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

Document number: SD-WM-DP-103

Section 6 **of** 10

Title: Final Report for Tank 241BY106 Cores 64 & 65 & 121 [Pgs 1535 Thru 2007]

Date: 07/13/1996 **Revision:** R001

Originator: Bell KE
Co: WHC

Recipient:
Co:

References: ECN-629027

RADIOCHEMICAL ANALYSES

THIS PAGE WAS INTENTIONALLY LEFT BLANK

LABCORE Data Entry Template for Worklist# 629

Analyst: AKL **Instrument:** AB00 15 **Book #** 91B52

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: AT - Determine sample size using Ludlum. SLF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		1	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		2	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		2	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		3	BLNK/BKG				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000007	BY-106	4	SAMPLE	S95T000100	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000007	BY-106	4	SAMPLE	S95T000100	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000007	BY-106	5	DUP	S95T000100	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000007	BY-106	5	DUP	S95T000100	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000007	BY-106	6	SPK	S95T000100	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000007	BY-106	7	SAMPLE	S95T000101	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000007	BY-106	7	SAMPLE	S95T000101	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000007	BY-106	8	DUP	S95T000101	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000007	BY-106	8	DUP	S95T000101	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000007	BY-106	9	SPK	S95T000101	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 629

Alita Lewis

M C Bickman 3/1/95

Data Entry Comments:

RPD For sample 101 and duplicate is acceptable due to low alpha activity (sample ~~size determined~~ dilution was needed because SLF 3-2-95 of Beta activity). Low spike recoveries are due to self adsorption resulting from high solids content on the spk mounts. next Page

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.

3-2-95

LABCORE Data Entry Template for Worklist# 629

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
Analyst Signature		Date				Analyst Signature			Date	

Data Entry Comments:

No return requested as directed by project coordinator

3-2-95

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.

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)	4024	3718
629	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		133.633	123.433
Sample #	Sample Concentration in µCi/L		2.53E-02	BOOK#
WORKLIST#629	Replicate Concentration in µCi/L		2.34E-02	91B52
Instrument Code				
WB26872	Average Concentration in µCi/L		2.4327E-02	
Analyst				
AKL				
Date				
02/28/95				
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

				DETECTION LEVEL
ALPHA TOTAL	in µCi/mL	(Average) =	2.43E-05	
RELATIVE COUNTING ERROR		=	3.2%	1.31E-07 µCi/mL

Data Entry by: [signature] Date: 03/01/95

Approved by: [signature] Date: 3/1/95

Form 508101_C Rev. 1.3

1539

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)
LA-548-101 (A-3) SOLIDS

			BLANK	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE 1, 2, or 5	(MS)		2	2
TOTAL COUNTS	(TC)		10	13
COUNT TIME in MINUTES	(CT)		30	30
BACKGROUND in cpm	(BKG)		0.5	0.5
SAMPLE SIZE in mL	(SS)		0.100	0.100
DILUTION FACTOR	(DF)		1	1
DIGEST GRAMS of SOLIDS/L	(Dg/L)		1.9644	1.9644
EFFICIENCY FACTOR	(EFF)		0.2380	0.2380
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.301	0.301
Sample Concentration in µCi/g		<	2.90E-03	BOOK#
Replicate Concentration in µCi/g		<	2.90E-03	
Maximum Concentration in µCi/g		<	2.9024E-03	

Type	BLANK
Work List	629
AT or TB ?	AT
Test Code	@ALPHA-01
Matrix	SOLID
Sample #	S95T100
Instrument Code	WB26872
Analyst	AKL
Date	02/28/95
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) =	< 2.90E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				
RELATIVE COUNTING ERROR		=	500.0%	6.68E-03 µCi/g

Data Entry by: [signature] Date: 03/01/95

Approved by: [signature] Date: 3/1/95

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)	30	12
629	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)	1.9644	1.9644
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.500	0.301
Sample #	Sample Concentration in µCi/g		4.82E-03	BOOK#
S95T100	Replicate Concentration in µCi/g	<	2.90E-03	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	4.8174E-03	
Analyst				
AKL				
Date				
02/28/95				
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) =	< 4.82E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				
RELATIVE COUNTING ERROR		=	339.5%	6.68E-03 µCi/g

Data Entry by: [signature] Date: 03/01/95

Approved by: [signature] Date: 3/1/95

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)	36	31
629	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)	1.948	1.948
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.700	0.533
Sample #	Sample Concentration in µCi/g		6.80E-03	BOOK#
S95T100	Replicate Concentration in µCi/g		5.18E-03	
Instrument Code				
WB26872	Average Concentration in µCi/g		5.9914E-03	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
02/28/95				
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	(Average) =	5.99E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	83.1%	6.73E-03 µCi/g

Data Entry by:	[signature]	Date:	03/01/95
Approved by:	[signature]	Date:	3/1/95

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
DETECTOR NUMBER			15	15
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	36534	42050
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.5	0.5
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS/L		(Dg/L)	1.9644	1.9644
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/g		(S+S)	1.17E+01	1.35E+01
AVERAGE or MAXIMUM µCi/g from FORM C			<4.8174e-3	
BOOK#			94B43	

Type	Work List	AT or TB ?	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SPIKE	629	AT	@ALPHA-01	SOLID	S95T100	WB26872	AKL	02/28/95	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 = 68.1%**

Data Entry by: [signature] Date: 01-Mar-95

Approved by: [signature] Date: 3/1/95

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)	50	32
629	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.300	0.300
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.904	1.904
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.167	0.567
Sample #	Sample Concentration in µCi/g		3.90E-01	BOOK#
S95T101	Replicate Concentration in µCi/g		1.90E-01	
Instrument Code				
WB26872	Average Concentration in µCi/g		2.9004E-01	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
02/28/95				
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

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	2.90E-01	
RELATIVE COUNTING ERROR		=	79.0%	2.32E-01 µCi/g

Data Entry by:		Date:	03/01/95
Approved by:		Date:	3/1/95

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)	29	40
629	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.300	0.300
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA-01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.926	1.926
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.467	0.833
Sample #	Sample Concentration in µCi/g		1.54E-01	BOOK#
S95T101	Replicate Concentration in µCi/g		2.76E-01	
Instrument Code				
WB26872	Average Concentration in µCi/g		2.1504E-01	
Analyst				
AKL				
Date				
02/28/95				
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) =	2.15E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	92.9%	2.29E-01 µCi/g

Data Entry by: [signature] Date: 03/01/95

Approved by: [signature] Date: 3/1/95

Form 508101_C Rev. 1.3

1545

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : 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)	46668	52525
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.5	0.5
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.300	0.300
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	101	101
DIGEST GRAMS of SOLIDS/L		(Dg/L)	1.904	1.904
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/g		(S+S)	5.20E+02	5.86E+02
AVERAGE or MAXIMUM µCi/g from FORM C			2.9004E-01	
BOOK#			94B43	

Type	Work List	AT or TB ?	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SPIKE	629	AT	@ALPHA-01	SOLID	S95T101	WB26872	AKL	02/28/95	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 = 85.9%**

Data Entry by: [signature] Date: 01-Mar-95

Approved by: [signature] Date: 3/1/95

Form 508101_X Rev. 1.3

~~WHC-SD-WM-DP-103, REV. 1~~ LAD 4-1-96

LABCORE Data Entry Template for Worklist# 5261

Analyst: S.C.L **Instrument:** AB00 15 **Book#** 23B56

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using Ludlum. Use 0.1mL spike. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S95T004179	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S95T004179	0	Z	@ALPHA01	SOLID		
6	SPK	S95T004179	0	Z	@ALPHA01	SOLID		
7	SAMPLE	S95T004180	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
8	DUP	S95T004180	0	Z	@ALPHA01	SOLID		
9	SPK	S95T004180	0	Z	@ALPHA01	SOLID		
10	SAMPLE	S95T004181	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
11	DUP	S95T004181	0	Z	@ALPHA01	SOLID		
12	SPK	S95T004181	0	Z	@ALPHA01	SOLID		
13	SAMPLE	S95T004182	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
14	DUP	S95T004182	0	Z	@ALPHA01	SOLID		

