This document was too large to scan as a whole document, therefore it required breaking into smaller sections.

Document number: SD-WM-DP-074

Section 5 **of** 8

Title: 216 Day Final Report for Tank 241-SY-103 Push Mode Core 62

Date: 08-11-95 **Revision:** A000

Originator: A D Rice
Co: WHC

Recipient:
Co:

References: EDT-612158

THIS PAGE INTENTIONALLY
LEFT BLANK.

TOTAL ALPHA/TOTAL BETA ANALYSES

LABCORE Data Entry Template for Worklist# 22

Analyst: JM VanSant **Instrument:** AB00 AB 18 **Method:** LA-508-101 D-2

Worklist Comment: Contact Scot Fitzgerald for sample size WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
1	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
2	STD		0		@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
2	STD		0		@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
3	SAMPLE	S94T000005	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
3	SAMPLE	S94T000005	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
4	DUP	S94T000005	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
4	DUP	S94T000005	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
5	SPK	S94T000005	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
6	SAMPLE	S94T000012	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
6	SAMPLE	S94T000012	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct
7	DUP	S94T000012	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
7	DUP	S94T000012	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
8	SPK	S94T000012	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 22

Joseph VanSant
Analyst Signature

9-26-94
Date

9-27-94

J Anderson

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

ANALYTICAL BATCH SUMMARY SHEET

METHOD: **LA-508-101**

DATE START: **SEPTEMBER 26, 1994**

PREPARED BY: **S.L. FITZGERALD**

DATE COMPLETE: **SEPTEMBER 28, 1994**

	UNITS:	uCi/g							
SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
STD 37B52		ALPHA	1.19E-02				110	1.20E-07	5.0
BLANK		ALPHA	<2.29E-01					5.48E-01	183.3
SY-103	S94T000005	ALPHA	<2.29E-01	<2.29E-01				5.48E-01	500
								5.46E-01	500
SPIKE	S94T000005	ALPHA					108.2		
SY-103	S94T000012	ALPHA	<1.26E-01	<1.48E-01				3.00E-01	253
								3.03E-01	500
SPIKE	S94T000012	ALPHA					109.9		

NARRATIVE: [X] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

The results for the standard are in uCi/L.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (~~D-1~~ D-2) LIQUIDS

			STD	REPLICATE
Type	DETECTOR NUMBER		18	18
STD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1765	1567
22	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		58.533	51.933
Sample #	Sample Concentration in µCi/L		1.26E-02	
	Replicate Concentration in µCi/L		1.12E-02	
Instrument Code				
WB27809	Average Concentration in µCi/L		1.1876E-02	
Analyst				
J VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
09/26/94	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
09:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL in µCi/mL (Average) =	1.19E-05	DETECTION LEVEL	
RELATIVE COUNTING ERROR =	5.0%	1.20E-07 µCi/mL	

Data Entry by: J Vansant Date: 09/27/94
Approved by: [signature] Date: 9/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (~~D-1~~ D-2) LAD 1-20-95 SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		18	18
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	5	3
22	COUNT TIME in MINUTES	(CT)	30	30
AT or TD ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.2092	2.2092
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	2.29E-01	
	Replicate Concentration in µCi/g	<	2.29E-01	
Instrument Code				
WB27809	Maximum Concentration in µCi/g	<	2.2938E-01	
Analyst				
J VANSANT				
Date				
09/26/94				
Time				
09:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 2.29E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				
RELATIVE COUNTING ERROR		=	183.3%	5.48E-01 µCi/g

Data Entry by: J Anderson Date: 09/27/94

Approved by: [signature] Date: 9/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (~~D-1~~ D2) 1AD 1-20-95 SOLIDS

			SAM	REPLICATE
Type	DETECTOR NUMBER		18	18
SAM	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	8	6
22	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.2092	2.2092
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	2.29E-01	
S94T000005	Replicate Concentration in µCi/g	<	2.29E-01	
Instrument Code				
WB27809	Maximum Concentration in µCi/g	<	2.2938E-01	
Analyst				
J VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
09/26/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
09:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Maximum) =	< 2.29E-01	
LESS Than Value was Determined from Lc.				5.48E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by: [signature] Date: 09/27/94
Approved by: [signature] Date: 9/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (~~D-1~~ D-2) 1-29-95 LAD SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	4	9
22	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.216	2.216
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	2.29E-01	
S94T000005	Replicate Concentration in µCi/g	<	2.29E-01	
Instrument Code				
WB27809	Maximum Concentration in µCi/g	<	2.2867E-01	
Analyst				
J VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
09/26/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
09:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 2.29E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				5.46E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by: [signature] Date: 09/27/94
Approved by: [signature] Date: 9/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (~~D-1~~ D-2) LAD 1-20-95 SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		18	18
SPIKE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	37698	31326
22	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.2092	2.2092
Matrix	SPIKE VOLUME in mL	(SVol)	0.050	0.050
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	45.73	45.73
S94T00005	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.23E+03	1.03E+03
WB27809	AVERAGE or MAXIMUM µCi/g from FORM C		<2.2938E-1	
Analyst				
J VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
09/26/94	PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100			
Time				
09:00 AM				

RESULT AVG. PERCENT SPIKE RECOVERY = 108.2%

Data Entry by:		Date:	27-Sep-94
Approved by:		Date:	9-27-94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-~~1~~ 2) LAD 1-20-95 SOLIDS

			SAM	REPLICATE
Type	DETECTOR NUMBER		18	18
SAM	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	5	6
22	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
	DIGEST GRAMS of SOLIDS/L	(Dg/L)	4.0312	4.0312
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	1.26E-01	
S94T000012	Replicate Concentration in µCi/g	<	1.26E-01	
Instrument Code				
WB27809	Maximum Concentration in µCi/g	<	1.2570E-01	
Analyst				
J VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
09/26/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
09:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.26E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				3.00E-01 µCi/g
RELATIVE COUNTING ERROR		=	253.0%	

Data Entry by: J Gonzalez Date: 09/27/94
Approved by: [signature] Date: 9/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-~~1~~ 2) 1-20-95 LAD SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	7	10
22	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
	DIGEST GRAMS of SOLIDS/L	(Dg/L)	3.9992	3.9992
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.273

Sample #	Sample Concentration in µCi/g	<	1.27E-01
S94T000012	Replicate Concentration in µCi/g	<	1.48E-01
Instrument Code			
WB27809	Maximum Concentration in µCi/g	<	1.4828E-01
Analyst			
J VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)		
09/26/94			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100		
09:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.48E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				3.03E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:	J Vansant	Date:	09/27/94
Approved by:	[illegible]	Date:	9/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-~~1~~ 3) LAD 120-95 SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		18	18
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	34552	35574
22	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
	DIGEST GRAMS of SOLIDS/L	(Dg/L)	4.0312	4.0312
Matrix	SPIKE VOLUME in mL	(SVol)	0.050	0.050
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	45.73	45.73
S94T00012	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	6.20E+02	6.39E+02
WB27809	AVERAGE or MAXIMUM µCi/g from FORM C		<1.2570E-1	
Analyst				
J VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
09/26/94	PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100			
Time				
09:00 AM				

RESULT AVG. PERCENT SPIKE RECOVERY = 109.9%

Data Entry by:	[signature]	Date:	27-Sep-94
Approved by:	[signature]	Date:	9-27-94

Form 508101_X Rev. 1.1

LABCORE Data Entry Template for Worklist# 69

OA

Analyst: JMLS **Instrument:** AB00 18 **Method:** LA-508-101 D-2

Worklist Comment: Rerun of sample S94T000021. Use .100-10-.100 mL SS.

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	BLNK-PREP				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
1	BLNK-PREP				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
2	STD				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
2	STD				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
3	SAMPLE	S94T000021	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
3	SAMPLE	S94T000021	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
4	DUP	S94T000021	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
4	DUP	S94T000021	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
5	SPK	S94T000021	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 69

Joel M Lancaster
Analyst Signature
Jim Anderson

10-11-94
Date
10-12-94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA-508-101

DATE START: OCTOBER 11, 1994

PREPARED BY: S.L. FITZGERALD

DATE COMPLETE: OCTOBER 13, 1994

	UNITS:	uCi/g							
SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
STD 37B52		ALPHA	1.05E-02				102.9	1.01E-07	5.2
BLANK		ALPHA	<1.25E-01					2.54E-01	500
SY-103	S94T000021	ALPHA	<1.03E-01	<1.03E-01				2.54E-01	138.6
								2.54E-01	500
SPIKE	S94T000021	ALPHA					114.3		

NARRATIVE: [X] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH
LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

The results for the standard are in uCi/L.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		18	18
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1501	1439
69	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		49.833	47.767
Sample #	Sample Concentration in µCi/L		1.07E-02	
S94T000021	Replicate Concentration in µCi/L		1.03E-02	
Instrument Code				
WB27809	Average Concentration in µCi/L		1.0493E-02	
Analyst				
JM VANSANT				
Date				
10/11/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	1.05E-05	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	5.2%	1.01E-07 µCi/mL

Data Entry by: Date: 10/13/94

Approved by: Date: 10/13/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (~~D-1~~) 0-2 SOLIDS

SLF 11/1/94

			BLANK	REPLICATE
Type	DETECTOR NUMBER		18	18
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	7	4
69	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALAPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	4.028	4.028
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.232	0.191
Sample #	Sample Concentration in µCi/g	<	1.25E-01	
S94T000021	Replicate Concentration in µCi/g	<	1.03E-01	
Instrument Code				
WB27809	Maximum Concentration in µCi/g	<	1.2488E-01	
Analyst				
JM VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/11/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.25E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				
RELATIVE COUNTING ERROR		=	500.0%	2.54E-01 µCi/g

Data Entry by: [signature] Date: 10/12/94

Approved by: [signature] Date: 10/13/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 ~~(D-1)~~ D-2 SOLIDS

SLF 11/1/94

			SAM	REPLICATE
Type	DETECTOR NUMBER		18	18
SAM	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	2	1
69	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALAPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	4.028	4.028
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.191	0.191
Sample #	Sample Concentration in µCi/g	<	1.03E-01	
S94T000021	Replicate Concentration in µCi/g	<	1.03E-01	
Instrument Code				
WB27809	Maximum Concentration in µCi/g	<	1.0272E-01	
Analyst				
JM VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/11/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.03E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				2.54E-01 µCi/g
RELATIVE COUNTING ERROR		=	138.6%	

Data Entry by: [signature] Date: 10/12/94
Approved by: [signature] Date: 10/13/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (~~D-1~~) D-2 SOLIDS

SLF 10/12/94

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	6	1
69	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALAPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	4.0348	4.0348
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.191	0.191
Sample #	Sample Concentration in µCi/g	<	1.03E-01	
S94T000021	Replicate Concentration in µCi/g	<	1.03E-01	
Instrument Code				
WB27809	Maximum Concentration in µCi/g	<	1.0255E-01	
Analyst				
JM VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/11/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.03E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				2.54E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:	[signature]	Date:	10/12/94
Approved by:	[signature]	Date:	10/13/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

				SPIKE	REPLICATE
Type	DETECTOR NUMBER			18	18
SPIKE	DISH SIZE 1 , 2 , or 5		(MS)	2	2
Work List	TOTAL COUNTS		(TC)	35902	37004
59	COUNT TIME in MINUTES		(CT)	30	30
AT or TB ?	BACKGROUND in cpm		(BKG)	0.2	0.2
AT	SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L		(Dg/L)	4.028	4.028
Matrix	SPIKE VOLUME in mL		(SVol)	0.050	0.050
SOLID	SPIKE DILUTION FACTOR		(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L		(SVal)	45.72	45.72
S94T000021	INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2095	0.2095
Instrument Code	SAMPLE + SPIKE µCi/g		(S+S)	6.45E+02	6.65E+02
WB27809	AVERAGE or MAXIMUM µCi/g from FORM C			<1.027E-01	
Analyst					
JM VANSANT					
Date					
10/11/94					
Time					
10:00 AM					

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 114.3%

Data Entry by:		Date:	13-Oct-94
Approved by:		Date:	10-13-94

Form 508101_X Rev. 1.1

LABCORE Data Entry Template for Worklist# 85

Analyst: JMUS **Instrument:** AB00 13 SLF 10/21/94 **Method:** LA-508-101 D-2

Worklist Comment: Use sample size .100-10-.100 mL. Use .100 Alpha spike.

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	BLNK-PREP				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
1	BLNK-PREP				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
2	STD				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
2	STD				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
3	SAMPLE	S94T000095	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
3	SAMPLE	S94T000095	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
4	DUP	S94T000095	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
4	DUP	S94T000095	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
5	SPK	S94T000095	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
6	SAMPLE	S94T000096	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
6	SAMPLE	S94T000096	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
7	DUP	S94T000096	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
7	DUP	S94T000096	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
8	SPK	S94T000096	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 85

Analyst Signature

10-24-94
Date

10-18-94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		13	13
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1510	1610
85	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2322	0.2322
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		49.433	52.767
Sample #	Sample Concentration in µCi/L		9.59E-03	
	Replicate Concentration in µCi/L		1.02E-02	
Instrument Code				
WB27810	Average Concentration in µCi/L		9.9130E-03	
Analyst				
JM VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
10/14/94	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/mL	(Average) =	9.91E-06	
RELATIVE COUNTING ERROR		=	5.2%	1.74E-07 µCi/mL

Data Entry by:		Date:	10/18/94
Approved by:		Date:	10/21/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		13	13
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	7	5
85	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.0316	2.0316
Matrix	EFFICIENCY FACTOR	(EFF)	0.2322	0.2322
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.404	0.404
Sample #	Sample Concentration in µCi/g	<	3.90E-01	
S94T000095	Replicate Concentration in µCi/g	<	3.90E-01	
Instrument Code				
WB27810	Maximum Concentration in µCi/g	<	3.8979E-01	
Analyst				
JM VANSANT				
Date				
10/14/94				
Time				
01:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 3.90E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				
RELATIVE COUNTING ERROR		=	57.1%	8.67E-01 µCi/g

Data Entry by: Date: 10/21/94

Approved by: Date: 10/21/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		13	13
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	38	40
85	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.0316	2.0316
Matrix	EFFICIENCY FACTOR	(EFF)	0.2322	0.2322
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.810	0.433
Sample #	Sample Concentration in µCi/g	<	7.81E-01	
S94T000095	Replicate Concentration in µCi/g		4.18E-01	
Instrument Code				
WB27810	Maximum Concentration in µCi/g	<	7.8127E-01	
Analyst				
JM VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/14/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 7.81E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				8.67E-01 µCi/g
RELATIVE COUNTING ERROR		=	143.7%	

Data Entry by: J Vansant Date: 10/18/94
Approved by: [signature] Date: 10/21/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		13	13
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	54	32
85	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.3418	2.3418
Matrix	EFFICIENCY FACTOR	(EFF)	0.2322	0.2322
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.900	0.589
Sample #	Sample Concentration in µCi/g		7.53E-01	
S94T000095	Replicate Concentration in µCi/g	<	4.93E-01	
Instrument Code				
WB27810	Maximum Concentration in µCi/g	<	7.5301E-01	
Analyst				
JM VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/14/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL in µCi/g (Maximum) =	< 7.53E-01		DETECTION LEVEL
LESS THAN Value was Determined from Rs.			7.52E-01 µCi/g
RELATIVE COUNTING ERROR =	301.1%		

Data Entry by:		Date:	10/18/94
Approved by:		Date:	10/21/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		13	13
SPIKE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	83726	85834
85	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.0316	2.0316
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	45.72	45.72
S94T000095	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2322	0.2322
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	2.69E+03	2.76E+03
WB27810	AVERAGE or MAXIMUM µCi/g from FORM C		<7.81E-1	
Analyst				
JM VANSANT				
Date				
10/14/94				
Time				
01:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 119.9%

Data Entry by:		Date:	18-Oct-94
Approved by:		Date:	10/21/94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		13	13
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	38	42
85	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1844	2.1844
Matrix	EFFICIENCY FACTOR	(EFF)	0.2322	0.2322
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.810	0.500
Sample #	Sample Concentration in µCi/g	<	7.27E-01	
S94T000096	Replicate Concentration in µCi/g		4.48E-01	
Instrument Code				
WB27810	Maximum Concentration in µCi/g	<	7.2662E-01	
Analyst				
JM VANSANT				
Date				
10/14/94				
Time				
01:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 7.27E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				
RELATIVE COUNTING ERROR		=	143.7%	8.06E-01 µCi/g

Data Entry by: J Ryder Date: 10/18/94

Approved by: [signature] Date: 10/21/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		13	13
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51	61
85	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.0752	2.0752
Matrix	EFFICIENCY FACTOR	(EFF)	0.2322	0.2322
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.800	1.133
Sample #	Sample Concentration in µCi/g		7.55E-01	
S94T000096	Replicate Concentration in µCi/g		1.07E+00	
Instrument Code				
WB27810	Average Concentration in µCi/g		9.1269E-01	
Analyst				
JM VANSANT	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/14/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	9.13E-01	
RELATIVE COUNTING ERROR		=	72.1%	8.49E-01 µCi/g

Data Entry by:		Date:	10/18/94
Approved by:		Date:	10/21/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		13	13
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	85149	81542
85	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1844	2.1844
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	45.72	45.72
S94T000096	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2322	0.2322
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	2.55E+03	2.44E+03
WB27810	AVERAGE or MAXIMUM µCi/g from FORM C		<7.27E-1	
Analyst				
JM VANSANT				
Date				
10/14/94				
Time				
01:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 117.8%

Data Entry by: Date: 18-Oct-94

Approved by: Date: 10/21/94

Form 508101_X Rev. 1.1

LABCORE Data Entry Template for Worklist# 90

OA 11

Analyst: KRM **Instrument:** AB00 15 **Method:** LA-508-101 D-2

Worklist Comment: Use 1 STD for worklist. SS=.1-10-.1 mL. A-SPK=.100mL

	Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit
1,2	1	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	1	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
3,4	2	STD				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	2	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
5,6	3	SAMPLE	S94T000097	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
	3	SAMPLE	S94T000097	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct.
7,8	4	DUP	S94T000097	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	4	DUP	S94T000097	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
9,10	5	SPK	S94T000097	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
11,12	6	SAMPLE	S94T000098	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
	6	SAMPLE	S94T000098	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct.
13,14	7	DUP	S94T000098	0	F	@ALPHA01 ALPHA01	SOLID			N/A	u
	7	DUP	S94T000098	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
15,16	8	SPK	S94T000098	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
17,18	9	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	9	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
~~19,20~~	10	STD				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	10	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
19,20 ~~21,22~~	11	SAMPLE	S94T000065	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
	11	SAMPLE	S94T000065	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct.

10/27/94

10/27/94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments: High RPD for sample + Duplicate acceptable due to low sample activity

10/27/94

Units shown for QC (SPK) may not reflect the actual units.

Page: 1

LABCORE Data Entry Template for Worklist# 90

Analyst: KRM **Instrument:** AB00 **Method:** LA-508-101

Worklist Comment: Use 1 STD for worklist. SS=.1-10-.1 mL. A-SPK=.100mL

	Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
2122 ~~2324~~ JMB 10/27/94	12	DUP	S94T000065	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	12	DUP	S94T000065	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
2324 ~~2526~~ JMB 10/27/94	13	SPK	S94T000065	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
2526 ~~2728~~ JMB 10/27/94	14	SAMPLE	S94T000066	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
	14	SAMPLE	S94T000066	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
2728 ~~2930~~ JMB 10/27/94	15	DUP	S94T000066	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	15	DUP	S94T000066	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
2930 ~~3132~~ JMB 10/27/94	16	SPK	S94T000066	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 90

Analyst Signature 10-25-94 **Date**

N Burrow 10/27/94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1424	1459
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		47.167	48.333
Sample #	Sample Concentration in µCi/L		8.93E-03	
	Replicate Concentration in µCi/L		9.15E-03	
Instrument Code				
WB26872	Average Concentration in µCi/L		9.0374E-03	
Analyst				
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
10/25/94	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	9.04E-06	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	5.2%	1.05E-07 µCi/mL

Data Entry by: [signature] Date: 10/27/94

Approved by: [signature] Date: 10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	10	11
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8776	1.8776
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.273	0.313
Sample #	Sample Concentration in µCi/g	<	2.78E-01	
97,98	Replicate Concentration in µCi/g	<	3.18E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	3.1829E-01	
Analyst				
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 3.18E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				
RELATIVE COUNTING ERROR		=	500.0%	5.67E-01 µCi/g

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51	51
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8776	1.8776
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.400	1.400
Sample #	Sample Concentration in µCi/g		1.43E+00	
S94T000097	Replicate Concentration in µCi/g		1.43E+00	
Instrument Code				
WB26872	Average Concentration in µCi/g		1.4253E+00	
Analyst				
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL in µCi/g (Average) =	1.43E+00		DETECTION LEVEL
RELATIVE COUNTING ERROR =	36.1%		5.67E-01 µCi/g

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	58	52
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7784	1.7784
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.633	1.433
Sample #	Sample Concentration in µCi/g		1.76E+00	
S94T000097	Replicate Concentration in µCi/g		1.54E+00	
Instrument Code				
WB26872	Average Concentration in µCi/g		1.6482E+00	
Analyst				
KRM				
Date				
10/25/94				
Time				
08:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	1.65E+00	
RELATIVE COUNTING ERROR		=	35.6%	5.99E-01 µCi/g

Data Entry by: [signature] Date: 10/27/94

Approved by: [signature] Date: 10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	56807	57829
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8776	1.8776
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000097	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.93E+03	1.96E+03
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		1.4300E+00	
Analyst				
KRM				
Date				
10/25/94				
Time				
08:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 99.3%

Data Entry by:		Date:	27-Oct-94
Approved by:		Date:	10/27/94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	21	25
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7532	1.7532
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.400	0.533
Sample #	Sample Concentration in µCi/g		4.36E-01	
S94T000098	Replicate Concentration in µCi/g		5.82E-01	
Instrument Code				
WB26872	Average Concentration in µCi/g		5.0882E-01	
Analyst				
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	5.09E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	89.5%	6.08E-01 µCi/g

Data Entry by:	[signature]	Date:	10/27/94
Approved by:	[signature]	Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	13	14
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.6852	1.6852
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.391	0.430
Sample #	Sample Concentration in µCi/g	<	4.44E-01	
S94T000098	Replicate Concentration in µCi/g	<	4.88E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	4.8826E-01	
Analyst				
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL in µCi/g (Maximum) =	< 4.88E-01		DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			6.32E-01 µCi/g
RELATIVE COUNTING ERROR =	229.8%		

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	55598	56540
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7532	1.7532
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000098	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	2.02E+03	2.05E+03
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		5.0900E-01	
Analyst				
KRM				
Date				
10/25/94				
Time				
08:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 97.1%

Data Entry by:		Date:	27-Oct-94
Approved by:		Date:	10/27/94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	4	9
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.266	2.266
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	1.97E-01	
65,66	Replicate Concentration in µCi/g	<	1.97E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	1.9685E-01	
Analyst				
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.97E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				4.70E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

				SAMPLE	REPLICATE
Type	DETECTOR NUMBER			15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)		2	2
Work List	TOTAL COUNTS	(TC)		2	5
90	COUNT TIME in MINUTES	(CT)		30	30
AT or TB ?	BACKGROUND in cpm	(BKG)		0.3	0.3
AT	SAMPLE SIZE in mL	(SS)		0.100	0.100
Test Code	DILUTION FACTOR	(DF)		101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)		2.266	2.266
Matrix	EFFICIENCY FACTOR	(EFF)		0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.233	0.233
Sample #	Sample Concentration in µCi/g		<	1.97E-01	
S94T000065	Replicate Concentration in µCi/g		<	1.97E-01	
Instrument Code					
WB26872	Maximum Concentration in µCi/g		<	1.9685E-01	
Analyst					
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG				
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)				
10/25/94					
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100				
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.97E-01	
LESS Than Value was Determined from Lc.				4.70E-01 µCi/g
RELATIVE COUNTING ERROR		=	183.3%	

Data Entry by:	[signature]	Date:	10/27/94
Approved by:	[signature]	Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	6	5
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.291	2.291
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	1.95E-01	
S94T000065	Replicate Concentration in µCi/g	<	1.95E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	1.9470E-01	
Analyst				
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.95E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				4.65E-01 µCi/g
RELATIVE COUNTING ERROR		=	253.0%	

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	56953	54730
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.266	2.266
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000065	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.60E+03	1.54E+03
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		<1.97E-1	
Analyst				
KRM				
Date				
10/25/94				
Time				
08:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 96.8%

Data Entry by:	[signature]	Date:	27-Oct-94
Approved by:	[signature]	Date:	10/27/94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	7	5
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	3.238	3.238
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	1.38E-01	
S94T000066	Replicate Concentration in µCi/g	<	1.38E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	1.3776E-01	
Analyst				
KRM	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
08:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.38E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				3.29E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

				SAMPLE	REPLICATE
Type	DETECTOR NUMBER			15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)		2	2
Work List	TOTAL COUNTS	(TC)		6	6
90	COUNT TIME in MINUTES	(CT)		30	30
AT or TB ?	BACKGROUND in cpm	(BKG)		0.3	0.3
AT	SAMPLE SIZE in mL	(SS)		0.100	0.100
Test Code	DILUTION FACTOR	(DF)		101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)		3.228	3.228
Matrix	EFFICIENCY FACTOR	(EFF)		0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.233	0.233
Sample #	Sample Concentration in µCi/g		<	1.38E-01	
S94T000066	Replicate Concentration in µCi/g		<	1.38E-01	
Instrument Code					
WB26872	Maximum Concentration in µCi/g		<	1.3818E-01	
Analyst					
KRM					
Date					
10/25/94					
Time					
08:00 PM					

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum)	=	< 1.38E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.					3.30E-01 µCi/g
RELATIVE COUNTING ERROR			=	253.0%	

Data Entry by: [signature] Date: 10/27/94

Approved by: [signature] Date: 10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	52805	53843
90	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	3.238	3.238
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000066	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.04E+03	1.06E+03
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		<1.38E-1	
Analyst				
KRM				
Date				
10/25/94				
Time				
08:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 92.4%

Data Entry by:		Date:	27-Oct-94
Approved by:		Date:	10/27/94

Form 508101_X Rev. 1.1

LABCORE Data Entry Template for Worklist# 98

N2 OA .15

Analyst: JMVS **Instrument:** AB00 15 **Method:** LA-508-101 D2

Worklist Comment: Sample size .100-10-.100 mL. Spike vol=.100 mL. (Rerun 1)

	Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1,2	1	BLNK-PREP				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	1	BLNK-PREP				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
3,4	2	STD				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	2	STD				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
5,6	3	SAMPLE	S94T000037	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
	3	SAMPLE	S94T000037	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
7,8	4	DUP	S94T000037	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	4	DUP	S94T000037	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
9,10	5	SPK	S94T000037	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
11,12	6	SAMPLE	S94T000064	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
	6	SAMPLE	S94T000064	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
13,14	7	DUP	S94T000064	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	7	DUP	S94T000064	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
15,16	8	SPK	S94T000064	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 98

Joel M Umbarger
Analyst Signature

10/25/94
Date

MB 10/27/94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	16	9
98	COUNT TIME in MINUTES	(CT)	30	30
AT or T8 ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7336	1.7336
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.508	0.233
Sample #	Sample Concentration in µCi/g	<	5.61E-01	
S94T000037&64	Replicate Concentration in µCi/g	<	2.57E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	5.6052E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
11:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 5.61E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				
RELATIVE COUNTING ERROR		=	500.0%	6.15E-01 µCi/g

Data Entry by: [signature] Date: 10/26/94

Approved by: [signature] Date: 10/26/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1374	1432
98	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		45.500	47.433
Sample #	Sample Concentration in µCi/L		8.61E-03	
S94T000037&64	Replicate Concentration in µCi/L		8.98E-03	
Instrument Code				
WB26872	Average Concentration in µCi/L		8.7945E-03	
Analyst				
JMVS				
Date				
10/25/94				
Time				
11:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL in µCi/mL (Average)	=	8.79E-06	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	5.3%	1.05E-07 µCi/mL

Data Entry by: [signature] Date: 10/26/94

Approved by: [signature] Date: 10/26/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	4	8
98	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7336	1.7336
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	2.57E-01	
S94T000037	Replicate Concentration in µCi/g	<	2.57E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	2.5730E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
11:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 2.57E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				
RELATIVE COUNTING ERROR		=	500.0%	6.15E-01 µCi/g

Data Entry by: [signature] Date: 10/26/94

Approved by: [signature] Date: 10/26/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	6	8
98	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7228	1.7228
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	2.59E-01	
S94T000037	Replicate Concentration in µCi/g	<	2.59E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	2.5891E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
11:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 2.59E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				6.18E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:	[signature]	Date:	10/26/94
Approved by:	[signature]	Date:	10/26/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	56631	54566
98	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7336	1.7336
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000037	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	2.08E+03	2.01E+03
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		<2.57E-1	
Analyst				
JMVS				
Date				
10/25/94				
Time				
11:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 96.3%

Data Entry by:	[signature]	Date:	26-Oct-94
Approved by:	[signature]	Date:	10/26/94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	7	12
98	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7708	1.7708
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.352
Sample #	Sample Concentration in µCi/g	<	2.52E-01	
S94T000064	Replicate Concentration in µCi/g	<	3.80E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	3.8003E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
11:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 3.80E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				6.02E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:		Date:	10/26/94
Approved by:		Date:	10/26/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	6	3
98	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7868	1.7868
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233
Sample #	Sample Concentration in µCi/g	<	2.50E-01	
S94T000064	Replicate Concentration in µCi/g	<	2.50E-01	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	2.4964E-01	
Analyst				
JMVS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
11:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 2.50E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				5.96E-01 µCi/g
RELATIVE COUNTING ERROR		=	253.0%	

Data Entry by:		Date:	10/26/94
Approved by:		Date:	10/26/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	54047	53135
98	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7708	1.7708
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000064	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.94E+03	1.91E+03
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		<3.80E-1	
Analyst				
JMVS				
Date				
10/25/94				
Time				
11:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 92.9%

Data Entry by:	[signature]	Date:	26-Oct-94
Approved by:	[signature]	Date:	10/26/94

Form 508101_X Rev. 1.1

Page 1 of 1

LABCORE Data Entry Template for Worklist# 99

Analyst: JMB **Instrument:** AB00 16 **Method:** LA-508-101 D-2

Worklist Comment: Run only 1 set of STD's for worklist. SS=.100-10-.100 mL

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	BLNK-PREP				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
1	BLNK-PREP				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
2	STD				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
2	STD				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
3	SAMPLE	S94T000067	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
3	SAMPLE	S94T000067	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
4	DUP	S94T000067	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
4	DUP	S94T000067	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
5	SPK	S94T000067	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
6	SAMPLE	S94T000068	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
6	SAMPLE	S94T000068	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
7	DUP	S94T000068	0	F	@ALPHA01	ALPHA01	SOLID			N/A	u(
7	DUP	S94T000068	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
8	SPK	S94T000068	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
9	BLNK-PREP				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
9	BLNK-PREP				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
10	STD				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
10	STD				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
11	SAMPLE	S94T000069	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
11	SAMPLE	S94T000069	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments: .100mL A-SPK

High RPD for Sample + Duplicate acceptable due to low sample activity. [illegible] 10/27/94

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 99

Analyst: JMUS **Instrument:** AB00 _____ **Method:** LA-508-101

Worklist Comment: Run only 1 set of STD's for worklist. SS=.100-10-.100 mL

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
12	DUP	S94T000069	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
12	DUP	S94T000069	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
13	SPK	S94T000069	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
14	SAMPLE	S94T000094	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
14	SAMPLE	S94T000094	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
15	DUP	S94T000094	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
15	DUP	S94T000094	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
16	SPK	S94T000094	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 99

Analyst Signature

10-25-94
Date

M Brennan 10/27/94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1253	1202
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		41.667	39.967
Sample #	Sample Concentration in µCi/L		8.92E-03	
	Replicate Concentration in µCi/L		8.56E-03	
Instrument Code				
WB27806	Average Concentration in µCi/L		8.7385E-03	
Analyst				
JMVS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
10/25/94	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/mL	(Average) =	8.74E-06	
				7.71E-08 µCi/mL
RELATIVE COUNTING ERROR		=	5.7%	

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		16	16
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1	4
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.82	1.82
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.179
Sample #	Sample Concentration in µCi/g	<	1.60E-01	
67,68	Replicate Concentration in µCi/g	<	2.12E-01	
Instrument Code				
WB27806	Maximum Concentration in µCi/g	<	2.1249E-01	
Analyst				
JMVS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 2.12E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				4.28E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by: [signature] Date: 10/27/94

Approved by: [signature] Date: 10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	21	29
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.82	1.82
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.600	0.867
Sample #	Sample Concentration in µCi/g		7.13E-01	
S94T000067	Replicate Concentration in µCi/g		1.03E+00	
Instrument Code				
WB27806	Average Concentration in µCi/g		8.7127E-01	
Analyst				
JMVS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	8.71E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	53.3%	4.28E-01 µCi/g

Data Entry by: Date: 10/27/94
Approved by: Date: 10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	24	13
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8964	1.8964
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.700	0.333
Sample #	Sample Concentration in µCi/g		7.98E-01	
S94T000067	Replicate Concentration in µCi/g		3.80E-01	
Instrument Code				
WB27806	Average Concentration in µCi/g		5.8912E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	5.89E-01	
RELATIVE COUNTING ERROR		=	78.4%	4.11E-01 µCi/g

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51807	49384
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.82	1.82
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000067	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	2.05E+03	1.96E+03
WB27806	AVERAGE or MAXIMUM µCi/g from FORM C		8.7100E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 99.1%

Data Entry by:		Date:	27-Oct-94
Approved by:		Date:	10/27/94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	37	21
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.9136	1.9136
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.133	0.600
Sample #	Sample Concentration in µCi/g		1.28E+00	
S94T000068	Replicate Concentration in µCi/g		6.78E-01	
Instrument Code				
WB27806	Average Concentration in µCi/g		9.7932E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	9.79E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	53.3%	4.07E-01 µCi/g

Data Entry by:	[signature]	Date:	10/27/94
Approved by:	[signature]	Date:	10/27/94

Form 508101_C Rev. 1.1

1220

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	23	25
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8988	1.8988
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.667	0.733
Sample #	Sample Concentration in µCi/g		7.59E-01	
S94T000068	Replicate Concentration in µCi/g		8.35E-01	
Instrument Code				
WB27806	Average Concentration in µCi/g		7.9715E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	7.97E-01	
RELATIVE COUNTING ERROR		=	50.0%	4.10E-01 µCi/g

Data Entry by: [signature] Date: 10/27/94

Approved by: [signature] Date: 10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	48597	50437
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.9136	1.9136
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000068	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.83E+03	1.90E+03
WB27806	AVERAGE or MAXIMUM µCi/g from FORM C		9.7900E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 97.0%

Data Entry by:		Date:	27-Oct-94
Approved by:		Date:	10/27/94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		16	16
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	0	1
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7228	1.7228
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.135
Sample #	Sample Concentration in µCi/g	<	1.69E-01	
69,94	Replicate Concentration in µCi/g	<	1.69E-01	
Instrument Code				
WB27806	Maximum Concentration in µCi/g	<	1.6909E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.69E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				4.52E-01 µCi/g
RELATIVE COUNTING ERROR		=	196.0%	

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	12	12
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7228	1.7228
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.300	0.300
Sample #	Sample Concentration in µCi/g		3.77E-01	
S94T000069	Replicate Concentration in µCi/g		3.77E-01	
Instrument Code				
WB27806	Average Concentration in µCi/g		3.7654E-01	
Analyst				
JMVS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	3.77E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	84.3%	4.52E-01 µCi/g

Data Entry by:	[signature]	Date:	10/27/94
Approved by:	[signature]	Date:	10/27/94

Form 508101_C Rev. 1.1

1224

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	18	25
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7788	1.7788
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.500	0.733
Sample #	Sample Concentration in µCi/g		6.08E-01	
S94T000069	Replicate Concentration in µCi/g		8.91E-01	
Instrument Code				
WB27806	Average Concentration in µCi/g		7.4963E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g (Average)	=	7.50E-01	
RELATIVE COUNTING ERROR		=	59.9%	4.38E-01 µCi/g

Data Entry by: Date: 10/27/94

Approved by: Date: 10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPIKE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	46569	48708
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7228	1.7228
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000069	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.95E+03	2.04E+03
WB27806	AVERAGE or MAXIMUM µCi/g from FORM C		3.7700E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 93.4%

Data Entry by:		Date:	27-Oct-94
Approved by:		Date:	10/27/94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	32	28
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1928	2.1928
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.967	0.833
Sample #	Sample Concentration in µCi/g		9.53E-01	
S94T000094	Replicate Concentration in µCi/g		8.22E-01	
Instrument Code				
WB27806	Average Concentration in µCi/g		8.8750E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL in µCi/g (Average)	=	8.87E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	43.7%	3.55E-01 µCi/g

Data Entry by: [signature] Date: 10/27/94

Approved by: [signature] Date: 10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	28	32
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.102	2.102
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.833	0.967
Sample #	Sample Concentration in µCi/g		8.57E-01	
S94T000094	Replicate Concentration in µCi/g		9.94E-01	
Instrument Code				
WB27806	Average Concentration in µCi/g		9.2583E-01	
Analyst				
JMVS	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/25/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	9.26E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	43.7%	3.70E-01 µCi/g

Data Entry by:		Date:	10/27/94
Approved by:		Date:	10/27/94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	48558	49657
99	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1928	2.1928
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000094	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.60E+03	1.63E+03
WB27806	AVERAGE or MAXIMUM µCi/g from FORM C		8.8700E-01	
Analyst				
JMVS				
Date				
10/25/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 96.2%

Data Entry by: Date: 27-Oct-94

Approved by: Date: 10/27/94

Form 508101_X Rev. 1.1

LABCORE Data Entry Template for Worklist# 100

✓ OP 11

Analyst: [illegible] **Instrument:** AB00 14 **Method:** LA-508-101 D-2

Worklist Comment: Use 1 STD set for worklist. Verify .1-10-.1 mL SS on Ludlum

	Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
5,6	1	BLNK-PREP				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	1	BLNK-PREP				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
7,8	2	STD				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	2	STD				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
9,10	3	SAMPLE	S94T000119	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
	3	SAMPLE	S94T000119	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
11,12	4	DUP	S94T000119	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	4	DUP	S94T000119	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
13,14	5	SPK	S94T000119	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
15,16	6	SAMPLE	S94T000120	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
	6	SAMPLE	S94T000120	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
	7	DUP	S94T000120	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	7	DUP	S94T000120	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
19,20	8	SPK	S94T000120	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
21,22	9	BLNK-PREP				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	9	BLNK-PREP				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
	10	STD				@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	10	STD				@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
23,24	11	SAMPLE	S94T000121	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
	11	SAMPLE	S94T000121	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 100

Analyst: JVS **Instrument:** AB00 _____ **Method:** LA-508-101

Worklist Comment: Use 1 STD set for worklist. Verify .1-10-.1 mL SS on Ludlum

	Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
25,26	12	DUP	S94T000121	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	12	DUP	S94T000121	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
27,28	13	SPK	S94T000121	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
29,30	14	SAMPLE	S94T000122	0	F	@ALPHA01	ALPHA01	SOLID	N/A			uCi/g
	14	SAMPLE	S94T000122	0	F	@ALPHA01	ALPHA01E	SOLID	N/A			% Ct.
31,32	15	DUP	S94T000122	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g
	15	DUP	S94T000122	0	F	@ALPHA01	ALPHA01E	SOLID			N/A	% Ct.
33,34	16	SPK	S94T000122	0	F	@ALPHA01	ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 100

Analyst Signature

10-27-94
Date

MCBrown 10/22/94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	34	41
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1165	2.1165
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.733	0.967
Sample #	Sample Concentration in µCi/g		6.93E-01	
S94T000119	Replicate Concentration in µCi/g		9.14E-01	
Instrument Code				
WB27807	Average Concentration in µCi/g		8.0349E-01	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	8.03E-01	
RELATIVE COUNTING ERROR		=	60.4%	5.95E-01 µCi/g

Data Entry by: [illegible] Date: 10/28/94

Approved by: [illegible] Date: 28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	57342	54741
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.146	2.146
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000119	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.78E+03	1.70E+03
WB27807	AVERAGE or MAXIMUM µCi/g from FORM C		8.2400E-01	
Analyst				
JMV				
Date				
10/27/94				
Time				
01:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 101.6%

Data Entry by:	[illegible]	Date:	28-Oct-94
Approved by:	[illegible]	Date:	28 Oct 94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	40	48
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1255	2.1255
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.933	1.200
Sample #	Sample Concentration in µCi/g		8.79E-01	
S94T000120	Replicate Concentration in µCi/g		1.13E+00	
Instrument Code				
WB27807	Average Concentration in µCi/g		1.0040E+00	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	1.00E+00	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	50.5%	5.93E-01 µCi/g

Data Entry by:	[signature]	Date:	10/28/94
Approved by:	[signature]	Date:	28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	39	46
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1015	2.1015
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.900	1.133
Sample #	Sample Concentration in µCi/g		8.57E-01	
S94T000120	Replicate Concentration in µCi/g		1.08E+00	
Instrument Code				
WB27807	Average Concentration in µCi/g		9.6789E-01	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	9.68E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	51.8%	5.99E-01 µCi/g

Data Entry by:	[illegible]	Date:	10/28/94
Approved by:	[illegible]	Date:	28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	55451	55226
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1255	2.1255
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000120	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.74E+03	1.73E+03
WB27807	AVERAGE or MAXIMUM µCi/g from FORM C		1.0000E+00	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
10/27/94	PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100			
Time				
01:00 PM				

RESULT AVG. PERCENT SPIKE RECOVERY = 100.3%

Data Entry by:	[signature]	Date:	28-Oct-94
Approved by:	[signature]	Date:	28 Oct 94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

				BLANK	REPLICATE
Type	DETECTOR NUMBER			14	14
BLANK	DISH SIZE 1 , 2 , or 5	(MS)		2	2
Work List	TOTAL COUNTS	(TC)		13	6
100	COUNT TIME in MINUTES	(CT)		30	30
AT or TB ?	BACKGROUND in cpm	(BKG)		0.4	0.4
AT	SAMPLE SIZE in mL	(SS)		0.100	0.100
Test Code	DILUTION FACTOR	(DF)		101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)		1.6628	1.6628
Matrix	EFFICIENCY FACTOR	(EFF)		0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.308	0.269
Sample #	Sample Concentration in µCi/g		<	3.71E-01	
121,122	Replicate Concentration in µCi/g		<	3.24E-01	
Instrument Code					
WB27807	Maximum Concentration in µCi/g		<	3.7099E-01	
Analyst					
JMV					
Date					
10/27/94					
Time					
01:00 PM					

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum)	=	< 3.71E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.					7.57E-01 µCi/g
RELATIVE COUNTING ERROR			=	500.0%	

Data Entry by:	MCSignmm	Date:	10/28/94
Approved by:	[illegible]	Date:	28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	47	31
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.6628	1.6628
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.167	0.633
Sample #	Sample Concentration in µCi/g		1.40E+00	
S94T000121	Replicate Concentration in µCi/g		7.62E-01	
Instrument Code				
WB27807	Average Concentration in µCi/g		1.0829E+00	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	1.08E+00	
RELATIVE COUNTING ERROR		=	67.6%	7.57E-01 µCi/g

Data Entry by: [signature] Date: 10/28/94

Approved by: [signature] Date: 28 Oct 94

Form 508101_C Rev. 1.1

01238

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	50	38
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.812	1.812
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.267	0.867
Sample #	Sample Concentration in µCi/g		1.40E+00	
S94T000121	Replicate Concentration in µCi/g		9.57E-01	
Instrument Code				
WB27807	Average Concentration in µCi/g		1.1777E+00	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	1.18E+00	
RELATIVE COUNTING ERROR		=	53.3%	6.95E-01 µCi/g

Data Entry by:	[illegible]	Date:	10/28/94
Approved by:	[illegible]	Date:	28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	54489	54260
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.6628	1.6628
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000121	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	2.18E+03	2.18E+03
WB27807	AVERAGE or MAXIMUM µCi/g from FORM C		1.0800E+00	
Analyst				
JMV				
Date				
10/27/94				
Time				
01:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 98.6%

Data Entry by:	[illegible]	Date:	28-Oct-94
Approved by:	[illegible]	Date:	28 Oct 94

Form 508101_X' Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	41	37
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8212	1.8212
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.967	0.833
Sample #	Sample Concentration in µCi/g		1.06E+00	
S94T000122	Replicate Concentration in µCi/g		9.15E-01	
Instrument Code				
WB27807	Average Concentration in µCi/g		9.8870E-01	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	9.89E-01	
RELATIVE COUNTING ERROR		=	54.9%	6.92E-01 µCi/g

Data Entry by:	[illegible]	Date:	10/28/94
Approved by:	[illegible]	Date:	28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	40	38
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8124	1.8124
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.933	0.867
Sample #	Sample Concentration in µCi/g		1.03E+00	
S94T000122	Replicate Concentration in µCi/g		9.57E-01	
Instrument Code				
WB27807	Average Concentration in µCi/g		9.9350E-01	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	9.93E-01	
RELATIVE COUNTING ERROR		=	53.3%	6.95E-01 µCi/g

Data Entry by:	[signature]	Date:	10/28/94
Approved by:	[signature]	Date:	28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	55688	58791
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8212	1.8212
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.4	36.4
S94T000122	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	2.04E+03	2.15E+03
WB27807	AVERAGE or MAXIMUM µCi/g from FORM C		9.8900E-01	
Analyst				
JMV				
Date				
10/27/94				
Time				
01:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 103.8%

Data Entry by: [signature]	Date: 28-Oct-94
Approved by: [signature]	Date: 28 Oct 94

Form 508101_X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		14	14
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	7	12
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.146	2.146
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.269	0.269
Sample #	Sample Concentration in µCi/g	<	2.51E-01	
119,120	Replicate Concentration in µCi/g	<	2.51E-01	
Instrument Code				
WB27807	Maximum Concentration in µCi/g	<	2.5120E-01	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 2.51E-01	DETECTION LEVEL
LESS Than Value was Determined from Lc.				5.87E-01 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:	[signature]	Date:	10/28/94
Approved by:	[signature]	Date:	28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		14	14
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1386	1340
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		45.800	44.267
Sample #	Sample Concentration in µCi/L		9.07E-03	
	Replicate Concentration in µCi/L		8.77E-03	
Instrument Code				
WB27807	Average Concentration in µCi/L		8.9205E-03	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
10/27/94	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	8.92E-06	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	5.4%	1.25E-07 µCi/mL

Data Entry by:	[signature]	Date:	10/28/94
Approved by:	[signature]	Date:	28 Oct 94

Form 508101_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	34	43
100	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.146	2.146
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.733	1.033
Sample #	Sample Concentration in µCi/g		6.84E-01	
S94T000119	Replicate Concentration in µCi/g		9.63E-01	
Instrument Code				
WB27807	Average Concentration in µCi/g		8.2352E-01	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
10/27/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	8.24E-01	
RELATIVE COUNTING ERROR		=	60.4%	5.87E-01 µCi/g

Data Entry by: [signature] Date: 10/28/94

Approved by: [signature] Date: 28 Oct 94

Form 508101_C Rev. 1.1

LABCORE Data Entry Template for Worklist# 190

Analyst: RAG **Instrument:** AB00 15 **Method:** LA-508-101 (0-2)

Worklist Comment: Use .100-10-.100 mL Sample size. Use .100 mL beta SPK

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	BLNK-PREP				@BETA-01	BETA-01	SOLID			N/A	uCi/g
1	BLNK-PREP				@BETA-01	BETA-01E	SOLID			N/A	% Ct.
2	STD				@BETA-01	BETA-01	SOLID			N/A	uCi/g
2	STD				@BETA-01	BETA-01E	SOLID			N/A	% Ct.
3	SAMPLE	S94T000005	0		@BETA-01	BETA-01	SOLID	N/A			uCi/g
3	SAMPLE	S94T000005	0		@BETA-01	BETA-01E	SOLID	N/A			% Ct.
4	DUP	S94T000005	0		@BETA-01	BETA-01	SOLID			N/A	uCi/g
4	DUP	S94T000005	0		@BETA-01	BETA-01E	SOLID			N/A	% Ct.
5	SPK	S94T000005	0		@BETA-01	BETA-01	SOLID			N/A	uCi/g
6	BLNK-PREP				@BETA-01	BETA-01	SOLID			N/A	uCi/g
6	BLNK-PREP				@BETA-01	BETA-01E	SOLID			N/A	% Ct
7	STD				@BETA-01	BETA-01	SOLID			N/A	uCi/g
7	STD				@BETA-01	BETA-01E	SOLID			N/A	% Ct.
8	SAMPLE	S94T000067	0		@BETA-01	BETA-01	SOLID	N/A			uCi/g
8	SAMPLE	S94T000067	0		@BETA-01	BETA-01E	SOLID	N/A			% Ct.
9	DUP	S94T000067	0		@BETA-01	BETA-01	SOLID			N/A	uCi/g
9	DUP	S94T000067	0		@BETA-01	BETA-01E	SOLID			N/A	% Ct.
10	SPK	S94T000067	0		@BETA-01	BETA-01	SOLID			N/A	uCi/g

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments: LMCS STD Book #'s:
71852 S515 EV-CRB
Lmcs SPK 63852
12-12-94

Units shown for QC (SPK) may not reflect the actual units.

