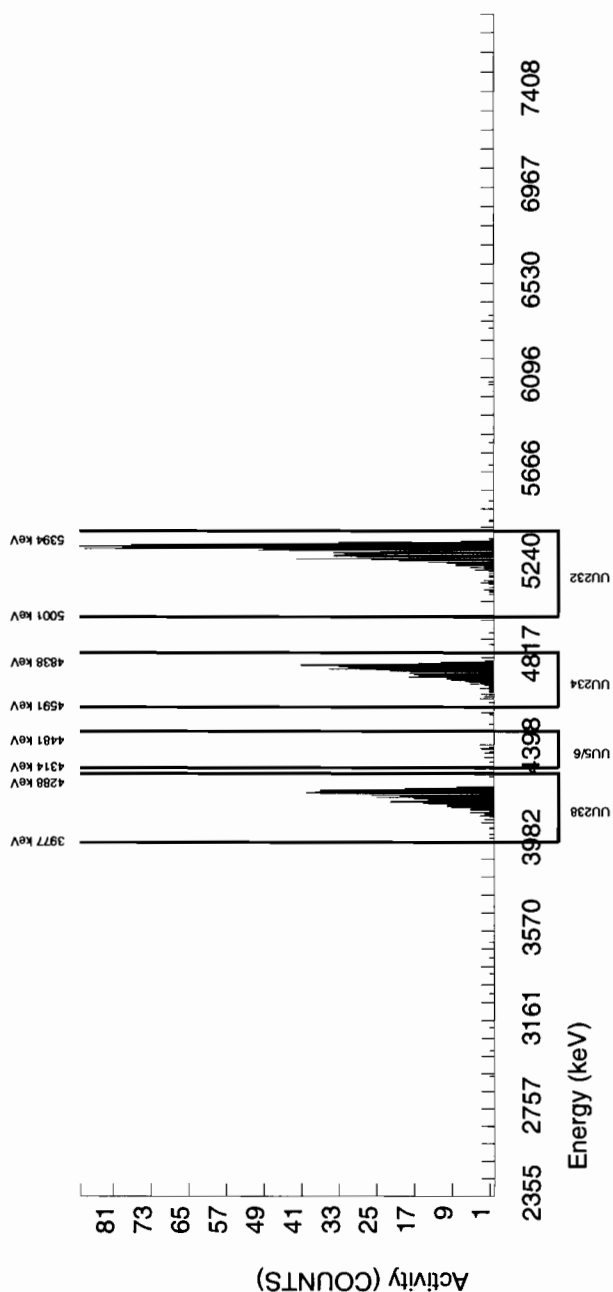
- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



BATCH NUMBER : 967764 SAMPLE ID : S0248051017_UU SAMPLE QTY : 0.508 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 75.296				CHAMBER : 160 DETECTOR S/N : 79994 AVERAGE %EFFICIENCY : 25.7982 COUNT DATE : 23-MAR-2010 18:03:47 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B160.CNF:385 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W160.CNF:120 CAL DATE : 17-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.3908E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5305.385	33.896	878.000	874.000	4.000	2.0000	100.0000	3.99E+00	3.24E-01	2.12E-02	5.48E-02	1.36E-01
U-3/4	4763.020	4759.327	35.121	395.000	392.115	2.000	5.4790	100.0000	1.79E+00	1.60E-01	5.82E-02	1.29E-01	9.09E-02
U-235	4391.000	4397.272	58.572	15.000	14.000	1.000	2.4127	80.90000	7.90E-02	2.33E-02	3.17E-02	7.86E-02	2.26E-02
U-238	4184.730	4186.337	60.963	449.000	448.000	1.000	3.6781	100.0000	2.05E+00	1.79E-01	3.91E-02	9.05E-02	9.68E-02

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

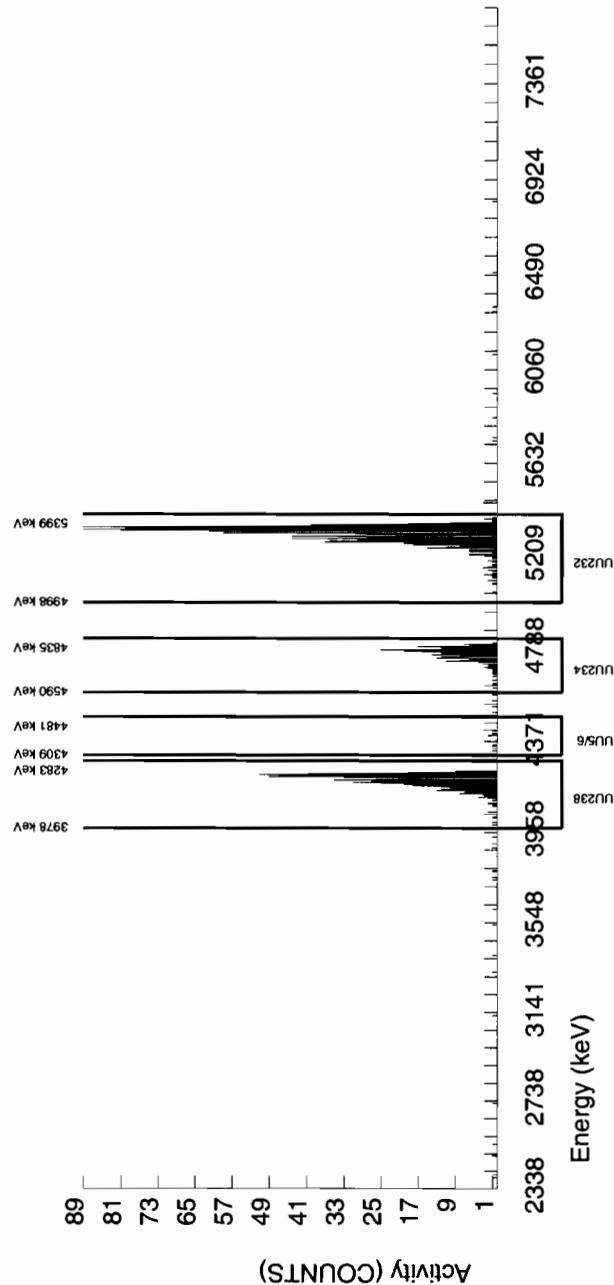
<p>BATCH NUMBER : 967764 SAMPLE ID : S0248051018_UU SAMPLE QTY : 0.513 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 84.902</p>		<p>CHAMBER : 115 DETECTOR S/N : 79995 AVERAGE %EFFICIENCY : 26.3873 COUNT DATE : 23-MAR-2010 18:29:00 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B115.CNF:467 BKG DATE : 22-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W115.CNF:151 CAL DATE : 19-MAR-2010</p>
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 3.8234E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5312.905	36.713	1009.000	1008.000	1.000	1.0000	100.0000	3.95E+00	3.13E-01	9.12E-03	2.89E-02	1.25E-01
U-3/4	4763.020	4767.117	52.082	230.000	228.979	0.000	5.4790	100.0000	8.97E-01	8.80E-02	5.00E-02	1.11E-01	5.93E-02
U-235	4391.000	4394.328	28.568	12.000	12.000	0.000	2.4127	80.90000	5.81E-02	1.73E-02	2.72E-02	6.75E-02	1.68E-02
U-238	4184.730	4197.465	47.719	527.000	527.000	0.000	3.6781	100.0000	2.07E+00	1.75E-01	3.35E-02	7.77E-02	9.00E-02

NOTES:

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

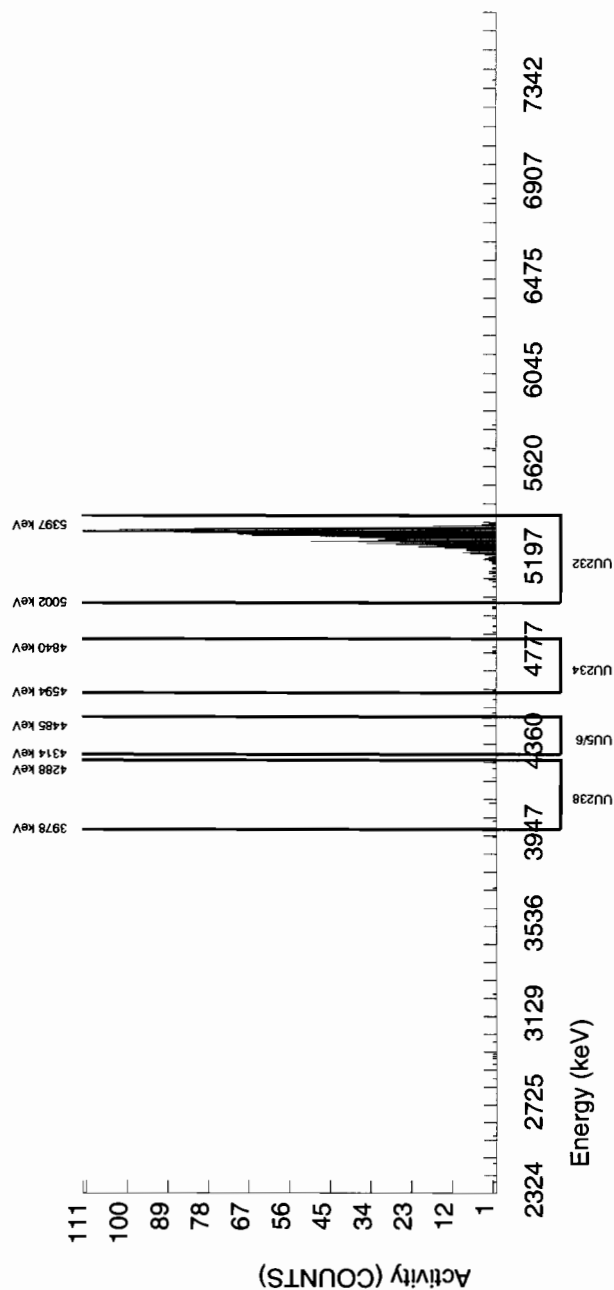


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S1202077311_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : CXM2 % YIELD : 93.629				CHAMBER : 116 DETECTOR S/N : 80004 AVERAGE %EFFICIENCY : 25.9691 COUNT DATE : 23-MAR-2010 18:29:02 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B116.CNF:452 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W116.CNF:113 CAL DATE : 19-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.4996E+00 dpm RESULTS : 4.2129E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5310.433	36.659	1096.000	1094.000	2.000	1.4142	100.0000	2.03E+00	1.58E-01	6.10E-03	1.72E-02	6.14E-02
U-3/4	4763.020	4754.992	194.728	5.000	3.892	0.000	5.4790	100.0000	7.21E-03	3.69E-03	2.36E-02	5.22E-02	3.65E-03
U-235	4391.000	4339.578	0.000	2.000	2.000	0.000	2.4127	80.90000	4.58E-03	3.26E-03	1.29E-02	3.19E-02	3.24E-03
U-238	4184.730	4138.718	4.993	5.000	5.000	0.000	3.6781	100.0000	9.26E-03	4.20E-03	1.59E-02	3.67E-02	4.14E-03

NOTES:

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

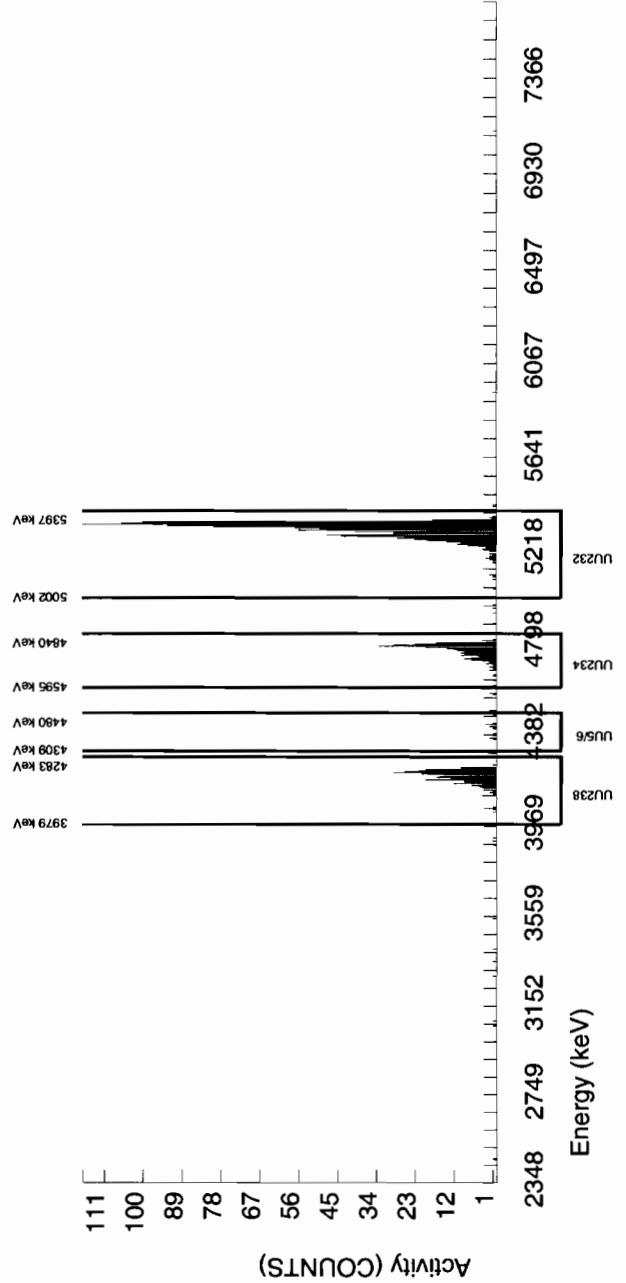


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S1202077312_UU SAMPLE QTY : 0.507 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 90.279		CHAMBER : 117 DETECTOR S/N : 80003 AVERAGE %EFFICIENCY : 27.2036 COUNT DATE : 23-MAR-2010 18:29:05 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B117.CNF;463 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W117.CNF;126 CAL DATE : 19-MAR-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5033E+00 dpm RESULTS : 4.0656E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5316.270	29.071
U-3/4	4763.020	4770.148	22.705
U-235	4391.000	4410.770	65.896
U-238	4184.730	4198.534	50.827
	GROSS AREA	NET AREA	%ABUN
U232	1106.000	1105.000	100.0000
U-3/4	260.000	257.881	100.0000
U-235	15.000	15.000	80.90000
U-238	288.000	287.000	100.0000
	BKG AREA	BKG Sg	ACTIVITY pCi/G
U232	1.000	1.0000	4.00E+00
U-3/4	1.000	5.4790	9.33E-01
U-235	0.000	2.4127	6.71E-02
U-238	1.000	3.6781	1.04E+00
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
U232	3.12E-01	8.42E-03	2.66E-02
U-3/4	8.89E-02	4.61E-02	1.02E-01
U-235	1.80E-02	2.51E-02	6.23E-02
U-238	9.67E-02	3.10E-02	7.17E-02
	UNC pCi/G		
U232	1.20E-01		
U-3/4	5.83E-02		
U-235	1.73E-02		
U-238	6.15E-02		

NOTES:

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

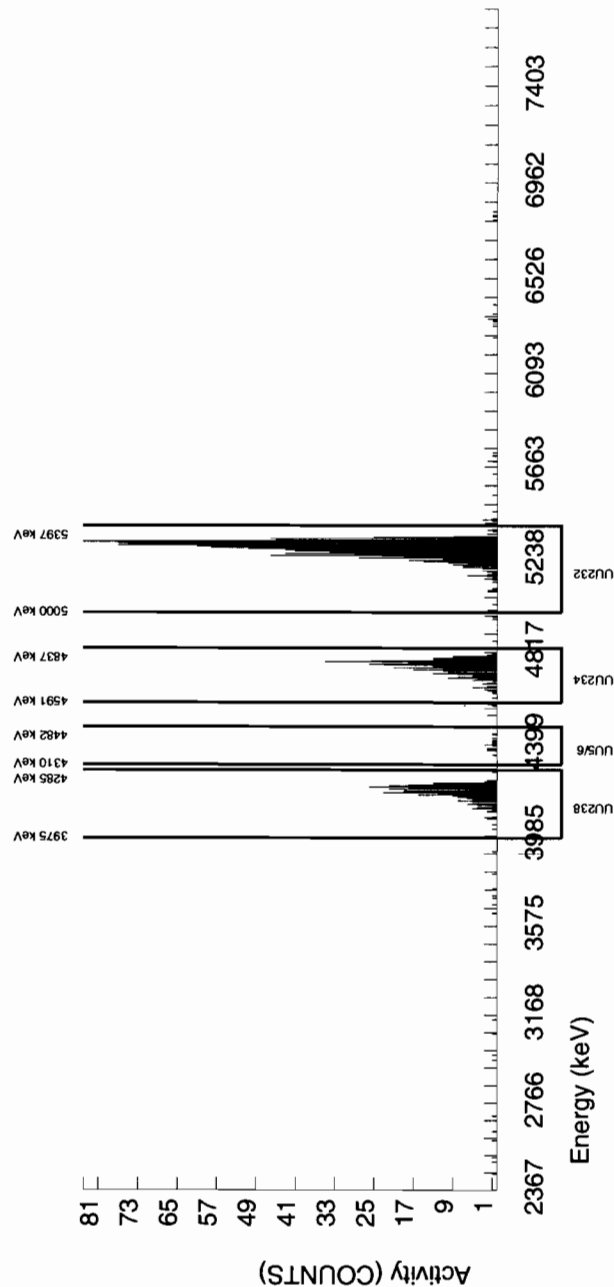


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967764 SAMPLE ID : S1202077313_UU SAMPLE QTY : 0.105 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : CXM2 % YIELD : 93.464				CHAMBER : 118 DETECTOR S/N : 75544 AVERAGE %EFFICIENCY : 25.5870 COUNT DATE : 23-MAR-2010 18:29:08 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B118.CNF:464 BKG DATE : 22-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W118.CNF:121 CAL DATE : 19-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.4996E+00 dpm RESULTS : 4.2055E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5297.463	76.012	1081.000	1076.000	5.000	2.2361	100.0000	1.93E+01	1.62E+00	9.33E-02	2.35E-01	5.91E-01
U-3/4	4763.020	4755.298	34.484	327.000	324.910	1.000	5.4790	100.0000	5.83E+00	5.59E-01	2.29E-01	5.06E-01	3.24E-01
U-235	4391.000	4398.770	14.256	17.000	17.000	0.000	2.4127	80.90000	3.77E-01	9.61E-02	1.24E-01	3.09E-01	9.14E-02
U-238	4184.730	4187.666	51.570	299.000	299.000	0.000	3.6781	100.0000	5.36E+00	5.21E-01	1.53E-01	3.56E-01	3.10E-01

NOTES:

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



Radiochemistry Batch Checklist, Rev10

Batch: 9107763Product: AmDate: 3/24/10

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

3/24/10

Secondary Review Performed By: h Denise Green

3/24/10

3/25
LANC

Am/Cm Que Sheet

22-MAR-10

Batch #: 967763 Analyst: CXM2 First Client Due Date: 25-MAR-10 Internal Due Date: 19-MAR-10 Comments:
 Tracer Code: 445-96-2-VV Expiration Date: 3-9-11 Vol: 0.12
 LCS Isotope(s): Am241/Cm244 LCS Code(s): 58M 0244B / MA Expiration Date: 4-30-20 / NA Vol(s): 0.19 / NA
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA Expiration Date: NA / NA Vol(s): NA / NA
 Prep Date: 3-22-10 Initials: KM Pipet ID: 4497063 Balance ID: 50410272 Witness: JEH 3-22-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Aliquot (g)	Am/Cm	Det #
248051001-2	RE36-10-7414	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	1	1	1.255	1.255	209	
248051002-2	RE36-10-7413	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	2	2	1.250	1.250	210	
248051003-2	RE36-10-7462	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	3	3	1.259	1.259	211	
248051004-2	RE36-10-7465	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	4	4	1.277	1.277	212	
248051005-2	RE36-10-7473	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	5	5	1.258	1.258	213	
248051006-2	RE36-10-7471	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	6	6	1.267	1.267	214	
248051007-2	RE36-10-7472	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	7	7	1.254	1.254	215	
248051008-2	RE36-10-7468	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	8	8	1.269	1.269	216	
248051009-2	RE36-10-7464	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	9	9	1.291	1.291	217	
248051010-2	RE36-10-7463	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	10	10	1.278	1.278	218	
248051011-2	RE36-10-7475	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	11	11	1.254	1.254	219	
248051012-2	RE36-10-7466	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	12	12	1.263	1.263	220	
248051013-2	RE36-10-7476	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	13	13	1.275	1.275	221	
248051014-2	RE36-10-7461	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	14	14	1.268	1.268	222	
248051015-2	RE36-10-7467	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	15	15	1.259	1.259	223	
248051016-2	RE36-10-7469	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	16	16	1.296	1.296	224	
248051017-2	RE36-10-7470	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	17	17	1.291	1.291	225	
248051018-2	RE36-10-7515	SAMPLE		.05 pCi/g	SOIL	LANL010	20-FEB-10	18	18	1.272	1.272	226	
1202077308-1	MB for batch 967763	MB		UCF pCi/g to pCi/soil	QC ACCOUNT	QC ACCOUNT	20-FEB-10	19	19	1	1	221	
1202077309-2	RE36-10-7414(248051001DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	20-FEB-10	20	20	1.253	1.253	222	
1202077310-1	LCS for batch 967763	LCS		UCF pCi/g to pCi/soil	QC ACCOUNT	QC ACCOUNT	20-FEB-10	21	21	0.105	0.105	223	

* SRA 0244-B exp 4/30/20

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

Solid Sample Dissolution by: LEACH OF DIGESTION

Circle One

Data Reviewed By:

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

Blank Correction Report

Batch ID 967763

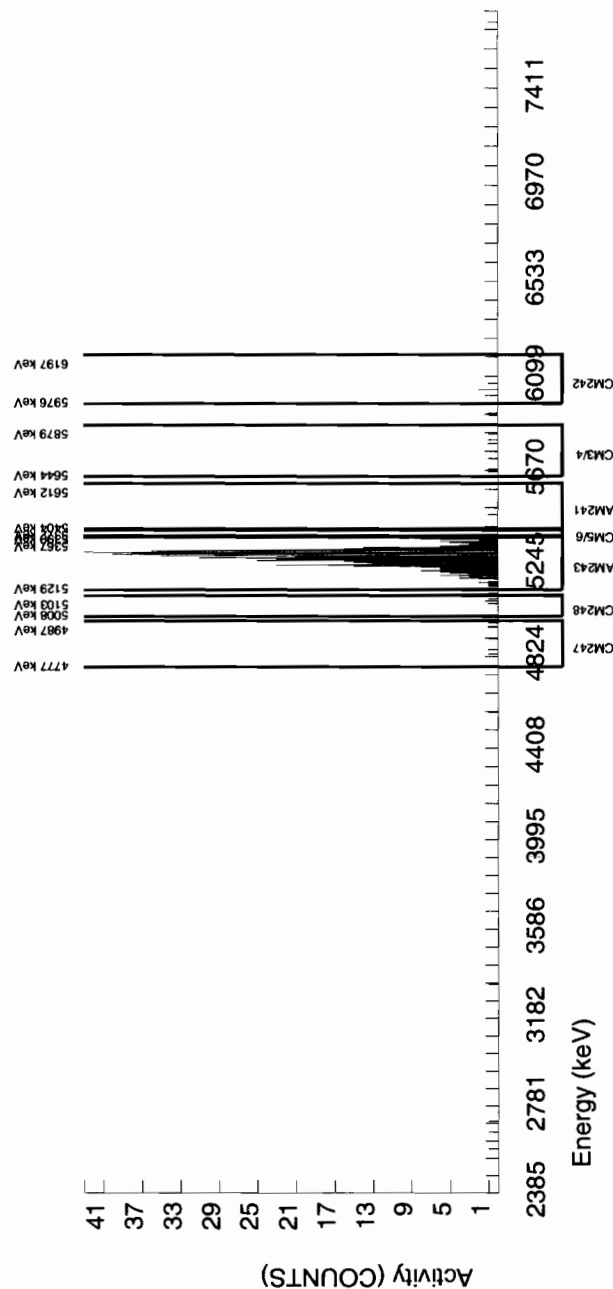
GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202077309	DUP	Americium-241	1.25 g	0.00178	0.00169	0.0235	-.00552	pCi/g	NO
1202077310	LCS	Americium-241	0.105 g	31.0	2.29	0.209	-.06571429	pCi/g	NO
1202077308	MB	Americium-241	1.00 g	-0.0069	0.00373	0.0289	-.0069	pCi/g	NO
248051001	RE36-10-7414	Americium-241	1.26 g	-0.000992	0.00188	0.0224	-.00547619	pCi/g	NO
248051002	RE36-10-7413	Americium-241	1.25 g	0.00434	0.00252	0.0211	-.00552	pCi/g	NO
248051003	RE36-10-7462	Americium-241	1.26 g	0.000101	0.00152	0.0222	-.00547619	pCi/g	NO
248051004	RE36-10-7465	Americium-241	1.28 g	0.005	0.00285	0.0235	-.00539063	pCi/g	NO
248051005	RE36-10-7473	Americium-241	1.26 g	0.0227	0.00712	0.0261	-.00547619	pCi/g	NO
248051006	RE36-10-7471	Americium-241	1.27 g	0.000498	0.00187	0.0218	-.00543307	pCi/g	NO
248051007	RE36-10-7472	Americium-241	1.25 g	0.000493	0.00187	0.0219	-.00552	pCi/g	NO
248051008	RE36-10-7468	Americium-241	1.27 g	0.0243	0.00646	0.0236	-.00543307	pCi/g	NO
248051009	RE36-10-7464	Americium-241	1.29 g	-0.00335	0.00272	0.0249	-.00534884	pCi/g	NO
248051010	RE36-10-7463	Americium-241	1.28 g	0.00639	0.00374	0.0205	-.00539063	pCi/g	NO
248051011	RE36-10-7475	Americium-241	1.25 g	0.00143	0.00143	0.0209	-.00552	pCi/g	NO
248051012	RE36-10-7466	Americium-241	1.26 g	-0.000988	0.00186	0.0221	-.00547619	pCi/g	NO
248051013	RE36-10-7476	Americium-241	1.28 g	0.00495	0.00319	0.0217	-.00539063	pCi/g	NO
248051014	RE36-10-7461	Americium-241	1.27 g	0.00453	0.00261	0.0217	-.00543307	pCi/g	NO
248051015	RE36-10-7467	Americium-241	1.26 g	0.00523	0.00558	0.0203	-.00547619	pCi/g	NO
248051016	RE36-10-7469	Americium-241	1.30 g	0.0465	0.0098	0.0257	-.00530769	pCi/g	NO
248051017	RE36-10-7470	Americium-241	1.29 g	0.0137	0.00443	0.0201	-.00534884	pCi/g	NO
248051018	RE36-10-7515	Americium-241	1.27 g	0.00363	0.00318	0.0207	-.00543307	pCi/g	NO

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763 SAMPLE ID : S0248051001_AM SAMPLE QTY : 1.255 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 84.295				CHAMBER : 209 DETECTOR S/N : 79188 AVERAGE %EFFICIENCY : 38.7951 COUNT DATE : 23-MAR-2010 17:29:32 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B209.CNF.92 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W209.CNF.33 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.9180E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5473.331	4.929	1.000	-0.650	0.720	2.7707	99.94000	-9.92E-04	1.88E-03	9.12E-03	2.24E-02	1.88E-03
AM243	5270.000	5279.669	67.195	536.000	534.560	1.440	1.2000	99.78000	8.17E-01	6.52E-02	3.96E-03	1.21E-02	3.54E-02
CM-242	6102.000	6054.607	4.929	3.000	3.000	0.000	4.0092	100.00000	5.24E-03	3.05E-03	1.32E-02	3.05E-02	3.03E-03
CM-3/4	5795.020	5755.895	162.655	6.000	4.560	1.440	4.8510	100.00000	6.97E-03	4.08E-03	1.60E-02	3.60E-02	4.06E-03
CM-5/6	5386.000	5377.773	0.000	3.000	3.000	0.000	6.1294	86.09000	5.31E-03	3.09E-03	2.34E-02	5.16E-02	3.07E-03
CM-247	4946.000	4919.704	138.010	6.000	4.560	1.440	6.3427	79.30000	8.77E-03	5.13E-03	2.63E-02	5.78E-02	5.10E-03
CM-248	5078.600	5057.233	0.000	3.000	3.000	0.000	11.0244	91.00000	5.03E-03	2.92E-03	3.98E-02	8.42E-02	2.90E-03

NOTES:

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



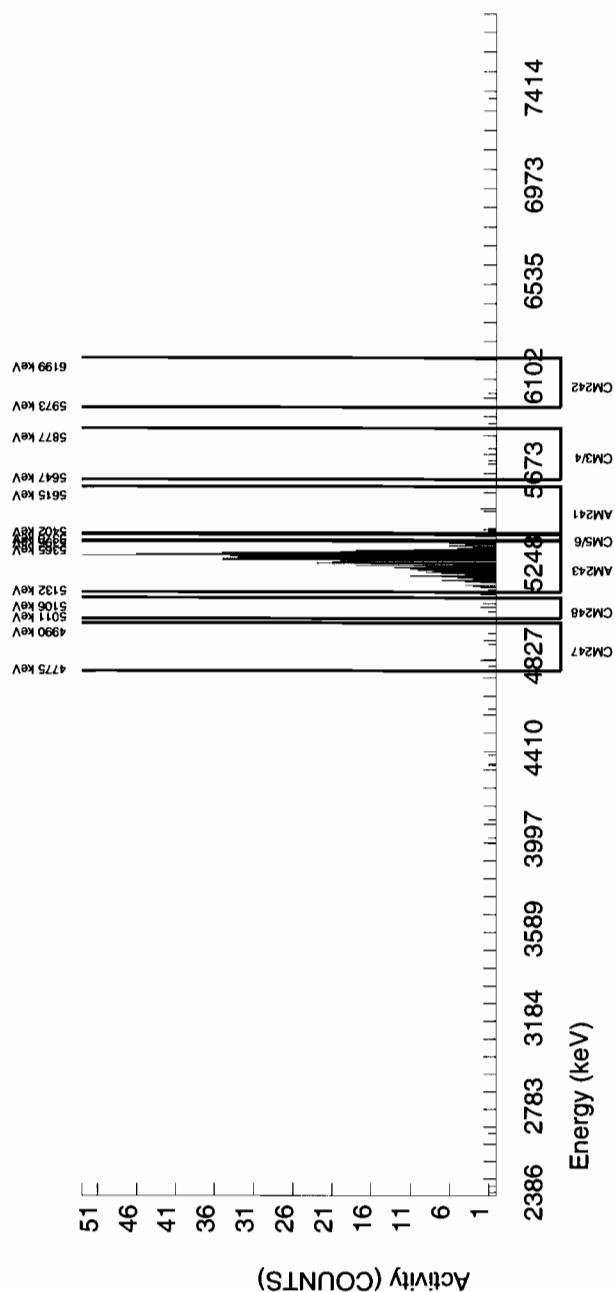
BATCH NUMBER : 967763 SAMPLE ID : S0248051002_AM SAMPLE QTY : 1.250 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 88.027				CHAMBER : 210 DETECTOR S/N : 79189 AVERAGE %EFFICIENCY : 39.4745 COUNT DATE : 23-MAR-2010 17:29:34 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B210.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W210.CNF:31 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 2.0029E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5470.808	4.933	4.000	3.012	0.000	2.7707	99.94000	4.34E-03	2.52E-03	8.61E-03	2.11E-02	2.50E-03
AM-243	5270.000	5282.060	34.958	568.000	568.000	0.000	0.0000	99.78000	8.20E-01	6.42E-02	0.00E+00	3.91E-03	3.44E-02
CM-242	6102.000	6043.045	4.933	1.000	1.000	0.000	0.0092	100.0000	1.65E-03	1.65E-03	1.25E-02	2.88E-02	1.65E-03
CM-3/4	5795.020	5749.782	69.056	3.000	3.000	0.000	4.8510	100.0000	4.34E-03	2.52E-03	1.51E-02	3.41E-02	2.50E-03
CM-5/6	5386.000	5376.581	0.000	16.000	15.280	0.720	6.1294	86.09000	2.56E-02	7.01E-03	2.21E-02	4.88E-02	6.80E-03
CM-247	4946.000	4860.718	4.933	5.000	4.280	0.720	6.3427	79.30000	7.77E-03	4.30E-03	2.49E-02	5.46E-02	4.27E-03
CM-248	5078.600	5053.841	4.933	6.000	6.000	0.000	11.0244	91.00000	9.50E-03	3.93E-03	3.76E-02	7.96E-02	3.88E-03

NOTES:

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

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

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



BATCH NUMBER : 967763 SAMPLE ID : S0248051003_AM SAMPLE QTY : 1.259 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 82.274				CHAMBER : 211 DETECTOR S/N : 79190 AVERAGE %EFFICIENCY : 39.8764 COUNT DATE : 23-MAR-2010 17:29:36 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B211.CNF;91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W211.CNF;31 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.8720E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5438.254	4.937	1.000	0.067	0.000	2.7707	99.94000	1.01E-04	1.52E-03	9.06E-03	2.22E-02	1.52E-03
AM243	5270.000	5279.487	50.492	537.000	536.280	0.720	0.8485	99.78000	8.14E-01	6.49E-02	2.78E-03	9.67E-03	3.52E-02
CM-242	6102.000	6040.017	98.734	4.000	4.000	0.000	4.0092	100.0000	6.94E-03	3.50E-03	1.31E-02	3.03E-02	3.47E-03
CM-3/4	5795.020	5761.571	7.251	8.000	7.280	0.720	4.8510	100.0000	1.11E-02	4.50E-03	1.59E-02	3.58E-02	4.44E-03
CM-5/6	5386.000	5376.687	0.000	7.000	7.000	0.000	6.1294	86.09000	1.23E-02	4.73E-03	2.33E-02	5.13E-02	4.65E-03
CM-247	4946.000	4880.442	4.937	9.000	9.000	0.000	6.3427	79.30000	1.72E-02	5.84E-03	2.61E-02	5.74E-02	5.73E-03
CM-248	5078.600	5067.140	74.050	5.000	5.000	0.000	11.0244	91.00000	8.32E-03	3.76E-03	3.96E-02	8.37E-02	3.72E-03

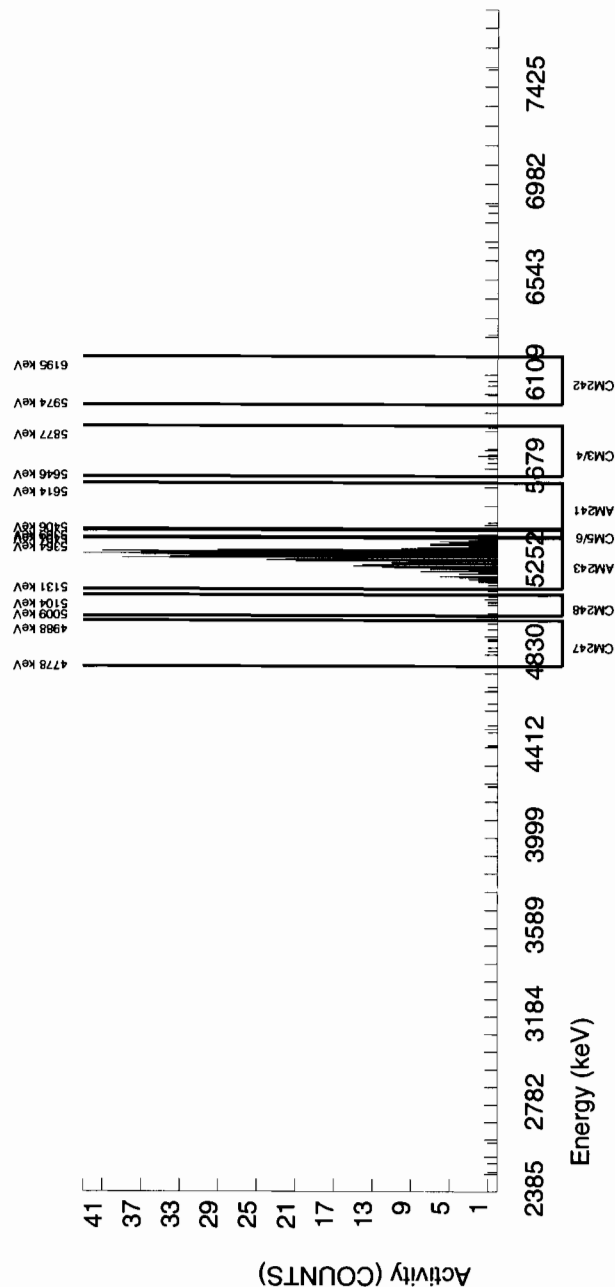
NOTES:

* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763
SAMPLE ID : S0248051004_AM
SAMPLE QTY : 1.277 G
SAMPLE DATE : 20-FEB-2010 00:00:00
ANALYST : CXM2
% YIELD : 79.012

CHAMBER : 212
DETECTOR S/N : 79191
AVERAGE %EFFICIENCY : 38.7906
COUNT DATE : 23-MAR-2010 17:29:39
ELAPSED LIVE TIME(SEC) : 43200.00

LIB FILE : ENV_ALPHA_AM
BKG FILE : B212.CNF;91
BKG DATE : 21-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W212.CNF;30
CAL DATE : 28-FEB-2010

TRACER	:	445-96-2-VV
ID	:	AM243
NUCLIDE	:	2.2753E+00
NOMINAL	:	1.7978E+00
RESULTS	:	

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3152E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3152E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5522.860	118.339	4.000	3.128	0.000	2.7707	99.94000	5.00E-03	2.85E-03	9.56E-03	2.35E-02	2.83E-03
AM243	5270.000	5278.647	40.862	501.000	501.000	0.000	0.0000	99.78000	8.03E-01	6.52E-02	0.00E+00	4.34E-03	3.59E-02
CM-242	6102.000	6061.172	7.242	10.000	10.000	0.000	4.0092	100.0000	1.83E-02	5.92E-03	1.38E-02	3.20E-02	5.79E-03
CM-3/4	5795.020	5755.885	171.962	9.000	8.280	0.720	4.8510	100.0000	1.33E-02	5.03E-03	1.67E-02	3.78E-02	4.95E-03
CM-5/6	5386.000	5376.556	0.000	6.000	6.000	0.000	6.1294	86.09000	1.11E-02	4.61E-03	2.46E-02	5.41E-02	4.55E-03
CM-247	4946.000	4932.702	103.547	3.000	2.280	0.720	6.3427	79.30000	4.60E-03	3.79E-03	2.76E-02	6.06E-02	3.78E-03
CM-248	5078.600	5058.464	0.000	9.000	9.000	0.000	11.0244	91.00000	1.58E-02	5.38E-03	4.18E-02	8.83E-02	5.27E-03

NOTES:

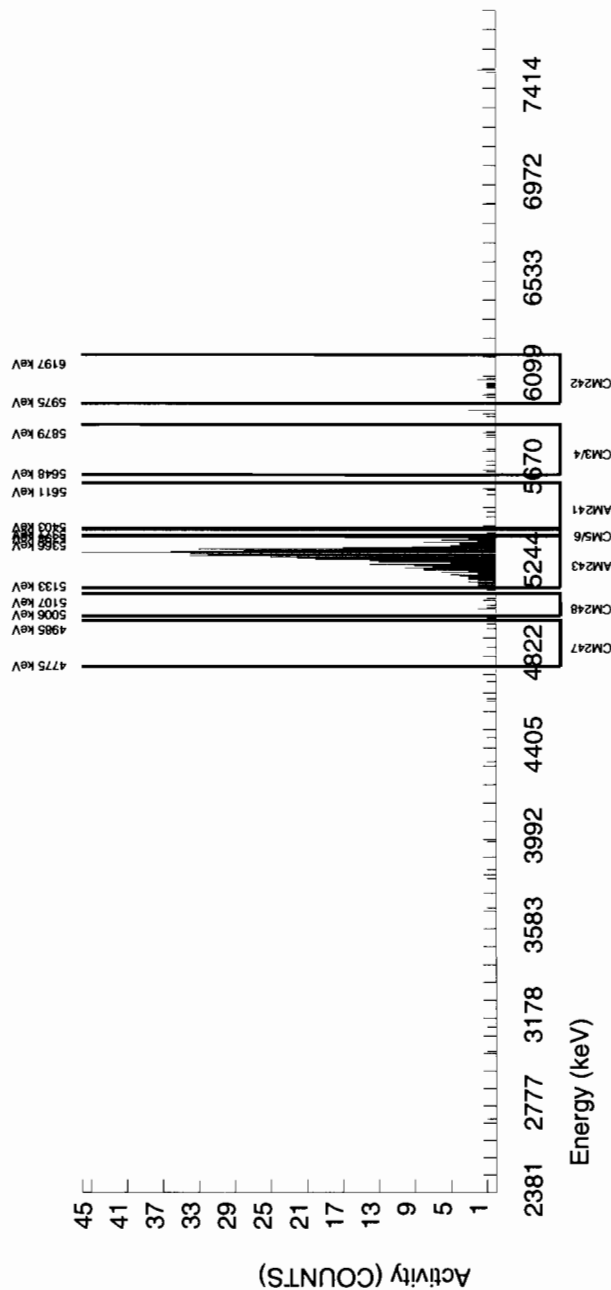
* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

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

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

AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

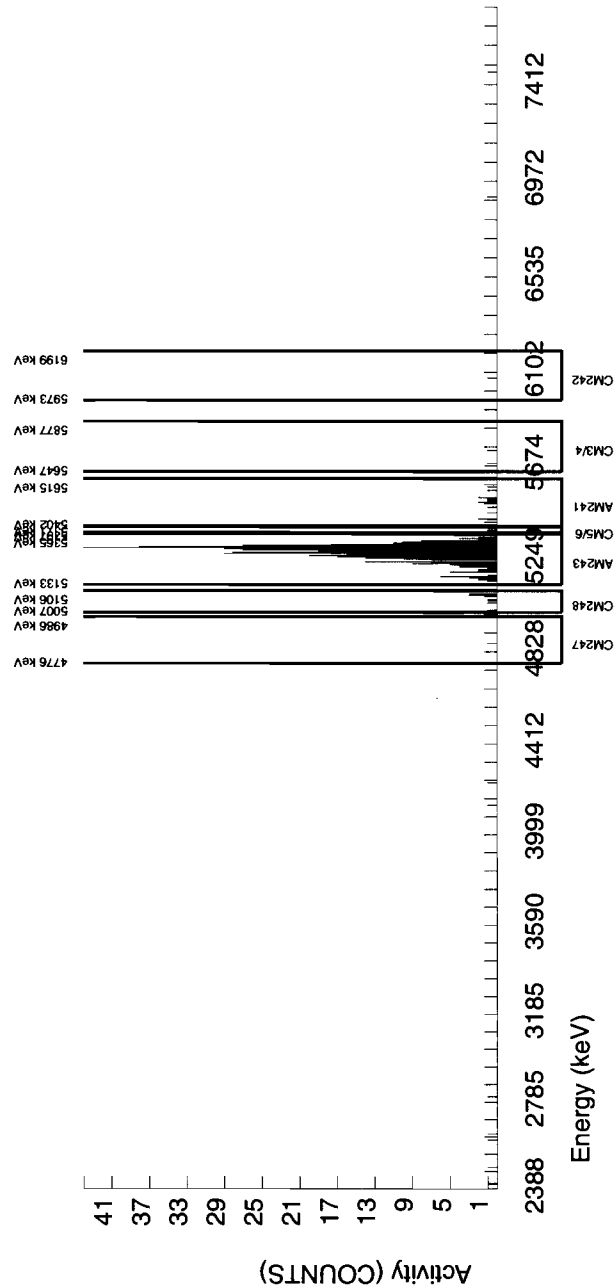
<p>BATCH NUMBER : 967763 SAMPLE ID : S0248051005_AM SAMPLE QTY : 1.258 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 73.142</p>		<p>CHAMBER : 213 DETECTOR S/N : 79192 AVERAGE %EFFICIENCY : 38.2471 COUNT DATE : 23-MAR-2010 17:29:41 ELAPSED LIVE TIME(SEC) : 43200.00</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B213.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W213.CNF:30 CAL DATE : 28-FEB-2010</p>
<p>TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.6642E+00 dpm</p>		<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G</p>

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5506.789	96.048	15.000	12.764	1.440	2.7707	99.94000	2.27E-02	7.12E-03	1.06E-02	2.61E-02	6.95E-03
AM243	5270.000	5284.029	39.447	458.000	457.280	0.720	0.8485	99.78000	8.15E-01	6.82E-02	3.26E-03	1.14E-02	3.82E-02
CM-242	6102.000	6080.728	4.933	1.000	1.000	0.000	4.0092	100.0000	2.04E-03	2.04E-03	1.54E-02	3.56E-02	2.04E-03
CM-3/4	5795.020	5718.949	59.202	2.000	2.000	0.000	4.8510	100.0000	3.57E-03	2.53E-03	1.86E-02	4.20E-02	2.52E-03
CM-5/6	5386.000	5378.313	0.000	11.000	11.000	0.000	6.1294	86.09000	2.27E-02	7.03E-03	2.73E-02	6.02E-02	6.85E-03
CM-247	4946.000	4870.133	4.933	1.000	1.000	0.000	6.3427	79.30000	2.24E-03	2.25E-03	3.07E-02	6.74E-02	2.24E-03
CM-248	5078.600	5080.173	10.586	12.000	12.000	0.000	11.0244	91.00000	2.34E-02	6.98E-03	4.65E-02	9.82E-02	6.77E-03

NOTES:

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



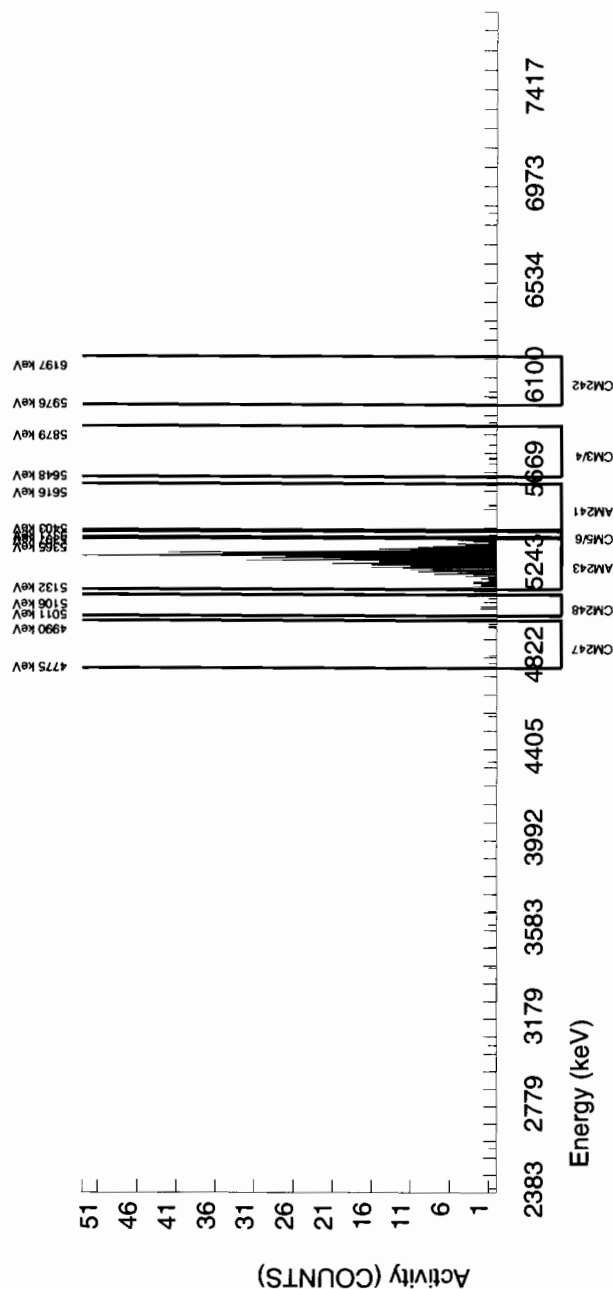
NOTES:

* BKG Sg calculated via blank population.

Sg updated 8-MAR-2010)

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

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

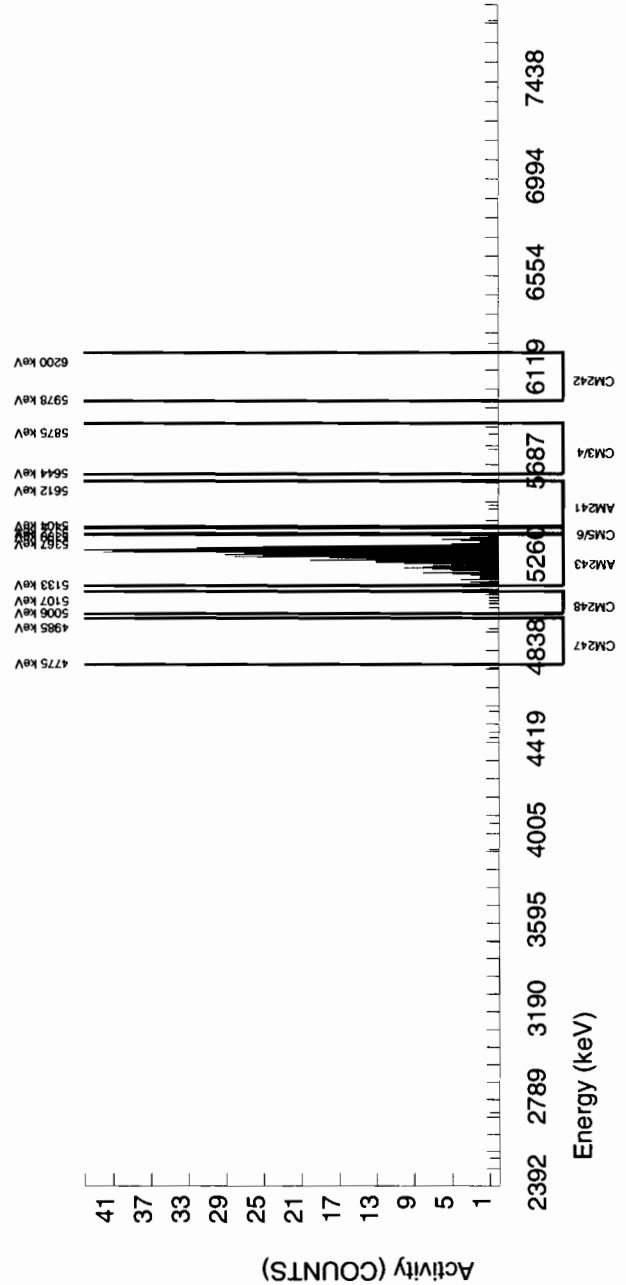


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763 SAMPLE ID : S0248051007_AM SAMPLE QTY : 1.254 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 82.369				CHAMBER : 245 DETECTOR S/N : 79438 AVERAGE %EFFICIENCY : 40.5519 COUNT DATE : 23-MAR-2010 17:29:46 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B245.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W245.CNF:31 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.8742E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5497.353	19.741	2.000	0.330	0.720	2.7707	99.94000	4.93E-04	1.87E-03	8.93E-03	2.19E-02	1.87E-03
AM243	5270.000	5277.832	49.375	546.000	546.000	0.000	0.0000	99.78000	8.17E-01	6.48E-02	0.00E+00	4.06E-03	3.50E-02
CM-242	6102.000	5983.298	4.935	1.000	1.000	0.000	4.0092	100.0000	1.71E-03	1.72E-03	1.29E-02	2.99E-02	1.71E-03
CM-3/4	5795.020	5797.403	69.094	2.000	2.000	0.000	4.8510	100.0000	3.00E-03	2.13E-03	1.56E-02	3.53E-02	2.12E-03
CM-5/6	5386.000	5377.386	0.000	7.000	7.000	0.000	6.1294	86.09000	1.21E-02	4.66E-03	2.29E-02	5.06E-02	4.59E-03
CM-247	4946.000	4864.063	152.995	2.000	2.000	0.000	6.3427	79.30000	3.77E-03	2.68E-03	2.58E-02	5.67E-02	2.66E-03
CM-248	5078.600	5076.744	0.000	9.000	9.000	0.000	11.0244	91.00000	1.48E-02	5.02E-03	3.90E-02	8.25E-02	4.92E-03

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763
SAMPLE ID : S0248051008_AM
SAMPLE QTY : 1.269 G
SAMPLE DATE : 20-FEB-2010 00:00:00
ANALYST : CXM2
% YIELD : 75.932

CHAMBER : 246
DETECTOR S/N : 78912
AVERAGE %EFFICIENCY : 40.4448
COUNT DATE : 23-MAR-2010 17:29:50
ELAPSED LIVE TIME(SEC) : 43200.00

```
LIB FILE      : ENV_ALPHA_AM
BKG FILE     : B246.CNF;91
BKG DATE     : 21-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE     : W246.CNF;32
CAL DATE     : 28-FEB-2010
```

TRACER	:	445-96-2-VV
ID	:	AM243
NUCLIDE	:	2.2753E+00 dpm
NOMINAL	:	1.7277E+00 dpm
RESULTS	:	

MS/MSD	
ID	: 0244-B
NUCLIDE	: AM-241
NOMINAL	: 3.3152E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3152E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG	%ABUN	ACTIVITY	TPU 1-SIGMA	DLG	MDC	UNC
						Sg			pCi/G		pCi/G	pCi/G	pCi/G
AM-241	5479.150	5507.784	16.809	16.000	15.127	0.000	2.7707	99.94000	2.43E-02	6.46E-03	9.60E-03	2.36E-02	6.25E-03
AM243	5270.000	5285.184	32.742	502.000	502.000	0.000	0.0000	99.78000	8.08E-01	6.56E-02	0.00E+00	4.36E-03	3.60E-02
CM-242	6102.000	6037.218	54.282	3.000	3.000	0.000	4.0092	100.0000	5.52E-03	3.21E-03	1.39E-02	3.21E-02	3.19E-03
CM-3/4	5795.020	5861.109	4.935	1.000	1.000	0.000	4.8510	100.0000	1.61E-03	1.61E-03	1.68E-02	3.80E-02	1.61E-03
CM-5/6	5386.000	5379.029	0.000	10.000	10.000	0.000	6.1294	86.09000	1.86E-02	6.03E-03	2.47E-02	5.44E-02	5.90E-03
CM-247	4946.000	4924.417	34.543	2.000	0.560	1.440	6.3427	79.30000	1.13E-03	3.53E-03	2.77E-02	6.09E-02	3.53E-03
CM-248	5078.600	5058.569	7.248	9.000	9.000	0.000	11.0244	91.00000	1.59E-02	5.40E-03	4.20E-02	8.87E-02	5.29E-03

NOTES:

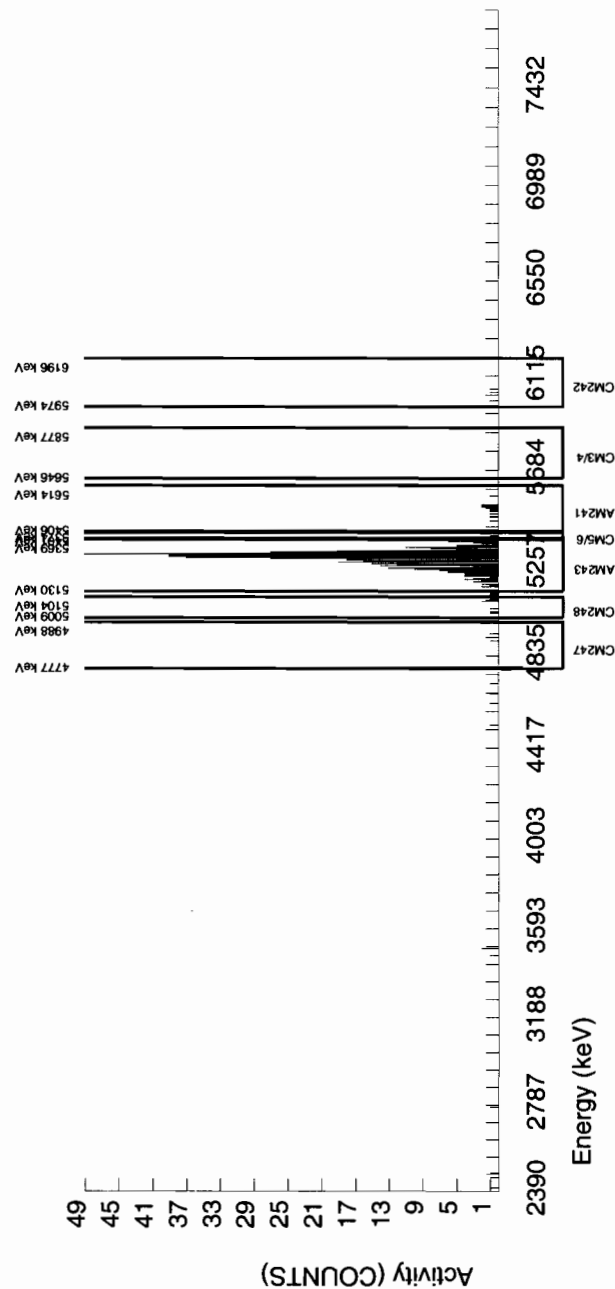
* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

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

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

AM-241



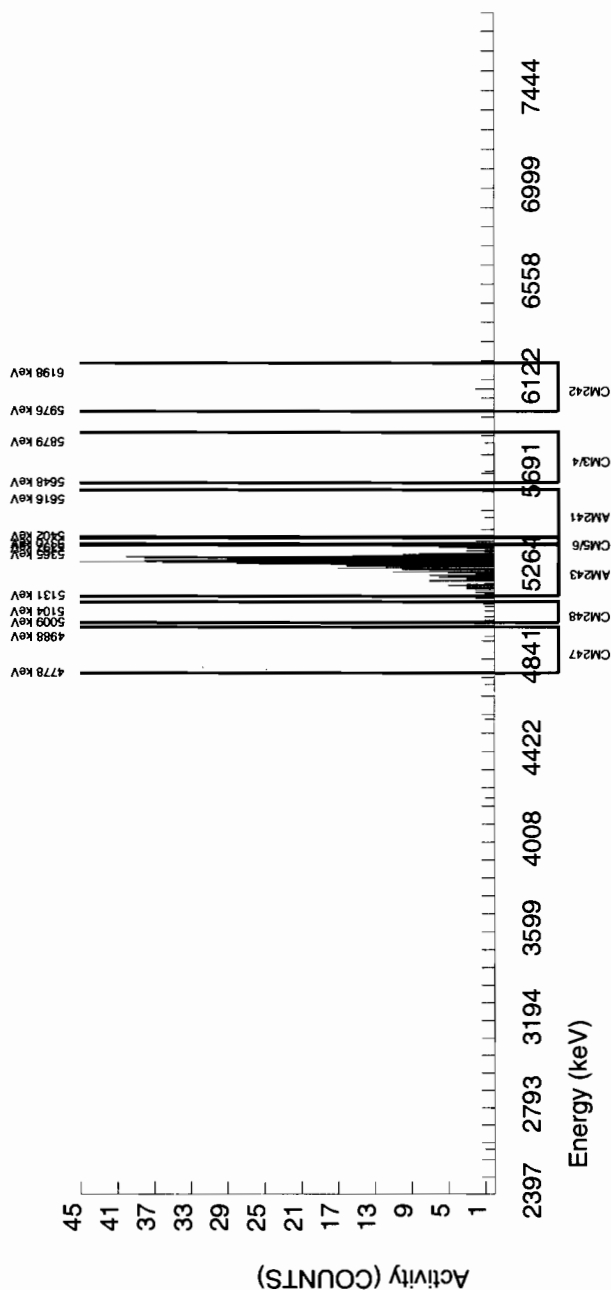
BATCH NUMBER : 967763 SAMPLE ID : S0248051009_AM SAMPLE QTY : 1.291 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 71.720				CHAMBER : 247 DETECTOR S/N : 79440 AVERAGE %EFFICIENCY : 39.7832 COUNT DATE : 23-MAR-2010 17:29:53 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B247.CNF;92 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W247.CNF;31 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.6319E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5492.584	4.925	1.000	-1.971	2.160	2.7707	99.94000	-3.35E-03	2.72E-03	1.02E-02	2.49E-02	2.72E-03
AM243	5270.000	5283.239	35.449	470.000	466.400	3.600	1.8974	99.78000	7.94E-01	6.62E-02	6.97E-03	1.85E-02	3.70E-02
CM-242	6102.000	6069.922	4.925	3.000	3.000	0.000	4.0092	100.0000	5.84E-03	3.39E-03	1.47E-02	3.40E-02	3.37E-02
CM-3/4	5795.020	5771.295	123.122	2.000	2.000	0.000	4.8510	100.0000	3.41E-03	2.42E-03	1.78E-02	4.02E-02	2.41E-03
CM-5/6	5386.000	5379.670	0.000	12.000	12.000	0.000	6.1294	86.09000	2.37E-02	7.03E-03	2.61E-02	5.75E-02	6.83E-03
CM-247	4946.000	4951.306	4.925	1.000	-0.440	1.440	6.3427	79.30000	-9.42E-04	3.06E-03	2.93E-02	6.44E-02	3.06E-03
CM-248	5078.600	5050.079	0.000	7.000	7.000	0.000	11.0244	91.00000	1.31E-02	5.02E-03	4.44E-02	9.38E-02	4.94E-03

NOTES:

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

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

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



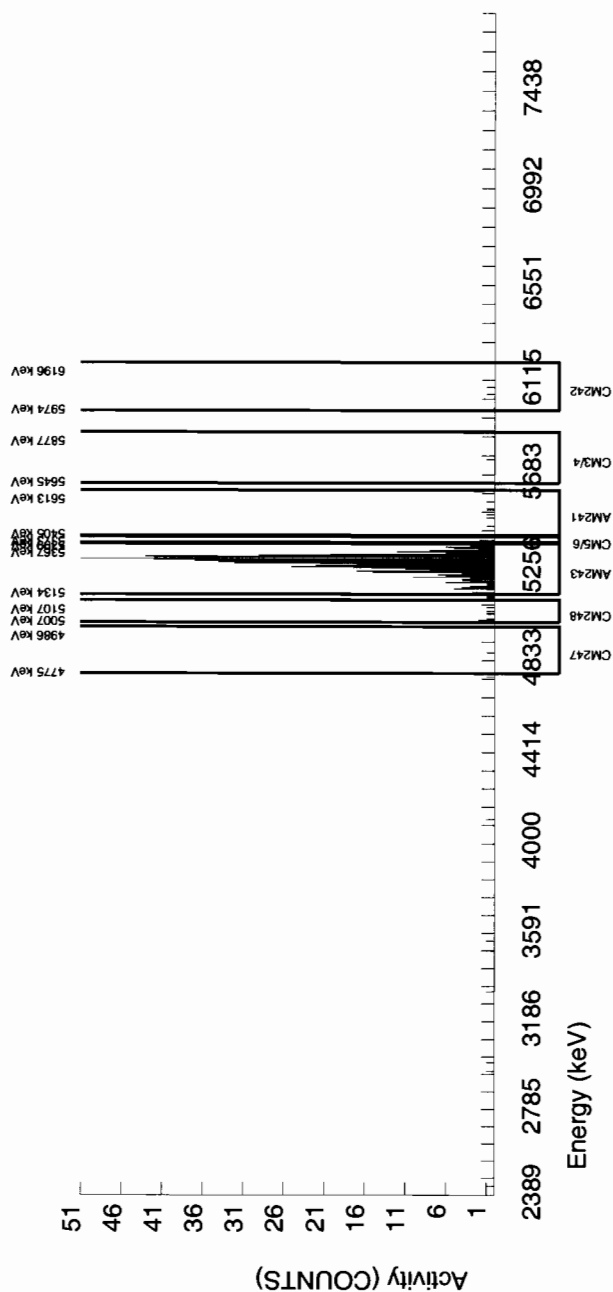
BATCH NUMBER : 967763 SAMPLE ID : S0248051010_AM SAMPLE QTY : 1.278 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 86.601				CHAMBER : 248 DETECTOR S/N : 79441 AVERAGE %EFFICIENCY : 40.4154 COUNT DATE : 23-MAR-2010 17:29:55 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B248.CNF:94 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W248.CNF:31 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.9705E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5513.083	108.274	7.000	4.565	1.440	2.7707	99.94000	6.39E-03	3.74E-03	8.37E-03	2.05E-02	3.71E-03
AM-243	5270.000	5283.434	38.306	575.000	572.120	2.880	1.6971	99.78000	8.02E-01	6.28E-02	5.13E-03	1.41E-02	3.37E-02
CM-242	6102.000	6044.459	93.509	3.000	3.000	0.000	4.0092	100.0000	4.81E-03	2.79E-03	1.21E-02	2.80E-02	2.78E-03
CM-3/4	5795.020	5766.384	19.686	2.000	-0.880	2.880	4.8510	100.0000	-1.23E-03	2.83E-03	1.46E-02	3.31E-02	2.83E-03
CM-5/6	5386.000	5381.269	12.714	10.000	10.000	0.000	6.1294	86.09000	1.62E-02	5.25E-03	2.15E-02	4.74E-02	5.14E-03
CM-247	4946.000	4830.098	88.588	2.000	1.280	0.720	6.3427	79.30000	2.26E-03	2.80E-03	2.41E-02	5.30E-02	2.80E-03
CM-248	5078.600	5051.559	7.229	8.000	6.560	1.440	11.0244	91.00000	1.01E-02	4.67E-03	3.66E-02	7.73E-02	4.62E-03

NOTES:

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

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

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 967763 SAMPLE ID : S0248051011_AM SAMPLE QTY : 1.254 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 88.297</p>		<p>CHAMBER : 249 DETECTOR S/N : 79442 AVERAGE %EFFICIENCY : 39.6696 COUNT DATE : 23-MAR-2010 17:29:58 ELAPSED LIVE TIME(SEC) : 43200.00</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B249.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W249.CNF:33 CAL DATE : 28-FEB-2010</p>
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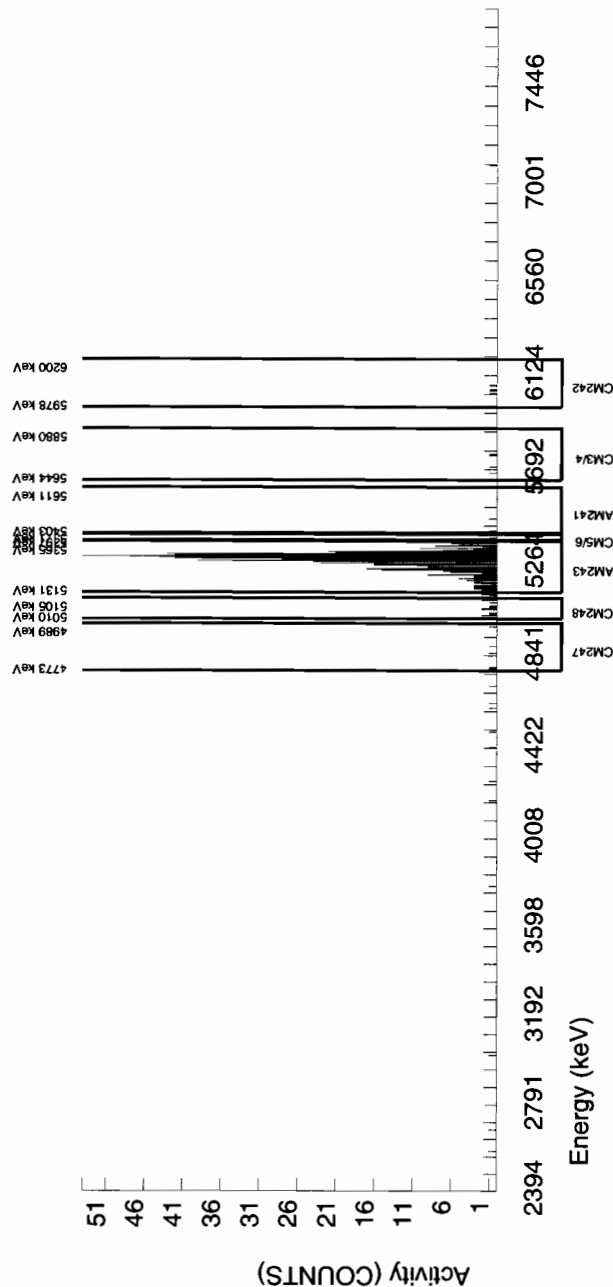
<p>TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 2.0090E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G</p>
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5445.415	54.255	2.000	1.004	0.000	2.7707	99.94000	1.43E-03	1.43E-03	8.52E-03	2.09E-02	1.43E-03
AM243	5270.000	5282.208	37.120	574.000	572.560	1.440	1.2000	99.78000	8.17E-01	6.40E-02	3.70E-03	1.13E-02	3.42E-02
CM-242	6102.000	6067.446	39.458	5.000	5.000	0.000	4.0092	100.0000	8.16E-03	3.69E-03	1.23E-02	2.85E-02	3.65E-03
CM-3/4	5795.020	5729.462	83.849	4.000	2.560	1.440	4.8510	100.0000	3.66E-03	3.22E-03	1.49E-02	3.37E-02	3.21E-03
CM-5/6	5386.000	5379.431	7.809	11.000	11.000	0.000	6.1294	86.09000	1.82E-02	5.62E-03	2.19E-02	4.82E-02	5.49E-03
CM-247	4946.000	4860.990	181.878	5.000	3.560	1.440	6.3427	79.30000	6.39E-03	4.43E-03	2.46E-02	5.40E-02	4.41E-03
CM-248	5078.600	5062.224	68.949	13.000	12.280	0.720	11.0244	91.00000	1.92E-02	5.89E-03	3.72E-02	7.87E-02	5.75E-03

NOTES:

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

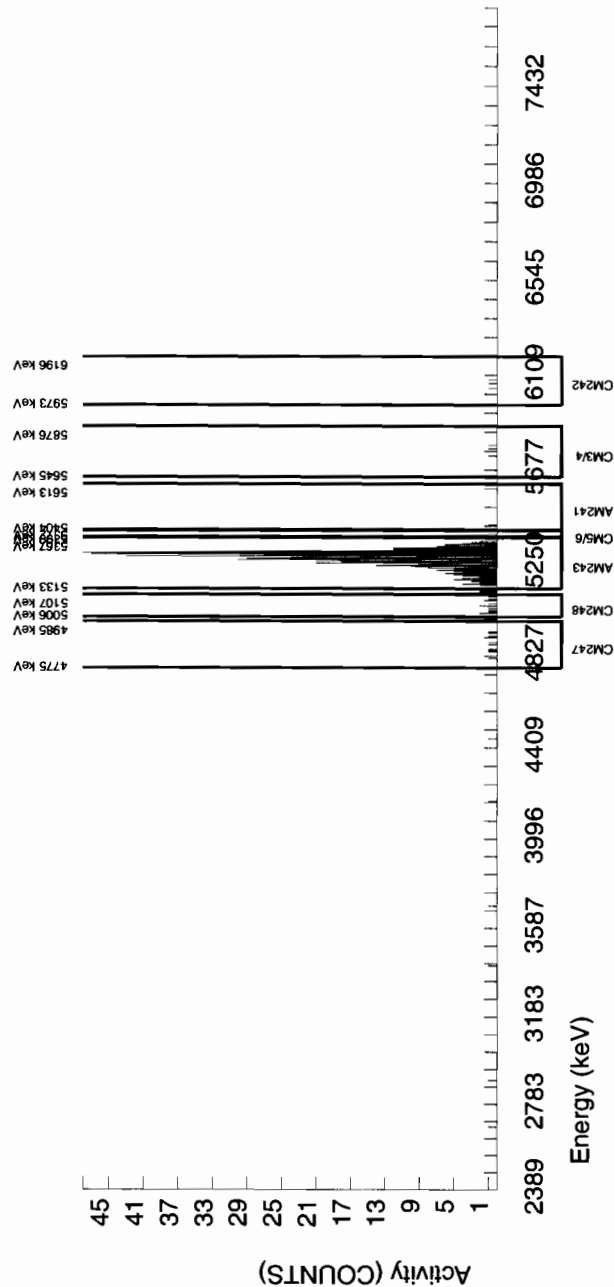


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763 SAMPLE ID : S0248051012_AM SAMPLE QTY : 1.263 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 81.834				CHAMBER : 250 DETECTOR S/N : 79443 AVERAGE %EFFICIENCY : 40.2400 COUNT DATE : 23-MAR-2010 17:30:00 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B250.CNF;91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W250.CNF;31 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.8620E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5430.742	4.906	1.000	-0.657	0.720	2.7707	99.94000	-9.88E-04	1.86E-03	9.00E-03	2.21E-02	1.85E-03
AM243	5270.000	5277.793	42.287	539.000	538.280	0.720	0.8485	99.78000	8.11E-01	6.46E-02	2.76E-03	9.61E-03	3.50E-02
CM-242	6102.000	6051.852	103.033	4.000	4.000	0.000	4.0092	100.0000	6.89E-03	3.48E-03	1.30E-02	3.01E-02	3.45E-03
CM-3/4	5795.020	5773.716	49.063	3.000	3.000	0.000	4.8510	100.0000	4.53E-03	2.63E-03	1.57E-02	3.56E-02	2.61E-03
CM-5/6	5386.000	5377.419	0.000	6.000	6.000	0.000	6.1294	86.09000	1.05E-02	4.34E-03	2.31E-02	5.09E-02	4.28E-03
CM-247	4946.000	4884.496	117.752	11.000	11.000	0.000	6.3427	79.30000	2.09E-02	6.44E-03	2.60E-02	5.71E-02	6.29E-03
CM-248	5078.600	5055.475	34.242	12.000	12.000	0.000	11.0244	91.00000	1.98E-02	5.88E-03	3.93E-02	8.31E-02	5.73E-03

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763
SAMPLE ID : S0248051013_AM
SAMPLE QTY : 1.275 G
SAMPLE DATE : 20-FEB-2010 00:00:00
ANALYST : CXM2
% YIELD : 81.944

CHAMBER : 251
DETECTOR S/N : 79444
AVERAGE %EFFICIENCY : 40.4400
COUNT DATE : 23-MAR-2010 17:30:03
ELAPSED LIVE TIME(SEC) : 43200.00

```
LIB FILE      : ENV_ALPHA_AM
BKG FILE     : B251.CNF;91
BKG DATE     : 21-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE     : W251.CNF;31
CAL DATE     : 28-FEB-2010
```

TRACER	ID	: 445-96-2-VV
	NUCLIDE	: AM243
	NOMINAL	: 2.2753E+00 dpm
	RESULTS	: 1.8645E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3152E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3152E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLG pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5495.681	118.539	5.000	3.338	0.720	2.7707	99.94000	4.95E-03	3.19E-03	8.86E-03	2.17E-02	3.17E-03
AM243	5270.000	5279.059	53.753	546.000	541.680	4.320	2.0785	99.78000	8.04E-01	6.41E-02	6.65E-03	1.73E-02	3.48E-02
CM-242	6102.000	6047.614	108.661	4.000	4.000	0.000	4.0092	100.0000	6.79E-03	3.42E-03	1.28E-02	2.96E-02	3.39E-03
CM-3/4	5795.020	5740.126	88.904	3.000	2.280	0.720	4.8510	100.0000	3.39E-03	2.80E-03	1.55E-02	3.50E-02	2.79E-03
CM-5/6	5386.000	5377.345	0.000	5.000	5.000	0.000	6.1294	86.09000	8.60E-03	3.89E-03	2.27E-02	5.01E-02	3.85E-03
CM-247	4946.000	4900.010	0.000	8.000	4.400	3.600	6.3427	79.30000	8.22E-03	6.10E-03	2.56E-02	5.62E-02	6.08E-03
CM-248	5078.600	5056.089	61.636	18.000	18.000	0.000	11.0244	91.00000	2.93E-02	7.18E-03	3.87E-02	8.18E-02	6.90E-03

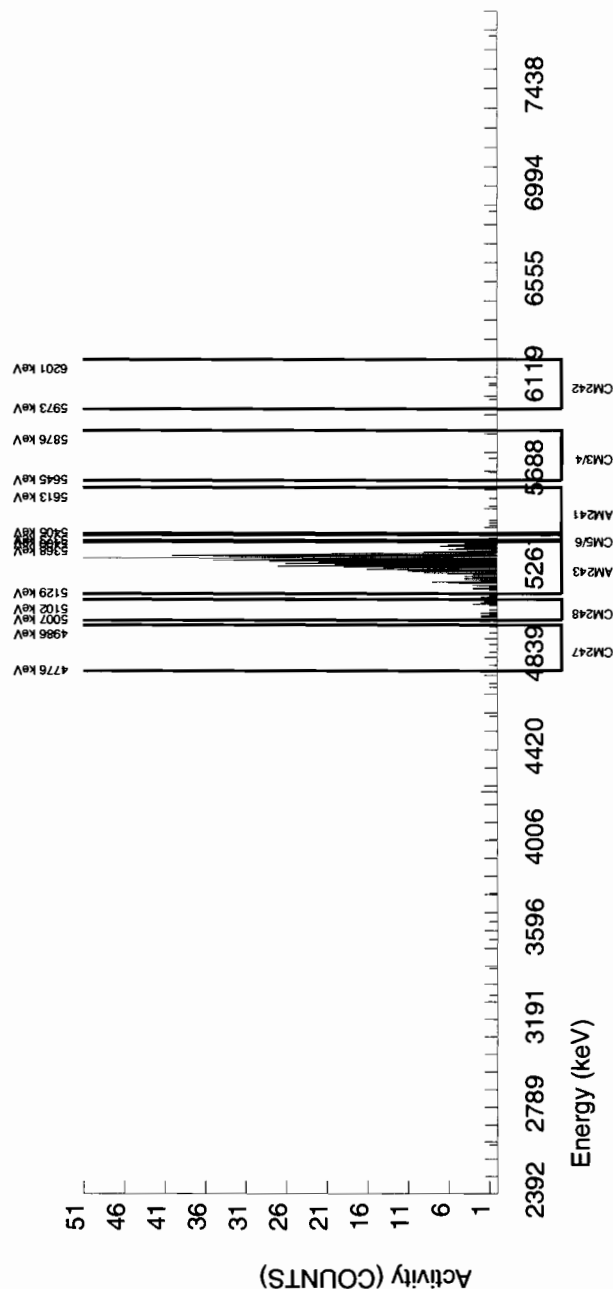
NOTES:

* BKG S_q calculated via blank population.

(Sg updated 8-MAR-2010)

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

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



BATCH NUMBER : 967763				CHAMBER : 252				LIB FILE : ENV_ALPHA_AM					
SAMPLE ID : S0248051014_AM				DETECTOR S/N : 79445				BKG FILE : B252.CNF:91					
SAMPLE QTY : 1.268 G				AVERAGE %EFFICIENCY : 39.1229				BKG DATE : 21-MAR-2010					
SAMPLE DATE : 20-FEB-2010 00:00:00				COUNT DATE : 23-MAR-2010 17:30:06				BKG LIVE TIME(SEC) : 60000.00					
ANALYST : CXM2				ELAPSED LIVE TIME(SEC) : 43200.00				EFF FILE : W252.CNF:31					
% YIELD : 85.109								CAL DATE : 28-FEB-2010					
TRACER				MS/MSD				LCS/LCSD					
ID : 445-96-2-VV				ID : 0244-B				ID : 0244-B					
NUCLIDE : AM243				NUCLIDE : AM-241				NUCLIDE : AM-241					
NOMINAL : 2.2753E+00 dpm				NOMINAL : 3.3152E+01 pCi/G				NOMINAL : 3.3152E+01 pCi/G					
RESULTS : 1.9365E+00 dpm													
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5504.854	64.213	4.000	3.053	0.000	2.7707	99.94000	4.53E-03	2.61E-03	8.86E-03	2.17E-02	2.59E-03
AM-243	5270.000	5278.391	42.860	545.000	544.280	0.720	0.8485	99.78000	8.08E-01	6.42E-02	2.72E-03	9.46E-03	3.47E-02
CM-242	6102.000	6050.705	34.576	3.000	3.000	0.000	4.0092	100.0000	5.09E-03	2.96E-03	1.28E-02	2.96E-02	2.94E-03
CM-3/4	5795.020	5757.702	118.546	4.000	4.000	0.000	4.8510	100.0000	5.95E-03	3.00E-03	1.55E-02	3.50E-02	2.97E-03
CM-5/6	5386.000	5375.651	0.000	4.000	4.000	0.000	6.1294	86.09000	6.88E-03	3.47E-03	2.28E-02	5.02E-02	3.44E-03
CM-247	4946.000	4879.762	0.000	7.000	7.000	0.000	6.3427	79.30000	1.31E-02	5.02E-03	2.56E-02	5.62E-02	4.94E-03
CM-248	5078.600	5055.170	0.000	14.000	14.000	0.000	11.0244	91.00000	2.28E-02	6.28E-03	3.87E-02	8.19E-02	6.09E-03

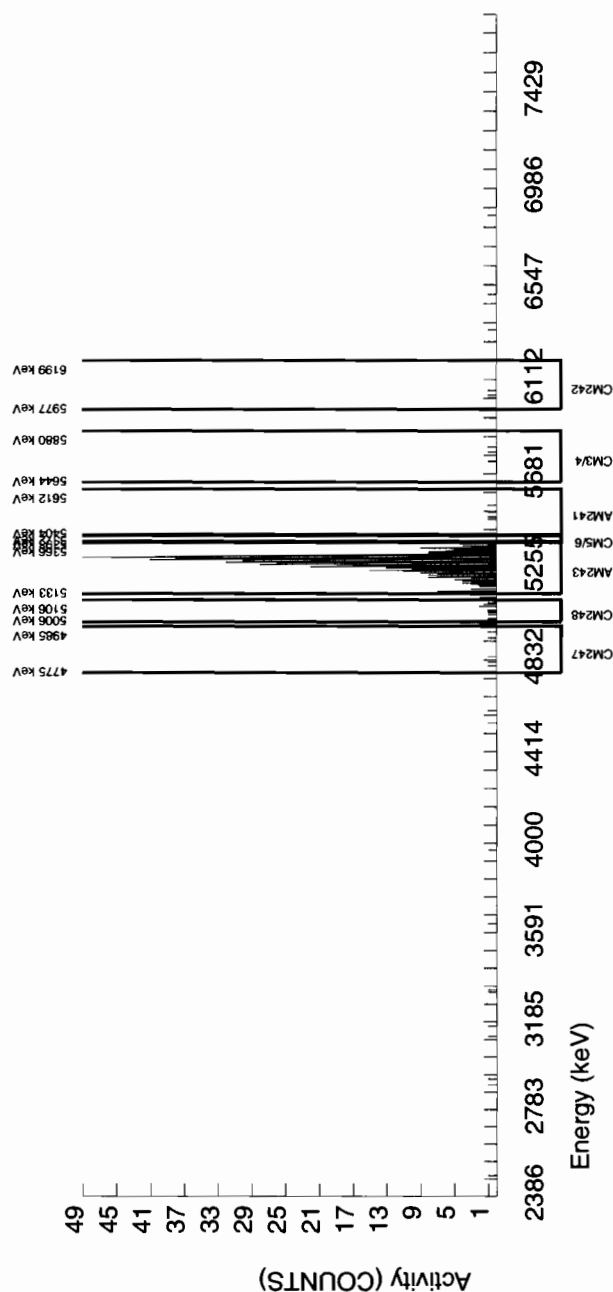
NOTES:

* BKG Sq calculated via blank population.

Price by category via Sg (Sg updated 8-MAR-2010)

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

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



BATCH NUMBER : 967763			CHAMBER : 253			LIB FILE : ENV_ALPHA_AM		
SAMPLE ID : S0248051015_AM			DETECTOR S/N : 79446			BKG FILE : B253.CNF:93		
SAMPLE QTY : 1.259 G			AVERAGE %EFFICIENCY : 39.9556			BKG DATE : 21-MAR-2010		
SAMPLE DATE : 20-FEB-2010 00:00:00			COUNT DATE : 23-MAR-2010 17:30:08			BKG LIVE TIME(SEC) : 60000.00		
ANALYST : CXM2			ELAPSED LIVE TIME(SEC) : 43200.00			EFF FILE : W253.CNF:30		
% YIELD : 89.888						CAL DATE : 28-FEB-2010		
TRACER			MS/MSD			LCS/LCSD		
ID : 445-96-2-VV			ID : 0244-B			ID : 0244-B		
NUCLIDE : AM243			NUCLIDE : AM-241			NUCLIDE : AM-241		
NOMINAL : 2.2753E+00 dpm			NOMINAL : 3.3152E+01 pCi/G			NOMINAL : 3.3152E+01 pCi/G		
RESULTS : 2.0452E+00 dpm								
NUCLIDE ACTIVITY SUMMARY								
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN
AM-241	5479.150	5523.250	9.853	12.000	3.779	7.200	2.7707	99.94000
AM-243	5270.000	5277.795	43.731	595.000	587.080	7.920	2.8142	99.78000
CM-242	6102.000	6036.214	49.263	4.000	4.000	4.0092	100.0000	6.34E-03
CM-3/4	5795.020	5751.161	93.601	5.000	-4.360	9.360	4.8510	100.0000
CM-5/6	5386.000	5375.811	0.000	7.000	6.280	0.720	6.1294	86.09000
CM-247	4946.000	4948.024	59.116	4.000	-4.640	8.640	6.3427	79.30000
CM-248	5078.600	5060.014	0.000	19.000	16.120	2.880	11.0244	91.00000
								ACTIVITY pCi/G
								TPU 1-SIGMA
								DLC pCi/G
								MDC pCi/G
								UNC pCi/G
								5.57E-03
								3.40E-02
								3.17E-03
								4.76E-03
								4.41E-03
								5.58E-03
								6.98E-03

NOTES:

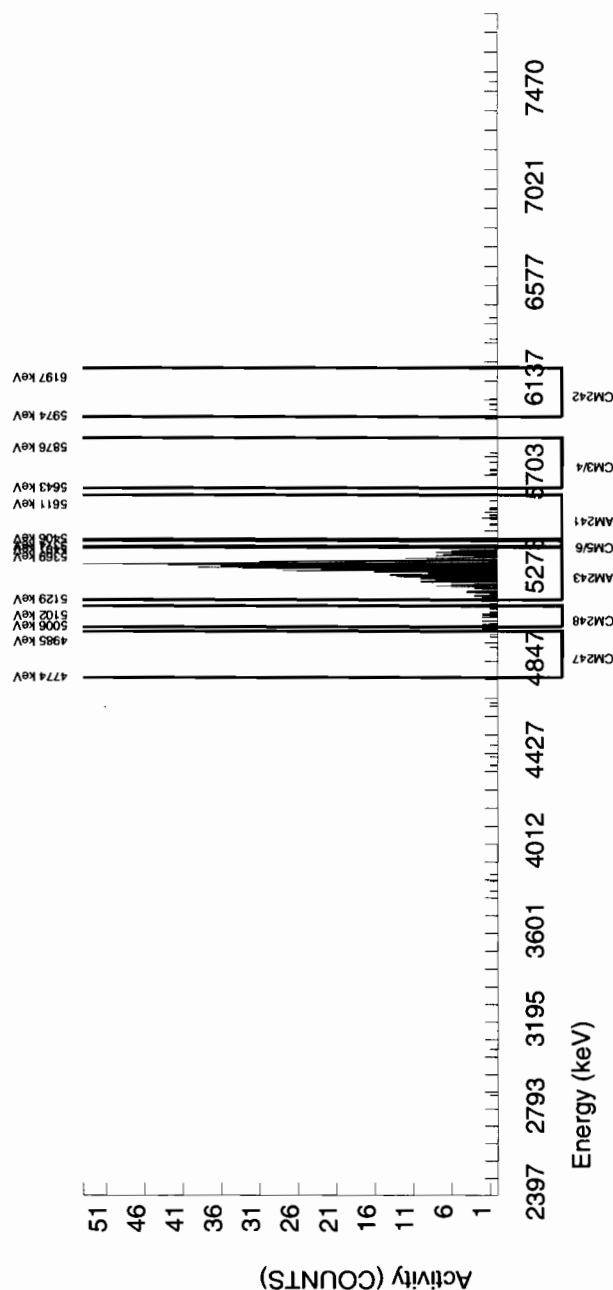
* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

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

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

AM-241



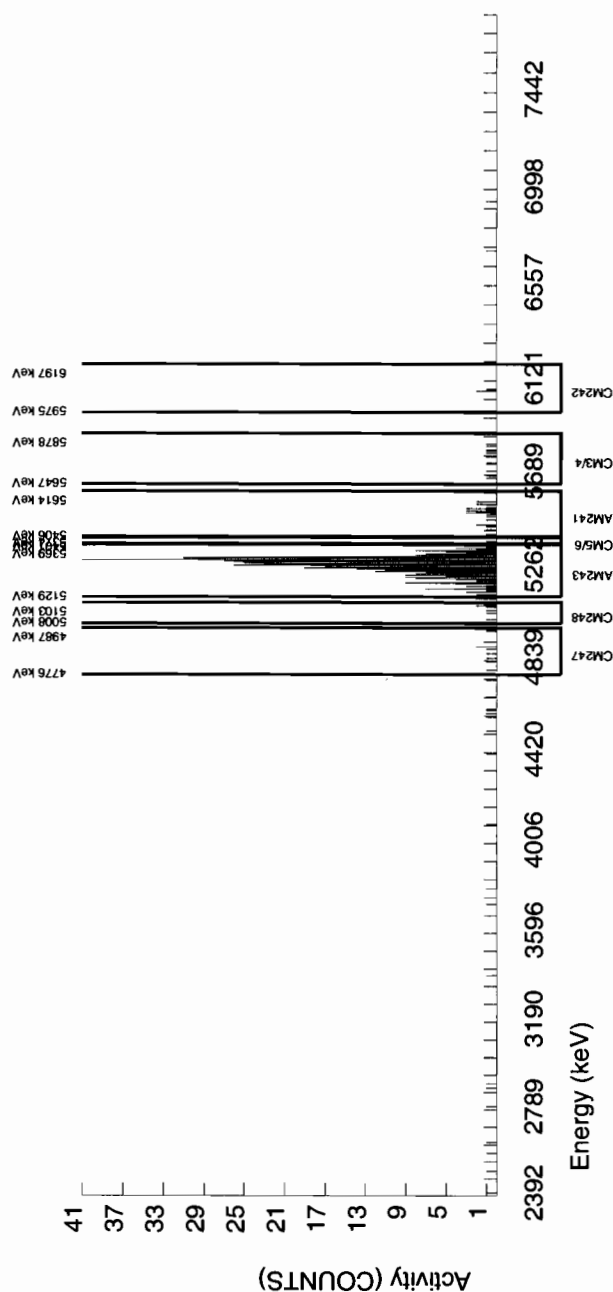
BATCH NUMBER : 967763 SAMPLE ID : S0248051016_AM SAMPLE QTY : 1.296 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 68.575				CHAMBER : 254 DETECTOR S/N : 79447 AVERAGE %EFFICIENCY : 40.1306 COUNT DATE : 23-MAR-2010 17:30:11 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B254.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W254.CNF:30 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.5603E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5512.470	102.256	28.000	26.497	0.720	2.7707	99.94000	4.65E-02	9.80E-03	1.05E-02	2.57E-02	9.25E-03
AM-243	5270.000	5278.529	40.523	452.000	449.840	2.160	1.4697	99.78000	7.91E-01	6.66E-02	5.57E-03	1.59E-02	3.74E-02
CM-242	6102.000	6081.926	7.249	4.000	4.000	0.000	4.0092	100.0000	8.04E-03	4.06E-03	1.52E-02	3.51E-02	4.02E-03
CM-3/4	5795.020	5750.253	172.740	13.000	13.000	0.000	4.8510	100.0000	2.29E-02	6.54E-03	1.84E-02	4.15E-02	6.35E-03
CM-5/6	5386.000	5383.454	0.000	5.000	4.280	0.720	6.1294	86.09000	8.72E-03	4.83E-03	2.69E-02	5.94E-02	4.79E-03
CM-247	4946.000	4892.621	4.935	11.000	8.120	2.880	6.3427	79.30000	1.80E-02	8.10E-03	3.03E-02	6.65E-02	8.00E-03
CM-248	5078.600	5056.620	7.249	8.000	5.840	2.160	11.0244	91.00000	1.13E-02	6.01E-03	4.58E-02	9.69E-02	5.96E-03

NOTES:

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

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

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

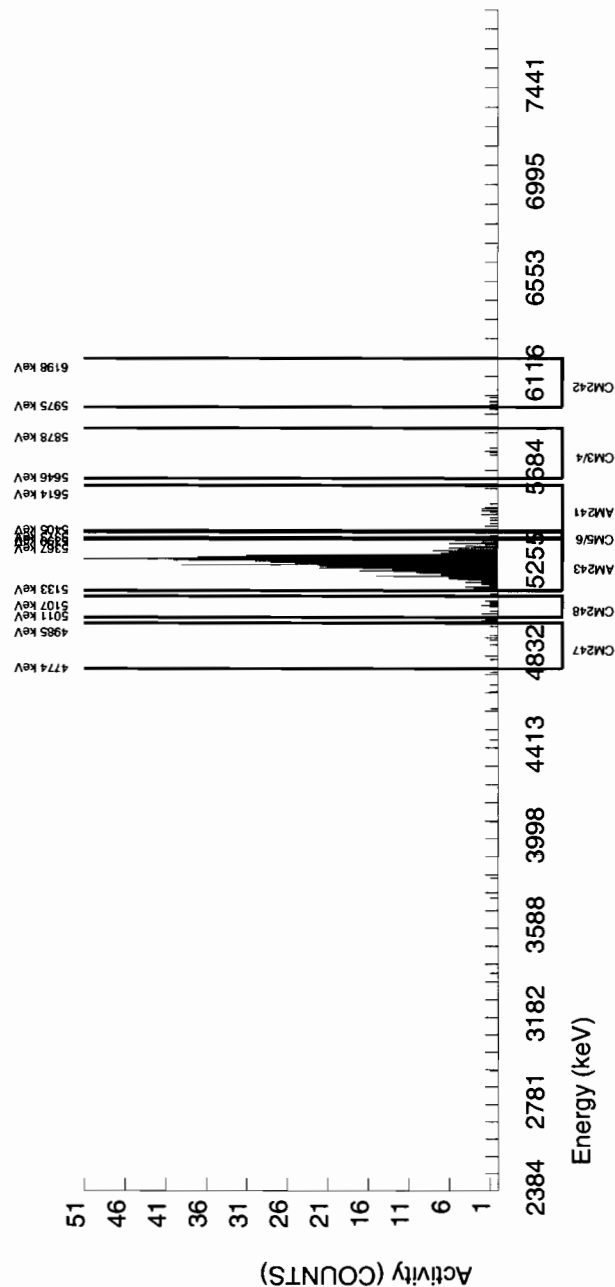


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763 SAMPLE ID : S0248051017_AM SAMPLE QTY : 1.291 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 87.381				CHAMBER : 255 DETECTOR S/N : 79448 AVERAGE %EFFICIENCY : 40.4666 COUNT DATE : 23-MAR-2010 17:30:15 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B255.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W255.CNF:30 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.9882E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5490.295	29.578	11.000	9.994	0.000	2.7707	99.94000	1.37E-02	4.43E-03	8.20E-03	2.01E-02	4.34E-03
AM243	5270.000	5263.231	44.779	578.000	578.000	0.000	0.0000	99.78000	7.94E-01	6.19E-02	0.00E+00	3.72E-03	3.30E-02
CM-242	6102.000	6001.063	44.367	5.000	5.000	0.000	4.0092	100.0000	7.85E-03	3.55E-03	1.19E-02	2.74E-02	3.51E-03
CM-3/4	5795.020	5773.275	34.507	3.000	3.000	0.000	4.8510	100.0000	4.13E-03	2.40E-03	1.43E-02	3.24E-02	2.38E-03
CM-5/6	5386.000	5383.344	14.789	2.000	2.000	0.000	6.1294	86.09000	3.18E-03	2.26E-03	2.11E-02	4.64E-02	2.25E-03
CM-247	4946.000	4905.543	147.889	5.000	5.000	0.000	6.3427	79.30000	8.64E-03	3.91E-03	2.36E-02	5.20E-02	3.86E-03
CM-248	5078.600	5065.503	0.000	12.000	12.000	0.000	11.0244	91.00000	1.81E-02	5.35E-03	3.58E-02	7.57E-02	5.22E-03

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763 SAMPLE ID : S0248051018_AM SAMPLE QTY : 1.272 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 86.381				CHAMBER : 256 DETECTOR S/N : 79449 AVERAGE %EFFICIENCY : 40.3572 COUNT DATE : 23-MAR-2010 17:30:17 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B256.CNF;93 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W256.CNF;30 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.9654E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5479.252	137.157	5.000	2.569	1.440	2.7707	99.94000	3.63E-03	3.18E-03	8.44E-03	2.07E-02	3.17E-03
AM243	5270.000	5271.631	35.320	572.000	569.840	2.160	1.4697	99.78000	8.06E-01	6.32E-02	4.48E-03	1.28E-02	3.39E-02
CM-242	6102.000	6030.880	4.920	7.000	7.000	0.000	4.0092	100.0000	1.13E-02	4.34E-03	1.22E-02	2.82E-02	4.28E-03
CM-3/4	5795.020	5745.111	4.920	8.000	6.560	1.440	4.8510	100.0000	9.29E-03	4.30E-03	1.48E-02	3.34E-02	4.26E-03
CM-5/6	5386.000	5373.628	0.000	6.000	6.000	0.000	6.1294	86.09000	9.83E-03	4.07E-03	2.17E-02	4.78E-02	4.01E-03
CM-247	4946.000	4884.802	0.000	15.000	14.280	0.720	6.3427	79.30000	2.54E-02	7.21E-03	2.43E-02	5.35E-02	7.01E-03
CM-248	5078.600	5067.249	58.942	15.000	15.000	0.000	11.0244	91.00000	2.33E-02	6.20E-03	3.69E-02	7.80E-02	6.00E-03

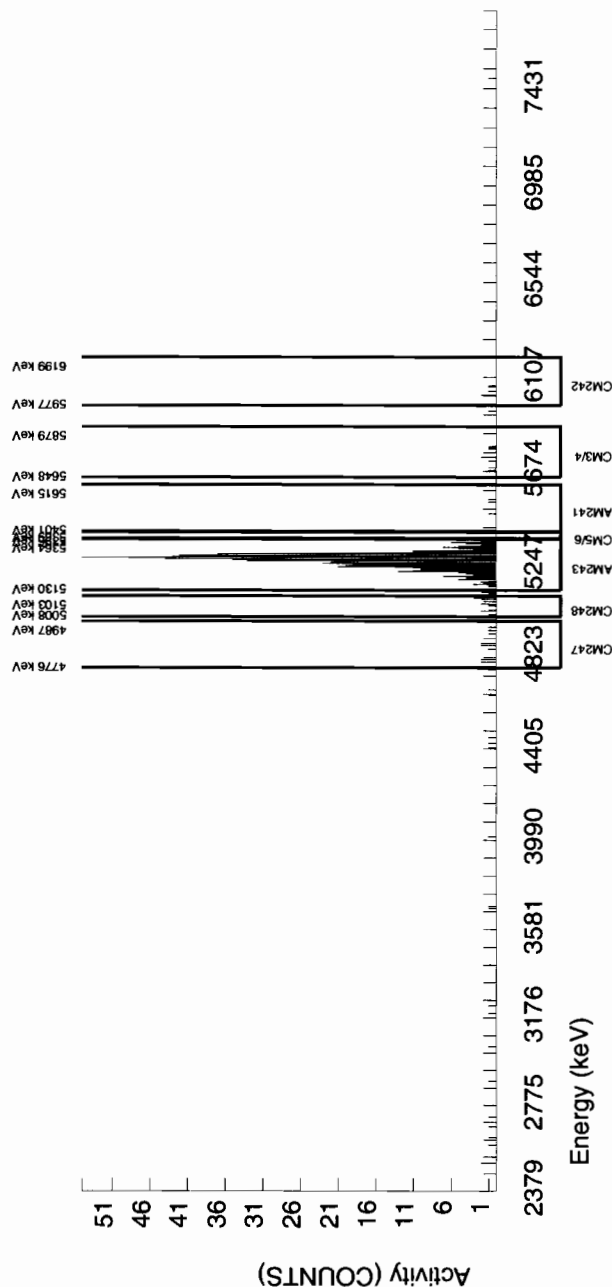
NOTES:

* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

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

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



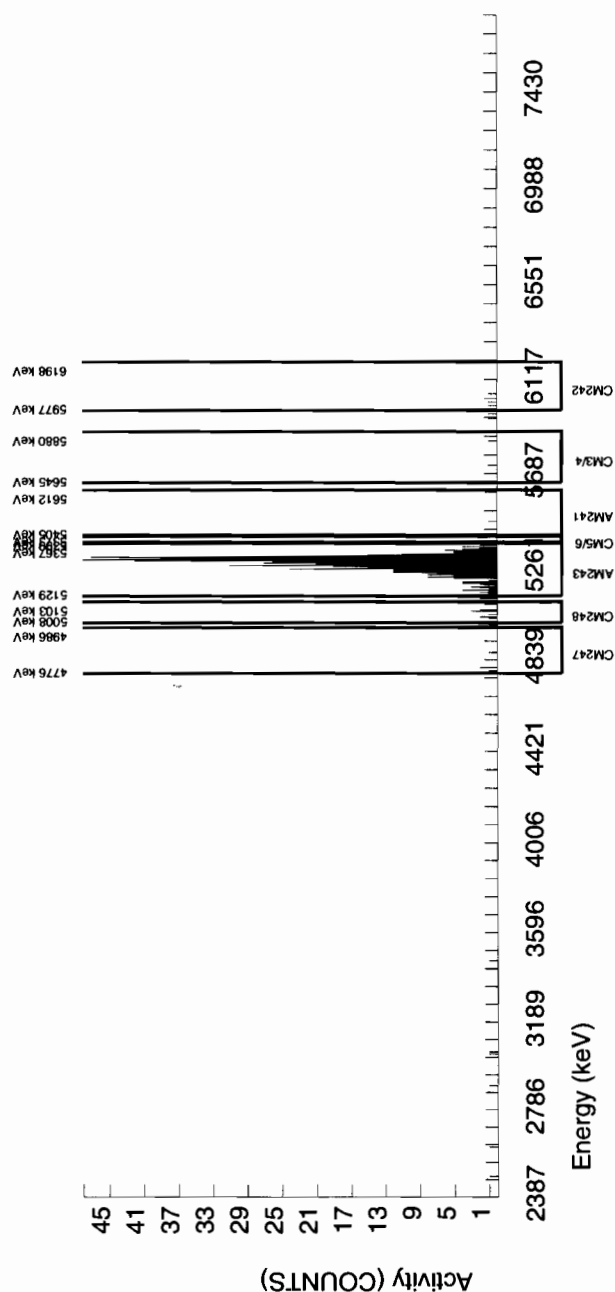
BATCH NUMBER : 967763 SAMPLE ID : S1202077308_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : CXM2 % YIELD : 80.070				CHAMBER : 221 DETECTOR S/N : 79414 AVERAGE %EFFICIENCY : 39.7297 COUNT DATE : 23-MAR-2010 21:41:33 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B221.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W221.CNF:30 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.8218E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3148E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3148E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5473.813	4.965	1.000	-3.505	3.600	2.7707	99.94000	-6.90E-03	3.73E-03	1.18E-02	2.89E-02	3.73E-03
AM243	5270.000	5281.126	43.828	520.000	520.000	0.000	0.000	99.78000	1.02E+00	8.24E-02	0.00E+00	5.34E-03	4.49E-02
CM-242	6102.000	6027.249	54.617	3.000	3.000	0.000	4.0092	100.0000	5.95E-03	3.46E-03	1.70E-02	3.94E-02	3.44E-02
CM-3/4	5795.020	5786.344	109.234	2.000	-0.880	2.880	4.8510	100.0000	-1.73E-03	3.97E-03	2.06E-02	4.65E-02	3.97E-03
CM-5/6	5386.000	5375.699	0.000	9.000	8.280	0.720	6.1294	86.09000	1.89E-02	7.16E-03	3.02E-02	6.66E-02	7.05E-03
CM-247	4946.000	4825.476	4.965	5.000	5.000	0.000	6.3427	79.30000	1.24E-02	5.61E-03	3.39E-02	7.46E-02	5.55E-03
CM-248	5078.600	5059.411	33.050	12.000	12.000	0.000	11.0244	91.00000	2.59E-02	7.69E-03	5.14E-02	1.09E-01	7.49E-03

NOTES:

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

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

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

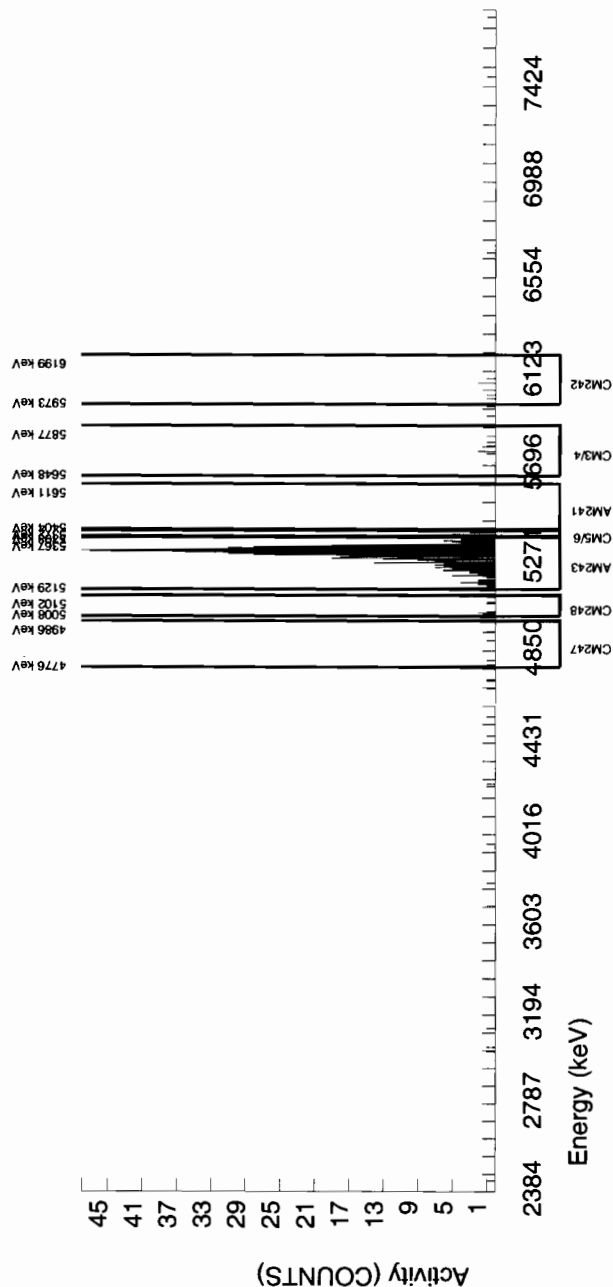


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 967763 SAMPLE ID : S1202077309_AM SAMPLE QTY : 1.253 G SAMPLE DATE : 20-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 80.126				CHAMBER : 222 DETECTOR S/N : 79415 AVERAGE %EFFICIENCY : 38.9602 COUNT DATE : 23-MAR-2010 21:41:36 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B222.CNF.91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W222.CNF.30 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.8231E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5406.325	0.000	2.000	1.112	0.000	2.7707	99.94000	1.78E-03	1.69E-03	9.57E-03	2.35E-02	1.69E-03
AM243	5270.000	5292.398	38.581	511.000	510.280	0.720	0.8485	99.78000	8.18E-01	6.62E-02	2.93E-03	1.02E-02	3.63E-02
CM-242	6102.000	6054.829	5.025	5.000	5.000	0.000	4.0092	100.00000	9.17E-03	4.15E-03	1.38E-02	3.20E-02	4.10E-03
CM-3/4	5795.020	5786.485	5.025	6.000	4.560	1.440	4.8510	100.00000	7.32E-03	4.29E-03	1.67E-02	3.78E-02	4.26E-03
CM-5/6	5386.000	5387.777	8.159	9.000	9.000	0.000	6.1294	86.09000	1.67E-02	5.69E-03	2.46E-02	5.42E-02	5.57E-03
CM-247	4946.000	4862.902	150.742	4.000	3.280	0.720	6.3427	79.30000	6.62E-03	4.31E-03	2.76E-02	6.07E-02	4.29E-03
CM-248	5078.600	5048.883	7.380	7.000	7.000	0.000	11.0244	91.00000	1.23E-02	4.72E-03	4.18E-02	8.84E-02	4.65E-03

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

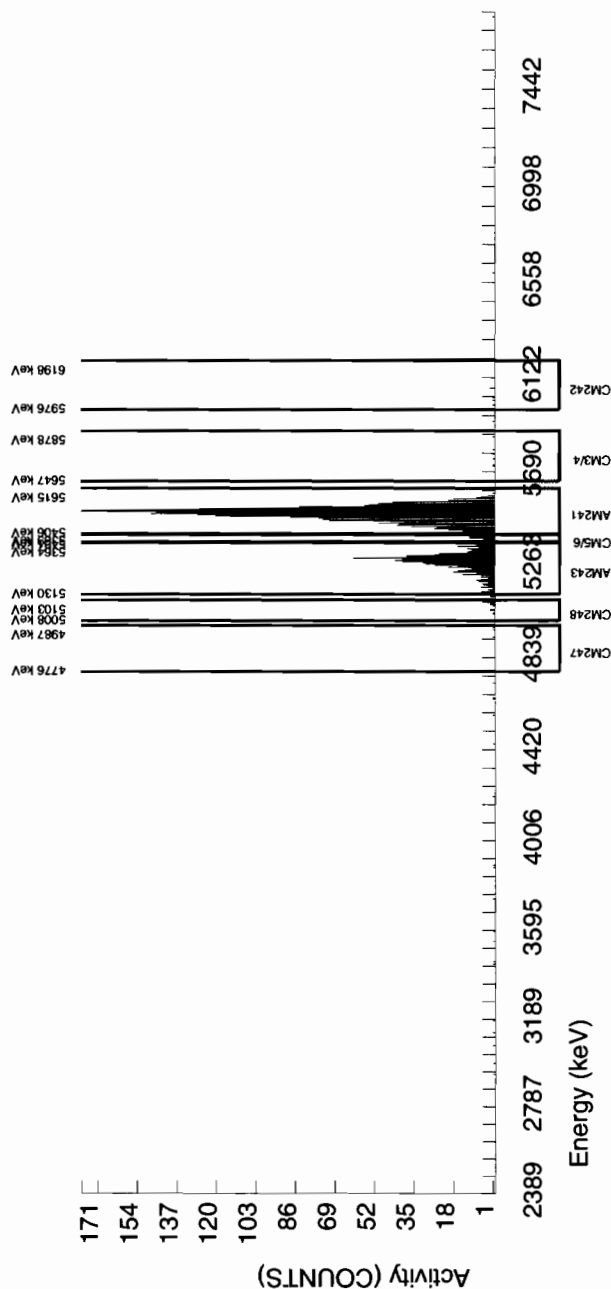
BATCH NUMBER : 967763 SAMPLE ID : S1202077310_AM SAMPLE QTY : 0.105 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : CXM2 % YIELD : 105.535				CHAMBER : 223 DETECTOR SN : 79416 AVERAGE %EFFICIENCY : 39.5920 COUNT DATE : 23-MAR-2010 21:41:38 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B223.CNF;93 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W223.CNF;30 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 2.4012E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3148E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3148E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5502.525	42.729	2175.000	2172.372	1.440	2.7707	99.94000	3.10E+01	2.29E+00	8.53E-02	2.09E-01	6.65E-01
AM243	5270.000	5280.457	35.014	683.000	683.000	0.000	0.0000	99.78000	9.76E+00	7.86E-01	0.00E+00	3.87E-02	3.73E-01
CM-242	6102.000	6052.311	39.506	10.000	10.000	0.000	4.0092	100.0000	1.44E-01	4.66E-02	1.23E-01	2.85E-01	4.55E-02
CM-3/4	5795.020	5755.267	192.893	7.000	6.280	0.720	4.8510	100.0000	8.96E-02	3.96E-02	1.49E-01	3.37E-01	3.91E-02
CM-5/6	5386.000	5387.255	0.000	68.000	68.000	0.000	6.1294	86.09000	1.13E+00	1.58E-01	2.19E-01	4.83E-01	1.37E-01
CM-247	4946.000	4955.382	54.406	4.000	4.000	0.000	6.3427	79.30000	7.19E-02	3.63E-02	2.46E-01	5.41E-01	3.60E-02
CM-248	5078.600	5060.695	72.953	14.000	14.000	0.000	11.0244	91.00000	2.19E-01	6.07E-02	3.73E-01	7.88E-01	5.86E-02

NOTES:

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

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

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



Radiochemistry Batch Checklist, Rev10

Batch# 958225 Product: TS/LANL Date: 3/16/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			nla
Samples have been blank corrected (if required)			nla
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.			nla
Tracer yield is 15-125% . Carrier yield 25-125%.			
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)			
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			nla
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.			nla
Aux data is correct.			
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stated.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			nla
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			nla
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			nla
Aliquot Correction completed if required.			nla
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: JS Stamps 3/16/10

Secondary Review Performed By: KDatt 3/17/10

3/25/10

Gamma Spec Que Sheet

16-3/9/10

02/26/2010

Batch #: 958225 Analyst: MXR1 First Client Due Date: 03/25/2010 Internal Due Date: 03/14/2010
 Gamma Spike Isotope: Mixed Gamma Spike Code: MA Expiration Date: MA Vol: MA Nominal Concentration: MA
 Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0ml Nominal Concentration: CS 137-5.552 Co60-6.347
 Initials: MS Prep Date: 3/2/10 Library: SOLID Witness: MA Am241-15.96

Wet/dry

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Aliquot (1/8" F)	Detector	Sealing Date/Time (if Applicable)
248051001-1	RE36-10-7414	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00	Can	135.74	5	3/2/10
248051002-1	RE36-10-7413	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		148.87	13	
248051003-1	RE36-10-7462	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		156.37	18	
248051004-1	RE36-10-7465	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		149.92	23	
248051005-1	RE36-10-7473	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		104.55	6	
248051006-1	RE36-10-7471	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		148.20	17	
248051007-1	RE36-10-7472	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		128.74	22	
248051008-1	RE36-10-7468	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		113.02	1	
248051009-1	RE36-10-7464	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		132.66	2	
248051010-1	RE36-10-7463	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		144.70	13	
248051011-1	RE36-10-7475	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		131.04	18	
248051012-1	RE36-10-7466	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		141.86	23	
248051013-1	RE36-10-7476	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		122.73	5	
248051014-1	RE36-10-7461	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		170.05	7	
248051015-1	RE36-10-7467	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		134.19	14	
248051016-1	RE36-10-7469	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		108.54	17	
248051017-1	RE36-10-7470	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		118.13	21	
248051018-1	RE36-10-7515	SAMPLE		LANL010	SOIL	20-FEB-10 12:00:00		149.75	22	
1202054965-1	MB	MB		QC ACCOUNT	SOIL	3/2/10		170.05	9	
1202054966-1	DUP RE36-10-7414(248051001)	DUP		QC ACCOUNT	SOIL	20-FEB-10 12:00:00		135.74	11	
1202054967-1	LCS	LCS		QC ACCOUNT	SOIL	3/2/10		155.44	20	

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: M. Stamp 3/16/10

✓ no in: shing
✓ failures

Page 1 of 1

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
958225	248051001	SAMPLE	10-MAR-10		Cerium-139	-0.00057	0.05784	0.050
					Cesium-134	0.08653	0.1064	0.100
					Sodium-22	0.03073	0.09425	0.080
958225	248051002	SAMPLE	10-MAR-10		Sodium-22	-0.02891	0.08139	0.080
958225	248051003	SAMPLE	10-MAR-10		Americium-241	-0.08766	0.2502	0.200
					Thorium-234	1.231	2.362	2.00
958225	248051004	SAMPLE	10-MAR-10		Americium-241	0.0714	0.2857	0.200
958225	248051005	SAMPLE	10-MAR-10		Americium-241	0.1812	0.3736	0.200
					Cerium-139	-0.00543	0.0646	0.050
					Europium-152	-0.08134	0.2112	0.200
					Sodium-22	-0.0324	0.09812	0.080
					Tin-113	-0.0419	0.1038	0.100
958225	248051006	SAMPLE	10-MAR-10					
958225	248051007	SAMPLE	10-MAR-10		Americium-241	0.1121	0.2428	0.200
					Cerium-139	-0.00409	0.05296	0.050
958225	248051008	SAMPLE	10-MAR-10		Americium-241	0.1379	0.3248	0.200
					Cerium-139	0.00989	0.06328	0.050
					Sodium-22	0.00834	0.0932	0.080
					Thorium-234	2.338	2.701	2.00
958225	248051009	SAMPLE	10-MAR-10		Americium-241	-0.05905	0.3218	0.200
					Cerium-139	-0.0149	0.05593	0.050
					Sodium-22	0.02483	0.09275	0.080
958225	248051010	SAMPLE	10-MAR-10		Cerium-139	-0.01008	0.05776	0.050
					Cesium-134	0.09688	0.1158	0.100
					Sodium-22	0.01139	0.09117	0.080
958225	248051011	SAMPLE	10-MAR-10		Americium-241	-0.02616	0.2942	0.200
					Thorium-234	1.642	2.67	2.00
958225	248051012	SAMPLE	10-MAR-10		Americium-241	0.08396	0.3591	0.200
					Cerium-139	-0.00382	0.05608	0.050
					Sodium-22	-0.03465	0.0817	0.080
958225	248051013	SAMPLE	10-MAR-10		Cerium-139	-0.01722	0.0624	0.050
					Europium-152	0.01223	0.2155	0.200
					Sodium-22	-0.00663	0.08774	0.080
958225	248051014	SAMPLE	10-MAR-10					
958225	248051015	SAMPLE	10-MAR-10					
958225	248051016	SAMPLE	10-MAR-10		Cerium-139	0.00093	0.06212	0.050
					Cesium-134	0.06572	0.1231	0.100
					Europium-152	-0.1014	0.2027	0.200
					Sodium-22	-0.01724	0.1031	0.080
					Tin-113	-0.01693	0.1045	0.100
958225	248051017	SAMPLE	10-MAR-10		Sodium-22	-0.06407	0.1106	0.080
958225	248051018	SAMPLE	10-MAR-10					
958225	1202054965	MB	10-MAR-10					

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
958225	1202054966	DUP	10-MAR-10					
958225	1202054967	LCS	10-MAR-10		Cerium-139	0.03795	0.07316	0.050
					Cesium-134	0.05315	0.1469	0.100
					Europium-152	-0.02612	0.287	0.200
					Ruthenium-106	-0.2126	0.937	0.800
					Sodium-22	0.02065	0.08435	0.080
					Thorium-234	-1.206	2.642	2.00
					Tin-113	-0.03486	0.1318	0.100

GEL QUALS

Batch ID: 958225

Report run on: March 16, 2010 11:49 AM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
248051001-1 10-MAR-2010 17:21	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.727			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		5.01			
	Radium-224	UI	UI	UI Data rejected due to interference.		5.123			
248051002-1 10-MAR-2010 17:21	Bismuth-211	UI	UI	UI Data rejected due to interference.		2.053			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		1.841			
	Radium-224	UI	UI	UI Data rejected due to interference.		1.734			
248051003-1 10-MAR-2010 17:22	Bismuth-211	UI	UI	UI Data rejected due to interference.		3.531			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.603			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.06716		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		3.757			
	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.06013			
248051004-1 10-MAR-2010 17:22	Bismuth-211	UI	UI	UI Data rejected due to interference.		2.069			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		1.853			
	Radium-224	UI	UI	UI Data rejected due to interference.		2.4			
248051005-1 10-MAR-2010 17:53	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.201			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.71			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1284		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		5.131			
248051006-1 10-MAR-2010 17:53	Bismuth-211	UI	UI	UI Data rejected due to interference.		2.772			

GEL QUALS

Batch ID: 958225

Report run on: March 16, 2010 11:49 AM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
248051006-1 10-MAR-2010 17:53	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.841			
	Radium-224	UI	UI	UI Data rejected due to interference.		3.466			
248051007-1 10-MAR-2010 17:54	Bismuth-211	UI	UI	UI Data rejected due to interference.		5.486			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.56			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1235		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		6.32			
	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.1817			
248051008-1 10-MAR-2010 19:19	Bismuth-211	UI	UI	UI Data rejected due to interference.		3.623			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.482			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1306		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		4.553			
	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.1447			
248051009-1 10-MAR-2010 19:19	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.867			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		4.062			
	Cesium-137	UI	UI	UI Data rejected due to low abundance.		.1328		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		4.929			
248051010-1 10-MAR-2010 19:34	Bismuth-211	UI	UI	UI Data rejected due to interference.		3.91			
	Bismuth-214	UI	UI	UI Data rejected due to interference.		1.43		.2	.2
	Radium-224	UI	UI	UI Data rejected due to interference.		4.202			
	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.105			

GEL QUALS

Batch ID: 958225

Report run on: March 16, 2010 11:49 AM

Samp Id	Parmname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
248051011-1 10-MAR-2010 19:35	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.189			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		3.974			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1073		.1	.1
	Cesium-137	UI	UI	UI Data rejected due to high counting uncertainty.		.06861		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		4.581			
248051012-1 10-MAR-2010 19:35	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.07311			
	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.091			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.969			
	Radium-224	UI	UI	UI Data rejected due to interference.		3.712			
248051013-1 10-MAR-2010 20:41	Bismuth-211	UI	UI	UI Data rejected due to interference.		5.215			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		4.773			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.2951		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		6.296			
	Thorium-234	UI	UI	UI Data rejected due to high counting uncertainty.		1.368		2	2
248051014-1 10-MAR-2010 20:41	Bismuth-211	UI	UI	UI Data rejected due to interference.		1.998			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.17			
	Radium-224	UI	UI	UI Data rejected due to interference.		1.388			
248051015-1 10-MAR-2010 20:42	Bismuth-211	UI	UI	UI Data rejected due to interference.		3.539			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		3.953			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1233		.1	.1

GEL QUALS

Batch ID: 958225

Report run on: March 16, 2010 11:49 AM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
248051015-1 10-MAR-2010 20:42	Radium-224	UI	UI	UI Data rejected due to interference.		3.322			
248051016-1 10-MAR-2010 20:42	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.488			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		5.236			
	Radium-224	UI	UI	UI Data rejected due to interference.		5.486			
248051017-1 10-MAR-2010 20:42	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.55			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		4.8			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1408		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		6.083			
248051018-1 10-MAR-2010 20:43	Bismuth-211	UI	UI	UI Data rejected due to interference.		2.25			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		1.819			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.06416		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		2.455			
	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.1311			
1202054966-1 DUP 10-MAR-2010 20:47	Bismuth-211	UI	UI	UI Data rejected due to interference.		5.207			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		5.014			
	Radium-224	UI	UI	UI Data rejected due to interference.		5.408			
	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.06736			

Gamma Review Report based on Result > MDA for Batch:958225

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
248051001	20-FEB-10 12:00	10-MAR-10 17:21	18.2	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 ✓ <i>nr</i>	2.16	0.2244	pCi/g	0.2883	N	910.7 3	1.568	IDENTIFIED 8.222	<input type="checkbox"/>	
Annihilation Rad.	0.1645	0.0353	pCi/g	0.0556	N	510.3 1	2.324	IDENTIFIED 21.22	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	4.727	0.321	pCi/g	0.3752	Y	351.5 2	1.432	IDENTIFIED 5.519	<input checked="" type="checkbox"/> <i>ui</i>	
Bismuth-212 <i>LA</i>	2.876	0.5093	pCi/g	1.48	N	0 5 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214 ✓	1.5	0.1234	pCi/g	0.1497	0.200	608.7 2	1.559	IDENTIFIED 7.06	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	5.01	0.4795	pCi/g	1.171	Y	86.8 3	1.37	IDENTIFIED 8.778	<input checked="" type="checkbox"/> <i>ui</i>	
Cerium-143 —	6816	920.9	pCi/g	0	N	0 5 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-135 HE	0.3913	0.1183	pCi/g	0.2772	N	269.6 1	1.039	IDENTIFIED 29.75	<input type="checkbox"/>	
Gross Gamma —	11.38	1.443	pCi/g	4.808	N	0			<input type="checkbox"/>	
Lead-210 HE	1.622	0.4181	pCi/g	0.9473	N	46.08 1	0.9934	IDENTIFIED 25.48	<input type="checkbox"/>	
Lead-212 ✓	2.22	0.1368	pCi/g	0.1091	0.100	238.3 2	1.3	IDENTIFIED 2.943	<input type="checkbox"/>	
Lead-214 ✓	1.716	0.1257	pCi/g	0.1365	0.100	351.5 2	1.432	IDENTIFIED 5.519	<input type="checkbox"/>	
Neptunium-237 <i>nr</i>	1.454	0.2065	pCi/g	0.3387	N	86.8 3	1.37	IDENTIFIED 8.778	<input type="checkbox"/>	
Niobium-95m —	1.387	0.1275	pCi/g	0.3893	N	0 5 0		NOT_IDENTI 0	<input type="checkbox"/>	
Potassium-40 ✓	32.31	1.418	pCi/g	0.6084	1.00	1460 1	2.006	IDENTIFIED 3.098	<input type="checkbox"/>	
Promethium-149 HE	207.7	140.1	pCi/g	0	N	0 5 0		SHORT_HLIF 0	<input type="checkbox"/>	
Radium-224 <i>INT</i>	5.123	0.7221	pCi/g	1.169	Y	241.3 1	1.815	IDENTIFIED 13.22	<input checked="" type="checkbox"/> <i>ui</i>	
Radium-226 ✓	1.5	0.1234	pCi/g	0.1497	Y	608.7 2	1.559	IDENTIFIED 7.06	<input type="checkbox"/>	
Radium-228 ✓	2.16	0.2244	pCi/g	0.2883	0.500	910.7 3	1.568	IDENTIFIED 8.222	<input type="checkbox"/>	
Sodium-24 HE	5.64E+06	1.40E+07	pCi/g	0	N	0 5 0		SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-208 ✓	0.6876	0.06042	pCi/g	0.0703	0.080	582.6 1	1.632	IDENTIFIED 7.984	<input type="checkbox"/>	
Thorium-228 <i>nr</i>	2.22	0.1368	pCi/g	0.1091	N	238.3 2	1.3	IDENTIFIED 2.943	<input type="checkbox"/>	
Thorium-232 <i>nr</i>	2.16	0.2244	pCi/g	0.2883	N	910.7 3	1.568	IDENTIFIED 8.222	<input type="checkbox"/>	
Thorium-234 ✓	1.637	0.5807	pCi/g	1.266	2.00	62.83 2	1.268	IDENTIFIED 34.29	<input type="checkbox"/>	
Tin-126 <i>nr</i>	0.4874	0.04665	pCi/g	0.1138	N	86.8 3	1.37	IDENTIFIED 8.778	<input type="checkbox"/>	
Total Uranium —	4.8186	1.73E-06	ug/g	1.8856	N	0			<input type="checkbox"/>	
Uranium-238 HE	1.637	0.5807	pCi/g	1.266	N	62.83 2	1.268	IDENTIFIED 34.29	<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
248051002	20-FEB-10 12:00	10-MAR-10 17:21	18.2	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 ✓ <i>nr</i>	0.9348	0.1674	pCi/g	0.2737	N	911.1 3	1.719	IDENTIFIED 16.96	<input type="checkbox"/>	
Barium-137m <i>nr</i>	0.3041	0.03999	pCi/g	0.06425	N	661.6 2	1.593	IDENTIFIED 12.41	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	2.053	0.205	pCi/g	0.3555	Y	351.8 2	1.538	IDENTIFIED 8.775	<input checked="" type="checkbox"/> <i>ui</i>	
Bismuth-214 ✓	0.8126	0.09042	pCi/g	0.1274	0.200	609.1 2	1.413	IDENTIFIED 9.837	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	1.841	0.2961	pCi/g	0.9308	Y	87.24 3	1.21	IDENTIFIED 15.27	<input checked="" type="checkbox"/> <i>ui</i>	
Cerium-143 —	2754	484.4	pCi/g	0	N	0 2 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-137 ✓	0.3212	0.04225	pCi/g	0.06787	0.100	661.6 2	1.593	IDENTIFIED 12.41	<input type="checkbox"/>	
Gross Gamma —	5.692	1.016	pCi/g	2.458	N	0			<input type="checkbox"/>	
Iodine-135	1.33E+19	0	pCi/g	0	N	0 2 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-210 ✓ <i>nr</i>	1.76	0.4322	pCi/g	0.8097	N	46.6 1	1.11	IDENTIFIED 23.94	<input type="checkbox"/>	
Lead-212 ✓	0.9194	0.06812	pCi/g	0.09107	0.100	238.6 2	1.283	IDENTIFIED 5.311	<input type="checkbox"/>	
Lead-214 ✓	0.7452	0.07719	pCi/g	0.1374	0.100	351.8 2	1.538	IDENTIFIED 8.775	<input type="checkbox"/>	
Neptunium-237 <i>nr</i>	0.5345	0.1026	pCi/g	0.275	N	87.24 3	1.21	IDENTIFIED 15.27	<input type="checkbox"/>	
Potassium-40 ✓	22.45	1.322	pCi/g	0.6413	1.00	1460 1	2.177	IDENTIFIED 3.832	<input type="checkbox"/>	
Radium-224 <i>INT</i>	1.734	0.4716	pCi/g	0.9761	Y	241.6 1	1.49	IDENTIFIED 26.8	<input checked="" type="checkbox"/> <i>ui</i>	

Radium-226 ✓	0.8126	0.09042	pCi/g	0.1274	Y	609.1	2	1.413	IDENTIFIED	9.837	<input type="checkbox"/>
Radium-228 ✓	0.9348	0.1674	pCi/g	0.2737	0.500	911.1	3	1.719	IDENTIFIED	16.96	<input type="checkbox"/>
Thallium-208 ✓	0.2944	0.03714	pCi/g	0.06719	0.080	583	1	1.084	IDENTIFIED	11.66	<input type="checkbox"/>
Thorium-228 hr	0.9194	0.06812	pCi/g	0.09107	N	238.6	2	1.283	IDENTIFIED	5.311	<input type="checkbox"/>
Thorium-232 hr	0.9348	0.1674	pCi/g	0.2737	N	911.1	3	1.719	IDENTIFIED	16.96	<input type="checkbox"/>
Thorium-234 ✓	1.533	0.6181	pCi/g	1.007	2.00	63.22	2	1.333	IDENTIFIED	39.15	<input type="checkbox"/>
Tin-126 hr	0.1791	0.02881	pCi/g	0.09045	N	87.24	3	1.21	IDENTIFIED	15.27	<input type="checkbox"/>
Total Uranium	4.6291	1.84E-06	ug/g	1.5016	N	0					<input type="checkbox"/>
Uranium-238 HE	1.533	0.6181	pCi/g	1.007	N	63.22	2	1.333	IDENTIFIED	39.15	<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
248051003	20-FEB-10 12:00	10-MAR-10 17:22	18.2	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ hr	1.493	0.1476	pCi/g	0.1483	N	910.6	3	2.179	IDENTIFIED	7.192	<input type="checkbox"/>		
Annihilation Rad. HE	0.08071	0.02429	pCi/g	0.03463	N	510.6	1	2.204	IDENTIFIED	29.92	<input type="checkbox"/>		
Barium-137m hr	0.1318	0.02524	pCi/g	0.04086	N	661.3	2	1.083	IDENTIFIED	18.77	<input type="checkbox"/>		
Bismuth-211 int	3.531	0.1834	pCi/g	0.2307	Y	351.8	2	1.332	IDENTIFIED	4.082	<input checked="" type="checkbox"/>	UI	
Bismuth-212 LA	1.911	0.3063	pCi/g	0.8666	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>		
Bismuth-214 ✓	1.009	0.07128	pCi/g	0.0796	0.200	609	2	1.569	IDENTIFIED	5.448	<input type="checkbox"/>		
Cadmium-109 int	2.603	0.4304	pCi/g	1.109	Y	87.24	3	1.249	IDENTIFIED	15.88	<input checked="" type="checkbox"/>	UI	
Cerium-143 -	3178	461.9	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cesium-134 LA	0.06716	0.027	pCi/g	0.06537	0.100	0	8	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Cesium-135 HE	0.2859	0.06445	pCi/g	0.2168	N	0	8	0	NOT_IDENTI	0	<input type="checkbox"/>		
Cesium-137 ✓	0.1392	0.02667	pCi/g	0.04317	0.100	661.3	2	1.083	IDENTIFIED	18.77	<input type="checkbox"/>		
Gross Gamma -	8.653	1.144	pCi/g	2.486	N	0					<input type="checkbox"/>		
Iodine-133 HE	37780	25160	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>		
Lead-212 ✓	1.503	0.06841	pCi/g	0.07761	0.100	238.7	2	1.201	IDENTIFIED	2.781	<input type="checkbox"/>		
Lead-214 ✓	1.282	0.07536	pCi/g	0.08389	0.100	351.8	2	1.332	IDENTIFIED	4.082	<input type="checkbox"/>		
Neptunium-237 hr	0.7557	0.1479	pCi/g	0.356	N	87.24	3	1.249	IDENTIFIED	15.88	<input type="checkbox"/>		
Potassium-40 ✓	28.21	1.24	pCi/g	0.252	1.00	1460	1	2.37	IDENTIFIED	2.215	<input type="checkbox"/>		
Promethium-149 HE	57.05	88.21	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>		
Radium-224 int	3.757	0.4485	pCi/g	0.7709	Y	241.6	1	1.74	IDENTIFIED	11.61	<input checked="" type="checkbox"/>	UI	
Radium-226 ✓	1.009	0.07128	pCi/g	0.0796	Y	609	2	1.569	IDENTIFIED	5.448	<input type="checkbox"/>		
Radium-228 ✓	1.493	0.1476	pCi/g	0.1483	0.500	910.6	3	2.179	IDENTIFIED	7.192	<input type="checkbox"/>		
Strontium-85 LA	0.06013	0.01563	pCi/g	0.05206	Y	0	8	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Technetium-99m	8.27E+18	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>		
Thallium-208 ✓	0.4547	0.03246	pCi/g	0.04128	0.080	582.9	1	1.681	IDENTIFIED	5.973	<input type="checkbox"/>		
Thorium-228 hr	1.503	0.06841	pCi/g	0.07761	N	238.7	2	1.201	IDENTIFIED	2.781	<input type="checkbox"/>		
Thorium-232 hr	1.493	0.1476	pCi/g	0.1483	N	910.6	3	2.179	IDENTIFIED	7.192	<input type="checkbox"/>		
Tin-126 hr	0.2533	0.04187	pCi/g	0.1086	N	87.24	3	1.249	IDENTIFIED	15.88	<input type="checkbox"/>		
Total Uranium	3.6533	1.90E-06	ug/g	3.5158	N	0					<input type="checkbox"/>		

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
248051004	20-FEB-10 12:00	10-MAR-10 17:22	18.2	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ hr	0.9787	0.1316	pCi/g	0.1887	N	910	3	1.547	IDENTIFIED	12.07	<input type="checkbox"/>		
Annihilation Rad.	0.1102	0.03211	pCi/g	0.03916	N	510	1	2.039	IDENTIFIED	29.01	<input type="checkbox"/>		
Barium-137m hr	0.2423	0.02658	pCi/g	0.05495	N	660.9	2	1.888	IDENTIFIED	10.67	<input type="checkbox"/>		
Bismuth-211 int	2.069	0.1843	pCi/g	0.3115	Y	351.4	2	1.349	IDENTIFIED	8.291	<input checked="" type="checkbox"/>	UI	
Bismuth-214 ✓	0.6595	0.06448	pCi/g	0.09109	0.200	608.6	2	1.81	IDENTIFIED	9.012	<input type="checkbox"/>		
Cadmium-109 int	1.853	0.3385	pCi/g	1.258	Y	87.04	3	1.204	IDENTIFIED	17.61	<input checked="" type="checkbox"/>	UI	
Cadmium-115 HE	3.504	12.13	pCi/g	0	N	0	4	0	SHORT_HLIF	0	<input type="checkbox"/>		

Cerium-143	-	3113	550.2	pCi/g	0	N	0	4	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-137	✓	0.2559	0.02808	pCi/g	0.05805	0.100	660.9	2	1.888	IDENTIFIED	10.67	<input type="checkbox"/>
Gross Gamma	-	5.491	0.8944	pCi/g	2.375	N		0				<input type="checkbox"/>
Iodine-133	HE	40360	28860	pCi/g	0	N	0	4	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	✓	0.8347	0.05157	pCi/g	0.08528	0.100	238.3	2	1.111	IDENTIFIED	5.002	<input type="checkbox"/>
Lead-214	✓	0.7508	0.07002	pCi/g	0.1081	0.100	351.4	2	1.349	IDENTIFIED	8.291	<input type="checkbox"/>
Neptunium-237	HE	0.538	0.1133	pCi/g	0.4087	N	87.04	3	1.204	IDENTIFIED	17.61	<input type="checkbox"/>
Niobium-95m	HE	0.3117	0.07345	pCi/g	0.2416	N	0	4	0	NOT_IDENTI	0	<input type="checkbox"/>
Potassium-40	✓	19.1	1.021	pCi/g	0.4964	1.00	1459	1	2.48	IDENTIFIED	3.821	<input type="checkbox"/>
Radium-224	INT	2.4	0.4978	pCi/g	0.914	Y	241.2	1	1.894	IDENTIFIED	20.55	<input checked="" type="checkbox"/> UI
Radium-226	✓	0.6595	0.06448	pCi/g	0.09109	Y	608.6	2	1.81	IDENTIFIED	9.012	<input type="checkbox"/>
Radium-228	✓	0.9787	0.1316	pCi/g	0.1887	0.500	910	3	1.547	IDENTIFIED	12.07	<input type="checkbox"/>
Thallium-208	✓	0.3253	0.03572	pCi/g	0.04636	0.080	582.2	1	1.673	IDENTIFIED	10.49	<input type="checkbox"/>
Thorium-228	✓	0.8347	0.05157	pCi/g	0.08528	N	238.3	2	1.111	IDENTIFIED	5.002	<input type="checkbox"/>
Thorium-232	✓	0.9787	0.1316	pCi/g	0.1887	N	910	3	1.547	IDENTIFIED	12.07	<input type="checkbox"/>
Thorium-234	✓	2.691	1.069	pCi/g	2.278	2.00	62.98	2	1.446	IDENTIFIED	38.65	<input type="checkbox"/>
Tin-126	HE	0.1803	0.03293	pCi/g	0.1232	N	87.04	3	1.204	IDENTIFIED	17.61	<input type="checkbox"/>
Total Uranium	-	8.0223	3.18E-06	ug/g	3.3911	N		0				<input type="checkbox"/>
Uranium-238	HE	2.691	1.069	pCi/g	2.278	N	62.98	2	1.446	IDENTIFIED	38.65	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
248051005	20-FEB-10 12:00	10-MAR-10 17:53	18.2	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓ <i>W</i>	1.722	0.2306	pCi/g 0.3286	N	911.4	3	1.444	IDENTIFIED 11.96	<input type="checkbox"/>
Annihilation Rad. HE		0.1251	0.03151	pCi/g 0.1218	N	0	8	0	NOT_IDENTI 0	<input type="checkbox"/>
Barium-137m	<i>W</i>	1.104	0.08117	pCi/g 0.07946	N	661.8	2	1.686	IDENTIFIED 6.14	<input type="checkbox"/>
Bismuth-211	<i>INT</i>	4.201	0.3579	pCi/g 0.4896	Y	352.1	2	1.208	IDENTIFIED 7.113	<input checked="" type="checkbox"/> <i>W</i>
Bismuth-212 HE		1.801	0.4205	pCi/g 1.531	N	0	8	0	NOT_IDENTI 0	<input type="checkbox"/>
Bismuth-214	✓	1.624	0.1296	pCi/g 0.1635	0.200	609.2	2	1.493	IDENTIFIED 6.251	<input type="checkbox"/>
Cadmium-109	<i>INT</i>	2.71	0.8473	pCi/g 1.883	Y	87.3	3	1.095	IDENTIFIED 30.78	<input checked="" type="checkbox"/> <i>W</i>
Cadmium-115 HE		20.86	21.15	pCi/g 0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Cerium-143	-	2742	644.6	pCi/g 0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-134	<i>LA</i>	0.1284	0.03237	pCi/g 0.1215	0.100	0	8	0	NOT_IDENTI 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	1.166	0.0858	pCi/g 0.08395	0.100	661.8	2	1.686	IDENTIFIED 6.14	<input type="checkbox"/>
Gross Gamma	-	10.7	1.602	pCi/g 4.035	N		0			<input type="checkbox"/>
Iodine-133 HE		95010	49550	pCi/g 0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135	-	2.19E+18	0	pCi/g 0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-212	✓	1.937	0.1251	pCi/g 0.1286	0.100	238.7	2	1.16	IDENTIFIED 3.919	<input type="checkbox"/>
Lead-214	✓	1.525	0.1365	pCi/g 0.1642	0.100	352.1	2	1.208	IDENTIFIED 7.113	<input type="checkbox"/>
Neptunium-237 HE		0.7867	0.2594	pCi/g 0.5163	N	87.3	3	1.095	IDENTIFIED 30.78	<input type="checkbox"/>
Potassium-40	✓	26.75	1.698	pCi/g 0.8233	1.00	1461	1	2.164	IDENTIFIED 4.248	<input type="checkbox"/>
Radium-224	<i>INT</i>	5.131	0.7876	pCi/g 1.379	Y	241.6	1	1.678	IDENTIFIED 14.64	<input checked="" type="checkbox"/> <i>W</i>
Radium-226	✓	1.624	0.1296	pCi/g 0.1635	Y	609.2	2	1.493	IDENTIFIED 6.251	<input type="checkbox"/>
Radium-228	✓	1.722	0.2306	pCi/g 0.3286	0.500	911.4	3	1.444	IDENTIFIED 11.96	<input type="checkbox"/>
Sodium-24 HE		1.16E+07	1.51E+07	pCi/g 0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-208	✓	0.4928	0.05186	pCi/g 0.06422	0.080	583.4	1	1.045	IDENTIFIED 9.481	<input type="checkbox"/>
Thorium-228	<i>W</i>	1.937	0.1251	pCi/g 0.1286	N	238.7	2	1.16	IDENTIFIED 3.919	<input type="checkbox"/>
Thorium-232	<i>W</i>	1.722	0.2306	pCi/g 0.3286	N	911.4	3	1.444	IDENTIFIED 11.96	<input type="checkbox"/>
Thorium-234	✓	3.325	1.329	pCi/g 2.901	2.00	63.48	2	1.019	IDENTIFIED 38.88	<input type="checkbox"/>
Tin-126 HE		0.2636	0.08244	pCi/g 0.1911	N	87.3	3	1.095	IDENTIFIED 30.78	<input type="checkbox"/>
Total Uranium	-	9.8845	3.95E-06	ug/g 4.3189	N		0			<input type="checkbox"/>
Uranium-238 HE		3.325	1.329	pCi/g 2.901	N	63.48	2	1.019	IDENTIFIED 38.88	<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
248051006	20-FEB-10 12:00	10-MAR-10 17:53	18.2	SAMPLE	LOAD	1	LANL	LANL01004/GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 ✓ <i>nr</i>	1.687	0.1966	pCi/g	0.236	N	909.9 3	1.292	IDENTIFIED 10.08	<input type="checkbox"/>	
Annihilation Rad. —	0.1479	0.03986	pCi/g	0.04612	N	510.1 1	2.358	IDENTIFIED 26.58	<input type="checkbox"/>	
Barium-137m <i>nr</i>	0.17	0.03557	pCi/g	0.07078	N	661.1 2	1.108	IDENTIFIED 20.49	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	2.772	0.2514	pCi/g	0.3207	Y	351.7 2	1.113	IDENTIFIED 7.779	<input checked="" type="checkbox"/> <i>UI</i>	
Bismuth-212 HE	2.262	0.6325	pCi/g	1.231	N	0 4 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214 ✓	1.002	0.09662	pCi/g	0.1049	0.200	608.6 2	1.394	IDENTIFIED 8.175	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	2.841	0.3957	pCi/g	0.8955	Y	87.25 3	1.106	IDENTIFIED 13.04	<input checked="" type="checkbox"/> <i>UI</i>	
Cerium-143 —	4570	689.2	pCi/g	0	N	0 4 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-135 HE	0.4403	0.1086	pCi/g	0.2238	N	269.9 1	1.215	IDENTIFIED 24.11	<input type="checkbox"/>	
Cesium-137 ✓	0.1796	0.03758	pCi/g	0.07477	0.100	661.1 2	1.108	IDENTIFIED 20.49	<input type="checkbox"/>	
Gross Gamma —	7.811	1.267	pCi/g	3.195	N	0			<input type="checkbox"/>	
Iodine-133 HE	20790	39070	pCi/g	0	N	0 4 0		SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135 —	6.20E+18 0		pCi/g	0	N	0 4 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-210 ✓ <i>nr</i>	2.019	0.4324	pCi/g	0.7664	N	46.58 1	0.8394	IDENTIFIED 20.72	<input type="checkbox"/>	
Lead-212 ✓	1.272	0.08341	pCi/g	0.09154	0.100	238.4 2	1.023	IDENTIFIED 4.164	<input type="checkbox"/>	
Lead-214 ✓	1.006	0.09537	pCi/g	0.1167	0.100	351.7 2	1.113	IDENTIFIED 7.779	<input type="checkbox"/>	
Neptunium-237 <i>nr</i>	0.8248	0.1438	pCi/g	0.2588	N	87.25 3	1.106	IDENTIFIED 13.04	<input type="checkbox"/>	
Potassium-40 ✓	25.51	1.474	pCi/g	0.5174	1.00	1459 1	2.074	IDENTIFIED 3.695	<input type="checkbox"/>	
Radium-224 <i>INT</i>	3.466	0.6722	pCi/g	0.9818	Y	241.5 1	1.817	IDENTIFIED 18.86	<input checked="" type="checkbox"/> <i>UI</i>	
Radium-226 ✓	1.002	0.09662	pCi/g	0.1049	Y	608.6 2	1.394	IDENTIFIED 8.175	<input type="checkbox"/>	
Radium-228 ✓	1.687	0.1966	pCi/g	0.236	0.500	909.9 3	1.292	IDENTIFIED 10.08	<input type="checkbox"/>	
Thallium-208 ✓	0.4217	0.0411	pCi/g	0.05738	0.080	582.6 1	1.195	IDENTIFIED 8.524	<input type="checkbox"/>	
Thorium-228 <i>nr</i>	1.272	0.08341	pCi/g	0.09154	N	238.4 2	1.023	IDENTIFIED 4.164	<input type="checkbox"/>	
Thorium-232 <i>nr</i>	1.687	0.1966	pCi/g	0.236	N	909.9 3	1.292	IDENTIFIED 10.08	<input type="checkbox"/>	
Thorium-234 ✓	1.55	0.4904	pCi/g	0.9457	2.00	63.25 2	0.8323	IDENTIFIED 30.18	<input type="checkbox"/>	
Tin-126 <i>nr</i>	0.2764	0.03849	pCi/g	0.08701	N	87.25 3	1.106	IDENTIFIED 13.04	<input type="checkbox"/>	
Total Uranium	4.711	1.46E-06 ug/g		1.4097	N	0			<input type="checkbox"/>	
Uranium-238 HE	1.55	0.4904	pCi/g	0.9457	N	63.25 2	0.8323	IDENTIFIED 30.18	<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
248051007	20-FEB-10 12:00	10-MAR-10 17:54	18.2	SAMPLE	LOAD	1	LANL	LANL01004/GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 ✓ <i>nr</i>	2.62	0.2323	pCi/g	0.2162	N	911.4 3	1.973	IDENTIFIED 5.726	<input type="checkbox"/>	
Annihilation Rad. —	0.1481	0.03562	pCi/g	0.04382	N	511 1	2.175	IDENTIFIED 23.52	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	5.486	0.3944	pCi/g	0.3319	Y	351.9 2	1.464	IDENTIFIED 4.227	<input checked="" type="checkbox"/> <i>UI</i>	
Bismuth-212 <i>LA</i>	2.604	0.4303	pCi/g	1.119	N	0 9 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214 ✓	1.533	0.1142	pCi/g	0.1157	0.200	609.4 2	1.701	IDENTIFIED 4.63	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	2.56	0.6118	pCi/g	1.36	Y	87.75 3	1.07	IDENTIFIED 23.42	<input checked="" type="checkbox"/> <i>UI</i>	
Cadmium-115 HE	2.373	14.15	pCi/g	0	N	0 9 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cerium-143 —	5650	834	pCi/g	0	N	0 9 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134 <i>LA</i>	0.1235	0.04325	pCi/g	0.08692	0.100	0 9 0		FAIL_ABUND 0	<input checked="" type="checkbox"/> <i>UI</i>	Data rejected due to low abundance.
Cesium-135 HE	0.4038	0.09673	pCi/g	0.2956	N	0 9 0		NOT_IDENTI 0	<input type="checkbox"/>	
Gross Gamma —	12.68	1.579	pCi/g	3.458	N	0			<input type="checkbox"/>	
Iodine-133 HE	11800	33670	pCi/g	0	N	0 9 0		SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135 —	7.74E+18 0		pCi/g	0	N	0 9 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212 ✓	2.321	0.1642	pCi/g	0.09093	0.100	238.7 2	1.244	IDENTIFIED 2.486	<input type="checkbox"/>	
Lead-214 ✓	1.991	0.1533	pCi/g	0.1207	0.100	351.9 2	1.464	IDENTIFIED 4.227	<input type="checkbox"/>	
Neptunium-237 HE	0.7432	0.194	pCi/g	0.4257	N	87.75 3	1.07	IDENTIFIED 23.42	<input type="checkbox"/>	
Niobium-95 HE	0.09599	0.02579	pCi/g	0.08068	N	0 9 0		NOT_IDENTI 0	<input type="checkbox"/>	

Potassium-40	✓	38.69	1.957	pCi/g	0.4683	1.00	1461	1	2.8	IDENTIFIED	2.149	<input type="checkbox"/>	
Radium-224	int	6.32	0.6269	pCi/g	0.9734	Y	241.8	1	1.784	IDENTIFIED	7.684	<input checked="" type="checkbox"/>	ui
Radium-226	✓	1.533	0.1142	pCi/g	0.1157	Y	609.4	2	1.701	IDENTIFIED	4.63	<input type="checkbox"/>	
Radium-228	✓	2.62	0.2323	pCi/g	0.2162	0.500	911.4	3	1.973	IDENTIFIED	5.726	<input type="checkbox"/>	
Strontium-85	LA	0.1817	0.02494	pCi/g	0.08077	Y	0	9	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208	✓	0.6725	0.05321	pCi/g	0.05413	0.080	583.3	1	1.667	IDENTIFIED	5.767	<input type="checkbox"/>	
Thorium-228	nr	2.321	0.1642	pCi/g	0.09093	N	238.7	2	1.244	IDENTIFIED	2.486	<input type="checkbox"/>	
Thorium-232	nr	2.62	0.2323	pCi/g	0.2162	N	911.4	3	1.973	IDENTIFIED	5.726	<input type="checkbox"/>	
Thorium-234	✓	2.413	0.9803	pCi/g	2.035	2.00	63.1	2	1.288	IDENTIFIED	39.64	<input type="checkbox"/>	
Tin-126	HE	0.2491	0.05952	pCi/g	0.1494	N	87.75	3	1.07	IDENTIFIED	23.42	<input type="checkbox"/>	
Total Uranium		7.2182	2.92E-06	ug/g	3.0296	N		0				<input type="checkbox"/>	
Uranium-238	HE	2.413	0.9803	pCi/g	2.035	N	63.1	2	1.288	IDENTIFIED	39.64	<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
248051008	20-FEB-10 12:00	10-MAR-10 19:19	18.3	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	2.094	0.2622	pCi/g	0.282	N	911.7	3	1.769	IDENTIFIED	11.01	<input type="checkbox"/>	
Annihilation Rad. HE		0.1192	0.03815	pCi/g	0.05819	N	511.2	1	1.717	IDENTIFIED	31.73	<input type="checkbox"/>	
Barium-137m	nr	0.5874	0.05887	pCi/g	0.07149	N	662	2	1.49	IDENTIFIED	9.148	<input type="checkbox"/>	
Bismuth-211	int	3.623	0.3336	pCi/g	0.4006	Y	352.3	2	1.267	IDENTIFIED	8.01	<input checked="" type="checkbox"/>	ui
Bismuth-212	HE	1.79	0.5526	pCi/g	1.386	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	✓	1.134	0.122	pCi/g	0.1378	0.200	609.5	2	1.633	IDENTIFIED	9.554	<input type="checkbox"/>	
Cadmium-109	int	2.482	0.616	pCi/g	1.747	Y	87.45	3	1.065	IDENTIFIED	24.37	<input checked="" type="checkbox"/>	ui
Cadmium-115	HE	8.971	18.35	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cerium-143	-	1484	492.9	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	LA	0.1306	0.04016	pCi/g	0.1274	0.100	0	8	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cesium-137	✓	0.6205	0.06222	pCi/g	0.07552	0.100	662	2	1.49	IDENTIFIED	9.148	<input type="checkbox"/>	
Gross Gamma	-	9.543	1.538	pCi/g	3.835	N	0					<input type="checkbox"/>	
Iodine-133	HE	36710	45670	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Iodine-135	-	1.11E+19	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	✓	1.771	0.1136	pCi/g	0.1166	0.100	239	2	1.319	IDENTIFIED	3.905	<input type="checkbox"/>	
Lead-214	✓	1.315	0.1264	pCi/g	0.1463	0.100	352.3	2	1.267	IDENTIFIED	8.01	<input type="checkbox"/>	
Neptunium-237	HE	0.7204	0.1941	pCi/g	0.488	N	87.45	3	1.065	IDENTIFIED	24.37	<input type="checkbox"/>	
Potassium-40	✓	27.14	1.572	pCi/g	0.6907	1.00	1461	1	1.794	IDENTIFIED	3.71	<input type="checkbox"/>	
Radium-224	int	4.553	0.8744	pCi/g	1.25	Y	242	1	2.067	IDENTIFIED	18.66	<input checked="" type="checkbox"/>	ui
Radium-226	✓	1.134	0.122	pCi/g	0.1378	Y	609.5	2	1.633	IDENTIFIED	9.554	<input type="checkbox"/>	
Radium-228	✓	2.094	0.2622	pCi/g	0.282	0.500	911.7	3	1.769	IDENTIFIED	11.01	<input type="checkbox"/>	
Sodium-24	HE	1.55E+07	1.49E+07	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Strontium-85	LA	0.1447	0.02817	pCi/g	0.09741	Y	0	8	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208	✓	0.6237	0.05751	pCi/g	0.07027	0.080	583.5	1	1.558	IDENTIFIED	8.03	<input type="checkbox"/>	
Thorium-228	nr	1.771	0.1136	pCi/g	0.1166	N	239	2	1.319	IDENTIFIED	3.905	<input type="checkbox"/>	
Thorium-232	nr	2.094	0.2622	pCi/g	0.282	N	911.7	3	1.769	IDENTIFIED	11.01	<input type="checkbox"/>	
Tin-126	HE	0.2414	0.05993	pCi/g	0.1761	N	87.45	3	1.065	IDENTIFIED	24.37	<input type="checkbox"/>	
Total Uranium		6.8897	3.43E-06	ug/g	4.0213	N		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
248051009	20-FEB-10 12:00	10-MAR-10 19:19	18.3	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	1.99	0.2348	pCi/g	0.2645	N	910.6	3	1.689	IDENTIFIED	9.92	<input type="checkbox"/>	
Annihilation Rad.		0.1677	0.03756	pCi/g	0.05315	N	510.6	1	1.848	IDENTIFIED	21.84	<input type="checkbox"/>	
Barium-137m	HE	0.1257	0.02408	pCi/g	0.09147	N	0	6	0	NOT_IDENTI	0	<input type="checkbox"/>	
Bismuth-211	int	4.867	0.3762	pCi/g	0.3829	Y	351.5	2	1.27	IDENTIFIED	5.149	<input checked="" type="checkbox"/>	ui

Bismuth-212 <i>LA</i>	2.572	0.5267	pCi/g	1.38	N	0	6	0	FAIL_ABUND0	<input type="checkbox"/>	
Bismuth-214 <i>✓</i>	1.381	0.1111	pCi/g	0.1243	0.200	608.8	2	1.323	IDENTIFIED	6.041	<input type="checkbox"/>
Cadmium-109 <i>INT</i>	4.062	0.5884	pCi/g	1.346	Y	86.93	3	1.139	IDENTIFIED	13.61	<input checked="" type="checkbox"/> <i>UI</i>
Cadmium-115 HE	23.64	17.52	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Cerium-143	5748	870.7	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-135 <i>nvp nr</i>	0.6536	0.1485	pCi/g	0.2727	N	269.6	1	1.629	IDENTIFIED	21.73	<input type="checkbox"/>
Cesium-137 <i>LA</i>	0.1328	0.02544	pCi/g	0.09663	0.100	0	6	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> <i>UI</i> Data rejected due to low abundance.
Gross Gamma	11.14	1.536	pCi/g	3.88	N	0					<input type="checkbox"/>
Lead-212 <i>✓</i>	2.112	0.1493	pCi/g	0.1095	0.100	238.3	2	1.09	IDENTIFIED	3.189	<input type="checkbox"/>
Lead-214 <i>✓</i>	1.766	0.145	pCi/g	0.1393	0.100	351.5	2	1.27	IDENTIFIED	5.149	<input type="checkbox"/>
Neptunium-237 <i>nr</i>	1.179	0.2108	pCi/g	0.3987	N	86.93	3	1.139	IDENTIFIED	13.61	<input type="checkbox"/>
Niobium-95 HE	0.1133	0.02991	pCi/g	0.1002	N	0	6	0	NOT_IDENTI	0	<input type="checkbox"/>
Potassium-40 <i>✓</i>	30.93	1.749	pCi/g	0.484	1.00	1460	1	2.524	IDENTIFIED	3.063	<input type="checkbox"/>
Radium-224 <i>INT</i>	4.929	0.7215	pCi/g	1.174	Y	241.3	1	1.643	IDENTIFIED	13.4	<input checked="" type="checkbox"/> <i>UI</i>
Radium-226 <i>✓</i>	1.381	0.1111	pCi/g	0.1243	Y	608.8	2	1.323	IDENTIFIED	6.041	<input type="checkbox"/>
Radium-228 <i>✓</i>	1.99	0.2348	pCi/g	0.2645	0.500	910.6	3	1.689	IDENTIFIED	9.92	<input type="checkbox"/>
Thallium-208 <i>✓</i>	0.6421	0.05705	pCi/g	0.06966	0.080	582.7	1	1.22	IDENTIFIED	7.34	<input type="checkbox"/>
Thorium-228 <i>nr</i>	2.112	0.1493	pCi/g	0.1095	N	238.3	2	1.09	IDENTIFIED	3.189	<input type="checkbox"/>
Thorium-232 <i>nr</i>	1.99	0.2348	pCi/g	0.2645	N	910.6	3	1.689	IDENTIFIED	9.92	<input type="checkbox"/>
Thorium-234 <i>✓</i>	4.223	1.359	pCi/g	2.626	2.00	63	2	0.9256	IDENTIFIED	30.88	<input type="checkbox"/>
Tin-126 <i>nr</i>	0.3952	0.05724	pCi/g	0.1317	N	86.93	3	1.139	IDENTIFIED	13.61	<input type="checkbox"/>
Total Uranium	12.589	4.04E-06	ug/g	3.9102	N	0					<input type="checkbox"/>
Uranium-238 HE	4.223	1.359	pCi/g	2.626	N	63	2	0.9256	IDENTIFIED	30.88	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
248051010	20-FEB-10 12:00	10-MAR-10 19:34	18.3	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 <i>✓ nr</i>	1.764	0.2117	pCi/g	0.2881	N	911.1	3	1.717	IDENTIFIED	10.54	<input type="checkbox"/>
Annihilation Rad.	0.2462	0.04537	pCi/g	0.05817	N	511.1	1	2.259	IDENTIFIED	17.86	<input type="checkbox"/>
Barium-137m <i>nr</i>	0.4069	0.04408	pCi/g	0.09153	N	661.3	2	1.356	IDENTIFIED	9.926	<input type="checkbox"/>
Bismuth-211 <i>INT</i>	3.91	0.3032	pCi/g	0.4213	Y	351.8	2	1.431	IDENTIFIED	6.123	<input checked="" type="checkbox"/> <i>UI</i>
Bismuth-212 HE	1.529	0.5883	pCi/g	1.305	N	0	7	0	FAIL_ABUND0		<input type="checkbox"/>
Bismuth-214 <i>✓</i>	1.43	0.1178	pCi/g	0.1532	0.200	609.2	2	1.773	IDENTIFIED	6.391	<input type="checkbox"/>
Cadmium-109 <i>INT</i>	3.631	0.4968	pCi/g	1.115	Y	87.12	3	1.312	IDENTIFIED	12.71	<input checked="" type="checkbox"/> <i>UI</i>
Cerium-143	3643	625.4	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-137 <i>✓</i>	0.4299	0.04658	pCi/g	0.09669	0.100	661.3	2	1.356	IDENTIFIED	9.926	<input type="checkbox"/>
Gross Gamma	9.637	1.369	pCi/g	3.328	N	0					<input type="checkbox"/>
Iodine-133 HE	2990	47620	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-210 HE	1.393	0.4026	pCi/g	0.9348	N	46.62	1	1.16	IDENTIFIED	28.38	<input type="checkbox"/>
Lead-212 <i>✓</i>	1.789	0.1106	pCi/g	0.1035	0.100	238.6	2	1.332	IDENTIFIED	3.394	<input type="checkbox"/>
Lead-214 <i>✓</i>	1.419	0.1168	pCi/g	0.1597	0.100	351.8	2	1.431	IDENTIFIED	6.123	<input type="checkbox"/>
Neptunium-237 <i>nr</i>	1.054	0.1817	pCi/g	0.3223	N	87.12	3	1.312	IDENTIFIED	12.71	<input type="checkbox"/>
Niobium-95m HE	0.2933	0.08275	pCi/g	0.2678	N	0	7	0	NOT_IDENTI	0	<input type="checkbox"/>
Potassium-40 <i>✓</i>	29.02	1.613	pCi/g	0.7323	1.00	1460	1	2.201	IDENTIFIED	3.298	<input type="checkbox"/>
Promethium-149 HE	145.9	145.6	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Radium-224 <i>INT</i>	4.202	0.706	pCi/g	1.109	Y	241.6	1	1.812	IDENTIFIED	16.15	<input checked="" type="checkbox"/> <i>UI</i>
Radium-226 <i>✓</i>	1.43	0.1178	pCi/g	0.1532	Y	609.2	2	1.773	IDENTIFIED	6.391	<input type="checkbox"/>
Radium-228 <i>✓</i>	1.764	0.2117	pCi/g	0.2881	0.500	911.1	3	1.717	IDENTIFIED	10.54	<input type="checkbox"/>
Sodium-24 HE	1.18E+07	1.54E+07	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Strontium-85 <i>LA</i>	0.105	0.02535	pCi/g	0.09336	Y	0	7	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> <i>UI</i> Data rejected due to low abundance.
Thallium-208 <i>✓</i>	0.5718	0.05724	pCi/g	0.07086	0.080	583.1	1	1.632	IDENTIFIED	8.774	<input type="checkbox"/>
Thorium-228 <i>nr</i>	1.789	0.1106	pCi/g	0.1035	N	238.6	2	1.332	IDENTIFIED	3.394	<input type="checkbox"/>
Thorium-232 <i>nr</i>	1.764	0.2117	pCi/g	0.2881	N	911.1	3	1.717	IDENTIFIED	10.54	<input type="checkbox"/>

Thorium-234	✓	2.141	0.5853	pCi/g	1.154	2.00	63.29	2	1.241	IDENTIFIED	25.58	<input type="checkbox"/>
Tin-126	✓	0.3532	0.04833	pCi/g	0.1083	N	87.12	3	1.312	IDENTIFIED	12.71	<input type="checkbox"/>
Total Uranium		6.3575	1.74E-06	ug/g	1.7197	N		0				<input type="checkbox"/>
Uranium-238	HE	2.141	0.5853	pCi/g	1.154	N	63.29	2	1.241	IDENTIFIED	25.58	<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
248051011	20-FEB-10 12:00	10-MAR-10 19:35	18.3	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	1.947	0.1842	pCi/g	0.1746	N	910.6	3	2.088	IDENTIFIED	6.599 <input type="checkbox"/>
Annihilation Rad.		0.1574	0.02791	pCi/g	0.03877	N	510.5	1	1.791	IDENTIFIED	17.42 <input type="checkbox"/>
Barium-137m	HE	0.06495	0.02945	pCi/g	0.04335	N	660.6	2	1.319	IDENTIFIED	45.19 <input type="checkbox"/>
Bismuth-211	INT	4.189	0.2258	pCi/g	0.2659	Y	351.8	2	1.432	IDENTIFIED	4.329 <input checked="" type="checkbox"/>
Bismuth-212	LA	2.113	0.4977	pCi/g	1.023	N	0	7	0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214	✓	1.192	0.08277	pCi/g	0.08414	0.200	609.1	2	1.687	IDENTIFIED	5.295 <input type="checkbox"/>
Cadmium-109	INT	3.974	0.5685	pCi/g	1.242	Y	87.34	3	1.402	IDENTIFIED	13.55 <input checked="" type="checkbox"/>
Cerium-143	-	4087	571.8	pCi/g	0	N	0	7	0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-134	LA	0.1073	0.02526	pCi/g	0.07284	0.100	0	7	0	FAIL_ABUND	0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	Tunc	0.06861	0.03111	pCi/g	0.04579	0.100	660.6	2	1.319	IDENTIFIED	45.19 <input checked="" type="checkbox"/>
Gross Gamma	-	9.834	1.242	pCi/g	2.52	N	0				<input type="checkbox"/>
Iodine-135		2.09E+18	0	pCi/g	0	N	0	7	0	SHORT_HLIF	0 <input type="checkbox"/>
Lead-212	✓	1.775	0.08066	pCi/g	0.07716	0.100	238.7	2	1.247	IDENTIFIED	2.769 <input type="checkbox"/>
Lead-214	✓	1.52	0.09204	pCi/g	0.09668	0.100	351.8	2	1.432	IDENTIFIED	4.329 <input type="checkbox"/>
Neptunium-237	✓	1.154	0.2046	pCi/g	0.402	N	87.34	3	1.402	IDENTIFIED	13.55 <input type="checkbox"/>
Potassium-40	✓	28.67	1.299	pCi/g	0.4675	1.00	1460	1	2.208	IDENTIFIED	2.476 <input type="checkbox"/>
Promethium-149	HE	95.08	98.57	pCi/g	0	N	0	7	0	SHORT_HLIF	0 <input type="checkbox"/>
Radium-224	INT	4.581	0.5454	pCi/g	0.8259	Y	241.6	1	1.767	IDENTIFIED	11.58 <input checked="" type="checkbox"/>
Radium-226	✓	1.192	0.08277	pCi/g	0.08414	Y	609.1	2	1.687	IDENTIFIED	5.295 <input type="checkbox"/>
Radium-228	✓	1.947	0.1842	pCi/g	0.1746	0.500	910.6	3	2.088	IDENTIFIED	6.599 <input type="checkbox"/>
Sodium-24	HE	1.32E+06	1.04E+07	pCi/g	0	N	0	7	0	SHORT_HLIF	0 <input type="checkbox"/>
Strontium-85	LA	0.07311	0.01896	pCi/g	0.06186	Y	0	7	0	NOT_IDENTI	0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	✓	0.5604	0.04171	pCi/g	0.04327	0.080	582.8	1	1.519	IDENTIFIED	6.331 <input type="checkbox"/>
Thorium-228	✓	1.775	0.08066	pCi/g	0.07716	N	238.7	2	1.247	IDENTIFIED	2.769 <input type="checkbox"/>
Thorium-232	✓	1.947	0.1842	pCi/g	0.1746	N	910.6	3	2.088	IDENTIFIED	6.599 <input type="checkbox"/>
Tin-126	✓	0.3866	0.0553	pCi/g	0.1216	N	87.34	3	1.402	IDENTIFIED	13.55 <input type="checkbox"/>
Total Uranium		4.9525	2.23E-06	ug/g	3.9753	N	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
248051012	20-FEB-10 12:00	10-MAR-10 19:35	18.3	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	1.615	0.1943	pCi/g	0.2554	N	910.1	3	1.587	IDENTIFIED	10.46 <input type="checkbox"/>
Annihilation Rad.	HE	0.1055	0.03865	pCi/g	0.04784	N	509.8	1	2.05	IDENTIFIED	36.5 <input type="checkbox"/>
Barium-137m	✓	0.1489	0.04256	pCi/g	0.06168	N	660.1	2	1.599	IDENTIFIED	28.48 <input type="checkbox"/>
Bismuth-211	INT	4.091	0.2814	pCi/g	0.3495	Y	351.5	2	1.524	IDENTIFIED	6.058 <input checked="" type="checkbox"/>
Bismuth-212	HE	2.183	0.4744	pCi/g	1.273	N	0	8	0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214	✓	1.183	0.0926	pCi/g	0.1178	0.200	608.5	2	1.575	IDENTIFIED	6.848 <input type="checkbox"/>
Cadmium-109	INT	2.969	0.5061	pCi/g	1.541	Y	87	3	1.045	IDENTIFIED	16.34 <input checked="" type="checkbox"/>
Cerium-143	-	6213	930.8	pCi/g	0	N	0	8	0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-135	HE	0.3736	0.1025	pCi/g	0.2899	N	269.9	1	0.8578	IDENTIFIED	27.17 <input type="checkbox"/>
Cesium-137	✓	0.1573	0.04497	pCi/g	0.06516	0.100	660.1	2	1.599	IDENTIFIED	28.48 <input type="checkbox"/>
Gross Gamma	-	8.907	1.238	pCi/g	3.12	N	0				<input type="checkbox"/>
Iodine-133	HE	7093	43400	pCi/g	0	N	0	8	0	SHORT_HLIF	0 <input type="checkbox"/>

Iodine-135	✓	9.23E+18 0	pCi/g 0	N	0	8	0	SHORT_HLIF 0	☐
Lead-212	✓	1.696	0.08393 pCi/g	0.1021	0.100	238.3	2	1.185 IDENTIFIED	3.366 ☐
Lead-214	✓	1.485	0.11 pCi/g	0.1271	0.100	351.5	2	1.524 IDENTIFIED	6.058 ☐
Neptunium-237	✓	0.8618	0.1725 pCi/g	0.4571	N	87	3	1.045 IDENTIFIED	16.34 ☐
Niobium-95m	✓	0.7942	0.09633 pCi/g	0.3244	N	0	8	0 NOT_IDENTI	0 ☐
Potassium-40	✓	28.4	1.382 pCi/g	0.6111	1.00	1459	1	2.262 IDENTIFIED	3.111 ☐
Promethium-149	✓	280.2	131.8 pCi/g	0	N	0	8	0 SHORT_HLIF	0 ☐
Protactinium-234m HE	✓	10.98	2.485 pCi/g	9.662	N	0	8	0 FAIL_ABUND	0 ☐
Radium-224	INT	3.712	0.6607 pCi/g	1.094	Y	241.2	1	1.761 IDENTIFIED	17.57 ✓/u
Radium-226	✓	1.183	0.0926 pCi/g	0.1178	Y	608.5	2	1.575 IDENTIFIED	6.848 ☐
Radium-228	✓	1.615	0.1943 pCi/g	0.2554	0.500	910.1	3	1.587 IDENTIFIED	10.46 ☐
Thallium-208	✓	0.4716	0.03953 pCi/g	0.06289	0.080	582.3	1	1.378 IDENTIFIED	7.731 ☐
Thorium-228	✓	1.696	0.08393 pCi/g	0.1021	N	238.3	2	1.185 IDENTIFIED	3.366 ☐
Thorium-232	✓	1.615	0.1943 pCi/g	0.2554	N	910.1	3	1.587 IDENTIFIED	10.46 ☐
Thorium-234	✓	4.261	1.226 pCi/g	2.868	2.00	63.38	2	1.014 IDENTIFIED	27.26 ☐
Tin-126	✓	0.2888	0.04923 pCi/g	0.1509	N	87	3	1.045 IDENTIFIED	16.34 ☐
Total Uranium	✓	12.738	3.65E-06 ug/g	4.2692	N		0		☐
Uranium-238	HE	4.261	1.226 pCi/g	2.868	N	63.38	2	1.014 IDENTIFIED	27.26 ☐
Zinc-65	HE	0.2376	0.05911 pCi/g	0.2058	N	0	8	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
248051013	20-FEB-10 12:00	10-MAR-10 20:41	18.4	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	2.151	0.2379 pCi/g	0.2733	N	910.9	3	1.702 IDENTIFIED	9.062 ☐	
Annihilation Rad. HE	✓	0.1178	0.04346 pCi/g	0.06512	N	510.4	1	1.8 IDENTIFIED	36.76 ☐	
Bismuth-211	INT	5.215	0.3615 pCi/g	0.4543	Y	351.5	2	1.387 IDENTIFIED	5.692 ✓/u	
Bismuth-212 HE	✓	2.221	0.641 pCi/g	1.633	N	0	9	0 FAIL_ABUND	0 ☐	
Bismuth-214	✓	1.632	0.1185 pCi/g	0.1689	0.200	608.8	2	1.422 IDENTIFIED	5.909 ☐	
Cadmium-109	INT	4.773	0.5039 pCi/g	1.227	Y	86.76	3	1.104 IDENTIFIED	9.844 ✓/u	
Cerium-143	✓	8788	1184 pCi/g	0	N	0	9	0 SHORT_HLIF	0 ☐	
Cesium-134	LA	0.2951	0.05526 pCi/g	0.1314	0.100	0	9	0 FAIL_ABUND	0 ✓ UI	Data rejected due to low abundance.
Cesium-135 HE	✓	0.5076	0.1131 pCi/g	0.3698	N	0	9	0 NOT_IDENTI	0 ☐	
Gross Gamma	✓	12.33	1.778 pCi/g	5.567	N		0		☐	
Iodine-133 HE	✓	14610	55630 pCi/g	0	N	0	9	0 SHORT_HLIF	0 ☐	
Iodine-135	✓	1.28E+17 0	pCi/g 0		N	0	9	0 SHORT_HLIF	0 ☐	
Lead-210 HE	✓	1.775	0.489 pCi/g	1.045	N	45.97	1	1.402 IDENTIFIED	27.27 ☐	
Lead-212	✓	2.432	0.1502 pCi/g	0.1102	0.100	238.2	2	1.258 IDENTIFIED	2.969 ☐	
Lead-214	✓	1.893	0.1412 pCi/g	0.1652	0.100	351.5	2	1.387 IDENTIFIED	5.692 ☐	
Neptunium-237	✓	1.385	0.2061 pCi/g	0.3545	N	86.76	3	1.104 IDENTIFIED	9.844 ☐	
Niobium-95m	✓	1.772	0.1468 pCi/g	0.4292	N	0	9	0 NOT_IDENTI	0 ☐	
Potassium-40	✓	32.46	1.484 pCi/g	0.763	1.00	1460	1	2.17 IDENTIFIED	3.351 ☐	
Promethium-149 HE	✓	23.73	154.2 pCi/g	0	N	0	9	0 SHORT_HLIF	0 ☐	
Radium-224	INT	6.296	0.8046 pCi/g	1.181	Y	241.3	1	1.828 IDENTIFIED	11.81 ✓/u	
Radium-226	✓	1.632	0.1185 pCi/g	0.1689	Y	608.8	2	1.422 IDENTIFIED	5.909 ☐	
Radium-228	✓	2.151	0.2379 pCi/g	0.2733	0.500	910.9	3	1.702 IDENTIFIED	9.062 ☐	
Sodium-24 HE	✓	2.02E+07	1.57E+07 pCi/g	0	N	0	9	0 SHORT_HLIF	0 ☐	
Thallium-208	✓	0.6645	0.0558 pCi/g	0.08192	0.080	582.7	1	1.275 IDENTIFIED	7.552 ☐	
Thorium-228	✓	2.432	0.1502 pCi/g	0.1102	N	238.2	2	1.258 IDENTIFIED	2.969 ☐	
Thorium-232	✓	2.151	0.2379 pCi/g	0.2733	N	910.9	3	1.702 IDENTIFIED	9.062 ☐	
Thorium-234	✓	1.368	0.6295 pCi/g	1.332	2.00	62.66	2	1.135 IDENTIFIED	45.13 ✓/u	
Tin-126	✓	0.4643	0.04902 pCi/g	0.1192	N	86.76	3	1.104 IDENTIFIED	9.844 ☐	
Total Uranium	✓	4.1191	1.87E-06 ug/g	1.9856	N		0		☐	
Uranium-238	HE	1.368	0.6295 pCi/g	1.332	N	62.66	2	1.135 IDENTIFIED	45.13 ☐	

*** = 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
248051014	20-FEB-10 12:00	10-MAR-10 20:41	18.4	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 ✓ <i>nr</i>	0.7329	0.1103	pCi/g	0.1698	N	911.5 3	1.874	IDENTIFIED 13.81	<input type="checkbox"/>	
Annihilation Rad. HE	0.07074	0.02263	pCi/g	0.03636	N	511.1 1	2.521	IDENTIFIED 31.69	<input type="checkbox"/>	
Barium-137m HE	0.05896	0.02298	pCi/g	0.04055	N	662 2	1.332	IDENTIFIED 38.72	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	1.998	0.1682	pCi/g	0.2346	Y	352 2	1.177	IDENTIFIED 7.125	<input checked="" type="checkbox"/> <i>W</i>	
Bismuth-212 HE	1.277	0.3765	pCi/g	0.8558	N	0 5 0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214 ✓	0.572	0.06063	pCi/g	0.09025	0.200	609.6 2	1.413	IDENTIFIED 9.238	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	2.17	0.2719	pCi/g	0.7943	Y	87.29 3	1.371	IDENTIFIED 11.63	<input checked="" type="checkbox"/> <i>W</i>	
Cadmium-115 HE	7.186	11.17	pCi/g	0	N	0 5 0	SHORT_HLIF	0	<input type="checkbox"/>	
Cerium-143	1449	330.4	pCi/g	0	N	0 5 0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-137 ✓	0.06229	0.02428	pCi/g	0.04283	0.100	662 2	1.332	IDENTIFIED 38.72	<input type="checkbox"/>	
Gross Gamma	4.892	0.7599	pCi/g	2.008	N	0			<input type="checkbox"/>	
Lead-212 ✓	0.6882	0.05425	pCi/g	0.09862	0.100	238.7 2	1.195	IDENTIFIED 6.248	<input type="checkbox"/>	
Lead-214 ✓	0.725	0.06423	pCi/g	0.08533	0.100	352 2	1.177	IDENTIFIED 7.125	<input type="checkbox"/>	
Neptunium-237	0.6297	0.1029	pCi/g	0.2632	N	87.29 3	1.371	IDENTIFIED 11.63	<input type="checkbox"/>	
Potassium-40 ✓	19.52	1.04	pCi/g	0.3027	1.00	1461 1	2.146	IDENTIFIED 3.153	<input type="checkbox"/>	
Radium-224 <i>INT</i>	1.388	0.2873	pCi/g	0.8202	Y	241.8 1	1.51	IDENTIFIED 20.26	<input checked="" type="checkbox"/> <i>W</i>	
Radium-226 ✓	0.572	0.06063	pCi/g	0.09025	Y	609.6 2	1.413	IDENTIFIED 9.238	<input type="checkbox"/>	
Radium-228 ✓	0.7329	0.1103	pCi/g	0.1698	0.500	911.5 3	1.874	IDENTIFIED 13.81	<input type="checkbox"/>	
Sodium-24 HE	5.40E+06	8.80E+06	pCi/g	0	N	0 5 0	SHORT_HLIF	0	<input type="checkbox"/>	
Technetium-99m	6.03E+19	0	pCi/g	0	N	0 5 0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208 ✓	0.2658	0.02858	pCi/g	0.03808	0.080	583.5 1	1.477	IDENTIFIED 9.631	<input type="checkbox"/>	
Thorium-228 <i>nr</i>	0.6882	0.05425	pCi/g	0.09862	N	238.7 2	1.195	IDENTIFIED 6.248	<input type="checkbox"/>	
Thorium-232 <i>nr</i>	0.7329	0.1103	pCi/g	0.1698	N	911.5 3	1.874	IDENTIFIED 13.81	<input type="checkbox"/>	
Tin-126 <i>nr</i>	0.211	0.02645	pCi/g	0.07744	N	87.29 3	1.371	IDENTIFIED 11.63	<input type="checkbox"/>	
Total Uranium	2.2682	1.06E-06	ug/g	1.9984	N	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
248051015	20-FEB-10 12:00	10-MAR-10 20:42	18.4	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 ✓ <i>nr</i>	1.721	0.1724	pCi/g	0.1946	N	911.7 3	1.695	IDENTIFIED 7.997	<input type="checkbox"/>	
Annihilation Rad.	0.1129	0.02997	pCi/g	0.04371	N	510.5 1	1.886	IDENTIFIED 26.37	<input type="checkbox"/>	
Barium-137m <i>nr</i>	0.6356	0.04366	pCi/g	0.05604	N	661.9 2	1.536	IDENTIFIED 6.192	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	3.539	0.2088	pCi/g	0.3115	Y	351.9 2	1.5	IDENTIFIED 4.976	<input checked="" type="checkbox"/> <i>W</i>	
Bismuth-212 <i>LA</i>	2.081	0.3403	pCi/g	1.109	N	0 6 0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214 ✓	1.031	0.07673	pCi/g	0.09729	0.200	609.4 2	1.64	IDENTIFIED 6.285	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	3.953	0.5113	pCi/g	1.077	Y	87.19 3	1.553	IDENTIFIED 12.19	<input checked="" type="checkbox"/> <i>W</i>	
Cerium-143	4889	692	pCi/g	0	N	0 6 0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134 <i>LA</i>	0.1233	0.02453	pCi/g	0.09306	0.100	0 6 0	FAIL_ABUND	0	<input checked="" type="checkbox"/> <i>U</i>	Data rejected due to low abundance.
Cesium-137 ✓	0.6714	0.04616	pCi/g	0.0592	0.100	661.9 2	1.536	IDENTIFIED 6.192	<input type="checkbox"/>	
Gross Gamma	8.61	1.192	pCi/g	3.144	N	0			<input type="checkbox"/>	
Lead-212 ✓	1.413	0.07325	pCi/g	0.09435	0.100	238.5 2	1.308	IDENTIFIED 3.657	<input type="checkbox"/>	
Lead-214 ✓	1.284	0.08364	pCi/g	0.1162	0.100	351.9 2	1.5	IDENTIFIED 4.976	<input type="checkbox"/>	
Neptunium-237 <i>INT</i>	1.147	0.191	pCi/g	0.3164	N	87.19 3	1.553	IDENTIFIED 12.19	<input type="checkbox"/>	
Niobium-95m	0.5422	0.08037	pCi/g	0.2717	N	0 6 0	NOT_IDENTI	0	<input type="checkbox"/>	
Potassium-40 ✓	24.63	1.179	pCi/g	0.5004	1.00	1461 1	1.94	IDENTIFIED 3.122	<input type="checkbox"/>	
Promethium-149 HE	0.1834	120.4	pCi/g	0	N	0 6 0	SHORT_HLIF	0	<input type="checkbox"/>	
Radium-224 <i>INT</i>	3.322	0.5547	pCi/g	1.011	Y	241.6 1	1.874	IDENTIFIED 16.45	<input checked="" type="checkbox"/> <i>W</i>	
Radium-226 ✓	1.031	0.07673	pCi/g	0.09729	Y	609.4 2	1.64	IDENTIFIED 6.285	<input type="checkbox"/>	

Radium-228	✓	1.721	0.1724	pCi/g	0.1946	0.500	911.7	3	1.695	IDENTIFIED	7.997	☐
Sodium-24	HE	5.33E+06	1.11E+07	pCi/g	0	N	0	6	0	SHORT_HLIF	0	☐
Thallium-208	✓	0.4749	0.03674	pCi/g	0.04864	0.080	583.1	1	1.616	IDENTIFIED	6.942	☐
Thorium-228	✓	1.413	0.07325	pCi/g	0.09435	N	238.5	2	1.308	IDENTIFIED	3.657	☐
Thorium-232	✓	1.721	0.1724	pCi/g	0.1946	N	911.7	3	1.695	IDENTIFIED	7.997	☐
Thorium-234	✓	2.865	0.7852	pCi/g	1.786	2.00	63.51	2	1.583	IDENTIFIED	25.96	☐
Tin-126	✓	0.3845	0.04974	pCi/g	0.1052	N	87.19	3	1.553	IDENTIFIED	12.19	☐
Total Uranium		8.6208	2.34E-06	ug/g	2.6589	N		0				☐
Uranium-238	HE	2.865	0.7852	pCi/g	1.786	N	63.51	2	1.583	IDENTIFIED	25.96	☐

*** = 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
248051016	20-FEB-10 12:00	10-MAR-10 20:42	18.4	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓	1.839	0.2893	pCi/g	0.3127	N	910.2	3	1.789	IDENTIFIED	14.6	☐	
Annihilation Rad.		0.2522	0.05495	pCi/g	0.06408	N	510.4	1	1.699	IDENTIFIED	21.33	☐	
Barium-137m	✓	1.081	0.08097	pCi/g	0.09037	N	660.9	2	1.339	IDENTIFIED	6.188	☐	
Bismuth-211	INT	4.488	0.3591	pCi/g	0.4474	Y	351.5	2	1.351	IDENTIFIED	6.503	✓	W
Bismuth-212	HE	2.011	0.4556	pCi/g	1.74	N	0	4	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.446	0.1306	pCi/g	0.1722	0.200	608.6	2	1.405	IDENTIFIED	7.444	☐	
Cadmium-109	INT	5.236	0.5685	pCi/g	1.099	Y	87.24	3	1.173	IDENTIFIED	9.7	✓	W
Cerium-143	-	7561	1078	pCi/g	0	N	0	4	0	SHORT_HLIF	0	☐	
Cesium-135	HE	0.5611	0.1676	pCi/g	0.321	N	269.8	1	1.614	IDENTIFIED	29.41	☐	
Cesium-137	✓	1.142	0.08559	pCi/g	0.09546	0.100	660.9	2	1.339	IDENTIFIED	6.188	☐	
Gross Gamma	-	12.08	1.634	pCi/g	5.432	N	0					☐	
Iodine-135	-	5.87E+18	0	pCi/g	0	N	0	4	0	SHORT_HLIF	0	☐	
Lead-210	✓	1.893	0.448	pCi/g	0.9763	N	46.55	1	1.108	IDENTIFIED	23.04	☐	
Lead-212	✓	2.089	0.1301	pCi/g	0.1122	0.100	238.4	2	1.022	IDENTIFIED	3.626	☐	
Lead-214	✓	1.629	0.1379	pCi/g	0.1628	0.100	351.5	2	1.351	IDENTIFIED	6.503	☐	
Neptunium-237	✓	1.52	0.2294	pCi/g	0.3176	N	87.24	3	1.173	IDENTIFIED	9.7	☐	
Niobium-95	HE	0.09881	0.03482	pCi/g	0.09764	N	767.5	1	0.8866	IDENTIFIED	34.97	☐	
Potassium-40	✓	29.9	1.747	pCi/g	0.8183	1.00	1459	1	1.919	IDENTIFIED	3.802	☐	
Radium-224	INT	5.486	0.9256	pCi/g	1.203	Y	241.4	1	1.759	IDENTIFIED	16.26	✓	W
Radium-226	✓	1.446	0.1306	pCi/g	0.1722	Y	608.6	2	1.405	IDENTIFIED	7.444	☐	
Radium-228	✓	1.839	0.2893	pCi/g	0.3127	0.500	910.2	3	1.789	IDENTIFIED	14.6	☐	
Silver-110m	HE	0.127	0.03136	pCi/g	0.1078	N	0	4	0	NOT_IDENTI	0	☐	
Thallium-208	✓	0.6101	0.06925	pCi/g	0.07643	0.080	582.5	1	1.189	IDENTIFIED	10.32	☐	
Thorium-228	✓	2.089	0.1301	pCi/g	0.1122	N	238.4	2	1.022	IDENTIFIED	3.626	☐	
Thorium-232	✓	1.839	0.2893	pCi/g	0.3127	N	910.2	3	1.789	IDENTIFIED	14.6	☐	
Thorium-234	✓	2.922	0.6468	pCi/g	1.261	2.00	63.18	2	1.015	IDENTIFIED	19.99	☐	
Tin-126	✓	0.5093	0.0553	pCi/g	0.1068	N	87.24	3	1.173	IDENTIFIED	9.7	☐	
Total Uranium		8.7624	1.93E-06	ug/g	1.8795	N		0				☐	
Uranium-238	✓	2.922	0.6468	pCi/g	1.261	N	63.18	2	1.015	IDENTIFIED	19.99	☐	

*** = 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
248051017	20-FEB-10 12:00	10-MAR-10 20:42	18.4	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	✓	2.408	0.2736	pCi/g	0.3373	N	910.9	3	1.576	IDENTIFIED	9.74	☐	
Annihilation Rad.		0.1567	0.0416	pCi/g	0.06245	N	510.7	1	1.435	IDENTIFIED	26.11	☐	
Barium-137m	✓	0.4441	0.05688	pCi/g	0.08794	N	661.5	2	1.189	IDENTIFIED	11.56	☐	
Bismuth-211	INT	4.55	0.3464	pCi/g	0.3772	Y	351.7	2	1.003	IDENTIFIED	6.132	✓	W
Bismuth-212	HE	2.594	0.5243	pCi/g	1.652	N	0	9	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.773	0.1593	pCi/g	0.1396	0.200	609	2	1.268	IDENTIFIED	6.752	☐	

Cadmium-109	INT	4.8	0.4732	pCi/g	0.7725	Y	87.21	3	1.114	IDENTIFIED	8.681	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Cadmium-115	HE	17.84	20.26	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cerium-143		2635	536	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cesium-134	LA	0.1408	0.04433	pCi/g	0.1263	0.100	0	9	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Cesium-137	✓	0.4692	0.0601	pCi/g	0.0929	0.100	661.5	2	1.189	IDENTIFIED	11.56	<input type="checkbox"/>		
Europium-155	HE	0.244	0.07892	pCi/g	0.1321	N	105.2	1	1.014	IDENTIFIED	31.92	<input type="checkbox"/>		
Gross Gamma		12.33	1.55	pCi/g	5.251	N	0	0	0			<input type="checkbox"/>		
Iodine-133	HE	3894	52160	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>		
Iodine-135		3.48E+19	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>		
Lead-210	✓	1.905	0.4068	pCi/g	0.6793	N	46.52	1	0.6594	IDENTIFIED	20.82	<input type="checkbox"/>		
Lead-212	✓	2.254	0.1313	pCi/g	0.1008	0.100	238.4	2	0.8391	IDENTIFIED	2.998	<input type="checkbox"/>		
Lead-214	✓	1.651	0.1337	pCi/g	0.1373	0.100	351.7	2	1.003	IDENTIFIED	6.132	<input type="checkbox"/>		
Neptunium-237	✓	1.393	0.2005	pCi/g	0.2229	N	87.21	3	1.114	IDENTIFIED	8.681	<input type="checkbox"/>		
Potassium-40	✓	30.1	1.72	pCi/g	0.5309	1.00	1460	1	1.754	IDENTIFIED	3.799	<input type="checkbox"/>		
Promethium-149	HE	74.03	135.5	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>		
Radium-224	INT	6.083	0.602	pCi/g	1.084	Y	241.4	1	1.642	IDENTIFIED	8.843	<input checked="" type="checkbox"/>	UI	
Radium-226	✓	1.773	0.1593	pCi/g	0.1396	Y	609	2	1.268	IDENTIFIED	6.752	<input type="checkbox"/>		
Radium-228	✓	2.408	0.2736	pCi/g	0.3373	0.500	910.9	3	1.576	IDENTIFIED	9.74	<input type="checkbox"/>		
Sodium-24	HE	9.91E+06	1.99E+07	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>		
Technetium-99m		4.71E+19	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>		
Thallium-208	✓	0.6678	0.06858	pCi/g	0.06591	0.080	582.9	1	1.215	IDENTIFIED	8.71	<input type="checkbox"/>		
Thorium-228	✓	2.254	0.1313	pCi/g	0.1008	N	238.4	2	0.8391	IDENTIFIED	2.998	<input type="checkbox"/>		
Thorium-232	✓	2.408	0.2736	pCi/g	0.3373	N	910.9	3	1.576	IDENTIFIED	9.74	<input type="checkbox"/>		
Thorium-234	✓	3.172	0.5644	pCi/g	0.8898	2.00	63.17	2	0.9736	IDENTIFIED	15.33	<input type="checkbox"/>		
Tin-126	✓	0.4669	0.04603	pCi/g	0.07501	N	87.21	3	1.114	IDENTIFIED	8.681	<input type="checkbox"/>		
Total Uranium		9.5437	1.68E-06	ug/g	1.3264	N	0	0	0			<input type="checkbox"/>		
Uranium-238	✓	3.172	0.5644	pCi/g	0.8898	N	63.17	2	0.9736	IDENTIFIED	15.33	<input type="checkbox"/>		

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
248051018	20-FEB-10 12:00	10-MAR-10 20:43	18.4	SAMPLE	LOAD	1	LANL	LANL01004/GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 ✓	1.106	0.1424	pCi/g	0.1613	N	911.5	3	1.899	IDENTIFIED 10.95	☐
Annihilation Rad. HE	0.0697	0.02627	pCi/g	0.03256	N	510.8	1	1.975	IDENTIFIED 37.36	☐
Barium-137m ✓	0.249	0.02937	pCi/g	0.03906	N	661.5	2	1.498	IDENTIFIED 10.55	☐
Bismuth-211 INT	2.25	0.1926	pCi/g	0.2471	Y	352	2	1.514	IDENTIFIED 6.286	☑ UI
Bismuth-212 LA	1.523	0.2929	pCi/g	0.79	N	0	7	0	FAIL_ABUND 0	☐
Bismuth-214 ✓	0.6517	0.06324	pCi/g	0.08562	0.200	609.4	2	1.533	IDENTIFIED 7.754	☐
Cadmium-109 INT	1.819	0.3712	pCi/g	1.072	Y	87.12	3	1.199	IDENTIFIED 19.86	☑ UI
Cadmium-115 HE	1.843	10.86	pCi/g	0	N	0	7	0	SHORT_HLIF 0	☐
Cerium-143	2023	381.5	pCi/g	0	N	0	7	0	SHORT_HLIF 0	☐
Cesium-134 LA	0.06416	0.01771	pCi/g	0.05783	0.100	0	7	0	FAIL_ABUND 0	☑ UI Data rejected due to low abundance.
Cesium-137 ✓	0.2631	0.03104	pCi/g	0.04126	0.100	661.5	2	1.498	IDENTIFIED 10.55	☐
Gross Gamma	5.821	0.8317	pCi/g	1.788	N	0				☐
Iodine-135	2.75E+18 0		pCi/g	0	N	0	7	0	SHORT_HLIF 0	☐
Lead-212 ✓	0.8718	0.06892	pCi/g	0.07603	0.100	238.7	2	1.219	IDENTIFIED 4.314	☐
Lead-214 ✓	0.8166	0.07345	pCi/g	0.08964	0.100	352	2	1.514	IDENTIFIED 6.286	☐
Neptunium-237 HE	0.5279	0.1211	pCi/g	0.317	N	87.12	3	1.199	IDENTIFIED 19.86	☐
Potassium-40 ✓	21.24	1.116	pCi/g	0.3509	1.00	1461	1	2.55	IDENTIFIED 2.574	☐
Promethium-149 HE	53.37	97.09	pCi/g	0	N	0	7	0	SHORT_HLIF 0	☐
Radium-224 INT	2.455	0.44	pCi/g	0.8139	Y	241.7	1	1.714	IDENTIFIED 16.79	☑ UI
Radium-226 ✓	0.6517	0.06324	pCi/g	0.08562	Y	609.4	2	1.533	IDENTIFIED 7.754	☐
Radium-228 ✓	1.106	0.1424	pCi/g	0.1613	0.500	911.5	3	1.899	IDENTIFIED 10.95	☐
Strontium-85 LA	0.1311	0.01877	pCi/g	0.06305	Y	0	7	0	NOT_IDENTI 0	☑ UI Data rejected due to low abundance.

Thallium-208 ✓	0.3164	0.03409	pCi/g	0.04225	0.080	583.1	1	1.653	IDENTIFIED	9.313	<input type="checkbox"/>
Thorium-228 ✓	0.8718	0.06892	pCi/g	0.07603	N	238.7	2	1.219	IDENTIFIED	4.314	<input type="checkbox"/>
Thorium-232 ✓	1.106	0.1424	pCi/g	0.1613	N	911.5	3	1.899	IDENTIFIED	10.95	<input type="checkbox"/>
Thorium-234 ✓	3.085	0.7771	pCi/g	1.47	2.00	63.05	2	1.083	IDENTIFIED	23.56	<input type="checkbox"/>
Tin-126 HE	0.1769	0.03611	pCi/g	0.1047	N	87.12	3	1.199	IDENTIFIED	19.86	<input type="checkbox"/>
Total Uranium	9.1899	2.31E-06	ug/g	2.1882	N		0				<input type="checkbox"/>
Uranium-238 ✓	3.085	0.7771	pCi/g	1.47	N	63.05	2	1.083	IDENTIFIED	23.56	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202054965		10-MAR-10 20:47	0	MB	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Iodine-133 HE	9.465	7.402	pCi/g	0	N	0	2	0	SHORT_HLIF	0		<input type="checkbox"/>	
Technetium-99m HE	3.26E+08	2.27E+08	pCi/g	0	N	0	2	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
1202054966	20-FEB-10 12:00	10-MAR-10 20:47	18.4	DUP	LOAD	1		LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓	2.11	0.2003	pCi/g	0.2384	N	911.7	3	1.384	IDENTIFIED	7.148		<input type="checkbox"/>	
Annihilation Rad.	0.1586	0.03291	pCi/g	0.04022	N	510.9	1	1.432	IDENTIFIED	20.05		<input type="checkbox"/>	
Barium-137m HE	0.07195	0.02368	pCi/g	0.05741	N	661.9	2	1.474	IDENTIFIED	32.58		<input type="checkbox"/>	
Bismuth-211 ✓	5.207	0.4096	pCi/g	0.3254	Y	352	2	1.187	IDENTIFIED	4.316		<input checked="" type="checkbox"/>	u1
Bismuth-212 ✓	2.384	0.4802	pCi/g	0.7753	N	727.8	1	1.563	IDENTIFIED	19.03		<input type="checkbox"/>	
Bismuth-214 ✓	1.567	0.1234	pCi/g	0.1084	0.200	609.5	2	1.265	IDENTIFIED	5.461		<input type="checkbox"/>	
Cadmium-109 ✓	5.014	0.5207	pCi/g	0.9451	Y	87.21	3	1.179	IDENTIFIED	9.263		<input checked="" type="checkbox"/>	u1
Cerium-143 -	1466	400.1	pCi/g	0	N	0	5	0	SHORT_HLIF	0		<input type="checkbox"/>	
Cesium-137 ✓	0.07601	0.02502	pCi/g	0.06065	0.100	661.9	2	1.474	IDENTIFIED	32.58		<input type="checkbox"/>	
Gross Gamma	11.95	1.547	pCi/g	4.081	N		0					<input type="checkbox"/>	
Iodine-135 -	2.52E+19	0	pCi/g	0	N	0	5	0	SHORT_HLIF	0		<input type="checkbox"/>	
Lead-212 ✓	1.956	0.1484	pCi/g	0.08949	0.100	238.7	2	0.9111	IDENTIFIED	2.876		<input type="checkbox"/>	
Lead-214 ✓	1.89	0.1575	pCi/g	0.1184	0.100	352	2	1.187	IDENTIFIED	4.316		<input type="checkbox"/>	
Neptunium-237 ✓	1.455	0.2147	pCi/g	0.2775	N	87.21	3	1.179	IDENTIFIED	9.263		<input type="checkbox"/>	
Potassium-40 ✓	35.72	1.797	pCi/g	0.4004	1.00	1462	1	1.879	IDENTIFIED	2.574		<input type="checkbox"/>	
Promethium-149	254.1	116.7	pCi/g	0	N	0	5	0	SHORT_HLIF	0		<input type="checkbox"/>	
Radium-224 ✓	5.408	0.7562	pCi/g	0.9594	Y	241.6	1	1.596	IDENTIFIED	12.27		<input checked="" type="checkbox"/>	u1
Radium-226 ✓	1.567	0.1234	pCi/g	0.1084	Y	609.5	2	1.265	IDENTIFIED	5.461		<input type="checkbox"/>	
Radium-228 ✓	2.11	0.2003	pCi/g	0.2384	0.500	911.7	3	1.384	IDENTIFIED	7.148		<input type="checkbox"/>	
Sodium-24 HE	5.51E+06	1.28E+07	pCi/g	0	N	0	5	0	SHORT_HLIF	0		<input type="checkbox"/>	
Strontium-85 ✓	0.06736	0.01956	pCi/g	0.06627	Y	0	5	0	NOT_IDENTI	0		<input checked="" type="checkbox"/>	u1 Data rejected due to low abundance.
Thallium-208 ✓	0.6197	0.05187	pCi/g	0.05624	0.080	583.3	1	1.359	IDENTIFIED	6.399		<input type="checkbox"/>	
Thorium-228 ✓	1.956	0.1484	pCi/g	0.08949	N	238.7	2	0.9111	IDENTIFIED	2.876		<input type="checkbox"/>	
Thorium-232 ✓	2.11	0.2003	pCi/g	0.2384	N	911.7	3	1.384	IDENTIFIED	7.148		<input type="checkbox"/>	
Thorium-234 ✓	2.143	0.7546	pCi/g	1.653	2.00	63.36	2	0.9996	IDENTIFIED	34.07		<input type="checkbox"/>	
Tin-126 ✓	0.4877	0.05065	pCi/g	0.09224	N	87.21	3	1.179	IDENTIFIED	9.263		<input type="checkbox"/>	
Total Uranium	6.3487	2.25E-06	ug/g	2.462	N		0					<input type="checkbox"/>	
Uranium-238 HE	2.143	0.7546	pCi/g	1.653	N	63.36	2	0.9996	IDENTIFIED	34.07		<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
1202054967		10-MAR-10 21:20	0	LCS	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	1.394	0.2426	pCi/g	0.4981	N	911.8	3	1.193	IDENTIFIED	16.23		<input type="checkbox"/>	
Americium-241 ✓	13.46	0.6128	pCi/g	0.4265	0.200	59.69	1	1.092	IDENTIFIED	2.323		<input checked="" type="checkbox"/>	84.66

Annihilation Rad. HE	0.1289	0.05283	pCi/g 0.089	N	511.4	1	1.768	IDENTIFIED	40.72	<input type="checkbox"/>
Barium-137m	5.453	0.3002	pCi/g 0.1058	N	662.1	2	1.439	IDENTIFIED	2.261	<input type="checkbox"/>
Bismuth-211	2.565	0.325	pCi/g 0.6011	Y	352.1	2	1.225	IDENTIFIED	11.73	<input type="checkbox"/>
Bismuth-214	0.6091	0.1112	pCi/g 0.1929	0.200	609.7	2	1.196	IDENTIFIED	17.37	<input type="checkbox"/>
Cadmium-109	28.44	1.83	pCi/g 1.945	Y	88.18	2	1.049	IDENTIFIED	4.372	<input type="checkbox"/>
Cesium-137 ✓	5.761	0.3175	pCi/g 0.1118	0.100	662.1	2	1.439	IDENTIFIED	2.261	<input type="checkbox"/> 103.846
Cobalt-57	0.1834	0.03294	pCi/g 0.05924	N	122.2	1	1.021	IDENTIFIED	17.47	<input type="checkbox"/>
Cobalt-60 ✓	6.239	0.3037	pCi/g 0.08303	0.100	1333	1	1.836	IDENTIFIED	2.478	<input type="checkbox"/> 98.346
Gross Gamma	26.81	2.371	pCi/g 4.022	N		0				<input type="checkbox"/>
Iodine-133 HE	58.37	37.43	pCi/g 0	N	0	3	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	1.125	0.09273	pCi/g 0.154	0.100	238.7	2	1.112	IDENTIFIED	6.282	<input type="checkbox"/>
Lead-214	0.9309	0.1207	pCi/g 0.1965	0.100	352.1	2	1.225	IDENTIFIED	11.73	<input type="checkbox"/>
Neptunium-237	3.458	0.4587	pCi/g 0.9128	N	0	3	0	NOT_IDENTI	0	<input type="checkbox"/>
Potassium-40	1.155	0.3162	pCi/g 0.5687	1.00	1461	1	2.697	IDENTIFIED	27.02	<input type="checkbox"/>
Radium-224	1.939	0.6479	pCi/g 1.65	Y	241.6	1	1.348	IDENTIFIED	33.06	<input type="checkbox"/>
Radium-226	0.6091	0.1112	pCi/g 0.1929	Y	609.7	2	1.196	IDENTIFIED	17.37	<input type="checkbox"/>
Radium-228	1.394	0.2426	pCi/g 0.4981	0.500	911.8	3	1.193	IDENTIFIED	16.23	<input type="checkbox"/>
Technetium-99m HE	2.37E+08	8.43E+08	pCi/g 0	N	0	3	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	0.3473	0.05047	pCi/g 0.1064	0.080	583.5	1	1.59	IDENTIFIED	13.59	<input type="checkbox"/>
Thorium-228	1.125	0.09273	pCi/g 0.154	N	238.7	2	1.112	IDENTIFIED	6.282	<input type="checkbox"/>
Thorium-232	1.394	0.2426	pCi/g 0.4981	N	911.8	3	1.193	IDENTIFIED	16.23	<input type="checkbox"/>
Tin-126	2.806	0.1806	pCi/g 0.1925	N	88.18	2	1.049	IDENTIFIED	4.372	<input type="checkbox"/>

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

Result Greater Than DL

MS 3/16/10

Batch Id	Sample Id	Sample Type	Run Date	Paramname	Result	Uncertainty	Units	DL	RDL
958225	248051018	SAMPLE	10-MAR-10	Lead-212	0.8718	0.06892	pCi/g	0.03804	0.100
				Lead-214	0.8166	0.07345	pCi/g	0.04485	0.100
				Potassium-40	21.24	1.116	pCi/g	0.1756	1.00
				Promethium-149	53.37	97.09	pCi/g	0	N
				Radium-224	2.455	0.44	pCi/g	0.4072	Y
				Radium-226	0.6517	0.06324	pCi/g	0.04283	Y
				Radium-228	1.106	0.1424	pCi/g	0.08069	0.500
				Strontium-85	0.1311	0.01877	pCi/g	0.03154	Y
				Tellurium-125m	8.73	3.954	pCi/g	7.018	N
				Thallium-208	0.3164	0.03409	pCi/g	0.02114	0.080
				Thorium-234	3.085	0.7771	pCi/g	0.7352	2.00
958225	1202054965	MB	10-MAR-10	Iodine-133	9.465	7.402	pCi/g	0	N
				Technetium-99m	3.26E+08	2.27E+08	pCi/g	0	N
				Yttrium-88	0.01971	0.00954	pCi/g	0.01951	0.100
958225	1202054966	DUP	10-MAR-10	Bismuth-211	5.207	0.4096	pCi/g	0.1628	Y
				Bismuth-214	1.567	0.1234	pCi/g	0.05421	0.200
				Cadmium-109	5.014	0.5207	pCi/g	0.4728	Y
				Cerium-143	1466	400.1	pCi/g	0	N
				Cesium-134	0.08958	0.03241	pCi/g	0.04902	0.100
				Cesium-137	0.07601	0.02502	pCi/g	0.03034	0.100
				Gross Gamma	11.95	1.547	pCi/g	1.977	N
				Iodine-135	2.52E+19	0	pCi/g	0	N
				Lead-212	1.956	0.1484	pCi/g	0.04477	0.100
				Lead-214	1.89	0.1575	pCi/g	0.05921	0.100
				Mercury-203	0.05875	0.03047	pCi/g	0.0319	0.100
				Potassium-40	35.72	1.797	pCi/g	0.2003	1.00
				Promethium-149	254.1	116.7	pCi/g	0	N
				Protactinium-234m	7.027	2.407	pCi/g	4.37	N
				Radium-224	5.406	0.7562	pCi/g	0.48	Y
				Radium-226	1.567	0.1234	pCi/g	0.05421	Y
				Radium-228	2.11	0.2003	pCi/g	0.1193	0.500
				Sodium-24	5.51E+06	1.28E+07	pCi/g	0	N
				Strontium-85	0.06736	0.01956	pCi/g	0.03315	Y
				Thallium-208	0.6197	0.05167	pCi/g	0.02814	0.080
				Thorium-234	2.143	0.7546	pCi/g	0.8272	2.00
				Yttrium-88	0.03295	0.0138	pCi/g	0.02786	0.100
958225	1202054967	LCS	10-MAR-10	Americium-241	13.46	0.6128	pCi/g	0.2134	0.200

MS 3/16/10

VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 19:21:38.39

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051001.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:21:11
Sample ID          : G248051001      Sample quantity      : 1.35740E+02 GRAM
Detector name      : GAM05            Detector geometry   : CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time  : 0 02:00:02.01  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials   : MXR1
Abundance limit    : 75.00000          Sensitivity         : 5.00000
Batch ID           : 958225            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	46.08*	189	551	0.99	93.15	89	9	2.63E-02	25.5	
2	0	62.83*	177	957	1.27	126.63	122	10	2.45E-02	34.3	
3	3	74.30*	983	838	1.54	149.58	142	17	1.37E-01	6.4	3.41E+00
4	3	76.66*	1312	636	1.10	154.29	142	17	1.82E-01	4.4	
5	3	86.80	513	501	1.37	174.58	165	26	7.13E-02	8.8	3.05E+00
6	3	89.41	296	437	1.20	179.79	165	26	4.12E-02	13.4	
7	3	92.52*	536	559	1.80	186.01	165	26	7.44E-02	9.3	
8	0	128.55	112	384	0.87	258.07	255	8	1.56E-02	32.0	
9	0	185.63*	233	457	1.13	372.22	365	11	3.23E-02	19.4	
10	0	209.12	93	371	1.03	419.17	415	9	1.29E-02	38.8	
11	3	238.25*	1673	216	1.30	477.43	471	18	2.32E-01	2.9	1.61E+00
12	3	241.28	360	297	1.81	483.49	471	18	4.99E-02	13.2	
13	0	269.65	99	235	1.04	540.20	536	9	1.37E-02	29.7	
14	3	294.82*	511	176	1.50	590.54	583	22	7.10E-02	6.5	1.62E+00
15	3	299.70	139	183	1.62	600.29	583	22	1.93E-02	20.2	
16	0	328.31	58	241	1.38	657.51	650	11	8.05E-03	53.6	
17	0	337.91	279	196	1.53	676.68	672	10	3.88E-02	11.1	
18	0	351.52*	777	226	1.43	703.90	698	14	1.08E-01	5.5	
19	0	463.26	114	142	1.99	927.30	920	13	1.58E-02	23.6	
20	0	510.34*	151	152	2.32	1021.42	1015	14	2.10E-02	21.2	
21	0	582.60*	478	171	1.63	1165.88	1157	18	6.64E-02	8.0	
22	0	608.68*	536	176	1.56	1218.01	1211	16	7.45E-02	7.1	
23	0	726.71	128	79	1.84	1453.93	1448	13	1.78E-02	16.7	
24	0	859.88	77	66	1.58	1720.10	1713	14	1.06E-02	25.3	
25	0	910.68*	304	63	1.57	1821.61	1815	15	4.23E-02	8.2	
26	0	969.02*	179	104	1.43	1938.21	1931	15	2.48E-02	15.1	
27	0	1120.06	122	121	1.85	2240.01	2230	20	1.70E-02	23.7	
28	0	1377.63	31	25	1.93	2754.61	2749	15	4.26E-03	42.4	
29	0	1460.16*	1250	38	2.01	2919.48	2908	21	1.74E-01	3.1	
30	0	1488.98	26	0	1.42	2977.04	2970	15	3.61E-03	19.6	
31	0	1510.16	22	11	1.47	3019.34	3011	14	3.11E-03	37.3	
32	0	1590.08	41	24	5.34	3178.97	3169	21	5.72E-03	34.6	
33	0	1763.84*	124	7	1.83	3526.01	3519	13	1.72E-02	10.3	

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

VMS Nuclide Identification Report V3.1 Generated 10-MAR-2010 19:21:40

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051001.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:21:11
 Sample ID : G248051001 Sample quantity : 135.74 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA5 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.01 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	+	1460.82	*	3.231E+01	2.836E+00	6.069E-01	3.775E-02	53.238
CD-109	+	88.03	*	5.010E+00	9.589E-01	1.110E+00	8.451E-02	4.514
SN-126	+	64.28		6.309E-01	4.429E-01	4.611E-01	6.871E-02	1.368
	+	86.94		2.026E+00	9.068E-01	4.475E-01	1.842E-01	4.529
	+	87.57	*	4.874E-01	9.330E-02	1.078E-01	8.212E-03	4.520
CS-135	+	268.22	*	3.913E-01	2.366E-01	2.679E-01	2.866E-02	1.461
TL-208		277.37		5.247E-01	4.413E-01	7.647E-01	9.952E-02	0.686
	+	583.19	*	6.876E-01	1.208E-01	6.891E-02	5.061E-03	9.978
	+	860.56		1.067E+00	5.500E-01	5.141E-01	5.216E-02	2.075
PB-210	+	46.54	*	1.622E+00	8.363E-01	8.876E-01	6.845E-02	1.828
BI-211	+	72.87		2.749E+01	4.136E+00	3.550E+00	2.795E-01	7.744
	+	351.06	*	4.727E+00	6.420E-01	3.644E-01	2.888E-02	12.974
PB-212	+	74.82		3.290E+00	5.893E-01	4.262E-01	5.322E-02	7.718
	+	77.11		2.646E+00	3.123E-01	2.502E-01	1.947E-02	10.577
	+	238.63	*	2.220E+00	2.737E-01	1.052E-01	1.139E-02	21.111
	+	300.09		2.905E+00	1.212E+00	1.415E+00	1.520E-01	2.052
BI-214	+	609.32	*	1.500E+00	2.467E-01	1.469E-01	1.240E-02	10.210
	+	1120.29		1.802E+00	8.729E-01	5.860E-01	5.630E-02	3.075
	+	1764.49		2.593E+00	5.548E-01	3.402E-01	1.967E-02	7.622
PB-214	+	74.82		5.831E+00	9.915E-01	7.554E-01	8.419E-02	7.718
	+	77.11		4.665E+00	6.716E-01	4.410E-01	5.001E-02	10.577
	+	242.00		2.897E+00	8.338E-01	5.775E-01	6.562E-02	5.016
	+	295.22		1.890E+00	3.232E-01	2.469E-01	2.738E-02	7.652
	+	351.93	*	1.716E+00	2.515E-01	1.325E-01	1.277E-02	12.945
RA-224	+	240.99	*	5.123E+00	1.444E+00	1.127E+00	1.103E-01	4.544
RA-226	+	609.32	*	1.500E+00	2.467E-01	1.469E-01	1.240E-02	10.210
	+	1120.29		1.802E+00	8.729E-01	5.860E-01	5.630E-02	3.075
	+	1764.49		2.593E+00	5.548E-01	3.402E-01	1.967E-02	7.622
AC-228	+	338.32		1.885E+00	8.882E-01	4.457E-01	1.852E-01	4.229
	+	911.20	*	2.160E+00	4.488E-01	2.850E-01	3.618E-02	7.579
	+	968.97		2.191E+00	8.529E-01	6.117E-01	1.507E-01	3.581
RA-228	+	338.32		1.885E+00	8.882E-01	4.457E-01	1.852E-01	4.229
	+	911.20	*	2.160E+00	4.488E-01	2.850E-01	3.618E-02	7.579
	+	968.97		2.191E+00	8.529E-01	6.117E-01	1.507E-01	3.581

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	74.82		3.290E+00	4.963E-01	4.262E-01	3.374E-02	7.718
	+	77.11		2.646E+00	3.123E-01	2.502E-01	1.947E-02	10.577
	+	238.63	*	2.220E+00	2.737E-01	1.052E-01	1.139E-02	21.111
	+	300.09		2.905E+00	2.130E+00	1.415E+00	8.668E-01	2.052
TH-229	+	85.43		1.227E+00	2.348E-01	2.698E-01	2.062E-02	4.548
	+	88.47		4.367E-01	1.218E-01	1.667E-01	1.282E-02	2.620
		193.51	*	1.923E-01	6.318E-01	1.023E+00	1.022E-01	0.188
		210.85		2.023E+00	1.239E+00	1.850E+00	1.844E-01	1.093
TH-232	+	338.32		1.885E+00	4.441E-01	4.457E-01	3.494E-02	4.229
	+	911.20	*	2.160E+00	4.488E-01	2.850E-01	3.618E-02	7.579
	+	968.97		2.191E+00	8.529E-01	6.117E-01	1.507E-01	3.581
TH-234	+	63.29	*	1.637E+00	1.161E+00	1.192E+00	2.163E-01	1.373
	+	92.59		4.516E+00	1.299E+00	9.578E-01	2.107E-01	4.715
U-235	+	89.96		3.021E+00	1.093E+00	1.158E+00	2.824E-01	2.609
	+	93.35		3.411E+00	1.008E+00	6.692E-01	1.544E-01	5.097
		143.76	*	-1.113E-01	2.289E-01	3.623E-01	6.910E-02	-0.307
		163.33		2.032E-01	4.985E-01	8.134E-01	1.527E-01	0.250
	+	185.72		1.986E-01	7.946E-02	7.601E-02	7.587E-03	2.612
		205.31		1.542E-01	6.444E-01	9.088E-01	1.711E-01	0.170
NP-237	+	86.48	*	1.454E+00	4.129E-01	3.207E-01	7.157E-02	4.535
		95.86		-1.066E+00	1.069E+00	1.424E+00	3.434E-01	-0.749
U-238	+	63.29	*	1.637E+00	1.161E+00	1.192E+00	2.163E-01	1.373
	+	92.59		4.516E+00	9.194E-01	9.578E-01	8.049E-02	4.715
ANH-511	+	511.00	*	1.645E-01	7.060E-02	5.437E-02	3.480E-03	3.025

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-5.528E-01	4.451E-01	6.480E-01	4.640E-02	-0.853
NA-22		1274.54	*	3.073E-02	5.508E-02	9.378E-02	5.462E-03	0.328
NA-24		1368.63	*	5.643E+00	5.508E-02	Half-Life too short		
SC-46		889.28	*	-1.772E-02	5.069E-02	8.141E-02	8.177E-03	-0.218
	+	1120.55		3.127E-01	1.500E-01	1.659E-01	1.141E-02	1.885
V-48		944.13		-6.240E-01	1.265E+00	1.996E+00	1.930E-01	-0.313
		983.53	*	-1.055E-01	1.049E-01	1.567E-01	1.436E-02	-0.673
		1312.11		9.401E-02	1.140E-01	1.995E-01	1.156E-02	0.471
CR-51		320.08	*	-3.909E-01	5.072E-01	7.594E-01	6.710E-02	-0.515
MN-54		834.85	*	-7.696E-03	4.934E-02	8.101E-02	7.422E-03	-0.095
CO-56		846.77	*	-3.071E-03	5.078E-02	8.383E-02	7.840E-03	-0.037
		1037.84		7.640E-02	3.877E-01	6.465E-01	5.697E-02	0.118
		1238.28		1.346E-01	1.213E-01	2.118E-01	1.309E-02	0.636
		1771.35		-1.181E+00	4.235E-01	4.023E-01	2.323E-02	-2.934
CO-57		122.06	*	-5.768E-03	2.777E-02	4.480E-02	6.356E-03	-0.129
		136.47		1.024E-01	2.416E-01	3.967E-01	5.311E-02	0.258
CO-58		810.76	*	-5.200E-03	4.554E-02	7.500E-02	6.601E-03	-0.069
FE-59		1099.45	*	4.971E-02	1.143E-01	1.939E-01	1.570E-02	0.256
		1291.59		3.286E-02	1.589E-01	2.624E-01	1.948E-02	0.125
CO-60		1173.23		5.306E-02	6.132E-02	1.062E-01	6.160E-03	0.500

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1332.49	*		1.095E-02	4.536E-02	7.532E-02	4.359E-03	0.145
ZN-65	1115.54	*		3.938E-02	1.317E-01	1.908E-01	1.333E-02	0.206
SE-75	121.12			2.404E-02	1.459E-01	2.386E-01	3.727E-02	0.101
	136.00			4.874E-03	4.673E-02	7.602E-02	9.914E-03	0.064
	264.66	*		-4.683E-02	5.893E-02	8.124E-02	7.757E-03	-0.576
	279.54			-4.237E-02	1.269E-01	2.089E-01	2.001E-02	-0.203
	400.66			7.357E-02	3.067E-01	5.113E-01	4.662E-02	0.144
SR-85	514.00	*		7.389E-02	5.328E-02	8.345E-02	5.349E-03	0.885
Y-88	898.04			-9.620E-03	5.153E-02	8.386E-02	8.574E-03	-0.115
	1836.06	*		2.717E-02	4.345E-02	7.871E-02	4.503E-03	0.345
Y-91	1204.77	*		-4.646E+00	2.782E+01	4.456E+01	2.589E+00	-0.104
NB-94	702.65	*		6.888E-02	4.442E-02	8.068E-02	5.773E-03	0.854
	871.09			-2.673E-02	4.029E-02	6.270E-02	6.110E-03	-0.426
NB-95	765.81	*		9.545E-03	5.352E-02	9.030E-02	7.304E-03	0.106
NB-95M	235.69	*		1.387E+00	2.549E-01	3.754E-01	4.112E-02	3.695
ZR-95	724.19			2.111E-01	1.480E-01	2.376E-01	1.971E-02	0.888
	756.73	*		-1.316E-02	9.798E-02	1.620E-01	1.445E-02	-0.081
MO-99	140.51			-2.444E+01	5.637E+01	8.932E+01	2.273E+01	-0.274
	181.07			2.023E+01	5.050E+01	7.208E+01	1.402E+01	0.281
	366.42			1.751E+01	2.551E+02	4.230E+02	2.903E+01	0.041
	739.50	*		6.196E+00	3.442E+01	5.819E+01	8.887E+00	0.106
	777.92			-2.682E+01	9.425E+01	1.536E+02	1.271E+01	-0.175
TC-99M	140.51	*		-1.026E+14	9.425E+01	Half-Life too short		
RU-103	497.08	*		2.312E-02	5.148E-02	8.615E-02	1.093E-02	0.268
	610.33			1.639E+01	3.068E+00	3.588E+00	5.515E-01	4.569
RH-106	621.93	*		2.037E-01	3.876E-01	6.474E-01	7.792E-02	0.315
	1050.41			1.301E+00	3.144E+00	5.334E+00	4.343E-01	0.244
RU-106	621.93	*		2.037E-01	3.870E-01	6.474E-01	4.268E-02	0.315
	1050.41			1.301E+00	3.144E+00	5.334E+00	4.343E-01	0.244
AG-108M	433.94	*		-6.373E-03	3.456E-02	5.604E-02	3.618E-03	-0.114
	614.28			3.218E-02	4.743E-02	7.050E-02	4.904E-03	0.456
	722.91			-3.304E-03	5.359E-02	7.683E-02	5.969E-03	-0.043
AG-110M	657.76	*		4.993E-02	4.860E-02	8.318E-02	5.750E-03	0.600
	677.62			-4.769E-01	3.811E-01	5.803E-01	4.127E-02	-0.822
	706.68			1.585E-01	2.857E-01	4.939E-01	3.708E-02	0.321
	763.94			-8.355E-02	1.986E-01	3.213E-01	2.671E-02	-0.260
	884.68			3.572E-03	6.231E-02	1.036E-01	1.057E-02	0.034
	937.49			-5.385E-02	1.377E-01	2.195E-01	2.201E-02	-0.245
	1384.29			6.619E-02	2.081E-01	3.145E-01	1.938E-02	0.210
	1505.03			-2.199E-01	3.534E-01	4.338E-01	2.550E-02	-0.507
SN-113	391.69	*		-3.930E-03	5.499E-02	9.025E-02	5.598E-03	-0.044
CD-115	260.90			2.255E-04	5.499E-02	Half-Life too short		
	492.35			-5.960E-05	5.499E-02	Half-Life too short		
	527.90	*		-2.932E-06	5.499E-02	Half-Life too short		
SN-117M	156.02			-2.216E+00	3.141E+00	4.921E+00	5.426E-01	-0.450
	158.56	*		-3.520E-02	7.392E-02	1.169E-01	1.256E-02	-0.301
TE-123M	159.00	*		-4.367E-03	3.315E-02	5.318E-02	5.714E-03	-0.082
SB-124	602.73			1.911E-02	5.895E-02	8.451E-02	5.565E-03	0.226
	645.85			9.474E-02	6.608E-01	1.073E+00	7.754E-02	0.088

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	722.78			2.298E-02	5.395E-01	7.816E-01	5.999E-02	0.029
	1690.97	*		-2.336E-02	7.616E-02	1.175E-01	7.472E-03	-0.199
SB-125	427.87	*		-5.313E-02	1.114E-01	1.777E-01	1.113E-02	-0.299
	463.37	+		1.089E+00	5.190E-01	6.676E-01	4.731E-02	1.631
	600.60			-4.769E-02	2.452E-01	3.666E-01	2.712E-02	-0.130
	635.95			-7.740E-02	3.245E-01	5.120E-01	3.832E-02	-0.151
TE-125M	109.28	*		-3.780E+00	1.116E+01	1.770E+01	2.298E+00	-0.214
I-126	388.63			7.507E-02	2.443E-01	4.089E-01	2.434E-02	0.184
	666.33	*		-5.840E-03	3.524E-01	5.649E-01	3.751E-02	-0.010
	753.82			1.865E+00	2.789E+00	4.852E+00	3.837E-01	0.384
SB-126	414.70			2.686E-02	1.139E-01	1.895E-01	1.129E-02	0.142
	666.50			-5.942E-03	1.217E-01	1.946E-01	1.292E-02	-0.031
	695.00			3.000E-02	1.212E-01	1.920E-01	1.352E-02	0.156
	697.00			-3.768E-01	3.959E-01	6.198E-01	4.385E-02	-0.608
	720.70	*		7.701E-02	2.412E-01	3.590E-01	2.663E-02	0.215
	856.80			6.090E-01	8.093E-01	1.245E+00	1.185E-01	0.489
SB-127	252.40			-1.261E+00	8.531E+00	1.419E+01	5.965E+00	-0.089
	473.00			6.694E-01	3.456E+00	5.712E+00	7.008E-01	0.117
	685.70	*		2.672E+00	2.839E+00	5.027E+00	5.631E-01	0.531
	783.70			3.938E+00	7.906E+00	1.358E+01	1.775E+00	0.290
I-131	80.19			1.945E-02	7.341E+00	7.643E+00	5.974E-01	0.003
	284.31			1.327E+00	2.235E+00	3.823E+00	3.679E-01	0.347
	364.49	*		5.381E-03	1.744E-01	2.886E-01	2.175E-02	0.019
	636.99			-4.155E-01	2.447E+00	3.882E+00	2.816E-01	-0.107
TE-132	49.72			-1.533E+01	9.729E+00	1.310E+01	1.424E+00	-1.170
	111.76			-7.187E+01	6.975E+01	1.084E+02	1.580E+01	-0.663
	116.30			5.272E+01	6.143E+01	1.021E+02	1.568E+01	0.516
	228.16	*		-1.171E-01	1.636E+00	2.746E+00	4.714E-01	-0.043
BA-133	81.00			5.377E-02	1.130E-01	1.213E-01	1.824E-02	0.443
	276.40			2.900E-01	4.162E-01	6.954E-01	1.012E-01	0.417
	302.85			6.012E-02	1.728E-01	2.558E-01	3.373E-02	0.235
	356.01	*		1.139E-02	5.229E-02	7.630E-02	9.220E-03	0.149
	383.85			-1.069E-01	3.557E-01	5.769E-01	6.266E-02	-0.185
I-133	529.87	*		-3.295E-02	3.557E-01	Half-Life	too short	
	875.33			9.689E-01	3.557E-01	Half-Life	too short	
	1298.22			2.083E+00	3.557E-01	Half-Life	too short	
CS-134	563.25			-5.309E-01	4.465E-01	6.481E-01	4.305E-02	-0.819
	569.33			-2.479E-01	2.508E-01	3.747E-01	2.510E-02	-0.662
	604.72			5.284E-02	4.987E-02	7.584E-02	5.016E-03	0.697
	795.86	*		8.653E-02	5.766E-02	1.049E-01	9.037E-03	0.825
	801.95			-7.242E-02	4.491E-01	7.379E-01	6.414E-02	-0.098
	1365.19			-8.224E-01	1.532E+00	2.298E+00	1.468E-01	-0.358
I-135	546.56			4.245E+13	1.532E+00	Half-Life	too short	
	836.80			1.226E+14	1.532E+00	Half-Life	too short	
	1038.76			3.897E+13	1.532E+00	Half-Life	too short	
	1131.51			-1.262E+13	1.532E+00	Half-Life	too short	
	1260.41	*		-9.669E+12	1.532E+00	Half-Life	too short	
	1457.56			3.490E+15	1.532E+00	Half-Life	too short	
	1678.03			1.532E+12	1.532E+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	1791.20			5.265E+12	1.532E+00	Half-Life	too short	
	153.25			1.676E+00	1.211E+00	2.019E+00	2.549E-01	0.830
	176.60			-4.865E-01	6.820E-01	1.061E+00	1.140E-01	-0.459
	273.65			-1.120E+00	8.232E-01	1.088E+00	1.093E-01	-1.029
	340.55			4.275E-01	2.446E-01	3.852E-01	3.133E-02	1.110
	818.51			1.807E-02	1.051E-01	1.769E-01	1.577E-02	0.102
	1048.07	*		8.006E-03	1.570E-01	2.583E-01	2.213E-02	0.031
BA-137M	1235.36			7.031E-01	9.170E-01	1.563E+00	1.548E-01	0.450
	661.66	*		1.091E-02	5.103E-02	8.306E-02	5.462E-03	0.131
CS-137	661.66	*		1.153E-02	5.391E-02	8.775E-02	5.789E-03	0.131
CE-139	165.86	*		-5.712E-04	3.443E-02	5.541E-02	5.500E-03	-0.010
BA-140	162.66			4.244E-01	1.106E+00	1.806E+00	1.947E-01	0.235
	304.85			3.259E-01	1.990E+00	2.908E+00	8.525E-01	0.112
LA-140	423.72			-1.603E+00	2.768E+00	4.308E+00	1.392E+00	-0.372
	537.26	*		7.731E-02	3.902E-01	6.404E-01	2.141E-01	0.121
	328.76			5.727E-01	6.153E-01	7.534E-01	6.517E-02	0.760
	487.02			1.158E-01	2.027E-01	3.419E-01	2.402E-02	0.339
	815.77			-7.682E-02	4.553E-01	7.463E-01	7.348E-02	-0.103
CE-141	1596.21	*		9.255E-02	1.156E-01	1.932E-01	1.136E-02	0.479
	145.44	*		-3.337E-02	7.648E-02	1.216E-01	1.486E-02	-0.275
CE-143	57.36			-5.749E-04	7.648E-02	Half-Life	too short	
	293.27	*		6.816E-03	7.648E-02	Half-Life	too short	
CE-144	664.57			-5.082E-04	7.648E-02	Half-Life	too short	
	721.93			1.776E-03	7.648E-02	Half-Life	too short	
	80.12			1.426E-01	3.057E+00	3.193E+00	2.468E-01	0.045
PM-144	133.52	*		-5.640E-02	2.636E-01	3.695E-01	6.755E-02	-0.153
	476.78			-5.798E-02	8.502E-02	1.289E-01	9.359E-03	-0.450
PR-144	618.01			-2.645E-02	4.158E-02	6.172E-02	4.262E-03	-0.428
	696.49	*		-4.942E-02	4.358E-02	6.731E-02	4.760E-03	-0.734
PM-146	696.51	*		-3.696E+00	3.267E+00	5.048E+00	3.568E-01	-0.732
	1489.16	+		2.718E+01	1.078E+01	2.441E+01	1.434E+00	1.114
ND-147	453.88	*		3.846E-02	5.067E-02	8.650E-02	7.536E-03	0.445
	633.25			-2.244E-01	1.680E+00	2.671E+00	1.009E+00	-0.084
	735.93			-3.534E-02	1.893E-01	3.120E-01	8.656E-02	-0.113
EU-152	747.24			-9.052E-02	1.224E-01	1.924E-01	2.717E-02	-0.470
	91.11	+		2.169E+00	4.484E-01	6.491E-01	5.777E-02	3.341
PM-149	319.41			-3.204E+00	4.802E+00	7.714E+00	6.474E-01	-0.415
	531.02	*		-1.116E-01	8.453E-01	1.360E+00	1.880E-01	-0.082
GD-153	285.90	*		2.077E-04	8.453E-01	Half-Life	too short	
	121.78			-1.793E-02	7.910E-02	1.275E-01	1.905E-02	-0.141
GD-153	244.70			8.631E-02	3.974E-01	5.884E-01	5.737E-02	0.147
	344.28	*		4.501E-02	1.304E-01	1.920E-01	1.578E-02	0.234
GD-153	778.90			6.614E-02	3.098E-01	5.243E-01	4.345E-02	0.126
	964.08			2.136E-01	4.406E-01	6.524E-01	6.147E-02	0.327
GD-153	1085.87			-5.232E-01	5.181E-01	7.666E-01	5.771E-02	-0.682
	1112.07			-3.499E-01	4.974E-01	6.369E-01	4.485E-02	-0.549
GD-153	1408.01			2.456E-01	2.291E-01	4.227E-01	2.470E-02	0.581
	69.67			2.984E-01	1.337E+00	1.952E+00	1.552E-01	0.153
GD-153	97.43	*		7.744E-02	9.803E-02	1.450E-01	1.344E-02	0.534

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		103.18		-1.715E-01	1.186E-01	1.824E-01	1.886E-02	-0.940
		123.07		-3.557E-02	5.903E-02	8.999E-02	1.433E-02	-0.395
		723.31		1.564E-01	2.445E-01	3.734E-01	3.156E-02	0.419
		873.19		-1.350E-01	3.344E-01	5.337E-01	6.811E-02	-0.253
		996.26		-1.079E-01	4.424E-01	7.111E-01	1.255E-01	-0.152
EU-155		1004.73		-1.332E-01	2.702E-01	4.244E-01	5.013E-02	-0.314
		1274.44	*	8.835E-02	1.561E-01	2.657E-01	2.506E-02	0.333
	+	86.55		5.918E-01	1.135E-01	1.722E-01	1.331E-02	3.436
		105.31	*	-9.853E-03	1.101E-01	1.793E-01	1.942E-02	-0.055
	+	86.79		1.616E+00	3.092E-01	4.713E-01	3.594E-02	3.428
TB-160		197.04		9.500E-01	7.190E-01	1.179E+00	1.178E-01	0.806
		215.65		-3.089E-01	8.616E-01	1.395E+00	1.388E-01	-0.221
	+	298.57		4.214E-01	1.739E-01	2.468E-01	2.196E-02	1.707
		879.36	*	2.072E-02	1.785E-01	2.983E-01	2.947E-02	0.069
		962.29		5.967E-01	8.273E-01	1.253E+00	1.183E-01	0.476
HO-166M		966.15		1.699E+00	4.242E-01	7.271E-01	6.831E-02	2.337
		1177.93		-2.024E-01	4.993E-01	7.854E-01	4.557E-02	-0.258
		1271.85		3.864E-01	9.273E-01	1.559E+00	9.062E-02	0.248
		80.57		-1.975E-02	3.321E-01	3.442E-01	2.657E-02	-0.057
	+	184.41		1.578E-01	6.313E-02	7.908E-02	7.890E-03	1.995
TA-182		280.46		-1.270E-01	9.953E-02	1.559E-01	1.443E-02	-0.815
		410.95		1.166E-01	3.111E-01	5.212E-01	3.094E-02	0.224
		711.68	*	-1.637E-02	7.595E-02	1.253E-01	9.129E-03	-0.131
		752.31		2.349E-01	3.481E-01	6.067E-01	4.784E-02	0.387
		810.29		8.573E-03	6.606E-02	1.110E-01	9.740E-02	0.077
IR-192		67.75		1.432E-02	1.139E-01	1.203E-01	9.632E-03	0.119
		100.11		2.815E-01	1.855E-01	3.145E-01	3.070E-02	0.895
		152.43		4.078E-01	4.301E-01	7.132E-01	8.135E-02	0.572
		222.11		-3.009E-01	3.911E-01	6.374E-01	6.322E-02	-0.472
	+	1121.30		8.603E-01	4.128E-01	4.569E-01	3.136E-02	1.883
HG-203		1189.05		-3.292E-03	4.172E-01	6.779E-01	3.936E-02	-0.005
		1221.41	*	2.507E-01	2.642E-01	4.588E-01	2.668E-02	0.546
		1231.02		-9.382E-02	6.472E-01	1.038E+00	6.037E-02	-0.090
	+	295.96		1.439E+00	2.280E-01	3.395E-01	3.061E-02	4.238
		308.46		-1.192E-01	1.099E-01	1.721E-01	1.500E-02	-0.692
BI-207		316.51	*	2.288E-02	4.179E-02	7.118E-02	6.042E-03	0.321
		468.07		2.691E-02	9.072E-02	1.317E-01	9.318E-03	0.204
		70.83		8.592E-01	1.113E+00	1.643E+00	2.579E-01	0.523
	+	72.87		7.169E+00	1.422E+00	1.341E+00	2.029E-01	5.347
		279.20	*	6.181E-03	4.621E-02	7.764E-02	7.364E-03	0.080
PB-211		72.81		1.582E+00	2.380E-01	2.945E-01	2.319E-02	5.372
	+	74.97		9.482E-01	1.426E-01	2.288E-01	1.790E-02	4.145
		569.70		-3.937E-02	3.878E-02	5.780E-02	3.783E-03	-0.681
		1063.66	*	9.847E-03	7.074E-02	1.171E-01	9.273E-03	0.084
		1770.23		-4.633E+00	1.066E+00	7.380E-01	4.262E-02	-6.277
BI-212		404.85	*	-9.587E-01	9.987E-01	1.373E+00	6.587E-01	-0.698
		427.09		-1.062E+00	1.918E+00	2.943E+00	1.349E+00	-0.361
		832.01		-8.190E-01	1.332E+00	1.994E+00	1.036E+00	-0.411
	+	727.33	*	2.876E+00	1.019E+00	1.457E+00	1.707E-01	1.975

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

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	785.37			4.628E+00	4.101E+00	7.302E+00	6.124E-01	0.634
	1620.50			1.511E+00	2.980E+00	5.256E+00	3.085E-01	0.287
RN-219	271.23			7.386E-01	3.237E-01	5.151E-01	5.630E-02	1.434
	401.81	*		4.114E-02	4.826E-01	7.978E-01	1.075E-01	0.052
RA-223	81.07			1.225E-01	2.557E-01	2.750E-01	2.121E-02	0.446
	83.79			1.631E-01	1.041E-01	1.764E-01	1.353E-02	0.924
	94.87			4.535E-01	5.074E-01	7.520E-01	6.624E-02	0.603
	144.24			-4.274E-01	7.753E-01	1.226E+00	1.589E-01	-0.349
	154.21			6.083E-01	4.645E-01	7.752E-01	9.198E-02	0.785
	+ 269.46			4.505E-01	2.715E-01	3.929E-01	3.770E-02	1.147
	323.87	*		-1.615E-01	8.524E-01	1.212E+00	2.081E-01	-0.133
	+ 338.28			7.479E+00	1.872E+00	2.718E+00	3.133E-01	2.752
AC-227	79.69			1.132E+00	1.490E+00	1.620E+00	2.723E-01	0.699
	235.96			2.607E+00	3.970E-01	5.112E-01	5.811E-02	5.099
	256.23	*		4.838E-02	2.926E-01	4.937E-01	6.312E-02	0.098
	+ 299.98			3.195E+00	1.352E+00	1.833E+00	2.360E-01	1.743
	304.50			9.619E-01	1.992E+00	2.971E+00	4.932E-01	0.324
	334.37			4.335E-01	2.335E+00	3.218E+00	4.902E-01	0.135
TH-227	79.80			4.923E-01	1.997E+00	2.111E+00	4.527E-01	0.233
	235.96			2.607E+00	3.868E-01	5.112E-01	5.541E-02	5.099
	256.23	*		4.838E-02	2.926E-01	4.937E-01	7.040E-02	0.098
	+ 299.98			3.195E+00	1.352E+00	1.833E+00	2.360E-01	1.743
	304.50			9.619E-01	1.992E+00	2.971E+00	4.932E-01	0.324
	334.37			4.335E-01	2.335E+00	3.218E+00	4.902E-01	0.135
PA-231	283.69	*		7.559E-01	1.667E+00	2.832E+00	4.229E-01	0.267
	301.36			1.101E+00	7.656E-01	1.186E+00	1.459E-01	0.928
TH-231	81.07			1.225E-01	2.557E-01	2.750E-01	2.121E-02	0.446
	83.79			1.631E-01	1.041E-01	1.764E-01	1.353E-02	0.924
	94.87			4.535E-01	5.074E-01	7.520E-01	6.624E-02	0.603
	144.24			-4.274E-01	7.753E-01	1.226E+00	1.589E-01	-0.349
	154.21			6.083E-01	4.645E-01	7.752E-01	9.198E-02	0.785
	+ 269.46			4.505E-01	2.715E-01	3.929E-01	3.770E-02	1.147
	323.87	*		-1.615E-01	8.524E-01	1.212E+00	2.081E-01	-0.133
	+ 338.28			7.479E+00	1.872E+00	2.718E+00	3.133E-01	2.752
PA-233	+ 300.13			1.446E+00	6.216E-01	8.330E-01	1.247E-01	1.735
	311.90	*		-3.046E-02	7.342E-02	1.196E-01	1.056E-02	-0.255
	340.48			1.782E+00	9.823E-01	1.426E+00	3.391E-01	1.249
PA-234	94.67			3.826E-01	1.895E-01	2.845E-01	3.559E-02	1.345
	98.44			1.449E-01	1.259E-01	1.599E-01	8.944E-02	0.906
	111.00			-1.031E-01	1.952E-01	3.116E-01	4.544E-02	-0.331
	131.20			7.416E-02	1.324E-01	1.926E-01	2.586E-02	0.385
	569.50			-3.407E-01	3.447E-01	5.150E-01	3.370E-02	-0.662
	733.00			2.875E-01	5.314E-01	8.024E-01	1.751E-01	0.358
	880.51			5.456E-02	3.460E-01	5.798E-01	5.740E-02	0.094
	883.24			-4.689E-02	3.658E-01	5.968E-01	4.023E-01	-0.079
	926.50			-8.254E-02	2.076E-01	3.287E-01	8.458E-02	-0.251
	946.00	*		-3.092E-01	3.883E-01	5.895E-01	1.135E-01	-0.524
	949.00			3.427E-01	5.535E-01	9.565E-01	9.194E-02	0.358
PA-234M	766.42			-1.064E+01	1.534E+01	2.278E+01	1.154E+01	-0.467

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

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NP-239	1001.03	*		2.986E+00	6.111E+00	1.027E+01	1.050E+00	0.291
	99.53			2.887E-01	1.695E-01	2.880E-01	2.781E-02	1.002
	103.37			-6.127E-02	1.036E-01	1.657E-01	1.719E-02	-0.370
	106.12			6.569E-02	8.865E-02	1.478E-01	1.611E-02	0.445
	117.23	*		2.803E-01	4.315E-01	7.159E-01	9.415E-02	0.392
	228.18			-1.710E-02	2.473E-01	4.152E-01	4.103E-02	-0.041
AM-241	277.60			2.095E-01	2.016E-01	3.496E-01	3.254E-02	0.599
	59.54	*		1.257E-01	7.904E-02	1.206E-01	1.079E-02	1.042
CM-247	278.00			1.058E+00	8.429E-01	1.473E+00	1.370E-01	0.718
	287.50			-3.979E-01	1.668E+00	2.383E+00	2.175E-01	-0.167
	402.40	*		-8.330E-03	4.403E-02	7.169E-02	4.218E-03	-0.116
CF-249	252.80			4.426E-02	1.081E+00	1.817E+00	1.755E-01	0.024
	333.37			5.093E-02	2.930E-01	3.383E-01	2.704E-02	0.151
	388.16	*		2.140E-03	4.969E-02	8.208E-02	4.901E-03	0.026
CF-251	177.52	*		-1.054E-01	1.503E-01	2.340E-01	2.331E-02	-0.451
	227.38			2.834E-01	4.042E-01	6.964E-01	6.885E-02	0.407
	285.41			1.414E+00	2.507E+00	4.282E+00	3.925E-01	0.330

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]G248051001      *
* Acquisition date   : 10-MAR-2010 17:21:11 Detector SN#                   *
* Detector ID        : GAM05 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 02:00:02.01 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G248051001 Analyst initials: MXR1                  *
* Batch Number       : 958225 Sample Quantity : 1.3574E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00 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	3.231E+01	2.780E+00	6.084E-01	0.000E+00
CD-109	5.010E+00	9.397E-01	1.171E+00	0.000E+00
SN-126	4.874E-01	9.143E-02	1.138E-01	0.000E+00
CS-135	3.913E-01	2.318E-01	2.772E-01	0.000E+00
TL-208	6.876E-01	1.184E-01	7.030E-02	0.000E+00
PB-210	1.622E+00	8.195E-01	9.473E-01	0.000E+00
BI-211	4.727E+00	6.291E-01	3.752E-01	0.000E+00
PB-212	2.220E+00	2.682E-01	1.091E-01	0.000E+00
BI-214	1.500E+00	2.418E-01	1.497E-01	0.000E+00
PB-214	1.716E+00	2.464E-01	1.365E-01	0.000E+00
RA-224	5.123E+00	1.415E+00	1.169E+00	0.000E+00
RA-226	1.500E+00	2.418E-01	1.497E-01	0.000E+00
AC-228	2.160E+00	4.398E-01	2.883E-01	0.000E+00
RA-228	2.160E+00	4.398E-01	2.883E-01	0.000E+00
TH-228	2.220E+00	2.682E-01	1.091E-01	0.000E+00
TH-229	1.923E-01	6.191E-01	1.065E+00	0.000E+00
TH-232	2.160E+00	4.398E-01	2.883E-01	0.000E+00
TH-234	1.637E+00	1.138E+00	1.266E+00	0.000E+00
U-235	-1.113E-01	2.243E-01	3.791E-01	0.000E+00
NP-237	1.454E+00	4.047E-01	3.387E-01	0.000E+00
U-238	1.637E+00	1.138E+00	1.266E+00	0.000E+00
ANH-511	1.645E-01	6.919E-02	5.560E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-5.528E-01	4.362E-01	6.635E-01	0.000E+00 NOT IDENT.
NA-22	3.073E-02	5.398E-02	9.425E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.740E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-1.772E-02	4.967E-02	8.239E-02	0.000E+00 FAIL ABUN
V-48	-1.055E-01	1.028E-01	1.583E-01	0.000E+00 NOT IDENT.

CR-51	-3.909E-01	4.971E-01	7.833E-01	0.000E+00	NOT IDENT.
MN-54	-7.696E-03	4.836E-02	8.209E-02	0.000E+00	NOT IDENT.
CO-56	-3.071E-03	4.976E-02	8.492E-02	0.000E+00	NOT IDENT.
CO-57	-5.768E-03	2.721E-02	4.702E-02	0.000E+00	NOT IDENT.
CO-58	-5.200E-03	4.463E-02	7.603E-02	0.000E+00	NOT IDENT.
FE-59	4.971E-02	1.120E-01	1.955E-01	0.000E+00	NOT IDENT.
CO-60	1.095E-02	4.445E-02	7.564E-02	0.000E+00	NOT IDENT.
ZN-65	3.938E-02	1.291E-01	1.922E-01	0.000E+00	NOT IDENT.
SE-75	-4.683E-02	5.775E-02	8.409E-02	0.000E+00	NOT IDENT.
SR-85	7.389E-02	5.221E-02	8.533E-02	0.000E+00	NOT IDENT.
Y-88	2.717E-02	4.258E-02	7.855E-02	0.000E+00	NOT IDENT.
Y-91	-4.646E+00	2.727E+01	4.483E+01	0.000E+00	NOT IDENT.
NB-94	6.888E-02	4.353E-02	8.202E-02	0.000E+00	NOT IDENT.
NB-95	9.545E-03	5.245E-02	9.165E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.498E-01	3.893E-01	0.000E+00	NOT IDENT.
ZR-95	-1.316E-02	9.602E-02	1.645E-01	0.000E+00	NOT IDENT.
MO-99	6.196E+00	3.373E+01	5.910E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.334E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	2.312E-02	5.045E-02	8.814E-02	0.000E+00	NOT IDENT.
RH-106	2.037E-01	3.798E-01	6.597E-01	0.000E+00	NOT IDENT.
RU-106	2.037E-01	3.793E-01	6.597E-01	0.000E+00	NOT IDENT.
AG-108M	-6.373E-03	3.387E-02	5.748E-02	0.000E+00	NOT IDENT.
AG-110M	4.993E-02	4.762E-02	8.466E-02	0.000E+00	NOT IDENT.
SN-113	-3.930E-03	5.389E-02	9.275E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.635E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-3.520E-02	7.244E-02	1.221E-01	0.000E+00	NOT IDENT.
TE-123M	-4.367E-03	3.249E-02	5.555E-02	0.000E+00	NOT IDENT.
SB-124	-2.336E-02	7.464E-02	1.175E-01	0.000E+00	NOT IDENT.
SB-125	-5.313E-02	1.092E-01	1.824E-01	0.000E+00	FAIL ABUN
TE-125M	-3.780E+00	1.094E+01	1.861E+01	0.000E+00	NOT IDENT.
I-126	-5.840E-03	3.454E-01	5.748E-01	0.000E+00	NOT IDENT.
SB-126	7.701E-02	2.364E-01	3.648E-01	0.000E+00	NOT IDENT.
SB-127	2.672E+00	2.782E+00	5.113E+00	0.000E+00	NOT IDENT.
I-131	5.381E-03	1.709E-01	2.970E-01	0.000E+00	NOT IDENT.
TE-132	-1.171E-01	1.603E+00	2.850E+00	0.000E+00	NOT IDENT.
BA-133	1.139E-02	5.124E-02	7.855E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	8.553E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.653E-02	5.651E-02	1.064E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.092E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.006E-03	1.538E-01	2.606E-01	0.000E+00	NOT IDENT.
BA-137M	1.091E-02	5.001E-02	8.453E-02	0.000E+00	NOT IDENT.
CS-137	1.153E-02	5.283E-02	8.930E-02	0.000E+00	NOT IDENT.
CE-139	-5.712E-04	3.374E-02	5.784E-02	0.000E+00	NOT IDENT.
BA-140	7.731E-02	3.824E-01	6.543E-01	0.000E+00	NOT IDENT.
LA-140	9.255E-02	1.133E-01	1.934E-01	0.000E+00	FAIL ABUN
CE-141	-3.337E-02	7.495E-02	1.272E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.805E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-5.640E-02	2.583E-01	3.872E-01	0.000E+00	NOT IDENT.
PM-144	-4.942E-02	4.270E-02	6.844E-02	0.000E+00	NOT IDENT.
PR-144	-3.696E+00	3.202E+00	5.132E+00	0.000E+00	FAIL ABUN
PM-146	3.846E-02	4.966E-02	8.865E-02	0.000E+00	NOT IDENT.
ND-147	-1.116E-01	8.284E-01	1.390E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.746E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	4.501E-02	1.278E-01	1.978E-01	0.000E+00	NOT IDENT.
GD-153	7.744E-02	9.607E-02	1.528E-01	0.000E+00	NOT IDENT.
EU-154	8.835E-02	1.530E-01	2.670E-01	0.000E+00	NOT IDENT.
EU-155	-9.853E-03	1.079E-01	1.887E-01	0.000E+00	FAIL ABUN
TB-160	2.072E-02	1.750E-01	3.019E-01	0.000E+00	FAIL ABUN
HO-166M	-1.637E-02	7.443E-02	1.273E-01	0.000E+00	FAIL ABUN
TA-182	2.507E-01	2.589E-01	4.615E-01	0.000E+00	FAIL ABUN
IR-192	2.288E-02	4.096E-02	7.344E-02	0.000E+00	FAIL ABUN
HG-203	6.181E-03	4.528E-02	8.028E-02	0.000E+00	FAIL ABUN
BI-207	9.847E-03	6.933E-02	1.181E-01	0.000E+00	FAIL ABUN
PB-211	-9.587E-01	9.788E-01	1.410E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	9.981E-01	1.480E+00	0.000E+00	FAIL ABUN
RN-219	4.114E-02	4.729E-01	8.195E-01	0.000E+00	NOT IDENT.
RA-223	-1.615E-01	8.353E-01	1.250E+00	0.000E+00	FAIL ABUN
AC-227	4.838E-02	2.868E-01	5.113E-01	0.000E+00	FAIL ABUN
TH-227	4.838E-02	2.868E-01	5.113E-01	0.000E+00	FAIL ABUN
PA-231	7.559E-01	1.634E+00	2.927E+00	0.000E+00	NOT IDENT.
TH-231	-1.615E-01	8.353E-01	1.250E+00	0.000E+00	FAIL ABUN
PA-233	-3.046E-02	7.195E-02	1.234E-01	0.000E+00	FAIL ABUN
PA-234	-3.092E-01	3.805E-01	5.959E-01	0.000E+00	NOT IDENT.
PA-234M	2.986E+00	5.989E+00	1.037E+01	0.000E+00	NOT IDENT.
NP-239	2.803E-01	4.229E-01	7.519E-01	0.000E+00	NOT IDENT.
AM-241	1.257E-01	7.745E-02	1.282E-01	0.000E+00	NOT IDENT.
CM-247	-8.330E-03	4.315E-02	7.364E-02	0.000E+00	NOT IDENT.
CF-249	2.140E-03	4.869E-02	8.436E-02	0.000E+00	NOT IDENT.

CF-251	-1.054E-01	1.473E-01	2.439E-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]G248051001.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:21:11
Sample ID          : G248051001 Sample quantity : 1.35740E+02 GRAM
Detector name      : GAM05 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.01 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	1250	10.66*	1.004E+00	3.231E+01	3.231E+01	8.78
CD-109	88.03	513	3.70*	7.867E+00	4.874E+00	5.010E+00	19.14
SN-126	64.28	177	9.60	8.062E+00	6.309E-01	6.309E-01	70.19
	86.94	513	8.90	7.867E+00	2.026E+00	2.026E+00	44.75
	87.57	513	37.00*	7.867E+00	4.874E-01	4.874E-01	19.14
CS-135	268.22	99	16.00*	4.355E+00	3.913E-01	3.913E-01	60.45
TL-208	277.37	-----	6.60	4.261E+00	-----	Line Not Found	-----
	583.19	478	85.00*	2.261E+00	6.876E-01	6.876E-01	17.58
	860.56	77	12.50	1.591E+00	1.067E+00	1.067E+00	51.57
PB-210	46.54	189	4.25*	7.609E+00	1.620E+00	1.622E+00	51.54
BI-211	72.87	983	1.23	8.041E+00	2.749E+01	2.749E+01	15.04
	351.06	777	12.92*	3.519E+00	4.727E+00	4.727E+00	13.58
PB-212	74.82	983	10.28	8.041E+00	3.290E+00	3.290E+00	17.91
	77.11	1312	17.10	8.017E+00	2.646E+00	2.646E+00	11.80
	238.63	1673	43.60*	4.778E+00	2.220E+00	2.220E+00	12.32
	300.09	139	3.30	4.009E+00	2.905E+00	2.905E+00	41.71
BI-214	609.32	536	45.49*	2.173E+00	1.500E+00	1.500E+00	16.45
	1120.29	122	14.92	1.258E+00	1.802E+00	1.802E+00	48.45
	1764.49	124	15.30	8.614E-01	2.593E+00	2.593E+00	21.39
PB-214	74.82	983	5.80	8.041E+00	5.830E+00	5.831E+00	17.01
	77.11	1312	9.70	8.017E+00	4.665E+00	4.665E+00	14.40
	242.00	360	7.25	4.734E+00	2.897E+00	2.897E+00	28.78
	295.22	511	18.42	4.062E+00	1.889E+00	1.890E+00	17.11
	351.93	777	35.60*	3.519E+00	1.716E+00	1.716E+00	14.66
RA-224	240.99	360	4.10*	4.734E+00	5.123E+00	5.123E+00	28.19
RA-226	609.32	536	45.49*	2.173E+00	1.500E+00	1.500E+00	16.45
	1120.29	122	14.92	1.258E+00	1.802E+00	1.802E+00	48.45
	1764.49	124	15.30	8.614E-01	2.593E+00	2.593E+00	21.39
AC-228	338.32	279	11.27	3.636E+00	1.885E+00	1.885E+00	47.13
	911.20	304	25.80*	1.511E+00	2.160E+00	2.160E+00	20.78
	968.97	179	15.80	1.429E+00	2.191E+00	2.191E+00	38.93
RA-228	338.32	279	11.27	3.636E+00	1.885E+00	1.885E+00	47.13

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	911.20	304	25.80*	1.511E+00	2.160E+00	2.160E+00	20.78
	968.97	179	15.80	1.429E+00	2.191E+00	2.191E+00	38.93
	74.82	983	10.28	8.041E+00	3.290E+00	3.290E+00	15.09
	77.11	1312	17.10	8.017E+00	2.646E+00	2.646E+00	11.80
	238.63	1673	43.60*	4.778E+00	2.220E+00	2.220E+00	12.32
TH-229	300.09	139	3.30	4.009E+00	2.905E+00	2.905E+00	73.32
	85.43	513	14.70	7.867E+00	1.227E+00	1.227E+00	19.14
	88.47	296	24.00	7.819E+00	4.367E-01	4.367E-01	27.89
	193.51	-----	4.41*	5.516E+00	-----	Line Not Found	-----
	210.85	-----	2.80	5.209E+00	-----	Line Not Found	-----
TH-232	338.32	279	11.27	3.636E+00	1.885E+00	1.885E+00	23.56
	911.20	304	25.80*	1.511E+00	2.160E+00	2.160E+00	20.78
	968.97	179	15.80	1.429E+00	2.191E+00	2.191E+00	38.93
TH-234	63.29	177	3.70*	8.062E+00	1.637E+00	1.637E+00	70.95
	92.59	536	4.23	7.757E+00	4.516E+00	4.516E+00	28.77
U-235	89.96	296	3.47	7.819E+00	3.021E+00	3.021E+00	36.19
	93.35	536	5.60	7.757E+00	3.411E+00	3.411E+00	29.56
	143.76	-----	10.96*	6.557E+00	-----	Line Not Found	-----
	163.33	-----	5.08	6.119E+00	-----	Line Not Found	-----
	185.72	233	57.20	5.664E+00	1.986E-01	1.986E-01	40.01
NP-237	205.31	-----	5.01	5.304E+00	-----	Line Not Found	-----
	86.48	513	12.40*	7.867E+00	1.454E+00	1.454E+00	28.39
	95.86	-----	2.68	7.688E+00	-----	Line Not Found	-----
U-238	63.29	177	3.70*	8.062E+00	1.637E+00	1.637E+00	70.95
	92.59	536	4.23	7.757E+00	4.516E+00	4.516E+00	20.36
ANH-511	511.00	151	100.00*	2.546E+00	1.645E-01	1.645E-01	42.92

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 5
Number of lines tentatively identified by NID 28 84.85%

Nuclide Type :

Nuclide	Hliffe	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.231E+01	3.231E+01	0.284E+01	8.78	
CD-109	461.40D	1.03	4.874E+00	5.010E+00	0.959E+00	19.14	
SN-126	2.30E+05Y	1.00	4.874E-01	4.874E-01	0.933E-01	19.14	
CS-135	2.30E+06Y	1.00	3.913E-01	3.913E-01	2.366E-01	60.45	
TL-208	1.41E+10Y	1.00	6.876E-01	6.876E-01	1.208E-01	17.58	
PB-210	22.20Y	1.00	1.620E+00	1.622E+00	0.836E+00	51.54	
BI-211	7.04E+08Y	1.00	4.727E+00	4.727E+00	0.642E+00	13.58	
PB-212	1.41E+10Y	1.00	2.220E+00	2.220E+00	0.274E+00	12.32	
BI-214	1600.00Y	1.00	1.500E+00	1.500E+00	0.247E+00	16.45	
PB-214	1600.00Y	1.00	1.716E+00	1.716E+00	0.251E+00	14.66	
RA-224	1.41E+10Y	1.00	5.123E+00	5.123E+00	1.444E+00	28.19	
RA-226	1600.00Y	1.00	1.500E+00	1.500E+00	0.247E+00	16.45	
AC-228	1.41E+10Y	1.00	2.160E+00	2.160E+00	0.449E+00	20.78	
RA-228	1.41E+10Y	1.00	2.160E+00	2.160E+00	0.449E+00	20.78	
TH-228	1.41E+10Y	1.00	2.220E+00	2.220E+00	0.274E+00	12.32	
TH-229	7340.00Y	1.00	4.367E-01	4.367E-01	1.218E-01	27.89	K
TH-232	1.41E+10Y	1.00	2.160E+00	2.160E+00	0.449E+00	20.78	
TH-234	4.47E+09Y	1.00	1.637E+00	1.637E+00	1.161E+00	70.95	
U-235	7.04E+08Y	1.00	1.986E-01	1.986E-01	0.795E-01	40.01	K
NP-237	2.14E+06Y	1.00	1.454E+00	1.454E+00	0.413E+00	28.39	
U-238	4.47E+09Y	1.00	1.637E+00	1.637E+00	1.161E+00	70.95	
ANH-511	1.00E+09Y	1.00	1.645E-01	1.645E-01	0.706E-01	42.92	
Total Activity :			7.138E+01	7.152E+01			

Grand Total Activity : 7.138E+01 7.152E+01

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

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

Unidentified Energy Lines
Sample ID : G248051001

Page : 4
Acquisition date : 10-MAR-2010 17:21:11

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.55	112	384	0.87	258.07	255	8	1.56E-02	63.9	6.92E+00	
0	209.12	93	371	1.03	419.17	415	9	1.29E-02	77.5	5.24E+00	
0	328.31	58	241	1.38	657.51	650	11	8.05E-03	****	3.72E+00	T
0	463.26	114	142	1.99	927.30	920	13	1.58E-02	47.1	2.77E+00	T
0	726.71	128	79	1.84	1453.93	1448	13	1.78E-02	33.4	1.85E+00	T
0	1377.63	31	25	1.93	2754.61	2749	15	4.26E-03	84.7	1.05E+00	
0	1488.98	26	0	1.42	2977.04	2970	15	3.61E-03	39.2	9.88E-01	T
0	1510.16	22	11	1.47	3019.34	3011	14	3.11E-03	74.6	9.76E-01	
0	1590.08	41	24	5.34	3178.97	3169	21	5.72E-03	69.1	9.36E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051001.CNF;1
* Acquisition date   : 10-MAR-2010 17:21:11  Detector SN#      :
* Detector ID        : GAM05                  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 02:00:02.01          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248051001            Analyst initials: MXRl
* Batch Number       : 958225                Sample Quantity  : 1.35740E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00.5MS 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	3.231E+01	2.836E+00	6.069E-01	3.775E-02	53.238
CD-109	5.010E+00	9.589E-01	1.110E+00	8.451E-02	4.514
SN-126	4.874E-01	9.330E-02	1.078E-01	8.212E-03	4.520
CS-135	3.913E-01	2.366E-01	2.679E-01	2.866E-02	1.461
TL-208	6.876E-01	1.208E-01	6.891E-02	5.061E-03	9.978
PB-210	1.622E+00	8.363E-01	8.876E-01	6.845E-02	1.828
BI-211	4.727E+00	6.420E-01	3.644E-01	2.888E-02	12.974
PB-212	2.220E+00	2.737E-01	1.052E-01	1.139E-02	21.111
BI-214	1.500E+00	2.467E-01	1.469E-01	1.240E-02	10.210
PB-214	1.716E+00	2.515E-01	1.325E-01	1.277E-02	12.945
RA-224	5.123E+00	1.444E+00	1.127E+00	1.103E-01	4.544
RA-226	1.500E+00	2.467E-01	1.469E-01	1.240E-02	10.210
AC-228	2.160E+00	4.488E-01	2.850E-01	3.618E-02	7.579
RA-228	2.160E+00	4.488E-01	2.850E-01	3.618E-02	7.579
TH-228	2.220E+00	2.737E-01	1.052E-01	1.139E-02	21.111
TH-229	4.367E-01	1.218E-01	1.023E+00	1.022E-01	0.427
TH-232	2.160E+00	4.488E-01	2.850E-01	3.618E-02	7.579
TH-234	1.637E+00	1.161E+00	1.192E+00	2.163E-01	1.373

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-235	1.986E-01	7.946E-02	3.623E-01	6.910E-02	0.548
NP-237	1.454E+00	4.129E-01	3.207E-01	7.157E-02	4.535
U-238	1.637E+00	1.161E+00	1.192E+00	2.163E-01	1.373
ANH-511	1.645E-01	7.060E-02	5.437E-02	3.480E-03	3.025

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.528E-01		4.451E-01	6.480E-01	4.640E-02	-0.853
NA-22	3.073E-02		5.508E-02	9.378E-02	5.462E-03	0.328
NA-24	5.643E+00		1.398E+01	Half-Life too short		
SC-46	-1.772E-02		5.069E-02	8.141E-02	8.177E-03	-0.218
V-48	-1.055E-01		1.049E-01	1.567E-01	1.436E-02	-0.673
CR-51	-3.909E-01		5.072E-01	7.594E-01	6.710E-02	-0.515
MN-54	-7.696E-03		4.934E-02	8.101E-02	7.422E-03	-0.095
CO-56	-3.071E-03		5.078E-02	8.383E-02	7.840E-03	-0.037
CO-57	-5.768E-03		2.777E-02	4.480E-02	6.356E-03	-0.129
CO-58	-5.200E-03		4.554E-02	7.500E-02	6.601E-03	-0.069
FE-59	4.971E-02		1.143E-01	1.939E-01	1.570E-02	0.256
CO-60	1.095E-02		4.536E-02	7.532E-02	4.359E-03	0.145
ZN-65	3.938E-02		1.317E-01	1.908E-01	1.333E-02	0.206
SE-75	-4.683E-02		5.893E-02	8.124E-02	7.757E-03	-0.576
SR-85	7.389E-02		5.328E-02	8.345E-02	5.349E-03	0.885
Y-88	2.717E-02		4.345E-02	7.871E-02	4.503E-03	0.345
Y-91	-4.646E+00		2.782E+01	4.456E+01	2.589E+00	-0.104
NB-94	6.888E-02		4.442E-02	8.068E-02	5.773E-03	0.854
NB-95	9.545E-03		5.352E-02	9.030E-02	7.304E-03	0.106
NB-95M	1.387E+00		2.549E-01	3.754E-01	4.112E-02	3.695
ZR-95	-1.316E-02		9.798E-02	1.620E-01	1.445E-02	-0.081
MO-99	6.196E+00		3.442E+01	5.819E+01	8.887E+00	0.106
TC-99M	-1.026E+14		1.191E+14	Half-Life too short		
RU-103	2.312E-02		5.148E-02	8.615E-02	1.093E-02	0.268
RH-106	2.037E-01		3.876E-01	6.474E-01	7.792E-02	0.315
RU-106	2.037E-01		3.870E-01	6.474E-01	4.268E-02	0.315
AG-108M	-6.373E-03		3.456E-02	5.604E-02	3.618E-03	-0.114
AG-110M	4.993E-02		4.860E-02	8.318E-02	5.750E-03	0.600
SN-113	-3.930E-03		5.499E-02	9.025E-02	5.598E-03	-0.044
CD-115	-2.932E-06		1.855E-05	Half-Life too short		
SN-117M	-3.520E-02		7.392E-02	1.169E-01	1.256E-02	-0.301
TE-123M	-4.367E-03		3.315E-02	5.318E-02	5.714E-03	-0.082
SB-124	-2.336E-02		7.616E-02	1.175E-01	7.472E-03	-0.199
SB-125	-5.313E-02		1.114E-01	1.777E-01	1.113E-02	-0.299
TE-125M	-3.780E+00		1.116E+01	1.770E+01	2.298E+00	-0.214
I-126	-5.840E-03		3.524E-01	5.649E-01	3.751E-02	-0.010
SB-126	7.701E-02		2.412E-01	3.590E-01	2.663E-02	0.215
SB-127	2.672E+00		2.839E+00	5.027E+00	5.631E-01	0.531
I-131	5.381E-03		1.744E-01	2.886E-01	2.175E-02	0.019

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	-1.171E-01		1.636E+00	2.746E+00	4.714E-01	-0.043
BA-133	1.139E-02		5.229E-02	7.630E-02	9.220E-03	0.149
I-133	-3.295E-02		4.364E-02	Half-Life too short		
CS-134	8.653E-02		5.766E-02	1.049E-01	9.037E-03	0.825
I-135	-9.669E+12		1.067E+13	Half-Life too short		
CS-136	8.006E-03		1.570E-01	2.583E-01	2.213E-02	0.031
BA-137M	1.091E-02		5.103E-02	8.306E-02	5.462E-03	0.131
CS-137	1.153E-02		5.391E-02	8.775E-02	5.789E-03	0.131
CE-139	-5.712E-04		3.443E-02	5.541E-02	5.500E-03	-0.010
BA-140	7.731E-02		3.902E-01	6.404E-01	2.141E-01	0.121
LA-140	9.255E-02		1.156E-01	1.932E-01	1.136E-02	0.479
CE-141	-3.337E-02		7.648E-02	1.216E-01	1.486E-02	-0.275
CE-143	6.816E-03		9.209E-04	Half-Life too short		
CE-144	-5.640E-02		2.636E-01	3.695E-01	6.755E-02	-0.153
PM-144	-4.942E-02		4.358E-02	6.731E-02	4.760E-03	-0.734
PR-144	-3.696E+00		3.267E+00	5.048E+00	3.568E-01	-0.732
PM-146	3.846E-02		5.067E-02	8.650E-02	7.536E-03	0.445
ND-147	-1.116E-01		8.453E-01	1.360E+00	1.880E-01	-0.082
PM-149	2.077E-04		1.401E-04	Half-Life too short		
EU-152	4.501E-02		1.304E-01	1.920E-01	1.578E-02	0.234
GD-153	7.744E-02		9.803E-02	1.450E-01	1.344E-02	0.534
EU-154	8.835E-02		1.561E-01	2.657E-01	2.506E-02	0.333
EU-155	-9.853E-03		1.101E-01	1.793E-01	1.942E-02	-0.055
TB-160	2.072E-02		1.785E-01	2.983E-01	2.947E-02	0.069
HO-166M	-1.637E-02		7.595E-02	1.253E-01	9.129E-03	-0.131
TA-182	2.507E-01		2.642E-01	4.588E-01	2.668E-02	0.546
IR-192	2.288E-02		4.179E-02	7.118E-02	6.042E-03	0.321
HG-203	6.181E-03		4.621E-02	7.764E-02	7.364E-03	0.080
BI-207	9.847E-03		7.074E-02	1.171E-01	9.273E-03	0.084
PB-211	-9.587E-01		9.987E-01	1.373E+00	6.587E-01	-0.698
BI-212	2.876E+00	+	1.019E+00	1.457E+00	1.707E-01	1.975
RN-219	4.114E-02		4.826E-01	7.978E-01	1.075E-01	0.052
RA-223	-1.615E-01		8.524E-01	1.212E+00	2.081E-01	-0.133
AC-227	4.838E-02		2.926E-01	4.937E-01	6.312E-02	0.098
TH-227	4.838E-02		2.926E-01	4.937E-01	7.040E-02	0.098
PA-231	7.559E-01		1.667E+00	2.832E+00	4.229E-01	0.267
TH-231	-1.615E-01		8.524E-01	1.212E+00	2.081E-01	-0.133
PA-233	-3.046E-02		7.342E-02	1.196E-01	1.056E-02	-0.255
PA-234	-3.092E-01		3.883E-01	5.895E-01	1.135E-01	-0.524
PA-234M	2.986E+00		6.111E+00	1.027E+01	1.050E+00	0.291
NP-239	2.803E-01		4.315E-01	7.159E-01	9.415E-02	0.392
AM-241	1.257E-01		7.904E-02	1.206E-01	1.079E-02	1.042
CM-247	-8.330E-03		4.403E-02	7.169E-02	4.218E-03	-0.116
CF-249	2.140E-03		4.969E-02	8.208E-02	4.901E-03	0.026
CF-251	-1.054E-01		1.503E-01	2.340E-01	2.331E-02	-0.451

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G248051001          *
* Acquisition date   : 10-MAR-2010 17:21:11 Detector SN#      :             *
* Detector ID        : GAM05                      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 02:00:02.01             Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051001             Analyst initials: MXR1          *
* Batch Number       : 958225                 Sample Quantity : 1.3574E+02 GRAM *
* Recovery           : 1.00000                Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00 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	3.231E+01	2.780E+00	3.044E-01	1.418E+00
CD-109	5.010E+00	9.397E-01	5.861E-01	4.795E-01
SN-126	4.874E-01	9.143E-02	5.695E-02	4.665E-02
CS-135	3.913E-01	2.318E-01	1.387E-01	1.183E-01
TL-208	6.876E-01	1.184E-01	3.517E-02	6.042E-02
PB-210	1.622E+00	8.195E-01	4.739E-01	4.181E-01
BI-211	4.727E+00	6.291E-01	1.877E-01	3.210E-01
PB-212	2.220E+00	2.682E-01	5.457E-02	1.368E-01
BI-214	1.500E+00	2.418E-01	7.491E-02	1.234E-01
PB-214	1.716E+00	2.464E-01	6.828E-02	1.257E-01
RA-224	5.123E+00	1.415E+00	5.848E-01	7.221E-01
RA-226	1.500E+00	2.418E-01	7.491E-02	1.234E-01
AC-228	2.160E+00	4.398E-01	1.443E-01	2.244E-01
RA-228	2.160E+00	4.398E-01	1.443E-01	2.244E-01
TH-228	2.220E+00	2.682E-01	5.457E-02	1.368E-01
TH-229	1.923E-01	6.191E-01	5.330E-01	3.159E-01
TH-232	2.160E+00	4.398E-01	1.443E-01	2.244E-01
TH-234	1.637E+00	1.138E+00	6.331E-01	5.807E-01
U-235	-1.113E-01	2.243E-01	1.897E-01	1.145E-01
NP-237	1.454E+00	4.047E-01	1.694E-01	2.065E-01
U-238	1.637E+00	1.138E+00	6.331E-01	5.807E-01
ANH-511	1.645E-01	6.919E-02	2.782E-02	3.530E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-5.528E-01	4.362E-01	3.320E-01	2.226E-01 NOT IDENT.
NA-22	3.073E-02	5.398E-02	4.716E-02	2.754E-02 NOT IDENT.
NA-24	5.643E+06	2.740E+07	0.000E+00	1.398E+07 SHORT HLIF
SC-46	-1.772E-02	4.967E-02	4.122E-02	2.534E-02 FAIL ABUN
V-48	-1.055E-01	1.028E-01	7.921E-02	5.245E-02 NOT IDENT.

CR-51	-3.909E-01	4.971E-01	3.919E-01	2.536E-01	NOT IDENT.
MN-54	-7.696E-03	4.836E-02	4.107E-02	2.467E-02	NOT IDENT.
CO-56	-3.071E-03	4.976E-02	4.249E-02	2.539E-02	NOT IDENT.
CO-57	-5.768E-03	2.721E-02	2.352E-02	1.388E-02	NOT IDENT.
CO-58	-5.200E-03	4.463E-02	3.804E-02	2.277E-02	NOT IDENT.
FE-59	4.971E-02	1.120E-01	9.779E-02	5.716E-02	NOT IDENT.
CO-60	1.095E-02	4.445E-02	3.784E-02	2.268E-02	NOT IDENT.
ZN-65	3.938E-02	1.291E-01	9.617E-02	6.586E-02	NOT IDENT.
SE-75	-4.683E-02	5.775E-02	4.207E-02	2.947E-02	NOT IDENT.
SR-85	7.389E-02	5.221E-02	4.269E-02	2.664E-02	NOT IDENT.
Y-88	2.717E-02	4.258E-02	3.930E-02	2.172E-02	NOT IDENT.
Y-91	-4.646E+00	2.727E+01	2.243E+01	1.391E+01	NOT IDENT.
NB-94	6.888E-02	4.353E-02	4.103E-02	2.221E-02	NOT IDENT.
NB-95	9.545E-03	5.245E-02	4.585E-02	2.676E-02	NOT IDENT.
NB-95M	1.387E+00	2.498E-01	1.948E-01	1.275E-01	NOT IDENT.
ZR-95	-1.316E-02	9.602E-02	8.228E-02	4.899E-02	NOT IDENT.
MO-99	6.196E+00	3.373E+01	2.957E+01	1.721E+01	NOT IDENT.
TC-99M	-1.026E+20	2.334E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	2.312E-02	5.045E-02	4.410E-02	2.574E-02	NOT IDENT.
RH-106	2.037E-01	3.798E-01	3.300E-01	1.938E-01	NOT IDENT.
RU-106	2.037E-01	3.793E-01	3.300E-01	1.935E-01	NOT IDENT.
AG-108M	-6.373E-03	3.387E-02	2.876E-02	1.728E-02	NOT IDENT.
AG-110M	4.993E-02	4.762E-02	4.236E-02	2.430E-02	NOT IDENT.
SN-113	-3.930E-03	5.389E-02	4.640E-02	2.749E-02	NOT IDENT.
CD-115	-2.932E+00	3.635E+01	0.000E+00	1.855E+01	SHORT HLIF
SN-117M	-3.520E-02	7.244E-02	6.108E-02	3.696E-02	NOT IDENT.
TE-123M	-4.367E-03	3.249E-02	2.779E-02	1.658E-02	NOT IDENT.
SB-124	-2.336E-02	7.464E-02	5.877E-02	3.808E-02	NOT IDENT.
SB-125	-5.313E-02	1.092E-01	9.123E-02	5.572E-02	FAIL ABUN
TE-125M	-3.780E+00	1.094E+01	9.313E+00	5.582E+00	NOT IDENT.
I-126	-5.840E-03	3.454E-01	2.876E-01	1.762E-01	NOT IDENT.
SB-126	7.701E-02	2.364E-01	1.825E-01	1.206E-01	NOT IDENT.
SB-127	2.672E+00	2.782E+00	2.558E+00	1.419E+00	NOT IDENT.
I-131	5.381E-03	1.709E-01	1.486E-01	8.718E-02	NOT IDENT.
TE-132	-1.171E-01	1.603E+00	1.426E+00	8.179E-01	NOT IDENT.
BA-133	1.139E-02	5.124E-02	3.930E-02	2.614E-02	NOT IDENT.
I-133	-3.295E+04	8.553E+04	0.000E+00	4.364E+04	SHORT HLIF
CS-134	8.653E-02	5.651E-02	5.324E-02	2.883E-02	NOT IDENT.
I-135	-9.669E+18	2.092E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.006E-03	1.538E-01	1.304E-01	7.849E-02	NOT IDENT.
BA-137M	1.091E-02	5.001E-02	4.229E-02	2.552E-02	NOT IDENT.
CS-137	1.153E-02	5.283E-02	4.468E-02	2.696E-02	NOT IDENT.
CE-139	-5.712E-04	3.374E-02	2.894E-02	1.722E-02	NOT IDENT.
BA-140	7.731E-02	3.824E-01	3.273E-01	1.951E-01	NOT IDENT.
LA-140	9.255E-02	1.133E-01	9.675E-02	5.780E-02	FAIL ABUN
CE-141	-3.337E-02	7.495E-02	6.363E-02	3.824E-02	NOT IDENT.
CE-143	6.816E+03	1.805E+03	0.000E+00	9.209E+02	SHORT HLIF
CE-144	-5.640E-02	2.583E-01	1.937E-01	1.318E-01	NOT IDENT.
PM-144	-4.942E-02	4.270E-02	3.424E-02	2.179E-02	NOT IDENT.
PR-144	-3.696E+00	3.202E+00	2.568E+00	1.634E+00	FAIL ABUN
PM-146	3.846E-02	4.966E-02	4.435E-02	2.534E-02	NOT IDENT.
ND-147	-1.116E-01	8.284E-01	6.954E-01	4.227E-01	FAIL ABUN
PM-149	2.077E+02	2.746E+02	0.000E+00	1.401E+02	SHORT HLIF
EU-152	4.501E-02	1.278E-01	9.897E-02	6.521E-02	NOT IDENT.
GD-153	7.744E-02	9.607E-02	7.643E-02	4.901E-02	NOT IDENT.
EU-154	8.835E-02	1.530E-01	1.336E-01	7.804E-02	NOT IDENT.
EU-155	-9.853E-03	1.079E-01	9.440E-02	5.506E-02	FAIL ABUN
TB-160	2.072E-02	1.750E-01	1.510E-01	8.927E-02	FAIL ABUN
HO-166M	-1.637E-02	7.443E-02	6.371E-02	3.798E-02	FAIL ABUN
TA-182	2.507E-01	2.589E-01	2.309E-01	1.321E-01	FAIL ABUN
IR-192	2.288E-02	4.096E-02	3.674E-02	2.090E-02	FAIL ABUN
HG-203	6.181E-03	4.528E-02	4.017E-02	2.310E-02	FAIL ABUN
BI-207	9.847E-03	6.933E-02	5.909E-02	3.537E-02	FAIL ABUN
PB-211	-9.587E-01	9.788E-01	7.053E-01	4.994E-01	NOT IDENT.
BI-212	2.876E+00	9.981E-01	7.404E-01	5.093E-01	FAIL ABUN
RN-219	4.114E-02	4.729E-01	4.100E-01	2.413E-01	NOT IDENT.
RA-223	-1.615E-01	8.353E-01	6.256E-01	4.262E-01	FAIL ABUN
AC-227	4.838E-02	2.868E-01	2.558E-01	1.463E-01	FAIL ABUN
TH-227	4.838E-02	2.868E-01	2.558E-01	1.463E-01	FAIL ABUN
PA-231	7.559E-01	1.634E+00	1.465E+00	8.334E-01	NOT IDENT.
TH-231	-1.615E-01	8.353E-01	6.256E-01	4.262E-01	FAIL ABUN
PA-233	-3.046E-02	7.195E-02	6.175E-02	3.671E-02	FAIL ABUN
PA-234	-3.092E-01	3.805E-01	2.981E-01	1.941E-01	NOT IDENT.
PA-234M	2.986E+00	5.989E+00	5.189E+00	3.055E+00	NOT IDENT.
NP-239	2.803E-01	4.229E-01	3.762E-01	2.157E-01	NOT IDENT.
AM-241	1.257E-01	7.745E-02	6.414E-02	3.952E-02	NOT IDENT.
CM-247	-8.330E-03	4.315E-02	3.684E-02	2.202E-02	NOT IDENT.
CF-249	2.140E-03	4.869E-02	4.221E-02	2.484E-02	NOT IDENT.

CF-251	-1.054E-01	1.473E-01	1.220E-01	7.515E-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
46.54	499.7863
49.72	641.4690
57.36	0.0000
59.54	600.2704
63.29	765.2001
63.29	765.2001
64.28	771.5592
67.75	761.2049
69.67	771.0861
70.83	769.1451
72.81	747.6755
72.87	747.7362
72.87	747.7362
74.82	749.6565
74.82	749.6565
74.82	749.6565
74.97	749.8009
77.11	710.3600
77.11	710.3600
77.11	710.3600
79.69	617.8241
79.80	657.7744
80.12	658.0387
80.19	658.0966
80.57	658.4088
81.00	598.8739
81.07	598.9266
81.07	598.9266
83.79	590.9205
83.79	590.9205
85.43	592.0954
86.48	592.8426
86.55	592.8921
86.79	593.0609
86.94	593.1689
87.57	593.6123
88.03	593.9364
88.47	594.2448
89.96	595.2846
91.11	596.0836
92.59	597.1009
92.59	597.1009
93.35	508.8893
94.67	550.2316
94.87	586.0719
94.87	586.0719
95.86	599.7286
97.43	504.7225
98.44	479.6746
99.53	457.9579
100.11	452.1255
103.18	549.8891
103.37	499.8154
105.31	482.3764
106.12	461.2191
109.28	492.6348
111.00	472.8611
111.76	485.6288
116.30	410.0123
117.23	405.1972
121.12	405.7074
121.78	416.4033
122.06	417.5613
123.07	434.6875
131.20	400.9742
133.52	444.0436
136.00	430.4533

136.47	422.1719
140.51	457.6843
140.51	0.0000
143.76	438.7621
144.24	449.5984
144.24	449.5984
145.44	431.9409
152.43	420.5853
153.25	394.0339
154.21	392.2012
154.21	392.2012
156.02	441.2211
158.56	397.9351
159.00	384.0542
162.66	372.2188
163.33	363.7599
165.86	364.4982
176.60	378.5220
177.52	374.4095
181.07	346.0029
184.41	386.2708
185.72	366.6000
193.51	357.8476
197.04	329.8809
205.31	337.8490
210.85	333.7646
215.65	318.0539
222.11	315.5165
227.38	296.6551
228.16	317.6831
228.18	317.6874
235.69	326.8304
235.96	326.8873
235.96	326.8873
238.63	289.6727
238.63	289.6727
240.99	290.1042
242.00	236.5648
244.70	253.7822
252.40	263.5917
252.80	259.0469
256.23	265.1291
256.23	265.1291
260.90	0.0000
264.66	258.4233
268.22	212.4459
269.46	223.4619
269.46	223.4619
271.23	226.8002
273.65	312.6762
276.40	239.9451
277.37	226.3610
277.60	232.9390
278.00	218.9551
279.20	247.1971
279.54	253.8012
280.46	282.9812
283.69	226.2376
284.31	221.6216
285.41	221.7599
285.90	0.0000
287.50	247.7333
293.27	0.0000
295.22	205.9664
295.96	206.0515
298.57	206.3469
299.98	211.5560
299.98	211.5560
300.09	211.5696
300.09	211.5696
300.13	211.5751
301.36	221.1967
302.85	192.9135
304.50	182.0061
304.50	182.0061
304.85	194.7050
308.46	214.1153
311.90	209.7412

316.51	196.8718
319.41	224.9282
320.08	232.1866
323.87	209.4609
323.87	209.4609
328.76	203.5793
333.37	189.5966
334.37	190.9786
334.37	190.9786
338.28	201.3423
338.28	201.3423
338.32	201.3474
338.32	201.3474
338.32	201.3474
340.48	214.4663
340.55	214.4744
344.28	185.7917
351.06	166.3159
351.93	166.3868
356.01	154.3673
364.49	165.4434
366.42	173.4349
383.85	181.7741
388.16	184.1132
388.63	177.2235
391.69	174.4961
400.66	158.2819
401.81	162.3493
402.40	165.3799
404.85	199.4702
410.95	181.0110
414.70	172.2940
423.72	157.8854
427.09	164.1580
427.87	163.2063
433.94	140.3981
453.88	125.2777
463.37	132.9231
468.07	117.8090
473.00	129.3346
476.78	145.9781
477.60	160.4218
487.02	122.8291
492.35	0.0000
497.08	118.1317
511.00	115.6381
514.00	114.7266
527.90	0.0000
529.87	0.0000
531.02	119.6582
537.26	113.6189
546.56	0.0000
563.25	126.3707
569.33	122.3868
569.50	122.3925
569.70	122.4009
583.19	105.8691
600.60	127.7490
602.73	118.4219
604.72	113.1160
609.32	127.3167
609.32	127.3167
610.33	100.7366
614.28	90.0635
618.01	114.2221
621.93	91.0137
621.93	91.0137
633.25	90.2666
635.95	92.5226
636.99	91.4648
645.85	102.6473
657.76	105.2320
661.66	129.5090
661.66	129.5090
664.57	0.0000
666.33	118.7077
666.50	118.7130
677.62	113.9808

685.70	83.8573
695.00	93.3375
696.49	126.6648
696.51	126.6648
697.00	120.2114
702.65	95.4079
706.68	111.2915
711.68	104.9581
720.70	91.0048
721.93	0.0000
722.78	95.8552
722.91	103.8454
723.31	95.8698
724.19	103.8862
727.33	97.5826
733.00	84.9272
735.93	103.8457
739.50	94.5889
747.24	103.2503
752.31	86.4821
753.82	92.1621
756.73	104.4758
763.94	101.8608
765.81	98.1411
766.42	121.7537
777.92	85.2228
778.90	78.6163
783.70	92.0012
785.37	84.4515
795.86	70.4244
801.95	62.9170
810.29	64.9730
810.76	68.8037
815.77	73.6820
818.51	71.8216
832.01	97.0732
834.85	101.9564
836.80	0.0000
846.77	81.0537
856.80	72.9763
860.56	63.0873
871.09	73.8044
873.19	71.9013
875.33	0.0000
879.36	72.0157
880.51	70.0898
883.24	77.9329
884.68	73.0896
889.28	79.0291
898.04	73.3383
911.20	74.5651
911.20	74.5651
911.20	74.5651
926.50	67.9570
937.49	76.0413
944.13	77.1558
946.00	84.1180
949.00	63.3828
962.29	88.5679
964.08	97.1258
966.15	92.0610
968.97	115.4383
968.97	115.4383
968.97	115.4383
983.53	84.8824
996.26	71.1170
1001.03	67.1854
1004.73	78.2841
1037.84	61.6925
1038.76	0.0000
1048.07	65.8913
1050.41	59.8402
1050.41	59.8402
1063.66	76.2970
1085.87	78.7201
1099.45	57.4219
1112.07	95.1855
1115.54	72.3248

1120.29	73.1350
1120.29	73.1350
1120.55	73.1379
1121.30	73.1494
1131.51	0.0000
1173.23	75.0029
1177.93	89.6743
1189.05	83.6100
1204.77	77.5892
1221.41	75.7500
1231.02	95.9247
1235.36	92.8447
1238.28	84.4531
1260.41	0.0000
1271.85	55.2627
1274.44	53.1637
1274.54	53.1637
1291.59	50.1421
1298.22	0.0000
1312.11	40.7013
1332.49	35.4828
1365.19	41.1110
1368.63	0.0000
1384.29	30.9434
1408.01	31.7789
1457.56	0.0000
1460.82	25.4764
1489.16	17.0690
1505.03	28.2891
1596.21	13.5195
1620.50	23.2693
1678.03	0.0000
1690.97	12.7479
1764.49	12.1509
1764.49	12.1509
1770.23	110.1986
1771.35	60.5702
1791.20	0.0000
1836.06	13.0349

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051001

Total Uranium Activity	4.8186E+00	ug/g
Total Uranium Counting Unc.	3.3878E+00	ug/g
Total Uranium Tpu	1.7285E-06	ug/g
Total Uranium Mda	1.8856E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051001
*  ANALYST       : MXR1            DETECTOR    : GAM05
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 17:21:11.97  SAMPLE ALQT: 135.740 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.138E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.443E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.808E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.351E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 19:22:22.53