DATA ~~NOT USED~~ ~~IN PACKAGE~~ in error JKW 4/17/96

Final page for worklist # 5261

Sue C Lai 1-31-96

2/1/96

C.J. Quinn 2/1/96

Data Entry Comments: The RPD for Sample 4179 Dup + Dup Replicate are out of control limits. Sample will be reran. 2/9/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 5261

S Type	Sample#	R	A	Test	Matrix	Group#	Project
Analyst Signature				Date		Analyst Signature	Date

DATA NOT USED IN PACKAGE
4/17/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LAD 4-1-96
~~WHC-SD-WM-DP-103, REV. 1~~

LABCORE Completed Worklist Report for Worklist# 5261

Analyst: scl **Instrument:** AB15 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum. Use 0.1mL spike. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01 ALPHA01	SOLID	1.02E-05	8.54E-6	83.730	% Recovery
1	STD		0		@ALPHA01 ALPHA01E	SOLID	1.00	5.39E+00	5.390	% Ct. Error
2	BLNK-PREP		0		@ALPHA01 ALPHA01	SOLID	1	<3.62E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01 ALPHA01E	SOLID	1.00	2.25E+02	225.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01 ALPHA01	SOLID	1.00E+00	1.73E+00	1.730	uCi/g
4	REJECT	S95T004179	0	Z	@ALPHA01 ALPHA01	SOLID	N/A <	2.86E-03		uCi/g
4	REJECT	S95T004179	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	5.00E+02		% Ct. Error
5	DUP	S95T004179	0	Z	@ALPHA01 ALPHA01	SOLID	<2.86E-3	1.05E+0		RPD
5	DUP	S95T004179	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	1.10E+02	110.000	% Ct. Error
6	SPK	S95T004179	0	Z	@ALPHA01 ALPHA01	SOLID	3.92E-02	3.08E-02	78.570	% Recovery
7	SAMPLE	S95T004180	0	Z	@ALPHA01 ALPHA01	SOLID	N/A	5.09E-03	4.550e-003	uCi/g
7	SAMPLE	S95T004180	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	8.73E+01	0.000	% Ct. Error
8	DUP	S95T004180	0	Z	@ALPHA01 ALPHA01	SOLID	5.09E-3	5.59E-3	9.360	RPD
8	DUP	S95T004180	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	7.34E+01	73.400	% Ct. Error
9	SPK	S95T004180	0	Z	@ALPHA01 ALPHA01	SOLID	3.92E-02	2.90E-02	73.980	% Recovery
10	SAMPLE	S95T004181	0	Z	@ALPHA01 ALPHA01	SOLID	N/A	8.74E-03	4.840e-003	uCi/g
10	SAMPLE	S95T004181	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	5.92E+01	0.000	% Ct. Error
11	DUP	S95T004181	0	Z	@ALPHA01 ALPHA01	SOLID	8.74E-3	6.28E-3	32.760	RPD
11	DUP	S95T004181	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	6.14E+01	61.400	% Ct. Error
12	SPK	S95T004181	0	Z	@ALPHA01 ALPHA01	SOLID	3.92E-02	2.67E-02	68.110	% Recovery
13	SAMPLE	S95T004182	0	Z	@ALPHA01 ALPHA01	SOLID	N/A	7.86E-03	5.260e-003	uCi/g
13	SAMPLE	S95T004182	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	6.39E+01	0.000	% Ct. Error
14	DUP	S95T004182	0	Z	@ALPHA01 ALPHA01	SOLID	7.86E-3	7.45E-3	5.360	RPD
14	DUP	S95T004182	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	5.71E+01	57.100	% Ct. Error

Final page for worklist# 5261

Analyst Signature **Date** **Analyst Signature** **Date**

Reviewer Signature 2/12/96 **Date**

DATA NOT USED IN PACKAGE

Units shown for QC (BLK/BKG) may not reflect the actual units.

WHC-SD-WM-DP-103, REV. 1 LHD 4-1-96 ~~WHC-SD-WM-DP-103, REV. 1~~

WORKBOOK PAGE: STD1

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1376	1347
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	23B56	23B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		45.597	44.630
Batch Number	Standard Value in µCi/mL		1.02E-05	
96000811	Concentration in µCi/L	=	8.63E-03	
Rerun	Replicate Concentration in µCi/L	=	8.45E-03	
0	AVERAGE CONCENTRATION in µCi/L	=	8.5384E-03	

Sample Prep: N/A

Sample #: WL5261

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/01/96

Analysis Date: 01/31/96

Analysis Time: 08:00 AM

Sample Point: BY-106

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

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL		8.54E-06	1.01E-07 µCi/mL
RELATIVE COUNTING ERROR	=	5.4%	

Analyst:	MCB		Date: 01-Feb-96
Signature of Chemist:		SLF	Date: 2/5/96

STANDARD.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

review 4/17/96

1550

LAD 4-1-96
~~WHC-SD-WM-DP-103, REV. 1~~

WORKBOOK PAGE: BLANK2

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		15	15
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	12	16
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9692	1.9692
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.377	0.263
Batch Number				
96000811	Blank Concentration in µCi/g	<	3.62E-03	
Rerun	Replicate Concentration in µCi/g		2.53E-03	
0	Maximum Concentration in µCi/g	<	3.6194E-03	

Sample Prep: N/A

Sample #: WL5261

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/01/96

Analysis Date: 01/31/96

Analysis Time: 08:00 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Maximum)	=	< 3.62E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			5.13E-03 µCi/g
RELATIVE COUNTING ERROR		225.3%	

Analyst:		SCL	Date: 01-Feb-96
Signature of Chemist:	[signature]	SLF	Date: 2/9/96

BLANK.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

[signature] 4/17/96

WORKBOOK PAGE: SAM4

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	GROSS COUNTS	(GC)	10	15
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9692	1.9692
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.297	0.230
Batch Number				
96000811	Blank Concentration in µCi/g	<	2.86E-03	
Rerun	Replicate Concentration in µCi/g		2.21E-03	
0	Maximum Concentration in µCi/g	<	2.8577E-03	

Sample Prep: FUS-ZR01
Sample #: S95T004179
Instrument Code: WB26872
Prepared By: MCB
Chemist: SLF
Analyst: SCL
Date Complete: 02/01/96
Analysis Date: 01/31/96
Analysis Time: 08:00 AM
Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Maximum)	=	< 2.86E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			
RELATIVE COUNTING ERROR		500.0%	5.13E-03 µCi/g

Analyst:	SCL		Date: 01-Feb-96
Signature of Chemist:	[signature]	SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE
inerm
[signature] 5/15/96

LAD 4-1-96
~~WHC-SD-WM-DP-103, REV. 1~~ → WHC-SD-WM-DP-103, REV. 1

WORKBOOK PAGE: DUP5

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	17	6461
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9476	1.9476
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.297	215.097
Batch Number				
96000811	Blank Concentration in µCi/g		2.88E-03	
Rerun	Replicate Concentration in µCi/g		2.09E+00	
0	Average Concentration in µCi/g		1.0466E+00	
Sample Prep				
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG			
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
S95T004179				
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			
Prepared By				
MCB				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Average) =		1.05E+00	DETECTION LEVEL
Analyst				
SCL				
Date Complete				5.18E-03
02/01/96	RELATIVE COUNTING ERROR		110.3%	µCi/g
Analysis Date				
01/31/96				
Analysis Time				
08:00 AM				
Sample Point				
BY-106				

Analyst:		SCL	Date: 01-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE initials 5/15/96