Page: 1

LABCORE Data Entry Template for Worklist# 190

Analyst: RAG **Instrument:** AB00 15 **Method:** LA-508-101 (R-2)

Worklist Comment: Use .100-10-.100 mL Sample size. Use .100 mL beta SPK

Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit

Final page for worklist # 190

Rae Ann Green
Analyst Signature

11-30-94
Date

M C Bicino

12/12/94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	321	379
190	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.2092	2.2092
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.413	1.633
Sample #	Sample Concentration in µCi/g	<	9.09E-01	
S94T000005	Replicate Concentration in µCi/g		1.05E+00	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	1.0505E+00	
Analyst				
RAG				
Date				
11/30/94				
Time				
11:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Maximum) =	< 1.05E+00	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				1.88E+00 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:	[signature]	Date:	12/05/94
Approved by:	[signature]	Date:	12/5/94

Form 508101_C Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	32045	31648
190	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@BETA-01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1057.167	1043.933
Sample #	Sample Concentration in µCi/L		1.49E-01	
S94T000005,000067	Replicate Concentration in µCi/L		1.47E-01	
Instrument Code				
WB26872	Average Concentration in µCi/L		1.4779E-01	
Analyst				
RAG				
Date				
11/30/94				
Time				
11:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	1.48E-04	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	1.1%	4.10E-07 µCi/mL

Data Entry by: [signature] Date: 12/05/94

Approved by: [signature] Date: 12/5/94

Form 508101_C Rev. 1.2

1250

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	15254	14123
190	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.2092	2.2092
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		497.467	459.767
Sample #	Sample Concentration in µCi/g		3.20E+02	
S94T000005	Replicate Concentration in µCi/g		2.96E+02	
Instrument Code				
WB26872	Average Concentration in µCi/g		3.0782E+02	
Analyst				
RAG				
Date				
11/30/94				
Time				
11:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	3.08E+02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	1.7%	1.88E+00 µCi/g

Data Entry by: [signature] Date: 12/05/94

Approved by: [signature] Date: 12/5/94

Form 508101_C Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	14106	13242
190	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.216	2.216
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		459.200	430.400
Sample #	Sample Concentration in µCi/g		2.94E+02	
S94T000005	Replicate Concentration in µCi/g		2.76E+02	
Instrument Code				
WB26872	Average Concentration in µCi/g		2.8520E+02	
Analyst				
RAG	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
11/30/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
11:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	2.85E+02	DETECTION LEVEL
				1.87E+00 µCi/g
RELATIVE COUNTING ERROR		=	1.8%	

Data Entry by:	[signature]	Date:	12/05/94
Approved by:	[signature]	Date:	12/5/94

Form 508101_C Rev. 1.2 1252 Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	313632	325735
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	11	11
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	101	101
DIGEST GRAMS of SOLIDS/L		(Dg/L)	2.2092	2.2092
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE VALUE in µCi/L		(SVal)	159.23	159.23
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.3202	0.3202
SAMPLE + SPIKE µCi/g		(S+S)	6.72E+03	6.98E+03
AVERAGE or MAXIMUM µCi/g from FORM C			3.0800E+02	

Type	SPIKE
Work List	190
AT or TB ?	TB
Test Code	@BETA-01
Matrix	SOLID
Sample #	S94T000005
Instrument Code	WB26872
Analyst	RAG
Date	11/30/94
Time	11:00 PM

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 89.8%

Data Entry by: [signature] Date: 05-Dec-94

Approved by: [signature] Date: 12/5/94

Form 508101_X Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	448	448
190	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.82	1.82
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.933	3.933
Sample #	Sample Concentration in µCi/g		3.07E+00	
S94T000067	Replicate Concentration in µCi/g		3.07E+00	
Instrument Code				
WB26872	Average Concentration in µCi/g		3.0707E+00	
Analyst				
RAG	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
11/30/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
11:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	3.07E+00	DETECTION LEVEL
				2.28E+00 µCi/g
RELATIVE COUNTING ERROR		=	46.3%	

Data Entry by:	[signature]	Date:	12/05/94
Approved by:	[signature]	Date:	12/5/94

Form 508101_C Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	17118	16602
190	COUNT TIME in MINUTES	(CT)	30	30
At or 18 ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.82	1.82
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		559.600	542.400
Sample #	Sample Concentration in µCi/g		4.37E+02	
S94T000067	Replicate Concentration in µCi/g		4.23E+02	
Instrument Code				
WB26872	Average Concentration in µCi/g		4.3016E+02	
Analyst				
RAG	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
11/30/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
11:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	4.30E+02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	1.6%	2.28E+00 µCi/g

Data Entry by:	[signature]	Date:	12/05/94
Approved by:	[signature]	Date:	12/5/94

Form 508101_C Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	16210	16930
190	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.8964	1.8964
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		529.333	553.333
Sample #	Sample Concentration in µCi/g		3.97E+02	
S94T000067	Replicate Concentration in µCi/g		4.15E+02	
Instrument Code				
WB26872	Average Concentration in µCi/g		4.0559E+02	
Analyst				
RAG	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
11/30/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
11:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	4.06E+02	DETECTION LEVEL
				2.19E+00 µCi/g
RELATIVE COUNTING ERROR		=	1.6%	

Data Entry by:		Date:	12/05/94
Approved by:		Date:	12/5/94

Form 508101_C Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	319174	311003
190	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.82	1.82
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	159.23	159.23
S94T000067	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	8.30E+03	8.08E+03
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		4.3000E+02	
Analyst				
RAG				
Date				
11/30/94				
Time				
11:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT **AVG. PERCENT SPIKE RECOVERY = 87.8%**

Data Entry by:		Date:	05-Dec-94
Approved by:		Date:	12/5/94

Form 508101_X Rev. 1.2

LABCORE Data Entry Template for Worklist# 262

Analyst: RAG **Instrument:** AB00 15 **Method:** LA-508-101 D-2

Worklist Comment: AT Determine SS using Ludlum. Use .100 mL Alpha SPK. SLF

	Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit
1,2	1	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	1	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
3,4	2	STD	71B52			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	2	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
5,6	3	SAMPLE	S94T000299	0		@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
	3	SAMPLE	S94T000299	0		@ALPHA01 ALPHA01E	SOLID	N/A			% Ct.
7,8	4	DUP	S94T000299	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	4	DUP	S94T000299	0		@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
9,10	5	SPK	S94T000299	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
11,12	6	SAMPLE	S94T000300	0		@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
	6	SAMPLE	S94T000300	0		@ALPHA01 ALPHA01E	SOLID	N/A			% Ct.
1[illegible]	7	DUP	S94T000300	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
	7	DUP	S94T000300	0		@ALPHA01 ALPHA01E	SOLID			N/A	% Ct.
15,16	8	SPK	S94T000300	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 262

Rae Ann Green
Analyst Signature

12-16-94
Date

~~12/27/94~~ SLF 12/21/94
12/21/94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	8	6
262	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7448	1.7448
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.301	0.301
Sample #	Sample Concentration in µCi/g	<	3.27E-03	BOOK#
S94T299,300	Replicate Concentration in µCi/g	<	3.27E-03	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	3.2677E-03	
Analyst				
RAG				
Date				
12/16/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 3.27E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				7.52E-03 µCi/g
RELATIVE COUNTING ERROR		=	134.3%	

Data Entry by:		Date:	12/21/94
Approved by:		Date:	12/21/94

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	1468	1524
262	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA-01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		48.433	50.300
Sample #	Sample Concentration in µCi/L		9.17E-03	BOOK#
S94T299,300	Replicate Concentration in µCi/L		9.52E-03	71B52
Instrument Code				
WB26872	Average Concentration in µCi/L		9.3434E-03	
Analyst				
RAG				
Date				
12/16/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	9.34E-06	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	5.2%	1.31E-07 µCi/mL

Data Entry by:		Date:	12/21/94
Approved by:		Date:	12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	18	15
262	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7448	1.7448
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.416	0.301
Sample #	Sample Concentration in µCi/g	<	4.51E-03	BOOK#
S94T299	Replicate Concentration in µCi/g	<	3.27E-03	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	4.5120E-03	
Analyst				
RAG				
Date				
12/16/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 4.51E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				7.52E-03 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by: [signature] Date: 12/21/94

Approved by: [signature] Date: 12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	21	14
262	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.824	1.824
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.530	0.301
Sample #	Sample Concentration in µCi/g	<	5.50E-03	BOOK#
S94T299	Replicate Concentration in µCi/g	<	3.13E-03	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	5.4995E-03	
Analyst				
RAG				
Date				
12/16/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 5.50E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				7.19E-03 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:	[signature]	Date:	12/21/94
Approved by:	[signature]	Date:	12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	50004	51334
262	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7448	1.7448
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.392	36.392
S94T299	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.81E+01	1.86E+01
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		<4.5120E-3	
Analyst	BOOK#		94B43	
RAG				
Date				
12/16/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT | AVG. PERCENT SPIKE RECOVERY = 87.8%

Data Entry by:	[signature]	Date:	21-Dec-94
Approved by:	[signature]	Date:	12/21/94

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	2540	2313
262	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5308	2.5308
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		84.167	76.600
Sample #	Sample Concentration in µCi/g		6.29E-01	BOOK#
S94T300	Replicate Concentration in µCi/g		5.73E-01	
Instrument Code				
WB26872	Average Concentration in µCi/g		6.0114E-01	
Analyst				
RAG				
Date				
12/16/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	6.01E-01	DETECTION LEVEL
				5.18E-03 µCi/g
RELATIVE COUNTING ERROR		=	4.1%	

Data Entry by:	[signature]	Date:	12/21/94
Approved by:	[signature]	Date:	12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	2208	2156
262	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5532	2.5532
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		73.100	71.367
Sample #	Sample Concentration in µCi/g		5.42E-01	BOOK#
S94T300	Replicate Concentration in µCi/g		5.29E-01	
Instrument Code				
WB26872	Average Concentration in µCi/g		5.3545E-01	
Analyst				
RAG				
Date				
12/16/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	5.35E-01	DETECTION LEVEL
				5.14E-03 µCi/g
RELATIVE COUNTING ERROR		=	4.3%	

Data Entry by:	[signature]	Date:	12/21/94
Approved by:	[signature]	Date:	12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51225	48968
262	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5308	2.5308
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.392	36.392
S94T300	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.28E+01	1.22E+01
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		6.0114E-01	
Analyst	BOOK#		94B43	
RAG				
Date				
12/16/94				
Time				
10:00 AM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT | AVG. PERCENT SPIKE RECOVERY = 82.6%

Data Entry by:		Date:	21-Dec-94
Approved by:		Date:	12/21/94

Form 508101_X Rev. 1.3

LABCORE Data Entry Template for Worklist# 269 5/103

Analyst: GKL **Instrument:** AB00 15 **Method:** LA-508-101 D-2

Worklist Comment: TB Determine SS using Ludlum detector. Use .100 mL Beta SPK

	Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1-2	1	BLNK-PREP				@BETA-01	BETA-01	SOLID			N/A	uCi/g
	1	BLNK-PREP				@BETA-01	BETA-01E	SOLID			N/A	% Ct.
3-4	2	STD	75B52			@BETA-01	BETA-01	SOLID			N/A	uCi/g
	2	STD				@BETA-01	BETA-01E	SOLID			N/A	% Ct.
5-6	3	SAMPLE	S94T000299	0		@BETA-01	BETA-01	SOLID	N/A			uCi/g
	3	SAMPLE	S94T000299	0		@BETA-01	BETA-01E	SOLID	N/A			% Ct.
7-8	4	DUP	S94T000299	0		@BETA-01	BETA-01	SOLID			N/A	uCi/g
	4	DUP	S94T000299	0		@BETA-01	BETA-01E	SOLID			N/A	% Ct.
9-10	5	SPK	S94T000299	0		@BETA-01	BETA-01	SOLID			N/A	uCi/g
11-12	6	SAMPLE	S94T000300	0		@BETA-01	BETA-01	SOLID	N/A			uCi/g
	6	SAMPLE	S94T000300	0		@BETA-01	BETA-01E	SOLID	N/A			% Ct.
13-14	7	DUP	S94T000300	0		@BETA-01	BETA-01	SOLID			N/A	/g
	7	DUP	S94T000300	0		@BETA-01	BETA-01E	SOLID			N/A	% Ct.
15-16	8	SPK	S94T000300	0		@BETA-01	BETA-01	SOLID			N/A	uCi/g

Final page for worklist # 269

GKL
Analyst Signature

WHC-SD-WM-DP-074, REV. 0

12-19-94
Date

MBiermann 12/21/94

Data Entry Comments: RPD for Sample + Duplicate (Sample # S94T000300) is out of limits sample will be rerun.
12/28/94

Units shown for QC (SPK) may not reflect the actual units.

Page: 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	448	448
269	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7448	1.7448
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.933	3.933
Sample #	Sample Concentration in µCi/g		3.20E-01	BOOK#
S94T299,300	Replicate Concentration in µCi/g		3.20E-01	
Instrument Code				
WB26872	Average Concentration in µCi/g		3.2030E-01	
Analyst				
AKL				
Date				
12/19/94				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	3.20E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	46.3%	2.38E-01 µCi/g

Data Entry by: [signature] Date: 12/21/94

Approved by: [signature] Date: 12/21/94

Form 508101_C Rev. 1.3

21268

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	33062	33280
269	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@BETA-01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1091.067	1098.333
Sample #	Sample Concentration in µCi/L		1.53E-01	BOOK#
S94T299,300	Replicate Concentration in µCi/L		1.55E-01	75B52
Instrument Code				
WB26872	Average Concentration in µCi/L		1.5400E-01	
Analyst				
AKL				
Date				
12/19/94				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	1.54E-04	DETECTION LEVEL
				4.10E-07 µCi/mL
RELATIVE COUNTING ERROR		=	1.1%	

Data Entry by:	[signature]	Date:	12/21/94
Approved by:	[signature]	Date:	12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	66670	65879
269	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7448	1.7448
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2211.333	2184.967
Sample #	Sample Concentration in µCi/g		1.80E+02	BOOK#
S94T299	Replicate Concentration in µCi/g		1.78E+02	
Instrument Code				
WB26872	Average Concentration in µCi/g		1.7900E+02	
Analyst				
AKL				
Date				
12/19/94				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	1.79E+02	DETECTION LEVEL
				2.38E-01 µCi/g
RELATIVE COUNTING ERROR		=	0.8%	

Data Entry by:		Date:	12/21/94
Approved by:		Date:	12/21/94

Form 508101_C Rev. 1.3

1270

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	63000	62774
269	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.824	1.824
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2089.000	2081.467
Sample #	Sample Concentration in µCi/g		1.63E+02	BOOK#
S94T299	Replicate Concentration in µCi/g		1.62E+02	
Instrument Code				
WB26872	Average Concentration in µCi/g		1.6243E+02	
Analyst				
AKL				
Date				
12/19/94				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	1.62E+02	DETECTION LEVEL
				2.27E-01 µCi/g
RELATIVE COUNTING ERROR		=	0.8%	

Data Entry by:	[signature]	Date:	12/21/94
Approved by:	[signature]	Date:	12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	354088	369195
269	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.7448	1.7448
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	158.31	158.31
S94T299	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	9.60E+02	1.00E+03
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		1.7900E+02	
Analyst	BOOK#		63B52	
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
12/19/94	PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100			
Time				
03:30 PM				

RESULT AVG. PERCENT SPIKE RECOVERY = 87.5%

Data Entry by:	[signature]	Date:	21-Dec-94
Approved by:	[signature]	Date:	12/21/94

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	230854	233008
269	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5308	2.5308
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		7684.133	7755.933
Sample #	Sample Concentration in µCi/g		4.31E+02	BOOK#
S94T300	Replicate Concentration in µCi/g		4.35E+02	
Instrument Code				
WB26872	Average Concentration in µCi/g		4.3342E+02	
Analyst				
AKL				
Date				
12/19/94				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	4.33E+02	DETECTION LEVEL
				1.64E-01 µCi/g
RELATIVE COUNTING ERROR		=	0.4%	

Data Entry by:		Date:	12/21/94
Approved by:		Date:	12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	176599	179095
269	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5532	2.5532
Matrix	EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5875.633	5958.833
Sample #	Sample Concentration in µCi/g		3.27E+02	BOOK#
S94T300	Replicate Concentration in µCi/g		3.32E+02	
Instrument Code				
WB26872	Average Concentration in µCi/g		3.2929E+02	
Analyst				
AKL				
Date				
12/19/94				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	3.29E+02	DETECTION LEVEL
				1.62E-01 µCi/g
RELATIVE COUNTING ERROR		=	0.5%	

Data Entry by:		Date:	12/21/94
Approved by:		Date:	12/21/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	519441	529283
269	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	11	11
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5308	2.5308
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	158.31	158.31
S94T300	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.3202	0.3202
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	9.71E+02	9.90E+02
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		4.3342E+02	
Analyst	BOOK#		63B52	
AKL				
Date				
12/19/94				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT | AVG. PERCENT SPIKE RECOVERY = 86.6%

Data Entry by:	[signature]	Date:	21-Dec-94
Approved by:	[signature]	Date:	12/21/94

Form 508101_X Rev. 1.3

LABCORE Data Entry Template for Worklist# 320

LAD-12095

Analyst: JJJMV **Instrument:** AB00 16 **Method:** LA-508-101 D-2

Worklist Comment: Use .100-10-1.0 mL sample size. Use .100 mL Beta SPK. SLF

	Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit
-2	1	BLNK-PREP				@BETA-01 BETA-01	SOLID			N/A	uCi/g
	1	BLNK-PREP				@BETA-01 BETA-01E	SOLID			N/A	% Ct.
3-4	2	STD				@BETA-01 BETA-01	SOLID			N/A	uCi/g
	2	STD	75852			@BETA-01 BETA-01E	SOLID			N/A	% Ct.
5-6	3	SAMPLE	S94T000300	0		@BETA-01 BETA-01	SOLID	N/A			uCi/g
	3	SAMPLE	S94T000300	0		@BETA-01 BETA-01E	SOLID	N/A			% Ct.
7-8	4	DUP	S94T000300	0		@BETA-01 BETA-01	SOLID			N/A	uCi/g
	4	DUP	S94T000300	0		@BETA-01 BETA-01E	SOLID			N/A	% Ct.
9-10	5	SPK	S94T000300	0		@BETA-01 BETA-01	SOLID			N/A	uCi/g

Final page for worklist # 320

Joel M Umbarger
Analyst Signature

12-28-94
Date
12/28/94

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments: This reanalysis used in report

Units shown for QC (SPK) may not reflect the actual units.

Page: 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	33975	34964
320	COUNT TIME in MINUTES	(CT)	30	30
At or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@BETA-01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2774	0.2774
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1124.500	1157.467
Sample #	Sample Concentration in µCi/L		1.83E-01	BOOK#
WORKLIST#320	Replicate Concentration in µCi/L		1.88E-01	75B52
Instrument Code				
WB27806	Average Concentration in µCi/L		1.8528E-01	
Analyst				
JMV				
Date				
12/28/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	1.85E-04	DETECTION LEVEL
				4.06E-07 µCi/mL
RELATIVE COUNTING ERROR		=	1.1%	

Data Entry by: Date: 01/03/95

Approved by: Date: 1/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		16	16
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	283	288
320	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5308	2.5308
Matrix	EFFICIENCY FACTOR	(EFF)	0.2774	0.2774
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.433	1.600
Sample #	Sample Concentration in µCi/g		9.29E-02	BOOK#
S94T300	Replicate Concentration in µCi/g		1.04E-01	
Instrument Code				
WB27806	Average Concentration in µCi/g		9.8287E-02	
Analyst				
JMV	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
12/28/94				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	9.83E-02	DETECTION LEVEL
				1.62E-01 µCi/g
RELATIVE COUNTING ERROR		=	104.2%	

Data Entry by:		Date:	12/29/94
Approved by:		Date:	12/30/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	233263	226319
320	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5308	2.5308
Matrix	EFFICIENCY FACTOR	(EFF)	0.2774	0.2774
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		7767.433	7535.967
Sample #	Sample Concentration in µCi/g		5.03E+02	BOOK#
S94T300	Replicate Concentration in µCi/g		4.88E+02	
Instrument Code				
WB27806	Average Concentration in µCi/g		4.9586E+02	
Analyst				
JMV				
Date				
12/28/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	4.96E+02	DETECTION LEVEL
				1.62E-01 µCi/g
RELATIVE COUNTING ERROR		=	0.4%	

Data Entry by:	[signature]	Date:	12/29/94
Approved by:	[signature]	Date:	12/30/94

Form 508101_C Rev. 1.3

01279

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
DUPLICATE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	169994	174434
320	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5532	2.5532
Matrix	EFFICIENCY FACTOR	(EFF)	0.2774	0.2774
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5658.467	5806.467
Sample #	Sample Concentration in µCi/g		3.63E+02	BOOK#
S94T300	Replicate Concentration in µCi/g		3.73E+02	
Instrument Code				
WB27806	Average Concentration in µCi/g		3.6823E+02	
Analyst				
JMV				
Date				
12/28/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/g	(Average) =	3.68E+02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	0.5%	1.61E-01 µCi/g

Data Entry by:		Date:	12/29/94
Approved by:		Date:	12/30/94

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	516943	514978
320	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@BETA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.5308	2.5308
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	157.8	157.8
S94T300	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2774	0.2774
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.12E+03	1.11E+03
WB27806	AVERAGE or MAXIMUM µCi/g from FORM C		4.9586E+02	
Analyst	BOOK#		63B52	
JMV				
Date				
12/28/94				
Time				
03:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 98.2%

Data Entry by: [signature] Date: 29-Dec-94

Approved by: [signature] Date: 30-Dec-94

Form 508101_X Rev. 1.3

LABCORE Data Entry Template for Worklist# 821

Analyst: ARL **Instrument:** AB00 Det 15 WB26872 **Book #** 98B52

Method: LA-508-101 Rev/Mod D-2 WHC-SD-WM-DP-074, REV. 0

Worklist Comment: Determine S.S. using Ludlum. Use .100 mL A & B SPK. SLF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
✓		1	STD			@AB-01	ALPHA01	LIQUID			N/A	uCi/mL
		1	STD			@AB-01	BETA-01	LIQUID			N/A	uCi/mL
✓		2	BLNK-PREP			@AB-01	ALPHA01	LIQUID			N/A	uCi/mL
		2	BLNK-PREP			@AB-01	ALPHA01E	LIQUID			N/A	% Ct. Error
		2	BLNK-PREP			@AB-01	BETA-01	LIQUID			N/A	uCi/mL
		2	BLNK-PREP			@AB-01	BETA-01E	LIQUID			N/A	% Ct. Error
		3	BLNK/BKG			@AB-01	ALPHA01	LIQUID			N/A	uCi/mL
		3	BLNK/BKG			@AB-01	BETA-01	LIQUID			N/A	uCi/mL
✓ 94000020	SY-103	4	SAMPLE	S95T000328	0	@AB-01	ALPHA01	LIQUID	N/A			uCi/mL
94000020	SY-103	4	SAMPLE	S95T000328	0	@AB-01	ALPHA01E	LIQUID	N/A			% Ct. Error
94000020	SY-103	4	SAMPLE	S95T000328	0	@AB-01	BETA-01	LIQUID	N/A			uCi/mL
94000020	SY-103	4	SAMPLE	S95T000328	0	@AB-01	BETA-01E	LIQUID	N/A			% Ct. Error
✓ 94000020	SY-103	5	DUP	S95T000328	0	@AB-01	ALPHA01	LIQUID			N/A	uCi/mL
94000020	SY-103	5	DUP	S95T000328	0	@AB-01	ALPHA01E	LIQUID			N/A	% Ct. Error
94000020	SY-103	5	DUP	S95T000328	0	@AB-01	BETA-01	LIQUID			N/A	uCi/mL
94000020	SY-103	5	DUP	S95T000328	0	@AB-01	BETA-01E	LIQUID			N/A	% Ct. Error
✓ 94000020	SY-103	6	SPK	S95T000328	0	@AB-01	ALPHA01	LIQUID			N/A	uCi/mL
94000020	SY-103	6	SPK	S95T000328	0	@AB-01	BETA-01	LIQUID			N/A	uCi/mL

Data Entry Comments: RPD for sample 328 is out of limits. Sample will be rerun. SLF. 4/4/95

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 821

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
94000020	SY-103	7	SAMPLE	S95T000329	0	@AB-01	ALPHA01		LIQUID	N/A			uCi/mL
94000020	SY-103	7	SAMPLE	S95T000329	0	@AB-01	ALPHA01E		LIQUID	N/A			% Ct. Error
94000020	SY-103	7	SAMPLE	S95T000329	0	@AB-01	BETA-01		LIQUID	N/A			uCi/mL
94000020	SY-103	7	SAMPLE	S95T000329	0	@AB-01	BETA-01E		LIQUID	N/A			% Ct. Error
94000020	SY-103	8	DUP	S95T000329	0	@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
94000020	SY-103	8	DUP	S95T000329	0	@AB-01	ALPHA01E		LIQUID			N/A	% Ct. Error
94000020	SY-103	8	DUP	S95T000329	0	@AB-01	BETA-01		LIQUID			N/A	uCi/mL
94000020	SY-103	8	DUP	S95T000329	0	@AB-01	BETA-01E		LIQUID			N/A	% Ct. Error
94000020	SY-103	9	SPK	S95T000329	0	@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
94000020	SY-103	9	SPK	S95T000329	0	@AB-01	BETA-01		LIQUID			N/A	uCi/mL
94000020	SY-103	10	SAMPLE	S95T000330	0	@AB-01	ALPHA01		LIQUID	N/A			uCi/mL
94000020	SY-103	10	SAMPLE	S95T000330	0	@AB-01	ALPHA01E		LIQUID	N/A			% Ct. Error
94000020	SY-103	10	SAMPLE	S95T000330	0	@AB-01	BETA-01		LIQUID	N/A			uCi/mL
94000020	SY-103	10	SAMPLE	S95T000330	0	@AB-01	BETA-01E		LIQUID	N/A			% Ct. Error
94000020	SY-103	11	DUP	S95T000330	0	@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
94000020	SY-103	11	DUP	S95T000330	0	@AB-01	ALPHA01E		LIQUID			N/A	% Ct. Error
94000020	SY-103	11	DUP	S95T000330	0	@AB-01	BETA-01		LIQUID			N/A	uCi/mL
94000020	SY-103	11	DUP	S95T000330	0	@AB-01	BETA-01E		LIQUID			N/A	% Ct. Error
94000020	SY-103	12	SPK	S95T000330	0	@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
94000020	SY-103	12	SPK	S95T000330	0	@AB-01	BETA-01		LIQUID			N/A	uCi/mL
94000020	SY-103	13	SAMPLE	S95T000331	0	@AB-01	ALPHA01		LIQUID	N/A			uCi/mL

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 821

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
94000020	SY-103	13	SAMPLE	S95T000331	0	@AB-01	ALPHA01E	LIQUID	N/A			% Ct. Error
94000020	SY-103	13	SAMPLE	S95T000331	0	@AB-01	BETA-01	LIQUID	N/A			uCi/mL
94000020	SY-103	13	SAMPLE	S95T000331	0	@AB-01	BETA-01E	LIQUID	N/A			% Ct. Error
94000020	SY-103	14	SPK	S95T000331	0	@AB-01	ALPHA01	LIQUID			N/A	uCi/mL
94000020	SY-103	14	SPK	S95T000331	0	@AB-01	BETA-01	LIQUID			N/A	uCi/mL
94000020	SY-103	15	DUP	S95T000331	0	@AB-01	ALPHA01	LIQUID			N/A	uCi/mL
94000020	SY-103	15	DUP	S95T000331	0	@AB-01	ALPHA01E	LIQUID			N/A	% Ct. Error
94000020	SY-103	15	DUP	S95T000331	0	@AB-01	BETA-01	LIQUID			N/A	uCi/mL
94000020	SY-103	15	DUP	S95T000331	0	@AB-01	BETA-01E	LIQUID			N/A	% Ct. Error

Final page for worklist # 821

G Lewis 3/28/95
Analyst Signature **Date**

[illegible] 3/30/95
Analyst Signature **Date**

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	4192	4131
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		139.233	137.200
Sample #	Sample Concentration in µCi/L		2.64E-02	BOOK#
WORKLIST 821	Replicate Concentration in µCi/L		2.60E-02	98B52
Instrument Code				
WB26872	Average Concentration in µCi/L		2.6160E-02	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	2.62E-05	DETECTION LEVEL
				1.31E-07 µCi/mL
RELATIVE COUNTING ERROR		=	3.1%	

Data Entry by:	[signature]	Date:	03/30/95
Approved by:	[signature]	Date:	3/30/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	34263	33568
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1132.100	1108.933
Sample #	Sample Concentration in µCi/L		1.21E-01	BOOK#
WORKLIST#821	Replicate Concentration in µCi/L		1.19E-01	98B52
Instrument Code				
WB26872	Average Concentration in µCi/L		1.1998E-01	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
03/28/95	TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:30 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	1.20E-04	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	1.1%	2.98E-07 µCi/mL

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

				BLANK	REPLICATE
Type	DETECTOR NUMBER			15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)		2	2
Work List	TOTAL COUNTS	(TC)		5	22
821	COUNT TIME in MINUTES	(CT)		30	30
AT or TB ?	BACKGROUND in cpm	(BKG)		0.5	0.5
AT	SAMPLE SIZE in mL	(SS)		0.025	0.025
Test Code	DILUTION FACTOR	(DF)		101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)		20	20
Matrix	EFFICIENCY FACTOR	(EFF)		0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.301	0.568
Sample #	Sample Concentration in µCi/L		<	4.61E+01	BOOK#
WORKLIST#821	Replicate Concentration in µCi/L		<	8.68E+01	
Instrument Code					
WB26872	Maximum Concentration in µCi/L		<	8.6844E+01	
Analyst					
AKL					
Date					
03/28/95					
Time					
03:30 PM					

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 8.68E-02		DETECTION LEVEL
LESS THAN Value was Determined from Rmax.					1.06E-01 µCi/mL
RELATIVE COUNTING ERROR		=	170.3%		

Data Entry by:	[signature]	Date:	03/30/95
Approved by:	[signature]	Date:	3/30/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	355	325
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.025	0.025
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.833	2.208
Sample #	Sample Concentration in µCi/L		1.59E+02	BOOK#
WORKLIST#821	Replicate Concentration in µCi/L	<	1.91E+02	
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	1.9105E+02	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
03/28/95	TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:30 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA in µCi/mL (Maximum) =	< 1.91E-01		DETECTION LEVEL
LESS THAN Value was Determined from Rs.			2.41E-01 µCi/mL
RELATIVE COUNTING ERROR =	196.0%		

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

01288

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	7	6
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.025	0.025
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.301	0.301
Sample #	Sample Concentration in µCi/L	<	4.61E+01	BOOK#
S95T328	Replicate Concentration in µCi/L	<	4.61E+01	
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	4.6069E+01	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 4.61E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.				1.06E-01 µCi/mL
RELATIVE COUNTING ERROR		=	114.9%	

Data Entry by:	[signature]	Date:	03/30/95
Approved by:	[signature]	Date:	3/30/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	290471	290540
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.025	0.025
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		9672.367	9674.667
Sample #	Sample Concentration in µCi/L		8.37E+05	BOOK#
S95T328	Replicate Concentration in µCi/L		8.37E+05	
Instrument Code				
WB26872	Average Concentration in µCi/L		8.3689E+05	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
03/28/95	TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:30 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	8.37E+02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	0.4%	2.41E-01 µCi/mL

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	10	9
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.025	0.025
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.301	0.301
Sample #	Sample Concentration in µCi/L	<	4.61E+01	BOOK#
S95T328	Replicate Concentration in µCi/L	<	4.61E+01	
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	4.6069E+01	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 4.61E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.				1.06E-01 µCi/mL
RELATIVE COUNTING ERROR		=	196.0%	

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: 3/30/95

Form 508101_C Rev. 1.3

01291

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	148020	143872
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.025	0.025
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4924.000	4785.733
Sample #	Sample Concentration in µCi/L		4.26E+05	BOOK#
S95T328	Replicate Concentration in µCi/L		4.14E+05	
Instrument Code				
WB26872	Average Concentration in µCi/L		4.2001E+05	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	4.20E+02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	0.5%	2.41E-01 µCi/mL

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	53990	53108
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.5	0.5
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.025	0.025
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	101	101
DIGEST DILUTION FACTOR		(DDF)	20	20
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE VALUE in µCi/L		(SVal)	36.38	36.38
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.238	0.238
SAMPLE + SPIKE µCi/L		(S+S)	2.75E+05	2.71E+05
AVERAGE or MAXIMUM µCi/L from FORM C			<4.6069E+1	
BOOK#			94B43	

Type	
SPIKE	
Work List	
821	
AT or TB ?	
AT	
Test Code	
@AB-01	
Matrix	
LIQUID	
Sample #	
S95T328	
Instrument Code	
WB26872	
Analyst	
AKL	
Date	
03/28/95	
Time	
03:30 PM	

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 92.8%

Data Entry by:	G. J. Ramyl	Date:	03-Apr-95
Approved by:	[illegible]	Date:	4/3/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	779083	771278
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.025	0.025
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	168.16	168.16
S95T328	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
Instrument Code	SAMPLE + SPIKE µCi/L	(S+S)	2.25E+06	2.22E+06
WB26872	AVERAGE or MAXIMUM µCi/L from FORM C		8.3689E+05	
Analyst	BOOK#		94B43	
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT | AVG. PERCENT SPIKE RECOVERY = 102.9%

Data Entry by:		Date:	30-Mar-95
Approved by:		Date:	4/3/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	9	16
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.025	0.025
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.301	0.340
Sample #	Sample Concentration in µCi/L	<	4.61E+01	BOOK#
S95T329	Replicate Concentration in µCi/L	<	5.19E+01	
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	5.1928E+01	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
03/28/95	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:30 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 5.19E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				1.06E-01 µCi/mL
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	124682	129038
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.025	0.025
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4146.067	4291.267
Sample #	Sample Concentration in µCi/L		3.59E+05	BOOK#
S95T329	Replicate Concentration in µCi/L		3.71E+05	
Instrument Code				
WB26872	Average Concentration in µCi/L		3.6497E+05	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	3.65E+02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	0.6%	2.41E-01 µCi/mL

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

				SAMPLE	REPLICATE
Type	DETECTOR NUMBER			15	15
DUPLICATE	DISH SIZE 1, 2, or 5	(MS)		2	2
Work List	TOTAL COUNTS	(TC)		8	21
821	COUNT TIME in MINUTES	(CT)		30	30
AT or TB ?	BACKGROUND in cpm	(BKG)		0.5	0.5
AT	SAMPLE SIZE in mL	(SS)		0.025	0.025
Test Code	DILUTION FACTOR	(DF)		101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)		20	20
Matrix	EFFICIENCY FACTOR	(EFF)		0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.301	0.530
Sample #	Sample Concentration in µCi/L		<	4.61E+01	BOOK#
S95T329	Replicate Concentration in µCi/L		<	8.11E+01	
Instrument Code					
WB26872	Maximum Concentration in µCi/L		<	8.1051E+01	
Analyst					
AKL					
Date					
03/28/95					
Time					
03:30 PM					

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 8.11E-02		DETECTION LEVEL
LESS THAN Value was Determined from Rmax.					1.06E-01 µCi/mL
RELATIVE COUNTING ERROR		=	196.0%		

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	123161	118819
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.025	0.025
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4095.367	3950.633
Sample #	Sample Concentration in µCi/L		3.54E+05	BOOK#
S95T329	Replicate Concentration in µCi/L		3.42E+05	
Instrument Code				
WB26872	Average Concentration in µCi/L		3.4805E+05	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	3.48E+02	DETECTION LEVEL
				2.41E-01 µCi/mL
RELATIVE COUNTING ERROR		=	0.6%	

Data Entry by:	[signature]	Date:	03/30/95
Approved by:	[signature]	Date:	4/3/95

Form 508101_C Rev. 1.3

51298

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	56165	61515
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.025	0.025
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.38	36.38
S95T329	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/L	(S+S)	2.86E+05	3.13E+05
WB26872	AVERAGE or MAXIMUM µCi/L from FORM C		<5.1928E+1	
Analyst	BOOK#		94B43	
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
03/28/95	PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100			
Time				
03:30 PM				

RESULT | AVG. PERCENT SPIKE RECOVERY = 102.0%

Data Entry by:		Date:	30-Mar-95
Approved by:		Date:	4/3/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	636686	655209
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.025	0.025
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	168.16	168.16
S95T329	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
Instrument Code	SAMPLE + SPIKE µCi/L	(S+S)	1.84E+06	1.89E+06
WB26872	AVERAGE or MAXIMUM µCi/L from FORM C		3.6497E+05	
Analyst	BOOK#		94B43	
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 110.2%

Data Entry by: Date: 30-Mar-95

Approved by: Date: 4/3/95

Form 508101_X Rev. 1.3

01300

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	18	21
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.416	0.530
Sample #	Sample Concentration in µCi/L	<	6.36E+00	BOOK#
S95T330	Replicate Concentration in µCi/L	<	8.11E+00	
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	8.1051E+00	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 8.11E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				1.06E-02 µCi/mL
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:	[signature]	Date:	03/30/95
Approved by:	[signature]	Date:	4/3/95

Form 508101_C Rev. 1.3

)1301

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	256368	243479
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		8535.600	8105.967
Sample #	Sample Concentration in µCi/L		7.38E+04	BOOK#
S95T330	Replicate Concentration in µCi/L		7.01E+04	
Instrument Code				
WB26872	Average Concentration in µCi/L		7.1986E+04	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	7.20E+01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	0.4%	2.41E-02 µCi/mL

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	16	16
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.340	0.340
Sample #	Sample Concentration in µCi/L	<	5.19E+00	BOOK#
S95T330	Replicate Concentration in µCi/L	<	5.19E+00	
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	5.1928E+00	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 5.19E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				
RELATIVE COUNTING ERROR		=	500.0%	1.06E-02 µCi/mL

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

01303

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	226500	251747
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		7540.000	8381.567
Sample #	Sample Concentration in µCi/L		6.52E+04	BOOK#
S95T330	Replicate Concentration in µCi/L		7.25E+04	
Instrument Code				
WB26872	Average Concentration in µCi/L		6.8872E+04	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	6.89E+01	DETECTION LEVEL
				2.41E-02 µCi/mL
RELATIVE COUNTING ERROR		=	0.4%	

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	68365	55869
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.38	36.38
S95T330	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/L	(S+S)	3.48E+04	2.85E+04
WB26872	AVERAGE or MAXIMUM µCi/L from FORM C		<8.11E-3	
Analyst	BOOK#		94B43	
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 107.7%

Data Entry by:	[signature]	Date:	30-Mar-95
Approved by:	[signature]	Date:	4/3/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	819202	710565
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	168.16	168.16
S95T330	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
Instrument Code	SAMPLE + SPIKE µCi/L	(S+S)	2.36E+05	2.05E+05
WB26872	AVERAGE or MAXIMUM µCi/L from FORM C		7.1986E+04	
Analyst	BOOK#		94B43	
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 109.3%

Data Entry by:		Date:	30-Mar-95
Approved by:		Date:	4/3/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	10	5
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.301	0.301
Sample #	Sample Concentration in µCi/L	<	4.61E+00	BOOK#
S95T331	Replicate Concentration in µCi/L	<	4.61E+00	
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	4.6069E+00	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 4.61E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				
RELATIVE COUNTING ERROR		=	196.0%	1.06E-02 µCi/mL

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: ~~3/4/95~~ SLF

Form 508101_C Rev. 1.3

Page 1 of 1 4/3/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	376888	388461
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		12552.933	12938.700
Sample #	Sample Concentration in µCi/L		1.09E+05	BOOK#
S95T331	Replicate Concentration in µCi/L		1.12E+05	
Instrument Code				
WB26872	Average Concentration in µCi/L		1.1027E+05	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
03/28/95	TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
03:30 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	1.10E+02	DETECTION LEVEL
				2.41E-02 µCi/mL
RELATIVE COUNTING ERROR		=	0.3%	

Data Entry by:	[signature]	Date:	03/30/95
Approved by:	[signature]	Date:	4/3/95

Form 508101_C Rev. 1.3

1309

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	19	10
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.454	0.301
Sample #	Sample Concentration in µCi/L	<	6.94E+00	BOOK#
S95T331	Replicate Concentration in µCi/L	<	4.61E+00	
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	6.9434E+00	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 6.94E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				1.06E-02 µCi/mL
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: 4/3/95

Form 508101_C Rev. 1.3

01309

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	399587	397674
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		13309.567	13245.800
Sample #	Sample Concentration in µCi/L		1.15E+05	BOOK#
S95T331	Replicate Concentration in µCi/L		1.15E+05	
Instrument Code				
WB26872	Average Concentration in µCi/L		1.1487E+05	
Analyst				
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	1.15E+02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	0.3%	2.41E-02 µCi/mL

Data Entry by:		Date:	03/30/95
Approved by:		Date:	4/3/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	57682	55371
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.38	36.38
S95T331	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/L	(S+S)	2.94E+04	2.82E+04
WB26872	AVERAGE or MAXIMUM µCi/L from FORM C		<4.61E-3	
Analyst	BOOK#		94B43	
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 98.0%

Data Entry by:		Date:	30-Mar-95
Approved by:		Date:	4/3/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	892438	900040
821	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	168.16	168.16
S95T331	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
Instrument Code	SAMPLE + SPIKE µCi/L	(S+S)	2.57E+05	2.59E+05
WB26872	AVERAGE or MAXIMUM µCi/L from FORM C		1.1027E+05	
Analyst	BOOK#		94B43	
AKL				
Date				
03/28/95				
Time				
03:30 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 109.0%

Data Entry by:		Date:	30-Mar-95
Approved by:		Date:	7/3/95

Form 508101_X Rev. 1.3

LABCORE Data Entry Template for Worklist# 969

Analyst: AKL **Instrument:** AB00 15 **Book #** 98B52

Method: LA-508-101 Rev/Mod 0-2 WHC-SD-WM-DP-074, REV. 0

Worklist Comment: Use .100-10-.05 mL sample and .100 mL A-SPK. Rerun 1. SLF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD			@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
		1	STD			@AB-01	BETA-01		LIQUID			N/A	uCi/mL
		2	BLNK-PREP			@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
		2	BLNK-PREP			@AB-01	ALPHA01E		LIQUID			N/A	% Ct. Error
		2	BLNK-PREP			@AB-01	BETA-01		LIQUID			N/A	uCi/mL
		2	BLNK-PREP			@AB-01	BETA-01E		LIQUID			N/A	% Ct. Error
		3	BLNK/BKG			@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
		3	BLNK/BKG			@AB-01	BETA-01		LIQUID			N/A	uCi/mL
94000020	SY-103	4	SAMPLE	S95T000328	0	@AB-01	ALPHA01		LIQUID	N/A			uCi/mL
94000020	SY-103	4	SAMPLE	S95T000328	0	@AB-01	ALPHA01E		LIQUID	N/A			% Ct. Erro
94000020	SY-103	4	SAMPLE	S95T000328	0	@AB-01	BETA-01		LIQUID	N/A			uCi/mL
94000020	SY-103	4	SAMPLE	S95T000328	0	@AB-01	BETA-01E		LIQUID	N/A			% Ct. Error
94000020	SY-103	5	DUP	S95T000328	0	@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
94000020	SY-103	5	DUP	S95T000328	0	@AB-01	ALPHA01E		LIQUID			N/A	% Ct. Error
94000020	SY-103	5	DUP	S95T000328	0	@AB-01	BETA-01		LIQUID			N/A	uCi/mL
94000020	SY-103	5	DUP	S95T000328	0	@AB-01	BETA-01E		LIQUID			N/A	% Ct. Error
94000020	SY-103	6	SPK	S95T000328	0	@AB-01	ALPHA01		LIQUID			N/A	uCi/mL
94000020	SY-103	6	SPK	S95T000328	0	@AB-01	BETA-01		LIQUID			N/A	uCi/mL

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 969

GROUP	PROJECT	S TYPE	SAMPLE#	R A -------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 969

Alita Lewis 4/6/95
Analyst Signature Date

C.J. Gainer 4/7/95
Analyst Signature Date

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	3976	4166
969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.6	0.6
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		131.933	138.267
Sample #	Sample Concentration in µCi/L		2.50E-02	BOOK#
WORKLIST 969	Replicate Concentration in µCi/L		2.62E-02	98B52
Instrument Code				
WB26872	Average Concentration in µCi/L		2.5570E-02	
Analyst				
AKL				
Date				
04/06/95				
Time				
04:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	2.56E-05	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	3.1%	1.42E-07 µCi/mL

Data Entry by:	C. Gagnon	Date:	04/07/95
Approved by:	[illegible]	Date:	4/7/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	33002	33518
969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1090.067	1107.267
Sample #	Sample Concentration in µCi/L		1.17E-01	BOOK#
WORKLIST 969	Replicate Concentration in µCi/L		1.19E-01	98B52
Instrument Code				
WB26872	Average Concentration in µCi/L		1.1764E-01	
Analyst				
AKL				
Date				
04/06/95				
Time				
04:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	1.18E-04	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	1.1%	2.98E-07 µCi/mL

Data Entry by:		Date:	04/07/95
Approved by:		Date:	4/7/95

Form 508101_C Rev. 1.3

1046

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

				BLANK	REPLICATE
Type	DETECTOR NUMBER			15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)		2	2
Work List	TOTAL COUNTS	(TC)		5	9
969	COUNT TIME in MINUTES	(CT)		30	30
AT or TB ?	BACKGROUND in cpm	(BKG)		0.6	0.6
AT	SAMPLE SIZE in mL	(SS)		0.050	0.050
Test Code	DILUTION FACTOR	(DF)		101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)		20	20
Matrix	EFFICIENCY FACTOR	(EFF)		0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.330	0.330
Sample #	Sample Concentration in µCi/L		<	2.52E+01	BOOK#
WORKLIST 969	Replicate Concentration in µCi/L		<	2.52E+01	98B52
Instrument Code					
WB26872	Maximum Concentration in µCi/L		<	2.5233E+01	
Analyst					
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG				
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)				
04/06/95	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100				
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 2.52E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.				5.74E-02 µCi/mL
RELATIVE COUNTING ERROR		=	113.2%	

Data Entry by:	C.J. Gagnon	Date:	04/07/95
Approved by:	[illegible]	Date:	4/7/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	334	298
969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.050	0.050
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.518	1.347
Sample #	Sample Concentration in µCi/L	<	1.09E+02	BOOK#
WORKLIST 969	Replicate Concentration in µCi/L	<	5.83E+01	98B52
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	1.0893E+02	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
04/06/95	TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

TOTAL BETA	in µCi/mL	(Maximum) =	< 1.09E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				
RELATIVE COUNTING ERROR		=	500.0%	1.20E-01 µCi/mL

Data Entry by:	C.V. Chapman	Date:	04/07/95
Approved by:	[illegible]	Date:	4/7/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	3	5
969	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	0.6	0.6
AT	SAMPLE SIZE in mL	(SS)	0.050	0.050
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.330	0.330
Sample #	Sample Concentration in µCi/L	<	2.52E+01	BOOK#
S95T328	Replicate Concentration in µCi/L	<	2.52E+01	98B52
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	2.5233E+01	
Analyst				
AKL				
Date				
04/06/95				
Time				
04:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 2.52E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.				5.74E-02 µCi/mL
RELATIVE COUNTING ERROR		=	72.3%	

Data Entry by:	C.J. Crimen	Date:	04/07/95
Approved by:	[illegible]	Date:	4/7/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	294999	286738
969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.050	0.050
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		9823.300	9547.933
Sample #	Sample Concentration in µCi/L		4.25E+05	BOOK#
S95T328	Replicate Concentration in µCi/L		4.13E+05	98B52
Instrument Code				
WB26872	Average Concentration in µCi/L		4.1897E+05	
Analyst				
AKL				
Date				
04/06/95				
Time				
04:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

				DETECTION LEVEL
TOTAL BETA	in µCi/mL	(Average) =	4.19E+02	
RELATIVE COUNTING ERROR		=	0.4%	1.20E-01 µCi/mL

Data Entry by:		Date:	04/07/95
Approved by:		Date:	4/7/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	11	12
969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.6	0.6
AT	SAMPLE SIZE in mL	(SS)	0.050	0.050
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.330	0.330
Sample #	Sample Concentration in µCi/L	<	2.52E+01	BOOK#
S95T328	Replicate Concentration in µCi/L	<	2.52E+01	98B52
Instrument Code				
WB26872	Maximum Concentration in µCi/L	<	2.5233E+01	
Analyst				
AKL				
Date				
04/06/95				
Time				
04:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Maximum) =	< 2.52E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.				5.74E-02 µCi/mL
RELATIVE COUNTING ERROR		=	178.9%	

Data Entry by:	C. J. Gainey	Date:	04/07/95
Approved by:	[illegible]	Date:	4/7/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	306869	289430
969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE SIZE in mL	(SS)	0.050	0.050
Test Code	DILUTION FACTOR	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		10218.967	9637.667
Sample #	Sample Concentration in µCi/L		4.42E+05	BOOK#
S95T328	Replicate Concentration in µCi/L		4.17E+05	98B52
Instrument Code				
WB26872	Average Concentration in µCi/L		4.2947E+05	
Analyst				
AKL				
Date				
04/06/95				
Time				
04:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

TOTAL BETA µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

TOTAL BETA µCi/mL = TOTAL BETA µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

v RESULTS v

TOTAL BETA	in µCi/mL	(Average) =	4.29E+02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	0.4%	1.20E-01 µCi/mL

Data Entry by:	[signature]	Date:	04/07/95
Approved by:	[signature]	Date:	4/7/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	53492	53775
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.6	0.6
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.050	0.050
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	101	101
DIGEST DILUTION FACTOR		(DDF)	20	20
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE VALUE in µCi/L		(SVal)	36.374	36.374
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.238	0.238
SAMPLE + SPIKE µCi/L		(S+S)	1.36E+05	1.37E+05
AVERAGE or MAXIMUM µCi/L from FORM C			<2.5233E+1	
BOOK#			94B43	

Type	Work List	AT or TB ?	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SPIKE	969	AT	@AB-01	LIQUID	S95T328	WB26872	AKL	04/06/95	04:00 PM

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT AVG. PERCENT SPIKE RECOVERY = 93.0%

Data Entry by: Date: 07-Apr-95

Approved by: Date: 4/7/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

TB : LA-508-101 (D-2)

LA-548-101 (A-3) LIQUIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	796630	793354
969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	10	10
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@AB-01	DIGEST DILUTION FACTOR	(DDF)	20	20
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	167.7	167.7
S95T328	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.4207	0.4207
Instrument Code	SAMPLE + SPIKE µCi/L	(S+S)	1.15E+06	1.14E+06
WB26872	AVERAGE or MAXIMUM µCi/L from FORM C		4.1897E+05	
Analyst	BOOK#		86B52	
AKL				
Date				
04/06/95				
Time				
04:00 PM				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

PERCENT SPIKE RECOVERY = (((S+S µCi/L - SAMPLE µCi/L) * ((SDF/SVol)/(DF*DDF/SS)))/SVal)*100

RESULT | AVG. PERCENT SPIKE RECOVERY = 107.3%

Data Entry by:		Date:	07-Apr-95
Approved by:		Date:	4/7/95

Form 508101_X Rev. 1.3

GAMMA ENERGY ANALYSES

LABCORE Data Entry Template for Worklist# 182

Analyst: RAG **Instrument:** GEA00 02 **Method:** LA-548-121 ~~D-0~~ D-1 12/5/94

Worklist Comment: 0.100 mL sample size. WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
	~~1 STD~~				~~@GEA-01~~	~~CS13402~~	~~SOLID~~			~~N/A~~	~~uCi/g~~
1	STD	CO1X STD # 64R52			@GEA-01	CS13702	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000005	0		@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000005	0		@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000005	0		@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000005	0		@GEA-01	CS13702E	SOLID			N/A	% Ct.