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051002.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:21:41
Sample ID          : G248051002 Sample quantity : 1.48870E+02 GRAM
Detector name      : GAM13 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           : 958225 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.60*	205	576	1.11	92.74	88	10	2.85E-02	23.9	
2	0	63.22*	166	894	1.33	125.97	121	12	2.31E-02	39.2	
3	2	74.85	331	576	1.14	149.23	145	13	4.60E-02	13.0	3.26E+00
4	2	77.12*	524	512	1.17	153.77	145	13	7.28E-02	8.9	
5	0	84.30*	64	400	1.40	168.14	166	6	8.96E-03	53.1	
6	2	87.24	192	316	1.21	174.02	171	20	2.66E-02	15.3	1.32E+00
7	2	89.95	102	364	1.07	179.43	171	20	1.42E-02	30.8	
8	2	92.67*	316	452	1.29	184.87	171	20	4.39E-02	15.4	
9	0	185.67*	140	384	1.22	370.87	366	11	1.94E-02	30.9	
10	1	238.61*	727	226	1.28	476.74	468	21	1.01E-01	5.3	1.92E+00
11	1	241.60*	128	256	1.49	482.73	468	21	1.78E-02	26.8	
12	6	295.23*	256	150	1.49	589.97	586	23	3.56E-02	10.8	1.83E+00
13	0	338.24*	132	238	1.43	675.99	669	13	1.84E-02	26.3	
14	0	351.77*	358	157	1.54	703.05	697	10	4.97E-02	8.8	
15	0	492.02	45	102	0.67	983.57	977	14	6.29E-03	49.5	
16	0	583.00*	219	105	1.08	1165.53	1160	11	3.04E-02	11.7	
17	0	609.07	311	131	1.41	1217.67	1210	15	4.32E-02	9.8	
18	0	661.58*	213	97	1.59	1322.70	1316	15	2.96E-02	12.4	
19	0	768.39	53	109	0.91	1536.33	1528	17	7.38E-03	47.3	
20	0	911.12*	142	85	1.72	1821.83	1816	15	1.97E-02	17.0	
21	0	969.50*	47	112	1.69	1938.61	1930	12	6.51E-03	49.1	
22	0	1460.36	952	54	2.18	2920.52	2909	24	1.32E-01	3.8	
23	0	1728.82*	12	6	1.51	3457.58	3450	13	1.66E-03	61.1	
24	0	1764.55	71	9	3.18	3529.06	3519	23	9.80E-03	17.1	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:21:41
Sample ID        : G248051002 Sample quantity : 148.87 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.50 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

```

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	+	1460.82	*	2.245E+01	2.644E+00	6.371E-01	5.700E-02	35.229
CD-109	+	88.03	*	1.841E+00	5.922E-01	8.652E-01	8.747E-02	2.128
SN-126	+	64.28		5.908E-01	4.725E-01	3.584E-01	5.827E-02	1.649
	+	86.94		7.446E-01	3.848E-01	3.565E-01	1.486E-01	2.089
	+	87.57	*	1.791E-01	5.762E-02	8.407E-02	8.498E-03	2.131
BA-137M	+	661.66	*	3.041E-01	7.998E-02	6.259E-02	5.431E-03	4.858
CS-137	+	661.66	*	3.212E-01	8.450E-02	6.612E-02	5.748E-03	4.858
TL-208		277.37		1.411E-01	3.690E-01	6.097E-01	7.964E-02	0.231
	+	583.19	*	2.944E-01	7.427E-02	6.525E-02	6.289E-03	4.512
		860.56		3.511E-01	3.434E-01	5.869E-01	5.413E-02	0.598
PB-210	+	46.54	*	1.760E+00	8.645E-01	7.422E-01	8.124E-02	2.371
BI-211		72.87		1.313E+00	2.084E+00	3.079E+00	3.143E-01	0.426
	+	351.06	*	2.053E+00	4.100E-01	3.411E-01	3.250E-02	6.020
PB-212	+	74.82		1.096E+00	3.239E-01	3.365E-01	4.739E-02	3.258
	+	77.11		1.045E+00	2.141E-01	2.032E-01	2.064E-02	5.143
	+	238.63	*	9.194E-01	1.362E-01	8.659E-02	8.945E-03	10.618
		300.09		5.519E-01	8.651E-01	1.404E+00	1.567E-01	0.393
BI-214	+	609.32	*	8.126E-01	1.808E-01	1.239E-01	1.289E-02	6.559
		1120.29		8.732E-01	4.028E-01	7.220E-01	7.654E-02	1.209
	+	1764.49		1.337E+00	4.716E-01	3.142E-01	2.642E-02	4.254
PB-214	+	74.82		1.943E+00	5.636E-01	5.965E-01	7.698E-02	3.258
	+	77.11		1.842E+00	4.069E-01	3.582E-01	4.687E-02	5.143
	+	242.00		9.808E-01	5.365E-01	5.268E-01	5.760E-02	1.862
	+	295.22		8.980E-01	2.199E-01	2.295E-01	2.620E-02	3.913
	+	351.93	*	7.452E-01	1.544E-01	1.318E-01	1.451E-02	5.653
RA-224	+	240.99	*	1.734E+00	9.432E-01	9.283E-01	8.604E-02	1.868
RA-226	+	609.32	*	8.126E-01	1.808E-01	1.239E-01	1.289E-02	6.559
		1120.29		8.732E-01	4.028E-01	7.220E-01	7.654E-02	1.209
	+	1764.49		1.337E+00	4.716E-01	3.142E-01	2.642E-02	4.254
AC-228	+	338.32		8.441E-01	5.669E-01	3.828E-01	1.602E-01	2.205
	+	911.20	*	9.348E-01	3.347E-01	2.688E-01	3.084E-02	3.478
	+	968.97		5.313E-01	5.375E-01	4.649E-01	1.130E-01	1.143
RA-228	+	338.32		8.441E-01	5.669E-01	3.828E-01	1.602E-01	2.205
	+	911.20	*	9.348E-01	3.347E-01	2.688E-01	3.084E-02	3.478

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	968.97		5.313E-01	5.375E-01	4.649E-01	1.130E-01	1.143
	+	74.82		1.096E+00	3.062E-01	3.365E-01	3.449E-02	3.258
	+	77.11		1.045E+00	2.141E-01	2.032E-01	2.064E-02	5.143
	+	238.63	*	9.194E-01	1.362E-01	8.659E-02	8.945E-03	10.618
TH-229		300.09		5.519E-01	9.269E-01	1.404E+00	8.611E-01	0.393
	+	85.43		1.510E-01	1.610E-01	2.149E-01	2.173E-02	0.703
	+	88.47		2.761E-01	8.883E-02	1.299E-01	1.317E-02	2.125
		193.51	*	4.111E-01	4.980E-01	8.513E-01	7.592E-02	0.483
TH-232		210.85		6.953E-01	8.540E-01	1.423E+00	1.290E-01	0.489
	+	338.32		8.441E-01	4.503E-01	3.828E-01	3.525E-02	2.205
	+	911.20	*	9.348E-01	3.347E-01	2.688E-01	3.084E-02	3.478
	+	968.97		5.313E-01	5.375E-01	4.649E-01	1.130E-01	1.143
TH-234	+	63.29	*	1.533E+00	1.236E+00	9.297E-01	1.793E-01	1.649
	+	92.59		2.614E+00	1.004E+00	7.467E-01	1.704E-01	3.501
U-235	+	89.96		1.025E+00	6.821E-01	9.028E-01	2.277E-01	1.136
	+	93.35		1.975E+00	7.698E-01	5.654E-01	1.347E-01	3.492
		143.76	*	1.486E-01	1.909E-01	3.212E-01	5.816E-02	0.463
		163.33		7.059E-02	4.127E-01	6.667E-01	1.206E-01	0.106
NP-237	+	185.72		1.144E-01	7.139E-02	6.000E-02	5.306E-03	1.907
		205.31		-3.990E-01	5.025E-01	7.822E-01	1.435E-01	-0.510
	+	86.48	*	5.345E-01	2.052E-01	2.555E-01	5.948E-02	2.092
		95.86		-1.045E+00	9.164E-01	1.172E+00	2.901E-01	-0.892
U-238	+	63.29	*	1.533E+00	1.236E+00	9.297E-01	1.793E-01	1.649
	+	92.59		2.614E+00	8.514E-01	7.467E-01	7.746E-02	3.501

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	2.579E-01	3.782E-01	6.493E-01	6.301E-02	0.397
NA-22		1274.54	*	-2.891E-02	5.094E-02	8.059E-02	6.809E-03	-0.359
NA-24		1368.63	*	-7.654E+00	5.094E-02	Half-Life too short		
SC-46		889.28	*	2.003E-03	4.592E-02	7.613E-02	6.463E-03	0.026
		1120.55		1.528E-01	6.929E-02	1.256E-01	1.031E-02	1.217
V-48		944.13		3.268E-01	1.223E+00	2.053E+00	1.739E-01	0.159
		983.53	*	-2.241E-02	9.112E-02	1.460E-01	1.234E-02	-0.154
		1312.11		-2.786E-02	1.093E-01	1.774E-01	1.522E-02	-0.157
CR-51		320.08	*	1.614E-02	4.087E-01	6.580E-01	6.401E-02	0.025
MN-54		834.85	*	2.912E-02	4.310E-02	7.488E-02	6.485E-03	0.389
CO-56		846.77	*	-1.077E-02	4.570E-02	7.433E-02	6.414E-03	-0.145
		1037.84		1.366E-01	3.912E-01	6.562E-01	5.813E-02	0.208
		1238.28		6.787E-02	1.024E-01	1.787E-01	1.530E-02	0.380
		1771.35		-4.835E-02	2.990E-01	3.925E-01	3.294E-02	-0.123
CO-57		122.06	*	5.414E-03	2.323E-02	3.848E-02	4.788E-03	0.141
		136.47		-8.905E-03	1.879E-01	3.165E-01	3.739E-02	-0.028
CO-58		810.76	*	-3.434E-02	4.671E-02	7.313E-02	6.385E-03	-0.470
FE-59		1099.45	*	-6.867E-02	9.883E-02	1.486E-01	1.337E-02	-0.462
CO-60		1291.59		1.206E-01	1.500E-01	2.663E-01	2.578E-02	0.453
		1173.23		3.782E-03	5.484E-02	8.903E-02	7.158E-03	0.042

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1332.49		*	1.059E-02	4.308E-02	7.332E-02	6.342E-03	0.144
ZN-65	1115.54		*	-2.790E-01	1.245E-01	1.622E-01	1.336E-02	-1.720
SE-75	121.12			1.234E-02	1.225E-01	2.020E-01	2.867E-02	0.061
	136.00			2.180E-02	3.633E-02	6.253E-02	7.132E-03	0.349
	264.66		*	3.027E-02	4.448E-02	7.474E-02	7.022E-03	0.405
	279.54			4.939E-02	1.104E-01	1.829E-01	1.771E-02	0.270
	400.66			-4.977E-02	2.735E-01	4.532E-01	5.061E-02	-0.110
SR-85	514.00		*	-1.032E-01	5.386E-02	7.853E-02	7.170E-03	-1.315
Y-88	898.04			1.373E-02	4.628E-02	7.828E-02	6.652E-03	0.175
	1836.06		*	-8.011E-04	3.283E-02	5.452E-02	4.506E-03	-0.015
Y-91	1204.77		*	-2.129E+01	2.536E+01	3.957E+01	3.233E+00	-0.538
NB-94	702.65		*	7.153E-03	3.998E-02	6.508E-02	5.692E-03	0.110
	871.09			1.941E-02	3.882E-02	6.676E-02	5.711E-03	0.291
NB-95	765.81		*	5.472E-02	5.626E-02	8.842E-02	7.749E-03	0.619
NB-95M	235.69		*	1.566E-01	1.344E-01	2.056E-01	2.145E-02	0.762
ZR-95	724.19			-1.707E-02	1.137E-01	1.890E-01	1.791E-02	-0.090
	756.73		*	7.824E-02	8.554E-02	1.515E-01	1.463E-02	0.517
MO-99	140.51			-2.916E+01	4.481E+01	7.270E+01	1.796E+01	-0.401
	181.07			-2.109E+01	3.986E+01	5.613E+01	1.059E+01	-0.376
	366.42			-3.633E+01	2.130E+02	3.551E+02	3.185E+01	-0.102
	739.50		*	-1.625E+01	2.891E+01	4.615E+01	7.311E+00	-0.352
	777.92			1.312E+01	8.382E+01	1.387E+02	1.215E+01	0.095
TC-99M	140.51		*	-1.226E+14	8.382E+01	Half-Life	too short	
RU-103	497.08		*	-2.189E-02	5.226E-02	7.154E-02	1.021E-02	-0.306
	610.33		+	8.859E+00	2.277E+00	2.612E+00	4.318E-01	3.392
RH-106	621.93		*	-3.369E-01	3.737E-01	5.612E-01	7.546E-02	-0.600
	1050.41			1.974E+00	3.083E+00	5.285E+00	4.426E-01	0.373
RU-106	621.93		*	-3.369E-01	3.722E-01	5.612E-01	5.000E-02	-0.600
	1050.41			1.974E+00	3.083E+00	5.285E+00	4.426E-01	0.373
AG-108M	433.94		*	9.535E-03	3.186E-02	5.394E-02	4.951E-03	0.177
	614.28			-5.951E-03	4.689E-02	6.489E-02	5.982E-03	-0.092
	722.91			-4.247E-02	4.423E-02	6.926E-02	6.259E-03	-0.613
AG-110M	657.76		*	2.302E-02	4.588E-02	6.729E-02	6.028E-03	0.342
	677.62			2.236E-01	3.686E-01	6.201E-01	5.553E-02	0.361
	706.68			-1.332E-01	2.465E-01	3.785E-01	3.404E-02	-0.352
	763.94			1.269E-01	1.967E-01	3.025E-01	2.722E-02	0.420
	884.68			2.893E-03	5.604E-02	9.301E-02	8.172E-03	0.031
	937.49			-7.816E-02	1.360E-01	2.130E-01	1.872E-02	-0.367
	1384.29			-1.213E-01	1.717E-01	2.592E-01	2.311E-02	-0.468
	1505.03			1.489E-02	2.897E-01	4.793E-01	4.170E-02	0.031
SN-113	391.69		*	8.203E-03	4.779E-02	8.084E-02	7.217E-03	0.101
CD-115	260.90			-5.289E-05	4.779E-02	Half-Life	too short	
	492.35		+	1.634E-04	4.779E-02	Half-Life	too short	
	527.90		*	-3.778E-06	4.779E-02	Half-Life	too short	
SN-117M	156.02			5.330E-02	2.426E+00	4.069E+00	3.908E-01	0.013
	158.56		*	-2.450E-02	5.749E-02	9.451E-02	8.847E-03	-0.259
TE-123M	159.00		*	-1.791E-02	2.601E-02	4.223E-02	3.956E-03	-0.424
SB-124	602.73			-5.496E-02	5.310E-02	6.627E-02	5.960E-03	-0.829
	645.85			-2.749E-01	5.906E-01	9.204E-01	8.529E-02	-0.299

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125	722.78			-4.421E-01	4.604E-01	7.211E-01	6.460E-02	-0.613
	1690.97	*		4.924E-02	8.307E-02	1.489E-01	1.324E-02	0.331
	427.87	*		-2.427E-02	9.318E-02	1.528E-01	1.381E-02	-0.159
	463.37			3.436E-01	3.092E-01	5.408E-01	5.218E-02	0.635
	600.60			1.883E-01	2.075E-01	3.402E-01	3.270E-02	0.553
TE-125M	635.95			-9.978E-02	3.212E-01	5.080E-01	4.837E-02	-0.196
I-126	109.28	*		2.464E+00	8.943E+00	1.435E+01	1.856E+00	0.172
	388.63			2.795E-02	2.064E-01	3.487E-01	3.035E-02	0.080
	666.33	*		-1.331E-03	3.396E-01	4.723E-01	4.103E-02	-0.003
SB-126	753.82			1.463E+00	2.373E+00	4.138E+00	3.629E-01	0.354
	414.70			4.279E-02	9.200E-02	1.576E-01	1.388E-02	0.272
	666.50			4.427E-03	1.178E-01	1.646E-01	1.430E-02	0.027
	695.00			3.275E-02	1.071E-01	1.762E-01	1.539E-02	0.186
	697.00			2.443E-01	3.746E-01	6.302E-01	5.508E-02	0.388
SB-127	720.70	*		2.322E-02	1.908E-01	3.229E-01	2.830E-02	0.072
	856.80			-6.682E-01	6.529E-01	9.898E-01	8.512E-02	-0.675
	252.40			-1.022E+01	8.642E+00	1.138E+01	4.773E+00	-0.898
	473.00			-1.831E-01	3.164E+00	5.217E+00	7.257E-01	-0.035
	685.70	*		-4.691E-01	2.605E+00	4.131E+00	5.123E-01	-0.114
I-131	783.70			3.643E+00	6.665E+00	1.153E+01	1.537E+00	0.316
	80.19			6.671E-01	4.885E+00	6.387E+00	6.514E-01	0.104
	284.31			3.483E-01	1.954E+00	3.193E+00	3.133E-01	0.109
	364.49	*		3.137E-02	1.494E-01	2.544E-01	2.406E-02	0.123
TE-132	636.99			-8.783E-01	2.454E+00	3.867E+00	3.611E-01	-0.227
	49.72			-5.449E+00	7.710E+00	1.088E+01	1.434E+00	-0.501
	111.76			7.935E+00	6.473E+01	9.925E+01	1.417E+01	0.080
BA-133	116.30			-3.946E+01	5.315E+01	8.080E+01	1.176E+01	-0.488
	228.16	*		1.196E+00	1.347E+00	2.278E+00	3.822E-01	0.525
	81.00			4.063E-02	8.676E-02	1.012E-01	1.659E-02	0.402
	276.40			1.802E-01	3.433E-01	5.704E-01	8.321E-02	0.316
	302.85			1.132E-01	1.607E-01	2.373E-01	3.220E-02	0.477
I-133	356.01	*		5.521E-03	5.036E-02	7.489E-02	9.929E-03	0.074
	383.85			-2.208E-01	2.962E-01	4.738E-01	5.936E-02	-0.466
	529.87	*		-1.014E-02	2.962E-01	Half-Life	too short	
	875.33			1.907E-01	2.962E-01	Half-Life	too short	
CS-134	1298.22			-5.402E+00	2.962E-01	Half-Life	too short	
	563.25			-8.494E-02	4.214E-01	6.794E-01	6.239E-02	-0.125
	569.33			4.361E-02	2.292E-01	3.790E-01	3.489E-02	0.115
	604.72			-4.786E-03	4.210E-02	5.842E-02	5.262E-03	-0.082
	795.86	*		2.620E-02	5.117E-02	8.835E-02	7.771E-03	0.297
CS-135	801.95			-2.230E-01	4.279E-01	6.819E-01	5.983E-02	-0.327
	1365.19			-3.414E-01	1.345E+00	2.162E+00	1.961E-01	-0.158
	268.22	*		-6.283E-02	1.638E-01	2.611E-01	2.772E-02	-0.241
	546.56			9.701E+12	1.638E-01	Half-Life	too short	
I-135	836.80			1.492E+13	1.638E-01	Half-Life	too short	
	1038.76			2.078E+13	1.638E-01	Half-Life	too short	
	1131.51			3.726E+12	1.638E-01	Half-Life	too short	
	1260.41	*		1.329E+13	1.638E-01	Half-Life	too short	
	1457.56			2.248E+15	1.638E-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			-1.307E+13	1.638E-01	Half-Life	too short	
	1791.20			-1.981E+13	1.638E-01	Half-Life	too short	
	153.25			8.097E-01	9.067E-01	1.565E+00	1.774E-01	0.517
	176.60			-2.554E-01	5.462E-01	8.907E-01	8.577E-02	-0.287
	273.65			-1.034E+00	6.186E-01	9.026E-01	9.074E-02	-1.145
	340.55			4.147E-01	1.887E-01	3.033E-01	2.882E-02	1.368
	818.51			2.632E-02	9.829E-02	1.668E-01	1.452E-02	0.158
CE-139	1048.07	*		-9.255E-04	1.553E-01	2.530E-01	2.215E-02	-0.004
	1235.36			8.374E-01	7.735E-01	1.377E+00	1.587E-01	0.608
	165.86	*		-3.836E-02	2.799E-02	4.376E-02	3.780E-03	-0.877
	162.66			2.705E-01	8.980E-01	1.458E+00	1.387E-01	0.186
	304.85			2.088E-01	1.838E+00	2.608E+00	7.692E-01	0.080
BA-140	423.72			3.734E-01	2.398E+00	4.030E+00	1.328E+00	0.093
	537.26	*		-1.460E-01	3.585E-01	5.661E-01	1.927E-01	-0.258
	328.76			5.477E-01	3.716E-01	6.370E-01	6.196E-02	0.860
	487.02			1.144E-01	1.798E-01	2.738E-01	2.628E-02	0.418
	815.77			3.840E-01	4.369E-01	7.724E-01	7.495E-02	0.497
LA-140	1596.21	*		-3.039E-02	1.162E-01	1.830E-01	1.582E-02	-0.166
	145.44	*		-8.349E-03	6.105E-02	1.021E-01	1.092E-02	-0.082
	57.36			-1.007E-03	6.105E-02	Half-Life	too short	
CE-141	293.27	*		2.754E-03	6.105E-02	Half-Life	too short	
	664.57			8.473E-03	6.105E-02	Half-Life	too short	
	721.93			-6.828E-03	6.105E-02	Half-Life	too short	
	80.12			2.298E-01	2.032E+00	2.653E+00	2.688E-01	0.087
CE-144	133.52	*		-1.002E-01	1.805E-01	2.972E-01	5.087E-02	-0.337
	476.78			3.798E-02	7.451E-02	1.268E-01	1.240E-02	0.300
PM-144	618.01			1.489E-03	3.714E-02	6.046E-02	5.539E-03	0.025
	696.49	*		2.923E-02	4.030E-02	6.814E-02	5.957E-03	0.429
	696.51	*		2.200E+00	3.022E+00	5.110E+00	4.465E-01	0.430
PR-144	1489.16			-5.354E+00	1.298E+01	1.999E+01	1.740E+00	-0.268
	453.88	*		-1.247E-02	4.467E-02	7.283E-02	7.937E-03	-0.171
	633.25			-5.616E-01	1.712E+00	2.686E+00	1.027E+00	-0.209
	735.93			-4.609E-06	1.538E-01	2.579E-01	7.238E-02	0.000
PM-146	747.24			-5.008E-02	1.065E-01	1.715E-01	2.517E-02	-0.292
	91.11			4.039E-01	2.525E-01	5.576E-01	6.075E-02	0.724
	319.41			2.271E-01	4.147E+00	6.684E+00	6.225E-01	0.034
	531.02	*		-2.156E-01	7.385E-01	1.186E+00	1.809E-01	-0.182
ND-147	285.90	*		-9.143E-06	7.385E-01	Half-Life	too short	
	121.78			1.470E-02	6.627E-02	1.097E-01	1.464E-02	0.134
PM-149	244.70			-9.108E-02	3.589E-01	5.047E-01	4.687E-02	-0.180
	344.28	*		2.109E-02	1.044E-01	1.481E-01	1.429E-02	0.142
	778.90			2.542E-02	2.736E-01	4.599E-01	4.026E-02	0.055
	964.08			3.647E-01	3.951E-01	6.071E-01	5.140E-02	0.601
EU-152	1085.87			-2.328E-01	4.580E-01	7.094E-01	5.890E-02	-0.328
	1112.07			1.747E-02	3.571E-01	5.816E-01	4.790E-02	0.030
	1408.01			1.606E-01	2.056E-01	3.672E-01	3.193E-02	0.437
	69.67			-3.956E-01	9.957E-01	1.512E+00	1.552E-01	-0.262
	97.43	*		4.702E-02	8.155E-02	1.172E-01	1.250E-02	0.401
	103.18			6.472E-02	9.888E-02	1.611E-01	1.780E-02	0.402
GD-153								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		123.07		2.553E-02	4.494E-02	7.753E-02	1.117E-02	0.329
		723.31		-1.812E-01	2.006E-01	3.154E-01	3.035E-02	-0.575
		873.19		-1.340E-01	3.343E-01	5.347E-01	6.333E-02	-0.251
		996.26		-7.055E-01	4.549E-01	6.160E-01	1.071E-01	-1.145
		1004.73		-1.182E-01	2.721E-01	4.293E-01	4.938E-02	-0.275
		1274.44	*	-8.308E-02	1.441E-01	2.276E-01	2.559E-02	-0.365
EU-155	+	86.55		2.175E-01	7.001E-02	1.298E-01	1.322E-02	1.675
		105.31	*	9.412E-03	9.483E-02	1.514E-01	1.706E-02	0.062
TB-160	+	86.79		5.936E-01	1.910E-01	3.535E-01	3.573E-02	1.680
		197.04		-5.066E-01	5.699E-01	8.864E-01	7.934E-02	-0.571
		215.65		4.914E-02	7.243E-01	1.196E+00	1.090E-01	0.041
		298.57		4.284E-02	1.185E-01	1.947E-01	1.824E-02	0.220
		879.36	*	1.464E-01	1.737E-01	3.047E-01	2.598E-02	0.480
		962.29		1.894E-01	7.697E-01	1.112E+00	9.414E-02	0.170
		966.15		6.658E-01	3.245E-01	5.316E-01	4.501E-02	1.252
		1177.93		-2.012E-01	4.463E-01	6.919E-01	5.577E-02	-0.291
HO-166M		1271.85		2.017E-01	8.115E-01	1.382E+00	1.165E-01	0.146
		80.57		-9.198E-02	2.631E-01	2.897E-01	2.934E-02	-0.318
	+	184.41		9.089E-02	5.672E-02	6.852E-02	6.049E-03	1.327
		280.46		-1.691E-02	8.566E-02	1.373E-01	1.288E-02	-0.123
		410.95		-1.594E-01	2.517E-01	4.048E-01	3.556E-02	-0.394
		711.68	*	2.116E-02	6.667E-02	1.098E-01	9.611E-03	0.193
		752.31		-2.441E-01	3.163E-01	4.987E-01	4.373E-02	-0.490
		810.29		-5.123E-02	6.736E-02	1.051E-01	9.159E-03	-0.487
TA-182		67.75		-3.110E-02	6.591E-02	9.327E-02	9.612E-03	-0.333
		100.11		7.708E-03	1.652E-01	2.569E-01	2.786E-02	0.030
		152.43		2.128E-01	3.185E-01	5.470E-01	5.437E-02	0.389
		222.11		1.916E-01	3.451E-01	5.807E-01	5.316E-02	0.330
		1121.30		4.214E-01	1.927E-01	3.487E-01	2.863E-02	1.209
		1189.05		-3.193E-01	3.751E-01	5.580E-01	4.523E-02	-0.572
		1221.41	*	-1.145E-02	2.249E-01	3.746E-01	3.085E-02	-0.031
		1231.02		-4.943E-01	5.667E-01	8.841E-01	7.315E-02	-0.559
IR-192	+	295.96		6.837E-01	1.616E-01	2.493E-01	2.352E-02	2.742
		308.46		5.860E-02	1.031E-01	1.657E-01	1.556E-02	0.354
		316.51	*	3.929E-03	3.665E-02	5.929E-02	5.538E-03	0.066
		468.07		-8.494E-02	7.550E-02	1.155E-01	1.113E-02	-0.736
HG-203		70.83		-2.082E-01	8.842E-01	1.263E+00	2.145E-01	-0.165
		72.87		3.423E-01	5.453E-01	8.028E-01	1.322E-01	0.426
BI-207		279.20	*	2.773E-02	4.042E-02	6.768E-02	6.486E-03	0.410
		72.81		6.212E-02	1.195E-01	1.758E-01	1.795E-02	0.353
	+	74.97		3.160E-01	8.817E-02	1.326E-01	1.350E-02	2.383
		569.70		1.837E-02	3.458E-02	5.842E-02	5.311E-03	0.314
PB-211		1063.66	*	-2.094E-02	6.125E-02	9.661E-02	8.068E-03	-0.217
		1770.23		1.996E-01	5.123E-01	7.840E-01	6.582E-02	0.255
		404.85	*	6.614E-02	7.718E-01	1.296E+00	6.274E-01	0.051
		427.09		2.116E-01	1.545E+00	2.591E+00	1.200E+00	0.082
BI-212		832.01		2.016E-01	1.141E+00	1.912E+00	9.918E-01	0.105
		727.33	*	9.748E-01	6.265E-01	1.128E+00	1.417E-01	0.864
		785.37		3.255E+00	3.513E+00	6.224E+00	5.445E-01	0.523

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	1620.50			1.563E+00	2.339E+00	4.208E+00	3.627E-01	0.371
	271.23			2.747E-01	2.465E-01	4.075E-01	4.439E-02	0.674
	401.81	*		5.202E-02	4.234E-01	7.131E-01	1.065E-01	0.073
RA-223	81.07			9.305E-02	1.963E-01	2.294E-01	2.323E-02	0.406
	83.79		+	8.989E-02	9.582E-02	1.489E-01	1.506E-02	0.604
	94.87			7.451E-01	4.339E-01	6.560E-01	6.896E-02	1.136
	144.24			2.242E-01	6.423E-01	1.074E+00	1.235E-01	0.209
	154.21			3.603E-01	3.487E-01	6.047E-01	6.355E-02	0.596
	269.46			1.639E-01	1.934E-01	3.171E-01	3.020E-02	0.517
AC-227	323.87	*		-1.359E+00	7.565E-01	9.994E-01	1.766E-01	-1.360
	338.28		+	3.350E+00	1.809E+00	2.029E+00	2.536E-01	1.651
	79.69			8.218E-02	9.252E-01	1.315E+00	2.372E-01	0.063
	235.96			3.430E-01	1.658E-01	2.610E-01	2.836E-02	1.314
	256.23	*		5.478E-02	2.529E-01	4.165E-01	5.235E-02	0.132
	299.98			5.637E-01	9.498E-01	1.537E+00	2.033E-01	0.367
TH-227	304.50			-1.501E-02	1.904E+00	2.678E+00	4.533E-01	-0.006
	334.37			-2.513E-01	2.089E+00	2.889E+00	4.603E-01	-0.087
	79.80			1.241E-01	1.222E+00	1.737E+00	3.895E-01	0.071
	235.96			3.430E-01	1.654E-01	2.610E-01	2.691E-02	1.314
	256.23	*		5.478E-02	2.530E-01	4.165E-01	5.859E-02	0.132
	299.98			5.637E-01	9.498E-01	1.537E+00	2.033E-01	0.367
PA-231	304.50			-1.501E-02	1.904E+00	2.678E+00	4.533E-01	-0.006
	334.37			-2.513E-01	2.089E+00	2.889E+00	4.603E-01	-0.087
	283.69	*		4.906E-01	1.460E+00	2.403E+00	3.616E-01	0.204
TH-231	301.36			5.015E-01	6.205E-01	1.013E+00	1.285E-01	0.495
	81.07			9.305E-02	1.963E-01	2.294E-01	2.323E-02	0.406
	83.79		+	8.989E-02	9.582E-02	1.489E-01	1.506E-02	0.604
	94.87			7.451E-01	4.339E-01	6.560E-01	6.896E-02	1.136
	144.24			2.242E-01	6.423E-01	1.074E+00	1.235E-01	0.209
	154.21			3.603E-01	3.487E-01	6.047E-01	6.355E-02	0.596
PA-233	269.46			1.639E-01	1.934E-01	3.171E-01	3.020E-02	0.517
	323.87	*		-1.359E+00	7.565E-01	9.994E-01	1.766E-01	-1.360
	338.28		+	3.350E+00	1.809E+00	2.029E+00	2.536E-01	1.651
	300.13			2.818E-01	4.320E-01	7.001E-01	1.069E-01	0.403
	311.90	*		-4.660E-02	6.436E-02	9.877E-02	9.450E-03	-0.472
	340.48			1.602E+00	7.778E-01	1.115E+00	2.706E-01	1.438
PA-234	94.67			5.039E-01	1.698E-01	2.526E-01	3.479E-02	1.995
	98.44			4.775E-02	9.058E-02	1.317E-01	7.393E-02	0.363
	111.00			-1.672E-02	1.698E-01	2.681E-01	3.850E-02	-0.062
	131.20			-9.600E-02	9.531E-02	1.540E-01	1.809E-02	-0.623
	569.50			4.943E-02	3.158E-01	5.210E-01	4.737E-02	0.095
	733.00			-3.269E-01	4.275E-01	6.670E-01	1.484E-01	-0.490
PA-234M	880.51			1.832E-01	3.396E-01	5.838E-01	4.975E-02	0.314
	883.24			2.605E-02	3.411E-01	5.664E-01	3.807E-01	0.046
	926.50			-4.202E-02	2.005E-01	3.238E-01	8.167E-02	-0.130
	946.00	*		-4.827E-02	3.709E-01	6.033E-01	1.128E-01	-0.080
	949.00			3.879E-01	5.190E-01	9.028E-01	7.647E-02	0.430
	766.42			1.547E+01	1.686E+01	2.358E+01	1.197E+01	0.656
	1001.03	*		4.138E+00	5.890E+00	9.829E+00	9.645E-01	0.421

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	99.53			8.617E-02	1.483E-01	2.351E-01	2.540E-02	0.367
	103.37			8.349E-02	8.867E-02	1.458E-01	1.612E-02	0.573
	106.12			-5.710E-03	7.443E-02	1.179E-01	1.326E-02	-0.048
	117.23	*		-9.861E-02	3.656E-01	5.707E-01	6.882E-02	-0.173
	228.18			1.798E-01	2.019E-01	3.441E-01	3.164E-02	0.523
	277.60			5.597E-02	1.687E-01	2.782E-01	2.609E-02	0.201
AM-241	59.54	*		6.373E-03	6.265E-02	9.170E-02	1.017E-02	0.070
CM-247	278.00			4.674E-01	7.241E-01	1.211E+00	1.136E-01	0.386
	287.50			-4.320E-01	1.201E+00	1.902E+00	1.785E-01	-0.227
	402.40	*		-5.754E-03	3.934E-02	6.530E-02	5.703E-03	-0.088
CF-249	252.80			-1.508E+00	9.743E-01	1.446E+00	1.348E-01	-1.043
	333.37			-1.983E-02	2.157E-01	2.990E-01	2.763E-02	-0.066
	388.16	*		1.553E-02	4.148E-02	7.094E-02	6.180E-03	0.219
CF-251	177.52	*		-4.580E-02	1.187E-01	1.943E-01	1.702E-02	-0.236
	227.38			3.076E-01	3.343E-01	5.702E-01	5.240E-02	0.540
	285.41			6.688E-01	2.128E+00	3.503E+00	3.287E-01	0.191
ANH-511	511.00	*		4.316E-02	4.867E-02	8.695E-02	7.936E-03	0.496

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]G248051002
* Acquisition date   : 10-MAR-2010 17:21:41 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 02:00:01.50 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051002 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.4887E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 10-FEB-2010 14:02:26 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	2.245E+01	2.591E+00	6.413E-01	0.000E+00
CD-109	1.841E+00	5.804E-01	9.308E-01	0.000E+00
SN-126	1.791E-01	5.647E-02	9.045E-02	0.000E+00
BA-137M	3.041E-01	7.838E-02	6.425E-02	0.000E+00
CS-137	3.212E-01	8.281E-02	6.787E-02	0.000E+00
TL-208	2.944E-01	7.279E-02	6.719E-02	0.000E+00
PB-210	1.760E+00	8.472E-01	8.097E-01	0.000E+00
BI-211	2.053E+00	4.018E-01	3.555E-01	0.000E+00
PB-212	9.194E-01	1.335E-01	9.107E-02	0.000E+00
BI-214	8.126E-01	1.772E-01	1.274E-01	0.000E+00
PB-214	7.452E-01	1.513E-01	1.374E-01	0.000E+00
RA-224	1.734E+00	9.244E-01	9.761E-01	0.000E+00
RA-226	8.126E-01	1.772E-01	1.274E-01	0.000E+00
AC-228	9.348E-01	3.280E-01	2.737E-01	0.000E+00
RA-228	9.348E-01	3.280E-01	2.737E-01	0.000E+00
TH-228	9.194E-01	1.335E-01	9.107E-02	0.000E+00
TH-229	4.111E-01	4.880E-01	8.996E-01	0.000E+00
TH-232	9.348E-01	3.280E-01	2.737E-01	0.000E+00
TH-234	1.533E+00	1.212E+00	1.007E+00	0.000E+00
U-235	1.486E-01	1.871E-01	3.418E-01	0.000E+00
NP-237	5.345E-01	2.011E-01	2.750E-01	0.000E+00
U-238	1.533E+00	1.212E+00	1.007E+00	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.579E-01	3.706E-01	6.718E-01	0.000E+00 NOT IDENT.
NA-22	-2.891E-02	4.993E-02	8.139E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.448E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	2.003E-03	4.500E-02	7.758E-02	0.000E+00 NOT IDENT.
V-48	-2.241E-02	8.930E-02	1.484E-01	0.000E+00 NOT IDENT.

CR-51	1.614E-02	4.005E-01	6.873E-01	0.000E+00	NOT IDENT.
MN-54	2.912E-02	4.224E-02	7.643E-02	0.000E+00	NOT IDENT.
CO-56	-1.077E-02	4.478E-02	7.584E-02	0.000E+00	NOT IDENT.
CO-57	5.414E-03	2.277E-02	4.110E-02	0.000E+00	NOT IDENT.
CO-58	-3.434E-02	4.577E-02	7.469E-02	0.000E+00	NOT IDENT.
FE-59	-6.867E-02	9.685E-02	1.506E-01	0.000E+00	NOT IDENT.
CO-60	1.059E-02	4.221E-02	7.397E-02	0.000E+00	NOT IDENT.
ZN-65	-2.790E-01	1.220E-01	1.644E-01	0.000E+00	NOT IDENT.
SE-75	3.027E-02	4.359E-02	7.841E-02	0.000E+00	NOT IDENT.
SR-85	-1.032E-01	5.278E-02	8.110E-02	0.000E+00	NOT IDENT.
Y-88	-8.011E-04	3.217E-02	5.456E-02	0.000E+00	NOT IDENT.
Y-91	-2.129E+01	2.485E+01	4.002E+01	0.000E+00	NOT IDENT.
NB-94	7.153E-03	3.918E-02	6.671E-02	0.000E+00	NOT IDENT.
NB-95	5.472E-02	5.513E-02	9.044E-02	0.000E+00	NOT IDENT.
NB-95M	1.566E-01	1.317E-01	2.163E-01	0.000E+00	NOT IDENT.
ZR-95	7.824E-02	8.383E-02	1.550E-01	0.000E+00	NOT IDENT.
MO-99	-1.625E+01	2.833E+01	4.725E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.871E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-2.189E-02	5.122E-02	7.395E-02	0.000E+00	FAIL ABUN
RH-106	-3.369E-01	3.662E-01	5.770E-01	0.000E+00	NOT IDENT.
RU-106	-3.369E-01	3.647E-01	5.770E-01	0.000E+00	NOT IDENT.
AG-108M	9.535E-03	3.122E-02	5.594E-02	0.000E+00	NOT IDENT.
AG-110M	2.302E-02	4.496E-02	6.909E-02	0.000E+00	NOT IDENT.
SN-113	8.203E-03	4.684E-02	8.403E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.060E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-2.450E-02	5.634E-02	1.003E-01	0.000E+00	NOT IDENT.
TE-123M	-1.791E-02	2.549E-02	4.483E-02	0.000E+00	NOT IDENT.
SB-124	4.924E-02	8.141E-02	1.493E-01	0.000E+00	NOT IDENT.
SB-125	-2.427E-02	9.132E-02	1.585E-01	0.000E+00	NOT IDENT.
TE-125M	2.464E+00	8.764E+00	1.536E+01	0.000E+00	NOT IDENT.
I-126	-1.331E-03	3.329E-01	4.847E-01	0.000E+00	NOT IDENT.
SB-126	2.322E-02	1.870E-01	3.308E-01	0.000E+00	NOT IDENT.
SB-127	-4.691E-01	2.552E+00	4.237E+00	0.000E+00	NOT IDENT.
I-131	3.137E-02	1.464E-01	2.649E-01	0.000E+00	NOT IDENT.
TE-132	1.196E+00	1.320E+00	2.398E+00	0.000E+00	NOT IDENT.
BA-133	5.521E-03	4.935E-02	7.803E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.402E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	2.620E-02	5.015E-02	9.028E-02	0.000E+00	NOT IDENT.
CS-135	-6.283E-02	1.606E-01	2.738E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.721E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.255E-04	1.522E-01	2.568E-01	0.000E+00	NOT IDENT.
CE-139	-3.836E-02	2.743E-02	4.641E-02	0.000E+00	NOT IDENT.
BA-140	-1.460E-01	3.514E-01	5.840E-01	0.000E+00	NOT IDENT.
LA-140	-3.039E-02	1.138E-01	1.838E-01	0.000E+00	NOT IDENT.
CE-141	-8.349E-03	5.983E-02	1.087E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	9.494E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.002E-01	1.769E-01	3.167E-01	0.000E+00	NOT IDENT.
PM-144	2.923E-02	3.950E-02	6.986E-02	0.000E+00	NOT IDENT.
PR-144	2.200E+00	2.961E+00	5.239E+00	0.000E+00	NOT IDENT.
PM-146	-1.247E-02	4.378E-02	7.544E-02	0.000E+00	NOT IDENT.
ND-147	-2.156E-01	7.237E-01	1.224E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.351E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	2.109E-02	1.023E-01	1.545E-01	0.000E+00	NOT IDENT.
GD-153	4.702E-02	7.992E-02	1.257E-01	0.000E+00	NOT IDENT.
EU-154	-8.308E-02	1.413E-01	2.298E-01	0.000E+00	NOT IDENT.
EU-155	9.412E-03	9.294E-02	1.622E-01	0.000E+00	FAIL ABUN
TB-160	1.464E-01	1.702E-01	3.106E-01	0.000E+00	FAIL ABUN
HO-166M	2.116E-02	6.534E-02	1.125E-01	0.000E+00	FAIL ABUN
TA-182	-1.145E-02	2.204E-01	3.787E-01	0.000E+00	NOT IDENT.
IR-192	3.929E-03	3.592E-02	6.194E-02	0.000E+00	FAIL ABUN
HG-203	2.773E-02	3.962E-02	7.092E-02	0.000E+00	NOT IDENT.
BI-207	-2.094E-02	6.003E-02	9.802E-02	0.000E+00	FAIL ABUN
PB-211	6.614E-02	7.564E-01	1.346E+00	0.000E+00	NOT IDENT.
BI-212	9.748E-01	6.140E-01	1.156E+00	0.000E+00	NOT IDENT.
RN-219	5.202E-02	4.149E-01	7.409E-01	0.000E+00	NOT IDENT.
RA-223	-1.359E+00	7.414E-01	1.044E+00	0.000E+00	FAIL ABUN
AC-227	5.478E-02	2.479E-01	4.373E-01	0.000E+00	NOT IDENT.
TH-227	5.478E-02	2.479E-01	4.373E-01	0.000E+00	NOT IDENT.
PA-231	4.906E-01	1.431E+00	2.517E+00	0.000E+00	NOT IDENT.
TH-231	-1.359E+00	7.414E-01	1.044E+00	0.000E+00	FAIL ABUN
PA-233	-4.660E-02	6.307E-02	1.032E-01	0.000E+00	NOT IDENT.
PA-234	-4.827E-02	3.635E-01	6.138E-01	0.000E+00	NOT IDENT.
PA-234M	4.138E+00	5.772E+00	9.988E+00	0.000E+00	NOT IDENT.
NP-239	-9.861E-02	3.583E-01	6.100E-01	0.000E+00	NOT IDENT.
AM-241	6.373E-03	6.140E-02	9.949E-02	0.000E+00	NOT IDENT.
CM-247	-5.754E-03	3.855E-02	6.783E-02	0.000E+00	NOT IDENT.
CF-249	1.553E-02	4.065E-02	7.376E-02	0.000E+00	NOT IDENT.
CF-251	-4.580E-02	1.164E-01	2.057E-01	0.000E+00	NOT IDENT.

ANH-511	4.316E-02	4.770E-02	8.981E-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]G248051002.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:21:41
Sample ID          : G248051002 Sample quantity : 1.48870E+02 GRAM
Detector name      : GAM13 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           : 958225 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	1460.82	952	10.66*	1.003E+00	2.245E+01	2.245E+01	11.78
CD-109	88.03	192	3.70*	7.286E+00	1.791E+00	1.841E+00	32.17
SN-126	64.28	166	9.60	7.387E+00	5.908E-01	5.908E-01	79.98
	86.94	192	8.90	7.286E+00	7.446E-01	7.446E-01	51.68
	87.57	192	37.00*	7.286E+00	1.791E-01	1.791E-01	32.17
BA-137M	661.66	213	89.90*	1.970E+00	3.037E-01	3.041E-01	26.30
CS-137	661.66	213	85.10*	1.970E+00	3.209E-01	3.212E-01	26.31
TL-208	277.37	-----	6.60	4.098E+00	-----	Line Not Found	-----
	583.19	219	85.00*	2.203E+00	2.944E-01	2.944E-01	25.22
	860.56	-----	12.50	1.561E+00	-----	Line Not Found	-----
PB-210	46.54	205	4.25*	6.918E+00	1.757E+00	1.760E+00	49.12
BI-211	72.87	-----	1.23	7.416E+00	-----	Line Not Found	-----
	351.06	358	12.92*	3.399E+00	2.053E+00	2.053E+00	19.97
PB-212	74.82	331	10.28	7.408E+00	1.096E+00	1.096E+00	29.55
	77.11	524	17.10	7.394E+00	1.045E+00	1.045E+00	20.49
	238.63	727	43.60*	4.573E+00	9.194E-01	9.194E-01	14.82
	300.09	-----	3.30	3.858E+00	-----	Line Not Found	-----
BI-214	609.32	311	45.49*	2.120E+00	8.126E-01	8.126E-01	22.26
	1120.29	-----	14.92	1.244E+00	-----	Line Not Found	-----
	1764.49	71	15.30	8.700E-01	1.337E+00	1.337E+00	35.28
PB-214	74.82	331	5.80	7.408E+00	1.943E+00	1.943E+00	29.01
	77.11	524	9.70	7.394E+00	1.842E+00	1.842E+00	22.09
	242.00	128	7.25	4.533E+00	9.807E-01	9.808E-01	54.70
	295.22	256	18.42	3.907E+00	8.980E-01	8.980E-01	24.49
	351.93	358	35.60*	3.399E+00	7.452E-01	7.452E-01	20.72
RA-224	240.99	128	4.10*	4.533E+00	1.734E+00	1.734E+00	54.39
RA-226	609.32	311	45.49*	2.120E+00	8.126E-01	8.126E-01	22.26
	1120.29	-----	14.92	1.244E+00	-----	Line Not Found	-----
	1764.49	71	15.30	8.700E-01	1.337E+00	1.337E+00	35.28
AC-228	338.32	132	11.27	3.509E+00	8.441E-01	8.441E-01	67.17
	911.20	142	25.80*	1.485E+00	9.348E-01	9.348E-01	35.81
	968.97	47	15.80	1.407E+00	5.313E-01	5.313E-01	101.18

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	338.32	132	11.27	3.509E+00	8.441E-01	8.441E-01	67.17
	911.20	142	25.80*	1.485E+00	9.348E-01	9.348E-01	35.81
	968.97	47	15.80	1.407E+00	5.313E-01	5.313E-01	101.18
TH-228	74.82	331	10.28	7.408E+00	1.096E+00	1.096E+00	27.93
	77.11	524	17.10	7.394E+00	1.045E+00	1.045E+00	20.49
	238.63	727	43.60*	4.573E+00	9.194E-01	9.194E-01	14.82
TH-229	300.09	-----	3.30	3.858E+00	-----	Line Not Found	-----
	85.43	64	14.70	7.324E+00	1.510E-01	1.510E-01	106.60
	88.47	192	24.00	7.286E+00	2.761E-01	2.761E-01	32.17
TH-232	193.51	-----	4.41*	5.254E+00	-----	Line Not Found	-----
	210.85	-----	2.80	4.974E+00	-----	Line Not Found	-----
	338.32	132	11.27	3.509E+00	8.441E-01	8.441E-01	53.34
TH-234	911.20	142	25.80*	1.485E+00	9.348E-01	9.348E-01	35.81
	968.97	47	15.80	1.407E+00	5.313E-01	5.313E-01	101.18
	63.29	166	3.70*	7.387E+00	1.533E+00	1.533E+00	80.65
U-235	92.59	316	4.23	7.206E+00	2.614E+00	2.614E+00	38.40
	89.96	102	3.47	7.248E+00	1.025E+00	1.025E+00	66.53
	93.35	316	5.60	7.206E+00	1.975E+00	1.975E+00	38.99
NP-237	143.76	-----	10.96*	6.188E+00	-----	Line Not Found	-----
	163.33	-----	5.08	5.799E+00	-----	Line Not Found	-----
	185.72	140	57.20	5.389E+00	1.144E-01	1.144E-01	62.40
U-238	205.31	-----	5.01	5.061E+00	-----	Line Not Found	-----
	86.48	192	12.40*	7.286E+00	5.345E-01	5.345E-01	38.40
	95.86	-----	2.68	7.153E+00	-----	Line Not Found	-----
U-238	63.29	166	3.70*	7.387E+00	1.533E+00	1.533E+00	80.65
	92.59	316	4.23	7.206E+00	2.614E+00	2.614E+00	32.57

Flag: "*" = Keyline

Total number of lines in spectrum 24
Number of unidentified lines 2
Number of lines tentatively identified by NID 22 91.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.245E+01	2.245E+01	0.264E+01	11.78	
CD-109	461.40D	1.03	1.791E+00	1.841E+00	0.592E+00	32.17	
SN-126	2.30E+05Y	1.00	1.791E-01	1.791E-01	0.576E-01	32.17	
BA-137M	30.08Y	1.00	3.037E-01	3.041E-01	0.800E-01	26.30	
CS-137	30.08Y	1.00	3.209E-01	3.212E-01	0.845E-01	26.31	
TL-208	1.41E+10Y	1.00	2.944E-01	2.944E-01	0.743E-01	25.22	
PB-210	22.20Y	1.00	1.757E+00	1.760E+00	0.864E+00	49.12	
BI-211	7.04E+08Y	1.00	2.053E+00	2.053E+00	0.410E+00	19.97	
PB-212	1.41E+10Y	1.00	9.194E-01	9.194E-01	1.362E-01	14.82	
BI-214	1600.00Y	1.00	8.126E-01	8.126E-01	1.808E-01	22.26	
PB-214	1600.00Y	1.00	7.452E-01	7.452E-01	1.544E-01	20.72	
RA-224	1.41E+10Y	1.00	1.734E+00	1.734E+00	0.943E+00	54.39	
RA-226	1600.00Y	1.00	8.126E-01	8.126E-01	1.808E-01	22.26	
AC-228	1.41E+10Y	1.00	9.348E-01	9.348E-01	3.347E-01	35.81	
RA-228	1.41E+10Y	1.00	9.348E-01	9.348E-01	3.347E-01	35.81	
TH-228	1.41E+10Y	1.00	9.194E-01	9.194E-01	1.362E-01	14.82	
TH-229	7340.00Y	1.00	2.761E-01	2.761E-01	0.888E-01	32.17	K
TH-232	1.41E+10Y	1.00	9.348E-01	9.348E-01	3.347E-01	35.81	
TH-234	4.47E+09Y	1.00	1.533E+00	1.533E+00	1.236E+00	80.65	
U-235	7.04E+08Y	1.00	1.144E-01	1.144E-01	0.714E-01	62.40	K
NP-237	2.14E+06Y	1.00	5.345E-01	5.345E-01	2.052E-01	38.40	
U-238	4.47E+09Y	1.00	1.533E+00	1.533E+00	1.236E+00	80.65	

Total Activity : 4.188E+01 4.194E+01

Grand Total Activity : 4.188E+01 4.194E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G248051002

Page : 4
Acquisition date : 10-MAR-2010 17:21:41

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	492.02	45	102	0.67	983.57	977	14	6.29E-03	99.0	2.56E+00	T
0	768.39	53	109	0.91	1536.33	1528	17	7.38E-03	94.6	1.72E+00	
0	1728.82	12	6	1.51	3457.58	3450	13	1.66E-03	****	8.83E-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]G248051002.CNF;1
* Acquisition date   : 10-MAR-2010 17:21:41  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 02:00:01.50          Half life ratio   : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248051002            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity  : 1.48870E+02 GRAM
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 10-FEB-2010 14:02:26.9MS Isotope       :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.245E+01	2.644E+00	6.371E-01	5.700E-02	35.229
CD-109	1.841E+00	5.922E-01	8.652E-01	8.747E-02	2.128
SN-126	1.791E-01	5.762E-02	8.407E-02	8.498E-03	2.131
BA-137M	3.041E-01	7.998E-02	6.259E-02	5.431E-03	4.858
CS-137	3.212E-01	8.450E-02	6.612E-02	5.748E-03	4.858
TL-208	2.944E-01	7.427E-02	6.525E-02	6.289E-03	4.512
PB-210	1.760E+00	8.645E-01	7.422E-01	8.124E-02	2.371
BI-211	2.053E+00	4.100E-01	3.411E-01	3.250E-02	6.020
PB-212	9.194E-01	1.362E-01	8.659E-02	8.945E-03	10.618
BI-214	8.126E-01	1.808E-01	1.239E-01	1.289E-02	6.559
PB-214	7.452E-01	1.544E-01	1.318E-01	1.451E-02	5.653
RA-224	1.734E+00	9.432E-01	9.283E-01	8.604E-02	1.868
RA-226	8.126E-01	1.808E-01	1.239E-01	1.289E-02	6.559
AC-228	9.348E-01	3.347E-01	2.688E-01	3.084E-02	3.478
RA-228	9.348E-01	3.347E-01	2.688E-01	3.084E-02	3.478
TH-228	9.194E-01	1.362E-01	8.659E-02	8.945E-03	10.618
TH-229	2.761E-01	8.883E-02	8.513E-01	7.592E-02	0.324
TH-232	9.348E-01	3.347E-01	2.688E-01	3.084E-02	3.478

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-234	1.533E+00	1.236E+00	9.297E-01	1.793E-01	1.649
U-235	1.144E-01	7.139E-02	3.212E-01	5.816E-02	0.356
NP-237	5.345E-01	2.052E-01	2.555E-01	5.948E-02	2.092
U-238	1.533E+00	1.236E+00	9.297E-01	1.793E-01	1.649

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.579E-01		3.782E-01	6.493E-01	6.301E-02	0.397
NA-22	-2.891E-02		5.094E-02	8.059E-02	6.809E-03	-0.359
NA-24	-7.654E+00		1.249E+01	Half-Life too short		
SC-46	2.003E-03		4.592E-02	7.613E-02	6.463E-03	0.026
V-48	-2.241E-02		9.112E-02	1.460E-01	1.234E-02	-0.154
CR-51	1.614E-02		4.087E-01	6.580E-01	6.401E-02	0.025
MN-54	2.912E-02		4.310E-02	7.488E-02	6.485E-03	0.389
CO-56	-1.077E-02		4.570E-02	7.433E-02	6.414E-03	-0.145
CO-57	5.414E-03		2.323E-02	3.848E-02	4.788E-03	0.141
CO-58	-3.434E-02		4.671E-02	7.313E-02	6.385E-03	-0.470
FE-59	-6.867E-02		9.883E-02	1.486E-01	1.337E-02	-0.462
CO-60	1.059E-02		4.308E-02	7.332E-02	6.342E-03	0.144
ZN-65	-2.790E-01		1.245E-01	1.622E-01	1.336E-02	-1.720
SE-75	3.027E-02		4.448E-02	7.474E-02	7.022E-03	0.405
SR-85	-1.032E-01		5.386E-02	7.853E-02	7.170E-03	-1.315
Y-88	-8.011E-04		3.283E-02	5.452E-02	4.506E-03	-0.015
Y-91	-2.129E+01		2.536E+01	3.957E+01	3.233E+00	-0.538
NB-94	7.153E-03		3.998E-02	6.508E-02	5.692E-03	0.110
NB-95	5.472E-02		5.626E-02	8.842E-02	7.749E-03	0.619
NB-95M	1.566E-01		1.344E-01	2.056E-01	2.145E-02	0.762
ZR-95	7.824E-02		8.554E-02	1.515E-01	1.463E-02	0.517
MO-99	-1.625E+01		2.891E+01	4.615E+01	7.311E+00	-0.352
TC-99M	-1.226E+14		9.543E+13	Half-Life too short		
RU-103	-2.189E-02		5.226E-02	7.154E-02	1.021E-02	-0.306
RH-106	-3.369E-01		3.737E-01	5.612E-01	7.546E-02	-0.600
RU-106	-3.369E-01		3.722E-01	5.612E-01	5.000E-02	-0.600
AG-108M	9.535E-03		3.186E-02	5.394E-02	4.951E-03	0.177
AG-110M	2.302E-02		4.588E-02	6.729E-02	6.028E-03	0.342
SN-113	8.203E-03		4.779E-02	8.084E-02	7.217E-03	0.101
CD-115	-3.778E-06		1.561E-05	Half-Life too short		
SN-117M	-2.450E-02		5.749E-02	9.451E-02	8.847E-03	-0.259
TE-123M	-1.791E-02		2.601E-02	4.223E-02	3.956E-03	-0.424
SB-124	4.924E-02		8.307E-02	1.489E-01	1.324E-02	0.331
SB-125	-2.427E-02		9.318E-02	1.528E-01	1.381E-02	-0.159
TE-125M	2.464E+00		8.943E+00	1.435E+01	1.856E+00	0.172
I-126	-1.331E-03		3.396E-01	4.723E-01	4.103E-02	-0.003
SB-126	2.322E-02		1.908E-01	3.229E-01	2.830E-02	0.072
SB-127	-4.691E-01		2.605E+00	4.131E+00	5.123E-01	-0.114
I-131	3.137E-02		1.494E-01	2.544E-01	2.406E-02	0.123

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	1.196E+00		1.347E+00	2.278E+00	3.822E-01	0.525
BA-133	5.521E-03		5.036E-02	7.489E-02	9.929E-03	0.074
I-133	-1.014E-02		3.776E-02	Half-Life too short		
CS-134	2.620E-02		5.117E-02	8.835E-02	7.771E-03	0.297
CS-135	-6.283E-02		1.638E-01	2.611E-01	2.772E-02	-0.241
I-135	1.329E+13		8.778E+12	Half-Life too short		
CS-136	-9.255E-04		1.553E-01	2.530E-01	2.215E-02	-0.004
CE-139	-3.836E-02		2.799E-02	4.376E-02	3.780E-03	-0.877
BA-140	-1.460E-01		3.585E-01	5.661E-01	1.927E-01	-0.258
LA-140	-3.039E-02		1.162E-01	1.830E-01	1.582E-02	-0.166
CE-141	-8.349E-03		6.105E-02	1.021E-01	1.092E-02	-0.082
CE-143	2.754E-03		4.844E-04	Half-Life too short		
CE-144	-1.002E-01		1.805E-01	2.972E-01	5.087E-02	-0.337
PM-144	2.923E-02		4.030E-02	6.814E-02	5.957E-03	0.429
PR-144	2.200E+00		3.022E+00	5.110E+00	4.465E-01	0.430
PM-146	-1.247E-02		4.467E-02	7.283E-02	7.937E-03	-0.171
ND-147	-2.156E-01		7.385E-01	1.186E+00	1.809E-01	-0.182
PM-149	-9.143E-06		1.199E-04	Half-Life too short		
EU-152	2.109E-02		1.044E-01	1.481E-01	1.429E-02	0.142
GD-153	4.702E-02		8.155E-02	1.172E-01	1.250E-02	0.401
EU-154	-8.308E-02		1.441E-01	2.276E-01	2.559E-02	-0.365
EU-155	9.412E-03		9.483E-02	1.514E-01	1.706E-02	0.062
TB-160	1.464E-01		1.737E-01	3.047E-01	2.598E-02	0.480
HO-166M	2.116E-02		6.667E-02	1.098E-01	9.611E-03	0.193
TA-182	-1.145E-02		2.249E-01	3.746E-01	3.085E-02	-0.031
IR-192	3.929E-03		3.665E-02	5.929E-02	5.538E-03	0.066
HG-203	2.773E-02		4.042E-02	6.768E-02	6.486E-03	0.410
BI-207	-2.094E-02		6.125E-02	9.661E-02	8.068E-03	-0.217
PB-211	6.614E-02		7.718E-01	1.296E+00	6.274E-01	0.051
BI-212	9.748E-01		6.265E-01	1.128E+00	1.417E-01	0.864
RN-219	5.202E-02		4.234E-01	7.131E-01	1.065E-01	0.073
RA-223	-1.359E+00		7.565E-01	9.994E-01	1.766E-01	-1.360
AC-227	5.478E-02		2.529E-01	4.165E-01	5.235E-02	0.132
TH-227	5.478E-02		2.530E-01	4.165E-01	5.859E-02	0.132
PA-231	4.906E-01		1.460E+00	2.403E+00	3.616E-01	0.204
TH-231	-1.359E+00		7.565E-01	9.994E-01	1.766E-01	-1.360
PA-233	-4.660E-02		6.436E-02	9.877E-02	9.450E-03	-0.472
PA-234	-4.827E-02		3.709E-01	6.033E-01	1.128E-01	-0.080
PA-234M	4.138E+00		5.890E+00	9.829E+00	9.645E-01	0.421
NP-239	-9.861E-02		3.656E-01	5.707E-01	6.882E-02	-0.173
AM-241	6.373E-03		6.265E-02	9.170E-02	1.017E-02	0.070
CM-247	-5.754E-03		3.934E-02	6.530E-02	5.703E-03	-0.088
CF-249	1.553E-02		4.148E-02	7.094E-02	6.180E-03	0.219
CF-251	-4.580E-02		1.187E-01	1.943E-01	1.702E-02	-0.236
ANH-511	4.316E-02		4.867E-02	8.695E-02	7.936E-03	0.496

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]G248051002            *
* Acquisition date   : 10-MAR-2010 17:21:41 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 02:00:01.50                Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID          : G248051002                Analyst initials: MXR1        *
* Batch Number       : 958225                    Sample Quantity : 1.4887E+02 GRAM *
* Recovery           : 1.00000                   Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 10-FEB-2010 14:02:26 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	2.245E+01	2.591E+00	3.208E-01	1.322E+00
CD-109	1.841E+00	5.804E-01	4.657E-01	2.961E-01
SN-126	1.791E-01	5.647E-02	4.525E-02	2.881E-02
BA-137M	3.041E-01	7.838E-02	3.214E-02	3.999E-02
CS-137	3.212E-01	8.281E-02	3.396E-02	4.225E-02
TL-208	2.944E-01	7.279E-02	3.361E-02	3.714E-02
PB-210	1.760E+00	8.472E-01	4.051E-01	4.322E-01
BI-211	2.053E+00	4.018E-01	1.779E-01	2.050E-01
PB-212	9.194E-01	1.335E-01	4.556E-02	6.812E-02
BI-214	8.126E-01	1.772E-01	6.375E-02	9.042E-02
PB-214	7.452E-01	1.513E-01	6.874E-02	7.719E-02
RA-224	1.734E+00	9.244E-01	4.883E-01	4.716E-01
RA-226	8.126E-01	1.772E-01	6.375E-02	9.042E-02
AC-228	9.348E-01	3.280E-01	1.369E-01	1.674E-01
RA-228	9.348E-01	3.280E-01	1.369E-01	1.674E-01
TH-228	9.194E-01	1.335E-01	4.556E-02	6.812E-02
TH-229	4.111E-01	4.880E-01	4.501E-01	2.490E-01
TH-232	9.348E-01	3.280E-01	1.369E-01	1.674E-01
TH-234	1.533E+00	1.212E+00	5.040E-01	6.181E-01
U-235	1.486E-01	1.871E-01	1.710E-01	9.545E-02
NP-237	5.345E-01	2.011E-01	1.376E-01	1.026E-01
U-238	1.533E+00	1.212E+00	5.040E-01	6.181E-01

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.579E-01	3.706E-01	3.361E-01	1.891E-01 NOT IDENT.
NA-22	-2.891E-02	4.993E-02	4.072E-02	2.547E-02 NOT IDENT.
NA-24	-7.654E+06	2.448E+07	0.000E+00	1.249E+07 SHORT HLIF
SC-46	2.003E-03	4.500E-02	3.881E-02	2.296E-02 NOT IDENT.
V-48	-2.241E-02	8.930E-02	7.423E-02	4.556E-02 NOT IDENT.

CR-51	1.614E-02	4.005E-01	3.439E-01	2.044E-01	NOT IDENT.
MN-54	2.912E-02	4.224E-02	3.824E-02	2.155E-02	NOT IDENT.
CO-56	-1.077E-02	4.478E-02	3.794E-02	2.285E-02	NOT IDENT.
CO-57	5.414E-03	2.277E-02	2.056E-02	1.162E-02	NOT IDENT.
CO-58	-3.434E-02	4.577E-02	3.737E-02	2.335E-02	NOT IDENT.
FE-59	-6.867E-02	9.685E-02	7.534E-02	4.942E-02	NOT IDENT.
CO-60	1.059E-02	4.221E-02	3.701E-02	2.154E-02	NOT IDENT.
ZN-65	-2.790E-01	1.220E-01	8.223E-02	6.223E-02	NOT IDENT.
SE-75	3.027E-02	4.359E-02	3.923E-02	2.224E-02	NOT IDENT.
SR-85	-1.032E-01	5.278E-02	4.058E-02	2.693E-02	NOT IDENT.
Y-88	-8.011E-04	3.217E-02	2.729E-02	1.641E-02	NOT IDENT.
Y-91	-2.129E+01	2.485E+01	2.002E+01	1.268E+01	NOT IDENT.
NB-94	7.153E-03	3.918E-02	3.337E-02	1.999E-02	NOT IDENT.
NB-95	5.472E-02	5.513E-02	4.525E-02	2.813E-02	NOT IDENT.
NB-95M	1.566E-01	1.317E-01	1.082E-01	6.719E-02	NOT IDENT.
ZR-95	7.824E-02	8.383E-02	7.754E-02	4.277E-02	NOT IDENT.
MO-99	-1.625E+01	2.833E+01	2.364E+01	1.445E+01	NOT IDENT.
TC-99M	-1.226E+20	1.871E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-2.189E-02	5.122E-02	3.699E-02	2.613E-02	FAIL ABUN
RH-106	-3.369E-01	3.662E-01	2.886E-01	1.868E-01	NOT IDENT.
RU-106	-3.369E-01	3.647E-01	2.886E-01	1.861E-01	NOT IDENT.
AG-108M	9.535E-03	3.122E-02	2.798E-02	1.593E-02	NOT IDENT.
AG-110M	2.302E-02	4.496E-02	3.456E-02	2.294E-02	NOT IDENT.
SN-113	8.203E-03	4.684E-02	4.204E-02	2.390E-02	NOT IDENT.
CD-115	-3.778E+00	3.060E+01	0.000E+00	1.561E+01	SHORT HLIF
SN-117M	-2.450E-02	5.634E-02	5.020E-02	2.874E-02	NOT IDENT.
TE-123M	-1.791E-02	2.549E-02	2.243E-02	1.301E-02	NOT IDENT.
SB-124	4.924E-02	8.141E-02	7.468E-02	4.154E-02	NOT IDENT.
SB-125	-2.427E-02	9.132E-02	7.929E-02	4.659E-02	NOT IDENT.
TE-125M	2.464E+00	8.764E+00	7.686E+00	4.472E+00	NOT IDENT.
I-126	-1.331E-03	3.329E-01	2.425E-01	1.698E-01	NOT IDENT.
SB-126	2.322E-02	1.870E-01	1.655E-01	9.540E-02	NOT IDENT.
SB-127	-4.691E-01	2.552E+00	2.120E+00	1.302E+00	NOT IDENT.
I-131	3.137E-02	1.464E-01	1.325E-01	7.469E-02	NOT IDENT.
TE-132	1.196E+00	1.320E+00	1.200E+00	6.733E-01	NOT IDENT.
BA-133	5.521E-03	4.935E-02	3.904E-02	2.518E-02	NOT IDENT.
I-133	-1.014E+04	7.402E+04	0.000E+00	3.776E+04	SHORT HLIF
CS-134	2.620E-02	5.015E-02	4.517E-02	2.559E-02	NOT IDENT.
CS-135	-6.283E-02	1.606E-01	1.370E-01	8.192E-02	NOT IDENT.
I-135	1.329E+19	1.721E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.255E-04	1.522E-01	1.285E-01	7.765E-02	NOT IDENT.
CE-139	-3.836E-02	2.743E-02	2.322E-02	1.400E-02	NOT IDENT.
BA-140	-1.460E-01	3.514E-01	2.922E-01	1.793E-01	NOT IDENT.
LA-140	-3.039E-02	1.138E-01	9.196E-02	5.808E-02	NOT IDENT.
CE-141	-8.349E-03	5.983E-02	5.436E-02	3.052E-02	NOT IDENT.
CE-143	2.754E+03	9.494E+02	0.000E+00	4.844E+02	SHORT HLIF
CE-144	-1.002E-01	1.769E-01	1.584E-01	9.025E-02	NOT IDENT.
PM-144	2.923E-02	3.950E-02	3.495E-02	2.015E-02	NOT IDENT.
PR-144	2.200E+00	2.961E+00	2.621E+00	1.511E+00	NOT IDENT.
PM-146	-1.247E-02	4.378E-02	3.774E-02	2.233E-02	NOT IDENT.
ND-147	-2.156E-01	7.237E-01	6.125E-01	3.693E-01	FAIL ABUN
PM-149	-9.143E+00	2.351E+02	0.000E+00	1.199E+02	SHORT HLIF
EU-152	2.109E-02	1.023E-01	7.727E-02	5.219E-02	NOT IDENT.
GD-153	4.702E-02	7.992E-02	6.291E-02	4.078E-02	NOT IDENT.
EU-154	-8.308E-02	1.413E-01	1.150E-01	7.207E-02	NOT IDENT.
EU-155	9.412E-03	9.294E-02	8.114E-02	4.742E-02	FAIL ABUN
TB-160	1.464E-01	1.702E-01	1.554E-01	8.686E-02	FAIL ABUN
HO-166M	2.116E-02	6.534E-02	5.628E-02	3.334E-02	FAIL ABUN
TA-182	-1.145E-02	2.204E-01	1.895E-01	1.124E-01	NOT IDENT.
IR-192	3.929E-03	3.592E-02	3.099E-02	1.833E-02	FAIL ABUN
HG-203	2.773E-02	3.962E-02	3.548E-02	2.021E-02	NOT IDENT.
BI-207	-2.094E-02	6.003E-02	4.904E-02	3.063E-02	FAIL ABUN
PB-211	6.614E-02	7.564E-01	6.734E-01	3.859E-01	NOT IDENT.
BI-212	9.748E-01	6.140E-01	5.782E-01	3.133E-01	NOT IDENT.
RN-219	5.202E-02	4.149E-01	3.707E-01	2.117E-01	NOT IDENT.
RA-223	-1.359E+00	7.414E-01	5.221E-01	3.783E-01	FAIL ABUN
AC-227	5.478E-02	2.479E-01	2.188E-01	1.265E-01	NOT IDENT.
TH-227	5.478E-02	2.479E-01	2.188E-01	1.265E-01	NOT IDENT.
PA-231	4.906E-01	1.431E+00	1.259E+00	7.300E-01	NOT IDENT.
TH-231	-1.359E+00	7.414E-01	5.221E-01	3.783E-01	FAIL ABUN
PA-233	-4.660E-02	6.307E-02	5.164E-02	3.218E-02	NOT IDENT.
PA-234	-4.827E-02	3.635E-01	3.071E-01	1.855E-01	NOT IDENT.
PA-234M	4.138E+00	5.772E+00	4.997E+00	2.945E+00	NOT IDENT.
NP-239	-9.861E-02	3.583E-01	3.052E-01	1.828E-01	NOT IDENT.
AM-241	6.373E-03	6.140E-02	4.978E-02	3.133E-02	NOT IDENT.
CM-247	-5.754E-03	3.855E-02	3.394E-02	1.967E-02	NOT IDENT.
CF-249	1.553E-02	4.065E-02	3.690E-02	2.074E-02	NOT IDENT.
CF-251	-4.580E-02	1.164E-01	1.029E-01	5.937E-02	NOT IDENT.

ANH-511

4.316E-02

4.770E-02

4.493E-02

2.434E-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
46.54	344.9624
49.72	397.4935
57.36	0.0000
59.54	417.8597
63.29	469.8611
63.29	469.8611
64.28	471.0372
67.75	507.2173
69.67	509.2509
70.83	522.1094
72.81	526.1284
72.87	526.2012
72.87	526.2012
74.82	477.6826
74.82	477.6826
74.82	477.6826
74.97	477.8448
77.11	480.1473
77.11	480.1473
77.11	480.1473
79.69	441.7406
79.80	441.8464
80.12	433.4839
80.19	433.5490
80.57	478.3803
81.00	397.3917
81.07	397.4513
81.07	397.4513
83.79	520.9982
83.79	520.9982
85.43	387.9797
86.48	388.8242
86.55	388.8800
86.79	389.0691
86.94	389.1915
87.57	373.1814
88.03	373.5314
88.47	373.8659
89.96	374.9901
91.11	375.8523
92.59	376.9540
92.59	376.9540
93.35	377.5161
94.67	363.4144
94.87	400.4133
94.87	400.4133
95.86	446.4986
97.43	326.6201
98.44	356.2582
99.53	341.4375
100.11	359.8566
103.18	336.9423
103.37	323.4401
105.31	350.7736
106.12	343.3006
109.28	319.9955
111.00	348.5668
111.76	323.6842
116.30	344.7719
117.23	311.5925
121.12	299.2674
121.78	294.3173
122.06	294.4515
123.07	286.1305
131.20	348.6848
133.52	323.0800
136.00	286.5675

136.47	306.5467
140.51	338.2384
140.51	0.0000
143.76	277.1486
144.24	296.4373
144.24	296.4373
145.44	314.2566
152.43	271.3792
153.25	267.0827
154.21	260.0591
154.21	260.0591
156.02	293.0639
158.56	281.0897
159.00	287.7538
162.66	249.9884
163.33	259.5454
165.86	309.1207
176.60	281.1065
177.52	269.0694
181.07	271.9715
184.41	227.0568
185.72	248.7366
193.51	245.2327
197.04	284.2005
205.31	307.5195
210.85	241.2058
215.65	239.4904
222.11	230.1439
227.38	205.2591
228.16	200.3907
228.18	200.3953
235.69	212.7007
235.96	212.7583
235.96	212.7583
238.63	216.7913
238.63	216.7913
240.99	217.3048
242.00	217.5226
244.70	227.7296
252.40	239.3474
252.80	248.7280
256.23	206.0568
256.23	206.0568
260.90	0.0000
264.66	178.4729
268.22	240.8444
269.46	196.0396
269.46	196.0396
271.23	181.6558
273.65	254.6694
276.40	182.5085
277.37	182.6695
277.60	183.7625
278.00	180.6595
279.20	186.1406
279.54	186.1970
280.46	203.2910
283.69	183.6990
284.31	184.8617
285.41	171.2148
285.90	0.0000
287.50	181.1179
293.27	0.0000
295.22	198.4200
295.96	198.5442
298.57	198.9874
299.98	199.2245
299.98	199.2245
300.09	199.2428
300.09	199.2428
300.13	199.2499
301.36	199.4559
302.85	169.2653
304.50	185.0661
304.50	185.0661
304.85	176.4705
308.46	156.1772
311.90	174.0234

316.51	165.9462
319.41	164.1472
320.08	165.3291
323.87	219.6472
323.87	219.6472
328.76	156.5562
333.37	178.8114
334.37	186.0379
334.37	186.0379
338.28	166.6100
338.28	166.6100
338.32	166.6145
338.32	166.6145
338.32	166.6145
340.48	119.2718
340.55	119.2783
344.28	126.7617
351.06	163.7532
351.93	184.9599
356.01	142.5947
364.49	138.6544
366.42	145.2031
383.85	154.3705
388.16	143.7763
388.63	150.2776
391.69	149.6720
400.66	154.3119
401.81	145.1284
402.40	153.5636
404.85	156.6141
410.95	154.4458
414.70	126.6795
423.72	131.2067
427.09	122.0335
427.87	130.6132
433.94	131.1219
453.88	129.8848
463.37	129.6718
468.07	148.4784
473.00	130.4243
476.78	127.7922
477.60	121.0211
487.02	83.4187
492.35	0.0000
497.08	118.4546
511.00	114.4188
514.00	249.1562
527.90	0.0000
529.87	0.0000
531.02	108.6513
537.26	119.1120
546.56	0.0000
563.25	122.8096
569.33	114.9832
569.50	116.0209
569.70	103.7099
583.19	108.5632
600.60	91.2598
602.73	128.7683
604.72	107.9904
609.32	103.6962
609.32	103.6962
610.33	117.0210
614.28	113.7474
618.01	103.0818
621.93	118.0320
621.93	118.0320
633.25	110.1928
635.95	106.0913
636.99	109.3269
645.85	103.3869
657.76	87.5245
661.66	89.1135
661.66	89.1135
664.57	0.0000
666.33	95.0403
666.50	95.0489
677.62	87.5971

685.70	90.0842
695.00	93.7245
696.49	89.4232
696.51	89.4232
697.00	91.6248
702.65	101.6915
706.68	101.8709
711.68	79.0383
720.70	90.9152
721.93	0.0000
722.78	123.1659
722.91	123.1741
723.31	122.2738
724.19	117.7214
727.33	88.4102
733.00	101.5450
735.93	77.6392
739.50	86.0863
747.24	88.2217
752.31	102.3641
753.82	77.2873
756.73	77.3802
763.94	73.7344
765.81	83.4155
766.42	89.8535
777.92	69.7552
778.90	72.4334
783.70	74.4579
785.37	73.5646
795.86	77.6591
801.95	80.6922
810.29	89.5268
810.76	91.4492
815.77	64.9010
818.51	71.6583
832.01	80.6726
834.85	78.8369
836.80	0.0000
846.77	78.2249
856.80	95.9667
860.56	63.0957
871.09	65.2893
873.19	82.8937
875.33	0.0000
879.36	69.3966
880.51	73.3368
883.24	76.3464
884.68	68.5516
889.28	70.6274
898.04	62.9766
911.20	77.1113
911.20	77.1113
911.20	77.1113
926.50	71.5620
937.49	87.7977
944.13	73.9985
946.00	82.0517
949.00	63.1038
962.29	94.8679
964.08	84.5691
966.15	93.2645
968.97	77.7942
968.97	77.7942
968.97	77.7942
983.53	66.8809
996.26	97.6895
1001.03	60.1319
1004.73	90.8161
1037.84	71.1591
1038.76	0.0000
1048.07	75.5278
1050.41	64.1948
1050.41	64.1948
1063.66	71.7374
1085.87	74.3252
1099.45	60.9666
1112.07	70.6941
1115.54	135.1979

1120.29	60.2888
1120.29	60.2888
1120.55	60.2935
1121.30	62.4234
1131.51	0.0000
1173.23	79.4892
1177.93	83.8970
1189.05	88.4797
1204.77	89.1797
1221.41	81.1954
1231.02	101.9974
1235.36	76.8221
1238.28	80.6340
1260.41	0.0000
1271.85	54.8767
1274.44	70.0641
1274.54	70.0641
1291.59	49.4573
1298.22	0.0000
1312.11	59.2884
1332.49	40.3740
1365.19	37.8044
1368.63	0.0000
1384.29	41.8812
1408.01	32.3302
1457.56	0.0000
1460.82	33.7367
1489.16	25.9719
1505.03	26.0680
1596.21	30.7052
1620.50	15.4342
1678.03	0.0000
1690.97	12.5349
1764.49	12.7261
1764.49	12.7261
1770.23	11.1486
1771.35	16.7267
1791.20	0.0000
1836.06	12.2367

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051002

Total Uranium Activity	4.6291E+00	ug/g
Total Uranium Counting Unc.	3.6053E+00	ug/g
Total Uranium Tpu	1.8394E-06	ug/g
Total Uranium Mda	1.5016E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051002
*  ANALYST       : MXR1            DETECTOR    : GAM13
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 17:21:41.65  SAMPLE ALQT: 148.870 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 5.692E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.016E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.458E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.197E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 19:23:07.27

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051003.CNF;1
Sample date   : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:22:10
Sample ID    : G248051003 Sample quantity : 1.56370E+02 GRAM
Detector name : GAM18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.85 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID : 958225 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	73.15	98	360	1.18	145.41	143	18	1.36E-02	30.3	2.58E+00
2	2	74.99	497	490	1.18	149.10	143	18	6.91E-02	8.8	
3	2	77.24*	724	400	0.99	153.59	143	18	1.01E-01	5.9	
4	3	87.24	251	518	1.25	173.59	170	21	3.49E-02	15.9	2.57E+00
5	3	90.00	154	500	1.25	179.10	170	21	2.15E-02	25.5	
6	3	92.90*	261	477	1.21	184.89	170	21	3.63E-02	16.3	
7	0	128.90	108	418	1.24	256.88	254	8	1.50E-02	34.1	
8	0	186.00*	281	464	0.96	371.04	366	11	3.90E-02	16.6	
9	0	209.17	121	362	0.94	417.37	413	8	1.68E-02	28.7	
10	4	238.68*	1854	258	1.20	476.36	473	15	2.57E-01	2.8	2.76E+00
11	4	241.57*	433	313	1.74	482.13	473	15	6.01E-02	11.6	
12	0	270.17	91	308	1.14	539.32	535	9	1.27E-02	36.4	
13	0	295.13*	543	312	1.21	589.23	583	12	7.54E-02	7.9	
14	0	300.50*	159	277	1.51	599.96	595	12	2.20E-02	22.8	
15	0	327.59	109	274	0.91	654.12	649	11	1.51E-02	30.9	
16	0	338.35*	349	263	1.21	675.64	670	10	4.84E-02	10.4	
17	0	351.84*	1036	179	1.33	702.62	697	11	1.44E-01	4.1	
18	0	409.40	63	109	1.37	817.70	814	7	8.75E-03	30.6	
19	0	462.82	111	171	1.07	924.50	920	10	1.54E-02	24.1	
20	0	510.62*	145	255	2.20	1020.08	1011	17	2.01E-02	29.9	
21	0	582.89*	633	168	1.68	1164.57	1157	14	8.80E-02	6.0	
22	0	609.04*	729	169	1.57	1216.86	1208	15	1.01E-01	5.4	
23	0	661.31	177	218	1.08	1321.38	1316	13	2.46E-02	18.8	
24	0	727.15	177	118	1.92	1453.02	1447	13	2.46E-02	14.8	
25	0	795.28	66	131	2.10	1589.25	1580	15	9.13E-03	39.9	
26	0	835.75	51	105	1.43	1670.18	1662	12	7.06E-03	42.7	
27	0	860.59	37	129	1.39	1719.85	1714	10	5.09E-03	60.5	
28	0	910.60*	446	115	2.18	1819.84	1812	15	6.20E-02	7.2	
29	2	964.12	130	80	2.55	1926.86	1918	25	1.80E-02	18.7	1.39E+00
30	2	968.41*	282	66	1.85	1935.44	1918	25	3.92E-02	8.4	
31	0	1119.46*	152	120	1.45	2237.49	2230	15	2.11E-02	18.0	
32	0	1236.22*	78	130	2.38	2470.97	2461	18	1.09E-02	36.4	
33	0	1459.78*	2372	58	2.37	2918.04	2906	21	3.29E-01	2.2	
34	0	1586.60	41	43	1.47	3171.67	3160	19	5.70E-03	41.3	
35	0	1628.78	53	5	0.99	3256.03	3245	23	7.32E-03	18.1	
36	0	1728.41	59	25	2.25	3455.27	3446	17	8.15E-03	23.6	
37	0	1763.45	180	23	2.43	3525.34	3513	21	2.50E-02	9.8	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:22:10
Sample ID         : G248051003 Sample quantity : 156.37 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA18 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.85 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	+	1460.82	*	2.821E+01	2.479E+00	2.498E-01	1.896E-02	112.911
MN-54	+	834.85	*	4.258E-02	3.662E-02	4.923E-02	5.043E-03	0.865
CD-109	+	88.03	*	2.603E+00	8.607E-01	1.020E+00	9.430E-02	2.552
SN-126		64.28		1.819E-01	4.672E-01	7.858E-01	1.162E-01	0.232
	+	86.94		1.053E+00	5.501E-01	4.190E-01	1.738E-01	2.513
	+	87.57	*	2.533E-01	8.374E-02	9.988E-02	9.203E-03	2.536
BA-137M	+	661.66	*	1.318E-01	5.048E-02	3.962E-02	3.020E-03	3.326
CS-137	+	661.66	*	1.392E-01	5.334E-02	4.185E-02	3.198E-03	3.326
TL-208		277.37		4.683E-01	2.892E-01	4.951E-01	5.312E-02	0.946
	+	583.19	*	4.547E-01	6.493E-02	3.988E-02	3.121E-03	11.402
	+	860.56		2.414E-01	2.933E-01	3.217E-01	3.599E-02	0.750
BI-211	+	72.87		4.112E+00	2.512E+00	4.354E+00	3.595E-01	0.944
	+	351.06	*	3.531E+00	3.668E-01	2.199E-01	1.412E-02	16.060
PB-212	+	74.82		2.353E+00	5.139E-01	4.777E-01	6.125E-02	4.925
	+	77.11		1.936E+00	2.829E-01	2.704E-01	2.292E-02	7.161
	+	238.63	*	1.503E+00	1.368E-01	7.322E-02	5.278E-03	20.522
	+	300.09		1.928E+00	8.941E-01	8.239E-01	6.881E-02	2.340
BI-214	+	609.32	*	1.009E+00	1.426E-01	7.700E-02	6.920E-03	13.109
	+	1120.29		1.045E+00	3.899E-01	3.544E-01	3.412E-02	2.948
	+	1764.49		1.666E+00	3.430E-01	1.721E-01	1.046E-02	9.677
PB-214	+	74.82		4.170E+00	8.800E-01	8.468E-01	9.753E-02	4.925
	+	77.11		3.413E+00	5.727E-01	4.766E-01	5.637E-02	7.161
	+	242.00		2.125E+00	5.220E-01	4.126E-01	3.317E-02	5.149
	+	295.22		1.171E+00	2.111E-01	1.505E-01	1.306E-02	7.781
	+	351.93	*	1.282E+00	1.507E-01	7.996E-02	6.768E-03	16.030
RA-224	+	240.99	*	3.757E+00	8.971E-01	7.275E-01	4.053E-02	5.164
RA-226	+	609.32	*	1.009E+00	1.426E-01	7.700E-02	6.920E-03	13.109
	+	1120.29		1.045E+00	3.899E-01	3.544E-01	3.412E-02	2.948
	+	1764.49		1.666E+00	3.430E-01	1.721E-01	1.046E-02	9.677
AC-228	+	338.32		1.330E+00	6.142E-01	2.709E-01	1.117E-01	4.911
	+	911.20	*	1.493E+00	2.951E-01	1.450E-01	1.964E-02	10.297
	+	968.97		1.622E+00	4.880E-01	2.648E-01	6.606E-02	6.126
RA-228	+	338.32		1.330E+00	6.142E-01	2.709E-01	1.117E-01	4.911
	+	911.20	*	1.493E+00	2.951E-01	1.450E-01	1.964E-02	10.297

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	968.97		1.622E+00	4.880E-01	2.648E-01	6.606E-02	6.126
	+	74.82		2.353E+00	4.609E-01	4.777E-01	4.029E-02	4.925
	+	77.11		1.936E+00	2.829E-01	2.704E-01	2.292E-02	7.161
	+	238.63	*	1.503E+00	1.368E-01	7.322E-02	5.278E-03	20.522
TH-232	+	300.09		1.928E+00	1.467E+00	8.239E-01	5.016E-01	2.340
	+	338.32		1.330E+00	2.870E-01	2.709E-01	1.567E-02	4.911
	+	911.20	*	1.493E+00	2.951E-01	1.450E-01	1.964E-02	10.297
	+	968.97		1.622E+00	4.880E-01	2.648E-01	6.606E-02	6.126
U-235	+	89.96		1.594E+00	9.020E-01	1.032E+00	2.650E-01	1.544
	+	93.35		1.609E+00	6.412E-01	6.158E-01	1.416E-01	2.613
		143.76	*	-2.106E-02	1.534E-01	2.404E-01	3.749E-02	-0.088
		163.33		9.105E-02	3.191E-01	5.360E-01	8.901E-02	0.170
NP-237	+	185.72		1.543E-01	5.200E-02	4.899E-02	2.605E-03	3.149
		205.31		1.422E-01	3.884E-01	5.771E-01	9.730E-02	0.246
	+	86.48	*	7.557E-01	2.959E-01	3.273E-01	7.485E-02	2.309
		95.86		-3.110E-01	7.969E-01	1.132E+00	2.692E-01	-0.275
ANH-511	+	511.00	*	8.071E-02	4.859E-02	3.334E-02	2.202E-03	2.421

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	8.566E-03	2.240E-01	3.703E-01	2.682E-02	0.023
NA-22		1274.54	*	-2.503E-03	3.070E-02	5.010E-02	3.409E-03	-0.050
NA-24		1368.63	*	-1.626E+01	3.070E-02	Half-Life too short		
SC-46		889.28	*	1.306E-02	2.699E-02	4.562E-02	5.088E-03	0.286
V-48	+	1120.55		1.813E-01	6.658E-02	9.220E-02	6.369E-03	1.967
		944.13		-2.341E-01	7.043E-01	1.115E+00	1.180E-01	-0.210
		983.53	*	-1.016E-02	5.679E-02	9.066E-02	8.967E-03	-0.112
		1312.11		2.496E-02	6.383E-02	1.079E-01	7.856E-03	0.231
CR-51		320.08	*	-4.503E-02	2.742E-01	4.378E-01	2.815E-02	-0.103
CO-56		846.77	*	2.484E-03	2.972E-02	4.906E-02	5.122E-03	0.051
		1037.84		-1.815E-01	2.147E-01	3.364E-01	3.114E-02	-0.540
		1238.28		1.117E-01	7.846E-02	1.215E-01	8.096E-03	0.920
		1771.35		-4.117E-02	1.680E-01	2.208E-01	1.335E-02	-0.186
CO-57		122.06	*	-1.957E-03	1.984E-02	3.170E-02	1.878E-03	-0.062
		136.47		-8.292E-02	1.651E-01	2.576E-01	1.683E-02	-0.322
CO-58		810.76	*	-9.116E-03	2.676E-02	4.302E-02	4.247E-03	-0.212
FE-59		1099.45	*	1.478E-02	6.841E-02	1.155E-01	9.502E-03	0.128
CO-60		1291.59		1.879E-02	9.044E-02	1.507E-01	1.267E-02	0.125
		1173.23		-7.071E-03	3.184E-02	5.192E-02	2.869E-03	-0.136
		1332.49	*	4.929E-03	2.473E-02	4.122E-02	3.115E-03	0.120
		1115.54	*	9.262E-02	7.820E-02	1.223E-01	8.616E-03	0.757
ZN-65		121.12		-3.497E-02	1.047E-01	1.657E-01	1.521E-02	-0.211
SE-75		136.00		8.816E-03	3.153E-02	5.076E-02	2.892E-03	0.174
		264.66	*	-2.693E-02	3.466E-02	5.006E-02	2.864E-03	-0.538
		279.54		-1.823E-02	8.230E-02	1.327E-01	8.208E-03	-0.137
		400.66		1.046E-01	1.735E-01	2.984E-01	2.708E-02	0.350
		514.00	*	6.013E-02	3.126E-02	5.012E-02	3.321E-03	1.200

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-88	898.04			-1.132E-02	3.173E-02	5.053E-02	5.727E-03	-0.224
	1836.06	*		1.193E-02	2.317E-02	4.064E-02	2.315E-03	0.293
Y-91	1204.77	*		5.499E+00	1.658E+01	2.793E+01	1.651E+00	0.197
NB-94	702.65	*		1.491E-02	2.227E-02	3.857E-02	3.164E-03	0.387
	871.09			-4.944E-03	2.251E-02	3.624E-02	3.930E-03	-0.136
NB-95	765.81	*		2.292E-02	3.000E-02	5.179E-02	4.737E-03	0.443
NB-95M	235.69	*		1.463E-01	1.073E-01	1.650E-01	1.215E-02	0.887
ZR-95	724.19			1.730E-01	8.059E-02	1.319E-01	1.221E-02	1.312
	756.73	*		4.204E-03	5.068E-02	8.449E-02	8.344E-03	0.050
MO-99	140.51			1.965E+00	3.812E+01	5.999E+01	1.368E+01	0.033
	181.07			8.013E+00	3.124E+01	4.679E+01	8.196E+00	0.171
	366.42			-1.068E+02	1.447E+02	2.349E+02	1.357E+01	-0.455
	739.50	*		-2.727E+00	1.842E+01	2.911E+01	4.608E+00	-0.094
	777.92			-2.228E+01	5.097E+01	8.169E+01	7.626E+00	-0.273
TC-99M	140.51	*		8.265E+12	5.097E+01	Half-Life	too short	
RU-103	497.08	*		1.623E-02	2.652E-02	4.510E-02	5.760E-03	0.360
	610.33	+		1.100E+01	2.101E+00	2.029E+00	3.182E-01	5.423
RH-106	621.93	*		-7.318E-02	2.126E-01	3.343E-01	4.170E-02	-0.219
	1050.41			-1.128E+00	1.750E+00	2.788E+00	2.383E-01	-0.405
RU-106	621.93	*		-7.318E-02	2.125E-01	3.343E-01	2.460E-02	-0.219
	1050.41			-1.128E+00	1.750E+00	2.788E+00	2.383E-01	-0.405
AG-108M	433.94	*		-1.757E-02	1.977E-02	3.121E-02	2.012E-03	-0.563
	614.28			1.332E-02	2.714E-02	3.942E-02	3.012E-03	0.338
	722.91			2.238E-02	2.730E-02	4.197E-02	3.685E-03	0.533
AG-110M	657.76	*		3.301E-02	2.819E-02	4.448E-02	3.509E-03	0.742
	677.62			-1.248E-01	2.063E-01	3.319E-01	2.695E-02	-0.376
	706.68			1.143E-02	1.400E-01	2.347E-01	2.000E-02	0.049
	763.94			-6.637E-02	1.097E-01	1.746E-01	1.631E-02	-0.380
	884.68			-8.039E-03	3.094E-02	4.949E-02	5.589E-03	-0.162
	937.49			-4.157E-02	8.268E-02	1.295E-01	1.418E-02	-0.321
	1384.29			-2.147E-02	1.091E-01	1.743E-01	1.348E-02	-0.123
	1505.03			-1.276E-01	1.911E-01	2.971E-01	2.132E-02	-0.430
SN-113	391.69	*		-2.439E-02	3.089E-02	4.970E-02	3.048E-03	-0.491
CD-115	260.90			1.048E-04	3.089E-02	Half-Life	too short	
	492.35			9.951E-06	3.089E-02	Half-Life	too short	
	527.90	*		-9.702E-06	3.089E-02	Half-Life	too short	
SN-117M	156.02			-8.686E-01	1.931E+00	3.226E+00	1.723E-01	-0.269
	158.56	*		1.901E-02	4.635E-02	7.958E-02	4.230E-03	0.239
TE-123M	159.00	*		1.482E-02	2.092E-02	3.624E-02	1.956E-03	0.409
SB-124	602.73			-5.138E-03	3.230E-02	4.440E-02	3.212E-03	-0.116
	645.85			1.577E-02	3.498E-01	5.637E-01	4.556E-02	0.028
	722.78			2.095E-01	2.827E-01	4.321E-01	3.759E-02	0.485
	1690.97	*		-1.706E-02	4.090E-02	6.246E-02	4.326E-03	-0.273
SB-125	427.87	*		-3.348E-03	6.185E-02	1.026E-01	6.406E-03	-0.033
	463.37	+		5.567E-01	2.714E-01	3.876E-01	2.765E-02	1.436
	600.60			7.442E-02	1.342E-01	2.047E-01	1.631E-02	0.364
	635.95			7.833E-02	1.894E-01	3.128E-01	2.581E-02	0.250
TE-125M	109.28	*		-3.067E+00	7.846E+00	1.248E+01	1.121E+00	-0.246
I-126	388.63			9.878E-02	1.328E-01	2.304E-01	1.324E-02	0.429

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

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SB-126	666.33	*		-3.620E-02	2.033E-01	2.897E-01	2.227E-02	-0.125
	753.82			1.085E+00	1.482E+00	2.562E+00	2.296E-01	0.424
	414.70			3.631E-02	6.013E-02	9.827E-02	5.812E-03	0.370
	666.50			-1.826E-02	7.003E-02	9.904E-02	7.616E-03	-0.184
	695.00			7.047E-02	6.564E-02	1.156E-01	9.358E-03	0.610
SB-127	697.00			-1.181E-01	2.285E-01	3.704E-01	3.009E-02	-0.319
	720.70	*		2.736E-02	1.250E-01	1.830E-01	1.550E-02	0.149
	856.80			4.481E-01	4.696E-01	7.154E-01	7.587E-02	0.626
	252.40			5.788E-01	5.227E+00	8.609E+00	3.554E+00	0.067
	473.00			6.993E-01	1.868E+00	3.147E+00	3.874E-01	0.222
I-131	685.70	*		-5.811E-01	1.477E+00	2.406E+00	2.857E-01	-0.242
	783.70			4.028E+00	4.221E+00	7.328E+00	1.010E+00	0.550
	80.19			-1.076E+00	5.082E+00	7.412E+00	6.480E-01	-0.145
	284.31			6.998E-02	1.410E+00	2.298E+00	1.469E-01	0.030
	364.49	*		1.352E-01	1.008E-01	1.798E-01	1.166E-02	0.752
TE-132	636.99			-2.811E-01	1.443E+00	2.290E+00	1.844E-01	-0.123
	49.72			3.129E+00	4.024E+01	6.811E+01	7.721E+00	0.046
	111.76			-5.524E+00	5.093E+01	8.184E+01	8.603E+00	-0.067
	116.30			-1.166E+00	4.539E+01	7.299E+01	7.542E+00	-0.016
	228.16	*		-1.356E-01	1.052E+00	1.729E+00	2.608E-01	-0.078
BA-133	81.00			-8.710E-02	8.419E-02	1.165E-01	1.814E-02	-0.748
	276.40			4.024E-01	2.685E-01	4.566E-01	5.725E-02	0.881
	302.85			7.107E-02	1.104E-01	1.624E-01	1.848E-02	0.438
	356.01	*		-1.347E-02	3.217E-02	4.318E-02	4.865E-03	-0.312
	383.85			-1.272E-01	2.038E-01	3.311E-01	3.522E-02	-0.384
I-133	529.87	*		3.778E-02	2.038E-01	Half-Life	too short	
	875.33			6.387E-01	2.038E-01	Half-Life	too short	
	1298.22			-9.617E-01	2.038E-01	Half-Life	too short	
	563.25			1.397E-01	2.440E-01	4.103E-01	2.899E-02	0.340
	569.33			1.323E-02	1.415E-01	2.240E-01	1.602E-02	0.059
CS-134	604.72			1.086E-02	2.656E-02	3.829E-02	2.784E-03	0.284
	795.86	*		6.716E-02	5.400E-02	6.370E-02	6.161E-03	1.054
	801.95			-8.942E-02	3.139E-01	4.526E-01	4.416E-02	-0.198
	1365.19			1.312E-01	8.531E-01	1.412E+00	1.124E-01	0.093
	268.22	*		2.859E-01	1.289E-01	2.051E-01	1.550E-02	1.394
I-135	546.56			1.031E+12	1.289E-01	Half-Life	too short	
	836.80			6.924E+13	1.289E-01	Half-Life	too short	
	1038.76			-2.316E+13	1.289E-01	Half-Life	too short	
	1131.51			-8.323E+12	1.289E-01	Half-Life	too short	
	1260.41	*		-8.399E+12	1.289E-01	Half-Life	too short	
CS-136	1457.56			3.611E+15	1.289E-01	Half-Life	too short	
	1678.03			6.477E+12	1.289E-01	Half-Life	too short	
	1791.20			-2.667E+13	1.289E-01	Half-Life	too short	
	153.25			6.386E-01	7.227E-01	1.259E+00	9.753E-02	0.507
	176.60			1.160E-01	4.295E-01	7.291E-01	4.841E-02	0.159
	273.65			-5.336E-01	5.199E-01	6.954E-01	4.691E-02	-0.767
	340.55			4.692E-01	1.531E-01	2.479E-01	1.554E-02	1.893
	818.51			4.306E-03	5.723E-02	9.475E-02	9.464E-03	0.045
	1048.07	*		-1.777E-02	8.955E-02	1.478E-01	1.324E-02	-0.120

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	1235.36		1.145E+00	8.411E-01	9.076E-01	9.246E-02	1.262
CE-139		165.86	*	-5.577E-03	2.133E-02	3.571E-02	1.874E-03	-0.156
BA-140		162.66		2.347E-01	6.978E-01	1.176E+00	7.263E-02	0.200
		304.85		2.874E-01	1.225E+00	1.755E+00	5.013E-01	0.164
		423.72		7.815E-01	1.489E+00	2.515E+00	8.124E-01	0.311
		537.26	*	9.860E-02	2.160E-01	3.583E-01	1.200E-01	0.275
LA-140	+	328.76		6.115E-01	3.797E-01	4.691E-01	3.046E-02	1.303
		487.02		6.631E-03	1.043E-01	1.725E-01	1.230E-02	0.038
		815.77		4.493E-02	2.589E-01	4.316E-01	4.672E-02	0.104
		1596.21	*	1.726E-02	7.181E-02	1.141E-01	7.830E-03	0.151
CE-141		145.44	*	6.937E-03	5.151E-02	8.160E-02	4.659E-03	0.085
CE-143		57.36		-1.743E-03	5.151E-02	Half-Life	too short	
		293.27	*	3.178E-03	5.151E-02	Half-Life	too short	
		664.57		5.631E-03	5.151E-02	Half-Life	too short	
		721.93		2.059E-03	5.151E-02	Half-Life	too short	
CE-144		80.12		-3.959E-01	2.120E+00	3.096E+00	2.680E-01	-0.128
		133.52	*	3.647E-03	1.794E-01	2.547E-01	3.523E-02	0.014
PM-144		476.78		-1.702E-02	4.431E-02	7.147E-02	5.247E-03	-0.238
		618.01		6.009E-03	2.260E-02	3.705E-02	2.822E-03	0.162
		696.49	*	-1.358E-03	2.468E-02	4.110E-02	3.337E-03	-0.033
PR-144		696.51	*	-1.061E-01	1.850E+00	3.080E+00	2.500E-01	-0.034
		1489.16		-4.362E+00	8.895E+00	1.354E+01	9.780E-01	-0.322
PM-146		453.88	*	2.016E-03	2.905E-02	4.830E-02	4.219E-03	0.042
		633.25		-3.414E-04	1.005E+00	1.617E+00	6.136E-01	0.000
		735.93		-4.608E-03	9.957E-02	1.615E-01	4.528E-02	-0.029
		747.24		2.168E-02	6.557E-02	1.110E-01	1.635E-02	0.195
ND-147	+	91.11		6.280E-01	3.253E-01	4.794E-01	4.512E-02	1.310
		319.41		-4.731E-01	2.790E+00	4.454E+00	2.573E-01	-0.106
		531.02	*	6.494E-01	4.855E-01	8.402E-01	1.172E-01	0.773
PM-149		285.90	*	5.705E-05	4.855E-01	Half-Life	too short	
EU-152		121.78		-1.859E-02	5.691E-02	9.010E-02	6.917E-03	-0.206
		244.70		-4.447E-02	2.467E-01	3.520E-01	1.966E-02	-0.126
		344.28	*	1.283E-02	7.151E-02	1.116E-01	7.274E-03	0.115
		778.90		-1.030E-01	1.728E-01	2.739E-01	2.561E-02	-0.376
	+	964.08		8.044E-01	3.126E-01	4.459E-01	4.567E-02	1.804
		1085.87		-9.876E-02	2.747E-01	4.340E-01	3.362E-02	-0.228
		1112.07		2.756E-01	2.336E-01	3.710E-01	2.641E-02	0.743
		1408.01		1.288E-01	1.296E-01	2.280E-01	1.693E-02	0.565
GD-153		69.67		7.636E-01	1.690E+00	2.561E+00	2.078E-01	0.298
		97.43	*	-2.661E-02	7.698E-02	1.083E-01	8.465E-03	-0.246
		103.18		-1.791E-02	8.750E-02	1.408E-01	1.015E-02	-0.127
EU-154		123.07		9.661E-04	4.008E-02	6.433E-02	6.075E-03	0.015
		723.31		1.914E-01	1.273E-01	2.045E-01	1.921E-02	0.936
		873.19		4.695E-02	1.838E-01	3.065E-01	4.175E-02	0.153
		996.26		-3.231E-01	2.631E-01	3.742E-01	6.737E-02	-0.863
		1004.73		1.729E-02	1.531E-01	2.493E-01	3.065E-02	0.069
		1274.44	*	-6.219E-03	8.691E-02	1.419E-01	1.429E-02	-0.044
EU-155	+	86.55		3.075E-01	1.017E-01	1.482E-01	1.365E-02	2.075
		105.31	*	8.523E-02	8.460E-02	1.418E-01	1.013E-02	0.601

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	+	86.79		8.394E-01	2.776E-01	4.055E-01	3.710E-02	2.070
		197.04		-1.724E-01	4.211E-01	6.837E-01	3.672E-02	-0.252
		215.65		3.000E-01	5.597E-01	9.468E-01	5.168E-02	0.317
		298.57		2.024E-01	1.226E-01	1.470E-01	8.440E-03	1.378
		879.36	*	-1.268E-02	9.344E-02	1.513E-01	1.662E-02	-0.084
		962.29		1.176E+00	4.983E-01	8.037E-01	8.257E-02	1.463
		966.15		1.510E+00	2.618E-01	4.390E-01	4.480E-02	3.438
		1177.93		5.093E-02	2.487E-01	4.173E-01	2.330E-02	0.122
		1271.85		2.219E-01	5.076E-01	8.609E-01	5.818E-02	0.258
		80.57		2.622E-02	2.276E-01	3.369E-01	2.927E-02	0.078
HO-166M		184.41		4.322E-02	3.016E-02	4.766E-02	2.532E-03	0.907
		280.46		-1.198E-01	6.299E-02	9.301E-02	5.305E-03	-1.288
		410.95		2.239E-01	1.869E-01	2.933E-01	1.727E-02	0.763
		711.68	*	-9.854E-03	3.716E-02	6.084E-02	5.071E-03	-0.162
		752.31		1.292E-01	1.934E-01	3.332E-01	2.979E-02	0.388
		810.29		-9.027E-03	3.919E-02	6.354E-02	6.256E-03	-0.142
		67.75		-9.357E-02	1.028E-01	1.644E-01	1.321E-02	-0.569
		100.11		2.736E-02	1.385E-01	2.268E-01	1.705E-02	0.121
TA-182		152.43		5.717E-02	2.745E-01	4.374E-01	2.353E-02	0.131
		222.11		1.475E-01	2.630E-01	4.445E-01	2.440E-02	0.332
		1121.30		4.269E-01	1.489E-01	2.504E-01	1.725E-02	1.705
		1189.05		1.152E-01	2.254E-01	3.845E-01	2.199E-02	0.300
		1221.41	*	-7.193E-05	1.489E-01	2.456E-01	1.502E-02	0.000
		1231.02		-2.590E-02	3.973E-01	5.550E-01	3.462E-02	-0.047
	+	295.96		8.913E-01	1.501E-01	2.100E-01	1.225E-02	4.243
		308.46		-3.265E-02	7.006E-02	1.105E-01	6.437E-03	-0.296
IR-192		316.51	*	1.623E-03	2.480E-02	4.012E-02	2.327E-03	0.040
		468.07		-1.593E-02	5.230E-02	7.301E-02	5.210E-03	-0.218
		70.83		1.007E+00	1.321E+00	2.012E+00	3.184E-01	0.500
HG-203	+	72.87		1.072E+00	6.695E-01	1.199E+00	1.839E-01	0.894
		279.20	*	1.334E-02	2.960E-02	4.911E-02	2.961E-03	0.272
BI-207	+	72.81		2.366E-01	1.445E-01	2.621E-01	2.163E-02	0.903
	+	74.97		6.783E-01	1.326E-01	1.969E-01	1.646E-02	3.445
		569.70		3.756E-03	2.223E-02	3.538E-02	2.480E-03	0.106
		1063.66	*	7.308E-03	3.546E-02	6.006E-02	4.957E-03	0.122
PB-210		1770.23		-1.876E-01	3.335E-01	4.031E-01	2.439E-02	-0.465
PB-211		46.54	*	8.000E-01	4.165E+00	6.957E+00	5.334E-01	0.115
		404.85	*	-2.784E-01	5.604E-01	7.613E-01	3.652E-01	-0.366
BI-212		427.09		9.046E-01	1.100E+00	1.774E+00	8.133E-01	0.510
		832.01		5.069E-01	8.429E-01	1.199E+00	6.252E-01	0.423
	+	727.33	*	1.911E+00	6.127E-01	8.423E-01	1.046E-01	2.268
		785.37		2.191E+00	2.314E+00	3.824E+00	3.614E-01	0.573
RN-219		1620.50		2.140E+00	1.695E+00	2.894E+00	1.957E-01	0.739
	+	271.23		3.188E-01	2.333E-01	3.107E-01	2.468E-02	1.026
RA-223		401.81	*	6.218E-02	2.662E-01	4.502E-01	6.053E-02	0.138
		81.07		-2.045E-01	1.886E-01	2.628E-01	2.292E-02	-0.778
		83.79		1.330E-02	1.121E-01	1.650E-01	1.471E-02	0.081
		94.87		8.971E-01	3.935E-01	6.219E-01	5.065E-02	1.442
		144.24		-4.263E-02	5.139E-01	8.074E-01	5.614E-02	-0.053

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		154.21		2.150E-01	2.803E-01	4.869E-01	3.216E-02	0.441
	+	269.46		2.477E-01	1.808E-01	2.447E-01	1.451E-02	1.012
		323.87	*	2.356E-01	4.952E-01	7.175E-01	1.156E-01	0.328
	+	338.28		5.279E+00	1.223E+00	1.709E+00	1.750E-01	3.089
		79.69		-9.513E-02	1.064E+00	1.562E+00	2.693E-01	-0.061
		235.96		4.242E-01	1.350E-01	2.169E-01	1.728E-02	1.955
		256.23	*	-3.163E-02	1.830E-01	2.976E-01	3.014E-02	-0.106
	+	299.98		2.121E+00	9.950E-01	1.163E+00	1.275E-01	1.824
		304.50		-4.180E-01	1.300E+00	1.793E+00	2.731E-01	-0.233
		334.37		1.781E-01	1.448E+00	1.902E+00	2.704E-01	0.094
TH-227		79.80		-6.903E-02	1.394E+00	2.049E+00	4.464E-01	-0.034
		235.96		4.242E-01	1.342E-01	2.169E-01	1.560E-02	1.955
		256.23	*	-3.163E-02	1.830E-01	2.976E-01	3.552E-02	-0.106
	+	299.98		2.121E+00	9.950E-01	1.163E+00	1.275E-01	1.824
TH-229		304.50		-4.180E-01	1.300E+00	1.793E+00	2.731E-01	-0.233
		334.37		1.781E-01	1.448E+00	1.902E+00	2.704E-01	0.094
		85.43		2.427E-01	1.840E-01	2.823E-01	2.552E-02	0.860
	+	88.47		3.904E-01	1.291E-01	1.843E-01	1.688E-02	2.119
PA-231		193.51	*	-5.501E-02	3.828E-01	6.369E-01	3.410E-02	-0.086
		210.85		8.646E-01	7.462E-01	1.148E+00	6.243E-02	0.753
		283.69	*	-4.545E-01	1.033E+00	1.643E+00	2.149E-01	-0.277
	+	301.36		1.363E+00	6.372E-01	7.535E-01	7.773E-02	1.808
TH-231		81.07		-2.045E-01	1.886E-01	2.628E-01	2.292E-02	-0.778
		83.79		1.330E-02	1.121E-01	1.650E-01	1.471E-02	0.081
		94.87		8.971E-01	3.935E-01	6.219E-01	5.065E-02	1.442
		144.24		-4.263E-02	5.139E-01	8.074E-01	5.614E-02	-0.053
PA-233		154.21		2.150E-01	2.803E-01	4.869E-01	3.216E-02	0.441
	+	269.46		2.477E-01	1.808E-01	2.447E-01	1.451E-02	1.012
		323.87	*	2.356E-01	4.952E-01	7.175E-01	1.156E-01	0.328
	+	338.28		5.279E+00	1.223E+00	1.709E+00	1.750E-01	3.089
PA-234	+	300.13		9.598E-01	4.561E-01	5.270E-01	7.044E-02	1.821
		311.90	*	2.126E-02	4.525E-02	7.471E-02	4.578E-03	0.285
		340.48		1.886E+00	7.037E-01	9.197E-01	2.134E-01	2.051
		94.67		4.170E-01	1.518E-01	2.351E-01	2.843E-02	1.774
PA-234M		98.44		8.087E-02	8.760E-02	1.196E-01	6.656E-02	0.676
		111.00		-5.269E-02	1.441E-01	2.292E-01	2.459E-02	-0.230
		131.20		-5.091E-03	9.455E-02	1.339E-01	7.622E-03	-0.038
		569.50		9.334E-03	1.959E-01	3.095E-01	2.168E-02	0.030
		733.00		1.947E-01	2.819E-01	4.250E-01	9.439E-02	0.458
		880.51		-1.257E-01	1.790E-01	2.753E-01	3.029E-02	-0.456
		883.24		-6.801E-02	1.842E-01	2.826E-01	1.909E-01	-0.241
		926.50		-1.153E-01	1.257E-01	1.844E-01	4.817E-02	-0.626
		946.00	*	-2.731E-02	2.102E-01	3.382E-01	6.671E-02	-0.081
		949.00		1.062E-01	3.074E-01	5.117E-01	5.374E-02	0.208
TH-234		766.42		5.970E+00	8.327E+00	1.341E+01	6.818E+00	0.445
		1001.03	*	1.133E+00	3.255E+00	5.401E+00	5.826E-01	0.210
U-238		63.29	*	1.231E+00	1.275E+00	2.155E+00	3.882E-01	0.571
	+	92.59		2.131E+00	8.365E-01	1.075E+00	2.368E-01	1.981

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.59		2.131E+00	7.156E-01	1.075E+00	9.106E-02	1.981
		99.53		9.557E-02	1.263E-01	2.109E-01	1.599E-02	0.453
		103.37		9.582E-04	7.855E-02	1.275E-01	9.169E-03	0.008
		106.12		7.208E-02	6.634E-02	1.114E-01	7.746E-03	0.647
		117.23	*	1.237E-01	3.158E-01	5.156E-01	3.185E-02	0.240
		228.18		-1.962E-02	1.589E-01	2.615E-01	1.442E-02	-0.075
AM-241		277.60		2.031E-01	1.303E-01	2.250E-01	1.282E-02	0.903
		59.54	*	-8.766E-02	1.397E-01	2.280E-01	1.891E-02	-0.385
CM-247		278.00		9.056E-01	5.442E-01	9.440E-01	5.378E-02	0.959
		287.50		1.041E+00	8.902E-01	1.519E+00	8.690E-02	0.686
		402.40	*	-6.167E-03	2.494E-02	4.119E-02	2.398E-03	-0.150
CF-249		252.80		2.453E-01	6.632E-01	1.105E+00	6.209E-02	0.222
		333.37		-1.087E-01	2.098E-01	1.962E-01	1.135E-02	-0.554
		388.16	*	3.331E-02	2.676E-02	4.742E-02	2.726E-03	0.702
CF-251		177.52	*	2.073E-02	9.587E-02	1.624E-01	8.583E-03	0.128
		227.38		-2.469E-03	2.559E-01	4.229E-01	2.331E-02	-0.006
		285.41		-2.085E-01	1.577E+00	2.548E+00	1.457E-01	-0.082

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]G248051003
* Acquisition date   : 10-MAR-2010 17:22:10 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 02:00:01.85 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051003 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.5637E+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	2.821E+01	2.430E+00	2.520E-01	0.000E+00
MN-54	4.258E-02	3.588E-02	5.045E-02	0.000E+00
CD-109	2.603E+00	8.435E-01	1.109E+00	0.000E+00
SN-126	2.533E-01	8.207E-02	1.086E-01	0.000E+00
BA-137M	1.318E-01	4.947E-02	4.086E-02	0.000E+00
CS-137	1.392E-01	5.227E-02	4.317E-02	0.000E+00
TL-208	4.547E-01	6.363E-02	4.128E-02	0.000E+00
BI-211	3.531E+00	3.594E-01	2.307E-01	0.000E+00
PB-212	1.503E+00	1.341E-01	7.761E-02	0.000E+00
BI-214	1.009E+00	1.397E-01	7.960E-02	0.000E+00
PB-214	1.282E+00	1.477E-01	8.389E-02	0.000E+00
RA-224	3.757E+00	8.791E-01	7.709E-01	0.000E+00
RA-226	1.009E+00	1.397E-01	7.960E-02	0.000E+00
AC-228	1.493E+00	2.892E-01	1.483E-01	0.000E+00
RA-228	1.493E+00	2.892E-01	1.483E-01	0.000E+00
TH-228	1.503E+00	1.341E-01	7.761E-02	0.000E+00
TH-232	1.493E+00	2.892E-01	1.483E-01	0.000E+00
U-235	-2.106E-02	1.503E-01	2.582E-01	0.000E+00
NP-237	7.557E-01	2.900E-01	3.560E-01	0.000E+00
ANH-511	8.071E-02	4.762E-02	3.463E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	8.566E-03	2.196E-01	3.854E-01	0.000E+00 NOT IDENT.
NA-22	-2.503E-03	3.008E-02	5.074E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.678E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	1.306E-02	2.645E-02	4.667E-02	0.000E+00 FAIL ABUN
V-48	-1.016E-02	5.566E-02	9.249E-02	0.000E+00 NOT IDENT.
CR-51	-4.503E-02	2.688E-01	4.606E-01	0.000E+00 NOT IDENT.
CO-56	2.484E-03	2.913E-02	5.026E-02	0.000E+00 NOT IDENT.

CO-57	-1.957E-03	1.944E-02	3.419E-02	0.000E+00	NOT IDENT.
CO-58	-9.116E-03	2.622E-02	4.413E-02	0.000E+00	NOT IDENT.
FE-59	1.478E-02	6.704E-02	1.175E-01	0.000E+00	NOT IDENT.
CO-60	4.929E-03	2.424E-02	4.170E-02	0.000E+00	NOT IDENT.
ZN-65	9.262E-02	7.663E-02	1.243E-01	0.000E+00	NOT IDENT.
SE-75	-2.693E-02	3.397E-02	5.292E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.063E-02	5.206E-02	0.000E+00	NOT IDENT.
Y-88	1.193E-02	2.271E-02	4.073E-02	0.000E+00	NOT IDENT.
Y-91	5.499E+00	1.625E+01	2.833E+01	0.000E+00	NOT IDENT.
NB-94	1.491E-02	2.183E-02	3.972E-02	0.000E+00	NOT IDENT.
NB-95	2.292E-02	2.940E-02	5.320E-02	0.000E+00	NOT IDENT.
NB-95M	1.463E-01	1.052E-01	1.749E-01	0.000E+00	NOT IDENT.
ZR-95	4.204E-03	4.967E-02	8.683E-02	0.000E+00	NOT IDENT.
MO-99	-2.727E+00	1.805E+01	2.994E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.571E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.623E-02	2.599E-02	4.688E-02	0.000E+00	FAIL ABUN
RH-106	-7.318E-02	2.084E-01	3.454E-01	0.000E+00	NOT IDENT.
RU-106	-7.318E-02	2.082E-01	3.454E-01	0.000E+00	NOT IDENT.
AG-108M	-1.757E-02	1.938E-02	3.256E-02	0.000E+00	NOT IDENT.
AG-110M	3.301E-02	2.762E-02	4.589E-02	0.000E+00	NOT IDENT.
SN-113	-2.439E-02	3.028E-02	5.199E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.082E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.901E-02	4.542E-02	8.524E-02	0.000E+00	NOT IDENT.
TE-123M	1.482E-02	2.050E-02	3.882E-02	0.000E+00	NOT IDENT.
SB-124	-1.706E-02	4.009E-02	6.275E-02	0.000E+00	NOT IDENT.
SB-125	-3.348E-03	6.061E-02	1.071E-01	0.000E+00	FAIL ABUN
TE-125M	-3.067E+00	7.689E+00	1.350E+01	0.000E+00	NOT IDENT.
I-126	-3.620E-02	1.992E-01	2.987E-01	0.000E+00	NOT IDENT.
SB-126	2.736E-02	1.225E-01	1.883E-01	0.000E+00	NOT IDENT.
SB-127	-5.811E-01	1.447E+00	2.479E+00	0.000E+00	NOT IDENT.
I-131	1.352E-01	9.875E-02	1.885E-01	0.000E+00	NOT IDENT.
TE-132	-1.356E-01	1.031E+00	1.835E+00	0.000E+00	NOT IDENT.
BA-133	-1.347E-02	3.153E-02	4.529E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	4.931E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.292E-02	6.537E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.263E-01	2.168E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.162E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.777E-02	8.776E-02	1.505E-01	0.000E+00	FAIL ABUN
CE-139	-5.577E-03	2.090E-02	3.820E-02	0.000E+00	NOT IDENT.
BA-140	9.860E-02	2.117E-01	3.717E-01	0.000E+00	NOT IDENT.
LA-140	1.726E-02	7.038E-02	1.148E-01	0.000E+00	FAIL ABUN
CE-141	6.937E-03	5.048E-02	8.760E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	9.054E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	3.647E-03	1.759E-01	2.741E-01	0.000E+00	NOT IDENT.
PM-144	-1.358E-03	2.419E-02	4.234E-02	0.000E+00	NOT IDENT.
PR-144	-1.061E-01	1.813E+00	3.173E+00	0.000E+00	NOT IDENT.
PM-146	2.016E-03	2.847E-02	5.033E-02	0.000E+00	NOT IDENT.
ND-147	6.494E-01	4.758E-01	8.719E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.729E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	1.283E-02	7.008E-02	1.171E-01	0.000E+00	FAIL ABUN
GD-153	-2.661E-02	7.544E-02	1.174E-01	0.000E+00	NOT IDENT.
EU-154	-6.219E-03	8.517E-02	1.437E-01	0.000E+00	NOT IDENT.
EU-155	8.523E-02	8.291E-02	1.534E-01	0.000E+00	FAIL ABUN
TB-160	-1.268E-02	9.157E-02	1.548E-01	0.000E+00	FAIL ABUN
HO-166M	-9.854E-03	3.642E-02	6.263E-02	0.000E+00	NOT IDENT.
TA-182	-7.193E-05	1.460E-01	2.490E-01	0.000E+00	NOT IDENT.
IR-192	1.623E-03	2.431E-02	4.221E-02	0.000E+00	FAIL ABUN
HG-203	1.334E-02	2.900E-02	5.184E-02	0.000E+00	FAIL ABUN
BI-207	7.308E-03	3.475E-02	6.113E-02	0.000E+00	FAIL ABUN
PB-210	8.000E-01	4.082E+00	7.682E+00	0.000E+00	NOT IDENT.
PB-211	-2.784E-01	5.492E-01	7.958E-01	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.004E-01	8.666E-01	0.000E+00	FAIL ABUN
RN-219	6.218E-02	2.608E-01	4.707E-01	0.000E+00	FAIL ABUN
RA-223	2.356E-01	4.853E-01	7.545E-01	0.000E+00	FAIL ABUN
AC-227	-3.163E-02	1.793E-01	3.149E-01	0.000E+00	FAIL ABUN
TH-227	-3.163E-02	1.793E-01	3.149E-01	0.000E+00	FAIL ABUN
TH-229	-5.501E-02	3.752E-01	6.788E-01	0.000E+00	FAIL ABUN
PA-231	-4.545E-01	1.013E+00	1.734E+00	0.000E+00	FAIL ABUN
TH-231	2.356E-01	4.853E-01	7.545E-01	0.000E+00	FAIL ABUN
PA-233	2.126E-02	4.434E-02	7.864E-02	0.000E+00	FAIL ABUN
PA-234	-2.731E-02	2.060E-01	3.454E-01	0.000E+00	NOT IDENT.
PA-234M	1.133E+00	3.190E+00	5.507E+00	0.000E+00	NOT IDENT.
TH-234	1.231E+00	1.249E+00	2.362E+00	0.000E+00	FAIL ABUN
U-238	1.231E+00	1.249E+00	2.362E+00	0.000E+00	FAIL ABUN
NP-239	1.237E-01	3.095E-01	5.566E-01	0.000E+00	NOT IDENT.
AM-241	-8.766E-02	1.369E-01	2.502E-01	0.000E+00	NOT IDENT.
CM-247	-6.167E-03	2.444E-02	4.306E-02	0.000E+00	NOT IDENT.
CF-249	3.331E-02	2.623E-02	4.963E-02	0.000E+00	NOT IDENT.

CF-251

2.073E-02

9.396E-02

1.735E-01

0.000E+00 NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051003.CNF;1
Sample date     : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:22:10
Sample ID       : G248051003           Sample quantity  : 1.56370E+02 GRAM
Detector name   : GAM18               Detector geometry: CAN
Elapsed live time: 0 02:00:00.00      Elapsed real time: 0 02:00:01.85  0.0%
Energy tolerance: 1.50000 keV         Analyst Initials  : MXR1
Abundance limit : 75.00000           Sensitivity      : 5.00000
Batch ID        : 958225             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	1460.82	2372	10.66*	1.894E+00	2.821E+01	2.821E+01	8.79
MN-54	834.85	51	99.98*	2.985E+00	4.089E-02	4.258E-02	85.99
CD-109	88.03	251	3.70*	6.441E+00	2.533E+00	2.603E+00	33.07
SN-126	64.28	-----	9.60	3.245E+00	-----	Line Not Found	-----
	86.94	251	8.90	6.441E+00	1.053E+00	1.053E+00	52.24
	87.57	251	37.00*	6.441E+00	2.533E-01	2.533E-01	33.07
BA-137M	661.66	177	89.90*	3.589E+00	1.316E-01	1.318E-01	38.31
CS-137	661.66	177	85.10*	3.589E+00	1.390E-01	1.392E-01	38.32
TL-208	277.37	-----	6.60	6.258E+00	-----	Line Not Found	-----
	583.19	633	85.00*	3.935E+00	4.547E-01	4.547E-01	14.28
	860.56	37	12.50	2.914E+00	2.414E-01	2.414E-01	121.47
BI-211	72.87	98	1.23	4.663E+00	4.112E+00	4.112E+00	61.09
	351.06	1036	12.92*	5.452E+00	3.531E+00	3.531E+00	10.39
PB-212	74.82	497	10.28	4.935E+00	2.353E+00	2.353E+00	21.84
	77.11	724	17.10	5.251E+00	1.936E+00	1.936E+00	14.61
	238.63	1854	43.60*	6.793E+00	1.503E+00	1.503E+00	9.11
	300.09	159	3.30	5.980E+00	1.928E+00	1.928E+00	46.37
BI-214	609.32	729	45.49*	3.813E+00	1.009E+00	1.009E+00	14.12
	1120.29	152	14.92	2.335E+00	1.045E+00	1.045E+00	37.33
	1764.49	180	15.30	1.695E+00	1.666E+00	1.666E+00	20.59
PB-214	74.82	497	5.80	4.935E+00	4.170E+00	4.170E+00	21.10
	77.11	724	9.70	5.251E+00	3.413E+00	3.413E+00	16.78
	242.00	433	7.25	6.750E+00	2.124E+00	2.125E+00	24.57
	295.22	543	18.42	6.042E+00	1.171E+00	1.171E+00	18.03
	351.93	1036	35.60*	5.452E+00	1.282E+00	1.282E+00	11.76
RA-224	240.99	433	4.10*	6.750E+00	3.757E+00	3.757E+00	23.88
RA-226	609.32	729	45.49*	3.813E+00	1.009E+00	1.009E+00	14.12
	1120.29	152	14.92	2.335E+00	1.045E+00	1.045E+00	37.33
	1764.49	180	15.30	1.695E+00	1.666E+00	1.666E+00	20.59
AC-228	338.32	349	11.27	5.580E+00	1.330E+00	1.330E+00	46.17
	911.20	446	25.80*	2.781E+00	1.493E+00	1.493E+00	19.76
	968.97	282	15.80	2.640E+00	1.622E+00	1.622E+00	30.08

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	338.32	349	11.27	5.580E+00	1.330E+00	1.330E+00	46.17
	911.20	446	25.80*	2.781E+00	1.493E+00	1.493E+00	19.76
	968.97	282	15.80	2.640E+00	1.622E+00	1.622E+00	30.08
TH-228	74.82	497	10.28	4.935E+00	2.353E+00	2.353E+00	19.59
	77.11	724	17.10	5.251E+00	1.936E+00	1.936E+00	14.61
	238.63	1854	43.60*	6.793E+00	1.503E+00	1.503E+00	9.11
TH-232	300.09	159	3.30	5.980E+00	1.928E+00	1.928E+00	76.07
	338.32	349	11.27	5.580E+00	1.330E+00	1.330E+00	21.57
	911.20	446	25.80*	2.781E+00	1.493E+00	1.493E+00	19.76
U-235	968.97	282	15.80	2.640E+00	1.622E+00	1.622E+00	30.08
	89.96	154	3.47	6.705E+00	1.594E+00	1.594E+00	56.59
	93.35	261	5.60	6.954E+00	1.609E+00	1.609E+00	39.84
	143.76	-----	10.96*	8.222E+00	-----	Line Not Found	-----
	163.33	-----	5.08	8.005E+00	-----	Line Not Found	-----
	185.72	281	57.20	7.647E+00	1.543E-01	1.543E-01	33.71
	205.31	-----	5.01	7.323E+00	-----	Line Not Found	-----
NP-237	86.48	251	12.40*	6.441E+00	7.557E-01	7.557E-01	39.15
	95.86	-----	2.68	7.180E+00	-----	Line Not Found	-----
ANH-511	511.00	145	100.00*	4.311E+00	8.071E-02	8.071E-02	60.20

Flag: "*" = Keyline

Total number of lines in spectrum 37
Number of unidentified lines 6
Number of lines tentatively identified by NID 31 83.78%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.821E+01	2.821E+01	0.248E+01	8.79	
MN-54	312.05D	1.04	4.089E-02	4.258E-02	3.662E-02	85.99	
CD-109	461.40D	1.03	2.533E+00	2.603E+00	0.861E+00	33.07	
SN-126	2.30E+05Y	1.00	2.533E-01	2.533E-01	0.837E-01	33.07	
BA-137M	30.08Y	1.00	1.316E-01	1.318E-01	0.505E-01	38.31	
CS-137	30.08Y	1.00	1.390E-01	1.392E-01	0.533E-01	38.32	
TL-208	1.41E+10Y	1.00	4.547E-01	4.547E-01	0.649E-01	14.28	
BI-211	7.04E+08Y	1.00	3.531E+00	3.531E+00	0.367E+00	10.39	
PB-212	1.41E+10Y	1.00	1.503E+00	1.503E+00	0.137E+00	9.11	
BI-214	1600.00Y	1.00	1.009E+00	1.009E+00	0.143E+00	14.12	
PB-214	1600.00Y	1.00	1.282E+00	1.282E+00	0.151E+00	11.76	
RA-224	1.41E+10Y	1.00	3.757E+00	3.757E+00	0.897E+00	23.88	
RA-226	1600.00Y	1.00	1.009E+00	1.009E+00	0.143E+00	14.12	
AC-228	1.41E+10Y	1.00	1.493E+00	1.493E+00	0.295E+00	19.76	
RA-228	1.41E+10Y	1.00	1.493E+00	1.493E+00	0.295E+00	19.76	
TH-228	1.41E+10Y	1.00	1.503E+00	1.503E+00	0.137E+00	9.11	
TH-232	1.41E+10Y	1.00	1.493E+00	1.493E+00	0.295E+00	19.76	
U-235	7.04E+08Y	1.00	1.543E-01	1.543E-01	0.520E-01	33.71	K
NP-237	2.14E+06Y	1.00	7.557E-01	7.557E-01	2.959E-01	39.15	
ANH-511	1.00E+09Y	1.00	8.071E-02	8.071E-02	4.859E-02	60.20	
Total Activity :			5.082E+01	5.090E+01			

Grand Total Activity : 5.082E+01 5.090E+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	128.90	108	418	1.24	256.88	254	8	1.50E-02	68.1	8.25E+00	
0	209.17	121	362	0.94	417.37	413	8	1.68E-02	57.5	7.26E+00	
0	270.17	91	308	1.14	539.32	535	9	1.27E-02	72.7	6.35E+00	T
0	327.59	109	274	0.91	654.12	649	11	1.51E-02	61.8	5.69E+00	T
0	409.40	63	109	1.37	817.70	814	7	8.75E-03	61.2	4.97E+00	
0	462.82	111	171	1.07	924.50	920	10	1.54E-02	48.2	4.60E+00	T
0	727.15	177	118	1.92	1453.02	1447	13	2.46E-02	29.6	3.34E+00	T
0	795.28	66	131	2.10	1589.25	1580	15	9.13E-03	79.8	3.11E+00	T
2	964.12	130	80	2.55	1926.86	1918	25	1.80E-02	37.5	2.65E+00	T
0	1236.22	78	130	2.38	2470.97	2461	18	1.09E-02	72.8	2.15E+00	T
0	1586.60	41	43	1.47	3171.67	3160	19	5.70E-03	82.6	1.79E+00	
0	1628.78	53	5	0.99	3256.03	3245	23	7.32E-03	36.2	1.77E+00	
0	1728.41	59	25	2.25	3455.27	3446	17	8.15E-03	47.3	1.71E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051003.CNF;1
* Acquisition date   : 10-MAR-2010 17:22:10  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 02:00:01.85             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G248051003             Analyst initials: MXR1
* Batch Number       : 958225                 Sample Quantity : 1.56370E+02 GRAM
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23.2MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope  :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.821E+01	2.479E+00	2.498E-01	1.896E-02	112.911
MN-54	4.258E-02	3.662E-02	4.923E-02	5.043E-03	0.865
CD-109	2.603E+00	8.607E-01	1.020E+00	9.430E-02	2.552
SN-126	2.533E-01	8.374E-02	9.988E-02	9.203E-03	2.536
BA-137M	1.318E-01	5.048E-02	3.962E-02	3.020E-03	3.326
CS-137	1.392E-01	5.334E-02	4.185E-02	3.198E-03	3.326
TL-208	4.547E-01	6.493E-02	3.988E-02	3.121E-03	11.402
BI-211	3.531E+00	3.668E-01	2.199E-01	1.412E-02	16.060
PB-212	1.503E+00	1.368E-01	7.322E-02	5.278E-03	20.522
BI-214	1.009E+00	1.426E-01	7.700E-02	6.920E-03	13.109
PB-214	1.282E+00	1.507E-01	7.996E-02	6.768E-03	16.030
RA-224	3.757E+00	8.971E-01	7.275E-01	4.053E-02	5.164
RA-226	1.009E+00	1.426E-01	7.700E-02	6.920E-03	13.109
AC-228	1.493E+00	2.951E-01	1.450E-01	1.964E-02	10.297
RA-228	1.493E+00	2.951E-01	1.450E-01	1.964E-02	10.297
TH-228	1.503E+00	1.368E-01	7.322E-02	5.278E-03	20.522
TH-232	1.493E+00	2.951E-01	1.450E-01	1.964E-02	10.297
U-235	1.543E-01	5.200E-02	2.404E-01	3.749E-02	0.642

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	7.557E-01	2.959E-01	3.273E-01	7.485E-02	2.309
ANH-511	8.071E-02	4.859E-02	3.334E-02	2.202E-03	2.421

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	8.566E-03		2.240E-01	3.703E-01	2.682E-02	0.023
NA-22	-2.503E-03		3.070E-02	5.010E-02	3.409E-03	-0.050
NA-24	-1.626E+01		8.563E+00	Half-Life too short		
SC-46	1.306E-02		2.699E-02	4.562E-02	5.088E-03	0.286
V-48	-1.016E-02		5.679E-02	9.066E-02	8.967E-03	-0.112
CR-51	-4.503E-02		2.742E-01	4.378E-01	2.815E-02	-0.103
CO-56	2.484E-03		2.972E-02	4.906E-02	5.122E-03	0.051
CO-57	-1.957E-03		1.984E-02	3.170E-02	1.878E-03	-0.062
CO-58	-9.116E-03		2.676E-02	4.302E-02	4.247E-03	-0.212
FE-59	1.478E-02		6.841E-02	1.155E-01	9.502E-03	0.128
CO-60	4.929E-03		2.473E-02	4.122E-02	3.115E-03	0.120
ZN-65	9.262E-02		7.820E-02	1.223E-01	8.616E-03	0.757
SE-75	-2.693E-02		3.466E-02	5.006E-02	2.864E-03	-0.538
SR-85	6.013E-02		3.126E-02	5.012E-02	3.321E-03	1.200
Y-88	1.193E-02		2.317E-02	4.064E-02	2.315E-03	0.293
Y-91	5.499E+00		1.658E+01	2.793E+01	1.651E+00	0.197
NB-94	1.491E-02		2.227E-02	3.857E-02	3.164E-03	0.387
NB-95	2.292E-02		3.000E-02	5.179E-02	4.737E-03	0.443
NB-95M	1.463E-01		1.073E-01	1.650E-01	1.215E-02	0.887
ZR-95	4.204E-03		5.068E-02	8.449E-02	8.344E-03	0.050
MO-99	-2.727E+00		1.842E+01	2.911E+01	4.608E+00	-0.094
TC-99M	8.265E+12		8.017E+13	Half-Life too short		
RU-103	1.623E-02		2.652E-02	4.510E-02	5.760E-03	0.360
RH-106	-7.318E-02		2.126E-01	3.343E-01	4.170E-02	-0.219
RU-106	-7.318E-02		2.125E-01	3.343E-01	2.460E-02	-0.219
AG-108M	-1.757E-02		1.977E-02	3.121E-02	2.012E-03	-0.563
AG-110M	3.301E-02		2.819E-02	4.448E-02	3.509E-03	0.742
SN-113	-2.439E-02		3.089E-02	4.970E-02	3.048E-03	-0.491
CD-115	-9.702E-06		1.062E-05	Half-Life too short		
SN-117M	1.901E-02		4.635E-02	7.958E-02	4.230E-03	0.239
TE-123M	1.482E-02		2.092E-02	3.624E-02	1.956E-03	0.409
SB-124	-1.706E-02		4.090E-02	6.246E-02	4.326E-03	-0.273
SB-125	-3.348E-03		6.185E-02	1.026E-01	6.406E-03	-0.033
TE-125M	-3.067E+00		7.846E+00	1.248E+01	1.121E+00	-0.246
I-126	-3.620E-02		2.033E-01	2.897E-01	2.227E-02	-0.125
SB-126	2.736E-02		1.250E-01	1.830E-01	1.550E-02	0.149
SB-127	-5.811E-01		1.477E+00	2.406E+00	2.857E-01	-0.242
I-131	1.352E-01		1.008E-01	1.798E-01	1.166E-02	0.752
TE-132	-1.356E-01		1.052E+00	1.729E+00	2.608E-01	-0.078
BA-133	-1.347E-02		3.217E-02	4.318E-02	4.865E-03	-0.312
I-133	3.778E-02		2.516E-02	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
CS-134	6.716E-02	+	5.400E-02	6.370E-02	6.161E-03	1.054
CS-135	2.859E-01		1.289E-01	2.051E-01	1.550E-02	1.394
I-135	-8.399E+12		5.931E+12	Half-Life	too short	
CS-136	-1.777E-02		8.955E-02	1.478E-01	1.324E-02	-0.120
CE-139	-5.577E-03		2.133E-02	3.571E-02	1.874E-03	-0.156
BA-140	9.860E-02		2.160E-01	3.583E-01	1.200E-01	0.275
LA-140	1.726E-02		7.181E-02	1.141E-01	7.830E-03	0.151
CE-141	6.937E-03		5.151E-02	8.160E-02	4.659E-03	0.085
CE-143	3.178E-03		4.619E-04	Half-Life	too short	
CE-144	3.647E-03		1.794E-01	2.547E-01	3.523E-02	0.014
PM-144	-1.358E-03		2.468E-02	4.110E-02	3.337E-03	-0.033
PR-144	-1.061E-01		1.850E+00	3.080E+00	2.500E-01	-0.034
PM-146	2.016E-03		2.905E-02	4.830E-02	4.219E-03	0.042
ND-147	6.494E-01		4.855E-01	8.402E-01	1.172E-01	0.773
PM-149	5.705E-05		8.821E-05	Half-Life	too short	
EU-152	1.283E-02		7.151E-02	1.116E-01	7.274E-03	0.115
GD-153	-2.661E-02		7.698E-02	1.083E-01	8.465E-03	-0.246
EU-154	-6.219E-03		8.691E-02	1.419E-01	1.429E-02	-0.044
EU-155	8.523E-02		8.460E-02	1.418E-01	1.013E-02	0.601
TB-160	-1.268E-02		9.344E-02	1.513E-01	1.662E-02	-0.084
HO-166M	-9.854E-03		3.716E-02	6.084E-02	5.071E-03	-0.162
TA-182	-7.193E-05		1.489E-01	2.456E-01	1.502E-02	0.000
IR-192	1.623E-03		2.480E-02	4.012E-02	2.327E-03	0.040
HG-203	1.334E-02		2.960E-02	4.911E-02	2.961E-03	0.272
BI-207	7.308E-03		3.546E-02	6.006E-02	4.957E-03	0.122
PB-210	8.000E-01		4.165E+00	6.957E+00	5.334E-01	0.115
PB-211	-2.784E-01		5.604E-01	7.613E-01	3.652E-01	-0.366
BI-212	1.911E+00	+	6.127E-01	8.423E-01	1.046E-01	2.268
RN-219	6.218E-02		2.662E-01	4.502E-01	6.053E-02	0.138
RA-223	2.356E-01		4.952E-01	7.175E-01	1.156E-01	0.328
AC-227	-3.163E-02		1.830E-01	2.976E-01	3.014E-02	-0.106
TH-227	-3.163E-02		1.830E-01	2.976E-01	3.552E-02	-0.106
TH-229	-5.501E-02		3.828E-01	6.369E-01	3.410E-02	-0.086
PA-231	-4.545E-01		1.033E+00	1.643E+00	2.149E-01	-0.277
TH-231	2.356E-01		4.952E-01	7.175E-01	1.156E-01	0.328
PA-233	2.126E-02		4.525E-02	7.471E-02	4.578E-03	0.285
PA-234	-2.731E-02		2.102E-01	3.382E-01	6.671E-02	-0.081
PA-234M	1.133E+00		3.255E+00	5.401E+00	5.826E-01	0.210
TH-234	1.231E+00		1.275E+00	2.155E+00	3.882E-01	0.571
U-238	1.231E+00		1.275E+00	2.155E+00	3.882E-01	0.571
NP-239	1.237E-01		3.158E-01	5.156E-01	3.185E-02	0.240
AM-241	-8.766E-02		1.397E-01	2.280E-01	1.891E-02	-0.385
CM-247	-6.167E-03		2.494E-02	4.119E-02	2.398E-03	-0.150
CF-249	3.331E-02		2.676E-02	4.742E-02	2.726E-03	0.702
CF-251	2.073E-02		9.587E-02	1.624E-01	8.583E-03	0.128

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]G248051003          *
* Acquisition date   : 10-MAR-2010 17:22:10 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 02:00:01.85                Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051003                Analyst initials: MXR1        *
* Batch Number       : 958225                    Sample Quantity : 1.5637E+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	2.821E+01	2.430E+00	1.261E-01	1.240E+00
MN-54	4.258E-02	3.588E-02	2.524E-02	1.831E-02
CD-109	2.603E+00	8.435E-01	5.548E-01	4.304E-01
SN-126	2.533E-01	8.207E-02	5.433E-02	4.187E-02
BA-137M	1.318E-01	4.947E-02	2.044E-02	2.524E-02
CS-137	1.392E-01	5.227E-02	2.160E-02	2.667E-02
TL-208	4.547E-01	6.363E-02	2.065E-02	3.246E-02
BI-211	3.531E+00	3.594E-01	1.154E-01	1.834E-01
PB-212	1.503E+00	1.341E-01	3.883E-02	6.841E-02
BI-214	1.009E+00	1.397E-01	3.983E-02	7.128E-02
PB-214	1.282E+00	1.477E-01	4.197E-02	7.536E-02
RA-224	3.757E+00	8.791E-01	3.857E-01	4.485E-01
RA-226	1.009E+00	1.397E-01	3.983E-02	7.128E-02
AC-228	1.493E+00	2.892E-01	7.418E-02	1.476E-01
RA-228	1.493E+00	2.892E-01	7.418E-02	1.476E-01
TH-228	1.503E+00	1.341E-01	3.883E-02	6.841E-02
TH-232	1.493E+00	2.892E-01	7.418E-02	1.476E-01
U-235	-2.106E-02	1.503E-01	1.292E-01	7.668E-02
NP-237	7.557E-01	2.900E-01	1.781E-01	1.479E-01
ANH-511	8.071E-02	4.762E-02	1.733E-02	2.429E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	8.566E-03	2.196E-01	1.928E-01	1.120E-01 NOT IDENT.
NA-22	-2.503E-03	3.008E-02	2.538E-02	1.535E-02 NOT IDENT.
NA-24	-1.626E+07	1.678E+07	0.000E+00	8.563E+06 SHORT HLIF
SC-46	1.306E-02	2.645E-02	2.335E-02	1.350E-02 FAIL ABUN
V-48	-1.016E-02	5.566E-02	4.627E-02	2.840E-02 NOT IDENT.
CR-51	-4.503E-02	2.688E-01	2.304E-01	1.371E-01 NOT IDENT.
CO-56	2.484E-03	2.913E-02	2.515E-02	1.486E-02 NOT IDENT.

CO-57	-1.957E-03	1.944E-02	1.710E-02	9.918E-03	NOT IDENT.
CO-58	-9.116E-03	2.622E-02	2.208E-02	1.338E-02	NOT IDENT.
FE-59	1.478E-02	6.704E-02	5.877E-02	3.420E-02	NOT IDENT.
CO-60	4.929E-03	2.424E-02	2.086E-02	1.237E-02	NOT IDENT.
ZN-65	9.262E-02	7.663E-02	6.221E-02	3.910E-02	NOT IDENT.
SE-75	-2.693E-02	3.397E-02	2.648E-02	1.733E-02	NOT IDENT.
SR-85	6.013E-02	3.063E-02	2.604E-02	1.563E-02	NOT IDENT.
Y-88	1.193E-02	2.271E-02	2.038E-02	1.159E-02	NOT IDENT.
Y-91	5.499E+00	1.625E+01	1.417E+01	8.292E+00	NOT IDENT.
NB-94	1.491E-02	2.183E-02	1.987E-02	1.114E-02	NOT IDENT.
NB-95	2.292E-02	2.940E-02	2.662E-02	1.500E-02	NOT IDENT.
NB-95M	1.463E-01	1.052E-01	8.752E-02	5.365E-02	NOT IDENT.
ZR-95	4.204E-03	4.967E-02	4.344E-02	2.534E-02	NOT IDENT.
MO-99	-2.727E+00	1.805E+01	1.498E+01	9.210E+00	NOT IDENT.
TC-99M	8.265E+18	1.571E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.623E-02	2.599E-02	2.346E-02	1.326E-02	FAIL ABUN
RH-106	-7.318E-02	2.084E-01	1.728E-01	1.062E-01	NOT IDENT.
RU-106	-7.318E-02	2.082E-01	1.728E-01	1.062E-01	NOT IDENT.
AG-108M	-1.757E-02	1.938E-02	1.629E-02	9.886E-03	NOT IDENT.
AG-110M	3.301E-02	2.762E-02	2.296E-02	1.409E-02	NOT IDENT.
SN-113	-2.439E-02	3.028E-02	2.601E-02	1.545E-02	NOT IDENT.
CD-115	-9.702E+00	2.082E+01	0.000E+00	1.062E+01	SHORT HLIF
SN-117M	1.901E-02	4.542E-02	4.265E-02	2.318E-02	NOT IDENT.
TE-123M	1.482E-02	2.050E-02	1.942E-02	1.046E-02	NOT IDENT.
SB-124	-1.706E-02	4.009E-02	3.139E-02	2.045E-02	NOT IDENT.
SB-125	-3.348E-03	6.061E-02	5.360E-02	3.092E-02	FAIL ABUN
TE-125M	-3.067E+00	7.689E+00	6.752E+00	3.923E+00	NOT IDENT.
I-126	-3.620E-02	1.992E-01	1.495E-01	1.016E-01	NOT IDENT.
SB-126	2.736E-02	1.225E-01	9.423E-02	6.249E-02	NOT IDENT.
SB-127	-5.811E-01	1.447E+00	1.240E+00	7.385E-01	NOT IDENT.
I-131	1.352E-01	9.875E-02	9.428E-02	5.038E-02	NOT IDENT.
TE-132	-1.356E-01	1.031E+00	9.182E-01	5.258E-01	NOT IDENT.
BA-133	-1.347E-02	3.153E-02	2.266E-02	1.609E-02	NOT IDENT.
I-133	3.778E+04	4.931E+04	0.000E+00	2.516E+04	SHORT HLIF
CS-134	6.716E-02	5.292E-02	3.270E-02	2.700E-02	FAIL ABUN
CS-135	2.859E-01	1.263E-01	1.084E-01	6.445E-02	NOT IDENT.
I-135	-8.399E+18	1.162E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.777E-02	8.776E-02	7.528E-02	4.478E-02	FAIL ABUN
CE-139	-5.577E-03	2.090E-02	1.911E-02	1.067E-02	NOT IDENT.
BA-140	9.860E-02	2.117E-01	1.860E-01	1.080E-01	NOT IDENT.
LA-140	1.726E-02	7.038E-02	5.745E-02	3.591E-02	FAIL ABUN
CE-141	6.937E-03	5.048E-02	4.383E-02	2.575E-02	NOT IDENT.
CE-143	3.178E+03	9.054E+02	0.000E+00	4.619E+02	SHORT HLIF
CE-144	3.647E-03	1.759E-01	1.371E-01	8.972E-02	NOT IDENT.
PM-144	-1.358E-03	2.419E-02	2.118E-02	1.234E-02	NOT IDENT.
PR-144	-1.061E-01	1.813E+00	1.587E+00	9.249E-01	NOT IDENT.
PM-146	2.016E-03	2.847E-02	2.518E-02	1.453E-02	NOT IDENT.
ND-147	6.494E-01	4.758E-01	4.362E-01	2.427E-01	FAIL ABUN
PM-149	5.705E+01	1.729E+02	0.000E+00	8.821E+01	SHORT HLIF
EU-152	1.283E-02	7.008E-02	5.859E-02	3.575E-02	FAIL ABUN
GD-153	-2.661E-02	7.544E-02	5.874E-02	3.849E-02	NOT IDENT.
EU-154	-6.219E-03	8.517E-02	7.191E-02	4.345E-02	NOT IDENT.
EU-155	8.523E-02	8.291E-02	7.675E-02	4.230E-02	FAIL ABUN
TB-160	-1.268E-02	9.157E-02	7.744E-02	4.672E-02	FAIL ABUN
HO-166M	-9.854E-03	3.642E-02	3.133E-02	1.858E-02	NOT IDENT.
TA-182	-7.193E-05	1.460E-01	1.246E-01	7.447E-02	NOT IDENT.
IR-192	1.623E-03	2.431E-02	2.112E-02	1.240E-02	FAIL ABUN
HG-203	1.334E-02	2.900E-02	2.594E-02	1.480E-02	FAIL ABUN
BI-207	7.308E-03	3.475E-02	3.059E-02	1.773E-02	FAIL ABUN
PB-210	8.000E-01	4.082E+00	3.843E+00	2.083E+00	NOT IDENT.
PB-211	-2.784E-01	5.492E-01	3.981E-01	2.802E-01	NOT IDENT.
BI-212	1.911E+00	6.004E-01	4.336E-01	3.063E-01	FAIL ABUN
RN-219	6.218E-02	2.608E-01	2.355E-01	1.331E-01	FAIL ABUN
RA-223	2.356E-01	4.853E-01	3.775E-01	2.476E-01	FAIL ABUN
AC-227	-3.163E-02	1.793E-01	1.575E-01	9.149E-02	FAIL ABUN
TH-227	-3.163E-02	1.793E-01	1.575E-01	9.149E-02	FAIL ABUN
TH-229	-5.501E-02	3.752E-01	3.396E-01	1.914E-01	FAIL ABUN
PA-231	-4.545E-01	1.013E+00	8.674E-01	5.166E-01	FAIL ABUN
TH-231	2.356E-01	4.853E-01	3.775E-01	2.476E-01	FAIL ABUN
PA-233	2.126E-02	4.434E-02	3.934E-02	2.262E-02	FAIL ABUN
PA-234	-2.731E-02	2.060E-01	1.728E-01	1.051E-01	NOT IDENT.
PA-234M	1.133E+00	3.190E+00	2.755E+00	1.628E+00	NOT IDENT.
TH-234	1.231E+00	1.249E+00	1.182E+00	6.374E-01	FAIL ABUN
U-238	1.231E+00	1.249E+00	1.182E+00	6.374E-01	FAIL ABUN
NP-239	1.237E-01	3.095E-01	2.785E-01	1.579E-01	NOT IDENT.
AM-241	-8.766E-02	1.369E-01	1.252E-01	6.983E-02	NOT IDENT.
CM-247	-6.167E-03	2.444E-02	2.154E-02	1.247E-02	NOT IDENT.
CF-249	3.331E-03	2.623E-02	2.483E-02	1.338E-02	NOT IDENT.

CF-251

2.073E-02

9.396E-02

8.679E-02

4.794E-02 NOT IDENT.

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

ENERGY	MDA COUNTS
46.54	304.8502
49.72	320.5025
57.36	0.0000
59.54	357.6357
63.29	393.4084
63.29	393.4084
64.28	425.0037
67.75	460.4788
69.67	442.1069
70.83	426.3058
72.81	491.6392
72.87	491.7292
72.87	491.7292
74.82	466.7374
74.82	466.7374
74.82	466.7374
74.97	466.9460
77.11	469.9011
77.11	469.9011
77.11	469.9011
79.69	430.2390
79.80	424.4167
80.12	424.8038
80.19	424.8864
80.57	414.8981
81.00	485.6304
81.07	485.7271
81.07	485.7271
83.79	468.3318
83.79	468.3318
85.43	432.6156
86.48	535.4761
86.55	535.5785
86.79	458.4906
86.94	458.6772
87.57	459.4491
88.03	460.0113
88.47	460.5459
89.96	462.3499
91.11	463.7324
92.59	465.4996
92.59	465.4996
93.35	466.4005
94.67	356.3919
94.87	356.5709
94.87	356.5709
95.86	405.6320
97.43	393.1694
98.44	330.3287
99.53	343.9600
100.11	354.9113
103.18	381.7748
103.37	373.5052
105.31	364.6042
106.12	353.6076
109.28	386.1147
111.00	390.8305
111.76	383.9628
116.30	394.3126
117.23	365.7141
121.12	370.9322
121.78	374.7396
122.06	366.1615
123.07	363.6230
131.20	411.6356
133.52	398.3148
136.00	371.9590

136.47	406.2415
140.51	378.5659
140.51	0.0000
143.76	367.0866
144.24	365.1125
144.24	365.1125
145.44	360.1614
152.43	379.8326
153.25	358.7938
154.21	366.4070
154.21	366.4070
156.02	403.6106
158.56	362.0970
159.00	353.5278
162.66	344.1522
163.33	349.8807
165.86	359.3930
176.60	364.7310
177.52	372.5441
181.07	359.0273
184.41	374.1167
185.72	368.9545
193.51	365.7744
197.04	362.9601
205.31	327.9472
210.85	361.0610
215.65	329.1468
222.11	325.1805
227.38	322.5250
228.16	335.5654
228.18	335.5733
235.69	338.1837
235.96	328.8137
235.96	328.8137
238.63	377.4880
238.63	377.4880
240.99	326.0931
242.00	326.4960
244.70	266.8514
252.40	255.0094
252.80	249.0804
256.23	282.4845
256.23	282.4845
260.90	0.0000
264.66	271.2727
268.22	229.9404
269.46	256.5735
269.46	256.5735
271.23	265.3238
273.65	337.0930
276.40	260.0119
277.37	255.1026
277.60	255.1664
278.00	242.8264
279.20	269.1212
279.54	287.9302
280.46	322.5587
283.69	258.9476
284.31	255.9872
285.41	258.3821
285.90	0.0000
287.50	225.4095
293.27	0.0000
295.22	224.9246
295.96	207.3289
298.57	207.8911
299.98	212.4420
299.98	212.4420
300.09	212.4664
300.09	212.4664
300.13	212.4725
301.36	212.7411
302.85	218.1813
304.50	237.3282
304.50	237.3282
304.85	208.3770
308.46	232.4962
311.90	207.4950

316.51	208.4462
319.41	207.9580
320.08	208.0928
323.87	193.1985
323.87	193.1985
328.76	199.3553
333.37	245.8955
334.37	210.9668
334.37	210.9668
338.28	232.9143
338.28	232.9143
338.32	232.9239
338.32	232.9239
338.32	232.9239
340.48	221.0175
340.55	221.0297
344.28	206.5840
351.06	193.0438
351.93	193.1942
356.01	186.5068
364.49	159.0059
366.42	204.5228
383.85	211.2788
388.16	160.4147
388.63	172.4682
391.69	205.2687
400.66	170.4567
401.81	170.6164
402.40	187.4880
404.85	188.4815
410.95	161.2288
414.70	146.0088
423.72	145.1464
427.09	151.2324
427.87	173.2110
433.94	178.7982
453.88	166.9232
463.37	143.3223
468.07	156.8789
473.00	138.7349
476.78	162.7824
477.60	150.0443
487.02	132.1525
492.35	0.0000
497.08	117.0586
511.00	165.6226
514.00	146.7249
527.90	0.0000
529.87	0.0000
531.02	123.8034
537.26	130.4633
546.56	0.0000
563.25	128.4173
569.33	130.9906
569.50	134.1469
569.70	134.1656
583.19	142.6498
600.60	132.6756
602.73	153.1980
604.72	142.6725
609.32	143.0501
609.32	143.0501
610.33	141.3456
614.28	125.5249
618.01	131.5402
621.93	127.5097
621.93	127.5097
633.25	131.5786
635.95	119.7942
636.99	131.8504
645.85	121.5418
657.76	121.2256
661.66	130.6809
661.66	130.6809
664.57	0.0000
666.33	137.5942
666.50	137.6064
677.62	129.0003

685.70	118.3597
695.00	127.3561
696.49	150.8818
696.51	150.8851
697.00	159.3577
702.65	118.4531
706.68	121.5201
711.68	107.6589
720.70	105.7043
721.93	0.0000
722.78	102.5596
722.91	102.5662
723.31	97.7009
724.19	118.9203
727.33	126.5816
733.00	99.8037
735.93	115.7350
739.50	109.1456
747.24	110.5148
752.31	116.5639
753.82	111.8275
756.73	116.8101
763.94	135.6136
765.81	123.1294
766.42	126.0750
777.92	109.2041
778.90	118.0336
783.70	105.5852
785.37	102.1443
795.86	99.4349
801.95	113.8622
810.29	104.8894
810.76	105.9028
815.77	98.2044
818.51	94.3506
832.01	102.7651
834.85	160.0553
836.80	0.0000
846.77	118.6530
856.80	105.6033
860.56	110.2529
871.09	93.4731
873.19	85.4202
875.33	0.0000
879.36	89.7188
880.51	92.8218
883.24	84.7579
884.68	82.7650
889.28	85.9944
898.04	123.2935
911.20	86.7703
911.20	86.7703
911.20	86.7703
926.50	110.1708
937.49	120.0467
944.13	101.5212
946.00	99.5014
949.00	91.2303
962.29	110.2221
964.08	108.6412
966.15	108.7292
968.97	97.8260
968.97	97.8260
968.97	97.8260
983.53	96.7005
996.26	118.5201
1001.03	89.8516
1004.73	100.6859
1037.84	104.0820
1038.76	0.0000
1048.07	105.4015
1050.41	103.6212
1050.41	103.6212
1063.66	90.0435
1085.87	94.5278
1099.45	102.5684
1112.07	76.7827
1115.54	108.6243

1120.29	122.1895
1120.29	122.1895
1120.55	122.2028
1121.30	125.5829
1131.51	0.0000
1173.23	113.8865
1177.93	96.5140
1189.05	107.6214
1204.77	121.9284
1221.41	133.4415
1231.02	123.1840
1235.36	127.0759
1238.28	116.5098
1260.41	0.0000
1271.85	79.3113
1274.44	88.4143
1274.54	88.4174
1291.59	77.7627
1298.22	0.0000
1312.11	68.0749
1332.49	51.1056
1365.19	52.6187
1368.63	0.0000
1384.29	57.0525
1408.01	45.9443
1457.56	0.0000
1460.82	20.3907
1489.16	45.8915
1505.03	53.4514
1596.21	37.1067
1620.50	22.3113
1678.03	0.0000
1690.97	18.6538
1764.49	15.9766
1764.49	15.9766
1770.23	26.6618
1771.35	23.1132
1791.20	0.0000
1836.06	21.3044

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051003

Total Uranium Activity	3.6533E+00	ug/g
Total Uranium Counting Unc.	3.7172E+00	ug/g
Total Uranium Tpu	1.8965E-06	ug/g
Total Uranium Mda	3.5158E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID : G248051003
*  ANALYST       : MXR1            DETECTOR  : GAM18
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00 COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 17:22:10.08 SAMPLE ALQT: 156.370 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.653E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.144E+00
GROSS GAMMA MDA (pCi/GRAM ) : 2.486E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.210E+00

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VAX/VMS Nuclide Identification Report Generated 16-MAR-2010 10:20:08.02

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051004.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:22:40
Sample ID          : G248051004      Sample quantity   : 1.49920E+02 GRAM
Detector name      : GAM23            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.48  0.0%
Energy tolerance   : 2.00000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity      : 5.00000
Batch ID           : 958225           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	62.98*	101	390	1.45	125.96	121	10	1.41E-02	38.7	
2	3	74.70	232	378	1.28	149.40	141	18	3.22E-02	16.4	8.02E-01
3	3	76.90	299	331	1.16	153.80	141	18	4.16E-02	12.0	
4	2	87.04	139	233	1.20	174.08	171	20	1.93E-02	17.6	1.32E+00
5	2	89.60	89	299	1.13	179.21	171	20	1.23E-02	33.7	
6	2	92.51*	258	272	1.21	185.02	171	20	3.58E-02	13.4	
7	0	128.55	90	207	2.29	257.09	254	7	1.24E-02	28.6	
8	0	186.10*	197	340	1.60	372.20	366	14	2.73E-02	21.8	
9	0	209.18	70	234	0.80	418.35	414	9	9.74E-03	41.2	
10	3	238.29*	674	154	1.11	476.57	472	16	9.36E-02	5.0	1.24E+00
11	3	241.16	181	209	1.89	482.31	472	16	2.51E-02	20.6	
12	0	294.93	213	167	1.14	589.85	584	11	2.96E-02	13.6	
13	0	338.08	135	151	1.28	676.16	669	11	1.87E-02	19.7	
14	0	351.38*	367	132	1.35	702.75	697	12	5.10E-02	8.3	
15	0	463.06	48	105	0.96	926.12	920	12	6.63E-03	45.3	
16	0	510.01*	112	127	2.04	1020.02	1011	20	1.56E-02	29.0	
17	0	582.19*	252	81	1.67	1164.37	1156	17	3.50E-02	10.5	
18	0	608.58*	263	73	1.81	1217.17	1212	11	3.65E-02	9.0	
19	0	660.91	177	44	1.89	1321.81	1316	13	2.46E-02	10.7	
20	0	909.95*	154	36	1.55	1819.90	1812	16	2.14E-02	12.1	
21	0	967.84	74	55	1.25	1935.68	1931	11	1.02E-02	23.0	
22	0	1118.67	67	42	1.48	2237.33	2231	14	9.24E-03	24.1	
23	0	1376.47	36	9	2.83	2752.93	2747	13	4.96E-03	24.5	
24	0	1459.23	811	28	2.48	2918.46	2909	18	1.13E-01	3.8	
25	0	1762.60*	52	0	2.65	3525.21	3518	14	7.19E-03	15.1	

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

VMS Nuclide Identification Report V3.1 Generated 16-MAR-2010 10:20:11

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:22:40
Sample ID         : G248051004 Sample quantity : 149.92 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.48 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 2.00 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	1.910E+01	2.043E+00	4.930E-01	3.688E-02	38.740
CD-109	+	88.03	*	1.853E+00	6.770E-01	1.168E+00	1.140E-01	1.587
SN-126	+	64.28		1.037E+00	8.170E-01	7.626E-01	1.161E-01	1.360
	+	86.94		7.496E-01	4.086E-01	5.295E-01	2.202E-01	1.416
	+	87.57	*	1.803E-01	6.587E-02	1.143E-01	1.112E-02	1.577
BA-137M	+	661.66	*	2.423E-01	5.315E-02	5.350E-02	2.733E-03	4.528
CS-137	+	661.66	*	2.559E-01	5.617E-02	5.652E-02	2.903E-03	4.528
TL-208		277.37		1.130E-01	3.272E-01	5.328E-01	5.749E-02	0.212
	+	583.19	*	3.253E-01	7.144E-02	4.499E-02	2.913E-03	7.231
		860.56		4.131E-01	2.657E-01	4.967E-01	4.489E-02	0.832
BI-211	+	72.87		1.169E+01	3.971E+00	4.609E+00	4.065E-01	2.536
	+	351.06	*	2.069E+00	3.686E-01	2.986E-01	1.946E-02	6.929
PB-212	+	74.82		1.398E+00	4.942E-01	5.212E-01	6.870E-02	2.683
	+	77.11		1.023E+00	2.625E-01	2.954E-01	2.658E-02	3.462
	+	238.63	*	8.347E-01	1.031E-01	8.100E-02	5.876E-03	10.305
		300.09		1.005E+00	7.496E-01	1.202E+00	1.015E-01	0.836
BI-214	+	609.32	*	6.595E-01	1.290E-01	8.850E-02	6.710E-03	7.453
	+	1120.29		8.864E-01	4.344E-01	4.146E-01	3.877E-02	2.138
	+	1764.49		9.682E-01	2.992E-01	3.206E-01	1.994E-02	3.020
PB-214	+	74.82		2.478E+00	8.648E-01	9.239E-01	1.101E-01	2.683
	+	77.11		1.803E+00	4.861E-01	5.208E-01	6.357E-02	3.462
	+	242.00		1.357E+00	5.685E-01	5.003E-01	4.045E-02	2.712
	+	295.22		7.334E-01	2.098E-01	2.240E-01	1.964E-02	3.274
	+	351.93	*	7.508E-01	1.400E-01	1.037E-01	8.851E-03	7.243
RA-224	+	240.99	*	2.400E+00	9.955E-01	8.683E-01	4.892E-02	2.764
RA-226	+	609.32	*	6.595E-01	1.290E-01	8.850E-02	6.710E-03	7.453
	+	1120.29		8.864E-01	4.344E-01	4.146E-01	3.877E-02	2.138
	+	1764.49		9.682E-01	2.992E-01	3.206E-01	1.994E-02	3.020
AC-228	+	338.32		8.436E-01	4.807E-01	3.325E-01	1.371E-01	2.537
	+	911.20	*	9.787E-01	2.633E-01	1.852E-01	2.200E-02	5.284
	+	968.97		8.105E-01	4.218E-01	3.608E-01	8.770E-02	2.246
RA-228	+	338.32		8.436E-01	4.807E-01	3.325E-01	1.371E-01	2.537
	+	911.20	*	9.787E-01	2.633E-01	1.852E-01	2.200E-02	5.284
	+	968.97		8.105E-01	4.218E-01	3.608E-01	8.770E-02	2.246

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	74.82		1.398E+00	4.754E-01	5.212E-01	4.675E-02	2.683
	+	77.11		1.023E+00	2.625E-01	2.954E-01	2.658E-02	3.462
	+	238.63	*	8.347E-01	1.031E-01	8.100E-02	5.876E-03	10.305
		300.09		1.005E+00	9.640E-01	1.202E+00	7.321E-01	0.836
TH-229	+	85.43		4.539E-01	1.658E-01	2.948E-01	2.815E-02	1.539
	+	88.47		1.719E-01	1.171E-01	1.742E-01	1.685E-02	0.987
		193.51	*	4.779E-01	4.711E-01	7.748E-01	4.103E-02	0.617
	+	210.85		1.233E+00	1.019E+00	1.206E+00	6.548E-02	1.022
TH-232	+	338.32		8.436E-01	3.354E-01	3.325E-01	1.964E-02	2.537
	+	911.20	*	9.787E-01	2.633E-01	1.852E-01	2.200E-02	5.284
	+	968.97		8.105E-01	4.218E-01	3.608E-01	8.770E-02	2.246
TH-234	+	63.29	*	2.691E+00	2.138E+00	2.099E+00	3.861E-01	1.282
	+	92.59		2.738E+00	9.509E-01	9.438E-01	2.095E-01	2.901
U-235	+	89.96		1.189E+00	8.552E-01	1.183E+00	2.945E-01	1.005
	+	93.35		2.068E+00	7.318E-01	6.600E-01	1.528E-01	3.134
		143.76	*	3.800E-02	1.786E-01	2.915E-01	4.539E-02	0.130
		163.33		-2.390E-01	3.742E-01	5.875E-01	9.731E-02	-0.407
	+	185.72		1.571E-01	6.906E-02	5.575E-02	2.919E-03	2.819
		205.31		3.070E-02	4.916E-01	6.964E-01	1.174E-01	0.044
NP-237	+	86.48	*	5.380E-01	2.266E-01	3.792E-01	8.749E-02	1.419
		95.86		2.124E+00	9.168E-01	1.336E+00	3.194E-01	0.016
U-238	+	63.29	*	2.691E+00	2.138E+00	2.099E+00	3.861E-01	1.282
	+	92.59		2.738E+00	7.709E-01	9.438E-01	8.400E-02	2.901
ANH-511	+	511.00	*	1.102E-01	6.422E-02	3.788E-02	2.200E-03	2.908

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	6.516E-02	2.968E-01	4.968E-01	3.375E-02	0.131
NA-22		1274.54	*	1.348E-02	3.890E-02	6.598E-02	4.431E-03	0.204
NA-24		1368.63	*	-1.338E+00	3.890E-02	Half-Life too short		
SC-46		889.28	*	-2.530E-02	3.471E-02	5.322E-02	4.755E-03	-0.475
	+	1120.55		1.538E-01	7.468E-02	1.071E-01	6.980E-03	1.436
V-48		944.13		1.751E-01	9.607E-01	1.622E+00	1.414E-01	0.108
		983.53	*	1.453E-02	7.144E-02	1.208E-01	1.005E-02	0.120
		1312.11		9.153E-02	9.482E-02	1.700E-01	1.209E-02	0.538
CR-51		320.08	*	2.577E-01	3.230E-01	5.670E-01	3.712E-02	0.455
MN-54		834.85	*	-4.095E-03	2.982E-02	4.917E-02	3.894E-03	-0.083
CO-56		846.77	*	1.326E-02	3.411E-02	5.912E-02	4.810E-03	0.224
		1037.84		-1.165E-01	2.890E-01	4.602E-01	3.768E-02	-0.253
		1238.28		7.374E-02	8.692E-02	1.523E-01	1.013E-02	0.484
		1771.35		-5.314E-02	2.070E-01	3.243E-01	2.007E-02	-0.164
CO-57		122.06	*	-6.858E-03	2.191E-02	3.553E-02	2.095E-03	-0.193
		136.47		-1.414E-02	1.928E-01	3.151E-01	2.045E-02	-0.045
CO-58		810.76	*	-2.529E-02	3.387E-02	5.236E-02	3.934E-03	-0.483
FE-59		1099.45	*	-4.528E-02	8.230E-02	1.267E-01	9.754E-03	-0.357
		1291.59		-5.422E-02	1.081E-01	1.635E-01	1.357E-02	-0.332
CO-60		1173.23		1.839E-02	4.245E-02	7.249E-02	4.089E-03	0.254

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZN-65 SE-75	1332.49	*		3.348E-03	3.408E-02	5.616E-02	4.123E-03	0.060
	1115.54	*		8.763E-02	9.868E-02	1.557E-01	1.029E-02	0.563
	121.12			-3.636E-02	1.141E-01	1.849E-01	1.695E-02	-0.197
	136.00			4.703E-03	3.768E-02	6.206E-02	3.506E-03	0.076
	264.66	*		-1.327E-02	4.118E-02	6.452E-02	3.757E-03	-0.206
SR-85 Y-88	279.54			-1.278E-01	9.283E-02	1.441E-01	9.076E-03	-0.886
	400.66			1.574E-01	2.304E-01	3.986E-01	3.613E-02	0.395
	514.00	*		2.551E-02	3.706E-02	5.656E-02	3.282E-03	0.451
	898.04			1.563E-02	3.722E-02	6.447E-02	5.895E-03	0.242
	1836.06	*		-2.717E-02	3.312E-02	4.497E-02	2.648E-03	-0.604
Y-91 NB-94	1204.77	*		2.491E+00	2.168E+01	3.585E+01	2.138E+00	0.069
	702.65	*		1.815E-02	3.159E-02	5.347E-02	3.055E-03	0.340
	871.09			9.028E-04	2.902E-02	4.857E-02	4.171E-03	0.019
	765.81	*		3.433E-02	4.303E-02	7.363E-02	4.948E-03	0.466
	235.69	*		3.117E-01	1.469E-01	2.294E-01	1.698E-02	1.359
NB-95 NB-95M ZR-95	724.19			1.062E-01	9.293E-02	1.632E-01	1.150E-02	0.651
	756.73	*		6.238E-02	6.904E-02	1.201E-01	9.266E-03	0.519
	140.51			-6.265E-01	4.437E+01	7.260E+01	1.655E+01	-0.009
	181.07			-2.426E+01	3.900E+01	5.272E+01	9.219E+00	-0.460
	366.42			3.309E+01	1.691E+02	2.857E+02	1.675E+01	0.116
MO-99	739.50	*		5.584E+00	2.171E+01	3.589E+01	5.245E+00	0.156
	777.92			-7.591E+00	7.077E+01	1.177E+02	8.148E+00	-0.065
	140.51	*		-2.638E+12	7.077E+01	Half-Life too short		
	497.08	*		5.126E-04	3.630E-02	5.973E-02	7.431E-03	0.009
	610.33	+		7.191E+00	1.682E+00	2.193E+00	3.271E-01	3.279
RH-106 RU-106	621.93	*		-1.844E-01	2.711E-01	4.099E-01	4.679E-02	-0.450
	1050.41			-1.330E+00	2.402E+00	3.728E+00	2.805E-01	-0.357
	621.93	*		-1.844E-01	2.705E-01	4.099E-01	2.203E-02	-0.450
	1050.41			-1.330E+00	2.402E+00	3.728E+00	2.805E-01	-0.357
	433.94	*		-1.744E-02	2.596E-02	4.079E-02	2.550E-03	-0.428
AG-108M AG-110M	614.28			-1.695E-02	3.437E-02	4.513E-02	2.643E-03	-0.375
	722.91			-5.431E-02	3.897E-02	5.450E-02	3.498E-03	-0.996
	657.76	*		5.932E-02	3.677E-02	6.111E-02	3.396E-03	0.971
	677.62			1.862E-02	2.509E-01	4.088E-01	2.343E-02	0.046
	706.68			-5.289E-02	2.147E-01	3.389E-01	2.081E-02	-0.156
SN-113 CD-115	763.94			-1.033E-01	1.708E-01	2.597E-01	1.816E-02	-0.398
	884.68			3.464E-02	4.083E-02	7.379E-02	6.727E-03	0.469
	937.49			-1.088E-01	1.008E-01	1.477E-01	1.341E-02	-0.737
	1384.29			9.182E-03	1.497E-01	2.192E-01	1.659E-02	0.042
	1505.03			1.008E-01	2.255E-01	3.930E-01	2.791E-02	0.257
SN-117M TE-123M SB-124	391.69	*		-4.113E-03	4.040E-02	6.671E-02	4.109E-03	-0.062
	260.90			-2.989E-04	4.040E-02	Half-Life too short		
	492.35			-1.324E-05	4.040E-02	Half-Life too short		
	527.90	*		3.504E-06	4.040E-02	Half-Life too short		
	156.02			-1.394E+00	2.356E+00	3.740E+00	1.957E-01	-0.373
TE-123M SB-124	158.56	*		4.651E-02	5.742E-02	9.684E-02	5.033E-03	0.480
	159.00	*		2.006E-02	2.604E-02	4.383E-02	2.313E-03	0.458
	602.73			-8.905E-03	4.300E-02	5.896E-02	3.233E-03	-0.151
	645.85			2.692E-01	4.302E-01	7.385E-01	4.434E-02	0.364

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125		722.78		-5.773E-01	4.048E-01	5.640E-01	3.556E-02	-1.024
	1690.97	*		-2.424E-02	6.340E-02	9.611E-02	6.726E-03	-0.252
	427.87	*		1.333E-02	8.187E-02	1.370E-01	8.326E-03	0.097
	463.37			4.154E-01	3.777E-01	4.749E-01	3.219E-02	0.875
	600.60			-2.004E-01	1.643E-01	2.384E-01	1.537E-02	-0.841
TE-125M	635.95			5.495E-03	2.388E-01	3.882E-01	2.470E-02	0.014
	109.28	*		-1.716E+00	9.167E+00	1.501E+01	1.367E+00	-0.114
	388.63			7.321E-02	1.732E-01	2.958E-01	1.711E-02	0.248
I-126	666.33	*		1.318E-01	2.759E-01	4.079E-01	2.111E-02	0.323
	753.82			-1.493E+00	1.945E+00	2.872E+00	1.873E-01	-0.520
	414.70			-2.167E-02	7.733E-02	1.257E-01	7.314E-03	-0.172
SB-126	666.50			4.453E-02	9.536E-02	1.408E-01	7.292E-03	0.316
	695.00			-1.767E-02	8.073E-02	1.276E-01	7.141E-03	-0.139
	697.00			-1.541E-01	2.916E-01	4.472E-01	2.517E-02	-0.345
	720.70	*		-1.350E-01	1.673E-01	2.471E-01	1.481E-02	-0.546
	856.80			1.913E-01	4.929E-01	8.519E-01	7.088E-02	0.225
SB-127	252.40			-5.006E+00	7.489E+00	1.108E+01	4.576E+00	-0.452
	473.00			8.074E-01	2.550E+00	4.296E+00	5.185E-01	0.188
	685.70	*		1.501E+00	2.032E+00	3.501E+00	3.630E-01	0.429
I-131	783.70			2.388E+00	5.577E+00	9.676E+00	1.186E+00	0.247
	80.19			-9.556E+00	6.298E+00	8.418E+00	7.784E-01	-1.135
	284.31			-1.701E-01	1.652E+00	2.769E+00	1.800E-01	-0.061
TE-132	364.49	*		-1.490E-02	1.169E-01	1.931E-01	1.267E-02	-0.077
	636.99			8.974E-01	1.786E+00	3.031E+00	1.845E-01	0.296
	49.72			-2.238E+01	4.445E+01	7.314E+01	8.605E+00	-0.306
BA-133	111.76			2.442E+01	6.006E+01	1.005E+02	1.065E+01	0.243
	116.30			2.781E+01	5.015E+01	8.436E+01	8.749E+00	0.330
	228.16	*		-2.032E-01	1.310E+00	2.090E+00	3.155E-01	-0.097
I-133	81.00			-1.405E-01	1.008E-01	1.335E-01	2.117E-02	-1.052
	276.40			2.887E-01	3.072E-01	5.145E-01	6.479E-02	0.561
	302.85			-1.570E-01	1.190E-01	1.826E-01	2.090E-02	-0.860
CS-134	356.01	*		1.816E-02	3.899E-02	5.898E-02	6.676E-03	0.308
	383.85			-1.048E-01	2.480E-01	4.003E-01	4.269E-02	-0.262
	529.87	*		4.036E-02	2.480E-01	Half-Life too short		
I-135	875.33			-3.423E-01	2.480E-01	Half-Life too short		
	1298.22			1.891E+00	2.480E-01	Half-Life too short		
	563.25			1.972E-01	3.338E-01	5.646E-01	3.266E-02	0.349
CS-135	569.33			-7.564E-02	1.797E-01	2.829E-01	1.645E-02	-0.267
	604.72			3.380E-02	3.387E-02	5.298E-02	2.916E-03	0.638
	795.86	*		5.231E-02	4.081E-02	7.536E-02	5.504E-03	0.694
I-135	801.95			-1.757E-01	3.417E-01	5.443E-01	4.023E-02	-0.323
	1365.19			2.757E-01	9.300E-01	1.587E+00	1.235E-01	0.174
	268.22	*		1.515E-01	1.450E-01	2.443E-01	1.867E-02	0.620
+ 1457.56	546.56			8.557E+12	1.450E-01	Half-Life too short		
	836.80			-1.307E+13	1.450E-01	Half-Life too short		
	1038.76			1.557E+13	1.450E-01	Half-Life too short		
	1131.51			1.005E+12	1.450E-01	Half-Life too short		
	1260.41	*		-8.802E+12	1.450E-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			8.181E+12	1.450E-01	Half-Life	too short	
	1791.20			-1.582E+13	1.450E-01	Half-Life	too short	
	153.25			-2.581E-02	8.976E-01	1.463E+00	1.124E-01	-0.018
	176.60			4.054E-01	5.176E-01	8.700E-01	5.698E-02	0.466
	273.65			-7.639E-01	5.540E-01	8.072E-01	5.522E-02	-0.946
	340.55			-3.194E-02	1.728E-01	2.477E-01	1.580E-02	-0.129
CE-139	818.51			-1.812E-02	7.040E-02	1.147E-01	8.757E-03	-0.158
	1048.07	*		-5.569E-02	1.141E-01	1.782E-01	1.420E-02	-0.313
	1235.36			3.182E-01	6.654E-01	1.130E+00	1.151E-01	0.282
	165.86	*		-2.580E-02	2.507E-02	3.866E-02	1.971E-03	-0.667
	162.66			4.106E-02	8.158E-01	1.332E+00	8.076E-02	0.031
	304.85			-1.784E+00	1.446E+00	2.102E+00	6.009E-01	-0.849
BA-140	423.72			-2.105E-01	2.105E+00	3.462E+00	1.117E+00	-0.061
	537.26	*		-3.170E-02	2.776E-01	4.497E-01	1.498E-01	-0.070
	328.76			2.853E-01	3.131E-01	5.489E-01	3.626E-02	0.520
	487.02			-9.374E-03	1.298E-01	2.123E-01	1.402E-02	-0.044
	815.77			-5.570E-02	3.056E-01	5.018E-01	4.371E-02	-0.111
	1596.21	*		-3.837E-02	7.488E-02	1.119E-01	7.679E-03	-0.343
CE-141	145.44	*		-3.636E-02	5.912E-02	9.297E-02	5.244E-03	-0.391
CE-143	57.36			2.490E-04	5.912E-02	Half-Life	too short	
	293.27	*		3.113E-03	5.912E-02	Half-Life	too short	
	664.57			-3.957E-04	5.912E-02	Half-Life	too short	
	721.93			-9.050E-03	5.912E-02	Half-Life	too short	
CE-144	80.12			-3.909E+00	2.626E+00	3.518E+00	3.225E-01	-1.111
	133.52	*		-8.675E-02	2.023E-01	2.999E-01	4.142E-02	-0.289
	476.78			1.074E-02	5.751E-02	9.604E-02	6.631E-03	0.112
PM-144	618.01			3.012E-02	2.719E-02	4.849E-02	2.800E-03	0.621
	696.49	*		-2.687E-03	3.017E-02	4.828E-02	2.717E-03	-0.056
	696.51	*		-1.693E-01	2.264E+00	3.629E+00	2.040E-01	-0.047
PR-144	1489.16			-3.629E+00	1.001E+01	1.488E+01	1.062E+00	-0.244
	453.88	*		2.124E-03	3.700E-02	6.134E-02	5.211E-03	0.035
	633.25			-9.459E-01	1.339E+00	1.952E+00	7.335E-01	-0.485
PM-146	735.93			1.757E-02	1.184E-01	1.934E-01	5.297E-02	0.091
	747.24			1.257E-01	8.520E-02	1.542E-01	2.066E-02	0.815
	91.11			1.315E+00	3.733E-01	6.147E-01	6.047E-02	2.140
	319.41			3.017E-01	3.295E+00	5.558E+00	3.284E-01	0.054
ND-147	531.02	*		3.483E-01	5.507E-01	9.492E-01	1.282E-01	0.367
	285.90	*		-1.635E-04	5.507E-01	Half-Life	too short	
	121.78			-2.811E-02	6.225E-02	1.003E-01	7.678E-03	-0.280
EU-152	244.70			1.393E-01	3.280E-01	4.736E-01	2.679E-02	0.294
	344.28	*		-7.447E-03	9.946E-02	1.505E-01	9.970E-03	-0.049
	778.90			-9.794E-02	2.334E-01	3.770E-01	2.616E-02	-0.260
	964.08			5.536E-01	3.161E-01	5.360E-01	4.567E-02	1.033
GD-153	1085.87			-3.111E-01	3.532E-01	5.229E-01	3.679E-02	-0.595
	1112.07			-5.267E-03	3.301E-01	4.647E-01	3.089E-02	-0.011
	1408.01			-1.299E-01	1.751E-01	2.516E-01	1.830E-02	-0.516
	69.67			8.418E-01	1.822E+00	2.741E+00	2.395E-01	0.307
	97.43	*		5.565E-02	8.892E-02	1.324E-01	1.082E-02	0.420
	103.18			-5.242E-02	9.922E-02	1.603E-01	1.198E-02	-0.327

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

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		123.07	-8.694E-03	4.551E-02	7.159E-02	6.748E-03	-0.121
		723.31	-2.997E-02	1.668E-01	2.644E-01	1.911E-02	-0.113
		873.19	-3.232E-02	2.323E-01	3.816E-01	4.541E-02	-0.085
		996.26	-5.963E-02	3.064E-01	4.961E-01	8.561E-02	-0.120
		1004.73	-1.815E-01	2.166E-01	3.257E-01	3.663E-02	-0.557
EU-155		1274.44	* 4.584E-02	1.110E-01	1.895E-01	1.896E-02	0.242
	+	86.55	2.189E-01	8.001E-02	1.629E-01	1.584E-02	1.344
		105.31	* 6.318E-02	9.290E-02	1.575E-01	1.161E-02	0.401
TB-160	+	86.79	5.976E-01	2.183E-01	4.419E-01	4.270E-02	1.352
		197.04	-3.751E-01	5.059E-01	7.878E-01	4.194E-02	-0.476
		215.65	1.529E-01	6.968E-01	1.135E+00	6.204E-02	0.135
		298.57	1.646E-01	1.045E-01	1.711E-01	1.005E-02	0.962
		879.36	* -3.924E-03	1.203E-01	1.999E-01	1.748E-02	-0.020
HO-166M		962.29	4.118E-01	6.004E-01	9.265E-01	7.910E-02	0.445
	+	966.15	6.304E-01	2.950E-01	4.749E-01	4.036E-02	1.328
		1177.93	-2.724E-01	3.704E-01	5.623E-01	3.199E-02	-0.485
		1271.85	-3.490E-02	6.741E-01	1.085E+00	7.245E-02	-0.032
	+	80.57	-4.611E-01	2.849E-01	3.782E-01	3.477E-02	-1.219
TA-182		184.41	1.248E-01	5.487E-02	6.006E-02	3.139E-03	2.079
		280.46	-6.417E-02	7.124E-02	1.141E-01	6.646E-03	-0.562
		410.95	1.248E-01	2.077E-01	3.582E-01	2.082E-02	0.348
		711.68	* 6.872E-03	5.678E-02	9.255E-02	5.417E-03	0.074
		752.31	-1.543E-01	2.533E-01	3.815E-01	2.479E-02	-0.405
IR-192		810.29	-3.162E-02	4.953E-02	7.756E-02	5.801E-03	-0.408
		67.75	-8.371E-02	1.701E-01	1.752E-01	1.525E-02	-0.478
		100.11	4.866E-02	1.625E-01	2.720E-01	2.129E-02	0.179
		152.43	3.229E-01	3.128E-01	5.325E-01	2.814E-02	0.606
		222.11	-1.412E-01	3.223E-01	5.070E-01	2.794E-02	-0.278
HG-203		1121.30	3.446E-01	1.613E-01	2.842E-01	1.848E-02	1.213
		1189.05	-1.537E-01	2.904E-01	4.489E-01	2.605E-02	-0.342
		1221.41	* 9.550E-02	1.801E-01	3.096E-01	1.900E-02	0.309
		1231.02	1.042E-01	4.826E-01	8.034E-01	5.012E-02	0.130
	+	295.96	5.584E-01	1.557E-01	2.272E-01	1.355E-02	2.458
BI-207		308.46	7.616E-04	8.298E-02	1.394E-01	8.310E-03	0.005
		316.51	* -2.988E-02	2.857E-02	4.462E-02	2.647E-03	-0.670
		468.07	-2.491E-03	6.968E-02	9.915E-02	6.689E-03	-0.025
PB-210		70.83	1.011E+00	1.446E+00	2.187E+00	3.530E-01	0.462
	+	72.87	3.047E+00	1.108E+00	1.395E+00	2.183E-01	2.185
		279.20	* -2.763E-02	3.347E-02	5.386E-02	3.308E-03	-0.513
PB-211	+	72.81	6.724E-01	2.285E-01	3.051E-01	2.690E-02	2.204
	+	74.97	4.031E-01	1.370E-01	2.116E-01	1.883E-02	1.905
		569.70	-1.204E-02	2.799E-02	4.404E-02	2.481E-03	-0.273
BI-212		1063.66	* -2.636E-02	4.618E-02	7.115E-02	5.227E-03	-0.370
		1770.23	-5.178E-01	5.116E-01	6.965E-01	4.312E-02	-0.743
		46.54	* -1.395E-01	4.396E+00	7.266E+00	5.613E-01	-0.019
PB-211		404.85	* -1.606E-01	6.285E-01	1.017E+00	4.881E-01	-0.158
		427.09	-3.097E-01	1.395E+00	2.262E+00	1.037E+00	-0.137
		832.01	2.229E-01	8.526E-01	1.448E+00	7.490E-01	0.154
BI-212		727.33	* 7.090E-01	5.120E-01	9.076E-01	9.863E-02	0.781

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	785.37			1.821E-01	2.848E+00	4.803E+00	3.386E-01	0.038
	1620.50			5.767E-01	1.986E+00	3.474E+00	2.356E-01	0.166
RN-219	271.23			8.022E-02	2.122E-01	3.460E-01	2.776E-02	0.232
	401.81	*		-8.042E-02	3.604E-01	5.893E-01	7.917E-02	-0.136
RA-223	81.07			-3.094E-01	2.245E-01	3.031E-01	2.797E-02	-1.021
	83.79			7.540E-02	1.272E-01	1.893E-01	1.784E-02	0.398
	94.87			2.939E-01	4.604E-01	6.911E-01	5.899E-02	0.425
	144.24			1.246E-01	5.978E-01	9.761E-01	6.735E-02	0.128
	154.21			-1.401E-01	3.449E-01	5.527E-01	3.605E-02	-0.254
	269.46			1.791E-01	1.671E-01	2.822E-01	1.703E-02	0.635
	323.87	*		-6.192E-01	5.828E-01	9.035E-01	1.460E-01	-0.685
AC-227	338.28	+		3.348E+00	1.361E+00	1.867E+00	1.925E-01	1.793
	79.69			-8.102E-01	1.271E+00	1.789E+00	3.131E-01	-0.453
	235.96			8.247E-01	1.931E-01	3.153E-01	2.523E-02	2.616
	256.23	*		1.172E-01	2.370E-01	3.893E-01	3.963E-02	0.301
	299.98			1.199E+00	8.260E-01	1.327E+00	1.464E-01	0.903
	304.50			-2.474E+00	1.462E+00	2.137E+00	3.266E-01	-1.158
	334.37			-2.248E-01	1.729E+00	2.491E+00	3.553E-01	-0.090
TH-227	79.80			-1.157E+00	1.680E+00	2.344E+00	5.156E-01	-0.494
	235.96			8.247E-01	1.910E-01	3.153E-01	2.280E-02	2.616
	256.23	*		1.172E-01	2.371E-01	3.893E-01	4.664E-02	0.301
	299.98			1.199E+00	8.260E-01	1.327E+00	1.464E-01	0.903
	304.50			-2.474E+00	1.462E+00	2.137E+00	3.266E-01	-1.158
	334.37			-2.248E-01	1.729E+00	2.491E+00	3.553E-01	-0.090
PA-231	283.69	*		4.810E-01	1.224E+00	2.102E+00	2.761E-01	0.229
	301.36			1.229E-01	4.953E-01	7.991E-01	8.303E-02	0.154
TH-231	81.07			-3.094E-01	2.245E-01	3.031E-01	2.797E-02	-1.021
	83.79			7.540E-02	1.272E-01	1.893E-01	1.784E-02	0.398
	94.87			2.939E-01	4.604E-01	6.911E-01	5.899E-02	0.425
	144.24			1.246E-01	5.978E-01	9.761E-01	6.735E-02	0.128
	154.21			-1.401E-01	3.449E-01	5.527E-01	3.605E-02	-0.254
	269.46			1.791E-01	1.671E-01	2.822E-01	1.703E-02	0.635
	323.87	*		-6.192E-01	5.828E-01	9.035E-01	1.460E-01	-0.685
	338.28	+		3.348E+00	1.361E+00	1.867E+00	1.925E-01	1.793
PA-233	300.13			4.957E-01	3.765E-01	5.977E-01	8.022E-02	0.829
	311.90	*		-1.832E-02	5.245E-02	8.617E-02	5.389E-03	-0.213
	340.48			-4.294E-03	6.317E-01	9.186E-01	2.134E-01	-0.005
PA-234	94.67			4.961E-03	1.748E-01	2.619E-01	3.239E-02	0.019
	98.44			9.811E-02	1.052E-01	1.434E-01	7.987E-02	0.684
	111.00			1.571E-02	1.703E-01	2.819E-01	3.049E-02	0.056
	131.20			5.748E-02	1.077E-01	1.596E-01	9.023E-03	0.360
	569.50			-1.006E-01	2.472E-01	3.897E-01	2.196E-02	-0.258
	733.00			2.061E-02	3.142E-01	5.091E-01	1.088E-01	0.040
	880.51			-6.205E-02	2.348E-01	3.803E-01	3.334E-02	-0.163
	883.24			2.035E-01	2.763E-01	4.341E-01	2.919E-01	0.469
	926.50			1.022E-02	1.559E-01	2.608E-01	6.616E-02	0.039
	946.00	*		1.335E-01	2.948E-01	5.077E-01	9.545E-02	0.263
	949.00			3.786E-01	4.216E-01	7.554E-01	6.547E-02	0.501
PA-234M	766.42			7.198E+00	1.162E+01	1.870E+01	9.434E+00	0.385

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		-9.259E-01	4.091E+00	6.610E+00	6.307E-01	-0.140
	99.53			1.395E-01	1.503E-01	2.531E-01	1.998E-02	0.551
	103.37			-4.903E-02	8.977E-02	1.449E-01	1.080E-02	-0.338
	106.12			9.398E-02	7.444E-02	1.287E-01	9.223E-03	0.730
	117.23	*		-1.609E-01	3.623E-01	5.696E-01	3.545E-02	-0.283
	228.18			-3.071E-02	1.980E-01	3.159E-01	1.754E-02	-0.097
AM-241	277.60			-4.911E-03	1.525E-01	2.428E-01	1.412E-02	-0.020
	59.54	*		7.140E-02	1.741E-01	2.629E-01	2.446E-02	0.272
CM-247	278.00			-6.786E-02	6.250E-01	1.048E+00	6.096E-02	-0.065
	287.50			-2.864E-01	1.119E+00	1.752E+00	1.025E-01	-0.163
	402.40	*		-8.522E-03	3.256E-02	5.310E-02	3.077E-03	-0.161
CF-249	252.80			-4.760E-01	9.200E-01	1.431E+00	8.158E-02	-0.333
	333.37			-2.083E-02	1.810E-01	2.611E-01	1.543E-02	-0.080
CF-251	388.16	*		2.520E-02	3.503E-02	6.087E-02	3.521E-03	0.414
	177.52	*		9.365E-02	1.146E-01	1.930E-01	9.985E-03	0.485
	227.38			9.582E-02	3.213E-01	5.246E-01	2.910E-02	0.183
	285.41			-1.326E+00	1.840E+00	2.975E+00	1.738E-01	-0.446

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]G248051004      *
* Acquisition date   : 10-MAR-2010 17:22:40 Detector SN#                   *
* Detector ID        : GAM23                                           Sensitivity      : 5.000      *
* Geometry           : CAN                                           Energy tolerance : 2.000      *
* Elapsed live time   : 0 02:00:00.00                               Abundance limit  : 75.000     *
* Elapsed real time   : 0 02:00:01.48                               Half life ratio   : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051004                               Analyst initials: MXRl        *
* Batch Number       : 958225                                   Sample Quantity  : 1.4992E+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	1.910E+01	2.002E+00	4.964E-01	0.000E+00
CD-109	1.853E+00	6.635E-01	1.258E+00	0.000E+00
SN-126	1.803E-01	6.455E-02	1.232E-01	0.000E+00
BA-137M	2.423E-01	5.209E-02	5.495E-02	0.000E+00
CS-137	2.559E-01	5.504E-02	5.805E-02	0.000E+00
TL-208	3.253E-01	7.001E-02	4.636E-02	0.000E+00
BI-211	2.069E+00	3.612E-01	3.115E-01	0.000E+00
PB-212	8.347E-01	1.011E-01	8.528E-02	0.000E+00
BI-214	6.595E-01	1.264E-01	9.109E-02	0.000E+00
PB-214	7.508E-01	1.372E-01	1.081E-01	0.000E+00
RA-224	2.400E+00	9.756E-01	9.140E-01	0.000E+00
RA-226	6.595E-01	1.264E-01	9.109E-02	0.000E+00
AC-228	9.787E-01	2.580E-01	1.887E-01	0.000E+00
RA-228	9.787E-01	2.580E-01	1.887E-01	0.000E+00
TH-228	8.347E-01	1.011E-01	8.528E-02	0.000E+00
TH-229	4.779E-01	4.617E-01	8.197E-01	0.000E+00
TH-232	9.787E-01	2.580E-01	1.887E-01	0.000E+00
TH-234	2.691E+00	2.095E+00	2.278E+00	0.000E+00
U-235	3.800E-02	1.750E-01	3.106E-01	0.000E+00
NP-237	5.380E-01	2.221E-01	4.087E-01	0.000E+00
U-238	2.691E+00	2.095E+00	2.278E+00	0.000E+00
ANH-511	1.102E-01	6.294E-02	3.916E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	6.516E-02	2.909E-01	5.144E-01	0.000E+00 NOT IDENT.
NA-22	1.348E-02	3.812E-02	6.666E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.851E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-2.530E-02	3.401E-02	5.427E-02	0.000E+00 FAIL ABUN
V-48	1.453E-02	7.001E-02	1.229E-01	0.000E+00 NOT IDENT.

CR-51	2.577E-01	3.166E-01	5.928E-01	0.000E+00	NOT IDENT.
MN-54	-4.095E-03	2.922E-02	5.022E-02	0.000E+00	NOT IDENT.
CO-56	1.326E-02	3.343E-02	6.036E-02	0.000E+00	NOT IDENT.
CO-57	-6.858E-03	2.148E-02	3.800E-02	0.000E+00	NOT IDENT.
CO-58	-2.529E-02	3.319E-02	5.351E-02	0.000E+00	NOT IDENT.
FE-59	-4.528E-02	8.065E-02	1.285E-01	0.000E+00	NOT IDENT.
CO-60	3.348E-03	3.340E-02	5.668E-02	0.000E+00	NOT IDENT.
ZN-65	8.763E-02	9.670E-02	1.579E-01	0.000E+00	NOT IDENT.
SE-75	-1.327E-02	4.035E-02	6.777E-02	0.000E+00	NOT IDENT.
SR-85	2.551E-02	3.632E-02	5.846E-02	0.000E+00	NOT IDENT.
Y-88	-2.717E-02	3.245E-02	4.500E-02	0.000E+00	NOT IDENT.
Y-91	2.491E+00	2.125E+01	3.628E+01	0.000E+00	NOT IDENT.
NB-94	1.815E-02	3.096E-02	5.484E-02	0.000E+00	NOT IDENT.
NB-95	3.433E-02	4.217E-02	7.535E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.440E-01	2.416E-01	0.000E+00	NOT IDENT.
ZR-95	6.238E-02	6.766E-02	1.230E-01	0.000E+00	NOT IDENT.
MO-99	5.584E+00	2.128E+01	3.677E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.831E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	5.126E-04	3.558E-02	6.179E-02	0.000E+00	FAIL ABUN
RH-106	-1.844E-01	2.657E-01	4.217E-01	0.000E+00	NOT IDENT.
RU-106	-1.844E-01	2.651E-01	4.217E-01	0.000E+00	NOT IDENT.
AG-108M	-1.744E-02	2.544E-02	4.234E-02	0.000E+00	NOT IDENT.
AG-110M	5.932E-02	3.604E-02	6.278E-02	0.000E+00	NOT IDENT.
SN-113	-4.113E-03	3.959E-02	6.941E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.377E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	4.651E-02	5.627E-02	1.029E-01	0.000E+00	NOT IDENT.
TE-123M	2.006E-02	2.551E-02	4.659E-02	0.000E+00	NOT IDENT.
SB-124	-2.424E-02	6.213E-02	9.640E-02	0.000E+00	NOT IDENT.
SB-125	1.333E-02	8.023E-02	1.423E-01	0.000E+00	FAIL ABUN
TE-125M	-1.716E+00	8.984E+00	1.609E+01	0.000E+00	NOT IDENT.
I-126	1.318E-01	2.703E-01	4.189E-01	0.000E+00	NOT IDENT.
SB-126	-1.350E-01	1.639E-01	2.532E-01	0.000E+00	NOT IDENT.
SB-127	1.501E+00	1.991E+00	3.593E+00	0.000E+00	NOT IDENT.
I-131	-1.490E-02	1.145E-01	2.012E-01	0.000E+00	NOT IDENT.
TE-132	-2.032E-01	1.284E+00	2.203E+00	0.000E+00	NOT IDENT.
BA-133	1.816E-02	3.821E-02	6.151E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.656E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.231E-02	3.999E-02	7.706E-02	0.000E+00	NOT IDENT.
CS-135	1.515E-01	1.421E-01	2.565E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.678E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.569E-02	1.118E-01	1.809E-01	0.000E+00	NOT IDENT.
CE-139	-2.580E-02	2.457E-02	4.105E-02	0.000E+00	NOT IDENT.
BA-140	-3.170E-02	2.720E-01	4.643E-01	0.000E+00	NOT IDENT.
LA-140	-3.837E-02	7.338E-02	1.124E-01	0.000E+00	NOT IDENT.
CE-141	-3.636E-02	5.794E-02	9.902E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.078E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-8.675E-02	1.983E-01	3.201E-01	0.000E+00	NOT IDENT.
PM-144	-2.687E-03	2.957E-02	4.953E-02	0.000E+00	NOT IDENT.
PR-144	-1.693E-01	2.219E+00	3.723E+00	0.000E+00	NOT IDENT.
PM-146	2.124E-03	3.626E-02	6.359E-02	0.000E+00	NOT IDENT.
ND-147	3.483E-01	5.397E-01	9.804E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.055E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-7.447E-03	9.747E-02	1.571E-01	0.000E+00	NOT IDENT.
GD-153	5.565E-02	8.714E-02	1.423E-01	0.000E+00	NOT IDENT.
EU-154	4.584E-02	1.088E-01	1.914E-01	0.000E+00	NOT IDENT.
EU-155	6.318E-02	9.104E-02	1.690E-01	0.000E+00	FAIL ABUN
TB-160	-3.924E-03	1.179E-01	2.038E-01	0.000E+00	FAIL ABUN
HO-166M	6.872E-03	5.565E-02	9.490E-02	0.000E+00	FAIL ABUN
TA-182	9.550E-02	1.765E-01	3.131E-01	0.000E+00	NOT IDENT.
IR-192	-2.988E-02	2.800E-02	4.667E-02	0.000E+00	FAIL ABUN
HG-203	-2.763E-02	3.280E-02	5.649E-02	0.000E+00	FAIL ABUN
BI-207	-2.636E-02	4.525E-02	7.222E-02	0.000E+00	FAIL ABUN
PB-210	-1.395E-01	4.308E+00	7.940E+00	0.000E+00	NOT IDENT.
PB-211	-1.606E-01	6.160E-01	1.058E+00	0.000E+00	NOT IDENT.
BI-212	7.090E-01	5.018E-01	9.301E-01	0.000E+00	NOT IDENT.
RN-219	-8.042E-02	3.532E-01	6.128E-01	0.000E+00	NOT IDENT.
RA-223	-6.192E-01	5.712E-01	9.444E-01	0.000E+00	FAIL ABUN
AC-227	1.172E-01	2.323E-01	4.092E-01	0.000E+00	NOT IDENT.
TH-227	1.172E-01	2.324E-01	4.092E-01	0.000E+00	NOT IDENT.
PA-231	4.810E-01	1.199E+00	2.205E+00	0.000E+00	NOT IDENT.
TH-231	-6.192E-01	5.712E-01	9.444E-01	0.000E+00	FAIL ABUN
PA-233	-1.832E-02	5.140E-02	9.015E-02	0.000E+00	NOT IDENT.
PA-234	1.335E-01	2.889E-01	5.169E-01	0.000E+00	NOT IDENT.
PA-234M	-9.259E-01	4.010E+00	6.720E+00	0.000E+00	NOT IDENT.
NP-239	-1.609E-01	3.550E-01	6.097E-01	0.000E+00	NOT IDENT.
AM-241	7.140E-02	1.706E-01	2.857E-01	0.000E+00	NOT IDENT.
CM-247	-8.522E-03	3.190E-02	5.521E-02	0.000E+00	NOT IDENT.
CF-249	2.520E-02	3.433E-02	6.334E-02	0.000E+00	NOT IDENT.

CF-251

9.365E-02

1.123E-01

2.046E-01

0.000E+00 NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051004.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:22:40
Sample ID          : G248051004          Sample quantity  : 1.49920E+02 GRAM
Detector name      : GAM23              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.48  0.0%
Energy tolerance   : 2.00000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 958225             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	1460.82	811	10.66*	9.975E-01	1.910E+01	1.910E+01	10.70
CD-109	88.03	139	3.70*	5.213E+00	1.803E+00	1.853E+00	36.53
SN-126	64.28	101	9.60	2.547E+00	1.037E+00	1.037E+00	78.79
	86.94	139	8.90	5.213E+00	7.496E-01	7.496E-01	54.50
	87.57	139	37.00*	5.213E+00	1.803E-01	1.803E-01	36.53
BA-137M	661.66	177	89.90*	2.042E+00	2.420E-01	2.423E-01	21.94
CS-137	661.66	177	85.10*	2.042E+00	2.556E-01	2.559E-01	21.95
TL-208	277.37	-----	6.60	4.139E+00	-----	Line Not Found	-----
	583.19	252	85.00*	2.279E+00	3.253E-01	3.253E-01	21.96
	860.56	-----	12.50	1.609E+00	-----	Line Not Found	-----
BI-211	72.87	232	1.23	4.043E+00	1.169E+01	1.169E+01	33.98
	351.06	367	12.92*	3.442E+00	2.069E+00	2.069E+00	17.82
PB-212	74.82	232	10.28	4.043E+00	1.398E+00	1.398E+00	35.34
	77.11	299	17.10	4.287E+00	1.023E+00	1.023E+00	25.67
	238.63	674	43.60*	4.639E+00	8.347E-01	8.347E-01	12.36
	300.09	-----	3.30	3.896E+00	-----	Line Not Found	-----
BI-214	609.32	263	45.49*	2.194E+00	6.595E-01	6.595E-01	19.55
	1120.29	67	14.92	1.259E+00	8.864E-01	8.864E-01	49.01
	1764.49	52	15.30	8.745E-01	9.682E-01	9.682E-01	30.90
PB-214	74.82	232	5.80	4.043E+00	2.478E+00	2.478E+00	34.89
	77.11	299	9.70	4.287E+00	1.803E+00	1.803E+00	26.96
	242.00	181	7.25	4.598E+00	1.357E+00	1.357E+00	41.89
	295.22	213	18.42	3.948E+00	7.334E-01	7.334E-01	28.61
	351.93	367	35.60*	3.442E+00	7.508E-01	7.508E-01	18.65
RA-224	240.99	181	4.10*	4.598E+00	2.400E+00	2.400E+00	41.49
RA-226	609.32	263	45.49*	2.194E+00	6.595E-01	6.595E-01	19.55
	1120.29	67	14.92	1.259E+00	8.864E-01	8.864E-01	49.01
	1764.49	52	15.30	8.745E-01	9.682E-01	9.682E-01	30.90
AC-228	338.32	135	11.27	3.549E+00	8.436E-01	8.436E-01	56.98
	911.20	154	25.80*	1.527E+00	9.787E-01	9.787E-01	26.90
	968.97	74	15.80	1.442E+00	8.105E-01	8.105E-01	52.04
RA-228	338.32	135	11.27	3.549E+00	8.436E-01	8.436E-01	56.98

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	911.20	154	25.80*	1.527E+00	9.787E-01	9.787E-01	26.90
	968.97	74	15.80	1.442E+00	8.105E-01	8.105E-01	52.04
TH-228	74.82	232	10.28	4.043E+00	1.398E+00	1.398E+00	34.00
	77.11	299	17.10	4.287E+00	1.023E+00	1.023E+00	25.67
	238.63	674	43.60*	4.639E+00	8.347E-01	8.347E-01	12.36
	300.09	-----	3.30	3.896E+00	-----	Line Not Found	-----
TH-229	85.43	139	14.70	5.213E+00	4.539E-01	4.539E-01	36.53
	88.47	89	24.00	5.394E+00	1.719E-01	1.719E-01	68.14
	193.51	-----	4.41*	5.353E+00	-----	Line Not Found	-----
	210.85	70	2.80	5.086E+00	1.233E+00	1.233E+00	82.63
TH-232	338.32	135	11.27	3.549E+00	8.436E-01	8.436E-01	39.76
	911.20	154	25.80*	1.527E+00	9.787E-01	9.787E-01	26.90
	968.97	74	15.80	1.442E+00	8.105E-01	8.105E-01	52.04
TH-234	63.29	101	3.70*	2.547E+00	2.691E+00	2.691E+00	79.46
	92.59	258	4.23	5.577E+00	2.738E+00	2.738E+00	34.73
U-235	89.96	89	3.47	5.394E+00	1.189E+00	1.189E+00	71.93
	93.35	258	5.60	5.577E+00	2.068E+00	2.068E+00	35.38
	143.76	-----	10.96*	6.189E+00	-----	Line Not Found	-----
	163.33	-----	5.08	5.887E+00	-----	Line Not Found	-----
	185.72	197	57.20	5.483E+00	1.571E-01	1.571E-01	43.95
	205.31	-----	5.01	5.150E+00	-----	Line Not Found	-----
NP-237	86.48	139	12.40*	5.213E+00	5.380E-01	5.380E-01	42.12
	95.86	-----	2.68	5.757E+00	-----	Line Not Found	-----
U-238	63.29	101	3.70*	2.547E+00	2.691E+00	2.691E+00	79.46
	92.59	258	4.23	5.577E+00	2.738E+00	2.738E+00	28.15
ANH-511	511.00	112	100.00*	2.548E+00	1.102E-01	1.102E-01	58.30

Flag: "*" = Keyline

Total number of lines in spectrum 25
Number of unidentified lines 2
Number of lines tentatively identified by NID 23 92.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.910E+01	1.910E+01	0.204E+01	10.70	
CD-109	461.40D	1.03	1.803E+00	1.853E+00	0.677E+00	36.53	
SN-126	2.30E+05Y	1.00	1.803E-01	1.803E-01	0.659E-01	36.53	
BA-137M	30.08Y	1.00	2.420E-01	2.423E-01	0.532E-01	21.94	
CS-137	30.08Y	1.00	2.556E-01	2.559E-01	0.562E-01	21.95	
TL-208	1.41E+10Y	1.00	3.253E-01	3.253E-01	0.714E-01	21.96	
BI-211	7.04E+08Y	1.00	2.069E+00	2.069E+00	0.369E+00	17.82	
PB-212	1.41E+10Y	1.00	8.347E-01	8.347E-01	1.031E-01	12.36	
BI-214	1600.00Y	1.00	6.595E-01	6.595E-01	1.290E-01	19.55	
PB-214	1600.00Y	1.00	7.508E-01	7.508E-01	1.400E-01	18.65	
RA-224	1.41E+10Y	1.00	2.400E+00	2.400E+00	0.996E+00	41.49	
RA-226	1600.00Y	1.00	6.595E-01	6.595E-01	1.290E-01	19.55	
AC-228	1.41E+10Y	1.00	9.787E-01	9.787E-01	2.633E-01	26.90	
RA-228	1.41E+10Y	1.00	9.787E-01	9.787E-01	2.633E-01	26.90	
TH-228	1.41E+10Y	1.00	8.347E-01	8.347E-01	1.031E-01	12.36	
TH-229	7340.00Y	1.00	1.719E-01	1.719E-01	1.171E-01	68.14	K
TH-232	1.41E+10Y	1.00	9.787E-01	9.787E-01	2.633E-01	26.90	
TH-234	4.47E+09Y	1.00	2.691E+00	2.691E+00	2.138E+00	79.46	
U-235	7.04E+08Y	1.00	1.571E-01	1.571E-01	0.691E-01	43.95	K
NP-237	2.14E+06Y	1.00	5.380E-01	5.380E-01	2.266E-01	42.12	
U-238	4.47E+09Y	1.00	2.691E+00	2.691E+00	2.138E+00	79.46	
ANH-511	1.00E+09Y	1.00	1.102E-01	1.102E-01	0.642E-01	58.30	

Total Activity : 3.941E+01 3.946E+01

Grand Total Activity : 3.941E+01 3.946E+01

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

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

Unidentified Energy Lines
Sample ID : G248051004

Page : 4
Acquisition date : 10-MAR-2010 17:22:40

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.55	90	207	2.29	257.09	254	7	1.24E-02	57.3	6.33E+00	
0	463.06	48	105	0.96	926.12	920	12	6.63E-03	90.7	2.76E+00	T
0	1376.47	36	9	2.83	2752.93	2747	13	4.96E-03	49.1	1.05E+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]G248051004.CNF;1
* Acquisition date   : 10-MAR-2010 17:22:40  Detector SN#      :
* Detector ID        : GAM23                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 2.00000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.48          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                             *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G248051004            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity : 1.49920E+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	1.910E+01	2.043E+00	4.930E-01	3.688E-02	38.740
CD-109	1.853E+00	6.770E-01	1.168E+00	1.140E-01	1.587
SN-126	1.803E-01	6.587E-02	1.143E-01	1.112E-02	1.577
BA-137M	2.423E-01	5.315E-02	5.350E-02	2.733E-03	4.528
CS-137	2.559E-01	5.617E-02	5.652E-02	2.903E-03	4.528
TL-208	3.253E-01	7.144E-02	4.499E-02	2.913E-03	7.231
BI-211	2.069E+00	3.686E-01	2.986E-01	1.946E-02	6.929
PB-212	8.347E-01	1.031E-01	8.100E-02	5.876E-03	10.305
BI-214	6.595E-01	1.290E-01	8.850E-02	6.710E-03	7.453
PB-214	7.508E-01	1.400E-01	1.037E-01	8.851E-03	7.243
RA-224	2.400E+00	9.955E-01	8.683E-01	4.892E-02	2.764
RA-226	6.595E-01	1.290E-01	8.850E-02	6.710E-03	7.453
AC-228	9.787E-01	2.633E-01	1.852E-01	2.200E-02	5.284
RA-228	9.787E-01	2.633E-01	1.852E-01	2.200E-02	5.284
TH-228	8.347E-01	1.031E-01	8.100E-02	5.876E-03	10.305
TH-229	1.719E-01	1.171E-01	7.748E-01	4.103E-02	0.222
TH-232	9.787E-01	2.633E-01	1.852E-01	2.200E-02	5.284
TH-234	2.691E+00	2.138E+00	2.099E+00	3.861E-01	1.282

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-235	1.571E-01	6.906E-02	2.915E-01	4.539E-02	0.539
NP-237	5.380E-01	2.266E-01	3.792E-01	8.749E-02	1.419
U-238	2.691E+00	2.138E+00	2.099E+00	3.861E-01	1.282
ANH-511	1.102E-01	6.422E-02	3.788E-02	2.200E-03	2.908

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	6.516E-02		2.968E-01	4.968E-01	3.375E-02	0.131
NA-22	1.348E-02		3.890E-02	6.598E-02	4.431E-03	0.204
NA-24	-1.338E+00		9.444E+00	Half-Life too short		
SC-46	-2.530E-02		3.471E-02	5.322E-02	4.755E-03	-0.475
V-48	1.453E-02		7.144E-02	1.208E-01	1.005E-02	0.120
CR-51	2.577E-01		3.230E-01	5.670E-01	3.712E-02	0.455
MN-54	-4.095E-03		2.982E-02	4.917E-02	3.894E-03	-0.083
CO-56	1.326E-02		3.411E-02	5.912E-02	4.810E-03	0.224
CO-57	-6.858E-03		2.191E-02	3.553E-02	2.095E-03	-0.193
CO-58	-2.529E-02		3.387E-02	5.236E-02	3.934E-03	-0.483
FE-59	-4.528E-02		8.230E-02	1.267E-01	9.754E-03	-0.357
CO-60	3.348E-03		3.408E-02	5.616E-02	4.123E-03	0.060
ZN-65	8.763E-02		9.868E-02	1.557E-01	1.029E-02	0.563
SE-75	-1.327E-02		4.118E-02	6.452E-02	3.757E-03	-0.206
SR-85	2.551E-02		3.706E-02	5.656E-02	3.282E-03	0.451
Y-88	-2.717E-02		3.312E-02	4.497E-02	2.648E-03	-0.604
Y-91	2.491E+00		2.168E+01	3.585E+01	2.138E+00	0.069
NB-94	1.815E-02		3.159E-02	5.347E-02	3.055E-03	0.340
NB-95	3.433E-02		4.303E-02	7.363E-02	4.948E-03	0.466
NB-95M	3.117E-01		1.469E-01	2.294E-01	1.698E-02	1.359
ZR-95	6.238E-02		6.904E-02	1.201E-01	9.266E-03	0.519
MO-99	5.584E+00		2.171E+01	3.589E+01	5.245E+00	0.156
TC-99M	-2.638E+12		9.340E+13	Half-Life too short		
RU-103	5.126E-04		3.630E-02	5.973E-02	7.431E-03	0.009
RH-106	-1.844E-01		2.711E-01	4.099E-01	4.679E-02	-0.450
RU-106	-1.844E-01		2.705E-01	4.099E-01	2.203E-02	-0.450
AG-108M	-1.744E-02		2.596E-02	4.079E-02	2.550E-03	-0.428
AG-110M	5.932E-02		3.677E-02	6.111E-02	3.396E-03	0.971
SN-113	-4.113E-03		4.040E-02	6.671E-02	4.109E-03	-0.062
CD-115	3.504E-06		1.213E-05	Half-Life too short		
SN-117M	4.651E-02		5.742E-02	9.684E-02	5.033E-03	0.480
TE-123M	2.006E-02		2.604E-02	4.383E-02	2.313E-03	0.458
SB-124	-2.424E-02		6.340E-02	9.611E-02	6.726E-03	-0.252
SB-125	1.333E-02		8.187E-02	1.370E-01	8.326E-03	0.097
TE-125M	-1.716E+00		9.167E+00	1.501E+01	1.367E+00	-0.114
I-126	1.318E-01		2.759E-01	4.079E-01	2.111E-02	0.323
SB-126	-1.350E-01		1.673E-01	2.471E-01	1.481E-02	-0.546
SB-127	1.501E+00		2.032E+00	3.501E+00	3.630E-01	0.429
I-131	-1.490E-02		1.169E-01	1.931E-01	1.267E-02	-0.077

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	-2.032E-01		1.310E+00	2.090E+00	3.155E-01	-0.097
BA-133	1.816E-02		3.899E-02	5.898E-02	6.676E-03	0.308
I-133	4.036E-02		2.886E-02	Half-Life too short		
CS-134	5.231E-02		4.081E-02	7.536E-02	5.504E-03	0.694
CS-135	1.515E-01		1.450E-01	2.443E-01	1.867E-02	0.620
I-135	-8.802E+12		8.559E+12	Half-Life too short		
CS-136	-5.569E-02		1.141E-01	1.782E-01	1.420E-02	-0.313
CE-139	-2.580E-02		2.507E-02	3.866E-02	1.971E-03	-0.667
BA-140	-3.170E-02		2.776E-01	4.497E-01	1.498E-01	-0.070
LA-140	-3.837E-02		7.488E-02	1.119E-01	7.679E-03	-0.343
CE-141	-3.636E-02		5.912E-02	9.297E-02	5.244E-03	-0.391
CE-143	3.113E-03	+	5.502E-04	Half-Life too short		
CE-144	-8.675E-02		2.023E-01	2.999E-01	4.142E-02	-0.289
PM-144	-2.687E-03		3.017E-02	4.828E-02	2.717E-03	-0.056
PR-144	-1.693E-01		2.264E+00	3.629E+00	2.040E-01	-0.047
PM-146	2.124E-03		3.700E-02	6.134E-02	5.211E-03	0.035
ND-147	3.483E-01		5.507E-01	9.492E-01	1.282E-01	0.367
PM-149	-1.635E-04		1.048E-04	Half-Life too short		
EU-152	-7.447E-03		9.946E-02	1.505E-01	9.970E-03	-0.049
GD-153	5.565E-02		8.892E-02	1.324E-01	1.082E-02	0.420
EU-154	4.584E-02		1.110E-01	1.895E-01	1.896E-02	0.242
EU-155	6.318E-02		9.290E-02	1.575E-01	1.161E-02	0.401
TB-160	-3.924E-03		1.203E-01	1.999E-01	1.748E-02	-0.020
HO-166M	6.872E-03		5.678E-02	9.255E-02	5.417E-03	0.074
TA-182	9.550E-02		1.801E-01	3.096E-01	1.900E-02	0.309
IR-192	-2.988E-02		2.857E-02	4.462E-02	2.647E-03	-0.670
HG-203	-2.763E-02		3.347E-02	5.386E-02	3.308E-03	-0.513
BI-207	-2.636E-02		4.618E-02	7.115E-02	5.227E-03	-0.370
PB-210	-1.395E-01		4.396E+00	7.266E+00	5.613E-01	-0.019
PB-211	-1.606E-01		6.285E-01	1.017E+00	4.881E-01	-0.158
BI-212	7.090E-01		5.120E-01	9.076E-01	9.863E-02	0.781
RN-219	-8.042E-02		3.604E-01	5.893E-01	7.917E-02	-0.136
RA-223	-6.192E-01		5.828E-01	9.035E-01	1.460E-01	-0.685
AC-227	1.172E-01		2.370E-01	3.893E-01	3.963E-02	0.301
TH-227	1.172E-01		2.371E-01	3.893E-01	4.664E-02	0.301
PA-231	4.810E-01		1.224E+00	2.102E+00	2.761E-01	0.229
TH-231	-6.192E-01		5.828E-01	9.035E-01	1.460E-01	-0.685
PA-233	-1.832E-02		5.245E-02	8.617E-02	5.389E-03	-0.213
PA-234	1.335E-01		2.948E-01	5.077E-01	9.545E-02	0.263
PA-234M	-9.259E-01		4.091E+00	6.610E+00	6.307E-01	-0.140
NP-239	-1.609E-01		3.623E-01	5.696E-01	3.545E-02	-0.283
AM-241	7.140E-02		1.741E-01	2.629E-01	2.446E-02	0.272
CM-247	-8.522E-03		3.256E-02	5.310E-02	3.077E-03	-0.161
CF-249	2.520E-02		3.503E-02	6.087E-02	3.521E-03	0.414
CF-251	9.365E-02		1.146E-01	1.930E-01	9.985E-03	0.485

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G248051004          *
* Acquisition date   : 10-MAR-2010 17:22:40 Detector SN#      :             *
* Detector ID        : GAM23 Sensitivity      : 5.000             *
* Geometry           : CAN Energy tolerance: 2.000             *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000      *
* Elapsed real time  : 0 02:00:01.48 Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051004 Analyst initials: MXR1           *
* Batch Number       : 958225 Sample Quantity : 1.4992E+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	1.910E+01	2.002E+00	2.483E-01	1.021E+00
CD-109	1.853E+00	6.635E-01	6.295E-01	3.385E-01
SN-126	1.803E-01	6.455E-02	6.163E-02	3.293E-02
BA-137M	2.423E-01	5.209E-02	2.749E-02	2.658E-02
CS-137	2.559E-01	5.504E-02	2.904E-02	2.808E-02
TL-208	3.253E-01	7.001E-02	2.319E-02	3.572E-02
BI-211	2.069E+00	3.612E-01	1.558E-01	1.843E-01
PB-212	8.347E-01	1.011E-01	4.267E-02	5.157E-02
BI-214	6.595E-01	1.264E-01	4.557E-02	6.448E-02
PB-214	7.508E-01	1.372E-01	5.410E-02	7.002E-02
RA-224	2.400E+00	9.756E-01	4.573E-01	4.978E-01
RA-226	6.595E-01	1.264E-01	4.557E-02	6.448E-02
AC-228	9.787E-01	2.580E-01	9.443E-02	1.316E-01
RA-228	9.787E-01	2.580E-01	9.443E-02	1.316E-01
TH-228	8.347E-01	1.011E-01	4.267E-02	5.157E-02
TH-229	4.779E-01	4.617E-01	4.101E-01	2.356E-01
TH-232	9.787E-01	2.580E-01	9.443E-02	1.316E-01
TH-234	2.691E+00	2.095E+00	1.140E+00	1.069E+00
U-235	3.800E-02	1.750E-01	1.554E-01	8.928E-02
NP-237	5.380E-01	2.221E-01	2.044E-01	1.133E-01
U-238	2.691E+00	2.095E+00	1.140E+00	1.069E+00
ANH-511	1.102E-01	6.294E-02	1.959E-02	3.211E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	6.516E-02	2.909E-01	2.574E-01	1.484E-01 NOT IDENT.
NA-22	1.348E-02	3.812E-02	3.335E-02	1.945E-02 NOT IDENT.
NA-24	-1.338E+06	1.851E+07	0.000E+00	9.444E+06 SHORT HLIF
SC-46	-2.530E-02	3.401E-02	2.715E-02	1.735E-02 FAIL ABUN
V-48	1.453E-02	7.001E-02	6.148E-02	3.572E-02 NOT IDENT.

CR-51	2.577E-01	3.166E-01	2.966E-01	1.615E-01	NOT IDENT.
MN-54	-4.095E-03	2.922E-02	2.512E-02	1.491E-02	NOT IDENT.
CO-56	1.326E-02	3.343E-02	3.020E-02	1.705E-02	NOT IDENT.
CO-57	-6.858E-03	2.148E-02	1.901E-02	1.096E-02	NOT IDENT.
CO-58	-2.529E-02	3.319E-02	2.677E-02	1.693E-02	NOT IDENT.
FE-59	-4.528E-02	8.065E-02	6.428E-02	4.115E-02	NOT IDENT.
CO-60	3.348E-03	3.340E-02	2.835E-02	1.704E-02	NOT IDENT.
ZN-65	8.763E-02	9.670E-02	7.899E-02	4.934E-02	NOT IDENT.
SE-75	-1.327E-02	4.035E-02	3.390E-02	2.059E-02	NOT IDENT.
SR-85	2.551E-02	3.632E-02	2.925E-02	1.853E-02	NOT IDENT.
Y-88	-2.717E-02	3.245E-02	2.252E-02	1.656E-02	NOT IDENT.
Y-91	2.491E+00	2.125E+01	1.815E+01	1.084E+01	NOT IDENT.
NB-94	1.815E-02	3.096E-02	2.744E-02	1.580E-02	NOT IDENT.
NB-95	3.433E-02	4.217E-02	3.770E-02	2.152E-02	NOT IDENT.
NB-95M	3.117E-01	1.440E-01	1.209E-01	7.345E-02	NOT IDENT.
ZR-95	6.238E-02	6.766E-02	6.151E-02	3.452E-02	NOT IDENT.
MO-99	5.584E+00	2.128E+01	1.839E+01	1.086E+01	NOT IDENT.
TC-99M	-2.638E+18	1.831E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	5.126E-04	3.558E-02	3.091E-02	1.815E-02	FAIL ABUN
RH-106	-1.844E-01	2.657E-01	2.110E-01	1.356E-01	NOT IDENT.
RU-106	-1.844E-01	2.651E-01	2.110E-01	1.352E-01	NOT IDENT.
AG-108M	-1.744E-02	2.544E-02	2.118E-02	1.298E-02	NOT IDENT.
AG-110M	5.932E-02	3.604E-02	3.141E-02	1.839E-02	NOT IDENT.
SN-113	-4.113E-03	3.959E-02	3.472E-02	2.020E-02	NOT IDENT.
CD-115	3.504E+00	2.377E+01	0.000E+00	1.213E+01	SHORT HLIF
SN-117M	4.651E-02	5.627E-02	5.150E-02	2.871E-02	NOT IDENT.
TE-123M	2.006E-02	2.551E-02	2.331E-02	1.302E-02	NOT IDENT.
SB-124	-2.424E-02	6.213E-02	4.823E-02	3.170E-02	NOT IDENT.
SB-125	1.333E-02	8.023E-02	7.118E-02	4.093E-02	FAIL ABUN
TE-125M	-1.716E+00	8.984E+00	8.051E+00	4.584E+00	NOT IDENT.
I-126	1.318E-01	2.703E-01	2.096E-01	1.379E-01	NOT IDENT.
SB-126	-1.350E-01	1.639E-01	1.267E-01	8.363E-02	NOT IDENT.
SB-127	1.501E+00	1.991E+00	1.798E+00	1.016E+00	NOT IDENT.
I-131	-1.490E-02	1.145E-01	1.007E-01	5.843E-02	NOT IDENT.
TE-132	-2.032E-01	1.284E+00	1.102E+00	6.552E-01	NOT IDENT.
BA-133	1.816E-02	3.821E-02	3.077E-02	1.950E-02	NOT IDENT.
I-133	4.036E+04	5.656E+04	0.000E+00	2.886E+04	SHORT HLIF
CS-134	5.231E-02	3.999E-02	3.855E-02	2.040E-02	NOT IDENT.
CS-135	1.515E-01	1.421E-01	1.283E-01	7.251E-02	NOT IDENT.
I-135	-8.802E+18	1.678E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.569E-02	1.118E-01	9.052E-02	5.706E-02	NOT IDENT.
CE-139	-2.580E-02	2.457E-02	2.054E-02	1.254E-02	NOT IDENT.
BA-140	-3.170E-02	2.720E-01	2.323E-01	1.388E-01	NOT IDENT.
LA-140	-3.837E-02	7.338E-02	5.624E-02	3.744E-02	NOT IDENT.
CE-141	-3.636E-02	5.794E-02	4.954E-02	2.956E-02	NOT IDENT.
CE-143	3.113E+03	1.078E+03	0.000E+00	5.502E+02	SHORT HLIF
CE-144	-8.675E-02	1.983E-01	1.601E-01	1.012E-01	NOT IDENT.
PM-144	-2.687E-03	2.957E-02	2.478E-02	1.508E-02	NOT IDENT.
PR-144	-1.693E-01	2.219E+00	1.862E+00	1.132E+00	NOT IDENT.
PM-146	2.124E-03	3.626E-02	3.181E-02	1.850E-02	NOT IDENT.
ND-147	3.483E-01	5.397E-01	4.905E-01	2.754E-01	FAIL ABUN
PM-149	-1.635E+02	2.055E+02	0.000E+00	1.048E+02	SHORT HLIF
EU-152	-7.447E-03	9.747E-02	7.860E-02	4.973E-02	NOT IDENT.
GD-153	5.565E-02	8.714E-02	7.120E-02	4.446E-02	NOT IDENT.
EU-154	4.584E-02	1.088E-01	9.578E-02	5.550E-02	NOT IDENT.
EU-155	6.318E-02	9.104E-02	8.456E-02	4.645E-02	FAIL ABUN
TB-160	-3.924E-03	1.179E-01	1.020E-01	6.014E-02	FAIL ABUN
HO-166M	6.872E-03	5.565E-02	4.748E-02	2.839E-02	FAIL ABUN
TA-182	9.550E-02	1.765E-01	1.567E-01	9.004E-02	NOT IDENT.
IR-192	-2.988E-02	2.800E-02	2.335E-02	1.428E-02	FAIL ABUN
HG-203	-2.763E-02	3.280E-02	2.826E-02	1.673E-02	FAIL ABUN
BI-207	-2.636E-02	4.525E-02	3.613E-02	2.309E-02	FAIL ABUN
PB-210	-1.395E-01	4.308E+00	3.972E+00	2.198E+00	NOT IDENT.
PB-211	-1.606E-01	6.160E-01	5.292E-01	3.143E-01	NOT IDENT.
BI-212	7.090E-01	5.018E-01	4.653E-01	2.560E-01	NOT IDENT.
RN-219	-8.042E-02	3.532E-01	3.066E-01	1.802E-01	NOT IDENT.
RA-223	-6.192E-01	5.712E-01	4.725E-01	2.914E-01	FAIL ABUN
AC-227	1.172E-01	2.323E-01	2.047E-01	1.185E-01	NOT IDENT.
TH-227	1.172E-01	2.324E-01	2.047E-01	1.186E-01	NOT IDENT.
PA-231	4.810E-01	1.199E+00	1.103E+00	6.118E-01	NOT IDENT.
TH-231	-6.192E-01	5.712E-01	4.725E-01	2.914E-01	FAIL ABUN
PA-233	-1.832E-02	5.140E-02	4.510E-02	2.623E-02	NOT IDENT.
PA-234	1.335E-01	2.889E-01	2.586E-01	1.474E-01	NOT IDENT.
PA-234M	-9.259E-01	4.010E+00	3.362E+00	2.046E+00	NOT IDENT.
NP-239	-1.609E-01	3.550E-01	3.050E-01	1.811E-01	NOT IDENT.
AM-241	7.140E-02	1.706E-01	1.429E-01	8.704E-02	NOT IDENT.
CM-247	-8.522E-03	3.190E-02	2.762E-02	1.628E-02	NOT IDENT.
CF-249	2.520E-02	3.433E-02	3.169E-02	1.751E-02	NOT IDENT.

CF-251

9.365E-02

1.123E-01

1.023E-01

5.730E-02 NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT          *
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ENERGY	MDA COUNTS
46.54	236.7159
49.72	277.1393
57.36	0.0000
59.54	263.0454
63.29	298.2083
63.29	298.2083
64.28	293.2599
67.75	336.6705
69.67	318.1048
70.83	317.1285
72.81	347.5943
72.87	347.6238
72.87	347.6238
74.82	348.5655
74.82	348.5655
74.82	348.5655
74.97	348.6373
77.11	349.6564
77.11	349.6564
77.11	349.6564
79.69	383.3849
79.80	383.4402
80.12	423.1813
80.19	423.2204
80.57	431.0482
81.00	425.1957
81.07	425.2349
81.07	425.2349
83.79	351.7930
83.79	351.7930
85.43	358.6610
86.48	435.8769
86.55	435.9168
86.79	443.7237
86.94	443.8083
87.57	364.0493
88.03	364.2589
88.47	364.4584
89.96	365.1307
91.11	365.6469
92.59	366.3047
92.59	366.3047
93.35	318.8524
94.67	322.4571
94.87	333.3891
94.87	333.3891
95.86	312.0469
97.43	287.7391
98.44	269.9119
99.53	268.9543
100.11	292.5373
103.18	303.3505
103.37	306.3518
105.31	267.7846
106.12	257.2266
109.28	309.3549
111.00	312.8958
111.76	302.2857
116.30	267.0216
117.23	278.2120
121.12	256.3892
121.78	263.5498
122.06	263.6254
123.07	257.0418
131.20	282.1619
133.52	319.1559
136.00	301.6923

136.47	302.8415
140.51	307.0459
140.51	0.0000
143.76	266.1614
144.24	265.2586
144.24	265.2586
145.44	276.7851
152.43	247.6983
153.25	280.7898
154.21	286.1742
154.21	286.1742
156.02	285.5992
158.56	247.9980
159.00	251.1926
162.66	239.5388
163.33	256.2753
165.86	244.3464
176.60	225.5358
177.52	224.6533
181.07	259.4013
184.41	214.4861
185.72	226.1178
193.51	201.6655
197.04	249.4052
205.31	235.0690
210.85	215.3427
215.65	219.3240
222.11	221.4067
227.38	203.6952
228.16	215.7921
228.18	215.7951
235.69	233.1056
235.96	220.8768
235.96	220.8768
238.63	197.5630
238.63	197.5630
240.99	197.8720
242.00	204.1640
244.70	178.0779
252.40	208.2025
252.80	207.1478
256.23	175.4060
256.23	175.4060
260.90	0.0000
264.66	170.7546
268.22	162.1814
269.46	161.1848
269.46	161.1848
271.23	168.0840
273.65	205.3640
276.40	137.1364
277.37	143.9648
277.60	156.3580
278.00	163.8222
279.20	168.4438
279.54	178.3885
280.46	170.3722
283.69	142.7015
284.31	152.6921
285.41	160.9279
285.90	0.0000
287.50	156.1470
293.27	0.0000
295.22	195.4946
295.96	197.0947
298.57	112.3595
299.98	121.5674
299.98	121.5674
300.09	124.6149
300.09	124.6149
300.13	124.6182
301.36	145.9961
302.85	167.1238
304.50	180.9916
304.50	180.9916
304.85	165.4851
308.46	130.0916
311.90	126.6696

316.51	130.6722
319.41	116.1332
320.08	104.1898
323.87	165.3849
323.87	165.3849
328.76	134.3232
333.37	142.3930
334.37	144.0164
334.37	144.0164
338.28	130.3494
338.28	130.3494
338.32	130.3511
338.32	130.3511
338.32	130.3511
340.48	153.8033
340.55	153.8093
344.28	146.7690
351.06	130.2786
351.93	118.7717
356.01	98.6605
364.49	90.5906
366.42	88.7882
383.85	108.6034
388.16	99.2812
388.63	104.0782
391.69	113.7923
400.66	99.8715
401.81	113.3762
402.40	110.5247
404.85	110.6496
410.95	92.6297
414.70	102.4546
423.72	108.6982
427.09	107.8903
427.87	99.1773
433.94	103.3461
453.88	89.4970
463.37	97.1006
468.07	89.0486
473.00	84.2758
476.78	83.4145
477.60	83.4432
487.02	67.8116
492.35	0.0000
497.08	77.1015
511.00	68.4686
514.00	73.9264
527.90	0.0000
529.87	0.0000
531.02	54.7989
537.26	75.2737
546.56	0.0000
563.25	63.6862
569.33	83.3889
569.50	83.3948
569.70	84.4304
583.19	55.8734
600.60	94.7435
602.73	85.0900
604.72	64.2953
609.32	57.4371
609.32	57.4371
610.33	60.9395
614.28	66.2542
618.01	48.1843
621.93	68.1786
621.93	68.1786
633.25	74.7597
635.95	61.1280
636.99	54.8234
645.85	49.7000
657.76	49.5435
661.66	70.8675
661.66	70.8675
664.57	0.0000
666.33	63.8789
666.50	63.8818
677.62	48.0850

685.70	50.3529
695.00	63.3976
696.49	62.3528
696.51	62.3528
697.00	73.1149
702.65	64.6274
706.68	81.9653
711.68	64.8120
720.70	76.9092
721.93	0.0000
722.78	98.6359
722.91	98.6404
723.31	78.0557
724.19	62.8952
727.33	59.6997
733.00	50.0171
735.93	44.6205
739.50	42.4896
747.24	36.0374
752.31	65.6221
753.82	65.6528
756.73	49.2825
763.94	89.9958
765.81	65.8872
766.42	68.0956
777.92	59.6944
778.90	63.3862
783.70	57.9551
785.37	61.6648
795.86	44.3115
801.95	57.3366
810.29	53.7649
810.76	54.6991
815.77	42.7076
818.51	44.5986
832.01	47.5666
834.85	47.6039
836.80	0.0000
846.77	42.1417
856.80	47.8924
860.56	40.4210
871.09	43.3646
873.19	42.4457
875.33	0.0000
879.36	42.5162
880.51	44.4201
883.24	34.0481
884.68	32.1690
889.28	51.1545
898.04	42.7277
911.20	39.2009
911.20	39.2009
911.20	39.2009
926.50	44.9594
937.49	58.5154
944.13	49.9666
946.00	49.9910
949.00	42.3323
962.29	57.9187
964.08	48.0110
966.15	71.2262
968.97	49.7273
968.97	49.7273
968.97	49.7273
983.53	40.7576
996.26	42.8318
1001.03	48.7295
1004.73	50.7241
1037.84	43.2624
1038.76	0.0000
1048.07	48.2942
1050.41	52.2668
1050.41	52.2668
1063.66	46.4932
1085.87	51.7038
1099.45	44.8810
1112.07	48.0098
1115.54	44.6150

1120.29	44.6639
1120.29	44.6639
1120.55	44.6657
1121.30	37.8002
1131.51	0.0000
1173.23	46.6345
1177.93	64.9479
1189.05	54.9316
1204.77	55.1140
1221.41	45.0653
1231.02	61.5771
1235.36	61.6333
1238.28	53.4473
1260.41	0.0000
1271.85	36.2234
1274.44	33.1354
1274.54	33.1367
1291.59	33.2500
1298.22	0.0000
1312.11	32.3434
1332.49	25.1416
1365.19	14.7594
1368.63	0.0000
1384.29	20.6331
1408.01	32.9489
1457.56	0.0000
1460.82	20.2398
1489.16	15.1040
1505.03	12.9829
1596.21	15.0759
1620.50	13.2461
1678.03	0.0000
1690.97	11.4873
1764.49	13.5610
1764.49	13.5610
1770.23	25.2074
1771.35	12.6060
1791.20	0.0000
1836.06	16.6514

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051004

Total Uranium Activity	8.0223E+00	ug/g
Total Uranium Counting Unc.	6.2339E+00	ug/g
Total Uranium Tpu	3.1805E-06	ug/g
Total Uranium Mda	3.3911E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051004
*  ANALYST       : MXR1            DETECTOR    : GAM23
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 17:22:40.70  SAMPLE ALQT: 149.920 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 5.491E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 8.944E-01
GROSS GAMMA MDA     (pCi/GRAM ) : 2.375E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.152E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 19:53:43.58

```
*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051005.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:53:13
Sample ID          : G248051005 Sample quantity : 1.04550E+02 GRAM
Detector name      : GAM06 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.15 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.50*	66	291	0.97	92.59	89	7	9.17E-03	45.6	
2	0	63.48*	94	398	1.02	126.54	123	8	1.30E-02	38.9	
3	1	74.81*	300	373	1.10	149.20	145	14	4.16E-02	12.4	8.23E-01
4	1	77.12	466	353	1.10	153.80	145	14	6.47E-02	8.5	
5	0	87.30	141	531	1.09	174.15	168	9	1.95E-02	30.8	
6	0	92.91*	285	426	1.18	185.37	182	9	3.96E-02	15.1	
7	0	128.93	83	273	0.88	257.37	254	8	1.15E-02	36.5	
8	0	185.93*	183	334	1.46	371.31	366	11	2.54E-02	21.4	
9	0	208.99	92	301	1.26	417.42	411	12	1.28E-02	38.9	
10	3	238.71*	986	169	1.16	476.83	470	18	1.37E-01	3.9	1.11E+00
11	3	241.60	243	188	1.68	482.61	470	18	3.38E-02	14.6	
12	0	270.18	98	213	1.97	539.75	536	12	1.36E-02	31.2	
13	1	295.24*	299	124	1.29	589.85	584	21	4.16E-02	8.9	1.44E+00
14	1	300.19	66	129	1.46	599.73	584	21	9.18E-03	34.5	
15	0	338.33*	190	95	1.54	675.99	672	9	2.64E-02	12.3	
16	0	352.06*	475	168	1.21	703.45	698	11	6.60E-02	7.1	
17	0	462.79	67	129	1.16	924.84	918	11	9.26E-03	33.0	
18	0	583.43*	248	69	1.04	1166.07	1160	12	3.44E-02	9.5	
19	0	609.19*	422	51	1.49	1217.59	1210	14	5.86E-02	6.3	
20	0	661.84	528	106	1.69	1322.87	1316	16	7.33E-02	6.1	
21	0	911.36*	177	56	1.44	1821.90	1815	14	2.46E-02	12.0	
22	1	965.58	54	24	2.04	1930.37	1920	33	7.56E-03	24.2	1.13E+00
23	1	968.99	121	24	2.04	1937.18	1920	33	1.68E-02	12.6	
24	0	1119.93*	115	8	2.13	2239.11	2232	15	1.60E-02	11.2	
25	0	1378.93	39	11	0.77	2757.28	2749	18	5.40E-03	27.1	
26	0	1460.83*	742	39	2.16	2921.15	2914	19	1.03E-01	4.2	
27	0	1764.60*	59	5	1.63	3529.06	3523	11	8.16E-03	15.9	

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

VMS Nuclide Identification Report V3.1 Generated 10-MAR-2010 19:53:45

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051005.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:53:13
 Sample ID : G248051005 Sample quantity : 104.55 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA6 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.15 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	2.675E+01	3.395E+00	8.293E-01	7.817E-02	32.262
CD-109	+	88.03	*	2.710E+00	1.695E+00	1.871E+00	2.082E-01	1.448
SN-126	+	64.28		1.281E+00	1.016E+00	1.091E+00	1.689E-01	1.175
	+	86.94		1.096E+00	8.163E-01	7.929E-01	3.324E-01	1.382
	+	87.57	*	2.636E-01	1.649E-01	1.900E-01	2.105E-02	1.388
BA-137M	+	661.66	*	1.104E+00	1.623E-01	7.974E-02	6.453E-03	13.843
CS-137	+	661.66	*	1.166E+00	1.716E-01	8.424E-02	6.832E-03	13.843
TL-208		277.37		5.131E-01	5.602E-01	9.040E-01	1.177E-01	0.568
	+	583.19	*	4.928E-01	1.037E-01	6.441E-02	5.881E-03	7.652
		860.56		7.257E-01	4.074E-01	7.579E-01	7.369E-02	0.958
PB-210	+	46.54	*	8.806E+00	8.080E+00	9.677E+00	9.310E-01	0.910
BI-211		72.87		4.174E+00	4.466E+00	6.856E+00	6.589E-01	0.609
	+	351.06	*	4.201E+00	7.158E-01	4.899E-01	4.598E-02	8.576
PB-212	+	74.82		2.537E+00	7.194E-01	7.027E-01	9.681E-02	3.610
	+	77.11		2.242E+00	4.411E-01	4.008E-01	3.986E-02	5.595
	+	238.63	*	1.937E+00	2.502E-01	1.285E-01	1.319E-02	15.077
	+	300.09		2.032E+00	1.420E+00	1.717E+00	1.904E-01	1.184
BI-214	+	609.32	*	1.624E+00	2.592E-01	1.641E-01	1.628E-02	9.900
	+	1120.29		2.345E+00	5.834E-01	5.125E-01	5.535E-02	4.577
	+	1764.49		1.673E+00	5.497E-01	3.454E-01	2.978E-02	4.844
PB-214	+	74.82		4.496E+00	1.250E+00	1.245E+00	1.566E-01	3.610
	+	77.11		3.953E+00	8.432E-01	7.065E-01	9.128E-02	5.595
	+	242.00		2.902E+00	9.066E-01	7.819E-01	8.501E-02	3.711
	+	295.22		1.628E+00	3.434E-01	3.033E-01	3.443E-02	5.368
	+	351.93	*	1.525E+00	2.730E-01	1.643E-01	1.787E-02	9.280
RA-224	+	240.99	*	5.131E+00	1.575E+00	1.378E+00	1.267E-01	3.725
RA-226	+	609.32	*	1.624E+00	2.592E-01	1.641E-01	1.628E-02	9.900
	+	1120.29		2.345E+00	5.834E-01	5.125E-01	5.535E-02	4.577
	+	1764.49		1.673E+00	5.497E-01	3.454E-01	2.978E-02	4.844
AC-228	+	338.32		1.867E+00	9.054E-01	5.035E-01	2.105E-01	3.708
	+	911.20	*	1.722E+00	4.613E-01	3.302E-01	3.988E-02	5.214
	+	968.97		2.037E+00	7.180E-01	4.639E-01	1.139E-01	4.391
RA-228	+	338.32		1.867E+00	9.054E-01	5.035E-01	2.105E-01	3.708
	+	911.20	*	1.722E+00	4.613E-01	3.302E-01	3.988E-02	5.214

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	968.97		2.037E+00	7.180E-01	4.639E-01	1.139E-01	4.391
	+	74.82		2.537E+00	6.764E-01	7.027E-01	6.904E-02	3.610
	+	77.11		2.242E+00	4.411E-01	4.008E-01	3.986E-02	5.595
	+	238.63	*	1.937E+00	2.502E-01	1.285E-01	1.319E-02	15.077
TH-232	+	300.09		2.032E+00	1.875E+00	1.717E+00	1.053E+00	1.184
	+	338.32		1.867E+00	4.890E-01	5.035E-01	4.570E-02	3.708
	+	911.20	*	1.722E+00	4.613E-01	3.302E-01	3.988E-02	5.214
	+	968.97		2.037E+00	7.180E-01	4.639E-01	1.139E-01	4.391
TH-234	+	63.29	*	3.325E+00	2.658E+00	2.879E+00	5.352E-01	1.155
	+	92.59		4.412E+00	1.670E+00	1.433E+00	3.275E-01	3.078
NP-237	+	86.48	*	7.867E-01	5.189E-01	5.132E-01	1.214E-01	1.533
		95.86		-2.158E-01	2.266E+00	1.820E+00	4.465E-01	-0.119
U-238	+	63.29	*	3.325E+00	2.658E+00	2.879E+00	5.352E-01	1.155
	+	92.59		4.412E+00	1.408E+00	1.433E+00	1.495E-01	3.078

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	8.910E-02	4.625E-01	7.900E-01	7.378E-02	0.113
NA-22		1274.54	*	-3.240E-02	6.404E-02	9.877E-02	8.678E-03	-0.328
NA-24		1368.63	*	1.156E+01	6.404E-02	Half-Life too short		
SC-46		889.28	*	-4.060E-04	5.410E-02	8.707E-02	8.047E-03	-0.005
V-48	+	1120.55		4.071E-01	9.752E-02	1.787E-01	1.513E-02	2.279
		944.13		-1.366E-01	1.354E+00	2.248E+00	2.069E-01	-0.061
		983.53	*	3.297E-02	9.996E-02	1.731E-01	1.575E-02	0.190
		1312.11		-2.362E-02	1.282E-01	2.045E-01	1.844E-02	-0.116
CR-51		320.08	*	1.599E-01	5.515E-01	9.198E-01	8.855E-02	0.174
MN-54		834.85	*	-1.680E-02	5.225E-02	8.186E-02	7.377E-03	-0.205
CO-56		846.77	*	1.695E-02	5.546E-02	9.252E-02	8.387E-03	0.183
		1037.84		-1.192E-01	3.963E-01	6.371E-01	5.949E-02	-0.187
		1238.28		3.942E-03	1.380E-01	2.272E-01	1.998E-02	0.017
		1771.35		-1.236E+00	5.215E-01	5.250E-01	4.513E-02	-2.354
CO-57		122.06	*	1.878E-02	3.127E-02	5.178E-02	4.360E-03	0.363
		136.47		5.914E-02	2.752E-01	4.448E-01	3.994E-02	0.133
CO-58		810.76	*	-4.802E-02	5.451E-02	7.962E-02	7.103E-03	-0.603
FE-59		1099.45	*	5.208E-02	1.272E-01	2.198E-01	2.043E-02	0.237
		1291.59		1.582E-01	1.849E-01	3.306E-01	3.313E-02	0.479
CO-60		1173.23		1.183E-03	6.484E-02	1.071E-01	8.687E-03	0.011
		1332.49	*	-3.326E-02	5.554E-02	8.295E-02	7.587E-03	-0.401
ZN-65		1115.54	*	6.086E-02	1.165E-01	1.808E-01	1.538E-02	0.337
SE-75		121.12		-9.963E-03	1.686E-01	2.706E-01	2.963E-02	-0.037
		136.00		3.679E-02	5.314E-02	8.773E-02	7.358E-03	0.419
		264.66	*	1.229E-02	6.346E-02	9.887E-02	9.227E-03	0.124
		279.54		-1.464E-01	1.524E-01	2.371E-01	2.280E-02	-0.618
SR-85		400.66		-2.210E-01	3.571E-01	5.484E-01	6.027E-02	-0.403
		514.00	*	-2.372E-01	7.320E-02	9.569E-02	8.302E-03	-2.479
Y-88		898.04		-5.156E-03	5.157E-02	8.196E-02	7.634E-03	-0.063
		1836.06	*	-9.671E-03	3.161E-02	4.684E-02	3.915E-03	-0.206

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	1204.77	*		-9.245E+00	2.911E+01	4.624E+01	3.847E+00	-0.200
NB-94	702.65	*		-2.728E-04	4.739E-02	7.736E-02	6.447E-03	-0.004
	871.09			5.813E-03	4.258E-02	6.984E-02	6.403E-03	0.083
NB-95	765.81	*		4.710E-02	6.366E-02	1.099E-01	9.537E-03	0.429
NB-95M	235.69	*		2.570E-01	1.929E-01	3.046E-01	3.156E-02	0.844
ZR-95	724.19			-2.404E-01	1.484E-01	2.076E-01	1.909E-02	-1.158
	756.73	*		1.953E-02	9.584E-02	1.596E-01	1.521E-02	0.122
MO-99	140.51			-2.586E+01	6.714E+01	1.033E+02	2.441E+01	-0.250
	181.07			8.888E+00	5.604E+01	8.459E+01	1.590E+01	0.105
	366.42			-9.406E+01	3.046E+02	4.841E+02	4.258E+01	-0.194
	739.50	*		-1.376E+01	3.681E+01	5.787E+01	9.094E+00	-0.238
	777.92			4.823E+01	9.497E+01	1.631E+02	1.425E+01	0.296
TC-99M	140.51	*		-1.148E+14	9.497E+01	Half-Life	too short	
RU-103	497.08	*		-5.990E-03	5.336E-02	8.896E-02	1.246E-02	-0.067
	610.33		+	1.771E+01	3.630E+00	4.132E+00	6.707E-01	4.287
RH-106	621.93	*		1.223E-02	3.990E-01	6.626E-01	8.664E-02	0.018
	1050.41			-4.669E+00	3.375E+00	4.659E+00	4.122E-01	-1.002
RU-106	621.93	*		1.223E-02	3.990E-01	6.626E-01	5.525E-02	0.018
	1050.41			-4.669E+00	3.375E+00	4.659E+00	4.122E-01	-1.002
AG-108M	433.94	*		-2.766E-02	4.207E-02	6.392E-02	5.680E-03	-0.433
	614.28			7.462E-02	5.077E-02	8.486E-02	7.357E-03	0.879
	722.91			-8.267E-02	5.617E-02	7.943E-02	6.934E-03	-1.041
AG-110M	657.76	*		6.732E-02	5.060E-02	8.398E-02	7.048E-03	0.802
	677.62			-1.385E-01	4.115E-01	6.555E-01	5.538E-02	-0.211
	706.68			-1.126E-02	2.718E-01	4.441E-01	3.825E-02	-0.025
	763.94			-2.819E-01	2.424E-01	3.519E-01	3.133E-02	-0.801
	884.68			-1.394E-02	6.797E-02	1.070E-01	1.014E-02	-0.130
	937.49			-5.691E-02	1.485E-01	2.396E-01	2.278E-02	-0.237
	1384.29			1.211E-01	1.914E-01	3.112E-01	2.927E-02	0.389
	1505.03			-4.785E-01	3.977E-01	4.942E-01	4.534E-02	-0.968
SN-113	391.69	*		-4.190E-02	6.726E-02	1.039E-01	9.067E-03	-0.403
CD-115	260.90			-2.305E-04	6.726E-02	Half-Life	too short	
	492.35			-1.010E-05	6.726E-02	Half-Life	too short	
	527.90	*		2.086E-05	6.726E-02	Half-Life	too short	
SN-117M	156.02			-2.116E+00	3.431E+00	5.263E+00	4.415E-01	-0.402
	158.56	*		-2.626E-02	8.403E-02	1.280E-01	1.076E-02	-0.205
TE-123M	159.00	*		-8.935E-03	3.775E-02	5.776E-02	4.887E-03	-0.155
SB-124	602.73			1.976E-02	6.281E-02	9.334E-02	7.874E-03	0.212
	645.85			1.297E-01	6.998E-01	1.174E+00	1.023E-01	0.110
	722.78			-8.791E-01	5.836E-01	8.216E-01	7.106E-02	-1.070
	1690.97	*		8.004E-02	1.045E-01	1.983E-01	1.824E-02	0.404
SB-125	427.87	*		5.792E-02	1.288E-01	2.138E-01	1.871E-02	0.271
	463.37		+	8.986E-01	5.984E-01	7.984E-01	7.434E-02	1.126
	600.60			-1.001E-01	2.595E-01	3.982E-01	3.621E-02	-0.251
	635.95			-2.551E-02	3.711E-01	6.100E-01	5.482E-02	-0.042
TE-125M	109.28	*		-6.910E+00	1.320E+01	2.030E+01	2.187E+00	-0.340
I-126	388.63			8.850E-02	2.921E-01	4.820E-01	4.096E-02	0.184
	666.33	*		-1.613E-01	4.183E-01	5.684E-01	4.615E-02	-0.284
	753.82			5.058E-01	2.944E+00	4.883E+00	4.206E-01	0.104

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-126	414.70			9.500E-02	1.346E-01	2.268E-01	1.939E-02	0.419
	666.50			-6.297E-02	1.442E-01	1.946E-01	1.580E-02	-0.324
	695.00			5.192E-02	1.319E-01	2.236E-01	1.853E-02	0.232
	697.00			-3.357E-01	4.782E-01	7.388E-01	6.133E-02	-0.454
	720.70	*		-1.443E-01	2.294E-01	3.525E-01	2.974E-02	-0.409
SB-127	856.80			-9.055E-01	8.028E-01	1.134E+00	1.032E-01	-0.799
	252.40			-3.144E+00	9.941E+00	1.610E+01	6.750E+00	-0.195
	473.00			-4.999E-01	4.404E+00	6.966E+00	9.522E-01	-0.072
	685.70	*		-4.126E-01	3.116E+00	5.060E+00	6.107E-01	-0.082
	783.70			4.079E+00	7.696E+00	1.317E+01	1.758E+00	0.310
I-131	80.19			-2.996E+00	7.917E+00	1.136E+01	1.170E+00	-0.264
	284.31			3.067E-01	2.595E+00	4.313E+00	4.203E-01	0.071
	364.49	*		-5.043E-02	2.176E-01	3.480E-01	3.235E-02	-0.145
TE-132	636.99			-8.848E-01	2.767E+00	4.444E+00	3.907E-01	-0.199
	49.72			-9.069E+00	6.573E+01	9.780E+01	1.230E+01	-0.093
	111.76			-1.441E+01	8.340E+01	1.336E+02	1.616E+01	-0.108
	116.30			7.305E+01	7.422E+01	1.243E+02	1.484E+01	0.588
	228.16	*		-2.201E+00	1.812E+00	2.768E+00	4.634E-01	-0.795
BA-133	81.00			-4.640E-02	1.404E-01	1.835E-01	3.032E-02	-0.253
	276.40			7.644E-01	5.495E-01	8.637E-01	1.256E-01	0.885
	302.85			-9.239E-02	2.175E-01	3.021E-01	4.082E-02	-0.306
	356.01	*		-4.275E-02	6.483E-02	8.596E-02	1.130E-02	-0.497
	383.85			-1.816E-01	4.109E-01	6.434E-01	7.971E-02	-0.282
I-133	529.87	*		9.501E-02	4.109E-01	Half-Life	too short	
	875.33			-2.739E-01	4.109E-01	Half-Life	too short	
	1298.22			1.349E+00	4.109E-01	Half-Life	too short	
CS-134	563.25			2.623E-01	4.858E-01	8.427E-01	7.302E-02	0.311
	569.33			-8.972E-02	2.628E-01	4.237E-01	3.678E-02	-0.212
	604.72			2.746E-02	5.122E-02	7.807E-02	6.595E-03	0.352
	795.86	*		1.284E-01	6.475E-02	1.220E-01	1.084E-02	1.053
	801.95			-1.206E-02	5.112E-01	8.318E-01	7.408E-02	-0.015
CS-135	1365.19			-9.848E-01	1.644E+00	2.412E+00	2.304E-01	-0.408
	268.22	*		2.413E-01	2.350E-01	3.663E-01	3.868E-02	0.659
I-135	546.56			-2.162E+13	2.350E-01	Half-Life	too short	
	836.80			-1.438E+13	2.350E-01	Half-Life	too short	
	1038.76			-2.846E+13	2.350E-01	Half-Life	too short	
	1131.51			6.629E+12	2.350E-01	Half-Life	too short	
	1260.41	*		2.186E+12	2.350E-01	Half-Life	too short	
	1457.56			1.955E+15	2.350E-01	Half-Life	too short	
	1678.03			-1.981E+13	2.350E-01	Half-Life	too short	
	1791.20			1.043E+12	2.350E-01	Half-Life	too short	
CS-136	153.25			1.186E+00	1.335E+00	2.206E+00	2.220E-01	0.537
	176.60			-3.859E-01	7.712E-01	1.279E+00	1.212E-01	-0.302
	273.65			-3.500E-01	9.620E-01	1.360E+00	1.359E-01	-0.257
	340.55			4.868E-01	2.687E-01	4.343E-01	4.071E-02	1.121
	818.51			8.631E-03	1.250E-01	2.041E-01	1.826E-02	0.042
	1048.07	*		-2.124E-01	1.719E-01	2.445E-01	2.253E-02	-0.869
	1235.36			8.771E-01	9.805E-01	1.726E+00	2.019E-01	0.508
CE-139	165.86	*		-5.427E-03	4.098E-02	6.440E-02	5.447E-03	-0.084

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-140	162.66			6.322E-01	1.265E+00	2.014E+00	1.818E-01	0.314
	304.85			2.587E-01	2.459E+00	3.576E+00	1.054E+00	0.072
	423.72			-5.705E-01	3.190E+00	5.052E+00	1.661E+00	-0.113
	537.26	*		2.716E-01	4.158E-01	7.141E-01	2.422E-01	0.380
LA-140	328.76			5.713E-01	5.093E-01	8.812E-01	8.472E-02	0.648
	487.02			-3.421E-03	2.075E-01	3.491E-01	3.216E-02	-0.010
	815.77			5.117E-01	5.320E-01	9.419E-01	9.329E-02	0.543
	1596.21	*		-1.856E-01	1.489E-01	1.960E-01	1.776E-02	-0.947
CE-141	145.44	*		-6.368E-02	8.719E-02	1.336E-01	1.135E-02	-0.477
CE-143	57.36			-4.817E-03	8.719E-02	Half-Life	too short	
	293.27	*		2.742E-03	8.719E-02	Half-Life	too short	
	664.57			5.731E-02	8.719E-02	Half-Life	too short	
	721.93			-7.215E-03	8.719E-02	Half-Life	too short	
CE-144	80.12			-1.346E+00	3.290E+00	4.712E+00	4.819E-01	-0.286
	133.52	*		1.565E-02	2.961E-01	4.235E-01	6.404E-02	0.037
PM-144	476.78			-2.715E-02	9.215E-02	1.523E-01	1.435E-02	-0.178
	618.01			-3.384E-02	4.386E-02	6.770E-02	5.828E-03	-0.500
	696.49	*		-2.849E-02	5.095E-02	7.973E-02	6.619E-03	-0.357
PR-144	696.51	*		-2.154E+00	3.818E+00	5.971E+00	4.955E-01	-0.361
	1489.16			-2.680E+00	1.513E+01	2.354E+01	2.162E+00	-0.114
PM-146	453.88	*		6.334E-02	6.141E-02	1.053E-01	1.118E-02	0.601
	633.25			1.429E+00	1.955E+00	3.307E+00	1.261E+00	0.432
	735.93			-2.667E-02	1.940E-01	3.128E-01	8.756E-02	-0.085
	747.24			-1.083E-01	1.302E-01	1.930E-01	2.810E-02	-0.561
ND-147	91.11			8.838E-01	5.681E-01	8.254E-01	9.265E-02	1.071
	319.41			-1.820E+00	5.727E+00	9.200E+00	8.472E-01	-0.198
	531.02	*		-1.119E-01	9.257E-01	1.536E+00	2.299E-01	-0.073
	285.90	*		-2.947E-04	9.257E-01	Half-Life	too short	
PM-149	121.78			7.568E-03	9.038E-02	1.460E-01	1.422E-02	0.052
	244.70			1.508E-01	4.677E-01	7.015E-01	6.465E-02	0.215
	344.28	*		-8.134E-02	1.402E-01	2.112E-01	2.010E-02	-0.385
	778.90			-4.527E-02	3.154E-01	5.053E-01	4.419E-02	-0.090
EU-152	964.08			9.599E-01	4.072E-01	7.900E-01	7.231E-02	1.215
	1085.87			-2.986E-01	5.316E-01	8.276E-01	7.175E-02	-0.361
	1112.07			1.134E-01	3.784E-01	5.894E-01	5.022E-02	0.192
	1408.01			1.675E-01	2.731E-01	4.786E-01	4.402E-02	0.350
GD-153	69.67			3.734E-01	2.365E+00	3.748E+00	3.525E-01	0.100
	97.43	*		6.058E-02	1.149E-01	1.719E-01	1.697E-02	0.352
	103.18			-5.068E-02	1.391E-01	2.216E-01	2.075E-02	-0.229
EU-154	123.07			-6.409E-03	6.480E-02	1.037E-01	1.160E-02	-0.062
	723.31			-4.985E-01	2.682E-01	3.634E-01	3.394E-02	-1.372
	873.19			1.293E-01	3.404E-01	5.742E-01	7.065E-02	0.225
	996.26			-5.896E-01	4.932E-01	6.990E-01	1.237E-01	-0.843
EU-155	1004.73			-1.758E-01	2.755E-01	4.267E-01	5.097E-02	-0.412
	1274.44	*		-6.986E-02	1.791E-01	2.801E-01	3.221E-02	-0.249
	86.55	+		3.201E-01	2.002E-01	2.361E-01	2.601E-02	1.356
	105.31	*		1.079E-01	1.331E-01	2.230E-01	2.076E-02	0.484
TB-160	86.79	+		8.740E-01	5.466E-01	6.438E-01	7.067E-02	1.358
	197.04			7.803E-01	7.979E-01	1.393E+00	1.228E-01	0.560

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		215.65		2.484E-01	9.988E-01	1.695E+00	1.526E-01	0.147
		298.57		2.037E-01	1.634E-01	2.848E-01	2.646E-02	0.715
		879.36	*	-1.575E-02	1.829E-01	2.919E-01	2.686E-02	-0.054
		962.29		6.592E-01	7.721E-01	1.242E+00	1.138E-01	0.531
	+	966.15		7.092E-01	3.498E-01	6.968E-01	6.374E-02	1.018
		1177.93		4.368E-01	5.422E-01	9.590E-01	7.806E-02	0.456
		1271.85		-1.586E-01	9.941E-01	1.597E+00	1.399E-01	-0.099
		80.57		-1.846E-01	3.632E-01	5.172E-01	5.312E-02	-0.357
		184.41		1.531E-01	5.386E-02	8.954E-02	7.764E-03	1.709
		280.46		-1.090E-01	1.175E-01	1.833E-01	1.708E-02	-0.595
		410.95		2.144E-01	3.645E-01	6.099E-01	5.204E-02	0.351
		711.68	*	-1.146E-02	7.995E-02	1.293E-01	1.084E-02	-0.089
TA-182		752.31		2.214E-01	3.728E-01	6.416E-01	5.522E-02	0.345
		810.29		-5.582E-02	7.840E-02	1.170E-01	1.041E-02	-0.477
		67.75		-6.399E-02	1.690E-01	2.433E-01	2.263E-02	-0.263
		100.11		-1.024E-01	2.231E-01	3.542E-01	3.405E-02	-0.289
		152.43		2.895E-01	4.704E-01	7.698E-01	6.442E-02	0.376
		222.11		-4.475E-02	4.730E-01	7.888E-01	7.147E-02	-0.057
	+	1121.30		1.120E+00	2.683E-01	4.847E-01	4.103E-02	2.311
		1189.05		-3.775E-02	4.460E-01	7.286E-01	5.985E-02	-0.052
		1221.41	*	-8.195E-02	2.648E-01	4.210E-01	3.549E-02	-0.195
		1231.02		1.597E-01	6.971E-01	1.169E+00	9.930E-02	0.137
	+	295.96		1.240E+00	2.490E-01	4.054E-01	3.793E-02	3.058
		308.46		7.825E-02	1.397E-01	2.368E-01	2.202E-02	0.330
IR-192		316.51	*	-5.784E-03	4.728E-02	7.693E-02	7.109E-03	-0.075
		468.07		-8.476E-03	1.055E-01	1.541E-01	1.432E-02	-0.055
		70.83		1.533E+00	1.996E+00	3.038E+00	5.023E-01	0.505
HG-203		72.87		1.089E+00	1.173E+00	1.788E+00	2.880E-01	0.609
		279.20	*	-4.063E-02	5.516E-02	8.719E-02	8.298E-03	-0.466
		72.81		2.270E-01	2.568E-01	3.936E-01	3.781E-02	0.577
BI-207	+	74.97		7.312E-01	1.948E-01	2.889E-01	2.822E-02	2.531
		569.70		-5.443E-03	4.214E-02	6.922E-02	5.927E-03	-0.079
		1063.66	*	3.763E-02	6.918E-02	1.214E-01	1.067E-02	0.310
PB-211		1770.23		-2.997E+00	1.095E+00	1.035E+00	8.905E-02	-2.894
		404.85	*	-2.010E-01	1.014E+00	1.606E+00	7.769E-01	-0.125
		427.09		9.333E-02	2.147E+00	3.463E+00	1.602E+00	0.027
BI-212		832.01		2.121E-01	1.337E+00	2.194E+00	1.139E+00	0.097
		727.33	*	1.801E+00	8.410E-01	1.537E+00	1.899E-01	1.172
		785.37		2.970E+00	4.023E+00	7.012E+00	6.155E-01	0.424
RN-219		1620.50		2.279E+00	3.218E+00	6.008E+00	5.416E-01	0.379
	+	271.23		8.531E-01	5.409E-01	6.112E-01	6.624E-02	1.396
		401.81	*	3.893E-01	5.506E-01	9.300E-01	1.377E-01	0.419
RA-223		81.07		-1.093E-01	3.174E-01	4.148E-01	4.281E-02	-0.263
		83.79		-1.126E-02	1.781E-01	2.600E-01	2.761E-02	-0.043
		94.87		1.150E+00	6.379E-01	1.001E+00	1.016E-01	1.148
		144.24		-4.400E-01	9.006E-01	1.379E+00	1.292E-01	-0.319
		154.21		1.908E-01	5.022E-01	8.131E-01	7.500E-02	0.235
	+	269.46		6.629E-01	4.188E-01	4.664E-01	4.413E-02	1.421
		323.87	*	-6.191E-01	9.353E-01	1.461E+00	2.573E-01	-0.424

---- 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		7.408E+00	2.039E+00	3.066E+00	3.803E-01	2.416
		79.69		-1.198E+00	1.663E+00	2.323E+00	4.196E-01	-0.516
		235.96		3.819E-01	2.388E-01	3.788E-01	4.091E-02	1.008
		256.23	*	4.139E-02	3.356E-01	5.612E-01	7.027E-02	0.074
TH-227	+	299.98		2.235E+00	1.570E+00	2.207E+00	2.905E-01	1.013
		304.50		4.888E-01	2.425E+00	3.555E+00	6.001E-01	0.137
		334.37		4.917E-01	2.580E+00	3.756E+00	5.957E-01	0.131
		79.80		-1.569E+00	2.201E+00	3.061E+00	6.871E-01	-0.513
TH-229		235.96		3.819E-01	2.384E-01	3.788E-01	3.879E-02	1.008
		256.23	*	4.139E-02	3.356E-01	5.612E-01	7.871E-02	0.074
	+	299.98		2.235E+00	1.570E+00	2.207E+00	2.905E-01	1.013
		304.50		4.888E-01	2.425E+00	3.555E+00	6.001E-01	0.137
PA-231		334.37		4.917E-01	2.580E+00	3.756E+00	5.957E-01	0.131
		85.43		2.666E-01	3.001E-01	4.559E-01	4.928E-02	0.585
	+	88.47		4.064E-01	2.542E-01	2.932E-01	3.240E-02	1.386
		193.51	*	-1.556E-02	6.930E-01	1.168E+00	1.025E-01	-0.013
TH-231		210.85		1.299E+00	1.312E+00	2.053E+00	1.839E-01	0.633
		283.69	*	1.149E+00	1.892E+00	3.223E+00	4.836E-01	0.357
	+	301.36		1.436E+00	1.007E+00	1.359E+00	1.717E-01	1.057
		81.07		-1.093E-01	3.174E-01	4.148E-01	4.281E-02	-0.263
PA-233		83.79		-1.126E-02	1.781E-01	2.600E-01	2.761E-02	-0.043
		94.87		1.150E+00	6.379E-01	1.001E+00	1.016E-01	1.148
		144.24		-4.400E-01	9.006E-01	1.379E+00	1.292E-01	-0.319
		154.21		1.908E-01	5.022E-01	8.131E-01	7.500E-02	0.235
PA-234	+	269.46		6.629E-01	4.188E-01	4.664E-01	4.413E-02	1.421
		223.87	*	-6.191E-01	9.353E-01	1.461E+00	2.573E-01	-0.424
	+	338.28		7.408E+00	2.039E+00	3.066E+00	3.803E-01	2.416
	+	300.13		1.012E+00	7.144E-01	9.964E-01	1.517E-01	1.015
PA-234M		311.90	*	-4.385E-02	8.787E-02	1.396E-01	1.322E-02	-0.314
		340.48		2.238E+00	1.093E+00	1.611E+00	3.902E-01	1.390
		94.67		5.500E-01	2.439E-01	3.793E-01	5.130E-02	1.450
		98.44		2.839E-02	1.181E-01	1.836E-01	1.027E-01	0.155
U-235		111.00		-6.518E-02	2.401E-01	3.737E-01	4.585E-02	-0.174
		131.20		-2.522E-02	1.495E-01	2.108E-01	1.757E-02	-0.120
		569.50		-7.715E-02	3.649E-01	5.951E-01	5.096E-02	-0.130
		733.00		-7.546E-01	5.665E-01	7.693E-01	1.704E-01	-0.981
PA-234M		880.51		6.629E-02	3.686E-01	6.066E-01	5.584E-02	0.109
		883.24		4.094E-02	3.754E-01	6.112E-01	4.113E-01	0.067
		926.50		-6.815E-02	2.224E-01	3.421E-01	8.721E-02	-0.199
		946.00	*	3.385E-01	3.989E-01	7.156E-01	1.362E-01	0.473
U-235		949.00		1.065E-01	5.997E-01	1.023E+00	9.402E-02	0.104
		766.42		1.620E+01	1.873E+01	2.953E+01	1.498E+01	0.549
		1001.03	*	5.924E+00	-6.154E+00	1.111E+01	1.148E+00	0.533
		89.96		1.466E+00	1.559E+00	1.870E+00	4.762E-01	0.784
U-235	+	93.35		3.333E+00	1.281E+00	1.376E+00	3.274E-01	2.422
		143.76	*	-1.495E-02	2.688E-01	4.212E-01	7.080E-02	-0.035
		163.33		-8.191E-02	5.917E-01	9.117E-01	1.629E-01	-0.090
	+	185.72		2.306E-01	1.006E-01	1.224E-01	1.063E-02	1.885
U-235		205.31		-2.643E-02	6.740E-01	9.973E-01	1.823E-01	-0.026

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	99.53			-2.472E-02	2.018E-01	3.260E-01	3.151E-02	-0.076
	103.37			-3.610E-02	1.257E-01	2.011E-01	1.880E-02	-0.180
	106.12			1.184E-01	1.055E-01	1.788E-01	1.637E-02	0.662
	117.23	*		1.913E-02	5.218E-01	8.428E-01	7.237E-02	0.023
	228.18			-3.536E-01	2.697E-01	4.161E-01	3.791E-02	-0.850
	277.60			1.487E-01	2.495E-01	4.121E-01	3.837E-02	0.361
AM-241	59.54	*		1.812E-01	2.400E-01	3.707E-01	3.519E-02	0.489
CM-247	278.00			4.178E-01	1.063E+00	1.737E+00	1.617E-01	0.241
	287.50			1.788E-01	1.688E+00	2.801E+00	2.608E-01	0.064
CF-249	402.40	*		3.950E-02	5.009E-02	8.536E-02	7.255E-03	0.463
	252.80			-2.266E-01	1.242E+00	2.044E+00	1.891E-01	-0.111
	333.37			1.889E-01	2.723E-01	4.128E-01	3.763E-02	0.458
CF-251	388.16	*		1.014E-02	5.880E-02	9.625E-02	8.186E-03	0.105
	177.52	*		1.290E-01	1.658E-01	2.898E-01	2.489E-02	0.445
	227.38			-5.646E-01	4.411E-01	6.822E-01	6.211E-02	-0.828
ANH-511	285.41			-2.406E+00	3.023E+00	4.747E+00	4.420E-01	-0.507
	511.00	*		1.251E-01	6.302E-02	1.221E-01	1.060E-02	1.025

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]G248051005
* Acquisition date   : 10-MAR-2010 17:53:13 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 02:00:01.15 Half life ratio : 8.000
*****
*                               SAMPLE DATA                             *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051005 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.0455E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                                *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 16-FEB-2010 15:10:04 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	2.675E+01	3.327E+00	8.233E-01	0.000E+00
CD-109	2.710E+00	1.661E+00	1.883E+00	0.000E+00
SN-126	2.636E-01	1.616E-01	1.911E-01	0.000E+00
BA-137M	1.104E+00	1.591E-01	7.946E-02	0.000E+00
CS-137	1.166E+00	1.682E-01	8.395E-02	0.000E+00
TL-208	4.928E-01	1.016E-01	6.422E-02	0.000E+00
PB-210	8.806E+00	7.919E+00	9.764E+00	0.000E+00
BI-211	4.201E+00	7.014E-01	4.896E-01	0.000E+00
PB-212	1.937E+00	2.451E-01	1.286E-01	0.000E+00
BI-214	1.624E+00	2.540E-01	1.635E-01	0.000E+00
PB-214	1.525E+00	2.676E-01	1.642E-01	0.000E+00
RA-224	5.131E+00	1.544E+00	1.379E+00	0.000E+00
RA-226	1.624E+00	2.540E-01	1.635E-01	0.000E+00
AC-228	1.722E+00	4.520E-01	3.286E-01	0.000E+00
RA-228	1.722E+00	4.520E-01	3.286E-01	0.000E+00
TH-228	1.937E+00	2.451E-01	1.286E-01	0.000E+00
TH-232	1.722E+00	4.520E-01	3.286E-01	0.000E+00
TH-234	3.325E+00	2.605E+00	2.901E+00	0.000E+00
NP-237	7.867E-01	5.085E-01	5.163E-01	0.000E+00
U-238	3.325E+00	2.605E+00	2.901E+00	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	8.910E-02	4.532E-01	7.884E-01	0.000E+00 NOT IDENT.
NA-22	-3.240E-02	6.276E-02	9.812E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.952E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-4.060E-04	5.301E-02	8.665E-02	0.000E+00 FAIL ABUN
V-48	3.297E-02	9.796E-02	1.722E-01	0.000E+00 NOT IDENT.
CR-51	1.599E-01	5.405E-01	9.197E-01	0.000E+00 NOT IDENT.
MN-54	-1.680E-02	5.120E-02	8.149E-02	0.000E+00 NOT IDENT.

CO-56	1.695E-02	5.435E-02	9.209E-02	0.000E+00	NOT IDENT.
CO-57	1.878E-02	3.064E-02	5.201E-02	0.000E+00	NOT IDENT.
CO-58	-4.802E-02	5.342E-02	7.927E-02	0.000E+00	NOT IDENT.
FE-59	5.208E-02	1.246E-01	2.185E-01	0.000E+00	NOT IDENT.
CO-60	-3.326E-02	5.443E-02	8.239E-02	0.000E+00	NOT IDENT.
ZN-65	6.086E-02	1.142E-01	1.797E-01	0.000E+00	NOT IDENT.
SE-75	1.229E-02	6.219E-02	9.895E-02	0.000E+00	NOT IDENT.
SR-85	-2.372E-01	7.174E-02	9.547E-02	0.000E+00	NOT IDENT.
Y-88	-9.671E-03	3.098E-02	4.645E-02	0.000E+00	NOT IDENT.
Y-91	-9.245E+00	2.853E+01	4.595E+01	0.000E+00	NOT IDENT.
NB-94	-2.728E-04	4.644E-02	7.707E-02	0.000E+00	NOT IDENT.
NB-95	4.710E-02	6.239E-02	1.094E-01	0.000E+00	NOT IDENT.
NB-95M	2.570E-01	1.890E-01	3.050E-01	0.000E+00	NOT IDENT.
ZR-95	1.953E-02	9.393E-02	1.589E-01	0.000E+00	NOT IDENT.
MO-99	-1.376E+01	3.607E+01	5.764E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.936E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-5.990E-03	5.229E-02	8.877E-02	0.000E+00	FAIL ABUN
RH-106	1.223E-02	3.910E-01	6.605E-01	0.000E+00	NOT IDENT.
RU-106	1.223E-02	3.910E-01	6.605E-01	0.000E+00	NOT IDENT.
AG-108M	-2.766E-02	4.123E-02	6.383E-02	0.000E+00	NOT IDENT.
AG-110M	6.732E-02	4.959E-02	8.369E-02	0.000E+00	NOT IDENT.
SN-113	-4.190E-02	6.592E-02	1.038E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.145E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-2.626E-02	8.234E-02	1.284E-01	0.000E+00	NOT IDENT.
TE-123M	-8.935E-03	3.700E-02	5.794E-02	0.000E+00	NOT IDENT.
SB-124	8.004E-02	1.024E-01	1.967E-01	0.000E+00	NOT IDENT.
SB-125	5.792E-02	1.262E-01	2.135E-01	0.000E+00	FAIL ABUN
TE-125M	-6.910E+00	1.294E+01	2.040E+01	0.000E+00	NOT IDENT.
I-126	-1.613E-01	4.099E-01	5.664E-01	0.000E+00	NOT IDENT.
SB-126	-1.443E-01	2.248E-01	3.512E-01	0.000E+00	NOT IDENT.
SB-127	-4.126E-01	3.053E+00	5.041E+00	0.000E+00	NOT IDENT.
I-131	-5.043E-02	2.132E-01	3.478E-01	0.000E+00	NOT IDENT.
TE-132	-2.201E+00	1.775E+00	2.773E+00	0.000E+00	NOT IDENT.
BA-133	-4.275E-02	6.354E-02	8.591E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	9.711E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.345E-02	1.215E-01	0.000E+00	NOT IDENT.
CS-135	2.413E-01	2.303E-01	3.666E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.524E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.124E-01	1.684E-01	2.432E-01	0.000E+00	NOT IDENT.
CE-139	-5.427E-03	4.016E-02	6.460E-02	0.000E+00	NOT IDENT.
BA-140	2.716E-01	4.075E-01	7.123E-01	0.000E+00	NOT IDENT.
LA-140	-1.856E-01	1.459E-01	1.945E-01	0.000E+00	NOT IDENT.
CE-141	-6.368E-02	8.545E-02	1.341E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.263E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.565E-02	2.902E-01	4.252E-01	0.000E+00	NOT IDENT.
PM-144	-2.849E-02	4.994E-02	7.943E-02	0.000E+00	NOT IDENT.
PR-144	-2.154E+00	3.742E+00	5.949E+00	0.000E+00	NOT IDENT.
PM-146	6.334E-02	6.018E-02	1.051E-01	0.000E+00	NOT IDENT.
ND-147	-1.119E-01	9.072E-01	1.532E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	3.312E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-8.134E-02	1.374E-01	2.112E-01	0.000E+00	NOT IDENT.
GD-153	6.058E-02	1.126E-01	1.729E-01	0.000E+00	NOT IDENT.
EU-154	-6.986E-02	1.756E-01	2.782E-01	0.000E+00	NOT IDENT.
EU-155	1.079E-01	1.304E-01	2.242E-01	0.000E+00	FAIL ABUN
TB-160	-1.575E-02	1.793E-01	2.905E-01	0.000E+00	FAIL ABUN
HO-166M	-1.146E-02	7.835E-02	1.288E-01	0.000E+00	NOT IDENT.
TA-182	-8.195E-02	2.595E-01	4.183E-01	0.000E+00	FAIL ABUN
IR-192	-5.784E-03	4.633E-02	7.693E-02	0.000E+00	FAIL ABUN
HG-203	-4.063E-02	5.406E-02	8.724E-02	0.000E+00	NOT IDENT.
BI-207	3.763E-02	6.779E-02	1.207E-01	0.000E+00	FAIL ABUN
PB-211	-2.010E-01	9.942E-01	1.604E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	8.242E-01	1.531E+00	0.000E+00	NOT IDENT.
RN-219	3.893E-01	5.396E-01	9.289E-01	0.000E+00	FAIL ABUN
RA-223	-6.191E-01	9.166E-01	1.460E+00	0.000E+00	FAIL ABUN
AC-227	4.139E-02	3.288E-01	5.617E-01	0.000E+00	FAIL ABUN
TH-227	4.139E-02	3.289E-01	5.617E-01	0.000E+00	FAIL ABUN
TH-229	-1.556E-02	6.792E-01	1.171E+00	0.000E+00	FAIL ABUN
PA-231	1.149E+00	1.854E+00	3.225E+00	0.000E+00	FAIL ABUN
TH-231	-6.191E-01	9.166E-01	1.460E+00	0.000E+00	FAIL ABUN
PA-233	-4.385E-02	8.611E-02	1.396E-01	0.000E+00	FAIL ABUN
PA-234	3.385E-01	3.909E-01	7.119E-01	0.000E+00	NOT IDENT.
PA-234M	5.924E+00	6.031E+00	1.105E+01	0.000E+00	NOT IDENT.
U-235	-1.495E-02	2.634E-01	4.228E-01	0.000E+00	FAIL ABUN
NP-239	1.913E-02	5.114E-01	8.467E-01	0.000E+00	NOT IDENT.
AM-241	1.812E-01	2.352E-01	3.736E-01	0.000E+00	NOT IDENT.
CM-247	3.950E-02	4.909E-02	8.526E-02	0.000E+00	NOT IDENT.
CF-249	1.014E-02	5.763E-02	9.616E-02	0.000E+00	NOT IDENT.
CF-251	1.290E-01	1.625E-01	2.905E-01	0.000E+00	NOT IDENT.

ANH-511

0.000E+00

6.176E-02

1.218E-01

0.000E+00 NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051005.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:53:13
Sample ID          : G248051005           Sample quantity  : 1.04550E+02 GRAM
Detector name      : GAM06                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.15  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 958225               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	1460.82	742	10.66*	9.338E-01	2.675E+01	2.675E+01	12.69
CD-109	88.03	141	3.70*	5.181E+00	2.636E+00	2.710E+00	62.54
SN-126	64.28	94	9.60	2.735E+00	1.281E+00	1.281E+00	79.28
	86.94	141	8.90	5.181E+00	1.096E+00	1.096E+00	74.48
	87.57	141	37.00*	5.181E+00	2.636E-01	2.636E-01	62.54
BA-137M	661.66	528	89.90*	1.912E+00	1.103E+00	1.104E+00	14.71
CS-137	661.66	528	85.10*	1.912E+00	1.165E+00	1.166E+00	14.72
TL-208	277.37	-----	6.60	3.754E+00	-----	Line Not Found	-----
	583.19	248	85.00*	2.125E+00	4.928E-01	4.928E-01	21.05
	860.56	-----	12.50	1.511E+00	-----	Line Not Found	-----
PB-210	46.54	66	4.25*	6.345E-01	8.792E+00	8.806E+00	91.76
BI-211	72.87	-----	1.23	3.914E+00	-----	Line Not Found	-----
	351.06	475	12.92*	3.143E+00	4.201E+00	4.201E+00	17.04
PB-212	74.82	300	10.28	4.127E+00	2.537E+00	2.537E+00	28.36
	77.11	466	17.10	4.362E+00	2.242E+00	2.242E+00	19.67
	238.63	986	43.60*	4.191E+00	1.937E+00	1.937E+00	12.91
	300.09	66	3.30	3.540E+00	2.032E+00	2.032E+00	69.85
BI-214	609.32	422	45.49*	2.050E+00	1.624E+00	1.624E+00	15.96
	1120.29	115	14.92	1.180E+00	2.345E+00	2.345E+00	24.87
	1764.49	59	15.30	8.244E-01	1.673E+00	1.673E+00	32.85
PB-214	74.82	300	5.80	4.127E+00	4.496E+00	4.496E+00	27.80
	77.11	466	9.70	4.362E+00	3.953E+00	3.953E+00	21.33
	242.00	243	7.25	4.155E+00	2.902E+00	2.902E+00	31.24
	295.22	299	18.42	3.584E+00	1.628E+00	1.628E+00	21.09
	351.93	475	35.60*	3.143E+00	1.525E+00	1.525E+00	17.91
RA-224	240.99	243	4.10*	4.155E+00	5.131E+00	5.131E+00	30.70
RA-226	609.32	422	45.49*	2.050E+00	1.624E+00	1.624E+00	15.96
	1120.29	115	14.92	1.180E+00	2.345E+00	2.345E+00	24.87
	1764.49	59	15.30	8.244E-01	1.673E+00	1.673E+00	32.85
AC-228	338.32	190	11.27	3.238E+00	1.867E+00	1.867E+00	48.50
	911.20	177	25.80*	1.433E+00	1.722E+00	1.722E+00	26.79
	968.97	121	15.80	1.352E+00	2.037E+00	2.037E+00	35.25

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	338.32	190	11.27	3.238E+00	1.867E+00	1.867E+00	48.50
	911.20	177	25.80*	1.433E+00	1.722E+00	1.722E+00	26.79
	968.97	121	15.80	1.352E+00	2.037E+00	2.037E+00	35.25
TH-228	74.82	300	10.28	4.127E+00	2.537E+00	2.537E+00	26.67
	77.11	466	17.10	4.362E+00	2.242E+00	2.242E+00	19.67
	238.63	986	43.60*	4.191E+00	1.937E+00	1.937E+00	12.91
TH-232	300.09	66	3.30	3.540E+00	2.032E+00	2.032E+00	92.28
	338.32	190	11.27	3.238E+00	1.867E+00	1.867E+00	26.19
	911.20	177	25.80*	1.433E+00	1.722E+00	1.722E+00	26.79
TH-234	968.97	121	15.80	1.352E+00	2.037E+00	2.037E+00	35.25
	63.29	94	3.70*	2.735E+00	3.325E+00	3.325E+00	79.95
	92.59	285	4.23	5.487E+00	4.412E+00	4.412E+00	37.84
NP-237	86.48	141	12.40*	5.181E+00	7.867E-01	7.867E-01	65.96
	95.86	-----	2.68	5.611E+00	-----	Line Not Found	-----
U-238	63.29	94	3.70*	2.735E+00	3.325E+00	3.325E+00	79.95
	92.59	285	4.23	5.487E+00	4.412E+00	4.412E+00	31.91

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G248051005

Page : 3
Acquisition date : 10-MAR-2010 17:53:13

Total number of lines in spectrum 27
Number of unidentified lines 3
Number of lines tentatively identified by NID 24 88.89%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.675E+01	2.675E+01	0.340E+01	12.69	
CD-109	461.40D	1.03	2.636E+00	2.710E+00	1.695E+00	62.54	
SN-126	2.30E+05Y	1.00	2.636E-01	2.636E-01	1.649E-01	62.54	
BA-137M	30.08Y	1.00	1.103E+00	1.104E+00	0.162E+00	14.71	
CS-137	30.08Y	1.00	1.165E+00	1.166E+00	0.172E+00	14.72	
TL-208	1.41E+10Y	1.00	4.928E-01	4.928E-01	1.037E-01	21.05	
PB-210	22.20Y	1.00	8.792E+00	8.806E+00	8.080E+00	91.76	
BI-211	7.04E+08Y	1.00	4.201E+00	4.201E+00	0.716E+00	17.04	
PB-212	1.41E+10Y	1.00	1.937E+00	1.937E+00	0.250E+00	12.91	
BI-214	1600.00Y	1.00	1.624E+00	1.624E+00	0.259E+00	15.96	
PB-214	1600.00Y	1.00	1.525E+00	1.525E+00	0.273E+00	17.91	
RA-224	1.41E+10Y	1.00	5.131E+00	5.131E+00	1.575E+00	30.70	
RA-226	1600.00Y	1.00	1.624E+00	1.624E+00	0.259E+00	15.96	
AC-228	1.41E+10Y	1.00	1.722E+00	1.722E+00	0.461E+00	26.79	
RA-228	1.41E+10Y	1.00	1.722E+00	1.722E+00	0.461E+00	26.79	
TH-228	1.41E+10Y	1.00	1.937E+00	1.937E+00	0.250E+00	12.91	
TH-232	1.41E+10Y	1.00	1.722E+00	1.722E+00	0.461E+00	26.79	
TH-234	4.47E+09Y	1.00	3.325E+00	3.325E+00	2.658E+00	79.95	
NP-237	2.14E+06Y	1.00	7.867E-01	7.867E-01	5.189E-01	65.96	
U-238	4.47E+09Y	1.00	3.325E+00	3.325E+00	2.658E+00	79.95	
Total Activity :			7.179E+01	7.188E+01			

Grand Total Activity : 7.179E+01 7.188E+01

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

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

Unidentified Energy Lines
Sample ID : G248051005

Page : 4
Acquisition date : 10-MAR-2010 17:53:13

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.93	83	273	0.88	257.37	254	8	1.15E-02	73.0	5.91E+00	
0	185.93	183	334	1.46	371.31	366	11	2.54E-02	42.7	4.98E+00	T
0	208.99	92	301	1.26	417.42	411	12	1.28E-02	77.8	4.61E+00	
0	270.18	98	213	1.97	539.75	536	12	1.36E-02	62.5	3.83E+00	T
0	462.79	67	129	1.16	924.84	918	11	9.26E-03	65.9	2.56E+00	T
1	965.58	54	24	2.04	1930.37	1920	33	7.56E-03	48.5	1.36E+00	T
0	1378.93	39	11	0.77	2757.28	2749	18	5.40E-03	54.1	9.79E-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]G248051005.CNF;1
* Acquisition date   : 10-MAR-2010 17:53:13   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 02:00:01.15          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 20-FEB-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G248051005             Analyst initials: MXR1
* Batch Number       : 958225                 Sample Quantity  : 1.04550E+02 GRAM
*****
*                               QC DATA                                   *
*
* CALIB. DATE/TIME   : 16-FEB-2010 15:10:04.7MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                    LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.675E+01	3.395E+00	8.293E-01	7.817E-02	32.262
CD-109	2.710E+00	1.695E+00	1.871E+00	2.082E-01	1.448
SN-126	2.636E-01	1.649E-01	1.900E-01	2.105E-02	1.388
BA-137M	1.104E+00	1.623E-01	7.974E-02	6.453E-03	13.843
CS-137	1.166E+00	1.716E-01	8.424E-02	6.832E-03	13.843
TL-208	4.928E-01	1.037E-01	6.441E-02	5.881E-03	7.652
PB-210	8.806E+00	8.080E+00	9.677E+00	9.310E-01	0.910
BI-211	4.201E+00	7.158E-01	4.899E-01	4.598E-02	8.576
PB-212	1.937E+00	2.502E-01	1.285E-01	1.319E-02	15.077
BI-214	1.624E+00	2.592E-01	1.641E-01	1.628E-02	9.900
PB-214	1.525E+00	2.730E-01	1.643E-01	1.787E-02	9.280
RA-224	5.131E+00	1.575E+00	1.378E+00	1.267E-01	3.725
RA-226	1.624E+00	2.592E-01	1.641E-01	1.628E-02	9.900
AC-228	1.722E+00	4.613E-01	3.302E-01	3.988E-02	5.214
RA-228	1.722E+00	4.613E-01	3.302E-01	3.988E-02	5.214
TH-228	1.937E+00	2.502E-01	1.285E-01	1.319E-02	15.077
TH-232	1.722E+00	4.613E-01	3.302E-01	3.988E-02	5.214
TH-234	3.325E+00	2.658E+00	2.879E+00	5.352E-01	1.155

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	7.867E-01	5.189E-01	5.132E-01	1.214E-01	1.533
U-238	3.325E+00	2.658E+00	2.879E+00	5.352E-01	1.155

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	8.910E-02		4.625E-01	7.900E-01	7.378E-02	0.113
NA-22	-3.240E-02		6.404E-02	9.877E-02	8.678E-03	-0.328
NA-24	1.156E+01		1.506E+01	Half-Life	too short	
SC-46	-4.060E-04		5.410E-02	8.707E-02	8.047E-03	-0.005
V-48	3.297E-02		9.996E-02	1.731E-01	1.575E-02	0.190
CR-51	1.599E-01		5.515E-01	9.198E-01	8.855E-02	0.174
MN-54	-1.680E-02		5.225E-02	8.186E-02	7.377E-03	-0.205
CO-56	1.695E-02		5.546E-02	9.252E-02	8.387E-03	0.183
CO-57	1.878E-02		3.127E-02	5.178E-02	4.360E-03	0.363
CO-58	-4.802E-02		5.451E-02	7.962E-02	7.103E-03	-0.603
FE-59	5.208E-02		1.272E-01	2.198E-01	2.043E-02	0.237
CO-60	-3.326E-02		5.554E-02	8.295E-02	7.587E-03	-0.401
ZN-65	6.086E-02		1.165E-01	1.808E-01	1.538E-02	0.337
SE-75	1.229E-02		6.346E-02	9.887E-02	9.227E-03	0.124
SR-85	-2.372E-01		7.320E-02	9.569E-02	8.302E-03	-2.479
Y-88	-9.671E-03		3.161E-02	4.684E-02	3.915E-03	-0.206
Y-91	-9.245E+00		2.911E+01	4.624E+01	3.847E+00	-0.200
NB-94	-2.728E-04		4.739E-02	7.736E-02	6.447E-03	-0.004
NB-95	4.710E-02		6.366E-02	1.099E-01	9.537E-03	0.429
NB-95M	2.570E-01		1.929E-01	3.046E-01	3.156E-02	0.844
ZR-95	1.953E-02		9.584E-02	1.596E-01	1.521E-02	0.122
MO-99	-1.376E+01		3.681E+01	5.787E+01	9.094E+00	-0.238
TC-99M	-1.148E+14		1.498E+14	Half-Life	too short	
RU-103	-5.990E-03		5.336E-02	8.896E-02	1.246E-02	-0.067
RH-106	1.223E-02		3.990E-01	6.626E-01	8.664E-02	0.018
RU-106	1.223E-02		3.990E-01	6.626E-01	5.525E-02	0.018
AG-108M	-2.766E-02		4.207E-02	6.392E-02	5.680E-03	-0.433
AG-110M	6.732E-02		5.060E-02	8.398E-02	7.048E-03	0.802
SN-113	-4.190E-02		6.726E-02	1.039E-01	9.067E-03	-0.403
CD-115	2.086E-05		2.115E-05	Half-Life	too short	
SN-117M	-2.626E-02		8.403E-02	1.280E-01	1.076E-02	-0.205
TE-123M	-8.935E-03		3.775E-02	5.776E-02	4.887E-03	-0.155
SB-124	8.004E-02		1.045E-01	1.983E-01	1.824E-02	0.404
SB-125	5.792E-02		1.288E-01	2.138E-01	1.871E-02	0.271
TE-125M	-6.910E+00		1.320E+01	2.030E+01	2.187E+00	-0.340
I-126	-1.613E-01		4.183E-01	5.684E-01	4.615E-02	-0.284
SB-126	-1.443E-01		2.294E-01	3.525E-01	2.974E-02	-0.409
SB-127	-4.126E-01		3.116E+00	5.060E+00	6.107E-01	-0.082
I-131	-5.043E-02		2.176E-01	3.480E-01	3.235E-02	-0.145
TE-132	-2.201E+00		1.812E+00	2.768E+00	4.634E-01	-0.795
BA-133	-4.275E-02		6.483E-02	8.596E-02	1.130E-02	-0.497

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	9.501E-02		4.955E-02	Half-Life too short		
CS-134	1.284E-01		6.475E-02	1.220E-01	1.084E-02	1.053
CS-135	2.413E-01		2.350E-01	3.663E-01	3.868E-02	0.659
I-135	2.186E+12		1.288E+13	Half-Life too short		
CS-136	-2.124E-01		1.719E-01	2.445E-01	2.253E-02	-0.869
CE-139	-5.427E-03		4.098E-02	6.440E-02	5.447E-03	-0.084
BA-140	2.716E-01		4.158E-01	7.141E-01	2.422E-01	0.380
LA-140	-1.856E-01		1.489E-01	1.960E-01	1.776E-02	-0.947
CE-141	-6.368E-02		8.719E-02	1.336E-01	1.135E-02	-0.477
CE-143	2.742E-03		6.446E-04	Half-Life too short		
CE-144	1.565E-02		2.961E-01	4.235E-01	6.404E-02	0.037
PM-144	-2.849E-02		5.095E-02	7.973E-02	6.619E-03	-0.357
PR-144	-2.154E+00		3.818E+00	5.971E+00	4.955E-01	-0.361
PM-146	6.334E-02		6.141E-02	1.053E-01	1.118E-02	0.601
ND-147	-1.119E-01		9.257E-01	1.536E+00	2.299E-01	-0.073
PM-149	-2.947E-04		1.690E-04	Half-Life too short		
EU-152	-8.134E-02		1.402E-01	2.112E-01	2.010E-02	-0.385
GD-153	6.058E-02		1.149E-01	1.719E-01	1.697E-02	0.352
EU-154	-6.986E-02		1.791E-01	2.801E-01	3.221E-02	-0.249
EU-155	1.079E-01		1.331E-01	2.230E-01	2.076E-02	0.484
TB-160	-1.575E-02		1.829E-01	2.919E-01	2.686E-02	-0.054
HO-166M	-1.146E-02		7.995E-02	1.293E-01	1.084E-02	-0.089
TA-182	-8.195E-02		2.648E-01	4.210E-01	3.549E-02	-0.195
IR-192	-5.784E-03		4.728E-02	7.693E-02	7.109E-03	-0.075
HG-203	-4.063E-02		5.516E-02	8.719E-02	8.298E-03	-0.466
BI-207	3.763E-02		6.918E-02	1.214E-01	1.067E-02	0.310
PB-211	-2.010E-01		1.014E+00	1.606E+00	7.769E-01	-0.125
BI-212	1.801E+00		8.410E-01	1.537E+00	1.899E-01	1.172
RN-219	3.893E-01		5.506E-01	9.300E-01	1.377E-01	0.419
RA-223	-6.191E-01		9.353E-01	1.461E+00	2.573E-01	-0.424
AC-227	4.139E-02		3.356E-01	5.612E-01	7.027E-02	0.074
TH-227	4.139E-02		3.356E-01	5.612E-01	7.871E-02	0.074
TH-229	-1.556E-02		6.930E-01	1.168E+00	1.025E-01	-0.013
PA-231	1.149E+00		1.892E+00	3.223E+00	4.836E-01	0.357
TH-231	-6.191E-01		9.353E-01	1.461E+00	2.573E-01	-0.424
PA-233	-4.385E-02		8.787E-02	1.396E-01	1.322E-02	-0.314
PA-234	3.385E-01		3.989E-01	7.156E-01	1.362E-01	0.473
PA-234M	5.924E+00		6.154E+00	1.111E+01	1.148E+00	0.533
U-235	-1.495E-02		2.688E-01	4.212E-01	7.080E-02	-0.035
NP-239	1.913E-02		5.218E-01	8.428E-01	7.237E-02	0.023
AM-241	1.812E-01		2.400E-01	3.707E-01	3.519E-02	0.489
CM-247	3.950E-02		5.009E-02	8.536E-02	7.255E-03	0.463
CF-249	1.014E-02		5.880E-02	9.625E-02	8.186E-03	0.105
CF-251	1.290E-01		1.658E-01	2.898E-01	2.489E-02	0.445
ANH-511	1.251E-01		6.302E-02	1.221E-01	1.060E-02	1.025

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]G248051005          *
* Acquisition date   : 10-MAR-2010 17:53:13 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 02:00:01.15 Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051005 Analyst initials: MXR1         *
* Batch Number       : 958225 Sample Quantity : 1.0455E+02 GRAM    *
* Recovery           : 1.00000 Carrier Weight : 0.00000          *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2010 15:10:04 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	2.675E+01	3.327E+00	4.119E-01	1.698E+00
CD-109	2.710E+00	1.661E+00	9.419E-01	8.473E-01
SN-126	2.636E-01	1.616E-01	9.563E-02	8.244E-02
BA-137M	1.104E+00	1.591E-01	3.976E-02	8.117E-02
CS-137	1.166E+00	1.682E-01	4.200E-02	8.580E-02
TL-208	4.928E-01	1.016E-01	3.213E-02	5.186E-02
PB-210	8.806E+00	7.919E+00	4.885E+00	4.040E+00
BI-211	4.201E+00	7.014E-01	2.450E-01	3.579E-01
PB-212	1.937E+00	2.451E-01	6.436E-02	1.251E-01
BI-214	1.624E+00	2.540E-01	8.182E-02	1.296E-01
PB-214	1.525E+00	2.676E-01	8.216E-02	1.365E-01
RA-224	5.131E+00	1.544E+00	6.901E-01	7.876E-01
RA-226	1.624E+00	2.540E-01	8.182E-02	1.296E-01
AC-228	1.722E+00	4.520E-01	1.644E-01	2.306E-01
RA-228	1.722E+00	4.520E-01	1.644E-01	2.306E-01
TH-228	1.937E+00	2.451E-01	6.436E-02	1.251E-01
TH-232	1.722E+00	4.520E-01	1.644E-01	2.306E-01
TH-234	3.325E+00	2.605E+00	1.451E+00	1.329E+00
NP-237	7.867E-01	5.085E-01	2.583E-01	2.594E-01
U-238	3.325E+00	2.605E+00	1.451E+00	1.329E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	8.910E-02	4.532E-01	3.945E-01	2.312E-01 NOT IDENT.
NA-22	-3.240E-02	6.276E-02	4.909E-02	3.202E-02 NOT IDENT.
NA-24	1.156E+07	2.952E+07	0.000E+00	1.506E+07 SHORT HLIF
SC-46	-4.060E-04	5.301E-02	4.335E-02	2.705E-02 FAIL ABUN
V-48	3.297E-02	9.796E-02	8.616E-02	4.998E-02 NOT IDENT.
CR-51	1.599E-01	5.405E-01	4.601E-01	2.758E-01 NOT IDENT.
MN-54	-1.680E-02	5.120E-02	4.077E-02	2.612E-02 NOT IDENT.

CO-56	1.695E-02	5.435E-02	4.607E-02	2.773E-02	NOT IDENT.
CO-57	1.878E-02	3.064E-02	2.602E-02	1.563E-02	NOT IDENT.
CO-58	-4.802E-02	5.342E-02	3.966E-02	2.726E-02	NOT IDENT.
FE-59	5.208E-02	1.246E-01	1.093E-01	6.359E-02	NOT IDENT.
CO-60	-3.326E-02	5.443E-02	4.122E-02	2.777E-02	NOT IDENT.
ZN-65	6.086E-02	1.142E-01	8.991E-02	5.826E-02	NOT IDENT.
SE-75	1.229E-02	6.219E-02	4.950E-02	3.173E-02	NOT IDENT.
SR-85	-2.372E-01	7.174E-02	4.776E-02	3.660E-02	NOT IDENT.
Y-88	-9.671E-03	3.098E-02	2.324E-02	1.580E-02	NOT IDENT.
Y-91	-9.245E+00	2.853E+01	2.299E+01	1.456E+01	NOT IDENT.
NB-94	-2.728E-04	4.644E-02	3.856E-02	2.369E-02	NOT IDENT.
NB-95	4.710E-02	6.239E-02	5.475E-02	3.183E-02	NOT IDENT.
NB-95M	2.570E-01	1.890E-01	1.526E-01	9.645E-02	NOT IDENT.
ZR-95	1.953E-02	9.393E-02	7.951E-02	4.792E-02	NOT IDENT.
MO-99	-1.376E+01	3.607E+01	2.884E+01	1.840E+01	NOT IDENT.
TC-99M	-1.148E+20	2.936E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-5.990E-03	5.229E-02	4.441E-02	2.668E-02	FAIL ABUN
RH-106	1.223E-02	3.910E-01	3.304E-01	1.995E-01	NOT IDENT.
RU-106	1.223E-02	3.910E-01	3.304E-01	1.995E-01	NOT IDENT.
AG-108M	-2.766E-02	4.123E-02	3.193E-02	2.104E-02	NOT IDENT.
AG-110M	6.732E-02	4.959E-02	4.187E-02	2.530E-02	NOT IDENT.
SN-113	-4.190E-02	6.592E-02	5.195E-02	3.363E-02	NOT IDENT.
CD-115	2.086E+01	4.145E+01	0.000E+00	2.115E+01	SHORT HLIF
SN-117M	-2.626E-02	8.234E-02	6.426E-02	4.201E-02	NOT IDENT.
TE-123M	-8.935E-03	3.700E-02	2.899E-02	1.888E-02	NOT IDENT.
SB-124	8.004E-02	1.024E-01	9.842E-02	5.223E-02	NOT IDENT.
SB-125	5.792E-02	1.262E-01	1.068E-01	6.439E-02	FAIL ABUN
TE-125M	-6.910E+00	1.294E+01	1.021E+01	6.602E+00	NOT IDENT.
I-126	-1.613E-01	4.099E-01	2.834E-01	2.092E-01	NOT IDENT.
SB-126	-1.443E-01	2.248E-01	1.757E-01	1.147E-01	NOT IDENT.
SB-127	-4.126E-01	3.053E+00	2.522E+00	1.558E+00	NOT IDENT.
I-131	-5.043E-02	2.132E-01	1.740E-01	1.088E-01	NOT IDENT.
TE-132	-2.201E+00	1.775E+00	1.387E+00	9.058E-01	NOT IDENT.
BA-133	-4.275E-02	6.354E-02	4.298E-02	3.242E-02	NOT IDENT.
I-133	9.501E+04	9.711E+04	0.000E+00	4.955E+04	SHORT HLIF
CS-134	1.284E-01	6.345E-02	6.077E-02	3.237E-02	NOT IDENT.
CS-135	2.413E-01	2.303E-01	1.834E-01	1.175E-01	NOT IDENT.
I-135	2.186E+18	2.524E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.124E-01	1.684E-01	1.217E-01	8.594E-02	NOT IDENT.
CE-139	-5.427E-03	4.016E-02	3.232E-02	2.049E-02	NOT IDENT.
BA-140	2.716E-01	4.075E-01	3.564E-01	2.079E-01	NOT IDENT.
LA-140	-1.856E-01	1.459E-01	9.730E-02	7.445E-02	NOT IDENT.
CE-141	-6.368E-02	8.545E-02	6.707E-02	4.360E-02	NOT IDENT.
CE-143	2.742E+03	1.263E+03	0.000E+00	6.446E+02	SHORT HLIF
CE-144	1.565E-02	2.902E-01	2.127E-01	1.481E-01	NOT IDENT.
PM-144	-2.849E-02	4.994E-02	3.974E-02	2.548E-02	NOT IDENT.
PR-144	-2.154E+00	3.742E+00	2.976E+00	1.909E+00	NOT IDENT.
PM-146	6.334E-02	6.018E-02	5.260E-02	3.070E-02	NOT IDENT.
ND-147	-1.119E-01	9.072E-01	7.664E-01	4.629E-01	NOT IDENT.
PM-149	-2.947E+02	3.312E+02	0.000E+00	1.690E+02	SHORT HLIF
EU-152	-8.134E-02	1.374E-01	1.056E-01	7.012E-02	NOT IDENT.
GD-153	6.058E-02	1.126E-01	8.650E-02	5.743E-02	NOT IDENT.
EU-154	-6.986E-02	1.756E-01	1.392E-01	8.957E-02	NOT IDENT.
EU-155	1.079E-01	1.304E-01	1.122E-01	6.653E-02	FAIL ABUN
TB-160	-1.575E-02	1.793E-01	1.453E-01	9.147E-02	FAIL ABUN
HO-166M	-1.146E-02	7.835E-02	6.444E-02	3.997E-02	NOT IDENT.
TA-182	-8.195E-02	2.595E-01	2.093E-01	1.324E-01	FAIL ABUN
IR-192	-5.784E-03	4.633E-02	3.849E-02	2.364E-02	FAIL ABUN
HG-203	-4.063E-02	5.406E-02	4.364E-02	2.758E-02	NOT IDENT.
BI-207	3.763E-02	6.779E-02	6.040E-02	3.459E-02	FAIL ABUN
PB-211	-2.010E-01	9.942E-01	8.026E-01	5.072E-01	NOT IDENT.
BI-212	1.801E+00	8.242E-01	7.660E-01	4.205E-01	NOT IDENT.
RN-219	3.893E-01	5.396E-01	4.647E-01	2.753E-01	FAIL ABUN
RA-223	-6.191E-01	9.166E-01	7.307E-01	4.677E-01	FAIL ABUN
AC-227	4.139E-02	3.288E-01	2.810E-01	1.678E-01	FAIL ABUN
TH-227	4.139E-02	3.289E-01	2.810E-01	1.678E-01	FAIL ABUN
TH-229	-1.556E-02	6.792E-01	5.859E-01	3.465E-01	FAIL ABUN
PA-231	1.149E+00	1.854E+00	1.613E+00	9.461E-01	FAIL ABUN
TH-231	-6.191E-01	9.166E-01	7.307E-01	4.677E-01	FAIL ABUN
PA-233	-4.385E-02	8.611E-02	6.982E-02	4.393E-02	FAIL ABUN
PA-234	3.385E-01	3.909E-01	3.562E-01	1.994E-01	NOT IDENT.
PA-234M	5.924E+00	6.031E+00	5.528E+00	3.077E+00	NOT IDENT.
U-235	-1.495E-02	2.634E-01	2.115E-01	1.344E-01	FAIL ABUN
NP-239	1.913E-02	5.114E-01	4.236E-01	2.609E-01	NOT IDENT.
AM-241	1.812E-01	2.352E-01	1.869E-01	1.200E-01	NOT IDENT.
CM-247	3.950E-02	4.909E-02	4.266E-02	2.505E-02	NOT IDENT.
CF-249	1.014E-02	5.763E-02	4.811E-02	2.940E-02	NOT IDENT.
CF-251	1.290E-01	1.625E-01	1.454E-01	8.292E-02	NOT IDENT.

ANH-511	1.251E-01	6.176E-02	6.094E-02	3.151E-02 NOT IDENT.
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 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.54	246.5379
49.72	261.0282
57.36	0.0000
59.54	266.6700
63.29	298.7937
63.29	298.7937
64.28	317.9991
67.75	325.0777
69.67	323.8866
70.83	309.6412
72.81	334.8513
72.87	334.8976
72.87	334.8976
74.82	318.9176
74.82	318.9176
74.82	318.9176
74.97	319.0234
77.11	320.5225
77.11	320.5225
77.11	320.5225
79.69	326.3318
79.80	326.4077
80.12	313.0205
80.19	313.0663
80.57	329.9672
81.00	331.2766
81.07	331.3249
81.07	331.3249
83.79	347.4220
83.79	347.4220
85.43	339.4124
86.48	382.0104
86.55	382.0656
86.79	382.2482
86.94	475.3994
87.57	479.0687
88.03	444.6708
88.47	353.7914
89.96	354.8302
91.11	358.7192
92.59	394.8915
92.59	394.8915
93.35	395.4666
94.67	259.9819
94.87	260.0800
94.87	260.0800
95.86	277.7285
97.43	231.5966
98.44	242.0628
99.53	251.3440
100.11	257.9004
103.18	256.1679
103.37	256.2545
105.31	232.7978
106.12	223.5919
109.28	255.7178
111.00	246.8509
111.76	256.7981
116.30	229.6374
117.23	249.4229
121.12	226.0030
121.78	218.6272
122.06	202.4016
123.07	227.7943
131.20	238.3967
133.52	245.8748
136.00	226.7690

136.47	240.2754
140.51	262.9503
140.51	0.0000
143.76	243.9396
144.24	251.9795
144.24	251.9795
145.44	254.6592
152.43	226.4115
153.25	219.8285
154.21	220.1151
154.21	220.1151
156.02	235.5115
158.56	209.9258
159.00	206.6034
162.66	198.3693
163.33	225.0899
165.86	231.6142
176.60	247.3671
177.52	205.3416
181.07	225.1678
184.41	220.3812
185.72	211.8217
193.51	225.4255
197.04	228.1366
205.31	196.5756
210.85	202.1586
215.65	193.2589
222.11	199.2037
227.38	191.9023
228.16	189.2578
228.18	192.0578
235.69	184.8709
235.96	202.9614
235.96	202.9614
238.63	197.8443
238.63	197.8443
240.99	198.3025
242.00	198.4980
244.70	159.2150
252.40	161.3437
252.80	157.5854
256.23	157.1346
256.23	157.1346
260.90	0.0000
264.66	141.6246
268.22	141.0478
269.46	141.2055
269.46	141.2055
271.23	169.0165
273.65	186.9053
276.40	135.8355
277.37	144.5471
277.60	156.2988
278.00	160.8223
279.20	173.1487
279.54	176.1356
280.46	177.2577
283.69	126.6871
284.31	140.5125
285.41	167.2011
285.90	0.0000
287.50	146.8106
293.27	0.0000
295.22	143.8074
295.96	143.8982
298.57	144.2123
299.98	144.3805
299.98	144.3805
300.09	144.3938
300.09	144.3938
300.13	144.3982
301.36	122.8146
302.85	151.7101
304.50	127.9297
304.50	127.9297
304.85	137.5643
308.46	132.3545
311.90	138.7581

316.51	123.1244
319.41	141.6150
320.08	126.5087
323.87	159.3717
323.87	159.3717
328.76	132.4677
333.37	114.5310
334.37	121.1696
334.37	121.1696
338.28	121.1203
338.28	121.1203
338.32	121.1239
338.32	121.1239
338.32	121.1239
340.48	101.9927
340.55	111.8680
344.28	134.3353
351.06	142.5950
351.93	121.3239
356.01	121.4801
364.49	122.4362
366.42	118.4141
383.85	115.6262
388.16	118.0967
388.63	117.0697
391.69	130.1127
400.66	111.5854
401.81	89.1222
402.40	87.0092
404.85	111.8965
410.95	112.3472
414.70	105.0414
423.72	98.0283
427.09	97.1482
427.87	91.7353
433.94	105.2417
453.88	82.1265
463.37	78.5780
468.07	91.0359
473.00	104.3965
476.78	100.8027
477.60	89.1447
487.02	75.1448
492.35	0.0000
497.08	74.6658
511.00	68.8248
514.00	236.2270
527.90	0.0000
529.87	0.0000
531.02	78.8553
537.26	61.4319
546.56	0.0000
563.25	68.8741
569.33	70.0344
569.50	70.0416
569.70	72.8868
583.19	48.6044
600.60	79.0345
602.73	68.9599
604.72	70.6317
609.32	83.9796
609.32	83.9796
610.33	77.2598
614.28	48.3789
618.01	78.5142
621.93	58.2671
621.93	58.2671
633.25	53.6962
635.95	66.4710
636.99	67.4805
645.85	63.8289
657.76	42.7843
661.66	67.2562
661.66	67.2562
664.57	0.0000
666.33	74.3353
666.50	74.3427
677.62	61.7608

685.70	61.9803
695.00	67.2503
696.49	84.3681
696.51	84.3691
697.00	88.4061
702.65	66.4657
706.68	56.4922
711.68	59.6453
720.70	65.9617
721.93	0.0000
722.78	95.4756
722.91	95.4802
723.31	108.7032
724.19	106.7098
727.33	58.0047
733.00	82.6216
735.93	56.1696
739.50	60.3439
747.24	62.5875
752.31	50.3793
753.82	56.5818
756.73	48.4091
763.94	86.7706
765.81	64.0934
766.42	66.1766
777.92	37.3948
778.90	44.6839
783.70	42.6856
785.37	42.7137
795.86	36.6124
801.95	39.8443
810.29	54.6990
810.76	57.8655
815.77	40.0559
818.51	52.7600
832.01	48.7874
834.85	60.5180
836.80	0.0000
846.77	45.8565
856.80	66.3624
860.56	35.3703
871.09	36.5815
873.19	32.3020
875.33	0.0000
879.36	39.9277
880.51	39.9439
883.24	39.9828
884.68	46.4906
889.28	43.3184
898.04	36.9343
911.20	53.4741
911.20	53.4741
911.20	53.4741
926.50	39.4954
937.49	49.5549
944.13	45.9880
946.00	34.9725
949.00	44.2207
962.29	39.6589
964.08	35.1851
966.15	35.2091
968.97	35.2415
968.97	35.2415
968.97	35.2415
983.53	33.5471
996.26	56.1438
1001.03	32.8011
1004.73	46.9137
1037.84	38.8746
1038.76	0.0000
1048.07	54.2191
1050.41	52.3547
1050.41	52.3547
1063.66	35.3635
1085.87	48.1120
1099.45	37.6797
1112.07	27.6384
1115.54	28.2914

1120.29	29.1638
1120.29	29.1638
1120.55	29.1663
1121.30	33.3398
1131.51	0.0000
1173.23	51.3271
1177.93	44.4763
1189.05	51.5557
1204.77	46.8011
1221.41	50.0183
1231.02	55.1634
1235.36	52.2158
1238.28	68.3348
1260.41	0.0000
1271.85	37.5179
1274.44	44.6463
1274.54	46.6757
1291.59	29.5581
1298.22	0.0000
1312.11	33.8137
1332.49	33.9910
1365.19	25.9633
1368.63	0.0000
1384.29	10.7327
1408.01	24.1380
1457.56	0.0000
1460.82	24.4450
1489.16	13.9082
1505.03	27.9181
1596.21	29.1187
1620.50	8.4984
1678.03	0.0000
1690.97	7.6674
1764.49	6.8103
1764.49	6.8103
1770.23	59.4150
1771.35	48.7130
1791.20	0.0000
1836.06	5.9203

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051005

Total Uranium Activity	9.8845E+00	ug/g
Total Uranium Counting Unc.	7.7507E+00	ug/g
Total Uranium Tpu	3.9544E-06	ug/g
Total Uranium Mda	4.3189E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051005
*  ANALYST       : MXR1            DETECTOR    : GAM06
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 17:53:13.99  SAMPLE ALQT: 104.550 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.070E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.602E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.035E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.953E+00

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VAX/VMS Nuclide Identification Report Generated 11-MAR-2010 10:18:57.97

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051006.CNF;1
Sample date   : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:53:41
Sample ID    : G248051006 Sample quantity : 1.48200E+02 GRAM
Detector name : GAM17 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:10.11 0.1%
Energy tolerance : 2.00000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID : 958225 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	46.58*	214	458	0.84	92.79	88	10	2.97E-02	20.7	
2	0	63.25*	153	579	0.83	126.13	122	9	2.13E-02	30.2	
3	2	74.82*	429	368	0.85	149.30	145	13	5.96E-02	8.3	8.37E-01
4	2	77.09*	725	367	1.00	153.82	145	13	1.01E-01	5.8	
5	3	87.25*	270	334	1.11	174.16	165	26	3.74E-02	13.0	1.98E+00
6	3	89.92	150	339	1.09	179.50	165	26	2.08E-02	22.1	
7	3	92.78*	294	345	1.24	185.22	165	26	4.09E-02	12.7	
8	0	128.70	57	327	1.13	257.09	253	9	7.93E-03	58.4	
9	0	185.89*	126	290	1.17	371.51	366	10	1.75E-02	27.7	
10	0	209.28*	64	198	0.73	418.31	415	8	8.94E-03	41.0	
11	6	238.45*	881	159	1.02	476.66	472	17	1.22E-01	4.2	1.96E+00
12	6	241.47	224	240	1.82	482.71	472	17	3.11E-02	18.9	
13	0	269.93	101	141	1.21	539.67	535	10	1.41E-02	24.1	
14	0	277.29	35	95	0.83	554.39	551	6	4.82E-03	47.9	
15	2	294.98	262	137	1.13	589.78	583	23	3.65E-02	9.4	1.81E+00
16	2	299.84	52	146	1.44	599.50	583	23	7.28E-03	45.8	
17	0	326.93	42	86	0.84	653.70	651	8	5.85E-03	40.8	
18	0	338.01*	175	130	1.12	675.87	671	10	2.44E-02	14.6	
19	0	351.67*	411	142	1.11	703.21	698	12	5.71E-02	7.8	
20	0	462.58	72	57	1.45	925.13	921	8	1.01E-02	21.6	
21	0	510.06*	120	137	2.36	1020.14	1012	18	1.67E-02	26.6	
22	0	582.59*	257	51	1.19	1165.28	1160	11	3.56E-02	8.5	
23	0	608.63*	313	80	1.39	1217.38	1210	12	4.34E-02	8.2	
24	0	661.14*	97	76	1.11	1322.47	1317	12	1.34E-02	20.5	
25	0	728.30*	87	66	5.78	1456.88	1449	20	1.21E-02	27.3	
26	0	793.83	40	36	1.00	1588.00	1583	11	5.56E-03	33.0	
27	0	909.93*	203	41	1.29	1820.37	1813	15	2.82E-02	10.1	
28	1	963.59	37	32	1.83	1927.75	1923	27	5.09E-03	31.2	2.12E+00
29	1	967.73	97	39	1.83	1936.04	1923	27	1.35E-02	16.0	
30	0	1118.95*	73	57	2.19	2238.69	2231	17	1.01E-02	27.3	
31	0	1458.99*	836	19	2.07	2919.35	2912	17	1.16E-01	3.7	
32	0	1762.41*	53	12	1.78	3526.74	3519	16	7.38E-03	20.5	

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

VMS Nuclide Identification Report V3.1 Generated 11-MAR-2010 10:19:00

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051006.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:53:41
Sample ID        : G248051006 Sample quantity : 148.20 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA17 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:10.11 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 2.00 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	2.551E+01	2.947E+00	5.142E-01	4.565E-02	49.618
CD-109	+	88.03	*	2.841E+00	7.913E-01	8.332E-01	8.134E-02	3.410
SN-126	+	64.28		5.973E-01	3.729E-01	3.382E-01	5.398E-02	1.766
	+	86.94		1.149E+00	5.644E-01	3.359E-01	1.398E-01	3.421
	+	87.57	*	2.764E-01	7.699E-02	8.095E-02	7.899E-03	3.415
CS-135	+	268.22	*	4.403E-01	2.172E-01	2.135E-01	2.228E-02	2.062
BA-137M	+	661.66	*	1.700E-01	7.113E-02	6.898E-02	5.811E-03	2.465
CS-137	+	661.66	*	1.796E-01	7.515E-02	7.287E-02	6.151E-03	2.465
HG-203		70.83		-4.565E-02	8.161E-01	1.231E+00	2.058E-01	-0.037
	+	72.87		3.391E+00	7.860E-01	7.462E-01	1.209E-01	4.544
	+	279.20	*	3.964E-02	3.816E-02	5.375E-02	5.046E-03	0.737
TL-208	+	277.37		3.732E-01	3.607E-01	5.583E-01	7.213E-02	0.668
	+	583.19	*	4.217E-01	8.220E-02	5.575E-02	5.267E-03	7.564
		860.56		3.369E-01	3.702E-01	6.417E-01	6.034E-02	0.525
PB-210	+	46.54	*	2.019E+00	8.647E-01	7.033E-01	7.582E-02	2.871
BI-211	+	72.87		1.300E+01	2.502E+00	2.861E+00	2.797E-01	4.544
	+	351.06	*	2.772E+00	5.028E-01	3.079E-01	2.874E-02	9.003
PB-212	+	74.82		1.555E+00	3.354E-01	3.312E-01	4.564E-02	4.696
	+	77.11		1.584E+00	2.396E-01	2.000E-01	1.949E-02	7.922
	+	238.63	*	1.272E+00	1.668E-01	8.710E-02	8.821E-03	14.608
	+	300.09		1.203E+00	1.111E+00	1.139E+00	1.252E-01	1.056
BI-214	+	609.32	*	1.002E+00	1.932E-01	1.021E-01	1.043E-02	9.819
	+	1120.29		1.260E+00	7.020E-01	5.489E-01	5.895E-02	2.295
		1764.49		1.128E+00	4.500E-01	8.802E-01	7.442E-02	1.282
PB-214	+	74.82		2.757E+00	5.738E-01	5.870E-01	7.382E-02	4.696
	+	77.11		2.793E+00	4.811E-01	3.526E-01	4.502E-02	7.922
	+	242.00		1.960E+00	7.687E-01	5.304E-01	5.699E-02	3.696
	+	295.22		1.065E+00	2.329E-01	2.008E-01	2.261E-02	5.302
	+	351.93	*	1.006E+00	1.907E-01	1.120E-01	1.214E-02	8.981
RA-224	+	240.99	*	3.466E+00	1.344E+00	9.344E-01	8.450E-02	3.710
RA-226	+	609.32	*	1.002E+00	1.932E-01	1.021E-01	1.043E-02	9.819
	+	1120.29		1.260E+00	7.020E-01	5.489E-01	5.895E-02	2.295
		1764.49		1.128E+00	4.500E-01	8.802E-01	7.442E-02	1.282
AC-228	+	338.32		1.308E+00	6.676E-01	3.575E-01	1.494E-01	3.660

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	+	911.20	*	1.687E+00	3.932E-01	2.318E-01	2.709E-02	7.280
	+	968.97		1.398E+00	5.635E-01	4.280E-01	1.044E-01	3.267
	+	338.32		1.308E+00	6.676E-01	3.575E-01	1.494E-01	3.660
	+	911.20	*	1.687E+00	3.932E-01	2.318E-01	2.709E-02	7.280
TH-228	+	968.97		1.398E+00	5.635E-01	4.280E-01	1.044E-01	3.267
	+	74.82		1.555E+00	2.999E-01	3.312E-01	3.256E-02	4.696
	+	77.11		1.584E+00	2.396E-01	2.000E-01	1.949E-02	7.922
	+	238.63	*	1.272E+00	1.668E-01	8.710E-02	8.821E-03	14.608
TH-229	+	300.09		1.203E+00	1.327E+00	1.139E+00	6.981E-01	1.056
	+	85.43		6.958E-01	1.938E-01	2.025E-01	1.974E-02	3.437
	+	88.47		4.262E-01	1.187E-01	1.251E-01	1.224E-02	3.405
	+	193.51	*	1.107E-01	4.826E-01	7.883E-01	6.817E-02	0.140
TH-232	+	210.85		1.313E+00	1.084E+00	1.199E+00	1.057E-01	1.095
	+	338.32		1.308E+00	4.007E-01	3.575E-01	3.221E-02	3.660
	+	911.20	*	1.687E+00	3.932E-01	2.318E-01	2.709E-02	7.280
	+	968.97		1.398E+00	5.635E-01	4.280E-01	1.044E-01	3.267
TH-234	+	63.29	*	1.550E+00	9.807E-01	8.736E-01	1.662E-01	1.774
	+	92.59		2.673E+00	9.108E-01	7.196E-01	1.630E-01	3.714
	+	89.96		1.648E+00	8.384E-01	8.696E-01	2.180E-01	1.895
	+	93.35		2.019E+00	7.014E-01	5.449E-01	1.289E-01	3.705
U-235		143.76	*	2.167E-01	1.859E-01	3.121E-01	5.558E-02	0.694
		163.33		4.008E-01	3.859E-01	6.509E-01	1.167E-01	0.616
	+	185.72		1.158E-01	6.500E-02	5.930E-02	5.078E-03	1.953
	+	205.31		1.356E-01	4.879E-01	7.124E-01	1.298E-01	0.190
NP-237	+	86.48	*	8.248E-01	2.875E-01	2.408E-01	5.567E-02	3.426
		95.86		-6.815E-03	7.264E-01	1.089E+00	2.677E-01	-0.006
U-238	+	63.29	*	1.550E+00	9.807E-01	8.736E-01	1.662E-01	1.774
	+	92.59		2.673E+00	7.310E-01	7.196E-01	7.179E-02	3.714
ANH-511	+	511.00	*	1.479E-01	7.973E-02	4.467E-02	3.990E-03	3.311

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-9.316E-02	3.487E-01	5.588E-01	5.316E-02	-0.167
NA-22		1274.54	*	-1.290E-02	4.973E-02	7.715E-02	6.499E-03	-0.167
NA-24		1368.63	*	-1.451E+01	4.973E-02	Half-Life too short		
SC-46		889.28	*	6.289E-02	4.589E-02	8.557E-02	7.491E-03	0.735
V-48	+	1120.55		2.187E-01	1.210E-01	1.368E-01	1.148E-02	1.599
		944.13		4.700E-01	1.173E+00	2.012E+00	1.760E-01	0.234
		983.53	*	-8.516E-02	9.256E-02	1.351E-01	1.178E-02	-0.630
CR-51		1312.11		-2.760E-02	1.081E-01	1.758E-01	1.492E-02	-0.157
		320.08	*	4.625E-02	3.550E-01	6.023E-01	5.748E-02	0.077
MN-54		834.85	*	-4.914E-02	4.521E-02	6.734E-02	5.921E-03	-0.730
CO-56		846.77	*	-7.872E-04	4.181E-02	6.932E-02	6.094E-03	-0.011
CO-57		1037.84		1.076E-01	3.549E-01	6.000E-01	5.451E-02	0.179
		1238.28		1.460E-01	1.187E-01	2.106E-01	1.810E-02	0.694
		1771.35		5.203E-02	2.603E-01	4.444E-01	3.753E-02	0.117
		122.06	*	4.447E-03	2.063E-02	3.445E-02	4.036E-03	0.129

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	136.47			-1.320E-02	1.792E-01	2.936E-01	3.303E-02	-0.045
CO-58	810.76	*		1.685E-02	3.913E-02	6.824E-02	6.010E-03	0.247
FE-59	1099.45	*		-3.835E-03	1.144E-01	1.854E-01	1.701E-02	-0.021
	1291.59			1.094E-01	1.489E-01	2.608E-01	2.513E-02	0.420
CO-60	1173.23			2.397E-02	5.657E-02	9.537E-02	7.791E-03	0.251
	1332.49	*		1.265E-02	4.469E-02	7.747E-02	6.602E-03	0.163
ZN-65	1115.54	*		1.490E-01	1.224E-01	2.006E-01	1.689E-02	0.743
SE-75	121.12			-9.760E-04	1.108E-01	1.832E-01	2.487E-02	-0.005
	136.00			7.917E-03	3.454E-02	5.742E-02	6.210E-03	0.138
	264.66	*		1.334E-02	4.808E-02	6.930E-02	6.367E-03	0.192
	279.54			7.179E-02	1.040E-01	1.645E-01	1.561E-02	0.436
	400.66			1.191E-01	2.546E-01	4.358E-01	4.786E-02	0.273
SR-85	514.00	*		4.693E-02	4.218E-02	6.769E-02	6.047E-03	0.693
Y-88	898.04			2.558E-02	4.595E-02	8.035E-02	7.057E-03	0.318
	1836.06	*		-1.020E-02	3.598E-02	5.424E-02	4.523E-03	-0.188
Y-91	1204.77	*		-3.503E+01	2.967E+01	4.189E+01	3.457E+00	-0.836
NB-94	702.65	*		3.174E-02	3.694E-02	6.632E-02	5.689E-03	0.479
	871.09			1.817E-02	4.082E-02	7.050E-02	6.187E-03	0.258
NB-95	765.81	*		6.752E-02	4.828E-02	8.943E-02	7.811E-03	0.755
NB-95M	235.69	*		5.750E-02	1.321E-01	1.935E-01	1.979E-02	0.297
ZR-95	724.19			1.922E-01	1.226E-01	2.084E-01	1.952E-02	0.922
	756.73	*		2.171E-02	7.381E-02	1.272E-01	1.223E-02	0.171
MO-99	140.51			-5.037E+01	4.621E+01	6.746E+01	1.650E+01	-0.747
	181.07			-1.752E+01	3.973E+01	5.540E+01	1.038E+01	-0.316
	366.42			3.618E+01	2.087E+02	3.523E+02	3.084E+01	0.103
	739.50	*		1.091E+01	2.891E+01	5.011E+01	7.913E+00	0.218
	777.92			-2.338E+01	8.055E+01	1.306E+02	1.143E+01	-0.179
TC-99M	140.51	*		-2.239E+14	8.055E+01	Half-Life	too short	
RU-103	497.08	*		5.620E-02	4.295E-02	7.668E-02	1.085E-02	0.733
	610.33		+	1.093E+01	2.533E+00	2.816E+00	4.622E-01	3.881
RH-106	621.93	*		-1.103E-01	3.597E-01	5.609E-01	7.460E-02	-0.197
	1050.41			-9.162E-01	3.253E+00	5.156E+00	4.437E-01	-0.178
RU-106	621.93	*		-1.103E-01	3.595E-01	5.609E-01	4.873E-02	-0.197
	1050.41			-9.162E-01	3.253E+00	5.156E+00	4.437E-01	-0.178
AG-108M	433.94	*		6.994E-03	2.991E-02	5.023E-02	4.502E-03	0.139
	614.28			-8.669E-03	3.976E-02	5.750E-02	5.179E-03	-0.151
	722.91			1.742E-02	4.419E-02	6.791E-02	6.054E-03	0.257
AG-110M	657.76	*		-1.106E-02	4.840E-02	6.553E-02	5.712E-03	-0.169
	677.62			2.960E-02	3.704E-01	5.962E-01	5.211E-02	0.050
	706.68			-6.407E-02	2.345E-01	3.856E-01	3.408E-02	-0.166
	763.94			-3.262E-02	1.790E-01	2.948E-01	2.643E-02	-0.111
	884.68			-4.185E-02	6.024E-02	9.253E-02	8.358E-03	-0.452
	937.49			-4.152E-02	1.246E-01	1.977E-01	1.791E-02	-0.210
	1384.29			-3.458E-02	1.444E-01	2.311E-01	2.037E-02	-0.150
	1505.03			2.563E-01	3.283E-01	6.045E-01	5.227E-02	0.424
SN-113	391.69	*		-3.315E-02	4.559E-02	7.167E-02	6.227E-03	-0.463
CD-115	260.90			-4.122E-04	4.559E-02	Half-Life	too short	
	492.35			-5.116E-05	4.559E-02	Half-Life	too short	
	527.90	*		-8.330E-06	4.559E-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
SN-117M		156.02		-5.811E-01	2.412E+00	3.892E+00	3.583E-01	-0.149
		158.56	*	3.360E-02	5.586E-02	9.380E-02	8.432E-03	0.358
TE-123M		159.00	*	-9.702E-03	2.560E-02	4.093E-02	3.684E-03	-0.237
SB-124		602.73		2.834E-03	4.772E-02	6.769E-02	5.945E-03	0.042
		645.85		3.827E-01	5.165E-01	8.912E-01	8.056E-02	0.429
		722.78		5.806E-02	4.687E-01	6.971E-01	6.160E-02	0.083
		1690.97		-5.503E-02	8.578E-02	1.188E-01	1.060E-02	-0.463
SB-125		427.87	*	1.812E-02	8.974E-02	1.505E-01	1.327E-02	0.120
	+	463.37		7.782E-01	3.444E-01	5.598E-01	5.293E-02	1.390
		600.60		1.292E-02	1.917E-01	3.003E-01	2.828E-02	0.043
		635.95		-1.414E-01	2.945E-01	4.485E-01	4.174E-02	-0.315
TE-125M		109.28	*	-3.277E-01	7.766E+00	1.288E+01	1.600E+00	-0.025
I-126		388.63		1.674E-01	1.913E-01	3.364E-01	2.847E-02	0.497
		666.33	*	7.885E-02	3.544E-01	5.053E-01	4.266E-02	0.156
		753.82		-7.531E-02	2.226E+00	3.719E+00	3.240E-01	-0.020
SB-126		414.70		8.947E-02	8.157E-02	1.460E-01	1.252E-02	0.613
		666.50		1.316E-01	1.091E-01	1.751E-01	1.479E-02	0.752
		695.00		-4.291E-02	9.237E-02	1.489E-01	1.273E-02	-0.288
		697.00		1.065E-01	3.189E-01	5.534E-01	4.736E-02	0.193
		720.70	*	-6.070E-02	1.968E-01	2.903E-01	2.506E-02	-0.209
		856.80		1.907E-02	6.617E-01	1.101E+00	9.676E-02	0.017
SB-127		252.40		6.787E+00	7.474E+00	1.169E+01	4.900E+00	0.580
		473.00		-4.267E-01	2.968E+00	4.810E+00	6.630E-01	-0.089
		685.70	*	-1.104E+00	2.643E+00	4.029E+00	4.942E-01	-0.274
		783.70		5.261E+00	6.266E+00	1.125E+01	1.500E+00	0.468
I-131		80.19		3.018E+00	4.722E+00	5.968E+00	5.855E-01	0.506
		284.31		-1.386E+00	1.650E+00	2.638E+00	2.538E-01	-0.526
		364.49	*	-5.262E-03	1.477E-01	2.459E-01	2.275E-02	-0.021
		636.99		-8.104E-01	2.161E+00	3.328E+00	3.034E-01	-0.244
TE-132		49.72		-2.705E+00	6.516E+00	9.837E+00	1.278E+00	-0.275
		111.76		8.638E-01	5.265E+01	8.566E+01	1.181E+01	0.010
		116.30		3.750E+01	4.716E+01	8.044E+01	1.128E+01	0.466
		228.16	*	1.695E-02	1.360E+00	2.175E+00	3.623E-01	0.008
BA-133		81.00		5.515E-02	7.356E-02	9.331E-02	1.509E-02	0.591
	+	276.40		3.451E-01	3.344E-01	5.637E-01	8.151E-02	0.612
		302.85		3.369E-02	1.384E-01	2.105E-01	2.828E-02	0.160
		356.01	*	1.083E-02	4.227E-02	6.377E-02	8.364E-03	0.170
		383.85		-1.968E-01	2.763E-01	4.333E-01	5.357E-02	-0.454
I-133		529.87	*	2.079E-02	2.763E-01	Half-Life	too short	
		875.33		1.602E-01	2.763E-01	Half-Life	too short	
		1298.22		-2.508E+00	2.763E-01	Half-Life	too short	
CS-134		563.25		8.531E-02	3.561E-01	5.901E-01	5.303E-02	0.145
		569.33		1.113E-01	1.870E-01	3.202E-01	2.884E-02	0.348
		604.72		4.196E-03	3.914E-02	5.585E-02	4.911E-03	0.075
		795.86	*	3.687E-02	5.728E-02	9.001E-02	7.953E-03	0.410
		801.95		-9.589E-02	4.298E-01	7.026E-01	6.202E-02	-0.136
		1365.19		-4.843E-02	1.238E+00	2.057E+00	1.844E-01	-0.024
I-135		546.56		-8.664E+12	1.238E+00	Half-Life	too short	
		836.80		2.406E+13	1.238E+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		1038.76		-3.206E+13	1.238E+00	Half-Life	too short	
		1131.51		1.009E+13	1.238E+00	Half-Life	too short	
		1260.41	*	6.203E+12	1.238E+00	Half-Life	too short	
	+	1457.56		3.744E+15	1.238E+00	Half-Life	too short	
		1678.03		-3.174E+13	1.238E+00	Half-Life	too short	
		1791.20		-7.597E+11	1.238E+00	Half-Life	too short	
		153.25		7.113E-01	9.088E-01	1.535E+00	1.683E-01	0.463
		176.60		-2.900E-01	5.383E-01	8.471E-01	7.936E-02	-0.342
		273.65		3.463E-01	7.007E-01	8.277E-01	8.164E-02	0.418
		340.55		1.520E-01	1.734E-01	2.747E-01	2.558E-02	0.553
CE-139		818.51		-2.391E-02	9.438E-02	1.530E-01	1.347E-02	-0.156
		1048.07	*	4.542E-03	1.534E-01	2.513E-01	2.257E-02	0.018
		1235.36		1.404E-01	8.879E-01	1.450E+00	1.676E-01	0.097
		165.86	*	-3.081E-04	2.762E-02	4.493E-02	3.746E-03	-0.007
	BA-140	162.66		4.907E-01	8.471E-01	1.419E+00	1.306E-01	0.346
		304.85		9.686E-01	1.485E+00	2.305E+00	6.784E-01	0.420
		423.72		8.087E-02	2.225E+00	3.687E+00	1.213E+00	0.022
		537.26	*	-1.672E-01	3.228E-01	4.902E-01	1.667E-01	-0.341
	LA-140	328.76	+	4.581E-01	3.765E-01	5.805E-01	5.538E-02	0.789
		487.02		2.570E-02	1.561E-01	2.593E-01	2.440E-02	0.099
CE-141		815.77		3.295E-01	3.816E-01	6.921E-01	6.770E-02	0.476
		1596.21	*	-2.000E-01	1.177E-01	1.251E-01	1.080E-02	-1.599
		145.44	*	-6.364E-02	6.160E-02	9.442E-02	9.631E-03	-0.674
	CE-143	57.36		-4.034E-04	6.160E-02	Half-Life	too short	
	+	293.27	*	4.570E-03	6.160E-02	Half-Life	too short	
		664.57		-4.023E-03	6.160E-02	Half-Life	too short	
		721.93		1.109E-03	6.160E-02	Half-Life	too short	
	CE-144	80.12		1.205E+00	1.960E+00	2.473E+00	2.409E-01	0.487
		133.52	*	-1.393E-01	1.832E-01	2.732E-01	4.565E-02	-0.510
	PM-144	476.78		-1.565E-02	6.607E-02	1.061E-01	1.018E-02	-0.147
PR-144		618.01		-1.013E-02	3.626E-02	5.677E-02	5.080E-03	-0.178
		696.49	*	1.860E-03	3.497E-02	5.922E-02	5.070E-03	0.031
		696.51	*	1.446E-01	2.622E+00	4.441E+00	3.800E-01	0.033
		1489.16		4.692E+00	1.480E+01	2.578E+01	2.228E+00	0.182
	PM-146	453.88	*	1.742E-02	4.256E-02	7.221E-02	7.742E-03	0.241
		633.25		7.917E-01	1.502E+00	2.493E+00	9.523E-01	0.318
		735.93		-8.136E-02	1.765E-01	2.391E-01	6.704E-02	-0.340
		747.24		3.344E-02	9.868E-02	1.707E-01	2.498E-02	0.196
	ND-147	91.11	+	6.503E-01	2.958E-01	4.448E-01	4.687E-02	1.462
		319.41		-1.262E-02	3.512E+00	5.908E+00	5.389E-01	-0.002
PM-149		531.02	*	-2.918E-02	7.530E-01	1.221E+00	1.848E-01	-0.024
		285.90	*	-4.909E-05	7.530E-01	Half-Life	too short	
	EU-152	121.78		-7.828E-03	5.992E-02	9.845E-02	1.247E-02	-0.080
		244.70		3.875E-02	3.267E-01	4.668E-01	4.231E-02	0.083
		344.28	*	-1.781E-02	9.264E-02	1.532E-01	1.449E-02	-0.116
		778.90		-2.807E-02	2.575E-01	4.257E-01	3.727E-02	-0.066
	+	964.08		5.670E-01	3.572E-01	5.943E-01	5.194E-02	0.954
		1085.87		1.206E-01	4.267E-01	7.180E-01	6.110E-02	0.168
		1112.07		-4.098E-02	4.251E-01	5.877E-01	4.950E-02	-0.070

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1408.01			8.192E-02	2.115E-01	3.705E-01	3.187E-02	0.221
	69.67			-1.523E-01	9.453E-01	1.506E+00	1.479E-01	-0.101
	97.43	*		7.501E-03	6.964E-02	1.050E-01	1.074E-02	0.071
EU-154	103.18			-7.717E-02	8.390E-02	1.333E-01	1.404E-02	-0.579
	123.07			-3.464E-03	4.263E-02	7.018E-02	9.681E-03	-0.049
	723.31			1.203E-01	2.042E-01	3.202E-01	3.046E-02	0.376
	873.19			5.285E-02	3.297E-01	5.551E-01	6.665E-02	0.095
	996.26			4.825E-03	4.202E-01	6.901E-01	1.209E-01	0.007
EU-155	1004.73			8.954E-02	2.504E-01	4.254E-01	4.974E-02	0.210
	1274.44	*		-5.344E-02	1.433E-01	2.188E-01	2.455E-02	-0.244
	86.55	+		3.356E-01	9.356E-02	1.333E-01	1.311E-02	2.517
	105.31	*		7.368E-02	8.192E-02	1.411E-01	1.515E-02	0.522
	86.79	+		9.164E-01	2.552E-01	3.664E-01	3.574E-02	2.501
TB-160	197.04			-3.544E-01	5.531E-01	8.600E-01	7.469E-02	-0.412
	215.65			2.299E-01	7.027E-01	1.148E+00	1.017E-01	0.200
	298.57	+		1.745E-01	1.608E-01	1.956E-01	1.795E-02	0.893
	879.36	*		9.268E-03	1.618E-01	2.696E-01	2.364E-02	0.034
	962.29	+		1.097E+00	6.912E-01	1.145E+00	1.001E-01	0.958
HO-166M	966.15	+		1.088E+00	3.616E-01	5.936E-01	5.187E-02	1.833
	1177.93			-2.152E-01	4.835E-01	7.463E-01	6.106E-02	-0.288
	1271.85			-1.013E-01	8.463E-01	1.339E+00	1.126E-01	-0.076
	80.57	+		3.117E-01	2.014E-01	2.703E-01	2.633E-02	1.153
	184.41			9.199E-02	5.164E-02	5.852E-02	5.003E-03	1.572
TA-182	280.46			8.006E-02	7.903E-02	1.279E-01	1.175E-02	0.626
	410.95			-1.374E-01	2.247E-01	3.535E-01	3.023E-02	-0.389
	711.68	*		-9.324E-04	6.434E-02	1.082E-01	9.308E-03	-0.009
	752.31			-1.018E-01	2.763E-01	4.456E-01	3.881E-02	-0.229
	810.29			1.346E-02	5.799E-02	9.909E-02	8.705E-03	0.136
IR-192	67.75			-2.533E-02	6.055E-02	9.006E-02	8.871E-03	-0.281
	100.11			4.745E-03	1.334E-01	2.229E-01	2.311E-02	0.021
	152.43			2.284E-02	3.165E-01	5.192E-01	4.936E-02	0.044
	222.11			-4.797E-02	3.196E-01	5.068E-01	4.517E-02	-0.095
	1121.30			2.747E-01	1.948E-01	3.270E-01	2.743E-02	0.840
BI-207	1189.05			4.402E-02	3.888E-01	6.357E-01	5.221E-02	0.069
	1221.41	*		-2.446E-02	2.328E-01	3.712E-01	3.079E-02	-0.066
	1231.02			5.340E-02	5.890E-01	9.578E-01	7.968E-02	0.056
	295.96	+		8.109E-01	1.695E-01	2.751E-01	2.542E-02	2.948
	308.46			5.687E-02	8.567E-02	1.503E-01	1.383E-02	0.378
PB-211	316.51	*		-1.245E-02	3.154E-02	5.168E-02	4.728E-03	-0.241
	468.07			-7.679E-03	6.961E-02	1.092E-01	1.032E-02	-0.070
	72.81	+		5.941E-02	1.124E-01	1.733E-01	1.695E-02	0.343
	74.97			4.483E-01	8.629E-02	1.418E-01	1.384E-02	3.162
	569.70			2.780E-02	2.856E-02	5.054E-02	4.494E-03	0.550
BI-212	1063.66	*		3.545E-02	6.314E-02	1.090E-01	9.344E-03	0.325
	1770.23			-3.289E-01	5.285E-01	7.396E-01	6.247E-02	-0.445
	404.85	*		7.652E-02	7.319E-01	1.221E+00	5.905E-01	0.063
	427.09			3.894E-01	1.497E+00	2.504E+00	1.159E+00	0.155
	832.01			-5.163E-01	1.212E+00	1.888E+00	9.795E-01	-0.274

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		785.37		-8.649E-01	3.263E+00	5.309E+00	4.652E-01	-0.163
		1620.50		3.368E+00	2.967E+00	5.692E+00	4.904E-01	0.592
RN-219	+	271.23		6.523E-01	3.222E-01	3.836E-01	4.112E-02	1.700
		401.81	*	1.129E-01	4.083E-01	6.897E-01	1.021E-01	0.164
RA-223		81.07		6.902E-02	1.692E-01	2.104E-01	2.049E-02	0.328
		83.79		2.930E-02	8.816E-02	1.354E-01	1.319E-02	0.216
		94.87		3.523E-01	3.616E-01	5.674E-01	5.725E-02	0.621
		144.24		4.540E-01	6.044E-01	1.015E+00	1.118E-01	0.447
		154.21		1.737E-01	3.539E-01	5.909E-01	5.982E-02	0.294
	+	269.46		5.068E-01	2.489E-01	3.196E-01	2.980E-02	1.586
		323.87	*	-4.982E-01	6.220E-01	8.390E-01	1.475E-01	-0.594
	+	338.28		5.191E+00	1.650E+00	2.307E+00	2.850E-01	2.250
AC-227		79.69		3.588E-01	8.463E-01	1.201E+00	2.140E-01	0.299
		235.96		2.272E-01	1.627E-01	2.511E-01	2.680E-02	0.905
		256.23	*	-1.133E-01	2.369E-01	3.627E-01	4.502E-02	-0.312
	+	299.98		1.323E+00	1.225E+00	1.533E+00	2.007E-01	0.863
		304.50		5.767E-01	1.537E+00	2.362E+00	3.973E-01	0.244
		334.37		1.207E-01	1.733E+00	2.579E+00	4.080E-01	0.047
TH-227		79.80		4.641E-01	1.119E+00	1.584E+00	3.524E-01	0.293
		235.96		2.272E-01	1.625E-01	2.511E-01	2.538E-02	0.905
		256.23	*	-1.133E-01	2.370E-01	3.627E-01	5.051E-02	-0.312
	+	299.98		1.323E+00	1.225E+00	1.533E+00	2.007E-01	0.863
		304.50		5.767E-01	1.537E+00	2.362E+00	3.973E-01	0.244
		334.37		1.207E-01	1.733E+00	2.579E+00	4.080E-01	0.047
PA-231		283.69	*	-1.131E+00	1.247E+00	1.975E+00	2.947E-01	-0.573
	+	301.36		8.499E-01	7.865E-01	9.331E-01	1.171E-01	0.911
TH-231		81.07		6.902E-02	1.692E-01	2.104E-01	2.049E-02	0.328
		83.79		2.930E-02	8.816E-02	1.354E-01	1.319E-02	0.216
		94.87		3.523E-01	3.616E-01	5.674E-01	5.725E-02	0.621
		144.24		4.540E-01	6.044E-01	1.015E+00	1.118E-01	0.447
		154.21		1.737E-01	3.539E-01	5.909E-01	5.982E-02	0.294
	+	269.46		5.068E-01	2.489E-01	3.196E-01	2.980E-02	1.586
		323.87	*	-4.982E-01	6.220E-01	8.390E-01	1.475E-01	-0.594
	+	338.28		5.191E+00	1.650E+00	2.307E+00	2.850E-01	2.250
PA-233	+	300.13		5.987E-01	5.563E-01	6.935E-01	1.051E-01	0.863
		311.90	*	-3.394E-02	5.766E-02	9.330E-02	8.751E-03	-0.364
		340.48		6.272E-01	6.482E-01	1.010E+00	2.445E-01	0.621
PA-234	+	94.67		7.201E-01	2.071E-01	2.184E-01	2.939E-02	3.297
		98.44		-2.750E-03	6.793E-02	1.132E-01	6.347E-02	-0.024
		111.00		-7.501E-02	1.474E-01	2.333E-01	3.239E-02	-0.322
		131.20		-3.171E-02	1.017E-01	1.469E-01	1.631E-02	-0.216
		569.50		1.789E-01	2.570E-01	4.440E-01	3.948E-02	0.403
		733.00		3.601E-02	4.299E-01	6.360E-01	1.413E-01	0.057
		880.51		4.448E-02	3.090E-01	5.195E-01	4.554E-02	0.086
		883.24		-2.084E-01	3.569E-01	5.070E-01	3.409E-01	-0.411
		926.50		4.929E-02	1.968E-01	3.327E-01	8.424E-02	0.148
		946.00	*	-1.231E-01	3.748E-01	5.959E-01	1.122E-01	-0.207
		949.00		1.063E-01	5.593E-01	9.377E-01	8.203E-02	0.113
PA-234M		766.42		7.042E+00	1.296E+01	2.183E+01	1.108E+01	0.323

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		-5.780E-01	5.652E+00	9.277E+00	9.309E-01	-0.062
	99.53			4.863E-02	1.198E-01	2.033E-01	2.101E-02	0.239
	103.37			-5.109E-02	7.549E-02	1.216E-01	1.282E-02	-0.420
	106.12			1.453E-02	6.535E-02	1.098E-01	1.175E-02	0.132
	117.23	*		-7.978E-02	3.311E-01	5.421E-01	6.175E-02	-0.147
	228.18			3.421E-03	2.046E-01	3.273E-01	2.932E-02	0.010
AM-241	+	277.60		1.706E-01	1.641E-01	2.757E-01	2.531E-02	0.619
CM-247		59.54	*	2.144E-02	5.849E-02	9.062E-02	9.622E-03	0.237
	+	278.00		7.244E-01	6.971E-01	1.159E+00	1.064E-01	0.625
CF-249		287.50		1.183E-01	1.069E+00	1.822E+00	1.673E-01	0.065
		402.40	*	-1.498E-02	3.845E-02	6.201E-02	5.266E-03	-0.242
		252.80		1.353E+00	8.585E-01	1.494E+00	1.360E-01	0.906
CF-251		333.37		-5.591E-02	1.882E-01	2.708E-01	2.449E-02	-0.206
		388.16	*	2.199E-02	3.913E-02	6.750E-02	5.717E-03	0.326
		177.52	*	1.901E-02	1.178E-01	1.927E-01	1.632E-02	0.099
		227.38		-1.069E-01	3.395E-01	5.323E-01	4.766E-02	-0.201
		285.41		-7.321E-01	1.821E+00	3.004E+00	2.759E-01	-0.244

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]G248051006
* Acquisition date   : 10-MAR-2010 17:53:41 Detector SN#      :
* Detector ID        : GAM17 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 2.000
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:10.11 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051006 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.4820E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.551E+01	2.888E+00	5.174E-01	0.000E+00
CD-109	2.841E+00	7.755E-01	8.955E-01	0.000E+00
SN-126	2.764E-01	7.545E-02	8.701E-02	0.000E+00
CS-135	4.403E-01	2.129E-01	2.238E-01	0.000E+00
BA-137M	1.700E-01	6.971E-02	7.078E-02	0.000E+00
CS-137	1.796E-01	7.365E-02	7.477E-02	0.000E+00
HG-203	3.964E-02	3.739E-02	5.629E-02	0.000E+00
TL-208	4.217E-01	8.055E-02	5.738E-02	0.000E+00
PB-210	2.019E+00	8.474E-01	7.664E-01	0.000E+00
BI-211	2.772E+00	4.928E-01	3.207E-01	0.000E+00
PB-212	1.272E+00	1.635E-01	9.154E-02	0.000E+00
BI-214	1.002E+00	1.894E-01	1.049E-01	0.000E+00
PB-214	1.006E+00	1.869E-01	1.167E-01	0.000E+00
RA-224	3.466E+00	1.317E+00	9.818E-01	0.000E+00
RA-226	1.002E+00	1.894E-01	1.049E-01	0.000E+00
AC-228	1.687E+00	3.853E-01	2.360E-01	0.000E+00
RA-228	1.687E+00	3.853E-01	2.360E-01	0.000E+00
TH-228	1.272E+00	1.635E-01	9.154E-02	0.000E+00
TH-229	1.107E-01	4.729E-01	8.325E-01	0.000E+00
TH-232	1.687E+00	3.853E-01	2.360E-01	0.000E+00
TH-234	1.550E+00	9.611E-01	9.457E-01	0.000E+00
U-235	2.167E-01	1.822E-01	3.318E-01	0.000E+00
NP-237	8.248E-01	2.818E-01	2.588E-01	0.000E+00
U-238	1.550E+00	9.611E-01	9.457E-01	0.000E+00
ANH-511	1.479E-01	7.813E-02	4.612E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-9.316E-02	3.417E-01	5.779E-01	0.000E+00 NOT IDENT.
NA-22	-1.290E-02	4.874E-02	7.790E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	2.668E+07	0.000E+00	0.000E+00	SHORT HLIF
SC-46	6.289E-02	4.497E-02	8.717E-02	0.000E+00	FAIL ABUN
V-48	-8.516E-02	9.071E-02	1.373E-01	0.000E+00	NOT IDENT.
CR-51	4.625E-02	3.479E-01	6.287E-01	0.000E+00	NOT IDENT.
MN-54	-4.914E-02	4.430E-02	6.871E-02	0.000E+00	NOT IDENT.
CO-56	-7.872E-04	4.098E-02	7.071E-02	0.000E+00	NOT IDENT.
CO-57	4.447E-03	2.021E-02	3.676E-02	0.000E+00	NOT IDENT.
CO-58	1.685E-02	3.835E-02	6.967E-02	0.000E+00	NOT IDENT.
FE-59	-3.835E-03	1.121E-01	1.879E-01	0.000E+00	NOT IDENT.
CO-60	1.265E-02	4.379E-02	7.813E-02	0.000E+00	NOT IDENT.
ZN-65	1.490E-01	1.200E-01	2.032E-01	0.000E+00	NOT IDENT.
SE-75	1.334E-02	4.712E-02	7.265E-02	0.000E+00	NOT IDENT.
SR-85	4.693E-02	4.133E-02	6.988E-02	0.000E+00	NOT IDENT.
Y-88	-1.020E-02	3.526E-02	5.427E-02	0.000E+00	NOT IDENT.
Y-91	-3.503E+01	2.908E+01	4.236E+01	0.000E+00	NOT IDENT.
NB-94	3.174E-02	3.621E-02	6.795E-02	0.000E+00	NOT IDENT.
NB-95	6.752E-02	4.732E-02	9.143E-02	0.000E+00	NOT IDENT.
NB-95M	5.750E-02	1.295E-01	2.034E-01	0.000E+00	NOT IDENT.
ZR-95	2.171E-02	7.233E-02	1.301E-01	0.000E+00	NOT IDENT.
MO-99	1.091E+01	2.833E+01	5.128E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.088E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	5.620E-02	4.209E-02	7.922E-02	0.000E+00	FAIL ABUN
RH-106	-1.103E-01	3.525E-01	5.764E-01	0.000E+00	NOT IDENT.
RU-106	-1.103E-01	3.523E-01	5.764E-01	0.000E+00	NOT IDENT.
AG-108M	6.994E-03	2.931E-02	5.206E-02	0.000E+00	NOT IDENT.
AG-110M	-1.106E-02	4.743E-02	6.725E-02	0.000E+00	NOT IDENT.
SN-113	-3.315E-02	4.468E-02	7.446E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.226E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	3.360E-02	5.474E-02	9.951E-02	0.000E+00	NOT IDENT.
TE-123M	-9.702E-03	2.509E-02	4.341E-02	0.000E+00	NOT IDENT.
SB-124	-5.503E-02	8.407E-02	1.191E-01	0.000E+00	NOT IDENT.
SB-125	1.812E-02	8.794E-02	1.560E-01	0.000E+00	FAIL ABUN
TE-125M	-3.277E-01	7.611E+00	1.378E+01	0.000E+00	NOT IDENT.
I-126	7.885E-02	3.473E-01	5.184E-01	0.000E+00	NOT IDENT.
SB-126	-6.070E-02	1.929E-01	2.972E-01	0.000E+00	NOT IDENT.
SB-127	-1.104E+00	2.590E+00	4.131E+00	0.000E+00	NOT IDENT.
I-131	-5.262E-03	1.447E-01	2.559E-01	0.000E+00	NOT IDENT.
TE-132	1.695E-02	1.333E+00	2.288E+00	0.000E+00	NOT IDENT.
BA-133	1.083E-02	4.143E-02	6.640E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	7.658E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.687E-02	5.614E-02	9.194E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.200E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.542E-03	1.503E-01	2.550E-01	0.000E+00	NOT IDENT.
CE-139	-3.081E-04	2.707E-02	4.761E-02	0.000E+00	NOT IDENT.
BA-140	-1.672E-01	3.163E-01	5.055E-01	0.000E+00	NOT IDENT.
LA-140	-2.000E-01	1.153E-01	1.256E-01	0.000E+00	FAIL ABUN
CE-141	-6.364E-02	6.036E-02	1.004E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.351E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.393E-01	1.796E-01	2.909E-01	0.000E+00	NOT IDENT.
PM-144	1.860E-03	3.427E-02	6.068E-02	0.000E+00	NOT IDENT.
PR-144	1.446E-01	2.569E+00	4.551E+00	0.000E+00	NOT IDENT.
PM-146	1.742E-02	4.171E-02	7.476E-02	0.000E+00	NOT IDENT.
ND-147	-2.918E-02	7.380E-01	1.260E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.999E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.781E-02	9.079E-02	1.597E-01	0.000E+00	FAIL ABUN
GD-153	7.501E-03	6.824E-02	1.126E-01	0.000E+00	NOT IDENT.
EU-154	-5.344E-02	1.404E-01	2.209E-01	0.000E+00	NOT IDENT.
EU-155	7.368E-02	8.028E-02	1.510E-01	0.000E+00	FAIL ABUN
TB-160	9.268E-03	1.586E-01	2.748E-01	0.000E+00	FAIL ABUN
HO-166M	-9.324E-04	6.306E-02	1.108E-01	0.000E+00	FAIL ABUN
TA-182	-2.446E-02	2.282E-01	3.752E-01	0.000E+00	NOT IDENT.
IR-192	-1.245E-02	3.091E-02	5.396E-02	0.000E+00	FAIL ABUN
BI-207	3.545E-02	6.188E-02	1.106E-01	0.000E+00	FAIL ABUN
PB-211	7.652E-02	7.173E-01	1.267E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.240E+00	1.231E+00	0.000E+00	FAIL ABUN
RN-219	1.129E-01	4.001E-01	7.161E-01	0.000E+00	FAIL ABUN
RA-223	-4.982E-01	6.096E-01	8.755E-01	0.000E+00	FAIL ABUN
AC-227	-1.133E-01	2.321E-01	3.806E-01	0.000E+00	FAIL ABUN
TH-227	-1.133E-01	2.322E-01	3.806E-01	0.000E+00	FAIL ABUN
PA-231	-1.131E+00	1.222E+00	2.067E+00	0.000E+00	FAIL ABUN
TH-231	-4.982E-01	6.096E-01	8.755E-01	0.000E+00	FAIL ABUN
PA-233	-3.394E-02	5.651E-02	9.745E-02	0.000E+00	FAIL ABUN
PA-234	-1.231E-01	3.673E-01	6.061E-01	0.000E+00	FAIL ABUN
PA-234M	-5.780E-01	5.539E+00	9.423E+00	0.000E+00	NOT IDENT.
NP-239	-7.978E-02	3.245E-01	5.790E-01	0.000E+00	FAIL ABUN
AM-241	2.144E-02	5.732E-02	9.823E-02	0.000E+00	NOT IDENT.
CM-247	-1.498E-02	3.768E-02	6.438E-02	0.000E+00	FAIL ABUN
CF-249	2.199E-02	3.834E-02	7.015E-02	0.000E+00	NOT IDENT.

CF-251	1.901E-02	1.155E-01	2.039E-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]G248051006.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:53:41
Sample ID          : G248051006 Sample quantity : 1.48200E+02 GRAM
Detector name      : GAM17 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:10.11 0.1%
Energy tolerance   : 2.00000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	836	10.66*	7.786E-01	2.551E+01	2.551E+01	11.55
CD-109	88.03	270	3.70*	6.675E+00	2.764E+00	2.841E+00	27.85
SN-126	64.28	153	9.60	6.776E+00	5.973E-01	5.973E-01	62.43
	86.94	270	8.90	6.675E+00	1.149E+00	1.149E+00	49.11
	87.57	270	37.00*	6.675E+00	2.764E-01	2.764E-01	27.85
CS-135	268.22	101	16.00*	3.648E+00	4.403E-01	4.403E-01	49.33
BA-137M	661.66	97	89.90*	1.605E+00	1.698E-01	1.700E-01	41.84
CS-137	661.66	97	85.10*	1.605E+00	1.794E-01	1.796E-01	41.84
HG-203	70.83	-----	3.69	6.807E+00	-----	Line Not Found	-----
	72.87	429	6.19	6.795E+00	2.583E+00	3.391E+00	23.18
	279.20	35	81.56*	3.569E+00	3.020E-02	3.964E-02	96.26
TL-208	277.37	35	6.60	3.569E+00	3.732E-01	3.732E-01	96.66
	583.19	257	85.00*	1.813E+00	4.217E-01	4.217E-01	19.49
	860.56	-----	12.50	1.246E+00	-----	Line Not Found	-----
PB-210	46.54	214	4.25*	6.316E+00	2.016E+00	2.019E+00	42.83
BI-211	72.87	429	1.23	6.795E+00	1.300E+01	1.300E+01	19.25
	351.06	411	12.92*	2.909E+00	2.772E+00	2.772E+00	18.14
PB-212	74.82	429	10.28	6.795E+00	1.555E+00	1.555E+00	21.56
	77.11	725	17.10	6.782E+00	1.584E+00	1.584E+00	15.12
	238.63	881	43.60*	4.024E+00	1.272E+00	1.272E+00	13.11
	300.09	52	3.30	3.343E+00	1.203E+00	1.203E+00	92.34
BI-214	609.32	313	45.49*	1.738E+00	1.002E+00	1.002E+00	19.28
	1120.29	73	14.92	9.779E-01	1.260E+00	1.260E+00	55.73
	1764.49	-----	15.30	6.714E-01	-----	Line Not Found	-----
PB-214	74.82	429	5.80	6.795E+00	2.757E+00	2.757E+00	20.82
	77.11	725	9.70	6.782E+00	2.793E+00	2.793E+00	17.22
	242.00	224	7.25	3.985E+00	1.960E+00	1.960E+00	39.21
	295.22	262	18.42	3.389E+00	1.065E+00	1.065E+00	21.87
	351.93	411	35.60*	2.909E+00	1.006E+00	1.006E+00	18.96
RA-224	240.99	224	4.10*	3.985E+00	3.466E+00	3.466E+00	38.78
RA-226	609.32	313	45.49*	1.738E+00	1.002E+00	1.002E+00	19.28
	1120.29	73	14.92	9.779E-01	1.260E+00	1.260E+00	55.73

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	1764.49	-----	15.30	6.714E-01	-----	Line Not Found	-----
AC-228	338.32	175	11.27	3.013E+00	1.308E+00	1.308E+00	51.03
	911.20	203	25.80*	1.183E+00	1.687E+00	1.687E+00	23.30
	968.97	97	15.80	1.117E+00	1.398E+00	1.398E+00	40.30
RA-228	338.32	175	11.27	3.013E+00	1.308E+00	1.308E+00	51.03
	911.20	203	25.80*	1.183E+00	1.687E+00	1.687E+00	23.30
	968.97	97	15.80	1.117E+00	1.398E+00	1.398E+00	40.30
TH-228	74.82	429	10.28	6.795E+00	1.555E+00	1.555E+00	19.28
	77.11	725	17.10	6.782E+00	1.584E+00	1.584E+00	15.12
	238.63	881	43.60*	4.024E+00	1.272E+00	1.272E+00	13.11
	300.09	52	3.30	3.343E+00	1.203E+00	1.203E+00	110.28
TH-229	85.43	270	14.70	6.675E+00	6.958E-01	6.958E-01	27.85
	88.47	270	24.00	6.675E+00	4.262E-01	4.262E-01	27.85
	193.51	-----	4.41*	4.680E+00	-----	Line Not Found	-----
	210.85	64	2.80	4.432E+00	1.313E+00	1.313E+00	82.54
TH-232	338.32	175	11.27	3.013E+00	1.308E+00	1.308E+00	30.63
	911.20	203	25.80*	1.183E+00	1.687E+00	1.687E+00	23.30
	968.97	97	15.80	1.117E+00	1.398E+00	1.398E+00	40.30
TH-234	63.29	153	3.70*	6.776E+00	1.550E+00	1.550E+00	63.28
	92.59	294	4.23	6.594E+00	2.673E+00	2.673E+00	34.08
U-235	89.96	150	3.47	6.637E+00	1.648E+00	1.648E+00	50.87
	93.35	294	5.60	6.594E+00	2.019E+00	2.019E+00	34.74
	143.76	-----	10.96*	5.592E+00	-----	Line Not Found	-----
	163.33	-----	5.08	5.211E+00	-----	Line Not Found	-----
	185.72	126	57.20	4.807E+00	1.158E-01	1.158E-01	56.13
	205.31	-----	5.01	4.493E+00	-----	Line Not Found	-----
NP-237	86.48	270	12.40*	6.675E+00	8.248E-01	8.248E-01	34.86
	95.86	-----	2.68	6.543E+00	-----	Line Not Found	-----
U-238	63.29	153	3.70*	6.776E+00	1.550E+00	1.550E+00	63.28
	92.59	294	4.23	6.594E+00	2.673E+00	2.673E+00	27.35
ANH-511	511.00	120	100.00*	2.060E+00	1.479E-01	1.479E-01	53.91

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 3
Number of lines tentatively identified by NID 29 90.63%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.551E+01	2.551E+01	0.295E+01	11.55	
CD-109	461.40D	1.03	2.764E+00	2.841E+00	0.791E+00	27.85	
SN-126	2.30E+05Y	1.00	2.764E-01	2.764E-01	0.770E-01	27.85	
CS-135	2.30E+06Y	1.00	4.403E-01	4.403E-01	2.172E-01	49.33	
BA-137M	30.08Y	1.00	1.698E-01	1.700E-01	0.711E-01	41.84	
CS-137	30.08Y	1.00	1.794E-01	1.796E-01	0.752E-01	41.84	
HG-203	46.59D	1.31	3.020E-02	3.964E-02	3.816E-02	96.26	
TL-208	1.41E+10Y	1.00	4.217E-01	4.217E-01	0.822E-01	19.49	
PB-210	22.20Y	1.00	2.016E+00	2.019E+00	0.865E+00	42.83	
BI-211	7.04E+08Y	1.00	2.772E+00	2.772E+00	0.503E+00	18.14	
PB-212	1.41E+10Y	1.00	1.272E+00	1.272E+00	0.167E+00	13.11	
BI-214	1600.00Y	1.00	1.002E+00	1.002E+00	0.193E+00	19.28	
PB-214	1600.00Y	1.00	1.006E+00	1.006E+00	0.191E+00	18.96	
RA-224	1.41E+10Y	1.00	3.466E+00	3.466E+00	1.344E+00	38.78	
RA-226	1600.00Y	1.00	1.002E+00	1.002E+00	0.193E+00	19.28	
AC-228	1.41E+10Y	1.00	1.687E+00	1.687E+00	0.393E+00	23.30	
RA-228	1.41E+10Y	1.00	1.687E+00	1.687E+00	0.393E+00	23.30	
TH-228	1.41E+10Y	1.00	1.272E+00	1.272E+00	0.167E+00	13.11	
TH-229	7340.00Y	1.00	4.262E-01	4.262E-01	1.187E-01	27.85	K
TH-232	1.41E+10Y	1.00	1.687E+00	1.687E+00	0.393E+00	23.30	
TH-234	4.47E+09Y	1.00	1.550E+00	1.550E+00	0.981E+00	63.28	
U-235	7.04E+08Y	1.00	1.158E-01	1.158E-01	0.650E-01	56.13	K
NP-237	2.14E+06Y	1.00	8.248E-01	8.248E-01	2.875E-01	34.86	
U-238	4.47E+09Y	1.00	1.550E+00	1.550E+00	0.981E+00	63.28	
ANH-511	1.00E+09Y	1.00	1.479E-01	1.479E-01	0.797E-01	53.91	
Total Activity :			5.328E+01	5.337E+01			

Grand Total Activity : 5.328E+01 5.337E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G248051006

Page : 4
Acquisition date : 10-MAR-2010 17:53:41

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.70	57	327	1.13	257.09	253	9	7.93E-03	****	5.90E+00	
0	326.93	42	86	0.84	653.70	651	8	5.85E-03	81.6	3.10E+00	T
0	462.58	72	57	1.45	925.13	921	8	1.01E-02	43.2	2.26E+00	T
0	728.30	87	66	5.78	1456.88	1449	20	1.21E-02	54.5	1.46E+00	T
0	793.83	40	36	1.00	1588.00	1583	11	5.56E-03	66.0	1.35E+00	
1	963.59	37	32	1.83	1927.75	1923	27	5.09E-03	62.4	1.12E+00	T
0	1762.41	53	12	1.78	3526.74	3519	16	7.38E-03	40.9	6.72E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051006.CNF;1
* Acquisition date   : 10-MAR-2010 17:53:41  Detector SN#      :
* Detector ID        : GAM17                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 2.00000
* Elapsed live time  : 0 02:00:00.00          Abundance limit   : 75.00000
* Elapsed real time  : 0 02:00:10.11          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248051006            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity  : 1.48200E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36.18MS Isotope       :
* MSD ID             :                          MSD Isotope    :
* LCS ID             : 1032-A                    LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.551E+01	2.947E+00	5.142E-01	4.565E-02	49.618
CD-109	2.841E+00	7.913E-01	8.332E-01	8.134E-02	3.410
SN-126	2.764E-01	7.699E-02	8.095E-02	7.899E-03	3.415
CS-135	4.403E-01	2.172E-01	2.135E-01	2.228E-02	2.062
BA-137M	1.700E-01	7.113E-02	6.898E-02	5.811E-03	2.465
CS-137	1.796E-01	7.515E-02	7.287E-02	6.151E-03	2.465
HG-203	3.964E-02	3.816E-02	5.375E-02	5.046E-03	0.737
TL-208	4.217E-01	8.220E-02	5.575E-02	5.267E-03	7.564
PB-210	2.019E+00	8.647E-01	7.033E-01	7.582E-02	2.871
BI-211	2.772E+00	5.028E-01	3.079E-01	2.874E-02	9.003
PB-212	1.272E+00	1.668E-01	8.710E-02	8.821E-03	14.608
BI-214	1.002E+00	1.932E-01	1.021E-01	1.043E-02	9.819
PB-214	1.006E+00	1.907E-01	1.120E-01	1.214E-02	8.981
RA-224	3.466E+00	1.344E+00	9.344E-01	8.450E-02	3.710
RA-226	1.002E+00	1.932E-01	1.021E-01	1.043E-02	9.819
AC-228	1.687E+00	3.932E-01	2.318E-01	2.709E-02	7.280
RA-228	1.687E+00	3.932E-01	2.318E-01	2.709E-02	7.280
TH-228	1.272E+00	1.668E-01	8.710E-02	8.821E-03	14.608

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229	4.262E-01	1.187E-01	7.883E-01	6.817E-02	0.541
TH-232	1.687E+00	3.932E-01	2.318E-01	2.709E-02	7.280
TH-234	1.550E+00	9.807E-01	8.736E-01	1.662E-01	1.774
U-235	1.158E-01	6.500E-02	3.121E-01	5.558E-02	0.371
NP-237	8.248E-01	2.875E-01	2.408E-01	5.567E-02	3.426
U-238	1.550E+00	9.807E-01	8.736E-01	1.662E-01	1.774
ANH-511	1.479E-01	7.973E-02	4.467E-02	3.990E-03	3.311

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-9.316E-02		3.487E-01	5.588E-01	5.316E-02	-0.167
NA-22	-1.290E-02		4.973E-02	7.715E-02	6.499E-03	-0.167
NA-24	-1.451E+01		1.361E+01	Half-Life too short		
SC-46	6.289E-02		4.589E-02	8.557E-02	7.491E-03	0.735
V-48	-8.516E-02		9.256E-02	1.351E-01	1.178E-02	-0.630
CR-51	4.625E-02		3.550E-01	6.023E-01	5.748E-02	0.077
MN-54	-4.914E-02		4.521E-02	6.734E-02	5.921E-03	-0.730
CO-56	-7.872E-04		4.181E-02	6.932E-02	6.094E-03	-0.011
CO-57	4.447E-03		2.063E-02	3.445E-02	4.036E-03	0.129
CO-58	1.685E-02		3.913E-02	6.824E-02	6.010E-03	0.247
FE-59	-3.835E-03		1.144E-01	1.854E-01	1.701E-02	-0.021
CO-60	1.265E-02		4.469E-02	7.747E-02	6.602E-03	0.163
ZN-65	1.490E-01		1.224E-01	2.006E-01	1.689E-02	0.743
SE-75	1.334E-02		4.808E-02	6.930E-02	6.367E-03	0.192
SR-85	4.693E-02		4.218E-02	6.769E-02	6.047E-03	0.693
Y-88	-1.020E-02		3.598E-02	5.424E-02	4.523E-03	-0.188
Y-91	-3.503E+01		2.967E+01	4.189E+01	3.457E+00	-0.836
NB-94	3.174E-02		3.694E-02	6.632E-02	5.689E-03	0.479
NB-95	6.752E-02		4.828E-02	8.943E-02	7.811E-03	0.755
NB-95M	5.750E-02		1.321E-01	1.935E-01	1.979E-02	0.297
ZR-95	2.171E-02		7.381E-02	1.272E-01	1.223E-02	0.171
MO-99	1.091E+01		2.891E+01	5.011E+01	7.913E+00	0.218
TC-99M	-2.239E+14		1.065E+14	Half-Life too short		
RU-103	5.620E-02		4.295E-02	7.668E-02	1.085E-02	0.733
RH-106	-1.103E-01		3.597E-01	5.609E-01	7.460E-02	-0.197
RU-106	-1.103E-01		3.595E-01	5.609E-01	4.873E-02	-0.197
AG-108M	6.994E-03		2.991E-02	5.023E-02	4.502E-03	0.139
AG-110M	-1.106E-02		4.840E-02	6.553E-02	5.712E-03	-0.169
SN-113	-3.315E-02		4.559E-02	7.167E-02	6.227E-03	-0.463
CD-115	-8.330E-06		1.646E-05	Half-Life too short		
SN-117M	3.360E-02		5.586E-02	9.380E-02	8.432E-03	0.358
TE-123M	-9.702E-03		2.560E-02	4.093E-02	3.684E-03	-0.237
SB-124	-5.503E-02		8.578E-02	1.188E-01	1.060E-02	-0.463
SB-125	1.812E-02		8.974E-02	1.505E-01	1.327E-02	0.120
TE-125M	-3.277E-01		7.766E+00	1.288E+01	1.600E+00	-0.025
I-126	7.885E-02		3.544E-01	5.053E-01	4.266E-02	0.156

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-126	-6.070E-02		1.968E-01	2.903E-01	2.506E-02	-0.209
SB-127	-1.104E+00		2.643E+00	4.029E+00	4.942E-01	-0.274
I-131	-5.262E-03		1.477E-01	2.459E-01	2.275E-02	-0.021
TE-132	1.695E-02		1.360E+00	2.175E+00	3.623E-01	0.008
BA-133	1.083E-02		4.227E-02	6.377E-02	8.364E-03	0.170
I-133	2.079E-02		3.907E-02	Half-Life	too short	
CS-134	3.687E-02		5.728E-02	9.001E-02	7.953E-03	0.410
I-135	6.203E+12		1.122E+13	Half-Life	too short	
CS-136	4.542E-03		1.534E-01	2.513E-01	2.257E-02	0.018
CE-139	-3.081E-04		2.762E-02	4.493E-02	3.746E-03	-0.007
BA-140	-1.672E-01		3.228E-01	4.902E-01	1.667E-01	-0.341
LA-140	-2.000E-01		1.177E-01	1.251E-01	1.080E-02	-1.599
CE-141	-6.364E-02		6.160E-02	9.442E-02	9.631E-03	-0.674
CE-143	4.570E-03	+	6.892E-04	Half-Life	too short	
CE-144	-1.393E-01		1.832E-01	2.732E-01	4.565E-02	-0.510
PM-144	1.860E-03		3.497E-02	5.922E-02	5.070E-03	0.031
PR-144	1.446E-01		2.622E+00	4.441E+00	3.800E-01	0.033
PM-146	1.742E-02		4.256E-02	7.221E-02	7.742E-03	0.241
ND-147	-2.918E-02		7.530E-01	1.221E+00	1.848E-01	-0.024
PM-149	-4.909E-05		1.020E-04	Half-Life	too short	
EU-152	-1.781E-02		9.264E-02	1.532E-01	1.449E-02	-0.116
GD-153	7.501E-03		6.964E-02	1.050E-01	1.074E-02	0.071
EU-154	-5.344E-02		1.433E-01	2.188E-01	2.455E-02	-0.244
EU-155	7.368E-02		8.192E-02	1.411E-01	1.515E-02	0.522
TB-160	9.268E-03		1.618E-01	2.696E-01	2.364E-02	0.034
HO-166M	-9.324E-04		6.434E-02	1.082E-01	9.308E-03	-0.009
TA-182	-2.446E-02		2.328E-01	3.712E-01	3.079E-02	-0.066
IR-192	-1.245E-02		3.154E-02	5.168E-02	4.728E-03	-0.241
BI-207	3.545E-02		6.314E-02	1.090E-01	9.344E-03	0.325
PB-211	7.652E-02		7.319E-01	1.221E+00	5.905E-01	0.063
BI-212	2.262E+00	+	1.265E+00	1.202E+00	1.500E-01	1.881
RN-219	1.129E-01		4.083E-01	6.897E-01	1.021E-01	0.164
RA-223	-4.982E-01		6.220E-01	8.390E-01	1.475E-01	-0.594
AC-227	-1.133E-01		2.369E-01	3.627E-01	4.502E-02	-0.312
TH-227	-1.133E-01		2.370E-01	3.627E-01	5.051E-02	-0.312
PA-231	-1.131E+00		1.247E+00	1.975E+00	2.947E-01	-0.573
TH-231	-4.982E-01		6.220E-01	8.390E-01	1.475E-01	-0.594
PA-233	-3.394E-02		5.766E-02	9.330E-02	8.751E-03	-0.364
PA-234	-1.231E-01		3.748E-01	5.959E-01	1.122E-01	-0.207
PA-234M	-5.780E-01		5.652E+00	9.277E+00	9.309E-01	-0.062
NP-239	-7.978E-02		3.311E-01	5.421E-01	6.175E-02	-0.147
AM-241	2.144E-02		5.849E-02	9.062E-02	9.622E-03	0.237
CM-247	-1.498E-02		3.845E-02	6.201E-02	5.266E-03	-0.242
CF-249	2.199E-02		3.913E-02	6.750E-02	5.717E-03	0.326
CF-251	1.901E-02		1.178E-01	1.927E-01	1.632E-02	0.099

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]G248051006          *
* Acquisition date   : 10-MAR-2010 17:53:41 Detector SN#      :             *
* Detector ID        : GAM17 Sensitivity      : 5.000              *
* Geometry           : CAN Energy tolerance: 2.000              *
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000       *
* Elapsed real time: 0 02:00:10.11 Half life ratio : 8.000       *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G248051006 Analyst initials: MXR1          *
* Batch Number       : 958225 Sample Quantity : 1.4820E+02 GRAM      *
* Recovery           : 1.00000 Carrier Weight : 0.00000           *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope          :          *
* MSD DPM             : 0.000 MSD Isotope                      :          *
* LCS DPM             : 0.000 LCS Isotope                      :          *
* LCSD DPM            : 0.000 LCSD Isotope                    :          *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.551E+01	2.888E+00	2.589E-01	1.474E+00
CD-109	2.841E+00	7.755E-01	4.480E-01	3.957E-01
SN-126	2.764E-01	7.545E-02	4.353E-02	3.850E-02
CS-135	4.403E-01	2.129E-01	1.120E-01	1.086E-01
BA-137M	1.700E-01	6.971E-02	3.541E-02	3.557E-02
CS-137	1.796E-01	7.365E-02	3.741E-02	3.758E-02
HG-203	3.964E-02	3.739E-02	2.816E-02	1.908E-02
TL-208	4.217E-01	8.055E-02	2.871E-02	4.110E-02
PB-210	2.019E+00	8.474E-01	3.834E-01	4.324E-01
BI-211	2.772E+00	4.928E-01	1.604E-01	2.514E-01
PB-212	1.272E+00	1.635E-01	4.580E-02	8.341E-02
BI-214	1.002E+00	1.894E-01	5.250E-02	9.662E-02
PB-214	1.006E+00	1.869E-01	5.837E-02	9.537E-02
RA-224	3.466E+00	1.317E+00	4.912E-01	6.722E-01
RA-226	1.002E+00	1.894E-01	5.250E-02	9.662E-02
AC-228	1.687E+00	3.853E-01	1.181E-01	1.966E-01
RA-228	1.687E+00	3.853E-01	1.181E-01	1.966E-01
TH-228	1.272E+00	1.635E-01	4.580E-02	8.341E-02
TH-229	1.107E-01	4.729E-01	4.165E-01	2.413E-01
TH-232	1.687E+00	3.853E-01	1.181E-01	1.966E-01
TH-234	1.550E+00	9.611E-01	4.731E-01	4.904E-01
U-235	2.167E-01	1.822E-01	1.660E-01	9.297E-02
NP-237	8.248E-01	2.818E-01	1.295E-01	1.438E-01
U-238	1.550E+00	9.611E-01	4.731E-01	4.904E-01
ANH-511	1.479E-01	7.813E-02	2.307E-02	3.986E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-9.316E-02	3.417E-01	2.891E-01	1.743E-01 NOT IDENT.
NA-22	-1.290E-02	4.874E-02	3.897E-02	2.487E-02 NOT IDENT.

NA-24	-1.451E+07	2.668E+07	0.000E+00	1.361E+07	SHORT HLIF
SC-46	6.289E-02	4.497E-02	4.361E-02	2.294E-02	FAIL ABUN
V-48	-8.516E-02	9.071E-02	6.868E-02	4.628E-02	NOT IDENT.
CR-51	4.625E-02	3.479E-01	3.146E-01	1.775E-01	NOT IDENT.
MN-54	-4.914E-02	4.430E-02	3.438E-02	2.260E-02	NOT IDENT.
CO-56	-7.872E-04	4.098E-02	3.537E-02	2.091E-02	NOT IDENT.
CO-57	4.447E-03	2.021E-02	1.839E-02	1.031E-02	NOT IDENT.
CO-58	1.685E-02	3.835E-02	3.486E-02	1.956E-02	NOT IDENT.
FE-59	-3.835E-03	1.121E-01	9.400E-02	5.718E-02	NOT IDENT.
CO-60	1.265E-02	4.379E-02	3.909E-02	2.234E-02	NOT IDENT.
ZN-65	1.490E-01	1.200E-01	1.016E-01	6.122E-02	NOT IDENT.
SE-75	1.334E-02	4.712E-02	3.635E-02	2.404E-02	NOT IDENT.
SR-85	4.693E-02	4.133E-02	3.496E-02	2.109E-02	NOT IDENT.
Y-88	-1.020E-02	3.526E-02	2.715E-02	1.799E-02	NOT IDENT.
Y-91	-3.503E+01	2.908E+01	2.119E+01	1.484E+01	NOT IDENT.
NB-94	3.174E-02	3.621E-02	3.400E-02	1.847E-02	NOT IDENT.
NB-95	6.752E-02	4.732E-02	4.574E-02	2.414E-02	NOT IDENT.
NB-95M	5.750E-02	1.295E-01	1.018E-01	6.607E-02	NOT IDENT.
ZR-95	2.171E-02	7.233E-02	6.511E-02	3.691E-02	NOT IDENT.
MO-99	1.091E+01	2.833E+01	2.565E+01	1.445E+01	NOT IDENT.
TC-99M	-2.239E+20	2.088E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	5.620E-02	4.209E-02	3.963E-02	2.147E-02	FAIL ABUN
RH-106	-1.103E-01	3.525E-01	2.884E-01	1.798E-01	NOT IDENT.
RU-106	-1.103E-01	3.523E-01	2.884E-01	1.797E-01	NOT IDENT.
AG-108M	6.994E-03	2.931E-02	2.604E-02	1.496E-02	NOT IDENT.
AG-110M	-1.106E-02	4.743E-02	3.364E-02	2.420E-02	NOT IDENT.
SN-113	-3.315E-02	4.468E-02	3.725E-02	2.280E-02	NOT IDENT.
CD-115	-8.330E+00	3.226E+01	0.000E+00	1.646E+01	SHORT HLIF
SN-117M	3.360E-02	5.474E-02	4.978E-02	2.793E-02	NOT IDENT.
TE-123M	-9.702E-03	2.509E-02	2.172E-02	1.280E-02	NOT IDENT.
SB-124	-5.503E-02	8.407E-02	5.960E-02	4.289E-02	NOT IDENT.
SB-125	1.812E-02	8.794E-02	7.807E-02	4.487E-02	FAIL ABUN
TE-125M	-3.277E-01	7.611E+00	6.894E+00	3.883E+00	NOT IDENT.
I-126	7.885E-02	3.473E-01	2.594E-01	1.772E-01	NOT IDENT.
SB-126	-6.070E-02	1.929E-01	1.487E-01	9.840E-02	NOT IDENT.
SB-127	-1.104E+00	2.590E+00	2.067E+00	1.322E+00	NOT IDENT.
I-131	-5.262E-03	1.447E-01	1.280E-01	7.383E-02	NOT IDENT.
TE-132	1.695E-02	1.333E+00	1.145E+00	6.800E-01	NOT IDENT.
BA-133	1.083E-02	4.143E-02	3.322E-02	2.114E-02	FAIL ABUN
I-133	2.079E+04	7.658E+04	0.000E+00	3.907E+04	SHORT HLIF
CS-134	3.687E-02	5.614E-02	4.600E-02	2.864E-02	NOT IDENT.
I-135	6.203E+18	2.200E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.542E-03	1.503E-01	1.276E-01	7.669E-02	NOT IDENT.
CE-139	-3.081E-04	2.707E-02	2.382E-02	1.381E-02	NOT IDENT.
BA-140	-1.672E-01	3.163E-01	2.529E-01	1.614E-01	NOT IDENT.
LA-140	-2.000E-01	1.153E-01	6.284E-02	5.884E-02	FAIL ABUN
CE-141	-6.364E-02	6.036E-02	5.021E-02	3.080E-02	NOT IDENT.
CE-143	4.570E+03	1.351E+03	0.000E+00	6.892E+02	SHORT HLIF
CE-144	-1.393E-01	1.796E-01	1.456E-01	9.162E-02	NOT IDENT.
PM-144	1.860E-03	3.427E-02	3.036E-02	1.748E-02	NOT IDENT.
PR-144	1.446E-01	2.569E+00	2.277E+00	1.311E+00	NOT IDENT.
PM-146	1.742E-02	4.171E-02	3.740E-02	2.128E-02	NOT IDENT.
ND-147	-2.918E-02	7.380E-01	6.302E-01	3.765E-01	FAIL ABUN
PM-149	-4.909E+01	1.999E+02	0.000E+00	1.020E+02	SHORT HLIF
EU-152	-1.781E-02	9.079E-02	7.988E-02	4.632E-02	FAIL ABUN
GD-153	7.501E-03	6.824E-02	5.634E-02	3.482E-02	NOT IDENT.
EU-154	-5.344E-02	1.404E-01	1.105E-01	7.163E-02	NOT IDENT.
EU-155	7.368E-02	8.028E-02	7.555E-02	4.096E-02	FAIL ABUN
TB-160	9.268E-03	1.586E-01	1.375E-01	8.090E-02	FAIL ABUN
HO-166M	-9.324E-04	6.306E-02	5.542E-02	3.217E-02	FAIL ABUN
TA-182	-2.446E-02	2.282E-01	1.877E-01	1.164E-01	NOT IDENT.
IR-192	-1.245E-02	3.091E-02	2.700E-02	1.577E-02	FAIL ABUN
BI-207	3.545E-02	6.188E-02	5.531E-02	3.157E-02	FAIL ABUN
PB-211	7.652E-02	7.173E-01	6.340E-01	3.660E-01	NOT IDENT.
BI-212	2.262E+00	1.240E+00	6.157E-01	6.325E-01	FAIL ABUN
RN-219	1.129E-01	4.001E-01	3.583E-01	2.041E-01	FAIL ABUN
RA-223	-4.982E-01	6.096E-01	4.380E-01	3.110E-01	FAIL ABUN
AC-227	-1.133E-01	2.321E-01	1.904E-01	1.184E-01	FAIL ABUN
TH-227	-1.133E-01	2.322E-01	1.904E-01	1.185E-01	FAIL ABUN
PA-231	-1.131E+00	2.222E+00	1.034E+00	6.237E-01	FAIL ABUN
TH-231	-4.982E-01	6.096E-01	4.380E-01	3.110E-01	FAIL ABUN
PA-233	-3.394E-02	5.651E-02	4.875E-02	2.883E-02	FAIL ABUN
PA-234	-1.231E-01	3.673E-01	3.033E-01	1.874E-01	FAIL ABUN
PA-234M	-5.780E-01	5.539E+00	4.714E+00	2.826E+00	NOT IDENT.
NP-239	-7.978E-02	3.245E-01	2.897E-01	1.655E-01	FAIL ABUN
AM-241	2.144E-02	5.732E-02	4.914E-02	2.924E-02	NOT IDENT.
CM-247	-1.498E-02	3.768E-02	3.221E-02	1.922E-02	FAIL ABUN
CF-249	2.199E-02	3.834E-02	3.509E-02	1.956E-02	NOT IDENT.