WORKBOOK PAGE: SPIKE6

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

			SPIKE	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	48373	49301
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.27	0.27
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	1.9692	1.9692
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE BOOK NUMBER		(Spk BN)	119B43	119B43
SPIKE VALUE in µCi/mL		(SVal)	3.9208E-02	3.9208E-02
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.238	0.238
SAMPLE + SPIKE µCi/g		(S+S)	1.55E+01	1.58E+01
AVERAGE or MAXIMUM µCi/g in SAMPLE		<	2.8577E-03	

Type	SPK
Work List	5261
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96000811
Rerun	0
Sample Prep	FUS-ZR01
Sample #	S95T004179
Instrument Code	WB26872
Prepared By	MCB
Chemist	SLF
Analyst	SCL
Date Complete	02/01/96
Analysis Date	01/31/96
Analysis Time	08:00 AM
Sample Point	BY-106

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

NOTE: **Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.**

QC ACTUAL	=	3.92E-02
QC FOUND	=	3.08E-02
AVG. PERCENT SPIKE RECOVERY	=	78.6%

Analyst:	MCB	Date: 01-Feb-96
Signature of Chemist:	SLF	Date: 2/9/96

SPIKE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE 5/15/96

WORKBOOK PAGE: SAM7

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	GROSS COUNTS	(GC)	20	32
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2188	2.2188
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.397	0.797

Batch Number	
96000811	Blank Concentration in µCi/g 3.38E-03
Rerun	Replicate Concentration in µCi/g 6.80E-03
0	Average Concentration in µCi/g 5.0896E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004180	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 5.09E-03
Analyst	
SCL	
Date Complete	
02/01/96	RELATIVE COUNTING ERROR 87.3%
Analysis Date	
01/31/96	
Analysis Time	
08:00 AM	
Sample Point	
BY-106	

DETECTION LEVEL
4.55E-03 µCi/g

Analyst:		SCL	Date: 01-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 50810 ML

DATA NOT USED IN PACKAGE in error 4/17/96

WORKBOOK PAGE: DUP8

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	23	29
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0208	2.0208
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.497	0.697
Batch Number				
96000811	Blank Concentration in µCi/g		4.65E-03	
Rerun	Replicate Concentration in µCi/g		6.52E-03	
0	Average Concentration in µCi/g		5.5883E-03	
Sample Prep				
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG			
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
S95T004180				
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			
Prepared By				
MCB				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Average) =		5.59E-03	DETECTION LEVEL
Analyst				
SCL				
Date Complete				5.00E-03 µCi/g
02/01/96	RELATIVE COUNTING ERROR		73.4%	
Analysis Date				
01/31/96				
Analysis Time				
08:00 AM				
Sample Point				
BY-106				

Analyst:		SCL	Date: 01-Feb-96
Signature of Chemist:	[signature]	SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

[signature] 4/17/96 [initials]

WORKBOOK PAGE: SPIKE9

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

			SPIKE	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	41520	50409
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.27	0.27
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	2.2188	2.2188
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE BOOK NUMBER		(Spk BN)	119B43	119B43
SPIKE VALUE in µCi/mL		(SVal)	3.9208E-02	3.9208E-02
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.238	0.238
SAMPLE + SPIKE µCi/g		(S+S)	1.18E+01	1.43E+01
AVERAGE or MAXIMUM µCi/g in SAMPLE			5.0896E-03	

Type	SPK
Work List	5261
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96000811
Rerun	0
Sample Prep	FUS-ZR01
Sample #	S95T004180
Instrument Code	WB26872
Prepared By	MCB
Chemist	SLF
Analyst	SCL
Date Complete	02/01/96
Analysis Date	01/31/96
Analysis Time	08:00 AM
Sample Point	BY-106

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.92E-02
QC FOUND	=	2.90E-02
AVG. PERCENT SPIKE RECOVERY	=	73.9%

Analyst:	MCB	Date: 01-Feb-96
Signature of Chemist:	SLF	Date: 2/9/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM1

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	GROSS COUNTS	(GC)	28	46
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0852	2.0852
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.663	1.263
Batch Number				
96000811	Blank Concentration in µCi/g		6.02E-03	
Rerun	Replicate Concentration in µCi/g		1.15E-02	
0	Average Concentration in µCi/g		8.7438E-03	

Sample Prep: FUS-ZR01

Sample #: S95T004181

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/01/96

Analysis Date: 01/31/96

Analysis Time: 08:00 AM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	8.74E-03	
RELATIVE COUNTING ERROR		59.2%	4.84E-03 µCi/g

Analyst:		SCL	Date: 01-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 50810/ML

DATA NOT USED IN PACKAGE

4/17/96

WORKBOOK PAGE: DUP1

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	27	31
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.098	2.098
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.630	0.763

Blank Concentration in µCi/g	5.68E-03
Replicate Concentration in µCi/g	6.89E-03
Average Concentration in µCi/g	6.2848E-03

Batch Number: 96000811
Rerun: 0
Sample Prep: FUS-ZR01
Sample #: S95T004181
Instrument Code: WB26872
Prepared By: MCB
Chemist: SLF
Analyst: SCL
Date Complete: 02/01/96
Analysis Date: 01/31/96
Analysis Time: 08:00 AM
Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	6.28E-03	
RELATIVE COUNTING ERROR		61.4%	4.81E-03 µCi/g

Analyst:	SCL		Date: 01-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SPIKE12

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	42459	42299
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0852	2.0852
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96000811	SPIKE VALUE in µCi/mL	(SVal)	3.9208E-02	3.9208E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
0	SAMPLE + SPIKE µCi/g	(S+S)	1.28E+01	1.28E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		8.7438E-03	
FUS-ZR01				
Sample #				
S95T004181	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB26872	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
MCB	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
SCL				
Date Complete				
02/01/96				
Analysis Date				
01/31/96	QC ACTUAL	=	3.92E-02	
Analysis Time	QC FOUND	=	2.67E-02	
08:00 AM	AVG. PERCENT SPIKE RECOVERY	=	68.1%	
Sample Point				
BY-106				

Analyst:		MCB	Date: 01-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SPIKE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SAM1

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

			SAMPLE	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE (1 , 2 , or 5)		(MS)	2	2
GROSS COUNTS		(GC)	26	38
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.27	0.27
SAMPLE SIZE in mL		(SS)	0.100	0.100
DILUTION FACTOR		(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	1.918	1.918
EFFICIENCY FACTOR		(EFF)	0.2380	0.2380
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.597	0.997

Blank Concentration in µCi/g	5.89E-03
Replicate Concentration in µCi/g	9.83E-03
Average Concentration in µCi/g	7.8614E-03

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.

ALPHA TOTAL in µCi/g (Average)	=	7.86E-03	DETECTION LEVEL	
RELATIVE COUNTING ERROR		63.9%	5.26E-03 µCi/g	

Type	SAMPLE
Work List	5261
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96000811
Rerun	0
Sample Prep	FUS-ZR01
Sample #	S95T004182
Instrument Code	WB26872
Prepared By	MCB
Chemist	SLF
Analyst	SCL
Date Complete	02/01/96
Analysis Date	01/31/96
Analysis Time	08:00 AM
Sample Point	BY-106

Analyst:	SCL	Date: 01-Feb-96	
Signature of Chemist:	SLF	Date: 2/9/96	

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

4/17/96

LAD 4-1-96

WORKBOOK PAGE: DUP1

~~WHC-SD-WM-DP-103, REV. 1~~

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	29	33
5261	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.938	1.938
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.697	0.830
Batch Number				
96000811	Blank Concentration in µCi/g		6.80E-03	
Rerun	Replicate Concentration in µCi/g		8.11E-03	
0	Average Concentration in µCi/g		7.4547E-03	

Sample Prep: FUS-ZR01

Sample #: S95T004182

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/01/96

Analysis Date: 01/31/96

Analysis Time: 08:00 AM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	7.45E-03	
RELATIVE COUNTING ERROR		57.1%	5.21E-03 µCi/g