1/29/94

Final page for worklist # 182

Rae Ann Green
Analyst Signature

11-30-94
Date

12/2/94

BEST AVAILABLE COPY

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

Page: 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	CO60		21.9000	2.19E-02			0.00E+00	4.86	1.10E-02	200.0
Work List	CS137		25.7500	2.58E-02			0.00E+00	5.23	1.29E-02	200.0
182				0.00E+00			0.00E+00			
Test Code				0.00E+00			0.00E+00			
@GEA-01				0.00E+00			0.00E+00			
Matrix				0.00E+00			0.00E+00			
LIQUID				0.00E+00			0.00E+00			
Sample #				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DUP's DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
Instrument Code				0.00E+00			0.00E+00			
WC38931				0.00E+00			0.00E+00			
Analyst				0.00E+00			0.00E+00			
RA GREEN				0.00E+00			0.00E+00			
Date										
11/30/94										
Time										
07:00 PM										

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/02/94

Approved by: [signature] Date: 12/2/94

Form 548121_1 (Rev. 2.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

2.2092 < Enter SAMPLE g/L < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
BLANK	CS137	<	0.7255	3.28E-01			ERR	NA	ERR	NA
Work List				0.00E+00			ERR			
182				0.00E+00			ERR			
Test Code				0.00E+00			ERR			
@GEA-01				0.00E+00			ERR			
Matrix				0.00E+00			ERR			
SOLID				0.00E+00			ERR			
Sample #				0.00E+00			ERR			
S94T000005				0.00E+00			ERR			
				0.00E+00			ERR			
DF				0.00E+00			ERR			
1				0.00E+00			ERR			
				0.00E+00			ERR			
DUP's DF				0.00E+00			ERR			
1				0.00E+00			ERR			
				0.00E+00			ERR			
Instrument Code				0.00E+00			ERR			
WC38931				0.00E+00			ERR			
Analyst				0.00E+00			ERR			
RA GREEN				0.00E+00			ERR			
Date										
11/30/94										
Time										
07:00 PM										

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/02/94

Approved by: [signature] Date: 12/2/94

Form 548121_1 Rev. 2.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

2.2092 < Enter SAMPLE g/L 2.216 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
SAMPLE	CS137		527.9000	2.39E+02		535.4000	2.42E+02	1.05	2.40E+02	1.1
Work List				0.00E+00			0.00E+00			
182				0.00E+00			0.00E+00			
Test Code				0.00E+00			0.00E+00			
@GEA-01				0.00E+00			0.00E+00			
Matrix				0.00E+00			0.00E+00			
SOLID				0.00E+00			0.00E+00			
Sample #				0.00E+00			0.00E+00			
S94T000005				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DUP's DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
Instrument Code				0.00E+00			0.00E+00			
WC38931				0.00E+00			0.00E+00			
Analyst				0.00E+00			0.00E+00			
RA GREEN				0.00E+00			0.00E+00			
Date										
11/30/94										
Time										
07:00 PM										

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/02/94

Approved by: [signature] Date: 12/2/94

Form 548121_1 Rev. 2.1

```
*****************************************************************************
* 222-S Laboratory Counting Room    1-DEC-1994 01:29:25.93                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                STANDARD
Sample Size:              1.00000E-03 LI
  ution Factor:           1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2228.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.16 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        1-DEC-1994 00:38:45.84
Decayed to:               1-DEC-1994 00:38:45.84
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: D. H. Matlica

date: 12-1-94

Verified by: S. Bachelor

date: 12-1-94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

TA	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.51*	1856	1.48	1323.04	1319	12	5.2		CS-137	25.8
0	1172.83	1125	1.80	2345.71	2337	17	6.6		CO-60	22.1
0	1332.08	997	2.03	2664.32	2655	19	6.6		CO-60	21.7

WHC-SD-WM-DP-074, REV. 0

Sample ID : STANDARD Acquisition date : 1-DEC-1994 00:38:45

Total number of lines in spectrum	3	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	3	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	2.190E+01	2.190E+01	0.102E+01	4.66	
CS-137	30.00Y	1.000	2.575E+01	2.575E+01	0.135E+01	5.23	
		Total Activity :	4.765E+01	4.765E+01			
		Grand Total Activity :	4.765E+01	4.765E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Sample ID : STANDARD
Acquisition date : 1-DEC-1994 00:38:45

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	131.	477.59	4.6344E+00
NA-22	15.	1274.53	3.8076E-01
NA-24	6.	1368.55	2.5959E-01
K-40	111.	1460.75	1.0769E+01
SC-46	65.	1120.55	7.0663E-01
CR-51	120.	320.08	3.3188E+00
MN-54	64.	834.83	5.3550E-01
CO-56	55.	846.76	5.0314E-01
CO-57	202.	122.06	3.1777E-01
CO-58	68.	810.78	5.4291E-01
FE-59	79.	1099.25	1.3498E+00
ZN-65	49.	1115.55	1.2009E+00
SE-75	170.	264.66	5.9608E-01
KR-85	99.	514.00	1.0228E+02
SR-85	98.	514.01	4.6216E-01
Y-88	5.	1836.06	2.9456E-01
Y-90	5.	1760.70	9.8967E-01
Y-91	21.	1204.67	1.4245E+02
NB-94	66.	871.09	5.6537E-01
NB-95	57.	765.78	4.6899E-01
ZR-95	42.	756.73	7.3643E-01
RU-103	119.	497.08	5.2078E-01
RURH-106	70.	621.93	8.7822E+00
AG-108m	53.	722.94	4.7339E-01
CD-109	156.	88.03	9.5999E+00
AG-110M	126.	657.76	6.5043E-01
-113	132.	391.69	6.3248E-01
-123m	161.	159.00	2.8389E-01
SB-124	73.	602.73	4.4455E-01
SB-125	129.	427.89	1.4640E+00
TE-125m	192.	109.27	1.0269E+02
I-129	147.	39.60	0.0000E+00
I-131	127.	364.48	4.6525E-01
XE-131m	170.	163.93	1.2677E+01
BA-133	146.	356.02	6.4044E-01
CS-134	79.	604.70	4.6443E-01
CS-136	72.	818.51	5.6211E-01
CS-138	9.	1435.86	6.8950E-01
CE-139	194.	165.85	3.3344E-01
BA-140	85.	537.31	1.7585E+00
LA-140	5.	1596.21	2.7585E-01
CE-141	185.	145.44	5.2084E-01
CE-144	183.	133.51	2.2602E+00
CEPR-144	183.	133.51	4.5167E+00
EU-152	9.	1408.01	1.5249E+00
EU-154	15.	1274.51	1.1077E+00
EU-155	157.	86.54	1.0892E+00
HF-181	131.	482.18	6.0256E-01
TA-182	163.	67.75	1.5361E+00
HG-203	157.	279.20	4.2585E-01
BI-207	80.	569.70	4.4376E-01

Sample ID : STANDARD Acquisition date : 1-DEC-1994 00:38:45

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	168.	277.36	5.6575E+00
PB-210	129.	46.50	0.0000E+00
BI-212	67.	727.18	7.3156E+00
PB-212	218.	238.63	8.4269E-01
BI-214	86.	609.31	1.0637E+00
PB-214	151.	351.92	1.9968E+00
RA-224	185.	240.99	8.6253E+00
RA-226	194.	186.10	8.1303E+00
AC-228	106.	911.21	2.7871E+00
TH-228	181.	84.37	3.1716E+01
TH-229	151.	88.47	1.3693E+00
U-232	138.	57.78	5.2946E+02
PA-233	149.	312.17	9.4561E-01
PA-234M	62.	1001.03	1.0477E+00
TH-234	149.	63.29	1.6741E+01
U-235	202.	185.71	5.0413E-01
NP-237	158.	86.48	2.8968E+00
U-237	147.	59.54	2.7676E+00
NP-238	65.	984.45	2.2668E+00
NP-239	172.	106.12	1.2388E+00
PU-239	174.	129.30	3.8528E+03
AM-241	147.	59.54	2.6549E+00
AM-243	134.	74.67	7.4203E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    1-DEC-1994 02:36:44.71                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                BLANK
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2229.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.47 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        1-DEC-1994 01:45:58.77
Decayed to:               1-DEC-1994 01:45:58.77
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: D. Hamilton

date: 12-1-94

B Bachelor 12/1/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	1460.51*	32	1.51	2921.28	2914	15	79.4		K-40	7.06

Summary of Nuclide Activity
Sample ID : BLANK

Acquisition date : 1-DEC-1994 01:45:58

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~7.062E+00~~	~~7.062E+00~~	~~5.609E+00~~	~~79.42~~	BKG 12/1/94
Total Activity :			7.062E+00	7.062E+00			
Grand Total Activity :			7.062E+00	7.062E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	30.	477.59	2.2371E+00
NA-22	4.	1274.53	2.0255E-01
NA-24	5.	1368.55	2.3557E-01
SC-46	23.	1120.55	4.1929E-01
CR-51	50.	320.08	2.1316E+00
MN-54	15.	834.83	2.5912E-01
CO-56	18.	846.76	2.8774E-01
CO-57	79.	122.06	1.9852E-01
CO-58	20.	810.78	2.9161E-01
FE-59	7.	1099.25	4.0466E-01
CO-60	6.	1332.50	2.5618E-01
ZN-65	17.	1115.55	7.0543E-01
SE-75	64.	264.66	3.6667E-01
KR-85	41.	514.00	6.6039E+01
SR-85	41.	514.01	2.9805E-01
Y-88	4.	1836.06	2.6346E-01
Y-90	7.	1760.70	1.1568E+00
Y-91	12.	1204.67	1.0824E+02
NB-94	17.	871.09	2.8819E-01
NB-95	19.	765.78	2.7528E-01
ZR-95	21.	756.73	5.1704E-01
RU-103	42.	497.08	3.0926E-01
RURH-106	27.	621.93	5.4375E+00
AG-108m	12.	722.94	2.2773E-01
CD-109	61.	88.03	6.0059E+00
AG-110M	25.	657.76	2.8886E-01
IN-113	40.	391.69	3.4889E-01
-123m	78.	159.00	1.9812E-01
SB-124	28.	602.73	2.7701E-01
SB-125	40.	427.89	8.1328E-01
TE-125m	67.	109.27	6.0809E+01
I-129	62.	39.60	0.0000E+00
I-131	45.	364.48	2.7502E-01
XE-131m	90.	163.93	9.1997E+00
BA-133	49.	356.02	3.6925E-01
CS-134	23.	604.70	2.5174E-01
CS-136	15.	818.51	2.5606E-01
CS-137	126.	661.66	7.2554E-01
CS-138	5.	1435.86	5.1387E-01
CE-139	70.	165.85	2.0009E-01
BA-140	30.	537.31	1.0364E+00
LA-140	7.	1596.21	3.1943E-01
CE-141	72.	145.44	3.2561E-01
CE-144	86.	133.51	1.5480E+00
CEPR-144	86.	133.51	3.0930E+00
EU-152	4.	1408.01	1.0130E+00
EU-154	4.	1274.51	5.8573E-01
EU-155	63.	86.54	6.9029E-01
HF-181	29.	482.18	2.8298E-01
TA-182	60.	67.75	9.2965E-01
HG-203	59.	279.20	2.6182E-01

Sample ID : BLANK Acquisition date : 1-DEC-1994 01:45:58

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	29.	569.70	2.6640E-01
TL-208	73.	277.36	3.7281E+00
PB-210	69.	46.50	0.0000E+00
BI-212	15.	727.18	3.4530E+00
PB-212	82.	238.63	5.1758E-01
BI-214	40.	609.31	7.2457E-01
PB-214	69.	351.92	1.3463E+00
RA-224	73.	240.99	5.4131E+00
RA-226	89.	186.10	5.4905E+00
AC-228	23.	911.21	1.3071E+00
TH-228	62.	84.37	1.8600E+01
TH-229	61.	88.47	8.6982E-01
U-232	65.	57.78	3.6363E+02
PA-233	47.	312.17	5.3261E-01
PA-234M	10.	1001.03	4.1808E-01
TH-234	76.	63.29	1.2008E+01
U-235	88.	185.71	3.3244E-01
NP-237	63.	86.48	1.8359E+00
U-237	64.	59.54	1.8225E+00
NP-238	9.	984.45	8.6215E-01
NP-239	62.	106.12	7.4105E-01
PU-239	81.	129.30	2.6209E+03
AM-241	64.	59.54	1.7483E+00
AM-243	74.	74.67	5.4978E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    1-DEC-1994 03:30:15.80                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000005
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2230.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:05.43 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        1-DEC-1994 02:39:34.90
Decayed to:               1-DEC-1994 02:39:34.90
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: D. H. Milicia

date: 12-1-94

Bachelor 12/1/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.46*	38039	1.49	1322.94	1315	16	1.1		CS-137	528.
0	1460.35*	21	2.31	2920.97	2911	20	111.6		K-40	4.56

Summary of Nuclide Activity
Sample ID : S94T000005

Acquisition date : 1-DEC-1994 02:39:34

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~4.558E+00~~	4.558E+00	~~5.085E+00~~	~~111.56~~	BKG 12/1/94
CS-137	30.00Y	1.000	5.279E+02	5.279E+02	0.055E+02	1.05	
		Total Activity :	5.324E+02	5.324E+02			
		Grand Total Activity :	5.324E+02	5.324E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T000005 Acquisition date : 1-DEC-1994 02:39:34

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	1228.	477.59	1.4215E+01
NA-22	14.	1274.53	3.6924E-01
NA-24	2.	1368.55	1.4899E-01
SC-46	26.	1120.55	4.4476E-01
CR-51	981.	320.08	9.4798E+00
MN-54	15.	834.83	2.6341E-01
CO-56	15.	846.76	2.6283E-01
CO-57	1161.	122.06	7.6186E-01
CO-58	13.	810.78	2.3480E-01
FE-59	12.	1099.25	5.2190E-01
CO-60	14.	1332.50	3.7923E-01
ZN-65	12.	1115.55	5.9866E-01
SE-75	1174.	264.66	1.5653E+00
KR-85	625.	514.00	2.5760E+02
SR-85	625.	514.01	1.1648E+00
Y-88	7.	1836.06	3.4721E-01
Y-90	6.	1760.70	1.0893E+00
Y-91	11.	1204.67	1.0317E+02
NB-94	14.	871.09	2.6338E-01
NB-95	18.	765.78	2.6601E-01
ZR-95	15.	756.73	4.3066E-01
RU-103	743.	497.08	1.3025E+00
RURH-106	281.	621.93	1.7643E+01
AG-108m	23.	722.94	3.1309E-01
CD-109	1039.	88.03	2.4753E+01
AG-110M	1319.	657.76	2.1007E+00
CN-113	1083.	391.69	1.8108E+00
-123m	1145.	159.00	7.5710E-01
SB-124	255.	602.73	8.3167E-01
SB-125	1263.	427.89	4.5887E+00
TE-125m	1011.	109.27	2.3569E+02
I-129	936.	39.60	0.0000E+00
I-131	1089.	364.48	1.3605E+00
XE-131m	1128.	163.93	3.2616E+01
BA-133	990.	356.02	1.6678E+00
CS-134	266.	604.70	8.5354E-01
CS-136	5.	818.51	1.5374E-01
CS-138	6.	1435.86	5.6333E-01
CE-139	1151.	165.85	8.1171E-01
BA-140	455.	537.31	4.0615E+00
LA-140	6.	1596.21	2.9465E-01
CE-141	1257.	145.44	1.3564E+00
CE-144	1175.	133.51	5.7327E+00
CEPR-144	1175.	133.51	1.1456E+01
EU-152	7.	1408.01	1.2954E+00
EU-154	14.	1274.51	1.0712E+00
EU-155	1079.	86.54	2.8571E+00
HF-181	996.	482.18	1.6595E+00
TA-182	911.	67.75	3.6361E+00
HG-203	1074.	279.20	1.1140E+00
BI-207	334.	569.70	9.0913E-01

Sample ID : S94T000005 Acquisition date : 1-DEC-1994 02:39:34

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	1114.	277.36	1.4579E+01
PB-210	961.	46.50	0.0000E+00
BI-212	30.	727.18	4.8948E+00
PB-212	1357.	238.63	2.1023E+00
BI-214	287.	609.31	1.9421E+00
PB-214	1069.	351.92	5.3133E+00
RA-224	1328.	240.99	2.3078E+01
RA-226	1448.	186.10	2.2198E+01
AC-228	26.	911.21	1.3849E+00
TH-228	995.	84.37	7.4361E+01
TH-229	1025.	88.47	3.5629E+00
U-232	934.	57.78	1.3764E+03
PA-233	1047.	312.17	2.5100E+00
PA-234M	20.	1001.03	5.9125E-01
TH-234	908.	63.29	4.1377E+01
U-235	1439.	185.71	1.3449E+00
NP-237	1080.	86.48	7.5697E+00
U-237	923.	59.54	6.9234E+00
NP-238	10.	984.45	8.7014E-01
NP-239	1024.	106.12	3.0224E+00
PU-239	1133.	129.30	9.8265E+03
AM-241	923.	59.54	6.6409E+00
AM-243	1038.	74.67	2.0639E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room    1-DEC-1994 04:34:48.97                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000005 D  12/1/94
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2231.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:05.47 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        1-DEC-1994 03:44:07.55
Decayed to:               1-DEC-1994 03:44:07.55
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: D H Milian

date: 12-1-94

Bachelor 12/1/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.46*	38578	1.52	1322.93	1314	17	1.0		CS-137	535.
0	1460.52*	14	1.92	2921.30	2914	15	170.0		K-40	3.11

Summary of Nuclide Activity
Sample ID : S94T000005

Acquisition date : 1-DEC-1994 03:44:07

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~3.112E+00~~	~~3.112E+00~~	~~5.291E+00~~	~~170.02~~	BKG 12/1/94
CS-137	30.00Y	1.000	5.354E+02	5.354E+02	0.056E+02	1.04	
			---	---			
Total Activity :			5.385E+02	5.385E+02			
Grand Total Activity :			5.385E+02	5.385E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S94T000005

Acquisition date : 1-DEC-1994 03:44:07

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	1196.	477.59	1.4029E+01
NA-22	10.	1274.53	3.1126E-01
NA-24	8.	1368.55	2.9738E-01
SC-46	22.	1120.55	4.1395E-01
CR-51	1044.	320.08	9.7799E+00
MN-54	18.	834.83	2.8486E-01
CO-56	21.	846.76	3.1090E-01
CO-57	1218.	122.06	7.8034E-01
CO-58	16.	810.78	2.6263E-01
FE-59	13.	1099.25	5.4838E-01
CO-60	12.	1332.50	3.5119E-01
ZN-65	16.	1115.55	6.8494E-01
SE-75	1168.	264.66	1.5613E+00
KR-85	652.	514.00	2.6314E+02
SR-85	652.	514.01	1.1899E+00
Y-88	3.	1836.06	2.2614E-01
Y-90	7.	1760.70	1.1981E+00
Y-91	13.	1204.67	1.1246E+02
NB-94	12.	871.09	2.4146E-01
NB-95	13.	765.78	2.2719E-01
ZR-95	25.	756.73	5.6660E-01
RU-103	756.	497.08	1.3134E+00
RURH-106	275.	621.93	1.7455E+01
AG-108m	17.	722.94	2.6585E-01
CD-109	995.	88.03	2.4221E+01
AG-110M	1267.	657.76	2.0586E+00
-113	1079.	391.69	1.8079E+00
-123m	1171.	159.00	7.6548E-01
SB-124	281.	602.73	8.7350E-01
SB-125	1228.	427.89	4.5261E+00
TE-125m	1065.	109.27	2.4186E+02
I-129	946.	39.60	0.0000E+00
I-131	1086.	364.48	1.3583E+00
XE-131m	1201.	163.93	3.3653E+01
BA-133	1049.	356.02	1.7162E+00
CS-134	282.	604.70	8.7836E-01
CS-136	25.	818.51	3.2882E-01
CS-138	10.	1435.86	7.3804E-01
CE-139	1244.	165.85	8.4396E-01
BA-140	462.	537.31	4.0943E+00
LA-140	7.	1596.21	3.2903E-01
CE-141	1148.	145.44	1.2964E+00
CE-144	1182.	133.51	5.7499E+00
CEPR-144	1182.	133.51	1.1490E+01
EU-152	6.	1408.01	1.2407E+00
EU-154	10.	1274.51	9.0787E-01
EU-155	962.	86.54	2.6981E+00
HF-181	960.	482.18	1.6298E+00
TA-182	915.	67.75	3.6438E+00
HG-203	1068.	279.20	1.1106E+00
BI-207	308.	569.70	8.7287E-01

Sample ID : S94T000005 Acquisition date : 1-DEC-1994 03:44:07

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	1112.	277.36	1.4565E+01
PB-210	959.	46.50	0.0000E+00
BI-212	32.	727.18	5.1035E+00
PB-212	1266.	238.63	2.0301E+00
BI-214	303.	609.31	1.9968E+00
PB-214	1068.	351.92	5.3119E+00
RA-224	1326.	240.99	2.3060E+01
RA-226	1588.	186.10	2.3246E+01
AC-228	18.	911.21	1.1578E+00
TH-228	1024.	84.37	7.5432E+01
TH-229	1022.	88.47	3.5580E+00
U-232	910.	57.78	1.3590E+03
PA-233	1089.	312.17	2.5600E+00
PA-234M	17.	1001.03	5.5156E-01
TH-234	936.	63.29	4.2023E+01
U-235	1575.	185.71	1.4070E+00
NP-237	960.	86.48	7.1390E+00
U-237	914.	59.54	6.8900E+00
NP-238	17.	984.45	1.1736E+00
NP-239	1090.	106.12	3.1193E+00
PU-239	1246.	129.30	1.0304E+04
AM-241	914.	59.54	6.6091E+00
AM-243	1003.	74.67	2.0297E+00

LABCORE Data Entry Template for Worklist# 198 ? D1

Analyst: RAG **Instrument:** GEA00 03 **Method:** LA-548-121 ~~D-0~~ D-1 12/6/94

Worklist Comment: 0.100 mL sample size - PPB. WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
BB 11/30/94 1	~~STD~~				~~@GEA-01~~	~~CS13402~~	~~SOLID~~			~~N/A~~	~~uCi/g~~
1	STD	color STD # 64B52			@GEA-01	CS13702	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000067	0		@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000067	0		@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000067	0		@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000067	0		@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 198

Rae Ann Green
nalyst Signature

11-30-94
Date

M G Bisman

BEST AVAILABLE COPY

12/2/94

Data Entry Comments:
Ordered re-run for this batch due to contamination of the blank. RAG 12/6/94

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	CO60		21.8600	2.19E-02			0.00E+00	4.07	1.09E-02	200.0
Work List	CS137		27.0500	2.71E-02			0.00E+00	4.5	1.35E-02	200.0
198				0.00E+00			0.00E+00			
Test Code				0.00E+00			0.00E+00			
@GEA-01				0.00E+00			0.00E+00			
Matrix				0.00E+00			0.00E+00			
LIQUID				0.00E+00			0.00E+00			
Sample #				0.00E+00			0.00E+00			
S94T000067				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DUP's DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
Instrument Code				0.00E+00			0.00E+00			
WC38931				0.00E+00			0.00E+00			
Analyst				0.00E+00			0.00E+00			
RA GREEN				0.00E+00			0.00E+00			
Date										
11/30/94										
Time										
07:15 PM										

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/02/94

Approved by: [signature] Date: 12/2/94

Form 548121_1 Rev. 2.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

1.82 < Enter SAMPLE g/L < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
BLANK	CS137		1.3450	7.39E-01			ERR	29.33		ERR	ERR
Work List				0.00E+00			ERR				
198				0.00E+00			ERR				
Test Code				0.00E+00			ERR				
@GEA-01				0.00E+00			ERR				
Matrix				0.00E+00			ERR				
SOLID				0.00E+00			ERR				
Sample #				0.00E+00			ERR				
S94T000067				0.00E+00			ERR				
				0.00E+00			ERR				
DF				0.00E+00			ERR				
1				0.00E+00			ERR				
				0.00E+00			ERR				
DUP's DF				0.00E+00			ERR				
1				0.00E+00			ERR				
				0.00E+00			ERR				
Instrument Code				0.00E+00			ERR				
WC38931				0.00E+00			ERR				
Analyst				0.00E+00			ERR				
RA GREEN				0.00E+00			ERR				
Date											
11/30/94											
Time											
07:15 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/02/94

Approved by: [signature] Date: 12/2/94

Form 548121_1 Rev. 2.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

1.82 < Enter SAMPLE g/L 1.8964 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
SAMPLE	CS137		541.9000	2.98E+02		571.3000	3.01E+02	0.93	3.00E+02	1.2
Work List				0.00E+00			0.00E+00			
198				0.00E+00			0.00E+00			
Test Code				0.00E+00			0.00E+00			
@GEA-01				0.00E+00			0.00E+00			
Matrix				0.00E+00			0.00E+00			
SOLID				0.00E+00			0.00E+00			
Sample #				0.00E+00			0.00E+00			
S94T000067				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DUP's DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
Instrument Code				0.00E+00			0.00E+00			
WC38931				0.00E+00			0.00E+00			
Analyst				0.00E+00			0.00E+00			
RA GREEN				0.00E+00			0.00E+00			
Date										
11/30/94										
Time										
07:15 PM										

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/02/94

Approved by: [signature] Date: 12/2/94

Form 548121_1 Rev. 2.1

```
*****************************************************************************
* 222-S Laboratory Counting Room    1-DEC-1994 01:32:35.62                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                STANDARD
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3761.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.25 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        1-DEC-1994 00:41:55.14
Decayed to:               1-DEC-1994 00:41:55.14
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: D. H. Melia

date: 12-1-94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

TA	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.34*	2394	1.49	1322.85	1316	14	4.5		CS-137	27.1
0	1172.73	1404	1.74	2345.72	2339	17	5.8		CO-60	22.1
0	1331.84	1234	1.97	2664.05	2654	21	5.7		CO-60	21.6
0	1460.12*	15	1.91	2920.72	2912	18	168.4		K-40	2.58

Summary of Nuclide Activity
Sample ID : STANDARD

Acquisition date : 1-DEC-1994 00:41:55

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~2.578E+00~~	~~2.578E+00~~	~~4.340E+00~~	~~168.38~~	BKG DB 12/1/94
CO-60	5.27Y	1.000	2.186E+01	2.186E+01	0.089E+01	4.07	
CS-137	30.00Y	1.000	2.705E+01	2.705E+01	0.122E+01	4.50	
		Total Activity :	5.149E+01	5.149E+01			
		Grand Total Activity :	5.149E+01	5.149E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : STANDARD

Acquisition date : 1-DEC-1994 00:41:55

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	131.	477.59	3.7696E+00
NA-22	20.	1274.53	3.5417E-01
NA-24	7.	1368.55	2.2404E-01
SC-46	66.	1120.55	5.7143E-01
CR-51	151.	320.08	3.0440E+00
MN-54	64.	834.83	4.3780E-01
CO-56	85.	846.76	5.1079E-01
CO-57	194.	122.06	2.4080E-01
CO-58	77.	810.78	4.6916E-01
FE-59	97.	1099.25	1.2060E+00
ZN-65	71.	1115.55	1.1642E+00
SE-75	194.	264.66	5.1722E-01
KR-85	94.	514.00	8.0811E+01
SR-85	94.	514.01	3.6503E-01
Y-88	5.	1836.06	2.4512E-01
Y-90	14.	1760.70	1.3392E+00
Y-91	28.	1204.67	1.3292E+02
NB-94	93.	871.09	5.4741E-01
NB-95	55.	765.78	3.7627E-01
ZR-95	70.	756.73	7.7351E-01
RU-103	112.	497.08	4.0888E-01
RURH-106	68.	621.93	7.0506E+00
AG-108m	54.	722.94	3.9016E-01
CD-109	164.	88.03	7.3302E+00
AG-110M	159.	657.76	5.9405E-01
SN-113	143.	391.69	5.4295E-01
TE-123m	191.	159.00	2.4609E-01
-124	76.	602.73	3.7011E-01
SB-125	152.	427.89	1.3086E+00
TE-125m	171.	109.27	7.3740E+01
I-129	134.	39.60	0.0000E+00
I-131	142.	364.48	4.0451E-01
XE-131m	190.	163.93	1.0680E+01
BA-133	127.	356.02	4.9140E-01
CS-134	68.	604.70	3.5154E-01
CS-136	66.	818.51	4.3714E-01
CS-138	4.	1435.86	3.6888E-01
CE-139	192.	165.85	2.6458E-01
BA-140	89.	537.31	1.4516E+00
LA-140	8.	1596.21	2.7910E-01
CE-141	186.	145.44	4.1226E-01
CE-144	209.	133.51	1.8934E+00
CEPR-144	209.	133.51	3.7821E+00
EU-152	16.	1408.01	1.6055E+00
EU-154	20.	1274.51	1.0280E+00
EU-155	162.	86.54	8.2596E-01
HF-181	129.	482.18	4.8479E-01
TA-182	152.	67.75	1.2018E+00
HG-203	177.	279.20	3.6895E-01
BI-207	106.	569.70	4.1470E-01
TL-208	178.	277.36	4.7447E+00

Sample ID : STANDARD Acquisition date : 1-DEC-1994 00:41:55

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
PB-210	160.	46.50	0.0000E+00
BI-212	72.	727.18	6.1835E+00
PB-212	229.	238.63	6.9855E-01
BI-214	95.	609.31	9.1099E-01
PB-214	153.	351.92	1.6538E+00
RA-224	222.	240.99	7.6338E+00
RA-226	218.	186.10	6.9122E+00
AC-228	99.	911.21	2.2028E+00
TH-228	151.	84.37	2.1675E+01
TH-229	163.	88.47	1.0598E+00
U-232	144.	57.78	5.6251E+02
PA-233	174.	312.17	8.3641E-01
PA-234M	75.	1001.03	9.3677E-01
TH-234	138.	63.29	1.3952E+01
U-235	221.	185.71	4.2338E-01
NP-237	162.	86.48	2.1877E+00
U-237	142.	59.54	2.6089E+00
NP-238	87.	984.45	2.1252E+00
NP-239	160.	106.12	9.0370E-01
PU-239	182.	129.30	3.0702E+03
AM-241	142.	59.54	2.5021E+00
AM-243	156.	74.67	6.1626E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room     1-DEC-1994 02:38:51.52                 *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                BLANK
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3762.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.46 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        1-DEC-1994 01:48:15.59
Decayed to:               1-DEC-1994 01:48:15.59
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: D. H. Miller

date: 12-1-94

contaminated blank - re-run batch. B Bachelor 12/1/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.39*	119	1.31	1322.95	1316	15	29.3		CS-137	1.35

Sample ID : BLANK
Acquisition date : 1-DEC-1994 01:48:15

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	1.345E+00	1.345E+00	0.395E+00	29.33	
		Total Activity :	1.345E+00	1.345E+00			
		Grand Total Activity :	1.345E+00	1.345E+00			

WHC-SD-WM-DP-074, REV. 0

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : BLANK
Acquisition date : 1-DEC-1994 01:48:15

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	28.	477.59	1.7448E+00
NA-22	10.	1274.53	2.4519E-01
NA-24	6.	1368.55	2.0116E-01
K-40	121.	1460.75	9.0154E+00
SC-46	21.	1120.55	3.2496E-01
CR-51	43.	320.08	1.6311E+00
MN-54	19.	834.83	2.3644E-01
CO-56	21.	846.76	2.5419E-01
CO-57	71.	122.06	1.4540E-01
CO-58	13.	810.78	1.9581E-01
FE-59	15.	1099.25	4.7490E-01
CO-60	13.	1332.50	2.8827E-01
ZN-65	11.	1115.55	4.4892E-01
SE-75	70.	264.66	3.1099E-01
KR-85	42.	514.00	5.3790E+01
SR-85	42.	514.01	2.4266E-01
Y-88	2.	1836.06	1.4838E-01
Y-90	4.	1760.70	7.2930E-01
Y-91	13.	1204.67	9.1630E+01
NB-94	20.	871.09	2.5480E-01
NB-95	18.	765.78	2.1675E-01
ZR-95	20.	756.73	4.1051E-01
RU-103	29.	497.08	2.0900E-01
RURH-106	21.	621.93	3.9664E+00
AG-108m	24.	722.94	2.6221E-01
CD-109	61.	88.03	4.4588E+00
AG-110M	24.	657.76	2.3119E-01
-113	38.	391.69	2.7960E-01
TE-123m	81.	159.00	1.6034E-01
SB-124	18.	602.73	1.7854E-01
SB-125	41.	427.89	6.8031E-01
TE-125m	63.	109.27	4.4813E+01
I-129	54.	39.60	0.0000E+00
I-131	43.	364.48	2.2210E-01
XE-131m	62.	163.93	6.0947E+00
BA-133	46.	356.02	2.9531E-01
CS-134	16.	604.70	1.7204E-01
CS-136	15.	818.51	2.0897E-01
CS-138	1.	1435.86	2.0435E-01
CE-139	74.	165.85	1.6384E-01
BA-140	31.	537.31	8.5180E-01
LA-140	5.	1596.21	2.2065E-01
CE-141	92.	145.44	2.9036E-01
CE-144	90.	133.51	1.2428E+00
CEPR-144	90.	133.51	2.4834E+00
EU-152	6.	1408.01	9.9625E-01
EU-154	10.	1274.51	7.0794E-01
EU-155	61.	86.54	5.0904E-01
HF-181	28.	482.18	2.2559E-01
TA-182	53.	67.75	7.1371E-01
HG-203	66.	279.20	2.2463E-01

Sample ID : BLANK Acquisition date : 1-DEC-1994 01:48:15

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	20.	569.70	1.7937E-01
TL-208	70.	277.36	2.9768E+00
PB-210	61.	46.50	0.0000E+00
BI-212	22.	727.18	3.4340E+00
PB-212	87.	238.63	4.2990E-01
BI-214	49.	609.31	6.5478E-01
PB-214	79.	351.92	1.1896E+00
RA-224	66.	240.99	4.1801E+00
RA-226	78.	186.10	4.1432E+00
AC-228	25.	911.21	1.1117E+00
TH-228	77.	84.37	1.5465E+01
TH-229	59.	88.47	6.3860E-01
U-232	51.	57.78	3.3306E+02
PA-233	52.	312.17	4.5938E-01
PA-234M	19.	1001.03	4.7266E-01
TH-234	49.	63.29	8.3458E+00
U-235	86.	185.71	2.6325E-01
NP-237	62.	86.48	1.3508E+00
U-237	57.	59.54	1.6518E+00
NP-238	13.	984.45	8.1240E-01
NP-239	78.	106.12	6.3156E-01
PU-239	70.	129.30	1.9028E+03
AM-241	57.	59.54	1.5845E+00
AM-243	87.	74.67	4.6002E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    1-DEC-1994 03:34:33.44                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000067
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3763.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:06.18 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        1-DEC-1994 02:43:50.28
Decayed to:               1-DEC-1994 02:43:50.28
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: D H Milburn

date: 12-1-94

B Bachelor 12/1/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	122.87	156	1.79	246.22	244	8	87.2		CO-57	0.579
0	661.32*	47944	1.57	1322.81	1314	17	0.9		CS-137	542.
0	722.57	33	0.74	1445.30	1441	10	60.9			
0	1172.06	11	0.84	2344.38	2343	5	77.2			
0	1273.63	23	1.03	2547.60	2544	11	69.0		NA-22	0.386
0	1763.89*	9	0.79	3528.63	3519	20	102.1			

Sample ID : S94T000067 Acquisition date : 1-DEC-1994 02:43:50

Total number of lines in spectrum	6	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	6	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~NA-22~~	~~2.60Y~~	~~1.000~~	~~3.861E-01~~	~~3.861E-01~~	~~2.664E-01~~	~~68.98~~	BKG 12/1/94
~~CO-57~~	~~271.80D~~	~~1.000~~	~~5.792E-01~~	~~5.792E-01~~	~~5.052E-01~~	~~87.23~~	
CS-137	30.00Y	1.000	5.419E+02	5.419E+02	0.050E+02	0.93	
		Total Activity :	5.429E+02	5.429E+02			
		Grand Total Activity :	5.429E+02	5.429E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	1461.	477.59	1.2593E+01
NA-24	10.	1368.55	2.6286E-01
K-40	107.	1460.75	8.4784E+00
SC-46	19.	1120.55	3.0642E-01
CR-51	1163.	320.08	8.4544E+00
MN-54	26.	834.83	2.7706E-01
CO-56	18.	846.76	2.3495E-01
CO-58	20.	810.78	2.4236E-01
FE-59	8.	1099.25	3.5128E-01
CO-60	13.	1332.50	2.9839E-01
ZN-65	10.	1115.55	4.3756E-01
SE-75	1308.	264.66	1.3435E+00
KR-85	723.	514.00	2.2394E+02
SR-85	723.	514.01	1.0125E+00
Y-88	1.	1836.06	1.0492E-01
Y-90	11.	1760.70	1.1867E+00
Y-91	8.	1204.67	7.2557E+01
NB-94	26.	871.09	2.8910E-01
NB-95	22.	765.78	2.3780E-01
ZR-95	26.	756.73	4.7292E-01
RU-103	841.	497.08	1.1217E+00
RURH-106	271.	621.93	1.4110E+01
AG-108m	54.	722.94	3.9106E-01
CD-109	1118.	88.03	1.9157E+01
AG-110M	2017.	657.76	2.1156E+00
SN-113	1255.	391.69	1.6103E+00
TE-123m	1268.	159.00	6.3402E-01
-124	293.	602.73	7.2490E-01
SB-125	1462.	427.89	4.0586E+00
TE-125m	1182.	109.27	1.9368E+02
I-129	999.	39.60	0.0000E+00
I-131	1205.	364.48	1.1799E+00
XE-131m	1325.	163.93	2.8193E+01
BA-133	1158.	356.02	1.4853E+00
CS-134	274.	604.70	7.0429E-01
CS-136	22.	818.51	2.5103E-01
CS-138	4.	1435.86	3.6915E-01
CE-139	1283.	165.85	6.8380E-01
BA-140	524.	537.31	3.5221E+00
LA-140	5.	1596.21	2.2065E-01
CE-141	1181.	145.44	1.0391E+00
CE-144	1284.	133.51	4.6946E+00
CEPR-144	1284.	133.51	9.3811E+00
EU-152	7.	1408.01	1.0761E+00
EU-154	32.	1274.51	1.2978E+00
EU-155	1119.	86.54	2.1736E+00
HF-181	1203.	482.18	1.4803E+00
TA-182	993.	67.75	3.0759E+00
HG-203	1233.	279.20	9.7257E-01
BI-207	341.	569.70	7.4479E-01
TL-208	1256.	277.36	1.2611E+01

Sample ID : S94T000067 Acquisition date : 1-DEC-1994 02:43:50

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
PB-210	985.	46.50	0.0000E+00
BI-212	29.	727.18	3.9536E+00
PB-212	1484.	238.63	1.7796E+00
BI-214	307.	609.31	1.6340E+00
PB-214	1189.	351.92	4.6146E+00
RA-224	1531.	240.99	2.0066E+01
RA-226	1685.	186.10	1.9222E+01
AC-228	35.	911.21	1.3192E+00
TH-228	1038.	84.37	5.6863E+01
TH-229	1094.	88.47	2.7466E+00
U-232	993.	57.78	1.4754E+03
PA-233	1186.	312.17	2.1862E+00
PA-234M	21.	1001.03	4.9741E-01
TH-234	1047.	63.29	3.8461E+01
U-235	1657.	185.71	1.1585E+00
NP-237	1118.	86.48	5.7558E+00
U-237	1041.	59.54	7.0571E+00
NP-238	8.	984.45	6.2526E-01
NP-239	1208.	106.12	2.4847E+00
PU-239	1323.	129.30	8.2860E+03
AM-241	1041.	59.54	6.7692E+00
AM-243	1083.	74.67	1.6225E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room    1-DEC-1994 04:36:44.15                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000067D  12/1/94
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3764.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:06.42 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        1-DEC-1994 03:45:58.58
Decayed to:               1-DEC-1994 03:45:58.58
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

D H Milicia

date: 12-1-94

Bachelor 12/1/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

**	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	122.61	207	2.02	245.70	242	8	66.1		CO-57	0.771
0	661.31*	50545	1.56	1322.80	1314	18	0.9		CS-137	571.
0	1273.46	28	1.46	2547.25	2542	11	50.5		NA-22	0.464

Summary of Nuclide Activity
Sample ID : S94T000067 Acquisition date : 1-DEC-1994 03:45:58

Total number of lines in spectrum	3	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	3	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~NA-22~~	~~2.60Y~~	~~1.000~~	~~4.642E-01~~	~~4.642E-01~~	~~2.342E-01~~	~~50.45~~	BKG QDS 12/1/94
~~CO-57~~	~~271.80D~~	~~1.000~~	~~7.710E-01~~	~~7.711E-01~~	~~5.094E-01~~	~~66.06~~	
CS-137	30.00Y	1.000	5.713E+02	5.713E+02	0.052E+02	0.91	
			---	---			
	Total Activity :		5.725E+02	5.725E+02			
	Grand Total Activity :		5.725E+02	5.725E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T000067 Acquisition date : 1-DEC-1994 03:45:58

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	1501.	477.59	1.2764E+01
NA-24	8.	1368.55	2.3400E-01
K-40	146.	1460.75	9.9034E+00
SC-46	30.	1120.55	3.8548E-01
CR-51	1213.	320.08	8.6342E+00
MN-54	27.	834.83	2.8659E-01
CO-56	14.	846.76	2.0778E-01
CO-58	19.	810.78	2.3167E-01
FE-59	11.	1099.25	4.1049E-01
CO-60	14.	1332.50	3.0929E-01
ZN-65	14.	1115.55	5.1018E-01
SE-75	1361.	264.66	1.3703E+00
KR-85	743.	514.00	2.2714E+02
SR-85	743.	514.01	1.0267E+00
Y-88	3.	1836.06	1.8173E-01
Y-90	10.	1760.70	1.1323E+00
Y-91	17.	1204.67	1.0378E+02
NB-94	31.	871.09	3.1378E-01
NB-95	24.	765.78	2.5004E-01
ZR-95	27.	756.73	4.7499E-01
RU-103	914.	497.08	1.1692E+00
RURH-106	246.	621.93	1.3432E+01
AG-108m	41.	722.94	3.4190E-01
CD-109	1079.	88.03	1.8820E+01
AG-110M	2134.	657.76	2.1762E+00
SN-113	1273.	391.69	1.6223E+00
SB-123m	1340.	159.00	6.5174E-01
-124	309.	602.73	7.4422E-01
SB-125	1516.	427.89	4.1317E+00
TE-125m	1198.	109.27	1.9499E+02
I-129	1054.	39.60	0.0000E+00
I-131	1246.	364.48	1.1997E+00
XE-131m	1363.	163.93	2.8586E+01
BA-133	1271.	356.02	1.5557E+00
CS-134	292.	604.70	7.2623E-01
CS-136	17.	818.51	2.2441E-01
CS-138	8.	1435.86	5.2817E-01
CE-139	1350.	165.85	7.0161E-01
BA-140	559.	537.31	3.6398E+00
LA-140	7.	1596.21	2.5284E-01
CE-141	1351.	145.44	1.1112E+00
CE-144	1337.	133.51	4.7896E+00
CEPR-144	1337.	133.51	9.5708E+00
EU-152	5.	1408.01	9.0944E-01
EU-154	37.	1274.51	1.3914E+00
EU-155	1143.	86.54	2.1970E+00
HF-181	1230.	482.18	1.4972E+00
TA-182	1017.	67.75	3.1124E+00
HG-203	1327.	279.20	1.0090E+00
BI-207	388.	569.70	7.9434E-01
TL-208	1322.	277.36	1.2936E+01

Sample ID : S94T000067 Acquisition date : 1-DEC-1994 03:45:58

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
PB-210	1016.	46.50	0.0000E+00
BI-212	33.	727.18	4.2253E+00
PB-212	1605.	238.63	1.8504E+00
BI-214	296.	609.31	1.6045E+00
PB-214	1252.	351.92	4.7337E+00
RA-224	1507.	240.99	1.9906E+01
RA-226	1728.	186.10	1.9462E+01
AC-228	25.	911.21	1.1104E+00
TH-228	1144.	84.37	5.9701E+01
TH-229	1098.	88.47	2.7516E+00
U-232	1014.	57.78	1.4905E+03
PA-233	1181.	312.17	2.1815E+00
PA-234M	20.	1001.03	4.8633E-01
TH-234	1045.	63.29	3.8429E+01
U-235	1719.	185.71	1.1800E+00
NP-237	1149.	86.48	5.8338E+00
U-237	1084.	59.54	7.2002E+00
NP-238	15.	984.45	8.7824E-01
NP-239	1200.	106.12	2.4767E+00
PU-239	1284.	129.30	8.1618E+03
AM-241	1084.	59.54	6.9063E+00
AM-243	1107.	74.67	1.6405E+00

LABCORE Data Entry Template for Worklist# 217

KGH

Analyst: [signature] KGH **Instrument:** GEA00 3 **Method:** LA-548-121 D-1

Worklist Comment: Use 0.100 mL sample size for this re-run. -PPB WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
1	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000067	0		@GEA-01	CS13702	SOLID	N/A			uCi/g
4	DUP	S94T000067	0		@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000067	0		@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 217

[signature]
Analyst Signature

12-7-94
Date

M C Bicum

Data Entry Comments:
STD # 64B52

Units shown for QC (SPK) may not reflect the actual units.