CF-251

1.901E-02

1.155E-01

1.020E-01

5.892E-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
46.54	255.9474
49.72	257.1074
57.36	0.0000
59.54	315.8781
63.29	345.8944
63.29	345.8944
64.28	349.7958
67.75	380.4741
69.67	398.1216
70.83	392.5351
72.81	413.0216
72.87	413.0782
72.87	413.0782
74.82	385.7929
74.82	385.7929
74.82	385.7929
74.97	385.9222
77.11	387.7374
77.11	387.7374
77.11	387.7374
79.69	305.7641
79.80	305.8346
80.12	298.7990
80.19	298.8426
80.57	244.7040
81.00	280.3047
81.07	299.3982
81.07	299.3982
83.79	322.9939
83.79	322.9939
85.43	286.5425
86.48	287.1523
86.55	287.1921
86.79	287.3290
86.94	287.4166
87.57	287.7795
88.03	288.0438
88.47	288.2953
89.96	289.1423
91.11	289.7918
92.59	290.6229
92.59	290.6229
93.35	291.0463
94.67	271.2688
94.87	271.3709
94.87	271.3709
95.86	263.4699
97.43	250.1876
98.44	253.4711
99.53	227.6406
100.11	237.2985
103.18	249.9788
103.37	244.3801
105.31	216.7072
106.12	233.1966
109.28	223.9501
111.00	229.4076
111.76	219.1309
116.30	212.0794
117.23	230.8312
121.12	212.7675
121.78	213.9686
122.06	199.4014
123.07	213.4273
131.20	236.4499
133.52	237.5757
136.00	206.6968

136.47	215.8330
140.51	246.2536
140.51	0.0000
143.76	198.9318
144.24	202.0976
144.24	202.0976
145.44	244.9516
152.43	216.6711
153.25	205.6578
154.21	216.1707
154.21	216.1707
156.02	225.9395
158.56	182.3944
159.00	208.2776
162.66	186.4856
163.33	172.1298
165.86	207.0224
176.60	207.7193
177.52	190.0067
181.07	206.7293
184.41	194.7838
185.72	191.8872
193.51	181.8026
197.04	219.2579
205.31	173.3264
210.85	157.9248
215.65	160.9410
222.11	155.3766
227.38	176.3083
228.16	165.2805
228.18	165.2835
235.69	165.4109
235.96	165.4557
235.96	165.4557
238.63	168.1510
238.63	168.1510
240.99	168.5405
242.00	168.7072
244.70	136.2280
252.40	113.2180
252.80	97.2437
256.23	140.0244
256.23	140.0244
260.90	0.0000
264.66	123.1883
268.22	113.1450
269.46	128.9535
269.46	128.9535
271.23	99.4873
273.65	94.4555
276.40	122.7414
277.37	124.6010
277.60	130.7706
278.00	139.0689
279.20	101.2482
279.54	101.2781
280.46	94.3202
283.69	126.1724
284.31	121.8271
285.41	112.2228
285.90	0.0000
287.50	111.5401
293.27	0.0000
295.22	113.1636
295.96	113.2353
298.57	113.4834
299.98	113.6152
299.98	113.6152
300.09	113.6268
300.09	113.6268
300.13	113.6307
301.36	108.9086
302.85	109.0440
304.50	94.8251
304.50	94.8251
304.85	84.7923
308.46	90.0864
311.90	113.8260

316.51	106.0884
319.41	95.4270
320.08	99.1139
323.87	103.6070
323.87	103.6070
328.76	114.2559
333.37	114.6634
334.37	102.9817
334.37	102.9817
338.28	106.0560
338.28	106.0560
338.32	106.0595
338.32	106.0595
338.32	106.0595
340.48	97.5498
340.55	97.5546
344.28	110.2424
351.06	96.8335
351.93	96.8954
356.01	85.2245
364.49	98.7243
366.42	93.2128
383.85	96.2656
388.16	86.0353
388.63	79.3690
391.69	107.3242
400.66	84.8364
401.81	91.6558
402.40	106.1697
404.85	97.6403
410.95	87.3564
414.70	59.3534
423.72	79.2734
427.09	76.5016
427.87	78.5022
433.94	79.7875
453.88	72.7973
463.37	59.3734
468.07	72.4131
473.00	78.6760
476.78	75.8171
477.60	79.8993
487.02	59.9975
492.35	0.0000
497.08	51.1368
511.00	60.8127
514.00	56.1643
527.90	0.0000
529.87	0.0000
531.02	72.9416
537.26	65.8666
546.56	0.0000
563.25	54.0474
569.33	45.7111
569.50	44.6519
569.70	40.4040
583.19	53.0966
600.60	60.4639
602.73	62.2547
604.72	60.5835
609.32	46.8400
609.32	46.8400
610.33	67.6901
614.28	62.3129
618.01	67.5041
621.93	67.6309
621.93	67.6309
633.25	46.0580
635.95	60.3912
636.99	56.0256
645.85	40.8131
657.76	70.9785
661.66	71.1035
661.66	71.1035
664.57	0.0000
666.33	62.3472
666.50	39.1929
677.62	61.5427

685.70	61.7609
695.00	56.8261
696.49	53.2512
696.51	53.2527
697.00	48.7503
702.65	53.3938
706.68	64.3645
711.68	55.4168
720.70	56.0191
721.93	0.0000
722.78	54.7646
722.91	50.2036
723.31	50.2117
724.19	48.7083
727.33	57.6121
733.00	45.8325
735.93	53.5354
739.50	46.8749
747.24	42.4141
752.31	48.9694
753.82	48.9991
756.73	40.7269
763.94	60.3392
765.81	44.5910
766.42	55.7534
777.92	46.6736
778.90	42.9565
783.70	37.4248
785.37	50.5564
795.86	45.4364
801.95	42.4028
810.29	35.9219
810.76	33.0919
815.77	29.3660
818.51	46.4663
832.01	61.9531
834.85	73.4677
836.80	0.0000
846.77	40.2517
856.80	53.8672
860.56	48.1616
871.09	45.4452
873.19	46.4473
875.33	0.0000
879.36	43.6410
880.51	40.7480
883.24	51.4706
884.68	57.3262
889.28	31.1438
898.04	36.1211
911.20	35.9613
911.20	35.9613
911.20	35.9613
926.50	39.4385
937.49	45.5250
944.13	40.6677
946.00	54.5891
949.00	50.6700
962.29	39.9180
964.08	40.9409
966.15	40.9690
968.97	41.0070
968.97	41.0070
968.97	41.0070
983.53	49.2440
996.26	44.4018
1001.03	48.5133
1004.73	41.4875
1037.84	35.7896
1038.76	0.0000
1048.07	45.1365
1050.41	52.3547
1050.41	52.3547
1063.66	39.1689
1085.87	34.2456
1099.45	44.8057
1112.07	47.0654
1115.54	36.6440

1120.29	46.1313
1120.29	46.1313
1120.55	46.1334
1121.30	33.2098
1131.51	0.0000
1173.23	47.9048
1177.93	60.7601
1189.05	50.2565
1204.77	73.0303
1221.41	49.6274
1231.02	54.0845
1235.36	67.1435
1238.28	53.1081
1260.41	0.0000
1271.85	36.0889
1274.44	38.3018
1274.54	36.1147
1291.59	26.3824
1298.22	0.0000
1312.11	35.9166
1332.49	25.9207
1365.19	18.6678
1368.63	0.0000
1384.29	16.8809
1408.01	22.6387
1457.56	0.0000
1460.82	13.1004
1489.16	16.3470
1505.03	15.4414
1596.21	27.5796
1620.50	11.8818
1678.03	0.0000
1690.97	13.0656
1764.49	10.4937
1764.49	10.4937
1770.23	14.2996
1771.35	9.1945
1791.20	0.0000
1836.06	9.3124

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051006

Total Uranium Activity	4.7110E+00	ug/g
Total Uranium Counting Unc.	2.8606E+00	ug/g
Total Uranium Tpu	1.4595E-06	ug/g
Total Uranium Mda	1.4097E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 958225                SAMPLE ID   : G248051006                *
*  ANALYST       : MXR1                  DETECTOR    : GAM17                  *
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE: 10-MAR-2010 17:53:41.90  SAMPLE ALQT: 148.200 GRAM         *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 7.811E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.267E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.195E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.547E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 19:55:09.70

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051007.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:54:07
Sample ID          : G248051007 Sample quantity : 1.28740E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.56 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	63.10*	132	760	1.29	126.46	122	9	1.83E-02	39.6	
2	3	74.74	746	786	1.35	149.70	144	16	1.04E-01	7.7	2.62E+00
3	3	77.13*	1052	584	1.06	154.48	144	16	1.46E-01	5.0	
4	0	87.75*	238	939	1.07	175.71	170	8	3.30E-02	23.4	
5	4	89.86	217	407	0.99	179.92	178	13	3.02E-02	14.4	1.22E+00
6	4	92.89*	413	777	1.44	185.98	178	13	5.74E-02	13.9	
7	0	128.72	221	670	1.28	257.55	252	11	3.07E-02	23.7	
8	0	154.16	105	548	1.63	308.40	305	9	1.46E-02	41.2	
9	0	185.84*	371	572	1.36	371.70	367	11	5.16E-02	14.1	
10	0	209.63	183	570	1.15	419.23	415	11	2.55E-02	26.5	
11	4	238.69*	2328	316	1.24	477.30	471	17	3.23E-01	2.5	1.77E+00
12	4	241.76	592	312	1.78	483.44	471	17	8.22E-02	7.7	
13	0	269.97	198	410	1.42	539.80	535	11	2.75E-02	21.0	
14	0	295.21*	719	386	1.29	590.24	585	11	9.98E-02	6.5	
15	0	300.26	176	325	1.12	600.34	596	10	2.44E-02	20.7	
16	0	328.05	95	282	1.43	655.86	651	9	1.31E-02	33.7	
17	0	338.32*	491	293	1.26	676.38	671	11	6.82E-02	8.2	
18	0	351.91*	1313	356	1.46	703.54	696	15	1.82E-01	4.2	
19	0	462.91*	82	254	1.33	925.39	920	11	1.14E-02	39.7	
20	0	511.04*	218	345	2.17	1021.57	1014	19	3.03E-02	23.5	
21	0	583.28*	770	227	1.67	1165.97	1159	16	1.07E-01	5.8	
22	0	609.43*	912	198	1.70	1218.24	1212	12	1.27E-01	4.6	
23	0	727.27*	199	147	1.72	1453.80	1446	14	2.77E-02	15.0	
24	0	769.49	67	231	1.22	1538.20	1529	16	9.24E-03	52.6	
25	0	794.72	100	190	0.82	1588.64	1579	19	1.39E-02	34.6	
26	0	860.91*	155	132	1.97	1720.98	1714	17	2.15E-02	19.3	
27	0	911.36*	646	121	1.97	1821.84	1814	18	8.98E-02	5.7	
28	2	965.11	110	139	2.81	1929.31	1917	28	1.53E-02	28.4	1.30E+00
29	2	969.22	366	91	2.15	1937.53	1917	28	5.08E-02	7.7	
30	0	1120.17*	290	153	2.40	2239.36	2227	22	4.03E-02	12.5	
31	0	1238.67*	119	118	1.95	2476.34	2469	17	1.66E-02	23.1	
32	0	1461.01*	2700	75	2.80	2921.04	2908	28	3.75E-01	2.1	
33	0	1590.58	44	73	2.01	3180.24	3169	18	6.07E-03	49.2	
34	0	1764.93*	167	44	0.86	3529.05	3515	24	2.32E-02	13.6	
35	1	1846.87	34	12	3.03	3693.00	3682	20	4.68E-03	30.7	1.80E+00
36	1	1849.36	44	4	3.03	3698.00	3682	20	6.07E-03	16.0	

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


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051007.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:54:07
Sample ID        : G248051007 Sample quantity : 128.74 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA22 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.56 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	+	1460.82	*	3.869E+01	3.915E+00	4.682E-01	4.289E-02	82.627
CD-109	+	88.03	*	2.560E+00	1.224E+00	1.302E+00	1.235E-01	1.967
SN-126	+	64.28		9.300E-01	7.495E-01	7.527E-01	1.093E-01	1.235
	+	86.94		1.036E+00	6.484E-01	5.651E-01	2.347E-01	1.832
	+	87.57	*	2.491E-01	1.190E-01	1.430E-01	1.350E-02	1.742
TL-208		277.37		6.094E-01	4.149E-01	6.814E-01	1.133E-01	0.894
	+	583.19	*	6.725E-01	1.064E-01	5.333E-02	5.778E-03	12.609
	+	860.56		1.237E+00	4.978E-01	4.301E-01	5.010E-02	2.876
BI-211		72.87		7.024E+00	3.493E+00	5.413E+00	4.333E-01	1.298
	+	351.06	*	5.486E+00	7.888E-01	3.244E-01	3.786E-02	16.909
PB-212	+	74.82		3.436E+00	6.835E-01	5.392E-01	6.847E-02	6.374
	+	77.11		2.776E+00	3.610E-01	3.105E-01	2.597E-02	8.938
	+	238.63	*	2.321E+00	3.284E-01	8.835E-02	1.171E-02	26.264
	+	300.09		2.626E+00	1.154E+00	1.207E+00	1.770E-01	2.175
BI-214	+	609.32	*	1.533E+00	2.284E-01	1.140E-01	1.331E-02	13.447
	+	1120.29		2.420E+00	6.639E-01	4.362E-01	4.841E-02	5.547
	+	1764.49		1.855E+00	5.278E-01	3.206E-01	2.671E-02	5.787
PB-214	+	74.82		6.091E+00	1.162E+00	9.556E-01	1.088E-01	6.374
	+	77.11		4.893E+00	7.535E-01	5.475E-01	6.430E-02	8.938
	+	242.00		3.574E+00	7.387E-01	4.701E-01	6.501E-02	7.603
	+	295.22		1.906E+00	3.794E-01	2.308E-01	3.462E-02	8.257
	+	351.93	*	1.991E+00	3.066E-01	1.180E-01	1.518E-02	16.878
RA-224	+	240.99	*	6.320E+00	1.254E+00	9.460E-01	1.184E-01	6.680
RA-226	+	609.32	*	1.533E+00	2.284E-01	1.140E-01	1.331E-02	13.447
	+	1120.29		2.420E+00	6.639E-01	4.362E-01	4.841E-02	5.547
	+	1764.49		1.855E+00	5.278E-01	3.206E-01	2.671E-02	5.787
AC-228	+	338.32		2.300E+00	1.048E+00	3.758E-01	1.598E-01	6.120
	+	911.20	*	2.620E+00	4.646E-01	2.145E-01	2.905E-02	12.212
	+	968.97		2.550E+00	7.516E-01	3.675E-01	9.239E-02	6.938
RA-228	+	338.32		2.300E+00	1.048E+00	3.758E-01	1.598E-01	6.120
	+	911.20	*	2.620E+00	4.646E-01	2.145E-01	2.905E-02	12.212
	+	968.97		2.550E+00	7.516E-01	3.675E-01	9.239E-02	6.938
TH-228	+	74.82		3.436E+00	5.976E-01	5.392E-01	4.446E-02	6.374
	+	77.11		2.776E+00	3.610E-01	3.105E-01	2.597E-02	8.938

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	238.63	*	2.321E+00	3.284E-01	8.835E-02	1.171E-02	26.264
	+	300.09		2.626E+00	1.960E+00	1.207E+00	7.493E-01	2.175
TH-232	+	338.32		2.300E+00	4.670E-01	3.758E-01	4.469E-02	6.120
	+	911.20	*	2.620E+00	4.646E-01	2.145E-01	2.905E-02	12.212
	+	968.97		2.550E+00	7.516E-01	3.675E-01	9.239E-02	6.938
TH-234	+	63.29	*	2.413E+00	1.961E+00	1.938E+00	3.449E-01	1.245
	+	92.59		3.620E+00	1.291E+00	9.785E-01	2.180E-01	3.700
U-235	+	89.96		2.379E+00	9.070E-01	1.509E+00	3.751E-01	1.577
	+	93.35		2.735E+00	9.928E-01	7.358E-01	1.711E-01	3.717
		143.76	*	8.601E-02	2.026E-01	3.374E-01	5.767E-02	0.255
		163.33		5.546E-02	4.604E-01	7.522E-01	1.391E-01	0.074
	+	185.72		2.488E-01	7.468E-02	6.904E-02	7.229E-03	3.604
		205.31		-1.631E-01	5.770E-01	8.182E-01	1.595E-01	-0.199
NP-237	+	86.48	*	7.432E-01	3.879E-01	4.074E-01	9.348E-02	1.824
		95.86		7.833E-01	1.007E+00	1.472E+00	3.544E-01	0.532
U-238	+	63.29	*	2.413E+00	1.961E+00	1.938E+00	3.449E-01	1.245
	+	92.59		3.620E+00	1.061E+00	9.785E-01	8.901E-02	3.700
ANH-511	+	511.00	*	1.481E-01	7.123E-02	4.308E-02	4.316E-03	3.438

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-2.208E-01	3.319E-01	5.164E-01	5.388E-02	-0.428
NA-22		1274.54	*	-3.928E-02	4.306E-02	6.680E-02	5.757E-03	-0.588
NA-24		1368.63	*	-2.534E+01	4.306E-02	Half-Life too short		
SC-46		889.28	*	2.034E-02	3.750E-02	6.413E-02	7.179E-03	0.317
	+	1120.55		4.200E-01	1.118E-01	1.353E-01	1.197E-02	3.103
V-48		944.13		-2.981E-02	9.945E-01	1.637E+00	1.776E-01	-0.018
		983.53	*	-1.028E-01	7.961E-02	1.185E-01	1.243E-02	-0.867
		1312.11		-9.316E-03	7.830E-02	1.280E-01	1.127E-02	-0.073
CR-51		320.08	*	-1.755E-01	3.887E-01	6.376E-01	8.254E-02	-0.275
MN-54		834.85	*	2.301E-02	3.741E-02	6.421E-02	7.133E-03	0.358
CO-56		846.77	*	-1.465E-02	3.839E-02	6.250E-02	6.958E-03	-0.234
		1037.84		-3.245E-01	2.987E-01	4.481E-01	4.617E-02	-0.724
	+	1238.28		2.836E-01	1.331E-01	1.717E-01	1.488E-02	1.652
		1771.35		2.335E-01	2.362E-01	3.867E-01	3.213E-02	0.604
CO-57		122.06	*	-1.567E-02	2.644E-02	4.094E-02	3.376E-03	-0.383
		136.47		-1.797E-02	2.106E-01	3.553E-01	3.293E-02	-0.051
CO-58		810.76	*	-4.741E-02	3.899E-02	6.011E-02	6.656E-03	-0.789
FE-59		1099.45	*	-2.852E-02	9.753E-02	1.555E-01	1.523E-02	-0.183
		1291.59		4.614E-02	1.175E-01	1.994E-01	1.966E-02	0.231
CO-60		1173.23		-9.075E-03	4.525E-02	7.468E-02	6.005E-03	-0.122
		1332.49	*	-3.617E-02	3.851E-02	5.624E-02	5.015E-03	-0.643
ZN-65		1115.54	*	2.616E-02	1.089E-01	1.532E-01	1.367E-02	0.171
SE-75		121.12		-1.054E-01	1.442E-01	2.220E-01	2.397E-02	-0.475
		136.00		-1.099E-03	4.114E-02	6.951E-02	6.033E-03	-0.016
		264.66	*	2.511E-02	5.014E-02	7.226E-02	9.726E-03	0.348
		279.54		4.819E-02	1.186E-01	1.924E-01	2.731E-02	0.250

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SR-85	400.66			4.103E-02	2.473E-01	4.090E-01	4.777E-02	0.100
Y-88	514.00	*		1.817E-01	4.989E-02	7.942E-02	7.969E-03	2.288
	898.04			-1.333E-02	4.051E-02	6.576E-02	7.388E-03	-0.203
	1836.06	*		-2.176E-02	3.623E-02	4.389E-02	3.549E-03	-0.496
Y-91	1204.77	*		-8.081E-01	2.148E+01	3.567E+01	2.933E+00	-0.023
NB-94	702.65	*		9.306E-03	3.191E-02	5.290E-02	5.669E-03	0.176
	871.09			1.517E-02	3.263E-02	5.262E-02	5.879E-03	0.288
NB-95	765.81	*		9.599E-02	5.158E-02	7.983E-02	8.729E-03	1.202
NB-95M	235.69	*		2.112E-01	1.569E-01	2.326E-01	3.078E-02	0.908
ZR-95	724.19			2.263E-01	1.158E-01	1.796E-01	2.045E-02	1.260
	756.73	*		5.733E-02	7.416E-02	1.250E-01	1.454E-02	0.459
MO-99	140.51			-4.880E+01	5.083E+01	7.992E+01	1.902E+01	-0.611
	181.07			2.072E+01	4.457E+01	6.595E+01	1.294E+01	0.314
	366.42			-5.817E+01	2.059E+02	3.361E+02	3.566E+01	-0.173
	739.50	*		5.644E+00	2.653E+01	4.360E+01	7.447E+00	0.129
	777.92			-7.976E+01	8.716E+01	1.253E+02	1.375E+01	-0.637
TC-99M	140.51	*		-2.170E+14	8.716E+01	Half-Life	too short	
RU-103	497.08	*		-2.412E-02	4.026E-02	6.238E-02	9.248E-03	-0.387
	610.33		+	1.672E+01	3.290E+00	2.881E+00	5.000E-01	5.806
RH-106	621.93	*		7.800E-02	2.876E-01	4.816E-01	6.987E-02	0.162
	1050.41			1.363E+00	2.502E+00	4.219E+00	4.118E-01	0.323
RU-106	621.93	*		7.800E-02	2.875E-01	4.816E-01	5.030E-02	0.162
	1050.41			1.363E+00	2.502E+00	4.219E+00	4.118E-01	0.323
AG-108M	433.94	*		-2.199E-02	2.947E-02	4.616E-02	4.544E-03	-0.476
	614.28			-2.650E-03	3.831E-02	5.416E-02	5.772E-03	-0.049
	722.91			1.794E-02	4.195E-02	6.041E-02	6.654E-03	0.297
AG-110M	657.76	*		-4.705E-02	3.422E-02	5.130E-02	5.513E-03	-0.917
	677.62			2.490E-02	2.974E-01	4.895E-01	5.295E-02	0.051
	706.68			5.555E-02	2.098E-01	3.471E-01	3.794E-02	0.160
	763.94			8.161E-02	1.852E-01	2.653E-01	2.950E-02	0.308
	884.68			-1.162E-02	4.786E-02	7.824E-02	8.921E-03	-0.149
	937.49			7.382E-02	1.075E-01	1.841E-01	2.053E-02	0.401
	1384.29			-2.781E-01	1.800E-01	2.584E-01	2.368E-02	-1.076
	1505.03			-9.154E-02	2.688E-01	4.231E-01	3.762E-02	-0.216
SN-113	391.69	*		2.946E-02	4.603E-02	7.762E-02	7.413E-03	0.380
CD-115	260.90			-2.254E-04	4.603E-02	Half-Life	too short	
	492.35			1.336E-04	4.603E-02	Half-Life	too short	
	527.90	*		2.373E-06	4.603E-02	Half-Life	too short	
SN-117M	156.02			9.679E-01	3.017E+00	4.509E+00	4.228E-01	0.215
	158.56	*		8.120E-03	7.299E-02	1.081E-01	1.025E-02	0.075
TE-123M	159.00	*		-1.451E-03	3.324E-02	4.887E-02	4.667E-03	-0.030
SB-124	602.73			-6.495E-02	4.802E-02	6.119E-02	6.357E-03	-1.061
	645.85			-1.989E-01	4.807E-01	7.719E-01	8.429E-02	-0.258
	722.78			1.532E-01	4.351E-01	6.233E-01	6.826E-02	0.246
	1690.97	*		2.294E-02	6.852E-02	1.180E-01	1.052E-02	0.194
SB-125	427.87	*		-1.633E-02	8.900E-02	1.440E-01	1.396E-02	-0.113
	463.37		+	5.001E-01	4.009E-01	5.238E-01	5.420E-02	0.955
	600.60			-7.341E-02	1.808E-01	2.867E-01	3.130E-02	-0.256
	635.95			-2.128E-01	2.748E-01	4.328E-01	4.790E-02	-0.492

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	109.28	*		3.084E-01	1.040E+01	1.664E+01	1.712E+00	0.019
I-126	388.63			2.218E-01	1.992E-01	3.414E-01	3.232E-02	0.650
	666.33	*		9.065E-02	2.595E-01	4.330E-01	4.575E-02	0.209
	753.82			1.312E+00	2.074E+00	3.478E+00	3.790E-01	0.377
SB-126	414.70			-6.502E-02	9.219E-02	1.458E-01	1.380E-02	-0.446
	666.50			2.750E-02	8.956E-02	1.492E-01	1.576E-02	0.184
	695.00			4.421E-02	9.178E-02	1.500E-01	1.603E-02	0.295
	697.00			1.159E-01	3.028E-01	5.047E-01	5.397E-02	0.230
	720.70	*		4.211E-02	1.896E-01	2.693E-01	2.904E-02	0.156
	856.80			7.235E-01	6.077E-01	9.435E-01	1.052E-01	0.767
SB-127	252.40			-2.410E+00	7.749E+00	1.224E+01	5.251E+00	-0.197
	473.00			3.405E-01	2.809E+00	4.569E+00	6.591E-01	0.075
	685.70	*		1.027E+00	2.240E+00	3.750E+00	5.186E-01	0.274
	783.70			8.690E+00	6.618E+00	1.103E+01	1.643E+00	0.788
I-131	80.19			1.989E-01	6.146E+00	8.973E+00	7.835E-01	0.022
	284.31			-1.234E+00	2.019E+00	3.128E+00	4.425E-01	-0.395
	364.49	*		1.668E-02	1.441E-01	2.397E-01	2.661E-02	0.070
	636.99			-3.004E-01	2.034E+00	3.325E+00	3.630E-01	-0.090
TE-132	49.72			-1.956E+01	3.118E+01	5.113E+01	5.880E+00	-0.383
	111.76			-1.127E+01	6.780E+01	1.076E+02	1.261E+01	-0.105
	116.30			2.114E+01	5.977E+01	9.617E+01	1.124E+01	0.220
	228.16	*		6.714E-01	1.509E+00	2.485E+00	4.595E-01	0.270
BA-133	81.00			-5.205E-02	9.971E-02	1.418E-01	2.210E-02	-0.367
	276.40			1.551E-01	4.099E-01	6.149E-01	1.096E-01	0.252
	302.85			2.055E-01	1.522E-01	2.333E-01	3.849E-02	0.881
	356.01	*		1.625E-02	4.581E-02	6.728E-02	9.907E-03	0.242
	383.85			-5.095E-02	2.860E-01	4.674E-01	6.176E-02	-0.109
I-133	529.87	*		1.180E-02	2.860E-01	Half-Life	too short	
	875.33			-1.789E-01	2.860E-01	Half-Life	too short	
	1298.22			-1.094E+00	2.860E-01	Half-Life	too short	
CS-134	563.25			-4.886E-02	3.332E-01	5.511E-01	5.685E-02	-0.089
	569.33			-9.825E-03	1.882E-01	3.125E-01	3.241E-02	-0.031
	604.72			3.783E-02	3.664E-02	5.563E-02	5.792E-03	0.680
	795.86	*		1.235E-01	8.650E-02	8.606E-02	9.526E-03	1.435
	801.95			-3.232E-01	4.890E-01	6.328E-01	7.007E-02	-0.511
	1365.19			7.344E-01	1.166E+00	2.013E+00	1.876E-01	0.365
CS-135	268.22	*		4.038E-01	1.935E-01	2.878E-01	4.163E-02	1.403
I-135	546.56			2.199E+13	1.935E-01	Half-Life	too short	
	836.80			8.841E+13	1.935E-01	Half-Life	too short	
	1038.76			-6.205E+13	1.935E-01	Half-Life	too short	
	1131.51			-4.839E+12	1.935E-01	Half-Life	too short	
	1260.41	*		7.737E+12	1.935E-01	Half-Life	too short	
	1457.56			3.870E+15	1.935E-01	Half-Life	too short	
	1678.03			1.756E+13	1.935E-01	Half-Life	too short	
	1791.20			-1.447E+11	1.935E-01	Half-Life	too short	
CS-136	153.25	+		1.707E+00	1.417E+00	1.761E+00	1.904E-01	0.970
	176.60			2.577E-02	5.862E-01	9.744E-01	1.065E-01	0.026
	273.65			-1.207E+00	7.542E-01	9.323E-01	1.329E-01	-1.294
	340.55			1.024E+00	2.476E-01	3.756E-01	4.522E-02	2.728

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		818.51		-9.535E-02	7.963E-02	1.221E-01	1.353E-02	-0.781
		1048.07	*	7.274E-02	1.281E-01	2.159E-01	2.184E-02	0.337
		1235.36		8.341E-01	7.956E-01	1.202E+00	1.395E-01	0.694
BA-137M		661.66	*	1.367E-02	3.530E-02	5.905E-02	6.227E-03	0.231
CS-137		661.66	*	1.444E-02	3.729E-02	6.238E-02	6.587E-03	0.231
CE-139		165.86	*	-4.086E-03	3.082E-02	5.118E-02	5.020E-03	-0.080
BA-140		162.66		-2.877E-01	1.012E+00	1.633E+00	1.663E-01	-0.176
		304.85		-2.832E-01	1.697E+00	2.455E+00	7.593E-01	-0.115
		423.72		-4.112E-01	2.232E+00	3.606E+00	1.195E+00	-0.114
		537.26	*	7.418E-02	2.818E-01	4.759E-01	1.634E-01	0.156
LA-140	+	328.76		6.524E-01	4.474E-01	6.507E-01	8.224E-02	1.003
		487.02		-1.934E-01	1.611E-01	2.408E-01	2.496E-02	-0.803
		815.77		5.721E-02	3.369E-01	5.690E-01	6.756E-02	0.101
		1596.21	*	8.594E-02	9.480E-02	1.523E-01	1.335E-02	0.564
CE-141		145.44	*	-6.728E-02	6.621E-02	1.076E-01	9.794E-03	-0.625
CE-143		57.36		-2.436E-04	6.621E-02	Half-Life	too short	
		293.27	*	5.650E-03	6.621E-02	Half-Life	too short	
		664.57		5.829E-03	6.621E-02	Half-Life	too short	
		721.93		-5.267E-04	6.621E-02	Half-Life	too short	
CE-144		80.12		8.553E-02	2.556E+00	3.732E+00	3.226E-01	0.023
		133.52	*	1.106E-01	2.282E-01	3.470E-01	5.288E-02	0.319
PM-144		476.78		-7.569E-02	6.548E-02	9.866E-02	1.036E-02	-0.767
		618.01		-7.386E-04	3.074E-02	5.073E-02	5.395E-03	-0.015
		696.49	*	1.873E-02	3.260E-02	5.484E-02	5.865E-03	0.342
PR-144		696.51	*	1.391E+00	2.443E+00	4.108E+00	4.393E-01	0.339
		1489.16		-1.150E+01	1.210E+01	1.769E+01	1.575E+00	-0.650
PM-146		453.88	*	1.175E-02	4.152E-02	6.830E-02	7.853E-03	0.172
		633.25		8.881E-01	1.410E+00	2.331E+00	9.009E-01	0.381
		735.93		-1.877E-02	1.443E-01	2.272E-01	6.539E-02	-0.083
		747.24		5.098E-03	9.267E-02	1.509E-01	2.417E-02	0.034
ND-147	+	91.11		9.388E-01	2.870E-01	6.237E-01	6.166E-02	1.505
		319.41		-2.991E+00	3.907E+00	6.305E+00	7.981E-01	-0.474
		531.02	*	7.032E-02	6.345E-01	1.068E+00	1.694E-01	0.066
PM-149		285.90	*	-8.079E-05	6.345E-01	Half-Life	too short	
EU-152		121.78		-9.213E-02	7.764E-02	1.170E-01	1.120E-02	-0.787
		244.70		1.147E-01	3.590E-01	5.160E-01	6.533E-02	0.222
		344.28	*	1.426E-02	1.240E-01	1.581E-01	1.899E-02	0.090
		778.90		-1.189E-01	2.687E-01	4.227E-01	4.638E-02	-0.281
	+	964.08		8.258E-01	4.775E-01	5.514E-01	5.884E-02	1.498
		1085.87		-1.783E-01	3.890E-01	6.133E-01	5.714E-02	-0.291
		1112.07		-1.100E-01	3.509E-01	4.690E-01	4.202E-02	-0.234
		1408.01		4.472E-02	1.823E-01	3.043E-01	2.721E-02	0.147
GD-153		69.67		1.367E+00	1.799E+00	2.724E+00	2.114E-01	0.502
		97.43	*	-7.790E-02	1.006E-01	1.381E-01	1.214E-02	-0.564
		103.18		-1.847E-01	1.165E-01	1.751E-01	1.496E-02	-1.055
EU-154		123.07		1.115E-02	5.963E-02	8.464E-02	9.379E-03	0.132
		723.31		1.236E-01	1.944E-01	2.837E-01	3.263E-02	0.436
		873.19		-3.223E-02	2.564E-01	4.227E-01	5.857E-02	-0.076
		996.26		-3.667E-01	3.708E-01	5.612E-01	1.032E-01	-0.653

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

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EU-155	+	1004.73	*	5.335E-02	2.040E-01	3.396E-01	4.384E-02	0.157
		1274.44		-1.111E-01	1.221E-01	1.890E-01	2.149E-02	-0.588
		86.55		3.024E-01	1.446E-01	1.889E-01	1.777E-02	1.601
		105.31		1.002E-01	1.093E-01	1.799E-01	1.543E-02	0.557
TB-160	+	86.79	*	8.257E-01	3.947E-01	5.145E-01	4.812E-02	1.605
		197.04		-3.668E-01	6.208E-01	9.695E-01	1.054E-01	-0.378
		215.65		-4.236E-01	9.242E-01	1.293E+00	1.494E-01	-0.328
		298.57		3.277E-01	1.979E-01	2.210E-01	2.962E-02	1.483
HO-166M	+	879.36	*	-1.183E-01	1.351E-01	2.111E-01	2.360E-02	-0.560
		962.29		1.151E+00	5.449E-01	9.712E-01	1.038E-01	1.185
		966.15		5.942E-01	3.436E-01	5.461E-01	5.817E-02	1.088
		1177.93		6.838E-02	3.779E-01	6.364E-01	5.135E-02	0.107
TA-182	+	1271.85	*	1.402E-01	6.790E-01	1.139E+00	9.792E-02	0.123
		80.57		3.865E-02	2.769E-01	4.057E-01	3.526E-02	0.095
		184.41		1.977E-01	5.933E-02	6.981E-02	7.278E-03	2.831
		280.46		-3.629E-02	9.086E-02	1.428E-01	1.994E-02	-0.254
IR-192	+	410.95	*	3.992E-01	2.502E-01	4.325E-01	4.083E-02	0.923
		711.68		-2.494E-02	5.975E-02	9.506E-02	1.022E-02	-0.262
		752.31		-2.885E-02	2.655E-01	4.277E-01	4.659E-02	-0.067
		810.29		-4.057E-02	5.581E-02	8.922E-02	9.863E-03	-0.455
HG-203	+	67.75	*	-8.486E-02	1.136E-01	1.731E-01	1.320E-02	-0.490
		100.11		6.615E-02	1.820E-01	2.961E-01	2.566E-02	0.223
		152.43		1.783E-01	4.016E-01	6.042E-01	5.575E-02	0.295
		222.11		-1.791E-01	3.727E-01	5.965E-01	7.040E-02	-0.300
BI-207	+	1121.30	*	1.156E+00	3.075E-01	3.691E-01	3.259E-02	3.131
		1189.05		-2.882E-01	3.029E-01	4.754E-01	3.866E-02	-0.606
		1221.41		1.246E-01	1.926E-01	3.309E-01	2.751E-02	0.376
		1231.02		2.574E-01	5.359E-01	7.866E-01	6.583E-02	0.327
PB-210	+	295.96	*	1.451E+00	2.734E-01	3.033E-01	4.103E-02	4.785
		308.46		-3.223E-02	9.689E-02	1.604E-01	2.099E-02	-0.201
		316.51		-3.274E-02	3.392E-02	5.412E-02	6.916E-03	-0.605
		468.07		-5.979E-02	8.110E-02	1.070E-01	1.107E-02	-0.559
PB-211	+	70.83	*	9.375E-01	1.453E+00	2.180E+00	3.413E-01	0.430
		72.87		1.832E+00	9.413E-01	1.412E+00	2.147E-01	1.298
		279.20		3.088E-02	4.349E-02	7.113E-02	1.006E-02	0.434
		72.81		3.500E-01	1.993E-01	3.075E-01	2.460E-02	1.138
RN-219	+	74.97	*	9.906E-01	1.719E-01	2.307E-01	1.886E-02	4.293
		569.70		5.545E-03	2.873E-02	4.827E-02	4.958E-03	0.115
		1063.66		2.038E-02	5.188E-02	8.659E-02	8.313E-03	0.235
		1770.23		1.203E+00	5.585E-01	9.998E-01	8.311E-02	1.203
BI-212	+	46.54	*	3.535E+00	3.018E+00	5.075E+00	4.674E-01	0.696
		404.85		-1.428E-01	7.124E-01	1.153E+00	5.594E-01	-0.124
		427.09		-1.188E+00	1.598E+00	2.355E+00	1.094E+00	-0.505
		832.01		-5.993E-02	9.738E-01	1.619E+00	8.474E-01	-0.037
RN-219	+	727.33	*	2.604E+00	8.605E-01	1.107E+00	1.556E-01	2.353
		785.37		3.399E+00	3.666E+00	5.601E+00	6.157E-01	0.607
		1620.50		2.174E+00	2.264E+00	4.077E+00	3.554E-01	0.533
		271.23		8.531E-01	3.791E-01	4.582E-01	6.770E-02	1.862
RN-219	+	401.81	*	2.235E-01	3.882E-01	6.513E-01	9.980E-02	0.343

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		-1.194E-01	2.252E-01	3.209E-01	2.804E-02	-0.372
		83.79		-1.724E-02	1.398E-01	2.004E-01	1.808E-02	-0.086
		94.87		9.480E-01	5.097E-01	7.773E-01	6.950E-02	1.220
		144.24		-1.151E-01	6.846E-01	1.124E+00	1.110E-01	-0.102
	+	154.21		6.573E-01	5.450E-01	6.815E-01	6.862E-02	0.964
	+	269.46		6.629E-01	2.924E-01	3.554E-01	4.880E-02	1.865
		323.87	*	3.736E-01	7.179E-01	1.068E+00	2.088E-01	0.350
	+	338.28		9.126E+00	2.007E+00	2.376E+00	3.467E-01	3.841
		79.69		4.915E-01	1.261E+00	1.864E+00	3.212E-01	0.264
		235.96		8.482E-01	2.233E-01	3.195E-01	4.341E-02	2.655
AC-227		256.23	*	-7.270E-04	2.590E-01	4.174E-01	6.503E-02	-0.002
	+	299.98		2.889E+00	1.286E+00	1.656E+00	2.698E-01	1.745
		304.50		2.719E-01	1.703E+00	2.513E+00	4.855E-01	0.108
		334.37		-3.926E-01	2.000E+00	2.699E+00	4.784E-01	-0.145
		79.80		5.959E-01	1.662E+00	2.452E+00	5.340E-01	0.243
TH-227		235.96		8.482E-01	2.214E-01	3.195E-01	4.200E-02	2.655
		256.23	*	-7.270E-04	2.590E-01	4.174E-01	7.017E-02	-0.002
	+	299.98		2.889E+00	1.286E+00	1.656E+00	2.698E-01	1.745
		304.50		2.719E-01	1.703E+00	2.513E+00	4.855E-01	0.108
		334.37		-3.926E-01	2.000E+00	2.699E+00	4.784E-01	-0.145
TH-229		85.43		3.399E-01	2.355E-01	3.551E-01	3.267E-02	0.957
	+	88.47		3.840E-01	1.835E-01	2.448E-01	2.312E-02	1.569
		193.51	*	-1.196E-01	5.319E-01	8.701E-01	9.351E-02	-0.137
	+	210.85		2.662E+00	1.440E+00	1.614E+00	1.837E-01	1.649
PA-231		283.69	*	-1.475E+00	1.521E+00	2.291E+00	4.167E-01	-0.644
	+	301.36		1.856E+00	8.233E-01	1.039E+00	1.645E-01	1.786
TH-231		81.07		-1.194E-01	2.252E-01	3.209E-01	2.804E-02	-0.372
		83.79		-1.724E-02	1.398E-01	2.004E-01	1.808E-02	-0.086
		94.87		9.480E-01	5.097E-01	7.773E-01	6.950E-02	1.220
		144.24		-1.151E-01	6.846E-01	1.124E+00	1.110E-01	-0.102
	+	154.21		6.573E-01	5.450E-01	6.815E-01	6.862E-02	0.964
	+	269.46		6.629E-01	2.924E-01	3.554E-01	4.880E-02	1.865
		323.87	*	3.736E-01	7.179E-01	1.068E+00	2.088E-01	0.350
	+	338.28		9.126E+00	2.007E+00	2.376E+00	3.467E-01	3.841
	+	300.13		1.307E+00	5.905E-01	7.494E-01	1.349E-01	1.744
		311.90	*	3.255E-02	6.300E-02	1.075E-01	1.408E-02	0.303
PA-233		340.48		4.322E+00	1.340E+00	1.387E+00	3.520E-01	3.117
	+	94.67		4.872E-01	1.959E-01	2.945E-01	3.722E-02	1.654
PA-234		98.44		-1.967E-02	9.541E-02	1.495E-01	8.342E-02	-0.132
		111.00		3.021E-02	1.884E-01	3.024E-01	3.596E-02	0.100
		131.20		-1.793E-02	1.176E-01	1.750E-01	1.482E-02	-0.102
		569.50		-4.007E-02	2.593E-01	4.282E-01	4.398E-02	-0.094
		733.00		-1.663E-01	4.194E-01	5.611E-01	1.298E-01	-0.296
		880.51		7.269E-02	2.598E-01	4.384E-01	4.903E-02	0.166
		883.24		2.034E-01	3.002E-01	4.630E-01	3.130E-01	0.439
		926.50		-1.128E-01	1.548E-01	2.381E-01	6.234E-02	-0.474
		946.00	*	2.714E-01	3.014E-01	5.150E-01	1.024E-01	0.527
		949.00		4.173E-01	4.393E-01	7.605E-01	8.217E-02	0.549
PA-234M		766.42		2.054E+01	1.697E+01	2.053E+01	1.051E+01	1.000

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		3.298E+00	4.666E+00	7.927E+00	9.084E-01	0.416
	99.53			1.749E-02	1.682E-01	2.676E-01	2.326E-02	0.065
	103.37			-1.368E-01	1.042E-01	1.586E-01	1.354E-02	-0.863
	106.12			8.419E-02	8.738E-02	1.439E-01	1.217E-02	0.585
	117.23	*		1.547E-01	4.186E-01	6.740E-01	5.569E-02	0.230
	228.18			1.011E-01	2.265E-01	3.738E-01	4.496E-02	0.271
AM-241	277.60			3.338E-01	1.891E-01	3.137E-01	4.373E-02	1.064
	59.54	*		1.121E-01	1.506E-01	2.311E-01	1.807E-02	0.485
CM-247	278.00			1.312E+00	7.988E-01	1.325E+00	1.849E-01	0.990
	287.50			2.847E-01	1.266E+00	2.038E+00	2.804E-01	0.140
CF-249	402.40	*		3.397E-02	3.565E-02	6.078E-02	5.701E-03	0.559
	252.80			-7.109E-01	9.963E-01	1.555E+00	2.018E-01	-0.457
	333.37			-6.764E-03	2.535E-01	2.888E-01	3.494E-02	-0.023
	388.16	*		2.037E-02	4.015E-02	6.744E-02	6.402E-03	0.302
CF-251	177.52	*		-1.488E-02	1.309E-01	2.163E-01	2.204E-02	-0.069
	227.38			9.295E-03	3.736E-01	6.087E-01	7.304E-02	0.015
	285.41			-9.399E-01	2.217E+00	3.469E+00	4.794E-01	-0.271

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]G248051007
* Acquisition date   : 10-MAR-2010 17:54:07 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 02:00:02.56             Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051007             Analyst initials: MXR1
* Batch Number       : 958225                 Sample Quantity : 1.2874E+02 GRAM
* Recovery           : 1.00000                Carrier Weight  : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope        :
* MSD DPM            : 0.000                      MSD Isotope   :
* LCS DPM            : 0.000                      LCS Isotope   :
* LCSD DPM           : 0.000                      LCSD Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.869E+01	3.836E+00	4.683E-01	0.000E+00
CD-109	2.560E+00	1.199E+00	1.360E+00	0.000E+00
SN-126	2.491E-01	1.167E-01	1.494E-01	0.000E+00
TL-208	6.725E-01	1.043E-01	5.413E-02	0.000E+00
BI-211	5.486E+00	7.731E-01	3.319E-01	0.000E+00
PB-212	2.321E+00	3.218E-01	9.093E-02	0.000E+00
BI-214	1.533E+00	2.238E-01	1.157E-01	0.000E+00
PB-214	1.991E+00	3.005E-01	1.207E-01	0.000E+00
RA-224	6.320E+00	1.229E+00	9.734E-01	0.000E+00
RA-226	1.533E+00	2.238E-01	1.157E-01	0.000E+00
AC-228	2.620E+00	4.553E-01	2.162E-01	0.000E+00
RA-228	2.620E+00	4.553E-01	2.162E-01	0.000E+00
TH-228	2.321E+00	3.218E-01	9.093E-02	0.000E+00
TH-232	2.620E+00	4.553E-01	2.162E-01	0.000E+00
TH-234	2.413E+00	1.921E+00	2.035E+00	0.000E+00
U-235	8.601E-02	1.985E-01	3.499E-01	0.000E+00
NP-237	7.432E-01	3.801E-01	4.257E-01	0.000E+00
U-238	2.413E+00	1.921E+00	2.035E+00	0.000E+00
ANH-511	1.481E-01	6.981E-02	4.382E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.208E-01	3.252E-01	5.258E-01	0.000E+00 NOT IDENT.
NA-22	-3.928E-02	4.220E-02	6.696E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.272E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	2.034E-02	3.675E-02	6.466E-02	0.000E+00 FAIL ABUN
V-48	-1.028E-01	7.801E-02	1.193E-01	0.000E+00 NOT IDENT.
CR-51	-1.755E-01	3.809E-01	6.533E-01	0.000E+00 NOT IDENT.
MN-54	2.301E-02	3.666E-02	6.481E-02	0.000E+00 NOT IDENT.
CO-56	-1.465E-02	3.762E-02	6.307E-02	0.000E+00 FAIL ABUN

CO-57	-1.567E-02	2.591E-02	4.257E-02	0.000E+00	NOT IDENT.
CO-58	-4.741E-02	3.821E-02	6.070E-02	0.000E+00	NOT IDENT.
FE-59	-2.852E-02	9.558E-02	1.562E-01	0.000E+00	NOT IDENT.
CO-60	-3.617E-02	3.774E-02	5.634E-02	0.000E+00	NOT IDENT.
ZN-65	2.616E-02	1.068E-01	1.539E-01	0.000E+00	NOT IDENT.
SE-75	2.511E-02	4.913E-02	7.425E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.889E-02	8.077E-02	0.000E+00	NOT IDENT.
Y-88	-2.176E-02	3.550E-02	4.374E-02	0.000E+00	NOT IDENT.
Y-91	-8.081E-01	2.105E+01	3.580E+01	0.000E+00	NOT IDENT.
NB-94	9.306E-03	3.127E-02	5.353E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	5.055E-02	8.068E-02	0.000E+00	NOT IDENT.
NB-95M	2.112E-01	1.538E-01	2.394E-01	0.000E+00	NOT IDENT.
ZR-95	5.733E-02	7.268E-02	1.263E-01	0.000E+00	NOT IDENT.
MO-99	5.644E+00	2.600E+01	4.409E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.280E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-2.412E-02	3.945E-02	6.348E-02	0.000E+00	FAIL ABUN
RH-106	7.800E-02	2.818E-01	4.883E-01	0.000E+00	NOT IDENT.
RU-106	7.800E-02	2.817E-01	4.883E-01	0.000E+00	NOT IDENT.
AG-108M	-2.199E-02	2.888E-02	4.707E-02	0.000E+00	NOT IDENT.
AG-110M	-4.705E-02	3.354E-02	5.197E-02	0.000E+00	NOT IDENT.
SN-113	2.946E-02	4.511E-02	7.928E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.773E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	8.120E-03	7.153E-02	1.119E-01	0.000E+00	NOT IDENT.
TE-123M	-1.451E-03	3.257E-02	5.061E-02	0.000E+00	NOT IDENT.
SB-124	2.294E-02	6.715E-02	1.177E-01	0.000E+00	NOT IDENT.
SB-125	-1.633E-02	8.722E-02	1.468E-01	0.000E+00	FAIL ABUN
TE-125M	3.084E-01	1.019E+01	1.732E+01	0.000E+00	NOT IDENT.
I-126	9.065E-02	2.543E-01	4.386E-01	0.000E+00	NOT IDENT.
SB-126	4.211E-02	1.858E-01	2.724E-01	0.000E+00	NOT IDENT.
SB-127	1.027E+00	2.195E+00	3.796E+00	0.000E+00	NOT IDENT.
I-131	1.668E-02	1.412E-01	2.451E-01	0.000E+00	NOT IDENT.
TE-132	6.714E-01	1.479E+00	2.559E+00	0.000E+00	NOT IDENT.
BA-133	1.625E-02	4.490E-02	6.882E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.599E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.477E-02	8.692E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.896E-01	2.956E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.686E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.274E-02	1.255E-01	2.172E-01	0.000E+00	FAIL ABUN
BA-137M	1.367E-02	3.459E-02	5.982E-02	0.000E+00	NOT IDENT.
CS-137	1.444E-02	3.654E-02	6.319E-02	0.000E+00	NOT IDENT.
CE-139	-4.086E-03	3.020E-02	5.296E-02	0.000E+00	NOT IDENT.
BA-140	7.418E-02	2.761E-01	4.836E-01	0.000E+00	NOT IDENT.
LA-140	8.594E-02	9.290E-02	1.521E-01	0.000E+00	FAIL ABUN
CE-141	-6.728E-02	6.488E-02	1.115E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.635E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.106E-01	2.237E-01	3.602E-01	0.000E+00	NOT IDENT.
PM-144	1.873E-02	3.195E-02	5.550E-02	0.000E+00	NOT IDENT.
PR-144	1.391E+00	2.394E+00	4.158E+00	0.000E+00	NOT IDENT.
PM-146	1.175E-02	4.069E-02	6.959E-02	0.000E+00	NOT IDENT.
ND-147	7.032E-02	6.218E-01	1.086E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.439E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	1.426E-02	1.215E-01	1.618E-01	0.000E+00	FAIL ABUN
GD-153	-7.790E-02	9.860E-02	1.441E-01	0.000E+00	NOT IDENT.
EU-154	-1.111E-01	1.197E-01	1.894E-01	0.000E+00	NOT IDENT.
EU-155	1.002E-01	1.071E-01	1.874E-01	0.000E+00	FAIL ABUN
TB-160	-1.183E-01	1.324E-01	2.128E-01	0.000E+00	FAIL ABUN
HO-166M	-2.494E-02	5.855E-02	9.619E-02	0.000E+00	FAIL ABUN
TA-182	1.246E-01	1.888E-01	3.319E-01	0.000E+00	FAIL ABUN
IR-192	-3.274E-02	3.324E-02	5.545E-02	0.000E+00	FAIL ABUN
HG-203	3.088E-02	4.262E-02	7.303E-02	0.000E+00	NOT IDENT.
BI-207	2.038E-02	5.084E-02	8.706E-02	0.000E+00	FAIL ABUN
PB-210	3.535E+00	2.958E+00	5.351E+00	0.000E+00	NOT IDENT.
PB-211	-1.428E-01	6.982E-01	1.176E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	8.433E-01	1.119E+00	0.000E+00	FAIL ABUN
RN-219	2.235E-01	3.804E-01	6.649E-01	0.000E+00	FAIL ABUN
RA-223	3.736E-01	7.035E-01	1.094E+00	0.000E+00	FAIL ABUN
AC-227	-7.270E-04	2.538E-01	4.291E-01	0.000E+00	FAIL ABUN
TH-227	-7.270E-04	2.538E-01	4.291E-01	0.000E+00	FAIL ABUN
TH-229	-1.196E-01	5.213E-01	8.983E-01	0.000E+00	FAIL ABUN
PA-231	-1.475E+00	1.491E+00	2.351E+00	0.000E+00	FAIL ABUN
TH-231	3.736E-01	7.035E-01	1.094E+00	0.000E+00	FAIL ABUN
PA-233	3.255E-02	6.174E-02	1.101E-01	0.000E+00	FAIL ABUN
PA-234	2.714E-01	2.953E-01	5.187E-01	0.000E+00	NOT IDENT.
PA-234M	3.298E+00	4.572E+00	7.977E+00	0.000E+00	NOT IDENT.
NP-239	1.547E-01	4.103E-01	7.011E-01	0.000E+00	NOT IDENT.
AM-241	1.121E-01	1.476E-01	2.428E-01	0.000E+00	NOT IDENT.
CM-247	3.397E-02	3.494E-02	6.205E-02	0.000E+00	NOT IDENT.
CF-249	2.037E-02	3.934E-02	6.888E-02	0.000E+00	NOT IDENT.

CF-251	-1.488E-02	1.283E-01	2.237E-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]G248051007.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 17:54:07
Sample ID          : G248051007 Sample quantity : 1.28740E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.56 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	2700	10.66*	1.909E+00	3.869E+01	3.869E+01	10.12
CD-109	88.03	238	3.70*	7.522E+00	2.491E+00	2.560E+00	47.79
SN-126	64.28	132	9.60	4.300E+00	9.300E-01	9.300E-01	80.59
	86.94	238	8.90	7.522E+00	1.036E+00	1.036E+00	62.61
	87.57	238	37.00*	7.522E+00	2.491E-01	2.491E-01	47.79
TL-208	277.37	-----	6.60	6.182E+00	-----	Line Not Found	-----
	583.19	770	85.00*	3.930E+00	6.725E-01	6.725E-01	15.83
	860.56	155	12.50	2.922E+00	1.237E+00	1.237E+00	40.25
BI-211	72.87	-----	1.23	5.897E+00	-----	Line Not Found	-----
	351.06	1313	12.92*	5.402E+00	5.486E+00	5.486E+00	14.38
PB-212	74.82	746	10.28	6.156E+00	3.436E+00	3.436E+00	19.89
	77.11	1052	17.10	6.463E+00	2.776E+00	2.776E+00	13.00
	238.63	2328	43.60*	6.709E+00	2.321E+00	2.321E+00	14.15
	300.09	176	3.30	5.914E+00	2.626E+00	2.626E+00	43.95
BI-214	609.32	912	45.49*	3.811E+00	1.533E+00	1.533E+00	14.90
	1120.29	290	14.92	2.346E+00	2.420E+00	2.420E+00	27.44
	1764.49	167	15.30	1.716E+00	1.855E+00	1.855E+00	28.45
PB-214	74.82	746	5.80	6.156E+00	6.091E+00	6.091E+00	19.08
	77.11	1052	9.70	6.463E+00	4.893E+00	4.893E+00	15.40
	242.00	592	7.25	6.663E+00	3.574E+00	3.574E+00	20.67
	295.22	719	18.42	5.970E+00	1.906E+00	1.906E+00	19.91
	351.93	1313	35.60*	5.402E+00	1.991E+00	1.991E+00	15.40
RA-224	240.99	592	4.10*	6.663E+00	6.320E+00	6.320E+00	19.84
RA-226	609.32	912	45.49*	3.811E+00	1.533E+00	1.533E+00	14.90
	1120.29	290	14.92	2.346E+00	2.420E+00	2.420E+00	27.44
	1764.49	167	15.30	1.716E+00	1.855E+00	1.855E+00	28.45
AC-228	338.32	491	11.27	5.526E+00	2.300E+00	2.300E+00	45.59
	911.20	646	25.80*	2.788E+00	2.620E+00	2.620E+00	17.74
	968.97	366	15.80	2.648E+00	2.550E+00	2.550E+00	29.48
RA-228	338.32	491	11.27	5.526E+00	2.300E+00	2.300E+00	45.59
	911.20	646	25.80*	2.788E+00	2.620E+00	2.620E+00	17.74
	968.97	366	15.80	2.648E+00	2.550E+00	2.550E+00	29.48

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	746	10.28	6.156E+00	3.436E+00	3.436E+00	17.39
	77.11	1052	17.10	6.463E+00	2.776E+00	2.776E+00	13.00
	238.63	2328	43.60*	6.709E+00	2.321E+00	2.321E+00	14.15
	300.09	176	3.30	5.914E+00	2.626E+00	2.626E+00	74.62
TH-232	338.32	491	11.27	5.526E+00	2.300E+00	2.300E+00	20.31
	911.20	646	25.80*	2.788E+00	2.620E+00	2.620E+00	17.74
	968.97	366	15.80	2.648E+00	2.550E+00	2.550E+00	29.48
	63.29	132	3.70*	4.300E+00	2.413E+00	2.413E+00	81.25
TH-234	92.59	413	4.23	7.871E+00	3.620E+00	3.620E+00	35.67
	89.96	217	3.47	7.677E+00	2.379E+00	2.379E+00	38.12
	93.35	413	5.60	7.871E+00	2.735E+00	2.735E+00	36.30
	143.76	-----	10.96*	8.364E+00	-----	Line Not Found	-----
U-235	163.33	-----	5.08	8.031E+00	-----	Line Not Found	-----
	185.72	371	57.20	7.607E+00	2.488E-01	2.488E-01	30.02
	205.31	-----	5.01	7.253E+00	-----	Line Not Found	-----
	86.48	238	12.40*	7.522E+00	7.432E-01	7.432E-01	52.19
NP-237	95.86	-----	2.68	8.032E+00	-----	Line Not Found	-----
	63.29	132	3.70*	4.300E+00	2.413E+00	2.413E+00	81.25
U-238	92.59	413	4.23	7.871E+00	3.620E+00	3.620E+00	29.30
	511.00	218	100.00*	4.298E+00	1.481E-01	1.481E-01	48.10

Flag: "*" = Keyline

Total number of lines in spectrum 36
Number of unidentified lines 5
Number of lines tentatively identified by NID 31 86.11%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.869E+01	3.869E+01	0.391E+01	10.12	
CD-109	461.40D	1.03	2.491E+00	2.560E+00	1.224E+00	47.79	
SN-126	2.30E+05Y	1.00	2.491E-01	2.491E-01	1.190E-01	47.79	
TL-208	1.41E+10Y	1.00	6.725E-01	6.725E-01	1.064E-01	15.83	
BI-211	7.04E+08Y	1.00	5.486E+00	5.486E+00	0.789E+00	14.38	
PB-212	1.41E+10Y	1.00	2.321E+00	2.321E+00	0.328E+00	14.15	
BI-214	1600.00Y	1.00	1.533E+00	1.533E+00	0.228E+00	14.90	
PB-214	1600.00Y	1.00	1.991E+00	1.991E+00	0.307E+00	15.40	
RA-224	1.41E+10Y	1.00	6.320E+00	6.320E+00	1.254E+00	19.84	
RA-226	1600.00Y	1.00	1.533E+00	1.533E+00	0.228E+00	14.90	
AC-228	1.41E+10Y	1.00	2.620E+00	2.620E+00	0.465E+00	17.74	
RA-228	1.41E+10Y	1.00	2.620E+00	2.620E+00	0.465E+00	17.74	
TH-228	1.41E+10Y	1.00	2.321E+00	2.321E+00	0.328E+00	14.15	
TH-232	1.41E+10Y	1.00	2.620E+00	2.620E+00	0.465E+00	17.74	
TH-234	4.47E+09Y	1.00	2.413E+00	2.413E+00	1.961E+00	81.25	
U-235	7.04E+08Y	1.00	2.488E-01	2.488E-01	0.747E-01	30.02	K
NP-237	2.14E+06Y	1.00	7.432E-01	7.432E-01	3.879E-01	52.19	
U-238	4.47E+09Y	1.00	2.413E+00	2.413E+00	1.961E+00	81.25	
ANH-511	1.00E+09Y	1.00	1.481E-01	1.481E-01	0.712E-01	48.10	
Total Activity :			7.743E+01	7.750E+01			

Grand Total Activity : 7.743E+01 7.750E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.72	221	670	1.28	257.55	252	11	3.07E-02	47.4	8.53E+00	
0	154.16	105	548	1.63	308.40	305	9	1.46E-02	82.3	8.20E+00	T
0	209.63	183	570	1.15	419.23	415	11	2.55E-02	52.9	7.18E+00	T
0	269.97	198	410	1.42	539.80	535	11	2.75E-02	41.9	6.27E+00	T
0	328.05	95	282	1.43	655.86	651	9	1.31E-02	67.4	5.62E+00	T
0	462.91	82	254	1.33	925.39	920	11	1.14E-02	79.5	4.58E+00	T
0	727.27	199	147	1.72	1453.80	1446	14	2.77E-02	29.9	3.34E+00	T
0	769.49	67	231	1.22	1538.20	1529	16	9.24E-03	****	3.20E+00	
0	794.72	100	190	0.82	1588.64	1579	19	1.39E-02	69.2	3.12E+00	T
2	965.11	110	139	2.81	1929.31	1917	28	1.53E-02	56.8	2.66E+00	T
0	1238.67	119	118	1.95	2476.34	2469	17	1.66E-02	46.1	2.16E+00	T
0	1590.58	44	73	2.01	3180.24	3169	18	6.07E-03	98.4	1.81E+00	
1	1846.87	34	12	3.03	3693.00	3682	20	4.68E-03	61.4	1.69E+00	
1	1849.36	44	4	3.03	3698.00	3682	20	6.07E-03	32.1	1.69E+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]G248051007.CNF;1
* Acquisition date   : 10-MAR-2010 17:54:07  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 02:00:02.56          Half life ratio    : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248051007            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity  : 1.28740E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28.08MS Isotope       :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.869E+01	3.915E+00	4.682E-01	4.289E-02	82.627
CD-109	2.560E+00	1.224E+00	1.302E+00	1.235E-01	1.967
SN-126	2.491E-01	1.190E-01	1.430E-01	1.350E-02	1.742
TL-208	6.725E-01	1.064E-01	5.333E-02	5.778E-03	12.609
BI-211	5.486E+00	7.888E-01	3.244E-01	3.786E-02	16.909
PB-212	2.321E+00	3.284E-01	8.835E-02	1.171E-02	26.264
BI-214	1.533E+00	2.284E-01	1.140E-01	1.331E-02	13.447
PB-214	1.991E+00	3.066E-01	1.180E-01	1.518E-02	16.878
RA-224	6.320E+00	1.254E+00	9.460E-01	1.184E-01	6.680
RA-226	1.533E+00	2.284E-01	1.140E-01	1.331E-02	13.447
AC-228	2.620E+00	4.646E-01	2.145E-01	2.905E-02	12.212
RA-228	2.620E+00	4.646E-01	2.145E-01	2.905E-02	12.212
TH-228	2.321E+00	3.284E-01	8.835E-02	1.171E-02	26.264
TH-232	2.620E+00	4.646E-01	2.145E-01	2.905E-02	12.212
TH-234	2.413E+00	1.961E+00	1.938E+00	3.449E-01	1.245
U-235	2.488E-01	7.468E-02	3.374E-01	5.767E-02	0.737
NP-237	7.432E-01	3.879E-01	4.074E-01	9.348E-02	1.824
U-238	2.413E+00	1.961E+00	1.938E+00	3.449E-01	1.245

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	1.481E-01	7.123E-02	4.308E-02	4.316E-03	3.438

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.208E-01		3.319E-01	5.164E-01	5.388E-02	-0.428
NA-22	-3.928E-02		4.306E-02	6.680E-02	5.757E-03	-0.588
NA-24	-2.534E+01		1.159E+01	Half-Life	too short	
SC-46	2.034E-02		3.750E-02	6.413E-02	7.179E-03	0.317
V-48	-1.028E-01		7.961E-02	1.185E-01	1.243E-02	-0.867
CR-51	-1.755E-01		3.887E-01	6.376E-01	8.254E-02	-0.275
MN-54	2.301E-02		3.741E-02	6.421E-02	7.133E-03	0.358
CO-56	-1.465E-02		3.839E-02	6.250E-02	6.958E-03	-0.234
CO-57	-1.567E-02		2.644E-02	4.094E-02	3.376E-03	-0.383
CO-58	-4.741E-02		3.899E-02	6.011E-02	6.656E-03	-0.789
FE-59	-2.852E-02		9.753E-02	1.555E-01	1.523E-02	-0.183
CO-60	-3.617E-02		3.851E-02	5.624E-02	5.015E-03	-0.643
ZN-65	2.616E-02		1.089E-01	1.532E-01	1.367E-02	0.171
SE-75	2.511E-02		5.014E-02	7.226E-02	9.726E-03	0.348
SR-85	1.817E-01		4.989E-02	7.942E-02	7.969E-03	2.288
Y-88	-2.176E-02		3.623E-02	4.389E-02	3.549E-03	-0.496
Y-91	-8.081E-01		2.148E+01	3.567E+01	2.933E+00	-0.023
NB-94	9.306E-03		3.191E-02	5.290E-02	5.669E-03	0.176
NB-95	9.599E-02		5.158E-02	7.983E-02	8.729E-03	1.202
NB-95M	2.112E-01		1.569E-01	2.326E-01	3.078E-02	0.908
ZR-95	5.733E-02		7.416E-02	1.250E-01	1.454E-02	0.459
MO-99	5.644E+00		2.653E+01	4.360E+01	7.447E+00	0.129
TC-99M	-2.170E+14		1.163E+14	Half-Life	too short	
RU-103	-2.412E-02		4.026E-02	6.238E-02	9.248E-03	-0.387
RH-106	7.800E-02		2.876E-01	4.816E-01	6.987E-02	0.162
RU-106	7.800E-02		2.875E-01	4.816E-01	5.030E-02	0.162
AG-108M	-2.199E-02		2.947E-02	4.616E-02	4.544E-03	-0.476
AG-110M	-4.705E-02		3.422E-02	5.130E-02	5.513E-03	-0.917
SN-113	2.946E-02		4.603E-02	7.762E-02	7.413E-03	0.380
CD-115	2.373E-06		1.415E-05	Half-Life	too short	
SN-117M	8.120E-03		7.299E-02	1.081E-01	1.025E-02	0.075
TE-123M	-1.451E-03		3.324E-02	4.887E-02	4.667E-03	-0.030
SB-124	2.294E-02		6.852E-02	1.180E-01	1.052E-02	0.194
SB-125	-1.633E-02		8.900E-02	1.440E-01	1.396E-02	-0.113
TE-125M	3.084E-01		1.040E+01	1.664E+01	1.712E+00	0.019
I-126	9.065E-02		2.595E-01	4.330E-01	4.575E-02	0.209
SB-126	4.211E-02		1.896E-01	2.693E-01	2.904E-02	0.156
SB-127	1.027E+00		2.240E+00	3.750E+00	5.186E-01	0.274
I-131	1.668E-02		1.441E-01	2.397E-01	2.661E-02	0.070
TE-132	6.714E-01		1.509E+00	2.485E+00	4.595E-01	0.270
BA-133	1.625E-02		4.581E-02	6.728E-02	9.907E-03	0.242
I-133	1.180E-02		3.367E-02	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
CS-134	1.235E-01	+	8.650E-02	8.606E-02	9.526E-03	1.435
CS-135	4.038E-01		1.935E-01	2.878E-01	4.163E-02	1.403
I-135	7.737E+12		8.603E+12	Half-Life too short		
CS-136	7.274E-02		1.281E-01	2.159E-01	2.184E-02	0.337
BA-137M	1.367E-02		3.530E-02	5.905E-02	6.227E-03	0.231
CS-137	1.444E-02		3.729E-02	6.238E-02	6.587E-03	0.231
CE-139	-4.086E-03		3.082E-02	5.118E-02	5.020E-03	-0.080
BA-140	7.418E-02		2.818E-01	4.759E-01	1.634E-01	0.156
LA-140	8.594E-02		9.480E-02	1.523E-01	1.335E-02	0.564
CE-141	-6.728E-02		6.621E-02	1.076E-01	9.794E-03	-0.625
CE-143	5.650E-03		8.340E-04	Half-Life too short		
CE-144	1.106E-01		2.282E-01	3.470E-01	5.288E-02	0.319
PM-144	1.873E-02		3.260E-02	5.484E-02	5.865E-03	0.342
PR-144	1.391E+00		2.443E+00	4.108E+00	4.393E-01	0.339
PM-146	1.175E-02		4.152E-02	6.830E-02	7.853E-03	0.172
ND-147	7.032E-02		6.345E-01	1.068E+00	1.694E-01	0.066
PM-149	-8.079E-05		1.244E-04	Half-Life too short		
EU-152	1.426E-02		1.240E-01	1.581E-01	1.899E-02	0.090
GD-153	-7.790E-02		1.006E-01	1.381E-01	1.214E-02	-0.564
EU-154	-1.111E-01		1.221E-01	1.890E-01	2.149E-02	-0.588
EU-155	1.002E-01		1.093E-01	1.799E-01	1.543E-02	0.557
TB-160	-1.183E-01		1.351E-01	2.111E-01	2.360E-02	-0.560
HO-166M	-2.494E-02		5.975E-02	9.506E-02	1.022E-02	-0.262
TA-182	1.246E-01		1.926E-01	3.309E-01	2.751E-02	0.376
IR-192	-3.274E-02		3.392E-02	5.412E-02	6.916E-03	-0.605
HG-203	3.088E-02		4.349E-02	7.113E-02	1.006E-02	0.434
BI-207	2.038E-02		5.188E-02	8.659E-02	8.313E-03	0.235
PB-210	3.535E+00		3.018E+00	5.075E+00	4.674E-01	0.696
PB-211	-1.428E-01		7.124E-01	1.153E+00	5.594E-01	-0.124
BI-212	2.604E+00	+	8.605E-01	1.107E+00	1.556E-01	2.353
RN-219	2.235E-01		3.882E-01	6.513E-01	9.980E-02	0.343
RA-223	3.736E-01		7.179E-01	1.068E+00	2.088E-01	0.350
AC-227	-7.270E-04		2.590E-01	4.174E-01	6.503E-02	-0.002
TH-227	-7.270E-04		2.590E-01	4.174E-01	7.017E-02	-0.002
TH-229	-1.196E-01		5.319E-01	8.701E-01	9.351E-02	-0.137
PA-231	-1.475E+00		1.521E+00	2.291E+00	4.167E-01	-0.644
TH-231	3.736E-01		7.179E-01	1.068E+00	2.088E-01	0.350
PA-233	3.255E-02		6.300E-02	1.075E-01	1.408E-02	0.303
PA-234	2.714E-01		3.014E-01	5.150E-01	1.024E-01	0.527
PA-234M	3.298E+00		4.666E+00	7.927E+00	9.084E-01	0.416
NP-239	1.547E-01		4.186E-01	6.740E-01	5.569E-02	0.230
AM-241	1.121E-01		1.506E-01	2.311E-01	1.807E-02	0.485
CM-247	3.397E-02		3.565E-02	6.078E-02	5.701E-03	0.559
CF-249	2.037E-02		4.015E-02	6.744E-02	6.402E-03	0.302
CF-251	-1.488E-02		1.309E-01	2.163E-01	2.204E-02	-0.069

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G248051007          *
* Acquisition date   : 10-MAR-2010 17:54:07 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 02:00:02.56             Half life ratio: 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051007             Analyst initials: MXR1          *
* Batch Number       : 958225                 Sample Quantity : 1.2874E+02 GRAM *
* Recovery           : 1.00000                Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope         :              *
* MSD DPM             : 0.000                 MSD Isotope      :              *
* LCS DPM             : 0.000                 LCS Isotope       :              *
* LCSD DPM            : 0.000                 LCSD Isotope      :              *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.869E+01	3.836E+00	2.343E-01	1.957E+00
CD-109	2.560E+00	1.199E+00	6.802E-01	6.118E-01
SN-126	2.491E-01	1.167E-01	7.474E-02	5.952E-02
TL-208	6.725E-01	1.043E-01	2.708E-02	5.321E-02
BI-211	5.486E+00	7.731E-01	1.660E-01	3.944E-01
PB-212	2.321E+00	3.218E-01	4.549E-02	1.642E-01
BI-214	1.533E+00	2.238E-01	5.786E-02	1.142E-01
PB-214	1.991E+00	3.005E-01	6.037E-02	1.533E-01
RA-224	6.320E+00	1.229E+00	4.870E-01	6.269E-01
RA-226	1.533E+00	2.238E-01	5.786E-02	1.142E-01
AC-228	2.620E+00	4.553E-01	1.082E-01	2.323E-01
RA-228	2.620E+00	4.553E-01	1.082E-01	2.323E-01
TH-228	2.321E+00	3.218E-01	4.549E-02	1.642E-01
TH-232	2.620E+00	4.553E-01	1.082E-01	2.323E-01
TH-234	2.413E+00	1.921E+00	1.018E+00	9.803E-01
U-235	8.601E-02	1.985E-01	1.751E-01	1.013E-01
NP-237	7.432E-01	3.801E-01	2.130E-01	1.940E-01
U-238	2.413E+00	1.921E+00	1.018E+00	9.803E-01
ANH-511	1.481E-01	6.981E-02	2.192E-02	3.562E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-2.208E-01	3.252E-01	2.630E-01	1.659E-01 NOT IDENT.
NA-22	-3.928E-02	4.220E-02	3.350E-02	2.153E-02 NOT IDENT.
NA-24	-2.534E+07	2.272E+07	0.000E+00	1.159E+07 SHORT HLIF
SC-46	2.034E-02	3.675E-02	3.235E-02	1.875E-02 FAIL ABUN
V-48	-1.028E-01	7.801E-02	5.968E-02	3.980E-02 NOT IDENT.
CR-51	-1.755E-01	3.809E-01	3.268E-01	1.944E-01 NOT IDENT.
MN-54	2.301E-02	3.666E-02	3.242E-02	1.871E-02 NOT IDENT.
CO-56	-1.465E-02	3.762E-02	3.155E-02	1.920E-02 FAIL ABUN

CO-57	-1.567E-02	2.591E-02	2.130E-02	1.322E-02	NOT IDENT.
CO-58	-4.741E-02	3.821E-02	3.037E-02	1.949E-02	NOT IDENT.
FE-59	-2.852E-02	9.558E-02	7.816E-02	4.877E-02	NOT IDENT.
CO-60	-3.617E-02	3.774E-02	2.819E-02	1.925E-02	NOT IDENT.
ZN-65	2.616E-02	1.068E-01	7.702E-02	5.447E-02	NOT IDENT.
SE-75	2.511E-02	4.913E-02	3.714E-02	2.507E-02	NOT IDENT.
SR-85	1.817E-01	4.889E-02	4.041E-02	2.494E-02	NOT IDENT.
Y-88	-2.176E-02	3.550E-02	2.189E-02	1.811E-02	NOT IDENT.
Y-91	-8.081E-01	2.105E+01	1.791E+01	1.074E+01	NOT IDENT.
NB-94	9.306E-03	3.127E-02	2.678E-02	1.596E-02	NOT IDENT.
NB-95	9.599E-02	5.055E-02	4.036E-02	2.579E-02	NOT IDENT.
NB-95M	2.112E-01	1.538E-01	1.198E-01	7.846E-02	NOT IDENT.
ZR-95	5.733E-02	7.268E-02	6.320E-02	3.708E-02	NOT IDENT.
MO-99	5.644E+00	2.600E+01	2.206E+01	1.327E+01	NOT IDENT.
TC-99M	-2.170E+20	2.280E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-2.412E-02	3.945E-02	3.176E-02	2.013E-02	FAIL ABUN
RH-106	7.800E-02	2.818E-01	2.443E-01	1.438E-01	NOT IDENT.
RU-106	7.800E-02	2.817E-01	2.443E-01	1.437E-01	NOT IDENT.
AG-108M	-2.199E-02	2.888E-02	2.355E-02	1.473E-02	NOT IDENT.
AG-110M	-4.705E-02	3.354E-02	2.600E-02	1.711E-02	NOT IDENT.
SN-113	2.946E-02	4.511E-02	3.966E-02	2.301E-02	NOT IDENT.
CD-115	2.373E+00	2.773E+01	0.000E+00	1.415E+01	SHORT HLIF
SN-117M	8.120E-03	7.153E-02	5.598E-02	3.649E-02	NOT IDENT.
TE-123M	-1.451E-03	3.257E-02	2.532E-02	1.662E-02	NOT IDENT.
SB-124	2.294E-02	6.715E-02	5.891E-02	3.426E-02	NOT IDENT.
SB-125	-1.633E-02	8.722E-02	7.346E-02	4.450E-02	FAIL ABUN
TE-125M	3.084E-01	1.019E+01	8.667E+00	5.199E+00	NOT IDENT.
I-126	9.065E-02	2.543E-01	2.194E-01	1.297E-01	NOT IDENT.
SB-126	4.211E-02	1.858E-01	1.363E-01	9.482E-02	NOT IDENT.
SB-127	1.027E+00	2.195E+00	1.899E+00	1.120E+00	NOT IDENT.
I-131	1.668E-02	1.412E-01	1.226E-01	7.206E-02	NOT IDENT.
TE-132	6.714E-01	1.479E+00	1.280E+00	7.544E-01	NOT IDENT.
BA-133	1.625E-02	4.490E-02	3.443E-02	2.291E-02	NOT IDENT.
I-133	1.180E+04	6.599E+04	0.000E+00	3.367E+04	SHORT HLIF
CS-134	1.235E-01	8.477E-02	4.349E-02	4.325E-02	FAIL ABUN
CS-135	4.038E-01	1.896E-01	1.479E-01	9.673E-02	NOT IDENT.
I-135	7.737E+18	1.686E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.274E-02	1.255E-01	1.086E-01	6.404E-02	FAIL ABUN
BA-137M	1.367E-02	3.459E-02	2.993E-02	1.765E-02	NOT IDENT.
CS-137	1.444E-02	3.654E-02	3.161E-02	1.864E-02	NOT IDENT.
CE-139	-4.086E-03	3.020E-02	2.650E-02	1.541E-02	NOT IDENT.
BA-140	7.418E-02	2.761E-01	2.420E-01	1.409E-01	NOT IDENT.
LA-140	8.594E-02	9.290E-02	7.611E-02	4.740E-02	FAIL ABUN
CE-141	-6.728E-02	6.488E-02	5.581E-02	3.310E-02	NOT IDENT.
CE-143	5.650E+03	1.635E+03	0.000E+00	8.340E+02	SHORT HLIF
CE-144	1.106E-01	2.237E-01	1.802E-01	1.141E-01	NOT IDENT.
PM-144	1.873E-02	3.195E-02	2.777E-02	1.630E-02	NOT IDENT.
PR-144	1.391E+00	2.394E+00	2.080E+00	1.222E+00	NOT IDENT.
PM-146	1.175E-02	4.069E-02	3.482E-02	2.076E-02	NOT IDENT.
ND-147	7.032E-02	6.218E-01	5.433E-01	3.173E-01	FAIL ABUN
PM-149	-8.079E+01	2.439E+02	0.000E+00	1.244E+02	SHORT HLIF
EU-152	1.426E-02	1.215E-01	8.092E-02	6.201E-02	FAIL ABUN
GD-153	-7.790E-02	9.860E-02	7.207E-02	5.031E-02	NOT IDENT.
EU-154	-1.111E-01	1.197E-01	9.477E-02	6.105E-02	NOT IDENT.
EU-155	1.002E-01	1.071E-01	9.376E-02	5.463E-02	FAIL ABUN
TB-160	-1.183E-01	1.324E-01	1.065E-01	6.757E-02	FAIL ABUN
HO-166M	-2.494E-02	5.855E-02	4.812E-02	2.987E-02	FAIL ABUN
TA-182	1.246E-01	1.888E-01	1.661E-01	9.632E-02	FAIL ABUN
IR-192	-3.274E-02	3.324E-02	2.774E-02	1.696E-02	FAIL ABUN
HG-203	3.088E-02	4.262E-02	3.653E-02	2.174E-02	NOT IDENT.
BI-207	2.038E-02	5.084E-02	4.355E-02	2.594E-02	FAIL ABUN
PB-210	3.535E+00	2.958E+00	2.677E+00	1.509E+00	NOT IDENT.
PB-211	-1.428E-01	6.982E-01	5.886E-01	3.562E-01	NOT IDENT.
BI-212	2.604E+00	8.433E-01	5.600E-01	4.303E-01	FAIL ABUN
RN-219	2.235E-01	3.804E-01	3.327E-01	1.941E-01	FAIL ABUN
RA-223	3.736E-01	7.035E-01	5.474E-01	3.589E-01	FAIL ABUN
AC-227	-7.270E-04	2.538E-01	2.147E-01	1.295E-01	FAIL ABUN
TH-227	-7.270E-04	2.538E-01	2.147E-01	1.295E-01	FAIL ABUN
TH-229	-1.196E-01	5.213E-01	4.494E-01	2.660E-01	FAIL ABUN
PA-231	-1.475E+00	1.491E+00	1.176E+00	7.605E-01	FAIL ABUN
TH-231	3.736E-01	7.035E-01	5.474E-01	3.589E-01	FAIL ABUN
PA-233	3.255E-02	6.174E-02	5.510E-02	3.150E-02	FAIL ABUN
PA-234	2.714E-01	2.953E-01	2.595E-01	1.507E-01	NOT IDENT.
PA-234M	3.298E+00	4.572E+00	3.991E+00	2.333E+00	NOT IDENT.
NP-239	1.547E-01	4.103E-01	3.507E-01	2.093E-01	NOT IDENT.
AM-241	1.121E-01	1.476E-01	1.215E-01	7.532E-02	NOT IDENT.
CM-247	3.397E-02	3.494E-02	3.104E-02	1.782E-02	NOT IDENT.
CF-249	2.037E-02	3.934E-02	3.446E-02	2.007E-02	NOT IDENT.

CF-251

-1.488E-02

1.283E-01

1.119E-01

6.543E-02 NOT IDENT.

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

ENERGY	MDA COUNTS
46.54	352.3048
49.72	418.9678
57.36	0.0000
59.54	445.8548
63.29	525.6146
63.29	525.6146
64.28	578.1989
67.75	609.2930
69.67	565.8426
70.83	589.0822
72.81	663.8821
72.87	664.0201
72.87	664.0201
74.82	635.5777
74.82	635.5777
74.82	635.5777
74.97	635.8976
77.11	640.4182
77.11	640.4182
77.11	640.4182
79.69	572.8945
79.80	573.0961
80.12	592.1865
80.19	592.3184
80.57	593.0332
81.00	644.8751
81.07	645.0182
81.07	645.0182
83.79	692.6288
83.79	692.6288
85.43	660.0480
86.48	764.3732
86.55	764.5327
86.79	765.0814
86.94	765.4300
87.57	858.3879
88.03	679.4336
88.47	680.3194
89.96	880.3444
91.11	572.3836
92.59	574.8185
92.59	574.8185
93.35	576.0620
94.67	529.8935
94.87	530.1897
94.87	530.1897
95.86	488.0243
97.43	561.5557
98.44	520.7935
99.53	491.8645
100.11	489.3627
103.18	568.0878
103.37	554.0801
105.31	481.7493
106.12	486.0778
109.28	503.3882
111.00	488.7392
111.76	509.8748
116.30	488.2794
117.23	475.7054
121.12	517.9705
121.78	523.3630
122.06	483.4161
123.07	453.3908
131.20	513.1503
133.52	497.3128
136.00	519.8889

136.47	515.9502
140.51	544.5826
140.51	0.0000
143.76	457.7480
144.24	488.0740
144.24	488.0740
145.44	531.0132
152.43	485.9161
153.25	466.0383
154.21	471.8851
154.21	471.8851
156.02	486.3064
158.56	476.7266
159.00	490.5361
162.66	505.6949
163.33	495.0435
165.86	491.6651
176.60	452.9789
177.52	466.2163
181.07	462.0564
184.41	503.6269
185.72	491.2455
193.51	459.9127
197.04	462.4954
205.31	501.2939
210.85	468.1090
215.65	473.0752
222.11	451.2831
227.38	440.0914
228.16	418.6999
228.18	418.7122
235.69	456.3234
235.96	431.2250
235.96	431.2250
238.63	363.4713
238.63	363.4713
240.99	364.6234
242.00	280.2039
244.70	345.9723
252.40	361.5092
252.80	387.5290
256.23	356.7946
256.23	356.7946
260.90	0.0000
264.66	291.9646
268.22	317.8282
269.46	342.9305
269.46	342.9305
271.23	324.2820
273.65	438.3533
276.40	378.3229
277.37	335.1142
277.60	324.1024
278.00	326.4792
279.20	362.5317
279.54	362.6760
280.46	383.1157
283.69	359.9751
284.31	347.9294
285.41	331.5728
285.90	0.0000
287.50	320.0249
293.27	0.0000
295.22	350.4214
295.96	331.0620
298.57	332.0333
299.98	332.5546
299.98	332.5546
300.09	302.2248
300.09	302.2248
300.13	291.6055
301.36	275.2745
302.85	266.5873
304.50	279.2842
304.50	279.2842
304.85	293.1328
308.46	312.6863
311.90	287.0828

316.51	299.6346
319.41	302.4222
320.08	304.4948
323.87	288.2608
323.87	288.2608
328.76	317.9185
333.37	302.1172
334.37	302.4219
334.37	302.4219
338.28	297.9282
338.28	297.9282
338.32	297.9435
338.32	297.9435
338.32	297.9435
340.48	264.6715
340.55	291.6365
344.28	279.1997
351.06	279.6293
351.93	279.8673
356.01	252.6527
364.49	242.3768
366.42	250.6221
383.85	256.6699
388.16	256.6741
388.63	241.8520
391.69	255.4875
400.66	235.3854
401.81	225.5531
402.40	217.6084
404.85	264.5138
410.95	234.4430
414.70	279.9918
423.72	232.8773
427.09	251.0204
427.87	233.6809
433.94	248.2969
453.88	215.4977
463.37	232.9792
468.07	246.2222
473.00	208.0302
476.78	240.7214
477.60	225.8823
487.02	225.3179
492.35	0.0000
497.08	199.8327
511.00	186.4812
514.00	181.3802
527.90	0.0000
529.87	0.0000
531.02	181.6884
537.26	163.8434
546.56	0.0000
563.25	185.6441
569.33	195.8869
569.50	198.7609
569.70	185.4706
583.19	172.6868
600.60	221.1255
602.73	256.3730
604.72	180.0163
609.32	212.5580
609.32	212.5580
610.33	192.3418
614.28	187.7734
618.01	179.3737
621.93	154.2498
621.93	154.2498
633.25	161.2225
635.95	203.0898
636.99	184.3766
645.85	171.3806
657.76	201.6502
661.66	181.9906
661.66	181.9906
664.57	0.0000
666.33	184.4855
666.50	184.5042
677.62	160.2920

685.70	157.9485
695.00	156.7042
696.49	158.8819
696.51	158.8851
697.00	164.0527
702.65	167.6394
706.68	174.1850
711.68	181.8831
720.70	156.6456
721.93	0.0000
722.78	165.7276
722.91	165.7373
723.31	169.3380
724.19	165.8476
727.33	153.6164
733.00	163.0269
735.93	158.7073
739.50	155.1874
747.24	149.4854
752.31	158.3160
753.82	145.7603
756.73	149.1498
763.94	163.7936
765.81	153.0176
766.42	169.4610
777.92	189.8526
778.90	179.6792
783.70	154.3711
785.37	164.1531
795.86	141.2664
801.95	181.6958
810.29	156.3604
810.76	169.4285
815.77	116.6404
818.51	146.6892
832.01	161.7179
834.85	162.8723
836.80	0.0000
846.77	146.7262
856.80	119.8191
860.56	134.3095
871.09	110.8436
873.19	123.5740
875.33	0.0000
879.36	142.1620
880.51	120.1303
883.24	113.5388
884.68	137.6809
889.28	116.7334
898.04	140.4207
911.20	129.5303
911.20	129.5303
911.20	129.5303
926.50	116.6509
937.49	122.1122
944.13	136.2745
946.00	121.5564
949.00	120.7171
962.29	128.3409
964.08	128.4331
966.15	128.5411
968.97	128.6873
968.97	128.6873
968.97	128.6873
983.53	148.5084
996.26	160.3531
1001.03	119.2285
1004.73	123.4488
1037.84	132.2124
1038.76	0.0000
1048.07	126.5520
1050.41	117.3955
1050.41	117.3955
1063.66	123.1504
1085.87	138.7705
1099.45	144.6998
1112.07	136.4059
1115.54	153.1832

1120.29	126.7676
1120.29	126.7676
1120.55	126.7801
1121.30	114.6606
1131.51	0.0000
1173.23	159.1183
1177.93	156.5470
1189.05	160.9210
1204.77	149.4011
1221.41	143.5272
1231.02	146.7487
1235.36	167.4645
1238.28	167.6240
1260.41	0.0000
1271.85	103.0886
1274.44	133.3459
1274.54	133.3501
1291.59	89.0533
1298.22	0.0000
1312.11	77.8018
1332.49	88.1988
1365.19	63.0500
1368.63	0.0000
1384.29	124.7985
1408.01	79.0474
1457.56	0.0000
1460.82	49.3799
1489.16	63.2469
1505.03	64.5638
1596.21	32.4308
1620.50	42.9382
1678.03	0.0000
1690.97	29.1325
1764.49	38.5461
1764.49	38.5461
1770.23	26.7217
1771.35	23.1651
1791.20	0.0000
1836.06	34.3661

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051007

Total Uranium Activity	7.2182E+00	ug/g
Total Uranium Counting Unc.	5.7167E+00	ug/g
Total Uranium Tpu	2.9167E-06	ug/g
Total Uranium Mda	3.0296E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 958225                SAMPLE ID   : G248051007                *
*  ANALYST       : MXR1                  DETECTOR    : GAM22                  *
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE: 10-MAR-2010 17:54:07.83  SAMPLE ALQT: 128.740 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.268E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.579E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.458E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.691E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 21:19:50.89

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051008.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:19:27
Sample ID          : G248051008 Sample quantity : 1.13020E+02 GRAM
Detector name      : GAM01 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.09 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	63.62*	73	366	0.91	127.97	124	8	1.02E-02	48.5	
2	4	74.90*	290	345	0.97	150.52	147	13	4.03E-02	11.8	1.16E+00
3	4	77.15*	507	345	1.16	155.01	147	13	7.04E-02	7.9	
4	0	87.45	140	371	1.06	175.61	172	7	1.94E-02	24.4	
5	0	93.07*	220	438	1.31	186.84	183	10	3.05E-02	20.5	
6	0	129.11	67	260	1.24	258.87	256	8	9.24E-03	43.6	
7	0	186.17*	195	358	1.16	372.93	367	12	2.70E-02	21.5	
8	0	209.62*	88	340	1.16	419.81	413	12	1.22E-02	43.7	
9	5	239.04*	1010	160	1.32	478.61	472	18	1.40E-01	3.9	3.35E+00
10	5	241.98	242	208	2.07	484.49	472	18	3.36E-02	18.7	
11	0	270.76	94	200	1.91	542.01	537	10	1.31E-02	29.9	
12	0	295.61*	286	189	1.47	591.69	587	11	3.97E-02	11.1	
13	0	328.60	54	179	0.84	657.63	653	10	7.52E-03	48.0	
14	0	338.59*	187	129	1.27	677.59	672	11	2.60E-02	14.3	
15	0	352.27*	455	200	1.27	704.95	699	13	6.31E-02	8.0	
16	0	463.69	102	115	1.84	927.64	922	15	1.42E-02	24.7	
17	0	511.23*	86	104	1.72	1022.66	1016	13	1.19E-02	31.7	
18	0	583.49*	342	78	1.56	1167.11	1160	16	4.75E-02	8.0	
19	0	609.46*	321	119	1.63	1219.01	1212	16	4.45E-02	9.6	
20	0	662.03	305	108	1.49	1324.08	1318	14	4.24E-02	9.1	
21	0	728.46*	64	59	1.54	1456.85	1451	14	8.83E-03	30.2	
22	0	796.09	49	57	2.42	1592.04	1586	10	6.75E-03	30.4	
23	0	911.66*	235	72	1.77	1823.00	1814	19	3.26E-02	11.0	
24	1	965.20	56	42	1.92	1930.02	1922	42	7.73E-03	25.1	1.22E+00
25	1	969.36	113	35	1.67	1938.33	1922	42	1.58E-02	13.4	
26	0	1120.85*	58	42	1.16	2241.11	2235	10	8.12E-03	25.6	
27	0	1461.32*	824	18	1.79	2921.52	2912	17	1.14E-01	3.7	
28	0	1730.45	22	0	1.01	3459.36	3452	15	3.06E-03	21.3	
29	0	1765.11*	64	0	2.33	3528.61	3522	13	8.85E-03	14.0	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051008.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:19:27
Sample ID        : G248051008 Sample quantity : 113.02 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA1 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.09 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	+	1460.82	*	2.714E+01	3.143E+00	6.939E-01	6.169E-02	39.113
CD-109	+	88.03	*	2.482E+00	1.232E+00	1.713E+00	1.621E-01	1.449
SN-126	+	64.28		9.012E-01	8.841E-01	9.894E-01	1.456E-01	0.911
	+	86.94		1.004E+00	6.427E-01	7.309E-01	3.034E-01	1.373
	+	87.57	*	2.414E-01	1.199E-01	1.727E-01	1.627E-02	1.398
BA-137M	+	661.66	*	5.874E-01	1.177E-01	7.133E-02	5.842E-03	8.235
CS-137	+	661.66	*	6.205E-01	1.244E-01	7.535E-02	6.185E-03	8.235
TL-208		277.37		-2.009E-02	4.786E-01	7.878E-01	1.016E-01	-0.025
	+	583.19	*	6.237E-01	1.150E-01	7.003E-02	6.352E-03	8.906
		860.56		3.368E-01	3.560E-01	6.334E-01	6.068E-02	0.532
BI-211		72.87		4.040E+00	4.481E+00	6.711E+00	5.504E-01	0.602
	+	351.06	*	3.623E+00	6.672E-01	3.975E-01	3.616E-02	9.115
PB-212	+	74.82		2.252E+00	6.028E-01	6.968E-01	8.922E-02	3.232
	+	77.11		2.245E+00	4.007E-01	3.977E-01	3.375E-02	5.644
	+	238.63	*	1.771E+00	2.271E-01	1.153E-01	1.173E-02	15.359
		300.09		1.477E+00	1.129E+00	1.771E+00	1.934E-01	0.834
BI-214	+	609.32	*	1.134E+00	2.440E-01	1.374E-01	1.362E-02	8.249
	+	1120.29		1.091E+00	5.705E-01	5.577E-01	5.995E-02	1.957
	+	1764.49		1.675E+00	4.896E-01	3.044E-01	2.552E-02	5.503
PB-214	+	74.82		3.992E+00	1.045E+00	1.235E+00	1.420E-01	3.232
	+	77.11		3.958E+00	7.782E-01	7.012E-01	8.298E-02	5.644
	+	242.00		2.575E+00	1.000E+00	7.015E-01	7.563E-02	3.670
	+	295.22		1.395E+00	3.478E-01	3.001E-01	3.360E-02	4.648
	+	351.93	*	1.315E+00	2.528E-01	1.452E-01	1.544E-02	9.055
RA-224	+	240.99	*	4.553E+00	1.749E+00	1.236E+00	1.123E-01	3.683
RA-226	+	609.32	*	1.134E+00	2.440E-01	1.374E-01	1.362E-02	8.249
	+	1120.29		1.091E+00	5.705E-01	5.577E-01	5.995E-02	1.957
	+	1764.49		1.675E+00	4.896E-01	3.044E-01	2.552E-02	5.503
AC-228	+	338.32		1.659E+00	8.390E-01	4.564E-01	1.906E-01	3.634
	+	911.20	*	2.094E+00	5.243E-01	2.821E-01	3.361E-02	7.423
	+	968.97		1.748E+00	6.357E-01	4.915E-01	1.203E-01	3.557
RA-228	+	338.32		1.659E+00	8.390E-01	4.564E-01	1.906E-01	3.634
	+	911.20	*	2.094E+00	5.243E-01	2.821E-01	3.361E-02	7.423
	+	968.97		1.748E+00	6.357E-01	4.915E-01	1.203E-01	3.557

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	74.82		2.252E+00	5.622E-01	6.968E-01	5.858E-02	3.232
	+	77.11		2.245E+00	4.007E-01	3.977E-01	3.375E-02	5.644
	+	238.63	*	1.771E+00	2.271E-01	1.153E-01	1.173E-02	15.359
	+	300.09		1.477E+00	1.438E+00	1.771E+00	1.085E+00	0.834
TH-232	+	338.32		1.659E+00	4.954E-01	4.564E-01	4.018E-02	3.634
	+	911.20	*	2.094E+00	5.243E-01	2.821E-01	3.361E-02	7.423
	+	968.97		1.748E+00	6.357E-01	4.915E-01	1.203E-01	3.557
TH-234	+	63.29	*	2.338E+00	2.306E+00	2.642E+00	4.744E-01	0.885
	+	92.59		3.128E+00	1.459E+00	1.299E+00	2.895E-01	2.407
NP-237	+	86.48	*	7.204E-01	3.882E-01	4.785E-01	1.098E-01	1.505
		95.86		1.338E-02	1.234E+00	1.758E+00	4.239E-01	0.008
U-238	+	63.29	*	2.338E+00	2.306E+00	2.642E+00	4.744E-01	0.885
	+	92.59		3.128E+00	1.313E+00	1.299E+00	1.185E-01	2.407
ANH-511	+	511.00	*	1.192E-01	7.630E-02	5.792E-02	4.909E-03	2.057

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	5.772E-01	4.708E-01	8.171E-01	7.431E-02	0.706
NA-22		1274.54	*	8.343E-03	5.513E-02	9.352E-02	7.853E-03	0.089
NA-24		1368.63	*	1.552E+01	5.513E-02	Half-Life too short		
SC-46		889.28	*	-9.059E-03	5.237E-02	8.407E-02	7.599E-03	-0.108
	+	1120.55		1.895E-01	9.827E-02	1.589E-01	1.335E-02	1.193
V-48		944.13		-2.285E-01	1.126E+00	1.787E+00	1.610E-01	-0.128
		983.53	*	1.177E-02	1.258E-01	1.789E-01	1.597E-02	0.066
		1312.11		-6.476E-02	1.082E-01	1.658E-01	1.406E-02	-0.391
CR-51		320.08	*	3.852E-02	4.659E-01	7.675E-01	7.214E-02	0.050
MN-54		834.85	*	-9.003E-03	4.576E-02	7.365E-02	6.555E-03	-0.122
CO-56		846.77	*	1.837E-02	4.720E-02	8.056E-02	7.198E-03	0.228
		1037.84		1.470E-01	3.796E-01	6.418E-01	5.912E-02	0.229
		1238.28		1.355E-01	1.114E-01	2.047E-01	1.750E-02	0.662
		1771.35		-1.212E+00	4.417E-01	2.858E-01	2.392E-02	-4.241
CO-57		122.06	*	2.723E-03	3.236E-02	5.066E-02	4.460E-03	0.054
		136.47		-1.319E-01	2.364E-01	3.915E-01	3.613E-02	-0.337
CO-58		810.76	*	-2.197E-02	4.698E-02	7.325E-02	6.481E-03	-0.300
FE-59		1099.45	*	-3.414E-02	1.219E-01	1.899E-01	1.750E-02	-0.180
		1291.59		-1.052E-01	1.589E-01	2.433E-01	2.340E-02	-0.432
CO-60		1173.23		3.515E-02	5.490E-02	9.766E-02	7.904E-03	0.360
		1332.49	*	5.233E-03	4.449E-02	7.525E-02	6.414E-03	0.070
ZN-65		1115.54	*	5.840E-02	1.194E-01	1.791E-01	1.511E-02	0.326
SE-75		121.12		-7.117E-02	1.763E-01	2.697E-01	3.023E-02	-0.264
		136.00		-1.193E-02	4.599E-02	7.724E-02	6.686E-03	-0.154
		264.66	*	-1.054E-02	6.005E-02	9.088E-02	8.349E-03	-0.116
		279.54		5.309E-02	1.391E-01	2.340E-01	2.212E-02	0.227
		400.66		-2.148E-01	3.423E-01	5.286E-01	5.650E-02	-0.406
SR-85		514.00	*	1.447E-01	5.634E-02	9.698E-02	8.222E-03	1.492
Y-88		898.04		-1.385E-02	5.176E-02	8.191E-02	7.452E-03	-0.169
		1836.06	*	-1.535E-03	4.503E-02	7.266E-02	5.976E-03	-0.021

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	1204.77	*		7.375E+00	2.786E+01	4.783E+01	3.918E+00	0.154
NB-94	702.65	*		3.028E-03	4.567E-02	7.615E-02	6.392E-03	0.040
	871.09			8.815E-03	4.052E-02	6.789E-02	6.108E-03	0.130
NB-95	765.81	*		-5.512E-02	5.604E-02	8.410E-02	7.287E-03	-0.655
NB-95M	235.69	*		1.020E-01	1.738E-01	2.630E-01	2.703E-02	0.388
ZR-95	724.19			4.284E-02	1.254E-01	1.881E-01	1.736E-02	0.228
	756.73	*		1.880E-02	9.278E-02	1.560E-01	1.487E-02	0.120
MO-99	140.51			-3.827E+00	5.710E+01	9.657E+01	2.291E+01	-0.040
	181.07			2.522E+01	4.946E+01	7.528E+01	1.415E+01	0.335
	366.42			4.398E+02	2.751E+02	4.910E+02	4.152E+01	0.896
	739.50	*		4.295E+00	3.468E+01	5.799E+01	9.119E+00	0.074
	777.92			-3.575E+01	9.702E+01	1.540E+02	1.342E+01	-0.232
TC-99M	140.51	*		-1.975E+13	9.702E+01	Half-Life	too short	
RU-103	497.08	*		-2.659E-02	5.501E-02	8.420E-02	1.167E-02	-0.316
	610.33		+	1.238E+01	3.103E+00	3.626E+00	5.884E-01	3.414
RH-106	621.93	*		1.499E-02	3.630E-01	6.088E-01	7.965E-02	0.025
	1050.41			-2.602E+00	3.290E+00	4.806E+00	4.191E-01	-0.541
RU-106	621.93	*		1.499E-02	3.630E-01	6.088E-01	5.085E-02	0.025
	1050.41			-2.602E+00	3.290E+00	4.806E+00	4.191E-01	-0.541
AG-108M	433.94	*		-1.085E-02	4.052E-02	6.406E-02	5.482E-03	-0.169
	614.28			1.978E-02	4.706E-02	7.175E-02	6.219E-03	0.276
	722.91			2.460E-02	5.067E-02	7.724E-02	6.773E-03	0.318
AG-110M	657.76	*		1.836E-02	4.798E-02	7.268E-02	6.162E-03	0.253
	677.62			-9.235E-02	3.787E-01	6.158E-01	5.253E-02	-0.150
	706.68			-3.840E-01	2.827E-01	4.108E-01	3.560E-02	-0.935
	763.94			-1.691E-01	2.083E-01	3.179E-01	2.827E-02	-0.532
	884.68			-3.647E-02	6.224E-02	9.506E-02	8.835E-03	-0.384
	937.49			8.726E-02	1.282E-01	2.245E-01	2.091E-02	0.389
	1384.29			-1.472E-01	2.050E-01	3.052E-01	2.692E-02	-0.482
	1505.03			-1.862E-01	3.360E-01	5.010E-01	4.337E-02	-0.372
SN-113	391.69	*		-3.843E-02	5.929E-02	9.162E-02	7.631E-03	-0.419
CD-115	260.90			1.541E-04	5.929E-02	Half-Life	too short	
	492.35			3.228E-06	5.929E-02	Half-Life	too short	
	527.90	*		8.971E-06	5.929E-02	Half-Life	too short	
SN-117M	156.02			2.839E+00	3.175E+00	5.536E+00	4.714E-01	0.513
	158.56	*		-7.679E-03	7.639E-02	1.285E-01	1.094E-02	-0.060
TE-123M	159.00	*		-1.126E-03	3.369E-02	5.679E-02	4.865E-03	-0.020
SB-124	602.73			2.262E-02	5.535E-02	8.419E-02	7.081E-03	0.269
	645.85			5.029E-02	6.243E-01	1.048E+00	9.200E-02	0.048
	722.78			2.508E-01	5.275E-01	8.034E-01	6.979E-02	0.312
	1690.97	*		-1.199E-02	8.473E-02	1.337E-01	1.188E-02	-0.090
SB-125	427.87	*		-8.000E-02	1.122E-01	1.703E-01	1.432E-02	-0.470
	463.37		+	1.257E+00	6.319E-01	7.205E-01	6.516E-02	1.745
	600.60			6.400E-02	2.140E-01	3.665E-01	3.323E-02	0.175
	635.95			1.051E-01	3.284E-01	5.626E-01	5.079E-02	0.187
TE-125M	109.28	*		-5.199E+00	1.226E+01	1.911E+01	2.012E+00	-0.272
I-126	388.63			1.670E-02	2.556E-01	4.165E-01	3.373E-02	0.040
	666.33	*		2.204E-01	3.612E-01	5.598E-01	4.598E-02	0.394
	753.82			-3.258E-01	2.709E+00	4.426E+00	3.814E-01	-0.074

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-126	414.70			5.763E-02	1.135E-01	1.900E-01	1.554E-02	0.303
	666.50			6.286E-02	1.255E-01	1.921E-01	1.579E-02	0.327
	695.00			3.389E-02	1.218E-01	2.066E-01	1.726E-02	0.164
	697.00			4.608E-01	4.331E-01	7.733E-01	6.470E-02	0.596
	720.70	*		-2.380E-01	2.310E-01	3.345E-01	2.836E-02	-0.712
SB-127	856.80			-1.088E+00	6.667E-01	8.710E-01	7.806E-02	-1.249
	252.40			4.588E+00	9.359E+00	1.558E+01	6.530E+00	0.294
	473.00			-2.674E+00	3.923E+00	5.926E+00	8.010E-01	-0.451
	685.70	*		-2.046E+00	2.798E+00	4.311E+00	5.235E-01	-0.475
	783.70			-2.530E+00	7.891E+00	1.261E+01	1.682E+00	-0.201
I-131	80.19			4.792E+00	7.220E+00	1.074E+01	9.455E-01	0.446
	284.31			1.984E+00	2.293E+00	3.957E+00	3.789E-01	0.501
	364.49	*		-2.223E-03	1.949E-01	3.170E-01	2.847E-02	-0.007
TE-132	636.99			1.991E+00	2.458E+00	4.371E+00	3.862E-01	0.456
	49.72			-2.134E+01	4.832E+01	7.704E+01	9.131E+00	-0.277
	111.76			-1.540E+01	7.992E+01	1.260E+02	1.510E+01	-0.122
	116.30			3.730E+01	6.913E+01	1.125E+02	1.351E+01	0.332
BA-133	228.16	*		-2.096E-02	1.784E+00	2.968E+00	4.958E-01	-0.007
	81.00			-1.077E-01	1.220E-01	1.642E-01	2.565E-02	-0.656
	276.40			-1.912E-01	4.898E-01	7.285E-01	1.052E-01	-0.262
	302.85			-1.849E-01	1.843E-01	2.829E-01	3.782E-02	-0.654
	356.01	*		-1.759E-02	6.329E-02	8.799E-02	1.139E-02	-0.200
I-133	383.85			-3.805E-02	3.821E-01	6.159E-01	7.468E-02	-0.062
	529.87	*		3.671E-02	3.821E-01	Half-Life	too short	
	875.33			-2.102E+00	3.821E-01	Half-Life	too short	
	1298.22			3.820E-01	3.821E-01	Half-Life	too short	
	563.25			-9.665E-02	4.318E-01	7.126E-01	6.102E-02	-0.136
CS-134	569.33			1.237E-01	2.502E-01	4.348E-01	3.735E-02	0.285
	604.72			-9.963E-03	4.514E-02	6.403E-02	5.395E-03	-0.156
	795.86	*		1.306E-01	8.032E-02	1.273E-01	1.125E-02	1.026
	801.95			1.284E-01	5.488E-01	8.728E-01	7.720E-02	0.147
	1365.19			1.062E+00	1.409E+00	2.590E+00	2.323E-01	0.410
CS-135	268.22	*		1.270E-01	2.197E-01	3.316E-01	3.458E-02	0.383
I-135	546.56			2.656E+13	2.197E-01	Half-Life	too short	
	836.80			4.529E+13	2.197E-01	Half-Life	too short	
	1038.76			7.951E+12	2.197E-01	Half-Life	too short	
	1131.51			-9.334E+12	2.197E-01	Half-Life	too short	
	1260.41	*		1.107E+13	2.197E-01	Half-Life	too short	
	1457.56			8.016E+14	2.197E-01	Half-Life	too short	
	1678.03			-3.885E+12	2.197E-01	Half-Life	too short	
	1791.20			2.762E+13	2.197E-01	Half-Life	too short	
	153.25			-4.423E-01	1.204E+00	2.005E+00	2.042E-01	-0.221
CS-136	176.60			-5.418E-02	6.566E-01	1.100E+00	1.045E-01	-0.049
	273.65			-1.567E-01	8.654E-01	1.237E+00	1.218E-01	-0.127
	340.55			8.265E-01	2.560E-01	4.381E-01	3.988E-02	1.887
	818.51			-9.219E-03	8.963E-02	1.454E-01	1.289E-02	-0.063
	1048.07	*		2.361E-02	1.560E-01	2.567E-01	2.333E-02	0.092
	1235.36			-8.346E-02	8.226E-01	1.363E+00	1.571E-01	-0.061
CE-139	165.86	*		9.888E-03	3.662E-02	6.239E-02	5.314E-03	0.158

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-140		162.66		4.884E-01	1.135E+00	1.946E+00	1.771E-01	0.251
		304.85		1.048E-01	2.006E+00	3.303E+00	9.713E-01	0.032
		423.72		-1.859E+00	2.886E+00	4.314E+00	1.415E+00	-0.431
		537.26	*	9.264E-02	3.822E-01	6.534E-01	2.214E-01	0.142
LA-140	+	328.76		7.054E-01	6.807E-01	8.610E-01	8.070E-02	0.819
		487.02		1.519E-02	2.029E-01	3.271E-01	2.938E-02	0.046
		815.77		-1.872E-01	4.179E-01	6.495E-01	6.385E-02	-0.288
		1596.21	*	4.431E-03	1.181E-01	1.954E-01	1.686E-02	0.023
CE-141		145.44	*	1.079E-02	7.923E-02	1.349E-01	1.173E-02	0.080
CE-143		57.36		-4.347E-03	7.923E-02	Half-Life	too short	
		293.27	*	1.484E-03	7.923E-02	Half-Life	too short	
		664.57		4.715E-02	7.923E-02	Half-Life	too short	
		721.93		2.574E-04	7.923E-02	Half-Life	too short	
CE-144		80.12		2.083E+00	2.992E+00	4.457E+00	3.887E-01	0.467
		133.52	*	1.971E-01	2.778E-01	4.032E-01	6.163E-02	0.489
PM-144		476.78		1.279E-01	9.117E-02	1.598E-01	1.466E-02	0.800
		618.01		-1.818E-02	3.908E-02	5.862E-02	5.050E-03	-0.310
		696.49	*	5.029E-02	4.643E-02	8.302E-02	6.948E-03	0.606
PR-144		696.51	*	3.781E+00	3.481E+00	6.226E+00	5.208E-01	0.607
		1489.16		-2.804E+00	1.529E+01	2.445E+01	2.116E+00	-0.115
PM-146		453.88	*	-1.525E-02	5.512E-02	8.670E-02	8.990E-03	-0.176
		633.25		-3.745E-01	1.731E+00	2.825E+00	1.077E+00	-0.133
		735.93		-2.593E-02	1.936E-01	2.860E-01	8.009E-02	-0.091
		747.24		-7.801E-02	1.261E-01	1.957E-01	2.851E-02	-0.399
ND-147		91.11		3.921E-01	6.034E-01	7.654E-01	7.570E-02	0.512
		319.41		-1.874E+00	4.938E+00	7.888E+00	7.078E-01	-0.238
		531.02	*	2.103E-01	8.145E-01	1.399E+00	2.081E-01	0.150
PM-149		285.90	*	-4.145E-05	8.145E-01	Half-Life	too short	
EU-152		121.78		1.524E-02	9.273E-02	1.457E-01	1.465E-02	0.105
		244.70		2.561E-01	4.476E-01	6.777E-01	6.169E-02	0.378
		344.28	*	-1.264E-02	1.229E-01	1.840E-01	1.700E-02	-0.069
		778.90		5.611E-02	3.024E-01	5.077E-01	4.425E-02	0.111
	+	964.08		9.236E-01	4.707E-01	7.102E-01	6.371E-02	1.301
		1085.87		4.052E-01	4.625E-01	8.207E-01	7.035E-02	0.494
		1112.07		-2.364E-01	3.803E-01	5.656E-01	4.777E-02	-0.418
		1408.01		1.411E-01	2.264E-01	4.060E-01	3.497E-02	0.347
GD-153		69.67		-2.281E+00	2.256E+00	3.461E+00	2.776E-01	-0.659
		97.43	*	8.060E-03	1.132E-01	1.618E-01	1.437E-02	0.050
		103.18		3.608E-02	1.356E-01	2.190E-01	1.911E-02	0.165
EU-154		123.07		-2.036E-02	6.503E-02	1.015E-01	1.164E-02	-0.201
		723.31		6.255E-02	2.384E-01	3.536E-01	3.315E-02	0.177
		873.19		4.187E-02	3.222E-01	5.351E-01	6.515E-02	0.078
		996.26		-2.824E-01	5.151E-01	7.855E-01	1.383E-01	-0.360
		1004.73		-2.761E-01	3.046E-01	4.447E-01	5.258E-02	-0.621
		1274.44	*	1.182E-02	1.565E-01	2.633E-01	2.950E-02	0.045
EU-155	+	86.55		2.931E-01	1.456E-01	2.198E-01	2.065E-02	1.333
		105.31	*	5.838E-02	1.293E-01	2.104E-01	1.850E-02	0.277
TB-160	+	86.79		8.008E-01	3.976E-01	6.007E-01	5.609E-02	1.333
		197.04		-3.238E-01	7.119E-01	1.168E+00	1.027E-01	-0.277

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		215.65		1.509E-01	9.842E-01	1.600E+00	1.430E-01	0.094
		298.57		1.194E-01	1.708E-01	2.584E-01	2.349E-02	0.462
		879.36	*	4.504E-02	1.634E-01	2.757E-01	2.486E-02	0.163
		962.29		8.467E-01	6.975E-01	1.149E+00	1.031E-01	0.737
	+	966.15		6.649E-01	3.389E-01	5.764E-01	5.168E-02	1.154
		1177.93		-2.465E-01	4.545E-01	7.206E-01	5.843E-02	-0.342
		1271.85		-4.383E-01	9.023E-01	1.422E+00	1.192E-01	-0.308
		80.57		1.124E-01	3.255E-01	4.758E-01	4.167E-02	0.236
		184.41		1.012E-01	4.825E-02	7.802E-02	6.770E-03	1.297
		280.46		-5.898E-02	1.042E-01	1.661E-01	1.519E-02	-0.355
		410.95		4.073E-01	3.145E-01	5.505E-01	4.490E-02	0.740
		711.68	*	2.340E-02	7.886E-02	1.339E-01	1.130E-02	0.175
TA-182		752.31		1.126E-01	3.410E-01	5.800E-01	4.995E-02	0.194
		810.29		-2.081E-02	6.820E-02	1.084E-01	9.566E-03	-0.192
		67.75		-2.261E-02	1.567E-01	2.243E-01	1.777E-02	-0.101
		100.11		4.736E-02	2.167E-01	3.496E-01	3.074E-02	0.135
		152.43		-2.692E-01	4.196E-01	6.901E-01	5.879E-02	-0.390
		222.11		2.178E-01	4.400E-01	7.491E-01	6.731E-02	0.291
	+	1121.30		5.214E-01	2.703E-01	4.362E-01	3.663E-02	1.195
		1189.05		2.300E-01	4.266E-01	7.479E-01	6.091E-02	0.308
		1221.41	*	-1.096E-01	2.362E-01	3.768E-01	3.105E-02	-0.291
		1231.02		-2.962E-02	6.122E-01	1.020E+00	8.434E-02	-0.029
	+	295.96		1.063E+00	2.560E-01	3.596E-01	3.295E-02	2.955
		308.46		-3.022E-02	1.213E-01	1.960E-01	1.780E-02	-0.154
IR-192		316.51	*	2.896E-02	4.159E-02	7.112E-02	6.408E-03	0.407
	+	468.07		-4.156E-02	1.051E-01	1.407E-01	1.271E-02	-0.295
		70.83		2.035E+00	1.927E+00	2.883E+00	4.548E-01	0.706
HG-203		72.87		1.055E+00	1.178E+00	1.752E+00	2.682E-01	0.602
		279.20	*	6.724E-02	4.972E-02	8.727E-02	8.163E-03	0.770
		72.81		1.721E-01	2.561E-01	3.800E-01	3.115E-02	0.453
BI-207	+	74.97		6.492E-01	1.619E-01	2.825E-01	2.355E-02	2.298
		569.70		2.047E-02	3.885E-02	6.765E-02	5.731E-03	0.303
		1063.66	*	1.251E-02	6.403E-02	1.076E-01	9.328E-03	0.116
PB-210		1770.23		1.773E-01	4.213E-01	6.997E-01	5.859E-02	0.253
PB-211		46.54	*	2.014E+00	4.866E+00	7.906E+00	7.405E-01	0.255
		404.85	*	1.710E-01	8.893E-01	1.453E+00	7.020E-01	0.118
		427.09		-2.626E+00	2.252E+00	2.715E+00	1.254E+00	-0.967
		832.01		-7.453E-01	1.300E+00	1.915E+00	9.941E-01	-0.389
BI-212	+	727.33	*	1.790E+00	1.105E+00	1.384E+00	1.714E-01	1.294
		785.37		1.431E+00	3.908E+00	6.651E+00	5.812E-01	0.215
		1620.50		9.814E-01	3.022E+00	5.229E+00	4.500E-01	0.188
RN-219	+	271.23		7.334E-01	4.450E-01	5.772E-01	6.178E-02	1.271
		401.81	*	8.304E-02	5.181E-01	8.481E-01	1.237E-01	0.098
		81.07		-3.114E-01	2.779E-01	3.708E-01	3.263E-02	-0.840
RA-223		83.79		9.840E-02	1.679E-01	2.439E-01	2.206E-02	0.403
		94.87		1.437E+00	6.070E-01	9.570E-01	8.606E-02	1.501
		144.24		-5.552E-01	8.195E-01	1.311E+00	1.253E-01	-0.423
		154.21		9.161E-03	4.622E-01	7.818E-01	7.311E-02	0.012
	+	269.46		5.698E-01	3.444E-01	4.306E-01	4.010E-02	1.323

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	323.87	*	5.429E-01	8.598E-01	1.296E+00	2.266E-01	0.419
		338.28		6.583E+00	2.043E+00	2.803E+00	3.421E-01	2.348
		79.69		1.942E+00	1.527E+00	2.297E+00	3.966E-01	0.845
		235.96		8.700E-02	2.056E-01	3.082E-01	3.302E-02	0.282
		256.23	*	-1.662E-01	3.144E-01	5.047E-01	6.271E-02	-0.329
TH-227		299.98		1.535E+00	1.253E+00	1.949E+00	2.538E-01	0.788
		304.50		-8.636E-01	2.136E+00	3.421E+00	5.734E-01	-0.252
		334.37		-6.588E-02	2.802E+00	3.365E+00	5.287E-01	-0.020
		79.80		1.999E+00	2.024E+00	2.999E+00	6.540E-01	0.667
		235.96		8.700E-02	2.055E-01	3.082E-01	3.128E-02	0.282
TH-229		256.23	*	-1.662E-01	3.145E-01	5.047E-01	7.034E-02	-0.329
		299.98		1.535E+00	1.253E+00	1.949E+00	2.538E-01	0.788
		304.50		-8.636E-01	2.136E+00	3.421E+00	5.734E-01	-0.252
		334.37		-6.588E-02	2.802E+00	3.365E+00	5.287E-01	-0.020
		85.43		5.783E-01	2.871E-01	4.393E-01	4.042E-02	1.316
PA-231	+	88.47		3.722E-01	1.848E-01	2.794E-01	2.632E-02	1.332
		193.51	*	9.335E-02	6.642E-01	1.119E+00	9.805E-02	0.083
		210.85		2.190E+00	1.923E+00	1.972E+00	1.756E-01	1.111
		283.69	*	8.593E-02	1.729E+00	2.858E+00	4.258E-01	0.030
		301.36		9.360E-01	8.078E-01	1.253E+00	1.564E-01	0.747
TH-231		81.07		-3.114E-01	2.779E-01	3.708E-01	3.263E-02	-0.840
		83.79		9.840E-02	1.679E-01	2.439E-01	2.206E-02	0.403
		94.87		1.437E+00	6.070E-01	9.570E-01	8.606E-02	1.501
		144.24		-5.552E-01	8.195E-01	1.311E+00	1.253E-01	-0.423
		154.21		9.161E-03	4.622E-01	7.818E-01	7.311E-02	0.012
PA-233	+	269.46		5.698E-01	3.444E-01	4.306E-01	4.010E-02	1.323
		323.87	*	5.429E-01	8.598E-01	1.296E+00	2.266E-01	0.419
		338.28		6.583E+00	2.043E+00	2.803E+00	3.421E-01	2.348
		300.13		7.297E-01	5.669E-01	8.806E-01	1.330E-01	0.829
		311.90	*	2.143E-02	7.658E-02	1.278E-01	1.183E-02	0.168
PA-234		340.48		2.962E+00	1.151E+00	1.600E+00	3.860E-01	1.851
		94.67		6.403E-01	2.339E-01	3.611E-01	4.575E-02	1.773
		98.44		1.414E-01	1.417E-01	1.800E-01	1.005E-01	0.786
		111.00		1.212E-01	2.155E-01	3.516E-01	4.262E-02	0.345
		131.20		4.641E-03	1.502E-01	2.102E-01	1.817E-02	0.022
PA-234M		569.50		1.707E-01	3.439E-01	5.977E-01	5.063E-02	0.286
		733.00		-2.358E-01	4.914E-01	6.513E-01	1.443E-01	-0.362
		880.51		-2.080E-02	3.242E-01	5.264E-01	4.748E-02	-0.040
		883.24		-2.569E-01	3.923E-01	5.287E-01	3.557E-01	-0.486
		926.50		-4.506E-02	1.991E-01	3.151E-01	8.011E-02	-0.143
U-235	+	946.00	*	5.637E-02	3.436E-01	5.701E-01	1.080E-01	0.099
		949.00		1.471E-01	5.486E-01	9.189E-01	8.268E-02	0.160
		766.42		2.291E+00	1.410E+01	2.350E+01	1.193E+01	0.097
		1001.03	*	-2.157E+00	6.978E+00	1.064E+01	1.085E+00	-0.203
		89.96		9.511E-01	1.453E+00	1.691E+00	4.205E-01	0.562
	+	93.35		2.362E+00	1.114E+00	1.260E+00	2.933E-01	1.874
		143.76	*	-1.446E-01	2.490E-01	3.994E-01	6.756E-02	-0.362
		163.33		4.126E-01	5.163E-01	8.903E-01	1.594E-01	0.463
	+	185.72		2.192E-01	9.620E-02	1.137E-01	9.880E-03	1.928

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	205.31			-4.539E-01	6.808E-01	9.533E-01	1.741E-01	-0.476
	99.53			7.861E-02	1.986E-01	3.228E-01	2.844E-02	0.243
	103.37			6.657E-02	1.214E-01	1.985E-01	1.731E-02	0.335
	106.12			2.919E-02	1.025E-01	1.655E-01	1.437E-02	0.176
	117.23	*		-1.270E-01	5.048E-01	7.920E-01	6.900E-02	-0.160
	228.18			-1.522E-03	2.651E-01	4.410E-01	3.979E-02	-0.003
AM-241	277.60			1.779E-01	2.113E-01	3.634E-01	3.324E-02	0.489
	59.54	*		1.379E-01	2.112E-01	3.175E-01	2.616E-02	0.434
CM-247	278.00			1.063E+00	9.154E-01	1.594E+00	1.458E-01	0.667
	287.50			-8.831E-01	1.469E+00	2.328E+00	2.125E-01	-0.379
CF-249	402.40	*		1.189E-02	4.737E-02	7.805E-02	6.329E-03	0.152
	252.80			8.014E-01	1.155E+00	1.979E+00	1.807E-01	0.405
	333.37			-4.216E-02	3.576E-01	3.619E-01	3.203E-02	-0.117
	388.16	*		-2.057E-02	5.116E-02	8.060E-02	6.535E-03	-0.255
CF-251	177.52	*		4.646E-02	1.438E-01	2.452E-01	2.113E-02	0.189
	227.38			-1.520E-01	4.387E-01	7.179E-01	6.474E-02	-0.212
	285.41			1.422E-01	2.516E+00	4.159E+00	3.798E-01	0.034

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]G248051008
* Acquisition date   : 10-MAR-2010 19:19:27 Detector SN# :
* Detector ID        : GAM01 Sensitivity : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.09 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051008 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.1302E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 12-JAN-2010 15:15:52 MS Isotope :
* MSD DPM            : 0.000 MSD Isotope :
* LCS DPM            : 0.000 LCS Isotope :
* LCSD DPM           : 0.000 LCSD Isotope :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.714E+01	3.080E+00	6.907E-01	0.000E+00
CD-109	2.482E+00	1.207E+00	1.747E+00	0.000E+00
SN-126	2.414E-01	1.175E-01	1.761E-01	0.000E+00
BA-137M	5.874E-01	1.154E-01	7.149E-02	0.000E+00
CS-137	6.205E-01	1.219E-01	7.552E-02	0.000E+00
TL-208	6.237E-01	1.127E-01	7.027E-02	0.000E+00
BI-211	3.623E+00	6.538E-01	4.006E-01	0.000E+00
PB-212	1.771E+00	2.226E-01	1.166E-01	0.000E+00
BI-214	1.134E+00	2.392E-01	1.378E-01	0.000E+00
PB-214	1.315E+00	2.477E-01	1.463E-01	0.000E+00
RA-224	4.553E+00	1.714E+00	1.250E+00	0.000E+00
RA-226	1.134E+00	2.392E-01	1.378E-01	0.000E+00
AC-228	2.094E+00	5.139E-01	2.820E-01	0.000E+00
RA-228	2.094E+00	5.139E-01	2.820E-01	0.000E+00
TH-228	1.771E+00	2.226E-01	1.166E-01	0.000E+00
TH-232	2.094E+00	5.139E-01	2.820E-01	0.000E+00
TH-234	2.338E+00	2.260E+00	2.701E+00	0.000E+00
NP-237	7.204E-01	3.805E-01	4.880E-01	0.000E+00
U-238	2.338E+00	2.260E+00	2.701E+00	0.000E+00
ANH-511	1.192E-01	7.477E-02	5.819E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	5.772E-01	4.614E-01	8.213E-01	0.000E+00 NOT IDENT.
NA-22	8.343E-03	5.403E-02	9.320E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.925E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-9.059E-03	5.132E-02	8.404E-02	0.000E+00 FAIL ABUN
V-48	1.177E-02	1.233E-01	1.787E-01	0.000E+00 NOT IDENT.
CR-51	3.852E-02	4.566E-01	7.741E-01	0.000E+00 NOT IDENT.
MN-54	-9.003E-03	4.485E-02	7.367E-02	0.000E+00 NOT IDENT.

CO-56	1.837E-02	4.625E-02	8.057E-02	0.000E+00	NOT IDENT.
CO-57	2.723E-03	3.171E-02	5.152E-02	0.000E+00	NOT IDENT.
CO-58	-2.197E-02	4.604E-02	7.329E-02	0.000E+00	NOT IDENT.
FE-59	-3.414E-02	1.194E-01	1.895E-01	0.000E+00	NOT IDENT.
CO-60	5.233E-03	4.360E-02	7.496E-02	0.000E+00	NOT IDENT.
ZN-65	5.840E-02	1.170E-01	1.787E-01	0.000E+00	NOT IDENT.
SE-75	-1.054E-02	5.885E-02	9.181E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.522E-02	9.741E-02	0.000E+00	NOT IDENT.
Y-88	-1.535E-03	4.413E-02	7.217E-02	0.000E+00	NOT IDENT.
Y-91	7.375E+00	2.730E+01	4.769E+01	0.000E+00	NOT IDENT.
NB-94	3.028E-03	4.476E-02	7.629E-02	0.000E+00	NOT IDENT.
NB-95	-5.512E-02	5.492E-02	8.418E-02	0.000E+00	NOT IDENT.
NB-95M	1.020E-01	1.703E-01	2.660E-01	0.000E+00	NOT IDENT.
ZR-95	1.880E-02	9.093E-02	1.562E-01	0.000E+00	NOT IDENT.
MO-99	4.295E+00	3.399E+01	5.807E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.889E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-2.659E-02	5.391E-02	8.460E-02	0.000E+00	FAIL ABUN
RH-106	1.499E-02	3.558E-01	6.105E-01	0.000E+00	NOT IDENT.
RU-106	1.499E-02	3.558E-01	6.105E-01	0.000E+00	NOT IDENT.
AG-108M	-1.085E-02	3.971E-02	6.445E-02	0.000E+00	NOT IDENT.
AG-110M	1.836E-02	4.702E-02	7.285E-02	0.000E+00	NOT IDENT.
SN-113	-3.843E-02	5.810E-02	9.224E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.597E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-7.679E-03	7.486E-02	1.303E-01	0.000E+00	NOT IDENT.
TE-123M	-1.126E-03	3.301E-02	5.762E-02	0.000E+00	NOT IDENT.
SB-124	-1.199E-02	8.303E-02	1.329E-01	0.000E+00	NOT IDENT.
SB-125	-8.000E-02	1.100E-01	1.714E-01	0.000E+00	FAIL ABUN
TE-125M	-5.199E+00	1.202E+01	1.945E+01	0.000E+00	NOT IDENT.
I-126	2.204E-01	3.540E-01	5.610E-01	0.000E+00	NOT IDENT.
SB-126	-2.380E-01	2.264E-01	3.350E-01	0.000E+00	NOT IDENT.
SB-127	-2.046E+00	2.742E+00	4.320E+00	0.000E+00	NOT IDENT.
I-131	-2.223E-03	1.910E-01	3.194E-01	0.000E+00	NOT IDENT.
TE-132	-2.096E-02	1.749E+00	3.002E+00	0.000E+00	NOT IDENT.
BA-133	-1.759E-02	6.203E-02	8.867E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	8.951E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.871E-02	1.274E-01	0.000E+00	FAIL ABUN
CS-135	1.270E-01	2.153E-01	3.350E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.578E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.361E-02	1.529E-01	2.562E-01	0.000E+00	NOT IDENT.
CE-139	9.888E-03	3.589E-02	6.328E-02	0.000E+00	NOT IDENT.
BA-140	9.264E-02	3.745E-01	6.561E-01	0.000E+00	NOT IDENT.
LA-140	4.431E-03	1.158E-01	1.943E-01	0.000E+00	FAIL ABUN
CE-141	1.079E-02	7.764E-02	1.370E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	9.661E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.971E-01	2.722E-01	4.097E-01	0.000E+00	NOT IDENT.
PM-144	5.029E-02	4.550E-02	8.317E-02	0.000E+00	NOT IDENT.
PR-144	3.781E+00	3.412E+00	6.238E+00	0.000E+00	NOT IDENT.
PM-146	-1.525E-02	5.402E-02	8.719E-02	0.000E+00	NOT IDENT.
ND-147	2.103E-01	7.982E-01	1.405E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.836E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.264E-02	1.205E-01	1.855E-01	0.000E+00	FAIL ABUN
GD-153	8.060E-03	1.110E-01	1.649E-01	0.000E+00	NOT IDENT.
EU-154	1.182E-02	1.533E-01	2.624E-01	0.000E+00	NOT IDENT.
EU-155	5.838E-02	1.267E-01	2.142E-01	0.000E+00	FAIL ABUN
TB-160	4.504E-02	1.602E-01	2.756E-01	0.000E+00	FAIL ABUN
HO-166M	2.340E-02	7.729E-02	1.341E-01	0.000E+00	NOT IDENT.
TA-182	-1.096E-01	2.315E-01	3.756E-01	0.000E+00	FAIL ABUN
IR-192	2.896E-02	4.076E-02	7.174E-02	0.000E+00	FAIL ABUN
HG-203	6.724E-02	4.873E-02	8.813E-02	0.000E+00	NOT IDENT.
BI-207	1.251E-02	6.275E-02	1.074E-01	0.000E+00	FAIL ABUN
PB-210	2.014E+00	4.768E+00	8.105E+00	0.000E+00	NOT IDENT.
PB-211	1.710E-01	8.715E-01	1.463E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.083E+00	1.386E+00	0.000E+00	FAIL ABUN
RN-219	8.304E-02	5.077E-01	8.538E-01	0.000E+00	FAIL ABUN
RA-223	5.429E-01	8.426E-01	1.307E+00	0.000E+00	FAIL ABUN
AC-227	-1.662E-01	3.081E-01	5.100E-01	0.000E+00	NOT IDENT.
TH-227	-1.662E-01	3.082E-01	5.100E-01	0.000E+00	NOT IDENT.
TH-229	9.335E-02	6.509E-01	1.134E+00	0.000E+00	FAIL ABUN
PA-231	8.593E-02	1.695E+00	2.886E+00	0.000E+00	NOT IDENT.
TH-231	5.429E-01	8.426E-01	1.307E+00	0.000E+00	FAIL ABUN
PA-233	2.143E-02	7.505E-02	1.290E-01	0.000E+00	NOT IDENT.
PA-234	5.637E-02	3.368E-01	5.696E-01	0.000E+00	NOT IDENT.
PA-234M	-2.157E+00	6.838E+00	1.063E+01	0.000E+00	NOT IDENT.
U-235	-1.446E-01	2.440E-01	4.056E-01	0.000E+00	FAIL ABUN
NP-239	-1.270E-01	4.947E-01	8.057E-01	0.000E+00	NOT IDENT.
AM-241	1.379E-01	2.070E-01	3.248E-01	0.000E+00	NOT IDENT.
CM-247	1.189E-02	4.642E-02	7.856E-02	0.000E+00	NOT IDENT.
CF-249	-2.057E-02	5.013E-02	8.116E-02	0.000E+00	NOT IDENT.

CF-251

4.646E-02

1.409E-01

2.486E-01

0.000E+00 NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 21:19:51.69

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051008.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:19:27
Sample ID          : G248051008 Sample quantity : 1.13020E+02 GRAM
Detector name      : GAM01 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.09 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	824	10.66*	9.454E-01	2.714E+01	2.714E+01	11.58
CD-109	88.03	140	3.70*	5.203E+00	2.414E+00	2.482E+00	49.65
SN-126	64.28	73	9.60	2.820E+00	9.012E-01	9.012E-01	98.09
	86.94	140	8.90	5.203E+00	1.004E+00	1.004E+00	64.04
	87.57	140	37.00*	5.203E+00	2.414E-01	2.414E-01	49.65
BA-137M	661.66	305	89.90*	1.923E+00	5.867E-01	5.874E-01	20.05
CS-137	661.66	305	85.10*	1.923E+00	6.198E-01	6.205E-01	20.05
TL-208	277.37	-----	6.60	3.885E+00	-----	Line Not Found	-----
	583.19	342	85.00*	2.142E+00	6.237E-01	6.237E-01	18.44
	860.56	-----	12.50	1.522E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.23	3.944E+00	-----	Line Not Found	-----
	351.06	455	12.92*	3.225E+00	3.623E+00	3.623E+00	18.42
PB-212	74.82	290	10.28	4.160E+00	2.252E+00	2.252E+00	26.77
	77.11	507	17.10	4.384E+00	2.245E+00	2.245E+00	17.85
	238.63	1010	43.60*	4.345E+00	1.771E+00	1.771E+00	12.82
	300.09	-----	3.30	3.656E+00	-----	Line Not Found	-----
BI-214	609.32	321	45.49*	2.065E+00	1.134E+00	1.134E+00	21.53
	1120.29	58	14.92	1.193E+00	1.091E+00	1.091E+00	52.28
	1764.49	64	15.30	8.255E-01	1.675E+00	1.675E+00	29.23
PB-214	74.82	290	5.80	4.160E+00	3.992E+00	3.992E+00	26.17
	77.11	507	9.70	4.384E+00	3.958E+00	3.958E+00	19.66
	242.00	242	7.25	4.306E+00	2.575E+00	2.575E+00	38.85
	295.22	286	18.42	3.699E+00	1.395E+00	1.395E+00	24.94
	351.93	455	35.60*	3.225E+00	1.315E+00	1.315E+00	19.22
RA-224	240.99	242	4.10*	4.306E+00	4.553E+00	4.553E+00	38.41
RA-226	609.32	321	45.49*	2.065E+00	1.134E+00	1.134E+00	21.53
	1120.29	58	14.92	1.193E+00	1.091E+00	1.091E+00	52.28
	1764.49	64	15.30	8.255E-01	1.675E+00	1.675E+00	29.23
AC-228	338.32	187	11.27	3.328E+00	1.659E+00	1.659E+00	50.58
	911.20	235	25.80*	1.444E+00	2.094E+00	2.094E+00	25.04
	968.97	113	15.80	1.364E+00	1.748E+00	1.748E+00	36.36
RA-228	338.32	187	11.27	3.328E+00	1.659E+00	1.659E+00	50.58

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	911.20	235	25.80*	1.444E+00	2.094E+00	2.094E+00	25.04
	968.97	113	15.80	1.364E+00	1.748E+00	1.748E+00	36.36
TH-228	74.82	290	10.28	4.160E+00	2.252E+00	2.252E+00	24.97
	77.11	507	17.10	4.384E+00	2.245E+00	2.245E+00	17.85
	238.63	1010	43.60*	4.345E+00	1.771E+00	1.771E+00	12.82
	300.09	-----	3.30	3.656E+00	-----	Line Not Found	-----
TH-232	338.32	187	11.27	3.328E+00	1.659E+00	1.659E+00	29.87
	911.20	235	25.80*	1.444E+00	2.094E+00	2.094E+00	25.04
	968.97	113	15.80	1.364E+00	1.748E+00	1.748E+00	36.36
TH-234	63.29	73	3.70*	2.820E+00	2.338E+00	2.338E+00	98.64
	92.59	220	4.23	5.514E+00	3.128E+00	3.128E+00	46.65
NP-237	86.48	140	12.40*	5.203E+00	7.204E-01	7.204E-01	53.89
	95.86	-----	2.68	5.636E+00	-----	Line Not Found	-----
U-238	63.29	73	3.70*	2.820E+00	2.338E+00	2.338E+00	98.64
	92.59	220	4.23	5.514E+00	3.128E+00	3.128E+00	41.98
ANH-511	511.00	86	100.00*	2.392E+00	1.192E-01	1.192E-01	64.03

Flag: "*" = Keyline

Total number of lines in spectrum 29
Number of unidentified lines 2
Number of lines tentatively identified by NID 27 93.10%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.714E+01	2.714E+01	0.314E+01	11.58	
CD-109	461.40D	1.03	2.414E+00	2.482E+00	1.232E+00	49.65	
SN-126	2.30E+05Y	1.00	2.414E-01	2.414E-01	1.199E-01	49.65	
BA-137M	30.08Y	1.00	5.867E-01	5.874E-01	1.177E-01	20.05	
CS-137	30.08Y	1.00	6.198E-01	6.205E-01	1.244E-01	20.05	
TL-208	1.41E+10Y	1.00	6.237E-01	6.237E-01	1.150E-01	18.44	
BI-211	7.04E+08Y	1.00	3.623E+00	3.623E+00	0.667E+00	18.42	
PB-212	1.41E+10Y	1.00	1.771E+00	1.771E+00	0.227E+00	12.82	
BI-214	1600.00Y	1.00	1.134E+00	1.134E+00	0.244E+00	21.53	
PB-214	1600.00Y	1.00	1.315E+00	1.315E+00	0.253E+00	19.22	
RA-224	1.41E+10Y	1.00	4.553E+00	4.553E+00	1.749E+00	38.41	
RA-226	1600.00Y	1.00	1.134E+00	1.134E+00	0.244E+00	21.53	
AC-228	1.41E+10Y	1.00	2.094E+00	2.094E+00	0.524E+00	25.04	
RA-228	1.41E+10Y	1.00	2.094E+00	2.094E+00	0.524E+00	25.04	
TH-228	1.41E+10Y	1.00	1.771E+00	1.771E+00	0.227E+00	12.82	
TH-232	1.41E+10Y	1.00	2.094E+00	2.094E+00	0.524E+00	25.04	
TH-234	4.47E+09Y	1.00	2.338E+00	2.338E+00	2.306E+00	98.64	
NP-237	2.14E+06Y	1.00	7.204E-01	7.204E-01	3.882E-01	53.89	
U-238	4.47E+09Y	1.00	2.338E+00	2.338E+00	2.306E+00	98.64	
ANH-511	1.00E+09Y	1.00	1.192E-01	1.192E-01	0.763E-01	64.03	
Total Activity :			5.873E+01	5.880E+01			

Grand Total Activity : 5.873E+01 5.880E+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	129.11	67	260	1.24	258.87	256	8	9.24E-03	87.3	6.02E+00	
0	186.17	195	358	1.16	372.93	367	12	2.70E-02	43.0	5.16E+00	T
0	209.62	88	340	1.16	419.81	413	12	1.22E-02	87.4	4.77E+00	T
0	270.76	94	200	1.91	542.01	537	10	1.31E-02	59.7	3.96E+00	T
0	328.60	54	179	0.84	657.63	653	10	7.52E-03	96.1	3.41E+00	T
0	463.69	102	115	1.84	927.64	922	15	1.42E-02	49.5	2.59E+00	T
0	728.46	64	59	1.54	1456.85	1451	14	8.83E-03	60.5	1.77E+00	T
0	796.09	49	57	2.42	1592.04	1586	10	6.75E-03	60.9	1.63E+00	T
1	965.20	56	42	1.92	1930.02	1922	42	7.73E-03	50.2	1.37E+00	T
0	1730.45	22	0	1.01	3459.36	3452	15	3.06E-03	42.6	8.36E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051008.CNF;1
* Acquisition date   : 10-MAR-2010 19:19:27  Detector SN#      :
* Detector ID        : GAM01                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 02:00:01.09          Half life ratio   : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248051008            Analyst initials : MXR1
* Batch Number       : 958225                Sample Quantity  : 1.13020E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 12-JAN-2010 15:15:52.7MS Isotope       :
* MSD ID             :                               MSD Isotope :
* LCS ID             : 1032-A                          LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.714E+01	3.143E+00	6.939E-01	6.169E-02	39.113
CD-109	2.482E+00	1.232E+00	1.713E+00	1.621E-01	1.449
SN-126	2.414E-01	1.199E-01	1.727E-01	1.627E-02	1.398
BA-137M	5.874E-01	1.177E-01	7.133E-02	5.842E-03	8.235
CS-137	6.205E-01	1.244E-01	7.535E-02	6.185E-03	8.235
TL-208	6.237E-01	1.150E-01	7.003E-02	6.352E-03	8.906
BI-211	3.623E+00	6.672E-01	3.975E-01	3.616E-02	9.115
PB-212	1.771E+00	2.271E-01	1.153E-01	1.173E-02	15.359
BI-214	1.134E+00	2.440E-01	1.374E-01	1.362E-02	8.249
PB-214	1.315E+00	2.528E-01	1.452E-01	1.544E-02	9.055
RA-224	4.553E+00	1.749E+00	1.236E+00	1.123E-01	3.683
RA-226	1.134E+00	2.440E-01	1.374E-01	1.362E-02	8.249
AC-228	2.094E+00	5.243E-01	2.821E-01	3.361E-02	7.423
RA-228	2.094E+00	5.243E-01	2.821E-01	3.361E-02	7.423
TH-228	1.771E+00	2.271E-01	1.153E-01	1.173E-02	15.359
TH-232	2.094E+00	5.243E-01	2.821E-01	3.361E-02	7.423
TH-234	2.338E+00	2.306E+00	2.642E+00	4.744E-01	0.885
NP-237	7.204E-01	3.882E-01	4.785E-01	1.098E-01	1.505

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-238	2.338E+00	2.306E+00	2.642E+00	4.744E-01	0.885
ANH-511	1.192E-01	7.630E-02	5.792E-02	4.909E-03	2.057

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	5.772E-01		4.708E-01	8.171E-01	7.431E-02	0.706
NA-22	8.343E-03		5.513E-02	9.352E-02	7.853E-03	0.089
NA-24	1.552E+01		1.492E+01	Half-Life	too short	
SC-46	-9.059E-03		5.237E-02	8.407E-02	7.599E-03	-0.108
V-48	1.177E-02		1.258E-01	1.789E-01	1.597E-02	0.066
CR-51	3.852E-02		4.659E-01	7.675E-01	7.214E-02	0.050
MN-54	-9.003E-03		4.576E-02	7.365E-02	6.555E-03	-0.122
CO-56	1.837E-02		4.720E-02	8.056E-02	7.198E-03	0.228
CO-57	2.723E-03		3.236E-02	5.066E-02	4.460E-03	0.054
CO-58	-2.197E-02		4.698E-02	7.325E-02	6.481E-03	-0.300
FE-59	-3.414E-02		1.219E-01	1.899E-01	1.750E-02	-0.180
CO-60	5.233E-03		4.449E-02	7.525E-02	6.414E-03	0.070
ZN-65	5.840E-02		1.194E-01	1.791E-01	1.511E-02	0.326
SE-75	-1.054E-02		6.005E-02	9.088E-02	8.349E-03	-0.116
SR-85	1.447E-01		5.634E-02	9.698E-02	8.222E-03	1.492
Y-88	-1.535E-03		4.503E-02	7.266E-02	5.976E-03	-0.021
Y-91	7.375E+00		2.786E+01	4.783E+01	3.918E+00	0.154
NB-94	3.028E-03		4.567E-02	7.615E-02	6.392E-03	0.040
NB-95	-5.512E-02		5.604E-02	8.410E-02	7.287E-03	-0.655
NB-95M	1.020E-01		1.738E-01	2.630E-01	2.703E-02	0.388
ZR-95	1.880E-02		9.278E-02	1.560E-01	1.487E-02	0.120
MO-99	4.295E+00		3.468E+01	5.799E+01	9.119E+00	0.074
TC-99M	-1.975E+13		1.474E+14	Half-Life	too short	
RU-103	-2.659E-02		5.501E-02	8.420E-02	1.167E-02	-0.316
RH-106	1.499E-02		3.630E-01	6.088E-01	7.965E-02	0.025
RU-106	1.499E-02		3.630E-01	6.088E-01	5.085E-02	0.025
AG-108M	-1.085E-02		4.052E-02	6.406E-02	5.482E-03	-0.169
AG-110M	1.836E-02		4.798E-02	7.268E-02	6.162E-03	0.253
SN-113	-3.843E-02		5.929E-02	9.162E-02	7.631E-03	-0.419
CD-115	8.971E-06		1.835E-05	Half-Life	too short	
SN-117M	-7.679E-03		7.639E-02	1.285E-01	1.094E-02	-0.060
TE-123M	-1.126E-03		3.369E-02	5.679E-02	4.865E-03	-0.020
SB-124	-1.199E-02		8.473E-02	1.337E-01	1.188E-02	-0.090
SB-125	-8.000E-02		1.122E-01	1.703E-01	1.432E-02	-0.470
TE-125M	-5.199E+00		1.226E+01	1.911E+01	2.012E+00	-0.272
I-126	2.204E-01		3.612E-01	5.598E-01	4.598E-02	0.394
SB-126	-2.380E-01		2.310E-01	3.345E-01	2.836E-02	-0.712
SB-127	-2.046E+00		2.798E+00	4.311E+00	5.235E-01	-0.475
I-131	-2.223E-03		1.949E-01	3.170E-01	2.847E-02	-0.007
TE-132	-2.096E-02		1.784E+00	2.968E+00	4.958E-01	-0.007
BA-133	-1.759E-02		6.329E-02	8.799E-02	1.139E-02	-0.200

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	3.671E-02		4.567E-02	Half-Life too short		
CS-134	1.306E-01	+	8.032E-02	1.273E-01	1.125E-02	1.026
CS-135	1.270E-01		2.197E-01	3.316E-01	3.458E-02	0.383
I-135	1.107E+13		1.315E+13	Half-Life too short		
CS-136	2.361E-02		1.560E-01	2.567E-01	2.333E-02	0.092
CE-139	9.888E-03		3.662E-02	6.239E-02	5.314E-03	0.158
BA-140	9.264E-02		3.822E-01	6.534E-01	2.214E-01	0.142
LA-140	4.431E-03		1.181E-01	1.954E-01	1.686E-02	0.023
CE-141	1.079E-02		7.923E-02	1.349E-01	1.173E-02	0.080
CE-143	1.484E-03		4.929E-04	Half-Life too short		
CE-144	1.971E-01		2.778E-01	4.032E-01	6.163E-02	0.489
PM-144	5.029E-02		4.643E-02	8.302E-02	6.948E-03	0.606
PR-144	3.781E+00		3.481E+00	6.226E+00	5.208E-01	0.607
PM-146	-1.525E-02		5.512E-02	8.670E-02	8.990E-03	-0.176
ND-147	2.103E-01		8.145E-01	1.399E+00	2.081E-01	0.150
PM-149	-4.145E-05		1.447E-04	Half-Life too short		
EU-152	-1.264E-02		1.229E-01	1.840E-01	1.700E-02	-0.069
GD-153	8.060E-03		1.132E-01	1.618E-01	1.437E-02	0.050
EU-154	1.182E-02		1.565E-01	2.633E-01	2.950E-02	0.045
EU-155	5.838E-02		1.293E-01	2.104E-01	1.850E-02	0.277
TB-160	4.504E-02		1.634E-01	2.757E-01	2.486E-02	0.163
HO-166M	2.340E-02		7.886E-02	1.339E-01	1.130E-02	0.175
TA-182	-1.096E-01		2.362E-01	3.768E-01	3.105E-02	-0.291
IR-192	2.896E-02		4.159E-02	7.112E-02	6.408E-03	0.407
HG-203	6.724E-02		4.972E-02	8.727E-02	8.163E-03	0.770
BI-207	1.251E-02		6.403E-02	1.076E-01	9.328E-03	0.116
PB-210	2.014E+00		4.866E+00	7.906E+00	7.405E-01	0.255
PB-211	1.710E-01		8.893E-01	1.453E+00	7.020E-01	0.118
BI-212	1.790E+00	+	1.105E+00	1.384E+00	1.714E-01	1.294
RN-219	8.304E-02		5.181E-01	8.481E-01	1.237E-01	0.098
RA-223	5.429E-01		8.598E-01	1.296E+00	2.266E-01	0.419
AC-227	-1.662E-01		3.144E-01	5.047E-01	6.271E-02	-0.329
TH-227	-1.662E-01		3.145E-01	5.047E-01	7.034E-02	-0.329
TH-229	9.335E-02		6.642E-01	1.119E+00	9.805E-02	0.083
PA-231	8.593E-02		1.729E+00	2.858E+00	4.258E-01	0.030
TH-231	5.429E-01		8.598E-01	1.296E+00	2.266E-01	0.419
PA-233	2.143E-02		7.658E-02	1.278E-01	1.183E-02	0.168
PA-234	5.637E-02		3.436E-01	5.701E-01	1.080E-01	0.099
PA-234M	-2.157E+00		6.978E+00	1.064E+01	1.085E+00	-0.203
U-235	-1.446E-01		2.490E-01	3.994E-01	6.756E-02	-0.362
NP-239	-1.270E-01		5.048E-01	7.920E-01	6.900E-02	-0.160
AM-241	1.379E-01		2.112E-01	3.175E-01	2.616E-02	0.434
CM-247	1.189E-02		4.737E-02	7.805E-02	6.329E-03	0.152
CF-249	-2.057E-02		5.116E-02	8.060E-02	6.535E-03	-0.255
CF-251	4.646E-02		1.438E-01	2.452E-01	2.113E-02	0.189

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]G248051008          *
* Acquisition date   : 10-MAR-2010 19:19:27 Detector SN# :                   *
* Detector ID        : GAM01 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.09 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date       : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G248051008 Analyst initials: MXR1                   *
* Batch Number      : 958225 Sample Quantity : 1.1302E+02 GRAM            *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                               *
*                                     *                                       *
* CALIB. DATE/TIME  : 12-JAN-2010 15:15:52 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.714E+01	3.080E+00	3.456E-01	1.572E+00
CD-109	2.482E+00	1.207E+00	8.740E-01	6.160E-01
SN-126	2.414E-01	1.175E-01	8.811E-02	5.993E-02
BA-137M	5.874E-01	1.154E-01	3.577E-02	5.887E-02
CS-137	6.205E-01	1.219E-01	3.778E-02	6.222E-02
TL-208	6.237E-01	1.127E-01	3.515E-02	5.751E-02
BI-211	3.623E+00	6.538E-01	2.004E-01	3.336E-01
PB-212	1.771E+00	2.226E-01	5.833E-02	1.136E-01
BI-214	1.134E+00	2.392E-01	6.896E-02	1.220E-01
PB-214	1.315E+00	2.477E-01	7.321E-02	1.264E-01
RA-224	4.553E+00	1.714E+00	6.253E-01	8.744E-01
RA-226	1.134E+00	2.392E-01	6.896E-02	1.220E-01
AC-228	2.094E+00	5.139E-01	1.411E-01	2.622E-01
RA-228	2.094E+00	5.139E-01	1.411E-01	2.622E-01
TH-228	1.771E+00	2.226E-01	5.833E-02	1.136E-01
TH-232	2.094E+00	5.139E-01	1.411E-01	2.622E-01
TH-234	2.338E+00	2.260E+00	1.351E+00	1.153E+00
NP-237	7.204E-01	3.805E-01	2.442E-01	1.941E-01
U-238	2.338E+00	2.260E+00	1.351E+00	1.153E+00
ANH-511	1.192E-01	7.477E-02	2.911E-02	3.815E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	5.772E-01	4.614E-01	4.109E-01	2.354E-01 NOT IDENT.
NA-22	8.343E-03	5.403E-02	4.663E-02	2.756E-02 NOT IDENT.
NA-24	1.552E+07	2.925E+07	0.000E+00	1.492E+07 SHORT HLIF
SC-46	-9.059E-03	5.132E-02	4.205E-02	2.618E-02 FAIL ABUN
V-48	1.177E-02	1.233E-01	8.940E-02	6.292E-02 NOT IDENT.
CR-51	3.852E-02	4.566E-01	3.873E-01	2.329E-01 NOT IDENT.
MN-54	-9.003E-03	4.485E-02	3.685E-02	2.288E-02 NOT IDENT.

CO-56	1.837E-02	4.625E-02	4.031E-02	2.360E-02	NOT IDENT.
CO-57	2.723E-03	3.171E-02	2.577E-02	1.618E-02	NOT IDENT.
CO-58	-2.197E-02	4.604E-02	3.667E-02	2.349E-02	NOT IDENT.
FE-59	-3.414E-02	1.194E-01	9.479E-02	6.093E-02	NOT IDENT.
CO-60	5.233E-03	4.360E-02	3.750E-02	2.224E-02	NOT IDENT.
ZN-65	5.840E-02	1.170E-01	8.940E-02	5.971E-02	NOT IDENT.
SE-75	-1.054E-02	5.885E-02	4.593E-02	3.003E-02	NOT IDENT.
SR-85	1.447E-01	5.522E-02	4.873E-02	2.817E-02	NOT IDENT.
Y-88	-1.535E-03	4.413E-02	3.611E-02	2.251E-02	NOT IDENT.
Y-91	7.375E+00	2.730E+01	2.386E+01	1.393E+01	NOT IDENT.
NB-94	3.028E-03	4.476E-02	3.817E-02	2.284E-02	NOT IDENT.
NB-95	-5.512E-02	5.492E-02	4.212E-02	2.802E-02	NOT IDENT.
NB-95M	1.020E-01	1.703E-01	1.331E-01	8.688E-02	NOT IDENT.
ZR-95	1.880E-02	9.093E-02	7.815E-02	4.639E-02	NOT IDENT.
MO-99	4.295E+00	3.399E+01	2.905E+01	1.734E+01	NOT IDENT.
TC-99M	-1.975E+19	2.889E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-2.659E-02	5.391E-02	4.233E-02	2.751E-02	FAIL ABUN
RH-106	1.499E-02	3.558E-01	3.054E-01	1.815E-01	NOT IDENT.
RU-106	1.499E-02	3.558E-01	3.054E-01	1.815E-01	NOT IDENT.
AG-108M	-1.085E-02	3.971E-02	3.224E-02	2.026E-02	NOT IDENT.
AG-110M	1.836E-02	4.702E-02	3.645E-02	2.399E-02	NOT IDENT.
SN-113	-3.843E-02	5.810E-02	4.615E-02	2.964E-02	NOT IDENT.
CD-115	8.971E+00	3.597E+01	0.000E+00	1.835E+01	SHORT HLIF
SN-117M	-7.679E-03	7.486E-02	6.521E-02	3.820E-02	NOT IDENT.
TE-123M	-1.126E-03	3.301E-02	2.883E-02	1.684E-02	NOT IDENT.
SB-124	-1.199E-02	8.303E-02	6.650E-02	4.236E-02	NOT IDENT.
SB-125	-8.000E-02	1.100E-01	8.574E-02	5.611E-02	FAIL ABUN
TE-125M	-5.199E+00	1.202E+01	9.733E+00	6.131E+00	NOT IDENT.
I-126	2.204E-01	3.540E-01	2.807E-01	1.806E-01	NOT IDENT.
SB-126	-2.380E-01	2.264E-01	1.676E-01	1.155E-01	NOT IDENT.
SB-127	-2.046E+00	2.742E+00	2.161E+00	1.399E+00	NOT IDENT.
I-131	-2.223E-03	1.910E-01	1.598E-01	9.745E-02	NOT IDENT.
TE-132	-2.096E-02	1.749E+00	1.502E+00	8.922E-01	NOT IDENT.
BA-133	-1.759E-02	6.203E-02	4.436E-02	3.165E-02	NOT IDENT.
I-133	3.671E+04	8.951E+04	0.000E+00	4.567E+04	SHORT HLIF
CS-134	1.306E-01	7.871E-02	6.372E-02	4.016E-02	FAIL ABUN
CS-135	1.270E-01	2.153E-01	1.676E-01	1.098E-01	NOT IDENT.
I-135	1.107E+19	2.578E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.361E-02	1.529E-01	1.282E-01	7.802E-02	NOT IDENT.
CE-139	9.888E-03	3.589E-02	3.166E-02	1.831E-02	NOT IDENT.
BA-140	9.264E-02	3.745E-01	3.283E-01	1.911E-01	NOT IDENT.
LA-140	4.431E-03	1.158E-01	9.722E-02	5.906E-02	FAIL ABUN
CE-141	1.079E-02	7.764E-02	6.853E-02	3.961E-02	NOT IDENT.
CE-143	1.484E+03	9.661E+02	0.000E+00	4.929E+02	SHORT HLIF
CE-144	1.971E-01	2.722E-01	2.050E-01	1.389E-01	NOT IDENT.
PM-144	5.029E-02	4.550E-02	4.161E-02	2.321E-02	NOT IDENT.
PR-144	3.781E+00	3.412E+00	3.121E+00	1.741E+00	NOT IDENT.
PM-146	-1.525E-02	5.402E-02	4.362E-02	2.756E-02	NOT IDENT.
ND-147	2.103E-01	7.982E-01	7.029E-01	4.073E-01	NOT IDENT.
PM-149	-4.145E+01	2.836E+02	0.000E+00	1.447E+02	SHORT HLIF
EU-152	-1.264E-02	1.205E-01	9.278E-02	6.147E-02	FAIL ABUN
GD-153	8.060E-03	1.110E-01	8.248E-02	5.662E-02	NOT IDENT.
EU-154	1.182E-02	1.533E-01	1.313E-01	7.823E-02	NOT IDENT.
EU-155	5.838E-02	1.267E-01	1.072E-01	6.466E-02	FAIL ABUN
TB-160	4.504E-02	1.602E-01	1.379E-01	8.171E-02	FAIL ABUN
HO-166M	2.340E-02	7.729E-02	6.710E-02	3.943E-02	NOT IDENT.
TA-182	-1.096E-01	2.315E-01	1.879E-01	1.181E-01	FAIL ABUN
IR-192	2.896E-02	4.076E-02	3.589E-02	2.080E-02	FAIL ABUN
HG-203	6.724E-02	4.873E-02	4.409E-02	2.486E-02	NOT IDENT.
BI-207	1.251E-02	6.275E-02	5.374E-02	3.201E-02	FAIL ABUN
PB-210	2.014E+00	4.768E+00	4.055E+00	2.433E+00	NOT IDENT.
PB-211	1.710E-01	8.715E-01	7.318E-01	4.446E-01	NOT IDENT.
BI-212	1.790E+00	1.083E+00	6.935E-01	5.526E-01	FAIL ABUN
RN-219	8.304E-02	5.077E-01	4.271E-01	2.590E-01	FAIL ABUN
RA-223	5.429E-01	8.426E-01	6.538E-01	4.299E-01	FAIL ABUN
AC-227	-1.662E-01	3.081E-01	2.552E-01	1.572E-01	NOT IDENT.
TH-227	-1.662E-01	3.082E-01	2.552E-01	1.573E-01	NOT IDENT.
TH-229	9.335E-02	6.509E-01	5.672E-01	3.321E-01	FAIL ABUN
PA-231	8.593E-02	1.695E+00	1.444E+00	8.647E-01	NOT IDENT.
TH-231	5.429E-01	8.426E-01	6.538E-01	4.299E-01	FAIL ABUN
PA-233	2.143E-02	7.505E-02	6.452E-02	3.829E-02	NOT IDENT.
PA-234	5.637E-02	3.368E-01	2.850E-01	1.718E-01	NOT IDENT.
PA-234M	-2.157E+00	6.838E+00	5.319E+00	3.489E+00	NOT IDENT.
U-235	-1.446E-01	2.440E-01	2.029E-01	1.245E-01	FAIL ABUN
NP-239	-1.270E-01	4.947E-01	4.031E-01	2.524E-01	NOT IDENT.
AM-241	1.379E-01	2.070E-01	1.625E-01	1.056E-01	NOT IDENT.
CM-247	1.189E-02	4.642E-02	3.931E-02	2.369E-02	NOT IDENT.
CF-249	-2.057E-02	5.013E-02	4.060E-02	2.558E-02	NOT IDENT.

CF-251

4.646E-02

1.409E-01

1.244E-01

7.190E-02 NOT IDENT.

```

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

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ENERGY	MDA COUNTS
46.54	224.1935
49.72	237.0161
57.36	0.0000
59.54	248.8989
63.29	308.7299
63.29	308.7299
64.28	319.3282
67.75	329.2256
69.67	383.7327
70.83	303.6110
72.81	385.1731
72.87	385.2095
72.87	385.2095
74.82	370.7858
74.82	370.7858
74.82	370.7858
74.97	370.8732
77.11	372.1243
77.11	372.1243
77.11	372.1243
79.69	257.3997
79.80	267.2195
80.12	267.3496
80.19	267.3784
80.57	280.5826
81.00	344.4268
81.07	357.5241
81.07	357.5241
83.79	329.4758
83.79	329.4758
85.43	312.1986
86.48	390.0233
86.55	444.3736
86.79	474.1633
86.94	474.2666
87.57	464.8099
88.03	437.6284
88.47	359.7852
89.96	360.5502
91.11	361.1357
92.59	381.8026
92.59	381.8026
93.35	382.2062
94.67	251.3829
94.87	251.4520
94.87	251.4520
95.86	295.1468
97.43	265.6959
98.44	225.8978
99.53	265.8858
100.11	262.7363
103.18	264.9178
103.37	254.8785
105.31	263.3964
106.12	265.9237
109.28	277.1689
111.00	234.6828
111.76	266.6771
116.30	238.4895
117.23	278.7382
121.12	280.0264
121.78	251.5295
122.06	251.6114
123.07	273.7627
131.20	271.6622
133.52	232.2041
136.00	255.5936

136.47	260.9796
140.51	269.1531
140.51	0.0000
143.76	278.9061
144.24	271.0984
144.24	271.0984
145.44	271.4380
152.43	281.4062
153.25	280.7487
154.21	270.3148
154.21	270.3148
156.02	243.9904
158.56	257.1487
159.00	245.6075
162.66	240.1884
163.33	229.5432
165.86	251.7582
176.60	211.4625
177.52	199.7820
181.07	200.6100
184.41	242.3357
185.72	247.2127
193.51	252.6050
197.04	258.9379
205.31	257.1959
210.85	211.8029
215.65	220.8119
222.11	201.7838
227.38	216.8846
228.16	204.6414
228.18	204.6447
235.69	203.7163
235.96	214.4827
235.96	214.4827
238.63	200.5218
238.63	200.5218
240.99	200.8758
242.00	201.0273
244.70	177.3347
252.40	155.0720
252.80	153.1782
256.23	183.6828
256.23	183.6828
260.90	0.0000
264.66	164.2496
268.22	163.0891
269.46	166.3677
269.46	166.3677
271.23	171.2838
273.65	184.1607
276.40	187.9203
277.37	172.5941
277.60	144.0150
278.00	143.0663
279.20	135.2837
279.54	159.0199
280.46	168.0130
283.69	142.6245
284.31	121.8739
285.41	131.8798
285.90	0.0000
287.50	149.9355
293.27	0.0000
295.22	175.6428
295.96	175.7261
298.57	164.8226
299.98	140.9461
299.98	140.9461
300.09	137.7533
300.09	137.7533
300.13	137.7554
301.36	142.6738
302.85	184.5278
304.50	170.6667
304.50	170.6667
304.85	147.6101
308.46	136.8757
311.90	119.0155

316.51	105.1965
319.41	130.7164
320.08	114.5501
323.87	110.5481
323.87	110.5481
328.76	143.6894
333.37	138.9779
334.37	128.1523
334.37	128.1523
338.28	122.9846
338.28	122.9846
338.32	122.9865
338.32	122.9865
338.32	122.9865
340.48	101.7990
340.55	95.2341
344.28	111.0751
351.06	115.6418
351.93	116.7330
356.01	137.5052
364.49	116.5254
366.42	85.4046
383.85	117.7712
388.16	118.0430
388.63	112.8026
391.69	124.6008
400.66	125.1931
401.81	106.1584
402.40	104.0682
404.85	99.9482
410.95	90.6627
414.70	92.9751
423.72	99.8427
427.09	111.8409
427.87	100.0499
433.94	113.3009
453.88	99.1508
463.37	88.6543
468.07	101.7931
473.00	105.5464
476.78	81.5009
477.60	84.8368
487.02	76.3521
492.35	0.0000
497.08	90.0386
511.00	80.5303
514.00	57.3410
527.90	0.0000
529.87	0.0000
531.02	68.5948
537.26	70.5885
546.56	0.0000
563.25	75.0152
569.33	74.2843
569.50	74.2902
569.70	74.2961
583.19	68.2440
600.60	68.7156
602.73	69.7009
604.72	74.4063
609.32	69.8804
609.32	69.8804
610.33	69.9078
614.28	62.2347
618.01	64.2719
621.93	58.0478
621.93	58.0478
633.25	65.8181
635.95	58.3551
636.99	50.8452
645.85	62.3503
657.76	56.9312
661.66	63.6631
661.66	63.6631
664.57	0.0000
666.33	57.1084
666.50	58.6978
677.62	62.1182

685.70	65.1728
695.00	70.1948
696.49	63.4960
696.51	63.4976
697.00	64.4695
702.65	79.0591
706.68	88.8240
711.68	64.7999
720.70	79.7672
721.93	0.0000
722.78	53.3967
722.91	53.3981
723.31	59.8796
724.19	53.4222
727.33	66.4432
733.00	53.5820
735.93	55.7241
739.50	57.6042
747.24	68.5200
752.31	53.9285
753.82	60.8224
756.73	54.9883
763.94	74.8032
765.81	79.7739
766.42	64.0288
777.92	55.3697
778.90	46.4848
783.70	63.3969
785.37	53.5201
795.86	38.1190
801.95	56.0440
810.29	46.9507
810.76	48.9557
815.77	41.0270
818.51	34.0515
832.01	59.3356
834.85	55.3599
836.80	0.0000
846.77	39.3980
856.80	60.7954
860.56	41.5906
871.09	39.6855
873.19	37.6739
875.33	0.0000
879.36	35.7024
880.51	39.7960
883.24	51.0620
884.68	51.0828
889.28	51.1511
898.04	43.0767
911.20	46.3282
911.20	46.3282
911.20	46.3282
926.50	38.2583
937.49	32.1534
944.13	36.3698
946.00	35.3489
949.00	40.5815
962.29	33.0714
964.08	47.0193
966.15	47.0457
968.97	47.0819
968.97	47.0819
968.97	47.0819
983.53	47.2687
996.26	62.1862
1001.03	55.9334
1004.73	65.4966
1037.84	34.0984
1038.76	0.0000
1048.07	38.4627
1050.41	50.2450
1050.41	50.2450
1063.66	31.1070
1085.87	29.1252
1099.45	45.4597
1112.07	47.7727
1115.54	34.4112

1120.29	41.3398
1120.29	41.3398
1120.55	38.0796
1121.30	39.9001
1131.51	0.0000
1173.23	39.4814
1177.93	51.4746
1189.05	51.6090
1204.77	47.1713
1221.41	51.0657
1231.02	55.8301
1235.36	55.8862
1238.28	41.9421
1260.41	0.0000
1271.85	41.3180
1274.44	38.5243
1274.54	37.5846
1291.59	39.6125
1298.22	0.0000
1312.11	33.1571
1332.49	22.8359
1365.19	15.3294
1368.63	0.0000
1384.29	31.7432
1408.01	20.2993
1457.56	0.0000
1460.82	20.5164
1489.16	17.6836
1505.03	21.6804
1596.21	15.0391
1620.50	15.1062
1678.03	0.0000
1690.97	9.1791
1764.49	6.1980
1764.49	6.1980
1770.23	3.5452
1771.35	43.4373
1791.20	0.0000
1836.06	11.5004

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051008

Total Uranium Activity	6.8897E+00	ug/g
Total Uranium Counting Unc.	6.7254E+00	ug/g
Total Uranium Tpu	3.4313E-06	ug/g
Total Uranium Mda	4.0213E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051008
*  ANALYST       : MXR1            DETECTOR    : GAM01
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 19:19:27.38  SAMPLE ALQT: 113.020 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.543E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.538E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.835E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.858E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 21:20:34.50

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051009.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:19:54
Sample ID          : G248051009 Sample quantity : 1.32660E+02 GRAM
Detector name      : GAM02 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:04.11 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.00*	140	493	0.93	125.20	121	9	1.95E-02	30.9	
2	3	74.58	424	480	1.09	148.38	141	18	5.89E-02	9.9	1.65E+00
3	3	76.80*	643	378	1.00	152.82	141	18	8.94E-02	6.5	
4	5	86.93	270	400	1.14	173.08	163	28	3.75E-02	13.6	1.97E+00
5	5	89.56	176	332	1.00	178.35	163	28	2.45E-02	18.1	
6	5	92.40*	292	370	1.18	184.03	163	28	4.05E-02	14.0	
7	0	128.63	112	345	1.10	256.53	253	7	1.56E-02	29.1	
8	0	185.41*	287	503	1.47	370.14	363	13	3.99E-02	17.8	
9	0	209.09	127	432	1.19	417.52	413	12	1.77E-02	34.0	
10	4	238.28*	1451	226	1.09	475.94	471	16	2.02E-01	3.2	1.10E+00
11	4	241.27	316	286	1.64	481.91	471	16	4.38E-02	13.4	
12	0	269.61	151	247	1.63	538.62	534	11	2.09E-02	21.7	
13	0	277.10	111	248	1.03	553.61	548	11	1.55E-02	29.1	
14	0	294.89*	457	243	1.17	589.22	584	12	6.34E-02	8.4	
15	0	299.97	69	175	1.49	599.39	595	8	9.64E-03	35.0	
16	0	327.80	73	156	0.97	655.07	651	8	1.02E-02	32.0	
17	0	337.90*	264	189	1.17	675.28	671	9	3.66E-02	11.4	
18	0	351.47*	745	181	1.27	702.44	697	11	1.03E-01	5.1	
19	0	408.74	56	101	1.56	817.05	814	8	7.79E-03	33.9	
20	0	462.83	99	114	1.18	925.29	921	10	1.37E-02	22.8	
21	0	510.56*	151	142	1.85	1020.79	1013	16	2.09E-02	21.8	
22	0	582.65*	442	129	1.22	1165.07	1158	14	6.14E-02	7.3	
23	0	608.76*	492	93	1.32	1217.31	1213	11	6.83E-02	6.0	
24	0	726.94	116	87	1.51	1453.82	1448	14	1.61E-02	19.5	
25	0	767.58	56	84	1.83	1535.16	1530	11	7.74E-03	34.7	
26	0	860.09	57	44	1.33	1720.30	1717	8	7.85E-03	24.1	
27	0	910.56*	285	93	1.69	1821.31	1813	17	3.95E-02	9.9	
28	2	964.18	58	49	2.19	1928.62	1921	21	8.02E-03	27.3	7.83E-01
29	2	968.32*	190	24	1.88	1936.91	1921	21	2.64E-02	9.4	
30	0	1119.61*	128	67	1.90	2239.71	2233	16	1.78E-02	16.8	
31	0	1237.41*	47	70	2.00	2475.48	2471	11	6.53E-03	37.9	
32	0	1376.52	46	24	2.37	2753.90	2748	15	6.40E-03	27.0	
33	0	1459.91*	1198	24	2.52	2920.82	2912	16	1.66E-01	3.1	
34	0	1729.30	27	7	1.98	3460.06	3453	14	3.77E-03	28.1	
35	0	1763.59*	85	11	2.19	3528.70	3519	16	1.19E-02	14.6	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:19:54
Sample ID         : G248051009 Sample quantity : 132.66 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA2 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:04.11 0.1%
Peak Width (FWHM) : 3.00 Confidence level : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio : 8.00
Errors propagated : Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	3.093E+01	3.498E+00	4.832E-01	4.594E-02	63.999
CD-109	+	88.03	*	4.062E+00	1.177E+00	1.281E+00	1.287E-01	3.170
SN-126	+	64.28		1.628E+00	1.034E+00	9.687E-01	1.437E-01	1.680
	+	86.94		1.643E+00	8.174E-01	5.253E-01	2.188E-01	3.128
	+	87.57	*	3.952E-01	1.145E-01	1.254E-01	1.253E-02	3.153
CS-135	+	268.22	*	6.536E-01	2.970E-01	2.644E-01	3.498E-02	2.472
TL-208	+	277.37		1.196E+00	7.187E-01	6.783E-01	1.042E-01	1.763
	+	583.19	*	6.421E-01	1.141E-01	6.844E-02	6.849E-03	9.382
	+	860.56		7.745E-01	3.815E-01	5.327E-01	5.614E-02	1.454
BI-211		72.87		7.583E+00	3.498E+00	6.193E+00	5.330E-01	1.224
	+	351.06	*	4.867E+00	7.524E-01	3.729E-01	4.302E-02	13.054
PB-212	+	74.82		2.884E+00	6.849E-01	6.047E-01	7.914E-02	4.769
	+	77.11		2.475E+00	3.887E-01	3.431E-01	3.068E-02	7.214
	+	238.63	*	2.112E+00	2.986E-01	1.060E-01	1.338E-02	19.933
	+	300.09		1.581E+00	1.128E+00	1.408E+00	1.915E-01	1.122
BI-214	+	609.32	*	1.381E+00	2.222E-01	1.222E-01	1.297E-02	11.305
	+	1120.29		1.873E+00	6.627E-01	5.389E-01	5.894E-02	3.475
	+	1764.49		1.755E+00	5.337E-01	3.285E-01	2.784E-02	5.342
PB-214	+	74.82		5.111E+00	1.179E+00	1.072E+00	1.266E-01	4.769
	+	77.11		4.363E+00	7.741E-01	6.048E-01	7.358E-02	7.214
	+	242.00		2.787E+00	8.319E-01	6.151E-01	8.096E-02	4.532
	+	295.22		1.839E+00	4.013E-01	2.379E-01	3.298E-02	7.729
	+	351.93	*	1.766E+00	2.899E-01	1.356E-01	1.732E-02	13.025
RA-224	+	240.99	*	4.929E+00	1.443E+00	1.136E+00	1.341E-01	4.337
RA-226	+	609.32	*	1.381E+00	2.222E-01	1.222E-01	1.297E-02	11.305
	+	1120.29		1.873E+00	6.627E-01	5.389E-01	5.894E-02	3.475
	+	1764.49		1.755E+00	5.337E-01	3.285E-01	2.784E-02	5.342
AC-228	+	338.32		1.918E+00	9.243E-01	4.443E-01	1.884E-01	4.316
	+	911.20	*	1.990E+00	4.697E-01	2.619E-01	3.347E-02	7.599
	+	968.97		2.290E+00	7.127E-01	3.778E-01	9.380E-02	6.063
RA-228	+	338.32		1.918E+00	9.243E-01	4.443E-01	1.884E-01	4.316
	+	911.20	*	1.990E+00	4.697E-01	2.619E-01	3.347E-02	7.599
	+	968.97		2.290E+00	7.127E-01	3.778E-01	9.380E-02	6.063
TH-228	+	74.82		2.884E+00	6.257E-01	6.047E-01	5.341E-02	4.769

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.475E+00	3.887E-01	3.431E-01	3.068E-02	7.214
	+	238.63	*	2.112E+00	2.986E-01	1.060E-01	1.338E-02	19.933
	+	300.09		1.581E+00	1.477E+00	1.408E+00	8.705E-01	1.122
TH-232	+	338.32		1.918E+00	4.914E-01	4.443E-01	5.109E-02	4.316
	+	911.20	*	1.990E+00	4.697E-01	2.619E-01	3.347E-02	7.599
	+	968.97		2.290E+00	7.127E-01	3.778E-01	9.380E-02	6.063
TH-234	+	63.29	*	4.223E+00	2.717E+00	2.486E+00	4.485E-01	1.699
	+	92.59		3.497E+00	1.256E+00	1.040E+00	2.334E-01	3.362
U-235	+	89.96		2.657E+00	1.170E+00	1.301E+00	3.258E-01	2.043
	+	93.35		2.642E+00	9.651E-01	7.805E-01	1.827E-01	3.384
		143.76	*	5.339E-02	2.334E-01	3.762E-01	6.476E-02	0.142
		163.33		-2.050E-01	5.138E-01	7.984E-01	1.494E-01	-0.257
	+	185.72		2.682E-01	9.989E-02	7.268E-02	7.756E-03	3.690
		205.31		8.363E-02	6.327E-01	8.988E-01	1.748E-01	0.093
NP-237	+	86.48	*	1.179E+00	4.217E-01	3.793E-01	8.791E-02	3.109
		95.86		-8.742E-01	1.063E+00	1.492E+00	3.613E-01	-0.586
U-238	+	63.29	*	4.223E+00	2.717E+00	2.486E+00	4.485E-01	1.699
	+	92.59		3.497E+00	1.035E+00	1.040E+00	9.881E-02	3.362
ANH-511	+	511.00	*	1.677E-01	7.513E-02	5.210E-02	5.165E-03	3.219

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-3.519E-01	4.049E-01	6.105E-01	6.473E-02	-0.576
NA-22		1274.54	*	2.483E-02	5.398E-02	9.239E-02	8.191E-03	0.269
NA-24		1368.63	*	-2.892E+01	5.398E-02	Half-Life too short		
SC-46		889.28	*	-3.928E-02	4.708E-02	6.996E-02	7.112E-03	-0.562
	+	1120.55		3.252E-01	1.130E-01	1.589E-01	1.373E-02	2.046
V-48		944.13		-4.997E-01	1.141E+00	1.757E+00	1.759E-01	-0.284
		983.53	*	-2.776E-02	9.459E-02	1.475E-01	1.443E-02	-0.188
		1312.11		2.684E-02	1.040E-01	1.753E-01	1.605E-02	0.153
CR-51		320.08	*	1.507E-01	4.709E-01	7.855E-01	9.579E-02	0.192
MN-54		834.85	*	-2.188E-02	4.752E-02	7.468E-02	7.337E-03	-0.293
CO-56		846.77	*	-4.328E-02	4.495E-02	6.607E-02	6.542E-03	-0.655
		1037.84		-1.069E-02	3.718E-01	6.212E-01	6.093E-02	-0.017
	+	1238.28		1.979E-01	1.510E-01	2.213E-01	1.952E-02	0.895
		1771.35		-8.845E-01	3.739E-01	3.785E-01	3.196E-02	-2.337
CO-57		122.06	*	-2.367E-02	2.799E-02	4.440E-02	3.711E-03	-0.533
		136.47		2.335E-02	2.288E-01	3.758E-01	3.545E-02	0.062
CO-58		810.76	*	-2.451E-02	4.773E-02	7.451E-02	7.217E-03	-0.329
FE-59		1099.45	*	-1.703E-02	1.089E-01	1.790E-01	1.706E-02	-0.095
		1291.59		6.299E-02	1.519E-01	2.596E-01	2.626E-02	0.243
CO-60		1173.23		3.463E-02	5.453E-02	9.480E-02	7.634E-03	0.365
		1332.49	*	4.549E-02	4.641E-02	8.368E-02	7.796E-03	0.544
ZN-65		1115.54	*	5.556E-02	1.154E-01	1.751E-01	1.524E-02	0.317
SE-75		121.12		-1.144E-02	1.469E-01	2.412E-01	2.625E-02	-0.047
		136.00		-5.231E-03	4.488E-02	7.309E-02	6.470E-03	-0.072
		264.66	*	4.282E-02	5.433E-02	8.466E-02	1.035E-02	0.506

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	279.54			2.555E-02	1.354E-01	2.028E-01	2.561E-02	0.126
	400.66			-1.044E-01	3.130E-01	5.016E-01	6.127E-02	-0.208
SR-85	514.00	*		6.260E-02	4.426E-02	7.062E-02	6.991E-03	0.886
Y-88	898.04			-2.066E-02	5.236E-02	8.183E-02	8.392E-03	-0.253
	1836.06	*		-1.839E-03	3.900E-02	6.388E-02	5.210E-03	-0.029
Y-91	1204.77	*		8.490E+00	2.754E+01	4.661E+01	3.870E+00	0.182
NB-94	702.65	*		-2.831E-02	3.641E-02	5.637E-02	5.026E-03	-0.502
	871.09			-2.563E-02	3.420E-02	5.078E-02	5.106E-03	-0.505
NB-95	765.81	*		1.133E-01	5.982E-02	9.887E-02	9.257E-03	1.146
NB-95M	235.69	*		1.448E-01	1.610E-01	2.515E-01	3.185E-02	0.576
ZR-95	724.19			1.523E-01	1.247E-01	1.992E-01	1.945E-02	0.765
	756.73	*		5.917E-04	8.346E-02	1.374E-01	1.393E-02	0.004
MO-99	140.51			-8.757E-01	5.551E+01	9.059E+01	2.163E+01	-0.010
	181.07			3.862E+01	4.882E+01	7.232E+01	1.429E+01	0.534
	366.42			-8.444E+01	2.496E+02	4.024E+02	4.341E+01	-0.210
	739.50	*		-2.631E+00	2.996E+01	4.901E+01	7.876E+00	-0.054
	777.92			-4.169E+01	9.158E+01	1.450E+02	1.370E+01	-0.287
TC-99M	140.51	*		-4.523E+12	9.158E+01	Half-Life too short		
RU-103	497.08	*		-1.848E-02	4.512E-02	7.004E-02	1.039E-02	-0.264
	610.33			1.367E+01	2.783E+00	3.323E+00	5.535E-01	4.113
RH-106	621.93	*		2.189E-01	3.674E-01	6.369E-01	8.636E-02	0.344
	1050.41			1.455E+00	2.994E+00	5.207E+00	4.838E-01	0.280
RU-106	621.93	*		2.189E-01	3.668E-01	6.369E-01	5.783E-02	0.344
	1050.41			1.455E+00	2.994E+00	5.207E+00	4.838E-01	0.280
AG-108M	433.94	*		-4.372E-03	3.416E-02	5.506E-02	5.679E-03	-0.079
	614.28			-5.845E-03	3.995E-02	5.717E-02	5.389E-03	-0.102
	722.91			5.104E-04	4.576E-02	6.558E-02	6.116E-03	0.008
AG-110M	657.76	*		-1.143E-01	4.335E-02	5.555E-02	4.955E-03	-2.058
	677.62			-2.211E-01	3.558E-01	5.613E-01	5.040E-02	-0.394
	706.68			-9.923E-02	2.334E-01	3.727E-01	3.423E-02	-0.266
	763.94			3.998E-02	2.060E-01	2.964E-01	2.836E-02	0.135
	884.68			3.578E-02	5.777E-02	9.880E-02	1.025E-02	0.362
	937.49			-1.550E-01	1.409E-01	2.029E-01	2.092E-02	-0.764
	1384.29			1.365E-03	1.905E-01	2.668E-01	2.544E-02	0.005
	1505.03			-2.450E-01	3.093E-01	4.360E-01	4.022E-02	-0.562
SN-113	391.69	*		-9.868E-03	5.213E-02	8.443E-02	8.639E-03	-0.117
CD-115	260.90			-5.913E-05	5.213E-02	Half-Life too short		
	492.35			-5.233E-05	5.213E-02	Half-Life too short		
	527.90	*		2.364E-05	5.213E-02	Half-Life too short		
SN-117M	156.02			-4.204E+00	3.051E+00	4.620E+00	4.489E-01	-0.910
	158.56	*		1.813E-02	7.194E-02	1.178E-01	1.161E-02	0.154
TE-123M	159.00	*		1.222E-02	3.210E-02	5.283E-02	5.242E-03	0.231
SB-124	602.73			-7.974E-03	4.743E-02	7.125E-02	6.609E-03	-0.112
	645.85			-1.577E-01	5.495E-01	8.948E-01	8.319E-02	-0.176
	722.78			-1.957E-02	4.751E-01	6.767E-01	6.260E-02	-0.029
	1690.97	*		-9.147E-03	6.976E-02	1.128E-01	1.028E-02	-0.081
SB-125	427.87	*		2.535E-02	1.043E-01	1.725E-01	1.761E-02	0.147
+	463.37			9.782E-01	4.586E-01	6.463E-01	6.862E-02	1.513
	600.60			-6.948E-02	1.977E-01	3.231E-01	3.195E-02	-0.215

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	635.95			1.579E-01	3.005E-01	5.199E-01	4.993E-02	0.304
	109.28	*		-5.808E+00	1.026E+01	1.657E+01	1.726E+00	-0.350
	388.63			2.253E-02	2.331E-01	3.844E-01	3.885E-02	0.059
I-126	666.33	*		-9.936E-02	3.198E-01	5.202E-01	4.499E-02	-0.191
	753.82			6.431E-01	2.439E+00	4.096E+00	3.801E-01	0.157
	414.70			-4.232E-02	1.046E-01	1.599E-01	1.608E-02	-0.265
SB-126	666.50			-3.119E-02	1.099E-01	1.790E-01	1.549E-02	-0.174
	695.00			1.370E-02	1.109E-01	1.808E-01	1.602E-02	0.076
	697.00			4.381E-01	3.571E-01	6.402E-01	5.682E-02	0.684
SB-127	720.70	*		-1.535E-01	2.234E-01	2.937E-01	2.656E-02	-0.523
	856.80			5.881E-01	6.673E-01	1.045E+00	1.041E-01	0.563
	252.40			-3.875E+00	8.172E+00	1.321E+01	5.632E+00	-0.293
I-131	473.00			-8.226E-01	3.333E+00	5.285E+00	7.710E-01	-0.156
	685.70	*		-2.811E+00	2.725E+00	4.120E+00	5.140E-01	-0.682
	783.70			1.059E+01	7.666E+00	1.360E+01	1.883E+00	0.778
TE-132	80.19			4.306E+00	8.040E+00	1.006E+01	9.349E-01	0.428
	284.31			7.560E-01	2.122E+00	3.616E+00	4.587E-01	0.209
	364.49	*		-3.212E-02	1.685E-01	2.743E-01	3.082E-02	-0.117
BA-133	636.99			-2.836E-01	2.242E+00	3.703E+00	3.487E-01	-0.077
	49.72			-2.689E+01	6.187E+01	9.378E+01	1.132E+01	-0.287
	111.76			-1.546E+00	7.067E+01	1.152E+02	1.364E+01	-0.013
I-133	116.30			-1.808E+01	6.202E+01	1.011E+02	1.193E+01	-0.179
	228.16	*		6.033E-01	1.691E+00	2.718E+00	4.947E-01	0.222
	81.00			6.171E-02	1.234E-01	1.537E-01	2.444E-02	0.402
CS-134	276.40	+		1.106E+00	6.685E-01	7.511E-01	1.252E-01	1.473
	202.85			-3.953E-03	1.728E-01	2.535E-01	3.958E-02	-0.016
	356.01	*		-3.726E-03	5.095E-02	7.336E-02	1.078E-02	-0.051
I-135	383.85			-1.596E-01	3.259E-01	5.171E-01	7.039E-02	-0.309
	529.87	*		-3.929E-02	3.259E-01	Half-Life	too short	
	875.33			4.908E-01	3.259E-01	Half-Life	too short	
CS-136	1298.22			-3.556E+00	3.259E-01	Half-Life	too short	
	563.25			9.627E-02	4.000E-01	6.841E-01	6.623E-02	0.141
	569.33			8.197E-02	2.253E-01	3.752E-01	3.628E-02	0.218
I-135	604.72			2.791E-02	3.951E-02	6.153E-02	5.707E-03	0.454
	795.86	*		8.548E-02	5.363E-02	9.748E-02	9.380E-03	0.877
	801.95			-4.478E-02	4.640E-01	7.533E-01	7.271E-02	-0.059
CS-136	1365.19			1.248E+00	1.495E+00	2.669E+00	2.588E-01	0.468
	546.56			-1.491E+12	1.495E+00	Half-Life	too short	
	836.80			1.910E+13	1.495E+00	Half-Life	too short	
I-135	1038.76			-2.307E+13	1.495E+00	Half-Life	too short	
	1131.51			1.432E+13	1.495E+00	Half-Life	too short	
	1260.41	*		-1.824E+13	1.495E+00	Half-Life	too short	
CS-136	1457.56			4.141E+15	1.495E+00	Half-Life	too short	
	1678.03			1.500E+13	1.495E+00	Half-Life	too short	
	1791.20			2.744E+13	1.495E+00	Half-Life	too short	
CS-136	153.25			9.547E-01	1.134E+00	1.896E+00	2.101E-01	0.504
	176.60			2.617E-01	6.705E-01	1.097E+00	1.231E-01	0.239
	273.65			-1.535E-02	9.974E-01	1.073E+00	1.379E-01	-0.014
	340.55			1.536E-01	2.130E-01	3.251E-01	3.803E-02	0.472

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

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		818.51		-4.176E-02	9.679E-02	1.516E-01	1.475E-02	-0.275
		1048.07	*	-7.157E-02	1.481E-01	2.372E-01	2.289E-02	-0.302
		1235.36		1.262E+00	1.028E+00	1.617E+00	1.894E-01	0.780
BA-137M		661.66	*	1.257E-01	4.816E-02	9.006E-02	7.759E-03	1.396
CS-137		661.66	*	1.328E-01	5.088E-02	9.514E-02	8.213E-03	1.396
CE-139		165.86	*	-1.490E-02	3.396E-02	5.379E-02	5.518E-03	-0.277
BA-140		162.66		2.781E-01	1.129E+00	1.808E+00	1.912E-01	0.154
		304.85		-1.234E-01	1.872E+00	2.885E+00	8.795E-01	-0.043
		423.72		2.047E+00	2.682E+00	4.443E+00	1.480E+00	0.461
		537.26	*	-1.318E-01	3.753E-01	5.791E-01	1.982E-01	-0.228
LA-140	+	328.76		7.842E-01	5.107E-01	7.396E-01	8.924E-02	1.060
		487.02		-4.159E-02	1.805E-01	2.856E-01	2.988E-02	-0.146
		815.77		1.883E-01	4.311E-01	7.311E-01	7.755E-02	0.258
		1596.21	*	-1.466E-01	1.042E-01	1.309E-01	1.184E-02	-1.120
CE-141		145.44	*	7.515E-03	7.395E-02	1.210E-01	1.130E-02	0.062
CE-143		57.36		5.404E-03	7.395E-02	Half-Life	too short	
		293.27	*	5.748E-03	7.395E-02	Half-Life	too short	
		664.57		-1.150E-02	7.395E-02	Half-Life	too short	
		721.93		-7.140E-04	7.395E-02	Half-Life	too short	
CE-144		80.12		1.953E+00	3.333E+00	4.185E+00	3.855E-01	0.467
		133.52	*	-1.558E-01	2.209E-01	3.493E-01	5.354E-02	-0.446
PM-144		476.78		-4.398E-03	7.661E-02	1.232E-01	1.315E-02	-0.036
		618.01		1.323E-02	3.513E-02	6.029E-02	5.637E-03	0.220
		696.49	*	4.519E-02	3.894E-02	6.950E-02	6.169E-03	0.650
PR-144		696.51	*	3.366E+00	2.918E+00	5.205E+00	4.618E-01	0.647
		1489.16		-2.225E+00	1.232E+01	1.932E+01	1.787E+00	-0.115
PM-146		453.88	*	1.117E-03	4.872E-02	7.907E-02	9.329E-03	0.014
		633.25		6.607E-01	1.628E+00	2.762E+00	1.057E+00	0.239
		735.93		2.129E-02	1.588E-01	2.645E-01	7.457E-02	0.081
		747.24		4.501E-02	1.095E-01	1.859E-01	2.781E-02	0.242
ND-147	+	91.11		1.688E+00	5.033E-01	6.984E-01	7.196E-02	2.417
		319.41		-5.347E-01	4.769E+00	7.782E+00	9.243E-01	-0.069
		531.02	*	-7.379E-01	8.217E-01	1.177E+00	1.845E-01	-0.627
PM-149		285.90	*	-1.721E-04	8.217E-01	Half-Life	too short	
EU-152		121.78		-5.695E-02	8.033E-02	1.282E-01	1.240E-02	-0.444
		244.70		-4.835E-03	3.823E-01	5.713E-01	6.780E-02	-0.008
		344.28	*	-6.729E-02	1.126E-01	1.796E-01	2.111E-02	-0.375
		778.90		-9.453E-02	2.983E-01	4.785E-01	4.523E-02	-0.198
	+	964.08		7.505E-01	4.170E-01	6.531E-01	6.464E-02	1.149
		1085.87		3.367E-01	4.600E-01	8.121E-01	7.293E-02	0.415
		1112.07		3.625E-01	3.631E-01	6.039E-01	5.269E-02	0.600
		1408.01		1.938E-01	2.167E-01	3.885E-01	3.619E-02	0.499
GD-153		69.67		3.264E-01	2.127E+00	3.263E+00	2.734E-01	0.100
		97.43	*	-3.383E-02	1.035E-01	1.512E-01	1.374E-02	-0.224
		103.18		-4.325E-02	1.226E-01	2.010E-01	1.759E-02	-0.215
EU-154		123.07		-5.694E-02	5.730E-02	8.995E-02	1.004E-02	-0.633
		723.31		6.980E-02	2.079E-01	3.088E-01	3.057E-02	0.226
		873.19		1.202E-01	2.841E-01	4.810E-01	6.245E-02	0.250
		996.26		-2.632E-01	4.789E-01	7.279E-01	1.312E-01	-0.362

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	+	1004.73		-2.055E-01	2.674E-01	4.198E-01	5.211E-02	-0.490
		1274.44	*	7.023E-02	1.528E-01	2.613E-01	3.021E-02	0.269
		86.55		4.798E-01	1.391E-01	2.003E-01	1.994E-02	2.395
		105.31	*	4.929E-02	1.153E-01	1.943E-01	1.703E-02	0.254
TB-160	+	86.79		1.311E+00	3.797E-01	5.459E-01	5.407E-02	2.401
		197.04		6.876E-01	6.583E-01	1.095E+00	1.195E-01	0.628
		215.65		3.479E-01	9.111E-01	1.404E+00	1.588E-01	0.248
		298.57	+	2.295E-01	1.632E-01	2.275E-01	2.775E-02	1.009
HO-166M	+	879.36	*	-2.519E-02	1.625E-01	2.600E-01	2.627E-02	-0.097
		962.29		1.318E+00	7.034E-01	1.175E+00	1.164E-01	1.121
		966.15		1.763E+00	3.626E-01	6.694E-01	6.618E-02	2.633
		1177.93		-1.292E-02	4.516E-01	7.462E-01	6.037E-02	-0.017
		1271.85		-6.738E-01	8.970E-01	1.366E+00	1.207E-01	-0.493
		80.57		1.749E-01	3.522E-01	4.397E-01	4.069E-02	0.398
		184.41	+	2.131E-01	7.936E-02	8.346E-02	8.883E-03	2.553
		280.46		-6.163E-02	1.037E-01	1.465E-01	1.815E-02	-0.421
		410.95		1.742E-01	3.172E-01	4.742E-01	4.766E-02	0.367
		711.68	*	5.470E-03	6.888E-02	1.146E-01	1.029E-02	0.048
		752.31		3.578E-02	3.184E-01	5.285E-01	4.899E-02	0.068
		810.29		-3.692E-02	6.958E-02	1.085E-01	1.048E-02	-0.340
TA-182		67.75		2.658E-02	1.328E-01	2.170E-01	1.789E-02	0.122
		100.11		1.774E-01	1.964E-01	3.365E-01	3.000E-02	0.527
		152.43		2.261E-01	3.978E-01	6.603E-01	6.294E-02	0.342
		222.11		1.697E-01	4.117E-01	6.654E-01	7.613E-02	0.255
IR-192	+	1121.30		7.053E-01	2.428E-01	4.226E-01	3.648E-02	1.669
		1189.05		5.725E-03	3.689E-01	6.113E-01	5.000E-02	0.009
		1221.41	*	9.493E-02	2.544E-01	4.316E-01	3.640E-02	0.220
		1231.02		3.394E-01	6.807E-01	1.018E+00	8.665E-02	0.333
		295.96		1.401E+00	2.922E-01	3.417E-01	4.194E-02	4.100
		308.46		-5.447E-02	1.078E-01	1.744E-01	2.109E-02	-0.312
		316.51	*	7.156E-03	3.863E-02	6.493E-02	7.752E-03	0.110
		468.07		7.122E-02	8.453E-02	1.291E-01	1.367E-02	0.552
HG-203		70.83		-3.787E-01	1.667E+00	2.511E+00	4.011E-01	-0.151
		72.87		1.980E+00	9.483E-01	1.617E+00	2.511E-01	1.224
BI-207	+	279.20	*	3.601E-02	4.863E-02	7.526E-02	9.450E-03	0.478
		72.81		3.653E-01	1.981E-01	3.494E-01	3.006E-02	1.046
		74.97		8.312E-01	1.801E-01	2.679E-01	2.349E-02	3.103
		569.70		6.076E-03	3.486E-02	5.736E-02	5.482E-03	0.106
PB-210	+	1063.66	*	2.138E-04	6.192E-02	1.035E-01	9.502E-03	0.002
		1770.23		-3.086E+00	8.844E-01	6.768E-01	5.719E-02	-4.560
PB-211		46.54	*	1.910E+00	6.682E+00	1.036E+01	9.851E-01	0.184
PB-211	+	404.85	*	-3.008E-01	9.827E-01	1.355E+00	6.595E-01	-0.222
		427.09		-2.143E-01	1.747E+00	2.817E+00	1.312E+00	-0.076
BI-212	+	832.01		3.522E-02	1.210E+00	1.979E+00	1.030E+00	0.018
		727.33	*	2.572E+00	1.053E+00	1.361E+00	1.741E-01	1.890
		785.37		2.762E+00	3.927E+00	6.751E+00	6.411E-01	0.409
		1620.50		1.152E+00	2.323E+00	4.182E+00	3.755E-01	0.276
RN-219	+	271.23		5.114E-01	4.094E-01	4.956E-01	6.684E-02	1.032
		401.81	*	5.334E-02	4.809E-01	7.917E-01	1.246E-01	0.067

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		1.073E-01	2.810E-01	3.478E-01	3.235E-02	0.308
		83.79		2.725E-01	1.352E-01	2.344E-01	2.244E-02	1.163
		94.87		2.530E-01	4.971E-01	7.620E-01	7.077E-02	0.332
		144.24		4.972E-01	7.829E-01	1.280E+00	1.292E-01	0.388
		154.21		5.552E-01	4.347E-01	7.359E-01	7.630E-02	0.754
	+	269.46		7.523E-01	3.400E-01	4.067E-01	5.038E-02	1.850
AC-227		323.87	*	-3.193E-03	8.302E-01	1.213E+00	2.317E-01	-0.003
	+	338.28		7.611E+00	2.053E+00	2.813E+00	4.013E-01	2.706
		79.69		1.392E+00	1.657E+00	2.100E+00	3.678E-01	0.663
		235.96		6.966E-01	2.211E-01	3.509E-01	4.572E-02	1.985
		256.23	*	1.155E-01	2.697E-01	4.634E-01	6.817E-02	0.249
	+	299.98		1.739E+00	1.247E+00	1.809E+00	2.776E-01	0.961
TH-227		304.50		9.939E-02	1.922E+00	2.985E+00	5.550E-01	0.033
		334.37		-3.454E-01	2.173E+00	3.127E+00	5.441E-01	-0.110
		79.80		1.547E+00	2.212E+00	2.771E+00	6.099E-01	0.558
		235.96		6.966E-01	2.198E-01	3.509E-01	4.411E-02	1.985
		256.23	*	1.155E-01	2.698E-01	4.634E-01	7.419E-02	0.249
	+	299.98		1.739E+00	1.247E+00	1.809E+00	2.776E-01	0.961
TH-229		304.50		9.939E-02	1.922E+00	2.985E+00	5.550E-01	0.033
		334.37		-3.454E-01	2.173E+00	3.127E+00	5.441E-01	-0.110
		85.43		4.729E-01	2.233E-01	3.869E-01	3.773E-02	1.222
	+	88.47		3.842E-01	1.442E-01	2.392E-01	2.387E-02	1.606
		193.51	*	-2.789E-01	6.044E-01	9.454E-01	1.025E-01	-0.295
		210.85		9.390E-01	9.972E-01	1.647E+00	1.847E-01	0.570
PA-231		283.69	*	9.583E-01	1.568E+00	2.695E+00	4.599E-01	0.356
	+	301.36		1.117E+00	8.002E-01	1.141E+00	1.697E-01	0.979
TH-231		81.07		1.073E-01	2.810E-01	3.478E-01	3.235E-02	0.308
		83.79		2.725E-01	1.352E-01	2.344E-01	2.244E-02	1.163
		94.87		2.530E-01	4.971E-01	7.620E-01	7.077E-02	0.332
		144.24		4.972E-01	7.829E-01	1.280E+00	1.292E-01	0.388
		154.21		5.552E-01	4.347E-01	7.359E-01	7.630E-02	0.754
	+	269.46		7.523E-01	3.400E-01	4.067E-01	5.038E-02	1.850
PA-233		323.87	*	-3.193E-03	8.302E-01	1.213E+00	2.317E-01	-0.003
	+	338.28		7.611E+00	2.053E+00	2.813E+00	4.013E-01	2.706
	+	300.13		7.867E-01	5.676E-01	8.225E-01	1.410E-01	0.956
		311.90	*	-2.460E-02	6.892E-02	1.124E-01	1.369E-02	-0.219
		340.48		6.136E-01	7.840E-01	1.183E+00	2.984E-01	0.519
		94.67		1.828E-01	1.830E-01	2.849E-01	3.672E-02	0.642
PA-234		98.44		1.541E-02	1.056E-01	1.669E-01	9.321E-02	0.092
		111.00		-2.349E-01	1.952E-01	3.041E-01	3.648E-02	-0.772
		131.20		4.375E-02	1.243E-01	1.856E-01	1.599E-02	0.236
		569.50		9.765E-02	3.085E-01	5.122E-01	4.897E-02	0.191
		733.00		2.398E-02	4.703E-01	6.763E-01	1.515E-01	0.035
		880.51		-6.376E-02	3.221E-01	5.131E-01	5.189E-02	-0.124
		883.24		3.447E-01	4.011E-01	5.808E-01	3.916E-01	0.593
		926.50		1.301E-01	1.927E-01	3.275E-01	8.455E-02	0.397
		946.00	*	-6.381E-03	3.284E-01	5.288E-01	1.028E-01	-0.012
		949.00		4.513E-02	4.703E-01	7.661E-01	7.647E-02	0.059
	+	766.42		2.697E+01	2.323E+01	2.631E+01	1.338E+01	1.025

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		6.892E-01	6.146E+00	1.007E+01	1.096E+00	0.068
	99.53			1.442E-01	1.820E-01	3.072E-01	2.750E-02	0.469
	103.37			3.952E-04	1.095E-01	1.819E-01	1.591E-02	0.002
	106.12			-5.835E-02	9.160E-02	1.481E-01	1.278E-02	-0.394
	117.23	*		-4.944E-01	4.379E-01	6.867E-01	5.756E-02	-0.720
	228.18			9.134E-02	2.508E-01	4.038E-01	4.668E-02	0.226
AM-241	+	277.60		5.466E-01	3.247E-01	3.682E-01	4.558E-02	1.484
CM-247	+	59.54	*	-5.905E-02	2.010E-01	3.043E-01	2.493E-02	-0.194
CF-249		278.00		2.321E+00	1.379E+00	1.545E+00	1.914E-01	1.502
		287.50		6.628E-02	1.319E+00	2.215E+00	2.730E-01	0.030
		402.40	*	1.898E-02	4.390E-02	7.359E-02	7.383E-03	0.258
CF-251		252.80		-6.541E-01	1.008E+00	1.645E+00	1.975E-01	-0.398
		333.37		1.630E-01	2.392E-01	3.431E-01	3.982E-02	0.475
		388.16	*	2.153E-02	4.736E-02	7.964E-02	8.060E-03	0.270
		177.52	*	-8.076E-02	1.486E-01	2.330E-01	2.446E-02	-0.347
		227.38		-1.099E-02	4.071E-01	6.434E-01	7.429E-02	-0.017
		285.41		-1.269E+00	2.366E+00	3.849E+00	4.752E-01	-0.330

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]G248051009      *
* Acquisition date   : 10-MAR-2010 19:19:54 Detector SN#                   *
* Detector ID        : GAM02 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:04.11 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G248051009 Analyst initials: MXR1                   *
* Batch Number      : 958225 Sample Quantity : 1.3266E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 29-OCT-2009 10:28:07 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.093E+01	3.428E+00	4.840E-01	0.000E+00
CD-109	4.062E+00	1.153E+00	1.346E+00	0.000E+00
SN-126	3.952E-01	1.122E-01	1.317E-01	0.000E+00
CS-135	6.536E-01	2.910E-01	2.727E-01	0.000E+00
TL-208	6.421E-01	1.118E-01	6.966E-02	0.000E+00
BI-211	4.867E+00	7.374E-01	3.829E-01	0.000E+00
PB-212	2.112E+00	2.926E-01	1.095E-01	0.000E+00
BI-214	1.381E+00	2.177E-01	1.243E-01	0.000E+00
PB-214	1.766E+00	2.841E-01	1.393E-01	0.000E+00
RA-224	4.929E+00	1.414E+00	1.174E+00	0.000E+00
RA-226	1.381E+00	2.177E-01	1.243E-01	0.000E+00
AC-228	1.990E+00	4.603E-01	2.645E-01	0.000E+00
RA-228	1.990E+00	4.603E-01	2.645E-01	0.000E+00
TH-228	2.112E+00	2.926E-01	1.095E-01	0.000E+00
TH-232	1.990E+00	4.603E-01	2.645E-01	0.000E+00
TH-234	4.223E+00	2.663E+00	2.626E+00	0.000E+00
U-235	5.339E-02	2.287E-01	3.922E-01	0.000E+00
NP-237	1.179E+00	4.133E-01	3.987E-01	0.000E+00
U-238	4.223E+00	2.663E+00	2.626E+00	0.000E+00
ANH-511	1.677E-01	7.363E-02	5.315E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-3.519E-01	3.968E-01	6.236E-01	0.000E+00 NOT IDENT.
NA-22	2.483E-02	5.290E-02	9.275E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	3.422E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-3.928E-02	4.614E-02	7.068E-02	0.000E+00 FAIL ABUN
V-48	-2.776E-02	9.269E-02	1.488E-01	0.000E+00 NOT IDENT.
CR-51	1.507E-01	4.615E-01	8.078E-01	0.000E+00 NOT IDENT.
MN-54	-2.188E-02	4.656E-02	7.554E-02	0.000E+00 NOT IDENT.

CO-56	-4.328E-02	4.406E-02	6.682E-02	0.000E+00	FAIL ABUN
CO-57	-2.367E-02	2.743E-02	4.641E-02	0.000E+00	NOT IDENT.
CO-58	-2.451E-02	4.677E-02	7.541E-02	0.000E+00	NOT IDENT.
FE-59	-1.703E-02	1.067E-01	1.802E-01	0.000E+00	NOT IDENT.
CO-60	4.549E-02	4.548E-02	8.394E-02	0.000E+00	NOT IDENT.
ZN-65	5.556E-02	1.131E-01	1.762E-01	0.000E+00	NOT IDENT.
SE-75	4.282E-02	5.325E-02	8.735E-02	0.000E+00	NOT IDENT.
SR-85	6.260E-02	4.338E-02	7.204E-02	0.000E+00	NOT IDENT.
Y-88	-1.839E-03	3.822E-02	6.371E-02	0.000E+00	NOT IDENT.
Y-91	8.490E+00	2.699E+01	4.684E+01	0.000E+00	NOT IDENT.
NB-94	-2.831E-02	3.568E-02	5.719E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	5.862E-02	1.002E-01	0.000E+00	NOT IDENT.
NB-95M	1.448E-01	1.578E-01	2.600E-01	0.000E+00	NOT IDENT.
ZR-95	5.917E-04	8.179E-02	1.392E-01	0.000E+00	NOT IDENT.
MO-99	-2.631E+00	2.936E+01	4.968E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.810E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-1.848E-02	4.422E-02	7.149E-02	0.000E+00	NOT IDENT.
RH-106	2.189E-01	3.601E-01	6.475E-01	0.000E+00	NOT IDENT.
RU-106	2.189E-01	3.594E-01	6.475E-01	0.000E+00	NOT IDENT.
AG-108M	-4.372E-03	3.347E-02	5.634E-02	0.000E+00	NOT IDENT.
AG-110M	-1.143E-01	4.249E-02	5.642E-02	0.000E+00	NOT IDENT.
SN-113	-9.868E-03	5.109E-02	8.653E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.433E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.813E-02	7.051E-02	1.226E-01	0.000E+00	NOT IDENT.
TE-123M	1.222E-02	3.146E-02	5.498E-02	0.000E+00	NOT IDENT.
SB-124	-9.147E-03	6.836E-02	1.127E-01	0.000E+00	NOT IDENT.
SB-125	2.535E-02	1.022E-01	1.765E-01	0.000E+00	FAIL ABUN
TE-125M	-5.808E+00	1.005E+01	1.735E+01	0.000E+00	NOT IDENT.
I-126	-9.936E-02	3.134E-01	5.282E-01	0.000E+00	NOT IDENT.
SB-126	-1.535E-01	2.190E-01	2.978E-01	0.000E+00	NOT IDENT.
SB-127	-2.811E+00	2.671E+00	4.182E+00	0.000E+00	NOT IDENT.
I-131	-3.212E-02	1.651E-01	2.815E-01	0.000E+00	NOT IDENT.
TE-132	6.033E-01	1.657E+00	2.811E+00	0.000E+00	NOT IDENT.
BA-133	-3.726E-03	4.993E-02	7.531E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	9.085E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.548E-02	5.255E-02	9.868E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.414E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.157E-02	1.451E-01	2.389E-01	0.000E+00	NOT IDENT.
BA-137M	0.000E+00	4.719E-02	9.147E-02	0.000E+00	NOT IDENT.
CS-137	0.000E+00	4.986E-02	9.663E-02	0.000E+00	NOT IDENT.
CE-139	-1.490E-02	3.328E-02	5.593E-02	0.000E+00	NOT IDENT.
BA-140	-1.318E-01	3.678E-01	5.903E-01	0.000E+00	NOT IDENT.
LA-140	-1.466E-01	1.021E-01	1.309E-01	0.000E+00	FAIL ABUN
CE-141	7.515E-03	7.247E-02	1.261E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.707E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.558E-01	2.164E-01	3.645E-01	0.000E+00	NOT IDENT.
PM-144	4.519E-02	3.817E-02	7.053E-02	0.000E+00	NOT IDENT.
PR-144	3.366E+00	2.859E+00	5.282E+00	0.000E+00	NOT IDENT.
PM-146	1.117E-03	4.774E-02	8.083E-02	0.000E+00	NOT IDENT.
ND-147	-7.379E-01	8.053E-01	1.200E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.685E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-6.729E-02	1.103E-01	1.845E-01	0.000E+00	FAIL ABUN
GD-153	-3.383E-02	1.014E-01	1.586E-01	0.000E+00	NOT IDENT.
EU-154	7.023E-02	1.497E-01	2.624E-01	0.000E+00	NOT IDENT.
EU-155	4.929E-02	1.130E-01	2.035E-01	0.000E+00	FAIL ABUN
TB-160	-2.519E-02	1.593E-01	2.627E-01	0.000E+00	FAIL ABUN
HO-166M	5.470E-03	6.750E-02	1.162E-01	0.000E+00	FAIL ABUN
TA-182	9.493E-02	2.493E-01	4.336E-01	0.000E+00	NOT IDENT.
IR-192	7.156E-03	3.785E-02	6.679E-02	0.000E+00	FAIL ABUN
HG-203	3.601E-02	4.766E-02	7.758E-02	0.000E+00	NOT IDENT.
BI-207	2.138E-04	6.068E-02	1.043E-01	0.000E+00	FAIL ABUN
PB-210	1.910E+00	6.548E+00	1.099E+01	0.000E+00	NOT IDENT.
PB-211	-3.008E-01	9.630E-01	1.388E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.032E+00	1.380E+00	0.000E+00	FAIL ABUN
RN-219	5.334E-02	4.712E-01	8.111E-01	0.000E+00	NOT IDENT.
RA-223	-3.193E-03	8.136E-01	1.247E+00	0.000E+00	FAIL ABUN
AC-227	1.155E-01	2.643E-01	4.784E-01	0.000E+00	FAIL ABUN
TH-227	1.155E-01	2.644E-01	4.784E-01	0.000E+00	FAIL ABUN
TH-229	-2.789E-01	5.923E-01	9.806E-01	0.000E+00	FAIL ABUN
PA-231	9.583E-01	1.537E+00	2.777E+00	0.000E+00	FAIL ABUN
TH-231	-3.193E-03	8.136E-01	1.247E+00	0.000E+00	FAIL ABUN
PA-233	-2.460E-02	6.754E-02	1.157E-01	0.000E+00	FAIL ABUN
PA-234	-6.381E-03	3.219E-01	5.337E-01	0.000E+00	NOT IDENT.
PA-234M	6.892E-01	6.023E+00	1.016E+01	0.000E+00	FAIL ABUN
NP-239	-4.944E-01	4.291E-01	7.182E-01	0.000E+00	FAIL ABUN
AM-241	-5.905E-02	1.970E-01	3.218E-01	0.000E+00	NOT IDENT.
CM-247	1.898E-02	4.303E-02	7.539E-02	0.000E+00	FAIL ABUN
CF-249	2.153E-02	4.641E-02	8.164E-02	0.000E+00	NOT IDENT.

CF-251	-8.076E-02	1.457E-01	2.420E-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]G248051009.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:19:54
Sample ID          : G248051009 Sample quantity : 1.32660E+02 GRAM
Detector name      : GAM02 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:04.11 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	1198	10.66*	1.028E+00	3.093E+01	3.093E+01	11.31
CD-109	88.03	270	3.70*	5.225E+00	3.952E+00	4.062E+00	28.97
SN-126	64.28	140	9.60	2.538E+00	1.628E+00	1.628E+00	63.51
	86.94	270	8.90	5.225E+00	1.643E+00	1.643E+00	49.75
	87.57	270	37.00*	5.225E+00	3.952E-01	3.952E-01	28.97
CS-135	268.22	151	16.00*	4.075E+00	6.536E-01	6.536E-01	45.44
TL-208	277.37	111	6.60	3.994E+00	1.196E+00	1.196E+00	60.10
	583.19	442	85.00*	2.293E+00	6.421E-01	6.421E-01	17.77
	860.56	57	12.50	1.652E+00	7.745E-01	7.745E-01	49.26
BI-211	72.87	-----	1.23	3.848E+00	-----	Line Not Found	-----
	351.06	745	12.92*	3.353E+00	4.867E+00	4.867E+00	15.46
PB-212	74.82	424	10.28	4.051E+00	2.884E+00	2.884E+00	23.75
	77.11	643	17.10	4.301E+00	2.475E+00	2.475E+00	15.71
	238.63	1451	43.60*	4.459E+00	2.112E+00	2.112E+00	14.14
	300.09	69	3.30	3.767E+00	1.581E+00	1.581E+00	71.39
BI-214	609.32	492	45.49*	2.214E+00	1.381E+00	1.381E+00	16.08
	1120.29	128	14.92	1.298E+00	1.873E+00	1.873E+00	35.39
	1764.49	85	15.30	9.006E-01	1.755E+00	1.755E+00	30.41
PB-214	74.82	424	5.80	4.051E+00	5.111E+00	5.111E+00	23.07
	77.11	643	9.70	4.301E+00	4.363E+00	4.363E+00	17.74
	242.00	316	7.25	4.419E+00	2.787E+00	2.787E+00	29.84
	295.22	457	18.42	3.815E+00	1.839E+00	1.839E+00	21.83
	351.93	745	35.60*	3.353E+00	1.766E+00	1.766E+00	16.41
RA-224	240.99	316	4.10*	4.419E+00	4.929E+00	4.929E+00	29.28
RA-226	609.32	492	45.49*	2.214E+00	1.381E+00	1.381E+00	16.08
	1120.29	128	14.92	1.298E+00	1.873E+00	1.873E+00	35.39
	1764.49	85	15.30	9.006E-01	1.755E+00	1.755E+00	30.41
AC-228	338.32	264	11.27	3.451E+00	1.918E+00	1.918E+00	48.19
	911.20	285	25.80*	1.570E+00	1.990E+00	1.990E+00	23.60
	968.97	190	15.80	1.484E+00	2.290E+00	2.290E+00	31.12
RA-228	338.32	264	11.27	3.451E+00	1.918E+00	1.918E+00	48.19
	911.20	285	25.80*	1.570E+00	1.990E+00	1.990E+00	23.60

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	968.97	190	15.80	1.484E+00	2.290E+00	2.290E+00	31.12
	74.82	424	10.28	4.051E+00	2.884E+00	2.884E+00	21.70
	77.11	643	17.10	4.301E+00	2.475E+00	2.475E+00	15.71
	238.63	1451	43.60*	4.459E+00	2.112E+00	2.112E+00	14.14
TH-232	300.09	69	3.30	3.767E+00	1.581E+00	1.581E+00	93.45
	338.32	264	11.27	3.451E+00	1.918E+00	1.918E+00	25.62
	911.20	285	25.80*	1.570E+00	1.990E+00	1.990E+00	23.60
	968.97	190	15.80	1.484E+00	2.290E+00	2.290E+00	31.12
TH-234	63.29	140	3.70*	2.538E+00	4.223E+00	4.223E+00	64.35
	92.59	292	4.23	5.579E+00	3.497E+00	3.497E+00	35.90
U-235	89.96	176	3.47	5.407E+00	2.657E+00	2.657E+00	44.04
	93.35	292	5.60	5.579E+00	2.642E+00	2.642E+00	36.54
	143.76	-----	10.96*	6.030E+00	-----	Line Not Found	-----
	163.33	-----	5.08	5.697E+00	-----	Line Not Found	-----
NP-237	185.72	287	57.20	5.294E+00	2.682E-01	2.682E-01	37.25
	205.31	-----	5.01	4.952E+00	-----	Line Not Found	-----
	86.48	270	12.40*	5.225E+00	1.179E+00	1.179E+00	35.76
	95.86	-----	2.68	5.755E+00	-----	Line Not Found	-----
	63.29	140	3.70*	2.538E+00	4.223E+00	4.223E+00	64.35
U-238	92.59	292	4.23	5.579E+00	3.497E+00	3.497E+00	29.59
ANH-511	511.00	151	100.00*	2.540E+00	1.677E-01	1.677E-01	44.80

Flag: "*" = Keyline

Total number of lines in spectrum 35
Number of unidentified lines 5
Number of lines tentatively identified by NID 30 85.71%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.093E+01	3.093E+01	0.350E+01	11.31	
CD-109	461.40D	1.03	3.952E+00	4.062E+00	1.177E+00	28.97	
SN-126	2.30E+05Y	1.00	3.952E-01	3.952E-01	1.145E-01	28.97	
CS-135	2.30E+06Y	1.00	6.536E-01	6.536E-01	2.970E-01	45.44	
TL-208	1.41E+10Y	1.00	6.421E-01	6.421E-01	1.141E-01	17.77	
BI-211	7.04E+08Y	1.00	4.867E+00	4.867E+00	0.752E+00	15.46	
PB-212	1.41E+10Y	1.00	2.112E+00	2.112E+00	0.299E+00	14.14	
BI-214	1600.00Y	1.00	1.381E+00	1.381E+00	0.222E+00	16.08	
PB-214	1600.00Y	1.00	1.766E+00	1.766E+00	0.290E+00	16.41	
RA-224	1.41E+10Y	1.00	4.929E+00	4.929E+00	1.443E+00	29.28	
RA-226	1600.00Y	1.00	1.381E+00	1.381E+00	0.222E+00	16.08	
AC-228	1.41E+10Y	1.00	1.990E+00	1.990E+00	0.470E+00	23.60	
RA-228	1.41E+10Y	1.00	1.990E+00	1.990E+00	0.470E+00	23.60	
TH-228	1.41E+10Y	1.00	2.112E+00	2.112E+00	0.299E+00	14.14	
TH-232	1.41E+10Y	1.00	1.990E+00	1.990E+00	0.470E+00	23.60	
TH-234	4.47E+09Y	1.00	4.223E+00	4.223E+00	2.717E+00	64.35	
U-235	7.04E+08Y	1.00	2.682E-01	2.682E-01	0.999E-01	37.25	K
NP-237	2.14E+06Y	1.00	1.179E+00	1.179E+00	0.422E+00	35.76	
U-238	4.47E+09Y	1.00	4.223E+00	4.223E+00	2.717E+00	64.35	
ANH-511	1.00E+09Y	1.00	1.677E-01	1.677E-01	0.751E-01	44.80	
Total Activity :			7.115E+01	7.126E+01			

Grand Total Activity : 7.115E+01 7.126E+01

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

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

Unidentified Energy Lines
Sample ID : G248051009

Page : 4
Acquisition date : 10-MAR-2010 19:19:54

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.63	112	345	1.10	256.53	253	7	1.56E-02	58.2	6.21E+00	
0	209.09	127	432	1.19	417.52	413	12	1.77E-02	68.1	4.89E+00	
0	327.80	73	156	0.97	655.07	651	8	1.02E-02	64.0	3.53E+00	T
0	408.74	56	101	1.56	817.05	814	8	7.79E-03	67.8	3.00E+00	
0	462.83	99	114	1.18	925.29	921	10	1.37E-02	45.7	2.74E+00	T
0	726.94	116	87	1.51	1453.82	1448	14	1.61E-02	38.9	1.91E+00	T
0	767.58	56	84	1.83	1535.16	1530	11	7.74E-03	69.5	1.83E+00	T
2	964.18	58	49	2.19	1928.62	1921	21	8.02E-03	54.7	1.49E+00	T
0	1237.41	47	70	2.00	2475.48	2471	11	6.53E-03	75.8	1.19E+00	T
0	1376.52	46	24	2.37	2753.90	2748	15	6.40E-03	53.9	1.08E+00	
0	1729.30	27	7	1.98	3460.06	3453	14	3.77E-03	56.3	9.11E-01	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051009.CNF;1
* Acquisition date   : 10-MAR-2010 19:19:54   Detector SN#      :
* Detector ID        : GAM02                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:04.11          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 20-FEB-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G248051009            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity : 1.32660E+02 GRAM
*****
*                               QC DATA                                   *
*
* CALIB. DATE/TIME   : 29-OCT-2009 10:28:07.3MS Isotope      :
* MSD ID             :                        MSD Isotope     :
* LCS ID             : 1032-A                LCS Isotope     :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.093E+01	3.498E+00	4.832E-01	4.594E-02	63.999
CD-109	4.062E+00	1.177E+00	1.281E+00	1.287E-01	3.170
SN-126	3.952E-01	1.145E-01	1.254E-01	1.253E-02	3.153
CS-135	6.536E-01	2.970E-01	2.644E-01	3.498E-02	2.472
TL-208	6.421E-01	1.141E-01	6.844E-02	6.849E-03	9.382
BI-211	4.867E+00	7.524E-01	3.729E-01	4.302E-02	13.054
PB-212	2.112E+00	2.986E-01	1.060E-01	1.338E-02	19.933
BI-214	1.381E+00	2.222E-01	1.222E-01	1.297E-02	11.305
PB-214	1.766E+00	2.899E-01	1.356E-01	1.732E-02	13.025
RA-224	4.929E+00	1.443E+00	1.136E+00	1.341E-01	4.337
RA-226	1.381E+00	2.222E-01	1.222E-01	1.297E-02	11.305
AC-228	1.990E+00	4.697E-01	2.619E-01	3.347E-02	7.599
RA-228	1.990E+00	4.697E-01	2.619E-01	3.347E-02	7.599
TH-228	2.112E+00	2.986E-01	1.060E-01	1.338E-02	19.933
TH-232	1.990E+00	4.697E-01	2.619E-01	3.347E-02	7.599
TH-234	4.223E+00	2.717E+00	2.486E+00	4.485E-01	1.699
U-235	2.682E-01	9.989E-02	3.762E-01	6.476E-02	0.713
NP-237	1.179E+00	4.217E-01	3.793E-01	8.791E-02	3.109

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-238	4.223E+00	2.717E+00	2.486E+00	4.485E-01	1.699
ANH-511	1.677E-01	7.513E-02	5.210E-02	5.165E-03	3.219

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-3.519E-01		4.049E-01	6.105E-01	6.473E-02	-0.576
NA-22	2.483E-02		5.398E-02	9.239E-02	8.191E-03	0.269
NA-24	-2.892E+01		1.746E+01	Half-Life too short		
SC-46	-3.928E-02		4.708E-02	6.996E-02	7.112E-03	-0.562
V-48	-2.776E-02		9.459E-02	1.475E-01	1.443E-02	-0.188
CR-51	1.507E-01		4.709E-01	7.855E-01	9.579E-02	0.192
MN-54	-2.188E-02		4.752E-02	7.468E-02	7.337E-03	-0.293
CO-56	-4.328E-02		4.495E-02	6.607E-02	6.542E-03	-0.655
CO-57	-2.367E-02		2.799E-02	4.440E-02	3.711E-03	-0.533
CO-58	-2.451E-02		4.773E-02	7.451E-02	7.217E-03	-0.329
FE-59	-1.703E-02		1.089E-01	1.790E-01	1.706E-02	-0.095
CO-60	4.549E-02		4.641E-02	8.368E-02	7.796E-03	0.544
ZN-65	5.556E-02		1.154E-01	1.751E-01	1.524E-02	0.317
SE-75	4.282E-02		5.433E-02	8.466E-02	1.035E-02	0.506
SR-85	6.260E-02		4.426E-02	7.062E-02	6.991E-03	0.886
Y-88	-1.839E-03		3.900E-02	6.388E-02	5.210E-03	-0.029
Y-91	8.490E+00		2.754E+01	4.661E+01	3.870E+00	0.182
NB-94	-2.831E-02		3.641E-02	5.637E-02	5.026E-03	-0.502
NB-95	1.133E-01		5.982E-02	9.887E-02	9.257E-03	1.146
NB-95M	1.448E-01		1.610E-01	2.515E-01	3.185E-02	0.576
ZR-95	5.917E-04		8.346E-02	1.374E-01	1.393E-02	0.004
MO-99	-2.631E+00		2.996E+01	4.901E+01	7.876E+00	-0.054
TC-99M	-4.523E+12		1.434E+14	Half-Life too short		
RU-103	-1.848E-02		4.512E-02	7.004E-02	1.039E-02	-0.264
RH-106	2.189E-01		3.674E-01	6.369E-01	8.636E-02	0.344
RU-106	2.189E-01		3.668E-01	6.369E-01	5.783E-02	0.344
AG-108M	-4.372E-03		3.416E-02	5.506E-02	5.679E-03	-0.079
AG-110M	-1.143E-01		4.335E-02	5.555E-02	4.955E-03	-2.058
SN-113	-9.868E-03		5.213E-02	8.443E-02	8.639E-03	-0.117
CD-115	2.364E-05		1.752E-05	Half-Life too short		
SN-117M	1.813E-02		7.194E-02	1.178E-01	1.161E-02	0.154
TE-123M	1.222E-02		3.210E-02	5.283E-02	5.242E-03	0.231
SB-124	-9.147E-03		6.976E-02	1.128E-01	1.028E-02	-0.081
SB-125	2.535E-02		1.043E-01	1.725E-01	1.761E-02	0.147
TE-125M	-5.808E+00		1.026E+01	1.657E+01	1.726E+00	-0.350
I-126	-9.936E-02		3.198E-01	5.202E-01	4.499E-02	-0.191
SB-126	-1.535E-01		2.234E-01	2.937E-01	2.656E-02	-0.523
SB-127	-2.811E+00		2.725E+00	4.120E+00	5.140E-01	-0.682
I-131	-3.212E-02		1.685E-01	2.743E-01	3.082E-02	-0.117
TE-132	6.033E-01		1.691E+00	2.718E+00	4.947E-01	0.222
BA-133	-3.726E-03		5.095E-02	7.336E-02	1.078E-02	-0.051

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	-3.929E-02		4.635E-02	Half-Life too short		
CS-134	8.548E-02		5.363E-02	9.748E-02	9.380E-03	0.877
I-135	-1.824E+13		1.232E+13	Half-Life too short		
CS-136	-7.157E-02		1.481E-01	2.372E-01	2.289E-02	-0.302
BA-137M	1.257E-01		4.816E-02	9.006E-02	7.759E-03	1.396
CS-137	1.328E-01		5.088E-02	9.514E-02	8.213E-03	1.396
CE-139	-1.490E-02		3.396E-02	5.379E-02	5.518E-03	-0.277
BA-140	-1.318E-01		3.753E-01	5.791E-01	1.982E-01	-0.228
LA-140	-1.466E-01		1.042E-01	1.309E-01	1.184E-02	-1.120
CE-141	7.515E-03		7.395E-02	1.210E-01	1.130E-02	0.062
CE-143	5.748E-03		8.707E-04	Half-Life too short		
CE-144	-1.558E-01		2.209E-01	3.493E-01	5.354E-02	-0.446
PM-144	4.519E-02		3.894E-02	6.950E-02	6.169E-03	0.650
PR-144	3.366E+00		2.918E+00	5.205E+00	4.618E-01	0.647
PM-146	1.117E-03		4.872E-02	7.907E-02	9.329E-03	0.014
ND-147	-7.379E-01		8.217E-01	1.177E+00	1.845E-01	-0.627
PM-149	-1.721E-04		1.370E-04	Half-Life too short		
EU-152	-6.729E-02		1.126E-01	1.796E-01	2.111E-02	-0.375
GD-153	-3.383E-02		1.035E-01	1.512E-01	1.374E-02	-0.224
EU-154	7.023E-02		1.528E-01	2.613E-01	3.021E-02	0.269
EU-155	4.929E-02		1.153E-01	1.943E-01	1.703E-02	0.254
TB-160	-2.519E-02		1.625E-01	2.600E-01	2.627E-02	-0.097
HO-166M	5.470E-03		6.888E-02	1.146E-01	1.029E-02	0.048
TA-182	9.493E-02		2.544E-01	4.316E-01	3.640E-02	0.220
IR-192	7.156E-03		3.863E-02	6.493E-02	7.752E-03	0.110
HG-203	3.601E-02		4.863E-02	7.526E-02	9.450E-03	0.478
BI-207	2.138E-04		6.192E-02	1.035E-01	9.502E-03	0.002
PB-210	1.910E+00		6.682E+00	1.036E+01	9.851E-01	0.184
PB-211	-3.008E-01		9.827E-01	1.355E+00	6.595E-01	-0.222
BI-212	2.572E+00	+	1.053E+00	1.361E+00	1.741E-01	1.890
RN-219	5.334E-02		4.809E-01	7.917E-01	1.246E-01	0.067
RA-223	-3.193E-03		8.302E-01	1.213E+00	2.317E-01	-0.003
AC-227	1.155E-01		2.697E-01	4.634E-01	6.817E-02	0.249
TH-227	1.155E-01		2.698E-01	4.634E-01	7.419E-02	0.249
TH-229	-2.789E-01		6.044E-01	9.454E-01	1.025E-01	-0.295
PA-231	9.583E-01		1.568E+00	2.695E+00	4.599E-01	0.356
TH-231	-3.193E-03		8.302E-01	1.213E+00	2.317E-01	-0.003
PA-233	-2.460E-02		6.892E-02	1.124E-01	1.369E-02	-0.219
PA-234	-6.381E-03		3.284E-01	5.288E-01	1.028E-01	-0.012
PA-234M	6.892E-01		6.146E+00	1.007E+01	1.096E+00	0.068
NP-239	-4.944E-01		4.379E-01	6.867E-01	5.756E-02	-0.720
AM-241	-5.905E-02		2.010E-01	3.043E-01	2.493E-02	-0.194
CM-247	1.898E-02		4.390E-02	7.359E-02	7.383E-03	0.258
CF-249	2.153E-02		4.736E-02	7.964E-02	8.060E-03	0.270
CF-251	-8.076E-02		1.486E-01	2.330E-01	2.446E-02	-0.347

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]G248051009          *
* Acquisition date   : 10-MAR-2010 19:19:54 Detector SN#      :             *
* Detector ID        : GAM02 Sensitivity      : 5.000           *
* Geometry           : CAN Energy tolerance: 1.500           *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000    *
* Elapsed real time  : 0 02:00:04.11 Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051009 Analyst initials: MXR1         *
* Batch Number       : 958225 Sample Quantity : 1.3266E+02 GRAM *
* Recovery           : 1.00000 Carrier Weight : 0.00000         *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 29-OCT-2009 10:28:07 MS Isotope          :             *
* MSD DPM            : 0.000 MSD Isotope                        :             *
* LCS DPM            : 0.000 LCS Isotope                        :             *
* LCSD DPM           : 0.000 LCSD Isotope                       :             *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.093E+01	3.428E+00	2.421E-01	1.749E+00
CD-109	4.062E+00	1.153E+00	6.736E-01	5.884E-01
SN-126	3.952E-01	1.122E-01	6.591E-02	5.724E-02
CS-135	6.536E-01	2.910E-01	1.364E-01	1.485E-01
TL-208	6.421E-01	1.118E-01	3.485E-02	5.705E-02
BI-211	4.867E+00	7.374E-01	1.915E-01	3.762E-01
PB-212	2.112E+00	2.926E-01	5.480E-02	1.493E-01
BI-214	1.381E+00	2.177E-01	6.217E-02	1.111E-01
PB-214	1.766E+00	2.841E-01	6.967E-02	1.450E-01
RA-224	4.929E+00	1.414E+00	5.875E-01	7.215E-01
RA-226	1.381E+00	2.177E-01	6.217E-02	1.111E-01
AC-228	1.990E+00	4.603E-01	1.323E-01	2.348E-01
RA-228	1.990E+00	4.603E-01	1.323E-01	2.348E-01
TH-228	2.112E+00	2.926E-01	5.480E-02	1.493E-01
TH-232	1.990E+00	4.603E-01	1.323E-01	2.348E-01
TH-234	4.223E+00	2.663E+00	1.314E+00	1.359E+00
U-235	5.339E-02	2.287E-01	1.962E-01	1.167E-01
NP-237	1.179E+00	4.133E-01	1.995E-01	2.108E-01
U-238	4.223E+00	2.663E+00	1.314E+00	1.359E+00
ANH-511	1.677E-01	7.363E-02	2.659E-02	3.756E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-3.519E-01	3.968E-01	3.120E-01	2.025E-01 NOT IDENT.
NA-22	2.483E-02	5.290E-02	4.640E-02	2.699E-02 NOT IDENT.
NA-24	-2.892E+07	3.422E+07	0.000E+00	1.746E+07 SHORT HLIF
SC-46	-3.928E-02	4.614E-02	3.536E-02	2.354E-02 FAIL ABUN
V-48	-2.776E-02	9.269E-02	7.442E-02	4.729E-02 NOT IDENT.
CR-51	1.507E-01	4.615E-01	4.042E-01	2.355E-01 NOT IDENT.
MN-54	-2.188E-02	4.656E-02	3.779E-02	2.376E-02 NOT IDENT.

CO-56	-4.328E-02	4.406E-02	3.343E-02	2.248E-02	FAIL ABUN
CO-57	-2.367E-02	2.743E-02	2.322E-02	1.400E-02	NOT IDENT.
CO-58	-2.451E-02	4.677E-02	3.773E-02	2.386E-02	NOT IDENT.
FE-59	-1.703E-02	1.067E-01	9.014E-02	5.446E-02	NOT IDENT.
CO-60	4.549E-02	4.548E-02	4.200E-02	2.320E-02	NOT IDENT.
ZN-65	5.556E-02	1.131E-01	8.817E-02	5.769E-02	NOT IDENT.
SE-75	4.282E-02	5.325E-02	4.370E-02	2.717E-02	NOT IDENT.
SR-85	6.260E-02	4.338E-02	3.604E-02	2.213E-02	NOT IDENT.
Y-88	-1.839E-03	3.822E-02	3.188E-02	1.950E-02	NOT IDENT.
Y-91	8.490E+00	2.699E+01	2.343E+01	1.377E+01	NOT IDENT.
NB-94	-2.831E-02	3.568E-02	2.861E-02	1.820E-02	NOT IDENT.
NB-95	1.133E-01	5.862E-02	5.011E-02	2.991E-02	NOT IDENT.
NB-95M	1.448E-01	1.578E-01	1.301E-01	8.051E-02	NOT IDENT.
ZR-95	5.917E-04	8.179E-02	6.963E-02	4.173E-02	NOT IDENT.
MO-99	-2.631E+00	2.936E+01	2.485E+01	1.498E+01	NOT IDENT.
TC-99M	-4.523E+18	2.810E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-1.848E-02	4.422E-02	3.576E-02	2.256E-02	NOT IDENT.
RH-106	2.189E-01	3.601E-01	3.240E-01	1.837E-01	NOT IDENT.
RU-106	2.189E-01	3.594E-01	3.240E-01	1.834E-01	NOT IDENT.
AG-108M	-4.372E-03	3.347E-02	2.818E-02	1.708E-02	NOT IDENT.
AG-110M	-1.143E-01	4.249E-02	2.823E-02	2.168E-02	NOT IDENT.
SN-113	-9.868E-03	5.109E-02	4.329E-02	2.606E-02	NOT IDENT.
CD-115	2.364E+01	3.433E+01	0.000E+00	1.752E+01	SHORT HLIF
SN-117M	1.813E-02	7.051E-02	6.135E-02	3.597E-02	NOT IDENT.
TE-123M	1.222E-02	3.146E-02	2.750E-02	1.605E-02	NOT IDENT.
SB-124	-9.147E-03	6.836E-02	5.636E-02	3.488E-02	NOT IDENT.
SB-125	2.535E-02	1.022E-01	8.829E-02	5.215E-02	FAIL ABUN
TE-125M	-5.808E+00	1.005E+01	8.680E+00	5.129E+00	NOT IDENT.
I-126	-9.936E-02	3.134E-01	2.643E-01	1.599E-01	NOT IDENT.
SB-126	-1.535E-01	2.190E-01	1.490E-01	1.117E-01	NOT IDENT.
SB-127	-2.811E+00	2.671E+00	2.092E+00	1.363E+00	NOT IDENT.
I-131	-3.212E-02	1.651E-01	1.408E-01	8.425E-02	NOT IDENT.
TE-132	6.033E-01	1.657E+00	1.406E+00	8.453E-01	NOT IDENT.
BA-133	-3.726E-03	4.993E-02	3.768E-02	2.547E-02	FAIL ABUN
I-133	-3.929E+04	9.085E+04	0.000E+00	4.635E+04	SHORT HLIF
CS-134	8.548E-02	5.255E-02	4.937E-02	2.681E-02	NOT IDENT.
I-135	-1.824E+19	2.414E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.157E-02	1.451E-01	1.195E-01	7.404E-02	NOT IDENT.
BA-137M	1.257E-01	4.719E-02	4.576E-02	2.408E-02	NOT IDENT.
CS-137	1.328E-01	4.986E-02	4.834E-02	2.544E-02	NOT IDENT.
CE-139	-1.490E-02	3.328E-02	2.798E-02	1.698E-02	NOT IDENT.
BA-140	-1.318E-01	3.678E-01	2.953E-01	1.876E-01	NOT IDENT.
LA-140	-1.466E-01	1.021E-01	6.549E-02	5.210E-02	FAIL ABUN
CE-141	7.515E-03	7.247E-02	6.309E-02	3.698E-02	NOT IDENT.
CE-143	5.748E+03	1.707E+03	0.000E+00	8.707E+02	SHORT HLIF
CE-144	-1.558E-01	2.164E-01	1.824E-01	1.104E-01	NOT IDENT.
PM-144	4.519E-02	3.817E-02	3.528E-02	1.947E-02	NOT IDENT.
PR-144	3.366E+00	2.859E+00	2.642E+00	1.459E+00	NOT IDENT.
PM-146	1.117E-03	4.774E-02	4.044E-02	2.436E-02	NOT IDENT.
ND-147	-7.379E-01	8.053E-01	6.006E-01	4.108E-01	FAIL ABUN
PM-149	-1.721E+02	2.685E+02	0.000E+00	1.370E+02	SHORT HLIF
EU-152	-6.729E-02	1.103E-01	9.230E-02	5.628E-02	FAIL ABUN
GD-153	-3.383E-02	1.014E-01	7.936E-02	5.174E-02	NOT IDENT.
EU-154	7.023E-02	1.497E-01	1.313E-01	7.638E-02	NOT IDENT.
EU-155	4.929E-02	1.130E-01	1.018E-01	5.766E-02	FAIL ABUN
TB-160	-2.519E-02	1.593E-01	1.314E-01	8.127E-02	FAIL ABUN
HO-166M	5.470E-03	6.750E-02	5.814E-02	3.444E-02	FAIL ABUN
TA-182	9.493E-02	2.493E-01	2.169E-01	1.272E-01	NOT IDENT.
IR-192	7.156E-03	3.785E-02	3.341E-02	1.931E-02	FAIL ABUN
HG-203	3.601E-02	4.766E-02	3.882E-02	2.432E-02	NOT IDENT.
BI-207	2.138E-04	6.068E-02	5.216E-02	3.096E-02	FAIL ABUN
PB-210	1.910E+00	6.548E+00	5.500E+00	3.341E+00	NOT IDENT.
PB-211	-3.008E-01	9.630E-01	6.945E-01	4.913E-01	NOT IDENT.
BI-212	2.572E+00	1.032E+00	6.904E-01	5.267E-01	FAIL ABUN
RN-219	5.334E-02	4.712E-01	4.058E-01	2.404E-01	NOT IDENT.
RA-223	-3.193E-03	8.136E-01	6.238E-01	4.151E-01	FAIL ABUN
AC-227	1.155E-01	2.643E-01	2.393E-01	1.348E-01	FAIL ABUN
TH-227	1.155E-01	2.644E-01	2.393E-01	1.349E-01	FAIL ABUN
TH-229	-2.789E-01	5.923E-01	4.906E-01	3.022E-01	FAIL ABUN
PA-231	9.583E-01	1.537E+00	1.389E+00	7.842E-01	FAIL ABUN
TH-231	-3.193E-03	8.136E-01	6.238E-01	4.151E-01	FAIL ABUN
PA-233	-2.460E-02	6.754E-02	5.787E-02	3.446E-02	FAIL ABUN
PA-234	-6.381E-03	3.219E-01	2.670E-01	1.642E-01	NOT IDENT.
PA-234M	6.892E-01	6.023E+00	5.081E+00	3.073E+00	FAIL ABUN
NP-239	-4.944E-01	4.291E-01	3.593E-01	2.189E-01	FAIL ABUN
AM-241	-5.905E-02	1.970E-01	1.610E-01	1.005E-01	NOT IDENT.
CM-247	1.898E-02	4.303E-02	3.772E-02	2.195E-02	FAIL ABUN
CF-249	2.153E-02	4.641E-02	4.084E-02	2.368E-02	NOT IDENT.

CF-251	-8.076E-02	1.457E-01	1.211E-01	7.431E-02 NOT IDENT.
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 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.54	301.0684
49.72	306.9735
57.36	0.0000
59.54	306.6398
63.29	324.8784
63.29	324.8784
64.28	368.5087
67.75	365.3168
69.67	375.5010
70.83	384.6792
72.81	369.3399
72.87	369.3989
72.87	369.3989
74.82	371.3088
74.82	371.3088
74.82	371.3088
74.97	371.4541
77.11	373.5198
77.11	373.5198
77.11	373.5198
79.69	316.0334
79.80	327.0209
80.12	327.2827
80.19	327.3413
80.57	316.7291
81.00	317.0671
81.07	325.3235
81.07	325.3235
83.79	342.1747
83.79	342.1747
85.43	343.5274
86.48	344.3849
86.55	344.4418
86.79	344.6353
86.94	344.7586
87.57	345.2709
88.03	345.6427
88.47	345.9975
89.96	347.1937
91.11	348.1091
92.59	349.2796
92.59	349.2796
93.35	349.8772
94.67	317.5117
94.87	324.7115
94.87	324.7115
95.86	353.7197
97.43	344.9993
98.44	335.7948
99.53	317.5674
100.11	318.9135
103.18	357.3957
103.37	342.2013
105.31	331.0681
106.12	358.6116
109.28	308.5235
111.00	344.6282
111.76	303.2221
116.30	325.5823
117.23	349.8106
121.12	316.6474
121.78	337.9058
122.06	338.0804
123.07	347.6776
131.20	297.1941
133.52	336.9680
136.00	325.1591

136.47	313.1772
140.51	342.0242
140.51	0.0000
143.76	317.0216
144.24	304.8669
144.24	304.8669
145.44	319.9639
152.43	306.8059
153.25	299.8630
154.21	283.5104
154.21	283.5104
156.02	359.0726
158.56	295.9904
159.00	287.7272
162.66	281.8752
163.33	300.2590
165.86	305.6642
176.60	280.0433
177.52	304.3160
181.07	255.5828
184.41	278.7039
185.72	279.2000
193.51	288.7840
197.04	252.1809
205.31	263.8808
210.85	245.2676
215.65	234.3756
222.11	233.6635
227.38	236.2714
228.16	230.6889
228.18	230.6950
235.69	258.1795
235.96	245.6259
235.96	245.6259
238.63	244.6074
238.63	244.6074
240.99	245.2522
242.00	223.2714
244.70	208.3481
252.40	198.3065
252.80	202.8612
256.23	183.8716
256.23	183.8716
260.90	0.0000
264.66	165.0523
268.22	172.9248
269.46	189.1506
269.46	189.1506
271.23	193.1343
273.65	193.6098
276.40	184.2009
277.37	184.3820
277.60	184.4219
278.00	165.8363
279.20	167.5043
279.54	180.7914
280.46	192.7229
283.69	164.1915
284.31	169.8271
285.41	186.6410
285.90	0.0000
287.50	169.4319
293.27	0.0000
295.22	161.1800
295.96	161.2934
298.57	119.7715
299.98	176.8963
299.98	176.8963
300.09	176.9165
300.09	176.9165
300.13	176.9222
301.36	177.1268
302.85	174.3653
304.50	171.8744
304.50	171.8744
304.85	169.4202
308.46	167.1529
311.90	157.2588

316.51	148.4042
319.41	165.0041
320.08	159.3757
323.87	171.5984
323.87	171.5984
328.76	200.0337
333.37	146.7653
334.37	168.5402
334.37	168.5402
338.28	172.2099
338.28	172.2099
338.32	172.2153
338.32	172.2153
338.32	172.2153
340.48	155.4346
340.55	155.4443
344.28	173.4778
351.06	150.9405
351.93	151.0509
356.01	133.8439
364.49	135.7625
366.42	144.9039
383.85	136.8446
388.16	139.3203
388.63	143.4095
391.69	139.6951
400.66	154.9108
401.81	141.7848
402.40	134.7030
404.85	150.4883
410.95	124.8758
414.70	128.2780
423.72	106.7563
427.09	123.6357
427.87	117.4675
433.94	122.1470
453.88	115.3668
463.37	100.5521
468.07	87.1881
473.00	112.5550
476.78	113.9076
477.60	131.1701
487.02	98.4357
492.35	0.0000
497.08	93.6216
511.00	101.0223
514.00	70.4058
527.90	0.0000
529.87	0.0000
531.02	105.5878
537.26	103.7452
546.56	0.0000
563.25	94.2195
569.33	86.3605
569.50	86.3698
569.70	89.1068
583.19	102.6047
600.60	102.6560
602.73	96.5585
604.72	78.7848
609.32	87.3401
609.32	87.3401
610.33	72.8236
614.28	77.6326
618.01	80.2754
621.93	86.0523
621.93	86.0523
633.25	81.8556
635.95	75.3730
636.99	81.0701
645.85	81.4376
657.76	137.1797
661.66	79.2208
661.66	79.2208
664.57	0.0000
666.33	109.0626
666.50	107.1574
677.62	91.3911

685.70	99.4745
695.00	88.2784
696.49	70.8667
696.51	70.8667
697.00	67.9714
702.65	90.5456
706.68	84.8654
711.68	82.1317
720.70	88.3674
721.93	0.0000
722.78	75.3490
722.91	75.3527
723.31	72.0908
724.19	73.7585
727.33	77.8042
733.00	72.4113
735.93	69.2122
739.50	71.3057
747.24	69.5676
752.31	78.6895
753.82	73.7597
756.73	73.8537
763.94	71.7542
765.81	65.1333
766.42	61.8097
777.92	73.5382
778.90	73.5685
783.70	68.6724
785.37	82.8708
795.86	57.8642
801.95	76.3348
810.29	79.6663
810.76	79.6815
815.77	58.3512
818.51	66.6171
832.01	80.3880
834.85	98.0221
836.80	0.0000
846.77	72.5771
856.80	46.8457
860.56	69.8527
871.09	54.4413
873.19	44.0077
875.33	0.0000
879.36	61.9702
880.51	64.1006
883.24	49.4418
884.68	55.7846
889.28	72.7549
898.04	77.2328
911.20	64.8631
911.20	64.8631
911.20	64.8631
926.50	45.9877
937.49	85.9102
944.13	61.3613
946.00	53.8623
949.00	49.6083
962.29	48.7661
964.08	47.7125
966.15	47.7490
968.97	45.2627
968.97	45.2627
968.97	45.2627
983.53	61.1516
996.26	84.4631
1001.03	70.3203
1004.73	85.2632
1037.84	63.0583
1038.76	0.0000
1048.07	67.9325
1050.41	56.8102
1050.41	56.8102
1063.66	63.6089
1085.87	54.6558
1099.45	61.5220
1112.07	44.1917
1115.54	57.0850

1120.29	62.8875
1120.29	62.8875
1120.55	62.8928
1121.30	63.7259
1131.51	0.0000
1173.23	63.9375
1177.93	72.7600
1189.05	68.1401
1204.77	73.3521
1221.41	80.5986
1231.02	74.3482
1235.36	82.9028
1238.28	80.0112
1260.41	0.0000
1271.85	65.8281
1274.44	53.8989
1274.54	53.9011
1291.59	45.1355
1298.22	0.0000
1312.11	39.3428
1332.49	31.4491
1365.19	28.6585
1368.63	0.0000
1384.29	26.4540
1408.01	27.9503
1457.56	0.0000
1460.82	16.1907
1489.16	17.9670
1505.03	29.7090
1596.21	28.8192
1620.50	14.0238
1678.03	0.0000
1690.97	10.4498
1764.49	11.8262
1764.49	11.8262
1770.23	77.3270
1771.35	13.5356
1791.20	0.0000
1836.06	14.7013

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051009

Total Uranium Activity	1.2589E+01	ug/g
Total Uranium Counting Unc.	7.9235E+00	ug/g
Total Uranium Tpu	4.0426E-06	ug/g
Total Uranium Mda	3.9102E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*             2040 SAVAGE ROAD                     *
*             CHARLESTON ,SC 29417                 *
*             GROSS GAMMA REPORT                   *
*
*****
*
*  BATCH ID      : 958225                          SAMPLE ID   : G248051009
*  ANALYST       : MXR1                             DETECTOR    : GAM02
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 19:19:54.40          SAMPLE ALQT: 132.660 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.114E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.536E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.880E+00
GROSS GAMMA DLC       (pCi/GRAM ) : 1.881E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 21:35:02.96

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051010.CNF;1
Sample date   : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:34:35
Sample ID     : G248051010 Sample quantity : 1.44700E+02 GRAM
Detector name : GAM13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.82 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 958225 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	46.62*	158	552	1.16	92.77	89	8	2.19E-02	28.4	
2	0	63.29*	226	803	1.24	126.11	122	9	3.13E-02	25.6	
3	2	74.83	692	772	1.30	149.19	143	15	9.60E-02	8.1	7.60E-01
4	2	77.08*	1047	649	1.14	153.69	143	15	1.45E-01	5.4	
5	4	87.12	367	613	1.31	173.78	164	27	5.10E-02	12.7	2.24E+00
6	4	89.94	242	524	1.19	179.42	164	27	3.36E-02	17.0	
7	4	92.68*	419	655	1.55	184.90	164	27	5.81E-02	13.8	
8	0	185.83*	224	480	1.19	371.18	366	11	3.11E-02	21.5	
9	0	209.32*	107	348	0.93	418.15	414	9	1.49E-02	33.4	
10	3	238.61*	1375	236	1.33	476.74	469	32	1.91E-01	3.4	2.04E+00
11	3	241.59*	301	282	1.81	482.70	469	32	4.18E-02	16.1	
12	0	270.27*	96	297	0.82	540.05	534	11	1.33E-02	37.2	
13	0	295.18*	389	258	1.41	589.87	584	12	5.40E-02	9.8	
14	0	327.73	62	225	1.36	654.97	651	9	8.62E-03	45.2	
15	0	338.58*	282	274	1.47	676.67	670	14	3.92E-02	14.1	
16	0	351.78*	662	228	1.43	703.08	698	12	9.19E-02	6.1	
17	0	463.08	64	167	1.52	925.68	919	10	8.84E-03	40.1	
18	0	511.06*	235	202	2.26	1021.64	1014	20	3.26E-02	17.9	
19	0	583.11*	413	171	1.63	1165.76	1159	16	5.73E-02	8.8	
20	0	609.22	531	147	1.77	1217.97	1211	13	7.38E-02	6.4	
21	0	661.29*	278	153	1.36	1322.11	1316	11	3.85E-02	9.9	
22	0	727.22	71	139	1.02	1453.99	1444	15	9.89E-03	38.0	
23	0	796.05	47	135	1.59	1591.65	1585	16	6.56E-03	57.1	
24	0	860.22*	54	71	1.83	1720.00	1714	11	7.47E-03	34.5	
25	0	911.05*	261	85	1.72	1821.69	1815	17	3.62E-02	10.5	
26	0	968.83*	184	110	1.57	1937.27	1930	14	2.55E-02	14.7	
27	0	1120.33*	79	119	2.22	2240.30	2230	19	1.10E-02	35.3	
28	0	1460.37	1196	57	2.20	2920.53	2912	21	1.66E-01	3.3	
29	0	1764.05	68	23	2.11	3528.06	3519	21	9.45E-03	20.9	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051010.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:34:35
Sample ID         : G248051010 Sample quantity : 144.70 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.82 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	2.902E+01	3.226E+00	7.285E-01	6.518E-02	39.840
CD-109	+	88.03	*	3.631E+00	9.935E-01	1.043E+00	1.054E-01	3.482
SN-126	+	64.28		8.252E-01	4.431E-01	4.210E-01	6.845E-02	1.960
	+	86.94		1.469E+00	7.171E-01	4.203E-01	1.753E-01	3.494
	+	87.57	*	3.532E-01	9.665E-02	1.013E-01	1.024E-02	3.487
BA-137M	+	661.66	*	4.069E-01	8.817E-02	8.941E-02	7.758E-03	4.551
CS-137	+	661.66	*	4.299E-01	9.317E-02	9.445E-02	8.211E-03	4.551
TL-208		277.37		5.362E-01	4.600E-01	7.750E-01	1.012E-01	0.692
	+	583.19	*	5.718E-01	1.145E-01	6.902E-02	6.653E-03	8.284
	+	860.56		7.152E-01	4.981E-01	5.915E-01	5.455E-02	1.209
PB-210	+	46.54	*	1.393E+00	8.053E-01	8.628E-01	9.444E-02	1.614
BI-211		72.87		4.904E+00	2.493E+00	3.776E+00	3.855E-01	1.298
	+	351.06	*	3.910E+00	6.065E-01	4.058E-01	3.867E-02	9.635
PB-212	+	74.82		2.356E+00	5.043E-01	3.931E-01	5.535E-02	5.993
	+	77.11		2.149E+00	3.190E-01	2.374E-01	2.411E-02	9.052
	+	238.63	*	1.789E+00	2.211E-01	9.880E-02	1.021E-02	18.107
		300.09		6.197E-01	1.056E+00	1.522E+00	1.698E-01	0.407
BI-214	+	609.32	*	1.430E+00	2.357E-01	1.494E-01	1.554E-02	9.573
	+	1120.29		1.107E+00	7.904E-01	5.512E-01	5.843E-02	2.008
	+	1764.49		1.326E+00	5.640E-01	3.614E-01	3.038E-02	3.668
PB-214	+	74.82		4.176E+00	8.623E-01	6.968E-01	8.992E-02	5.993
	+	77.11		3.788E+00	6.433E-01	4.185E-01	5.475E-02	9.052
	+	242.00		2.376E+00	8.103E-01	6.011E-01	6.573E-02	3.953
	+	295.22		1.401E+00	3.188E-01	2.615E-01	2.986E-02	5.355
	+	351.93	*	1.419E+00	2.336E-01	1.538E-01	1.693E-02	9.224
RA-224	+	240.99	*	4.202E+00	1.412E+00	1.059E+00	9.817E-02	3.967
RA-226	+	609.32	*	1.430E+00	2.357E-01	1.494E-01	1.554E-02	9.573
	+	1120.29		1.107E+00	7.904E-01	5.512E-01	5.843E-02	2.008
	+	1764.49		1.326E+00	5.640E-01	3.614E-01	3.038E-02	3.668
AC-228	+	338.32		1.854E+00	9.365E-01	4.278E-01	1.790E-01	4.335
	+	911.20	*	1.764E+00	4.234E-01	2.835E-01	3.254E-02	6.224
	+	968.97		2.143E+00	8.160E-01	5.042E-01	1.226E-01	4.249
RA-228	+	338.32		1.854E+00	9.365E-01	4.278E-01	1.790E-01	4.335
	+	911.20	*	1.764E+00	4.234E-01	2.835E-01	3.254E-02	6.224

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	968.97		2.143E+00	8.160E-01	5.042E-01	1.226E-01	4.249
	+	74.82		2.356E+00	4.501E-01	3.931E-01	4.029E-02	5.993
	+	77.11		2.149E+00	3.190E-01	2.374E-01	2.411E-02	9.052
	+	238.63	*	1.789E+00	2.211E-01	9.880E-02	1.021E-02	18.107
TH-232		300.09		6.197E-01	1.120E+00	1.522E+00	9.334E-01	0.407
	+	338.32		1.854E+00	5.515E-01	4.278E-01	3.939E-02	4.335
	+	911.20	*	1.764E+00	4.234E-01	2.835E-01	3.254E-02	6.224
TH-234	+	968.97		2.143E+00	8.160E-01	5.042E-01	1.226E-01	4.249
	+	63.29	*	2.141E+00	1.171E+00	1.072E+00	2.066E-01	1.998
	+	92.59		3.562E+00	1.274E+00	8.998E-01	2.054E-01	3.959
U-235	+	89.96		2.493E+00	1.057E+00	1.088E+00	2.743E-01	2.292
	+	93.35		2.691E+00	9.791E-01	6.813E-01	1.623E-01	3.949
		143.76	*	-2.606E-02	2.281E-01	3.774E-01	6.833E-02	-0.069
NP-237		163.33		-1.743E-01	4.941E-01	7.899E-01	1.428E-01	-0.221
	+	185.72		1.885E-01	8.278E-02	7.388E-02	6.533E-03	2.551
		205.31		-1.183E-01	6.268E-01	8.958E-01	1.643E-01	-0.132
	+	86.48	*	1.054E+00	3.633E-01	3.013E-01	7.014E-02	3.498
		95.86		-2.264E-01	9.624E-01	1.350E+00	3.342E-01	-0.168
U-238	+	63.29	*	2.141E+00	1.171E+00	1.072E+00	2.066E-01	1.998
	+	92.59		3.562E+00	1.048E+00	8.998E-01	9.334E-02	3.959
ANH-511	+	511.00	*	2.462E-01	9.075E-02	5.650E-02	5.157E-03	4.358

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-1.427E-01	4.251E-01	6.895E-01	6.691E-02	-0.207
NA-22		1274.54	*	1.139E-02	5.332E-02	9.041E-02	7.639E-03	0.126
NA-24		1368.63	*	1.179E+01	5.332E-02	Half-Life too short		
SC-46		889.28	*	2.179E-02	5.200E-02	8.851E-02	7.514E-03	0.246
V-48	+	1120.55		1.922E-01	1.367E-01	1.448E-01	1.189E-02	1.327
		944.13		-2.720E-01	1.319E+00	2.134E+00	1.808E-01	-0.127
		983.53	*	-6.632E-02	1.041E-01	1.613E-01	1.364E-02	-0.411
CR-51		1312.11		-1.174E-03	1.183E-01	1.964E-01	1.685E-02	-0.006
		320.08	*	4.033E-02	4.522E-01	7.299E-01	7.100E-02	0.055
MN-54		834.85	*	2.336E-03	4.784E-02	7.968E-02	6.900E-03	0.029
CO-56		846.77	*	-3.239E-03	5.141E-02	8.485E-02	7.323E-03	-0.038
		1037.84		1.964E-01	4.261E-01	7.193E-01	6.372E-02	0.273
		1238.28		1.977E-01	1.168E-01	2.134E-01	1.827E-02	0.927
		1771.35		-3.318E-02	3.104E-01	4.141E-01	3.476E-02	-0.080
CO-57		122.06	*	-7.491E-03	2.659E-02	4.352E-02	5.415E-03	-0.172
		136.47		1.104E-01	2.210E-01	3.783E-01	4.469E-02	0.292
CO-58		810.76	*	-1.750E-02	5.075E-02	8.231E-02	7.187E-03	-0.213
FE-59		1099.45	*	-1.764E-01	1.335E-01	1.919E-01	1.727E-02	-0.919
		1291.59		-7.502E-02	1.677E-01	2.684E-01	2.599E-02	-0.279
CO-60		1173.23		-1.397E-02	5.877E-02	9.304E-02	7.480E-03	-0.150
		1332.49	*	-1.361E-02	4.798E-02	7.741E-02	6.696E-03	-0.176
ZN-65		1115.54	*	-7.310E-02	1.391E-01	1.809E-01	1.490E-02	-0.404
SE-75		121.12		-1.996E-02	1.396E-01	2.297E-01	3.261E-02	-0.087

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		136.00		2.181E-02	4.279E-02	7.329E-02	8.360E-03	0.298
		264.66	*	2.236E-04	5.664E-02	8.062E-02	7.574E-03	0.003
		279.54		-3.468E-02	1.297E-01	2.075E-01	2.009E-02	-0.167
		400.66		-1.497E-01	3.188E-01	5.207E-01	5.815E-02	-0.287
SR-85		514.00	*	1.050E-01	5.069E-02	9.068E-02	8.279E-03	1.158
Y-88		898.04		6.342E-03	5.425E-02	9.032E-02	7.675E-03	0.070
		1836.06	*	3.708E-02	4.703E-02	8.654E-02	7.151E-03	0.429
Y-91		1204.77	*	-2.049E+01	2.815E+01	4.458E+01	3.642E+00	-0.460
NB-94		702.65	*	-4.137E-02	4.552E-02	6.831E-02	5.974E-03	-0.606
		871.09		-2.074E-02	4.468E-02	7.131E-02	6.100E-03	-0.291
NB-95		765.81	*	5.378E-02	5.606E-02	9.871E-02	8.651E-03	0.545
NB-95M		235.69	*	2.933E-01	1.655E-01	2.557E-01	2.667E-02	1.147
ZR-95		724.19		1.783E-01	1.366E-01	2.187E-01	2.074E-02	0.815
		756.73	*	8.199E-02	9.089E-02	1.606E-01	1.550E-02	0.511
MO-99		140.51		-7.174E+01	5.670E+01	8.683E+01	2.145E+01	-0.826
		181.07		7.586E+00	4.744E+01	6.993E+01	1.319E+01	0.108
		366.42		-9.281E+01	2.561E+02	4.232E+02	3.796E+01	-0.219
		739.50	*	5.165E+01	3.519E+01	6.284E+01	9.954E+00	0.822
		777.92		-4.271E+01	1.060E+02	1.722E+02	1.507E+01	-0.248
TC-99M		140.51	*	-3.801E+14	1.060E+02	Half-Life	too short	
RU-103		497.08	*	3.789E-02	5.042E-02	8.641E-02	1.234E-02	0.439
	+	610.33		1.562E+01	3.263E+00	3.412E+00	5.640E-01	4.577
RH-106		621.93	*	-1.612E-02	4.265E-01	6.902E-01	9.280E-02	-0.023
		1050.41		-8.269E-01	3.569E+00	5.711E+00	4.783E-01	-0.145
RU-106		621.93	*	-1.612E-02	4.265E-01	6.902E-01	6.149E-02	-0.023
		1050.41		-8.269E-01	3.569E+00	5.711E+00	4.783E-01	-0.145
AG-108M		433.94	*	-2.590E-02	3.722E-02	5.958E-02	5.468E-03	-0.435
		614.28		-3.967E-02	5.435E-02	7.093E-02	6.539E-03	-0.559
		722.91		2.035E-02	5.148E-02	7.732E-02	6.987E-03	0.263
AG-110M		657.76	*	7.479E-02	5.471E-02	8.507E-02	7.621E-03	0.879
		677.62		5.337E-03	3.945E-01	6.364E-01	5.699E-02	0.008
		706.68		1.849E-01	2.979E-01	4.970E-01	4.470E-02	0.372
		763.94		-1.627E-01	2.100E-01	3.327E-01	2.994E-02	-0.489
		884.68		-3.671E-02	6.196E-02	9.741E-02	8.559E-03	-0.377
		937.49		-7.321E-02	1.496E-01	2.369E-01	2.082E-02	-0.309
		1384.29		7.125E-02	2.067E-01	3.533E-01	3.150E-02	0.202
		1505.03		-1.829E-01	3.561E-01	5.487E-01	4.773E-02	-0.333
SN-113		391.69	*	-1.466E-02	5.523E-02	9.136E-02	8.157E-03	-0.160
CD-115		260.90		-1.204E-04	5.523E-02	Half-Life	too short	
		492.35		-7.624E-05	5.523E-02	Half-Life	too short	
		527.90	*	-4.241E-06	5.523E-02	Half-Life	too short	
SN-117M		156.02		2.385E-01	2.854E+00	4.797E+00	4.607E-01	0.050
		158.56	*	-2.827E-02	7.004E-02	1.156E-01	1.082E-02	-0.245
TE-123M		159.00	*	-1.347E-02	3.179E-02	5.241E-02	4.910E-03	-0.257
SB-124		602.73		1.916E-02	5.820E-02	8.414E-02	7.568E-03	0.228
		645.85		-4.344E-02	6.499E-01	1.046E+00	9.696E-02	-0.042
		722.78		1.781E-01	5.344E-01	7.983E-01	7.152E-02	0.223
		1690.97	*	4.554E-02	1.026E-01	1.777E-01	1.581E-02	0.256
SB-125		427.87	*	-4.801E-02	1.127E-01	1.836E-01	1.659E-02	-0.262

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	463.37		5.872E-01	4.738E-01	6.580E-01	6.350E-02	0.892
		600.60		-4.528E-02	2.300E-01	3.589E-01	3.451E-02	-0.126
		635.95		2.473E-01	3.561E-01	6.021E-01	5.732E-02	0.411
TE-125M		109.28	*	-1.840E+00	1.063E+01	1.675E+01	2.167E+00	-0.110
I-126		388.63		7.492E-02	2.420E-01	4.116E-01	3.583E-02	0.182
		666.33	*	4.260E-01	3.814E-01	5.853E-01	5.084E-02	0.728
		753.82		1.233E+00	2.587E+00	4.464E+00	3.914E-01	0.276
SB-126		414.70		4.665E-03	1.080E-01	1.807E-01	1.592E-02	0.026
		666.50		1.474E-01	1.320E-01	2.025E-01	1.759E-02	0.728
		695.00		1.222E-01	1.229E-01	2.101E-01	1.835E-02	0.582
		697.00		-6.705E-02	4.257E-01	6.770E-01	5.917E-02	-0.099
		720.70	*	4.971E-02	2.397E-01	3.542E-01	3.103E-02	0.140
		856.80		1.014E+00	7.942E-01	1.275E+00	1.097E-01	0.795
SB-127		252.40		7.585E+00	9.837E+00	1.400E+01	5.875E+00	0.542
		473.00		1.999E+00	3.708E+00	6.297E+00	8.775E-01	0.317
		685.70	*	2.866E+00	3.220E+00	5.458E+00	6.784E-01	0.525
		783.70		7.488E+00	8.242E+00	1.442E+01	1.926E+00	0.519
I-131		80.19		-1.833E+00	6.701E+00	7.436E+00	7.585E-01	-0.247
		284.31		4.106E-01	2.297E+00	3.749E+00	3.678E-01	0.110
		364.49	*	4.541E-02	1.760E-01	3.000E-01	2.838E-02	0.151
		636.99		1.253E+00	2.665E+00	4.449E+00	4.155E-01	0.282
TE-132		49.72		3.904E+00	8.740E+00	1.307E+01	1.726E+00	0.299
		111.76		-6.362E+01	7.619E+01	1.126E+02	1.609E+01	-0.565
		116.30		-1.239E+01	6.228E+01	9.769E+01	1.424E+01	-0.127
		228.16	*	1.296E+00	1.645E+00	2.762E+00	4.641E-01	0.469
BA-133		81.00		4.989E-02	1.002E-01	1.166E-01	1.912E-02	0.428
		276.40		6.101E-01	4.390E-01	7.188E-01	1.049E-01	0.849
		302.85		-1.468E-01	1.653E-01	2.528E-01	3.431E-02	-0.580
		356.01	*	1.536E-02	5.861E-02	8.780E-02	1.164E-02	0.175
		383.85		-4.376E-01	3.618E-01	5.645E-01	7.072E-02	-0.775
I-133		529.87	*	2.990E-03	3.618E-01	Half-Life	too short	
		875.33		6.564E-01	3.618E-01	Half-Life	too short	
		1298.22		4.384E-01	3.618E-01	Half-Life	too short	
CS-134		563.25		-6.035E-02	4.569E-01	7.405E-01	6.800E-02	-0.081
		569.33		1.024E-01	2.467E-01	4.131E-01	3.802E-02	0.248
		604.72		5.527E-02	4.826E-02	7.419E-02	6.682E-03	0.745
	+	795.86	*	9.688E-02	1.109E-01	1.136E-01	9.996E-03	0.853
		801.95		2.566E-01	6.251E-01	9.304E-01	8.164E-02	0.276
		1365.19		-7.778E-01	1.482E+00	2.309E+00	2.094E-01	-0.337
CS-135		268.22	*	2.159E-01	2.024E-01	3.049E-01	3.237E-02	0.708
I-135		546.56		-3.652E+13	2.024E-01	Half-Life	too short	
		836.80		-2.125E+13	2.024E-01	Half-Life	too short	
		1038.76		4.227E+13	2.024E-01	Half-Life	too short	
		1131.51		1.364E+13	2.024E-01	Half-Life	too short	
		1260.41	*	-1.111E+13	2.024E-01	Half-Life	too short	
		1457.56		3.841E+15	2.024E-01	Half-Life	too short	
		1678.03		-3.892E+13	2.024E-01	Half-Life	too short	
		1791.20		2.233E+13	2.024E-01	Half-Life	too short	
CS-136		153.25		5.322E-01	1.092E+00	1.859E+00	2.107E-01	0.286

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

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	176.60			1.186E-01	6.323E-01	1.060E+00	1.021E-01	0.112
	273.65			-1.170E+00	8.587E-01	1.105E+00	1.111E-01	-1.058
	340.55			6.591E-01	2.447E-01	3.887E-01	3.694E-02	1.696
	818.51			-9.220E-03	1.081E-01	1.786E-01	1.555E-02	-0.052
	1048.07	*		5.794E-02	1.767E-01	2.950E-01	2.583E-02	0.196
	1235.36			2.155E-01	8.890E-01	1.507E+00	1.737E-01	0.143
CE-139	165.86	*		-1.008E-02	3.313E-02	5.473E-02	4.728E-03	-0.184
BA-140	162.66			3.912E-01	1.106E+00	1.818E+00	1.730E-01	0.215
	304.85			-1.167E-01	1.803E+00	2.895E+00	8.540E-01	-0.040
	423.72			-5.641E-01	2.774E+00	4.565E+00	1.505E+00	-0.124
	537.26	*		-3.966E-02	3.889E-01	6.333E-01	2.156E-01	-0.063
LA-140	328.76	+		5.978E-01	5.439E-01	7.727E-01	7.515E-02	0.774
	487.02			1.474E-01	2.043E-01	3.504E-01	3.363E-02	0.421
	815.77			2.102E-01	4.742E-01	8.135E-01	7.894E-02	0.258
	1596.21	*		2.628E-02	1.274E-01	2.136E-01	1.847E-02	0.123
CE-141	145.44	*		8.956E-02	7.399E-02	1.281E-01	1.371E-02	0.699
CE-143	57.36			3.396E-04	7.399E-02	Half-Life	too short	
	293.27	*		3.643E-03	7.399E-02	Half-Life	too short	
	664.57			2.636E-02	7.399E-02	Half-Life	too short	
	721.93			2.872E-03	7.399E-02	Half-Life	too short	
CE-144	80.12			-7.112E-01	2.768E+00	3.075E+00	3.115E-01	-0.231
	133.52	*		-1.596E-01	2.118E-01	3.459E-01	5.921E-02	-0.461
PM-144	476.78			-3.706E-02	8.424E-02	1.359E-01	1.329E-02	-0.273
	618.01			1.450E-02	4.377E-02	7.248E-02	6.641E-03	0.200
	696.49	*		-6.293E-03	4.670E-02	7.440E-02	6.505E-03	-0.085
PR-144	696.51	*		-4.933E-01	3.499E+00	5.573E+00	4.870E-01	-0.089
	1489.16			1.065E+01	1.629E+01	2.878E+01	2.505E+00	0.370
PM-146	453.88	*		-2.775E-03	5.121E-02	8.474E-02	9.235E-03	-0.033
	633.25			4.984E-01	1.879E+00	3.082E+00	1.179E+00	0.162
	735.93			-2.338E-01	1.993E-01	2.894E-01	8.123E-02	-0.808
	747.24			5.911E-02	1.175E-01	2.029E-01	2.977E-02	0.291
ND-147	91.11	+		9.881E-01	3.534E-01	6.409E-01	6.983E-02	1.542
	319.41			1.092E+00	4.664E+00	7.585E+00	7.065E-01	0.144
	531.02	*		2.336E-01	8.597E-01	1.433E+00	2.187E-01	0.163
PM-149	285.90	*		1.459E-04	8.597E-01	Half-Life	too short	
EU-152	121.78			-1.680E-02	7.602E-02	1.247E-01	1.664E-02	-0.135
	244.70			-4.509E-02	3.527E-01	5.730E-01	5.321E-02	-0.079
	344.28	*		-2.893E-02	1.310E-01	1.793E-01	1.730E-02	-0.161
	778.90			8.552E-02	3.323E-01	5.639E-01	4.936E-02	0.152
	964.08			7.764E-01	4.378E-01	7.106E-01	6.017E-02	1.093
	1085.87			-2.545E-01	4.980E-01	7.732E-01	6.420E-02	-0.329
	1112.07			-2.391E-01	4.885E-01	6.388E-01	5.262E-02	-0.374
	1408.01			-2.336E-02	2.355E-01	3.853E-01	3.351E-02	-0.061
GD-153	69.67			-1.007E-01	1.236E+00	1.780E+00	1.827E-01	-0.057
	97.43	*		-6.265E-02	9.688E-02	1.312E-01	1.401E-02	-0.477
	103.18			-1.936E-01	1.197E-01	1.761E-01	1.945E-02	-1.100
EU-154	123.07			5.695E-03	5.176E-02	8.807E-02	1.269E-02	0.065
	723.31			1.575E-01	2.343E-01	3.600E-01	3.464E-02	0.438
	873.19			3.712E-02	3.616E-01	6.027E-01	7.137E-02	0.062

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

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EU-155	+	996.26		-1.484E-01	5.006E-01	8.004E-01	1.391E-01	-0.185
		1004.73		-1.546E-01	2.843E-01	4.444E-01	5.112E-02	-0.348
		1274.44	*	3.222E-02	1.509E-01	2.558E-01	2.875E-02	0.126
		86.55		4.289E-01	1.175E-01	1.599E-01	1.628E-02	2.683
		105.31	*	1.797E-01	1.117E-01	1.849E-01	2.084E-02	0.972
		86.79		1.172E+00	3.206E-01	4.379E-01	4.427E-02	2.676
		197.04		-8.537E-02	6.526E-01	1.058E+00	9.467E-02	-0.081
		215.65		1.570E-02	8.425E-01	1.388E+00	1.264E-01	0.011
		298.57		1.835E-01	1.477E-01	2.239E-01	2.099E-02	0.820
		879.36	*	5.315E-02	1.773E-01	2.998E-01	2.556E-02	0.177
TB-160	+	962.29		1.012E+00	7.912E-01	1.250E+00	1.059E-01	0.810
		966.15		1.555E+00	3.983E-01	6.877E-01	5.822E-02	2.261
		1177.93		2.888E-01	4.351E-01	7.416E-01	5.977E-02	0.389
		1271.85		-1.867E-01	9.115E-01	1.493E+00	1.259E-01	-0.125
		80.57		5.314E-02	2.916E-01	3.332E-01	3.375E-02	0.159
		184.41		1.497E-01	6.577E-02	7.937E-02	7.008E-03	1.887
		280.46		-1.553E-01	1.006E-01	1.492E-01	1.399E-02	-1.041
		410.95		-1.516E-01	2.987E-01	4.862E-01	4.271E-02	-0.312
		711.68	*	-8.119E-03	8.405E-02	1.340E-01	1.173E-02	-0.061
		752.31		-1.820E-01	3.286E-01	5.277E-01	4.627E-02	-0.345
TA-182	+	810.29		-3.073E-02	7.214E-02	1.161E-01	1.012E-02	-0.265
		67.75		9.199E-03	7.601E-02	1.105E-01	1.139E-02	0.083
		100.11		1.502E-02	1.858E-01	2.904E-01	3.150E-02	0.052
		152.43		1.998E-01	3.823E-01	6.518E-01	6.479E-02	0.306
		222.11		-1.558E-01	3.986E-01	6.444E-01	5.899E-02	-0.242
		1121.30		5.287E-01	3.760E-01	3.948E-01	3.241E-02	1.339
		1189.05		3.399E-01	3.746E-01	6.485E-01	5.256E-02	0.524
		1221.41	*	1.756E-01	2.502E-01	4.376E-01	3.604E-02	0.401
		1231.02		5.809E-02	6.401E-01	1.076E+00	8.900E-02	0.054
		295.96		1.067E+00	2.330E-01	3.042E-01	2.870E-02	3.508
IR-192	+	308.46		1.766E-02	1.124E-01	1.826E-01	1.714E-02	0.097
		316.51	*	-3.445E-02	4.370E-02	6.721E-02	6.278E-03	-0.513
		468.07		-5.803E-02	9.543E-02	1.371E-01	1.322E-02	-0.423
		70.83		3.585E-01	1.006E+00	1.470E+00	2.497E-01	0.244
		72.87		1.280E+00	6.717E-01	9.861E-01	1.624E-01	1.298
		279.20	*	3.788E-03	4.760E-02	7.743E-02	7.420E-03	0.049
		72.81		2.522E-01	1.422E-01	2.148E-01	2.193E-02	1.174
		74.97		6.791E-01	1.295E-01	1.760E-01	1.791E-02	3.859
		569.70		1.481E-02	3.814E-02	6.376E-02	5.797E-03	0.232
		1063.66	*	3.094E-02	7.464E-02	1.251E-01	1.045E-02	0.247
PB-211	+	1770.23		1.545E-02	5.701E-01	7.900E-01	6.632E-02	0.020
		404.85	*	3.510E-01	9.225E-01	1.544E+00	7.474E-01	0.227
		427.09		-8.553E-01	1.913E+00	3.045E+00	1.410E+00	-0.281
		832.01		-2.070E-04	1.295E+00	2.150E+00	1.115E+00	0.000
		727.33	*	1.529E+00	1.177E+00	1.277E+00	1.604E-01	1.197
		785.37		1.883E+00	4.127E+00	7.075E+00	6.189E-01	0.266
		1620.50		2.709E+00	3.210E+00	5.742E+00	4.950E-01	0.472
		271.23		5.501E-01	4.134E-01	4.925E-01	5.365E-02	1.117
		401.81	*	-3.902E-02	4.984E-01	8.308E-01	1.241E-01	-0.047

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		1.075E-01	2.266E-01	2.636E-01	2.670E-02	0.408
		83.79		2.048E-01	1.057E-01	1.727E-01	1.746E-02	1.186
		94.87		1.335E+00	5.073E-01	7.715E-01	8.110E-02	1.730
		144.24		3.372E-01	7.663E-01	1.288E+00	1.481E-01	0.262
		154.21		5.487E-02	4.239E-01	7.138E-01	7.502E-02	0.077
AC-227	+	269.46		4.274E-01	3.204E-01	3.792E-01	3.612E-02	1.127
		323.87	*	-2.665E-01	8.523E-01	1.151E+00	2.034E-01	-0.232
	+	338.28		7.359E+00	2.275E+00	2.604E+00	3.255E-01	2.826
		79.69		5.422E-01	1.328E+00	1.536E+00	2.772E-01	0.353
		235.96		5.656E-01	2.060E-01	3.225E-01	3.504E-02	1.754
TH-227		256.23	*	-1.301E-01	2.873E-01	4.578E-01	5.754E-02	-0.284
		299.98		6.569E-01	1.161E+00	1.670E+00	2.209E-01	0.393
		304.50		-1.198E-01	1.844E+00	2.962E+00	5.013E-01	-0.040
		334.37		-8.335E-01	2.346E+00	3.186E+00	5.076E-01	-0.262
		79.80		7.165E-01	1.756E+00	2.028E+00	4.548E-01	0.353
TH-229		235.96		5.656E-01	2.051E-01	3.225E-01	3.325E-02	1.754
		256.23	*	-1.301E-01	2.874E-01	4.578E-01	6.440E-02	-0.284
		299.98		6.569E-01	1.161E+00	1.670E+00	2.209E-01	0.393
		304.50		-1.198E-01	1.844E+00	2.962E+00	5.013E-01	-0.040
		334.37		-8.335E-01	2.346E+00	3.186E+00	5.076E-01	-0.262
PA-231	+	85.43		6.109E-01	1.924E-01	3.142E-01	3.177E-02	1.944
		88.47		5.446E-01	1.490E-01	2.088E-01	2.116E-02	2.608
	*	193.51		-1.498E-01	5.822E-01	9.550E-01	8.517E-02	-0.157
TH-231		210.85		1.762E+00	1.110E+00	1.703E+00	1.545E-01	1.034
	*	283.69		-5.027E-02	1.664E+00	2.691E+00	4.049E-01	-0.019
PA-233		301.36		8.356E-01	6.984E-01	1.083E+00	1.375E-01	0.771
		81.07		1.075E-01	2.266E-01	2.636E-01	2.670E-02	0.408
		83.79		2.048E-01	1.057E-01	1.727E-01	1.746E-02	1.186
		94.87		1.335E+00	5.073E-01	7.715E-01	8.110E-02	1.730
		144.24		3.372E-01	7.663E-01	1.288E+00	1.481E-01	0.262
PA-234		154.21		5.487E-02	4.239E-01	7.138E-01	7.502E-02	0.077
	+	269.46		4.274E-01	3.204E-01	3.792E-01	3.612E-02	1.127
		323.87	*	-2.665E-01	8.523E-01	1.151E+00	2.034E-01	-0.232
	+	338.28		7.359E+00	2.275E+00	2.604E+00	3.255E-01	2.826
		300.13		3.125E-01	5.269E-01	7.583E-01	1.158E-01	0.412
PA-234M		311.90	*	7.160E-02	7.635E-02	1.282E-01	1.226E-02	0.559
		340.48		2.568E+00	1.063E+00	1.426E+00	3.462E-01	1.801
		94.67		6.881E-01	2.036E-01	2.952E-01	4.066E-02	2.331
		98.44		5.079E-02	1.001E-01	1.461E-01	8.205E-02	0.348
		111.00		-3.135E-03	1.952E-01	3.093E-01	4.442E-02	-0.010
PA-234M		131.20		-2.337E-02	1.087E-01	1.824E-01	2.142E-02	-0.128
		569.50		2.171E-01	3.319E-01	5.636E-01	5.124E-02	0.385
		733.00		1.313E-02	5.227E-01	7.581E-01	1.687E-01	0.017
		880.51		-1.972E-01	3.464E-01	5.459E-01	4.652E-02	-0.361
		883.24		-3.162E-01	4.183E-01	5.538E-01	3.722E-01	-0.571
PA-234M		926.50		-2.527E-02	2.232E-01	3.641E-01	9.184E-02	-0.069
	*	946.00		1.216E-01	3.838E-01	6.453E-01	1.206E-01	0.189
		949.00		1.276E-01	5.649E-01	9.446E-01	8.001E-02	0.135
		766.42		7.264E+00	1.515E+01	2.528E+01	1.283E+01	0.287

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		2.620E+00	6.565E+00	1.075E+01	1.055E+00	0.244
	99.53			5.377E-02	1.682E-01	2.652E-01	2.866E-02	0.203
	103.37			-1.155E-01	1.054E-01	1.597E-01	1.767E-02	-0.723
	106.12			1.265E-01	8.819E-02	1.456E-01	1.638E-02	0.869
	117.23	*		9.647E-02	4.313E-01	6.877E-01	8.293E-02	0.140
	228.18			1.906E-01	2.422E-01	4.091E-01	3.761E-02	0.466
AM-241	277.60			2.708E-01	2.094E-01	3.560E-01	3.339E-02	0.761
	59.54	*		3.409E-02	7.559E-02	1.120E-01	1.241E-02	0.304
CM-247	278.00			1.377E+00	8.668E-01	1.489E+00	1.396E-01	0.925
	287.50			1.016E+00	1.442E+00	2.405E+00	2.257E-01	0.423
	402.40	*		2.939E-03	4.642E-02	7.790E-02	6.804E-03	0.038
CF-249	252.80			5.623E-01	1.199E+00	1.762E+00	1.642E-01	0.319
	333.37			-2.366E-01	3.083E-01	3.320E-01	3.068E-02	-0.713
	388.16	*		2.646E-02	4.820E-02	8.286E-02	7.218E-03	0.319
CF-251	177.52	*		9.668E-02	1.402E-01	2.387E-01	2.091E-02	0.405
	227.38			3.334E-01	3.959E-01	6.701E-01	6.158E-02	0.497
	285.41			9.533E-01	2.538E+00	4.179E+00	3.921E-01	0.228

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]G248051010
* Acquisition date   : 10-MAR-2010 19:34:35 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 02:00:01.82 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051010 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.4470E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 10-FEB-2010 14:02:26 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	2.902E+01	3.162E+00	7.323E-01	0.000E+00
CD-109	3.631E+00	9.737E-01	1.115E+00	0.000E+00
SN-126	3.532E-01	9.472E-02	1.083E-01	0.000E+00
BA-137M	4.069E-01	8.640E-02	9.153E-02	0.000E+00
CS-137	4.299E-01	9.131E-02	9.669E-02	0.000E+00
TL-208	5.718E-01	1.122E-01	7.086E-02	0.000E+00
PB-210	1.393E+00	7.892E-01	9.348E-01	0.000E+00
BI-211	3.910E+00	5.944E-01	4.213E-01	0.000E+00
PB-212	1.789E+00	2.167E-01	1.035E-01	0.000E+00
BI-214	1.430E+00	2.310E-01	1.532E-01	0.000E+00
PB-214	1.419E+00	2.289E-01	1.597E-01	0.000E+00
RA-224	4.202E+00	1.384E+00	1.109E+00	0.000E+00
RA-226	1.430E+00	2.310E-01	1.532E-01	0.000E+00
AC-228	1.764E+00	4.149E-01	2.881E-01	0.000E+00
RA-228	1.764E+00	4.149E-01	2.881E-01	0.000E+00
TH-228	1.789E+00	2.167E-01	1.035E-01	0.000E+00
TH-232	1.764E+00	4.149E-01	2.881E-01	0.000E+00
TH-234	2.141E+00	1.147E+00	1.154E+00	0.000E+00
U-235	-2.606E-02	2.236E-01	3.994E-01	0.000E+00
NP-237	1.054E+00	3.561E-01	3.223E-01	0.000E+00
U-238	2.141E+00	1.147E+00	1.154E+00	0.000E+00
ANH-511	2.462E-01	8.893E-02	5.817E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.427E-01	4.166E-01	7.111E-01	0.000E+00 NOT IDENT.
NA-22	1.139E-02	5.226E-02	9.117E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	3.023E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	2.179E-02	5.096E-02	9.000E-02	0.000E+00 FAIL ABUN
V-48	-6.632E-02	1.020E-01	1.636E-01	0.000E+00 NOT IDENT.

CR-51	4.033E-02	4.431E-01	7.594E-01	0.000E+00	NOT IDENT.
MN-54	2.336E-03	4.688E-02	8.114E-02	0.000E+00	NOT IDENT.
CO-56	-3.239E-03	5.038E-02	8.638E-02	0.000E+00	NOT IDENT.
CO-57	-7.491E-03	2.606E-02	4.623E-02	0.000E+00	NOT IDENT.
CO-58	-1.750E-02	4.974E-02	8.387E-02	0.000E+00	NOT IDENT.
FE-59	-1.764E-01	1.308E-01	1.942E-01	0.000E+00	NOT IDENT.
CO-60	-1.361E-02	4.702E-02	7.798E-02	0.000E+00	NOT IDENT.
ZN-65	-7.310E-02	1.363E-01	1.830E-01	0.000E+00	NOT IDENT.
SE-75	2.236E-04	5.551E-02	8.422E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.968E-02	9.336E-02	0.000E+00	NOT IDENT.
Y-88	3.708E-02	4.609E-02	8.652E-02	0.000E+00	NOT IDENT.
Y-91	-2.049E+01	2.759E+01	4.501E+01	0.000E+00	NOT IDENT.
NB-94	-4.137E-02	4.461E-02	6.983E-02	0.000E+00	NOT IDENT.
NB-95	5.378E-02	5.494E-02	1.007E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.622E-01	2.678E-01	0.000E+00	NOT IDENT.
ZR-95	8.199E-02	8.907E-02	1.639E-01	0.000E+00	NOT IDENT.
MO-99	5.165E+01	3.449E+01	6.417E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.093E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	3.789E-02	4.941E-02	8.904E-02	0.000E+00	FAIL ABUN
RH-106	-1.612E-02	4.179E-01	7.075E-01	0.000E+00	NOT IDENT.
RU-106	-1.612E-02	4.179E-01	7.075E-01	0.000E+00	NOT IDENT.
AG-108M	-2.590E-02	3.647E-02	6.157E-02	0.000E+00	NOT IDENT.
AG-110M	7.479E-02	5.362E-02	8.710E-02	0.000E+00	NOT IDENT.
SN-113	-1.466E-02	5.412E-02	9.463E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.694E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-2.827E-02	6.863E-02	1.221E-01	0.000E+00	NOT IDENT.
TE-123M	-1.347E-02	3.115E-02	5.536E-02	0.000E+00	NOT IDENT.
SB-124	4.554E-02	1.006E-01	1.780E-01	0.000E+00	NOT IDENT.
SB-125	-4.801E-02	1.105E-01	1.898E-01	0.000E+00	FAIL ABUN
TE-125M	-1.840E+00	1.042E+01	1.783E+01	0.000E+00	NOT IDENT.
I-126	4.260E-01	3.737E-01	5.991E-01	0.000E+00	NOT IDENT.
SB-126	4.971E-02	2.349E-01	3.619E-01	0.000E+00	NOT IDENT.
SB-127	2.866E+00	3.155E+00	5.583E+00	0.000E+00	NOT IDENT.
I-131	4.541E-02	1.725E-01	3.112E-01	0.000E+00	NOT IDENT.
TE-132	1.296E+00	1.612E+00	2.895E+00	0.000E+00	NOT IDENT.
BA-133	1.536E-02	5.744E-02	9.114E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	9.333E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.688E-02	1.087E-01	1.158E-01	0.000E+00	FAIL ABUN
CS-135	2.159E-01	1.984E-01	3.185E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.651E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.794E-02	1.732E-01	2.988E-01	0.000E+00	NOT IDENT.
CE-139	-1.008E-02	3.246E-02	5.776E-02	0.000E+00	NOT IDENT.
BA-140	-3.966E-02	3.811E-01	6.514E-01	0.000E+00	NOT IDENT.
LA-140	2.628E-02	1.249E-01	2.143E-01	0.000E+00	FAIL ABUN
CE-141	8.956E-02	7.251E-02	1.356E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.226E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.596E-01	2.076E-01	3.667E-01	0.000E+00	NOT IDENT.
PM-144	-6.293E-03	4.576E-02	7.608E-02	0.000E+00	NOT IDENT.
PR-144	-4.933E-01	3.429E+00	5.699E+00	0.000E+00	NOT IDENT.
PM-146	-2.775E-03	5.018E-02	8.749E-02	0.000E+00	NOT IDENT.
ND-147	2.336E-01	8.425E-01	1.475E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.854E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.893E-02	1.284E-01	1.863E-01	0.000E+00	NOT IDENT.
GD-153	-6.265E-02	9.495E-02	1.401E-01	0.000E+00	NOT IDENT.
EU-154	3.222E-02	1.478E-01	2.579E-01	0.000E+00	NOT IDENT.
EU-155	1.797E-01	1.095E-01	1.970E-01	0.000E+00	FAIL ABUN
TB-160	5.315E-02	1.737E-01	3.049E-01	0.000E+00	FAIL ABUN
HO-166M	-8.119E-03	8.237E-02	1.370E-01	0.000E+00	FAIL ABUN
TA-182	1.756E-01	2.452E-01	4.417E-01	0.000E+00	FAIL ABUN
IR-192	-3.445E-02	4.283E-02	6.994E-02	0.000E+00	FAIL ABUN
HG-203	3.788E-03	4.665E-02	8.080E-02	0.000E+00	NOT IDENT.
BI-207	3.094E-02	7.315E-02	1.267E-01	0.000E+00	FAIL ABUN
PB-211	3.510E-01	9.041E-01	1.598E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.153E+00	1.305E+00	0.000E+00	FAIL ABUN
RN-219	-3.902E-02	4.884E-01	8.601E-01	0.000E+00	FAIL ABUN
RA-223	-2.665E-01	8.353E-01	1.197E+00	0.000E+00	FAIL ABUN
AC-227	-1.301E-01	2.816E-01	4.786E-01	0.000E+00	NOT IDENT.
TH-227	-1.301E-01	2.817E-01	4.786E-01	0.000E+00	NOT IDENT.
TH-229	-1.498E-01	5.706E-01	1.004E+00	0.000E+00	FAIL ABUN
PA-231	-5.027E-02	1.631E+00	2.807E+00	0.000E+00	NOT IDENT.
TH-231	-2.665E-01	8.353E-01	1.197E+00	0.000E+00	FAIL ABUN
PA-233	7.160E-02	7.483E-02	1.334E-01	0.000E+00	NOT IDENT.
PA-234	1.216E-01	3.761E-01	6.553E-01	0.000E+00	NOT IDENT.
PA-234M	2.620E+00	6.433E+00	1.090E+01	0.000E+00	NOT IDENT.
NP-239	9.647E-02	4.227E-01	7.310E-01	0.000E+00	NOT IDENT.
AM-241	3.409E-02	7.408E-02	1.207E-01	0.000E+00	NOT IDENT.
CM-247	2.939E-03	4.549E-02	8.064E-02	0.000E+00	NOT IDENT.
CF-249	2.646E-02	4.724E-02	8.584E-02	0.000E+00	NOT IDENT.

CF-251	9.668E-02	1.373E-01	2.516E-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]G248051010.CNF;1
Sample date     : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:34:35
Sample ID       : G248051010           Sample quantity  : 1.44700E+02 GRAM
Detector name   : GAM13                 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.82  0.0%
Energy tolerance: 1.50000 keV           Analyst Initials : MXR1
Abundance limit : 75.00000              Sensitivity      : 5.00000
Batch ID        : 958225                 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	1460.82	1196	10.66*	1.003E+00	2.902E+01	2.902E+01	11.12
CD-109	88.03	367	3.70*	7.288E+00	3.532E+00	3.631E+00	27.36
SN-126	64.28	226	9.60	7.388E+00	8.252E-01	8.252E-01	53.69
	86.94	367	8.90	7.288E+00	1.469E+00	1.469E+00	48.83
	87.57	367	37.00*	7.288E+00	3.532E-01	3.532E-01	27.36
BA-137M	661.66	278	89.90*	1.970E+00	4.065E-01	4.069E-01	21.67
CS-137	661.66	278	85.10*	1.970E+00	4.294E-01	4.299E-01	21.67
TL-208	277.37	-----	6.60	4.098E+00	-----	Line Not Found	-----
	583.19	413	85.00*	2.203E+00	5.718E-01	5.718E-01	20.02
	860.56	54	12.50	1.561E+00	7.152E-01	7.152E-01	69.64
PB-210	46.54	158	4.25*	6.918E+00	1.391E+00	1.393E+00	57.81
BI-211	72.87	-----	1.23	7.416E+00	-----	Line Not Found	-----
	351.06	662	12.92*	3.399E+00	3.910E+00	3.910E+00	15.51
PB-212	74.82	692	10.28	7.408E+00	2.356E+00	2.356E+00	21.41
	77.11	1047	17.10	7.394E+00	2.149E+00	2.149E+00	14.85
	238.63	1375	43.60*	4.573E+00	1.789E+00	1.789E+00	12.36
	300.09	-----	3.30	3.858E+00	-----	Line Not Found	-----
BI-214	609.32	531	45.49*	2.119E+00	1.430E+00	1.430E+00	16.48
	1120.29	79	14.92	1.244E+00	1.107E+00	1.107E+00	71.43
	1764.49	68	15.30	8.702E-01	1.326E+00	1.326E+00	42.54
PB-214	74.82	692	5.80	7.408E+00	4.175E+00	4.176E+00	20.65
	77.11	1047	9.70	7.394E+00	3.788E+00	3.788E+00	16.98
	242.00	301	7.25	4.533E+00	2.376E+00	2.376E+00	34.10
	295.22	389	18.42	3.908E+00	1.401E+00	1.401E+00	22.76
	351.93	662	35.60*	3.399E+00	1.419E+00	1.419E+00	16.46
RA-224	240.99	301	4.10*	4.533E+00	4.202E+00	4.202E+00	33.60
RA-226	609.32	531	45.49*	2.119E+00	1.430E+00	1.430E+00	16.48
	1120.29	79	14.92	1.244E+00	1.107E+00	1.107E+00	71.43
	1764.49	68	15.30	8.702E-01	1.326E+00	1.326E+00	42.54
AC-228	338.32	282	11.27	3.506E+00	1.854E+00	1.854E+00	50.50
	911.20	261	25.80*	1.485E+00	1.764E+00	1.764E+00	24.00
	968.97	184	15.80	1.408E+00	2.143E+00	2.143E+00	38.08

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	338.32	282	11.27	3.506E+00	1.854E+00	1.854E+00	50.50
	911.20	261	25.80*	1.485E+00	1.764E+00	1.764E+00	24.00
	968.97	184	15.80	1.408E+00	2.143E+00	2.143E+00	38.08
TH-228	74.82	692	10.28	7.408E+00	2.356E+00	2.356E+00	19.10
	77.11	1047	17.10	7.394E+00	2.149E+00	2.149E+00	14.85
	238.63	1375	43.60*	4.573E+00	1.789E+00	1.789E+00	12.36
TH-232	300.09	-----	3.30	3.858E+00	-----	Line Not Found	-----
	338.32	282	11.27	3.506E+00	1.854E+00	1.854E+00	29.74
	911.20	261	25.80*	1.485E+00	1.764E+00	1.764E+00	24.00
TH-234	968.97	184	15.80	1.408E+00	2.143E+00	2.143E+00	38.08
	63.29	226	3.70*	7.388E+00	2.141E+00	2.141E+00	54.68
	92.59	419	4.23	7.205E+00	3.562E+00	3.562E+00	35.75
U-235	89.96	242	3.47	7.248E+00	2.493E+00	2.493E+00	42.41
	93.35	419	5.60	7.205E+00	2.691E+00	2.691E+00	36.39
	143.76	-----	10.96*	6.188E+00	-----	Line Not Found	-----
NP-237	163.33	-----	5.08	5.799E+00	-----	Line Not Found	-----
	185.72	224	57.20	5.386E+00	1.885E-01	1.885E-01	43.92
	205.31	-----	5.01	5.061E+00	-----	Line Not Found	-----
U-238	86.48	367	12.40*	7.288E+00	1.054E+00	1.054E+00	34.47
	95.86	-----	2.68	7.153E+00	-----	Line Not Found	-----
	63.29	226	3.70*	7.388E+00	2.141E+00	2.141E+00	54.68
ANH-511	92.59	419	4.23	7.205E+00	3.562E+00	3.562E+00	29.41
	511.00	235	100.00*	2.474E+00	2.462E-01	2.462E-01	36.86

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	1.25E+09Y	1.00	2.902E+01	2.902E+01	0.323E+01	11.12	
CD-109	461.40D	1.03	3.532E+00	3.631E+00	0.994E+00	27.36	
SN-126	2.30E+05Y	1.00	3.532E-01	3.532E-01	0.967E-01	27.36	
BA-137M	30.08Y	1.00	4.065E-01	4.069E-01	0.882E-01	21.67	
CS-137	30.08Y	1.00	4.294E-01	4.299E-01	0.932E-01	21.67	
TL-208	1.41E+10Y	1.00	5.718E-01	5.718E-01	1.145E-01	20.02	
PB-210	22.20Y	1.00	1.391E+00	1.393E+00	0.805E+00	57.81	
BI-211	7.04E+08Y	1.00	3.910E+00	3.910E+00	0.606E+00	15.51	
PB-212	1.41E+10Y	1.00	1.789E+00	1.789E+00	0.221E+00	12.36	
BI-214	1600.00Y	1.00	1.430E+00	1.430E+00	0.236E+00	16.48	
PB-214	1600.00Y	1.00	1.419E+00	1.419E+00	0.234E+00	16.46	
RA-224	1.41E+10Y	1.00	4.202E+00	4.202E+00	1.412E+00	33.60	
RA-226	1600.00Y	1.00	1.430E+00	1.430E+00	0.236E+00	16.48	
AC-228	1.41E+10Y	1.00	1.764E+00	1.764E+00	0.423E+00	24.00	
RA-228	1.41E+10Y	1.00	1.764E+00	1.764E+00	0.423E+00	24.00	
TH-228	1.41E+10Y	1.00	1.789E+00	1.789E+00	0.221E+00	12.36	
TH-232	1.41E+10Y	1.00	1.764E+00	1.764E+00	0.423E+00	24.00	
TH-234	4.47E+09Y	1.00	2.141E+00	2.141E+00	1.171E+00	54.68	
U-235	7.04E+08Y	1.00	1.885E-01	1.885E-01	0.828E-01	43.92	K
NP-237	2.14E+06Y	1.00	1.054E+00	1.054E+00	0.363E+00	34.47	
U-238	4.47E+09Y	1.00	2.141E+00	2.141E+00	1.171E+00	54.68	
ANH-511	1.00E+09Y	1.00	2.462E-01	2.462E-01	0.907E-01	36.86	

Total Activity : 6.274E+01 6.284E+01

Grand Total Activity : 6.274E+01 6.284E+01

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

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

Unidentified Energy Lines
Sample ID : G248051010

Page : 4
Acquisition date : 10-MAR-2010 19:34:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	209.32	107	348	0.93	418.15	414	9	1.49E-02	66.7	5.00E+00	
0	270.27	96	297	0.82	540.05	534	11	1.33E-02	74.3	4.18E+00	T
0	327.73	62	225	1.36	654.97	651	9	8.62E-03	90.5	3.60E+00	T
0	463.08	64	167	1.52	925.68	919	10	8.84E-03	80.1	2.70E+00	T
0	727.22	71	139	1.02	1453.99	1444	15	9.89E-03	75.9	1.81E+00	T
0	796.05	47	135	1.59	1591.65	1585	16	6.56E-03	****	1.67E+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]G248051010.CNF;1
* Acquisition date   : 10-MAR-2010 19:34:35   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 02:00:01.82          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G248051010             Analyst initials: MXR1
* Batch Number       : 958225                 Sample Quantity  : 1.44700E+02 GRAM
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 10-FEB-2010 14:02:26.9MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                    LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.902E+01	3.226E+00	7.285E-01	6.518E-02	39.840
CD-109	3.631E+00	9.935E-01	1.043E+00	1.054E-01	3.482
SN-126	3.532E-01	9.665E-02	1.013E-01	1.024E-02	3.487
BA-137M	4.069E-01	8.817E-02	8.941E-02	7.758E-03	4.551
CS-137	4.299E-01	9.317E-02	9.445E-02	8.211E-03	4.551
TL-208	5.718E-01	1.145E-01	6.902E-02	6.653E-03	8.284
PB-210	1.393E+00	8.053E-01	8.628E-01	9.444E-02	1.614
BI-211	3.910E+00	6.065E-01	4.058E-01	3.867E-02	9.635
PB-212	1.789E+00	2.211E-01	9.880E-02	1.021E-02	18.107
BI-214	1.430E+00	2.357E-01	1.494E-01	1.554E-02	9.573
PB-214	1.419E+00	2.336E-01	1.538E-01	1.693E-02	9.224
RA-224	4.202E+00	1.412E+00	1.059E+00	9.817E-02	3.967
RA-226	1.430E+00	2.357E-01	1.494E-01	1.554E-02	9.573
AC-228	1.764E+00	4.234E-01	2.835E-01	3.254E-02	6.224
RA-228	1.764E+00	4.234E-01	2.835E-01	3.254E-02	6.224
TH-228	1.789E+00	2.211E-01	9.880E-02	1.021E-02	18.107
TH-232	1.764E+00	4.234E-01	2.835E-01	3.254E-02	6.224
TH-234	2.141E+00	1.171E+00	1.072E+00	2.066E-01	1.998

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-235	1.885E-01	8.278E-02	3.774E-01	6.833E-02	0.499
NP-237	1.054E+00	3.633E-01	3.013E-01	7.014E-02	3.498
U-238	2.141E+00	1.171E+00	1.072E+00	2.066E-01	1.998
ANH-511	2.462E-01	9.075E-02	5.650E-02	5.157E-03	4.358

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.427E-01		4.251E-01	6.895E-01	6.691E-02	-0.207
NA-22	1.139E-02		5.332E-02	9.041E-02	7.639E-03	0.126
NA-24	1.179E+01		1.542E+01	Half-Life	too short	
SC-46	2.179E-02		5.200E-02	8.851E-02	7.514E-03	0.246
V-48	-6.632E-02		1.041E-01	1.613E-01	1.364E-02	-0.411
CR-51	4.033E-02		4.522E-01	7.299E-01	7.100E-02	0.055
MN-54	2.336E-03		4.784E-02	7.968E-02	6.900E-03	0.029
CO-56	-3.239E-03		5.141E-02	8.485E-02	7.323E-03	-0.038
CO-57	-7.491E-03		2.659E-02	4.352E-02	5.415E-03	-0.172
CO-58	-1.750E-02		5.075E-02	8.231E-02	7.187E-03	-0.213
FE-59	-1.764E-01		1.335E-01	1.919E-01	1.727E-02	-0.919
CO-60	-1.361E-02		4.798E-02	7.741E-02	6.696E-03	-0.176
ZN-65	-7.310E-02		1.391E-01	1.809E-01	1.490E-02	-0.404
SE-75	2.236E-04		5.664E-02	8.062E-02	7.574E-03	0.003
SR-85	1.050E-01		5.069E-02	9.068E-02	8.279E-03	1.158
Y-88	3.708E-02		4.703E-02	8.654E-02	7.151E-03	0.429
Y-91	-2.049E+01		2.815E+01	4.458E+01	3.642E+00	-0.460
NB-94	-4.137E-02		4.552E-02	6.831E-02	5.974E-03	-0.606
NB-95	5.378E-02		5.606E-02	9.871E-02	8.651E-03	0.545
NB-95M	2.933E-01		1.655E-01	2.557E-01	2.667E-02	1.147
ZR-95	8.199E-02		9.089E-02	1.606E-01	1.550E-02	0.511
MO-99	5.165E+01		3.519E+01	6.284E+01	9.954E+00	0.822
TC-99M	-3.801E+14		1.578E+14	Half-Life	too short	
RU-103	3.789E-02		5.042E-02	8.641E-02	1.234E-02	0.439
RH-106	-1.612E-02		4.265E-01	6.902E-01	9.280E-02	-0.023
RU-106	-1.612E-02		4.265E-01	6.902E-01	6.149E-02	-0.023
AG-108M	-2.590E-02		3.722E-02	5.958E-02	5.468E-03	-0.435
AG-110M	7.479E-02		5.471E-02	8.507E-02	7.621E-03	0.879
SN-113	-1.466E-02		5.523E-02	9.136E-02	8.157E-03	-0.160
CD-115	-4.241E-06		1.885E-05	Half-Life	too short	
SN-117M	-2.827E-02		7.004E-02	1.156E-01	1.082E-02	-0.245
TE-123M	-1.347E-02		3.179E-02	5.241E-02	4.910E-03	-0.257
SB-124	4.554E-02		1.026E-01	1.777E-01	1.581E-02	0.256
SB-125	-4.801E-02		1.127E-01	1.836E-01	1.659E-02	-0.262
TE-125M	-1.840E+00		1.063E+01	1.675E+01	2.167E+00	-0.110
I-126	4.260E-01		3.814E-01	5.853E-01	5.084E-02	0.728
SB-126	4.971E-02		2.397E-01	3.542E-01	3.103E-02	0.140
SB-127	2.866E+00		3.220E+00	5.458E+00	6.784E-01	0.525
I-131	4.541E-02		1.760E-01	3.000E-01	2.838E-02	0.151

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	1.296E+00		1.645E+00	2.762E+00	4.641E-01	0.469
BA-133	1.536E-02		5.861E-02	8.780E-02	1.164E-02	0.175
I-133	2.990E-03		4.762E-02	Half-Life too short		
CS-134	9.688E-02	+	1.109E-01	1.136E-01	9.996E-03	0.853
CS-135	2.159E-01		2.024E-01	3.049E-01	3.237E-02	0.708
I-135	-1.111E+13		1.353E+13	Half-Life too short		
CS-136	5.794E-02		1.767E-01	2.950E-01	2.583E-02	0.196
CE-139	-1.008E-02		3.313E-02	5.473E-02	4.728E-03	-0.184
BA-140	-3.966E-02		3.889E-01	6.333E-01	2.156E-01	-0.063
LA-140	2.628E-02		1.274E-01	2.136E-01	1.847E-02	0.123
CE-141	8.956E-02		7.399E-02	1.281E-01	1.371E-02	0.699
CE-143	3.643E-03		6.254E-04	Half-Life too short		
CE-144	-1.596E-01		2.118E-01	3.459E-01	5.921E-02	-0.461
PM-144	-6.293E-03		4.670E-02	7.440E-02	6.505E-03	-0.085
PR-144	-4.933E-01		3.499E+00	5.573E+00	4.870E-01	-0.089
PM-146	-2.775E-03		5.121E-02	8.474E-02	9.235E-03	-0.033
ND-147	2.336E-01		8.597E-01	1.433E+00	2.187E-01	0.163
PM-149	1.459E-04		1.456E-04	Half-Life too short		
EU-152	-2.893E-02		1.310E-01	1.793E-01	1.730E-02	-0.161
GD-153	-6.265E-02		9.688E-02	1.312E-01	1.401E-02	-0.477
EU-154	3.222E-02		1.509E-01	2.558E-01	2.875E-02	0.126
EU-155	1.797E-01		1.117E-01	1.849E-01	2.084E-02	0.972
TB-160	5.315E-02		1.773E-01	2.998E-01	2.556E-02	0.177
HO-166M	-8.119E-03		8.405E-02	1.340E-01	1.173E-02	-0.061
TA-182	1.756E-01		2.502E-01	4.376E-01	3.604E-02	0.401
IR-192	-3.445E-02		4.370E-02	6.721E-02	6.278E-03	-0.513
HG-203	3.788E-03		4.760E-02	7.743E-02	7.420E-03	0.049
BI-207	3.094E-02		7.464E-02	1.251E-01	1.045E-02	0.247
PB-211	3.510E-01		9.225E-01	1.544E+00	7.474E-01	0.227
BI-212	1.529E+00	+	1.177E+00	1.277E+00	1.604E-01	1.197
RN-219	-3.902E-02		4.984E-01	8.308E-01	1.241E-01	-0.047
RA-223	-2.665E-01		8.523E-01	1.151E+00	2.034E-01	-0.232
AC-227	-1.301E-01		2.873E-01	4.578E-01	5.754E-02	-0.284
TH-227	-1.301E-01		2.874E-01	4.578E-01	6.440E-02	-0.284
TH-229	-1.498E-01		5.822E-01	9.550E-01	8.517E-02	-0.157
PA-231	-5.027E-02		1.664E+00	2.691E+00	4.049E-01	-0.019
TH-231	-2.665E-01		8.523E-01	1.151E+00	2.034E-01	-0.232
PA-233	7.160E-02		7.635E-02	1.282E-01	1.226E-02	0.559
PA-234	1.216E-01		3.838E-01	6.453E-01	1.206E-01	0.189
PA-234M	2.620E+00		6.565E+00	1.075E+01	1.055E+00	0.244
NP-239	9.647E-02		4.313E-01	6.877E-01	8.293E-02	0.140
AM-241	3.409E-02		7.559E-02	1.120E-01	1.241E-02	0.304
CM-247	2.939E-03		4.642E-02	7.790E-02	6.804E-03	0.038
CF-249	2.646E-02		4.820E-02	8.286E-02	7.218E-03	0.319
CF-251	9.668E-02		1.402E-01	2.387E-01	2.091E-02	0.405

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G248051010
* Acquisition date   : 10-MAR-2010 19:34:35 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 02:00:01.82 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051010 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.4470E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 10-FEB-2010 14:02:26 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	2.902E+01	3.162E+00	3.664E-01	1.613E+00
CD-109	3.631E+00	9.737E-01	5.579E-01	4.968E-01
SN-126	3.532E-01	9.472E-02	5.420E-02	4.833E-02
BA-137M	4.069E-01	8.640E-02	4.579E-02	4.408E-02
CS-137	4.299E-01	9.131E-02	4.837E-02	4.658E-02
TL-208	5.718E-01	1.122E-01	3.545E-02	5.724E-02
PB-210	1.393E+00	7.892E-01	4.677E-01	4.026E-01
BI-211	3.910E+00	5.944E-01	2.108E-01	3.032E-01
PB-212	1.789E+00	2.167E-01	5.176E-02	1.106E-01
BI-214	1.430E+00	2.310E-01	7.665E-02	1.178E-01
PB-214	1.419E+00	2.289E-01	7.990E-02	1.168E-01
RA-224	4.202E+00	1.384E+00	5.548E-01	7.060E-01
RA-226	1.430E+00	2.310E-01	7.665E-02	1.178E-01
AC-228	1.764E+00	4.149E-01	1.441E-01	2.117E-01
RA-228	1.764E+00	4.149E-01	1.441E-01	2.117E-01
TH-228	1.789E+00	2.167E-01	5.176E-02	1.106E-01
TH-232	1.764E+00	4.149E-01	1.441E-01	2.117E-01
TH-234	2.141E+00	1.147E+00	5.772E-01	5.853E-01
U-235	-2.606E-02	2.236E-01	1.998E-01	1.141E-01
NP-237	1.054E+00	3.561E-01	1.613E-01	1.817E-01
U-238	2.141E+00	1.147E+00	5.772E-01	5.853E-01
ANH-511	2.462E-01	8.893E-02	2.910E-02	4.537E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.427E-01	4.166E-01	3.557E-01	2.125E-01 NOT IDENT.
NA-22	1.139E-02	5.226E-02	4.561E-02	2.666E-02 NOT IDENT.
NA-24	1.179E+07	3.023E+07	0.000E+00	1.542E+07 SHORT HLIF
SC-46	2.179E-02	5.096E-02	4.503E-02	2.600E-02 FAIL ABUN
V-48	-6.632E-02	1.020E-01	8.185E-02	5.204E-02 NOT IDENT.

CR-51	4.033E-02	4.431E-01	3.799E-01	2.261E-01	NOT IDENT.
MN-54	2.336E-03	4.688E-02	4.059E-02	2.392E-02	NOT IDENT.
CO-56	-3.239E-03	5.038E-02	4.322E-02	2.570E-02	NOT IDENT.
CO-57	-7.491E-03	2.606E-02	2.313E-02	1.330E-02	NOT IDENT.
CO-58	-1.750E-02	4.974E-02	4.196E-02	2.538E-02	NOT IDENT.
FE-59	-1.764E-01	1.308E-01	9.716E-02	6.673E-02	NOT IDENT.
CO-60	-1.361E-02	4.702E-02	3.901E-02	2.399E-02	NOT IDENT.
ZN-65	-7.310E-02	1.363E-01	9.156E-02	6.955E-02	NOT IDENT.
SE-75	2.236E-04	5.551E-02	4.214E-02	2.832E-02	NOT IDENT.
SR-85	1.050E-01	4.968E-02	4.671E-02	2.535E-02	NOT IDENT.
Y-88	3.708E-02	4.609E-02	4.329E-02	2.352E-02	NOT IDENT.
Y-91	-2.049E+01	2.759E+01	2.252E+01	1.408E+01	NOT IDENT.
NB-94	-4.137E-02	4.461E-02	3.494E-02	2.276E-02	NOT IDENT.
NB-95	5.378E-02	5.494E-02	5.039E-02	2.803E-02	NOT IDENT.
NB-95M	2.933E-01	1.622E-01	1.340E-01	8.275E-02	NOT IDENT.
ZR-95	8.199E-02	8.907E-02	8.198E-02	4.544E-02	NOT IDENT.
MO-99	5.165E+01	3.449E+01	3.210E+01	1.760E+01	NOT IDENT.
TC-99M	-3.801E+20	3.093E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	3.789E-02	4.941E-02	4.454E-02	2.521E-02	FAIL ABUN
RH-106	-1.612E-02	4.179E-01	3.540E-01	2.132E-01	NOT IDENT.
RU-106	-1.612E-02	4.179E-01	3.540E-01	2.132E-01	NOT IDENT.
AG-108M	-2.590E-02	3.647E-02	3.080E-02	1.861E-02	NOT IDENT.
AG-110M	7.479E-02	5.362E-02	4.358E-02	2.736E-02	NOT IDENT.
SN-113	-1.466E-02	5.412E-02	4.734E-02	2.761E-02	NOT IDENT.
CD-115	-4.241E+00	3.694E+01	0.000E+00	1.885E+01	SHORT HLIF
SN-117M	-2.827E-02	6.863E-02	6.106E-02	3.502E-02	NOT IDENT.
TE-123M	-1.347E-02	3.115E-02	2.769E-02	1.590E-02	NOT IDENT.
SB-124	4.554E-02	1.006E-01	8.906E-02	5.131E-02	NOT IDENT.
SB-125	-4.801E-02	1.105E-01	9.494E-02	5.636E-02	FAIL ABUN
TE-125M	-1.840E+00	1.042E+01	8.922E+00	5.315E+00	NOT IDENT.
I-126	4.260E-01	3.737E-01	2.997E-01	1.907E-01	NOT IDENT.
SB-126	4.971E-02	2.349E-01	1.810E-01	1.198E-01	NOT IDENT.
SB-127	2.866E+00	3.155E+00	2.793E+00	1.610E+00	NOT IDENT.
I-131	4.541E-02	1.725E-01	1.557E-01	8.800E-02	NOT IDENT.
TE-132	1.296E+00	1.612E+00	1.448E+00	8.225E-01	NOT IDENT.
BA-133	1.536E-02	5.744E-02	4.560E-02	2.931E-02	NOT IDENT.
I-133	2.990E+03	9.333E+04	0.000E+00	4.762E+04	SHORT HLIF
CS-134	9.688E-02	1.087E-01	5.796E-02	5.545E-02	FAIL ABUN
CS-135	2.159E-01	1.984E-01	1.593E-01	1.012E-01	NOT IDENT.
I-135	-1.111E+19	2.651E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.794E-02	1.732E-01	1.495E-01	8.835E-02	NOT IDENT.
CE-139	-1.008E-02	3.246E-02	2.890E-02	1.656E-02	NOT IDENT.
BA-140	-3.966E-02	3.811E-01	3.259E-01	1.944E-01	NOT IDENT.
LA-140	2.628E-02	1.249E-01	1.072E-01	6.372E-02	FAIL ABUN
CE-141	8.956E-02	7.251E-02	6.784E-02	3.700E-02	NOT IDENT.
CE-143	3.643E+03	1.226E+03	0.000E+00	6.254E+02	SHORT HLIF
CE-144	-1.596E-01	2.076E-01	1.835E-01	1.059E-01	NOT IDENT.
PM-144	-6.293E-03	4.576E-02	3.806E-02	2.335E-02	NOT IDENT.
PR-144	-4.933E-01	3.429E+00	2.851E+00	1.750E+00	NOT IDENT.
PM-146	-2.775E-03	5.018E-02	4.377E-02	2.560E-02	NOT IDENT.
ND-147	2.336E-01	8.425E-01	7.378E-01	4.298E-01	FAIL ABUN
PM-149	1.459E+02	2.854E+02	0.000E+00	1.456E+02	SHORT HLIF
EU-152	-2.893E-02	1.284E-01	9.319E-02	6.550E-02	NOT IDENT.
GD-153	-6.265E-02	9.495E-02	7.007E-02	4.844E-02	NOT IDENT.
EU-154	3.222E-02	1.478E-01	1.290E-01	7.543E-02	NOT IDENT.
EU-155	1.797E-01	1.095E-01	9.856E-02	5.587E-02	FAIL ABUN
TB-160	5.315E-02	1.737E-01	1.525E-01	8.863E-02	FAIL ABUN
HO-166M	-8.119E-03	8.237E-02	6.853E-02	4.203E-02	FAIL ABUN
TA-182	1.756E-01	2.452E-01	2.210E-01	1.251E-01	FAIL ABUN
IR-192	-3.445E-02	4.283E-02	3.499E-02	2.185E-02	FAIL ABUN
HG-203	3.788E-03	4.665E-02	4.042E-02	2.380E-02	NOT IDENT.
BI-207	3.094E-02	7.315E-02	6.340E-02	3.732E-02	FAIL ABUN
PB-211	3.510E-01	9.041E-01	7.994E-01	4.613E-01	NOT IDENT.
BI-212	1.529E+00	1.153E+00	6.527E-01	5.883E-01	FAIL ABUN
RN-219	-3.902E-02	4.884E-01	4.303E-01	2.492E-01	FAIL ABUN
RA-223	-2.665E-01	8.353E-01	5.989E-01	4.262E-01	FAIL ABUN
AC-227	-1.301E-01	2.816E-01	2.394E-01	1.437E-01	NOT IDENT.
TH-227	-1.301E-01	2.817E-01	2.394E-01	1.437E-01	NOT IDENT.
TH-229	-1.498E-01	5.706E-01	5.025E-01	2.911E-01	FAIL ABUN
PA-231	-5.027E-02	1.631E+00	1.404E+00	8.321E-01	NOT IDENT.
TH-231	-2.665E-01	8.353E-01	5.989E-01	4.262E-01	FAIL ABUN
PA-233	7.160E-02	7.483E-02	6.675E-02	3.818E-02	NOT IDENT.
PA-234	1.216E-01	3.761E-01	3.278E-01	1.919E-01	NOT IDENT.
PA-234M	2.620E+00	6.433E+00	5.455E+00	3.282E+00	NOT IDENT.
NP-239	9.647E-02	4.227E-01	3.657E-01	2.157E-01	NOT IDENT.
AM-241	3.409E-02	7.408E-02	6.038E-02	3.780E-02	NOT IDENT.
CM-247	2.939E-03	4.549E-02	4.034E-02	2.321E-02	NOT IDENT.
CF-249	2.646E-02	4.724E-02	4.295E-02	2.410E-02	NOT IDENT.

CF-251	9.668E-02	1.373E-01	1.259E-01	7.008E-02 NOT IDENT.
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 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.54	440.3987
49.72	433.6293
57.36	0.0000
59.54	563.3367
63.29	589.6704
63.29	589.6704
64.28	614.1240
67.75	617.8254
69.67	638.1511
70.83	616.0254
72.81	642.8682
72.87	642.9571
72.87	642.9571
74.82	615.8464
74.82	615.8464
74.82	615.8464
74.97	616.0555
77.11	619.0240
77.11	619.0240
77.11	619.0240
79.69	545.6796
79.80	545.8103
80.12	594.9567
80.19	595.0460
80.57	546.7203
81.00	508.1402
81.07	508.2164
81.07	508.2164
83.79	507.8913
83.79	507.8913
85.43	509.6344
86.48	510.7437
86.55	510.8170
86.79	511.0653
86.94	511.2261
87.57	511.8860
88.03	512.3661
88.47	512.8250
89.96	514.3670
91.11	515.5496
92.59	517.0609
92.59	517.0609
93.35	517.8319
94.67	460.5482
94.87	470.7788
94.87	470.7788
95.86	476.7127
97.43	481.5122
98.44	422.3819
99.53	434.9666
100.11	436.5659
103.18	525.2670
103.37	494.8066
105.31	400.8841
106.12	399.1867
109.28	440.4238
111.00	432.5450
111.76	448.0896
116.30	416.7444
117.23	395.3040
121.12	381.7633
121.78	387.4446
122.06	387.6212
123.07	375.9315
131.20	407.5421
133.52	420.6305
136.00	380.8922

136.47	382.9586
140.51	469.3736
140.51	0.0000
143.76	428.8987
144.24	411.0113
144.24	411.0113
145.44	386.2168
152.43	377.1711
153.25	381.2835
154.21	399.3106
154.21	399.3106
156.02	378.1172
158.56	387.7738
159.00	395.4294
162.66	370.3187
163.33	379.0484
165.86	378.4387
176.60	334.2888
177.52	323.2635
181.07	333.0887
184.41	332.9144
185.72	356.2984
193.51	349.9171
197.04	337.7314
205.31	347.4087
210.85	286.2836
215.65	307.0645
222.11	315.1971
227.38	277.7035
228.16	278.9358
228.18	278.9422
235.69	289.0132
235.96	289.0914
235.96	289.0914
238.63	266.6635
238.63	266.6635
240.99	267.2951
242.00	267.5630
244.70	268.2786
252.40	212.9366
252.80	232.8342
256.23	266.1136
256.23	266.1136
260.90	0.0000
264.66	225.4395
268.22	232.8861
269.46	246.3599
269.46	246.3599
271.23	245.2878
273.65	335.0692
276.40	236.3115
277.37	246.0231
277.60	242.9045
278.00	220.8060
279.20	260.1738
279.54	260.2527
280.46	289.0544
283.69	234.6675
284.31	237.9829
285.41	229.7043
285.90	0.0000
287.50	221.6030
293.27	0.0000
295.22	243.4666
295.96	283.3279
298.57	204.7956
299.98	222.2699
299.98	222.2699
300.09	222.2904
300.09	222.2904
300.13	222.2982
301.36	196.9403
302.85	254.7616
304.50	216.1987
304.50	216.1987
304.85	211.9376
308.46	197.3907
311.90	194.6887

316.51	240.1852
319.41	190.4107
320.08	189.4167
323.87	195.0467
323.87	195.0467
328.76	231.0858
333.37	250.8081
334.37	225.0173
334.37	225.0173
338.28	196.5997
338.28	196.5997
338.32	196.6051
338.32	196.6051
338.32	196.6051
340.48	183.3581
340.55	183.3682
344.28	196.3914
351.06	218.9358
351.93	237.9339
356.01	187.6246
364.49	178.5289
366.42	192.3941
383.85	221.4482
388.16	180.6420
388.63	189.9213
391.69	197.7149
400.66	202.6506
401.81	194.4348
402.40	197.3060
404.85	198.5643
410.95	201.2476
414.70	172.6595
423.72	170.8519
427.09	181.6313
427.87	182.6691
433.94	188.1314
453.88	156.8238
463.37	154.8320
468.07	173.2941
473.00	151.8372
476.78	172.6658
477.60	163.9641
487.02	133.4699
492.35	0.0000
497.08	118.4546
511.00	134.3177
514.00	134.5443
527.90	0.0000
529.87	0.0000
531.02	127.7658
537.26	128.1968
546.56	0.0000
563.25	135.0905
569.33	122.1696
569.50	112.9407
569.70	122.1929
583.19	114.7669
600.60	132.1094
602.73	127.0282
604.72	114.9575
609.32	142.4514
609.32	142.4514
610.33	125.7539
614.28	152.2465
618.01	130.4301
621.93	131.7322
621.93	131.7322
633.25	116.5500
635.95	107.1522
636.99	107.2040
645.85	111.9137
657.76	105.3866
661.66	171.7852
661.66	171.7852
664.57	0.0000
666.33	96.8335
666.50	96.8423
677.62	103.8188

685.70	107.4498
695.00	104.6227
696.49	128.6822
696.51	128.6822
697.00	124.3479
702.65	141.0560
706.68	120.4924
711.68	126.2417
720.70	99.1802
721.93	0.0000
722.78	99.2681
722.91	99.2747
723.31	96.1380
724.19	97.7508
727.33	101.0402
733.00	98.1162
735.93	128.4743
739.50	78.6810
747.24	87.2931
752.31	101.4335
753.82	88.4614
756.73	82.9740
763.94	129.0353
765.81	104.8040
766.42	118.8687
777.92	113.7797
778.90	98.7729
783.70	98.9630
785.37	105.6312
795.86	113.6475
801.95	105.7814
810.29	92.3840
810.76	96.2122
815.77	78.2630
818.51	85.9900
832.01	101.8011
834.85	101.9111
836.80	0.0000
846.77	90.7795
856.80	69.7939
860.56	91.5234
871.09	95.4978
873.19	84.8441
875.33	0.0000
879.36	75.2611
880.51	86.0485
883.24	92.9860
884.68	87.1585
889.28	80.4368
898.04	84.6248
911.20	81.0658
911.20	81.0658
911.20	81.0658
926.50	82.4951
937.49	98.7724
944.13	86.9982
946.00	77.0486
949.00	78.1285
962.29	81.0689
964.08	86.2950
966.15	94.9916
968.97	86.4380
968.97	86.4380
968.97	86.4380
983.53	86.1344
996.26	99.7247
1001.03	79.4965
1004.73	94.8978
1037.84	78.3781
1038.76	0.0000
1048.07	86.9087
1050.41	94.2214
1050.41	94.2214
1063.66	89.4119
1085.87	82.6999
1099.45	109.3193
1112.07	97.6754
1115.54	97.7771

1120.29	71.9235
1120.29	71.9235
1120.55	71.9290
1121.30	90.6878
1131.51	0.0000
1173.23	90.2310
1177.93	62.3849
1189.05	62.5832
1204.77	101.2561
1221.41	83.9952
1231.02	107.6120
1235.36	111.4857
1238.28	82.5092
1260.41	0.0000
1271.85	70.9612
1274.44	63.4364
1274.54	63.4364
1291.59	74.1860
1298.22	0.0000
1312.11	62.1572
1332.49	52.8707
1365.19	45.5591
1368.63	0.0000
1384.29	45.7771
1408.01	49.9648
1457.56	0.0000
1460.82	41.6748
1489.16	28.9686
1505.03	42.1099
1596.21	30.7052
1620.50	27.7816
1678.03	0.0000
1690.97	19.8469
1764.49	15.9077
1764.49	15.9077
1770.23	14.8647
1771.35	16.7267
1791.20	0.0000
1836.06	17.8844

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051010

Total Uranium Activity	6.3575E+00	ug/g
Total Uranium Counting Unc.	3.4147E+00	ug/g
Total Uranium Tpu	1.7422E-06	ug/g
Total Uranium Mda	1.7197E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051010
*  ANALYST       : MXR1            DETECTOR    : GAM13
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 10-MAR-2010 19:34:35.52  SAMPLE ALQT: 144.700 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.637E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.369E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.328E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.625E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 21:35:46.70

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051011.CNF;1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:35:01
Sample ID        : G248051011 Sample quantity   : 1.31040E+02 GRAM
Detector name    : GAM18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.80 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID        : 958225 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	74.92	514	480	1.18	148.95	143	15	7.14E-02	8.4	1.51E+00
2	2	77.25*	782	461	1.12	153.62	143	15	1.09E-01	6.1	
3	5	87.34	322	575	1.40	173.79	170	21	4.47E-02	13.5	3.07E+00
4	5	90.05	227	393	1.01	179.20	170	21	3.15E-02	15.2	
5	5	92.95*	295	413	1.19	185.00	170	21	4.10E-02	13.8	
6	0	99.75	102	385	1.15	198.60	195	8	1.42E-02	34.7	
7	0	129.17	109	362	1.53	257.41	254	7	1.51E-02	30.6	
8	0	186.08*	306	499	1.41	371.20	366	11	4.24E-02	15.9	
9	0	209.70	207	458	1.39	418.43	414	12	2.87E-02	21.9	
10	3	238.67*	1835	238	1.25	476.33	469	23	2.55E-01	2.8	1.60E+00
11	3	241.63*	442	287	1.77	482.26	469	23	6.15E-02	11.6	
12	0	270.15	100	347	1.34	539.27	535	11	1.39E-02	37.4	
13	2	295.19*	578	167	1.40	589.35	583	22	8.03E-02	5.8	6.37E-01
14	2	299.82*	136	213	1.71	598.61	583	22	1.89E-02	22.3	
15	0	338.31*	375	267	1.29	675.56	670	12	5.21E-02	10.3	
16	0	351.81*	1030	219	1.43	702.55	696	12	1.43E-01	4.3	
17	0	408.97	84	190	1.00	816.83	811	11	1.17E-02	33.5	
18	0	462.90	89	149	1.57	924.65	920	9	1.24E-02	27.0	
19	0	510.54*	237	203	1.79	1019.92	1011	17	3.29E-02	17.4	
20	0	582.80*	654	204	1.52	1164.39	1156	16	9.09E-02	6.3	
21	0	609.08*	722	173	1.69	1216.94	1210	12	1.00E-01	5.3	
22	0	660.65	73	217	1.32	1320.05	1315	15	1.02E-02	45.2	
23	0	726.91	164	213	2.20	1452.54	1442	19	2.28E-02	22.7	
24	0	794.78	88	81	1.97	1588.25	1582	12	1.22E-02	23.0	
25	0	859.73	94	116	2.46	1718.13	1710	16	1.30E-02	27.7	
26	0	910.62*	488	100	2.09	1819.89	1810	17	6.77E-02	6.6	
27	3	963.85	100	100	2.81	1926.32	1918	23	1.39E-02	26.4	1.61E+00
28	3	968.46*	286	62	1.88	1935.54	1918	23	3.98E-02	8.2	
29	0	1119.83*	168	157	1.92	2238.24	2230	19	2.33E-02	19.5	
30	0	1238.28*	73	128	2.82	2475.09	2469	17	1.01E-02	38.8	
31	0	1459.76*	2020	69	2.21	2918.00	2906	21	2.81E-01	2.5	
32	0	1509.98	48	30	5.18	3018.44	3006	24	6.71E-03	33.2	
33	0	1590.66	60	51	4.38	3179.79	3168	30	8.35E-03	37.4	
34	0	1763.32	171	14	2.21	3525.09	3515	18	2.38E-02	9.2	

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

VMS Nuclide Identification Report V3.1 Generated 10-MAR-2010 21:35:48

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051011.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:35:01
Sample ID        : G248051011 Sample quantity : 131.04 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.80 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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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	+	1460.82	*	2.867E+01	2.599E+00	4.671E-01	3.544E-02	61.386
CD-109	+	88.03	*	3.974E+00	1.137E+00	1.185E+00	1.095E-01	3.354
SN-126		64.28		4.564E-01	5.455E-01	9.251E-01	1.368E-01	0.493
	+	86.94		1.607E+00	7.963E-01	4.866E-01	2.018E-01	3.303
	+	87.57	*	3.866E-01	1.106E-01	1.160E-01	1.069E-02	3.333
BA-137M	+	661.66	*	6.495E-02	5.890E-02	4.273E-02	3.257E-03	1.520
CS-137	+	661.66	*	6.861E-02	6.223E-02	4.514E-02	3.449E-03	1.520
TL-208		277.37		3.736E-01	3.459E-01	5.847E-01	6.272E-02	0.639
	+	583.19	*	5.604E-01	8.342E-02	4.256E-02	3.331E-03	13.167
	+	860.56	*	7.376E-01	4.162E-01	3.667E-01	4.101E-02	2.011
BI-211		72.87		2.499E+00	3.489E+00	5.318E+00	4.391E-01	0.470
	+	351.06	*	4.189E+00	4.515E-01	2.594E-01	1.665E-02	16.152
PB-212	+	74.82		2.910E+00	6.133E-01	5.488E-01	7.036E-02	5.303
	+	77.11		2.495E+00	3.702E-01	3.106E-01	2.632E-02	8.034
	+	238.63	*	1.775E+00	1.613E-01	7.479E-02	5.391E-03	23.728
	+	300.09		1.973E+00	8.951E-01	9.301E-01	7.768E-02	2.121
BI-214	+	609.32	*	1.192E+00	1.655E-01	8.282E-02	7.443E-03	14.391
	+	1120.29		1.380E+00	5.548E-01	3.834E-01	3.692E-02	3.599
	+	1764.49		1.890E+00	3.649E-01	1.186E-01	7.210E-03	15.938
PB-214	+	74.82		5.159E+00	1.047E+00	9.727E-01	1.120E-01	5.303
	+	77.11		4.399E+00	7.466E-01	5.475E-01	6.475E-02	8.034
	+	242.00		2.590E+00	6.349E-01	4.541E-01	3.651E-02	5.705
	+	295.22		1.489E+00	2.164E-01	1.647E-01	1.429E-02	9.040
	+	351.93	*	1.520E+00	1.841E-01	9.430E-02	7.982E-03	16.122
RA-224	+	240.99	*	4.581E+00	1.091E+00	8.006E-01	4.460E-02	5.721
RA-226	+	609.32	*	1.192E+00	1.655E-01	8.282E-02	7.443E-03	14.391
	+	1120.29		1.380E+00	5.548E-01	3.834E-01	3.692E-02	3.599
	+	1764.49		1.890E+00	3.649E-01	1.186E-01	7.210E-03	15.938
AC-228	+	338.32		1.710E+00	7.876E-01	3.042E-01	1.254E-01	5.621
	+	911.20	*	1.947E+00	3.684E-01	1.731E-01	2.344E-02	11.253
	+	968.97		1.967E+00	5.870E-01	2.852E-01	7.115E-02	6.895
RA-228	+	338.32		1.710E+00	7.876E-01	3.042E-01	1.254E-01	5.621
	+	911.20	*	1.947E+00	3.684E-01	1.731E-01	2.344E-02	11.253
	+	968.97		1.967E+00	5.870E-01	2.852E-01	7.115E-02	6.895

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	74.82		2.910E+00	5.451E-01	5.488E-01	4.628E-02	5.303
	+	77.11		2.495E+00	3.702E-01	3.106E-01	2.632E-02	8.034
	+	238.63	*	1.775E+00	1.613E-01	7.479E-02	5.391E-03	23.728
	+	300.09		1.973E+00	1.489E+00	9.301E-01	5.662E-01	2.121
TH-232	+	338.32		1.710E+00	3.650E-01	3.042E-01	1.760E-02	5.621
	+	911.20	*	1.947E+00	3.684E-01	1.731E-01	2.344E-02	11.253
	+	968.97		1.967E+00	5.870E-01	2.852E-01	7.115E-02	6.895
U-235	+	89.96		2.790E+00	1.095E+00	1.199E+00	2.962E-01	2.328
	+	93.35		2.172E+00	7.798E-01	7.151E-01	1.645E-01	3.037
		143.76	*	1.480E-01	1.833E-01	2.961E-01	4.618E-02	0.500
		163.33		7.878E-02	3.609E-01	6.045E-01	1.004E-01	0.130
	+	185.72		2.001E-01	6.444E-02	5.757E-02	3.062E-03	3.476
		205.31		-2.805E-01	4.518E-01	6.343E-01	1.069E-01	-0.442
NP-237	+	86.48	*	1.154E+00	4.092E-01	3.834E-01	8.766E-02	3.009
		95.86		5.968E-01	1.141E+00	1.353E+00	3.217E-01	0.441
ANH-511	+	511.00	*	1.574E-01	5.582E-02	3.805E-02	2.513E-03	4.137

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	2.674E-02	2.678E-01	4.441E-01	3.217E-02	0.060
NA-22		1274.54	*	2.597E-02	3.591E-02	6.211E-02	4.226E-03	0.418
NA-24		1368.63	*	1.319E+00	3.591E-02	Half-Life too short		
SC-46		889.28	*	6.944E-03	3.227E-02	5.357E-02	5.976E-03	0.130
	+	1120.55		2.396E-01	9.501E-02	1.159E-01	8.006E-03	2.068
V-48		944.13		-2.061E-01	8.213E-01	1.308E+00	1.385E-01	-0.158
		983.53	*	4.852E-02	6.235E-02	1.070E-01	1.058E-02	0.454
		1312.11		4.301E-02	7.811E-02	1.335E-01	9.721E-03	0.322
CR-51		320.08	*	1.451E-01	3.359E-01	5.527E-01	3.553E-02	0.263
MN-54		834.85	*	3.022E-02	3.226E-02	5.579E-02	5.715E-03	0.542
CO-56		846.77	*	-1.740E-02	3.390E-02	5.359E-02	5.595E-03	-0.325
		1037.84		-1.171E-01	2.424E-01	3.906E-01	3.615E-02	-0.300
	+	1238.28		1.711E-01	1.332E-01	1.495E-01	9.969E-03	1.144
		1771.35		-1.415E+00	3.176E-01	2.351E-01	1.421E-02	-6.019
CO-57		122.06	*	-1.927E-02	2.290E-02	3.540E-02	2.097E-03	-0.544
		136.47		-5.006E-02	1.835E-01	2.888E-01	1.887E-02	-0.173
CO-58		810.76	*	8.644E-03	3.208E-02	5.384E-02	5.315E-03	0.161
FE-59		1099.45	*	-3.055E-02	7.522E-02	1.215E-01	9.992E-03	-0.252
		1291.59		4.155E-02	1.020E-01	1.728E-01	1.452E-02	0.240
CO-60		1173.23		-2.322E-03	3.689E-02	6.079E-02	3.360E-03	-0.038
		1332.49	*	-1.504E-02	3.169E-02	4.947E-02	3.738E-03	-0.304
ZN-65		1115.54	*	1.023E-01	8.705E-02	1.369E-01	9.646E-03	0.747
SE-75		121.12		-1.051E-01	1.211E-01	1.866E-01	1.712E-02	-0.563
		136.00		2.481E-03	3.532E-02	5.642E-02	3.215E-03	0.044
		264.66	*	2.551E-03	3.881E-02	5.893E-02	3.371E-03	0.043
		279.54		1.061E-01	9.765E-02	1.660E-01	1.027E-02	0.639
		400.66		1.612E-01	2.066E-01	3.580E-01	3.250E-02	0.450
SR-85		514.00	*	7.311E-02	3.792E-02	6.072E-02	4.022E-03	1.204

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-88	898.04			1.470E-03	3.383E-02	5.541E-02	6.281E-03	0.027
	1836.06	*		-1.425E-02	2.330E-02	3.395E-02	1.934E-03	-0.420
Y-91	1204.77	*		7.062E-01	1.880E+01	3.111E+01	1.839E+00	0.023
NB-94	702.65	*		1.495E-02	2.706E-02	4.655E-02	3.819E-03	0.321
	871.09			-1.156E-02	2.692E-02	4.259E-02	4.618E-03	-0.271
NB-95	765.81	*		3.519E-02	3.662E-02	6.372E-02	5.829E-03	0.552
NB-95M	235.69	*		6.822E-02	1.266E-01	1.881E-01	1.385E-02	0.363
ZR-95	724.19			2.819E-01	1.000E-01	1.676E-01	1.551E-02	1.683
	756.73	*		9.308E-03	5.805E-02	9.728E-02	9.606E-03	0.096
MO-99	140.51			-2.081E+01	4.567E+01	6.997E+01	1.596E+01	-0.297
	181.07			-5.991E+00	3.867E+01	5.682E+01	9.952E+00	-0.105
	366.42			2.306E+01	1.729E+02	2.931E+02	1.693E+01	0.079
	739.50	*		-2.120E+00	2.311E+01	3.676E+01	5.818E+00	-0.058
	777.92			-5.526E+01	6.785E+01	1.060E+02	9.898E+00	-0.521
TC-99M	140.51	*		-1.103E+14	6.785E+01	Half-Life	too short	
RU-103	497.08	*		1.340E-02	3.262E-02	5.487E-02	7.008E-03	0.244
	610.33	+		1.302E+01	2.463E+00	2.505E+00	3.928E-01	5.196
RH-106	621.93	*		3.580E-02	2.501E-01	4.070E-01	5.076E-02	0.088
	1050.41			5.243E-01	2.091E+00	3.555E+00	3.038E-01	0.148
RU-106	621.93	*		3.580E-02	2.500E-01	4.070E-01	2.995E-02	0.088
	1050.41			5.243E-01	2.091E+00	3.555E+00	3.038E-01	0.148
AG-108M	433.94	*		-1.772E-02	2.356E-02	3.750E-02	2.417E-03	-0.473
	614.28			2.525E-03	3.098E-02	4.344E-02	3.319E-03	0.058
	722.91			4.115E-02	3.591E-02	5.608E-02	4.924E-03	0.734
AG-110M	657.76	*		5.251E-04	3.198E-02	4.641E-02	3.660E-03	0.011
	677.62			8.416E-02	2.480E-01	4.235E-01	3.438E-02	0.199
	706.68			1.023E-01	1.730E-01	2.981E-01	2.540E-02	0.343
	763.94			-1.122E-01	1.360E-01	2.133E-01	1.993E-02	-0.526
	884.68			7.917E-03	3.963E-02	6.574E-02	7.424E-03	0.120
	937.49			-6.221E-02	9.656E-02	1.493E-01	1.635E-02	-0.417
	1384.29			-4.101E-02	1.360E-01	2.152E-01	1.665E-02	-0.191
	1505.03			1.389E-01	2.451E-01	3.795E-01	2.724E-02	0.366
SN-113	391.69	*		1.155E-02	3.806E-02	6.467E-02	3.967E-03	0.179
CD-115	260.90			-1.863E-04	3.806E-02	Half-Life	too short	
	492.35			-4.627E-05	3.806E-02	Half-Life	too short	
	527.90	*		-1.777E-05	3.806E-02	Half-Life	too short	
SN-117M	156.02			-2.040E-01	2.161E+00	3.652E+00	1.951E-01	-0.056
	158.56	*		9.245E-03	5.198E-02	8.862E-02	4.710E-03	0.104
TE-123M	159.00	*		2.419E-03	2.339E-02	3.977E-02	2.146E-03	0.061
SB-124	602.73			-1.476E-02	3.954E-02	5.332E-02	3.857E-03	-0.277
	645.85			3.186E-02	3.836E-01	6.200E-01	5.011E-02	0.051
	722.78			3.855E-01	3.716E-01	5.765E-01	5.015E-02	0.669
	1690.97	*		-3.394E-02	5.998E-02	9.075E-02	6.285E-03	-0.374
SB-125	427.87	*		4.103E-02	6.967E-02	1.196E-01	7.462E-03	0.343
	463.37	+		5.320E-01	2.895E-01	4.349E-01	3.103E-02	1.223
	600.60			4.546E-03	1.523E-01	2.399E-01	1.911E-02	0.019
	635.95			1.100E-01	2.212E-01	3.674E-01	3.032E-02	0.299
TE-125M	109.28	*		3.165E+00	9.430E+00	1.543E+01	1.385E+00	0.205
I-126	388.63			-9.207E-03	1.629E-01	2.724E-01	1.566E-02	-0.034

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-126	666.33	*		-1.606E-02	2.395E-01	3.445E-01	2.649E-02	-0.047
	753.82			1.477E+00	1.676E+00	2.928E+00	2.625E-01	0.505
	414.70			-7.925E-03	8.148E-02	1.229E-01	7.269E-03	-0.064
	666.50			-7.089E-03	8.279E-02	1.189E-01	9.144E-03	-0.060
	695.00			1.675E-02	6.994E-02	1.186E-01	9.596E-03	0.141
SB-127	697.00			-1.986E-01	2.485E-01	3.935E-01	3.196E-02	-0.505
	720.70	*		-1.630E-02	1.673E-01	2.380E-01	2.015E-02	-0.068
	856.80			4.117E-01	5.754E-01	8.599E-01	9.120E-02	0.479
	252.40			-5.498E+00	6.706E+00	9.944E+00	4.106E+00	-0.553
	473.00			-7.242E-01	2.296E+00	3.718E+00	4.589E-01	-0.195
I-131	685.70	*		3.385E-01	1.742E+00	2.950E+00	3.512E-01	0.115
	783.70			1.074E+01	5.530E+00	9.820E+00	1.356E+00	1.094
	80.19			4.609E+00	5.811E+00	8.865E+00	7.751E-01	0.520
	284.31			-1.778E+00	1.606E+00	2.462E+00	1.574E-01	-0.722
	364.49	*		-8.051E-02	1.191E-01	1.937E-01	1.257E-02	-0.416
TE-132	636.99			1.769E+00	1.693E+00	2.901E+00	2.336E-01	0.610
	49.72			-3.171E+01	4.830E+01	7.928E+01	9.012E+00	-0.400
	111.76			-5.839E-02	6.153E+01	9.929E+01	1.047E+01	-0.001
	116.30			1.175E+01	5.380E+01	8.732E+01	9.051E+00	0.135
	228.16	*		2.062E-01	1.276E+00	2.122E+00	3.205E-01	0.097
BA-133	81.00			-2.981E-02	9.471E-02	1.372E-01	2.137E-02	-0.217
	276.40			5.082E-01	3.441E-01	5.481E-01	6.873E-02	0.927
	302.85			3.739E-02	1.219E-01	1.761E-01	2.004E-02	0.212
	356.01	*		-3.523E-02	3.959E-02	5.084E-02	5.728E-03	-0.693
	383.85			-1.581E-01	2.383E-01	3.861E-01	4.108E-02	-0.409
I-133	529.87	*		-3.211E-02	2.383E-01	Half-Life	too short	
	875.33			6.034E-01	2.383E-01	Half-Life	too short	
	1298.22			-6.777E-01	2.383E-01	Half-Life	too short	
	563.25			-3.902E-02	2.772E-01	4.467E-01	3.156E-02	-0.087
	569.33			1.126E-01	1.693E-01	2.772E-01	1.982E-02	0.406
CS-134	604.72			-1.653E-02	3.325E-02	4.434E-02	3.224E-03	-0.373
	795.86	*		1.073E-01	5.052E-02	7.202E-02	6.966E-03	1.490
	801.95			1.479E-02	3.380E-01	5.177E-01	5.050E-02	0.029
	1365.19			-4.412E-01	9.286E-01	1.434E+00	1.142E-01	-0.308
	268.22	*		2.346E-01	1.501E-01	2.330E-01	1.761E-02	1.007
CS-135	546.56			1.312E+13	1.501E-01	Half-Life	too short	
	836.80			4.413E+13	1.501E-01	Half-Life	too short	
	1038.76			-5.376E+13	1.501E-01	Half-Life	too short	
	1131.51			-1.013E+13	1.501E-01	Half-Life	too short	
	1260.41	*		2.089E+12	1.501E-01	Half-Life	too short	
I-135	1457.56			4.687E+15	1.501E-01	Half-Life	too short	
	1678.03			-9.002E+12	1.501E-01	Half-Life	too short	
	1791.20			-1.091E+12	1.501E-01	Half-Life	too short	
	153.25			7.676E-01	8.347E-01	1.457E+00	1.129E-01	0.527
	176.60			-1.580E-01	4.999E-01	8.314E-01	5.520E-02	-0.190
CS-136	273.65			-1.093E+00	6.285E-01	7.972E-01	5.377E-02	-1.371
	340.55			6.989E-01	1.746E-01	2.946E-01	1.846E-02	2.373
	818.51			9.343E-04	7.147E-02	1.178E-01	1.177E-02	0.008
	1048.07	*		2.549E-02	1.068E-01	1.814E-01	1.626E-02	0.141

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1235.36			1.459E+00	7.215E-01	1.155E+00	1.177E-01	1.263
CE-139	165.86	*		-2.041E-02	2.492E-02	4.081E-02	2.142E-03	-0.500
BA-140	162.66			1.667E-01	7.984E-01	1.338E+00	8.266E-02	0.125
	304.85			3.946E-02	1.386E+00	1.962E+00	5.604E-01	0.020
	423.72			-3.534E-01	1.776E+00	2.920E+00	9.432E-01	-0.121
	537.26	*		3.577E-02	2.542E-01	4.182E-01	1.401E-01	0.086
LA-140	328.76			2.781E-01	3.140E-01	5.244E-01	3.405E-02	0.530
	487.02			3.073E-02	1.319E-01	2.202E-01	1.570E-02	0.140
	815.77			-6.440E-02	3.189E-01	5.180E-01	5.606E-02	-0.124
	1596.21	*		1.656E-02	9.356E-02	1.361E-01	9.337E-03	0.122
CE-141	145.44	*		-1.053E-02	6.139E-02	9.605E-02	5.484E-03	-0.110
CE-143	57.36			-9.594E-04	6.139E-02	Half-Life	too short	
	293.27	*		4.087E-03	6.139E-02	Half-Life	too short	
	664.57			7.464E-03	6.139E-02	Half-Life	too short	
	721.93			1.604E-03	6.139E-02	Half-Life	too short	
CE-144	80.12			1.963E+00	2.406E+00	3.673E+00	3.180E-01	0.534
	133.52	*		-6.537E-03	1.870E-01	2.831E-01	3.915E-02	-0.023
PM-144	476.78			-1.049E-02	5.275E-02	8.603E-02	6.317E-03	-0.122
	618.01			-4.639E-03	2.603E-02	4.148E-02	3.160E-03	-0.112
	696.49	*		-9.553E-03	2.656E-02	4.336E-02	3.521E-03	-0.220
PR-144	696.51	*		-7.317E-01	1.990E+00	3.247E+00	2.635E-01	-0.225
	1489.16			-1.408E+01	1.241E+01	1.761E+01	1.272E+00	-0.800
PM-146	453.88	*		-5.640E-03	3.341E-02	5.481E-02	4.788E-03	-0.103
	633.25			-3.989E-01	1.204E+00	1.880E+00	7.134E-01	-0.212
	735.93			-1.059E-01	1.245E-01	1.792E-01	5.025E-02	-0.591
	747.24			-3.652E-02	7.777E-02	1.248E-01	1.839E-02	-0.293
ND-147	91.11	+		1.106E+00	3.534E-01	5.793E-01	5.452E-02	1.909
	319.41			4.060E+00	3.394E+00	5.784E+00	3.342E-01	0.702
	531.02	*		6.031E-02	5.356E-01	8.816E-01	1.230E-01	0.068
PM-149	285.90	*		9.508E-05	5.356E-01	Half-Life	too short	
EU-152	121.78			-7.709E-02	6.614E-02	1.005E-01	7.718E-03	-0.767
	244.70			6.802E-02	2.846E-01	4.167E-01	2.327E-02	0.163
	344.28	*		-2.641E-02	9.806E-02	1.240E-01	8.086E-03	-0.213
	778.90			-3.561E-02	2.188E-01	3.583E-01	3.350E-02	-0.099
	964.08	+		7.421E-01	3.993E-01	4.818E-01	4.935E-02	1.540
	1085.87			9.027E-02	3.179E-01	5.254E-01	4.070E-02	0.172
	1112.07			1.010E-01	2.682E-01	3.972E-01	2.827E-02	0.254
	1408.01			1.255E-01	1.613E-01	2.784E-01	2.068E-02	0.451
GD-153	69.67			3.998E-01	1.942E+00	2.914E+00	2.365E-01	0.137
	97.43	*		4.530E-02	1.027E-01	1.211E-01	9.470E-03	0.374
	103.18			-7.967E-02	1.167E-01	1.626E-01	1.173E-02	-0.490
EU-154	123.07			-1.672E-02	4.646E-02	7.336E-02	6.928E-03	-0.228
	723.31			2.937E-01	1.671E-01	2.695E-01	2.531E-02	1.090
	873.19			-6.336E-03	2.208E-01	3.606E-01	4.913E-02	-0.018
	996.26			-1.504E-02	2.927E-01	4.713E-01	8.484E-02	-0.032
	1004.73			-1.129E-01	1.873E-01	2.884E-01	3.545E-02	-0.392
	1274.44	*		8.589E-02	1.010E-01	1.758E-01	1.770E-02	0.488
EU-155	86.55	+		4.693E-01	1.344E-01	1.828E-01	1.684E-02	2.568
	105.31	*		7.361E-02	9.930E-02	1.651E-01	1.179E-02	0.446

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA	
TB-160	+	86.79		1.282E+00	3.669E-01	5.044E-01	4.614E-02	2.543	
		197.04		-2.927E-01	5.036E-01	8.124E-01	4.363E-02	-0.360	
		215.65		4.371E-01	7.305E-01	1.099E+00	6.000E-02	0.398	
	+	298.57		2.865E-01	1.288E-01	1.759E-01	1.011E-02	1.628	
		879.36	*	-1.741E-02	1.140E-01	1.843E-01	2.025E-02	-0.094	
		962.29		1.055E+00	5.441E-01	8.704E-01	8.942E-02	1.212	
		966.15		1.715E+00	2.967E-01	5.025E-01	5.128E-02	3.414	
		1177.93		-1.977E-01	3.119E-01	4.936E-01	2.756E-02	-0.401	
		1271.85		1.017E-01	5.748E-01	9.575E-01	6.470E-02	0.106	
		80.57		1.805E-01	2.619E-01	3.976E-01	3.454E-02	0.454	
HO-166M		184.41		8.036E-02	3.572E-02	5.797E-02	3.080E-03	1.386	
		280.46		-6.369E-02	7.519E-02	1.177E-01	6.710E-03	-0.541	
		410.95		5.135E-01	2.356E-01	3.873E-01	2.280E-02	1.326	
		711.68	*	-4.299E-02	4.963E-02	7.814E-02	6.514E-03	-0.550	
		752.31		1.352E-01	2.094E-01	3.616E-01	3.233E-02	0.374	
		810.29		4.569E-03	4.693E-02	7.787E-02	7.667E-03	0.059	
	TA-182		67.75		-4.653E-02	1.179E-01	1.922E-01	1.545E-02	-0.242
		+	100.11		3.124E-01	2.180E-01	2.819E-01	2.119E-02	1.108
			152.43		7.764E-02	3.211E-01	5.124E-01	2.756E-02	0.152
			222.11		-4.822E-02	3.037E-01	4.999E-01	2.744E-02	-0.096
	+	1121.30		6.592E-01	2.614E-01	3.134E-01	2.159E-02	2.103	
		1189.05		-3.674E-01	2.602E-01	3.857E-01	2.206E-02	-0.952	
		1221.41	*	9.735E-02	1.692E-01	2.889E-01	1.767E-02	0.337	
		1231.02		3.382E-01	4.646E-01	6.971E-01	4.348E-02	0.485	
	IR-192	+	295.96		1.134E+00	1.479E-01	2.535E-01	1.479E-02	4.475
			308.46		3.450E-02	7.827E-02	1.293E-01	7.536E-03	0.267
			316.51	*	6.899E-03	2.979E-02	4.858E-02	2.818E-03	0.142
		468.07		-9.068E-03	6.294E-02	8.911E-02	6.358E-03	-0.102	
	HG-203		70.83		9.725E-01	1.529E+00	2.324E+00	3.677E-01	0.418
			72.87		6.525E-01	9.149E-01	1.389E+00	2.129E-01	0.470
		279.20	*	5.225E-02	3.583E-02	6.167E-02	3.718E-03	0.847	
BI-207	+	72.81		1.028E-01	1.997E-01	3.023E-01	2.495E-02	0.340	
		74.97		8.390E-01	1.568E-01	2.336E-01	1.953E-02	3.591	
		569.70		1.923E-02	2.624E-02	4.311E-02	3.021E-03	0.446	
		1063.66	*	-1.363E-02	4.193E-02	6.838E-02	5.644E-03	-0.199	
		1770.23		3.906E-03	3.472E-01	4.858E-01	2.939E-02	0.008	
PB-210		46.54	*	2.857E+00	5.017E+00	8.489E+00	6.508E-01	0.337	
PB-211		404.85	*	-1.010E-01	6.452E-01	9.245E-01	4.435E-01	-0.109	
		427.09		8.421E-02	1.178E+00	1.968E+00	9.024E-01	0.043	
BI-212	+	832.01		-9.386E-03	8.580E-01	1.405E+00	7.329E-01	-0.007	
		727.33	*	2.113E+00	9.953E-01	1.010E+00	1.255E-01	2.091	
		785.37		2.321E+00	2.754E+00	4.689E+00	4.431E-01	0.495	
		1620.50		-7.814E-02	2.048E+00	3.384E+00	2.288E-01	-0.023	
RN-219	+	271.23		4.192E-01	3.151E-01	3.694E-01	2.934E-02	1.135	
		401.81	*	2.419E-01	3.353E-01	5.498E-01	7.392E-02	0.440	
RA-223		81.07		-7.633E-02	2.139E-01	3.094E-01	2.699E-02	-0.247	
		83.79		1.177E-02	1.284E-01	1.888E-01	1.683E-02	0.062	
		94.87		1.245E+00	4.940E-01	7.352E-01	5.987E-02	1.693	
		144.24		5.604E-01	6.036E-01	9.851E-01	6.850E-02	0.569	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		154.21		7.733E-02	3.220E-01	5.509E-01	3.638E-02	0.140
	+	269.46		3.257E-01	2.442E-01	2.903E-01	1.721E-02	1.122
		323.87	*	-1.166E+00	5.828E-01	7.895E-01	1.272E-01	-1.477
	+	338.28		6.785E+00	1.558E+00	2.026E+00	2.075E-01	3.348
		79.69		8.254E-01	1.224E+00	1.849E+00	3.188E-01	0.446
		235.96		4.224E-01	1.597E-01	2.538E-01	2.022E-02	1.664
		256.23	*	4.676E-03	2.104E-01	3.452E-01	3.497E-02	0.014
TH-227	+	299.98		2.170E+00	9.966E-01	1.372E+00	1.503E-01	1.582
		304.50		2.091E-01	1.386E+00	1.980E+00	3.016E-01	0.106
		334.37		-1.066E+00	1.665E+00	2.214E+00	3.148E-01	-0.481
		79.80		1.480E+00	1.610E+00	2.427E+00	5.288E-01	0.610
		235.96		4.224E-01	1.590E-01	2.538E-01	1.825E-02	1.664
		256.23	*	4.676E-03	2.104E-01	3.452E-01	4.121E-02	0.014
	+	299.98		2.170E+00	9.966E-01	1.372E+00	1.503E-01	1.582
TH-229		304.50		2.091E-01	1.386E+00	1.980E+00	3.016E-01	0.106
		334.37		-1.066E+00	1.665E+00	2.214E+00	3.148E-01	-0.481
		85.43		4.560E-01	2.165E-01	3.394E-01	3.068E-02	1.344
	+	88.47		5.960E-01	1.705E-01	2.310E-01	2.116E-02	2.580
		193.51	*	4.813E-02	4.390E-01	7.370E-01	3.946E-02	0.065
	+	210.85		2.916E+00	1.288E+00	1.415E+00	7.694E-02	2.060
		283.69	*	-1.500E+00	1.212E+00	1.825E+00	2.386E-01	-0.822
PA-231		301.36		1.397E+00	5.355E-01	8.502E-01	8.770E-02	1.644
TH-231		81.07		-7.633E-02	2.139E-01	3.094E-01	2.699E-02	-0.247
		83.79		1.177E-02	1.284E-01	1.888E-01	1.683E-02	0.062
		94.87		1.245E+00	4.940E-01	7.352E-01	5.987E-02	1.693
		144.24		5.604E-01	6.036E-01	9.851E-01	6.850E-02	0.569
		154.21		7.733E-02	3.220E-01	5.509E-01	3.638E-02	0.140
	+	269.46		3.257E-01	2.442E-01	2.903E-01	1.721E-02	1.122
		323.87	*	-1.166E+00	5.828E-01	7.895E-01	1.272E-01	-1.477
PA-233	+	338.28		6.785E+00	1.558E+00	2.026E+00	2.075E-01	3.348
	+	300.13		9.820E-01	4.571E-01	6.175E-01	8.253E-02	1.590
		311.90	*	-1.833E-02	5.033E-02	7.959E-02	4.877E-03	-0.230
		340.48		2.715E+00	8.817E-01	1.085E+00	2.517E-01	2.503
	PA-234	94.67		5.687E-01	1.917E-01	2.789E-01	3.372E-02	2.040
	+	98.44		1.551E-01	1.380E-01	1.377E-01	7.665E-02	1.127
		111.00		-4.315E-02	1.714E-01	2.739E-01	2.939E-02	-0.158
PA-234M		131.20		1.390E-01	1.062E-01	1.607E-01	9.147E-03	0.865
		569.50		1.706E-01	2.329E-01	3.826E-01	2.680E-02	0.446
		733.00		9.271E-02	3.247E-01	4.771E-01	1.059E-01	0.194
		880.51		-6.031E-02	2.235E-01	3.580E-01	3.940E-02	-0.168
		883.24		1.834E-02	2.260E-01	3.713E-01	2.509E-01	0.049
		926.50		-3.653E-02	1.373E-01	2.183E-01	5.705E-02	-0.167
		946.00	*	1.265E-01	2.457E-01	4.125E-01	8.138E-02	0.307
TH-234		949.00		3.894E-01	3.554E-01	6.206E-01	6.517E-02	0.628
	PA-234M	766.42		4.421E+00	9.799E+00	1.621E+01	8.240E+00	0.273
		1001.03	*	-1.026E+00	3.981E+00	6.325E+00	6.823E-01	-0.162
	+	63.29	*	1.642E+00	1.499E+00	2.534E+00	4.565E-01	0.648
		92.59		2.876E+00	1.014E+00	1.236E+00	2.723E-01	2.326
	U-238	63.29	*	1.642E+00	1.499E+00	2.534E+00	4.565E-01	0.648

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.59		2.876E+00	8.282E-01	1.236E+00	1.047E-01	2.326
	+	99.53		2.815E-01	1.965E-01	2.559E-01	1.940E-02	1.100
		103.37		-7.987E-02	1.066E-01	1.481E-01	1.065E-02	-0.539
		106.12		5.802E-02	7.881E-02	1.309E-01	9.103E-03	0.443
		117.23	*	1.981E-01	3.655E-01	6.003E-01	3.708E-02	0.330
		228.18		2.938E-02	1.889E-01	3.141E-01	1.733E-02	0.094
AM-241		277.60		1.752E-01	1.576E-01	2.679E-01	1.526E-02	0.654
		59.54	*	-2.616E-02	1.677E-01	2.789E-01	2.313E-02	-0.094
CM-247		278.00		1.081E+00	6.634E-01	1.148E+00	6.540E-02	0.941
		287.50		6.402E-01	9.706E-01	1.627E+00	9.309E-02	0.393
		402.40	*	1.965E-02	3.210E-02	5.076E-02	2.956E-03	0.387
CF-249		252.80		-4.161E-01	7.820E-01	1.251E+00	7.028E-02	-0.332
		333.37		3.206E-02	1.715E-01	2.433E-01	1.407E-02	0.132
		388.16	*	8.134E-03	3.232E-02	5.486E-02	3.153E-03	0.148
CF-251		177.52	*	2.941E-02	1.102E-01	1.871E-01	9.889E-03	0.157
		227.38		4.543E-02	3.145E-01	5.228E-01	2.882E-02	0.087
		285.41		2.994E-01	1.722E+00	2.823E+00	1.614E-01	0.106

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]G248051011      *
* Acquisition date   : 10-MAR-2010 19:35:01 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 02:00:01.80 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G248051011 Analyst initials: MXR1                   *
* Batch Number      : 958225 Sample Quantity : 1.3104E+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	2.867E+01	2.547E+00	4.675E-01	0.000E+00
CD-109	3.974E+00	1.114E+00	1.242E+00	0.000E+00
SN-126	3.866E-01	1.084E-01	1.216E-01	0.000E+00
BA-137M	6.495E-02	5.773E-02	4.335E-02	0.000E+00
CS-137	6.861E-02	6.098E-02	4.579E-02	0.000E+00
TL-208	5.604E-01	8.175E-02	4.327E-02	0.000E+00
BI-211	4.189E+00	4.425E-01	2.659E-01	0.000E+00
PB-212	1.775E+00	1.581E-01	7.716E-02	0.000E+00
BI-214	1.192E+00	1.622E-01	8.414E-02	0.000E+00
PB-214	1.520E+00	1.804E-01	9.668E-02	0.000E+00
RA-224	4.581E+00	1.069E+00	8.259E-01	0.000E+00
RA-226	1.192E+00	1.622E-01	8.414E-02	0.000E+00
AC-228	1.947E+00	3.610E-01	1.746E-01	0.000E+00
RA-228	1.947E+00	3.610E-01	1.746E-01	0.000E+00
TH-228	1.775E+00	1.581E-01	7.716E-02	0.000E+00
TH-232	1.947E+00	3.610E-01	1.746E-01	0.000E+00
U-235	1.480E-01	1.797E-01	3.080E-01	0.000E+00
NP-237	1.154E+00	4.010E-01	4.020E-01	0.000E+00
ANH-511	1.574E-01	5.471E-02	3.877E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.674E-02	2.624E-01	4.530E-01	0.000E+00 NOT IDENT.
NA-22	2.597E-02	3.519E-02	6.232E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.045E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	6.944E-03	3.163E-02	5.408E-02	0.000E+00 FAIL ABUN
V-48	4.852E-02	6.110E-02	1.078E-01	0.000E+00 NOT IDENT.
CR-51	1.451E-01	3.292E-01	5.675E-01	0.000E+00 NOT IDENT.
MN-54	3.022E-02	3.161E-02	5.638E-02	0.000E+00 NOT IDENT.
CO-56	-1.740E-02	3.322E-02	5.415E-02	0.000E+00 FAIL ABUN

CO-57	-1.927E-02	2.244E-02	3.692E-02	0.000E+00	NOT IDENT.
CO-58	8.644E-03	3.144E-02	5.444E-02	0.000E+00	NOT IDENT.
FE-59	-3.055E-02	7.372E-02	1.222E-01	0.000E+00	NOT IDENT.
CO-60	-1.504E-02	3.106E-02	4.960E-02	0.000E+00	NOT IDENT.
ZN-65	1.023E-01	8.531E-02	1.377E-01	0.000E+00	NOT IDENT.
SE-75	2.551E-03	3.804E-02	6.070E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.717E-02	6.186E-02	0.000E+00	NOT IDENT.
Y-88	-1.425E-02	2.284E-02	3.385E-02	0.000E+00	NOT IDENT.
Y-91	7.062E-01	1.842E+01	3.125E+01	0.000E+00	NOT IDENT.
NB-94	1.495E-02	2.652E-02	4.718E-02	0.000E+00	NOT IDENT.
NB-95	3.519E-02	3.588E-02	6.449E-02	0.000E+00	NOT IDENT.
NB-95M	6.822E-02	1.241E-01	1.941E-01	0.000E+00	NOT IDENT.
ZR-95	9.308E-03	5.689E-02	9.847E-02	0.000E+00	NOT IDENT.
MO-99	-2.120E+00	2.265E+01	3.722E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.389E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.340E-02	3.197E-02	5.594E-02	0.000E+00	FAIL ABUN
RH-106	3.580E-02	2.451E-01	4.133E-01	0.000E+00	NOT IDENT.
RU-106	3.580E-02	2.450E-01	4.133E-01	0.000E+00	NOT IDENT.
AG-108M	-1.772E-02	2.309E-02	3.831E-02	0.000E+00	NOT IDENT.
AG-110M	5.251E-04	3.134E-02	4.709E-02	0.000E+00	NOT IDENT.
SN-113	1.155E-02	3.730E-02	6.619E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.371E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	9.245E-03	5.094E-02	9.203E-02	0.000E+00	NOT IDENT.
TE-123M	2.419E-03	2.293E-02	4.130E-02	0.000E+00	NOT IDENT.
SB-124	-3.394E-02	5.878E-02	9.061E-02	0.000E+00	NOT IDENT.
SB-125	4.103E-02	6.827E-02	1.222E-01	0.000E+00	FAIL ABUN
TE-125M	3.165E+00	9.241E+00	1.612E+01	0.000E+00	NOT IDENT.
I-126	-1.606E-02	2.347E-01	3.495E-01	0.000E+00	NOT IDENT.
SB-126	-1.630E-02	1.640E-01	2.411E-01	0.000E+00	NOT IDENT.
SB-127	3.385E-01	1.707E+00	2.991E+00	0.000E+00	NOT IDENT.
I-131	-8.051E-02	1.167E-01	1.985E-01	0.000E+00	NOT IDENT.
TE-132	2.062E-01	1.250E+00	2.190E+00	0.000E+00	NOT IDENT.
BA-133	-3.523E-02	3.880E-02	5.211E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.835E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.951E-02	7.284E-02	0.000E+00	FAIL ABUN
CS-135	2.346E-01	1.471E-01	2.399E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.689E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.549E-02	1.047E-01	1.826E-01	0.000E+00	NOT IDENT.
CE-139	-2.041E-02	2.442E-02	4.236E-02	0.000E+00	NOT IDENT.
BA-140	3.577E-02	2.491E-01	4.258E-01	0.000E+00	NOT IDENT.
LA-140	1.656E-02	9.169E-02	1.360E-01	0.000E+00	NOT IDENT.
CE-141	-1.053E-02	6.016E-02	9.989E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.121E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-6.537E-03	1.832E-01	2.948E-01	0.000E+00	NOT IDENT.
PM-144	-9.553E-03	2.603E-02	4.395E-02	0.000E+00	NOT IDENT.
PR-144	-7.317E-01	1.950E+00	3.291E+00	0.000E+00	NOT IDENT.
PM-146	-5.640E-03	3.274E-02	5.596E-02	0.000E+00	NOT IDENT.
ND-147	6.031E-02	5.249E-01	8.978E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.932E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.641E-02	9.610E-02	1.272E-01	0.000E+00	FAIL ABUN
GD-153	4.530E-02	1.006E-01	1.268E-01	0.000E+00	NOT IDENT.
EU-154	8.589E-02	9.893E-02	1.764E-01	0.000E+00	NOT IDENT.
EU-155	7.361E-02	9.731E-02	1.726E-01	0.000E+00	FAIL ABUN
TB-160	-1.741E-02	1.117E-01	1.861E-01	0.000E+00	FAIL ABUN
HO-166M	-4.299E-02	4.863E-02	7.918E-02	0.000E+00	NOT IDENT.
TA-182	9.735E-02	1.658E-01	2.901E-01	0.000E+00	FAIL ABUN
IR-192	6.899E-03	2.919E-02	4.990E-02	0.000E+00	FAIL ABUN
HG-203	5.225E-02	3.511E-02	6.346E-02	0.000E+00	NOT IDENT.
BI-207	-1.363E-02	4.109E-02	6.882E-02	0.000E+00	FAIL ABUN
PB-210	2.857E+00	4.917E+00	8.987E+00	0.000E+00	NOT IDENT.
PB-211	-1.010E-01	6.323E-01	9.456E-01	0.000E+00	NOT IDENT.
BI-212	0.000E+00	9.754E-01	1.023E+00	0.000E+00	FAIL ABUN
RN-219	2.419E-01	3.286E-01	5.624E-01	0.000E+00	FAIL ABUN
RA-223	-1.166E+00	5.711E-01	8.105E-01	0.000E+00	FAIL ABUN
AC-227	4.676E-03	2.062E-01	3.558E-01	0.000E+00	FAIL ABUN
TH-227	4.676E-03	2.062E-01	3.558E-01	0.000E+00	FAIL ABUN
TH-229	4.813E-02	4.302E-01	7.630E-01	0.000E+00	FAIL ABUN
PA-231	-1.500E+00	1.188E+00	1.877E+00	0.000E+00	NOT IDENT.
TH-231	-1.166E+00	5.711E-01	8.105E-01	0.000E+00	FAIL ABUN
PA-233	-1.833E-02	4.932E-02	8.176E-02	0.000E+00	FAIL ABUN
PA-234	1.265E-01	2.408E-01	4.160E-01	0.000E+00	FAIL ABUN
PA-234M	-1.026E+00	3.901E+00	6.373E+00	0.000E+00	NOT IDENT.
TH-234	1.642E+00	1.469E+00	2.670E+00	0.000E+00	FAIL ABUN
U-238	1.642E+00	1.469E+00	2.670E+00	0.000E+00	FAIL ABUN
NP-239	1.981E-01	3.582E-01	6.265E-01	0.000E+00	FAIL ABUN
AM-241	-2.616E-02	1.643E-01	2.942E-01	0.000E+00	NOT IDENT.
CM-247	1.965E-02	3.145E-02	5.192E-02	0.000E+00	NOT IDENT.
CF-249	8.134E-03	3.168E-02	5.615E-02	0.000E+00	NOT IDENT.

CF-251	2.941E-02	1.080E-01	1.940E-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]G248051011.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:35:01
Sample ID          : G248051011 Sample quantity : 1.31040E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.80 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	2020	10.66*	1.894E+00	2.867E+01	2.867E+01	9.06
CD-109	88.03	322	3.70*	6.451E+00	3.866E+00	3.974E+00	28.61
SN-126	64.28	-----	9.60	3.245E+00	-----	Line Not Found	-----
	86.94	322	8.90	6.451E+00	1.607E+00	1.607E+00	49.54
	87.57	322	37.00*	6.451E+00	3.866E-01	3.866E-01	28.61
BA-137M	661.66	73	89.90*	3.591E+00	6.487E-02	6.495E-02	90.70
CS-137	661.66	73	85.10*	3.591E+00	6.853E-02	6.861E-02	90.70
TL-208	277.37	-----	6.60	6.258E+00	-----	Line Not Found	-----
	583.19	654	85.00*	3.935E+00	5.604E-01	5.604E-01	14.88
	860.56	94	12.50	2.917E+00	7.376E-01	7.376E-01	56.43
BI-211	72.87	-----	1.23	4.622E+00	-----	Line Not Found	-----
	351.06	1030	12.92*	5.452E+00	4.189E+00	4.189E+00	10.78
PB-212	74.82	514	10.28	4.925E+00	2.910E+00	2.910E+00	21.07
	77.11	782	17.10	5.253E+00	2.495E+00	2.495E+00	14.84
	238.63	1835	43.60*	6.793E+00	1.775E+00	1.775E+00	9.09
	300.09	136	3.30	5.987E+00	1.973E+00	1.973E+00	45.37
BI-214	609.32	722	45.49*	3.813E+00	1.192E+00	1.192E+00	13.89
	1120.29	168	14.92	2.335E+00	1.380E+00	1.380E+00	40.21
	1764.49	171	15.30	1.695E+00	1.890E+00	1.890E+00	19.31
PB-214	74.82	514	5.80	4.925E+00	5.158E+00	5.159E+00	20.30
	77.11	782	9.70	5.253E+00	4.398E+00	4.399E+00	16.97
	242.00	442	7.25	6.749E+00	2.590E+00	2.590E+00	24.51
	295.22	578	18.42	6.041E+00	1.488E+00	1.489E+00	14.54
	351.93	1030	35.60*	5.452E+00	1.520E+00	1.520E+00	12.11
RA-224	240.99	442	4.10*	6.749E+00	4.581E+00	4.581E+00	23.81
RA-226	609.32	722	45.49*	3.813E+00	1.192E+00	1.192E+00	13.89
	1120.29	168	14.92	2.335E+00	1.380E+00	1.380E+00	40.21
	1764.49	171	15.30	1.695E+00	1.890E+00	1.890E+00	19.31
AC-228	338.32	375	11.27	5.580E+00	1.710E+00	1.710E+00	46.06
	911.20	488	25.80*	2.780E+00	1.947E+00	1.947E+00	18.92
	968.97	286	15.80	2.640E+00	1.967E+00	1.967E+00	29.85
RA-228	338.32	375	11.27	5.580E+00	1.710E+00	1.710E+00	46.06

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	911.20	488	25.80*	2.780E+00	1.947E+00	1.947E+00	18.92
	968.97	286	15.80	2.640E+00	1.967E+00	1.967E+00	29.85
	74.82	514	10.28	4.925E+00	2.910E+00	2.910E+00	18.73
	77.11	782	17.10	5.253E+00	2.495E+00	2.495E+00	14.84
	238.63	1835	43.60*	6.793E+00	1.775E+00	1.775E+00	9.09
TH-232	300.09	136	3.30	5.987E+00	1.973E+00	1.973E+00	75.46
	338.32	375	11.27	5.580E+00	1.710E+00	1.710E+00	21.34
	911.20	488	25.80*	2.780E+00	1.947E+00	1.947E+00	18.92
	968.97	286	15.80	2.640E+00	1.967E+00	1.967E+00	29.85
U-235	89.96	227	3.47	6.710E+00	2.790E+00	2.790E+00	39.25
	93.35	295	5.60	6.958E+00	2.172E+00	2.172E+00	35.90
	143.76	-----	10.96*	8.222E+00	-----	Line Not Found	-----
	163.33	-----	5.08	8.005E+00	-----	Line Not Found	-----
	185.72	306	57.20	7.646E+00	2.001E-01	2.001E-01	32.20
NP-237	205.31	-----	5.01	7.323E+00	-----	Line Not Found	-----
	86.48	322	12.40*	6.451E+00	1.154E+00	1.154E+00	35.47
	95.86	-----	2.68	7.180E+00	-----	Line Not Found	-----
ANH-511	511.00	237	100.00*	4.311E+00	1.574E-01	1.574E-01	35.46

Flag: "*" = Keyline

Total number of lines in spectrum 34
Number of unidentified lines 4
Number of lines tentatively identified by NID 30 88.24%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.867E+01	2.867E+01	0.260E+01	9.06	
CD-109	461.40D	1.03	3.866E+00	3.974E+00	1.137E+00	28.61	
SN-126	2.30E+05Y	1.00	3.866E-01	3.866E-01	1.106E-01	28.61	
BA-137M	30.08Y	1.00	6.487E-02	6.495E-02	5.890E-02	90.70	
CS-137	30.08Y	1.00	6.853E-02	6.861E-02	6.223E-02	90.70	
TL-208	1.41E+10Y	1.00	5.604E-01	5.604E-01	0.834E-01	14.88	
BI-211	7.04E+08Y	1.00	4.189E+00	4.189E+00	0.452E+00	10.78	
PB-212	1.41E+10Y	1.00	1.775E+00	1.775E+00	0.161E+00	9.09	
BI-214	1600.00Y	1.00	1.192E+00	1.192E+00	0.166E+00	13.89	
PB-214	1600.00Y	1.00	1.520E+00	1.520E+00	0.184E+00	12.11	
RA-224	1.41E+10Y	1.00	4.581E+00	4.581E+00	1.091E+00	23.81	
RA-226	1600.00Y	1.00	1.192E+00	1.192E+00	0.166E+00	13.89	
AC-228	1.41E+10Y	1.00	1.947E+00	1.947E+00	0.368E+00	18.92	
RA-228	1.41E+10Y	1.00	1.947E+00	1.947E+00	0.368E+00	18.92	
TH-228	1.41E+10Y	1.00	1.775E+00	1.775E+00	0.161E+00	9.09	
TH-232	1.41E+10Y	1.00	1.947E+00	1.947E+00	0.368E+00	18.92	
U-235	7.04E+08Y	1.00	2.001E-01	2.001E-01	0.644E-01	32.20	K
NP-237	2.14E+06Y	1.00	1.154E+00	1.154E+00	0.409E+00	35.47	
ANH-511	1.00E+09Y	1.00	1.574E-01	1.574E-01	0.558E-01	35.46	
Total Activity :			5.719E+01	5.730E+01			

Grand Total Activity : 5.719E+01 5.730E+01

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

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

Unidentified Energy Lines
Sample ID : G248051011

Page : 4
Acquisition date : 10-MAR-2010 19:35:01

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	99.75	102	385	1.15	198.60	195	8	1.42E-02	69.4	7.43E+00	T
0	129.17	109	362	1.53	257.41	254	7	1.51E-02	61.2	8.25E+00	
0	209.70	207	458	1.39	418.43	414	12	2.87E-02	43.8	7.25E+00	T
0	270.15	100	347	1.34	539.27	535	11	1.39E-02	74.7	6.35E+00	T
0	408.97	84	190	1.00	816.83	811	11	1.17E-02	67.1	4.97E+00	
0	462.90	89	149	1.57	924.65	920	9	1.24E-02	53.9	4.60E+00	T
0	726.91	164	213	2.20	1452.54	1442	19	2.28E-02	45.4	3.34E+00	T
0	794.78	88	81	1.97	1588.25	1582	12	1.22E-02	46.1	3.11E+00	T
3	963.85	100	100	2.81	1926.32	1918	23	1.39E-02	52.8	2.65E+00	T
0	1238.28	73	128	2.82	2475.09	2469	17	1.01E-02	77.6	2.15E+00	T
0	1509.98	48	30	5.18	3018.44	3006	24	6.71E-03	66.5	1.85E+00	
0	1590.66	60	51	4.38	3179.79	3168	30	8.35E-03	74.7	1.79E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051011.CNF;1  *
* Acquisition date   : 10-MAR-2010 19:35:01  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 02:00:01.80           Half life ratio : 8.00000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library : SOLID          *
* Sample ID          : G248051011           Analyst initials: MXR1           *
* Batch Number       : 958225               Sample Quantity : 1.31040E+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	2.867E+01	2.599E+00	4.671E-01	3.544E-02	61.386
CD-109	3.974E+00	1.137E+00	1.185E+00	1.095E-01	3.354
SN-126	3.866E-01	1.106E-01	1.160E-01	1.069E-02	3.333
BA-137M	6.495E-02	5.890E-02	4.273E-02	3.257E-03	1.520
CS-137	6.861E-02	6.223E-02	4.514E-02	3.449E-03	1.520
TL-208	5.604E-01	8.342E-02	4.256E-02	3.331E-03	13.167
BI-211	4.189E+00	4.515E-01	2.594E-01	1.665E-02	16.152
PB-212	1.775E+00	1.613E-01	7.479E-02	5.391E-03	23.728
BI-214	1.192E+00	1.655E-01	8.282E-02	7.443E-03	14.391
PB-214	1.520E+00	1.841E-01	9.430E-02	7.982E-03	16.122
RA-224	4.581E+00	1.091E+00	8.006E-01	4.460E-02	5.721
RA-226	1.192E+00	1.655E-01	8.282E-02	7.443E-03	14.391
AC-228	1.947E+00	3.684E-01	1.731E-01	2.344E-02	11.253
RA-228	1.947E+00	3.684E-01	1.731E-01	2.344E-02	11.253
TH-228	1.775E+00	1.613E-01	7.479E-02	5.391E-03	23.728
TH-232	1.947E+00	3.684E-01	1.731E-01	2.344E-02	11.253
U-235	2.001E-01	6.444E-02	2.961E-01	4.618E-02	0.676
NP-237	1.154E+00	4.092E-01	3.834E-01	8.766E-02	3.009

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	1.574E-01	5.582E-02	3.805E-02	2.513E-03	4.137

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.674E-02		2.678E-01	4.441E-01	3.217E-02	0.060
NA-22	2.597E-02		3.591E-02	6.211E-02	4.226E-03	0.418
NA-24	1.319E+00		1.044E+01	Half-Life too short		
SC-46	6.944E-03		3.227E-02	5.357E-02	5.976E-03	0.130
V-48	4.852E-02		6.235E-02	1.070E-01	1.058E-02	0.454
CR-51	1.451E-01		3.359E-01	5.527E-01	3.553E-02	0.263
MN-54	3.022E-02		3.226E-02	5.579E-02	5.715E-03	0.542
CO-56	-1.740E-02		3.390E-02	5.359E-02	5.595E-03	-0.325
CO-57	-1.927E-02		2.290E-02	3.540E-02	2.097E-03	-0.544
CO-58	8.644E-03		3.208E-02	5.384E-02	5.315E-03	0.161
FE-59	-3.055E-02		7.522E-02	1.215E-01	9.992E-03	-0.252
CO-60	-1.504E-02		3.169E-02	4.947E-02	3.738E-03	-0.304
ZN-65	1.023E-01		8.705E-02	1.369E-01	9.646E-03	0.747
SE-75	2.551E-03		3.881E-02	5.893E-02	3.371E-03	0.043
SR-85	7.311E-02		3.792E-02	6.072E-02	4.022E-03	1.204
Y-88	-1.425E-02		2.330E-02	3.395E-02	1.934E-03	-0.420
Y-91	7.062E-01		1.880E+01	3.111E+01	1.839E+00	0.023
NB-94	1.495E-02		2.706E-02	4.655E-02	3.819E-03	0.321
NB-95	3.519E-02		3.662E-02	6.372E-02	5.829E-03	0.552
NB-95M	6.822E-02		1.266E-01	1.881E-01	1.385E-02	0.363
ZR-95	9.308E-03		5.805E-02	9.728E-02	9.606E-03	0.096
MO-99	-2.120E+00		2.311E+01	3.676E+01	5.818E+00	-0.058
TC-99M	-1.103E+14		1.219E+14	Half-Life too short		
RU-103	1.340E-02		3.262E-02	5.487E-02	7.008E-03	0.244
RH-106	3.580E-02		2.501E-01	4.070E-01	5.076E-02	0.088
RU-106	3.580E-02		2.500E-01	4.070E-01	2.995E-02	0.088
AG-108M	-1.772E-02		2.356E-02	3.750E-02	2.417E-03	-0.473
AG-110M	5.251E-04		3.198E-02	4.641E-02	3.660E-03	0.011
SN-113	1.155E-02		3.806E-02	6.467E-02	3.967E-03	0.179
CD-115	-1.777E-05		1.210E-05	Half-Life too short		
SN-117M	9.245E-03		5.198E-02	8.862E-02	4.710E-03	0.104
TE-123M	2.419E-03		2.339E-02	3.977E-02	2.146E-03	0.061
SB-124	-3.394E-02		5.998E-02	9.075E-02	6.285E-03	-0.374
SB-125	4.103E-02		6.967E-02	1.196E-01	7.462E-03	0.343
TE-125M	3.165E+00		9.430E+00	1.543E+01	1.385E+00	0.205
I-126	-1.606E-02		2.395E-01	3.445E-01	2.649E-02	-0.047
SB-126	-1.630E-02		1.673E-01	2.380E-01	2.015E-02	-0.068
SB-127	3.385E-01		1.742E+00	2.950E+00	3.512E-01	0.115
I-131	-8.051E-02		1.191E-01	1.937E-01	1.257E-02	-0.416
TE-132	2.062E-01		1.276E+00	2.122E+00	3.205E-01	0.097
BA-133	-3.523E-02		3.959E-02	5.084E-02	5.728E-03	-0.693
I-133	-3.211E-02		2.977E-02	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
CS-134	1.073E-01	+	5.052E-02	7.202E-02	6.966E-03	1.490
CS-135	2.346E-01		1.501E-01	2.330E-01	1.761E-02	1.007
I-135	2.089E+12		8.618E+12	Half-Life	too short	
CS-136	2.549E-02		1.068E-01	1.814E-01	1.626E-02	0.141
CE-139	-2.041E-02		2.492E-02	4.081E-02	2.142E-03	-0.500
BA-140	3.577E-02		2.542E-01	4.182E-01	1.401E-01	0.086
LA-140	1.656E-02		9.356E-02	1.361E-01	9.337E-03	0.122
CE-141	-1.053E-02		6.139E-02	9.605E-02	5.484E-03	-0.110
CE-143	4.087E-03		5.718E-04	Half-Life	too short	
CE-144	-6.537E-03		1.870E-01	2.831E-01	3.915E-02	-0.023
PM-144	-9.553E-03		2.656E-02	4.336E-02	3.521E-03	-0.220
PR-144	-7.317E-01		1.990E+00	3.247E+00	2.635E-01	-0.225
PM-146	-5.640E-03		3.341E-02	5.481E-02	4.788E-03	-0.103
ND-147	6.031E-02		5.356E-01	8.816E-01	1.230E-01	0.068
PM-149	9.508E-05		9.857E-05	Half-Life	too short	
EU-152	-2.641E-02		9.806E-02	1.240E-01	8.086E-03	-0.213
GD-153	4.530E-02		1.027E-01	1.211E-01	9.470E-03	0.374
EU-154	8.589E-02		1.010E-01	1.758E-01	1.770E-02	0.488
EU-155	7.361E-02		9.930E-02	1.651E-01	1.179E-02	0.446
TB-160	-1.741E-02		1.140E-01	1.843E-01	2.025E-02	-0.094
HO-166M	-4.299E-02		4.963E-02	7.814E-02	6.514E-03	-0.550
TA-182	9.735E-02		1.692E-01	2.889E-01	1.767E-02	0.337
IR-192	6.899E-03		2.979E-02	4.858E-02	2.818E-03	0.142
HG-203	5.225E-02		3.583E-02	6.167E-02	3.718E-03	0.847
BI-207	-1.363E-02		4.193E-02	6.838E-02	5.644E-03	-0.199
PB-210	2.857E+00		5.017E+00	8.489E+00	6.508E-01	0.337
PB-211	-1.010E-01		6.452E-01	9.245E-01	4.435E-01	-0.109
BI-212	2.113E+00	+	9.953E-01	1.010E+00	1.255E-01	2.091
RN-219	2.419E-01		3.353E-01	5.498E-01	7.392E-02	0.440
RA-223	-1.166E+00		5.828E-01	7.895E-01	1.272E-01	-1.477
AC-227	4.676E-03		2.104E-01	3.452E-01	3.497E-02	0.014
TH-227	4.676E-03		2.104E-01	3.452E-01	4.121E-02	0.014
TH-229	4.813E-02		4.390E-01	7.370E-01	3.946E-02	0.065
PA-231	-1.500E+00		1.212E+00	1.825E+00	2.386E-01	-0.822
TH-231	-1.166E+00		5.828E-01	7.895E-01	1.272E-01	-1.477
PA-233	-1.833E-02		5.033E-02	7.959E-02	4.877E-03	-0.230
PA-234	1.265E-01		2.457E-01	4.125E-01	8.138E-02	0.307
PA-234M	-1.026E+00		3.981E+00	6.325E+00	6.823E-01	-0.162
TH-234	1.642E+00		1.499E+00	2.534E+00	4.565E-01	0.648
U-238	1.642E+00		1.499E+00	2.534E+00	4.565E-01	0.648
NP-239	1.981E-01		3.655E-01	6.003E-01	3.708E-02	0.330
AM-241	-2.616E-02		1.677E-01	2.789E-01	2.313E-02	-0.094
CM-247	1.965E-02		3.210E-02	5.076E-02	2.956E-03	0.387
CF-249	8.134E-03		3.232E-02	5.486E-02	3.153E-03	0.148
CF-251	2.941E-02		1.102E-01	1.871E-01	9.889E-03	0.157

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G248051011          *
* Acquisition date   : 10-MAR-2010 19:35:01 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 02:00:01.80 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G248051011 Analyst initials: MXR1                 *
* Batch Number      : 958225 Sample Quantity : 1.3104E+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	2.867E+01	2.547E+00	2.339E-01	1.299E+00
CD-109	3.974E+00	1.114E+00	6.213E-01	5.685E-01
SN-126	3.866E-01	1.084E-01	6.084E-02	5.530E-02
BA-137M	6.495E-02	5.773E-02	2.169E-02	2.945E-02
CS-137	6.861E-02	6.098E-02	2.291E-02	3.111E-02
TL-208	5.604E-01	8.175E-02	2.165E-02	4.171E-02
BI-211	4.189E+00	4.425E-01	1.330E-01	2.258E-01
PB-212	1.775E+00	1.581E-01	3.860E-02	8.066E-02
BI-214	1.192E+00	1.622E-01	4.210E-02	8.277E-02
PB-214	1.520E+00	1.804E-01	4.837E-02	9.204E-02
RA-224	4.581E+00	1.069E+00	4.132E-01	5.454E-01
RA-226	1.192E+00	1.622E-01	4.210E-02	8.277E-02
AC-228	1.947E+00	3.610E-01	8.737E-02	1.842E-01
RA-228	1.947E+00	3.610E-01	8.737E-02	1.842E-01
TH-228	1.775E+00	1.581E-01	3.860E-02	8.066E-02
TH-232	1.947E+00	3.610E-01	8.737E-02	1.842E-01
U-235	1.480E-01	1.797E-01	1.541E-01	9.161E-02
NP-237	1.154E+00	4.010E-01	2.011E-01	2.046E-01
ANH-511	1.574E-01	5.471E-02	1.940E-02	2.791E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.674E-02	2.624E-01	2.266E-01	1.339E-01 NOT IDENT.
NA-22	2.597E-02	3.519E-02	3.118E-02	1.795E-02 NOT IDENT.
NA-24	1.319E+06	2.045E+07	0.000E+00	1.044E+07 SHORT HLIF
SC-46	6.944E-03	3.163E-02	2.706E-02	1.614E-02 FAIL ABUN
V-48	4.852E-02	6.110E-02	5.394E-02	3.117E-02 NOT IDENT.
CR-51	1.451E-01	3.292E-01	2.839E-01	1.680E-01 NOT IDENT.
MN-54	3.022E-02	3.161E-02	2.821E-02	1.613E-02 NOT IDENT.
CO-56	-1.740E-02	3.322E-02	2.709E-02	1.695E-02 FAIL ABUN

CO-57	-1.927E-02	2.244E-02	1.847E-02	1.145E-02	NOT IDENT.
CO-58	8.644E-03	3.144E-02	2.723E-02	1.604E-02	NOT IDENT.
FE-59	-3.055E-02	7.372E-02	6.113E-02	3.761E-02	NOT IDENT.
CO-60	-1.504E-02	3.106E-02	2.482E-02	1.585E-02	NOT IDENT.
ZN-65	1.023E-01	8.531E-02	6.890E-02	4.352E-02	NOT IDENT.
SE-75	2.551E-03	3.804E-02	3.037E-02	1.941E-02	NOT IDENT.
SR-85	7.311E-02	3.717E-02	3.095E-02	1.896E-02	NOT IDENT.
Y-88	-1.425E-02	2.284E-02	1.694E-02	1.165E-02	NOT IDENT.
Y-91	7.062E-01	1.842E+01	1.563E+01	9.400E+00	NOT IDENT.
NB-94	1.495E-02	2.652E-02	2.360E-02	1.353E-02	NOT IDENT.
NB-95	3.519E-02	3.588E-02	3.227E-02	1.831E-02	NOT IDENT.
NB-95M	6.822E-02	1.241E-01	9.713E-02	6.331E-02	NOT IDENT.
ZR-95	9.308E-03	5.689E-02	4.927E-02	2.903E-02	NOT IDENT.
MO-99	-2.120E+00	2.265E+01	1.862E+01	1.155E+01	NOT IDENT.
TC-99M	-1.103E+20	2.389E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.340E-02	3.197E-02	2.798E-02	1.631E-02	FAIL ABUN
RH-106	3.580E-02	2.451E-01	2.068E-01	1.250E-01	NOT IDENT.
RU-106	3.580E-02	2.450E-01	2.068E-01	1.250E-01	NOT IDENT.
AG-108M	-1.772E-02	2.309E-02	1.917E-02	1.178E-02	NOT IDENT.
AG-110M	5.251E-04	3.134E-02	2.356E-02	1.599E-02	NOT IDENT.
SN-113	1.155E-02	3.730E-02	3.311E-02	1.903E-02	NOT IDENT.
CD-115	-1.777E+01	2.371E+01	0.000E+00	1.210E+01	SHORT HLIF
SN-117M	9.245E-03	5.094E-02	4.604E-02	2.599E-02	NOT IDENT.
TE-123M	2.419E-03	2.293E-02	2.066E-02	1.170E-02	NOT IDENT.
SB-124	-3.394E-02	5.878E-02	4.533E-02	2.999E-02	NOT IDENT.
SB-125	4.103E-02	6.827E-02	6.113E-02	3.483E-02	FAIL ABUN
TE-125M	3.165E+00	9.241E+00	8.063E+00	4.715E+00	NOT IDENT.
I-126	-1.606E-02	2.347E-01	1.749E-01	1.197E-01	NOT IDENT.
SB-126	-1.630E-02	1.640E-01	1.206E-01	8.366E-02	NOT IDENT.
SB-127	3.385E-01	1.707E+00	1.496E+00	8.710E-01	NOT IDENT.
I-131	-8.051E-02	1.167E-01	9.932E-02	5.954E-02	NOT IDENT.
TE-132	2.062E-01	1.250E+00	1.096E+00	6.380E-01	NOT IDENT.
BA-133	-3.523E-02	3.880E-02	2.607E-02	1.980E-02	NOT IDENT.
I-133	-3.211E+04	5.835E+04	0.000E+00	2.977E+04	SHORT HLIF
CS-134	1.073E-01	4.951E-02	3.644E-02	2.526E-02	FAIL ABUN
CS-135	2.346E-01	1.471E-01	1.200E-01	7.503E-02	NOT IDENT.
I-135	2.089E+18	1.689E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.549E-02	1.047E-01	9.136E-02	5.340E-02	NOT IDENT.
CE-139	-2.041E-02	2.442E-02	2.119E-02	1.246E-02	NOT IDENT.
BA-140	3.577E-02	2.491E-01	2.130E-01	1.271E-01	NOT IDENT.
LA-140	1.656E-02	9.169E-02	6.804E-02	4.678E-02	NOT IDENT.
CE-141	-1.053E-02	6.016E-02	4.997E-02	3.070E-02	NOT IDENT.
CE-143	4.087E+03	1.121E+03	0.000E+00	5.718E+02	SHORT HLIF
CE-144	-6.537E-03	1.832E-01	1.475E-01	9.348E-02	NOT IDENT.
PM-144	-9.553E-03	2.603E-02	2.199E-02	1.328E-02	NOT IDENT.
PR-144	-7.317E-01	1.950E+00	1.647E+00	9.949E-01	NOT IDENT.
PM-146	-5.640E-03	3.274E-02	2.800E-02	1.670E-02	NOT IDENT.
ND-147	6.031E-02	5.249E-01	4.491E-01	2.678E-01	FAIL ABUN
PM-149	9.508E+01	1.932E+02	0.000E+00	9.857E+01	SHORT HLIF
EU-152	-2.641E-02	9.610E-02	6.363E-02	4.903E-02	FAIL ABUN
GD-153	4.530E-02	1.006E-01	6.342E-02	5.133E-02	NOT IDENT.
EU-154	8.589E-02	9.893E-02	8.827E-02	5.048E-02	NOT IDENT.
EU-155	7.361E-02	9.731E-02	8.633E-02	4.965E-02	FAIL ABUN
TB-160	-1.741E-02	1.117E-01	9.311E-02	5.700E-02	FAIL ABUN
HO-166M	-4.299E-02	4.863E-02	3.962E-02	2.481E-02	NOT IDENT.
TA-182	9.735E-02	1.658E-01	1.451E-01	8.461E-02	FAIL ABUN
IR-192	6.899E-03	2.919E-02	2.496E-02	1.489E-02	FAIL ABUN
HG-203	5.225E-02	3.511E-02	3.175E-02	1.791E-02	NOT IDENT.
BI-207	-1.363E-02	4.109E-02	3.443E-02	2.097E-02	FAIL ABUN
PB-210	2.857E+00	4.917E+00	4.496E+00	2.509E+00	NOT IDENT.
PB-211	-1.010E-01	6.323E-01	4.731E-01	3.226E-01	NOT IDENT.
BI-212	2.113E+00	9.754E-01	5.120E-01	4.977E-01	FAIL ABUN
RN-219	2.419E-01	3.286E-01	2.814E-01	1.676E-01	FAIL ABUN
RA-223	-1.166E+00	5.711E-01	4.055E-01	2.914E-01	FAIL ABUN
AC-227	4.676E-03	2.062E-01	1.780E-01	1.052E-01	FAIL ABUN
TH-227	4.676E-03	2.062E-01	1.780E-01	1.052E-01	FAIL ABUN
TH-229	4.813E-02	4.302E-01	3.817E-01	2.195E-01	FAIL ABUN
PA-231	-1.500E+00	1.188E+00	9.392E-01	6.059E-01	NOT IDENT.
TH-231	-1.166E+00	5.711E-01	4.055E-01	2.914E-01	FAIL ABUN
PA-233	-1.833E-02	4.932E-02	4.090E-02	2.516E-02	FAIL ABUN
PA-234	1.265E-01	2.408E-01	2.081E-01	1.229E-01	FAIL ABUN
PA-234M	-1.026E+00	3.901E+00	3.188E+00	1.990E+00	NOT IDENT.
TH-234	1.642E+00	1.469E+00	1.336E+00	7.495E-01	FAIL ABUN
U-238	1.642E+00	1.469E+00	1.336E+00	7.495E-01	FAIL ABUN
NP-239	1.981E-01	3.582E-01	3.134E-01	1.828E-01	FAIL ABUN
AM-241	-2.616E-02	1.643E-01	1.472E-01	8.384E-02	NOT IDENT.
CM-247	1.965E-02	3.145E-02	2.598E-02	1.605E-02	NOT IDENT.
CF-249	8.134E-03	3.168E-02	2.809E-02	1.616E-02	NOT IDENT.

CF-251

2.941E-02

1.080E-01

9.705E-02

5.512E-02 NOT IDENT.

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

ENERGY	MDA COUNTS
46.54	300.4192
49.72	328.5824
57.36	0.0000
59.54	350.1850
63.29	372.6531
63.29	372.6531
64.28	386.1949
67.75	410.6973
69.67	416.1006
70.83	404.5555
72.81	465.3795
72.87	465.4647
72.87	465.4647
74.82	432.4904
74.82	432.4904
74.82	432.4904
74.97	432.6837
77.11	435.4220
77.11	435.4220
77.11	435.4220
79.69	375.1565
79.80	357.4036
80.12	357.7295
80.19	357.7991
80.57	370.1249
81.00	424.3663
81.07	424.4508
81.07	424.4508
83.79	430.6845
83.79	430.6845
85.43	387.2363
86.48	515.7561
86.55	515.8547
86.79	434.1997
86.94	434.3765
87.57	435.1075
88.03	435.6399
88.47	436.1461
89.96	437.8546
91.11	439.1638
92.59	440.8374
92.59	440.8374
93.35	441.6906
94.67	322.3022
94.87	322.4641
94.87	322.4641
95.86	341.9121
97.43	293.3168
98.44	339.9216
99.53	335.5963
100.11	336.0665
103.18	389.1572
103.37	401.9929
105.31	360.3646
106.12	361.0408
109.28	371.1407
111.00	385.4619
111.76	375.3586
116.30	367.1560
117.23	339.5917
121.12	359.9579
121.78	374.7396
122.06	360.6635
123.07	352.6042
131.20	330.9886
133.52	348.3567
136.00	332.3889

136.47	347.3987
140.51	372.8646
140.51	0.0000
143.76	337.2608
144.24	324.9272
144.24	324.9272
145.44	365.9148
152.43	363.5208
153.25	330.7904
154.21	354.1349
154.21	354.1349
156.02	342.9371
158.56	322.3547
159.00	325.2456
162.66	313.9166
163.33	313.3792
165.86	358.4990
176.60	359.2737
177.52	344.3073
181.07	379.5431
184.41	340.2400
185.72	357.8858
193.51	331.2497
197.04	368.5874
205.31	330.9837
210.85	320.3269
215.65	303.3540
222.11	322.2684
227.38	338.1625
228.16	325.7822
228.18	325.7898
235.69	352.4064
235.96	343.0412
235.96	343.0412
238.63	276.5734
238.63	276.5734
240.99	277.3780
242.00	277.7207
244.70	241.2848
252.40	275.1682
252.80	263.1984
256.23	258.1848
256.23	258.1848
260.90	0.0000
264.66	223.5614
268.22	234.8677
269.46	215.4560
269.46	215.4560
271.23	265.3238
273.65	355.2697
276.40	259.6666
277.37	274.8057
277.60	274.8744
278.00	255.2791
279.20	250.4177
279.54	252.5886
280.46	300.7080
283.69	262.0801
284.31	252.8526
285.41	210.2624
285.90	0.0000
287.50	197.1022
293.27	0.0000
295.22	189.1988
295.96	189.3463
298.57	189.8597
299.98	190.1356
299.98	190.1356
300.09	190.1575
300.09	190.1575
300.13	190.1629
301.36	170.1929
302.85	192.6131
304.50	182.6915
304.50	182.6915
304.85	189.5889
308.46	186.4255
311.90	195.6689

316.51	207.3662
319.41	185.2126
320.08	205.9251
323.87	276.3087
323.87	276.3087
328.76	238.2645
333.37	216.0368
334.37	239.0957
334.37	239.0957
338.28	206.2262
338.28	206.2262
338.32	206.2347
338.32	206.2347
338.32	206.2347
340.48	171.5095
340.55	171.5190
344.28	199.6133
351.06	188.5803
351.93	188.7273
356.01	204.4402
364.49	193.3367
366.42	179.1837
383.85	203.9300
388.16	185.3067
388.63	197.3701
391.69	196.0224
400.66	165.7994
401.81	159.6616
402.40	165.2346
404.85	179.1353
410.95	161.2288
414.70	187.0527
423.72	160.3251
427.09	155.9882
427.87	142.7563
433.94	175.9298
453.88	159.1593
463.37	162.8662
468.07	156.8789
473.00	154.4779
476.78	158.8362
477.60	149.0572
487.02	144.0760
492.35	0.0000
497.08	128.0641
511.00	151.4841
514.00	151.7844
527.90	0.0000
529.87	0.0000
531.02	126.8729
537.26	133.5452
546.56	0.0000
563.25	127.3732
569.33	121.5593
569.50	120.5226
569.70	120.5394
583.19	114.1198
600.60	147.0784
602.73	163.8862
604.72	171.2070
609.32	116.2282
609.32	116.2282
610.33	103.7727
614.28	120.1453
618.01	129.3838
621.93	116.7038
621.93	116.7038
633.25	135.9283
635.95	113.2600
636.99	105.6983
645.85	101.8323
657.76	125.9487
661.66	106.7534
661.66	106.7534
664.57	0.0000
666.33	131.2681
666.50	131.2796
677.62	116.0075

685.70	103.4482
695.00	112.3730
696.49	127.4530
696.51	127.4557
697.00	135.9227
702.65	125.0339
706.68	121.5201
711.68	143.5453
720.70	136.6025
721.93	0.0000
722.78	120.4668
722.91	120.4745
723.31	115.6127
724.19	114.0332
727.33	115.1607
733.00	99.8037
735.93	126.1616
739.50	114.8901
747.24	121.0858
752.31	95.3705
753.82	96.4030
756.73	106.1910
763.94	149.1750
765.81	125.0685
766.42	139.6523
777.92	134.5551
778.90	125.8375
783.70	99.7194
785.37	113.4937
795.86	85.9522
801.95	93.3242
810.29	100.9313
810.76	97.9849
815.77	109.1160
818.51	103.2891
832.01	120.8917
834.85	114.0394
836.80	0.0000
846.77	116.6419
856.80	114.2593
860.56	100.5715
871.09	96.5211
873.19	90.5047
875.33	0.0000
879.36	93.7969
880.51	95.8818
883.24	88.8426
884.68	88.8957
889.28	90.0894
898.04	93.4975
911.20	86.7703
911.20	86.7703
911.20	86.7703
926.50	89.3839
937.49	116.9150
944.13	95.2416
946.00	85.8855
949.00	74.4523
962.29	97.5737
964.08	88.6006
966.15	88.6724
968.97	79.7101
968.97	79.7101
968.97	79.7101
983.53	69.0718
996.26	92.8942
1001.03	103.7572
1004.73	115.6816
1037.84	89.2132
1038.76	0.0000
1048.07	97.9395
1050.41	91.4854
1050.41	91.4854
1063.66	95.6712
1085.87	79.4033
1099.45	94.9707
1112.07	80.1211
1115.54	93.5840

1120.29	100.4297
1120.29	100.4297
1120.55	100.4407
1121.30	100.4663
1131.51	0.0000
1173.23	105.1260
1177.93	118.9364
1189.05	128.1673
1204.77	114.0621
1221.41	111.6955
1231.02	107.5691
1235.36	118.1409
1238.28	159.9836
1260.41	0.0000
1271.85	74.2916
1274.44	71.3343
1274.54	74.3510
1291.59	66.6537
1298.22	0.0000
1312.11	69.0910
1332.49	66.4373
1365.19	49.5234
1368.63	0.0000
1384.29	63.2764
1408.01	53.2537
1457.56	0.0000
1460.82	50.0499
1489.16	68.3036
1505.03	35.0091
1596.21	37.5332
1620.50	44.4081
1678.03	0.0000
1690.97	28.4716
1764.49	5.3255
1764.49	5.3255
1770.23	17.7745
1771.35	26.6691
1791.20	0.0000
1836.06	21.3044

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051011

Total Uranium Activity	4.9525E+00	ug/g
Total Uranium Counting Unc.	4.3709E+00	ug/g
Total Uranium Tpu	2.2301E-06	ug/g
Total Uranium Mda	3.9753E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 958225                          SAMPLE ID   : G248051011
*  ANALYST       : MXR1                             DETECTOR    : GAM18
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 10-MAR-2010 19:35:01.26          SAMPLE ALQT  : 131.040 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.834E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.242E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.520E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.225E+00

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VAX/VMS Nuclide Identification Report Generated 16-MAR-2010 10:20:54.65

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051012.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:35:32
Sample ID          : G248051012 Sample quantity : 1.41860E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.83 0.0%
Energy tolerance   : 2.00000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	63.38*	155	483	1.01	126.77	123	9	2.15E-02	27.3	
2	2	74.68	350	483	1.17	149.35	145	13	4.87E-02	11.6	1.49E+00
3	2	76.90	564	372	1.08	153.81	145	13	7.83E-02	7.0	
4	3	87.00	210	462	1.04	173.99	169	26	2.92E-02	16.3	3.64E+00
5	3	89.60	157	417	1.01	179.20	169	26	2.18E-02	21.4	
6	3	92.53*	379	422	1.22	185.05	169	26	5.26E-02	11.0	
7	0	185.59*	225	490	1.23	371.18	365	13	3.12E-02	21.8	
8	0	208.92	152	299	0.97	417.84	413	11	2.11E-02	23.6	
9	2	238.28*	1296	217	1.19	476.55	471	17	1.80E-01	3.4	2.95E+00
10	2	241.19	264	311	1.76	482.38	471	17	3.67E-02	17.6	
11	0	269.89	95	173	0.86	539.77	536	9	1.33E-02	27.2	
12	0	294.69	384	248	1.17	589.37	582	13	5.34E-02	9.9	
13	0	299.47	130	218	1.12	598.93	595	11	1.81E-02	23.5	
14	0	337.75	182	261	1.18	675.49	669	13	2.53E-02	19.7	
15	0	351.45*	687	198	1.52	702.91	696	16	9.55E-02	6.1	
16	0	409.84	50	124	1.68	819.67	814	13	6.92E-03	48.6	
17	0	462.48	80	107	1.40	924.97	919	11	1.11E-02	27.5	
18	0	509.75*	102	182	2.05	1019.51	1011	20	1.41E-02	36.5	
19	0	582.33*	345	81	1.38	1164.67	1158	13	4.79E-02	7.7	
20	0	608.53*	446	101	1.58	1217.06	1208	15	6.20E-02	6.8	
21	0	660.07	103	148	1.60	1320.14	1314	17	1.43E-02	28.5	
22	0	727.02	103	75	1.63	1454.05	1448	14	1.43E-02	21.0	
23	0	767.79	40	64	1.04	1535.57	1531	8	5.49E-03	38.8	
24	0	910.10*	240	76	1.59	1820.19	1813	16	3.34E-02	10.5	
25	0	968.08	162	83	2.34	1936.16	1929	14	2.24E-02	14.5	
26	0	1118.76	114	34	2.28	2237.52	2231	11	1.58E-02	13.6	
27	0	1459.17	1141	20	2.26	2918.34	2908	20	1.59E-01	3.1	
28	0	1762.46*	59	12	2.92	3524.92	3515	17	8.13E-03	19.8	

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

VMS Nuclide Identification Report V3.1 Generated 16-MAR-2010 10:20:58

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051012.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:35:32
 Sample ID : G248051012 Sample quantity : 141.86 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA23 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.83 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 2.00 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

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	+	1460.82	*	2.840E+01	2.764E+00	6.084E-01	4.552E-02	46.678
NB-95	+	765.81	*	7.160E-02	5.583E-02	7.451E-02	5.007E-03	0.961
CD-109	+	88.03	*	2.969E+00	1.012E+00	1.447E+00	1.413E-01	2.051
SN-126	+	64.28		1.642E+00	9.297E-01	1.009E+00	1.536E-01	1.627
	+	86.94		1.201E+00	6.352E-01	5.939E-01	2.470E-01	2.022
	+	87.57	*	2.888E-01	9.846E-02	1.417E-01	1.378E-02	2.039
CS-135	+	268.22	*	3.736E-01	2.050E-01	2.783E-01	2.126E-02	1.342
BA-137M	+	661.66	*	1.489E-01	8.513E-02	6.037E-02	3.084E-03	2.466
CS-137	+	661.66	*	1.573E-01	8.993E-02	6.377E-02	3.276E-03	2.466
TL-208		277.37		1.814E-01	4.054E-01	6.612E-01	7.135E-02	0.274
	+	583.19	*	4.716E-01	7.906E-02	6.138E-02	3.975E-03	7.684
		860.56		3.342E-01	3.132E-01	5.629E-01	5.087E-02	0.594
BI-211	+	72.87		1.866E+01	4.620E+00	5.826E+00	5.139E-01	3.203
	+	351.06	*	4.091E+00	5.628E-01	3.375E-01	2.200E-02	12.121
PB-212	+	74.82		2.233E+00	5.939E-01	6.558E-01	8.643E-02	3.405
	+	77.11		2.035E+00	3.379E-01	3.579E-01	3.220E-02	5.686
	+	238.63	*	1.696E+00	1.679E-01	9.781E-02	7.095E-03	17.341
	+	300.09		2.680E+00	1.279E+00	1.203E+00	1.016E-01	2.227
BI-214	+	609.32	*	1.183E+00	1.852E-01	1.151E-01	8.728E-03	10.275
	+	1120.29		1.604E+00	4.604E-01	5.156E-01	4.821E-02	3.110
		1764.49		8.211E-01	3.926E-01	7.402E-01	4.602E-02	1.109
PB-214	+	74.82		3.958E+00	1.029E+00	1.162E+00	1.385E-01	3.405
	+	77.11		3.587E+00	6.650E-01	6.309E-01	7.700E-02	5.686
	+	242.00		2.100E+00	7.571E-01	5.467E-01	4.420E-02	3.841
	+	295.22		1.397E+00	3.015E-01	2.136E-01	1.873E-02	6.541
	+	351.93	*	1.485E+00	2.200E-01	1.227E-01	1.048E-02	12.095
RA-224	+	240.99	*	3.712E+00	1.321E+00	1.048E+00	5.907E-02	3.541
RA-226	+	609.32	*	1.183E+00	1.852E-01	1.151E-01	8.728E-03	10.275
	+	1120.29		1.604E+00	4.604E-01	5.156E-01	4.821E-02	3.110
		1764.49		8.211E-01	3.926E-01	7.402E-01	4.602E-02	1.109
AC-228	+	338.32		1.206E+00	6.874E-01	4.116E-01	1.697E-01	2.930
	+	911.20	*	1.615E+00	3.885E-01	2.516E-01	2.989E-02	6.417
	+	968.97		1.878E+00	7.113E-01	3.999E-01	9.721E-02	4.695
RA-228	+	338.32		1.206E+00	6.874E-01	4.116E-01	1.697E-01	2.930

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	911.20	*	1.615E+00	3.885E-01	2.516E-01	2.989E-02	6.417
	+	968.97		1.878E+00	7.113E-01	3.999E-01	9.721E-02	4.695
TH-228	+	74.82		2.233E+00	5.534E-01	6.558E-01	5.882E-02	3.405
	+	77.11		2.035E+00	3.379E-01	3.579E-01	3.220E-02	5.686
	+	238.63	*	1.696E+00	1.679E-01	9.781E-02	7.095E-03	17.341
	+	300.09		2.680E+00	2.061E+00	1.203E+00	7.327E-01	2.227
TH-229	+	85.43		7.270E-01	2.478E-01	3.609E-01	3.446E-02	2.014
	+	88.47		3.210E-01	1.407E-01	2.158E-01	2.087E-02	1.487
		193.51	*	1.567E-01	5.629E-01	9.217E-01	4.882E-02	0.170
	+	210.85		2.820E+00	1.339E+00	1.290E+00	7.003E-02	2.186
TH-232	+	338.32		1.206E+00	4.798E-01	4.116E-01	2.431E-02	2.930
	+	911.20	*	1.615E+00	3.885E-01	2.516E-01	2.989E-02	6.417
	+	968.97		1.878E+00	7.113E-01	3.999E-01	9.721E-02	4.695
TH-234	+	63.29	*	4.261E+00	2.452E+00	2.675E+00	4.921E-01	1.593
	+	92.59		4.246E+00	1.329E+00	1.169E+00	2.596E-01	3.631
U-235	+	89.96		2.220E+00	1.100E+00	1.466E+00	3.649E-01	1.514
	+	93.35		3.207E+00	1.027E+00	8.770E-01	2.031E-01	3.657
		143.76	*	1.294E-01	2.128E-01	3.515E-01	5.474E-02	0.368
		163.33		-2.120E-01	4.769E-01	7.612E-01	1.261E-01	-0.279
	+	185.72		1.893E-01	8.320E-02	6.894E-02	3.610E-03	2.746
		205.31		3.134E-01	5.772E-01	8.376E-01	1.412E-01	0.374
NP-237	+	86.48	*	8.618E-01	3.449E-01	4.291E-01	9.901E-02	2.009
		95.86		-4.149E-01	1.124E+00	1.601E+00	3.827E-01	-0.259
U-238	+	63.29	*	4.261E+00	2.452E+00	2.675E+00	4.921E-01	1.593
	+	92.59		4.246E+00	1.010E+00	1.169E+00	1.041E-01	3.631
ANH-511	+	511.00	*	1.055E-01	7.729E-02	4.656E-02	2.704E-03	2.267

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-1.747E-01	3.593E-01	5.720E-01	3.885E-02	-0.305
NA-22		1274.54	*	-3.465E-02	5.316E-02	8.110E-02	5.447E-03	-0.427
NA-24		1368.63	*	-3.259E+01	5.316E-02	Half-Life too short		
SC-46		889.28	*	-9.621E-03	4.402E-02	7.195E-02	6.429E-03	-0.134
	+	1120.55		2.786E-01	7.776E-02	1.318E-01	8.583E-03	2.114
V-48		944.13		-5.549E-01	1.121E+00	1.778E+00	1.549E-01	-0.312
		983.53	*	7.732E-02	8.486E-02	1.518E-01	1.263E-02	0.509
		1312.11		9.978E-03	8.892E-02	1.467E-01	1.044E-02	0.068
CR-51		320.08	*	-7.649E-02	4.101E-01	6.811E-01	4.459E-02	-0.112
MN-54		834.85	*	1.944E-02	3.994E-02	6.922E-02	5.481E-03	0.281
CO-56		846.77	*	3.102E-02	4.093E-02	7.265E-02	5.911E-03	0.427
		1037.84		-1.804E-01	3.099E-01	4.835E-01	3.959E-02	-0.373
		1238.28		1.271E-01	1.085E-01	1.920E-01	1.277E-02	0.662
		1771.35		-5.985E-02	2.273E-01	3.565E-01	2.205E-02	-0.168
CO-57		122.06	*	2.295E-02	2.716E-02	4.602E-02	2.713E-03	0.499
		136.47		5.012E-02	2.280E-01	3.767E-01	2.445E-02	0.133
CO-58		810.76	*	-2.730E-03	4.225E-02	7.039E-02	5.288E-03	-0.039
FE-59		1099.45	*	8.712E-03	1.090E-01	1.807E-01	1.391E-02	0.048

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1291.59			2.254E-02	1.415E-01	2.343E-01	1.945E-02	0.096
	1173.23			-8.913E-03	4.900E-02	7.893E-02	4.453E-03	-0.113
	1332.49	*		2.049E-02	4.032E-02	6.962E-02	5.111E-03	0.294
ZN-65	1115.54	*		2.376E-01	1.182E-01	2.037E-01	1.345E-02	1.167
	121.12			3.259E-02	1.411E-01	2.341E-01	2.146E-02	0.139
	136.00			-1.340E-02	4.481E-02	7.264E-02	4.104E-03	-0.184
SE-75	264.66	*		-3.411E-02	5.997E-02	8.013E-02	4.666E-03	-0.426
	279.54			-3.678E-02	1.105E-01	1.834E-01	1.155E-02	-0.201
	400.66			-4.222E-02	2.793E-01	4.597E-01	4.168E-02	-0.092
SR-85	514.00	*		3.422E-02	4.203E-02	6.458E-02	3.747E-03	0.530
Y-88	898.04			-1.059E-02	4.985E-02	8.160E-02	7.461E-03	-0.130
	1836.06	*		5.424E-03	3.888E-02	6.582E-02	3.876E-03	0.082
Y-91	1204.77	*		-2.576E+01	2.595E+01	3.864E+01	2.305E+00	-0.667
NB-94	702.65	*		1.763E-02	3.639E-02	6.095E-02	3.483E-03	0.289
	871.09			-1.908E-03	3.588E-02	5.957E-02	5.116E-03	-0.032
NB-95M	235.69	*		7.942E-01	1.927E-01	3.107E-01	2.300E-02	2.556
ZR-95	724.19			2.256E-01	1.388E-01	2.208E-01	1.556E-02	1.022
	756.73	*		7.556E-04	8.553E-02	1.375E-01	1.061E-02	0.005
MO-99	140.51			-1.679E+01	5.318E+01	8.582E+01	1.956E+01	-0.196
	181.07			1.326E+01	4.644E+01	6.692E+01	1.170E+01	0.198
	366.42			1.010E+02	2.215E+02	3.789E+02	2.221E+01	0.267
	739.50	*		-1.922E+01	3.116E+01	4.722E+01	6.900E+00	-0.407
	777.92			-3.669E+01	8.322E+01	1.346E+02	9.322E+00	-0.273
TC-99M	140.51	*		-8.912E+13	8.322E+01	Half-Life	too short	
RU-103	497.08	*		1.696E-02	4.166E-02	7.043E-02	8.762E-03	0.241
	610.33	+		1.292E+01	2.616E+00	2.922E+00	4.359E-01	4.420
RH-106	621.93	*		-1.882E-01	3.389E-01	5.246E-01	5.987E-02	-0.359
	1050.41			1.548E+00	2.604E+00	4.540E+00	3.415E-01	0.341
RU-106	621.93	*		-1.882E-01	3.384E-01	5.246E-01	2.818E-02	-0.359
	1050.41			1.548E+00	2.604E+00	4.540E+00	3.415E-01	0.341
AG-108M	433.94	*		-2.158E-03	3.119E-02	5.137E-02	3.211E-03	-0.042
	614.28			8.234E-03	4.297E-02	6.165E-02	3.611E-03	0.134
	722.91			1.496E-02	4.992E-02	7.155E-02	4.592E-03	0.209
AG-110M	657.76	*		3.721E-02	4.701E-02	7.102E-02	3.947E-03	0.524
	677.62			-1.786E-01	3.442E-01	5.320E-01	3.049E-02	-0.336
	706.68			-1.213E-01	2.266E-01	3.483E-01	2.139E-02	-0.348
	763.94			2.685E-02	2.134E-01	2.993E-01	2.093E-02	0.090
	884.68			5.911E-03	4.931E-02	8.309E-02	7.574E-03	0.071
	937.49			-2.232E-02	1.291E-01	2.114E-01	1.920E-02	-0.106
	1384.29			6.846E-02	1.645E-01	2.814E-01	2.130E-02	0.243
	1505.03			-8.267E-02	2.978E-01	4.590E-01	3.260E-02	-0.180
SN-113	391.69	*		-2.217E-02	4.713E-02	7.612E-02	4.689E-03	-0.291
CD-115	260.90			4.136E-05	4.713E-02	Half-Life	too short	
	492.35			-6.007E-05	4.713E-02	Half-Life	too short	
	527.90	*		-5.532E-07	4.713E-02	Half-Life	too short	
SN-117M	156.02			-2.726E+00	2.939E+00	4.620E+00	2.417E-01	-0.590
	158.56	*		1.391E-02	6.973E-02	1.146E-01	5.954E-03	0.121
TE-123M	159.00	*		4.579E-03	3.125E-02	5.123E-02	2.704E-03	0.089
SB-124	602.73			6.902E-03	5.143E-02	7.326E-02	4.017E-03	0.094

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125		645.85		-1.881E-02	5.633E-01	9.107E-01	5.468E-02	-0.021
		722.78		1.307E-01	5.187E-01	7.398E-01	4.665E-02	0.177
		1690.97	*	1.565E-02	8.416E-02	1.443E-01	1.010E-02	0.108
		427.87	*	1.763E-02	9.543E-02	1.598E-01	9.709E-03	0.110
	+	463.37		7.330E-01	4.066E-01	5.774E-01	3.914E-02	1.269
TE-125M		600.60		1.206E-01	2.328E-01	3.438E-01	2.216E-02	0.351
		635.95		-5.401E-02	2.702E-01	4.306E-01	2.740E-02	-0.125
		109.28	*	-1.014E+01	1.110E+01	1.766E+01	1.608E+00	-0.574
I-126		388.63		1.547E-01	2.063E-01	3.573E-01	2.067E-02	0.433
		666.33	*	1.852E-01	3.283E-01	4.868E-01	2.519E-02	0.381
		753.82		2.134E+00	2.432E+00	4.181E+00	2.727E-01	0.510
SB-126		414.70		-6.311E-02	1.069E-01	1.454E-01	8.464E-03	-0.434
		666.50		6.534E-02	1.137E-01	1.687E-01	8.736E-03	0.387
		695.00		7.116E-02	1.002E-01	1.707E-01	9.557E-03	0.417
		697.00		-9.927E-03	3.607E-01	5.809E-01	3.270E-02	-0.017
		720.70	*	4.482E-02	2.219E-01	3.152E-01	1.889E-02	0.142
SB-127		856.80		5.895E-01	6.051E-01	1.084E+00	9.019E-02	0.544
		252.40		-1.051E-01	8.241E+00	1.319E+01	5.448E+00	-0.008
		473.00		-4.124E-01	3.011E+00	4.914E+00	5.947E-01	-0.084
I-131		685.70	*	-1.293E+00	2.494E+00	3.841E+00	3.996E-01	-0.337
		783.70		1.356E+01	6.887E+00	1.281E+01	1.574E+00	1.059
		80.19		-7.544E+00	7.532E+00	1.049E+01	9.700E-01	-0.719
TE-132		284.31		-9.872E-01	2.025E+00	3.333E+00	2.168E-01	-0.296
		364.49	*	6.330E-02	1.557E-01	2.656E-01	1.743E-02	0.238
		636.99		-1.744E-01	2.135E+00	3.440E+00	2.095E-01	-0.051
		49.72		-2.083E+01	5.220E+01	8.644E+01	1.019E+01	-0.241
		111.76		-1.320E+01	7.275E+01	1.192E+02	1.266E+01	-0.111
BA-133		116.30		-1.926E+01	6.237E+01	1.015E+02	1.056E+01	-0.190
		228.16	*	-4.863E-01	1.593E+00	2.523E+00	3.814E-01	-0.193
		81.00		-1.439E-01	1.428E-01	1.632E-01	2.588E-02	-0.882
		276.40		4.886E-01	3.831E-01	6.257E-01	7.879E-02	0.781
		302.85		1.070E-01	1.602E-01	2.447E-01	2.801E-02	0.437
I-133		356.01	*	-1.796E-02	4.740E-02	6.653E-02	7.530E-03	-0.270
		383.85		-1.763E-02	3.153E-01	5.229E-01	5.577E-02	-0.034
		529.87	*	7.093E-03	3.153E-01	Half-Life	too short	
CS-134		875.33		9.303E-01	3.153E-01	Half-Life	too short	
		1298.22		2.024E+00	3.153E-01	Half-Life	too short	
		563.25		-2.648E-01	4.098E-01	6.327E-01	3.660E-02	-0.419
I-135		569.33		-2.044E-02	2.109E-01	3.418E-01	1.987E-02	-0.060
		604.72		-2.058E-02	4.514E-02	6.056E-02	3.333E-03	-0.340
		795.86	*	5.814E-02	5.025E-02	9.093E-02	6.641E-03	0.639
		801.95		8.066E-02	3.896E-01	6.643E-01	4.911E-02	0.121
		1365.19		-1.488E-01	1.198E+00	1.908E+00	1.485E-01	-0.078
+ 1457.56		546.56		6.879E+12	1.198E+00	Half-Life	too short	
		836.80		1.392E+14	1.198E+00	Half-Life	too short	
		1038.76		-1.702E+13	1.198E+00	Half-Life	too short	
		1131.51		4.883E+12	1.198E+00	Half-Life	too short	
		1260.41	*	9.227E+12	1.198E+00	Half-Life	too short	
+ 1457.56		1457.56		4.984E+15	1.198E+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	1678.03			1.334E+13	1.198E+00	Half-Life	too short	
	1791.20			1.071E+13	1.198E+00	Half-Life	too short	
	153.25			1.156E+00	1.084E+00	1.834E+00	1.408E-01	0.631
	176.60			-7.703E-02	6.191E-01	1.000E+00	6.551E-02	-0.077
	273.65			-9.060E-01	7.504E-01	9.449E-01	6.464E-02	-0.959
	340.55			2.261E-01	2.055E-01	3.207E-01	2.045E-02	0.705
CE-139	818.51			1.706E-02	9.301E-02	1.580E-01	1.207E-02	0.108
	1048.07	*		1.434E-01	1.215E-01	2.233E-01	1.780E-02	0.642
	1235.36			1.154E+00	8.149E-01	1.455E+00	1.481E-01	0.793
	165.86	*		-3.816E-03	3.291E-02	5.333E-02	2.719E-03	-0.072
	162.66			-3.912E-02	1.041E+00	1.694E+00	1.027E-01	-0.023
	304.85			-6.374E-01	1.847E+00	2.622E+00	7.496E-01	-0.243
BA-140	423.72			-9.566E-01	2.448E+00	3.924E+00	1.267E+00	-0.244
	537.26	*		-1.920E-01	3.416E-01	5.258E-01	1.751E-01	-0.365
	328.76			6.229E-01	3.874E-01	6.925E-01	4.576E-02	0.899
	487.02			1.492E-01	1.639E-01	2.865E-01	1.892E-02	0.521
	815.77			1.918E-03	4.087E-01	6.845E-01	5.962E-02	0.003
	1596.21	*		-5.138E-02	1.014E-01	1.556E-01	1.068E-02	-0.330
CE-141	145.44	*		1.075E-02	7.132E-02	1.163E-01	6.562E-03	0.092
CE-143	57.36			2.770E-03	7.132E-02	Half-Life	too short	
	293.27	*		6.213E-03	7.132E-02	Half-Life	too short	
	664.57			1.315E-03	7.132E-02	Half-Life	too short	
	721.93			4.826E-04	7.132E-02	Half-Life	too short	
CE-144	80.12			-3.093E+00	3.115E+00	4.341E+00	3.980E-01	-0.713
	133.52	*		-4.343E-02	2.233E-01	3.634E-01	5.020E-02	-0.120
PM-144	476.78			-4.819E-02	7.033E-02	1.104E-01	7.620E-03	-0.437
	618.01			2.093E-02	3.418E-02	5.814E-02	3.358E-03	0.360
	696.49	*		2.054E-03	3.837E-02	6.219E-02	3.499E-03	0.033
PR-144	696.51	*		1.582E-01	2.876E+00	4.663E+00	2.621E-01	0.034
	1489.16			1.673E+00	1.373E+01	2.257E+01	1.610E+00	0.074
PM-146	453.88	*		4.474E-02	4.444E-02	7.774E-02	6.605E-03	0.576
	633.25			-9.777E-01	1.506E+00	2.232E+00	8.389E-01	-0.438
	735.93			3.507E-02	1.645E-01	2.619E-01	7.174E-02	0.134
	747.24			-1.147E-03	1.073E-01	1.724E-01	2.310E-02	-0.007
ND-147	91.11			2.051E+00	4.936E-01	7.975E-01	7.845E-02	2.572
	319.41			-8.233E-01	4.231E+00	7.024E+00	4.151E-01	-0.117
	531.02	*		-4.469E-03	7.690E-01	1.259E+00	1.701E-01	-0.004
PM-149	285.90	*		2.802E-04	7.690E-01	Half-Life	too short	
EU-152	121.78			5.247E-02	7.710E-02	1.299E-01	9.945E-03	0.404
	244.70			1.259E-01	3.712E-01	5.318E-01	3.008E-02	0.237
	344.28	*		-2.954E-02	1.375E-01	1.714E-01	1.135E-02	-0.172
	778.90			-2.138E-01	2.771E-01	4.359E-01	3.025E-02	-0.491
	964.08			8.995E-01	3.873E-01	6.672E-01	5.685E-02	1.348
	1085.87			-4.512E-01	4.022E-01	5.818E-01	4.093E-02	-0.776
GD-153	1112.07			-7.764E-02	3.902E-01	5.356E-01	3.559E-02	-0.145
	1408.01			1.648E-01	1.750E-01	3.200E-01	2.327E-02	0.515
	69.67			-9.169E-01	2.327E+00	3.360E+00	2.935E-01	-0.273
	97.43	*		1.239E-01	1.038E-01	1.579E-01	1.290E-02	0.785
	103.18			-6.828E-02	1.225E-01	1.983E-01	1.482E-02	-0.344

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		123.07		6.989E-03	5.507E-02	9.096E-02	8.573E-03	0.077
		723.31		2.077E-01	2.300E-01	3.488E-01	2.521E-02	0.595
		873.19		-3.553E-02	2.916E-01	4.810E-01	5.724E-02	-0.074
		996.26		-4.925E-01	4.219E-01	6.110E-01	1.054E-01	-0.806
		1004.73		-5.966E-01	2.575E-01	3.154E-01	3.547E-02	-1.891
		1274.44	*	-1.007E-01	1.503E-01	2.285E-01	2.287E-02	-0.441
EU-155	+	86.55		3.506E-01	1.196E-01	2.075E-01	2.017E-02	1.690
		105.31	*	7.304E-02	1.160E-01	1.955E-01	1.441E-02	0.374
TB-160	+	86.79		9.581E-01	3.266E-01	5.592E-01	5.403E-02	1.713
		197.04		7.184E-02	6.073E-01	9.872E-01	5.255E-02	0.073
		215.65		-1.612E-01	8.425E-01	1.298E+00	7.091E-02	-0.124
	+	298.57		3.891E-01	1.842E-01	2.347E-01	1.379E-02	1.658
		879.36	*	-7.918E-02	1.386E-01	2.177E-01	1.904E-02	-0.364
		962.29		7.247E-01	6.891E-01	1.093E+00	9.335E-02	0.663
	+	966.15		1.462E+00	4.425E-01	6.473E-01	5.502E-02	2.258
		1177.93		-1.379E-01	4.119E-01	6.540E-01	3.720E-02	-0.211
		1271.85		6.689E-02	8.777E-01	1.435E+00	9.580E-02	0.047
		80.57		-4.380E-01	3.683E-01	4.690E-01	4.313E-02	-0.934
HO-166M	+	184.41		1.504E-01	6.610E-02	7.430E-02	3.883E-03	2.025
		280.46		-5.224E-02	8.497E-02	1.390E-01	8.097E-03	-0.376
	+	410.95		3.868E-01	3.763E-01	4.014E-01	2.333E-02	0.964
		711.68	*	1.381E-02	6.248E-02	1.027E-01	6.009E-03	0.134
		752.31		3.894E-02	3.074E-01	4.992E-01	3.244E-02	0.078
		810.29		1.092E-02	6.083E-02	1.034E-01	7.734E-03	0.106
TA-182		67.75		-5.137E-02	1.544E-01	2.242E-01	1.952E-02	-0.229
		100.11		-1.904E-02	2.216E-01	3.206E-01	2.509E-02	-0.059
		152.43		4.873E-01	3.772E-01	6.443E-01	3.405E-02	0.756
		222.11		-4.804E-01	3.849E-01	5.819E-01	3.206E-02	-0.826
		1121.30		4.753E-01	1.960E-01	3.439E-01	2.236E-02	1.382
		1189.05		7.197E-02	3.811E-01	6.334E-01	3.676E-02	0.114
		1221.41	*	7.350E-02	2.425E-01	4.056E-01	2.489E-02	0.181
		1231.02		-7.125E-01	6.033E-01	8.893E-01	5.548E-02	-0.801
IR-192	+	295.96		1.065E+00	2.193E-01	3.044E-01	1.815E-02	3.497
		308.46		1.605E-02	1.015E-01	1.719E-01	1.024E-02	0.093
		316.51	*	5.570E-03	3.728E-02	6.302E-02	3.739E-03	0.088
		468.07		4.887E-02	7.640E-02	1.161E-01	7.830E-03	0.421
HG-203		70.83		-7.253E-02	1.858E+00	2.726E+00	4.399E-01	-0.027
	+	72.87		4.873E+00	1.361E+00	1.818E+00	2.845E-01	2.680
		279.20	*	4.509E-03	4.014E-02	6.804E-02	4.179E-03	0.066
BI-207	+	72.81		1.074E+00	2.658E-01	3.965E-01	3.497E-02	2.708
	+	74.97		6.437E-01	1.593E-01	2.791E-01	2.483E-02	2.307
		569.70		-3.735E-03	3.297E-02	5.336E-02	3.006E-03	-0.070
		1063.66	*	-2.839E-02	5.375E-02	8.377E-02	6.154E-03	-0.339
		1770.23		-8.976E-01	5.540E-01	6.416E-01	3.973E-02	-1.399
PB-210		46.54	*	3.915E+00	5.341E+00	9.101E+00	7.030E-01	0.430
PB-211		404.85	*	-3.704E-01	8.463E-01	1.144E+00	5.488E-01	-0.324
		427.09		-3.358E-01	1.628E+00	2.650E+00	1.214E+00	-0.127
		832.01		1.668E-01	1.057E+00	1.784E+00	9.231E-01	0.093
BI-212	+	727.33	*	2.183E+00	9.487E-01	1.248E+00	1.356E-01	1.749

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		785.37		5.385E+00	3.414E+00	6.330E+00	4.462E-01	0.851
		1620.50		2.253E+00	2.448E+00	4.604E+00	3.123E-01	0.489
RN-219	+	271.23		5.535E-01	3.040E-01	4.241E-01	3.403E-02	1.305
		401.81	*	-2.863E-01	4.290E-01	6.812E-01	9.152E-02	-0.420
RA-223		81.07		-3.266E-01	3.203E-01	3.691E-01	3.406E-02	-0.885
		83.79		6.768E-02	1.571E-01	2.321E-01	2.186E-02	0.292
		94.87		1.979E-01	5.204E-01	8.717E-01	7.441E-02	0.227
		144.24		7.727E-01	7.104E-01	1.196E+00	8.253E-02	0.646
		154.21		6.468E-01	4.085E-01	7.031E-01	4.587E-02	0.920
	+	269.46		4.301E-01	2.351E-01	3.526E-01	2.127E-02	1.220
		323.87	*	-1.066E+00	7.188E-01	1.081E+00	1.746E-01	-0.986
	+	338.28		4.786E+00	1.947E+00	2.377E+00	2.450E-01	2.014
AC-227		79.69		-4.501E-01	1.517E+00	2.189E+00	3.831E-01	-0.206
		235.96		1.717E+00	2.707E-01	4.281E-01	3.426E-02	4.011
		256.23	*	1.255E-01	2.722E-01	4.454E-01	4.534E-02	0.282
	+	299.98		2.948E+00	1.422E+00	1.829E+00	2.018E-01	1.612
		304.50		-5.409E-01	1.868E+00	2.674E+00	4.087E-01	-0.202
		334.37		-1.307E+00	2.063E+00	2.852E+00	4.069E-01	-0.458
TH-227		79.80		-6.815E-01	1.998E+00	2.873E+00	6.319E-01	-0.237
		235.96		1.717E+00	2.642E-01	4.281E-01	3.096E-02	4.011
		256.23	*	1.255E-01	2.723E-01	4.454E-01	5.336E-02	0.282
	+	299.98		2.948E+00	1.422E+00	1.829E+00	2.018E-01	1.612
		304.50		-5.409E-01	1.868E+00	2.674E+00	4.087E-01	-0.202
		334.37		-1.307E+00	2.063E+00	2.852E+00	4.069E-01	-0.458
PA-231		283.69	*	-4.649E-01	1.482E+00	2.459E+00	3.229E-01	-0.189
	+	301.36		1.894E+00	9.109E-01	1.139E+00	1.183E-01	1.663
TH-231		81.07		-3.266E-01	3.203E-01	3.691E-01	3.406E-02	-0.885
		83.79		6.768E-02	1.571E-01	2.321E-01	2.186E-02	0.292
		94.87		1.979E-01	5.204E-01	8.717E-01	7.441E-02	0.227
		144.24		7.727E-01	7.104E-01	1.196E+00	8.253E-02	0.646
		154.21		6.468E-01	4.085E-01	7.031E-01	4.587E-02	0.920
	+	269.46		4.301E-01	2.351E-01	3.526E-01	2.127E-02	1.220
		323.87	*	-1.066E+00	7.188E-01	1.081E+00	1.746E-01	-0.986
	+	338.28		4.786E+00	1.947E+00	2.377E+00	2.450E-01	2.014
PA-233	+	300.13		1.334E+00	6.516E-01	8.254E-01	1.108E-01	1.616
		311.90	*	-4.849E-02	6.619E-02	1.068E-01	6.681E-03	-0.454
		340.48		1.006E+00	7.833E-01	1.186E+00	2.755E-01	0.848
PA-234		94.67		-2.258E-03	2.001E-01	3.326E-01	4.113E-02	-0.007
		98.44		1.273E-01	1.313E-01	1.685E-01	9.385E-02	0.755
		111.00		5.813E-03	2.009E-01	3.317E-01	3.587E-02	0.018
		131.20		4.226E-02	1.173E-01	1.948E-01	1.101E-02	0.217
		569.50		-2.108E-02	2.904E-01	4.714E-01	2.656E-02	-0.045
		733.00		1.171E-01	4.466E-01	6.391E-01	1.366E-01	0.183
		880.51		-2.189E-01	2.699E-01	4.122E-01	3.614E-02	-0.531
		883.24		2.214E-02	2.800E-01	4.695E-01	3.157E-01	0.047
		926.50		8.495E-02	1.849E-01	3.178E-01	8.060E-02	0.267
		946.00	*	4.889E-02	3.360E-01	5.645E-01	1.061E-01	0.087
		949.00		4.928E-01	4.941E-01	8.848E-01	7.669E-02	0.557
PA-234M	+	766.42		1.831E+01	1.696E+01	2.463E+01	1.243E+01	0.743

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03		*	1.098E+01	4.970E+00	9.540E+00	9.103E-01	1.151
	99.53			1.157E-01	2.010E-01	2.979E-01	2.353E-02	0.388
	103.37			8.403E-02	1.060E-01	1.799E-01	1.340E-02	0.467
	106.12			5.006E-02	9.064E-02	1.525E-01	1.093E-02	0.328
	117.23		*	-3.357E-01	4.410E-01	6.907E-01	4.299E-02	-0.486
	228.18			-7.184E-02	2.358E-01	3.738E-01	2.075E-02	-0.192
AM-241	277.60			-1.559E-02	1.896E-01	3.010E-01	1.750E-02	-0.052
	59.54		*	8.396E-02	2.227E-01	3.346E-01	3.113E-02	0.251
CM-247	278.00			2.881E-01	7.505E-01	1.287E+00	7.486E-02	0.224
	287.50			2.212E+00	1.405E+00	2.272E+00	1.329E-01	0.974
CF-249	402.40		*	-3.652E-02	4.214E-02	6.195E-02	3.590E-03	-0.590
	252.80			-2.888E-01	1.033E+00	1.629E+00	9.291E-02	-0.177
	333.37			-1.275E-01	2.195E-01	3.061E-01	1.808E-02	-0.417
	388.16		*	2.895E-02	4.112E-02	7.109E-02	4.113E-03	0.407
CF-251	177.52		*	-8.855E-03	1.359E-01	2.201E-01	1.139E-02	-0.040
	227.38			-1.231E-01	3.817E-01	6.047E-01	3.354E-02	-0.204
	285.41			-1.439E-01	2.279E+00	3.829E+00	2.236E-01	-0.038

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]G248051012      *
* Acquisition date   : 10-MAR-2010 19:35:32 Detector SN#                   *
* Detector ID        : GAM23 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 2.000                        *
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000               *
* Elapsed real time: 0 02:00:01.83 Half life ratio : 8.000                *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G248051012 Analyst initials: MXR1                  *
* Batch Number       : 958225 Sample Quantity : 1.4186E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope                     *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.840E+01	2.709E+00	6.111E-01	0.000E+00
NB-95	7.160E-02	5.472E-02	7.590E-02	0.000E+00
CD-109	2.969E+00	9.919E-01	1.541E+00	0.000E+00
SN-126	2.888E-01	9.649E-02	1.509E-01	0.000E+00
CS-135	3.736E-01	2.009E-01	2.899E-01	0.000E+00
BA-137M	1.489E-01	8.343E-02	6.168E-02	0.000E+00
CS-137	1.573E-01	8.813E-02	6.516E-02	0.000E+00
TL-208	4.716E-01	7.748E-02	6.289E-02	0.000E+00
BI-211	4.091E+00	5.515E-01	3.495E-01	0.000E+00
PB-212	1.696E+00	1.645E-01	1.021E-01	0.000E+00
BI-214	1.183E+00	1.815E-01	1.178E-01	0.000E+00
PB-214	1.485E+00	2.156E-01	1.271E-01	0.000E+00
RA-224	3.712E+00	1.295E+00	1.094E+00	0.000E+00
RA-226	1.183E+00	1.815E-01	1.178E-01	0.000E+00
AC-228	1.615E+00	3.807E-01	2.554E-01	0.000E+00
RA-228	1.615E+00	3.807E-01	2.554E-01	0.000E+00
TH-228	1.696E+00	1.645E-01	1.021E-01	0.000E+00
TH-229	1.567E-01	5.516E-01	9.663E-01	0.000E+00
TH-232	1.615E+00	3.807E-01	2.554E-01	0.000E+00
TH-234	4.261E+00	2.403E+00	2.868E+00	0.000E+00
U-235	1.294E-01	2.085E-01	3.708E-01	0.000E+00
NP-237	8.618E-01	3.380E-01	4.571E-01	0.000E+00
U-238	4.261E+00	2.403E+00	2.868E+00	0.000E+00
ANH-511	1.055E-01	7.575E-02	4.784E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.747E-01	3.521E-01	5.885E-01	0.000E+00 NOT IDENT.
NA-22	-3.465E-02	5.210E-02	8.170E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.577E+07	0.000E+00	0.000E+00 SHORT HLIF

SC-46	-9.621E-03	4.314E-02	7.306E-02	0.000E+00	FAIL ABUN
V-48	7.732E-02	8.317E-02	1.538E-01	0.000E+00	NOT IDENT.
CR-51	-7.649E-02	4.019E-01	7.067E-01	0.000E+00	NOT IDENT.
MN-54	1.944E-02	3.914E-02	7.037E-02	0.000E+00	NOT IDENT.
CO-56	3.102E-02	4.011E-02	7.385E-02	0.000E+00	NOT IDENT.
CO-57	2.295E-02	2.662E-02	4.869E-02	0.000E+00	NOT IDENT.
CO-58	-2.730E-03	4.141E-02	7.161E-02	0.000E+00	NOT IDENT.
FE-59	8.712E-03	1.069E-01	1.826E-01	0.000E+00	NOT IDENT.
CO-60	2.049E-02	3.951E-02	7.006E-02	0.000E+00	NOT IDENT.
ZN-65	0.000E+00	1.158E-01	2.058E-01	0.000E+00	NOT IDENT.
SE-75	-3.411E-02	5.877E-02	8.347E-02	0.000E+00	NOT IDENT.
SR-85	3.422E-02	4.119E-02	6.634E-02	0.000E+00	NOT IDENT.
Y-88	5.424E-03	3.811E-02	6.577E-02	0.000E+00	NOT IDENT.
Y-91	-2.576E+01	2.543E+01	3.897E+01	0.000E+00	NOT IDENT.
NB-94	1.763E-02	3.567E-02	6.220E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.888E-01	3.244E-01	0.000E+00	NOT IDENT.
ZR-95	7.556E-04	8.382E-02	1.401E-01	0.000E+00	NOT IDENT.
MO-99	-1.922E+01	3.054E+01	4.813E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.775E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.696E-02	4.083E-02	7.241E-02	0.000E+00	FAIL ABUN
RH-106	-1.882E-01	3.321E-01	5.367E-01	0.000E+00	NOT IDENT.
RU-106	-1.882E-01	3.316E-01	5.367E-01	0.000E+00	NOT IDENT.
AG-108M	-2.158E-03	3.056E-02	5.296E-02	0.000E+00	NOT IDENT.
AG-110M	3.721E-02	4.607E-02	7.258E-02	0.000E+00	NOT IDENT.
SN-113	-2.217E-02	4.619E-02	7.865E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.404E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.391E-02	6.834E-02	1.206E-01	0.000E+00	NOT IDENT.
TE-123M	4.579E-03	3.062E-02	5.392E-02	0.000E+00	NOT IDENT.
SB-124	1.565E-02	8.248E-02	1.445E-01	0.000E+00	NOT IDENT.
SB-125	1.763E-02	9.353E-02	1.648E-01	0.000E+00	FAIL ABUN
TE-125M	-1.014E+01	1.088E+01	1.873E+01	0.000E+00	NOT IDENT.
I-126	1.852E-01	3.217E-01	4.973E-01	0.000E+00	NOT IDENT.
SB-126	4.482E-02	2.174E-01	3.215E-01	0.000E+00	NOT IDENT.
SB-127	-1.293E+00	2.444E+00	3.922E+00	0.000E+00	NOT IDENT.
I-131	6.330E-02	1.526E-01	2.749E-01	0.000E+00	NOT IDENT.
TE-132	-4.863E-01	1.561E+00	2.636E+00	0.000E+00	NOT IDENT.
BA-133	-1.796E-02	4.645E-02	6.887E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	8.506E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.814E-02	4.924E-02	9.254E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.298E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.434E-01	1.191E-01	2.259E-01	0.000E+00	NOT IDENT.
CE-139	-3.816E-03	3.225E-02	5.608E-02	0.000E+00	NOT IDENT.
BA-140	-1.920E-01	3.348E-01	5.397E-01	0.000E+00	NOT IDENT.
LA-140	-5.138E-02	9.936E-02	1.560E-01	0.000E+00	NOT IDENT.
CE-141	1.075E-02	6.989E-02	1.227E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.824E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-4.343E-02	2.188E-01	3.839E-01	0.000E+00	NOT IDENT.
PM-144	2.054E-03	3.760E-02	6.347E-02	0.000E+00	NOT IDENT.
PR-144	1.582E-01	2.819E+00	4.759E+00	0.000E+00	NOT IDENT.
PM-146	4.474E-02	4.355E-02	8.008E-02	0.000E+00	NOT IDENT.
ND-147	-4.469E-03	7.536E-01	1.293E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.583E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.954E-02	1.348E-01	1.775E-01	0.000E+00	NOT IDENT.
GD-153	1.239E-01	1.017E-01	1.678E-01	0.000E+00	NOT IDENT.
EU-154	-1.007E-01	1.473E-01	2.302E-01	0.000E+00	NOT IDENT.
EU-155	7.304E-02	1.136E-01	2.075E-01	0.000E+00	FAIL ABUN
TB-160	-7.918E-02	1.358E-01	2.211E-01	0.000E+00	FAIL ABUN
HO-166M	1.381E-02	6.123E-02	1.047E-01	0.000E+00	FAIL ABUN
TA-182	7.350E-02	2.376E-01	4.090E-01	0.000E+00	NOT IDENT.
IR-192	5.570E-03	3.654E-02	6.540E-02	0.000E+00	FAIL ABUN
HG-203	4.509E-03	3.934E-02	7.080E-02	0.000E+00	FAIL ABUN
BI-207	-2.839E-02	5.267E-02	8.472E-02	0.000E+00	FAIL ABUN
PB-210	3.915E+00	5.234E+00	9.814E+00	0.000E+00	NOT IDENT.
PB-211	-3.704E-01	8.293E-01	1.181E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	9.298E-01	1.273E+00	0.000E+00	FAIL ABUN
RN-219	-2.863E-01	4.204E-01	7.035E-01	0.000E+00	FAIL ABUN
RA-223	-1.066E+00	7.044E-01	1.121E+00	0.000E+00	FAIL ABUN
AC-227	1.255E-01	2.667E-01	4.643E-01	0.000E+00	FAIL ABUN
TH-227	1.255E-01	2.668E-01	4.643E-01	0.000E+00	FAIL ABUN
PA-231	-4.649E-01	1.453E+00	2.558E+00	0.000E+00	FAIL ABUN
TH-231	-1.066E+00	7.044E-01	1.121E+00	0.000E+00	FAIL ABUN
PA-233	-4.849E-02	6.487E-02	1.109E-01	0.000E+00	FAIL ABUN
PA-234	4.889E-02	3.293E-01	5.724E-01	0.000E+00	NOT IDENT.
PA-234M	0.000E+00	4.870E+00	9.662E+00	0.000E+00	FAIL ABUN
NP-239	-3.357E-01	4.322E-01	7.315E-01	0.000E+00	NOT IDENT.
AM-241	8.396E-02	2.183E-01	3.591E-01	0.000E+00	NOT IDENT.
CM-247	-3.652E-02	4.130E-02	6.397E-02	0.000E+00	NOT IDENT.
CF-249	2.895E-02	4.030E-02	7.347E-02	0.000E+00	NOT IDENT.

CF-251	-8.855E-03	1.332E-01	2.312E-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]G248051012.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 19:35:32
Sample ID          : G248051012 Sample quantity : 1.41860E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.83 0.0%
Energy tolerance   : 2.00000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	1141	10.66*	9.976E-01	2.840E+01	2.840E+01	9.73
NB-95	765.81	40	99.81*	1.786E+00	5.869E-02	7.160E-02	77.98
CD-109	88.03	210	3.70*	5.209E+00	2.888E+00	2.969E+00	34.09
SN-126	64.28	155	9.60	2.602E+00	1.642E+00	1.642E+00	56.60
	86.94	210	8.90	5.209E+00	1.201E+00	1.201E+00	52.90
	87.57	210	37.00*	5.209E+00	2.888E-01	2.888E-01	34.09
CS-135	268.22	95	16.00*	4.227E+00	3.736E-01	3.736E-01	54.87
BA-137M	661.66	103	89.90*	2.045E+00	1.487E-01	1.489E-01	57.19
CS-137	661.66	103	85.10*	2.045E+00	1.571E-01	1.573E-01	57.19
TL-208	277.37	-----	6.60	4.139E+00	-----	Line Not Found	-----
	583.19	345	85.00*	2.279E+00	4.716E-01	4.716E-01	16.76
	860.56	-----	12.50	1.609E+00	-----	Line Not Found	-----
BI-211	72.87	350	1.23	4.040E+00	1.866E+01	1.866E+01	24.75
	351.06	687	12.92*	3.442E+00	4.091E+00	4.091E+00	13.76
PB-212	74.82	350	10.28	4.040E+00	2.233E+00	2.233E+00	26.60
	77.11	564	17.10	4.287E+00	2.035E+00	2.035E+00	16.60
	238.63	1296	43.60*	4.639E+00	1.696E+00	1.696E+00	9.90
	300.09	130	3.30	3.902E+00	2.680E+00	2.680E+00	47.72
BI-214	609.32	446	45.49*	2.194E+00	1.183E+00	1.183E+00	15.66
	1120.29	114	14.92	1.259E+00	1.604E+00	1.604E+00	28.71
	1764.49	-----	15.30	8.740E-01	-----	Line Not Found	-----
PB-214	74.82	350	5.80	4.040E+00	3.958E+00	3.958E+00	25.99
	77.11	564	9.70	4.287E+00	3.587E+00	3.587E+00	18.54
	242.00	264	7.25	4.598E+00	2.099E+00	2.100E+00	36.06
	295.22	384	18.42	3.951E+00	1.397E+00	1.397E+00	21.58
	351.93	687	35.60*	3.442E+00	1.485E+00	1.485E+00	14.82
RA-224	240.99	264	4.10*	4.598E+00	3.712E+00	3.712E+00	35.59
RA-226	609.32	446	45.49*	2.194E+00	1.183E+00	1.183E+00	15.66
	1120.29	114	14.92	1.259E+00	1.604E+00	1.604E+00	28.71
	1764.49	-----	15.30	8.740E-01	-----	Line Not Found	-----
AC-228	338.32	182	11.27	3.552E+00	1.206E+00	1.206E+00	57.00
	911.20	240	25.80*	1.527E+00	1.615E+00	1.615E+00	24.06

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	968.97	162	15.80	1.442E+00	1.878E+00	1.878E+00	37.89
	338.32	182	11.27	3.552E+00	1.206E+00	1.206E+00	57.00
	911.20	240	25.80*	1.527E+00	1.615E+00	1.615E+00	24.06
TH-228	968.97	162	15.80	1.442E+00	1.878E+00	1.878E+00	37.89
	74.82	350	10.28	4.040E+00	2.233E+00	2.233E+00	24.78
	77.11	564	17.10	4.287E+00	2.035E+00	2.035E+00	16.60
TH-229	238.63	1296	43.60*	4.639E+00	1.696E+00	1.696E+00	9.90
	300.09	130	3.30	3.902E+00	2.680E+00	2.680E+00	76.90
	85.43	210	14.70	5.209E+00	7.270E-01	7.270E-01	34.09
	88.47	157	24.00	5.394E+00	3.210E-01	3.210E-01	43.84
	193.51	-----	4.41*	5.353E+00	-----	Line Not Found	-----
TH-232	210.85	152	2.80	5.090E+00	2.820E+00	2.820E+00	47.48
	338.32	182	11.27	3.552E+00	1.206E+00	1.206E+00	39.79
	911.20	240	25.80*	1.527E+00	1.615E+00	1.615E+00	24.06
TH-234	968.97	162	15.80	1.442E+00	1.878E+00	1.878E+00	37.89
	63.29	155	3.70*	2.602E+00	4.261E+00	4.261E+00	57.54
	92.59	379	4.23	5.578E+00	4.246E+00	4.246E+00	31.29
U-235	89.96	157	3.47	5.394E+00	2.220E+00	2.220E+00	49.53
	93.35	379	5.60	5.578E+00	3.207E+00	3.207E+00	32.02
	143.76	-----	10.96*	6.189E+00	-----	Line Not Found	-----
NP-237	163.33	-----	5.08	5.887E+00	-----	Line Not Found	-----
	185.72	225	57.20	5.492E+00	1.893E-01	1.893E-01	43.94
	205.31	-----	5.01	5.150E+00	-----	Line Not Found	-----
	86.48	210	12.40*	5.209E+00	8.618E-01	8.618E-01	40.02
U-238	95.86	-----	2.68	5.757E+00	-----	Line Not Found	-----
	63.29	155	3.70*	2.602E+00	4.261E+00	4.261E+00	57.54
	92.59	379	4.23	5.578E+00	4.246E+00	4.246E+00	23.79
ANH-511	511.00	102	100.00*	2.549E+00	1.055E-01	1.055E-01	73.24

Flag: "*" = Keyline

Total number of lines in spectrum 28
Number of unidentified lines 1
Number of lines tentatively identified by NID 27 96.43%

Nuclide Type :

Nuclide	Hlfe	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.840E+01	2.840E+01	0.276E+01	9.73	
NB-95	64.03D	1.22	5.869E-02	7.160E-02	5.583E-02	77.98	
CD-109	461.40D	1.03	2.888E+00	2.969E+00	1.012E+00	34.09	
SN-126	2.30E+05Y	1.00	2.888E-01	2.888E-01	0.985E-01	34.09	
CS-135	2.30E+06Y	1.00	3.736E-01	3.736E-01	2.050E-01	54.87	
BA-137M	30.08Y	1.00	1.487E-01	1.489E-01	0.851E-01	57.19	
CS-137	30.08Y	1.00	1.571E-01	1.573E-01	0.899E-01	57.19	
TL-208	1.41E+10Y	1.00	4.716E-01	4.716E-01	0.791E-01	16.76	
BI-211	7.04E+08Y	1.00	4.091E+00	4.091E+00	0.563E+00	13.76	
PB-212	1.41E+10Y	1.00	1.696E+00	1.696E+00	0.168E+00	9.90	
BI-214	1600.00Y	1.00	1.183E+00	1.183E+00	0.185E+00	15.66	
PB-214	1600.00Y	1.00	1.485E+00	1.485E+00	0.220E+00	14.82	
RA-224	1.41E+10Y	1.00	3.712E+00	3.712E+00	1.321E+00	35.59	
RA-226	1600.00Y	1.00	1.183E+00	1.183E+00	0.185E+00	15.66	
AC-228	1.41E+10Y	1.00	1.615E+00	1.615E+00	0.389E+00	24.06	
RA-228	1.41E+10Y	1.00	1.615E+00	1.615E+00	0.389E+00	24.06	
TH-228	1.41E+10Y	1.00	1.696E+00	1.696E+00	0.168E+00	9.90	
TH-229	7340.00Y	1.00	3.210E-01	3.210E-01	1.407E-01	43.84	K
TH-232	1.41E+10Y	1.00	1.615E+00	1.615E+00	0.389E+00	24.06	
TH-234	4.47E+09Y	1.00	4.261E+00	4.261E+00	2.452E+00	57.54	
U-235	7.04E+08Y	1.00	1.893E-01	1.893E-01	0.832E-01	43.94	K
NP-237	2.14E+06Y	1.00	8.618E-01	8.618E-01	3.449E-01	40.02	
U-238	4.47E+09Y	1.00	4.261E+00	4.261E+00	2.452E+00	57.54	
ANH-511	1.00E+09Y	1.00	1.055E-01	1.055E-01	0.773E-01	73.24	

Total Activity : 6.268E+01 6.277E+01

Grand Total Activity : 6.268E+01 6.277E+01

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

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

Unidentified Energy Lines
Sample ID : G248051012

Page : 4
Acquisition date : 10-MAR-2010 19:35:32

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	409.84	50	124	1.68	819.67	814	13	6.92E-03	97.1	3.05E+00	T
0	462.48	80	107	1.40	924.97	919	11	1.11E-02	55.0	2.76E+00	T
0	727.02	103	75	1.63	1454.05	1448	14	1.43E-02	42.1	1.88E+00	T
0	1762.46	59	12	2.92	3524.92	3515	17	8.13E-03	39.6	8.75E-01	

Flags: "T" = Tentatively associated