Analyst:		SCL	Date: 01-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

in error JLW 4/17/96

DATA NOT USED IN PACKAGE

LABCORE Data Entry Template for Worklist# 5271

Analyst: S.C.L **Instrument:** AB00 16 **Book#** 23B56

Method: LA-508-101 Rev/Mod 0-2

Worklist Comment: Determine sample size using Ludlum. Use 0.1mL spk. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S95T004183	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S95T004183	0	Z	@ALPHA01	SOLID		
6	SAMPLE	S95T004184	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S95T004184	0	Z	@ALPHA01	SOLID		
8	SAMPLE	S95T004185	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
9	DUP	S95T004185	0	Z	@ALPHA01	SOLID		
10	SPK	S95T004185	0	Z	@ALPHA01	SOLID		
11	SAMPLE	S95T004186	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
12	DUP	S95T004186	0	Z	@ALPHA01	SOLID		

DATA NOT USED IN PACKAGE in error 4/1/96

Final page for worklist # 5271

Sue Lai 2-2-96
Analyst Signature Date

2/5/96
Analyst Signature Date
URaymond 2-5-96

Data Entry Comments: the RPD for sample 4185 and its' rep are out of method control limits. sample will be rerun. 2/9/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 5271

Analyst: scl **Instrument:** AB16 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum. Use 0.1mL spk. skm

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.02E-05	1.04E-5	101.960	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	5.25E+00	5.250	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	4.20E-3	0.000	uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	1.22E+02	122.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	2.59E+00	2.590	uCi/g
4	SAMPLE	S95T004183	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	1.28E-02	5.210e-003	uCi/g
4	SAMPLE	S95T004183	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	3.80E+01	0.000	% Ct. Error
5	DUP	S95T004183	0	Z	@ALPHA01	ALPHA01	SOLID	1.28E-2	1.20E-2	6.450	RPD
5	DUP	S95T004183	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	4.55E+01	45.500	% Ct. Error
6	SAMPLE	S95T004184	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	1.78E-02	5.430e-003	uCi/g
6	SAMPLE	S95T004184	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	3.41E+01	0.000	% Ct. Error
7	DUP	S95T004184	0	Z	@ALPHA01	ALPHA01	SOLID	1.78E-2	1.19E-2	39.730	RPD
7	DUP	S95T004184	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	4.09E+01	40.900	% Ct. Error
8	SAMPLE	S95T004185	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	2.90E-02	4.920e-003	uCi/g
8	SAMPLE	S95T004185	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	3.28E+01	0.000	% Ct. Error
9	DUP	S95T004185	0	Z	@ALPHA01	ALPHA01	SOLID	2.90E-2	3.26E-2	11.690	RPD
9	DUP	S95T004185	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	3.74E+01	37.400	% Ct. Error
10	SPK	S95T004185	0	Z	@ALPHA01	ALPHA01	SOLID	3.92E-02	2.54E-02	64.800	% Recovery
11	SAMPLE	S95T004186	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	9.62E-03	5.720e-003	uCi/g
11	SAMPLE	S95T004186	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	5.05E+01	0.000	% Ct. Error
12	DUP	S95T004186	0	Z	@ALPHA01	ALPHA01	SOLID	9.62E-3	1.20E-2	22.020	RPD
12	DUP	S95T004186	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	4.17E+01	41.700	% Ct. Error

DATA NOT USED IN PACKAGE

Final page for worklist# 5271

Analyst Signature Date Analyst Signature Date

Reviewer Signature 2/9/96 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

LAD 4-1-96

WORKBOOK PAGE: STD1

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1516	1416
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	23B56	23B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		50.263	46.930
Batch Number	Standard Value in µCi/mL		1.02E-05	
96000826	Concentration in µCi/L	=	1.08E-02	
Rerun	Replicate Concentration in µCi/L	=	1.00E-02	
0	AVERAGE CONCENTRATION in µCi/L	=	1.0404E-02	
Sample Prep				
N/A				
Sample #				
WL5271				
Instrument Code				
WB27806				
Prepared By				
MCB				
Chemist				
SLF				
Analyst				
SCL				
Date Complete				
02/05/96				
Analysis Date				
02/02/96				
Analysis Time				
08:00 AM				
Sample Point				
BY-106				

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

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL		1.04E-05	1.14E-07 µCi/mL
RELATIVE COUNTING ERROR	=	5.3%	

Analyst:		MCB	Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

STANDARD.WB1 Rev. 1.0 508101ML

in Draft LAD 4/17/96

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: BLANK2

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		16	16
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	16	26
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1932	2.1932
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.263	0.597
Batch Number				
96000826	Blank Concentration in µCi/g		2.57E-03	
Rerun	Replicate Concentration in µCi/g		5.82E-03	
0	Average Concentration in µCi/g		4.1975E-03	

Sample Prep: N/A

Sample #: WL5271

Instrument Code: WB27806

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/05/96

Analysis Date: 02/02/96

Analysis Time: 08:00 AM

Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	4.20E-03		5.21E-03 µCi/g
RELATIVE COUNTING ERROR		121.8%		

Analyst:		SCL	Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

BLANK.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE 4/17/96

~~WHC-SD-WM-DP-103, REV. 1~~ 4-1-96 LAD

WORKBOOK PAGE: SAM4

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	GROSS COUNTS	(GC)	46	49
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1932	2.1932
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.263	1.363

Blank Concentration in µCi/g	1.23E-02
Replicate Concentration in µCi/g	1.33E-02
Average Concentration in µCi/g	1.2820E-02

Batch Number: 96000826
Rerun: 0
Sample Prep: FUS-ZR01
Sample #: S95T004183
Instrument Code: WB27806
Prepared By: MCB
Chemist: SLF
Analyst: SCL
Date Complete: 02/05/96
Analysis Date: 02/02/96
Analysis Time: 08:00 AM
Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	1.28E-02	
RELATIVE COUNTING ERROR		38.0%	5.21E-03 µCi/g

Analyst:		SCL	Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

4/17/96

WORKBOOK PAGE: DUP5

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	37	49
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.082	2.082
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.963	1.363

Batch Number	
96000826	Blank Concentration in µCi/g 9.91E-03
Rerun	Replicate Concentration in µCi/g 1.40E-02
0	Average Concentration in µCi/g 1.1963E-02
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004183	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.20E-02
Analyst	
SCL	
Date Complete	
02/05/96	RELATIVE COUNTING ERROR 45.5%
Analysis Date	
02/02/96	
Analysis Time	
08:00 AM	
Sample Point	
BY-106	

DETECTION LEVEL
5.49E-03 µCi/g

Analyst:		SCL	Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

in error JMW 4/17/96

LAD 4-1-96

WORKBOOK PAGE: SAM6

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	GROSS COUNTS	(GC)	53	68
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1028	2.1028
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.497	1.997

Batch Number	
96000826	Blank Concentration in µCi/g 1.52E-02
Rerun	Replicate Concentration in µCi/g 2.03E-02
0	Average Concentration in µCi/g 1.7783E-02
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004184	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.78E-02
Analyst	
SCL	
Date Complete	
02/05/96	RELATIVE COUNTING ERROR 34.1%
Analysis Date	
02/02/96	
Analysis Time	
08:00 AM	
Sample Point	
BY-106	

DETECTION LEVEL
5.43E-03 µCi/g

Analyst:		SCL	Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

4/17/96

WORKBOOK PAGE: DUP7

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	42	47
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1808	2.1808
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.130	1.297

Blank Concentration in µCi/g	1.11E-02
Replicate Concentration in µCi/g	1.27E-02
Average Concentration in µCi/g	1.1911E-02