1366

Page: 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	CO60		21.2400	2.12E-02			0.00E+00	4.26	0.00E+00	NA
Work List	CS137		25.8600	2.57E-02			0.00E+00	4.68	1.28E-02	200.0
217				0.00E+00			0.00E+00			
Test Code				0.00E+00			0.00E+00			
@GEA-01				0.00E+00			0.00E+00			
Matrix				0.00E+00			0.00E+00			
LIQUID				0.00E+00			0.00E+00			
Sample #				0.00E+00			0.00E+00			
S94T67				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DUP's DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
Instrument Code				0.00E+00			0.00E+00			
WC38931				0.00E+00			0.00E+00			
Analyst				0.00E+00			0.00E+00			
KGH				0.00E+00			0.00E+00			
Date										
12/07/94										
Time										
12:00 PM										

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/08/94

Approved by: [signature] Date: 12/9/94

Form 548121_1 Rev. 2.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

1.82 < Enter SAMPLE g/L < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
BLANK	CS137		0.8179	4.49E-01			ERR	40.24	ERR	ERR
Work List				0.00E+00			ERR			
217				0.00E+00			ERR			
Test Code				0.00E+00			ERR			
@GEA-01				0.00E+00			ERR			
Matrix				0.00E+00			ERR			
SOLID				0.00E+00			ERR			
Sample #				0.00E+00			ERR			
S94T67				0.00E+00			ERR			
				0.00E+00			ERR			
DF				0.00E+00			ERR			
1				0.00E+00			ERR			
				0.00E+00			ERR			
DUP's DF				0.00E+00			ERR			
1				0.00E+00			ERR			
				0.00E+00			ERR			
Instrument Code				0.00E+00			ERR			
WC38931				0.00E+00			ERR			
Analyst				0.00E+00			ERR			
KGH				0.00E+00			ERR			
Date										
12/07/94										
Time										
12:00 PM										

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/08/94

Approved by: [signature] Date: 12/9/94

Form 548121_1 Rev. 2.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

1.82 < Enter SAMPLE g/L 1.8964 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CS137		534.0000	2.93E+02		561.4000	2.96E+02	0.94	2.95E+02	0.9
Work List				0.00E+00			0.00E+00			
217				0.00E+00			0.00E+00			
Test Code				0.00E+00			0.00E+00			
@GEA-01				0.00E+00			0.00E+00			
Matrix				0.00E+00			0.00E+00			
SOLID				0.00E+00			0.00E+00			
Sample #				0.00E+00			0.00E+00			
S94T67				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
DUP's DF				0.00E+00			0.00E+00			
1				0.00E+00			0.00E+00			
				0.00E+00			0.00E+00			
Instrument Code				0.00E+00			0.00E+00			
WC38931				0.00E+00			0.00E+00			
Analyst				0.00E+00			0.00E+00			
KGH				0.00E+00			0.00E+00			
Date										
12/07/94										
Time										
12:00 PM										

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/09/94

Approved by: [signature] Date: 12/9/94

Form 548121_1 Rev. 2.1

```
*****************************************************************************
* 222-S Laboratory Counting Room    8-DEC-1994 08:26:46.55                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                STD-217
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
_onversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              NI3AC:1.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.22 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        8-DEC-1994 06:09:45.29
Decayed to:               8-DEC-1994 06:09:45.29
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: D. H. Mitchell

date: 12-8-94

B Bachelor 12/7/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	609.22*	41	1.08	1218.62	1215	8	64.0			
0	661.50*	2270	1.60	1323.18	1317	15	4.7		CS-137	25.7
0	1173.04	1390	1.95	2346.34	2336	21	6.0		CO-60	21.9
0	1332.30	1179	1.94	2664.97	2657	14	6.0		CO-60	20.6

Sample ID : STD-217 Acquisition date : 8-DEC-1994 06:09:45

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	2.124E+01	2.124E+01	0.090E+01	4.26	
CS-137	30.00Y	1.000	2.566E+01	2.566E+01	0.120E+01	4.68	
			---	---			
Total Activity :			4.690E+01	4.690E+01			
Grand Total Activity :			4.690E+01	4.690E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : STD-217 Acquisition date : 8-DEC-1994 06:09:45

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	135.	477.59	3.8250E+00
NA-22	22.	1274.53	3.7107E-01
NA-24	6.	1368.55	2.0130E-01
K-40	132.	1460.75	9.4019E+00
SC-46	77.	1120.55	6.1970E-01
CR-51	171.	320.08	3.2447E+00
MN-54	76.	834.83	4.7610E-01
CO-56	85.	846.76	5.1154E-01
CO-57	170.	122.06	2.2538E-01
CO-58	69.	810.78	4.4386E-01
FE-59	64.	1099.25	9.7714E-01
ZN-65	64.	1115.55	1.1085E+00
SE-75	173.	264.66	4.8914E-01
KR-85	110.	514.00	8.7415E+01
SR-85	110.	514.01	3.9485E-01
Y-88	9.	1836.06	3.1476E-01
Y-90	6.	1760.70	8.8555E-01
Y-91	30.	1204.67	1.3572E+02
NB-94	84.	871.09	5.1977E-01
NB-95	67.	765.78	4.1685E-01
ZR-95	76.	756.73	8.0295E-01
RU-103	124.	497.08	4.3123E-01
RURH-106	77.	621.93	7.5342E+00
AG-108m	64.	722.94	4.2736E-01
CD-109	170.	88.03	7.4748E+00
AG-110M	102.	657.76	4.7553E-01
CD-113	121.	391.69	4.9963E-01
-123m	194.	159.00	2.4789E-01
SB-124	96.	602.73	4.1368E-01
SB-125	134.	427.89	1.2297E+00
TE-125m	189.	109.27	7.7415E+01
I-129	152.	39.60	0.0000E+00
I-131	146.	364.48	4.1017E-01
XE-131m	203.	163.93	1.1027E+01
BA-133	139.	356.02	5.1423E-01
CS-134	79.	604.70	3.7873E-01
CS-136	63.	818.51	4.2794E-01
CS-138	5.	1435.86	3.9532E-01
CE-139	186.	165.85	2.6016E-01
BA-140	96.	537.31	1.5043E+00
LA-140	5.	1596.21	2.2065E-01
CE-141	195.	145.44	4.2250E-01
CE-144	174.	133.51	1.7291E+00
CEPR-144	174.	133.51	3.4553E+00
EU-152	9.	1408.01	1.2201E+00
EU-154	22.	1274.51	1.0790E+00
EU-155	166.	86.54	8.3594E-01
HF-181	128.	482.18	4.8353E-01
TA-182	154.	67.75	1.2124E+00
HG-203	169.	279.20	3.6041E-01
BI-207	92.	569.70	3.8656E-01

Sample ID : STD-217 Acquisition date : 8-DEC-1994 06:09:45

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	167.	277.36	4.5918E+00
PB-210	112.	46.50	0.0000E+00
BI-212	66.	727.18	5.9468E+00
PB-212	227.	238.63	6.9599E-01
BI-214	105.	609.31	9.5732E-01
PB-214	181.	351.92	1.8009E+00
RA-224	219.	240.99	7.5920E+00
RA-226	224.	186.10	7.0099E+00
AC-228	109.	911.21	2.3103E+00
TH-228	181.	84.37	2.3717E+01
TH-229	175.	88.47	1.1003E+00
U-232	160.	57.78	5.9282E+02
PA-233	161.	312.17	8.0445E-01
PA-234M	74.	1001.03	9.3241E-01
TH-234	148.	63.29	1.4471E+01
U-235	224.	185.71	4.2592E-01
NP-237	167.	86.48	2.2218E+00
U-237	162.	59.54	2.7879E+00
NP-238	62.	984.45	1.7923E+00
NP-239	192.	106.12	9.9118E-01
PU-239	186.	129.30	3.1061E+03
AM-241	163.	59.54	2.6741E+00
AM-243	149.	74.67	6.0198E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    8-DEC-1994 08:25:01.28                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                BLANK-217
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              NI3AC:1.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.45 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        8-DEC-1994 03:23:14.52
Decayed to:               8-DEC-1994 03:23:14.52
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: D. Hamilton

date: 12-8-94

Bachelor 12/7/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	609.07*	19	1.45	1218.33	1214	11	115.8			
0	661.62*	72	1.94	1323.43	1319	10	40.2		CS-137	0.818

Sample ID : BLANK-217 Acquisition date : 8-DEC-1994 03:23:14

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	8.179E-01	8.179E-01	3.291E-01	40.24	
		Total Activity :	8.179E-01	8.179E-01			
		Grand Total Activity :	8.179E-01	8.179E-01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : BLANK-217 Acquisition date : 8-DEC-1994 03:23:14

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	41.	477.59	2.1093E+00
NA-22	10.	1274.53	2.5317E-01
NA-24	11.	1368.55	2.8439E-01
K-40	127.	1460.75	9.2377E+00
SC-46	29.	1120.55	3.7898E-01
CR-51	58.	320.08	1.8830E+00
MN-54	22.	834.83	2.5470E-01
CO-56	22.	846.76	2.6203E-01
CO-57	83.	122.06	1.5768E-01
CO-58	15.	810.78	2.0468E-01
FE-59	9.	1099.25	3.6117E-01
CO-60	12.	1332.50	2.7778E-01
ZN-65	8.	1115.55	4.0332E-01
SE-75	71.	264.66	3.1316E-01
KR-85	36.	514.00	5.0248E+01
SR-85	36.	514.01	2.2654E-01
Y-88	2.	1836.06	1.4181E-01
Y-90	11.	1760.70	1.1838E+00
Y-91	17.	1204.67	1.0397E+02
NB-94	17.	871.09	2.3508E-01
NB-95	16.	765.78	2.0523E-01
ZR-95	22.	756.73	4.3015E-01
RU-103	25.	497.08	1.9210E-01
RURH-106	21.	621.93	3.9206E+00
AG-108m	10.	722.94	1.6827E-01
CD-109	71.	88.03	4.8363E+00
AG-110M	32.	657.76	2.6724E-01
-113	40.	391.69	2.8632E-01
TE-123m	67.	159.00	1.4553E-01
SB-124	23.	602.73	2.0401E-01
SB-125	40.	427.89	6.7145E-01
TE-125m	58.	109.27	4.3037E+01
I-129	59.	39.60	0.0000E+00
I-131	49.	364.48	2.3835E-01
XE-131m	63.	163.93	6.1563E+00
BA-133	36.	356.02	2.6298E-01
CS-134	27.	604.70	2.2100E-01
CS-136	8.	818.51	1.5005E-01
CS-138	6.	1435.86	4.6712E-01
CE-139	65.	165.85	1.5399E-01
BA-140	38.	537.31	9.4525E-01
LA-140	6.	1596.21	2.4630E-01
CE-141	81.	145.44	2.7159E-01
CE-144	69.	133.51	1.0898E+00
CEPR-144	69.	133.51	2.1777E+00
EU-152	9.	1408.01	1.2143E+00
EU-154	11.	1274.51	7.3978E-01
EU-155	75.	86.54	5.6233E-01
HF-181	37.	482.18	2.5818E-01
TA-182	76.	67.75	8.5114E-01
HG-203	60.	279.20	2.1485E-01

Sample ID : BLANK-217 Acquisition date : 8-DEC-1994 03:23:14

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	29.	569.70	2.1805E-01
TL-208	64.	277.36	2.8558E+00
PB-210	54.	46.50	0.0000E+00
BI-212	27.	727.18	3.8164E+00
PB-212	87.	238.63	4.3101E-01
BI-214	60.	609.31	7.2168E-01
PB-214	76.	351.92	1.1638E+00
RA-224	80.	240.99	4.5754E+00
RA-226	71.	186.10	3.9328E+00
AC-228	30.	911.21	1.2084E+00
TH-228	66.	84.37	1.4314E+01
TH-229	71.	88.47	6.9990E-01
U-232	60.	57.78	3.6187E+02
PA-233	78.	312.17	5.6150E-01
PA-234M	15.	1001.03	4.1490E-01
TH-234	62.	63.29	9.3911E+00
U-235	71.	185.71	2.4006E-01
NP-237	75.	86.48	1.4871E+00
U-237	58.	59.54	1.6634E+00
NP-238	10.	984.45	7.1010E-01
NP-239	74.	106.12	6.1332E-01
PU-239	77.	129.30	1.9961E+03
AM-241	58.	59.54	1.5953E+00
AM-243	87.	74.67	4.5963E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    8-DEC-1994 08:28:42.79                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                SAM-217
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              NI3AC:1.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:06.08 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        8-DEC-1994 07:07:55.61
Decayed to:               8-DEC-1994 07:07:55.61
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: D. H. Milicia

date: 12-8-94

R. Bachelor 12/7/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T*	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	122.92	219	1.25	246.32	242	9	69.1		CO-57	0.815
0	661.52*	47242	1.56	1323.22	1315	16	0.9		CS-137	534.
0	723.50	35	1.05	1447.17	1442	10	66.1			

Summary of Nuclide Activity
Sample ID : SAM-217

Acquisition date : 8-DEC-1994 07:07:55

Total number of lines in spectrum	3	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	3	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~CO-57~~	~~271.80D~~	~~1.000~~	~~8.150E-01~~	~~8.151E-01~~	~~5.629E-01~~	~~69.06~~	BKG 12/7/94
CS-137	30.00Y	1.000	5.340E+02	5.340E+02	0.050E+02	0.94	
		Total Activity :	5.348E+02	5.348E+02			
		Grand Total Activity :	5.348E+02	5.348E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	1432.	477.59	1.2468E+01
NA-22	34.	1274.53	4.6028E-01
NA-24	9.	1368.55	2.4896E-01
K-40	113.	1460.75	8.6956E+00
SC-46	24.	1120.55	3.4509E-01
CR-51	1187.	320.08	8.5408E+00
MN-54	20.	834.83	2.4718E-01
CO-56	16.	846.76	2.2419E-01
CO-58	23.	810.78	2.5445E-01
FE-59	14.	1099.25	4.6598E-01
CO-60	16.	1332.50	3.2089E-01
ZN-65	16.	1115.55	5.5860E-01
SE-75	1307.	264.66	1.3427E+00
KR-85	759.	514.00	2.2943E+02
SR-85	759.	514.01	1.0376E+00
Y-88	7.	1836.06	2.7368E-01
Y-90	7.	1760.70	9.4697E-01
Y-91	12.	1204.67	8.7176E+01
NB-94	25.	871.09	2.8210E-01
NB-95	28.	765.78	2.7113E-01
ZR-95	36.	756.73	5.5556E-01
RU-103	879.	497.08	1.1466E+00
RURH-106	240.	621.93	1.3286E+01
AG-108m	62.	722.94	4.1844E-01
CD-109	1216.	88.03	1.9981E+01
AG-110M	1172.	657.76	1.6124E+00
CM-113	1305.	391.69	1.6422E+00
-123m	1259.	159.00	6.3174E-01
SB-124	268.	602.73	6.9323E-01
SB-125	1430.	427.89	4.0133E+00
TE-125m	1176.	109.27	1.9327E+02
I-129	985.	39.60	0.0000E+00
I-131	1130.	364.48	1.1427E+00
XE-131m	1270.	163.93	2.7594E+01
BA-133	1152.	356.02	1.4816E+00
CS-134	265.	604.70	6.9169E-01
CS-136	22.	818.51	2.5114E-01
CS-138	2.	1435.86	2.6102E-01
CE-139	1302.	165.85	6.8896E-01
BA-140	496.	537.31	3.4280E+00
LA-140	3.	1596.21	1.7735E-01
CE-141	1280.	145.44	1.0813E+00
CE-144	1266.	133.51	4.6606E+00
CEPR-144	1266.	133.51	9.3128E+00
EU-152	12.	1408.01	1.3893E+00
EU-154	34.	1274.51	1.3372E+00
EU-155	1224.	86.54	2.2731E+00
HF-181	1189.	482.18	1.4715E+00
TA-182	971.	67.75	3.0423E+00
HG-203	1260.	279.20	9.8304E-01
BI-207	295.	569.70	6.9254E-01

Sample ID : SAM-217 Acquisition date : 8-DEC-1994 07:07:55

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	1252.	277.36	1.2590E+01
PB-210	1013.	46.50	0.0000E+00
BI-212	32.	727.18	4.1090E+00
PB-212	1432.	238.63	1.7478E+00
BI-214	307.	609.31	1.6327E+00
PB-214	1205.	351.92	4.6439E+00
RA-224	1408.	240.99	1.9247E+01
RA-226	1709.	186.10	1.9359E+01
AC-228	33.	911.21	1.2806E+00
TH-228	1099.	84.37	5.8522E+01
TH-229	1211.	88.47	2.8901E+00
U-232	1082.	57.78	1.5394E+03
PA-233	1134.	312.17	2.1376E+00
PA-234M	18.	1001.03	4.5715E-01
TH-234	983.	63.29	3.7276E+01
U-235	1679.	185.71	1.1661E+00
NP-237	1220.	86.48	6.0113E+00
U-237	1107.	59.54	7.2770E+00
NP-238	19.	984.45	9.9376E-01
NP-239	1177.	106.12	2.4527E+00
PU-239	1294.	129.30	8.1947E+03
AM-241	1107.	59.54	6.9799E+00
AM-243	1010.	74.67	1.5667E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room     8-DEC-1994 09:21:43.42                 *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                DUP-217
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3826.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:06.39 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        8-DEC-1994 08:31:01.59
Decayed to:               8-DEC-1994 08:31:01.59
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: D. Hamilton

date: 12-8-94

R Bachelor 12/9/94

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

TL	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	123.15	131	1.12	246.79	243		8107.6		CO-57	0.487
0	661.51*	49672	1.57	1323.19	1315	17	0.9		CS-137	561.

Summary of Nuclide Activity
Sample ID : DUP-217

Acquisition date : 8-DEC-1994 08:31:01

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~CO-57~~	~~271.80D~~	~~1.000~~	~~4.874E-01~~	~~4.874E-01~~	~~5.242E-01~~	~~107.55~~	BMG 12/7/9
CS-137	30.00Y	1.000	5.614E+02	5.614E+02	0.051E+02	0.92	
		Total Activity :	5.619E+02	5.619E+02			
		Grand Total Activity :	5.619E+02	5.619E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : DUP-217

Acquisition date : 8-DEC-1994 08:31:01

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	1515.	477.59	1.2825E+01
NA-22	24.	1274.53	3.8590E-01
NA-24	6.	1368.55	2.0439E-01
K-40	114.	1460.75	8.7505E+00
SC-46	20.	1120.55	3.1502E-01
CR-51	1203.	320.08	8.5972E+00
MN-54	22.	834.83	2.5514E-01
CO-56	18.	846.76	2.3444E-01
CO-58	21.	810.78	2.4516E-01
FE-59	11.	1099.25	4.1049E-01
CO-60	28.	1332.50	4.3065E-01
ZN-65	9.	1115.55	4.1261E-01
SE-75	1252.	264.66	1.3145E+00
KR-85	757.	514.00	2.2923E+02
SR-85	757.	514.01	1.0365E+00
Y-88	1.	1836.06	1.0492E-01
Y-90	2.	1760.70	5.3513E-01
Y-91	13.	1204.67	8.8834E+01
NB-94	19.	871.09	2.4988E-01
NB-95	19.	765.78	2.2324E-01
ZR-95	29.	756.73	4.9457E-01
RU-103	940.	497.08	1.1862E+00
RURH-106	260.	621.93	1.3820E+01
AG-108m	50.	722.94	3.7700E-01
CD-109	1127.	88.03	1.9235E+01
AG-110M	1271.	657.76	1.6791E+00
CD-113	1359.	391.69	1.6760E+00
-123m	1337.	159.00	6.5111E-01
SB-124	282.	602.73	7.1050E-01
SB-125	1525.	427.89	4.1441E+00
TE-125m	1253.	109.27	1.9949E+02
I-129	976.	39.60	0.0000E+00
I-131	1302.	364.48	1.2264E+00
XE-131m	1379.	163.93	2.8759E+01
BA-133	1248.	356.02	1.5418E+00
CS-134	289.	604.70	7.2343E-01
CS-136	18.	818.51	2.2880E-01
CS-138	7.	1435.86	4.9623E-01
CE-139	1353.	165.85	7.0239E-01
BA-140	547.	537.31	3.6007E+00
LA-140	6.	1596.21	2.4827E-01
CE-141	1392.	145.44	1.1278E+00
CE-144	1345.	133.51	4.8043E+00
CEPR-144	1345.	133.51	9.6002E+00
EU-152	4.	1408.01	8.0470E-01
EU-154	24.	1274.51	1.1193E+00
EU-155	1227.	86.54	2.2765E+00
HF-181	1216.	482.18	1.4885E+00
TA-182	1028.	67.75	3.1298E+00
HG-203	1304.	279.20	1.0000E+00
BI-207	318.	569.70	7.1877E-01

Sample ID : DUP-217 Acquisition date : 8-DEC-1994 08:31:01

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	1319.	277.36	1.2921E+01
PB-210	988.	46.50	0.0000E+00
BI-212	25.	727.18	3.6740E+00
PB-212	1486.	238.63	1.7808E+00
BI-214	310.	609.31	1.6416E+00
PB-214	1291.	351.92	4.8071E+00
RA-224	1466.	240.99	1.9635E+01
RA-226	1843.	186.10	2.0101E+01
AC-228	25.	911.21	1.0970E+00
TH-228	1187.	84.37	6.0808E+01
TH-229	1097.	88.47	2.7508E+00
U-232	1083.	57.78	1.5403E+03
PA-233	1230.	312.17	2.2268E+00
PA-234M	21.	1001.03	4.9274E-01
TH-234	998.	63.29	3.7544E+01
U-235	1815.	185.71	1.2123E+00
NP-237	1230.	86.48	6.0363E+00
U-237	1067.	59.54	7.1442E+00
NP-238	15.	984.45	8.9377E-01
NP-239	1232.	106.12	2.5090E+00
PU-239	1328.	129.30	8.3009E+03
AM-241	1067.	59.54	6.8524E+00
AM-243	1070.	74.67	1.6127E+00

LABCORE Data Entry Template for Worklist# 374

Analyst: ADP **Instrument:** GEA00 2 **Method:** LA-548-121 REVMod

Worklist Comment: Use 1 mL sample size. -PPB WHC-SD-WM-DP-074, REV. 0 D1

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	64B52			@GEA-02	CS13702	SOLID			N/A	uCi/g
1	STD	64B52			@GEA-02	CS13702E	SOLID			N/A	% Ct.
1	STD	64B52			@GEA-02	CO60-02	SOLID			N/A	uCi/g
1	STD	64B52			@GEA-02	CO60-02E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-02	CS13702	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	CO60-02	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15402	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15502	SOLID			N/A	uCi/g
3	SAMPLE	S94T000299	0	F	@GEA-02	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000299	0	F	@GEA-02	CS13702E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000299	0	F	@GEA-02	CO60-02	SOLID	N/A			uCi/g
3	SAMPLE	S94T000299	0	F	@GEA-02	CO60-02E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000299	0	F	@GEA-02	EU15402	SOLID	N/A			uCi/g
3	SAMPLE	S94T000299	0	F	@GEA-02	EU15402E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000299	0	F	@GEA-02	EU15502	SOLID	N/A			uCi/g
3	SAMPLE	S94T000299	0	F	@GEA-02	EU15502E	SOLID	N/A			% Ct.
4	DUP	S94T000299	0	F	@GEA-02	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000299	0	F	@GEA-02	CS13702E	SOLID			N/A	% Ct.
4	DUP	S94T000299	0	F	@GEA-02	CO60-02	SOLID			N/A	uCi/g
4	DUP	S94T000299	0	F	@GEA-02	CO60-02E	SOLID			N/A	% Ct.

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 374

Analyst: ADP **Instrument:** GEA00 **Method:** LA-548-121 D1

Worklist Comment: Use 1 mL sample size. -PPB WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
4	DUP	S94T000299	0	F	@GEA-02	EU15402	SOLID			N/A	uCi/g
4	DUP	S94T000299	0	F	@GEA-02	EU15402E	SOLID			N/A	% Ct.
4	DUP	S94T000299	0	F	@GEA-02	EU15502	SOLID			N/A	uCi/g
4	DUP	S94T000299	0	F	@GEA-02	EU15502E	SOLID			N/A	% Ct.
5	SAMPLE	S94T000300	0	F	@GEA-02	CS13702	SOLID	N/A			uCi/g
5	SAMPLE	S94T000300	0	F	@GEA-02	CS13702E	SOLID	N/A			% Ct.
5	SAMPLE	S94T000300	0	F	@GEA-02	CO60-02	SOLID	N/A			uCi/g
5	SAMPLE	S94T000300	0	F	@GEA-02	CO60-02E	SOLID	N/A			% Ct.
5	SAMPLE	S94T000300	0	F	@GEA-02	EU15402	SOLID	N/A			uCi/g
5	SAMPLE	S94T000300	0	F	@GEA-02	EU15402E	SOLID	N/A			% Ct.
5	SAMPLE	S94T000300	0	F	@GEA-02	EU15502	SOLID	N/A			uCi/g
5	SAMPLE	S94T000300	0	F	@GEA-02	EU15502E	SOLID	N/A			% Ct.
6	DUP	S94T000300	0	F	@GEA-02	CS13702	SOLID			N/A	uCi/g
6	DUP	S94T000300	0	F	@GEA-02	CS13702E	SOLID			N/A	% Ct.
6	DUP	S94T000300	0	F	@GEA-02	CO60-02	SOLID			N/A	uCi/g
6	DUP	S94T000300	0	F	@GEA-02	CO60-02E	SOLID			N/A	% Ct.
6	DUP	S94T000300	0	F	@GEA-02	EU15402	SOLID			N/A	uCi/g
6	DUP	S94T000300	0	F	@GEA-02	EU15402E	SOLID			N/A	% Ct.
6	DUP	S94T000300	0	F	@GEA-02	EU15502	SOLID			N/A	uCi/g
6	DUP	S94T000300	0	F	@GEA-02	EU15502E	SOLID			N/A	% Ct.

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 374

Analyst: ADP **Instrument:** GEA00 _____ **Method:** LA-548-121 D1

Worklist Comment: Use 1 mL sample size. -PPB WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit

Final page for worklist # 374

Analyst Signature

Date 1-9-~~94~~95

1-11-95

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	C060		21.4600	2.15E-02	4.87			0.00E+00		1.07E-02	200.0
Work List	CS137		25.2600	2.53E-02	5.48			0.00E+00		1.26E-02	200.0
374				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
LIQUID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
WORKLIST#374				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
DUP's Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Instrument Code				0.00E+00				0.00E+00			
WC38931				0.00E+00				0.00E+00			
Analyst				0.00E+00				0.00E+00			
ADP				0.00E+00				0.00E+00			
Date											
01/09/95											
Time											
06:00 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/10/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

1.7448 < Enter SAMPLE g/L < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
BLANK	CO60	<	0.0365	2.09E-02				ERR		ERR	NA
Work List	CS137	<	0.0693	3.97E-02				ERR		ERR	NA
374	EU154	<	0.0634	3.63E-02				ERR		ERR	NA
Test Code	EU155	<	0.0800	4.58E-02				ERR		ERR	NA
@GEA-02				0.00E+00				ERR			
Matrix				0.00E+00				ERR			
SOLID				0.00E+00				ERR			
Sample #				0.00E+00				ERR			
S94T299				0.00E+00				ERR			
				0.00E+00				ERR			
Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
DUP's Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Instrument Code				0.00E+00				ERR			
WC38931				0.00E+00				ERR			
Analyst				0.00E+00				ERR			
ADP				0.00E+00				ERR			
Date											
01/09/95											
Time											
06:00 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/10/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

1.7448 < Enter SAMPLE g/L 1.824 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60	<	0.0410	2.35E-02		<	0.0414	2.27E-02		<	2.31E-02	NA
Work List	CS137		243.1000	1.39E+02	0.49		233.1000	1.28E+02	0.5		1.34E+02	8.6
374	EU154	<	0.1043	5.98E-02		<	0.1096	6.02E-02		<	6.00E-02	NA
Test Code	EU155	<	0.5740	3.29E-01		<	0.5626	3.08E-01		<	3.19E-01	NA
@GEA-02				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S94T299				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
ADP				0.00E+00				0.00E+00				
Date												
01/09/95												
Time												
06:00 PM												

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/10/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

2.6308 < Enter SAMPLE g/L 2.5532 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60		0.1318	5.21E-02	23.21		0.1170	4.58E-02	28.62	4.90E-02	12.8
Work List	CS137		677.9000	2.68E+02	0.29		501.0000	1.96E+02	0.34	2.32E+02	30.9
374	EU154		2.0160	7.97E-01	15.8		1.8170	7.12E-01	13.66	7.54E-01	11.3
Test Code	EU155	<	1.8240	7.21E-01			1.6720	6.55E-01	44.09	6.55E-01	NA
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
SOLID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
S94T300				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
DUP's Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Instrument Code				0.00E+00				0.00E+00			
WC38931				0.00E+00				0.00E+00			
Analyst				0.00E+00				0.00E+00			
ADP				0.00E+00				0.00E+00			
Date											
01/09/95											
Time											
06:00 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/10/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room    9-JAN-1995 18:19:18.85                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T299-STADARD
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2634.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.17 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        9-JAN-1995 17:28:42.95
Decayed to:               9-JAN-1995 17:28:42.95
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: Em Barber

date: 1-9-95

R Bachelor 1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	351.67*	50	2.02	703.53	700	9	87.4			
0	661.66*	1820	1.60	1323.33	1316	16	5.5		CS-137	25.3
0	1173.23	1076	1.81	2346.52	2337	20	6.6		CO-60	21.1
0	1332.55	1003	2.02	2665.25	2655	18	6.6		CO-60	21.8

Sample ID : S94T299-STADARD Acquisition date : 9-JAN-1995 17:28:42

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	2.146E+01	2.146E+01	0.100E+01	4.67	
CS-137	30.00Y	1.000	2.526E+01	2.526E+01	0.138E+01	5.48	
			---	---			
Total Activity :			4.673E+01	4.673E+01			
Grand Total Activity :			4.673E+01	4.673E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T299-STADARD
Acquisition date : 9-JAN-1995 17:28:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	127.	477.59	4.5641E+00
NA-22	17.	1274.53	3.9921E-01
NA-24	12.	1368.55	3.6494E-01
K-40	110.	1460.75	1.0711E+01
SC-46	68.	1120.55	7.2362E-01
CR-51	147.	320.08	3.6655E+00
MN-54	68.	834.83	5.5165E-01
CO-56	78.	846.76	5.9952E-01
CO-57	180.	122.06	3.0014E-01
CO-58	66.	810.78	5.3457E-01
FE-59	72.	1099.25	1.2894E+00
ZN-65	64.	1115.55	1.3727E+00
SE-75	165.	264.66	5.8735E-01
KR-85	105.	514.00	1.0545E+02
SR-85	104.	514.01	4.7597E-01
Y-88	3.	1836.06	2.2817E-01
Y-90	12.	1760.70	1.5417E+00
Y-91	29.	1204.67	1.6892E+02
NB-94	73.	871.09	5.9195E-01
NB-95	79.	765.78	5.5543E-01
ZR-95	54.	756.73	8.2803E-01
RU-103	112.	497.08	5.0611E-01
RURH-106	76.	621.93	9.1747E+00
AG-108m	61.	722.94	5.0849E-01
CD-109	153.	88.03	9.5059E+00
AG-110M	92.	657.76	5.5342E-01
SN-113	121.	391.69	6.0516E-01
TE-123m	200.	159.00	3.1633E-01
SB-124	79.	602.73	4.6375E-01
SB-125	130.	427.89	1.4745E+00
TE-125m	169.	109.27	9.6372E+01
I-129	165.	39.60	0.0000E+00
I-131	147.	364.48	4.9960E-01
XE-131m	176.	163.93	1.2899E+01
BA-133	123.	356.02	5.8676E-01
CS-134	74.	604.70	4.4869E-01
CS-136	58.	818.51	5.0567E-01
CS-138	4.	1435.86	4.4056E-01
CE-139	218.	165.85	3.5339E-01
BA-140	75.	537.31	1.6453E+00
LA-140	9.	1596.21	3.7875E-01
CE-141	190.	145.44	5.2770E-01
CE-144	179.	133.51	2.2397E+00
CEPR-144	179.	133.51	4.4756E+00
EU-152	9.	1408.01	1.4858E+00
EU-154	17.	1274.51	1.1681E+00
EU-155	166.	86.54	1.1203E+00
HF-181	97.	482.18	5.1859E-01
TA-182	150.	67.75	1.4757E+00
HG-203	168.	279.20	4.4033E-01
BI-207	79.	569.70	4.4139E-01

Sample ID : S94T299-STADARD Acquisition date : 9-JAN-1995 17:28:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-208	182.	277.36	5.8905E+00
PB-210	162.	46.50	0.0000E+00
BI-212	59.	727.18	6.8854E+00
PB-212	209.	238.63	8.2512E-01
BI-214	117.	609.31	1.2425E+00
PB-214	182.	351.92	2.1901E+00
RA-224	236.	240.99	9.7221E+00
RA-226	191.	186.10	8.0520E+00
AC-228	105.	911.21	2.7760E+00
TH-228	183.	84.37	3.1852E+01
TH-229	161.	88.47	1.4128E+00
U-232	127.	57.78	5.0722E+02
PA-233	155.	312.17	9.6650E-01
PA-234M	71.	1001.03	1.1274E+00
TH-234	137.	63.29	1.6069E+01
U-235	186.	185.71	4.8409E-01
NP-237	167.	86.48	2.9765E+00
U-237	140.	59.54	2.6979E+00
NP-238	72.	984.45	2.3857E+00
NP-239	183.	106.12	1.2763E+00
PU-239	160.	129.30	3.6979E+03
AM-241	140.	59.54	2.5877E+00
AM-243	176.	74.67	8.4978E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    9-JAN-1995 19:11:12.02                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T299-BLANK
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2635.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.46 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        9-JAN-1995 18:20:36.75
Decayed to:               9-JAN-1995 18:20:36.75
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************

Post-NID Peak Search Report
***** No peaks found *****
```

Removed by: [illegible]

date: 1-9-95

[illegible] 1/10/95

WHC-SD-WM-DP-074, REV. 0

Sample ID : S94T299-BLANK Acquisition date : 9-JAN-1995 18:20:36

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T299-BLANK Acquisition date : 9-JAN-1995 18:20:36

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	35.	477.59	2.4120E-01
NA-22	5.	1274.53	2.1728E-02
NA-24	8.	1368.55	2.9738E-02
K-40	105.	1460.75	1.0465E+00
SC-46	20.	1120.55	3.9255E-02
CR-51	56.	320.08	2.2689E-01
MN-54	14.	834.83	2.5031E-02
CO-56	20.	846.76	3.0334E-02
CO-57	76.	122.06	1.9515E-02
CO-58	16.	810.78	2.6092E-02
FE-59	15.	1099.25	5.8015E-02
CO-60	13.	1332.50	3.6481E-02
ZN-65	14.	1115.55	6.3958E-02
SE-75	51.	264.66	3.2617E-02
KR-85	35.	514.00	6.1178E+00
SR-85	35.	514.01	2.7633E-02
Y-88	4.	1836.06	2.6346E-02
Y-90	4.	1760.70	8.6195E-02
Y-91	9.	1204.67	9.5623E+00
NB-94	19.	871.09	2.9973E-02
NB-95	15.	765.78	2.4343E-02
ZR-95	14.	756.73	4.2768E-02
RU-103	34.	497.08	2.7817E-02
RURH-106	26.	621.93	5.3711E-01
AG-108m	26.	722.94	3.3021E-02
CD-109	70.	88.03	6.4022E-01
AG-110M	20.	657.76	2.5967E-02
SN-113	30.	391.69	3.0236E-02
TE-123m	79.	159.00	1.9829E-02
SB-124	19.	602.73	2.2956E-02
SB-125	30.	427.89	7.1136E-02
TE-125m	64.	109.27	5.9086E+00
I-129	67.	39.60	0.0000E+00
I-131	32.	364.48	2.3467E-02
XE-131m	80.	163.93	8.6944E-01
BA-133	47.	356.02	3.6508E-02
CS-134	22.	604.70	2.4637E-02
CS-136	17.	818.51	2.7633E-02
CS-137	115.	661.66	6.9275E-02
CS-138	7.	1435.86	6.2413E-02
CE-139	82.	165.85	2.1678E-02
BA-140	27.	537.31	9.8975E-02
LA-140	12.	1596.21	4.2205E-02
CE-141	88.	145.44	3.5984E-02
CE-144	74.	133.51	1.4353E-01
CEPR-144	74.	133.51	2.8676E-01
EU-152	11.	1408.01	1.6494E-01
EU-154	5.	1274.51	6.3382E-02
EU-155	85.	86.54	7.9972E-02
HF-181	33.	482.18	3.0384E-02
TA-182	53.	67.75	8.7659E-02

Sample ID : S94T299-BLANK Acquisition date : 9-JAN-1995 18:20:36

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-203	52.	279.20	2.4407E-02
[illegible]-207	22.	569.70	2.3407E-02
TL-208	57.	277.36	3.2836E-01
PB-210	60.	46.50	0.0000E+00
BI-212	25.	727.18	4.4915E-01
PB-212	88.	238.63	5.3392E-02
BI-214	62.	609.31	9.0130E-02
PB-214	68.	351.92	1.3374E-01
RA-224	86.	240.99	5.8625E-01
RA-226	76.	186.10	5.0749E-01
AC-228	32.	911.21	1.5398E-01
TH-228	74.	84.37	2.0214E+00
TH-229	65.	88.47	8.9628E-02
U-232	56.	57.78	3.3620E+01
PA-233	45.	312.17	5.2168E-02
PA-234M	10.	1001.03	4.1562E-02
TH-234	76.	63.29	1.1985E+00
U-235	78.	185.71	3.1398E-02
NP-237	85.	86.48	2.1197E-01
U-237	61.	59.54	1.7730E-01
NP-238	14.	984.45	1.0435E-01
NP-239	65.	106.12	7.6018E-02
PU-239	67.	129.30	2.3983E+02
AM-241	61.	59.54	1.7007E-01
AM-243	80.	74.67	5.7347E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room    9-JAN-1995 20:04:31.87                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T299-SAMPLE
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2636.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:23.31 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        9-JAN-1995 19:13:31.02
Decayed to:               9-JAN-1995 19:13:31.02
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: EMBrulee

date: 1-9-95

Bachelor 1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.60*	175200	1.51	1323.22	1315	17	0.5		CS-137	243.

Sample ID : S94T299-SAMPLE Acquisition date : 9-JAN-1995 19:13:31

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

..uclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.431E+02	2.431E+02	0.012E+02	0.49	
		Total Activity :	2.431E+02	2.431E+02			
		Grand Total Activity :	2.431E+02	2.431E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T299-SAMPLE Acquisition date : 9-JAN-1995 19:13:31

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	5360.	477.59	2.9697E+00
NA-22	14.	1274.53	3.6015E-02
NA-24	5.	1368.55	2.3560E-02
K-40	102.	1460.75	1.0311E+00
SC-46	32.	1120.55	4.9730E-02
CR-51	4594.	320.08	2.0511E+00
MN-54	36.	834.83	4.0093E-02
CO-56	33.	846.76	3.8963E-02
CO-57	4952.	122.06	1.5736E-01
CO-58	29.	810.78	3.5681E-02
FE-59	16.	1099.25	6.1093E-02
CO-60	16.	1332.50	4.0989E-02
ZN-65	16.	1115.55	6.9569E-02
SE-75	5112.	264.66	3.2661E-01
KR-85	2817.	514.00	5.4681E+01
SR-85	2816.	514.01	2.4724E-01
Y-88	3.	1836.06	2.2614E-02
Y-90	5.	1760.70	9.9595E-02
Y-91	16.	1204.67	1.2470E+01
NB-94	24.	871.09	3.4266E-02
NB-95	49.	765.78	4.3808E-02
ZR-95	46.	756.73	7.6359E-02
RU-103	3374.	497.08	2.7751E-01
RURH-106	1150.	621.93	3.5722E+00
AG-108m	59.	722.94	5.0109E-02
CD-109	4415.	88.03	5.1015E+00
AG-110M	4467.	657.76	3.8658E-01
SN-113	5019.	391.69	3.8987E-01
TE-123m	5250.	159.00	1.6211E-01
SB-124	1185.	602.73	1.7934E-01
SB-125	5626.	427.89	9.6867E-01
TE-125m	4634.	109.27	5.0458E+01
I-129	4233.	39.60	0.0000E+00
I-131	4741.	364.48	2.8383E-01
XE-131m	5132.	163.93	6.9575E+00
BA-133	4610.	356.02	3.5982E-01
CS-134	1209.	604.70	1.8195E-01
CS-136	36.	818.51	3.9830E-02
CS-138	4.	1435.86	4.6118E-02
CE-139	5145.	165.85	1.7164E-01
BA-140	2043.	537.31	8.6067E-01
LA-140	5.	1596.21	2.6759E-02
CE-141	5117.	145.44	2.7366E-01
CE-144	5204.	133.51	1.2065E+00
CEPR-144	5204.	133.51	2.4108E+00
EU-152	1.	1408.01	5.0652E-02
EU-154	14.	1274.51	1.0433E-01
EU-155	4354.	86.54	5.7399E-01
HF-181	4536.	482.18	3.5422E-01
TA-182	4092.	67.75	7.7060E-01
HG-203	4901.	279.20	2.3795E-01

Sample ID : S94T299-SAMPLE Acquisition date : 9-JAN-1995 19:13:31

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-207	1367.	569.70	1.8394E-01
TL-208	4939.	277.36	3.0692E+00
PB-210	4204.	46.50	0.0000E+00
BI-212	61.	727.18	7.0111E-01
PB-212	5792.	238.63	4.3428E-01
BI-214	1291.	609.31	4.1207E-01
PB-214	4560.	351.92	1.1009E+00
RA-224	5602.	240.99	4.7400E+00
RA-226	6526.	186.10	4.7123E+00
AC-228	38.	911.21	1.6690E-01
TH-228	4378.	84.37	1.5599E+01
TH-229	4386.	88.47	7.3709E-01
U-232	4095.	57.78	2.8823E+02
PA-233	4673.	312.17	5.3024E-01
PA-234M	20.	1001.03	5.9512E-02
TH-234	3951.	63.29	8.6318E+00
U-235	6460.	185.71	2.8500E-01
NP-237	4357.	86.48	1.5208E+00
U-237	4097.	59.54	1.4590E+00
NP-238	24.	984.45	1.3814E-01
NP-239	4498.	106.12	6.3363E-01
PU-239	5130.	129.30	2.0911E+03
AM-241	4097.	59.54	1.3995E+00
AM-243	4259.	74.67	4.1817E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    9-JAN-1995 21:10:30.67                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T299-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2638.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:22.42 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        9-JAN-1995 20:19:32.51
Decayed to:               9-JAN-1995 20:19:32.51
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: Em Baeler

date: 1-9-95

B Machelor 1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.60*	167988	1.53	1323.22	1315	17	0.5		CS-137	233.

Sample ID : S94T299-DUP Acquisition date : 9-JAN-1995 20:19:32

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.331E+02	2.331E+02	0.012E+02	0.50	
		Total Activity :	2.331E+02	2.331E+02			
		Grand Total Activity :	2.331E+02	2.331E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T299-DUP Acquisition date : 9-JAN-1995 20:19:32

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	5248.	477.59	2.9385E+00
NA-22	15.	1274.53	3.7752E-02
NA-24	1.	1368.55	1.0536E-02
K-40	106.	1460.75	1.0511E+00
SC-46	27.	1120.55	4.5118E-02
CR-51	4432.	320.08	2.0145E+00
MN-54	43.	834.83	4.4134E-02
CO-56	38.	846.76	4.1833E-02
CO-57	4787.	122.06	1.5471E-01
CO-58	39.	810.78	4.1256E-02
FE-59	24.	1099.25	7.3841E-02
CO-60	17.	1332.50	4.1440E-02
ZN-65	13.	1115.55	6.1440E-02
SE-75	4825.	264.66	3.1731E-01
KR-85	2738.	514.00	5.3910E+01
SR-85	2738.	514.01	2.4378E-01
Y-88	2.	1836.06	1.6742E-02
Y-90	4.	1760.70	8.5691E-02
Y-91	21.	1204.67	1.4104E+01
NB-94	33.	871.09	3.9878E-02
NB-95	49.	765.78	4.3571E-02
ZR-95	42.	756.73	7.3040E-02
RU-103	3259.	497.08	2.7276E-01
RURH-106	1133.	621.93	3.5463E+00
AG-108m	55.	722.94	4.8231E-02
CD-109	4196.	88.03	4.9736E+00
AG-110M	4328.	657.76	3.8053E-01
SN-113	4741.	391.69	3.7890E-01
TE-123m	4919.	159.00	1.5692E-01
SB-124	1139.	602.73	1.7582E-01
SB-125	5481.	427.89	9.5613E-01
TE-125m	4406.	109.27	4.9200E+01
I-129	4005.	39.60	0.0000E+00
I-131	4456.	364.48	2.7518E-01
XE-131m	4996.	163.93	6.8648E+00
BA-133	4471.	356.02	3.5434E-01
CS-134	1140.	604.70	1.7668E-01
CS-136	33.	818.51	3.8017E-02
CS-138	7.	1435.86	6.2287E-02
CE-139	4971.	165.85	1.6871E-01
BA-140	1996.	537.31	8.5071E-01
LA-140	2.	1596.21	1.7447E-02
CE-141	4907.	145.44	2.6801E-01
CE-144	4886.	133.51	1.1690E+00
CEPR-144	4886.	133.51	2.3361E+00
EU-152	8.	1408.01	1.4327E-01
EU-154	15.	1274.51	1.0983E-01
EU-155	4181.	86.54	5.6246E-01
HF-181	4231.	482.18	3.4213E-01
TA-182	4002.	67.75	7.6207E-01
HG-203	4826.	279.20	2.3610E-01

Sample ID : S94T299-DUP Acquisition date : 9-JAN-1995 20:19:32

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-207	1291.	569.70	1.7879E-01
TL-208	4752.	277.36	3.0107E+00
PB-210	4126.	46.50	0.0000E+00
BI-212	49.	727.18	6.2742E-01
PB-212	5532.	238.63	4.2443E-01
BI-214	1194.	609.31	3.9624E-01
PB-214	4317.	351.92	1.0710E+00
RA-224	5515.	240.99	4.7030E+00
RA-226	6379.	186.10	4.6593E+00
AC-228	54.	911.21	1.9947E-01
TH-228	4245.	84.37	1.5361E+01
TH-229	4215.	88.47	7.2252E-01
U-232	3923.	57.78	2.8211E+02
PA-233	4321.	312.17	5.0986E-01
PA-234M	29.	1001.03	7.1883E-02
TH-234	4045.	63.29	8.7344E+00
U-235	6311.	185.71	2.8167E-01
NP-237	4177.	86.48	1.4891E+00
U-237	4057.	59.54	1.4519E+00
NP-238	22.	984.45	1.3179E-01
NP-239	4435.	106.12	6.2919E-01
PU-239	4839.	129.30	2.0310E+03
AM-241	4057.	59.54	1.3927E+00
AM-243	4108.	74.67	4.1065E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    9-JAN-1995 22:07:16.62                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T300-SAMPLE
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2639.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:05.93 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        9-JAN-1995 21:15:04.14
Decayed to:               9-JAN-1995 21:15:04.14
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: Em Barcle

date: 1-9-95

Bachelor 1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	86.26*	876	1.20	172.99	171	6	40.2		~~NP-237~~	4.34
									EU-155	1.64
0	105.39	852	1.08	211.24	208	8	52.1		EU-155	1.82
0	123.11	1801	1.16	246.65	243	8	25.7		~~CO-57~~	0.866
									EU-154	1.83
0	661.61*	488507	1.52	1323.24	1315	17	0.3		CS-137	678.
0	723.35	288	1.33	1446.70	1441	13	30.4		EU-154	1.83
0	873.20	160	1.30	1746.39	1740	13	41.2		EU-154	1.98
0	996.61	104	1.56	1993.22	1985	14	49.4		EU-154	1.69
0	1004.70	244	1.97	2009.40	2003	14	22.4		EU-154	2.32
0	1173.31	61	1.19	2346.68	2344	7	34.8		CO-60	0.120
0	1274.36	369	1.54	2548.83	2541	17	13.2		EU-154	2.25
									~~NA-22~~	0.774
0	1332.80	67	1.43	2665.75	2658	16	30.9		CO-60	0.146

Sample ID : S94T300-SAMPLE Acquisition date : 9-JAN-1995 21:15:04

Total number of lines in spectrum 11
Number of unidentified lines 0
Number of lines tentatively identified by NID 11 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~NA-22~~	~~2.60Y~~	~~1.000~~	~~7.736E-01~~	~~7.737E-01~~	~~1.021E-01~~	~~13.20~~	154Eu 1/10/95
~~CO-57~~	~~271.80D~~	~~1.000~~	~~8.662E-01~~	~~8.662E-01~~	~~2.228E-01~~	~~25.73~~	155Eu 1/10/95
CO-60	5.27Y	1.000	1.318E-01	1.318E-01	0.306E-01	23.21	comment on high uncertainty
CS-137	30.00Y	1.000	6.779E+02	6.779E+02	0.020E+02	0.29	
EU-154	8.59Y	1.000	2.016E+00	2.016E+00	0.318E+00	15.80	
~~EU-155~~	~~4.68Y~~	~~1.000~~	~~1.824E+00~~	~~1.824E+00~~	~~0.950E+00~~	~~52.09~~	BKG 1/10/95
~~NP-237~~	~~2.14E+06Y~~	~~1.000~~	~~4.338E+00~~	~~4.338E+00~~	~~1.744E+00~~	~~40.21~~	155Eu 1/10/95
			---	---			
	Total Activity :		6.879E+02	6.879E+02			

Grand Total Activity : 6.879E+02 6.879E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T300-SAMPLE Acquisition date : 9-JAN-1995 21:15:04

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	15486.	477.59	5.0478E+00
NA-24	16.	1368.55	4.2157E-02
K-40	100.	1460.75	1.0216E+00
SC-46	76.	1120.55	7.6209E-02
CR-51	12800.	320.08	3.4238E+00
MN-54	198.	834.83	9.4154E-02
CO-56	193.	846.76	9.4218E-02
CO-58	186.	810.78	8.9662E-02
FE-59	68.	1099.25	1.2584E-01
ZN-65	83.	1115.55	1.5674E-01
SE-75	14331.	264.66	5.4687E-01
KR-85	7931.	514.00	9.1760E+01
SR-85	7930.	514.01	4.1488E-01
Y-88	0.	1836.06	0.0000E+00
Y-90	1.	1760.70	4.4543E-02
Y-91	46.	1204.67	2.1068E+01
NB-94	288.	871.09	1.1788E-01
NB-95	253.	765.78	9.9193E-02
ZR-95	307.	756.73	1.9827E-01
RU-103	9616.	497.08	4.6849E-01
RURH-106	3353.	621.93	6.0995E+00
AG-108m	571.	722.94	1.5603E-01
CD-109	12991.	88.03	8.7508E+00
AG-110M	12322.	657.76	6.4207E-01
SN-113	13965.	391.69	6.5032E-01
TE-123m	14383.	159.00	2.6832E-01
SB-124	3555.	602.73	3.1057E-01
SB-125	16017.	427.89	1.6344E+00
TE-125m	13013.	109.27	8.4553E+01
I-129	11772.	39.60	0.0000E+00
I-131	12980.	364.48	4.6967E-01
XE-131m	14340.	163.93	1.1630E+01
BA-133	12927.	356.02	6.0251E-01
CS-134	3571.	604.70	3.1267E-01
CS-136	187.	818.51	9.0520E-02
CS-138	9.	1435.86	6.8036E-02
CE-139	14410.	165.85	2.8723E-01
BA-140	5859.	537.31	1.4576E+00
LA-140	24.	1596.21	6.0445E-02
CE-141	14303.	145.44	4.5753E-01
CE-144	14423.	133.51	2.0085E+00
CEPR-144	14424.	133.51	4.0135E+00
EU-152	13.	1408.01	1.7983E-01
HF-181	12517.	482.18	5.8846E-01
TA-182	11781.	67.75	1.3075E+00
HG-203	13613.	279.20	3.9656E-01
BI-207	3776.	569.70	3.0576E-01
TL-208	13628.	277.36	5.0984E+00
PB-210	11617.	46.50	0.0000E+00
BI-212	293.	727.18	1.5328E+00
PB-212	15798.	238.63	7.1722E-01

Sample ID : S94T300-SAMPLE Acquisition date : 9-JAN-1995 21:15:04

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-214	3350.	609.31	6.6381E-01
[illegible]-214	13078.	351.92	1.8780E+00
RA-224	15572.	240.99	7.9033E+00
RA-226	18253.	186.10	7.8812E+00
AC-228	160.	911.21	3.4330E-01
TH-228	12721.	84.37	2.6590E+01
TH-229	12801.	88.47	1.2592E+00
U-232	11713.	57.78	4.8747E+02
PA-233	12789.	312.17	8.7717E-01
PA-234M	111.	1001.03	1.4070E-01
TH-234	11531.	63.29	1.4747E+01
U-235	18055.	185.71	4.7644E-01
U-237	11748.	59.54	2.4707E+00
NP-238	122.	984.45	3.0996E-01
NP-239	13768.	106.12	1.1086E+00
PU-239	14156.	129.30	3.4738E+03
AM-241	11748.	59.54	2.3698E+00
AM-243	11956.	74.67	7.0060E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    9-JAN-1995 23:07:23.95                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T300-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2640.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:48.71 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        9-JAN-1995 22:15:53.20
Decayed to:               9-JAN-1995 22:15:53.20
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	86.39*	881	1.36	173.26	171	7	39.1		~~NP-237~~	4.37
									EU-155	1.65
0	105.03	781	1.16	210.51	208	7	44.1		EU-155	1.67
0	123.00	1775	1.15	246.43	243	8	22.5		~~CO-57~~	0.853
									EU-154	1.81
0	661.61*	361005	1.52	1323.23	1315	17	0.3		CS-137	501.
0	723.45	317	1.40	1446.91	1442	13	21.5		EU-154	2.02
0	873.12	137	1.47	1746.23	1740	12	35.9		EU-154	1.70
0	996.44	119	1.72	1992.88	1989	12	33.4		EU-154	1.94
0	1004.73	173	1.37	2009.45	2004	12	25.2		EU-154	1.64
0	1173.32	61	1.02	2346.71	2341	13	46.3		CO-60	0.120
0	1274.47	299	2.27	2549.06	2541	15	14.1		EU-154	1.82
									~~NA-22~~	0.627
0	1332.43	53	1.66	2665.02	2658	16	36.4		CO-60	0.115
0	1596.38	18	1.50	3193.17	3187	12	47.1			

Summary of Nuclide Activity
Sample ID : S94T300-DUP

Acquisition date : 9-JAN-1995 22:15:53

Total number of lines in spectrum	12	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	12	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~NA-22~~	~~2.60Y~~	~~1.000~~	~~6.268E-01~~	~~6.268E-01~~	~~0.881E-01~~	~~14.06~~	^{154}Eu 1/10/95
~~CO-57~~	~~271.80D~~	~~1.000~~	~~8.534E-01~~	~~8.534E-01~~	~~1.917E-01~~	~~22.47~~	^{155}Eu 1/10/95
CO-60	5.27Y	1.000	1.170E-01	1.170E-01	0.335E-01	28.62	comment on high uncertainty
CS-137	30.00Y	1.000	5.010E+02	5.010E+02	0.017E+02	0.34	
EU-154	8.59Y	1.000	1.817E+00	1.817E+00	0.248E+00	13.65	
EU-155	4.68Y	1.000	1.672E+00	1.672E+00	0.737E+00	44.09	comment on high uncertainty
~~NP-237~~	~~2.14E+06Y~~	~~1.000~~	~~4.365E+00~~	~~4.365E+00~~	~~1.706E+00~~	~~39.09~~	^{155}Eu 1/10/95
			---	---			
	Total Activity :		5.104E+02	5.104E+02			
	Grand Total Activity :		5.104E+02	5.104E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Sample ID : S94T300-DUP
Acquisition date : 9-JAN-1995 22:15:53

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	11466.	477.59	4.3435E+00
NA-24	7.	1368.55	2.7817E-02
K-40	110.	1460.75	1.0707E+00
SC-46	62.	1120.55	6.8629E-02
CR-51	9543.	320.08	2.9562E+00
MN-54	123.	834.83	7.4260E-02
CO-56	109.	846.76	7.0800E-02
CO-58	143.	810.78	7.8525E-02
FE-59	65.	1099.25	1.2216E-01
ZN-65	45.	1115.55	1.1484E-01
SE-75	10411.	264.66	4.6611E-01
KR-85	5839.	514.00	7.8729E+01
SR-85	5837.	514.01	3.5594E-01
Y-88	6.	1836.06	3.2125E-02
Y-90	9.	1760.70	1.3537E-01
Y-91	31.	1204.67	1.7283E+01
NB-94	207.	871.09	9.9902E-02
NB-95	144.	765.78	7.4799E-02
ZR-95	211.	756.73	1.6431E-01
RU-103	7076.	497.08	4.0189E-01
RURH-106	2510.	621.93	5.2772E+00
AG-108m	447.	722.94	1.3794E-01
CD-109	9738.	88.03	7.5766E+00
AG-110M	9111.	657.76	5.5209E-01
SN-113	10234.	391.69	5.5670E-01
TE-123m	10566.	159.00	2.2999E-01
SB-124	2533.	602.73	2.6214E-01
SB-125	11800.	427.89	1.4029E+00
TE-125m	9761.	109.27	7.3231E+01
I-129	8877.	39.60	0.0000E+00
I-131	9485.	364.48	4.0149E-01
XE-131m	10628.	163.93	1.0012E+01
BA-133	9475.	356.02	5.1584E-01
CS-134	2535.	604.70	2.6342E-01
CS-136	123.	818.51	7.3256E-02
CS-138	5.	1435.86	5.1754E-02
CE-139	10534.	165.85	2.4558E-01
BA-140	4275.	537.31	1.2450E+00
LA-140	18.	1596.21	5.2344E-02
CE-141	10673.	145.44	3.9523E-01
CE-144	10692.	133.51	1.7293E+00
CEPR-144	10693.	133.51	3.4557E+00
EU-152	16.	1408.01	2.0301E-01
HF-181	9238.	482.18	5.0552E-01
TA-182	8770.	67.75	1.1282E+00
HG-203	10123.	279.20	3.4196E-01
BI-207	2807.	569.70	2.6363E-01
TL-208	10044.	277.36	4.3769E+00
PB-210	8674.	46.50	0.0000E+00
BI-212	186.	727.18	1.2205E+00
PB-212	11770.	238.63	6.1907E-01

Sample ID : S94T300-DUP Acquisition date : 9-JAN-1995 22:15:53

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-214	2485.	609.31	5.7173E-01
B-214	9518.	351.92	1.5975E+00
RA-224	11739.	240.99	6.8620E+00
RA-226	13621.	186.10	6.8082E+00
AC-228	103.	911.21	2.7578E-01
TH-228	9478.	84.37	2.2952E+01
TH-229	9489.	88.47	1.0841E+00
U-232	8758.	57.78	4.2153E+02
PA-233	9404.	312.17	7.5217E-01
PA-234M	86.	1001.03	1.2366E-01
TH-234	8703.	63.29	1.2812E+01
U-235	13486.	185.71	4.1176E-01
U-237	8804.	59.54	2.1387E+00
NP-238	78.	984.45	2.4792E-01
NP-239	10311.	106.12	9.5938E-01
PU-239	10521.	129.30	2.9948E+03
AM-241	8804.	59.54	2.0515E+00
AM-243	8896.	74.67	6.0435E-01

Sy 103

LABCORE Data Entry Template for Worklist# 376

Analyst: ADD **Instrument:** GEA00 Det#2 **Method:** LA-548-121 D1

Worklist Comment: Use 1 mL sample size. -PPB WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	64B52			@GEA-02	CS13702	SOLID			N/A	uCi/g
1	STD	64B52			@GEA-02	CS13702E	SOLID			N/A	% Ct.
1	STD	64B52			@GEA-02	CO60-02	SOLID			N/A	uCi/g
1	STD	64B52			@GEA-02	CO60-02E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-02	CS13702	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	CO60-02	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15402	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15502	SOLID			N/A	uCi/g
3	SAMPLE	S94T000268	0	R	@GEA-02	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000268	0	R	@GEA-02	CS13702E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000268	0	R	@GEA-02	CO60-02	SOLID	N/A			uCi/g
3	SAMPLE	S94T000268	0	R	@GEA-02	CO60-02E	SOLID	N/A			%
3	SAMPLE	S94T000268	0	R	@GEA-02	EU15402	SOLID	N/A			uCi/g
3	SAMPLE	S94T000268	0	R	@GEA-02	EU15402E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000268	0	R	@GEA-02	EU15502	SOLID	N/A			uCi/g
3	SAMPLE	S94T000268	0	R	@GEA-02	EU15502E	SOLID	N/A			% Ct.
4	DUP	S94T000268	0	R	@GEA-02	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000268	0	R	@GEA-02	CS13702E	SOLID			N/A	% Ct.
4	DUP	S94T000268	0	R	@GEA-02	CO60-02	SOLID			N/A	uCi/g
4	DUP	S94T000268	0	R	@GEA-02	CO60-02E	SOLID			N/A	% Ct.