```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051012.CNF;1
* Acquisition date   : 10-MAR-2010 19:35:32  Detector SN#      :
* Detector ID        : GAM23                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 2.00000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.83          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G248051012            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity : 1.41860E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00.62MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A                LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.840E+01	2.764E+00	6.084E-01	4.552E-02	46.678
NB-95	7.160E-02	5.583E-02	7.451E-02	5.007E-03	0.961
CD-109	2.969E+00	1.012E+00	1.447E+00	1.413E-01	2.051
SN-126	2.888E-01	9.846E-02	1.417E-01	1.378E-02	2.039
CS-135	3.736E-01	2.050E-01	2.783E-01	2.126E-02	1.342
BA-137M	1.489E-01	8.513E-02	6.037E-02	3.084E-03	2.466
CS-137	1.573E-01	8.993E-02	6.377E-02	3.276E-03	2.466
TL-208	4.716E-01	7.906E-02	6.138E-02	3.975E-03	7.684
BI-211	4.091E+00	5.628E-01	3.375E-01	2.200E-02	12.121
PB-212	1.696E+00	1.679E-01	9.781E-02	7.095E-03	17.341
BI-214	1.183E+00	1.852E-01	1.151E-01	8.728E-03	10.275
PB-214	1.485E+00	2.200E-01	1.227E-01	1.048E-02	12.095
RA-224	3.712E+00	1.321E+00	1.048E+00	5.907E-02	3.541
RA-226	1.183E+00	1.852E-01	1.151E-01	8.728E-03	10.275
AC-228	1.615E+00	3.885E-01	2.516E-01	2.989E-02	6.417
RA-228	1.615E+00	3.885E-01	2.516E-01	2.989E-02	6.417
TH-228	1.696E+00	1.679E-01	9.781E-02	7.095E-03	17.341
TH-229	3.210E-01	1.407E-01	9.217E-01	4.882E-02	0.348

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.615E+00	3.885E-01	2.516E-01	2.989E-02	6.417
TH-234	4.261E+00	2.452E+00	2.675E+00	4.921E-01	1.593
U-235	1.893E-01	8.320E-02	3.515E-01	5.474E-02	0.539
NP-237	8.618E-01	3.449E-01	4.291E-01	9.901E-02	2.009
U-238	4.261E+00	2.452E+00	2.675E+00	4.921E-01	1.593
ANH-511	1.055E-01	7.729E-02	4.656E-02	2.704E-03	2.267

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.747E-01		3.593E-01	5.720E-01	3.885E-02	-0.305
NA-22	-3.465E-02		5.316E-02	8.110E-02	5.447E-03	-0.427
NA-24	-3.259E+01		1.315E+01	Half-Life	too short	
SC-46	-9.621E-03		4.402E-02	7.195E-02	6.429E-03	-0.134
V-48	7.732E-02		8.486E-02	1.518E-01	1.263E-02	0.509
CR-51	-7.649E-02		4.101E-01	6.811E-01	4.459E-02	-0.112
MN-54	1.944E-02		3.994E-02	6.922E-02	5.481E-03	0.281
CO-56	3.102E-02		4.093E-02	7.265E-02	5.911E-03	0.427
CO-57	2.295E-02		2.716E-02	4.602E-02	2.713E-03	0.499
CO-58	-2.730E-03		4.225E-02	7.039E-02	5.288E-03	-0.039
FE-59	8.712E-03		1.090E-01	1.807E-01	1.391E-02	0.048
CO-60	2.049E-02		4.032E-02	6.962E-02	5.111E-03	0.294
ZN-65	2.376E-01		1.182E-01	2.037E-01	1.345E-02	1.167
SE-75	-3.411E-02		5.997E-02	8.013E-02	4.666E-03	-0.426
SR-85	3.422E-02		4.203E-02	6.458E-02	3.747E-03	0.530
Y-88	5.424E-03		3.888E-02	6.582E-02	3.876E-03	0.082
Y-91	-2.576E+01		2.595E+01	3.864E+01	2.305E+00	-0.667
NB-94	1.763E-02		3.639E-02	6.095E-02	3.483E-03	0.289
NB-95M	7.942E-01		1.927E-01	3.107E-01	2.300E-02	2.556
ZR-95	7.556E-04		8.553E-02	1.375E-01	1.061E-02	0.005
MO-99	-1.922E+01		3.116E+01	4.722E+01	6.900E+00	-0.407
TC-99M	-8.912E+13		1.416E+14	Half-Life	too short	
RU-103	1.696E-02		4.166E-02	7.043E-02	8.762E-03	0.241
RH-106	-1.882E-01		3.389E-01	5.246E-01	5.987E-02	-0.359
RU-106	-1.882E-01		3.384E-01	5.246E-01	2.818E-02	-0.359
AG-108M	-2.158E-03		3.119E-02	5.137E-02	3.211E-03	-0.042
AG-110M	3.721E-02		4.701E-02	7.102E-02	3.947E-03	0.524
SN-113	-2.217E-02		4.713E-02	7.612E-02	4.689E-03	-0.291
CD-115	-5.532E-07		1.737E-05	Half-Life	too short	
SN-117M	1.391E-02		6.973E-02	1.146E-01	5.954E-03	0.121
TE-123M	4.579E-03		3.125E-02	5.123E-02	2.704E-03	0.089
SB-124	1.565E-02		8.416E-02	1.443E-01	1.010E-02	0.108
SB-125	1.763E-02		9.543E-02	1.598E-01	9.709E-03	0.110
TE-125M	-1.014E+01		1.110E+01	1.766E+01	1.608E+00	-0.574
I-126	1.852E-01		3.283E-01	4.868E-01	2.519E-02	0.381
SB-126	4.482E-02		2.219E-01	3.152E-01	1.889E-02	0.142
SB-127	-1.293E+00		2.494E+00	3.841E+00	3.996E-01	-0.337

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	6.330E-02		1.557E-01	2.656E-01	1.743E-02	0.238
TE-132	-4.863E-01		1.593E+00	2.523E+00	3.814E-01	-0.193
BA-133	-1.796E-02		4.740E-02	6.653E-02	7.530E-03	-0.270
I-133	7.093E-03		4.340E-02	Half-Life too short		
CS-134	5.814E-02		5.025E-02	9.093E-02	6.641E-03	0.639
I-135	9.227E+12		1.172E+13	Half-Life too short		
CS-136	1.434E-01		1.215E-01	2.233E-01	1.780E-02	0.642
CE-139	-3.816E-03		3.291E-02	5.333E-02	2.719E-03	-0.072
BA-140	-1.920E-01		3.416E-01	5.258E-01	1.751E-01	-0.365
LA-140	-5.138E-02		1.014E-01	1.556E-01	1.068E-02	-0.330
CE-141	1.075E-02		7.132E-02	1.163E-01	6.562E-03	0.092
CE-143	6.213E-03	+	9.308E-04	Half-Life too short		
CE-144	-4.343E-02		2.233E-01	3.634E-01	5.020E-02	-0.120
PM-144	2.054E-03		3.837E-02	6.219E-02	3.499E-03	0.033
PR-144	1.582E-01		2.876E+00	4.663E+00	2.621E-01	0.034
PM-146	4.474E-02		4.444E-02	7.774E-02	6.605E-03	0.576
ND-147	-4.469E-03		7.690E-01	1.259E+00	1.701E-01	-0.004
PM-149	2.802E-04		1.318E-04	Half-Life too short		
EU-152	-2.954E-02		1.375E-01	1.714E-01	1.135E-02	-0.172
GD-153	1.239E-01		1.038E-01	1.579E-01	1.290E-02	0.785
EU-154	-1.007E-01		1.503E-01	2.285E-01	2.287E-02	-0.441
EU-155	7.304E-02		1.160E-01	1.955E-01	1.441E-02	0.374
TB-160	-7.918E-02		1.386E-01	2.177E-01	1.904E-02	-0.364
HO-166M	1.381E-02		6.248E-02	1.027E-01	6.009E-03	0.134
TA-182	7.350E-02		2.425E-01	4.056E-01	2.489E-02	0.181
IR-192	5.570E-03		3.728E-02	6.302E-02	3.739E-03	0.088
HG-203	4.509E-03		4.014E-02	6.804E-02	4.179E-03	0.066
BI-207	-2.839E-02		5.375E-02	8.377E-02	6.154E-03	-0.339
PB-210	3.915E+00		5.341E+00	9.101E+00	7.030E-01	0.430
PB-211	-3.704E-01		8.463E-01	1.144E+00	5.488E-01	-0.324
BI-212	2.183E+00	+	9.487E-01	1.248E+00	1.356E-01	1.749
RN-219	-2.863E-01		4.290E-01	6.812E-01	9.152E-02	-0.420
RA-223	-1.066E+00		7.188E-01	1.081E+00	1.746E-01	-0.986
AC-227	1.255E-01		2.722E-01	4.454E-01	4.534E-02	0.282
TH-227	1.255E-01		2.723E-01	4.454E-01	5.336E-02	0.282
PA-231	-4.649E-01		1.482E+00	2.459E+00	3.229E-01	-0.189
TH-231	-1.066E+00		7.188E-01	1.081E+00	1.746E-01	-0.986
PA-233	-4.849E-02		6.619E-02	1.068E-01	6.681E-03	-0.454
PA-234	4.889E-02		3.360E-01	5.645E-01	1.061E-01	0.087
PA-234M	1.098E+01		4.970E+00	9.540E+00	9.103E-01	1.151
NP-239	-3.357E-01		4.410E-01	6.907E-01	4.299E-02	-0.486
AM-241	8.396E-02		2.227E-01	3.346E-01	3.113E-02	0.251
CM-247	-3.652E-02		4.214E-02	6.195E-02	3.590E-03	-0.590
CF-249	2.895E-02		4.112E-02	7.109E-02	4.113E-03	0.407
CF-251	-8.855E-03		1.359E-01	2.201E-01	1.139E-02	-0.040

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]G248051012          *
* Acquisition date   : 10-MAR-2010 19:35:32 Detector SN#      :             *
* Detector ID        : GAM23 Sensitivity      : 5.000           *
* Geometry           : CAN Energy tolerance: 2.000           *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000    *
* Elapsed real time  : 0 02:00:01.83 Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051012 Analyst initials: MXR1          *
* Batch Number       : 958225 Sample Quantity : 1.4186E+02 GRAM      *
* Recovery           : 1.00000 Carrier Weight : 0.00000           *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope         :             *
* MSD DPM             : 0.000 MSD Isotope                     :             *
* LCS DPM             : 0.000 LCS Isotope                     :             *
* LCSD DPM            : 0.000 LCSD Isotope                    :             *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.840E+01	2.709E+00	3.057E-01	1.382E+00
NB-95	7.160E-02	5.472E-02	3.797E-02	2.792E-02
CD-109	2.969E+00	9.919E-01	7.712E-01	5.061E-01
SN-126	2.888E-01	9.649E-02	7.548E-02	4.923E-02
CS-135	3.736E-01	2.009E-01	1.450E-01	1.025E-01
BA-137M	1.489E-01	8.343E-02	3.086E-02	4.256E-02
CS-137	1.573E-01	8.813E-02	3.260E-02	4.497E-02
TL-208	4.716E-01	7.748E-02	3.146E-02	3.953E-02
BI-211	4.091E+00	5.515E-01	1.749E-01	2.814E-01
PB-212	1.696E+00	1.645E-01	5.108E-02	8.393E-02
BI-214	1.183E+00	1.815E-01	5.896E-02	9.260E-02
PB-214	1.485E+00	2.156E-01	6.359E-02	1.100E-01
RA-224	3.712E+00	1.295E+00	5.475E-01	6.607E-01
RA-226	1.183E+00	1.815E-01	5.896E-02	9.260E-02
AC-228	1.615E+00	3.807E-01	1.278E-01	1.943E-01
RA-228	1.615E+00	3.807E-01	1.278E-01	1.943E-01
TH-228	1.696E+00	1.645E-01	5.108E-02	8.393E-02
TH-229	1.567E-01	5.516E-01	4.835E-01	2.814E-01
TH-232	1.615E+00	3.807E-01	1.278E-01	1.943E-01
TH-234	4.261E+00	2.403E+00	1.435E+00	1.226E+00
U-235	1.294E-01	2.085E-01	1.855E-01	1.064E-01
NP-237	8.618E-01	3.380E-01	2.287E-01	1.725E-01
U-238	4.261E+00	2.403E+00	1.435E+00	1.226E+00
ANH-511	1.055E-01	7.575E-02	2.393E-02	3.865E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.747E-01	3.521E-01	2.944E-01	1.796E-01 NOT IDENT.
NA-22	-3.465E-02	5.210E-02	4.087E-02	2.658E-02 NOT IDENT.
NA-24	-3.259E+07	2.577E+07	0.000E+00	1.315E+07 SHORT HLIF

SC-46	-9.621E-03	4.314E-02	3.655E-02	2.201E-02	FAIL ABUN
V-48	7.732E-02	8.317E-02	7.695E-02	4.243E-02	NOT IDENT.
CR-51	-7.649E-02	4.019E-01	3.536E-01	2.051E-01	NOT IDENT.
MN-54	1.944E-02	3.914E-02	3.521E-02	1.997E-02	NOT IDENT.
CO-56	3.102E-02	4.011E-02	3.695E-02	2.046E-02	NOT IDENT.
CO-57	2.295E-02	2.662E-02	2.436E-02	1.358E-02	NOT IDENT.
CO-58	-2.730E-03	4.141E-02	3.583E-02	2.113E-02	NOT IDENT.
FE-59	8.712E-03	1.069E-01	9.134E-02	5.452E-02	NOT IDENT.
CO-60	2.049E-02	3.951E-02	3.505E-02	2.016E-02	NOT IDENT.
ZN-65	2.376E-01	1.158E-01	1.030E-01	5.911E-02	NOT IDENT.
SE-75	-3.411E-02	5.877E-02	4.176E-02	2.998E-02	NOT IDENT.
SR-85	3.422E-02	4.119E-02	3.319E-02	2.102E-02	NOT IDENT.
Y-88	5.424E-03	3.811E-02	3.291E-02	1.944E-02	NOT IDENT.
Y-91	-2.576E+01	2.543E+01	1.950E+01	1.298E+01	NOT IDENT.
NB-94	1.763E-02	3.567E-02	3.112E-02	1.820E-02	NOT IDENT.
NB-95M	7.942E-01	1.888E-01	1.623E-01	9.633E-02	NOT IDENT.
ZR-95	7.556E-04	8.382E-02	7.008E-02	4.276E-02	NOT IDENT.
MO-99	-1.922E+01	3.054E+01	2.408E+01	1.558E+01	NOT IDENT.
TC-99M	-8.912E+19	2.775E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.696E-02	4.083E-02	3.622E-02	2.083E-02	FAIL ABUN
RH-106	-1.882E-01	3.321E-01	2.685E-01	1.695E-01	NOT IDENT.
RU-106	-1.882E-01	3.316E-01	2.685E-01	1.692E-01	NOT IDENT.
AG-108M	-2.158E-03	3.056E-02	2.650E-02	1.559E-02	NOT IDENT.
AG-110M	3.721E-02	4.607E-02	3.631E-02	2.350E-02	NOT IDENT.
SN-113	-2.217E-02	4.619E-02	3.935E-02	2.356E-02	NOT IDENT.
CD-115	-5.532E-01	3.404E+01	0.000E+00	1.737E+01	SHORT HLIF
SN-117M	1.391E-02	6.834E-02	6.033E-02	3.487E-02	NOT IDENT.
TE-123M	4.579E-03	3.062E-02	2.698E-02	1.562E-02	NOT IDENT.
SB-124	1.565E-02	8.248E-02	7.228E-02	4.208E-02	NOT IDENT.
SB-125	1.763E-02	9.353E-02	8.245E-02	4.772E-02	FAIL ABUN
TE-125M	-1.014E+01	1.088E+01	9.371E+00	5.552E+00	NOT IDENT.
I-126	1.852E-01	3.217E-01	2.488E-01	1.641E-01	NOT IDENT.
SB-126	4.482E-02	2.174E-01	1.609E-01	1.109E-01	NOT IDENT.
SB-127	-1.293E+00	2.444E+00	1.962E+00	1.247E+00	NOT IDENT.
I-131	6.330E-02	1.526E-01	1.375E-01	7.787E-02	NOT IDENT.
TE-132	-4.863E-01	1.561E+00	1.319E+00	7.964E-01	NOT IDENT.
BA-133	-1.796E-02	4.645E-02	3.446E-02	2.370E-02	NOT IDENT.
I-133	7.093E+03	8.506E+04	0.000E+00	4.340E+04	SHORT HLIF
CS-134	5.814E-02	4.924E-02	4.630E-02	2.512E-02	NOT IDENT.
I-135	9.227E+18	2.298E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.434E-01	1.191E-01	1.130E-01	6.077E-02	NOT IDENT.
CE-139	-3.816E-03	3.225E-02	2.806E-02	1.645E-02	NOT IDENT.
BA-140	-1.920E-01	3.348E-01	2.700E-01	1.708E-01	NOT IDENT.
LA-140	-5.138E-02	9.936E-02	7.805E-02	5.069E-02	NOT IDENT.
CE-141	1.075E-02	6.989E-02	6.137E-02	3.566E-02	NOT IDENT.
CE-143	6.213E+03	1.824E+03	0.000E+00	9.308E+02	SHORT HLIF
CE-144	-4.343E-02	2.188E-01	1.920E-01	1.116E-01	NOT IDENT.
PM-144	2.054E-03	3.760E-02	3.175E-02	1.918E-02	NOT IDENT.
PR-144	1.582E-01	2.819E+00	2.381E+00	1.438E+00	NOT IDENT.
PM-146	4.474E-02	4.355E-02	4.006E-02	2.222E-02	NOT IDENT.
ND-147	-4.469E-03	7.536E-01	6.467E-01	3.845E-01	FAIL ABUN
PM-149	2.802E+02	2.583E+02	0.000E+00	1.318E+02	SHORT HLIF
EU-152	-2.954E-02	1.348E-01	8.882E-02	6.875E-02	NOT IDENT.
GD-153	1.239E-01	1.017E-01	8.397E-02	5.190E-02	NOT IDENT.
EU-154	-1.007E-01	1.473E-01	1.152E-01	7.517E-02	NOT IDENT.
EU-155	7.304E-02	1.136E-01	1.038E-01	5.798E-02	FAIL ABUN
TB-160	-7.918E-02	1.358E-01	1.106E-01	6.929E-02	FAIL ABUN
HO-166M	1.381E-02	6.123E-02	5.240E-02	3.124E-02	FAIL ABUN
TA-182	7.350E-02	2.376E-01	2.046E-01	1.212E-01	NOT IDENT.
IR-192	5.570E-03	3.654E-02	3.272E-02	1.864E-02	FAIL ABUN
HG-203	4.509E-03	3.934E-02	3.542E-02	2.007E-02	FAIL ABUN
BI-207	-2.839E-02	5.267E-02	4.238E-02	2.687E-02	FAIL ABUN
PB-210	3.915E+00	5.234E+00	4.910E+00	2.670E+00	NOT IDENT.
PB-211	-3.704E-01	8.293E-01	5.910E-01	4.231E-01	NOT IDENT.
BI-212	2.183E+00	9.298E-01	6.367E-01	4.744E-01	FAIL ABUN
RN-219	-2.863E-01	4.204E-01	3.519E-01	2.145E-01	FAIL ABUN
RA-223	-1.066E+00	7.044E-01	5.609E-01	3.594E-01	FAIL ABUN
AC-227	1.255E-01	2.667E-01	2.323E-01	1.361E-01	FAIL ABUN
TH-227	1.255E-01	2.668E-01	2.323E-01	1.361E-01	FAIL ABUN
PA-231	-4.649E-01	1.453E+00	1.280E+00	7.411E-01	FAIL ABUN
TH-231	-1.066E+00	7.044E-01	5.609E-01	3.594E-01	FAIL ABUN
PA-233	-4.849E-02	6.487E-02	5.548E-02	3.310E-02	FAIL ABUN
PA-234	4.889E-02	3.293E-01	2.864E-01	1.680E-01	NOT IDENT.
PA-234M	1.098E+01	4.870E+00	4.834E+00	2.485E+00	FAIL ABUN
NP-239	-3.357E-01	4.322E-01	3.660E-01	2.205E-01	NOT IDENT.
AM-241	8.396E-02	2.183E-01	1.796E-01	1.114E-01	NOT IDENT.
CM-247	-3.652E-02	4.130E-02	3.200E-02	2.107E-02	NOT IDENT.
CF-249	2.895E-02	4.030E-02	3.676E-02	2.056E-02	NOT IDENT.

CF-251

-8.855E-03

1.332E-01

1.157E-01

6.797E-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
46.54	297.2501
49.72	325.2979
57.36	0.0000
59.54	388.6570
63.29	433.8421
63.29	433.8421
64.28	459.9864
67.75	465.3535
69.67	490.6617
70.83	498.9889
72.81	497.3707
72.87	497.4130
72.87	497.4130
74.82	494.0373
74.82	494.0373
74.82	494.0373
74.97	494.1391
77.11	459.3860
77.11	459.3860
77.11	459.3860
79.69	482.2738
79.80	482.3434
80.12	519.0822
80.19	519.1300
80.57	544.5220
81.00	535.9397
81.07	535.9890
81.07	535.9890
83.79	494.0398
83.79	494.0398
85.43	481.2801
86.48	499.7620
86.55	499.8077
86.79	499.9568
86.94	500.0522
87.57	500.4477
88.03	500.7359
88.47	501.0102
89.96	501.9343
91.11	502.6439
92.59	503.5481
92.59	503.5481
93.35	504.0112
94.67	504.8082
94.87	504.9294
94.87	504.9294
95.86	426.9298
97.43	339.0656
98.44	336.3517
99.53	357.0465
100.11	386.9293
103.18	411.9695
103.37	343.5447
105.31	378.6259
106.12	369.1497
109.28	422.6536
111.00	391.8600
111.76	400.0840
116.30	382.1684
117.23	382.5415
121.12	335.2015
121.78	329.4373
122.06	329.5317
123.07	351.8617
131.20	395.0266
133.52	399.9548
136.00	393.8198

136.47	370.7023
140.51	383.2991
140.51	0.0000
143.76	330.4072
144.24	315.2497
144.24	315.2497
145.44	342.1513
152.43	318.6161
153.25	331.1879
154.21	302.6447
154.21	302.6447
156.02	400.0451
158.56	344.0973
159.00	343.1931
162.66	348.4200
163.33	366.2558
165.86	347.2839
176.60	311.5541
177.52	307.5861
181.07	296.4586
184.41	309.2738
185.72	309.5912
193.51	298.7018
197.04	298.4335
205.31	277.9649
210.85	220.5109
215.65	276.5859
222.11	298.4650
227.38	272.3198
228.16	276.8242
228.18	276.8281
235.69	290.9438
235.96	278.7255
235.96	278.7255
238.63	257.9295
238.63	257.9295
240.99	258.3329
242.00	218.2442
244.70	206.2882
252.40	221.4920
252.80	228.1949
256.23	208.7110
256.23	208.7110
260.90	0.0000
264.66	248.2080
268.22	236.2255
269.46	216.7040
269.46	216.7040
271.23	199.0114
273.65	244.1924
276.40	172.1432
277.37	196.8269
277.60	217.1014
278.00	200.7272
279.20	195.4669
279.54	202.7142
280.46	209.1342
283.69	203.2141
284.31	209.6128
285.41	205.2283
285.90	0.0000
287.50	153.8840
293.27	0.0000
295.22	159.1235
295.96	159.1919
298.57	159.4290
299.98	158.0376
299.98	158.0376
300.09	158.0482
300.09	158.0482
300.13	158.0524
301.36	158.1624
302.85	168.9503
304.50	182.8198
304.50	182.8198
304.85	182.8564
308.46	171.3177
311.90	186.3328

316.51	172.0825
319.41	175.1215
320.08	171.4983
323.87	224.5169
323.87	224.5169
328.76	169.5252
333.37	195.0165
334.37	190.4733
334.37	190.4733
338.28	178.7648
338.28	178.7648
338.32	178.7672
338.32	178.7672
338.32	178.7672
340.48	169.3390
340.55	169.3456
344.28	177.4570
351.06	149.0237
351.93	149.0897
356.01	144.0757
364.49	132.1113
366.42	126.5705
383.85	149.5678
388.16	124.1014
388.63	126.0397
391.69	144.3919
400.66	147.8866
401.81	149.8872
402.40	156.1761
404.85	133.1002
410.95	131.8687
414.70	133.7065
423.72	132.9612
427.09	131.2180
427.87	120.5685
433.94	122.8454
453.88	100.3154
463.37	108.6210
468.07	87.3995
473.00	109.0627
476.78	125.1218
477.60	120.1980
487.02	81.7728
492.35	0.0000
497.08	85.1121
511.00	92.6340
514.00	84.0073
527.90	0.0000
529.87	0.0000
531.02	107.5683
537.26	103.7556
546.56	0.0000
563.25	108.8829
569.33	97.8018
569.50	97.8087
569.70	99.8749
583.19	93.1223
600.60	100.6433
602.73	104.1919
604.72	125.1152
609.32	87.0260
609.32	87.0260
610.33	88.7976
614.28	85.4330
618.01	77.5139
621.93	92.3033
621.93	92.3033
633.25	84.2363
635.95	72.7212
636.99	76.9637
645.85	86.7106
657.76	86.7010
661.66	80.7890
661.66	80.7890
664.57	0.0000
666.33	79.8486
666.50	79.8523
677.62	88.6900

685.70	82.4930
695.00	74.1430
696.49	88.1540
696.51	88.1540
697.00	91.3937
702.65	78.6301
706.68	85.2008
711.68	69.1328
720.70	77.6313
721.93	0.0000
722.78	86.7129
722.91	86.7168
723.31	84.9217
724.19	92.1740
727.33	80.3232
733.00	65.2397
735.93	72.5537
739.50	86.0687
747.24	75.3508
752.31	76.5591
753.82	68.9355
756.73	81.0423
763.94	84.1424
765.81	78.6986
766.42	88.9636
777.92	74.3884
778.90	83.5963
783.70	52.4355
785.37	58.9036
795.86	64.6210
801.95	58.2614
810.29	62.1078
810.76	66.7515
815.77	64.9898
818.51	63.1814
832.01	68.0855
834.85	68.1390
836.80	0.0000
846.77	50.5701
856.80	57.2831
860.56	59.2214
871.09	60.3333
873.19	59.4240
875.33	0.0000
879.36	55.7434
880.51	57.6517
883.24	50.1264
884.68	51.0919
889.28	66.3114
898.04	77.8593
911.20	64.7904
911.20	64.7904
911.20	64.7904
926.50	51.6555
937.49	72.9045
944.13	68.2237
946.00	62.4887
949.00	51.9532
962.29	64.5380
964.08	59.5999
966.15	94.4162
968.97	54.7000
968.97	54.7000
968.97	54.7000
983.53	43.6688
996.26	80.7963
1001.03	34.1106
1004.73	80.9635
1037.84	46.2121
1038.76	0.0000
1048.07	32.5247
1050.41	43.3913
1050.41	43.3913
1063.66	55.3962
1085.87	61.6468
1099.45	61.8360
1112.07	61.7268
1115.54	46.3309

1120.29	61.8424
1120.29	61.8424
1120.55	61.8449
1121.30	49.8276
1131.51	0.0000
1173.23	62.8552
1177.93	66.9775
1189.05	74.2594
1204.77	83.6917
1221.41	77.8400
1231.02	104.6812
1235.36	68.8239
1238.28	71.9482
1260.41	0.0000
1271.85	54.8525
1274.44	67.3063
1274.54	67.3090
1291.59	43.6406
1298.22	0.0000
1312.11	31.3000
1332.49	28.2843
1365.19	25.3018
1368.63	0.0000
1384.29	25.3945
1408.01	18.0687
1457.56	0.0000
1460.82	27.5997
1489.16	21.5771
1505.03	25.9658
1596.21	23.5561
1620.50	14.1922
1678.03	0.0000
1690.97	14.3591
1764.49	16.9513
1764.49	16.9513
1770.23	30.0550
1771.35	13.5757
1791.20	0.0000
1836.06	14.6924

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051012

Total Uranium Activity	1.2738E+01	ug/g
Total Uranium Counting Unc.	7.1494E+00	ug/g
Total Uranium Tpu	3.6476E-06	ug/g
Total Uranium Mda	4.2692E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*             2040 SAVAGE ROAD                     *
*             CHARLESTON ,SC 29417                 *
*             GROSS GAMMA REPORT                   *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051012
*  ANALYST       : MXR1            DETECTOR    : GAM23
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 19:35:32.72  SAMPLE ALQT: 141.860 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.907E+00
GROSS GAMMA ERROR  (pCi/GRAM ) : 1.238E+00
GROSS GAMMA MDA    (pCi/GRAM ) : 3.120E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.520E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 22:41:41.16

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051013.CNF;1
Sample date   : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:41:08
Sample ID     : G248051013 Sample quantity : 1.22730E+02 GRAM
Detector name : GAM05 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.01 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 958225 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	45.97*	187	601	1.40	92.91	89	10	2.60E-02	27.3	
2	0	62.66*	133	961	1.13	126.30	122	10	1.85E-02	45.1	
3	3	74.33*	1132	815	1.52	149.63	144	16	1.57E-01	5.5	7.05E+00
4	3	76.65*	1348	587	1.13	154.29	144	16	1.87E-01	4.3	
5	3	86.76	442	541	1.10	174.49	163	29	6.14E-02	9.8	1.48E+00
6	3	89.48	261	505	1.21	179.94	163	29	3.62E-02	15.9	
7	3	92.56*	411	659	1.71	186.09	163	29	5.71E-02	13.6	
8	0	128.11	106	565	1.06	257.19	253	11	1.47E-02	44.5	
9	0	185.52*	297	559	1.11	372.00	365	14	4.12E-02	18.2	
10	0	208.93	157	425	1.17	418.81	413	12	2.18E-02	27.5	
11	3	238.23*	1657	213	1.26	477.38	469	21	2.30E-01	3.0	1.72E+00
12	3	241.29	400	267	1.83	483.51	469	21	5.55E-02	11.8	
13	0	269.85	112	172	2.07	540.61	537	8	1.55E-02	22.5	
14	0	294.82*	515	180	1.39	590.54	586	10	7.15E-02	6.7	
15	0	299.64	90	202	1.46	600.17	596	10	1.25E-02	31.2	
16	0	327.45	121	248	1.52	655.77	650	14	1.68E-02	28.9	
17	0	337.84	304	341	1.39	676.55	669	16	4.22E-02	14.7	
18	0	351.50*	775	250	1.39	703.86	698	14	1.08E-01	5.7	
19	0	462.91	83	124	1.48	926.60	921	10	1.15E-02	27.5	
20	0	510.40*	98	210	1.80	1021.55	1016	15	1.36E-02	36.8	
21	0	582.73*	417	135	1.27	1166.14	1161	12	5.80E-02	7.6	
22	0	608.82*	527	108	1.42	1218.28	1213	11	7.32E-02	5.9	
23	0	727.11	90	129	1.65	1454.72	1447	13	1.24E-02	28.3	
24	0	772.26	71	205	8.37	1544.97	1529	28	9.80E-03	60.1	
25	0	795.21	125	65	2.44	1590.84	1582	20	1.73E-02	18.2	
26	0	859.80	90	56	1.26	1719.93	1714	13	1.25E-02	20.0	
27	0	910.85*	274	80	1.70	1821.96	1816	12	3.81E-02	9.1	
28	1	964.22	55	81	2.09	1928.60	1923	20	7.66E-03	31.9	1.71E+00
29	1	968.52*	202	62	1.87	1937.20	1923	20	2.81E-02	10.6	
30	0	1119.91	99	90	1.67	2239.71	2234	15	1.37E-02	23.2	
31	0	1237.85	61	81	3.35	2475.36	2467	15	8.44E-03	35.0	
32	0	1460.26*	1135	46	2.17	2919.67	2912	19	1.58E-01	3.4	
33	0	1592.30	19	19	1.48	3183.41	3179	11	2.68E-03	49.4	
34	0	1729.44	23	7	1.57	3457.31	3449	13	3.12E-03	31.5	
35	0	1764.10*	99	7	2.02	3526.54	3519	13	1.37E-02	11.8	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051013.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:41:08
Sample ID        : G248051013 Sample quantity : 122.73 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA5 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.01 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	+	1460.82	*	3.246E+01	2.968E+00	7.642E-01	4.753E-02	42.479
CD-109	+	88.03	*	4.773E+00	1.008E+00	1.185E+00	9.024E-02	4.028
SN-126		64.28		7.844E-01	3.799E-01	5.625E-01	8.384E-02	1.394
	+	86.94		1.930E+00	8.808E-01	4.777E-01	1.966E-01	4.041
	+	87.57	*	4.643E-01	9.804E-02	1.151E-01	8.767E-03	4.033
TL-208		277.37		8.323E-02	4.874E-01	8.201E-01	1.067E-01	0.101
	+	583.19	*	6.645E-01	1.116E-01	8.106E-02	5.954E-03	8.197
	+	860.56		1.385E+00	5.726E-01	5.136E-01	5.211E-02	2.696
PB-210	+	46.54	*	1.775E+00	9.779E-01	1.002E+00	7.725E-02	1.773
BI-211	+	72.87		3.501E+01	4.745E+00	4.004E+00	3.152E-01	8.743
	+	351.06	*	5.215E+00	7.230E-01	4.466E-01	3.540E-02	11.678
PB-212	+	74.82		4.189E+00	6.988E-01	4.641E-01	5.795E-02	9.026
	+	77.11		3.007E+00	3.480E-01	2.802E-01	2.181E-02	10.730
	+	238.63	*	2.432E+00	3.004E-01	1.078E-01	1.166E-02	22.574
	+	300.09		2.083E+00	1.320E+00	1.456E+00	1.564E-01	1.430
BI-214	+	609.32	*	1.632E+00	2.369E-01	1.672E-01	1.411E-02	9.757
	+	1120.29		1.613E+00	7.636E-01	6.105E-01	5.865E-02	2.642
	+	1764.49		2.296E+00	5.593E-01	3.180E-01	1.838E-02	7.219
PB-214	+	74.82		7.425E+00	1.166E+00	8.226E-01	9.167E-02	9.026
	+	77.11		5.301E+00	7.533E-01	4.940E-01	5.602E-02	10.730
	+	242.00		3.560E+00	9.332E-01	6.304E-01	7.163E-02	5.648
	+	295.22		2.105E+00	3.660E-01	2.482E-01	2.751E-02	8.483
	+	351.93	*	1.893E+00	2.824E-01	1.625E-01	1.565E-02	11.651
RA-224	+	240.99	*	6.296E+00	1.609E+00	1.155E+00	1.130E-01	5.451
RA-226	+	609.32	*	1.632E+00	2.369E-01	1.672E-01	1.411E-02	9.757
	+	1120.29		1.613E+00	7.636E-01	6.105E-01	5.865E-02	2.642
	+	1764.49		2.296E+00	5.593E-01	3.180E-01	1.838E-02	7.219
AC-228	+	338.32		2.267E+00	1.155E+00	4.818E-01	2.002E-01	4.706
	+	911.20	*	2.151E+00	4.759E-01	2.720E-01	3.452E-02	7.907
	+	968.97		2.736E+00	8.895E-01	5.003E-01	1.232E-01	5.469
RA-228	+	338.32		2.267E+00	1.155E+00	4.818E-01	2.002E-01	4.706
	+	911.20	*	2.151E+00	4.759E-01	2.720E-01	3.452E-02	7.907
	+	968.97		2.736E+00	8.895E-01	5.003E-01	1.232E-01	5.469
TH-228	+	74.82		4.189E+00	5.698E-01	4.641E-01	3.674E-02	9.026

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.007E+00	3.480E-01	2.802E-01	2.181E-02	10.730
	+	238.63	*	2.432E+00	3.004E-01	1.078E-01	1.166E-02	22.574
	+	300.09		2.083E+00	1.822E+00	1.456E+00	8.920E-01	1.430
TH-229	+	85.43		1.169E+00	2.468E-01	2.880E-01	2.202E-02	4.058
	+	88.47		4.252E-01	1.395E-01	1.779E-01	1.368E-02	2.390
		193.51	*	-1.016E-03	6.810E-01	1.090E+00	1.089E-01	-0.001
		210.85		2.761E+00	1.351E+00	2.046E+00	2.039E-01	1.349
TH-232	+	338.32		2.267E+00	6.916E-01	4.818E-01	3.777E-02	4.706
	+	911.20	*	2.151E+00	4.759E-01	2.720E-01	3.452E-02	7.907
	+	968.97		2.736E+00	8.895E-01	5.003E-01	1.232E-01	5.469
TH-234	+	63.29	*	1.368E+00	1.259E+00	1.282E+00	2.326E-01	1.067
	+	92.59		3.835E+00	1.343E+00	1.023E+00	2.249E-01	3.750
U-235	+	89.96		2.941E+00	1.179E+00	1.236E+00	3.015E-01	2.379
	+	93.35		2.897E+00	1.033E+00	7.307E-01	1.685E-01	3.964
		143.76	*	1.089E-01	2.616E-01	4.280E-01	8.163E-02	0.255
		163.33		1.467E-01	5.516E-01	8.967E-01	1.683E-01	0.164
	+	185.72		2.800E-01	1.057E-01	8.257E-02	8.241E-03	3.391
		205.31		4.083E-01	7.071E-01	1.012E+00	1.905E-01	0.404
NP-237	+	86.48	*	1.385E+00	4.123E-01	3.424E-01	7.640E-02	4.046
		95.86		-1.050E+00	1.169E+00	1.573E+00	3.795E-01	-0.668
U-238	+	63.29	*	1.368E+00	1.259E+00	1.282E+00	2.326E-01	1.067
	+	92.59		3.835E+00	1.094E+00	1.023E+00	8.592E-02	3.750
ANH-511	+	511.00	*	1.178E-01	8.691E-02	6.432E-02	4.117E-03	1.831

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-1.328E-01	4.794E-01	7.464E-01	5.345E-02	-0.178
NA-22		1274.54	*	-8.634E-03	5.512E-02	8.772E-02	5.110E-03	-0.098
NA-24		1368.63	*	2.021E+01	5.512E-02	Half-Life too short		
SC-46		889.28	*	-3.380E-02	5.576E-02	8.742E-02	8.781E-03	-0.387
	+	1120.55		2.803E-01	1.313E-01	1.738E-01	1.196E-02	1.612
V-48		944.13		-6.966E-01	1.327E+00	2.081E+00	2.013E-01	-0.335
		983.53	*	4.909E-02	1.141E-01	1.942E-01	1.779E-02	0.253
		1312.11		7.121E-02	1.205E-01	2.070E-01	1.200E-02	0.344
CR-51		320.08	*	6.846E-02	5.409E-01	8.545E-01	7.550E-02	0.080
MN-54		834.85	*	1.360E-02	5.162E-02	8.729E-02	7.997E-03	0.156
CO-56		846.77	*	-4.240E-02	5.354E-02	8.267E-02	7.731E-03	-0.513
		1037.84		-1.559E-01	4.645E-01	7.398E-01	6.519E-02	-0.211
	+	1238.28		2.840E-01	1.994E-01	2.439E-01	1.508E-02	1.164
		1771.35		-1.416E+00	4.573E-01	3.670E-01	2.119E-02	-3.859
CO-57		122.06	*	-2.465E-02	3.215E-02	4.861E-02	6.898E-03	-0.507
		136.47		2.864E-02	2.689E-01	4.373E-01	5.856E-02	0.065
CO-58		810.76	*	-8.735E-02	5.546E-02	7.945E-02	6.993E-03	-1.099
FE-59		1099.45	*	-2.157E-02	1.342E-01	2.162E-01	1.750E-02	-0.100
		1291.59		-2.370E-02	1.828E-01	2.918E-01	2.167E-02	-0.081
CO-60		1173.23		-7.215E-03	5.504E-02	8.841E-02	5.128E-03	-0.082
		1332.49	*	-1.640E-02	4.835E-02	7.460E-02	4.317E-03	-0.220

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZN-65	1115.54	*		3.989E-02	1.438E-01	2.078E-01	1.452E-02	0.192
SE-75	121.12			-8.453E-02	1.593E-01	2.532E-01	3.955E-02	-0.334
	136.00			2.395E-02	5.219E-02	8.579E-02	1.119E-02	0.279
	264.66	*		-1.964E-02	6.366E-02	9.085E-02	8.674E-03	-0.216
	279.54			-1.265E-02	1.379E-01	2.295E-01	2.199E-02	-0.055
	400.66			8.516E-02	3.499E-01	5.832E-01	5.318E-02	0.146
SR-85	514.00	*		8.795E-02	6.086E-02	9.539E-02	6.115E-03	0.922
Y-88	898.04			1.623E-02	5.619E-02	9.507E-02	9.720E-03	0.171
	1836.06	*		2.711E-02	4.609E-02	8.336E-02	4.769E-03	0.325
Y-91	1204.77	*		-1.181E+01	3.219E+01	5.071E+01	2.947E+00	-0.233
NB-94	702.65	*		-4.031E-04	4.537E-02	7.595E-02	5.435E-03	-0.005
	871.09			2.452E-02	4.534E-02	7.830E-02	7.631E-03	0.313
NB-95	765.81	*		1.148E-01	7.079E-02	1.158E-01	9.369E-03	0.991
NB-95M	235.69	*		1.772E+00	2.936E-01	4.198E-01	4.599E-02	4.220
ZR-95	724.19			3.048E-01	1.686E-01	2.761E-01	2.291E-02	1.104
	756.73	*		8.580E-02	1.074E-01	1.882E-01	1.679E-02	0.456
MO-99	140.51			-3.528E+01	6.464E+01	1.016E+02	2.586E+01	-0.347
	181.07			-2.790E+01	6.158E+01	8.381E+01	1.630E+01	-0.333
	366.42			7.502E+01	2.911E+02	4.874E+02	3.345E+01	0.154
	739.50	*		1.211E+01	3.709E+01	6.335E+01	9.674E+00	0.191
	777.92			2.871E+01	1.294E+02	1.901E+02	1.573E+01	0.151
TC-99M	140.51	*		-2.100E+14	1.294E+02	Half-Life	too short	
RU-103	497.08	*		1.927E-02	5.346E-02	8.916E-02	1.132E-02	0.216
	610.33			1.714E+01	3.281E+00	3.932E+00	6.045E-01	4.358
RH-106	621.93	*		2.426E-01	4.371E-01	7.309E-01	8.798E-02	0.332
	1050.41			1.944E+00	3.469E+00	5.955E+00	4.849E-01	0.326
RU-106	621.93	*		2.426E-01	4.364E-01	7.309E-01	4.818E-02	0.332
	1050.41			1.944E+00	3.469E+00	5.955E+00	4.849E-01	0.326
AG-108M	433.94	*		2.198E-03	3.864E-02	6.358E-02	4.105E-03	0.035
	614.28			5.345E-02	5.069E-02	7.814E-02	5.435E-03	0.684
	722.91			4.251E-02	5.942E-02	9.137E-02	7.098E-03	0.465
AG-110M	657.76	*		-2.563E-02	5.069E-02	7.829E-02	5.412E-03	-0.327
	677.62			7.032E-02	4.490E-01	7.609E-01	5.410E-02	0.092
	706.68			1.218E-02	2.840E-01	4.770E-01	3.581E-02	0.026
	763.94			9.100E-02	2.514E-01	3.744E-01	3.112E-02	0.243
	884.68			-2.161E-02	6.776E-02	1.091E-01	1.113E-02	-0.198
	937.49			-2.196E-01	1.632E-01	2.367E-01	2.374E-02	-0.928
	1384.29			-2.377E-01	2.152E-01	3.139E-01	1.935E-02	-0.757
	1505.03			-2.578E-01	3.626E-01	5.458E-01	3.209E-02	-0.472
SN-113	391.69	*		-5.800E-03	5.902E-02	9.671E-02	5.999E-03	-0.060
CD-115	260.90			3.545E-04	5.902E-02	Half-Life	too short	
	492.35			-8.808E-05	5.902E-02	Half-Life	too short	
	527.90	*		-1.893E-05	5.902E-02	Half-Life	too short	
SN-117M	156.02			4.291E-01	3.421E+00	5.545E+00	6.114E-01	0.077
	158.56	*		-4.229E-02	8.293E-02	1.309E-01	1.408E-02	-0.323
TE-123M	159.00	*		-2.585E-02	3.729E-02	5.837E-02	6.272E-03	-0.443
SB-124	602.73			-2.448E-03	6.252E-02	8.662E-02	5.704E-03	-0.028
	645.85			-7.769E-01	7.085E-01	1.035E+00	7.480E-02	-0.750
	722.78			2.421E-01	6.352E-01	9.485E-01	7.281E-02	0.255

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125	1690.97	*		6.351E-02	1.046E-01	1.894E-01	1.204E-02	0.335
	427.87	*		5.163E-02	1.190E-01	2.002E-01	1.254E-02	0.258
	463.37		+	8.767E-01	4.856E-01	7.140E-01	5.060E-02	1.228
	600.60			-4.936E-02	2.429E-01	3.864E-01	2.858E-02	-0.128
TE-125M	635.95			1.418E-01	3.582E-01	5.940E-01	4.445E-02	0.239
	109.28	*		-3.993E+00	1.236E+01	1.961E+01	2.546E+00	-0.204
	388.63			1.670E-01	2.603E-01	4.433E-01	2.638E-02	0.377
	666.33	*		-7.203E-02	3.830E-01	6.062E-01	4.025E-02	-0.119
I-126	753.82			1.316E+00	3.050E+00	5.236E+00	4.140E-01	0.251
	414.70			-2.144E-02	1.197E-01	1.947E-01	1.160E-02	-0.110
	666.50			-1.473E-02	1.332E-01	2.120E-01	1.408E-02	-0.069
	695.00			1.328E-01	1.366E-01	2.267E-01	1.597E-02	0.586
SB-126	697.00			8.065E-02	4.466E-01	7.569E-01	5.354E-02	0.107
	720.70	*		-2.319E-01	3.054E-01	4.088E-01	3.032E-02	-0.567
	856.80			6.233E-01	8.603E-01	1.325E+00	1.260E-01	0.470
	252.40			7.995E+00	1.047E+01	1.717E+01	7.217E+00	0.466
SB-127	473.00			-1.682E+00	4.017E+00	6.381E+00	7.858E-01	-0.264
	685.70	*		7.235E-01	3.348E+00	5.692E+00	6.404E-01	0.127
	783.70			2.591E+00	9.054E+00	1.505E+01	1.975E+00	0.172
	80.19			5.112E-01	8.151E+00	8.522E+00	6.662E-01	0.060
I-131	284.31			-2.064E+00	2.408E+00	3.846E+00	3.702E-01	-0.537
	364.49	*		-5.279E-02	1.960E-01	3.191E-01	2.405E-02	-0.165
	636.99			-1.013E+00	2.815E+00	4.399E+00	3.192E-01	-0.230
	49.72			-5.860E+00	1.075E+01	1.535E+01	1.675E+00	-0.382
TE-132	111.76			-6.590E+01	8.041E+01	1.265E+02	1.849E+01	-0.521
	116.30			3.552E+00	6.774E+01	1.105E+02	1.701E+01	0.032
	228.16	*		3.399E-01	1.784E+00	3.023E+00	5.199E-01	0.112
	81.00			3.419E-04	1.285E-01	1.337E-01	2.010E-02	0.003
BA-133	276.40			4.766E-01	4.644E-01	7.822E-01	1.138E-01	0.609
	302.85			3.558E-02	1.934E-01	2.833E-01	3.736E-02	0.126
	356.01	*		2.957E-02	6.076E-02	9.022E-02	1.090E-02	0.328
	383.85			1.668E-02	3.872E-01	6.399E-01	6.951E-02	0.026
I-133	529.87	*		1.461E-02	3.872E-01	Half-Life	too short	
	875.33			-5.755E-01	3.872E-01	Half-Life	too short	
	1298.22			-3.650E+00	3.872E-01	Half-Life	too short	
	563.25			3.898E-01	5.084E-01	8.535E-01	5.670E-02	0.457
CS-134	569.33			-1.833E-01	2.780E-01	4.265E-01	2.857E-02	-0.430
	604.72			3.191E-02	5.364E-02	7.875E-02	5.208E-03	0.405
	795.86	*	+	2.951E-01	1.105E-01	1.305E-01	1.124E-02	2.261
	801.95			-1.279E-01	6.386E-01	9.088E-01	7.900E-02	-0.141
CS-135	1365.19			-1.456E-02	1.395E+00	2.244E+00	1.433E-01	-0.006
	268.22	*		5.076E-01	2.261E-01	3.623E-01	3.876E-02	1.401
	546.56			-4.663E+12	2.261E-01	Half-Life	too short	
	836.80			1.543E+14	2.261E-01	Half-Life	too short	
I-135	1038.76			5.297E+13	2.261E-01	Half-Life	too short	
	1131.51			5.800E+12	2.261E-01	Half-Life	too short	
	1260.41	*		1.283E+11	2.261E-01	Half-Life	too short	
	1457.56			4.982E+15	2.261E-01	Half-Life	too short	
	1678.03			-2.120E+13	2.261E-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	1791.20			-7.481E+12	2.261E-01	Half-Life	too short	
	153.25			-7.081E-02	1.289E+00	2.077E+00	2.622E-01	-0.034
	176.60			7.749E-01	7.674E-01	1.274E+00	1.369E-01	0.608
	273.65			-6.351E-01	8.859E-01	1.229E+00	1.235E-01	-0.517
	340.55			5.578E-01	2.671E-01	4.275E-01	3.477E-02	1.305
	818.51			1.283E-01	1.255E-01	2.230E-01	1.988E-02	0.575
BA-137M	1048.07	*		-7.646E-02	1.716E-01	2.695E-01	2.309E-02	-0.284
	1235.36			1.697E+00	1.174E+00	1.850E+00	1.831E-01	0.918
	661.66	*		1.465E-02	5.225E-02	8.552E-02	5.624E-03	0.171
	661.66	*		1.548E-02	5.520E-02	9.034E-02	5.961E-03	0.171
	165.86	*		-1.722E-02	3.845E-02	6.076E-02	6.032E-03	-0.283
	162.66			-9.273E-02	1.235E+00	1.985E+00	2.140E-01	-0.047
BA-140	304.85			-8.324E-02	2.195E+00	3.167E+00	9.284E-01	-0.026
	423.72			-2.164E+00	3.038E+00	4.636E+00	1.498E+00	-0.467
	537.26	*		-4.310E-01	4.552E-01	6.512E-01	2.177E-01	-0.662
	328.76			1.332E+00	7.777E-01	8.632E-01	7.466E-02	1.543
	487.02			5.246E-03	2.133E-01	3.485E-01	2.448E-02	0.015
	815.77			3.222E-01	5.511E-01	9.535E-01	9.388E-02	0.338
CE-141	1596.21	*		6.516E-02	1.294E-01	2.047E-01	1.203E-02	0.318
	145.44	*		7.748E-02	8.706E-02	1.443E-01	1.765E-02	0.537
	57.36			-2.126E-03	8.706E-02	Half-Life	too short	
	293.27	*		8.788E-03	8.706E-02	Half-Life	too short	
	664.57			4.395E-03	8.706E-02	Half-Life	too short	
	721.93			-2.170E-05	8.706E-02	Half-Life	too short	
CE-144	80.12			2.393E-01	3.353E+00	3.508E+00	2.711E-01	0.068
	133.52	*		2.796E-02	2.951E-01	4.204E-01	7.685E-02	0.067
	476.78			-4.075E-02	9.245E-02	1.423E-01	1.033E-02	-0.286
	618.01			-4.249E-02	4.615E-02	6.918E-02	4.777E-03	-0.614
	696.49	*		3.516E-02	4.657E-02	8.173E-02	5.780E-03	0.430
	696.51	*		2.651E+00	3.493E+00	6.130E+00	4.332E-01	0.432
PM-144	1489.16			5.589E+00	1.712E+01	2.968E+01	1.744E+00	0.188
	453.88	*		6.452E-03	5.562E-02	9.166E-02	7.986E-03	0.070
	633.25			-7.302E-01	2.006E+00	3.108E+00	1.175E+00	-0.235
	735.93			-8.128E-02	1.973E-01	3.178E-01	8.816E-02	-0.256
	747.24			-2.119E-02	1.351E-01	2.231E-01	3.150E-02	-0.095
	91.11			1.858E+00	5.341E-01	7.050E-01	6.275E-02	2.636
ND-147	319.41			-6.362E-01	5.276E+00	8.717E+00	7.316E-01	-0.073
	531.02	*		7.747E-01	9.564E-01	1.626E+00	2.246E-01	0.477
	285.90	*		2.373E-05	9.564E-01	Half-Life	too short	
	121.78			-8.269E-02	9.146E-02	1.370E-01	2.047E-02	-0.604
	244.70			1.404E-02	4.270E-01	6.256E-01	6.099E-02	0.022
	344.28	*		1.223E-02	1.674E-01	2.118E-01	1.741E-02	0.058
EU-152	778.90			-3.354E-01	4.332E-01	5.691E-01	4.717E-02	-0.589
	964.08			8.037E-01	5.182E-01	7.731E-01	7.283E-02	1.040
	1085.87			-6.795E-01	5.576E-01	8.028E-01	6.044E-02	-0.846
	1112.07			-3.025E-01	4.725E-01	6.641E-01	4.677E-02	-0.456
	1408.01			1.288E-01	2.426E-01	4.280E-01	2.501E-02	0.301
	69.67			-8.636E-01	1.479E+00	2.097E+00	1.667E-01	-0.412
GD-153	97.43	*		8.132E-02	1.073E-01	1.586E-01	1.470E-02	0.513

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	103.18			-1.252E-01	1.317E-01	2.076E-01	2.147E-02	-0.603
	123.07			3.432E-03	7.124E-02	1.016E-01	1.618E-02	0.034
	723.31			2.284E-01	2.761E-01	4.275E-01	3.612E-02	0.534
	873.19			1.900E-01	3.833E-01	6.586E-01	8.404E-02	0.289
	996.26			-7.274E-02	5.036E-01	8.173E-01	1.443E-01	-0.089
	1004.73			-2.442E-01	2.786E-01	4.176E-01	4.933E-02	-0.585
EU-155	1274.44	*		-2.755E-02	1.556E-01	2.471E-01	2.330E-02	-0.111
	86.55	+		5.637E-01	1.192E-01	1.955E-01	1.511E-02	2.883
	105.31	*		1.322E-02	1.251E-01	2.051E-01	2.221E-02	0.064
TB-160	86.79	+		1.541E+00	3.254E-01	5.344E-01	4.076E-02	2.883
	197.04			-3.560E-01	7.551E-01	1.161E+00	1.159E-01	-0.307
	215.65			2.297E-01	1.024E+00	1.648E+00	1.639E-01	0.139
	298.57	+		3.025E-01	1.909E-01	2.551E-01	2.270E-02	1.186
	879.36	*		-7.035E-02	1.953E-01	3.134E-01	3.097E-02	-0.224
	962.29			1.694E+00	8.873E-01	1.474E+00	1.392E-01	1.149
	966.15			2.145E+00	4.406E-01	8.120E-01	7.628E-02	2.642
	1177.93			-1.308E-01	4.917E-01	7.806E-01	4.529E-02	-0.168
	1271.85			3.790E-01	8.742E-01	1.482E+00	8.613E-02	0.256
	80.57	+		5.489E-03	3.644E-01	3.797E-01	2.931E-02	0.014
HO-166M	184.41	+		2.224E-01	8.394E-02	8.992E-02	8.972E-03	2.474
	280.46			-1.052E-01	1.058E-01	1.681E-01	1.557E-02	-0.626
	410.95			4.714E-01	3.160E-01	5.594E-01	3.320E-02	0.843
	711.68	*		-1.009E-01	8.299E-02	1.265E-01	9.217E-03	-0.798
	752.31			9.920E-02	3.916E-01	6.646E-01	5.241E-02	0.149
	810.29			-1.135E-01	7.801E-02	1.127E-01	9.890E-03	-1.007
TA-182	67.75			-6.750E-02	9.909E-02	1.299E-01	1.040E-02	-0.520
	100.11			2.975E-01	2.063E-01	3.493E-01	3.410E-02	0.852
	152.43			-1.005E-01	4.502E-01	7.208E-01	8.222E-02	-0.139
	222.11			8.577E-02	4.348E-01	7.380E-01	7.319E-02	0.116
	1121.30	+		7.709E-01	3.613E-01	4.691E-01	3.220E-02	1.643
	1189.05			3.269E-02	4.788E-01	7.825E-01	4.544E-02	0.042
	1221.41	*		1.387E-01	3.008E-01	5.048E-01	2.935E-02	0.275
IR-192	1231.02			-5.851E-02	7.838E-01	1.078E+00	6.268E-02	-0.054
	295.96	+		1.605E+00	2.592E-01	3.826E-01	3.449E-02	4.195
	308.46			2.427E-02	1.212E-01	2.036E-01	1.775E-02	0.119
	316.51	*		2.536E-02	4.596E-02	7.832E-02	6.647E-03	0.324
HG-203	468.07			7.649E-03	1.061E-01	1.509E-01	1.068E-02	0.051
	70.83			8.032E-01	1.199E+00	1.769E+00	2.776E-01	0.454
	72.87	+		9.148E+00	1.713E+00	1.488E+00	2.251E-01	6.149
BI-207	279.20	*		-5.691E-03	5.093E-02	8.468E-02	8.032E-03	-0.067
	72.81			1.360E+00	2.167E-01	3.256E-01	2.564E-02	4.177
	74.97	+		1.207E+00	1.636E-01	2.565E-01	2.008E-02	4.707
	569.70			-2.401E-02	4.312E-02	6.670E-02	4.365E-03	-0.360
PB-211	1063.66	*		-1.446E-03	7.673E-02	1.254E-01	9.931E-03	-0.012
	1770.23			-4.936E+00	1.119E+00	6.438E-01	3.719E-02	-7.667
	404.85	*		-8.627E-01	1.071E+00	1.550E+00	7.435E-01	-0.557
	427.09			8.572E-01	1.989E+00	3.284E+00	1.506E+00	0.261
BI-212	832.01			-1.170E+00	1.497E+00	2.122E+00	1.102E+00	-0.551
	727.33	+	*	2.221E+00	1.282E+00	1.620E+00	1.899E-01	1.371

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		785.37		4.980E+00	4.508E+00	7.757E+00	6.505E-01	0.642
		1620.50		1.086E+00	3.027E+00	5.267E+00	3.091E-01	0.206
RN-219	+	271.23		7.277E-01	3.367E-01	5.386E-01	5.887E-02	1.351
		401.81	*	1.803E-01	5.448E-01	9.116E-01	1.228E-01	0.198
RA-223		81.07		1.866E-03	2.912E-01	3.031E-01	2.338E-02	0.006
		83.79		3.284E-01	1.209E-01	2.023E-01	1.552E-02	1.623
		94.87		3.776E-01	5.655E-01	8.318E-01	7.326E-02	0.454
		144.24		6.947E-01	8.705E-01	1.440E+00	1.865E-01	0.483
		154.21		5.733E-01	4.914E-01	8.195E-01	9.724E-02	0.700
	+	269.46		5.654E-01	2.599E-01	4.192E-01	4.023E-02	1.349
		323.87	*	7.441E-01	8.868E-01	1.343E+00	2.304E-01	0.554
	+	338.28		8.997E+00	2.848E+00	3.125E+00	3.602E-01	2.879
AC-227		79.69		4.123E-01	1.656E+00	1.753E+00	2.947E-01	0.235
		235.96		3.263E+00	4.697E-01	5.767E-01	6.556E-02	5.658
		256.23	*	-1.204E-01	3.257E-01	5.372E-01	6.868E-02	-0.224
	+	299.98		2.291E+00	1.461E+00	1.988E+00	2.560E-01	1.152
		304.50		-2.925E-01	2.209E+00	3.164E+00	5.254E-01	-0.092
		334.37		4.927E-02	3.720E+00	3.591E+00	5.471E-01	0.014
TH-227		79.80		2.417E-01	2.180E+00	2.287E+00	4.904E-01	0.106
		235.96		3.263E+00	4.561E-01	5.767E-01	6.251E-02	5.658
		256.23	*	-1.204E-01	3.258E-01	5.372E-01	7.661E-02	-0.224
	+	299.98		2.291E+00	1.461E+00	1.988E+00	2.560E-01	1.152
		304.50		-2.925E-01	2.209E+00	3.164E+00	5.254E-01	-0.092
		334.37		4.927E-02	3.720E+00	3.591E+00	5.471E-01	0.014
PA-231		283.69	*	-1.270E+00	1.783E+00	2.862E+00	4.274E-01	-0.444
		301.36		1.307E+00	7.963E-01	1.248E+00	1.536E-01	1.047
TH-231		81.07		1.866E-03	2.912E-01	3.031E-01	2.338E-02	0.006
		83.79		3.284E-01	1.209E-01	2.023E-01	1.552E-02	1.623
		94.87		3.776E-01	5.655E-01	8.318E-01	7.326E-02	0.454
		144.24		6.947E-01	8.705E-01	1.440E+00	1.865E-01	0.483
		154.21		5.733E-01	4.914E-01	8.195E-01	9.724E-02	0.700
	+	269.46		5.654E-01	2.599E-01	4.192E-01	4.023E-02	1.349
		323.87	*	7.441E-01	8.868E-01	1.343E+00	2.304E-01	0.554
	+	338.28		8.997E+00	2.848E+00	3.125E+00	3.602E-01	2.879
PA-233	+	300.13		1.037E+00	6.659E-01	9.014E-01	1.350E-01	1.150
		311.90	*	-6.462E-02	8.075E-02	1.287E-01	1.137E-02	-0.502
		340.48		2.285E+00	1.101E+00	1.574E+00	3.744E-01	1.451
PA-234		94.67		3.568E-01	2.083E-01	3.121E-01	3.904E-02	1.143
		98.44		1.271E-01	1.311E-01	1.741E-01	9.734E-02	0.730
		111.00		-3.804E-02	2.182E-01	3.537E-01	5.158E-02	-0.108
		131.20		-2.200E-02	1.537E-01	2.166E-01	2.908E-02	-0.102
		569.50		-2.355E-01	3.830E-01	5.898E-01	3.860E-02	-0.399
		733.00		1.814E-01	5.655E-01	8.407E-01	1.834E-01	0.216
		880.51		-2.367E-01	3.791E-01	5.929E-01	5.870E-02	-0.399
		883.24		8.897E-02	3.957E-01	6.592E-01	4.443E-01	0.135
		926.50		-2.217E-01	2.560E-01	3.812E-01	9.811E-02	-0.581
		946.00	*	1.053E-01	3.895E-01	6.564E-01	1.264E-01	0.160
		949.00		1.002E-01	5.737E-01	9.598E-01	9.226E-02	0.104
PA-234M		766.42		2.567E+01	2.254E+01	2.976E+01	1.508E+01	0.862

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		-1.751E+00	6.434E+00	1.017E+01	1.039E+00	-0.172
	99.53			3.582E-01	1.866E-01	3.181E-01	3.071E-02	1.126
	103.37			-1.003E-02	1.150E-01	1.874E-01	1.945E-02	-0.054
	106.12			8.879E-02	9.789E-02	1.638E-01	1.786E-02	0.542
	117.23	*		-1.778E-01	4.670E-01	7.489E-01	9.848E-02	-0.237
AM-241	228.18			5.008E-02	2.615E-01	4.434E-01	4.382E-02	0.113
	277.60			4.016E-02	2.222E-01	3.741E-01	3.482E-02	0.107
	59.54	*		1.115E-01	8.370E-02	1.272E-01	1.138E-02	0.876
	278.00			1.962E-01	9.323E-01	1.571E+00	1.462E-01	0.125
	287.50			1.487E-01	1.537E+00	2.511E+00	2.292E-01	0.059
CM-247	402.40	*		4.043E-02	4.956E-02	8.501E-02	5.002E-03	0.476
	252.80			9.120E-01	1.225E+00	2.110E+00	2.038E-01	0.432
	333.37			-4.861E-02	3.898E-01	3.689E-01	2.949E-02	-0.132
	388.16	*		4.640E-02	5.225E-02	9.006E-02	5.378E-03	0.515
	177.52	*		2.386E-02	1.712E-01	2.764E-01	2.754E-02	0.086
CF-251	227.38			8.359E-03	4.307E-01	7.257E-01	7.175E-02	0.012
	285.41			-7.128E-01	2.643E+00	4.356E+00	3.993E-01	-0.164

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]G248051013      *
* Acquisition date   : 10-MAR-2010 20:41:08 Detector SN#      :              *
* Detector ID        : GAM05 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 02:00:02.01 Half life ratio : 8.000   *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID      *
* Sample ID          : G248051013 Analyst initials: MXR1          *
* Batch Number       : 958225 Sample Quantity : 1.2273E+02 GRAM   *
* Recovery           : 1.00000 Carrier Weight : 0.00000          *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00 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	3.246E+01	2.909E+00	7.630E-01	0.000E+00
CD-109	4.773E+00	9.877E-01	1.227E+00	0.000E+00
SN-126	4.643E-01	9.608E-02	1.192E-01	0.000E+00
TL-208	6.645E-01	1.094E-01	8.192E-02	0.000E+00
PB-210	1.775E+00	9.584E-01	1.045E+00	0.000E+00
BI-211	5.215E+00	7.086E-01	4.543E-01	0.000E+00
PB-212	2.432E+00	2.944E-01	1.102E-01	0.000E+00
BI-214	1.632E+00	2.322E-01	1.689E-01	0.000E+00
PB-214	1.893E+00	2.768E-01	1.652E-01	0.000E+00
RA-224	6.296E+00	1.577E+00	1.181E+00	0.000E+00
RA-226	1.632E+00	2.322E-01	1.689E-01	0.000E+00
AC-228	2.151E+00	4.664E-01	2.733E-01	0.000E+00
RA-228	2.151E+00	4.664E-01	2.733E-01	0.000E+00
TH-228	2.432E+00	2.944E-01	1.102E-01	0.000E+00
TH-229	-1.016E-03	6.674E-01	1.118E+00	0.000E+00
TH-232	2.151E+00	4.664E-01	2.733E-01	0.000E+00
TH-234	1.368E+00	1.234E+00	1.332E+00	0.000E+00
U-235	1.089E-01	2.563E-01	4.403E-01	0.000E+00
NP-237	1.385E+00	4.040E-01	3.545E-01	0.000E+00
U-238	1.368E+00	1.234E+00	1.332E+00	0.000E+00
ANH-511	1.178E-01	8.517E-02	6.512E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.328E-01	4.698E-01	7.562E-01	0.000E+00 NOT IDENT.
NA-22	-8.634E-03	5.402E-02	8.774E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	3.068E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-3.380E-02	5.464E-02	8.786E-02	0.000E+00 FAIL ABUN
V-48	4.909E-02	1.118E-01	1.950E-01	0.000E+00 NOT IDENT.
CR-51	6.846E-02	5.301E-01	8.703E-01	0.000E+00 NOT IDENT.

MN-54	1.360E-02	5.059E-02	8.780E-02	0.000E+00	NOT IDENT.
CO-56	-4.240E-02	5.247E-02	8.314E-02	0.000E+00	FAIL ABUN
CO-57	-2.465E-02	3.150E-02	5.012E-02	0.000E+00	NOT IDENT.
CO-58	-8.735E-02	5.435E-02	7.995E-02	0.000E+00	NOT IDENT.
FE-59	-2.157E-02	1.315E-01	2.166E-01	0.000E+00	NOT IDENT.
CO-60	-1.640E-02	4.738E-02	7.457E-02	0.000E+00	NOT IDENT.
ZN-65	3.989E-02	1.409E-01	2.082E-01	0.000E+00	NOT IDENT.
SE-75	-1.964E-02	6.238E-02	9.275E-02	0.000E+00	NOT IDENT.
SR-85	8.795E-02	5.964E-02	9.656E-02	0.000E+00	NOT IDENT.
Y-88	2.711E-02	4.517E-02	8.297E-02	0.000E+00	NOT IDENT.
Y-91	-1.181E+01	3.155E+01	5.076E+01	0.000E+00	NOT IDENT.
NB-94	-4.031E-04	4.446E-02	7.657E-02	0.000E+00	NOT IDENT.
NB-95	1.148E-01	6.937E-02	1.166E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.877E-01	4.292E-01	0.000E+00	NOT IDENT.
ZR-95	8.580E-02	1.053E-01	1.896E-01	0.000E+00	NOT IDENT.
MO-99	1.211E+01	3.635E+01	6.382E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.806E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.927E-02	5.239E-02	9.029E-02	0.000E+00	NOT IDENT.
RH-106	2.426E-01	4.284E-01	7.381E-01	0.000E+00	NOT IDENT.
RU-106	2.426E-01	4.277E-01	7.381E-01	0.000E+00	NOT IDENT.
AG-108M	2.198E-03	3.787E-02	6.450E-02	0.000E+00	NOT IDENT.
AG-110M	-2.563E-02	4.967E-02	7.900E-02	0.000E+00	NOT IDENT.
SN-113	-5.800E-03	5.784E-02	9.824E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.288E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-4.229E-02	8.127E-02	1.346E-01	0.000E+00	NOT IDENT.
TE-123M	-2.585E-02	3.655E-02	5.998E-02	0.000E+00	NOT IDENT.
SB-124	6.351E-02	1.025E-01	1.888E-01	0.000E+00	NOT IDENT.
SB-125	5.163E-02	1.166E-01	2.031E-01	0.000E+00	FAIL ABUN
TE-125M	-3.993E+00	1.211E+01	2.025E+01	0.000E+00	NOT IDENT.
I-126	-7.203E-02	3.753E-01	6.115E-01	0.000E+00	NOT IDENT.
SB-126	-2.319E-01	2.993E-01	4.120E-01	0.000E+00	NOT IDENT.
SB-127	7.235E-01	3.281E+00	5.740E+00	0.000E+00	NOT IDENT.
I-131	-5.279E-02	1.921E-01	3.245E-01	0.000E+00	NOT IDENT.
TE-132	3.399E-01	1.748E+00	3.092E+00	0.000E+00	NOT IDENT.
BA-133	2.957E-02	5.955E-02	9.176E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.090E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	1.083E-01	1.314E-01	0.000E+00	FAIL ABUN
CS-135	0.000E+00	2.216E-01	3.698E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.269E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.646E-02	1.682E-01	2.703E-01	0.000E+00	NOT IDENT.
BA-137M	1.465E-02	5.121E-02	8.628E-02	0.000E+00	NOT IDENT.
CS-137	1.548E-02	5.409E-02	9.115E-02	0.000E+00	NOT IDENT.
CE-139	-1.722E-02	3.768E-02	6.240E-02	0.000E+00	NOT IDENT.
BA-140	-4.310E-01	4.461E-01	6.588E-01	0.000E+00	NOT IDENT.
LA-140	6.516E-02	1.268E-01	2.041E-01	0.000E+00	FAIL ABUN
CE-141	7.748E-02	8.532E-02	1.485E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.321E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.796E-02	2.892E-01	4.329E-01	0.000E+00	NOT IDENT.
PM-144	3.516E-02	4.564E-02	8.240E-02	0.000E+00	NOT IDENT.
PR-144	2.651E+00	3.423E+00	6.181E+00	0.000E+00	NOT IDENT.
PM-146	6.452E-03	5.451E-02	9.293E-02	0.000E+00	NOT IDENT.
ND-147	7.747E-01	9.373E-01	1.645E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.022E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	1.223E-02	1.641E-01	2.155E-01	0.000E+00	FAIL ABUN
GD-153	8.132E-02	1.052E-01	1.640E-01	0.000E+00	NOT IDENT.
EU-154	-2.755E-02	1.525E-01	2.471E-01	0.000E+00	NOT IDENT.
EU-155	1.322E-02	1.226E-01	2.118E-01	0.000E+00	FAIL ABUN
TB-160	-7.035E-02	1.914E-01	3.150E-01	0.000E+00	FAIL ABUN
HO-166M	-1.009E-01	8.133E-02	1.275E-01	0.000E+00	FAIL ABUN
TA-182	1.387E-01	2.948E-01	5.052E-01	0.000E+00	FAIL ABUN
IR-192	2.536E-02	4.504E-02	7.977E-02	0.000E+00	FAIL ABUN
HG-203	-5.691E-03	4.991E-02	8.639E-02	0.000E+00	FAIL ABUN
BI-207	-1.446E-03	7.520E-02	1.257E-01	0.000E+00	FAIL ABUN
PB-211	-8.627E-01	1.050E+00	1.573E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.256E+00	1.633E+00	0.000E+00	FAIL ABUN
RN-219	1.803E-01	5.339E-01	9.257E-01	0.000E+00	FAIL ABUN
RA-223	7.441E-01	8.691E-01	1.367E+00	0.000E+00	FAIL ABUN
AC-227	-1.204E-01	3.192E-01	5.486E-01	0.000E+00	FAIL ABUN
TH-227	-1.204E-01	3.193E-01	5.486E-01	0.000E+00	FAIL ABUN
PA-231	-1.270E+00	1.747E+00	2.919E+00	0.000E+00	NOT IDENT.
TH-231	7.441E-01	8.691E-01	1.367E+00	0.000E+00	FAIL ABUN
PA-233	-6.462E-02	7.914E-02	1.311E-01	0.000E+00	FAIL ABUN
PA-234	1.053E-01	3.817E-01	6.592E-01	0.000E+00	NOT IDENT.
PA-234M	-1.751E+00	6.306E+00	1.020E+01	0.000E+00	NOT IDENT.
NP-239	-1.778E-01	4.576E-01	7.725E-01	0.000E+00	NOT IDENT.
AM-241	1.115E-01	8.203E-02	1.324E-01	0.000E+00	NOT IDENT.
CM-247	4.043E-02	4.857E-02	8.633E-02	0.000E+00	NOT IDENT.
CF-249	4.640E-02	5.121E-02	9.150E-02	0.000E+00	NOT IDENT.

CF-251	2.386E-02	1.677E-01	2.836E-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]G248051013.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:41:08
Sample ID          : G248051013 Sample quantity : 1.22730E+02 GRAM
Detector name      : GAM05 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.01 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	1135	10.66*	1.004E+00	3.246E+01	3.246E+01	9.14
CD-109	88.03	442	3.70*	7.867E+00	4.643E+00	4.773E+00	21.11
SN-126	64.28	-----	9.60	8.070E+00	-----	Line Not Found	-----
	86.94	442	8.90	7.867E+00	1.930E+00	1.930E+00	45.63
	87.57	442	37.00*	7.867E+00	4.643E-01	4.643E-01	21.11
TL-208	277.37	-----	6.60	4.261E+00	-----	Line Not Found	-----
	583.19	417	85.00*	2.261E+00	6.645E-01	6.645E-01	16.80
	860.56	90	12.50	1.591E+00	1.385E+00	1.385E+00	41.35
PB-210	46.54	187	4.25*	7.602E+00	1.773E+00	1.775E+00	55.08
BI-211	72.87	1132	1.23	8.040E+00	3.501E+01	3.501E+01	13.55
	351.06	775	12.92*	3.519E+00	5.215E+00	5.215E+00	13.86
PB-212	74.82	1132	10.28	8.040E+00	4.189E+00	4.189E+00	16.68
	77.11	1348	17.10	8.017E+00	3.007E+00	3.007E+00	11.57
	238.63	1657	43.60*	4.778E+00	2.432E+00	2.432E+00	12.35
	300.09	90	3.30	4.010E+00	2.083E+00	2.083E+00	63.39
BI-214	609.32	527	45.49*	2.173E+00	1.632E+00	1.632E+00	14.52
	1120.29	99	14.92	1.258E+00	1.613E+00	1.613E+00	47.34
	1764.49	99	15.30	8.613E-01	2.296E+00	2.296E+00	24.36
PB-214	74.82	1132	5.80	8.040E+00	7.424E+00	7.425E+00	15.70
	77.11	1348	9.70	8.017E+00	5.301E+00	5.301E+00	14.21
	242.00	400	7.25	4.734E+00	3.560E+00	3.560E+00	26.21
	295.22	515	18.42	4.062E+00	2.105E+00	2.105E+00	17.38
	351.93	775	35.60*	3.519E+00	1.893E+00	1.893E+00	14.92
RA-224	240.99	400	4.10*	4.734E+00	6.296E+00	6.296E+00	25.56
RA-226	609.32	527	45.49*	2.173E+00	1.632E+00	1.632E+00	14.52
	1120.29	99	14.92	1.258E+00	1.613E+00	1.613E+00	47.34
	1764.49	99	15.30	8.613E-01	2.296E+00	2.296E+00	24.36
AC-228	338.32	304	11.27	3.637E+00	2.267E+00	2.267E+00	50.96
	911.20	274	25.80*	1.510E+00	2.151E+00	2.151E+00	22.13
	968.97	202	15.80	1.430E+00	2.736E+00	2.736E+00	32.51
RA-228	338.32	304	11.27	3.637E+00	2.267E+00	2.267E+00	50.96
	911.20	274	25.80*	1.510E+00	2.151E+00	2.151E+00	22.13

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	968.97	202	15.80	1.430E+00	2.736E+00	2.736E+00	32.51
	74.82	1132	10.28	8.040E+00	4.189E+00	4.189E+00	13.60
	77.11	1348	17.10	8.017E+00	3.007E+00	3.007E+00	11.57
	238.63	1657	43.60*	4.778E+00	2.432E+00	2.432E+00	12.35
TH-229	300.09	90	3.30	4.010E+00	2.083E+00	2.083E+00	87.49
	85.43	442	14.70	7.867E+00	1.169E+00	1.169E+00	21.11
	88.47	261	24.00	7.817E+00	4.252E-01	4.252E-01	32.80
	193.51	-----	4.41*	5.516E+00	-----	Line Not Found	-----
TH-232	210.85	-----	2.80	5.209E+00	-----	Line Not Found	-----
	338.32	304	11.27	3.637E+00	2.267E+00	2.267E+00	30.50
	911.20	274	25.80*	1.510E+00	2.151E+00	2.151E+00	22.13
	968.97	202	15.80	1.430E+00	2.736E+00	2.736E+00	32.51
TH-234	63.29	133	3.70*	8.061E+00	1.368E+00	1.368E+00	92.06
	92.59	411	4.23	7.756E+00	3.835E+00	3.835E+00	35.03
U-235	89.96	261	3.47	7.817E+00	2.941E+00	2.941E+00	40.09
	93.35	411	5.60	7.756E+00	2.897E+00	2.897E+00	35.68
	143.76	-----	10.96*	6.557E+00	-----	Line Not Found	-----
	163.33	-----	5.08	6.119E+00	-----	Line Not Found	-----
NP-237	185.72	297	57.20	5.666E+00	2.800E-01	2.800E-01	37.74
	205.31	-----	5.01	5.304E+00	-----	Line Not Found	-----
	86.48	442	12.40*	7.867E+00	1.385E+00	1.385E+00	29.76
	95.86	-----	2.68	7.688E+00	-----	Line Not Found	-----
U-238	63.29	133	3.70*	8.061E+00	1.368E+00	1.368E+00	92.06
	92.59	411	4.23	7.756E+00	3.835E+00	3.835E+00	28.52
ANH-511	511.00	98	100.00*	2.546E+00	1.178E-01	1.178E-01	73.79

Flag: "*" = Keyline

Total number of lines in spectrum 35
Number of unidentified lines 5
Number of lines tentatively identified by NID 30 85.71%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.246E+01	3.246E+01	0.297E+01	9.14	
CD-109	461.40D	1.03	4.643E+00	4.773E+00	1.008E+00	21.11	
SN-126	2.30E+05Y	1.00	4.643E-01	4.643E-01	0.980E-01	21.11	
TL-208	1.41E+10Y	1.00	6.645E-01	6.645E-01	1.116E-01	16.80	
PB-210	22.20Y	1.00	1.773E+00	1.775E+00	0.978E+00	55.08	
BI-211	7.04E+08Y	1.00	5.215E+00	5.215E+00	0.723E+00	13.86	
PB-212	1.41E+10Y	1.00	2.432E+00	2.432E+00	0.300E+00	12.35	
BI-214	1600.00Y	1.00	1.632E+00	1.632E+00	0.237E+00	14.52	
PB-214	1600.00Y	1.00	1.893E+00	1.893E+00	0.282E+00	14.92	
RA-224	1.41E+10Y	1.00	6.296E+00	6.296E+00	1.609E+00	25.56	
RA-226	1600.00Y	1.00	1.632E+00	1.632E+00	0.237E+00	14.52	
AC-228	1.41E+10Y	1.00	2.151E+00	2.151E+00	0.476E+00	22.13	
RA-228	1.41E+10Y	1.00	2.151E+00	2.151E+00	0.476E+00	22.13	
TH-228	1.41E+10Y	1.00	2.432E+00	2.432E+00	0.300E+00	12.35	
TH-229	7340.00Y	1.00	4.252E-01	4.252E-01	1.395E-01	32.80	K
TH-232	1.41E+10Y	1.00	2.151E+00	2.151E+00	0.476E+00	22.13	
TH-234	4.47E+09Y	1.00	1.368E+00	1.368E+00	1.259E+00	92.06	
U-235	7.04E+08Y	1.00	2.800E-01	2.800E-01	1.057E-01	37.74	K
NP-237	2.14E+06Y	1.00	1.385E+00	1.385E+00	0.412E+00	29.76	
U-238	4.47E+09Y	1.00	1.368E+00	1.368E+00	1.259E+00	92.06	
ANH-511	1.00E+09Y	1.00	1.178E-01	1.178E-01	0.869E-01	73.79	
Total Activity :			7.293E+01	7.307E+01			

Grand Total Activity : 7.293E+01 7.307E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G248051013

Page : 4
Acquisition date : 10-MAR-2010 20:41:08

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.11	106	565	1.06	257.19	253	11	1.47E-02	89.1	6.93E+00	
0	208.93	157	425	1.17	418.81	413	12	2.18E-02	55.0	5.24E+00	
0	269.85	112	172	2.07	540.61	537	8	1.55E-02	45.0	4.35E+00	T
0	327.45	121	248	1.52	655.77	650	14	1.68E-02	57.7	3.73E+00	T
0	462.91	83	124	1.48	926.60	921	10	1.15E-02	54.9	2.78E+00	T
0	727.11	90	129	1.65	1454.72	1447	13	1.24E-02	56.5	1.85E+00	T
0	772.26	71	205	8.37	1544.97	1529	28	9.80E-03	****	1.75E+00	
0	795.21	125	65	2.44	1590.84	1582	20	1.73E-02	36.5	1.71E+00	T
1	964.22	55	81	2.09	1928.60	1923	20	7.66E-03	63.8	1.44E+00	T
0	1237.85	61	81	3.35	2475.36	2467	15	8.44E-03	69.9	1.15E+00	T
0	1592.30	19	19	1.48	3183.41	3179	11	2.68E-03	98.9	9.35E-01	
0	1729.44	23	7	1.57	3457.31	3449	13	3.12E-03	62.9	8.75E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051013.CNF;1
* Acquisition date   : 10-MAR-2010 20:41:08   Detector SN#      :
* Detector ID        : GAM05                  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 02:00:02.01          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G248051013             Analyst initials: MXR1
* Batch Number       : 958225                 Sample Quantity : 1.22730E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00.5MS 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	3.246E+01	2.968E+00	7.642E-01	4.753E-02	42.479
CD-109	4.773E+00	1.008E+00	1.185E+00	9.024E-02	4.028
SN-126	4.643E-01	9.804E-02	1.151E-01	8.767E-03	4.033
TL-208	6.645E-01	1.116E-01	8.106E-02	5.954E-03	8.197
PB-210	1.775E+00	9.779E-01	1.002E+00	7.725E-02	1.773
BI-211	5.215E+00	7.230E-01	4.466E-01	3.540E-02	11.678
PB-212	2.432E+00	3.004E-01	1.078E-01	1.166E-02	22.574
BI-214	1.632E+00	2.369E-01	1.672E-01	1.411E-02	9.757
PB-214	1.893E+00	2.824E-01	1.625E-01	1.565E-02	11.651
RA-224	6.296E+00	1.609E+00	1.155E+00	1.130E-01	5.451
RA-226	1.632E+00	2.369E-01	1.672E-01	1.411E-02	9.757
AC-228	2.151E+00	4.759E-01	2.720E-01	3.452E-02	7.907
RA-228	2.151E+00	4.759E-01	2.720E-01	3.452E-02	7.907
TH-228	2.432E+00	3.004E-01	1.078E-01	1.166E-02	22.574
TH-229	4.252E-01	1.395E-01	1.090E+00	1.089E-01	0.390
TH-232	2.151E+00	4.759E-01	2.720E-01	3.452E-02	7.907
TH-234	1.368E+00	1.259E+00	1.282E+00	2.326E-01	1.067
U-235	2.800E-01	1.057E-01	4.280E-01	8.163E-02	0.654

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	1.385E+00	4.123E-01	3.424E-01	7.640E-02	4.046
U-238	1.368E+00	1.259E+00	1.282E+00	2.326E-01	1.067
ANH-511	1.178E-01	8.691E-02	6.432E-02	4.117E-03	1.831

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.328E-01		4.794E-01	7.464E-01	5.345E-02	-0.178
NA-22	-8.634E-03		5.512E-02	8.772E-02	5.110E-03	-0.098
NA-24	2.021E+01		1.565E+01	Half-Life too short		
SC-46	-3.380E-02		5.576E-02	8.742E-02	8.781E-03	-0.387
V-48	4.909E-02		1.141E-01	1.942E-01	1.779E-02	0.253
CR-51	6.846E-02		5.409E-01	8.545E-01	7.550E-02	0.080
MN-54	1.360E-02		5.162E-02	8.729E-02	7.997E-03	0.156
CO-56	-4.240E-02		5.354E-02	8.267E-02	7.731E-03	-0.513
CO-57	-2.465E-02		3.215E-02	4.861E-02	6.898E-03	-0.507
CO-58	-8.735E-02		5.546E-02	7.945E-02	6.993E-03	-1.099
FE-59	-2.157E-02		1.342E-01	2.162E-01	1.750E-02	-0.100
CO-60	-1.640E-02		4.835E-02	7.460E-02	4.317E-03	-0.220
ZN-65	3.989E-02		1.438E-01	2.078E-01	1.452E-02	0.192
SE-75	-1.964E-02		6.366E-02	9.085E-02	8.674E-03	-0.216
SR-85	8.795E-02		6.086E-02	9.539E-02	6.115E-03	0.922
Y-88	2.711E-02		4.609E-02	8.336E-02	4.769E-03	0.325
Y-91	-1.181E+01		3.219E+01	5.071E+01	2.947E+00	-0.233
NB-94	-4.031E-04		4.537E-02	7.595E-02	5.435E-03	-0.005
NB-95	1.148E-01		7.079E-02	1.158E-01	9.369E-03	0.991
NB-95M	1.772E+00		2.936E-01	4.198E-01	4.599E-02	4.220
ZR-95	8.580E-02		1.074E-01	1.882E-01	1.679E-02	0.456
MO-99	1.211E+01		3.709E+01	6.335E+01	9.674E+00	0.191
TC-99M	-2.100E+14		1.942E+14	Half-Life too short		
RU-103	1.927E-02		5.346E-02	8.916E-02	1.132E-02	0.216
RH-106	2.426E-01		4.371E-01	7.309E-01	8.798E-02	0.332
RU-106	2.426E-01		4.364E-01	7.309E-01	4.818E-02	0.332
AG-108M	2.198E-03		3.864E-02	6.358E-02	4.105E-03	0.035
AG-110M	-2.563E-02		5.069E-02	7.829E-02	5.412E-03	-0.327
SN-113	-5.800E-03		5.902E-02	9.671E-02	5.999E-03	-0.060
CD-115	-1.893E-05		2.188E-05	Half-Life too short		
SN-117M	-4.229E-02		8.293E-02	1.309E-01	1.408E-02	-0.323
TE-123M	-2.585E-02		3.729E-02	5.837E-02	6.272E-03	-0.443
SB-124	6.351E-02		1.046E-01	1.894E-01	1.204E-02	0.335
SB-125	5.163E-02		1.190E-01	2.002E-01	1.254E-02	0.258
TE-125M	-3.993E+00		1.236E+01	1.961E+01	2.546E+00	-0.204
I-126	-7.203E-02		3.830E-01	6.062E-01	4.025E-02	-0.119
SB-126	-2.319E-01		3.054E-01	4.088E-01	3.032E-02	-0.567
SB-127	7.235E-01		3.348E+00	5.692E+00	6.404E-01	0.127
I-131	-5.279E-02		1.960E-01	3.191E-01	2.405E-02	-0.165
TE-132	3.399E-01		1.784E+00	3.023E+00	5.199E-01	0.112

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133	2.957E-02		6.076E-02	9.022E-02	1.090E-02	0.328
I-133	1.461E-02		5.563E-02	Half-Life too short		
CS-134	2.951E-01	+	1.105E-01	1.305E-01	1.124E-02	2.261
CS-135	5.076E-01		2.261E-01	3.623E-01	3.876E-02	1.401
I-135	1.283E+11		1.668E+13	Half-Life too short		
CS-136	-7.646E-02		1.716E-01	2.695E-01	2.309E-02	-0.284
BA-137M	1.465E-02		5.225E-02	8.552E-02	5.624E-03	0.171
CS-137	1.548E-02		5.520E-02	9.034E-02	5.961E-03	0.171
CE-139	-1.722E-02		3.845E-02	6.076E-02	6.032E-03	-0.283
BA-140	-4.310E-01		4.552E-01	6.512E-01	2.177E-01	-0.662
LA-140	6.516E-02		1.294E-01	2.047E-01	1.203E-02	0.318
CE-141	7.748E-02		8.706E-02	1.443E-01	1.765E-02	0.537
CE-143	8.788E-03		1.184E-03	Half-Life too short		
CE-144	2.796E-02		2.951E-01	4.204E-01	7.685E-02	0.067
PM-144	3.516E-02		4.657E-02	8.173E-02	5.780E-03	0.430
PR-144	2.651E+00		3.493E+00	6.130E+00	4.332E-01	0.432
PM-146	6.452E-03		5.562E-02	9.166E-02	7.986E-03	0.070
ND-147	7.747E-01		9.564E-01	1.626E+00	2.246E-01	0.477
PM-149	2.373E-05		1.542E-04	Half-Life too short		
EU-152	1.223E-02		1.674E-01	2.118E-01	1.741E-02	0.058
GD-153	8.132E-02		1.073E-01	1.586E-01	1.470E-02	0.513
EU-154	-2.755E-02		1.556E-01	2.471E-01	2.330E-02	-0.111
EU-155	1.322E-02		1.251E-01	2.051E-01	2.221E-02	0.064
TB-160	-7.035E-02		1.953E-01	3.134E-01	3.097E-02	-0.224
HO-166M	-1.009E-01		8.299E-02	1.265E-01	9.217E-03	-0.798
TA-182	1.387E-01		3.008E-01	5.048E-01	2.935E-02	0.275
IR-192	2.536E-02		4.596E-02	7.832E-02	6.647E-03	0.324
HG-203	-5.691E-03		5.093E-02	8.468E-02	8.032E-03	-0.067
BI-207	-1.446E-03		7.673E-02	1.254E-01	9.931E-03	-0.012
PB-211	-8.627E-01		1.071E+00	1.550E+00	7.435E-01	-0.557
BI-212	2.221E+00	+	1.282E+00	1.620E+00	1.899E-01	1.371
RN-219	1.803E-01		5.448E-01	9.116E-01	1.228E-01	0.198
RA-223	7.441E-01		8.868E-01	1.343E+00	2.304E-01	0.554
AC-227	-1.204E-01		3.257E-01	5.372E-01	6.868E-02	-0.224
TH-227	-1.204E-01		3.258E-01	5.372E-01	7.661E-02	-0.224
PA-231	-1.270E+00		1.783E+00	2.862E+00	4.274E-01	-0.444
TH-231	7.441E-01		8.868E-01	1.343E+00	2.304E-01	0.554
PA-233	-6.462E-02		8.075E-02	1.287E-01	1.137E-02	-0.502
PA-234	1.053E-01		3.895E-01	6.564E-01	1.264E-01	0.160
PA-234M	-1.751E+00		6.434E+00	1.017E+01	1.039E+00	-0.172
NP-239	-1.778E-01		4.670E-01	7.489E-01	9.848E-02	-0.237
AM-241	1.115E-01		8.370E-02	1.272E-01	1.138E-02	0.876
CM-247	4.043E-02		4.956E-02	8.501E-02	5.002E-03	0.476
CF-249	4.640E-02		5.225E-02	9.006E-02	5.378E-03	0.515
CF-251	2.386E-02		1.712E-01	2.764E-01	2.754E-02	0.086

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]G248051013          *
* Acquisition date   : 10-MAR-2010 20:41:08 Detector SN#      :              *
* Detector ID        : GAM05 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 02:00:02.01 Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051013 Analyst initials: MXR1         *
* Batch Number       : 958225 Sample Quantity : 1.2273E+02 GRAM  *
* Recovery           : 1.00000 Carrier Weight : 0.00000         *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00 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	3.246E+01	2.909E+00	3.817E-01	1.484E+00
CD-109	4.773E+00	9.877E-01	6.137E-01	5.039E-01
SN-126	4.643E-01	9.608E-02	5.962E-02	4.902E-02
TL-208	6.645E-01	1.094E-01	4.099E-02	5.580E-02
PB-210	1.775E+00	9.584E-01	5.228E-01	4.890E-01
BI-211	5.215E+00	7.086E-01	2.273E-01	3.615E-01
PB-212	2.432E+00	2.944E-01	5.511E-02	1.502E-01
BI-214	1.632E+00	2.322E-01	8.450E-02	1.185E-01
PB-214	1.893E+00	2.768E-01	8.267E-02	1.412E-01
RA-224	6.296E+00	1.577E+00	5.907E-01	8.046E-01
RA-226	1.632E+00	2.322E-01	8.450E-02	1.185E-01
AC-228	2.151E+00	4.664E-01	1.367E-01	2.379E-01
RA-228	2.151E+00	4.664E-01	1.367E-01	2.379E-01
TH-228	2.432E+00	2.944E-01	5.511E-02	1.502E-01
TH-229	-1.016E-03	6.674E-01	5.592E-01	3.405E-01
TH-232	2.151E+00	4.664E-01	1.367E-01	2.379E-01
TH-234	1.368E+00	1.234E+00	6.666E-01	6.295E-01
U-235	1.089E-01	2.563E-01	2.203E-01	1.308E-01
NP-237	1.385E+00	4.040E-01	1.774E-01	2.061E-01
U-238	1.368E+00	1.234E+00	6.666E-01	6.295E-01
ANH-511	1.178E-01	8.517E-02	3.258E-02	4.346E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.328E-01	4.698E-01	3.783E-01	2.397E-01 NOT IDENT.
NA-22	-8.634E-03	5.402E-02	4.390E-02	2.756E-02 NOT IDENT.
NA-24	2.021E+07	3.068E+07	0.000E+00	1.565E+07 SHORT HLIF
SC-46	-3.380E-02	5.464E-02	4.395E-02	2.788E-02 FAIL ABUN
V-48	4.909E-02	1.118E-01	9.754E-02	5.706E-02 NOT IDENT.
CR-51	6.846E-02	5.301E-01	4.354E-01	2.704E-01 NOT IDENT.

MN-54	1.360E-02	5.059E-02	4.393E-02	2.581E-02	NOT IDENT.
CO-56	-4.240E-02	5.247E-02	4.159E-02	2.677E-02	FAIL ABUN
CO-57	-2.465E-02	3.150E-02	2.508E-02	1.607E-02	NOT IDENT.
CO-58	-8.735E-02	5.435E-02	4.000E-02	2.773E-02	NOT IDENT.
FE-59	-2.157E-02	1.315E-01	1.084E-01	6.710E-02	NOT IDENT.
CO-60	-1.640E-02	4.738E-02	3.731E-02	2.417E-02	NOT IDENT.
ZN-65	3.989E-02	1.409E-01	1.042E-01	7.188E-02	NOT IDENT.
SE-75	-1.964E-02	6.238E-02	4.640E-02	3.183E-02	NOT IDENT.
SR-85	8.795E-02	5.964E-02	4.831E-02	3.043E-02	NOT IDENT.
Y-88	2.711E-02	4.517E-02	4.151E-02	2.304E-02	NOT IDENT.
Y-91	-1.181E+01	3.155E+01	2.539E+01	1.610E+01	NOT IDENT.
NB-94	-4.031E-04	4.446E-02	3.831E-02	2.268E-02	NOT IDENT.
NB-95	1.148E-01	6.937E-02	5.836E-02	3.539E-02	NOT IDENT.
NB-95M	1.772E+00	2.877E-01	2.148E-01	1.468E-01	NOT IDENT.
ZR-95	8.580E-02	1.053E-01	9.485E-02	5.371E-02	NOT IDENT.
MO-99	1.211E+01	3.635E+01	3.193E+01	1.855E+01	NOT IDENT.
TC-99M	-2.100E+20	3.806E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.927E-02	5.239E-02	4.517E-02	2.673E-02	NOT IDENT.
RH-106	2.426E-01	4.284E-01	3.692E-01	2.186E-01	NOT IDENT.
RU-106	2.426E-01	4.277E-01	3.692E-01	2.182E-01	NOT IDENT.
AG-108M	2.198E-03	3.787E-02	3.227E-02	1.932E-02	NOT IDENT.
AG-110M	-2.563E-02	4.967E-02	3.952E-02	2.534E-02	NOT IDENT.
SN-113	-5.800E-03	5.784E-02	4.915E-02	2.951E-02	NOT IDENT.
CD-115	-1.893E+01	4.288E+01	0.000E+00	2.188E+01	SHORT HLIF
SN-117M	-4.229E-02	8.127E-02	6.732E-02	4.147E-02	NOT IDENT.
TE-123M	-2.585E-02	3.655E-02	3.001E-02	1.865E-02	NOT IDENT.
SB-124	6.351E-02	1.025E-01	9.444E-02	5.230E-02	NOT IDENT.
SB-125	5.163E-02	1.166E-01	1.016E-01	5.951E-02	FAIL ABUN
TE-125M	-3.993E+00	1.211E+01	1.013E+01	6.181E+00	NOT IDENT.
I-126	-7.203E-02	3.753E-01	3.059E-01	1.915E-01	NOT IDENT.
SB-126	-2.319E-01	2.993E-01	2.061E-01	1.527E-01	NOT IDENT.
SB-127	7.235E-01	3.281E+00	2.872E+00	1.674E+00	NOT IDENT.
I-131	-5.279E-02	1.921E-01	1.623E-01	9.799E-02	NOT IDENT.
TE-132	3.399E-01	1.748E+00	1.547E+00	8.918E-01	NOT IDENT.
BA-133	2.957E-02	5.955E-02	4.591E-02	3.038E-02	NOT IDENT.
I-133	1.461E+04	1.090E+05	0.000E+00	5.563E+04	SHORT HLIF
CS-134	2.951E-01	1.083E-01	6.573E-02	5.526E-02	FAIL ABUN
CS-135	5.076E-01	2.216E-01	1.850E-01	1.131E-01	NOT IDENT.
I-135	1.283E+17	3.269E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.646E-02	1.682E-01	1.352E-01	8.580E-02	NOT IDENT.
BA-137M	1.465E-02	5.121E-02	4.317E-02	2.613E-02	NOT IDENT.
CS-137	1.548E-02	5.409E-02	4.560E-02	2.760E-02	NOT IDENT.
CE-139	-1.722E-02	3.768E-02	3.122E-02	1.923E-02	NOT IDENT.
BA-140	-4.310E-01	4.461E-01	3.296E-01	2.276E-01	NOT IDENT.
LA-140	6.516E-02	1.268E-01	1.021E-01	6.470E-02	FAIL ABUN
CE-141	7.748E-02	8.532E-02	7.429E-02	4.353E-02	NOT IDENT.
CE-143	8.788E+03	2.321E+03	0.000E+00	1.184E+03	SHORT HLIF
CE-144	2.796E-02	2.892E-01	2.166E-01	1.476E-01	NOT IDENT.
PM-144	3.516E-02	4.564E-02	4.123E-02	2.329E-02	NOT IDENT.
PR-144	2.651E+00	3.423E+00	3.092E+00	1.746E+00	NOT IDENT.
PM-146	6.452E-03	5.451E-02	4.649E-02	2.781E-02	NOT IDENT.
ND-147	7.747E-01	9.373E-01	8.229E-01	4.782E-01	FAIL ABUN
PM-149	2.373E+01	3.022E+02	0.000E+00	1.542E+02	SHORT HLIF
EU-152	1.223E-02	1.641E-01	1.078E-01	8.370E-02	FAIL ABUN
GD-153	8.132E-02	1.052E-01	8.203E-02	5.366E-02	NOT IDENT.
EU-154	-2.755E-02	1.525E-01	1.236E-01	7.781E-02	NOT IDENT.
EU-155	1.322E-02	1.226E-01	1.060E-01	6.257E-02	FAIL ABUN
TB-160	-7.035E-02	1.914E-01	1.576E-01	9.766E-02	FAIL ABUN
HO-166M	-1.009E-01	8.133E-02	6.379E-02	4.150E-02	FAIL ABUN
TA-182	1.387E-01	2.948E-01	2.528E-01	1.504E-01	FAIL ABUN
IR-192	2.536E-02	4.504E-02	3.991E-02	2.298E-02	FAIL ABUN
HG-203	-5.691E-03	4.991E-02	4.322E-02	2.546E-02	FAIL ABUN
BI-207	-1.446E-03	7.520E-02	6.291E-02	3.837E-02	FAIL ABUN
PB-211	-8.627E-01	1.050E+00	7.872E-01	5.357E-01	NOT IDENT.
BI-212	2.221E+00	1.256E+00	8.167E-01	6.410E-01	FAIL ABUN
RN-219	1.803E-01	5.339E-01	4.631E-01	2.724E-01	FAIL ABUN
RA-223	7.441E-01	8.691E-01	6.841E-01	4.434E-01	FAIL ABUN
AC-227	-1.204E-01	3.192E-01	2.745E-01	1.629E-01	FAIL ABUN
TH-227	-1.204E-01	3.193E-01	2.745E-01	1.629E-01	FAIL ABUN
PA-231	-1.270E+00	1.747E+00	1.460E+00	8.914E-01	NOT IDENT.
TH-231	7.441E-01	8.691E-01	6.841E-01	4.434E-01	FAIL ABUN
PA-233	-6.462E-02	7.914E-02	6.559E-02	4.038E-02	FAIL ABUN
PA-234	1.053E-01	3.817E-01	3.298E-01	1.948E-01	NOT IDENT.
PA-234M	-1.751E+00	6.306E+00	5.105E+00	3.217E+00	NOT IDENT.
NP-239	-1.778E-01	4.576E-01	3.865E-01	2.335E-01	NOT IDENT.
AM-241	1.115E-01	8.203E-02	6.622E-02	4.185E-02	NOT IDENT.
CM-247	4.043E-02	4.857E-02	4.319E-02	2.478E-02	NOT IDENT.
CF-249	4.640E-02	5.121E-02	4.578E-02	2.613E-02	NOT IDENT.

CF-251

2.386E-02

1.677E-01

1.419E-01

8.558E-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
46.54	520.2942
49.72	588.0132
57.36	0.0000
59.54	559.9422
63.29	723.2847
63.29	723.2847
64.28	740.3220
67.75	804.3660
69.67	797.8380
70.83	732.8944
72.81	777.5035
72.87	777.5666
72.87	777.5666
74.82	726.5967
74.82	726.5967
74.82	726.5967
74.97	726.7366
77.11	728.7490
77.11	728.7490
77.11	728.7490
79.69	645.7258
79.80	645.8148
80.12	646.0744
80.19	646.1312
80.57	646.4377
81.00	646.7838
81.07	646.8407
81.07	646.8407
83.79	550.5720
83.79	550.5720
85.43	551.6666
86.48	552.3628
86.55	552.4089
86.79	552.5662
86.94	552.6669
87.57	553.0800
88.03	553.3820
88.47	553.6693
89.96	554.6381
91.11	555.3824
92.59	556.3303
92.59	556.3303
93.35	495.9240
94.67	564.8394
94.87	603.9301
94.87	603.9301
95.86	589.9769
97.43	494.9537
98.44	482.1971
99.53	442.6587
100.11	460.2903
103.18	544.7691
103.37	489.5733
105.31	502.9031
106.12	453.0014
109.28	491.6042
111.00	474.9260
111.76	493.8948
116.30	413.1263
117.23	418.7038
121.12	411.9651
121.78	435.3375
122.06	436.6498
123.07	411.2813
131.20	463.3105
133.52	447.4204
136.00	426.2228

136.47	438.0430
140.51	458.7462
140.51	0.0000
143.76	441.9570
144.24	420.8327
144.24	420.8327
145.44	411.6770
152.43	412.0020
153.25	411.2125
154.21	363.1891
154.21	363.1891
156.02	401.4036
158.56	404.4056
159.00	409.9455
162.66	387.3672
163.33	369.1730
165.86	381.8552
176.60	338.0442
177.52	375.5043
181.07	412.7446
184.41	353.2563
185.72	353.6016
193.51	347.8766
197.04	344.3202
205.31	321.7610
210.85	308.6426
215.65	329.6809
222.11	295.6273
227.38	293.0263
228.16	284.0995
228.18	284.1033
235.69	267.5449
235.96	267.5915
235.96	267.5915
238.63	248.5520
238.63	248.5520
240.99	248.9222
242.00	230.4599
244.70	243.0806
252.40	255.2968
252.80	253.5156
256.23	280.8335
256.23	280.8335
260.90	0.0000
264.66	238.3065
268.22	201.5910
269.46	230.9106
269.46	230.9106
271.23	243.8879
273.65	283.1198
276.40	233.7128
277.37	255.3576
277.60	253.5200
278.00	246.0906
279.20	250.0061
279.54	239.7531
280.46	257.6816
283.69	234.6863
284.31	234.7687
285.41	218.9409
285.90	0.0000
287.50	210.1029
293.27	0.0000
295.22	170.0640
295.96	170.1343
298.57	170.3782
299.98	183.1380
299.98	183.1380
300.09	183.1498
300.09	183.1498
300.13	183.1545
301.36	188.0172
302.85	200.8198
304.50	194.6674
304.50	194.6674
304.85	194.7050
308.46	188.4214
311.90	214.5081

316.51	194.0048
319.41	207.6996
320.08	198.6752
323.87	164.6906
323.87	164.6906
328.76	203.8999
333.37	202.4506
334.37	202.5531
334.37	202.5531
338.28	192.3221
338.28	192.3221
338.32	192.3270
338.32	192.3270
338.32	192.3270
340.48	196.7285
340.55	196.7359
344.28	196.2930
351.06	204.2476
351.93	204.3347
356.01	165.7417
364.49	172.2961
366.42	168.5356
383.85	169.9193
388.16	150.4581
388.63	155.4419
391.69	164.5815
400.66	168.2367
401.81	164.3414
402.40	152.4285
404.85	198.4729
410.95	131.0080
414.70	160.2734
423.72	152.8572
427.09	131.9307
427.87	137.0127
433.94	139.3881
453.88	134.4444
463.37	110.7692
468.07	134.8828
473.00	145.7580
476.78	136.7260
477.60	135.7415
487.02	117.6683
492.35	0.0000
497.08	104.6605
511.00	132.3067
514.00	121.6797
527.90	0.0000
529.87	0.0000
531.02	107.0626
537.26	130.4513
546.56	0.0000
563.25	104.0700
569.33	118.1299
569.50	118.1353
569.70	117.0791
583.19	119.7711
600.60	116.1844
602.73	113.0391
604.72	113.1160
609.32	134.8694
609.32	134.8694
610.33	116.9265
614.28	79.2559
618.01	125.5241
621.93	94.2642
621.93	94.2642
633.25	106.5798
635.95	83.8146
636.99	99.0869
645.85	112.4752
657.76	115.0975
661.66	109.7534
661.66	109.7534
664.57	0.0000
666.33	115.4103
666.50	115.4154
677.62	107.5464

685.70	103.2090
695.00	84.0961
696.49	91.5315
696.51	91.5315
697.00	106.3408
702.65	103.7445
706.68	96.4526
711.68	116.1041
720.70	132.5157
721.93	0.0000
722.78	103.8431
722.91	94.2597
723.31	97.4677
724.19	103.8862
727.33	99.1823
733.00	81.7224
735.93	94.4902
739.50	81.4775
747.24	95.7412
752.31	95.8823
753.82	92.1621
756.73	88.4750
763.94	88.9261
765.81	84.1209
766.42	92.2254
777.92	84.4111
778.90	105.5434
783.70	93.1221
785.37	76.2910
795.86	81.8445
801.95	81.7104
810.29	92.6820
810.76	100.3387
815.77	76.5527
818.51	70.8640
832.01	96.1121
834.85	85.6049
836.80	0.0000
846.77	82.0186
856.80	66.3421
860.56	51.4659
871.09	62.1510
873.19	66.0714
875.33	0.0000
879.36	75.9084
880.51	77.8776
883.24	69.1655
884.68	75.0387
889.28	80.9804
898.04	65.5156
911.20	55.5033
911.20	55.5033
911.20	55.5033
926.50	86.6698
937.49	97.7673
944.13	69.2424
946.00	59.3774
949.00	60.4117
962.29	66.4260
964.08	68.1585
966.15	71.6030
968.97	63.1214
968.97	63.1214
968.97	63.1214
983.53	64.9101
996.26	74.1219
1001.03	69.1909
1004.73	72.2622
1037.84	78.8855
1038.76	0.0000
1048.07	68.9324
1050.41	57.8118
1050.41	57.8118
1063.66	75.2797
1085.87	76.6754
1099.45	71.7773
1112.07	82.2591
1115.54	70.5608

1120.29	64.8944
1120.29	64.8944
1120.55	64.8970
1121.30	67.1150
1131.51	0.0000
1173.23	58.3356
1177.93	69.8625
1189.05	88.8357
1204.77	87.0257
1221.41	87.3229
1231.02	83.1247
1235.36	81.3899
1238.28	79.6272
1260.41	0.0000
1271.85	39.3215
1274.44	49.9738
1274.54	49.9738
1291.59	57.6101
1298.22	0.0000
1312.11	38.5591
1332.49	37.6333
1365.19	24.8830
1368.63	0.0000
1384.29	49.3233
1408.01	33.6483
1457.56	0.0000
1460.82	33.0249
1489.16	25.6035
1505.03	34.2321
1596.21	15.2095
1620.50	20.3606
1678.03	0.0000
1690.97	13.7285
1764.49	8.6792
1764.49	8.6792
1770.23	102.2564
1771.35	60.5702
1791.20	0.0000
1836.06	12.0322

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051013

Total Uranium Activity	4.1191E+00	ug/g
Total Uranium Counting Unc.	3.6726E+00	ug/g
Total Uranium Tpu	1.8738E-06	ug/g
Total Uranium Mda	1.9856E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 958225                SAMPLE ID   : G248051013                *
*  ANALYST       : MXR1                  DETECTOR    : GAM05                  *
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE: 10-MAR-2010 20:41:08.78  SAMPLE ALQT: 122.730 GRAM          *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.233E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.778E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 5.567E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.721E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 22:42:26.55

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051014.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:41:34
Sample ID          : G248051014      Sample quantity   : 1.70050E+02 GRAM
Detector name      : GAM07            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.12  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity      : 5.00000
Batch ID           : 958225            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	46.04*	65	341	1.07	91.74	88	9	9.07E-03	53.8	
2	4	74.84*	264	342	1.00	149.34	143	15	3.66E-02	12.9	2.13E+00
3	4	77.13	475	371	1.10	153.90	143	15	6.60E-02	8.2	
4	3	87.29*	242	199	1.37	174.22	171	22	3.36E-02	11.6	2.58E+00
5	3	89.84	159	275	1.38	179.33	171	22	2.21E-02	20.7	
6	3	92.67*	345	287	1.39	184.98	171	22	4.79E-02	10.9	
7	0	186.12*	157	273	1.19	371.85	368	10	2.19E-02	22.1	
8	0	238.74*	667	281	1.20	477.08	471	10	9.27E-02	6.2	
9	0	241.75	125	187	1.51	483.10	481	7	1.74E-02	20.3	
10	0	270.56	47	214	1.16	540.69	534	11	6.59E-03	61.5	
11	0	295.29*	233	184	1.26	590.15	585	10	3.24E-02	13.0	
12	0	328.37	35	73	0.86	656.31	653	6	4.90E-03	41.9	
13	0	338.20	182	180	1.20	675.96	670	13	2.53E-02	16.9	
14	0	352.05*	430	129	1.18	703.65	698	11	5.98E-02	7.1	
15	0	511.07*	88	111	2.52	1021.64	1016	13	1.23E-02	31.7	
16	0	583.47*	253	72	1.48	1166.42	1161	13	3.52E-02	9.6	
17	0	609.57*	282	87	1.41	1218.61	1213	13	3.91E-02	9.2	
18	0	662.02	54	91	1.33	1323.50	1318	13	7.43E-03	38.7	
19	0	727.91	79	83	1.76	1455.25	1448	17	1.10E-02	28.8	
20	0	911.55*	145	60	1.87	1822.49	1815	12	2.02E-02	13.8	
21	4	965.42	33	19	1.90	1930.22	1927	23	4.56E-03	26.1	1.59E+00
22	4	969.27	94	19	1.72	1937.92	1927	23	1.30E-02	13.8	
23	0	1121.35	76	43	1.57	2242.05	2237	13	1.06E-02	22.3	
24	0	1461.20*	1065	10	2.15	2921.69	2912	17	1.48E-01	3.2	
25	0	1521.36	7	5	0.91	3042.00	3035	9	9.03E-04	70.7	
26	0	1765.26*	45	4	1.38	3529.79	3523	15	6.28E-03	19.2	

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

VMS Nuclide Identification Report V3.1 Generated 10-MAR-2010 22:42:29

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Configuration       : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051014.CNF;1
Analyses by        : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title       : MXR1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:41:34
Sample ID          : G248051014 Sample quantity : 170.05 GRAM
Sample type        : SOLID Sample geometry :
Detector name      : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.12 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

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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	+	1460.82	*	1.952E+01	2.080E+00	2.989E-01	2.566E-02	65.328
CD-109	+	88.03	*	2.170E+00	5.438E-01	7.171E-01	6.755E-02	3.025
SN-126		64.28		2.703E-01	2.620E-01	4.450E-01	6.454E-02	0.607
	+	86.94		8.774E-01	4.175E-01	3.301E-01	1.370E-01	2.658
	+	87.57	*	2.110E-01	5.290E-02	6.991E-02	6.551E-03	3.019
BA-137M	+	661.66	*	5.896E-02	4.596E-02	3.897E-02	3.448E-03	1.513
CS-137	+	661.66	*	6.229E-02	4.855E-02	4.116E-02	3.650E-03	1.513
TL-208		277.37		2.150E-01	2.544E-01	4.397E-01	5.469E-02	0.489
	+	583.19	*	2.658E-01	5.715E-02	3.645E-02	3.483E-03	7.293
		860.56		2.680E-01	2.172E-01	3.903E-01	3.815E-02	0.687
PB-210	+	46.54	*	1.705E+00	1.843E+00	1.759E+00	1.635E-01	0.969
BI-211		72.87		1.873E+00	1.914E+00	2.933E+00	2.315E-01	0.639
	+	351.06	*	1.998E+00	3.363E-01	2.209E-01	1.982E-02	9.042
PB-212	+	74.82		9.321E-01	2.679E-01	3.085E-01	3.895E-02	3.022
	+	77.11		9.796E-01	1.800E-01	1.804E-01	1.489E-02	5.430
	+	238.63	*	6.882E-01	1.085E-01	9.175E-02	8.820E-03	7.500
	+	300.09		1.394E-01	6.234E-01	9.128E-01	9.570E-02	0.153
BI-214	+	609.32	*	5.720E-01	1.213E-01	8.650E-02	8.989E-03	6.613
	+	1120.29		7.969E-01	3.657E-01	3.383E-01	3.650E-02	2.355
	+	1764.49		6.640E-01	2.602E-01	1.234E-01	1.015E-02	5.380
PB-214	+	74.82		1.652E+00	4.655E-01	5.468E-01	6.179E-02	3.022
	+	77.11		1.727E+00	3.478E-01	3.181E-01	3.711E-02	5.430
	+	242.00		7.849E-01	3.281E-01	4.454E-01	4.567E-02	1.762
	+	295.22		6.649E-01	1.866E-01	1.520E-01	1.633E-02	4.376
	+	351.93	*	7.250E-01	1.285E-01	8.035E-02	8.461E-03	9.023
RA-224	+	240.99	*	1.388E+00	5.746E-01	7.632E-01	6.454E-02	1.819
RA-226	+	609.32	*	5.720E-01	1.213E-01	8.650E-02	8.989E-03	6.613
	+	1120.29		7.969E-01	3.657E-01	3.383E-01	3.650E-02	2.355
	+	1764.49		6.640E-01	2.602E-01	1.234E-01	1.015E-02	5.380
AC-228	+	338.32		9.397E-01	5.041E-01	2.613E-01	1.090E-01	3.597
	+	911.20	*	7.329E-01	2.207E-01	1.649E-01	1.977E-02	4.444
	+	968.97		8.144E-01	3.001E-01	2.623E-01	6.429E-02	3.105
RA-228	+	338.32		9.397E-01	5.041E-01	2.613E-01	1.090E-01	3.597
	+	911.20	*	7.329E-01	2.207E-01	1.649E-01	1.977E-02	4.444

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	968.97		8.144E-01	3.001E-01	2.623E-01	6.429E-02	3.105
	+	74.82		9.321E-01	2.523E-01	3.085E-01	2.510E-02	3.022
	+	77.11		9.796E-01	1.800E-01	1.804E-01	1.489E-02	5.430
	+	238.63	*	6.882E-01	1.085E-01	9.175E-02	8.820E-03	7.500
TH-232		300.09		1.394E-01	6.290E-01	9.128E-01	5.587E-01	0.153
	+	338.32		9.397E-01	3.271E-01	2.613E-01	2.237E-02	3.597
	+	911.20	*	7.329E-01	2.207E-01	1.649E-01	1.977E-02	4.444
	+	968.97		8.144E-01	3.001E-01	2.623E-01	6.429E-02	3.105
U-235	+	89.96		1.463E+00	7.072E-01	7.378E-01	1.834E-01	1.983
	+	93.35		1.939E+00	6.180E-01	4.522E-01	1.053E-01	4.287
		143.76	*	5.846E-02	1.424E-01	2.276E-01	3.814E-02	0.257
		163.33		-1.997E-01	3.010E-01	4.508E-01	7.951E-02	-0.443
NP-237	+	185.72		1.045E-01	4.696E-02	4.716E-02	3.818E-03	2.217
		205.31		-2.074E-03	3.400E-01	5.568E-01	1.001E-01	-0.004
	+	86.48	*	6.297E-01	2.058E-01	2.375E-01	5.442E-02	2.651
		95.86		1.584E-01	6.069E-01	8.923E-01	2.153E-01	0.178
ANH-511	+	511.00	*	7.074E-02	4.527E-02	3.465E-02	3.079E-03	2.041

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	9.626E-02	2.316E-01	3.843E-01	3.626E-02	0.250
NA-22		1274.54	*	1.251E-03	2.932E-02	4.870E-02	3.997E-03	0.026
NA-24		1368.63	*	5.399E+00	2.932E-02	Half-Life too short		
SC-46		889.28	*	1.247E-03	2.804E-02	4.574E-02	4.192E-03	0.027
V-48	+	1120.55		1.385E-01	6.286E-02	9.281E-02	7.842E-03	1.492
		944.13		-4.195E-01	7.415E-01	1.120E+00	1.018E-01	-0.375
		983.53	*	-3.647E-03	6.063E-02	9.700E-02	8.731E-03	-0.038
		1312.11		-1.968E-02	6.380E-02	1.010E-01	8.280E-03	-0.195
CR-51		320.08	*	1.549E-02	2.761E-01	4.558E-01	4.115E-02	0.034
MN-54		834.85	*	4.363E-04	2.525E-02	4.126E-02	3.787E-03	0.011
CO-56		846.77	*	-1.563E-02	2.838E-02	4.342E-02	3.986E-03	-0.360
		1037.84		-1.641E-01	2.224E-01	3.437E-01	3.185E-02	-0.477
		1238.28		7.617E-02	6.792E-02	1.224E-01	1.034E-02	0.622
		1771.35		3.331E-03	1.540E-01	2.406E-01	1.976E-02	0.014
CO-57		122.06	*	7.244E-03	1.690E-02	2.773E-02	2.386E-03	0.261
		136.47		-1.902E-01	1.377E-01	2.021E-01	1.818E-02	-0.941
CO-58		810.76	*	-3.276E-02	2.889E-02	4.123E-02	3.788E-03	-0.795
FE-59		1099.45	*	-6.965E-02	7.075E-02	1.060E-01	9.820E-03	-0.657
		1291.59		4.242E-02	9.506E-02	1.645E-01	1.549E-02	0.258
CO-60		1173.23		-1.796E-02	3.355E-02	5.289E-02	4.304E-03	-0.340
		1332.49	*	8.675E-04	2.834E-02	4.732E-02	3.876E-03	0.018
ZN-65		1115.54	*	-3.438E-02	7.800E-02	1.054E-01	8.941E-03	-0.326
SE-75		121.12		-1.624E-02	9.025E-02	1.439E-01	1.593E-02	-0.113
		136.00		-3.448E-02	2.671E-02	3.953E-02	3.324E-03	-0.872
		264.66	*	1.380E-02	3.338E-02	5.043E-02	4.308E-03	0.274
		279.54		-1.308E-02	7.436E-02	1.220E-01	1.076E-02	-0.107
		400.66		8.452E-02	1.777E-01	2.981E-01	3.251E-02	0.283

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SR-85	514.00	*		5.706E-02	3.345E-02	5.585E-02	4.966E-03	1.022
Y-88	898.04			-2.254E-03	3.210E-02	5.096E-02	4.686E-03	-0.044
	1836.06	*		-4.133E-03	1.900E-02	2.979E-02	2.418E-03	-0.139
Y-91	1204.77	*		-3.212E+00	1.814E+01	2.966E+01	2.422E+00	-0.108
NB-94	702.65	*		4.452E-03	2.218E-02	3.730E-02	3.349E-03	0.119
	871.09			-2.891E-02	2.503E-02	3.518E-02	3.228E-03	-0.822
NB-95	765.81	*		-2.885E-02	3.345E-02	5.068E-02	4.620E-03	-0.569
NB-95M	235.69	*		-3.739E-02	9.876E-02	1.417E-01	1.378E-02	-0.264
ZR-95	724.19			5.664E-02	7.935E-02	1.226E-01	1.193E-02	0.462
	756.73	*		-3.599E-02	5.275E-02	8.067E-02	8.034E-03	-0.446
MO-99	140.51			1.012E+01	3.316E+01	5.364E+01	1.267E+01	0.189
	181.07			2.585E+00	2.790E+01	4.420E+01	8.192E+00	0.058
	366.42			-1.809E+02	1.539E+02	2.273E+02	1.925E+01	-0.796
	739.50	*		-1.273E+01	1.886E+01	2.871E+01	4.596E+00	-0.443
	777.92			-2.051E+01	5.921E+01	9.381E+01	8.569E+00	-0.219
TC-99M	140.51	*		6.030E+13	5.921E+01	Half-Life too short		
RU-103	497.08	*		7.739E-04	3.003E-02	4.812E-02	6.789E-03	0.016
	610.33	+		6.252E+00	1.550E+00	1.955E+00	3.230E-01	3.198
RH-106	621.93	*		-1.602E-01	2.006E-01	3.063E-01	4.124E-02	-0.523
	1050.41			-1.108E+00	1.762E+00	2.753E+00	2.417E-01	-0.402
RU-106	621.93	*		-1.602E-01	1.999E-01	3.063E-01	2.738E-02	-0.523
	1050.41			-1.108E+00	1.762E+00	2.753E+00	2.417E-01	-0.402
AG-108M	433.94	*		1.054E-02	1.937E-02	3.265E-02	2.894E-03	0.323
	614.28			1.977E-02	2.634E-02	4.149E-02	3.825E-03	0.477
	722.91			-6.445E-03	3.245E-02	4.524E-02	4.205E-03	-0.142
AG-110M	657.76	*		1.794E-02	2.503E-02	3.945E-02	3.595E-03	0.455
	677.62			9.473E-02	2.244E-01	3.847E-01	3.518E-02	0.246
	706.68			4.322E-02	1.424E-01	2.416E-01	2.230E-02	0.179
	763.94			-1.081E-01	1.200E-01	1.802E-01	1.682E-02	-0.600
	884.68			1.344E-02	3.252E-02	5.531E-02	5.214E-03	0.243
	937.49			4.683E-03	8.053E-02	1.310E-01	1.231E-02	0.036
	1384.29			-1.031E-01	1.161E-01	1.651E-01	1.404E-02	-0.624
	1505.03			-1.919E-01	1.810E-01	2.317E-01	1.937E-02	-0.828
SN-113	391.69	*		-1.725E-02	3.132E-02	4.867E-02	4.184E-03	-0.354
CD-115	260.90			-1.210E-04	3.132E-02	Half-Life too short		
	492.35			-3.454E-05	3.132E-02	Half-Life too short		
	527.90	*		7.186E-06	3.132E-02	Half-Life too short		
SN-117M	156.02			5.494E-01	1.839E+00	2.966E+00	2.389E-01	0.185
	158.56	*		1.457E-02	4.545E-02	7.331E-02	5.878E-03	0.199
TE-123M	159.00	*		8.872E-03	2.011E-02	3.262E-02	2.632E-03	0.272
SB-124	602.73			1.804E-02	2.934E-02	4.733E-02	4.241E-03	0.381
	645.85			-2.627E-02	3.402E-01	5.612E-01	5.260E-02	-0.047
	722.78			-1.022E-01	3.359E-01	4.618E-01	4.258E-02	-0.221
	1690.97	*		1.415E-03	5.384E-02	8.741E-02	7.590E-03	0.016
SB-125	427.87	*		-1.538E-03	6.062E-02	9.770E-02	8.513E-03	-0.016
	463.37			1.200E-01	1.982E-01	3.326E-01	3.116E-02	0.361
	600.60			-1.100E-01	1.248E-01	1.926E-01	1.844E-02	-0.571
	635.95			-2.215E-02	1.870E-01	3.077E-01	2.951E-02	-0.072
TE-125M	109.28	*		3.087E+00	6.365E+00	1.051E+01	1.106E+00	0.294

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-126	388.63			4.742E-02	1.358E-01	2.264E-01	1.888E-02	0.209
	666.33	*		-9.494E-02	2.137E-01	2.901E-01	2.572E-02	-0.327
	753.82			4.877E-01	1.435E+00	2.436E+00	2.216E-01	0.200
SB-126	414.70			9.603E-03	5.963E-02	9.775E-02	8.282E-03	0.098
	666.50			-3.630E-02	7.372E-02	9.936E-02	8.810E-03	-0.365
	695.00			3.992E-02	6.735E-02	1.156E-01	1.035E-02	0.345
	797.00			2.470E-03	2.283E-01	3.776E-01	3.385E-02	0.007
	720.70	*		-1.117E-01	1.530E-01	1.981E-01	1.788E-02	-0.564
	856.80			-6.367E-01	4.166E-01	5.592E-01	5.133E-02	-1.139
SB-127	252.40			-1.326E+00	5.161E+00	8.429E+00	3.522E+00	-0.157
	473.00			-1.162E+00	2.088E+00	3.178E+00	4.373E-01	-0.366
	685.70	*		1.607E+00	1.647E+00	2.936E+00	3.697E-01	0.547
	783.70			2.321E+00	4.390E+00	7.533E+00	1.026E+00	0.308
I-131	80.19			1.253E+00	3.620E+00	5.391E+00	4.654E-01	0.232
	284.31			-5.594E-02	1.306E+00	2.157E+00	1.937E-01	-0.026
	364.49	*		-9.025E-03	1.030E-01	1.632E-01	1.465E-02	-0.055
	636.99			2.548E-01	1.388E+00	2.346E+00	2.208E-01	0.109
TE-132	49.72			-3.780E+00	1.437E+01	2.110E+01	2.424E+00	-0.179
	111.76			6.141E+00	4.235E+01	6.885E+01	8.251E+00	0.089
	116.30			5.552E+00	3.667E+01	5.954E+01	7.121E+00	0.093
	228.16	*		-5.449E-01	1.016E+00	1.651E+00	2.707E-01	-0.330
BA-133	81.00			-6.140E-02	6.036E-02	8.246E-02	1.280E-02	-0.745
	276.40			1.595E-01	2.391E-01	4.096E-01	5.748E-02	0.390
	302.85			-1.579E-02	9.698E-02	1.565E-01	2.039E-02	-0.101
	356.01	*		2.832E-03	3.090E-02	4.533E-02	5.839E-03	0.062
	383.85			7.751E-03	1.998E-01	3.259E-01	3.995E-02	0.024
I-133	529.87	*		-5.199E-02	1.998E-01	Half-Life	too short	
	875.33			1.004E-01	1.998E-01	Half-Life	too short	
	1298.22			-1.535E-01	1.998E-01	Half-Life	too short	
CS-134	563.25			1.244E-01	2.450E-01	4.267E-01	3.859E-02	0.292
	569.33			1.432E-02	1.331E-01	2.250E-01	2.043E-02	0.064
	604.72			3.883E-03	2.604E-02	3.842E-02	3.449E-03	0.101
	795.86	*		3.041E-02	3.283E-02	5.809E-02	5.352E-03	0.524
	801.95			-6.865E-02	2.826E-01	4.444E-01	4.091E-02	-0.154
	1365.19			-1.185E-02	7.464E-01	1.223E+00	1.059E-01	-0.010
CS-135	268.22	*		1.279E-01	1.205E-01	1.891E-01	1.864E-02	0.676
I-135	546.56			1.285E+13	1.205E-01	Half-Life	too short	
	836.80			1.622E+13	1.205E-01	Half-Life	too short	
	1038.76			-3.233E+13	1.205E-01	Half-Life	too short	
	1131.51			4.164E+12	1.205E-01	Half-Life	too short	
	1260.41	*		-1.278E+13	1.205E-01	Half-Life	too short	
	1457.56			9.796E+14	1.205E-01	Half-Life	too short	
	1678.03			-2.364E+12	1.205E-01	Half-Life	too short	
	1791.20			-1.299E+12	1.205E-01	Half-Life	too short	
CS-136	153.25			2.913E-01	6.823E-01	1.108E+00	1.089E-01	0.263
	176.60			-1.557E-01	3.794E-01	6.315E-01	5.660E-02	-0.247
	273.65			-2.691E-01	4.678E-01	6.501E-01	6.005E-02	-0.414
	340.55			2.439E-01	1.412E-01	2.281E-01	2.028E-02	1.069
	818.51			-7.928E-04	6.053E-02	9.874E-02	9.068E-03	-0.008

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1048.07	*		-3.124E-02	8.697E-02	1.403E-01	1.284E-02	-0.223
	1235.36			2.906E-01	5.221E-01	9.024E-01	1.034E-01	0.322
CE-139	165.86	*		8.179E-04	2.051E-02	3.255E-02	2.575E-03	0.025
BA-140	162.66			-4.482E-01	6.854E-01	1.035E+00	8.883E-02	-0.433
	304.85			-9.058E-01	1.135E+00	1.727E+00	5.053E-01	-0.524
	423.72			-7.395E-01	1.660E+00	2.559E+00	8.413E-01	-0.289
	537.26	*		5.112E-02	2.284E-01	3.894E-01	1.324E-01	0.131
LA-140	328.76	+		2.690E-01	2.266E-01	4.124E-01	3.740E-02	0.652
	487.02			6.900E-02	1.168E-01	1.962E-01	1.832E-02	0.352
	815.77			1.458E-01	2.704E-01	4.655E-01	4.714E-02	0.313
	1596.21	*		1.324E-02	7.860E-02	1.309E-01	1.095E-02	0.101
CE-141	145.44	*		-2.970E-02	5.000E-02	7.625E-02	6.384E-03	-0.389
CE-143	57.36			-1.037E-03	5.000E-02	Half-Life	too short	
	293.27	*		1.449E-03	5.000E-02	Half-Life	too short	
	664.57			7.041E-03	5.000E-02	Half-Life	too short	
	721.93			-3.045E-03	5.000E-02	Half-Life	too short	
CE-144	80.12			3.466E-02	1.560E+00	2.219E+00	1.895E-01	0.016
	133.52	*		1.393E-02	1.316E-01	2.118E-01	3.211E-02	0.066
PM-144	476.78			-1.531E-03	4.526E-02	7.234E-02	6.882E-03	-0.021
	618.01			-1.890E-03	2.111E-02	3.489E-02	3.202E-03	-0.054
	696.49	*		-4.899E-04	2.481E-02	4.094E-02	3.671E-03	-0.012
PR-144	696.51	*		-4.318E-02	1.859E+00	3.067E+00	2.749E-01	-0.014
	1489.16			2.343E+00	6.955E+00	1.215E+01	1.015E+00	0.193
PM-146	453.88	*		-9.980E-03	3.127E-02	4.899E-02	5.214E-03	-0.204
	633.25			1.010E+00	1.042E+00	1.752E+00	6.703E-01	0.577
	735.93			1.035E-01	1.147E-01	1.784E-01	5.023E-02	0.581
	747.24			-2.061E-02	6.562E-02	1.019E-01	1.514E-02	-0.202
ND-147	91.11	+		5.816E-01	2.479E-01	3.917E-01	3.878E-02	1.485
	319.41			4.910E-01	2.811E+00	4.674E+00	4.010E-01	0.105
	531.02	*		-5.647E-01	5.128E-01	7.793E-01	1.179E-01	-0.725
PM-149	285.90	*		-1.039E-04	5.128E-01	Half-Life	too short	
EU-152	121.78			4.725E-03	4.838E-02	7.817E-02	7.727E-03	0.060
	244.70			8.996E-02	2.409E-01	3.637E-01	3.080E-02	0.247
	344.28	*		-3.103E-02	7.893E-02	1.090E-01	9.878E-03	-0.285
	778.90			1.095E-02	1.729E-01	2.853E-01	2.606E-02	0.038
	964.08	+		3.078E-01	1.631E-01	3.604E-01	3.262E-02	0.854
	1085.87			2.377E-01	2.796E-01	5.045E-01	4.352E-02	0.471
	1112.07			3.824E-02	2.163E-01	3.675E-01	3.122E-02	0.104
	1408.01			1.540E-01	1.354E-01	2.529E-01	2.096E-02	0.609
GD-153	69.67			7.459E-01	1.005E+00	1.534E+00	1.175E-01	0.486
	97.43	*		-5.043E-02	5.972E-02	8.183E-02	7.318E-03	-0.616
	103.18			-3.813E-02	7.396E-02	1.170E-01	1.026E-02	-0.326
EU-154	123.07			3.078E-03	3.512E-02	5.669E-02	6.416E-03	0.054
	723.31			3.426E-02	1.416E-01	2.082E-01	2.055E-02	0.165
	873.19			-1.345E-01	1.866E-01	2.756E-01	3.390E-02	-0.488
	996.26			-1.972E-01	2.723E-01	3.988E-01	7.036E-02	-0.494
	1004.73			-8.227E-02	1.623E-01	2.458E-01	2.920E-02	-0.335
	1274.44	*		-3.823E-03	8.322E-02	1.368E-01	1.513E-02	-0.028
EU-155	86.55	+		2.562E-01	6.430E-02	1.036E-01	9.669E-03	2.473

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	+	105.31	*	6.088E-02	6.931E-02	1.162E-01	1.026E-02	0.524
		86.79		7.004E-01	1.755E-01	2.879E-01	2.671E-02	2.433
		197.04		3.227E-02	3.915E-01	6.415E-01	5.257E-02	0.050
		215.65		1.138E-01	5.148E-01	8.741E-01	7.283E-02	0.130
		298.57		-3.985E-02	9.048E-02	1.253E-01	1.071E-02	-0.318
	+	879.36	*	-2.616E-02	9.374E-02	1.472E-01	1.350E-02	-0.178
		962.29		3.561E-01	3.978E-01	6.274E-01	5.680E-02	0.568
		966.15		2.217E-01	1.175E-01	2.936E-01	2.656E-02	0.755
		1177.93		-5.461E-03	2.903E-01	4.819E-01	3.924E-02	-0.011
		1271.85		-8.025E-02	4.863E-01	7.877E-01	6.458E-02	-0.102
HO-166M		80.57		-4.343E-02	1.658E-01	2.391E-01	2.054E-02	-0.182
		184.41		3.719E-02	2.765E-02	4.493E-02	3.632E-03	0.828
		280.46		-7.247E-02	5.817E-02	8.867E-02	7.530E-03	-0.817
		410.95		5.333E-02	1.767E-01	2.923E-01	2.470E-02	0.182
		711.68	*	-5.159E-02	4.285E-02	6.217E-02	5.598E-03	-0.830
		752.31		8.514E-02	1.782E-01	3.066E-01	2.788E-02	0.278
		810.29		-3.632E-02	4.107E-02	6.049E-02	5.545E-03	-0.600
		67.75		-2.461E-02	5.848E-02	9.476E-02	7.144E-03	-0.260
		100.11		1.337E-01	1.148E-01	1.948E-01	1.725E-02	0.686
		152.43		-8.542E-02	2.433E-01	3.798E-01	3.079E-02	-0.225
TA-182		222.11		-8.695E-02	2.400E-01	3.954E-01	3.310E-02	-0.220
		1121.30		3.809E-01	1.729E-01	2.476E-01	2.091E-02	1.538
		1189.05		-2.067E-02	2.154E-01	3.545E-01	2.890E-02	-0.058
		1221.41	*	-3.779E-02	1.575E-01	2.556E-01	2.090E-02	-0.148
		1231.02		1.417E-01	3.675E-01	6.288E-01	5.146E-02	0.225
	+	295.96		5.069E-01	1.385E-01	1.968E-01	1.695E-02	2.575
		308.46		-2.309E-03	6.414E-02	1.055E-01	9.083E-03	-0.022
		316.51	*	4.505E-03	2.496E-02	4.154E-02	3.571E-03	0.108
		468.07		3.667E-02	4.849E-02	8.247E-02	7.722E-03	0.445
		70.83		3.046E-01	8.174E-01	1.223E+00	1.909E-01	0.249
HG-203		72.87		4.893E-01	5.040E-01	7.663E-01	1.160E-01	0.639
		279.20	*	9.918E-03	2.696E-02	4.561E-02	3.973E-03	0.217
		72.81		9.773E-02	1.098E-01	1.677E-01	1.323E-02	0.583
BI-207	+	74.97		2.687E-01	7.265E-02	1.207E-01	9.733E-03	2.226
		569.70		-3.016E-04	2.081E-02	3.484E-02	3.124E-03	-0.009
	*	1063.66		-4.709E-03	4.022E-02	6.667E-02	5.817E-03	-0.071
		1770.23		3.318E-01	2.506E-01	5.227E-01	4.294E-02	0.635
		404.85	*	-3.488E-01	5.299E-01	7.710E-01	3.728E-01	-0.452
PB-211		427.09		2.794E-01	1.023E+00	1.677E+00	7.755E-01	0.167
		832.01		-5.761E-01	7.337E-01	9.892E-01	5.139E-01	-0.582
	+	727.33	*	1.277E+00	7.531E-01	8.251E-01	1.052E-01	1.548
BI-212	+	785.37		9.096E-01	2.269E+00	3.852E+00	3.522E-01	0.236
		1620.50		2.286E+00	1.619E+00	3.231E+00	2.700E-01	0.708
		271.23		2.164E-01	2.669E-01	3.036E-01	3.082E-02	0.713
RN-219	+	401.81	*	6.731E-02	2.845E-01	4.691E-01	6.916E-02	0.143
		81.07		-1.428E-01	1.354E-01	1.862E-01	1.609E-02	-0.767
RA-223		83.79		7.035E-02	7.837E-02	1.182E-01	1.056E-02	0.595
		94.87		6.754E-01	3.005E-01	4.809E-01	4.349E-02	1.405
		144.24		2.092E-01	4.820E-01	7.724E-01	7.161E-02	0.271

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		154.21		1.011E-01	2.675E-01	4.331E-01	3.879E-02	0.233
	+	269.46		1.681E-01	2.072E-01	2.330E-01	2.020E-02	0.722
		323.87	*	-2.402E-01	4.973E-01	6.819E-01	1.180E-01	-0.352
	+	338.28		3.729E+00	1.336E+00	1.633E+00	1.964E-01	2.283
		79.69		2.021E-01	7.614E-01	1.096E+00	1.882E-01	0.185
		235.96		-1.259E-03	1.162E-01	1.710E-01	1.743E-02	-0.007
		256.23	*	1.313E-02	1.700E-01	2.843E-01	3.400E-02	0.046
		299.98		-8.934E-03	6.954E-01	9.995E-01	1.265E-01	-0.009
TH-227		304.50		-1.229E+00	1.165E+00	1.745E+00	2.879E-01	-0.704
		334.37		7.322E-01	1.335E+00	2.005E+00	3.120E-01	0.365
		79.80		2.780E-01	1.005E+00	1.446E+00	3.143E-01	0.192
		235.96		-1.259E-03	1.162E-01	1.710E-01	1.641E-02	-0.007
		256.23	*	1.313E-02	1.700E-01	2.843E-01	3.845E-02	0.046
		299.98		-8.934E-03	6.954E-01	9.995E-01	1.265E-01	-0.009
		304.50		-1.229E+00	1.165E+00	1.745E+00	2.879E-01	-0.704
		334.37		7.322E-01	1.335E+00	2.005E+00	3.120E-01	0.365
TH-229		85.43		1.876E-01	1.263E-01	1.969E-01	1.795E-02	0.953
	+	88.47		3.254E-01	8.155E-02	1.375E-01	1.291E-02	2.367
		193.51	*	-8.592E-02	3.547E-01	5.926E-01	4.839E-02	-0.145
PA-231		210.85		4.998E-01	5.714E-01	9.975E-01	8.280E-02	0.501
		283.69	*	6.629E-01	9.604E-01	1.648E+00	2.393E-01	0.402
		301.36		4.355E-01	3.889E-01	6.592E-01	7.981E-02	0.661
TH-231		81.07		-1.428E-01	1.354E-01	1.862E-01	1.609E-02	-0.767
		83.79		7.035E-02	7.837E-02	1.182E-01	1.056E-02	0.595
		94.87		6.754E-01	3.005E-01	4.809E-01	4.349E-02	1.405
		144.24		2.092E-01	4.820E-01	7.724E-01	7.161E-02	0.271
PA-233		154.21		1.011E-01	2.675E-01	4.331E-01	3.879E-02	0.233
	+	269.46		1.681E-01	2.072E-01	2.330E-01	2.020E-02	0.722
		323.87	*	-2.402E-01	4.973E-01	6.819E-01	1.180E-01	-0.352
	+	338.28		3.729E+00	1.336E+00	1.633E+00	1.964E-01	2.283
		300.13		7.322E-02	3.106E-01	4.551E-01	6.732E-02	0.161
		311.90	*	-8.573E-03	4.325E-02	7.030E-02	6.201E-03	-0.122
		340.48		9.802E-01	5.591E-01	8.381E-01	2.015E-01	1.170
		94.67		1.794E-01	1.083E-01	1.832E-01	2.328E-02	0.979
PA-234		98.44		2.433E-02	6.379E-02	9.243E-02	5.161E-02	0.263
		111.00		-1.939E-03	1.162E-01	1.876E-01	2.271E-02	-0.010
		131.20		-2.536E-02	7.440E-02	1.173E-01	9.879E-03	-0.216
		569.50		1.968E-02	1.830E-01	3.092E-01	2.773E-02	0.064
		733.00		1.142E-01	2.968E-01	4.437E-01	9.924E-02	0.257
		880.51		2.034E-03	1.842E-01	2.996E-01	2.747E-02	0.007
		883.24		-1.318E-01	2.131E-01	2.892E-01	1.946E-01	-0.456
		926.50		-4.736E-02	1.272E-01	1.964E-01	4.998E-02	-0.241
PA-234M		946.00	*	4.678E-02	2.188E-01	3.615E-01	6.862E-02	0.129
		949.00		2.295E-01	3.285E-01	5.681E-01	5.159E-02	0.404
		766.42		7.524E-01	8.510E+00	1.406E+01	7.144E+00	0.054
		1001.03	*	-7.511E-01	3.654E+00	5.788E+00	5.935E-01	-0.130
	TH-234	63.29	*	7.533E-01	7.108E-01	1.200E+00	2.135E-01	0.628
	+	92.59		2.567E+00	7.995E-01	9.012E-01	2.009E-01	2.848
	U-238	63.29	*	7.533E-01	7.108E-01	1.200E+00	2.135E-01	0.628

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	92.59		2.567E+00	6.058E-01	9.012E-01	8.246E-02	2.848
NP-239		99.53		9.104E-02	1.032E-01	1.734E-01	1.539E-02	0.525
		103.37		-6.337E-03	6.601E-02	1.065E-01	9.339E-03	-0.060
		106.12		-9.952E-03	5.499E-02	8.825E-02	7.692E-03	-0.113
		117.23	*	-1.951E-03	2.524E-01	4.064E-01	3.496E-02	-0.005
		228.18		-8.086E-02	1.486E-01	2.421E-01	2.034E-02	-0.334
		277.60		9.636E-02	1.167E-01	2.020E-01	1.715E-02	0.477
AM-241		59.54	*	-1.758E-02	7.004E-02	1.147E-01	9.096E-03	-0.153
CM-247		278.00		5.221E-01	4.936E-01	8.639E-01	7.333E-02	0.604
		287.50		-1.998E-01	8.541E-01	1.394E+00	1.187E-01	-0.143
		402.40	*	-2.201E-03	2.607E-02	4.201E-02	3.526E-03	-0.052
CF-249		252.80		-4.450E-03	6.372E-01	1.062E+00	9.009E-02	-0.004
		333.37		1.349E-01	1.481E-01	2.162E-01	1.852E-02	0.624
		388.16	*	1.614E-02	2.718E-02	4.606E-02	3.844E-03	0.350
CF-251		177.52	*	-1.029E-02	8.433E-02	1.423E-01	1.141E-02	-0.072
		227.38		-5.542E-03	2.401E-01	4.020E-01	3.377E-02	-0.014
		285.41		-6.331E-01	1.490E+00	2.403E+00	2.045E-01	-0.263

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]G248051014
* Acquisition date   : 10-MAR-2010 20:41:34 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 02:00:01.12 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051014 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.7005E+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	1.952E+01	2.039E+00	3.027E-01	0.000E+00
CD-109	2.170E+00	5.329E-01	7.943E-01	0.000E+00
SN-126	2.110E-01	5.184E-02	7.744E-02	0.000E+00
BA-137M	5.896E-02	4.504E-02	4.055E-02	0.000E+00
CS-137	6.229E-02	4.758E-02	4.283E-02	0.000E+00
TL-208	2.658E-01	5.601E-02	3.808E-02	0.000E+00
PB-210	1.705E+00	1.806E+00	1.984E+00	0.000E+00
BI-211	1.998E+00	3.296E-01	2.346E-01	0.000E+00
PB-212	6.882E-01	1.063E-01	9.862E-02	0.000E+00
BI-214	5.720E-01	1.188E-01	9.025E-02	0.000E+00
PB-214	7.250E-01	1.259E-01	8.533E-02	0.000E+00
RA-224	1.388E+00	5.631E-01	8.202E-01	0.000E+00
RA-226	5.720E-01	1.188E-01	9.025E-02	0.000E+00
AC-228	7.329E-01	2.163E-01	1.698E-01	0.000E+00
RA-228	7.329E-01	2.163E-01	1.698E-01	0.000E+00
TH-228	6.882E-01	1.063E-01	9.862E-02	0.000E+00
TH-232	7.329E-01	2.163E-01	1.698E-01	0.000E+00
U-235	5.846E-02	1.395E-01	2.484E-01	0.000E+00
NP-237	6.297E-01	2.017E-01	2.632E-01	0.000E+00
ANH-511	7.074E-02	4.436E-02	3.636E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	9.626E-02	2.270E-01	4.042E-01	0.000E+00 NOT IDENT.
NA-22	1.251E-03	2.873E-02	4.956E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.725E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	1.247E-03	2.748E-02	4.713E-02	0.000E+00 FAIL ABUN
V-48	-3.647E-03	5.942E-02	9.960E-02	0.000E+00 NOT IDENT.
CR-51	1.549E-02	2.706E-01	4.855E-01	0.000E+00 NOT IDENT.
MN-54	4.363E-04	2.474E-02	4.260E-02	0.000E+00 NOT IDENT.

CO-56	-1.563E-02	2.781E-02	4.481E-02	0.000E+00	NOT IDENT.
CO-57	7.244E-03	1.656E-02	3.042E-02	0.000E+00	NOT IDENT.
CO-58	-3.276E-02	2.831E-02	4.261E-02	0.000E+00	NOT IDENT.
FE-59	-6.965E-02	6.934E-02	1.084E-01	0.000E+00	NOT IDENT.
CO-60	8.675E-04	2.778E-02	4.809E-02	0.000E+00	NOT IDENT.
ZN-65	-3.438E-02	7.644E-02	1.077E-01	0.000E+00	NOT IDENT.
SE-75	1.380E-02	3.271E-02	5.404E-02	0.000E+00	NOT IDENT.
SR-85	5.706E-02	3.278E-02	5.859E-02	0.000E+00	NOT IDENT.
Y-88	-4.133E-03	1.862E-02	2.994E-02	0.000E+00	NOT IDENT.
Y-91	-3.212E+00	1.778E+01	3.024E+01	0.000E+00	NOT IDENT.
NB-94	4.452E-03	2.173E-02	3.873E-02	0.000E+00	NOT IDENT.
NB-95	-2.885E-02	3.278E-02	5.248E-02	0.000E+00	NOT IDENT.
NB-95M	-3.739E-02	9.679E-02	1.524E-01	0.000E+00	NOT IDENT.
ZR-95	-3.599E-02	5.169E-02	8.357E-02	0.000E+00	NOT IDENT.
MO-99	-1.273E+01	1.848E+01	2.976E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.941E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	7.739E-04	2.943E-02	5.054E-02	0.000E+00	FAIL ABUN
RH-106	-1.602E-01	1.966E-01	3.194E-01	0.000E+00	NOT IDENT.
RU-106	-1.602E-01	1.959E-01	3.194E-01	0.000E+00	NOT IDENT.
AG-108M	1.054E-02	1.898E-02	3.444E-02	0.000E+00	NOT IDENT.
AG-110M	1.794E-02	2.453E-02	4.106E-02	0.000E+00	NOT IDENT.
SN-113	-1.725E-02	3.070E-02	5.151E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.189E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.457E-02	4.454E-02	7.980E-02	0.000E+00	NOT IDENT.
TE-123M	8.872E-03	1.970E-02	3.550E-02	0.000E+00	NOT IDENT.
SB-124	1.415E-03	5.276E-02	8.810E-02	0.000E+00	NOT IDENT.
SB-125	-1.538E-03	5.941E-02	1.031E-01	0.000E+00	NOT IDENT.
TE-125M	3.087E+00	6.237E+00	1.157E+01	0.000E+00	NOT IDENT.
I-126	-9.494E-02	2.095E-01	3.018E-01	0.000E+00	NOT IDENT.
SB-126	-1.117E-01	1.499E-01	2.056E-01	0.000E+00	NOT IDENT.
SB-127	1.607E+00	1.614E+00	3.052E+00	0.000E+00	NOT IDENT.
I-131	-9.025E-03	1.009E-01	1.732E-01	0.000E+00	NOT IDENT.
TE-132	-5.449E-01	9.960E-01	1.778E+00	0.000E+00	NOT IDENT.
BA-133	2.832E-03	3.028E-02	4.812E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.761E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.041E-02	3.217E-02	6.008E-02	0.000E+00	NOT IDENT.
CS-135	1.279E-01	1.181E-01	2.025E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.725E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.124E-02	8.523E-02	1.438E-01	0.000E+00	NOT IDENT.
CE-139	8.179E-04	2.010E-02	3.538E-02	0.000E+00	NOT IDENT.
BA-140	5.112E-02	2.239E-01	4.080E-01	0.000E+00	NOT IDENT.
LA-140	1.324E-02	7.703E-02	1.322E-01	0.000E+00	FAIL ABUN
CE-141	-2.970E-02	4.900E-02	8.321E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	6.475E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.393E-02	1.290E-01	2.318E-01	0.000E+00	NOT IDENT.
PM-144	-4.899E-04	2.431E-02	4.253E-02	0.000E+00	NOT IDENT.
PR-144	-4.318E-02	1.822E+00	3.186E+00	0.000E+00	NOT IDENT.
PM-146	-9.980E-03	3.064E-02	5.161E-02	0.000E+00	NOT IDENT.
ND-147	-5.647E-01	5.026E-01	8.167E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.712E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.103E-02	7.735E-02	1.158E-01	0.000E+00	FAIL ABUN
GD-153	-5.043E-02	5.852E-02	9.036E-02	0.000E+00	NOT IDENT.
EU-154	-3.823E-03	8.156E-02	1.392E-01	0.000E+00	NOT IDENT.
EU-155	6.088E-02	6.793E-02	1.281E-01	0.000E+00	FAIL ABUN
TB-160	-2.616E-02	9.187E-02	1.517E-01	0.000E+00	FAIL ABUN
HO-166M	-5.159E-02	4.199E-02	6.454E-02	0.000E+00	NOT IDENT.
TA-182	-3.779E-02	1.543E-01	2.605E-01	0.000E+00	FAIL ABUN
IR-192	4.505E-03	2.446E-02	4.427E-02	0.000E+00	FAIL ABUN
HG-203	9.918E-03	2.642E-02	4.879E-02	0.000E+00	NOT IDENT.
BI-207	-4.709E-03	3.942E-02	6.828E-02	0.000E+00	FAIL ABUN
PB-211	-3.488E-01	5.193E-01	8.151E-01	0.000E+00	NOT IDENT.
BI-212	0.000E+00	7.380E-01	8.558E-01	0.000E+00	FAIL ABUN
RN-219	6.731E-02	2.788E-01	4.961E-01	0.000E+00	FAIL ABUN
RA-223	-2.402E-01	4.873E-01	7.260E-01	0.000E+00	FAIL ABUN
AC-227	1.313E-02	1.666E-01	3.050E-01	0.000E+00	NOT IDENT.
TH-227	1.313E-02	1.666E-01	3.050E-01	0.000E+00	NOT IDENT.
TH-229	-8.592E-02	3.476E-01	6.411E-01	0.000E+00	FAIL ABUN
PA-231	6.629E-01	9.412E-01	1.762E+00	0.000E+00	NOT IDENT.
TH-231	-2.402E-01	4.873E-01	7.260E-01	0.000E+00	FAIL ABUN
PA-233	-8.573E-03	4.239E-02	7.494E-02	0.000E+00	NOT IDENT.
PA-234	4.678E-02	2.145E-01	3.717E-01	0.000E+00	NOT IDENT.
PA-234M	-7.511E-01	3.581E+00	5.940E+00	0.000E+00	NOT IDENT.
TH-234	7.533E-01	6.966E-01	1.342E+00	0.000E+00	FAIL ABUN
U-238	7.533E-01	6.966E-01	1.342E+00	0.000E+00	FAIL ABUN
NP-239	-1.951E-03	2.473E-01	4.464E-01	0.000E+00	NOT IDENT.
AM-241	-1.758E-02	6.864E-02	1.285E-01	0.000E+00	NOT IDENT.
CM-247	-2.201E-03	2.555E-02	4.442E-02	0.000E+00	NOT IDENT.
CF-249	1.614E-02	2.664E-02	4.876E-02	0.000E+00	NOT IDENT.

CF-251	-1.029E-02	8.264E-02	1.543E-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]G248051014.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:41:34
Sample ID          : G248051014           Sample quantity  : 1.70050E+02 GRAM
Detector name      : GAM07                Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00       Elapsed real time : 0 02:00:01.12  0.0%
Energy tolerance    : 1.50000 keV         Analyst Initials  : MXR1
Abundance limit     : 75.00000            Sensitivity        : 5.00000
Batch ID           : 958225               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	1460.82	1065	10.66*	1.129E+00	1.952E+01	1.952E+01	10.65
CD-109	88.03	242	3.70*	6.838E+00	2.110E+00	2.170E+00	25.06
SN-126	64.28	-----	9.60	4.930E+00	-----	Line Not Found	-----
	86.94	242	8.90	6.838E+00	8.774E-01	8.774E-01	47.58
	87.57	242	37.00*	6.838E+00	2.110E-01	2.110E-01	25.06
BA-137M	661.66	54	89.90*	2.231E+00	5.889E-02	5.896E-02	77.95
CS-137	661.66	54	85.10*	2.231E+00	6.221E-02	6.229E-02	77.95
TL-208	277.37	-----	6.60	4.401E+00	-----	Line Not Found	-----
	583.19	253	85.00*	2.476E+00	2.658E-01	2.658E-01	21.50
	860.56	-----	12.50	1.783E+00	-----	Line Not Found	-----
PB-210	46.54	65	4.25*	1.992E+00	1.702E+00	1.705E+00	108.07
BI-211	72.87	-----	1.23	5.899E+00	-----	Line Not Found	-----
	351.06	430	12.92*	3.680E+00	1.998E+00	1.998E+00	16.84
PB-212	74.82	264	10.28	6.075E+00	9.321E-01	9.321E-01	28.74
	77.11	475	17.10	6.259E+00	9.796E-01	9.796E-01	18.37
	238.63	667	43.60*	4.909E+00	6.882E-01	6.882E-01	15.77
	300.09	-----	3.30	4.151E+00	-----	Line Not Found	-----
BI-214	609.32	282	45.49*	2.389E+00	5.720E-01	5.720E-01	21.20
	1120.29	76	14.92	1.413E+00	7.969E-01	7.969E-01	45.89
	1764.49	45	15.30	9.830E-01	6.640E-01	6.640E-01	39.18
PB-214	74.82	264	5.80	6.075E+00	1.652E+00	1.652E+00	28.18
	77.11	475	9.70	6.259E+00	1.727E+00	1.727E+00	20.14
	242.00	125	7.25	4.865E+00	7.849E-01	7.849E-01	41.81
	295.22	233	18.42	4.201E+00	6.649E-01	6.649E-01	28.06
	351.93	430	35.60*	3.680E+00	7.250E-01	7.250E-01	17.72
RA-224	240.99	125	4.10*	4.865E+00	1.388E+00	1.388E+00	41.40
RA-226	609.32	282	45.49*	2.389E+00	5.720E-01	5.720E-01	21.20
	1120.29	76	14.92	1.413E+00	7.969E-01	7.969E-01	45.89
	1764.49	45	15.30	9.830E-01	6.640E-01	6.640E-01	39.18
AC-228	338.32	182	11.27	3.794E+00	9.397E-01	9.397E-01	53.64
	911.20	145	25.80*	1.695E+00	7.329E-01	7.329E-01	30.11
	968.97	94	15.80	1.606E+00	8.144E-01	8.144E-01	36.86

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	338.32	182	11.27	3.794E+00	9.397E-01	9.397E-01	53.64
	911.20	145	25.80*	1.695E+00	7.329E-01	7.329E-01	30.11
	968.97	94	15.80	1.606E+00	8.144E-01	8.144E-01	36.86
TH-228	74.82	264	10.28	6.075E+00	9.321E-01	9.321E-01	27.06
	77.11	475	17.10	6.259E+00	9.796E-01	9.796E-01	18.37
	238.63	667	43.60*	4.909E+00	6.882E-01	6.882E-01	15.77
TH-232	300.09	-----	3.30	4.151E+00	-----	Line Not Found	-----
	338.32	182	11.27	3.794E+00	9.397E-01	9.397E-01	34.81
	911.20	145	25.80*	1.695E+00	7.329E-01	7.329E-01	30.11
U-235	968.97	94	15.80	1.606E+00	8.144E-01	8.144E-01	36.86
	89.96	159	3.47	6.932E+00	1.463E+00	1.463E+00	48.34
	93.35	345	5.60	7.015E+00	1.939E+00	1.939E+00	31.88
	143.76	-----	10.96*	6.691E+00	-----	Line Not Found	-----
	163.33	-----	5.08	6.279E+00	-----	Line Not Found	-----
	185.72	157	57.20	5.811E+00	1.045E-01	1.045E-01	44.92
NP-237	205.31	-----	5.01	5.451E+00	-----	Line Not Found	-----
	86.48	242	12.40*	6.838E+00	6.297E-01	6.297E-01	32.68
	95.86	-----	2.68	7.087E+00	-----	Line Not Found	-----
ANH-511	511.00	88	100.00*	2.755E+00	7.074E-02	7.074E-02	63.99

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G248051014

Page : 3
Acquisition date : 10-MAR-2010 20:41:34

Total number of lines in spectrum 26
Number of unidentified lines 1
Number of lines tentatively identified by NID 25 96.15%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.952E+01	1.952E+01	0.208E+01	10.65	
CD-109	461.40D	1.03	2.110E+00	2.170E+00	0.544E+00	25.06	
SN-126	2.30E+05Y	1.00	2.110E-01	2.110E-01	0.529E-01	25.06	
BA-137M	30.08Y	1.00	5.889E-02	5.896E-02	4.596E-02	77.95	
CS-137	30.08Y	1.00	6.221E-02	6.229E-02	4.855E-02	77.95	
TL-208	1.41E+10Y	1.00	2.658E-01	2.658E-01	0.572E-01	21.50	
PB-210	22.20Y	1.00	1.702E+00	1.705E+00	1.843E+00	108.07	
BI-211	7.04E+08Y	1.00	1.998E+00	1.998E+00	0.336E+00	16.84	
PB-212	1.41E+10Y	1.00	6.882E-01	6.882E-01	1.085E-01	15.77	
BI-214	1600.00Y	1.00	5.720E-01	5.720E-01	1.213E-01	21.20	
PB-214	1600.00Y	1.00	7.250E-01	7.250E-01	1.285E-01	17.72	
RA-224	1.41E+10Y	1.00	1.388E+00	1.388E+00	0.575E+00	41.40	
RA-226	1600.00Y	1.00	5.720E-01	5.720E-01	1.213E-01	21.20	
AC-228	1.41E+10Y	1.00	7.329E-01	7.329E-01	2.207E-01	30.11	
RA-228	1.41E+10Y	1.00	7.329E-01	7.329E-01	2.207E-01	30.11	
TH-228	1.41E+10Y	1.00	6.882E-01	6.882E-01	1.085E-01	15.77	
TH-232	1.41E+10Y	1.00	7.329E-01	7.329E-01	2.207E-01	30.11	
U-235	7.04E+08Y	1.00	1.045E-01	1.045E-01	0.470E-01	44.92	K
NP-237	2.14E+06Y	1.00	6.297E-01	6.297E-01	2.058E-01	32.68	
ANH-511	1.00E+09Y	1.00	7.074E-02	7.074E-02	4.527E-02	63.99	

Total Activity : 3.357E+01 3.363E+01

Grand Total Activity : 3.357E+01 3.363E+01

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

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

Unidentified Energy Lines
Sample ID : G248051014

Page : 4
Acquisition date : 10-MAR-2010 20:41:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	270.56	47	214	1.16	540.69	534	11	6.59E-03	****	4.48E+00	T
0	328.37	35	73	0.86	656.31	653	6	4.90E-03	83.7	3.88E+00	T
0	727.91	79	83	1.76	1455.25	1448	17	1.10E-02	57.6	2.06E+00	T
4	965.42	33	19	1.90	1930.22	1927	23	4.56E-03	52.2	1.61E+00	T
0	1521.36	7	5	0.91	3042.00	3035	9	9.03E-04	****	1.09E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051014.CNF;1
* Acquisition date   : 10-MAR-2010 20:41:34  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 02:00:01.12          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G248051014            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity : 1.70050E+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	1.952E+01	2.080E+00	2.989E-01	2.566E-02	65.328
CD-109	2.170E+00	5.438E-01	7.171E-01	6.755E-02	3.025
SN-126	2.110E-01	5.290E-02	6.991E-02	6.551E-03	3.019
BA-137M	5.896E-02	4.596E-02	3.897E-02	3.448E-03	1.513
CS-137	6.229E-02	4.855E-02	4.116E-02	3.650E-03	1.513
TL-208	2.658E-01	5.715E-02	3.645E-02	3.483E-03	7.293
PB-210	1.705E+00	1.843E+00	1.759E+00	1.635E-01	0.969
BI-211	1.998E+00	3.363E-01	2.209E-01	1.982E-02	9.042
PB-212	6.882E-01	1.085E-01	9.175E-02	8.820E-03	7.500
BI-214	5.720E-01	1.213E-01	8.650E-02	8.989E-03	6.613
PB-214	7.250E-01	1.285E-01	8.035E-02	8.461E-03	9.023
RA-224	1.388E+00	5.746E-01	7.632E-01	6.454E-02	1.819
RA-226	5.720E-01	1.213E-01	8.650E-02	8.989E-03	6.613
AC-228	7.329E-01	2.207E-01	1.649E-01	1.977E-02	4.444
RA-228	7.329E-01	2.207E-01	1.649E-01	1.977E-02	4.444
TH-228	6.882E-01	1.085E-01	9.175E-02	8.820E-03	7.500
TH-232	7.329E-01	2.207E-01	1.649E-01	1.977E-02	4.444
U-235	1.045E-01	4.696E-02	2.276E-01	3.814E-02	0.459

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	6.297E-01	2.058E-01	2.375E-01	5.442E-02	2.651
ANH-511	7.074E-02	4.527E-02	3.465E-02	3.079E-03	2.041

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.626E-02		2.316E-01	3.843E-01	3.626E-02	0.250
NA-22	1.251E-03		2.932E-02	4.870E-02	3.997E-03	0.026
NA-24	5.399E+00		8.803E+00	Half-Life	too short	
SC-46	1.247E-03		2.804E-02	4.574E-02	4.192E-03	0.027
V-48	-3.647E-03		6.063E-02	9.700E-02	8.731E-03	-0.038
CR-51	1.549E-02		2.761E-01	4.558E-01	4.115E-02	0.034
MN-54	4.363E-04		2.525E-02	4.126E-02	3.787E-03	0.011
CO-56	-1.563E-02		2.838E-02	4.342E-02	3.986E-03	-0.360
CO-57	7.244E-03		1.690E-02	2.773E-02	2.386E-03	0.261
CO-58	-3.276E-02		2.889E-02	4.123E-02	3.788E-03	-0.795
FE-59	-6.965E-02		7.075E-02	1.060E-01	9.820E-03	-0.657
CO-60	8.675E-04		2.834E-02	4.732E-02	3.876E-03	0.018
ZN-65	-3.438E-02		7.800E-02	1.054E-01	8.941E-03	-0.326
SE-75	1.380E-02		3.338E-02	5.043E-02	4.308E-03	0.274
SR-85	5.706E-02		3.345E-02	5.585E-02	4.966E-03	1.022
Y-88	-4.133E-03		1.900E-02	2.979E-02	2.418E-03	-0.139
Y-91	-3.212E+00		1.814E+01	2.966E+01	2.422E+00	-0.108
NB-94	4.452E-03		2.218E-02	3.730E-02	3.349E-03	0.119
NB-95	-2.885E-02		3.345E-02	5.068E-02	4.620E-03	-0.569
NB-95M	-3.739E-02		9.876E-02	1.417E-01	1.378E-02	-0.264
ZR-95	-3.599E-02		5.275E-02	8.067E-02	8.034E-03	-0.446
MO-99	-1.273E+01		1.886E+01	2.871E+01	4.596E+00	-0.443
TC-99M	6.030E+13		9.905E+13	Half-Life	too short	
RU-103	7.739E-04		3.003E-02	4.812E-02	6.789E-03	0.016
RH-106	-1.602E-01		2.006E-01	3.063E-01	4.124E-02	-0.523
RU-106	-1.602E-01		1.999E-01	3.063E-01	2.738E-02	-0.523
AG-108M	1.054E-02		1.937E-02	3.265E-02	2.894E-03	0.323
AG-110M	1.794E-02		2.503E-02	3.945E-02	3.595E-03	0.455
SN-113	-1.725E-02		3.132E-02	4.867E-02	4.184E-03	-0.354
CD-115	7.186E-06		1.117E-05	Half-Life	too short	
SN-117M	1.457E-02		4.545E-02	7.331E-02	5.878E-03	0.199
TE-123M	8.872E-03		2.011E-02	3.262E-02	2.632E-03	0.272
SB-124	1.415E-03		5.384E-02	8.741E-02	7.590E-03	0.016
SB-125	-1.538E-03		6.062E-02	9.770E-02	8.513E-03	-0.016
TE-125M	3.087E+00		6.365E+00	1.051E+01	1.106E+00	0.294
I-126	-9.494E-02		2.137E-01	2.901E-01	2.572E-02	-0.327
SB-126	-1.117E-01		1.530E-01	1.981E-01	1.788E-02	-0.564
SB-127	1.607E+00		1.647E+00	2.936E+00	3.697E-01	0.547
I-131	-9.025E-03		1.030E-01	1.632E-01	1.465E-02	-0.055
TE-132	-5.449E-01		1.016E+00	1.651E+00	2.707E-01	-0.330
BA-133	2.832E-03		3.090E-02	4.533E-02	5.839E-03	0.062

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	-5.199E-02		2.939E-02	Half-Life too short		
CS-134	3.041E-02		3.283E-02	5.809E-02	5.352E-03	0.524
CS-135	1.279E-01		1.205E-01	1.891E-01	1.864E-02	0.676
I-135	-1.278E+13		8.801E+12	Half-Life too short		
CS-136	-3.124E-02		8.697E-02	1.403E-01	1.284E-02	-0.223
CE-139	8.179E-04		2.051E-02	3.255E-02	2.575E-03	0.025
BA-140	5.112E-02		2.284E-01	3.894E-01	1.324E-01	0.131
LA-140	1.324E-02		7.860E-02	1.309E-01	1.095E-02	0.101
CE-141	-2.970E-02		5.000E-02	7.625E-02	6.384E-03	-0.389
CE-143	1.449E-03		3.304E-04	Half-Life too short		
CE-144	1.393E-02		1.316E-01	2.118E-01	3.211E-02	0.066
PM-144	-4.899E-04		2.481E-02	4.094E-02	3.671E-03	-0.012
PR-144	-4.318E-02		1.859E+00	3.067E+00	2.749E-01	-0.014
PM-146	-9.980E-03		3.127E-02	4.899E-02	5.214E-03	-0.204
ND-147	-5.647E-01		5.128E-01	7.793E-01	1.179E-01	-0.725
PM-149	-1.039E-04		8.735E-05	Half-Life too short		
EU-152	-3.103E-02		7.893E-02	1.090E-01	9.878E-03	-0.285
GD-153	-5.043E-02		5.972E-02	8.183E-02	7.318E-03	-0.616
EU-154	-3.823E-03		8.322E-02	1.368E-01	1.513E-02	-0.028
EU-155	6.088E-02		6.931E-02	1.162E-01	1.026E-02	0.524
TB-160	-2.616E-02		9.374E-02	1.472E-01	1.350E-02	-0.178
HO-166M	-5.159E-02		4.285E-02	6.217E-02	5.598E-03	-0.830
TA-182	-3.779E-02		1.575E-01	2.556E-01	2.090E-02	-0.148
IR-192	4.505E-03		2.496E-02	4.154E-02	3.571E-03	0.108
HG-203	9.918E-03		2.696E-02	4.561E-02	3.973E-03	0.217
BI-207	-4.709E-03		4.022E-02	6.667E-02	5.817E-03	-0.071
PB-211	-3.488E-01		5.299E-01	7.710E-01	3.728E-01	-0.452
BI-212	1.277E+00	+	7.531E-01	8.251E-01	1.052E-01	1.548
RN-219	6.731E-02		2.845E-01	4.691E-01	6.916E-02	0.143
RA-223	-2.402E-01		4.973E-01	6.819E-01	1.180E-01	-0.352
AC-227	1.313E-02		1.700E-01	2.843E-01	3.400E-02	0.046
TH-227	1.313E-02		1.700E-01	2.843E-01	3.845E-02	0.046
TH-229	-8.592E-02		3.547E-01	5.926E-01	4.839E-02	-0.145
PA-231	6.629E-01		9.604E-01	1.648E+00	2.393E-01	0.402
TH-231	-2.402E-01		4.973E-01	6.819E-01	1.180E-01	-0.352
PA-233	-8.573E-03		4.325E-02	7.030E-02	6.201E-03	-0.122
PA-234	4.678E-02		2.188E-01	3.615E-01	6.862E-02	0.129
PA-234M	-7.511E-01		3.654E+00	5.788E+00	5.935E-01	-0.130
TH-234	7.533E-01		7.108E-01	1.200E+00	2.135E-01	0.628
U-238	7.533E-01		7.108E-01	1.200E+00	2.135E-01	0.628
NP-239	-1.951E-03		2.524E-01	4.064E-01	3.496E-02	-0.005
AM-241	-1.758E-02		7.004E-02	1.147E-01	9.096E-03	-0.153
CM-247	-2.201E-03		2.607E-02	4.201E-02	3.526E-03	-0.052
CF-249	1.614E-02		2.718E-02	4.606E-02	3.844E-03	0.350
CF-251	-1.029E-02		8.433E-02	1.423E-01	1.141E-02	-0.072

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G248051014          *
* Acquisition date   : 10-MAR-2010 20:41:34 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 02:00:01.12 Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051014 Analyst initials: MXR1         *
* Batch Number       : 958225 Sample Quantity : 1.7005E+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	1.952E+01	2.039E+00	1.515E-01	1.040E+00
CD-109	2.170E+00	5.329E-01	3.974E-01	2.719E-01
SN-126	2.110E-01	5.184E-02	3.874E-02	2.645E-02
BA-137M	5.896E-02	4.504E-02	2.028E-02	2.298E-02
CS-137	6.229E-02	4.758E-02	2.143E-02	2.428E-02
TL-208	2.658E-01	5.601E-02	1.905E-02	2.858E-02
PB-210	1.705E+00	1.806E+00	9.925E-01	9.213E-01
BI-211	1.998E+00	3.296E-01	1.174E-01	1.682E-01
PB-212	6.882E-01	1.063E-01	4.934E-02	5.425E-02
BI-214	5.720E-01	1.188E-01	4.515E-02	6.063E-02
PB-214	7.250E-01	1.259E-01	4.269E-02	6.423E-02
RA-224	1.388E+00	5.631E-01	4.103E-01	2.873E-01
RA-226	5.720E-01	1.188E-01	4.515E-02	6.063E-02
AC-228	7.329E-01	2.163E-01	8.494E-02	1.103E-01
RA-228	7.329E-01	2.163E-01	8.494E-02	1.103E-01
TH-228	6.882E-01	1.063E-01	4.934E-02	5.425E-02
TH-232	7.329E-01	2.163E-01	8.494E-02	1.103E-01
U-235	5.846E-02	1.395E-01	1.243E-01	7.119E-02
NP-237	6.297E-01	2.017E-01	1.317E-01	1.029E-01
ANH-511	7.074E-02	4.436E-02	1.819E-02	2.263E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	9.626E-02	2.270E-01	2.022E-01	1.158E-01 NOT IDENT.
NA-22	1.251E-03	2.873E-02	2.480E-02	1.466E-02 NOT IDENT.
NA-24	5.399E+06	1.725E+07	0.000E+00	8.803E+06 SHORT HLIF
SC-46	1.247E-03	2.748E-02	2.358E-02	1.402E-02 FAIL ABUN
V-48	-3.647E-03	5.942E-02	4.983E-02	3.031E-02 NOT IDENT.
CR-51	1.549E-02	2.706E-01	2.429E-01	1.381E-01 NOT IDENT.
MN-54	4.363E-04	2.474E-02	2.131E-02	1.262E-02 NOT IDENT.

CO-56	-1.563E-02	2.781E-02	2.242E-02	1.419E-02	NOT IDENT.
CO-57	7.244E-03	1.656E-02	1.522E-02	8.451E-03	NOT IDENT.
CO-58	-3.276E-02	2.831E-02	2.132E-02	1.445E-02	NOT IDENT.
FE-59	-6.965E-02	6.934E-02	5.425E-02	3.538E-02	NOT IDENT.
CO-60	8.675E-04	2.778E-02	2.406E-02	1.417E-02	NOT IDENT.
ZN-65	-3.438E-02	7.644E-02	5.390E-02	3.900E-02	NOT IDENT.
SE-75	1.380E-02	3.271E-02	2.704E-02	1.669E-02	NOT IDENT.
SR-85	5.706E-02	3.278E-02	2.931E-02	1.672E-02	NOT IDENT.
Y-88	-4.133E-03	1.862E-02	1.498E-02	9.498E-03	NOT IDENT.
Y-91	-3.212E+00	1.778E+01	1.513E+01	9.071E+00	NOT IDENT.
NB-94	4.452E-03	2.173E-02	1.938E-02	1.109E-02	NOT IDENT.
NB-95	-2.885E-02	3.278E-02	2.626E-02	1.672E-02	NOT IDENT.
NB-95M	-3.739E-02	9.679E-02	7.624E-02	4.938E-02	NOT IDENT.
ZR-95	-3.599E-02	5.169E-02	4.181E-02	2.637E-02	NOT IDENT.
MO-99	-1.273E+01	1.848E+01	1.489E+01	9.429E+00	NOT IDENT.
TC-99M	6.030E+19	1.941E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	7.739E-04	2.943E-02	2.529E-02	1.502E-02	FAIL ABUN
RH-106	-1.602E-01	1.966E-01	1.598E-01	1.003E-01	NOT IDENT.
RU-106	-1.602E-01	1.959E-01	1.598E-01	9.996E-02	NOT IDENT.
AG-108M	1.054E-02	1.898E-02	1.723E-02	9.683E-03	NOT IDENT.
AG-110M	1.794E-02	2.453E-02	2.054E-02	1.251E-02	NOT IDENT.
SN-113	-1.725E-02	3.070E-02	2.577E-02	1.566E-02	NOT IDENT.
CD-115	7.186E+00	2.189E+01	0.000E+00	1.117E+01	SHORT HLIF
SN-117M	1.457E-02	4.454E-02	3.992E-02	2.273E-02	NOT IDENT.
TE-123M	8.872E-03	1.970E-02	1.776E-02	1.005E-02	NOT IDENT.
SB-124	1.415E-03	5.276E-02	4.408E-02	2.692E-02	NOT IDENT.
SB-125	-1.538E-03	5.941E-02	5.159E-02	3.031E-02	NOT IDENT.
TE-125M	3.087E+00	6.237E+00	5.786E+00	3.182E+00	NOT IDENT.
I-126	-9.494E-02	2.095E-01	1.510E-01	1.069E-01	NOT IDENT.
SB-126	-1.117E-01	1.499E-01	1.029E-01	7.650E-02	NOT IDENT.
SB-127	1.607E+00	1.614E+00	1.527E+00	8.236E-01	NOT IDENT.
I-131	-9.025E-03	1.009E-01	8.663E-02	5.150E-02	NOT IDENT.
TE-132	-5.449E-01	9.960E-01	8.893E-01	5.082E-01	NOT IDENT.
BA-133	2.832E-03	3.028E-02	2.407E-02	1.545E-02	NOT IDENT.
I-133	-5.199E+04	5.761E+04	0.000E+00	2.939E+04	SHORT HLIF
CS-134	3.041E-02	3.217E-02	3.006E-02	1.641E-02	NOT IDENT.
CS-135	1.279E-01	1.181E-01	1.013E-01	6.025E-02	NOT IDENT.
I-135	-1.278E+19	1.725E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.124E-02	8.523E-02	7.193E-02	4.348E-02	NOT IDENT.
CE-139	8.179E-04	2.010E-02	1.770E-02	1.025E-02	NOT IDENT.
BA-140	5.112E-02	2.239E-01	2.041E-01	1.142E-01	NOT IDENT.
LA-140	1.324E-02	7.703E-02	6.612E-02	3.930E-02	FAIL ABUN
CE-141	-2.970E-02	4.900E-02	4.163E-02	2.500E-02	NOT IDENT.
CE-143	1.449E+03	6.475E+02	0.000E+00	3.304E+02	SHORT HLIF
CE-144	1.393E-02	1.290E-01	1.160E-01	6.581E-02	NOT IDENT.
PM-144	-4.899E-04	2.431E-02	2.128E-02	1.241E-02	NOT IDENT.
PR-144	-4.318E-02	1.822E+00	1.594E+00	9.297E-01	NOT IDENT.
PM-146	-9.980E-03	3.064E-02	2.582E-02	1.563E-02	NOT IDENT.
ND-147	-5.647E-01	5.026E-01	4.086E-01	2.564E-01	FAIL ABUN
PM-149	-1.039E+02	1.712E+02	0.000E+00	8.735E+01	SHORT HLIF
EU-152	-3.103E-02	7.735E-02	5.796E-02	3.946E-02	FAIL ABUN
GD-153	-5.043E-02	5.852E-02	4.521E-02	2.986E-02	NOT IDENT.
EU-154	-3.823E-03	8.156E-02	6.965E-02	4.161E-02	NOT IDENT.
EU-155	6.088E-02	6.793E-02	6.407E-02	3.466E-02	FAIL ABUN
TB-160	-2.616E-02	9.187E-02	7.589E-02	4.687E-02	FAIL ABUN
HO-166M	-5.159E-02	4.199E-02	3.229E-02	2.142E-02	NOT IDENT.
TA-182	-3.779E-02	1.543E-01	1.304E-01	7.873E-02	FAIL ABUN
IR-192	4.505E-03	2.446E-02	2.215E-02	1.248E-02	FAIL ABUN
HG-203	9.918E-03	2.642E-02	2.441E-02	1.348E-02	NOT IDENT.
BI-207	-4.709E-03	3.942E-02	3.416E-02	2.011E-02	FAIL ABUN
PB-211	-3.488E-01	5.193E-01	4.078E-01	2.649E-01	NOT IDENT.
BI-212	1.277E+00	7.380E-01	4.282E-01	3.765E-01	FAIL ABUN
RN-219	6.731E-02	2.788E-01	2.482E-01	1.422E-01	FAIL ABUN
RA-223	-2.402E-01	4.873E-01	3.632E-01	2.486E-01	FAIL ABUN
AC-227	1.313E-02	1.666E-01	1.526E-01	8.500E-02	NOT IDENT.
TH-227	1.313E-02	1.666E-01	1.526E-01	8.500E-02	NOT IDENT.
TH-229	-8.592E-02	3.476E-01	3.208E-01	1.773E-01	FAIL ABUN
PA-231	6.629E-01	9.412E-01	8.816E-01	4.802E-01	NOT IDENT.
TH-231	-2.402E-01	4.873E-01	3.632E-01	2.486E-01	FAIL ABUN
PA-233	-8.573E-03	4.239E-02	3.749E-02	2.163E-02	NOT IDENT.
PA-234	4.678E-02	2.145E-01	1.859E-01	1.094E-01	NOT IDENT.
PA-234M	-7.511E-01	3.581E+00	2.972E+00	1.827E+00	NOT IDENT.
TH-234	7.533E-01	6.966E-01	6.715E-01	3.554E-01	FAIL ABUN
U-238	7.533E-01	6.966E-01	6.715E-01	3.554E-01	FAIL ABUN
NP-239	-1.951E-03	2.473E-01	2.233E-01	1.262E-01	NOT IDENT.
AM-241	-1.758E-02	6.864E-02	6.430E-02	3.502E-02	NOT IDENT.
CM-247	-2.201E-03	2.555E-02	2.222E-02	1.304E-02	NOT IDENT.
CF-249	1.614E-02	2.664E-02	2.440E-02	1.359E-02	NOT IDENT.

CF-251

-1.029E-02

8.264E-02

7.722E-02

4.217E-02 NOT IDENT.

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

ENERGY	MDA COUNTS
46.54	227.8609
49.72	237.8870
57.36	0.0000
59.54	303.6005
63.29	330.7689
63.29	330.7689
64.28	323.6351
67.75	354.8553
69.67	322.4789
70.83	341.2259
72.81	368.1804
72.87	368.2271
72.87	368.2271
74.82	352.0917
74.82	352.0917
74.82	352.0917
74.97	352.1985
77.11	353.7117
77.11	353.7117
77.11	353.7117
79.69	295.5794
79.80	295.6431
80.12	311.0754
80.19	311.1174
80.57	343.3949
81.00	378.8115
81.07	378.8626
81.07	378.8626
83.79	300.9759
83.79	300.9759
85.43	278.7940
86.48	381.1943
86.55	381.2433
86.79	381.4091
86.94	381.5166
87.57	297.9357
88.03	298.1856
88.47	298.4252
89.96	299.2278
91.11	299.8437
92.59	300.6286
92.59	300.6286
93.35	301.0299
94.67	301.7237
94.87	231.8541
94.87	231.8541
95.86	258.9279
97.43	287.9466
98.44	245.8840
99.53	244.2297
100.11	238.1444
103.18	292.3123
103.37	277.5714
105.31	248.6905
106.12	272.4271
109.28	231.0183
111.00	240.2217
111.76	235.1369
116.30	220.5601
117.23	220.8693
121.12	243.9290
121.78	233.2658
122.06	224.6377
123.07	244.6263
131.20	277.3016
133.52	222.7758
136.00	246.8865

136.47	248.1574
140.51	222.6523
140.51	0.0000
143.76	223.6078
144.24	228.2470
144.24	228.2470
145.44	268.0163
152.43	238.6041
153.25	214.9648
154.21	225.4711
154.21	225.4711
156.02	222.5548
158.56	223.2510
159.00	214.2061
162.66	230.1147
163.33	215.3304
165.86	205.5844
176.60	212.2522
177.52	210.7178
181.07	211.5582
184.41	219.4200
185.72	233.9105
193.51	218.0143
197.04	194.6149
205.31	204.4263
210.85	178.2859
215.65	186.4485
222.11	191.3041
227.38	183.9511
228.16	197.9621
228.18	197.9670
235.69	210.1678
235.96	208.7285
235.96	208.7285
238.63	366.1721
238.63	366.1721
240.99	220.9259
242.00	233.8724
244.70	153.2889
252.40	152.2616
252.80	148.5314
256.23	148.0281
256.23	148.0281
260.90	0.0000
264.66	125.4003
268.22	134.9820
269.46	147.7917
269.46	147.7917
271.23	149.1635
273.65	163.3321
276.40	135.1337
277.37	126.5464
277.60	128.5028
278.00	122.7464
279.20	133.5085
279.54	142.2560
280.46	164.6356
283.69	117.4902
284.31	130.1785
285.41	143.9057
285.90	0.0000
287.50	143.1734
293.27	0.0000
295.22	131.3133
295.96	128.6435
298.57	141.4819
299.98	138.4904
299.98	138.4904
300.09	130.6318
300.09	130.6318
300.13	130.6358
301.36	115.9055
302.85	128.1512
304.50	145.0934
304.50	145.0934
304.85	145.1315
308.46	109.8923
311.90	119.1119

316.51	120.5200
319.41	115.7894
320.08	118.8420
323.87	124.9828
323.87	124.9828
328.76	126.6345
333.37	104.8728
334.37	113.0203
334.37	113.0203
338.28	118.3961
338.28	118.3961
338.32	118.3997
338.32	118.3997
338.32	118.3997
340.48	113.5125
340.55	113.5193
344.28	125.1983
351.06	105.1657
351.93	105.2286
356.01	83.5997
364.49	87.5849
366.42	115.5547
383.85	93.9262
388.16	85.8150
388.63	90.0286
391.69	102.7911
400.66	86.4969
401.81	93.9487
402.40	98.2080
404.85	107.8754
410.95	99.7904
414.70	79.8031
423.72	97.3568
427.09	76.1135
427.87	79.3657
433.94	67.8113
453.88	95.8217
463.37	84.2951
468.07	71.3447
473.00	86.9487
476.78	76.1005
477.60	69.5148
487.02	68.7623
492.35	0.0000
497.08	74.7095
511.00	86.4911
514.00	82.5006
527.90	0.0000
529.87	0.0000
531.02	97.1438
537.26	75.5916
546.56	0.0000
563.25	63.6481
569.33	67.5357
569.50	67.5410
569.70	70.3241
583.19	55.8750
600.60	84.4937
602.73	61.7531
604.72	70.5432
609.32	83.8873
609.32	83.8873
610.33	83.9264
614.28	55.1062
618.01	59.6147
621.93	61.6151
621.93	61.6151
633.25	48.5882
635.95	61.9991
636.99	55.3478
645.85	57.4790
657.76	43.3312
661.66	57.8701
661.66	57.8701
664.57	0.0000
666.33	70.8716
666.50	70.8770
677.62	58.2612

685.70	47.7403
695.00	51.8367
696.49	67.5260
696.51	67.5260
697.00	65.5818
702.65	54.9418
706.68	53.0666
711.68	73.8519
720.70	79.0605
721.93	0.0000
722.78	74.1797
722.91	74.1833
723.31	64.3033
724.19	61.0268
727.33	68.3683
733.00	51.3084
735.93	41.4256
739.50	57.7451
747.24	47.9332
752.31	43.0241
753.82	47.0539
756.73	63.1430
763.94	76.3822
765.81	84.4819
766.42	72.4307
777.92	60.6211
778.90	47.5037
783.70	49.6149
785.37	54.7106
795.86	46.7873
801.95	49.9499
810.29	57.2592
810.76	62.3820
815.77	42.0060
818.51	46.1492
832.01	55.6479
834.85	49.5141
836.80	0.0000
846.77	52.8303
856.80	69.6483
860.56	44.7574
871.09	59.5452
873.19	45.9980
875.33	0.0000
879.36	40.8567
880.51	38.7768
883.24	47.2050
884.68	34.6339
889.28	43.0970
898.04	48.4954
911.20	49.4136
911.20	49.4136
911.20	49.4136
926.50	48.9536
937.49	45.9248
944.13	51.3738
946.00	43.9088
949.00	40.7350
962.29	35.8838
964.08	43.0850
966.15	52.0952
968.97	42.0726
968.97	42.0726
968.97	42.0726
983.53	46.5998
996.26	55.4874
1001.03	51.2100
1004.73	54.5410
1037.84	50.4972
1038.76	0.0000
1048.07	45.1260
1050.41	47.9206
1050.41	47.9206
1063.66	53.6599
1085.87	37.2445
1099.45	58.8882
1112.07	45.0273
1115.54	59.5598

1120.29	48.3566
1120.29	48.3566
1120.55	49.9706
1121.30	59.6553
1131.51	0.0000
1173.23	59.1493
1177.93	59.2249
1189.05	46.9464
1204.77	68.3074
1221.41	67.6416
1231.02	58.1226
1235.36	62.0677
1238.28	51.4386
1260.41	0.0000
1271.85	35.2397
1274.44	35.2632
1274.54	34.2837
1291.59	34.4303
1298.22	0.0000
1312.11	33.6168
1332.49	24.8423
1365.19	18.0271
1368.63	0.0000
1384.29	33.2001
1408.01	19.2211
1457.56	0.0000
1460.82	12.2871
1489.16	9.2739
1505.03	22.7493
1596.21	20.0344
1620.50	7.4184
1678.03	0.0000
1690.97	10.7503
1764.49	3.2719
1764.49	3.2719
1770.23	1.6377
1771.35	4.9142
1791.20	0.0000
1836.06	7.5804

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051014

Total Uranium Activity	2.2682E+00	ug/g
Total Uranium Counting Unc.	2.0732E+00	ug/g
Total Uranium Tpu	1.0578E-06	ug/g
Total Uranium Mda	1.9984E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID : G248051014
*  ANALYST       : MXR1            DETECTOR  : GAM07
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00 COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 20:41:34.29 SAMPLE ALQT: 170.050 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 4.892E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 7.599E-01
GROSS GAMMA MDA     (pCi/GRAM ) : 2.008E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 9.727E-01

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 22:43:10.71

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051015.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:02
Sample ID          : G248051015 Sample quantity : 1.34190E+02 GRAM
Detector name      : GAM14 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.51*	177	532	1.58	126.57	122	10	2.45E-02	26.0	
2	1	74.87*	524	631	1.52	149.28	143	19	7.27E-02	10.0	2.88E+00
3	1	77.18*	746	569	1.42	153.88	143	19	1.04E-01	7.3	
4	1	87.19	358	476	1.55	173.88	163	31	4.98E-02	12.2	3.70E+00
5	1	89.89	179	400	1.33	179.28	163	31	2.49E-02	21.8	
6	1	92.84*	367	420	1.52	185.18	163	31	5.10E-02	12.2	
7	0	144.33*	61	290	2.30	288.06	284	8	8.48E-03	51.1	
8	0	186.07*	175	344	1.71	371.45	367	10	2.43E-02	22.0	
9	0	209.21	109	296	0.80	417.69	414	10	1.52E-02	31.0	
10	2	238.55*	1227	235	1.31	476.32	471	18	1.70E-01	3.7	1.04E+00
11	2	241.59	269	286	1.87	482.39	471	18	3.73E-02	16.4	
12	0	270.81	142	333	1.88	540.80	534	16	1.97E-02	29.9	
13	0	294.90	434	238	1.44	588.93	581	13	6.03E-02	8.7	
14	0	299.71	75	186	1.12	598.56	595	9	1.04E-02	34.7	
15	0	338.20*	269	179	1.47	675.48	670	13	3.74E-02	12.0	
16	0	351.88	683	134	1.50	702.81	698	10	9.48E-02	5.0	
17	0	462.81	58	174	0.83	924.53	919	15	8.07E-03	51.0	
18	0	510.54*	125	136	1.89	1019.94	1011	17	1.73E-02	26.4	
19	0	568.79*	126	104	3.18	1136.39	1129	13	1.75E-02	19.6	
20	0	583.08*	398	75	1.62	1164.96	1157	15	5.53E-02	6.9	
21	0	609.42	445	85	1.64	1217.61	1212	12	6.18E-02	6.3	
22	0	661.86	504	109	1.54	1322.46	1316	13	6.99E-02	6.2	
23	0	727.70	112	51	1.38	1454.09	1449	12	1.56E-02	15.3	
24	0	836.65	29	49	1.14	1671.96	1667	9	4.08E-03	46.9	
25	0	861.04	78	33	1.29	1720.74	1715	13	1.08E-02	18.9	
26	0	911.66*	292	46	1.69	1821.97	1815	16	4.06E-02	8.0	
27	0	969.49*	128	77	1.59	1937.62	1931	16	1.78E-02	18.0	
28	0	1121.17	72	73	2.07	2241.02	2231	13	1.00E-02	26.9	
29	0	1379.34	30	26	0.94	2757.57	2751	15	4.23E-03	40.8	
30	0	1461.33*	1136	16	1.94	2921.64	2911	22	1.58E-01	3.1	
31	0	1765.17*	66	7	2.09	3529.81	3523	13	9.14E-03	15.5	