Batch Number: 96000826
Rerun: 0
Sample Prep: FUS-ZR01
Sample #: S95T004184
Instrument Code: WB27806
Prepared By: MCB
Chemist: SLF
Analyst: SCL
Date Complete: 02/05/96
Analysis Date: 02/02/96
Analysis Time: 08:00 AM
Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	1.19E-02	
RELATIVE COUNTING ERROR		40.9%	5.24E-03 µCi/g

Analyst:	SCL		Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE — in error 4/17/96

WORKBOOK PAGE: SAM8

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	GROSS COUNTS	(GC)	149	56
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3232	2.3232
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.697	1.597
Batch Number				
96000826	Blank Concentration in µCi/g		4.33E-02	
Rerun	Replicate Concentration in µCi/g		1.47E-02	
0	Average Concentration in µCi/g		2.8998E-02	

Sample Prep: FUS-ZR01

Sample #: S95T004185

Instrument Code: WB27806

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/05/96

Analysis Date: 02/02/96

Analysis Time: 08:00 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Average)	=	2.90E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		32.8%	4.92E-03 µCi/g

Analyst:	SCL	Date: 05-Feb-96
Signature of Chemist:	SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 50810 ML

in error
5/15/96

DATA NOT USED IN PACKAGE

1571

WORKBOOK PAGE: DUP9

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	171	47
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2072	2.2072
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5.430	1.297

Batch Number		
96000826	Blank Concentration in µCi/g	5.27E-02
Rerun	Replicate Concentration in µCi/g	1.26E-02
0	Average Concentration in µCi/g	3.2623E-02

Sample Prep: FUS-ZR01

Sample #: S95T004185

Instrument Code: WB27806

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/05/96

Analysis Date: 02/02/96

Analysis Time: 08:00 AM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	3.26E-02	
RELATIVE COUNTING ERROR		37.4%	5.17E-03 µCi/g

Analyst:		SCL	Date: 05-Feb-96
Signature of Chemist:	[signature]	SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

in error [initials] 5/15/96

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SPIKE10

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

			SPIKE	REPLICATE
DETECTOR NUMBER			16	16
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	34576	36747
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.27	0.27
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	2.3232	2.3232
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE BOOK NUMBER		(Spk BN)	119B43	119B43
SPIKE VALUE in µCi/mL		(SVal)	3.9207E-02	3.9207E-02
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2104	0.2104
SAMPLE + SPIKE µCi/g		(S+S)	1.06E+01	1.13E+01
AVERAGE or MAXIMUM µCi/g in SAMPLE			2.8998E-02	

Type	Work List	AT or TB ?	Test Code	Matrix	Batch Number	Rerun	Sample Prep	Sample #	Instrument Code	Prepared By	Chemist	Analyst	Date Complete	Analysis Date	Analysis Time	Sample Point
SPK	5271	AT	@ALPHA01	SOLID	96000826	0	FUS-ZR01	S95T004185	WB27806	MCB	SLF	SCL	02/05/96	02/02/96	08:00 AM	BY-106

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.92E-02
QC FOUND	=	2.54E-02
AVG. PERCENT SPIKE RECOVERY	=	64.7%

Analyst:		MCB	Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SPIKE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SAM1

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	GROSS COUNTS	(GC)	33	37
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9956	1.9956
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.830	0.963

Batch Number	
96000826	Blank Concentration in µCi/g 8.90E-03
Rerun	Replicate Concentration in µCi/g 1.03E-02
0	Average Concentration in µCi/g 9.6196E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004186	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 9.62E-03
Analyst	
SCL	
Date Complete	
02/05/96	RELATIVE COUNTING ERROR 50.5%
Analysis Date	
02/02/96	
Analysis Time	
08:00 AM	
Sample Point	
BY-106	

DETECTION LEVEL
5.72E-03 µCi/g

Analyst:		SCL	Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

in error 4/17/96

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: DUP1

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	41	41
5271	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9556	1.9556
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.097	1.097
Batch Number				
96000826	Blank Concentration in µCi/g		1.20E-02	
Rerun	Replicate Concentration in µCi/g		1.20E-02	
0	Average Concentration in µCi/g		1.2006E-02	

Sample Prep: FUS-ZR01

Sample #: S95T004186

Instrument Code: WB27806

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/05/96

Analysis Date: 02/02/96

Analysis Time: 08:00 AM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	1.20E-02	
RELATIVE COUNTING ERROR		41.7%	5.84E-03 µCi/g

Analyst:		SCL	Date: 05-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

4/17/96

~~WHC-SD-WM-DP-103, REV. 1~~
LAD 4-1-96

LABCORE Data Entry Template for Worklist# 5337

Analyst: EAL **Instrument:** AB00 #14 **Book#** 23B356

Method: LA-508-101 Rev/Mod D-2 WHC-SD-WM-DP-103, REV. 1

Worklist Comment: Determine sample size using Ludlum. Use 0.1mL spike. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S95T004187	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested:				ALPHA01 , ALPHA01E			
5	DUP	S95T004187	0	Z	@ALPHA01	SOLID		
6	SAMPLE	S95T004188	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested:				ALPHA01 , ALPHA01E			
7	DUP	S95T004188	0	Z	@ALPHA01	SOLID		
8	SPK	S95T004188	0	Z	@ALPHA01	SOLID		
9	SAMPLE	S95T004189	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested:				ALPHA01 , ALPHA01E			
10	DUP	S95T004189	0	Z	@ALPHA01	SOLID		
11	SPK	S95T004189	0	Z	@ALPHA01	SOLID		
12	SAMPLE	S95T004190	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested:				ALPHA01 , ALPHA01E			
13	DUP	S95T004190	0	Z	@ALPHA01	SOLID		
14	SPK	S95T004190	0	Z	@ALPHA01	SOLID		

Final page for worklist # 5337

A. Lambel 02-01-96

2/2/96

C.J. Quinn 2/2/2/96

Data Entry Comments: SPK recoveries are acceptable due to low sample alpha activity. 2/12/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 5337

S Type	Sample#	R	A	Test	Matrix	Group#	Project
Analyst Signature				Date		Analyst Signature	Date

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 5337

Analyst: eal **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____ WHC-SD-WM-DP-103, REV. 1

Worklist Comment: Determine sample size using Ludlum. Use 0.1mL spike. skm

Seq	Type	Sample#	R	A	Test		Matrix	Actual		Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.02E-05		9.18E-6	90.000	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00		5.37E+00	5.370	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1		<3.40E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00		5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00		2.97E-01	0.300	uCi/g
4	SAMPLE	S95T004187	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	<	3.40E-03	7.650e-003	uCi/g
4	SAMPLE	S95T004187	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A		5.00E+02	0.000	% Ct. Error
5	DUP	S95T004187	0	Z	@ALPHA01	ALPHA01	SOLID	<3.40E-3		5.65E-3		RPD
5	DUP	S95T004187	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00		9.96E+01	99.600	% Ct. Error
6	SAMPLE	S95T004188	0	Z	@ALPHA01	ALPHA01	SOLID	N/A		1.05E-02	6.890e-003	uCi/g
6	SAMPLE	S95T004188	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A		5.19E+01	0.000	% Ct. Error
7	DUP	S95T004188	0	Z	@ALPHA01	ALPHA01	SOLID	1.05E-2		9.34E-3	11.690	RPD
7	DUP	S95T004188	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00		6.09E+01	60.900	% Ct. Error
8	SPK	S95T004188	0	Z	@ALPHA01	ALPHA01	SOLID	3.92E-02		3.14E-02	80.100	% Recovery
9	SAMPLE	S95T004189	0	Z	@ALPHA01	ALPHA01	SOLID	N/A		1.14E-02	8.300e-003	uCi/g
9	SAMPLE	S95T004189	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A		6.09E+01	0.000	% Ct. Error
10	DUP	S95T004189	0	Z	@ALPHA01	ALPHA01	SOLID	1.14E-2		1.49E-2	26.620	RPD
10	DUP	S95T004189	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00		4.66E+01	46.600	% Ct. Error
11	SPK	S95T004189	0	Z	@ALPHA01	ALPHA01	SOLID	3.92E-02		2.97E-02	75.770	% Recovery
12	SAMPLE	S95T004190	0	Z	@ALPHA01	ALPHA01	SOLID	N/A		1.00E-02	8.940e-003	uCi/g
12	SAMPLE	S95T004190	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A		6.70E+01	0.000	% Ct. Error
13	DUP	S95T004190	0	Z	@ALPHA01	ALPHA01	SOLID	1.00E-2		6.74E-3	38.950	RPD
13	DUP	S95T004190	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00		8.14E+01	81.400	% Ct. Error
14	SPK	S95T004190	0	Z	@ALPHA01	ALPHA01	SOLID	3.92E-02		3.00E-02	76.530	% Recovery