Data Entry Comments: S94T000284 Had no actual Dup. I used Sample For Both Sample & Dup

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 376

Analyst: ABP **Instrument:** GEA00 **Method:** LA-548-121 D1

Worklist Comment: Use 1 mL sample size. -PPB WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
4	DUP	S94T000268	0	R	@GEA-02	EU15402	SOLID			N/A	uCi/g
4	DUP	S94T000268	0	R	@GEA-02	EU15402E	SOLID			N/A	% Ct.
4	DUP	S94T000268	0	R	@GEA-02	EU15502	SOLID			N/A	uCi/g
4	DUP	S94T000268	0	R	@GEA-02	EU15502E	SOLID			N/A	% Ct.
5	SAMPLE	S94T000282	0	R	@GEA-02	CS13702	SOLID	N/A			uCi/g
5	SAMPLE	S94T000282	0	R	@GEA-02	CS13702E	SOLID	N/A			% Ct.
5	SAMPLE	S94T000282	0	R	@GEA-02	CO60-02	SOLID	N/A			uCi/g
5	SAMPLE	S94T000282	0	R	@GEA-02	CO60-02E	SOLID	N/A			% Ct.
5	SAMPLE	S94T000282	0	R	@GEA-02	EU15402	SOLID	N/A			uCi/g
5	SAMPLE	S94T000282	0	R	@GEA-02	EU15402E	SOLID	N/A			% Ct.
5	SAMPLE	S94T000282	0	R	@GEA-02	EU15502	SOLID	N/A			uCi/g
5	SAMPLE	S94T000282	0	R	@GEA-02	EU15502E	SOLID	N/A			% Ct.
6	DUP	S94T000282	0	R	@GEA-02	CS13702	SOLID			N/A	uCi/g
6	DUP	S94T000282	0	R	@GEA-02	CS13702E	SOLID			N/A	% Ct.
6	DUP	S94T000282	0	R	@GEA-02	CO60-02	SOLID			N/A	uCi/g
6	DUP	S94T000282	0	R	@GEA-02	CO60-02E	SOLID			N/A	% Ct.
6	DUP	S94T000282	0	R	@GEA-02	EU15402	SOLID			N/A	uCi/g
6	DUP	S94T000282	0	R	@GEA-02	EU15402E	SOLID			N/A	% Ct.
6	DUP	S94T000282	0	R	@GEA-02	EU15502	SOLID			N/A	uCi/g
6	DUP	S94T000282	0	R	@GEA-02	EU15502E	SOLID			N/A	% Ct.
7	SAMPLE	S94T000283	0	R	@GEA-02	CS13702	SOLID	N/A			uCi/g

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 376

Analyst: ANP **Instrument:** GEA00 _____ **Method:** LA-548-121 D1

Worklist Comment: Use 1 mL sample size. -PPB WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
7	SAMPLE	S94T000283	0	R	@GEA-02	CS13702E	SOLID	N/A			% Ct.
7	SAMPLE	S94T000283	0	R	@GEA-02	CO60-02	SOLID	N/A			uCi/g
7	SAMPLE	S94T000283	0	R	@GEA-02	CO60-02E	SOLID	N/A			% Ct.
7	SAMPLE	S94T000283	0	R	@GEA-02	EU15402	SOLID	N/A			uCi/g
7	SAMPLE	S94T000283	0	R	@GEA-02	EU15402E	SOLID	N/A			% Ct.
7	SAMPLE	S94T000283	0	R	@GEA-02	EU15502	SOLID	N/A			uCi/g
7	SAMPLE	S94T000283	0	R	@GEA-02	EU15502E	SOLID	N/A			% Ct.
8	DUP	S94T000283	0	R	@GEA-02	CS13702	SOLID			N/A	uCi/g
8	DUP	S94T000283	0	R	@GEA-02	CS13702E	SOLID			N/A	% Ct.
8	DUP	S94T000283	0	R	@GEA-02	CO60-02	SOLID			N/A	uCi/g
8	DUP	S94T000283	0	R	@GEA-02	CO60-02E	SOLID			N/A	% Ct.
8	DUP	S94T000283	0	R	@GEA-02	EU15402	SOLID			N/A	u g
8	DUP	S94T000283	0	R	@GEA-02	EU15402E	SOLID			N/A	% Ct.
8	DUP	S94T000283	0	R	@GEA-02	EU15502	SOLID			N/A	uCi/g
8	DUP	S94T000283	0	R	@GEA-02	EU15502E	SOLID			N/A	% Ct.
9	SAMPLE	S94T000284	0	R	@GEA-02	CS13702	SOLID	N/A			uCi/g
9	SAMPLE	S94T000284	0	R	@GEA-02	CS13702E	SOLID	N/A			% Ct.
9	SAMPLE	S94T000284	0	R	@GEA-02	CO60-02	SOLID	N/A			uCi/g
9	SAMPLE	S94T000284	0	R	@GEA-02	CO60-02E	SOLID	N/A			% Ct.
9	SAMPLE	S94T000284	0	R	@GEA-02	EU15402	SOLID	N/A			uCi/g

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 376

Analyst: NDP **Instrument:** GEA00 _____ **Method:** LA-548-121 D1

Worklist Comment: Use 1 mL sample size. -PPB

WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
9	SAMPLE	S94T000284	0	R	@GEA-02	EU15402E	SOLID	N/A			% Ct.
9	SAMPLE	S94T000284	0	R	@GEA-02	EU15502	SOLID	N/A			uCi/g
9	SAMPLE	S94T000284	0	R	@GEA-02	EU15502E	SOLID	N/A			% Ct.
10	DUP	S94T000284	0	R	@GEA-02	CS13702	SOLID			N/A	uCi/g
10	DUP	S94T000284	0	R	@GEA-02	CS13702E	SOLID			N/A	% Ct.
10	DUP	S94T000284	0	R	@GEA-02	CO60-02	SOLID			N/A	uCi/g
10	DUP	S94T000284	0	R	@GEA-02	CO60-02E	SOLID			N/A	% Ct.
10	DUP	S94T000284	0	R	@GEA-02	EU15402	SOLID			N/A	uCi/g
10	DUP	S94T000284	0	R	@GEA-02	EU15402E	SOLID			N/A	% Ct.
10	DUP	S94T000284	0	R	@GEA-02	EU15502	SOLID			N/A	uCi/g
10	DUP	S94T000284	0	R	@GEA-02	EU15502E	SOLID			N/A	% Ct.

Final page for worklist # 376

Analyst Signature

1-9-95
Date

1-10-95

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	CO60		19.8400	1.98E-02	5.01			0.00E+00		9.92E-03	200.0
Work List	CS137		24.6700	2.47E-02	5.31			0.00E+00		1.23E-02	200.0
376				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
LIQUID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
WORKLIST#376				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
DUP's Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Instrument Code				0.00E+00				0.00E+00			
WC36931				0.00E+00				0.00E+00			
Analyst				0.00E+00				0.00E+00			
ADP				0.00E+00				0.00E+00			
Date											
01/09/95											
Time											
10:00 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/11/95

Form 548121_1 Rev. 2.2

1421

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.1704 < Enter SAMPLE g/L < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
BLANK	CO60	<	0.0304	2.99E-03				ERR		ERR	NA
Work List	CS137	<	0.0702	6.90E-03				ERR		ERR	NA
376	EU154	<	0.0650	6.39E-03				ERR		ERR	NA
Test Code	EU155	<	0.0712	7.00E-03				ERR		ERR	NA
@GEA-02				0.00E+00				ERR			
Matrix				0.00E+00				ERR			
SOLID				0.00E+00				ERR			
Sample #				0.00E+00				ERR			
S94T268				0.00E+00				ERR			
				0.00E+00				ERR			
Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
DUP's Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Instrument Code				0.00E+00				ERR			
WC38931				0.00E+00				ERR			
Analyst				0.00E+00				ERR			
ADP				0.00E+00				ERR			
Date											
01/09/95											
Time											
10:00 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/11/95

Form 548121_1 Rev. 2.2

1422

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.1704 < Enter SAMPLE g/L 10.1704 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60	<	0.1093	1.07E-02		<	0.0992	9.75E-03		<	1.02E-02	NA
Work List	CS137		2451.0000	2.41E+02	0.18		2131.0000	2.10E+02	0.17		2.25E+02	14.0
376	EU154	<	0.5120	5.03E-02		<	0.4400	4.33E-02		<	4.68E-02	NA
Test Code	EU155	<	1.8086	1.78E-01		<	1.6983	1.67E-01		<	1.72E-01	NA
@GEA-02				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S94T268				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
ADP				0.00E+00				0.00E+00				
Date												
01/09/95												
Time												
10:00 PM												

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date:

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.0694 < Enter SAMPLE g/L 10.0262 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60		0.0993	9.87E-03	38.78		0.2242	2.24E-02	24.88		1.61E-02	77.5
Work List	CS137		1284.0000	1.28E+02	0.21		2197.0000	2.19E+02	0.17		1.73E+02	52.7
376	EU154	<	0.2873	2.86E-02		<	0.4401	4.39E-02		<	3.62E-02	NA
Test Code	EU155	<	1.3187	1.31E-01		<	1.7189	1.71E-01		<	1.51E-01	NA
@GEA-02				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S94T282				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
ADP				0.00E+00				0.00E+00				
Date												
01/09/95												
Time												
10:00 PM												

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/11/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

9.9601 < Enter SAMPLE g/L 9.962 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60	<	0.1143	1.15E-02		<	0.1224	1.23E-02		<	1.19E-02	NA
Work List	CS137		2476.0000	2.49E+02	0.16		2662.0000	2.67E+02	0.15		2.58E+02	7.2
376	EU154	<	0.5029	5.06E-02		<	0.5926	5.95E-02		<	5.50E-02	NA
Test Code	EU155	<	1.8222	1.83E-01		<	1.8916	1.90E-01		<	1.86E-01	NA
@GEA-02				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S94T283				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
ADP				0.00E+00				0.00E+00				
Date												
01/09/95												
Time												
10:00 PM												

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/11/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.2426 < Enter SAMPLE g/L 10.1256 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60	<	0.1171	1.14E-02			0.2311	2.28E-02	34.18		2.28E-02	NA
Work List	CS137		2556.0000	2.50E+02	0.16		2544.0000	2.51E+02	0.16		2.50E+02	0.7
376	EU154	<	0.5599	5.47E-02		<	0.6442	5.37E-02		<	5.42E-02	NA
Test Code	EU155	<	1.8559	1.81E-01		<	1.8518	1.83E-01		<	1.82E-01	NA
@GEA-02				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
$94T284				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
ADP				0.00E+00				0.00E+00				
Date												
01/09/95												
Time												
10:00 PM												

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/10/95

Approved by: [signature] Date: 1/11/95

Form 548121_1 Rev. 2.2

****

>>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<

Sample ID: S94T000268-STD
Sample Size: 1.00000E-03 LI
Dilution Factor: 1.00000E+01
Conversion LI to LI: 1.00000E+00

Removed by:

date: 1-10-95

1/10/95

>>>>>>>>>> COUNT INFORMATION <<<<<<<<<<

Detector ID: GEA2
File Number: dka300:[spec.GEA2]2g2641.cnf
Geometry: 42
Description:
Count Time: 0 00:50:00.00 sec
Real Time: 0 00:50:01.11 sec

WHC-SD-WM-DP-074, REV. 0

>>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<

Sample Count Time: 9-JAN-1995 23:58:37.91
Decayed to: 9-JAN-1995 23:58:37.91
Standard Deviations: 2
Analysis Library: ENVGEA
Analyst: ALJ
Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<

Date of last energy calibration: 21-MAR-1994 09:31:55.15
Date of last efficiency calibration: 21-MAR-1994 09:43:42.61

****

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	609.45*	44	0.75	1218.94	1215	8	62.6			
0	661.64*	1778	1.57	1323.30	1316	15	5.3		CS-137	24.7
0	1173.29	1033	1.77	2346.64	2337	20	7.0		CO-60	20.3
0	1332.59	891	1.84	2665.33	2655	17	7.2		CO-60	19.4

Sample ID : S94T000268-STD Acquisition date : 9-JAN-1995 23:58:37

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

. Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	1.984E+01	1.984E+01	0.099E+01	5.01	
CS-137	30.00Y	1.000	2.467E+01	2.467E+01	0.131E+01	5.31	
			---	---			
Total Activity :			4.451E+01	4.451E+01			
Grand Total Activity :			4.451E+01	4.451E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T000268-STD
Acquisition date : 9-JAN-1995 23:58:37

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	148.	477.59	4.9403E+00
NA-22	10.	1274.53	3.0117E-01
NA-24	7.	1368.55	2.7809E-01
K-40	124.	1460.75	1.1361E+01
SC-46	51.	1120.55	6.2723E-01
CR-51	135.	320.08	3.5138E+00
MN-54	75.	834.83	5.7834E-01
CO-56	60.	846.76	5.2593E-01
CO-57	173.	122.06	2.9414E-01
CO-58	56.	810.78	4.9110E-01
FE-59	47.	1099.25	1.0388E+00
ZN-65	50.	1115.55	1.2154E+00
SE-75	166.	264.66	5.8825E-01
KR-85	109.	514.00	1.0738E+02
SR-85	108.	514.01	4.8459E-01
Y-88	4.	1836.06	2.6171E-01
Y-90	5.	1760.70	1.0436E+00
Y-91	26.	1204.67	1.5978E+02
NB-94	76.	871.09	6.0471E-01
NB-95	60.	765.78	4.8521E-01
ZR-95	55.	756.73	8.4175E-01
RU-103	101.	497.08	4.7965E-01
RURH-106	78.	621.93	9.2995E+00
AG-108m	52.	722.94	4.6927E-01
CD-109	156.	88.03	9.5797E+00
AG-110M	107.	657.76	5.9753E-01
SN-113	118.	391.69	5.9665E-01
TE-123m	177.	159.00	2.9727E-01
SB-124	68.	602.73	4.3038E-01
SB-125	132.	427.89	1.4860E+00
TE-125m	163.	109.27	9.4641E+01
I-129	130.	39.60	0.0000E+00
I-131	122.	364.48	4.5610E-01
XE-131m	186.	163.93	1.3256E+01
BA-133	130.	356.02	6.0423E-01
CS-134	74.	604.70	4.4892E-01
CS-136	59.	818.51	5.0948E-01
CS-138	13.	1435.86	8.1823E-01
CE-139	170.	165.85	3.1192E-01
BA-140	87.	537.31	1.7807E+00
LA-140	8.	1596.21	3.4242E-01
CE-141	168.	145.44	4.9638E-01
CE-144	177.	133.51	2.2248E+00
CEPR-144	177.	133.51	4.4450E+00
EU-152	10.	1408.01	1.6018E+00
EU-154	10.	1274.51	8.7497E-01
EU-155	158.	86.54	1.0935E+00
HF-181	113.	482.18	5.5885E-01
TA-182	144.	67.75	1.4438E+00
HG-203	152.	279.20	4.1916E-01
BI-207	72.	569.70	4.2225E-01

Sample ID : S94T000268-STD Acquisition date : 9-JAN-1995 23:58:37

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
·208	172.	277.36	5.7278E+00
·210	146.	46.50	0.0000E+00
BI-212	63.	727.18	7.1100E+00
PB-212	210.	238.63	8.2664E-01
BI-214	110.	609.31	1.2045E+00
PB-214	165.	351.92	2.0863E+00
RA-224	206.	240.99	9.0994E+00
RA-226	183.	186.10	7.8878E+00
AC-228	90.	911.21	2.5777E+00
TH-228	152.	84.37	2.9021E+01
TH-229	155.	88.47	1.3878E+00
U-232	138.	57.78	5.2895E+02
PA-233	122.	312.17	8.5627E-01
PA-234M	44.	1001.03	8.8616E-01
TH-234	146.	63.29	1.6587E+01
U-235	186.	185.71	4.8396E-01
NP-237	157.	86.48	2.8853E+00
U-237	142.	59.54	2.7116E+00
NP-238	71.	984.45	2.3660E+00
NP-239	175.	106.12	1.2510E+00
PU-239	166.	129.30	3.7573E+03
AM-241	142.	59.54	2.6010E+00
AM-243	163.	74.67	8.1912E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 01:42:43.04                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000268-BLK
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2642.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.45 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 00:52:06.12
Decayed to:               10-JAN-1995 00:52:06.12
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:      21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:  21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	511.33*	42	1.23	1022.75	1016	14	79.7			

Sample ID : S94T000268-BLK Acquisition date : 10-JAN-1995 00:52:06

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

* There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T000268-BLK
Acquisition date : 10-JAN-1995 00:52:06

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	32.	477.59	2.2998E-01
NA-22	5.	1274.53	2.2387E-02
NA-24	6.	1368.55	2.5805E-02
K-40	98.	1460.75	1.0100E+00
SC-46	25.	1120.55	4.3824E-02
CR-51	47.	320.08	2.0662E-01
MN-54	15.	834.83	2.5807E-02
CO-56	14.	846.76	2.5364E-02
CO-57	77.	122.06	1.9569E-02
CO-58	20.	810.78	2.9168E-02
FE-59	11.	1099.25	5.1262E-02
CO-60	9.	1332.50	3.0434E-02
ZN-65	12.	1115.55	5.8988E-02
SE-75	63.	264.66	3.6168E-02
KR-85	46.	514.00	7.0157E+00
SR-85	46.	514.01	3.1703E-02
Y-88	4.	1836.06	2.6346E-02
Y-90	3.	1760.70	8.2688E-02
Y-91	16.	1204.67	1.2255E+01
NB-94	10.	871.09	2.1459E-02
NB-95	21.	765.78	2.8353E-02
ZR-95	20.	756.73	5.0329E-02
RU-103	16.	497.08	1.9334E-02
RURH-106	27.	621.93	5.4375E-01
AG-108m	20.	722.94	2.9439E-02
CD-109	68.	88.03	6.3424E-01
AG-110M	31.	657.76	3.2083E-02
SN-113	26.	391.69	2.7811E-02
TE-123m	57.	159.00	1.6960E-02
SB-124	27.	602.73	2.6991E-02
SB-125	59.	427.89	9.9554E-02
TE-125m	66.	109.27	6.0189E+00
I-129	62.	39.60	0.0000E+00
I-131	37.	364.48	2.5081E-02
XE-131m	60.	163.93	7.5069E-01
BA-133	48.	356.02	3.6554E-02
CS-134	30.	604.70	2.8495E-02
CS-136	18.	818.51	2.7981E-02
CS-137	118.	661.66	7.0163E-02
CS-138	11.	1435.86	7.7247E-02
CE-139	66.	165.85	1.9444E-02
BA-140	28.	537.31	1.0056E-01
LA-140	2.	1596.21	1.8955E-02
CE-141	77.	145.44	3.3566E-02
CE-144	73.	133.51	1.4259E-01
CEPR-144	73.	133.51	2.8491E-01
EU-152	4.	1408.01	1.0130E-01
EU-154	5.	1274.51	6.5039E-02
EU-155	67.	86.54	7.1192E-02
HF-181	38.	482.18	3.2469E-02
TA-182	55.	67.75	8.9632E-02

Sample ID : S94T000268-BLK Acquisition date : 10-JAN-1995 00:52:06

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
203	55.	279.20	2.5189E-02
207	30.	569.70	2.7265E-02
TL-208	65.	277.36	3.5254E-01
PB-210	64.	46.50	0.0000E+00
BI-212	18.	727.18	3.8129E-01
PB-212	78.	238.63	5.0440E-02
BI-214	55.	609.31	8.5315E-02
PB-214	75.	351.92	1.4054E-01
RA-224	88.	240.99	5.9314E-01
RA-226	77.	186.10	5.1295E-01
AC-228	34.	911.21	1.5869E-01
TH-228	70.	84.37	1.9765E+00
TH-229	70.	88.47	9.2918E-02
U-232	40.	57.78	2.8512E+01
PA-233	57.	312.17	5.8400E-02
PA-234M	12.	1001.03	4.5876E-02
TH-234	72.	63.29	1.1628E+00
U-235	75.	185.71	3.0738E-02
NP-237	68.	86.48	1.9003E-01
U-237	43.	59.54	1.4916E-01
NP-238	17.	984.45	1.1593E-01
NP-239	76.	106.12	8.2222E-02
PU-239	71.	129.30	2.4601E+02
AM-241	43.	59.54	1.4309E-01
AM-243	74.	74.67	5.5240E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 03:18:42.10                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000268-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2643.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:54:12.72 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 02:23:52.93
Decayed to:               10-JAN-1995 02:23:52.93
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.63*	1765954	1.54	1323.28	1315	17	0.2		CS-137	2.451E+03
0	1322.29	754	2.84	2644.72	2637	20	18.3			
0	1332.54	72	1.14	2665.25	2660	12	45.2			
0	1610.90	17	0.79	3222.24	3219	13	48.5			

Sample ID : S94T000268-SAM
Acquisition date : 10-JAN-1995 02:23:52

Total number of lines in spectrum	4	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	2	50.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.451E+03	2.451E+03	0.004E+03	0.16	
			---	---			
Total Activity :			2.451E+03	2.451E+03			
Grand Total Activity :			2.451E+03	2.451E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	57595.	477.59	9.7348E+00
NA-22	326.	1274.53	1.7631E-01
NA-24	30.	1368.55	5.7710E-02
K-40	105.	1460.75	1.0461E+00
SC-46	635.	1120.55	2.2048E-01
CR-51	46598.	320.08	6.5327E+00
MN-54	2033.	834.83	3.0204E-01
CO-56	1990.	846.76	3.0253E-01
CO-57	50061.	122.06	5.0030E-01
CO-58	2261.	810.78	3.1241E-01
FE-59	749.	1099.25	4.1636E-01
CO-60	117.	1332.50	1.0928E-01
ZN-65	665.	1115.55	4.4298E-01
SE-75	52149.	264.66	1.0432E+00
KR-85	30313.	514.00	1.7939E+02
SR-85	30311.	514.01	8.1113E-01
Y-88	8.	1836.06	3.7012E-02
Y-90	6.	1760.70	1.1126E-01
Y-91	342.	1204.67	5.7567E+01
NB-94	1775.	871.09	2.9269E-01
NB-95	2662.	765.78	3.2191E-01
ZR-95	2823.	756.73	6.0078E-01
RU-103	36605.	497.08	9.1409E-01
RURH-106	13151.	621.93	1.2080E+01
AG-108m	3379.	722.94	3.7947E-01
CD-109	43243.	88.03	1.5966E+01
AG-110M	45324.	657.76	1.2314E+00
SN-113	51220.	391.69	1.2455E+00
TE-123m	51183.	159.00	5.0618E-01
SB-124	13692.	602.73	6.0949E-01
SB-125	59367.	427.89	3.1467E+00
TE-125m	46457.	109.27	1.5976E+02
I-129	41877.	39.60	0.0000E+00
I-131	48041.	364.48	9.0363E-01
XE-131m	51017.	163.93	2.1938E+01
BA-133	47570.	356.02	1.1558E+00
CS-134	13737.	604.70	6.1324E-01
CS-136	2118.	818.51	3.0426E-01
CS-138	23.	1435.86	1.1312E-01
CE-139	51452.	165.85	5.4275E-01
BA-140	22597.	537.31	2.8626E+00
LA-140	11.	1596.21	4.0509E-02
CE-141	51631.	145.44	8.6933E-01
CE-144	51252.	133.51	3.7862E+00
CEPR-144	51249.	133.51	7.5654E+00
EU-152	29.	1408.01	2.7366E-01
EU-154	326.	1274.51	5.1198E-01
EU-155	43089.	86.54	1.8056E+00
HF-181	46817.	482.18	1.1381E+00
TA-182	41374.	67.75	2.4503E+00
HG-203	50296.	279.20	7.6225E-01

Sample ID : S94T000268-SAM Acquisition date : 10-JAN-1995 02:23:52

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
207	15258.	569.70	6.1464E-01
208	50537.	277.36	9.8180E+00
PB-210	41132.	46.50	0.0000E+00
BI-212	3443.	727.18	5.2563E+00
PB-212	58428.	238.63	1.3793E+00
BI-214	13607.	609.31	1.3379E+00
PB-214	47475.	351.92	3.6922E+00
RA-224	57814.	240.99	1.5232E+01
RA-226	65654.	186.10	1.4947E+01
AC-228	1520.	911.21	1.0579E+00
TH-228	43051.	84.37	4.8915E+01
TH-229	43400.	88.47	2.3186E+00
U-232	40833.	57.78	9.1018E+02
PA-233	47174.	312.17	1.6847E+00
PA-234M	972.	1001.03	4.1644E-01
TH-234	40987.	63.29	2.7804E+01
U-235	64974.	185.71	9.0381E-01
NP-237	43090.	86.48	4.7825E+00
U-237	41007.	59.54	4.6164E+00
NP-238	1021.	984.45	8.9721E-01
NP-239	45478.	106.12	2.0155E+00
PU-239	51047.	129.30	6.5965E+03
AM-241	41007.	59.54	4.4275E+00
AM-243	42216.	74.67	1.3165E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 04:16:47.73                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000268-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2644.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:37.12 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 03:22:32.27
Decayed to:               10-JAN-1995 03:22:32.27
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	186.73*	1219	1.28	373.83	371	7	65.0		RA-226	15.3
0	475.87	1467	1.55	951.86	949	8	52.3			
0	661.63*	1535828	1.53	1323.28	1315	17	0.2		CS-137	2.131E+03
0	1322.87	395	2.29	2645.89	2642	12	20.7			
0	1332.12	65	1.46	2664.40	2657	15	52.7			

Summary of Nuclide Activity
Sample ID : S94T000268-DUP

Acquisition date : 10-JAN-1995 03:22:32

Total number of lines in spectrum	5	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	3	60.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.131E+03	2.131E+03	0.004E+03	0.17	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~1.529E+01~~	~~1.529E+01~~	~~0.994E+01~~	~~65.00~~	
			---	---			
Total Activity :			2.147E+03	2.147E+03			
Grand Total Activity :			2.147E+03	2.147E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	49773.	477.59	9.0497E+00
NA-22	241.	1274.53	1.5145E-01
NA-24	24.	1368.55	5.1179E-02
K-40	125.	1460.75	1.1395E+00
SC-46	488.	1120.55	1.9331E-01
CR-51	40738.	320.08	6.1081E+00
MN-54	1564.	834.83	2.6486E-01
CO-56	1460.	846.76	2.5911E-01
CO-57	43259.	122.06	4.6507E-01
CO-58	1659.	810.78	2.6761E-01
FE-59	537.	1099.25	3.5240E-01
CO-60	96.	1332.50	9.9210E-02
ZN-65	537.	1115.55	3.9803E-01
SE-75	45362.	264.66	9.7295E-01
KR-85	26110.	514.00	1.6649E+02
SR-85	26108.	514.01	7.5279E-01
Y-88	4.	1836.06	2.6172E-02
Y-90	7.	1760.70	1.1534E-01
Y-91	255.	1204.67	4.9672E+01
NB-94	1357.	871.09	2.5586E-01
NB-95	1948.	765.78	2.7538E-01
ZR-95	2106.	756.73	5.1892E-01
RU-103	31635.	497.08	8.4977E-01
RURH-106	11421.	621.93	1.1258E+01
AG-108m	2505.	722.94	3.2675E-01
CD-109	37881.	88.03	1.4943E+01
AG-110M	38716.	657.76	1.1381E+00
SN-113	44722.	391.69	1.1638E+00
TE-123m	44444.	159.00	4.7168E-01
SB-124	11778.	602.73	5.6528E-01
SB-125	51122.	427.89	2.9200E+00
TE-125m	39982.	109.27	1.4821E+02
I-129	36669.	39.60	0.0000E+00
I-131	42022.	364.48	8.4512E-01
XE-131m	44201.	163.93	2.0419E+01
BA-133	41521.	356.02	1.0798E+00
CS-134	11714.	604.70	5.6630E-01
CS-136	1674.	818.51	2.7051E-01
CS-138	24.	1435.86	1.1615E-01
CE-139	44504.	165.85	5.0478E-01
BA-140	19232.	537.31	2.6408E+00
LA-140	7.	1596.21	3.2115E-02
CE-141	44997.	145.44	8.1155E-01
CE-144	44356.	133.51	3.5223E+00
CEPR-144	44356.	133.51	7.0383E+00
EU-152	20.	1408.01	2.2391E-01
EU-154	241.	1274.51	4.3999E-01
EU-155	38121.	86.54	1.6983E+00
HF-181	40455.	482.18	1.0579E+00
TA-182	35750.	67.75	2.2777E+00
HG-203	43294.	279.20	7.0721E-01

Sample ID : S94T000268-DUP Acquisition date : 10-JAN-1995 03:22:32

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
207	13005.	569.70	5.6744E-01
208	43316.	277.36	9.0896E+00
PB-210	35838.	46.50	0.0000E+00
BI-212	2420.	727.18	4.4065E+00
PB-212	50619.	238.63	1.2838E+00
BI-214	11823.	609.31	1.2471E+00
PB-214	41149.	351.92	3.4170E+00
RA-224	50184.	240.99	1.4190E+01
AC-228	1104.	911.21	9.0161E-01
TH-228	37907.	84.37	4.5900E+01
TH-229	37984.	88.47	2.1691E+00
U-232	35646.	57.78	8.5040E+02
PA-233	40959.	312.17	1.5698E+00
PA-234M	788.	1001.03	3.7499E-01
TH-234	35526.	63.29	2.5885E+01
U-235	57144.	185.71	8.4760E-01
NP-237	38123.	86.48	4.4984E+00
U-237	35486.	59.54	4.2943E+00
NP-238	796.	984.45	7.9206E-01
NP-239	39614.	106.12	1.8810E+00
PU-239	44192.	129.30	6.1377E+03
AM-241	35485.	59.54	4.1187E+00
AM-243	36735.	74.67	1.2281E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 05:27:47.95                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000282-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2645.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:52:06.51 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 04:35:05.45
Decayed to:               10-JAN-1995 04:35:05.45
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.64*	925306	1.52	1323.29	1315	17	0.2		CS-137	1.284E+03
0	1173.88	64	2.04	2347.82	2343	13	71.0		CO-60	0.125
0	1322.87	215	2.59	2645.89	2641	18	28.4			
0	1332.39	43	1.27	2664.93	2659	13	42.6		CO-60	9.402E-02

Sample ID : S94T000282-SAM
Acquisition date : 10-JAN-1995 04:35:05

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

. .clide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	9.931E-02	9.931E-02	3.652E-02	36.78	high uncertainty
CS-137	30.00Y	1.000	1.284E+03	1.284E+03	0.003E+03	0.21	
			---	---			
Total Activity :			1.284E+03	1.284E+03			
Grand Total Activity :			1.284E+03	1.284E+03			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T000282-SAM
Acquisition date : 10-JAN-1995 04:35:05

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	29588.	477.59	6.9773E+00
NA-22	103.	1274.53	9.8946E-02
NA-24	14.	1368.55	3.8744E-02
K-40	96.	1460.75	9.9758E-01
SC-46	189.	1120.55	1.2026E-01
CR-51	24212.	320.08	4.7089E+00
MN-54	522.	834.83	1.5310E-01
CO-56	555.	846.76	1.5982E-01
CO-57	26131.	122.06	3.6146E-01
CO-58	641.	810.78	1.6637E-01
FE-59	171.	1099.25	1.9882E-01
ZN-65	155.	1115.55	2.1376E-01
SE-75	27122.	264.66	7.5232E-01
KR-85	15374.	514.00	1.2776E+02
SR-85	15372.	514.01	5.7764E-01
Y-88	5.	1836.06	2.9300E-02
Y-90	6.	1760.70	1.0912E-01
Y-91	103.	1204.67	3.1574E+01
NB-94	467.	871.09	1.5017E-01
NB-95	691.	765.78	1.6404E-01
ZR-95	764.	756.73	3.1244E-01
RU-103	18497.	497.08	6.4977E-01
RURH-106	6687.	621.93	8.6142E+00
AG-108m	937.	722.94	1.9977E-01
CD-109	22923.	88.03	1.1624E+01
AG-110M	22877.	657.76	8.7486E-01
SN-113	26197.	391.69	8.9071E-01
TE-123m	26702.	159.00	3.6561E-01
SB-124	6751.	602.73	4.2797E-01
SB-125	30240.	427.89	2.2458E+00
TE-125m	24125.	109.27	1.1512E+02
I-129	22033.	39.60	0.0000E+00
I-131	24759.	364.48	6.4867E-01
XE-131m	26829.	163.93	1.5908E+01
BA-133	24675.	356.02	8.3242E-01
CS-134	6775.	604.70	4.3066E-01
CS-136	556.	818.51	1.5588E-01
CS-138	8.	1435.86	6.7442E-02
CE-139	26803.	165.85	3.9174E-01
BA-140	11117.	537.31	2.0078E+00
LA-140	11.	1596.21	4.0374E-02
CE-141	26847.	145.44	6.2686E-01
CE-144	26884.	133.51	2.7422E+00
CEPR-144	26883.	133.51	5.4793E+00
EU-152	17.	1408.01	2.0730E-01
EU-154	103.	1274.51	2.8730E-01
EU-155	22984.	86.54	1.3187E+00
HF-181	23936.	482.18	8.1375E-01
TA-182	21882.	67.75	1.7820E+00
HG-203	25977.	279.20	5.4780E-01
BI-207	7524.	569.70	4.3161E-01

Sample ID : S94T000282-SAM Acquisition date : 10-JAN-1995 04:35:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
208	25838.	277.36	7.0202E+00
210	21754.	46.50	0.0000E+00
BI-212	886.	727.18	2.6671E+00
PB-212	30319.	238.63	9.9359E-01
BI-214	6691.	609.31	9.3820E-01
PB-214	24614.	351.92	2.6028E+00
RA-224	30000.	240.99	1.0971E+01
RA-226	34439.	186.10	1.0826E+01
AC-228	401.	911.21	5.4303E-01
TH-228	22963.	84.37	3.5725E+01
TH-229	22978.	88.47	1.6871E+00
U-232	21356.	57.78	6.5823E+02
PA-233	24432.	312.17	1.2124E+00
PA-234M	265.	1001.03	2.1755E-01
TH-234	21380.	63.29	2.0081E+01
U-235	34081.	185.71	6.5458E-01
NP-237	22981.	86.48	3.4926E+00
U-237	21150.	59.54	3.3151E+00
NP-238	280.	984.45	4.7002E-01
NP-239	23817.	106.12	1.4583E+00
PU-239	26612.	129.30	4.7629E+03
AM-241	21150.	59.54	3.1797E+00
AM-243	22012.	74.67	9.5062E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 07:29:43.74                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000282-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2646.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:44.64 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 06:35:03.03
Decayed to:               10-JAN-1995 06:35:03.03
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.65*	1583169	1.53	1323.32	1315	17	0.2		CS-137	2.197E+03
0	1174.16	125	3.04	2348.38	2343	12	53.9		CO-60	0.245
0	1322.24	707	2.77	2644.63	2637	16	14.0			
0	1332.99	101	2.09	2666.13	2658	18	28.0		CO-60	0.220

Sample ID : S94T000282-DUP Acquisition date : 10-JAN-1995 06:35:03

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

. .clide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	2.242E-01	2.242E-01	0.558E-01	24.88	uncertainty
CS-137	30.00Y	1.000	2.197E+03	2.197E+03	0.004E+03	0.17	
			---	---			
Total Activity :			2.197E+03	2.197E+03			
Grand Total Activity :			2.197E+03	2.197E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Sample ID : S94T000282-DUP
Acquisition date : 10-JAN-1995 06:35:03

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	51472.	477.59	9.2028E+00
NA-22	241.	1274.53	1.5155E-01
NA-24	28.	1368.55	5.5833E-02
K-40	99.	1460.75	1.0145E+00
SC-46	536.	1120.55	2.0254E-01
CR-51	42568.	320.08	6.2438E+00
MN-54	1629.	834.83	2.7036E-01
CO-56	1589.	846.76	2.7037E-01
CO-57	44964.	122.06	4.7414E-01
CO-58	1795.	810.78	2.7835E-01
FE-59	582.	1099.25	3.6678E-01
ZN-65	495.	1115.55	3.8213E-01
SE-75	46843.	264.66	9.8871E-01
KR-85	27112.	514.00	1.6965E+02
SR-85	27107.	514.01	7.6706E-01
Y-88	1.	1836.06	1.3173E-02
Y-90	12.	1760.70	1.5269E-01
Y-91	260.	1204.67	5.0190E+01
NB-94	1417.	871.09	2.6150E-01
NB-95	2076.	765.78	2.8425E-01
ZR-95	2226.	756.73	5.3351E-01
RU-103	32557.	497.08	8.6206E-01
RURH-106	11786.	621.93	1.1436E+01
AG-108m	2739.	722.94	3.4165E-01
CD-109	39038.	88.03	1.5170E+01
AG-110M	38801.	657.76	1.1394E+00
SN-113	45859.	391.69	1.1785E+00
TE-123m	45821.	159.00	4.7893E-01
SB-124	12107.	602.73	5.7313E-01
SB-125	52933.	427.89	2.9713E+00
TE-125m	41432.	109.27	1.5087E+02
I-129	37938.	39.60	0.0000E+00
I-131	43335.	364.48	8.5822E-01
XE-131m	46465.	163.93	2.0936E+01
BA-133	42867.	356.02	1.0972E+00
CS-134	12178.	604.70	5.7741E-01
CS-136	1686.	818.51	2.7149E-01
CS-138	14.	1435.86	8.9476E-02
CE-139	46312.	165.85	5.1493E-01
BA-140	20035.	537.31	2.6954E+00
LA-140	12.	1596.21	4.3510E-02
CE-141	46250.	145.44	8.2278E-01
CE-144	45916.	133.51	3.5837E+00
CEPR-144	45918.	133.51	7.1611E+00
EU-152	20.	1408.01	2.2463E-01
EU-154	241.	1274.51	4.4009E-01
EU-155	39050.	86.54	1.7189E+00
HF-181	41668.	482.18	1.0737E+00
TA-182	37219.	67.75	2.3240E+00
HG-203	44748.	279.20	7.1898E-01
BI-207	13599.	569.70	5.8025E-01

Sample ID : S94T000282-DUP Acquisition date : 10-JAN-1995 06:35:03

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
208	45344.	277.36	9.2999E+00
210	37240.	46.50	0.0000E+00
BI-212	2775.	727.18	4.7189E+00
PB-212	52636.	238.63	1.3092E+00
BI-214	12064.	609.31	1.2597E+00
PB-214	42551.	351.92	3.4791E+00
RA-224	51889.	240.99	1.4430E+01
RA-226	58837.	186.10	1.4150E+01
AC-228	1140.	911.21	9.1612E-01
TH-228	38861.	84.37	4.6474E+01
TH-229	38923.	88.47	2.1957E+00
U-232	36710.	57.78	8.6300E+02
PA-233	42512.	312.17	1.5993E+00
PA-234M	767.	1001.03	3.6991E-01
TH-234	36546.	63.29	2.6254E+01
U-235	58217.	185.71	8.5552E-01
NP-237	39046.	86.48	4.5525E+00
U-237	36656.	59.54	4.3646E+00
NP-238	813.	984.45	8.0032E-01
NP-239	40991.	106.12	1.9134E+00
PU-239	45693.	129.30	6.2411E+03
AM-241	36656.	59.54	4.1860E+00
AM-243	37370.	74.67	1.2386E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 08:32:22.65                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T283-SAMPLE
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2649.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:54:16.00 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 07:37:31.45
Decayed to:               10-JAN-1995 07:37:31.45
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

Bachelor 1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.64*	1783880	1.54	1323.29	1315	17	0.2		CS-137	2.476E+03
0	1322.21	861	2.42	2644.57	2635	18	14.6			
0	1332.36	81	1.52	2664.88	2660	12	40.8			

Sample ID : S94T283-SAMPLE Acquisition date : 10-JAN-1995 07:37:31

Total number of lines in spectrum	3	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	2	66.67%

. ɔlide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.476E+03	2.476E+03	0.004E+03	0.16	
			---	---			
Total Activity :			2.476E+03	2.476E+03			
Grand Total Activity :			2.476E+03	2.476E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T283-SAMPLE
Acquisition date : 10-JAN-1995 07:37:31

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	58167.	477.59	9.7830E+00
NA-22	315.	1274.53	1.7322E-01
NA-24	34.	1368.55	6.1925E-02
K-40	118.	1460.75	1.1064E+00
SC-46	655.	1120.55	2.2394E-01
CR-51	47481.	320.08	6.5943E+00
MN-54	2110.	834.83	3.0768E-01
CO-56	2051.	846.76	3.0716E-01
CO-57	50485.	122.06	5.0241E-01
CO-58	2315.	810.78	3.1613E-01
FE-59	695.	1099.25	4.0088E-01
CO-60	128.	1332.50	1.1431E-01
ZN-65	740.	1115.55	4.6738E-01
SE-75	53086.	264.66	1.0525E+00
KR-85	30957.	514.00	1.8129E+02
SR-85	30957.	514.01	8.1972E-01
Y-88	2.	1836.06	1.8630E-02
Y-90	8.	1760.70	1.2949E-01
Y-91	309.	1204.67	5.4724E+01
NB-94	1774.	871.09	2.9254E-01
NB-95	2692.	765.78	3.2369E-01
ZR-95	2849.	756.73	6.0351E-01
RU-103	36983.	497.08	9.1880E-01
RURH-106	13604.	621.93	1.2286E+01
AG-108m	3399.	722.94	3.8056E-01
CD-109	43830.	88.03	1.6074E+01
AG-110M	45689.	657.76	1.2364E+00
SN-113	51885.	391.69	1.2535E+00
TE-123m	51263.	159.00	5.0658E-01
SB-124	14002.	602.73	6.1636E-01
SB-125	59819.	427.89	3.1586E+00
TE-125m	46758.	109.27	1.6027E+02
I-129	42521.	39.60	0.0000E+00
I-131	48703.	364.48	9.0984E-01
XE-131m	51877.	163.93	2.2122E+01
BA-133	48601.	356.02	1.1683E+00
CS-134	14007.	604.70	6.1925E-01
CS-136	2201.	818.51	3.1018E-01
CS-138	29.	1435.86	1.2804E-01
CE-139	51799.	165.85	5.4458E-01
BA-140	22788.	537.31	2.8747E+00
LA-140	12.	1596.21	4.2760E-02
CE-141	52010.	145.44	8.7252E-01
CE-144	51871.	133.51	3.8090E+00
CEPR-144	51871.	133.51	7.6112E+00
EU-152	23.	1408.01	2.4444E-01
EU-154	314.	1274.51	5.0287E-01
EU-155	43884.	86.54	1.8222E+00
HF-181	47617.	482.18	1.1478E+00
TA-182	41453.	67.75	2.4527E+00
HG-203	50547.	279.20	7.6416E-01

Sample ID : S94T283-SAMPLE Acquisition date : 10-JAN-1995 07:37:31

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
207	15793.	569.70	6.2531E-01
208	50869.	277.36	9.8502E+00
PB-210	41504.	46.50	0.0000E+00
BI-212	3353.	727.18	5.1867E+00
PB-212	58773.	238.63	1.3834E+00
BI-214	13872.	609.31	1.3508E+00
PB-214	48372.	351.92	3.7289E+00
RA-224	58824.	240.99	1.5364E+01
RA-226	66923.	186.10	1.5091E+01
AC-228	1429.	911.21	1.0255E+00
TH-228	44019.	84.37	4.9462E+01
TH-229	43918.	88.47	2.3324E+00
U-232	41584.	57.78	9.1851E+02
PA-233	48182.	312.17	1.7026E+00
PA-234M	987.	1001.03	4.1959E-01
TH-234	41422.	63.29	2.7951E+01
U-235	66143.	185.71	9.1191E-01
NP-237	43912.	86.48	4.8279E+00
U-237	41450.	59.54	4.6413E+00
NP-238	1038.	984.45	9.0450E-01
NP-239	45979.	106.12	2.0266E+00
PU-239	51452.	129.30	6.6227E+03
AM-241	41449.	59.54	4.4513E+00
AM-243	42614.	74.67	1.3227E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 09:28:41.76                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T283-DUPLICAT
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2650.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:54:37.84 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 08:33:28.29
Decayed to:               10-JAN-1995 08:33:28.29
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:      21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:  21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: M B [illegible]

date: 1-10-95

Bachelor 1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.65*	1918417	1.54	1323.31	1315	17	0.2		CS-137	2.662E+03
0	1322.26	990	2.63	2644.67	2636	23	16.7			
0	1332.55	103	2.07	2665.26	2660	12	32.8			