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


```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051015.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:02
Sample ID        : G248051015 Sample quantity : 134.19 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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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	+	1460.82	*	2.463E+01	2.358E+00	4.994E-01	3.626E-02	49.316
CD-109	+	88.03	*	3.953E+00	1.023E+00	1.023E+00	8.945E-02	3.864
SN-126	+	64.28		1.104E+00	5.944E-01	6.648E-01	9.474E-02	1.661
	+	86.94		1.599E+00	7.675E-01	4.170E-01	1.725E-01	3.833
	+	87.57	*	3.845E-01	9.948E-02	9.983E-02	8.687E-03	3.851
BA-137M	+	661.66	*	6.356E-01	8.732E-02	5.512E-02	3.277E-03	11.531
CS-137	+	661.66	*	6.714E-01	9.231E-02	5.823E-02	3.476E-03	11.531
CE-141	+	145.44	*	7.113E-02	7.282E-02	9.946E-02	6.348E-03	0.715
TL-208		277.37		3.803E-01	4.054E-01	6.201E-01	6.697E-02	0.613
	+	583.19	*	4.749E-01	7.347E-02	4.773E-02	3.257E-03	9.950
	+	860.56		8.980E-01	3.494E-01	3.568E-01	3.356E-02	2.517
BI-211		72.87		1.123E+01	3.453E+00	5.350E+00	3.943E-01	2.100
	+	351.06	*	3.539E+00	4.175E-01	3.029E-01	1.920E-02	11.684
PB-212	+	74.82		2.341E+00	5.505E-01	5.050E-01	6.208E-02	4.635
	+	77.11		1.933E+00	3.180E-01	2.932E-01	2.258E-02	6.592
	+	238.63	*	1.413E+00	1.465E-01	9.114E-02	6.696E-03	15.506
	+	300.09		1.344E+00	9.403E-01	1.143E+00	9.614E-02	1.176
BI-214	+	609.32	*	1.031E+00	1.535E-01	9.555E-02	7.621E-03	10.788
	+	1120.29		8.902E-01	4.855E-01	4.842E-01	4.513E-02	1.839
	+	1764.49		1.137E+00	3.597E-01	3.101E-01	1.860E-02	3.666
PB-214	+	74.82		4.149E+00	9.473E-01	8.951E-01	9.781E-02	4.635
	+	77.11		3.407E+00	6.271E-01	5.169E-01	5.832E-02	6.592
	+	242.00		1.879E+00	6.367E-01	5.539E-01	4.522E-02	3.392
	+	295.22		1.380E+00	2.699E-01	1.987E-01	1.737E-02	6.947
	+	351.93	*	1.284E+00	1.673E-01	1.130E-01	9.495E-03	11.362
RA-224	+	240.99	*	3.322E+00	1.109E+00	9.763E-01	5.612E-02	3.403
RA-226	+	609.32	*	1.031E+00	1.535E-01	9.555E-02	7.621E-03	10.788
	+	1120.29		8.902E-01	4.855E-01	4.842E-01	4.513E-02	1.839
	+	1764.49		1.137E+00	3.597E-01	3.101E-01	1.860E-02	3.666
AC-228	+	338.32		1.551E+00	7.406E-01	3.524E-01	1.453E-01	4.402
	+	911.20	*	1.721E+00	3.448E-01	1.925E-01	2.325E-02	8.938
	+	968.97		1.303E+00	5.671E-01	4.187E-01	1.021E-01	3.111
RA-228	+	338.32		1.551E+00	7.406E-01	3.524E-01	1.453E-01	4.402
	+	911.20	*	1.721E+00	3.448E-01	1.925E-01	2.325E-02	8.938

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	968.97		1.303E+00	5.671E-01	4.187E-01	1.021E-01	3.111
	+	74.82		2.341E+00	5.019E-01	5.050E-01	3.841E-02	4.635
	+	77.11		1.933E+00	3.180E-01	2.932E-01	2.258E-02	6.592
	+	238.63	*	1.413E+00	1.465E-01	9.114E-02	6.696E-03	15.506
TH-232	+	300.09		1.344E+00	1.241E+00	1.143E+00	6.960E-01	1.176
	+	338.32		1.551E+00	3.840E-01	3.524E-01	2.025E-02	4.402
	+	911.20	*	1.721E+00	3.448E-01	1.925E-01	2.325E-02	8.938
	+	968.97		1.303E+00	5.671E-01	4.187E-01	1.021E-01	3.111
TH-234	+	63.29	*	2.865E+00	1.570E+00	1.686E+00	2.965E-01	1.699
	+	92.59		3.320E+00	1.089E+00	8.466E-01	1.861E-01	3.922
U-235	+	89.96		2.007E+00	1.006E+00	1.047E+00	2.576E-01	1.916
	+	93.35		2.508E+00	8.402E-01	6.370E-01	1.464E-01	3.937
	+	143.76	*	2.117E-01	2.189E-01	2.966E-01	4.707E-02	0.714
	+	163.33		1.465E-01	4.222E-01	6.807E-01	1.135E-01	0.215
NP-237	+	185.72		1.312E-01	5.815E-02	6.532E-02	3.578E-03	2.009
	+	205.31		8.331E-02	4.958E-01	7.325E-01	1.239E-01	0.114
	+	86.48	*	1.147E+00	3.821E-01	3.004E-01	6.806E-02	3.820
	+	95.86		6.788E-01	9.783E-01	1.411E+00	3.360E-01	0.481
U-238	+	63.29	*	2.865E+00	1.570E+00	1.686E+00	2.965E-01	1.699
	+	92.59		3.320E+00	8.550E-01	8.466E-01	7.069E-02	3.922
ANH-511	+	511.00	*	1.129E-01	5.994E-02	4.279E-02	2.514E-03	2.639

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	1.243E-01	3.230E-01	5.424E-01	3.654E-02	0.229
NA-22		1274.54	*	-1.915E-02	3.792E-02	5.882E-02	3.842E-03	-0.326
NA-24		1368.63	*	5.331E+00	3.792E-02	Half-Life too short		
SC-46		889.28	*	-1.318E-03	3.947E-02	6.476E-02	5.984E-03	-0.020
V-48	+	1120.55		1.547E-01	8.373E-02	1.182E-01	7.656E-03	1.308
		944.13		5.959E-01	9.392E-01	1.651E+00	1.475E-01	0.361
		983.53	*	-4.219E-04	7.425E-02	1.236E-01	1.050E-02	-0.003
		1312.11		5.790E-02	7.912E-02	1.409E-01	9.739E-03	0.411
CR-51		320.08	*	1.540E-01	4.064E-01	6.806E-01	4.391E-02	0.226
MN-54		834.85	*	3.904E-02	3.985E-02	6.372E-02	5.345E-03	0.613
CO-56		846.77	*	2.032E-02	3.703E-02	6.480E-02	5.555E-03	0.314
		1037.84		-8.945E-02	2.937E-01	4.739E-01	3.922E-02	-0.189
		1238.28		1.540E-01	9.438E-02	1.726E-01	1.121E-02	0.892
		1771.35		-7.537E-01	3.318E-01	3.359E-01	2.005E-02	-2.244
CO-57		122.06	*	1.407E-02	2.442E-02	4.018E-02	2.858E-03	0.350
		136.47		2.015E-01	1.971E-01	3.285E-01	2.408E-02	0.613
CO-58		810.76	*	-2.888E-02	3.846E-02	5.708E-02	4.593E-03	-0.506
FE-59		1099.45	*	-1.838E-02	9.077E-02	1.476E-01	1.136E-02	-0.125
		1291.59		-2.899E-02	1.070E-01	1.702E-01	1.386E-02	-0.170
CO-60		1173.23		2.635E-02	3.918E-02	6.878E-02	3.788E-03	0.383
		1332.49	*	2.428E-02	3.257E-02	5.798E-02	4.132E-03	0.419
ZN-65		1115.54	*	-2.212E-02	9.445E-02	1.302E-01	8.560E-03	-0.170
SE-75		121.12		2.720E-02	1.296E-01	2.103E-01	2.097E-02	0.129

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		136.00		1.500E-02	3.856E-02	6.286E-02	4.153E-03	0.239
		264.66	*	-4.987E-03	4.710E-02	6.790E-02	3.988E-03	-0.073
		279.54		-6.202E-02	1.068E-01	1.684E-01	1.062E-02	-0.368
		400.66		-1.181E-02	2.471E-01	4.063E-01	3.605E-02	-0.029
SR-85		514.00	*	6.529E-02	4.290E-02	6.838E-02	4.022E-03	0.955
Y-88		898.04		4.007E-03	3.994E-02	6.735E-02	6.344E-03	0.059
		1836.06	*	-5.830E-03	3.064E-02	4.738E-02	2.691E-03	-0.123
Y-91		1204.77	*	-1.546E+01	2.251E+01	3.496E+01	2.033E+00	-0.442
NB-94		702.65	*	2.945E-02	3.204E-02	5.533E-02	3.588E-03	0.532
		871.09		1.035E-02	3.190E-02	5.484E-02	4.909E-03	0.189
NB-95		765.81	*	2.113E-02	4.183E-02	6.999E-02	5.154E-03	0.302
NB-95M		235.69	*	5.422E-01	1.607E-01	2.624E-01	1.968E-02	2.066
ZR-95		724.19		-4.015E-02	1.060E-01	1.407E-01	1.081E-02	-0.285
		756.73	*	4.522E-02	6.922E-02	1.176E-01	9.750E-03	0.384
MO-99		140.51		-8.483E+00	5.286E+01	7.326E+01	1.686E+01	-0.116
		181.07		2.477E+01	4.267E+01	6.426E+01	1.129E+01	0.385
		366.42		1.232E+02	2.023E+02	3.460E+02	1.942E+01	0.356
		739.50	*	-5.278E+00	2.470E+01	3.897E+01	5.819E+00	-0.135
		777.92		-2.726E+01	7.442E+01	1.154E+02	8.701E+00	-0.236
TC-99M		140.51	*	-5.056E+13	7.442E+01	Half-Life	too short	
RU-103		497.08	*	1.014E-02	3.968E-02	6.605E-02	8.220E-03	0.154
	+	610.33		1.127E+01	2.215E+00	2.691E+00	4.069E-01	4.187
RH-106		621.93	*	-2.809E-01	2.983E-01	4.435E-01	5.194E-02	-0.633
		1050.41		8.329E-01	2.517E+00	4.299E+00	3.266E-01	0.194
RU-106		621.93	*	-2.809E-01	2.970E-01	4.435E-01	2.652E-02	-0.633
		1050.41		8.329E-01	2.517E+00	4.299E+00	3.266E-01	0.194
AG-108M		433.94	*	-2.406E-03	2.898E-02	4.742E-02	2.869E-03	-0.051
		614.28		9.641E-03	3.583E-02	5.176E-02	3.304E-03	0.186
		722.91		-2.797E-02	4.064E-02	5.157E-02	3.667E-03	-0.542
AG-110M		657.76	*	1.599E-02	3.804E-02	5.568E-02	3.517E-03	0.287
		677.62		5.065E-02	2.654E-01	4.367E-01	2.837E-02	0.116
		706.68		-7.119E-02	2.093E-01	3.285E-01	2.255E-02	-0.217
		763.94		-2.379E-01	1.664E-01	2.339E-01	1.781E-02	-1.017
		884.68		-1.005E-02	4.488E-02	7.358E-02	6.937E-03	-0.137
		937.49		-6.283E-02	1.098E-01	1.743E-01	1.622E-02	-0.361
		1384.29		5.940E-02	1.431E-01	2.192E-01	1.613E-02	0.271
		1505.03		-6.984E-02	2.858E-01	4.511E-01	3.099E-02	-0.155
SN-113		391.69	*	-4.281E-02	4.321E-02	6.703E-02	3.922E-03	-0.639
CD-115		260.90		-2.776E-04	4.321E-02	Half-Life	too short	
		492.35		-1.354E-05	4.321E-02	Half-Life	too short	
		527.90	*	-2.056E-05	4.321E-02	Half-Life	too short	
SN-117M		156.02		9.830E-01	2.602E+00	4.226E+00	2.433E-01	0.233
		158.56	*	-1.017E-02	6.299E-02	1.001E-01	5.663E-03	-0.102
TE-123M		159.00	*	-2.330E-02	2.860E-02	4.416E-02	2.526E-03	-0.528
SB-124		602.73		5.306E-03	4.018E-02	5.988E-02	3.583E-03	0.089
		645.85		1.077E-01	4.555E-01	7.528E-01	5.014E-02	0.143
		722.78		-3.027E-01	4.231E-01	5.346E-01	3.748E-02	-0.566
		1690.97	*	-4.792E-02	7.292E-02	1.020E-01	6.922E-03	-0.470
SB-125		427.87	*	-1.173E-02	8.242E-02	1.344E-01	7.864E-03	-0.087

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	463.37		4.649E-01	4.753E-01	4.834E-01	3.228E-02	0.962
		600.60		2.308E-02	1.673E-01	2.746E-01	1.886E-02	0.084
		635.95		-1.269E-01	2.685E-01	4.189E-01	2.909E-02	-0.303
TE-125M		109.28	*	-6.966E+00	9.885E+00	1.549E+01	1.482E+00	-0.450
I-126		388.63		5.992E-02	1.871E-01	3.144E-01	1.717E-02	0.191
		666.33	*	1.530E-01	2.869E-01	4.241E-01	2.547E-02	0.361
		753.82		1.069E+00	1.965E+00	3.314E+00	2.384E-01	0.323
SB-126		414.70		-1.770E-02	8.962E-02	1.460E-01	8.099E-03	-0.121
		666.50		4.752E-02	9.892E-02	1.455E-01	8.741E-03	0.327
		695.00		4.604E-02	8.284E-02	1.400E-01	8.937E-03	0.329
		697.00		-2.999E-01	3.096E-01	4.588E-01	2.941E-02	-0.654
		720.70	*	8.403E-03	1.722E-01	2.625E-01	1.767E-02	0.032
		856.80		-4.915E-01	5.709E-01	7.269E-01	6.344E-02	-0.676
SB-127		252.40		-1.664E+00	7.085E+00	1.167E+01	4.821E+00	-0.143
		473.00		-2.116E+00	2.735E+00	4.225E+00	5.102E-01	-0.501
		685.70	*	-9.911E-01	2.030E+00	3.126E+00	3.395E-01	-0.317
		783.70		5.200E+00	5.873E+00	1.010E+01	1.279E+00	0.515
I-131		80.19		7.235E+00	8.182E+00	8.901E+00	7.171E-01	0.813
		284.31		-1.709E-01	1.796E+00	2.980E+00	1.937E-01	-0.057
		364.49	*	-5.698E-02	1.461E-01	2.364E-01	1.501E-02	-0.241
		636.99		1.366E+00	1.971E+00	3.365E+00	2.254E-01	0.406
TE-132		49.72		-3.644E+01	2.507E+01	3.840E+01	4.036E+00	-0.949
		111.76		-5.462E+00	6.576E+01	1.057E+02	1.175E+01	-0.052
		116.30		-1.485E+01	5.716E+01	9.115E+01	1.005E+01	-0.163
		228.16	*	-1.686E+00	1.382E+00	2.159E+00	3.279E-01	-0.781
BA-133		81.00		5.975E-02	1.266E-01	1.336E-01	2.031E-02	0.447
		276.40		5.131E-01	3.738E-01	5.813E-01	7.326E-02	0.883
		302.85		2.067E-01	1.387E-01	2.190E-01	2.501E-02	0.944
		356.01	*	-1.317E-02	4.577E-02	6.422E-02	7.198E-03	-0.205
		383.85		-1.702E-01	2.729E-01	4.331E-01	4.549E-02	-0.393
I-133		529.87	*	-3.898E-02	2.729E-01	Half-Life	too short	
		875.33		2.936E-01	2.729E-01	Half-Life	too short	
		1298.22		1.596E+00	2.729E-01	Half-Life	too short	
CS-134		563.25		3.414E-01	3.765E-01	5.798E-01	3.525E-02	0.589
	+	569.33		8.284E-01	3.289E-01	4.540E-01	2.785E-02	1.825
		604.72		-1.964E-02	3.422E-02	4.480E-02	2.694E-03	-0.438
		795.86	*	1.233E-01	4.907E-02	9.184E-02	7.229E-03	1.342
		801.95		-1.901E-01	3.929E-01	6.066E-01	4.820E-02	-0.313
		1365.19		-1.028E+00	1.074E+00	1.505E+00	1.140E-01	-0.683
CS-135		268.22	*	1.868E-01	1.679E-01	2.595E-01	1.991E-02	0.720
I-135		546.56		8.900E+12	1.679E-01	Half-Life	too short	
	+	836.80		9.906E+13	1.679E-01	Half-Life	too short	
		1038.76		-2.310E+13	1.679E-01	Half-Life	too short	
		1131.51		-1.025E+13	1.679E-01	Half-Life	too short	
		1260.41	*	-1.793E+13	1.679E-01	Half-Life	too short	
		1457.56		1.036E+15	1.679E-01	Half-Life	too short	
		1678.03		2.596E+13	1.679E-01	Half-Life	too short	
		1791.20		3.021E+13	1.679E-01	Half-Life	too short	
CS-136		153.25		1.553E-01	9.851E-01	1.587E+00	1.285E-01	0.098

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	176.60			-1.373E-01	5.924E-01	9.224E-01	6.229E-02	-0.149
	273.65			-2.338E-01	6.737E-01	9.560E-01	6.562E-02	-0.245
	340.55			6.580E-01	1.961E-01	3.346E-01	2.082E-02	1.967
	818.51			5.995E-02	7.444E-02	1.334E-01	1.088E-02	0.449
	1048.07	*		-3.217E-02	1.258E-01	2.043E-01	1.643E-02	-0.157
	1235.36			-1.104E+00	7.192E-01	1.029E+00	1.037E-01	-1.073
CE-139	165.86	*		-2.064E-02	2.946E-02	4.565E-02	2.451E-03	-0.452
BA-140	162.66			3.270E-01	9.329E-01	1.507E+00	9.592E-02	0.217
	304.85			8.443E-01	1.565E+00	2.328E+00	6.651E-01	0.363
	423.72			-1.651E+00	2.157E+00	3.263E+00	1.052E+00	-0.506
	537.26	*		-2.061E-01	2.902E-01	4.335E-01	1.445E-01	-0.476
LA-140	328.76			5.402E-01	3.438E-01	6.090E-01	3.952E-02	0.887
	487.02			1.332E-01	1.523E-01	2.638E-01	1.735E-02	0.505
	815.77			-1.367E-01	3.375E-01	5.459E-01	5.005E-02	-0.250
	1596.21	*		5.235E-03	8.807E-02	1.447E-01	9.592E-03	0.036
CE-143	57.36			-5.158E-04	8.807E-02	Half-Life	too short	
	293.27	*		4.889E-03	8.807E-02	Half-Life	too short	
	664.57			4.662E-02	8.807E-02	Half-Life	too short	
	721.93			-4.374E-05	8.807E-02	Half-Life	too short	
CE-144	80.12			3.217E+00	3.375E+00	3.688E+00	2.936E-01	0.872
	133.52	*		-6.358E-02	1.954E-01	3.095E-01	4.412E-02	-0.205
PM-144	476.78			1.680E-02	6.108E-02	1.019E-01	6.979E-03	0.165
	618.01			-3.313E-03	2.956E-02	4.755E-02	3.007E-03	-0.070
	696.49	*		-2.198E-02	3.295E-02	5.024E-02	3.220E-03	-0.437
PR-144	696.51	*		-1.636E+00	2.471E+00	3.769E+00	2.414E-01	-0.434
	1489.16			-3.065E+00	1.022E+01	1.577E+01	1.089E+00	-0.194
PM-146	453.88	*		-1.285E-02	3.784E-02	6.067E-02	5.093E-03	-0.212
	633.25			-9.631E-01	1.395E+00	2.055E+00	7.746E-01	-0.469
	735.93			1.135E-02	1.280E-01	2.024E-01	5.577E-02	0.056
	747.24			2.794E-02	8.959E-02	1.482E-01	2.036E-02	0.189
ND-147	91.11	+		7.978E-01	3.563E-01	6.123E-01	5.631E-02	1.303
	319.41			2.171E+00	4.013E+00	6.837E+00	3.969E-01	0.318
	531.02	*		9.409E-03	6.597E-01	1.078E+00	1.464E-01	0.009
PM-149	285.90	*		1.834E-07	6.597E-01	Half-Life	too short	
EU-152	121.78			4.143E-02	6.992E-02	1.150E-01	9.920E-03	0.360
	244.70			4.934E-01	3.232E-01	5.132E-01	2.957E-02	0.961
	344.28	*		-1.323E-02	1.008E-01	1.434E-01	9.269E-03	-0.092
	778.90			-1.699E-01	2.395E-01	3.582E-01	2.705E-02	-0.474
	964.08			5.196E-01	3.030E-01	5.111E-01	4.456E-02	1.017
	1085.87			-4.302E-02	3.359E-01	5.498E-01	3.878E-02	-0.078
	1112.07			1.902E-02	3.195E-01	4.590E-01	3.039E-02	0.041
	1408.01			1.408E-01	1.821E-01	3.240E-01	2.284E-02	0.435
GD-153	69.67			-3.871E-01	1.893E+00	2.482E+00	1.775E-01	-0.156
	97.43	*		2.427E-02	8.815E-02	1.263E-01	1.013E-02	0.192
	103.18			-5.702E-02	1.056E-01	1.670E-01	1.289E-02	-0.341
EU-154	123.07			9.918E-03	4.990E-02	8.092E-02	8.268E-03	0.123
	723.31			-1.227E-01	1.847E-01	2.351E-01	1.845E-02	-0.522
	873.19			7.750E-02	2.719E-01	4.655E-01	5.662E-02	0.166
	996.26			-3.319E-01	3.185E-01	4.659E-01	8.073E-02	-0.713

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	+	1004.73		1.428E-01	2.103E-01	3.685E-01	4.182E-02	0.387
		1274.44	*	-6.008E-02	1.067E-01	1.641E-01	1.622E-02	-0.366
		86.55		4.668E-01	1.209E-01	1.779E-01	1.544E-02	2.624
		105.31	*	3.270E-02	1.004E-01	1.640E-01	1.268E-02	0.199
TB-160	+	86.79		1.276E+00	3.301E-01	4.824E-01	4.157E-02	2.645
		197.04		1.522E-01	5.228E-01	8.893E-01	4.929E-02	0.171
		215.65		3.040E-01	7.569E-01	1.182E+00	6.666E-02	0.257
		298.57	+	1.952E-01	1.361E-01	1.981E-01	1.155E-02	0.986
HO-166M	+	879.36	*	-3.936E-02	1.258E-01	2.045E-01	1.857E-02	-0.193
		962.29		6.000E-01	5.649E-01	9.070E-01	7.926E-02	0.662
		966.15		5.180E-01	2.528E-01	4.270E-01	3.713E-02	1.213
		1177.93		7.682E-02	3.245E-01	5.481E-01	3.044E-02	0.140
		1271.85		-4.831E-01	6.491E-01	9.777E-01	6.348E-02	-0.494
		80.57		1.889E-01	3.609E-01	3.830E-01	3.065E-02	0.493
		184.41		6.848E-02	3.963E-02	6.311E-02	3.452E-03	1.085
		280.46		-5.333E-02	7.880E-02	1.271E-01	7.414E-03	-0.419
		410.95		2.026E-01	2.487E-01	4.271E-01	2.363E-02	0.474
		711.68	*	-3.662E-02	5.502E-02	8.336E-02	5.509E-03	-0.439
		752.31		-2.157E-01	2.554E-01	3.780E-01	2.711E-02	-0.571
		810.29		-5.443E-03	5.489E-02	8.723E-02	6.993E-03	-0.062
TA-182		67.75		-4.967E-02	1.212E-01	1.572E-01	1.105E-02	-0.316
		100.11		2.025E-01	1.859E-01	2.767E-01	2.177E-02	0.732
		152.43		8.695E-02	3.458E-01	5.594E-01	3.298E-02	0.155
		222.11		-5.375E-02	3.249E-01	5.414E-01	3.071E-02	-0.099
IR-192	+	1121.30	+	4.255E-01	2.303E-01	3.239E-01	2.093E-02	1.313
		1189.05		-1.020E-01	2.795E-01	4.454E-01	2.522E-02	-0.229
		1221.41	*	1.327E-01	1.931E-01	3.361E-01	2.010E-02	0.395
		1231.02		1.846E-01	4.708E-01	8.004E-01	4.865E-02	0.231
HG-203	+	295.96		1.052E+00	1.943E-01	2.708E-01	1.605E-02	3.885
		308.46		-9.274E-02	8.769E-02	1.371E-01	8.073E-03	-0.676
		316.51	*	-1.682E-02	3.496E-02	5.670E-02	3.309E-03	-0.297
		468.07		5.619E-03	7.363E-02	1.053E-01	7.012E-03	0.053
BI-207		70.83		1.431E-01	1.422E+00	2.032E+00	3.121E-01	0.070
		72.87		2.936E+00	9.787E-01	1.398E+00	2.080E-01	2.100
		279.20	*	-8.140E-03	3.980E-02	6.197E-02	3.813E-03	-0.131
		72.81		6.054E-01	1.972E-01	3.049E-01	2.246E-02	1.986
PB-210	+	74.97		6.747E-01	1.445E-01	2.212E-01	1.665E-02	3.051
		569.70	+	1.282E-01	5.086E-02	7.115E-02	4.245E-03	1.802
		1063.66	*	-2.624E-03	4.717E-02	7.788E-02	5.763E-03	-0.034
		1770.23		4.370E-03	4.648E-01	6.444E-01	3.849E-02	0.007
PB-211	+	46.54	*	1.495E+00	2.130E+00	3.608E+00	2.641E-01	0.414
		404.85	*	-2.288E-01	7.344E-01	1.177E+00	5.641E-01	-0.194
		427.09		2.961E-01	1.368E+00	2.272E+00	1.041E+00	0.130
		832.01		-2.504E-01	9.994E-01	1.388E+00	7.194E-01	-0.180
RN-219	+	727.33	*	2.081E+00	6.807E-01	1.092E+00	1.233E-01	1.905
		785.37		3.728E+00	2.915E+00	5.176E+00	3.958E-01	0.720
		1620.50		2.450E+00	2.158E+00	4.103E+00	2.688E-01	0.597
		271.23	+	7.229E-01	4.361E-01	4.224E-01	3.399E-02	1.712
		401.81	*	1.058E-01	3.944E-01	6.597E-01	8.778E-02	0.160

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		1.353E-01	2.861E-01	3.024E-01	2.434E-02	0.447
		83.79		3.423E-01	1.236E-01	1.908E-01	1.586E-02	1.794
		94.87		1.933E+00	5.199E-01	8.159E-01	6.678E-02	2.370
	+	144.24		7.095E-01	7.268E-01	1.078E+00	8.130E-02	0.658
		154.21		5.819E-03	3.796E-01	6.082E-01	4.250E-02	0.010
AC-227	+	269.46		5.617E-01	3.375E-01	3.202E-01	1.943E-02	1.754
		323.87	*	-6.294E-01	6.699E-01	1.051E+00	1.693E-01	-0.599
	+	338.28		6.157E+00	1.610E+00	2.142E+00	2.189E-01	2.874
		79.69		3.901E+00	1.833E+00	2.036E+00	3.440E-01	1.916
		235.96		1.154E+00	2.167E-01	3.527E-01	2.854E-02	3.270
TH-227		256.23	*	1.594E-01	2.316E-01	3.981E-01	4.069E-02	0.401
	+	299.98		1.478E+00	1.040E+00	1.515E+00	1.668E-01	0.976
		304.50		1.365E+00	1.570E+00	2.398E+00	3.659E-01	0.569
		334.37		-5.844E-01	1.778E+00	2.493E+00	3.541E-01	-0.234
		79.80		4.325E+00	2.425E+00	2.612E+00	5.620E-01	1.656
TH-229		235.96		1.154E+00	2.131E-01	3.527E-01	2.586E-02	3.270
		256.23	*	1.594E-01	2.319E-01	3.981E-01	4.783E-02	0.401
	+	299.98		1.478E+00	1.040E+00	1.515E+00	1.668E-01	0.976
		304.50		1.365E+00	1.570E+00	2.398E+00	3.659E-01	0.569
		334.37		-5.844E-01	1.778E+00	2.493E+00	3.541E-01	-0.234
PA-231		85.43		1.071E+00	2.312E-01	3.601E-01	3.052E-02	2.974
	+	88.47		5.928E-01	1.534E-01	2.314E-01	2.014E-02	2.562
		193.51	*	8.073E-03	4.882E-01	8.226E-01	4.542E-02	0.010
		210.85		1.068E+00	9.365E-01	1.449E+00	8.141E-02	0.737
		283.69	*	-7.063E-02	1.324E+00	2.201E+00	2.890E-01	-0.032
TH-231		301.36		1.068E+00	6.130E-01	9.695E-01	1.004E-01	1.101
		81.07		1.353E-01	2.861E-01	3.024E-01	2.434E-02	0.447
		83.79		3.423E-01	1.236E-01	1.908E-01	1.586E-02	1.794
		94.87		1.933E+00	5.199E-01	8.159E-01	6.678E-02	2.370
	+	144.24		7.095E-01	7.268E-01	1.078E+00	8.130E-02	0.658
PA-233		154.21		5.819E-03	3.796E-01	6.082E-01	4.250E-02	0.010
	+	269.46		5.617E-01	3.375E-01	3.202E-01	1.943E-02	1.754
		323.87	*	-6.294E-01	6.699E-01	1.051E+00	1.693E-01	-0.599
	+	338.28		6.157E+00	1.610E+00	2.142E+00	2.189E-01	2.874
	+	300.13		6.690E-01	4.732E-01	6.876E-01	9.214E-02	0.973
PA-234		311.90	*	5.422E-02	5.865E-02	1.019E-01	6.294E-03	0.532
		340.48		2.500E+00	9.053E-01	1.221E+00	2.831E-01	2.048
		94.67		8.313E-01	2.090E-01	3.072E-01	3.721E-02	2.706
		98.44		5.459E-02	9.850E-02	1.364E-01	7.598E-02	0.400
		111.00		-1.164E-03	1.798E-01	2.899E-01	3.263E-02	-0.004
PA-234M		131.20		1.638E-02	1.025E-01	1.658E-01	1.113E-02	0.099
	+	569.50		1.138E+00	4.515E-01	6.281E-01	3.747E-02	1.812
		733.00		8.689E-03	3.657E-01	5.146E-01	1.111E-01	0.017
		880.51		-2.016E-01	2.448E-01	3.766E-01	3.427E-02	-0.535
		883.24		-1.241E-01	2.690E-01	4.090E-01	2.752E-01	-0.304
PA-234M		926.50		6.769E-02	1.653E-01	2.842E-01	7.233E-02	0.238
		946.00	*	3.657E-02	2.777E-01	4.686E-01	8.858E-02	0.078
		949.00		-9.062E-02	4.193E-01	6.861E-01	6.096E-02	-0.132
		766.42		1.189E+01	1.257E+01	1.922E+01	9.714E+00	0.619

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		4.580E+00	4.369E+00	7.864E+00	7.602E-01	0.582
	99.53			1.235E-01	1.698E-01	2.486E-01	1.964E-02	0.497
	103.37			-4.631E-02	9.536E-02	1.511E-01	1.165E-02	-0.306
	106.12			7.161E-02	7.966E-02	1.326E-01	1.006E-02	0.540
	117.23	*		-2.730E-01	3.939E-01	6.168E-01	4.454E-02	-0.443
	228.18			-2.465E-01	1.997E-01	3.168E-01	1.805E-02	-0.778
	277.60			2.108E-01	1.818E-01	2.828E-01	1.648E-02	0.746
AM-241	59.54	*		5.333E-02	1.302E-01	1.886E-01	1.400E-02	0.283
CM-247	278.00			4.873E-01	7.855E-01	1.184E+00	6.900E-02	0.412
	287.50			5.121E-01	1.313E+00	1.951E+00	1.138E-01	0.262
	402.40	*		1.079E-02	3.659E-02	6.131E-02	3.367E-03	0.176
CF-249	252.80			-4.069E-01	8.643E-01	1.414E+00	8.177E-02	-0.288
	333.37			-1.755E-01	1.938E-01	2.596E-01	1.496E-02	-0.676
	388.16	*		2.805E-02	3.717E-02	6.394E-02	3.495E-03	0.439
CF-251	177.52	*		-2.495E-02	1.294E-01	2.018E-01	1.096E-02	-0.124
	227.38			-3.074E-01	3.240E-01	5.211E-01	2.968E-02	-0.590
	285.41			1.916E-01	1.993E+00	3.337E+00	1.947E-01	0.057

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051015
* Acquisition date   : 10-MAR-2010 20:42:02 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 02:00:01.42 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051015 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.3419E+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	2.463E+01	2.311E+00	5.004E-01	0.000E+00
CD-109	3.953E+00	1.002E+00	1.077E+00	0.000E+00
SN-126	3.845E-01	9.749E-02	1.052E-01	0.000E+00
BA-137M	6.356E-01	8.557E-02	5.604E-02	0.000E+00
CS-137	6.714E-01	9.047E-02	5.920E-02	0.000E+00
CE-141	7.113E-02	7.136E-02	1.039E-01	0.000E+00
TL-208	4.749E-01	7.200E-02	4.864E-02	0.000E+00
BI-211	3.539E+00	4.092E-01	3.115E-01	0.000E+00
PB-212	1.413E+00	1.436E-01	9.435E-02	0.000E+00
BI-214	1.031E+00	1.504E-01	9.729E-02	0.000E+00
PB-214	1.284E+00	1.639E-01	1.162E-01	0.000E+00
RA-224	3.322E+00	1.087E+00	1.011E+00	0.000E+00
RA-226	1.031E+00	1.504E-01	9.729E-02	0.000E+00
AC-228	1.721E+00	3.379E-01	1.946E-01	0.000E+00
RA-228	1.721E+00	3.379E-01	1.946E-01	0.000E+00
TH-228	1.413E+00	1.436E-01	9.435E-02	0.000E+00
TH-232	1.721E+00	3.379E-01	1.946E-01	0.000E+00
TH-234	2.865E+00	1.539E+00	1.786E+00	0.000E+00
U-235	2.117E-01	2.145E-01	3.097E-01	0.000E+00
NP-237	1.147E+00	3.744E-01	3.164E-01	0.000E+00
U-238	2.865E+00	1.539E+00	1.786E+00	0.000E+00
ANH-511	1.129E-01	5.874E-02	4.371E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.243E-01	3.165E-01	5.547E-01	0.000E+00 NOT IDENT.
NA-22	-1.915E-02	3.717E-02	5.908E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.176E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-1.318E-03	3.868E-02	6.548E-02	0.000E+00 FAIL ABUN
V-48	-4.219E-04	7.277E-02	1.248E-01	0.000E+00 NOT IDENT.

CR-51	1.540E-01	3.983E-01	7.010E-01	0.000E+00	NOT IDENT.
MN-54	3.904E-02	3.905E-02	6.451E-02	0.000E+00	NOT IDENT.
CO-56	2.032E-02	3.629E-02	6.559E-02	0.000E+00	NOT IDENT.
CO-57	1.407E-02	2.394E-02	4.208E-02	0.000E+00	NOT IDENT.
CO-58	-2.888E-02	3.769E-02	5.782E-02	0.000E+00	NOT IDENT.
FE-59	-1.838E-02	8.895E-02	1.487E-01	0.000E+00	NOT IDENT.
CO-60	2.428E-02	3.191E-02	5.819E-02	0.000E+00	NOT IDENT.
ZN-65	-2.212E-02	9.256E-02	1.311E-01	0.000E+00	NOT IDENT.
SE-75	-4.987E-03	4.616E-02	7.017E-02	0.000E+00	NOT IDENT.
SR-85	6.529E-02	4.204E-02	6.984E-02	0.000E+00	NOT IDENT.
Y-88	-5.830E-03	3.003E-02	4.727E-02	0.000E+00	NOT IDENT.
Y-91	-1.546E+01	2.206E+01	3.515E+01	0.000E+00	NOT IDENT.
NB-94	2.945E-02	3.140E-02	5.619E-02	0.000E+00	NOT IDENT.
NB-95	2.113E-02	4.100E-02	7.097E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.575E-01	2.717E-01	0.000E+00	NOT IDENT.
ZR-95	4.522E-02	6.783E-02	1.193E-01	0.000E+00	NOT IDENT.
MO-99	-5.278E+00	2.421E+01	3.954E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.091E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.014E-02	3.888E-02	6.750E-02	0.000E+00	FAIL ABUN
RH-106	-2.809E-01	2.924E-01	4.514E-01	0.000E+00	NOT IDENT.
RU-106	-2.809E-01	2.910E-01	4.514E-01	0.000E+00	NOT IDENT.
AG-108M	-2.406E-03	2.840E-02	4.858E-02	0.000E+00	NOT IDENT.
AG-110M	1.599E-02	3.728E-02	5.661E-02	0.000E+00	NOT IDENT.
SN-113	-4.281E-02	4.235E-02	6.879E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.007E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.017E-02	6.173E-02	1.044E-01	0.000E+00	NOT IDENT.
TE-123M	-2.330E-02	2.803E-02	4.604E-02	0.000E+00	NOT IDENT.
SB-124	-4.792E-02	7.146E-02	1.019E-01	0.000E+00	NOT IDENT.
SB-125	-1.173E-02	8.077E-02	1.377E-01	0.000E+00	FAIL ABUN
TE-125M	-6.966E+00	9.687E+00	1.626E+01	0.000E+00	NOT IDENT.
I-126	1.530E-01	2.811E-01	4.311E-01	0.000E+00	NOT IDENT.
SB-126	8.403E-03	1.687E-01	2.665E-01	0.000E+00	NOT IDENT.
SB-127	-9.911E-01	1.990E+00	3.176E+00	0.000E+00	NOT IDENT.
I-131	-5.698E-02	1.432E-01	2.429E-01	0.000E+00	NOT IDENT.
TE-132	-1.686E+00	1.354E+00	2.237E+00	0.000E+00	NOT IDENT.
BA-133	-1.317E-02	4.485E-02	6.602E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.666E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.809E-02	9.306E-02	0.000E+00	FAIL ABUN
CS-135	1.868E-01	1.645E-01	2.681E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.401E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.217E-02	1.233E-01	2.059E-01	0.000E+00	NOT IDENT.
CE-139	-2.064E-02	2.887E-02	4.756E-02	0.000E+00	NOT IDENT.
BA-140	-2.061E-01	2.844E-01	4.424E-01	0.000E+00	NOT IDENT.
LA-140	5.235E-03	8.631E-02	1.447E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.356E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-6.358E-02	1.915E-01	3.236E-01	0.000E+00	NOT IDENT.
PM-144	-2.198E-02	3.229E-02	5.103E-02	0.000E+00	NOT IDENT.
PR-144	-1.636E+00	2.422E+00	3.829E+00	0.000E+00	NOT IDENT.
PM-146	-1.285E-02	3.708E-02	6.211E-02	0.000E+00	NOT IDENT.
ND-147	9.409E-03	6.465E-01	1.101E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.360E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.323E-02	9.875E-02	1.475E-01	0.000E+00	NOT IDENT.
GD-153	2.427E-02	8.639E-02	1.328E-01	0.000E+00	NOT IDENT.
EU-154	-6.008E-02	1.046E-01	1.648E-01	0.000E+00	NOT IDENT.
EU-155	3.270E-02	9.835E-02	1.722E-01	0.000E+00	FAIL ABUN
TB-160	-3.936E-02	1.233E-01	2.068E-01	0.000E+00	FAIL ABUN
HO-166M	-3.662E-02	5.392E-02	8.464E-02	0.000E+00	NOT IDENT.
TA-182	1.327E-01	1.893E-01	3.379E-01	0.000E+00	FAIL ABUN
IR-192	-1.682E-02	3.426E-02	5.841E-02	0.000E+00	FAIL ABUN
HG-203	-8.140E-03	3.900E-02	6.398E-02	0.000E+00	NOT IDENT.
BI-207	-2.624E-03	4.623E-02	7.849E-02	0.000E+00	FAIL ABUN
PB-210	1.495E+00	2.088E+00	3.841E+00	0.000E+00	NOT IDENT.
PB-211	-2.288E-01	7.197E-01	1.207E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.670E-01	1.109E+00	0.000E+00	FAIL ABUN
RN-219	1.058E-01	3.865E-01	6.768E-01	0.000E+00	FAIL ABUN
RA-223	-6.294E-01	6.565E-01	1.082E+00	0.000E+00	FAIL ABUN
AC-227	1.594E-01	2.270E-01	4.116E-01	0.000E+00	FAIL ABUN
TH-227	1.594E-01	2.272E-01	4.116E-01	0.000E+00	FAIL ABUN
TH-229	8.073E-03	4.785E-01	8.547E-01	0.000E+00	FAIL ABUN
PA-231	-7.063E-02	1.297E+00	2.272E+00	0.000E+00	NOT IDENT.
TH-231	-6.294E-01	6.565E-01	1.082E+00	0.000E+00	FAIL ABUN
PA-233	5.422E-02	5.748E-02	1.050E-01	0.000E+00	FAIL ABUN
PA-234	3.657E-02	2.721E-01	4.733E-01	0.000E+00	FAIL ABUN
PA-234M	4.580E+00	4.281E+00	7.935E+00	0.000E+00	NOT IDENT.
NP-239	-2.730E-01	3.860E-01	6.465E-01	0.000E+00	NOT IDENT.
AM-241	5.333E-02	1.276E-01	1.999E-01	0.000E+00	NOT IDENT.
CM-247	1.079E-02	3.586E-02	6.289E-02	0.000E+00	NOT IDENT.
CF-249	2.805E-02	3.642E-02	6.563E-02	0.000E+00	NOT IDENT.

CF-251	-2.495E-02	1.268E-01	2.100E-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]G248051015.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:02
Sample ID          : G248051015 Sample quantity : 1.34190E+02 GRAM
Detector name      : GAM14 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	1136	10.66*	1.211E+00	2.463E+01	2.463E+01	9.58
CD-109	88.03	358	3.70*	7.047E+00	3.845E+00	3.953E+00	25.87
SN-126	64.28	177	9.60	4.660E+00	1.104E+00	1.104E+00	53.83
	86.94	358	8.90	7.047E+00	1.599E+00	1.599E+00	48.02
	87.57	358	37.00*	7.047E+00	3.845E-01	3.845E-01	25.87
BA-137M	661.66	504	89.90*	2.468E+00	6.348E-01	6.356E-01	13.74
CS-137	661.66	504	85.10*	2.468E+00	6.707E-01	6.714E-01	13.75
CE-141	145.44	61	48.29*	7.361E+00	4.805E-02	7.113E-02	102.36
TL-208	277.37	-----	6.60	5.001E+00	-----	Line Not Found	-----
	583.19	398	85.00*	2.759E+00	4.749E-01	4.749E-01	15.47
	860.56	78	12.50	1.943E+00	8.980E-01	8.980E-01	38.91
BI-211	72.87	-----	1.23	5.875E+00	-----	Line Not Found	-----
	351.06	683	12.92*	4.177E+00	3.539E+00	3.539E+00	11.80
PB-212	74.82	524	10.28	6.088E+00	2.341E+00	2.341E+00	23.52
	77.11	746	17.10	6.311E+00	1.933E+00	1.933E+00	16.45
	238.63	1227	43.60*	5.569E+00	1.413E+00	1.413E+00	10.37
	300.09	75	3.30	4.722E+00	1.344E+00	1.344E+00	69.96
BI-214	609.32	445	45.49*	2.654E+00	1.031E+00	1.031E+00	14.89
	1120.29	72	14.92	1.523E+00	8.902E-01	8.902E-01	54.54
	1764.49	66	15.30	1.059E+00	1.137E+00	1.137E+00	31.63
PB-214	74.82	524	5.80	6.088E+00	4.148E+00	4.149E+00	22.83
	77.11	746	9.70	6.311E+00	3.407E+00	3.407E+00	18.41
	242.00	269	7.25	5.520E+00	1.879E+00	1.879E+00	33.89
	295.22	434	18.42	4.780E+00	1.380E+00	1.380E+00	19.55
	351.93	683	35.60*	4.177E+00	1.284E+00	1.284E+00	13.02
RA-224	240.99	269	4.10*	5.520E+00	3.322E+00	3.322E+00	33.39
RA-226	609.32	445	45.49*	2.654E+00	1.031E+00	1.031E+00	14.89
	1120.29	72	14.92	1.523E+00	8.902E-01	8.902E-01	54.54
	1764.49	66	15.30	1.059E+00	1.137E+00	1.137E+00	31.63
AC-228	338.32	269	11.27	4.308E+00	1.551E+00	1.551E+00	47.73
	911.20	292	25.80*	1.843E+00	1.721E+00	1.721E+00	20.04
	968.97	128	15.80	1.741E+00	1.303E+00	1.303E+00	43.54

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	338.32	269	11.27	4.308E+00	1.551E+00	1.551E+00	47.73
	911.20	292	25.80*	1.843E+00	1.721E+00	1.721E+00	20.04
	968.97	128	15.80	1.741E+00	1.303E+00	1.303E+00	43.54
TH-228	74.82	524	10.28	6.088E+00	2.341E+00	2.341E+00	21.44
	77.11	746	17.10	6.311E+00	1.933E+00	1.933E+00	16.45
	238.63	1227	43.60*	5.569E+00	1.413E+00	1.413E+00	10.37
TH-232	300.09	75	3.30	4.722E+00	1.344E+00	1.344E+00	92.37
	338.32	269	11.27	4.308E+00	1.551E+00	1.551E+00	24.75
	911.20	292	25.80*	1.843E+00	1.721E+00	1.721E+00	20.04
TH-234	968.97	128	15.80	1.741E+00	1.303E+00	1.303E+00	43.54
	63.29	177	3.70*	4.660E+00	2.865E+00	2.865E+00	54.81
	92.59	367	4.23	7.317E+00	3.320E+00	3.320E+00	32.81
U-235	89.96	179	3.47	7.188E+00	2.007E+00	2.007E+00	50.13
	93.35	367	5.60	7.317E+00	2.508E+00	2.508E+00	33.50
	143.76	61	10.96*	7.361E+00	2.117E-01	2.117E-01	103.39
	163.33	-----	5.08	6.992E+00	-----	Line Not Found	-----
	185.72	175	57.20	6.526E+00	1.312E-01	1.312E-01	44.32
	205.31	-----	5.01	6.150E+00	-----	Line Not Found	-----
NP-237	86.48	358	12.40*	7.047E+00	1.147E+00	1.147E+00	33.30
	95.86	-----	2.68	7.425E+00	-----	Line Not Found	-----
U-238	63.29	177	3.70*	4.660E+00	2.865E+00	2.865E+00	54.81
	92.59	367	4.23	7.317E+00	3.320E+00	3.320E+00	25.75
ANH-511	511.00	125	100.00*	3.090E+00	1.129E-01	1.129E-01	53.07

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
K-40	1.25E+09Y	1.00	2.463E+01	2.463E+01	0.236E+01	9.58	
CD-109	461.40D	1.03	3.845E+00	3.953E+00	1.023E+00	25.87	
SN-126	2.30E+05Y	1.00	3.845E-01	3.845E-01	0.995E-01	25.87	
BA-137M	30.08Y	1.00	6.348E-01	6.356E-01	0.873E-01	13.74	
CS-137	30.08Y	1.00	6.707E-01	6.714E-01	0.923E-01	13.75	
CE-141	32.51D	1.48	4.805E-02	7.113E-02	7.282E-02	102.36	
TL-208	1.41E+10Y	1.00	4.749E-01	4.749E-01	0.735E-01	15.47	
BI-211	7.04E+08Y	1.00	3.539E+00	3.539E+00	0.418E+00	11.80	
PB-212	1.41E+10Y	1.00	1.413E+00	1.413E+00	0.147E+00	10.37	
BI-214	1600.00Y	1.00	1.031E+00	1.031E+00	0.153E+00	14.89	
PB-214	1600.00Y	1.00	1.284E+00	1.284E+00	0.167E+00	13.02	
RA-224	1.41E+10Y	1.00	3.322E+00	3.322E+00	1.109E+00	33.39	
RA-226	1600.00Y	1.00	1.031E+00	1.031E+00	0.153E+00	14.89	
AC-228	1.41E+10Y	1.00	1.721E+00	1.721E+00	0.345E+00	20.04	
RA-228	1.41E+10Y	1.00	1.721E+00	1.721E+00	0.345E+00	20.04	
TH-228	1.41E+10Y	1.00	1.413E+00	1.413E+00	0.147E+00	10.37	
TH-232	1.41E+10Y	1.00	1.721E+00	1.721E+00	0.345E+00	20.04	
TH-234	4.47E+09Y	1.00	2.865E+00	2.865E+00	1.570E+00	54.81	
U-235	7.04E+08Y	1.00	2.117E-01	2.117E-01	2.189E-01	103.39	
NP-237	2.14E+06Y	1.00	1.147E+00	1.147E+00	0.382E+00	33.30	
U-238	4.47E+09Y	1.00	2.865E+00	2.865E+00	1.570E+00	54.81	
ANH-511	1.00E+09Y	1.00	1.129E-01	1.129E-01	0.599E-01	53.07	

Total Activity : 5.608E+01 5.622E+01

Grand Total Activity : 5.608E+01 5.622E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G248051015

Page : 4
Acquisition date : 10-MAR-2010 20:42:02

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	209.21	109	296	0.80	417.69	414	10	1.52E-02	61.9	6.08E+00	
0	270.81	142	333	1.88	540.80	534	16	1.97E-02	59.8	5.09E+00	T
0	462.81	58	174	0.83	924.53	919	15	8.07E-03	****	3.35E+00	T
0	568.79	126	104	3.18	1136.39	1129	13	1.75E-02	39.2	2.82E+00	T
0	727.70	112	51	1.38	1454.09	1449	12	1.56E-02	30.7	2.27E+00	T
0	836.65	29	49	1.14	1671.96	1667	9	4.08E-03	93.7	2.00E+00	T
0	1379.34	30	26	0.94	2757.57	2751	15	4.23E-03	81.6	1.27E+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]G248051015.CNF;1
* Acquisition date   : 10-MAR-2010 20:42:02  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 02:00:01.42          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248051015            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity  : 1.34190E+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	2.463E+01	2.358E+00	4.994E-01	3.626E-02	49.316
CD-109	3.953E+00	1.023E+00	1.023E+00	8.945E-02	3.864
SN-126	3.845E-01	9.948E-02	9.983E-02	8.687E-03	3.851
BA-137M	6.356E-01	8.732E-02	5.512E-02	3.277E-03	11.531
CS-137	6.714E-01	9.231E-02	5.823E-02	3.476E-03	11.531
CE-141	7.113E-02	7.282E-02	9.946E-02	6.348E-03	0.715
TL-208	4.749E-01	7.347E-02	4.773E-02	3.257E-03	9.950
BI-211	3.539E+00	4.175E-01	3.029E-01	1.920E-02	11.684
PB-212	1.413E+00	1.465E-01	9.114E-02	6.696E-03	15.506
BI-214	1.031E+00	1.535E-01	9.555E-02	7.621E-03	10.788
PB-214	1.284E+00	1.673E-01	1.130E-01	9.495E-03	11.362
RA-224	3.322E+00	1.109E+00	9.763E-01	5.612E-02	3.403
RA-226	1.031E+00	1.535E-01	9.555E-02	7.621E-03	10.788
AC-228	1.721E+00	3.448E-01	1.925E-01	2.325E-02	8.938
RA-228	1.721E+00	3.448E-01	1.925E-01	2.325E-02	8.938
TH-228	1.413E+00	1.465E-01	9.114E-02	6.696E-03	15.506
TH-232	1.721E+00	3.448E-01	1.925E-01	2.325E-02	8.938
TH-234	2.865E+00	1.570E+00	1.686E+00	2.965E-01	1.699

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-235	2.117E-01	2.189E-01	2.966E-01	4.707E-02	0.714
NP-237	1.147E+00	3.821E-01	3.004E-01	6.806E-02	3.820
U-238	2.865E+00	1.570E+00	1.686E+00	2.965E-01	1.699
ANH-511	1.129E-01	5.994E-02	4.279E-02	2.514E-03	2.639

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.243E-01		3.230E-01	5.424E-01	3.654E-02	0.229
NA-22	-1.915E-02		3.792E-02	5.882E-02	3.842E-03	-0.326
NA-24	5.331E+00		1.110E+01	Half-Life too short		
SC-46	-1.318E-03		3.947E-02	6.476E-02	5.984E-03	-0.020
V-48	-4.219E-04		7.425E-02	1.236E-01	1.050E-02	-0.003
CR-51	1.540E-01		4.064E-01	6.806E-01	4.391E-02	0.226
MN-54	3.904E-02		3.985E-02	6.372E-02	5.345E-03	0.613
CO-56	2.032E-02		3.703E-02	6.480E-02	5.555E-03	0.314
CO-57	1.407E-02		2.442E-02	4.018E-02	2.858E-03	0.350
CO-58	-2.888E-02		3.846E-02	5.708E-02	4.593E-03	-0.506
FE-59	-1.838E-02		9.077E-02	1.476E-01	1.136E-02	-0.125
CO-60	2.428E-02		3.257E-02	5.798E-02	4.132E-03	0.419
ZN-65	-2.212E-02		9.445E-02	1.302E-01	8.560E-03	-0.170
SE-75	-4.987E-03		4.710E-02	6.790E-02	3.988E-03	-0.073
SR-85	6.529E-02		4.290E-02	6.838E-02	4.022E-03	0.955
Y-88	-5.830E-03		3.064E-02	4.738E-02	2.691E-03	-0.123
Y-91	-1.546E+01		2.251E+01	3.496E+01	2.033E+00	-0.442
NB-94	2.945E-02		3.204E-02	5.533E-02	3.588E-03	0.532
NB-95	2.113E-02		4.183E-02	6.999E-02	5.154E-03	0.302
NB-95M	5.422E-01		1.607E-01	2.624E-01	1.968E-02	2.066
ZR-95	4.522E-02		6.922E-02	1.176E-01	9.750E-03	0.384
MO-99	-5.278E+00		2.470E+01	3.897E+01	5.819E+00	-0.135
TC-99M	-5.056E+13		1.577E+14	Half-Life too short		
RU-103	1.014E-02		3.968E-02	6.605E-02	8.220E-03	0.154
RH-106	-2.809E-01		2.983E-01	4.435E-01	5.194E-02	-0.633
RU-106	-2.809E-01		2.970E-01	4.435E-01	2.652E-02	-0.633
AG-108M	-2.406E-03		2.898E-02	4.742E-02	2.869E-03	-0.051
AG-110M	1.599E-02		3.804E-02	5.568E-02	3.517E-03	0.287
SN-113	-4.281E-02		4.321E-02	6.703E-02	3.922E-03	-0.639
CD-115	-2.056E-05		1.534E-05	Half-Life too short		
SN-117M	-1.017E-02		6.299E-02	1.001E-01	5.663E-03	-0.102
TE-123M	-2.330E-02		2.860E-02	4.416E-02	2.526E-03	-0.528
SB-124	-4.792E-02		7.292E-02	1.020E-01	6.922E-03	-0.470
SB-125	-1.173E-02		8.242E-02	1.344E-01	7.864E-03	-0.087
TE-125M	-6.966E+00		9.885E+00	1.549E+01	1.482E+00	-0.450
I-126	1.530E-01		2.869E-01	4.241E-01	2.547E-02	0.361
SB-126	8.403E-03		1.722E-01	2.625E-01	1.767E-02	0.032
SB-127	-9.911E-01		2.030E+00	3.126E+00	3.395E-01	-0.317
I-131	-5.698E-02		1.461E-01	2.364E-01	1.501E-02	-0.241

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	-1.686E+00		1.382E+00	2.159E+00	3.279E-01	-0.781
BA-133	-1.317E-02		4.577E-02	6.422E-02	7.198E-03	-0.205
I-133	-3.898E-02		3.911E-02	Half-Life too short		
CS-134	1.233E-01		4.907E-02	9.184E-02	7.229E-03	1.342
CS-135	1.868E-01		1.679E-01	2.595E-01	1.991E-02	0.720
I-135	-1.793E+13		1.225E+13	Half-Life too short		
CS-136	-3.217E-02		1.258E-01	2.043E-01	1.643E-02	-0.157
CE-139	-2.064E-02		2.946E-02	4.565E-02	2.451E-03	-0.452
BA-140	-2.061E-01		2.902E-01	4.335E-01	1.445E-01	-0.476
LA-140	5.235E-03		8.807E-02	1.447E-01	9.592E-03	0.036
CE-143	4.889E-03		6.920E-04	Half-Life too short		
CE-144	-6.358E-02		1.954E-01	3.095E-01	4.412E-02	-0.205
PM-144	-2.198E-02		3.295E-02	5.024E-02	3.220E-03	-0.437
PR-144	-1.636E+00		2.471E+00	3.769E+00	2.414E-01	-0.434
PM-146	-1.285E-02		3.784E-02	6.067E-02	5.093E-03	-0.212
ND-147	9.409E-03		6.597E-01	1.078E+00	1.464E-01	0.009
PM-149	1.834E-07		1.204E-04	Half-Life too short		
EU-152	-1.323E-02		1.008E-01	1.434E-01	9.269E-03	-0.092
GD-153	2.427E-02		8.815E-02	1.263E-01	1.013E-02	0.192
EU-154	-6.008E-02		1.067E-01	1.641E-01	1.622E-02	-0.366
EU-155	3.270E-02		1.004E-01	1.640E-01	1.268E-02	0.199
TB-160	-3.936E-02		1.258E-01	2.045E-01	1.857E-02	-0.193
HO-166M	-3.662E-02		5.502E-02	8.336E-02	5.509E-03	-0.439
TA-182	1.327E-01		1.931E-01	3.361E-01	2.010E-02	0.395
IR-192	-1.682E-02		3.496E-02	5.670E-02	3.309E-03	-0.297
HG-203	-8.140E-03		3.980E-02	6.197E-02	3.813E-03	-0.131
BI-207	-2.624E-03		4.717E-02	7.788E-02	5.763E-03	-0.034
PB-210	1.495E+00		2.130E+00	3.608E+00	2.641E-01	0.414
PB-211	-2.288E-01		7.344E-01	1.177E+00	5.641E-01	-0.194
BI-212	2.081E+00	+	6.807E-01	1.092E+00	1.233E-01	1.905
RN-219	1.058E-01		3.944E-01	6.597E-01	8.778E-02	0.160
RA-223	-6.294E-01		6.699E-01	1.051E+00	1.693E-01	-0.599
AC-227	1.594E-01		2.316E-01	3.981E-01	4.069E-02	0.401
TH-227	1.594E-01		2.319E-01	3.981E-01	4.783E-02	0.401
TH-229	8.073E-03		4.882E-01	8.226E-01	4.542E-02	0.010
PA-231	-7.063E-02		1.324E+00	2.201E+00	2.890E-01	-0.032
TH-231	-6.294E-01		6.699E-01	1.051E+00	1.693E-01	-0.599
PA-233	5.422E-02		5.865E-02	1.019E-01	6.294E-03	0.532
PA-234	3.657E-02		2.777E-01	4.686E-01	8.858E-02	0.078
PA-234M	4.580E+00		4.369E+00	7.864E+00	7.602E-01	0.582
NP-239	-2.730E-01		3.939E-01	6.168E-01	4.454E-02	-0.443
AM-241	5.333E-02		1.302E-01	1.886E-01	1.400E-02	0.283
CM-247	1.079E-02		3.659E-02	6.131E-02	3.367E-03	0.176
CF-249	2.805E-02		3.717E-02	6.394E-02	3.495E-03	0.439
CF-251	-2.495E-02		1.294E-01	2.018E-01	1.096E-02	-0.124

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]G248051015
* Acquisition date   : 10-MAR-2010 20:42:02 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 02:00:01.42 Half life ratio : 8.000
*****
*                               SAMPLE DATA                             *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051015 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.3419E+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	2.463E+01	2.311E+00	2.503E-01	1.179E+00
CD-109	3.953E+00	1.002E+00	5.390E-01	5.113E-01
SN-126	3.845E-01	9.749E-02	5.261E-02	4.974E-02
BA-137M	6.356E-01	8.557E-02	2.803E-02	4.366E-02
CS-137	6.714E-01	9.047E-02	2.962E-02	4.616E-02
CE-141	7.113E-02	7.136E-02	5.196E-02	3.641E-02
TL-208	4.749E-01	7.200E-02	2.433E-02	3.674E-02
BI-211	3.539E+00	4.092E-01	1.558E-01	2.088E-01
PB-212	1.413E+00	1.436E-01	4.721E-02	7.325E-02
BI-214	1.031E+00	1.504E-01	4.867E-02	7.673E-02
PB-214	1.284E+00	1.639E-01	5.815E-02	8.364E-02
RA-224	3.322E+00	1.087E+00	5.056E-01	5.547E-01
RA-226	1.031E+00	1.504E-01	4.867E-02	7.673E-02
AC-228	1.721E+00	3.379E-01	9.734E-02	1.724E-01
RA-228	1.721E+00	3.379E-01	9.734E-02	1.724E-01
TH-228	1.413E+00	1.436E-01	4.721E-02	7.325E-02
TH-232	1.721E+00	3.379E-01	9.734E-02	1.724E-01
TH-234	2.865E+00	1.539E+00	8.934E-01	7.852E-01
U-235	2.117E-01	2.145E-01	1.550E-01	1.094E-01
NP-237	1.147E+00	3.744E-01	1.583E-01	1.910E-01
U-238	2.865E+00	1.539E+00	8.934E-01	7.852E-01
ANH-511	1.129E-01	5.874E-02	2.187E-02	2.997E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.243E-01	3.165E-01	2.775E-01	1.615E-01 NOT IDENT.
NA-22	-1.915E-02	3.717E-02	2.956E-02	1.896E-02 NOT IDENT.
NA-24	5.331E+06	2.176E+07	0.000E+00	1.110E+07 SHORT HLIF
SC-46	-1.318E-03	3.868E-02	3.276E-02	1.974E-02 FAIL ABUN
V-48	-4.219E-04	7.277E-02	6.243E-02	3.713E-02 NOT IDENT.

CR-51	1.540E-01	3.983E-01	3.507E-01	2.032E-01	NOT IDENT.
MN-54	3.904E-02	3.905E-02	3.227E-02	1.993E-02	NOT IDENT.
CO-56	2.032E-02	3.629E-02	3.281E-02	1.852E-02	NOT IDENT.
CO-57	1.407E-02	2.394E-02	2.105E-02	1.221E-02	NOT IDENT.
CO-58	-2.888E-02	3.769E-02	2.893E-02	1.923E-02	NOT IDENT.
FE-59	-1.838E-02	8.895E-02	7.440E-02	4.538E-02	NOT IDENT.
CO-60	2.428E-02	3.191E-02	2.911E-02	1.628E-02	NOT IDENT.
ZN-65	-2.212E-02	9.256E-02	6.561E-02	4.722E-02	NOT IDENT.
SE-75	-4.987E-03	4.616E-02	3.511E-02	2.355E-02	NOT IDENT.
SR-85	6.529E-02	4.204E-02	3.494E-02	2.145E-02	NOT IDENT.
Y-88	-5.830E-03	3.003E-02	2.365E-02	1.532E-02	NOT IDENT.
Y-91	-1.546E+01	2.206E+01	1.759E+01	1.125E+01	NOT IDENT.
NB-94	2.945E-02	3.140E-02	2.811E-02	1.602E-02	NOT IDENT.
NB-95	2.113E-02	4.100E-02	3.551E-02	2.092E-02	NOT IDENT.
NB-95M	5.422E-01	1.575E-01	1.359E-01	8.037E-02	NOT IDENT.
ZR-95	4.522E-02	6.783E-02	5.968E-02	3.461E-02	NOT IDENT.
MO-99	-5.278E+00	2.421E+01	1.978E+01	1.235E+01	NOT IDENT.
TC-99M	-5.056E+19	3.091E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.014E-02	3.888E-02	3.377E-02	1.984E-02	FAIL ABUN
RH-106	-2.809E-01	2.924E-01	2.258E-01	1.492E-01	NOT IDENT.
RU-106	-2.809E-01	2.910E-01	2.258E-01	1.485E-01	NOT IDENT.
AG-108M	-2.406E-03	2.840E-02	2.430E-02	1.449E-02	NOT IDENT.
AG-110M	1.599E-02	3.728E-02	2.832E-02	1.902E-02	NOT IDENT.
SN-113	-4.281E-02	4.235E-02	3.442E-02	2.160E-02	NOT IDENT.
CD-115	-2.056E+01	3.007E+01	0.000E+00	1.534E+01	SHORT HLIF
SN-117M	-1.017E-02	6.173E-02	5.222E-02	3.149E-02	NOT IDENT.
TE-123M	-2.330E-02	2.803E-02	2.304E-02	1.430E-02	NOT IDENT.
SB-124	-4.792E-02	7.146E-02	5.098E-02	3.646E-02	NOT IDENT.
SB-125	-1.173E-02	8.077E-02	6.888E-02	4.121E-02	FAIL ABUN
TE-125M	-6.966E+00	9.687E+00	8.134E+00	4.942E+00	NOT IDENT.
I-126	1.530E-01	2.811E-01	2.157E-01	1.434E-01	NOT IDENT.
SB-126	8.403E-03	1.687E-01	1.333E-01	8.608E-02	NOT IDENT.
SB-127	-9.911E-01	1.990E+00	1.589E+00	1.015E+00	NOT IDENT.
I-131	-5.698E-02	1.432E-01	1.215E-01	7.305E-02	NOT IDENT.
TE-132	-1.686E+00	1.354E+00	1.119E+00	6.909E-01	NOT IDENT.
BA-133	-1.317E-02	4.485E-02	3.303E-02	2.288E-02	NOT IDENT.
I-133	-3.898E+04	7.666E+04	0.000E+00	3.911E+04	SHORT HLIF
CS-134	1.233E-01	4.809E-02	4.656E-02	2.453E-02	FAIL ABUN
CS-135	1.868E-01	1.645E-01	1.341E-01	8.394E-02	NOT IDENT.
I-135	-1.793E+19	2.401E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.217E-02	1.233E-01	1.030E-01	6.291E-02	NOT IDENT.
CE-139	-2.064E-02	2.887E-02	2.379E-02	1.473E-02	NOT IDENT.
BA-140	-2.061E-01	2.844E-01	2.213E-01	1.451E-01	NOT IDENT.
LA-140	5.235E-03	8.631E-02	7.241E-02	4.404E-02	NOT IDENT.
CE-143	4.889E+03	1.356E+03	0.000E+00	6.920E+02	SHORT HLIF
CE-144	-6.358E-02	1.915E-01	1.619E-01	9.768E-02	NOT IDENT.
PM-144	-2.198E-02	3.229E-02	2.553E-02	1.648E-02	NOT IDENT.
PR-144	-1.636E+00	2.422E+00	1.915E+00	1.236E+00	NOT IDENT.
PM-146	-1.285E-02	3.708E-02	3.107E-02	1.892E-02	NOT IDENT.
ND-147	9.409E-03	6.465E-01	5.507E-01	3.299E-01	FAIL ABUN
PM-149	1.834E-01	2.360E+02	0.000E+00	1.204E+02	SHORT HLIF
EU-152	-1.323E-02	9.875E-02	7.379E-02	5.038E-02	NOT IDENT.
GD-153	2.427E-02	8.639E-02	6.646E-02	4.408E-02	NOT IDENT.
EU-154	-6.008E-02	1.046E-01	8.246E-02	5.336E-02	NOT IDENT.
EU-155	3.270E-02	9.835E-02	8.613E-02	5.018E-02	FAIL ABUN
TB-160	-3.936E-02	1.233E-01	1.035E-01	6.291E-02	FAIL ABUN
HO-166M	-3.662E-02	5.392E-02	4.235E-02	2.751E-02	NOT IDENT.
TA-182	1.327E-01	1.893E-01	1.690E-01	9.656E-02	FAIL ABUN
IR-192	-1.682E-02	3.426E-02	2.922E-02	1.748E-02	FAIL ABUN
HG-203	-8.140E-03	3.900E-02	3.201E-02	1.990E-02	NOT IDENT.
BI-207	-2.624E-03	4.623E-02	3.927E-02	2.358E-02	FAIL ABUN
PB-210	1.495E+00	2.088E+00	1.921E+00	1.065E+00	NOT IDENT.
PB-211	-2.288E-01	7.197E-01	6.038E-01	3.672E-01	NOT IDENT.
BI-212	2.081E+00	6.670E-01	5.547E-01	3.403E-01	FAIL ABUN
RN-219	1.058E-01	3.865E-01	3.386E-01	1.972E-01	FAIL ABUN
RA-223	-6.294E-01	6.565E-01	5.413E-01	3.350E-01	FAIL ABUN
AC-227	1.594E-01	2.270E-01	2.059E-01	1.158E-01	FAIL ABUN
TH-227	1.594E-01	2.272E-01	2.059E-01	1.159E-01	FAIL ABUN
TH-229	8.073E-03	4.785E-01	4.276E-01	2.441E-01	FAIL ABUN
PA-231	-7.063E-02	1.297E+00	1.137E+00	6.619E-01	NOT IDENT.
TH-231	-6.294E-01	6.565E-01	5.413E-01	3.350E-01	FAIL ABUN
PA-233	5.422E-02	5.748E-02	5.253E-02	2.933E-02	FAIL ABUN
PA-234	3.657E-02	2.721E-01	2.368E-01	1.389E-01	FAIL ABUN
PA-234M	4.580E+00	4.281E+00	3.970E+00	2.184E+00	NOT IDENT.
NP-239	-2.730E-01	3.860E-01	3.234E-01	1.969E-01	NOT IDENT.
AM-241	5.333E-02	1.276E-01	1.000E-01	6.512E-02	NOT IDENT.
CM-247	1.079E-02	3.586E-02	3.147E-02	1.830E-02	NOT IDENT.
CF-249	2.805E-02	3.642E-02	3.284E-02	1.858E-02	NOT IDENT.

CF-251	-2.495E-02	1.268E-01	1.051E-01	6.471E-02 NOT IDENT.
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 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.54	390.1908
49.72	465.0811
57.36	0.0000
59.54	397.5213
63.29	492.6000
63.29	492.6000
64.28	548.6127
67.75	582.0822
69.67	597.7357
70.83	603.8113
72.81	593.2339
72.87	593.2665
72.87	593.2665
74.82	589.3100
74.82	589.3100
74.82	589.3100
74.97	589.3916
77.11	590.5346
77.11	590.5346
77.11	590.5346
79.69	487.6386
79.80	487.6864
80.12	487.8227
80.19	487.8528
80.57	488.0156
81.00	488.1997
81.07	488.2298
81.07	488.2298
83.79	401.6279
83.79	401.6279
85.43	402.1901
86.48	402.5474
86.55	402.5706
86.79	402.6505
86.94	402.7029
87.57	402.9149
88.03	403.0689
88.47	403.2171
89.96	403.7139
91.11	404.0945
92.59	404.5811
92.59	404.5811
93.35	404.8295
94.67	405.2580
94.87	405.3234
94.87	405.3234
95.86	417.5737
97.43	380.5482
98.44	362.0627
99.53	358.9521
100.11	340.3029
103.18	412.4536
103.37	412.5139
105.31	387.3647
106.12	368.2739
109.28	431.5587
111.00	408.3954
111.76	411.8554
116.30	399.1372
117.23	406.9771
121.12	355.9886
121.78	343.1213
122.06	342.1016
123.07	359.7281
131.20	378.0943
133.52	379.7669
136.00	339.8193

136.47	316.8963
140.51	341.2430
140.51	0.0000
143.76	339.3000
144.24	337.1972
144.24	337.1972
145.44	335.2438
152.43	355.5118
153.25	357.9043
154.21	364.7635
154.21	364.7635
156.02	346.2916
158.56	349.0361
159.00	373.5883
162.66	317.5635
163.33	318.8021
165.86	352.7588
176.60	336.9347
177.52	331.4879
181.07	322.7515
184.41	356.4234
185.72	352.1592
193.51	315.5385
197.04	299.7695
205.31	291.9199
210.85	291.2078
215.65	263.3008
222.11	273.1969
227.38	288.6424
228.16	298.8971
228.18	298.9011
235.69	308.5978
235.96	304.0069
235.96	304.0069
238.63	289.2418
238.63	289.2418
240.99	289.5579
242.00	289.6912
244.70	195.2254
252.40	230.4198
252.80	230.4620
256.23	208.3854
256.23	208.3854
260.90	0.0000
264.66	209.4704
268.22	212.9233
269.46	198.9388
269.46	198.9388
271.23	236.0846
273.65	262.0655
276.40	190.1013
277.37	202.7514
277.60	191.7693
278.00	209.0951
279.20	225.3232
279.54	233.8766
280.46	230.3971
283.69	202.3439
284.31	201.4504
285.41	197.7565
285.90	0.0000
287.50	195.7178
293.27	0.0000
295.22	180.5023
295.96	171.0527
298.57	171.2351
299.98	187.1958
299.98	187.1958
300.09	187.2030
300.09	187.2030
300.13	187.2054
301.36	184.1245
302.85	144.5277
304.50	144.6239
304.50	144.6239
304.85	151.0013
308.46	186.2355
311.90	156.8410

316.51	207.9009
319.41	187.0329
320.08	188.0399
323.87	245.9625
323.87	245.9625
328.76	173.2654
333.37	200.8871
334.37	178.4554
334.37	178.4554
338.28	172.9190
338.28	172.9190
338.32	172.9234
338.32	172.9234
338.32	172.9234
340.48	149.8573
340.55	149.8611
344.28	159.7511
351.06	158.5302
351.93	166.9945
356.01	171.7777
364.49	164.8245
366.42	131.7535
383.85	155.1416
388.16	131.7705
388.63	142.6105
391.69	166.3883
400.66	149.1162
401.81	149.1733
402.40	152.1671
404.85	175.0381
410.95	154.5813
414.70	155.7639
423.72	134.3309
427.09	114.5550
427.87	122.5541
433.94	138.7658
453.88	115.5264
463.37	115.8633
468.07	114.3474
473.00	124.2853
476.78	109.2524
477.60	113.3275
487.02	93.3510
492.35	0.0000
497.08	103.8042
511.00	103.2014
514.00	105.6764
527.90	0.0000
529.87	0.0000
531.02	102.7588
537.26	97.7925
546.56	0.0000
563.25	79.4818
569.33	109.0323
569.50	109.0375
569.70	109.0426
583.19	73.9988
600.60	95.2745
602.73	91.2851
604.72	96.0732
609.32	78.6987
609.32	78.6987
610.33	78.7189
614.28	80.5487
618.01	85.1825
621.93	97.8975
621.93	97.8975
633.25	93.9541
635.95	97.1862
636.99	75.0215
645.85	70.9503
657.76	77.8827
661.66	88.2341
661.66	88.2341
664.57	0.0000
666.33	79.8193
666.50	79.8230
677.62	61.8940

685.70	70.5665
695.00	67.5066
696.49	94.3271
696.51	94.3271
697.00	99.6980
702.65	74.0672
706.68	92.4017
711.68	80.6763
720.70	76.8008
721.93	0.0000
722.78	88.0708
722.91	88.0748
723.31	88.0828
724.19	91.6967
727.33	71.9694
733.00	55.8482
735.93	58.8893
739.50	66.0337
747.24	65.0640
752.31	80.3359
753.82	61.9012
756.73	61.9416
763.94	109.9312
765.81	77.3096
766.42	75.1419
777.92	68.7801
778.90	74.2555
783.70	60.1213
785.37	54.6753
795.86	54.7998
801.95	69.1370
810.29	63.7632
810.76	73.6640
815.77	62.3693
818.51	45.8862
832.01	63.1069
834.85	61.5659
836.80	0.0000
846.77	57.2332
856.80	68.1863
860.56	44.4346
871.09	58.4447
873.19	63.1095
875.33	0.0000
879.36	57.6129
880.51	62.2727
883.24	61.3768
884.68	59.5339
889.28	64.2439
898.04	62.4908
911.20	49.5603
911.20	49.5603
911.20	49.5603
926.50	55.3353
937.49	74.2505
944.13	50.8173
946.00	56.4844
949.00	63.1097
962.29	56.6589
964.08	53.4385
966.15	69.6590
968.97	78.4761
968.97	78.4761
968.97	78.4761
983.53	54.0394
996.26	61.7693
1001.03	50.4100
1004.73	57.1069
1037.84	57.4487
1038.76	0.0000
1048.07	65.2275
1050.41	57.5781
1050.41	57.5781
1063.66	51.9412
1085.87	48.2808
1099.45	60.0095
1112.07	53.2098
1115.54	59.8962

1120.29	71.5997
1120.29	71.5997
1120.55	71.6057
1121.30	64.9529
1131.51	0.0000
1173.23	45.0772
1177.93	50.0164
1189.05	58.9502
1204.77	80.7688
1221.41	61.2331
1231.02	68.2504
1235.36	111.8505
1238.28	66.3484
1260.41	0.0000
1271.85	49.7762
1274.44	45.8128
1274.54	45.8128
1291.59	36.9458
1298.22	0.0000
1312.11	28.0467
1332.49	20.0952
1365.19	33.3196
1368.63	0.0000
1384.29	19.0935
1408.01	29.4649
1457.56	0.0000
1460.82	24.5693
1489.16	18.5002
1505.03	31.9322
1596.21	18.7705
1620.50	12.5537
1678.03	0.0000
1690.97	17.9470
1764.49	14.9166
1764.49	14.9166
1770.23	12.7944
1771.35	50.1192
1791.20	0.0000
1836.06	12.8975

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051015

Total Uranium Activity	8.6208E+00	ug/g
Total Uranium Counting Unc.	4.5794E+00	ug/g
Total Uranium Tpu	2.3364E-06	ug/g
Total Uranium Mda	2.6589E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051015
*  ANALYST       : MXR1            DETECTOR    : GAM14
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 20:42:02.18  SAMPLE ALQT: 134.190 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.610E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.192E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.144E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.532E+00

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VAX/VMS Nuclide Identification Report Generated 11-MAR-2010 10:19:39.79

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051016.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:30
Sample ID          : G248051016      Sample quantity   : 1.08540E+02 GRAM
Detector name      : GAM17           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:10.26 0.1%
Energy tolerance   : 2.00000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID           : 958225          Detector SN#     :
Matrix Spike ID    :                  LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.55*	147	315	1.11	92.72	89	7	2.04E-02	23.0	
2	0	63.18*	212	489	1.02	125.99	122	8	2.94E-02	20.0	
3	3	74.80*	578	402	0.95	149.26	143	15	8.03E-02	7.0	2.73E+00
4	3	77.08*	913	389	0.93	153.82	143	15	1.27E-01	4.9	
5	5	87.24*	364	311	1.17	174.13	164	28	5.05E-02	9.7	1.15E+00
6	5	89.96	219	261	0.99	179.59	164	28	3.04E-02	13.6	
7	5	92.67*	381	340	1.27	185.01	164	28	5.29E-02	10.6	
8	0	128.51	104	364	1.08	256.71	252	10	1.44E-02	35.8	
9	0	185.79*	166	278	1.16	371.30	366	9	2.30E-02	20.4	
10	0	209.08*	108	247	0.75	417.91	414	9	1.50E-02	28.4	
11	7	238.44*	1060	137	1.02	476.65	472	18	1.47E-01	3.6	6.10E-01
12	7	241.39	259	217	1.76	482.55	472	18	3.60E-02	16.3	
13	0	269.81	95	182	1.61	539.41	534	11	1.32E-02	29.4	
14	4	295.06	300	96	1.21	589.94	586	20	4.16E-02	8.0	9.21E-01
15	4	300.14	54	150	1.75	600.10	586	20	7.48E-03	44.8	
16	0	327.61	76	129	1.77	655.08	651	10	1.05E-02	30.2	
17	0	337.76*	225	159	1.09	675.37	669	12	3.13E-02	13.3	
18	0	351.49*	488	120	1.35	702.86	696	12	6.78E-02	6.5	
19	0	462.19	63	84	0.84	924.35	920	9	8.81E-03	28.8	
20	0	510.43*	150	130	1.70	1020.89	1012	18	2.08E-02	21.3	
21	0	582.54*	272	109	1.19	1165.19	1158	14	3.78E-02	10.3	
22	0	608.63*	331	66	1.41	1217.38	1213	11	4.59E-02	7.4	
23	0	660.91*	451	69	1.34	1322.00	1316	14	6.26E-02	6.2	
24	0	726.16*	57	32	1.42	1452.58	1449	7	7.90E-03	21.8	
25	0	767.47	32	33	0.89	1535.27	1532	8	4.51E-03	35.0	
26	0	859.12*	54	30	1.27	1718.68	1713	12	7.45E-03	25.5	
27	0	910.20*	162	72	1.79	1820.90	1814	17	2.25E-02	14.6	
28	0	968.23	133	34	2.01	1937.05	1932	16	1.85E-02	13.9	
29	0	1119.05*	86	41	1.97	2238.89	2232	15	1.19E-02	19.9	
30	0	1458.92*	717	4	1.92	2919.20	2912	15	9.97E-02	3.8	
31	0	1589.07	26	16	0.69	3179.73	3170	20	3.65E-03	45.3	
32	0	1727.55	29	3	1.89	3456.96	3450	13	3.99E-03	22.7	
33	0	1762.23*	51	4	1.53	3526.40	3519	13	7.05E-03	16.5	
34	0	1802.62	16	4	1.13	3607.26	3599	13	2.27E-03	33.8	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051016.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:30
Sample ID         : G248051016 Sample quantity : 108.54 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA17 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:10.26 0.1%
Peak Width (FWHM) : 3.00 Confidence level : 5.00 %
Energy tolerance  : 2.00 keV Half life ratio : 8.00
Errors propagated : Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	2.990E+01	3.495E+00	8.232E-01	7.309E-02	36.317
NB-95	+	765.81	*	9.881E-02	6.965E-02	9.781E-02	8.543E-03	1.010
CD-109	+	88.03	*	5.236E+00	1.137E+00	1.086E+00	1.060E-01	4.822
SN-126	+	64.28		1.126E+00	4.848E-01	4.796E-01	7.655E-02	2.348
	+	86.94		2.117E+00	9.721E-01	4.376E-01	1.821E-01	4.838
	+	87.57	*	5.093E-01	1.106E-01	1.055E-01	1.029E-02	4.829
CS-135	+	268.22	*	5.611E-01	3.352E-01	3.194E-01	3.333E-02	1.757
BA-137M	+	661.66	*	1.081E+00	1.619E-01	9.043E-02	7.618E-03	11.958
CS-137	+	661.66	*	1.142E+00	1.712E-01	9.554E-02	8.064E-03	11.958
TL-208		277.37		9.196E-01	4.842E-01	8.780E-01	1.134E-01	1.047
	+	583.19	*	6.101E-01	1.385E-01	7.643E-02	7.220E-03	7.982
	+	860.56		1.188E+00	6.168E-01	5.701E-01	5.361E-02	2.084
PB-210	+	46.54	*	1.893E+00	8.961E-01	9.603E-01	1.035E-01	1.972
BI-211	+	72.87		2.392E+01	4.072E+00	3.736E+00	3.653E-01	6.404
	+	351.06	*	4.488E+00	7.183E-01	4.459E-01	4.161E-02	10.065
PB-212	+	74.82		2.863E+00	5.611E-01	4.485E-01	6.180E-02	6.383
	+	77.11		2.722E+00	3.750E-01	2.708E-01	2.640E-02	10.050
	+	238.63	*	2.089E+00	2.602E-01	1.115E-01	1.129E-02	18.732
	+	300.09		1.689E+00	1.526E+00	1.591E+00	1.750E-01	1.062
BI-214	+	609.32	*	1.446E+00	2.611E-01	1.723E-01	1.760E-02	8.394
	+	1120.29		2.035E+00	8.398E-01	6.684E-01	7.179E-02	3.045
		1764.49		1.360E+00	5.531E-01	1.108E+00	9.366E-02	1.227
PB-214	+	74.82		5.074E+00	9.527E-01	7.949E-01	9.998E-02	6.383
	+	77.11		4.798E+00	7.705E-01	4.775E-01	6.097E-02	10.050
	+	242.00		3.102E+00	1.062E+00	6.790E-01	7.296E-02	4.569
	+	295.22		1.661E+00	3.237E-01	2.806E-01	3.159E-02	5.918
	+	351.93	*	1.629E+00	2.757E-01	1.622E-01	1.758E-02	10.039
RA-224	+	240.99	*	5.486E+00	1.851E+00	1.196E+00	1.082E-01	4.586
RA-226	+	609.32	*	1.446E+00	2.611E-01	1.723E-01	1.760E-02	8.394
	+	1120.29		2.035E+00	8.398E-01	6.684E-01	7.179E-02	3.045
		1764.49		1.360E+00	5.531E-01	1.108E+00	9.366E-02	1.227
AC-228	+	338.32		2.291E+00	1.134E+00	4.902E-01	2.049E-01	4.673
	+	911.20	*	1.839E+00	5.785E-01	3.136E-01	3.665E-02	5.865
	+	968.97		2.615E+00	9.669E-01	6.951E-01	1.696E-01	3.762

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	+	338.32		2.291E+00	1.134E+00	4.902E-01	2.049E-01	4.673
	+	911.20	*	1.839E+00	5.785E-01	3.136E-01	3.665E-02	5.865
	+	968.97		2.615E+00	9.669E-01	6.951E-01	1.696E-01	3.762
TH-228	+	74.82		2.863E+00	4.883E-01	4.485E-01	4.409E-02	6.383
	+	77.11		2.722E+00	3.750E-01	2.708E-01	2.640E-02	10.050
	+	238.63	*	2.089E+00	2.602E-01	1.115E-01	1.129E-02	18.732
	+	300.09		1.689E+00	1.835E+00	1.591E+00	9.755E-01	1.062
TH-229	+	85.43		1.282E+00	2.784E-01	2.638E-01	2.571E-02	4.860
	+	88.47		7.852E-01	1.705E-01	1.630E-01	1.595E-02	4.816
	+	193.51	*	7.815E-01	6.732E-01	1.147E+00	9.917E-02	0.681
	+	210.85		2.999E+00	1.722E+00	1.620E+00	1.428E-01	1.851
TH-232	+	338.32		2.291E+00	6.414E-01	4.902E-01	4.417E-02	4.673
	+	911.20	*	1.839E+00	5.785E-01	3.136E-01	3.665E-02	5.865
	+	968.97		2.615E+00	9.669E-01	6.951E-01	1.696E-01	3.762
TH-234	+	63.29	*	2.922E+00	1.294E+00	1.243E+00	2.365E-01	2.351
	+	92.59		4.722E+00	1.467E+00	9.375E-01	2.123E-01	5.037
U-235	+	89.96		3.285E+00	1.214E+00	1.133E+00	2.841E-01	2.899
	+	93.35		3.567E+00	1.134E+00	7.100E-01	1.679E-01	5.024
	+	143.76	*	1.513E-01	2.495E-01	4.152E-01	7.392E-02	0.365
	+	163.33		7.557E-02	5.435E-01	8.913E-01	1.598E-01	0.085
	+	185.72		2.086E-01	8.703E-02	8.186E-02	7.010E-03	2.548
	+	205.31		2.301E-01	6.808E-01	9.973E-01	1.817E-01	0.231
NP-237	+	86.48	*	1.520E+00	4.587E-01	3.137E-01	7.254E-02	4.845
	+	95.86		1.393E-02	9.385E-01	1.409E+00	3.464E-01	0.010
U-238	+	63.29	*	2.922E+00	1.294E+00	1.243E+00	2.365E-01	2.351
	+	92.59		4.722E+00	1.109E+00	9.375E-01	9.354E-02	5.037
ANH-511	+	511.00	*	2.522E-01	1.099E-01	6.402E-02	5.718E-03	3.940

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-1.074E-01	4.815E-01	7.748E-01	7.370E-02	-0.139
NA-22		1274.54	*	-1.724E-02	6.686E-02	1.037E-01	8.734E-03	-0.166
NA-24		1368.63	*	-4.511E+00	6.686E-02	Half-Life too short		
SC-46		889.28	*	1.167E-02	5.530E-02	9.376E-02	8.208E-03	0.125
	+	1120.55		3.536E-01	1.440E-01	1.962E-01	1.646E-02	1.802
V-48		944.13		4.470E-01	1.475E+00	2.513E+00	2.198E-01	0.178
	+	983.53	*	-1.537E-01	1.354E-01	1.931E-01	1.685E-02	-0.796
	+	1312.11		-4.358E-02	1.232E-01	1.963E-01	1.666E-02	-0.222
CR-51		320.08	*	-5.521E-02	5.014E-01	8.377E-01	7.994E-02	-0.066
MN-54		834.85	*	1.289E-04	5.480E-02	9.116E-02	8.015E-03	0.001
CO-56		846.77	*	-2.662E-02	6.228E-02	9.892E-02	8.695E-03	-0.269
		1037.84		1.427E-01	5.098E-01	8.585E-01	7.799E-02	0.166
		1238.28		2.799E-01	1.528E-01	2.837E-01	2.438E-02	0.986
		1771.35		-2.380E-01	3.599E-01	4.928E-01	4.161E-02	-0.483
CO-57		122.06	*	3.303E-03	2.922E-02	4.857E-02	5.690E-03	0.068
		136.47		-1.082E-01	2.492E-01	4.008E-01	4.509E-02	-0.270
CO-58		810.76	*	-3.268E-02	5.962E-02	9.364E-02	8.247E-03	-0.349

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
FE-59	1099.45	*		-8.671E-03	1.446E-01	2.337E-01	2.144E-02	-0.037
	1291.59			-3.815E-02	2.047E-01	3.202E-01	3.085E-02	-0.119
CO-60	1173.23			-2.336E-02	7.161E-02	1.116E-01	9.114E-03	-0.209
	1332.49	*		-2.323E-02	5.413E-02	8.493E-02	7.238E-03	-0.274
ZN-65	1115.54	*		2.531E-01	1.529E-01	2.659E-01	2.239E-02	0.952
SE-75	121.12			2.165E-02	1.532E-01	2.551E-01	3.463E-02	0.085
	136.00			7.004E-03	4.800E-02	7.947E-02	8.595E-03	0.088
	264.66	*		4.947E-02	6.435E-02	9.664E-02	8.880E-03	0.512
	279.54			-2.355E-01	1.391E-01	2.094E-01	1.987E-02	-1.125
	400.66			2.130E-01	3.848E-01	6.599E-01	7.246E-02	0.323
SR-85	514.00	*		5.031E-02	5.997E-02	9.350E-02	8.354E-03	0.538
Y-88	898.04			7.973E-02	6.360E-02	1.179E-01	1.035E-02	0.676
	1836.06	*		-5.073E-03	5.417E-02	8.637E-02	7.202E-03	-0.059
Y-91	1204.77	*		-3.690E+01	3.622E+01	5.147E+01	4.248E+00	-0.717
NB-94	702.65	*		2.446E-03	4.982E-02	8.426E-02	7.228E-03	0.029
	871.09			2.688E-02	5.206E-02	9.075E-02	7.964E-03	0.296
NB-95M	235.69	*		7.446E-02	1.686E-01	2.475E-01	2.531E-02	0.301
ZR-95	724.19	+		3.698E-01	1.648E-01	2.815E-01	2.637E-02	1.314
	756.73	*		-4.112E-02	1.080E-01	1.742E-01	1.674E-02	-0.236
MO-99	140.51			-4.088E+01	6.173E+01	9.425E+01	2.306E+01	-0.434
	181.07			1.629E+01	5.490E+01	8.084E+01	1.515E+01	0.202
	366.42			1.080E+02	3.006E+02	5.133E+02	4.493E+01	0.210
	739.50	*		3.207E+01	4.184E+01	7.444E+01	1.176E+01	0.431
	777.92			-4.905E+01	1.116E+02	1.778E+02	1.556E+01	-0.276
TC-99M	140.51	*		-2.439E+14	1.116E+02	Half-Life	too short	
RU-103	497.08	*		3.168E-02	5.802E-02	9.903E-02	1.401E-02	0.320
	610.33	+		1.580E+01	3.502E+00	3.979E+00	6.532E-01	3.971
RH-106	621.93	*		7.672E-03	4.484E-01	7.223E-01	9.607E-02	0.011
	1050.41			-1.617E+00	3.702E+00	5.707E+00	4.912E-01	-0.283
RU-106	621.93	*		7.672E-03	4.484E-01	7.223E-01	6.275E-02	0.011
	1050.41			-1.617E+00	3.702E+00	5.707E+00	4.912E-01	-0.283
AG-108M	433.94	*		8.082E-03	4.577E-02	7.643E-02	6.850E-03	0.106
	614.28			7.086E-02	4.789E-02	8.137E-02	7.329E-03	0.871
	722.91			2.521E-02	5.605E-02	8.704E-02	7.760E-03	0.290
AG-110M	657.76	*		1.270E-01	6.272E-02	1.078E-01	9.399E-03	1.178
	677.62			-4.159E-01	4.709E-01	6.766E-01	5.914E-02	-0.615
	706.68			1.213E-01	3.111E-01	5.409E-01	4.781E-02	0.224
	763.94			3.554E-02	2.620E-01	3.886E-01	3.484E-02	0.091
	884.68			4.143E-02	7.853E-02	1.367E-01	1.235E-02	0.303
	937.49			-2.303E-01	1.703E-01	2.339E-01	2.118E-02	-0.985
	1384.29			2.157E-01	2.099E-01	4.031E-01	3.553E-02	0.535
	1505.03			-7.899E-02	3.862E-01	6.169E-01	5.335E-02	-0.128
SN-113	391.69	*		-1.693E-02	6.391E-02	1.042E-01	9.057E-03	-0.162
CD-115	260.90			-2.200E-04	6.391E-02	Half-Life	too short	
	492.35			-2.050E-05	6.391E-02	Half-Life	too short	
	527.90	*		-8.999E-06	6.391E-02	Half-Life	too short	
SN-117M	156.02			7.714E-01	3.310E+00	5.466E+00	5.032E-01	0.141
	158.56	*		5.576E-02	7.885E-02	1.329E-01	1.195E-02	0.420
TE-123M	159.00	*		-1.767E-02	3.619E-02	5.755E-02	5.180E-03	-0.307

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		602.73		6.838E-02	6.623E-02	1.087E-01	9.543E-03	0.629
		645.85		5.118E-01	7.445E-01	1.274E+00	1.152E-01	0.402
		722.78		4.656E-01	5.557E-01	9.068E-01	8.013E-02	0.513
		1690.97	*	7.544E-02	1.216E-01	2.244E-01	2.001E-02	0.336
SB-125		427.87	*	5.135E-02	1.325E-01	2.247E-01	1.980E-02	0.229
	+	463.37		9.301E-01	5.434E-01	7.940E-01	7.507E-02	1.171
		600.60		1.020E-01	2.889E-01	4.791E-01	4.512E-02	0.213
		635.95		-1.609E-01	3.499E-01	5.301E-01	4.933E-02	-0.304
TE-125M		109.28	*	-1.236E+00	1.051E+01	1.738E+01	2.159E+00	-0.071
I-126		388.63		-1.767E-01	2.744E-01	4.348E-01	3.680E-02	-0.406
		666.33	*	-7.250E-02	4.735E-01	6.425E-01	5.425E-02	-0.113
		753.82		2.601E+00	3.142E+00	5.645E+00	4.918E-01	0.461
SB-126		414.70		-1.173E-01	1.417E-01	2.212E-01	1.896E-02	-0.531
		666.50		6.620E-03	1.594E-01	2.221E-01	1.875E-02	0.030
		695.00		6.536E-02	1.419E-01	2.478E-01	2.119E-02	0.264
		697.00		-1.934E-01	4.852E-01	7.901E-01	6.763E-02	-0.245
		720.70	*	1.624E-01	2.490E-01	4.115E-01	3.553E-02	0.395
		856.80		1.452E+00	9.080E-01	1.591E+00	1.398E-01	0.913
SB-127		252.40		2.398E+00	9.904E+00	1.590E+01	6.665E+00	0.151
		473.00		1.874E+00	4.416E+00	7.463E+00	1.031E+00	0.251
		685.70	*	1.604E+00	3.499E+00	5.842E+00	7.188E-01	0.275
		783.70		1.248E+01	1.000E+01	1.822E+01	2.437E+00	0.685
I-131		80.19		3.558E+00	6.689E+00	8.383E+00	8.225E-01	0.424
		284.31		-7.376E-01	2.368E+00	3.936E+00	3.787E-01	-0.187
		364.49	*	-4.511E-02	2.087E-01	3.432E-01	3.177E-02	-0.131
		636.99		-2.837E+00	2.789E+00	3.911E+00	3.567E-01	-0.725
TE-132		49.72		3.242E+00	9.392E+00	1.477E+01	1.923E+00	0.220
		111.76		1.493E+01	7.304E+01	1.198E+02	1.655E+01	0.125
		116.30		5.577E+01	6.625E+01	1.131E+02	1.589E+01	0.493
		228.16	*	8.797E-01	1.911E+00	3.128E+00	5.218E-01	0.281
BA-133		81.00		-4.446E-02	1.063E-01	1.236E-01	1.998E-02	-0.360
		276.40		6.196E-01	4.483E-01	8.003E-01	1.157E-01	0.774
		302.85		1.140E-01	1.900E-01	2.966E-01	3.985E-02	0.384
		356.01	*	7.755E-02	5.441E-02	9.024E-02	1.184E-02	0.859
		383.85		2.299E-02	4.092E-01	6.833E-01	8.448E-02	0.034
I-133		529.87	*	-4.287E-02	4.092E-01	Half-Life	too short	
		875.33		-5.224E-02	4.092E-01	Half-Life	too short	
		1298.22		1.938E+00	4.092E-01	Half-Life	too short	
CS-134		563.25		6.517E-01	5.025E-01	9.039E-01	8.122E-02	0.721
		569.33		1.489E-01	2.847E-01	4.821E-01	4.343E-02	0.309
		604.72		-3.959E-02	6.147E-02	7.961E-02	7.001E-03	-0.497
		795.86	*	6.572E-02	6.822E-02	1.234E-01	1.090E-02	0.533
		801.95		-3.552E-01	6.154E-01	9.708E-01	8.570E-02	-0.366
		1365.19		1.432E+00	1.646E+00	3.105E+00	2.783E-01	0.461
I-135		546.56		1.219E+13	1.646E+00	Half-Life	too short	
		836.80		3.514E+13	1.646E+00	Half-Life	too short	
		1038.76		7.092E+13	1.646E+00	Half-Life	too short	
		1131.51		-9.091E+12	1.646E+00	Half-Life	too short	
		1260.41	*	5.874E+12	1.646E+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	+	1457.56		5.901E+15	1.646E+00	Half-Life	too short	
		1678.03		8.049E+13	1.646E+00	Half-Life	too short	
		1791.20		1.491E+13	1.646E+00	Half-Life	too short	
		153.25		1.320E-01	1.241E+00	2.040E+00	2.237E-01	0.065
		176.60		1.147E-01	7.484E-01	1.223E+00	1.146E-01	0.094
		273.65		-1.537E+00	9.849E-01	1.175E+00	1.159E-01	-1.308
		340.55		9.390E-02	2.496E-01	3.802E-01	3.540E-02	0.247
		818.51		-1.130E-02	1.263E-01	2.085E-01	1.835E-02	-0.054
CE-139		1048.07	*	-4.333E-03	1.786E-01	2.909E-01	2.612E-02	-0.015
		1235.36		1.534E+00	1.191E+00	2.116E+00	2.445E-01	0.725
		165.86	*	9.313E-04	3.780E-02	6.161E-02	5.137E-03	0.015
		162.66		6.531E-01	1.190E+00	1.989E+00	1.832E-01	0.328
BA-140		304.85		4.043E-01	2.184E+00	3.301E+00	9.716E-01	0.122
		423.72		-1.556E+00	3.364E+00	5.308E+00	1.746E+00	-0.293
		537.26	*	-4.620E-01	5.098E-01	7.220E-01	2.454E-01	-0.640
	+	328.76		1.133E+00	6.933E-01	8.942E-01	8.531E-02	1.268
LA-140		487.02		-2.002E-01	2.355E-01	3.560E-01	3.349E-02	-0.562
		815.77		2.967E-01	5.573E-01	9.778E-01	9.565E-02	0.303
		1596.21	*	-4.595E-02	1.667E-01	2.175E-01	1.878E-02	-0.211
		145.44	*	2.197E-02	8.318E-02	1.366E-01	1.393E-02	0.161
CE-141		57.36		-4.394E-04	8.318E-02	Half-Life	too short	
	+	293.27	*	7.561E-03	8.318E-02	Half-Life	too short	
		664.57		6.451E-03	8.318E-02	Half-Life	too short	
		721.93		7.230E-03	8.318E-02	Half-Life	too short	
CE-144		80.12		1.475E+00	2.751E+00	3.449E+00	3.360E-01	0.428
		133.52	*	-1.734E-01	2.540E-01	3.813E-01	6.370E-02	-0.455
		476.78		-4.661E-02	9.498E-02	1.494E-01	1.432E-02	-0.312
		618.01		-1.520E-02	4.548E-02	7.059E-02	6.317E-03	-0.215
PM-144		696.49	*	-1.300E-02	5.204E-02	8.589E-02	7.353E-03	-0.151
		696.51	*	-1.003E+00	3.899E+00	6.430E+00	5.503E-01	-0.156
		1489.16		-8.946E+00	1.807E+01	2.718E+01	2.350E+00	-0.329
		453.88	*	-5.833E-03	6.326E-02	1.034E-01	1.108E-02	-0.056
PM-146		633.25		5.521E-01	1.833E+00	3.025E+00	1.155E+00	0.183
		735.93		-1.433E-01	2.167E-01	3.346E-01	9.384E-02	-0.428
		747.24		-5.901E-02	1.425E-01	2.291E-01	3.352E-02	-0.258
	+	91.11		1.306E+00	3.798E-01	6.623E-01	6.978E-02	1.971
ND-147		319.41		-2.734E+00	5.133E+00	8.330E+00	7.598E-01	-0.328
		531.02	*	-4.073E-01	1.007E+00	1.576E+00	2.386E-01	-0.258
		285.90	*	-3.482E-04	1.007E+00	Half-Life	too short	
		121.78		-1.287E-02	8.451E-02	1.387E-01	1.758E-02	-0.093
EU-152		244.70		-1.730E-01	4.672E-01	6.394E-01	5.795E-02	-0.271
		344.28	*	-1.014E-01	1.324E-01	2.020E-01	1.910E-02	-0.502
		778.90		-1.738E-01	3.679E-01	5.849E-01	5.121E-02	-0.297
		964.08		8.268E-01	5.224E-01	8.826E-01	7.714E-02	0.937
GD-153		1085.87		-1.164E-01	6.228E-01	9.928E-01	8.448E-02	-0.117
		1112.07		-4.202E-01	5.709E-01	7.008E-01	5.902E-02	-0.600
		1408.01		1.318E-01	2.917E-01	5.145E-01	4.427E-02	0.256
		69.67		-1.417E-01	1.319E+00	1.985E+00	1.949E-01	-0.071
		97.43	*	-7.045E-02	9.341E-02	1.333E-01	1.363E-02	-0.528

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		103.18		-3.174E-02	1.157E-01	1.903E-01	2.006E-02	-0.167
		123.07		1.029E-02	6.147E-02	9.777E-02	1.349E-02	0.105
		723.31		1.426E-01	2.570E-01	4.038E-01	3.841E-02	0.353
		873.19		2.057E-01	4.372E-01	7.576E-01	9.097E-02	0.271
		996.26		-7.549E-03	5.657E-01	9.266E-01	1.623E-01	-0.008
EU-155		1004.73		-4.369E-02	3.155E-01	5.087E-01	5.948E-02	-0.086
		1274.44	*	-5.721E-02	1.913E-01	2.949E-01	3.310E-02	-0.194
	+	86.55		6.184E-01	1.345E-01	1.940E-01	1.907E-02	3.188
		105.31	*	1.498E-01	1.145E-01	1.993E-01	2.141E-02	0.752
	+	86.79		1.690E+00	3.671E-01	5.304E-01	5.173E-02	3.187
TB-160		197.04		-3.615E-01	6.939E-01	1.084E+00	9.412E-02	-0.334
		215.65		-4.305E-02	9.537E-01	1.525E+00	1.351E-01	-0.028
	+	298.57		2.454E-01	2.211E-01	2.568E-01	2.357E-02	0.956
		879.36	*	-1.177E-01	2.121E-01	3.291E-01	2.885E-02	-0.358
		962.29		1.738E+00	8.997E-01	1.598E+00	1.397E-01	1.087
HO-166M		966.15		1.521E+00	5.007E-01	8.866E-01	7.747E-02	1.716
		1177.93		7.973E-02	6.186E-01	1.014E+00	8.297E-02	0.079
		1271.85		-2.754E-01	1.159E+00	1.805E+00	1.518E-01	-0.153
	+	80.57		2.703E-01	2.843E-01	3.671E-01	3.576E-02	0.736
		184.41		1.657E-01	6.914E-02	8.695E-02	7.433E-03	1.906
TA-182		280.46		-1.404E-01	1.031E-01	1.593E-01	1.462E-02	-0.881
		410.95		1.603E-02	3.717E-01	6.173E-01	5.278E-02	0.026
		711.68	*	2.193E-02	8.200E-02	1.414E-01	1.217E-02	0.155
		752.31		9.580E-02	3.978E-01	6.816E-01	5.936E-02	0.141
		810.29		-6.519E-02	9.223E-02	1.428E-01	1.254E-02	-0.457
IR-192		67.75		-1.923E-02	7.803E-02	1.242E-01	1.223E-02	-0.155
		100.11		3.875E-02	1.787E-01	3.010E-01	3.121E-02	0.129
		152.43		1.500E-01	4.281E-01	7.116E-01	6.764E-02	0.211
		222.11		3.919E-02	4.800E-01	7.719E-01	6.880E-02	0.051
		1121.30		4.973E-01	2.864E-01	4.892E-01	4.103E-02	1.017
HG-203		1189.05		1.796E-01	4.610E-01	7.786E-01	6.394E-02	0.231
		1221.41	*	-8.740E-02	3.337E-01	5.233E-01	4.341E-02	-0.167
		1231.02		-9.659E-01	8.377E-01	1.182E+00	9.833E-02	-0.817
	+	295.96		1.266E+00	2.330E-01	3.855E-01	3.562E-02	3.284
		308.46		-2.993E-02	1.206E-01	2.002E-01	1.841E-02	-0.150
BI-207		316.51	*	-3.176E-03	4.648E-02	7.794E-02	7.131E-03	-0.041
		468.07		-8.384E-02	1.038E-01	1.523E-01	1.439E-02	-0.551
		70.83		-4.874E-01	1.092E+00	1.613E+00	2.697E-01	-0.302
	+	72.87		6.251E+00	1.336E+00	1.073E+00	1.738E-01	5.828
		279.20	*	-7.665E-02	5.071E-02	7.765E-02	7.290E-03	-0.987
PB-211		72.81		1.377E+00	2.343E-01	2.340E-01	2.288E-02	5.884
	+	74.97		8.252E-01	1.404E-01	2.055E-01	2.006E-02	4.016
		569.70		3.454E-02	4.478E-02	7.724E-02	6.868E-03	0.447
		1063.66	*	3.208E-02	8.131E-02	1.385E-01	1.187E-02	0.232
		1770.23		-2.450E-01	7.378E-01	1.050E+00	8.865E-02	-0.233
BI-212		404.85	*	-1.079E+00	1.200E+00	1.673E+00	8.091E-01	-0.645
		427.09		3.139E-01	2.253E+00	3.751E+00	1.736E+00	0.084
	+	832.01		-4.039E-02	1.346E+00	2.231E+00	1.158E+00	-0.018
		727.33	*	2.011E+00	9.112E-01	1.742E+00	2.175E-01	1.154

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		785.37		6.533E+00	5.037E+00	9.257E+00	8.112E-01	0.706
		1620.50		4.021E+00	3.730E+00	7.188E+00	6.193E-01	0.559
RN-219	+	271.23		8.312E-01	4.970E-01	5.792E-01	6.208E-02	1.435
		401.81	*	4.656E-01	6.096E-01	1.053E+00	1.559E-01	0.442
RA-223		81.07		-1.179E-01	2.401E-01	2.778E-01	2.706E-02	-0.424
		83.79		3.147E-01	1.143E-01	2.016E-01	1.964E-02	1.561
		94.87		9.774E-01	4.665E-01	7.634E-01	7.703E-02	1.280
		144.24		1.556E-01	8.417E-01	1.382E+00	1.523E-01	0.113
		154.21		-2.752E-01	4.824E-01	7.650E-01	7.745E-02	-0.360
	+	269.46		6.458E-01	3.846E-01	4.576E-01	4.267E-02	1.411
		323.87	*	-1.659E-01	8.871E-01	1.292E+00	2.270E-01	-0.128
	+	338.28		9.090E+00	2.659E+00	3.328E+00	4.111E-01	2.731
AC-227		79.69		2.956E-01	1.385E+00	1.696E+00	3.023E-01	0.174
		235.96		3.396E-01	2.111E-01	3.308E-01	3.530E-02	1.027
		256.23	*	-3.060E-02	3.246E-01	5.117E-01	6.352E-02	-0.060
	+	299.98		1.858E+00	1.683E+00	2.119E+00	2.774E-01	0.877
		304.50		1.066E+00	2.178E+00	3.372E+00	5.671E-01	0.316
		334.37		-4.151E-01	2.541E+00	3.705E+00	5.862E-01	-0.112
TH-227		79.80		2.860E-01	1.825E+00	2.227E+00	4.954E-01	0.128
		235.96		3.396E-01	2.108E-01	3.308E-01	3.343E-02	1.027
		256.23	*	-3.060E-02	3.247E-01	5.117E-01	7.127E-02	-0.060
	+	299.98		1.858E+00	1.683E+00	2.119E+00	2.774E-01	0.877
		304.50		1.066E+00	2.178E+00	3.372E+00	5.671E-01	0.316
		334.37		-4.151E-01	2.541E+00	3.705E+00	5.862E-01	-0.112
PA-231		283.69	*	1.208E+00	1.707E+00	2.998E+00	4.474E-01	0.403
	+	301.36		1.194E+00	1.081E+00	1.328E+00	1.667E-01	0.899
TH-231		81.07		-1.179E-01	2.401E-01	2.778E-01	2.706E-02	-0.424
		83.79		3.147E-01	1.143E-01	2.016E-01	1.964E-02	1.561
		94.87		9.774E-01	4.665E-01	7.634E-01	7.703E-02	1.280
		144.24		1.556E-01	8.417E-01	1.382E+00	1.523E-01	0.113
		154.21		-2.752E-01	4.824E-01	7.650E-01	7.745E-02	-0.360
	+	269.46		6.458E-01	3.846E-01	4.576E-01	4.267E-02	1.411
		323.87	*	-1.659E-01	8.871E-01	1.292E+00	2.270E-01	-0.128
	+	338.28		9.090E+00	2.659E+00	3.328E+00	4.111E-01	2.731
PA-233	+	300.13		8.409E-01	7.644E-01	9.594E-01	1.454E-01	0.876
		311.90	*	-1.299E-02	8.289E-02	1.383E-01	1.298E-02	-0.094
		340.48		4.502E-01	9.103E-01	1.390E+00	3.365E-01	0.324
PA-234	+	94.67		1.272E+00	3.197E-01	2.933E-01	3.947E-02	4.339
		98.44		1.538E-01	1.253E-01	1.572E-01	8.815E-02	0.978
		111.00		-4.144E-02	1.971E-01	3.168E-01	4.399E-02	-0.131
		131.20		3.235E-02	1.366E-01	2.043E-01	2.269E-02	0.158
		569.50		2.145E-01	3.986E-01	6.752E-01	6.004E-02	0.318
		733.00		-9.454E-02	5.606E-01	9.266E-01	2.058E-01	-0.102
		880.51		2.838E-01	4.179E-01	7.399E-01	6.485E-02	0.384
		883.24		1.043E-01	4.469E-01	7.487E-01	5.034E-01	0.139
		926.50		2.972E-02	2.333E-01	3.908E-01	9.896E-02	0.076
		946.00	*	1.831E-01	4.655E-01	7.966E-01	1.500E-01	0.230
		949.00		7.435E-02	6.881E-01	1.146E+00	1.003E-01	0.065
PA-234M	+	766.42		2.525E+01	2.182E+01	3.009E+01	1.528E+01	0.839

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		1.322E+00	6.892E+00	1.169E+01	1.173E+00	0.113
	99.53			1.130E-01	1.608E-01	2.759E-01	2.852E-02	0.409
	103.37			-3.869E-02	1.050E-01	1.719E-01	1.813E-02	-0.225
	106.12			8.437E-02	9.172E-02	1.578E-01	1.690E-02	0.535
	117.23	*		1.681E-01	4.538E-01	7.637E-01	8.698E-02	0.220
	228.18			1.311E-01	2.798E-01	4.590E-01	4.112E-02	0.286
AM-241	277.60			3.850E-01	2.195E-01	4.016E-01	3.686E-02	0.959
	59.54	*		-1.656E-02	8.061E-02	1.217E-01	1.292E-02	-0.136
CM-247	278.00			1.319E+00	9.095E-01	1.649E+00	1.514E-01	0.800
	287.50			1.227E+00	1.485E+00	2.628E+00	2.414E-01	0.467
	402.40	*		4.633E-02	5.504E-02	9.596E-02	8.150E-03	0.483
CF-249	252.80			1.480E-01	1.253E+00	2.006E+00	1.826E-01	0.074
	333.37			9.904E-02	2.980E-01	3.884E-01	3.512E-02	0.255
CF-251	388.16	*		-3.525E-02	5.486E-02	8.694E-02	7.364E-03	-0.405
	177.52	*		-7.574E-02	1.659E-01	2.625E-01	2.223E-02	-0.289
	227.38			5.014E-02	4.554E-01	7.327E-01	6.560E-02	0.068
	285.41			-3.583E+00	2.716E+00	4.203E+00	3.861E-01	-0.852

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]G248051016
* Acquisition date   : 10-MAR-2010 20:42:30 Detector SN#      :
* Detector ID        : GAM17 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 2.000
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:10.26 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date       : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID         : G248051016 Analyst initials: MXR1
* Batch Number      : 958225 Sample Quantity : 1.0854E+02 GRAM
* Recovery          : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight   : 0.00000
* CALIB. DATE/TIME : 6-JAN-2010 11:41:36 MS Isotope      :
* MSD DPM           : 0.000 MSD Isotope      :
* LCS DPM           : 0.000 LCS Isotope      :
* LCSD DPM          : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.990E+01	3.425E+00	8.183E-01	0.000E+00
NB-95	9.881E-02	6.825E-02	9.764E-02	0.000E+00
CD-109	5.236E+00	1.114E+00	1.099E+00	0.000E+00
SN-126	5.093E-01	1.084E-01	1.068E-01	0.000E+00
CS-135	5.611E-01	3.285E-01	3.210E-01	0.000E+00
BA-137M	1.081E+00	1.587E-01	9.037E-02	0.000E+00
CS-137	1.142E+00	1.677E-01	9.546E-02	0.000E+00
TL-208	6.101E-01	1.357E-01	7.643E-02	0.000E+00
PB-210	1.893E+00	8.781E-01	9.763E-01	0.000E+00
BI-211	4.488E+00	7.039E-01	4.474E-01	0.000E+00
PB-212	2.089E+00	2.550E-01	1.122E-01	0.000E+00
BI-214	1.446E+00	2.559E-01	1.722E-01	0.000E+00
PB-214	1.629E+00	2.702E-01	1.628E-01	0.000E+00
RA-224	5.486E+00	1.814E+00	1.203E+00	0.000E+00
RA-226	1.446E+00	2.559E-01	1.722E-01	0.000E+00
AC-228	1.839E+00	5.670E-01	3.127E-01	0.000E+00
RA-228	1.839E+00	5.670E-01	3.127E-01	0.000E+00
TH-228	2.089E+00	2.550E-01	1.122E-01	0.000E+00
TH-229	7.815E-01	6.597E-01	1.155E+00	0.000E+00
TH-232	1.839E+00	5.670E-01	3.127E-01	0.000E+00
TH-234	2.922E+00	1.268E+00	1.261E+00	0.000E+00
U-235	1.513E-01	2.445E-01	4.190E-01	0.000E+00
NP-237	1.520E+00	4.496E-01	3.176E-01	0.000E+00
U-238	2.922E+00	1.268E+00	1.261E+00	0.000E+00
ANH-511	2.522E-01	1.077E-01	6.408E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.074E-01	4.718E-01	7.759E-01	0.000E+00 NOT IDENT.
NA-22	-1.724E-02	6.552E-02	1.031E-01	0.000E+00 NOT IDENT.

NA-24	0.000E+00	3.465E+07	0.000E+00	0.000E+00	SHORT HLIF
SC-46	1.167E-02	5.420E-02	9.350E-02	0.000E+00	FAIL ABUN
V-48	-1.537E-01	1.327E-01	1.925E-01	0.000E+00	NOT IDENT.
CR-51	-5.521E-02	4.914E-01	8.411E-01	0.000E+00	NOT IDENT.
MN-54	1.289E-04	5.370E-02	9.095E-02	0.000E+00	NOT IDENT.
CO-56	-2.662E-02	6.104E-02	9.868E-02	0.000E+00	NOT IDENT.
CO-57	3.303E-03	2.864E-02	4.907E-02	0.000E+00	NOT IDENT.
CO-58	-3.268E-02	5.843E-02	9.345E-02	0.000E+00	NOT IDENT.
FE-59	-8.671E-03	1.418E-01	2.327E-01	0.000E+00	NOT IDENT.
CO-60	-2.323E-02	5.305E-02	8.447E-02	0.000E+00	NOT IDENT.
ZN-65	2.531E-01	1.499E-01	2.648E-01	0.000E+00	NOT IDENT.
SE-75	4.947E-02	6.306E-02	9.715E-02	0.000E+00	NOT IDENT.
SR-85	5.031E-02	5.877E-02	9.359E-02	0.000E+00	NOT IDENT.
Y-88	-5.073E-03	5.309E-02	8.572E-02	0.000E+00	NOT IDENT.
Y-91	-3.690E+01	3.550E+01	5.123E+01	0.000E+00	NOT IDENT.
NB-94	2.446E-03	4.882E-02	8.416E-02	0.000E+00	NOT IDENT.
NB-95M	7.446E-02	1.652E-01	2.490E-01	0.000E+00	NOT IDENT.
ZR-95	-4.112E-02	1.058E-01	1.739E-01	0.000E+00	FAIL ABUN
MO-99	3.207E+01	4.101E+01	7.433E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.661E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	3.168E-02	5.686E-02	9.914E-02	0.000E+00	FAIL ABUN
RH-106	7.672E-03	4.395E-01	7.221E-01	0.000E+00	NOT IDENT.
RU-106	7.672E-03	4.395E-01	7.221E-01	0.000E+00	NOT IDENT.
AG-108M	8.082E-03	4.485E-02	7.658E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	6.146E-02	1.078E-01	0.000E+00	NOT IDENT.
SN-113	-1.693E-02	6.264E-02	1.045E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.350E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	5.576E-02	7.727E-02	1.341E-01	0.000E+00	NOT IDENT.
TE-123M	-1.767E-02	3.547E-02	5.804E-02	0.000E+00	NOT IDENT.
SB-124	7.544E-02	1.192E-01	2.229E-01	0.000E+00	NOT IDENT.
SB-125	5.135E-02	1.298E-01	2.251E-01	0.000E+00	FAIL ABUN
TE-125M	-1.236E+00	1.030E+01	1.757E+01	0.000E+00	NOT IDENT.
I-126	-7.250E-02	4.641E-01	6.420E-01	0.000E+00	NOT IDENT.
SB-126	1.624E-01	2.440E-01	4.110E-01	0.000E+00	NOT IDENT.
SB-127	1.604E+00	3.429E+00	5.836E+00	0.000E+00	NOT IDENT.
I-131	-4.511E-02	2.045E-01	3.443E-01	0.000E+00	NOT IDENT.
TE-132	8.797E-01	1.873E+00	3.147E+00	0.000E+00	NOT IDENT.
BA-133	7.755E-02	5.333E-02	9.054E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.123E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.572E-02	6.685E-02	1.231E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.401E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.333E-03	1.750E-01	2.898E-01	0.000E+00	NOT IDENT.
CE-139	9.313E-04	3.704E-02	6.212E-02	0.000E+00	NOT IDENT.
BA-140	-4.620E-01	4.996E-01	7.224E-01	0.000E+00	NOT IDENT.
LA-140	-4.595E-02	1.633E-01	2.161E-01	0.000E+00	FAIL ABUN
CE-141	2.197E-02	8.151E-02	1.378E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.112E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.734E-01	2.489E-01	3.850E-01	0.000E+00	NOT IDENT.
PM-144	-1.300E-02	5.100E-02	8.579E-02	0.000E+00	NOT IDENT.
PR-144	-1.003E+00	3.821E+00	6.423E+00	0.000E+00	NOT IDENT.
PM-146	-5.833E-03	6.199E-02	1.035E-01	0.000E+00	NOT IDENT.
ND-147	-4.073E-01	9.869E-01	1.577E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.156E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.014E-01	1.297E-01	2.027E-01	0.000E+00	NOT IDENT.
GD-153	-7.045E-02	9.155E-02	1.349E-01	0.000E+00	NOT IDENT.
EU-154	-5.721E-02	1.875E-01	2.934E-01	0.000E+00	NOT IDENT.
EU-155	1.498E-01	1.122E-01	2.016E-01	0.000E+00	FAIL ABUN
TB-160	-1.177E-01	2.079E-01	3.282E-01	0.000E+00	FAIL ABUN
HO-166M	2.193E-02	8.036E-02	1.412E-01	0.000E+00	FAIL ABUN
TA-182	-8.740E-02	3.270E-01	5.208E-01	0.000E+00	NOT IDENT.
IR-192	-3.176E-03	4.555E-02	7.826E-02	0.000E+00	FAIL ABUN
HG-203	-7.665E-02	4.969E-02	7.804E-02	0.000E+00	FAIL ABUN
BI-207	3.208E-02	7.969E-02	1.379E-01	0.000E+00	FAIL ABUN
PB-211	-1.079E+00	1.176E+00	1.677E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	8.930E-01	1.740E+00	0.000E+00	FAIL ABUN
RN-219	4.656E-01	5.974E-01	1.056E+00	0.000E+00	FAIL ABUN
RA-223	-1.659E-01	8.693E-01	1.297E+00	0.000E+00	FAIL ABUN
AC-227	-3.060E-02	3.182E-01	5.145E-01	0.000E+00	FAIL ABUN
TH-227	-3.060E-02	3.182E-01	5.145E-01	0.000E+00	FAIL ABUN
PA-231	1.208E+00	1.673E+00	3.012E+00	0.000E+00	FAIL ABUN
TH-231	-1.659E-01	8.693E-01	1.297E+00	0.000E+00	FAIL ABUN
PA-233	-1.299E-02	8.123E-02	1.389E-01	0.000E+00	FAIL ABUN
PA-234	1.831E-01	4.562E-01	7.941E-01	0.000E+00	FAIL ABUN
PA-234M	1.322E+00	6.754E+00	1.165E+01	0.000E+00	FAIL ABUN
NP-239	1.681E-01	4.447E-01	7.718E-01	0.000E+00	NOT IDENT.
AM-241	-1.656E-02	7.900E-02	1.235E-01	0.000E+00	NOT IDENT.
CM-247	4.633E-02	5.394E-02	9.620E-02	0.000E+00	NOT IDENT.
CF-249	-3.525E-02	5.376E-02	8.718E-02	0.000E+00	NOT IDENT.

CF-251	-7.574E-02	1.626E-01	2.646E-01	0.000E+00 NOT IDENT.
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VAX/VMS Nuclide Identification Report Generated 11-MAR-2010 10:19:40.72

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051016.CNF;1
Sample date    : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:30
Sample ID     : G248051016 Sample quantity : 1.08540E+02 GRAM
Detector name  : GAM17 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:10.26 0.1%
Energy tolerance : 2.00000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID      : 958225 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	1460.82	717	10.66*	7.786E-01	2.990E+01	2.990E+01	11.69
NB-95	765.81	32	99.81*	1.390E+00	8.096E-02	9.881E-02	70.49
CD-109	88.03	364	3.70*	6.675E+00	5.093E+00	5.236E+00	21.72
SN-126	64.28	212	9.60	6.775E+00	1.126E+00	1.126E+00	43.05
	86.94	364	8.90	6.675E+00	2.117E+00	2.117E+00	45.91
	87.57	364	37.00*	6.675E+00	5.093E-01	5.093E-01	21.72
CS-135	268.22	95	16.00*	3.649E+00	5.611E-01	5.611E-01	59.74
BA-137M	661.66	451	89.90*	1.605E+00	1.080E+00	1.081E+00	14.97
CS-137	661.66	451	85.10*	1.605E+00	1.141E+00	1.142E+00	14.98
TL-208	277.37	-----	6.60	3.568E+00	-----	Line Not Found	-----
	583.19	272	85.00*	1.813E+00	6.101E-01	6.101E-01	22.70
	860.56	54	12.50	1.248E+00	1.188E+00	1.188E+00	51.91
PB-210	46.54	147	4.25*	6.314E+00	1.890E+00	1.893E+00	47.33
BI-211	72.87	578	1.23	6.795E+00	2.392E+01	2.392E+01	17.02
	351.06	488	12.92*	2.910E+00	4.488E+00	4.488E+00	16.01
PB-212	74.82	578	10.28	6.795E+00	2.863E+00	2.863E+00	19.60
	77.11	913	17.10	6.782E+00	2.722E+00	2.722E+00	13.78
	238.63	1060	43.60*	4.024E+00	2.089E+00	2.089E+00	12.46
	300.09	54	3.30	3.340E+00	1.689E+00	1.689E+00	90.31
BI-214	609.32	331	45.49*	1.738E+00	1.446E+00	1.446E+00	18.06
	1120.29	86	14.92	9.779E-01	2.035E+00	2.035E+00	41.27
	1764.49	-----	15.30	6.714E-01	-----	Line Not Found	-----
PB-214	74.82	578	5.80	6.795E+00	5.074E+00	5.074E+00	18.78
	77.11	913	9.70	6.782E+00	4.798E+00	4.798E+00	16.06
	242.00	259	7.25	3.986E+00	3.102E+00	3.102E+00	34.24
	295.22	300	18.42	3.389E+00	1.661E+00	1.661E+00	19.49
	351.93	488	35.60*	2.910E+00	1.629E+00	1.629E+00	16.93
RA-224	240.99	259	4.10*	3.986E+00	5.486E+00	5.486E+00	33.75
RA-226	609.32	331	45.49*	1.738E+00	1.446E+00	1.446E+00	18.06
	1120.29	86	14.92	9.779E-01	2.035E+00	2.035E+00	41.27
	1764.49	-----	15.30	6.714E-01	-----	Line Not Found	-----
AC-228	338.32	225	11.27	3.015E+00	2.291E+00	2.291E+00	49.50

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	911.20	162	25.80*	1.182E+00	1.839E+00	1.839E+00	31.46
	968.97	133	15.80	1.116E+00	2.615E+00	2.615E+00	36.98
	338.32	225	11.27	3.015E+00	2.291E+00	2.291E+00	49.50
	911.20	162	25.80*	1.182E+00	1.839E+00	1.839E+00	31.46
TH-228	968.97	133	15.80	1.116E+00	2.615E+00	2.615E+00	36.98
	74.82	578	10.28	6.795E+00	2.863E+00	2.863E+00	17.06
	77.11	913	17.10	6.782E+00	2.722E+00	2.722E+00	13.78
	238.63	1060	43.60*	4.024E+00	2.089E+00	2.089E+00	12.46
TH-229	300.09	54	3.30	3.340E+00	1.689E+00	1.689E+00	108.59
	85.43	364	14.70	6.675E+00	1.282E+00	1.282E+00	21.72
	88.47	364	24.00	6.675E+00	7.852E-01	7.852E-01	21.72
	193.51	-----	4.41*	4.680E+00	-----	Line Not Found	-----
TH-232	210.85	108	2.80	4.435E+00	2.999E+00	2.999E+00	57.40
	338.32	225	11.27	3.015E+00	2.291E+00	2.291E+00	28.00
	911.20	162	25.80*	1.182E+00	1.839E+00	1.839E+00	31.46
	968.97	133	15.80	1.116E+00	2.615E+00	2.615E+00	36.98
TH-234	63.29	212	3.70*	6.775E+00	2.922E+00	2.922E+00	44.27
	92.59	381	4.23	6.595E+00	4.722E+00	4.722E+00	31.07
	89.96	219	3.47	6.637E+00	3.285E+00	3.285E+00	36.95
	93.35	381	5.60	6.595E+00	3.567E+00	3.567E+00	31.80
U-235	143.76	-----	10.96*	5.592E+00	-----	Line Not Found	-----
	163.33	-----	5.08	5.211E+00	-----	Line Not Found	-----
	185.72	166	57.20	4.809E+00	2.086E-01	2.086E-01	41.72
	205.31	-----	5.01	4.493E+00	-----	Line Not Found	-----
NP-237	86.48	364	12.40*	6.675E+00	1.520E+00	1.520E+00	30.19
	95.86	-----	2.68	6.543E+00	-----	Line Not Found	-----
	63.29	212	3.70*	6.775E+00	2.922E+00	2.922E+00	44.27
	92.59	381	4.23	6.595E+00	4.722E+00	4.722E+00	23.49
ANH-511	511.00	150	100.00*	2.058E+00	2.522E-01	2.522E-01	43.58

Flag: "*" = Keyline

Total number of lines in spectrum 34
Number of unidentified lines 5
Number of lines tentatively identified by NID 29 85.29%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.990E+01	2.990E+01	0.349E+01	11.69	
NB-95	64.03D	1.22	8.096E-02	9.881E-02	6.965E-02	70.49	
CD-109	461.40D	1.03	5.093E+00	5.236E+00	1.137E+00	21.72	
SN-126	2.30E+05Y	1.00	5.093E-01	5.093E-01	1.106E-01	21.72	
CS-135	2.30E+06Y	1.00	5.611E-01	5.611E-01	3.352E-01	59.74	
BA-137M	30.08Y	1.00	1.080E+00	1.081E+00	0.162E+00	14.97	
CS-137	30.08Y	1.00	1.141E+00	1.142E+00	0.171E+00	14.98	
TL-208	1.41E+10Y	1.00	6.101E-01	6.101E-01	1.385E-01	22.70	
PB-210	22.20Y	1.00	1.890E+00	1.893E+00	0.896E+00	47.33	
BI-211	7.04E+08Y	1.00	4.488E+00	4.488E+00	0.718E+00	16.01	
PB-212	1.41E+10Y	1.00	2.089E+00	2.089E+00	0.260E+00	12.46	
BI-214	1600.00Y	1.00	1.446E+00	1.446E+00	0.261E+00	18.06	
PB-214	1600.00Y	1.00	1.629E+00	1.629E+00	0.276E+00	16.93	
RA-224	1.41E+10Y	1.00	5.486E+00	5.486E+00	1.851E+00	33.75	
RA-226	1600.00Y	1.00	1.446E+00	1.446E+00	0.261E+00	18.06	
AC-228	1.41E+10Y	1.00	1.839E+00	1.839E+00	0.579E+00	31.46	
RA-228	1.41E+10Y	1.00	1.839E+00	1.839E+00	0.579E+00	31.46	
TH-228	1.41E+10Y	1.00	2.089E+00	2.089E+00	0.260E+00	12.46	
TH-229	7340.00Y	1.00	7.852E-01	7.852E-01	1.705E-01	21.72	K
TH-232	1.41E+10Y	1.00	1.839E+00	1.839E+00	0.579E+00	31.46	
TH-234	4.47E+09Y	1.00	2.922E+00	2.922E+00	1.294E+00	44.27	
U-235	7.04E+08Y	1.00	2.086E-01	2.086E-01	0.870E-01	41.72	K
NP-237	2.14E+06Y	1.00	1.520E+00	1.520E+00	0.459E+00	30.19	
U-238	4.47E+09Y	1.00	2.922E+00	2.922E+00	1.294E+00	44.27	
ANH-511	1.00E+09Y	1.00	2.522E-01	2.522E-01	1.099E-01	43.58	

Total Activity : 7.366E+01 7.383E+01

Grand Total Activity : 7.366E+01 7.383E+01

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

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

Unidentified Energy Lines
Sample ID : G248051016

Page : 4
Acquisition date : 10-MAR-2010 20:42:30

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.51	104	364	1.08	256.71	252	10	1.44E-02	71.6	5.90E+00	
0	327.61	76	129	1.77	655.08	651	10	1.05E-02	60.4	3.10E+00	T
0	462.19	63	84	0.84	924.35	920	9	8.81E-03	57.6	2.26E+00	T
0	726.16	57	32	1.42	1452.58	1449	7	7.90E-03	43.6	1.47E+00	T
0	1589.07	26	16	0.69	3179.73	3170	20	3.65E-03	90.7	7.27E-01	
0	1727.55	29	3	1.89	3456.96	3450	13	3.99E-03	45.4	6.82E-01	
0	1762.23	51	4	1.53	3526.40	3519	13	7.05E-03	32.9	6.72E-01	
0	1802.62	16	4	1.13	3607.26	3599	13	2.27E-03	67.6	6.61E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051016.CNF;1
* Acquisition date   : 10-MAR-2010 20:42:30  Detector SN#      :
* Detector ID        : GAM17                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 2.00000
* Elapsed live time  : 0 02:00:00.00          Abundance limit   : 75.00000
* Elapsed real time  : 0 02:00:10.26          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248051016            Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity  : 1.08540E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36.18MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                    LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.990E+01	3.495E+00	8.232E-01	7.309E-02	36.317
NB-95	9.881E-02	6.965E-02	9.781E-02	8.543E-03	1.010
CD-109	5.236E+00	1.137E+00	1.086E+00	1.060E-01	4.822
SN-126	5.093E-01	1.106E-01	1.055E-01	1.029E-02	4.829
CS-135	5.611E-01	3.352E-01	3.194E-01	3.333E-02	1.757
BA-137M	1.081E+00	1.619E-01	9.043E-02	7.618E-03	11.958
CS-137	1.142E+00	1.712E-01	9.554E-02	8.064E-03	11.958
TL-208	6.101E-01	1.385E-01	7.643E-02	7.220E-03	7.982
PB-210	1.893E+00	8.961E-01	9.603E-01	1.035E-01	1.972
BI-211	4.488E+00	7.183E-01	4.459E-01	4.161E-02	10.065
PB-212	2.089E+00	2.602E-01	1.115E-01	1.129E-02	18.732
BI-214	1.446E+00	2.611E-01	1.723E-01	1.760E-02	8.394
PB-214	1.629E+00	2.757E-01	1.622E-01	1.758E-02	10.039
RA-224	5.486E+00	1.851E+00	1.196E+00	1.082E-01	4.586
RA-226	1.446E+00	2.611E-01	1.723E-01	1.760E-02	8.394
AC-228	1.839E+00	5.785E-01	3.136E-01	3.665E-02	5.865
RA-228	1.839E+00	5.785E-01	3.136E-01	3.665E-02	5.865
TH-228	2.089E+00	2.602E-01	1.115E-01	1.129E-02	18.732

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229	7.852E-01	1.705E-01	1.147E+00	9.917E-02	0.685
TH-232	1.839E+00	5.785E-01	3.136E-01	3.665E-02	5.865
TH-234	2.922E+00	1.294E+00	1.243E+00	2.365E-01	2.351
U-235	2.086E-01	8.703E-02	4.152E-01	7.392E-02	0.502
NP-237	1.520E+00	4.587E-01	3.137E-01	7.254E-02	4.845
U-238	2.922E+00	1.294E+00	1.243E+00	2.365E-01	2.351
ANH-511	2.522E-01	1.099E-01	6.402E-02	5.718E-03	3.940

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.074E-01		4.815E-01	7.748E-01	7.370E-02	-0.139
NA-22	-1.724E-02		6.686E-02	1.037E-01	8.734E-03	-0.166
NA-24	-4.511E+00		1.768E+01	Half-Life too short		
SC-46	1.167E-02		5.530E-02	9.376E-02	8.208E-03	0.125
V-48	-1.537E-01		1.354E-01	1.931E-01	1.685E-02	-0.796
CR-51	-5.521E-02		5.014E-01	8.377E-01	7.994E-02	-0.066
MN-54	1.289E-04		5.480E-02	9.116E-02	8.015E-03	0.001
CO-56	-2.662E-02		6.228E-02	9.892E-02	8.695E-03	-0.269
CO-57	3.303E-03		2.922E-02	4.857E-02	5.690E-03	0.068
CO-58	-3.268E-02		5.962E-02	9.364E-02	8.247E-03	-0.349
FE-59	-8.671E-03		1.446E-01	2.337E-01	2.144E-02	-0.037
CO-60	-2.323E-02		5.413E-02	8.493E-02	7.238E-03	-0.274
ZN-65	2.531E-01		1.529E-01	2.659E-01	2.239E-02	0.952
SE-75	4.947E-02		6.435E-02	9.664E-02	8.880E-03	0.512
SR-85	5.031E-02		5.997E-02	9.350E-02	8.354E-03	0.538
Y-88	-5.073E-03		5.417E-02	8.637E-02	7.202E-03	-0.059
Y-91	-3.690E+01		3.622E+01	5.147E+01	4.248E+00	-0.717
NB-94	2.446E-03		4.982E-02	8.426E-02	7.228E-03	0.029
NB-95M	7.446E-02		1.686E-01	2.475E-01	2.531E-02	0.301
ZR-95	-4.112E-02		1.080E-01	1.742E-01	1.674E-02	-0.236
MO-99	3.207E+01		4.184E+01	7.444E+01	1.176E+01	0.431
TC-99M	-2.439E+14		1.868E+14	Half-Life too short		
RU-103	3.168E-02		5.802E-02	9.903E-02	1.401E-02	0.320
RH-106	7.672E-03		4.484E-01	7.223E-01	9.607E-02	0.011
RU-106	7.672E-03		4.484E-01	7.223E-01	6.275E-02	0.011
AG-108M	8.082E-03		4.577E-02	7.643E-02	6.850E-03	0.106
AG-110M	1.270E-01		6.272E-02	1.078E-01	9.399E-03	1.178
SN-113	-1.693E-02		6.391E-02	1.042E-01	9.057E-03	-0.162
CD-115	-8.999E-06		2.220E-05	Half-Life too short		
SN-117M	5.576E-02		7.885E-02	1.329E-01	1.195E-02	0.420
TE-123M	-1.767E-02		3.619E-02	5.755E-02	5.180E-03	-0.307
SB-124	7.544E-02		1.216E-01	2.244E-01	2.001E-02	0.336
SB-125	5.135E-02		1.325E-01	2.247E-01	1.980E-02	0.229
TE-125M	-1.236E+00		1.051E+01	1.738E+01	2.159E+00	-0.071
I-126	-7.250E-02		4.735E-01	6.425E-01	5.425E-02	-0.113
SB-126	1.624E-01		2.490E-01	4.115E-01	3.553E-02	0.395

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	1.604E+00		3.499E+00	5.842E+00	7.188E-01	0.275
I-131	-4.511E-02		2.087E-01	3.432E-01	3.177E-02	-0.131
TE-132	8.797E-01		1.911E+00	3.128E+00	5.218E-01	0.281
BA-133	7.755E-02		5.441E-02	9.024E-02	1.184E-02	0.859
I-133	-4.287E-02		5.728E-02	Half-Life too short		
CS-134	6.572E-02		6.822E-02	1.234E-01	1.090E-02	0.533
I-135	5.874E+12		1.735E+13	Half-Life too short		
CS-136	-4.333E-03		1.786E-01	2.909E-01	2.612E-02	-0.015
CE-139	9.313E-04		3.780E-02	6.161E-02	5.137E-03	0.015
BA-140	-4.620E-01		5.098E-01	7.220E-01	2.454E-01	-0.640
LA-140	-4.595E-02		1.667E-01	2.175E-01	1.878E-02	-0.211
CE-141	2.197E-02		8.318E-02	1.366E-01	1.393E-02	0.161
CE-143	7.561E-03	+	1.078E-03	Half-Life too short		
CE-144	-1.734E-01		2.540E-01	3.813E-01	6.370E-02	-0.455
PM-144	-1.300E-02		5.204E-02	8.589E-02	7.353E-03	-0.151
PR-144	-1.003E+00		3.899E+00	6.430E+00	5.503E-01	-0.156
PM-146	-5.833E-03		6.326E-02	1.034E-01	1.108E-02	-0.056
ND-147	-4.073E-01		1.007E+00	1.576E+00	2.386E-01	-0.258
PM-149	-3.482E-04		1.610E-04	Half-Life too short		
EU-152	-1.014E-01		1.324E-01	2.020E-01	1.910E-02	-0.502
GD-153	-7.045E-02		9.341E-02	1.333E-01	1.363E-02	-0.528
EU-154	-5.721E-02		1.913E-01	2.949E-01	3.310E-02	-0.194
EU-155	1.498E-01		1.145E-01	1.993E-01	2.141E-02	0.752
TB-160	-1.177E-01		2.121E-01	3.291E-01	2.885E-02	-0.358
HO-166M	2.193E-02		8.200E-02	1.414E-01	1.217E-02	0.155
TA-182	-8.740E-02		3.337E-01	5.233E-01	4.341E-02	-0.167
IR-192	-3.176E-03		4.648E-02	7.794E-02	7.131E-03	-0.041
HG-203	-7.665E-02		5.071E-02	7.765E-02	7.290E-03	-0.987
BI-207	3.208E-02		8.131E-02	1.385E-01	1.187E-02	0.232
PB-211	-1.079E+00		1.200E+00	1.673E+00	8.091E-01	-0.645
BI-212	2.011E+00	+	9.112E-01	1.742E+00	2.175E-01	1.154
RN-219	4.656E-01		6.096E-01	1.053E+00	1.559E-01	0.442
RA-223	-1.659E-01		8.871E-01	1.292E+00	2.270E-01	-0.128
AC-227	-3.060E-02		3.246E-01	5.117E-01	6.352E-02	-0.060
TH-227	-3.060E-02		3.247E-01	5.117E-01	7.127E-02	-0.060
PA-231	1.208E+00		1.707E+00	2.998E+00	4.474E-01	0.403
TH-231	-1.659E-01		8.871E-01	1.292E+00	2.270E-01	-0.128
PA-233	-1.299E-02		8.289E-02	1.383E-01	1.298E-02	-0.094
PA-234	1.831E-01		4.655E-01	7.966E-01	1.500E-01	0.230
PA-234M	1.322E+00		6.892E+00	1.169E+01	1.173E+00	0.113
NP-239	1.681E-01		4.538E-01	7.637E-01	8.698E-02	0.220
AM-241	-1.656E-02		8.061E-02	1.217E-01	1.292E-02	-0.136
CM-247	4.633E-02		5.504E-02	9.596E-02	8.150E-03	0.483
CF-249	-3.525E-02		5.486E-02	8.694E-02	7.364E-03	-0.405
CF-251	-7.574E-02		1.659E-01	2.625E-01	2.223E-02	-0.289

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]G248051016          *
* Acquisition date   : 10-MAR-2010 20:42:30 Detector SN# :                *
* Detector ID        : GAM17 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 2.000                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000           *
* Elapsed real time  : 0 02:00:10.26 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G248051016 Analyst initials: MXR1                  *
* Batch Number      : 958225 Sample Quantity : 1.0854E+02 GRAM          *
* Recovery          : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME  : 6-JAN-2010 11:41:36 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.990E+01	3.425E+00	4.094E-01	1.747E+00
NB-95	9.881E-02	6.825E-02	4.885E-02	3.482E-02
CD-109	5.236E+00	1.114E+00	5.500E-01	5.685E-01
SN-126	5.093E-01	1.084E-01	5.343E-02	5.530E-02
CS-135	5.611E-01	3.285E-01	1.606E-01	1.676E-01
BA-137M	1.081E+00	1.587E-01	4.521E-02	8.097E-02
CS-137	1.142E+00	1.677E-01	4.776E-02	8.559E-02
TL-208	6.101E-01	1.357E-01	3.824E-02	6.925E-02
PB-210	1.893E+00	8.781E-01	4.884E-01	4.480E-01
BI-211	4.488E+00	7.039E-01	2.238E-01	3.591E-01
PB-212	2.089E+00	2.550E-01	5.612E-02	1.301E-01
BI-214	1.446E+00	2.559E-01	8.616E-02	1.306E-01
PB-214	1.629E+00	2.702E-01	8.144E-02	1.379E-01
RA-224	5.486E+00	1.814E+00	6.020E-01	9.256E-01
RA-226	1.446E+00	2.559E-01	8.616E-02	1.306E-01
AC-228	1.839E+00	5.670E-01	1.564E-01	2.893E-01
RA-228	1.839E+00	5.670E-01	1.564E-01	2.893E-01
TH-228	2.089E+00	2.550E-01	5.612E-02	1.301E-01
TH-229	7.815E-01	6.597E-01	5.779E-01	3.366E-01
TH-232	1.839E+00	5.670E-01	1.564E-01	2.893E-01
TH-234	2.922E+00	1.268E+00	6.309E-01	6.468E-01
U-235	1.513E-01	2.445E-01	2.096E-01	1.247E-01
NP-237	1.520E+00	4.496E-01	1.589E-01	2.294E-01
U-238	2.922E+00	1.268E+00	6.309E-01	6.468E-01
ANH-511	2.522E-01	1.077E-01	3.206E-02	5.495E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.074E-01	4.718E-01	3.882E-01	2.407E-01 NOT IDENT.
NA-22	-1.724E-02	6.552E-02	5.160E-02	3.343E-02 NOT IDENT.

NA-24	-4.511E+06	3.465E+07	0.000E+00	1.768E+07	SHORT HLIF
SC-46	1.167E-02	5.420E-02	4.678E-02	2.765E-02	FAIL ABUN
V-48	-1.537E-01	1.327E-01	9.629E-02	6.770E-02	NOT IDENT.
CR-51	-5.521E-02	4.914E-01	4.208E-01	2.507E-01	NOT IDENT.
MN-54	1.289E-04	5.370E-02	4.550E-02	2.740E-02	NOT IDENT.
CO-56	-2.662E-02	6.104E-02	4.937E-02	3.114E-02	NOT IDENT.
CO-57	3.303E-03	2.864E-02	2.455E-02	1.461E-02	NOT IDENT.
CO-58	-3.268E-02	5.843E-02	4.675E-02	2.981E-02	NOT IDENT.
FE-59	-8.671E-03	1.418E-01	1.164E-01	7.232E-02	NOT IDENT.
CO-60	-2.323E-02	5.305E-02	4.226E-02	2.707E-02	NOT IDENT.
ZN-65	2.531E-01	1.499E-01	1.325E-01	7.647E-02	NOT IDENT.
SE-75	4.947E-02	6.306E-02	4.860E-02	3.218E-02	NOT IDENT.
SR-85	5.031E-02	5.877E-02	4.682E-02	2.998E-02	NOT IDENT.
Y-88	-5.073E-03	5.309E-02	4.289E-02	2.709E-02	NOT IDENT.
Y-91	-3.690E+01	3.550E+01	2.563E+01	1.811E+01	NOT IDENT.
NB-94	2.446E-03	4.882E-02	4.211E-02	2.491E-02	NOT IDENT.
NB-95M	7.446E-02	1.652E-01	1.246E-01	8.428E-02	NOT IDENT.
ZR-95	-4.112E-02	1.058E-01	8.699E-02	5.399E-02	FAIL ABUN
MO-99	3.207E+01	4.101E+01	3.719E+01	2.092E+01	NOT IDENT.
TC-99M	-2.439E+20	3.661E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	3.168E-02	5.686E-02	4.960E-02	2.901E-02	FAIL ABUN
RH-106	7.672E-03	4.395E-01	3.613E-01	2.242E-01	NOT IDENT.
RU-106	7.672E-03	4.395E-01	3.613E-01	2.242E-01	NOT IDENT.
AG-108M	8.082E-03	4.485E-02	3.831E-02	2.288E-02	NOT IDENT.
AG-110M	1.270E-01	6.146E-02	5.391E-02	3.136E-02	NOT IDENT.
SN-113	-1.693E-02	6.264E-02	5.229E-02	3.196E-02	NOT IDENT.
CD-115	-8.999E+00	4.350E+01	0.000E+00	2.220E+01	SHORT HLIF
SN-117M	5.576E-02	7.727E-02	6.707E-02	3.943E-02	NOT IDENT.
TE-123M	-1.767E-02	3.547E-02	2.904E-02	1.810E-02	NOT IDENT.
SB-124	7.544E-02	1.192E-01	1.115E-01	6.082E-02	NOT IDENT.
SB-125	5.135E-02	1.298E-01	1.126E-01	6.623E-02	FAIL ABUN
TE-125M	-1.236E+00	1.030E+01	8.789E+00	5.257E+00	NOT IDENT.
I-126	-7.250E-02	4.641E-01	3.212E-01	2.368E-01	NOT IDENT.
SB-126	1.624E-01	2.440E-01	2.056E-01	1.245E-01	NOT IDENT.
SB-127	1.604E+00	3.429E+00	2.920E+00	1.749E+00	NOT IDENT.
I-131	-4.511E-02	2.045E-01	1.723E-01	1.043E-01	NOT IDENT.
TE-132	8.797E-01	1.873E+00	1.574E+00	9.555E-01	NOT IDENT.
BA-133	7.755E-02	5.333E-02	4.530E-02	2.721E-02	NOT IDENT.
I-133	-4.287E+04	1.123E+05	0.000E+00	5.728E+04	SHORT HLIF
CS-134	6.572E-02	6.685E-02	6.160E-02	3.411E-02	NOT IDENT.
I-135	5.874E+18	3.401E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.333E-03	1.750E-01	1.450E-01	8.931E-02	NOT IDENT.
CE-139	9.313E-04	3.704E-02	3.108E-02	1.890E-02	NOT IDENT.
BA-140	-4.620E-01	4.996E-01	3.614E-01	2.549E-01	NOT IDENT.
LA-140	-4.595E-02	1.633E-01	1.081E-01	8.333E-02	FAIL ABUN
CE-141	2.197E-02	8.151E-02	6.896E-02	4.159E-02	NOT IDENT.
CE-143	7.561E+03	2.112E+03	0.000E+00	1.078E+03	SHORT HLIF
CE-144	-1.734E-01	2.489E-01	1.926E-01	1.270E-01	NOT IDENT.
PM-144	-1.300E-02	5.100E-02	4.292E-02	2.602E-02	NOT IDENT.
PR-144	-1.003E+00	3.821E+00	3.214E+00	1.949E+00	NOT IDENT.
PM-146	-5.833E-03	6.199E-02	5.180E-02	3.163E-02	NOT IDENT.
ND-147	-4.073E-01	9.869E-01	7.890E-01	5.035E-01	FAIL ABUN
PM-149	-3.482E+02	3.156E+02	0.000E+00	1.610E+02	SHORT HLIF
EU-152	-1.014E-01	1.297E-01	1.014E-01	6.619E-02	NOT IDENT.
GD-153	-7.045E-02	9.155E-02	6.749E-02	4.671E-02	NOT IDENT.
EU-154	-5.721E-02	1.875E-01	1.468E-01	9.564E-02	NOT IDENT.
EU-155	1.498E-01	1.122E-01	1.008E-01	5.726E-02	FAIL ABUN
TB-160	-1.177E-01	2.079E-01	1.642E-01	1.061E-01	FAIL ABUN
HO-166M	2.193E-02	8.036E-02	7.066E-02	4.100E-02	FAIL ABUN
TA-182	-8.740E-02	3.270E-01	2.605E-01	1.668E-01	NOT IDENT.
IR-192	-3.176E-03	4.555E-02	3.915E-02	2.324E-02	FAIL ABUN
HG-203	-7.665E-02	4.969E-02	3.904E-02	2.535E-02	FAIL ABUN
BI-207	3.208E-02	7.969E-02	6.901E-02	4.066E-02	FAIL ABUN
PB-211	-1.079E+00	1.176E+00	8.388E-01	5.999E-01	NOT IDENT.
BI-212	2.011E+00	8.930E-01	8.705E-01	4.556E-01	FAIL ABUN
RN-219	4.656E-01	5.974E-01	5.284E-01	3.048E-01	FAIL ABUN
RA-223	-1.659E-01	8.693E-01	6.489E-01	4.435E-01	FAIL ABUN
AC-227	-3.060E-02	3.182E-01	2.574E-01	1.623E-01	FAIL ABUN
TH-227	-3.060E-02	3.182E-01	2.574E-01	1.623E-01	FAIL ABUN
PA-231	1.208E+00	1.673E+00	1.507E+00	8.535E-01	FAIL ABUN
TH-231	-1.659E-01	8.693E-01	6.489E-01	4.435E-01	FAIL ABUN
PA-233	-1.299E-02	8.123E-02	6.950E-02	4.144E-02	FAIL ABUN
PA-234	1.831E-01	4.562E-01	3.973E-01	2.328E-01	FAIL ABUN
PA-234M	1.322E+00	6.754E+00	5.829E+00	3.446E+00	FAIL ABUN
NP-239	1.681E-01	4.447E-01	3.861E-01	2.269E-01	NOT IDENT.
AM-241	-1.656E-02	7.900E-02	6.180E-02	4.030E-02	NOT IDENT.
CM-247	4.633E-02	5.394E-02	4.813E-02	2.752E-02	NOT IDENT.
CF-249	-3.525E-02	5.376E-02	4.362E-02	2.743E-02	NOT IDENT.

CF-251	-7.574E-02	1.626E-01	1.324E-01	8.297E-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
46.54	255.9474
49.72	255.8470
57.36	0.0000
59.54	336.5914
63.29	375.5176
63.29	375.5176
64.28	377.3079
67.75	376.2466
69.67	367.5990
70.83	383.2207
72.81	377.8234
72.87	377.8752
72.87	377.8752
74.82	379.5271
74.82	379.5271
74.82	379.5271
74.97	379.6543
77.11	381.4400
77.11	381.4400
77.11	381.4400
79.69	339.2353
79.80	339.3135
80.12	317.8135
80.19	317.8599
80.57	277.3312
81.00	340.1756
81.07	340.2252
81.07	340.2252
83.79	260.0374
83.79	260.0374
85.43	260.9094
86.48	261.4645
86.55	261.5008
86.79	261.6255
86.94	261.7052
87.57	262.0357
88.03	262.2763
88.47	262.5053
89.96	263.2765
91.11	263.8680
92.59	264.6246
92.59	264.6246
93.35	265.0102
94.67	208.3456
94.87	208.4240
94.87	208.4240
95.86	235.4412
97.43	257.2153
98.44	187.0053
99.53	212.5900
100.11	224.1152
103.18	242.4037
103.37	247.2217
105.31	215.7567
106.12	228.4375
109.28	221.0789
111.00	214.0497
111.76	210.4810
116.30	212.0794
117.23	219.1927
121.12	214.7195
121.78	228.6239
122.06	216.9956
123.07	211.4692
131.20	218.6046
133.52	243.5449
136.00	215.6836

136.47	230.8214
140.51	222.1308
140.51	0.0000
143.76	211.0495
144.24	225.3388
144.24	225.3388
145.44	212.5613
152.43	206.4508
153.25	218.9590
154.21	237.6853
154.21	237.6853
156.02	215.6696
158.56	190.6382
159.00	224.7748
162.66	195.8099
163.33	209.4591
165.86	207.0224
176.60	199.2840
177.52	214.2853
181.07	187.6466
184.41	201.1701
185.72	196.1514
193.51	169.9693
197.04	183.6150
205.31	179.8670
210.85	154.6347
215.65	165.3503
222.11	183.1224
227.38	162.9178
228.16	157.4632
228.18	157.4661
235.69	143.4686
235.96	143.5075
235.96	143.5075
238.63	147.8374
238.63	147.8374
240.99	148.1799
242.00	148.3265
244.70	156.6622
252.40	130.3722
252.80	139.5732
256.23	135.4334
256.23	135.4334
260.90	0.0000
264.66	111.0430
268.22	135.7740
269.46	127.7918
269.46	127.7918
271.23	127.4136
273.65	190.6602
276.40	115.7276
277.37	102.6642
277.60	107.9516
278.00	107.9891
279.20	161.7159
279.54	161.7637
280.46	147.8152
283.69	102.3496
284.31	123.5927
285.41	146.6849
285.90	0.0000
287.50	103.5729
293.27	0.0000
295.22	118.5099
295.96	118.5850
298.57	118.8448
299.98	118.9828
299.98	118.9828
300.09	118.9950
300.09	118.9950
300.13	118.9990
301.36	114.6406
302.85	104.7397
304.50	100.5720
304.50	100.5720
304.85	107.7869
308.46	109.9054
311.90	119.2463

316.51	117.8760
319.41	115.4212
320.08	109.1162
323.87	106.5255
323.87	106.5255
328.76	125.9745
333.37	102.9031
334.37	122.1069
334.37	122.1069
338.28	106.9782
338.28	106.9782
338.32	106.9818
338.32	106.9818
338.32	106.9818
340.48	115.2861
340.55	115.2918
344.28	120.6976
351.06	108.9377
351.93	109.0073
356.01	59.8066
364.49	106.2461
366.42	95.0959
383.85	101.9844
388.16	108.0221
388.63	109.0128
391.69	106.3660
400.66	103.1534
401.81	101.3038
402.40	97.4831
404.85	131.4761
410.95	116.4752
414.70	129.4100
423.72	100.8044
427.09	96.1173
427.87	89.2962
433.94	101.4582
453.88	93.7390
463.37	70.6063
468.07	94.2520
473.00	81.7020
476.78	86.9370
477.60	80.9106
487.02	84.4033
492.35	0.0000
497.08	60.3414
511.00	66.9970
514.00	64.4238
527.90	0.0000
529.87	0.0000
531.02	72.9416
537.26	85.7311
546.56	0.0000
563.25	45.5694
569.33	58.4677
569.50	60.5990
569.70	57.4162
583.19	53.5248
600.60	75.5798
602.73	60.5254
604.72	88.2788
609.32	71.5611
609.32	71.5611
610.33	72.8971
614.28	29.5624
618.01	57.7051
621.93	53.4502
621.93	53.4502
633.25	39.4783
635.95	46.1169
636.99	54.9271
645.85	46.3284
657.76	40.8126
661.66	65.5486
661.66	65.5486
664.57	0.0000
666.33	62.3472
666.50	57.0078
677.62	62.6616

685.70	47.1628
695.00	59.5321
696.49	66.7897
696.51	66.7915
697.00	68.6115
702.65	61.5387
706.68	53.4860
711.68	45.4236
720.70	39.0831
721.93	0.0000
722.78	34.9885
722.91	42.5970
723.31	42.6038
724.19	45.6641
727.33	60.9652
733.00	57.7490
735.93	58.7359
739.50	45.0367
747.24	55.3228
752.31	48.0454
753.82	42.5275
756.73	53.6854
763.94	49.5091
765.81	47.9973
766.42	55.7534
777.92	46.6736
778.90	50.4272
783.70	44.9098
785.37	45.8753
795.86	41.3628
801.95	50.8834
810.29	58.6094
810.76	51.0561
815.77	36.9443
818.51	42.6731
832.01	40.0313
834.85	48.6604
836.80	0.0000
846.77	51.7522
856.80	27.2542
860.56	30.5024
871.09	38.6768
873.19	40.6414
875.33	0.0000
879.36	45.5806
880.51	34.9269
883.24	41.7591
884.68	40.8085
889.28	33.0902
898.04	30.2636
911.20	35.3074
911.20	35.3074
911.20	35.3074
926.50	30.5648
937.49	54.4320
944.13	34.7163
946.00	38.7086
949.00	41.7283
962.29	28.2752
964.08	41.6066
966.15	56.6238
968.97	58.0099
968.97	58.0099
968.97	58.0099
983.53	57.2839
996.26	43.3926
1001.03	35.3743
1004.73	39.4637
1037.84	39.8798
1038.76	0.0000
1048.07	32.8266
1050.41	37.9828
1050.41	37.9828
1063.66	36.0767
1085.87	43.5853
1099.45	38.5537
1112.07	50.5518
1115.54	26.1743

1120.29	36.6953
1120.29	36.6953
1120.55	36.6970
1121.30	36.7056
1131.51	0.0000
1173.23	47.9048
1177.93	47.9685
1189.05	35.2865
1204.77	57.9946
1221.41	56.1006
1231.02	71.3915
1235.36	49.8161
1238.28	39.0182
1260.41	0.0000
1271.85	37.1825
1274.44	36.1131
1274.54	35.0203
1291.59	34.0773
1298.22	0.0000
1312.11	25.7863
1332.49	24.9950
1365.19	12.1341
1368.63	0.0000
1384.29	11.2539
1408.01	22.6387
1457.56	0.0000
1460.82	18.0131
1489.16	17.3086
1505.03	16.4065
1596.21	15.1969
1620.50	9.9015
1678.03	0.0000
1690.97	8.0404
1764.49	6.9958
1764.49	6.9958
1770.23	12.2568
1771.35	13.2809
1791.20	0.0000
1836.06	10.3471

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051016

Total Uranium Activity	8.7624E+00	ug/g
Total Uranium Counting Unc.	3.7730E+00	ug/g
Total Uranium Tpu	1.9250E-06	ug/g
Total Uranium Mda	1.8795E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 958225                          SAMPLE ID   : G248051016
*  ANALYST       : MXR1                             DETECTOR    : GAM17
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 10-MAR-2010 20:42:30.32          SAMPLE ALQT  : 108.540 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.208E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.634E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 5.432E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.629E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 22:44:37.90

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051017.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:59
Sample ID          : G248051017 Sample quantity : 1.18130E+02 GRAM
Detector name      : GAM21 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:26.17 0.4%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	46.52*	187	432	0.66	93.03	89	8	2.60E-02	20.8	
2	0	63.17	302	616	0.97	126.30	123	8	4.20E-02	15.3	
3	3	74.86*	809	422	0.85	149.67	145	13	1.12E-01	5.1	4.40E+00
4	3	77.09*	1234	307	0.71	154.13	145	13	1.71E-01	3.5	
5	0	84.13*	138	389	1.05	168.20	165	6	1.91E-02	24.4	
6	6	87.21*	442	413	1.11	174.36	171	21	6.14E-02	8.7	3.80E+00
7	6	89.93	308	350	1.09	179.80	171	21	4.28E-02	11.5	
8	6	92.83*	545	296	1.25	185.59	171	21	7.57E-02	7.1	
9	0	105.19	124	412	1.01	210.31	205	10	1.72E-02	31.9	
10	0	129.54	94	424	0.98	258.97	254	10	1.31E-02	42.1	
11	0	185.90*	282	342	1.06	371.65	366	11	3.91E-02	14.2	
12	0	209.26	150	250	0.81	418.37	414	9	2.09E-02	20.7	
13	7	238.43*	1357	135	0.84	476.69	473	14	1.88E-01	3.0	6.72E+00
14	7	241.39*	341	169	1.64	482.60	473	14	4.73E-02	8.8	
15	0	269.97	83	189	0.81	539.74	535	10	1.15E-02	32.9	
16	0	294.90*	384	139	1.04	589.57	585	10	5.34E-02	7.7	
17	0	300.42*	129	152	1.23	600.61	595	13	1.79E-02	22.0	
18	0	328.03	90	140	1.18	655.82	651	10	1.26E-02	26.6	
19	0	338.00	245	140	0.97	675.76	672	10	3.41E-02	11.0	
20	0	351.74*	554	161	1.00	703.23	699	10	7.70E-02	6.1	
21	0	409.32	62	81	1.13	818.36	814	9	8.57E-03	29.2	
22	0	463.06	79	76	1.05	925.82	922	10	1.10E-02	23.4	
23	0	510.71*	101	107	1.43	1021.11	1014	13	1.40E-02	26.1	
24	0	582.85*	318	101	1.21	1165.40	1159	13	4.41E-02	8.7	
25	0	608.97*	431	87	1.27	1217.64	1211	14	5.99E-02	6.8	
26	0	661.47	196	83	1.19	1322.64	1317	11	2.72E-02	11.6	
27	0	726.93	77	38	1.01	1453.57	1450	10	1.07E-02	19.0	
28	0	794.56	44	39	2.29	1588.84	1583	10	6.05E-03	31.1	
29	0	859.64	51	20	1.24	1719.04	1713	12	7.09E-03	22.7	
30	0	910.93	222	49	1.58	1821.64	1816	15	3.08E-02	9.7	
31	0	968.74	130	42	1.03	1937.29	1932	10	1.80E-02	12.9	
32	0	1121.03	84	61	2.18	2242.00	2233	18	1.17E-02	25.2	
33	0	1407.36	21	14	1.80	2815.01	2807	14	2.91E-03	43.7	
34	0	1460.00	728	8	1.75	2920.37	2912	15	1.01E-01	3.8	
35	0	1468.43	9	1	1.37	2937.25	2934	6	1.19E-03	40.9	
36	1	1587.29	23	5	2.18	3175.16	3170	23	3.22E-03	24.2	1.21E+00
37	1	1591.40	37	2	2.18	3183.40	3170	23	5.11E-03	19.7	
38	0	1763.46*	56	7	1.68	3527.86	3521	14	7.83E-03	17.1	

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 10-MAR-2010 22:44:40

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051017.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:59
 Sample ID : G248051017 Sample quantity : 118.13 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA21 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:26.17 0.4%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	3.010E+01	3.440E+00	5.326E-01	4.547E-02	56.522
CD-109	+	88.03	*	4.800E+00	9.464E-01	7.515E-01	7.071E-02	6.387
SN-126	+	64.28		1.223E+00	4.163E-01	3.323E-01	4.924E-02	3.679
	+	86.94		1.941E+00	8.735E-01	3.026E-01	1.256E-01	6.414
	+	87.57	*	4.669E-01	9.206E-02	7.297E-02	6.840E-03	6.398
BA-137M	+	661.66	*	4.441E-01	1.138E-01	8.744E-02	9.657E-03	5.079
CS-137	+	661.66	*	4.692E-01	1.202E-01	9.237E-02	1.021E-02	5.079
EU-155	+	86.55		5.669E-01	1.120E-01	8.825E-02	8.275E-03	6.423
	+	105.31	*	2.440E-01	1.578E-01	1.287E-01	1.342E-02	1.895
TL-208		277.37		4.741E-01	4.432E-01	7.597E-01	9.676E-02	0.624
	+	583.19	*	6.678E-01	1.372E-01	6.544E-02	7.123E-03	10.205
	+	860.56		1.079E+00	5.012E-01	5.329E-01	5.288E-02	2.025
PB-210	+	46.54	*	1.905E+00	8.135E-01	6.565E-01	6.208E-02	2.902
BI-211		72.87		2.844E-01	1.852E+00	2.831E+00	2.370E-01	0.100
	+	351.06	*	4.550E+00	6.927E-01	3.724E-01	3.362E-02	12.216
PB-212	+	74.82		3.021E+00	4.976E-01	3.378E-01	4.360E-02	8.943
	+	77.11		2.775E+00	3.089E-01	2.041E-01	1.761E-02	13.592
	+	238.63	*	2.254E+00	2.626E-01	9.913E-02	9.903E-03	22.738
	+	300.09		3.535E+00	1.604E+00	1.124E+00	1.212E-01	3.144
BI-214	+	609.32	*	1.773E+00	3.185E-01	1.386E-01	1.644E-02	12.785
	+	1120.29		1.927E+00	9.934E-01	6.486E-01	6.997E-02	2.971
	+	1764.49		1.956E+00	6.871E-01	4.304E-01	3.578E-02	4.545
PB-214	+	74.82		5.354E+00	8.289E-01	5.987E-01	6.953E-02	8.943
	+	77.11		4.892E+00	6.778E-01	3.599E-01	4.295E-02	13.592
	+	242.00		3.440E+00	7.095E-01	5.379E-01	5.708E-02	6.396
	+	295.22		1.851E+00	3.519E-01	2.322E-01	2.565E-02	7.975
	+	351.93	*	1.651E+00	2.674E-01	1.356E-01	1.433E-02	12.180
RA-224	+	240.99	*	6.083E+00	1.204E+00	1.066E+00	9.468E-02	5.709
RA-226	+	609.32	*	1.773E+00	3.185E-01	1.386E-01	1.644E-02	12.785
	+	1120.29		1.927E+00	9.934E-01	6.486E-01	6.997E-02	2.971
	+	1764.49		1.956E+00	6.871E-01	4.304E-01	3.578E-02	4.545
AC-228	+	338.32		2.215E+00	1.045E+00	4.062E-01	1.695E-01	5.454
	+	911.20	*	2.408E+00	5.472E-01	3.365E-01	3.936E-02	7.156
	+	968.97		2.440E+00	8.650E-01	4.975E-01	1.214E-01	4.904

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	+	338.32		2.215E+00	1.045E+00	4.062E-01	1.695E-01	5.454
	+	911.20	*	2.408E+00	5.472E-01	3.365E-01	3.936E-02	7.156
	+	968.97		2.440E+00	8.650E-01	4.975E-01	1.214E-01	4.904
TH-228	+	74.82		3.021E+00	4.031E-01	3.378E-01	2.893E-02	8.943
	+	77.11		2.775E+00	3.089E-01	2.041E-01	1.761E-02	13.592
	+	238.63	*	2.254E+00	2.626E-01	9.913E-02	9.903E-03	22.738
	+	300.09		3.535E+00	2.667E+00	1.124E+00	6.887E-01	3.144
TH-229	+	85.43		3.634E-01	1.805E-01	2.037E-01	1.876E-02	1.784
	+	88.47		7.198E-01	1.419E-01	1.129E-01	1.064E-02	6.376
		193.51	*	-1.290E-01	4.887E-01	8.136E-01	6.906E-02	-0.159
		210.85		3.370E-01	9.279E-01	1.431E+00	1.241E-01	0.236
TH-232	+	338.32		2.215E+00	5.246E-01	4.062E-01	3.541E-02	5.454
	+	911.20	*	2.408E+00	5.472E-01	3.365E-01	3.936E-02	7.156
	+	968.97		2.440E+00	8.650E-01	4.975E-01	1.214E-01	4.904
TH-234	+	63.29	*	3.172E+00	1.129E+00	8.626E-01	1.557E-01	3.677
	+	92.59		5.106E+00	1.360E+00	6.514E-01	1.465E-01	7.839
U-235	+	89.96		3.494E+00	1.187E+00	7.854E-01	1.958E-01	4.449
	+	93.35		3.857E+00	1.060E+00	4.936E-01	1.160E-01	7.814
		143.76	*	2.301E-01	1.967E-01	3.195E-01	5.656E-02	0.720
		163.33		-5.434E-02	3.997E-01	6.788E-01	1.211E-01	-0.080
	+	185.72		2.872E-01	8.496E-02	6.308E-02	5.294E-03	4.553
		205.31		3.015E-01	5.120E-01	7.988E-01	1.449E-01	0.377
NP-237	+	86.48	*	1.393E+00	4.010E-01	2.168E-01	4.973E-02	6.425
		95.86		-1.358E-02	6.526E-01	9.679E-01	2.365E-01	-0.014
U-238	+	63.29	*	3.172E+00	1.129E+00	8.626E-01	1.557E-01	3.677
	+	92.59		5.106E+00	8.778E-01	6.514E-01	6.270E-02	7.839
ANH-511	+	511.00	*	1.567E-01	8.320E-02	6.192E-02	5.936E-03	2.531

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	3.279E-02	4.112E-01	6.939E-01	6.797E-02	0.047
NA-22		1274.54	*	-6.407E-02	7.650E-02	1.108E-01	9.087E-03	-0.578
NA-24		1368.63	*	9.905E+00	7.650E-02	Half-Life	too short	
SC-46		889.28	*	8.872E-03	5.597E-02	9.504E-02	8.451E-03	0.093
	+	1120.55		3.349E-01	1.711E-01	2.024E-01	1.710E-02	1.655
V-48		944.13		-7.792E-01	1.385E+00	2.145E+00	1.881E-01	-0.363
		983.53	*	1.127E-01	1.192E-01	2.161E-01	1.891E-02	0.522
		1312.11		-6.557E-02	1.495E-01	2.254E-01	1.837E-02	-0.291
CR-51		320.08	*	-3.203E-01	4.451E-01	6.793E-01	6.310E-02	-0.472
MN-54		834.85	*	2.744E-02	5.709E-02	9.970E-02	9.663E-03	0.275
CO-56		846.77	*	6.376E-02	6.020E-02	1.101E-01	1.050E-02	0.579
		1037.84		2.793E-02	3.988E-01	6.620E-01	6.039E-02	0.042
		1238.28		1.756E-01	1.539E-01	2.724E-01	2.312E-02	0.644
		1771.35		-2.362E-01	4.145E-01	5.907E-01	4.908E-02	-0.400
CO-57		122.06	*	1.591E-02	2.247E-02	3.676E-02	4.223E-03	0.433
		136.47		5.023E-02	1.946E-01	3.090E-01	3.421E-02	0.163
CO-58		810.76	*	-2.953E-02	6.075E-02	9.769E-02	9.776E-03	-0.302

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
FE-59	1099.45	*		-1.239E-01	1.415E-01	2.061E-01	1.901E-02	-0.601
	1291.59			-1.091E-01	1.793E-01	2.607E-01	2.449E-02	-0.418
CO-60	1173.23			3.267E-02	6.788E-02	1.159E-01	9.553E-03	0.282
	1332.49	*		2.023E-02	5.391E-02	9.499E-02	7.709E-03	0.213
ZN-65	1115.54	*		-7.701E-02	1.519E-01	1.961E-01	1.662E-02	-0.393
SE-75	121.12			3.093E-02	1.166E-01	1.869E-01	2.499E-02	0.166
	136.00			1.644E-02	3.885E-02	6.216E-02	6.607E-03	0.264
	264.66	*		-2.488E-03	4.824E-02	7.541E-02	6.771E-03	-0.033
	279.54			-1.219E-01	1.275E-01	1.956E-01	1.806E-02	-0.623
	400.66			-2.234E-01	3.288E-01	4.894E-01	5.226E-02	-0.456
SR-85	514.00	*		1.214E-02	5.018E-02	7.564E-02	7.278E-03	0.160
Y-88	898.04			4.252E-03	6.000E-02	1.009E-01	8.864E-03	0.042
	1836.06	*		2.691E-02	5.227E-02	9.514E-02	7.856E-03	0.283
Y-91	1204.77	*		-2.422E+01	3.393E+01	5.036E+01	4.149E+00	-0.481
NB-94	702.65	*		-1.920E-02	4.648E-02	7.191E-02	7.831E-03	-0.267
	871.09			-1.888E-02	3.811E-02	5.942E-02	5.454E-03	-0.318
NB-95	765.81	*		6.258E-02	6.453E-02	1.124E-01	1.175E-02	0.557
NB-95M	235.69	*		-1.206E-01	1.493E-01	2.091E-01	2.111E-02	-0.577
ZR-95	724.19			7.898E-02	1.685E-01	2.505E-01	2.845E-02	0.315
	756.73	*		1.886E-02	1.084E-01	1.771E-01	1.998E-02	0.106
MO-99	140.51			7.879E+00	4.773E+01	7.443E+01	1.815E+01	0.106
	181.07			-3.847E+00	4.094E+01	6.214E+01	1.159E+01	-0.062
	366.42			-2.135E+01	2.622E+02	4.161E+02	3.490E+01	-0.051
	739.50	*		1.431E+01	4.259E+01	7.064E+01	1.198E+01	0.203
	777.92			-1.000E+02	1.174E+02	1.684E+02	1.741E+01	-0.594
TC-99M	140.51	*		4.706E+13	1.174E+02	Half-Life	too short	
RU-103	497.08	*		3.196E-03	4.719E-02	7.933E-02	1.148E-02	0.040
	610.33	+		1.937E+01	4.280E+00	4.357E+00	7.620E-01	4.447
RH-106	621.93	*		-1.585E-01	4.208E-01	6.620E-01	9.741E-02	-0.239
	1050.41			1.084E+00	3.394E+00	5.794E+00	5.011E-01	0.187
RU-106	621.93	*		-1.585E-01	4.205E-01	6.620E-01	7.103E-02	-0.239
	1050.41			1.084E+00	3.394E+00	5.794E+00	5.011E-01	0.187
AG-108M	433.94	*		-1.507E-02	3.561E-02	5.829E-02	5.161E-03	-0.258
	614.28			2.556E-02	4.823E-02	7.413E-02	8.075E-03	0.345
	722.91			2.953E-02	6.443E-02	9.589E-02	1.055E-02	0.308
AG-110M	657.76	*		-2.913E-02	6.033E-02	8.043E-02	9.022E-03	-0.362
	677.62			-1.918E-01	4.137E-01	6.366E-01	7.125E-02	-0.301
	706.68			4.204E-02	2.932E-01	4.806E-01	5.319E-02	0.087
	763.94			-1.881E-01	2.560E-01	3.795E-01	4.047E-02	-0.495
	884.68			1.446E-03	6.549E-02	1.097E-01	1.013E-02	0.013
	937.49			-9.684E-02	1.720E-01	2.691E-01	2.441E-02	-0.360
	1384.29			-6.036E-02	2.138E-01	3.412E-01	2.879E-02	-0.177
	1505.03			-1.162E-01	4.151E-01	6.552E-01	5.452E-02	-0.177
SN-113	391.69	*		4.444E-02	5.889E-02	9.878E-02	8.135E-03	0.450
CD-115	260.90			-3.162E-04	5.889E-02	Half-Life	too short	
	492.35			-3.009E-05	5.889E-02	Half-Life	too short	
	527.90	*		1.784E-05	5.889E-02	Half-Life	too short	
SN-117M	156.02			-3.647E+00	2.402E+00	3.798E+00	3.428E-01	-0.960
	158.56	*		-9.607E-03	5.689E-02	9.669E-02	8.511E-03	-0.099

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-123M	159.00	*		1.170E-02	2.523E-02	4.408E-02	3.886E-03	0.265
SB-124	602.73			2.863E-02	5.510E-02	8.461E-02	8.936E-03	0.338
	645.85		-	1.337E-01	6.721E-01	1.073E+00	1.215E-01	-0.125
	722.78			3.279E-01	6.734E-01	1.005E+00	1.099E-01	0.326
	1690.97	*		5.018E-02	9.931E-02	1.833E-01	1.600E-02	0.274
SB-125	427.87	*		2.682E-02	1.061E-01	1.829E-01	1.582E-02	0.147
	463.37	+		1.068E+00	5.104E-01	7.149E-01	6.867E-02	1.495
	600.60			1.163E-02	2.243E-01	3.701E-01	4.096E-02	0.031
	635.95			2.282E-02	3.601E-01	5.917E-01	6.751E-02	0.039
TE-125M	109.28	*		5.859E+00	8.927E+00	1.362E+01	1.656E+00	0.430
I-126	388.63			1.335E-01	2.643E-01	4.355E-01	3.488E-02	0.307
	666.33	*		2.827E-01	3.739E-01	5.870E-01	6.476E-02	0.482
	753.82			3.095E+00	3.169E+00	5.555E+00	5.862E-01	0.557
SB-126	414.70		-	4.566E-02	1.136E-01	1.809E-01	1.500E-02	-0.252
	666.50			4.553E-02	1.380E-01	2.049E-01	2.261E-02	0.222
	695.00			1.657E-02	1.242E-01	2.037E-01	2.226E-02	0.081
	697.00			2.157E-01	4.307E-01	7.309E-01	7.980E-02	0.295
	720.70	*		-3.785E-02	2.655E-01	4.223E-01	4.556E-02	-0.090
	856.80			-8.870E-01	8.937E-01	1.094E+00	1.027E-01	-0.811
SB-127	252.40			-2.836E+00	8.259E+00	1.322E+01	5.537E+00	-0.215
	473.00			-8.759E-01	3.641E+00	5.992E+00	8.378E-01	-0.146
	685.70	*		-2.167E-01	3.132E+00	5.038E+00	7.109E-01	-0.043
	783.70			9.445E+00	9.642E+00	1.674E+01	2.413E+00	0.564
I-131	80.19			3.246E+00	3.788E+00	5.944E+00	5.295E-01	0.546
	284.31			1.083E+00	2.055E+00	3.475E+00	3.258E-01	0.312
	364.49	*		-7.970E-03	1.751E-01	2.788E-01	2.486E-02	-0.029
	636.99			-1.745E+00	2.869E+00	4.389E+00	4.947E-01	-0.397
TE-132	49.72			-5.078E+00	6.679E+00	9.930E+00	1.171E+00	-0.511
	111.76			-1.086E+01	5.511E+01	8.668E+01	1.178E+01	-0.125
	116.30			4.054E+01	5.004E+01	8.228E+01	1.138E+01	0.493
	228.16	*		1.098E+00	1.580E+00	2.707E+00	4.495E-01	0.406
BA-133	81.00			-7.029E-02	6.348E-02	8.865E-02	1.389E-02	-0.793
	276.40			2.057E-01	4.017E-01	6.726E-01	9.617E-02	0.306
	302.85			-1.134E-01	1.561E-01	2.083E-01	2.763E-02	-0.544
	356.01	*		-1.403E-02	5.265E-02	7.282E-02	9.388E-03	-0.193
	383.85			1.257E-01	3.805E-01	6.202E-01	7.485E-02	0.203
I-133	529.87	*		3.894E-03	3.805E-01	Half-Life	too short	
	875.33			9.973E-01	3.805E-01	Half-Life	too short	
	1298.22			3.222E-01	3.805E-01	Half-Life	too short	
CS-134	563.25			9.703E-03	4.554E-01	7.536E-01	7.720E-02	0.013
	569.33			1.358E-01	2.667E-01	4.582E-01	4.735E-02	0.296
	604.72			-1.847E-03	4.749E-02	6.795E-02	7.200E-03	-0.027
	795.86	*	+	1.408E-01	8.866E-02	1.258E-01	1.284E-02	1.120
	801.95			-2.059E-01	5.390E-01	8.743E-01	8.857E-02	-0.236
	1365.19			-1.793E-01	1.876E+00	3.098E+00	2.660E-01	-0.058
CS-135	268.22	*		1.776E-01	1.756E-01	2.785E-01	2.852E-02	0.638
I-135	546.56			-1.189E+13	1.756E-01	Half-Life	too short	
	836.80			1.110E+14	1.756E-01	Half-Life	too short	
	1038.76			-3.648E+13	1.756E-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
	1131.51			-2.669E+13	1.756E-01	Half-Life	too short	
	1260.41	*		3.481E+13	1.756E-01	Half-Life	too short	
	1457.56			4.114E+15	1.756E-01	Half-Life	too short	
	1678.03			-2.509E+13	1.756E-01	Half-Life	too short	
	1791.20			9.124E+12	1.756E-01	Half-Life	too short	
CS-136	153.25			1.315E+00	9.429E-01	1.691E+00	1.829E-01	0.778
	176.60			-2.107E-01	5.262E-01	8.759E-01	8.057E-02	-0.241
	273.65			-5.487E-02	6.537E-01	9.516E-01	9.173E-02	-0.058
	340.55			-1.131E-01	2.223E-01	3.026E-01	2.731E-02	-0.374
	818.51			-2.402E-03	1.224E-01	2.056E-01	2.037E-02	-0.012
	1048.07	*		-1.165E-01	1.811E-01	2.738E-01	2.469E-02	-0.426
	1235.36			4.289E-01	1.104E+00	1.847E+00	2.121E-01	0.232
CE-139	165.86	*		5.833E-03	2.797E-02	4.820E-02	3.918E-03	0.121
BA-140	162.66			6.370E-03	8.832E-01	1.510E+00	1.363E-01	0.004
	304.85			2.068E-01	1.793E+00	2.630E+00	7.722E-01	0.079
	423.72			5.707E-01	2.675E+00	4.592E+00	1.508E+00	0.124
	537.26	*		2.807E-01	4.180E-01	7.142E-01	2.447E-01	0.393
LA-140	328.76		+	1.196E+00	6.469E-01	8.132E-01	7.545E-02	1.471
	487.02			-2.347E-02	2.171E-01	3.605E-01	3.527E-02	-0.065
	815.77			-3.078E-01	5.511E-01	8.748E-01	9.465E-02	-0.352
	1596.21	*		1.274E-01	1.322E-01	2.420E-01	2.023E-02	0.527
CE-141	145.44	*		-2.173E-02	6.436E-02	9.819E-02	9.845E-03	-0.221
CE-143	57.36			9.757E-05	6.436E-02	Half-Life	too short	
	293.27	*		2.635E-03	6.436E-02	Half-Life	too short	
	664.57			1.750E-03	6.436E-02	Half-Life	too short	
	721.93			9.827E-03	6.436E-02	Half-Life	too short	
CE-144	80.12			1.347E+00	1.558E+00	2.446E+00	2.159E-01	0.551
	133.52	*		-1.689E-01	2.077E-01	2.782E-01	4.613E-02	-0.607
PM-144	476.78			-4.565E-02	8.263E-02	1.324E-01	1.306E-02	-0.345
	618.01			5.463E-03	4.273E-02	7.080E-02	7.711E-03	0.077
	696.49	*		2.609E-02	4.655E-02	7.937E-02	8.670E-03	0.329
PR-144	696.51	*		1.963E+00	3.490E+00	5.952E+00	6.500E-01	0.330
	1489.16			-1.912E+01	1.470E+01	1.571E+01	1.305E+00	-1.217
PM-146	453.88	*		-2.564E-03	5.089E-02	8.539E-02	9.206E-03	-0.030
	633.25			2.107E+00	2.064E+00	3.419E+00	1.325E+00	0.616
	735.93			2.320E-02	2.027E-01	3.300E-01	9.480E-02	0.070
	747.24			1.898E-02	1.307E-01	2.134E-01	3.381E-02	0.089
ND-147	91.11		+	1.389E+00	3.503E-01	4.007E-01	4.089E-02	3.466
	319.41			-1.400E+00	4.526E+00	7.153E+00	6.335E-01	-0.196
	531.02	*		-2.993E-02	8.731E-01	1.446E+00	2.266E-01	-0.021
PM-149	285.90	*		7.403E-05	8.731E-01	Half-Life	too short	
EU-152	121.78			4.201E-02	6.430E-02	1.049E-01	1.306E-02	0.401
	244.70			-7.710E-02	3.598E-01	5.246E-01	4.670E-02	-0.147
	344.28	*		-7.587E-02	1.089E-01	1.648E-01	1.510E-02	-0.461
	778.90			-2.462E-01	3.665E-01	5.385E-01	5.562E-02	-0.457
	964.08			2.785E-01	5.411E-01	8.242E-01	7.221E-02	0.338
	1085.87			-1.620E-01	5.144E-01	8.071E-01	6.909E-02	-0.201
	1112.07			1.140E-01	4.705E-01	7.473E-01	6.337E-02	0.153
	1408.01	+		4.247E-01	3.729E-01	5.456E-01	4.489E-02	0.778

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GD-153		69.67		-9.062E-01	8.913E-01	1.404E+00	1.151E-01	-0.646
		97.43	*	-3.367E-02	6.987E-02	1.004E-01	9.921E-03	-0.335
		103.18		6.460E-03	8.971E-02	1.330E-01	1.358E-02	0.049
EU-154		123.07		-6.211E-03	4.712E-02	7.382E-02	1.004E-02	-0.084
		723.31		1.242E-01	2.915E-01	4.323E-01	4.964E-02	0.287
		873.19		-2.703E-02	3.368E-01	5.579E-01	6.853E-02	-0.048
		996.26		-3.651E-01	5.146E-01	7.730E-01	1.355E-01	-0.472
		1004.73		-8.456E-02	2.956E-01	4.713E-01	5.521E-02	-0.179
		1274.44	*	-1.147E-01	2.074E-01	3.111E-01	3.441E-02	-0.369
TB-160	+	86.79		1.550E+00	3.055E-01	4.208E-01	3.919E-02	3.682
		197.04		-1.929E-01	5.588E-01	9.256E-01	7.895E-02	-0.208
		215.65		-4.295E-01	7.628E-01	1.237E+00	1.079E-01	-0.347
		298.57		2.323E-01	1.721E-01	2.309E-01	2.060E-02	1.006
		879.36	*	-1.611E-02	1.879E-01	3.112E-01	2.817E-02	-0.052
		962.29		8.068E-01	1.010E+00	1.656E+00	1.451E-01	0.487
		966.15		8.273E-01	4.569E-01	7.628E-01	6.682E-02	1.085
		1177.93		-3.382E-01	5.506E-01	8.281E-01	6.824E-02	-0.408
		1271.85		5.626E-01	1.151E+00	1.961E+00	1.608E-01	0.287
		80.57		-6.814E-02	1.986E-01	2.571E-01	2.277E-02	-0.265
HO-166M	+	184.41		2.282E-01	6.750E-02	6.444E-02	5.398E-03	3.541
		280.46		-8.191E-02	9.283E-01	1.428E-01	1.273E-02	-0.574
		410.95		4.645E-01	3.452E-01	5.501E-01	4.532E-02	0.844
		711.68	*	-1.841E-02	8.012E-02	1.261E-01	1.367E-02	-0.146
		752.31		-4.608E-02	4.104E-01	6.512E-01	6.880E-02	-0.071
		810.29		-2.260E-02	8.758E-02	1.440E-01	1.440E-02	-0.157
TA-182		67.75		3.418E-02	5.508E-02	9.276E-02	7.518E-03	0.368
		100.11		9.967E-02	1.380E-01	2.288E-01	2.294E-02	0.436
		152.43		-4.115E-02	3.670E-01	5.655E-01	5.276E-02	-0.073
		222.11		1.433E-01	3.700E-01	6.295E-01	5.522E-02	0.228
	+	1121.30		9.210E-01	4.707E-01	5.625E-01	4.752E-02	1.637
		1189.05		-2.524E-01	4.847E-01	7.395E-01	6.094E-02	-0.341
		1221.41	*	1.811E-01	3.307E-01	5.626E-01	4.632E-02	0.322
IR-192	+	1231.02		4.169E-01	7.322E-01	1.252E+00	1.030E-01	0.333
		295.96		1.411E+00	2.524E-01	3.587E-01	3.224E-02	3.934
		308.46		-1.668E-02	1.091E-01	1.752E-01	1.567E-02	-0.095
		316.51	*	1.938E-02	3.998E-02	6.695E-02	5.950E-03	0.290
HG-203		468.07		5.398E-02	9.262E-02	1.456E-01	1.404E-02	0.371
		70.83		3.082E-02	7.763E-01	1.183E+00	1.877E-01	0.026
		72.87		7.431E-02	4.841E-01	7.398E-01	1.139E-01	0.100
BI-207		279.20	*	5.895E-05	4.457E-02	7.301E-02	6.665E-03	0.001
		72.81		1.205E-02	1.064E-01	1.624E-01	1.358E-02	0.074
	+	74.97		8.708E-01	1.158E-01	1.663E-01	1.413E-02	5.236
		569.70		4.519E-02	4.087E-02	7.318E-02	7.494E-03	0.618
PB-211		1063.66	*	5.240E-02	7.353E-02	1.303E-01	1.123E-02	0.402
		1770.23		-1.586E+00	9.761E-01	1.061E+00	8.816E-02	-1.495
		404.85	*	3.684E-01	1.019E+00	1.467E+00	7.086E-01	0.251
		427.09		5.860E-01	1.781E+00	3.054E+00	1.412E+00	0.192
BI-212	+	832.01		-1.315E+00	1.646E+00	2.312E+00	1.203E+00	-0.569
		727.33	*	2.594E+00	1.049E+00	1.644E+00	2.304E-01	1.578

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		785.37		-1.302E+00	4.941E+00	7.685E+00	7.888E-01	-0.169
		1620.50		3.322E+00	3.882E+00	7.242E+00	6.057E-01	0.459
	+	271.23		6.258E-01	4.174E-01	4.567E-01	4.804E-02	1.370
		401.81	*	-2.900E-01	5.170E-01	7.774E-01	1.133E-01	-0.373
RA-223		81.07		-1.554E-01	1.425E-01	2.014E-01	1.791E-02	-0.771
	+	83.79		2.163E-01	1.074E-01	1.491E-01	1.354E-02	1.451
		94.87		3.199E-01	3.197E-01	5.023E-01	4.894E-02	0.637
		144.24		6.905E-01	6.513E-01	1.067E+00	1.158E-01	0.647
		154.21		5.768E-01	3.607E-01	6.511E-01	6.484E-02	0.886
	+	269.46		4.862E-01	3.233E-01	3.797E-01	3.456E-02	1.281
		323.87	*	9.832E-01	7.509E-01	1.196E+00	2.085E-01	0.822
	+	338.28		8.790E+00	2.210E+00	3.057E+00	3.712E-01	2.875
AC-227		79.69		-1.227E-01	8.030E-01	1.201E+00	2.080E-01	-0.102
		235.96		-8.198E-02	1.706E-01	2.451E-01	2.585E-02	-0.334
		256.23	*	8.058E-02	2.672E-01	4.485E-01	5.506E-02	0.180
	+	299.98		3.888E+00	1.786E+00	1.915E+00	2.473E-01	2.030
		304.50		6.458E-01	1.811E+00	2.716E+00	4.530E-01	0.238
		334.37		-1.177E+00	2.197E+00	2.971E+00	4.653E-01	-0.396
		79.80		2.363E-01	1.046E+00	1.593E+00	3.480E-01	0.148
		235.96		-8.198E-02	1.706E-01	2.451E-01	2.444E-02	-0.334
TH-227		256.23	*	8.058E-02	2.673E-01	4.485E-01	6.192E-02	0.180
	+	299.98		3.888E+00	1.786E+00	1.915E+00	2.473E-01	2.030
		304.50		6.458E-01	1.811E+00	2.716E+00	4.530E-01	0.238
		334.37		-1.177E+00	2.197E+00	2.971E+00	4.653E-01	-0.396
PA-231		283.69	*	1.197E-01	1.536E+00	2.525E+00	3.728E-01	0.047
	+	301.36		2.498E+00	1.143E+00	1.063E+00	1.314E-01	2.350
TH-231		81.07		-1.554E-01	1.425E-01	2.014E-01	1.791E-02	-0.771
	+	83.79		2.163E-01	1.074E-01	1.491E-01	1.354E-02	1.451
		94.87		3.199E-01	3.197E-01	5.023E-01	4.894E-02	0.637
		144.24		6.905E-01	6.513E-01	1.067E+00	1.158E-01	0.647
		154.21		5.768E-01	3.607E-01	6.511E-01	6.484E-02	0.886
	+	269.46		4.862E-01	3.233E-01	3.797E-01	3.456E-02	1.281
		323.87	*	9.832E-01	7.509E-01	1.196E+00	2.085E-01	0.822
	+	338.28		8.790E+00	2.210E+00	3.057E+00	3.712E-01	2.875
PA-233	+	300.13		1.759E+00	8.191E-01	8.713E-01	1.307E-01	2.019
		311.90	*	-5.560E-03	7.031E-02	1.134E-01	1.035E-02	-0.049
PA-234		340.48		-3.598E-01	8.058E-01	1.099E+00	2.648E-01	-0.327
		94.67		1.286E-01	1.256E-01	1.960E-01	2.587E-02	0.656
		98.44		4.471E-02	7.297E-02	1.136E-01	6.365E-02	0.393
		111.00		-5.921E-02	1.510E-01	2.348E-01	3.205E-02	-0.252
		131.20		5.191E-02	1.031E-01	1.538E-01	1.677E-02	0.338
		569.50		3.630E-01	3.589E-01	6.393E-01	6.545E-02	0.568
		733.00		-3.766E-01	5.867E-01	7.295E-01	1.684E-01	-0.516
		880.51		-2.721E-01	3.681E-01	5.606E-01	5.064E-02	-0.485
		883.24		1.465E-01	3.907E-01	6.587E-01	4.431E-01	0.222
		926.50		1.751E-01	2.338E-01	4.146E-01	1.050E-01	0.422
		946.00	*	8.007E-02	4.192E-01	7.100E-01	1.337E-01	0.113
		949.00		9.741E-02	6.405E-01	1.076E+00	9.429E-02	0.091
	PA-234M	766.42		9.469E+00	1.801E+01	2.919E+01	1.491E+01	0.324

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		5.226E+00	6.254E+00	1.124E+01	1.131E+00	0.465
	99.53			9.578E-02	1.258E-01	2.089E-01	2.088E-02	0.459
	103.37			1.641E-02	8.144E-02	1.218E-01	1.244E-02	0.135
	+	106.12		1.943E-01	1.257E-01	1.199E-01	1.246E-02	1.620
	117.23	*		1.476E-01	3.504E-01	5.672E-01	6.313E-02	0.260
	228.18			1.610E-01	2.306E-01	3.969E-01	3.499E-02	0.406
	277.60			2.458E-01	2.010E-01	3.485E-01	3.109E-02	0.705
AM-241	59.54	*		-9.052E-03	5.766E-02	8.815E-02	7.478E-03	-0.103
CM-247	278.00			1.434E+00	8.385E-01	1.485E+00	1.325E-01	0.965
	287.50			3.350E-01	1.342E+00	2.228E+00	1.989E-01	0.150
	402.40	*		-4.518E-03	4.710E-02	7.400E-02	6.002E-03	-0.061
CF-249	252.80			-4.493E-01	1.008E+00	1.619E+00	1.445E-01	-0.278
	333.37			9.206E-02	2.419E-01	3.313E-01	2.902E-02	0.278
	388.16	*		1.940E-03	5.339E-02	8.509E-02	6.821E-03	0.023
CF-251	177.52	*		2.198E-02	1.182E-01	2.026E-01	1.679E-02	0.108
	227.38			2.650E-01	3.774E-01	6.499E-01	5.725E-02	0.408
	285.41			-8.346E-01	2.425E+00	3.874E+00	3.457E-01	-0.215

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]G248051017      *
* Acquisition date   : 10-MAR-2010 20:42:59 Detector SN#                   *
* Detector ID        : GAM21 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:26.17 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G248051017 Analyst initials: MXR1                   *
* Batch Number      : 958225 Sample Quantity : 1.1813E+02 GRAM            *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 28-JUL-2009 10:09:51 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.010E+01	3.371E+00	5.309E-01	0.000E+00
CD-109	4.800E+00	9.275E-01	7.725E-01	0.000E+00
SN-126	4.669E-01	9.022E-02	7.501E-02	0.000E+00
BA-137M	4.441E-01	1.115E-01	8.794E-02	0.000E+00
CS-137	4.692E-01	1.178E-01	9.290E-02	0.000E+00
EU-155	2.440E-01	1.547E-01	1.321E-01	0.000E+00
TL-208	6.678E-01	1.344E-01	6.591E-02	0.000E+00
PB-210	1.905E+00	7.972E-01	6.793E-01	0.000E+00
BI-211	4.550E+00	6.788E-01	3.772E-01	0.000E+00
PB-212	2.254E+00	2.574E-01	1.008E-01	0.000E+00
BI-214	1.773E+00	3.122E-01	1.396E-01	0.000E+00
PB-214	1.651E+00	2.620E-01	1.373E-01	0.000E+00
RA-224	6.083E+00	1.180E+00	1.084E+00	0.000E+00
RA-226	1.773E+00	3.122E-01	1.396E-01	0.000E+00
AC-228	2.408E+00	5.363E-01	3.373E-01	0.000E+00
RA-228	2.408E+00	5.363E-01	3.373E-01	0.000E+00
TH-228	2.254E+00	2.574E-01	1.008E-01	0.000E+00
TH-229	-1.290E-01	4.789E-01	8.293E-01	0.000E+00
TH-232	2.408E+00	5.363E-01	3.373E-01	0.000E+00
TH-234	3.172E+00	1.106E+00	8.898E-01	0.000E+00
U-235	2.301E-01	1.928E-01	3.267E-01	0.000E+00
NP-237	1.393E+00	3.930E-01	2.229E-01	0.000E+00
U-238	3.172E+00	1.106E+00	8.898E-01	0.000E+00
ANH-511	1.567E-01	8.153E-02	6.245E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	3.279E-02	4.030E-01	7.004E-01	0.000E+00 NOT IDENT.
NA-22	-6.407E-02	7.497E-02	1.106E-01	0.000E+00 NOT IDENT.
NA-24	0.000E+00	3.894E+07	0.000E+00	0.000E+00 SHORT HLIF

SC-46	8.872E-03	5.485E-02	9.528E-02	0.000E+00	FAIL ABUN
V-48	1.127E-01	1.169E-01	2.164E-01	0.000E+00	NOT IDENT.
CR-51	-3.203E-01	4.362E-01	6.886E-01	0.000E+00	NOT IDENT.
MN-54	2.744E-02	5.595E-02	1.000E-01	0.000E+00	NOT IDENT.
CO-56	6.376E-02	5.899E-02	1.105E-01	0.000E+00	NOT IDENT.
CO-57	1.591E-02	2.202E-02	3.766E-02	0.000E+00	NOT IDENT.
CO-58	-2.953E-02	5.954E-02	9.803E-02	0.000E+00	NOT IDENT.
FE-59	-1.239E-01	1.387E-01	2.061E-01	0.000E+00	NOT IDENT.
CO-60	2.023E-02	5.283E-02	9.480E-02	0.000E+00	NOT IDENT.
ZN-65	-7.701E-02	1.489E-01	1.961E-01	0.000E+00	NOT IDENT.
SE-75	-2.488E-03	4.728E-02	7.660E-02	0.000E+00	NOT IDENT.
SR-85	1.214E-02	4.918E-02	7.628E-02	0.000E+00	NOT IDENT.
Y-88	2.691E-02	5.122E-02	9.461E-02	0.000E+00	NOT IDENT.
Y-91	-2.422E+01	3.325E+01	5.032E+01	0.000E+00	NOT IDENT.
NB-94	-1.920E-02	4.555E-02	7.227E-02	0.000E+00	NOT IDENT.
NB-95	6.258E-02	6.324E-02	1.129E-01	0.000E+00	NOT IDENT.
NB-95M	-1.206E-01	1.464E-01	2.127E-01	0.000E+00	NOT IDENT.
ZR-95	1.886E-02	1.063E-01	1.779E-01	0.000E+00	NOT IDENT.
MO-99	1.431E+01	4.174E+01	7.097E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.796E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	3.196E-03	4.625E-02	8.004E-02	0.000E+00	FAIL ABUN
RH-106	-1.585E-01	4.124E-01	6.663E-01	0.000E+00	NOT IDENT.
RU-106	-1.585E-01	4.121E-01	6.663E-01	0.000E+00	NOT IDENT.
AG-108M	-1.507E-02	3.490E-02	5.890E-02	0.000E+00	NOT IDENT.
AG-110M	-2.913E-02	5.912E-02	8.090E-02	0.000E+00	NOT IDENT.
SN-113	4.444E-02	5.771E-02	9.992E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.970E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-9.607E-03	5.576E-02	9.877E-02	0.000E+00	NOT IDENT.
TE-123M	1.170E-02	2.473E-02	4.503E-02	0.000E+00	NOT IDENT.
SB-124	5.018E-02	9.732E-02	1.825E-01	0.000E+00	NOT IDENT.
SB-125	2.682E-02	1.040E-01	1.849E-01	0.000E+00	FAIL ABUN
TE-125M	5.859E+00	8.748E+00	1.397E+01	0.000E+00	NOT IDENT.
I-126	2.827E-01	3.665E-01	5.904E-01	0.000E+00	NOT IDENT.
SB-126	-3.785E-02	2.602E-01	4.243E-01	0.000E+00	NOT IDENT.
SB-127	-2.167E-01	3.070E+00	5.065E+00	0.000E+00	NOT IDENT.
I-131	-7.970E-03	1.716E-01	2.823E-01	0.000E+00	NOT IDENT.
TE-132	1.098E+00	1.548E+00	2.754E+00	0.000E+00	NOT IDENT.
BA-133	-1.403E-02	5.159E-02	7.374E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.022E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.689E-02	1.263E-01	0.000E+00	FAIL ABUN
CS-135	1.776E-01	1.720E-01	2.829E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.345E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.165E-01	1.775E-01	2.740E-01	0.000E+00	NOT IDENT.
CE-139	5.833E-03	2.742E-02	4.921E-02	0.000E+00	NOT IDENT.
BA-140	2.807E-01	4.097E-01	7.200E-01	0.000E+00	NOT IDENT.
LA-140	1.274E-01	1.296E-01	2.410E-01	0.000E+00	FAIL ABUN
CE-141	-2.173E-02	6.308E-02	1.004E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.050E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.689E-01	2.036E-01	2.847E-01	0.000E+00	NOT IDENT.
PM-144	2.609E-02	4.562E-02	7.979E-02	0.000E+00	NOT IDENT.
PR-144	1.963E+00	3.420E+00	5.984E+00	0.000E+00	NOT IDENT.
PM-146	-2.564E-03	4.987E-02	8.624E-02	0.000E+00	NOT IDENT.
ND-147	-2.993E-02	8.557E-01	1.458E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.655E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-7.587E-02	1.067E-01	1.669E-01	0.000E+00	FAIL ABUN
GD-153	-3.367E-02	6.848E-02	1.031E-01	0.000E+00	NOT IDENT.
EU-154	-1.147E-01	2.033E-01	3.106E-01	0.000E+00	NOT IDENT.
TB-160	-1.611E-02	1.842E-01	3.120E-01	0.000E+00	FAIL ABUN
HO-166M	-1.841E-02	7.852E-02	1.267E-01	0.000E+00	FAIL ABUN
TA-182	1.811E-01	3.241E-01	5.621E-01	0.000E+00	FAIL ABUN
IR-192	1.938E-02	3.918E-02	6.788E-02	0.000E+00	FAIL ABUN
HG-203	5.895E-05	4.368E-02	7.413E-02	0.000E+00	NOT IDENT.
BI-207	5.240E-02	7.206E-02	1.304E-01	0.000E+00	FAIL ABUN
PB-211	3.684E-01	9.983E-01	1.483E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.028E+00	1.652E+00	0.000E+00	FAIL ABUN
RN-219	-2.900E-01	5.067E-01	7.862E-01	0.000E+00	FAIL ABUN
RA-223	9.832E-01	7.359E-01	1.212E+00	0.000E+00	FAIL ABUN
AC-227	8.058E-02	2.619E-01	4.558E-01	0.000E+00	FAIL ABUN
TH-227	8.058E-02	2.619E-01	4.558E-01	0.000E+00	FAIL ABUN
PA-231	1.197E-01	1.505E+00	2.563E+00	0.000E+00	FAIL ABUN
TH-231	9.832E-01	7.359E-01	1.212E+00	0.000E+00	FAIL ABUN
PA-233	-5.560E-03	6.890E-02	1.150E-01	0.000E+00	FAIL ABUN
PA-234	8.007E-02	4.108E-01	7.113E-01	0.000E+00	NOT IDENT.
PA-234M	5.226E+00	6.129E+00	1.125E+01	0.000E+00	NOT IDENT.
NP-239	1.476E-01	3.434E-01	5.812E-01	0.000E+00	FAIL ABUN
AM-241	-9.052E-03	5.651E-02	9.098E-02	0.000E+00	NOT IDENT.
CM-247	-4.518E-03	4.616E-02	7.484E-02	0.000E+00	NOT IDENT.
CF-249	1.940E-03	5.232E-02	8.608E-02	0.000E+00	NOT IDENT.

CF-251

2.198E-02

1.159E-01

2.067E-01

0.000E+00 NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                             *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051017.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:42:59
Sample ID          : G248051017 Sample quantity : 1.18130E+02 GRAM
Detector name      : GAM21 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:26.17 0.4%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	728	10.66*	7.206E-01	3.010E+01	3.010E+01	11.43
CD-109	88.03	442	3.70*	8.136E+00	4.669E+00	4.800E+00	19.72
SN-126	64.28	302	9.60	8.179E+00	1.223E+00	1.223E+00	34.05
	86.94	442	8.90	8.136E+00	1.941E+00	1.941E+00	45.00
	87.57	442	37.00*	8.136E+00	4.669E-01	4.669E-01	19.72
BA-137M	661.66	196	89.90*	1.562E+00	4.436E-01	4.441E-01	25.61
CS-137	661.66	196	85.10*	1.562E+00	4.686E-01	4.692E-01	25.62
EU-155	86.55	442	30.70	8.136E+00	5.627E-01	5.669E-01	19.76
	105.31	124	21.10*	7.711E+00	2.422E-01	2.440E-01	64.69
TL-208	277.37	-----	6.60	3.801E+00	-----	Line Not Found	-----
	583.19	318	85.00*	1.778E+00	6.678E-01	6.678E-01	20.54
	860.56	51	12.50	1.202E+00	1.079E+00	1.079E+00	46.45
PB-210	46.54	187	4.25*	7.350E+00	1.902E+00	1.905E+00	42.69
BI-211	72.87	-----	1.23	8.278E+00	-----	Line Not Found	-----
	351.06	554	12.92*	2.997E+00	4.550E+00	4.550E+00	15.22
PB-212	74.82	809	10.28	8.275E+00	3.021E+00	3.021E+00	16.47
	77.11	1234	17.10	8.264E+00	2.775E+00	2.775E+00	11.13
	238.63	1357	43.60*	4.388E+00	2.254E+00	2.254E+00	11.65
	300.09	129	3.30	3.514E+00	3.535E+00	3.535E+00	45.38
BI-214	609.32	431	45.49*	1.700E+00	1.773E+00	1.773E+00	17.97
	1120.29	84	14.92	9.289E-01	1.927E+00	1.927E+00	51.55
	1764.49	56	15.30	5.986E-01	1.956E+00	1.956E+00	35.13
PB-214	74.82	809	5.80	8.275E+00	5.354E+00	5.354E+00	15.48
	77.11	1234	9.70	8.264E+00	4.892E+00	4.892E+00	13.86
	242.00	341	7.25	4.338E+00	3.440E+00	3.440E+00	20.62
	295.22	384	18.42	3.579E+00	1.851E+00	1.851E+00	19.01
	351.93	554	35.60*	2.997E+00	1.651E+00	1.651E+00	16.19
RA-224	240.99	341	4.10*	4.338E+00	6.083E+00	6.083E+00	19.79
RA-226	609.32	431	45.49*	1.700E+00	1.773E+00	1.773E+00	17.97
	1120.29	84	14.92	9.289E-01	1.927E+00	1.927E+00	51.55
	1764.49	56	15.30	5.986E-01	1.956E+00	1.956E+00	35.13
AC-228	338.32	245	11.27	3.121E+00	2.215E+00	2.215E+00	47.19

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	911.20	222	25.80*	1.136E+00	2.408E+00	2.408E+00	22.72
	968.97	130	15.80	1.070E+00	2.440E+00	2.440E+00	35.45
	338.32	245	11.27	3.121E+00	2.215E+00	2.215E+00	47.19
	911.20	222	25.80*	1.136E+00	2.408E+00	2.408E+00	22.72
TH-228	968.97	130	15.80	1.070E+00	2.440E+00	2.440E+00	35.45
	74.82	809	10.28	8.275E+00	3.021E+00	3.021E+00	13.35
	77.11	1234	17.10	8.264E+00	2.775E+00	2.775E+00	11.13
	238.63	1357	43.60*	4.388E+00	2.254E+00	2.254E+00	11.65
TH-229	300.09	129	3.30	3.514E+00	3.535E+00	3.535E+00	75.47
	85.43	138	14.70	8.187E+00	3.634E-01	3.634E-01	49.65
	88.47	442	24.00	8.136E+00	7.198E-01	7.198E-01	19.72
	193.51	-----	4.41*	5.271E+00	-----	Line Not Found	-----
TH-232	210.85	-----	2.80	4.900E+00	-----	Line Not Found	-----
	338.32	245	11.27	3.121E+00	2.215E+00	2.215E+00	23.68
	911.20	222	25.80*	1.136E+00	2.408E+00	2.408E+00	22.72
	968.97	130	15.80	1.070E+00	2.440E+00	2.440E+00	35.45
TH-234	63.29	302	3.70*	8.179E+00	3.172E+00	3.172E+00	35.58
	92.59	545	4.23	8.023E+00	5.106E+00	5.106E+00	26.62
U-235	89.96	308	3.47	8.084E+00	3.494E+00	3.494E+00	33.99
	93.35	545	5.60	8.023E+00	3.857E+00	3.857E+00	27.47
	143.76	-----	10.96*	6.567E+00	-----	Line Not Found	-----
	163.33	-----	5.08	6.017E+00	-----	Line Not Found	-----
NP-237	185.72	282	57.20	5.447E+00	2.872E-01	2.872E-01	29.58
	205.31	-----	5.01	5.015E+00	-----	Line Not Found	-----
	86.48	442	12.40*	8.136E+00	1.393E+00	1.393E+00	28.78
	95.86	-----	2.68	7.953E+00	-----	Line Not Found	-----
U-238	63.29	302	3.70*	8.179E+00	3.172E+00	3.172E+00	35.58
	92.59	545	4.23	8.023E+00	5.106E+00	5.106E+00	17.19
ANH-511	511.00	101	100.00*	2.038E+00	1.567E-01	1.567E-01	53.08

Flag: "*" = Keyline

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

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.010E+01	3.010E+01	0.344E+01	11.43	
CD-109	461.40D	1.03	4.669E+00	4.800E+00	0.946E+00	19.72	
SN-126	2.30E+05Y	1.00	4.669E-01	4.669E-01	0.921E-01	19.72	
BA-137M	30.08Y	1.00	4.436E-01	4.441E-01	1.138E-01	25.61	
CS-137	30.08Y	1.00	4.686E-01	4.692E-01	1.202E-01	25.62	
EU-155	4.75Y	1.01	2.422E-01	2.440E-01	1.578E-01	64.69	
TL-208	1.41E+10Y	1.00	6.678E-01	6.678E-01	1.372E-01	20.54	
PB-210	22.20Y	1.00	1.902E+00	1.905E+00	0.814E+00	42.69	
BI-211	7.04E+08Y	1.00	4.550E+00	4.550E+00	0.693E+00	15.22	
PB-212	1.41E+10Y	1.00	2.254E+00	2.254E+00	0.263E+00	11.65	
BI-214	1600.00Y	1.00	1.773E+00	1.773E+00	0.319E+00	17.97	
PB-214	1600.00Y	1.00	1.651E+00	1.651E+00	0.267E+00	16.19	
RA-224	1.41E+10Y	1.00	6.083E+00	6.083E+00	1.204E+00	19.79	
RA-226	1600.00Y	1.00	1.773E+00	1.773E+00	0.319E+00	17.97	
AC-228	1.41E+10Y	1.00	2.408E+00	2.408E+00	0.547E+00	22.72	
RA-228	1.41E+10Y	1.00	2.408E+00	2.408E+00	0.547E+00	22.72	
TH-228	1.41E+10Y	1.00	2.254E+00	2.254E+00	0.263E+00	11.65	
TH-229	7340.00Y	1.00	7.198E-01	7.198E-01	1.419E-01	19.72	K
TH-232	1.41E+10Y	1.00	2.408E+00	2.408E+00	0.547E+00	22.72	
TH-234	4.47E+09Y	1.00	3.172E+00	3.172E+00	1.129E+00	35.58	
U-235	7.04E+08Y	1.00	2.872E-01	2.872E-01	0.850E-01	29.58	K
NP-237	2.14E+06Y	1.00	1.393E+00	1.393E+00	0.401E+00	28.78	
U-238	4.47E+09Y	1.00	3.172E+00	3.172E+00	1.129E+00	35.58	
ANH-511	1.00E+09Y	1.00	1.567E-01	1.567E-01	0.832E-01	53.08	

Total Activity : 7.542E+01 7.556E+01

Grand Total Activity : 7.542E+01 7.556E+01

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

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

Unidentified Energy Lines
Sample ID : G248051017

Page : 4
Acquisition date : 10-MAR-2010 20:42:59

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.54	94	424	0.98	258.97	254	10	1.31E-02	84.2	6.99E+00	
0	209.26	150	250	0.81	418.37	414	9	2.09E-02	41.4	4.93E+00	
0	269.97	83	189	0.81	539.74	535	10	1.15E-02	65.9	3.90E+00	T
0	328.03	90	140	1.18	655.82	651	10	1.26E-02	53.3	3.22E+00	T
0	409.32	62	81	1.13	818.36	814	9	8.57E-03	58.5	2.56E+00	
0	463.06	79	76	1.05	925.82	922	10	1.10E-02	46.8	2.26E+00	T
0	726.93	77	38	1.01	1453.57	1450	10	1.07E-02	37.9	1.42E+00	T
0	794.56	44	39	2.29	1588.84	1583	10	6.05E-03	62.1	1.30E+00	T
0	1407.36	21	14	1.80	2815.01	2807	14	2.91E-03	87.4	7.47E-01	T
0	1468.43	9	1	1.37	2937.25	2934	6	1.19E-03	81.9	7.17E-01	
1	1587.29	23	5	2.18	3175.16	3170	23	3.22E-03	48.4	6.64E-01	
1	1591.40	37	2	2.18	3183.40	3170	23	5.11E-03	39.4	6.63E-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]G248051017.CNF;1
* Acquisition date   : 10-MAR-2010 20:42:59  Detector SN#      :
* Detector ID        : GAM21                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance   : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit      : 75.00000
* Elapsed real time  : 0 02:00:26.17          Half life ratio     : 8.00000
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library    : SOLID
* Sample ID          : G248051017            Analyst initials  : MXR1
* Batch Number       : 958225                Sample Quantity   : 1.18130E+02 GRAM
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51.9MS Isotope       :
* MSD ID             :                          MSD Isotope    :
* LCS ID             : 1032-A                    LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.010E+01	3.440E+00	5.326E-01	4.547E-02	56.522
CD-109	4.800E+00	9.464E-01	7.515E-01	7.071E-02	6.387
SN-126	4.669E-01	9.206E-02	7.297E-02	6.840E-03	6.398
BA-137M	4.441E-01	1.138E-01	8.744E-02	9.657E-03	5.079
CS-137	4.692E-01	1.202E-01	9.237E-02	1.021E-02	5.079
EU-155	2.440E-01	1.578E-01	1.287E-01	1.342E-02	1.895
TL-208	6.678E-01	1.372E-01	6.544E-02	7.123E-03	10.205
PB-210	1.905E+00	8.135E-01	6.565E-01	6.208E-02	2.902
BI-211	4.550E+00	6.927E-01	3.724E-01	3.362E-02	12.216
PB-212	2.254E+00	2.626E-01	9.913E-02	9.903E-03	22.738
BI-214	1.773E+00	3.185E-01	1.386E-01	1.644E-02	12.785
PB-214	1.651E+00	2.674E-01	1.356E-01	1.433E-02	12.180
RA-224	6.083E+00	1.204E+00	1.066E+00	9.468E-02	5.709
RA-226	1.773E+00	3.185E-01	1.386E-01	1.644E-02	12.785
AC-228	2.408E+00	5.472E-01	3.365E-01	3.936E-02	7.156
RA-228	2.408E+00	5.472E-01	3.365E-01	3.936E-02	7.156
TH-228	2.254E+00	2.626E-01	9.913E-02	9.903E-03	22.738
TH-229	7.198E-01	1.419E-01	8.136E-01	6.906E-02	0.885

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	2.408E+00	5.472E-01	3.365E-01	3.936E-02	7.156
TH-234	3.172E+00	1.129E+00	8.626E-01	1.557E-01	3.677
U-235	2.872E-01	8.496E-02	3.195E-01	5.656E-02	0.899
NP-237	1.393E+00	4.010E-01	2.168E-01	4.973E-02	6.425
U-238	3.172E+00	1.129E+00	8.626E-01	1.557E-01	3.677
ANH-511	1.567E-01	8.320E-02	6.192E-02	5.936E-03	2.531

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.279E-02		4.112E-01	6.939E-01	6.797E-02	0.047
NA-22	-6.407E-02		7.650E-02	1.108E-01	9.087E-03	-0.578
NA-24	9.905E+00		1.987E+01	Half-Life too short		
SC-46	8.872E-03		5.597E-02	9.504E-02	8.451E-03	0.093
V-48	1.127E-01		1.192E-01	2.161E-01	1.891E-02	0.522
CR-51	-3.203E-01		4.451E-01	6.793E-01	6.310E-02	-0.472
MN-54	2.744E-02		5.709E-02	9.970E-02	9.663E-03	0.275
CO-56	6.376E-02		6.020E-02	1.101E-01	1.050E-02	0.579
CO-57	1.591E-02		2.247E-02	3.676E-02	4.223E-03	0.433
CO-58	-2.953E-02		6.075E-02	9.769E-02	9.776E-03	-0.302
FE-59	-1.239E-01		1.415E-01	2.061E-01	1.901E-02	-0.601
CO-60	2.023E-02		5.391E-02	9.499E-02	7.709E-03	0.213
ZN-65	-7.701E-02		1.519E-01	1.961E-01	1.662E-02	-0.393
SE-75	-2.488E-03		4.824E-02	7.541E-02	6.771E-03	-0.033
SR-85	1.214E-02		5.018E-02	7.564E-02	7.278E-03	0.160
Y-88	2.691E-02		5.227E-02	9.514E-02	7.856E-03	0.283
Y-91	-2.422E+01		3.393E+01	5.036E+01	4.149E+00	-0.481
NB-94	-1.920E-02		4.648E-02	7.191E-02	7.831E-03	-0.267
NB-95	6.258E-02		6.453E-02	1.124E-01	1.175E-02	0.557
NB-95M	-1.206E-01		1.493E-01	2.091E-01	2.111E-02	-0.577
ZR-95	1.886E-02		1.084E-01	1.771E-01	1.998E-02	0.106
MO-99	1.431E+01		4.259E+01	7.064E+01	1.198E+01	0.203
TC-99M	4.706E+13		1.427E+14	Half-Life too short		
RU-103	3.196E-03		4.719E-02	7.933E-02	1.148E-02	0.040
RH-106	-1.585E-01		4.208E-01	6.620E-01	9.741E-02	-0.239
RU-106	-1.585E-01		4.205E-01	6.620E-01	7.103E-02	-0.239
AG-108M	-1.507E-02		3.561E-02	5.829E-02	5.161E-03	-0.258
AG-110M	-2.913E-02		6.033E-02	8.043E-02	9.022E-03	-0.362
SN-113	4.444E-02		5.889E-02	9.878E-02	8.135E-03	0.450
CD-115	1.784E-05		2.026E-05	Half-Life too short		
SN-117M	-9.607E-03		5.689E-02	9.669E-02	8.511E-03	-0.099
TE-123M	1.170E-02		2.523E-02	4.408E-02	3.886E-03	0.265
SB-124	5.018E-02		9.931E-02	1.833E-01	1.600E-02	0.274
SB-125	2.682E-02		1.061E-01	1.829E-01	1.582E-02	0.147
TE-125M	5.859E+00		8.927E+00	1.362E+01	1.656E+00	0.430
I-126	2.827E-01		3.739E-01	5.870E-01	6.476E-02	0.482
SB-126	-3.785E-02		2.655E-01	4.223E-01	4.556E-02	-0.090

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	-2.167E-01		3.132E+00	5.038E+00	7.109E-01	-0.043
I-131	-7.970E-03		1.751E-01	2.788E-01	2.486E-02	-0.029
TE-132	1.098E+00		1.580E+00	2.707E+00	4.495E-01	0.406
BA-133	-1.403E-02		5.265E-02	7.282E-02	9.388E-03	-0.193
I-133	3.894E-03		5.216E-02	Half-Life	too short	
CS-134	1.408E-01	+	8.866E-02	1.258E-01	1.284E-02	1.120
CS-135	1.776E-01		1.756E-01	2.785E-01	2.852E-02	0.638
I-135	3.481E+13		1.706E+13	Half-Life	too short	
CS-136	-1.165E-01		1.811E-01	2.738E-01	2.469E-02	-0.426
CE-139	5.833E-03		2.797E-02	4.820E-02	3.918E-03	0.121
BA-140	2.807E-01		4.180E-01	7.142E-01	2.447E-01	0.393
LA-140	1.274E-01		1.322E-01	2.420E-01	2.023E-02	0.527
CE-141	-2.173E-02		6.436E-02	9.819E-02	9.845E-03	-0.221
CE-143	2.635E-03		5.360E-04	Half-Life	too short	
CE-144	-1.689E-01		2.077E-01	2.782E-01	4.613E-02	-0.607
PM-144	2.609E-02		4.655E-02	7.937E-02	8.670E-03	0.329
PR-144	1.963E+00		3.490E+00	5.952E+00	6.500E-01	0.330
PM-146	-2.564E-03		5.089E-02	8.539E-02	9.206E-03	-0.030
ND-147	-2.993E-02		8.731E-01	1.446E+00	2.266E-01	-0.021
PM-149	7.403E-05		1.355E-04	Half-Life	too short	
EU-152	-7.587E-02		1.089E-01	1.648E-01	1.510E-02	-0.461
GD-153	-3.367E-02		6.987E-02	1.004E-01	9.921E-03	-0.335
EU-154	-1.147E-01		2.074E-01	3.111E-01	3.441E-02	-0.369
TB-160	-1.611E-02		1.879E-01	3.112E-01	2.817E-02	-0.052
HO-166M	-1.841E-02		8.012E-02	1.261E-01	1.367E-02	-0.146
TA-182	1.811E-01		3.307E-01	5.626E-01	4.632E-02	0.322
IR-192	1.938E-02		3.998E-02	6.695E-02	5.950E-03	0.290
HG-203	5.895E-05		4.457E-02	7.301E-02	6.665E-03	0.001
BI-207	5.240E-02		7.353E-02	1.303E-01	1.123E-02	0.402
PB-211	3.684E-01		1.019E+00	1.467E+00	7.086E-01	0.251
BI-212	2.594E+00	+	1.049E+00	1.644E+00	2.304E-01	1.578
RN-219	-2.900E-01		5.170E-01	7.774E-01	1.133E-01	-0.373
RA-223	9.832E-01		7.509E-01	1.196E+00	2.085E-01	0.822
AC-227	8.058E-02		2.672E-01	4.485E-01	5.506E-02	0.180
TH-227	8.058E-02		2.673E-01	4.485E-01	6.192E-02	0.180
PA-231	1.197E-01		1.536E+00	2.525E+00	3.728E-01	0.047
TH-231	9.832E-01		7.509E-01	1.196E+00	2.085E-01	0.822
PA-233	-5.560E-03		7.031E-02	1.134E-01	1.035E-02	-0.049
PA-234	8.007E-02		4.192E-01	7.100E-01	1.337E-01	0.113
PA-234M	5.226E+00		6.254E+00	1.124E+01	1.131E+00	0.465
NP-239	1.476E-01		3.504E-01	5.672E-01	6.313E-02	0.260
AM-241	-9.052E-03		5.766E-02	8.815E-02	7.478E-03	-0.103
CM-247	-4.518E-03		4.710E-02	7.400E-02	6.002E-03	-0.061
CF-249	1.940E-03		5.339E-02	8.509E-02	6.821E-03	0.023
CF-251	2.198E-02		1.182E-01	2.026E-01	1.679E-02	0.108

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]G248051017          *
* Acquisition date   : 10-MAR-2010 20:42:59 Detector SN# :                *
* Detector ID        : GAM21 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:26.17 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248051017 Analyst initials: MXR1                  *
* Batch Number       : 958225 Sample Quantity : 1.1813E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.010E+01	3.371E+00	2.656E-01	1.720E+00
CD-109	4.800E+00	9.275E-01	3.865E-01	4.732E-01
SN-126	4.669E-01	9.022E-02	3.753E-02	4.603E-02
BA-137M	4.441E-01	1.115E-01	4.400E-02	5.688E-02
CS-137	4.692E-01	1.178E-01	4.648E-02	6.010E-02
EU-155	2.440E-01	1.547E-01	6.608E-02	7.892E-02
TL-208	6.678E-01	1.344E-01	3.297E-02	6.858E-02
PB-210	1.905E+00	7.972E-01	3.399E-01	4.068E-01
BI-211	4.550E+00	6.788E-01	1.887E-01	3.464E-01
PB-212	2.254E+00	2.574E-01	5.044E-02	1.313E-01
BI-214	1.773E+00	3.122E-01	6.983E-02	1.593E-01
PB-214	1.651E+00	2.620E-01	6.869E-02	1.337E-01
RA-224	6.083E+00	1.180E+00	5.421E-01	6.020E-01
RA-226	1.773E+00	3.122E-01	6.983E-02	1.593E-01
AC-228	2.408E+00	5.363E-01	1.687E-01	2.736E-01
RA-228	2.408E+00	5.363E-01	1.687E-01	2.736E-01
TH-228	2.254E+00	2.574E-01	5.044E-02	1.313E-01
TH-229	-1.290E-01	4.789E-01	4.149E-01	2.443E-01
TH-232	2.408E+00	5.363E-01	1.687E-01	2.736E-01
TH-234	3.172E+00	1.106E+00	4.451E-01	5.644E-01
U-235	2.301E-01	1.928E-01	1.634E-01	9.837E-02
NP-237	1.393E+00	3.930E-01	1.115E-01	2.005E-01
U-238	3.172E+00	1.106E+00	4.451E-01	5.644E-01
ANH-511	1.567E-01	8.153E-02	3.124E-02	4.160E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	3.279E-02	4.030E-01	3.504E-01	2.056E-01 NOT IDENT.
NA-22	-6.407E-02	7.497E-02	5.533E-02	3.825E-02 NOT IDENT.
NA-24	9.905E+06	3.894E+07	0.000E+00	1.987E+07 SHORT HLIF

SC-46	8.872E-03	5.485E-02	4.767E-02	2.799E-02	FAIL ABUN
V-48	1.127E-01	1.169E-01	1.083E-01	5.962E-02	NOT IDENT.
CR-51	-3.203E-01	4.362E-01	3.445E-01	2.225E-01	NOT IDENT.
MN-54	2.744E-02	5.595E-02	5.004E-02	2.855E-02	NOT IDENT.
CO-56	6.376E-02	5.899E-02	5.527E-02	3.010E-02	NOT IDENT.
CO-57	1.591E-02	2.202E-02	1.884E-02	1.124E-02	NOT IDENT.
CO-58	-2.953E-02	5.954E-02	4.905E-02	3.038E-02	NOT IDENT.
FE-59	-1.239E-01	1.387E-01	1.031E-01	7.074E-02	NOT IDENT.
CO-60	2.023E-02	5.283E-02	4.743E-02	2.695E-02	NOT IDENT.
ZN-65	-7.701E-02	1.489E-01	9.811E-02	7.596E-02	NOT IDENT.
SE-75	-2.488E-03	4.728E-02	3.833E-02	2.412E-02	NOT IDENT.
SR-85	1.214E-02	4.918E-02	3.816E-02	2.509E-02	NOT IDENT.
Y-88	2.691E-02	5.122E-02	4.733E-02	2.613E-02	NOT IDENT.
Y-91	-2.422E+01	3.325E+01	2.518E+01	1.696E+01	NOT IDENT.
NB-94	-1.920E-02	4.555E-02	3.616E-02	2.324E-02	NOT IDENT.
NB-95	6.258E-02	6.324E-02	5.646E-02	3.227E-02	NOT IDENT.
NB-95M	-1.206E-01	1.464E-01	1.064E-01	7.467E-02	NOT IDENT.
ZR-95	1.886E-02	1.063E-01	8.900E-02	5.422E-02	NOT IDENT.
MO-99	1.431E+01	4.174E+01	3.550E+01	2.129E+01	NOT IDENT.
TC-99M	4.706E+19	2.796E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	3.196E-03	4.625E-02	4.005E-02	2.360E-02	FAIL ABUN
RH-106	-1.585E-01	4.124E-01	3.333E-01	2.104E-01	NOT IDENT.
RU-106	-1.585E-01	4.121E-01	3.333E-01	2.103E-01	NOT IDENT.
AG-108M	-1.507E-02	3.490E-02	2.947E-02	1.780E-02	NOT IDENT.
AG-110M	-2.913E-02	5.912E-02	4.047E-02	3.016E-02	NOT IDENT.
SN-113	4.444E-02	5.771E-02	4.999E-02	2.945E-02	NOT IDENT.
CD-115	1.784E+01	3.970E+01	0.000E+00	2.026E+01	SHORT HLIF
SN-117M	-9.607E-03	5.576E-02	4.941E-02	2.845E-02	NOT IDENT.
TE-123M	1.170E-02	2.473E-02	2.253E-02	1.261E-02	NOT IDENT.
SB-124	5.018E-02	9.732E-02	9.129E-02	4.965E-02	NOT IDENT.
SB-125	2.682E-02	1.040E-01	9.250E-02	5.306E-02	FAIL ABUN
TE-125M	5.859E+00	8.748E+00	6.988E+00	4.463E+00	NOT IDENT.
I-126	2.827E-01	3.665E-01	2.954E-01	1.870E-01	NOT IDENT.
SB-126	-3.785E-02	2.602E-01	2.123E-01	1.327E-01	NOT IDENT.
SB-127	-2.167E-01	3.070E+00	2.534E+00	1.566E+00	NOT IDENT.
I-131	-7.970E-03	1.716E-01	1.412E-01	8.753E-02	NOT IDENT.
TE-132	1.098E+00	1.548E+00	1.378E+00	7.899E-01	NOT IDENT.
BA-133	-1.403E-02	5.159E-02	3.689E-02	2.632E-02	NOT IDENT.
I-133	3.894E+03	1.022E+05	0.000E+00	5.216E+04	SHORT HLIF
CS-134	1.408E-01	8.689E-02	6.317E-02	4.433E-02	FAIL ABUN
CS-135	1.776E-01	1.720E-01	1.415E-01	8.778E-02	NOT IDENT.
I-135	3.481E+19	3.345E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.165E-01	1.775E-01	1.371E-01	9.056E-02	NOT IDENT.
CE-139	5.833E-03	2.742E-02	2.462E-02	1.399E-02	NOT IDENT.
BA-140	2.807E-01	4.097E-01	3.602E-01	2.090E-01	NOT IDENT.
LA-140	1.274E-01	1.296E-01	1.206E-01	6.612E-02	FAIL ABUN
CE-141	-2.173E-02	6.308E-02	5.023E-02	3.218E-02	NOT IDENT.
CE-143	2.635E+03	1.050E+03	0.000E+00	5.360E+02	SHORT HLIF
CE-144	-1.689E-01	2.036E-01	1.424E-01	1.039E-01	NOT IDENT.
PM-144	2.609E-02	4.562E-02	3.992E-02	2.327E-02	NOT IDENT.
PR-144	1.963E+00	3.420E+00	2.994E+00	1.745E+00	NOT IDENT.
PM-146	-2.564E-03	4.987E-02	4.315E-02	2.545E-02	NOT IDENT.
ND-147	-2.993E-02	8.557E-01	7.293E-01	4.366E-01	FAIL ABUN
PM-149	7.403E+01	2.655E+02	0.000E+00	1.355E+02	SHORT HLIF
EU-152	-7.587E-02	1.067E-01	8.350E-02	5.443E-02	FAIL ABUN
GD-153	-3.367E-02	6.848E-02	5.159E-02	3.494E-02	NOT IDENT.
EU-154	-1.147E-01	2.033E-01	1.554E-01	1.037E-01	NOT IDENT.
TB-160	-1.611E-02	1.842E-01	1.561E-01	9.397E-02	FAIL ABUN
HO-166M	-1.841E-02	7.852E-02	6.338E-02	4.006E-02	FAIL ABUN
TA-182	1.811E-01	3.241E-01	2.812E-01	1.654E-01	FAIL ABUN
IR-192	1.938E-02	3.918E-02	3.396E-02	1.999E-02	FAIL ABUN
HG-203	5.895E-05	4.368E-02	3.709E-02	2.228E-02	NOT IDENT.
BI-207	5.240E-02	7.206E-02	6.523E-02	3.676E-02	FAIL ABUN
PB-211	3.684E-01	9.983E-01	7.421E-01	5.093E-01	NOT IDENT.
BI-212	2.594E+00	1.028E+00	8.264E-01	5.243E-01	FAIL ABUN
RN-219	-2.900E-01	5.067E-01	3.933E-01	2.585E-01	FAIL ABUN
RA-223	9.832E-01	7.359E-01	6.064E-01	3.754E-01	FAIL ABUN
AC-227	8.058E-02	2.619E-01	2.281E-01	1.336E-01	FAIL ABUN
TH-227	8.058E-02	2.619E-01	2.281E-01	1.336E-01	FAIL ABUN
PA-231	1.197E-01	1.505E+00	1.282E+00	7.678E-01	FAIL ABUN
TH-231	9.832E-01	7.359E-01	6.064E-01	3.754E-01	FAIL ABUN
PA-233	-5.560E-03	6.890E-02	5.752E-02	3.515E-02	FAIL ABUN
PA-234	8.007E-02	4.108E-01	3.559E-01	2.096E-01	NOT IDENT.
PA-234M	5.226E+00	6.129E+00	5.629E+00	3.127E+00	NOT IDENT.
NP-239	1.476E-01	3.434E-01	2.908E-01	1.752E-01	FAIL ABUN
AM-241	-9.052E-03	5.651E-02	4.552E-02	2.883E-02	NOT IDENT.
CM-247	-4.518E-03	4.616E-02	3.744E-02	2.355E-02	NOT IDENT.
CF-249	1.940E-03	5.232E-02	4.307E-02	2.669E-02	NOT IDENT.

CF-251

2.198E-02

1.159E-01

1.034E-01

5.912E-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
46.54	192.0928
49.72	235.7754
57.36	0.0000
59.54	307.8178
63.29	312.3163
63.29	312.3163
64.28	313.5647
67.75	331.7260
69.67	379.0520
70.83	343.2967
72.81	371.3734
72.87	371.4534
72.87	371.4534
74.82	378.1389
74.82	378.1389
74.82	378.1389
74.97	378.3432
77.11	381.2041
77.11	381.2041
77.11	381.2041
79.69	321.1927
79.80	303.3862
80.12	269.2021
80.19	269.2656
80.57	315.2395
81.00	343.3865
81.07	343.4673
81.07	343.4673
83.79	273.9063
83.79	273.9063
85.43	273.9629
86.48	219.9082
86.55	219.9574
86.79	220.1240
86.94	220.2319
87.57	220.6715
88.03	220.9921
88.47	221.2968
89.96	222.3267
91.11	223.1154
92.59	224.1215
92.59	224.1215
93.35	224.6356
94.67	225.5243
94.87	192.3889
94.87	192.3889
95.86	195.8533
97.43	241.9364
98.44	209.3908
99.53	208.9475
100.11	203.7862
103.18	192.5892
103.37	192.6910
105.31	197.8219
106.12	198.2594
109.28	198.8204
111.00	216.7475
111.76	211.4935
116.30	189.8157
117.23	202.9441
121.12	189.7758
121.78	187.7500
122.06	185.5445
123.07	216.4144
131.20	193.9684
133.52	223.7659
136.00	206.1310

136.47	197.9006
140.51	202.1023
140.51	0.0000
143.76	190.0344
144.24	192.6829
144.24	192.6829
145.44	214.0909
152.43	229.7024
153.25	190.0696
154.21	182.9211
154.21	182.9211
156.02	233.0467
158.56	191.2565
159.00	173.7119
162.66	198.7348
163.33	202.3935
165.86	192.2676
176.60	176.9518
177.52	172.8794
181.07	185.8392
184.41	176.7680
185.72	177.1708
193.51	173.2532
197.04	191.4284
205.31	160.6090
210.85	162.0194
215.65	176.7121
222.11	164.3580
227.38	161.8589
228.16	161.0957
228.18	161.1009
235.69	196.8602
235.96	185.4365
235.96	185.4365
238.63	164.4943
238.63	164.4943
240.99	165.0387
242.00	130.4778
244.70	141.1515
252.40	144.1080
252.80	144.1857
256.23	130.0664
256.23	130.0664
260.90	0.0000
264.66	117.1622
268.22	105.0876
269.46	100.2421
269.46	100.2421
271.23	91.9263
273.65	111.8582
276.40	130.4461
277.37	123.5141
277.60	119.5004
278.00	104.3600
279.20	133.9417
279.54	158.3613
280.46	142.2815
283.69	114.2741
284.31	103.1288
285.41	130.8724
285.90	0.0000
287.50	114.8027
293.27	0.0000
295.22	107.0692
295.96	96.2903
298.57	96.5855
299.98	78.0182
299.98	78.0182
300.09	78.0289
300.09	78.0289
300.13	78.0319
301.36	78.1433
302.85	103.3264
304.50	87.8384
304.50	87.8384
304.85	91.0109
308.46	107.1423
311.90	102.2869

316.51	96.4542
319.41	104.2067
320.08	110.6693
323.87	70.5238
323.87	70.5238
328.76	107.9569
333.37	90.6787
334.37	110.2261
334.37	110.2261
338.28	93.3189
338.28	93.3189
338.32	93.3224
338.32	93.3224
338.32	93.3224
340.48	120.7242
340.55	120.7333
344.28	101.5466
351.06	95.6554
351.93	95.7404
356.01	89.5051
364.49	83.5754
366.42	88.2000
383.85	95.3630
388.16	104.8664
388.63	96.9306
391.69	86.9133
400.66	99.1593
401.81	98.1083
402.40	91.2328
404.85	83.3320
410.95	71.5673
414.70	95.0729
423.72	74.1370
427.09	71.6969
427.87	73.5153
433.94	84.5804
453.88	75.1288
463.37	77.5293
468.07	62.9883
473.00	76.2851
476.78	82.0414
477.60	69.1795
487.02	78.9754
492.35	0.0000
497.08	53.3653
511.00	72.8396
514.00	60.6743
527.90	0.0000
529.87	0.0000
531.02	62.3816
537.26	54.9456
546.56	0.0000
563.25	58.8794
569.33	61.0918
569.50	52.2285
569.70	52.2350
583.19	44.7473
600.60	56.3145
602.73	48.3354
604.72	58.0746
609.32	52.5808
609.32	52.5808
610.33	52.6141
614.28	45.4412
618.01	54.8998
621.93	59.1098
621.93	59.1098
633.25	42.0760
635.95	51.3962
636.99	62.7424
645.85	52.7369
657.76	71.6450
661.66	68.8863
661.66	68.8863
664.57	0.0000
666.33	40.1883
666.50	50.2412
677.62	52.6703

685.70	48.6799
695.00	49.9992
696.49	46.8467
696.51	46.8480
697.00	46.8601
702.65	59.8281
706.68	51.3955
711.68	49.3888
720.70	64.7388
721.93	0.0000
722.78	58.7612
722.91	58.7662
723.31	58.7795
724.19	63.9948
727.33	70.3836
733.00	52.1338
735.93	46.7767
739.50	53.4038
747.24	42.6789
752.31	55.9587
753.82	42.8253
756.73	49.4893
763.94	72.8542
765.81	48.6165
766.42	59.6838
777.92	55.5878
778.90	52.2783
783.70	45.7146
785.37	62.4924
795.86	44.8718
801.95	49.5067
810.29	55.1323
810.76	58.7618
815.77	51.6549
818.51	44.4637
832.01	64.8464
834.85	53.9585
836.80	0.0000
846.77	38.6285
856.80	52.3613
860.56	29.3118
871.09	29.7641
873.19	30.7240
875.33	0.0000
879.36	36.4121
880.51	42.0359
883.24	32.7347
884.68	35.5638
889.28	38.4505
898.04	41.4262
911.20	44.5089
911.20	44.5089
911.20	44.5089
926.50	27.6463
937.49	53.6389
944.13	41.3035
946.00	36.5295
949.00	37.5394
962.29	56.6939
964.08	62.9624
966.15	69.4796
968.97	32.3543
968.97	32.3543
968.97	32.3543
983.53	31.2469
996.26	45.1510
1001.03	29.5034
1004.73	39.3965
1037.84	27.9412
1038.76	0.0000
1048.07	42.0800
1050.41	29.0807
1050.41	29.0807
1063.66	29.2294
1085.87	33.5414
1099.45	46.9905
1112.07	37.2040
1115.54	46.2437

1120.29	37.0582
1120.29	37.0582
1120.55	37.0617
1121.30	37.0723
1131.51	0.0000
1173.23	38.8139
1177.93	47.2830
1189.05	50.6297
1204.77	51.9644
1221.41	50.1257
1231.02	42.7969
1235.36	55.7172
1238.28	51.4805
1260.41	0.0000
1271.85	32.5327
1274.44	46.6680
1274.54	53.1822
1291.59	30.5566
1298.22	0.0000
1312.11	36.2500
1332.49	20.2678
1365.19	24.1941
1368.63	0.0000
1384.29	20.5910
1408.01	11.3110
1457.56	0.0000
1460.82	7.6572
1489.16	15.4382
1505.03	19.3831
1596.21	5.1087
1620.50	11.9966
1678.03	0.0000
1690.97	5.0891
1764.49	7.1060
1764.49	7.1060
1770.23	29.0562
1771.35	15.5701
1791.20	0.0000
1836.06	6.3237

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051017

Total Uranium Activity	9.5437E+00	ug/g
Total Uranium Counting Unc.	3.2921E+00	ug/g
Total Uranium Tpu	1.6796E-06	ug/g
Total Uranium Mda	1.3264E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*             2040 SAVAGE ROAD                     *
*             CHARLESTON ,SC 29417                 *
*             GROSS GAMMA REPORT                   *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051017
*  ANALYST       : MXR1            DETECTOR    : GAM21
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 20:42:59.83  SAMPLE ALQT: 118.130 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.233E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.550E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 5.251E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.537E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 22:45:19.44

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051018.CNF;1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:43:32
Sample ID        : G248051018 Sample quantity   : 1.49750E+02 GRAM
Detector name    : GAM22 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.85 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID        : 958225 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	63.05*	195	515	1.08	126.35	121	10	2.71E-02	23.6	
2	2	74.83	306	460	1.22	149.89	143	15	4.25E-02	13.3	2.50E+00
3	2	77.05*	500	466	1.09	154.32	143	15	6.95E-02	8.8	
4	3	87.12*	195	467	1.20	174.45	171	12	2.71E-02	19.9	2.93E+00
5	3	89.82	105	406	1.04	179.83	171	12	1.46E-02	31.2	
6	0	93.11*	401	687	1.40	186.41	182	12	5.56E-02	14.8	
7	0	185.87*	261	546	1.42	371.75	366	14	3.62E-02	20.8	
8	0	209.38	96	253	0.85	418.73	416	7	1.33E-02	29.4	
9	2	238.68*	1017	287	1.22	477.27	472	18	1.41E-01	4.3	1.13E+00
10	2	241.75	268	319	1.71	483.41	472	18	3.72E-02	16.8	
11	0	295.28*	321	389	1.58	590.38	582	14	4.46E-02	14.3	
12	0	328.62	83	167	1.63	657.01	653	9	1.15E-02	30.3	
13	0	338.20*	208	284	1.48	676.16	669	13	2.89E-02	18.4	
14	0	352.03*	626	228	1.51	703.79	699	11	8.70E-02	6.3	
15	0	463.39*	73	188	1.33	926.35	919	13	1.02E-02	41.2	
16	0	510.84*	120	252	1.97	1021.18	1012	19	1.66E-02	37.4	
17	0	583.08*	422	190	1.65	1165.58	1157	18	5.86E-02	9.3	
18	0	609.42*	451	154	1.53	1218.22	1211	14	6.26E-02	7.8	
19	0	661.49	320	166	1.50	1322.31	1315	16	4.45E-02	10.6	
20	0	727.62*	135	88	1.98	1454.51	1447	15	1.88E-02	17.9	
21	0	795.20	60	56	0.73	1589.61	1585	10	8.38E-03	27.0	
22	0	911.46*	317	139	1.90	1822.04	1813	20	4.41E-02	10.9	
23	0	969.29	167	117	2.14	1937.66	1932	14	2.32E-02	16.0	
24	0	1121.07*	90	102	1.99	2241.15	2233	17	1.25E-02	29.0	
25	0	1460.91*	1724	30	2.55	2920.85	2909	21	2.39E-01	2.6	
26	0	1686.90	12	8	0.68	3372.94	3364	16	1.73E-03	57.9	
27	0	1730.13	40	10	2.01	3459.43	3452	14	5.49E-03	23.5	
28	0	1765.33*	52	28	2.72	3529.85	3519	16	7.23E-03	29.1	

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


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051018.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:43:32
Sample ID        : G248051018 Sample quantity : 149.75 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA22 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.85 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	+	1460.82	*	2.124E+01	2.232E+00	3.486E-01	3.193E-02	60.925
CD-109	+	88.03	*	1.819E+00	7.424E-01	9.951E-01	9.443E-02	1.828
SN-126	+	64.28		1.189E+00	5.862E-01	5.264E-01	7.644E-02	2.259
	+	86.94		7.355E-01	4.227E-01	4.064E-01	1.687E-01	1.810
	+	87.57	*	1.769E-01	7.221E-02	9.719E-02	9.177E-03	1.820
BA-137M	+	661.66	*	2.490E-01	5.874E-02	3.803E-02	4.010E-03	6.548
CS-137	+	661.66	*	2.631E-01	6.207E-02	4.017E-02	4.242E-03	6.548
TL-208		277.37		1.685E-01	2.960E-01	4.841E-01	8.052E-02	0.348
	+	583.19	*	3.164E-01	6.818E-02	4.101E-02	4.443E-03	7.716
		860.56		3.198E-02	2.182E-01	3.626E-01	4.225E-02	0.088
BI-211		72.87		4.718E+00	2.124E+00	3.682E+00	2.947E-01	1.281
	+	351.06	*	2.250E+00	3.853E-01	2.369E-01	2.765E-02	9.496
PB-212	+	74.82		1.209E+00	3.553E-01	3.636E-01	4.617E-02	3.325
	+	77.11		1.136E+00	2.205E-01	2.094E-01	1.751E-02	5.427
	+	238.63	*	8.718E-01	1.378E-01	7.222E-02	9.568E-03	12.072
		300.09		1.101E+00	6.901E-01	1.073E+00	1.573E-01	1.027
BI-214	+	609.32	*	6.517E-01	1.265E-01	8.319E-02	9.707E-03	7.834
	+	1120.29		6.460E-01	3.810E-01	3.202E-01	3.554E-02	2.017
	+	1764.49		4.970E-01	2.921E-01	2.335E-01	1.945E-02	2.128
PB-214	+	74.82		2.143E+00	6.181E-01	6.444E-01	7.335E-02	3.325
	+	77.11		2.003E+00	4.224E-01	3.692E-01	4.336E-02	5.427
	+	242.00		1.388E+00	5.041E-01	4.386E-01	6.066E-02	3.165
	+	295.22		7.328E-01	2.370E-01	1.777E-01	2.665E-02	4.125
	+	351.93	*	8.166E-01	1.469E-01	8.594E-02	1.106E-02	9.501
RA-224	+	240.99	*	2.455E+00	8.800E-01	7.733E-01	9.681E-02	3.174
RA-226	+	609.32	*	6.517E-01	1.265E-01	8.319E-02	9.707E-03	7.834
	+	1120.29		6.460E-01	3.810E-01	3.202E-01	3.554E-02	2.017
	+	1764.49		4.970E-01	2.921E-01	2.335E-01	1.945E-02	2.128
AC-228	+	338.32		8.387E-01	4.716E-01	2.819E-01	1.198E-01	2.975
	+	911.20	*	1.106E+00	2.847E-01	1.583E-01	2.144E-02	6.987
	+	968.97		9.997E-01	4.068E-01	3.605E-01	9.064E-02	2.773
RA-228	+	338.32		8.387E-01	4.716E-01	2.819E-01	1.198E-01	2.975
	+	911.20	*	1.106E+00	2.847E-01	1.583E-01	2.144E-02	6.987
	+	968.97		9.997E-01	4.068E-01	3.605E-01	9.064E-02	2.773

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	74.82		1.209E+00	3.356E-01	3.636E-01	2.998E-02	3.325
	+	77.11		1.136E+00	2.205E-01	2.094E-01	1.751E-02	5.427
	+	238.63	*	8.718E-01	1.378E-01	7.222E-02	9.568E-03	12.072
		300.09		1.101E+00	9.578E-01	1.073E+00	6.656E-01	1.027
TH-232	+	338.32		8.387E-01	3.245E-01	2.819E-01	3.352E-02	2.975
	+	911.20	*	1.106E+00	2.847E-01	1.583E-01	2.144E-02	6.987
	+	968.97		9.997E-01	4.068E-01	3.605E-01	9.064E-02	2.773
TH-234	+	63.29	*	3.085E+00	1.554E+00	1.354E+00	2.410E-01	2.278
	+	92.59		3.011E+00	1.115E+00	6.992E-01	1.557E-01	4.306
U-235	+	89.96		9.875E-01	6.638E-01	8.174E-01	2.032E-01	1.208
	+	93.35		2.274E+00	8.564E-01	5.362E-01	1.247E-01	4.241
		143.76	*	2.367E-02	1.570E-01	2.588E-01	4.424E-02	0.091
		163.33		1.243E-01	3.346E-01	5.451E-01	1.008E-01	0.228
	+	185.72		1.501E-01	6.440E-02	4.807E-02	5.034E-03	3.123
		205.31		4.817E-01	4.252E-01	6.326E-01	1.233E-01	0.761
NP-237	+	86.48	*	5.279E-01	2.422E-01	2.942E-01	6.751E-02	1.794
		95.86		-2.242E-02	7.412E-01	1.064E+00	2.562E-01	-0.021
U-238	+	63.29	*	3.085E+00	1.554E+00	1.354E+00	2.410E-01	2.278
	+	92.59		3.011E+00	9.322E-01	6.992E-01	6.360E-02	4.306
ANH-511	+	511.00	*	6.970E-02	5.254E-02	3.150E-02	3.157E-03	2.213

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	3.505E-02	2.363E-01	3.853E-01	4.020E-02	0.091
NA-22		1274.54	*	-3.679E-03	3.029E-02	4.965E-02	4.279E-03	-0.074
NA-24		1368.63	*	-1.190E+01	3.029E-02	Half-Life too short		
SC-46		889.28	*	3.206E-03	2.720E-02	4.550E-02	5.093E-03	0.070
	+	1120.55		1.122E-01	6.577E-02	8.258E-02	7.300E-03	1.359
V-48		944.13		-7.285E-01	7.364E-01	1.119E+00	1.214E-01	-0.651
		983.53	*	1.271E-02	6.102E-02	1.017E-01	1.066E-02	0.125
		1312.11		2.014E-02	6.234E-02	1.057E-01	9.311E-03	0.191
CR-51		320.08	*	4.183E-01	3.018E-01	5.267E-01	6.818E-02	0.794
MN-54		834.85	*	-9.948E-04	2.488E-02	4.140E-02	4.599E-03	-0.024
CO-56		846.77	*	-1.738E-02	2.858E-02	4.556E-02	5.071E-03	-0.382
		1037.84		-2.033E-01	2.281E-01	3.452E-01	3.557E-02	-0.589
		1238.28		1.108E-01	6.780E-02	1.219E-01	1.056E-02	0.909
		1771.35		6.991E-02	1.513E-01	2.350E-01	1.952E-02	0.298
CO-57		122.06	*	1.509E-02	1.962E-02	3.203E-02	2.641E-03	0.471
		136.47		3.661E-03	1.526E-01	2.582E-01	2.393E-02	0.014
CO-58		810.76	*	6.489E-03	2.801E-02	4.755E-02	5.265E-03	0.136
FE-59		1099.45	*	-5.895E-02	7.399E-02	1.129E-01	1.106E-02	-0.522
		1291.59		1.288E-02	8.412E-02	1.408E-01	1.388E-02	0.091
CO-60		1173.23		9.054E-03	3.181E-02	5.406E-02	4.348E-03	0.167
		1332.49	*	2.202E-02	3.014E-02	5.045E-02	4.499E-03	0.436
ZN-65		1115.54	*	5.032E-04	7.810E-02	1.077E-01	9.608E-03	0.005
SE-75		121.12		1.984E-02	1.047E-01	1.673E-01	1.806E-02	0.119
		136.00		-8.031E-03	2.949E-02	4.939E-02	4.287E-03	-0.163

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	264.66	*		-1.946E-02	3.532E-02	5.515E-02	7.423E-03	-0.353
	279.54			4.826E-02	8.481E-02	1.389E-01	1.971E-02	0.348
	400.66			9.452E-03	1.841E-01	3.031E-01	3.540E-02	0.031
SR-85	514.00	*		1.311E-01	3.754E-02	6.101E-02	6.121E-03	2.150
Y-88	898.04			-1.621E-02	2.942E-02	4.672E-02	5.250E-03	-0.347
	1836.06	*		1.538E-03	2.162E-02	3.590E-02	2.902E-03	0.043
Y-91	1204.77	*		5.787E+00	1.659E+01	2.820E+01	2.318E+00	0.205
NB-94	702.65	*		1.380E-02	2.369E-02	4.000E-02	4.287E-03	0.345
	871.09			-6.621E-03	2.314E-02	3.763E-02	4.204E-03	-0.176
NB-95	765.81	*		3.329E-02	3.352E-02	5.713E-02	6.247E-03	0.583
NB-95M	235.69	*		7.090E-02	1.183E-01	1.725E-01	2.283E-02	0.411
ZR-95	724.19			7.580E-02	8.330E-02	1.245E-01	1.417E-02	0.609
	756.73	*		3.075E-03	5.441E-02	8.852E-02	1.030E-02	0.035
MO-99	140.51			-4.503E+01	3.925E+01	5.990E+01	1.426E+01	-0.752
	181.07			-1.205E+01	3.420E+01	4.875E+01	9.567E+00	-0.247
	366.42			-5.706E+01	1.567E+02	2.540E+02	2.695E+01	-0.225
	739.50	*		-2.177E+01	1.984E+01	2.908E+01	4.967E+00	-0.749
	777.92			-3.997E+01	5.624E+01	8.576E+01	9.409E+00	-0.466
TC-99M	140.51	*		-2.691E+14	5.624E+01	Half-Life	too short	
RU-103	497.08	*		2.150E-02	2.925E-02	4.900E-02	7.265E-03	0.439
	610.33	+		7.123E+00	1.658E+00	1.813E+00	3.146E-01	3.930
RH-106	621.93	*		8.841E-02	2.272E-01	3.833E-01	5.562E-02	0.231
	1050.41			-4.930E-01	1.899E+00	3.038E+00	2.966E-01	-0.162
RU-106	621.93	*		8.841E-02	2.271E-01	3.833E-01	4.004E-02	0.231
	1050.41			-4.930E-01	1.899E+00	3.038E+00	2.966E-01	-0.162
AG-108M	433.94	*		1.224E-02	2.075E-02	3.491E-02	3.436E-03	0.351
	614.28			-1.027E-02	3.027E-02	4.178E-02	4.453E-03	-0.246
	722.91			-7.478E-03	3.068E-02	4.175E-02	4.598E-03	-0.179
AG-110M	657.76	*		3.260E-02	2.984E-02	4.573E-02	4.916E-03	0.713
	677.62			4.324E-02	2.182E-01	3.619E-01	3.915E-02	0.119
	706.68			4.903E-03	1.489E-01	2.435E-01	2.662E-02	0.020
	763.94			4.995E-03	1.245E-01	2.021E-01	2.246E-02	0.025
	884.68			-3.298E-02	3.446E-02	5.280E-02	6.021E-03	-0.625
	937.49			1.009E-02	8.263E-02	1.375E-01	1.533E-02	0.073
	1384.29			-5.935E-02	1.211E-01	1.897E-01	1.738E-02	-0.313
	1505.03			4.723E-02	1.939E-01	3.240E-01	2.881E-02	0.146
SN-113	391.69	*		1.877E-02	3.218E-02	5.446E-02	5.201E-03	0.345
CD-115	260.90			2.825E-04	3.218E-02	Half-Life	too short	
	492.35			-5.867E-05	3.218E-02	Half-Life	too short	
	527.90	*		1.843E-06	3.218E-02	Half-Life	too short	
SN-117M	156.02			-4.920E-01	1.964E+00	3.260E+00	3.057E-01	-0.151
	158.56	*		-3.454E-02	4.791E-02	7.789E-02	7.386E-03	-0.443
TE-123M	159.00	*		-1.188E-02	2.151E-02	3.521E-02	3.363E-03	-0.337
SB-124	602.73			6.270E-03	3.274E-02	4.736E-02	4.920E-03	0.132
	645.85			-8.258E-02	3.610E-01	5.852E-01	6.390E-02	-0.141
	722.78			-8.468E-02	3.196E-01	4.339E-01	4.752E-02	-0.195
	1690.97	*		2.752E-02	6.226E-02	9.499E-02	8.469E-03	0.290
SB-125	427.87	*		-3.708E-02	6.528E-02	1.029E-01	9.982E-03	-0.360
	463.37	+		3.854E-01	3.198E-01	3.626E-01	3.751E-02	1.063

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	600.60			1.076E-02	1.338E-01	2.126E-01	2.321E-02	0.051
	635.95			-1.478E-01	1.853E-01	2.878E-01	3.185E-02	-0.514
TE-125M	109.28	*		8.730E+00	7.907E+00	1.309E+01	1.347E+00	0.667
I-126	388.63			-8.186E-02	1.475E-01	2.356E-01	2.231E-02	-0.347
	666.33	*		-7.521E-02	2.227E-01	3.038E-01	3.209E-02	-0.248
	753.82			9.912E-01	1.510E+00	2.552E+00	2.782E-01	0.388
SB-126	414.70			1.050E-03	6.396E-02	1.048E-01	9.917E-03	0.010
	666.50			-2.334E-02	7.721E-02	1.057E-01	1.117E-02	-0.221
	695.00			-6.891E-03	6.939E-02	1.090E-01	1.165E-02	-0.063
	697.00			1.035E-01	2.261E-01	3.796E-01	4.059E-02	0.273
	720.70	*		7.944E-03	1.462E-01	2.049E-01	2.210E-02	0.039
	856.80			-4.349E-02	4.209E-01	6.961E-01	7.761E-02	-0.062
SB-127	252.40			2.261E+00	5.860E+00	9.492E+00	4.074E+00	0.238
	473.00			9.098E-02	2.126E+00	3.447E+00	4.984E-01	0.026
	685.70	*		-1.034E+00	1.622E+00	2.527E+00	3.504E-01	-0.409
	783.70			1.569E+00	4.318E+00	7.144E+00	1.067E+00	0.220
I-131	80.19			1.976E-01	4.411E+00	6.446E+00	5.629E-01	0.031
	284.31			-6.242E-01	1.525E+00	2.384E+00	3.372E-01	-0.262
	364.49	*		-5.029E-02	1.088E-01	1.756E-01	1.949E-02	-0.286
	636.99			-1.625E+00	1.437E+00	2.169E+00	2.368E-01	-0.749
TE-132	49.72			1.349E+01	2.294E+01	3.932E+01	4.538E+00	0.343
	111.76			-2.186E+01	5.334E+01	8.366E+01	9.842E+00	-0.261
	116.30			-4.665E+00	4.491E+01	7.115E+01	8.340E+00	-0.066
	228.16	*		-4.546E-01	1.134E+00	1.809E+00	3.350E-01	-0.251
BA-133	81.00			-1.145E-01	7.516E-02	9.855E-02	1.535E-02	-1.162
	276.40			1.634E-01	2.742E-01	4.485E-01	7.996E-02	0.364
	302.85			2.023E-02	1.049E-01	1.776E-01	2.930E-02	0.114
	356.01	*		4.408E-03	3.440E-02	4.995E-02	7.354E-03	0.088
	383.85			-3.754E-02	2.175E-01	3.552E-01	4.694E-02	-0.106
I-133	529.87	*		-1.903E-02	2.175E-01	Half-Life	too short	
	875.33			2.806E-01	2.175E-01	Half-Life	too short	
	1298.22			1.042E+00	2.175E-01	Half-Life	too short	
CS-134	563.25			2.777E-01	2.498E-01	4.395E-01	4.534E-02	0.632
	569.33			2.391E-03	1.409E-01	2.348E-01	2.434E-02	0.010
	604.72			1.670E-02	2.725E-02	4.065E-02	4.232E-03	0.411
	795.86	*		6.416E-02	3.542E-02	5.656E-02	6.260E-03	1.134
	801.95			1.199E-01	2.928E-01	4.377E-01	4.847E-02	0.274
	1365.19			-5.485E-01	8.488E-01	1.300E+00	1.211E-01	-0.422
CS-135	268.22	*		1.597E-02	1.217E-01	1.965E-01	2.842E-02	0.081
I-135	546.56			1.220E+13	1.217E-01	Half-Life	too short	
	836.80			1.096E+13	1.217E-01	Half-Life	too short	
	1038.76			-5.019E+13	1.217E-01	Half-Life	too short	
	1131.51			9.852E+12	1.217E-01	Half-Life	too short	
	1260.41	*		2.746E+12	1.217E-01	Half-Life	too short	
	1457.56			3.006E+15	1.217E-01	Half-Life	too short	
	1678.03			1.466E+13	1.217E-01	Half-Life	too short	
	1791.20			2.482E+13	1.217E-01	Half-Life	too short	
CS-136	153.25			4.671E-01	7.467E-01	1.276E+00	1.380E-01	0.366
	176.60			5.690E-02	4.455E-01	7.429E-01	8.117E-02	0.077

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		273.65		-1.106E+00	5.170E-01	7.090E-01	1.011E-01	-1.560
		340.55		4.225E-01	1.570E-01	2.491E-01	2.999E-02	1.696
		818.51		-5.601E-03	6.266E-02	1.041E-01	1.154E-02	-0.054
		1048.07	*	4.987E-02	9.403E-02	1.591E-01	1.609E-02	0.313
		1235.36		6.510E-01	5.027E-01	8.866E-01	1.029E-01	0.734
CE-139		165.86	*	-9.152E-03	2.240E-02	3.677E-02	3.607E-03	-0.249
BA-140		162.66		2.531E-01	7.484E-01	1.221E+00	1.244E-01	0.207
		304.85		-1.515E+00	1.268E+00	1.869E+00	5.779E-01	-0.811
		423.72		1.223E+00	1.591E+00	2.629E+00	8.714E-01	0.465
		537.26	*	3.678E-04	2.245E-01	3.757E-01	1.290E-01	0.001
LA-140	+	328.76		4.966E-01	3.077E-01	4.464E-01	5.642E-02	1.112
		487.02		1.082E-01	1.237E-01	2.088E-01	2.164E-02	0.518
		815.77		1.141E-01	2.762E-01	4.735E-01	5.622E-02	0.241
		1596.21	*	-5.946E-02	7.310E-02	1.108E-01	9.712E-03	-0.537
CE-141		145.44	*	8.520E-03	5.067E-02	8.576E-02	7.808E-03	0.099
CE-143		57.36		4.354E-05	5.067E-02	Half-Life	too short	
		293.27	*	2.023E-03	5.067E-02	Half-Life	too short	
		664.57		2.553E-02	5.067E-02	Half-Life	too short	
		721.93		-2.968E-04	5.067E-02	Half-Life	too short	
CE-144		80.12		-1.181E+00	1.876E+00	2.650E+00	2.291E-01	-0.446
		133.52	*	-1.204E-01	1.466E-01	2.393E-01	3.648E-02	-0.503
PM-144		476.78		8.026E-03	4.658E-02	7.604E-02	7.986E-03	0.106
		618.01		-4.257E-03	2.475E-02	3.957E-02	4.208E-03	-0.108
		696.49	*	7.141E-03	2.440E-02	4.058E-02	4.341E-03	0.176
PR-144		696.51	*	5.330E-01	1.829E+00	3.042E+00	3.252E-01	0.175
		1489.16		-9.682E+00	9.593E+00	1.376E+01	1.225E+00	-0.704
PM-146		453.88	*	-2.266E-03	3.126E-02	5.055E-02	5.812E-03	-0.045
		633.25		6.324E-01	9.796E-01	1.631E+00	6.306E-01	0.388
		735.93		8.210E-02	1.086E-01	1.698E-01	4.888E-02	0.484
		747.24		-2.466E-02	6.609E-02	1.041E-01	1.668E-02	-0.237
ND-147	+	91.11		3.925E-01	2.483E-01	4.652E-01	4.599E-02	0.844
		319.41		3.055E+00	3.102E+00	5.367E+00	6.795E-01	0.569
		531.02	*	-4.238E-01	4.661E-01	7.297E-01	1.157E-01	-0.581
PM-149		285.90	*	5.337E-05	4.661E-01	Half-Life	too short	
EU-152		121.78		9.987E-03	5.700E-02	9.101E-02	8.715E-03	0.110
		244.70		8.161E-02	2.783E-01	4.001E-01	5.066E-02	0.204
		344.28	*	-2.517E-02	7.663E-02	1.134E-01	1.363E-02	-0.222
		778.90		-3.080E-02	1.716E-01	2.735E-01	3.001E-02	-0.113
		964.08		3.330E-01	2.464E-01	3.830E-01	4.087E-02	0.870
		1085.87		-5.141E-02	2.707E-01	4.335E-01	4.039E-02	-0.119
		1112.07		8.062E-02	2.390E-01	3.424E-01	3.068E-02	0.235
		1408.01		4.139E-02	1.363E-01	2.293E-01	2.050E-02	0.181
GD-153		69.67		2.106E-01	1.261E+00	1.873E+00	1.454E-01	0.112
		97.43	*	3.288E-02	7.043E-02	1.023E-01	8.991E-03	0.322
		103.18		-1.881E-02	7.983E-02	1.268E-01	1.084E-02	-0.148
EU-154		123.07		4.648E-02	3.949E-02	6.509E-02	7.212E-03	0.714
		723.31		-2.589E-03	1.418E-01	1.973E-01	2.269E-02	-0.013
		873.19		-1.584E-01	1.941E-01	3.012E-01	4.174E-02	-0.526
		996.26		-1.606E-01	2.677E-01	4.176E-01	7.680E-02	-0.385

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	+	1004.73		1.174E-01	1.580E-01	2.710E-01	3.498E-02	0.433
		1274.44	*	-9.043E-03	8.578E-02	1.408E-01	1.601E-02	-0.064
		86.55		2.148E-01	8.772E-02	1.273E-01	1.197E-02	1.687
		105.31	*	-7.102E-02	7.897E-02	1.215E-01	1.043E-02	-0.584
TB-160	+	86.79		5.871E-01	2.397E-01	3.466E-01	3.242E-02	1.694
		197.04		1.670E-02	4.744E-01	7.519E-01	8.176E-02	0.022
		215.65		-2.963E-01	5.720E-01	9.133E-01	1.056E-01	-0.324
		298.57		8.315E-02	9.991E-02	1.523E-01	2.041E-02	0.546
HO-166M	+	879.36	*	7.698E-02	1.003E-01	1.746E-01	1.952E-02	0.441
		962.29		5.484E-01	4.472E-01	6.940E-01	7.417E-02	0.790
		966.15		7.703E-01	2.172E-01	3.591E-01	3.825E-02	2.145
		1177.93		3.901E-02	2.660E-01	4.478E-01	3.613E-02	0.087
		1271.85		2.524E-01	4.898E-01	8.429E-01	7.244E-02	0.299
		80.57		-2.581E-02	1.951E-01	2.825E-01	2.455E-02	-0.091
		184.41		1.193E-01	5.117E-02	5.178E-02	5.399E-03	2.303
		280.46		-4.605E-02	6.718E-02	1.035E-01	1.445E-02	-0.445
		410.95		6.441E-02	1.782E-01	2.971E-01	2.804E-02	0.217
		711.68	*	5.332E-03	4.200E-02	6.905E-02	7.424E-03	0.077
		752.31		-1.018E-02	1.905E-01	3.078E-01	3.352E-02	-0.033
		810.29		-7.889E-03	4.109E-02	6.787E-02	7.503E-03	-0.116
TA-182	+	67.75		5.738E-03	7.886E-02	1.234E-01	9.414E-03	0.046
		100.11		-4.412E-03	1.335E-01	2.144E-01	1.858E-02	-0.021
		152.43		-9.486E-03	2.607E-01	4.369E-01	4.031E-02	-0.022
		222.11		9.943E-02	2.745E-01	4.538E-01	5.355E-02	0.219
IR-192	+	1121.30		3.087E-01	1.809E-01	2.249E-01	1.985E-02	1.373
		1189.05		-9.651E-02	2.199E-01	3.554E-01	2.890E-02	-0.272
		1221.41	*	8.266E-02	1.398E-01	2.408E-01	2.002E-02	0.343
		1231.02		-4.526E-01	3.611E-01	5.493E-01	4.597E-02	-0.824
		295.96		5.586E-01	1.770E-01	1.959E-01	2.650E-02	2.852
		308.46		-2.659E-02	6.806E-02	1.120E-01	1.466E-02	-0.237
		316.51	*	4.988E-03	2.603E-02	4.395E-02	5.618E-03	0.113
		468.07		6.460E-03	5.663E-02	7.986E-02	8.267E-03	0.081
HG-203	+	70.83		3.481E-01	1.007E+00	1.504E+00	2.355E-01	0.231
		72.87		1.233E+00	5.775E-01	9.621E-01	1.463E-01	1.281
BI-207	+	279.20	*	2.325E-02	3.101E-02	5.106E-02	7.220E-03	0.455
		72.81		2.543E-01	1.216E-01	2.104E-01	1.683E-02	1.209
		74.97		3.485E-01	9.665E-02	1.489E-01	1.218E-02	2.340
		569.70		-4.362E-03	2.210E-02	3.638E-02	3.737E-03	-0.120
PB-210	+	1063.66	*	-3.497E-03	3.648E-02	5.902E-02	5.666E-03	-0.059
		1770.23		5.503E-01	3.479E-01	6.273E-01	5.214E-02	0.877
		46.54	*	3.331E+00	2.264E+00	3.816E+00	3.515E-01	0.873
		404.85	*	-3.527E-01	5.561E-01	8.378E-01	4.066E-01	-0.421
PB-211	+	427.09		-1.704E-01	1.071E+00	1.728E+00	8.027E-01	-0.099
		832.01		-7.697E-02	6.549E-01	1.082E+00	5.663E-01	-0.071
		727.33	*	1.523E+00	5.858E-01	7.709E-01	1.084E-01	1.976
		785.37		1.772E+00	2.169E+00	3.688E+00	4.054E-01	0.481
RN-219	+	1620.50		8.201E-01	1.555E+00	2.739E+00	2.387E-01	0.299
		271.23		3.315E-01	1.873E-01	3.130E-01	4.625E-02	1.059
		401.81	*	-1.591E-01	2.932E-01	4.656E-01	7.134E-02	-0.342

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

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RA-223	81.07			-2.582E-01	1.669E-01	2.232E-01	1.950E-02	-1.157
	83.79			6.524E-02	9.781E-02	1.443E-01	1.302E-02	0.452
	94.87			4.398E-01	3.789E-01	5.713E-01	5.108E-02	0.770
	144.24			8.917E-02	5.293E-01	8.735E-01	8.632E-02	0.102
	154.21			3.533E-01	2.869E-01	4.974E-01	5.008E-02	0.710
	269.46			1.428E-01	1.440E-01	2.389E-01	3.280E-02	0.598
	323.87	*		-1.944E-01	5.374E-01	7.609E-01	1.487E-01	-0.256
AC-227	+	338.28		3.328E+00	1.318E+00	1.552E+00	2.265E-01	2.144
	79.69			-3.978E-01	9.061E-01	1.290E+00	2.222E-01	-0.308
	235.96			3.247E-01	1.512E-01	2.269E-01	3.082E-02	1.431
	256.23	*		-1.322E-01	1.936E-01	3.003E-01	4.679E-02	-0.440
	299.98			1.052E+00	7.636E-01	1.176E+00	1.916E-01	0.895
	304.50			-1.354E+00	1.233E+00	1.927E+00	3.722E-01	-0.703
	334.37			3.441E-01	1.679E+00	1.958E+00	3.470E-01	0.176
TH-227	79.80			-4.553E-01	1.197E+00	1.708E+00	3.719E-01	-0.267
	235.96			3.247E-01	1.508E-01	2.269E-01	2.983E-02	1.431
	256.23	*		-1.322E-01	1.938E-01	3.003E-01	5.049E-02	-0.440
	299.98			1.052E+00	7.636E-01	1.176E+00	1.916E-01	0.895
	304.50			-1.354E+00	1.233E+00	1.927E+00	3.722E-01	-0.703
	334.37			3.441E-01	1.679E+00	1.958E+00	3.470E-01	0.176
	85.43			1.790E-01	1.652E-01	2.487E-01	2.287E-02	0.720
TH-229	+	88.47		2.727E-01	1.113E-01	1.587E-01	1.499E-02	1.719
	193.51	*		-1.195E-01	4.119E-01	6.477E-01	6.961E-02	-0.184
	210.85			1.197E+00	7.163E-01	1.147E+00	1.306E-01	1.043
PA-231	+	283.69	*	-1.403E-01	1.097E+00	1.740E+00	3.166E-01	-0.081
	301.36			8.652E-01	4.681E-01	7.527E-01	1.191E-01	1.149
TH-231	81.07			-2.582E-01	1.669E-01	2.232E-01	1.950E-02	-1.157
	83.79			6.524E-02	9.781E-02	1.443E-01	1.302E-02	0.452
	94.87			4.398E-01	3.789E-01	5.713E-01	5.108E-02	0.770
	144.24			8.917E-02	5.293E-01	8.735E-01	8.632E-02	0.102
	154.21			3.533E-01	2.869E-01	4.974E-01	5.008E-02	0.710
	269.46			1.428E-01	1.440E-01	2.389E-01	3.280E-02	0.598
	323.87	*		-1.944E-01	5.374E-01	7.609E-01	1.487E-01	-0.256
PA-233	+	338.28		3.328E+00	1.318E+00	1.552E+00	2.265E-01	2.144
	300.13			6.776E-01	3.487E-01	5.343E-01	9.615E-02	1.268
	311.90	*		-1.504E-02	4.384E-02	7.222E-02	9.463E-03	-0.208
	340.48			1.547E+00	6.701E-01	9.091E-01	2.307E-01	1.701
PA-234	94.67			2.689E-01	1.439E-01	2.184E-01	2.760E-02	1.231
	98.44			1.073E-01	9.553E-02	1.134E-01	6.326E-02	0.947
	111.00			1.409E-02	1.459E-01	2.337E-01	2.780E-02	0.060
	131.20			2.972E-02	7.597E-02	1.304E-01	1.104E-02	0.228
	569.50			5.349E-03	1.931E-01	3.220E-01	3.307E-02	0.017
	733.00			2.538E-01	2.902E-01	4.320E-01	9.997E-02	0.587
	880.51			1.064E-01	1.963E-01	3.375E-01	3.774E-02	0.315
	883.24			-8.082E-02	2.061E-01	3.203E-01	2.165E-01	-0.252
	926.50			-5.733E-02	1.306E-01	2.078E-01	5.440E-02	-0.276
	946.00	*		-1.008E-02	2.181E-01	3.585E-01	7.126E-02	-0.028
	949.00			4.903E-01	3.159E-01	5.689E-01	6.147E-02	0.862
	PA-234M	766.42		6.594E+00	9.291E+00	1.464E+01	7.492E+00	0.450

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		2.207E+00	3.595E+00	6.104E+00	6.995E-01	0.362
	99.53			2.945E-02	1.306E-01	1.988E-01	1.727E-02	0.148
	103.37			9.884E-03	7.128E-02	1.150E-01	9.822E-03	0.086
	106.12			-8.287E-03	6.345E-02	1.011E-01	8.546E-03	-0.082
	117.23	*		-1.861E-01	3.087E-01	4.779E-01	3.949E-02	-0.389
	228.18			-6.771E-02	1.660E-01	2.652E-01	3.190E-02	-0.255
AM-241	277.60			6.934E-02	1.343E-01	2.195E-01	3.059E-02	0.316
	59.54	*		-2.839E-02	1.063E-01	1.561E-01	1.221E-02	-0.182
CM-247	278.00			2.386E-01	5.762E-01	9.381E-01	1.309E-01	0.254
	287.50			3.225E-02	1.029E+00	1.516E+00	2.086E-01	0.021
CF-249	402.40	*		-1.065E-02	2.689E-02	4.317E-02	4.049E-03	-0.247
	252.80			4.513E-01	7.122E-01	1.179E+00	1.529E-01	0.383
	333.37			1.410E-01	1.921E-01	2.058E-01	2.490E-02	0.685
CF-251	388.16	*		3.418E-04	2.902E-02	4.780E-02	4.538E-03	0.007
	177.52	*		-1.128E-02	9.938E-02	1.642E-01	1.673E-02	-0.069
	227.38			2.085E-02	2.693E-01	4.397E-01	5.277E-02	0.047
	285.41			-4.585E-01	1.686E+00	2.654E+00	3.668E-01	-0.173

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051018
* Acquisition date   : 10-MAR-2010 20:43:32 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 02:00:01.85 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051018 Analyst initials: MXR1
* Batch Number       : 958225 Sample Quantity : 1.4975E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                  :
* LCS DPM             : 0.000 LCS Isotope                   :
* LCSD DPM            : 0.000 LCSD Isotope                  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.124E+01	2.187E+00	3.509E-01	0.000E+00
CD-109	1.819E+00	7.275E-01	1.072E+00	0.000E+00
SN-126	1.769E-01	7.077E-02	1.047E-01	0.000E+00
BA-137M	2.490E-01	5.757E-02	3.906E-02	0.000E+00
CS-137	2.631E-01	6.083E-02	4.126E-02	0.000E+00
TL-208	3.164E-01	6.682E-02	4.225E-02	0.000E+00
BI-211	2.250E+00	3.776E-01	2.471E-01	0.000E+00
PB-212	8.718E-01	1.351E-01	7.603E-02	0.000E+00
BI-214	6.517E-01	1.240E-01	8.562E-02	0.000E+00
PB-214	8.166E-01	1.440E-01	8.964E-02	0.000E+00
RA-224	2.455E+00	8.624E-01	8.139E-01	0.000E+00
RA-226	6.517E-01	1.240E-01	8.562E-02	0.000E+00
AC-228	1.106E+00	2.790E-01	1.613E-01	0.000E+00
RA-228	1.106E+00	2.790E-01	1.613E-01	0.000E+00
TH-228	8.718E-01	1.351E-01	7.603E-02	0.000E+00
TH-232	1.106E+00	2.790E-01	1.613E-01	0.000E+00
TH-234	3.085E+00	1.523E+00	1.470E+00	0.000E+00
U-235	2.367E-02	1.538E-01	2.757E-01	0.000E+00
NP-237	5.279E-01	2.374E-01	3.170E-01	0.000E+00
U-238	3.085E+00	1.523E+00	1.470E+00	0.000E+00
ANH-511	6.970E-02	5.149E-02	3.256E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	3.505E-02	2.316E-01	3.989E-01	0.000E+00 NOT IDENT.
NA-22	-3.679E-03	2.968E-02	5.016E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.939E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	3.206E-03	2.665E-02	4.639E-02	0.000E+00 FAIL ABUN
V-48	1.271E-02	5.980E-02	1.034E-01	0.000E+00 NOT IDENT.
CR-51	4.183E-01	2.958E-01	5.506E-01	0.000E+00 NOT IDENT.

MN-54	-9.948E-04	2.438E-02	4.227E-02	0.000E+00	NOT IDENT.
CO-56	-1.738E-02	2.801E-02	4.651E-02	0.000E+00	NOT IDENT.
CO-57	1.509E-02	1.923E-02	3.425E-02	0.000E+00	NOT IDENT.
CO-58	6.489E-03	2.745E-02	4.859E-02	0.000E+00	NOT IDENT.
FE-59	-5.895E-02	7.251E-02	1.145E-01	0.000E+00	NOT IDENT.
CO-60	2.202E-02	2.954E-02	5.091E-02	0.000E+00	NOT IDENT.
ZN-65	5.032E-04	7.653E-02	1.092E-01	0.000E+00	NOT IDENT.
SE-75	-1.946E-02	3.462E-02	5.791E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.679E-02	6.305E-02	0.000E+00	NOT IDENT.
Y-88	1.538E-03	2.119E-02	3.593E-02	0.000E+00	NOT IDENT.
Y-91	5.787E+00	1.626E+01	2.853E+01	0.000E+00	NOT IDENT.
NB-94	1.380E-02	2.321E-02	4.102E-02	0.000E+00	NOT IDENT.
NB-95	3.329E-02	3.285E-02	5.846E-02	0.000E+00	NOT IDENT.
NB-95M	7.090E-02	1.159E-01	1.817E-01	0.000E+00	NOT IDENT.
ZR-95	3.075E-03	5.332E-02	9.062E-02	0.000E+00	NOT IDENT.
MO-99	-2.177E+01	1.944E+01	2.978E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.395E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	2.150E-02	2.866E-02	5.069E-02	0.000E+00	FAIL ABUN
RH-106	8.841E-02	2.227E-01	3.943E-01	0.000E+00	NOT IDENT.
RU-106	8.841E-02	2.225E-01	3.943E-01	0.000E+00	NOT IDENT.
AG-108M	1.224E-02	2.034E-02	3.623E-02	0.000E+00	NOT IDENT.
AG-110M	3.260E-02	2.925E-02	4.698E-02	0.000E+00	NOT IDENT.
SN-113	1.877E-02	3.154E-02	5.665E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.129E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-3.454E-02	4.695E-02	8.277E-02	0.000E+00	NOT IDENT.
TE-123M	-1.188E-02	2.108E-02	3.742E-02	0.000E+00	NOT IDENT.
SB-124	2.752E-02	6.102E-02	9.528E-02	0.000E+00	NOT IDENT.
SB-125	-3.708E-02	6.397E-02	1.069E-01	0.000E+00	FAIL ABUN
TE-125M	8.730E+00	7.749E+00	1.403E+01	0.000E+00	NOT IDENT.
I-126	-7.521E-02	2.183E-01	3.119E-01	0.000E+00	NOT IDENT.
SB-126	7.944E-03	1.433E-01	2.101E-01	0.000E+00	NOT IDENT.
SB-127	-1.034E+00	1.590E+00	2.594E+00	0.000E+00	NOT IDENT.
I-131	-5.029E-02	1.067E-01	1.830E-01	0.000E+00	NOT IDENT.
TE-132	-4.546E-01	1.111E+00	1.907E+00	0.000E+00	NOT IDENT.
BA-133	4.408E-03	3.371E-02	5.208E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.279E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	3.471E-02	5.783E-02	0.000E+00	FAIL ABUN
CS-135	1.597E-02	1.193E-01	2.063E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.692E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.987E-02	9.215E-02	1.615E-01	0.000E+00	NOT IDENT.
CE-139	-9.152E-03	2.196E-02	3.904E-02	0.000E+00	NOT IDENT.
BA-140	3.678E-04	2.200E-01	3.878E-01	0.000E+00	NOT IDENT.
LA-140	-5.946E-02	7.164E-02	1.113E-01	0.000E+00	FAIL ABUN
CE-141	8.520E-03	4.966E-02	9.133E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.477E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.204E-01	1.437E-01	2.554E-01	0.000E+00	NOT IDENT.
PM-144	7.141E-03	2.391E-02	4.163E-02	0.000E+00	NOT IDENT.
PR-144	5.330E-01	1.793E+00	3.120E+00	0.000E+00	NOT IDENT.
PM-146	-2.266E-03	3.064E-02	5.240E-02	0.000E+00	NOT IDENT.
ND-147	-4.238E-01	4.568E-01	7.535E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.903E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.517E-02	7.510E-02	1.184E-01	0.000E+00	NOT IDENT.
GD-153	3.288E-02	6.902E-02	1.099E-01	0.000E+00	NOT IDENT.
EU-154	-9.043E-03	8.407E-02	1.423E-01	0.000E+00	NOT IDENT.
EU-155	-7.102E-02	7.740E-02	1.304E-01	0.000E+00	FAIL ABUN
TB-160	7.698E-02	9.825E-02	1.781E-01	0.000E+00	FAIL ABUN
HO-166M	5.332E-03	4.116E-02	7.079E-02	0.000E+00	FAIL ABUN
TA-182	8.266E-02	1.370E-01	2.435E-01	0.000E+00	FAIL ABUN
IR-192	4.988E-03	2.551E-02	4.596E-02	0.000E+00	FAIL ABUN
HG-203	2.325E-02	3.039E-02	5.355E-02	0.000E+00	NOT IDENT.
BI-207	-3.497E-03	3.575E-02	5.990E-02	0.000E+00	FAIL ABUN
PB-210	3.331E+00	2.219E+00	4.169E+00	0.000E+00	NOT IDENT.
PB-211	-3.527E-01	5.450E-01	8.709E-01	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.740E-01	7.900E-01	0.000E+00	FAIL ABUN
RN-219	-1.591E-01	2.873E-01	4.840E-01	0.000E+00	NOT IDENT.
RA-223	-1.944E-01	5.267E-01	7.952E-01	0.000E+00	FAIL ABUN
AC-227	-1.322E-01	1.898E-01	3.156E-01	0.000E+00	NOT IDENT.
TH-227	-1.322E-01	1.899E-01	3.156E-01	0.000E+00	NOT IDENT.
TH-229	-1.195E-01	4.036E-01	6.852E-01	0.000E+00	FAIL ABUN
PA-231	-1.403E-01	1.075E+00	1.825E+00	0.000E+00	NOT IDENT.
TH-231	-1.944E-01	5.267E-01	7.952E-01	0.000E+00	FAIL ABUN
PA-233	-1.504E-02	4.296E-02	7.554E-02	0.000E+00	NOT IDENT.
PA-234	-1.008E-02	2.138E-01	3.650E-01	0.000E+00	NOT IDENT.
PA-234M	2.207E+00	3.523E+00	6.204E+00	0.000E+00	NOT IDENT.
NP-239	-1.861E-01	3.025E-01	5.115E-01	0.000E+00	NOT IDENT.
AM-241	-2.839E-02	1.041E-01	1.697E-01	0.000E+00	NOT IDENT.
CM-247	-1.065E-02	2.635E-02	4.488E-02	0.000E+00	NOT IDENT.
CF-249	3.418E-04	2.844E-02	4.974E-02	0.000E+00	NOT IDENT.

CF-251 -1.128E-02 9.739E-02 1.741E-01 0.000E+00 NOT IDENT.

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051018.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:43:32
Sample ID          : G248051018 Sample quantity : 1.49750E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.85 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	1460.82	1724	10.66*	1.909E+00	2.124E+01	2.124E+01	10.51
CD-109	88.03	195	3.70*	7.473E+00	1.769E+00	1.819E+00	40.82
SN-126	64.28	195	9.60	4.290E+00	1.189E+00	1.189E+00	49.30
	86.94	195	8.90	7.473E+00	7.355E-01	7.355E-01	57.47
	87.57	195	37.00*	7.473E+00	1.769E-01	1.769E-01	40.82
BA-137M	661.66	320	89.90*	3.590E+00	2.487E-01	2.490E-01	23.59
CS-137	661.66	320	85.10*	3.590E+00	2.628E-01	2.631E-01	23.60
TL-208	277.37	----	6.60	6.182E+00	-----	Line Not Found	-----
	583.19	422	85.00*	3.931E+00	3.164E-01	3.164E-01	21.55
	860.56	-----	12.50	2.923E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.23	5.897E+00	-----	Line Not Found	-----
	351.06	626	12.92*	5.400E+00	2.250E+00	2.250E+00	17.12
PB-212	74.82	306	10.28	6.168E+00	1.209E+00	1.209E+00	29.39
	77.11	500	17.10	6.454E+00	1.136E+00	1.136E+00	19.40
	238.63	1017	43.60*	6.709E+00	8.718E-01	8.718E-01	15.81
	300.09	-----	3.30	5.916E+00	-----	Line Not Found	-----
BI-214	609.32	451	45.49*	3.811E+00	6.517E-01	6.517E-01	19.41
	1120.29	90	14.92	2.344E+00	6.460E-01	6.460E-01	58.98
	1764.49	52	15.30	1.716E+00	4.969E-01	4.970E-01	58.77
PB-214	74.82	306	5.80	6.168E+00	2.143E+00	2.143E+00	28.84
	77.11	500	9.70	6.454E+00	2.003E+00	2.003E+00	21.08
	242.00	268	7.25	6.664E+00	1.388E+00	1.388E+00	36.31
	295.22	321	18.42	5.970E+00	7.327E-01	7.328E-01	32.34
	351.93	626	35.60*	5.400E+00	8.166E-01	8.166E-01	17.99
RA-224	240.99	268	4.10*	6.664E+00	2.455E+00	2.455E+00	35.85
RA-226	609.32	451	45.49*	3.811E+00	6.517E-01	6.517E-01	19.41
	1120.29	90	14.92	2.344E+00	6.460E-01	6.460E-01	58.98
	1764.49	52	15.30	1.716E+00	4.969E-01	4.970E-01	58.77
AC-228	338.32	208	11.27	5.527E+00	8.387E-01	8.387E-01	56.24
	911.20	317	25.80*	2.788E+00	1.106E+00	1.106E+00	25.74
	968.97	167	15.80	2.648E+00	9.997E-01	9.997E-01	40.69
RA-228	338.32	208	11.27	5.527E+00	8.387E-01	8.387E-01	56.24

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	911.20	317	25.80*	2.788E+00	1.106E+00	1.106E+00	25.74
	968.97	167	15.80	2.648E+00	9.997E-01	9.997E-01	40.69
	74.82	306	10.28	6.168E+00	1.209E+00	1.209E+00	27.76
	77.11	500	17.10	6.454E+00	1.136E+00	1.136E+00	19.40
	238.63	1017	43.60*	6.709E+00	8.718E-01	8.718E-01	15.81
TH-232	300.09	-----	3.30	5.916E+00	-----	Line Not Found	-----
	338.32	208	11.27	5.527E+00	8.387E-01	8.387E-01	38.69
	911.20	317	25.80*	2.788E+00	1.106E+00	1.106E+00	25.74
TH-234	968.97	167	15.80	2.648E+00	9.997E-01	9.997E-01	40.69
	63.29	195	3.70*	4.290E+00	3.085E+00	3.085E+00	50.37
	92.59	401	4.23	7.884E+00	3.011E+00	3.011E+00	37.04
U-235	89.96	105	3.47	7.674E+00	9.875E-01	9.875E-01	67.22
	93.35	401	5.60	7.884E+00	2.274E+00	2.274E+00	37.65
	143.76	-----	10.96*	8.364E+00	-----	Line Not Found	-----
	163.33	-----	5.08	8.031E+00	-----	Line Not Found	-----
	185.72	261	57.20	7.607E+00	1.501E-01	1.501E-01	42.90
NP-237	205.31	-----	5.01	7.253E+00	-----	Line Not Found	-----
	86.48	195	12.40*	7.473E+00	5.279E-01	5.279E-01	45.89
	95.86	-----	2.68	8.032E+00	-----	Line Not Found	-----
U-238	63.29	195	3.70*	4.290E+00	3.085E+00	3.085E+00	50.37
	92.59	401	4.23	7.884E+00	3.011E+00	3.011E+00	30.96
ANH-511	511.00	120	100.00*	4.299E+00	6.970E-02	6.970E-02	75.38

Flag: "*" = Keyline

Total number of lines in spectrum 28
Number of unidentified lines 2
Number of lines tentatively identified by NID 26 92.86%

Nuclide Type :

Nuclide	Hlflife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.124E+01	2.124E+01	0.223E+01	10.51	
CD-109	461.40D	1.03	1.769E+00	1.819E+00	0.742E+00	40.82	
SN-126	2.30E+05Y	1.00	1.769E-01	1.769E-01	0.722E-01	40.82	
BA-137M	30.08Y	1.00	2.487E-01	2.490E-01	0.587E-01	23.59	
CS-137	30.08Y	1.00	2.628E-01	2.631E-01	0.621E-01	23.60	
TL-208	1.41E+10Y	1.00	3.164E-01	3.164E-01	0.682E-01	21.55	
BI-211	7.04E+08Y	1.00	2.250E+00	2.250E+00	0.385E+00	17.12	
PB-212	1.41E+10Y	1.00	8.718E-01	8.718E-01	1.378E-01	15.81	
BI-214	1600.00Y	1.00	6.517E-01	6.517E-01	1.265E-01	19.41	
PB-214	1600.00Y	1.00	8.166E-01	8.166E-01	1.469E-01	17.99	
RA-224	1.41E+10Y	1.00	2.455E+00	2.455E+00	0.880E+00	35.85	
RA-226	1600.00Y	1.00	6.517E-01	6.517E-01	1.265E-01	19.41	
AC-228	1.41E+10Y	1.00	1.106E+00	1.106E+00	0.285E+00	25.74	
RA-228	1.41E+10Y	1.00	1.106E+00	1.106E+00	0.285E+00	25.74	
TH-228	1.41E+10Y	1.00	8.718E-01	8.718E-01	1.378E-01	15.81	
TH-232	1.41E+10Y	1.00	1.106E+00	1.106E+00	0.285E+00	25.74	
TH-234	4.47E+09Y	1.00	3.085E+00	3.085E+00	1.554E+00	50.37	
U-235	7.04E+08Y	1.00	1.501E-01	1.501E-01	0.644E-01	42.90	K
NP-237	2.14E+06Y	1.00	5.279E-01	5.279E-01	2.422E-01	45.89	
U-238	4.47E+09Y	1.00	3.085E+00	3.085E+00	1.554E+00	50.37	
ANH-511	1.00E+09Y	1.00	6.970E-02	6.970E-02	5.254E-02	75.38	
Total Activity :			4.282E+01	4.287E+01			

Grand Total Activity : 4.282E+01 4.287E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	209.38	96	253	0.85	418.73	416	7	1.33E-02	58.8	7.18E+00	T
0	328.62	83	167	1.63	657.01	653	9	1.15E-02	60.7	5.62E+00	T
0	463.39	73	188	1.33	926.35	919	13	1.02E-02	82.3	4.58E+00	T
0	727.62	135	88	1.98	1454.51	1447	15	1.88E-02	35.8	3.34E+00	T
0	795.20	60	56	0.73	1589.61	1585	10	8.38E-03	54.1	3.12E+00	T
0	1686.90	12	8	0.68	3372.94	3364	16	1.73E-03	****	1.75E+00	
0	1730.13	40	10	2.01	3459.43	3452	14	5.49E-03	47.1	1.73E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248051018.CNF;1
* Acquisition date   : 10-MAR-2010 20:43:32  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 02:00:01.85          Half life ratio    : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248051018            Analyst initials : MXR1
* Batch Number       : 958225                Sample Quantity  : 1.49750E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28.08MS Isotope       :
* MSD ID             :                          MSD Isotope    :
* LCS ID             : 1032-A                  LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.124E+01	2.232E+00	3.486E-01	3.193E-02	60.925
CD-109	1.819E+00	7.424E-01	9.951E-01	9.443E-02	1.828
SN-126	1.769E-01	7.221E-02	9.719E-02	9.177E-03	1.820
BA-137M	2.490E-01	5.874E-02	3.803E-02	4.010E-03	6.548
CS-137	2.631E-01	6.207E-02	4.017E-02	4.242E-03	6.548
TL-208	3.164E-01	6.818E-02	4.101E-02	4.443E-03	7.716
BI-211	2.250E+00	3.853E-01	2.369E-01	2.765E-02	9.496
PB-212	8.718E-01	1.378E-01	7.222E-02	9.568E-03	12.072
BI-214	6.517E-01	1.265E-01	8.319E-02	9.707E-03	7.834
PB-214	8.166E-01	1.469E-01	8.594E-02	1.106E-02	9.501
RA-224	2.455E+00	8.800E-01	7.733E-01	9.681E-02	3.174
RA-226	6.517E-01	1.265E-01	8.319E-02	9.707E-03	7.834
AC-228	1.106E+00	2.847E-01	1.583E-01	2.144E-02	6.987
RA-228	1.106E+00	2.847E-01	1.583E-01	2.144E-02	6.987
TH-228	8.718E-01	1.378E-01	7.222E-02	9.568E-03	12.072
TH-232	1.106E+00	2.847E-01	1.583E-01	2.144E-02	6.987
TH-234	3.085E+00	1.554E+00	1.354E+00	2.410E-01	2.278
U-235	1.501E-01	6.440E-02	2.588E-01	4.424E-02	0.580

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	5.279E-01	2.422E-01	2.942E-01	6.751E-02	1.794
U-238	3.085E+00	1.554E+00	1.354E+00	2.410E-01	2.278
ANH-511	6.970E-02	5.254E-02	3.150E-02	3.157E-03	2.213

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.505E-02		2.363E-01	3.853E-01	4.020E-02	0.091
NA-22	-3.679E-03		3.029E-02	4.965E-02	4.279E-03	-0.074
NA-24	-1.190E+01		9.895E+00	Half-Life	too short	
SC-46	3.206E-03		2.720E-02	4.550E-02	5.093E-03	0.070
V-48	1.271E-02		6.102E-02	1.017E-01	1.066E-02	0.125
CR-51	4.183E-01		3.018E-01	5.267E-01	6.818E-02	0.794
MN-54	-9.948E-04		2.488E-02	4.140E-02	4.599E-03	-0.024
CO-56	-1.738E-02		2.858E-02	4.556E-02	5.071E-03	-0.382
CO-57	1.509E-02		1.962E-02	3.203E-02	2.641E-03	0.471
CO-58	6.489E-03		2.801E-02	4.755E-02	5.265E-03	0.136
FE-59	-5.895E-02		7.399E-02	1.129E-01	1.106E-02	-0.522
CO-60	2.202E-02		3.014E-02	5.045E-02	4.499E-03	0.436
ZN-65	5.032E-04		7.810E-02	1.077E-01	9.608E-03	0.005
SE-75	-1.946E-02		3.532E-02	5.515E-02	7.423E-03	-0.353
SR-85	1.311E-01		3.754E-02	6.101E-02	6.121E-03	2.150
Y-88	1.538E-03		2.162E-02	3.590E-02	2.902E-03	0.043
Y-91	5.787E+00		1.659E+01	2.820E+01	2.318E+00	0.205
NB-94	1.380E-02		2.369E-02	4.000E-02	4.287E-03	0.345
NB-95	3.329E-02		3.352E-02	5.713E-02	6.247E-03	0.583
NB-95M	7.090E-02		1.183E-01	1.725E-01	2.283E-02	0.411
ZR-95	3.075E-03		5.441E-02	8.852E-02	1.030E-02	0.035
MO-99	-2.177E+01		1.984E+01	2.908E+01	4.967E+00	-0.749
TC-99M	-2.691E+14		1.222E+14	Half-Life	too short	
RU-103	2.150E-02		2.925E-02	4.900E-02	7.265E-03	0.439
RH-106	8.841E-02		2.272E-01	3.833E-01	5.562E-02	0.231
RU-106	8.841E-02		2.271E-01	3.833E-01	4.004E-02	0.231
AG-108M	1.224E-02		2.075E-02	3.491E-02	3.436E-03	0.351
AG-110M	3.260E-02		2.984E-02	4.573E-02	4.916E-03	0.713
SN-113	1.877E-02		3.218E-02	5.446E-02	5.201E-03	0.345
CD-115	1.843E-06		1.086E-05	Half-Life	too short	
SN-117M	-3.454E-02		4.791E-02	7.789E-02	7.386E-03	-0.443
TE-123M	-1.188E-02		2.151E-02	3.521E-02	3.363E-03	-0.337
SB-124	2.752E-02		6.226E-02	9.499E-02	8.469E-03	0.290
SB-125	-3.708E-02		6.528E-02	1.029E-01	9.982E-03	-0.360
TE-125M	8.730E+00		7.907E+00	1.309E+01	1.347E+00	0.667
I-126	-7.521E-02		2.227E-01	3.038E-01	3.209E-02	-0.248
SB-126	7.944E-03		1.462E-01	2.049E-01	2.210E-02	0.039
SB-127	-1.034E+00		1.622E+00	2.527E+00	3.504E-01	-0.409
I-131	-5.029E-02		1.088E-01	1.756E-01	1.949E-02	-0.286
TE-132	-4.546E-01		1.134E+00	1.809E+00	3.350E-01	-0.251

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133	4.408E-03		3.440E-02	4.995E-02	7.354E-03	0.088
I-133	-1.903E-02		2.693E-02	Half-Life too short		
CS-134	6.416E-02	+	3.542E-02	5.656E-02	6.260E-03	1.134
CS-135	1.597E-02		1.217E-01	1.965E-01	2.842E-02	0.081
I-135	2.746E+12		8.631E+12	Half-Life too short		
CS-136	4.987E-02		9.403E-02	1.591E-01	1.609E-02	0.313
CE-139	-9.152E-03		2.240E-02	3.677E-02	3.607E-03	-0.249
BA-140	3.678E-04		2.245E-01	3.757E-01	1.290E-01	0.001
LA-140	-5.946E-02		7.310E-02	1.108E-01	9.712E-03	-0.537
CE-141	8.520E-03		5.067E-02	8.576E-02	7.808E-03	0.099
CE-143	2.023E-03		3.815E-04	Half-Life too short		
CE-144	-1.204E-01		1.466E-01	2.393E-01	3.648E-02	-0.503
PM-144	7.141E-03		2.440E-02	4.058E-02	4.341E-03	0.176
PR-144	5.330E-01		1.829E+00	3.042E+00	3.252E-01	0.175
PM-146	-2.266E-03		3.126E-02	5.055E-02	5.812E-03	-0.045
ND-147	-4.238E-01		4.661E-01	7.297E-01	1.157E-01	-0.581
PM-149	5.337E-05		9.709E-05	Half-Life too short		
EU-152	-2.517E-02		7.663E-02	1.134E-01	1.363E-02	-0.222
GD-153	3.288E-02		7.043E-02	1.023E-01	8.991E-03	0.322
EU-154	-9.043E-03		8.578E-02	1.408E-01	1.601E-02	-0.064
EU-155	-7.102E-02		7.897E-02	1.215E-01	1.043E-02	-0.584
TB-160	7.698E-02		1.003E-01	1.746E-01	1.952E-02	0.441
HO-166M	5.332E-03		4.200E-02	6.905E-02	7.424E-03	0.077
TA-182	8.266E-02		1.398E-01	2.408E-01	2.002E-02	0.343
IR-192	4.988E-03		2.603E-02	4.395E-02	5.618E-03	0.113
HG-203	2.325E-02		3.101E-02	5.106E-02	7.220E-03	0.455
BI-207	-3.497E-03		3.648E-02	5.902E-02	5.666E-03	-0.059
PB-210	3.331E+00		2.264E+00	3.816E+00	3.515E-01	0.873
PB-211	-3.527E-01		5.561E-01	8.378E-01	4.066E-01	-0.421
BI-212	1.523E+00	+	5.858E-01	7.709E-01	1.084E-01	1.976
RN-219	-1.591E-01		2.932E-01	4.656E-01	7.134E-02	-0.342
RA-223	-1.944E-01		5.374E-01	7.609E-01	1.487E-01	-0.256
AC-227	-1.322E-01		1.936E-01	3.003E-01	4.679E-02	-0.440
TH-227	-1.322E-01		1.938E-01	3.003E-01	5.049E-02	-0.440
TH-229	-1.195E-01		4.119E-01	6.477E-01	6.961E-02	-0.184
PA-231	-1.403E-01		1.097E+00	1.740E+00	3.166E-01	-0.081
TH-231	-1.944E-01		5.374E-01	7.609E-01	1.487E-01	-0.256
PA-233	-1.504E-02		4.384E-02	7.222E-02	9.463E-03	-0.208
PA-234	-1.008E-02		2.181E-01	3.585E-01	7.126E-02	-0.028
PA-234M	2.207E+00		3.595E+00	6.104E+00	6.995E-01	0.362
NP-239	-1.861E-01		3.087E-01	4.779E-01	3.949E-02	-0.389
AM-241	-2.839E-02		1.063E-01	1.561E-01	1.221E-02	-0.182
CM-247	-1.065E-02		2.689E-02	4.317E-02	4.049E-03	-0.247
CF-249	3.418E-04		2.902E-02	4.780E-02	4.538E-03	0.007
CF-251	-1.128E-02		9.938E-02	1.642E-01	1.673E-02	-0.069

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G248051018
* Acquisition date   : 10-MAR-2010 20:43:32 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 02:00:01.85             Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248051018              Analyst initials: MXR1
* Batch Number       : 958225                  Sample Quantity : 1.4975E+02 GRAM
* Recovery           : 1.00000                 Carrier Weight  : 0.00000
*****
*                               QC DATA                                   *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope        :
* MSD DPM             : 0.000                      MSD Isotope   :
* LCS DPM             : 0.000                      LCS Isotope    :
* LCSD DPM            : 0.000                      LCSD Isotope   :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.124E+01	2.187E+00	1.756E-01	1.116E+00
CD-109	1.819E+00	7.275E-01	5.362E-01	3.712E-01
SN-126	1.769E-01	7.077E-02	5.238E-02	3.611E-02
BA-137M	2.490E-01	5.757E-02	1.954E-02	2.937E-02
CS-137	2.631E-01	6.083E-02	2.064E-02	3.104E-02
TL-208	3.164E-01	6.682E-02	2.114E-02	3.409E-02
BI-211	2.250E+00	3.776E-01	1.236E-01	1.926E-01
PB-212	8.718E-01	1.351E-01	3.804E-02	6.892E-02
BI-214	6.517E-01	1.240E-01	4.283E-02	6.324E-02
PB-214	8.166E-01	1.440E-01	4.485E-02	7.345E-02
RA-224	2.455E+00	8.624E-01	4.072E-01	4.400E-01
RA-226	6.517E-01	1.240E-01	4.283E-02	6.324E-02
AC-228	1.106E+00	2.790E-01	8.069E-02	1.424E-01
RA-228	1.106E+00	2.790E-01	8.069E-02	1.424E-01
TH-228	8.718E-01	1.351E-01	3.804E-02	6.892E-02
TH-232	1.106E+00	2.790E-01	8.069E-02	1.424E-01
TH-234	3.085E+00	1.523E+00	7.352E-01	7.771E-01
U-235	2.367E-02	1.538E-01	1.379E-01	7.848E-02
NP-237	5.279E-01	2.374E-01	1.586E-01	1.211E-01
U-238	3.085E+00	1.523E+00	7.352E-01	7.771E-01
ANH-511	6.970E-02	5.149E-02	1.629E-02	2.627E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	3.505E-02	2.316E-01	1.996E-01	1.182E-01 NOT IDENT.
NA-22	-3.679E-03	2.968E-02	2.510E-02	1.514E-02 NOT IDENT.
NA-24	-1.190E+07	1.939E+07	0.000E+00	9.895E+06 SHORT HLIF
SC-46	3.206E-03	2.665E-02	2.321E-02	1.360E-02 FAIL ABUN
V-48	1.271E-02	5.980E-02	5.173E-02	3.051E-02 NOT IDENT.
CR-51	4.183E-01	2.958E-01	2.755E-01	1.509E-01 NOT IDENT.

MN-54	-9.948E-04	2.438E-02	2.115E-02	1.244E-02	NOT IDENT.
CO-56	-1.738E-02	2.801E-02	2.327E-02	1.429E-02	NOT IDENT.
CO-57	1.509E-02	1.923E-02	1.713E-02	9.809E-03	NOT IDENT.
CO-58	6.489E-03	2.745E-02	2.431E-02	1.400E-02	NOT IDENT.
FE-59	-5.895E-02	7.251E-02	5.727E-02	3.699E-02	NOT IDENT.
CO-60	2.202E-02	2.954E-02	2.547E-02	1.507E-02	NOT IDENT.
ZN-65	5.032E-04	7.653E-02	5.463E-02	3.905E-02	NOT IDENT.
SE-75	-1.946E-02	3.462E-02	2.897E-02	1.766E-02	NOT IDENT.
SR-85	1.311E-01	3.679E-02	3.154E-02	1.877E-02	NOT IDENT.
Y-88	1.538E-03	2.119E-02	1.797E-02	1.081E-02	NOT IDENT.
Y-91	5.787E+00	1.626E+01	1.427E+01	8.296E+00	NOT IDENT.
NB-94	1.380E-02	2.321E-02	2.052E-02	1.184E-02	NOT IDENT.
NB-95	3.329E-02	3.285E-02	2.925E-02	1.676E-02	NOT IDENT.
NB-95M	7.090E-02	1.159E-01	9.088E-02	5.914E-02	NOT IDENT.
ZR-95	3.075E-03	5.332E-02	4.534E-02	2.721E-02	NOT IDENT.
MO-99	-2.177E+01	1.944E+01	1.490E+01	9.921E+00	NOT IDENT.
TC-99M	-2.691E+20	2.395E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	2.150E-02	2.866E-02	2.536E-02	1.462E-02	FAIL ABUN
RH-106	8.841E-02	2.227E-01	1.973E-01	1.136E-01	NOT IDENT.
RU-106	8.841E-02	2.225E-01	1.973E-01	1.135E-01	NOT IDENT.
AG-108M	1.224E-02	2.034E-02	1.812E-02	1.038E-02	NOT IDENT.
AG-110M	3.260E-02	2.925E-02	2.350E-02	1.492E-02	NOT IDENT.
SN-113	1.877E-02	3.154E-02	2.834E-02	1.609E-02	NOT IDENT.
CD-115	1.843E+00	2.129E+01	0.000E+00	1.086E+01	SHORT HLIF
SN-117M	-3.454E-02	4.695E-02	4.141E-02	2.395E-02	NOT IDENT.
TE-123M	-1.188E-02	2.108E-02	1.872E-02	1.075E-02	NOT IDENT.
SB-124	2.752E-02	6.102E-02	4.767E-02	3.113E-02	NOT IDENT.
SB-125	-3.708E-02	6.397E-02	5.346E-02	3.264E-02	FAIL ABUN
TE-125M	8.730E+00	7.749E+00	7.018E+00	3.954E+00	NOT IDENT.
I-126	-7.521E-02	2.183E-01	1.561E-01	1.114E-01	NOT IDENT.
SB-126	7.944E-03	1.433E-01	1.051E-01	7.311E-02	NOT IDENT.
SB-127	-1.034E+00	1.590E+00	1.298E+00	8.112E-01	NOT IDENT.
I-131	-5.029E-02	1.067E-01	9.156E-02	5.442E-02	NOT IDENT.
TE-132	-4.546E-01	1.111E+00	9.540E-01	5.670E-01	NOT IDENT.
BA-133	4.408E-03	3.371E-02	2.606E-02	1.720E-02	NOT IDENT.
I-133	-1.903E+04	5.279E+04	0.000E+00	2.693E+04	SHORT HLIF
CS-134	6.416E-02	3.471E-02	2.893E-02	1.771E-02	FAIL ABUN
CS-135	1.597E-02	1.193E-01	1.032E-01	6.085E-02	NOT IDENT.
I-135	2.746E+18	1.692E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.987E-02	9.215E-02	8.082E-02	4.702E-02	NOT IDENT.
CE-139	-9.152E-03	2.196E-02	1.953E-02	1.120E-02	NOT IDENT.
BA-140	3.678E-04	2.200E-01	1.940E-01	1.123E-01	NOT IDENT.
LA-140	-5.946E-02	7.164E-02	5.567E-02	3.655E-02	FAIL ABUN
CE-141	8.520E-03	4.966E-02	4.569E-02	2.534E-02	NOT IDENT.
CE-143	2.023E+03	7.477E+02	0.000E+00	3.815E+02	SHORT HLIF
CE-144	-1.204E-01	1.437E-01	1.278E-01	7.332E-02	NOT IDENT.
PM-144	7.141E-03	2.391E-02	2.083E-02	1.220E-02	NOT IDENT.
PR-144	5.330E-01	1.793E+00	1.561E+00	9.146E-01	NOT IDENT.
PM-146	-2.266E-03	3.064E-02	2.621E-02	1.563E-02	NOT IDENT.
ND-147	-4.238E-01	4.568E-01	3.770E-01	2.330E-01	FAIL ABUN
PM-149	5.337E+01	1.903E+02	0.000E+00	9.709E+01	SHORT HLIF
EU-152	-2.517E-02	7.510E-02	5.922E-02	3.832E-02	NOT IDENT.
GD-153	3.288E-02	6.902E-02	5.497E-02	3.521E-02	NOT IDENT.
EU-154	-9.043E-03	8.407E-02	7.117E-02	4.289E-02	NOT IDENT.
EU-155	-7.102E-02	7.740E-02	6.523E-02	3.949E-02	FAIL ABUN
TB-160	7.698E-02	9.825E-02	8.909E-02	5.013E-02	FAIL ABUN
HO-166M	5.332E-03	4.116E-02	3.542E-02	2.100E-02	FAIL ABUN
TA-182	8.266E-02	1.370E-01	1.218E-01	6.988E-02	FAIL ABUN
IR-192	4.988E-03	2.551E-02	2.299E-02	1.302E-02	FAIL ABUN
HG-203	2.325E-02	3.039E-02	2.679E-02	1.551E-02	NOT IDENT.
BI-207	-3.497E-03	3.575E-02	2.997E-02	1.824E-02	FAIL ABUN
PB-210	3.331E+00	2.219E+00	2.086E+00	1.132E+00	NOT IDENT.
PB-211	-3.527E-01	5.450E-01	4.357E-01	2.780E-01	NOT IDENT.
BI-212	1.523E+00	5.740E-01	3.952E-01	2.929E-01	FAIL ABUN
RN-219	-1.591E-01	2.873E-01	2.422E-01	1.466E-01	NOT IDENT.
RA-223	-1.944E-01	5.267E-01	3.978E-01	2.687E-01	FAIL ABUN
AC-227	-1.322E-01	1.898E-01	1.579E-01	9.681E-02	NOT IDENT.
TH-227	-1.322E-01	1.899E-01	1.579E-01	9.690E-02	NOT IDENT.
TH-229	-1.195E-01	4.036E-01	3.428E-01	2.059E-01	FAIL ABUN
PA-231	-1.403E-01	1.075E+00	9.129E-01	5.483E-01	NOT IDENT.
TH-231	-1.944E-01	5.267E-01	3.978E-01	2.687E-01	FAIL ABUN
PA-233	-1.504E-02	4.296E-02	3.779E-02	2.192E-02	NOT IDENT.
PA-234	-1.008E-02	2.138E-01	1.826E-01	1.091E-01	NOT IDENT.
PA-234M	2.207E+00	3.523E+00	3.104E+00	1.798E+00	NOT IDENT.
NP-239	-1.861E-01	3.025E-01	2.559E-01	1.544E-01	NOT IDENT.
AM-241	-2.839E-02	1.041E-01	8.488E-02	5.313E-02	NOT IDENT.
CM-247	-1.065E-02	2.635E-02	2.246E-02	1.345E-02	NOT IDENT.
CF-249	3.418E-04	2.844E-02	2.488E-02	1.451E-02	NOT IDENT.

CF-251	-1.128E-02	9.739E-02	8.708E-02	4.969E-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
46.54	244.8067
49.72	264.9490
57.36	0.0000
59.54	321.1301
63.29	347.1771
63.29	347.1771
64.28	382.5457
67.75	369.1251
69.67	388.6445
70.83	388.7344
72.81	388.3936
72.87	388.4743
72.87	388.4743
74.82	391.0470
74.82	391.0470
74.82	391.0470
74.97	391.2438
77.11	394.0252
77.11	394.0252
77.11	394.0252
79.69	418.8906
79.80	419.0380
80.12	447.2242
80.19	404.1339
80.57	404.6216
81.00	501.0540
81.07	501.1653
81.07	501.1653
83.79	430.5530
83.79	430.5530
85.43	440.5546
86.48	539.4651
86.55	539.5776
86.79	535.2422
86.94	535.4860
87.57	536.4925
88.03	537.2266
88.47	537.9269
89.96	349.5953
91.11	350.7643
92.59	397.0891
92.59	397.0891
93.35	413.9944
94.67	415.5396
94.87	415.7719
94.87	415.7719
95.86	387.8339
97.43	339.2056
98.44	302.7112
99.53	355.1871
100.11	365.1147
103.18	340.6329
103.37	325.4121
105.31	384.5155
106.12	374.2467
109.28	358.2874
111.00	397.9413
111.76	412.1675
116.30	365.6418
117.23	373.2809
121.12	350.2905
121.78	355.4267
122.06	326.8814
123.07	309.1826
131.20	356.8438
133.52	385.2049
136.00	367.6611

136.47	363.5711
140.51	407.0890
140.51	0.0000
143.76	369.9978
144.24	373.9788
144.24	373.9788
145.44	391.2251
152.43	367.1980
153.25	351.1879
154.21	331.5201
154.21	331.5201
156.02	368.8071
158.56	374.3048
159.00	370.8841
162.66	343.3847
163.33	334.4127
165.86	358.6041
176.60	347.1876
177.52	364.1111
181.07	365.9239
184.41	357.0605
185.72	322.2883
193.51	350.4096
197.04	333.1956
205.31	319.1517
210.85	290.9427
215.65	323.2953
222.11	311.8707
227.38	307.9600
228.16	323.9196
228.18	323.9291
235.69	373.8147
235.96	375.6374
235.96	375.6374
238.63	328.6034
238.63	328.6034
240.99	329.6450
242.00	330.0887
244.70	281.2090
252.40	250.6894
252.80	241.1292
256.23	282.1921
256.23	282.1921
260.90	0.0000
264.66	278.6339
268.22	282.0506
269.46	270.3875
269.46	270.3875
271.23	240.1273
273.65	370.0816
276.40	260.4665
277.37	259.6580
277.60	257.5060
278.00	265.4032
279.20	244.6533
279.54	244.7507
280.46	289.5642
283.69	245.9457
284.31	261.7861
285.41	257.6410
285.90	0.0000
287.50	247.0367
293.27	0.0000
295.22	280.9413
295.96	341.6439
298.57	265.3234
299.98	245.9993
299.98	245.9993
300.09	236.9199
300.09	236.9199
300.13	217.1853
301.36	221.6101
302.85	259.5799
304.50	278.3686
304.50	278.3686
304.85	275.7281
308.46	210.6034
311.90	204.0042

316.51	218.9280
319.41	214.9524
320.08	200.2030
323.87	235.2831
323.87	235.2831
328.76	218.9409
333.37	160.4998
334.37	195.3141
334.37	195.3141
338.28	226.7670
338.28	226.7670
338.32	226.7787
338.32	226.7787
338.32	226.7787
340.48	213.9560
340.55	206.0476
344.28	214.0872
351.06	201.7943
351.93	201.0043
356.01	196.3289
364.49	193.7068
366.42	187.2352
383.85	201.1737
388.16	190.0184
388.63	209.0079
391.69	167.6637
400.66	178.0479
401.81	194.3382
402.40	192.4222
404.85	208.9861
410.95	183.6978
414.70	170.0314
423.72	132.3400
427.09	163.5747
427.87	177.0622
433.94	145.8744
453.88	171.3470
463.37	157.0845
468.07	152.3389
473.00	155.7559
476.78	147.6425
477.60	143.4513
487.02	144.4622
492.35	0.0000
497.08	121.6373
511.00	134.9246
514.00	135.5771
527.90	0.0000
529.87	0.0000
531.02	144.6091
537.26	144.2939
546.56	0.0000
563.25	118.3955
569.33	147.3907
569.50	146.4554
569.70	155.0344
583.19	138.1494
600.60	148.9688
602.73	144.8341
604.72	140.0127
609.32	153.0807
609.32	153.0807
610.33	152.2009
614.28	162.6252
618.01	152.9087
621.93	127.7228
621.93	127.7228
633.25	102.8659
635.95	127.7980
636.99	135.8043
645.85	128.5355
657.76	118.6684
661.66	110.6020
661.66	110.6020
664.57	0.0000
666.33	143.4407
666.50	143.4552
677.62	114.6392

685.70	122.2827
695.00	123.9295
696.49	124.0304
696.51	124.0329
697.00	119.9636
702.65	119.3017
706.68	121.6203
711.68	114.7104
720.70	126.3846
721.93	0.0000
722.78	128.3052
722.91	128.3128
723.31	130.1229
724.19	131.9648
727.33	114.6169
733.00	87.7837
735.93	92.1035
739.50	125.8276
747.24	108.4295
752.31	109.7658
753.82	101.3984
756.73	118.4736
763.94	142.2578
765.81	130.7025
766.42	139.2435
777.92	112.2440
778.90	97.3262
783.70	101.8420
785.37	95.4878
795.86	81.9561
801.95	85.9810
810.29	108.8938
810.76	101.4709
815.77	100.7773
818.51	108.3818
832.01	99.6634
834.85	105.4434
836.80	0.0000
846.77	113.5944
856.80	123.6229
860.56	104.7804
871.09	94.7478
873.19	104.4152
875.33	0.0000
879.36	84.5287
880.51	88.4159
883.24	100.0681
884.68	105.9084
889.28	87.7913
898.04	103.6208
911.20	95.4434
911.20	95.4434
911.20	95.4434
926.50	110.7693
937.49	105.3710
944.13	112.5746
946.00	100.8029
949.00	72.2324
962.29	99.2403
964.08	111.5078
966.15	109.8578
968.97	167.5928
968.97	167.5928
968.97	167.5928
983.53	99.3401
996.26	111.9446
1001.03	92.9578
1004.73	92.0807
1037.84	103.5151
1038.76	0.0000
1048.07	90.5413
1050.41	101.9487
1050.41	101.9487
1063.66	87.9646
1085.87	88.6879
1099.45	119.5346
1112.07	79.2629
1115.54	108.8893

1120.29	92.4347
1120.29	92.4347
1120.55	94.0286
1121.30	94.0534
1131.51	0.0000
1173.23	99.8020
1177.93	104.6790
1189.05	109.8049
1204.77	114.1919
1221.41	101.4259
1231.02	149.7349
1235.36	113.4230
1238.28	93.3264
1260.41	0.0000
1271.85	68.0774
1274.44	81.7595
1274.54	81.7621
1291.59	63.6095
1298.22	0.0000
1312.11	61.0596
1332.49	51.5319
1365.19	57.0452
1368.63	0.0000
1384.29	69.4443
1408.01	58.7788
1457.56	0.0000
1460.82	37.0349
1489.16	54.9522
1505.03	40.6127
1596.21	51.2065
1620.50	29.5797
1678.03	0.0000
1690.97	22.7233
1764.49	27.6742
1764.49	27.6742
1770.23	14.2516
1771.35	14.2555
1791.20	0.0000
1836.06	20.0971

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G248051018

Total Uranium Activity	9.1899E+00	ug/g
Total Uranium Counting Unc.	4.5316E+00	ug/g
Total Uranium Tpu	2.3120E-06	ug/g
Total Uranium Mda	2.1882E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*             2040 SAVAGE ROAD                     *
*             CHARLESTON ,SC 29417                 *
*             GROSS GAMMA REPORT                   *
*
*****
*
*  BATCH ID      : 958225          SAMPLE ID   : G248051018
*  ANALYST       : MXR1            DETECTOR    : GAM22
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 20:43:32.70  SAMPLE ALQT: 149.750 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 5.821E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 8.317E-01
GROSS GAMMA MDA     (pCi/GRAM ) : 1.788E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 8.692E-01

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 22:47:42.41

```
*****
*                                     GEL Laboratories LLC                               *
*                                     2040 Savage Road                               *
*                                     Charleston, SC 29414                          *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054965.CNF;1
Sample date        : 2-MAR-2010 00:00:00. Acquisition date : 10-MAR-2010 20:47:19
Sample ID          : G1202054965           Sample quantity : 1.70050E+02 GRAM
Detector name      : GAM04                 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00         Elapsed real time: 0 02:00:00.43  0.0%
Energy tolerance   : 1.50000 keV           Analyst Initials : MXR1
Abundance limit    : 75.00000              Sensitivity        : 5.00000
Batch ID          : 958225                 Detector SN#       :
Matrix Spike ID    :                      LCS ID          : 1032-A
*****
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 10-MAR-2010 22:47:44

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054965.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-MAR-2010 00:00:00   Acquisition date : 10-MAR-2010 20:47:19
Sample ID        : G1202054965           Sample quantity  : 170.05 GRAM
Sample type      : SOLID                  Sample geometry   :
Detector name    : GAMMA4                 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00          Elapsed real time: 0 02:00:00.43   0.0%
Peak Width (FWHM): 3.00                   Confidence level  : 5.00 %
Energy tolerance : 1.50 keV               Half life ratio   : 8.00
Errors propagated: Yes                     Systematic Error  : 0.00 %
Efficiency type  : Empirical               Efficiencies at   : Peak Energy
Abundance limit  : 75.00                  WTM error limit   : 3.00

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Full Combined Activity-MDA Report

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	477.60	*	-5.761E-03	1.139E-01	1.843E-01	1.220E-02	-0.031	
NA-22	1274.54	*	-5.587E-03	1.510E-02	2.303E-02	1.506E-03	-0.243	
NA-24	1368.63	*	-2.488E-04	1.510E-02	Half-Life too short			
K-40	1460.82	*	9.731E-02	2.046E-01	3.667E-01	2.606E-02	0.265	
SC-46	889.28	*	-9.661E-03	1.346E-02	1.852E-02	1.498E-03	-0.522	
	1120.55		-9.066E-03	2.093E-02	2.989E-02	1.957E-03	-0.303	
V-48	944.13		8.032E-02	2.612E-01	4.535E-01	3.626E-02	0.177	
	983.53	*	-8.862E-03	1.613E-02	2.208E-02	1.711E-03	-0.401	
	1312.11		1.249E-05	2.013E-02	3.361E-02	2.264E-03	0.000	
CR-51	320.08	*	-4.647E-02	1.156E-01	1.843E-01	1.296E-02	-0.252	
MN-54	834.85	*	-7.241E-03	1.394E-02	2.084E-02	1.508E-03	-0.347	
CO-56	846.77	*	-5.436E-03	1.548E-02	2.399E-02	1.780E-03	-0.227	
	1037.84		-8.317E-02	1.246E-01	1.651E-01	1.298E-02	-0.504	
	1238.28		-3.095E-03	2.596E-02	4.246E-02	2.827E-03	-0.073	
	1771.35		5.012E-02	1.294E-01	2.309E-01	1.402E-02	0.217	
CO-57	122.06	*	-6.765E-04	7.989E-03	1.302E-02	9.036E-04	-0.052	
	136.47		2.424E-02	7.200E-02	1.213E-01	9.007E-03	0.200	
CO-58	810.76	*	-3.988E-03	1.510E-02	2.391E-02	1.650E-03	-0.167	
FE-59	1099.45	*	-1.624E-02	2.677E-02	3.585E-02	2.738E-03	-0.453	
	1291.59		-9.657E-04	3.953E-02	6.569E-02	5.309E-03	-0.015	
CO-60	1173.23		1.082E-02	1.609E-02	2.963E-02	1.762E-03	0.365	
	1332.49	*	-4.674E-03	1.525E-02	2.351E-02	1.611E-03	-0.199	
ZN-65	1115.54	*	3.970E-04	3.245E-02	5.260E-02	3.479E-03	0.008	
SE-75	121.12		-5.331E-02	4.252E-02	6.009E-02	5.941E-03	-0.887	
	136.00		6.885E-03	1.343E-02	2.297E-02	1.540E-03	0.300	
	264.66	*	-6.151E-03	1.611E-02	2.622E-02	1.764E-03	-0.235	
	279.54		-1.605E-02	3.605E-02	5.779E-02	4.084E-03	-0.278	
	400.66		2.558E-02	9.458E-02	1.613E-01	1.447E-02	0.159	
SR-85	514.00	*	-5.021E-02	2.602E-02	3.524E-02	1.969E-03	-1.425	
Y-88	898.04		3.958E-03	1.647E-02	2.824E-02	2.336E-03	0.140	
	1836.06	*	1.971E-02	1.909E-02	3.880E-02	2.264E-03	0.508	
Y-91	1204.77	*	-1.864E+00	6.342E+00	9.382E+00	5.749E-01	-0.199	
NB-94	702.65	*	5.284E-03	1.430E-02	2.515E-02	1.355E-03	0.210	
	871.09		-4.675E-03	1.199E-02	1.807E-02	1.409E-03	-0.259	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	765.81	*		3.891E-03	1.307E-02	2.292E-02	1.428E-03	0.170
NB-95M	235.69	*		-3.376E-02	4.844E-02	7.134E-02	5.871E-03	-0.473
ZR-95	724.19			-1.622E-03	3.363E-02	5.584E-02	3.753E-03	-0.029
	756.73	*		-3.864E-03	2.903E-02	4.743E-02	3.474E-03	-0.081
MO-99	140.51			1.243E+00	1.737E+00	2.855E+00	6.588E-01	0.435
	181.07			-6.108E-01	1.343E+00	2.057E+00	3.680E-01	-0.297
	366.42			-1.553E-01	8.093E+00	1.340E+01	8.010E-01	-0.012
	739.50	*		-9.220E-02	9.105E-01	1.493E+00	2.155E-01	-0.062
	777.92			7.727E-01	2.674E+00	4.676E+00	2.994E-01	0.165
TC-99M	140.51	*		3.261E+02	2.674E+00	Half-Life	too short	
RU-103	497.08	*		-1.170E-02	1.626E-02	2.370E-02	2.925E-03	-0.494
	610.33			-3.176E-01	3.619E-01	5.184E-01	7.689E-02	-0.613
RH-106	621.93	*		4.956E-03	1.273E-01	2.048E-01	2.315E-02	0.024
	1050.41			6.809E-01	8.369E-01	1.610E+00	1.164E-01	0.423
RU-106	621.93	*		4.956E-03	1.272E-01	2.048E-01	1.052E-02	0.024
	1050.41			6.809E-01	8.369E-01	1.610E+00	1.164E-01	0.423
AG-108M	433.94	*		-1.996E-03	1.179E-02	1.891E-02	1.151E-03	-0.106
	614.28			-4.943E-03	1.534E-02	2.333E-02	1.316E-03	-0.212
	722.91			-3.084E-03	1.582E-02	2.573E-02	1.561E-03	-0.120
CD-109	88.03	*		-2.714E-01	2.333E-01	3.385E-01	4.068E-02	-0.802
AG-110M	657.76	*		-1.162E-02	1.416E-02	2.094E-02	1.119E-03	-0.555
	677.62			-1.276E-02	1.237E-01	2.047E-01	1.122E-02	-0.062
	706.68			-2.969E-02	8.961E-02	1.431E-01	8.335E-03	-0.207
	763.94			-8.266E-03	5.253E-02	8.491E-02	5.545E-03	-0.097
	884.68			-1.847E-03	1.820E-02	2.937E-02	2.441E-03	-0.063
	937.49			1.064E-02	4.430E-02	7.583E-02	6.343E-03	0.140
	1384.29			3.379E-02	5.536E-02	1.065E-01	7.602E-03	0.317
	1505.03			1.731E-02	1.134E-01	1.948E-01	1.315E-02	0.089
SN-113	391.69	*		5.787E-04	1.587E-02	2.635E-02	1.588E-03	0.022
CD-115	260.90			3.305E-01	7.229E+00	1.230E+01	8.213E-01	0.027
	492.35			4.396E-01	2.107E+00	3.537E+00	1.991E-01	0.124
	527.90	*		-6.153E-02	5.963E-01	9.479E-01	5.260E-02	-0.065
SN-117M	156.02			-4.007E-02	5.674E-01	9.146E-01	5.866E-02	-0.044
	158.56	*		-2.780E-05	1.420E-02	2.303E-02	1.473E-03	-0.001
TE-123M	159.00	*		1.867E-03	9.782E-03	1.615E-02	1.044E-03	0.116
SB-124	602.73			4.466E-03	1.801E-02	2.977E-02	1.562E-03	0.150
	645.85			8.212E-02	1.767E-01	3.178E-01	1.844E-02	0.258
	722.78			-1.847E-02	1.465E-01	2.405E-01	1.431E-02	-0.077
	1690.97	*		-3.274E-02	3.414E-02	3.472E-02	2.369E-03	-0.943
SB-125	427.87	*		-1.198E-02	3.340E-02	5.197E-02	3.072E-03	-0.230
	463.37			9.342E-03	1.120E-01	1.849E-01	1.223E-02	0.051
	600.60			-3.076E-02	8.771E-02	1.340E-01	8.368E-03	-0.230
	635.95			7.314E-02	1.049E-01	1.877E-01	1.158E-02	0.390
TE-125M	109.28	*		2.873E-01	2.888E+00	4.817E+00	4.851E-01	0.060
I-126	388.63			-1.955E-02	4.921E-02	7.289E-02	4.134E-03	-0.268
	666.33	*		-1.269E-02	6.690E-02	1.097E-01	5.409E-03	-0.116
	753.82			7.593E-01	5.491E-01	1.086E+00	6.589E-02	0.699
SB-126	414.70			6.670E-03	1.937E-02	3.339E-02	1.889E-03	0.200
	666.50			-8.358E-04	2.226E-02	3.726E-02	1.839E-03	-0.022

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	695.00			1.996E-02	2.369E-02	4.397E-02	2.326E-03	0.454
	697.00			9.003E-02	8.322E-02	1.580E-01	8.398E-03	0.570
	720.70	*		-1.659E-02	4.533E-02	7.196E-02	4.045E-03	-0.231
SN-126	856.80			-5.536E-02	1.383E-01	2.124E-01	1.608E-02	-0.261
	64.28			1.262E-01	2.367E-01	3.855E-01	6.640E-02	0.327
	86.94			-1.041E-02	9.870E-02	1.629E-01	6.870E-02	-0.064
SB-127	87.57	*		-2.765E-02	2.400E-02	3.506E-02	4.205E-03	-0.789
	252.40			1.432E-01	5.575E-01	9.620E-01	3.922E-01	0.149
	473.00			9.613E-03	2.050E-01	3.367E-01	3.155E-02	0.029
	685.70	*		2.047E-03	1.284E-01	2.164E-01	1.512E-02	0.009
I-131	783.70			8.862E-03	4.197E-01	7.003E-01	6.550E-02	0.013
	80.19			-1.749E-01	8.379E-01	1.375E+00	1.591E-01	-0.127
	284.31			1.195E-01	3.215E-01	5.621E-01	4.020E-02	0.213
	364.49	*		1.085E-02	2.819E-02	4.877E-02	3.221E-03	0.222
TE-132	636.99			-2.291E-01	3.997E-01	5.746E-01	3.330E-02	-0.399
	49.72			-2.524E+00	3.051E+00	4.682E+00	6.071E-01	-0.539
	111.76			5.778E-01	2.887E+00	4.853E+00	4.286E-01	0.119
	116.30			-4.483E-01	2.426E+00	3.923E+00	3.311E-01	-0.114
BA-133	228.16	*		-1.966E-02	7.576E-02	1.170E-01	1.609E-02	-0.168
	81.00			2.088E-02	2.903E-02	5.144E-02	8.921E-03	0.406
	276.40			1.124E-01	1.325E-01	2.400E-01	3.121E-02	0.468
	302.85			-4.936E-04	5.345E-02	8.968E-02	1.059E-02	-0.006
	356.01	*		-2.492E-02	1.790E-02	2.454E-02	2.806E-03	-1.015
I-133	383.85			-3.751E-02	1.131E-01	1.790E-01	1.903E-02	-0.210
	529.87	*		9.465E-06	1.131E-01	Half-Life	too short	
	875.33			-3.501E-05	1.131E-01	Half-Life	too short	
CS-134	1298.22			2.972E-04	1.131E-01	Half-Life	too short	
	563.25			1.026E-01	1.431E-01	2.554E-01	1.420E-02	0.401
	569.33			4.974E-02	7.752E-02	1.371E-01	7.661E-03	0.363
	604.72			3.793E-03	1.644E-02	2.711E-02	1.429E-03	0.140
	795.86	*		5.653E-03	1.692E-02	2.969E-02	2.001E-03	0.190
	801.95			-3.311E-02	1.546E-01	2.471E-01	1.683E-02	-0.134
CS-135	1365.19			-5.238E-02	4.177E-01	6.686E-01	4.913E-02	-0.078
I-135	268.22	*		3.555E-02	5.983E-02	1.065E-01	8.876E-03	0.334
	546.56			-6.267E+01	5.983E-02	Half-Life	too short	
	836.80			5.304E+02	5.983E-02	Half-Life	too short	
	1038.76			4.008E+02	5.983E-02	Half-Life	too short	
	1131.51			3.230E+02	5.983E-02	Half-Life	too short	
	1260.41	*		-1.438E+02	5.983E-02	Half-Life	too short	
	1457.56			-3.231E+02	5.983E-02	Half-Life	too short	
	1678.03			-4.566E+02	5.983E-02	Half-Life	too short	
CS-136	1791.20			-2.239E+02	5.983E-02	Half-Life	too short	
	153.25			1.386E-02	2.081E-01	3.403E-01	2.896E-02	0.041
	176.60			-4.018E-02	1.313E-01	2.051E-01	1.548E-02	-0.196
	273.65			1.946E-02	1.334E-01	2.285E-01	1.731E-02	0.085
	340.55			-1.416E-02	3.981E-02	6.379E-02	4.275E-03	-0.222
	818.51			-1.052E-02	2.084E-02	3.121E-02	2.183E-03	-0.337
	1048.07	*		-1.711E-02	2.880E-02	4.011E-02	3.077E-03	-0.427
	1235.36			6.271E-02	1.228E-01	2.271E-01	2.313E-02	0.276

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Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-137M		661.66	*	-6.297E-03	1.772E-02	3.027E-02	1.476E-03	-0.208
CS-137		661.66	*	-6.652E-03	1.872E-02	3.198E-02	1.569E-03	-0.208
CE-139		165.86	*	-4.987E-04	9.939E-03	1.600E-02	1.017E-03	-0.031
BA-140		162.66		-8.481E-02	2.082E-01	3.237E-01	2.310E-02	-0.262
		304.85		2.686E-01	3.700E-01	6.531E-01	1.876E-01	0.411
		423.72		4.633E-01	5.640E-01	9.899E-01	3.192E-01	0.468
		537.26	*	-4.101E-05	8.154E-02	1.318E-01	4.384E-02	0.000
LA-140		328.76		-2.898E-02	8.592E-02	1.386E-01	9.732E-03	-0.209
		487.02		1.053E-02	3.412E-02	5.836E-02	3.749E-03	0.180
		815.77		-6.859E-03	9.432E-02	1.544E-01	1.261E-02	-0.044
		1596.21	*	-5.422E-03	2.852E-02	4.443E-02	2.927E-03	-0.122
CE-141		145.44	*	-1.102E-03	1.678E-02	2.714E-02	1.822E-03	-0.041
CE-143		57.36		2.394E+01	2.371E+01	4.356E+01	5.962E+00	0.549
		293.27	*	-4.423E-01	1.922E+00	3.151E+00	6.475E-01	-0.140
		664.57		-1.340E+01	2.329E+01	3.574E+01	1.039E+01	-0.375
		721.93		-6.689E+00	2.431E+01	3.899E+01	1.058E+01	-0.172
CE-144		80.12		-4.773E-01	8.046E-01	1.271E+00	1.468E-01	-0.376
		133.52	*	-2.393E-02	6.931E-02	1.096E-01	1.565E-02	-0.218
PM-144		476.78		-1.014E-02	2.435E-02	3.711E-02	2.498E-03	-0.273
		618.01		2.929E-03	1.283E-02	2.131E-02	1.183E-03	0.137
		696.49	*	1.513E-02	1.534E-02	2.876E-02	1.528E-03	0.526
PR-144		696.51	*	1.049E+00	1.152E+00	2.143E+00	1.138E-01	0.489
		1489.16		-1.406E+00	5.633E+00	8.666E+00	5.867E-01	-0.162
PM-146		453.88	*	-1.156E-02	1.732E-02	2.564E-02	2.146E-03	-0.451
		633.25		4.375E-02	5.074E-01	8.235E-01	3.093E-01	0.053
		735.93		-5.784E-04	5.262E-02	8.774E-02	2.395E-02	-0.007
		747.24		-4.529E-03	3.686E-02	6.021E-02	7.945E-03	-0.075
ND-147		91.11		-1.214E-01	6.884E-02	9.497E-02	1.114E-02	-1.278
		319.41		-5.623E-01	8.405E-01	1.295E+00	8.348E-02	-0.434
		531.02	*	-4.599E-02	1.411E-01	2.152E-01	2.886E-02	-0.214
PM-149		285.90	*	3.981E+00	5.046E+00	9.086E+00	1.319E+00	0.438
EU-152		121.78		-5.304E-03	2.301E-02	3.690E-02	3.135E-03	-0.144
		244.70		-2.153E-03	1.241E-01	1.959E-01	1.307E-02	-0.011
		344.28	*	1.095E-02	3.806E-02	6.542E-02	4.525E-03	0.167
		778.90		-1.314E-03	9.407E-02	1.561E-01	1.001E-02	-0.008
		964.08		1.061E-01	9.940E-02	1.878E-01	1.479E-02	0.565
		1085.87		1.304E-03	1.444E-01	2.345E-01	1.619E-02	0.006
		1112.07		2.137E-02	1.042E-01	1.767E-01	1.173E-02	0.121
		1408.01		-2.637E-03	8.178E-02	1.348E-01	9.218E-03	-0.020
GD-153		69.67		1.324E-01	5.983E-01	1.028E+00	1.187E-01	0.129
		97.43	*	9.739E-03	2.674E-02	4.592E-02	4.508E-03	0.212
		103.18		1.197E-02	3.516E-02	6.013E-02	5.350E-03	0.199
EU-154		123.07		1.291E-02	1.629E-02	2.880E-02	2.911E-03	0.448
		723.31		6.112E-03	6.875E-02	1.165E-01	8.054E-03	0.052
		873.19		-1.968E-02	9.367E-02	1.470E-01	1.667E-02	-0.134
		996.26		2.711E-03	1.555E-01	2.545E-01	4.331E-02	0.011
		1004.73		-3.224E-02	7.936E-02	1.175E-01	1.281E-02	-0.274
		1274.44	*	-1.932E-02	4.437E-02	6.669E-02	6.594E-03	-0.290
EU-155		86.55		2.370E-02	2.767E-02	4.973E-02	5.956E-03	0.477

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

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TB-160	105.31	*		-7.554E-03	3.095E-02	4.986E-02	4.343E-03	-0.152
	86.79			1.640E-02	7.182E-02	1.224E-01	1.461E-02	0.134
	197.04			5.062E-02	2.536E-01	3.832E-01	2.494E-02	0.132
	215.65			4.446E-02	2.586E-01	4.198E-01	2.768E-02	0.106
	298.57			-4.325E-03	3.661E-02	6.073E-02	3.992E-03	-0.071
	879.36	*		2.158E-03	5.040E-02	8.375E-02	6.641E-03	0.026
	962.29			9.464E-02	1.599E-01	2.931E-01	2.311E-02	0.323
	966.15			-5.662E-02	7.238E-02	1.002E-01	7.876E-03	-0.565
	1177.93			-9.153E-02	1.159E-01	1.463E-01	8.737E-03	-0.626
	1271.85			2.194E-02	2.577E-01	4.387E-01	2.856E-02	0.050
HO-166M	80.57			4.545E-02	7.902E-02	1.394E-01	1.613E-02	0.326
	184.41			1.015E-02	1.357E-02	2.316E-02	1.492E-03	0.438
	280.46			-2.979E-02	2.907E-02	4.311E-02	2.864E-03	-0.691
	410.95			4.197E-02	8.497E-02	1.494E-01	8.451E-03	0.281
	711.68	*		1.648E-02	2.510E-02	4.584E-02	2.523E-03	0.359
	752.31			5.877E-02	1.188E-01	2.119E-01	1.281E-02	0.277
	810.29			-4.453E-03	2.382E-02	3.822E-02	2.626E-03	-0.117
	67.75			-3.181E-02	3.891E-02	5.978E-02	6.955E-03	-0.532
	100.11			-5.376E-02	5.663E-02	8.462E-02	7.919E-03	-0.635
	152.43			-4.450E-02	1.087E-01	1.690E-01	1.088E-02	-0.263
TA-182	222.11			-4.394E-02	1.323E-01	2.030E-01	1.344E-02	-0.216
	1121.30			-4.510E-02	6.105E-02	8.156E-02	5.336E-03	-0.553
	1189.05			1.171E-02	9.842E-02	1.628E-01	9.832E-03	0.072
	1221.41	*		-4.190E-02	5.025E-02	6.414E-02	3.992E-03	-0.653
	1231.02			-1.920E-03	1.439E-01	2.408E-01	1.512E-02	-0.008
	295.96			-7.421E-03	4.009E-02	6.141E-02	4.095E-03	-0.121
	308.46			3.195E-03	3.355E-02	5.687E-02	3.740E-03	0.056
	316.51	*		8.471E-03	1.227E-02	2.205E-02	1.432E-03	0.384
	468.07			-9.417E-03	2.642E-02	4.101E-02	2.697E-03	-0.230
	70.83			2.669E-01	4.280E-01	7.567E-01	1.345E-01	0.353
HG-203	72.87			5.905E-02	2.379E-01	4.085E-01	7.057E-02	0.145
	279.20	*		-6.426E-03	1.227E-02	1.952E-02	1.353E-03	-0.329
BI-207	72.81			-1.518E-02	6.322E-02	1.040E-01	1.192E-02	-0.146
	74.97			-1.257E-02	3.383E-02	5.478E-02	6.274E-03	-0.230
	569.70			1.070E-02	1.193E-02	2.184E-02	1.180E-03	0.490
	1063.66	*		1.072E-02	2.234E-02	3.949E-02	2.809E-03	0.272
TL-208	1770.23			2.246E-01	2.812E-01	5.409E-01	3.286E-02	0.415
	277.37			7.527E-02	1.367E-01	2.429E-01	2.736E-02	0.310
	583.19	*		-7.149E-03	1.852E-02	2.896E-02	1.817E-03	-0.247
	860.56			-1.925E-02	1.097E-01	1.752E-01	1.461E-02	-0.110
PB-210	46.54	*		1.122E+00	2.816E+00	4.992E+00	4.356E-01	0.225
BI-211	72.87			2.603E-01	1.048E+00	1.801E+00	2.064E-01	0.145
	351.06	*		-1.049E-02	9.837E-02	1.542E-01	1.042E-02	-0.068
PB-211	404.85	*		3.038E-02	2.603E-01	4.353E-01	2.087E-01	0.070
	427.09			-3.922E-02	5.499E-01	8.936E-01	4.093E-01	-0.044
BI-212	832.01			1.206E-01	3.376E-01	5.887E-01	3.040E-01	0.205
	727.33	*		-4.510E-02	2.207E-01	3.279E-01	3.493E-02	-0.138
	785.37			1.355E+00	1.118E+00	2.225E+00	1.448E-01	0.609
	1620.50			2.157E-01	1.024E+00	1.781E+00	1.163E-01	0.121

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PB-212	74.82			-5.257E-02	1.194E-01	1.918E-01	2.882E-02	-0.274
	77.11			-5.102E-02	6.351E-02	9.751E-02	1.119E-02	-0.523
	238.63	*		1.062E-02	2.608E-02	4.209E-02	3.404E-03	0.252
	300.09			-1.493E-01	2.907E-01	4.613E-01	4.121E-02	-0.324
BI-214	609.32	*		-3.049E-02	3.821E-02	5.572E-02	4.131E-03	-0.547
	1120.29			-5.088E-03	1.205E-01	1.931E-01	1.810E-02	-0.026
	1764.49			1.709E-02	1.038E-01	1.772E-01	1.080E-02	0.096
PB-214	74.82			-9.318E-02	2.115E-01	3.400E-01	4.736E-02	-0.274
	77.11			-8.994E-02	1.122E-01	1.719E-01	2.429E-02	-0.523
	242.00			-1.196E-01	1.464E-01	2.111E-01	1.865E-02	-0.566
	295.22			-1.436E-02	5.699E-02	8.653E-02	8.018E-03	-0.166
	351.93	*		2.126E-02	3.609E-02	6.042E-02	5.266E-03	0.352
RN-219	271.23			8.115E-03	8.460E-02	1.443E-01	1.252E-02	0.056
	401.81	*		-4.077E-02	1.638E-01	2.617E-01	3.498E-02	-0.156
RA-223	81.07			4.777E-02	6.554E-02	1.167E-01	1.353E-02	0.409
	83.79			1.888E-03	4.060E-02	6.814E-02	7.993E-03	0.028
	94.87			-1.128E-01	1.554E-01	2.411E-01	2.486E-02	-0.468
	144.24			1.084E-02	2.155E-01	3.531E-01	2.754E-02	0.031
	154.21			3.645E-02	1.281E-01	2.139E-01	1.604E-02	0.170
	269.46			-3.778E-02	6.719E-02	1.072E-01	7.386E-03	-0.352
	323.87	*		6.392E-02	2.452E-01	4.212E-01	6.886E-02	0.152
	338.28			-5.649E-02	3.925E-01	6.451E-01	6.795E-02	-0.088
RA-224	240.99	*		-2.789E-01	2.758E-01	3.916E-01	2.611E-02	-0.712
RA-226	609.32	*		-3.049E-02	3.821E-02	5.572E-02	4.131E-03	-0.547
	1120.29			-5.088E-03	1.205E-01	1.931E-01	1.810E-02	-0.026
	1764.49			1.709E-02	1.038E-01	1.772E-01	1.080E-02	0.096
AC-227	79.69			-1.815E-01	4.028E-01	6.439E-01	1.215E-01	-0.282
	235.96			-6.514E-02	6.289E-02	8.888E-02	7.798E-03	-0.733
	256.23	*		3.363E-02	1.003E-01	1.749E-01	1.880E-02	0.192
	299.98			-2.071E-01	3.260E-01	5.097E-01	5.817E-02	-0.406
	304.50			2.923E-01	6.168E-01	1.083E+00	1.683E-01	0.270
	334.37			-7.974E-02	7.402E-01	1.222E+00	1.766E-01	-0.065
TH-227	79.80			-2.275E-01	5.320E-01	8.513E-01	1.966E-01	-0.267
	235.96			-6.514E-02	6.285E-02	8.888E-02	7.178E-03	-0.733
	256.23	*		3.363E-02	1.003E-01	1.749E-01	2.180E-02	0.192
	299.98			-2.071E-01	3.260E-01	5.097E-01	5.817E-02	-0.406
	304.50			2.923E-01	6.168E-01	1.083E+00	1.683E-01	0.270
	334.37			-7.974E-02	7.402E-01	1.222E+00	1.766E-01	-0.065
AC-228	338.32			-1.466E-02	9.905E-02	1.624E-01	6.708E-02	-0.090
	911.20	*		2.587E-02	5.777E-02	1.022E-01	1.151E-02	0.253
	968.97			3.185E-02	9.569E-02	1.657E-01	3.993E-02	0.192
RA-228	338.32			-1.466E-02	9.905E-02	1.624E-01	6.708E-02	-0.090
	911.20	*		2.587E-02	5.777E-02	1.022E-01	1.151E-02	0.253
	968.97			3.185E-02	9.569E-02	1.657E-01	3.993E-02	0.192
TH-228	74.82			-5.257E-02	1.193E-01	1.918E-01	2.208E-02	-0.274
	77.11			-5.102E-02	6.351E-02	9.751E-02	1.119E-02	-0.523
	238.63	*		1.062E-02	2.608E-02	4.209E-02	3.404E-03	0.252
	300.09			-1.493E-01	3.043E-01	4.613E-01	2.812E-01	-0.324
TH-229	85.43			7.174E-02	6.514E-02	1.181E-01	1.398E-02	0.607

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	88.47			-3.200E-02	3.364E-02	5.004E-02	5.948E-03	-0.639
	193.51	*		-1.073E-01	1.856E-01	2.784E-01	1.807E-02	-0.386
	210.85			-1.435E-01	3.139E-01	4.756E-01	3.126E-02	-0.302
PA-231	283.69	*		-1.396E-01	5.328E-01	8.729E-01	1.179E-01	-0.160
	301.36			-3.169E-02	2.029E-01	3.351E-01	3.615E-02	-0.095
TH-231	81.07			4.777E-02	6.554E-02	1.167E-01	1.353E-02	0.409
	83.79			1.888E-03	4.060E-02	6.814E-02	7.993E-03	0.028
	94.87			-1.128E-01	1.554E-01	2.411E-01	2.486E-02	-0.468
	144.24			1.084E-02	2.155E-01	3.531E-01	2.754E-02	0.031
	154.21			3.645E-02	1.281E-01	2.139E-01	1.604E-02	0.170
	269.46			-3.778E-02	6.719E-02	1.072E-01	7.386E-03	-0.352
	323.87	*		6.392E-02	2.452E-01	4.212E-01	6.886E-02	0.152
	338.28			-5.649E-02	3.925E-01	6.451E-01	6.795E-02	-0.088
TH-232	338.32			-1.466E-02	9.887E-02	1.624E-01	1.021E-02	-0.090
	911.20	*		2.587E-02	5.777E-02	1.022E-01	1.151E-02	0.253
	968.97			3.185E-02	9.569E-02	1.657E-01	3.993E-02	0.192
PA-233	300.13			-7.431E-02	1.449E-01	2.296E-01	3.154E-02	-0.324
	311.90	*		1.599E-03	2.456E-02	4.146E-02	2.828E-03	0.039
	340.48			-7.649E-02	2.376E-01	3.812E-01	8.892E-02	-0.201
PA-234	94.67			-3.593E-02	5.775E-02	9.056E-02	1.237E-02	-0.397
	98.44			4.610E-04	2.901E-02	4.822E-02	2.698E-02	0.010
	111.00			3.941E-02	5.910E-02	1.035E-01	1.202E-02	0.381
	131.20			7.697E-03	3.476E-02	5.814E-02	3.900E-03	0.132
	569.50			6.297E-02	1.093E-01	1.913E-01	1.033E-02	0.329
	733.00			7.210E-02	1.396E-01	2.512E-01	5.340E-02	0.287
	880.51			-2.073E-02	1.070E-01	1.695E-01	1.347E-02	-0.122
	883.24			3.155E-02	1.094E-01	1.869E-01	1.255E-01	0.169
	926.50			3.363E-02	6.524E-02	1.172E-01	2.941E-02	0.287
	946.00	*		-1.521E-02	1.204E-01	1.924E-01	3.555E-02	-0.079
	949.00			-3.143E-03	1.747E-01	2.853E-01	2.272E-02	-0.011
PA-234M	766.42			1.737E+00	3.678E+00	6.473E+00	3.261E+00	0.268
	1001.03	*		-1.230E-02	2.043E+00	3.345E+00	3.049E-01	-0.004
TH-234	63.29	*		1.475E-01	6.425E-01	1.020E+00	2.053E-01	0.145
	92.59			-5.242E-03	2.549E-01	4.199E-01	9.669E-02	-0.012
U-235	89.96			-4.758E-01	2.782E-01	3.356E-01	8.642E-02	-1.418
	93.35			-8.827E-02	1.955E-01	3.101E-01	7.419E-02	-0.285
	143.76	*		-2.091E-02	6.581E-02	1.037E-01	1.658E-02	-0.202
	163.33			-1.007E-02	1.495E-01	2.403E-01	4.083E-02	-0.042
	185.72			6.556E-03	1.898E-02	3.122E-02	2.013E-03	0.210
	205.31			-6.441E-02	1.924E-01	2.970E-01	5.127E-02	-0.217
NP-237	86.48	*		6.003E-02	6.967E-02	1.233E-01	2.973E-02	0.487
	95.86			-2.911E-01	3.239E-01	4.806E-01	1.181E-01	-0.606
U-238	63.29	*		1.475E-01	6.425E-01	1.020E+00	2.053E-01	0.145
	92.59			-5.242E-03	2.549E-01	4.199E-01	4.539E-02	-0.012
NP-239	99.53			-2.694E-02	5.353E-02	8.429E-02	7.968E-03	-0.320
	103.37			1.793E-02	3.101E-02	5.426E-02	4.813E-03	0.330
	106.12			5.622E-04	2.592E-02	4.298E-02	3.656E-03	0.013
	117.23	*		7.716E-02	1.298E-01	2.259E-01	1.657E-02	0.342
	228.18			-2.446E-02	8.671E-02	1.336E-01	8.865E-03	-0.183

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	277.60			1.364E-02	6.278E-02	1.083E-01	7.201E-03	0.126
AM-241	59.54	*		-4.115E-02	6.710E-02	1.058E-01	1.336E-02	-0.389
CM-247	278.00			6.091E-02	2.615E-01	4.517E-01	3.004E-02	0.135
	287.50			3.126E-01	4.718E-01	8.452E-01	5.596E-02	0.370
	402.40	*		2.890E-04	1.437E-02	2.377E-02	1.341E-03	0.012
CF-249	252.80			-6.709E-02	3.821E-01	6.382E-01	4.262E-02	-0.105
	333.37			-2.553E-02	7.836E-02	1.266E-01	8.018E-03	-0.202
	388.16	*		-3.770E-03	1.608E-02	2.430E-02	1.380E-03	-0.155
CF-251	177.52	*		9.555E-04	4.815E-02	7.776E-02	4.980E-03	0.012
	227.38			7.618E-02	1.421E-01	2.380E-01	1.579E-02	0.320
	285.41			5.246E-01	8.178E-01	1.464E+00	9.706E-02	0.358
ANH-511	511.00	*		-9.459E-03	2.605E-02	4.844E-02	2.709E-03	-0.195

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]G1202054965      *
* Acquisition date   : 10-MAR-2010 20:47:19 Detector SN#                   *
* Detector ID        : GAM04                                           Sensitivity      : 5.000      *
* Geometry           : CAN                                           Energy tolerance : 1.500      *
* Elapsed live time   : 0 02:00:00.00                               Abundance limit  : 75.000      *
* Elapsed real time   : 0 02:00:00.43                               Half life ratio   : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-MAR-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202054965 Analyst initials: MXR1                *
* Batch Number       : 958225 Sample Quantity : 1.7005E+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

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-5.761E-03	1.116E-01	1.938E-01	0.000E+00 NOT IDENT.
NA-22	-5.587E-03	1.479E-02	2.344E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.390E+02	0.000E+00	0.000E+00 SHORT HLIF
K-40	9.731E-02	2.005E-01	3.714E-01	0.000E+00 NOT IDENT.
SC-46	-9.661E-03	1.319E-02	1.908E-02	0.000E+00 NOT IDENT.
V-48	-8.862E-03	1.581E-02	2.267E-02	0.000E+00 NOT IDENT.
CR-51	-4.647E-02	1.133E-01	1.963E-01	0.000E+00 NOT IDENT.
MN-54	-7.241E-03	1.366E-02	2.152E-02	0.000E+00 NOT IDENT.
CO-56	-5.436E-03	1.517E-02	2.476E-02	0.000E+00 NOT IDENT.
CO-57	-6.765E-04	7.830E-03	1.428E-02	0.000E+00 NOT IDENT.
CO-58	-3.988E-03	1.480E-02	2.471E-02	0.000E+00 NOT IDENT.
FE-59	-1.624E-02	2.623E-02	3.667E-02	0.000E+00 NOT IDENT.
CO-60	-4.674E-03	1.495E-02	2.389E-02	0.000E+00 NOT IDENT.
ZN-65	3.970E-04	3.180E-02	5.378E-02	0.000E+00 NOT IDENT.
SE-75	-6.151E-03	1.579E-02	2.810E-02	0.000E+00 NOT IDENT.
SR-85	-5.021E-02	2.550E-02	3.698E-02	0.000E+00 NOT IDENT.
Y-88	1.971E-02	1.871E-02	3.899E-02	0.000E+00 NOT IDENT.
Y-91	-1.864E+00	6.215E+00	9.568E+00	0.000E+00 NOT IDENT.
NB-94	5.284E-03	1.402E-02	2.612E-02	0.000E+00 NOT IDENT.
NB-95	3.891E-03	1.281E-02	2.373E-02	0.000E+00 NOT IDENT.
NB-95M	-3.376E-02	4.747E-02	7.672E-02	0.000E+00 NOT IDENT.
ZR-95	-3.864E-03	2.845E-02	4.913E-02	0.000E+00 NOT IDENT.
MO-99	-9.220E-02	8.923E-01	1.548E+00	0.000E+00 NOT IDENT.
TC-99M	0.000E+00	4.442E+08	0.000E+00	0.000E+00 SHORT HLIF
RU-103	-1.170E-02	1.593E-02	2.489E-02	0.000E+00 NOT IDENT.
RH-106	4.956E-03	1.247E-01	2.136E-01	0.000E+00 NOT IDENT.

RU-106	4.956E-03	1.247E-01	2.136E-01	0.000E+00	NOT IDENT.
AG-108M	-1.996E-03	1.156E-02	1.994E-02	0.000E+00	NOT IDENT.
CD-109	-2.714E-01	2.286E-01	3.749E-01	0.000E+00	NOT IDENT.
AG-110M	-1.162E-02	1.388E-02	2.179E-02	0.000E+00	NOT IDENT.
SN-113	5.787E-04	1.555E-02	2.789E-02	0.000E+00	NOT IDENT.
CD-115	-6.153E-02	5.843E-01	9.937E-01	0.000E+00	NOT IDENT.
SN-117M	-2.780E-05	1.392E-02	2.507E-02	0.000E+00	NOT IDENT.
TE-123M	1.867E-03	9.586E-03	1.758E-02	0.000E+00	NOT IDENT.
SB-124	-3.274E-02	3.346E-02	3.500E-02	0.000E+00	NOT IDENT.
SB-125	-1.198E-02	3.273E-02	5.485E-02	0.000E+00	NOT IDENT.
TE-125M	2.873E-01	2.830E+00	5.302E+00	0.000E+00	NOT IDENT.
I-126	-1.269E-02	6.557E-02	1.141E-01	0.000E+00	NOT IDENT.
SB-126	-1.659E-02	4.442E-02	7.466E-02	0.000E+00	NOT IDENT.
SN-126	-2.765E-02	2.352E-02	3.884E-02	0.000E+00	NOT IDENT.
SB-127	2.047E-03	1.259E-01	2.249E-01	0.000E+00	NOT IDENT.
I-131	1.085E-02	2.762E-02	5.174E-02	0.000E+00	NOT IDENT.
TE-132	-1.966E-02	7.425E-02	1.259E-01	0.000E+00	NOT IDENT.
BA-133	-2.492E-02	1.754E-02	2.606E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.451E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.653E-03	1.658E-02	3.070E-02	0.000E+00	NOT IDENT.
CS-135	3.555E-02	5.863E-02	1.140E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.293E+08	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.711E-02	2.823E-02	4.110E-02	0.000E+00	NOT IDENT.
BA-137M	-6.297E-03	1.737E-02	3.150E-02	0.000E+00	NOT IDENT.
CS-137	-6.652E-03	1.835E-02	3.328E-02	0.000E+00	NOT IDENT.
CE-139	-4.987E-04	9.740E-03	1.739E-02	0.000E+00	NOT IDENT.
BA-140	-4.101E-05	7.991E-02	1.381E-01	0.000E+00	NOT IDENT.
LA-140	-5.422E-03	2.795E-02	4.487E-02	0.000E+00	NOT IDENT.
CE-141	-1.102E-03	1.644E-02	2.962E-02	0.000E+00	NOT IDENT.
CE-143	-4.423E-01	1.883E+00	3.365E+00	0.000E+00	NOT IDENT.
CE-144	-2.393E-02	6.793E-02	1.199E-01	0.000E+00	NOT IDENT.
PM-144	1.513E-02	1.503E-02	2.988E-02	0.000E+00	NOT IDENT.
PR-144	1.049E+00	1.129E+00	2.226E+00	0.000E+00	NOT IDENT.
PM-146	-1.156E-02	1.698E-02	2.701E-02	0.000E+00	NOT IDENT.
ND-147	-4.599E-02	1.383E-01	2.255E-01	0.000E+00	NOT IDENT.
PM-149	3.981E+00	4.945E+00	9.712E+00	0.000E+00	NOT IDENT.
EU-152	1.095E-02	3.730E-02	6.953E-02	0.000E+00	NOT IDENT.
GD-153	9.739E-03	2.620E-02	5.071E-02	0.000E+00	NOT IDENT.
EU-154	-1.932E-02	4.348E-02	6.787E-02	0.000E+00	NOT IDENT.
EU-155	-7.554E-03	3.034E-02	5.493E-02	0.000E+00	NOT IDENT.
TB-160	2.158E-03	4.939E-02	8.632E-02	0.000E+00	NOT IDENT.
HO-166M	1.648E-02	2.459E-02	4.758E-02	0.000E+00	NOT IDENT.
TA-182	-4.190E-02	4.925E-02	6.538E-02	0.000E+00	NOT IDENT.
IR-192	8.471E-03	1.202E-02	2.350E-02	0.000E+00	NOT IDENT.
HG-203	-6.426E-03	1.203E-02	2.088E-02	0.000E+00	NOT IDENT.
BI-207	1.072E-02	2.189E-02	4.045E-02	0.000E+00	NOT IDENT.
TL-208	-7.149E-03	1.814E-02	3.025E-02	0.000E+00	NOT IDENT.
PB-210	1.122E+00	2.760E+00	5.630E+00	0.000E+00	NOT IDENT.
BI-211	-1.049E-02	9.640E-02	1.638E-01	0.000E+00	NOT IDENT.
PB-211	3.038E-02	2.551E-01	4.602E-01	0.000E+00	NOT IDENT.
BI-212	-4.510E-02	2.163E-01	3.401E-01	0.000E+00	NOT IDENT.
PB-212	1.062E-02	2.556E-02	4.524E-02	0.000E+00	NOT IDENT.
BI-214	-3.049E-02	3.745E-02	5.814E-02	0.000E+00	NOT IDENT.
PB-214	2.126E-02	3.537E-02	6.416E-02	0.000E+00	NOT IDENT.
RN-219	-4.077E-02	1.605E-01	2.767E-01	0.000E+00	NOT IDENT.
RA-223	6.392E-02	2.403E-01	4.485E-01	0.000E+00	NOT IDENT.
RA-224	-2.789E-01	2.703E-01	4.208E-01	0.000E+00	NOT IDENT.
RA-226	-3.049E-02	3.745E-02	5.814E-02	0.000E+00	NOT IDENT.
AC-227	3.363E-02	9.826E-02	1.876E-01	0.000E+00	NOT IDENT.
TH-227	3.363E-02	9.828E-02	1.876E-01	0.000E+00	NOT IDENT.
AC-228	2.587E-02	5.662E-02	1.052E-01	0.000E+00	NOT IDENT.
RA-228	2.587E-02	5.662E-02	1.052E-01	0.000E+00	NOT IDENT.
TH-228	1.062E-02	2.556E-02	4.524E-02	0.000E+00	NOT IDENT.
TH-229	-1.073E-01	1.818E-01	3.012E-01	0.000E+00	NOT IDENT.
PA-231	-1.396E-01	5.222E-01	9.333E-01	0.000E+00	NOT IDENT.
TH-231	6.392E-02	2.403E-01	4.485E-01	0.000E+00	NOT IDENT.
TH-232	2.587E-02	5.662E-02	1.052E-01	0.000E+00	NOT IDENT.
PA-233	1.599E-03	2.407E-02	4.420E-02	0.000E+00	NOT IDENT.
PA-234	-1.521E-02	1.180E-01	1.978E-01	0.000E+00	NOT IDENT.
PA-234M	-1.230E-02	2.002E+00	3.433E+00	0.000E+00	NOT IDENT.
TH-234	1.475E-01	6.297E-01	1.141E+00	0.000E+00	NOT IDENT.
U-235	-2.091E-02	6.450E-02	1.132E-01	0.000E+00	NOT IDENT.
NP-237	6.003E-02	6.827E-02	1.366E-01	0.000E+00	NOT IDENT.
U-238	1.475E-01	6.297E-01	1.141E+00	0.000E+00	NOT IDENT.
NP-239	7.716E-02	1.272E-01	2.481E-01	0.000E+00	NOT IDENT.
AM-241	-4.115E-02	6.576E-02	1.185E-01	0.000E+00	NOT IDENT.
CM-247	2.890E-04	1.409E-02	2.514E-02	0.000E+00	NOT IDENT.
CF-249	-3.770E-03	1.576E-02	2.573E-02	0.000E+00	NOT IDENT.

CF-251	9.555E-04	4.718E-02	8.435E-02	0.000E+00 NOT IDENT.
ANH-511	-9.459E-03	2.553E-02	5.083E-02	0.000E+00 NOT IDENT.


```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054965.CNF;1
Sample date        : 2-MAR-2010 00:00:00. Acquisition date : 10-MAR-2010 20:47:19
Sample ID          : G1202054965      Sample quantity   : 1.70050E+02 GRAM
Detector name      : GAM04             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:00.43  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 958225             Detector SN#       :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

```

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202054965

Page : 2
Acquisition date : 10-MAR-2010 20:47:19

**** There are no nuclides meeting summary criteria ****

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

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

Unidentified Energy Lines
Sample ID : G1202054965

Page : 3
Acquisition date : 10-MAR-2010 20:47:19

None

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
*                               DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054965.CNF;1
* Acquisition date   : 10-MAR-2010 20:47:19   Detector SN#      :
* Detector ID        : GAM04                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:00.43          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                            *
*
* Sample date        : 2-MAR-2010 00:00:00.   Nuclide Library : SOLID
* Sample ID          : G1202054965           Analyst initials: MXR1
* Batch Number       : 958225                Sample Quantity : 1.70050E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope          :
* MSD ID             :                      MSD Isotope          :
* LCS ID             : 1032-A                LCS Isotope          :
*****

```

Combined Activity-MDA Report

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.761E-03		1.139E-01	1.843E-01	1.220E-02	-0.031
NA-22	-5.587E-03		1.510E-02	2.303E-02	1.506E-03	-0.243
NA-24	-2.488E-04		1.220E-04	Half-Life too short		
K-40	9.731E-02		2.046E-01	3.667E-01	2.606E-02	0.265
SC-46	-9.661E-03		1.346E-02	1.852E-02	1.498E-03	-0.522
V-48	-8.862E-03		1.613E-02	2.208E-02	1.711E-03	-0.401
CR-51	-4.647E-02		1.156E-01	1.843E-01	1.296E-02	-0.252
MN-54	-7.241E-03		1.394E-02	2.084E-02	1.508E-03	-0.347
CO-56	-5.436E-03		1.548E-02	2.399E-02	1.780E-03	-0.227
CO-57	-6.765E-04		7.989E-03	1.302E-02	9.036E-04	-0.052
CO-58	-3.988E-03		1.510E-02	2.391E-02	1.650E-03	-0.167
FE-59	-1.624E-02		2.677E-02	3.585E-02	2.738E-03	-0.453
CO-60	-4.674E-03		1.525E-02	2.351E-02	1.611E-03	-0.199
ZN-65	3.970E-04		3.245E-02	5.260E-02	3.479E-03	0.008
SE-75	-6.151E-03		1.611E-02	2.622E-02	1.764E-03	-0.235
SR-85	-5.021E-02		2.602E-02	3.524E-02	1.969E-03	-1.425
Y-88	1.971E-02		1.909E-02	3.880E-02	2.264E-03	0.508

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	-1.864E+00		6.342E+00	9.382E+00	5.749E-01	-0.199
NB-94	5.284E-03		1.430E-02	2.515E-02	1.355E-03	0.210
NB-95	3.891E-03		1.307E-02	2.292E-02	1.428E-03	0.170
NB-95M	-3.376E-02		4.844E-02	7.134E-02	5.871E-03	-0.473
ZR-95	-3.864E-03		2.903E-02	4.743E-02	3.474E-03	-0.081
MO-99	-9.220E-02		9.105E-01	1.493E+00	2.155E-01	-0.062
TC-99M	3.261E+02		2.266E+02	Half-Life too short		
RU-103	-1.170E-02		1.626E-02	2.370E-02	2.925E-03	-0.494
RH-106	4.956E-03		1.273E-01	2.048E-01	2.315E-02	0.024
RU-106	4.956E-03		1.272E-01	2.048E-01	1.052E-02	0.024
AG-108M	-1.996E-03		1.179E-02	1.891E-02	1.151E-03	-0.106
CD-109	-2.714E-01		2.333E-01	3.385E-01	4.068E-02	-0.802
AG-110M	-1.162E-02		1.416E-02	2.094E-02	1.119E-03	-0.555
SN-113	5.787E-04		1.587E-02	2.635E-02	1.588E-03	0.022
CD-115	-6.153E-02		5.963E-01	9.479E-01	5.260E-02	-0.065
SN-117M	-2.780E-05		1.420E-02	2.303E-02	1.473E-03	-0.001
TE-123M	1.867E-03		9.782E-03	1.615E-02	1.044E-03	0.116
SB-124	-3.274E-02		3.414E-02	3.472E-02	2.369E-03	-0.943
SB-125	-1.198E-02		3.340E-02	5.197E-02	3.072E-03	-0.230
TE-125M	2.873E-01		2.888E+00	4.817E+00	4.851E-01	0.060
I-126	-1.269E-02		6.690E-02	1.097E-01	5.409E-03	-0.116
SB-126	-1.659E-02		4.533E-02	7.196E-02	4.045E-03	-0.231
SN-126	-2.765E-02		2.400E-02	3.506E-02	4.205E-03	-0.789
SB-127	2.047E-03		1.284E-01	2.164E-01	1.512E-02	0.009
I-131	1.085E-02		2.819E-02	4.877E-02	3.221E-03	0.222
TE-132	-1.966E-02		7.576E-02	1.170E-01	1.609E-02	-0.168
BA-133	-2.492E-02		1.790E-02	2.454E-02	2.806E-03	-1.015
I-133	9.465E-06		7.402E-06	Half-Life too short		
CS-134	5.653E-03		1.692E-02	2.969E-02	2.001E-03	0.190
CS-135	3.555E-02		5.983E-02	1.065E-01	8.876E-03	0.334
I-135	-1.438E+02		1.680E+02	Half-Life too short		
CS-136	-1.711E-02		2.880E-02	4.011E-02	3.077E-03	-0.427
BA-137M	-6.297E-03		1.772E-02	3.027E-02	1.476E-03	-0.208
CS-137	-6.652E-03		1.872E-02	3.198E-02	1.569E-03	-0.208
CE-139	-4.987E-04		9.939E-03	1.600E-02	1.017E-03	-0.031
BA-140	-4.101E-05		8.154E-02	1.318E-01	4.384E-02	0.000
LA-140	-5.422E-03		2.852E-02	4.443E-02	2.927E-03	-0.122
CE-141	-1.102E-03		1.678E-02	2.714E-02	1.822E-03	-0.041
CE-143	-4.423E-01		1.922E+00	3.151E+00	6.475E-01	-0.140
CE-144	-2.393E-02		6.931E-02	1.096E-01	1.565E-02	-0.218
PM-144	1.513E-02		1.534E-02	2.876E-02	1.528E-03	0.526
PR-144	1.049E+00		1.152E+00	2.143E+00	1.138E-01	0.489
PM-146	-1.156E-02		1.732E-02	2.564E-02	2.146E-03	-0.451
ND-147	-4.599E-02		1.411E-01	2.152E-01	2.886E-02	-0.214
PM-149	3.981E+00		5.046E+00	9.086E+00	1.319E+00	0.438
EU-152	1.095E-02		3.806E-02	6.542E-02	4.525E-03	0.167
GD-153	9.739E-03		2.674E-02	4.592E-02	4.508E-03	0.212
EU-154	-1.932E-02		4.437E-02	6.669E-02	6.594E-03	-0.290

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	-7.554E-03		3.095E-02	4.986E-02	4.343E-03	-0.152
TB-160	2.158E-03		5.040E-02	8.375E-02	6.641E-03	0.026
HO-166M	1.648E-02		2.510E-02	4.584E-02	2.523E-03	0.359
TA-182	-4.190E-02		5.025E-02	6.414E-02	3.992E-03	-0.653
IR-192	8.471E-03		1.227E-02	2.205E-02	1.432E-03	0.384
HG-203	-6.426E-03		1.227E-02	1.952E-02	1.353E-03	-0.329
BI-207	1.072E-02		2.234E-02	3.949E-02	2.809E-03	0.272
TL-208	-7.149E-03		1.852E-02	2.896E-02	1.817E-03	-0.247
PB-210	1.122E+00		2.816E+00	4.992E+00	4.356E-01	0.225
BI-211	-1.049E-02		9.837E-02	1.542E-01	1.042E-02	-0.068
PB-211	3.038E-02		2.603E-01	4.353E-01	2.087E-01	0.070
BI-212	-4.510E-02		2.207E-01	3.279E-01	3.493E-02	-0.138
PB-212	1.062E-02		2.608E-02	4.209E-02	3.404E-03	0.252
BI-214	-3.049E-02		3.821E-02	5.572E-02	4.131E-03	-0.547
PB-214	2.126E-02		3.609E-02	6.042E-02	5.266E-03	0.352
RN-219	-4.077E-02		1.638E-01	2.617E-01	3.498E-02	-0.156
RA-223	6.392E-02		2.452E-01	4.212E-01	6.886E-02	0.152
RA-224	-2.789E-01		2.758E-01	3.916E-01	2.611E-02	-0.712
RA-226	-3.049E-02		3.821E-02	5.572E-02	4.131E-03	-0.547
AC-227	3.363E-02		1.003E-01	1.749E-01	1.880E-02	0.192
TH-227	3.363E-02		1.003E-01	1.749E-01	2.180E-02	0.192
AC-228	2.587E-02		5.777E-02	1.022E-01	1.151E-02	0.253
RA-228	2.587E-02		5.777E-02	1.022E-01	1.151E-02	0.253
TH-228	1.062E-02		2.608E-02	4.209E-02	3.404E-03	0.252
TH-229	-1.073E-01		1.856E-01	2.784E-01	1.807E-02	-0.386
PA-231	-1.396E-01		5.328E-01	8.729E-01	1.179E-01	-0.160
TH-231	6.392E-02		2.452E-01	4.212E-01	6.886E-02	0.152
TH-232	2.587E-02		5.777E-02	1.022E-01	1.151E-02	0.253
PA-233	1.599E-03		2.456E-02	4.146E-02	2.828E-03	0.039
PA-234	-1.521E-02		1.204E-01	1.924E-01	3.555E-02	-0.079
PA-234M	-1.230E-02		2.043E+00	3.345E+00	3.049E-01	-0.004
TH-234	1.475E-01		6.425E-01	1.020E+00	2.053E-01	0.145
U-235	-2.091E-02		6.581E-02	1.037E-01	1.658E-02	-0.202
NP-237	6.003E-02		6.967E-02	1.233E-01	2.973E-02	0.487
U-238	1.475E-01		6.425E-01	1.020E+00	2.053E-01	0.145
NP-239	7.716E-02		1.298E-01	2.259E-01	1.657E-02	0.342
AM-241	-4.115E-02		6.710E-02	1.058E-01	1.336E-02	-0.389
CM-247	2.890E-04		1.437E-02	2.377E-02	1.341E-03	0.012
CF-249	-3.770E-03		1.608E-02	2.430E-02	1.380E-03	-0.155
CF-251	9.555E-04		4.815E-02	7.776E-02	4.980E-03	0.012
ANH-511	-9.459E-03		2.605E-02	4.844E-02	2.709E-03	-0.195

VAX/VMS Nuclide Identification Report Generated

```
*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202054965          *
* Acquisition date   : 10-MAR-2010 20:47:19 Detector SN#      :              *
* Detector ID        : GAM04 Sensitivity      : 5.000          *
* Geometry           : CAN Energy tolerance: 1.500          *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000   *
* Elapsed real time  : 0 02:00:00.43 Half life ratio : 8.000   *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 2-MAR-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202054965 Analyst initials: MXR1          *
* Batch Number       : 958225 Sample Quantity : 1.7005E+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

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act Error	DLC (pCi/GRAM)	TPU
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---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-5.761E-03	1.116E-01	9.696E-02	5.695E-02 NOT IDENT.
NA-22	-5.587E-03	1.479E-02	1.173E-02	7.548E-03 NOT IDENT.
NA-24	-2.488E+02	2.390E+02	0.000E+00	1.220E+02 SHORT HLIF
K-40	9.731E-02	2.005E-01	1.858E-01	1.023E-01 NOT IDENT.
SC-46	-9.661E-03	1.319E-02	9.548E-03	6.729E-03 NOT IDENT.
V-48	-8.862E-03	1.581E-02	1.134E-02	8.064E-03 NOT IDENT.
CR-51	-4.647E-02	1.133E-01	9.821E-02	5.782E-02 NOT IDENT.
MN-54	-7.241E-03	1.366E-02	1.077E-02	6.970E-03 NOT IDENT.
CO-56	-5.436E-03	1.517E-02	1.239E-02	7.739E-03 NOT IDENT.
CO-57	-6.765E-04	7.830E-03	7.144E-03	3.995E-03 NOT IDENT.
CO-58	-3.988E-03	1.480E-02	1.236E-02	7.552E-03 NOT IDENT.
FE-59	-1.624E-02	2.623E-02	1.835E-02	1.338E-02 NOT IDENT.
CO-60	-4.674E-03	1.495E-02	1.195E-02	7.627E-03 NOT IDENT.
ZN-65	3.970E-04	3.180E-02	2.691E-02	1.623E-02 NOT IDENT.
SE-75	-6.151E-03	1.579E-02	1.406E-02	8.054E-03 NOT IDENT.
SR-85	-5.021E-02	2.550E-02	1.850E-02	1.301E-02 NOT IDENT.
Y-88	1.971E-02	1.871E-02	1.951E-02	9.544E-03 NOT IDENT.
Y-91	-1.864E+00	6.215E+00	4.787E+00	3.171E+00 NOT IDENT.
NB-94	5.284E-03	1.402E-02	1.307E-02	7.152E-03 NOT IDENT.
NB-95	3.891E-03	1.281E-02	1.187E-02	6.537E-03 NOT IDENT.
NB-95M	-3.376E-02	4.747E-02	3.838E-02	2.422E-02 NOT IDENT.
ZR-95	-3.864E-03	2.845E-02	2.458E-02	1.452E-02 NOT IDENT.
MO-99	-9.220E-02	8.923E-01	7.742E-01	4.553E-01 NOT IDENT.
TC-99M	3.261E+08	4.442E+08	0.000E+00	2.266E+08 SHORT HLIF
RU-103	-1.170E-02	1.593E-02	1.245E-02	8.129E-03 NOT IDENT.
RH-106	4.956E-03	1.247E-01	1.068E-01	6.363E-02 NOT IDENT.

RU-106	4.956E-03	1.247E-01	1.068E-01	6.362E-02	NOT IDENT.
AG-108M	-1.996E-03	1.156E-02	9.978E-03	5.896E-03	NOT IDENT.
CD-109	-2.714E-01	2.286E-01	1.876E-01	1.166E-01	NOT IDENT.
AG-110M	-1.162E-02	1.388E-02	1.090E-02	7.080E-03	NOT IDENT.
SN-113	5.787E-04	1.555E-02	1.395E-02	7.935E-03	NOT IDENT.
CD-115	-6.153E-02	5.843E-01	4.971E-01	2.981E-01	NOT IDENT.
SN-117M	-2.780E-05	1.392E-02	1.254E-02	7.101E-03	NOT IDENT.
TE-123M	1.867E-03	9.586E-03	8.794E-03	4.891E-03	NOT IDENT.
SB-124	-3.274E-02	3.346E-02	1.751E-02	1.707E-02	NOT IDENT.
SB-125	-1.198E-02	3.273E-02	2.744E-02	1.670E-02	NOT IDENT.
TE-125M	2.873E-01	2.830E+00	2.653E+00	1.444E+00	NOT IDENT.
I-126	-1.269E-02	6.557E-02	5.707E-02	3.345E-02	NOT IDENT.
SB-126	-1.659E-02	4.442E-02	3.735E-02	2.266E-02	NOT IDENT.
SN-126	-2.765E-02	2.352E-02	1.943E-02	1.200E-02	NOT IDENT.
SB-127	2.047E-03	1.259E-01	1.125E-01	6.422E-02	NOT IDENT.
I-131	1.085E-02	2.762E-02	2.588E-02	1.409E-02	NOT IDENT.
TE-132	-1.966E-02	7.425E-02	6.298E-02	3.788E-02	NOT IDENT.
BA-133	-2.492E-02	1.754E-02	1.304E-02	8.950E-03	NOT IDENT.
I-133	9.465E+00	1.451E+01	0.000E+00	7.402E+00	SHORT HLIF
CS-134	5.653E-03	1.658E-02	1.536E-02	8.458E-03	NOT IDENT.
CS-135	3.555E-02	5.863E-02	5.705E-02	2.991E-02	NOT IDENT.
I-135	-1.438E+08	3.293E+08	0.000E+00	1.680E+08	SHORT HLIF
CS-136	-1.711E-02	2.823E-02	2.056E-02	1.440E-02	NOT IDENT.
BA-137M	-6.297E-03	1.737E-02	1.576E-02	8.860E-03	NOT IDENT.
CS-137	-6.652E-03	1.835E-02	1.665E-02	9.360E-03	NOT IDENT.
CE-139	-4.987E-04	9.740E-03	8.700E-03	4.970E-03	NOT IDENT.
BA-140	-4.101E-05	7.991E-02	6.909E-02	4.077E-02	NOT IDENT.
LA-140	-5.422E-03	2.795E-02	2.245E-02	1.426E-02	NOT IDENT.
CE-141	-1.102E-03	1.644E-02	1.482E-02	8.388E-03	NOT IDENT.
CE-143	-4.423E-01	1.883E+00	1.684E+00	9.608E-01	NOT IDENT.
CE-144	-2.393E-02	6.793E-02	6.000E-02	3.466E-02	NOT IDENT.
PM-144	1.513E-02	1.503E-02	1.495E-02	7.668E-03	NOT IDENT.
PR-144	1.049E+00	1.129E+00	1.114E+00	5.762E-01	NOT IDENT.
PM-146	-1.156E-02	1.698E-02	1.351E-02	8.662E-03	NOT IDENT.
ND-147	-4.599E-02	1.383E-01	1.128E-01	7.055E-02	NOT IDENT.
PM-149	3.981E+00	4.945E+00	4.859E+00	2.523E+00	NOT IDENT.
EU-152	1.095E-02	3.730E-02	3.478E-02	1.903E-02	NOT IDENT.
GD-153	9.739E-03	2.620E-02	2.537E-02	1.337E-02	NOT IDENT.
EU-154	-1.932E-02	4.348E-02	3.396E-02	2.219E-02	NOT IDENT.
EU-155	-7.554E-03	3.034E-02	2.748E-02	1.548E-02	NOT IDENT.
TB-160	2.158E-03	4.939E-02	4.319E-02	2.520E-02	NOT IDENT.
HO-166M	1.648E-02	2.459E-02	2.381E-02	1.255E-02	NOT IDENT.
TA-182	-4.190E-02	4.925E-02	3.271E-02	2.513E-02	NOT IDENT.
IR-192	8.471E-03	1.202E-02	1.176E-02	6.133E-03	NOT IDENT.
HG-203	-6.426E-03	1.203E-02	1.044E-02	6.136E-03	NOT IDENT.
BI-207	1.072E-02	2.189E-02	2.024E-02	1.117E-02	NOT IDENT.
TL-208	-7.149E-03	1.814E-02	1.514E-02	9.258E-03	NOT IDENT.
PB-210	1.122E+00	2.760E+00	2.817E+00	1.408E+00	NOT IDENT.
BI-211	-1.049E-02	9.640E-02	8.194E-02	4.918E-02	NOT IDENT.
PB-211	3.038E-02	2.551E-01	2.302E-01	1.302E-01	NOT IDENT.
BI-212	-4.510E-02	2.163E-01	1.702E-01	1.103E-01	NOT IDENT.
PB-212	1.062E-02	2.556E-02	2.263E-02	1.304E-02	NOT IDENT.
BI-214	-3.049E-02	3.745E-02	2.909E-02	1.911E-02	NOT IDENT.
PB-214	2.126E-02	3.537E-02	3.210E-02	1.805E-02	NOT IDENT.
RN-219	-4.077E-02	1.605E-01	1.384E-01	8.189E-02	NOT IDENT.
RA-223	6.392E-02	2.403E-01	2.244E-01	1.226E-01	NOT IDENT.
RA-224	-2.789E-01	2.703E-01	2.105E-01	1.379E-01	NOT IDENT.
RA-226	-3.049E-02	3.745E-02	2.909E-02	1.911E-02	NOT IDENT.
AC-227	3.363E-02	9.826E-02	9.385E-02	5.013E-02	NOT IDENT.
TH-227	3.363E-02	9.828E-02	9.385E-02	5.014E-02	NOT IDENT.
AC-228	2.587E-02	5.662E-02	5.263E-02	2.889E-02	NOT IDENT.
RA-228	2.587E-02	5.662E-02	5.263E-02	2.889E-02	NOT IDENT.
TH-228	1.062E-02	2.556E-02	2.263E-02	1.304E-02	NOT IDENT.
TH-229	-1.073E-01	1.818E-01	1.507E-01	9.278E-02	NOT IDENT.
PA-231	-1.396E-01	5.222E-01	4.669E-01	2.664E-01	NOT IDENT.
TH-231	6.392E-02	2.403E-01	2.244E-01	1.226E-01	NOT IDENT.
TH-232	2.587E-02	5.662E-02	5.263E-02	2.889E-02	NOT IDENT.
PA-233	1.599E-03	2.407E-02	2.211E-02	1.228E-02	NOT IDENT.
PA-234	-1.521E-02	1.180E-01	9.897E-02	6.022E-02	NOT IDENT.
PA-234M	-1.230E-02	2.002E+00	1.717E+00	1.021E+00	NOT IDENT.
TH-234	1.475E-01	6.297E-01	5.706E-01	3.213E-01	NOT IDENT.
U-235	-2.091E-02	6.450E-02	5.665E-02	3.291E-02	NOT IDENT.
NP-237	6.003E-02	6.827E-02	6.836E-02	3.483E-02	NOT IDENT.
U-238	1.475E-01	6.297E-01	5.706E-01	3.213E-01	NOT IDENT.
NP-239	7.716E-02	1.272E-01	1.241E-01	6.490E-02	NOT IDENT.
AM-241	-4.115E-02	6.576E-02	5.930E-02	3.355E-02	NOT IDENT.
CM-247	2.890E-04	1.409E-02	1.258E-02	7.187E-03	NOT IDENT.
CF-249	-3.770E-03	1.576E-02	1.287E-02	8.040E-03	NOT IDENT.

CF-251	9.555E-04	4.718E-02	4.220E-02	2.407E-02	NOT IDENT.
ANH-511	-9.459E-03	2.553E-02	2.543E-02	1.302E-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
46.54	36.7036
49.72	41.3553
57.36	34.3120
59.54	44.2384
63.29	45.5490
63.29	45.5490
64.28	43.8687
67.75	52.3584
69.67	44.4322
70.83	42.7317
72.81	58.4489
72.87	48.4095
72.87	48.4095
74.82	57.7926
74.82	57.7926
74.82	57.7926
74.97	55.9762
77.11	56.2375
77.11	56.2375
77.11	56.2375
79.69	58.4018
79.80	58.4152
80.12	62.1659
80.19	52.8951
80.57	39.0065
81.00	41.8302
81.07	41.8362
81.07	41.8362
83.79	57.9651
83.79	57.9651
85.43	44.0874
86.48	37.6003
86.55	37.6056
86.79	47.9697
86.94	51.7477
87.57	64.0592
88.03	60.3457
88.47	53.7921
89.96	74.7713
91.11	62.6061
92.59	43.7586
92.59	43.7586
93.35	53.3482
94.67	74.4917
94.87	72.6091
94.87	72.6091
95.86	70.8290
97.43	46.0769
98.44	48.0858
99.53	55.8904
100.11	61.7370
103.18	46.5576
103.37	39.7813
105.31	43.8116
106.12	45.8234
109.28	49.0138
111.00	43.2581
111.76	53.1571
116.30	52.5660
117.23	43.7057
121.12	63.9697
121.78	49.0279
122.06	49.0496
123.07	39.1016
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133.52	64.1786
136.00	53.1664

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144.24	50.6942
145.44	46.6342
152.43	54.4079
153.25	54.4682
154.21	49.2940
154.21	49.2940
156.02	56.7729
158.56	58.0184
159.00	55.9410
162.66	63.6316
163.33	54.1335
165.86	53.2440
176.60	60.4354
177.52	58.3418
181.07	64.0169
184.41	67.5394
185.72	60.0063
193.51	56.1454
197.04	63.0019
205.31	68.0436
210.85	56.1086
215.65	48.4997
222.11	57.9114
227.38	50.2327
228.16	58.2704
228.18	58.2715
235.69	74.8270
235.96	79.4528
235.96	79.4528
238.63	48.4894
238.63	48.4894
240.99	81.0016
242.00	69.4983
244.70	47.6144
252.40	50.0107
252.80	55.2956
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256.23	48.4288
260.90	42.4475
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268.22	42.7302
269.46	51.6899
269.46	51.6899
271.23	42.8452
273.65	42.9375
276.40	36.7646
277.37	35.8984
277.60	39.4963
278.00	37.7139
279.20	43.1470
279.54	40.4620
280.46	44.9944
283.69	42.4130
284.31	37.0180
285.41	35.2456
285.90	36.1646
287.50	36.2140
293.27	41.8496
295.22	39.1846
295.96	39.2089
298.57	38.3797
299.98	48.4882
299.98	48.4882
300.09	45.7481
300.09	45.7481
300.13	45.7497
301.36	41.2159
302.85	42.1837
304.50	35.8127
304.50	35.8127
304.85	33.0672
308.46	35.0069
311.90	36.9519

316.51	29.6704
319.41	40.8901
320.08	37.1924
323.87	35.4377
323.87	35.4377
328.76	47.7417
333.37	52.6085
334.37	49.8282
334.37	49.8282
338.28	47.1466
338.28	47.1466
338.32	47.1481
338.32	47.1481
338.32	47.1481
340.48	43.4472
340.55	43.4493
344.28	34.0988
351.06	38.0780
351.93	31.4340
356.01	53.5015
364.49	33.6430
366.42	33.6894
383.85	33.1274
388.16	23.4529
388.63	26.3927
391.69	27.4271
400.66	27.5920
401.81	34.5167
402.40	29.5972
404.85	25.6921
410.95	20.8343
414.70	22.8744
423.72	22.0064
427.09	24.0586
427.87	27.0791
433.94	29.1960
453.88	33.6314
463.37	29.7231
468.07	31.8614
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476.78	25.8255
477.60	23.7710
487.02	16.6260
492.35	20.8456
497.08	36.5771
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514.00	120.2596
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529.87	0.0000
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537.26	25.6362
546.56	0.0000
563.25	17.3228
569.33	17.3765
569.50	18.4641
569.70	15.2070
583.19	30.6199
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602.73	33.1219
604.72	33.1540
609.32	28.7969
609.32	28.7969
610.33	31.0275
614.28	27.7550
618.01	18.9071
621.93	20.0561
621.93	20.0561
633.25	14.5619
635.95	13.4586
636.99	25.8076
645.85	16.2237
657.76	28.0922
661.66	19.0635
661.66	19.0635
664.57	32.7234
666.33	25.4714
666.50	23.6539
677.62	21.0279

685.70	11.0101
695.00	18.4238
696.49	19.3576
696.51	20.2796
697.00	17.5179
702.65	21.2570
706.68	25.9226
711.68	16.7001
720.70	27.0077
721.93	26.0900
722.78	23.3032
722.91	24.2366
723.31	20.5111
724.19	20.5187
727.33	19.6116
733.00	13.1052
735.93	14.9953
739.50	15.0176
747.24	16.9479
752.31	17.9266
753.82	11.3288
756.73	21.7394
763.94	14.2189
765.81	12.3322
766.42	10.4374
777.92	12.3916
778.90	14.3035
783.70	15.2855
785.37	7.6479
795.86	13.4384
801.95	17.3184
810.29	17.3738
810.76	18.3422
815.77	16.4430
818.51	17.4283
832.01	9.7314
834.85	18.5092
836.80	0.0000
846.77	18.5913
856.80	19.6416
860.56	15.7348
871.09	12.8331
873.19	10.8671
875.33	0.0000
879.36	12.8711
880.51	13.8670
883.24	10.9060
884.68	12.8956
889.28	14.9037
898.04	13.9532
911.20	13.0159
911.20	13.0159
911.20	13.0159
926.50	9.0587
937.49	13.1336
944.13	11.1380
946.00	14.1846
949.00	13.1847
962.29	8.1496
964.08	4.0772
966.15	20.3999
968.97	12.2514
968.97	12.2514
968.97	12.2514
983.53	9.2325
996.26	15.4512
1001.03	11.3480
1004.73	13.4272
1037.84	15.6555
1038.76	0.0000
1048.07	13.6113
1050.41	5.2390
1050.41	5.2390
1063.66	11.5726
1085.87	10.5913
1099.45	10.6343
1112.07	8.5395
1115.54	11.7536

1120.29	14.9796
1120.29	14.9796
1120.55	13.9109
1121.30	17.1250
1131.51	0.0000
1173.23	7.6046
1177.93	13.0535
1189.05	8.7293
1204.77	9.8635
1221.41	10.0918
1231.02	10.1182
1235.36	7.3672
1238.28	11.0596
1260.41	0.0000
1271.85	10.2288
1274.44	11.1665
1274.54	10.2360
1291.59	8.4122
1298.22	0.0000
1312.11	6.5776
1332.49	9.4456
1365.19	5.7139
1368.63	0.0000
1384.29	3.8273
1408.01	9.6236
1457.56	0.0000
1460.82	11.6943
1489.16	7.8477
1505.03	5.9072
1596.21	8.0378
1620.50	5.0500
1678.03	0.0000
1690.97	8.2008
1764.49	5.2028
1764.49	5.2028
1770.23	5.2087
1771.35	6.2517
1791.20	0.0000
1836.06	3.1658

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202054965

Total Uranium Activity	4.2906E-01	ug/g
Total Uranium Counting Unc.	1.8735E+00	ug/g
Total Uranium Tpu	9.5585E-07	ug/g
Total Uranium Mda	1.6979E+00	ug/g

THERE ARE NO PEAKS !

VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 22:48:25.30

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054966.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:47:52
Sample ID          : G1202054966 Sample quantity : 1.35740E+02 GRAM
Detector name      : GAM11 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.11 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 958225 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	63.36*	123	562	1.00	125.61	122	7	1.71E-02	34.1	
2	3	74.79*	671	503	1.04	148.48	142	22	9.32E-02	6.5	2.42E+00
3	3	77.14*	992	375	0.89	153.19	142	22	1.38E-01	4.4	
4	6	87.21*	443	444	1.18	173.33	164	27	6.15E-02	9.3	9.03E-01
5	6	89.94	232	304	0.91	178.80	164	27	3.22E-02	13.1	
6	6	92.84*	400	466	1.41	184.61	164	27	5.55E-02	11.4	
7	0	129.27	140	484	0.77	257.53	253	10	1.95E-02	30.6	
8	0	186.02*	254	424	1.21	371.10	367	9	3.52E-02	16.5	
9	0	209.50	173	323	1.12	418.10	414	9	2.40E-02	20.2	
10	6	238.67*	1606	222	0.91	476.48	472	16	2.23E-01	2.9	3.23E+00
11	6	241.56	414	336	1.60	482.26	472	16	5.75E-02	12.3	
12	0	270.17	170	242	1.19	539.53	535	10	2.37E-02	18.7	
13	0	277.98	62	285	0.90	555.16	550	9	8.54E-03	51.3	
14	0	295.25*	529	189	1.01	589.72	585	9	7.34E-02	6.5	
15	0	300.76	166	253	1.07	600.74	595	12	2.31E-02	20.7	
16	0	328.28	92	180	1.07	655.83	651	9	1.28E-02	28.2	
17	0	338.60	402	194	1.02	676.47	671	11	5.58E-02	8.4	
18	0	351.96*	954	182	1.19	703.22	698	11	1.32E-01	4.3	
19	0	409.37	38	114	0.62	818.11	815	7	5.22E-03	50.1	
20	0	463.28	113	106	1.10	926.01	922	10	1.56E-02	19.5	
21	0	510.90*	169	162	1.43	1021.30	1014	15	2.35E-02	20.0	
22	0	583.32*	507	135	1.36	1166.23	1162	12	7.04E-02	6.4	
23	0	609.47*	662	138	1.27	1218.56	1212	14	9.20E-02	5.5	
24	0	661.90	56	86	1.47	1323.48	1319	9	7.80E-03	32.6	
25	0	727.78	128	97	1.56	1455.30	1447	15	1.77E-02	19.0	
26	0	769.36	31	102	1.20	1538.51	1534	9	4.24E-03	63.1	
27	0	786.30	57	60	1.15	1572.39	1568	11	7.97E-03	29.3	
28	0	795.42	50	85	1.30	1590.66	1586	9	7.01E-03	35.8	
29	0	860.99	103	45	1.18	1721.85	1717	10	1.43E-02	15.7	
30	0	911.65*	361	71	1.38	1823.22	1818	12	5.01E-02	7.1	
31	0	935.09	37	59	0.95	1870.12	1865	11	5.11E-03	43.4	
32	2	965.00	79	44	1.91	1929.96	1921	25	1.09E-02	21.6	1.45E+00
33	2	969.45*	220	52	1.74	1938.87	1921	25	3.06E-02	9.2	
34	0	1120.86*	132	86	1.77	2241.80	2237	11	1.83E-02	16.4	
35	0	1461.55*	1687	30	1.88	2923.39	2913	20	2.34E-01	2.6	
36	0	1588.93	30	15	1.91	3178.20	3174	10	4.17E-03	30.3	
37	0	1621.58	20	14	1.40	3243.50	3235	11	2.75E-03	42.8	
38	0	1631.93	17	22	1.30	3264.22	3257	14	2.33E-03	63.3	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1730.93	26	8	2.80	3462.24	3456	12	3.60E-03	30.1	
40	0	1765.45*	105	6	2.16	3531.28	3525	11	1.46E-02	11.2	
41	0	1848.80	23	5	1.25	3698.00	3693	10	3.19E-03	27.7	

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

VMS Nuclide Identification Report V3.1 Generated 10-MAR-2010 22:48:27

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054966.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:47:52
Sample ID        : G1202054966 Sample quantity : 135.74 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA11 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.11 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	+	1460.82	*	3.572E+01	3.595E+00	3.994E-01	3.453E-02	89.442
CD-109	+	88.03	*	5.014E+00	1.041E+00	8.954E-01	8.491E-02	5.600
SN-126	+	64.28		8.259E-01	5.754E-01	6.081E-01	8.820E-02	1.358
	+	86.94		2.028E+00	9.219E-01	3.649E-01	1.515E-01	5.556
	+	87.57	*	4.877E-01	1.013E-01	8.737E-02	8.242E-03	5.582
BA-137M	+	661.66	*	7.195E-02	4.737E-02	5.641E-02	5.338E-03	1.275
CS-137	+	661.66	*	7.601E-02	5.004E-02	5.959E-02	5.648E-03	1.275
HG-203		70.83		9.382E-01	1.189E+00	1.780E+00	2.781E-01	0.527
		72.87		1.508E+00	7.354E-01	1.112E+00	1.687E-01	1.356
	+	279.20	*	5.875E-02	6.094E-02	6.165E-02	9.622E-03	0.953
TL-208	+	277.37		5.521E-01	5.748E-01	5.865E-01	1.048E-01	0.941
	+	583.19	*	6.197E-01	1.037E-01	5.513E-02	5.949E-03	11.241
	+	860.56		1.180E+00	3.906E-01	4.292E-01	4.469E-02	2.749
BI-211		72.87		5.770E+00	2.714E+00	4.257E+00	3.381E-01	1.356
	+	351.06	*	5.207E+00	8.192E-01	3.160E-01	4.169E-02	16.478
BI-212	+	727.33	*	2.384E+00	9.603E-01	7.632E-01	1.008E-01	3.123
	+	785.37		6.934E+00	4.123E+00	4.282E+00	4.194E-01	1.619
	+	1620.50		3.289E+00	2.827E+00	4.061E+00	3.410E-01	0.810
PB-212	+	74.82		3.119E+00	5.670E-01	4.178E-01	5.291E-02	7.463
	+	77.11		2.663E+00	3.225E-01	2.422E-01	2.013E-02	10.994
	+	238.63	*	1.956E+00	2.967E-01	8.630E-02	1.211E-02	22.663
	+	300.09		3.166E+00	1.404E+00	1.024E+00	1.649E-01	3.091
BI-214	+	609.32	*	1.567E+00	2.467E-01	1.063E-01	1.206E-02	14.739
	+	1120.29		1.596E+00	5.527E-01	4.975E-01	5.397E-02	3.208
	+	1764.49		1.774E+00	4.222E-01	2.332E-01	1.922E-02	7.605
PB-214	+	74.82		5.527E+00	9.555E-01	7.406E-01	8.399E-02	7.463
	+	77.11		4.695E+00	6.879E-01	4.271E-01	5.000E-02	10.994
	+	242.00		3.059E+00	8.735E-01	5.251E-01	7.689E-02	5.824
	+	295.22		1.777E+00	3.712E-01	1.927E-01	3.161E-02	9.224
	+	351.93	*	1.890E+00	3.150E-01	1.149E-01	1.639E-02	16.442
RA-224	+	240.99	*	5.408E+00	1.512E+00	9.253E-01	1.239E-01	5.845
RA-226	+	609.32	*	1.567E+00	2.467E-01	1.063E-01	1.206E-02	14.739
	+	1120.29		1.596E+00	5.527E-01	4.975E-01	5.397E-02	3.208
	+	1764.49		1.774E+00	4.222E-01	2.332E-01	1.922E-02	7.605

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	+	338.32		2.442E+00	1.127E+00	3.224E-01	1.386E-01	7.575
	+	911.20	*	2.110E+00	4.006E-01	2.357E-01	2.945E-02	8.954
	+	968.97		2.217E+00	6.819E-01	3.618E-01	8.941E-02	6.127
RA-228	+	338.32		2.442E+00	1.127E+00	3.224E-01	1.386E-01	7.575
	+	911.20	*	2.110E+00	4.006E-01	2.357E-01	2.945E-02	8.954
	+	968.97		2.217E+00	6.819E-01	3.618E-01	8.941E-02	6.127
TH-228	+	74.82		3.119E+00	4.804E-01	4.178E-01	3.422E-02	7.463
	+	77.11		2.663E+00	3.225E-01	2.422E-01	2.013E-02	10.994
	+	238.63	*	1.956E+00	2.967E-01	8.630E-02	1.211E-02	22.663
	+	300.09		3.166E+00	2.370E+00	1.024E+00	6.393E-01	3.091
TH-232	+	338.32		2.442E+00	5.251E-01	3.224E-01	4.347E-02	7.575
	+	911.20	*	2.110E+00	4.006E-01	2.357E-01	2.945E-02	8.954
	+	968.97		2.217E+00	6.819E-01	3.618E-01	8.941E-02	6.127
TH-234	+	63.29	*	2.143E+00	1.509E+00	1.557E+00	2.770E-01	1.376
	+	92.59		3.702E+00	1.180E+00	7.423E-01	1.655E-01	4.988
U-235	+	89.96		2.666E+00	9.645E-01	9.174E-01	2.282E-01	2.906
	+	93.35		2.797E+00	9.111E-01	5.588E-01	1.301E-01	5.005
		143.76	*	-5.731E-02	1.869E-01	3.053E-01	5.230E-02	-0.188
		163.33		1.080E-01	3.921E-01	6.539E-01	1.207E-01	0.165
	+	185.72		1.993E-01	6.921E-02	6.051E-02	6.417E-03	3.294
		205.31		6.106E-01	5.022E-01	7.650E-01	1.508E-01	0.798
NP-237	+	86.48	*	1.455E+00	4.295E-01	2.628E-01	6.029E-02	5.537
		95.86		1.657E-01	8.268E-01	1.191E+00	2.872E-01	0.139
U-238	+	63.29	*	2.143E+00	1.509E+00	1.557E+00	2.770E-01	1.376
	+	92.59		3.702E+00	9.086E-01	7.423E-01	6.787E-02	4.988
ANH-511	+	511.00	*	1.586E-01	6.581E-02	3.933E-02	4.206E-03	4.032

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	5.072E-02	2.887E-01	4.877E-01	5.519E-02	0.104
NA-22		1274.54	*	2.343E-03	4.123E-02	6.744E-02	5.539E-03	0.035
NA-24		1368.63	*	5.508E+00	4.123E-02	Half-Life too short		
SC-46		889.28	*	-1.006E-02	3.818E-02	6.263E-02	6.168E-03	-0.161
	+	1120.55		2.773E-01	9.421E-02	1.447E-01	1.234E-02	1.917
V-48		944.13		-2.747E-01	8.604E-01	1.391E+00	1.346E-01	-0.197
		983.53	*	1.724E-02	7.486E-02	1.271E-01	1.206E-02	0.136
		1312.11		-1.498E-02	9.407E-02	1.500E-01	1.237E-02	-0.100
CR-51		320.08	*	8.608E-02	3.588E-01	5.822E-01	8.447E-02	0.148
MN-54		834.85	*	1.460E-02	3.597E-02	6.238E-02	6.143E-03	0.234
CO-56		846.77	*	3.713E-02	3.963E-02	7.111E-02	7.006E-03	0.522
		1037.84		3.624E-02	3.145E-01	5.261E-01	5.044E-02	0.069
		1238.28		1.556E-01	1.007E-01	1.801E-01	1.516E-02	0.864
		1771.35		-3.577E-02	1.800E-01	2.360E-01	1.942E-02	-0.152
CO-57		122.06	*	3.232E-03	2.160E-02	3.690E-02	3.121E-03	0.088
		136.47		1.000E-01	1.824E-01	3.137E-01	2.944E-02	0.319
CO-58		810.76	*	5.238E-03	3.917E-02	6.340E-02	6.243E-03	0.083
FE-59		1099.45	*	-5.181E-02	9.331E-02	1.457E-01	1.370E-02	-0.355

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1291.59			-3.723E-02	1.242E-01	1.951E-01	1.841E-02	-0.191
	1173.23			5.814E-03	4.768E-02	7.888E-02	6.337E-03	0.074
	1332.49	*		7.030E-03	3.390E-02	5.638E-02	4.659E-03	0.125
ZN-65	1115.54	*		-2.359E-02	1.063E-01	1.484E-01	1.274E-02	-0.159
SE-75	121.12			1.264E-01	1.148E-01	2.014E-01	2.207E-02	0.628
	136.00			1.366E-02	3.513E-02	6.015E-02	5.297E-03	0.227
	264.66	*		3.289E-02	4.292E-02	6.902E-02	1.015E-02	0.476
	279.54			4.586E-02	1.206E-01	1.779E-01	2.786E-02	0.258
	400.66			-5.267E-02	2.250E-01	3.748E-01	4.785E-02	-0.141
SR-85	514.00	*		6.736E-02	3.911E-02	6.481E-02	6.923E-03	1.039
Y-88	898.04			4.544E-04	4.139E-02	6.944E-02	6.862E-03	0.007
	1836.06	*		3.295E-02	2.761E-02	5.580E-02	4.530E-03	0.591
Y-91	1204.77	*		2.323E+00	2.171E+01	3.581E+01	2.899E+00	0.065
NB-94	702.65	*		8.347E-03	3.233E-02	5.338E-02	5.126E-03	0.156
	871.09			2.631E-02	3.322E-02	5.909E-02	5.824E-03	0.445
NB-95	765.81	*		-1.636E-02	5.166E-02	6.988E-02	6.821E-03	-0.234
NB-95M	235.69	*		-8.394E-02	1.399E-01	1.963E-01	2.744E-02	-0.428
ZR-95	724.19			4.094E-02	9.300E-02	1.381E-01	1.426E-02	0.296
	756.73	*		6.425E-03	7.543E-02	1.222E-01	1.289E-02	0.053
MO-99	140.51			-1.653E+01	4.627E+01	7.558E+01	1.802E+01	-0.219
	181.07			-3.358E+01	3.860E+01	5.777E+01	1.136E+01	-0.581
	366.42			3.790E+01	1.867E+02	3.001E+02	3.636E+01	0.126
	739.50	*		6.594E+00	2.787E+01	4.577E+01	7.496E+00	0.144
	777.92			-3.948E+01	7.425E+01	1.128E+02	1.104E+01	-0.350
TC-99M	140.51	*		-9.954E+13	7.425E+01	Half-Life too short		
RU-103	497.08	*		6.250E-03	3.813E-02	6.317E-02	9.705E-03	0.099
	610.33	+		1.713E+01	3.480E+00	3.270E+00	5.603E-01	5.237
RH-106	621.93	*		-1.123E-01	3.065E-01	4.864E-01	6.875E-02	-0.231
	1050.41			-8.426E-02	2.323E+00	3.830E+00	3.476E-01	-0.022
RU-106	621.93	*		-1.123E-01	3.063E-01	4.864E-01	4.825E-02	-0.231
	1050.41			-8.426E-02	2.323E+00	3.830E+00	3.476E-01	-0.022
AG-108M	433.94	*		-1.217E-02	2.595E-02	4.222E-02	4.645E-03	-0.288
	614.28			-1.640E-02	3.864E-02	5.291E-02	5.419E-03	-0.310
AG-110M	722.91			-5.583E-02	4.210E-02	4.925E-02	4.881E-03	-1.133
	657.76	*		1.739E-02	3.657E-02	5.484E-02	5.344E-03	0.317
	677.62			2.167E-01	2.892E-01	4.973E-01	4.847E-02	0.436
	706.68			-1.235E-01	2.184E-01	3.354E-01	3.300E-02	-0.368
	763.94			-4.180E-02	1.726E-01	2.347E-01	2.339E-02	-0.178
	884.68			-2.977E-03	4.311E-02	7.190E-02	7.258E-03	-0.041
	937.49			8.002E-02	1.209E-01	1.891E-01	1.887E-02	0.423
	1384.29			-7.923E-02	1.450E-01	2.156E-01	1.848E-02	-0.367
SN-113	1505.03			-3.277E-01	2.479E-01	3.311E-01	2.786E-02	-0.990
	391.69	*		-2.200E-02	3.791E-02	6.173E-02	6.714E-03	-0.356
CD-115	260.90			-4.745E-05	3.791E-02	Half-Life too short		
	492.35			-4.548E-05	3.791E-02	Half-Life too short		
	527.90	*		-2.863E-06	3.791E-02	Half-Life too short		
SN-117M	156.02			-1.919E+00	2.344E+00	3.790E+00	3.548E-01	-0.506
	158.56	*		1.887E-02	5.497E-02	9.329E-02	8.816E-03	0.202
TE-123M	159.00	*		-5.930E-03	2.515E-02	4.169E-02	3.966E-03	-0.142

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	602.73			-4.144E-03	4.034E-02	5.979E-02	6.044E-03	-0.069
	645.85			2.501E-02	4.245E-01	6.957E-01	7.027E-02	0.036
	722.78			-5.600E-01	4.401E-01	5.202E-01	5.119E-02	-1.076
SB-125	1690.97	*		-5.199E-02	8.016E-02	1.184E-01	1.031E-02	-0.439
	427.87	*		2.548E-02	8.063E-02	1.382E-01	1.507E-02	0.184
	463.37		+	9.381E-01	3.805E-01	5.406E-01	6.118E-02	1.735
	600.60			-2.344E-03	1.610E-01	2.637E-01	2.815E-02	-0.009
TE-125M	635.95			7.354E-02	2.656E-01	4.426E-01	4.599E-02	0.166
	109.28	*		3.324E-01	8.074E+00	1.381E+01	1.440E+00	0.024
	388.63			2.484E-01	1.763E-01	3.186E-01	3.456E-02	0.780
I-126	666.33	*		1.442E-01	2.918E-01	4.363E-01	4.136E-02	0.331
	753.82			2.530E+00	2.141E+00	3.751E+00	3.652E-01	0.675
	414.70			-4.265E-03	7.868E-02	1.279E-01	1.374E-02	-0.033
SB-126	666.50			4.438E-02	1.006E-01	1.497E-01	1.419E-02	0.297
	695.00			6.969E-02	9.090E-02	1.555E-01	1.490E-02	0.448
	697.00			3.260E-02	3.120E-01	5.095E-01	4.885E-02	0.064
	720.70	*		7.556E-02	1.900E-01	2.800E-01	2.704E-02	0.270
SB-127	856.80			-2.231E-01	5.528E-01	7.679E-01	7.567E-02	-0.291
	252.40			-1.101E+00	7.042E+00	1.133E+01	4.900E+00	-0.097
	473.00			-7.334E-01	2.570E+00	4.205E+00	6.361E-01	-0.174
	685.70	*		-8.863E-01	2.354E+00	3.698E+00	4.822E-01	-0.240
I-131	783.70			4.955E+00	6.449E+00	9.844E+00	1.385E+00	0.503
	80.19			-2.433E+00	5.144E+00	7.216E+00	6.271E-01	-0.337
	284.31			-1.810E+00	1.843E+00	2.765E+00	4.320E-01	-0.654
	364.49	*		-2.321E-03	1.331E-01	2.105E-01	2.645E-02	-0.011
TE-132	636.99			8.740E-01	2.054E+00	3.456E+00	3.532E-01	0.253
	49.72			6.492E+00	2.297E+01	3.732E+01	4.289E+00	0.174
	111.76			6.979E+00	5.508E+01	9.300E+01	1.106E+01	0.075
	116.30			5.447E+01	4.957E+01	8.697E+01	1.031E+01	0.626
BA-133	228.16	*		1.997E-01	1.302E+00	2.147E+00	4.073E-01	0.093
	81.00			-3.648E-02	7.945E-02	1.114E-01	1.734E-02	-0.327
	276.40			4.274E-01	4.114E-01	6.202E-01	1.176E-01	0.689
	302.85			4.178E-02	1.456E-01	2.124E-01	3.778E-02	0.197
I-133	356.01	*		-2.181E-02	4.524E-02	6.079E-02	9.682E-03	-0.359
	383.85			-1.216E-01	2.562E-01	4.213E-01	6.018E-02	-0.289
	529.87	*		-3.463E-02	2.562E-01	Half-Life	too short	
	875.33			-1.798E+00	2.562E-01	Half-Life	too short	
CS-134	1298.22			-1.361E-01	2.562E-01	Half-Life	too short	
	563.25			2.660E-01	3.365E-01	5.837E-01	6.124E-02	0.456
	569.33			-1.802E-03	1.748E-01	2.877E-01	3.015E-02	-0.006
	604.72			5.058E-03	3.413E-02	4.931E-02	4.984E-03	0.103
CS-135	795.86	*	+	8.958E-02	6.481E-02	9.661E-02	9.531E-03	0.927
	801.95			1.066E-01	4.163E-01	6.803E-01	6.708E-02	0.157
	1365.19			1.456E-01	1.248E+00	2.045E+00	1.784E-01	0.071
	268.22	*		8.893E-02	1.591E-01	2.380E-01	3.734E-02	0.374
I-135	546.56			-3.804E+13	1.591E-01	Half-Life	too short	
	836.80			2.841E+13	1.591E-01	Half-Life	too short	
	1038.76			4.463E+13	1.591E-01	Half-Life	too short	
	1131.51			-2.808E+12	1.591E-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	1260.41	*		2.515E+13	1.591E-01	Half-Life	too short	
	1457.56			5.122E+14	1.591E-01	Half-Life	too short	
	1678.03			1.679E+13	1.591E-01	Half-Life	too short	
	1791.20			1.507E+13	1.591E-01	Half-Life	too short	
	153.25			8.457E-01	8.915E-01	1.541E+00	1.668E-01	0.549
	176.60			-3.565E-01	5.156E-01	8.298E-01	9.089E-02	-0.430
	273.65			-2.983E-01	8.200E-01	8.912E-01	1.390E-01	-0.335
	340.55			2.831E-01	1.983E-01	3.038E-01	4.132E-02	0.932
	818.51			-1.717E-02	7.952E-02	1.249E-01	1.229E-02	-0.138
	1048.07	*		-5.843E-02	1.183E-01	1.864E-01	1.760E-02	-0.313
CE-139	1235.36			-9.093E-01	7.401E-01	1.081E+00	1.236E-01	-0.841
	165.86	*		-1.523E-03	2.614E-02	4.356E-02	4.233E-03	-0.035
BA-140	162.66			4.179E-01	8.663E-01	1.457E+00	1.475E-01	0.287
	304.85			4.346E-01	1.621E+00	2.358E+00	7.459E-01	0.184
LA-140	423.72			-8.889E-01	1.986E+00	3.208E+00	1.075E+00	-0.277
	537.26	*		1.284E-01	2.817E-01	4.761E-01	1.641E-01	0.270
	328.76	+		8.277E-01	4.816E-01	6.333E-01	8.993E-02	1.307
	487.02			7.611E-02	1.485E-01	2.557E-01	2.862E-02	0.298
	815.77			-3.811E-01	3.541E-01	4.961E-01	5.323E-02	-0.768
CE-141	1596.21	*		-7.012E-02	1.149E-01	1.603E-01	1.348E-02	-0.438
	145.44	*		-2.098E-02	5.974E-02	9.915E-02	9.088E-03	-0.212
CE-143	57.36			7.988E-04	5.974E-02	Half-Life	too short	
	293.27	*		1.466E-03	5.974E-02	Half-Life	too short	
CE-144	664.57			7.133E-03	5.974E-02	Half-Life	too short	
	721.93			-4.922E-03	5.974E-02	Half-Life	too short	
	80.12			-9.685E-01	2.118E+00	2.974E+00	2.558E-01	-0.326
	133.52	*		-1.095E-01	1.938E-01	2.851E-01	4.368E-02	-0.384
PM-144	476.78			1.775E-02	5.660E-02	9.647E-02	1.098E-02	0.184
	618.01			7.363E-03	3.047E-02	5.075E-02	5.162E-03	0.145
PR-144	696.49	*		4.717E-03	3.339E-02	5.468E-02	5.243E-03	0.086
	696.51	*		3.386E-01	2.502E+00	4.096E+00	3.926E-01	0.083
PM-146	1489.16			2.882E+00	9.634E+00	1.693E+01	1.424E+00	0.170
	453.88	*		4.645E-02	3.860E-02	6.876E-02	8.543E-03	0.676
	633.25			-1.069E+00	1.459E+00	2.149E+00	8.269E-01	-0.498
	735.93			-2.626E-02	1.469E-01	2.330E-01	6.612E-02	-0.113
ND-147	747.24			-3.290E-02	9.017E-02	1.401E-01	2.138E-02	-0.235
	91.11	+		1.060E+00	2.979E-01	4.795E-01	4.754E-02	2.211
	319.41			-4.916E-01	3.662E+00	5.803E+00	8.274E-01	-0.085
	531.02	*		3.289E-01	5.900E-01	1.015E+00	1.641E-01	0.324
PM-149	285.90	*		2.541E-04	5.900E-01	Half-Life	too short	
EU-152	121.78			3.852E-02	6.156E-02	1.068E-01	1.042E-02	0.361
	244.70			5.139E-02	3.155E-01	4.642E-01	6.309E-02	0.111
	344.28	*		6.442E-02	9.833E-02	1.550E-01	2.101E-02	0.416
	778.90			-4.724E-02	2.361E-01	3.714E-01	3.634E-02	-0.127
GD-153	964.08	+		8.548E-01	3.789E-01	5.869E-01	5.624E-02	1.456
	1085.87			5.454E-02	3.560E-01	5.958E-01	5.252E-02	0.092
	1112.07			-5.269E-03	3.159E-01	5.193E-01	4.466E-02	-0.010
	1408.01			1.904E-01	1.638E-01	3.022E-01	2.525E-02	0.630
	69.67			-1.088E+00	1.560E+00	2.190E+00	1.687E-01	-0.497

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	97.43	*		1.104E-02	8.324E-02	1.191E-01	1.058E-02	0.093
	103.18			-6.675E-02	9.095E-02	1.514E-01	1.314E-02	-0.441
	123.07			-2.178E-02	4.378E-02	7.283E-02	8.183E-03	-0.299
	723.31			-2.875E-01	1.932E-01	2.195E-01	2.293E-02	-1.310
	873.19			1.357E-01	2.756E-01	4.800E-01	6.152E-02	0.283
EU-155	996.26			-7.664E-02	3.546E-01	5.781E-01	1.033E-01	-0.133
	1004.73			-1.496E-01	2.126E-01	3.304E-01	4.032E-02	-0.453
	1274.44	*		7.786E-03	1.168E-01	1.912E-01	2.115E-02	0.041
	86.55	+		5.921E-01	1.232E-01	1.677E-01	1.575E-02	3.531
	105.31	*		4.352E-02	8.815E-02	1.532E-01	1.336E-02	0.284
TB-160	86.79	+		1.619E+00	3.362E-01	4.644E-01	4.337E-02	3.485
	197.04			-3.592E-01	5.475E-01	8.665E-01	9.657E-02	-0.414
	215.65			-5.011E-01	6.995E-01	1.107E+00	1.336E-01	-0.453
	298.57			1.099E-01	1.505E-01	1.825E-01	2.730E-02	0.602
	879.36	*		5.961E-02	1.295E-01	2.258E-01	2.225E-02	0.264
HO-166M	962.29			5.554E-01	5.662E-01	9.060E-01	8.689E-02	0.613
	966.15	+		6.157E-01	2.730E-01	4.380E-01	4.193E-02	1.406
	1177.93			7.283E-02	3.854E-01	6.408E-01	5.154E-02	0.114
	1271.85			2.062E-01	7.008E-01	1.173E+00	9.619E-02	0.176
	80.57			-9.086E-02	2.266E-01	3.196E-01	2.764E-02	-0.284
TA-182	184.41			4.404E-02	3.728E-02	5.958E-02	6.282E-03	0.739
	280.46			1.006E-01	8.628E-02	1.328E-01	2.052E-02	0.758
	410.95			2.326E-01	2.503E-01	3.981E-01	4.272E-02	0.584
	711.68	*		4.247E-02	5.951E-02	1.015E-01	9.771E-03	0.419
	752.31			1.058E-02	2.787E-01	4.499E-01	4.379E-02	0.024
IR-192	810.29			-2.288E-02	6.023E-02	9.293E-02	9.132E-03	-0.246
	67.75			-1.354E-02	9.256E-02	1.453E-01	1.100E-02	-0.093
	100.11			-4.140E-03	1.465E-01	2.511E-01	2.204E-02	-0.016
	152.43			-1.079E-01	3.081E-01	5.096E-01	4.709E-02	-0.212
	222.11			-9.907E-02	3.218E-01	5.197E-01	6.446E-02	-0.191
BI-207	1121.30	+		7.628E-01	2.591E-01	3.963E-01	3.377E-02	1.925
	1189.05			2.425E-02	3.055E-01	5.035E-01	4.061E-02	0.048
	1221.41	*		9.970E-02	2.070E-01	3.504E-01	2.847E-02	0.285
	1231.02			2.190E-01	4.656E-01	7.887E-01	6.420E-02	0.278
	295.96	+		1.355E+00	2.692E-01	3.054E-01	4.604E-02	4.436
PB-210	308.46			-3.687E-02	9.560E-02	1.495E-01	2.193E-02	-0.247
	316.51	*		-9.819E-03	3.242E-02	5.082E-02	7.305E-03	-0.193
	468.07			1.282E-02	6.433E-02	9.656E-02	1.091E-02	0.133
	72.81			3.229E-01	1.559E-01	2.442E-01	1.939E-02	1.322
	74.97	+		8.989E-01	1.381E-01	2.005E-01	1.628E-02	4.484
RN-219	569.70			3.147E-03	2.686E-02	4.463E-02	4.631E-03	0.071
	1063.66	*		-3.941E-02	5.099E-02	7.805E-02	7.011E-03	-0.505
	1770.23			-1.170E-01	3.697E-01	4.639E-01	3.818E-02	-0.252
	46.54	*		2.025E+00	2.121E+00	3.593E+00	3.315E-01	0.563
	404.85	*		6.715E-01	7.704E-01	1.122E+00	5.474E-01	0.599
PB-211	427.09			4.213E-01	1.326E+00	2.251E+00	1.052E+00	0.187
	832.01			-4.627E-01	9.947E-01	1.470E+00	7.653E-01	-0.315
	271.23	+		9.148E-01	3.727E-01	4.283E-01	6.866E-02	2.136
	401.81	*		-1.793E-01	3.550E-01	5.797E-01	9.372E-02	-0.309

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		-8.342E-02	1.795E-01	2.522E-01	2.194E-02	-0.331
		83.79		2.650E-01	1.078E-01	1.690E-01	1.520E-02	1.568
		94.87		3.307E-01	4.110E-01	6.102E-01	5.498E-02	0.542
		144.24		3.553E-01	6.168E-01	1.039E+00	1.034E-01	0.342
		154.21		3.713E-01	3.420E-01	5.936E-01	5.977E-02	0.626
	+	269.46		7.108E-01	2.871E-01	3.399E-01	5.112E-02	2.091
		323.87	*	2.807E-01	6.392E-01	9.389E-01	1.935E-01	0.299
	+	338.28		9.690E+00	2.239E+00	2.528E+00	4.024E-01	3.833
		79.69		-5.331E-01	1.050E+00	1.466E+00	2.522E-01	-0.364
		235.96		-5.302E-02	1.612E-01	2.306E-01	3.301E-02	-0.230
AC-227		256.23	*	-1.587E-01	2.296E-01	3.564E-01	5.888E-02	-0.445
	+	299.98		3.483E+00	1.564E+00	1.613E+00	2.838E-01	2.160
		304.50		1.709E-01	1.618E+00	2.332E+00	4.763E-01	0.073
		334.37		-1.518E+00	1.822E+00	2.365E+00	4.456E-01	-0.642
		79.80		-6.686E-01	1.388E+00	1.937E+00	4.215E-01	-0.345
TH-227		235.96		-5.302E-02	1.612E-01	2.306E-01	3.205E-02	-0.230
		256.23	*	-1.587E-01	2.298E-01	3.564E-01	6.304E-02	-0.445
	+	299.98		3.483E+00	1.564E+00	1.613E+00	2.838E-01	2.160
		304.50		1.709E-01	1.618E+00	2.332E+00	4.763E-01	0.073
		334.37		-1.518E+00	1.822E+00	2.365E+00	4.456E-01	-0.642
TH-229		85.43		4.776E-01	1.808E-01	2.840E-01	2.606E-02	1.682
	+	88.47		7.519E-01	1.562E-01	1.878E-01	1.774E-02	4.004
		193.51	*	3.669E-01	4.701E-01	8.009E-01	8.790E-02	0.458
PA-231	+	210.85		2.998E+00	1.263E+00	1.406E+00	1.663E-01	2.133
		283.69	*	-7.318E-01	1.345E+00	2.089E+00	4.044E-01	-0.350
TH-231	+	301.36		2.237E+00	1.002E+00	1.052E+00	1.807E-01	2.126
		81.07		-8.342E-02	1.795E-01	2.522E-01	2.194E-02	-0.331
		83.79		2.650E-01	1.078E-01	1.690E-01	1.520E-02	1.568
		94.87		3.307E-01	4.110E-01	6.102E-01	5.498E-02	0.542
		144.24		3.553E-01	6.168E-01	1.039E+00	1.034E-01	0.342
		154.21		3.713E-01	3.420E-01	5.936E-01	5.977E-02	0.626
	+	269.46		7.108E-01	2.871E-01	3.399E-01	5.112E-02	2.091
		323.87	*	2.807E-01	6.392E-01	9.389E-01	1.935E-01	0.299
	+	338.28		9.690E+00	2.239E+00	2.528E+00	4.024E-01	3.833
	+	300.13		1.576E+00	7.181E-01	7.350E-01	1.410E-01	2.144
		311.90	*	-8.804E-03	5.688E-02	9.017E-02	1.323E-02	-0.098
PA-234		340.48		1.245E+00	7.805E-01	1.127E+00	2.947E-01	1.105
		94.67		2.117E-01	1.540E-01	2.321E-01	2.945E-02	0.912
		98.44		3.868E-02	8.049E-02	1.287E-01	7.184E-02	0.301
		111.00		-4.006E-02	1.458E-01	2.462E-01	2.958E-02	-0.163
		131.20		2.298E-02	9.501E-02	1.465E-01	1.263E-02	0.157
		569.50		2.793E-02	2.384E-01	3.961E-01	4.111E-02	0.071
		733.00		-1.857E-01	4.349E-01	5.793E-01	1.311E-01	-0.321
		880.51		2.773E-02	2.564E-01	4.344E-01	4.281E-02	0.064
		883.24		-1.505E-01	2.770E-01	4.100E-01	2.763E-01	-0.367
		926.50		1.228E-03	1.590E-01	2.661E-01	6.835E-02	0.005
		946.00	*	-1.569E-01	2.673E-01	4.186E-01	8.065E-02	-0.375
		949.00		1.046E-01	4.109E-01	7.006E-01	6.762E-02	0.149
	PA-234M	766.42		2.104E+00	1.339E+01	1.903E+01	9.695E+00	0.111

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		7.027E+00	4.815E+00	8.651E+00	9.202E-01	0.812
	99.53			1.362E-02	1.355E-01	2.306E-01	2.029E-02	0.059
	103.37			-5.432E-02	8.217E-02	1.372E-01	1.190E-02	-0.396
	106.12			5.768E-02	6.878E-02	1.208E-01	1.039E-02	0.478
	117.23	*		-2.138E-01	3.434E-01	5.704E-01	4.826E-02	-0.375
AM-241	228.18			3.384E-02	1.905E-01	3.146E-01	4.001E-02	0.108
	277.60	+		2.524E-01	2.617E-01	3.085E-01	4.748E-02	0.818
CM-247	59.54	*		-5.405E-02	1.219E-01	1.746E-01	1.372E-02	-0.310
CM-247	278.00	+		1.072E+00	1.111E+00	1.324E+00	2.040E-01	0.810
	287.50			-1.461E-01	1.173E+00	1.877E+00	2.868E-01	-0.078
CF-249	402.40	*		-1.713E-02	3.261E-02	5.327E-02	5.701E-03	-0.322
	252.80			2.728E-01	8.604E-01	1.421E+00	1.994E-01	0.192
	333.37			-7.632E-03	1.853E-01	2.617E-01	3.585E-02	-0.029
CF-251	388.16	*		3.953E-02	3.570E-02	6.376E-02	6.935E-03	0.620
	177.52	*		3.024E-02	1.132E-01	1.904E-01	1.947E-02	0.159
	227.38			2.227E-01	3.167E-01	5.340E-01	6.769E-02	0.417
	285.41			-4.777E-01	2.033E+00	3.232E+00	4.955E-01	-0.148

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]G1202054966      *
* Acquisition date   : 10-MAR-2010 20:47:52 Detector SN# :                  *
* Detector ID        : GAM11 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:02.11 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202054966 Analyst initials: MXR1                 *
* Batch Number      : 958225 Sample Quantity : 1.3574E+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	3.572E+01	3.523E+00	4.004E-01	0.000E+00
CD-109	5.014E+00	1.021E+00	9.451E-01	0.000E+00
SN-126	4.877E-01	9.927E-02	9.224E-02	0.000E+00
BA-137M	7.195E-02	4.642E-02	5.741E-02	0.000E+00
CS-137	7.601E-02	4.904E-02	6.065E-02	0.000E+00
HG-203	5.875E-02	5.972E-02	6.375E-02	0.000E+00
TL-208	6.197E-01	1.017E-01	5.624E-02	0.000E+00
BI-211	5.207E+00	8.028E-01	3.254E-01	0.000E+00
BI-212	2.384E+00	9.411E-01	7.753E-01	0.000E+00
PB-212	1.956E+00	2.908E-01	8.949E-02	0.000E+00
BI-214	1.567E+00	2.418E-01	1.084E-01	0.000E+00
PB-214	1.890E+00	3.087E-01	1.184E-01	0.000E+00
RA-224	5.408E+00	1.482E+00	9.594E-01	0.000E+00
RA-226	1.567E+00	2.418E-01	1.084E-01	0.000E+00
AC-228	2.110E+00	3.926E-01	2.384E-01	0.000E+00
RA-228	2.110E+00	3.926E-01	2.384E-01	0.000E+00
TH-228	1.956E+00	2.908E-01	8.949E-02	0.000E+00
TH-232	2.110E+00	3.926E-01	2.384E-01	0.000E+00
TH-234	2.143E+00	1.479E+00	1.653E+00	0.000E+00
U-235	-5.731E-02	1.832E-01	3.195E-01	0.000E+00
NP-237	1.455E+00	4.209E-01	2.775E-01	0.000E+00
U-238	2.143E+00	1.479E+00	1.653E+00	0.000E+00
ANH-511	1.586E-01	6.449E-02	4.022E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	5.072E-02	2.829E-01	4.994E-01	0.000E+00 NOT IDENT.
NA-22	2.343E-03	4.041E-02	6.779E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.500E+07	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-1.006E-02	3.742E-02	6.338E-02	0.000E+00 FAIL ABUN

V-48	1.724E-02	7.336E-02	1.284E-01	0.000E+00	NOT IDENT.
CR-51	8.608E-02	3.516E-01	6.006E-01	0.000E+00	NOT IDENT.
MN-54	1.460E-02	3.525E-02	6.321E-02	0.000E+00	NOT IDENT.
CO-56	3.713E-02	3.884E-02	7.203E-02	0.000E+00	NOT IDENT.
CO-57	3.232E-03	2.117E-02	3.873E-02	0.000E+00	NOT IDENT.
CO-58	5.238E-03	3.839E-02	6.428E-02	0.000E+00	NOT IDENT.
FE-59	-5.181E-02	9.144E-02	1.469E-01	0.000E+00	NOT IDENT.
CO-60	7.030E-03	3.323E-02	5.662E-02	0.000E+00	NOT IDENT.
ZN-65	-2.359E-02	1.042E-01	1.496E-01	0.000E+00	NOT IDENT.
SE-75	3.289E-02	4.207E-02	7.144E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.833E-02	6.627E-02	0.000E+00	NOT IDENT.
Y-88	3.295E-02	2.706E-02	5.569E-02	0.000E+00	NOT IDENT.
Y-91	2.323E+00	2.128E+01	3.603E+01	0.000E+00	NOT IDENT.
NB-94	8.347E-03	3.168E-02	5.426E-02	0.000E+00	NOT IDENT.
NB-95	-1.636E-02	5.062E-02	7.092E-02	0.000E+00	NOT IDENT.
NB-95M	-8.394E-02	1.371E-01	2.036E-01	0.000E+00	NOT IDENT.
ZR-95	6.425E-03	7.392E-02	1.240E-01	0.000E+00	NOT IDENT.
MO-99	6.594E+00	2.731E+01	4.648E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.742E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	6.250E-03	3.736E-02	6.463E-02	0.000E+00	FAIL ABUN
RH-106	-1.123E-01	3.004E-01	4.956E-01	0.000E+00	NOT IDENT.
RU-106	-1.123E-01	3.002E-01	4.956E-01	0.000E+00	NOT IDENT.
AG-108M	-1.217E-02	2.543E-02	4.330E-02	0.000E+00	NOT IDENT.
AG-110M	1.739E-02	3.584E-02	5.582E-02	0.000E+00	NOT IDENT.
SN-113	-2.200E-02	3.716E-02	6.344E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.595E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.887E-02	5.387E-02	9.745E-02	0.000E+00	NOT IDENT.
TE-123M	-5.930E-03	2.464E-02	4.355E-02	0.000E+00	NOT IDENT.
SB-124	-5.199E-02	7.856E-02	1.183E-01	0.000E+00	NOT IDENT.
SB-125	2.548E-02	7.902E-02	1.418E-01	0.000E+00	FAIL ABUN
TE-125M	3.324E-01	7.913E+00	1.452E+01	0.000E+00	NOT IDENT.
I-126	1.442E-01	2.860E-01	4.439E-01	0.000E+00	NOT IDENT.
SB-126	7.556E-02	1.862E-01	2.845E-01	0.000E+00	NOT IDENT.
SB-127	-8.863E-01	2.307E+00	3.761E+00	0.000E+00	NOT IDENT.
I-131	-2.321E-03	1.304E-01	2.166E-01	0.000E+00	NOT IDENT.
TE-132	1.997E-01	1.276E+00	2.228E+00	0.000E+00	NOT IDENT.
BA-133	-2.181E-02	4.434E-02	6.259E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.897E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.958E-02	6.352E-02	9.798E-02	0.000E+00	FAIL ABUN
CS-135	8.893E-02	1.559E-01	2.463E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.333E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.843E-02	1.160E-01	1.881E-01	0.000E+00	NOT IDENT.
CE-139	-1.523E-03	2.562E-02	4.546E-02	0.000E+00	NOT IDENT.
BA-140	1.284E-01	2.760E-01	4.864E-01	0.000E+00	NOT IDENT.
LA-140	-7.012E-02	1.126E-01	1.604E-01	0.000E+00	FAIL ABUN
CE-141	-2.098E-02	5.854E-02	1.037E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.841E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.095E-01	1.899E-01	2.988E-01	0.000E+00	NOT IDENT.
PM-144	4.717E-03	3.272E-02	5.560E-02	0.000E+00	NOT IDENT.
PR-144	3.386E-01	2.452E+00	4.164E+00	0.000E+00	NOT IDENT.
PM-146	4.645E-02	3.783E-02	7.047E-02	0.000E+00	NOT IDENT.
ND-147	3.289E-01	5.782E-01	1.037E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.288E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	6.442E-02	9.636E-02	1.597E-01	0.000E+00	FAIL ABUN
GD-153	1.104E-02	8.157E-02	1.255E-01	0.000E+00	NOT IDENT.
EU-154	7.786E-03	1.144E-01	1.921E-01	0.000E+00	NOT IDENT.
EU-155	4.352E-02	8.638E-02	1.612E-01	0.000E+00	FAIL ABUN
TB-160	5.961E-02	1.269E-01	2.285E-01	0.000E+00	FAIL ABUN
HO-166M	4.247E-02	5.832E-02	1.031E-01	0.000E+00	NOT IDENT.
TA-182	9.970E-02	2.028E-01	3.525E-01	0.000E+00	FAIL ABUN
IR-192	-9.819E-03	3.177E-02	5.243E-02	0.000E+00	FAIL ABUN
BI-207	-3.941E-02	4.997E-02	7.872E-02	0.000E+00	FAIL ABUN
PB-210	2.025E+00	2.078E+00	3.835E+00	0.000E+00	NOT IDENT.
PB-211	6.715E-01	7.550E-01	1.152E+00	0.000E+00	NOT IDENT.
RN-219	-1.793E-01	3.479E-01	5.954E-01	0.000E+00	FAIL ABUN
RA-223	2.807E-01	6.264E-01	9.683E-01	0.000E+00	FAIL ABUN
AC-227	-1.587E-01	2.250E-01	3.691E-01	0.000E+00	FAIL ABUN
TH-227	-1.587E-01	2.252E-01	3.691E-01	0.000E+00	FAIL ABUN
TH-229	3.669E-01	4.607E-01	8.337E-01	0.000E+00	FAIL ABUN
PA-231	-7.318E-01	1.318E+00	2.160E+00	0.000E+00	FAIL ABUN
TH-231	2.807E-01	6.264E-01	9.683E-01	0.000E+00	FAIL ABUN
PA-233	-8.804E-03	5.574E-02	9.306E-02	0.000E+00	FAIL ABUN
PA-234	-1.569E-01	2.620E-01	4.232E-01	0.000E+00	NOT IDENT.
PA-234M	7.027E+00	4.719E+00	8.735E+00	0.000E+00	NOT IDENT.
NP-239	-2.138E-01	3.365E-01	5.991E-01	0.000E+00	FAIL ABUN
AM-241	-5.405E-02	1.195E-01	1.855E-01	0.000E+00	NOT IDENT.
CM-247	-1.713E-02	3.196E-02	5.472E-02	0.000E+00	FAIL ABUN
CF-249	3.953E-02	3.498E-02	6.554E-02	0.000E+00	NOT IDENT.

CF-251	3.024E-02	1.110E-01	1.985E-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]G1202054966.CNF;1
Sample date        : 20-FEB-2010 12:00:00 Acquisition date : 10-MAR-2010 20:47:52
Sample ID          : G1202054966      Sample quantity   : 1.35740E+02 GRAM
Detector name      : GAM11             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:02.11  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 958225           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	1460.82	1687	10.66*	1.225E+00	3.572E+01	3.572E+01	10.06
CD-109	88.03	443	3.70*	6.790E+00	4.877E+00	5.014E+00	20.77
SN-126	64.28	123	9.60	4.294E+00	8.259E-01	8.259E-01	69.67
	86.94	443	8.90	6.790E+00	2.028E+00	2.028E+00	45.47
	87.57	443	37.00*	6.790E+00	4.877E-01	4.877E-01	20.77
BA-137M	661.66	56	89.90*	2.403E+00	7.187E-02	7.195E-02	65.83
CS-137	661.66	56	85.10*	2.403E+00	7.592E-02	7.601E-02	65.84
HG-203	70.83	-----	3.69	5.333E+00	-----	Line Not Found	-----
	72.87	-----	6.19	5.576E+00	-----	Line Not Found	-----
	279.20	62	81.56*	4.668E+00	4.468E-02	5.875E-02	103.72
TL-208	277.37	62	6.60	4.668E+00	5.521E-01	5.521E-01	104.10
	583.19	507	85.00*	2.661E+00	6.197E-01	6.197E-01	16.74
	860.56	103	12.50	1.926E+00	1.180E+00	1.180E+00	33.11
BI-211	72.87	-----	1.23	5.576E+00	-----	Line Not Found	-----
	351.06	954	12.92*	3.921E+00	5.207E+00	5.207E+00	15.73
BI-212	727.33	128	6.67*	2.221E+00	2.384E+00	2.384E+00	40.29
	785.37	57	1.10	2.081E+00	6.934E+00	6.934E+00	59.46
	1620.50	20	1.47	1.133E+00	3.289E+00	3.289E+00	85.97
PB-212	74.82	671	10.28	5.788E+00	3.119E+00	3.119E+00	18.18
	77.11	992	17.10	6.025E+00	2.663E+00	2.663E+00	12.11
	238.63	1606	43.60*	5.210E+00	1.956E+00	1.956E+00	15.17
	300.09	166	3.30	4.406E+00	3.166E+00	3.166E+00	44.35
BI-214	609.32	662	45.49*	2.569E+00	1.567E+00	1.567E+00	15.75
	1120.29	132	14.92	1.530E+00	1.596E+00	1.596E+00	34.63
	1764.49	105	15.30	1.070E+00	1.774E+00	1.774E+00	23.80
PB-214	74.82	671	5.80	5.788E+00	5.527E+00	5.527E+00	17.29
	77.11	992	9.70	6.025E+00	4.695E+00	4.695E+00	14.65
	242.00	414	7.25	5.165E+00	3.059E+00	3.059E+00	28.56
	295.22	529	18.42	4.467E+00	1.777E+00	1.777E+00	20.89
	351.93	954	35.60*	3.921E+00	1.890E+00	1.890E+00	16.67
RA-224	240.99	414	4.10*	5.165E+00	5.408E+00	5.408E+00	27.96
RA-226	609.32	662	45.49*	2.569E+00	1.567E+00	1.567E+00	15.75

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	1120.29	132	14.92	1.530E+00	1.596E+00	1.596E+00	34.63
	1764.49	105	15.30	1.070E+00	1.774E+00	1.774E+00	23.80
AC-228	338.32	402	11.27	4.036E+00	2.442E+00	2.442E+00	46.13
	911.20	361	25.80*	1.833E+00	2.110E+00	2.110E+00	18.99
	968.97	220	15.80	1.737E+00	2.217E+00	2.217E+00	30.76
RA-228	338.32	402	11.27	4.036E+00	2.442E+00	2.442E+00	46.13
	911.20	361	25.80*	1.833E+00	2.110E+00	2.110E+00	18.99
	968.97	220	15.80	1.737E+00	2.217E+00	2.217E+00	30.76
TH-228	74.82	671	10.28	5.788E+00	3.119E+00	3.119E+00	15.40
	77.11	992	17.10	6.025E+00	2.663E+00	2.663E+00	12.11
	238.63	1606	43.60*	5.210E+00	1.956E+00	1.956E+00	15.17
	300.09	166	3.30	4.406E+00	3.166E+00	3.166E+00	74.86
TH-232	338.32	402	11.27	4.036E+00	2.442E+00	2.442E+00	21.50
	911.20	361	25.80*	1.833E+00	2.110E+00	2.110E+00	18.99
	968.97	220	15.80	1.737E+00	2.217E+00	2.217E+00	30.76
TH-234	63.29	123	3.70*	4.294E+00	2.143E+00	2.143E+00	70.43
	92.59	400	4.23	7.062E+00	3.702E+00	3.702E+00	31.87
U-235	89.96	232	3.47	6.934E+00	2.666E+00	2.666E+00	36.17
	93.35	400	5.60	7.062E+00	2.797E+00	2.797E+00	32.58
	143.76	-----	10.96*	7.034E+00	-----	Line Not Found	-----
	163.33	-----	5.08	6.630E+00	-----	Line Not Found	-----
	185.72	254	57.20	6.153E+00	1.993E-01	1.993E-01	34.72
	205.31	-----	5.01	5.777E+00	-----	Line Not Found	-----
NP-237	86.48	443	12.40*	6.790E+00	1.455E+00	1.455E+00	29.51
	95.86	-----	2.68	7.169E+00	-----	Line Not Found	-----
U-238	63.29	123	3.70*	4.294E+00	2.143E+00	2.143E+00	70.43
	92.59	400	4.23	7.062E+00	3.702E+00	3.702E+00	24.54
ANH-511	511.00	169	100.00*	2.954E+00	1.586E-01	1.586E-01	41.50

Flag: "*" = Keyline

Total number of lines in spectrum 41
Number of unidentified lines 8
Number of lines tentatively identified by NID 33 80.49%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.572E+01	3.572E+01	0.359E+01	10.06	
CD-109	461.40D	1.03	4.877E+00	5.014E+00	1.041E+00	20.77	
SN-126	2.30E+05Y	1.00	4.877E-01	4.877E-01	1.013E-01	20.77	
BA-137M	30.08Y	1.00	7.187E-02	7.195E-02	4.737E-02	65.83	
CS-137	30.08Y	1.00	7.592E-02	7.601E-02	5.004E-02	65.84	
HG-203	46.59D	1.32	4.468E-02	5.875E-02	6.094E-02	103.72	
TL-208	1.41E+10Y	1.00	6.197E-01	6.197E-01	1.037E-01	16.74	
BI-211	7.04E+08Y	1.00	5.207E+00	5.207E+00	0.819E+00	15.73	
BI-212	1.41E+10Y	1.00	2.384E+00	2.384E+00	0.960E+00	40.29	
PB-212	1.41E+10Y	1.00	1.956E+00	1.956E+00	0.297E+00	15.17	
BI-214	1600.00Y	1.00	1.567E+00	1.567E+00	0.247E+00	15.75	
PB-214	1600.00Y	1.00	1.890E+00	1.890E+00	0.315E+00	16.67	
RA-224	1.41E+10Y	1.00	5.408E+00	5.408E+00	1.512E+00	27.96	
RA-226	1600.00Y	1.00	1.567E+00	1.567E+00	0.247E+00	15.75	
AC-228	1.41E+10Y	1.00	2.110E+00	2.110E+00	0.401E+00	18.99	
RA-228	1.41E+10Y	1.00	2.110E+00	2.110E+00	0.401E+00	18.99	
TH-228	1.41E+10Y	1.00	1.956E+00	1.956E+00	0.297E+00	15.17	
TH-232	1.41E+10Y	1.00	2.110E+00	2.110E+00	0.401E+00	18.99	
TH-234	4.47E+09Y	1.00	2.143E+00	2.143E+00	1.509E+00	70.43	
U-235	7.04E+08Y	1.00	1.993E-01	1.993E-01	0.692E-01	34.72	K
NP-237	2.14E+06Y	1.00	1.455E+00	1.455E+00	0.429E+00	29.51	
U-238	4.47E+09Y	1.00	2.143E+00	2.143E+00	1.509E+00	70.43	
ANH-511	1.00E+09Y	1.00	1.586E-01	1.586E-01	0.658E-01	41.50	
Total Activity :			7.626E+01	7.641E+01			

Grand Total Activity : 7.626E+01 7.641E+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	129.27	140	484	0.77	257.53	253	10	1.95E-02	61.3	7.28E+00	
0	209.50	173	323	1.12	418.10	414	9	2.40E-02	40.5	5.70E+00	T
0	270.17	170	242	1.19	539.53	535	10	2.37E-02	37.5	4.77E+00	T
0	328.28	92	180	1.07	655.83	651	9	1.28E-02	56.4	4.13E+00	T
0	409.37	38	114	0.62	818.11	815	7	5.22E-03	****	3.50E+00	
0	463.28	113	106	1.10	926.01	922	10	1.56E-02	38.9	3.19E+00	T
0	769.36	31	102	1.20	1538.51	1534	9	4.24E-03	****	2.12E+00	
0	795.42	50	85	1.30	1590.66	1586	9	7.01E-03	71.7	2.06E+00	T
0	935.09	37	59	0.95	1870.12	1865	11	5.11E-03	86.8	1.79E+00	
2	965.00	79	44	1.91	1929.96	1921	25	1.09E-02	43.3	1.74E+00	T
0	1588.93	30	15	1.91	3178.20	3174	10	4.17E-03	60.6	1.15E+00	
0	1631.93	17	22	1.30	3264.22	3257	14	2.33E-03	****	1.13E+00	
0	1730.93	26	8	2.80	3462.24	3456	12	3.60E-03	60.2	1.08E+00	
0	1848.80	23	5	1.25	3698.00	3693	10	3.19E-03	55.3	1.04E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054966.CNF;1
* Acquisition date   : 10-MAR-2010 20:47:52  Detector SN#      :
* Detector ID        : GAM11                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:02.11          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G1202054966          Analyst initials: MXR1
* Batch Number       : 958225              Sample Quantity : 1.35740E+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	3.572E+01	3.595E+00	3.994E-01	3.453E-02	89.442
CD-109	5.014E+00	1.041E+00	8.954E-01	8.491E-02	5.600
SN-126	4.877E-01	1.013E-01	8.737E-02	8.242E-03	5.582
BA-137M	7.195E-02	4.737E-02	5.641E-02	5.338E-03	1.275
CS-137	7.601E-02	5.004E-02	5.959E-02	5.648E-03	1.275
HG-203	5.875E-02	6.094E-02	6.165E-02	9.622E-03	0.953
TL-208	6.197E-01	1.037E-01	5.513E-02	5.949E-03	11.241
BI-211	5.207E+00	8.192E-01	3.160E-01	4.169E-02	16.478
BI-212	2.384E+00	9.603E-01	7.632E-01	1.008E-01	3.123
PB-212	1.956E+00	2.967E-01	8.630E-02	1.211E-02	22.663
BI-214	1.567E+00	2.467E-01	1.063E-01	1.206E-02	14.739
PB-214	1.890E+00	3.150E-01	1.149E-01	1.639E-02	16.442
RA-224	5.408E+00	1.512E+00	9.253E-01	1.239E-01	5.845
RA-226	1.567E+00	2.467E-01	1.063E-01	1.206E-02	14.739
AC-228	2.110E+00	4.006E-01	2.357E-01	2.945E-02	8.954
RA-228	2.110E+00	4.006E-01	2.357E-01	2.945E-02	8.954
TH-228	1.956E+00	2.967E-01	8.630E-02	1.211E-02	22.663
TH-232	2.110E+00	4.006E-01	2.357E-01	2.945E-02	8.954

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-234	2.143E+00	1.509E+00	1.557E+00	2.770E-01	1.376
U-235	1.993E-01	6.921E-02	3.053E-01	5.230E-02	0.653
NP-237	1.455E+00	4.295E-01	2.628E-01	6.029E-02	5.537
U-238	2.143E+00	1.509E+00	1.557E+00	2.770E-01	1.376
ANH-511	1.586E-01	6.581E-02	3.933E-02	4.206E-03	4.032

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	5.072E-02		2.887E-01	4.877E-01	5.519E-02	0.104
NA-22	2.343E-03		4.123E-02	6.744E-02	5.539E-03	0.035
NA-24	5.508E+00		1.276E+01	Half-Life too short		
SC-46	-1.006E-02		3.818E-02	6.263E-02	6.168E-03	-0.161
V-48	1.724E-02		7.486E-02	1.271E-01	1.206E-02	0.136
CR-51	8.608E-02		3.588E-01	5.822E-01	8.447E-02	0.148
MN-54	1.460E-02		3.597E-02	6.238E-02	6.143E-03	0.234
CO-56	3.713E-02		3.963E-02	7.111E-02	7.006E-03	0.522
CO-57	3.232E-03		2.160E-02	3.690E-02	3.121E-03	0.088
CO-58	5.238E-03		3.917E-02	6.340E-02	6.243E-03	0.083
FE-59	-5.181E-02		9.331E-02	1.457E-01	1.370E-02	-0.355
CO-60	7.030E-03		3.390E-02	5.638E-02	4.659E-03	0.125
ZN-65	-2.359E-02		1.063E-01	1.484E-01	1.274E-02	-0.159
SE-75	3.289E-02		4.292E-02	6.902E-02	1.015E-02	0.476
SR-85	6.736E-02		3.911E-02	6.481E-02	6.923E-03	1.039
Y-88	3.295E-02		2.761E-02	5.580E-02	4.530E-03	0.591
Y-91	2.323E+00		2.171E+01	3.581E+01	2.899E+00	0.065
NB-94	8.347E-03		3.233E-02	5.338E-02	5.126E-03	0.156
NB-95	-1.636E-02		5.166E-02	6.988E-02	6.821E-03	-0.234
NB-95M	-8.394E-02		1.399E-01	1.963E-01	2.744E-02	-0.428
ZR-95	6.425E-03		7.543E-02	1.222E-01	1.289E-02	0.053
MO-99	6.594E+00		2.787E+01	4.577E+01	7.496E+00	0.144
TC-99M	-9.954E+13		1.399E+14	Half-Life too short		
RU-103	6.250E-03		3.813E-02	6.317E-02	9.705E-03	0.099
RH-106	-1.123E-01		3.065E-01	4.864E-01	6.875E-02	-0.231
RU-106	-1.123E-01		3.063E-01	4.864E-01	4.825E-02	-0.231
AG-108M	-1.217E-02		2.595E-02	4.222E-02	4.645E-03	-0.288
AG-110M	1.739E-02		3.657E-02	5.484E-02	5.344E-03	0.317
SN-113	-2.200E-02		3.791E-02	6.173E-02	6.714E-03	-0.356
CD-115	-2.863E-06		1.324E-05	Half-Life too short		
SN-117M	1.887E-02		5.497E-02	9.329E-02	8.816E-03	0.202
TE-123M	-5.930E-03		2.515E-02	4.169E-02	3.966E-03	-0.142
SB-124	-5.199E-02		8.016E-02	1.184E-01	1.031E-02	-0.439
SB-125	2.548E-02		8.063E-02	1.382E-01	1.507E-02	0.184
TE-125M	3.324E-01		8.074E+00	1.381E+01	1.440E+00	0.024
I-126	1.442E-01		2.918E-01	4.363E-01	4.136E-02	0.331
SB-126	7.556E-02		1.900E-01	2.800E-01	2.704E-02	0.270
SB-127	-8.863E-01		2.354E+00	3.698E+00	4.822E-01	-0.240

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	-2.321E-03		1.331E-01	2.105E-01	2.645E-02	-0.011
TE-132	1.997E-01		1.302E+00	2.147E+00	4.073E-01	0.093
BA-133	-2.181E-02		4.524E-02	6.079E-02	9.682E-03	-0.359
I-133	-3.463E-02		3.519E-02	Half-Life	too short	
CS-134	8.958E-02	+	6.481E-02	9.661E-02	9.531E-03	0.927
CS-135	8.893E-02		1.591E-01	2.380E-01	3.734E-02	0.374
I-135	2.515E+13		1.190E+13	Half-Life	too short	
CS-136	-5.843E-02		1.183E-01	1.864E-01	1.760E-02	-0.313
CE-139	-1.523E-03		2.614E-02	4.356E-02	4.233E-03	-0.035
BA-140	1.284E-01		2.817E-01	4.761E-01	1.641E-01	0.270
LA-140	-7.012E-02		1.149E-01	1.603E-01	1.348E-02	-0.438
CE-141	-2.098E-02		5.974E-02	9.915E-02	9.088E-03	-0.212
CE-143	1.466E-03		4.001E-04	Half-Life	too short	
CE-144	-1.095E-01		1.938E-01	2.851E-01	4.368E-02	-0.384
PM-144	4.717E-03		3.339E-02	5.468E-02	5.243E-03	0.086
PR-144	3.386E-01		2.502E+00	4.096E+00	3.926E-01	0.083
PM-146	4.645E-02		3.860E-02	6.876E-02	8.543E-03	0.676
ND-147	3.289E-01		5.900E-01	1.015E+00	1.641E-01	0.324
PM-149	2.541E-04		1.167E-04	Half-Life	too short	
EU-152	6.442E-02		9.833E-02	1.550E-01	2.101E-02	0.416
GD-153	1.104E-02		8.324E-02	1.191E-01	1.058E-02	0.093
EU-154	7.786E-03		1.168E-01	1.912E-01	2.115E-02	0.041
EU-155	4.352E-02		8.815E-02	1.532E-01	1.336E-02	0.284
TB-160	5.961E-02		1.295E-01	2.258E-01	2.225E-02	0.264
HO-166M	4.247E-02		5.951E-02	1.015E-01	9.771E-03	0.419
TA-182	9.970E-02		2.070E-01	3.504E-01	2.847E-02	0.285
IR-192	-9.819E-03		3.242E-02	5.082E-02	7.305E-03	-0.193
BI-207	-3.941E-02		5.099E-02	7.805E-02	7.011E-03	-0.505
PB-210	2.025E+00		2.121E+00	3.593E+00	3.315E-01	0.563
PB-211	6.715E-01		7.704E-01	1.122E+00	5.474E-01	0.599
RN-219	-1.793E-01		3.550E-01	5.797E-01	9.372E-02	-0.309
RA-223	2.807E-01		6.392E-01	9.389E-01	1.935E-01	0.299
AC-227	-1.587E-01		2.296E-01	3.564E-01	5.888E-02	-0.445
TH-227	-1.587E-01		2.298E-01	3.564E-01	6.304E-02	-0.445
TH-229	3.669E-01		4.701E-01	8.009E-01	8.790E-02	0.458
PA-231	-7.318E-01		1.345E+00	2.089E+00	4.044E-01	-0.350
TH-231	2.807E-01		6.392E-01	9.389E-01	1.935E-01	0.299
PA-233	-8.804E-03		5.688E-02	9.017E-02	1.323E-02	-0.098
PA-234	-1.569E-01		2.673E-01	4.186E-01	8.065E-02	-0.375
PA-234M	7.027E+00		4.815E+00	8.651E+00	9.202E-01	0.812
NP-239	-2.138E-01		3.434E-01	5.704E-01	4.826E-02	-0.375
AM-241	-5.405E-02		1.219E-01	1.746E-01	1.372E-02	-0.310
CM-247	-1.713E-02		3.261E-02	5.327E-02	5.701E-03	-0.322
CF-249	3.953E-02		3.570E-02	6.376E-02	6.935E-03	0.620
CF-251	3.024E-02		1.132E-01	1.904E-01	1.947E-02	0.159

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202054966          *
* Acquisition date   : 10-MAR-2010 20:47:52 Detector SN#      :              *
* Detector ID        : GAM11                      Sensitivity   : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit: 75.000       *
* Elapsed real time  : 0 02:00:02.11             Half life ratio: 8.000       *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 20-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202054966             Analyst initials: MXR1         *
* Batch Number       : 958225                  Sample Quantity : 1.3574E+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	3.572E+01	3.523E+00	2.003E-01	1.797E+00
CD-109	5.014E+00	1.021E+00	4.728E-01	5.207E-01
SN-126	4.877E-01	9.927E-02	4.615E-02	5.065E-02
BA-137M	7.195E-02	4.642E-02	2.872E-02	2.368E-02
CS-137	7.601E-02	4.904E-02	3.034E-02	2.502E-02
HG-203	5.875E-02	5.972E-02	3.190E-02	3.047E-02
TL-208	6.197E-01	1.017E-01	2.814E-02	5.187E-02
BI-211	5.207E+00	8.028E-01	1.628E-01	4.096E-01
BI-212	2.384E+00	9.411E-01	3.879E-01	4.802E-01
PB-212	1.956E+00	2.908E-01	4.477E-02	1.484E-01
BI-214	1.567E+00	2.418E-01	5.421E-02	1.234E-01
PB-214	1.890E+00	3.087E-01	5.921E-02	1.575E-01
RA-224	5.408E+00	1.482E+00	4.800E-01	7.562E-01
RA-226	1.567E+00	2.418E-01	5.421E-02	1.234E-01
AC-228	2.110E+00	3.926E-01	1.193E-01	2.003E-01
RA-228	2.110E+00	3.926E-01	1.193E-01	2.003E-01
TH-228	1.956E+00	2.908E-01	4.477E-02	1.484E-01
TH-232	2.110E+00	3.926E-01	1.193E-01	2.003E-01
TH-234	2.143E+00	1.479E+00	8.272E-01	7.546E-01
U-235	-5.731E-02	1.832E-01	1.599E-01	9.347E-02
NP-237	1.455E+00	4.209E-01	1.388E-01	2.147E-01
U-238	2.143E+00	1.479E+00	8.272E-01	7.546E-01
ANH-511	1.586E-01	6.449E-02	2.012E-02	3.291E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	5.072E-02	2.829E-01	2.498E-01	1.444E-01 NOT IDENT.
NA-22	2.343E-03	4.041E-02	3.391E-02	2.062E-02 NOT IDENT.
NA-24	5.508E+06	2.500E+07	0.000E+00	1.276E+07 SHORT HLIF
SC-46	-1.006E-02	3.742E-02	3.171E-02	1.909E-02 FAIL ABUN

V-48	1.724E-02	7.336E-02	6.424E-02	3.743E-02	NOT IDENT.
CR-51	8.608E-02	3.516E-01	3.005E-01	1.794E-01	NOT IDENT.
MN-54	1.460E-02	3.525E-02	3.162E-02	1.798E-02	NOT IDENT.
CO-56	3.713E-02	3.884E-02	3.604E-02	1.982E-02	NOT IDENT.
CO-57	3.232E-03	2.117E-02	1.937E-02	1.080E-02	NOT IDENT.
CO-58	5.238E-03	3.839E-02	3.216E-02	1.959E-02	NOT IDENT.
FE-59	-5.181E-02	9.144E-02	7.350E-02	4.665E-02	NOT IDENT.
CO-60	7.030E-03	3.323E-02	2.833E-02	1.695E-02	NOT IDENT.
ZN-65	-2.359E-02	1.042E-01	7.483E-02	5.316E-02	NOT IDENT.
SE-75	3.289E-02	4.207E-02	3.574E-02	2.146E-02	NOT IDENT.
SR-85	6.736E-02	3.833E-02	3.315E-02	1.956E-02	NOT IDENT.
Y-88	3.295E-02	2.706E-02	2.786E-02	1.380E-02	NOT IDENT.
Y-91	2.323E+00	2.128E+01	1.803E+01	1.086E+01	NOT IDENT.
NB-94	8.347E-03	3.168E-02	2.715E-02	1.616E-02	NOT IDENT.
NB-95	-1.636E-02	5.062E-02	3.548E-02	2.583E-02	NOT IDENT.
NB-95M	-8.394E-02	1.371E-01	1.019E-01	6.994E-02	NOT IDENT.
ZR-95	6.425E-03	7.392E-02	6.206E-02	3.772E-02	NOT IDENT.
MO-99	6.594E+00	2.731E+01	2.326E+01	1.394E+01	NOT IDENT.
TC-99M	-9.954E+19	2.742E+20	0.000E+00	0.000E+00	SHORT HLIF
RU-103	6.250E-03	3.736E-02	3.233E-02	1.906E-02	FAIL ABUN
RH-106	-1.123E-01	3.004E-01	2.479E-01	1.533E-01	NOT IDENT.
RU-106	-1.123E-01	3.002E-01	2.479E-01	1.531E-01	NOT IDENT.
AG-108M	-1.217E-02	2.543E-02	2.166E-02	1.297E-02	NOT IDENT.
AG-110M	1.739E-02	3.584E-02	2.793E-02	1.829E-02	NOT IDENT.
SN-113	-2.200E-02	3.716E-02	3.174E-02	1.896E-02	NOT IDENT.
CD-115	-2.863E+00	2.595E+01	0.000E+00	1.324E+01	SHORT HLIF
SN-117M	1.887E-02	5.387E-02	4.876E-02	2.749E-02	NOT IDENT.
TE-123M	-5.930E-03	2.464E-02	2.179E-02	1.257E-02	NOT IDENT.
SB-124	-5.199E-02	7.856E-02	5.920E-02	4.008E-02	NOT IDENT.
SB-125	2.548E-02	7.902E-02	7.096E-02	4.031E-02	FAIL ABUN
TE-125M	3.324E-01	7.913E+00	7.267E+00	4.037E+00	NOT IDENT.
I-126	1.442E-01	2.860E-01	2.221E-01	1.459E-01	NOT IDENT.
SB-126	7.556E-02	1.862E-01	1.423E-01	9.498E-02	NOT IDENT.
SB-127	-8.863E-01	2.307E+00	1.882E+00	1.177E+00	NOT IDENT.
I-131	-2.321E-03	1.304E-01	1.083E-01	6.655E-02	NOT IDENT.
TE-132	1.997E-01	1.276E+00	1.115E+00	6.510E-01	NOT IDENT.
BA-133	-2.181E-02	4.434E-02	3.131E-02	2.262E-02	NOT IDENT.
I-133	-3.463E+04	6.897E+04	0.000E+00	3.519E+04	SHORT HLIF
CS-134	8.958E-02	6.352E-02	4.902E-02	3.241E-02	FAIL ABUN
CS-135	8.893E-02	1.559E-01	1.232E-01	7.954E-02	NOT IDENT.
I-135	2.515E+19	2.333E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.843E-02	1.160E-01	9.411E-02	5.917E-02	NOT IDENT.
CE-139	-1.523E-03	2.562E-02	2.275E-02	1.307E-02	NOT IDENT.
BA-140	1.284E-01	2.760E-01	2.433E-01	1.408E-01	NOT IDENT.
LA-140	-7.012E-02	1.126E-01	8.024E-02	5.746E-02	FAIL ABUN
CE-141	-2.098E-02	5.854E-02	5.190E-02	2.987E-02	NOT IDENT.
CE-143	1.466E+03	7.841E+02	0.000E+00	4.001E+02	SHORT HLIF
CE-144	-1.095E-01	1.899E-01	1.495E-01	9.688E-02	NOT IDENT.
PM-144	4.717E-03	3.272E-02	2.781E-02	1.669E-02	NOT IDENT.
PR-144	3.386E-01	2.452E+00	2.083E+00	1.251E+00	NOT IDENT.
PM-146	4.645E-02	3.783E-02	3.525E-02	1.930E-02	NOT IDENT.
ND-147	3.289E-01	5.782E-01	5.187E-01	2.950E-01	FAIL ABUN
PM-149	2.541E+02	2.288E+02	0.000E+00	1.167E+02	SHORT HLIF
EU-152	6.442E-02	9.636E-02	7.988E-02	4.916E-02	FAIL ABUN
GD-153	1.104E-02	8.157E-02	6.279E-02	4.162E-02	NOT IDENT.
EU-154	7.786E-03	1.144E-01	9.612E-02	5.838E-02	NOT IDENT.
EU-155	4.352E-02	8.638E-02	8.067E-02	4.407E-02	FAIL ABUN
TB-160	5.961E-02	1.269E-01	1.143E-01	6.475E-02	FAIL ABUN
HO-166M	4.247E-02	5.832E-02	5.159E-02	2.976E-02	NOT IDENT.
TA-182	9.970E-02	2.028E-01	1.763E-01	1.035E-01	FAIL ABUN
IR-192	-9.819E-03	3.177E-02	2.623E-02	1.621E-02	FAIL ABUN
BI-207	-3.941E-02	4.997E-02	3.938E-02	2.550E-02	FAIL ABUN
PB-210	2.025E+00	2.078E+00	1.919E+00	1.060E+00	NOT IDENT.
PB-211	6.715E-01	7.550E-01	5.763E-01	3.852E-01	NOT IDENT.
RN-219	-1.793E-01	3.479E-01	2.979E-01	1.775E-01	FAIL ABUN
RA-223	2.807E-01	6.264E-01	4.844E-01	3.196E-01	FAIL ABUN
AC-227	-1.587E-01	2.250E-01	1.847E-01	1.148E-01	FAIL ABUN
TH-227	-1.587E-01	2.252E-01	1.847E-01	1.149E-01	FAIL ABUN
TH-229	3.669E-01	4.607E-01	4.171E-01	2.350E-01	FAIL ABUN
PA-231	-7.318E-01	1.318E+00	1.081E+00	6.725E-01	FAIL ABUN
TH-231	2.807E-01	6.264E-01	4.844E-01	3.196E-01	FAIL ABUN
PA-233	-8.804E-03	5.574E-02	4.656E-02	2.844E-02	FAIL ABUN
PA-234	-1.569E-01	2.620E-01	2.117E-01	1.337E-01	NOT IDENT.
PA-234M	7.027E+00	4.719E+00	4.370E+00	2.407E+00	NOT IDENT.
NP-239	-2.138E-01	3.365E-01	2.997E-01	1.717E-01	FAIL ABUN
AM-241	-5.405E-02	1.195E-01	9.281E-02	6.097E-02	NOT IDENT.
CM-247	-1.713E-02	3.196E-02	2.738E-02	1.630E-02	FAIL ABUN
CF-249	3.953E-02	3.498E-02	3.279E-02	1.785E-02	NOT IDENT.

CF-251	3.024E-02	1.110E-01	9.931E-02	5.661E-02 NOT IDENT.
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 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.54	244.7179
49.72	252.9365
57.36	0.0000
59.54	348.0030
63.29	368.3190
63.29	368.3190
64.28	405.0402
67.75	419.4609
69.67	457.8796
70.83	378.0684
72.81	372.2050
72.87	372.2629
72.87	372.2629
74.82	374.1530
74.82	374.1530
74.82	374.1530
74.97	374.2977
77.11	376.3421
77.11	376.3421
77.11	376.3421
79.69	378.7723
79.80	378.8736
80.12	379.1725
80.19	379.2376
80.57	379.5896
81.00	379.9898
81.07	380.0549
81.07	380.0549
83.79	290.5444
83.79	290.5444
85.43	291.6724
86.48	292.3901
86.55	292.4377
86.79	292.5989
86.94	292.7014
87.57	293.1281
88.03	293.4393
88.47	293.7360
89.96	294.7339
91.11	295.4993
92.59	296.4771
92.59	296.4771
93.35	296.9751
94.67	322.6573
94.87	322.7982
94.87	322.7982
95.86	305.2441
97.43	317.9292
98.44	301.2664
99.53	316.0055
100.11	323.0881
103.18	334.4195
103.37	334.5508
105.31	313.8804
106.12	291.5132
109.28	293.3539
111.00	292.6347
111.76	288.7832
116.30	278.3352
117.23	328.1793
121.12	266.8846
121.78	276.8123
122.06	290.9330
123.07	307.2214
131.20	271.7126
133.52	318.2654
136.00	290.9574

136.47	291.1855
140.51	332.8372
140.51	0.0000
143.76	340.0459
144.24	304.0095
144.24	304.0095
145.44	327.3267
152.43	300.6149
153.25	274.3035
154.21	270.0974
154.21	270.0974
156.02	311.5221
158.56	257.0444
159.00	281.3563
162.66	262.3541
163.33	269.1533
165.86	266.4002
176.60	272.4047
177.52	250.8163
181.07	305.9000
184.41	287.3591
185.72	274.8471
193.51	236.7584
197.04	277.9678
205.31	222.5281
210.85	235.9947
215.65	255.3917
222.11	233.1290
227.38	202.0628
228.16	208.3428
228.18	207.3307
235.69	298.2732
235.96	289.1372
235.96	289.1372
238.63	232.4073
238.63	232.4073
240.99	233.0142
242.00	233.2717
244.70	189.4448
252.40	192.0597
252.80	178.5651
256.23	197.0286
256.23	197.0286
260.90	0.0000
264.66	158.5815
268.22	176.6624
269.46	172.1052
269.46	172.1052
271.23	197.9542
273.65	211.2330
276.40	208.6038
277.37	198.0944
277.60	198.1396
278.00	198.2186
279.20	191.4793
279.54	191.5410
280.46	148.2169
283.69	182.0828
284.31	189.7393
285.41	178.0685
285.90	0.0000
287.50	181.6719
293.27	0.0000
295.22	151.9622
295.96	153.7024
298.57	163.9130
299.98	134.5838
299.98	134.5838
300.09	134.5988
300.09	134.5988
300.13	134.6038
301.36	134.7565
302.85	162.9174
304.50	148.3319
304.50	148.3319
304.85	148.3786
308.46	172.0247
311.90	139.3762

316.51	146.6174
319.41	139.1983
320.08	133.7085
323.87	130.8014
323.87	130.8014
328.76	146.5151
333.37	148.7874
334.37	167.5278
334.37	167.5278
338.28	130.1658
338.28	130.1658
338.32	130.1705
338.32	130.1705
338.32	130.1705
340.48	164.9959
340.55	165.0048
344.28	137.8763
351.06	155.5815
351.93	155.6922
356.01	148.1721
364.49	108.7085
366.42	97.2925
383.85	129.4415
388.16	107.7794
388.63	99.8647
391.69	118.6976
400.66	121.2765
401.81	126.7353
402.40	127.6823
404.85	103.0447
410.95	113.5664
414.70	106.0499
423.72	109.7116
427.09	99.9762
427.87	105.4861
433.94	112.3265
453.88	89.7934
463.37	83.8394
468.07	85.2189
473.00	100.3027
476.78	89.2712
477.60	89.3176
487.02	89.8554
492.35	0.0000
497.08	84.7127
511.00	81.5999
514.00	80.0179
527.90	0.0000
529.87	0.0000
531.02	71.8953
537.26	77.0351
546.56	0.0000
563.25	82.1489
569.33	84.4138
569.50	81.4420
569.70	81.4520
583.19	94.0660
600.60	87.8841
602.73	88.9937
604.72	80.9888
609.32	93.3645
609.32	93.3645
610.33	93.4122
614.28	102.5596
618.01	83.5941
621.93	93.9794
621.93	93.9794
633.25	99.6671
635.95	83.3409
636.99	83.3854
645.85	62.0435
657.76	71.5652
661.66	89.6297
661.66	89.6297
664.57	0.0000
666.33	83.5669
666.50	83.5742
677.62	65.1201

685.70	90.6795
695.00	77.3130
696.49	84.7852
696.51	84.7876
697.00	85.8672
702.65	82.9059
706.68	97.9718
711.68	70.4473
720.70	75.4553
721.93	0.0000
722.78	101.2766
722.91	101.2824
723.31	104.7335
724.19	63.5522
727.33	77.4053
733.00	89.6746
735.93	84.1818
739.50	76.7505
747.24	72.6781
752.31	82.6263
753.82	64.1855
756.73	80.6078
763.94	76.9291
765.81	99.7389
766.42	96.2661
777.92	69.2619
778.90	65.9912
783.70	56.4281
785.37	58.2334
795.86	49.6303
801.95	78.8566
810.29	79.1318
810.76	65.7700
815.77	68.1410
818.51	54.7975
832.01	75.3423
834.85	74.7547
836.80	0.0000
846.77	61.5387
856.80	62.0889
860.56	64.6072
871.09	58.4797
873.19	63.1006
875.33	0.0000
879.36	53.1686
880.51	58.6945
883.24	64.2646
884.68	54.1962
889.28	67.1757
898.04	69.2468
911.20	75.1613
911.20	75.1613
911.20	75.1613
926.50	56.9284
937.49	56.2222
944.13	52.6025
946.00	60.1578
949.00	56.4595
962.29	59.8837
964.08	59.6070
966.15	59.6501
968.97	59.7116
968.97	59.7116
968.97	59.7116
983.53	53.3518
996.26	68.9027
1001.03	51.7627
1004.73	75.8234
1037.84	62.1281
1038.76	0.0000
1048.07	61.3666
1050.41	53.6169
1050.41	53.6169
1063.66	69.5197
1085.87	52.2728
1099.45	68.3531
1112.07	72.6079
1115.54	76.3372

1120.29	78.1153
1120.29	78.1153
1120.55	78.1191
1121.30	73.1507
1131.51	0.0000
1173.23	77.0428
1177.93	73.0898
1189.05	66.2061
1204.77	67.5404
1221.41	75.0709
1231.02	67.0344
1235.36	115.6477
1238.28	79.5754
1260.41	0.0000
1271.85	47.9990
1274.44	49.0792
1274.54	49.0792
1291.59	50.3648
1298.22	0.0000
1312.11	50.6531
1332.49	29.7131
1365.19	35.3284
1368.63	0.0000
1384.29	34.4328
1408.01	20.5716
1457.56	0.0000
1460.82	16.4612
1489.16	14.7357
1505.03	34.2102
1596.21	35.2780
1620.50	27.6938
1678.03	0.0000
1690.97	23.1719
1764.49	8.8293
1764.49	8.8293
1770.23	10.1032
1771.35	8.4211
1791.20	0.0000
1836.06	4.9795

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202054966

Total Uranium Activity	6.3487E+00	ug/g
Total Uranium Counting Unc.	4.4010E+00	ug/g
Total Uranium Tpu	2.2454E-06	ug/g
Total Uranium Mda	2.4620E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 958225                SAMPLE ID   : G1202054966                *
*  ANALYST       : MXR1                  DETECTOR    : GAM11                    *
*  SAMPLE DATE   : 20-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE: 10-MAR-2010 20:47:52.80  SAMPLE ALQT: 135.740 GRAM          *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.195E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.547E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.081E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.977E+00

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VAX/VMS Nuclide Identification Report Generated 10-MAR-2010 22:21:10.59