Final page for worklist# 5337

Analyst Signature **Date** **Analyst Signature** **Date**

2/12/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

LAD 4-1-96

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		14	14
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1426	1397
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	23B56	23B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		46.803	45.837
Batch Number	Standard Value in µCi/mL		1.02E-05	
96000880	Concentration in µCi/L	=	9.27E-03	
Rerun	Replicate Concentration in µCi/L	=	9.08E-03	
0	AVERAGE CONCENTRATION in µCi/L	=	9.1754E-03	

Sample Prep: N/A

Sample #: WL5337

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:20 AM

Sample Point: BY-106

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

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL		9.18E-06	
RELATIVE COUNTING ERROR	=	5.4%	1.62E-07 µCi/mL

Analyst:		MCB	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		14	14
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	6	7
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1196	2.1196
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.364	0.364

Batch Number			
96000880	Blank Concentration in µCi/g	<	3.40E-03
Rerun	Replicate Concentration in µCi/g	<	3.40E-03
0	Maximum Concentration in µCi/g	<	3.4018E-03

Sample Prep: N/A

Sample #: WL5337

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:20 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g	(Maximum)	=	< 3.40E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				7.65E-03 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

BLANK.WB1 Rev. 1.0 508101ML

1580

WORKBOOK PAGE: SAM4

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

			SAMPLE	REPLICATE
DETECTOR NUMBER			14	14
DISH SIZE (1 , 2 , or 5)	(MS)		2	2
GROSS COUNTS	(GC)		19	18
COUNT TIME in MINUTES	(CT)		30	30
BACKGROUND in cpm	(BKG)		0.73	0.73
SAMPLE SIZE in mL	(SS)		0.100	0.100
DILUTION FACTOR	(DF)		1	1
DIGEST GRAMS of SOLIDS / L	(Dg/L)		2.1196	2.1196
EFFICIENCY FACTOR	(EFF)		0.2274	0.2274
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.364	0.364
Blank Concentration in µCi/g		<	3.40E-03	
Replicate Concentration in µCi/g		<	3.40E-03	
Maximum Concentration in µCi/g		<	3.4018E-03	

Type	SAMPLE
Work List	5337
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96000880
Rerun	0
Sample Prep	FUS-ZR01
Sample #	S95T004187
Instrument Code	WB27807
Prepared By	MCB
Chemist	SLF
Analyst	EAL
Date Complete	02/02/96
Analysis Date	02/01/96
Analysis Time	04:20 AM
Sample Point	BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g (Maximum)	=	< 3.40E-03		7.65E-03 µCi/g
LESS Than Value was Determined from Lc.				
RELATIVE COUNTING ERROR			500.0%	

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	43	37
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.116	2.116
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.703	0.503

Batch Number	
96000880	Blank Concentration in µCi/g 6.58E-03
Rerun	Replicate Concentration in µCi/g 4.71E-03
0	Average Concentration in µCi/g 5.6480E-03

Sample Prep: FUS-ZR01

Sample #: S95T004187

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:20 AM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	5.65E-03	
RELATIVE COUNTING ERROR		99.6%	7.66E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

1582

WORKBOOK PAGE: SAM6

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	GROSS COUNTS	(GC)	64	55
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3536	2.3536
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.403	1.103

Batch Number	
96000880	Blank Concentration in µCi/g 1.18E-02
Rerun	Replicate Concentration in µCi/g 9.29E-03
0	Average Concentration in µCi/g 1.0548E-02

Sample Prep: FUS-ZR01

Sample #: S95T004188

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:20 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Average)	=	1.05E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		51.9%	6.89E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	49	56
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1628	2.1628
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.903	1.137

Batch Number	
96000880	Blank Concentration in µCi/g 8.27E-03
Rerun	Replicate Concentration in µCi/g 1.04E-02
0	Average Concentration in µCi/g 9.3420E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004188	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 9.34E-03
Analyst	
EAL	
Date Complete	
02/02/96	RELATIVE COUNTING ERROR 60.9%
Analysis Date	
02/01/96	
Analysis Time	
04:20 AM	
Sample Point	
BY-106	

DETECTION LEVEL
7.50E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE8

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	46679	48657
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3536	2.3536
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96000880	SPIKE VALUE in µCi/mL	(SVal)	3.9208E-02	3.9208E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
0	SAMPLE + SPIKE µCi/g	(S+S)	1.31E+01	1.36E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.0548E-02	
FUS-ZR01				
Sample #				
S95T004188				
Instrument Code				
WB27807				
Prepared By				
MCB				
Chemist				
SLF				
Analyst				
EAL				
Date Complete				
02/02/96				
Analysis Date				
02/01/96				
Analysis Time				
04:20 AM				
Sample Point				
BY-106				

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.92E-02
QC FOUND	=	3.14E-02
AVG. PERCENT SPIKE RECOVERY	=	80.2%

Analyst:		MCB	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM9

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	GROSS COUNTS	(GC)	49	62
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9528	1.9528
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.903	1.337

Batch Number		
96000880	Blank Concentration in µCi/g	9.16E-03
Rerun	Replicate Concentration in µCi/g	1.36E-02
0	Average Concentration in µCi/g	1.1361E-02

Sample Prep: FUS-ZR01

Sample #: S95T004189

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:20 AM

Sample Point: BY-106

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.

		DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average) =	1.14E-02	
RELATIVE COUNTING ERROR	60.9%	8.30E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WHC-SD-WM-DP-103, REV. 1 ~~WHC-SD-WM-DP-103, REV. 1~~ LAD 4-1-96

WORKBOOK PAGE: DUP1

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	60	66
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8188	1.8188
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.270	1.470

Batch Number	
96000880	Blank Concentration in µCi/g 1.38E-02
Rerun	Replicate Concentration in µCi/g 1.60E-02
0	Average Concentration in µCi/g 1.4921E-02
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004189	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.49E-02
Analyst	
EAL	
Date Complete	
02/02/96	RELATIVE COUNTING ERROR 46.6%
Analysis Date	
02/01/96	
Analysis Time	
04:20 AM	
Sample Point	
BY-106	

DETECTION LEVEL
8.92E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE11

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	44185	45812
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9528	1.9528
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96000880	SPIKE VALUE in µCi/mL	(SVal)	3.9208E-02	3.9208E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
0	SAMPLE + SPIKE µCi/g	(S+S)	1.49E+01	1.55E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.1361E-02	
FUS-ZR01				
Sample #				
S95T004189				
Instrument Code				
WB27807				
Prepared By				
MCB				
Chemist				
SLF				
Analyst				
EAL				
Date Complete				
02/02/96				
Analysis Date				
02/01/96				
Analysis Time				
04:20 AM				
Sample Point				
BY-106				

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.92E-02
QC FOUND	=	2.97E-02
AVG. PERCENT SPIKE RECOVERY	=	75.7%

Analyst:		MCB	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM1

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	GROSS COUNTS	(GC)	53	46
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8144	1.8144
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.037	0.803