Sample ID : S94T283-DUPLICAT Acquisition date : 10-JAN-1995 08:33:28

Total number of lines in spectrum	3	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	2	66.67%

. :lide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.662E+03	2.662E+03	0.004E+03	0.15	
		Total Activity :	2.662E+03	2.662E+03			
		Grand Total Activity :	2.662E+03	2.662E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T283-DUPLICAT
Acquisition date : 10-JAN-1995 08:33:28

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	62675.	477.59	1.0155E+01
NA-22	437.	1274.53	2.0403E-01
NA-24	43.	1368.55	6.8842E-02
K-40	127.	1460.75	1.1480E+00
SC-46	773.	1120.55	2.4326E-01
CR-51	51582.	320.08	6.8732E+00
MN-54	2494.	834.83	3.3453E-01
CO-56	2342.	846.76	3.2820E-01
CO-57	54556.	122.06	5.2228E-01
CO-58	2636.	810.78	3.3731E-01
FE-59	814.	1099.25	4.3386E-01
CO-60	146.	1332.50	1.2235E-01
ZN-65	817.	1115.55	4.9122E-01
SE-75	57214.	264.66	1.0927E+00
KR-85	33263.	514.00	1.8791E+02
SR-85	33259.	514.01	8.4967E-01
Y-88	4.	1836.06	2.6172E-02
Y-90	8.	1760.70	1.2400E-01
Y-91	411.	1204.67	6.3072E+01
NB-94	2115.	871.09	3.1946E-01
NB-95	3169.	765.78	3.5122E-01
ZR-95	3262.	756.73	6.4583E-01
RU-103	39726.	497.08	9.5226E-01
RURH-106	14594.	621.93	1.2726E+01
AG-108m	3991.	722.94	4.1241E-01
CD-109	47569.	88.03	1.6745E+01
AG-110M	48104.	657.76	1.2686E+00
SN-113	55729.	391.69	1.2991E+00
TE-123m	55684.	159.00	5.2797E-01
SB-124	15302.	602.73	6.4435E-01
SB-125	64513.	427.89	3.2802E+00
TE-125m	50682.	109.27	1.6686E+02
I-129	45540.	39.60	0.0000E+00
I-131	52603.	364.48	9.4558E-01
XE-131m	56372.	163.93	2.3060E+01
BA-133	52047.	356.02	1.2090E+00
CS-134	15322.	604.70	6.4766E-01
CS-136	2527.	818.51	3.3237E-01
CS-138	38.	1435.86	1.4816E-01
CE-139	56241.	165.85	5.6745E-01
BA-140	24979.	537.31	3.0097E+00
LA-140	19.	1596.21	5.3901E-02
CE-141	56274.	145.44	9.0757E-01
CE-144	55788.	133.51	3.9502E+00
CEPR-144	55788.	133.51	7.8933E+00
EU-152	37.	1408.01	3.0905E-01
EU-154	436.	1274.51	5.9251E-01
EU-155	47292.	86.54	1.8916E+00
HF-181	51543.	482.18	1.1941E+00
TA-182	45148.	67.75	2.5597E+00
HG-203	54761.	279.20	7.9537E-01

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
[illegible] 207	17055.	569.70	6.4983E-01
[illegible] 208	55272.	277.36	1.0268E+01
PB-210	44828.	46.50	0.0000E+00
BI-212	3957.	727.18	5.6348E+00
PB-212	63493.	238.63	1.4379E+00
BI-214	15097.	609.31	1.4092E+00
PB-214	51922.	351.92	3.8774E+00
RA-224	63018.	240.99	1.5903E+01
RA-226	72030.	186.10	1.5656E+01
AC-228	1719.	911.21	1.1250E+00
TH-228	47273.	84.37	5.1258E+01
TH-229	47698.	88.47	2.4307E+00
U-232	44075.	57.78	9.4562E+02
PA-233	51223.	312.17	1.7555E+00
PA-234M	1167.	1001.03	4.5624E-01
TH-234	44462.	63.29	2.8958E+01
U-235	71262.	185.71	9.4654E-01
NP-237	47279.	86.48	5.0096E+00
U-237	44055.	59.54	4.7850E+00
NP-238	1203.	984.45	9.7389E-01
NP-239	49737.	106.12	2.1078E+00
PU-239	55918.	129.30	6.9041E+03
AM-241	44055.	59.54	4.5891E+00
AM-243	45681.	74.67	1.3695E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 10:25:41.26                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T284-SAMPLE
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2651.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:54:24.92 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 09:30:41.54
Decayed to:               10-JAN-1995 09:30:41.54
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.65*	1841968	1.54	1323.32	1315	17	0.2		CS-137	2.556E+03
0	711.28	172	1.29	1422.56	1420	7	103.1			
0	1322.48	745	2.56	2645.11	2639	20	19.1			
0	1332.75	114	2.53	2665.65	2660	14	27.2			

Sample ID : S94T284-SAMPLE Acquisition date : 10-JAN-1995 09:30:41

Total number of lines in spectrum	4	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	2	50.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.556E+03	2.556E+03	0.004E+03	0.15	
		Total Activity :	2.556E+03	2.556E+03			
		Grand Total Activity :	2.556E+03	2.556E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T284-SAMPLE Acquisition date : 10-JAN-1995 09:30:41

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	60127.	477.59	9.9465E+00
NA-22	390.	1274.53	1.9268E-01
NA-24	33.	1368.55	6.0693E-02
K-40	118.	1460.75	1.1099E+00
SC-46	646.	1120.55	2.2235E-01
CR-51	49026.	320.08	6.7007E+00
MN-54	2213.	834.83	3.1509E-01
CO-56	2062.	846.76	3.0798E-01
CO-57	52019.	122.06	5.0999E-01
CO-58	2449.	810.78	3.2511E-01
FE-59	800.	1099.25	4.3024E-01
CO-60	134.	1332.50	1.1709E-01
ZN-65	714.	1115.55	4.5920E-01
SE-75	54638.	264.66	1.0678E+00
KR-85	31549.	514.00	1.8301E+02
SR-85	31548.	514.01	8.2752E-01
Y-88	5.	1836.06	2.9456E-02
Y-90	8.	1760.70	1.2787E-01
Y-91	397.	1204.67	6.1946E+01
NB-94	1921.	871.09	3.0446E-01
NB-95	2836.	765.78	3.3225E-01
ZR-95	3024.	756.73	6.2183E-01
RU-103	38133.	497.08	9.3298E-01
RURH-106	13823.	621.93	1.2385E+01
AG-108m	3753.	722.94	3.9988E-01
CD-109	45710.	88.03	1.6415E+01
AG-110M	45734.	657.76	1.2370E+00
SN-113	54134.	391.69	1.2804E+00
TE-123m	53619.	159.00	5.1809E-01
SB-124	14246.	602.73	6.2171E-01
SB-125	61689.	427.89	3.2076E+00
TE-125m	48383.	109.27	1.6304E+02
I-129	43773.	39.60	0.0000E+00
I-131	50505.	364.48	9.2652E-01
XE-131m	53555.	163.93	2.2477E+01
BA-133	49861.	356.02	1.1833E+00
CS-134	14292.	604.70	6.2551E-01
CS-136	2419.	818.51	3.2518E-01
CS-138	24.	1435.86	1.1769E-01
CE-139	53670.	165.85	5.5433E-01
BA-140	23543.	537.31	2.9219E+00
LA-140	12.	1596.21	4.2349E-02
CE-141	53320.	145.44	8.8344E-01
CE-144	53805.	133.51	3.8793E+00
CEPR-144	53808.	133.51	7.7520E+00
EU-152	24.	1408.01	2.4651E-01
EU-154	390.	1274.51	5.5990E-01
EU-155	45524.	86.54	1.8559E+00
HF-181	48946.	482.18	1.1637E+00
TA-182	42895.	67.75	2.4950E+00
HG-203	52149.	279.20	7.7617E-01

Sample ID : S94T284-SAMPLE Acquisition date : 10-JAN-1995 09:30:41

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
207	16060.	569.70	6.3059E-01
208	52731.	277.36	1.0029E+01
PB-210	43197.	46.50	0.0000E+00
BI-212	3553.	727.18	5.3394E+00
PB-212	60993.	238.63	1.4093E+00
BI-214	14241.	609.31	1.3687E+00
PB-214	49415.	351.92	3.7745E+00
RA-224	60282.	240.99	1.5553E+01
RA-226	68913.	186.10	1.5314E+01
AC-228	1538.	911.21	1.0641E+00
TH-228	45128.	84.37	5.0081E+01
TH-229	45469.	88.47	2.3732E+00
U-232	42478.	57.78	9.2832E+02
PA-233	49898.	312.17	1.7326E+00
PA-234M	1061.	1001.03	4.3500E-01
TH-234	42890.	63.29	2.8442E+01
U-235	68288.	185.71	9.2657E-01
NP-237	45504.	86.48	4.9146E+00
U-237	42420.	59.54	4.6953E+00
NP-238	1117.	984.45	9.3843E-01
NP-239	47072.	106.12	2.0505E+00
PU-239	53758.	129.30	6.7695E+03
AM-241	42420.	59.54	4.5031E+00
AM-243	44114.	74.67	1.3458E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   10-JAN-1995 12:58:57.08                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T284-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2652.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:54:24.06 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        10-JAN-1995 12:03:57.92
Decayed to:               10-JAN-1995 12:03:57.92
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by:

date: 1-10-95

1/10/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.65*	1833065	1.54	1323.32	1315	17	0.2		CS-137	2.544E+03
0	1173.19	125	1.69	2346.44	2343	8	49.8		CO-60	0.245
0	1322.16	812	2.39	2644.47	2636	17	15.0			
0	1332.55	102	2.26	2665.26	2659	19	46.9		CO-60	0.221
0	1549.25	18	1.18	3098.86	3092	18	106.8			

Sample ID : S94T284-DUP Acquisition date : 10-JAN-1995 12:03:57

Total number of lines in spectrum	5	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	3	60.00%

. :lide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	2.311E-01	2.311E-01	0.790E-01	34.18	high uncertainty
CS-137	30.00Y	1.000	2.544E+03	2.544E+03	0.004E+03	0.15	
			---	---			
Total Activity :			2.544E+03	2.544E+03			
Grand Total Activity :			2.544E+03	2.544E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T284-DUP
Acquisition date : 10-JAN-1995 12:03:57

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	60040.	477.59	9.9393E+00
NA-22	368.	1274.53	1.8727E-01
NA-24	40.	1368.55	6.6365E-02
K-40	121.	1460.75	1.1211E+00
SC-46	692.	1120.55	2.3021E-01
CR-51	49290.	320.08	6.7188E+00
MN-54	2243.	834.83	3.1720E-01
CO-56	2173.	846.76	3.1614E-01
CO-57	52215.	122.06	5.1094E-01
CO-58	2564.	810.78	3.3270E-01
FE-59	769.	1099.25	4.2188E-01
ZN-65	726.	1115.55	4.6300E-01
SE-75	54626.	264.66	1.0677E+00
KR-85	31588.	514.00	1.8312E+02
SR-85	31582.	514.01	8.2796E-01
Y-88	5.	1836.06	2.8462E-02
Y-90	9.	1760.70	1.3509E-01
Y-91	332.	1204.67	5.6677E+01
NB-94	1944.	871.09	3.0628E-01
NB-95	2895.	765.78	3.3572E-01
ZR-95	2965.	756.73	6.1575E-01
RU-103	38145.	497.08	9.3312E-01
RURH-106	13904.	621.93	1.2421E+01
AG-108m	3749.	722.94	3.9970E-01
CD-109	45605.	88.03	1.6396E+01
AG-110M	45161.	657.76	1.2292E+00
SN-113	53467.	391.69	1.2725E+00
TE-123m	53650.	159.00	5.1823E-01
SB-124	14347.	602.73	6.2392E-01
SB-125	61336.	427.89	3.1984E+00
TE-125m	48412.	109.27	1.6308E+02
I-129	43828.	39.60	0.0000E+00
I-131	49967.	364.48	9.2158E-01
XE-131m	53718.	163.93	2.2511E+01
BA-133	49569.	356.02	1.1798E+00
CS-134	14364.	604.70	6.2708E-01
CS-136	2415.	818.51	3.2496E-01
CS-138	33.	1435.86	1.3700E-01
CE-139	53512.	165.85	5.5351E-01
BA-140	23689.	537.31	2.9310E+00
LA-140	12.	1596.21	4.3598E-02
CE-141	53455.	145.44	8.8455E-01
CE-144	53579.	133.51	3.8712E+00
CEPR-144	53577.	133.51	7.7354E+00
EU-152	21.	1408.01	2.3351E-01
EU-154	368.	1274.51	5.4424E-01
EU-155	45323.	86.54	1.8518E+00
HF-181	48825.	482.18	1.1622E+00
TA-182	42533.	67.75	2.4844E+00
HG-203	51871.	279.20	7.7409E-01
BI-207	15790.	569.70	6.2525E-01

Sample ID : S94T284-DUP Acquisition date : 10-JAN-1995 12:03:57

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
[illegible]-208	52106.	277.36	9.9692E+00
[illegible]-210	42879.	46.50	0.0000E+00
BI-212	3576.	727.18	5.3565E+00
PB-212	60588.	238.63	1.4046E+00
BI-214	14282.	609.31	1.3706E+00
PB-214	49423.	351.92	3.7743E+00
RA-224	59942.	240.99	1.5510E+01
RA-226	68377.	186.10	1.5254E+01
AC-228	1526.	911.21	1.0599E+00
TH-228	45268.	84.37	5.0159E+01
TH-229	45426.	88.47	2.3721E+00
U-232	42295.	57.78	9.2632E+02
PA-233	49452.	312.17	1.7249E+00
PA-234M	1092.	1001.03	4.4122E-01
TH-234	42629.	63.29	2.8355E+01
U-235	67771.	185.71	9.2306E-01
NP-237	45349.	86.48	4.9062E+00
U-237	42259.	59.54	4.6864E+00
NP-238	1112.	984.45	9.3636E-01
NP-239	47315.	106.12	2.0558E+00
PU-239	52716.	129.30	6.7035E+03
AM-241	42259.	59.54	4.4946E+00
AM-243	44164.	74.67	1.3465E+00

5y103

LABCORE Data Entry Template for Worklist# 409

Analyst: DCD **Instrument:** GEA00 2 **Method:** LA-548-121 / D-1

Worklist Comment: Use 1 mL sample size. -PPB

WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	#64852			@GEA-02	CO60-02	SOLID			N/A	uCi/g
1	STD	.100 ml			@GEA-02	CO60-02E	SOLID			N/A	% Ct.
1	STD				@GEA-02	CS13702	SOLID			N/A	uCi/g
1	STD				@GEA-02	CS13702E	SOLID			N/A	% Ct.
2	BLNK-PREP	SS = 1 ml			@GEA-02	CO60-02	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	CS13702	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15402	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15502	SOLID			N/A	uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	CO60-02	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	CO60-02E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000282	0	R	@GEA-02	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	CS13702E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15402	SOLID	N/A			u(
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15402E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15502	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15502E	SOLID	N/A			% Ct.
4	DUP	S94T000282	0	R	@GEA-02	CO60-02	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	CO60-02E	SOLID			N/A	% Ct.
4	DUP	S94T000282	0	R	@GEA-02	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	CS13702E	SOLID			N/A	% Ct.

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 409

Analyst: DCD **Instrument:** GEA00 **Method:** LA-548-121 /D-1

Worklist Comment: Use 1 mL sample size. -PPB

WHC-SD-WM-DP-074, REV. 0

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
4	DUP	S94T000282	0	R	@GEA-02	EU15402	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	EU15402E	SOLID			N/A	% Ct.
4	DUP	S94T000282	0	R	@GEA-02	EU15502	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	EU15502E	SOLID			N/A	% Ct.

Final page for worklist # 409

David C. Dunlap
Analyst Signature

1-16-95 / 1900
Date

MC Bicia
1-17-95

STD = Colex #64B52
SS = .100 ml

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	CO60		21.8000	2.18E-02	4.81			0.00E+00		1.09E-02	200.0
Work List	CS137		26.8800	2.69E-02	5.24			0.00E+00		1.34E-02	200.0
409				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
LIQUID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
WORKLIST#409				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
DUP's Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Instrument Code				0.00E+00				0.00E+00			
WC38931				0.00E+00				0.00E+00			
Analyst				0.00E+00				0.00E+00			
DCD				0.00E+00				0.00E+00			
Date											
01/16/95											
Time											
07:00 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: M Brennan Date: 01/17/95

Approved by: R Bachelor Date: 1/17/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.0694 < Enter SAMPLE g/L < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
BLANK	CO60	<	0.0293	2.91E-03				ERR		ERR	NA
Work List	CS137	<	0.0660	6.56E-03				ERR		ERR	NA
409	EU154	<	0.0802	7.97E-03				ERR		ERR	NA
Test Code	EU155	<	0.0700	6.96E-03				ERR		ERR	NA
@GEA-02				0.00E+00				ERR			
Matrix				0.00E+00				ERR			
SOLID				0.00E+00				ERR			
Sample #				0.00E+00				ERR			
S94T282				0.00E+00				ERR			
				0.00E+00				ERR			
Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
DUP's Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Instrument Code				0.00E+00				ERR			
WC38931				0.00E+00				ERR			
Analyst				0.00E+00				ERR			
DCD				0.00E+00				ERR			
Date											
01/16/95											
Time											
07:00 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/17/95

Approved by: [signature] Date: 1/17/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.0594 < Enter SAMPLE g/L 10.0262 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60	<	0.1018	1.01E-02			0.0628	6.27E-03	42.96		6.27E-03	NA
Work List	CS137		2225.0000	2.21E+02	0.16		1306.0000	1.30E+02	0.21		1.76E+02	51.8
409	EU154	<	0.4748	4.72E-02		<	0.2673	2.67E-02		<	3.69E-02	NA
Test Code	EU155	<	1.7273	1.72E-01		<	1.3217	1.32E-01		<	1.52E-01	NA
@GEA-02				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S94T282				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
DCD				0.00E+00				0.00E+00				
Date												
01/16/95												
Time												
07:00 PM												

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/17/95

Approved by: [signature] Date: 1/17/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   16-JAN-1995 21:53:20.66                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-STD
Sample Size:              1.00000E-03 LI
   ution Factor:          1.00000E+01
 . .nversion LI to LI:    1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2703.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.18 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        16-JAN-1995 21:02:44.79
Decayed to:               16-JAN-1995 21:02:44.79
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:      21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:  21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: D H Milburn

date: 1-16-95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.80*	1937	1.49	1323.62	1316	14	5.2		CS-137	26.9
0	1173.55	1063	2.10	2347.16	2338	18	7.3		CO-60	20.9
0	1332.82	1039	1.90	2665.80	2656	20	6.4		CO-60	22.6
0	1461.32*	17	1.78	2922.91	2916	16	141.2		K-40	3.81

Sample ID : S94T282-STD
Acquisition date : 16-JAN-1995 21:02:44

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~3.811E+00~~	~~3.811E+00~~	~~5.380E+00~~	~~141.16~~	BHG 1/17/95
CO-60	5.27Y	1.000	2.180E+01	2.180E+01	0.105E+01	4.81	
CS-137	30.00Y	1.000	2.688E+01	2.688E+01	0.141E+01	5.24	
		Total Activity :	5.248E+01	5.248E+01			
		Grand Total Activity :	5.248E+01	5.248E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
7	134.	477.59	4.6931E+00
22	16.	1274.53	3.8937E-01
NA-24	3.	1368.55	1.8150E-01
SC-46	50.	1120.55	6.1599E-01
CR-51	144.	320.08	3.6296E+00
MN-54	73.	834.83	5.7391E-01
CO-56	64.	846.76	5.4286E-01
CO-57	173.	122.06	2.9425E-01
CO-58	62.	810.78	5.1860E-01
FE-59	74.	1099.25	1.3092E+00
ZN-65	58.	1115.55	1.3114E+00
SE-75	162.	264.66	5.8091E-01
KR-85	123.	514.00	1.1426E+02
SR-85	123.	514.01	5.1626E-01
Y-88	4.	1836.06	2.5047E-01
Y-90	3.	1760.70	7.7143E-01
Y-91	25.	1204.67	1.5544E+02
NB-94	70.	871.09	5.8120E-01
NB-95	57.	765.78	4.7217E-01
ZR-95	62.	756.73	8.8897E-01
RU-103	99.	497.08	4.7571E-01
RURH-106	90.	621.93	9.9659E+00
AG-108m	66.	722.94	5.2971E-01
CD-109	158.	88.03	9.6514E+00
AG-110M	100.	657.76	5.7980E-01
SN-113	156.	391.69	6.8761E-01
TE-123m	188.	159.00	3.0652E-01
124	70.	602.73	4.3665E-01
125	120.	427.89	1.4152E+00
TE-125m	181.	109.27	9.9609E+01
I-129	152.	39.60	0.0000E+00
I-131	155.	364.48	5.1336E-01
XE-131m	179.	163.93	1.2978E+01
BA-133	135.	356.02	6.1586E-01
CS-134	70.	604.70	4.3843E-01
CS-136	94.	818.51	6.3981E-01
CS-138	8.	1435.86	6.4582E-01
CE-139	198.	165.85	3.3664E-01
BA-140	83.	537.31	1.7327E+00
LA-140	8.	1596.21	3.4242E-01
CE-141	199.	145.44	5.3910E-01
CE-144	206.	133.51	2.4013E+00
CEPR-144	206.	133.51	4.7997E+00
EU-152	5.	1408.01	1.1418E+00
EU-154	16.	1274.51	1.1341E+00
EU-155	168.	86.54	1.1260E+00
HF-181	136.	482.18	6.1326E-01
TA-182	152.	67.75	1.4856E+00
HG-203	176.	279.20	4.5052E-01
BI-207	65.	569.70	4.0020E-01
TL-208	167.	277.36	5.6479E+00

Sample ID : S94T282-STD Acquisition date : 16-JAN-1995 21:02:44

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
PB-210	171.	46.50	0.0000E+00
BI-212	82.	727.18	8.1127E+00
PB-212	207.	238.63	8.2122E-01
BI-214	85.	609.31	1.0601E+00
PB-214	162.	351.92	2.0687E+00
RA-224	205.	240.99	9.0703E+00
RA-226	188.	186.10	7.9917E+00
AC-228	91.	911.21	2.5815E+00
TH-228	181.	84.37	3.1755E+01
TH-229	151.	88.47	1.3662E+00
U-232	148.	57.78	5.4708E+02
PA-233	146.	312.17	9.3814E-01
PA-234M	63.	1001.03	1.0579E+00
TH-234	136.	63.29	1.5995E+01
U-235	185.	185.71	4.8167E-01
NP-237	167.	86.48	2.9763E+00
U-237	145.	59.54	2.7430E+00
NP-238	67.	984.45	2.2959E+00
NP-239	171.	106.12	1.2370E+00
PU-239	193.	129.30	4.0555E+03
AM-241	145.	59.54	2.6310E+00
AM-243	163.	74.67	8.1755E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   16-JAN-1995 22:47:17.29                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-BLK
Sample Size:              1.00000E-03 LI
D ution Factor:           1.00000E+00
C .version LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2704.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.45 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        16-JAN-1995 21:56:43.03
Decayed to:               16-JAN-1995 21:56:43.03
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************

Post-NID Peak Search Report
***** No peaks found *****
```

Removed by: D.H. Milian

date: 1-16-95

B Bachelor 1/17/95

WHC-SD-WM-DP-074, REV. 0

Sample ID : S94T282-BLK
Acquisition date : 16-JAN-1995 21:56:43

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T282-BLK
Acquisition date : 16-JAN-1995 21:56:43

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
[illegible] 7	23.	477.59	1.9604E-01
[illegible] 22	8.	1274.53	2.7452E-02
NA-24	8.	1368.55	2.8858E-02
K-40	105.	1460.75	1.0435E+00
SC-46	19.	1120.55	3.7976E-02
CR-51	46.	320.08	2.0532E-01
MN-54	5.	834.83	1.4505E-02
CO-56	18.	846.76	2.8785E-02
CO-57	62.	122.06	1.7571E-02
CO-58	23.	810.78	3.1288E-02
FE-59	9.	1099.25	4.6669E-02
CO-60	8.	1332.50	2.9261E-02
ZN-65	17.	1115.55	7.1660E-02
SE-75	57.	264.66	3.4506E-02
KR-85	35.	514.00	6.1153E+00
SR-85	35.	514.01	2.7629E-02
Y-88	1.	1836.06	1.3173E-02
Y-90	4.	1760.70	8.6195E-02
Y-91	7.	1204.67	8.2714E+00
NB-94	17.	871.09	2.8749E-02
NB-95	17.	765.78	2.5476E-02
ZR-95	14.	756.73	4.1704E-02
RU-103	37.	497.08	2.9096E-02
RURH-106	23.	621.93	5.0988E-01
AG-108m	19.	722.94	2.8142E-02
CD-109	54.	88.03	5.6276E-01
AG-110M	24.	657.76	2.8042E-02
[illegible] 113	35.	391.69	3.2677E-02
[illegible] 123m	68.	159.00	1.8462E-02
SB-124	25.	602.73	2.5967E-02
SB-125	27.	427.89	6.7714E-02
TE-125m	62.	109.27	5.8215E+00
I-129	59.	39.60	0.0000E+00
I-131	53.	364.48	2.9987E-02
XE-131m	86.	163.93	9.0221E-01
BA-133	34.	356.02	3.1053E-02
CS-134	25.	604.70	2.6127E-02
CS-136	13.	818.51	2.4208E-02
CS-137	105.	661.66	6.5988E-02
CS-138	9.	1435.86	7.0368E-02
CE-139	68.	165.85	1.9661E-02
BA-140	31.	537.31	1.0673E-01
LA-140	3.	1596.21	2.2616E-02
CE-141	83.	145.44	3.4833E-02
CE-144	71.	133.51	1.4085E-01
CEPR-144	71.	133.51	2.8162E-01
EU-152	8.	1408.01	1.4327E-01
EU-154	8.	1274.51	8.0159E-02
EU-155	65.	86.54	7.0006E-02
HF-181	21.	482.18	2.3907E-02
TA-182	51.	67.75	8.5915E-02

Sample ID : S94T282-BLK Acquisition date : 16-JAN-1995 21:56:43

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	51.	279.20	2.4321E-02
BI-207	24.	569.70	2.4436E-02
TL-208	49.	277.36	3.0626E-01
PB-210	54.	46.50	0.0000E+00
BI-212	18.	727.18	3.7493E-01
PB-212	73.	238.63	4.8629E-02
BI-214	52.	609.31	8.2767E-02
PB-214	71.	351.92	1.3665E-01
RA-224	62.	240.99	4.9934E-01
RA-226	97.	186.10	5.7580E-01
AC-228	25.	911.21	1.3679E-01
TH-228	79.	84.37	2.0986E+00
TH-229	53.	88.47	8.0660E-02
U-232	41.	57.78	2.8785E+01
PA-233	46.	312.17	5.2428E-02
PA-234M	10.	1001.03	4.2594E-02
TH-234	65.	63.29	1.1112E+00
U-235	102.	185.71	3.5762E-02
NP-237	65.	86.48	1.8560E-01
U-237	53.	59.54	1.6632E-01
NP-238	15.	984.45	1.0887E-01
NP-239	64.	106.12	7.5620E-02
PU-239	70.	129.30	2.4437E+02
AM-241	53.	59.54	1.5952E-01
AM-243	87.	74.67	5.9726E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   16-JAN-1995 23:50:57.98                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-SAM
Sample Size:              1.00000E-03 LI
  ution Factor:           1.00000E+00
C..nversion LI to LI:     1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2705.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:47.90 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        16-JAN-1995 22:56:12.00
Decayed to:               16-JAN-1995 22:56:12.00
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: Em Barela

date: 1-17-95

B Bachelor 1/17/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

I+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.77*	1603339	1.53	1323.56	1315	18	0.2		CS-137	2.225E+03
0	1322.36	696	3.19	2644.88	2637	20	16.3			
0	1332.66	75	2.45	2665.48	2658	13	38.8			

Sample ID : S94T282-SAM
Acquisition date : 16-JAN-1995 22:56:12

Total number of lines in spectrum	3	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	2	66.67%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.225E+03	2.225E+03	0.004E+03	0.16	
		Total Activity :	2.225E+03	2.225E+03			
		Grand Total Activity :	2.225E+03	2.225E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
F 7	51944.	477.59	9.2449E+00
N 22	280.	1274.53	1.6336E-01
NA-24	25.	1368.55	5.2343E-02
K-40	110.	1460.75	1.0695E+00
SC-46	527.	1120.55	2.0093E-01
CR-51	42507.	320.08	6.2393E+00
MN-54	1743.	834.83	2.7968E-01
CO-56	1654.	846.76	2.7579E-01
CO-57	45478.	122.06	4.7684E-01
CO-58	1866.	810.78	2.8381E-01
FE-59	581.	1099.25	3.6669E-01
CO-60	101.	1332.50	1.0176E-01
ZN-65	558.	1115.55	4.0601E-01
SE-75	47237.	264.66	9.9285E-01
KR-85	27546.	514.00	1.7101E+02
SR-85	27543.	514.01	7.7320E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	4.	1760.70	9.3952E-02
Y-91	257.	1204.67	4.9904E+01
NB-94	1453.	871.09	2.6474E-01
NB-95	2148.	765.78	2.8919E-01
ZR-95	2260.	756.73	5.3751E-01
RU-103	32930.	497.08	8.6698E-01
RURH-106	12036.	621.93	1.1557E+01
AG-108m	2875.	722.94	3.4999E-01
CD-109	39618.	88.03	1.5282E+01
AG-110M	32127.	657.76	1.0368E+00
S 13	46239.	391.69	1.1834E+00
T 123m	46521.	159.00	4.8257E-01
SB-124	12251.	602.73	5.7654E-01
SB-125	53646.	427.89	2.9912E+00
TE-125m	41829.	109.27	1.5159E+02
I-129	38184.	39.60	0.0000E+00
I-131	43752.	364.48	8.6235E-01
XE-131m	46505.	163.93	2.0945E+01
BA-133	43041.	356.02	1.0994E+00
CS-134	12212.	604.70	5.7821E-01
CS-136	1795.	818.51	2.8012E-01
CS-138	16.	1435.86	9.4070E-02
CE-139	46624.	165.85	5.1666E-01
BA-140	20186.	537.31	2.7056E+00
LA-140	9.	1596.21	3.7029E-02
CE-141	46523.	145.44	8.2521E-01
CE-144	46800.	133.51	3.6180E+00
CEPR-144	46799.	133.51	7.2295E+00
EU-152	16.	1408.01	2.0049E-01
EU-154	280.	1274.51	4.7475E-01
EU-155	39433.	86.54	1.7273E+00
HF-181	42040.	482.18	1.0785E+00
TA-182	37437.	67.75	2.3308E+00
HG-203	45035.	279.20	7.2129E-01

Sample ID : S94T282-SAM Acquisition date : 16-JAN-1995 22:56:12

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	13570.	569.70	5.7964E-01
TL-208	45567.	277.36	9.3228E+00
PB-210	37288.	46.50	0.0000E+00
BI-212	2766.	727.18	4.7115E+00
PB-212	52872.	238.63	1.3121E+00
BI-214	12297.	609.31	1.2718E+00
PB-214	42996.	351.92	3.4992E+00
RA-224	52601.	240.99	1.4528E+01
RA-226	59635.	186.10	1.4246E+01
AC-228	1216.	911.21	9.4597E-01
TH-228	39208.	84.37	4.6681E+01
TH-229	39592.	88.47	2.2145E+00
U-232	37287.	57.78	8.6976E+02
PA-233	42786.	312.17	1.6044E+00
PA-234M	797.	1001.03	3.7701E-01
TH-234	37224.	63.29	2.6496E+01
U-235	58947.	185.71	8.6088E-01
NP-237	39432.	86.48	4.5750E+00
U-237	37364.	59.54	4.4065E+00
NP-238	805.	984.45	7.9671E-01
NP-239	41013.	106.12	1.9139E+00
PU-239	46420.	129.30	6.2905E+03
AM-241	37364.	59.54	4.2263E+00
AM-243	38439.	74.67	1.2562E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   17-JAN-1995 01:01:22.79                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              S94T282-DUP
Sample Size:            1.00000E-03 LI
   ution Factor:        1.00000E+00
 ..version LI to LI:    1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:            GEA2
File Number:            dka300:[spec.GEA2]2g2706.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:52:08.92 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      17-JAN-1995 00:08:36.23
Decayed to:             17-JAN-1995 00:08:36.23
Standard Deviations:    2
Analysis Library:       ENVGEA
Analyst:                EMB
Background Subtract:    DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:      21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:  21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: Em Baeh

date: 1-17-95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

I+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.76*	941319	1.52	1323.55	1315	18	0.2		CS-137	1.306E+03
0	1103.86	45	1.25	2207.76	2206	5	55.7			
0	1173.33	45	1.64	2346.71	2341	12	104.1		CO-60	8.746E-02
0	1322.34	258	2.45	2644.82	2636	20	26.0			
0	1333.22	28	1.68	2666.60	2663	7	46.7		CO-60	6.046E-02

Sample ID : S94T282-DUP Acquisition date : 17-JAN-1995 00:08:36

Total number of lines in spectrum	5	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	3	60.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	6.284E-02	6.284E-02	2.700E-02	42.96	comment on high uncertainty
CS-137	30.00Y	1.000	1.306E+03	1.306E+03	0.003E+03	0.21	
		Total Activity :	1.306E+03	1.306E+03			
		Grand Total Activity :	1.306E+03	1.306E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T282-DUP Acquisition date : 17-JAN-1995 00:08:36

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
[illegible]7	29987.	477.59	7.0242E+00
[illegible] 22	89.	1274.53	9.1977E-02
NA-24	7.	1368.55	2.6955E-02
K-40	94.	1460.75	9.8918E-01
SC-46	182.	1120.55	1.1809E-01
CR-51	24564.	320.08	4.7430E+00
MN-54	552.	834.83	1.5739E-01
CO-56	533.	846.76	1.5663E-01
CO-57	26518.	122.06	3.6412E-01
CO-58	619.	810.78	1.6345E-01
FE-59	182.	1099.25	2.0540E-01
ZN-65	171.	1115.55	2.2465E-01
SE-75	27409.	264.66	7.5630E-01
KR-85	15431.	514.00	1.2799E+02
SR-85	15429.	514.01	5.7870E-01
Y-88	0.	1836.06	0.0000E+00
Y-90	5.	1760.70	1.0438E-01
Y-91	97.	1204.67	3.0607E+01
NB-94	476.	871.09	1.5152E-01
NB-95	739.	765.78	1.6957E-01
ZR-95	784.	756.73	3.1665E-01
RU-103	18980.	497.08	6.5820E-01
RURH-106	6786.	621.93	8.6778E+00
AG-108m	894.	722.94	1.9520E-01
CD-109	23254.	88.03	1.1708E+01
AG-110M	18482.	657.76	7.8634E-01
SN-113	26801.	391.69	9.0092E-01
[illegible] 123m	27567.	159.00	3.7148E-01
[illegible] 124	6840.	602.73	4.3078E-01
SB-125	31069.	427.89	2.2764E+00
TE-125m	24772.	109.27	1.1666E+02
I-129	22658.	39.60	0.0000E+00
I-131	25140.	364.48	6.5365E-01
XE-131m	27222.	163.93	1.6024E+01
BA-133	24862.	356.02	8.3558E-01
CS-134	6855.	604.70	4.3321E-01
CS-136	573.	818.51	1.5827E-01
CS-138	8.	1435.86	6.6448E-02
CE-139	27349.	165.85	3.9570E-01
BA-140	11492.	537.31	2.0413E+00
LA-140	4.	1596.21	2.4680E-02
CE-141	27410.	145.44	6.3340E-01
CE-144	27545.	133.51	2.7757E+00
CEPR-144	27546.	133.51	5.5465E+00
EU-152	13.	1408.01	1.8263E-01
EU-154	89.	1274.51	2.6728E-01
EU-155	23089.	86.54	1.3217E+00
HF-181	24436.	482.18	8.2220E-01
TA-182	21953.	67.75	1.7849E+00
HG-203	26092.	279.20	5.4901E-01
BI-207	7475.	569.70	4.3021E-01

Sample ID : S94T282-DUP Acquisition date : 17-JAN-1995 00:08:36

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	26349.	277.36	7.0893E+00
PB-210	21997.	46.50	0.0000E+00
BI-212	934.	727.18	2.7379E+00
PB-212	30848.	238.63	1.0022E+00
BI-214	6871.	609.31	9.5073E-01
PB-214	24918.	351.92	2.6200E+00
RA-224	30363.	240.99	1.1037E+01
RA-226	34821.	186.10	1.0886E+01
AC-228	430.	911.21	5.6265E-01
TH-228	23000.	84.37	3.5753E+01
TH-229	23305.	88.47	1.6990E+00
U-232	21771.	57.78	6.6460E+02
PA-233	24823.	312.17	1.2221E+00
PA-234M	279.	1001.03	2.2309E-01
TH-234	22162.	63.29	2.0445E+01
U-235	34469.	185.71	6.5830E-01
NP-237	23092.	86.48	3.5011E+00
U-237	21756.	59.54	3.3623E+00
NP-238	279.	984.45	4.6928E-01
NP-239	24277.	106.12	1.4723E+00
PU-239	27304.	129.30	4.8244E+03
AM-241	21756.	59.54	3.2250E+00
AM-243	22400.	74.67	9.5897E-01

LABCORE Data Entry Template for Worklist# 437

Analyst: SMF **Instrument:** GEA00 4 **Method:** LA-548-121/D-1

Worklist Comment: Re-run - use 1 mL sample size. -PPB Due to high RPD -

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	#64B52			@GEA-02	CO60-02	SOLID			N/A	uCi/g
1	STD				@GEA-02	CO60-02E	SOLID			N/A	% Ct.
1	STD				@GEA-02	CS13702	SOLID			N/A	uCi/g
1	STD				@GEA-02	CS13702E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-02	CO60-02	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	CS13702	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15402	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15502	SOLID			N/A	uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	CO60-02	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	CO60-02E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000282	0	R	@GEA-02	CS13702	SOLID	N/A			uCi/g
	SAMPLE	S94T000282	0	R	@GEA-02	CS13702E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15402	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15402E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15502	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15502E	SOLID	N/A			% Ct.
4	DUP	S94T000282	0	R	@GEA-02	CO60-02	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	CO60-02E	SOLID			N/A	% Ct.
4	DUP	S94T000282	0	R	@GEA-02	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	CS13702E	SOLID			N/A	% Ct.

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 437

Analyst: SMF **Instrument:** GEA00 _____ **Method:** LA-548-121/D - 1

Worklist Comment: Re-run - use 1 mL sample size. -PPB

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
4	DUP	S94T000282	0	R	@GEA-02	EU15402	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	EU15402E	SOLID			N/A	% Ct.
4	DUP	S94T000282	0	R	@GEA-02	EU15502	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	EU15502E	SOLID			N/A	% Ct.

Final page for worklist # 437

Susie M. Fulton
Analyst Signature

1-24-95
Date

M B Rivera

1-31-95

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	CO60		21.2800	2.13E-02	2.29			0.00E+00		1.06E-02	200.0
Work List	CS137		27.6400	2.76E-02	2.36			0.00E+00		1.38E-02	200.0
437				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
LIQUID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
WORKLIST#437				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
DUP's Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Instrument Code				0.00E+00				0.00E+00			
WC38931				0.00E+00				0.00E+00			
Analyst				0.00E+00				0.00E+00			
SMF				0.00E+00				0.00E+00			
Date											
01/24/95											
Time											
06:00 AM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/31/95

Approved by: [signature] Date: 2/1/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.0594 < Enter SAMPLE g/L < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
BLANK	CO60	<	0.0146	1.45E-03				ERR		ERR	NA
Work List	CS137		0.2629	2.51E-02	9.69			ERR		ERR	ERR
437	EU154	<	0.0466	4.63E-03				ERR		ERR	NA
Test Code	EU155	<	0.0335	3.33E-03				ERR		ERR	NA
@GEA-02				0.00E+00				ERR			
Matrix				0.00E+00				ERR			
SOLID				0.00E+00				ERR			
Sample #				0.00E+00				ERR			
S94T282				0.00E+00				ERR			
				0.00E+00				ERR			
Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
DUP's Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Instrument Code				0.00E+00				ERR			
WC38931				0.00E+00				ERR			
Analyst				0.00E+00				ERR			
SMF				0.00E+00				ERR			
Date											
01/24/95											
Time											
06:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 02/01/95

Approved by: [signature] Date: 2/1/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.0594 < Enter SAMPLE g/L 10.0282 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60		0.1227	1.22E-02	25.74		0.0964	9.61E-03	19.71		1.09E-02	23.7
Work List	CS137		2163.0000	2.15E+02	0.08		1300.0000	1.30E+02	0.1		1.72E+02	49.6
437	EU154	<	0.2248	2.23E-02		<	0.1336	1.33E-02		<	1.78E-02	NA
Test Code	EU155	<	0.6226	6.19E-02		<	0.4757	4.74E-02		<	5.47E-02	NA
@GEA-02				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S94T282				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
SMF				0.00E+00				0.00E+00				
Date												
01/24/95												
Time												
06:00 AM												

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/31/95

Approved by: [signature] Date: 2/1/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 09:02:24.79                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                WORKLIST#437-STD
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA4
File Number:              NI3BA:1.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:05.14 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 08:03:20.90
Decayed to:               24-JAN-1995 08:03:20.90
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
Background Subtract:      DKA300:[SPEC.GEA4]4GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       18-APR-1994 11:17:09.37
 Date of last efficiency calibration:   18-APR-1994 11:18:36.88
*****************************************************************************
```

Removed by: _____

date: _____

Bachelor 1/25/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	662.05*	9016	1.43	1324.01	1316	15	2.4		CS-137	27.6
0	1173.74*	4826	1.80	2347.43	2338	19	3.3		CO-60	21.3
0	1333.05	4429	1.91	2666.10	2658	19	3.2		CO-60	21.3
0	1729.75	27	1.50	3459.65	3455	10	49.5			
0	1765.35*	25	2.14	3530.85	3525	16	105.1			

Sample ID : WORKLIST#437-STD Acquisition date : 24-JAN-1995 08:03:20

Total number of lines in spectrum	5	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	4	80.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	2.128E+01	2.128E+01	0.049E+01	2.29	
CS-137	30.00Y	1.000	2.764E+01	2.764E+01	0.066E+01	2.38	
			---	---			
Total Activity :			4.892E+01	4.892E+01			
Grand Total Activity :			4.892E+01	4.892E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : WORKLIST#437-STD Acquisition date : 24-JAN-1995 08:03:20

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	558.	477.59	2.2044E+00
NA-22	78.	1274.53	1.9121E-01
NA-24	42.	1368.55	1.5155E-01
K-40	855.	1460.75	6.6138E+00
SC-46	320.	1120.55	3.5429E-01
CR-51	588.	320.08	1.6380E+00
MN-54	303.	834.83	2.7042E-01
CO-56	256.	846.76	2.5245E-01
CO-57	627.	122.06	1.1819E-01
CO-58	274.	810.78	2.5071E-01
FE-59	289.	1099.25	5.8805E-01
ZN-65	273.	1115.55	6.4305E-01
SE-75	645.	264.66	2.5689E-01
KR-85	513.	514.00	5.3987E+01
SR-85	512.	514.01	2.4383E-01
Y-88	13.	1836.06	1.0795E-01
Y-90	25.	1760.70	4.9379E-01
Y-91	120.	1204.67	7.6277E+01
NB-94	308.	871.09	2.8578E-01
NB-95	283.	765.78	2.3941E-01
ZR-95	278.	756.73	4.2851E-01
RU-103	384.	497.08	2.1642E-01
RURH-106	289.	621.93	3.9821E+00
AG-108m	237.	722.94	2.2624E-01
CD-109	586.	88.03	3.6769E+00
AG-110M	307.	657.76	2.2394E-01
SN-113	525.	391.69	2.8376E-01
TE-123m	693.	159.00	1.2756E-01
SB-124	324.	602.73	2.1014E-01
SB-125	544.	427.89	6.8318E-01
TE-125m	569.	109.27	3.6460E+01
I-129	497.	39.60	0.0000E+00
I-131	571.	364.48	2.2091E-01
XE-131m	644.	163.93	5.3426E+00
BA-133	578.	356.02	2.8541E-01
CS-134	291.	604.70	1.9982E-01
CS-136	292.	818.51	2.6092E-01
CS-138	42.	1435.86	3.3042E-01
CE-139	677.	165.85	1.3503E-01
BA-140	353.	537.31	8.2469E-01
LA-140	31.	1596.21	1.5168E-01
CE-141	675.	145.44	2.1430E-01
CE-144	706.	133.51	9.5047E-01
CEPR-144	705.	133.51	1.8991E+00
EU-152	53.	1408.01	8.1281E-01
EU-154	78.	1274.51	5.5511E-01
EU-155	640.	86.54	4.3444E-01
HF-181	495.	482.18	2.6948E-01
TA-182	572.	67.75	5.7392E-01
HG-203	669.	279.20	1.9506E-01
BI-207	323.	569.70	2.0368E-01

Sample ID : WORKLIST#437-STD Acquisition date : 24-JAN-1995 08:03:20

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
208	737.	277.36	2.6294E+00
[illegible]-210	510.	46.50	0.0000E+00
BI-212	279.	727.18	3.3741E+00
PB-212	862.	238.63	3.6925E-01
BI-214	528.	609.31	5.8910E-01
PB-214	711.	351.92	9.7099E-01
RA-224	784.	240.99	3.9096E+00
RA-226	791.	186.10	3.5746E+00
AC-228	424.	911.21	1.3153E+00
TH-228	668.	84.37	1.2003E+01
TH-229	588.	88.47	5.3414E-01
U-232	520.	57.78	2.2020E+02
PA-233	606.	312.17	4.2571E-01
PA-234M	279.	1001.03	5.1492E-01
TH-234	535.	63.29	6.4518E+00
U-235	793.	185.71	2.1759E-01
NP-237	647.	86.48	1.1569E+00
U-237	505.	59.54	1.0734E+00
NP-238	292.	984.45	1.1104E+00
NP-239	582.	106.12	4.6708E-01
PU-239	622.	129.30	1.5519E+03
AM-241	505.	59.54	1.0297E+00
AM-243	639.	74.67	3.1868E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 09:58:19.76                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-BLANK
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA4
File Number:              dka300:[spec.GEA4]4g4101.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:02.40 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 09:07:41.24
Decayed to:               24-JAN-1995 09:07:41.24
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
Background Subtract:      DKA300:[SPEC.GEA4]4GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       18-APR-1994 11:17:09.37
 Date of last efficiency calibration:   18-APR-1994 11:18:36.88
*****************************************************************************
```

Removed by:

date: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	295.55*	105	1.12	591.03	585	13	90.0			
0	662.10*	825	1.54	1324.11	1320	12	9.7		CS-137	0.253

Sample ID : S94T282-BLANK
Acquisition date : 24-JAN-1995 09:07:41

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

. Slide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.529E-01	2.529E-01	0.245E-01	9.69	
		Total Activity :	2.529E-01	2.529E-01			
		Grand Total Activity :	2.529E-01	2.529E-01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T282-BLANK Acquisition date : 24-JAN-1995 09:07:41

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	186.	477.59	1.2736E-01
NA-22	55.	1274.53	1.6103E-02
NA-24	35.	1368.55	1.3837E-02
K-40	848.	1460.75	6.5851E-01
SC-46	145.	1120.55	2.3872E-02
CR-51	282.	320.08	1.1342E-01
MN-54	98.	834.83	1.5344E-02
CO-56	79.	846.76	1.4051E-02
CO-57	341.	122.06	8.7220E-03
CO-58	87.	810.78	1.4139E-02
FE-59	67.	1099.25	2.8337E-02
CO-60	43.	1332.50	1.4622E-02
ZN-65	72.	1115.55	3.3028E-02
SE-75	316.	264.66	1.7973E-02
KR-85	261.	514.00	3.8551E+00
SR-85	260.	514.01	1.7388E-02
Y-88	10.	1836.06	9.1230E-03
Y-90	18.	1760.70	4.2493E-02
Y-91	88.	1204.67	6.5184E+00
NB-94	75.	871.09	1.4078E-02
NB-95	105.	765.78	1.4606E-02
ZR-95	94.	756.73	2.4977E-02
RU-103	184.	497.08	1.4963E-02
RURH-106	119.	621.93	2.5546E-01
AG-108m	103.	722.94	1.4928E-02
CD-109	326.	88.03	2.7438E-01
AG-110M	126.	657.76	1.4353E-02
SN-113	232.	391.69	1.8880E-02
TE-123m	354.	159.00	9.1167E-03
SB-124	131.	602.73	1.3345E-02
SB-125	205.	427.89	4.1907E-02
TE-125m	321.	109.27	2.7368E+00
I-129	245.	39.60	0.0000E+00
I-131	250.	364.48	1.4607E-02
XE-131m	378.	163.93	4.0969E-01
BA-133	240.	356.02	1.8386E-02
CS-134	130.	604.70	1.3346E-02
CS-136	84.	818.51	1.4033E-02
CS-138	26.	1435.86	2.5953E-02
CE-139	345.	165.85	9.6369E-03
BA-140	168.	537.31	5.6923E-02
LA-140	24.	1596.21	1.3369E-02
CE-141	345.	145.44	1.5331E-02
CE-144	358.	133.51	6.7750E-02
CEPR-144	359.	133.51	1.3540E-01
EU-152	54.	1408.01	8.2076E-02
EU-154	55.	1274.51	4.6613E-02
EU-155	380.	86.54	3.3481E-02
HF-181	162.	482.18	1.5444E-02
TA-182	308.	67.75	4.2134E-02
HG-203	332.	279.20	1.3732E-02

Sample ID : S94T282-BLANK Acquisition date : 24-JAN-1995 09:07:41

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
207	130.	569.70	1.2904E-02
208	355.	277.36	1.8238E-01
PB-210	278.	46.50	0.0000E+00
BI-212	118.	727.18	2.1910E-01
PB-212	487.	238.63	2.7759E-02
BI-214	294.	609.31	4.3936E-02
PB-214	407.	351.92	7.3450E-02
RA-224	420.	240.99	2.8625E-01
RA-226	445.	186.10	2.6830E-01
AC-228	163.	911.21	8.1646E-02
TH-228	358.	84.37	8.7841E-01
TH-229	313.	88.47	3.8984E-02
U-232	265.	57.78	1.5726E+01
PA-233	285.	312.17	2.9212E-02
PA-234M	70.	1001.03	7.6262E-01
TH-234	293.	63.29	4.7742E-01
U-235	437.	185.71	1.6153E-02
NP-237	384.	86.48	8.9142E-02
U-237	245.	59.54	7.4704E-02
NP-238	82.	984.45	5.8697E-02
NP-239	325.	106.12	3.4892E-02
PU-239	363.	129.30	1.1847E+02
AM-241	245.	59.54	7.1658E-02
AM-243	386.	74.67	2.4785E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 11:23:37.88                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA4
File Number:              dka300:[spec.GEA4]4g4102.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 01:07:52.84 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 10:15:10.49
Decayed to:               24-JAN-1995 10:15:10.49
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  RW
Background Subtract:      DKA300:[SPEC.GEA4]4GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       18-APR-1994 11:17:09.37
 Date of last efficiency calibration:   18-APR-1994 11:18:36.88
*****************************************************************************
```