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054967.CNF;1
Sample date     : 2-MAR-2010 00:00:00. Acquisition date : 10-MAR-2010 21:20:06
Sample ID       : G1202054967          Sample quantity  : 1.55440E+02 GRAM
Detector name   : GAM20                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00      Elapsed real time: 0 01:00:17.47  0.5%
Energy tolerance : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit  : 75.00000           Sensitivity      : 5.00000
Batch ID        : 958225              Detector SN#     :
Matrix Spike ID :                      LCS ID           : 1032-A
*****
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.69	4084	1215	1.09	119.37	113	12	1.13E+00	2.3	
2	0	76.24*	401	869	3.12	152.42	145	14	1.11E-01	16.4	
3	0	88.18	1501	700	1.05	176.27	170	12	4.17E-01	4.4	
4	0	93.40*	127	310	1.37	186.70	183	10	3.52E-02	28.6	
5	0	122.25	234	384	1.02	244.30	239	11	6.51E-02	17.5	
6	1	238.70*	533	206	1.11	476.89	469	18	1.48E-01	6.3	9.82E-01
7	1	241.64	86	230	1.35	482.76	469	18	2.38E-02	33.1	
8	0	295.55	123	270	1.57	590.45	584	11	3.41E-02	27.5	
9	0	338.47	140	155	1.30	676.20	672	9	3.90E-02	18.1	
10	0	352.14*	272	195	1.22	703.51	699	11	7.56E-02	11.7	
11	0	511.44*	80	183	1.77	1021.83	1015	15	2.22E-02	40.7	
12	0	583.46*	165	93	1.59	1165.79	1161	10	4.58E-02	13.6	
13	0	609.71*	149	129	1.20	1218.25	1212	12	4.15E-02	17.4	
14	0	662.06	2469	145	1.44	1322.90	1317	14	6.86E-01	2.3	
15	0	727.92*	45	68	1.61	1454.57	1450	10	1.24E-02	38.0	
16	0	911.78*	139	96	1.19	1822.22	1816	11	3.85E-02	16.2	
17	0	970.06*	76	86	1.56	1938.80	1934	11	2.11E-02	26.3	
18	0	1121.40	83	81	1.86	2241.56	2234	18	2.30E-02	28.3	
19	0	1174.03	1920	75	1.65	2346.88	2340	16	5.33E-01	2.5	
20	0	1333.36	1733	22	1.84	2665.74	2658	17	4.81E-01	2.5	
21	0	1461.02*	32	8	2.70	2921.31	2914	15	8.87E-03	27.0	
22	0	1765.85*	30	4	2.31	3531.78	3524	15	8.22E-03	24.2	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054967.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-MAR-2010 00:00:00   Acquisition date : 10-MAR-2010 21:20:06
Sample ID        : G1202054967           Sample quantity  : 155.44 GRAM
Sample type       : SOLID                 Sample geometry   :
Detector name     : GAMMA20              Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:17.47   0.5%
Peak Width (FWHM): 3.00                  Confidence level  : 5.00 %
Energy tolerance  : 1.50 keV             Half life ratio   : 8.00
Errors propagated: Yes                   Systematic Error  : 0.00 %
Efficiency type   : Empirical             Efficiencies at   : Peak Energy
Abundance limit   : 75.00                WTM error limit   : 3.00

```

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	+	1460.82	*	1.155E+00	6.323E-01	5.639E-01	4.918E-02	2.049
CO-57	+	122.06	*	1.834E-01	6.589E-02	5.501E-02	4.591E-03	3.334
		136.47		1.851E-01	2.926E-01	4.817E-01	4.356E-02	0.384
CO-60	+	1173.23		6.225E+00	5.893E-01	1.117E-01	8.980E-03	55.728
	+	1332.49	*	6.239E+00	6.073E-01	8.211E-02	6.878E-03	75.981
CD-109	+	88.03	*	2.844E+01	3.661E+00	1.792E+00	1.694E-01	15.874
SN-126		64.28		-3.021E-01	6.401E-01	9.336E-01	1.352E-01	-0.324
	+	86.94		1.167E+01	4.952E+00	7.401E-01	3.072E-01	15.765
	+	87.57	*	2.806E+00	3.612E-01	1.773E-01	1.668E-02	15.829
BA-137M	+	661.66	*	5.453E+00	6.003E-01	1.027E-01	1.030E-02	53.112
CS-137	+	661.66	*	5.761E+00	6.349E-01	1.085E-01	1.090E-02	53.112
TL-208		277.37		2.362E-02	5.909E-01	9.880E-01	1.331E-01	0.024
	+	583.19	*	3.473E-01	1.009E-01	1.029E-01	1.057E-02	3.375
		860.56		8.355E-01	5.837E-01	1.043E+00	1.105E-01	0.801
BI-211		72.87		2.289E+00	4.095E+00	6.142E+00	4.851E-01	0.373
	+	351.06	*	2.565E+00	6.501E-01	5.733E-01	5.493E-02	4.474
PB-212	+	74.82		3.051E+00	1.073E+00	7.109E-01	8.982E-02	4.292
	+	77.11		1.834E+00	6.196E-01	4.138E-01	3.422E-02	4.434
	+	238.63	*	1.125E+00	1.855E-01	1.455E-01	1.553E-02	7.733
		300.09		3.648E-02	1.451E+00	2.133E+00	2.461E-01	0.017
BI-214	+	609.32	*	6.091E-01	2.223E-01	1.867E-01	2.086E-02	3.262
	+	1120.29		1.721E+00	9.924E-01	7.958E-01	8.649E-02	2.162
	+	1764.49		8.496E-01	4.172E-01	3.014E-01	2.476E-02	2.819
PB-214	+	74.82		5.409E+00	1.877E+00	1.260E+00	1.425E-01	4.292
	+	77.11		3.234E+00	1.124E+00	7.294E-01	8.520E-02	4.434
	+	242.00		1.097E+00	7.356E-01	8.265E-01	9.321E-02	1.327
	+	295.22		7.136E-01	4.018E-01	3.596E-01	4.248E-02	1.985
	+	351.93	*	9.309E-01	2.415E-01	1.875E-01	2.070E-02	4.966
RA-224	+	240.99	*	1.939E+00	1.296E+00	1.559E+00	1.507E-01	1.244
RA-226	+	609.32	*	6.091E-01	2.223E-01	1.867E-01	2.086E-02	3.262
	+	1120.29		1.721E+00	9.924E-01	7.958E-01	8.649E-02	2.162
	+	1764.49		8.496E-01	4.172E-01	3.014E-01	2.476E-02	2.819
AC-228	+	338.32		1.473E+00	8.150E-01	6.141E-01	2.572E-01	2.399
	+	911.20	*	1.394E+00	4.853E-01	4.874E-01	6.126E-02	2.861

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	+	968.97		1.317E+00	7.666E-01	9.487E-01	2.347E-01	1.388
	+	338.32		1.473E+00	8.150E-01	6.141E-01	2.572E-01	2.399
	+	911.20	*	1.394E+00	4.853E-01	4.874E-01	6.126E-02	2.861
TH-228	+	968.97		1.317E+00	7.666E-01	9.487E-01	2.347E-01	1.388
	+	74.82		3.051E+00	1.031E+00	7.109E-01	5.791E-02	4.292
	+	77.11		1.834E+00	6.196E-01	4.138E-01	3.422E-02	4.434
	+	238.63	*	1.125E+00	1.855E-01	1.455E-01	1.553E-02	7.733
TH-232	+	300.09		3.648E-02	1.451E+00	2.133E+00	1.310E+00	0.017
	+	338.32		1.473E+00	5.502E-01	6.141E-01	5.753E-02	2.399
	+	911.20	*	1.394E+00	4.853E-01	4.874E-01	6.126E-02	2.861
AM-241	+	968.97		1.317E+00	7.666E-01	9.487E-01	2.347E-01	1.388
	+	59.54	*	1.346E+01	1.226E+00	3.891E-01	3.045E-02	34.594
ANH-511	+	511.00	*	1.289E-01	1.057E-01	8.574E-02	7.989E-03	1.504

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	9.131E-02	5.868E-01	9.608E-01	9.337E-02	0.095
NA-22		1274.54	*	2.065E-02	4.863E-02	8.331E-02	6.901E-03	0.248
NA-24		1368.63	*	-1.150E-05	4.863E-02	Half-Life too short		
SC-46		889.28	*	3.669E-02	7.241E-02	1.239E-01	1.235E-02	0.296
V-48	+	1120.55		2.764E-01	1.583E-01	1.743E-01	1.491E-02	1.586
		944.13		7.746E-01	1.560E+00	2.644E+00	2.580E-01	0.293
		983.53	*	-6.384E-02	1.098E-01	1.719E-01	1.643E-02	-0.371
CR-51		1312.11		-2.323E-02	6.017E-02	8.923E-02	7.445E-03	-0.260
		320.08	*	-3.772E-01	5.167E-01	8.198E-01	8.213E-02	-0.460
MN-54		834.85	*	5.221E-02	7.088E-02	1.229E-01	1.242E-02	0.425
CO-56		846.77	*	1.800E-02	7.243E-02	1.221E-01	1.231E-02	0.147
		1037.84		-1.490E-01	5.699E-01	9.122E-01	8.793E-02	-0.163
		1238.28		1.290E-01	9.922E-02	1.824E-01	1.543E-02	0.707
		1771.35		2.596E-02	2.703E-01	3.963E-01	3.251E-02	0.065
CO-58		810.76	*	-3.047E-02	7.050E-02	1.135E-01	1.152E-02	-0.268
FE-59		1099.45	*	-1.562E-02	1.652E-01	2.671E-01	2.519E-02	-0.058
		1291.59		-3.465E-02	1.381E-01	2.139E-01	2.034E-02	-0.162
ZN-65		1115.54	*	2.567E-02	1.909E-01	2.723E-01	2.344E-02	0.094
SE-75	+	121.12		9.393E-01	3.438E-01	3.866E-01	4.204E-02	2.430
		136.00		4.566E-02	5.485E-02	9.108E-02	7.697E-03	0.501
		264.66	*	9.494E-03	6.634E-02	1.117E-01	1.106E-02	0.085
		279.54		1.719E-03	1.643E-01	2.743E-01	2.809E-02	0.006
SR-85		400.66		4.610E-01	4.312E-01	7.444E-01	8.149E-02	0.619
		514.00	*	3.488E-02	7.439E-02	1.090E-01	1.018E-02	0.320
Y-88		898.04		2.346E-02	8.854E-02	1.487E-01	1.483E-02	0.158
Y-91		1836.06	*	-1.855E-04	4.300E-02	7.056E-02	5.693E-03	-0.003
		1204.77	*	-1.519E+01	2.179E+01	3.164E+01	2.569E+00	-0.480
NB-94		702.65	*	-2.183E-02	5.626E-02	9.171E-02	9.279E-03	-0.238
NB-95		871.09		1.058E-02	6.912E-02	1.156E-01	1.158E-02	0.092
		765.81	*	-1.835E-02	6.779E-02	1.110E-01	1.128E-02	-0.165
NB-95M		235.69	*	3.080E-02	1.942E-01	2.909E-01	3.131E-02	0.106

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	724.19			-7.996E-02	1.601E-01	2.204E-01	2.373E-02	-0.363
	756.73	*		-1.642E-01	1.201E-01	1.777E-01	1.944E-02	-0.924
MO-99	140.51			8.980E-01	6.381E+00	1.028E+01	2.434E+00	0.087
	181.07			2.489E+00	5.317E+00	8.580E+00	1.625E+00	0.290
	366.42			1.132E-01	3.302E+01	5.437E+01	4.834E+00	0.002
	739.50	*		1.822E+00	4.458E+00	7.648E+00	1.273E+00	0.238
	777.92			-7.522E+00	1.293E+01	2.056E+01	2.089E+00	-0.366
TC-99M	140.51	*		2.373E+02	1.293E+01	Half-Life too short		
RU-103	497.08	*		-5.712E-03	6.246E-02	1.005E-01	1.441E-02	-0.057
	610.33		+	5.630E+00	2.178E+00	2.796E+00	4.760E-01	2.014
RH-106	621.93	*		-2.126E-01	5.850E-01	9.074E-01	1.281E-01	-0.234
	1050.41			-6.537E-02	5.045E+00	8.235E+00	7.516E-01	-0.008
RU-106	621.93	*		-2.126E-01	5.846E-01	9.074E-01	8.981E-02	-0.234
	1050.41			-6.537E-02	5.045E+00	8.235E+00	7.516E-01	-0.008
AG-108M	433.94	*		6.205E-03	5.776E-02	9.479E-02	8.543E-03	0.065
	614.28			-1.385E-02	7.048E-02	9.609E-02	9.720E-03	-0.144
	722.91			7.289E-03	6.914E-02	1.018E-01	1.056E-02	0.072
AG-110M	657.76	*		1.807E-02	6.710E-02	1.009E-01	1.034E-02	0.179
	677.62			2.280E-01	4.786E-01	8.315E-01	8.553E-02	0.274
	706.68			-8.368E-02	3.260E-01	5.357E-01	5.536E-02	-0.156
	763.94			-1.285E-01	2.703E-01	4.349E-01	4.508E-02	-0.295
	884.68			-1.339E-02	1.033E-01	1.692E-01	1.729E-02	-0.079
	937.49			-9.669E-02	2.470E-01	3.960E-01	3.985E-02	-0.244
	1384.29			-8.669E-02	1.711E-01	2.617E-01	2.268E-02	-0.331
	1505.03			-2.057E-01	3.046E-01	4.390E-01	3.721E-02	-0.469
SN-113	391.69	*		-3.486E-02	7.883E-02	1.260E-01	1.087E-02	-0.277
CD-115	260.90			-1.365E+01	3.000E+01	4.899E+01	4.819E+00	-0.279
	492.35			3.238E+00	9.682E+00	1.603E+01	1.473E+00	0.202
	527.90	*		-9.132E-01	3.129E+00	4.947E+00	4.663E-01	-0.185
SN-117M	156.02			6.023E-01	2.366E+00	3.812E+00	3.277E-01	0.158
	158.56	*		1.031E-03	5.698E-02	9.068E-02	7.826E-03	0.011
TE-123M	159.00	*		-2.066E-02	3.993E-02	6.170E-02	5.361E-03	-0.335
SB-124	602.73			-2.143E-02	6.747E-02	9.659E-02	9.485E-03	-0.222
	645.85			-7.435E-02	8.084E-01	1.354E+00	1.410E-01	-0.055
	722.78			9.670E-02	6.483E-01	9.586E-01	9.885E-02	0.101
	1690.97	*		5.335E-02	9.521E-02	1.743E-01	1.519E-02	0.306
SB-125	427.87	*		7.283E-03	1.664E-01	2.723E-01	2.409E-02	0.027
	463.37			4.947E-01	5.575E-01	9.451E-01	9.076E-02	0.523
	600.60			3.038E-01	2.973E-01	5.097E-01	5.287E-02	0.596
	635.95			-3.932E-02	4.241E-01	7.103E-01	7.503E-02	-0.055
TE-125M	109.28	*		1.042E+01	1.192E+01	1.994E+01	2.067E+00	0.522
I-126	388.63			-8.145E-02	2.183E-01	3.506E-01	2.953E-02	-0.232
	666.33	*		7.611E-02	2.811E-01	4.234E-01	4.254E-02	0.180
	753.82			2.111E+00	2.239E+00	3.968E+00	4.032E-01	0.532
SB-126	414.70			9.517E-02	9.741E-02	1.674E-01	1.435E-02	0.568
	666.50			2.237E-02	9.476E-02	1.422E-01	1.429E-02	0.157
	695.00			-1.593E-02	9.200E-02	1.525E-01	1.541E-02	-0.104
	697.00			3.217E-01	3.247E-01	5.770E-01	5.833E-02	0.558
	720.70	*		1.515E-01	1.697E-01	2.947E-01	2.989E-02	0.514

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	856.80			-6.802E-01	6.746E-01	1.034E+00	1.039E-01	-0.658
	252.40			4.987E-01	2.205E+00	3.718E+00	1.539E+00	0.134
	473.00			-9.618E-01	1.059E+00	1.616E+00	1.897E-01	-0.595
	685.70	*		1.114E-01	6.920E-01	1.175E+00	1.308E-01	0.095
I-131	783.70			1.826E-01	1.922E+00	3.223E+00	3.929E-01	0.057
	80.19			1.226E+00	3.881E+00	5.735E+00	4.928E-01	0.214
	284.31			-1.237E+00	1.378E+00	2.180E+00	2.242E-01	-0.568
	364.49	*		1.528E-02	1.099E-01	1.824E-01	1.705E-02	0.084
TE-132	636.99			-3.976E-01	1.471E+00	2.432E+00	2.518E-01	-0.163
	49.72			3.815E+00	6.500E+00	1.090E+01	9.616E-01	0.350
	111.76			-1.229E+01	1.192E+01	1.814E+01	1.697E+00	-0.678
	116.30			1.141E+00	1.074E+01	1.655E+01	1.539E+00	0.069
BA-133	228.16	*		-1.165E-01	2.886E-01	4.762E-01	7.318E-02	-0.245
	81.00			-2.451E-02	1.395E-01	2.012E-01	3.126E-02	-0.122
	276.40			1.863E-01	5.519E-01	9.349E-01	1.398E-01	0.199
	302.85			1.287E-01	2.264E-01	3.857E-01	5.348E-02	0.334
I-133	356.01	*		4.074E-03	7.142E-02	1.038E-01	1.378E-02	0.039
	383.85			4.784E-01	5.356E-01	9.162E-01	1.133E-01	0.522
	529.87	*		5.837E-05	5.356E-01	Half-Life	too short	
	875.33			7.093E-05	5.356E-01	Half-Life	too short	
CS-134	1298.22			-6.622E-04	5.356E-01	Half-Life	too short	
	563.25			-6.775E-02	6.102E-01	9.721E-01	9.431E-02	-0.070
	569.33			2.679E-01	3.365E-01	5.702E-01	5.568E-02	0.470
	604.72			-4.278E-02	6.546E-02	8.468E-02	8.338E-03	-0.505
CS-135	795.86	*		5.315E-02	8.263E-02	1.433E-01	1.462E-02	0.371
	801.95			-2.251E-01	6.900E-01	1.121E+00	1.142E-01	-0.201
	1365.19			1.610E-01	1.111E+00	1.919E+00	1.692E-01	0.084
	268.22	*		2.152E-01	2.469E-01	4.275E-01	4.737E-02	0.503
I-135	546.56			2.778E+02	2.469E-01	Half-Life	too short	
	836.80			1.312E+03	2.469E-01	Half-Life	too short	
	1038.76			3.282E+03	2.469E-01	Half-Life	too short	
	1131.51			1.419E+03	2.469E-01	Half-Life	too short	
CS-136	1260.41	*		-1.114E+03	2.469E-01	Half-Life	too short	
	1457.56			1.865E+03	2.469E-01	Half-Life	too short	
	1678.03			5.108E+01	2.469E-01	Half-Life	too short	
	1791.20			3.906E+02	2.469E-01	Half-Life	too short	
CE-139	153.25			3.688E-01	8.515E-01	1.385E+00	1.415E-01	0.266
	176.60			-6.878E-01	5.324E-01	7.757E-01	7.552E-02	-0.887
	273.65			-5.845E-01	5.847E-01	9.237E-01	9.755E-02	-0.633
	340.55			1.856E-01	2.005E-01	3.081E-01	2.969E-02	0.602
BA-140	818.51			-1.143E-01	1.000E-01	1.505E-01	1.524E-02	-0.759
	1048.07	*		6.982E-02	1.562E-01	2.637E-01	2.501E-02	0.265
	1235.36			-2.962E-01	4.627E-01	6.829E-01	7.820E-02	-0.434
	165.86	*		3.795E-02	4.129E-02	6.845E-02	5.975E-03	0.554
LA-140	162.66			-4.402E-01	8.345E-01	1.287E+00	1.192E-01	-0.342
	304.85			-8.683E-01	1.532E+00	2.432E+00	7.205E-01	-0.357
	423.72			1.444E+00	2.577E+00	4.272E+00	1.406E+00	0.338
	537.26	*		-1.443E-01	3.276E-01	5.042E-01	1.721E-01	-0.286
LA-140	328.76			2.984E-01	3.442E-01	5.929E-01	5.901E-02	0.503

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

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	487.02			-1.044E-01	1.850E-01	2.885E-01	2.786E-02	-0.362
	815.77			1.414E-01	4.391E-01	7.457E-01	8.205E-02	0.190
	1596.21	*		-2.864E-02	8.568E-02	1.345E-01	1.135E-02	-0.213
CE-141	145.44	*		6.643E-02	7.641E-02	1.269E-01	1.095E-02	0.524
CE-143	57.36			2.122E+02	9.849E+01	1.516E+02	1.362E+01	1.399
	293.27	*		1.476E+01	1.043E+01	1.592E+01	3.475E+00	0.927
	664.57			2.676E+03	8.374E+02	4.443E+02	1.349E+02	6.023
	721.93			1.245E+02	1.000E+02	1.604E+02	4.556E+01	0.776
CE-144	80.12			9.791E-01	3.539E+00	5.220E+00	4.472E-01	0.188
	133.52	*		-4.087E-01	2.934E-01	4.269E-01	6.467E-02	-0.957
PM-144	476.78			-1.795E-02	1.295E-01	2.084E-01	2.040E-02	-0.086
	618.01			3.748E-03	5.775E-02	9.271E-02	9.356E-03	0.040
	696.49	*		2.388E-02	5.809E-02	1.000E-01	1.011E-02	0.239
PR-144	696.51	*		1.801E+00	4.334E+00	7.464E+00	7.545E-01	0.241
	1489.16			1.509E+00	1.424E+01	2.422E+01	2.053E+00	0.062
PM-146	453.88	*		-5.357E-03	8.383E-02	1.359E-01	1.471E-02	-0.039
	633.25			-9.610E-01	2.474E+00	3.773E+00	1.453E+00	-0.255
	735.93			-8.241E-02	2.503E-01	4.066E-01	1.160E-01	-0.203
	747.24			-9.617E-02	1.660E-01	2.640E-01	4.104E-02	-0.364
ND-147	91.11			2.998E-01	2.939E-01	3.638E-01	3.600E-02	0.824
	319.41			1.167E+00	3.616E+00	6.096E+00	5.865E+01	0.191
	531.02	*		4.780E-02	7.126E-01	1.154E+00	1.782E-01	0.041
PM-149	285.90	*		1.148E+01	2.059E+01	3.513E+01	5.721E+00	0.327
EU-152	121.78	+		5.358E-01	1.943E-01	2.267E-01	2.191E-02	2.364
	244.70			-3.923E-01	5.713E-01	8.054E-01	7.813E-02	-0.487
	344.28	*		-2.612E-02	1.730E-01	2.736E-01	2.668E-02	-0.095
	778.90			-3.147E-01	4.514E-01	7.105E-01	7.219E-02	-0.443
	964.08			1.051E+00	6.732E-01	1.078E+00	1.041E-01	0.975
	1085.87			-3.380E-01	7.739E-01	1.216E+00	1.077E-01	-0.278
	1112.07			1.784E-01	5.905E-01	9.835E-01	8.487E-02	0.181
	1408.01			1.777E-01	1.885E-01	3.633E-01	3.069E-02	0.489
GD-153	69.67			-1.706E+00	2.118E+00	3.182E+00	2.434E-01	-0.536
	97.43	*		-4.324E-02	1.143E-01	1.609E-01	1.427E-02	-0.269
	103.18			-5.883E-02	1.397E-01	2.210E-01	1.912E-02	-0.266
EU-154	123.07	+		3.787E-01	1.389E-01	1.597E-01	1.779E-02	2.371
	723.31			-3.248E-02	3.113E-01	4.483E-01	4.884E-02	-0.072
	873.19			1.454E-01	5.614E-01	9.452E-01	1.223E-01	0.154
	996.26			-5.723E-01	7.223E-01	1.099E+00	1.969E-01	-0.521
	1004.73			3.875E-02	4.139E-01	6.832E-01	8.371E-02	0.057
	1274.44	*		8.949E-02	1.332E-01	2.362E-01	2.626E-02	0.379
EU-155	86.55			1.611E+00	2.442E-01	3.554E-01	3.328E-02	4.533
	105.31	*		-6.179E-02	1.370E-01	2.160E-01	1.877E-02	-0.286
TB-160	86.79	+		8.504E+00	1.094E+00	9.961E-01	9.275E-02	8.537
	197.04			2.437E-02	7.411E-01	1.255E+00	1.149E-01	0.019
	215.65			2.613E-01	1.071E+00	1.826E+00	1.714E-01	0.143
	298.57			-1.126E-01	1.918E-01	2.684E-01	2.638E-02	-0.419
	879.36	*		-1.421E-01	2.742E-01	4.355E-01	4.354E-02	-0.326
	962.29			1.789E-01	1.066E+00	1.769E+00	1.711E-01	0.101
	966.15			-4.974E-02	4.673E-01	6.587E-01	6.357E-02	-0.076

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1177.93			2.134E+00	6.610E-01	1.232E+00	9.921E-02	1.732
	1271.85			1.071E-01	7.535E-01	1.241E+00	1.026E-01	0.086
	80.57			1.909E-01	3.907E-01	5.816E-01	5.010E-02	0.328
	184.41			-1.362E-03	4.923E-02	8.524E-02	7.656E-03	-0.016
	280.46			4.957E-02	1.328E-01	2.254E-01	2.243E-02	0.220
	410.95			6.147E-02	4.475E-01	7.377E-01	6.295E-02	0.083
TA-182	711.68	*		1.135E-02	1.017E-01	1.717E-01	1.739E-02	0.066
	752.31			3.966E-01	4.885E-01	8.583E-01	8.721E-02	0.462
	810.29			-4.088E-02	1.117E-01	1.807E-01	1.832E-02	-0.226
	67.75			4.846E-02	1.246E-01	2.071E-01	1.557E-02	0.234
	100.11			8.158E-02	2.219E-01	3.651E-01	3.197E-02	0.223
	152.43			2.058E-01	4.591E-01	7.477E-01	6.395E-02	0.275
IR-192	222.11			-1.409E-01	5.065E-01	8.427E-01	7.977E-02	-0.167
	+ 1121.30			7.764E-01	4.448E-01	4.734E-01	4.046E-02	1.640
	1189.05			-1.459E-01	3.919E-01	6.066E-01	4.902E-02	-0.240
	1221.41	*		-1.470E-02	1.919E-01	3.068E-01	2.503E-02	-0.048
	1231.02			-1.788E-01	4.744E-01	7.246E-01	5.928E-02	-0.247
	+ 295.96			4.976E-01	2.783E-01	3.354E-01	3.322E-02	1.484
HG-203	308.46			6.498E-03	1.481E-01	2.465E-01	2.411E-02	0.026
	316.51	*		2.964E-02	5.394E-02	9.190E-02	8.887E-03	0.323
	468.07			8.426E-02	1.256E-01	2.113E-01	2.032E-02	0.399
BI-207	70.83			4.161E-01	1.565E+00	2.318E+00	3.617E-01	0.179
	72.87			5.192E-01	9.314E-01	1.394E+00	2.111E-01	0.373
	279.20	*		2.032E-02	5.437E-02	9.231E-02	9.368E-03	0.220
PB-210	72.81			1.108E-01	2.350E-01	3.511E-01	2.771E-02	0.316
	+ 74.97			8.791E-01	2.969E-01	2.460E-01	1.987E-02	3.573
	569.70			1.032E-02	5.334E-02	8.685E-02	8.390E-03	0.119
PB-211	1063.66	*		8.171E-04	1.009E-01	1.648E-01	1.488E-02	0.005
	1770.23			2.439E-01	5.379E-01	8.894E-01	7.296E-02	0.274
	46.54	*		-7.705E-01	4.004E+00	6.600E+00	6.065E-01	-0.117
BI-212	404.85	*		-5.443E-01	1.291E+00	2.017E+00	9.756E-01	-0.270
	427.09			8.737E-01	2.820E+00	4.639E+00	2.147E+00	0.188
	832.01			-4.184E-01	1.942E+00	3.155E+00	1.644E+00	-0.133
RN-219	727.33	*		1.433E+00	1.106E+00	1.579E+00	2.141E-01	0.908
	785.37			-1.168E+00	5.425E+00	8.890E+00	9.030E-01	-0.131
	1620.50			1.510E+00	3.003E+00	5.411E+00	4.556E-01	0.279
RA-223	271.23			3.176E-01	3.750E-01	6.479E-01	7.360E-02	0.490
	401.81	*		1.488E-01	7.261E-01	1.203E+00	1.777E-01	0.124
	81.07			-7.136E-02	3.158E-01	4.544E-01	3.938E-02	-0.157
AC-227	83.79			-1.216E-01	1.927E-01	2.719E-01	2.437E-02	-0.447
	+ 94.87			1.494E+00	8.645E-01	8.801E-01	7.917E-02	1.698
	144.24			-2.059E-01	9.605E-01	1.520E+00	1.442E-01	-0.135
AC-227	154.21			2.191E-02	5.549E-01	8.851E-01	8.323E-02	0.025
	269.46			4.211E-01	2.937E-01	5.173E-01	5.198E-02	0.814
	323.87	*		-1.221E-01	1.040E+00	1.711E+00	3.050E-01	-0.071
	+ 338.28			5.846E+00	2.238E+00	3.236E+00	4.084E-01	1.806
AC-227	79.69			-1.453E-01	1.817E+00	2.636E+00	4.530E-01	-0.055
	235.96			8.437E-02	2.545E-01	3.847E-01	4.303E-02	0.219
	256.23	*		1.879E-01	3.926E-01	6.713E-01	8.674E-02	0.280

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		299.98		2.773E-01	1.582E+00	2.349E+00	3.181E-01	0.118
		304.50		-1.329E+00	2.616E+00	4.215E+00	7.233E-01	-0.315
		334.37		9.115E-01	2.971E+00	4.415E+00	7.085E-01	0.206
		79.80		3.294E-01	2.353E+00	3.448E+00	7.497E-01	0.096
		235.96		8.437E-02	2.545E-01	3.847E-01	4.096E-02	0.219
		256.23	*	1.879E-01	3.928E-01	6.713E-01	9.655E-02	0.280
		299.98		2.773E-01	1.582E+00	2.349E+00	3.181E-01	0.118
TH-229		304.50		-1.329E+00	2.616E+00	4.215E+00	7.233E-01	-0.315
		334.37		9.115E-01	2.971E+00	4.415E+00	7.085E-01	0.206
		85.43		2.761E-01	3.178E-01	4.807E-01	4.399E-02	0.574
	+	88.47		4.327E+00	5.568E-01	5.700E-01	5.370E-02	7.590
		193.51	*	-3.695E-01	7.484E-01	1.240E+00	1.129E-01	-0.298
PA-231		210.85		1.576E+00	1.360E+00	2.388E+00	2.228E-01	0.660
		283.69	*	-2.494E+00	2.323E+00	3.604E+00	5.549E-01	-0.692
TH-231		301.36		1.103E+00	9.323E-01	1.578E+00	2.054E-01	0.699
		81.07		-7.136E-02	3.158E-01	4.544E-01	3.938E-02	-0.157
		83.79		-1.216E-01	1.927E-01	2.719E-01	2.437E-02	-0.447
	+	94.87		1.494E+00	8.645E-01	8.801E-01	7.917E-02	1.698
		144.24		-2.059E-01	9.605E-01	1.520E+00	1.442E-01	-0.135
PA-233		154.21		2.191E-02	5.549E-01	8.851E-01	8.323E-02	0.025
		269.46		4.211E-01	2.937E-01	5.173E-01	5.198E-02	0.814
		323.87	*	-1.221E-01	1.040E+00	1.711E+00	3.050E-01	-0.071
	+	338.28		5.846E+00	2.238E+00	3.236E+00	4.084E-01	1.806
		300.13		1.553E-02	7.223E-01	1.061E+00	1.651E-01	0.015
PA-234		311.90	*	4.998E-02	1.069E-01	1.814E-01	1.800E-02	0.276
		340.48		1.254E+00	1.229E+00	1.851E+00	4.505E-01	0.677
	+	94.67		5.416E-01	3.170E-01	3.331E-01	4.221E-02	1.626
		98.44		1.339E-01	1.461E-01	1.936E-01	1.081E-01	0.692
		111.00		-5.578E-02	2.482E-01	3.957E-01	4.738E-02	-0.141
PA-234M		131.20		-3.742E-02	1.477E-01	2.337E-01	1.953E-02	-0.160
		569.50		3.442E-01	4.644E-01	7.845E-01	7.578E-02	0.439
		733.00		1.033E-01	6.921E-01	1.023E+00	2.335E-01	0.101
		880.51		3.986E-01	5.838E-01	1.006E+00	1.005E-01	0.396
		883.24		4.703E-01	6.779E-01	1.043E+00	7.028E-01	0.451
		926.50		-4.550E-02	3.864E-01	6.314E-01	1.624E-01	-0.072
		946.00	*	2.586E-01	7.114E-01	1.194E+00	2.306E-01	0.217
		949.00		-6.813E-01	1.061E+00	1.671E+00	1.626E-01	-0.408
		766.42		5.065E+00	1.919E+01	3.234E+01	1.650E+01	0.157
		1001.03	*	7.734E-01	8.825E+00	1.463E+01	1.565E+00	0.053
TH-234		63.29	*	-1.206E+00	1.685E+00	2.414E+00	4.288E-01	-0.500
	+	92.59		2.010E+00	1.233E+00	1.415E+00	3.154E-01	1.420
U-235		89.96		1.021E+01	2.993E+00	2.564E+00	6.375E-01	3.983
	+	93.35		1.518E+00	9.367E-01	1.076E+00	2.504E-01	1.411
		143.76	*	-1.102E-01	2.890E-01	4.529E-01	7.641E-02	-0.243
		163.33		-2.820E-01	6.300E-01	9.735E-01	1.751E-01	-0.290
NP-237		185.72		5.873E-02	6.499E-02	1.156E-01	1.041E-02	0.508
		205.31		-7.025E-01	7.394E-01	1.181E+00	2.181E-01	-0.595
		86.48	*	3.458E+00	9.174E-01	8.403E-01	1.927E-01	4.115
		95.86		-3.429E-01	1.200E+00	1.698E+00	4.093E-01	-0.202

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-238		63.29	*	-1.206E+00	1.685E+00	2.414E+00	4.288E-01	-0.500
	+	92.59		2.010E+00	1.163E+00	1.415E+00	1.292E-01	1.420
NP-239		99.53		7.945E-02	2.120E-01	3.490E-01	3.064E-02	0.228
		103.37		-4.234E-02	1.281E-01	2.036E-01	1.760E-02	-0.208
		106.12		3.513E-03	1.078E-01	1.742E-01	1.492E-02	0.020
		117.23	*	-6.380E-01	6.408E-01	8.554E-01	7.164E-02	-0.746
		228.18		-9.675E-02	3.289E-01	5.461E-01	5.206E-02	-0.177
		277.60		-5.075E-02	2.745E-01	4.539E-01	4.515E-02	-0.112
CM-247		278.00		1.028E-01	1.169E+00	1.959E+00	1.950E-01	0.052
		287.50		6.527E-01	1.955E+00	3.310E+00	3.280E-01	0.197
		402.40	*	-1.414E-02	6.699E-02	1.084E-01	9.165E-03	-0.130
CF-249		252.80		9.327E-02	1.508E+00	2.534E+00	2.476E-01	0.037
		333.37		-1.192E-01	3.320E-01	4.687E-01	4.425E-02	-0.254
		388.16	*	-1.959E-02	7.159E-02	1.157E-01	9.754E-03	-0.169
CF-251		177.52	*	-1.288E-01	1.899E-01	2.888E-01	2.566E-02	-0.446
		227.38		2.222E-01	5.350E-01	9.164E-01	8.729E-02	0.242
		285.41		9.776E-01	3.420E+00	5.780E+00	5.735E-01	0.169

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]G1202054967      *
* Acquisition date   : 10-MAR-2010 21:20:06 Detector SN#      :              *
* Detector ID        : GAM20                      Sensitivity    : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 01:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 01:00:17.47             Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-MAR-2010 00:00:00 Nuclide Library : SOLID            *
* Sample ID          : G1202054967             Analyst initials: MXR1          *
* Batch Number       : 958225                  Sample Quantity : 1.5544E+02 GRAM  *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11 MS Isotope       :
* MSD DPM            : 0.000                    MSD Isotope   :
* LCS DPM            : 0.000                    LCS Isotope    :
* LCSD DPM           : 0.000                    LCSD Isotope   :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.155E+00	6.197E-01	5.687E-01	0.000E+00
CO-57	1.834E-01	6.457E-02	5.924E-02	0.000E+00
CO-60	6.239E+00	5.952E-01	8.303E-02	0.000E+00
CD-109	2.844E+01	3.587E+00	1.945E+00	0.000E+00
SN-126	2.806E+00	3.540E-01	1.925E-01	0.000E+00
BA-137M	5.453E+00	5.883E-01	1.058E-01	0.000E+00
CS-137	5.761E+00	6.222E-01	1.118E-01	0.000E+00
TL-208	3.473E-01	9.891E-02	1.064E-01	0.000E+00
BI-211	2.565E+00	6.371E-01	6.011E-01	0.000E+00
PB-212	1.125E+00	1.818E-01	1.540E-01	0.000E+00
BI-214	6.091E-01	2.179E-01	1.929E-01	0.000E+00
PB-214	9.309E-01	2.366E-01	1.965E-01	0.000E+00
RA-224	1.939E+00	1.270E+00	1.650E+00	0.000E+00
RA-226	6.091E-01	2.179E-01	1.929E-01	0.000E+00
AC-228	1.394E+00	4.756E-01	4.981E-01	0.000E+00
RA-228	1.394E+00	4.756E-01	4.981E-01	0.000E+00
TH-228	1.125E+00	1.818E-01	1.540E-01	0.000E+00
TH-232	1.394E+00	4.756E-01	4.981E-01	0.000E+00
AM-241	1.346E+01	1.201E+00	4.265E-01	0.000E+00
ANH-511	1.289E-01	1.035E-01	8.900E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	9.131E-02	5.751E-01	9.991E-01	0.000E+00 NOT IDENT.
NA-22	2.065E-02	4.765E-02	8.435E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	5.875E+02	0.000E+00	0.000E+00 SHORT HLIF
SC-46	3.669E-02	7.096E-02	1.267E-01	0.000E+00 FAIL ABUN
V-48	-6.384E-02	1.076E-01	1.753E-01	0.000E+00 NOT IDENT.
CR-51	-3.772E-01	5.064E-01	8.615E-01	0.000E+00 NOT IDENT.
MN-54	5.221E-02	6.946E-02	1.259E-01	0.000E+00 NOT IDENT.

CO-56	1.800E-02	7.098E-02	1.250E-01	0.000E+00	NOT IDENT.
CO-58	-3.047E-02	6.909E-02	1.163E-01	0.000E+00	NOT IDENT.
FE-59	-1.562E-02	1.619E-01	2.715E-01	0.000E+00	NOT IDENT.
ZN-65	2.567E-02	1.871E-01	2.767E-01	0.000E+00	NOT IDENT.
SE-75	9.494E-03	6.501E-02	1.180E-01	0.000E+00	FAIL ABUN
SR-85	3.488E-02	7.290E-02	1.132E-01	0.000E+00	NOT IDENT.
Y-88	-1.855E-04	4.214E-02	7.070E-02	0.000E+00	NOT IDENT.
Y-91	-1.519E+01	2.136E+01	3.208E+01	0.000E+00	NOT IDENT.
NB-94	-2.183E-02	5.513E-02	9.439E-02	0.000E+00	NOT IDENT.
NB-95	-1.835E-02	6.643E-02	1.140E-01	0.000E+00	NOT IDENT.
NB-95M	3.080E-02	1.904E-01	3.081E-01	0.000E+00	NOT IDENT.
ZR-95	-1.642E-01	1.177E-01	1.826E-01	0.000E+00	NOT IDENT.
MO-99	1.822E+00	4.369E+00	7.861E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.652E+09	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-5.712E-03	6.121E-02	1.044E-01	0.000E+00	FAIL ABUN
RH-106	-2.126E-01	5.733E-01	9.370E-01	0.000E+00	NOT IDENT.
RU-106	-2.126E-01	5.729E-01	9.370E-01	0.000E+00	NOT IDENT.
AG-108M	6.205E-03	5.661E-02	9.883E-02	0.000E+00	NOT IDENT.
AG-110M	1.807E-02	6.575E-02	1.040E-01	0.000E+00	NOT IDENT.
SN-113	-3.486E-02	7.726E-02	1.318E-01	0.000E+00	NOT IDENT.
CD-115	-9.132E-01	3.067E+00	5.131E+00	0.000E+00	NOT IDENT.
SN-117M	1.031E-03	5.584E-02	9.703E-02	0.000E+00	NOT IDENT.
TE-123M	-2.066E-02	3.913E-02	6.602E-02	0.000E+00	NOT IDENT.
SB-124	5.335E-02	9.331E-02	1.751E-01	0.000E+00	NOT IDENT.
SB-125	7.283E-03	1.630E-01	2.840E-01	0.000E+00	NOT IDENT.
TE-125M	1.042E+01	1.168E+01	2.154E+01	0.000E+00	NOT IDENT.
I-126	7.611E-02	2.755E-01	4.364E-01	0.000E+00	NOT IDENT.
SB-126	1.515E-01	1.663E-01	3.031E-01	0.000E+00	NOT IDENT.
SB-127	1.114E-01	6.782E-01	1.210E+00	0.000E+00	NOT IDENT.
I-131	1.528E-02	1.077E-01	1.911E-01	0.000E+00	NOT IDENT.
TE-132	-1.165E-01	2.828E-01	5.048E-01	0.000E+00	NOT IDENT.
BA-133	4.074E-03	6.999E-02	1.088E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.336E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.315E-02	8.098E-02	1.469E-01	0.000E+00	NOT IDENT.
CS-135	2.152E-01	2.420E-01	4.513E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.006E+09	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.982E-02	1.531E-01	2.684E-01	0.000E+00	NOT IDENT.
CE-139	3.795E-02	4.046E-02	7.316E-02	0.000E+00	NOT IDENT.
BA-140	-1.443E-01	3.210E-01	5.226E-01	0.000E+00	NOT IDENT.
LA-140	-2.864E-02	8.397E-02	1.353E-01	0.000E+00	NOT IDENT.
CE-141	6.643E-02	7.488E-02	1.360E-01	0.000E+00	NOT IDENT.
CE-143	1.476E+01	1.022E+01	1.677E+01	0.000E+00	NOT IDENT.
CE-144	-4.087E-01	2.876E-01	4.588E-01	0.000E+00	NOT IDENT.
PM-144	2.388E-02	5.692E-02	1.030E-01	0.000E+00	NOT IDENT.
PR-144	1.801E+00	4.248E+00	7.684E+00	0.000E+00	NOT IDENT.
PM-146	-5.357E-03	8.216E-02	1.415E-01	0.000E+00	NOT IDENT.
ND-147	4.780E-02	6.983E-01	1.197E+00	0.000E+00	NOT IDENT.
PM-149	1.148E+01	2.018E+01	3.703E+01	0.000E+00	NOT IDENT.
EU-152	-2.612E-02	1.695E-01	2.870E-01	0.000E+00	FAIL ABUN
GD-153	-4.324E-02	1.120E-01	1.743E-01	0.000E+00	NOT IDENT.
EU-154	8.949E-02	1.306E-01	2.391E-01	0.000E+00	FAIL ABUN
EU-155	-6.179E-02	1.343E-01	2.334E-01	0.000E+00	NOT IDENT.
TB-160	-1.421E-01	2.687E-01	4.455E-01	0.000E+00	FAIL ABUN
HO-166M	1.135E-02	9.965E-02	1.766E-01	0.000E+00	NOT IDENT.
TA-182	-1.470E-02	1.881E-01	3.110E-01	0.000E+00	FAIL ABUN
IR-192	2.964E-02	5.287E-02	9.661E-02	0.000E+00	FAIL ABUN
HG-203	2.032E-02	5.328E-02	9.736E-02	0.000E+00	NOT IDENT.
BI-207	8.171E-04	9.887E-02	1.677E-01	0.000E+00	FAIL ABUN
PB-210	-7.705E-01	3.924E+00	7.277E+00	0.000E+00	NOT IDENT.
PB-211	-5.443E-01	1.265E+00	2.107E+00	0.000E+00	NOT IDENT.
BI-212	1.433E+00	1.084E+00	1.623E+00	0.000E+00	FAIL ABUN
RN-219	1.488E-01	7.116E-01	1.256E+00	0.000E+00	NOT IDENT.
RA-223	-1.221E-01	1.019E+00	1.798E+00	0.000E+00	FAIL ABUN
AC-227	1.879E-01	3.848E-01	7.096E-01	0.000E+00	NOT IDENT.
TH-227	1.879E-01	3.850E-01	7.096E-01	0.000E+00	NOT IDENT.
TH-229	-3.695E-01	7.335E-01	1.320E+00	0.000E+00	FAIL ABUN
PA-231	-2.494E+00	2.277E+00	3.799E+00	0.000E+00	NOT IDENT.
TH-231	-1.221E-01	1.019E+00	1.798E+00	0.000E+00	FAIL ABUN
PA-233	4.998E-02	1.047E-01	1.908E-01	0.000E+00	NOT IDENT.
PA-234	2.586E-01	6.972E-01	1.219E+00	0.000E+00	FAIL ABUN
PA-234M	7.734E-01	8.649E+00	1.492E+01	0.000E+00	NOT IDENT.
TH-234	-1.206E+00	1.651E+00	2.642E+00	0.000E+00	FAIL ABUN
U-235	-1.102E-01	2.833E-01	4.858E-01	0.000E+00	FAIL ABUN
NP-237	0.000E+00	8.990E-01	9.128E-01	0.000E+00	NOT IDENT.
U-238	-1.206E+00	1.651E+00	2.642E+00	0.000E+00	FAIL ABUN
NP-239	-6.380E-01	6.280E-01	9.222E-01	0.000E+00	NOT IDENT.
CM-247	-1.414E-02	6.565E-02	1.132E-01	0.000E+00	NOT IDENT.
CF-249	-1.959E-02	7.016E-02	1.209E-01	0.000E+00	NOT IDENT.

CF-251	-1.288E-01	1.861E-01	3.081E-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]G1202054967.CNF;1
Sample date     : 2-MAR-2010 00:00:00. Acquisition date : 10-MAR-2010 21:20:06
Sample ID       : G1202054967      Sample quantity   : 1.55440E+02 GRAM
Detector name   : GAM20            Detector geometry: CAN
Elapsed live time: 0 01:00:00.00    Elapsed real time: 0 01:00:17.47  0.5%
Energy tolerance: 1.50000 keV       Analyst Initials : MXR1
Abundance limit : 75.00000          Sensitivity     : 5.00000
Batch ID        : 958225            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	1460.82	32	10.66*	1.253E+00	1.155E+00	1.155E+00	54.73
CO-57	122.06	234	85.60*	7.376E+00	1.792E-01	1.834E-01	35.93
	136.47	-----	10.68	7.171E+00	-----	Line Not Found	-----
CO-60	1173.23	1920	99.85	1.496E+00	6.205E+00	6.225E+00	9.47
	1332.49	1733	99.98*	1.346E+00	6.219E+00	6.239E+00	9.73
CD-109	88.03	1501	3.70*	6.982E+00	2.806E+01	2.844E+01	12.87
SN-126	64.28	-----	9.60	4.779E+00	-----	Line Not Found	-----
	86.94	1501	8.90	6.982E+00	1.167E+01	1.167E+01	42.45
	87.57	1501	37.00*	6.982E+00	2.806E+00	2.806E+00	12.87
BA-137M	661.66	2469	89.90*	2.434E+00	5.450E+00	5.453E+00	11.01
CS-137	661.66	2469	85.10*	2.434E+00	5.757E+00	5.761E+00	11.02
TL-208	277.37	-----	6.60	4.721E+00	-----	Line Not Found	-----
	583.19	165	85.00*	2.695E+00	3.473E-01	3.473E-01	29.06
	860.56	-----	12.50	1.954E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.23	5.845E+00	-----	Line Not Found	-----
	351.06	272	12.92*	3.967E+00	2.565E+00	2.565E+00	25.34
PB-212	74.82	401	10.28	6.174E+00	3.051E+00	3.051E+00	35.15
	77.11	401	17.10	6.174E+00	1.834E+00	1.834E+00	33.78
	238.63	533	43.60*	5.248E+00	1.125E+00	1.125E+00	16.49
	300.09	-----	3.30	4.461E+00	-----	Line Not Found	-----
BI-214	609.32	149	45.49*	2.602E+00	6.091E-01	6.091E-01	36.50
	1120.29	83	14.92	1.556E+00	1.721E+00	1.721E+00	57.68
	1764.49	30	15.30	1.100E+00	8.496E-01	8.496E-01	49.11
PB-214	74.82	401	5.80	6.174E+00	5.409E+00	5.409E+00	34.70
	77.11	401	9.70	6.174E+00	3.234E+00	3.234E+00	34.77
	242.00	86	7.25	5.204E+00	1.097E+00	1.097E+00	67.08
	295.22	123	18.42	4.510E+00	7.135E-01	7.136E-01	56.31
	351.93	272	35.60*	3.967E+00	9.309E-01	9.309E-01	25.94
RA-224	240.99	86	4.10*	5.204E+00	1.939E+00	1.939E+00	66.83
RA-226	609.32	149	45.49*	2.602E+00	6.091E-01	6.091E-01	36.50
	1120.29	83	14.92	1.556E+00	1.721E+00	1.721E+00	57.68
	1764.49	30	15.30	1.100E+00	8.496E-01	8.496E-01	49.11

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AC-228	338.32	140	11.27	4.085E+00	1.473E+00	1.473E+00	55.32
	911.20	139	25.80*	1.859E+00	1.394E+00	1.394E+00	34.80
	968.97	76	15.80	1.763E+00	1.317E+00	1.317E+00	58.20
RA-228	338.32	140	11.27	4.085E+00	1.473E+00	1.473E+00	55.32
	911.20	139	25.80*	1.859E+00	1.394E+00	1.394E+00	34.80
	968.97	76	15.80	1.763E+00	1.317E+00	1.317E+00	58.20
TH-228	74.82	401	10.28	6.174E+00	3.051E+00	3.051E+00	33.80
	77.11	401	17.10	6.174E+00	1.834E+00	1.834E+00	33.78
	238.63	533	43.60*	5.248E+00	1.125E+00	1.125E+00	16.49
	300.09	-----	3.30	4.461E+00	-----	Line Not Found	-----
TH-232	338.32	140	11.27	4.085E+00	1.473E+00	1.473E+00	37.35
	911.20	139	25.80*	1.859E+00	1.394E+00	1.394E+00	34.80
	968.97	76	15.80	1.763E+00	1.317E+00	1.317E+00	58.20
AM-241	59.54	4084	35.90*	4.082E+00	1.346E+01	1.346E+01	9.11
ANH-511	511.00	80	100.00*	2.990E+00	1.289E-01	1.289E-01	81.96

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202054967

Page : 3
Acquisition date : 10-MAR-2010 21:20:06

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	1.25E+09Y	1.00	1.155E+00	1.155E+00	0.632E+00	54.73	
CO-57	271.74D	1.02	1.792E-01	1.834E-01	0.659E-01	35.93	
CO-60	5.27Y	1.00	6.219E+00	6.239E+00	0.607E+00	9.73	
CD-109	461.40D	1.01	2.806E+01	2.844E+01	0.366E+01	12.87	
SN-126	2.30E+05Y	1.00	2.806E+00	2.806E+00	0.361E+00	12.87	
BA-137M	30.08Y	1.00	5.450E+00	5.453E+00	0.600E+00	11.01	
CS-137	30.08Y	1.00	5.757E+00	5.761E+00	0.635E+00	11.02	
TL-208	1.41E+10Y	1.00	3.473E-01	3.473E-01	1.009E-01	29.06	
BI-211	7.04E+08Y	1.00	2.565E+00	2.565E+00	0.650E+00	25.34	
PB-212	1.41E+10Y	1.00	1.125E+00	1.125E+00	0.185E+00	16.49	
BI-214	1600.00Y	1.00	6.091E-01	6.091E-01	2.223E-01	36.50	
PB-214	1600.00Y	1.00	9.309E-01	9.309E-01	2.415E-01	25.94	
RA-224	1.41E+10Y	1.00	1.939E+00	1.939E+00	1.296E+00	66.83	
RA-226	1600.00Y	1.00	6.091E-01	6.091E-01	2.223E-01	36.50	
AC-228	1.41E+10Y	1.00	1.394E+00	1.394E+00	0.485E+00	34.80	
RA-228	1.41E+10Y	1.00	1.394E+00	1.394E+00	0.485E+00	34.80	
TH-228	1.41E+10Y	1.00	1.125E+00	1.125E+00	0.185E+00	16.49	
TH-232	1.41E+10Y	1.00	1.394E+00	1.394E+00	0.485E+00	34.80	
AM-241	432.60Y	1.00	1.346E+01	1.346E+01	0.123E+01	9.11	
ANH-511	1.00E+09Y	1.00	1.289E-01	1.289E-01	1.057E-01	81.96	
Total Activity :			7.665E+01	7.706E+01			

Grand Total Activity : 7.665E+01 7.706E+01

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

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

Unidentified Energy Lines
Sample ID : G1202054967

Page : 4
Acquisition date : 10-MAR-2010 21:20:06

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	93.40	127	310	1.37	186.70	183	10	3.52E-02	57.1	7.19E+00	T
0	727.92	45	68	1.61	1454.57	1450	10	1.24E-02	76.0	2.25E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202054967.CNF;1
* Acquisition date   : 10-MAR-2010 21:20:06   Detector SN#      :
* Detector ID        : GAM20                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 01:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 01:00:17.47          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-MAR-2010 00:00:00.   Nuclide Library : SOLID
* Sample ID          : G1202054967            Analyst initials: MXR1
* Batch Number       : 958225                 Sample Quantity : 1.55440E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11.7MS Isotope      :
* MSD ID              :                          MSD Isotope   :
* LCS ID              : 1032-A                  LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.155E+00	6.323E-01	5.639E-01	4.918E-02	2.049
CO-57	1.834E-01	6.589E-02	5.501E-02	4.591E-03	3.334
CO-60	6.239E+00	6.073E-01	8.211E-02	6.878E-03	75.981
CD-109	2.844E+01	3.661E+00	1.792E+00	1.694E-01	15.874
SN-126	2.806E+00	3.612E-01	1.773E-01	1.668E-02	15.829
BA-137M	5.453E+00	6.003E-01	1.027E-01	1.030E-02	53.112
CS-137	5.761E+00	6.349E-01	1.085E-01	1.090E-02	53.112
TL-208	3.473E-01	1.009E-01	1.029E-01	1.057E-02	3.375
BI-211	2.565E+00	6.501E-01	5.733E-01	5.493E-02	4.474
PB-212	1.125E+00	1.855E-01	1.455E-01	1.553E-02	7.733
BI-214	6.091E-01	2.223E-01	1.867E-01	2.086E-02	3.262
PB-214	9.309E-01	2.415E-01	1.875E-01	2.070E-02	4.966
RA-224	1.939E+00	1.296E+00	1.559E+00	1.507E-01	1.244
RA-226	6.091E-01	2.223E-01	1.867E-01	2.086E-02	3.262
AC-228	1.394E+00	4.853E-01	4.874E-01	6.126E-02	2.861
RA-228	1.394E+00	4.853E-01	4.874E-01	6.126E-02	2.861
TH-228	1.125E+00	1.855E-01	1.455E-01	1.553E-02	7.733
TH-232	1.394E+00	4.853E-01	4.874E-01	6.126E-02	2.861

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-241	1.346E+01	1.226E+00	3.891E-01	3.045E-02	34.594
ANH-511	1.289E-01	1.057E-01	8.574E-02	7.989E-03	1.504

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.131E-02		5.868E-01	9.608E-01	9.337E-02	0.095
NA-22	2.065E-02		4.863E-02	8.331E-02	6.901E-03	0.248
NA-24	-1.150E-05		2.997E-04	Half-Life too short		
SC-46	3.669E-02		7.241E-02	1.239E-01	1.235E-02	0.296
V-48	-6.384E-02		1.098E-01	1.719E-01	1.643E-02	-0.371
CR-51	-3.772E-01		5.167E-01	8.198E-01	8.213E-02	-0.460
MN-54	5.221E-02		7.088E-02	1.229E-01	1.242E-02	0.425
CO-56	1.800E-02		7.243E-02	1.221E-01	1.231E-02	0.147
CO-58	-3.047E-02		7.050E-02	1.135E-01	1.152E-02	-0.268
FE-59	-1.562E-02		1.652E-01	2.671E-01	2.519E-02	-0.058
ZN-65	2.567E-02		1.909E-01	2.723E-01	2.344E-02	0.094
SE-75	9.494E-03		6.634E-02	1.117E-01	1.106E-02	0.085
SR-85	3.488E-02		7.439E-02	1.090E-01	1.018E-02	0.320
Y-88	-1.855E-04		4.300E-02	7.056E-02	5.693E-03	-0.003
Y-91	-1.519E+01		2.179E+01	3.164E+01	2.569E+00	-0.480
NB-94	-2.183E-02		5.626E-02	9.171E-02	9.279E-03	-0.238
NB-95	-1.835E-02		6.779E-02	1.110E-01	1.128E-02	-0.165
NB-95M	3.080E-02		1.942E-01	2.909E-01	3.131E-02	0.106
ZR-95	-1.642E-01		1.201E-01	1.777E-01	1.944E-02	-0.924
MO-99	1.822E+00		4.458E+00	7.648E+00	1.273E+00	0.238
TC-99M	2.373E+02		8.427E+02	Half-Life too short		
RU-103	-5.712E-03		6.246E-02	1.005E-01	1.441E-02	-0.057
RH-106	-2.126E-01		5.850E-01	9.074E-01	1.281E-01	-0.234
RU-106	-2.126E-01		5.846E-01	9.074E-01	8.981E-02	-0.234
AG-108M	6.205E-03		5.776E-02	9.479E-02	8.543E-03	0.065
AG-110M	1.807E-02		6.710E-02	1.009E-01	1.034E-02	0.179
SN-113	-3.486E-02		7.883E-02	1.260E-01	1.087E-02	-0.277
CD-115	-9.132E-01		3.129E+00	4.947E+00	4.663E-01	-0.185
SN-117M	1.031E-03		5.698E-02	9.068E-02	7.826E-03	0.011
TE-123M	-2.066E-02		3.993E-02	6.170E-02	5.361E-03	-0.335
SB-124	5.335E-02		9.521E-02	1.743E-01	1.519E-02	0.306
SB-125	7.283E-03		1.664E-01	2.723E-01	2.409E-02	0.027
TE-125M	1.042E+01		1.192E+01	1.994E+01	2.067E+00	0.522
I-126	7.611E-02		2.811E-01	4.234E-01	4.254E-02	0.180
SB-126	1.515E-01		1.697E-01	2.947E-01	2.989E-02	0.514
SB-127	1.114E-01		6.920E-01	1.175E+00	1.308E-01	0.095
I-131	1.528E-02		1.099E-01	1.824E-01	1.705E-02	0.084
TE-132	-1.165E-01		2.886E-01	4.762E-01	7.318E-02	-0.245
BA-133	4.074E-03		7.142E-02	1.038E-01	1.378E-02	0.039
I-133	5.837E-05		3.743E-05	Half-Life too short		
CS-134	5.315E-02		8.263E-02	1.433E-01	1.462E-02	0.371

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135	2.152E-01		2.469E-01	4.275E-01	4.737E-02	0.503
I-135	-1.114E+03		5.132E+02	Half-Life too short		
CS-136	6.982E-02		1.562E-01	2.637E-01	2.501E-02	0.265
CE-139	3.795E-02		4.129E-02	6.845E-02	5.975E-03	0.554
BA-140	-1.443E-01		3.276E-01	5.042E-01	1.721E-01	-0.286
LA-140	-2.864E-02		8.568E-02	1.345E-01	1.135E-02	-0.213
CE-141	6.643E-02		7.641E-02	1.269E-01	1.095E-02	0.524
CE-143	1.476E+01		1.043E+01	1.592E+01	3.475E+00	0.927
CE-144	-4.087E-01		2.934E-01	4.269E-01	6.467E-02	-0.957
PM-144	2.388E-02		5.809E-02	1.000E-01	1.011E-02	0.239
PR-144	1.801E+00		4.334E+00	7.464E+00	7.545E-01	0.241
PM-146	-5.357E-03		8.383E-02	1.359E-01	1.471E-02	-0.039
ND-147	4.780E-02		7.126E-01	1.154E+00	1.782E-01	0.041
PM-149	1.148E+01		2.059E+01	3.513E+01	5.721E+00	0.327
EU-152	-2.612E-02		1.730E-01	2.736E-01	2.668E-02	-0.095
GD-153	-4.324E-02		1.143E-01	1.609E-01	1.427E-02	-0.269
EU-154	8.949E-02		1.332E-01	2.362E-01	2.626E-02	0.379
EU-155	-6.179E-02		1.370E-01	2.160E-01	1.877E-02	-0.286
TB-160	-1.421E-01		2.742E-01	4.355E-01	4.354E-02	-0.326
HO-166M	1.135E-02		1.017E-01	1.717E-01	1.739E-02	0.066
TA-182	-1.470E-02		1.919E-01	3.068E-01	2.503E-02	-0.048
IR-192	2.964E-02		5.394E-02	9.190E-02	8.887E-03	0.323
HG-203	2.032E-02		5.437E-02	9.231E-02	9.368E-03	0.220
BI-207	8.171E-04		1.009E-01	1.648E-01	1.488E-02	0.005
PB-210	-7.705E-01		4.004E+00	6.600E+00	6.065E-01	-0.117
PB-211	-5.443E-01		1.291E+00	2.017E+00	9.756E-01	-0.270
BI-212	1.433E+00	+	1.106E+00	1.579E+00	2.141E-01	0.908
RN-219	1.488E-01		7.261E-01	1.203E+00	1.777E-01	0.124
RA-223	-1.221E-01		1.040E+00	1.711E+00	3.050E-01	-0.071
AC-227	1.879E-01		3.926E-01	6.713E-01	8.674E-02	0.280
TH-227	1.879E-01		3.928E-01	6.713E-01	9.655E-02	0.280
TH-229	-3.695E-01		7.484E-01	1.240E+00	1.129E-01	-0.298
PA-231	-2.494E+00		2.323E+00	3.604E+00	5.549E-01	-0.692
TH-231	-1.221E-01		1.040E+00	1.711E+00	3.050E-01	-0.071
PA-233	4.998E-02		1.069E-01	1.814E-01	1.800E-02	0.276
PA-234	2.586E-01		7.114E-01	1.194E+00	2.306E-01	0.217
PA-234M	7.734E-01		8.825E+00	1.463E+01	1.565E+00	0.053
TH-234	-1.206E+00		1.685E+00	2.414E+00	4.288E-01	-0.500
U-235	-1.102E-01		2.890E-01	4.529E-01	7.641E-02	-0.243
NP-237	3.458E+00		9.174E-01	8.403E-01	1.927E-01	4.115
U-238	-1.206E+00		1.685E+00	2.414E+00	4.288E-01	-0.500
NP-239	-6.380E-01		6.408E-01	8.554E-01	7.164E-02	-0.746
CM-247	-1.414E-02		6.699E-02	1.084E-01	9.165E-03	-0.130
CF-249	-1.959E-02		7.159E-02	1.157E-01	9.754E-03	-0.169
CF-251	-1.288E-01		1.899E-01	2.888E-01	2.566E-02	-0.446

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]G1202054967          *
* Acquisition date   : 10-MAR-2010 21:20:06 Detector SN# :                  *
* Detector ID        : GAM20 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance : 1.500                      *
* Elapsed live time  : 0 01:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 01:00:17.47 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 2-MAR-2010 00:00:00 Nuclide Library : SOLID           *
* Sample ID         : G1202054967 Analyst initials: MXR1                 *
* Batch Number      : 958225 Sample Quantity : 1.5544E+02 GRAM          *
* Recovery          : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 26-AUG-2009 06:32:11 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.155E+00	6.197E-01	2.845E-01	3.162E-01
CO-57	1.834E-01	6.457E-02	2.964E-02	3.294E-02
CO-60	6.239E+00	5.952E-01	4.154E-02	3.037E-01
CD-109	2.844E+01	3.587E+00	9.733E-01	1.830E+00
SN-126	2.806E+00	3.540E-01	9.632E-02	1.806E-01
BA-137M	5.453E+00	5.883E-01	5.295E-02	3.002E-01
CS-137	5.761E+00	6.222E-01	5.594E-02	3.175E-01
TL-208	3.473E-01	9.891E-02	5.325E-02	5.047E-02
BI-211	2.565E+00	6.371E-01	3.007E-01	3.250E-01
PB-212	1.125E+00	1.818E-01	7.706E-02	9.273E-02
BI-214	6.091E-01	2.179E-01	9.652E-02	1.112E-01
PB-214	9.309E-01	2.366E-01	9.833E-02	1.207E-01
RA-224	1.939E+00	1.270E+00	8.256E-01	6.479E-01
RA-226	6.091E-01	2.179E-01	9.652E-02	1.112E-01
AC-228	1.394E+00	4.756E-01	2.492E-01	2.426E-01
RA-228	1.394E+00	4.756E-01	2.492E-01	2.426E-01
TH-228	1.125E+00	1.818E-01	7.706E-02	9.273E-02
TH-232	1.394E+00	4.756E-01	2.492E-01	2.426E-01
AM-241	1.346E+01	1.201E+00	2.134E-01	6.128E-01
ANH-511	1.289E-01	1.035E-01	4.453E-02	5.283E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	9.131E-02	5.751E-01	4.999E-01	2.934E-01 NOT IDENT.
NA-22	2.065E-02	4.765E-02	4.220E-02	2.431E-02 NOT IDENT.
NA-24	-1.150E+01	5.875E+02	0.000E+00	2.997E+02 SHORT HLIF
SC-46	3.669E-02	7.096E-02	6.339E-02	3.620E-02 FAIL ABUN
V-48	-6.384E-02	1.076E-01	8.771E-02	5.490E-02 NOT IDENT.
CR-51	-3.772E-01	5.064E-01	4.310E-01	2.583E-01 NOT IDENT.
MN-54	5.221E-02	6.946E-02	6.300E-02	3.544E-02 NOT IDENT.

CO-56	1.800E-02	7.098E-02	6.255E-02	3.622E-02	NOT IDENT.
CO-58	-3.047E-02	6.909E-02	5.820E-02	3.525E-02	NOT IDENT.
FE-59	-1.562E-02	1.619E-01	1.358E-01	8.261E-02	NOT IDENT.
ZN-65	2.567E-02	1.871E-01	1.385E-01	9.543E-02	NOT IDENT.
SE-75	9.494E-03	6.501E-02	5.902E-02	3.317E-02	FAIL ABUN
SR-85	3.488E-02	7.290E-02	5.662E-02	3.720E-02	NOT IDENT.
Y-88	-1.855E-04	4.214E-02	3.537E-02	2.150E-02	NOT IDENT.
Y-91	-1.519E+01	2.136E+01	1.605E+01	1.090E+01	NOT IDENT.
NB-94	-2.183E-02	5.513E-02	4.722E-02	2.813E-02	NOT IDENT.
NB-95	-1.835E-02	6.643E-02	5.704E-02	3.389E-02	NOT IDENT.
NB-95M	3.080E-02	1.904E-01	1.542E-01	9.712E-02	NOT IDENT.
ZR-95	-1.642E-01	1.177E-01	9.134E-02	6.007E-02	NOT IDENT.
MO-99	1.822E+00	4.369E+00	3.933E+00	2.229E+00	NOT IDENT.
TC-99M	2.373E+08	1.652E+09	0.000E+00	8.427E+08	SHORT HLIF
RU-103	-5.712E-03	6.121E-02	5.221E-02	3.123E-02	FAIL ABUN
RH-106	-2.126E-01	5.733E-01	4.688E-01	2.925E-01	NOT IDENT.
RU-106	-2.126E-01	5.729E-01	4.688E-01	2.923E-01	NOT IDENT.
AG-108M	6.205E-03	5.661E-02	4.944E-02	2.888E-02	NOT IDENT.
AG-110M	1.807E-02	6.575E-02	5.204E-02	3.355E-02	NOT IDENT.
SN-113	-3.486E-02	7.726E-02	6.592E-02	3.942E-02	NOT IDENT.
CD-115	-9.132E-01	3.067E+00	2.567E+00	1.565E+00	NOT IDENT.
SN-117M	1.031E-03	5.584E-02	4.855E-02	2.849E-02	NOT IDENT.
TE-123M	-2.066E-02	3.913E-02	3.303E-02	1.996E-02	NOT IDENT.
SB-124	5.335E-02	9.331E-02	8.759E-02	4.761E-02	NOT IDENT.
SB-125	7.283E-03	1.630E-01	1.421E-01	8.319E-02	NOT IDENT.
TE-125M	1.042E+01	1.168E+01	1.078E+01	5.958E+00	NOT IDENT.
I-126	7.611E-02	2.755E-01	2.183E-01	1.406E-01	NOT IDENT.
SB-126	1.515E-01	1.663E-01	1.517E-01	8.487E-02	NOT IDENT.
SB-127	1.114E-01	6.782E-01	6.056E-01	3.460E-01	NOT IDENT.
I-131	1.528E-02	1.077E-01	9.560E-02	5.495E-02	NOT IDENT.
TE-132	-1.165E-01	2.828E-01	2.526E-01	1.443E-01	NOT IDENT.
BA-133	4.074E-03	6.999E-02	5.445E-02	3.571E-02	NOT IDENT.
I-133	5.837E+01	7.336E+01	0.000E+00	3.743E+01	SHORT HLIF
CS-134	5.315E-02	8.098E-02	7.351E-02	4.131E-02	NOT IDENT.
CS-135	2.152E-01	2.420E-01	2.258E-01	1.235E-01	NOT IDENT.
I-135	-1.114E+09	1.006E+09	0.000E+00	5.132E+08	SHORT HLIF
CS-136	6.982E-02	1.531E-01	1.343E-01	7.811E-02	NOT IDENT.
CE-139	3.795E-02	4.046E-02	3.660E-02	2.064E-02	NOT IDENT.
BA-140	-1.443E-01	3.210E-01	2.615E-01	1.638E-01	NOT IDENT.
LA-140	-2.864E-02	8.397E-02	6.768E-02	4.284E-02	NOT IDENT.
CE-141	6.643E-02	7.488E-02	6.806E-02	3.820E-02	NOT IDENT.
CE-143	1.476E+01	1.022E+01	8.391E+00	5.216E+00	NOT IDENT.
CE-144	-4.087E-01	2.876E-01	2.295E-01	1.467E-01	NOT IDENT.
PM-144	2.388E-02	5.692E-02	5.151E-02	2.904E-02	NOT IDENT.
PR-144	1.801E+00	4.248E+00	3.844E+00	2.167E+00	NOT IDENT.
PM-146	-5.357E-03	8.216E-02	7.081E-02	4.192E-02	NOT IDENT.
ND-147	4.780E-02	6.983E-01	5.988E-01	3.563E-01	NOT IDENT.
PM-149	1.148E+01	2.018E+01	1.853E+01	1.030E+01	NOT IDENT.
EU-152	-2.612E-02	1.695E-01	1.436E-01	8.650E-02	FAIL ABUN
GD-153	-4.324E-02	1.120E-01	8.720E-02	5.716E-02	NOT IDENT.
EU-154	8.949E-02	1.306E-01	1.196E-01	6.662E-02	FAIL ABUN
EU-155	-6.179E-02	1.343E-01	1.168E-01	6.850E-02	NOT IDENT.
TB-160	-1.421E-01	2.687E-01	2.229E-01	1.371E-01	FAIL ABUN
HO-166M	1.135E-02	9.965E-02	8.838E-02	5.084E-02	NOT IDENT.
TA-182	-1.470E-02	1.881E-01	1.556E-01	9.597E-02	FAIL ABUN
IR-192	2.964E-02	5.287E-02	4.833E-02	2.697E-02	FAIL ABUN
HG-203	2.032E-02	5.328E-02	4.871E-02	2.719E-02	NOT IDENT.
BI-207	8.171E-04	9.887E-02	8.390E-02	5.044E-02	FAIL ABUN
PB-210	-7.705E-01	3.924E+00	3.641E+00	2.002E+00	NOT IDENT.
PB-211	-5.443E-01	1.265E+00	1.054E+00	6.453E-01	NOT IDENT.
BI-212	1.433E+00	1.084E+00	8.121E-01	5.530E-01	FAIL ABUN
RN-219	1.488E-01	7.116E-01	6.286E-01	3.630E-01	NOT IDENT.
RA-223	-1.221E-01	1.019E+00	8.995E-01	5.199E-01	FAIL ABUN
AC-227	1.879E-01	3.848E-01	3.550E-01	1.963E-01	NOT IDENT.
TH-227	1.879E-01	3.850E-01	3.550E-01	1.964E-01	NOT IDENT.
TH-229	-3.695E-01	7.335E-01	6.604E-01	3.742E-01	FAIL ABUN
PA-231	-2.494E+00	2.277E+00	1.901E+00	1.162E+00	NOT IDENT.
TH-231	-1.221E-01	1.019E+00	8.995E-01	5.199E-01	FAIL ABUN
PA-233	4.998E-02	1.047E-01	9.545E-02	5.343E-02	NOT IDENT.
PA-234	2.586E-01	6.972E-01	6.099E-01	3.557E-01	FAIL ABUN
PA-234M	7.734E-01	8.649E+00	7.463E+00	4.413E+00	NOT IDENT.
TH-234	-1.206E+00	1.651E+00	1.322E+00	8.424E-01	FAIL ABUN
U-235	-1.102E-01	2.833E-01	2.431E-01	1.445E-01	FAIL ABUN
NP-237	3.458E+00	8.990E-01	4.567E-01	4.587E-01	NOT IDENT.
U-238	-1.206E+00	1.651E+00	1.322E+00	8.424E-01	FAIL ABUN
NP-239	-6.380E-01	6.280E-01	4.614E-01	3.204E-01	NOT IDENT.
CM-247	-1.414E-02	6.565E-02	5.666E-02	3.350E-02	NOT IDENT.
CF-249	-1.959E-02	7.016E-02	6.050E-02	3.580E-02	NOT IDENT.

CF-251	-1.288E-01	1.861E-01	1.542E-01	9.497E-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
46.54	532.9878
49.72	594.3680
57.36	869.4271
59.54	636.9129
63.29	354.3225
63.29	354.3225
64.28	364.0135
67.75	336.3448
69.67	381.7668
70.83	336.0727
72.81	352.5069
72.87	352.5420
72.87	352.5420
74.82	386.4706
74.82	386.4706
74.82	386.4706
74.97	386.5646
77.11	387.8934
77.11	387.8934
77.11	387.8934
79.69	406.0009
79.80	385.9223
80.12	386.1141
80.19	386.1559
80.57	378.6252
81.00	411.4847
81.07	411.5292
81.07	411.5292
83.79	444.4275
83.79	444.4275
85.43	393.9365
86.48	411.7722
86.55	411.8164
86.79	411.9608
86.94	412.0531
87.57	412.4344
88.03	412.7133
88.47	412.9781
89.96	264.3752
91.11	264.8123
92.59	309.5996
92.59	309.5996
93.35	216.6369
94.67	217.0393
94.87	212.3459
94.87	212.3459
95.86	230.0937
97.43	236.9538
98.44	205.4314
99.53	238.1652
100.11	238.3520
103.18	242.5372
103.37	236.1861
105.31	241.0744
106.12	224.1684
109.28	217.5439
111.00	249.3189
111.76	272.2451
116.30	237.2798
117.23	272.4644
121.12	228.3950
121.78	228.5746
122.06	228.6511
123.07	228.9254
131.20	248.7808
133.52	288.2338
136.00	222.3327

136.47	229.1222
140.51	229.0193
140.51	0.0000
143.76	250.0016
144.24	242.2793
144.24	242.2793
145.44	211.1424
152.43	205.9016
153.25	211.7351
154.21	233.4788
154.21	233.4788
156.02	227.0955
158.56	221.9855
159.00	240.3049
162.66	236.6084
163.33	233.3329
165.86	196.0714
176.60	245.5843
177.52	228.4025
181.07	209.3793
184.41	253.7721
185.72	253.1969
193.51	235.5500
197.04	218.5767
205.31	276.2759
210.85	236.3718
215.65	231.9130
222.11	226.8023
227.38	209.6046
228.16	231.5237
228.18	226.9878
235.69	227.9520
235.96	232.3822
235.96	232.3822
238.63	219.6771
238.63	219.6771
240.99	220.0708
242.00	192.3423
244.70	229.5154
252.40	195.1306
252.80	199.8138
256.23	182.6945
256.23	182.6945
260.90	187.0328
264.66	179.1387
268.22	182.3959
269.46	179.7451
269.46	179.7451
271.23	189.3411
273.65	225.3406
276.40	185.3188
277.37	186.3833
277.60	196.7699
278.00	192.1154
279.20	176.2484
279.54	184.7758
280.46	176.4011
283.69	201.3678
284.31	196.7234
285.41	170.3677
285.90	167.5850
287.50	171.5545
293.27	173.5494
295.22	177.2018
295.96	187.5810
298.57	203.1789
299.98	183.4893
299.98	183.4893
300.09	189.6177
300.09	189.6177
300.13	189.6237
301.36	160.6967
302.85	172.3398
304.50	185.9423
304.50	185.9423
304.85	180.2317
308.46	170.0805
311.90	164.6752

316.51	158.3945
319.41	153.8420
320.08	178.1068
323.87	168.8227
323.87	168.8227
328.76	157.6519
333.37	173.3183
334.37	143.7388
334.37	143.7388
338.28	158.5616
338.28	158.5616
338.32	158.5665
338.32	158.5665
338.32	158.5665
340.48	175.6289
340.55	175.6344
344.28	176.2499
351.06	171.9917
351.93	139.1239
356.01	125.0133
364.49	136.1575
366.42	137.3009
383.85	150.6935
388.16	167.1601
388.63	175.2611
391.69	176.5621
400.66	131.7912
401.81	154.1871
402.40	163.3682
404.85	162.5635
410.95	164.1028
414.70	139.9141
423.72	142.6163
427.09	144.9157
427.87	150.1147
433.94	163.9809
453.88	167.6870
463.37	168.4560
468.07	151.0049
473.00	173.4318
476.78	164.2623
477.60	151.6860
487.02	143.8878
492.35	111.3622
497.08	115.8541
511.00	130.4860
514.00	140.5131
527.90	131.4605
529.87	0.0000
531.02	121.9281
537.26	107.1090
546.56	0.0000
563.25	101.7301
569.33	89.9227
569.50	89.9277
569.70	101.9997
583.19	110.2844
600.60	82.1796
602.73	109.6661
604.72	113.9063
609.32	96.9484
609.32	96.9484
610.33	101.6704
614.28	105.3991
618.01	102.8683
621.93	113.1041
621.93	113.1041
633.25	93.3497
635.95	81.9622
636.99	88.3029
645.85	103.0620
657.76	93.8350
661.66	100.0339
661.66	100.0339
664.57	84.9673
666.33	78.9500
666.50	78.9543
677.62	71.3464

685.70	79.8123
695.00	96.6456
696.49	92.0923
696.51	92.0923
697.00	83.8173
702.65	99.6759
706.68	83.1797
711.68	87.0303
720.70	71.2049
721.93	61.0585
722.78	83.6477
722.91	83.6521
723.31	85.2124
724.19	94.5356
727.33	71.3678
733.00	76.1697
735.93	90.5610
739.50	83.1920
747.24	91.8463
752.31	80.7363
753.82	74.2014
756.73	109.0615
763.94	98.0129
765.81	99.0168
766.42	89.6052
777.92	91.8374
778.90	93.7600
783.70	82.5247
785.37	90.1619
795.86	85.7065
801.95	84.9194
810.29	98.5365
810.76	101.4220
815.77	86.2493
818.51	102.6296
832.01	104.9897
834.85	94.4781
836.80	0.0000
846.77	91.9222
856.80	122.2901
860.56	86.4773
871.09	94.5513
873.19	90.7091
875.33	0.0000
879.36	107.4890
880.51	88.9516
883.24	90.9815
884.68	107.6582
889.28	81.3424
898.04	111.0302
911.20	108.4961
911.20	108.4961
911.20	108.4961
926.50	111.9461
937.49	126.2094
944.13	113.5046
946.00	120.5362
949.00	139.5830
962.29	128.0938
964.08	98.4534
966.15	136.9102
968.97	138.6879
968.97	138.6879
968.97	138.6879
983.53	97.6394
996.26	99.9982
1001.03	82.9329
1004.73	84.0274
1037.84	84.7710
1038.76	0.0000
1048.07	81.9258
1050.41	86.0713
1050.41	86.0713
1063.66	79.1694
1085.87	89.9609
1099.45	88.1917
1112.07	80.1432
1115.54	83.3398

1120.29	67.7930
1120.29	67.7930
1120.55	67.7961
1121.30	67.8088
1131.51	0.0000
1173.23	54.9352
1177.93	29.9658
1189.05	44.5368
1204.77	34.0578
1221.41	26.7114
1231.02	31.0532
1235.36	40.7313
1238.28	27.8865
1260.41	0.0000
1271.85	22.6960
1274.44	17.3023
1274.54	20.5465
1291.59	28.2229
1298.22	0.0000
1312.11	17.4461
1332.49	24.0947
1365.19	10.1102
1368.63	0.0000
1384.29	19.3782
1408.01	9.2737
1457.56	0.0000
1460.82	11.2485
1489.16	12.2547
1505.03	17.0208
1596.21	21.1693
1620.50	11.5991
1678.03	0.0000
1690.97	8.8114
1764.49	5.1004
1764.49	5.1004
1770.23	5.1054
1771.35	6.8086
1791.20	0.0000
1836.06	10.0387

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202054967

Total Uranium Activity	-3.6390E+00	ug/g
Total Uranium Counting Unc.	4.9136E+00	ug/g
Total Uranium Tpu	2.5070E-06	ug/g
Total Uranium Mda	3.9340E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*             2040 SAVAGE ROAD                     *
*             CHARLESTON , SC 29417                 *
*             GROSS GAMMA REPORT                   *
*
*****
*
*  BATCH ID      : 958225                      SAMPLE ID : G1202054967
*  ANALYST       : MXR1                        DETECTOR  : GAM20
*  SAMPLE DATE   : 2-MAR-2010 00:00:00.00    COUNT TIME : 0 01:00:00.00
*  ANALYSIS DATE: 10-MAR-2010 21:20:06.22    SAMPLE ALQT: 155.440 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.681E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.371E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.022E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.955E+00

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Radiochemistry Batch Checklist, Rev10

Batch# 964054 Product: H3 Date: 3-19-10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: [Signature]

Secondary Review Performed By: [Signature] 3/22/10

LANL 3-25-10

Tritium Que Sheet

11-MAR-10

VACUUM

95

Batch #: 964054

Analyst: KKK2

First Client Due Date 25-MAR-10

Internal Due Date: 14-MAR-10

Spike Isotope: Hydrogen-3

Spike Code: _____

Expiration Date: _____

Vol: _____

LCS Isotope: Hydrogen-3

LCS Code: Q134-K

Expiration Date: 3/27/10

Vol: 0.1

Prep Date: 3/15/2010

Initials: *YJ*

Pipet ID: 2970968

Witness: *YJ* 3/16/10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Allquot in vial (g/mL)	LSC Rack #	Dist Rig #	Vol added for Dist (mL)	Initial Sample Allquot (g/mL)	Final Wt (g)	Total Moisture Disg (mL)
248051001-1	RE36-10-7414	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	22	1		118.51	251.30	67.21
248051002-1	RE36-10-7413	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	23	2		331.05	261.86	69.19
248051003-1	RE36-10-7462	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	24	3		532.47	490.45	42.07
248051004-1	RE36-10-7465	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	25	4		363.59	282.51	81.08
248051005-1	RE36-10-7473	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	26	5		284.29	217.20	67.09
248051006-1	RE36-10-7471	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	27	6		279.66	196.32	83.34
248051007-1	RE36-10-7472	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	28	7		441.32	344.67	96.65
248051008-1	RE36-10-7468	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	29	8		152.90	112.23	40.67
248051009-1	RE36-10-7464	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	30	9		486.47	452.42	34.05
248051010-1	RE36-10-7463	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	31	10		505.06	463.65	41.41
248051011-1	RE36-10-7475	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	32	11		354.70	258.22	96.48
248051012-1	RE36-10-7466	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	33	12		410.47	326.73	83.74
248051013-1	RE36-10-7476	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	34	13		518.36	430.24	88.12
248051014-1	RE36-10-7461	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	35	14		407.64	355.87	51.77
248051015-1	RE36-10-7467	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	36	15		384.41	319.44	64.97
248051016-1	RE36-10-7469	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	37	16		347.66	304.20	43.46
248051017-1	RE36-10-7470	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	38	17		331.46	283.73	47.73
248051018-1	RE36-10-7515	SAMPLE		.25 pCi/mL SOIL	LANL010		20-FEB-10	10	39	18		393.59	311.72	81.87
1202068210-1	MB for batch 964054	MB		.25 pCi/mL SOIL	QC ACCOUNT		20-FEB-10	10	40	19		20.00	0.00	20.00
1202068211-1	RE36-10-7465 (248051004-1000) DUP	DUP		.25 pCi/mL SOIL	QC ACCOUNT		20-FEB-10	10	41	4		363.59	282.51	81.08
1202068212-1	RE36-10-7465 (248051004-1000) LCS for batch 964054	LCS		.25 pCi/mL SOIL	QC ACCOUNT		20-FEB-10	10	42	20		20.00	0.00	20.00

Bkg Rack #21

daily

Comments:

Bkg prepared with dead water? Yes/No

Instrument Used (circle as appropriate): LS6000 (Red) 7065155, LS6500 (Blue) 7067083, LS6500

(Gold) 7070506, LS6500 (Green) 7067404, Wallac (Yellow) 4140127, LS6000 (Brown) 7060655, Wallac

(Pink) 2200082, Wallac (White) 4140299, Purple 7069123, Silver 7060656, Orange DG06095168

Calibration Used : Ecosci Ultra (10 mL sample/13 mL Ecosci Ultra)

Data Reviewed By: *YJ* 3-19-10

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

DATE		3/15/2010	INITIALS	KXK2	BATCH NUMBER	964054			
Sample #	Flask Wt. (g)	Sample Wet (g)	Flask & Sample Wet (g)	% Moisture of Sample (Balance Interface using % Moisture Batch)	Total Moisture in Sample (mL)	Sample Dry (g)	Flask & Sample Dry (g)	mLs aliquoted into LSC vial	Collection Tube Number
248051001	200	318.51	518.51	0.211	67.21	251.30	451.30	10	
248051002	200	331.05	531.05	0.209	69.19	261.86	461.86	10	
248051003	200	532.47	732.47	0.079	42.07	490.40	690.40	10	
248051004	200	363.59	563.59	0.223	81.08	282.51	482.51	10	
248051005	200	284.29	484.29	0.236	67.09	217.20	417.20	10	
248051006	200	279.66	479.66	0.298	83.34	196.32	396.32	10	
248051007	200	441.32	641.32	0.219	96.65	344.67	544.67	10	
248051008	200	152.90	352.90	0.266	40.67	112.23	312.23	10	
248051009	200	486.47	686.47	0.070	34.05	452.42	652.42	10	
248051010	200	505.06	705.06	0.082	41.41	463.65	663.65	10	
248051011	200	354.70	554.70	0.272	96.48	258.22	458.22	10	
248051012	200	410.47	610.47	0.204	83.74	326.73	526.73	10	
248051013	200	518.36	718.36	0.170	88.12	430.24	630.24	10	
248051014	200	407.64	607.64	0.127	51.77	355.87	555.87	10	
248051015	200	384.41	584.41	0.169	64.97	319.44	519.44	10	
248051016	200	347.66	547.66	0.125	43.46	304.20	504.20	10	
248051017	200	331.46	531.46	0.144	47.73	283.73	483.73	10	
248051018	200	393.590	593.59	0.208	81.87	311.72	511.72	10	
MB	200	20.000	220.00	1.000	20.00	0.00	200.00	10	
DUP	200	363.590	563.59	0.223	81.08	282.51	482.51	10	
LCS	200	20.000	220.00	1.000	20.00	0.00	200.00	10	

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.6

Batch : 964054
Analyst : KKK2
Prep Date : 3/15/2010

H-3 Abundance : 1
Method Uncertainty : 0.0691
Geometry: 10mL DW/13mL
EcoScint Ultra

Spike S/N :
Spike Exp Date :
Spike Activity (dpm/ml):
Spike Volume Added:

N/A
N/A
N/A
N/A

LCS SN : 0134-K
LCS Exp Date : 3/27/2010
LCS Activity (dpm/ml): 2456.07
LCS Volume Added: 0.10

Procedure Code : LSC_VH3S

Paramname : Tritium
Required MDC : 250 pCi/L
Half-life of Tritium : 12.32 years

Sample Characteristics		Wet Sample Weight (g)	Total Moisture L	Sample Aliquot in Vial L	Sample Aliquot Stdev. L	Dry Sample Weight (g)	% Moisture of Sample	Rig number	Sample Date/Time
Pos.	Sample ID								
1	248051001.1	318.51	0.0672	0.0100	2.5729E-05	251.30	21.10%	1	2/20/2010 12:00
2	248051002.1	331.05	0.0692	0.0100	2.5729E-05	261.86	20.90%	2	2/20/2010 12:00
3	248051003.1	532.47	0.0421	0.0100	2.5729E-05	490.40	7.90%	3	2/20/2010 12:00
4	248051004.1	363.59	0.0811	0.0100	2.5729E-05	282.51	22.30%	4	2/20/2010 12:00
5	248051005.1	284.29	0.0871	0.0100	2.5729E-05	217.20	23.60%	5	2/20/2010 12:00
6	248051006.1	279.66	0.0833	0.0100	2.5729E-05	196.32	29.80%	6	2/20/2010 12:00
7	248051007.1	441.32	0.0967	0.0100	2.5729E-05	344.67	21.90%	7	2/20/2010 12:00
8	248051008.1	152.90	0.0407	0.0100	2.5729E-05	112.23	26.60%	8	2/20/2010 12:00
9	248051009.1	486.47	0.0341	0.0100	2.5729E-05	452.42	7.00%	9	2/20/2010 12:00
10	248051010.1	505.06	0.0414	0.0100	2.5729E-05	463.65	6.20%	10	2/20/2010 12:00
11	248051011.1	354.70	0.0965	0.0100	2.5729E-05	258.22	27.20%	11	2/20/2010 12:00
12	248051012.1	410.47	0.0837	0.0100	2.5729E-05	326.73	20.40%	12	2/20/2010 12:00
13	248051013.1	518.36	0.0881	0.0100	2.5729E-05	430.24	17.00%	13	2/20/2010 12:00
14	248051014.1	407.64	0.0518	0.0100	2.5729E-05	355.87	12.70%	14	2/20/2010 12:00
15	248051015.1	384.41	0.0650	0.0100	2.5729E-05	319.44	16.90%	15	2/20/2010 12:00
16	248051016.1	347.66	0.0435	0.0100	2.5729E-05	304.20	12.50%	16	2/20/2010 12:00
17	248051017.1	331.46	0.0477	0.0100	2.5729E-05	283.73	14.40%	17	2/20/2010 12:00
18	248051018.1	383.59	0.0819	0.0100	2.5729E-05	311.72	20.80%	18	2/20/2010 12:00
19	1202068210.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	19	3/15/2010 0:00
20	1202068211.1	363.59	0.0811	0.0100	2.5729E-05	282.51	22.30%	4	2/20/2010 12:00
21	1202068212.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	20	3/15/2010 0:00

Count raw Data				Background				Calibration Data				Backgrounds			
Pos.	Rack Position #	Counting Time (min.)	Quench#	Gross cpm	cpm	Count Time (min.)	Count Start Date/Time	Sample Decay	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Rack Position #	Count Start Date/Time
1	22	95.0298	804.55	0.77	0.72	95	3/17/2010 7:27	0.996	LSCPINK	8/21/2009	8/31/2010	0.1683	0.00792	21	3/17/2010 5:49
2	23	95.0298	807.76	1.08	0.72	95	3/17/2010 9:04	0.996	LSCPINK	8/21/2009	8/31/2010	0.1715	0.00792	21	3/17/2010 5:49
3	24	95.0298	805.62	0.92	0.72	95	3/17/2010 10:42	0.996	LSCPINK	8/21/2009	8/31/2010	0.1683	0.00792	21	3/17/2010 5:49
4	25	95.0298	806.87	1.06	0.72	95	3/17/2010 12:20	0.996	LSCPINK	8/21/2009	8/31/2010	0.1706	0.00792	21	3/17/2010 5:49
5	26	95.0298	804.42	0.91	0.72	95	3/17/2010 13:57	0.996	LSCPINK	8/21/2009	8/31/2010	0.1681	0.00792	21	3/17/2010 5:49
6	27	95.0296	807.37	1.18	0.72	95	3/17/2010 15:35	0.996	LSCPINK	8/21/2009	8/31/2010	0.1711	0.00792	21	3/17/2010 5:49
7	28	95.0297	807.98	1.04	0.72	95	3/17/2010 17:12	0.996	LSCPINK	8/21/2009	8/31/2010	0.1717	0.00792	21	3/17/2010 5:49
8	29	95.0297	807.46	1.25	0.72	95	3/17/2010 18:50	0.996	LSCPINK	8/21/2009	8/31/2010	0.1712	0.00792	21	3/17/2010 5:49
9	30	95.0297	807.52	1.19	0.72	95	3/17/2010 20:27	0.996	LSCPINK	8/21/2009	8/31/2010	0.1712	0.00792	21	3/17/2010 5:49
10	31	95.0297	803.71	1.24	0.72	95	3/17/2010 22:05	0.996	LSCPINK	8/21/2009	8/31/2010	0.1674	0.00792	21	3/17/2010 5:49
11	32	95.0296	805.37	0.95	0.72	95	3/17/2010 23:43	0.996	LSCPINK	8/21/2009	8/31/2010	0.1691	0.00792	21	3/17/2010 5:49
12	33	95.0297	803.57	0.99	0.72	95	3/18/2010 1:20	0.996	LSCPINK	8/21/2009	8/31/2010	0.1672	0.00792	21	3/17/2010 5:49
13	34	95.0297	805.25	0.95	0.72	95	3/18/2010 2:58	0.996	LSCPINK	8/21/2009	8/31/2010	0.1690	0.00792	21	3/17/2010 5:49
14	35	95.0297	806.3	0.88	0.72	95	3/18/2010 4:35	0.996	LSCPINK	8/21/2009	8/31/2010	0.1700	0.00792	21	3/17/2010 5:49
15	36	95.0298	804.09	1.19	0.72	95	3/18/2010 7:28	0.996	LSCPINK	8/21/2009	8/31/2010	0.1698	0.00792	21	3/17/2010 5:49
16	37	95.0298	806.1	1.18	0.72	95	3/18/2010 9:06	0.996	LSCPINK	8/21/2009	8/31/2010	0.1692	0.00792	21	3/17/2010 5:49
17	38	95.0298	805.46	1.49	0.72	95	3/18/2010 10:43	0.996	LSCPINK	8/21/2009	8/31/2010	0.1692	0.00792	21	3/17/2010 5:49
18	39	95.0298	806.84	0.89	0.72	95	3/18/2010 12:21	0.996	LSCPINK	8/21/2009	8/31/2010	0.1706	0.00792	21	3/17/2010 5:49
19	40	95.0298	806.17	0.6	0.72	95	3/18/2010 13:58	0.999	LSCPINK	8/21/2009	8/31/2010	0.1719	0.00792	21	3/17/2010 5:49
20	41	95.0298	805.98	1.3	0.72	95	3/18/2010 15:37	0.996	LSCPINK	8/21/2009	8/31/2010	0.1697	0.00792	21	3/17/2010 5:49
21	42	15.0296	807.74	21.36	0.72	95	3/18/2010 17:14	0.999	LSCPINK	8/21/2009	8/31/2010	0.1715	0.00792	21	3/17/2010 5:49

- 1 - Results are decay corrected to Sample Date/Time
- 2 - Reference date for Spike Activity (dpm/mi) is the batch Prep Date
- 3 - Spike Nominals are decay corrected to Sample Date/Time

Results			1 SIGMA										1 SIGMA										1 SIGMA									
Pos.	Decision Level	Critical Level	Required MDC	MDC	Sample Act. Conc.	Sample Act. Error	Net Count Rate	Net Count Rate Error	Counting Uncertainty	Total Prop. Uncertainty	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery																
1	77.0803	54.4183	250	117.3226	13.4371	2.504	0.050	0.125	33.6511	33.6641	SAMPLE	SAMPLE																				
2	75.6323	53.3970	250	115.1186	94.9297	0.382	0.360	0.138	36.2916	36.9889	SAMPLE	SAMPLE																				
3	76.5848	54.0695	250	116.5685	53.4029	0.657	0.200	0.131	35.0774	35.2740	SAMPLE	SAMPLE																				
4	76.0228	53.6728	250	115.7131	90.1188	0.403	0.340	0.137	36.2758	36.8148	SAMPLE	SAMPLE																				
5	77.1448	54.4649	250	117.4209	51.1038	0.889	0.190	0.131	35.2280	35.4054	SAMPLE	SAMPLE																				
6	75.8047	53.5188	250	115.3811	121.5756	0.308	0.460	0.141	37.3711	38.3184	SAMPLE	SAMPLE																				
7	75.5416	53.3330	250	114.9805	84.2808	0.475	0.320	0.136	35.8431	36.3205	SAMPLE	SAMPLE																				
8	75.7670	53.4922	250	115.3238	140.0067	0.242	0.530	0.144	38.0344	39.2645	SAMPLE	SAMPLE																				
9	75.7417	53.4743	250	115.2852	124.1154	0.302	0.470	0.142	37.4382	38.4232	SAMPLE	SAMPLE																				
10	77.4877	54.7070	250	117.9428	140.4946	0.276	0.520	0.144	38.7983	40.0140	SAMPLE	SAMPLE																				
11	76.7081	54.1552	250	116.7531	61.5106	0.576	0.230	0.133	35.4528	35.7107	SAMPLE	SAMPLE																				
12	77.5569	54.7558	250	118.0481	73.0091	0.497	0.270	0.134	36.2728	36.8275	SAMPLE	SAMPLE																				
13	76.7631	54.1954	250	116.8398	61.5564	0.576	0.230	0.133	35.4792	35.7373	SAMPLE	SAMPLE																				
14	76.2850	53.8579	250	116.1122	42.5551	0.811	0.160	0.130	34.5114	34.6384	SAMPLE	SAMPLE																				
15	77.3102	54.5817	250	117.6726	126.6857	0.302	0.470	0.142	38.2135	39.2189	SAMPLE	SAMPLE																				
16	76.3774	53.9231	250	116.2528	122.4941	0.308	0.460	0.141	37.6534	38.6078	SAMPLE	SAMPLE																				
17	76.6700	54.1297	250	116.8982	205.8302	0.198	0.770	0.152	40.7847	43.2119	SAMPLE	SAMPLE																				
18	76.0478	53.6904	250	115.7511	45.0742	0.766	0.170	0.130	34.5114	34.6539	SAMPLE	SAMPLE																				
19	75.2092	53.0984	250	114.4747	-31.4662	0.982	-0.120	0.118	30.9044	30.9050	MB	MB																				
20	76.4349	53.9637	250	116.3403	154.5555	0.252	0.580	0.146	38.8535	40.3173	248051004.1	DUP	52.7%	0.4178																		
21	74.2659	51.8529	250	115.1751	5425.5222	0.059	20.640	1.195	314.2049	491.4403	LCS	LCS			5531.6783	98.1%																

REGISTRY

WED 17 MAR 2010 5:48

*** DIRECTORY PATH :S:\LSC\Q\DA\964054A0 ***

PARAMETER GROUP: 8
ID: H-3(3)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	21	BKG	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	22	248051001	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	23	248051002	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	24	248051003	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	25	248051004	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
6	26	248051005	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
7	27	248051006	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
8	28	248051007	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
9	29	248051008	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
10	30	248051009	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
11	31	248051010	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
12	32	248051011	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
13	33	248051012	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
14	34	248051013	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
15	35	248051014	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1
COINCIDENCE BIAS (L/H) L

MCA INPUT TRIGG. INHIBIT
1 LRSUM DCOS G
2 GSUM G

MEMORY SPLIT
L*R
L*R

WINDOW	CHANNELS	MCA	HALF
1	1- 174	1	2
2	1- 174	1	2
3	60- 220	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1.	2.	3.	4.	5.	6.	7.
POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
SEND SPECTRA 12						
RESOLUTION OF SPECTRA 1024						
LISTING Y						
INSTRUMENT NUMBER 1						

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
Q012101N.001	17 MAR 2010	7:25				
21	BKG	95:01.785	805.05	.72	.72	.96

Page 1

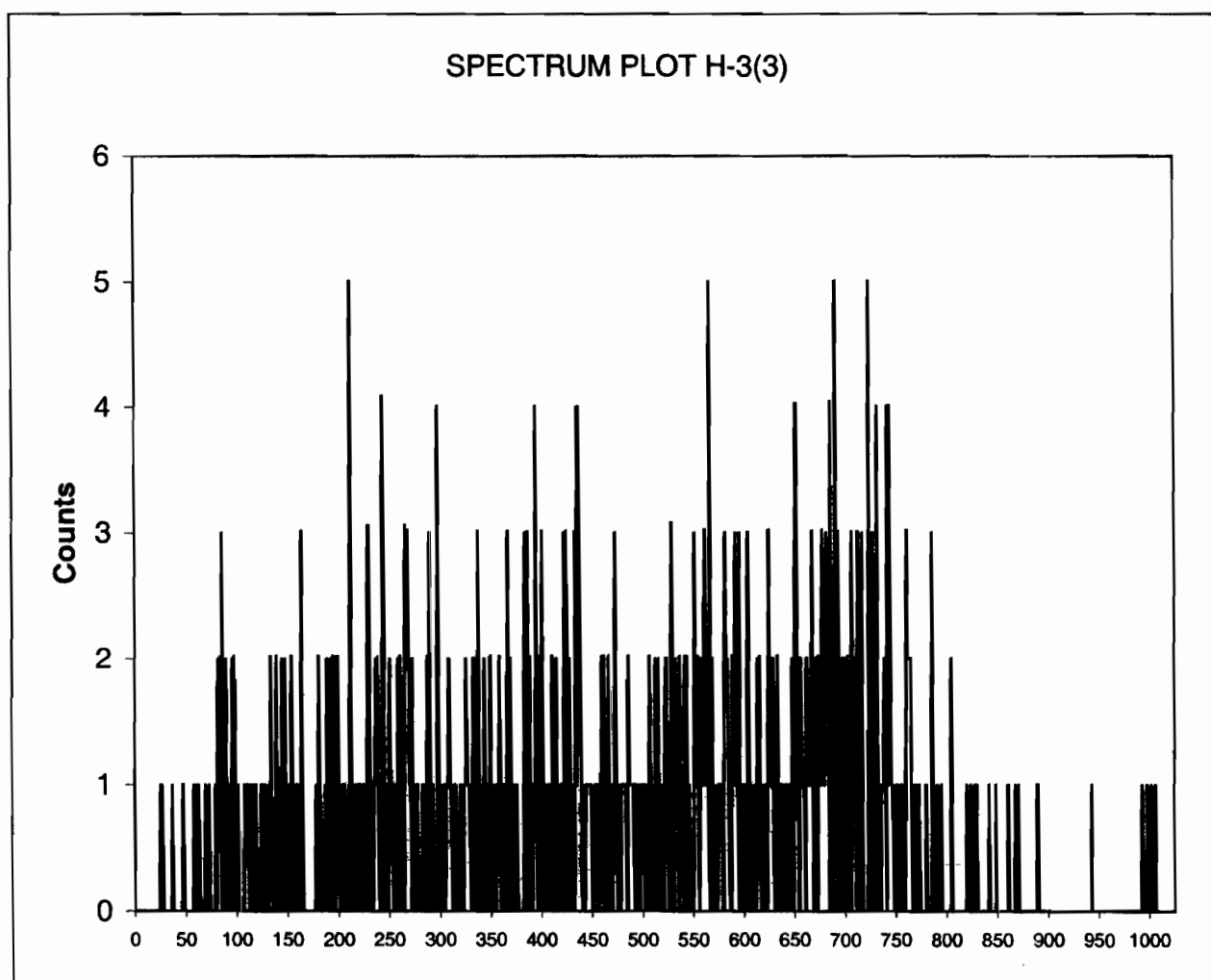
REGISTRY						
Q022201N.001 17	MAR 2010 9:03					
22 248051001	95:01.785	804.55	.77	.77	1.12	
Q032301N.001 17	MAR 2010 10:40					
23 248051002	95:01.785	807.76	1.08	1.08	1.28	
Q042401N.001 17	MAR 2010 12:18					
24 248051003	95:01.785	805.62	.92	.92	1.34	
Q052501N.001 17	MAR 2010 13:56					
25 248051004	95:01.785	806.87	1.06	1.06	1.22	
Q062601N.001 17	MAR 2010 15:33					
26 248051005	95:01.785	804.42	.91	.91	1.43	
Q072701N.001 17	MAR 2010 17:11					
27 248051006	95:01.778	807.37	1.18	1.18	1.54	
Q082801N.001 17	MAR 2010 18:48					
28 248051007	95:01.784	807.98	1.04	1.04	1.39	
Q092901N.001 17	MAR 2010 20:26					
29 248051008	95:01.784	807.46	1.25	1.25	1.55	
Q103001N.001 17	MAR 2010 22:03					
30 248051009	95:01.784	807.52	1.19	1.19	1.51	
Q113101N.001 17	MAR 2010 23:41					
31 248051010	95:01.784	803.71	1.24	1.24	1.61	
Q123201N.001 18	MAR 2010 1:19					
32 248051011	95:01.777	805.37	.95	.95	1.30	
Q133301N.001 18	MAR 2010 2:56					
33 248051012	95:01.784	803.57	.99	.99	1.36	
Q143401N.001 18	MAR 2010 4:34					
34 248051013	95:01.783	805.25	.95	.95	1.34	
Q153501N.001 18	MAR 2010 6:11					
35 248051014	95:01.783	806.30	.88	.88	1.12	

Instrument Type: Quantulus