Batch Number	
96000880	Blank Concentration in µCi/g 1.13E-02
Rerun	Replicate Concentration in µCi/g 8.77E-03
0	Average Concentration in µCi/g 1.0044E-02
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004190	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.00E-02
Analyst	
EAL	
Date Complete	
02/02/96	RELATIVE COUNTING ERROR 67.0%
Analysis Date	
02/01/96	
Analysis Time	
04:20 AM	
Sample Point	
BY-106	

DETECTION LEVEL
8.94E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	41	42
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9196	1.9196
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.637	0.670

Batch Number	
96000880	Blank Concentration in µCi/g 6.57E-03
Rerun	Replicate Concentration in µCi/g 6.91E-03
0	Average Concentration in µCi/g 6.7419E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004190	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 6.74E-03
Analyst	
EAL	
Date Complete	
02/02/96	RELATIVE COUNTING ERROR 81.4%
Analysis Date	
02/01/96	
Analysis Time	
04:20 AM	
Sample Point	
BY-106	

DETECTION LEVEL
8.45E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SAMPLE.WB1 Rev. 1.0 508101MV

WORKBOOK PAGE: SPIKE14

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	45425	45450
5337	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.73	0.73
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8144	1.8144
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96000880	SPIKE VALUE in µCi/mL	(SVal)	3.9208E-02	3.9208E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
0	SAMPLE + SPIKE µCi/g	(S+S)	1.65E+01	1.65E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.0044E-02	
FUS-ZR01				
Sample #				
S95T004190	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27807	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
MCB	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
EAL				
Date Complete				
02/02/96				
Analysis Date				
02/01/96	QC ACTUAL	=	3.92E-02	
Analysis Time	QC FOUND	=	3.00E-02	
04:20 AM	AVG. PERCENT SPIKE RECOVERY	=	76.4%	
Sample Point				
BY-106				

Analyst:		MCB	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/9/96

SPIKE.WB1 Rev. 1.0 508101ML

02/08/96 15:32
A-0004-1

~~WHC-SD-WM-DP-103, REV. 1~~
LAD 4-1-96

LABCORE Data Entry Template for Worklist# 5586

Analyst: JMV **Instrument:** AB00 18 **Book#** 33B56

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Use .100 mL sample size. Rerun #1. SLF

RUSH

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T000106	0	Z	@ALPHA01	SOLID	95000229	BY-106
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S96T000106	0	Z	@ALPHA01	SOLID		
6	SAMPLE	S96T000107	0	Z	@ALPHA01	SOLID	95000229	BY-106
		Analytes Requested: ALPHA01 , ALPHA01E						
7	DUP	S96T000107	0	Z	@ALPHA01	SOLID		
8	SAMPLE	S96T000250	0	Z	@ALPHA01	SOLID	95000229	BY-106
		Analytes Requested: ALPHA01 , ALPHA01E						
9	DUP	S96T000250	0	Z	@ALPHA01	SOLID		
10	SPK	S96T000250	0	Z	@ALPHA01	SOLID		
11	SAMPLE	S96T000251	0	Z	@ALPHA01	SOLID	95000229	BY-106
		Analytes Requested: ALPHA01 , ALPHA01E						
12	DUP	S96T000251	0	Z	@ALPHA01	SOLID		
13	SPK	S96T000251	0	Z	@ALPHA01	SOLID		

Final page for worklist # 5586

[signature] 2-9-96
Analyst Signature **Date**

S E Hogan 2/12/96
Analyst Signature **Date**
C.J. Gainen 2/12/96

Data Entry Comments:
DISHES ON 107 DUP & 106 DUP ARE REVERSED 107 Dup = 106 Dup if Labled They are in The right holders. The RPD for 106 is acceptable due to low sample alpha activity. [signature] 2/12/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

worklistdata Version 0.0 05/16/95
02/12/96 14:49

~~WHC-SD-WM-DP-103, REV. 1~~
4-1-96 LAP

LABCORE Completed Worklist Report for Worklist# 5586

Analyst: jmv **Instrument:** AB18 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .100 mL sample size. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01 ALPHA01	SOLID	1.66E-05	1.64E-5	98.800	% Recovery
1	STD		0		@ALPHA01 ALPHA01E	SOLID	1.00	4.12E+00	4.120	% Ct. Error
2	BLNK-PREP		0		@ALPHA01 ALPHA01	SOLID	1	<3.67E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01 ALPHA01	SOLID	1.00E+00	1.54E+00	1.540	uCi/g
4	SAMPLE	S96T000106	0	Z	@ALPHA01 ALPHA01	SOLID	N/A	2.85E-03	4.470e-003	uCi/g
4	SAMPLE	S96T000106	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	1.20E+02	0.000	% Ct. Error
5	DUP	S96T000106	0	Z	@ALPHA01 ALPHA01	SOLID	2.85E-3	4.74E-3	49.800	RPD
5	DUP	S96T000106	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	7.68E+01	76.800	% Ct. Error
6	SAMPLE	S96T000107	0	Z	@ALPHA01 ALPHA01	SOLID	N/A	3.16E-02	4.560e-003	uCi/g
6	SAMPLE	S96T000107	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	2.33E+01	0.000	% Ct. Error
7	DUP	S96T000107	0	Z	@ALPHA01 ALPHA01	SOLID	3.16E-2	3.19E-2	0.940	RPD
7	DUP	S96T000107	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	2.36E+01	23.600	% Ct. Error
8	SAMPLE	S96T000250	0	Z	@ALPHA01 ALPHA01	SOLID	N/A <	1.62E-03	3.790e-003	uCi/g
8	SAMPLE	S96T000250	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	5.00E+02	0.000	% Ct. Error
9	DUP	S96T000250	0	Z	@ALPHA01 ALPHA01	SOLID	<1.62E-3	<3.35E-3		RPD
9	DUP	S96T000250	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	2.09E+02	209.000	% Ct. Error
10	SPK	S96T000250	0	Z	@ALPHA01 ALPHA01	SOLID	3.92E-02	3.43E-02	87.500	% Recovery
11	SAMPLE	S96T000251	0	Z	@ALPHA01 ALPHA01	SOLID	N/A	4.93E-03	4.870e-003	uCi/g
11	SAMPLE	S96T000251	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	7.68E+01	0.000	% Ct. Error
12	DUP	S96T000251	0	Z	@ALPHA01 ALPHA01	SOLID	4.93E-3	5.49E-3	10.750	RPD
12	DUP	S96T000251	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	7.23E+01	72.300	% Ct. Error
13	SPK	S96T000251	0	Z	@ALPHA01 ALPHA01	SOLID	3.92E-02	3.28E-02	83.670	% Recovery

Final page for worklist# 5586

Analyst Signature **Date** **Analyst Signature** **Date**

2/12/96
Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

~~WHC-SD-WM-DP-103, REV. 1~~
LAD 4-1-96

WORKBOOK PAGE: STD1

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		18	18
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2278	2320
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	33B56	33B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		75.803	77.203
Batch Number	Standard Value in µCi/mL		1.66E-05	
96001148	Concentration in µCi/L	=	1.63E-02	
Rerun	Replicate Concentration in µCi/L	=	1.66E-02	
0	AVERAGE CONCENTRATION in µCi/L	=	1.6449E-02	

Sample Prep: N/A

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

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

Sample # WL#5586

Instrument Code WB27809

Prepared By SEH

Chemist SLF

Analyst JMV

Date Complete 02/12/96

Analysis Date 02/09/96

Analysis Time 03:00 PM

Sample Point BY-106

		DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	1.64E-05	
RELATIVE COUNTING ERROR =	4.1%	8.55E-08 µCi/mL

Analyst:	SEH	Date: 12-Feb-96	
Signature of Chemist:	SLF	Date: 2/12/96	

STANDARD.WB1 Rev. 1.0 508101ML

~~WHC-SD-WM-DP-103, REV. 1~~
4-1-96 LMD

WORKBOOK PAGE: BLANK2

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		18	18
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	4	8
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9128	1.9128
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.158	0.326