Removed by: _____

date: 1-24-95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	27.78	33059	3.18	55.57	52	10	5.3			
0	75.27*	2300	1.28	150.53	148	7	57.8		AM-243	0.624
5	186.75*	7161	1.83	373.46	371	24	16.9	1.06E+01	RA-226	19.6
5	188.35	4361	1.22	376.66	371	24	36.4			
5	190.40	9008	2.84	380.76	371	24	37.8			
0	662.12*	7056620	1.47	1324.15	1316	16	0.1		CS-137	2.163E+03
0	1173.69*	267	1.98	2347.34	2342	10	53.8		CO-60	0.118
0	1323.25	2618	2.26	2646.49	2641	12	7.9			
0	1332.94	259	1.59	2665.87	2660	15	29.3		CO-60	0.124

Sample ID : S94T282-SAM Acquisition date : 24-JAN-1995 10:15:10

Total number of lines in spectrum	9	
Number of unidentified lines	4	
Number of lines tentatively identified by NID	5	55.56%

. ɔlide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	1.227E-01	1.227E-01	0.316E-01	25.74	
CS-137	30.00Y	1.000	2.163E+03	2.163E+03	0.002E+03	0.08	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~1.958E+01~~	~~1.958E+01~~	~~0.331E+01~~	~~16.92~~	Not requested
~~AM-243~~	~~7380.00Y~~	~~1.000~~	~~6.236E-01~~	~~6.236E-01~~	~~3.607E-01~~	~~57.83~~	BKG 1/25/95
			---	---			
	Total Activity :		2.183E+03	2.183E+03			

Grand Total Activity : 2.183E+03 2.183E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T282-SAM Acquisition date : 24-JAN-1995 10:15:10

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	216226.	477.59	4.3406E+00
NA-22	1275.	1274.53	7.7400E-02
NA-24	124.	1368.55	2.6105E-02
K-40	802.	1460.75	6.4035E-01
SC-46	2380.	1120.55	9.6666E-02
CR-51	167178.	320.08	2.7617E+00
MN-54	6869.	834.83	1.2879E-01
CO-56	6752.	846.76	1.2976E-01
CO-57	149307.	122.06	1.8245E-01
CO-58	7413.	810.78	1.3037E-01
FE-59	2699.	1099.25	1.7960E-01
ZN-65	2515.	1115.55	1.9530E-01
SE-75	175709.	264.66	4.2389E-01
KR-85	109044.	514.00	7.8726E+01
SR-85	109028.	514.01	3.5597E-01
Y-88	23.	1836.06	1.4048E-02
Y-90	33.	1760.70	5.7495E-02
Y-91	1197.	1204.67	2.4085E+01
NB-94	5932.	871.09	1.2550E-01
NB-95	8509.	765.78	1.3119E-01
ZR-95	8869.	756.73	2.4220E-01
RU-103	131939.	497.08	4.0109E-01
RURH-106	46489.	621.93	5.0519E+00
AG-108m	10514.	722.94	1.5067E-01
CD-109	131508.	88.03	5.5091E+00
AG-110M	80431.	657.76	3.6230E-01
SN-113	186010.	391.69	5.3426E-01
TE-123m	158196.	159.00	1.9276E-01
SB-124	46826.	602.73	2.5269E-01
SB-125	214560.	427.89	1.3569E+00
TE-125m	139564.	109.27	5.7108E+01
I-129	124595.	39.60	0.0000E+00
I-131	174647.	364.48	3.8662E-01
XE-131m	159326.	163.93	8.4090E+00
BA-133	172526.	356.02	4.9328E-01
CS-134	46777.	604.70	2.5346E-01
CS-136	7317.	818.51	1.3064E-01
CS-138	94.	1435.86	5.7637E-02
CE-139	159829.	165.85	2.0753E-01
BA-140	79178.	537.31	1.2358E+00
LA-140	44.	1596.21	1.8326E-02
CE-141	155385.	145.44	3.2520E-01
CE-144	153341.	133.51	1.4013E+00
CEPR-144	153337.	133.51	2.8000E+00
EU-152	124.	1408.01	1.2465E-01
EU-154	1274.	1274.51	2.2476E-01
EU-155	131359.	86.54	6.2264E-01
HF-181	172749.	482.18	5.0370E-01
TA-182	125142.	67.75	8.4904E-01
HG-203	170988.	279.20	3.1181E-01
BI-207	52023.	569.70	2.5843E-01

Sample ID : S94T282-SAM Acquisition date : 24-JAN-1995 10:15:10

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
·208	170999.	277.36	4.0054E+00
..-210	123145.	46.50	0.0000E+00
BI-212	10534.	727.18	2.0727E+00
PB-212	187806.	238.63	5.4502E-01
BI-214	46485.	609.31	5.5274E-01
PB-214	172081.	351.92	1.7970E+00
RA-224	186682.	240.99	6.0404E+00
AC-228	5153.	911.21	4.5881E-01
TH-228	131230.	84.37	1.6830E+01
TH-229	131723.	88.47	7.9971E-01
U-232	123326.	57.78	3.3925E+02
PA-233	166693.	312.17	7.0637E-01
PA-234M	3493.	1001.03	7.3291E+00
TH-234	124495.	63.29	9.8424E+00
U-235	210186.	185.71	3.5421E-01
NP-237	131381.	86.48	1.6492E+00
U-237	123527.	59.54	1.6795E+00
NP-238	3753.	984.45	3.9905E-01
NP-239	136602.	106.12	7.1664E-01
PU-239	152505.	129.30	2.4298E+03
AM-241	123527.	59.54	1.6100E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 12:33:53.61                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA4
File Number:              dka300:[spec.GEA4]4g4103.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:59:37.22 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 11:33:38.20
Decayed to:               24-JAN-1995 11:33:38.20
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
Background Subtract:      DKA300:[SPEC.GEA4]4GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       18-APR-1994 11:17:09.37
 Date of last efficiency calibration:   18-APR-1994 11:18:36.88
*****************************************************************************
```

Removed by:

date: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	19.32	35	0.70	38.64	36	6	68.4			
0	27.66	16335	2.78	55.31	52	9	7.6			
0	662.07*	4240200	1.47	1324.04	1316	16	0.1		CS-137	1.300E+03
0	1174.01*	172	1.57	2347.96	2343	12	58.7		CO-60	7.605E-02
0	1322.83	1318	2.31	2645.64	2636	23	13.4			
0	1332.98	210	1.79	2665.94	2660	15	20.8		CO-60	0.101
0	1509.60	11	1.32	3019.25	3018	6	126.6			
0	1539.62	21	1.22	3079.30	3075	9	61.2			

Sample ID : S94T282-DUP Acquisition date : 24-JAN-1995 11:33:38

Total number of lines in spectrum	8	
Number of unidentified lines	5	
Number of lines tentatively identified by NID	3	37.50%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	9.642E-02	9.642E-02	1.901E-02	19.71	
CS-137	30.00Y	1.000	1.300E+03	1.300E+03	0.001E+03	0.10	
			---	---			
Total Activity :			1.300E+03	1.300E+03			
Grand Total Activity :			1.300E+03	1.300E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T282-DUP
Acquisition date : 24-JAN-1995 11:33:38

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	125182.	477.59	3.3026E+00
NA-22	451.	1274.53	4.6041E-02
NA-24	44.	1368.55	1.5535E-02
K-40	744.	1460.75	6.1692E-01
SC-46	908.	1120.55	5.9707E-02
CR-51	95556.	320.08	2.0878E+00
MN-54	2435.	834.83	7.6676E-02
CO-56	2358.	846.76	7.6682E-02
CO-57	86209.	122.06	1.3863E-01
CO-58	2525.	810.78	7.6078E-02
FE-59	886.	1099.25	1.0291E-01
ZN-65	850.	1115.55	1.1351E-01
SE-75	99997.	264.66	3.1977E-01
KR-85	61251.	514.00	5.9003E+01
SR-85	61243.	514.01	2.6679E-01
Y-88	10.	1836.06	9.4615E-03
Y-90	17.	1760.70	4.1647E-02
Y-91	419.	1204.67	1.4250E+01
NB-94	2123.	871.09	7.5073E-02
NB-95	2999.	765.78	7.7880E-02
ZR-95	3074.	756.73	1.4259E-01
RU-103	75719.	497.08	3.0383E-01
RURH-106	24628.	621.93	3.6770E+00
AG-108m	3729.	722.94	8.9736E-02
CD-109	76179.	88.03	4.1929E+00
AG-110M	41693.	657.76	2.6085E-01
SN-113	107267.	391.69	4.0571E-01
TE-123m	91004.	159.00	1.4620E-01
SB-124	24947.	602.73	1.8443E-01
SB-125	125091.	427.89	1.0361E+00
TE-125m	80170.	109.27	4.3283E+01
I-129	72577.	39.60	0.0000E+00
I-131	100688.	364.48	2.9349E-01
XE-131m	90731.	163.93	6.3447E+00
BA-133	99694.	356.02	3.7498E-01
CS-134	24837.	604.70	1.8469E-01
CS-136	2569.	818.51	7.7392E-02
CS-138	58.	1435.86	4.2055E-02
CE-139	91126.	165.85	1.5670E-01
BA-140	44445.	537.31	9.2572E-01
LA-140	24.	1596.21	1.3558E-02
CE-141	89423.	145.44	2.4668E-01
CE-144	88206.	133.51	1.0628E+00
CEPR-144	88203.	133.51	2.1236E+00
EU-152	63.	1408.01	8.9025E-02
EU-154	452.	1274.51	1.3381E-01
EU-155	76674.	86.54	4.7570E-01
HF-181	99334.	482.18	3.8193E-01
TA-182	72901.	67.75	6.4802E-01
HG-203	97999.	279.20	2.3605E-01
BI-207	27802.	569.70	1.8892E-01

Sample ID : S94T282-DUP Acquisition date : 24-JAN-1995 11:33:38

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
[illegible]-208	98115.	277.36	3.0340E+00
[illegible]-210	71406.	46.50	0.0000E+00
BI-212	3648.	727.18	1.2198E+00
PB-212	108210.	238.63	4.1370E-01
BI-214	24693.	609.31	4.0285E-01
PB-214	98965.	351.92	1.2596E+00
RA-224	107337.	240.99	4.5777E+00
RA-226	123462.	186.10	4.4666E+00
AC-228	1811.	911.21	2.7199E-01
TH-228	76429.	84.37	1.2844E+01
TH-229	76112.	88.47	6.0789E-01
U-232	71409.	57.78	2.5815E+02
PA-233	95217.	312.17	5.3383E-01
PA-234M	1189.	1001.03	3.7562E+00
TH-234	71770.	63.29	7.4730E+00
U-235	121834.	185.71	2.6967E-01
NP-237	76703.	86.48	1.2601E+00
U-237	71726.	59.54	1.2795E+00
NP-238	1311.	984.45	2.3560E-01
NP-239	79028.	106.12	5.4462E-01
PU-239	87671.	129.30	1.8423E+03
AM-241	71726.	59.54	1.2268E+00
AM-243	75280.	74.67	3.4602E-01

Sy 103

LABCORE Data Entry Template for Worklist# 530

Analyst: DCD **Instrument:** GEA00 2 **Method:** LA-548-121 ~~D/1~~ 2/14/95 D-1

Worklist Comment: Re-entry of original data - high RPD consistent. -PPB

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	64B52			@GEA-02	CO60-02	SOLID			N/A	uCi/g
1	STD	0.100 mL			@GEA-02	CO60-02E	SOLID			N/A	% Ct.
1	STD				@GEA-02	CS13702	SOLID			N/A	uCi/g
1	STD				@GEA-02	CS13702E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-02	CO60-02	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	CS13702	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15402	SOLID			N/A	uCi/g
2	BLNK-PREP				@GEA-02	EU15502	SOLID			N/A	uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	CO60-02	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	CO60-02E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000282	0	R	@GEA-02	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	CS13702E	SOLID	N/A			% .
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15402	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15402E	SOLID	N/A			% Ct.
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15502	SOLID	N/A			uCi/g
3	SAMPLE	S94T000282	0	R	@GEA-02	EU15502E	SOLID	N/A			% Ct.
4	DUP	S94T000282	0	R	@GEA-02	CO60-02	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	CO60-02E	SOLID			N/A	% Ct.
4	DUP	S94T000282	0	R	@GEA-02	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	CS13702E	SOLID			N/A	% Ct.

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 530

Analyst: _____ **Instrument:** GEA00 _____ **Method:** LA-548-121

Worklist Comment: Re-entry of original data - high RPD consistent. -PPB

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
4	DUP	S94T000282	0	R	@GEA-02	EU15402	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	EU15402E	SOLID			N/A	% Ct.
4	DUP	S94T000282	0	R	@GEA-02	EU15502	SOLID			N/A	uCi/g
4	DUP	S94T000282	0	R	@GEA-02	EU15502E	SOLID			N/A	% Ct.

Final page for worklist # 530

Bachelor for David C Dunham
Analyst Signature
Raymond

1-16-95 (originally entered under WL # 409)
Date
2.9.95

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK) may not reflect the actual units.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	CO60		21.8000	2.18E-02	4.81			0.00E+00		1.09E-02	200.0
Work List	CS137		26.8900	2.69E-02	5.24			0.00E+00		1.34E-02	200.0
530				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
LIQUID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
WORKLIST#530				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
DUP's Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Instrument Code				0.00E+00				0.00E+00			
WC38931				0.00E+00				0.00E+00			
Analyst				0.00E+00				0.00E+00			
DCD				0.00E+00				0.00E+00			
Date											
01/16/95											
Time											
07:00 AM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: Raymond Date: 02/09/95

Approved by: L Bachelor Date: 2/9/95

Form 548121_1 Rev. 2.2

1511

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.0594 < Enter SAMPLE g/L < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %	AVERAGE µCi/g	RPD
BLANK	CO60	<	0.0293	2.91E-03				ERR		ERR	NA
Work List	CS137	<	0.0660	6.56E-03				ERR		ERR	NA
530	EU154	<	0.0802	7.97E-03				ERR		ERR	NA
Test Code	EU155	<	0.0700	6.96E-03				ERR		ERR	NA
@GEA-02				0.00E+00				ERR			
Matrix				0.00E+00				ERR			
SOLID				0.00E+00				ERR			
Sample #				0.00E+00				ERR			
S94T282				0.00E+00				ERR			
				0.00E+00				ERR			
Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
DUP's Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Instrument Code				0.00E+00				ERR			
WC38931				0.00E+00				ERR			
Analyst				0.00E+00				ERR			
DCD				0.00E+00				ERR			
Date											
01/16/95											
Time											
07:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: Raymond Date: 02/09/95

Approved by: [illegible] Date: 2/9/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

4 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

10.0594 < Enter SAMPLE g/L 10.0282 < Enter DUPLICATE g/L

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE/DUPLICATE	CO60	<	0.1018	1.01E-02			0.0628	6.26E-03	42.96		6.26E-03	NA
Work List	CS137		2225.0000	2.21E+02	0.16		1306.0000	1.30E+02	0.21		1.76E+02	51.8
530	EU154	<	0.4748	4.72E-02		<	0.2673	2.67E-02		<	3.69E-02	NA
Test Code	EU155	<	1.7273	1.72E-01		<	1.3217	1.32E-01		<	1.52E-01	NA
@GEA-02				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S94T282				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
DCD				0.00E+00				0.00E+00				
Date												
01/16/95												
Time												
07:00 AM												

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: Raymond Date: 02/09/95

Approved by: [signature] Date: 2/9/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   16-JAN-1995 21:53:20.66                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-STD
Sample Size:              1.00000E-03 LI
 lution Factor:           1.00000E+01
 nversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2703.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.18 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        16-JAN-1995 21:02:44.79
Decayed to:               16-JAN-1995 21:02:44.79
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: D Mitchin

date: 1-16-95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

Tt	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.80*	1937	1.49	1323.62	1316	14	5.2		CS-137	26.9
0	1173.55	1063	2.10	2347.16	2338	18	7.3		CO-60	20.9
0	1332.82	1039	1.90	2665.80	2656	20	6.4		CO-60	22.6
0	1461.32*	17	1.78	2922.91	2916	16	141.2		K-40	3.81

Sample ID : S94T282-STD Acquisition date : 16-JAN-1995 21:02:44

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~3.811E+00~~	~~3.811E+00~~	~~5.380E+00~~	~~141.16~~	BHG 1/17/95
CO-60	5.27Y	1.000	2.180E+01	2.180E+01	0.105E+01	4.81	
CS-137	30.00Y	1.000	2.688E+01	2.688E+01	0.141E+01	5.24	
		Total Activity :	5.248E+01	5.248E+01			
		Grand Total Activity :	5.248E+01	5.248E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
[illegible]-7	134.	477.59	4.6931E+00
[illegible]-22	16.	1274.53	3.8937E-01
NA-24	3.	1368.55	1.8150E-01
SC-46	50.	1120.55	6.1599E-01
CR-51	144.	320.08	3.6296E+00
MN-54	73.	834.83	5.7391E-01
CO-56	64.	846.76	5.4286E-01
CO-57	173.	122.06	2.9425E-01
CO-58	62.	810.78	5.1860E-01
FE-59	74.	1099.25	1.3092E+00
ZN-65	58.	1115.55	1.3114E+00
SE-75	162.	264.66	5.8091E-01
KR-85	123.	514.00	1.1426E+02
SR-85	123.	514.01	5.1626E-01
Y-88	4.	1836.06	2.5047E-01
Y-90	3.	1760.70	7.7143E-01
Y-91	25.	1204.67	1.5544E+02
NB-94	70.	871.09	5.8120E-01
NB-95	57.	765.78	4.7217E-01
ZR-95	62.	756.73	8.8897E-01
RU-103	99.	497.08	4.7571E-01
RURH-106	90.	621.93	9.9659E+00
AG-108m	66.	722.94	5.2971E-01
CD-109	158.	88.03	9.6514E+00
AG-110M	100.	657.76	5.7980E-01
SN-113	156.	391.69	6.8761E-01
TE-123m	188.	159.00	3.0652E-01
[illegible]-124	70.	602.73	4.3665E-01
[illegible]-125	120.	427.89	1.4152E+00
TE-125m	181.	109.27	9.9609E+01
I-129	152.	39.60	0.0000E+00
I-131	155.	364.48	5.1336E-01
XE-131m	179.	163.93	1.2978E+01
BA-133	135.	356.02	6.1586E-01
CS-134	70.	604.70	4.3843E-01
CS-136	94.	818.51	6.3981E-01
CS-138	8.	1435.86	6.4582E-01
CE-139	198.	165.85	3.3664E-01
BA-140	83.	537.31	1.7327E+00
LA-140	8.	1596.21	3.4242E-01
CE-141	199.	145.44	5.3910E-01
CE-144	206.	133.51	2.4013E+00
CEPR-144	206.	133.51	4.7997E+00
EU-152	5.	1408.01	1.1418E+00
EU-154	16.	1274.51	1.1341E+00
EU-155	168.	86.54	1.1260E+00
HF-181	136.	482.18	6.1326E-01
TA-182	152.	67.75	1.4856E+00
HG-203	176.	279.20	4.5052E-01
BI-207	65.	569.70	4.0020E-01
TL-208	167.	277.36	5.6479E+00

Sample ID : S94T282-STD Acquisition date : 16-JAN-1995 21:02:44

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
PB-210	171.	46.50	0.0000E+00
BI-212	82.	727.18	8.1127E+00
PB-212	207.	238.63	8.2122E-01
BI-214	85.	609.31	1.0601E+00
PB-214	162.	351.92	2.0687E+00
RA-224	205.	240.99	9.0703E+00
RA-226	188.	186.10	7.9917E+00
AC-228	91.	911.21	2.5815E+00
TH-228	181.	84.37	3.1755E+01
TH-229	151.	88.47	1.3662E+00
U-232	148.	57.78	5.4708E+02
PA-233	146.	312.17	9.3814E-01
PA-234M	63.	1001.03	1.0579E+00
TH-234	136.	63.29	1.5995E+01
U-235	185.	185.71	4.8167E-01
NP-237	167.	86.48	2.9763E+00
U-237	145.	59.54	2.7430E+00
NP-238	67.	984.45	2.2959E+00
NP-239	171.	106.12	1.2370E+00
PU-239	193.	129.30	4.0555E+03
AM-241	145.	59.54	2.6310E+00
AM-243	163.	74.67	8.1755E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   16-JAN-1995 22:47:17.29                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-BLK
Sample Size:              1.00000E-03 LI
 lution Factor:           1.00000E+00
  nversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2704.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.45 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        16-JAN-1995 21:56:43.03
Decayed to:               16-JAN-1995 21:56:43.03
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************

Post-NID Peak Search Report
***** No peaks found *****
```

Removed by:

D.H. Gillian

date: 1-16-95

B Bachelor 1/17/95

WHC-SD-WM-DP-074, REV. 0

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	23.	477.59	1.9604E-01
NA-22	8.	1274.53	2.7452E-02
NA-24	8.	1368.55	2.8858E-02
K-40	105.	1460.75	1.0435E+00
SC-46	19.	1120.55	3.7976E-02
CR-51	46.	320.08	2.0532E-01
MN-54	5.	834.83	1.4505E-02
CO-56	18.	846.76	2.8785E-02
CO-57	62.	122.06	1.7571E-02
CO-58	23.	810.78	3.1288E-02
FE-59	9.	1099.25	4.6669E-02
CO-60	8.	1332.50	2.9261E-02
ZN-65	17.	1115.55	7.1660E-02
SE-75	57.	264.66	3.4506E-02
KR-85	35.	514.00	6.1153E+00
SR-85	35.	514.01	2.7629E-02
Y-88	1.	1836.06	1.3173E-02
Y-90	4.	1760.70	8.6195E-02
Y-91	7.	1204.67	8.2714E+00
NB-94	17.	871.09	2.8749E-02
NB-95	17.	765.78	2.5476E-02
ZR-95	14.	756.73	4.1704E-02
RU-103	37.	497.08	2.9096E-02
RURH-106	23.	621.93	5.0988E-01
AG-108m	19.	722.94	2.8142E-02
CD-109	54.	88.03	5.6276E-01
AG-110M	24.	657.76	2.8042E-02
113	35.	391.69	3.2677E-02
TE-123m	68.	159.00	1.8462E-02
SB-124	25.	602.73	2.5967E-02
SB-125	27.	427.89	6.7714E-02
TE-125m	62.	109.27	5.8215E+00
I-129	59.	39.60	0.0000E+00
I-131	53.	364.48	2.9987E-02
XE-131m	86.	163.93	9.0221E-01
BA-133	34.	356.02	3.1053E-02
CS-134	25.	604.70	2.6127E-02
CS-136	13.	818.51	2.4208E-02
CS-137	105.	661.66	6.5988E-02
CS-138	9.	1435.86	7.0368E-02
CE-139	68.	165.85	1.9661E-02
BA-140	31.	537.31	1.0673E-01
LA-140	3.	1596.21	2.2616E-02
CE-141	83.	145.44	3.4833E-02
CE-144	71.	133.51	1.4085E-01
CEPR-144	71.	133.51	2.8162E-01
EU-152	8.	1408.01	1.4327E-01
EU-154	8.	1274.51	8.0159E-02
EU-155	65.	86.54	7.0006E-02
HF-181	21.	482.18	2.3907E-02
TA-182	51.	67.75	8.5915E-02

Sample ID : S94T282-BLK Acquisition date : 16-JAN-1995 21:56:43

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	51.	279.20	2.4321E-02
BI-207	24.	569.70	2.4436E-02
TL-208	49.	277.36	3.0626E-01
PB-210	54.	46.50	0.0000E+00
BI-212	18.	727.18	3.7493E-01
PB-212	73.	238.63	4.8629E-02
BI-214	52.	609.31	8.2767E-02
PB-214	71.	351.92	1.3665E-01
RA-224	62.	240.99	4.9934E-01
RA-226	97.	186.10	5.7580E-01
AC-228	25.	911.21	1.3679E-01
TH-228	79.	84.37	2.0986E+00
TH-229	53.	88.47	8.0660E-02
U-232	41.	57.78	2.8785E+01
PA-233	46.	312.17	5.2428E-02
PA-234M	10.	1001.03	4.2594E-02
TH-234	65.	63.29	1.1112E+00
U-235	102.	185.71	3.5762E-02
NP-237	65.	86.48	1.8560E-01
U-237	53.	59.54	1.6632E-01
NP-238	15.	984.45	1.0887E-01
NP-239	64.	106.12	7.5620E-02
PU-239	70.	129.30	2.4437E+02
AM-241	53.	59.54	1.5952E-01
AM-243	87.	74.67	5.9726E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   16-JAN-1995 23:50:57.98                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-SAM
Sample Size:              1.00000E-03 LI
  lution Factor:          1.00000E+00
  nversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2705.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:47.90 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        16-JAN-1995 22:56:12.00
Decayed to:               16-JAN-1995 22:56:12.00
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  DM
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:      21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:  21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: Em Baeli

date: 1-17-95

Bmacheler 1/17/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.77*	1603339	1.53	1323.56	1315	18	0.2		CS-137	2.225E+03
0	1322.36	696	3.19	2644.88	2637	20	16.3			
0	1332.66	75	2.45	2665.48	2658	13	38.8			

Sample ID : 5940282-SAM Acquisition date : 16-JAN-1995 22:56:12

Total number of lines in spectrum	3	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	2	66.67%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.225E+03	2.225E+03	0.004E+03	0.16	
		Total Activity :	2.225E+03	2.225E+03			
		Grand Total Activity :	2.225E+03	2.225E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T282-SAM Acquisition date : 16-JAN-1996 22:56:12

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	51944.	477.59	9.2449E+00
-22	280.	1274.53	1.6336E-01
NA-24	25.	1368.55	5.2343E-02
K-40	110.	1460.75	1.0695E+00
SC-46	527.	1120.55	2.0093E-01
CR-51	42507.	320.08	6.2393E+00
MN-54	1743.	834.83	2.7968E-01
CO-56	1654.	846.76	2.7579E-01
CO-57	45478.	122.06	4.7684E-01
CO-58	1866.	810.78	2.8381E-01
FE-59	581.	1099.25	3.6669E-01
CO-60	101.	1332.50	1.0176E-01
ZN-65	558.	1115.55	4.0601E-01
SE-75	47237.	264.66	9.9285E-01
KR-85	27546.	514.00	1.7101E+02
SR-85	27543.	514.01	7.7320E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	4.	1760.70	9.3952E-02
Y-91	257.	1204.67	4.9904E+01
NB-94	1453.	871.09	2.6474E-01
NB-95	2148.	765.78	2.8919E-01
ZR-95	2260.	756.73	5.3751E-01
RU-103	32930.	497.08	8.6698E-01
RURH-106	12036.	621.93	1.1557E+01
AG-108m	2875.	722.94	3.4999E-01
CD-109	39618.	88.03	1.5282E+01
AG-110M	32127.	657.76	1.0368E+00
-113	46239.	391.69	1.1834E+00
-123m	46521.	159.00	4.8257E-01
SB-124	12251.	602.73	5.7654E-01
SB-125	53646.	427.89	2.9912E+00
TE-125m	41829.	109.27	1.5159E+02
I-129	38184.	39.60	0.0000E+00
I-131	43752.	364.48	8.6235E-01
XE-131m	46505.	163.93	2.0945E+01
BA-133	43041.	356.02	1.0994E+00
CS-134	12212.	604.70	5.7821E-01
CS-136	1795.	818.51	2.8012E-01
CS-138	16.	1435.86	9.4070E-02
CE-139	46624.	165.85	5.1666E-01
BA-140	20186.	537.31	2.7056E+00
LA-140	9.	1596.21	3.7029E-02
CE-141	46523.	145.44	8.2521E-01
CE-144	46800.	133.51	3.6180E+00
CEPR-144	46799.	133.51	7.2295E+00
EU-152	16.	1408.01	2.0049E-01
EU-154	280.	1274.51	4.7475E-01
EU-155	39433.	86.54	1.7273E+00
HF-181	42040.	482.18	1.0785E+00
TA-182	37437.	67.75	2.3308E+00
HG-203	45035.	279.20	7.2129E-01

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	13570.	569.70	5.7964E-01
TL-208	45567.	277.36	9.3228E+00
PB-210	37288.	46.50	0.0000E+00
BI-212	2766.	727.18	4.7115E+00
PB-212	52872.	238.63	1.3121E+00
BI-214	12297.	609.31	1.2718E+00
PB-214	42996.	351.92	3.4992E+00
RA-224	52601.	240.99	1.4528E+01
RA-226	59635.	186.10	1.4246E+01
AC-228	1216.	911.21	9.4597E-01
TH-228	39208.	84.37	4.6681E+01
TH-229	39592.	88.47	2.2145E+00
U-232	37287.	57.78	8.6976E+02
PA-233	42786.	312.17	1.6044E+00
PA-234M	797.	1001.03	3.7701E-01
TH-234	37224.	63.29	2.6496E+01
U-235	58947.	185.71	8.6088E-01
NP-237	39432.	86.48	4.5750E+00
U-237	37364.	59.54	4.4065E+00
NP-238	805.	984.45	7.9671E-01
NP-239	41013.	106.12	1.9139E+00
PU-239	46420.	129.30	6.2905E+03
AM-241	37364.	59.54	4.2263E+00
AM-243	38439.	74.67	1.2562E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   17-JAN-1995 01:01:22.79                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T282-DUP
Sample Size:              1.00000E-03 LI
 lution Factor:           1.00000E+00
 nversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA2
File Number:              dka300:[spec.GEA2]2g2706.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:52:08.92 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        17-JAN-1995 00:08:36.23
Decayed to:               17-JAN-1995 00:08:36.23
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
Background Subtract:      DKA300:[SPEC.GEA2]2GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       21-MAR-1994 09:31:55.15
 Date of last efficiency calibration:   21-MAR-1994 09:43:42.61
*****************************************************************************
```

Removed by: Em Baeb

date: 1-17-95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.76*	941319	1.52	1323.55	1315	18	0.2		CS-137	1.306E+03
0	1103.86	45	1.25	2207.76	2206	5	55.7			
0	1173.33	45	1.64	2346.71	2341	12	104.1		CO-60	8.746E-02
0	1322.34	258	2.45	2644.82	2636	20	26.0			
0	1333.22	28	1.68	2666.60	2663	7	46.7		CO-60	6.046E-02

Total number of lines in spectrum	5	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	3	60.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	6.284E-02	6.284E-02	2.700E-02	42.96	comment on high uncertainty
CS-137	30.00Y	1.000	1.306E+03	1.306E+03	0.003E+03	0.21	
		Total Activity :	1.306E+03	1.306E+03			
		Grand Total Activity :	1.306E+03	1.306E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Sample ID : S94T282-DUP
Acquisition date : 17-JAN-1995 00:08:36

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	29987.	477.59	7.0242E+00
-22	89.	1274.53	9.1977E-02
NA-24	7.	1368.55	2.6955E-02
K-40	94.	1460.75	9.8918E-01
SC-46	182.	1120.55	1.1809E-01
CR-51	24564.	320.08	4.7430E+00
MN-54	552.	834.83	1.5739E-01
CO-56	533.	846.76	1.5663E-01
CO-57	26518.	122.06	3.6412E-01
CO-58	619.	810.78	1.6345E-01
FE-59	182.	1099.25	2.0540E-01
ZN-65	171.	1115.55	2.2465E-01
SE-75	27409.	264.66	7.5630E-01
KR-85	15431.	514.00	1.2799E+02
SR-85	15429.	514.01	5.7870E-01
Y-88	0.	1836.06	0.0000E+00
Y-90	5.	1760.70	1.0438E-01
Y-91	97.	1204.67	3.0607E+01
NB-94	476.	871.09	1.5152E-01
NB-95	739.	765.78	1.6957E-01
ZR-95	784.	756.73	3.1665E-01
RU-103	18980.	497.08	6.5820E-01
RURH-106	6786.	621.93	8.6778E+00
AG-108m	894.	722.94	1.9520E-01
CD-109	23254.	88.03	1.1708E+01
AG-110M	18482.	657.76	7.8634E-01
SN-113	26801.	391.69	9.0092E-01
-123m	27567.	159.00	3.7148E-01
SB-124	6840.	602.73	4.3078E-01
SB-125	31069.	427.89	2.2764E+00
TE-125m	24772.	109.27	1.1666E+02
I-129	22658.	39.60	0.0000E+00
I-131	25140.	364.48	6.5365E-01
XE-131m	27222.	163.93	1.6024E+01
BA-133	24862.	356.02	8.3558E-01
CS-134	6855.	604.70	4.3321E-01
CS-136	573.	818.51	1.5827E-01
CS-138	8.	1435.86	6.6448E-02
CE-139	27349.	165.85	3.9570E-01
BA-140	11492.	537.31	2.0413E+00
LA-140	4.	1596.21	2.4680E-02
CE-141	27410.	145.44	6.3340E-01
CE-144	27545.	133.51	2.7757E+00
CEPR-144	27546.	133.51	5.5465E+00
EU-152	13.	1408.01	1.8263E-01
EU-154	89.	1274.51	2.6728E-01
EU-155	23089.	86.54	1.3217E+00
HF-181	24436.	482.18	8.2220E-01
TA-182	21953.	67.75	1.7849E+00
HG-203	26092.	279.20	5.4901E-01
BI-207	7475.	569.70	4.3021E-01

Sample ID : S94T282-DUP Acquisition date : 17-JAN-1995 00:08:36

BEST AVAILABLE COPY

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	26349.	277.36	7.0893E+00
PB-210	21997.	46.50	0.0000E+00
BI-212	934.	727.18	2.7379E+00
PB-212	30848.	238.63	1.0022E+00
BI-214	6871.	609.31	9.5073E-01
PB-214	24918.	351.92	2.6200E+00
RA-224	30363.	240.99	1.1037E+01
RA-226	34821.	186.10	1.0886E+01
AC-228	430.	911.21	5.6265E-01
TH-228	23000.	84.37	3.5753E+01
TH-229	23305.	88.47	1.6990E+00
U-232	21771.	57.78	6.6460E+02
PA-233	24823.	312.17	1.2221E+00
PA-234M	279.	1001.03	2.2309E-01
TH-234	22162.	63.29	2.0445E+01
U-235	34469.	185.71	6.5830E-01
NP-237	23092.	86.48	3.5011E+00
U-237	21756.	59.54	3.3623E+00
NP-238	279.	984.45	4.6928E-01
NP-239	24277.	106.12	1.4723E+00
PU-239	27304.	129.30	4.8244E+03
AM-241	21756.	59.54	3.2250E+00
AM-243	22400.	74.67	9.5897E-01

LABCORE Data Entry Template for Worklist# 837

Analyst: DCD **Instrument:** GEA00 Det #3 **Book #** 64852 (100 ml)

Method: LA-548-121 Rev/Mod D-1

WHC-SD-WM-DP-074, REV. 0

Worklist Comment: Use 1 mL sample size. R(0) -PPB

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				@GEA-02	CO60-02	LIQUID			N/A	uCi/mL
		1	STD				@GEA-02	CO60-02E	LIQUID			N/A	% Ct. Error
		1	STD				@GEA-02	CS13702	LIQUID			N/A	uCi/mL
		1	STD				@GEA-02	CS13702E	LIQUID			N/A	% Ct. Error
		2	BLNK-PREP				@GEA-02	CO60-02	LIQUID			N/A	uCi/mL
		2	BLNK-PREP				@GEA-02	CS13702	LIQUID			N/A	uCi/mL
		2	BLNK-PREP				@GEA-02	EU15402	LIQUID			N/A	uCi/mL
		2	BLNK-PREP				@GEA-02	EU15502	LIQUID			N/A	uCi/mL
94000020	SY-103	3	SAMPLE	S95T000328	0		@GEA-02	CO60-02	LIQUID	N/A			uCi/mL
94000020	SY-103	3	SAMPLE	S95T000328	0		@GEA-02	CO60-02E	LIQUID	N/A			% Ct. Error
94000020	SY-103	3	SAMPLE	S95T000328	0		@GEA-02	CS13702	LIQUID	N/A			uCi/mL
94000020	SY-103	3	SAMPLE	S95T000328	0		@GEA-02	CS13702E	LIQUID	N/A			% Ct. Error
94000020	SY-103	3	SAMPLE	S95T000328	0		@GEA-02	EU15402	LIQUID	N/A			uCi/mL
94000020	SY-103	3	SAMPLE	S95T000328	0		@GEA-02	EU15402E	LIQUID	N/A			% Ct. Error
94000020	SY-103	3	SAMPLE	S95T000328	0		@GEA-02	EU15502	LIQUID	N/A			uCi/mL
94000020	SY-103	3	SAMPLE	S95T000328	0		@GEA-02	EU15502E	LIQUID	N/A			% Ct. Error
94000020	SY-103	4	DUP	S95T000328	0		@GEA-02	CO60-02	LIQUID			N/A	uCi/mL
94000020	SY-103	4	DUP	S95T000328	0		@GEA-02	CO60-02E	LIQUID			N/A	% Ct. Error

Data Entry Comments: Blk-PREP = 1.000 ml SS

S95T000328, S95T000329 used 0.100 mL sample size.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 837

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
94000020	SY-103	4	DUP	S95T000328	0		@GEA-02 CS13702	LIQUID			N/A	uCi/mL
94000020	SY-103	4	DUP	S95T000328	0		@GEA-02 CS13702E	LIQUID			N/A	% Ct. Error
94000020	SY-103	4	DUP	S95T000328	0		@GEA-02 EU15402	LIQUID			N/A	uCi/mL
94000020	SY-103	4	DUP	S95T000328	0		@GEA-02 EU15402E	LIQUID			N/A	% Ct. Error
94000020	SY-103	4	DUP	S95T000328	0		@GEA-02 EU15502	LIQUID			N/A	uCi/mL
94000020	SY-103	4	DUP	S95T000328	0		@GEA-02 EU15502E	LIQUID			N/A	% Ct. Error
94000020	SY-103	5	SAMPLE	S95T000329	0		@GEA-02 CO60-02	LIQUID	N/A			uCi/mL
94000020	SY-103	5	SAMPLE	S95T000329	0		@GEA-02 CO60-02E	LIQUID	N/A			% Ct. Error
94000020	SY-103	5	SAMPLE	S95T000329	0		@GEA-02 CS13702	LIQUID	N/A			uCi/mL
94000020	SY-103	5	SAMPLE	S95T000329	0		@GEA-02 CS13702E	LIQUID	N/A			% Ct. Error
94000020	SY-103	5	SAMPLE	S95T000329	0		@GEA-02 EU15402	LIQUID	N/A			uCi/mL
94000020	SY-103	5	SAMPLE	S95T000329	0		@GEA-02 EU15402E	LIQUID	N/A			% Ct. Error
94000020	SY-103	5	SAMPLE	S95T000329	0		@GEA-02 EU15502	LIQUID	N/A			uCi/mL
94000020	SY-103	5	SAMPLE	S95T000329	0		@GEA-02 EU15502E	LIQUID	N/A			% Ct. Error
94000020	SY-103	6	DUP	S95T000329	0		@GEA-02 CO60-02	LIQUID			N/A	uCi/mL
94000020	SY-103	6	DUP	S95T000329	0		@GEA-02 CO60-02E	LIQUID			N/A	% Ct. Error
94000020	SY-103	6	DUP	S95T000329	0		@GEA-02 CS13702	LIQUID			N/A	uCi/mL
94000020	SY-103	6	DUP	S95T000329	0		@GEA-02 CS13702E	LIQUID			N/A	% Ct. Error
94000020	SY-103	6	DUP	S95T000329	0		@GEA-02 EU15402	LIQUID			N/A	uCi/mL
94000020	SY-103	6	DUP	S95T000329	0		@GEA-02 EU15402E	LIQUID			N/A	% Ct. Error
94000020	SY-103	6	DUP	S95T000329	0		@GEA-02 EU15502	LIQUID			N/A	uCi/mL

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 837

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------		MATRIX	ACTUAL	FOUND	DL	UNIT
94000020	SY-103	6	DUP	S95T000329	0		@GEA-02	EU15502E	LIQUID			N/A	% Ct. Error
94000020	SY-103	7	SAMPLE	S95T000330	0		@GEA-02	CO60-02	LIQUID	N/A			uCi/mL
94000020	SY-103	7	SAMPLE	S95T000330	0		@GEA-02	CO60-02E	LIQUID	N/A			% Ct. Error
94000020	SY-103	7	SAMPLE	S95T000330	0		@GEA-02	CS13702	LIQUID	N/A			uCi/mL
94000020	SY-103	7	SAMPLE	S95T000330	0		@GEA-02	CS13702E	LIQUID	N/A			% Ct. Error
94000020	SY-103	7	SAMPLE	S95T000330	0		@GEA-02	EU15402	LIQUID	N/A			uCi/mL
94000020	SY-103	7	SAMPLE	S95T000330	0		@GEA-02	EU15402E	LIQUID	N/A			% Ct. Error
94000020	SY-103	7	SAMPLE	S95T000330	0		@GEA-02	EU15502	LIQUID	N/A			uCi/mL
94000020	SY-103	7	SAMPLE	S95T000330	0		@GEA-02	EU15502E	LIQUID	N/A			% Ct. Error
94000020	SY-103	8	DUP	S95T000330	0		@GEA-02	CO60-02	LIQUID			N/A	uCi/mL
94000020	SY-103	8	DUP	S95T000330	0		@GEA-02	CO60-02E	LIQUID			N/A	% Ct. Error
94000020	SY-103	8	DUP	S95T000330	0		@GEA-02	CS13702	LIQUID			N/A	uCi/mL
94000020	SY-103	8	DUP	S95T000330	0		@GEA-02	CS13702E	LIQUID			N/A	% Ct. Error
94000020	SY-103	8	DUP	S95T000330	0		@GEA-02	EU15402	LIQUID			N/A	uCi/mL
94000020	SY-103	8	DUP	S95T000330	0		@GEA-02	EU15402E	LIQUID			N/A	% Ct. Error
94000020	SY-103	8	DUP	S95T000330	0		@GEA-02	EU15502	LIQUID			N/A	uCi/mL
94000020	SY-103	8	DUP	S95T000330	0		@GEA-02	EU15502E	LIQUID			N/A	% Ct. Error
94000020	SY-103	9	SAMPLE	S95T000331	0		@GEA-02	CO60-02	LIQUID	N/A			uCi/mL
94000020	SY-103	9	SAMPLE	S95T000331	0		@GEA-02	CO60-02E	LIQUID	N/A			% Ct. Error
94000020	SY-103	9	SAMPLE	S95T000331	0		@GEA-02	CS13702	LIQUID	N/A			uCi/mL
94000020	SY-103	9	SAMPLE	S95T000331	0		@GEA-02	CS13702E	LIQUID	N/A			% Ct. Error
94000020	SY-103	9	SAMPLE	S95T000331	0		@GEA-02	EU15402	LIQUID	N/A			uCi/mL

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 837

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------		MATRIX	ACTUAL	FOUND	DL	UNIT
94000020	SY-103	9	SAMPLE	S95T000331	0		@GEA-02	EU15402E	LIQUID	N/A			% Ct. Error
94000020	SY-103	9	SAMPLE	S95T000331	0		@GEA-02	EU15502	LIQUID	N/A			uCi/mL
94000020	SY-103	9	SAMPLE	S95T000331	0		@GEA-02	EU15502E	LIQUID	N/A			% Ct. Error
94000020	SY-103	10	DUP	S95T000331	0		@GEA-02	CO60-02	LIQUID			N/A	uCi/mL
94000020	SY-103	10	DUP	S95T000331	0		@GEA-02	CO60-02E	LIQUID			N/A	% Ct. Error
94000020	SY-103	10	DUP	S95T000331	0		@GEA-02	CS13702	LIQUID			N/A	uCi/mL
94000020	SY-103	10	DUP	S95T000331	0		@GEA-02	CS13702E	LIQUID			N/A	% Ct. Error
94000020	SY-103	10	DUP	S95T000331	0		@GEA-02	EU15402	LIQUID			N/A	uCi/mL
94000020	SY-103	10	DUP	S95T000331	0		@GEA-02	EU15402E	LIQUID			N/A	% Ct. Error
94000020	SY-103	10	DUP	S95T000331	0		@GEA-02	EU15502	LIQUID			N/A	uCi/mL
94000020	SY-103	10	DUP	S95T000331	0		@GEA-02	EU15502E	LIQUID			N/A	% Ct. Error

Final page for worklist # 837

Analyst Signature Date 3-29-95 Analyst Signature Date 3/30/95

WHC-SD-WM-DP-074, REV. 0

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %	AVERAGE µCi/mL	RPD
STANDARD	CO60		2.06E+01	2.06E-02	4.27			0.00E+00			
Work List	CS137		2.60E+01	2.60E-02	4.47			0.00E+00			
837				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
LIQUID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
WORKLIST #837				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
DUP's Digest DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Instrument Code				0.00E+00				0.00E+00			
WC38931				0.00E+00				0.00E+00			
Analyst				0.00E+00				0.00E+00			
DCD				0.00E+00				0.00E+00			
Date											
03/29/95											
Time											
03:00 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: 3/30/95

Form 548121_1 Rev. 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %
BLANK	CO60	<	2.66E-02	5.32E-04	
Work List	CS137	<	4.01E-02	8.02E-04	
837	EU154	<	6.64E-02	1.33E-03	
Test Code	EU155	<	5.92E-02	1.18E-03	
@GEA-02				0.00E+00	
Matrix				0.00E+00	
LIQUID				0.00E+00	
Sample #				0.00E+00	
WORKLIST #837				0.00E+00	
				0.00E+00	
Digest DF				0.00E+00	
20				0.00E+00	
				0.00E+00	
DUP's Digest DF				0.00E+00	
1				0.00E+00	
				0.00E+00	
Instrument Code				0.00E+00	
WC38931				0.00E+00	
Analysi				0.00E+00	
DCD				0.00E+00	
Date					
03/29/95					
Time					
03:00 PM					

? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %		AVERAGE µCi/mL	RPD
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				
		0.00E+00				

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: 3/30/95

Form 548121_1 Rev. 2.5

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %		AVERAGE µCi/mL	RPD
SAMPLE/DUPLICATE	CO60	<	9.74E-01	1.95E-02		<	8.43E-01	1.69E-02		<	1.82E-02	NA
Work List	CS137		2.12E+04	4.24E+02	0.15		2.11E+04	4.22E+02	0.15		4.23E+02	0.5
837	EU154	<	4.01E+00	8.02E-02		<	4.14E+00	8.28E-02		<	8.15E-02	NA
Test Code	EU155	<	1.29E+01	2.58E-01		<	1.29E+01	2.58E-01		<	2.58E-01	NA
@GEA-020				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
LIQUID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S95T328				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
20				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DVF's Digest DF				0.00E+00				0.00E+00				
20				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
DCD				0.00E+00				0.00E+00				
Date												
03/29/95												
Time												
03:00 PM												

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: 3/30/95

Form 548121_1 Rev. 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %		AVERAGE µCi/mL	RPD
SAMPLE/DUPLICATE	CO60		1.36E+00	2.72E-02	32.01		1.19E+00	2.38E-02	33.82	<	2.55E-02	NA
Work List	CS137		1.90E+04	3.80E+02	0.16		1.84E+04	3.68E+02	0.16		3.74E+02	3.2
837	EU154	<	3.99E+00	7.98E-02		<	3.66E+00	7.32E-02		<	7.65E-02	NA
Test Code	EU155	<	1.22E+01	2.44E-01		<	1.21E+01	2.42E-01		<	2.43E-01	NA
@GEA-020				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
LIQUID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S95T329				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
20				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
20				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
DCD				0.00E+00				0.00E+00				
Date												
03/29/95												
Time												
03:00 PM												

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: 3/30/95

Form 548121_1 Rev. 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %		AVERAGE µCi/mL	RPD
SAMPLE/DUPLICATE	CO60	<	1.29E-01	2.58E-03			2.04E-01	4.08E-03	35	<	3.33E-03	NA
Work List	CS137		3.11E+03	6.22E+01	0.12		3.16E+03	6.32E+01	0.12		6.27E+01	1.6
837	EU154	<	6.63E-01	1.31E-02		<	6.47E-01	1.29E-02		<	1.30E-02	NA
Test Code	EU155	<	1.57E+00	3.14E-02		<	1.57E+00	3.14E-02		<	3.14E-02	NA
@GEA-020				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
LIQUID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S95T330				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
20				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
20				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
DCD				0.00E+00				0.00E+00				
Date												
03/29/95												
Time												
03:00 PM												

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: 3/30/95

Form 548121_1 Rev. 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-074, REV. 0

PREPARATION OF SAMPLE MOUNTS FOR GAMMA ENERGY ANALYSIS : LA-548-121 (D-1)

3 < Choose Sample Units: 1=µCi/Sample, 2=µCi/g, 3=µCi/L

3 < Choose Report Units: 1=µCi/L, 2=pCi/L, 3=µCi/mL, 4=µCi/g

Type	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/mL	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/mL	COUNTING ERROR %		AVERAGE µCi/mL	RPD
SAMPLE/DUPLICATE	CO60	<	2.38E-01	4.76E-03		<	2.36E-01	4.72E-03		<	4.74E-03	NA
Work List	CS137		5.22E+03	1.04E+02	0.1		5.20E+03	1.04E+02	0.1		1.04E+02	0.4
337	EU154	<	1.16E+00	2.32E-02		<	1.14E+00	2.28E-02		<	2.30E-02	NA
Test Code	EU155	<	2.04E+00	4.08E-02		<	2.03E+00	4.06E-02		<	4.07E-02	NA
@GEA-020				0.00E+00				0.00E+00				
Matrix				0.00E+00				0.00E+00				
LIQUID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S95T331				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Digest DF				0.00E+00				0.00E+00				
20				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
DUP's Digest DF				0.00E+00				0.00E+00				
20				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Instrument Code				0.00E+00				0.00E+00				
WC38931				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
DCD				0.00E+00				0.00E+00				
Date												
03/29/95												
Time												
03:00 PM												

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 03/30/95

Approved by: [signature] Date: 3/30/95

Form 548121_1 Rev. 2.9