Data Capture Date: WED 17 MAR 2010 5:48
FileName: s:\sc\files\pink\964054A0\SQ012101N.001.xls
File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 1, BKG, 95.02975:
Quench: 805.05
Start, End, X-Axis 1-174

Channel Counts



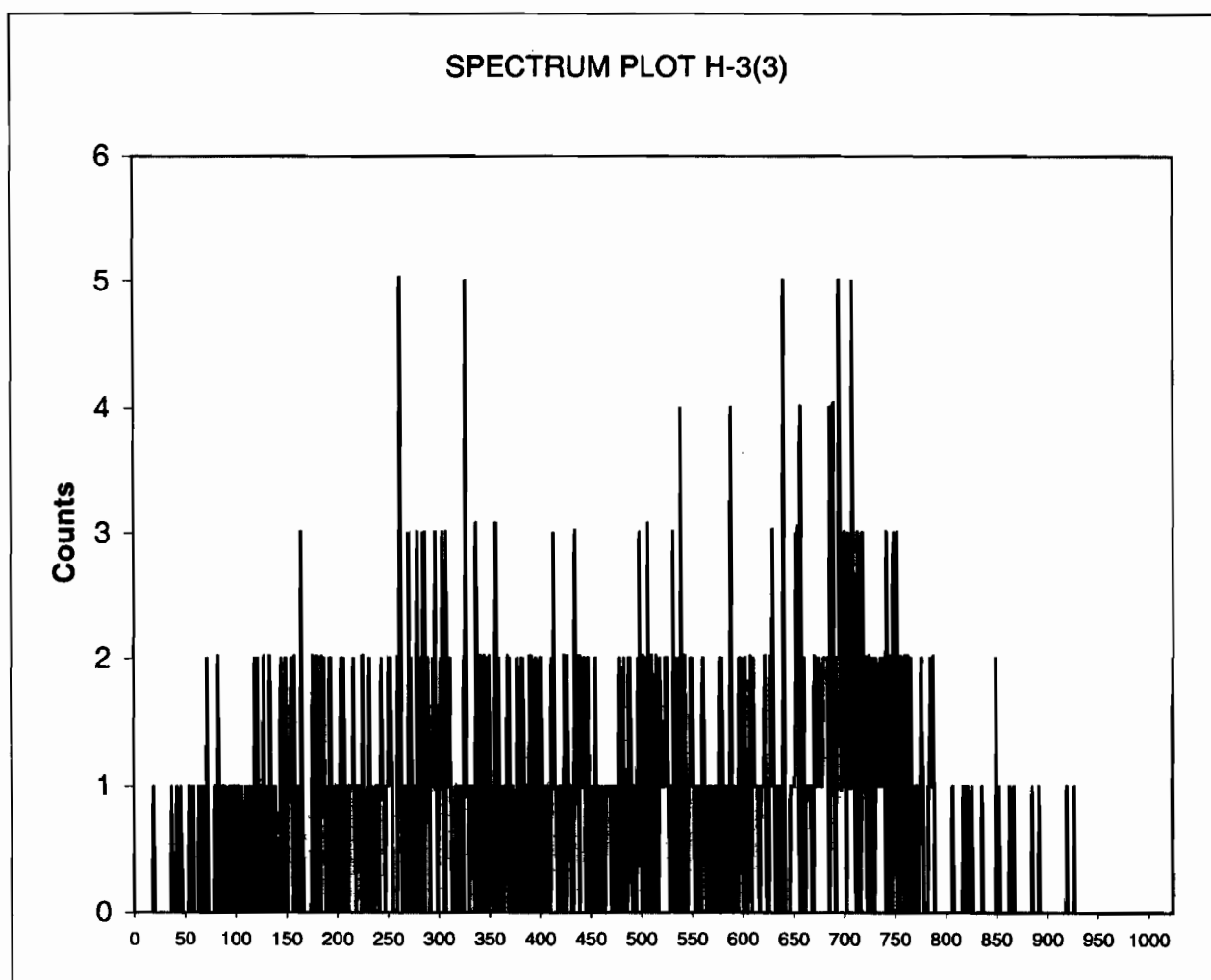
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32	0
33	0
34	0
35	0

Instrument Type: Quantulus
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File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 2, 248051001, 95.02975:
Quench: 804.55
Start, End, X-Axis 1-174

Channel Counts



31	0
32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
WED 17 MAR 2010 5:48
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s:\sc\files\pink\964054A0\U964054A0.xls

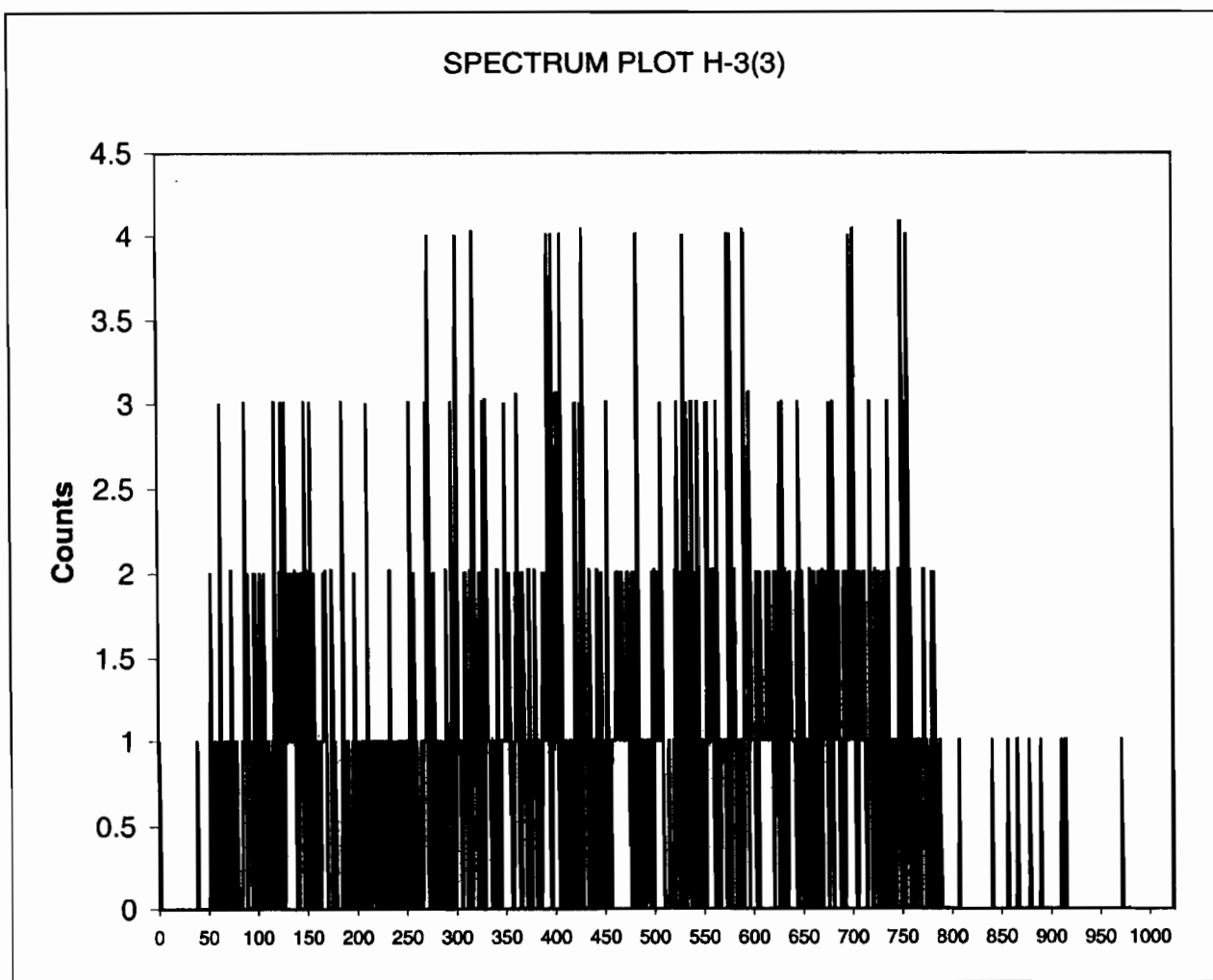
ID:
Comments:

H-3(3)
PINK

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

3, 248051002, 95.02975:
807.76
1-174

Channel Counts



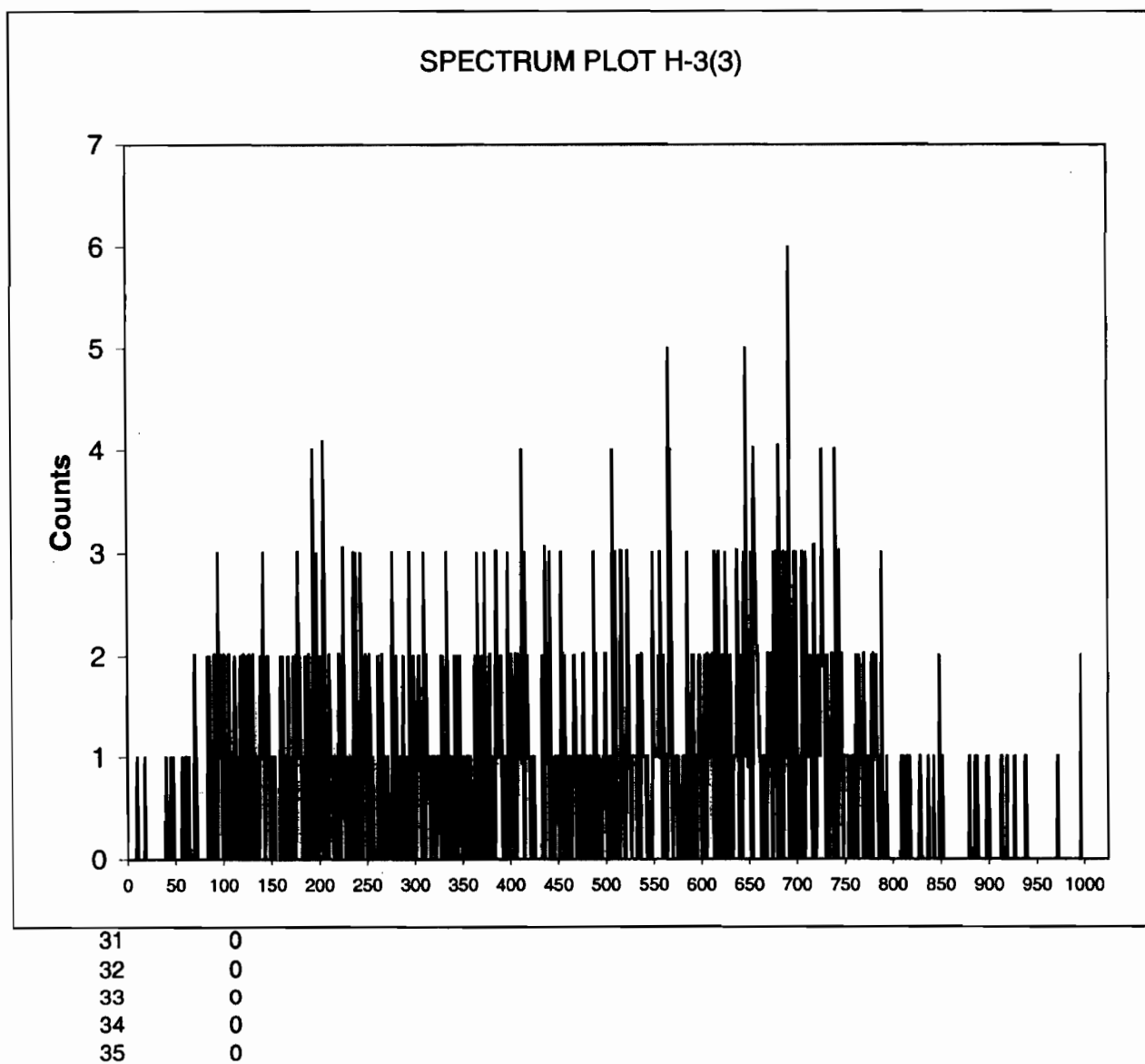
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32	0
33	0
34	0
35	0

Instrument Type: Quantulus
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File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 4, 248051003, 95.02975:
Quench: 805.62
Start, End, X-Axis 1-174

Channel Counts



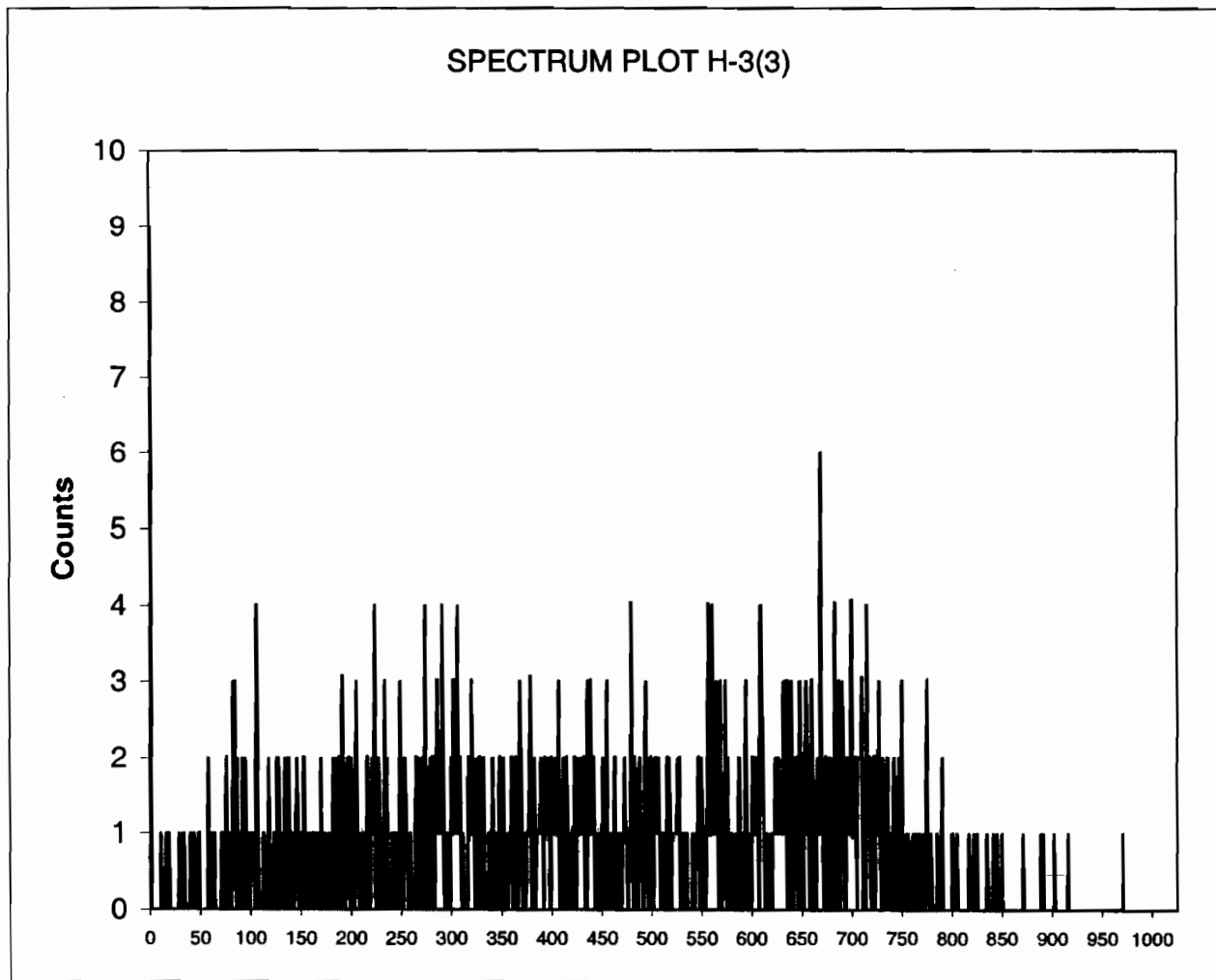
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
WED 17 MAR 2010 5:48
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s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 5, 248051004, 95.02975:
Quench: 806.87
Start, End, X-Axis 1-174

Channel Counts



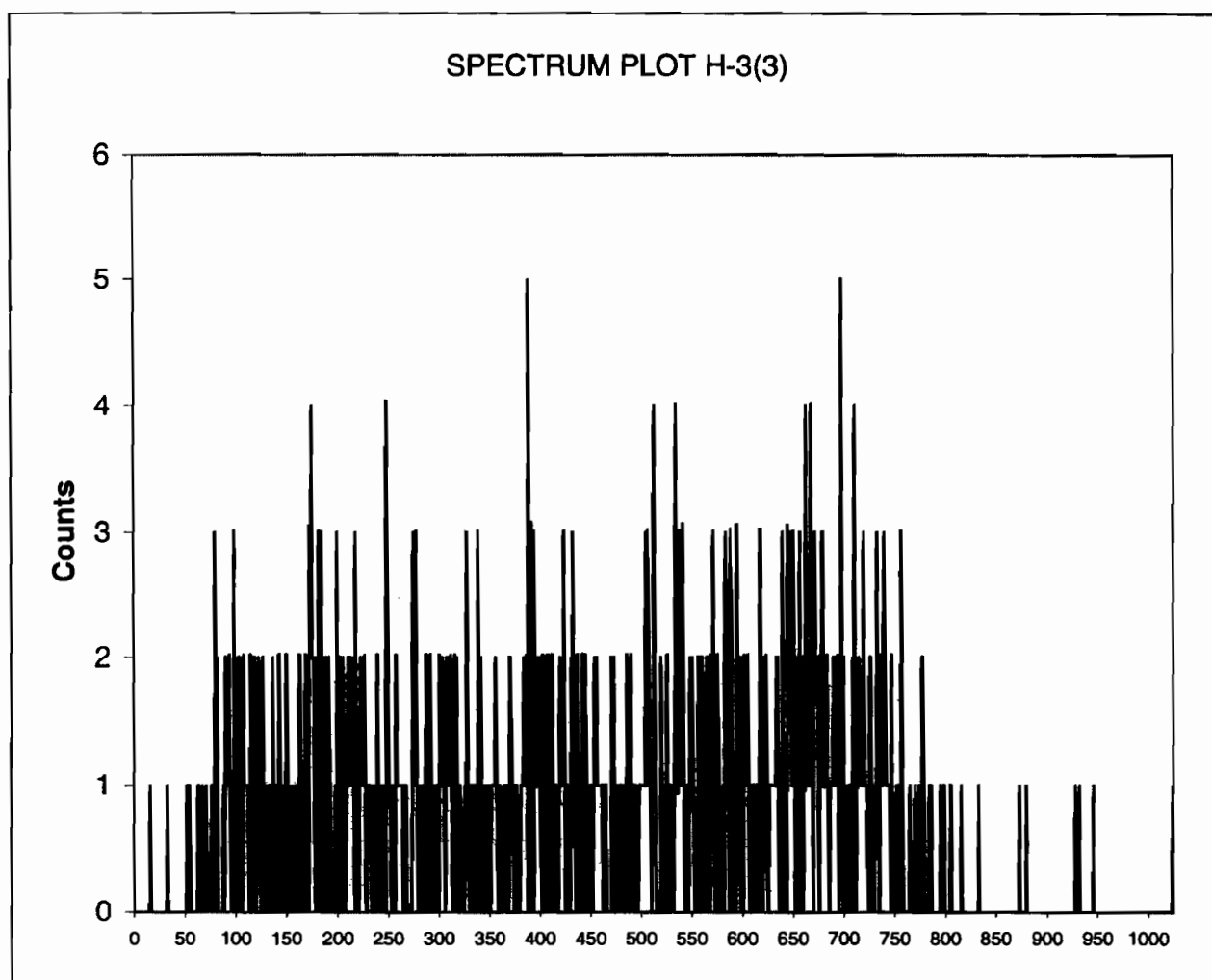
31	0
32	1
33	0
34	1
35	0

Instrument Type: Quantulus
Data Capture Date: WED 17 MAR 2010 5:48
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File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 6, 248051005, 95.02975:
Quench: 804.42
Start, End, X-Axis 1-174

Channel Counts



31	0
32	0
33	1
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
WED 17 MAR 2010 5:48
s:\sc\files\pink\964054A0\SQ072701N.001.xls
s:\sc\files\pink\964054A0\U964054A0.xls

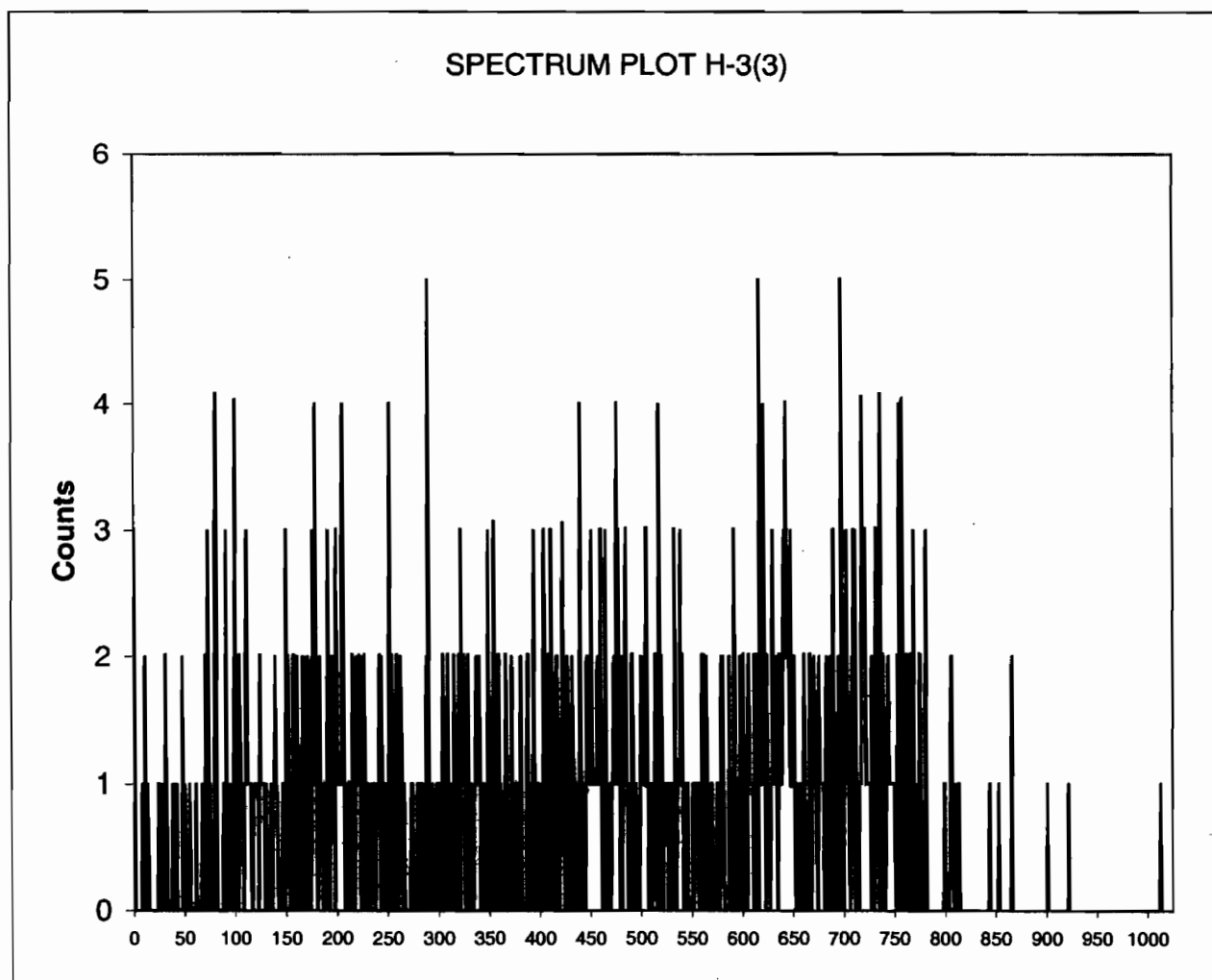
ID:
Comments:

H-3(3)
PINK

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

7, 248051006, 95.02963:
807.37
1-174

Channel Counts



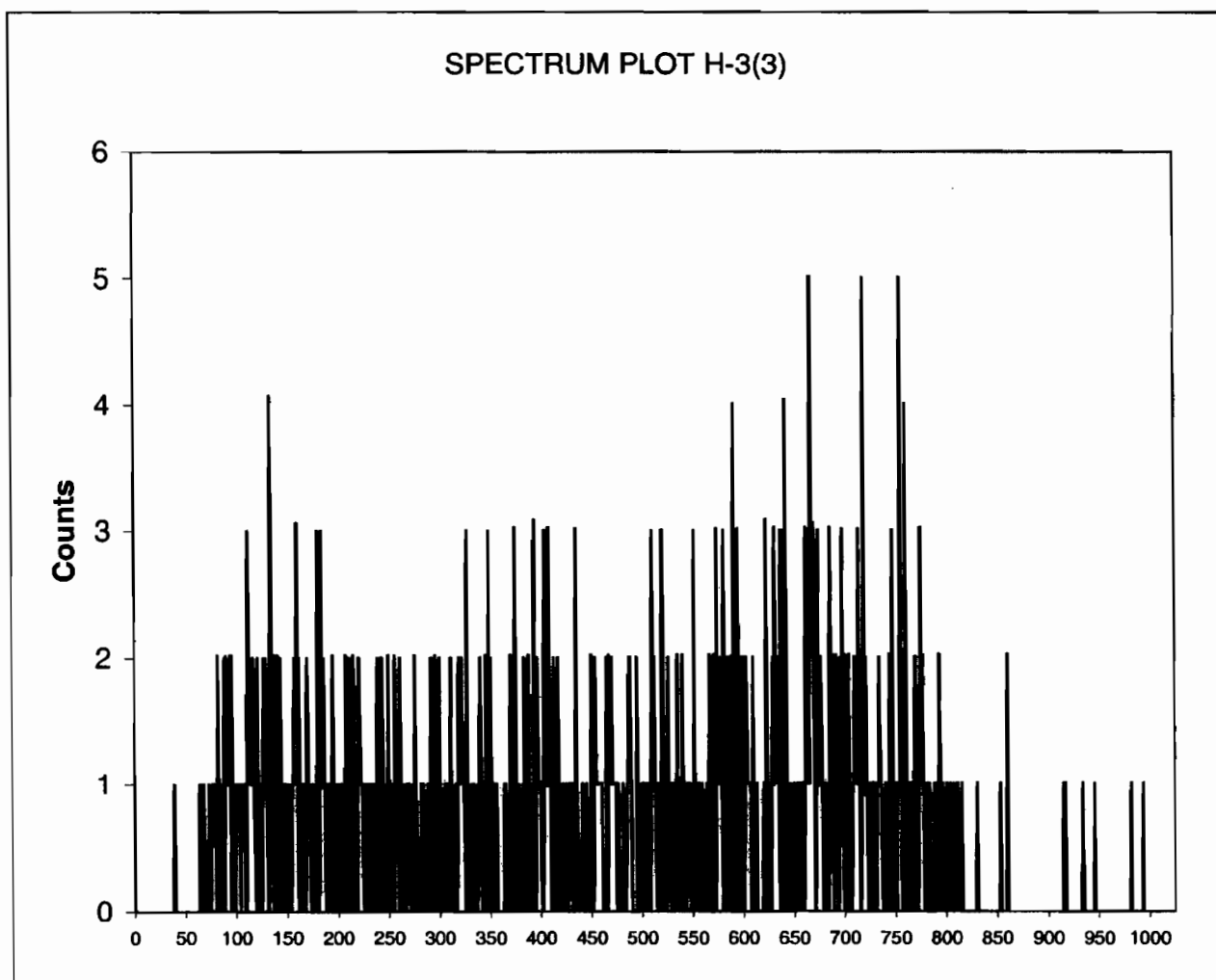
31	2
32	1
33	0
34	0
35	0

Instrument Type: Quantulus
Data Capture Date: WED 17 MAR 2010 5:48
FileName: s:\Vsc\files\pink\964054A0\SQ082801N.001.xls
File Info: s:\Vsc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 8, 248051007, 95.02973:
Quench: 807.98
Start, End, X-Axis 1-174

Channel Counts



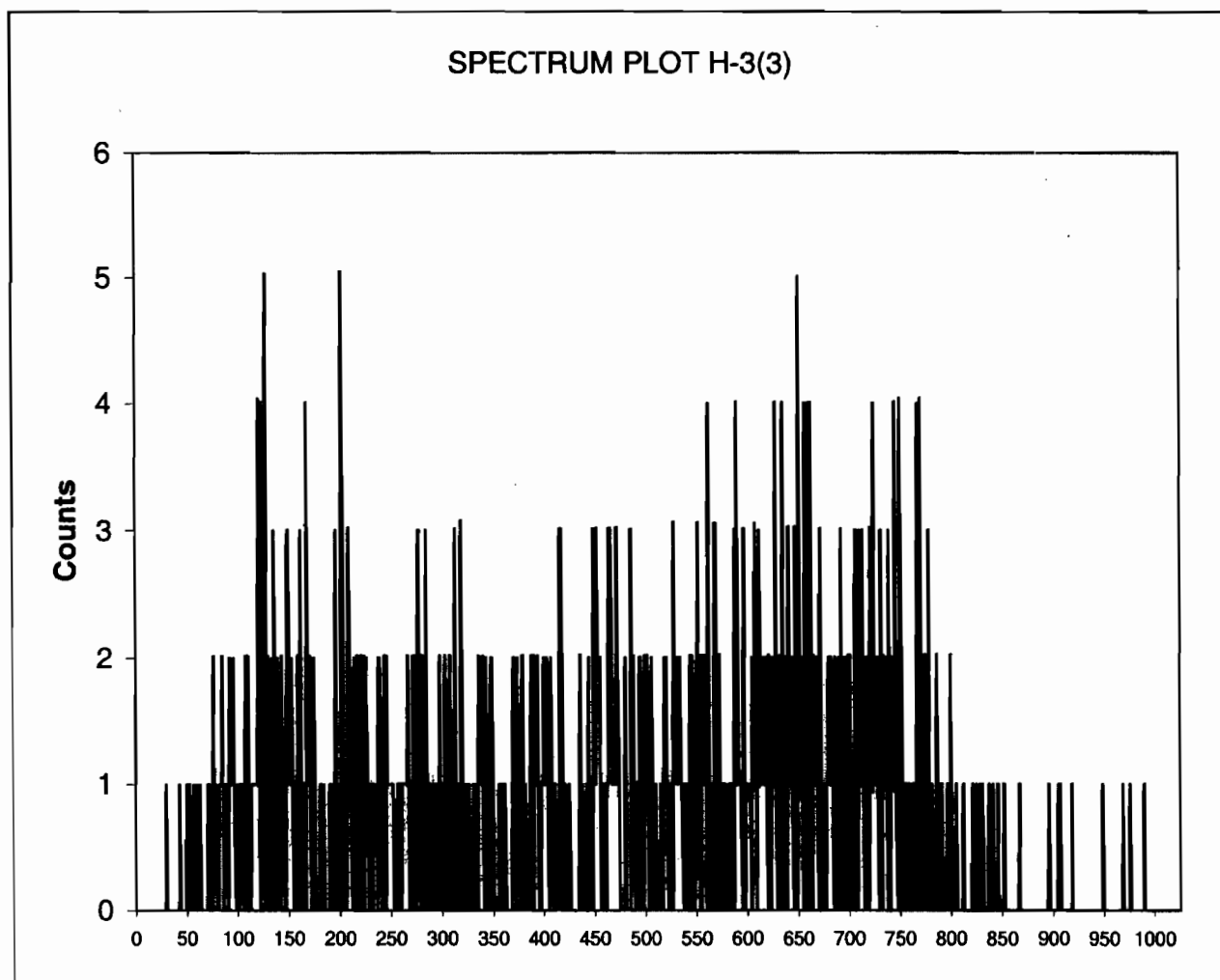
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32	0
33	0
34	0
35	0

Instrument Type: Quantulus
Data Capture Date: WED 17 MAR 2010 5:48
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File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 9, 248051008, 95.02973:
Quench: 807.46
Start, End, X-Axis: 1-174

Channel Counts



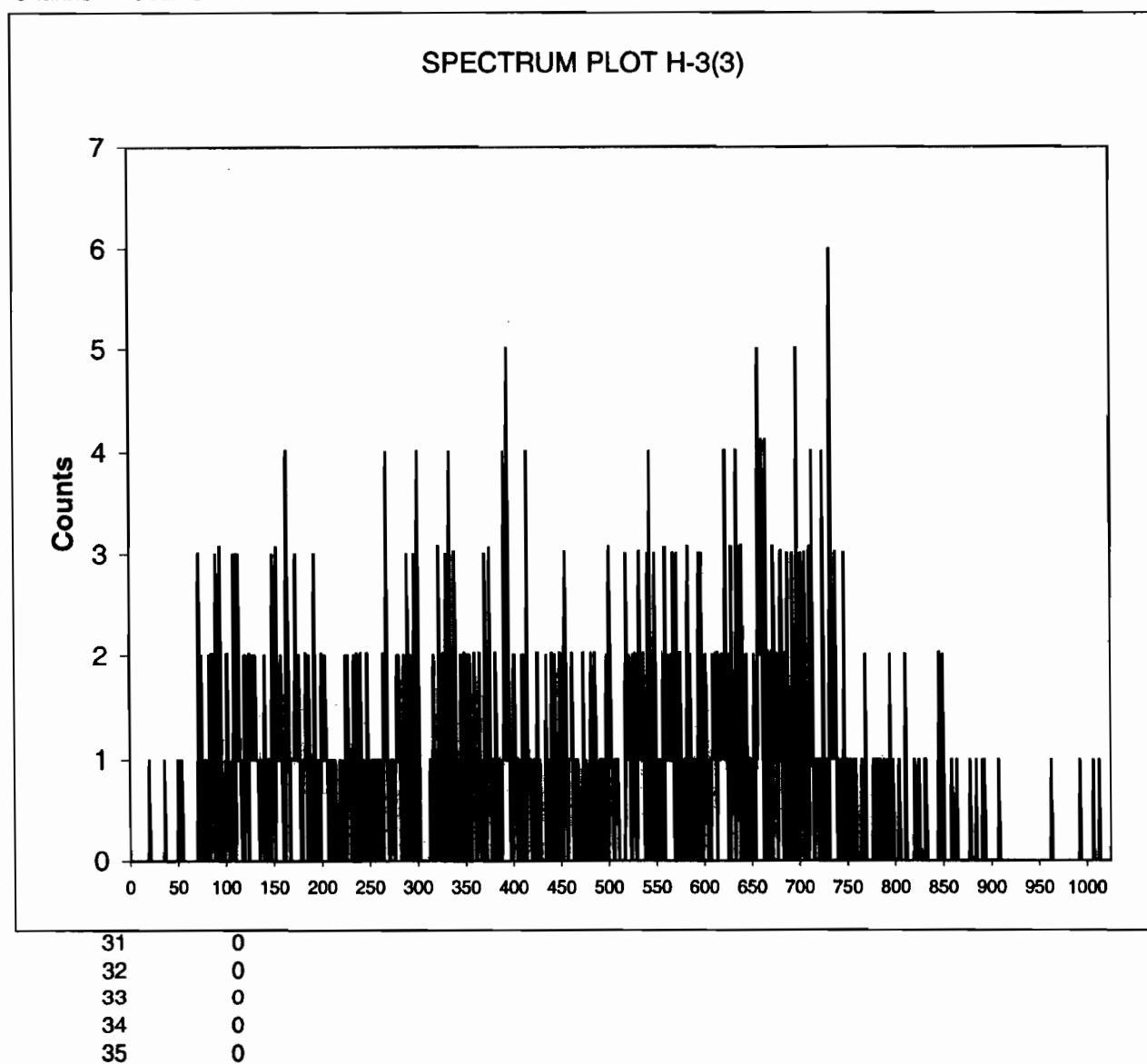
31	0
32	0
33	0
34	0
35	0

Instrument Type: Quantulus
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File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 10, 248051009, 95.02973:
Quench: 807.52
Start, End, X-Axis: 1-174

Channel Counts

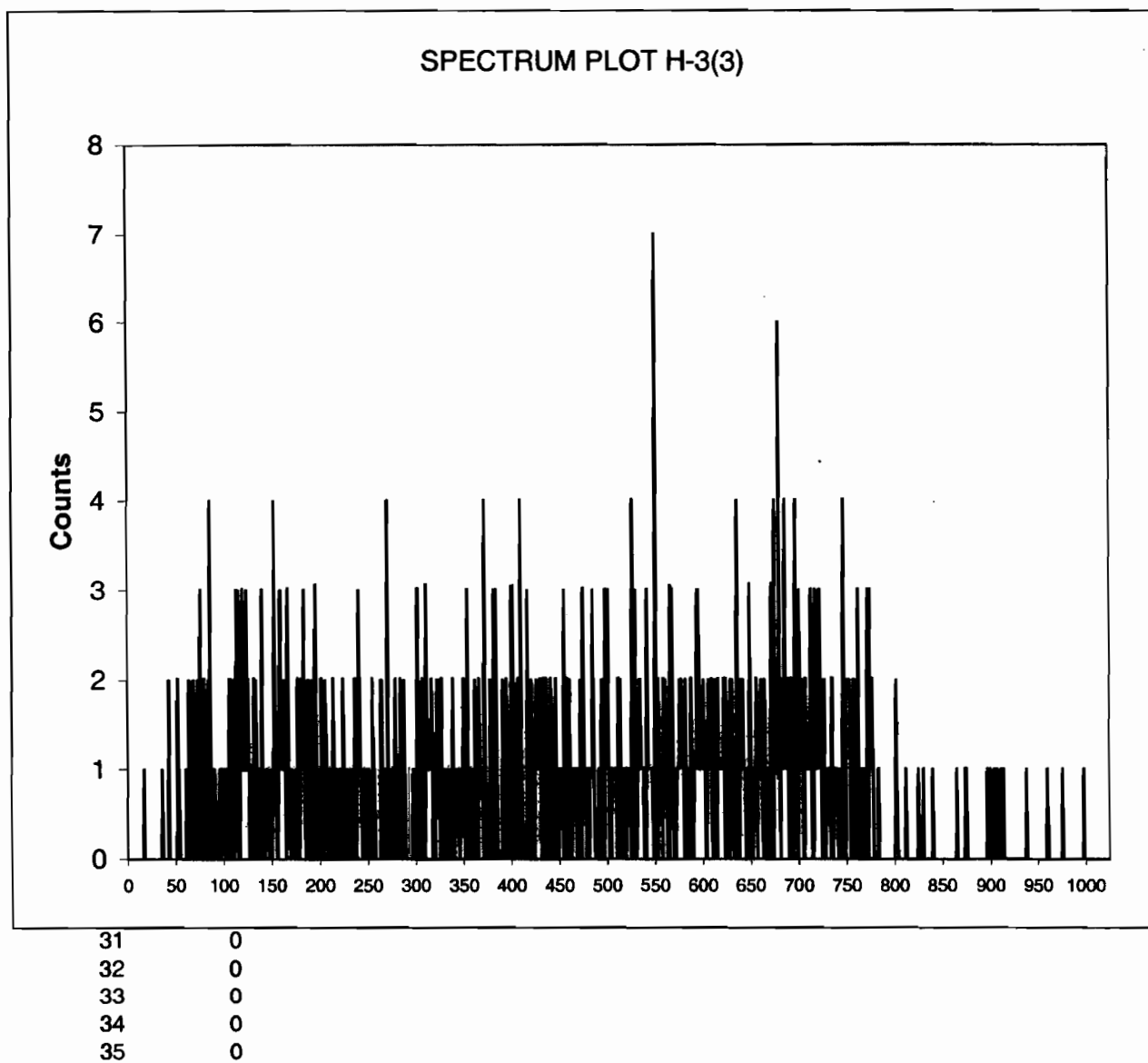


Instrument Type: Quantulus
Data Capture Date: WED 17 MAR 2010 5:48
FileName: s:\sc\files\pink\964054A0\SQ113101N.001.xls
File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 11, 248051010, 95.02973:
Quench: 803.71
Start, End, X-Axis 1-174

Channel Counts

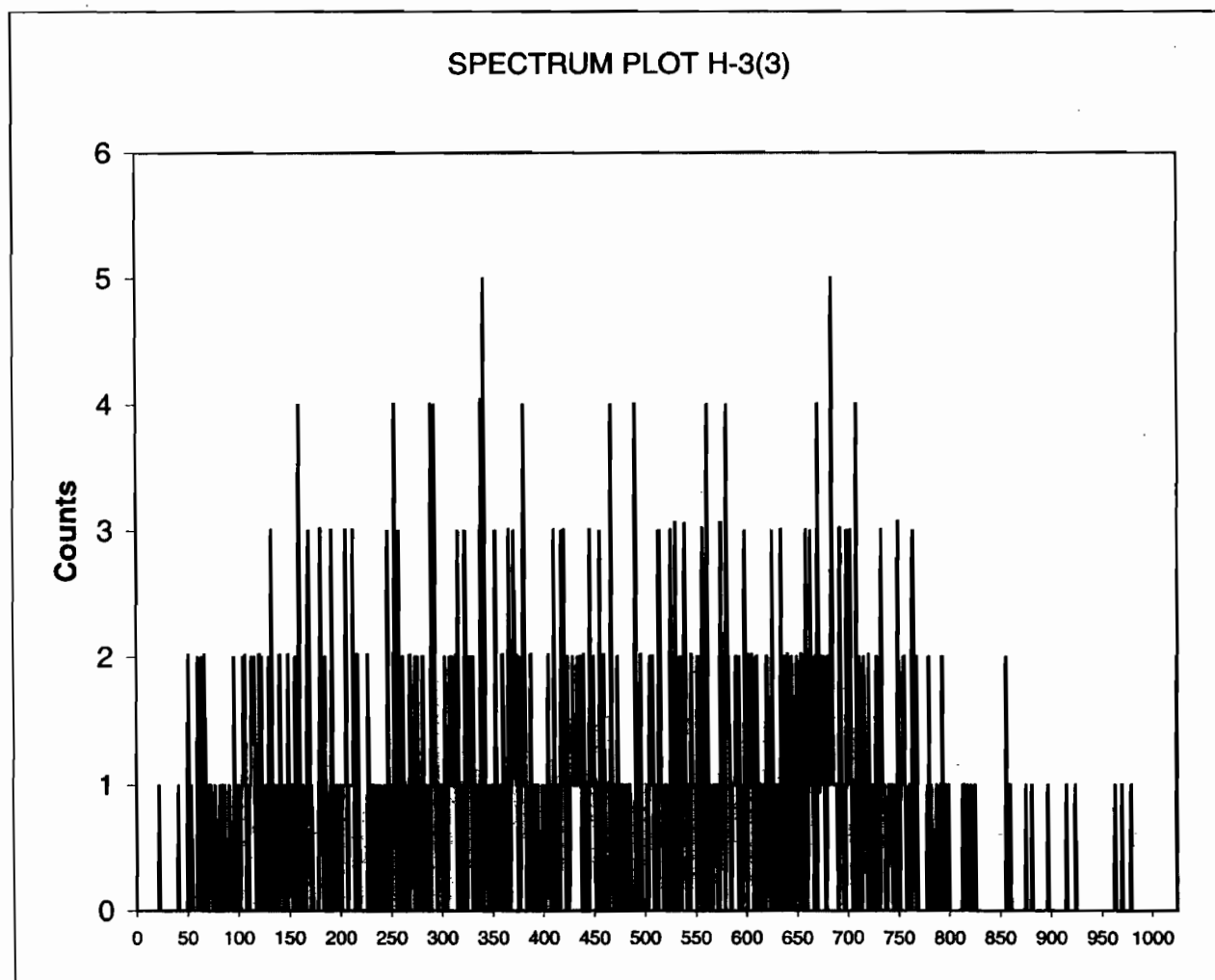


Instrument Type: Quantulus
Data Capture Date: WED 17 MAR 2010 5:48
FileName: s:\sc\files\pink\964054A0\SQ123201N.001.xls
File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 12, 248051011, 95.02962:
Quench: 805.37
Start, End, X-Axis 1-174

Channel Counts



31	0
32	0
33	0
34	0
35	0

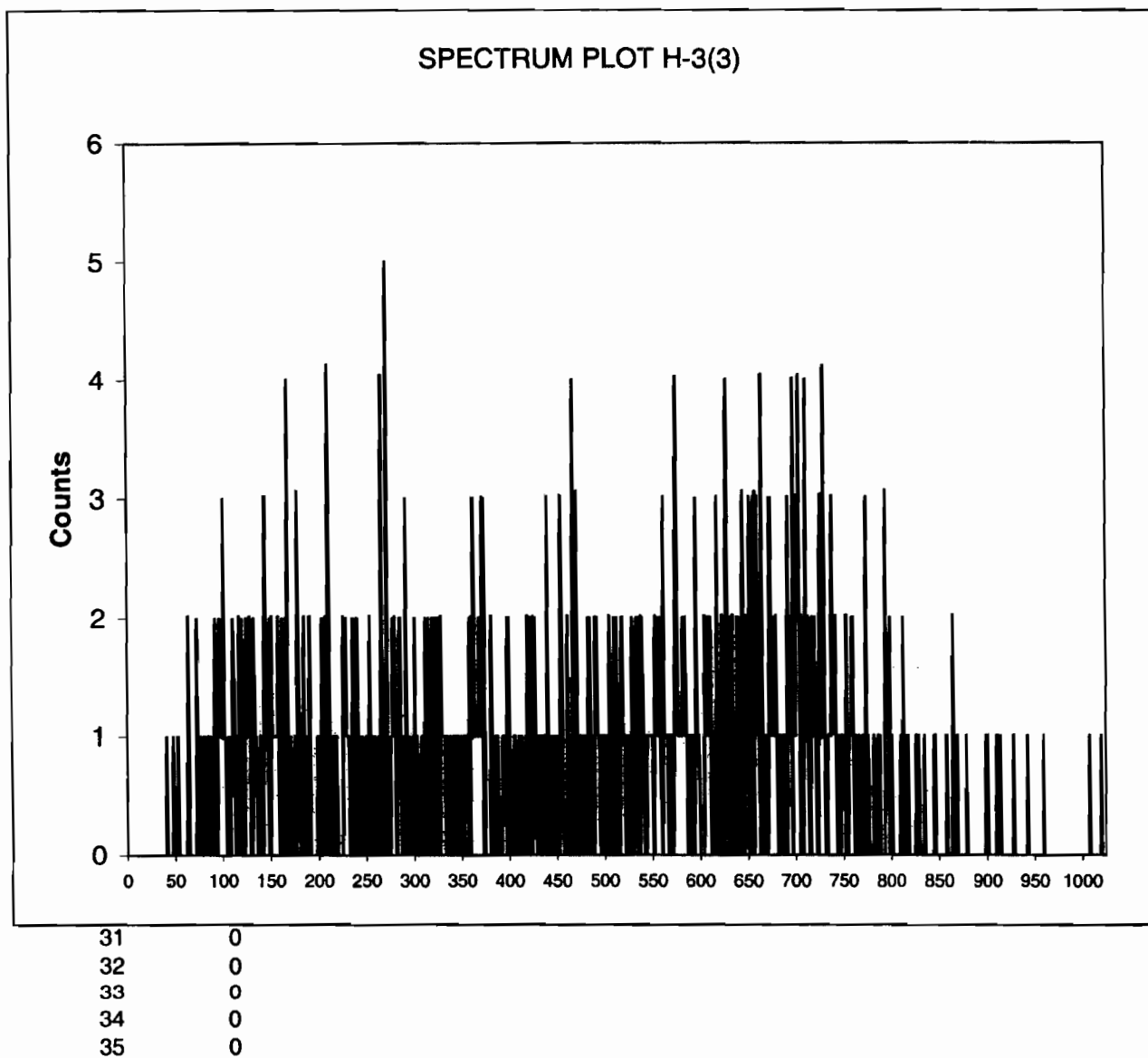
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
WED 17 MAR 2010 5:48
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s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 13, 248051012, 95.02973:
Quench: 803.57
Start, End, X-Axis 1-174

Channel Counts

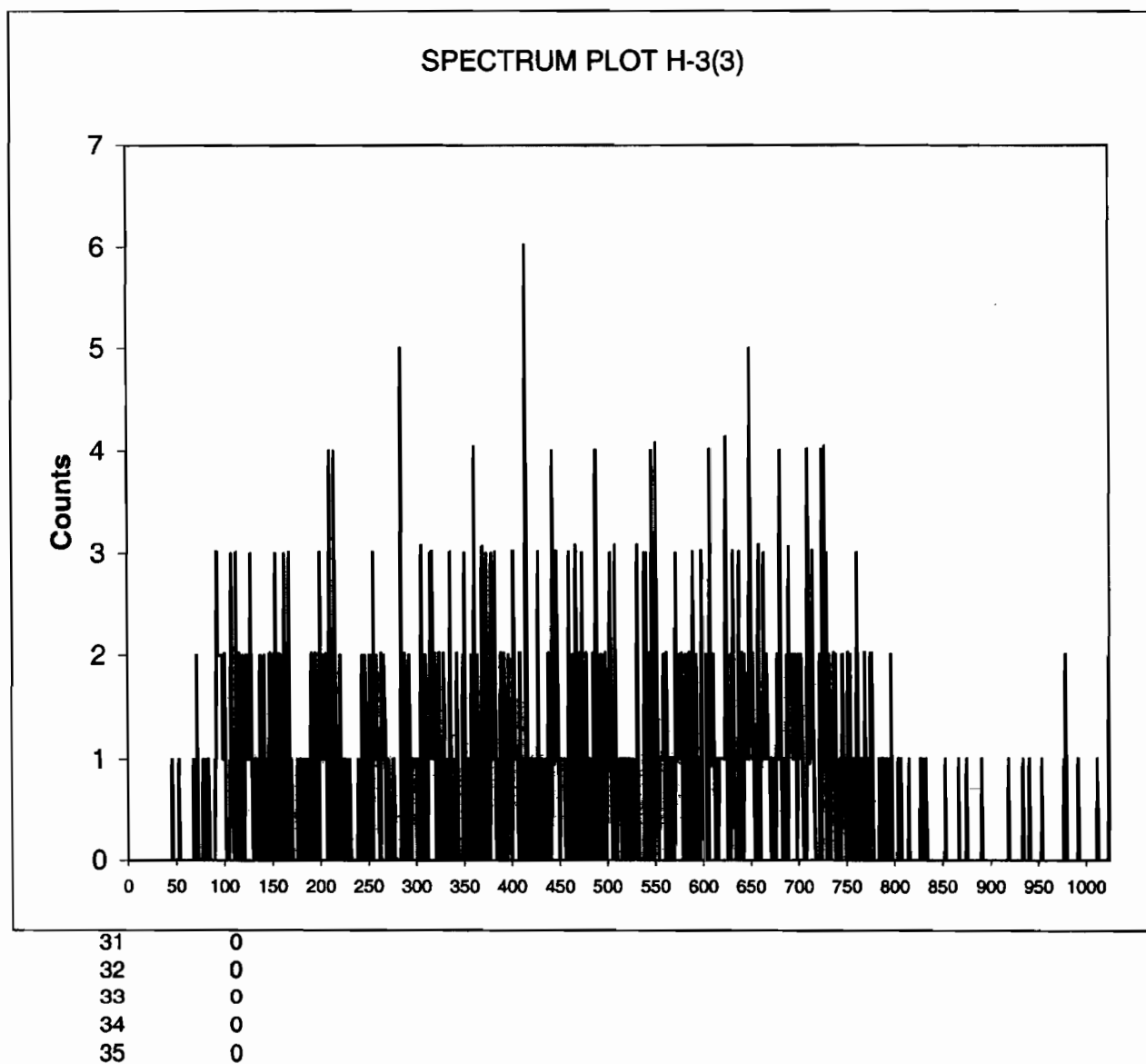


Instrument Type: Quantulus
Data Capture Date: WED 17 MAR 2010 5:48
FileName: s:\sc\files\pink\964054A0\SQ143401N.001.xls
File Info: s:\sc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 14, 248051013, 95.02972:
Quench: 805.25
Start, End, X-Axis 1-174

Channel Counts



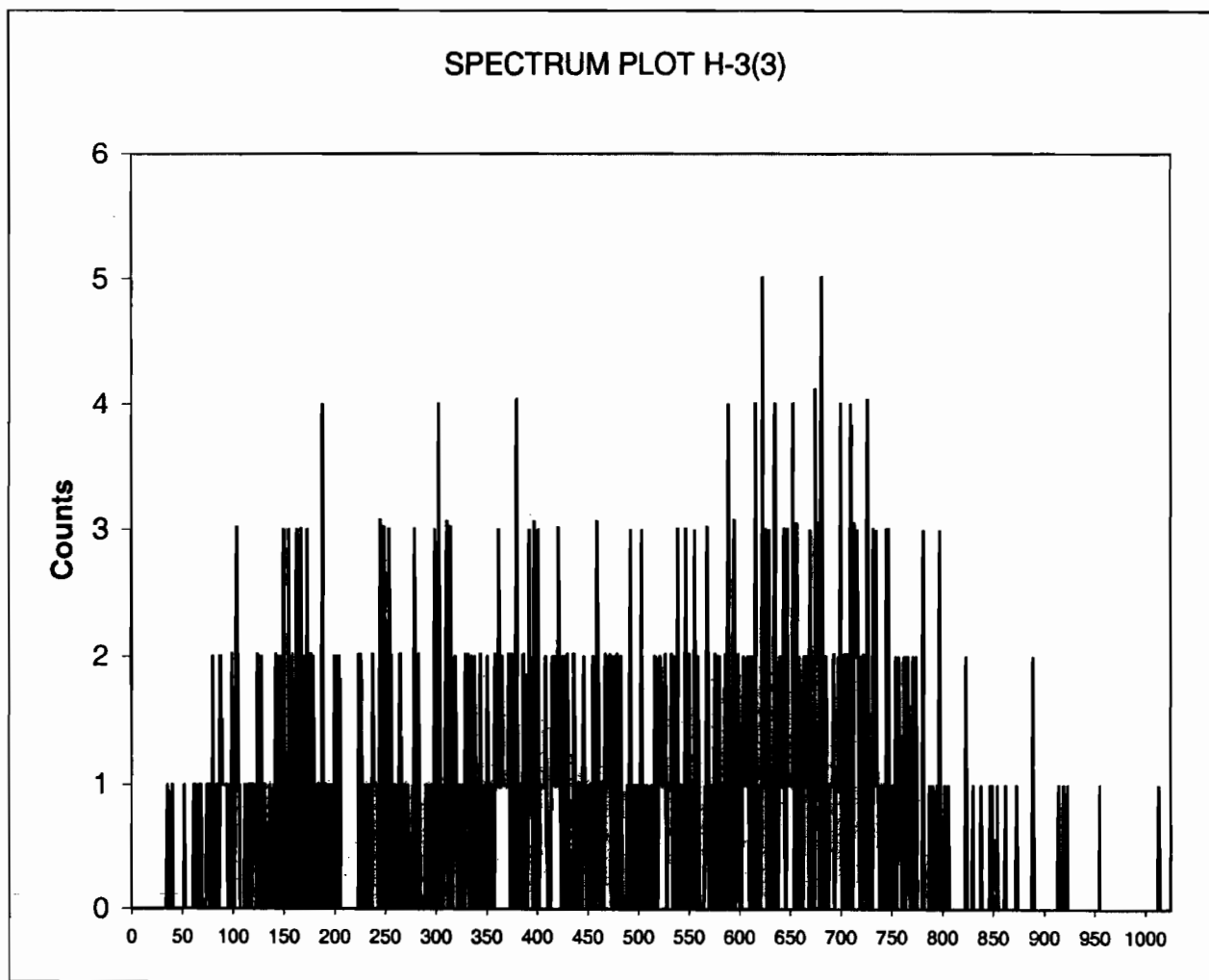
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
WED 17 MAR 2010 5:48
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s:\usc\files\pink\964054A0\U964054A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 15, 248051014, 95.02972:
Quench: 806.3
Start, End, X-Axis 1-174

Channel Counts



31	0
32	0
33	0
34	0
35	1

REGISTRY

THU 18 MAR 2010 7:27

*** DIRECTORY PATH :S:\LSC\Q\DA\964054A1 ***

PARAMETER GROUP: 8
ID: H-3(4)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	36	248051015	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	37	248051016	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	38	248051017	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	39	248051018	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	40	1202068210	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
6	41	1202068211	95:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
7	42	1202068212	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1
COINCIDENCE BIAS (L/H) L

MCA INPUT	TRIGG.	INHIBIT	MEMORY SPLIT
1 LRSUM	DCOS	G	L*R
2 GSUM	G		L*R

WINDOW	CHANNELS	MCA	HALF
1	1- 174	1	2
2	1- 174	1	2
3	60- 220	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1.	2.	3.	4.	5.	6.	7.
POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
SEND SPECTRA			12			
RESOLUTION OF SPECTRA			1024			
LISTING			Y			
INSTRUMENT NUMBER			1			

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
Q013601N.001	18 MAR 2010	9:04				
36	248051015	95:01.785	804.09	1.19	1.19	1.48
Q023701N.001	18 MAR 2010	10:42				
37	248051016	95:01.785	806.10	1.18	1.18	1.57
Q033801N.001	18 MAR 2010	12:19				
38	248051017	95:01.785	805.46	1.49	1.49	1.53
Q043901N.001	18 MAR 2010	13:57				
39	248051018	95:01.785	806.84	.89	.89	1.30
Q054001N.001	18 MAR 2010	15:34				

Page 1

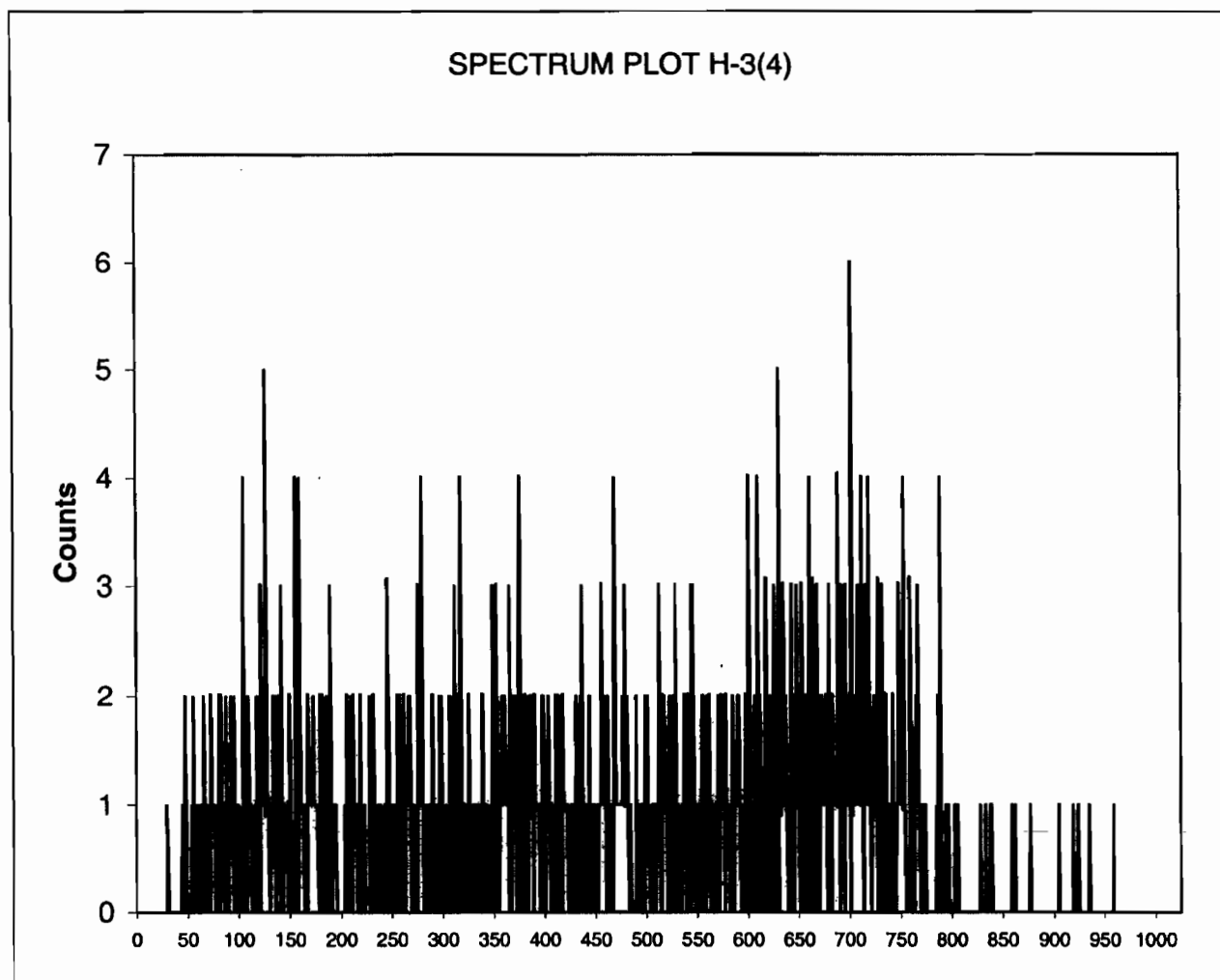
40	1202068210	95:01.785	808.17	REGISTRY		
Q064101N.001 18	MAR 2010 17:13			.60	.60	.95
41	1202068211	95:01.785	805.98	1.30	1.30	1.47
Q074201N.001 18	MAR 2010 17:30					
42	1202068212	15:01.778	807.74	21.36	21.36	22.70

Instrument Type: Quantulus
Data Capture Date: THU 18 MAR 2010 7:27
FileName: s:\sc\files\pink\964054A1\SQ013601N.001.xls
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ID: H-3(4)
Comments: PINK

Sample, Rack-Pos, Time: 1, 248051015, 95.02975:
Quench: 804.09
Start, End, X-Axis 1-174

Channel Counts



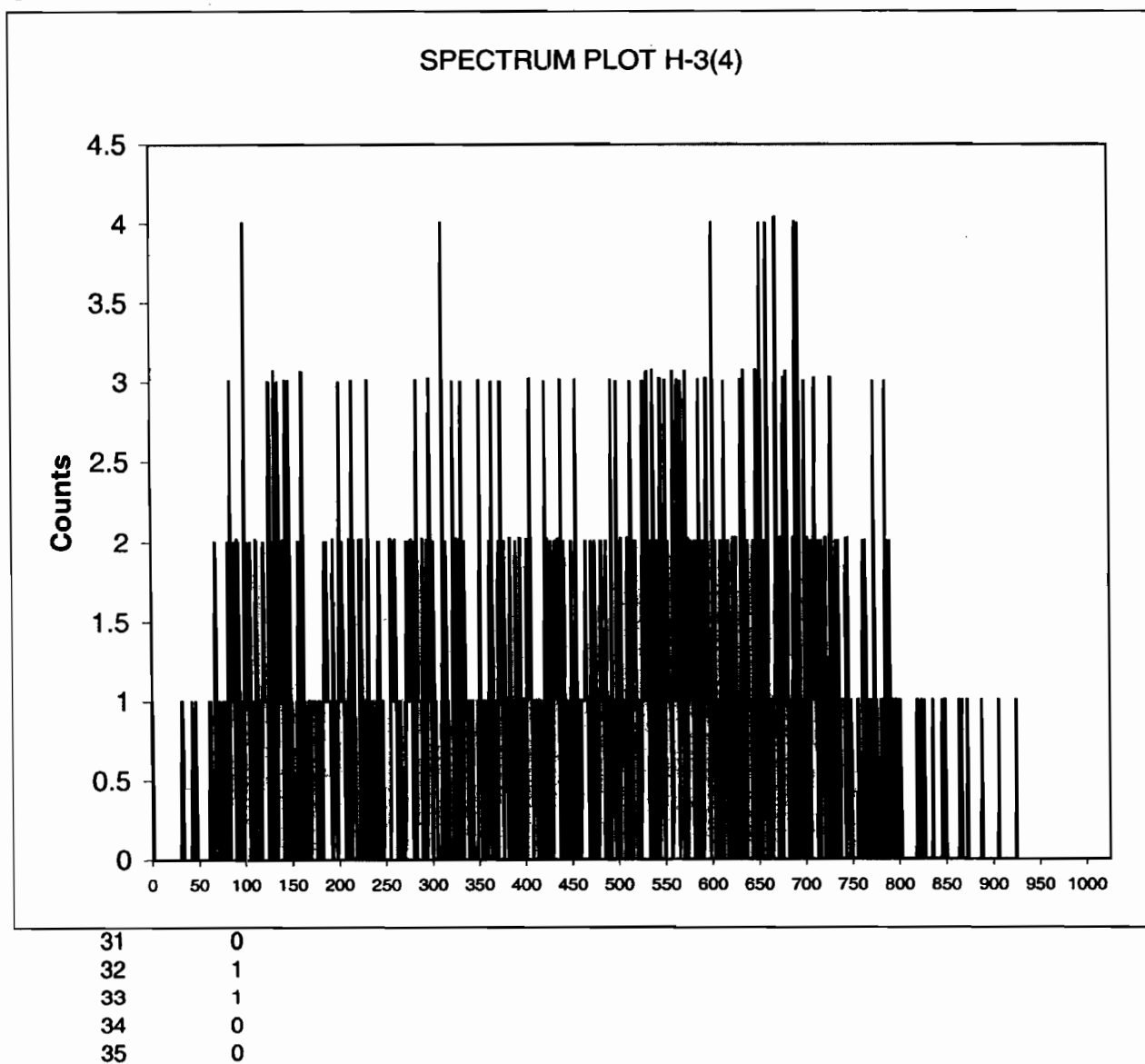
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ID: H-3(4)
Comments: PINK

Sample, Rack-Pos, Time: 2, 248051016, 95.02975:
Quench: 806.1
Start, End, X-Axis 1-174

Channel Counts



Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
THU 18 MAR 2010 7:27
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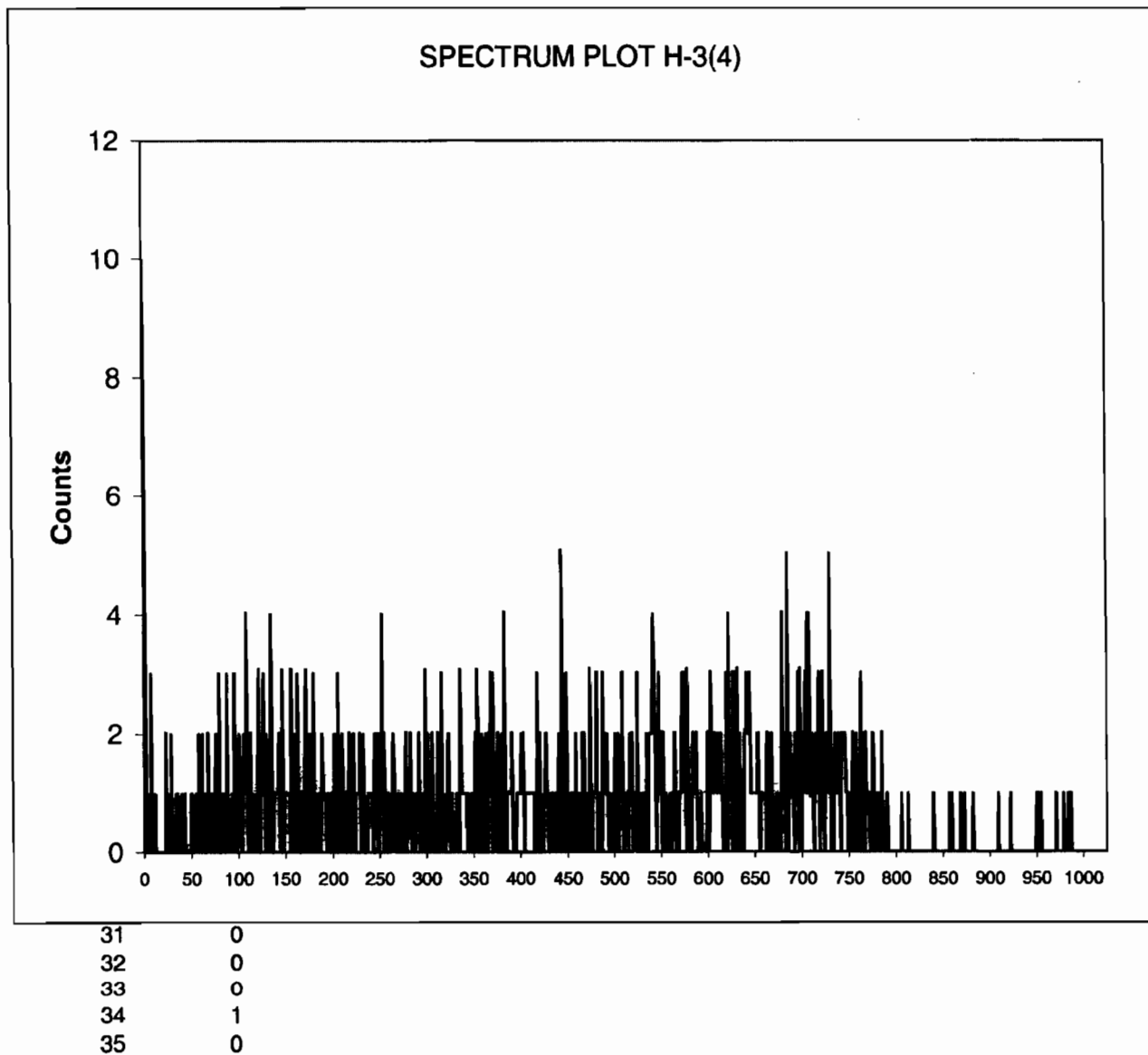
ID:
Comments:

H-3(4)
PINK

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

3, 248051017, 95.02975:
805.46
1-174

Channel Counts



Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
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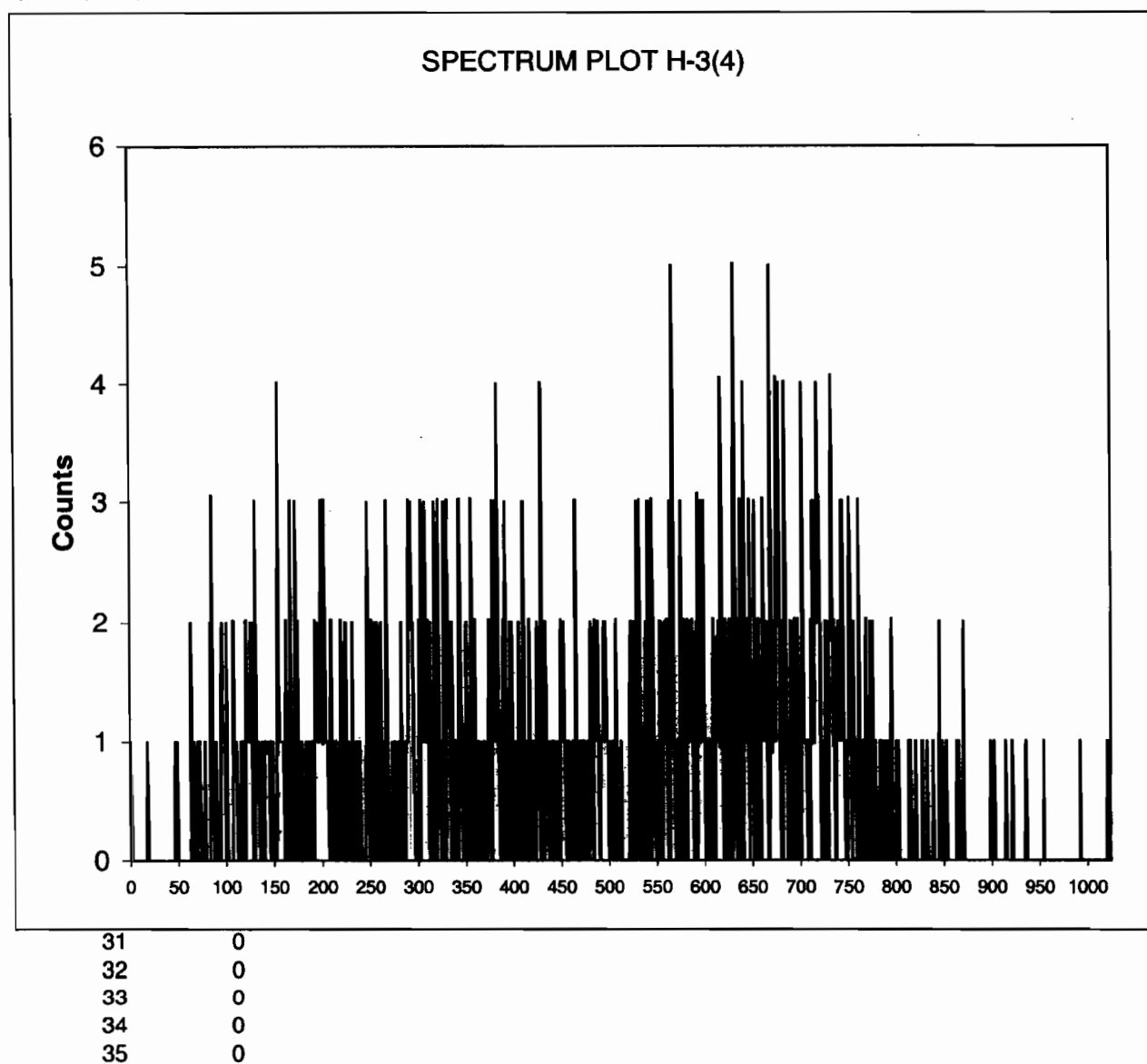
ID:
Comments:

H-3(4)
PINK

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

4, 248051018, 95.02975:
806.84
1-174

Channel Counts

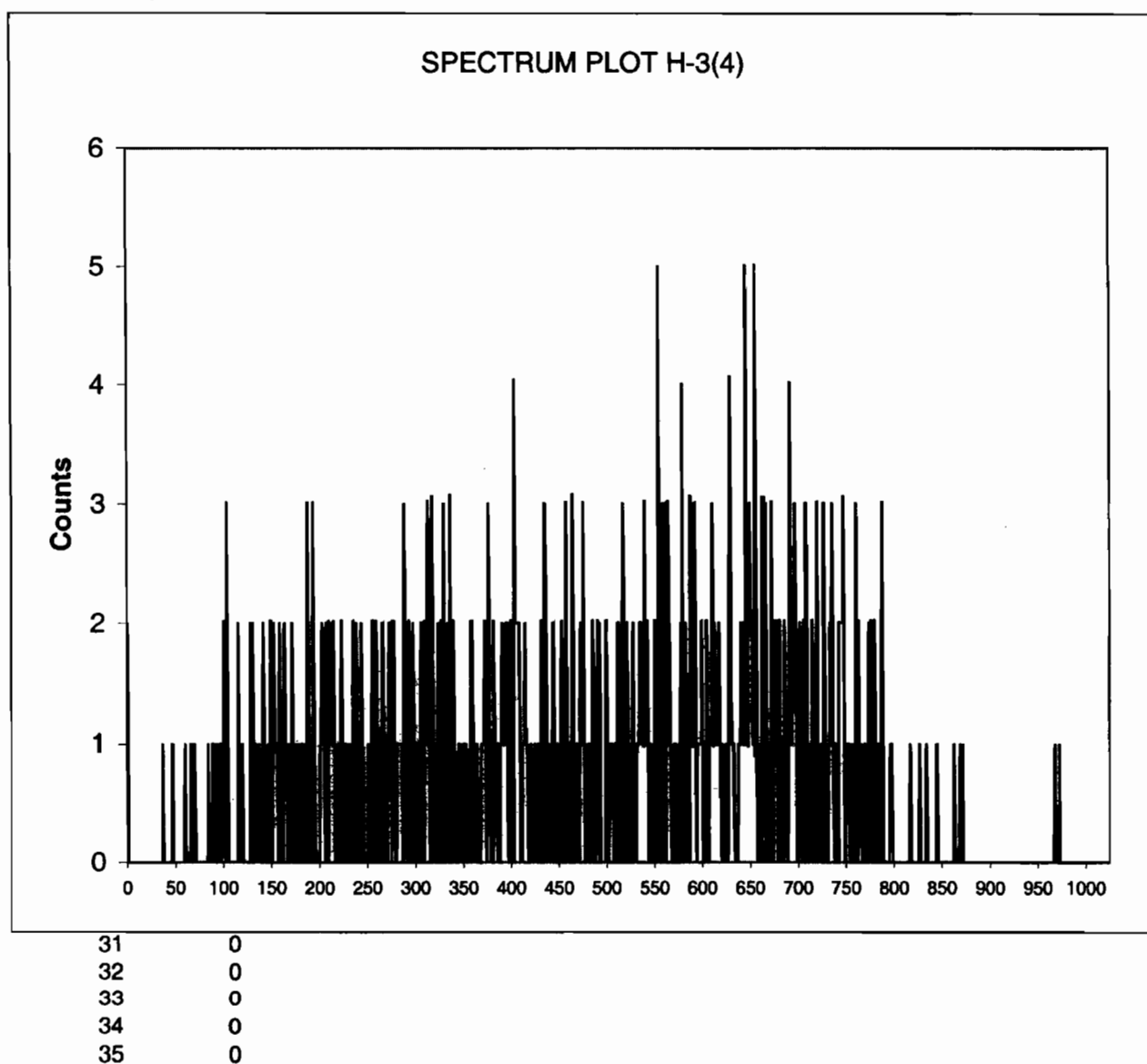


Instrument Type: Quantulus
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ID: H-3(4)
Comments: PINK

Sample, Rack-Pos, Time: 5, 1202068210, 95.02975:
Quench: 808.17
Start, End, X-Axis: 1-174

Channel Counts



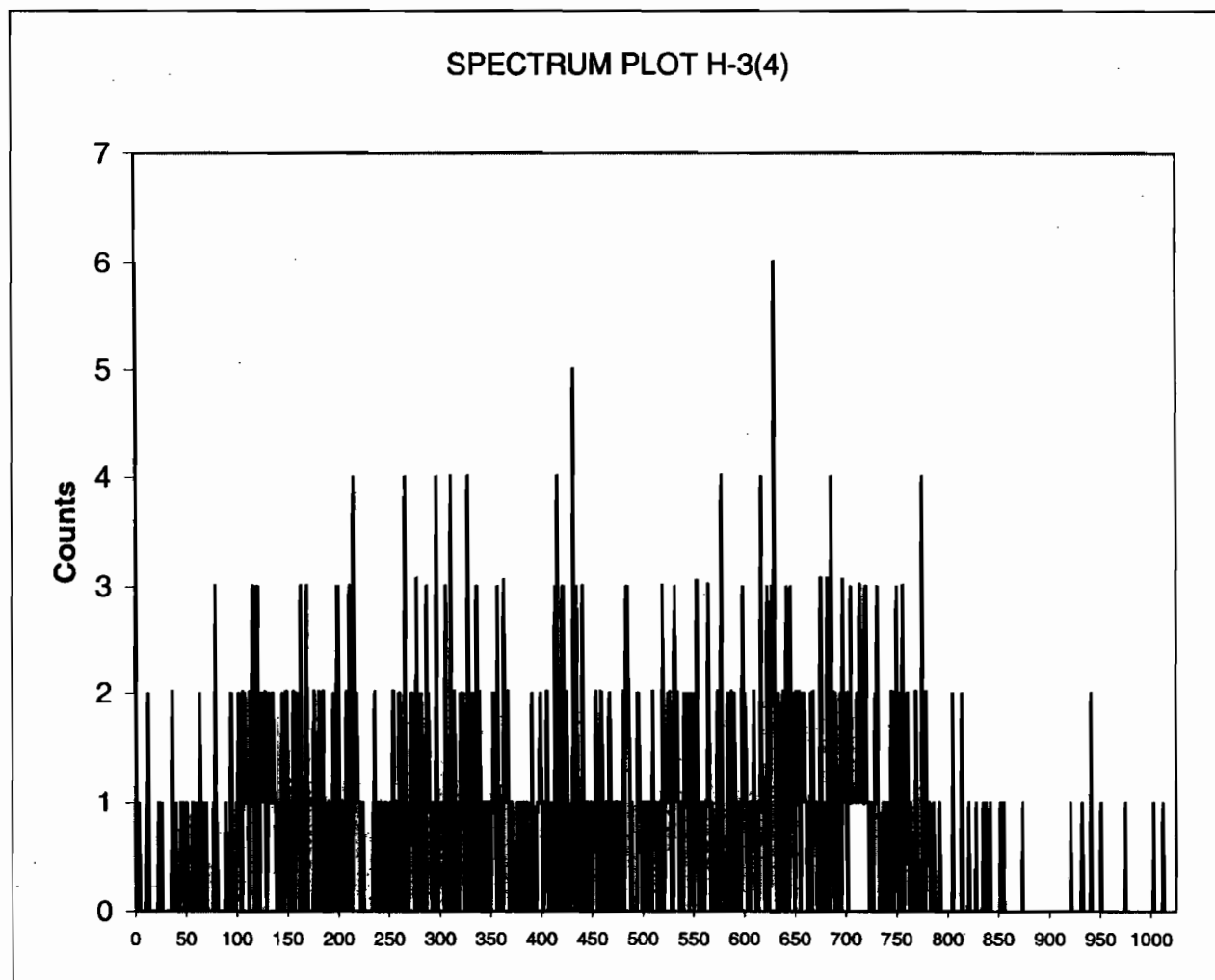
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FileName:
File Info:

Quantulus
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ID: H-3(4)
Comments: PINK

Sample, Rack-Pos, Time: 6, 1202068211, 95.02975:
Quench: 805.98
Start, End, X-Axis 1-174

Channel Counts



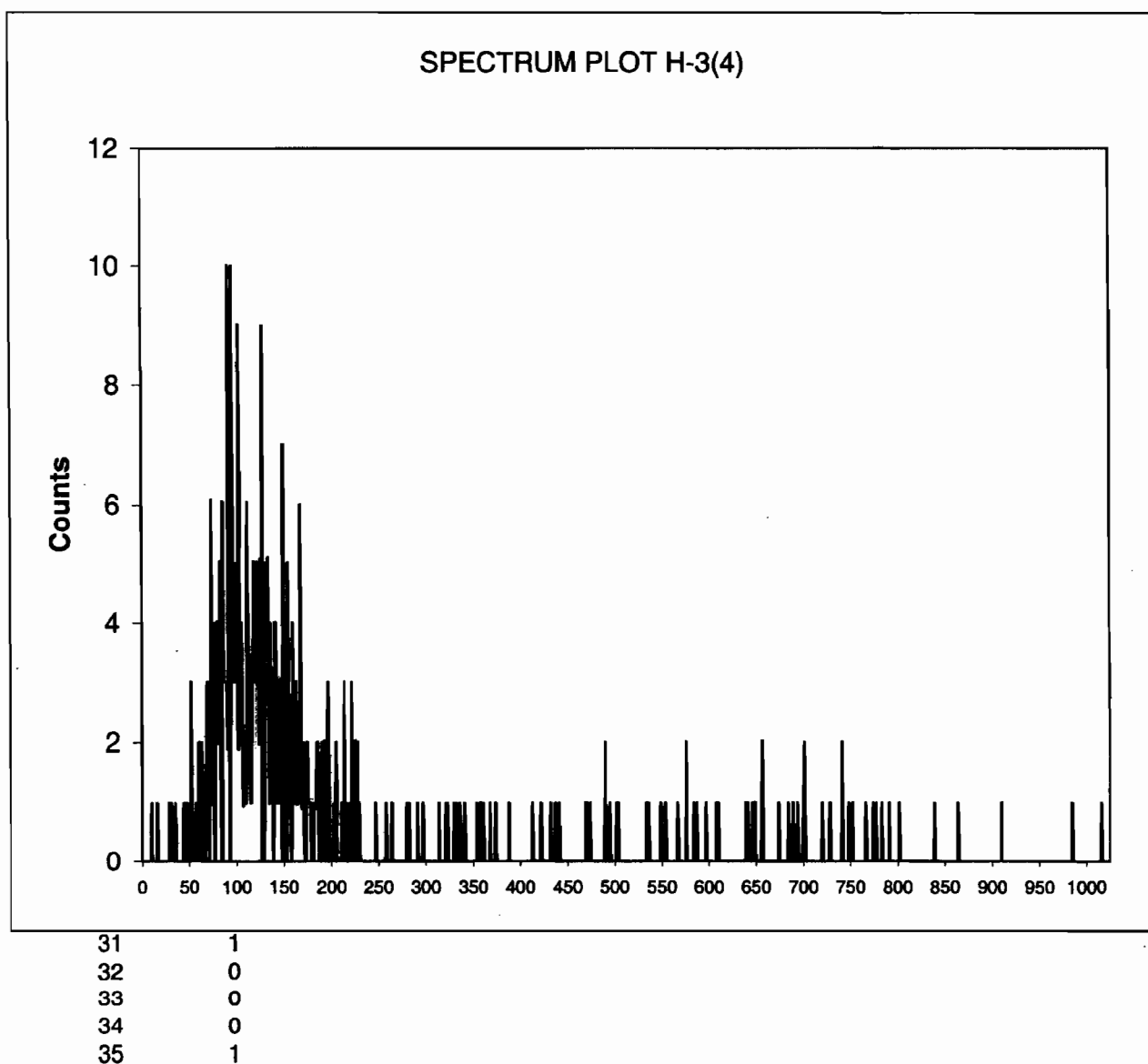
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File Info: s:\sc\files\pink\964054A1\U964054A1.xls

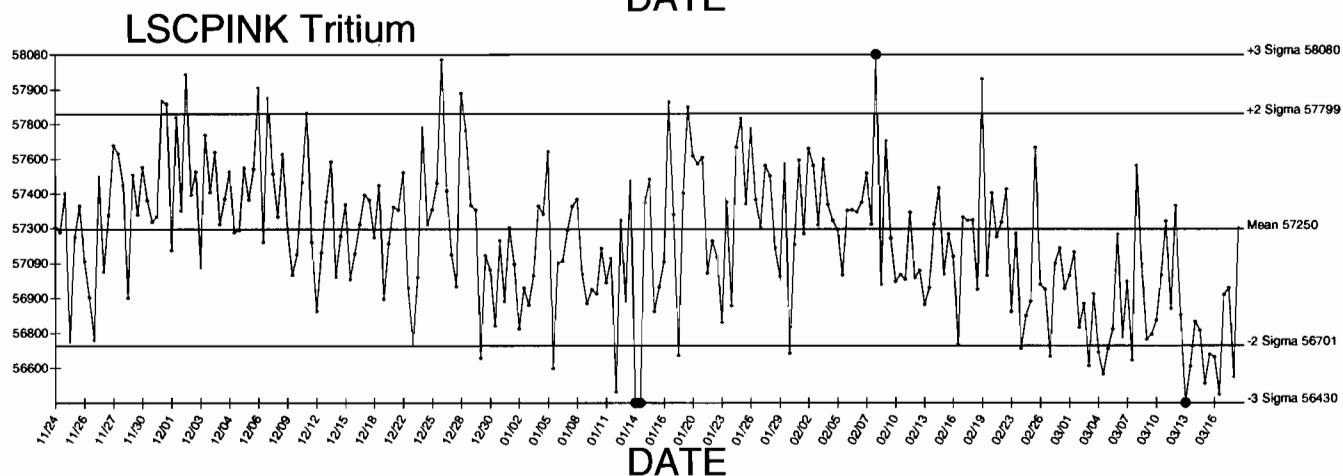
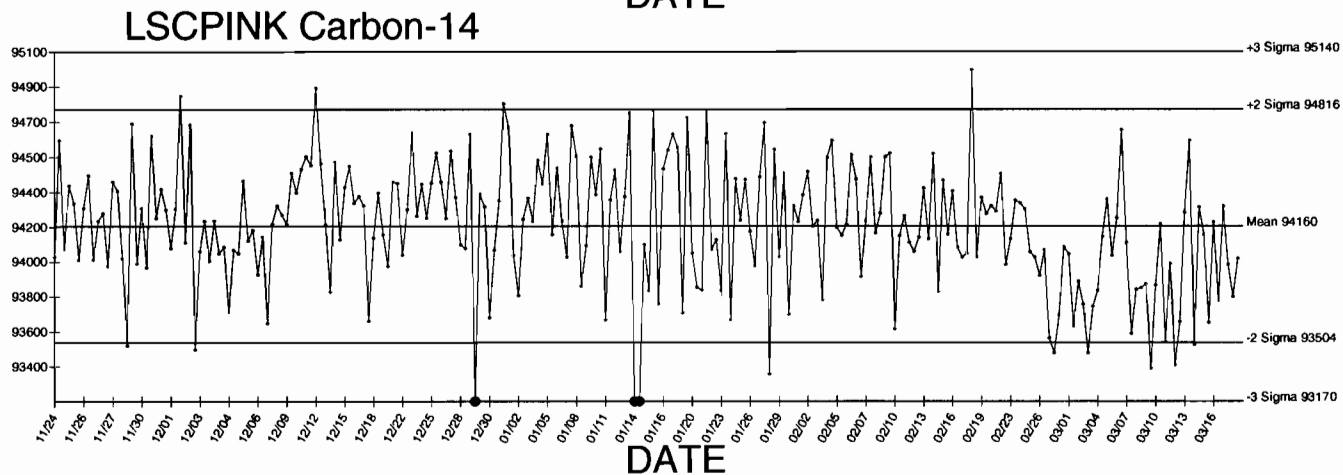
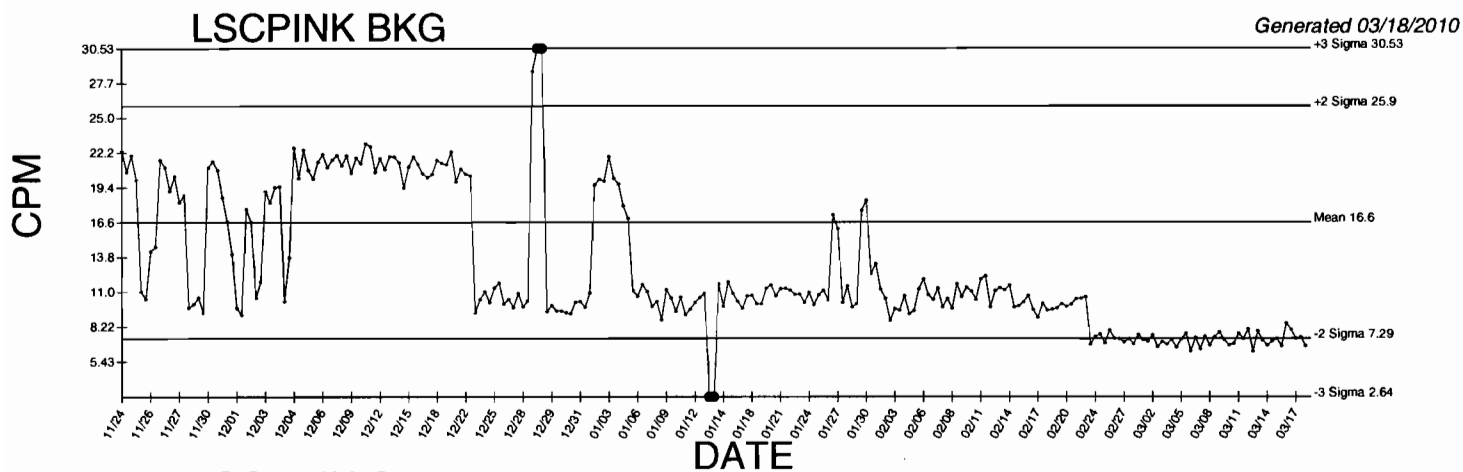
ID: H-3(4)
Comments: PINK

Sample, Rack-Pos, Time: 7, 1202068212, 15.02963:
Quench: 807.74
Start, End, X-Axis: 1-174

Channel Counts

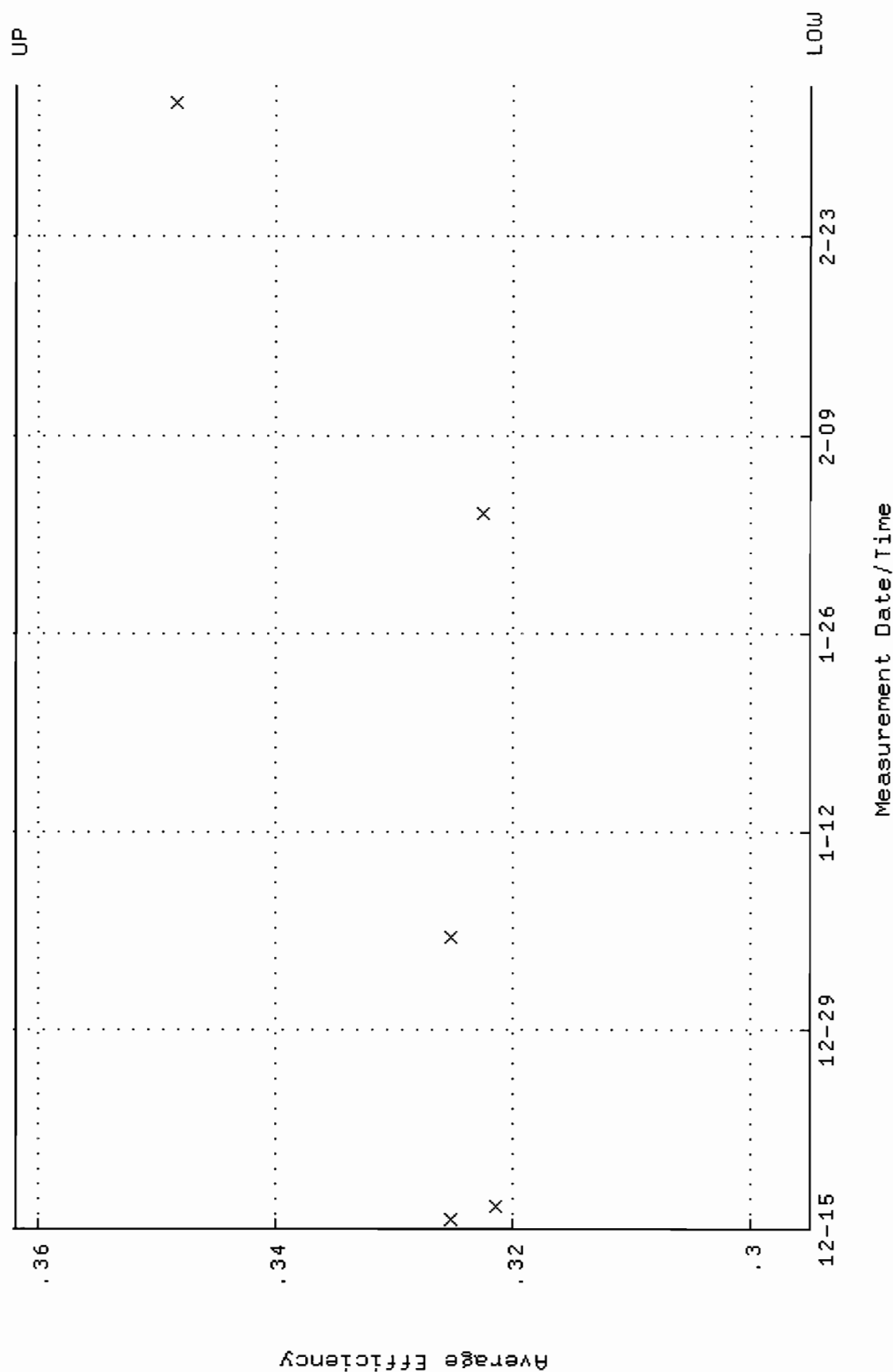


BACKGROUND AND EFFICIENCY DATA

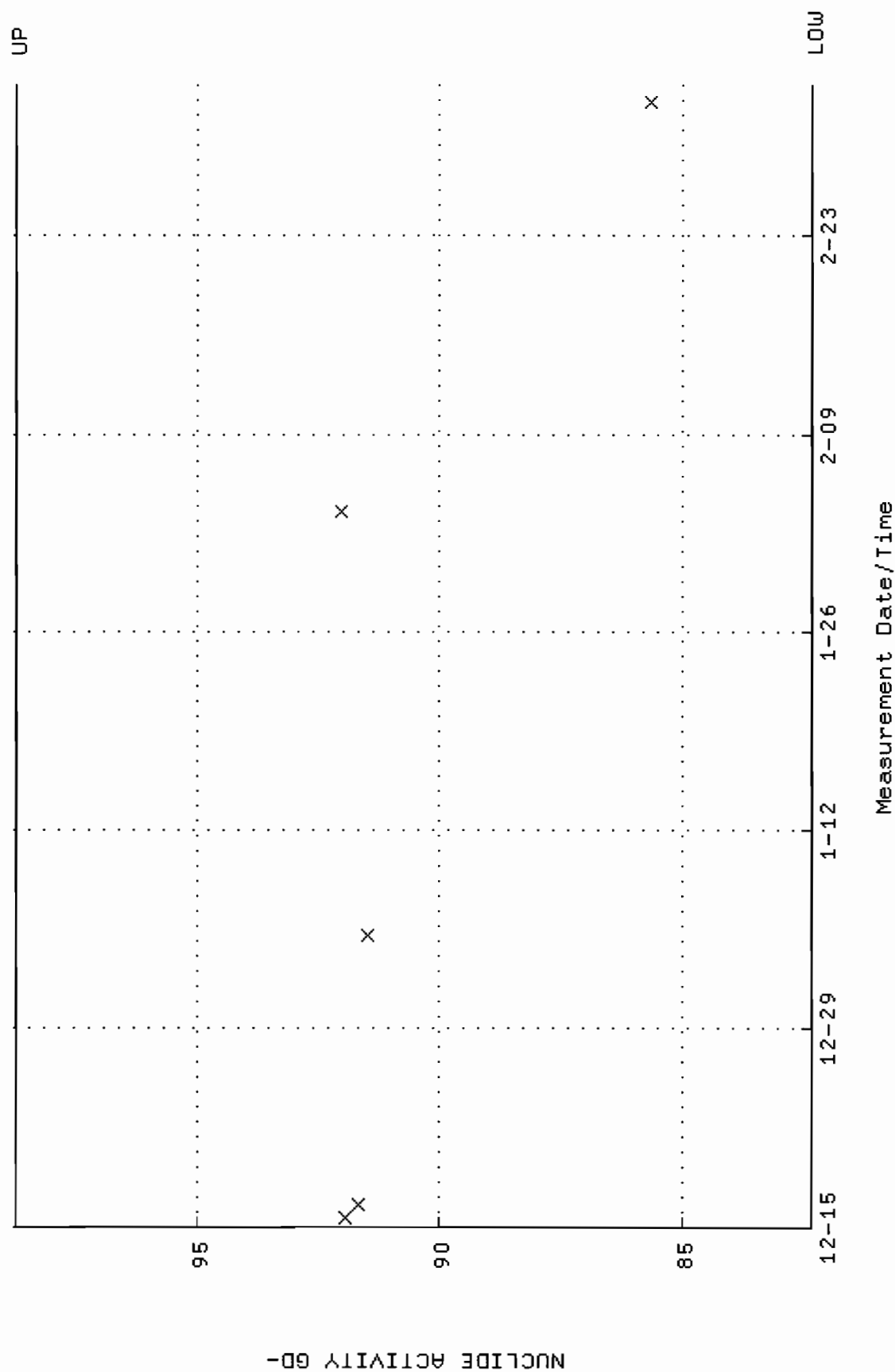


● Denotes Outlier

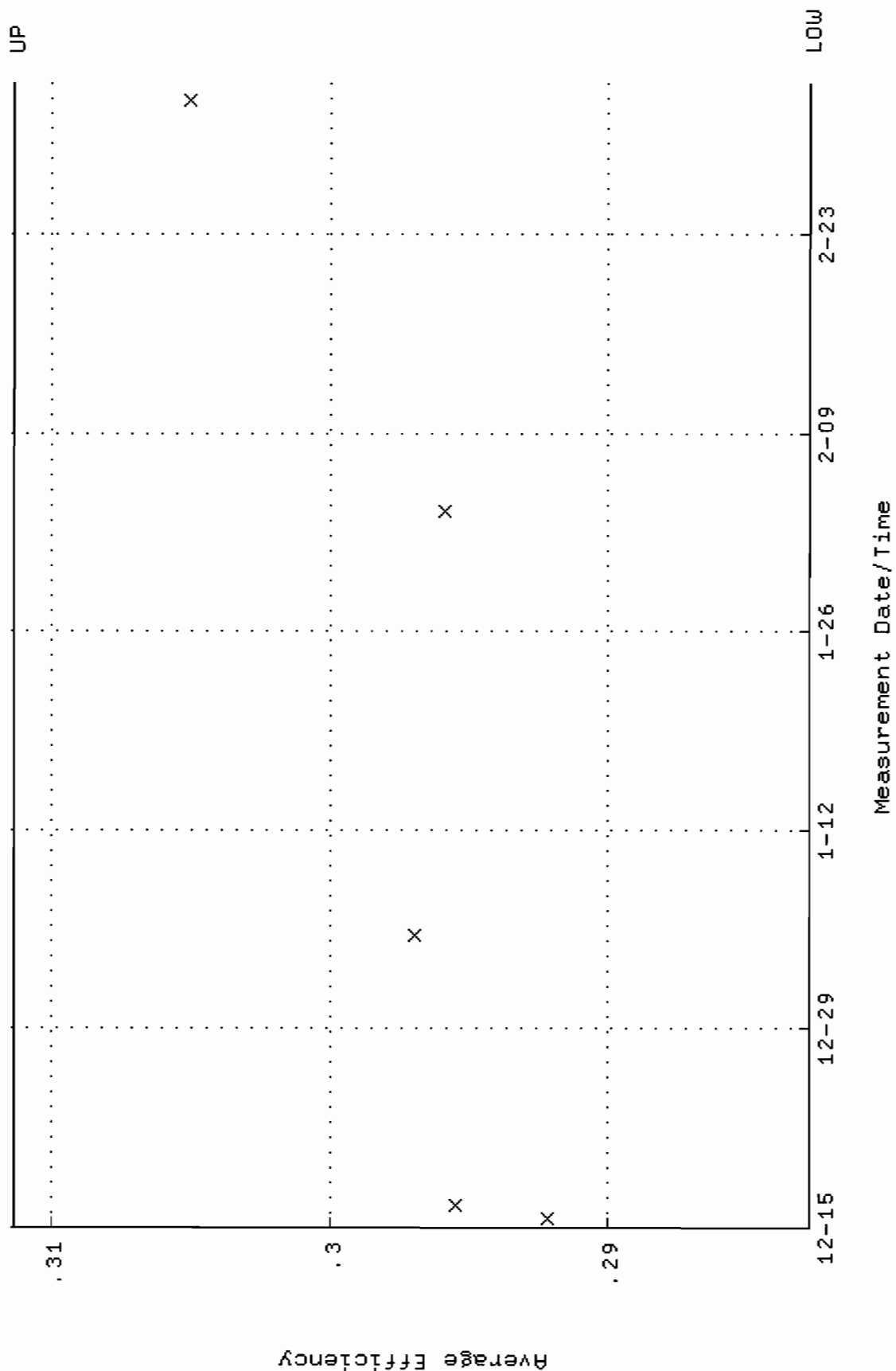
QA filename : DKA100:[ENV_ALPHA.QA.w]W001.QAF;7
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.294900 through 0.361886



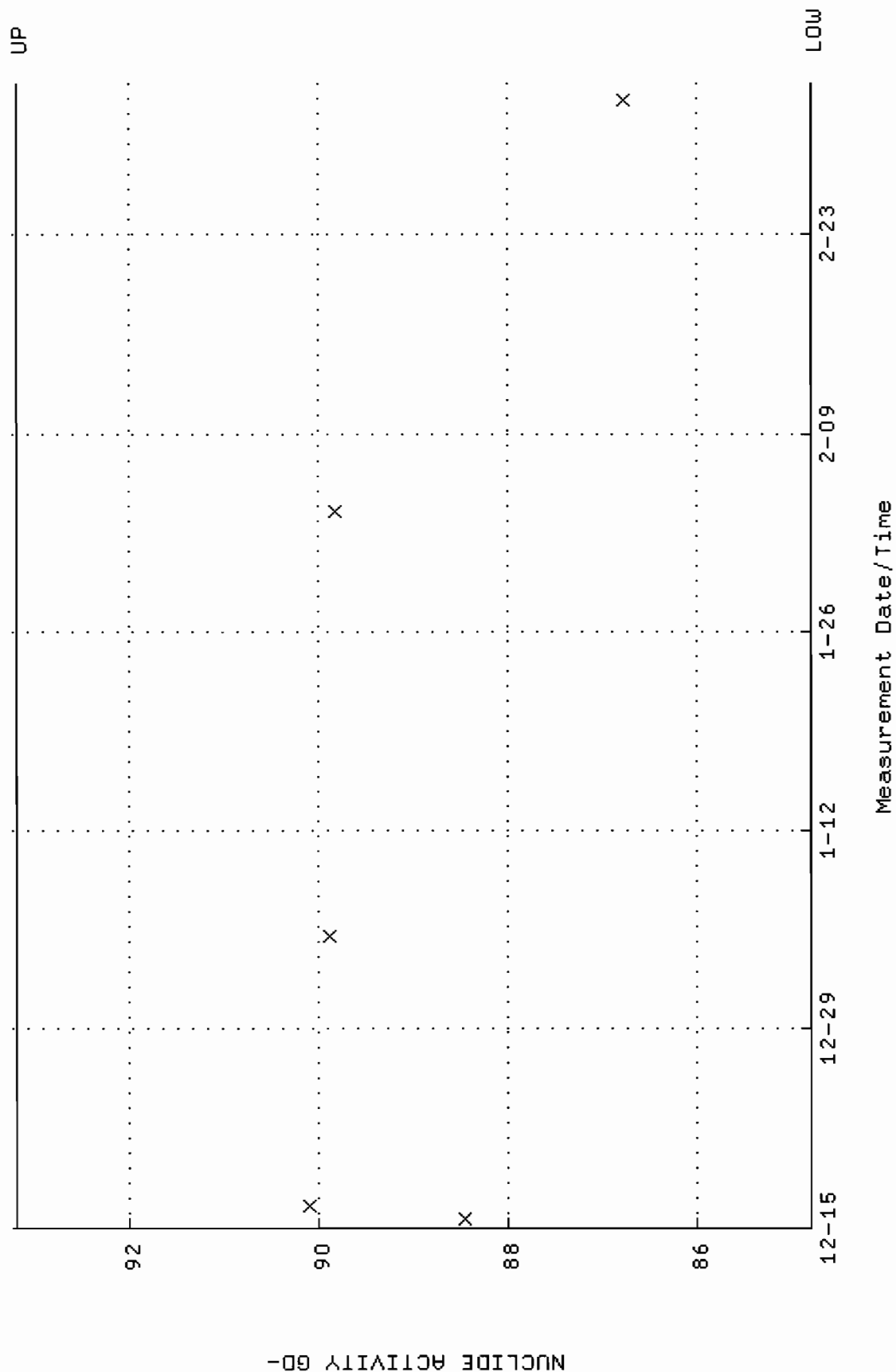
QA filename : DKA100:[ENV_ALPHA.QA.W]W001.QAF;7
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 82.3264 through 98.7414



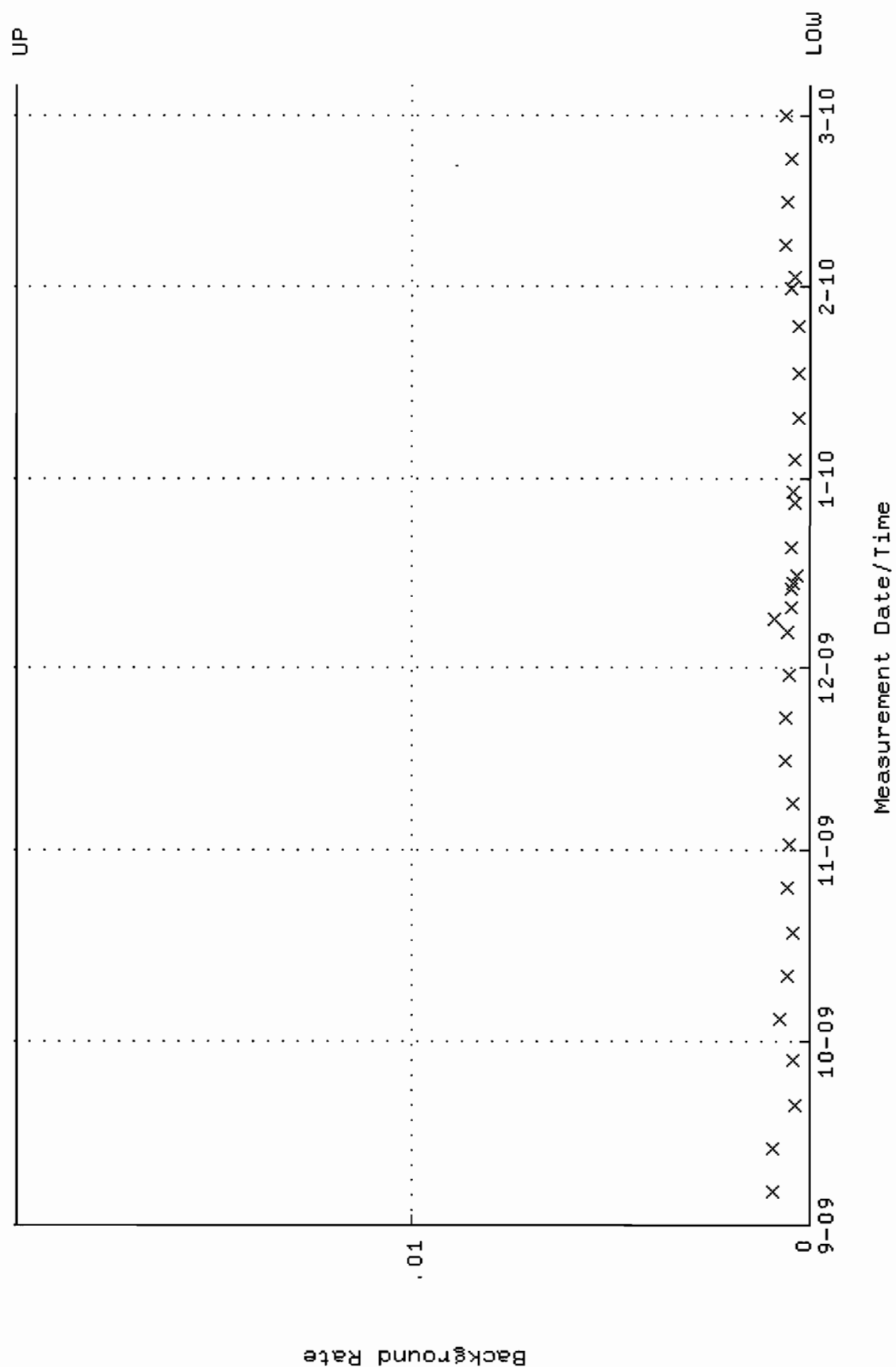
QA filename : DKA100:[ENV_ALPHA.QA.W]W002.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.282705 through 0.311367



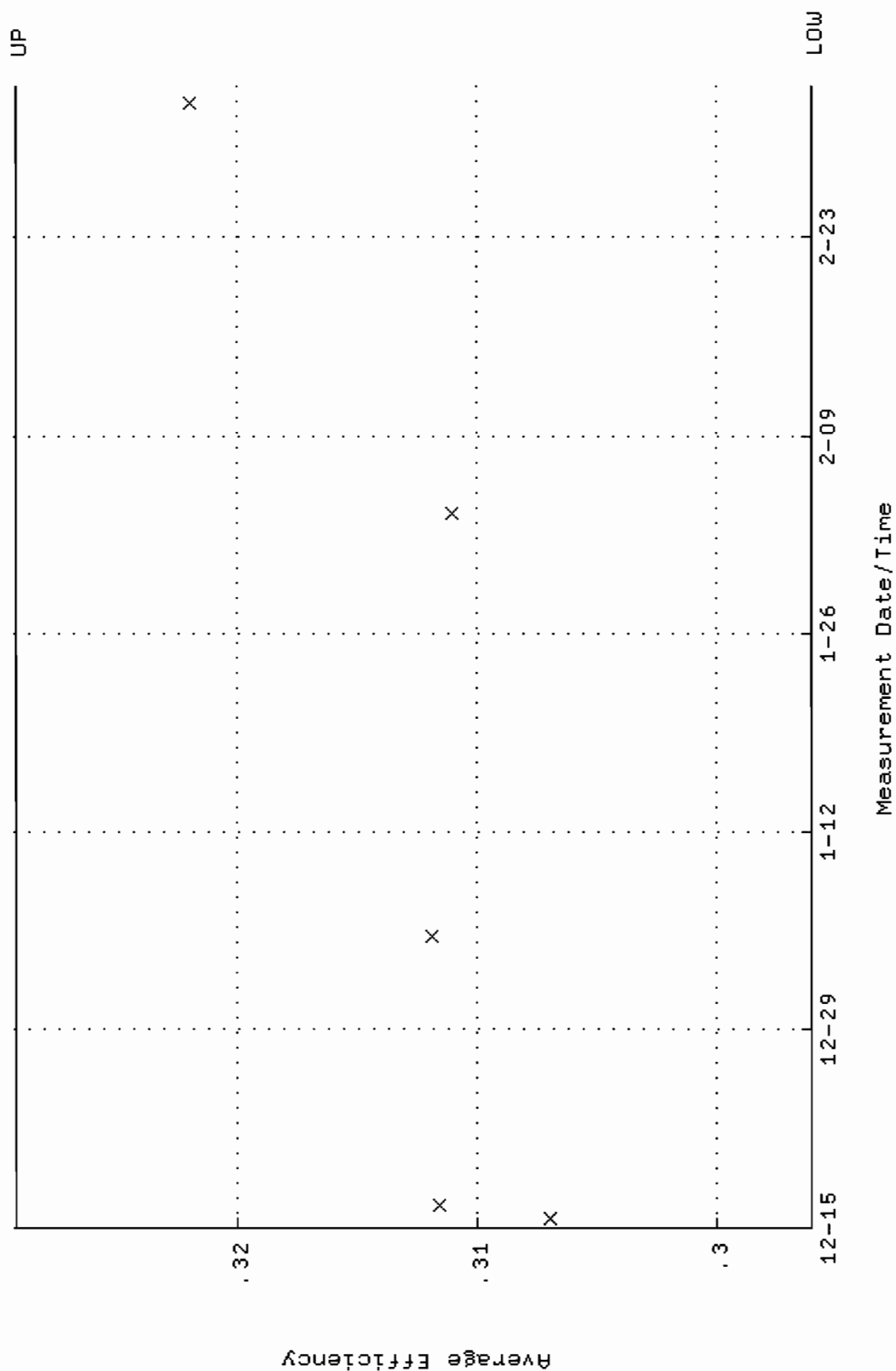
QA filename : DKA100:[ENV_ALPHA.QA.W]W002.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 84.7927 through 93.2014



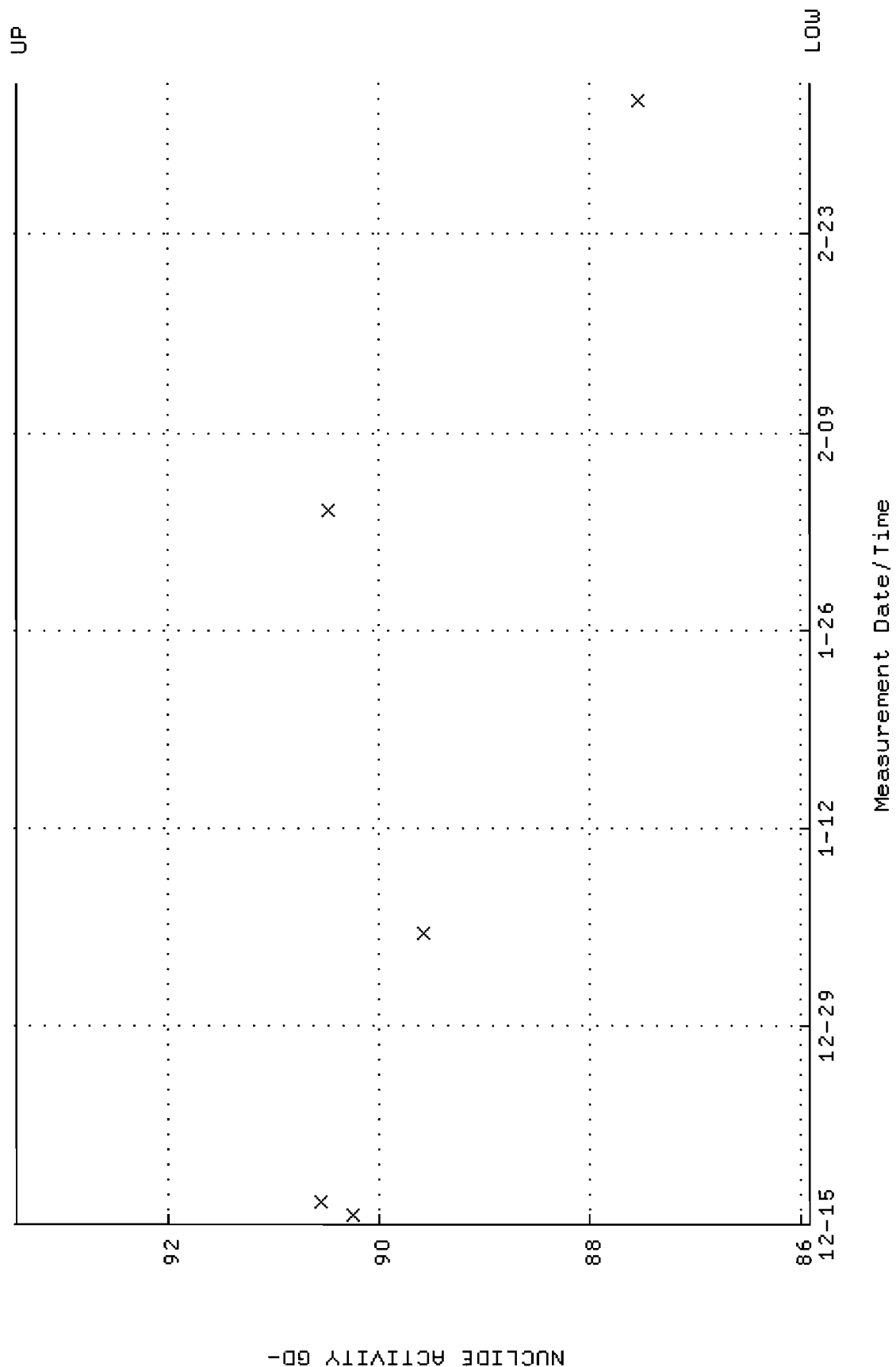
QA filename : DKA100:[ENV_ALPHA.QA.B]B002.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:00 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



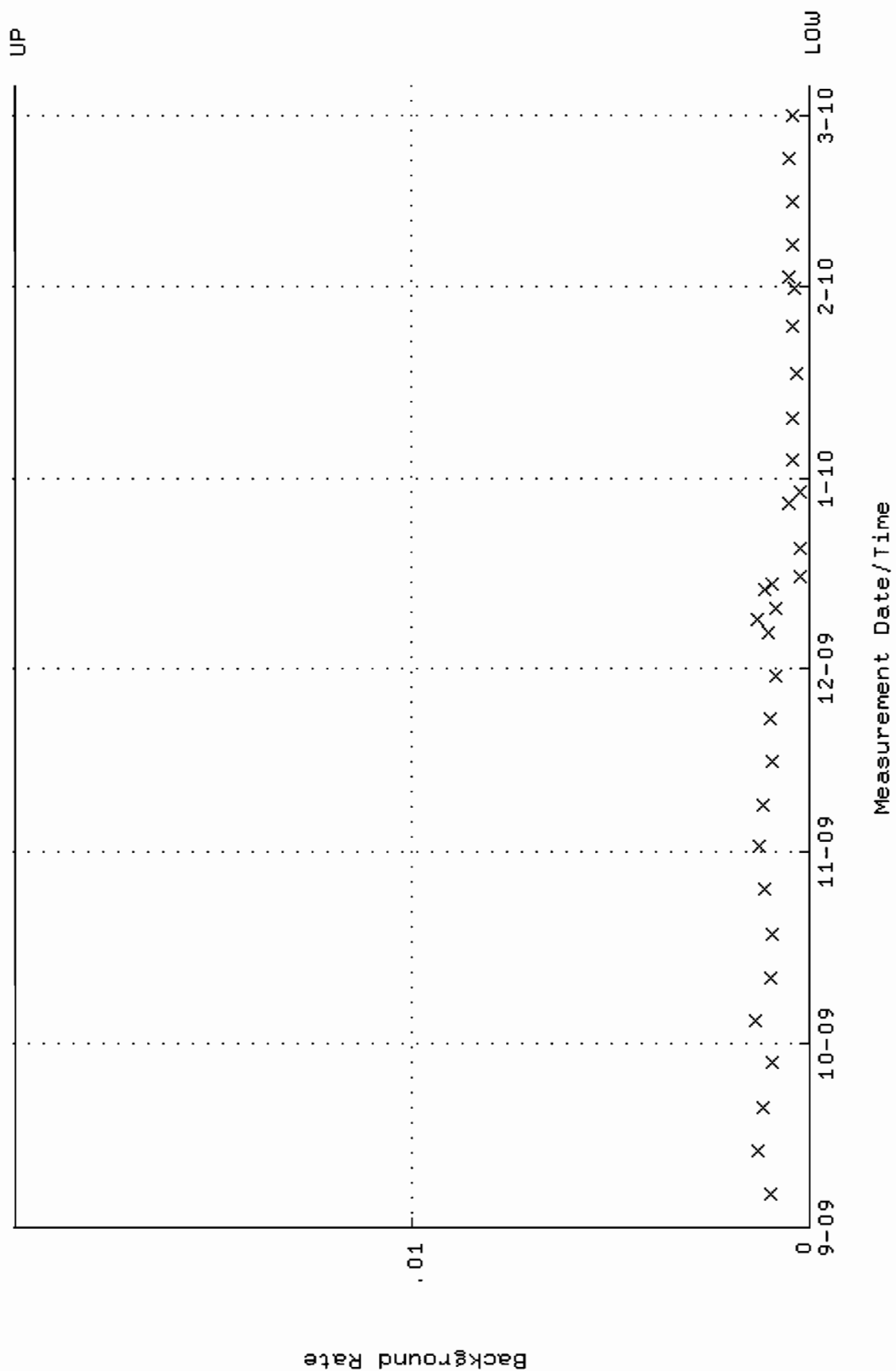
QA filename : DKA100:[ENV_ALPHA.QA.W]W003.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.295986 through 0.329192



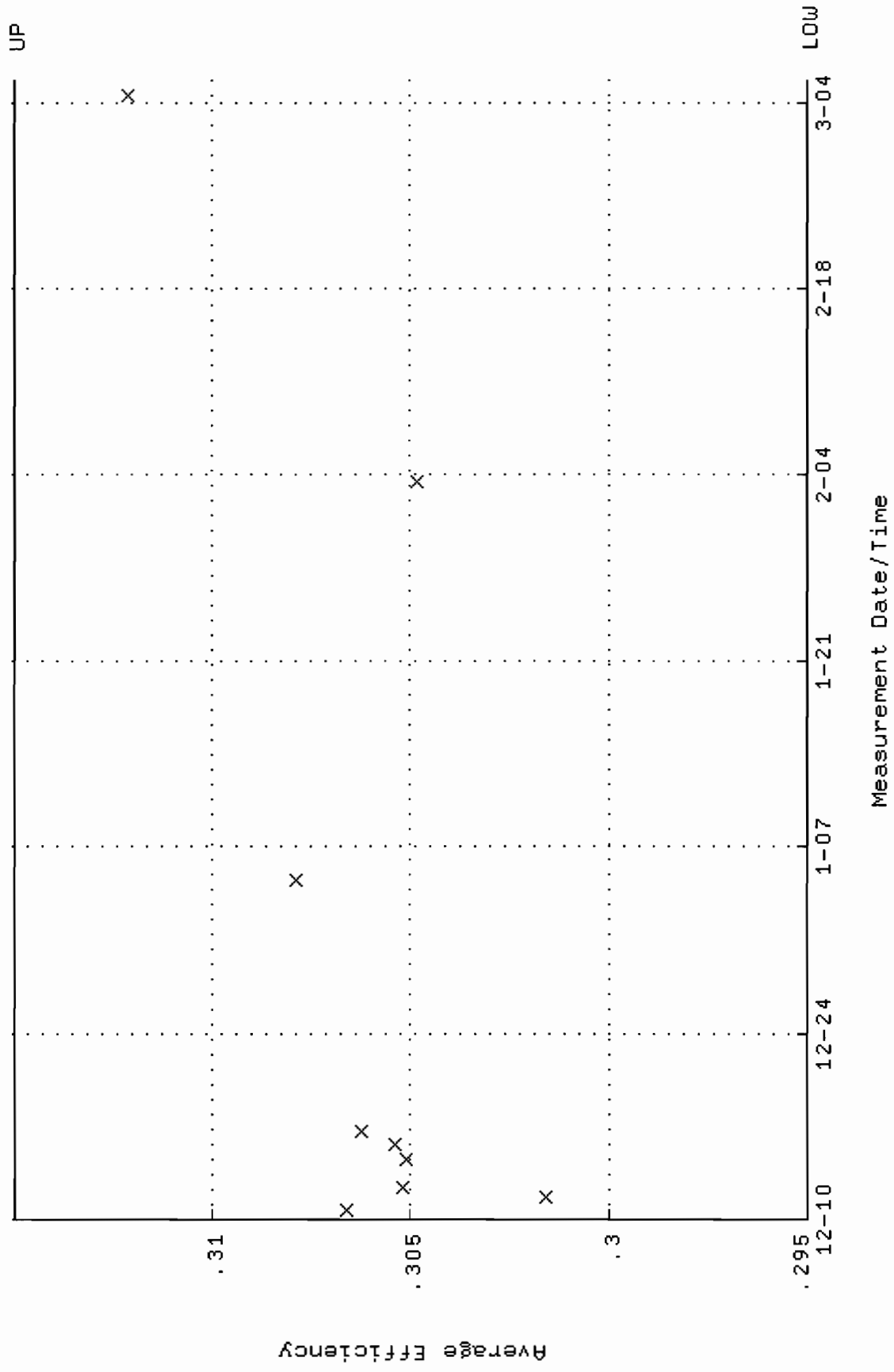
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.9157 through 93.4313



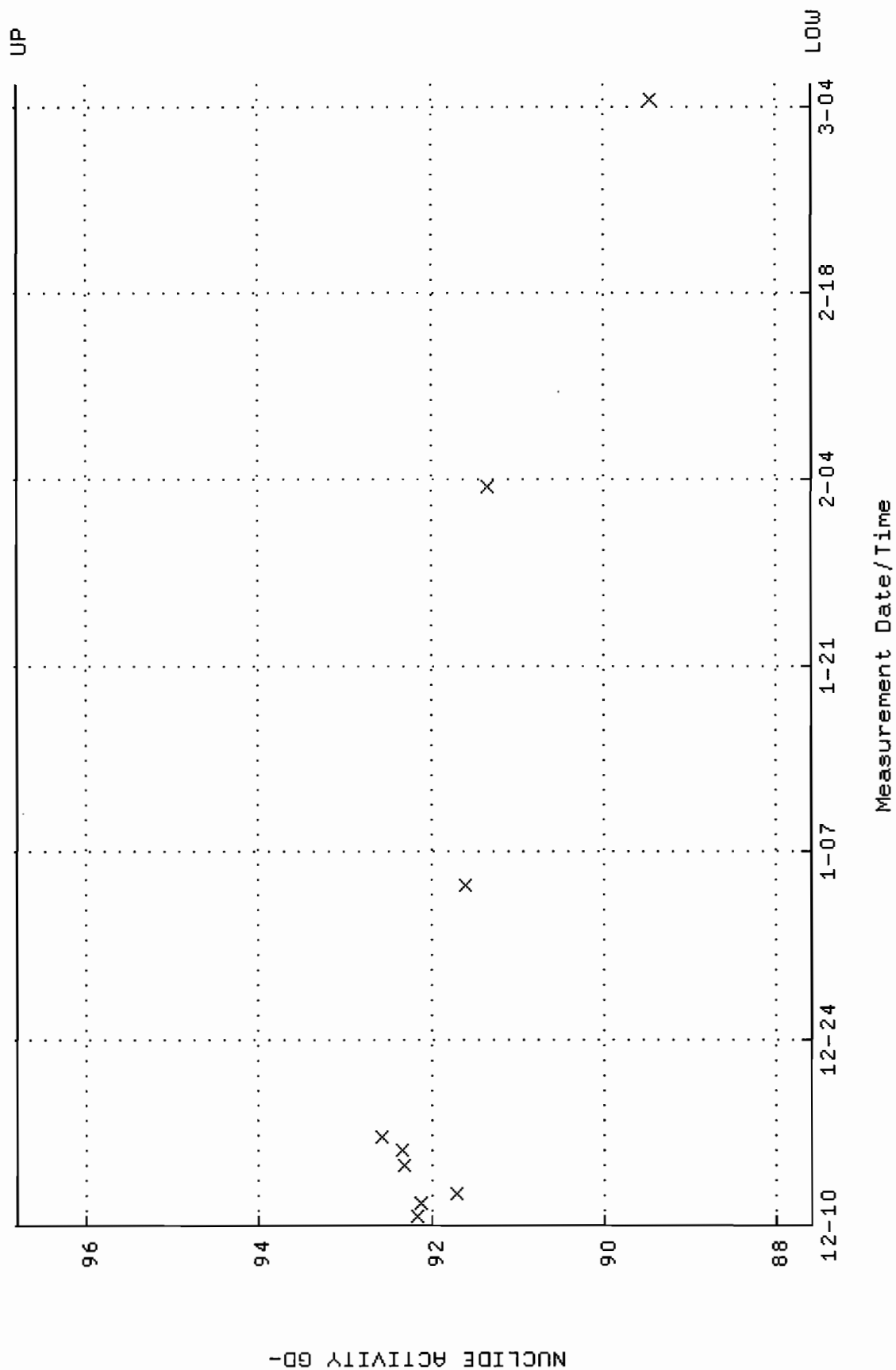
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:00 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



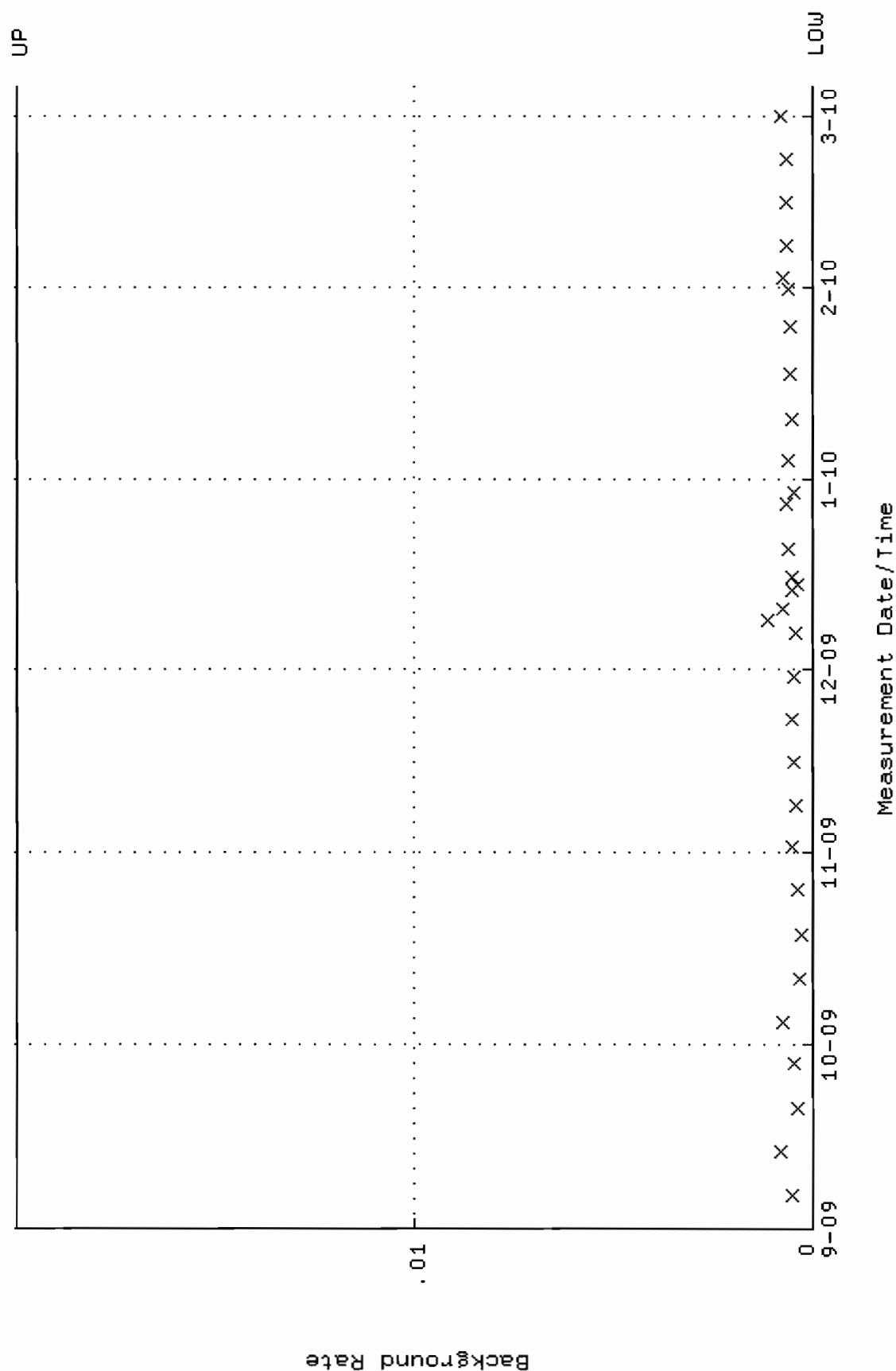
QA filename : DKA100:[ENV_ALPHA.QA.W]W004.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 10-DEC-2009 15:29:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.294995 through 0.314995



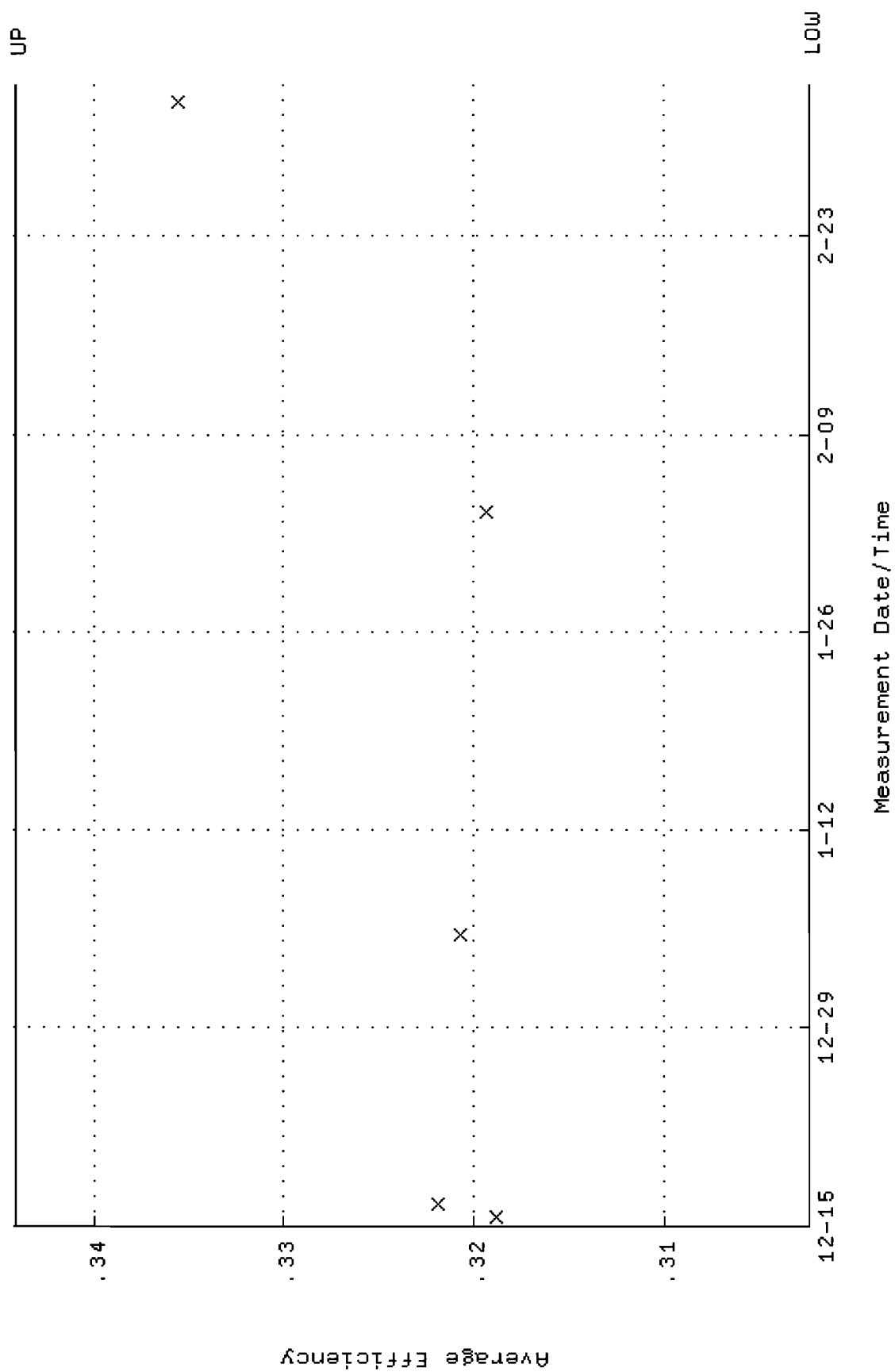
QA filename : DKA100:[ENV_ALPHA.QA.W]W004.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 10-DEC-2009 15:29:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.5863 through 96.8059



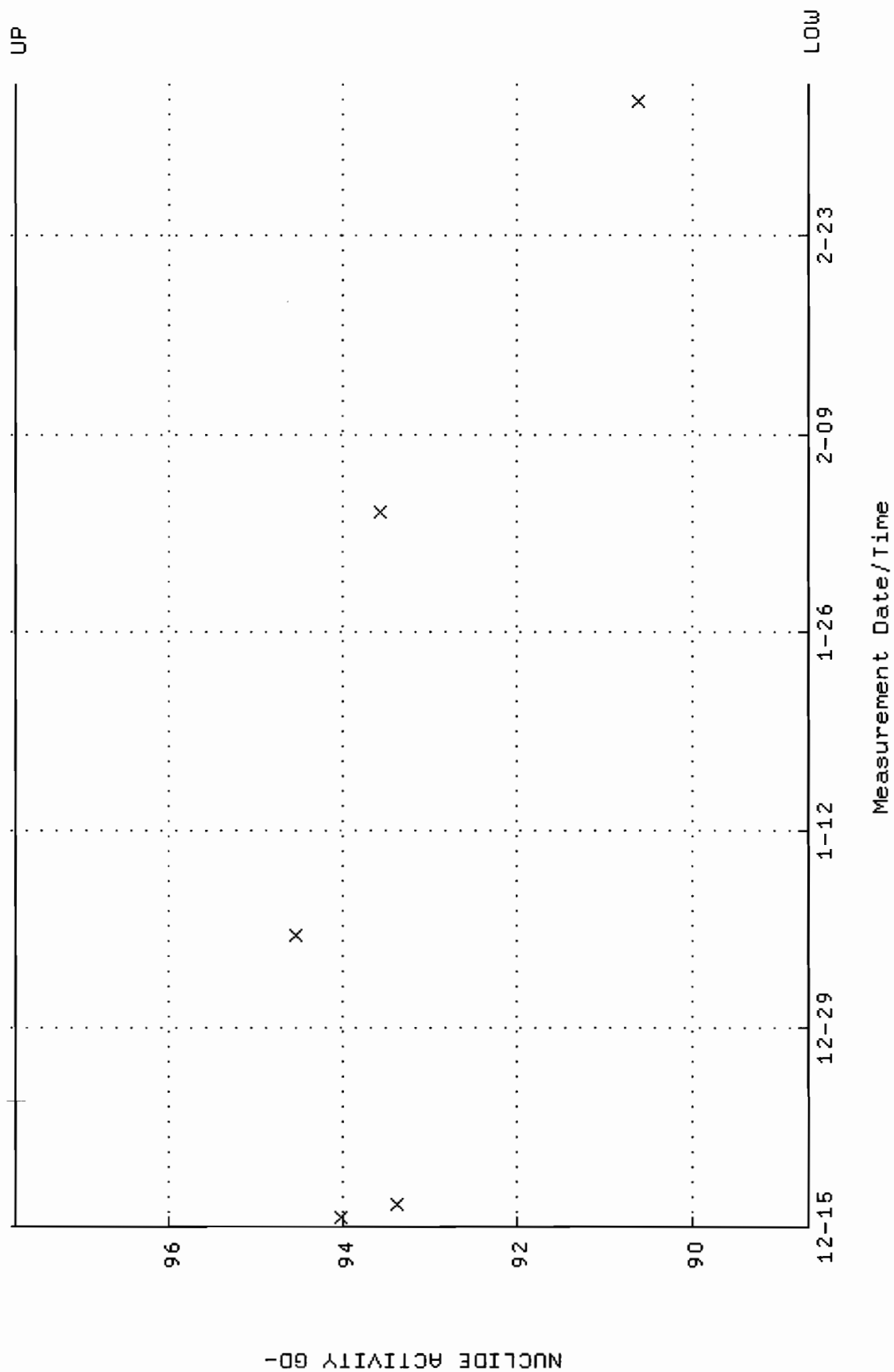
QA filename : DKA100:[ENV_ALPHA.QA.B]B004.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:00 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



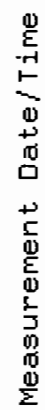
QA filename : DKA100:[ENV_ALPHA.QA.W]W005.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.302314 through 0.344088



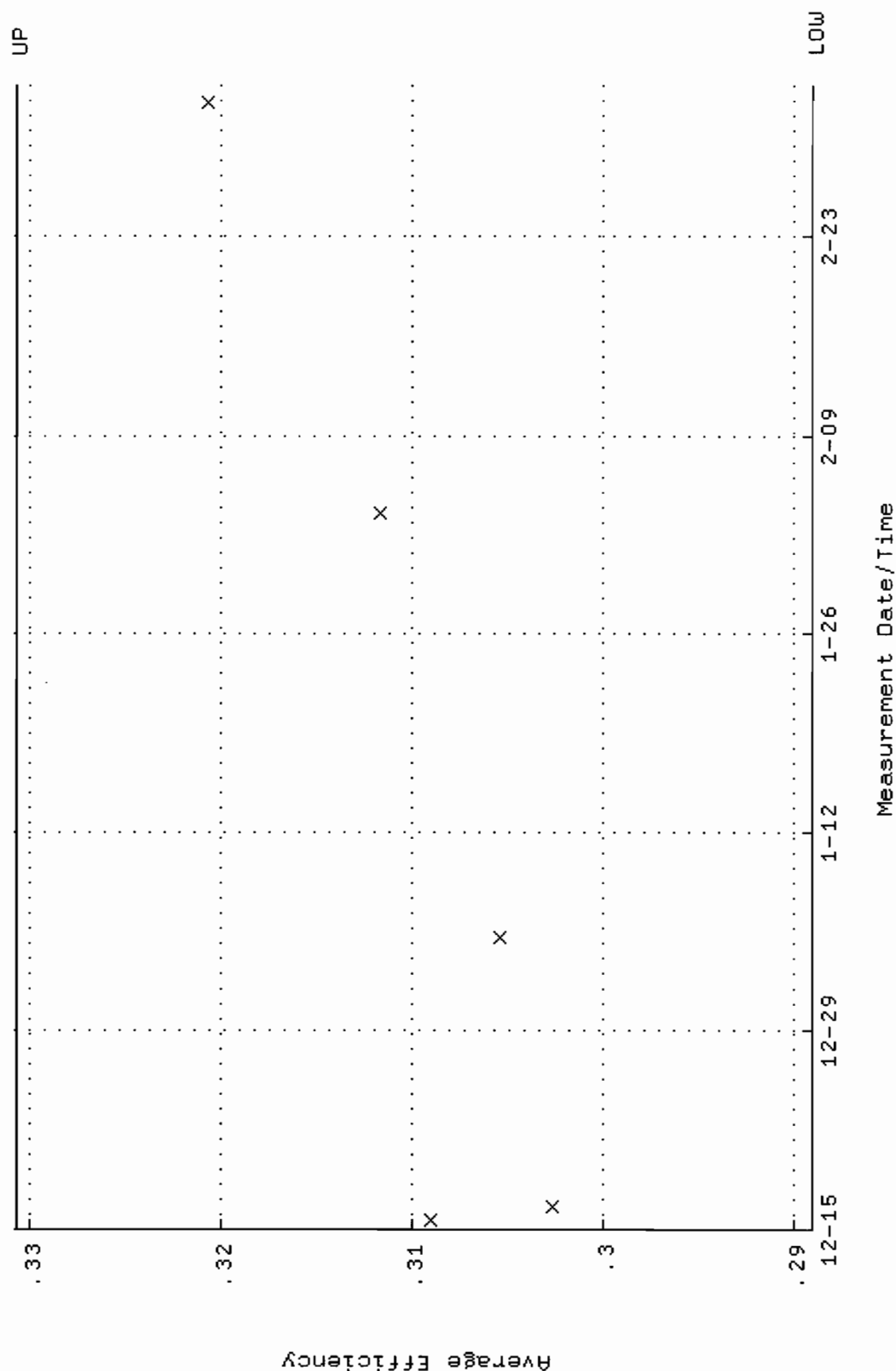
QA filename : DKA100:[ENV_ALPHA.QA.W]W005.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 88.6685 through 97.7693



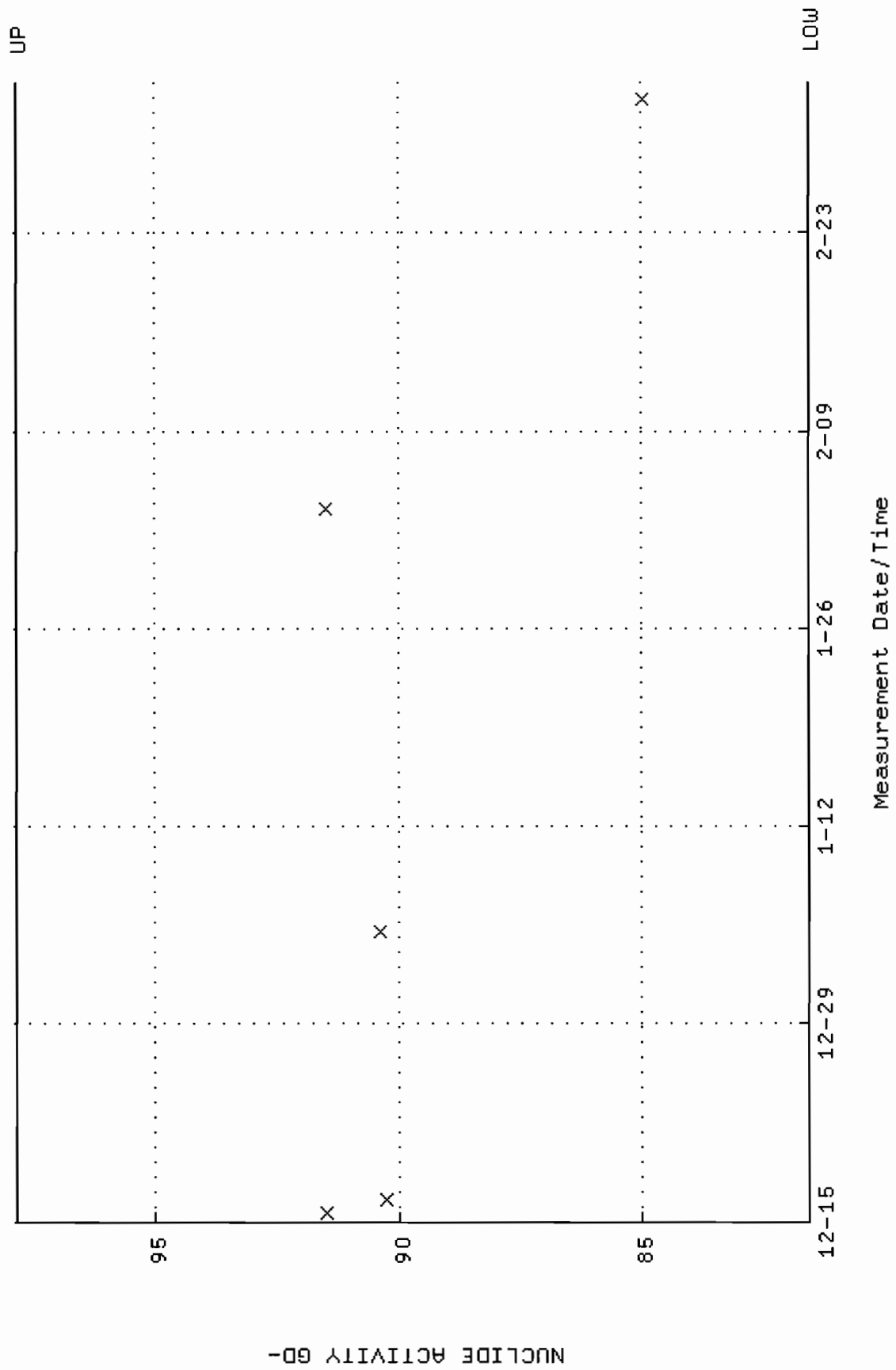
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



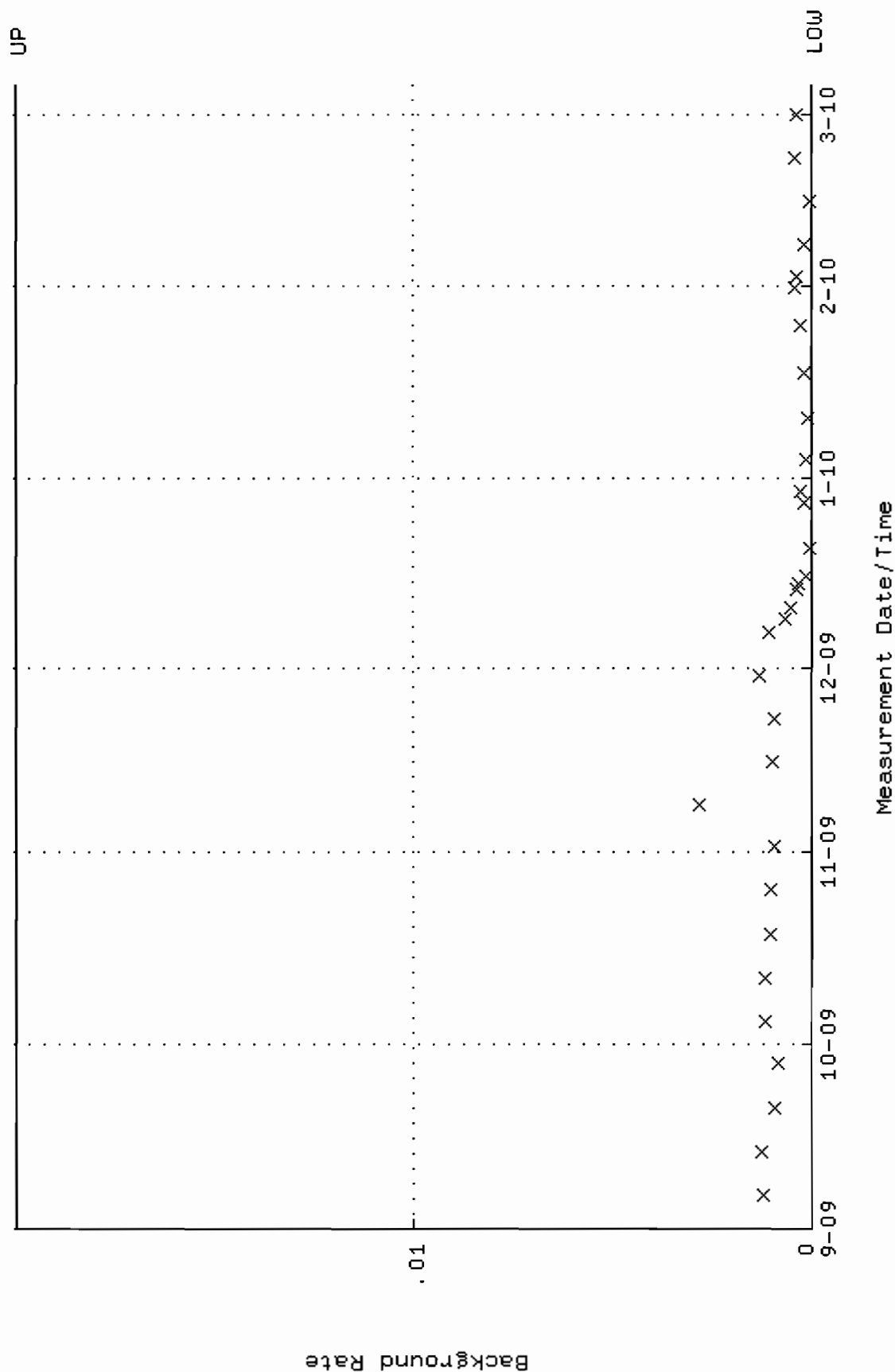
QA filename : DKA100:[ENV_ALPHA.QA.W]W006.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.288996 through 0.330714



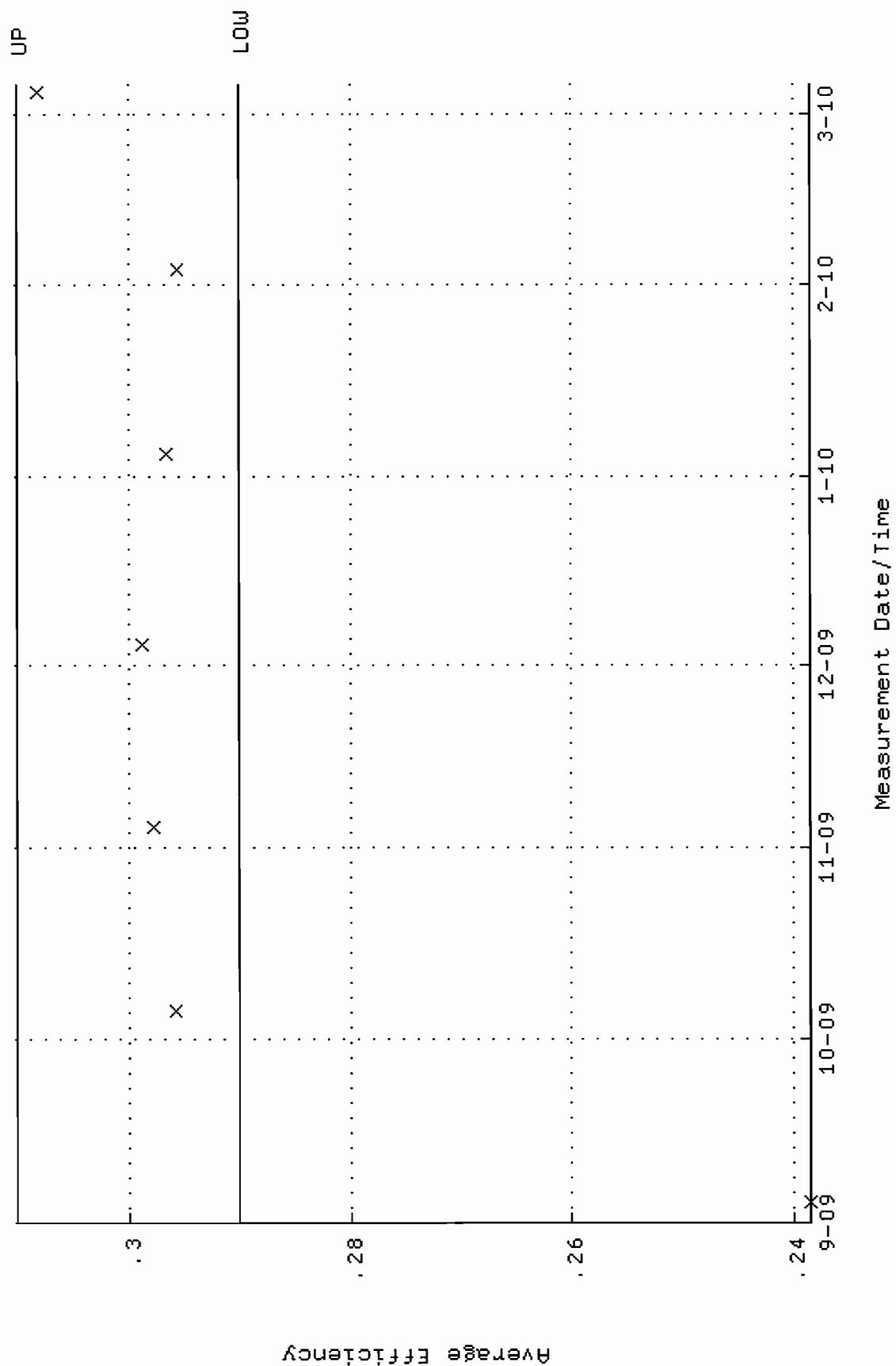
QA filename : DKA100:[ENV_ALPHA.QA.W]W0006.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.5567 through 97.8515



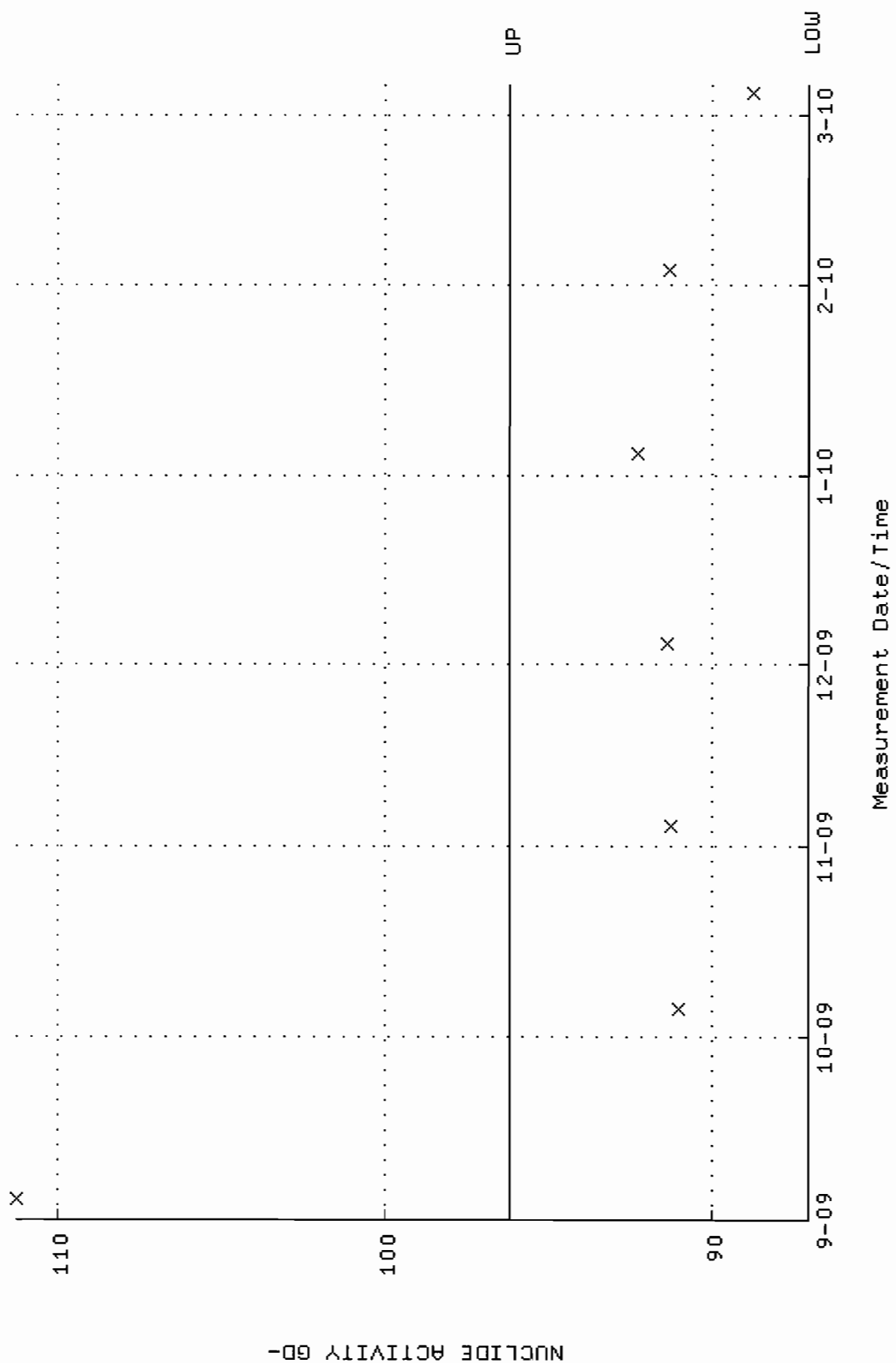
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 Start/End Dates : 6-SEP-2009 14:27:00 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



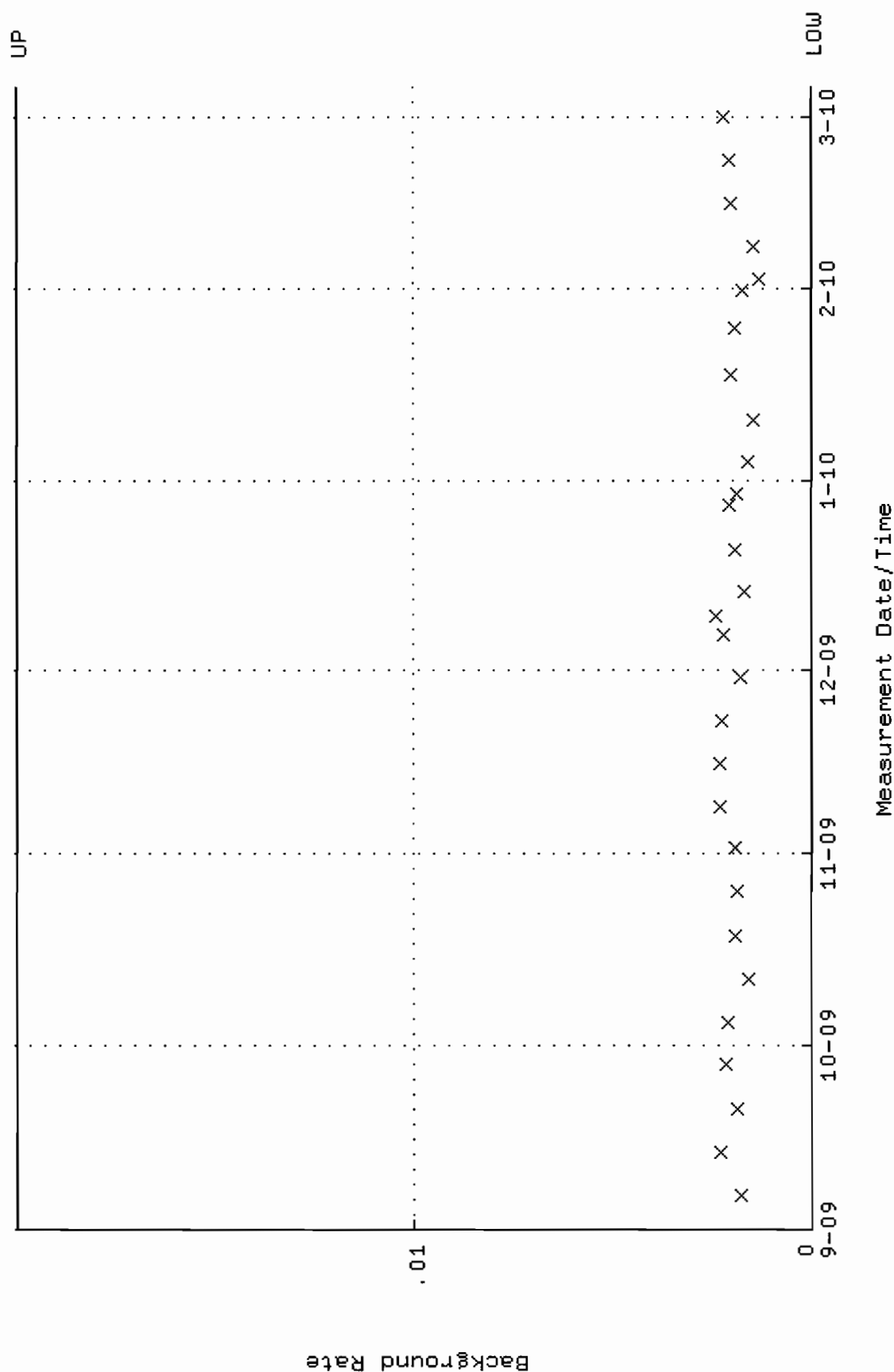
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.290108 through 0.310108



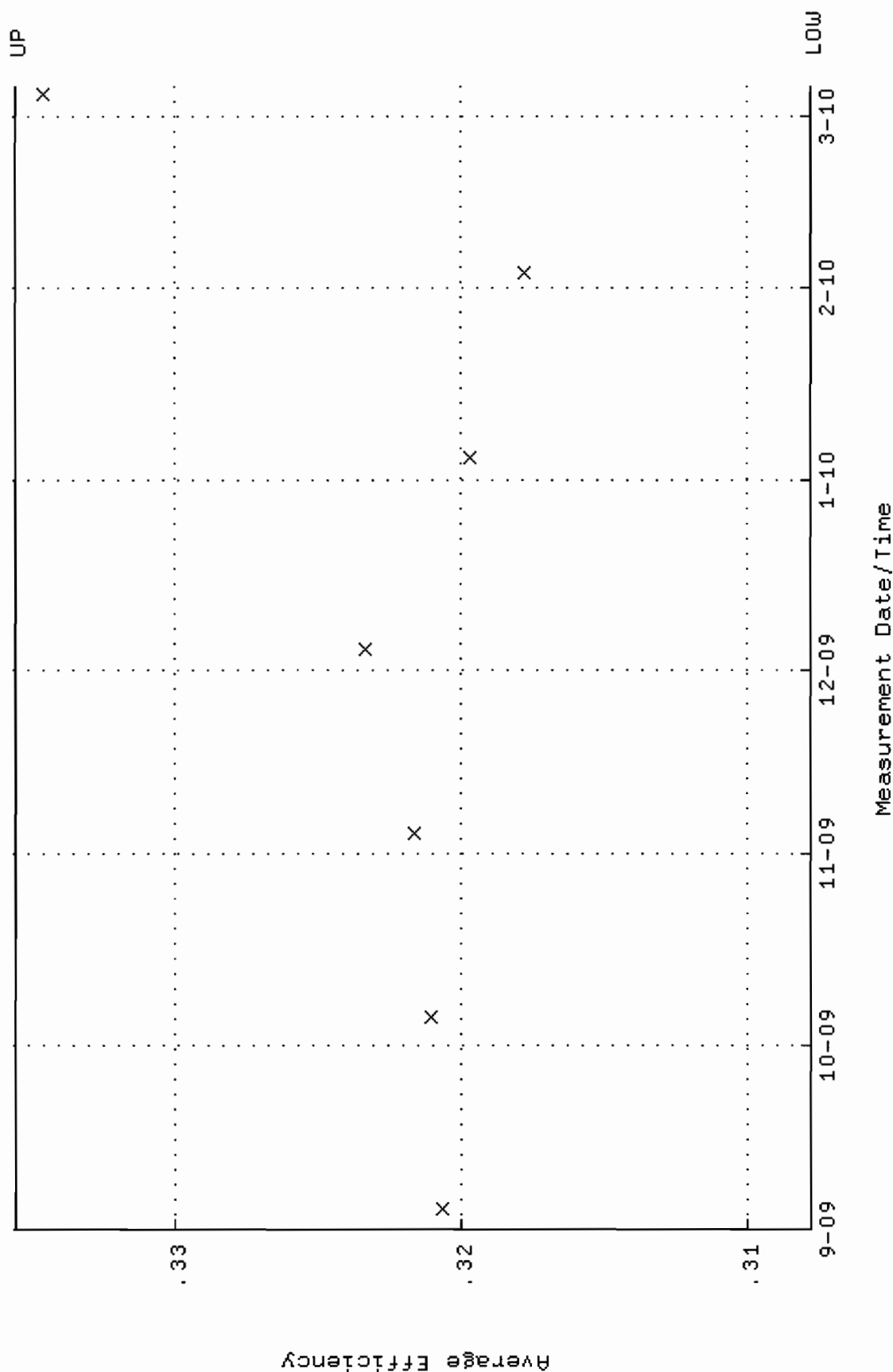
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.0687 through 96.2339



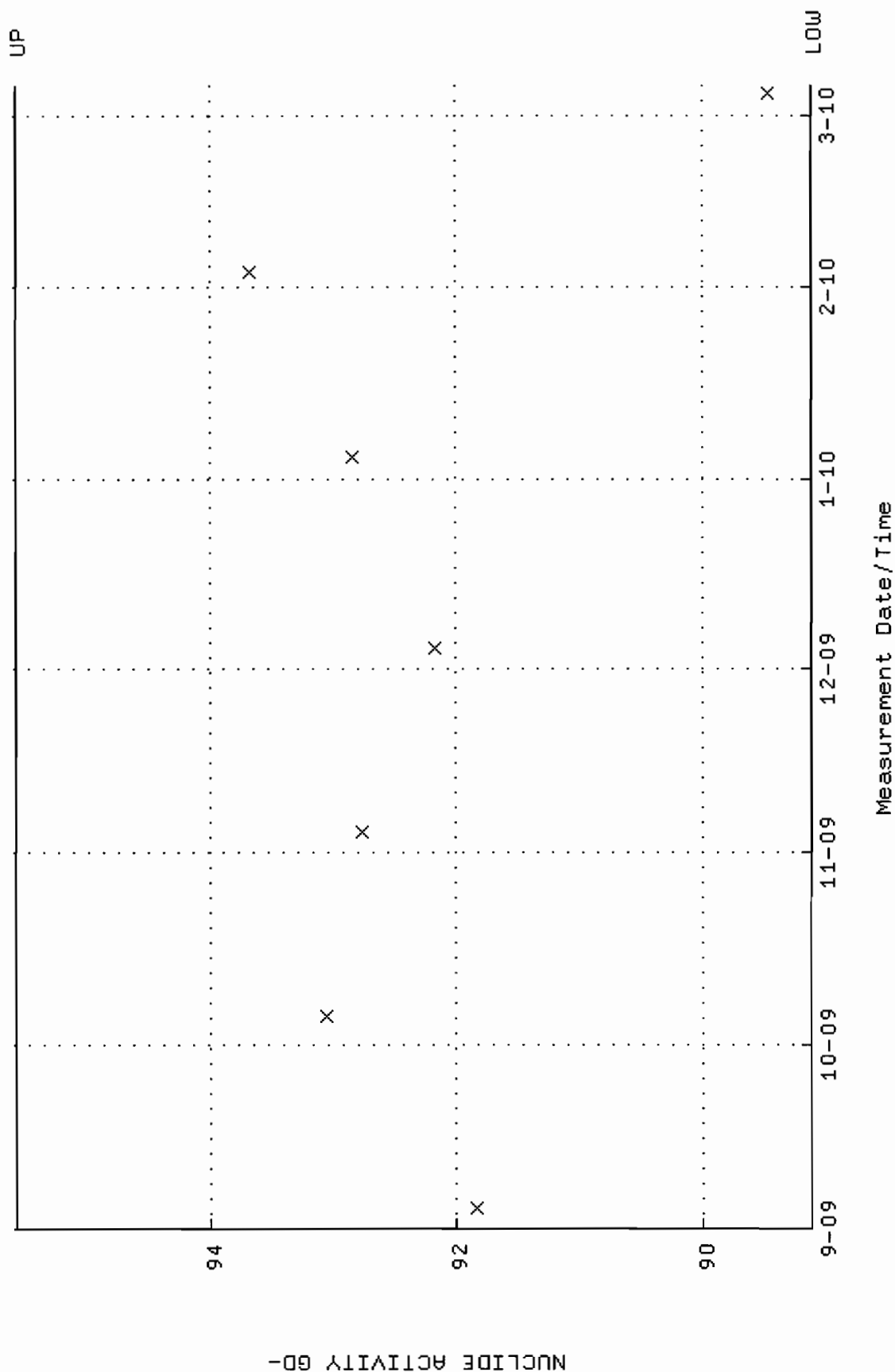
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:01 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



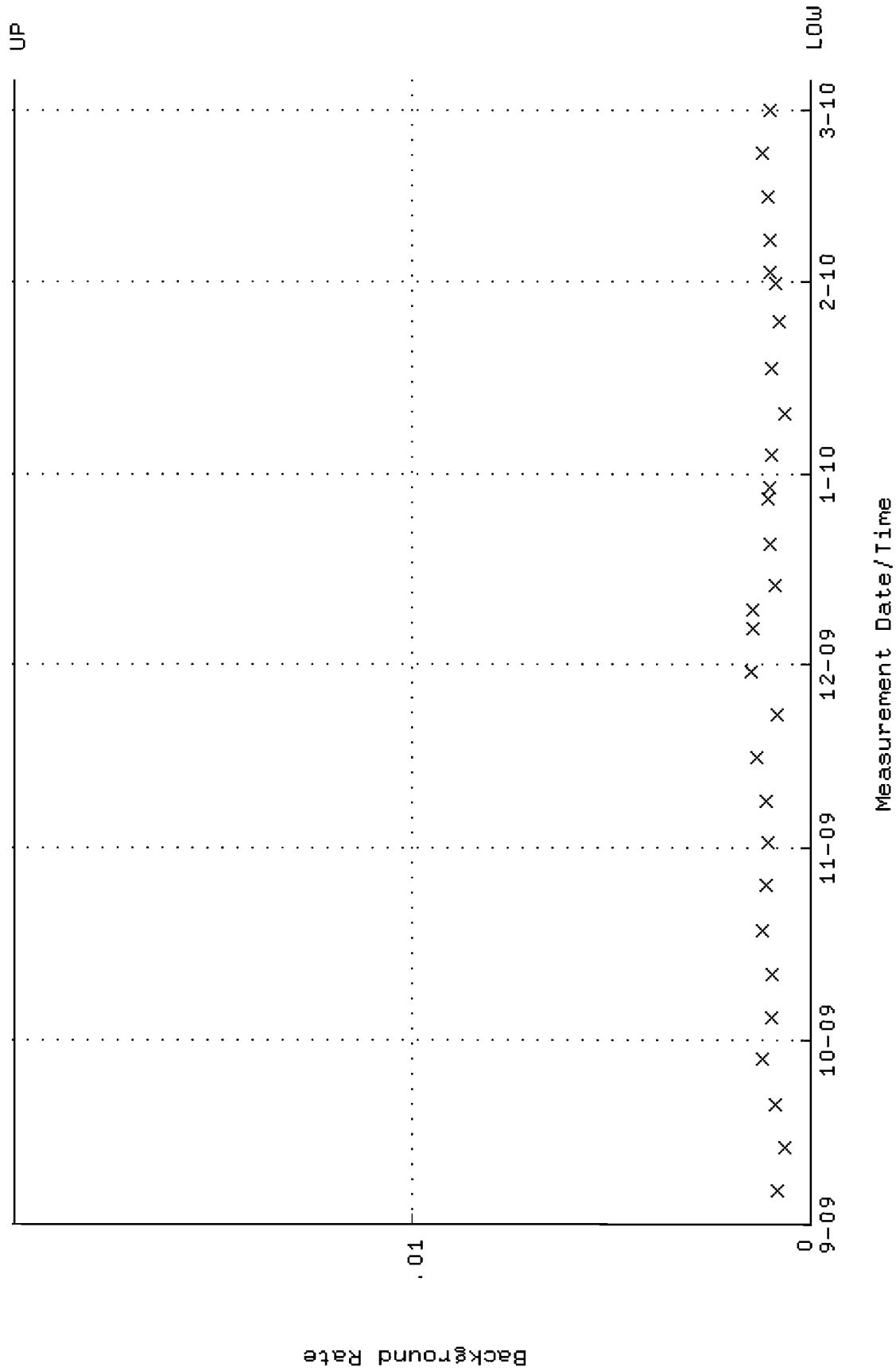
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.307754 through 0.335576



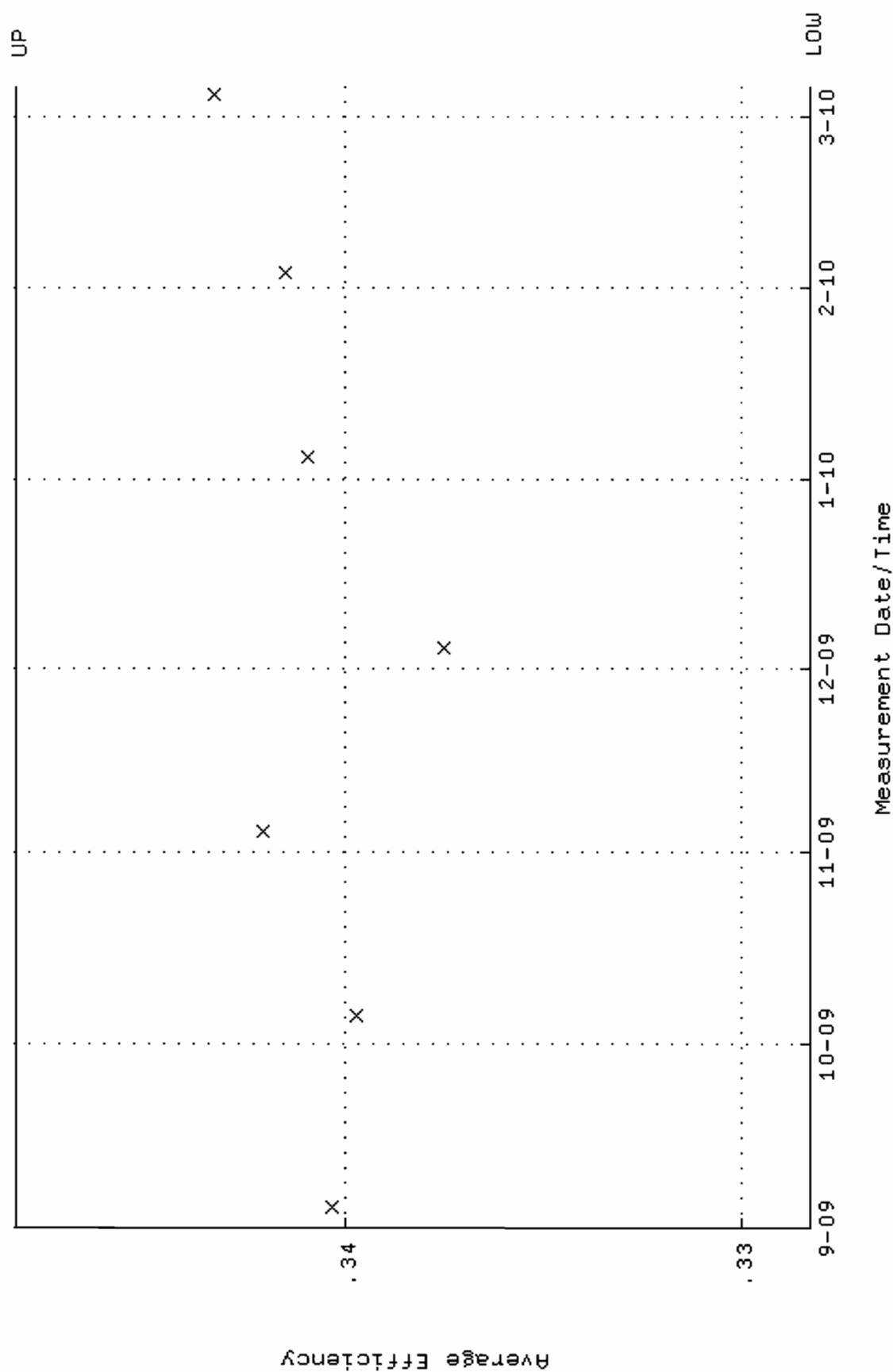
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.1115 through 95.5851



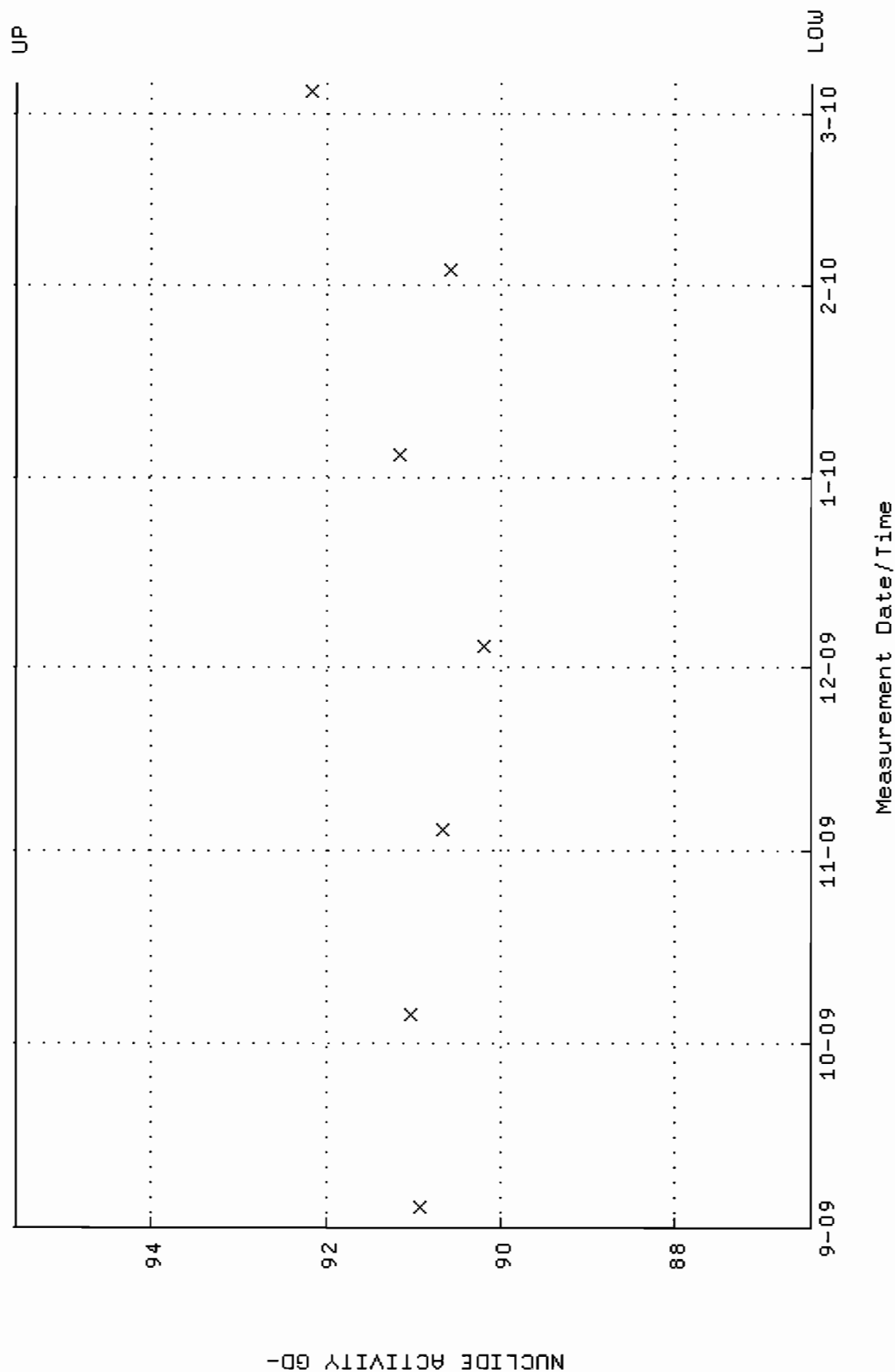
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:01 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



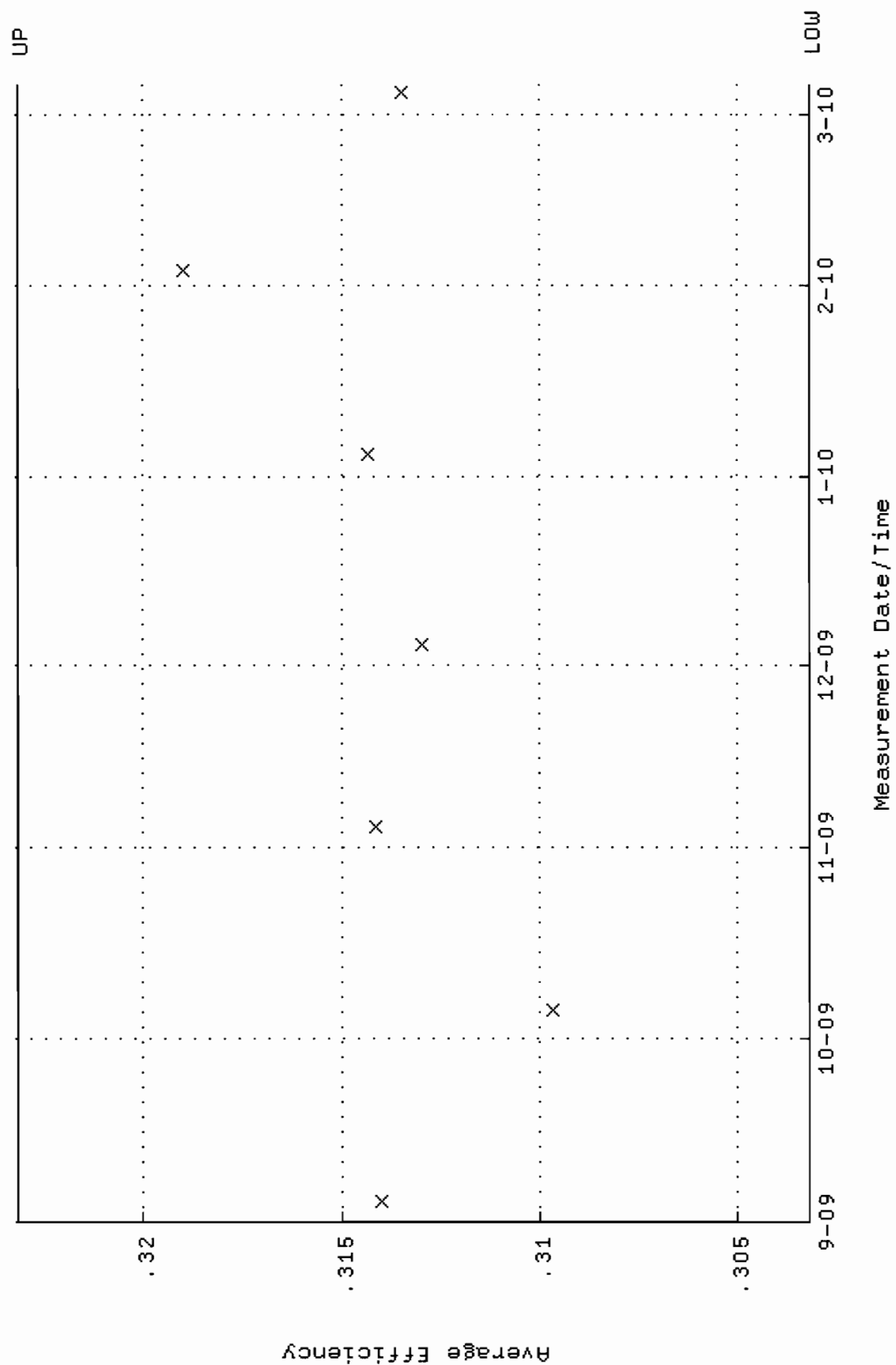
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 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.328261 through 0.348261



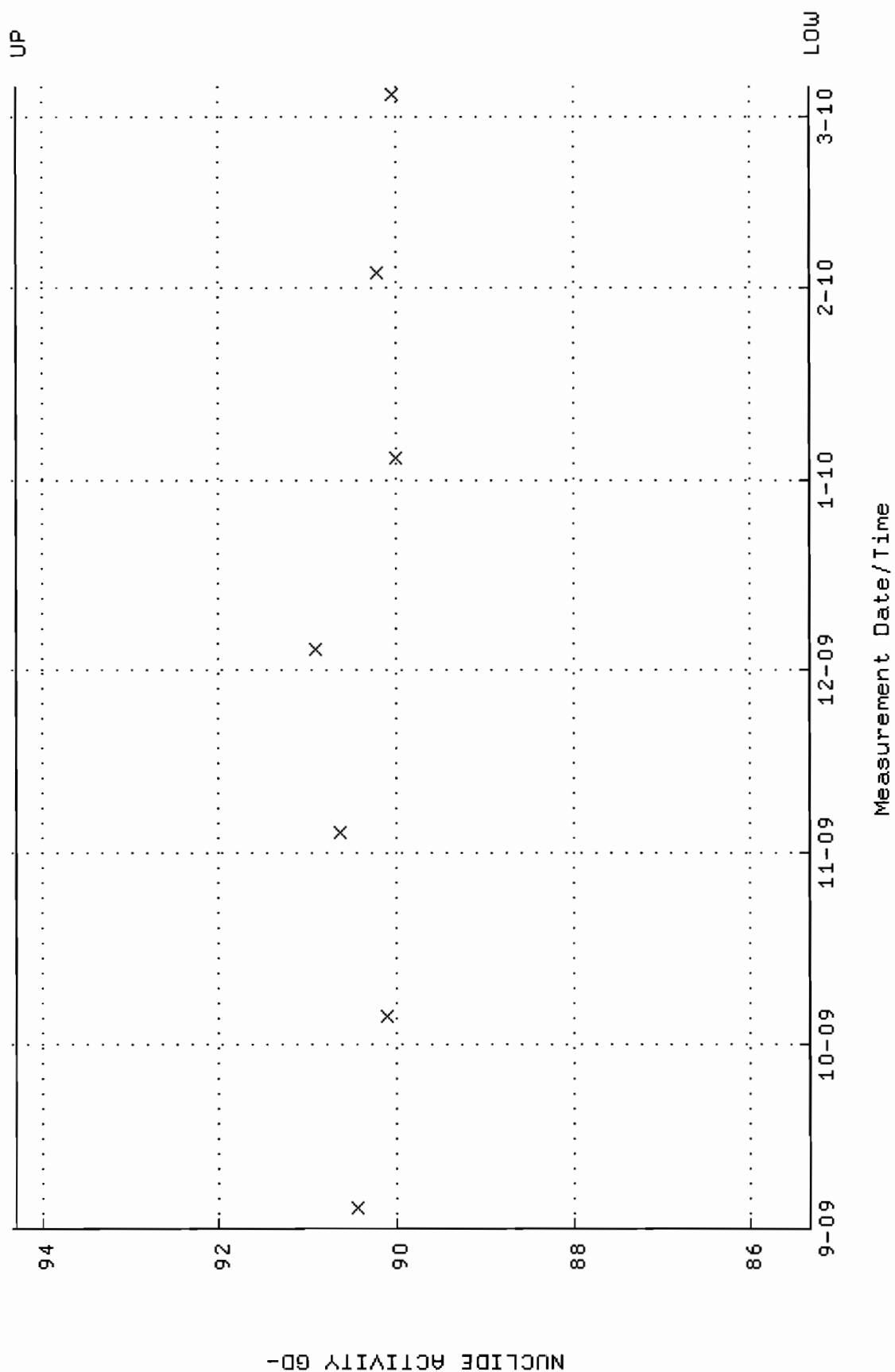
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.4475 through 95.5473



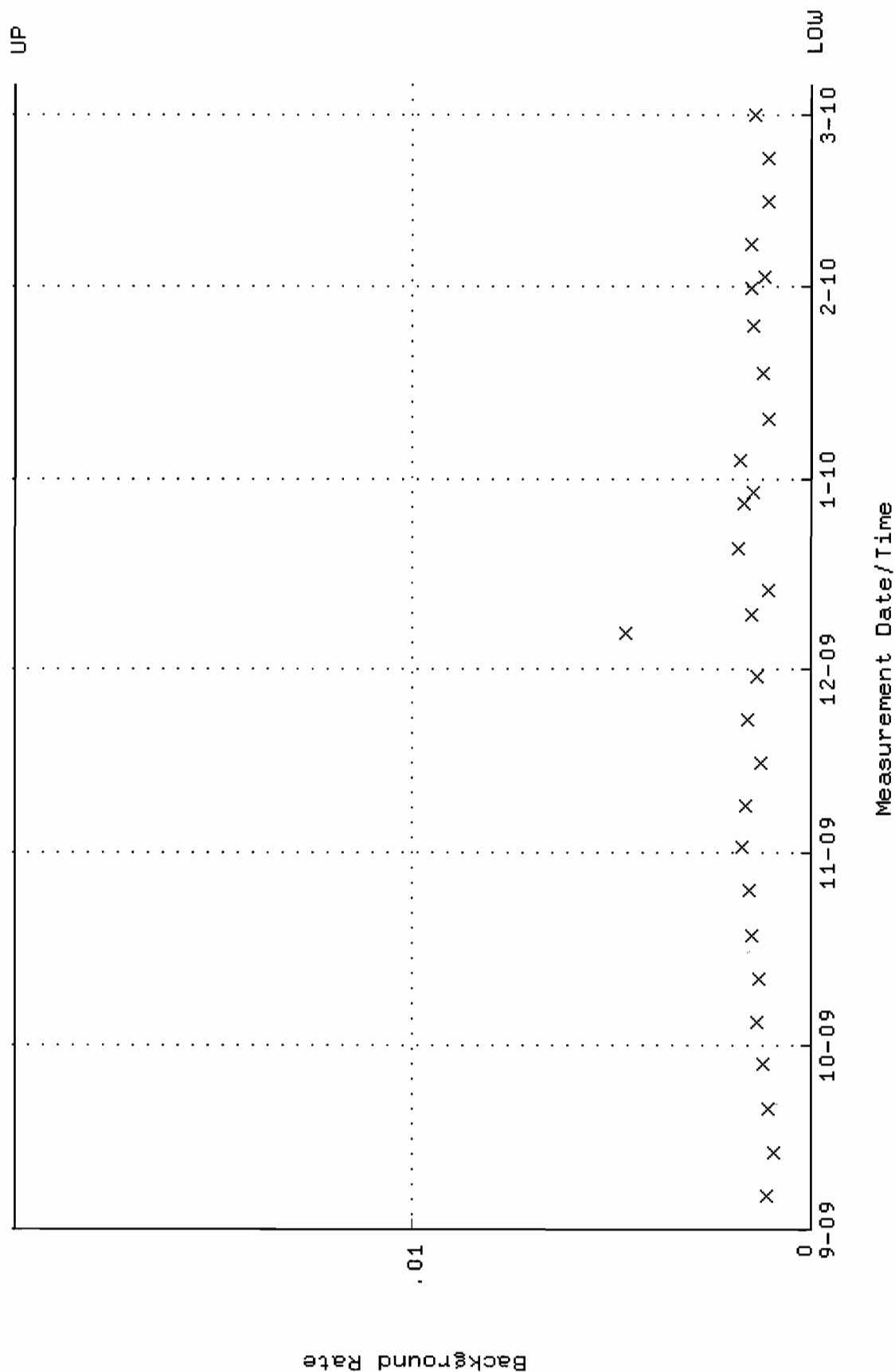
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.303169 through 0.323169



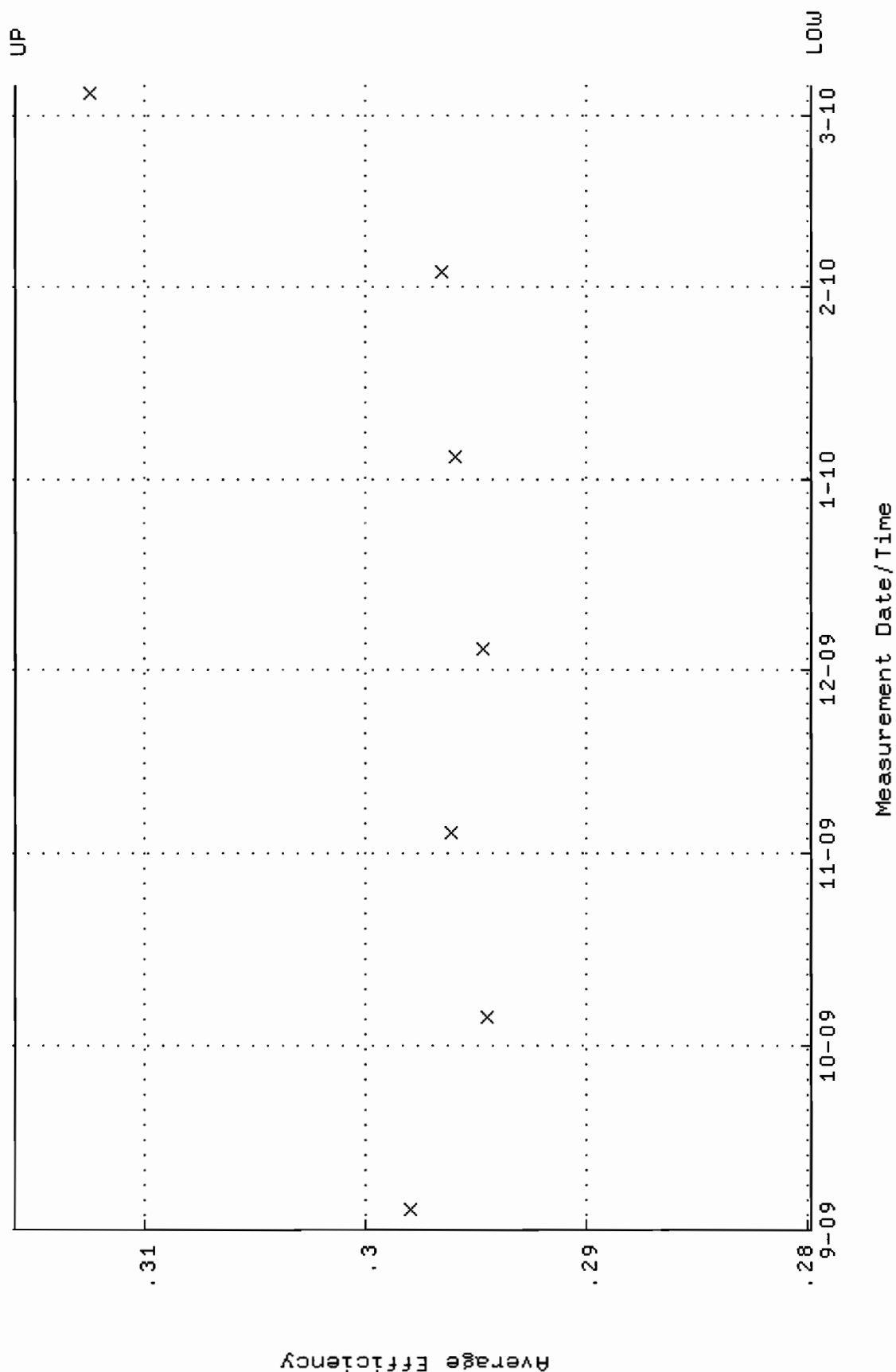
QA filename : DKA100:[ENV_ALPHA.QA.W]W010.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.3273 through 94.3091



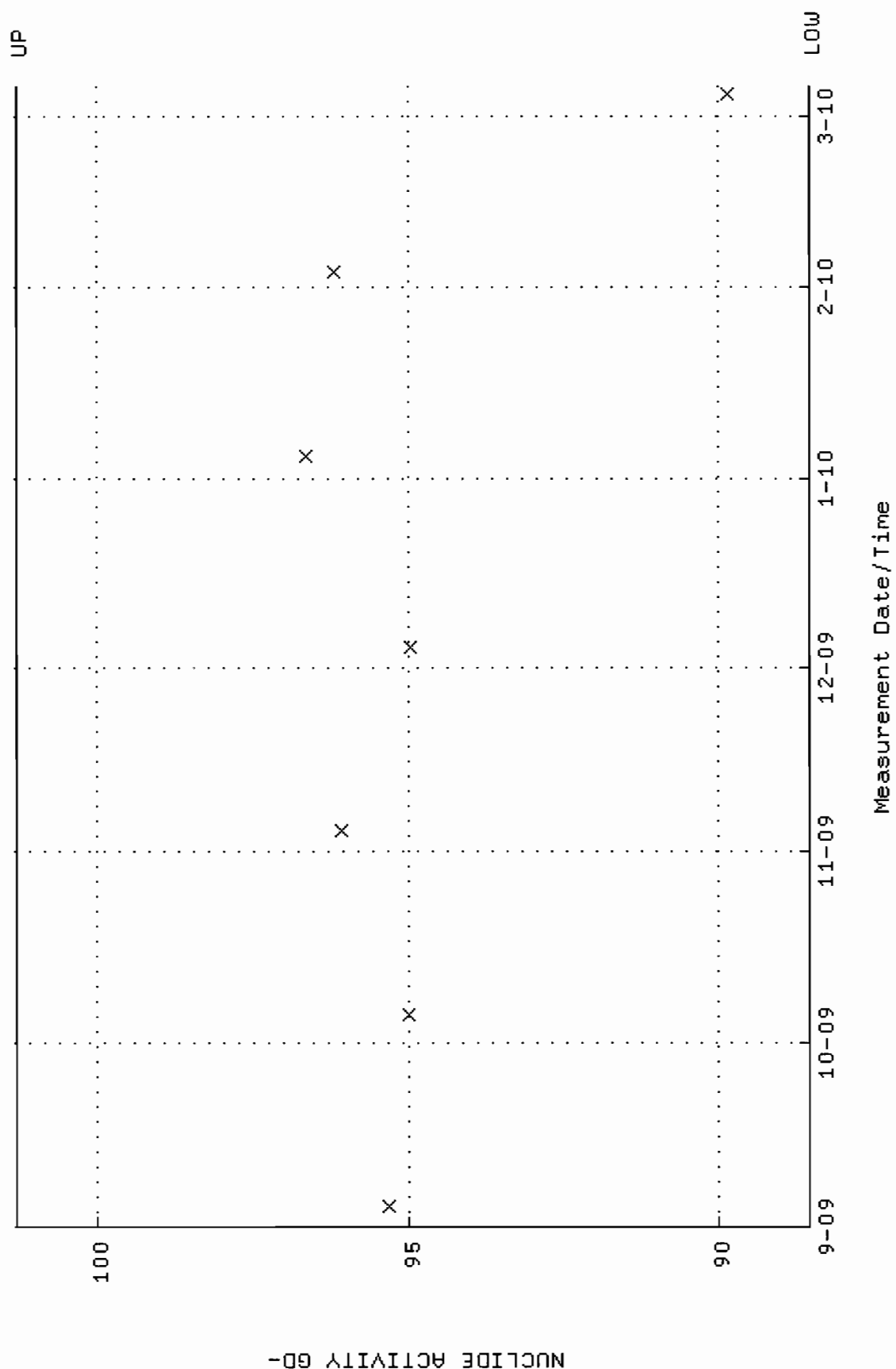
QA filename : DKA100:[ENV_ALPHA.QA.B]B010.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:01 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



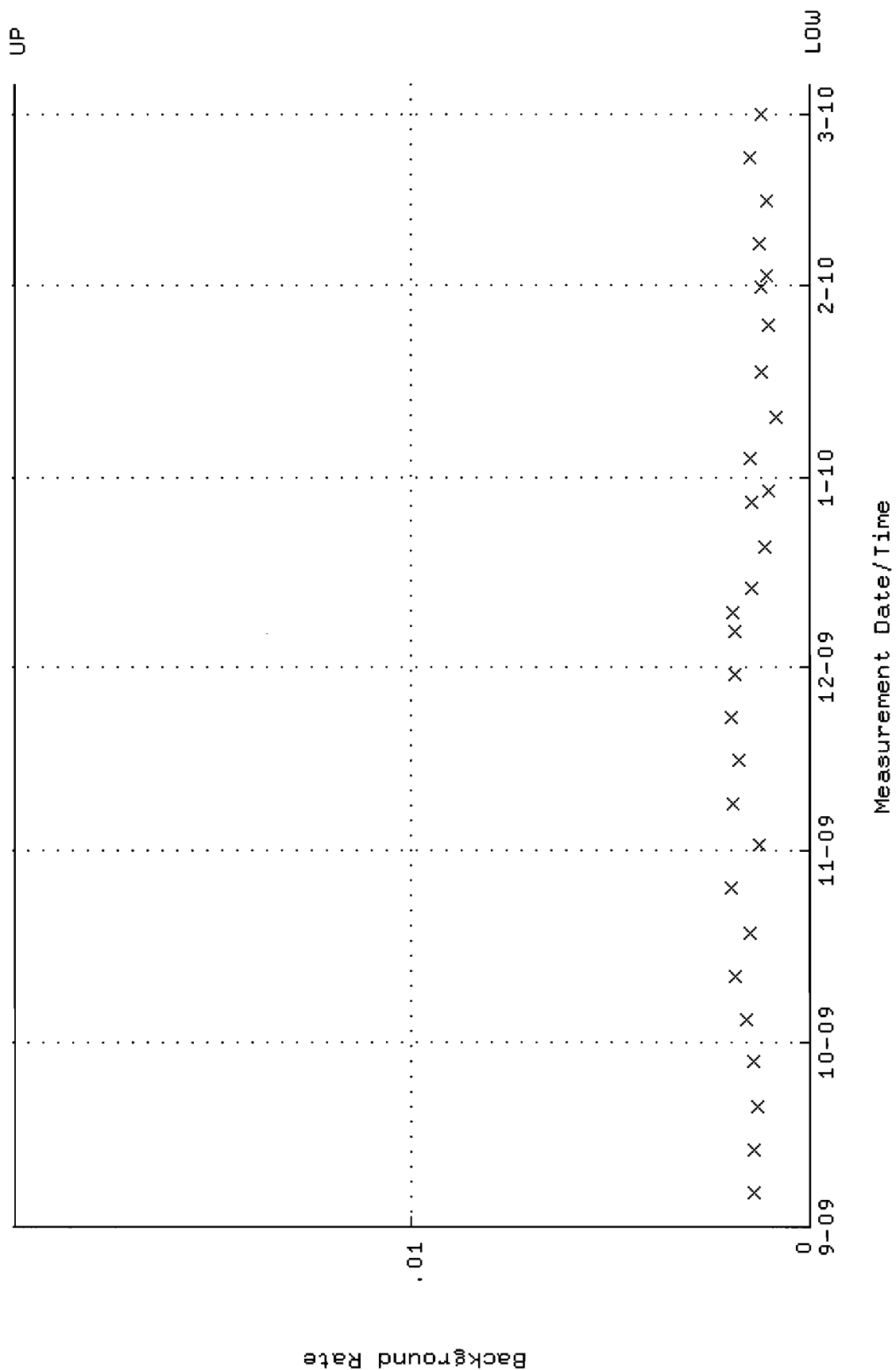
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.279805 through 0.315875



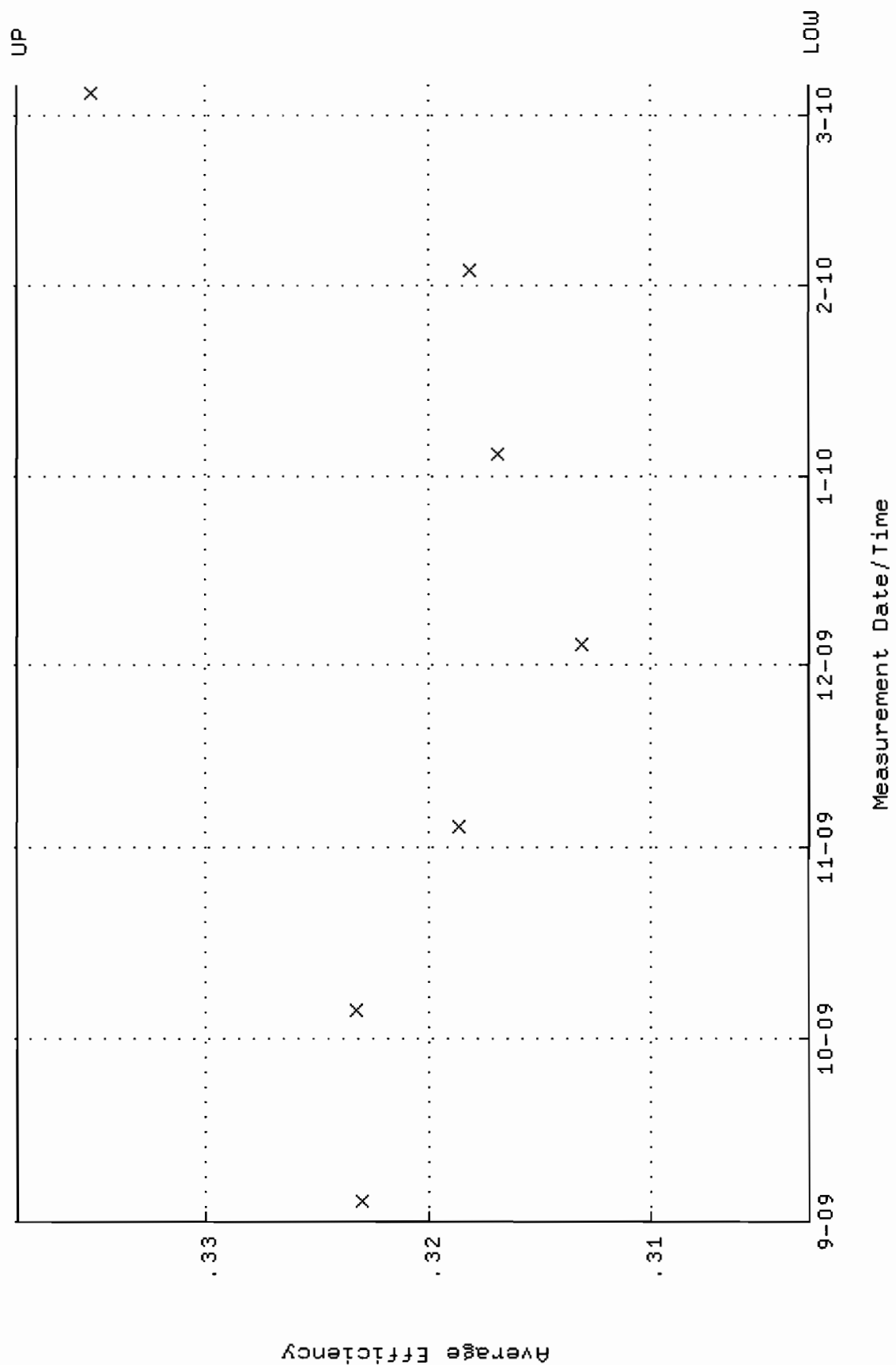
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 88.5390 through 101.289



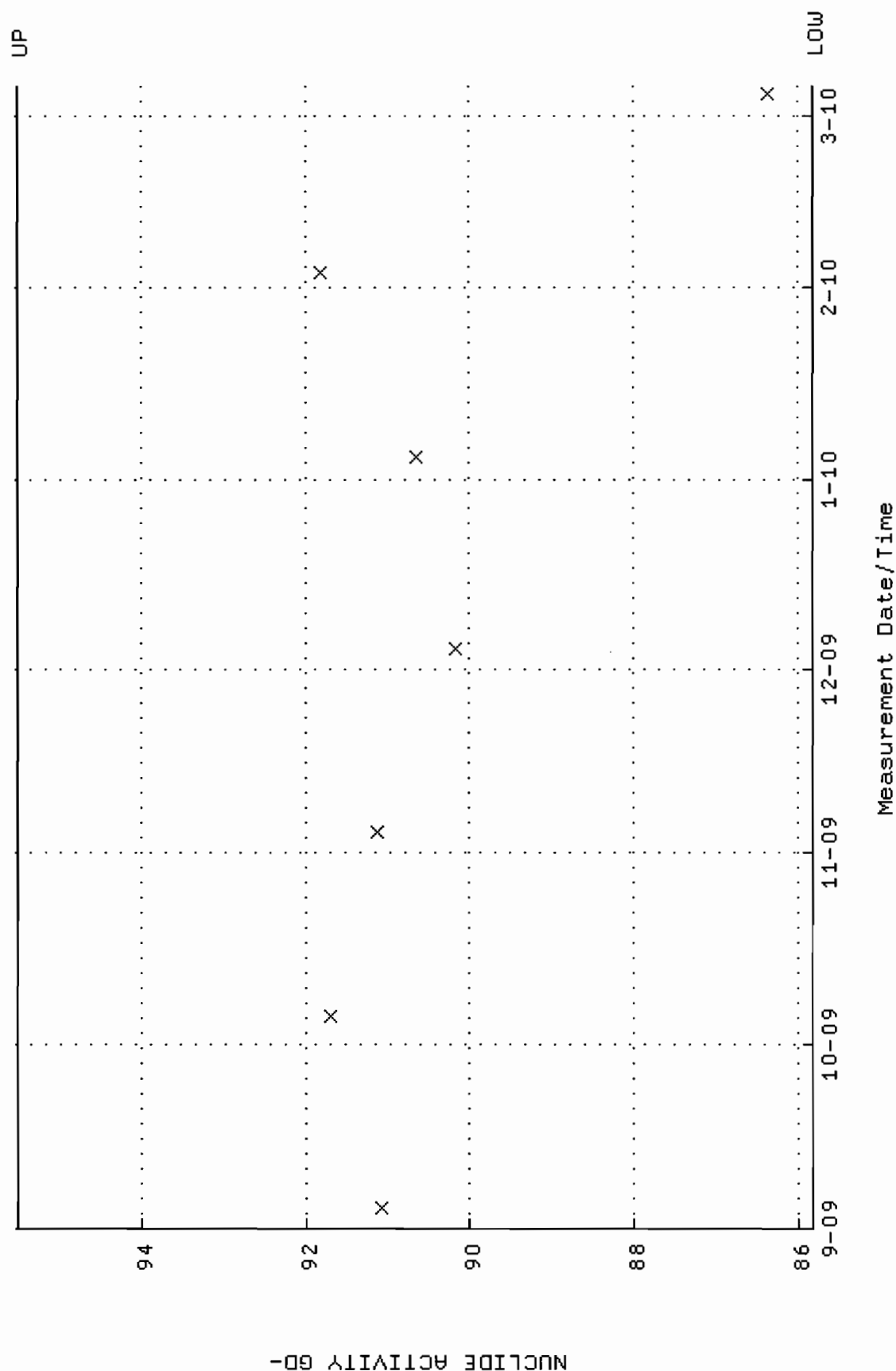
QA filename : DKA100:[ENV_ALPHA.QA.B]B011.QAF;2
 Parameter Name : BACKRATE (Background Rate)
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



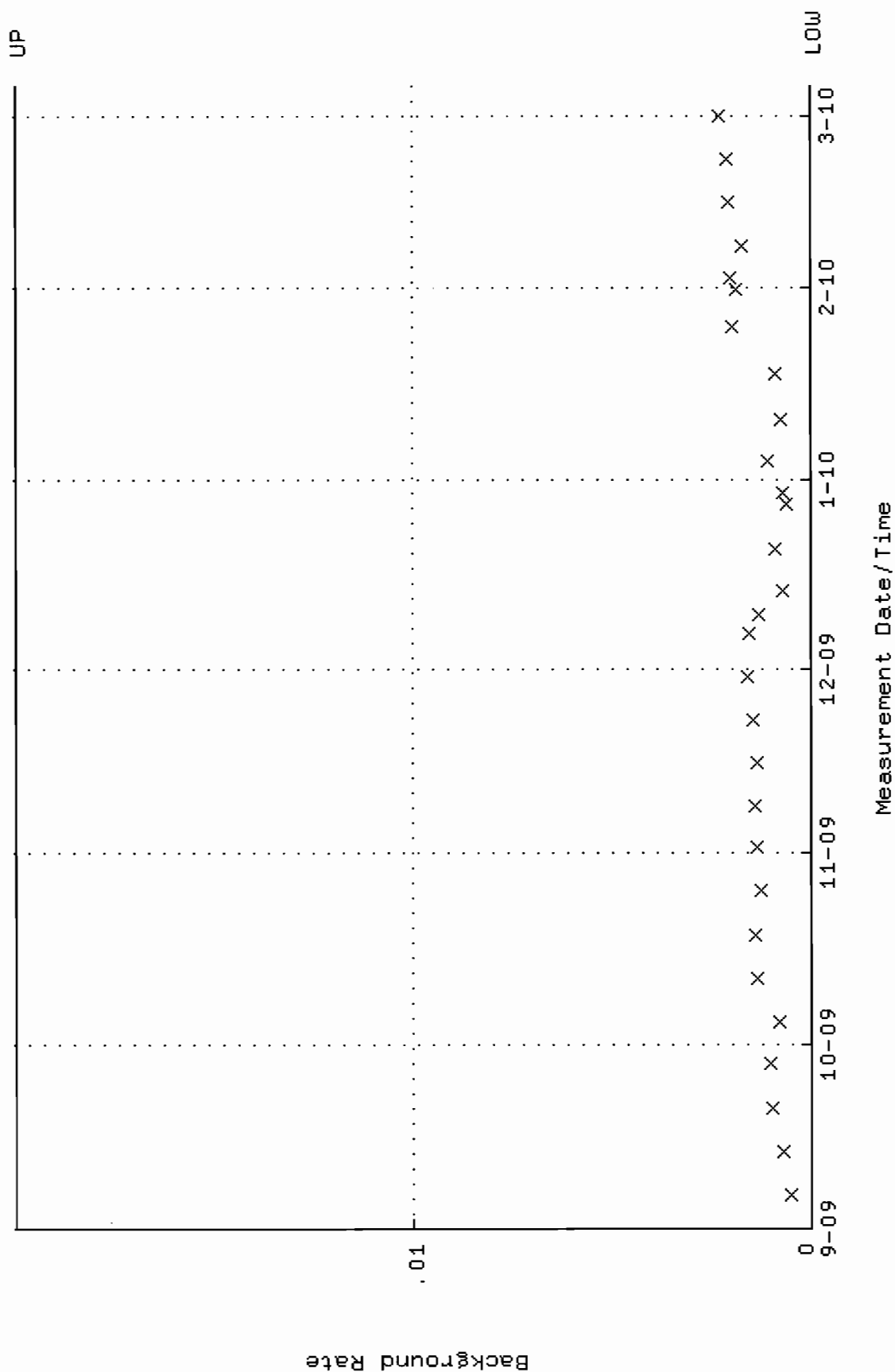
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-SEP-2009 07:36:41 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.302900 through 0.338496



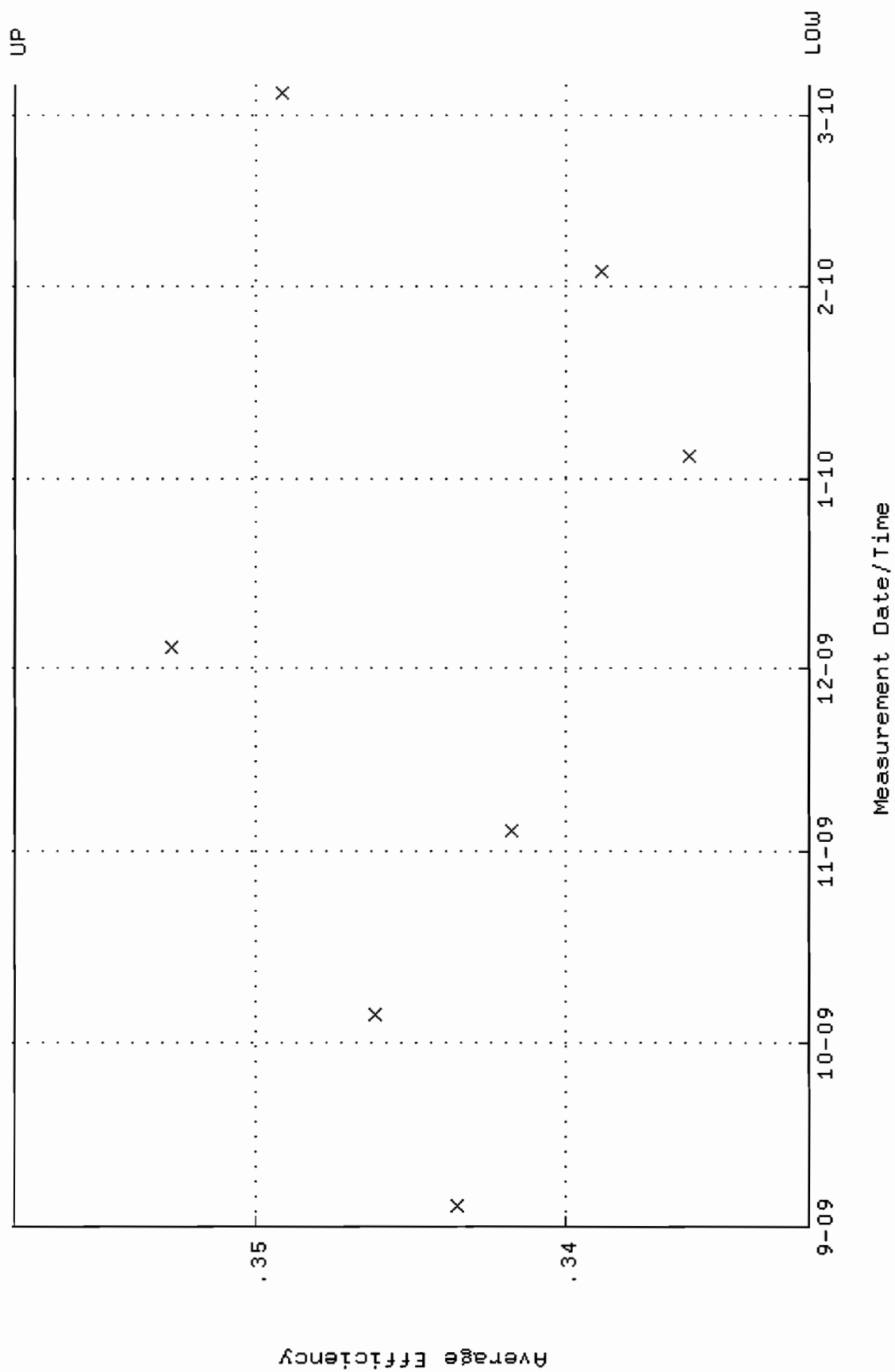
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
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 Lower/Upper Lmts: 85.8111 through 95.5079



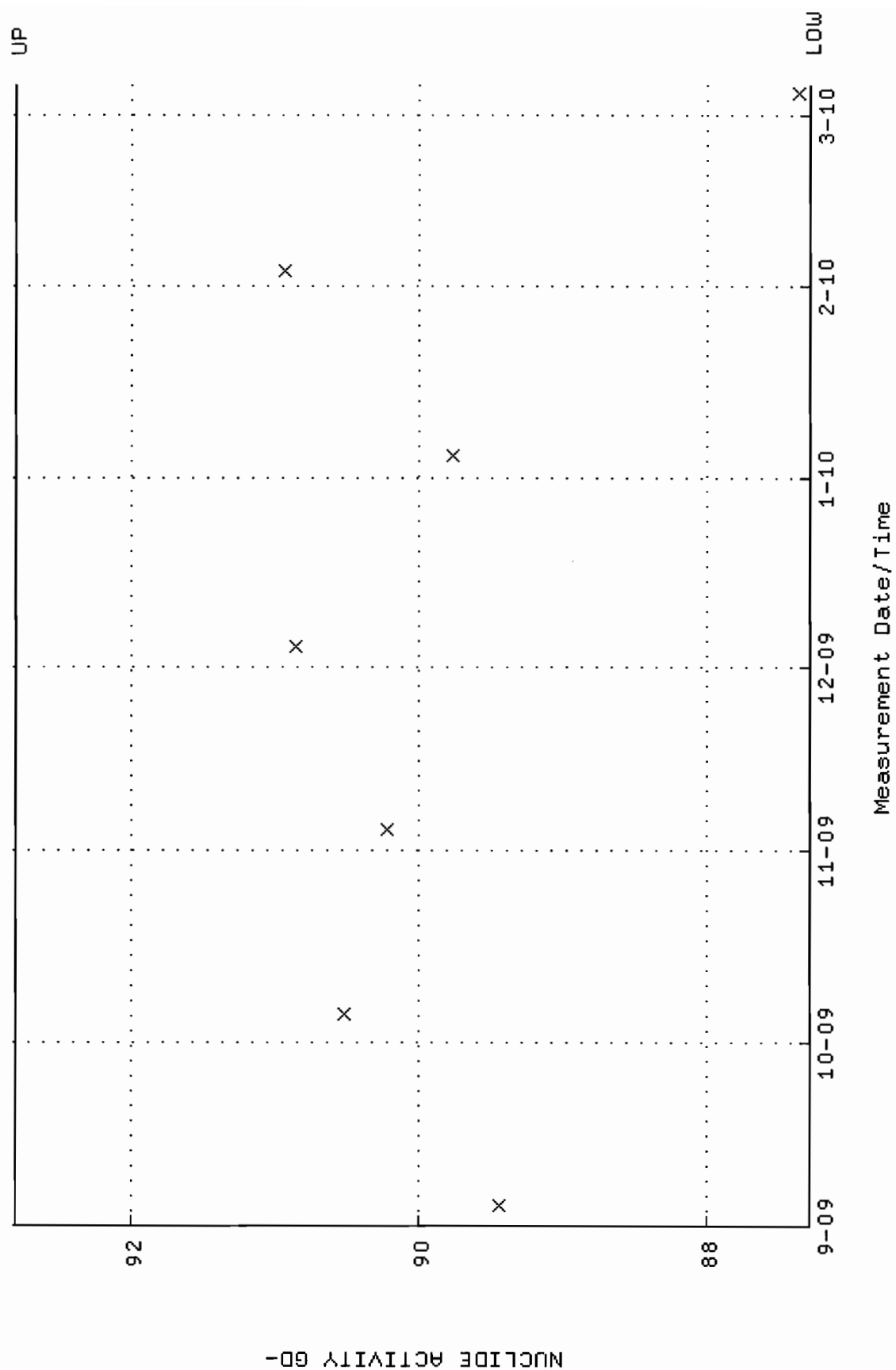
QA filename : DKA100:[ENV_ALPHA.QA.B]B018.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:02 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



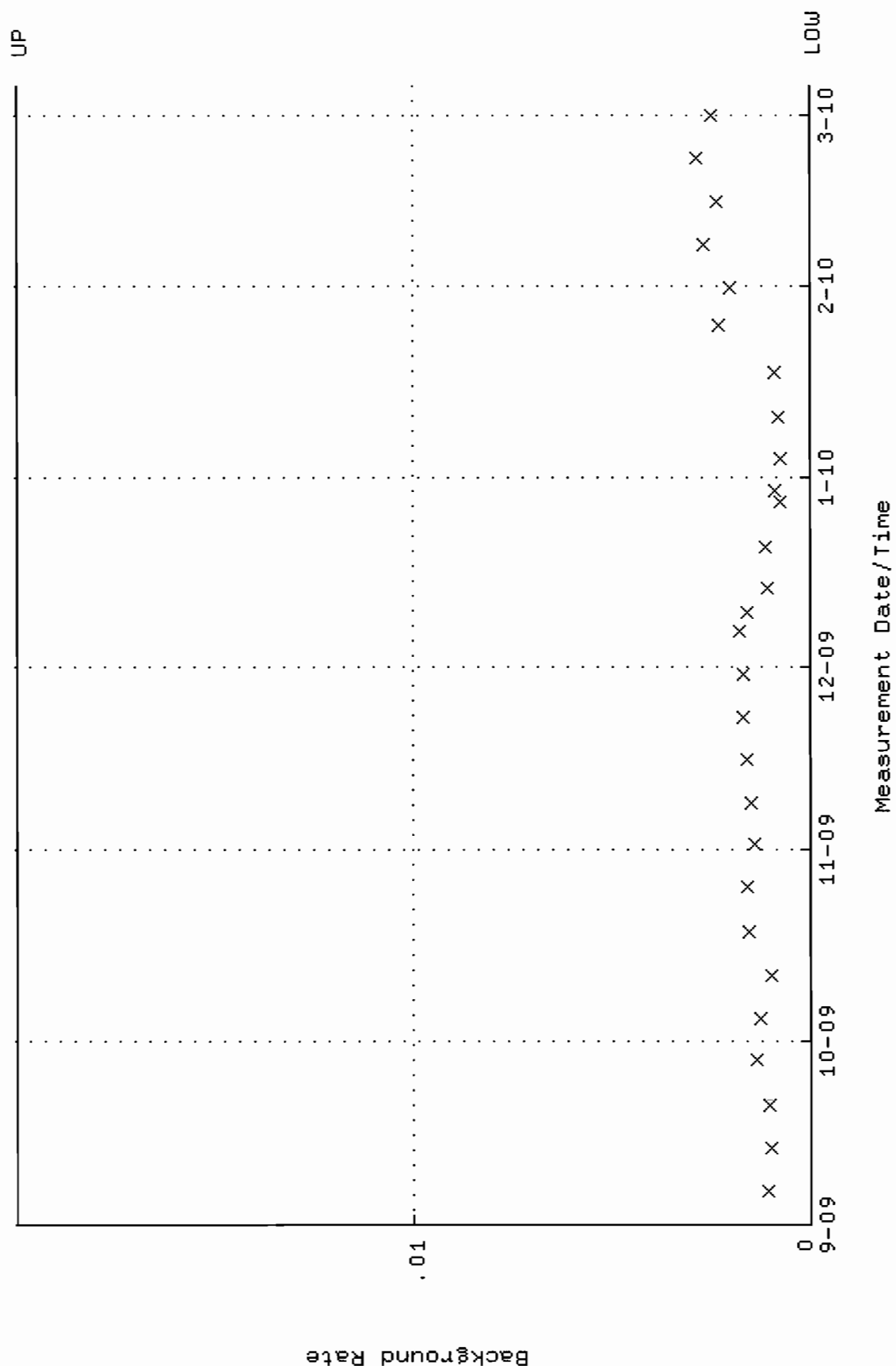
QA filename : DKA100:[ENV_ALPHA.QA.W]W020.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-SEP-2009 07:36:42 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.332206 through 0.357714



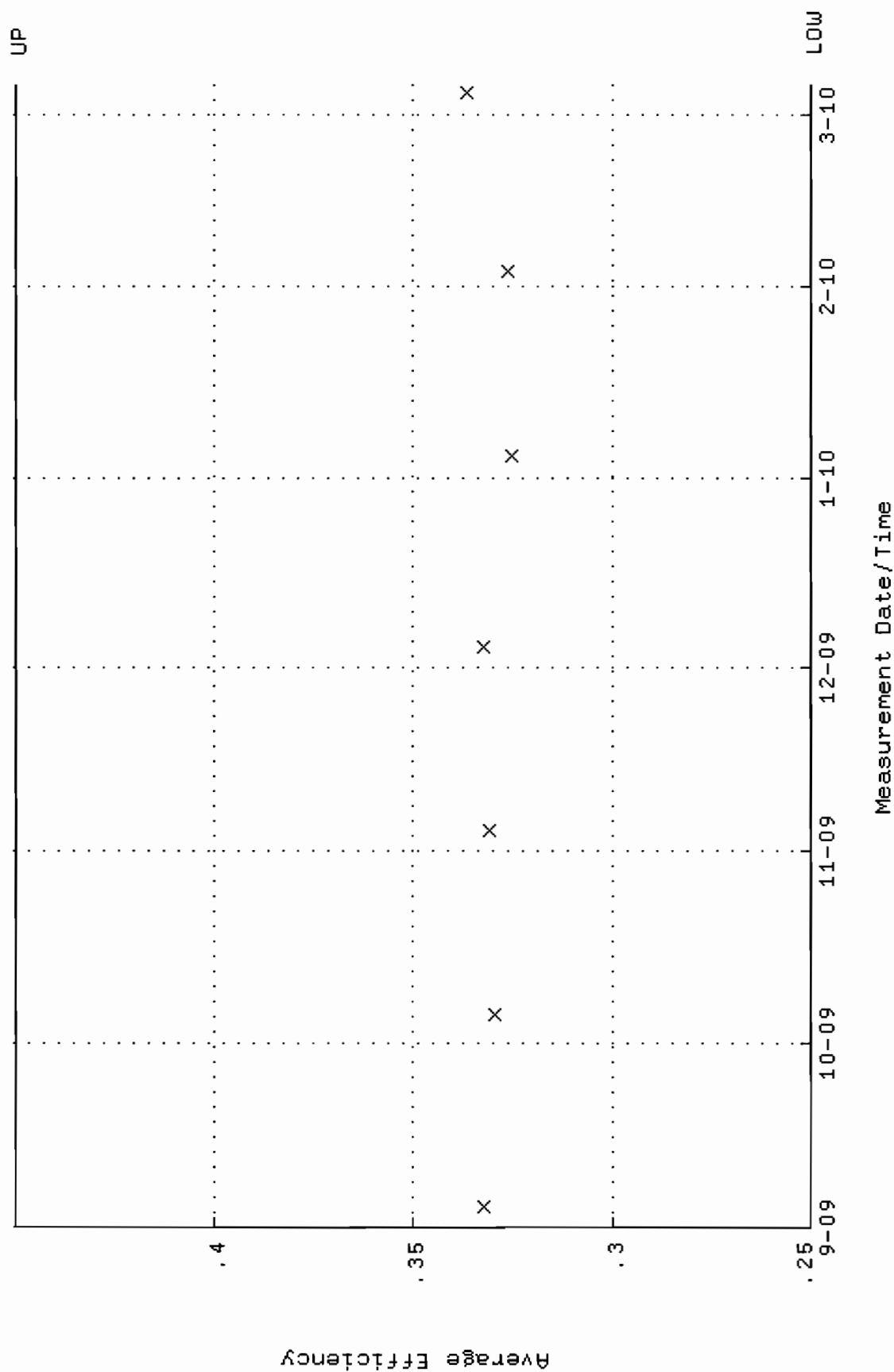
QA filename : DKA100:[ENV_ALPHA.QA.W]W020.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:42 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.2879 through 92.8099



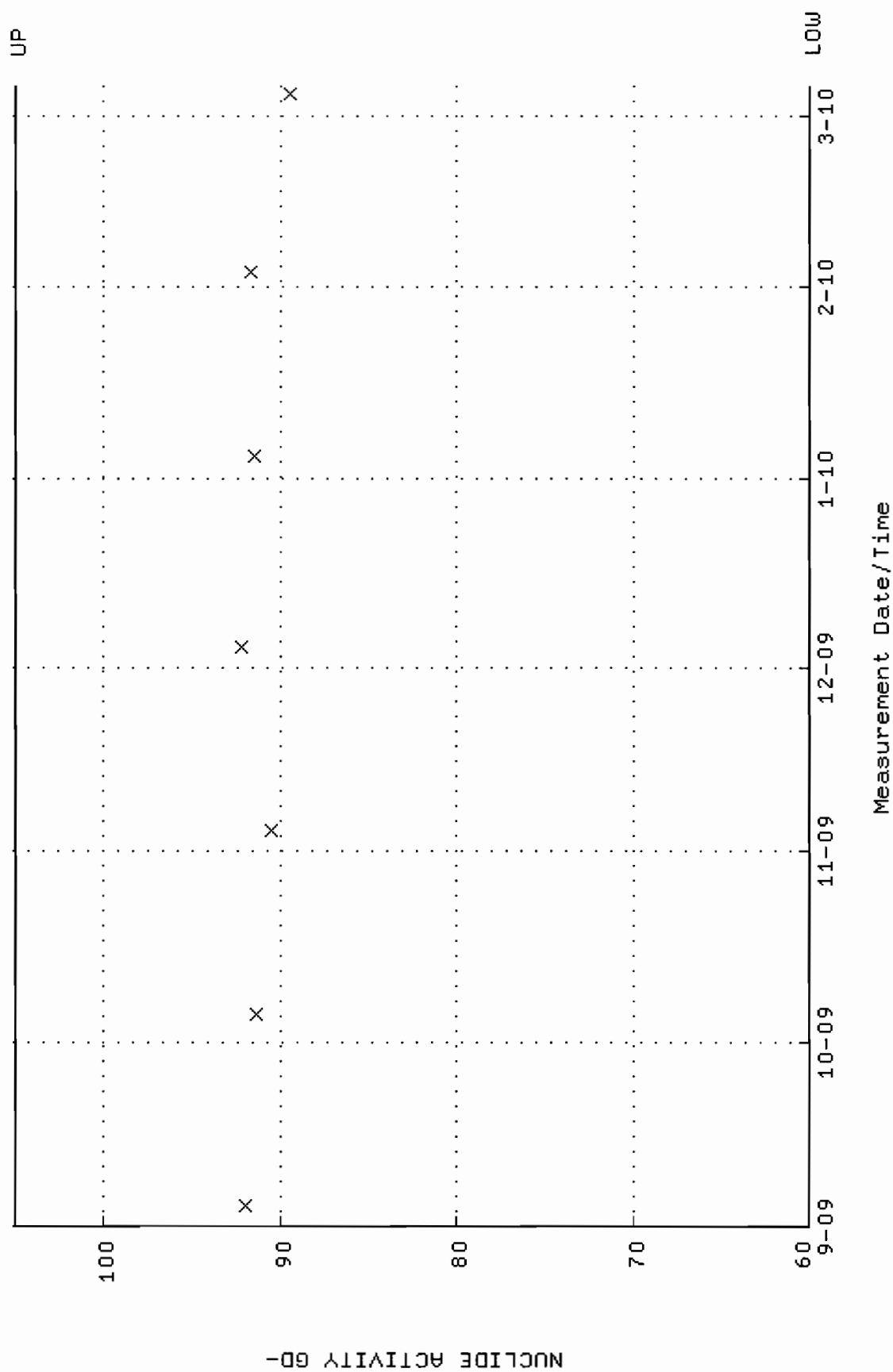
QA filename : DKA100:[ENV_ALPHA.QA.B]B020.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:03 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



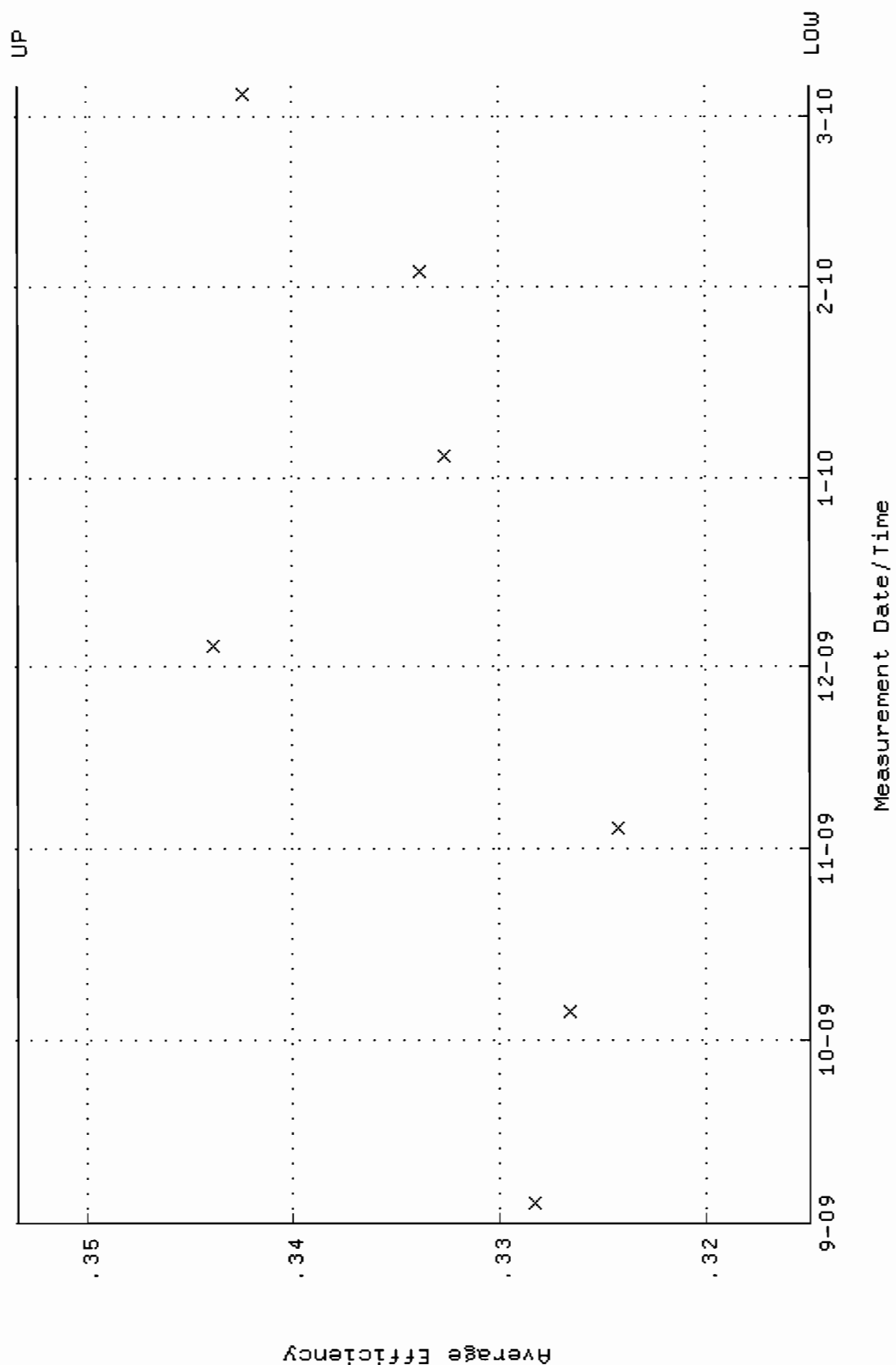
QA filename : DKA100:[ENV_ALPHA.QA.w]W023.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-SEP-2009 07:36:42 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



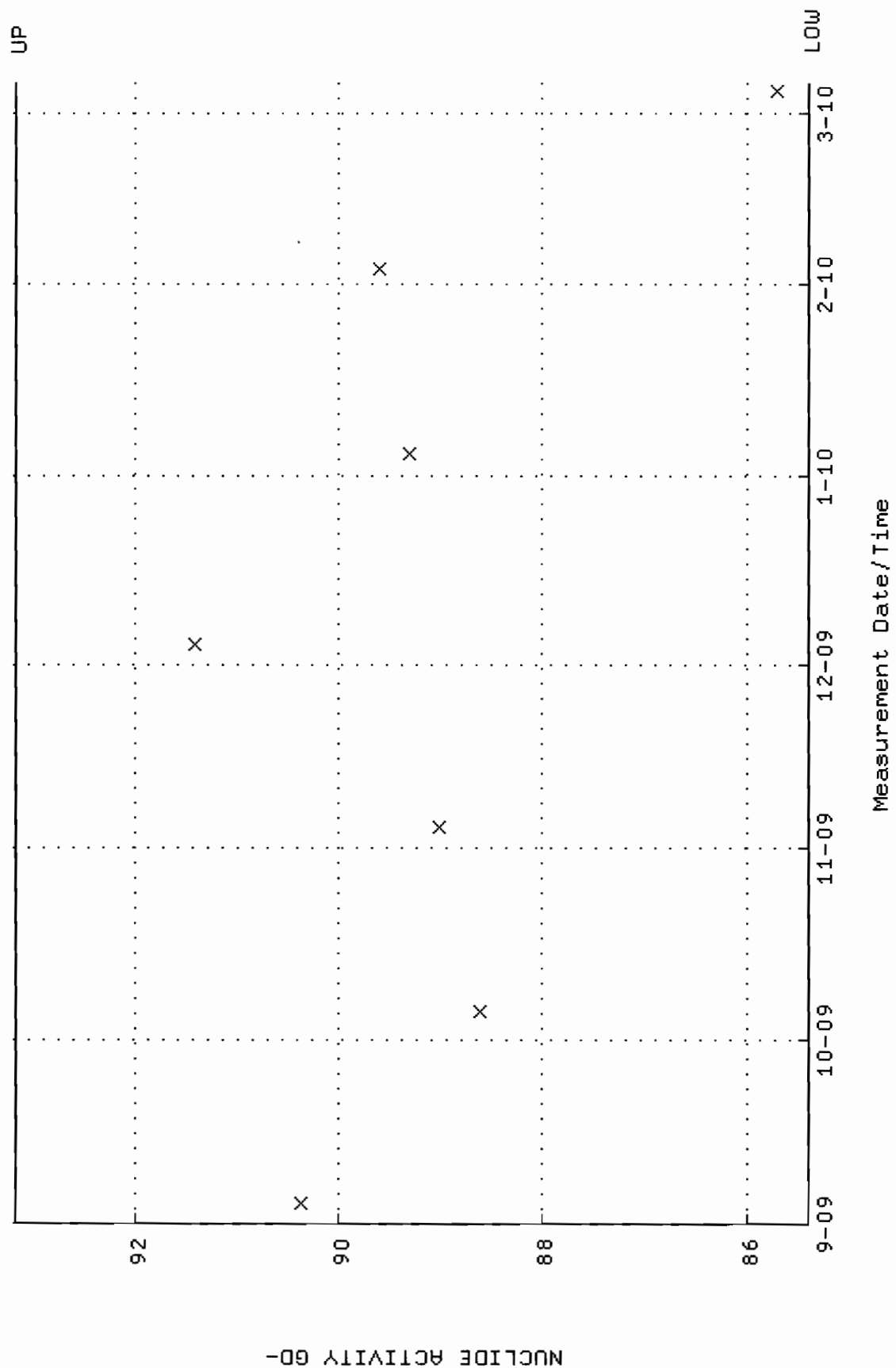
QA filename : DKA100:[ENV_ALPHA.QA.W]W023.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:42 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



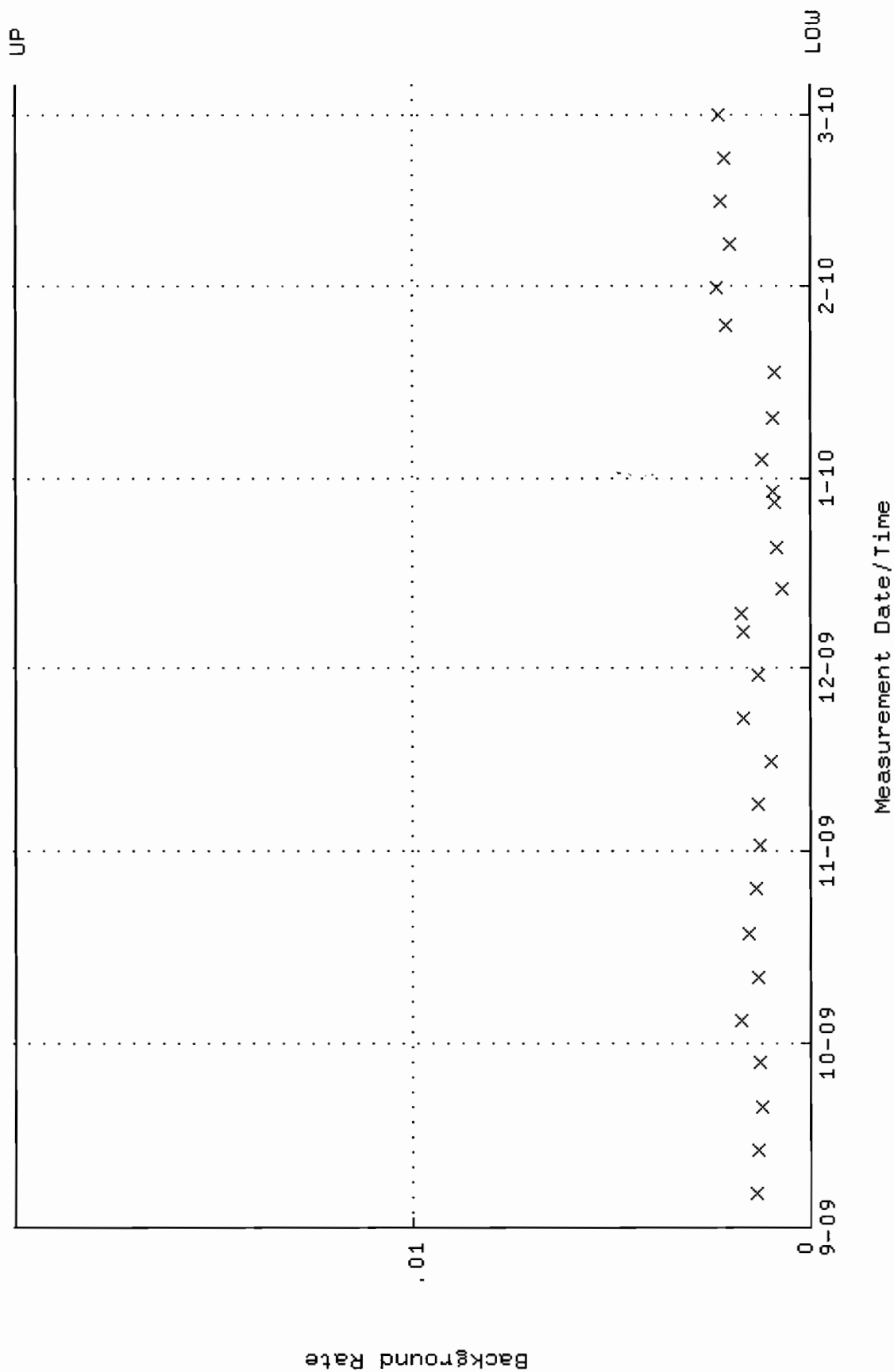
QA filename : DKA100:[ENV_ALPHA.QA.W]W024.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-SEP-2009 07:36:42 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.314917 through 0.353325



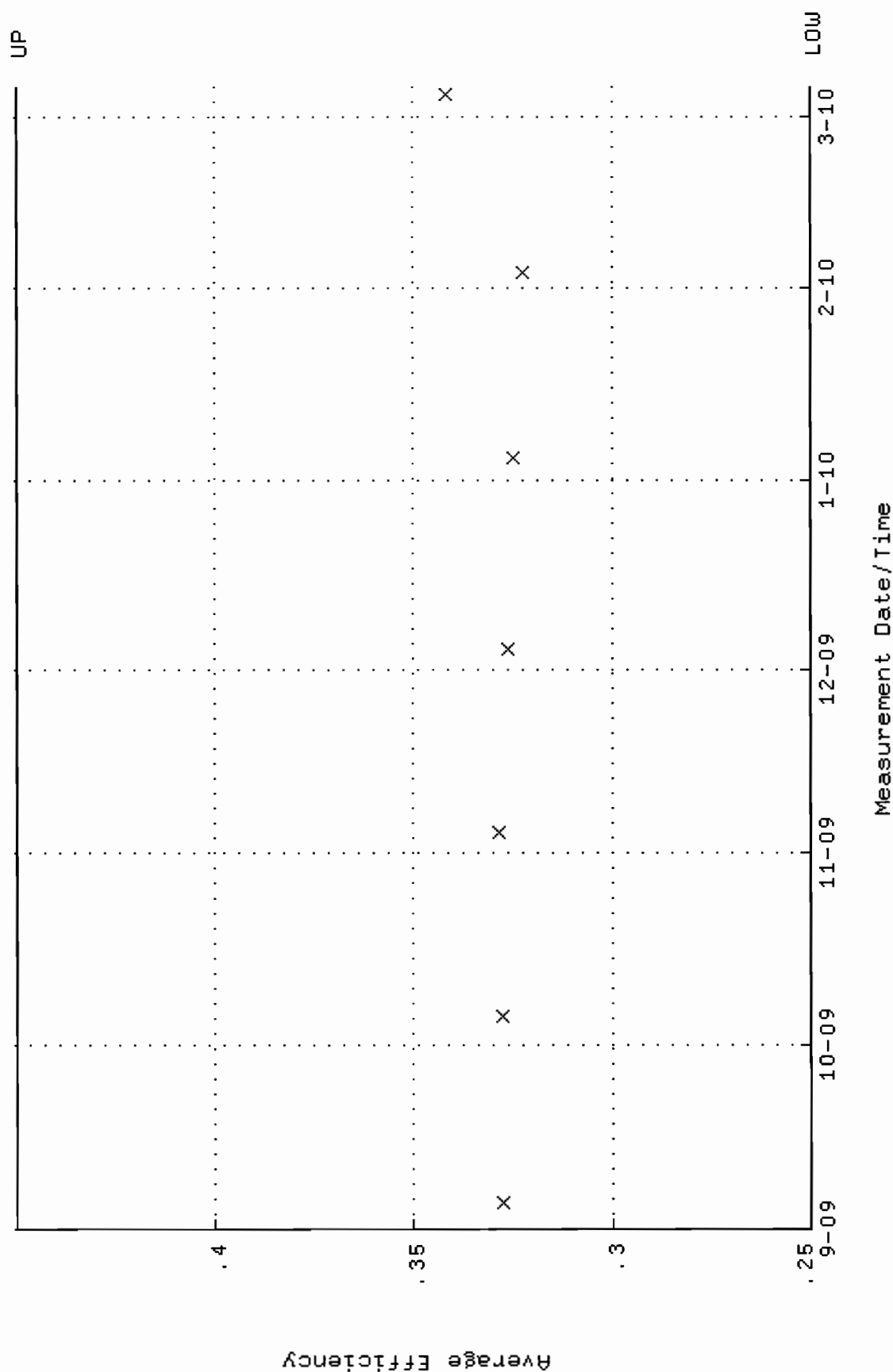
QA filename : DKA100:[ENV_ALPHA.QA.W]W024.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:42 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.3858 through 93.1784



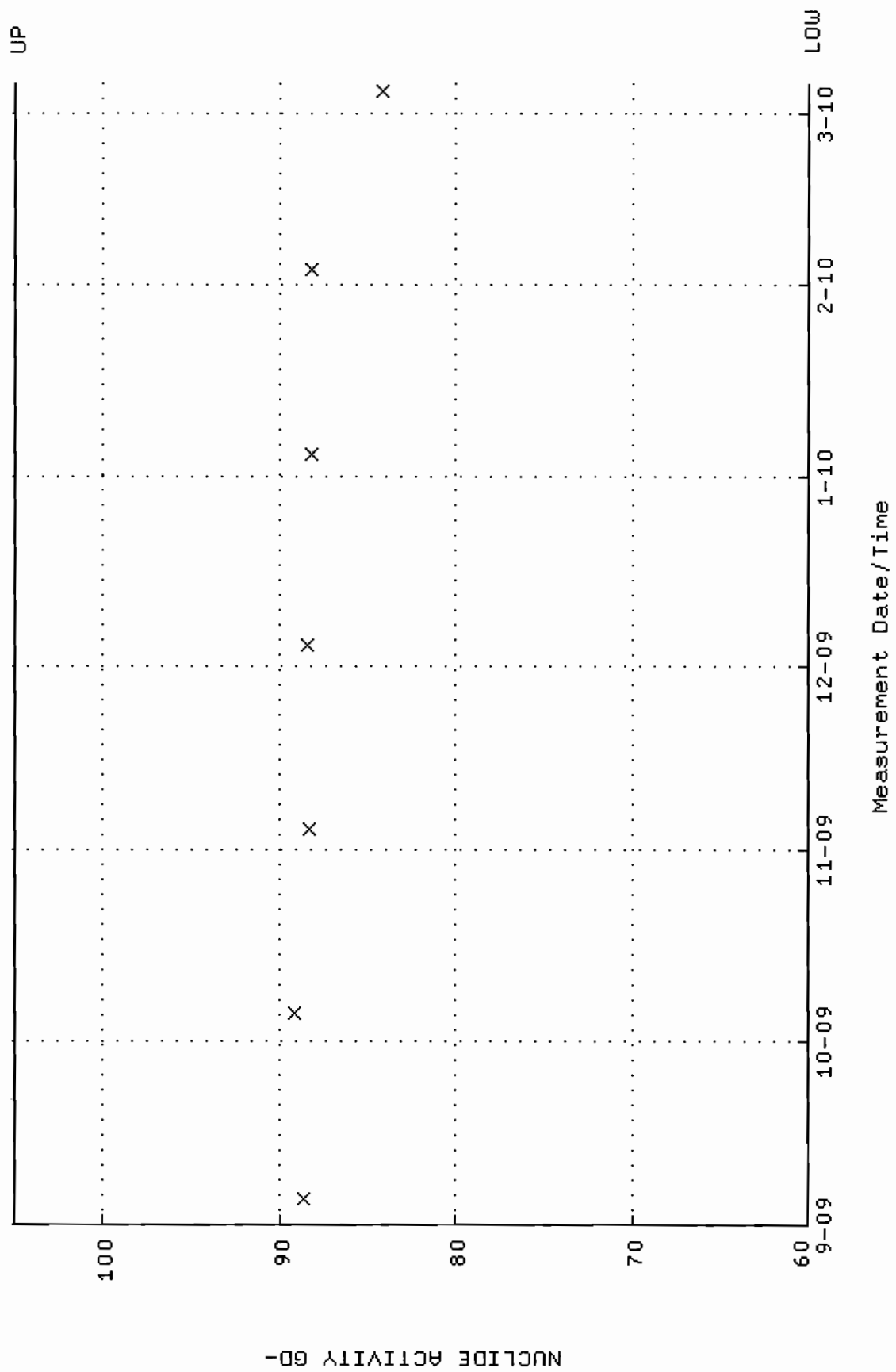
QA filename : DKA100:[ENV_ALPHA.QA.B]B024.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:03 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



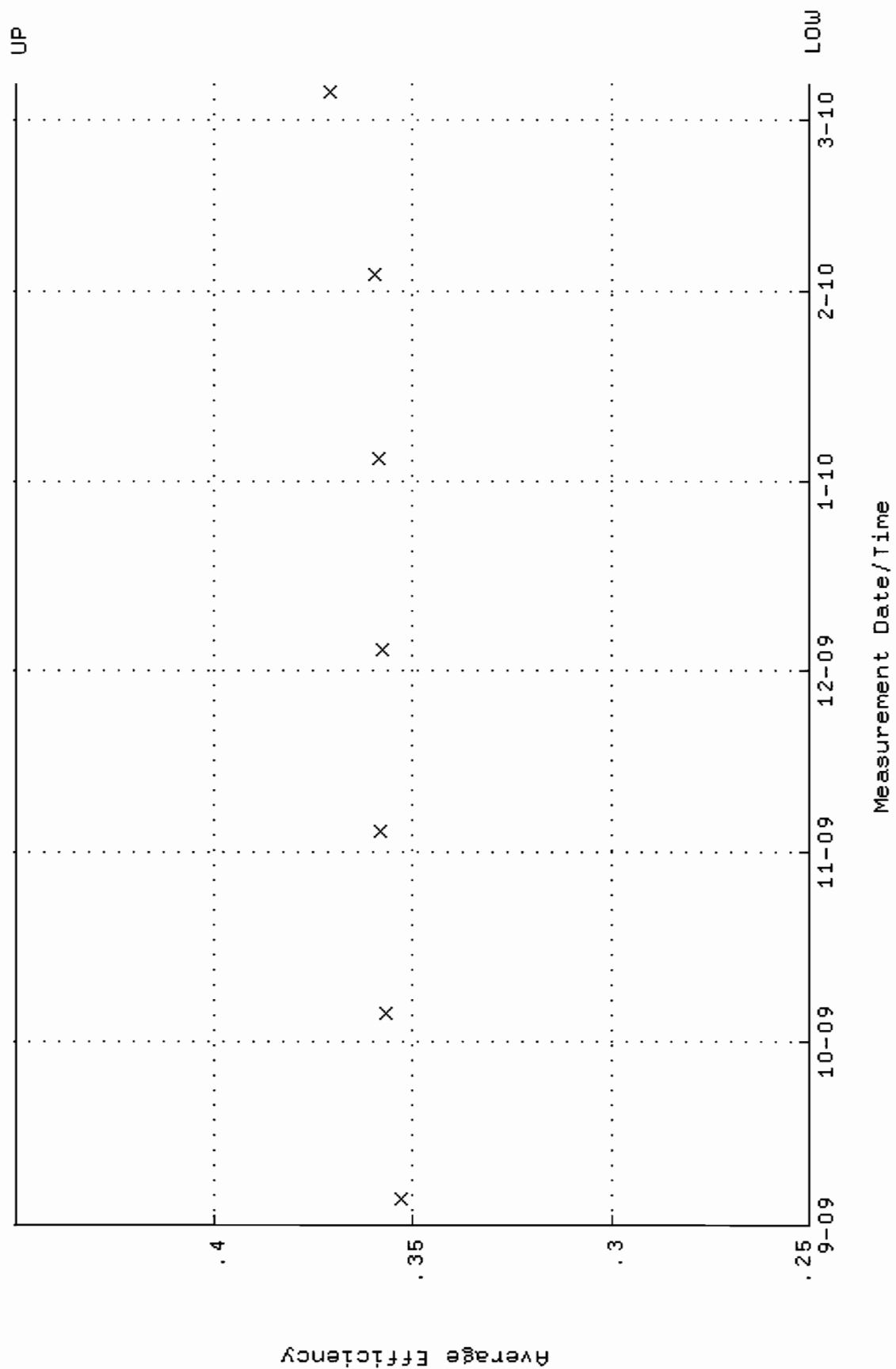
QA filename : DKA100:[ENV_ALPHA.QA.W]W025.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:08 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



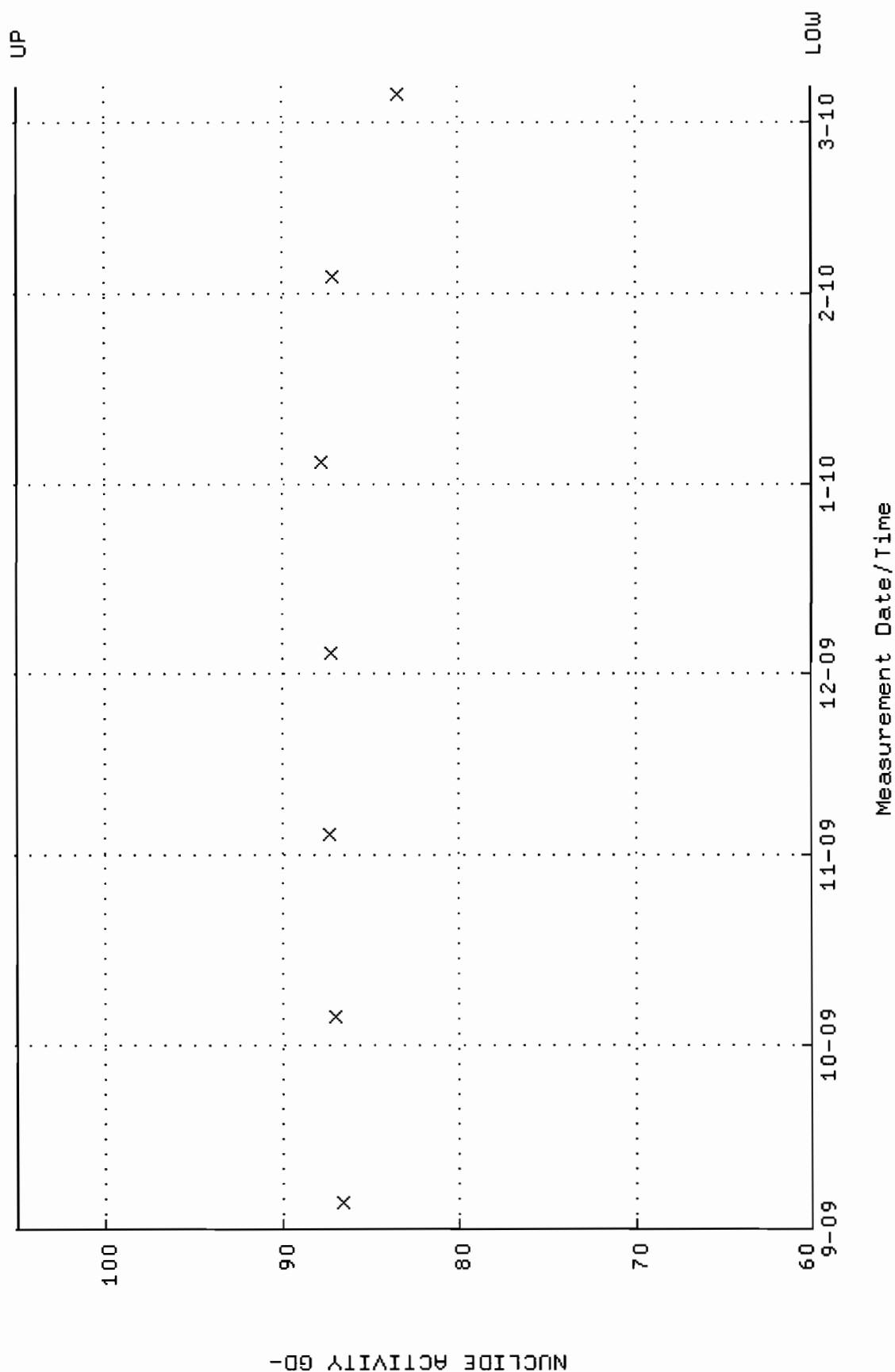
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 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:08 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



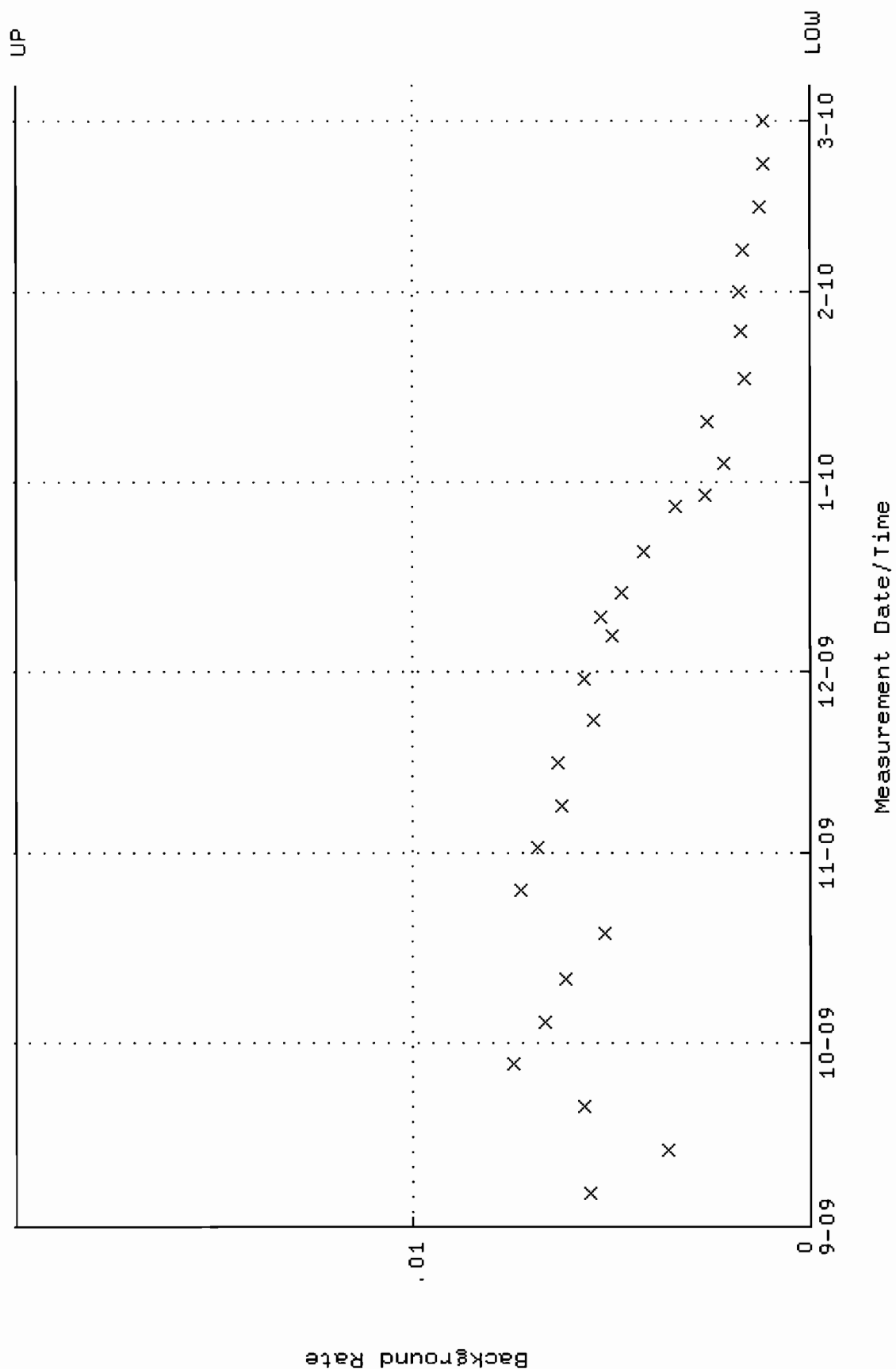
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



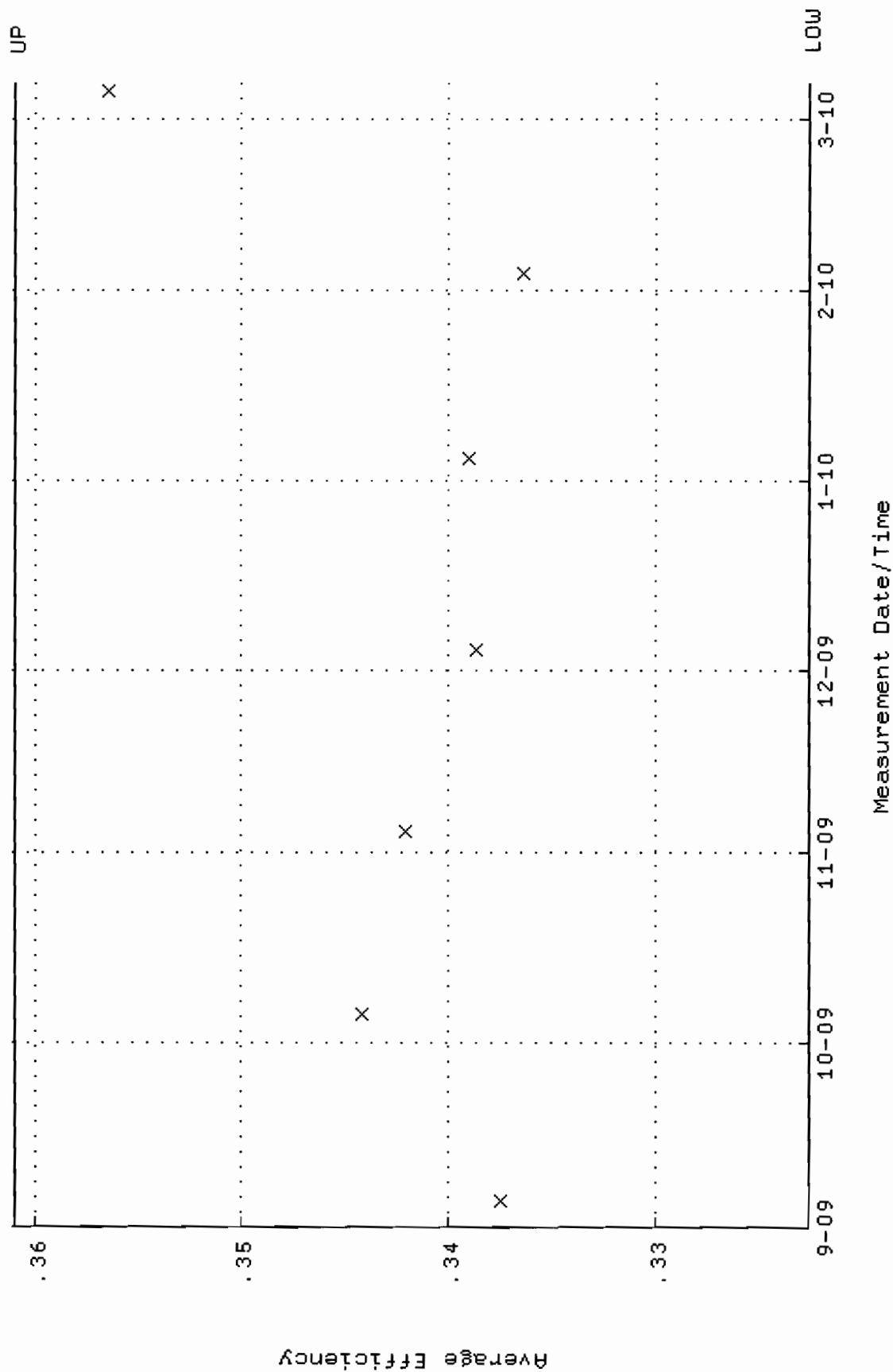
QA filename : DKA100:[ENV_ALPHA.QA.W]U037.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



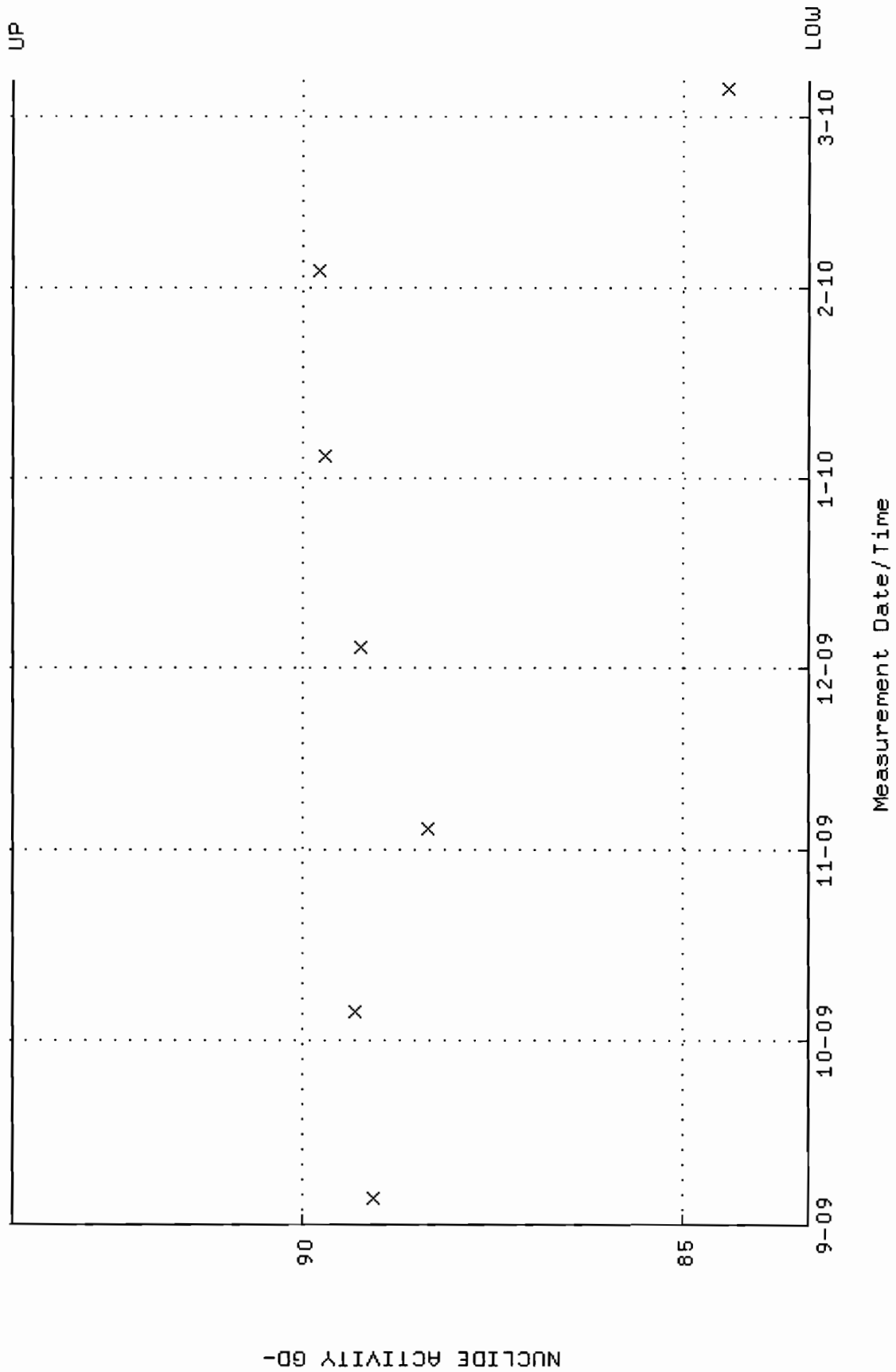
QA filename : DKA100:[ENV_ALPHA.QA.B]B037.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:05 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



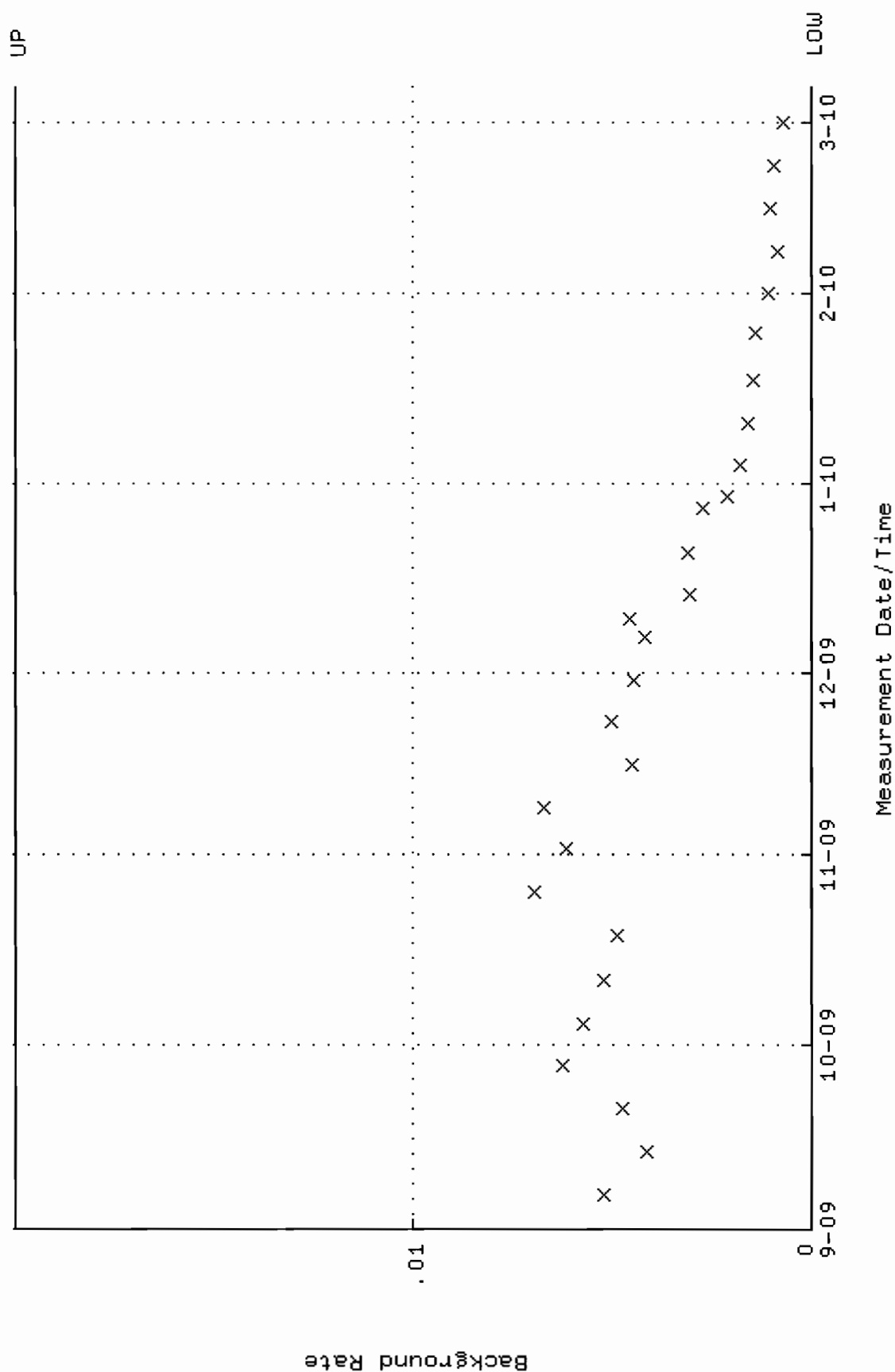
QA filename : DKA100:[ENV_ALPHA.QA.W]W038.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.322581 through 0.360953



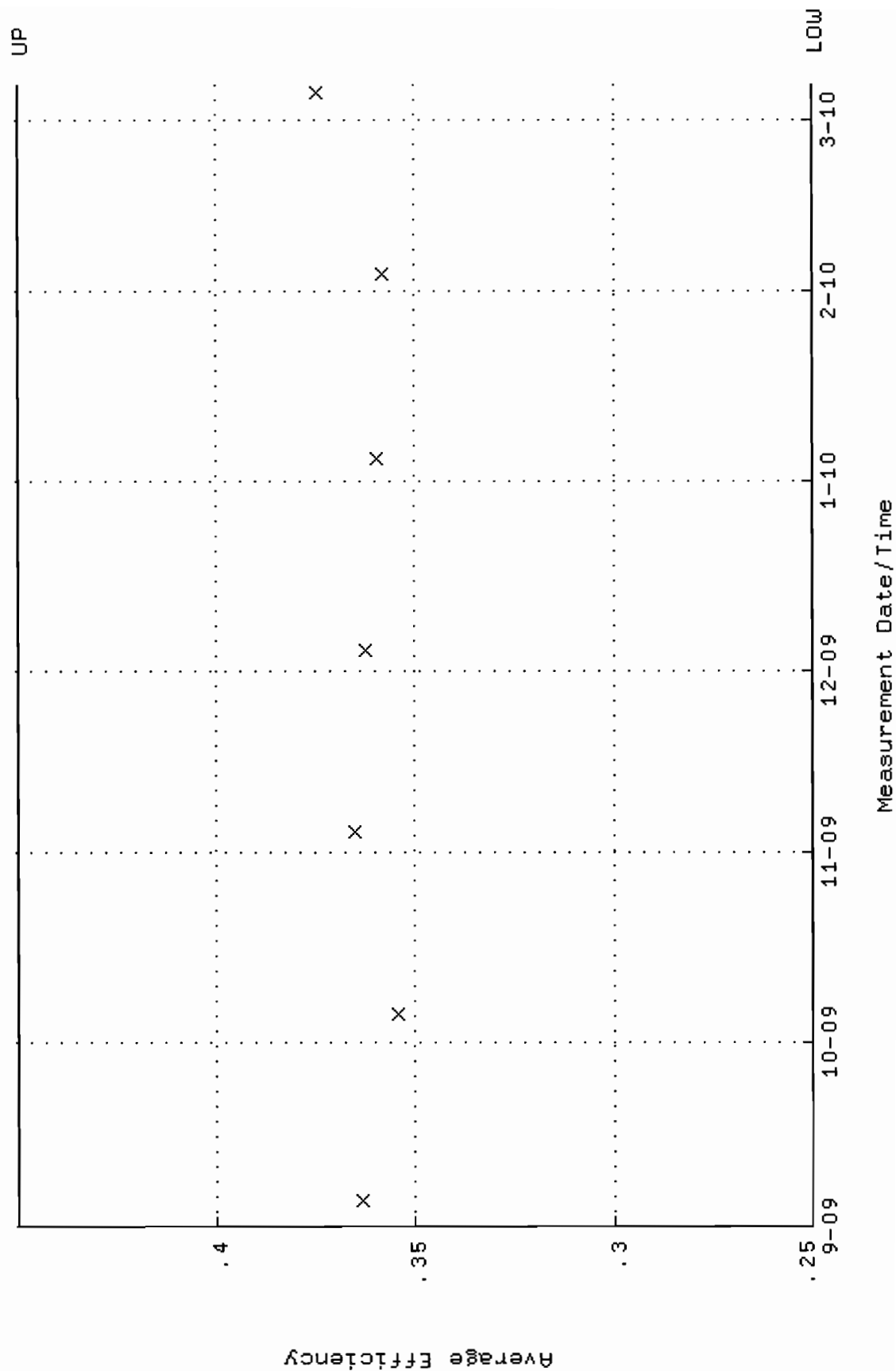
QA filename : DKA100:[ENV_ALPHA.QA.W]W038.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.3449 through 93.8345



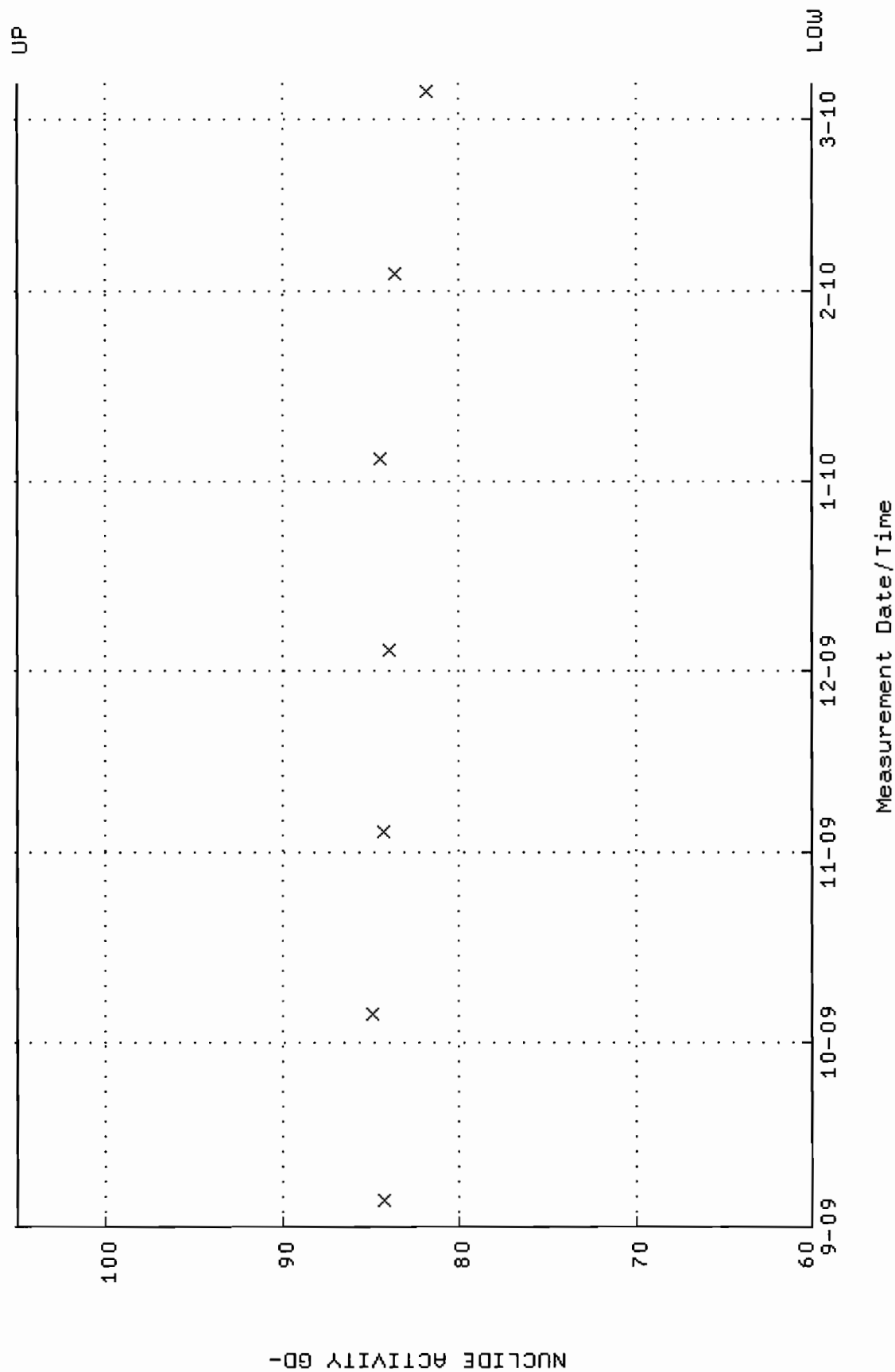
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:05 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



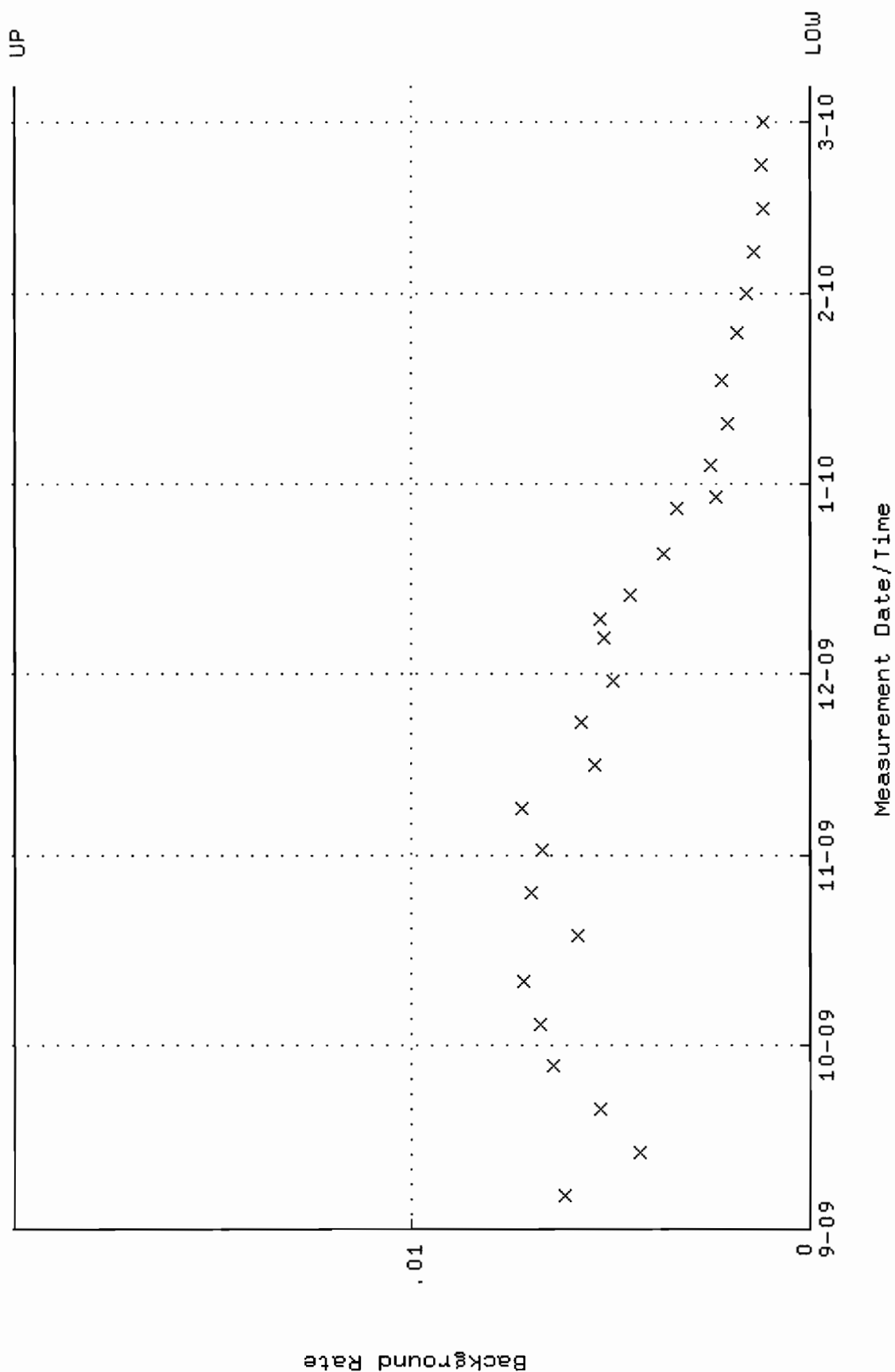
QA filename : DKA100:[ENV_ALPHA.QA.W]w039.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



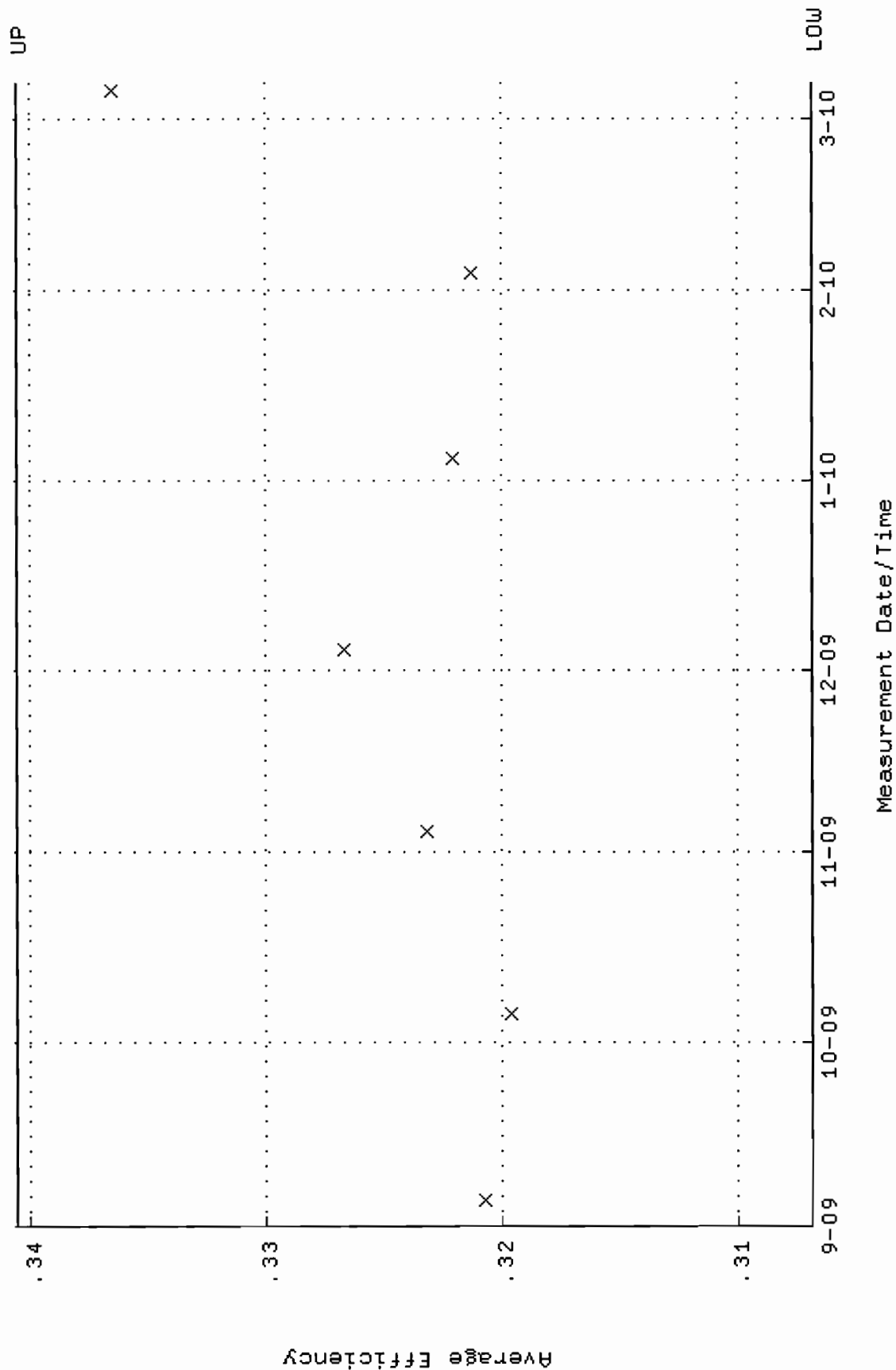
QA filename : DKA100:[ENV_ALPHA.QA.W]W039.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



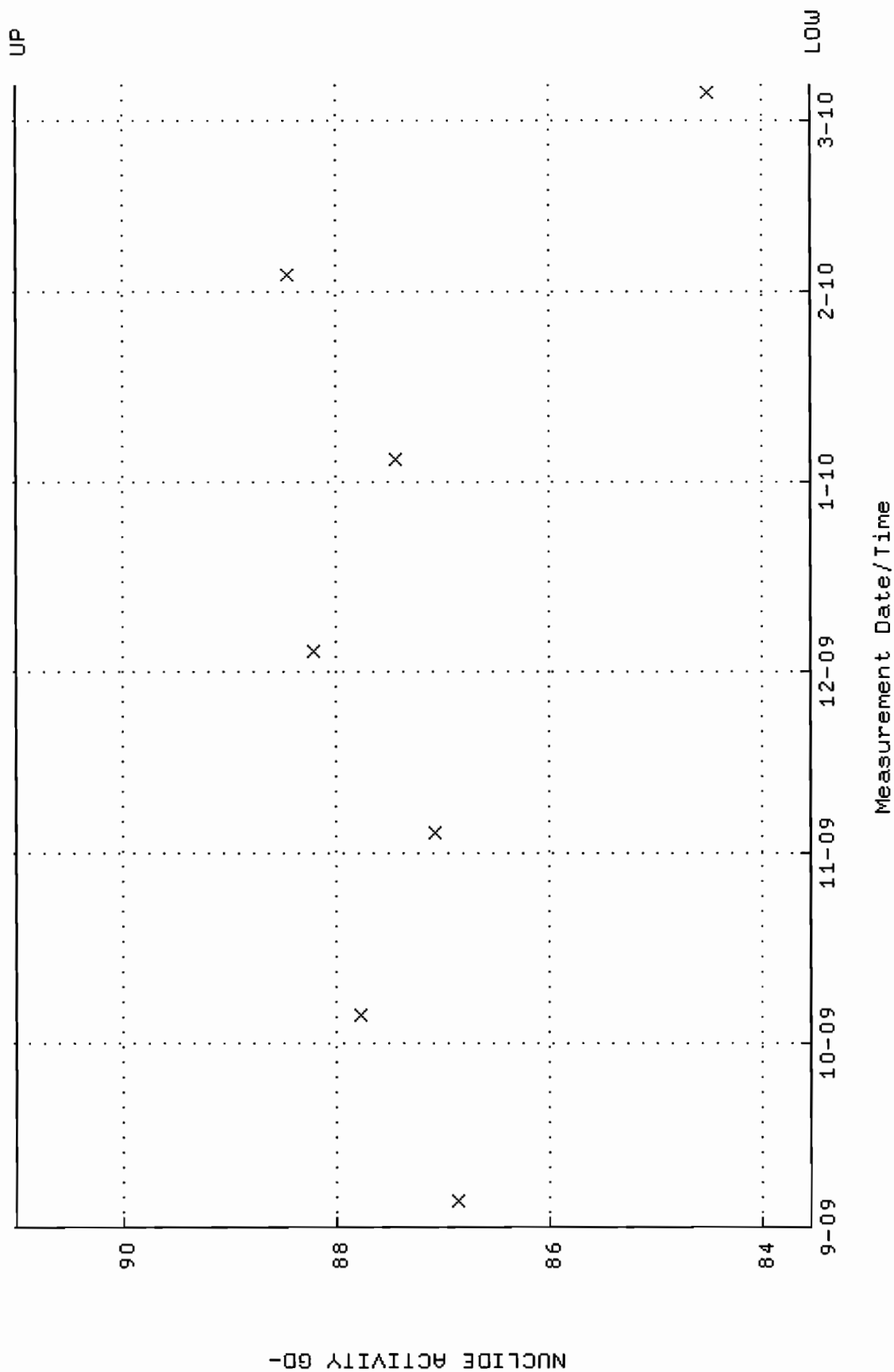
QA filename : DKA100:[ENV_ALPHA.QA.B]B039.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:05 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



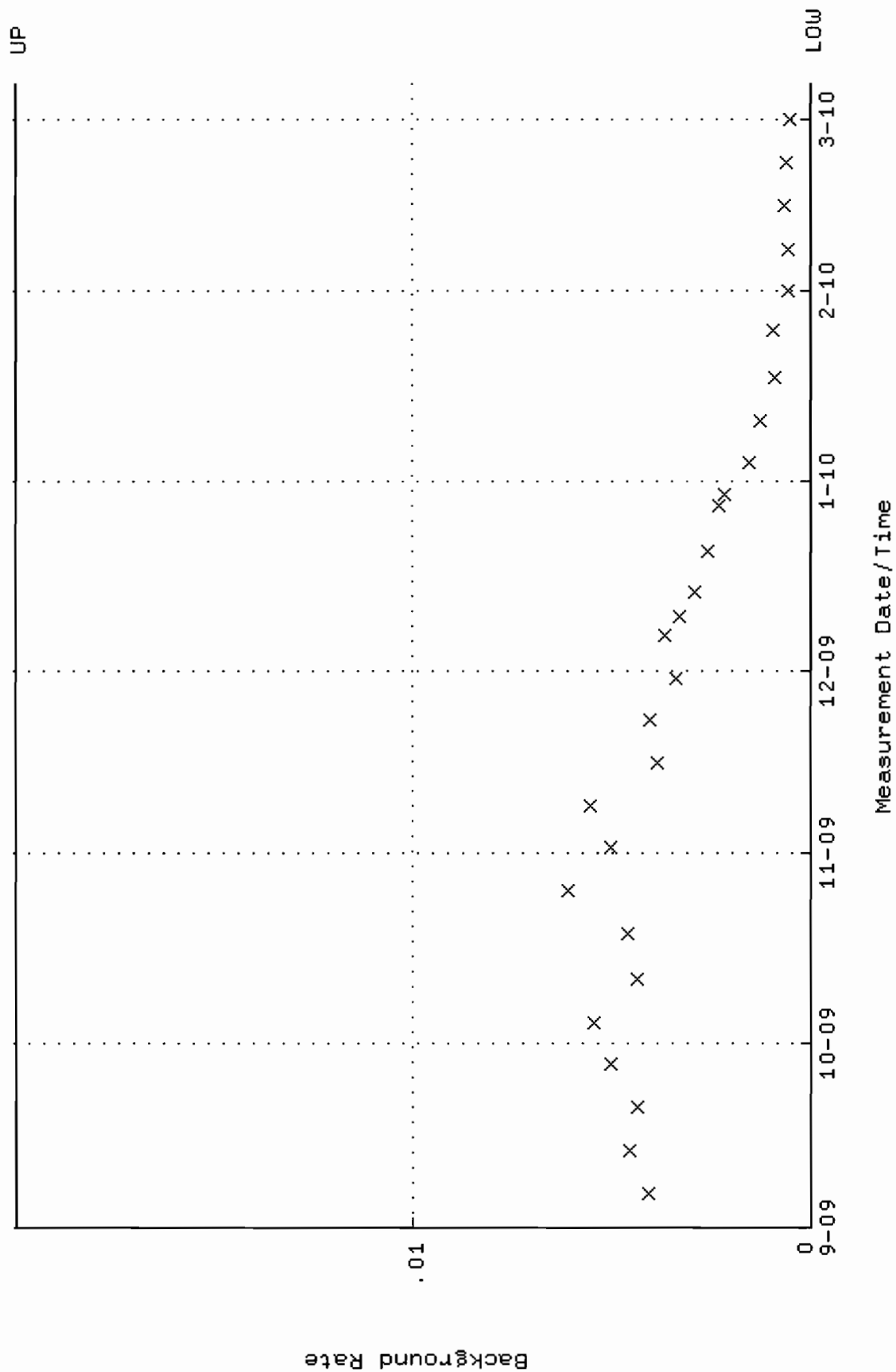
QA filename : DKA100:[ENV_ALPHA.QA.W]W040.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.306790 through 0.340520



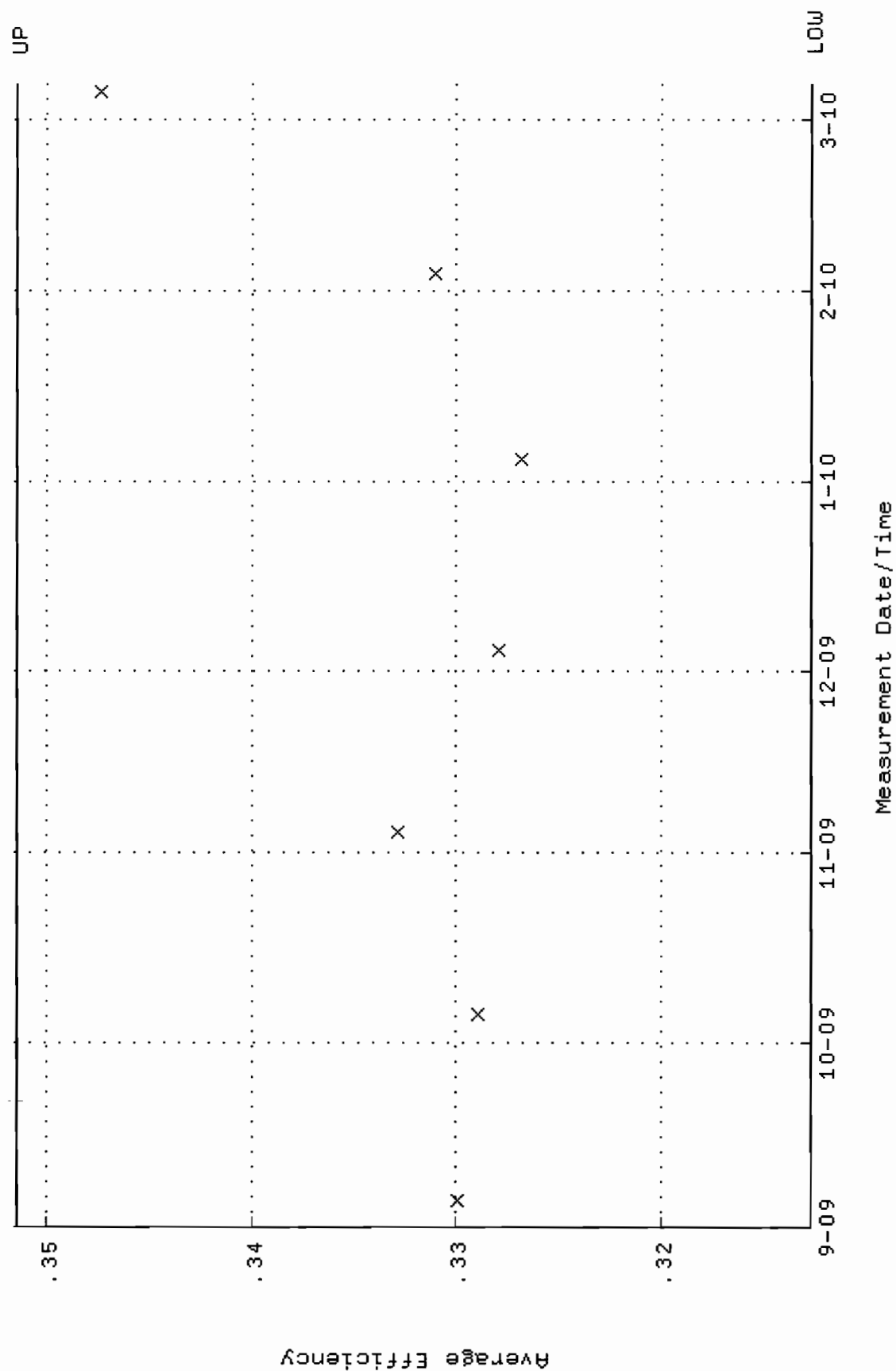
QA filename : DKA100:[ENV-ALPHA.QA.W]W040.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.5423 through 90.9959



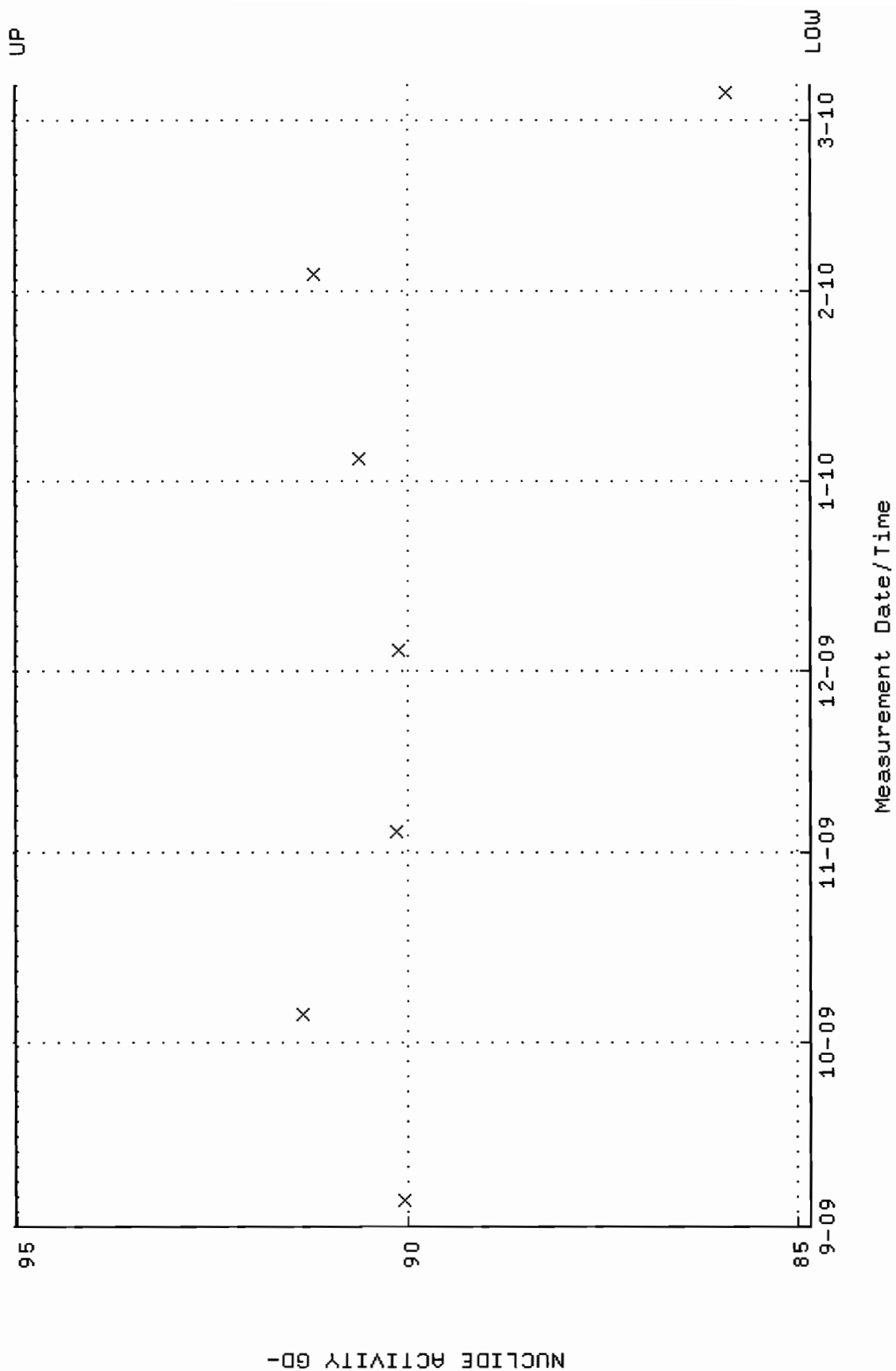
QA filename : DKA100:[ENV_ALPHA.QA.B]B040.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:05 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



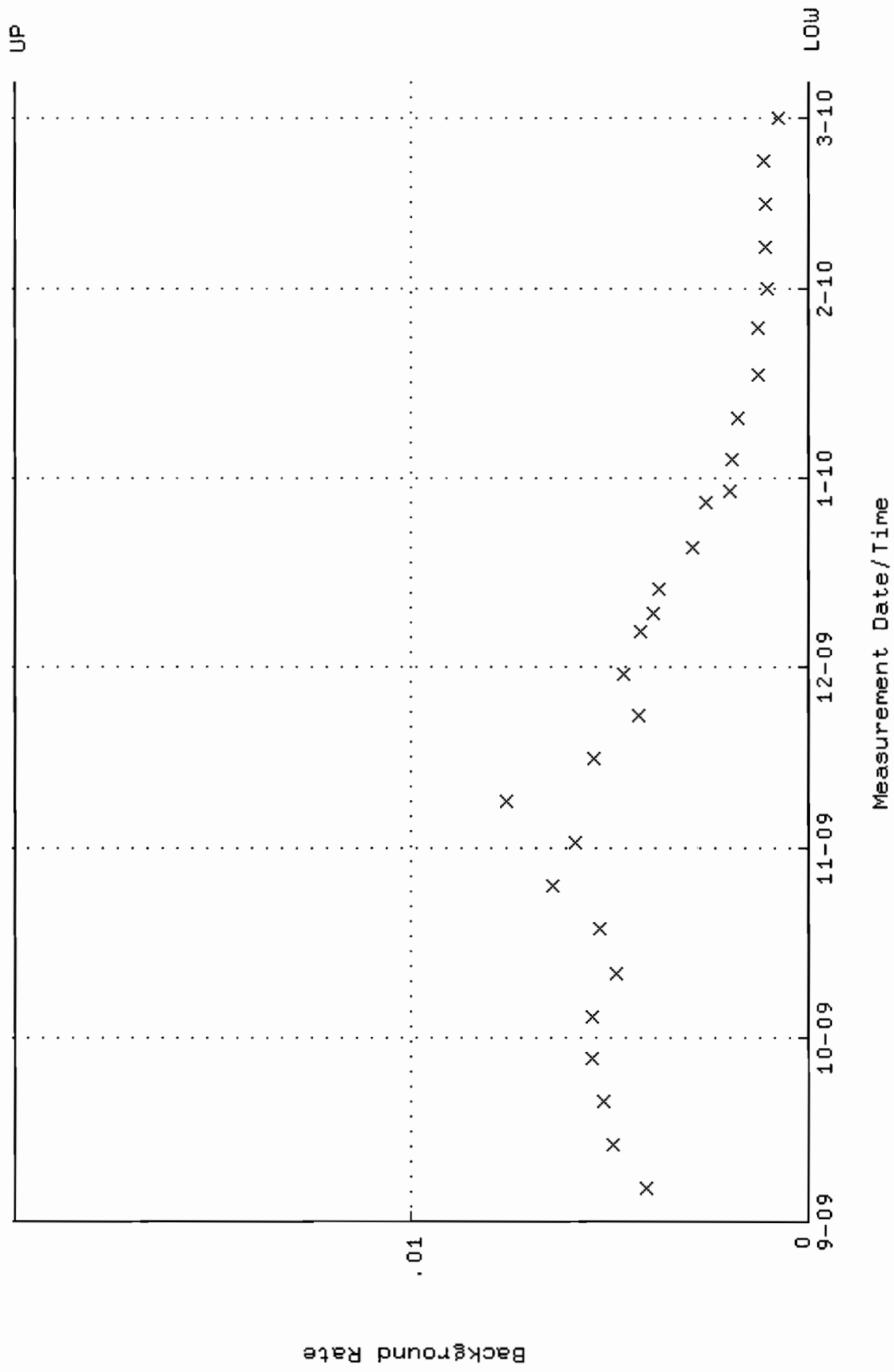
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.312659 through 0.351485



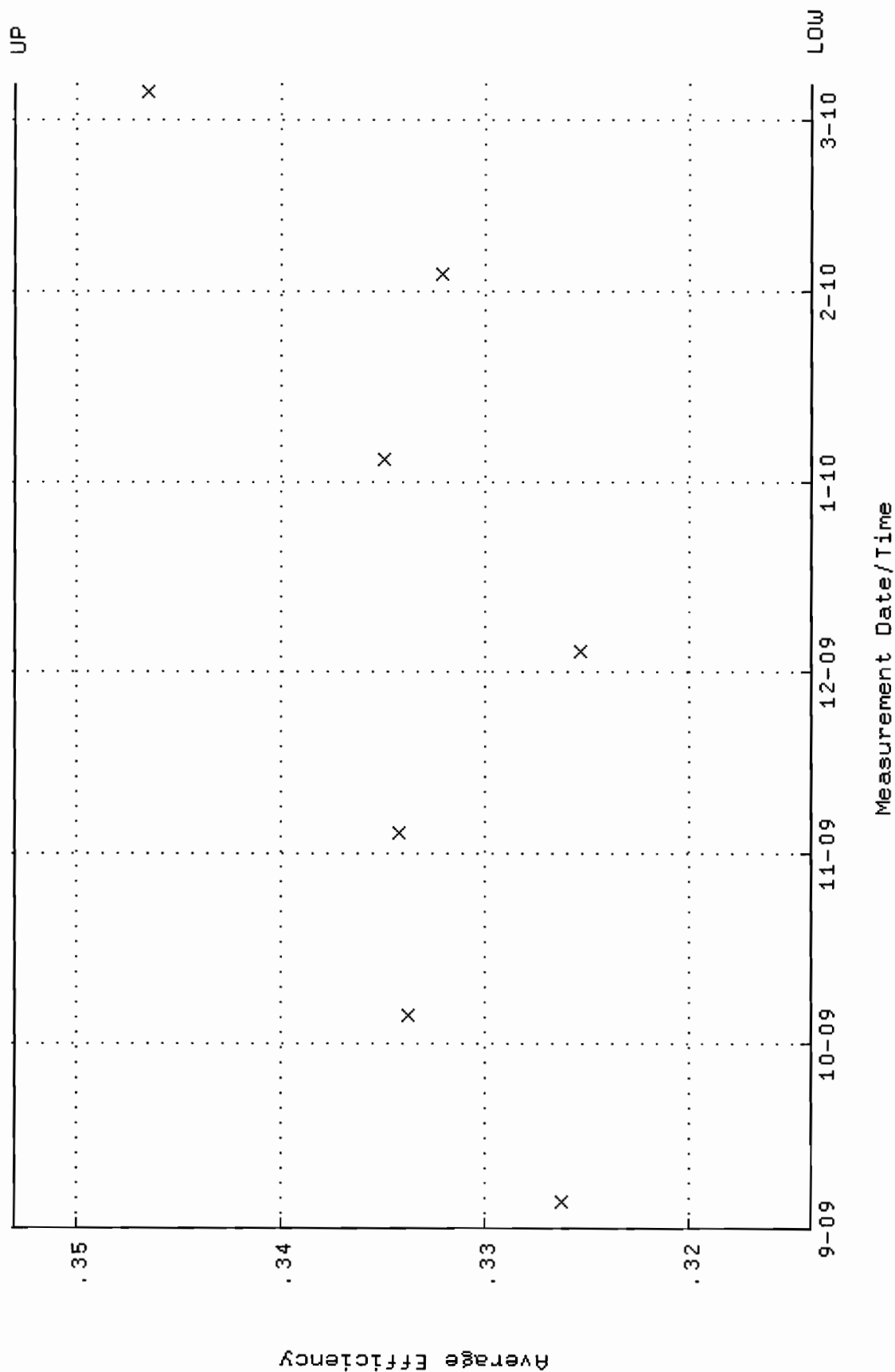
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 84.8316 through 95.0248



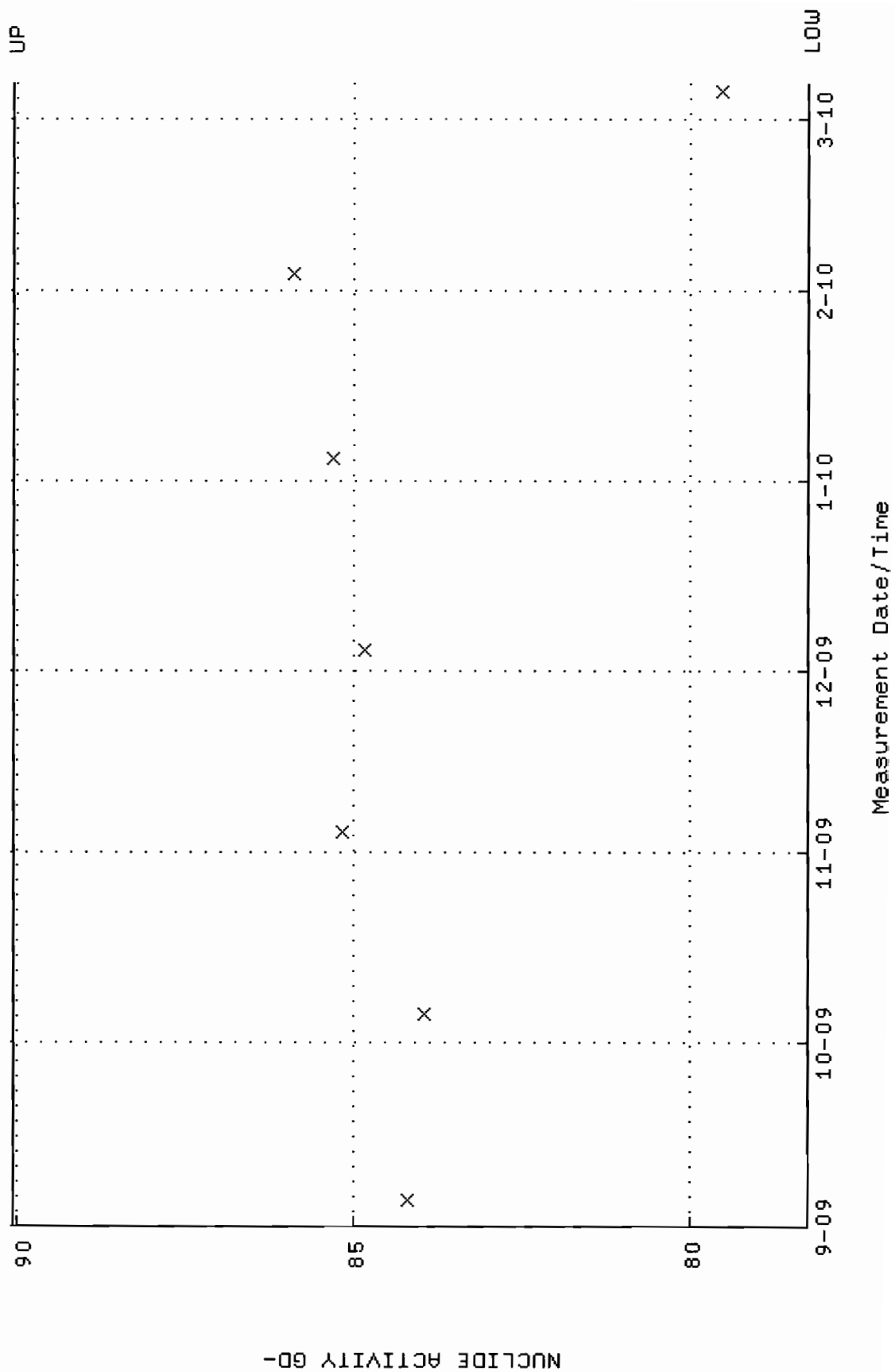
QA filename : DKA100:[ENV_ALPHA.QA.B]B041.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:05 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



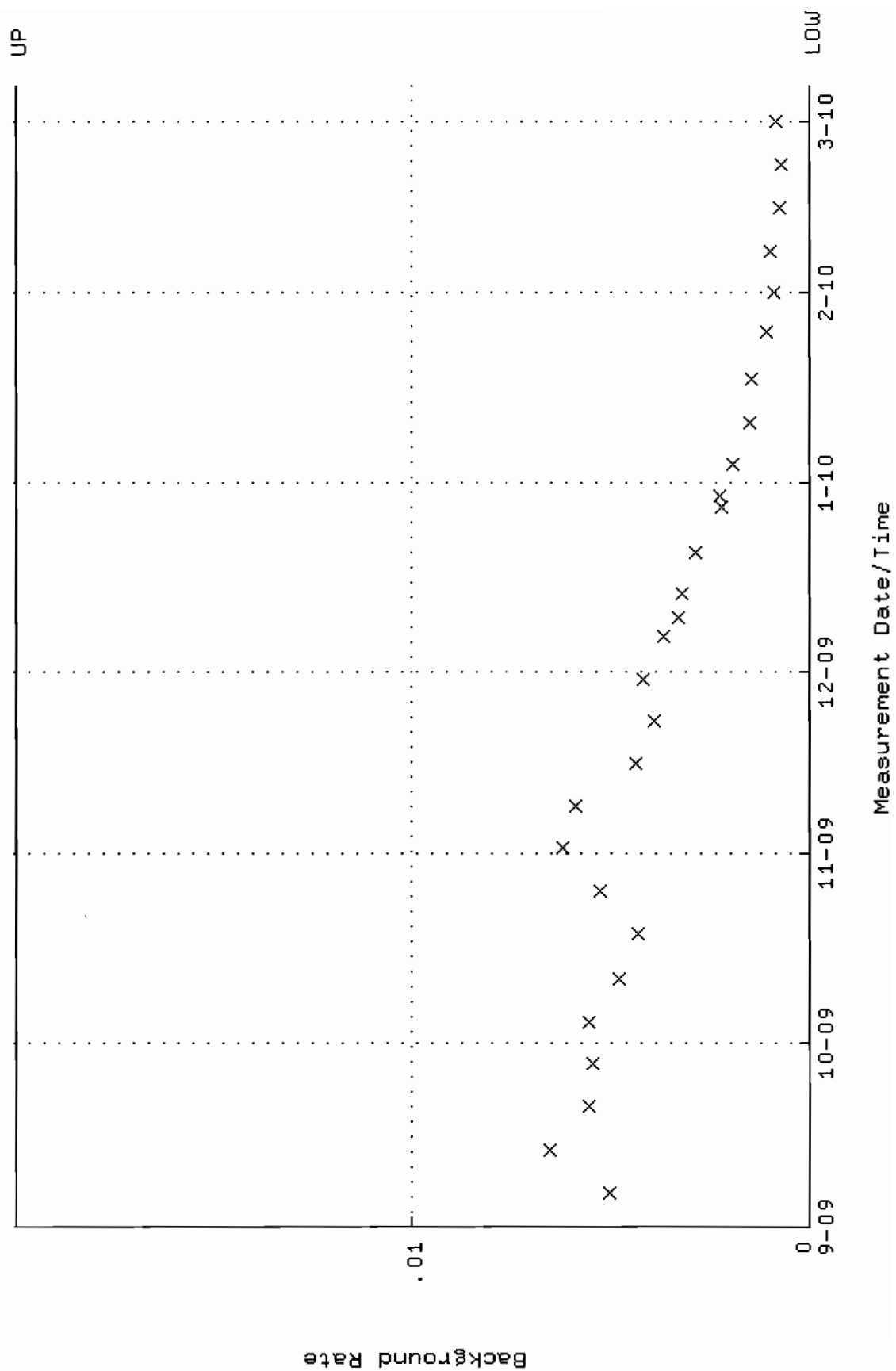
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.314079 through 0.353023



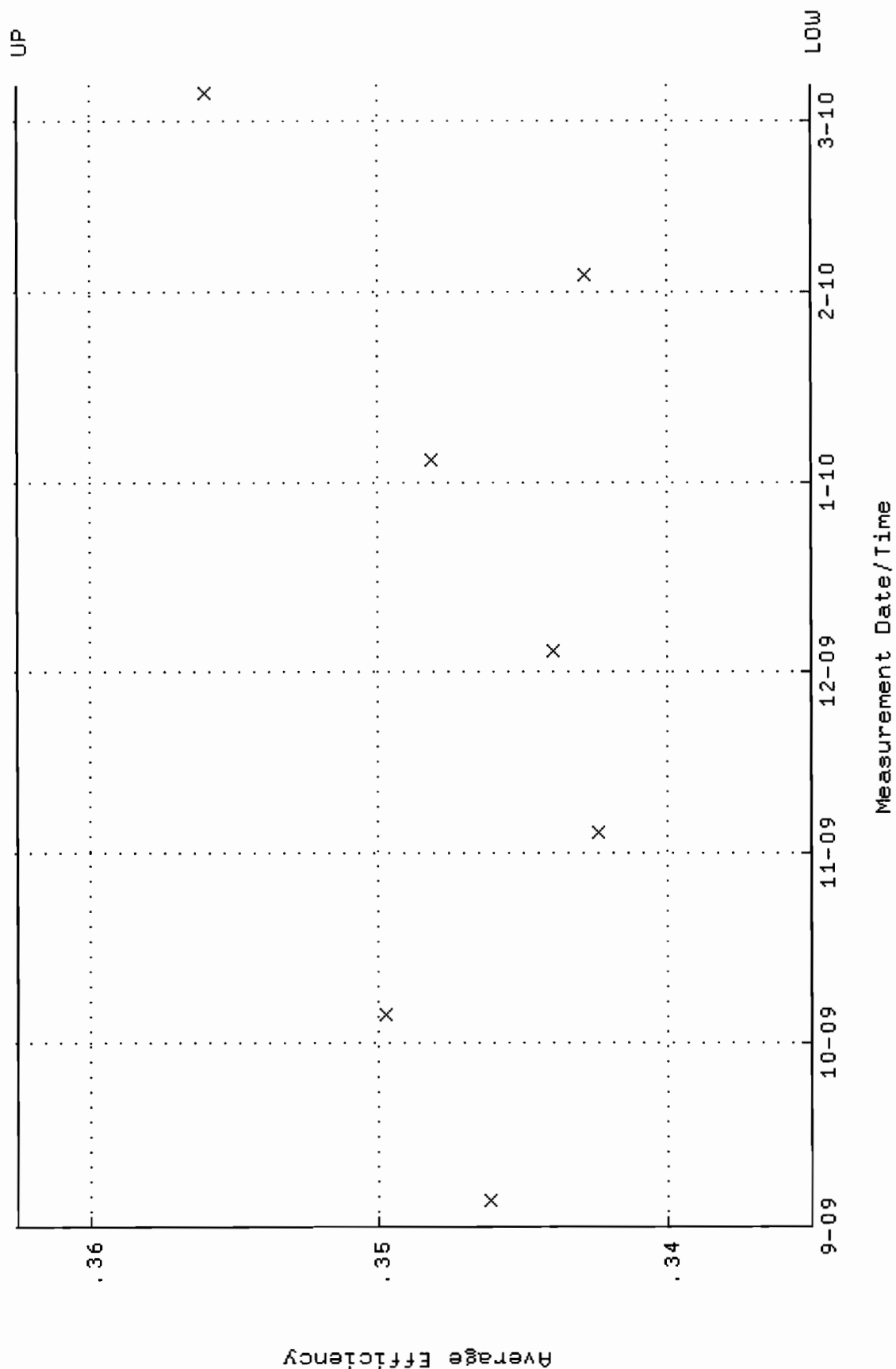
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:11 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 78.2587 through 90.0439



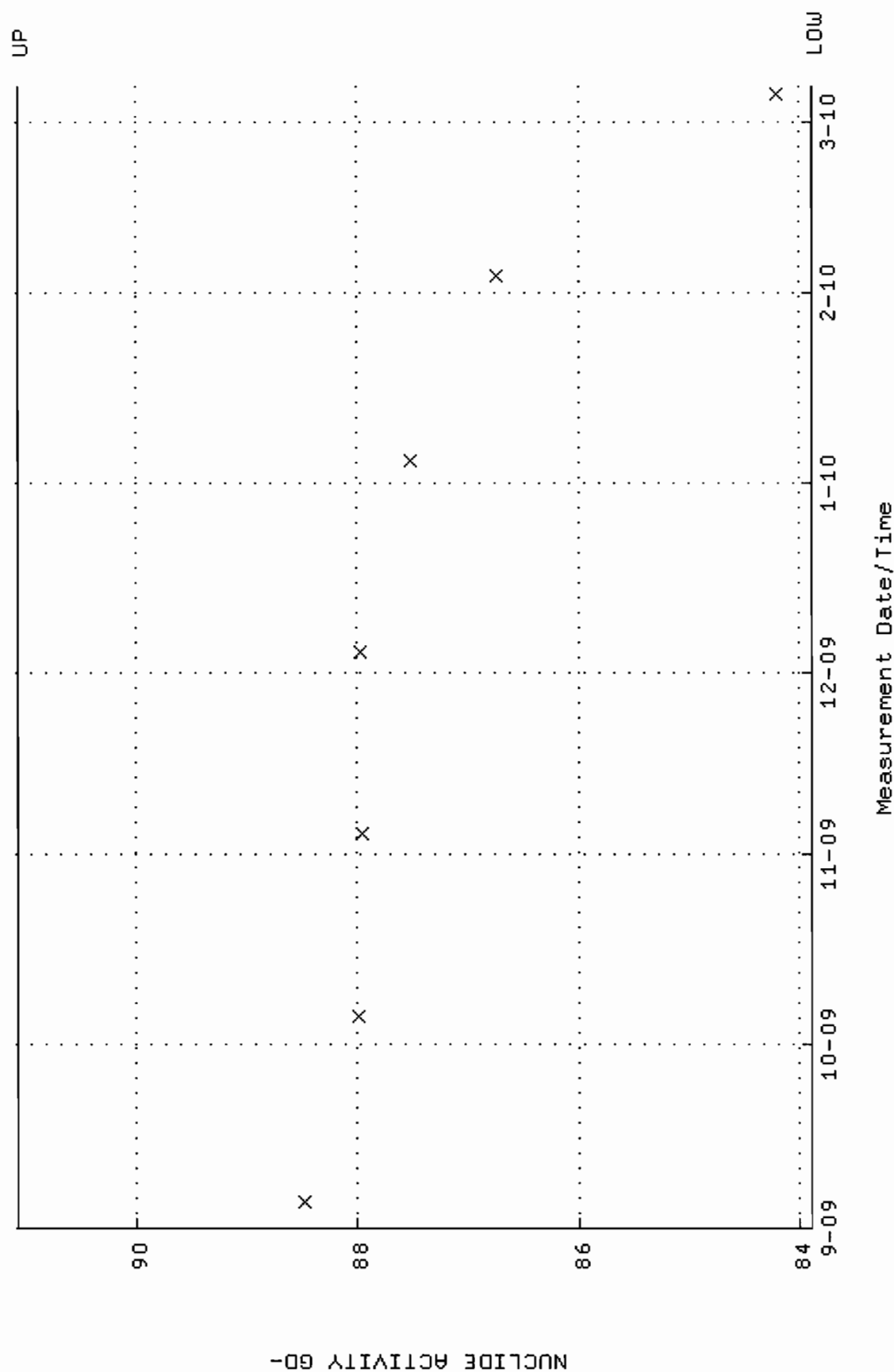
QA filename : DKA100:[ENV_ALPHA.QA.B]B042.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:05 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



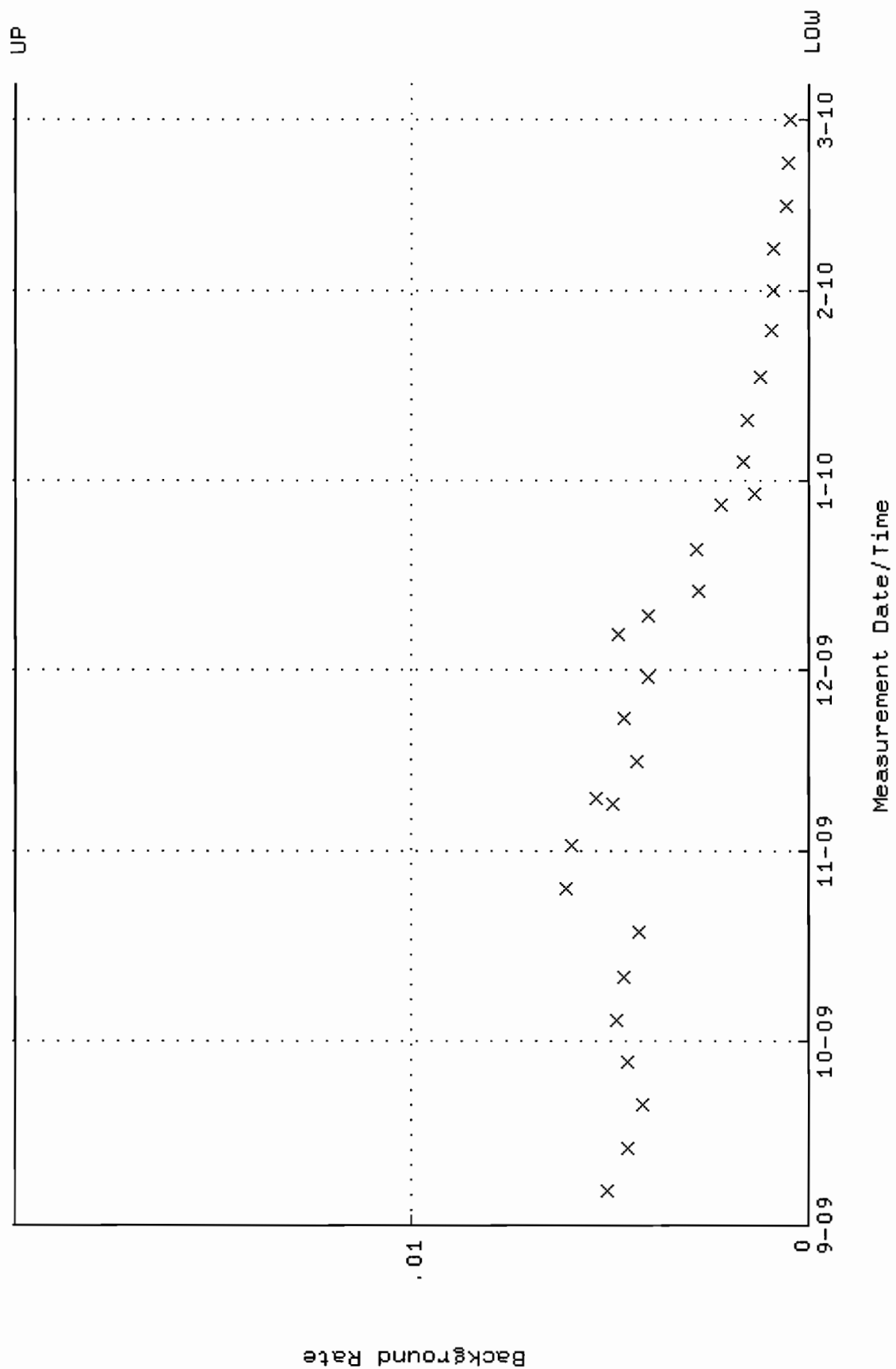
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
Lower/Upper Lmts: 0.335013 through 0.362525



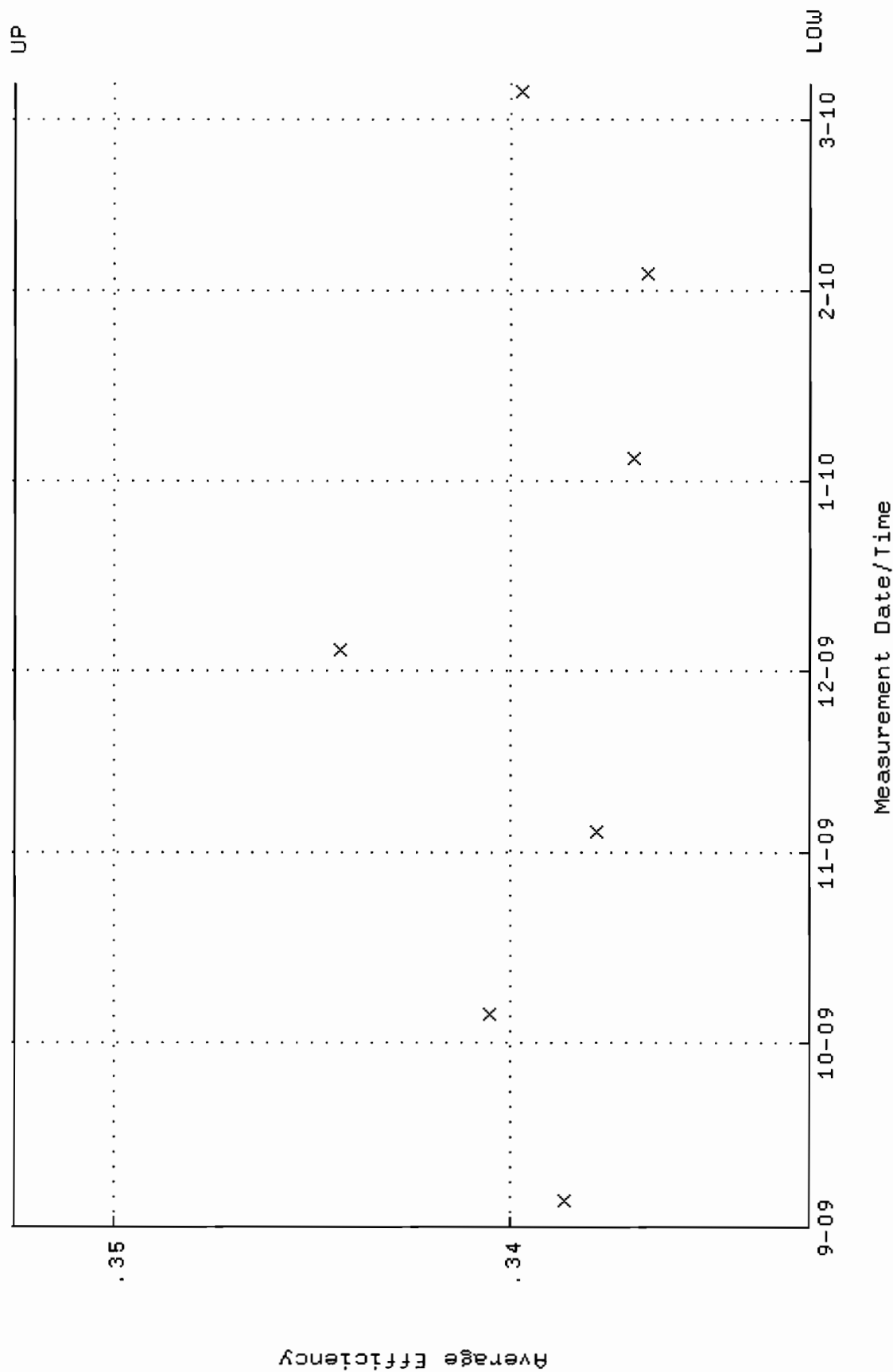
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.8858 through 91.0588



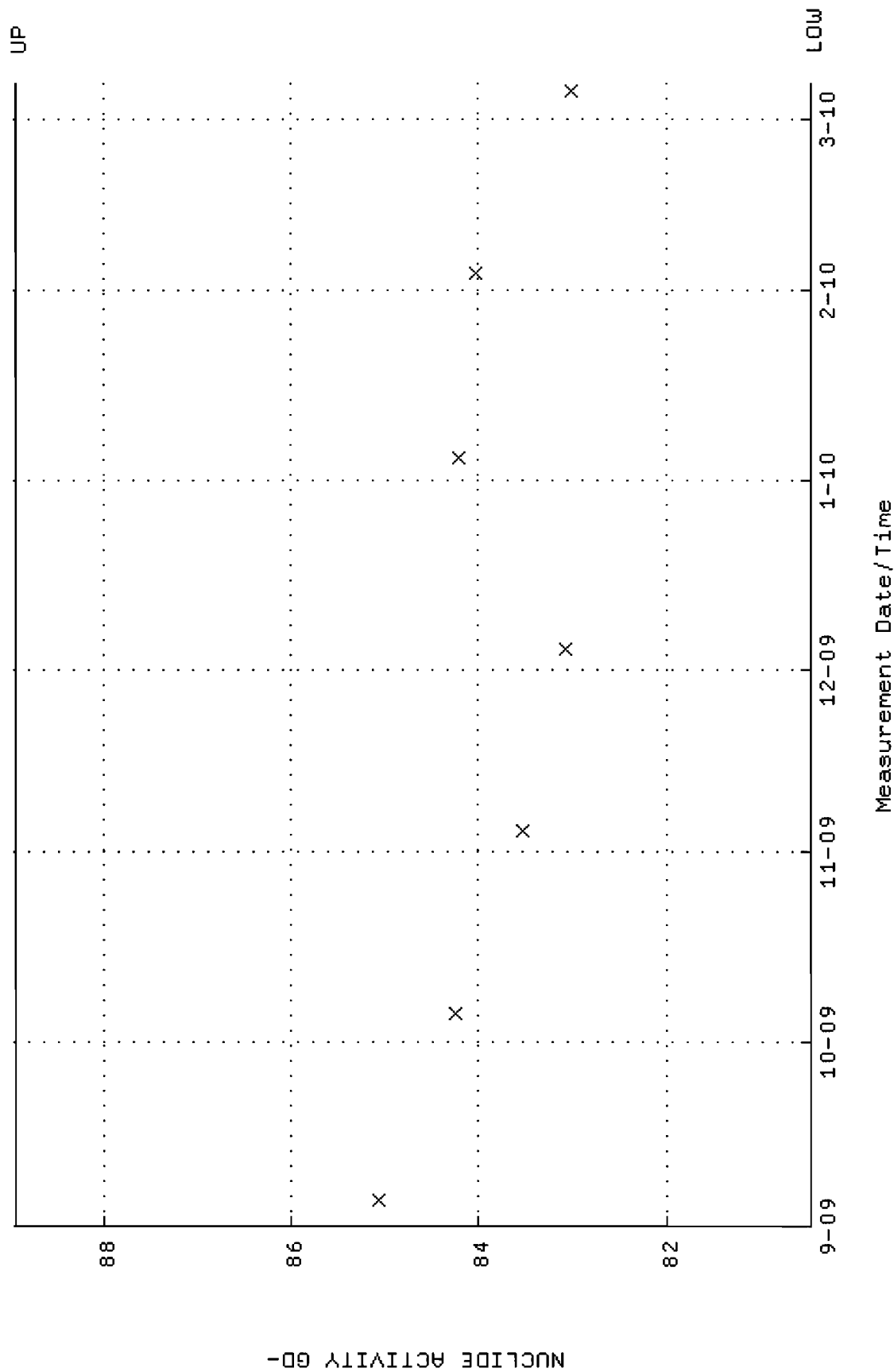
QA filename : DKA100:[ENV_ALPHA.QA.B]B044.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:06 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



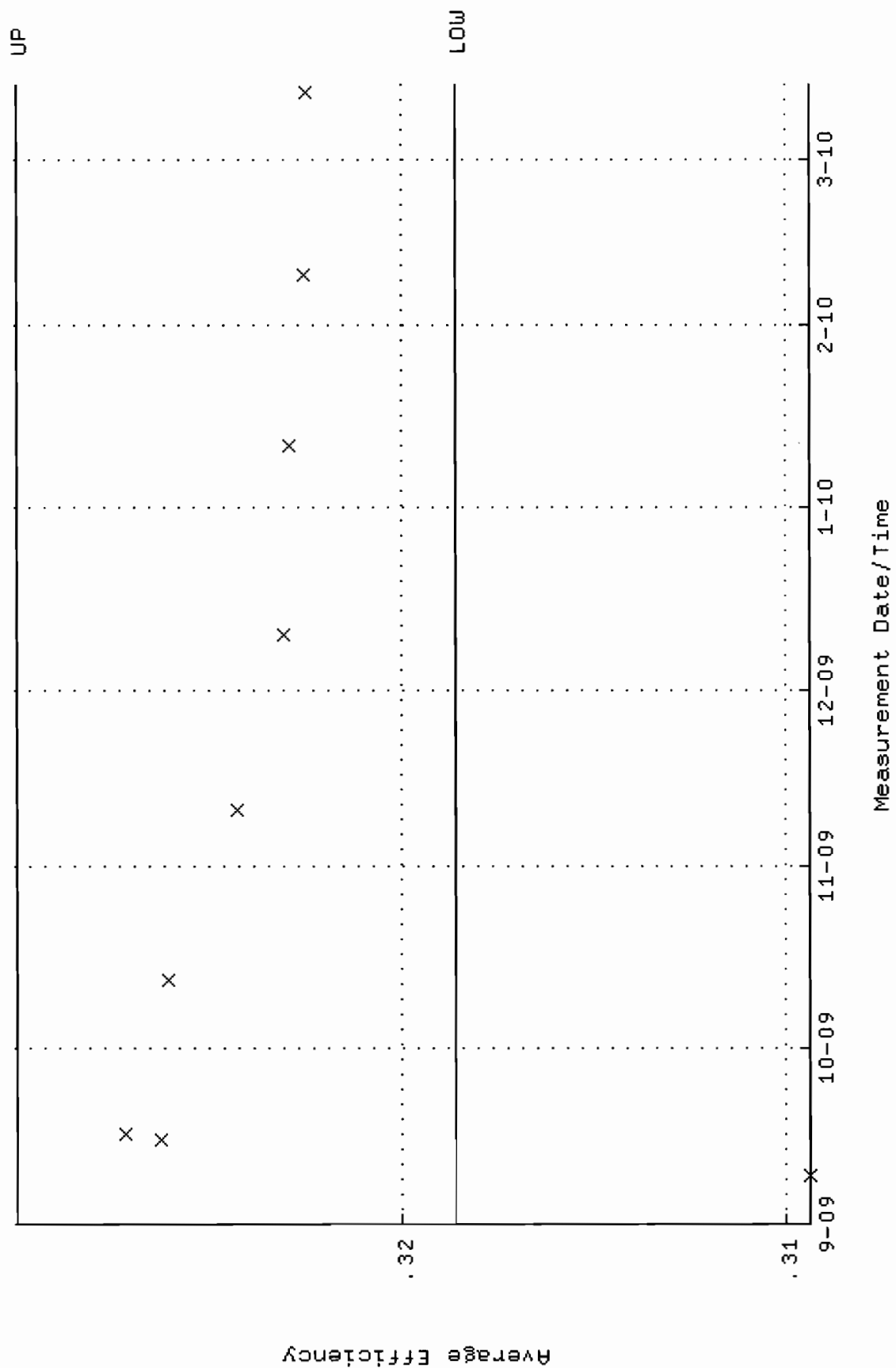
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.332472 through 0.352472



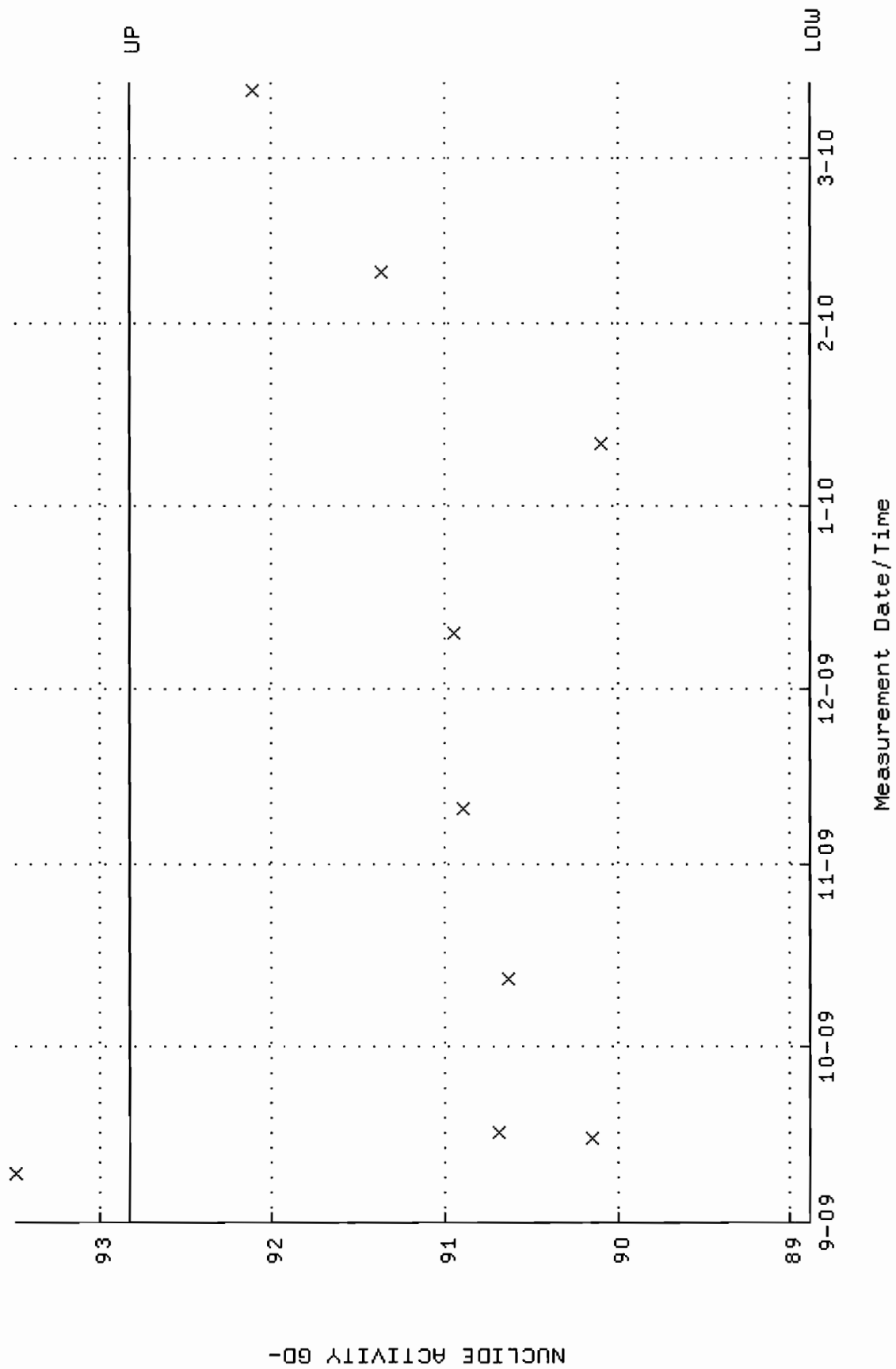
QA filename : DKA100:[ENV_ALPHA.QA.W]U045.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 80.4622 through 88.9320



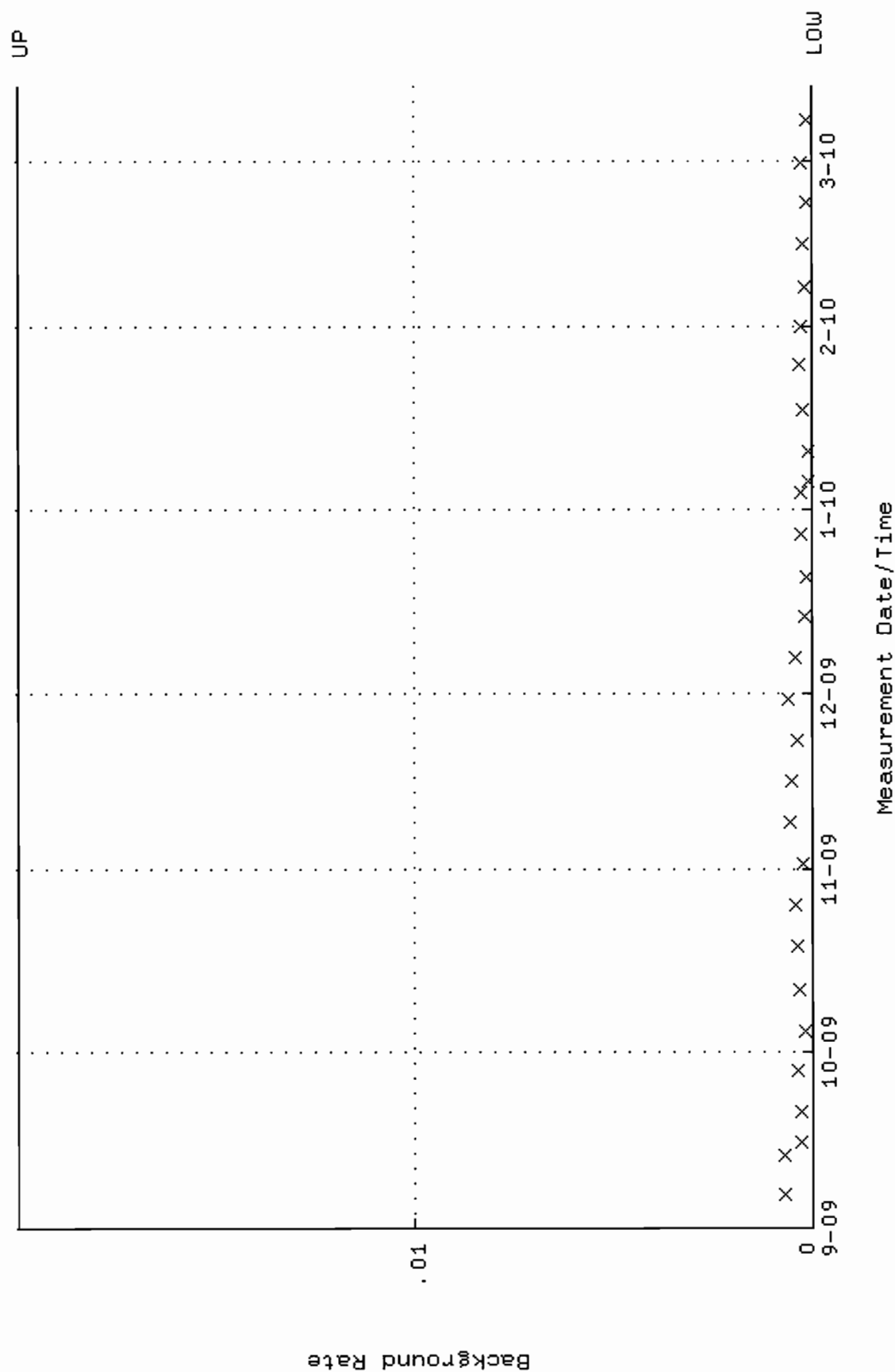
QA filename : DKA100:[ENV_ALPHA.QA.W]W079.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-SEP-2009 09:27:47 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.318618 through 0.329958



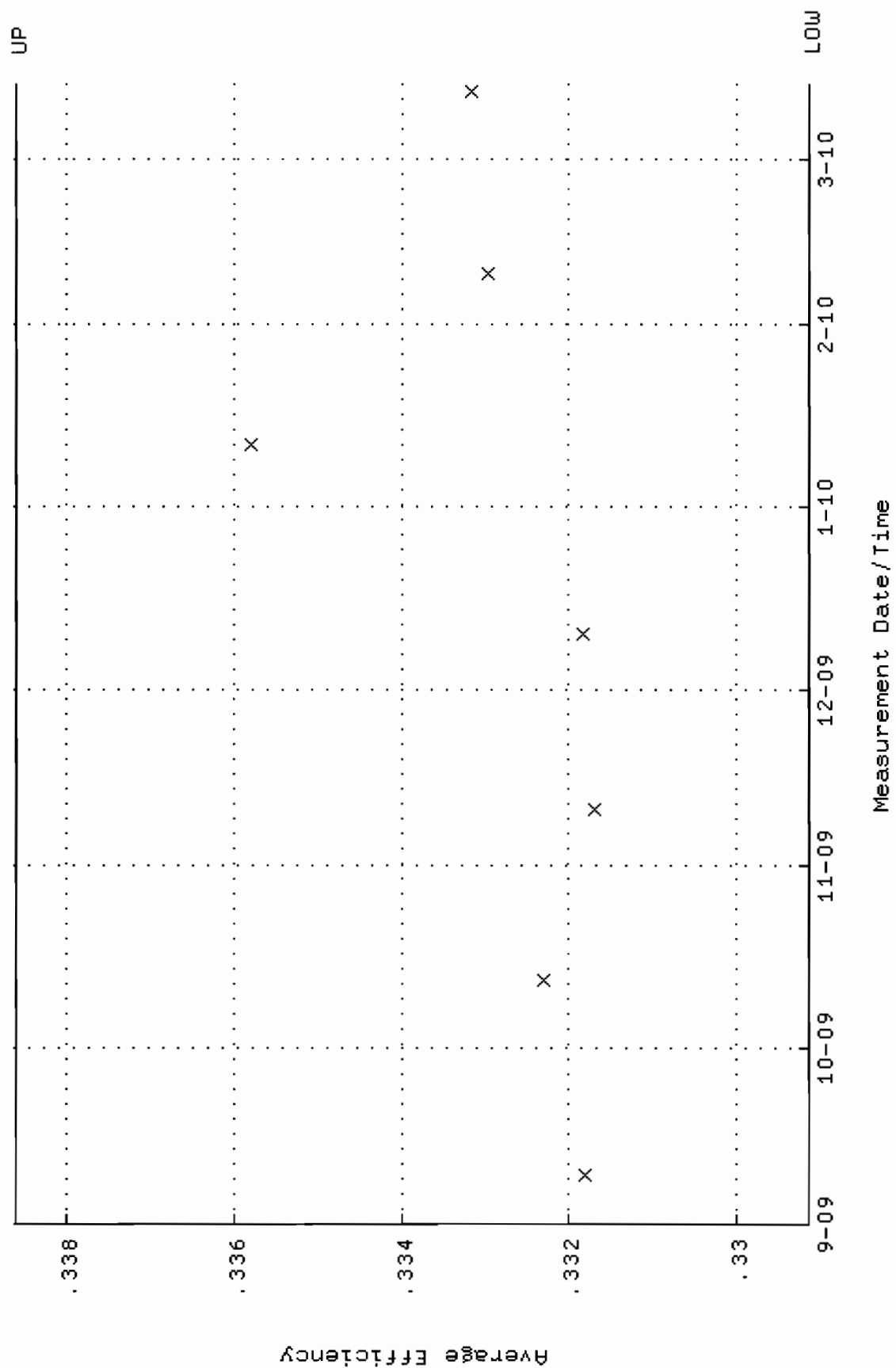
QA filename : DKA100:[ENV_ALPHA.QA.W]W079.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-SEP-2009 09:27:47 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 88.8821 through 92.8259



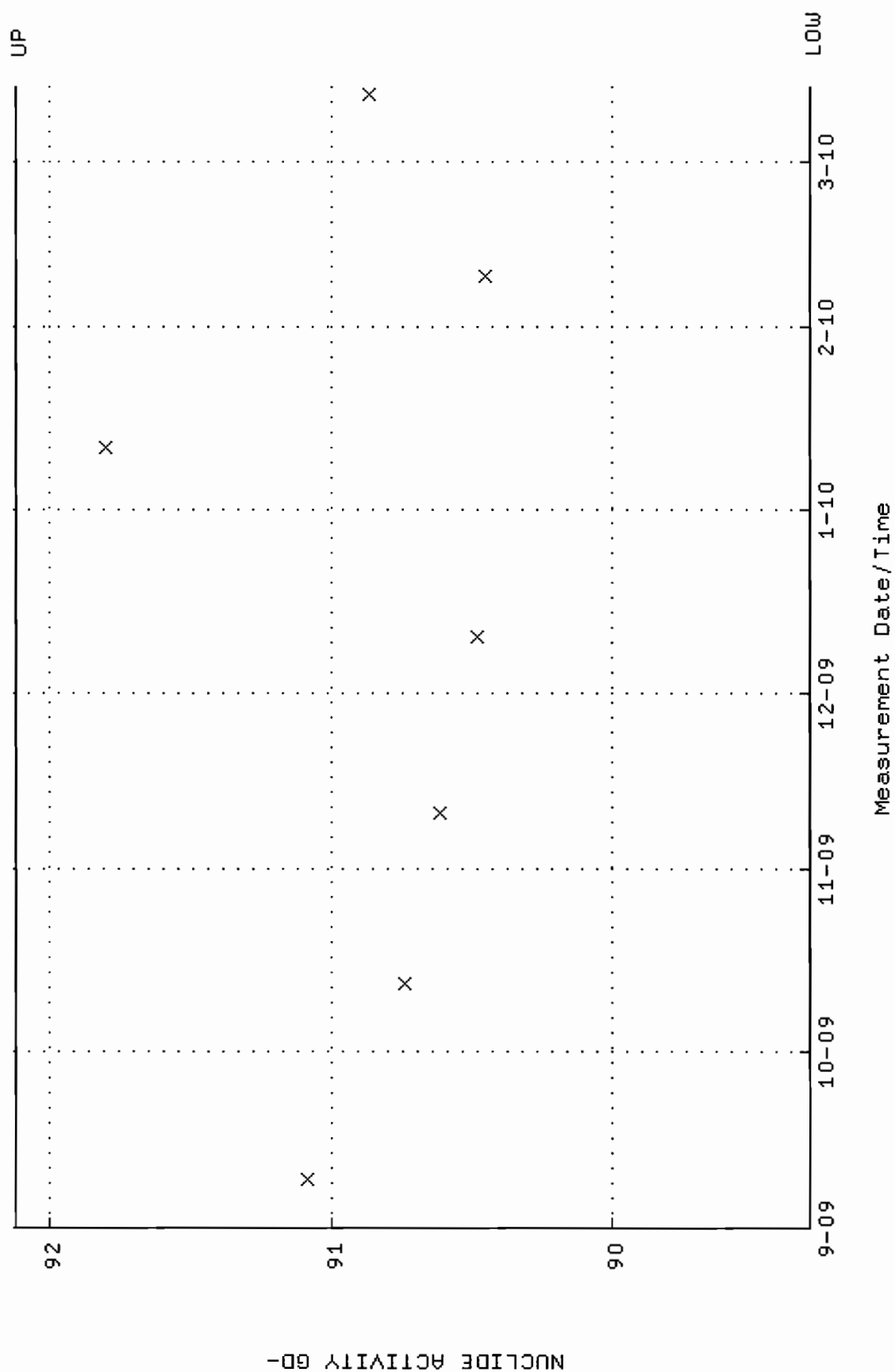
QA filename : DKA100:[ENV_ALPHA.QA.B]B079.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:08 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



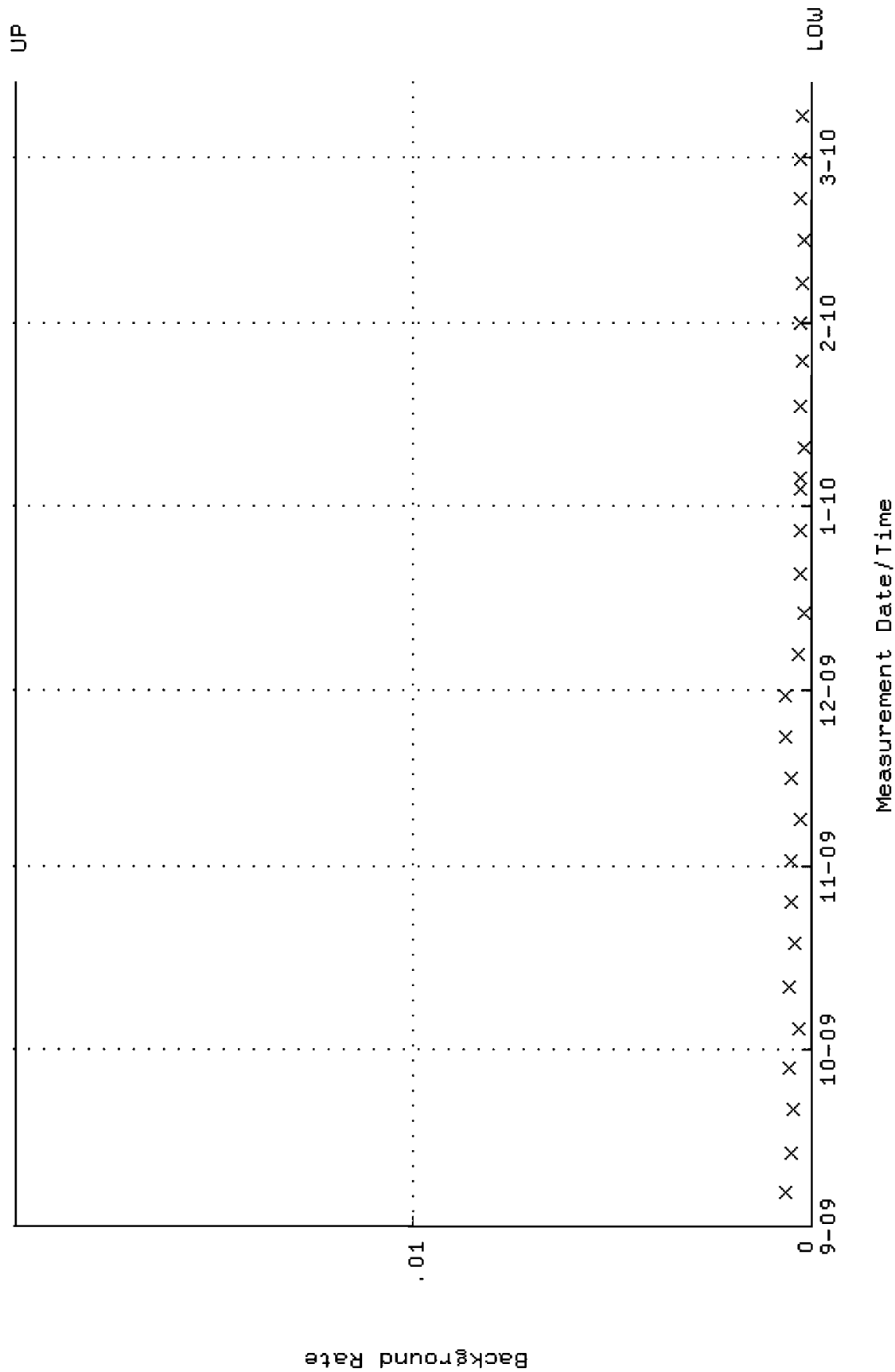
QA filename : DKA100:[ENV_ALPHA.QA.W]W080.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-SEP-2009 09:27:47 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.329119 through 0.338613



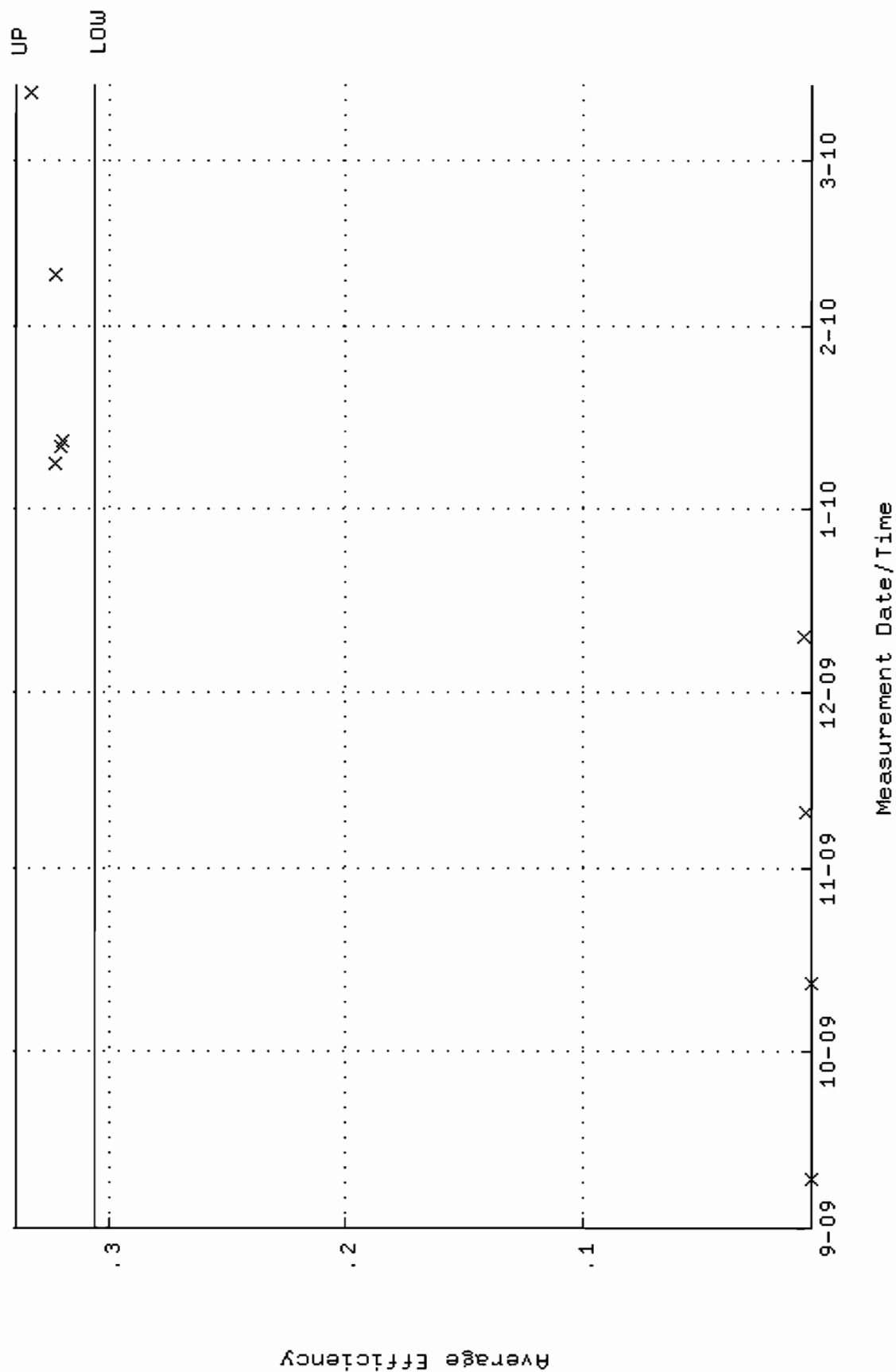
QA filename : DKA100:[ENV_ALPHA.QA.W]W080.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-SEP-2009 09:27:47 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.2967 through 92.1199



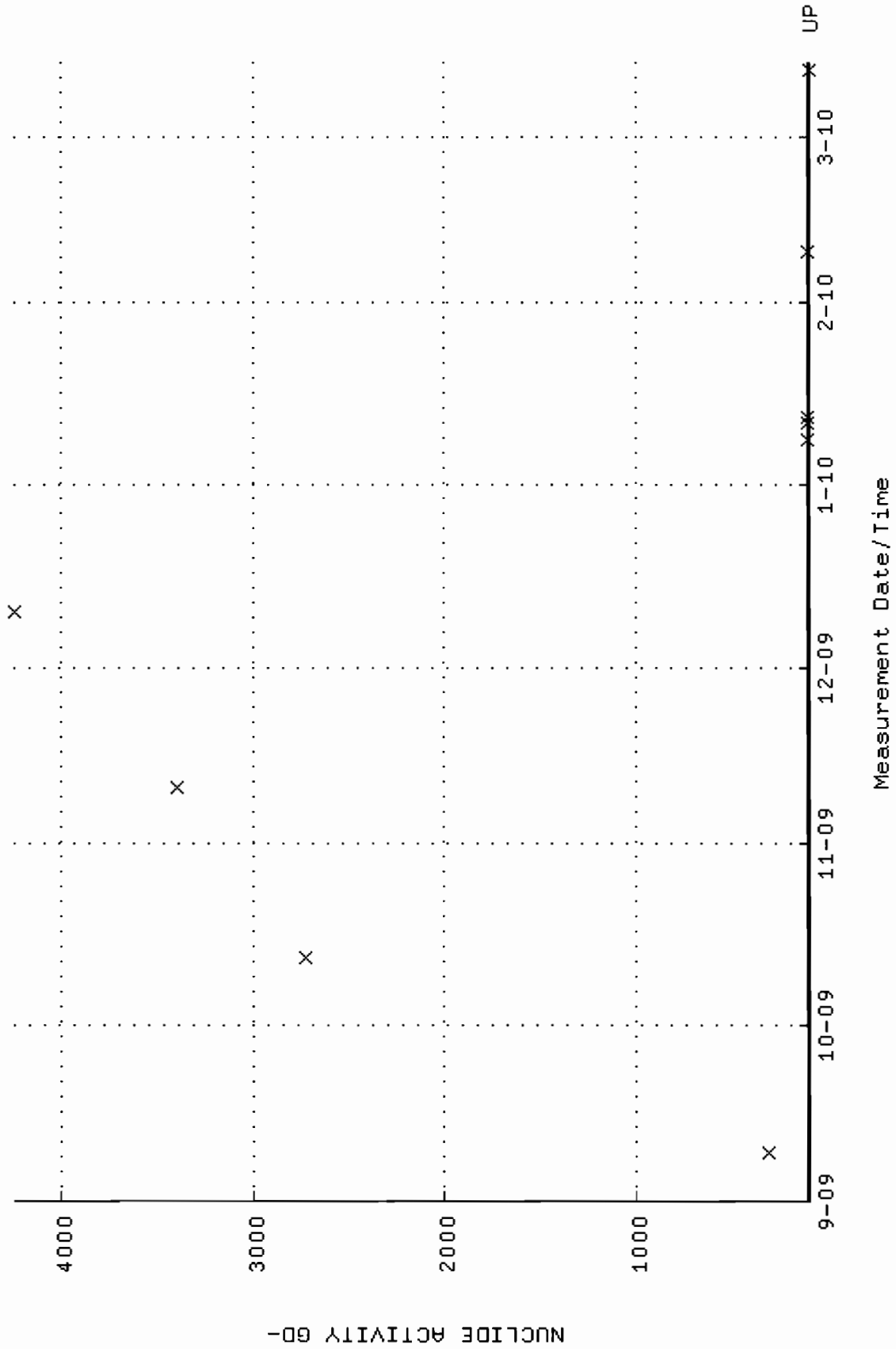
QA filename : DKA100:[ENV_ALPHA.QA.B]B080.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:08 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



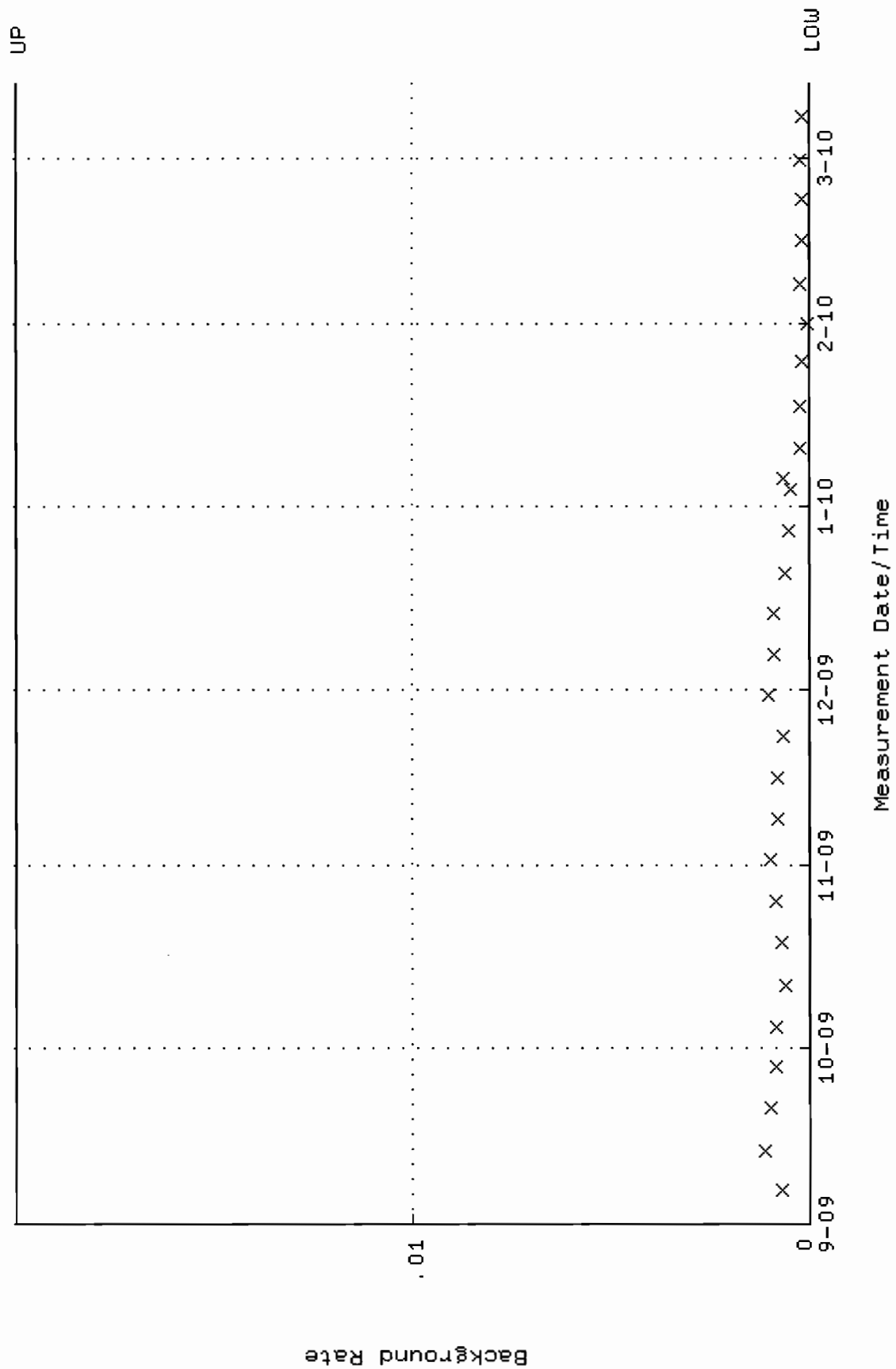
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-SEP-2009 09:27:47 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.306696 through 0.339366



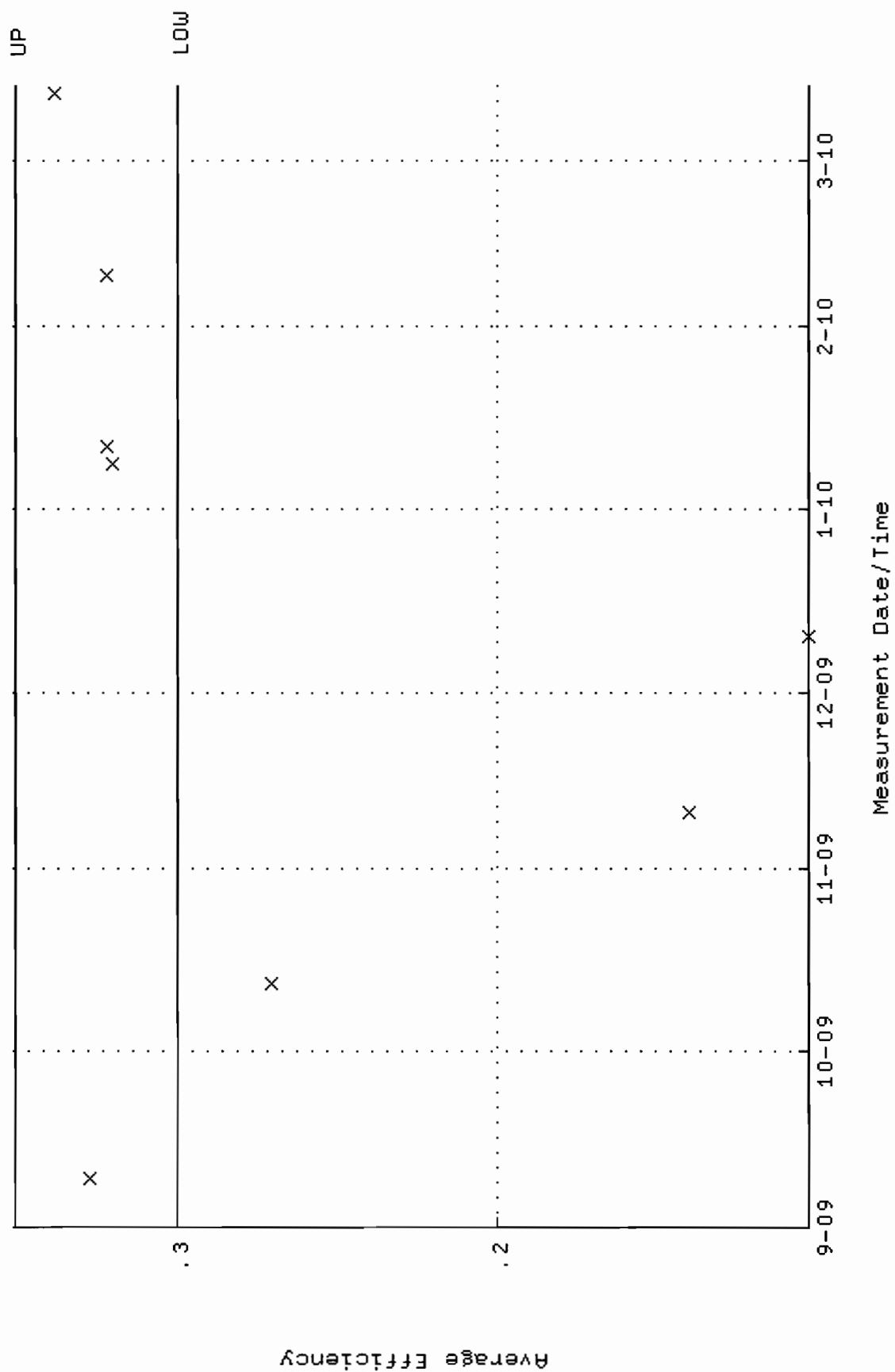
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-SEP-2009 09:27:47 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.8151 through 98.1913



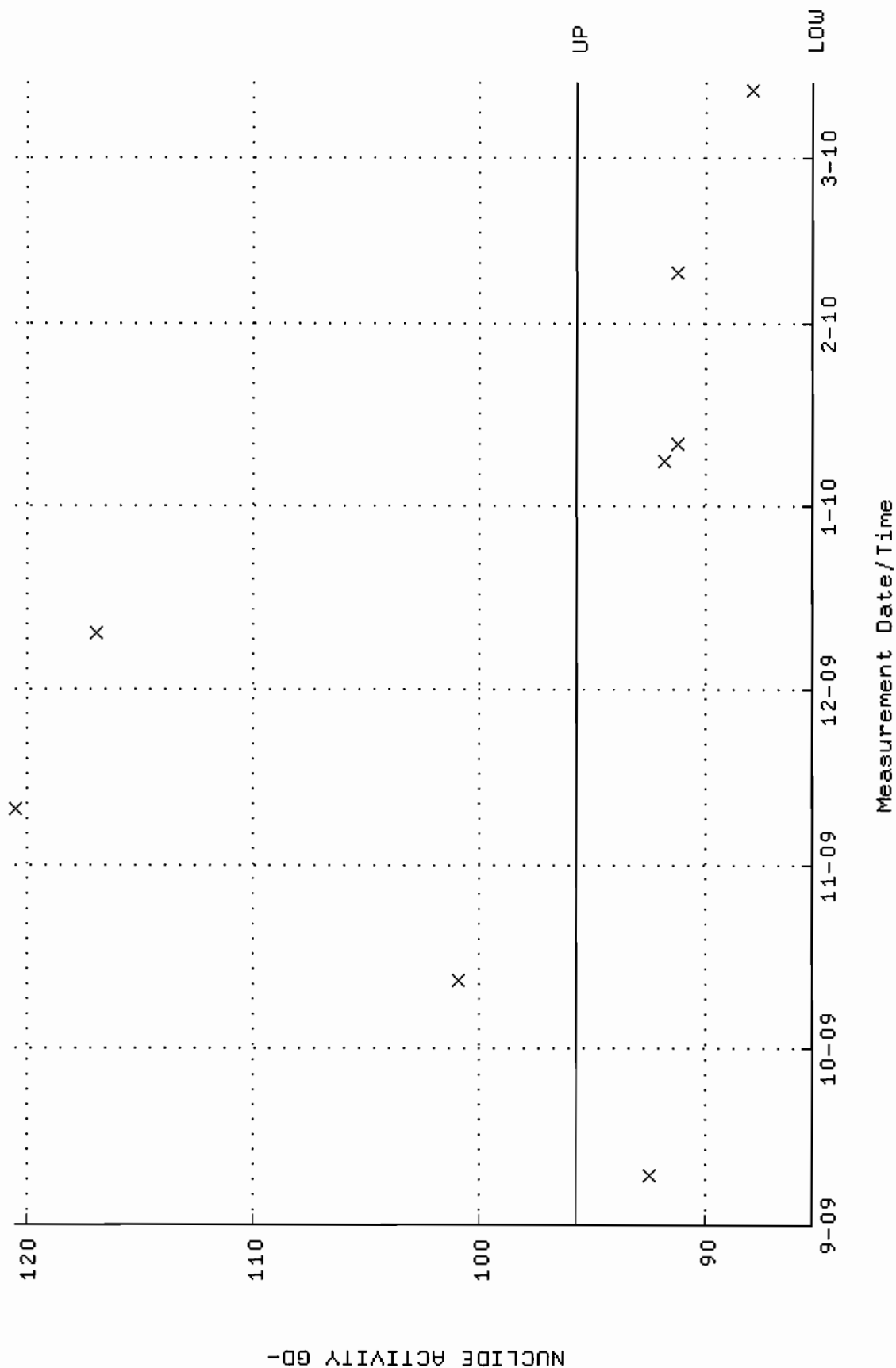
QA filename : DKA100:[ENV_ALPHA.QA.B]B081.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:08 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



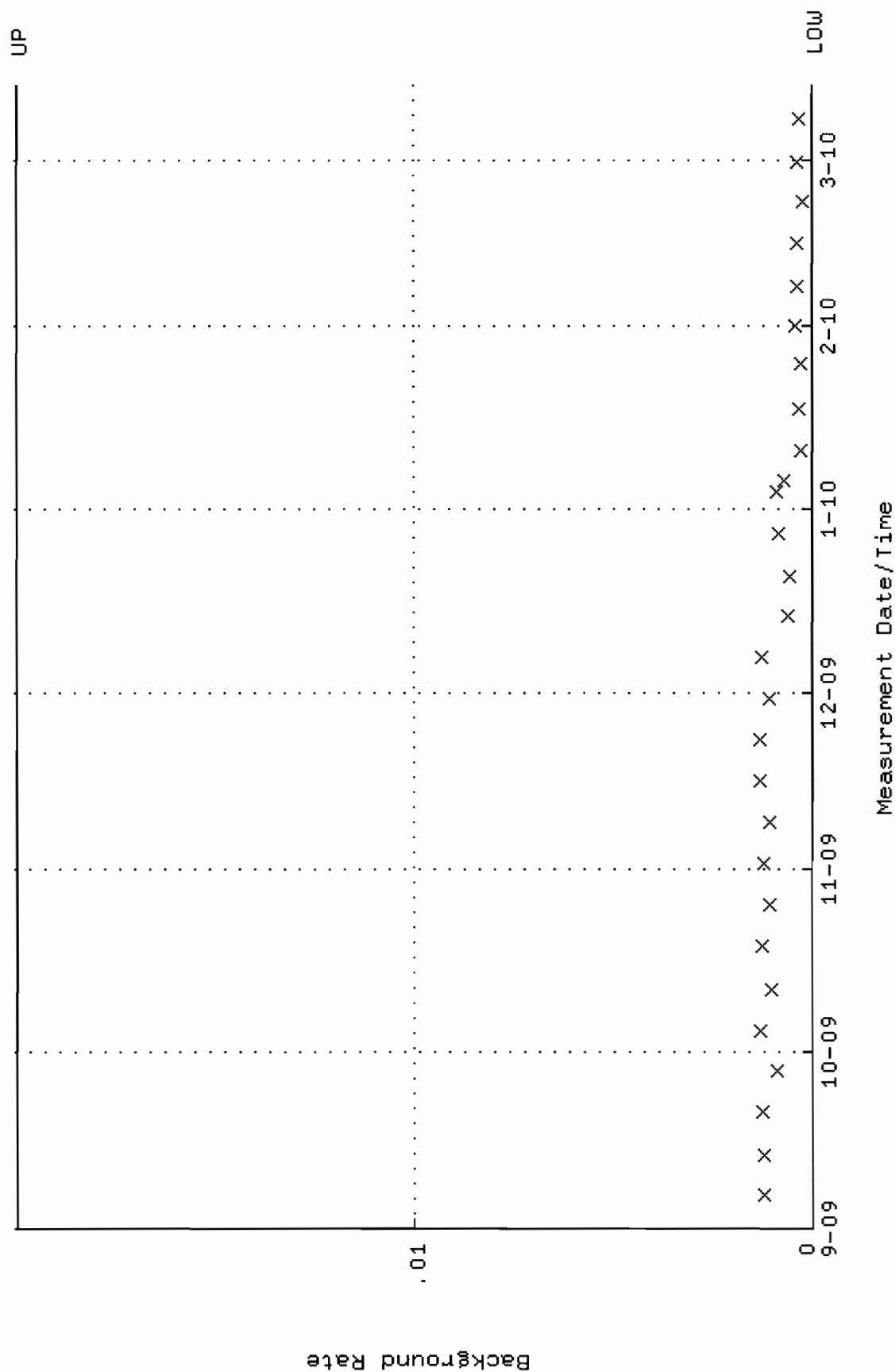
QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-SEP-2009 09:27:47 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.300260 through 0.351240



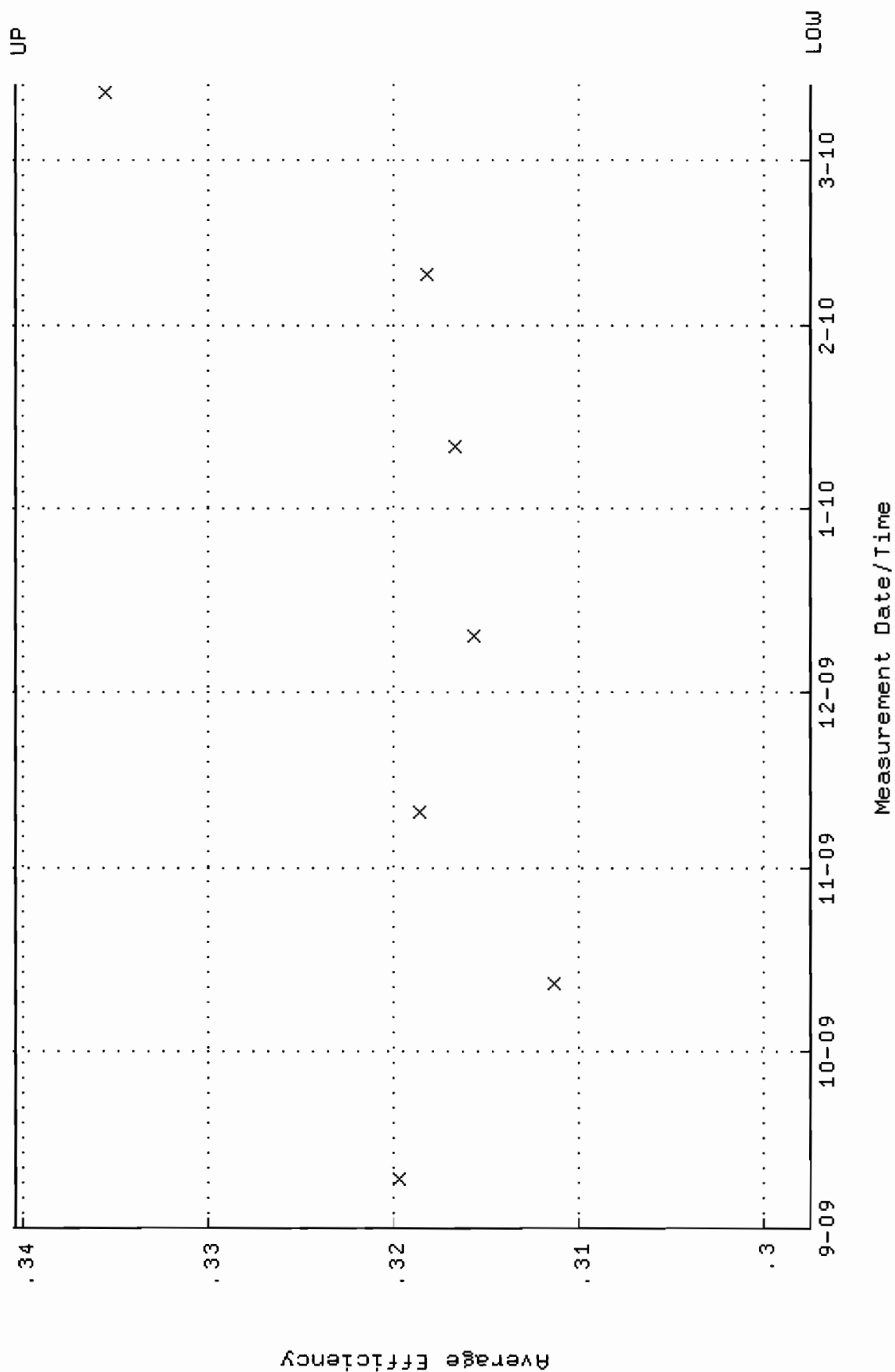
QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-SEP-2009 09:27:47 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.2649 through 95.7657



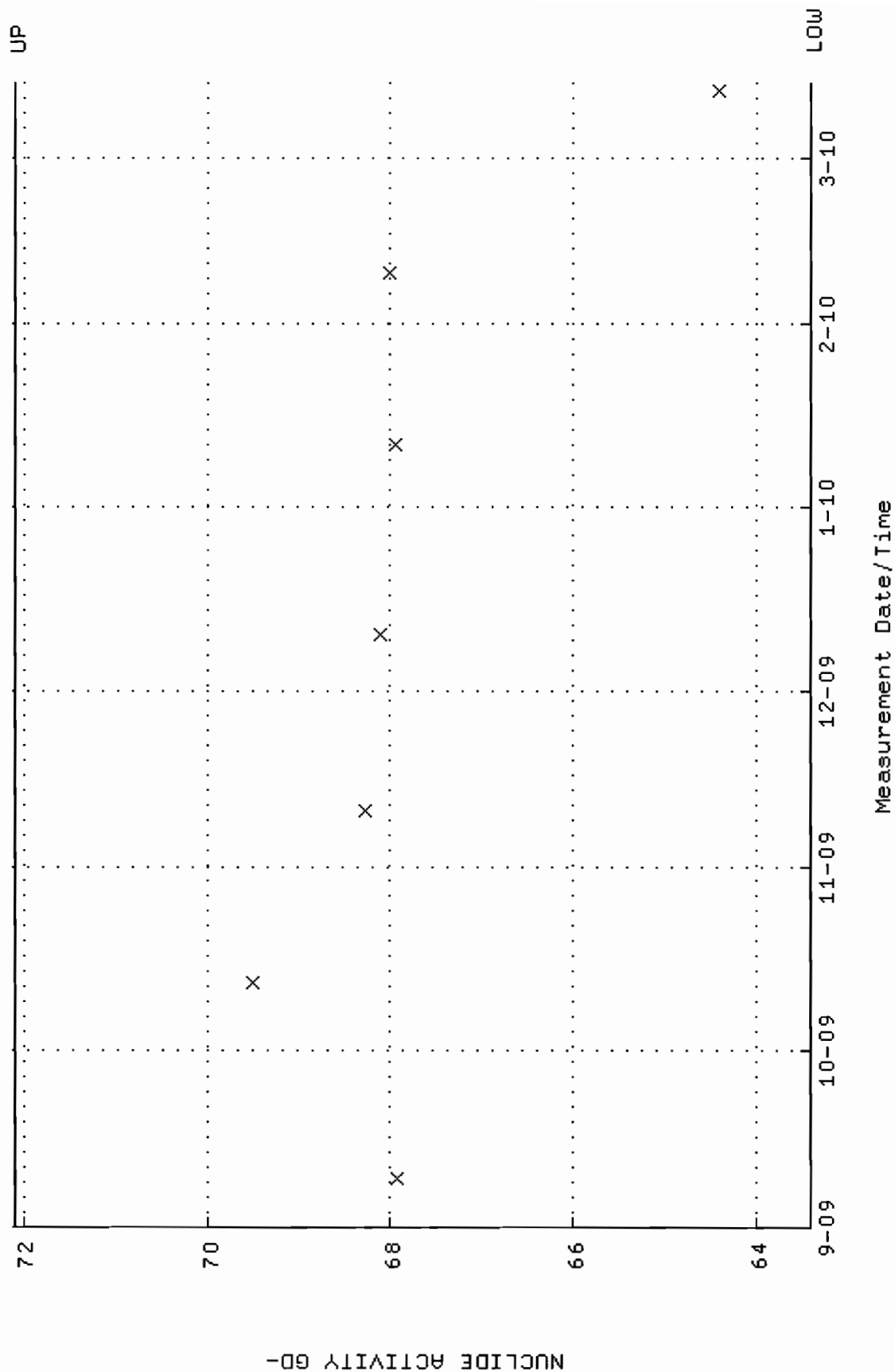
QA filename : DKA100:[ENV_ALPHA.QA.B]B082.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:08 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



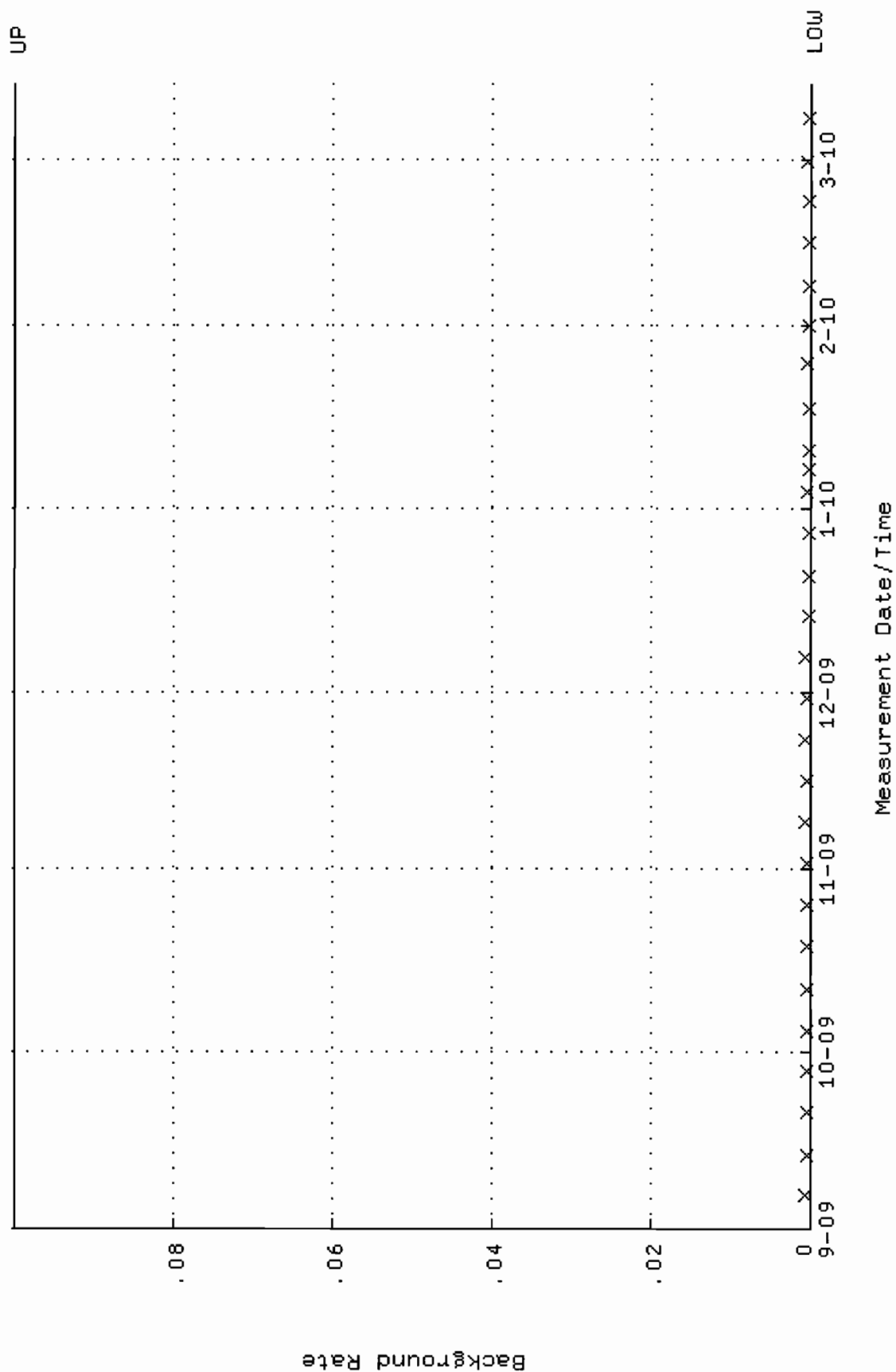
QA filename : DKA100:[ENV_ALPHA.QA.W]W112.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-SEP-2009 09:27:52 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.297499 through 0.340389



QA filename : DKA100:[ENV_ALPHA.QA.W]W112.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-SEP-2009 09:27:52 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 63.4111 through 72.0947



QA filename : DKA100:[ENV_ALPHA.QA.B]B112.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:12 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

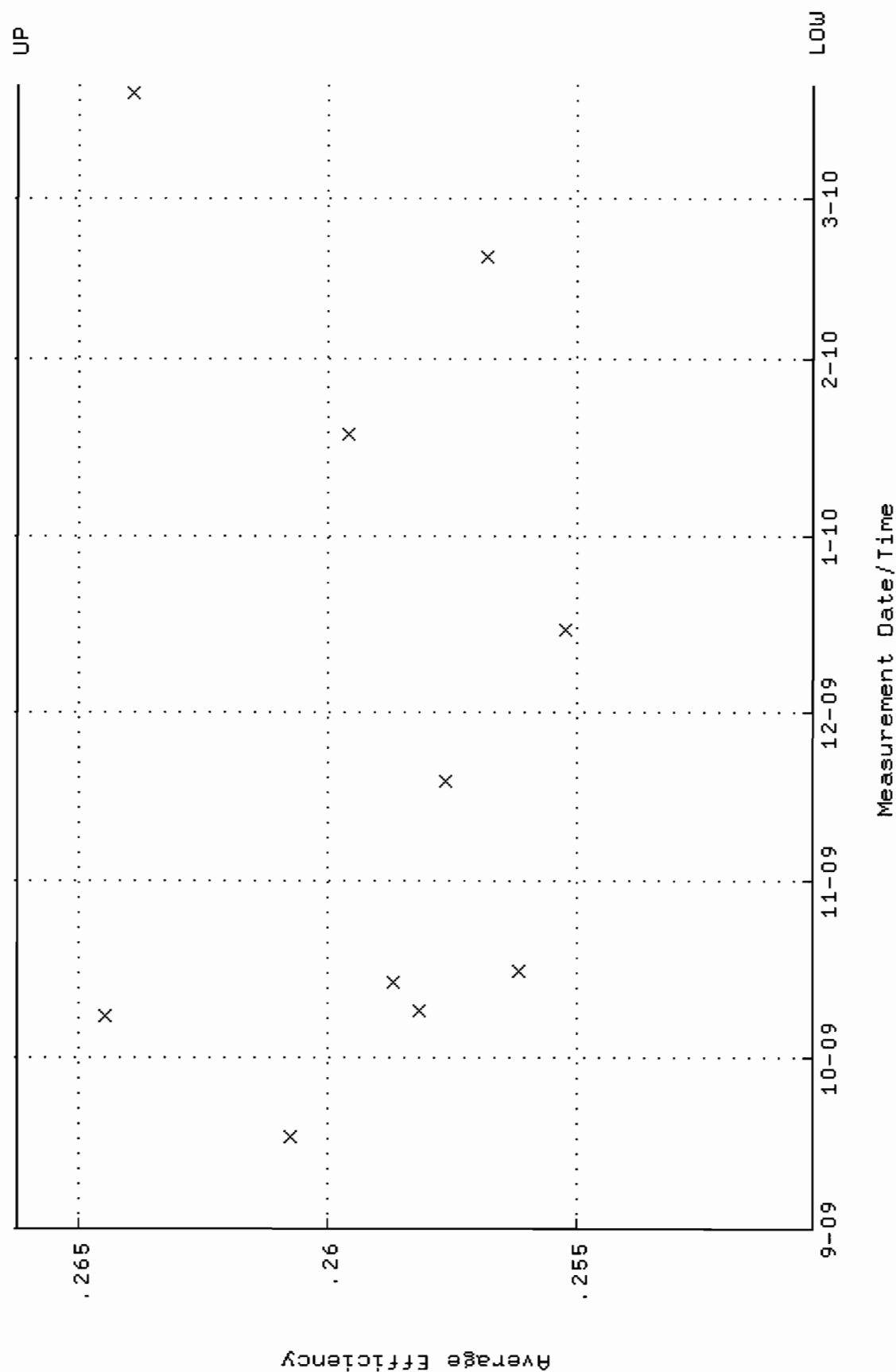


QA filename : DKA100:[ENV_ALPHA.QA.W]w115.QAF;1

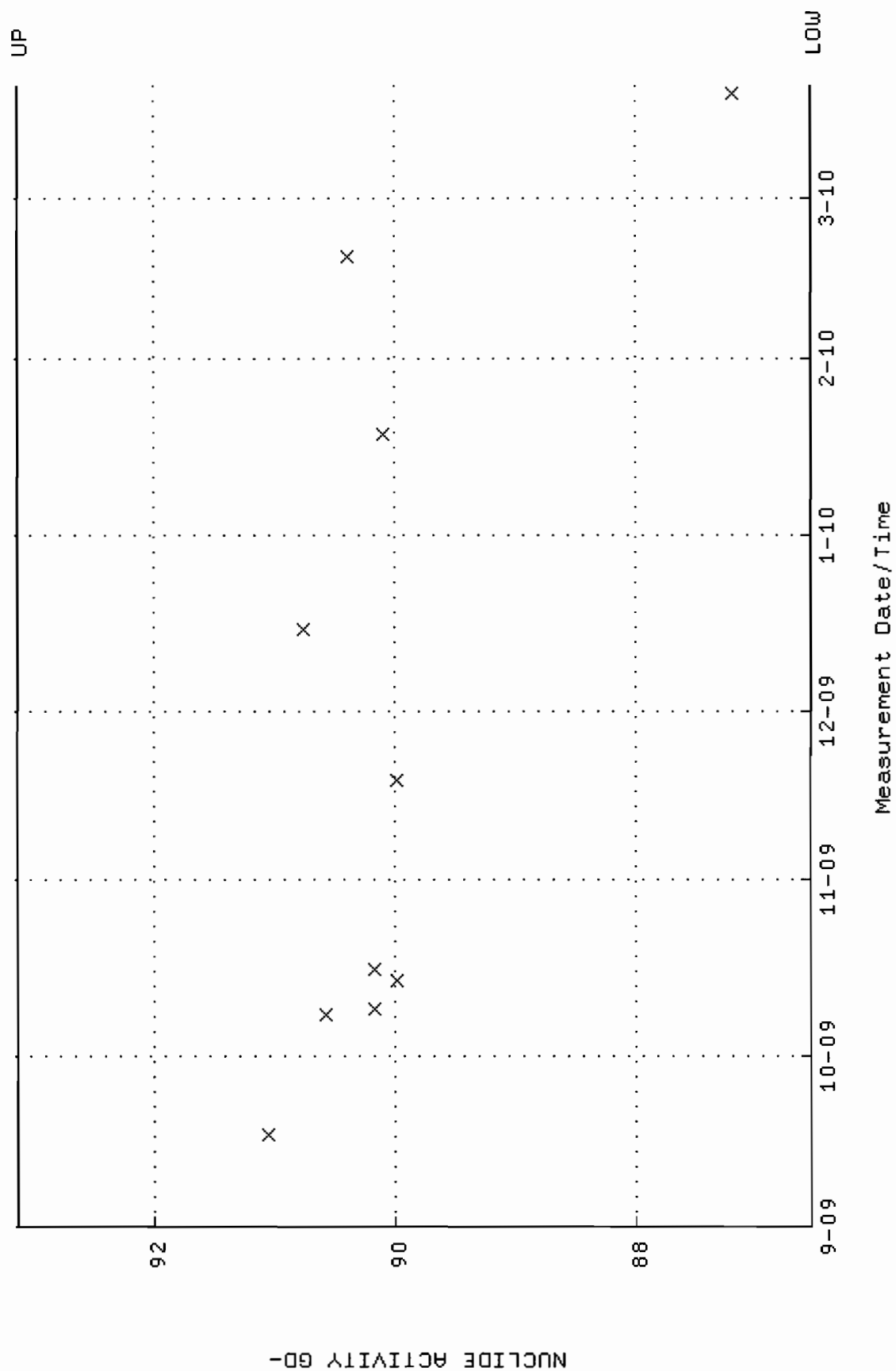
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 17-SEP-2009 07:22:48 through 20-MAR-2010 12:00:00

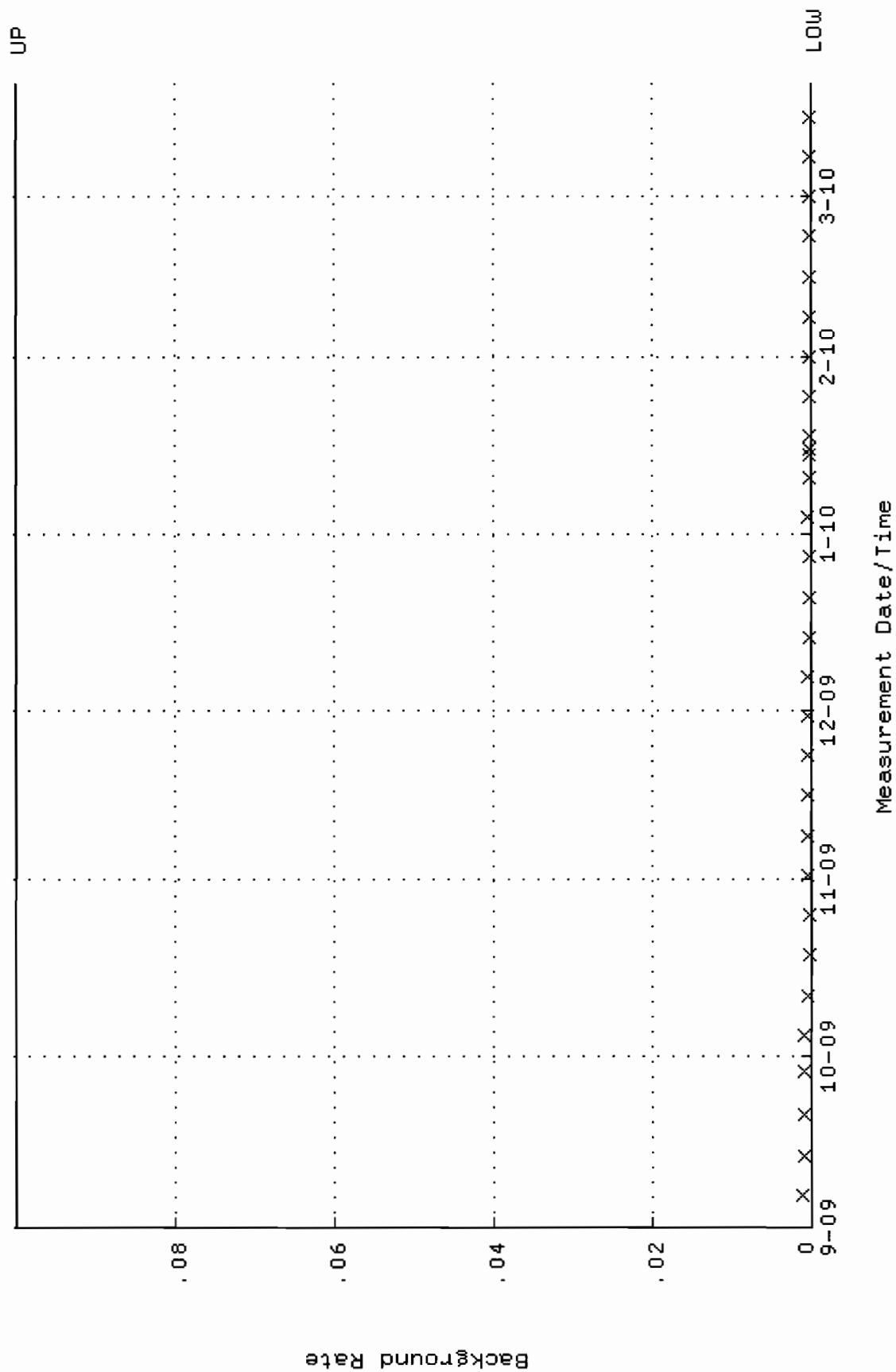
Lower/Upper Lmts: 0.250292 through 0.266228



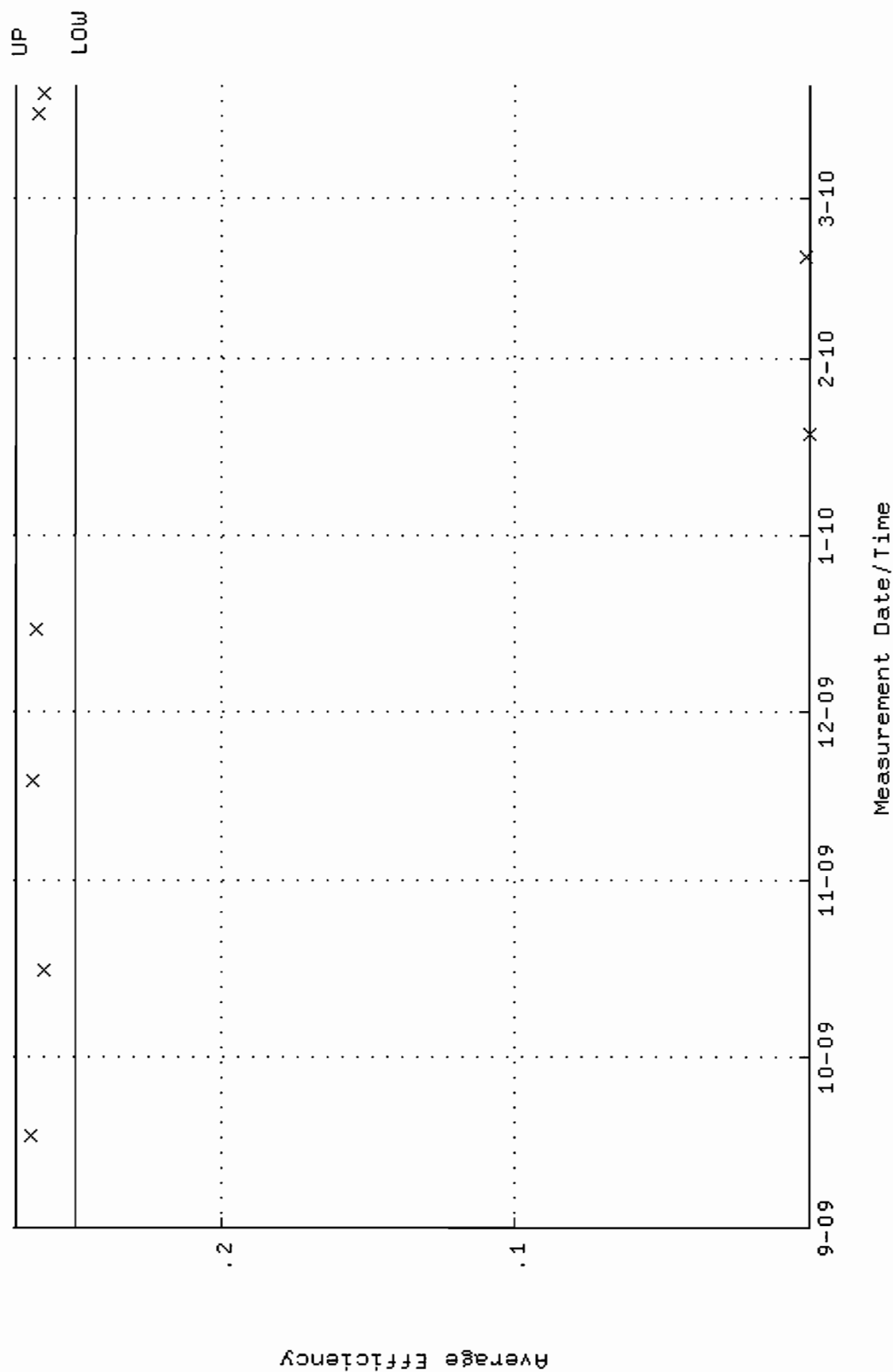
QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-SEP-2009 07:22:48 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.5408 through 93.1306



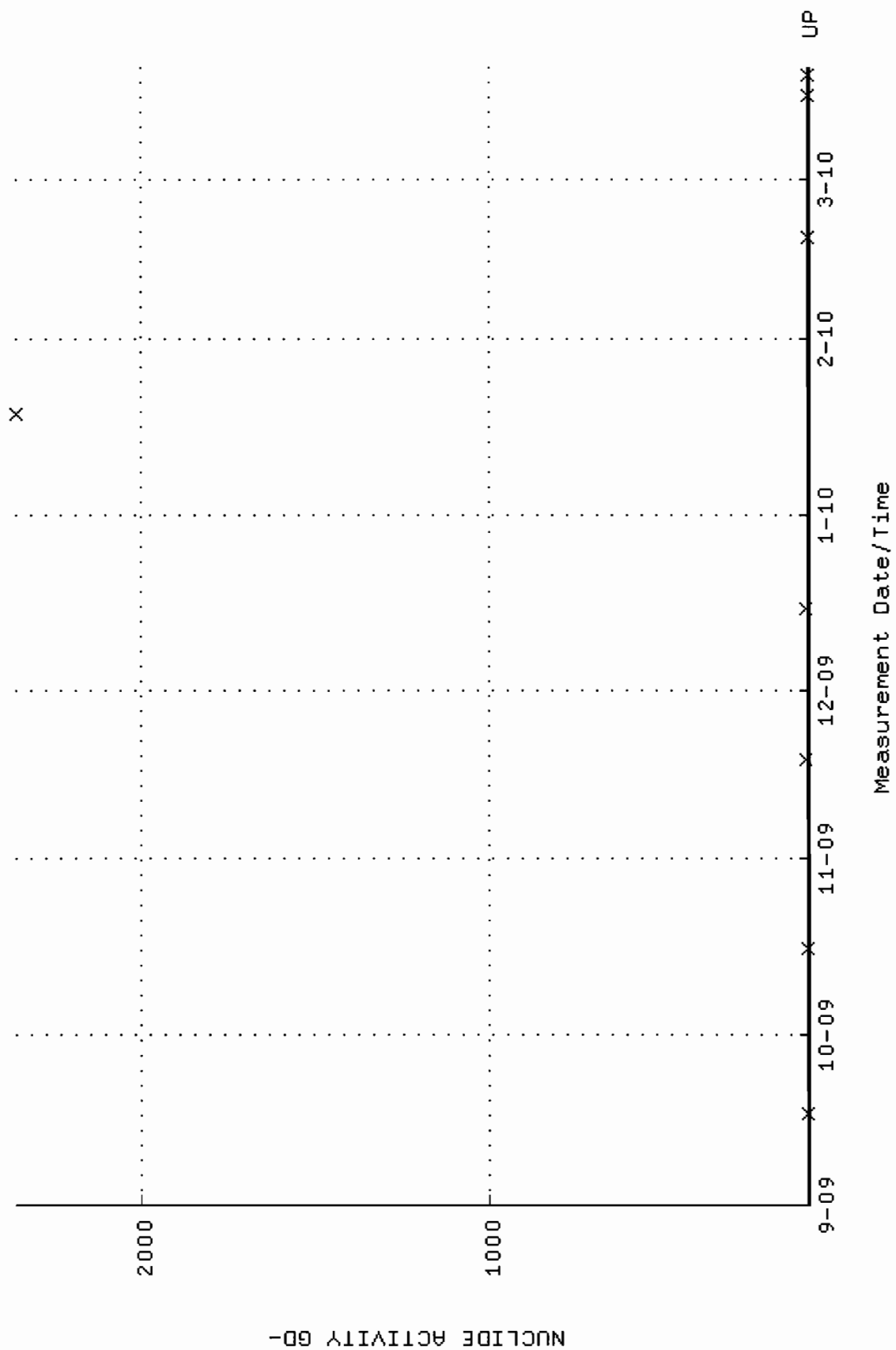
QA filename : DKA100:[ENV_ALPHA.QA.B]B115.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:40:17 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



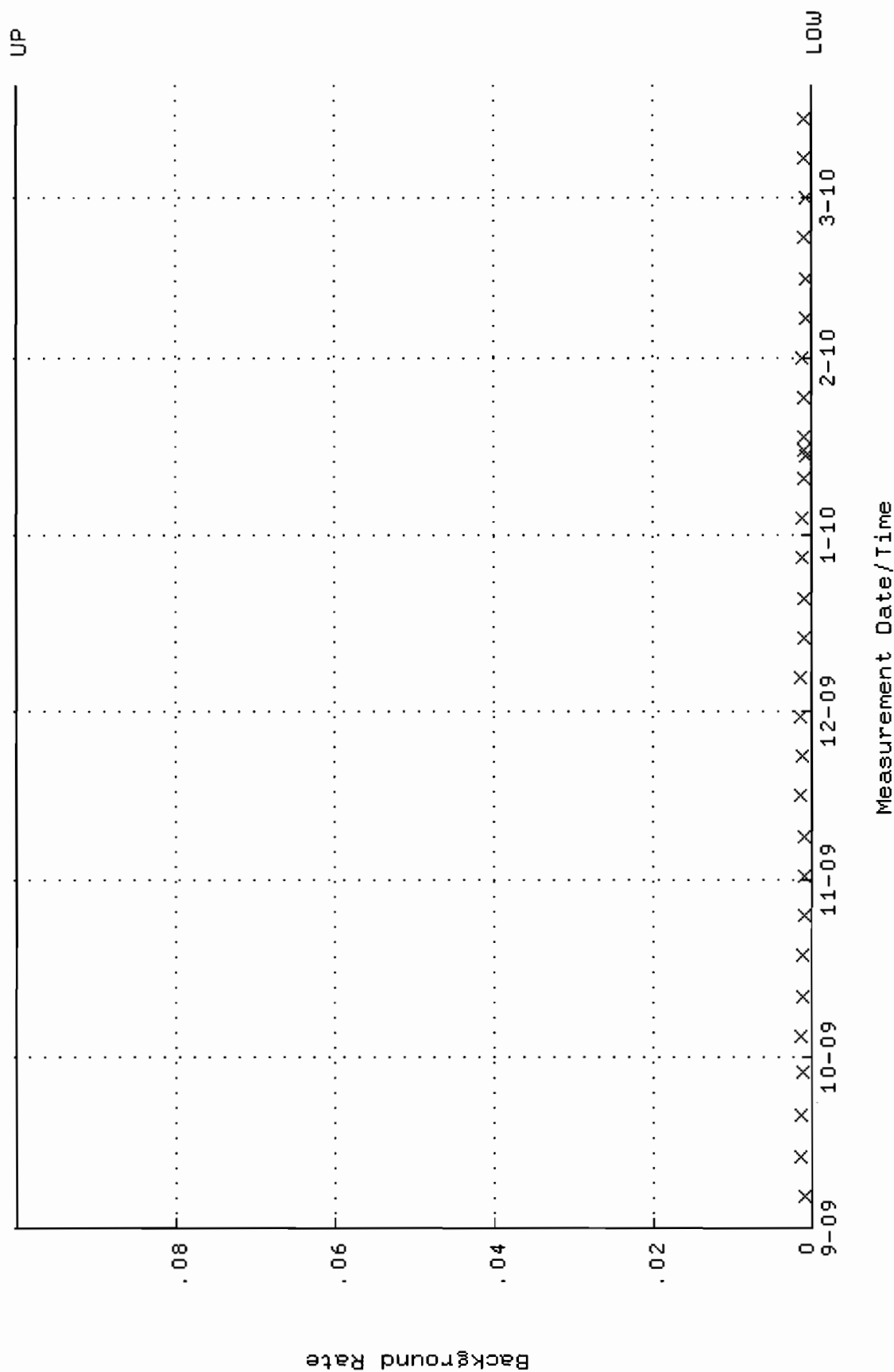
QA filename : DKA100:[ENV_ALPHA.QA.W]w116.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-SEP-2009 07:22:54 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.249691 through 0.269691



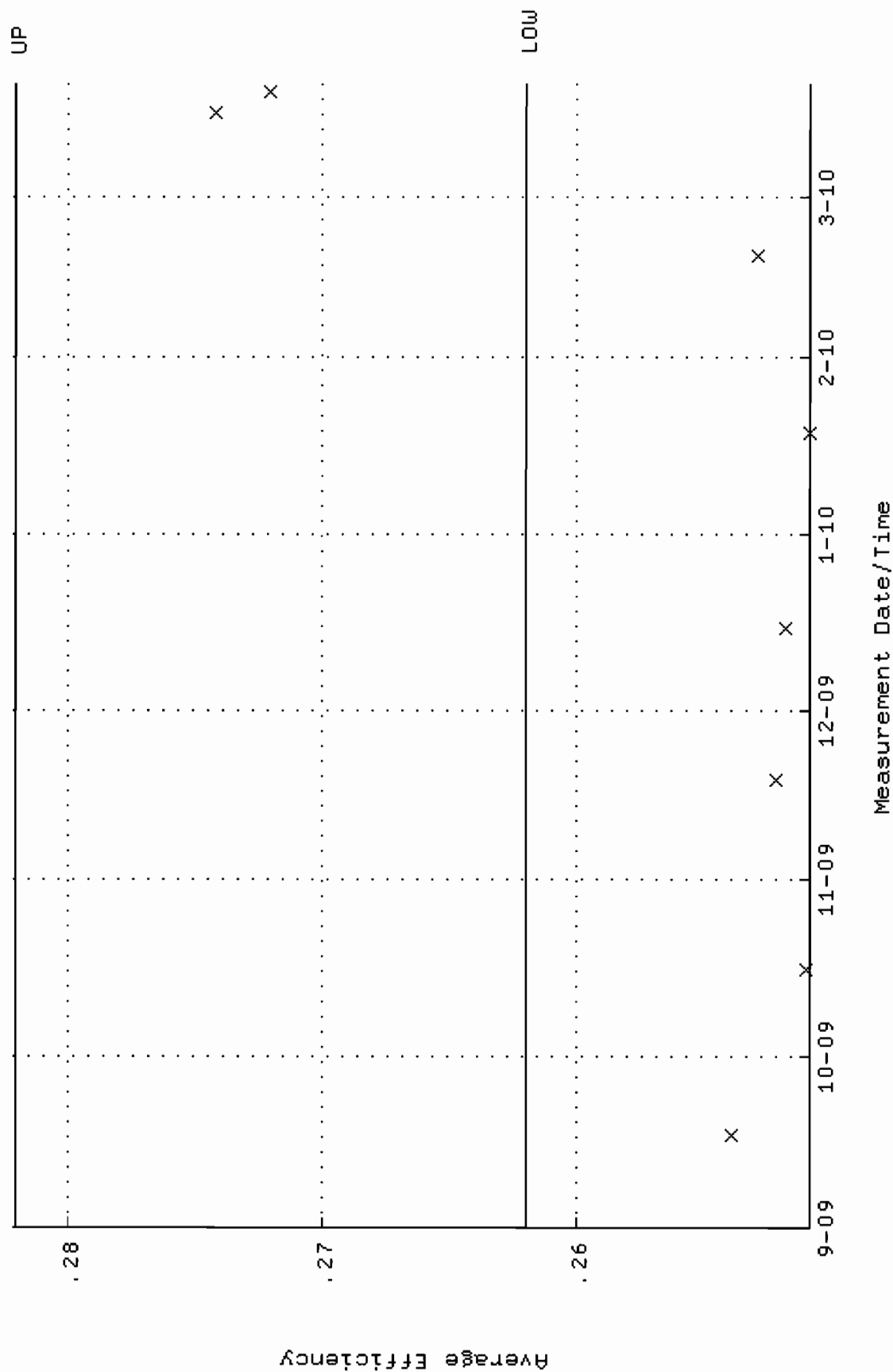
QA filename : DKA100:[ENV_ALPHA.QA.W]W116.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-SEP-2009 07:22:54 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 84.7644 through 93.6870



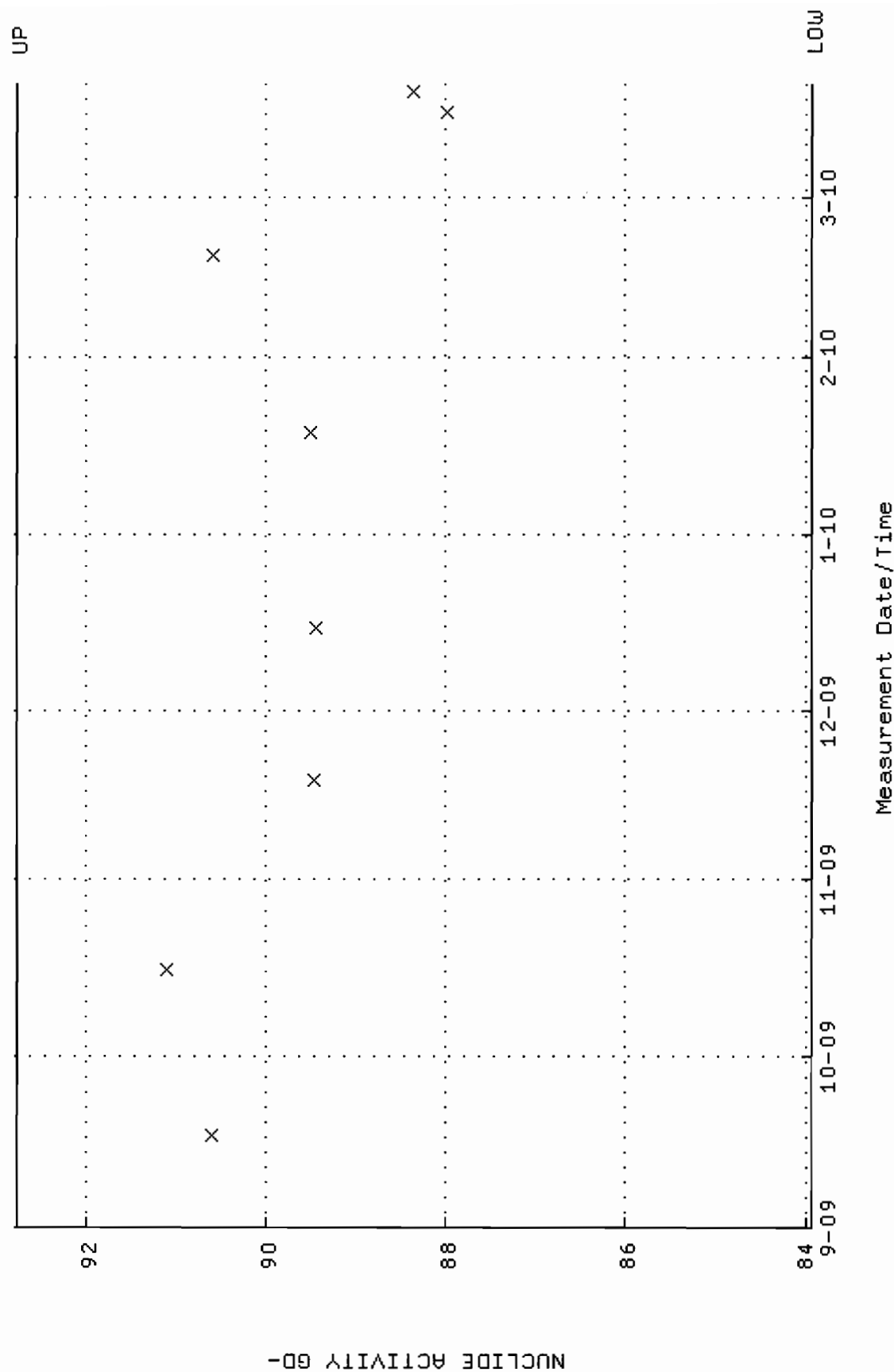
QA filename : DKA100:[ENV_ALPHA.QA.B]B116.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:40:21 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



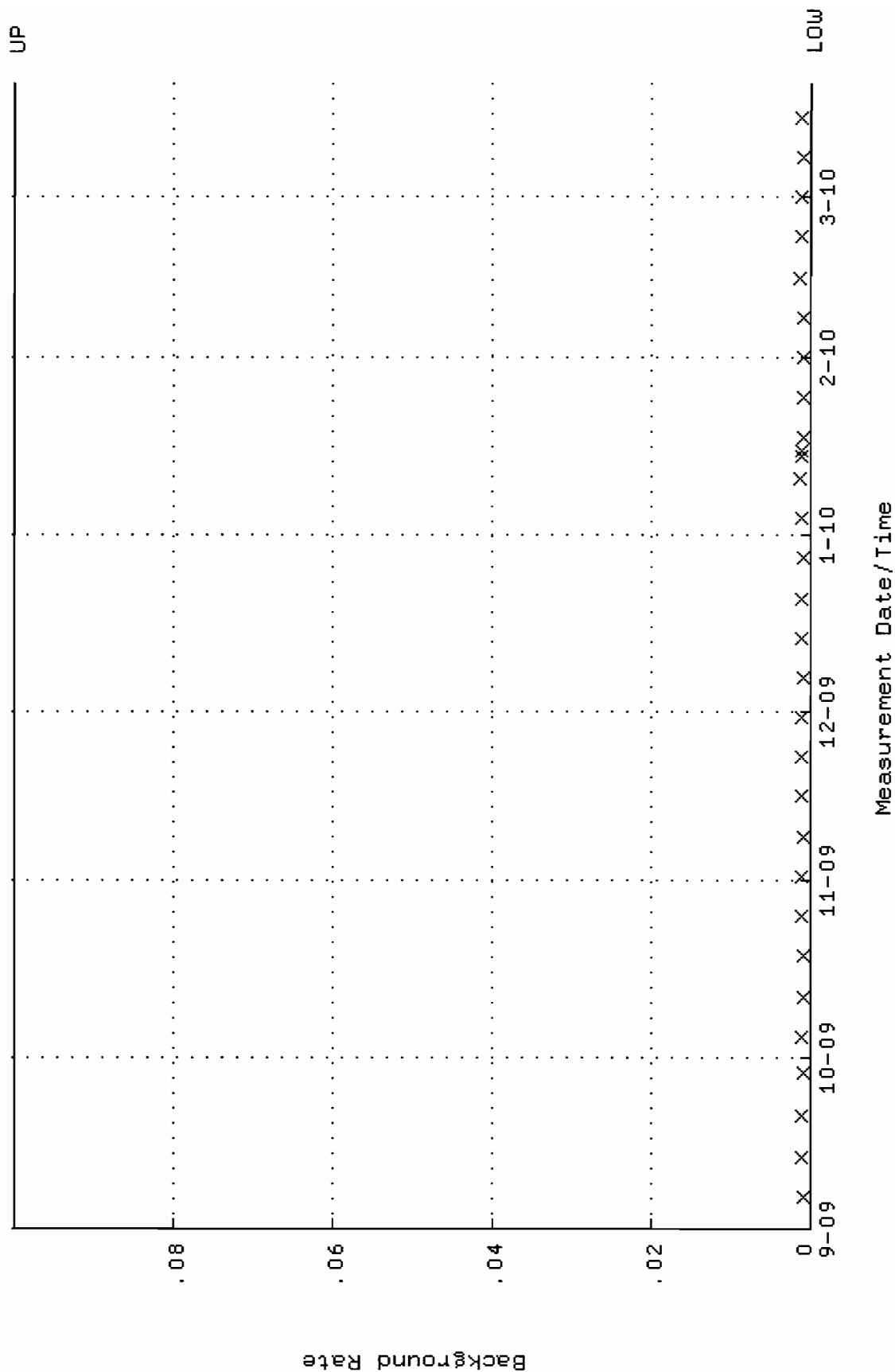
QA filename : DKA100:[ENV_ALPHA.QA.W]w117.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-SEP-2009 07:22:59 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.262036 through 0.282036



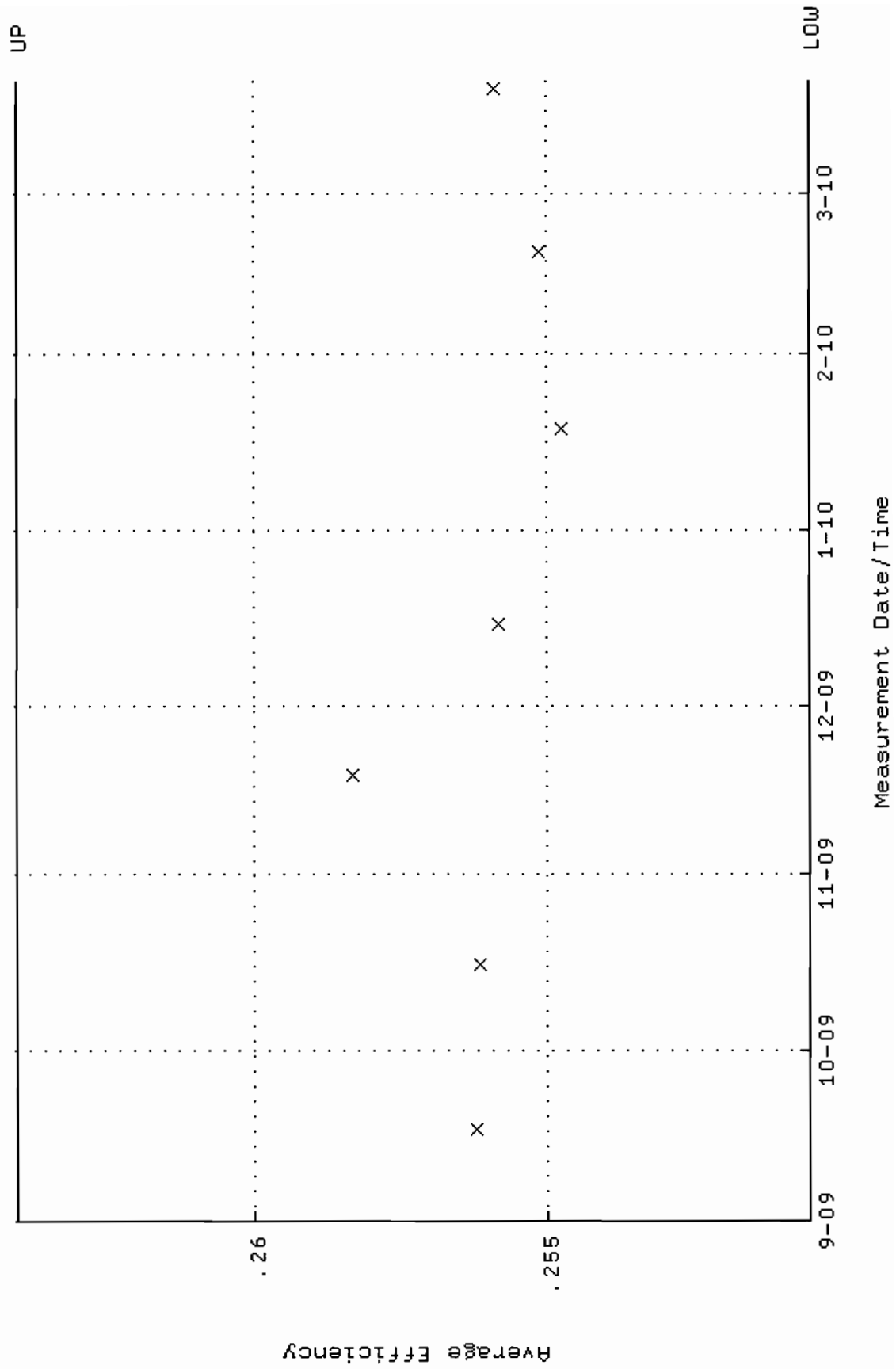
QA filename : DKA100:[ENV_ALPHA.QA.W]w117.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-SEP-2009 07:22:59 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.9311 through 92.7659



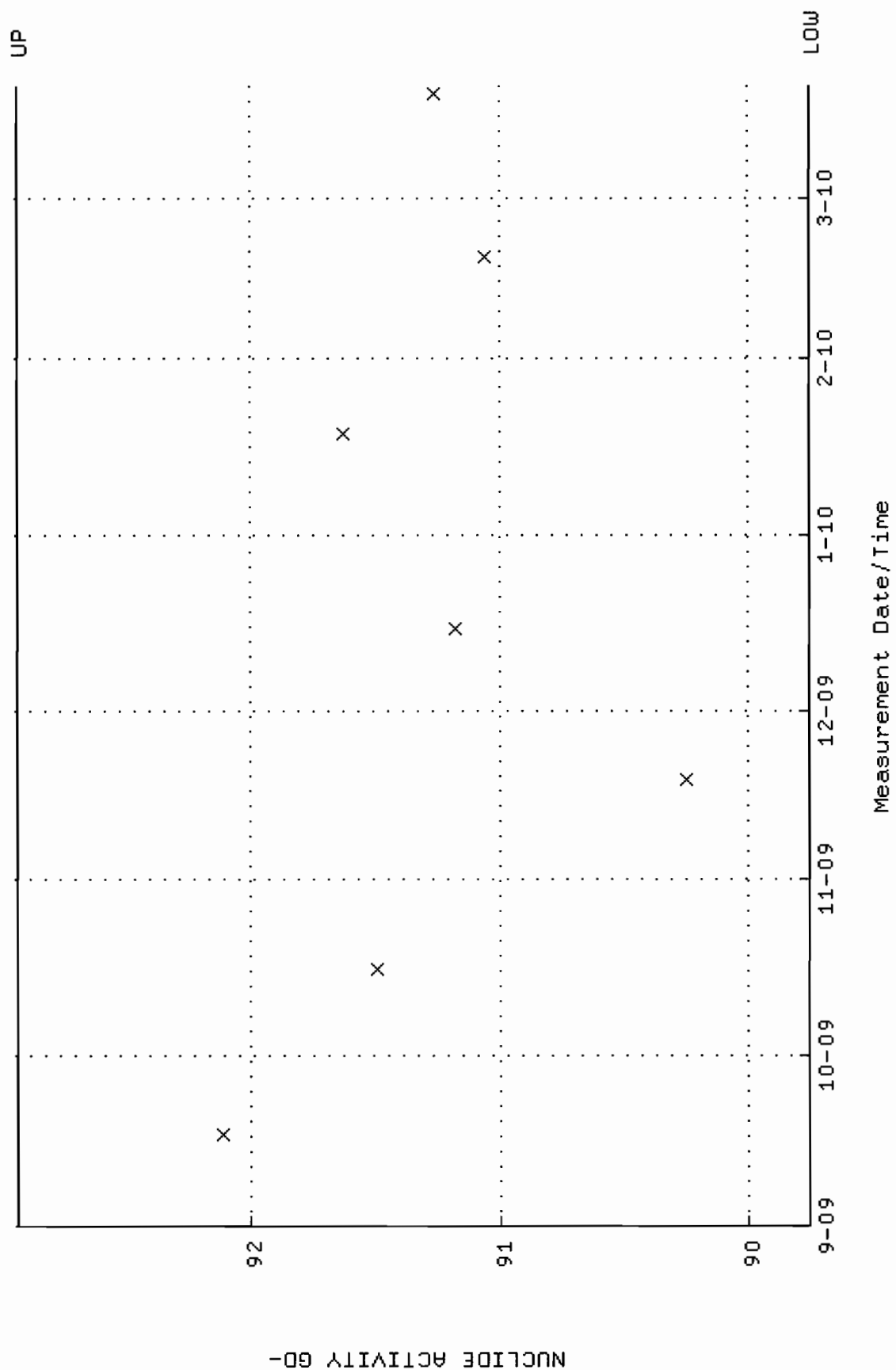
QA filename : DKA100:[ENV_ALPHA.QA.B]B117.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:40:26 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



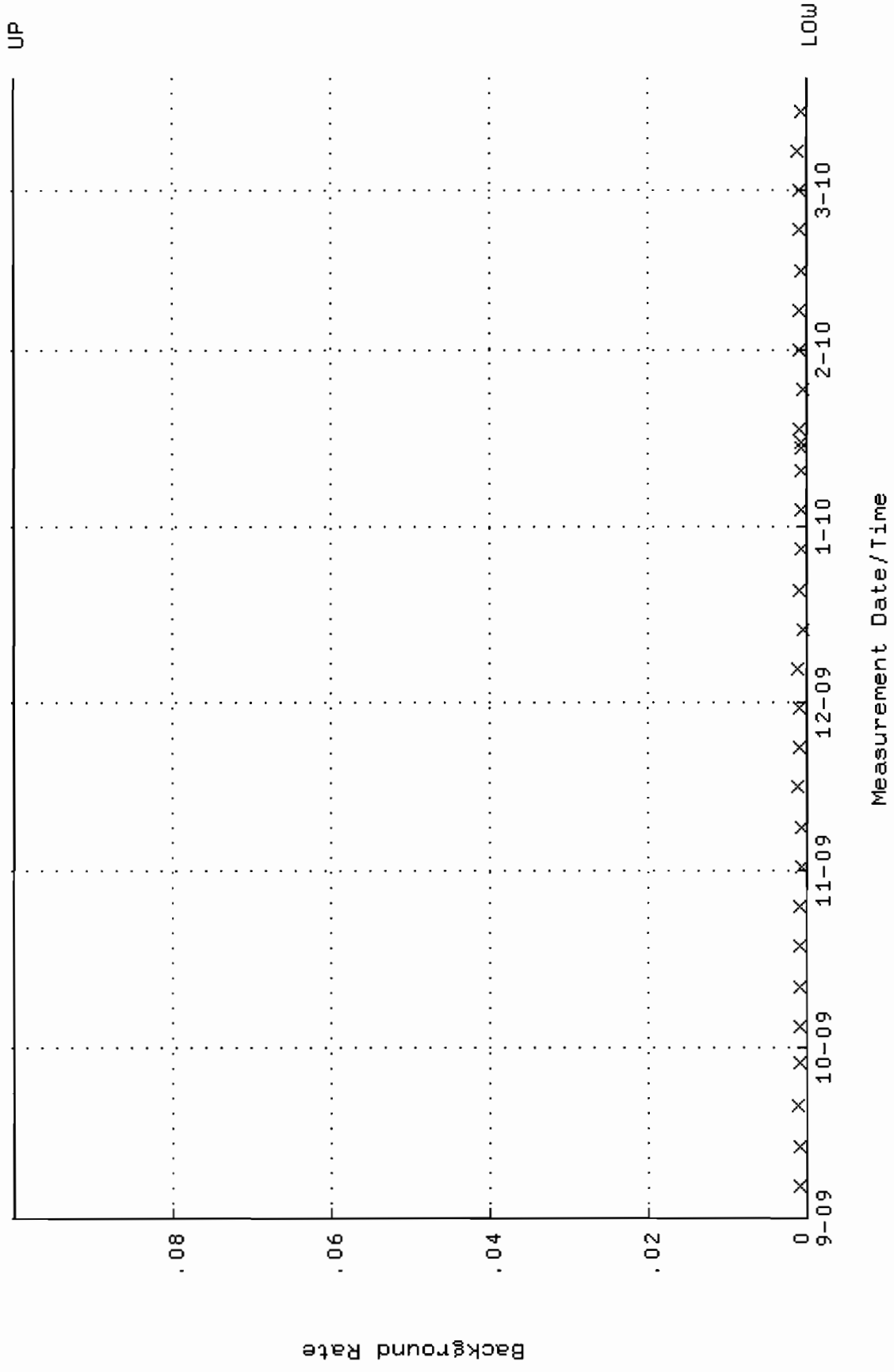
QA filename : DKA100:[ENV_ALPHA.QA.W]W118.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-SEP-2009 07:23:06 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.250494 through 0.264074



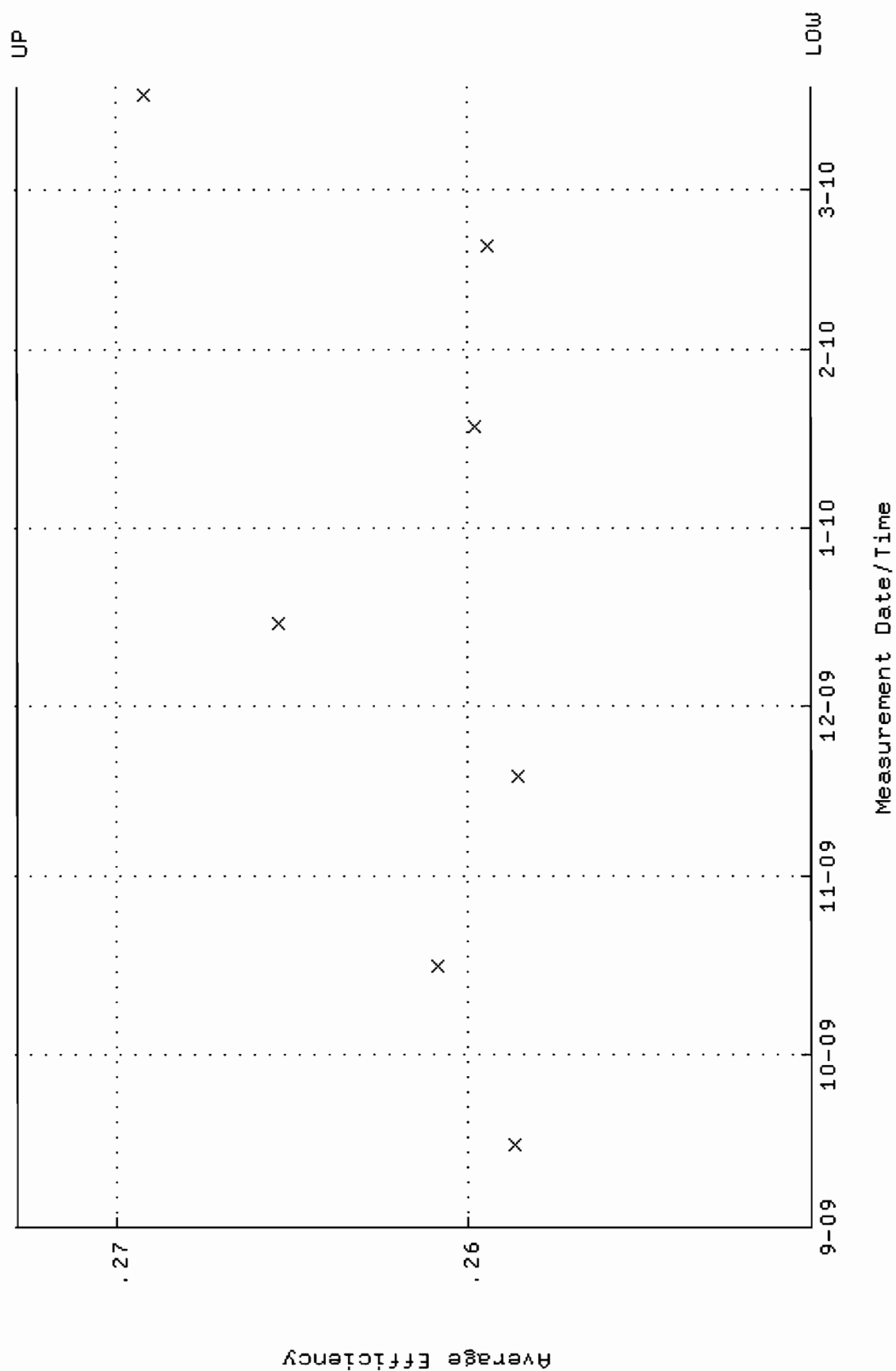
QA filename : DKA100:[ENV_ALPHA.QA.W]w118.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-SEP-2009 07:23:06 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.7572 through 92.9316



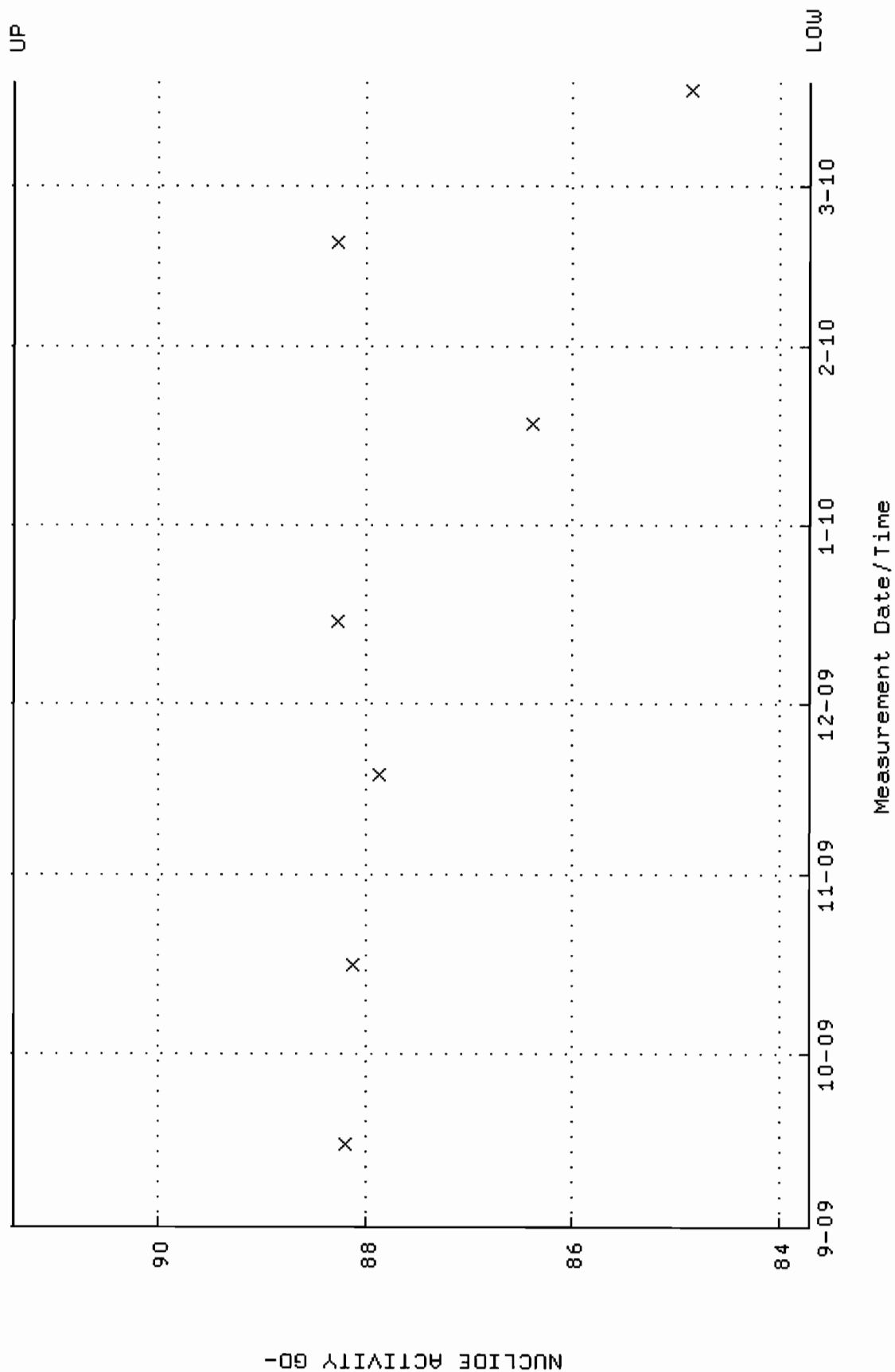
QA filename : DKA100:[ENV_ALPHA.QA.B]B118.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:40:30 through 20-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



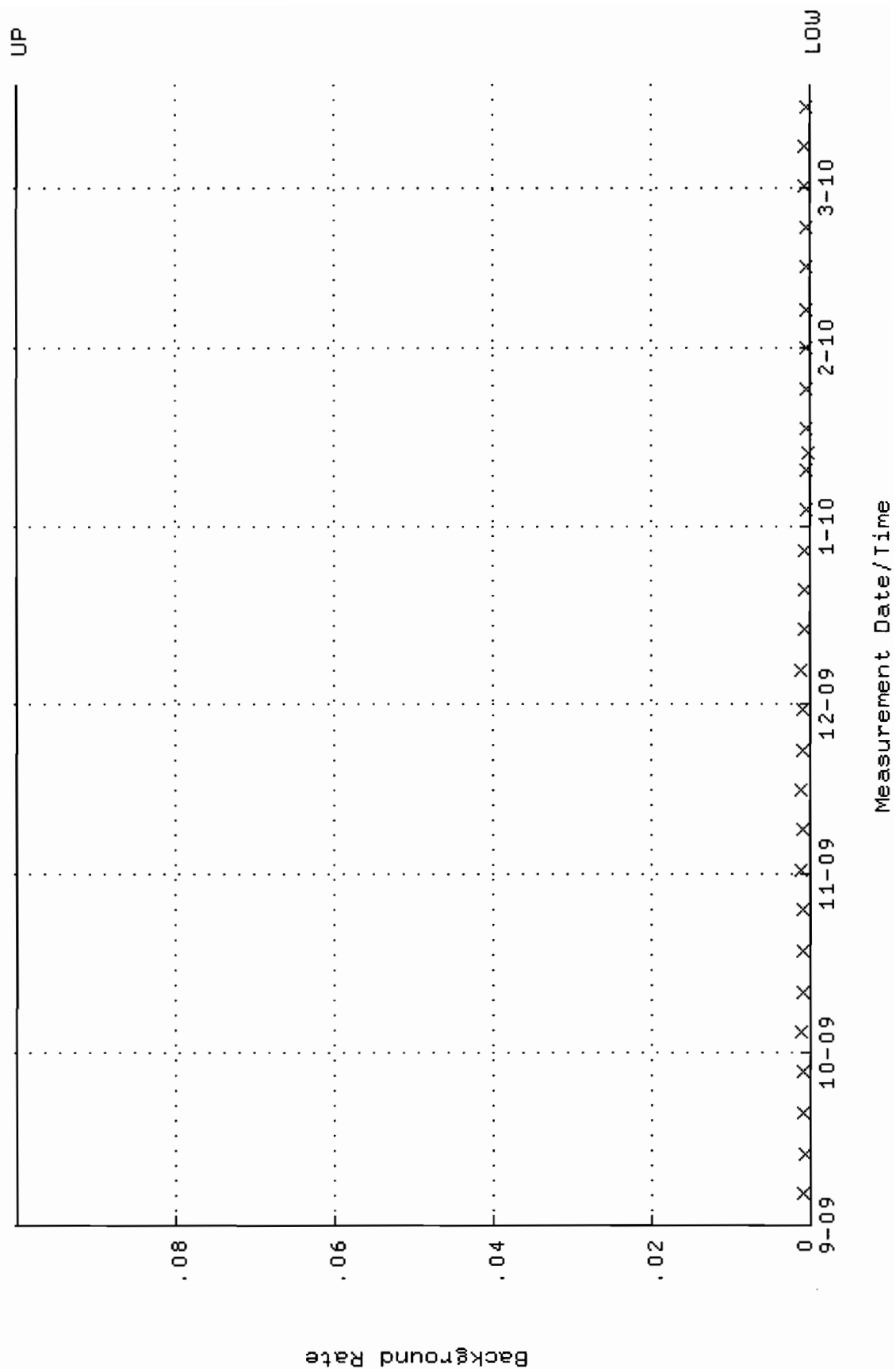
QA filename : DKA100:[ENV_ALPHA.QA.W]w155.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-SEP-2009 07:17:52 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.250153 through 0.272837



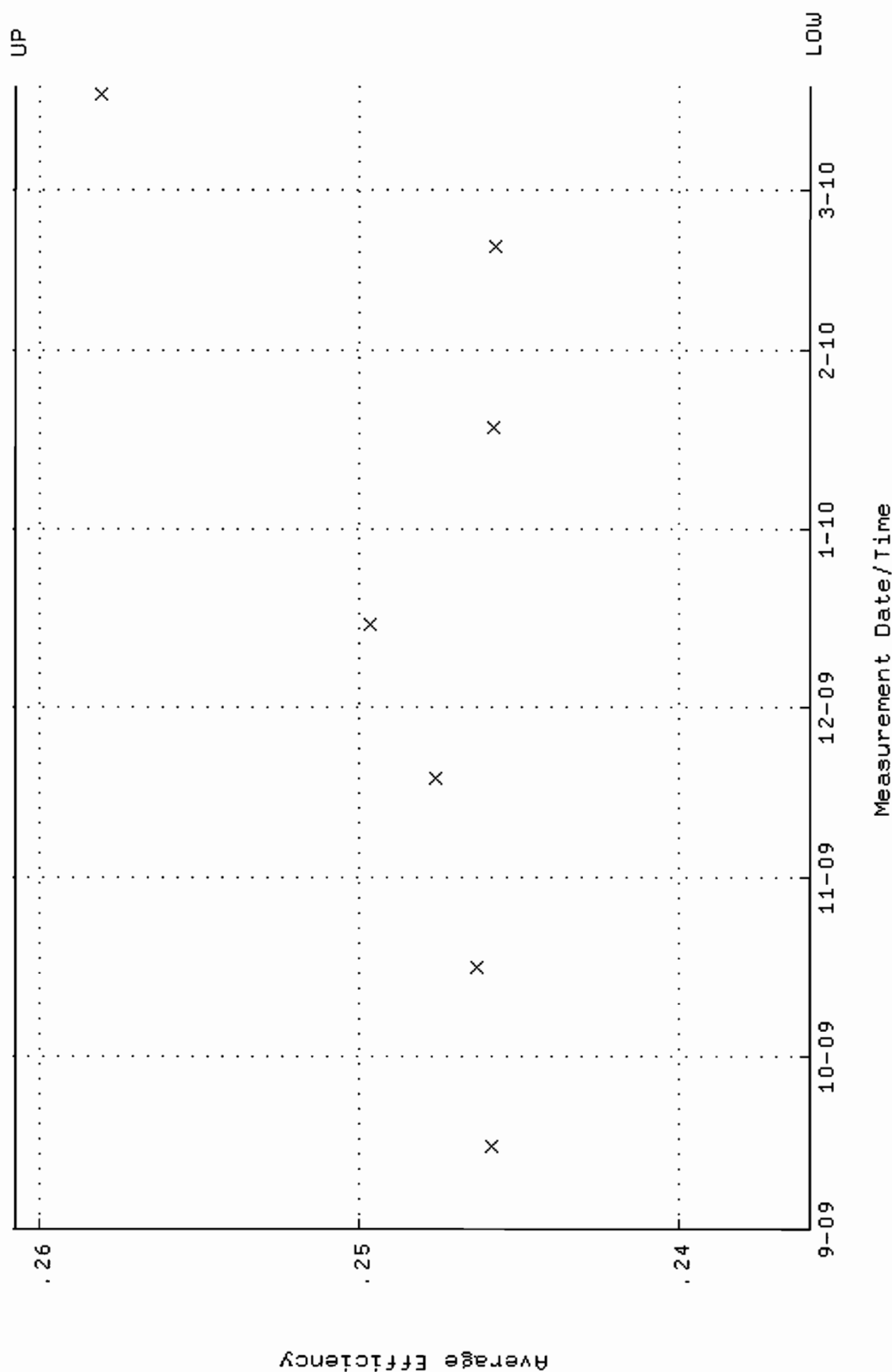
QA filename : DKA100:[ENV_ALPHA.QA.W]w155.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-SEP-2009 07:17:52 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.7123 through 91.3975



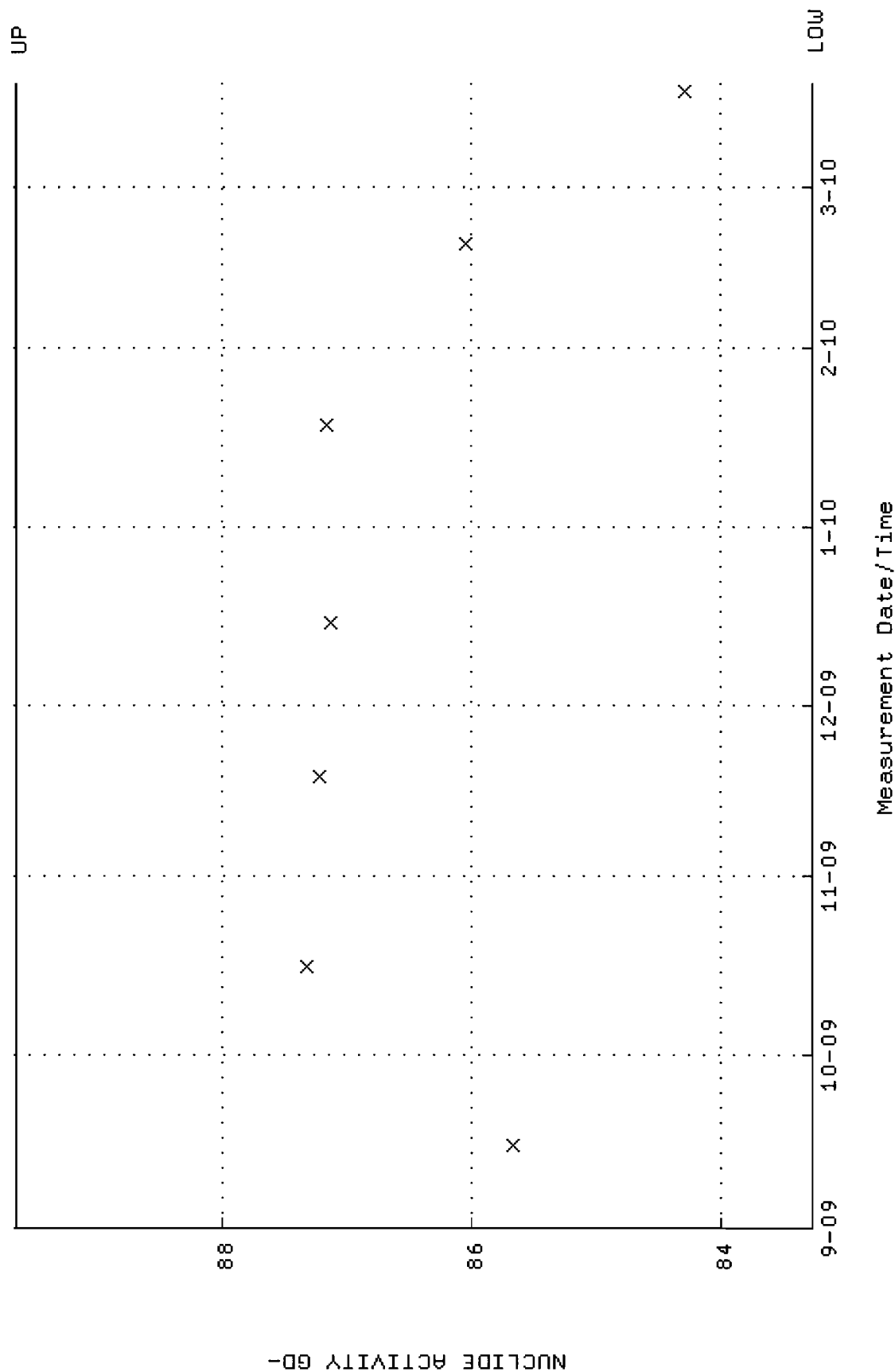
QA filename : DKA100:[ENV_ALPHA.QA.B]B155.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:43:06 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



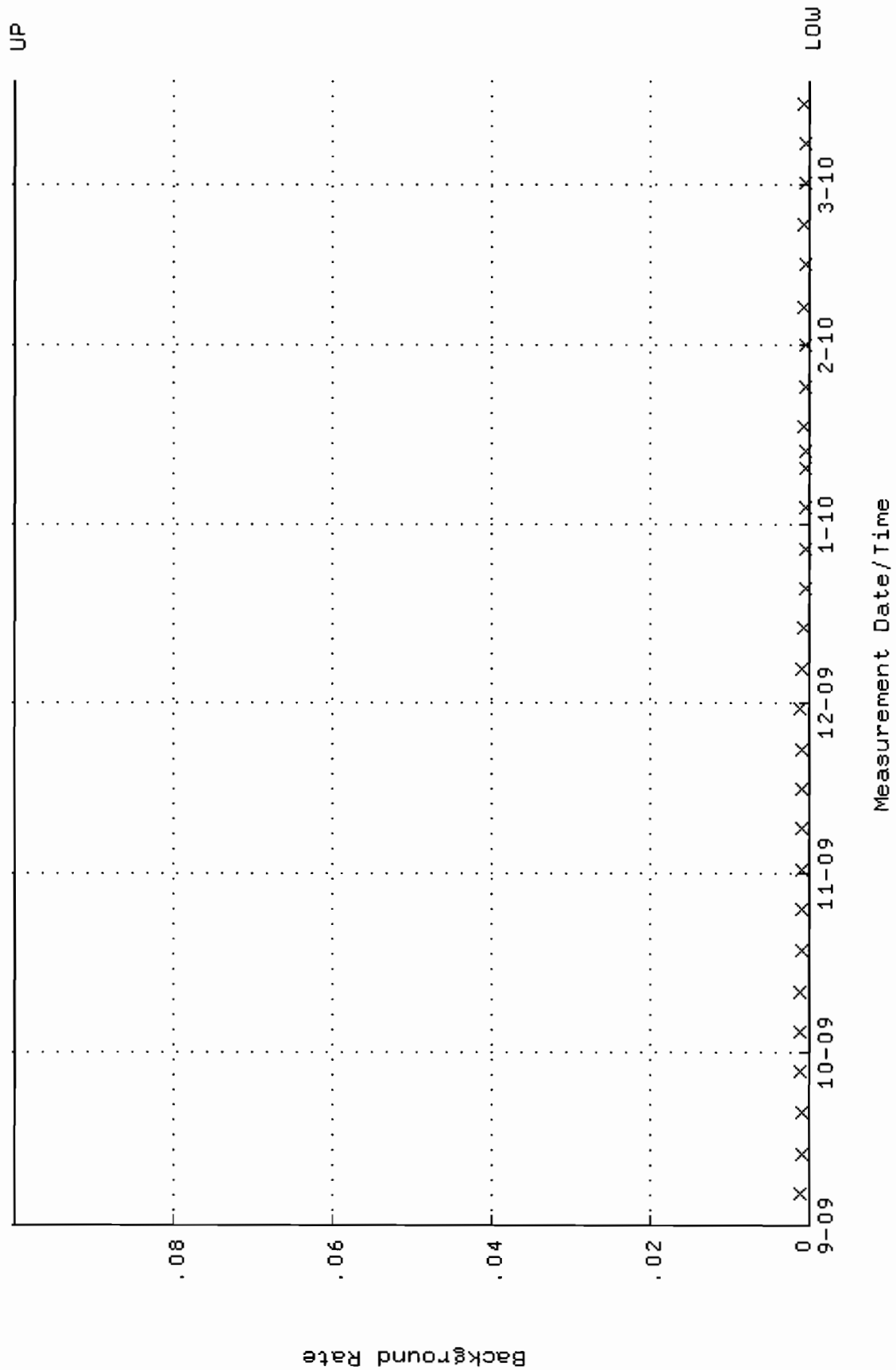
QA filename : DKA100:[ENV_ALPHA.QA.W]w156.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-SEP-2009 07:17:57 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.235897 through 0.260757



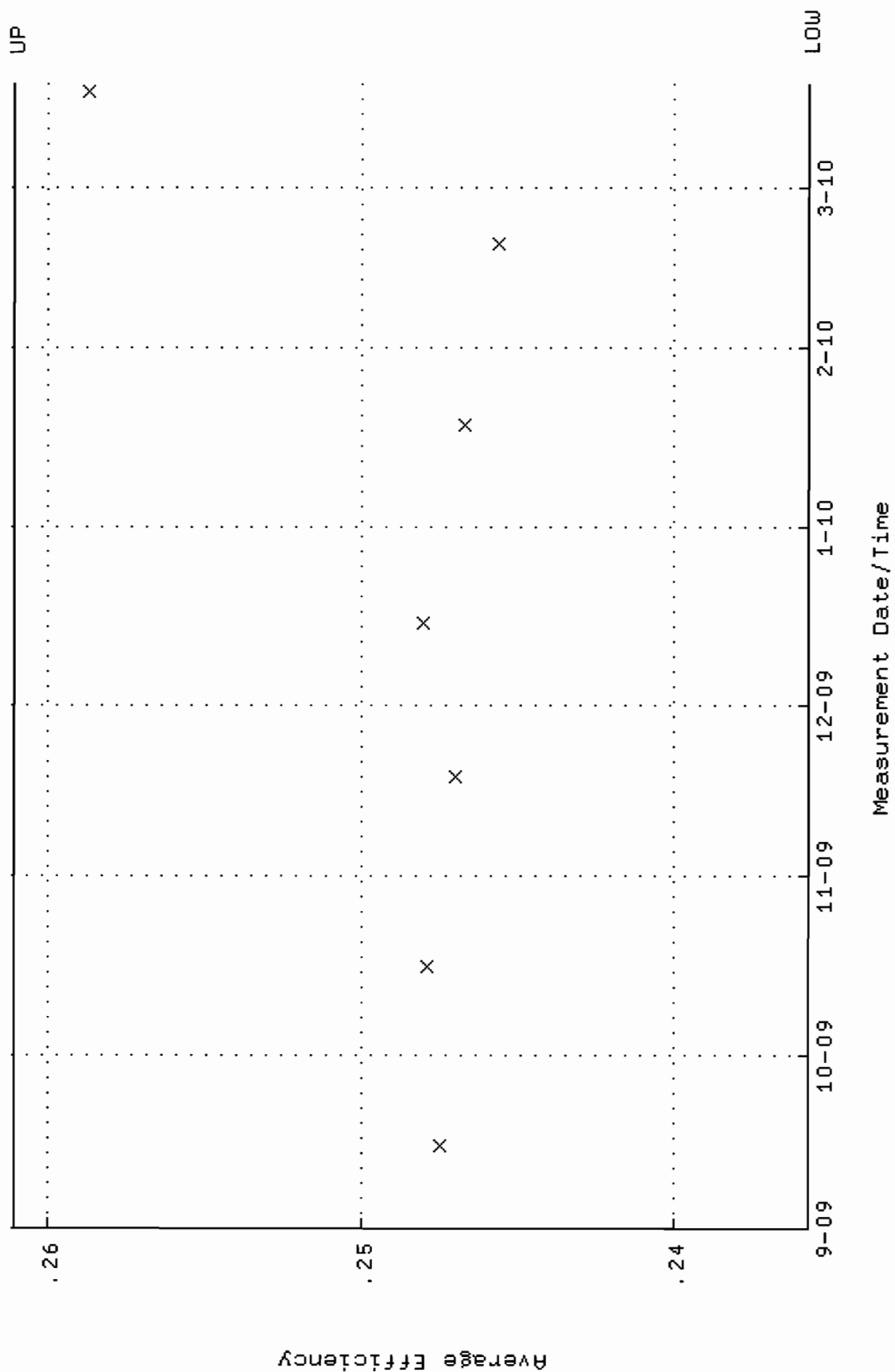
QA filename : DKA100:[ENV_ALPHA.QA.W]w156.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-SEP-2009 07:17:57 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.2670 through 89.6596



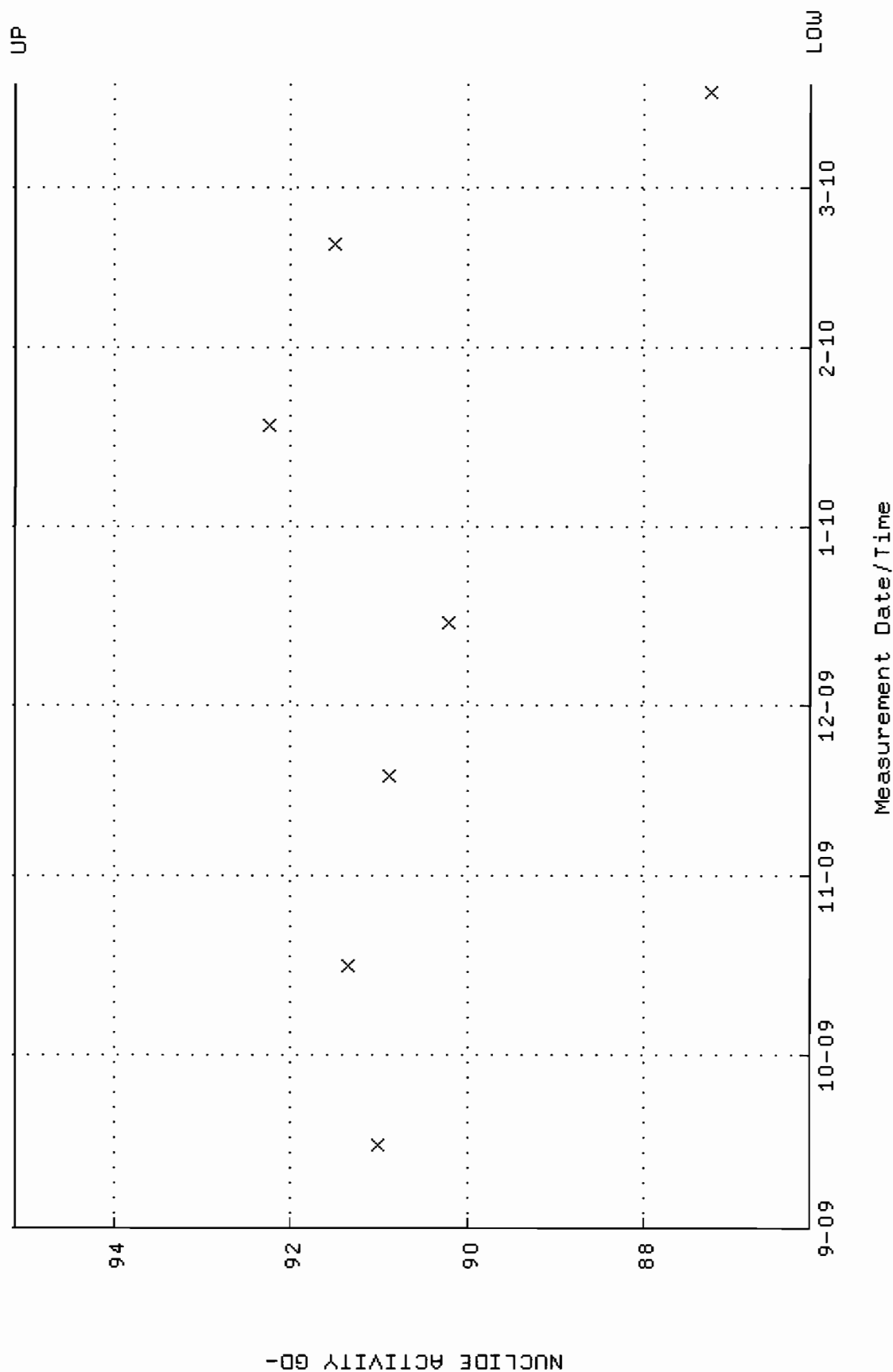
QA filename : DKA100:[ENV_ALPHA.QA.B]B156.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:43:10 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



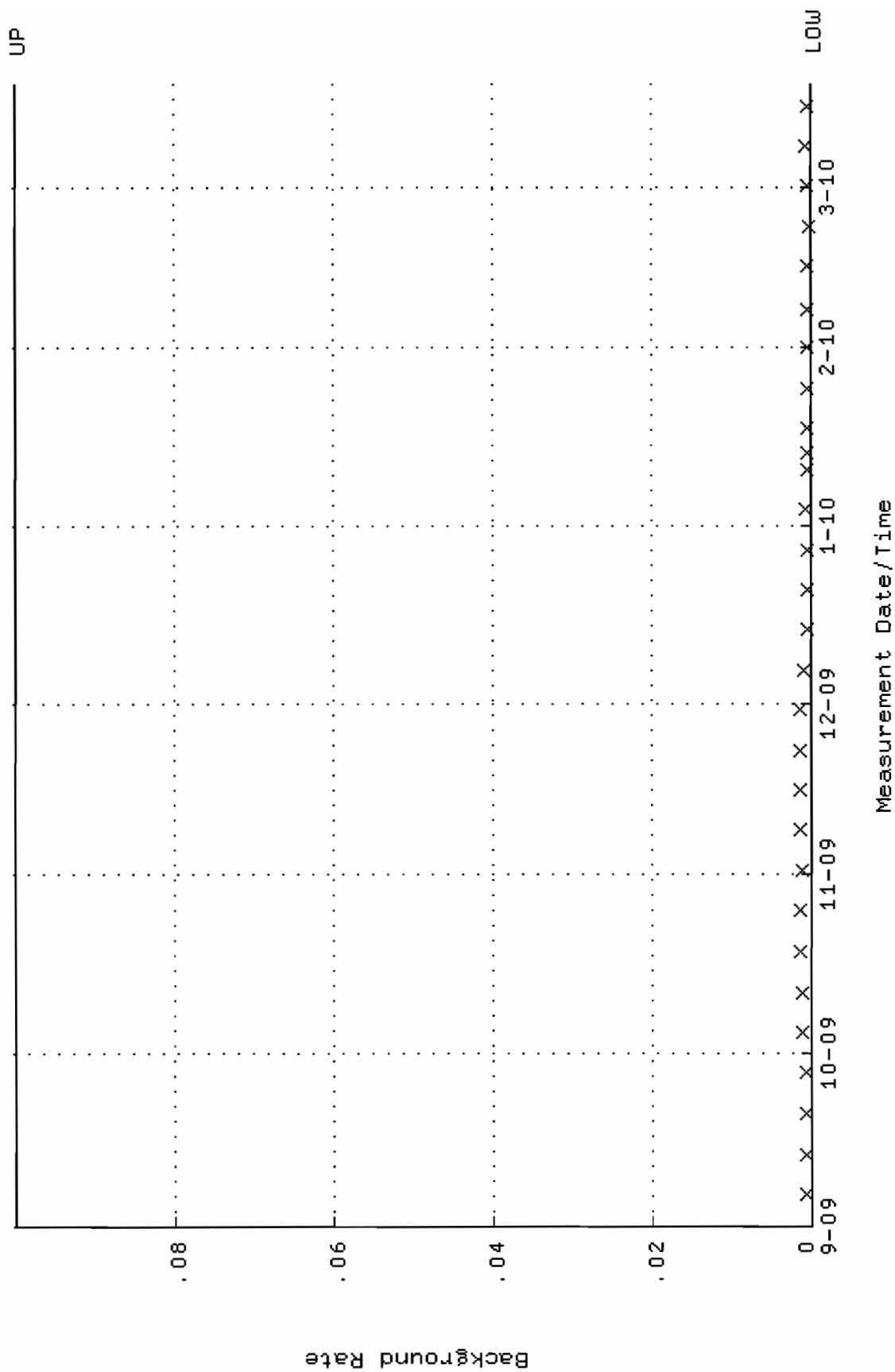
QA filename : DKA100:[ENV_ALPHA.QA.W]W157.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-SEP-2009 07:18:03 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.235688 through 0.261102



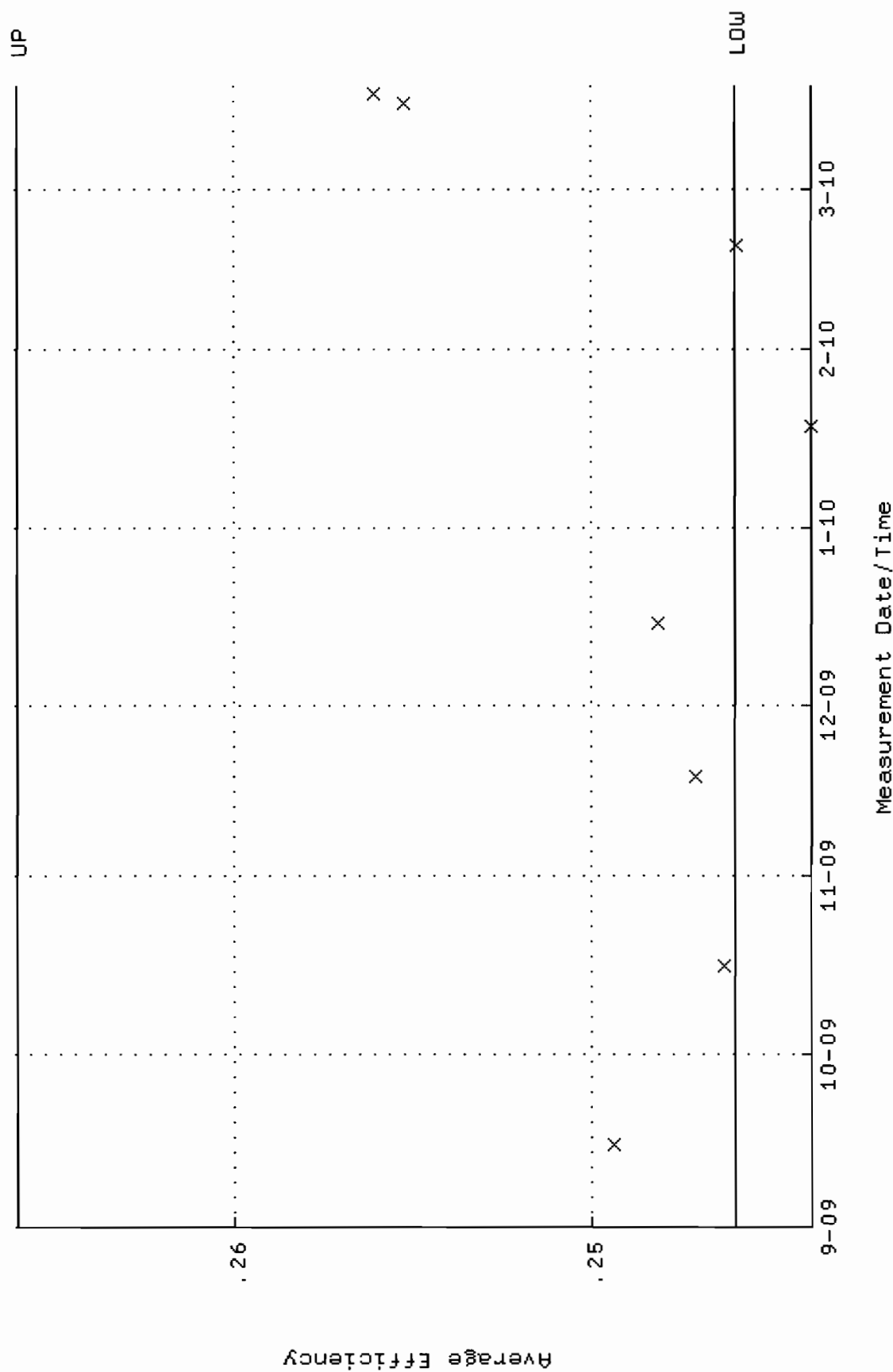
QA filename : DKA100:[ENV_ALPHA.QA.W]w157.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-SEP-2009 07:18:03 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.1142 through 95.1160



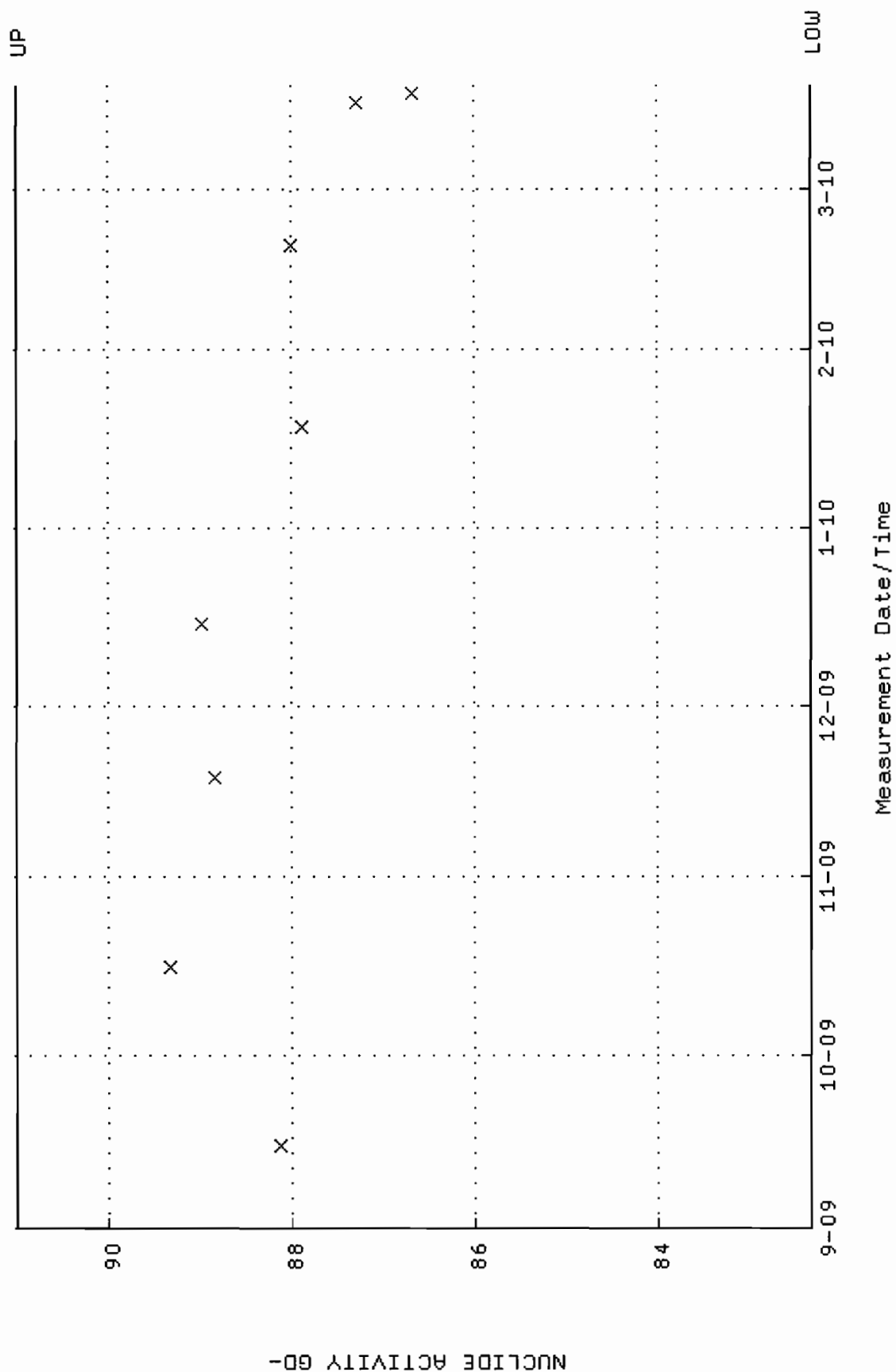
QA filename : DKA100:[ENV_ALPHA.QA.B]B157.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:43:14 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



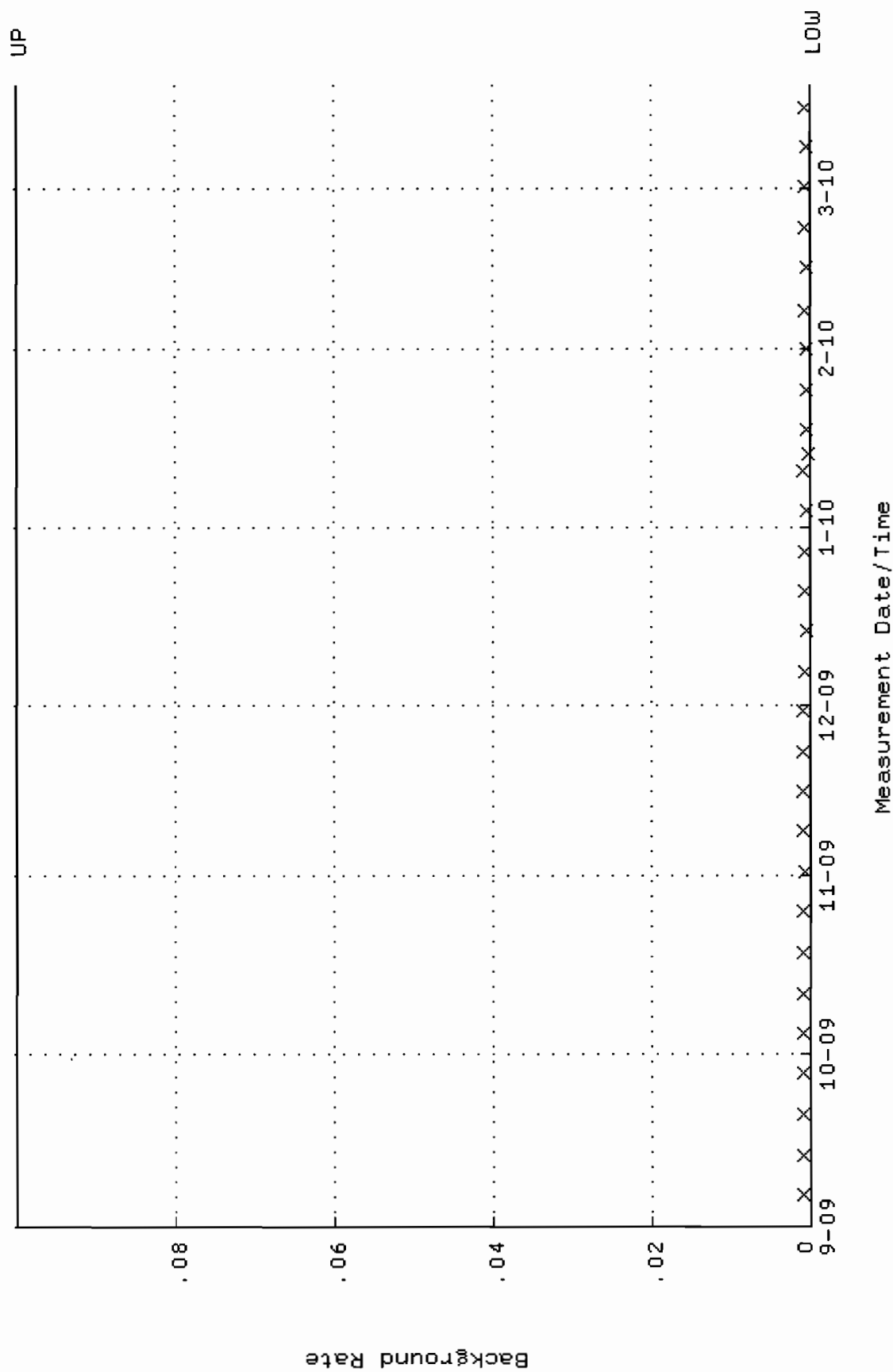
QA filename : DKA100:[ENV_ALPHA.QA.W]w158.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-SEP-2009 07:18:08 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.246053 through 0.266053



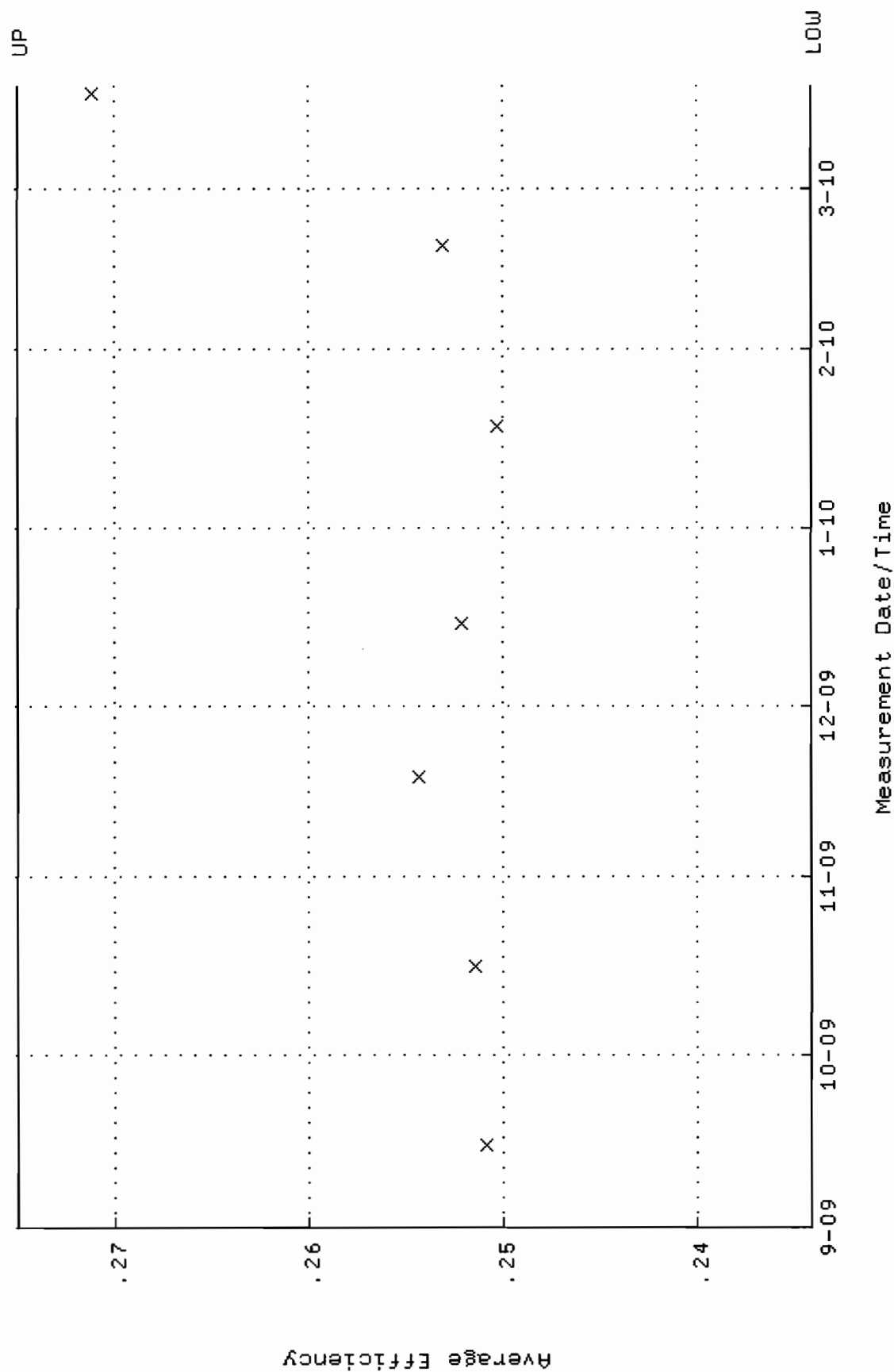
QA filename : DKA100:[ENV_ALPHA.QA.W]W158.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-SEP-2009 07:18:08 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 82.3255 through 90.9913



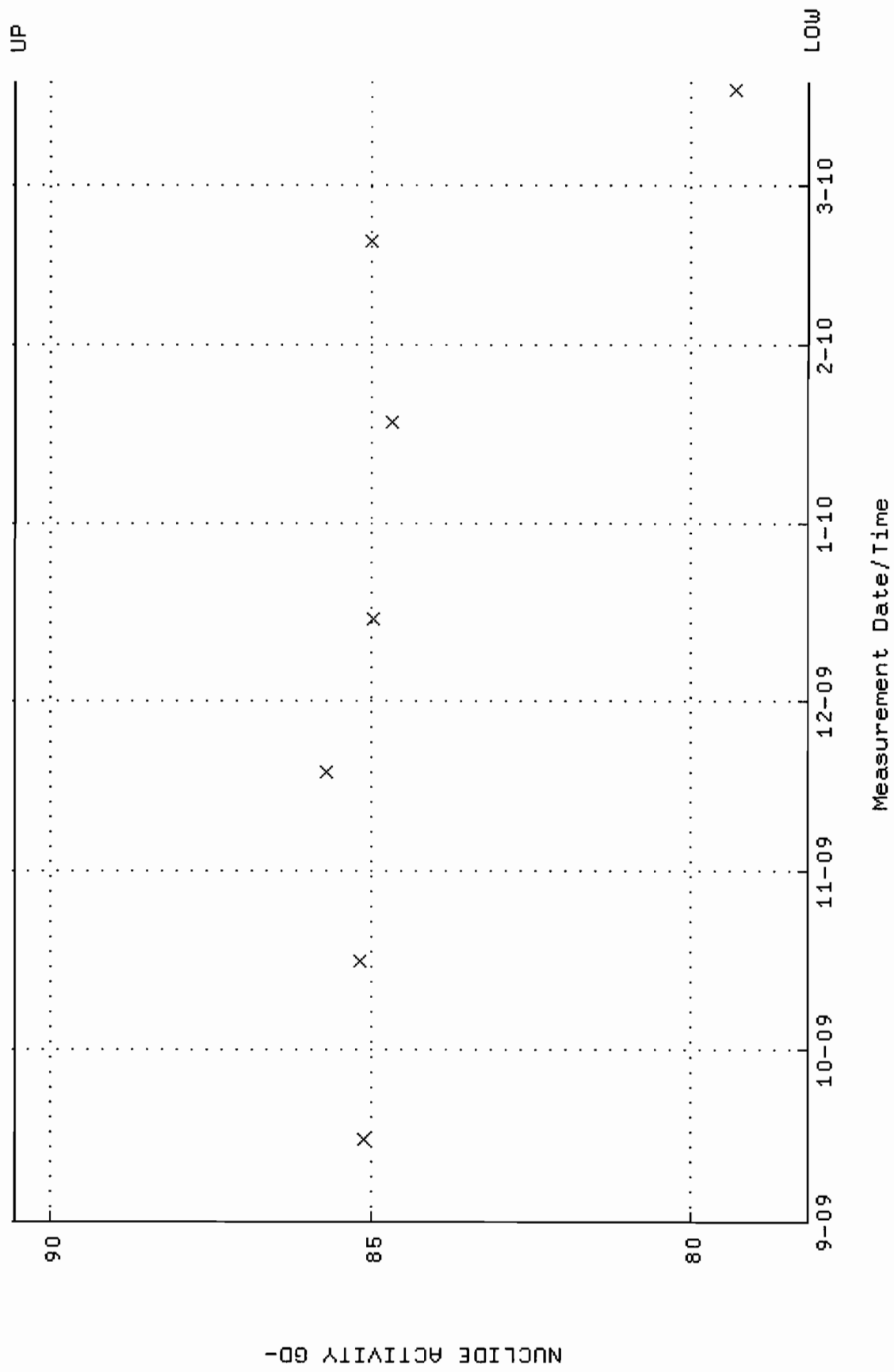
QA filename : DKA100:[ENV_ALPHA.QA.B]B158.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:43:18 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



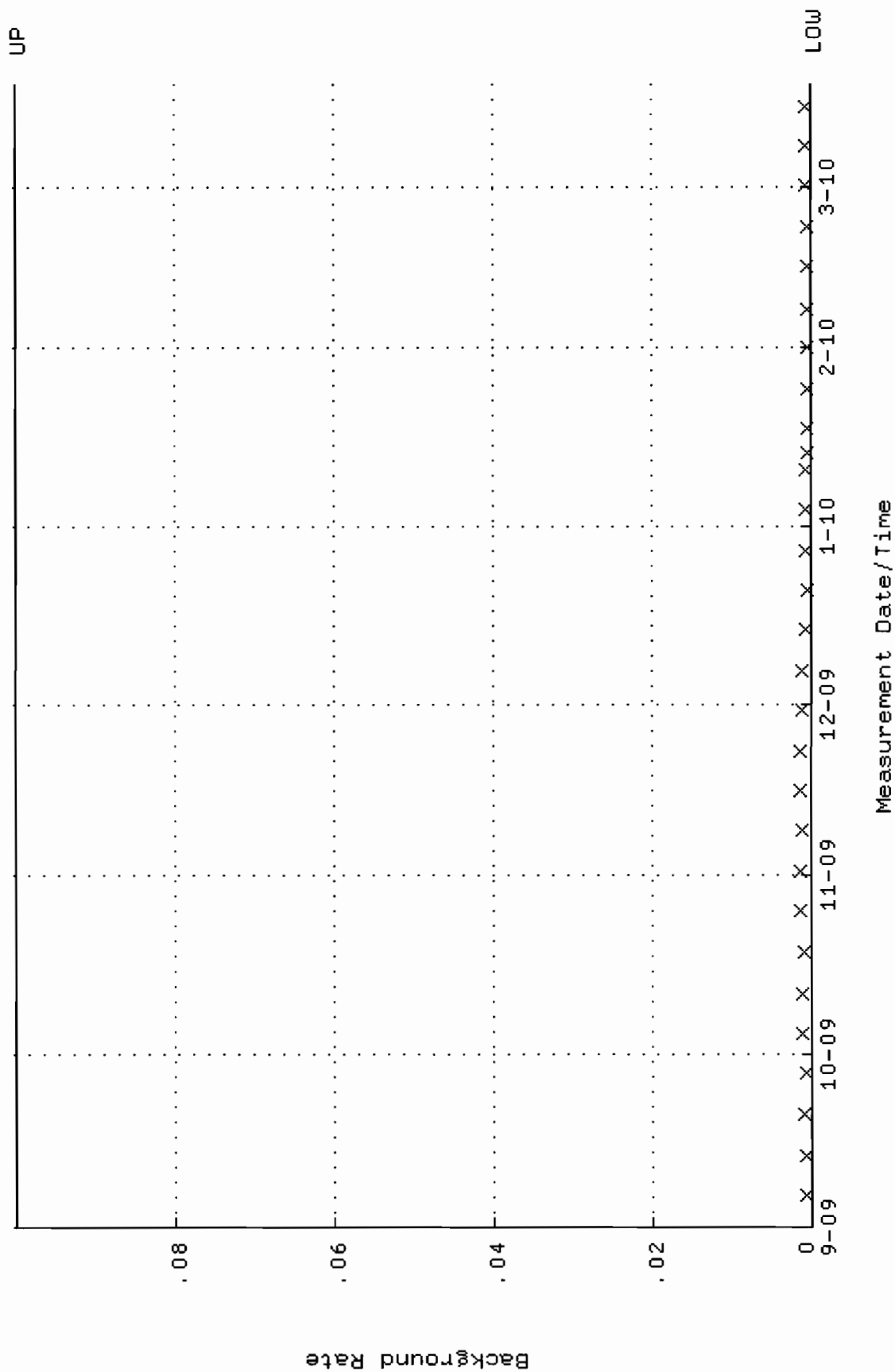
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-SEP-2009 07:18:13 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.234117 through 0.275011



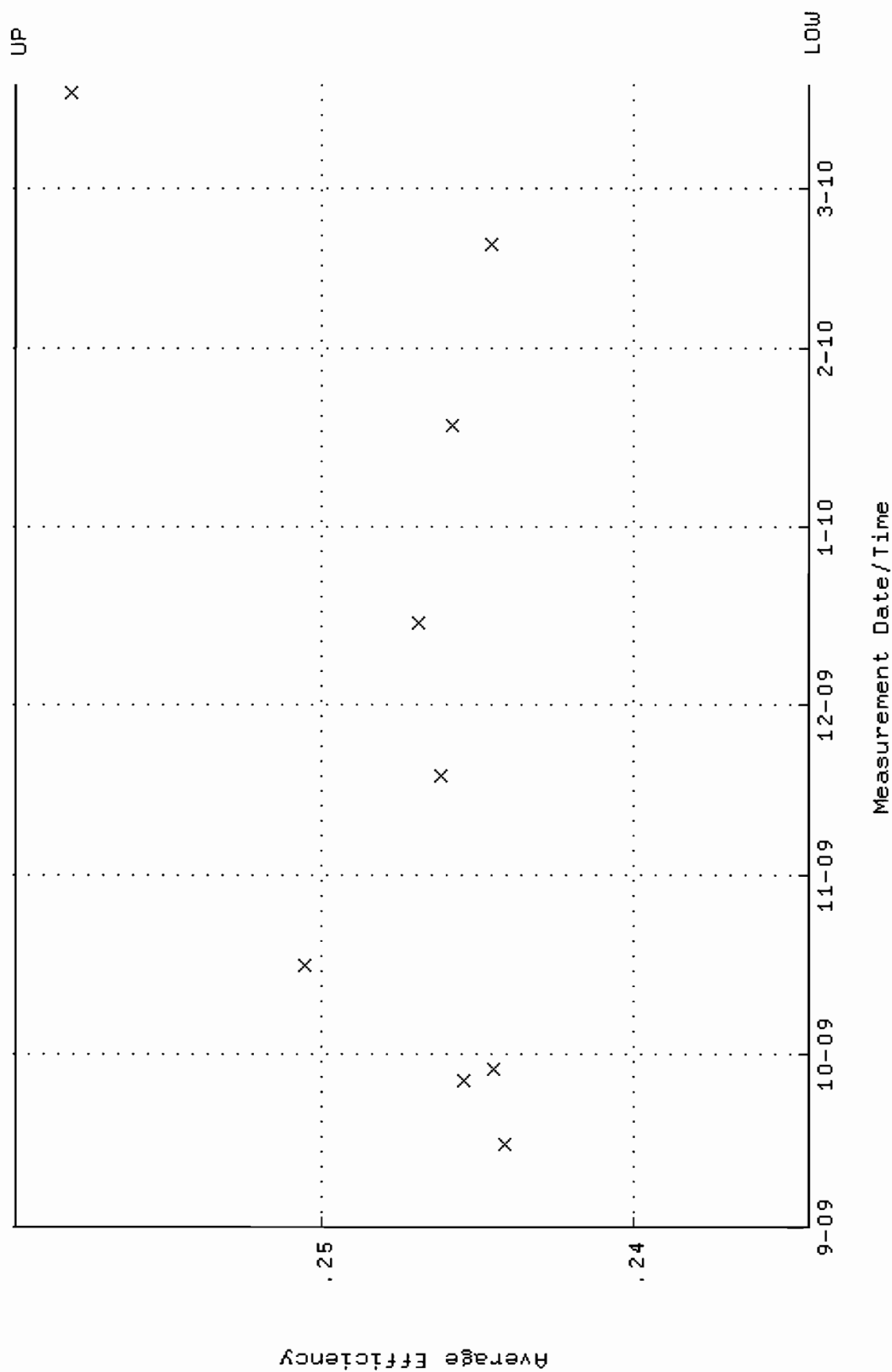
QA filename : DKA100:[ENV_ALPHA.QA.W]w159.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-SEP-2009 07:18:13 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 78.1613 through 90.5589



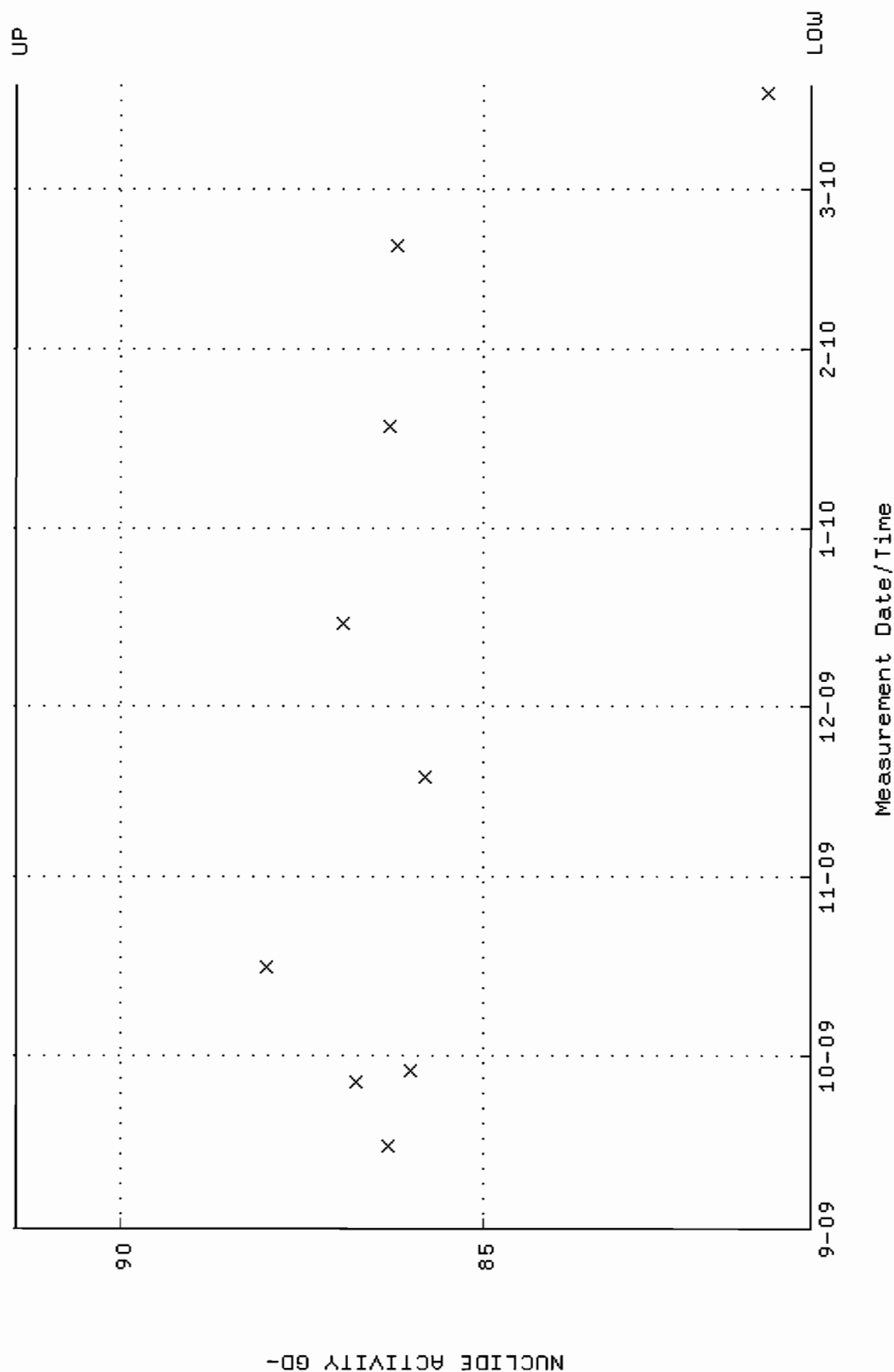
QA filename : DKA100:[ENV_ALPHA.QA.B]B159.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:43:22 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



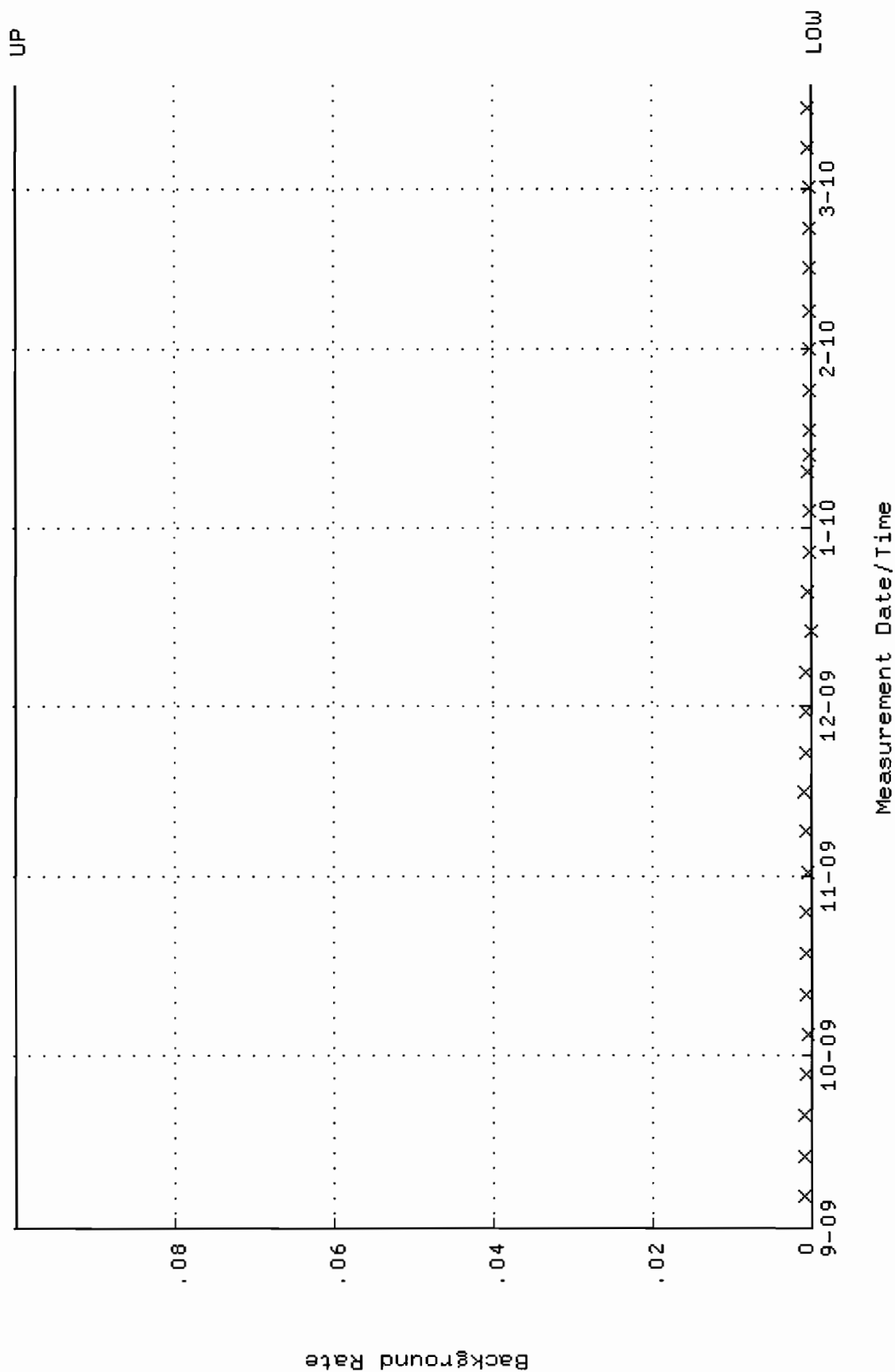
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-SEP-2009 07:18:19 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.234333 through 0.259825



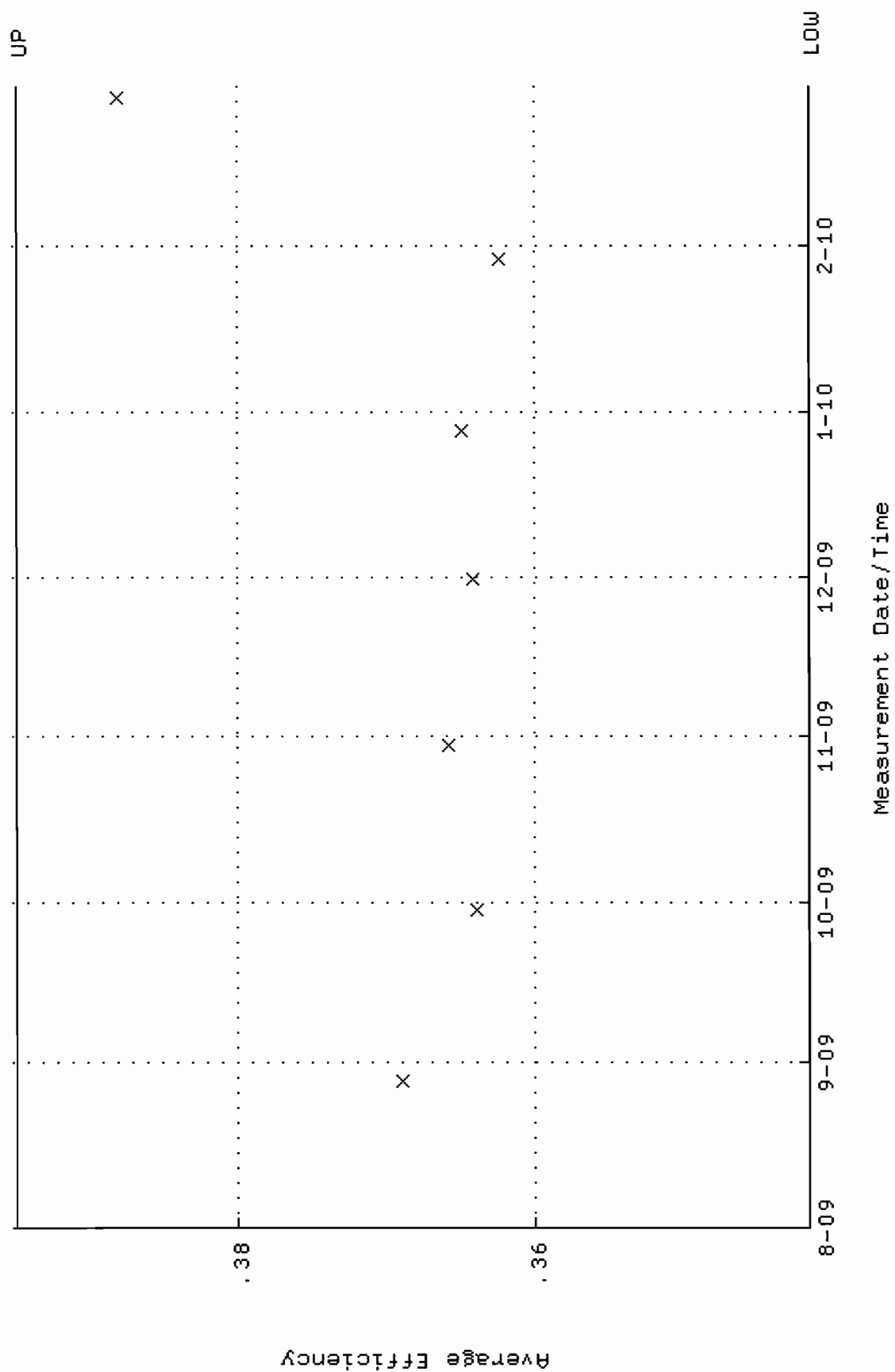
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-SEP-2009 07:18:19 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 80.4990 through 91.4457



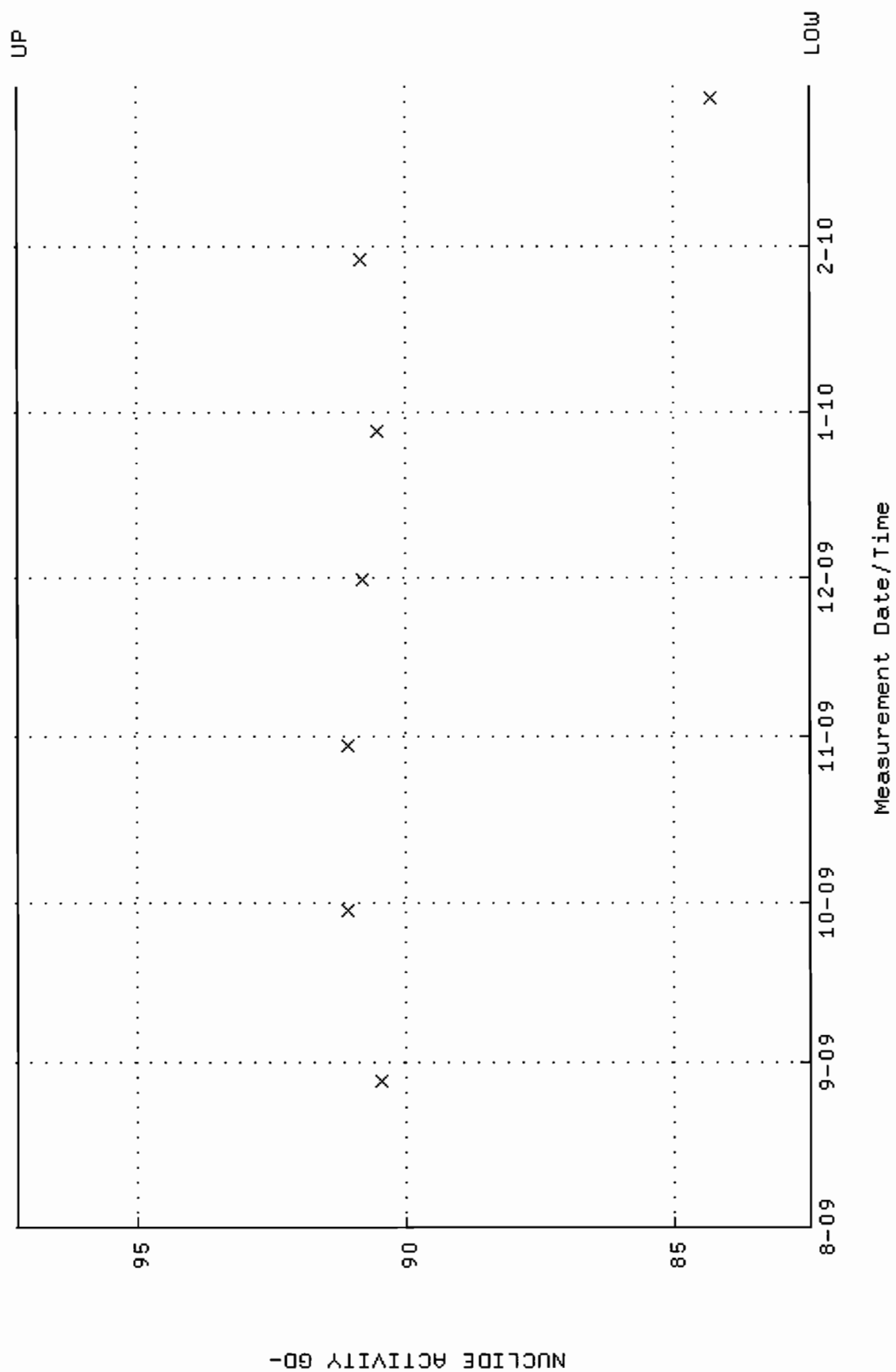
QA filename : DKA100:[ENV_ALPHA.QA.B]B160.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:43:26 through 18-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



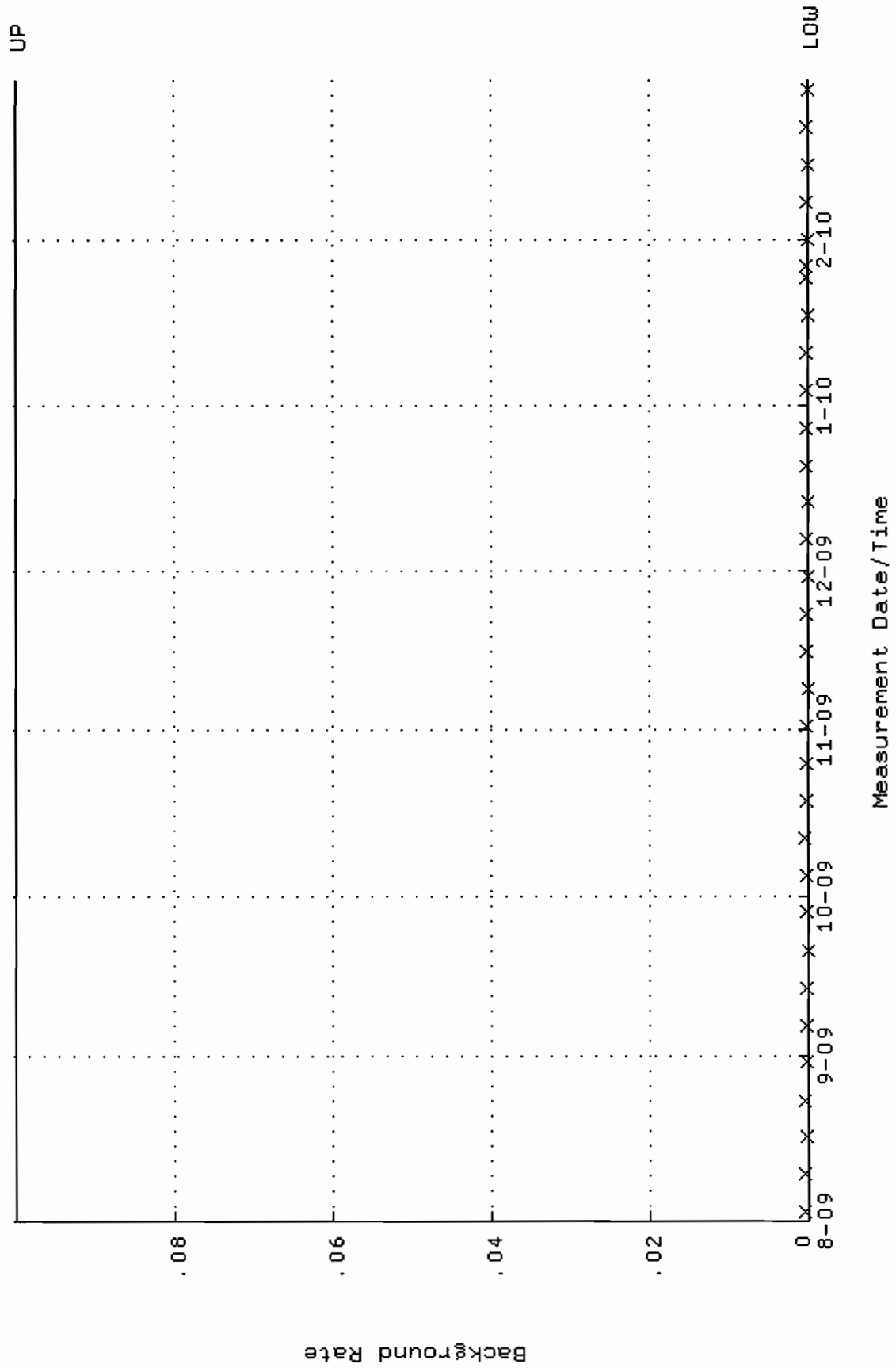
QA filename : DKA100:[ENV_ALPHA.QA.W]W209.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:06:29 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.341431 through 0.395023



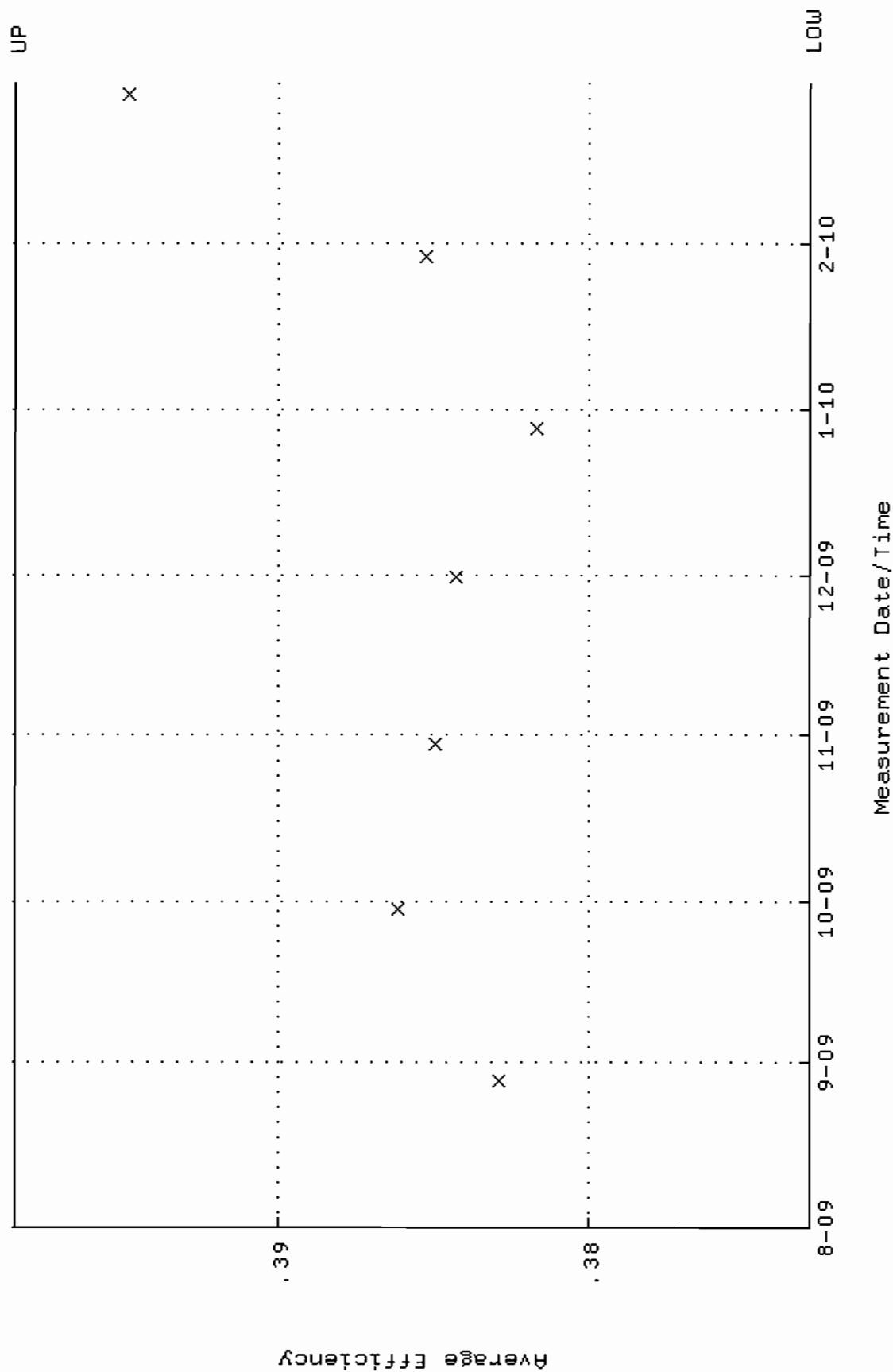
QA filename : DKA100:[ENV_ALPHA.QA.W]w209.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:06:29 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 82.4748 through 97.2344



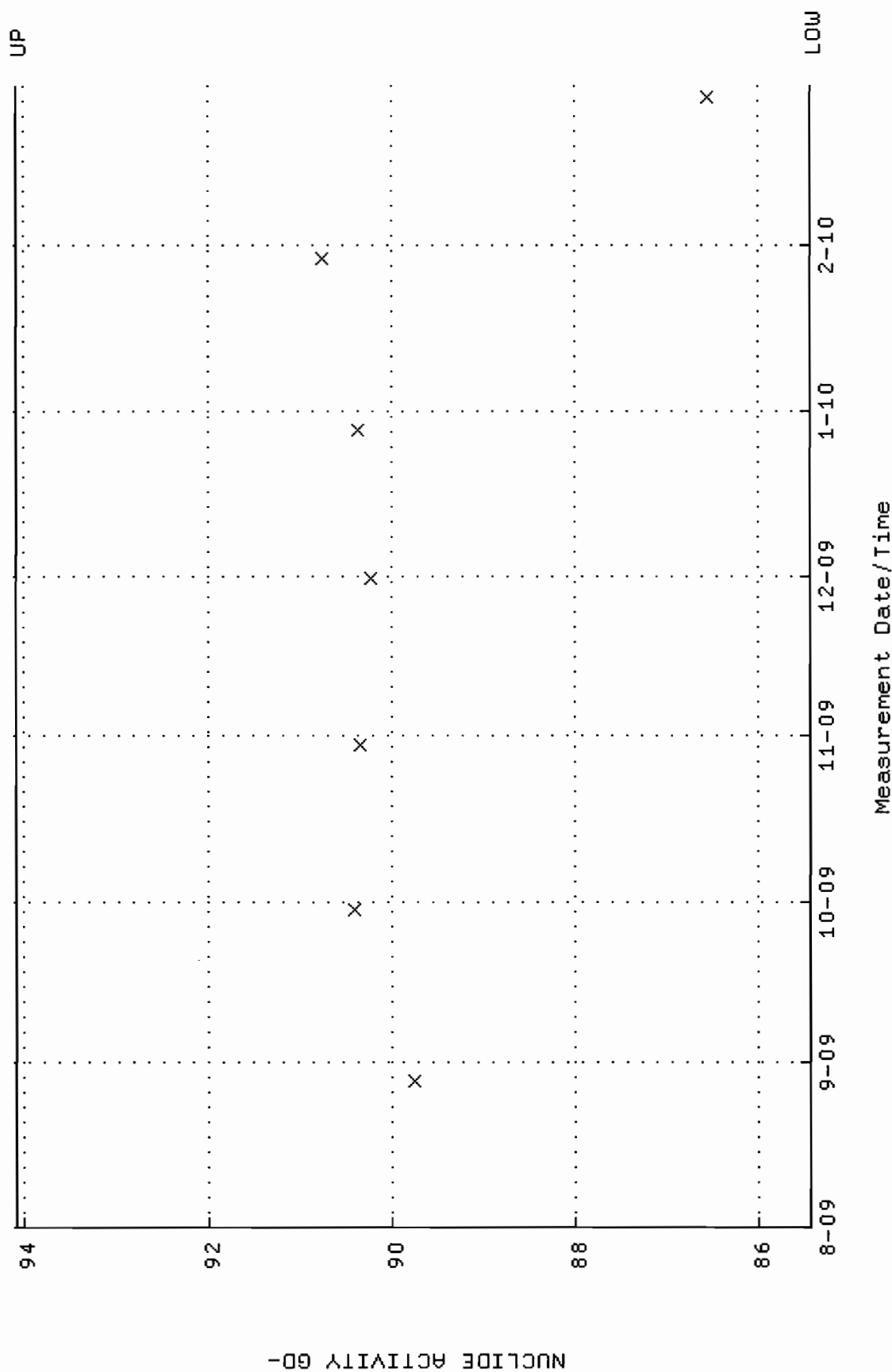
QA filename : DKA100:[ENV_ALPHA.QA.B]B209.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:10 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



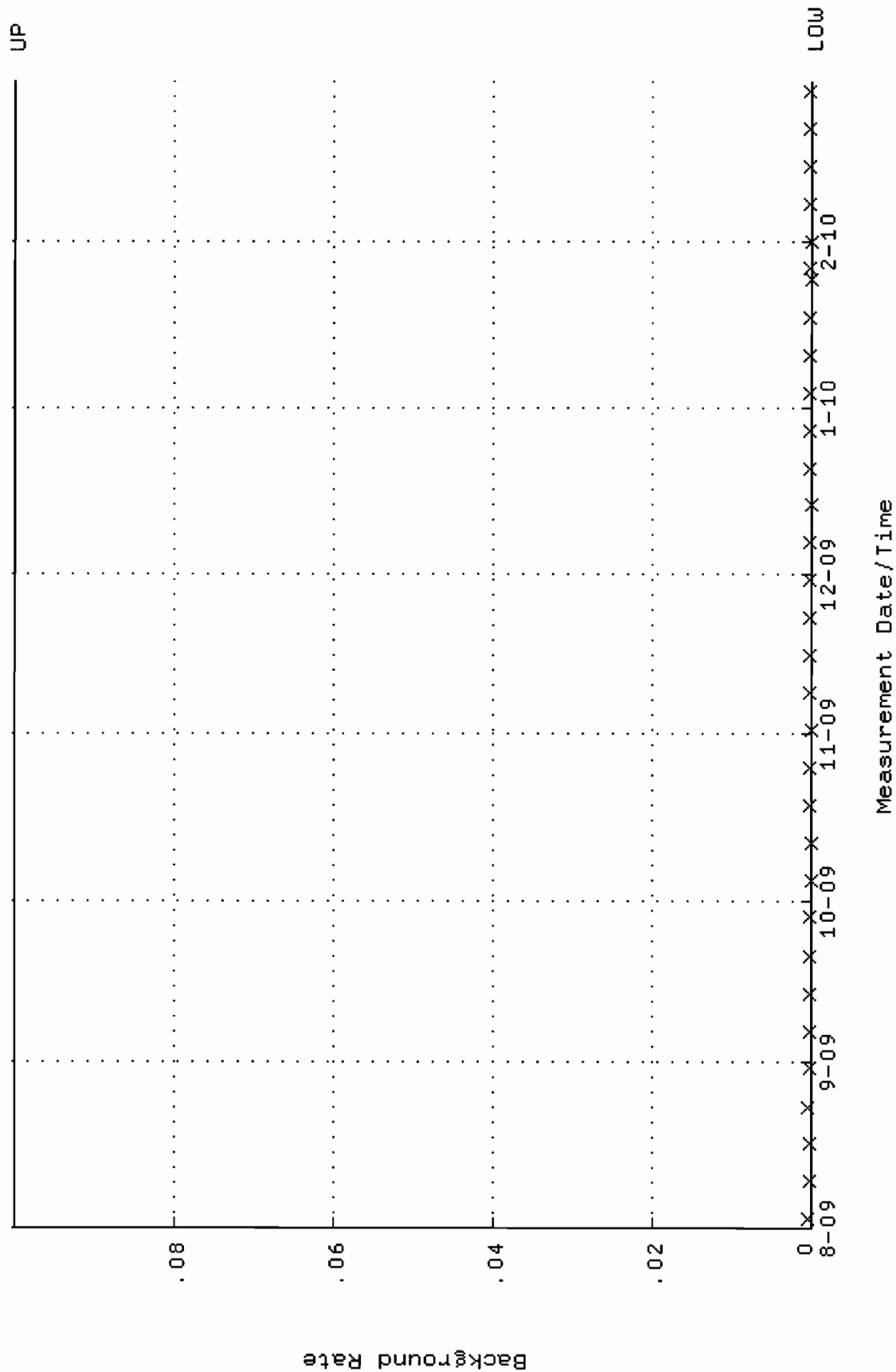
QA filename : DKA100:[ENV_ALPHA.QA.W]W210.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:06:35 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.372938 through 0.398472



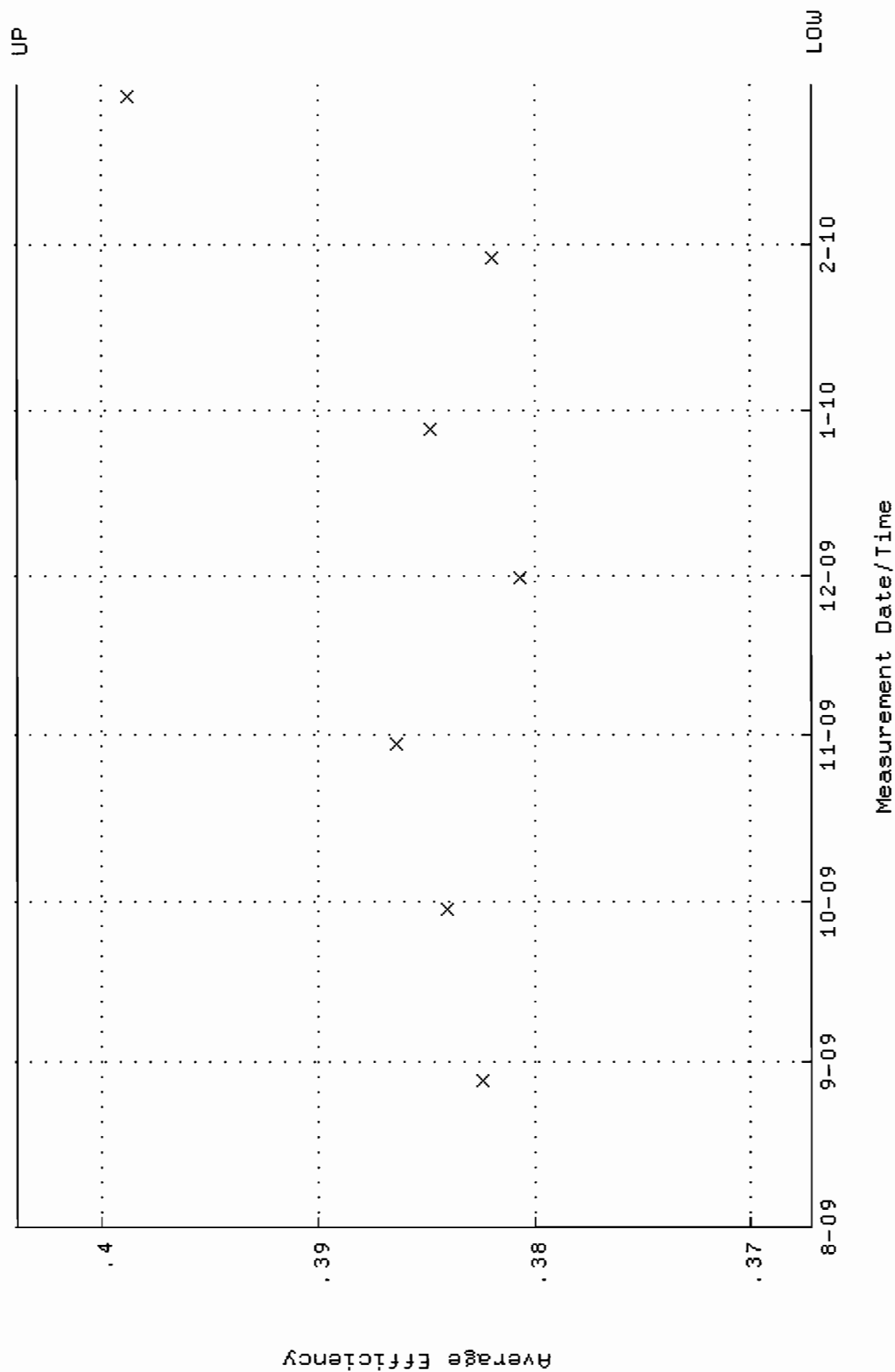
QA filename : DKA100:[ENV_ALPHA.QA.W]w210.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:06:35 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.4367 through 94.0881



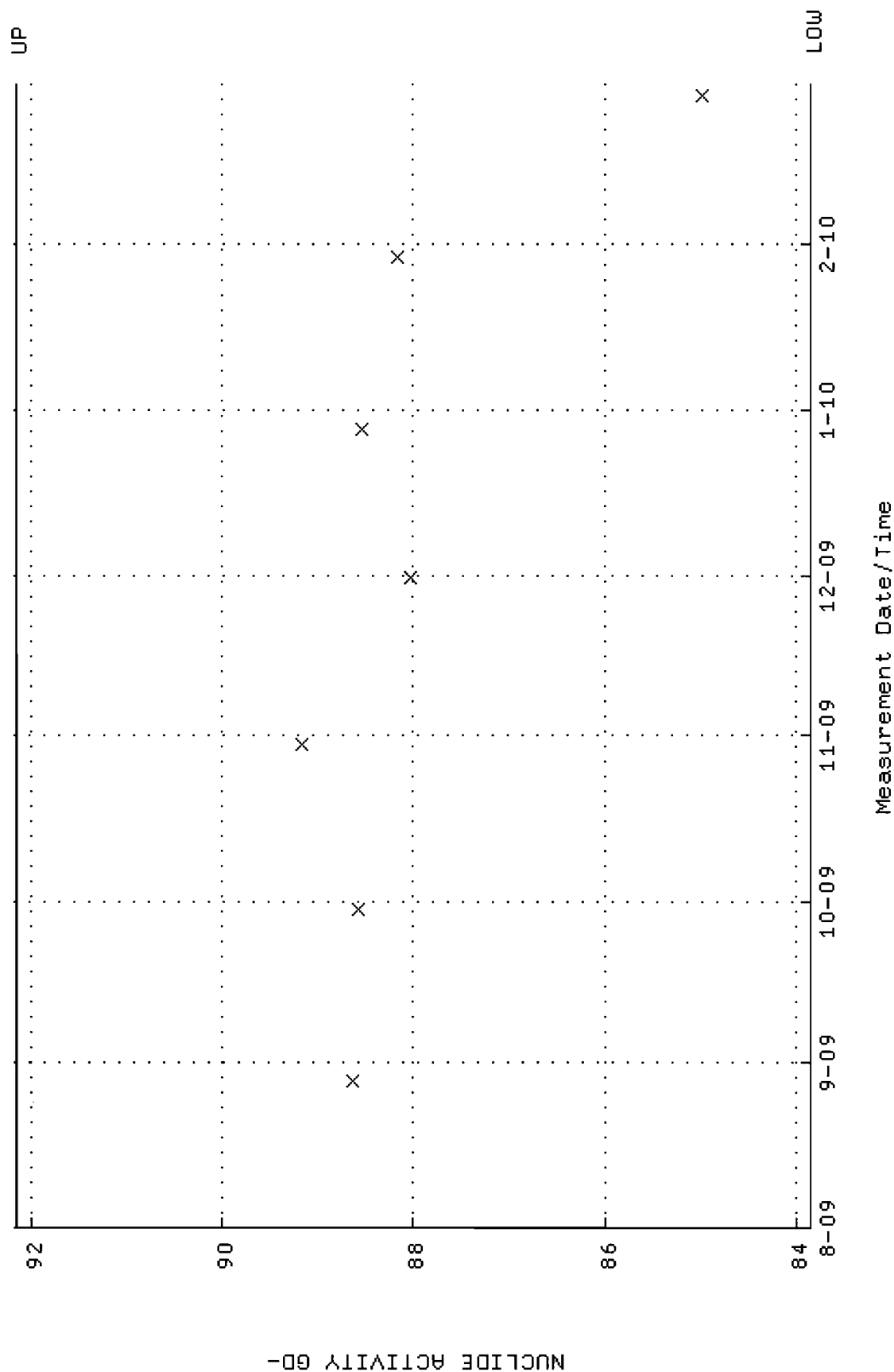
QA filename : DKA100:[ENV_ALPHA.QA.B]B210.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:14 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



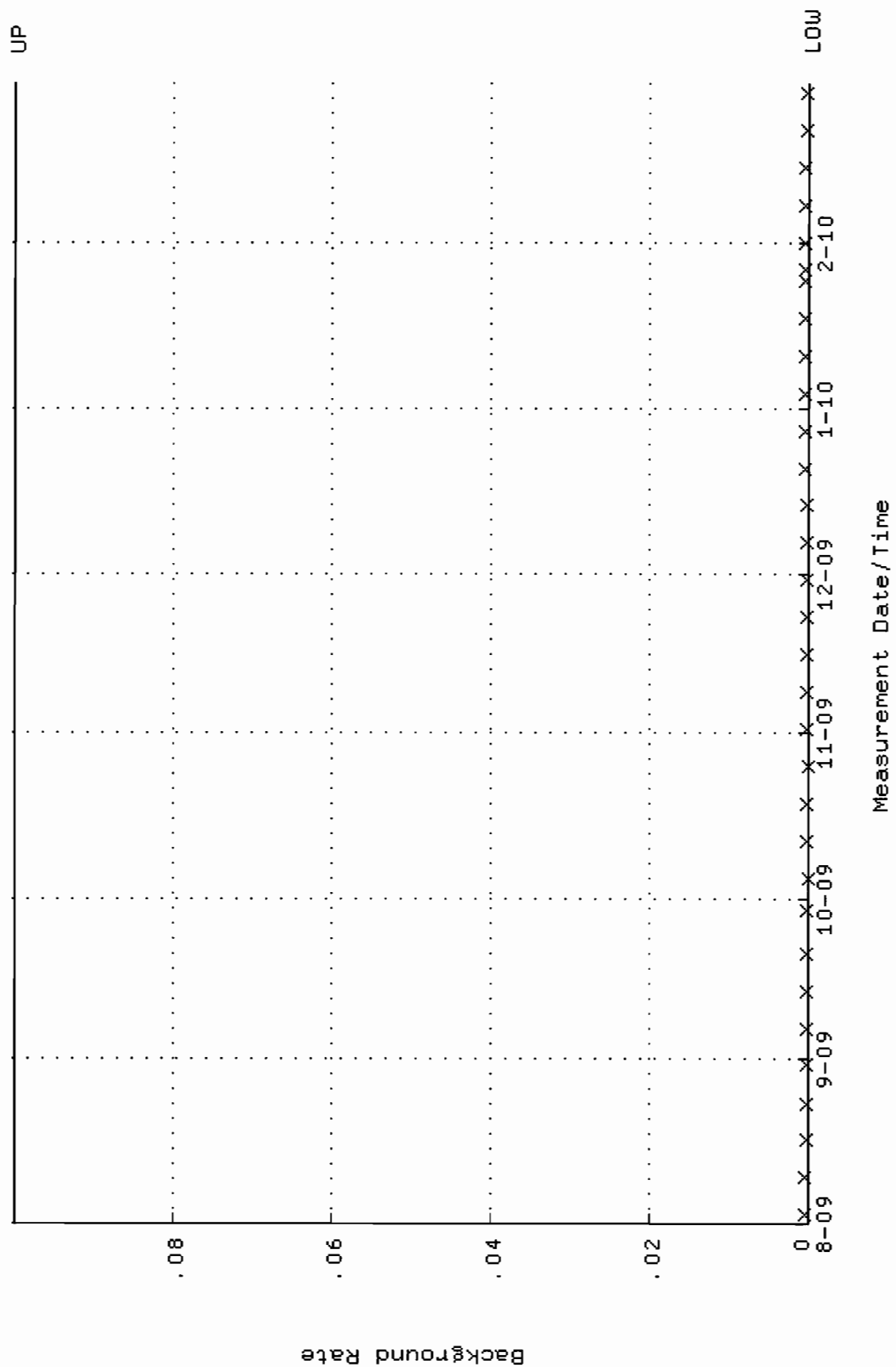
QA filename : DKA100:[ENV_ALPHA.QA.W]W211.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:06:39 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.367181 through 0.403915



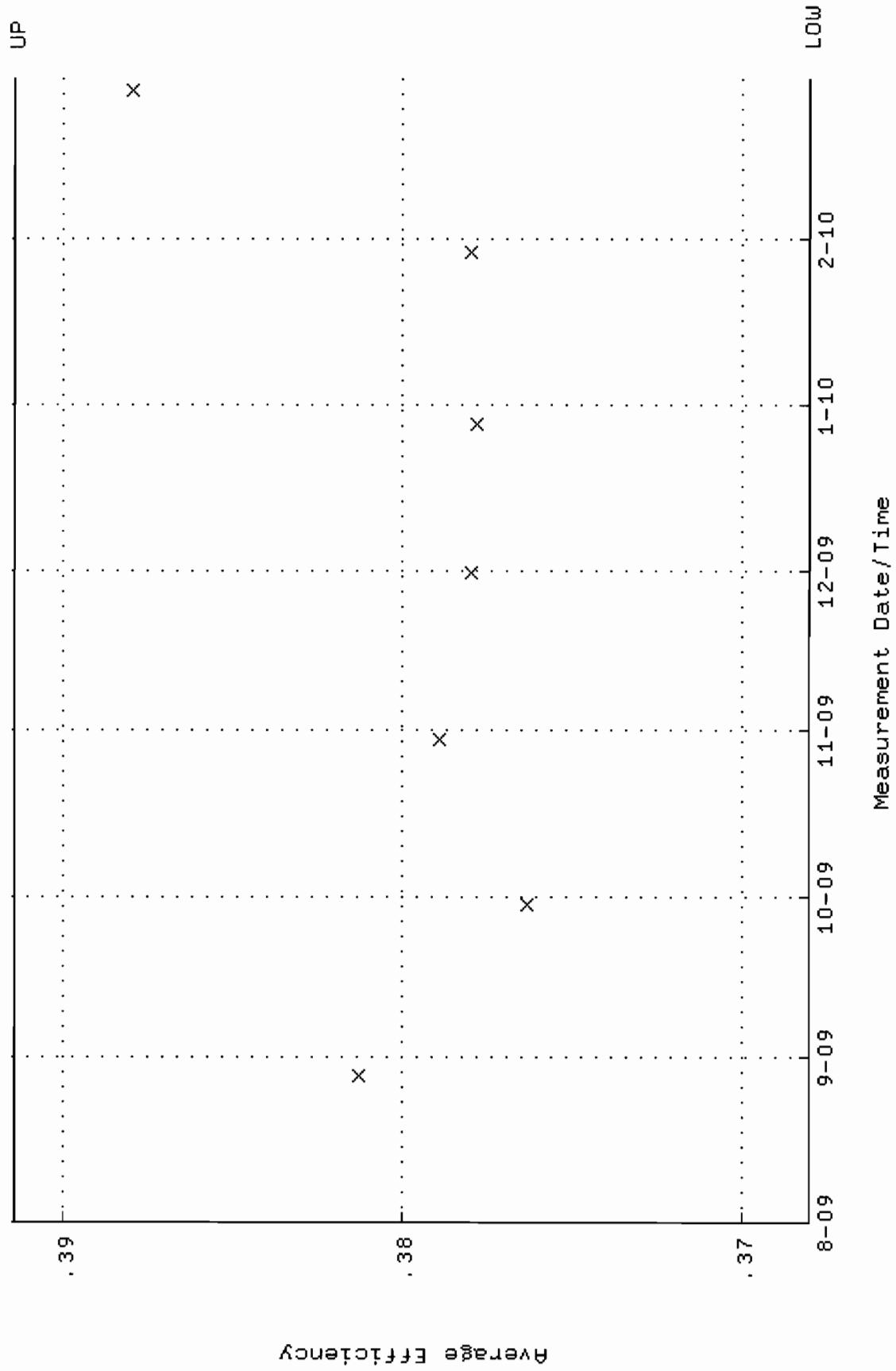
QA filename : DKA100:[ENV_ALPHA.QA.W]w211.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:06:39 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.8443 through 92.1557



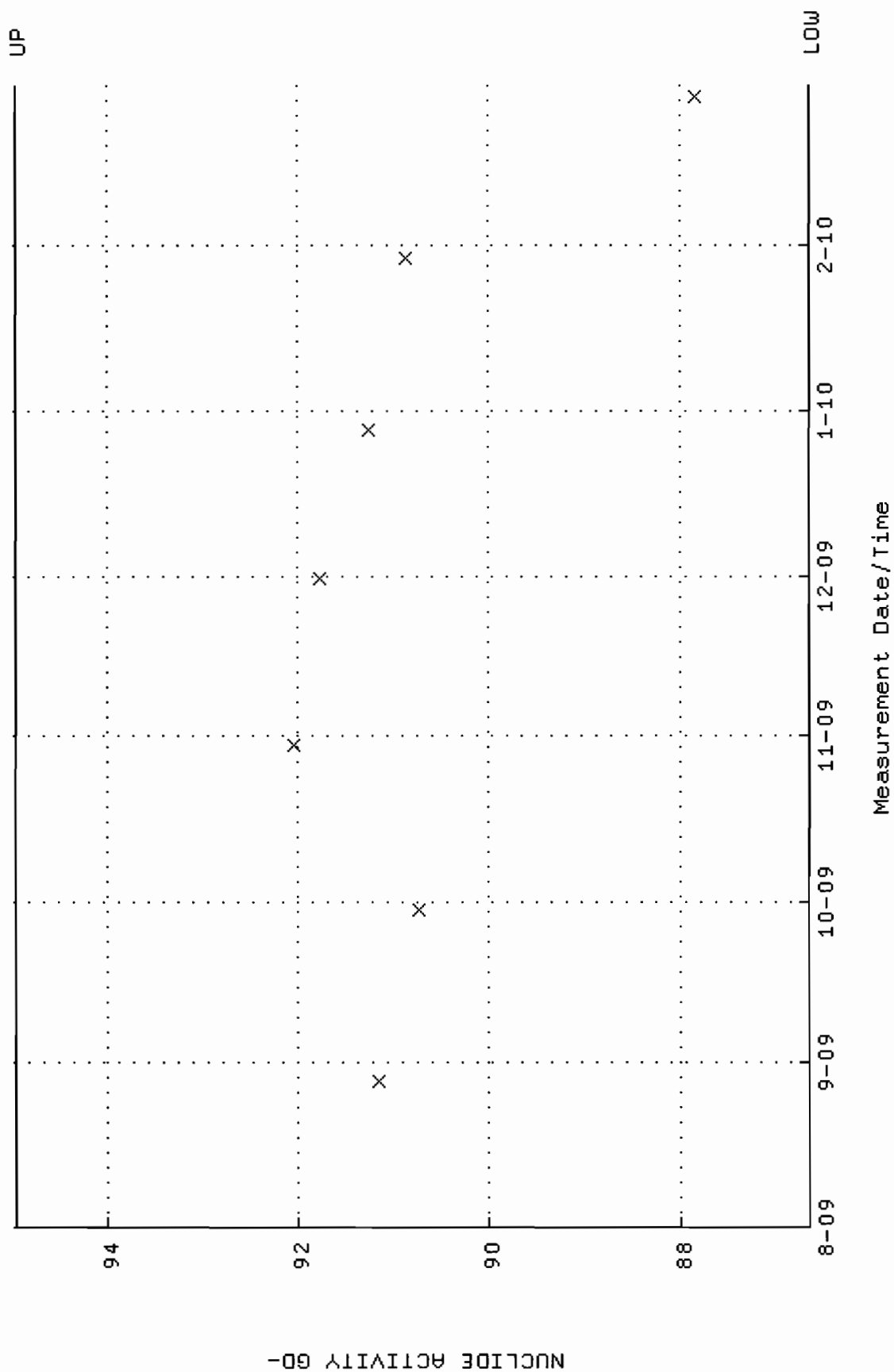
QA filename : DKA100:[ENV_ALPHA.QA.B]B211.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:19 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



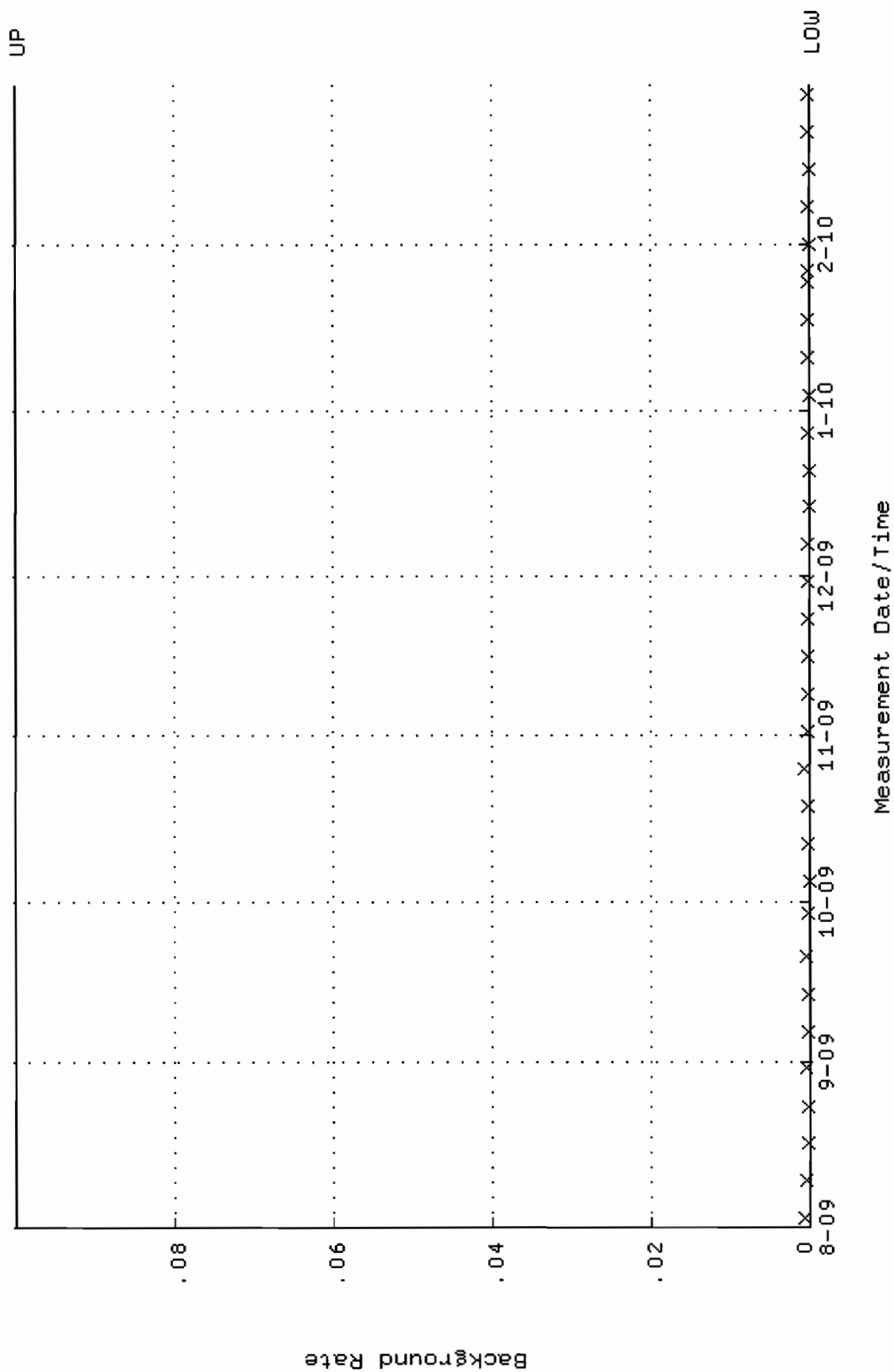
QA filename : DKA100:[ENV_ALPHA.QA.W]W212.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:06:45 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.367986 through 0.391444



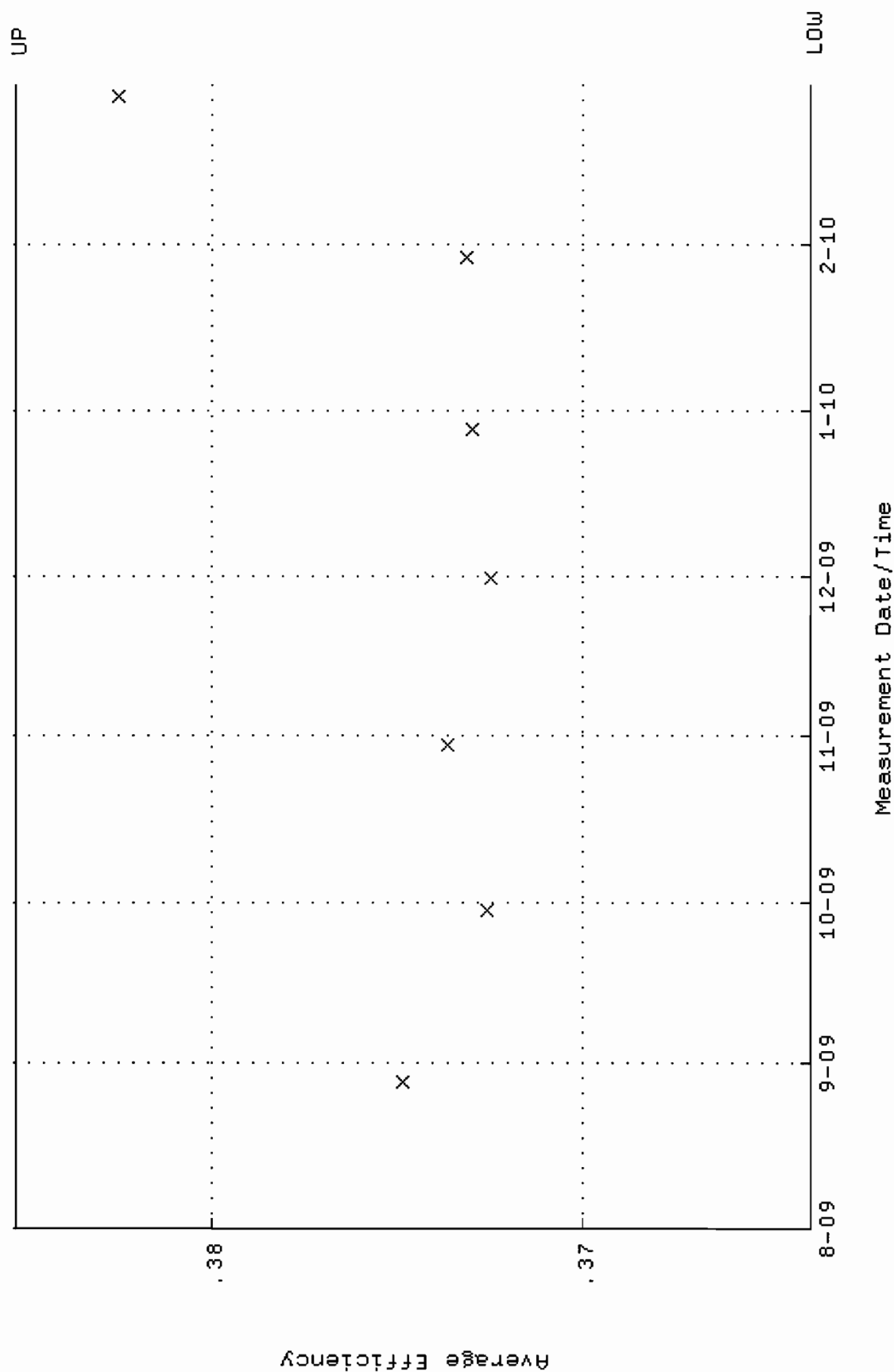
QA filename : DKA100:[ENV_ALPHA.QA.W]W212.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:06:45 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.6415 through 94.9511



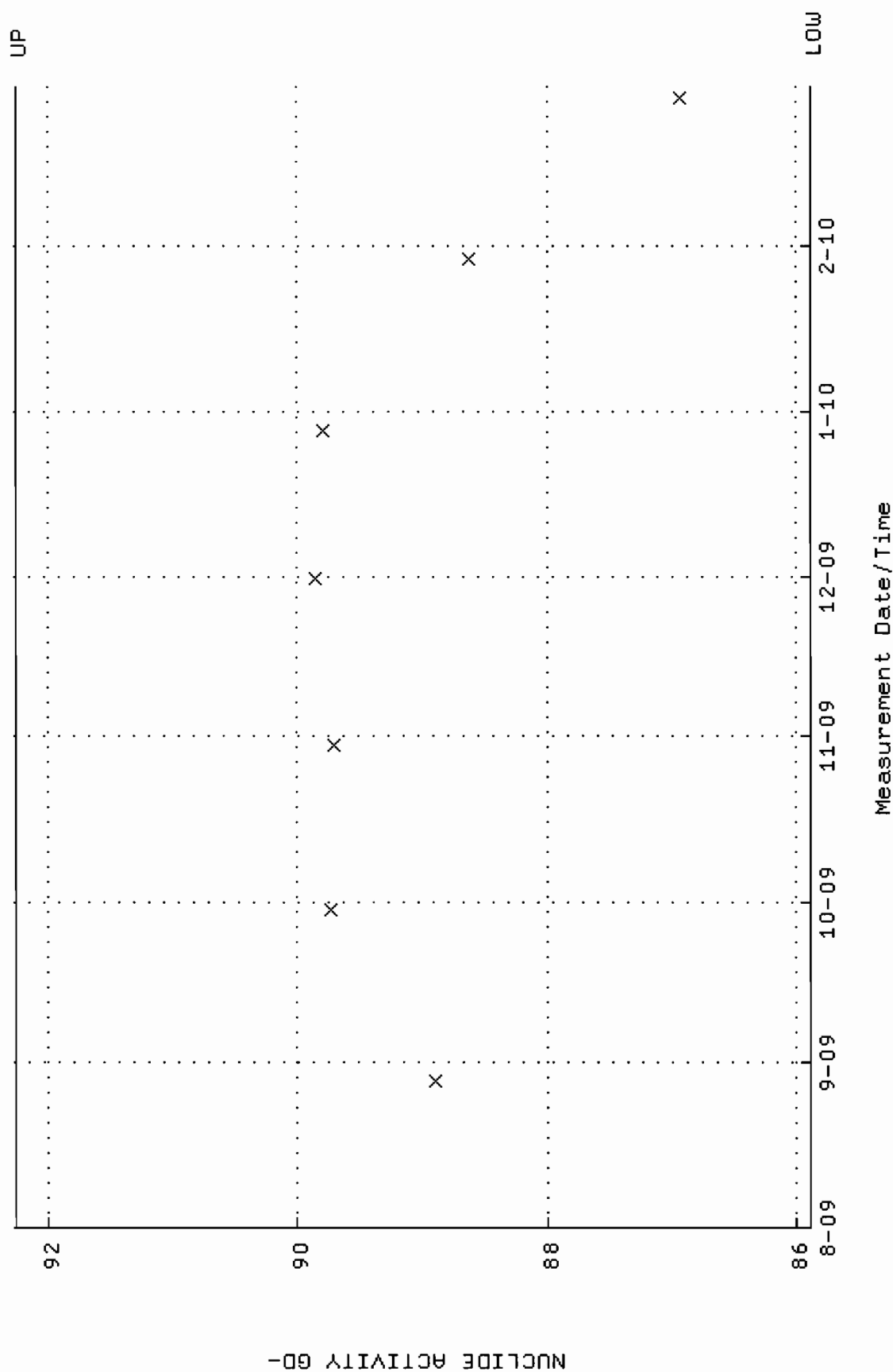
QA filename : DKA100:[ENV_ALPHA.QA.B]B212.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:23 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



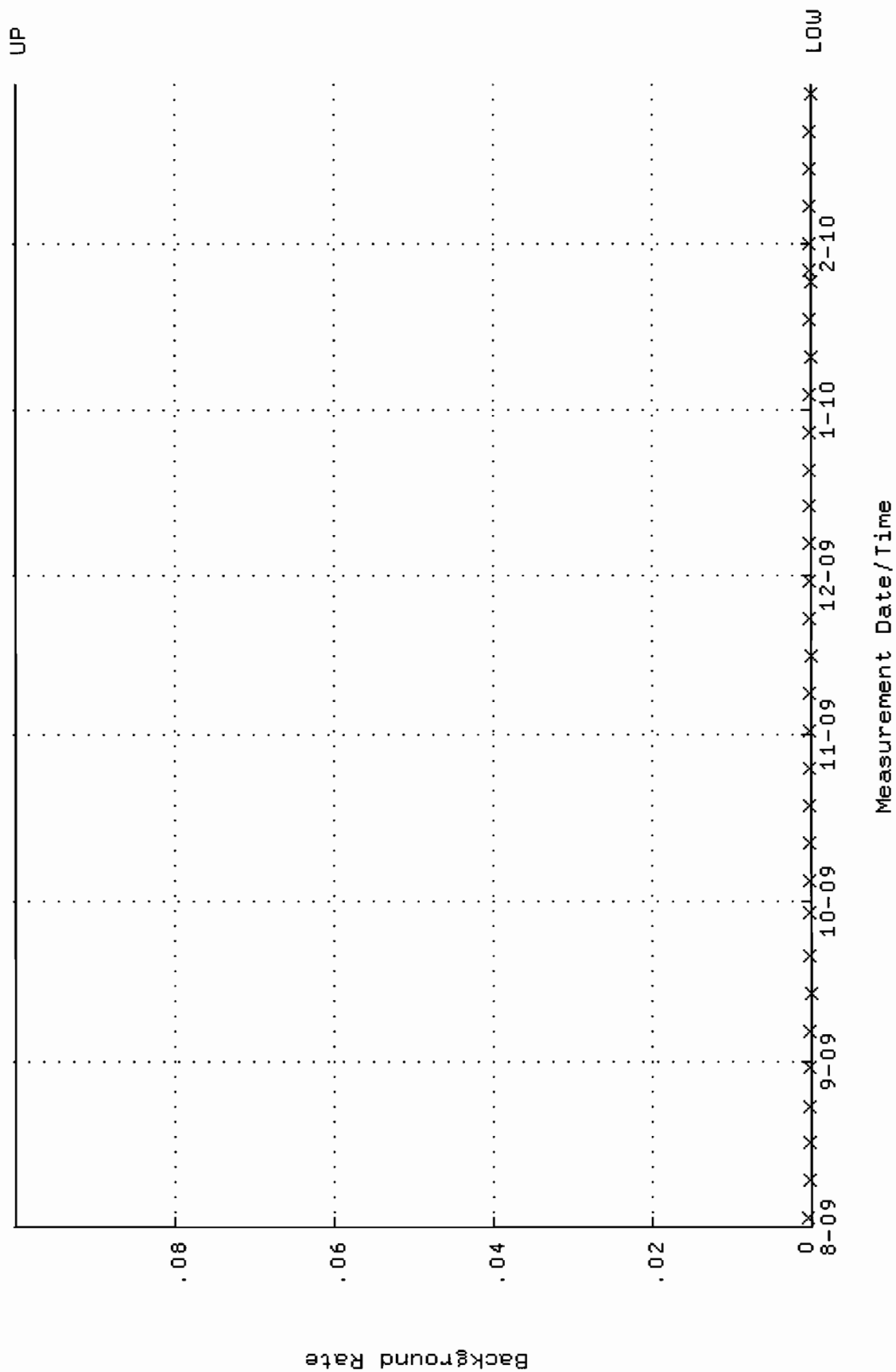
QA filename : DKA100:[ENV_ALPHA.QA.W]w213.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:06:50 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.363867 through 0.385287



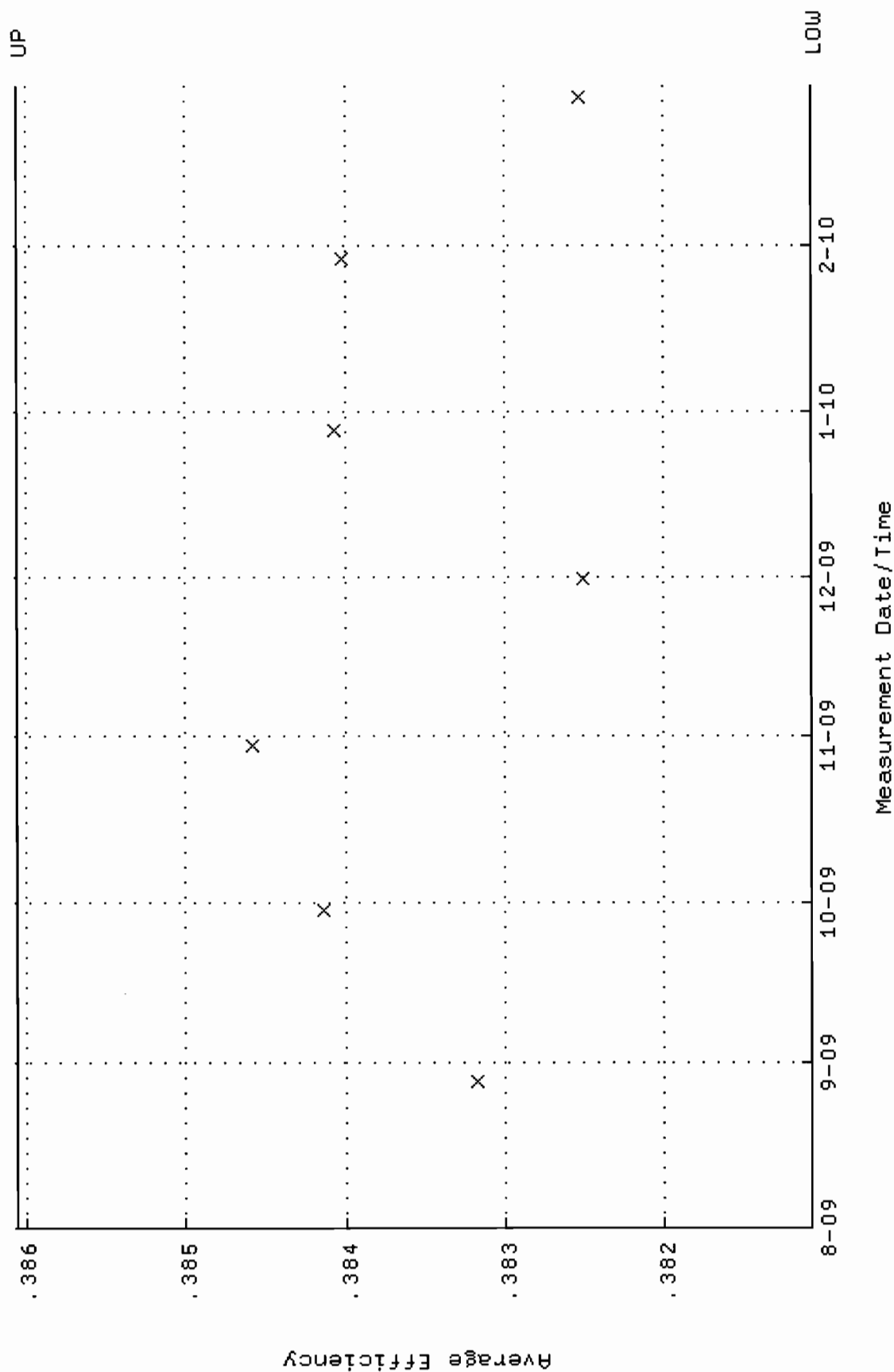
QA filename : DKA100:[ENV_ALPHA.QA.W]w213.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:06:50 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.8876 through 92.2476



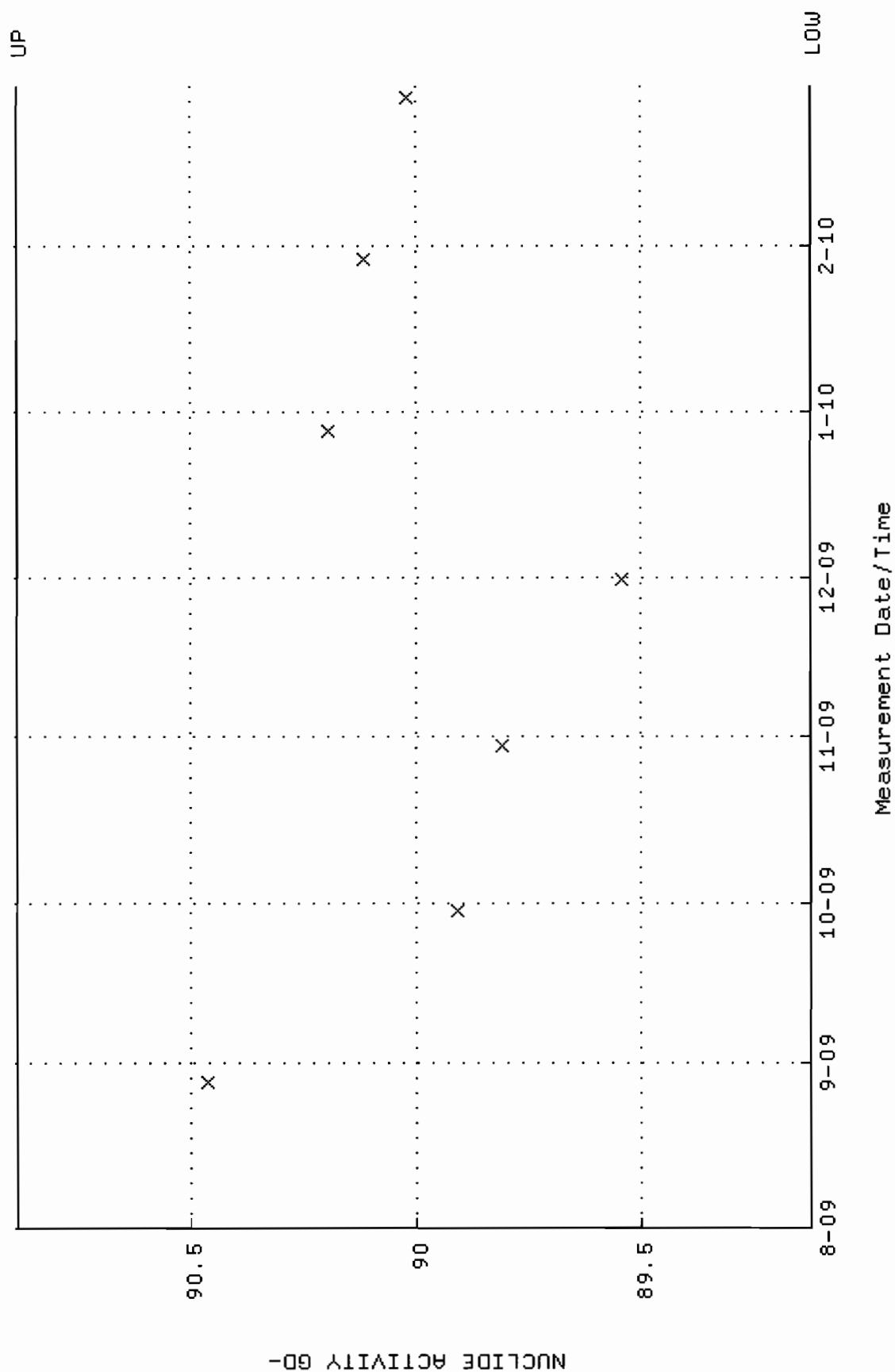
QA filename : DKA100:[ENV_ALPHA.QA.B]B213.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



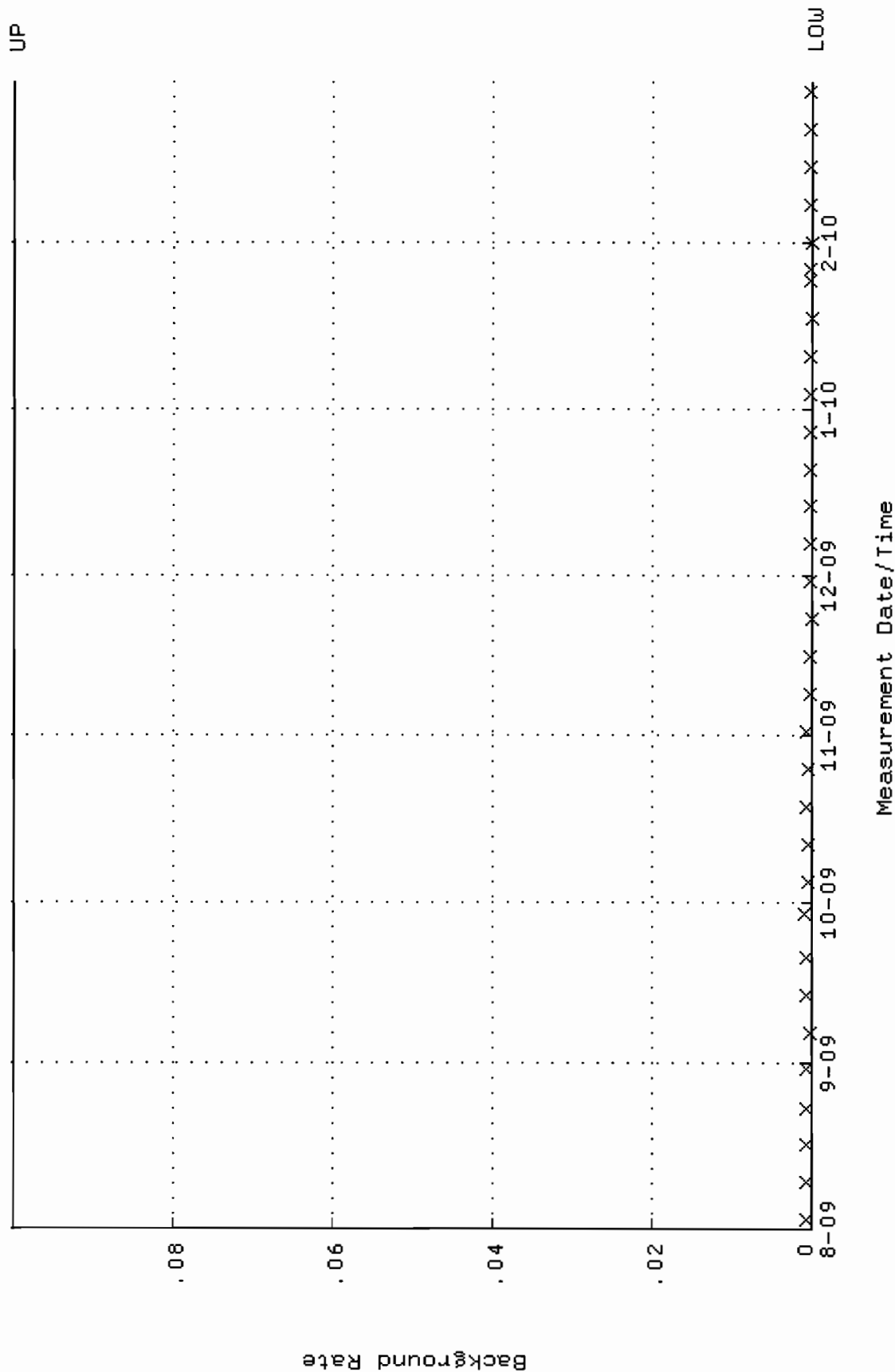
QA filename : DKA100:[ENV_ALPHA.QA.W]W214.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:06:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.381077 through 0.386057



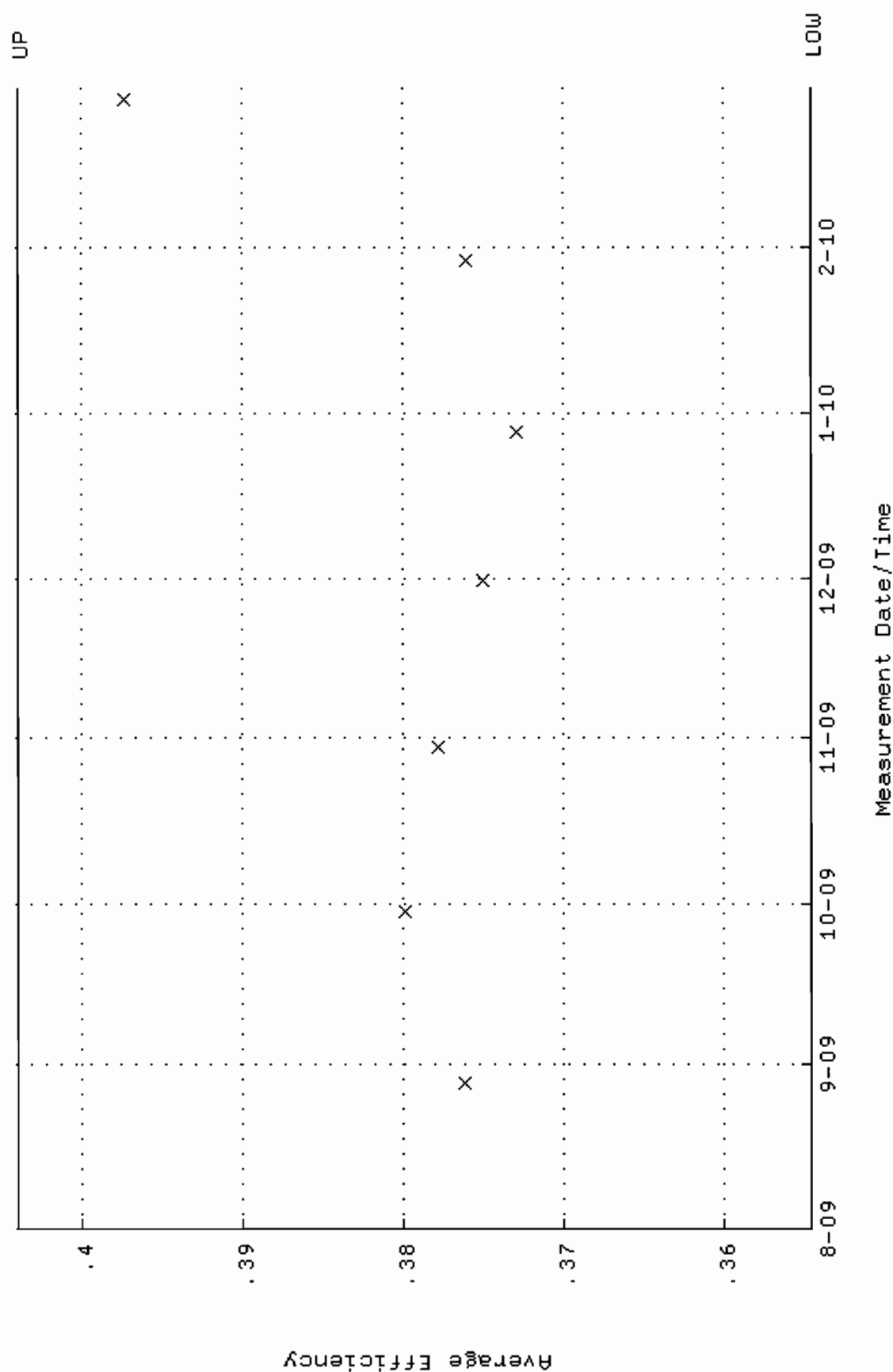
QA filename : DKA100:[ENV_ALPHA.QA.W]U214.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:06:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.1239 through 90.8865



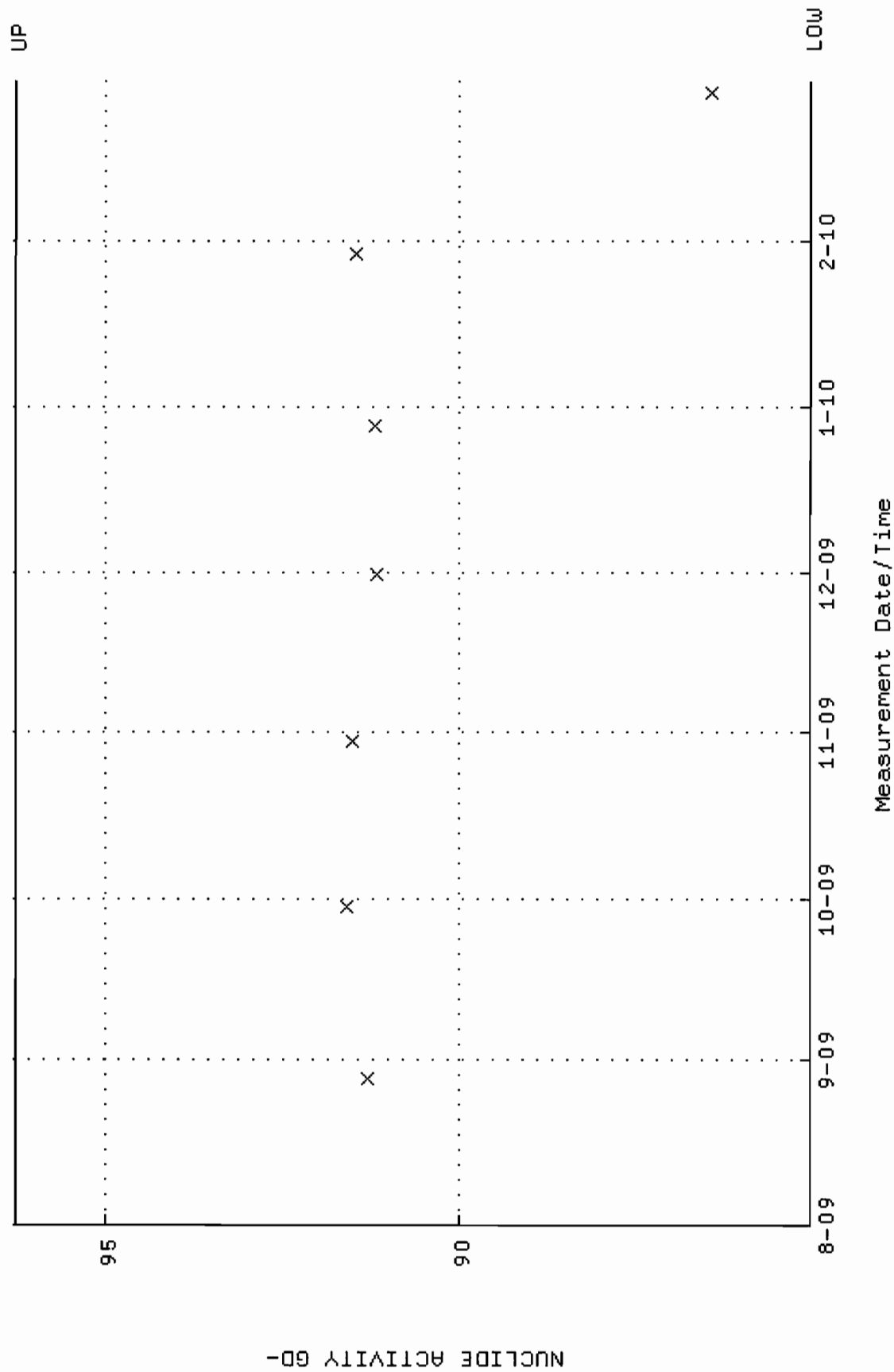
QA filename : DKA100:[ENV_ALPHA.QA.B]B214.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:31 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



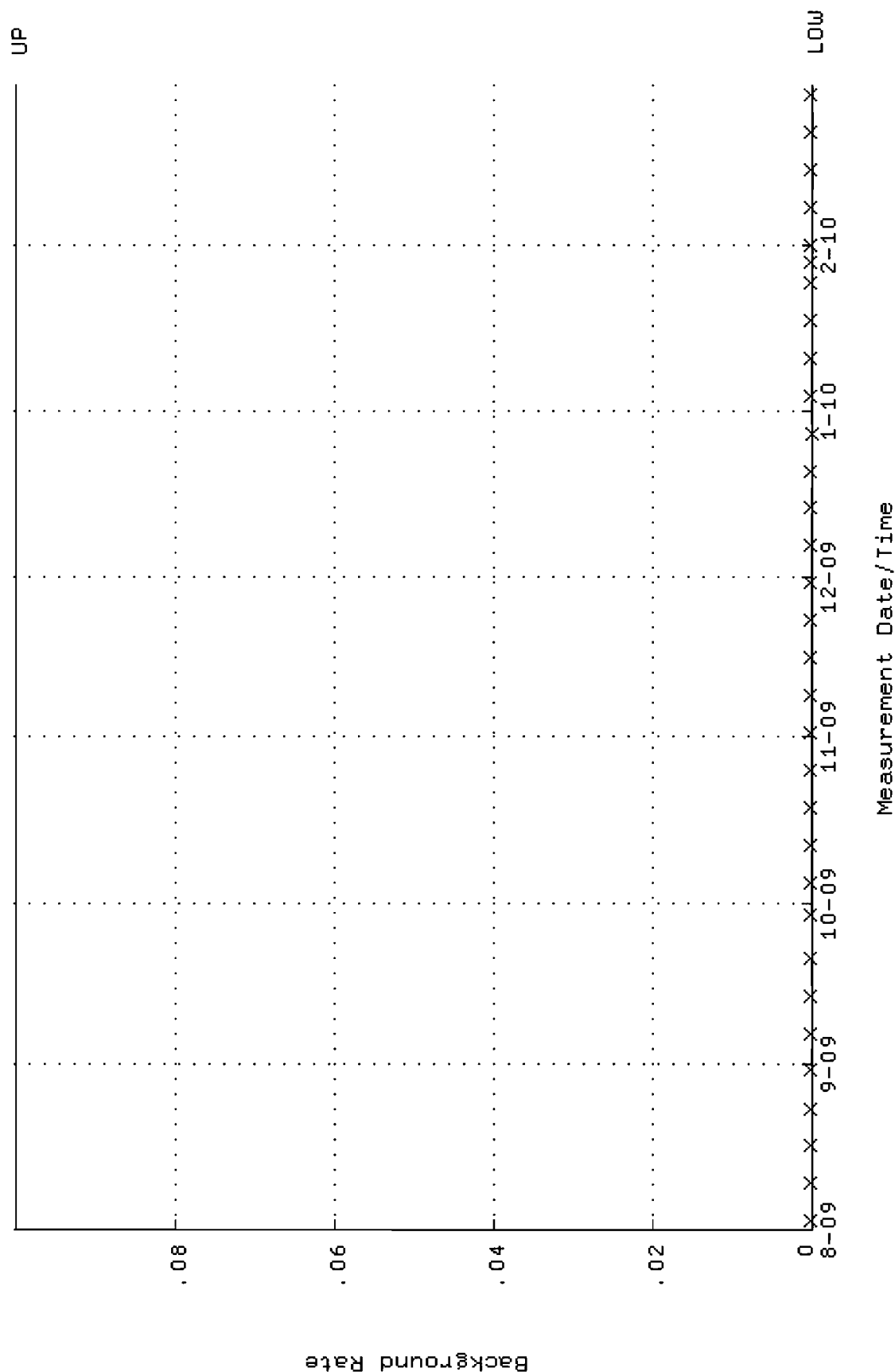
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.354487 through 0.403989



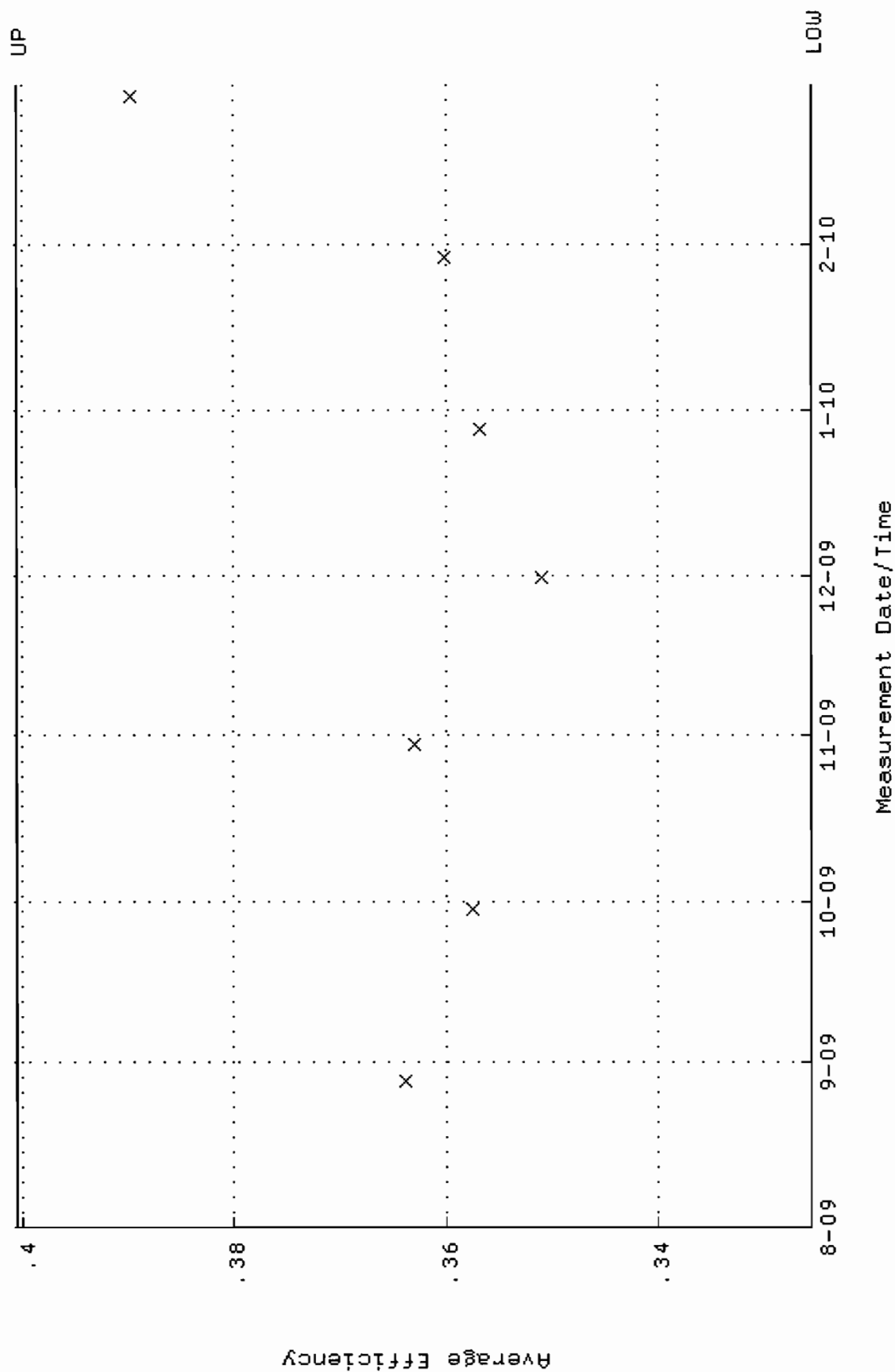
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.0275 through 96.2669



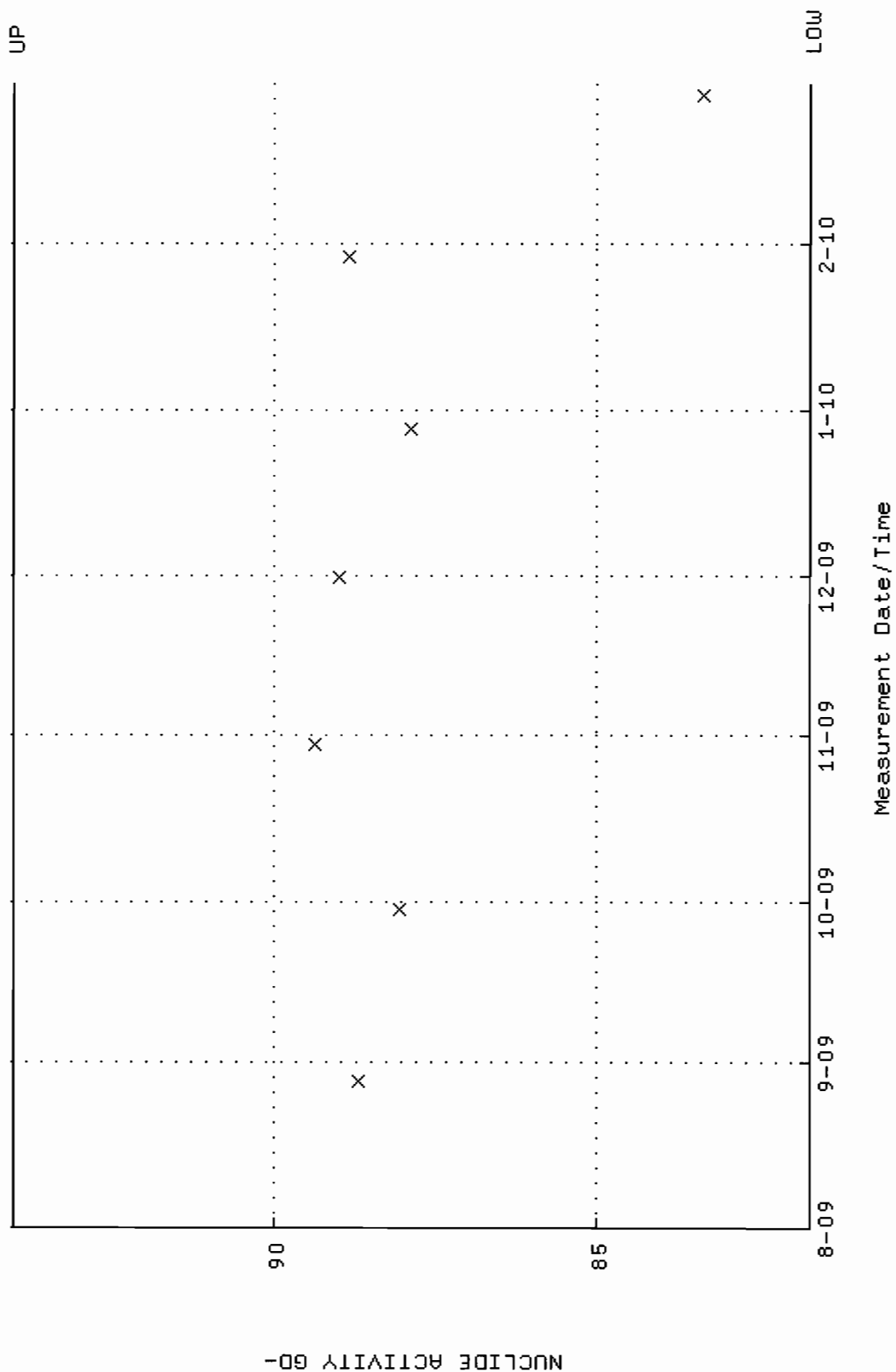
QA filename : DKA100:[ENV_ALPHA.QA.B]B221.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:01 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



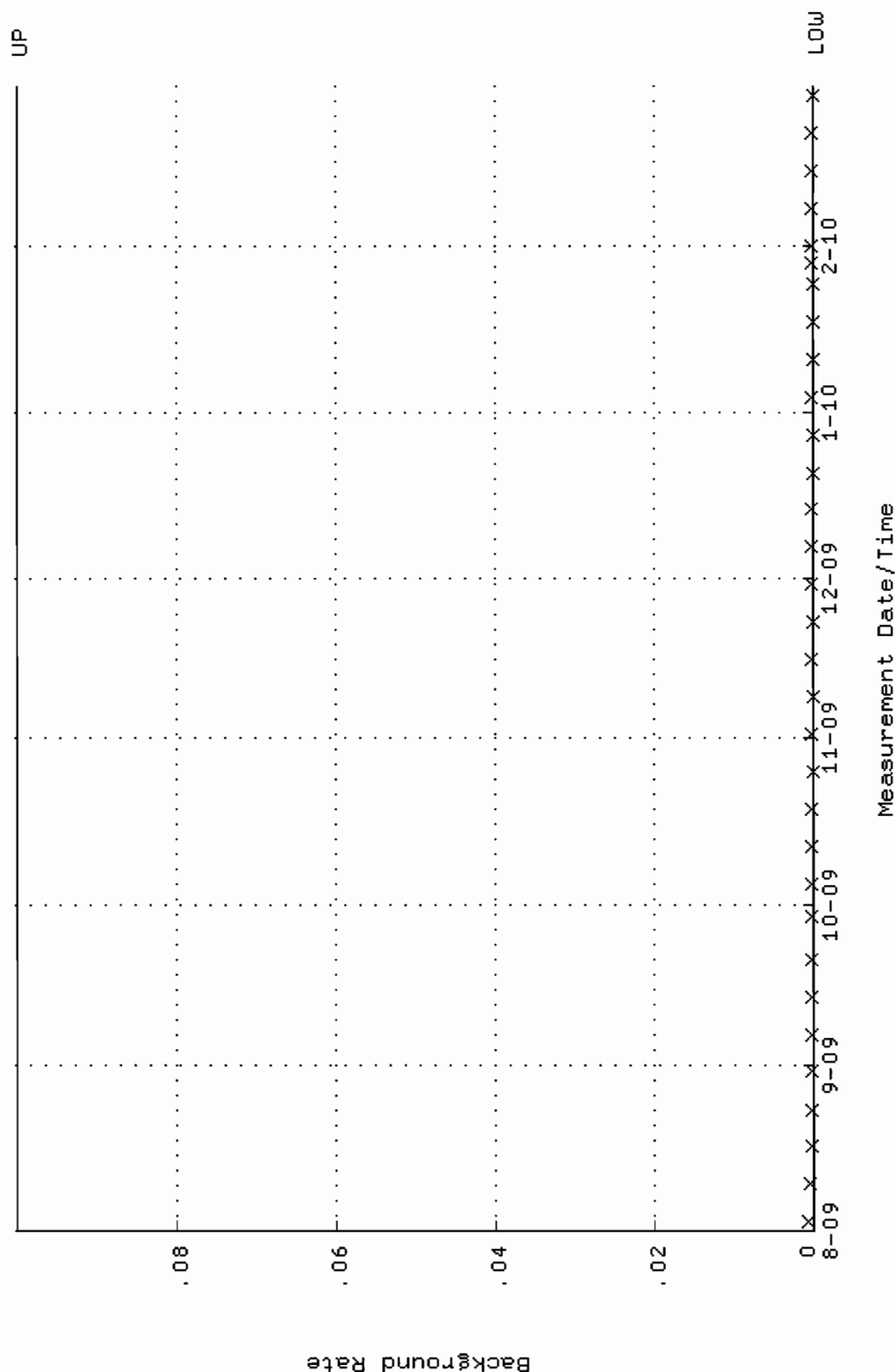
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:32 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.325585 through 0.400497



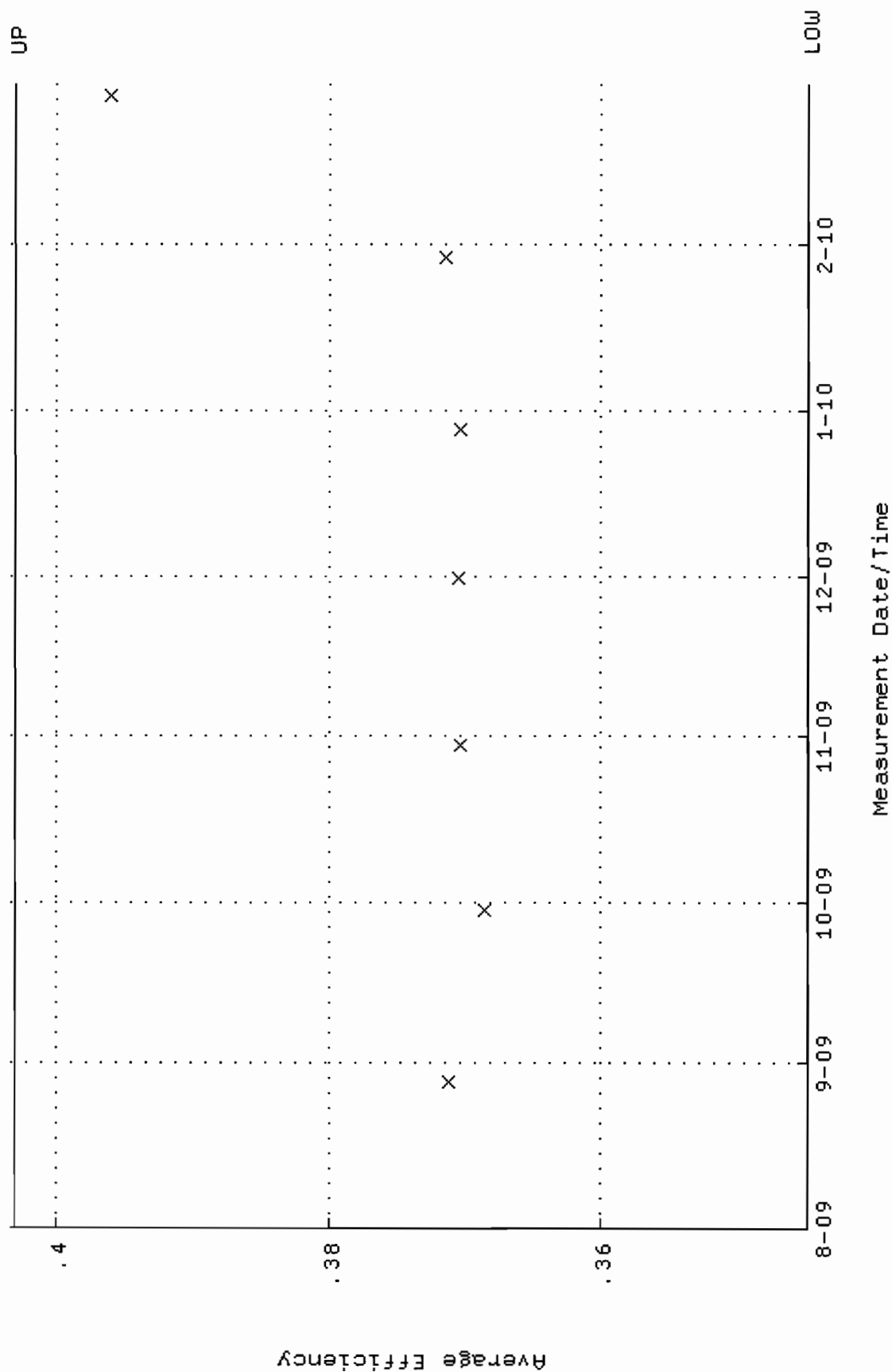
QA filename : DKA100:[ENV_ALPHA.QA.W]w222.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:32 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.6821 through 94.0551



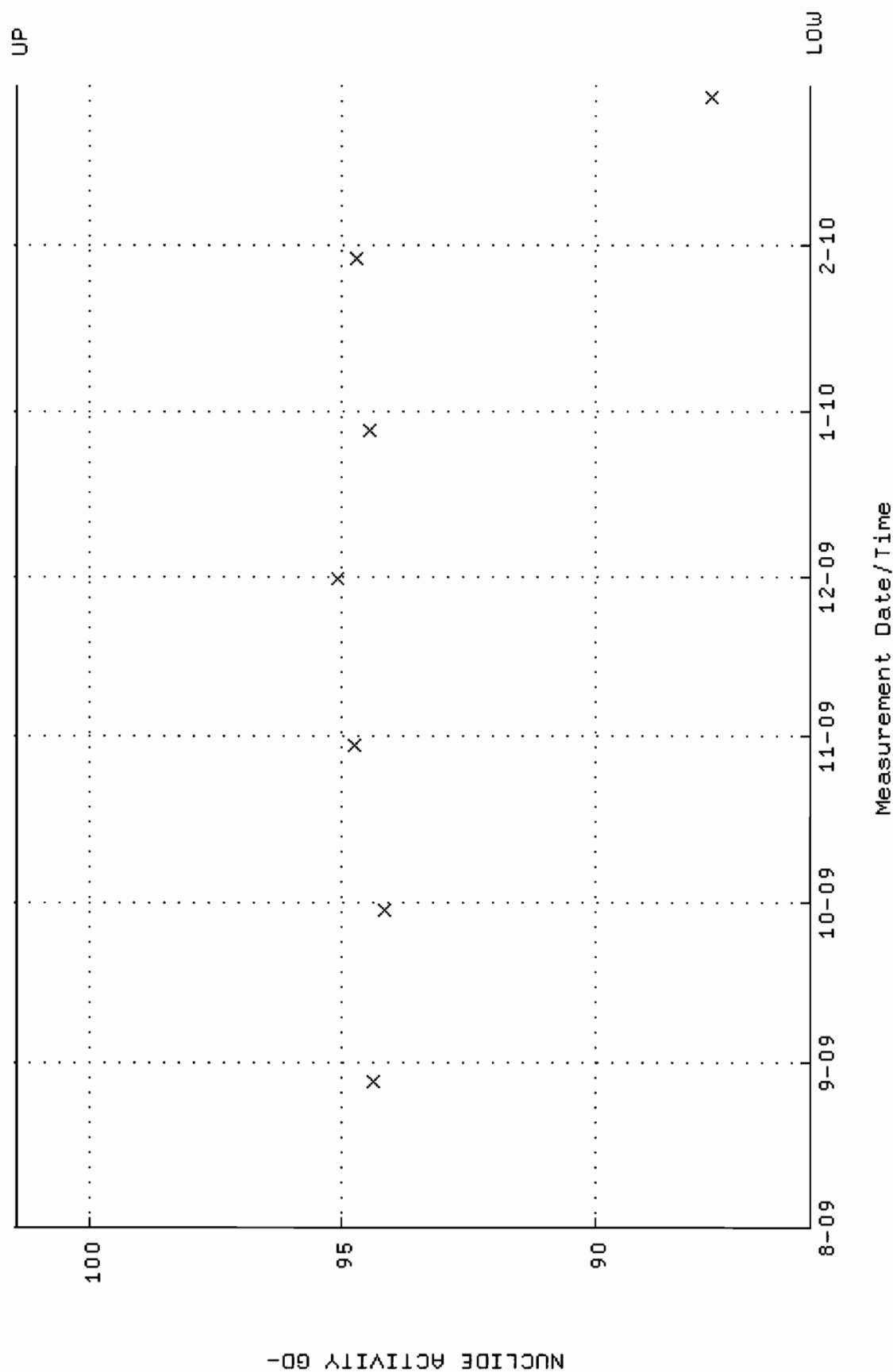
QA filename : DKA100:[ENV_ALPHA.QA.B]B222.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:05 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



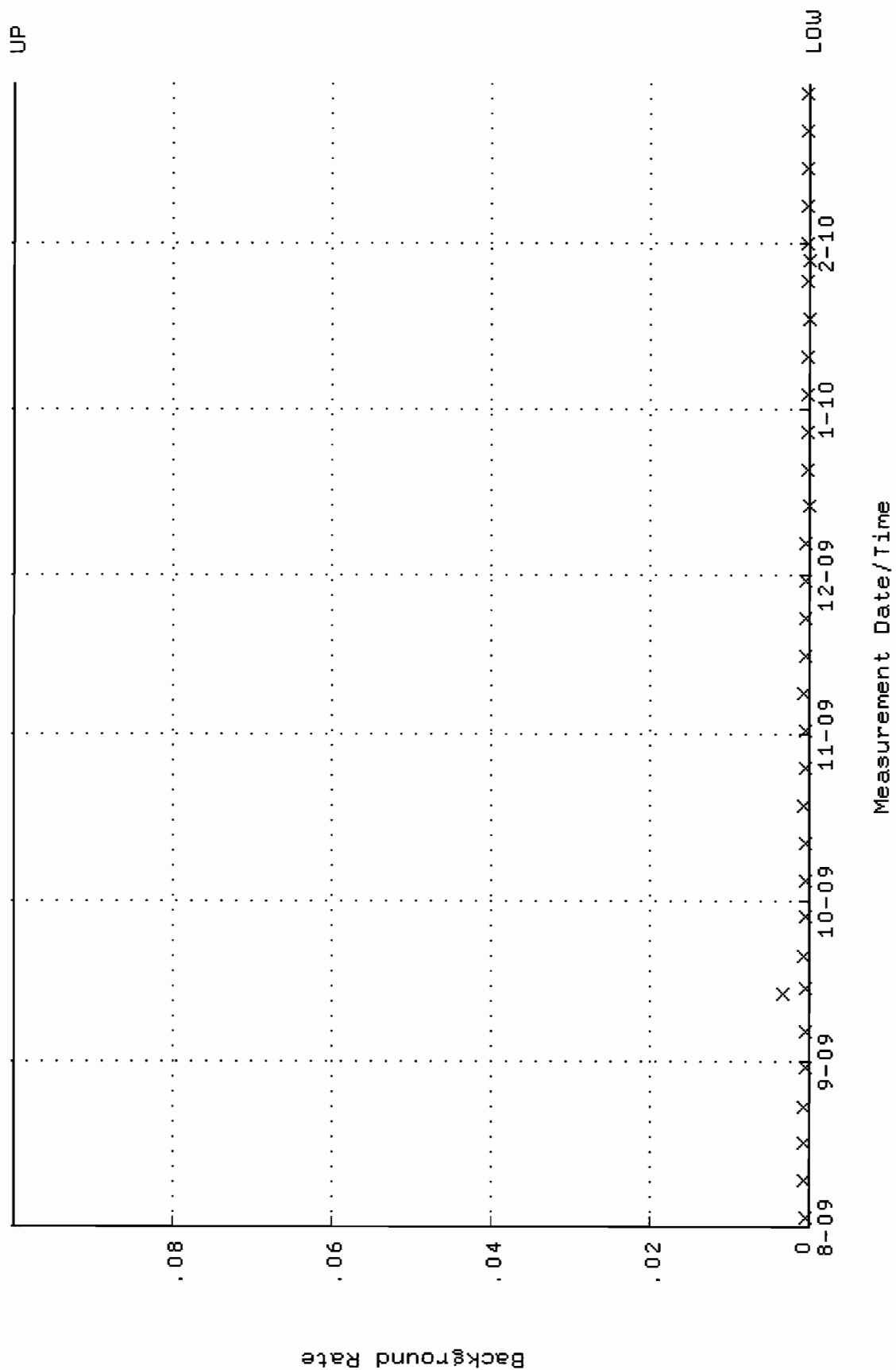
QA filename : DKA100:[ENV_ALPHA.QA.W]w223.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:38 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.344809 through 0.403131



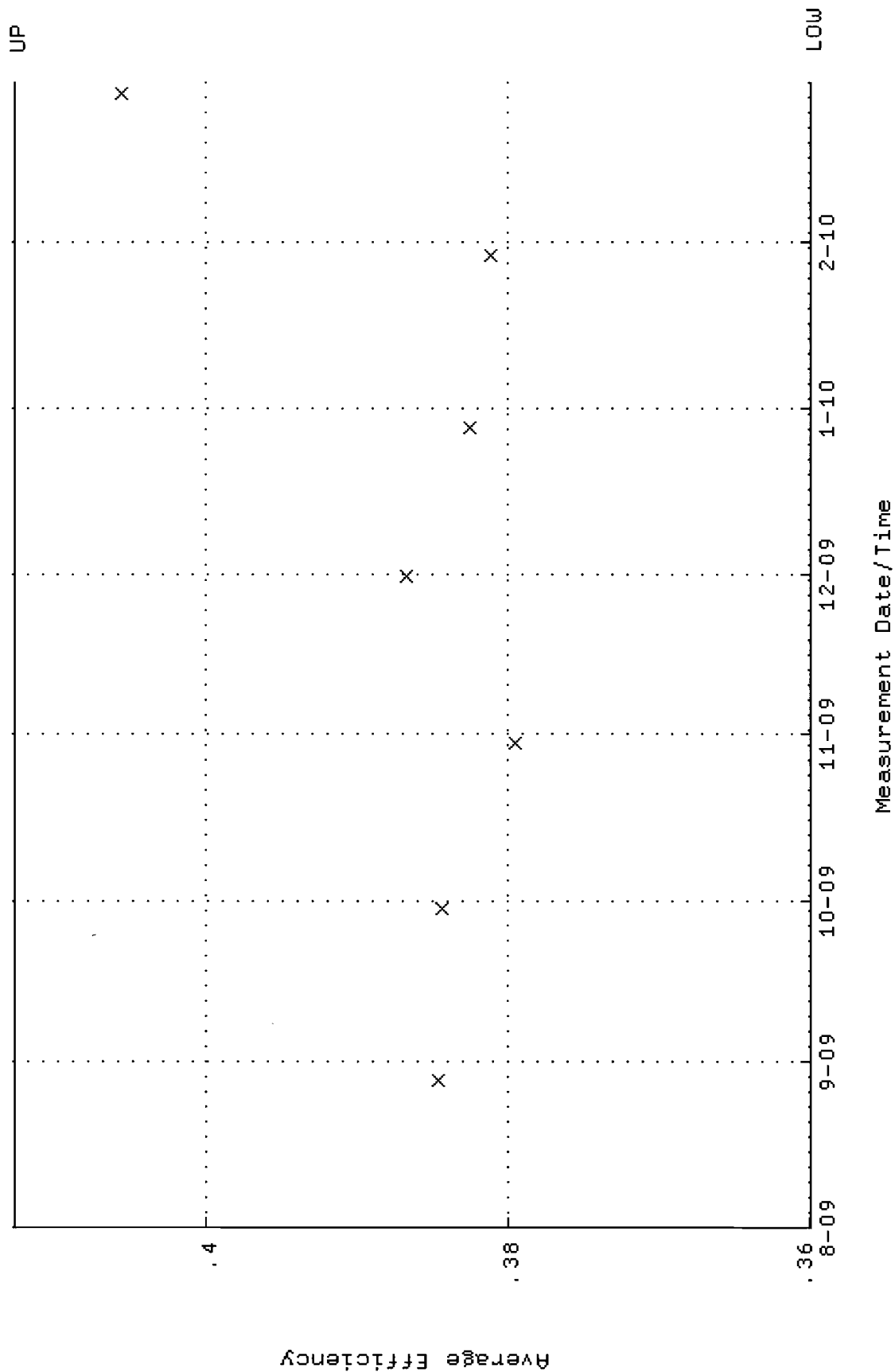
QA filename : DKA100:[ENV_ALPHA.QA.W]W223.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:38 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.7275 through 101.456



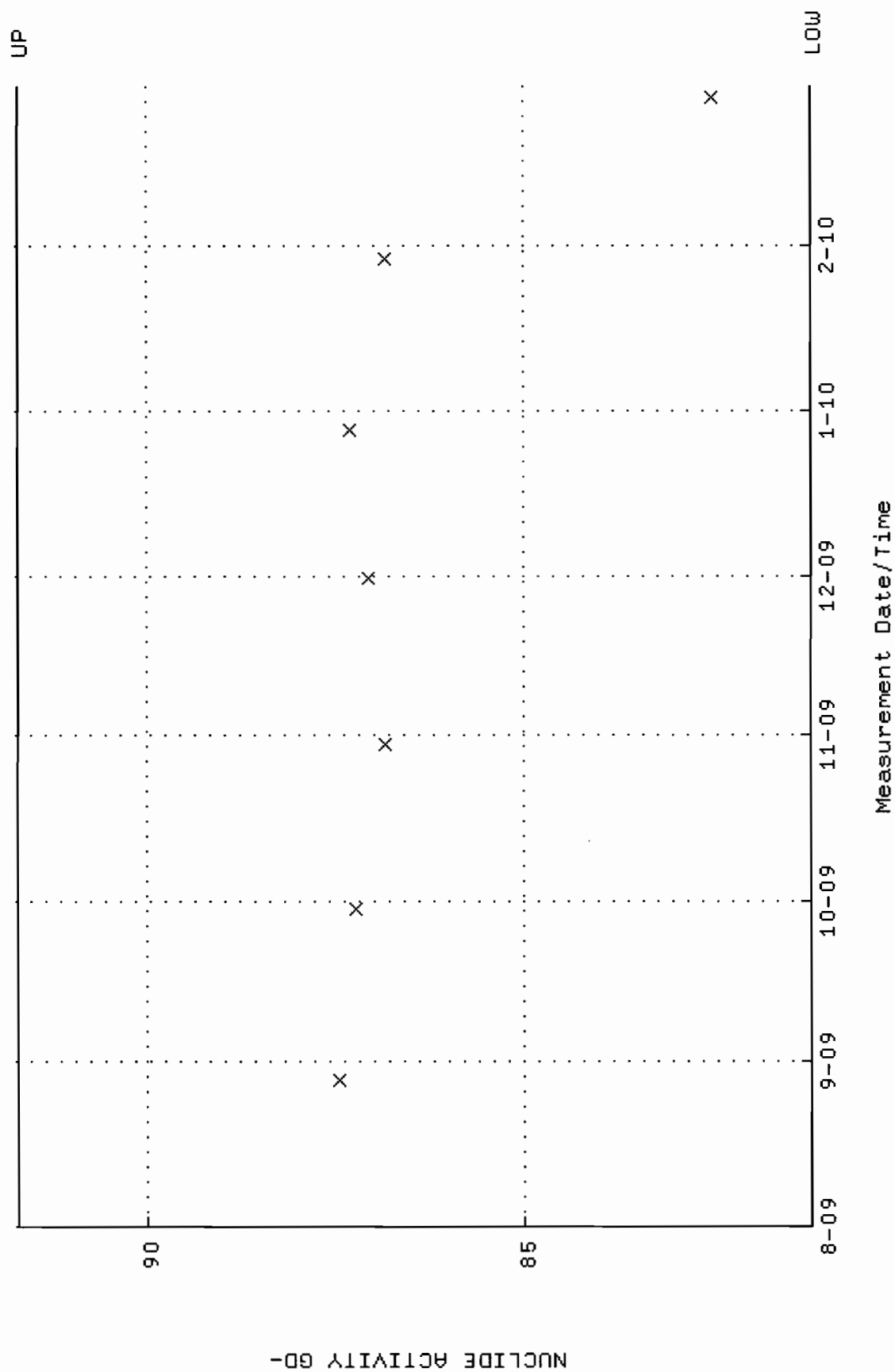
QA filename : DKA100:[ENV_ALPHA.QA.B]B223.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:08 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



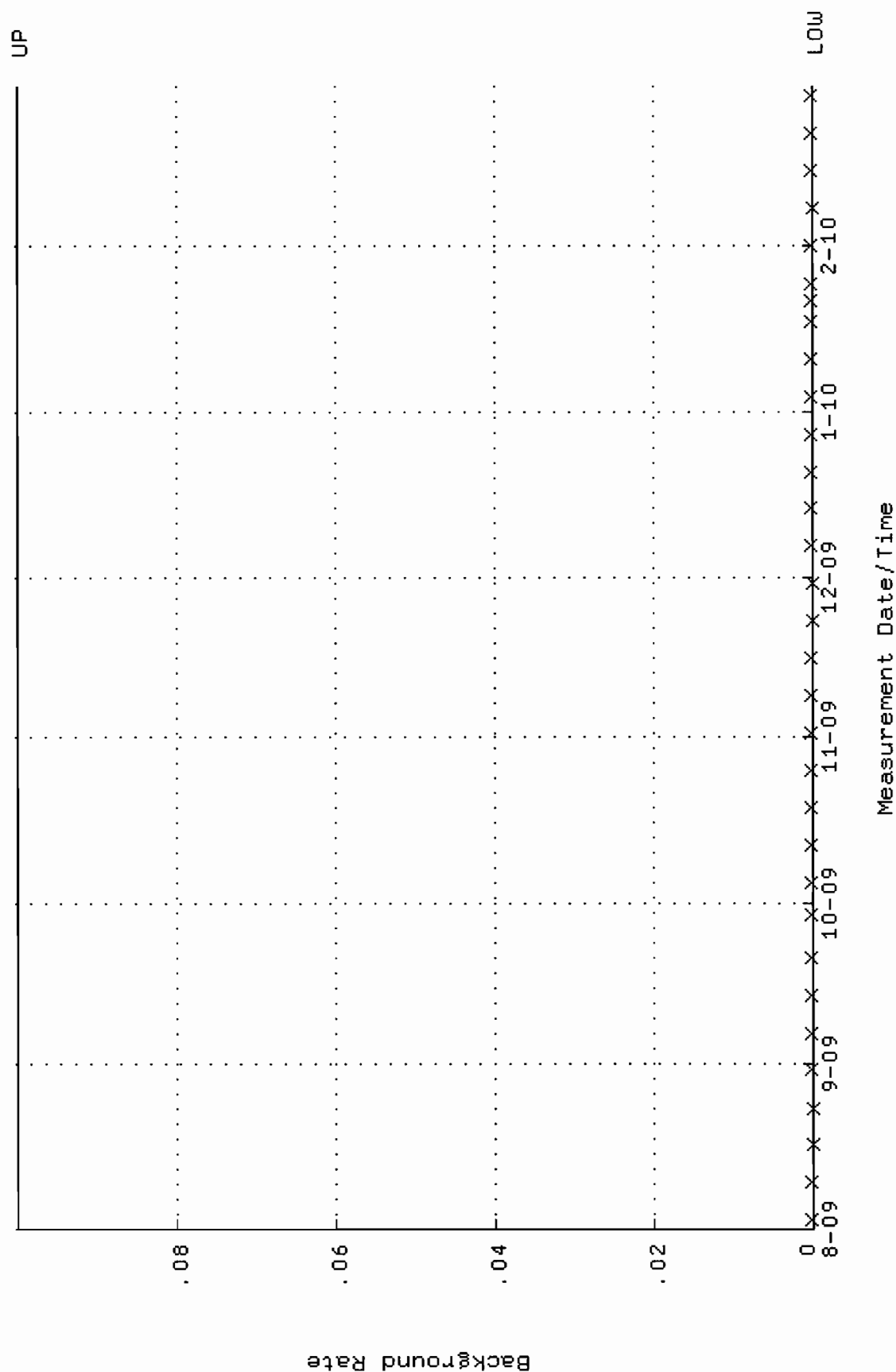
QA filename : DKA100:[ENV_ALPHA.QA.W]W245.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:09:37 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.359838 through 0.412714



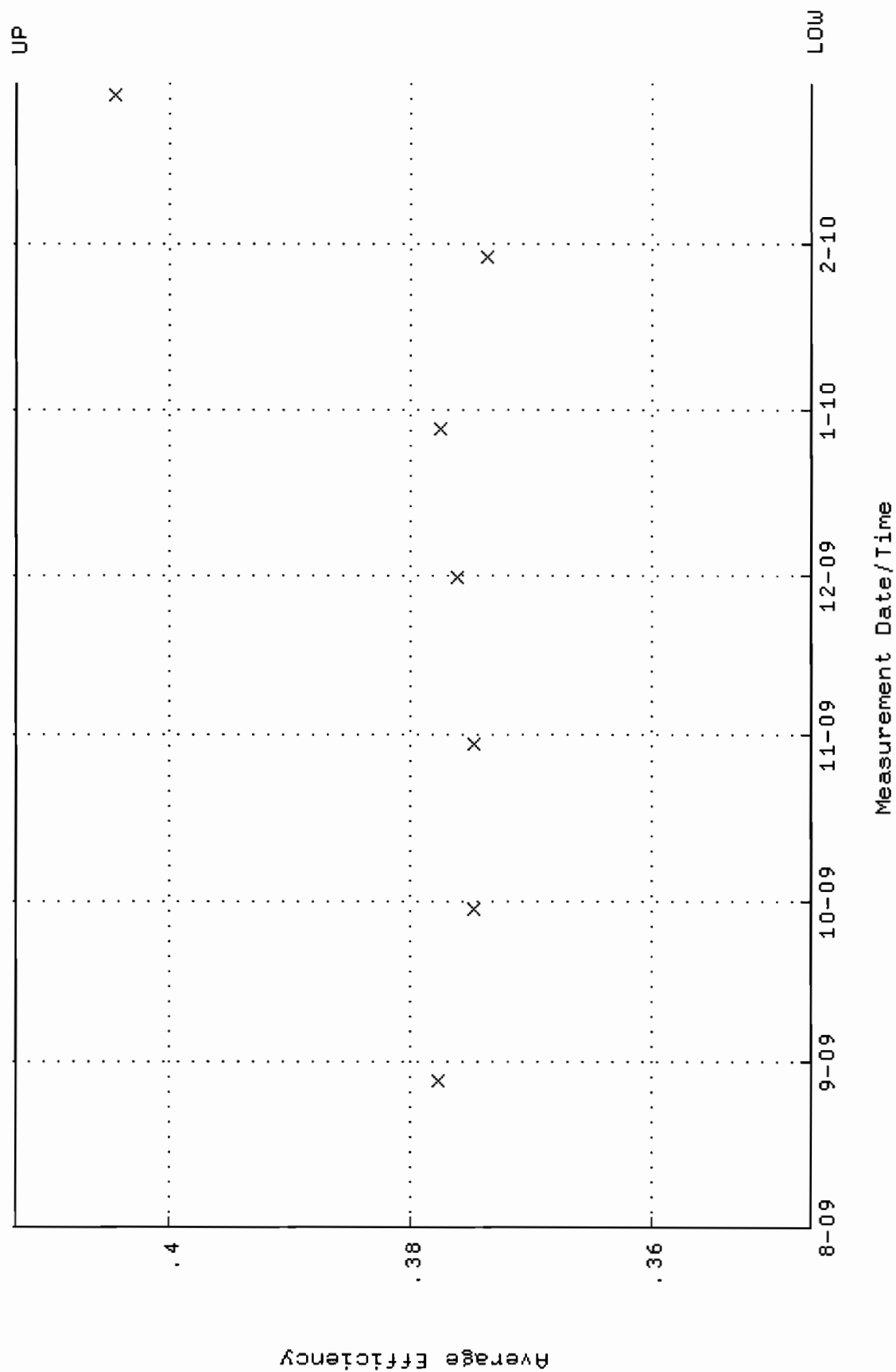
QA filename : DKA100:[ENV_ALPHA.QA.W]W245.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:09:37 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.1644 through 91.7216



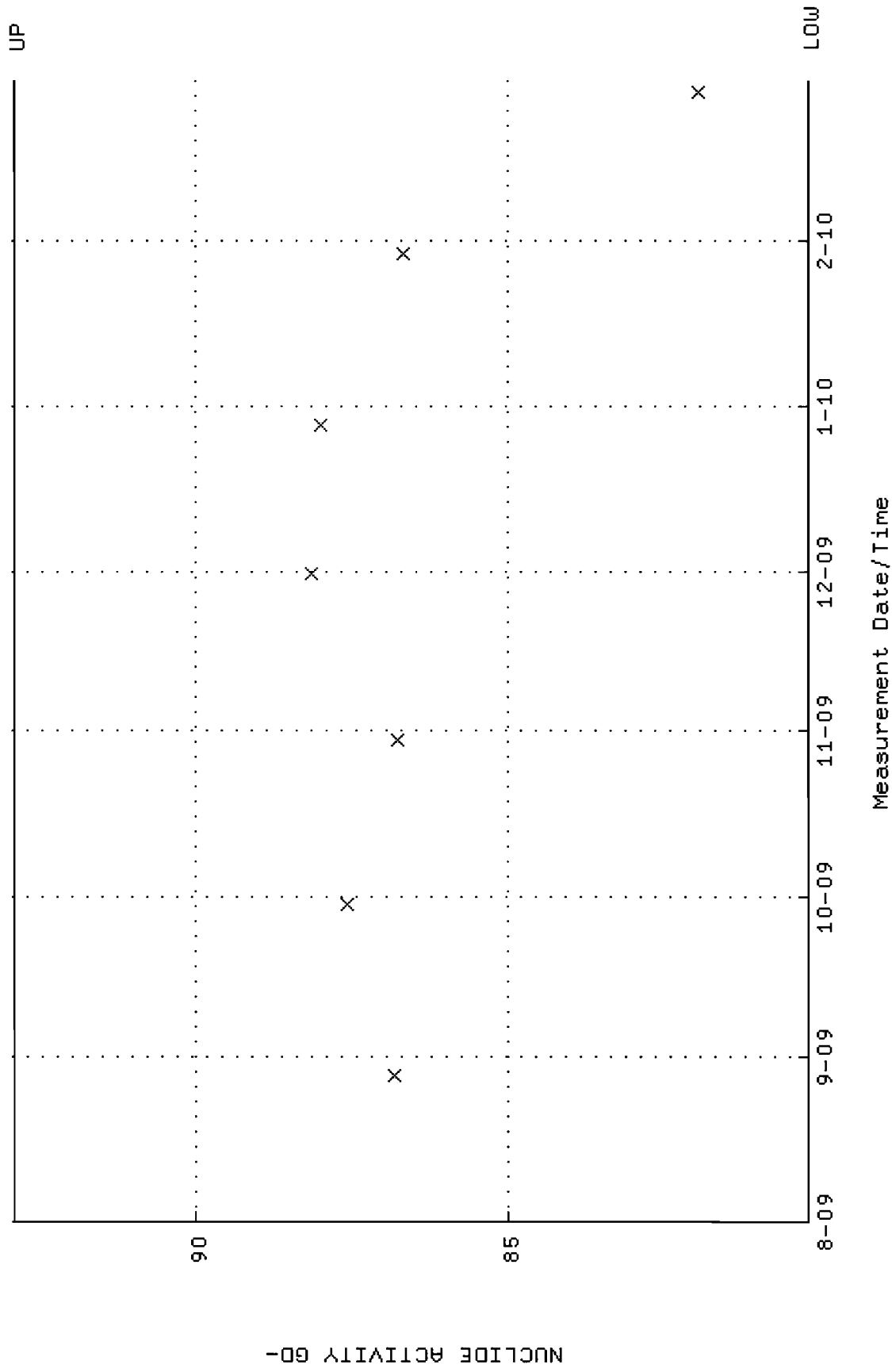
QA filename : DKA100:[ENV_ALPHA.QA.B]B245.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:27:45 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



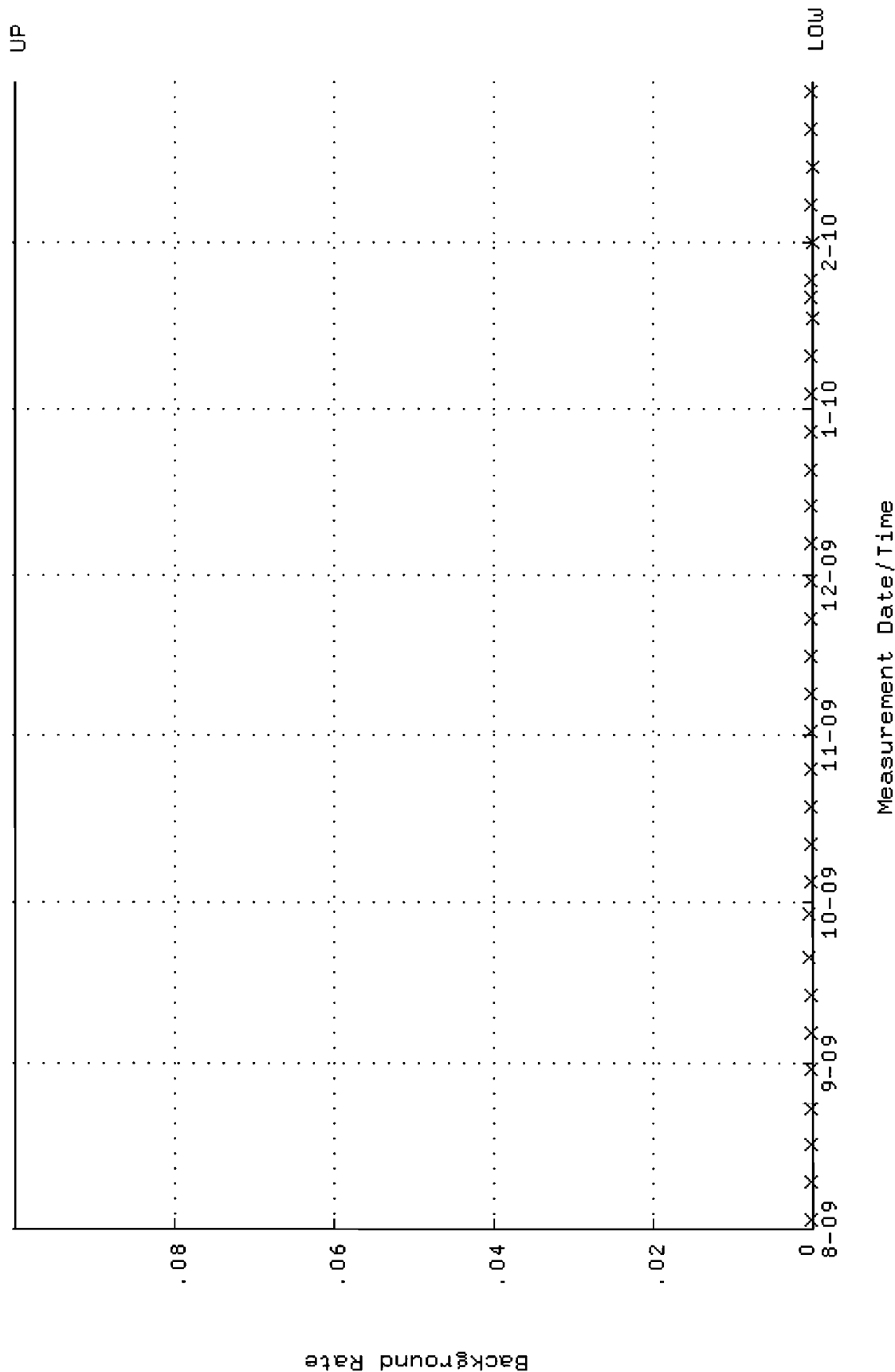
QA filename : DKA100:[ENV_ALPHA.QA.W]W246.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:09:44 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.346753 through 0.412735



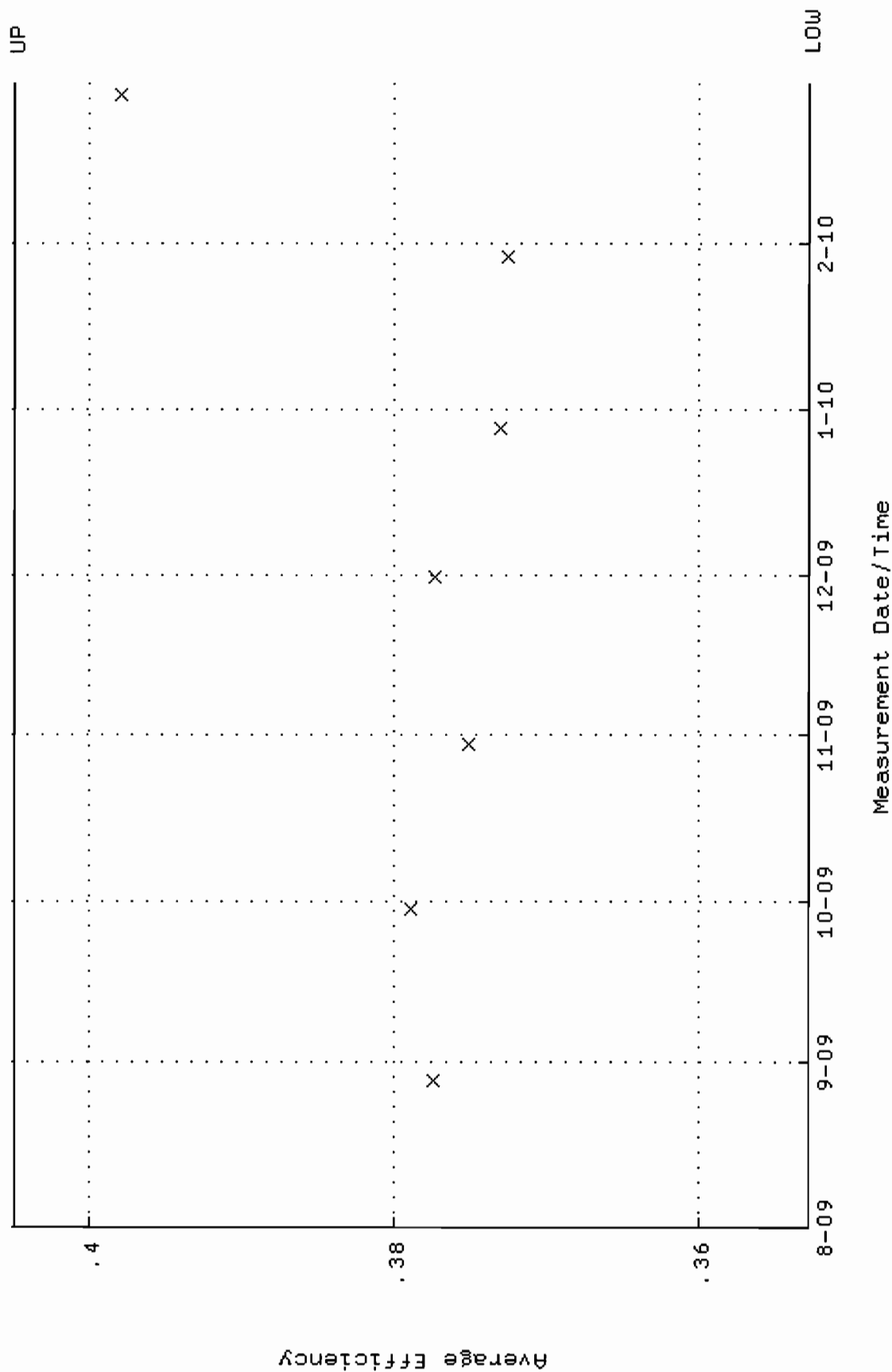
QA filename : DKA100:[ENV_ALPHA.QA.W]U246.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:09:44 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 80.1657 through 92.9177



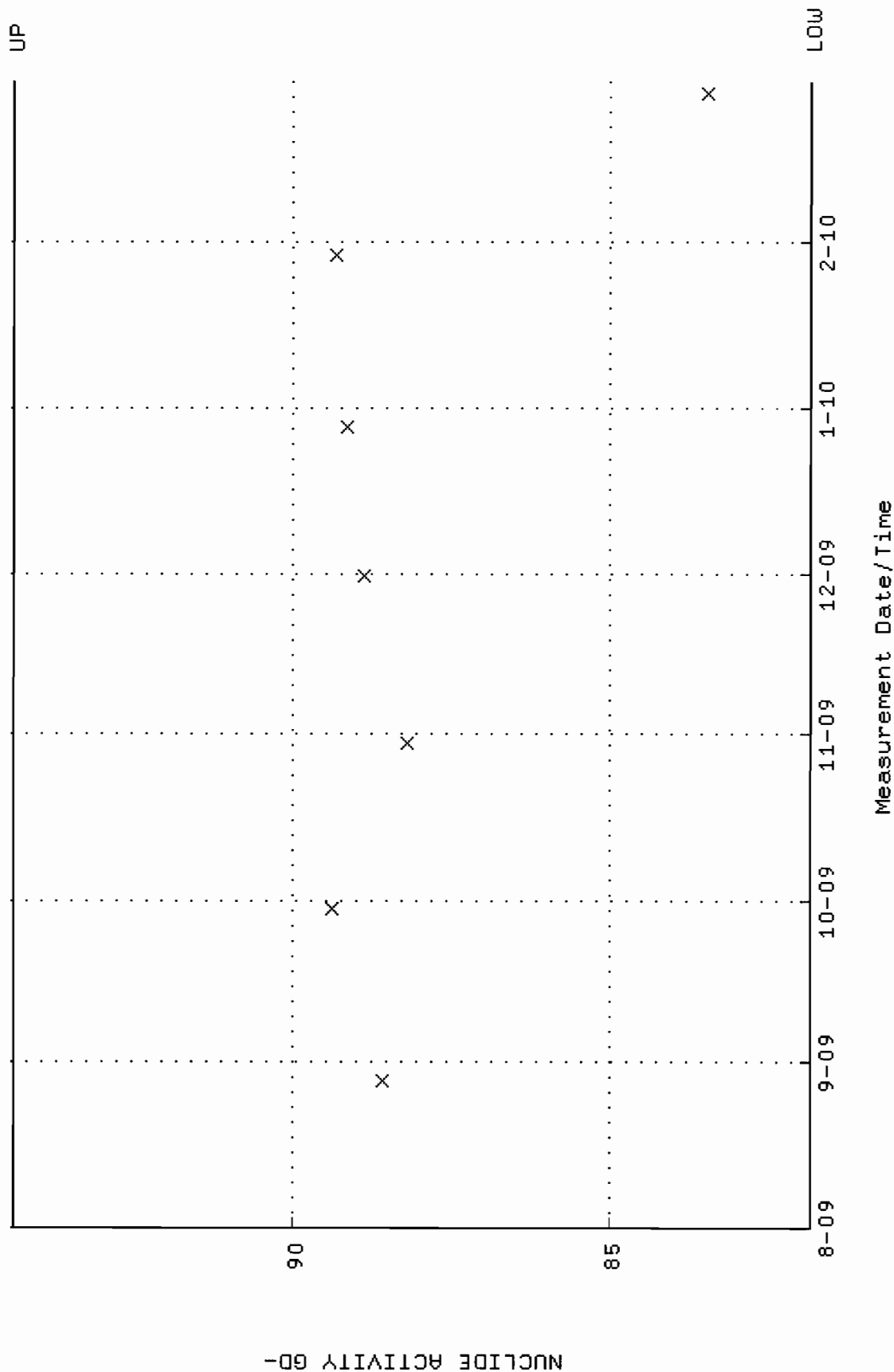
QA filename : DKA100:[ENV_ALPHA.QA.B]B246.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:27:49 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



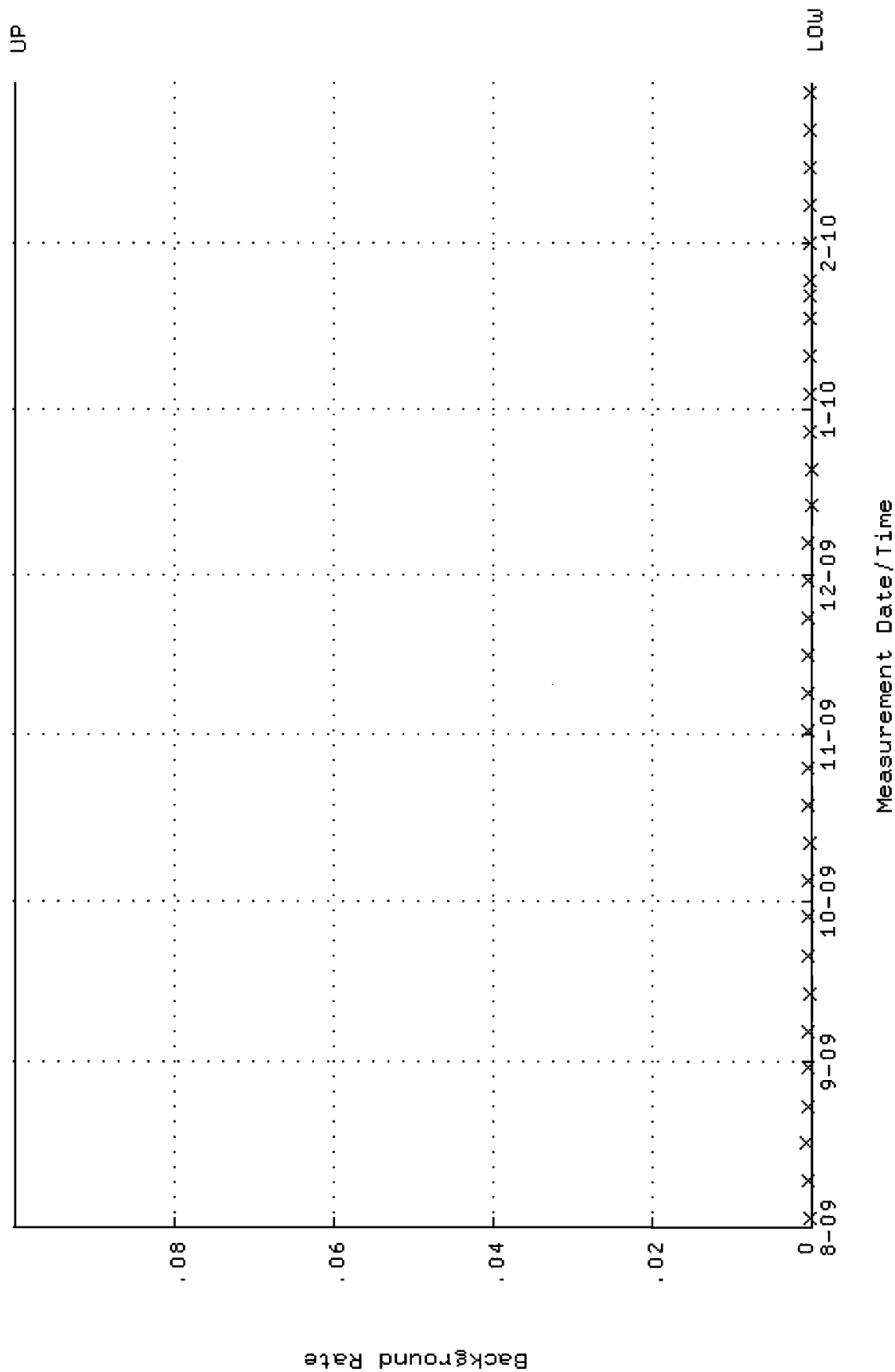
QA filename : DKA100:[ENV_ALPHA.QA.W]W247.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:09:50 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.352698 through 0.404942



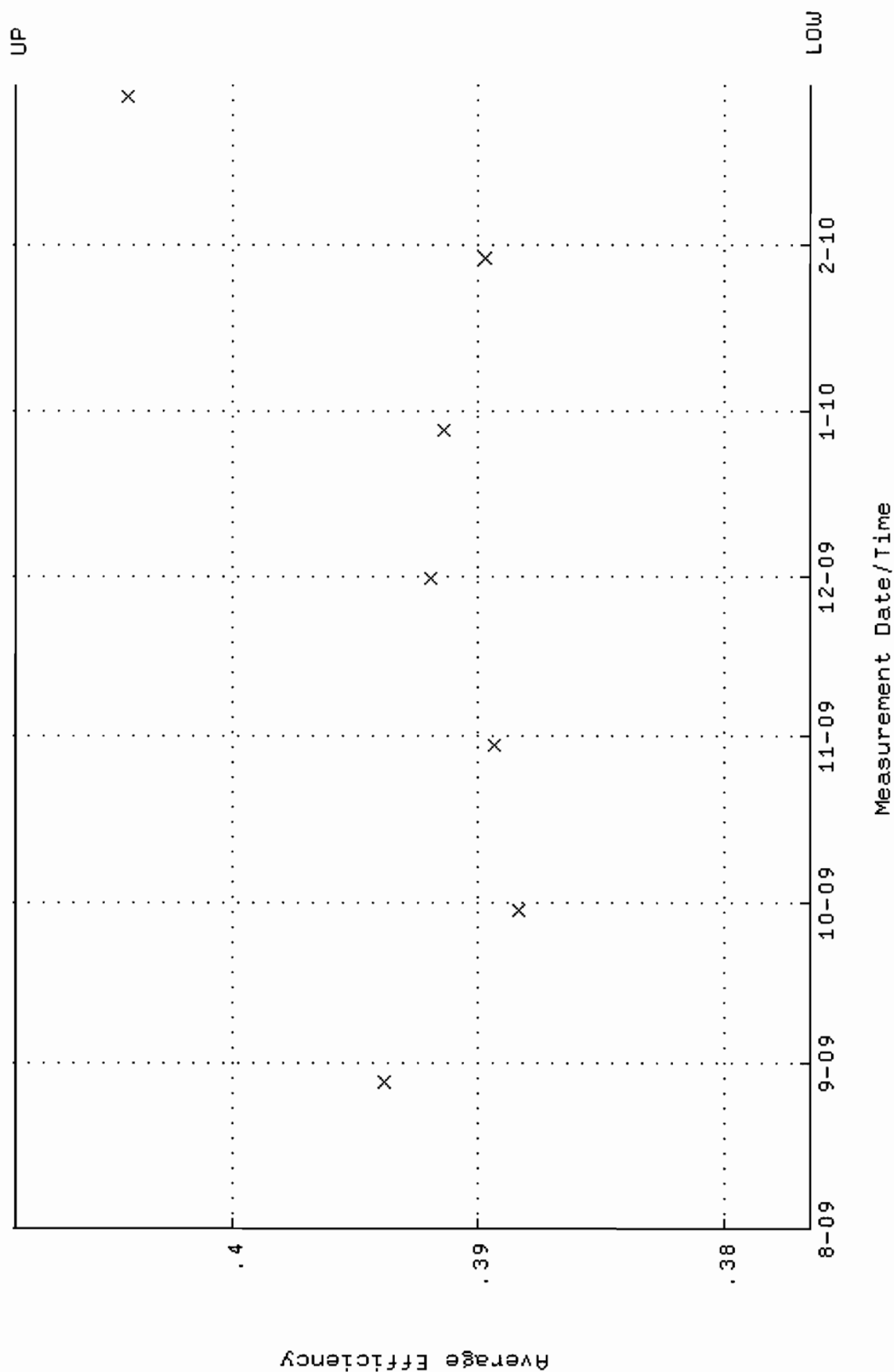
QA filename : DKA100:[ENV_ALPHA.QA.W]W247.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:09:50 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.8318 through 94.4164



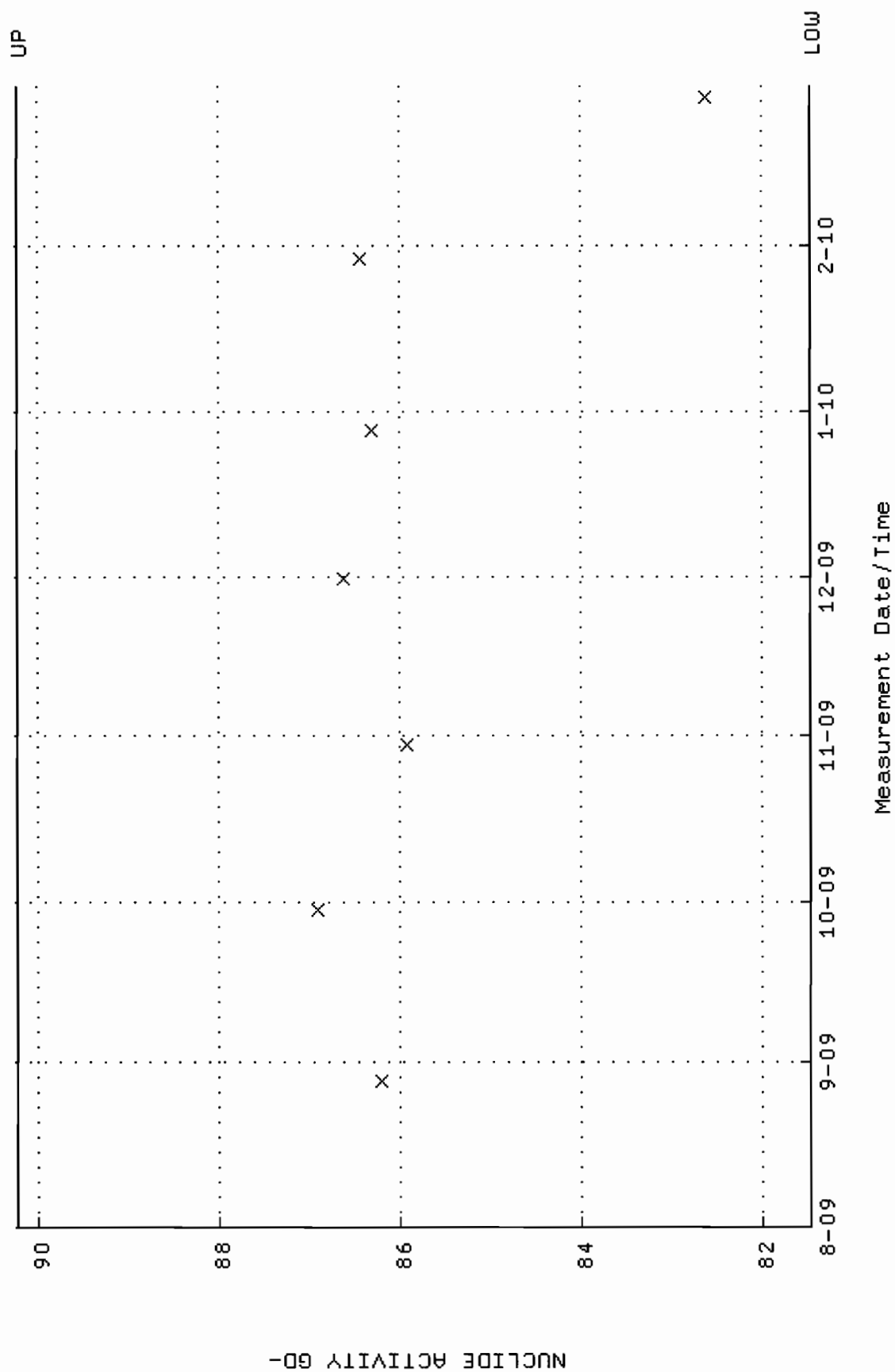
QA filename : DKA100:[ENV_ALPHA.QA.B]B247.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:27:54 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



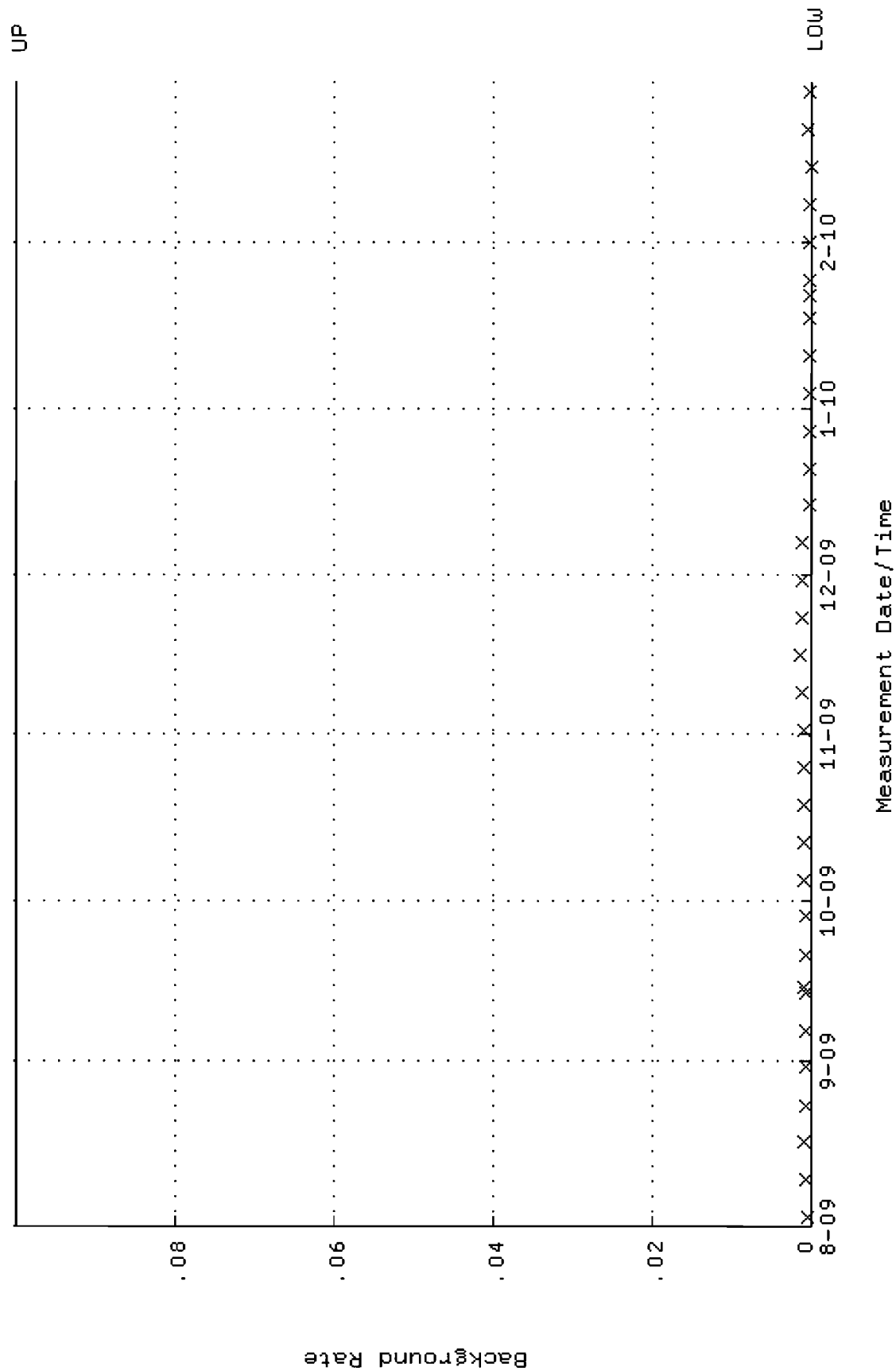
QA filename : DKA100:[ENV_ALPHA.QA.W]W248.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:09:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.376481 through 0.408807



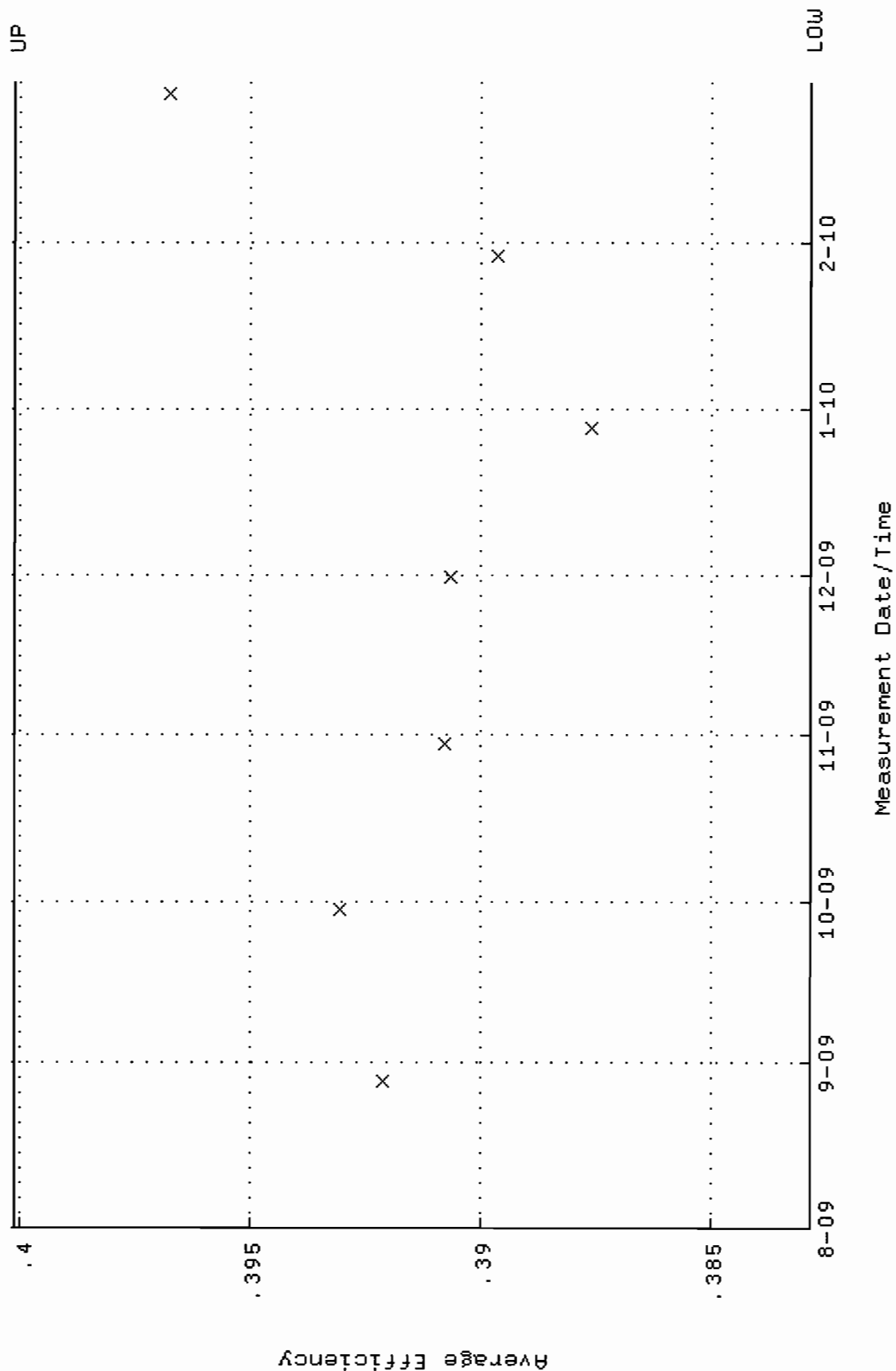
QA filename : DKA100:[ENV_ALPHA.QA.W]U248.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:09:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.4745 through 90.2275



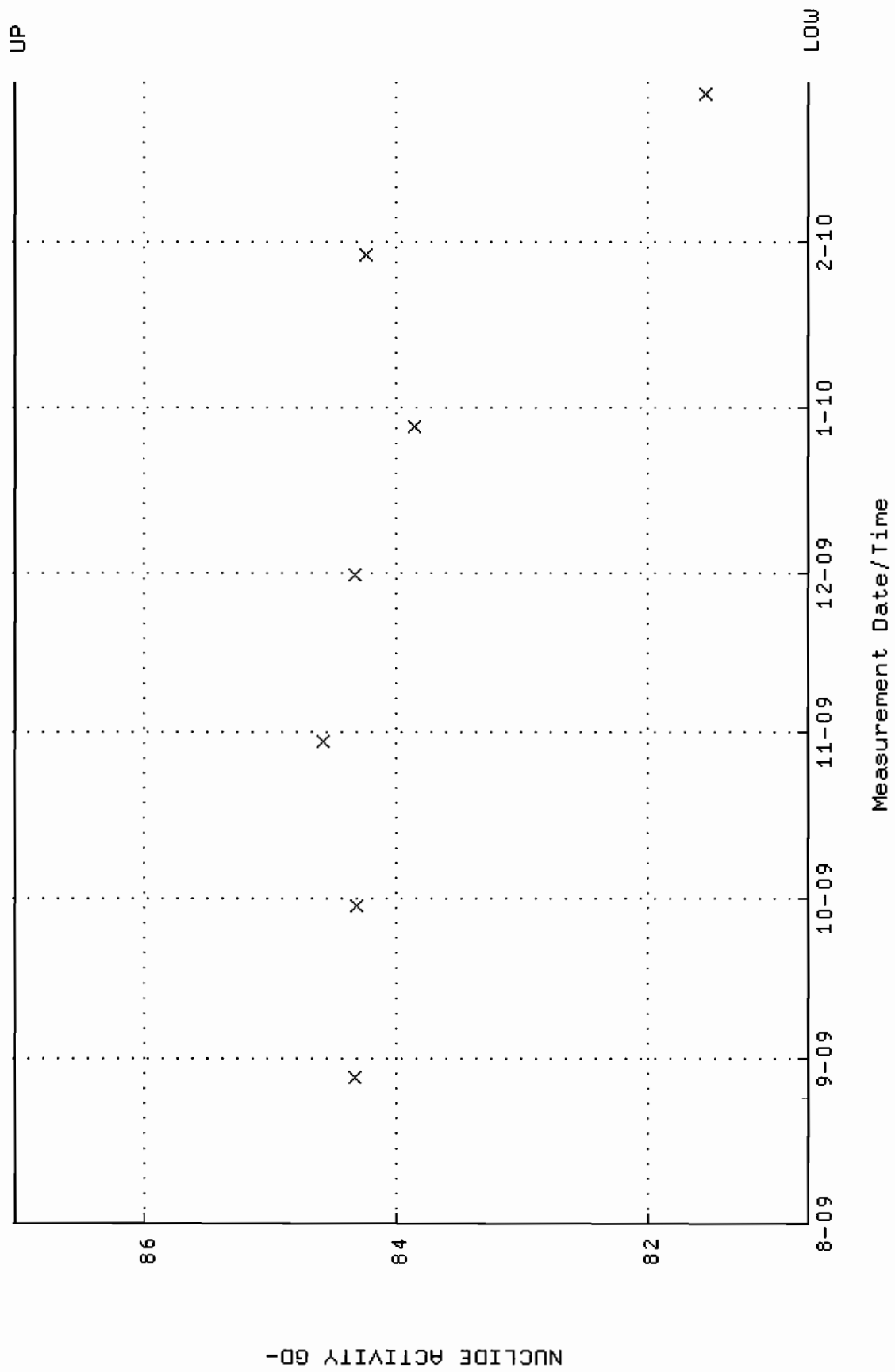
QA filename : DKA100:[ENV_ALPHA.QA.B]B248.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:27:59 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



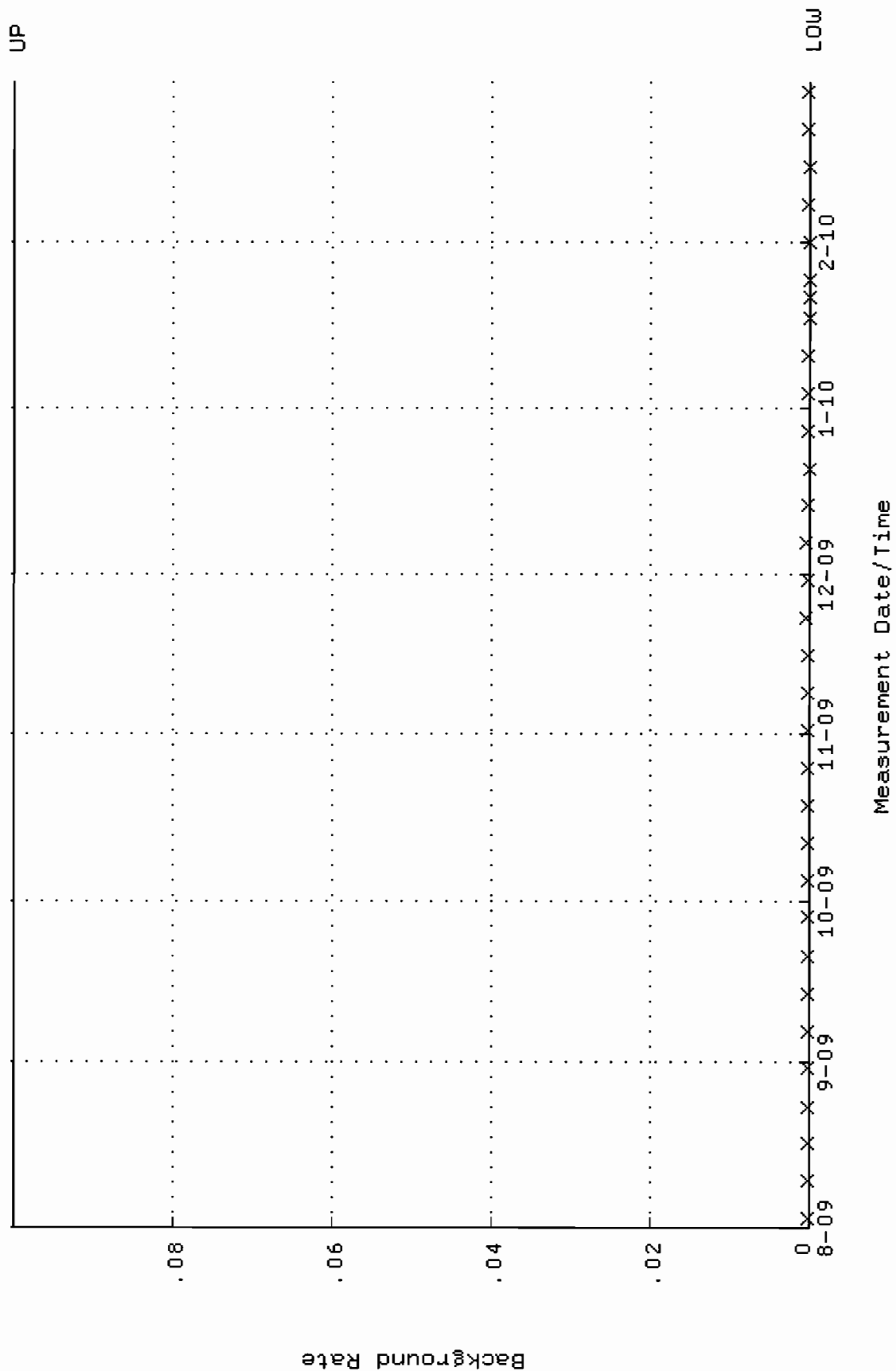
QA filename : DKA100:[ENV_ALPHA.QA.W]W249.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:01 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.382845 through 0.400115



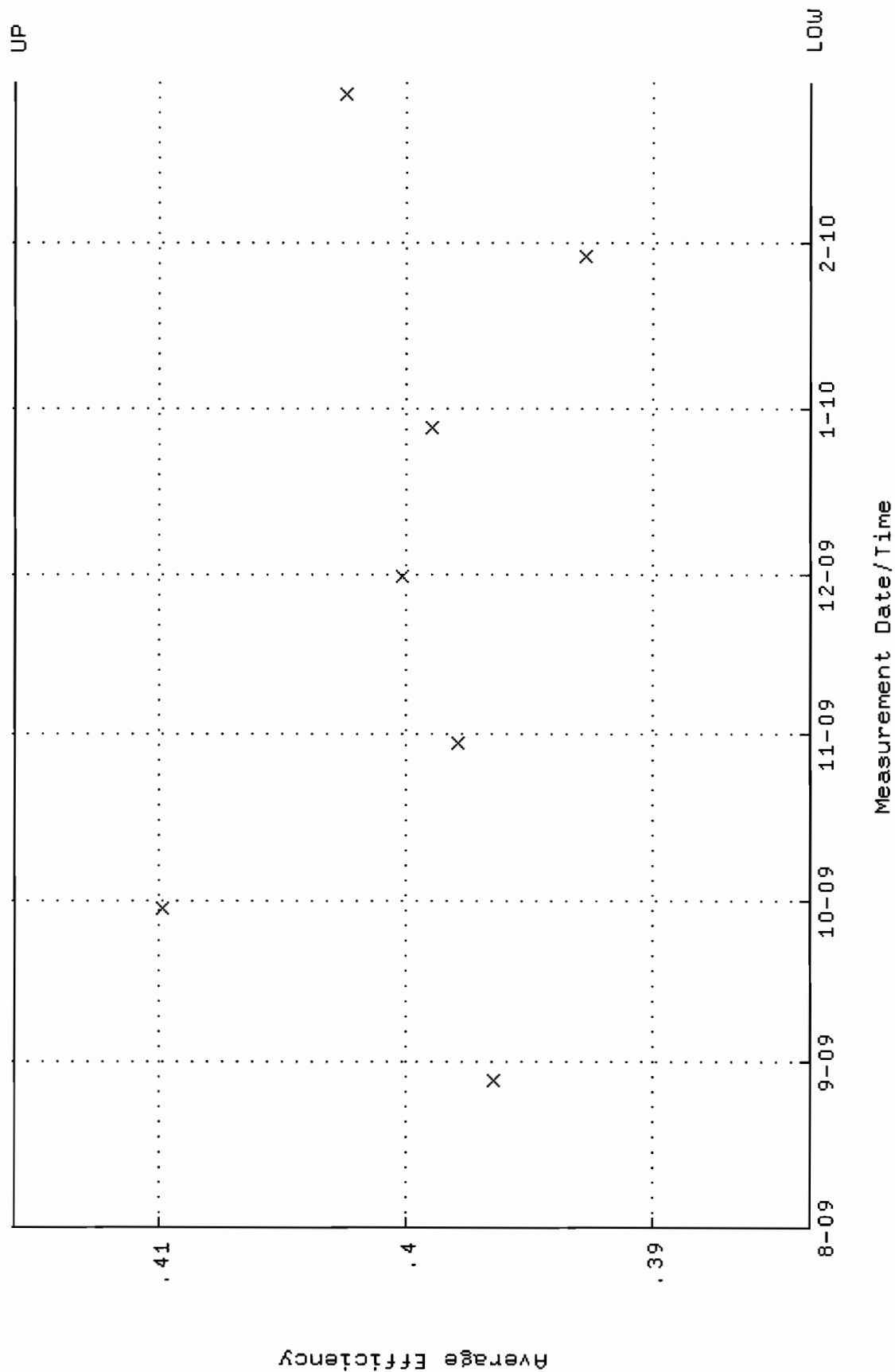
QA filename : DKA100:[ENV_ALPHA.QA.W]W249.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:01 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 80.7258 through 87.0246



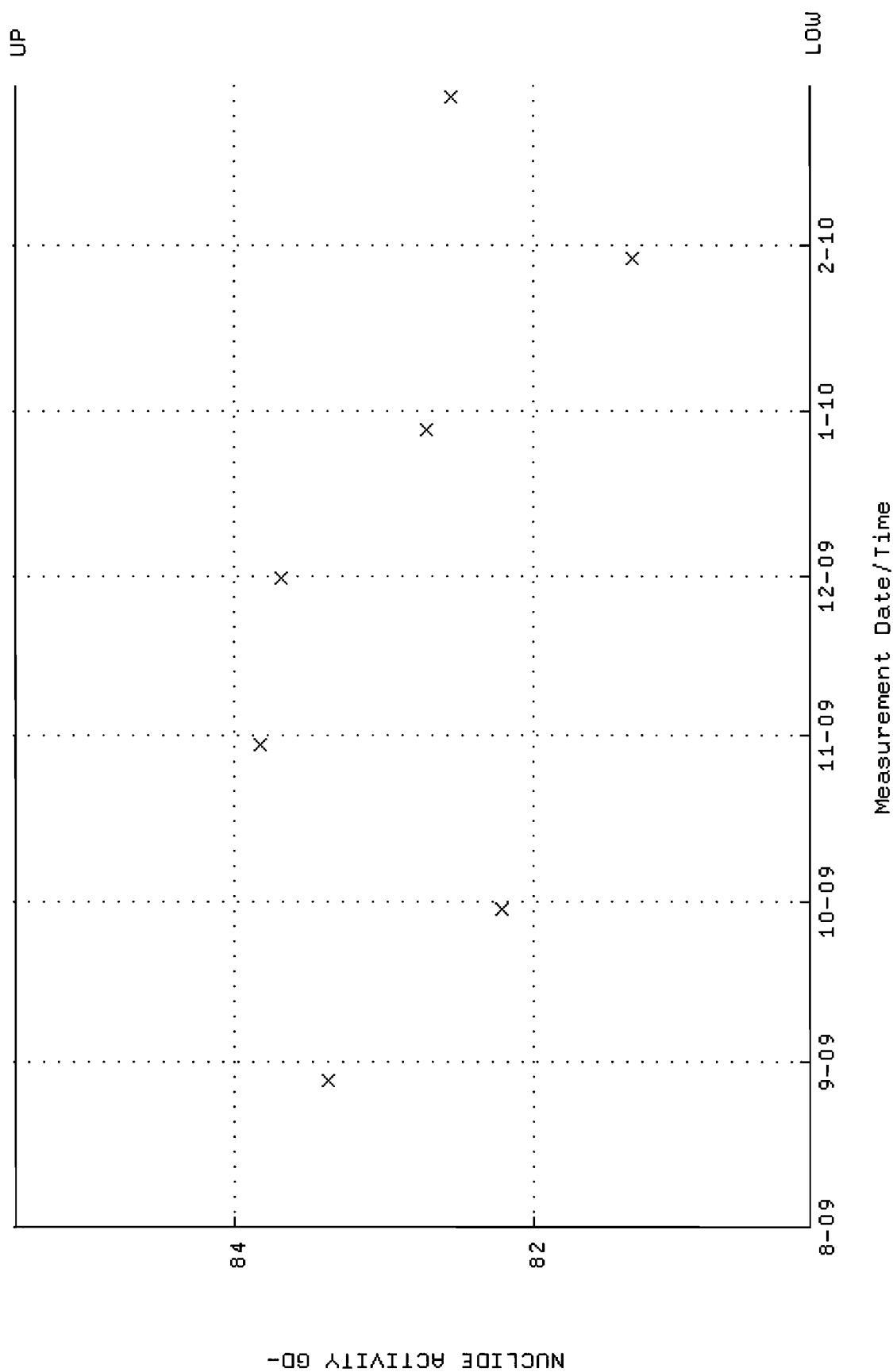
QA filename : DKA100:[ENV_ALPHA.QA.B]B249.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:28:04 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



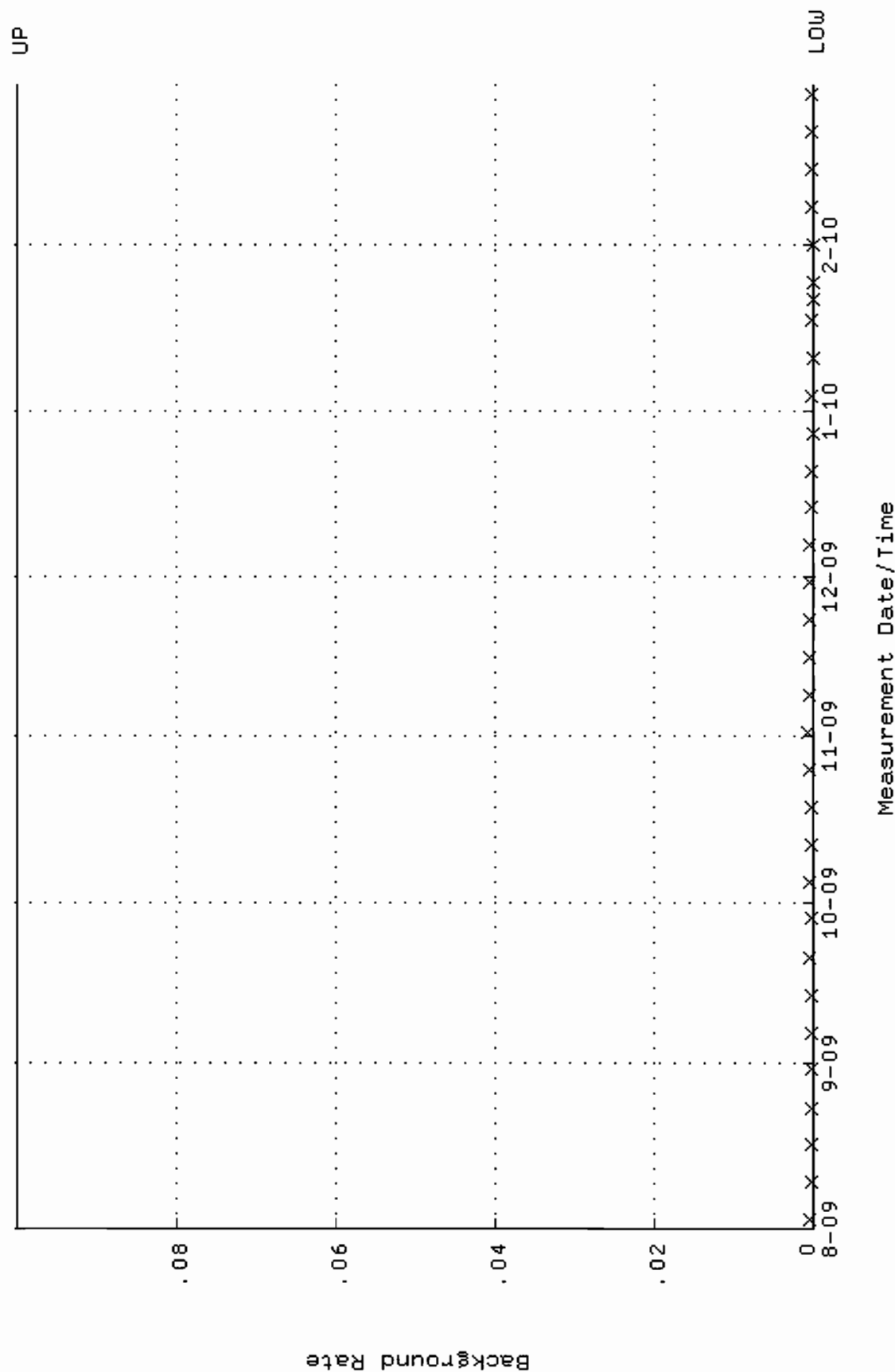
QA filename : DKA100:[ENV_ALPHA.QA.W]w250.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:06 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.383673 through 0.415835



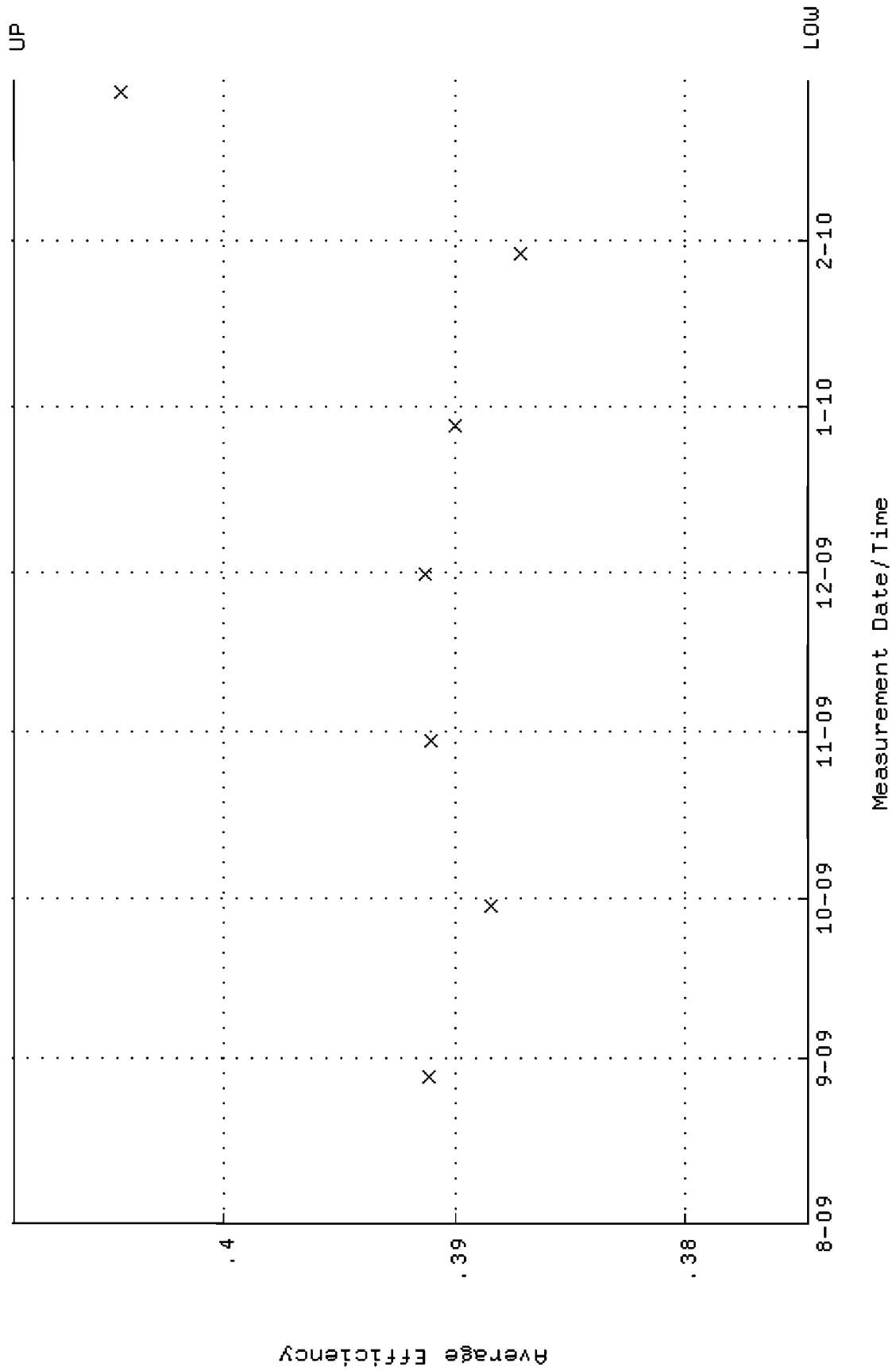
QA filename : DKA100:[ENV_ALPHA.QA.W]W250.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:06 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 80.1497 through 85.4585



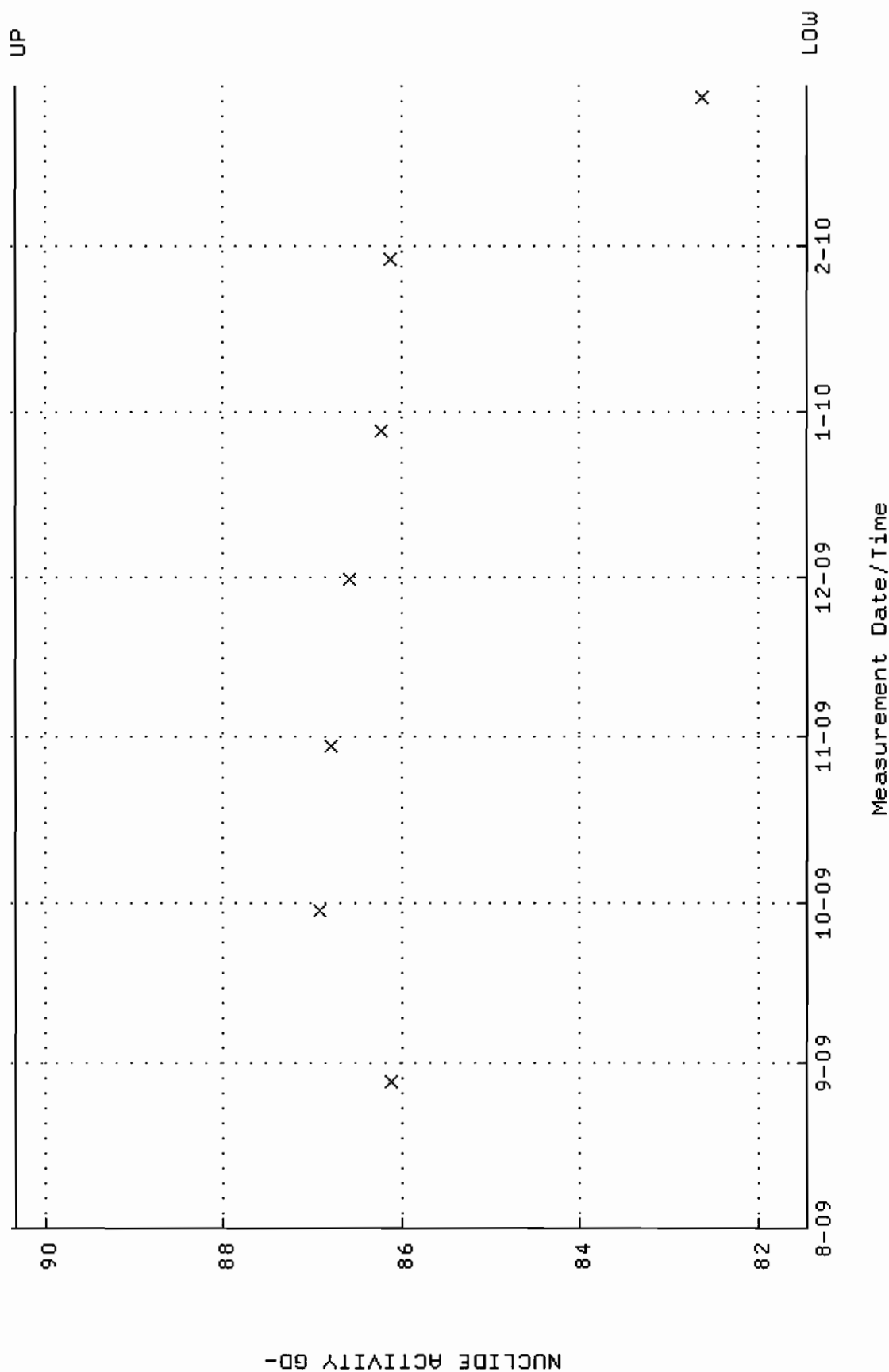
QA filename : DKA100:[ENV_ALPHA.QA.B]B250.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:28:08 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



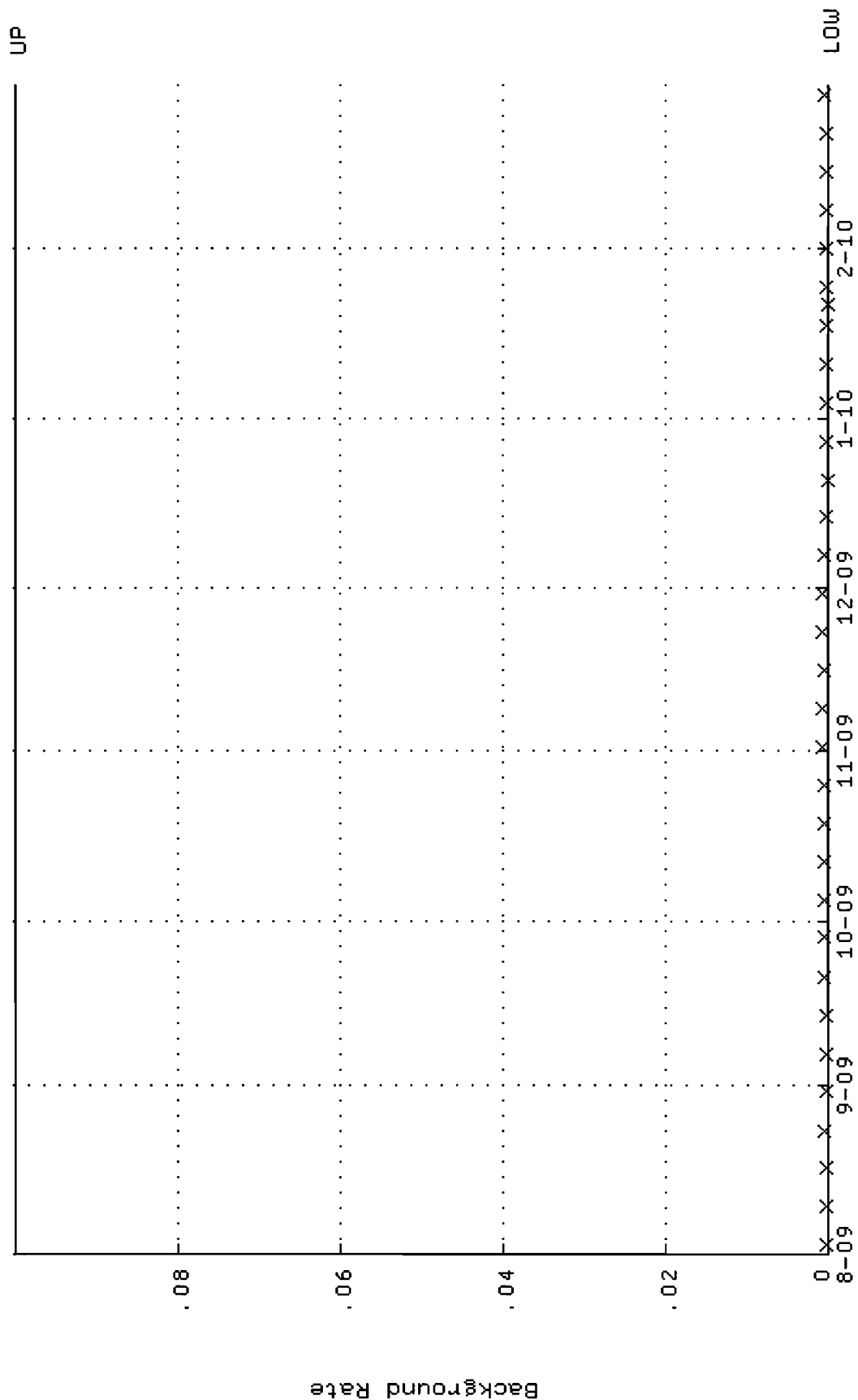
QA filename : DKA100:[ENV_ALPHA.QA.W]W251.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:12 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.374659 through 0.409089



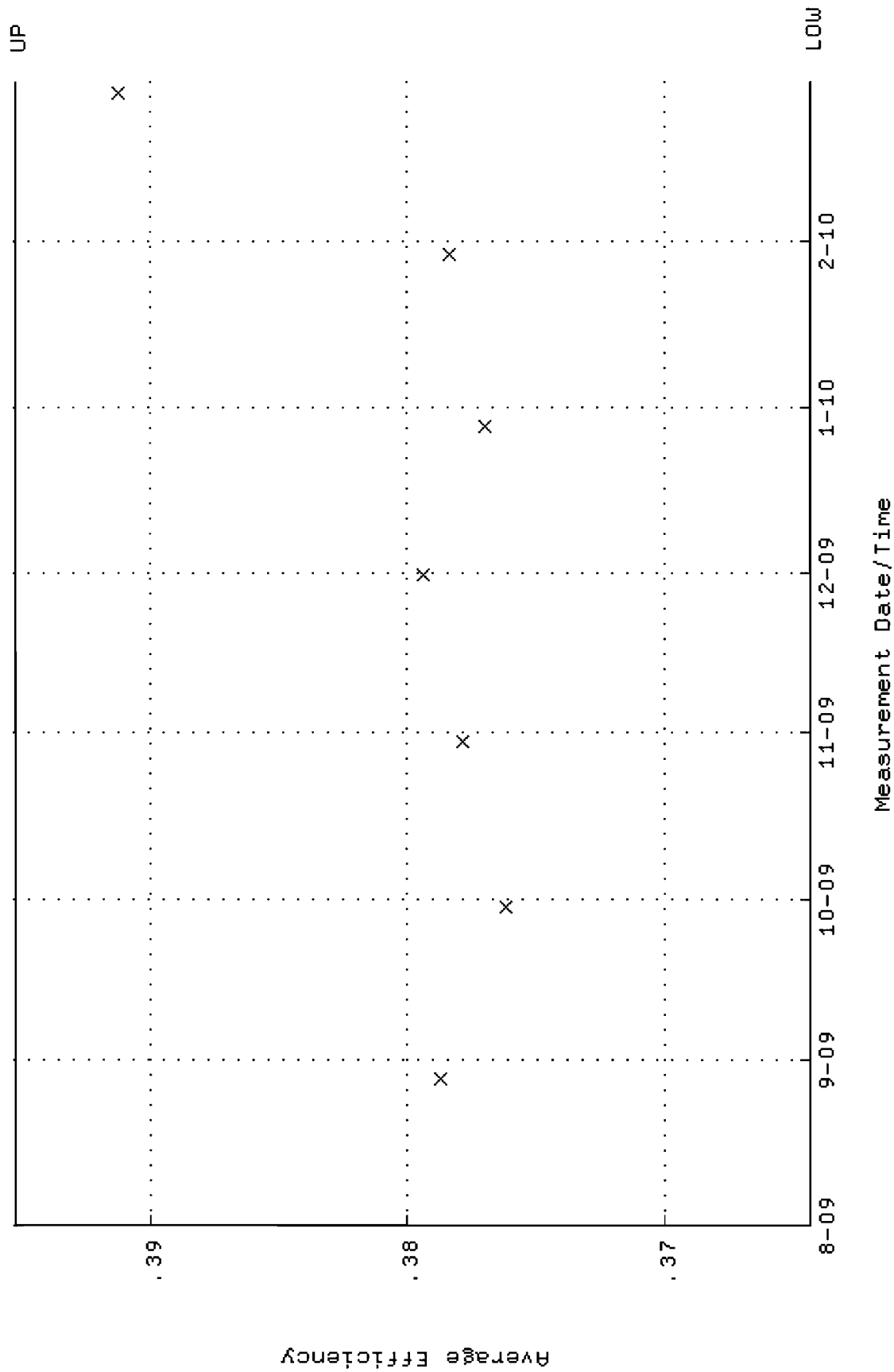
QA filename : DKA100:[ENV_ALPHA.QA.W]w251.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:12 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.4582 through 90.3490



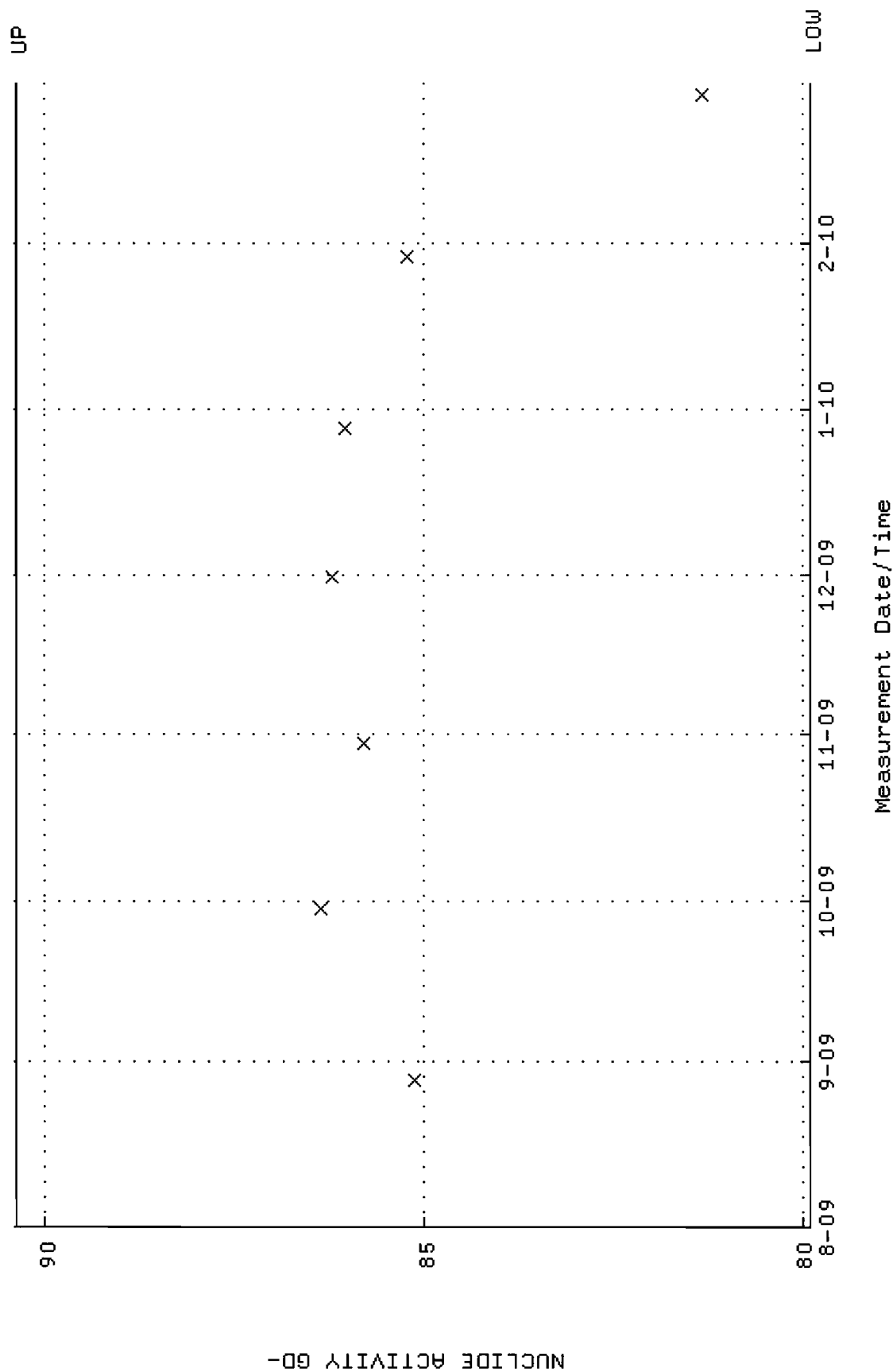
QA filename : DKA100:[ENV_ALPHA.QA.B]B251.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:28:13 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



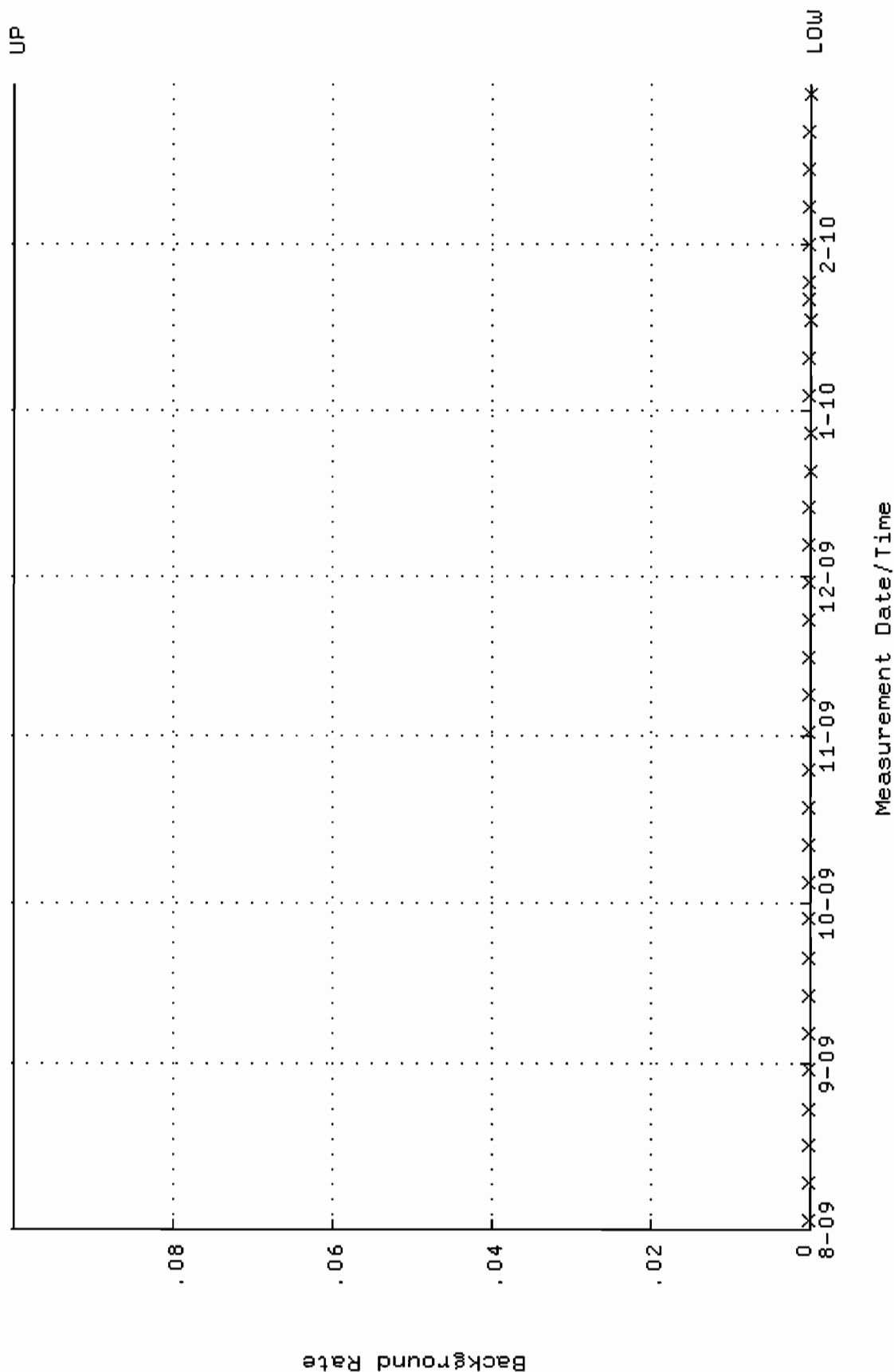
QA filename : DKA100:[ENV_ALPHA.QA.W]W252.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:17 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.364281 through 0.395267



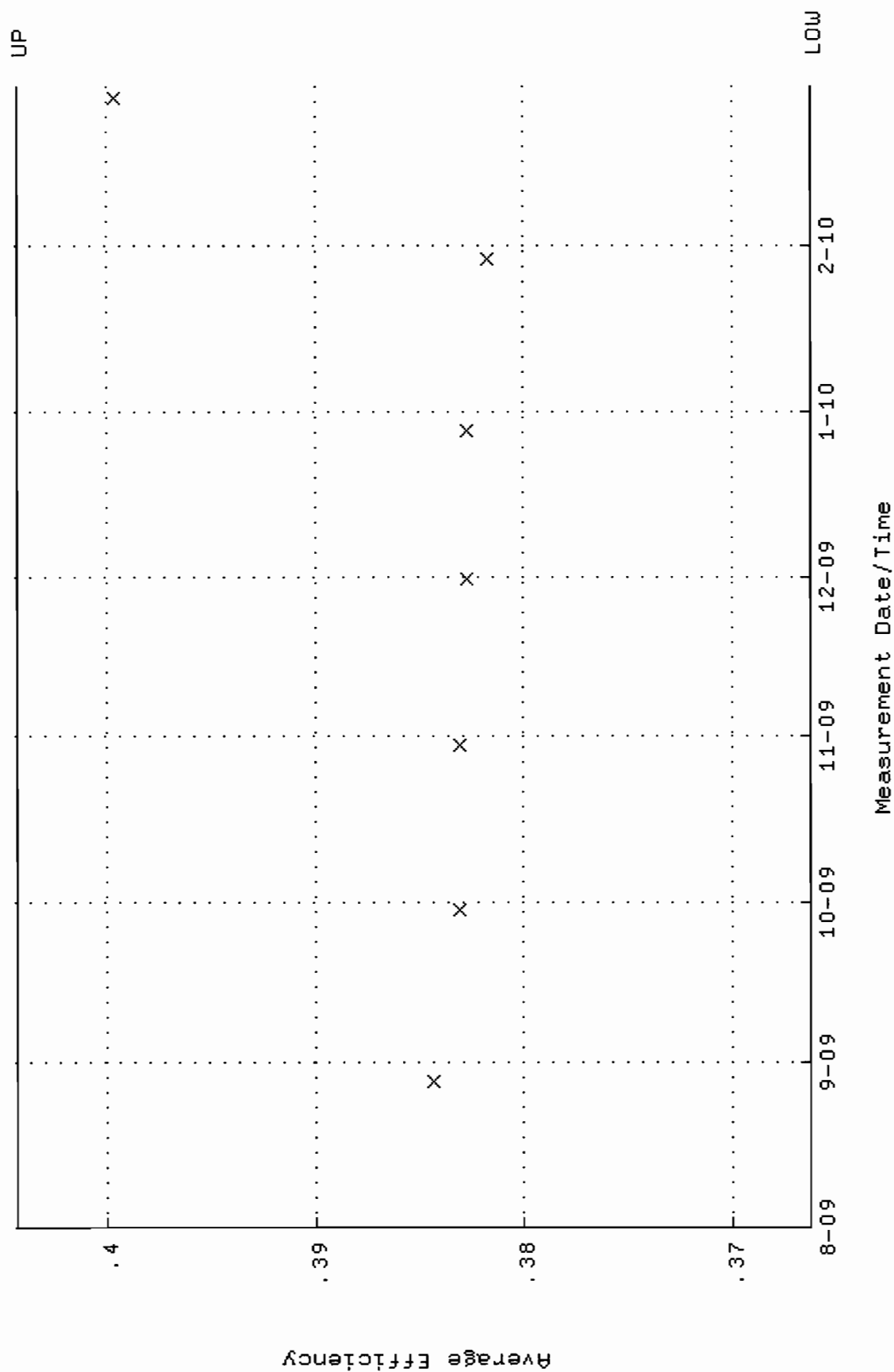
QA filename : DKA100:[ENV_ALPHA.QA.W]W252.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:17 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 79.9099 through 90.3785



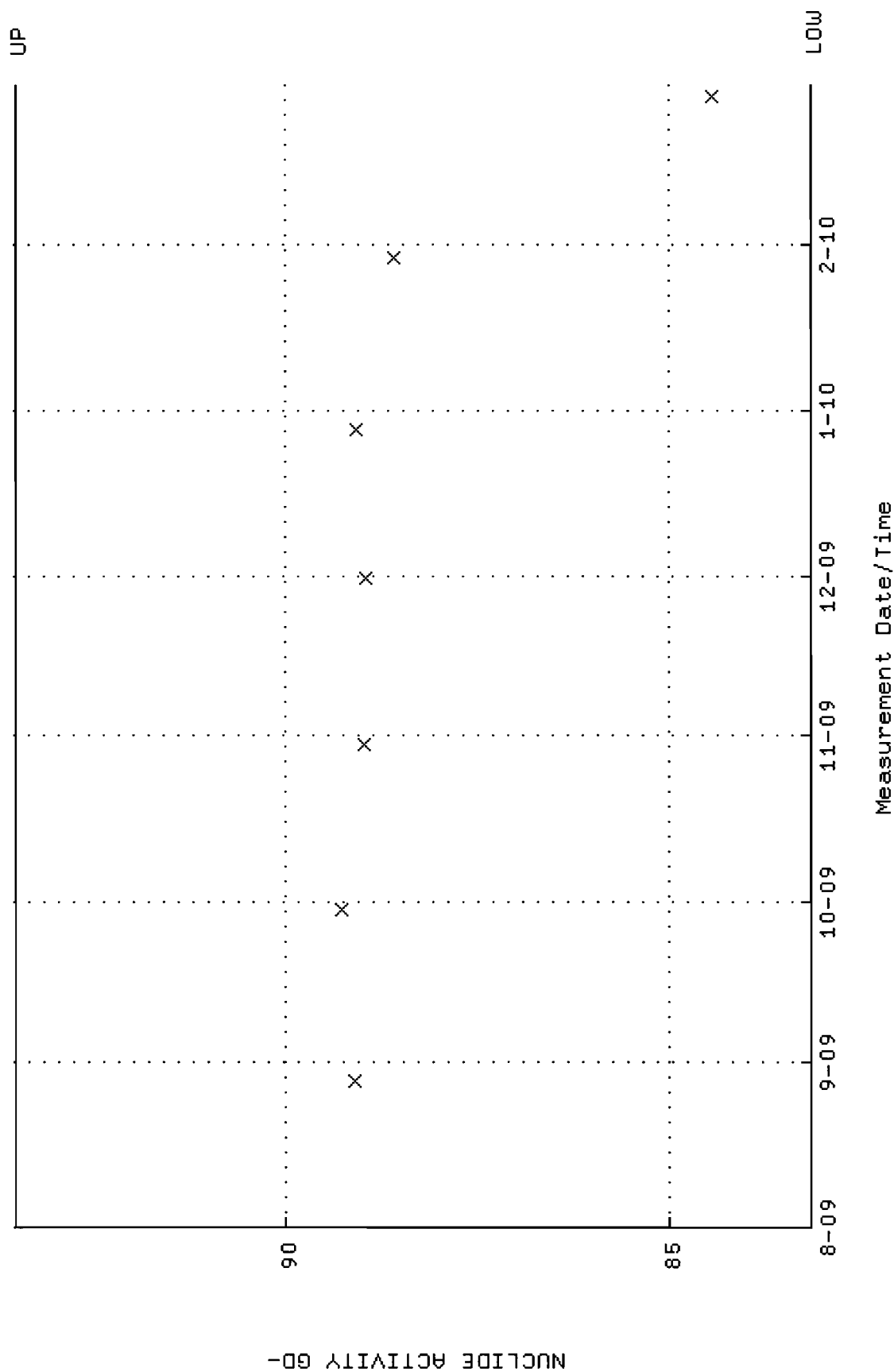
QA filename : DKA100:[ENV_ALPHA.QA.B]B252.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:28:18 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



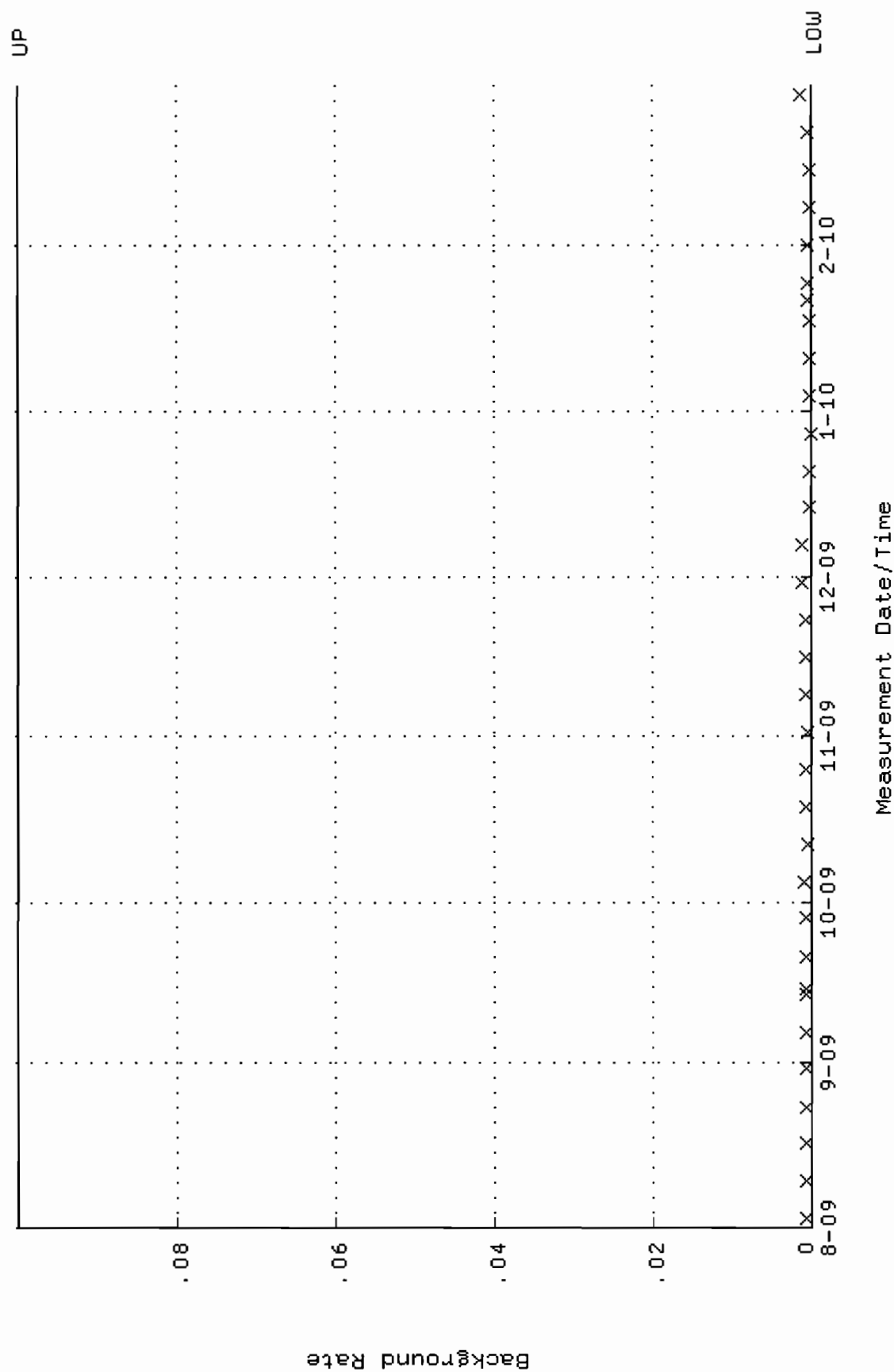
QA filename : DKA100:[ENV_ALPHA.QA.W]w253.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:22 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.366220 through 0.404308



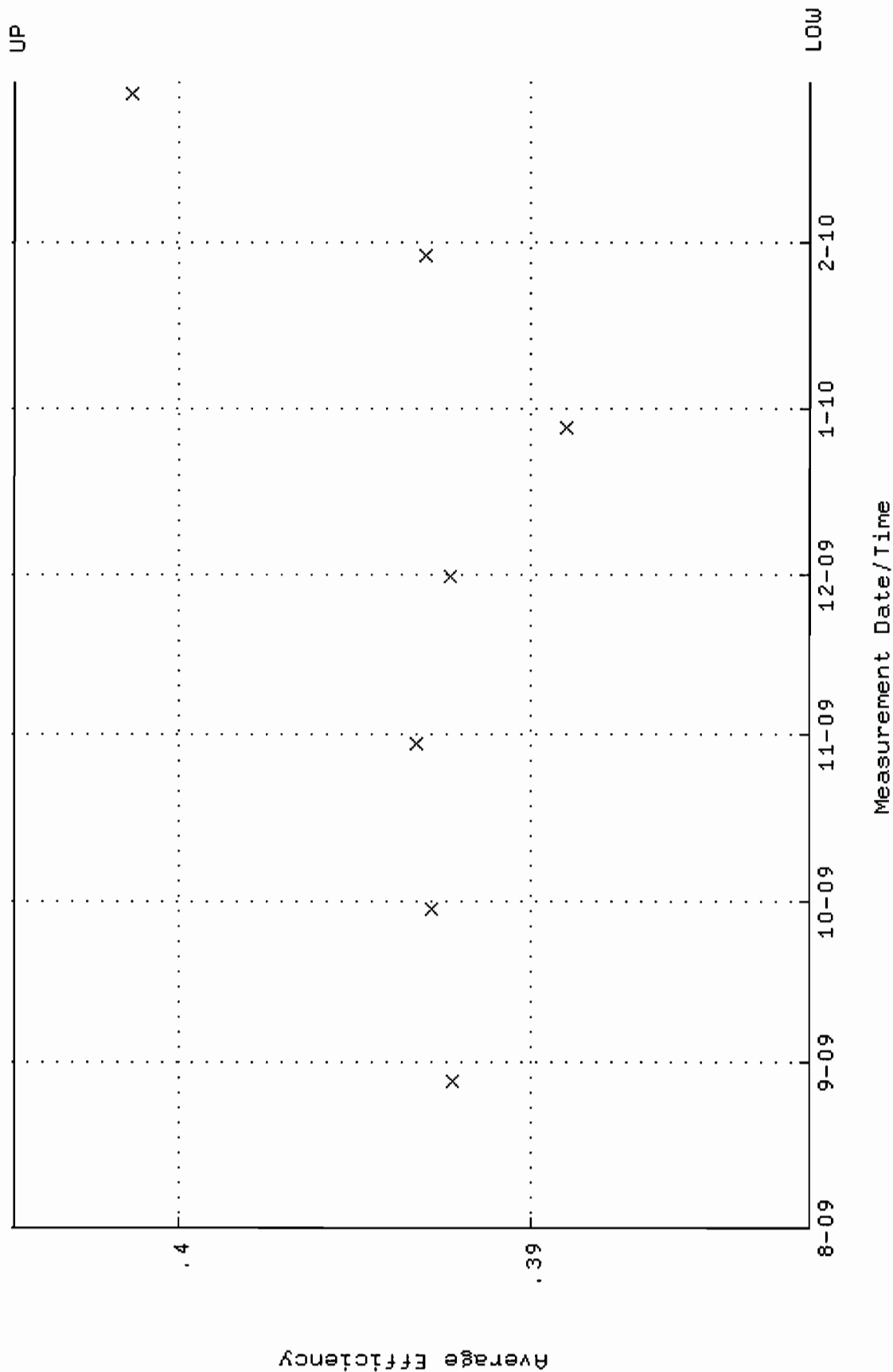
QA filename : DKA100:[ENV_ALPHA.QA.W]w253.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:22 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.1439 through 93.5297



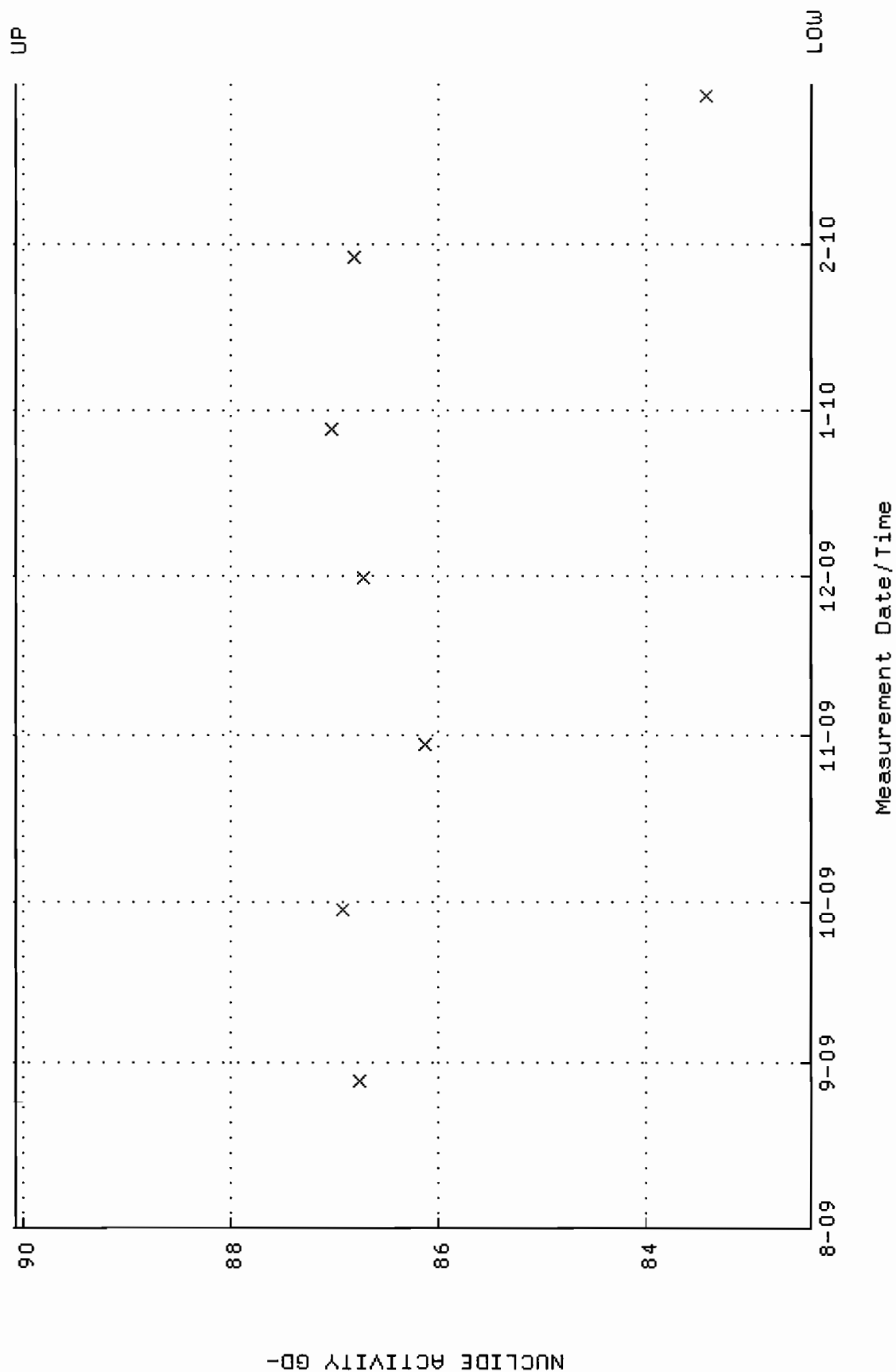
QA filename : DKA100:[ENV_ALPHA.QA.B]B253.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:28:23 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



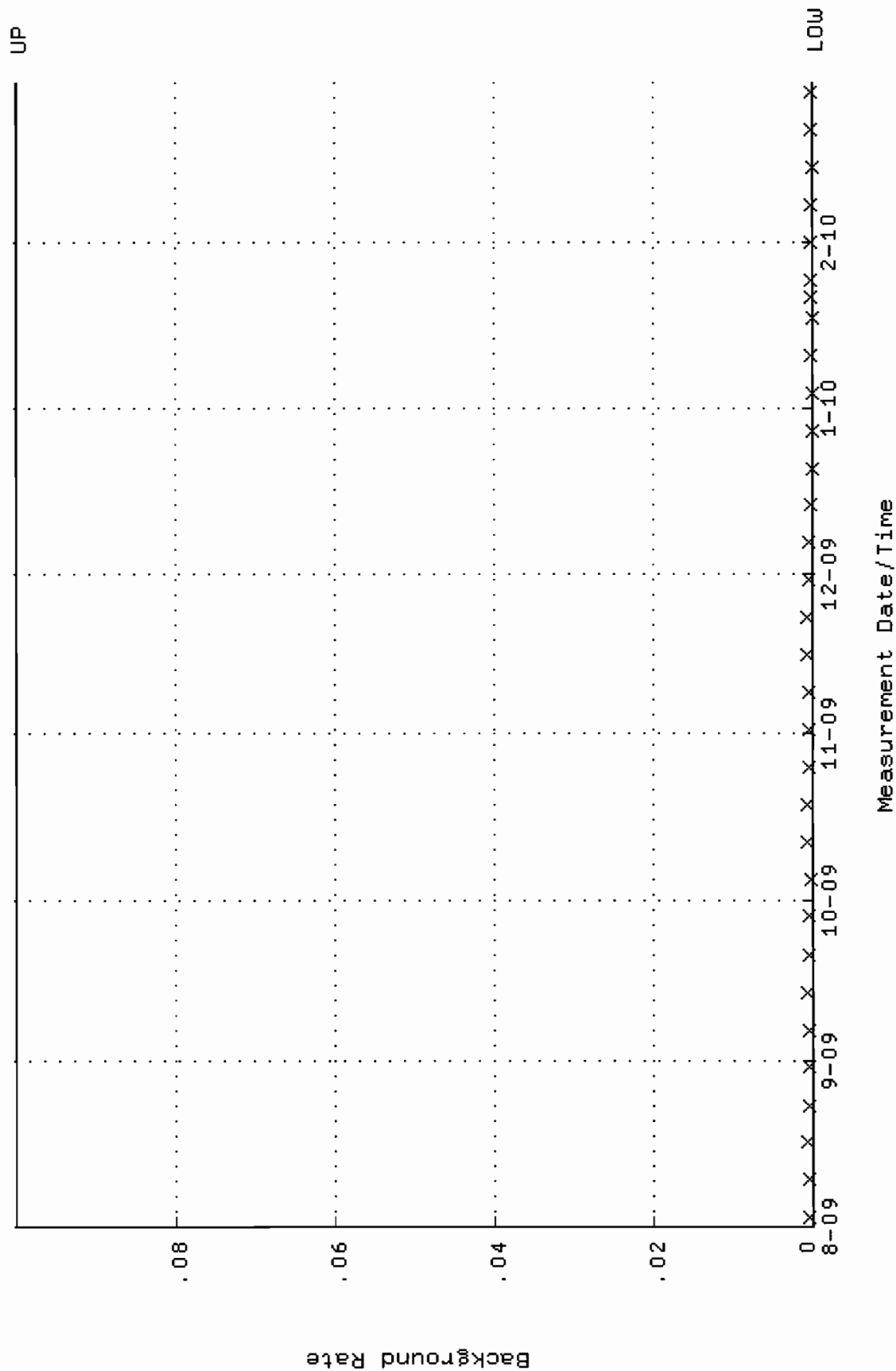
QA filename : DKA100:[ENV_ALPHA.QA.W]W254.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.382064 through 0.404708



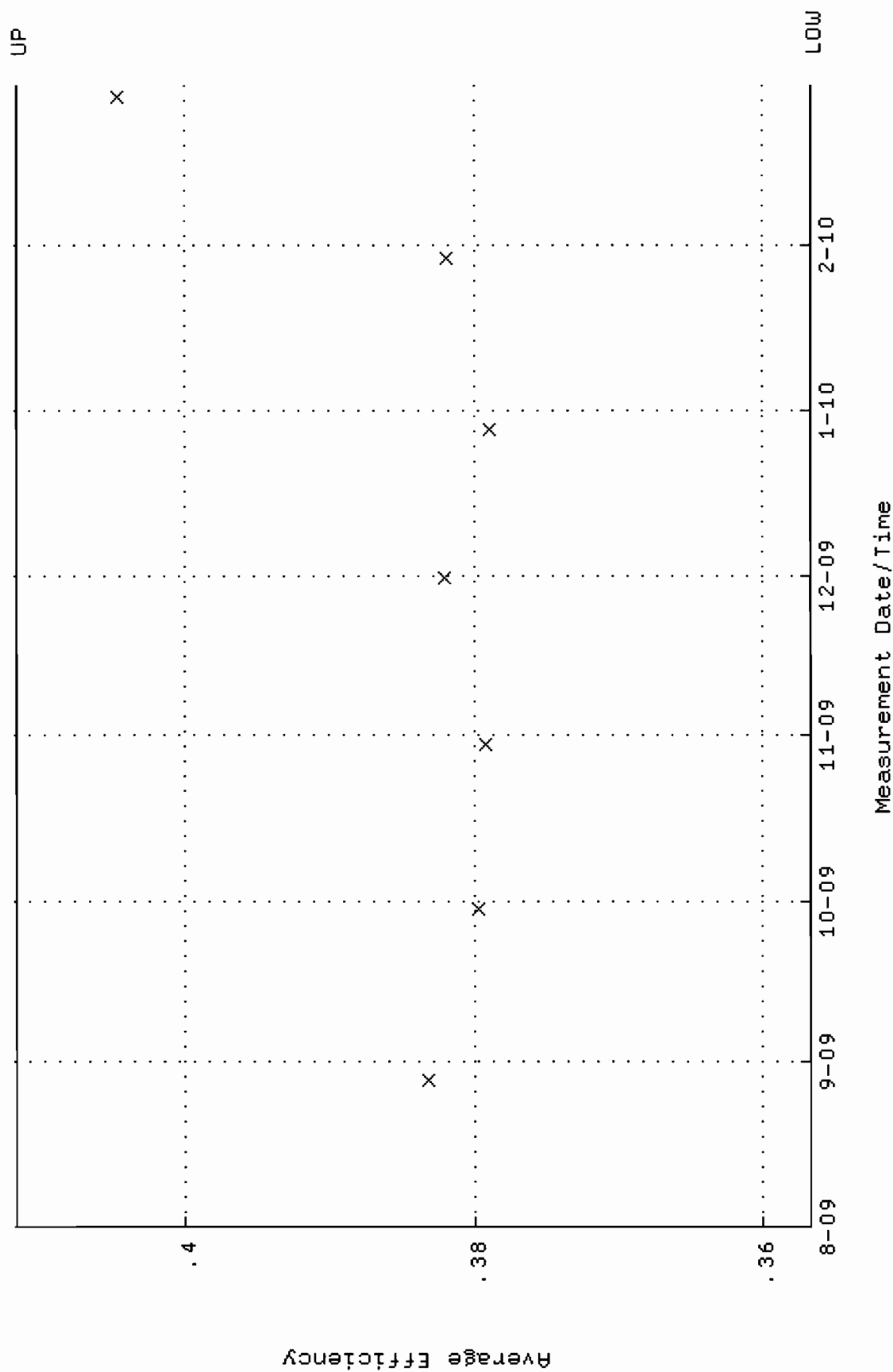
QA filename : DKA100:[ENV_ALPHA.QA.W]w254.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 82.4132 through 90.0734



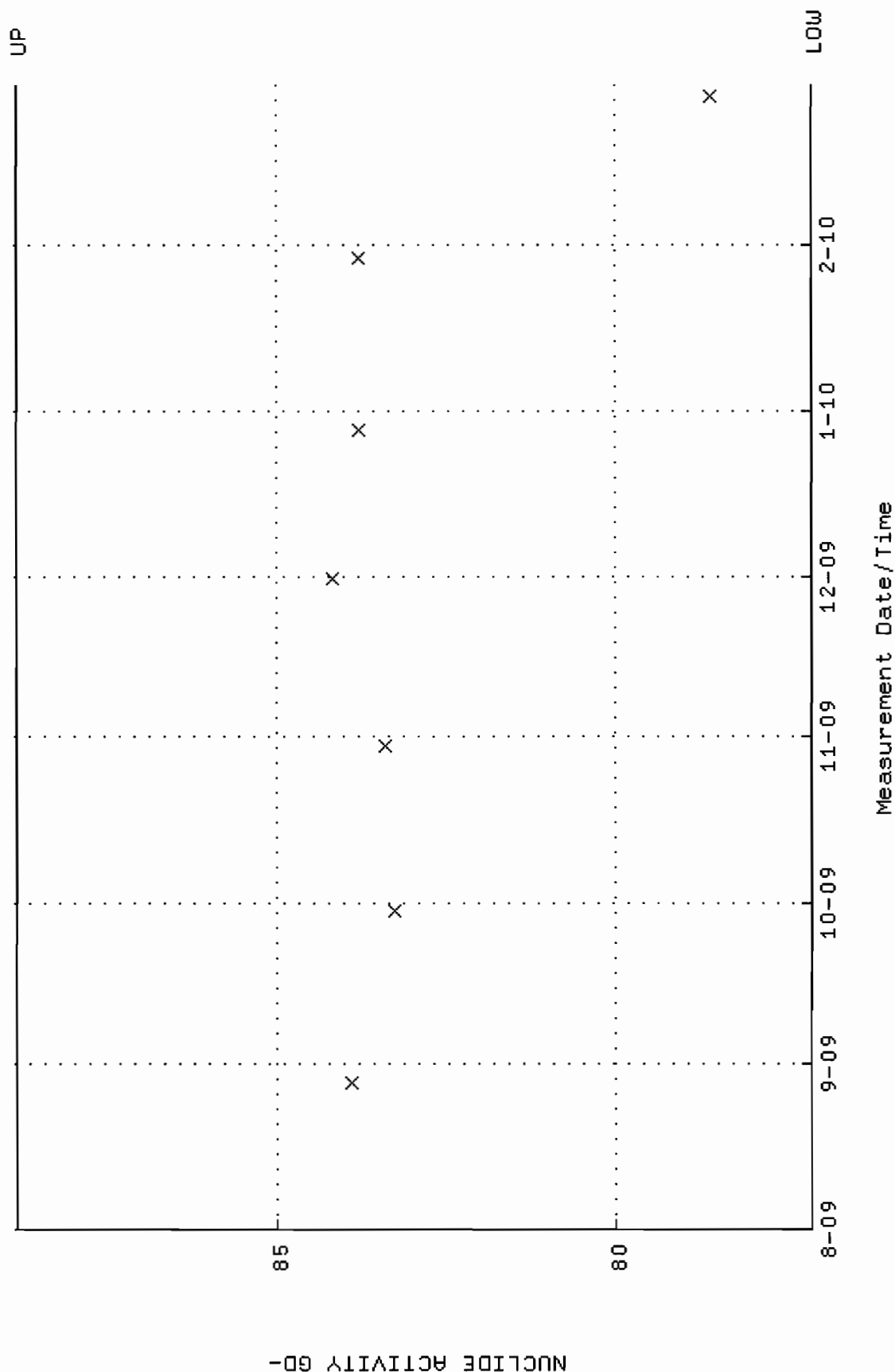
QA filename : DKA100:[ENV_ALPHA.QA.B]B254.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:28:28 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



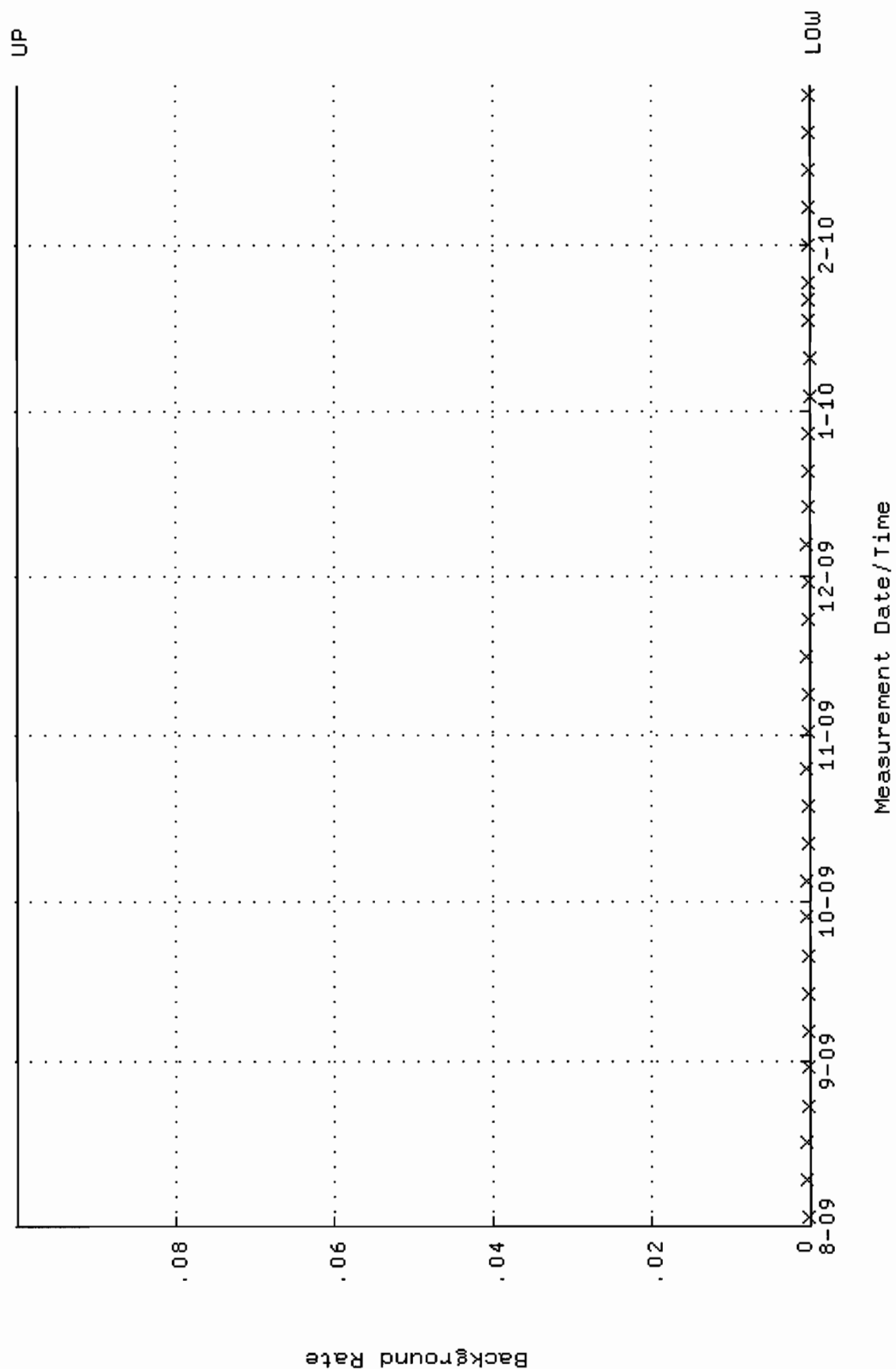
QA filename : DKA100:[ENV_ALPHA.QA.w]w255.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:32 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.356627 through 0.411721



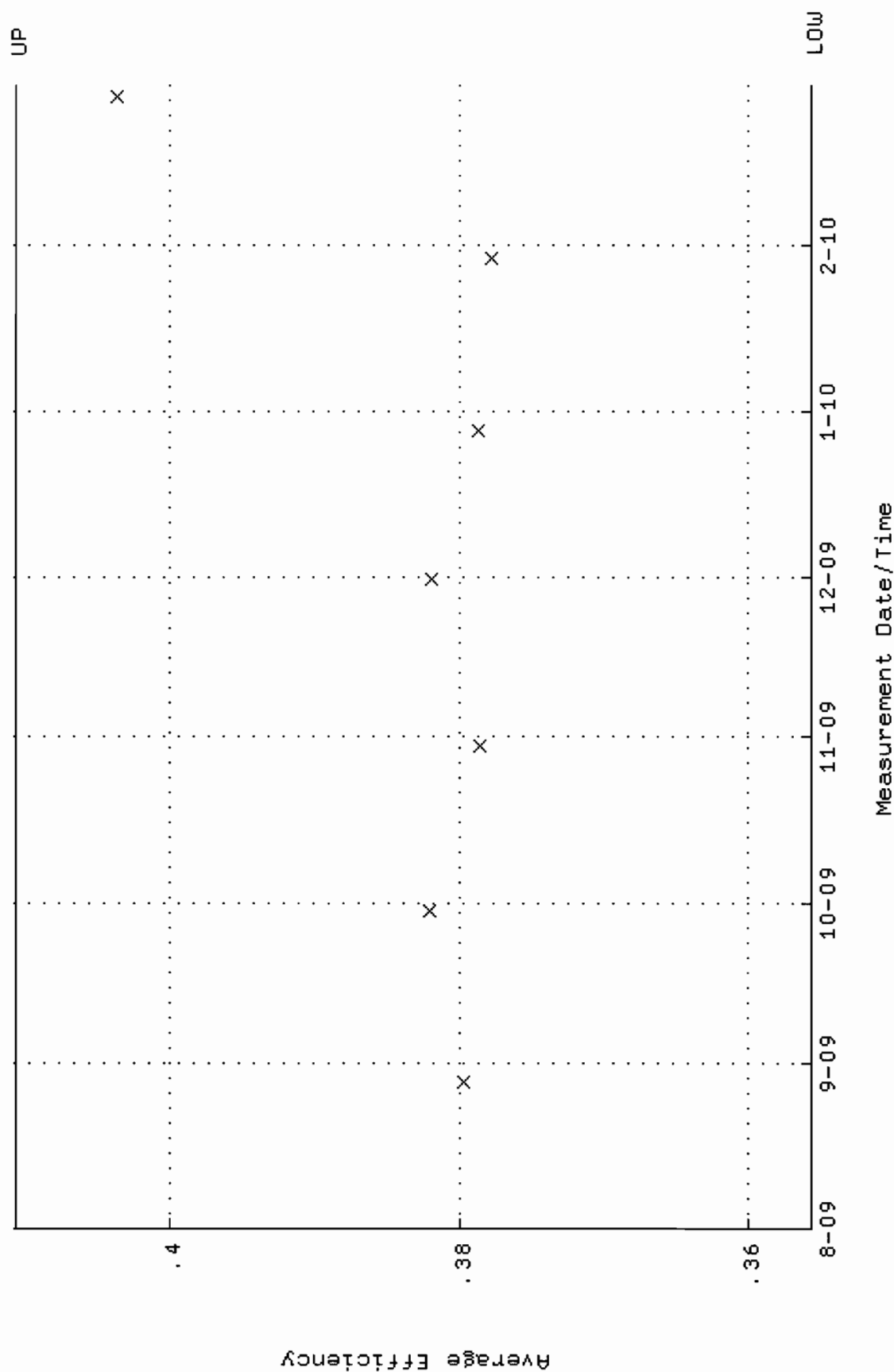
QA filename : DKA100:[ENV_ALPHA.QA.W]W255.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:32 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 77.0853 through 88.8385



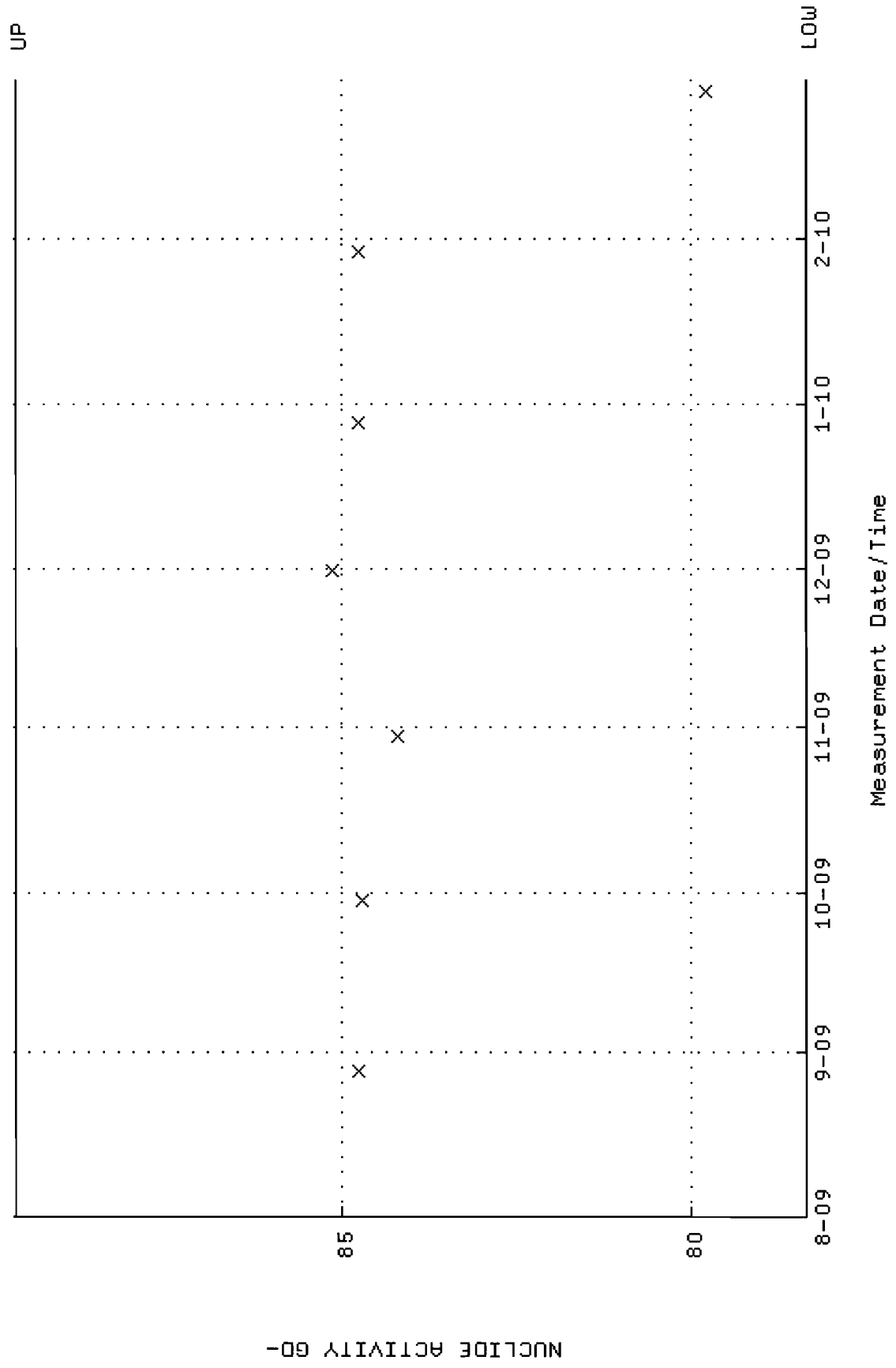
QA filename : DKA100:[ENV_ALPHA.QA.B]B255.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:28:32 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



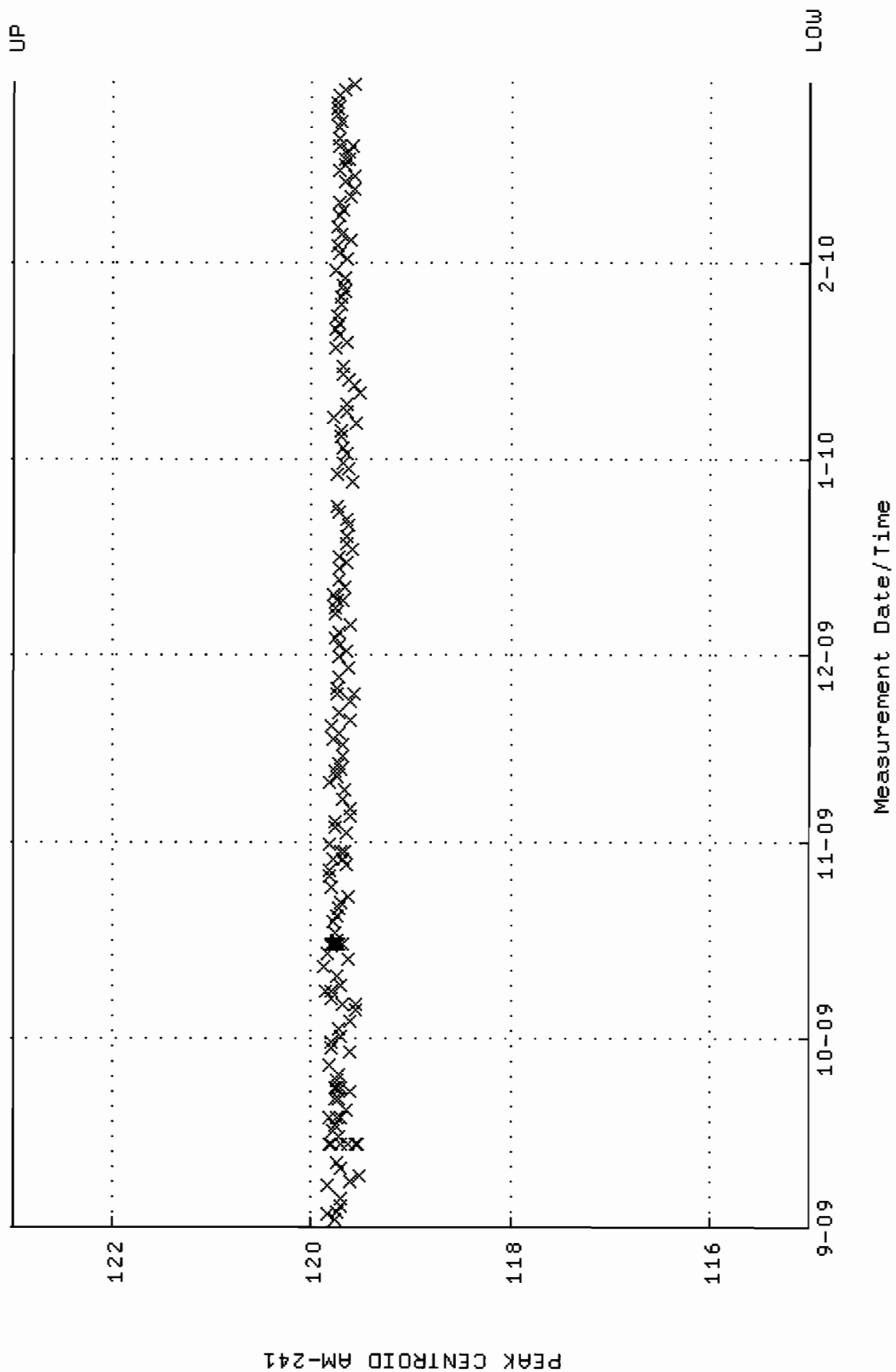
QA filename : DKA100:[ENV_ALPHA.QA.W]W256.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:37 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.355610 through 0.410626



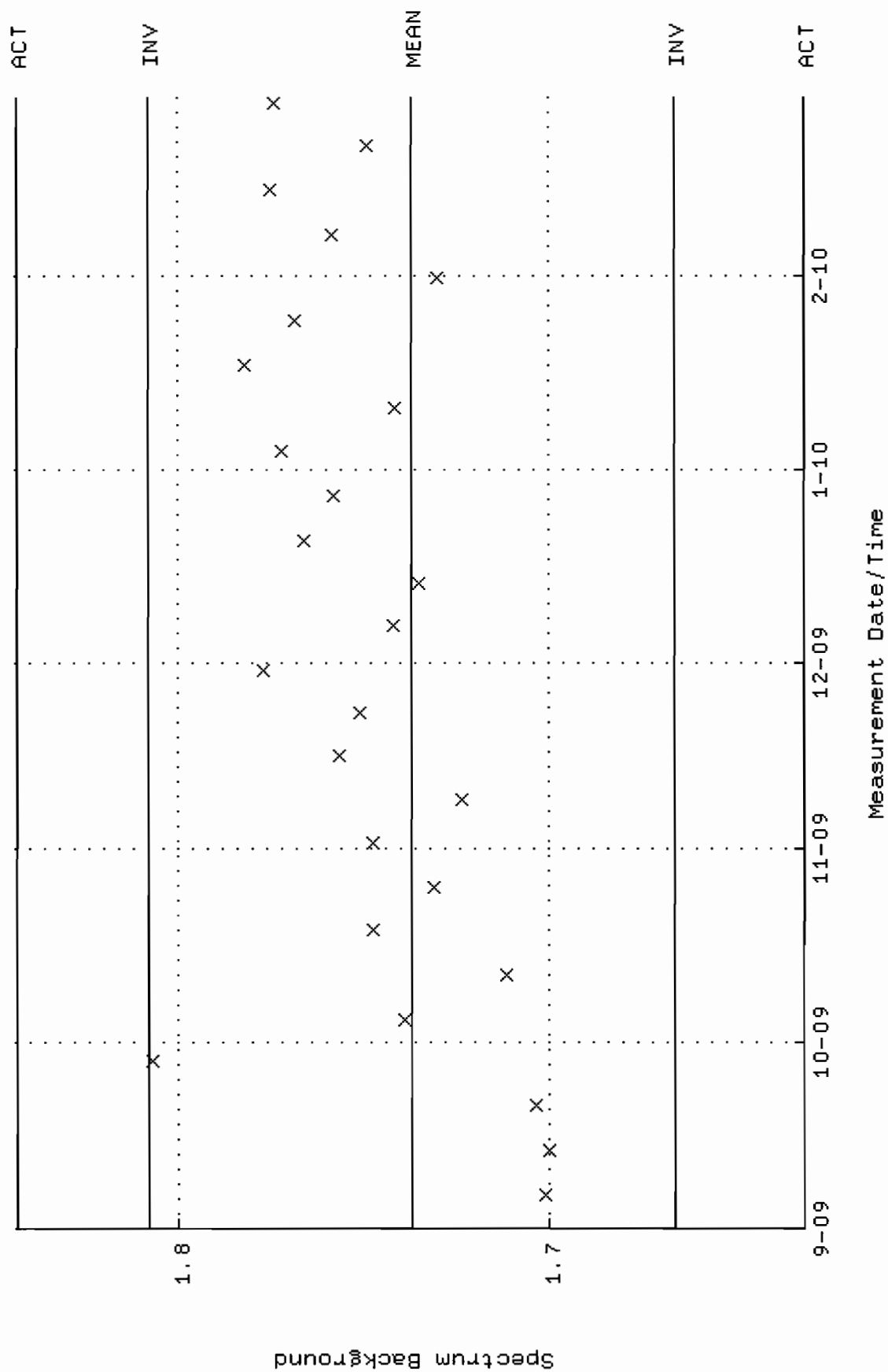
QA filename : DKA100:[ENV_ALPHA.QA.W]w256.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:37 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 78.3575 through 89.6335



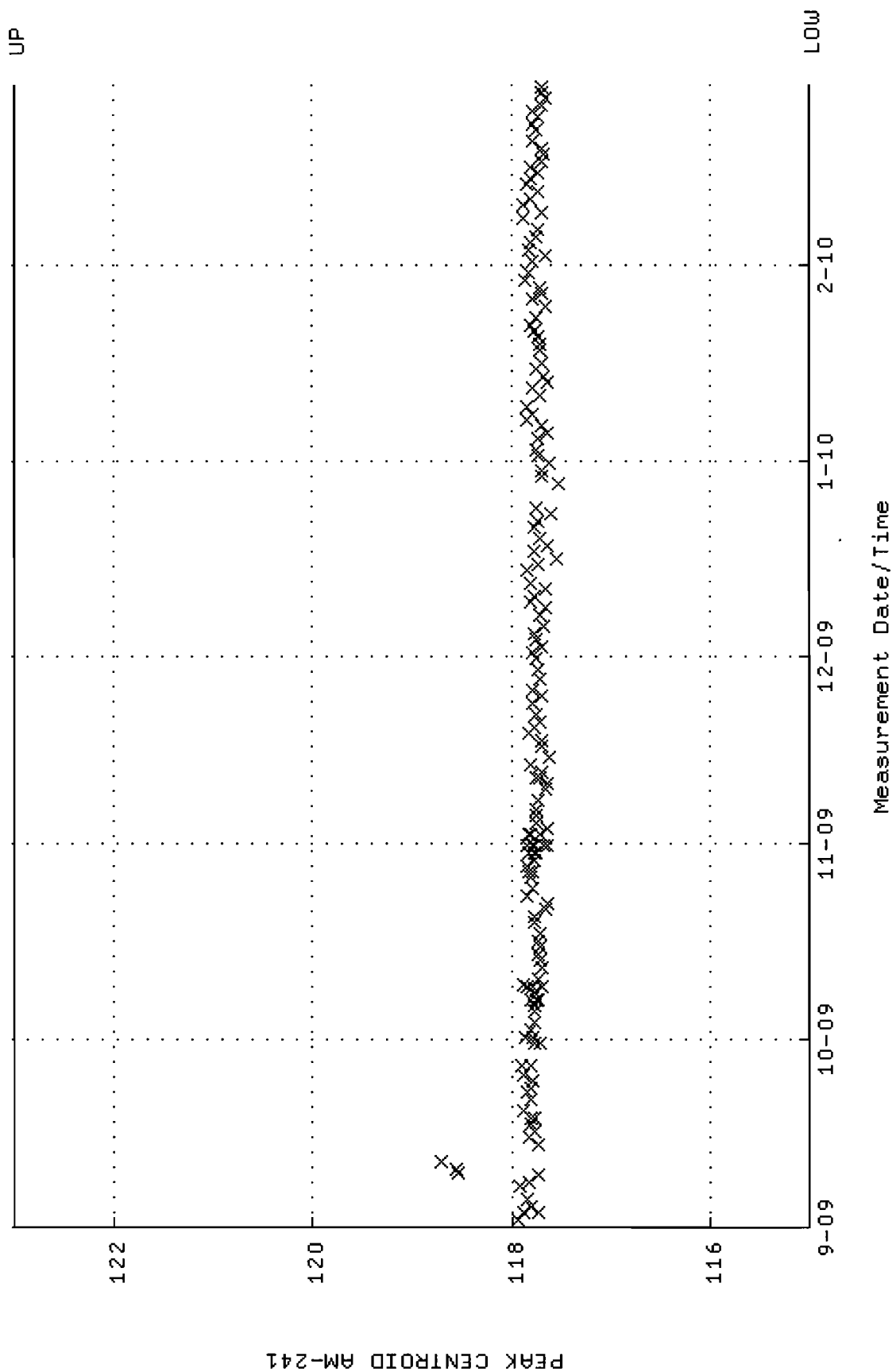
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM01_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 04:39:53 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



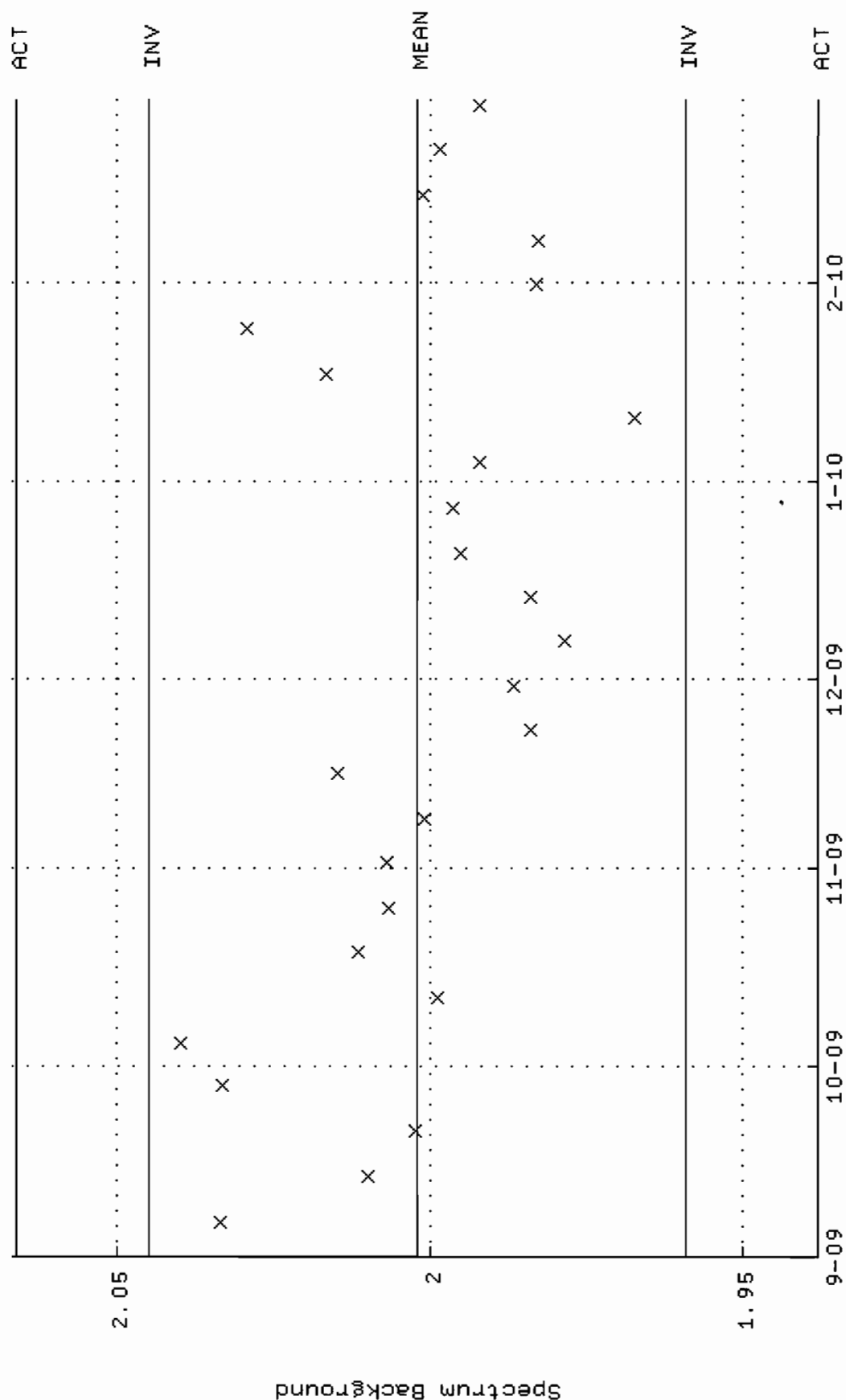
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM01.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:36:28 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.73723 +- 3.552524E-02 (2.04 %)



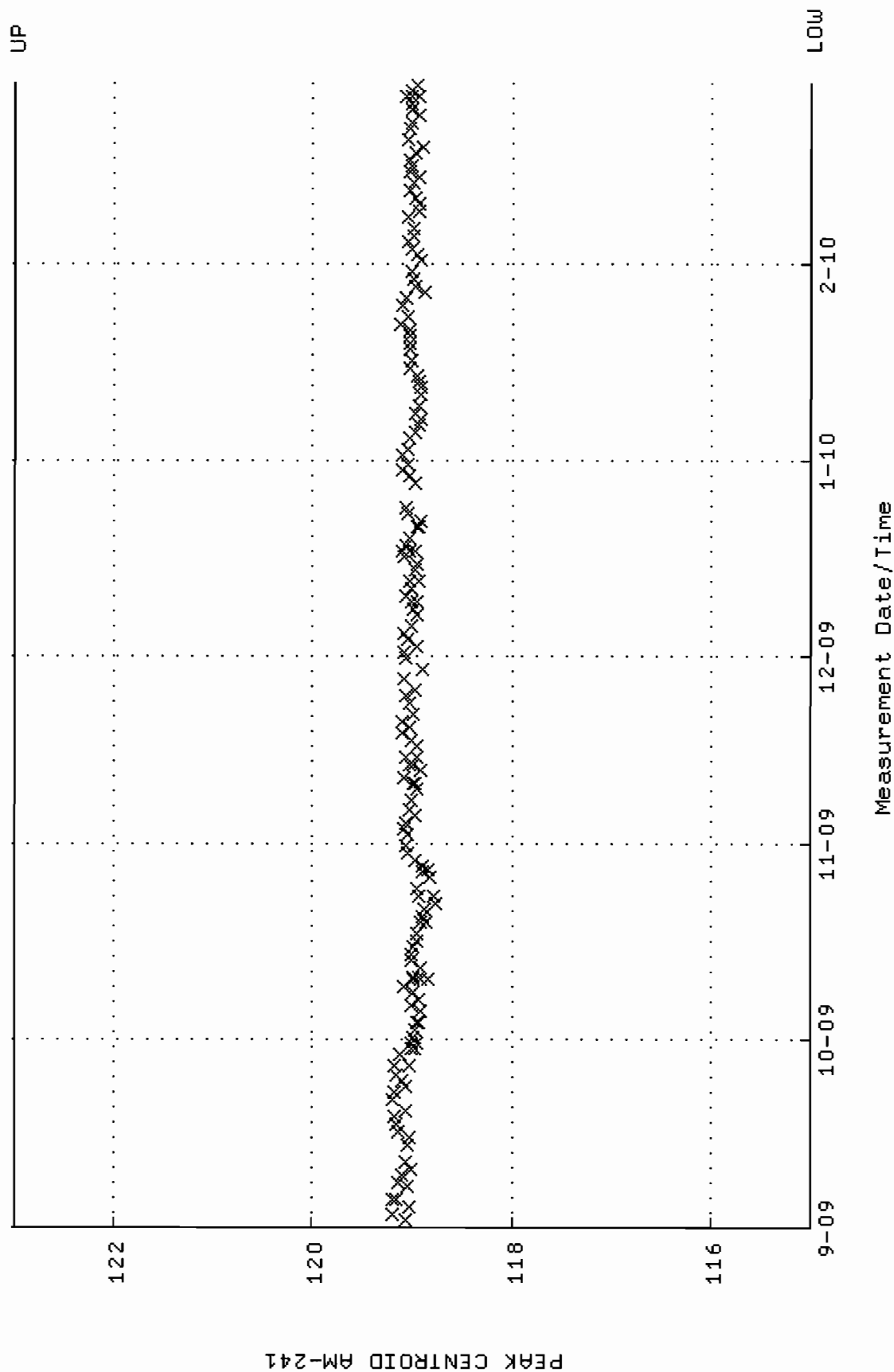
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 04:40:02 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



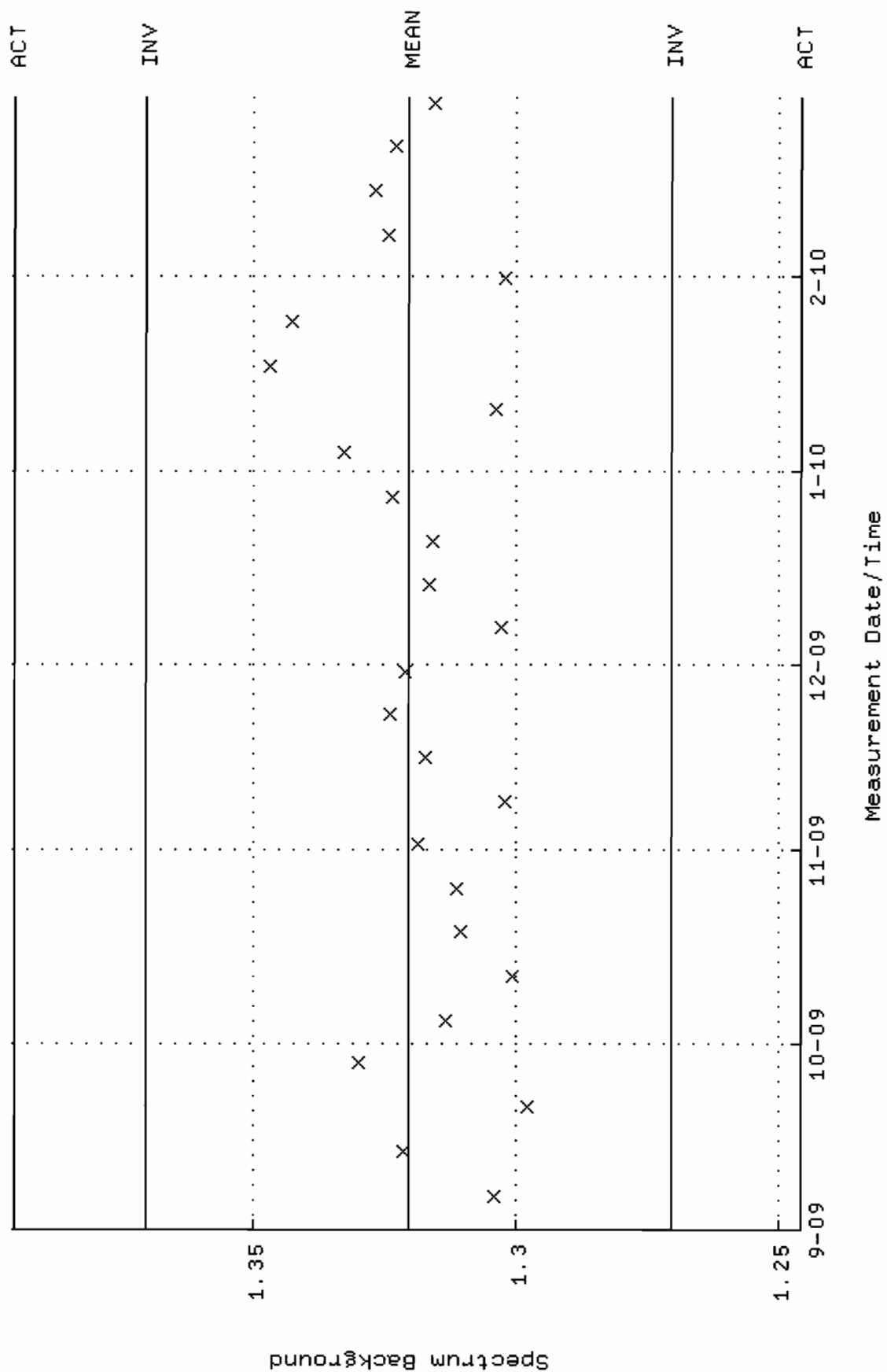
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM02.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:37:17 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 2.00226 +- 2.139827E-02 (1.07 %)



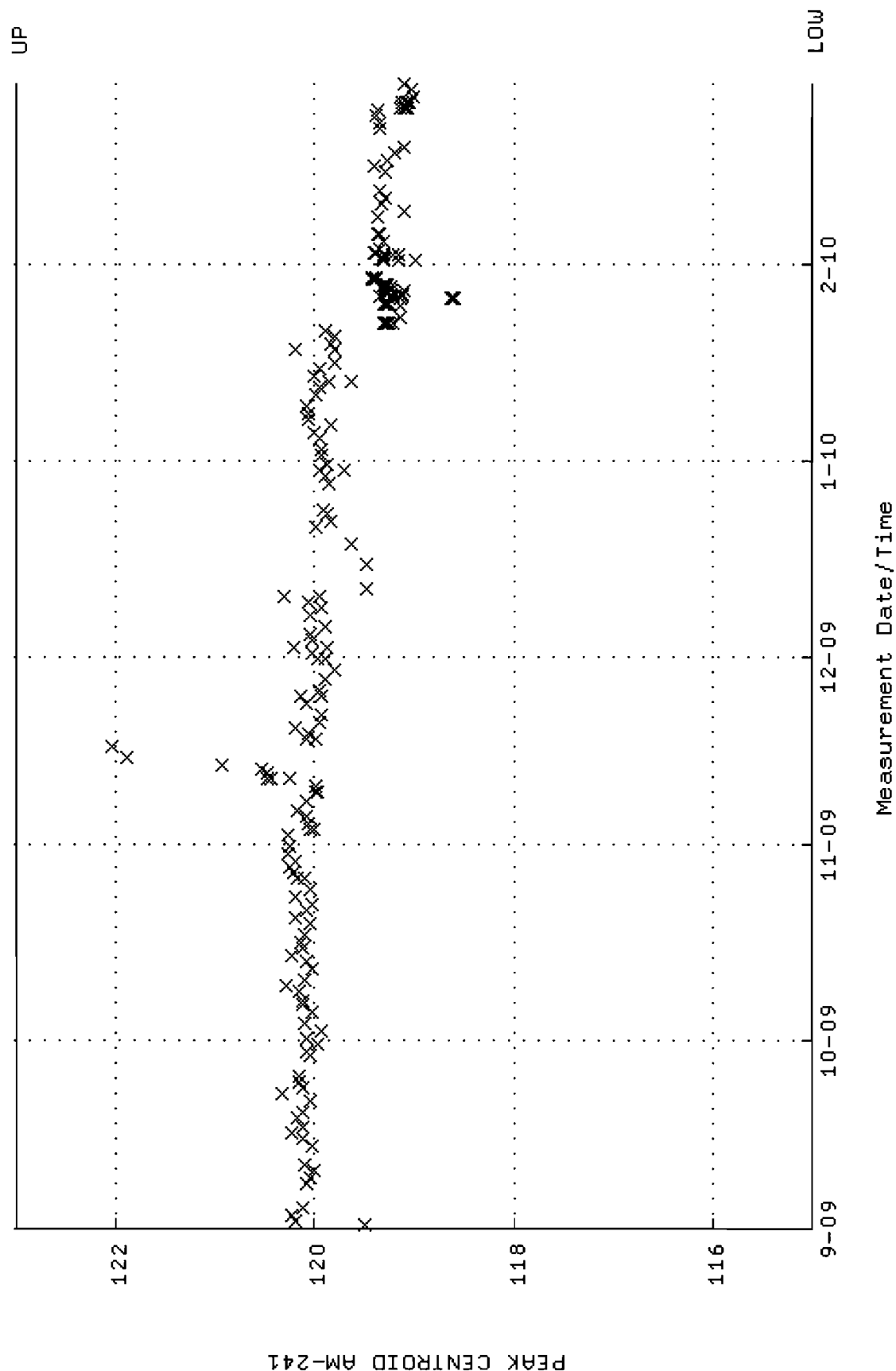
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 05:22:58 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



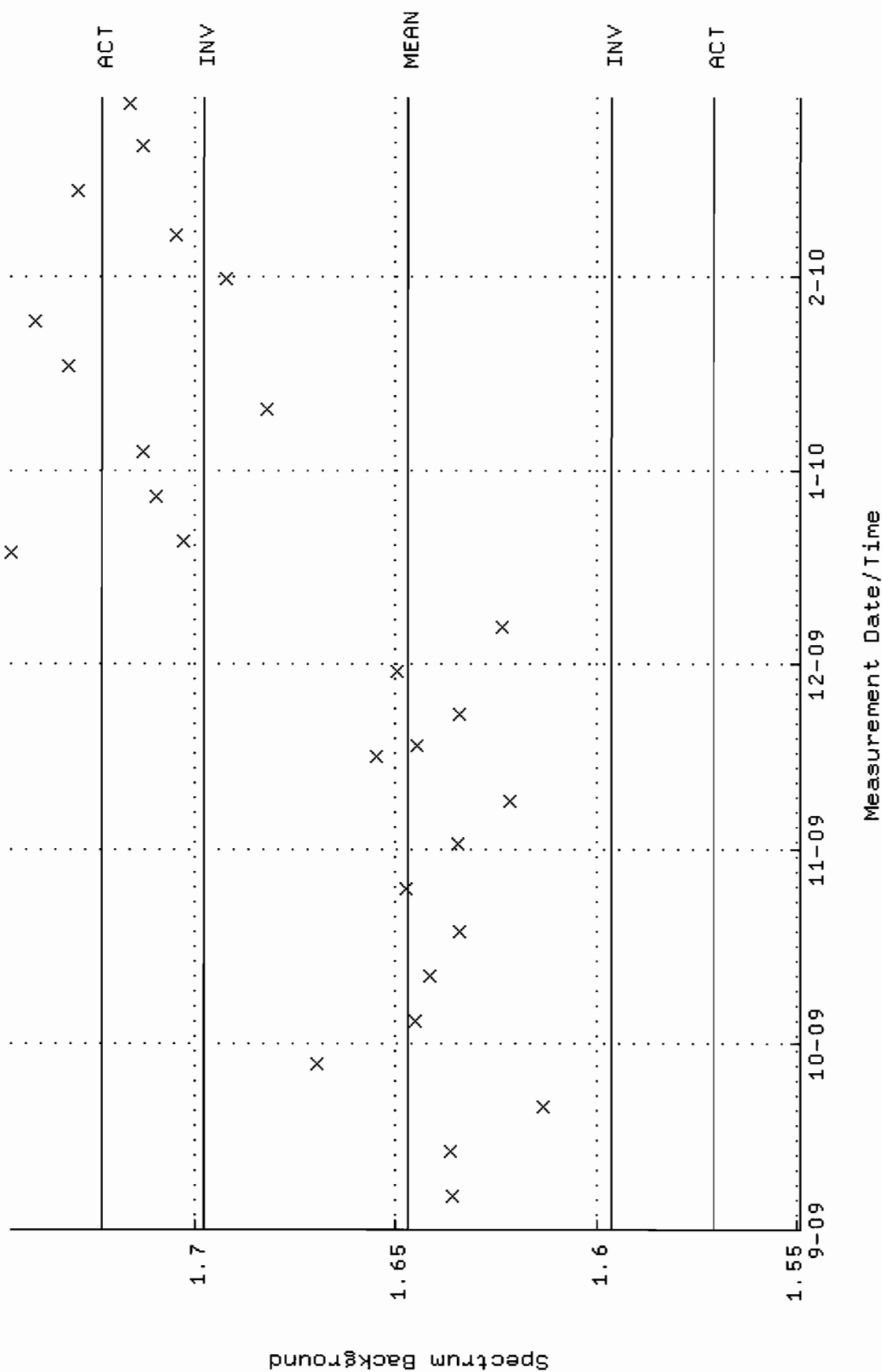
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:38:33 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.32050 +- 2.495234E-02 (1.89 %)



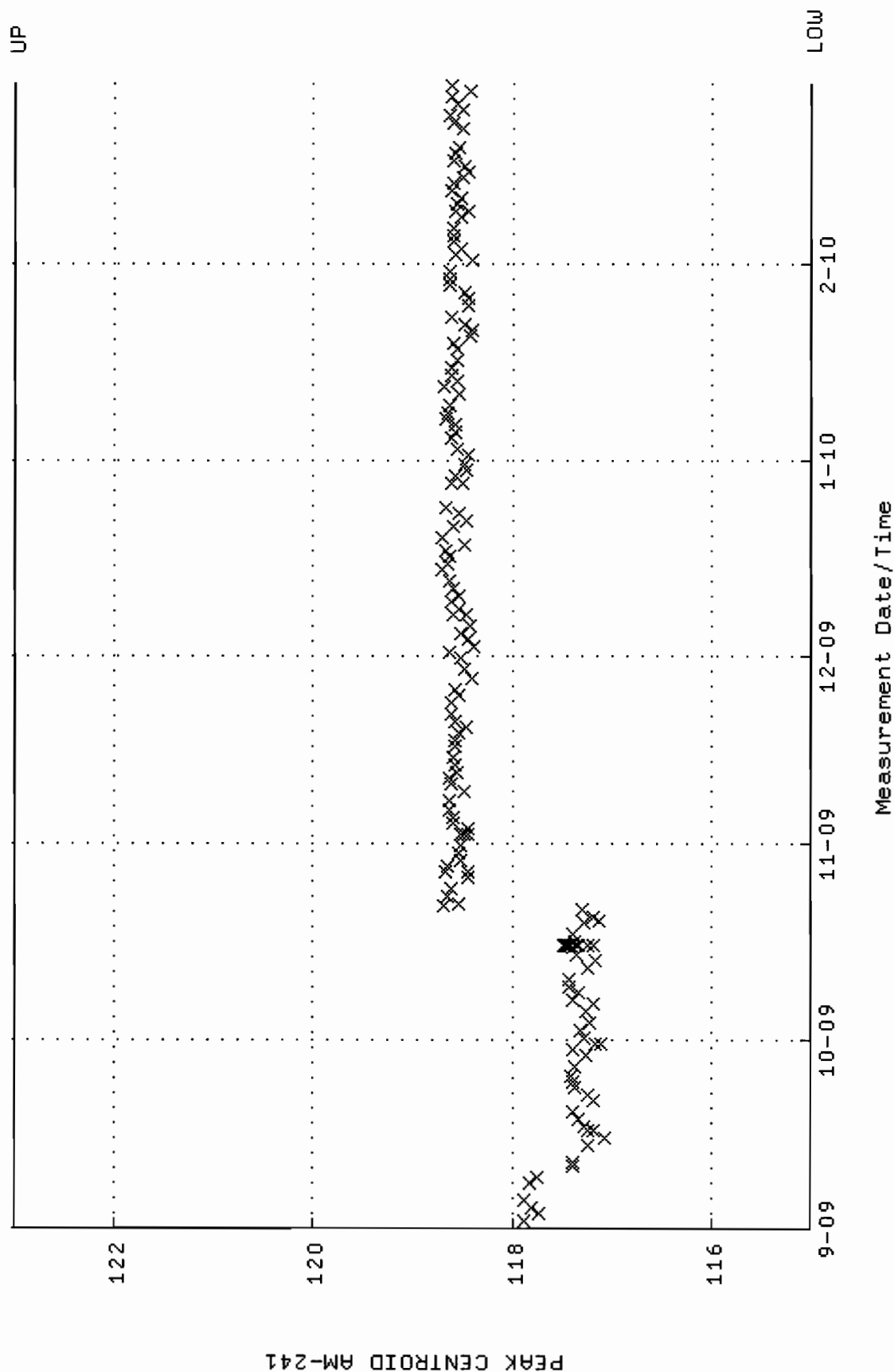
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM05_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-SEP-2009 14:54:46 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



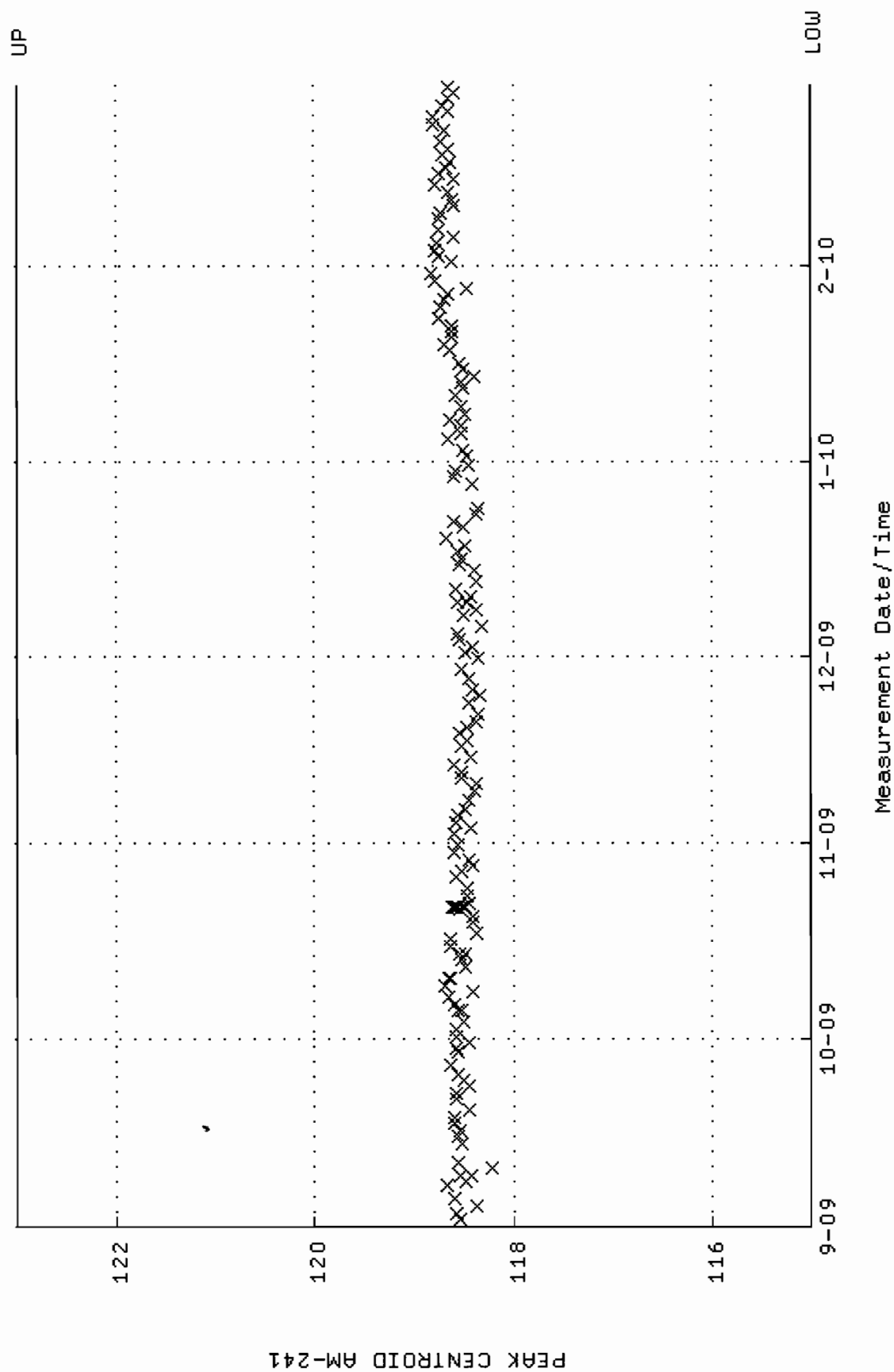
QA filename : DKA100:[CANBERRA, GAMMA, SCUSR, QA]LBC_GAM05.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:39:04 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.64719 +- 2.547087E-02 (1.55 %)



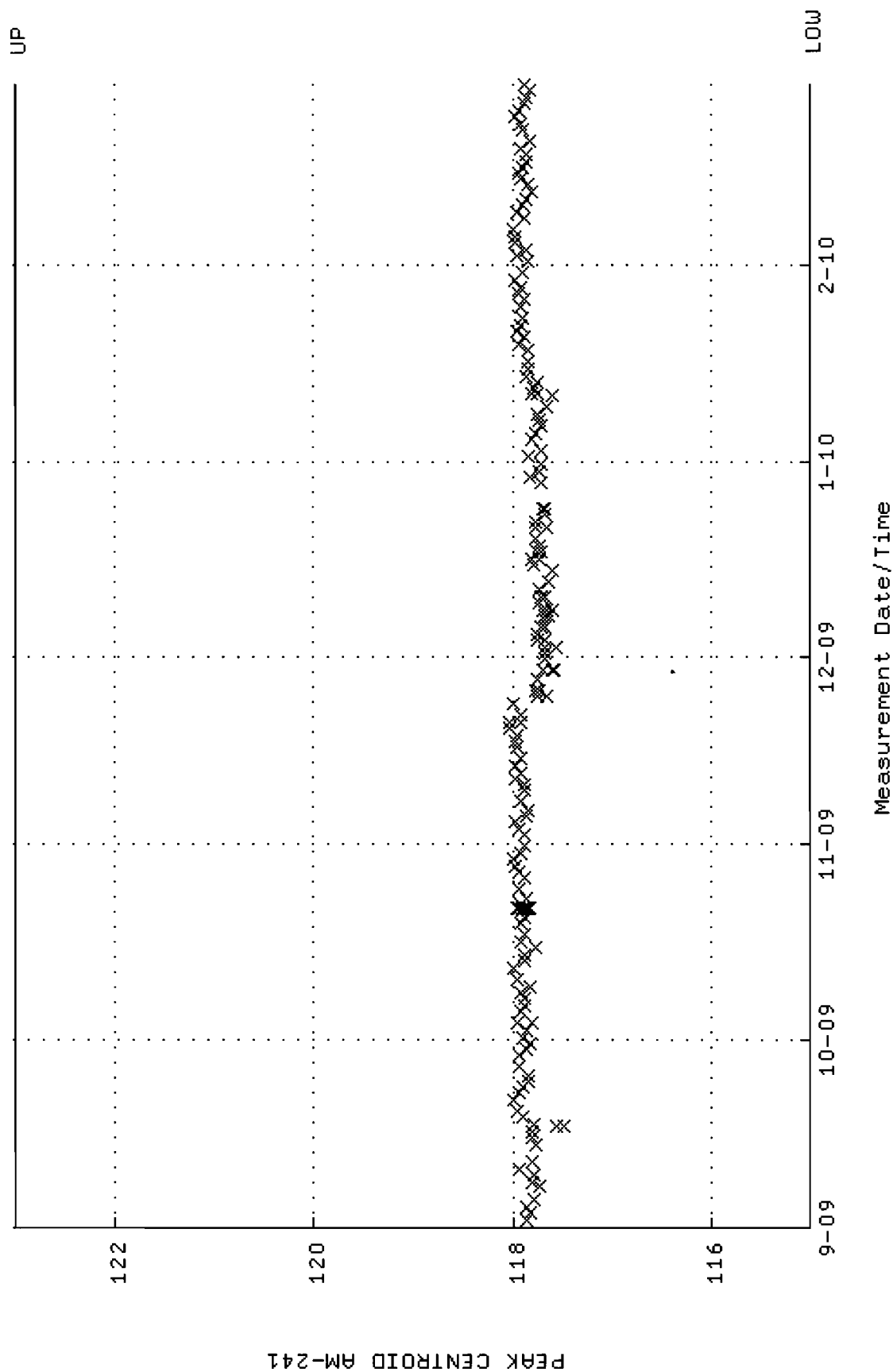
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM06_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 04:40:19 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



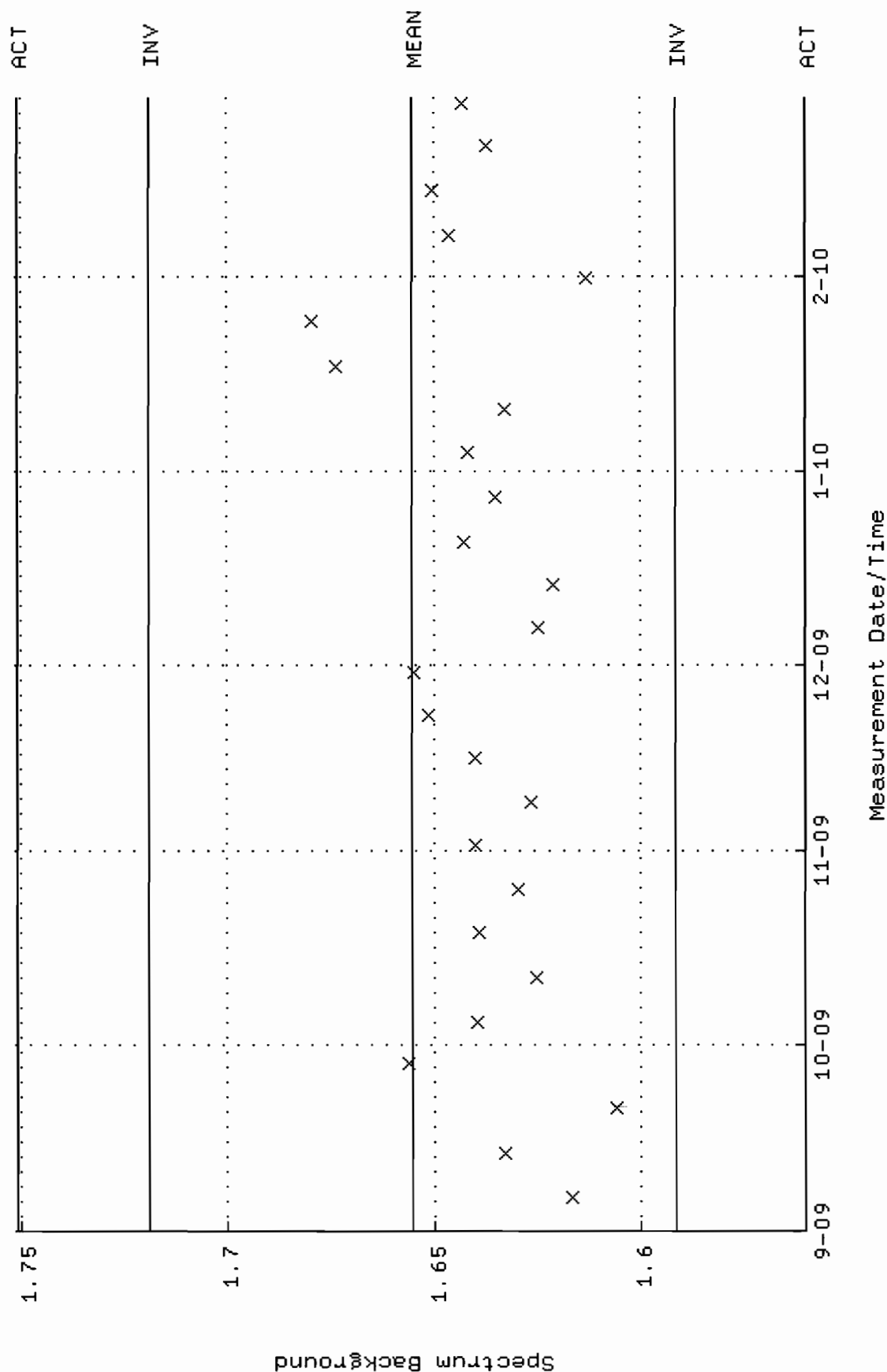
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 06:09:02 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



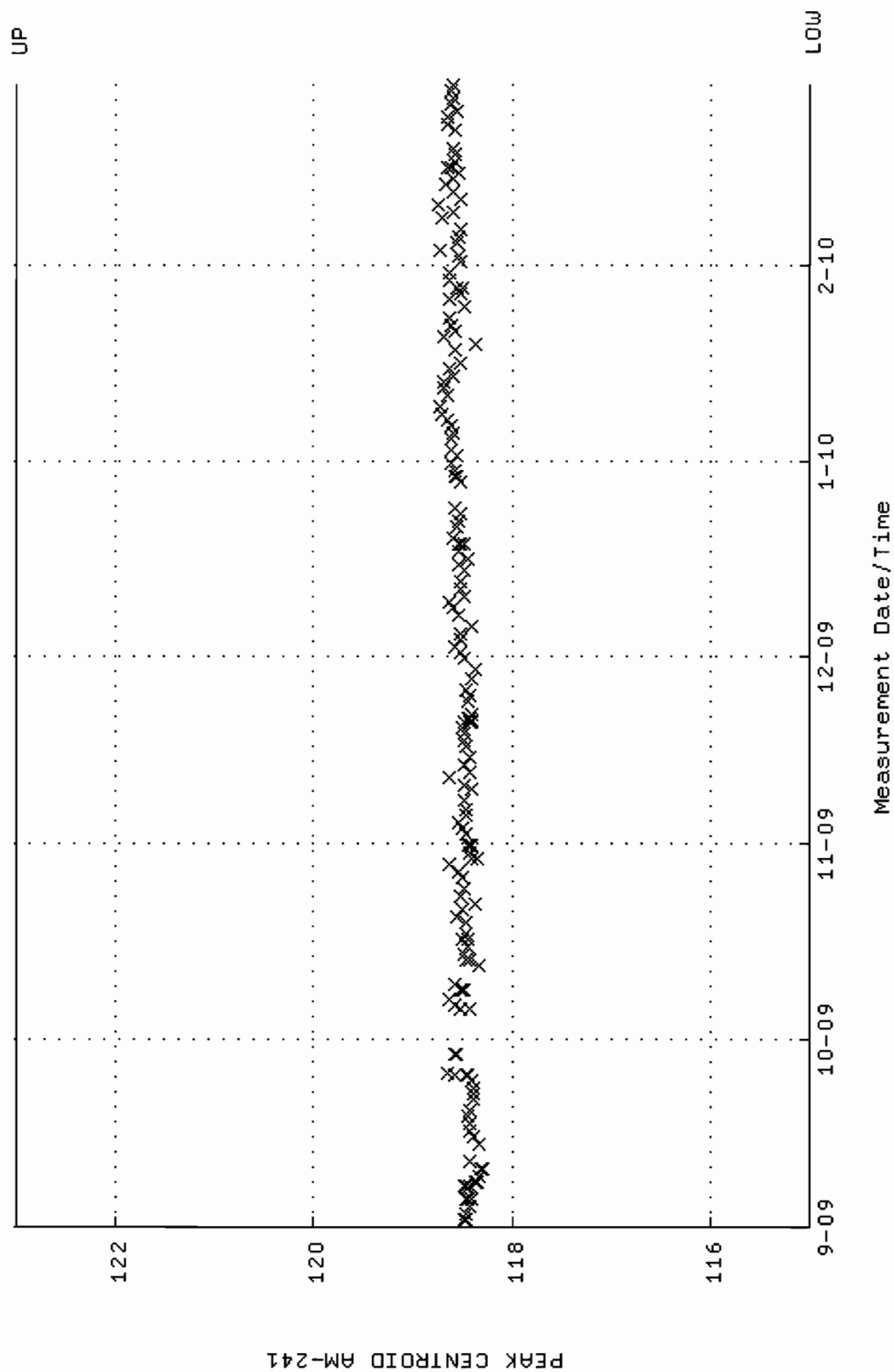
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR.QA]QCC_GAM11_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 06:47:51 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



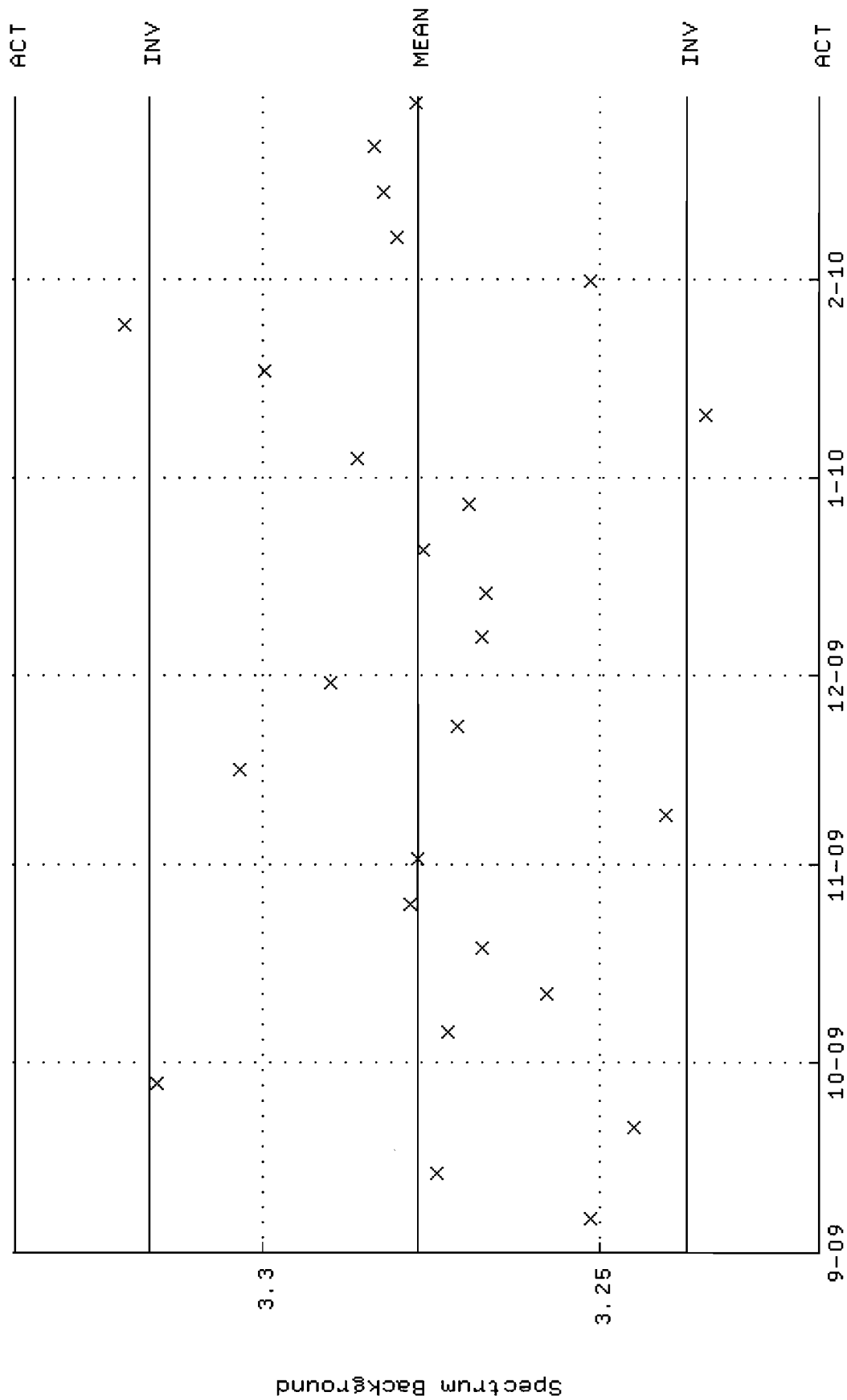
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM11.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:41:47 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



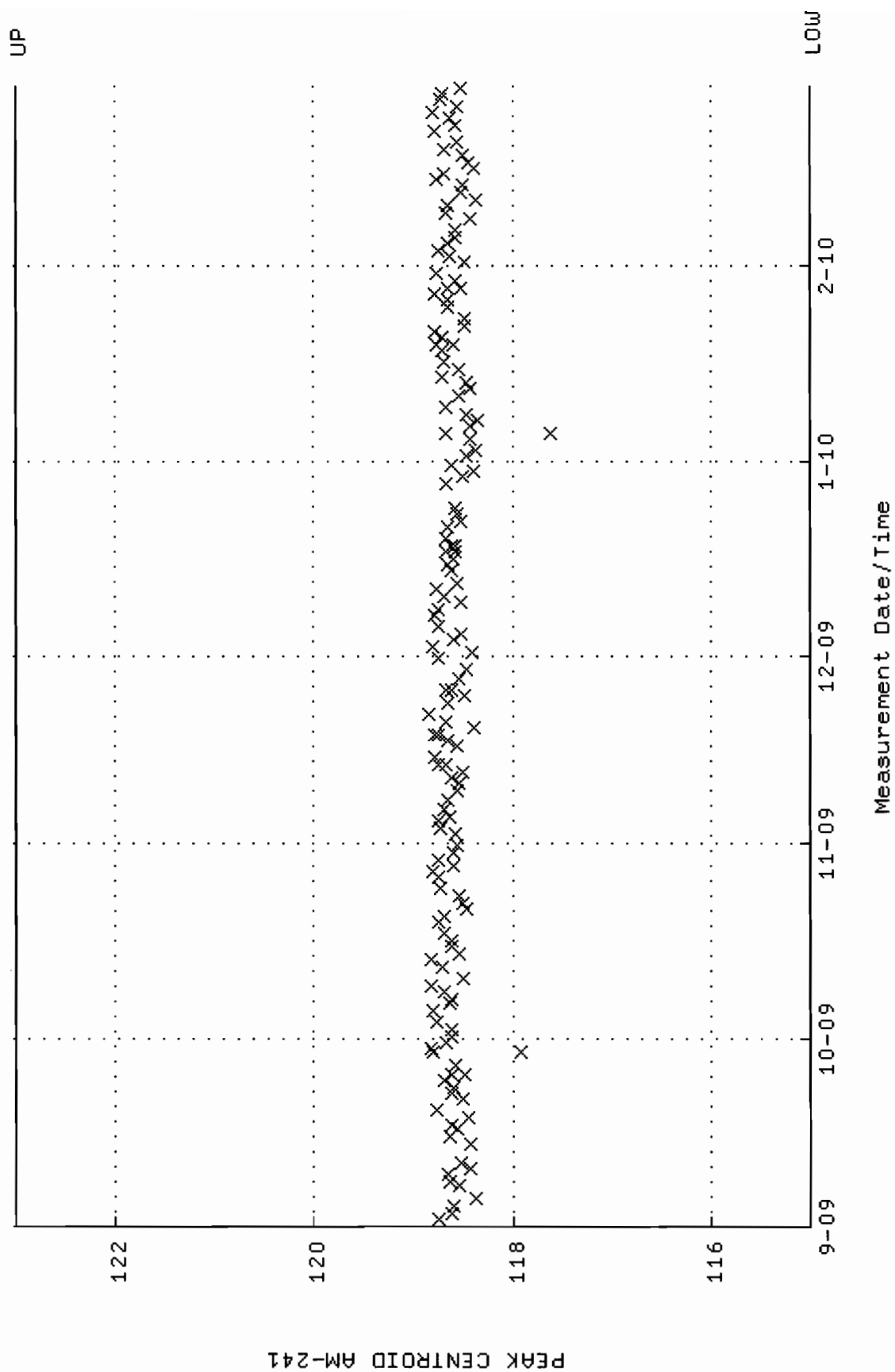
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM13_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 04:40:27 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



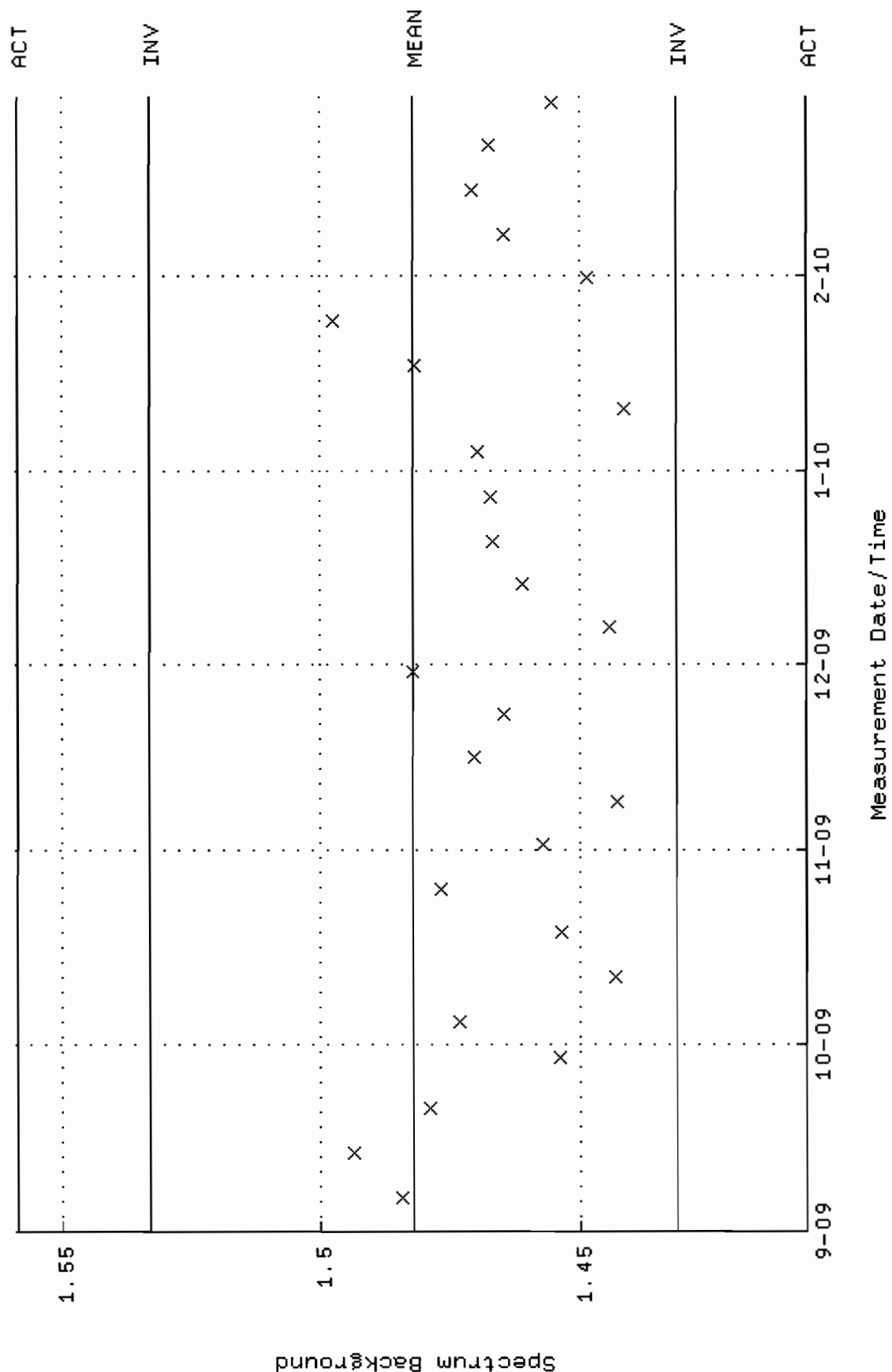
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM13.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:42:44 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 3.27712 +- 1.999120E-02 (0.61 %)



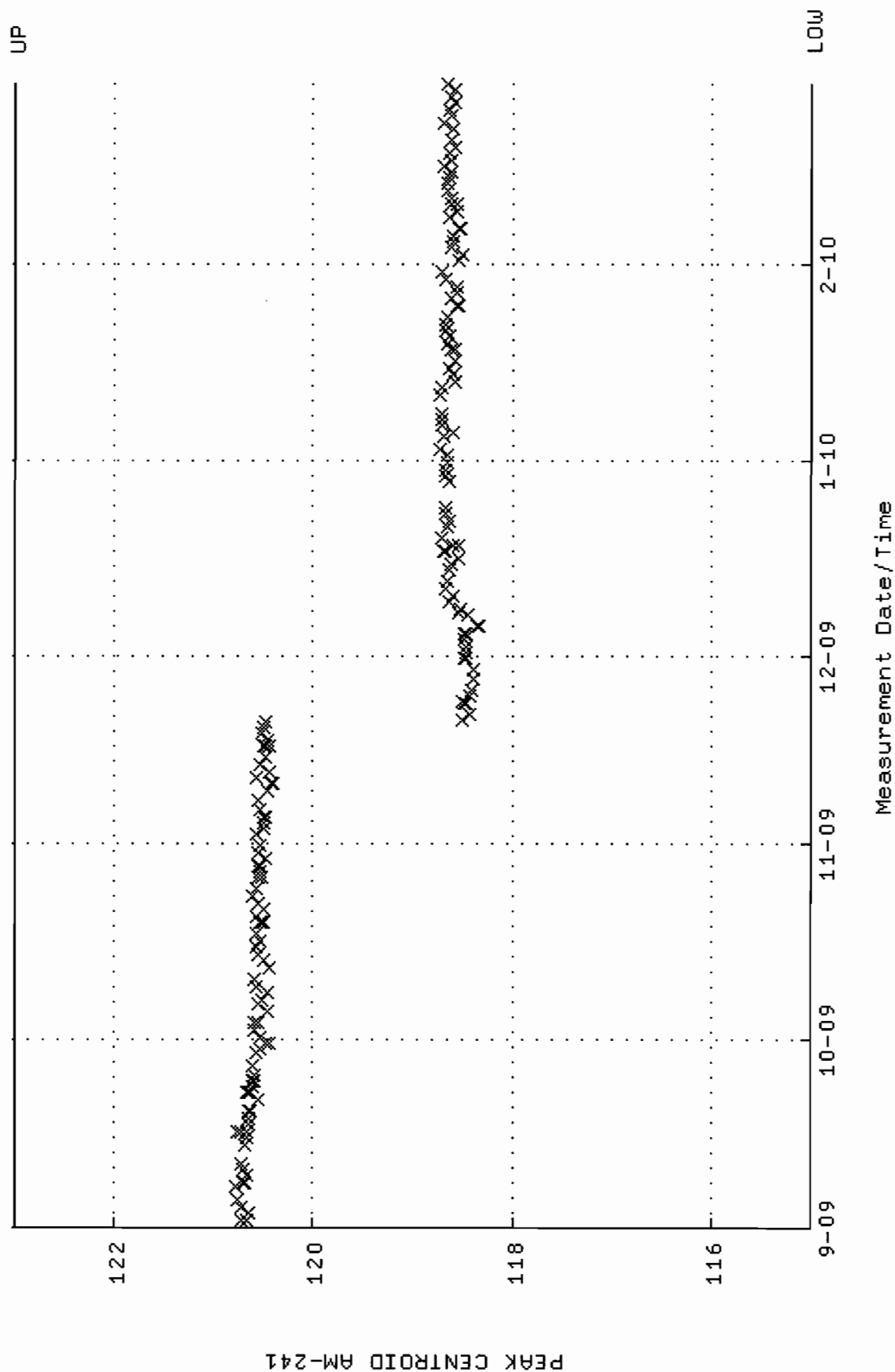
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM14-2LMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-SEP-2009 04:40:36 through 1-MAR-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



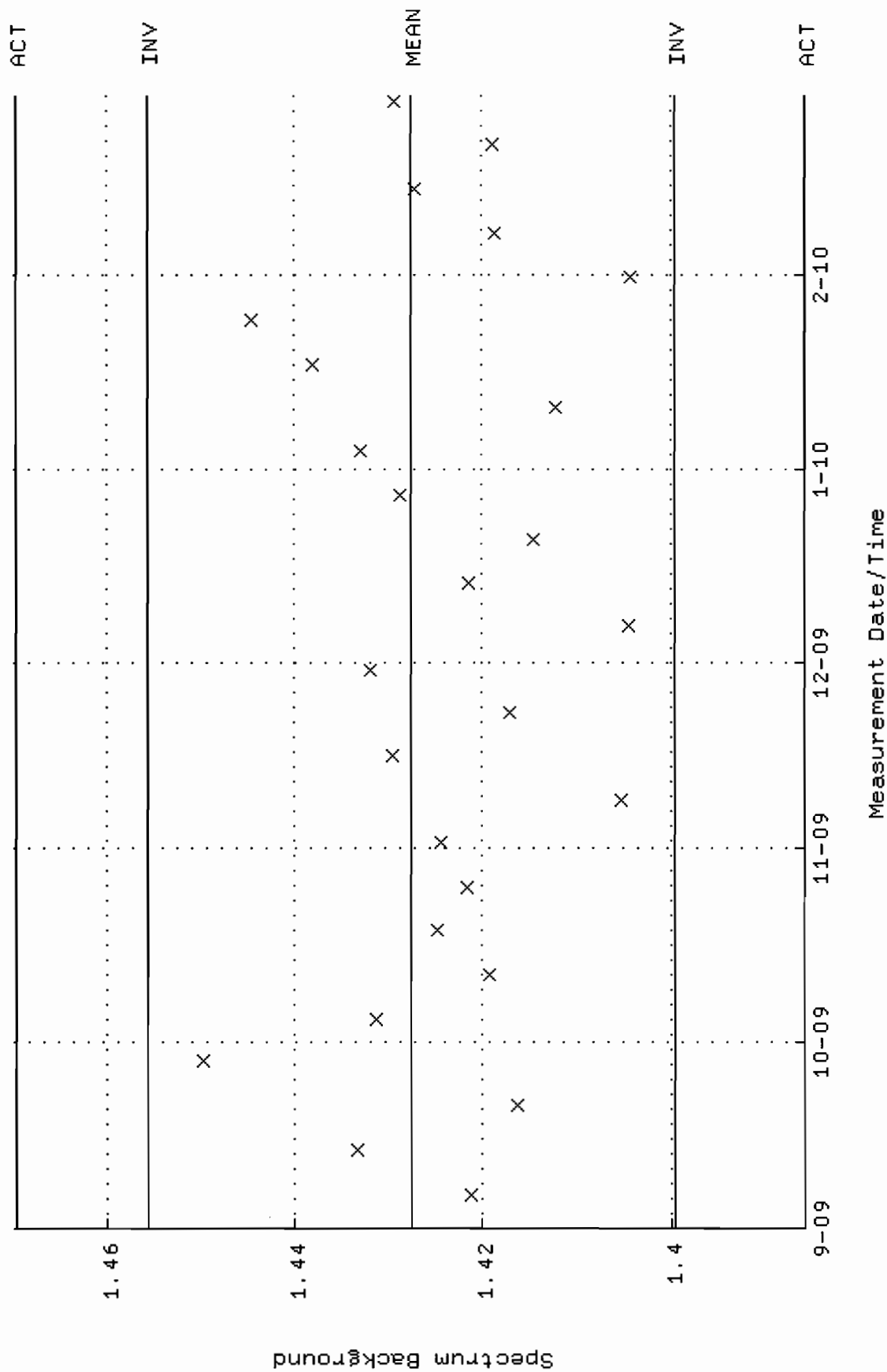
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:43:20 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



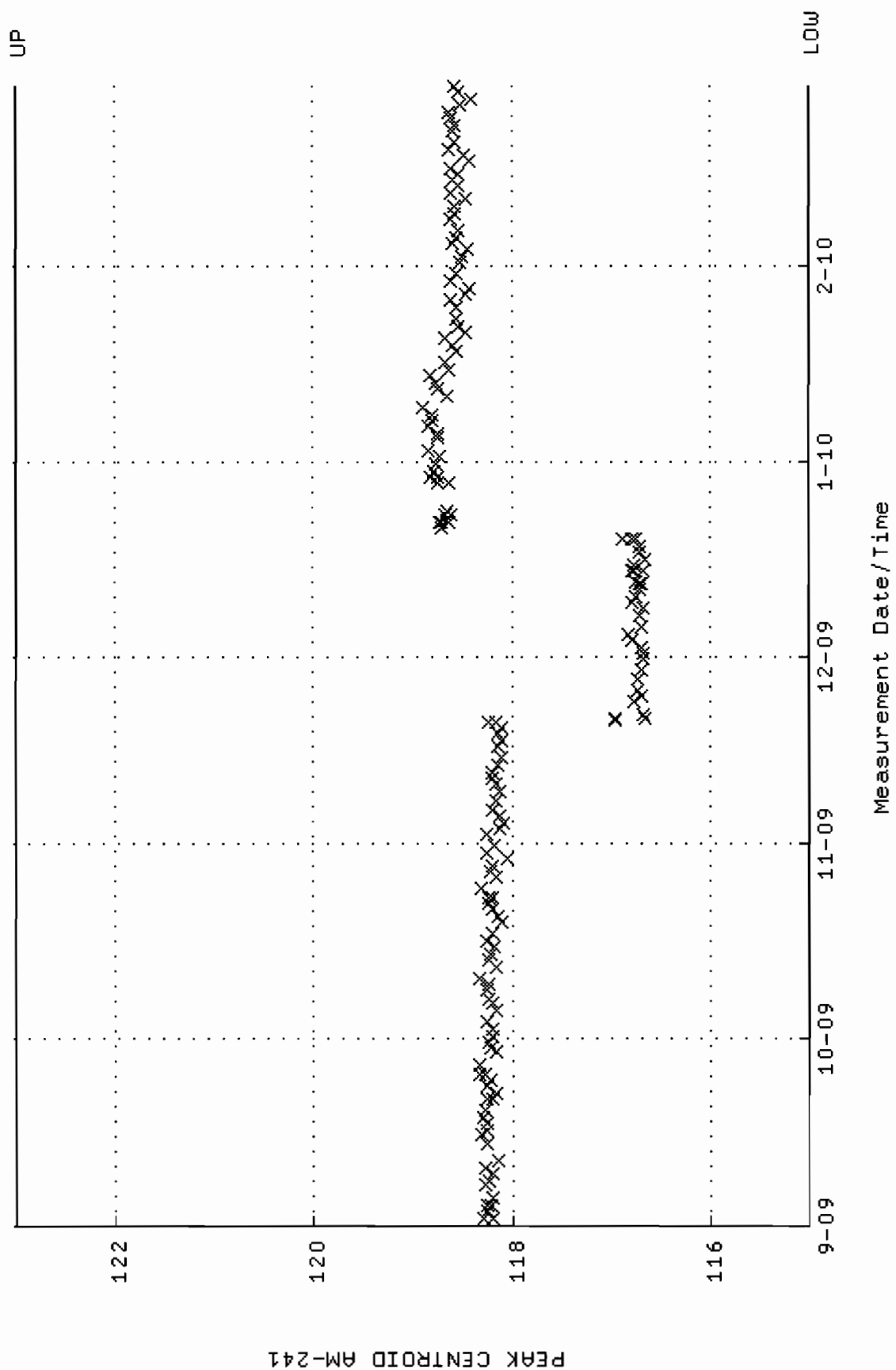
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 05:06:49 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



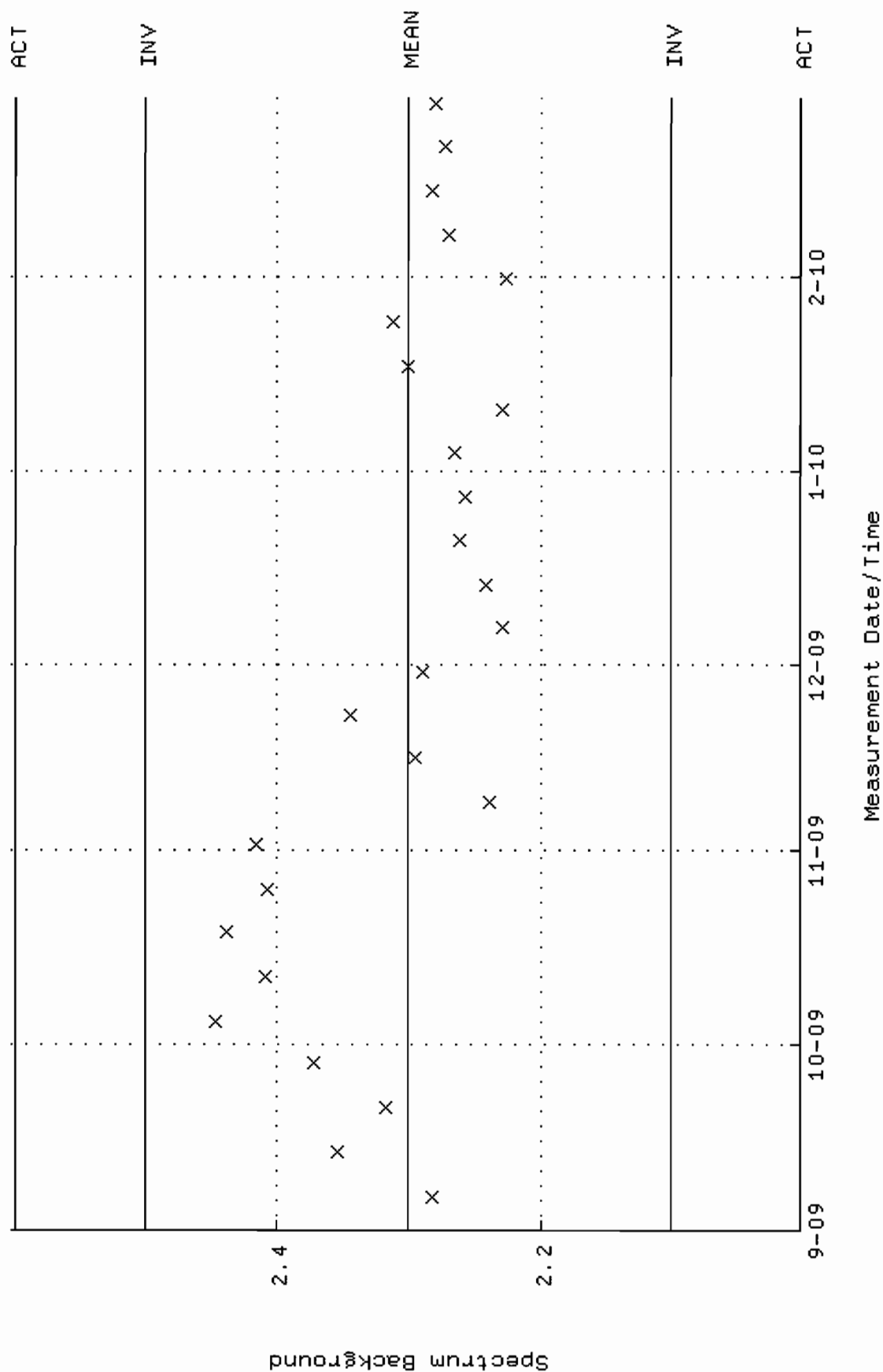
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM17.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:44:33 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



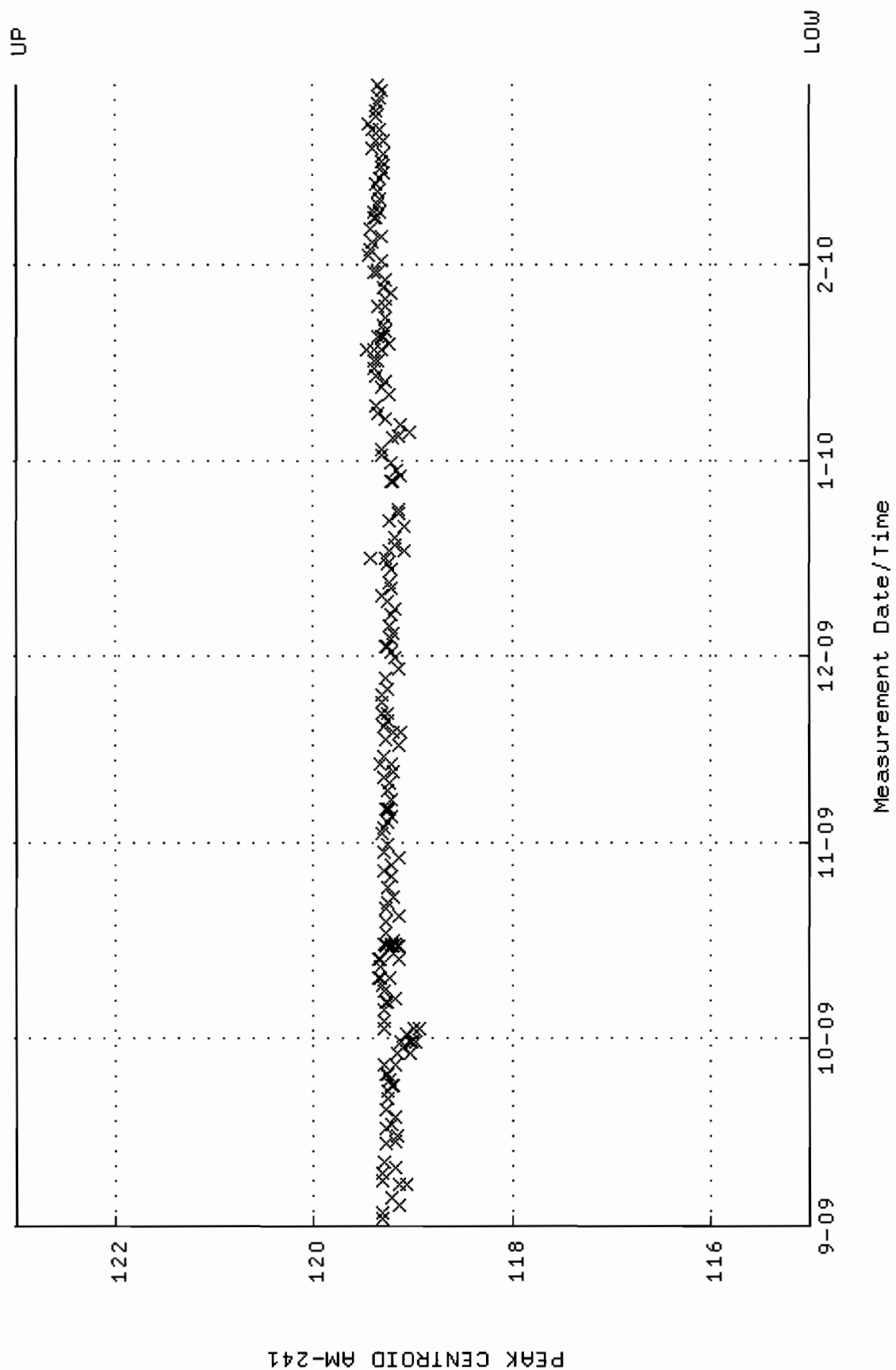
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 06:13:07 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



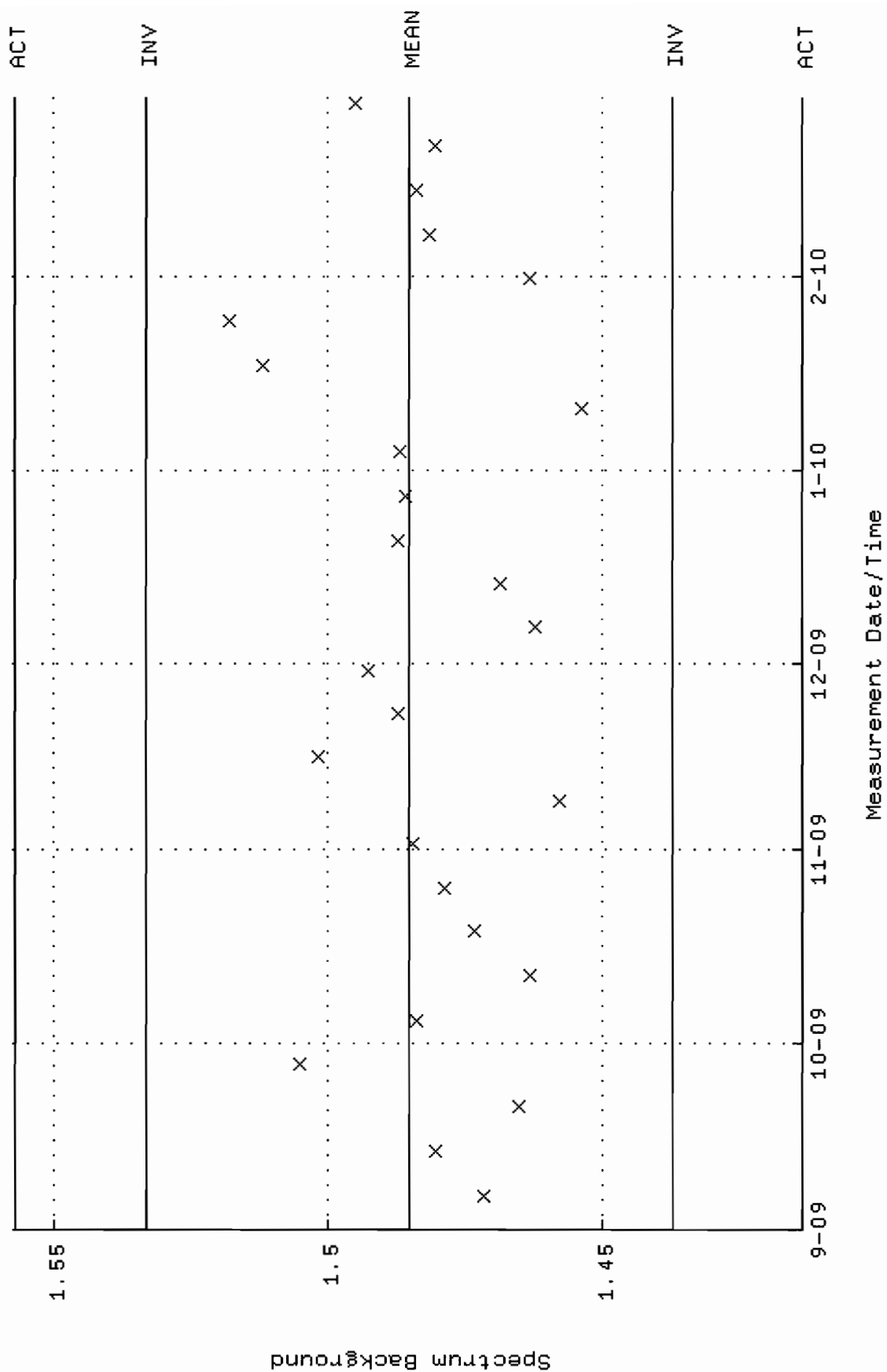
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:45:03 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



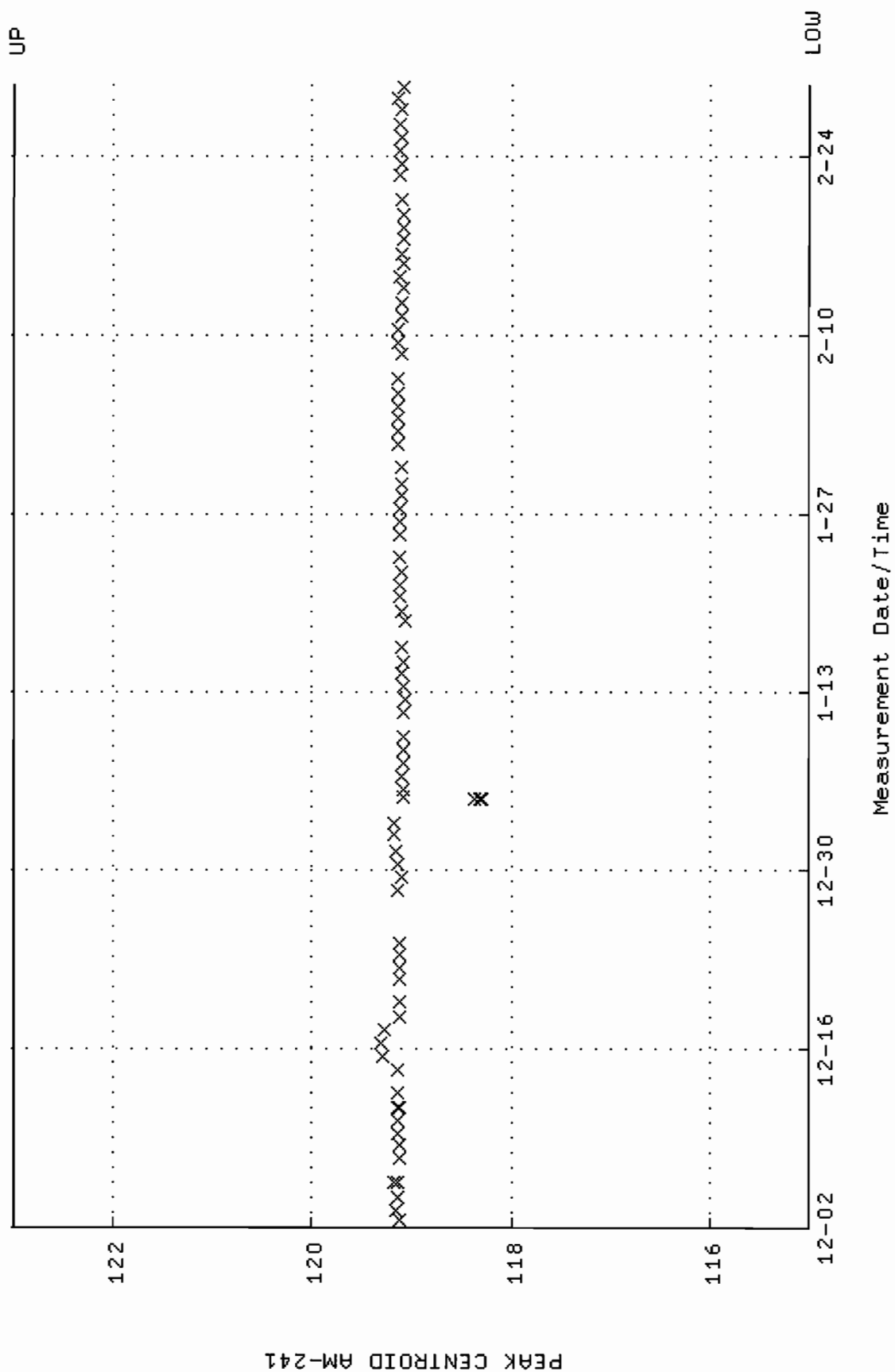
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 04:53:11 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



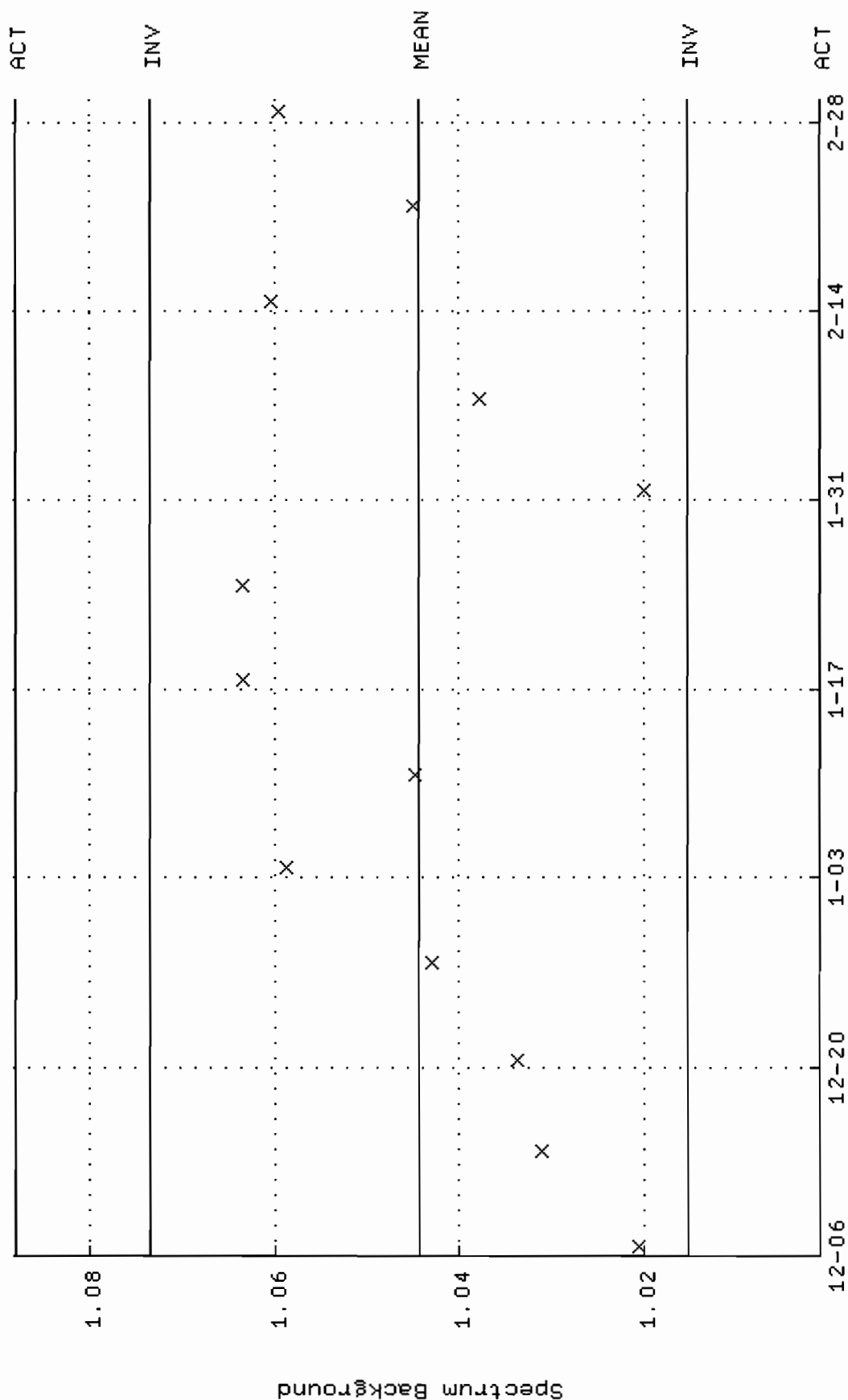
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM20.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:46:04 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



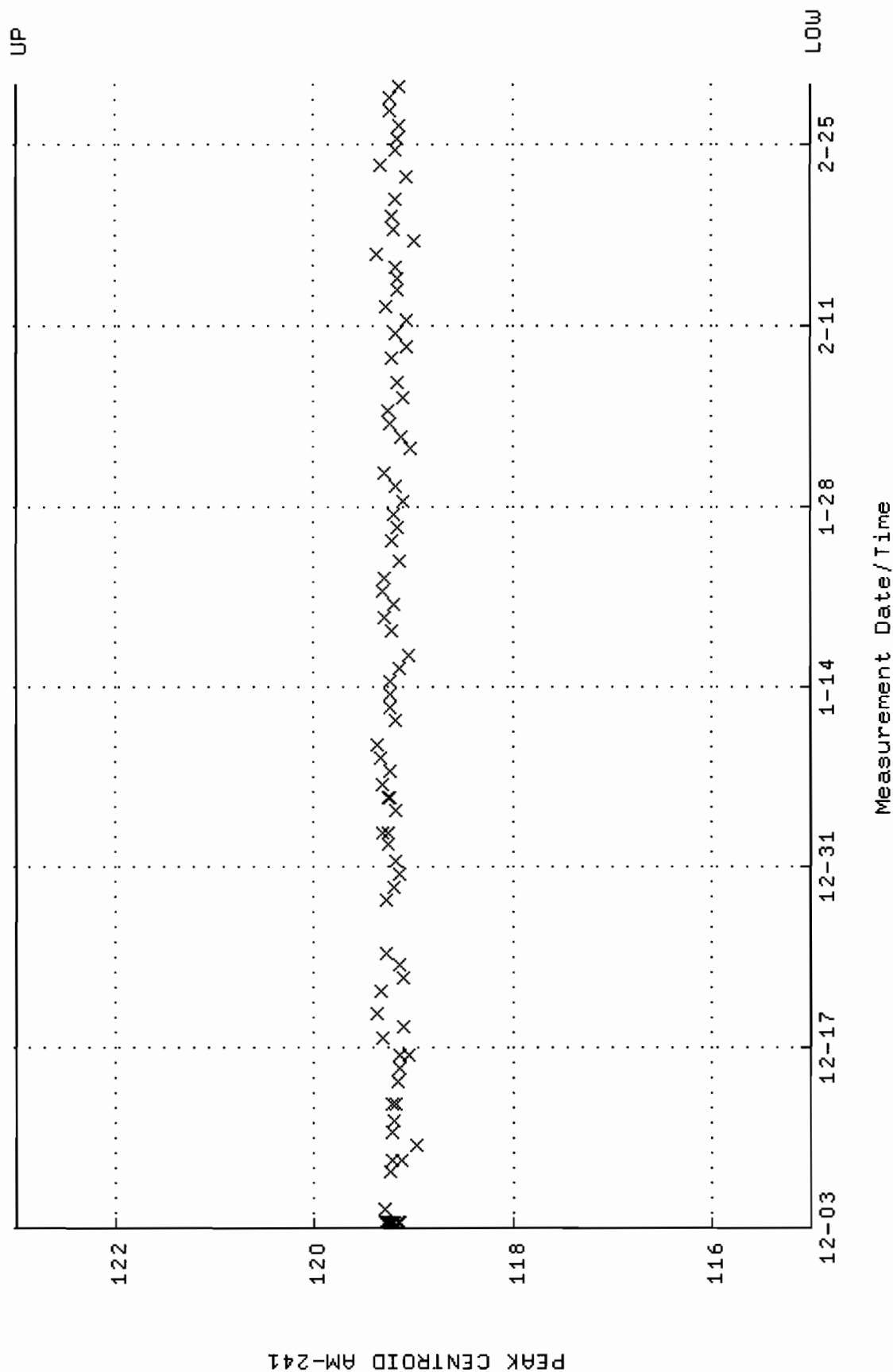
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM21_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-DEC-2009 13:07:42 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



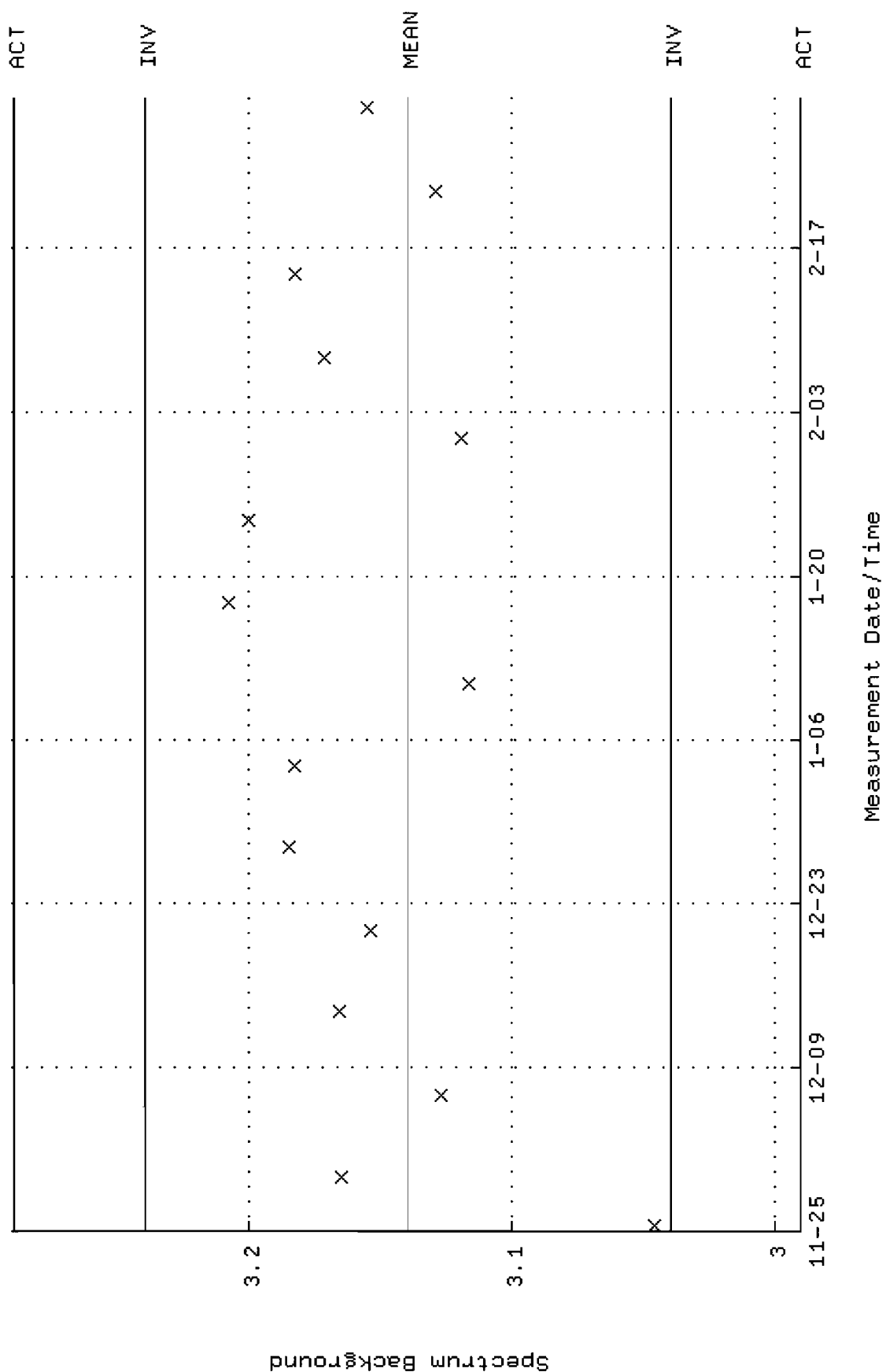
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM21.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-DEC-2009 15:25:38 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.04443 +- 1.452671E-02 (1.39 %)



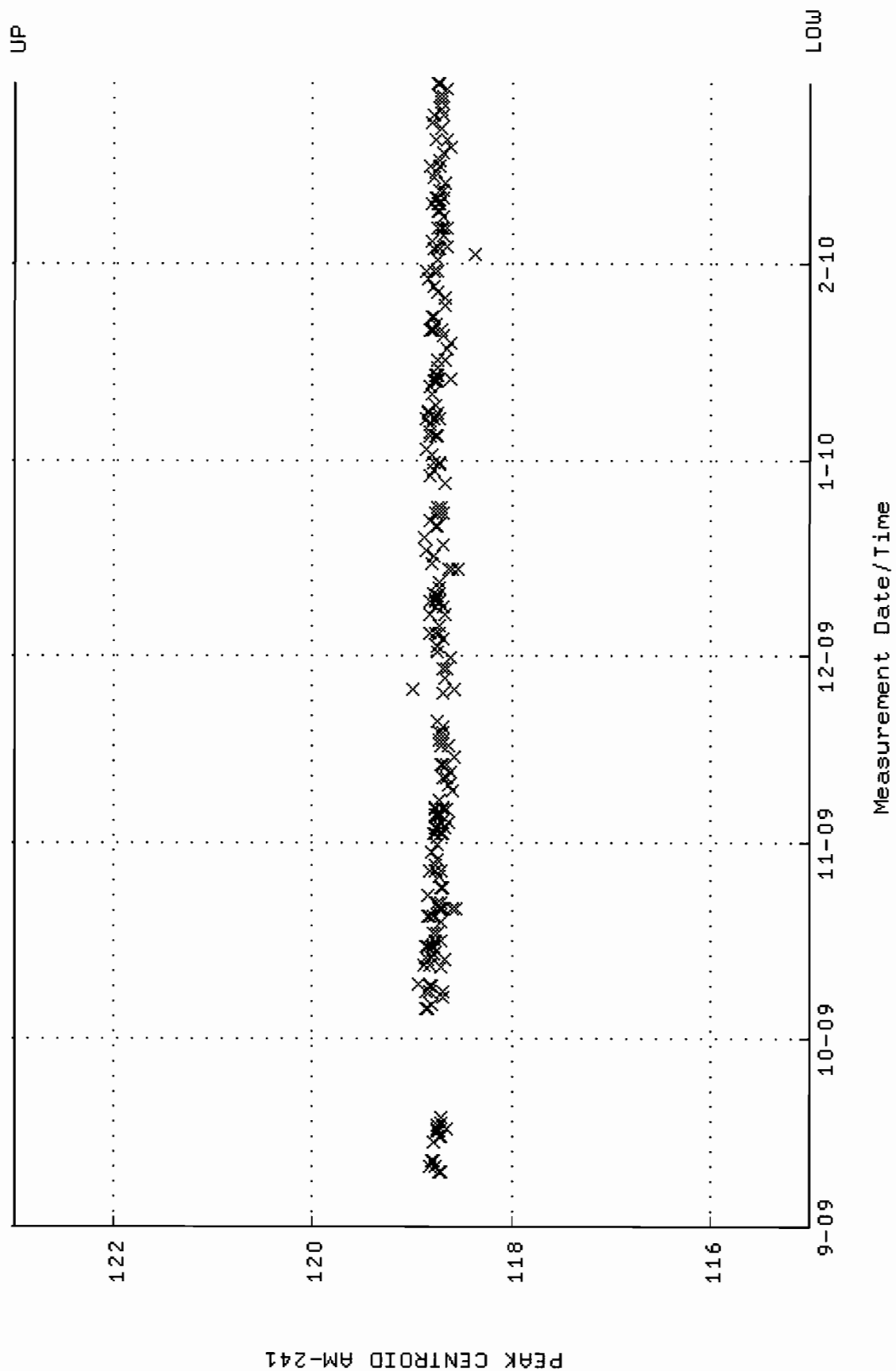
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-DEC-2009 09:11:39 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



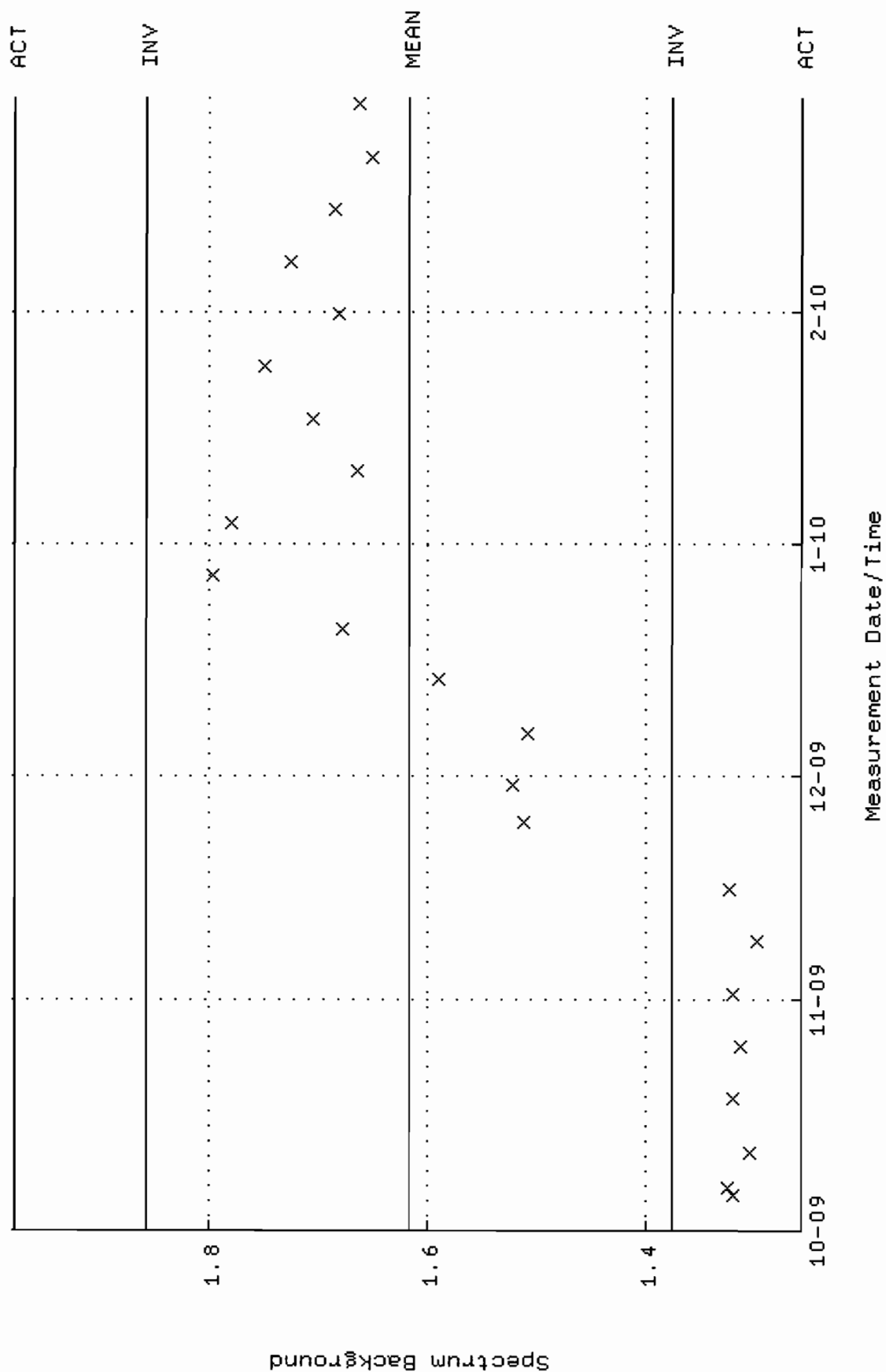
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM22.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 25-NOV-2009 10:28:37 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 9-SEP-2009 16:19:12 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)



STANDARDS DATA

0134



CALIBRATION
No. 0146

Description Radionuclide: TRITIUM (HYDROGEN-3) Product code: TRY-64
Chemical form: water Batch: 111

Measurement Reference time: 1200 GMT on 1 March 1996
Radioactive concentration of tritium: 488.0 kilobecquerels per gram of water
which is equivalent to: 13.19 microcuries per gram of water
or: 2.93×10^7 disintegrations per minute per gram of water

Method of Measurement

This reference material was calibrated by direct comparison with a standard of tritium-labelled water obtained from the National Institute of Standards and Technology, USA.

Accuracy The OVERALL UNCERTAINTY of the result quoted above is estimated to be less than $\pm 2.5\%$

This estimate of uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties.

Purity No radioactive impurities were detected. (Impurities with total activity greater than 0.001% of the activity of the tritium would have been detected).

Physical Data Half-life of tritium: 12.43 ± 0.11 years
Maximum beta energy of tritium: 18.6 keV

Remarks: The S.I. unit of radioactivity is the becquerel.

1 becquerel (Bq) = 1 nuclear transformation per second, therefore
1 curie (Ci) = 3.7×10^{10} becquerels exactly.

Useful conversion factors are:

1 microcurie (μCi) = 3.7×10^4 Bq = 37 kilobecquerels (kBq)

1 kilobecquerel (kBq) = 27.027 nanocuries (nCi)

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving implicit NIST (NBS) traceability as defined in NCRP58 (1985).

Approved
signature

W. F. Case

Page 1054 of 1089
W.F. Case

Page 1 of 2

2C-5-023-061a

Amersham
The Health Science Group

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0134	Isotope:	Tritium
Prepared By:	Angela Johnson	Prepared By:	Angela Johnson
Carrier Conc:	DI WATER	Prep Date:	02/21/2001
Reference Date:	03/01/1996	Verification Date:	09/10/2008
Ampoule Mass (g):	5 g	Expiration Date:	03/27/2010
Uncertainty:	+/- 2.5 %	Primary Code:	0134-A
LogBook No:	RC S 023 061	Dilution(mL):	100 mL
		Mass of Parent(g):	3.3659 g
		Density(g/mL):	1.0004
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 985535.5200 \text{ dpm/mL}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0004 \text{ g/mL}) / (100 \text{ mL}) = 985180.3116 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/20/2004	Amanda Fehr	5.86	1000	0134-H	5773.1566 dpm/mL	07/25/2006	07/25/2007
12/20/2005	Amanda Fehr	5.5451	1000	0134-I	5462.92 dpm/mL	12/20/2006	12/20/2007
07/11/2007	Daniel Roy	5.5863	1000	0134-J	5503.5128 dpm/ml	07/29/2008	07/29/2009
03/25/2009	Mary Aders	5.4917	1000	0134-K	5410.3147 dpm/ml	03/27/2009	03/27/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for H-3 Standard 0134-K

M. Aders
4/9/2009

Isotope
0134-K N1
0134-K N2
0134-K N3

Detector CPM
1097.2000
1073.2000
1085.2000

BKG CPM
54.0000
54.0000
54.0000

NET CPM
1043.2000
1019.2000
1031.2000

Detector Eff Mass. Used (mL)
1.0000
1.0000
1.0000

Source DPM/mL
2741.3089
2678.242955
2709.776428

Average =
2709.776428

Mean Value (Counting) =
31.53347278

Standard Deviation =
0.01163693

NET CPM
1043.2000
1019.2000
1031.2000

BKG CPM
54.0000
54.0000
54.0000

NET CPM
1043.2000
1019.2000
1031.2000

Detector Eff Mass. Used (mL)
1.0000
1.0000
1.0000

Source DPM/mL
2741.3089
2678.242955
2709.776428

Average =
2709.776428

Certificate Value =
2581.86
2846.709482
2772.843373

Lower Limit =
2581.86
2846.709482
2772.843373

Upper Limit =
2581.86
2846.709482
2772.843373

Rule 1 Pass/Fail
Fail
Fail
Fail

Two sigma =
63.06694556
63.06694556
63.06694556

10 % of Mean =
270.9776428
270.9776428
270.9776428

Rule 2 (Pass/Fail)
Pass
Pass
Pass

Rule 3 (Pass/Fail)
Pass
Pass
Pass

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for H-3 source 0134-K by transferring 0.1 mL portions of the standard into glass liquid scintillation vials. Ten mL of Ecosint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ecosint Ultra liquid scintillation cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on Silver for H-3 source standard verification. The H-3 efficiency calibration which was used for verification calculations was performed on 4/9/09 using 0020-A (H-3). Calibration data is recorded in this logbook under H-3 0020. Each verification source calculation was performed as follows:

$$\text{Source dpm/g} = (A - B)/(C/D)$$

where:

- A = Ver. source cpm,
- B = BKG cpm,
- C = System efficiency, (cpm/dpm), and
- D = mass used for standard verification.

Reference RAD SOP M-001

Handwritten signature: Amanda J. Dehn 4/9/09

1032

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

74047-278

5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. 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
 M. Dimitrova, Radiochemist

Q A APPROVED:

W.M. Myers 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.analytisticsinc.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
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GEL Laboratories LLC

Version 1.0 9/18/2000

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Am-241

Isotope	Result	pCi/L - Ver. Jar. 1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L

Mean Value (Counting) = 2485.67
Stdev = 64.065
Pass
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. Tab. 1
Mixed Gamma N1	854.2	pCi/L
Mixed Gamma N2	907.6	pCi/L - Ver. Tab. 3
Mixed Gamma N3	898.9	pCi/L - Ver. Tab. 2

Mean Value (Counting) = 886.90
Stdev = 28.651
Rule 3 (Pass/Fail) Pass

Certificate Value = 933.44144
Lower Limit = 829.597644
Upper Limit = 944.202356
Rule 1 (Pass/Fail) Pass
Two sigma = 57.30235597
10 % of Mean = 88.69000000
Rule 2 (Pass/Fail) Pass

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

Handwritten: 12/2/09
12/2/09
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - Ver - Jar-5
Mixed Gamma N1	1572	pCi/L - Ver - Jar-2
Mixed Gamma N2	1495	pCi/L - Ver - Jar-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67 Pass
Stdev = 42.829 Rule 3 (Pass/Fail)

Certificate Value = 1545.8378 pCi/L
Lower Limit = 1437.008431 pCi/L
Upper Limit = 1608.324902 pCi/L
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.

M. Stamps 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 l. 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 ± 7.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Tn-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0	

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Fehr 4/30/04
 ftt & dated 5/1/04

PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

CERTIFICATE OF CALIBRATION

ALPHA STANDARD SOLUTION

Radionuclide Am-243
Half Life: 7380 \pm 40 years
Catalog No.: 7243
Source No.: 445-96-2

Customer: GENERAL ENGINEERING LABS
P.O.No.: 9290-RAD
Reference Date: January 1 1994 12:00 PST.
Contained Radioactivity: (Am-243) 101.2 μ Ci
Contained Radioactivity: (Am-243) 3750 kBq

Description of Solution

a. Mass of solution: 5.3739 g (in a 5 ml Flame Sealed Ampoule)
b. Chemical form: Am(NO₃)₃ in 2N HNO₃
c. Carrier content: None added
d. Density: 1.0651 g/ml @ 20°C.

Radioimpurities

None detected

Radioactive Daughters

Np-239 (beta active) in equilibrium

Radionuclide Concentration

(Am-243) 18.84 μ Ci/g

Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) intergrated under: 228, 278 keV.
Branching ratio(s) used: 0.108, 0.1420 gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: $\pm 3.0\%$
b. Random uncertainty in assay: $\pm 0.4\%$
c. Random uncertainty in weighing(s): $\pm 0.0\%$
d. Total uncertainty at the 99% confidence level: $\pm 3.0\%$

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Anna H. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO
DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☒ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 3. SOAK TEST -- BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 4. GAS SOURCE TEST (Radioactive Gas)

The source is placed in a vacuum desiccator and maintained at a pressure of less than 1 mm Hg for not less than 12 hours. The activity is checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Activity levels exceeding 1000 cpm are cause for rejection of the source.

☒ 5. OTHER LEAK TEST

The ampoule is kept in an inverted position on a filter paper disk for a minimum of 16 hours. The filter paper disk is then checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 6. LEAK TEST NOT APPLICABLE

The active area of this source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test. Levels of removable activity did not exceed 0.001 μCi beta-gamma or 0.0001 μCi alpha at the time of shipment.

Standard Traceability Log Rad

Source Material Info	
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:	03/09/2010
Expiration Date:	03/09/2011
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	Tara Sides	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/14/2009	09/14/2010
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
03/09/2010	Ashley Drochter	.011	1000	445-96-2-VV	22.7878 dpm/mL	03/09/2010	03/09/2011
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
03/23/2010	Ashley Drochter	.0163	1000	445-96-2-WW	33.7674 dpm/mL	03/23/2010	03/23/2011
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-VV

A.Drochter 3/15/2010	Isotope	Value	Uncertainty
	445-96-2-VV #1	1.040	0.1630
	445-96-2-VV #2	0.964	0.1480
	445-96-2-VV #3	0.970	0.1550
Mean Value (Counting) =	0.991	96.72	Pass
Stdev =	0.042253205	Rule 3 (Pass/Fail)	
Target =	1.025		
Lower Limit =	0.906826923		
Upper Limit =	1.075839743		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.08450641		
10 % of Mean =	0.099133333		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-VV** 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.

Handwritten signature 3/15/10
 + 3/16/10



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analytiscinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

78747-278

1283

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.18, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:

Impurities: U-233 <0.3%, Am-241 <0.15%
5.20453 grams 1M HNO₃ solution.

Source Prepared By: W. Mao
W. Mao, Radiochemist

QA Approved: D. M. Montgomery
D. M. Montgomery, QA Manager

Date: 12-11-08

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1283	Isotope:	Uranium-232
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3	Prep Date:	12/16/2008
Reference Date:	12/09/2008	Verification Date:	12/30/2008
Ampoule Mass (g):	5.20453 g	Expiration Date:	12/30/2009
Uncertainty:	+/- 5 %	Primary Code:	1283-A
LogBook No:	RC-S-051-002	Dilution(mL):	100 mL
		Mass of Parent(g):	5.0245 g
		Density(g/mL):	1.0285
		Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/02/2009	12/02/2010
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/08/2010	12/02/2010
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter

Date: 12/10/09

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



NATIONAL PHYSICAL LABORATORY

Teddington Middlesex UK TW11 0LW Telephone +44 20 8977 3222

Certificate of Calibration



0478

PLUTONIUM-236 SOLUTION R37-02

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

FOR: GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407
USA

FOR THE ATTENTION OF: Mr Tim Winters

NPL PRODUCT CODE: R37-02

IDENTIFICATION: A09881

DESCRIPTION: An aqueous solution of ^{236}Pu also containing 2 mol dm^{-3} of nitric acid. The solution is contained in a flame sealed ampoule of type Q and nominal volume 5 ml (squat) as defined in BS 795:1983.

DATE(S) OF CALIBRATION: 26 June 2009 to 1 July 2009

INTENDED USE: Calibration of instruments for response to ^{236}Pu

STORAGE: The material may be stored at room temperature in a suitably sealed container. Flame-sealed glass ampoules are recommended for long-term storage. Regulatory conditions may apply to the manner in which this material is stored.

MEASUREMENTS

The samples were prepared by gravimetric dilution of a ^{236}Pu solution, which had been previously standardised using liquid scintillation counting. The accuracy of the dilution factor was checked using liquid scintillation counting.

Reference: 2009100356

Date of Issue: 4 November 2009

Checked by: *Ch Ali*
Page 1079 of 1089

Signed: *[Signature]*
Name: Dr Arvic Harms

Page 1 of 3
(Authorised Signatory)
for Managing Director

RESULTS

Principal radionuclide:	^{236}Pu
Reference time:	2009-07-01 12:00 UTC
Activity concentration of principal radionuclide:	170.8 Bq g^{-1}
Expanded uncertainty:	$\pm 0.6 \text{ Bq g}^{-1} (\pm 0.36 \%)$
Contaminants present:	$^{226}\text{Ra}, ^{232}\text{U}, ^{228}\text{Th}, ^{237}\text{Np}$
Activity concentration of ^{226}Ra :	11.0 mBq g^{-1}
Expanded uncertainty:	$\pm 4.0 \text{ mBq g}^{-1} (\pm 36 \%)$
Activity concentration of ^{232}U :	0.67 Bq g^{-1}
Expanded uncertainty:	$\pm 0.12 \text{ Bq g}^{-1} (\pm 18 \%)$
Activity concentration of ^{228}Th :	11.38 mBq g^{-1}
Expanded uncertainty:	$\pm 0.46 \text{ mBq g}^{-1} (\pm 4 \%)$
Activity concentration of ^{237}Np :	5.00 mBq g^{-1}
Expanded uncertainty:	$\pm 0.34 \text{ mBq g}^{-1} (\pm 8 \%)$
Sample Mass:	$4.97 \text{ g} \pm 0.02 \text{ g}$

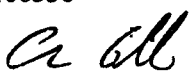
UNCERTAINTIES

The reported uncertainties are based on standard uncertainties multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95 %. The uncertainty evaluations have been carried out in accordance with UKAS requirements.

Reference: 2009100356

Page 2 of 3

Checked by:



NOTES

- [1]. The reported reference time is stated consistent with the format given in ISO 8601:2004. UTC is the abbreviation for Universal Time, Coordinated. The date is stated in the format YYYY-MM-DD such that 2008-09-01 represents 1 September 2008.
- [2]. The recommended half life of ^{236}Pu is 1044 (6) days and is taken from the evaluations published in *Nuclear Data Sheets*.
- [3]. The recommended half life of ^{226}Ra is $5.844 (50) \times 10^5$ days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [4]. The recommended half life of ^{232}U is 25800 (800) days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [5]. The recommended half life of ^{237}Np is $7.83 (6) \times 10^8$ days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [6]. The recommended half life of ^{228}Th is 698.60 (46) days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.

UNCERTAINTIES

The reported uncertainties are based on standard uncertainties multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95 %. The uncertainty evaluations have been carried out in accordance with UKAS requirements.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1430	Isotope:	Plutonium-236
Prepared By:	Ashley Drochter	Prepared By:	Ashley Drochter
Carrier Conc:	2 M HNO3	Prep Date:	01/27/2010
Reference Date:	07/01/2009	Verification Date:	01/27/2010
Ampoule Mass (g):	4.97 g	Expiration Date:	01/27/2011
Uncertainty:	+/- .36 %	Primary Code:	1430-A
LogBook No:	RC-S-051-149	Dilution(mL):	100 mL
		Mass of Parent(g):	4.8051 g
		Density(g/mL):	1.0610
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL/dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(4.8051 \text{ g}) * (170.8 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (100 \text{ mL}) = 492.4266 \text{ dpm/mL}$
$(4.8051 \text{ g}) * (170.8 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0610 \text{ g/mL}) / (100 \text{ mL}) = 464.1156 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/27/2010	Bethany Fiem	33.0429	200	1430-B	76.6786262 dpm/mL	01/27/2010	01/27/2011
03/01/2010	Ashley Drochter	15.2331	200	1430-C	35.3496 dpm/mL	03/01/2010	03/01/2011

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Plutonium-236 Standard 1430-C

	Isotope	Value	Uncertainty
A. Drochter 3/4/2010	1430-C	2.760	0.4480
	1430-C	2.770	0.4520
	1430-C	2.950	0.4850
Mean Value (Counting) =	2.827	104.54659 % of Known Value	
Stdev =	0.106926766		
Target =	2.70		
Lower Limit =	2.612813134		
Upper Limit =	3.040520199		
Rule 1 Pass/Fail	Pass	Pass	Pass
Two sigma =	0.213853532		
10 % of Mean =	0.282666667		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard 1430-B using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu 239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. After approximately ten minutes, two mL of 49% HF was added to precipitate neodymium (and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-236 were calculated by comparison to Pu-239 certified values.

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RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 958225

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248051001	SAMPLE	MXR1	GAM05	10-MAR-10 17:21	DONE	CAN	11-JUN-09 00:00
248051003	SAMPLE	MXR1	GAM18	10-MAR-10 17:22	DONE	CAN	23-APR-09 00:00
248051004	SAMPLE	MXR1	GAM23	10-MAR-10 17:22	DONE	CAN	02-JUN-09 00:00
248051005	SAMPLE	MXR1	GAM06	10-MAR-10 17:53	DONE	CAN	16-FEB-10 00:00
248051006	SAMPLE	MXR1	GAM17	10-MAR-10 17:53	DONE	CAN	06-JAN-10 00:00
248051007	SAMPLE	MXR1	GAM22	10-MAR-10 17:54	DONE	CAN	02-DEC-09 00:00
248051008	SAMPLE	MXR1	GAM01	10-MAR-10 19:19	DONE	CAN	12-JAN-10 00:00
248051009	SAMPLE	MXR1	GAM02	10-MAR-10 19:19	DONE	CAN	29-OCT-09 00:00
248051011	SAMPLE	MXR1	GAM18	10-MAR-10 19:35	DONE	CAN	23-APR-09 00:00
248051012	SAMPLE	MXR1	GAM23	10-MAR-10 19:35	DONE	CAN	02-JUN-09 00:00
248051013	SAMPLE	MXR1	GAM05	10-MAR-10 20:41	DONE	CAN	11-JUN-09 00:00
248051014	SAMPLE	MXR1	GAM07	10-MAR-10 20:41	DONE	CAN	20-JUL-09 00:00
248051015	SAMPLE	MXR1	GAM14	10-MAR-10 20:42	DONE	CAN	06-MAR-09 00:00
248051016	SAMPLE	MXR1	GAM17	10-MAR-10 20:42	DONE	CAN	06-JAN-10 00:00
248051017	SAMPLE	MXR1	GAM21	10-MAR-10 20:42	DONE	CAN	28-JUL-09 00:00
248051018	SAMPLE	MXR1	GAM22	10-MAR-10 20:43	DONE	CAN	02-DEC-09 00:00
1202054965	MB	MXR1	GAM04	10-MAR-10 20:47	DONE	CAN	05-MAY-09 00:00
1202054966	DUP	MXR1	GAM11	10-MAR-10 20:47	DONE	CAN	18-NOV-09 00:00
1202054967	LCS	MXR1	GAM20	10-MAR-10 21:20	DONE	CAN	26-AUG-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 962443

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248051004	SAMPLE	CXM2	1017	20-MAR-10 18:33	DUSE		
248051005	SAMPLE	CXM2	1018	20-MAR-10 18:33	DONE		
248051006	SAMPLE	CXM2	1019	20-MAR-10 18:33	DUSE		
248051007	SAMPLE	CXM2	1020	20-MAR-10 18:33	DONE		
248051008	SAMPLE	CXM2	1022	20-MAR-10 18:33	DUSE		
248051009	SAMPLE	CXM2	1023	20-MAR-10 18:33	DONE		
248051010	SAMPLE	CXM2	1024	20-MAR-10 18:33	DONE		
248051011	SAMPLE	CXM2	1037	20-MAR-10 18:33	DONE		
248051012	SAMPLE	CXM2	1038	20-MAR-10 18:33	DUSE		
248051013	SAMPLE	CXM2	1039	20-MAR-10 18:33	DONE		
248051014	SAMPLE	CXM2	1040	20-MAR-10 18:33	DUSE		
248051015	SAMPLE	CXM2	1041	20-MAR-10 18:33	DONE		
248051016	SAMPLE	CXM2	1042	20-MAR-10 18:33	DONE		
248051017	SAMPLE	CXM2	1077	20-MAR-10 18:33	DUSE		
248051018	SAMPLE	CXM2	1079	20-MAR-10 18:33	DONE		
1202064618	MB	CXM2	1080	20-MAR-10 18:33	DONE		
1202064619	DUP	CXM2	1081	20-MAR-10 18:33	DONE		
1202064620	LCS	CXM2	1082	20-MAR-10 18:33	DONE		
248051001	SAMPLE	CXM2	1025	20-MAR-10 20:15	DONE		
248051002	SAMPLE	CXM2	1026	20-MAR-10 20:15	DUSE		
248051003	SAMPLE	CXM2	1027	20-MAR-10 20:15	DUSE		
248051002	SAMPLE	CXM2	1044	22-MAR-10 21:53	DONE		
248051017	SAMPLE	CXM2	1045	22-MAR-10 21:53	DONE		
248051003	SAMPLE	CXM2	1037	22-MAR-10 21:53	DONE		
248051004	SAMPLE	CXM2	1038	22-MAR-10 21:53	DONE		
248051006	SAMPLE	CXM2	1039	22-MAR-10 21:53	DONE		
248051008	SAMPLE	CXM2	1040	22-MAR-10 21:53	DONE		
248051012	SAMPLE	CXM2	1041	22-MAR-10 21:53	DONE		
248051014	SAMPLE	CXM2	1112	22-MAR-10 22:24	DONE		

Instrument Run Log

Instrument Type: LSC

Batch ID: 964054

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248051001	SAMPLE	KXK2	LSCPINK	17-MAR-10 07:27	DONE		
248051002	SAMPLE	KXK2	LSCPINK	17-MAR-10 09:04	DONE		
248051003	SAMPLE	KXK2	LSCPINK	17-MAR-10 10:42	DONE		
248051004	SAMPLE	KXK2	LSCPINK	17-MAR-10 12:20	DONE		
248051005	SAMPLE	KXK2	LSCPINK	17-MAR-10 13:57	DONE		
248051006	SAMPLE	KXK2	LSCPINK	17-MAR-10 15:35	DONE		
248051007	SAMPLE	KXK2	LSCPINK	17-MAR-10 17:12	DONE		
248051008	SAMPLE	KXK2	LSCPINK	17-MAR-10 18:50	DONE		
248051009	SAMPLE	KXK2	LSCPINK	17-MAR-10 20:27	DONE		
248051010	SAMPLE	KXK2	LSCPINK	17-MAR-10 22:05	DONE		
248051011	SAMPLE	KXK2	LSCPINK	17-MAR-10 23:43	DONE		
248051012	SAMPLE	KXK2	LSCPINK	18-MAR-10 01:20	DONE		
248051013	SAMPLE	KXK2	LSCPINK	18-MAR-10 02:58	DONE		
248051014	SAMPLE	KXK2	LSCPINK	18-MAR-10 04:35	DONE		
248051015	SAMPLE	KXK2	LSCPINK	18-MAR-10 07:28	DONE		
248051016	SAMPLE	KXK2	LSCPINK	18-MAR-10 09:06	DONE		
248051017	SAMPLE	KXK2	LSCPINK	18-MAR-10 10:43	DONE		
248051018	SAMPLE	KXK2	LSCPINK	18-MAR-10 12:21	DONE		
1202068210	MB	KXK2	LSCPINK	18-MAR-10 13:58	DONE		
1202068211	DUP	KXK2	LSCPINK	18-MAR-10 15:37	DONE		
1202068212	LCS	KXK2	LSCPINK	18-MAR-10 17:14	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 967763

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248051001	SAMPLE	CXM2	1209	23-MAR-10 17:29	DONE		
248051002	SAMPLE	CXM2	1210	23-MAR-10 17:29	DONE		
248051003	SAMPLE	CXM2	1211	23-MAR-10 17:29	DONE		
248051004	SAMPLE	CXM2	1212	23-MAR-10 17:29	DONE		
248051005	SAMPLE	CXM2	1213	23-MAR-10 17:29	DONE		
248051006	SAMPLE	CXM2	1214	23-MAR-10 17:29	DONE		
248051007	SAMPLE	CXM2	1245	23-MAR-10 17:29	DONE		
248051008	SAMPLE	CXM2	1246	23-MAR-10 17:29	DONE		
248051009	SAMPLE	CXM2	1247	23-MAR-10 17:29	DONE		
248051010	SAMPLE	CXM2	1248	23-MAR-10 17:29	DONE		
248051011	SAMPLE	CXM2	1249	23-MAR-10 17:29	DONE		
248051012	SAMPLE	CXM2	1250	23-MAR-10 17:30	DONE		
248051013	SAMPLE	CXM2	1251	23-MAR-10 17:30	DONE		
248051014	SAMPLE	CXM2	1252	23-MAR-10 17:30	DONE		
248051015	SAMPLE	CXM2	1253	23-MAR-10 17:30	DONE		
248051016	SAMPLE	CXM2	1254	23-MAR-10 17:30	DONE		
248051017	SAMPLE	CXM2	1255	23-MAR-10 17:30	DONE		
248051018	SAMPLE	CXM2	1256	23-MAR-10 17:30	DONE		
1202077308	MB	CXM2	1221	23-MAR-10 21:41	DONE		
1202077309	DUP	CXM2	1222	23-MAR-10 21:41	DONE		
1202077310	LCS	CXM2	1223	23-MAR-10 21:41	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 967764

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248051012	SAMPLE	CXM2	1155	23-MAR-10 18:03	DONE		
248051013	SAMPLE	CXM2	1156	23-MAR-10 18:03	DONE		
248051014	SAMPLE	CXM2	1157	23-MAR-10 18:03	DONE		
248051015	SAMPLE	CXM2	1158	23-MAR-10 18:03	DONE		
248051016	SAMPLE	CXM2	1159	23-MAR-10 18:03	DONE		
248051017	SAMPLE	CXM2	1160	23-MAR-10 18:03	DONE		
248051001	SAMPLE	CXM2	1001	23-MAR-10 18:04	DONE		
248051002	SAMPLE	CXM2	1002	23-MAR-10 18:04	DONE		
248051003	SAMPLE	CXM2	1003	23-MAR-10 18:04	DONE		
248051004	SAMPLE	CXM2	1004	23-MAR-10 18:04	DONE		
248051005	SAMPLE	CXM2	1005	23-MAR-10 18:04	DONE		
248051006	SAMPLE	CXM2	1006	23-MAR-10 18:04	DONE		
248051007	SAMPLE	CXM2	1007	23-MAR-10 18:04	DONE		
248051008	SAMPLE	CXM2	1008	23-MAR-10 18:04	DONE		
248051009	SAMPLE	CXM2	1009	23-MAR-10 18:04	DONE		
248051010	SAMPLE	CXM2	1010	23-MAR-10 18:04	DONE		
248051011	SAMPLE	CXM2	1011	23-MAR-10 18:04	DONE		
248051018	SAMPLE	CXM2	1115	23-MAR-10 18:29	DONE		
1202077311	MB	CXM2	1116	23-MAR-10 18:29	DONE		
1202077312	DUP	CXM2	1117	23-MAR-10 18:29	DONE		
1202077313	LCS	CXM2	1118	23-MAR-10 18:29	DONE		