```
*****************************************************************************
* 222-S Laboratory Counting Room   29-MAR-1995 17:56:02.06                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                WORKLIST#837-STD
Sample Size:              1.00000E-03 LI
   ution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3734.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.20 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        29-MAR-1995 17:05:23.54
Decayed to:               29-MAR-1995 17:05:23.54
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

date: 3-29-95

3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	609.65*	22	1.52	1219.49	1217	6	104.2			
0	661.67*	2296	1.43	1323.51	1318	11	4.5		CS-137	26.0
0	1173.16	1296	1.92	2346.59	2339	14	6.1		CO-60	20.4
0	1332.32	1181	1.87	2665.02	2659	14	5.9		CO-60	20.7

Sample ID : WORKLIST#837-STD
Acquisition date : 29-MAR-1995 17:05:23

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	2.056E+01	2.056E+01	0.088E+01	4.27	
CS-137	30.00Y	1.000	2.595E+01	2.595E+01	0.116E+01	4.47	
		Total Activity :	4.651E+01	4.651E+01			
		Grand Total Activity :	4.651E+01	4.651E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : WORKLIST#837-STD
Acquisition date : 29-MAR-1995 17:05:23

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
7	163.	477.59	4.2110E+00
NA-22	15.	1274.53	3.0372E-01
NA-24	7.	1368.55	2.2123E-01
K-40	139.	1460.75	9.6420E+00
SC-46	69.	1120.55	5.8352E-01
CR-51	138.	320.08	2.9099E+00
MN-54	83.	834.83	4.9779E-01
CO-56	72.	846.76	4.6916E-01
CO-57	194.	122.06	2.4102E-01
CO-58	73.	810.78	4.5723E-01
FE-59	87.	1099.25	1.1466E+00
ZN-65	65.	1115.55	1.1152E+00
SE-75	173.	264.66	4.8850E-01
KR-85	114.	514.00	8.9070E+01
SR-85	114.	514.01	4.0241E-01
Y-88	3.	1836.06	1.8173E-01
Y-90	4.	1760.70	7.1990E-01
Y-91	32.	1204.67	1.4198E+02
NB-94	79.	871.09	5.0375E-01
NB-95	68.	765.78	4.2101E-01
ZR-95	64.	756.73	7.3670E-01
RU-103	97.	497.08	3.8159E-01
RURH-106	83.	621.93	7.8233E+00
AG-108m	69.	722.94	4.4097E-01
CD-109	157.	88.03	7.1724E+00
AG-110M	113.	657.76	5.0106E-01
[illegible]-113	147.	391.69	5.5088E-01
123m	206.	159.00	2.5563E-01
SB-124	69.	602.73	3.5179E-01
SB-125	143.	427.89	1.2678E+00
TE-125m	175.	109.27	7.4607E+01
I-129	162.	39.60	0.0000E+00
I-131	133.	364.48	3.9142E-01
XE-131m	163.	163.93	9.8799E+00
BA-133	144.	356.02	5.2394E-01
CS-134	77.	604.70	3.7358E-01
CS-136	67.	818.51	4.4023E-01
CS-138	1.	1435.86	2.0437E-01
CE-139	159.	165.85	2.4077E-01
BA-140	72.	537.31	1.3032E+00
LA-140	8.	1596.21	2.7320E-01
CE-141	158.	145.44	3.7955E-01
CE-144	204.	133.51	1.8702E+00
CEPR-144	204.	133.51	3.7376E+00
EU-152	11.	1408.01	1.3387E+00
EU-154	15.	1274.51	8.8122E-01
EU-155	168.	86.54	8.4105E-01
HF-181	114.	482.18	4.5561E-01
TA-182	153.	67.75	1.2071E+00
HG-203	182.	279.20	3.7390E-01
BI-207	72.	569.70	3.4222E-01

Sample ID : WORKLIST#837-STD Acquisition date : 29-MAR-1995 17:05:23

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	194.	277.36	4.9499E+00
PB-210	148.	46.50	0.0000E+00
BI-212	69.	727.18	6.0494E+00
PB-212	207.	238.63	6.6422E-01
BI-214	105.	609.31	9.5482E-01
PB-214	175.	351.92	1.7663E+00
RA-224	189.	240.99	7.0464E+00
RA-226	204.	186.10	6.6957E+00
AC-228	105.	911.21	2.2749E+00
TH-228	163.	84.37	2.2560E+01
TH-229	161.	88.47	1.0547E+00
U-232	124.	57.78	5.2182E+02
PA-233	158.	312.17	7.9787E-01
PA-234M	88.	1001.03	3.0147E+01
TH-234	148.	63.29	1.4449E+01
U-235	200.	185.71	4.0196E-01
NP-237	168.	86.48	2.2310E+00
U-237	139.	59.54	2.5827E+00
NP-238	77.	984.45	1.9967E+00
NP-239	160.	106.12	9.0518E-01
PU-239	185.	129.30	3.1020E+03
AM-241	139.	59.54	2.4772E+00
AM-243	151.	74.67	6.0528E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   29-MAR-1995 19:13:33.80                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                WORKLIST#837-BLK
Sample Size:              1.00000E-03 LI
   ution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3735.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.43 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        29-MAR-1995 18:22:57.77
Decayed to:               29-MAR-1995 18:22:57.77
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

date: 3-29-95

3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	352.23*	36	1.44	704.76	697	14	97.5			
0	609.40*	30	1.29	1218.98	1216	13	81.8			
0	1764.03*	11	0.58	3528.90	3522	13	87.3			

Sample ID : WORKLIST#837-BLK Acquisition date : 29-MAR-1995 18:22:57

Total number of lines in spectrum	3	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	3	100.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : WORKLIST#837-BLK
Acquisition date : 29-MAR-1995 18:22:57

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
7	24.	477.59	1.6115E-01
NA-22	9.	1274.53	2.2963E-02
NA-24	4.	1368.55	1.6935E-02
K-40	142.	1460.75	9.7516E-01
SC-46	21.	1120.55	3.2003E-02
CR-51	52.	320.08	1.7948E-01
MN-54	12.	834.83	1.9218E-02
CO-56	23.	846.76	2.6648E-02
CO-57	82.	122.06	1.5625E-02
CO-58	13.	810.78	1.9153E-02
FE-59	11.	1099.25	4.1049E-02
CO-60	11.	1332.50	2.6559E-02
ZN-65	13.	1115.55	4.9106E-02
SE-75	64.	264.66	2.9713E-02
KR-85	44.	514.00	5.5485E+00
SR-85	44.	514.01	2.5067E-02
Y-88	1.	1836.06	1.0492E-02
Y-90	6.	1760.70	8.4005E-02
Y-91	10.	1204.67	8.0693E+00
NB-94	16.	871.09	2.2812E-02
NB-95	15.	765.78	1.9763E-02
ZR-95	15.	756.73	3.5142E-02
RU-103	25.	497.08	1.9315E-02
RURH-106	26.	621.93	4.3702E-01
AG-108m	28.	722.94	2.8299E-02
CD-109	76.	88.03	4.9816E-01
-110M	25.	657.76	2.3501E-02
113	33.	391.69	2.5983E-02
TE-123m	91.	159.00	1.7004E-02
SB-124	23.	602.73	2.0393E-02
SB-125	43.	427.89	6.9308E-02
TE-125m	83.	109.27	5.1423E+00
I-129	54.	39.60	0.0000E+00
I-131	33.	364.48	1.9517E-02
XE-131m	77.	163.93	6.8139E-01
BA-133	39.	356.02	2.7363E-02
CS-134	20.	604.70	1.9069E-02
CS-136	21.	818.51	2.4890E-02
CS-137	58.	661.66	4.0051E-02
CS-138	8.	1435.86	5.0820E-02
CE-139	71.	165.85	1.6122E-02
BA-140	31.	537.31	8.5505E-02
LA-140	4.	1596.21	1.8891E-02
CE-141	71.	145.44	2.5440E-02
CE-144	70.	133.51	1.0947E-01
CEPR-144	70.	133.51	2.1868E-01
EU-152	10.	1408.01	1.2646E-01
EU-154	8.	1274.51	6.6402E-02
EU-155	83.	86.54	5.9186E-02
HF-181	21.	482.18	1.9555E-02
TA-182	58.	67.75	7.4019E-02

Sample ID : WORKLIST#837-BLK Acquisition date : 29-MAR-1995 18:22:57

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	78.	279.20	2.4441E-02
BI-207	23.	569.70	1.9213E-02
TL-208	72.	277.36	3.0172E-01
PB-210	61.	46.50	0.0000E+00
BI-212	20.	727.18	3.2662E-01
PB-212	91.	238.63	4.3989E-02
BI-214	63.	609.31	7.3749E-02
PB-214	80.	351.92	1.1969E-01
RA-224	80.	240.99	4.5792E-01
RA-226	71.	186.10	3.9442E-01
AC-228	28.	911.21	1.1783E-01
TH-228	79.	84.37	1.5729E+00
TH-229	78.	88.47	7.3341E-02
U-232	58.	57.78	3.5702E+01
PA-233	44.	312.17	4.2190E-02
PA-234M	16.	1001.03	1.2694E+00
TH-234	46.	63.29	8.0716E-01
U-235	71.	185.71	2.3952E-02
NP-237	83.	86.48	1.5691E-01
U-237	51.	59.54	1.5613E-01
NP-238	21.	984.45	1.0507E-01
NP-239	63.	106.12	5.6578E-02
PU-239	82.	129.30	2.0639E+02
AM-241	51.	59.54	1.4976E-01
AM-243	89.	74.67	4.6517E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   29-MAR-1995 20:11:51.47                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95000328-SAM
Sample Size:              1.00000E-03 LI
  ution Factor:           1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3736.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:54:02.35 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        29-MAR-1995 19:17:12.81
Decayed to:               29-MAR-1995 19:17:12.81
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

date: 3-29-95

3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	41.91	721	1.31	84.39	82	6	86.9			
0	661.63*	1871740	1.55	1323.43	1315	17	0.2		CS-137	2.116E+04
0	1322.17	782	2.90	2644.70	2638	14	14.5			
0	1332.84	114	2.50	2666.06	2657	20	42.4			

Total number of lines in spectrum	4	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	2	50.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.116E+04	2.116E+04	0.003E+04	0.15	
		Total Activity :	2.116E+04	2.116E+04			
		Grand Total Activity :	2.116E+04	2.116E+04			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
7	58568.	477.59	7.9729E+01
NA-22	310.	1274.53	1.3825E+00
NA-24	37.	1368.55	5.1781E-01
K-40	147.	1460.75	9.9132E+00
SC-46	659.	1120.55	1.8081E+00
CR-51	44778.	320.08	5.2464E+01
MN-54	2040.	834.83	2.4694E+00
CO-56	2065.	846.76	2.5163E+00
CO-57	45149.	122.06	3.6773E+00
CO-58	2161.	810.78	2.4925E+00
FE-59	760.	1099.25	3.3805E+00
CO-60	143.	1332.50	9.7446E-01
ZN-65	659.	1115.55	3.5510E+00
SE-75	49384.	264.66	8.2539E+00
KR-85	29716.	514.00	1.4360E+03
SR-85	29714.	514.01	6.4929E+00
Y-88	8.	1836.06	2.9353E-01
Y-90	11.	1760.70	1.1871E+00
Y-91	338.	1204.67	4.5882E+02
NB-94	1839.	871.09	2.4334E+00
NB-95	2554.	765.78	2.5718E+00
ZR-95	2797.	756.73	4.8767E+00
RU-103	36071.	497.08	7.3471E+00
RURH-106	10683.	621.93	8.8567E+01
AG-108m	3136.	722.94	2.9800E+00
CD-109	39491.	88.03	1.1388E+02
110M	34687.	657.76	8.7734E+00
113	49748.	391.69	1.0140E+01
TE-123m	47821.	159.00	3.8934E+00
SB-124	11538.	602.73	4.5463E+00
SB-125	57672.	427.89	2.5488E+01
TE-125m	42206.	109.27	1.1576E+03
I-129	36949.	39.60	0.0000E+00
I-131	46418.	364.48	7.3244E+00
XE-131m	47732.	163.93	1.6920E+02
BA-133	45184.	356.02	9.2775E+00
CS-134	11356.	604.70	4.5313E+00
CS-136	2130.	818.51	2.4901E+00
CS-138	21.	1435.86	8.7665E-01
CE-139	47854.	165.85	4.1767E+00
BA-140	21441.	537.31	2.2541E+01
LA-140	13.	1596.21	3.6223E-01
CE-141	47368.	145.44	6.5794E+00
CE-144	47128.	133.51	2.8438E+01
CEPR-144	47129.	133.51	5.6825E+01
EU-152	37.	1408.01	2.4654E+00
EU-154	310.	1274.51	4.0137E+00
EU-155	39499.	86.54	1.2914E+01
HF-181	46931.	482.18	9.2467E+00
TA-182	36709.	67.75	1.8702E+01
HG-203	46953.	279.20	6.0016E+00

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	13436.	569.70	4.6735E+00
TL-208	47188.	277.36	7.7290E+01
PB-210	36376.	46.50	0.0000E+00
BI-212	3183.	727.18	4.1201E+01
PB-212	55100.	238.63	1.0843E+01
BI-214	10959.	609.31	9.7604E+00
PB-214	45382.	351.92	2.9661E+01
RA-224	54238.	240.99	1.1947E+02
RA-226	63017.	186.10	1.1754E+02
AC-228	1431.	911.21	8.3805E+00
TH-228	39425.	84.37	3.5044E+02
TH-229	39358.	88.47	1.6478E+01
U-232	36079.	57.78	8.8913E+03
PA-233	44855.	312.17	1.3451E+01
PA-234M	976.	1001.03	1.0833E+02
TH-234	36684.	63.29	2.2768E+02
U-235	62397.	185.71	7.1085E+00
NP-237	39526.	86.48	3.4218E+01
U-237	36200.	59.54	4.1617E+01
NP-238	1031.	984.45	7.3204E+00
NP-239	41566.	106.12	1.4582E+01
PU-239	46479.	129.30	4.9110E+04
AM-241	36200.	59.54	3.9912E+01
AM-243	37694.	74.67	9.5727E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   29-MAR-1995 21:06:33.80                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T000328-DUP
Sample Size:              1.00000E-03 LI
   ution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3737.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:54:01.52 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        29-MAR-1995 20:11:55.81
Decayed to:               29-MAR-1995 20:11:55.81
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

date: 3-29-95

3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

[illegible]	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	185.74*	941	1.52	371.90	370	6	77.7		RA-226	94.7
0	661.62*	1869162	1.55	1323.42	1315	17	0.2		CS-137	2.113E+04
0	1321.79	997	2.95	2643.95	2635	20	13.9			
0	1332.57	68	1.88	2665.52	2661	12	43.8			

Sample ID : S95T000328-DUP
Acquisition date : 29-MAR-1995 20:11:55

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	2.113E+04	2.113E+04	0.003E+04	0.15	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~9.472E+01~~	~~9.472E+01~~	~~7.357E+01~~	~~77.68~~ BKG 3/30/95	
			---	---			
Total Activity :			2.122E+04	2.122E+04			
Grand Total Activity :			2.122E+04	2.122E+04			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S95T000328-DUP
Acquisition date : 29-MAR-1995 20:11:55

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
7	58519.	477.59	7.9696E+01
NA-22	330.	1274.53	1.4260E+00
NA-24	31.	1368.55	4.7299E-01
K-40	135.	1460.75	9.5162E+00
SC-46	642.	1120.55	1.7847E+00
CR-51	44107.	320.08	5.2069E+01
MN-54	1999.	834.83	2.4446E+00
CO-56	2057.	846.76	2.5116E+00
CO-57	45247.	122.06	3.6813E+00
CO-58	2275.	810.78	2.5570E+00
FE-59	709.	1099.25	3.2645E+00
CO-60	107.	1332.50	8.4253E-01
ZN-65	621.	1115.55	3.4476E+00
SE-75	49185.	264.66	8.2372E+00
KR-85	29375.	514.00	1.4277E+03
SR-85	29374.	514.01	6.4556E+00
Y-88	5.	1836.06	2.3408E-01
Y-90	11.	1760.70	1.1584E+00
Y-91	333.	1204.67	4.5531E+02
NB-94	1712.	871.09	2.3479E+00
NB-95	2578.	765.78	2.5837E+00
ZR-95	2615.	756.73	4.7153E+00
RU-103	35389.	497.08	7.2773E+00
RURH-106	10691.	621.93	8.8600E+01
AG-108m	3250.	722.94	3.0334E+00
CD-109	39396.	88.03	1.1374E+02
110M	34803.	657.76	8.7880E+00
113	49592.	391.69	1.0124E+01
TE-123m	46801.	159.00	3.8517E+00
SB-124	11497.	602.73	4.5383E+00
SB-125	57401.	427.89	2.5428E+01
TE-125m	41471.	109.27	1.1475E+03
I-129	37005.	39.60	0.0000E+00
I-131	46223.	364.48	7.3090E+00
XE-131m	47339.	163.93	1.6850E+02
BA-133	45598.	356.02	9.3199E+00
CS-134	11342.	604.70	4.5285E+00
CS-136	2151.	818.51	2.5023E+00
CS-138	15.	1435.86	7.2986E-01
CE-139	47782.	165.85	4.1736E+00
BA-140	21309.	537.31	2.2472E+01
LA-140	13.	1596.21	3.5455E-01
CE-141	46942.	145.44	6.5497E+00
CE-144	46861.	133.51	2.8357E+01
CEPR-144	46859.	133.51	5.6662E+01
EU-152	29.	1408.01	2.2025E+00
EU-154	330.	1274.51	4.1408E+00
EU-155	39306.	86.54	1.2883E+01
HF-181	46762.	482.18	9.2300E+00
TA-182	36805.	67.75	1.8726E+01
HG-203	47035.	279.20	6.0069E+00

Sample ID : S95T000328-DUP Acquisition date : 29-MAR-1995 20:11:55

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	13303.	569.70	4.6503E+00
TL-208	47453.	277.36	7.7507E+01
PB-210	36142.	46.50	0.0000E+00
BI-212	3167.	727.18	4.1094E+01
PB-212	54837.	238.63	1.0817E+01
BI-214	11151.	609.31	9.8454E+00
PB-214	45480.	351.92	2.9689E+01
RA-224	54306.	240.99	1.1955E+02
AC-228	1377.	911.21	8.2207E+00
TH-228	39272.	84.37	3.4975E+02
TH-229	39360.	88.47	1.6478E+01
U-232	36009.	57.78	8.8826E+03
PA-233	45086.	312.17	1.3486E+01
PA-234M	965.	1001.03	1.0768E+02
TH-234	36116.	63.29	2.2591E+02
U-235	62425.	185.71	7.1101E+00
NP-237	39304.	86.48	3.4122E+01
U-237	36087.	59.54	4.1551E+01
NP-238	1100.	984.45	7.5590E+00
NP-239	40861.	106.12	1.4458E+01
PU-239	46405.	129.30	4.9071E+04
AM-241	36087.	59.54	3.9850E+01
AM-243	37802.	74.67	9.5863E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   29-MAR-1995 22:17:33.49                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T000329-SAM
Sample Size:              1.00000E-03 LI
   ution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3738.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:35.02 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        29-MAR-1995 21:23:12.19
Decayed to:               29-MAR-1995 21:23:12.19
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: [signature]

date: 3-29-95

[signature] 3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	186.01*	790	1.46	372.45	371	6	87.8		RA-226	79.5
0	661.62*	1679421	1.55	1323.42	1315	17	0.2		CS-137	1.898E+04
0	1173.28	96	2.08	2346.82	2342	9	61.5		CO-60	1.51
0	1321.87	752	2.32	2644.11	2636	19	16.6			
0	1332.51	75	1.28	2665.39	2659	13	37.4		CO-60	1.32

Sample ID : S95T000329-SAM Acquisition date : 29-MAR-1995 21:23:12

Total number of lines in spectrum	5	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	4	80.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	1.363E+00	1.363E+00	0.436E+00	32.01	
CS-137	30.00Y	1.000	1.898E+04	1.898E+04	0.003E+04	0.16	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~7.954E+01~~	~~7.954E+01~~	~~6.981E+01~~	~~87.76~~	BKG 3/30/95
Total Activity :			1.906E+04	1.906E+04			
Grand Total Activity :			1.906E+04	1.906E+04			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S95T000329-SAM Acquisition date : 29-MAR-1995 21:23:12

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	51685.	477.59	7.4898E+01
NA-22	306.	1274.53	1.3732E+00
NA-24	26.	1368.55	4.2932E-01
K-40	134.	1460.75	9.4881E+00
SC-46	525.	1120.55	1.6135E+00
CR-51	40136.	320.08	4.9670E+01
MN-54	1664.	834.83	2.2301E+00
CO-56	1617.	846.76	2.2267E+00
CO-57	40959.	122.06	3.5025E+00
CO-58	1804.	810.78	2.2774E+00
FE-59	602.	1099.25	3.0097E+00
ZN-65	519.	1115.55	3.1524E+00
SE-75	44462.	264.66	7.8318E+00
KR-85	26484.	514.00	1.3556E+03
SR-85	26480.	514.01	6.1293E+00
Y-88	4.	1836.06	2.0924E-01
Y-90	4.	1760.70	7.2485E-01
Y-91	256.	1204.67	3.9932E+02
NB-94	1427.	871.09	2.1434E+00
NB-95	1978.	765.78	2.2630E+00
ZR-95	2165.	756.73	4.2911E+00
RU-103	32247.	497.08	6.9467E+00
RURH-106	9527.	621.93	8.3640E+01
AG-108m	2614.	722.94	2.7208E+00
CD-109	35422.	88.03	1.0786E+02
AG-110M	31194.	657.76	8.3199E+00
-113	44121.	391.69	9.5495E+00
-123m	42369.	159.00	3.6648E+00
SB-124	10046.	602.73	4.2422E+00
SB-125	52019.	427.89	2.4207E+01
TE-125m	37448.	109.27	1.0904E+03
I-129	32968.	39.60	0.0000E+00
I-131	41412.	364.48	6.9181E+00
XE-131m	42285.	163.93	1.5925E+02
BA-133	40904.	356.02	8.8271E+00
CS-134	9938.	604.70	4.2389E+00
CS-136	1752.	818.51	2.2583E+00
CS-138	17.	1435.86	7.8584E-01
CE-139	42780.	165.85	3.9491E+00
BA-140	19077.	537.31	2.1262E+01
LA-140	13.	1596.21	3.4996E-01
CE-141	42566.	145.44	6.2370E+00
CE-144	42335.	133.51	2.6953E+01
CEPR-144	42335.	133.51	5.3857E+01
EU-152	23.	1408.01	1.9681E+00
EU-154	306.	1274.51	3.9886E+00
EU-155	35228.	86.54	1.2196E+01
HF-181	41519.	482.18	8.6972E+00
TA-182	33020.	67.75	1.7737E+01
HG-203	42331.	279.20	5.6986E+00
BI-207	11947.	569.70	4.4070E+00

Sample ID : S95T000329-SAM Acquisition date : 29-MAR-1995 21:23:12

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	42357.	277.36	7.3227E+01
PB-210	32625.	46.50	0.0000E+00
BI-212	2524.	727.18	3.6689E+01
PB-212	49366.	238.63	1.0263E+01
BI-214	9908.	609.31	9.2807E+00
PB-214	40640.	351.92	2.7941E+01
RA-224	48378.	240.99	1.1283E+02
AC-228	1177.	911.21	7.6003E+00
TH-228	35162.	84.37	3.3095E+02
TH-229	35444.	88.47	1.5637E+01
U-232	32611.	57.78	8.4532E+03
PA-233	40281.	312.17	1.2747E+01
PA-234M	779.	1001.03	9.5932E+01
TH-234	32478.	63.29	2.1423E+02
U-235	55470.	185.71	6.7024E+00
NP-237	35235.	86.48	3.2308E+01
U-237	32311.	59.54	3.9317E+01
NP-238	793.	984.45	6.4192E+00
NP-239	37091.	106.12	1.3774E+01
PU-239	41913.	129.30	4.6635E+04
AM-241	32311.	59.54	3.7707E+01
AM-243	34222.	74.67	9.1211E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   29-MAR-1995 23:11:58.10                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T000329-DUP
Sample Size:              1.00000E-03 LI
  ution Factor:           1.00000E+01
onversion LI to LI:       1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3739.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:28.16 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        29-MAR-1995 22:17:53.59
Decayed to:               29-MAR-1995 22:17:53.59
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

date: 3-29-95

Bachelor 3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.61*	1630395	1.55	1323.40	1315	17	0.2		CS-137	1.843E+04
0	1172.60	128	1.85	2345.47	2338	15	65.9		CO-60	2.02
0	1321.90	751	2.75	2644.17	2635	20	16.5			
0	1332.17	63	0.92	2664.72	2660	11	38.2		CO-60	1.11

Sample ID : S95T000329-DUP Acquisition date : 29-MAR-1995 22:17:53

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	1.194E+00	1.194E+00	0.404E+00	33.82	
CS-137	30.00Y	1.000	1.843E+04	1.843E+04	0.003E+04	0.16	
			---	---			
Total Activity :			1.843E+04	1.843E+04			
Grand Total Activity :			1.843E+04	1.843E+04			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S95T000329-DUP
Acquisition date : 29-MAR-1995 22:17:53

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
7	50339.	477.59	7.3916E+01
NA-22	258.	1274.53	1.2604E+00
NA-24	20.	1368.55	3.8198E-01
K-40	134.	1460.75	9.4850E+00
SC-46	504.	1120.55	1.5807E+00
CR-51	38712.	320.08	4.8781E+01
MN-54	1592.	834.83	2.1812E+00
CO-56	1448.	846.76	2.1072E+00
CO-57	39759.	122.06	3.4508E+00
CO-58	1662.	810.78	2.1859E+00
FE-59	564.	1099.25	2.9115E+00
ZN-65	512.	1115.55	3.1315E+00
SE-75	42906.	264.66	7.6935E+00
KR-85	25516.	514.00	1.3306E+03
SR-85	25512.	514.01	6.0162E+00
Y-88	7.	1836.06	2.7414E-01
Y-90	4.	1760.70	7.3418E-01
Y-91	230.	1204.67	3.7897E+02
NB-94	1323.	871.09	2.0643E+00
NB-95	1943.	765.78	2.2430E+00
ZR-95	2064.	756.73	4.1891E+00
RU-103	30633.	497.08	6.7706E+00
RURH-106	9242.	621.93	8.2378E+01
AG-108m	2446.	722.94	2.6316E+00
CD-109	34582.	88.03	1.0657E+02
AG-110M	30634.	657.76	8.2448E+00
[illegible]-113	42948.	391.69	9.4216E+00
123m	41480.	159.00	3.6261E+00
SB-124	9796.	602.73	4.1891E+00
SB-125	50334.	427.89	2.3811E+01
TE-125m	36640.	109.27	1.0786E+03
I-129	32297.	39.60	0.0000E+00
I-131	39744.	364.48	6.7773E+00
XE-131m	41221.	163.93	1.5723E+02
BA-133	39228.	356.02	8.6444E+00
CS-134	9642.	604.70	4.1754E+00
CS-136	1626.	818.51	2.1760E+00
CS-138	17.	1435.86	7.7588E-01
CE-139	41354.	165.85	3.8827E+00
BA-140	18058.	537.31	2.0686E+01
LA-140	8.	1596.21	2.7924E-01
CE-141	41079.	145.44	6.1271E+00
CE-144	40961.	133.51	2.6512E+01
CEPR-144	40960.	133.51	5.2976E+01
EU-152	26.	1408.01	2.0606E+00
EU-154	258.	1274.51	3.6634E+00
EU-155	34490.	86.54	1.2068E+01
HF-181	40468.	482.18	8.5864E+00
TA-182	32156.	67.75	1.7504E+01
HG-203	40843.	279.20	5.5976E+00
BI-207	11559.	569.70	4.3348E+00

Sample ID : S95T000329-DUP Acquisition date : 29-MAR-1995 22:17:53

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	41254.	277.36	7.2267E+01
PB-210	31534.	46.50	0.0000E+00
BI-212	2421.	727.18	3.5928E+01
PB-212	47460.	238.63	1.0063E+01
BI-214	9526.	609.31	9.0997E+00
PB-214	39284.	351.92	2.7439E+01
RA-224	47110.	240.99	1.1134E+02
RA-226	54571.	186.10	1.0938E+02
AC-228	1122.	911.21	7.4187E+00
TH-228	34080.	84.37	3.2582E+02
TH-229	34610.	88.47	1.5452E+01
U-232	31532.	57.78	8.3121E+03
PA-233	39231.	312.17	1.2580E+01
PA-234M	738.	1001.03	9.3226E+01
TH-234	31861.	63.29	2.1219E+02
U-235	53956.	185.71	6.6103E+00
NP-237	34491.	86.48	3.1965E+01
U-237	31610.	59.54	3.8888E+01
NP-238	764.	984.45	6.2985E+00
NP-239	35679.	106.12	1.3509E+01
PU-239	40363.	129.30	4.5765E+04
AM-241	31610.	59.54	3.7296E+01
AM-243	32841.	74.67	8.9351E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-MAR-1995 01:35:30.29                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T330-SAM
Sample Size:              1.00000E-03 LI
  ution Factor:           1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3741.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:56:13.93 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        30-MAR-1995 00:38:38.56
Decayed to:               30-MAR-1995 00:38:38.56
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  VR
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by: [illegible]

date: 3-30-95

[illegible] Bachelor 3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	185.95*	984	1.62	372.33	370	6	90.5		RA-226	9.90
0	661.64*	2755422	1.56	1323.46	1315	17	0.1		CS-137	3.114E+03
0	1322.01	2031	2.62	2644.38	2636	18	9.9			
0	1332.38	138	1.88	2665.14	2661	9	28.9			
0	1764.51*	16	2.07	3529.86	3521	15	85.6			

Sample ID : S95T330-SAM
Acquisition date : 30-MAR-1995 00:38:38

Total number of lines in spectrum	5	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	4	80.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	3.114E+03	3.114E+03	0.004E+03	0.12	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~9.904E+00~~	~~9.904E+00~~	~~8.962E+00~~	~~90.49~~ BKG 3/30/95	
			---	---			
	Total Activity :		3.124E+03	3.124E+03			
	Grand Total Activity :		3.124E+03	3.124E+03			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Sample ID : S95T330-SAM Acquisition date : 30-MAR-1995 00:38:38

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
7	87389.	477.59	9.7391E+00
NA-22	820.	1274.53	2.2474E-01
NA-24	88.	1368.55	7.9431E-02
K-40	185.	1460.75	1.1121E+00
SC-46	1553.	1120.55	2.7760E-01
CR-51	66768.	320.08	6.4065E+00
MN-54	4628.	834.83	3.7196E-01
CO-56	4284.	846.76	3.6245E-01
CO-57	67020.	122.06	4.4803E-01
CO-58	4912.	810.78	3.7578E-01
FE-59	1682.	1099.25	5.0295E-01
CO-60	249.	1332.50	1.2854E-01
ZN-65	1567.	1115.55	5.4778E-01
SE-75	73306.	264.66	1.0056E+00
KR-85	45070.	514.00	1.7684E+02
SR-85	45069.	514.01	7.9965E-01
Y-88	9.	1836.06	3.0865E-02
Y-90	13.	1760.70	1.2737E-01
Y-91	723.	1204.67	6.7125E+01
NB-94	3954.	871.09	3.5680E-01
NB-95	5665.	765.78	3.8301E-01
ZR-95	5857.	756.73	7.0574E-01
RU-103	55077.	497.08	9.0787E-01
RURH-106	16860.	621.93	1.1126E+01
AG-108m	7032.	722.94	4.4623E-01
CD-109	58736.	88.03	1.3889E+01
-110M	51466.	657.76	1.0687E+00
-113	74179.	391.69	1.2382E+00
TE-123m	70287.	159.00	4.7203E-01
SB-124	18039.	602.73	5.6847E-01
SB-125	86653.	427.89	3.1242E+00
TE-125m	62169.	109.27	1.4049E+02
I-129	54669.	39.60	0.0000E+00
I-131	69370.	364.48	8.9545E-01
XE-131m	70287.	163.93	2.0533E+01
BA-133	68097.	356.02	1.1389E+00
CS-134	18108.	604.70	5.7220E-01
CS-136	4956.	818.51	3.7989E-01
CS-138	68.	1435.86	1.6012E-01
CE-139	70499.	165.85	5.0696E-01
BA-140	32886.	537.31	2.7918E+00
LA-140	30.	1596.21	5.3816E-02
CE-141	70197.	145.44	8.0096E-01
CE-144	69564.	133.51	3.4550E+00
CEPR-144	69564.	133.51	6.9038E+00
EU-152	72.	1408.01	3.4467E-01
EU-154	820.	1274.51	6.5292E-01
EU-155	58212.	86.54	1.5678E+00
HF-181	71363.	482.18	1.1402E+00
TA-182	54184.	67.75	2.2721E+00
HG-203	70926.	279.20	7.3764E-01

Sample ID : S95T330-SAM Acquisition date : 30-MAR-1995 00:38:38

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	20825.	569.70	5.8184E-01
TL-208	71037.	277.36	9.4831E+00
PB-210	54074.	46.50	0.0000E+00
BI-212	6955.	727.18	6.0901E+00
PB-212	81467.	238.63	1.3185E+00
BI-214	17640.	609.31	1.2383E+00
PB-214	67560.	351.92	3.6989E+00
RA-224	80942.	240.99	1.4597E+01
AC-228	3150.	911.21	1.2433E+00
TH-228	57695.	84.37	4.2393E+01
TH-229	58670.	88.47	2.0118E+00
U-232	53537.	57.78	1.0831E+03
PA-233	67237.	312.17	1.6469E+00
PA-234M	2244.	1001.03	1.7091E+01
TH-234	53904.	63.29	2.7599E+01
U-235	92501.	185.71	8.6551E-01
NP-237	58214.	86.48	4.1527E+00
U-237	53360.	59.54	5.0531E+00
NP-238	2460.	984.45	1.1309E+00
NP-239	60708.	106.12	1.7627E+00
PU-239	69314.	129.30	5.9973E+03
AM-241	53360.	59.54	4.8457E+00
AM-243	55973.	74.67	1.1665E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-MAR-1995 03:20:59.89                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T330-DUP
Sample Size:              1.00000E-03 LI
  ution Factor:           1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3742.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:56:19.74 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        30-MAR-1995 02:24:04.62
Decayed to:               30-MAR-1995 02:24:04.62
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  VR
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

Raymond

date: 3 30 95

Bachelor 3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

TY	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.64*	2793101	1.57	1323.45	1315	17	0.1		CS-137	3.157E+03
0	1172.85	173	1.60	2345.96	2341	10	64.7		CO-60	0.272
0	1321.81	2283	2.94	2643.98	2635	19	9.1			
0	1332.16	109	1.90	2664.70	2661	10	41.0		CO-60	0.190

Sample ID : S95T330-DUP Acquisition date : 30-MAR-1995 02:24:04

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	2.037E-01	2.037E-01	0.713E-01	35.00	
CS-137	30.00Y	1.000	3.157E+03	3.157E+03	0.004E+03	0.12	
			---	---			
Total Activity :			3.157E+03	3.157E+03			
Grand Total Activity :			3.157E+03	3.157E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S95T330-DUP Acquisition date : 30-MAR-1995 02:24:04

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	89202.	477.59	9.8396E+00
NA-22	805.	1274.53	2.2269E-01
NA-24	100.	1368.55	8.4797E-02
K-40	196.	1460.75	1.1445E+00
SC-46	1600.	1120.55	2.8175E-01
CR-51	68182.	320.08	6.4739E+00
MN-54	4715.	834.83	3.7543E-01
CO-56	4711.	846.76	3.8008E-01
CO-57	67864.	122.06	4.5084E-01
CO-58	5125.	810.78	3.8384E-01
FE-59	1785.	1099.25	5.1807E-01
ZN-65	1592.	1115.55	5.5215E-01
SE-75	74910.	264.66	1.0166E+00
KR-85	45917.	514.00	1.7850E+02
SR-85	45910.	514.01	8.0707E-01
Y-88	9.	1836.06	3.1476E-02
Y-90	23.	1760.70	1.6906E-01
Y-91	817.	1204.67	7.1386E+01
NB-94	4048.	871.09	3.6106E-01
NB-95	5923.	765.78	3.9166E-01
ZR-95	6191.	756.73	7.2557E-01
RU-103	55237.	497.08	9.0919E-01
RURH-106	17161.	621.93	1.1225E+01
AG-108m	7436.	722.94	4.5886E-01
CD-109	58715.	88.03	1.3886E+01
AG-110M	52463.	657.76	1.0790E+00
-113	74808.	391.69	1.2435E+00
-123m	70884.	159.00	4.7403E-01
SB-124	18375.	602.73	5.7374E-01
SB-125	87255.	427.89	3.1351E+00
TE-125m	62773.	109.27	1.4117E+02
I-129	55438.	39.60	0.0000E+00
I-131	69945.	364.48	8.9916E-01
XE-131m	71438.	163.93	2.0700E+01
BA-133	69494.	356.02	1.1506E+00
CS-134	18172.	604.70	5.7321E-01
CS-136	4902.	818.51	3.7779E-01
CS-138	54.	1435.86	1.4337E-01
CE-139	71582.	165.85	5.1084E-01
BA-140	33911.	537.31	2.8350E+00
LA-140	31.	1596.21	5.4715E-02
CE-141	71039.	145.44	8.0575E-01
CE-144	70203.	133.51	3.4708E+00
CEPR-144	70202.	133.51	6.9354E+00
EU-152	70.	1408.01	3.3925E-01
EU-154	805.	1274.51	6.4687E-01
EU-155	58591.	86.54	1.5729E+00
HF-181	71490.	482.18	1.1413E+00
TA-182	54926.	67.75	2.2876E+00
HG-203	71775.	279.20	7.4205E-01
BI-207	21250.	569.70	5.8774E-01

Sample ID : S95T330-DUP Acquisition date : 30-MAR-1995 02:24:04

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	72258.	277.36	9.5643E+00
PB-210	53995.	46.50	0.0000E+00
BI-212	7306.	727.18	6.2417E+00
PB-212	83484.	238.63	1.3347E+00
BI-214	18039.	609.31	1.2522E+00
PB-214	69036.	351.92	3.7427E+00
RA-224	82292.	240.99	1.4718E+01
RA-226	94682.	186.10	1.4407E+01
AC-228	3300.	911.21	1.2725E+00
TH-228	58773.	84.37	4.2787E+01
TH-229	58985.	88.47	2.0172E+00
U-232	53985.	57.78	1.0876E+03
PA-233	68214.	312.17	1.6588E+00
PA-234M	2348.	1001.03	1.7511E+01
TH-234	54523.	63.29	2.7757E+01
U-235	93614.	185.71	8.7070E-01
NP-237	58601.	86.48	4.1665E+00
U-237	53736.	59.54	5.0708E+00
NP-238	2491.	984.45	1.1379E+00
NP-239	61399.	106.12	1.7727E+00
PU-239	69592.	129.30	6.0093E+03
AM-241	53736.	59.54	4.8628E+00
AM-243	56597.	74.67	1.1730E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-MAR-1995 04:27:16.48                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T331-SAM
Sample Size:              1.00000E-03 LI
   ution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3743.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 01:01:39.97 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        30-MAR-1995 03:25:00.22
Decayed to:               30-MAR-1995 03:25:00.22
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  VR
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

Raymond

date: 3-30-95

RBachelor 3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.66*	4622676	1.60	1323.50	1315	18	0.1		CS-137	5.225E+03
0	1321.99	6174	2.94	2644.35	2636	18	5.9			
0	1332.39	204	2.09	2665.15	2660	11	49.4			
0	1460.39*	76	2.07	2921.26	2915	12	89.5		K-40	1.33

Summary of Nuclide Activity
Sample ID : S95T331-SAM

Acquisition date : 30-MAR-1995 03:25:00

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~1.332E+00~~	~~1.332E+00~~	~~1.193E+00~~	~~89.54~~	BKG 3/30/95
CS-137	30.00Y	1.000	5.225E+03	5.225E+03	0.005E+03	0.10	
		Total Activity :	5.226E+03	5.226E+03			
		Grand Total Activity :	5.226E+03	5.226E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

WHC-SD-WM-DP-074, REV. 0

Sample ID : S95T331-SAM Acquisition date : 30-MAR-1995 03:25:00

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	153562.	477.59	1.2911E+01
NA-22	2590.	1274.53	3.9948E-01
NA-24	520.	1368.55	1.9399E-01
SC-46	4909.	1120.55	4.9355E-01
CR-51	116460.	320.08	8.4614E+00
MN-54	14402.	834.83	6.5617E-01
CO-56	13850.	846.76	6.5171E-01
CO-57	113096.	122.06	5.8201E-01
CO-58	15576.	810.78	6.6914E-01
FE-59	5488.	1099.25	9.0845E-01
CO-60	852.	1332.50	2.3755E-01
ZN-65	5006.	1115.55	9.7905E-01
SE-75	126351.	264.66	1.3203E+00
KR-85	82343.	514.00	2.3903E+02
SR-85	82333.	514.01	1.0808E+00
Y-88	26.	1836.06	5.3119E-02
Y-90	61.	1760.70	2.7764E-01
Y-91	2607.	1204.67	1.2750E+02
NB-94	12327.	871.09	6.3004E-01
NB-95	17511.	765.78	6.7343E-01
ZR-95	18338.	756.73	1.2488E+00
RU-103	98924.	497.08	1.2168E+00
RURH-106	33517.	621.93	1.5688E+01
AG-108m	21887.	722.94	7.8725E-01
CD-109	98996.	88.03	1.8031E+01
AG-110M	93014.	657.76	1.4367E+00
-113	129040.	391.69	1.6331E+00
-123m	118648.	159.00	6.1329E-01
SB-124	35560.	602.73	7.9817E-01
SB-125	150777.	427.89	4.1212E+00
TE-125m	104097.	109.27	1.8180E+02
I-129	91340.	39.60	0.0000E+00
I-131	120579.	364.48	1.1808E+00
XE-131m	119061.	163.93	2.6727E+01
BA-133	118554.	356.02	1.5028E+00
CS-134	35182.	604.70	7.9758E-01
CS-136	14834.	818.51	6.5728E-01
CS-138	325.	1435.86	3.6766E-01
CE-139	119492.	165.85	6.6001E-01
BA-140	61868.	537.31	3.8296E+00
LA-140	139.	1596.21	1.1668E-01
CE-141	118013.	145.44	1.0386E+00
CE-144	117023.	133.51	4.4812E+00
CEPR-144	117021.	133.51	8.9542E+00
EU-152	395.	1408.01	8.0811E-01
EU-154	2590.	1274.51	1.1606E+00
EU-155	98428.	86.54	2.0386E+00
HF-181	124992.	482.18	1.5091E+00
TA-182	91101.	67.75	2.9462E+00
HG-203	121872.	279.20	9.6696E-01
BI-207	40889.	569.70	8.1529E-01

Sample ID : S95T331-SAM Acquisition date : 30-MAR-1995 03:25:00

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	122564.	277.36	1.2456E+01
PB-210	90266.	46.50	0.0000E+00
BI-212	21512.	727.18	1.0711E+01
PB-212	139703.	238.63	1.7266E+00
BI-214	34693.	609.31	1.7366E+00
PB-214	118175.	351.92	5.1587E+00
RA-224	138310.	240.99	1.9088E+01
RA-226	158079.	186.10	1.8616E+01
AC-228	10058.	911.21	2.2216E+00
TH-228	96971.	84.37	5.4959E+01
TH-229	98934.	88.47	2.6125E+00
U-232	89592.	57.78	1.4011E+03
PA-233	116645.	312.17	2.1693E+00
PA-234M	7163.	1001.03	3.3485E+01
TH-234	90269.	63.29	3.5715E+01
U-235	156217.	185.71	1.1248E+00
NP-237	98397.	86.48	5.3990E+00
U-237	88956.	59.54	6.5256E+00
NP-238	7576.	984.45	1.9858E+00
NP-239	102707.	106.12	2.2940E+00
PU-239	116453.	129.30	7.7735E+03
AM-241	88956.	59.54	6.2566E+00
AM-243	94270.	74.67	1.5138E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-MAR-1995 08:41:00.96                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T-331-DUP
Sample Size:              1.00000E-03 LI
  ution Factor:           1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3746.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 01:01:35.15 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        30-MAR-1995 07:38:48.55
Decayed to:               30-MAR-1995 07:38:48.55
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  RW
Background Subtract:      DKA300:[SPEC.GEA3]3GBACK

      >>>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<
 Date of last energy calibration:       11-MAR-1994 11:47:01.11
 Date of last efficiency calibration:   15-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

date: 3-30-95

Bachelor 3/30/95

WHC-SD-WM-DP-074, REV. 0

Post-NID Peak Search Report

T+	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.68*	4597067	1.59	1323.54	1315	18	0.1		CS-137	5.196E+03
0	1321.97	6271	2.67	2644.31	2635	21	6.3			
0	1332.52	230	1.63	2665.41	2660	13	48.7			

Summary of Nuclide Activity
Sample ID : S95T-331

Acquisition date : 30-MAR-1995 07:38:48

Total number of lines in spectrum	3	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	2	66.67%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	5.196E+03	5.196E+03	0.005E+03	0.10	
		Total Activity :	5.196E+03	5.196E+03			
		Grand Total Activity :	5.196E+03	5.196E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S95T-331
Acquisition date : 30-MAR-1995 07:38:48

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	152979.	477.59	1.2886E+01
NA-22	2492.	1274.53	3.9179E-01
NA-24	462.	1368.55	1.8272E-01
K-40	402.	1460.75	1.6413E+00
SC-46	4844.	1120.55	4.9026E-01
CR-51	114527.	320.08	8.3909E+00
MN-54	13917.	834.83	6.4502E-01
CO-56	13814.	846.76	6.5086E-01
CO-57	112845.	122.06	5.8136E-01
CO-58	15272.	810.78	6.6258E-01
FE-59	5343.	1099.25	8.9635E-01
CO-60	842.	1332.50	2.3621E-01
ZN-65	5015.	1115.55	9.7992E-01
SE-75	125779.	264.66	1.3173E+00
KR-85	82498.	514.00	2.3926E+02
SR-85	82488.	514.01	1.0818E+00
Y-88	47.	1836.06	7.2149E-02
Y-90	60.	1760.70	2.7431E-01
Y-91	2575.	1204.67	1.2671E+02
NB-94	12221.	871.09	6.2731E-01
NB-95	17615.	765.78	6.7544E-01
ZR-95	17837.	756.73	1.2316E+00
RU-103	97681.	497.08	1.2091E+00
RURH-106	33107.	621.93	1.5592E+01
AG-108m	21291.	722.94	7.7645E-01
CD-109	97273.	88.03	1.7873E+01
-110M	87448.	657.76	1.3930E+00
.-113	127698.	391.69	1.6246E+00
TE-123m	118182.	159.00	6.1208E-01
SB-124	34865.	602.73	7.9033E-01
SB-125	150318.	427.89	4.1149E+00
TE-125m	103855.	109.27	1.8158E+02
I-129	91192.	39.60	0.0000E+00
I-131	120064.	364.48	1.1782E+00
XE-131m	118887.	163.93	2.6707E+01
BA-133	117611.	356.02	1.4968E+00
CS-134	34793.	604.70	7.9315E-01
CS-136	14878.	818.51	6.5826E-01
CS-138	330.	1435.86	3.7010E-01
CE-139	118577.	165.85	6.5748E-01
BA-140	61035.	537.31	3.8037E+00
LA-140	132.	1596.21	1.1373E-01
CE-141	117122.	145.44	1.0346E+00
CE-144	116488.	133.51	4.4709E+00
CEPR-144	116487.	133.51	8.9338E+00
EU-152	383.	1408.01	7.9599E-01
EU-154	2491.	1274.51	1.1380E+00
EU-155	97760.	86.54	2.0317E+00
HF-181	124669.	482.18	1.5071E+00
TA-182	90887.	67.75	2.9427E+00
HG-203	120778.	279.20	9.6261E-01

Sample ID : S95T-331 Acquisition date : 30-MAR-1995 07:38:48

WHC-SD-WM-DP-074, REV. 0

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	40932.	569.70	8.1573E-01
TL-208	121088.	277.36	1.2381E+01
PB-210	89522.	46.50	0.0000E+00
BI-212	20752.	727.18	1.0520E+01
PB-212	139372.	238.63	1.7245E+00
BI-214	34646.	609.31	1.7354E+00
PB-214	117827.	351.92	5.1471E+00
RA-224	138229.	240.99	1.9082E+01
RA-226	157731.	186.10	1.8596E+01
AC-228	9989.	911.21	2.2139E+00
TH-228	97393.	84.37	5.5079E+01
TH-229	97201.	88.47	2.5895E+00
U-232	89131.	57.78	1.3975E+03
PA-233	115601.	312.17	2.1596E+00
PA-234M	7081.	1001.03	3.3251E+01
TH-234	89451.	63.29	3.5553E+01
U-235	156182.	185.71	1.1246E+00
NP-237	97801.	86.48	5.3826E+00
U-237	89750.	59.54	6.5546E+00
NP-238	7614.	984.45	1.9908E+00
NP-239	101988.	106.12	2.2859E+00
PU-239	115699.	129.30	7.7483E+03
AM-241	89750.	59.54	6.2845E+00
AM-243	93313.	74.67	1.5061E+00