Batch Number			
96001148	Blank Concentration in µCi/g	<	1.78E-03
Rerun	Replicate Concentration in µCi/g	<	3.67E-03
0	Maximum Concentration in µCi/g	<	3.6689E-03

Sample Prep: N/A

Sample #: WL#5586

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: JMV

Date Complete: 02/12/96

Analysis Date: 02/09/96

Analysis Time: 03:00 PM

Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g (Maximum)	=	< 3.67E-03		4.47E-03 µCi/g
LESS THAN Value was Determined from Rmax.				
RELATIVE COUNTING ERROR			500.0%	

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

BLANK.WB1 Rev. 1.0 508101ML

~~WHC-SD-WM-DP-103, REV. 1~~
LAD 9-1-96

WORKBOOK PAGE: SAM4

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

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	10	13
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9128	1.9128
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.203	0.303

Batch Number	
96001148	Blank Concentration in µCi/g 2.29E-03
Rerun	Replicate Concentration in µCi/g 3.41E-03
1	Average Concentration in µCi/g 2.8476E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000106	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 2.85E-03
Analyst	
JMV	
Date Complete	
02/12/96	RELATIVE COUNTING ERROR 119.8%
Analysis Date	
02/09/96	
Analysis Time	
03:00 PM	
Sample Point	
BY-106	

DETECTION LEVEL
4.47E-03 µCi/g

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

~~WHC-SD-WM-DP-103, REV. 1~~
LAD 4-7-96

WORKBOOK PAGE: DUP5

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	15	16
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.7552	1.7552
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.370	0.403
Batch Number				
96001148	Blank Concentration in µCi/g		4.53E-03	
Rerun	Replicate Concentration in µCi/g		4.94E-03	
1	Average Concentration in µCi/g		4.7367E-03	

Sample Prep: FUS-ZR01

Sample #: S96T000106

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: JMV

Date Complete: 02/12/96

Analysis Date: 02/09/96

Analysis Time: 03:00 PM

Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g	(Average)	=	4.74E-03	
RELATIVE COUNTING ERROR			76.8%	4.87E-03 µCi/g

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

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

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	91	82
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.876	1.876
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.903	2.603

Batch Number	
96001148	Blank Concentration in µCi/g 3.33E-02
Rerun	Replicate Concentration in µCi/g 2.98E-02
1	Average Concentration in µCi/g 3.1557E-02

Sample Prep: FUS-ZR01

Sample #: S96T000107

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: JMV

Date Complete: 02/12/96

Analysis Date: 02/09/96

Analysis Time: 03:00 PM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	3.16E-02	
RELATIVE COUNTING ERROR		23.3%	4.56E-03 µCi/g

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

~~WHC-SD-WM-DP-103, REV. 1~~
4-1-96 LAD

WORKBOOK PAGE: DUP7

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	99	80
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.922	1.922
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.170	2.537
Batch Number				
96001148	Blank Concentration in µCi/g		3.55E-02	
Rerun	Replicate Concentration in µCi/g		2.84E-02	
1	Average Concentration in µCi/g		3.1920E-02	

Sample Prep: FUS-ZR01

Sample #: S96T000107

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: JMV

Date Complete: 02/12/96

Analysis Date: 02/09/96

Analysis Time: 03:00 PM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	3.19E-02	
RELATIVE COUNTING ERROR		23.6%	4.45E-03 µCi/g

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:	[signature]	SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

~~WHC-SD-WM-DP-103, REV. 1~~
LAD 4-1-96

WORKBOOK PAGE: SAM8

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

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3	9
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2568	2.2568
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.154	0.170

Batch Number			
96001148	Blank Concentration in µCi/g	<	1.46E-03
Rerun	Replicate Concentration in µCi/g		1.62E-03
1	Maximum Concentration in µCi/g	<	1.6196E-03

Sample Prep: FUS-ZR01

Sample #: S96T000250

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: JMV

Date Complete: 02/12/96

Analysis Date: 02/09/96

Analysis Time: 03:00 PM

Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g	(Maximum)	=	< 1.62E-03	
LESS Than Value was Determined from Lc.				3.79E-03 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

1600

WORKBOOK PAGE: DUP9

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	15	7
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3764	2.3764
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.370	0.285
Batch Number				
96001148	Blank Concentration in µCi/g		3.35E-03	
Rerun	Replicate Concentration in µCi/g	<	2.58E-03	
1	Maximum Concentration in µCi/g	<	3.3477E-03	

Sample Prep: FUS-ZR01

Sample #: S96T000250

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: JMV

Date Complete: 02/12/96

Analysis Date: 02/09/96

Analysis Time: 03:00 PM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g	(Maximum)	=	< 3.35E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				3.60E-03 µCi/g
RELATIVE COUNTING ERROR			208.7%	

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE10

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

				SPIKE	REPLICATE
Type	DETECTOR NUMBER			18	18
SPK	DISH SIZE 1 , 2 , or 5		(MS)	2	2
Work List	TOTAL COUNTS		(TC)	51364	44377
5586	COUNT TIME in MINUTES		(CT)	30	30
AT or TB ?	BACKGROUND in cpm		(BKG)	0.13	0.13
AT	SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L		(Dg/L)	2.2568	2.2568
Matrix	SPIKE VOLUME in mL		(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR		(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER		(Spk BN)	119B43	119B43
96001148	SPIKE VALUE in µCi/mL		(SVal)	3.9206E-02	3.9206E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2095	0.2095
1	SAMPLE + SPIKE µCi/g		(S+S)	1.63E+01	1.41E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		<	1.6196E-03	
FUS-ZR01					
Sample #					
S96T000250	Rs (Sample Count Rate) = (TC / CT) - BKG				
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)				
WB27809	QC ACTUAL = SVal				
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))				
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100				
Chemist					
SLF					
Analyst					
JMV					
Date Complete	NOTE:	Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.			
02/12/96					
Analysis Date					
02/09/96	QC ACTUAL		=	3.92E-02	
Analysis Time	QC FOUND		=	3.43E-02	
03:00 PM	AVG. PERCENT SPIKE RECOVERY		=	87.5%	
Sample Point					
BY-106					

Analyst:		SEH	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM1

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

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	17	15
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.758	1.758
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.437	0.370

Batch Number	
96001148	Blank Concentration in µCi/g 5.34E-03
Rerun	Replicate Concentration in µCi/g 4.53E-03
1	Average Concentration in µCi/g 4.9330E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000251	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 4.93E-03
Analyst	
JMV	
Date Complete	
02/12/96	RELATIVE COUNTING ERROR 76.8%
Analysis Date	
02/09/96	
Analysis Time	
03:00 PM	
Sample Point	
BY-106	

DETECTION LEVEL
4.87E-03 µCi/g

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

WHC-SD-WM-DP-103, REV. 1 ~~WHC-SD-WM-DP-103, REV. 1~~ LAD 4-1-96

WORKBOOK PAGE: DUP1

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	18	16
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.7112	1.7112
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.470	0.403

Batch Number	
96001148	Blank Concentration in µCi/g 5.91E-03
Rerun	Replicate Concentration in µCi/g 5.07E-03
1	Average Concentration in µCi/g 5.4867E-03

Sample Prep: FUS-ZR01

Sample #: S96T000251

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: JMV

Date Complete: 02/12/96

Analysis Date: 02/09/96

Analysis Time: 03:00 PM

Sample Point: BY-106

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.

		DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average) =	5.49E-03	5.00E-03 µCi/g
RELATIVE COUNTING ERROR	72.3%	

Analyst:		JMV	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE13

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		18	18
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	44892	46578
5586	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.758	1.758
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96001148	SPIKE VALUE in µCi/mL	(SVal)	3.9206E-02	3.9206E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
1	SAMPLE + SPIKE µCi/g	(S+S)	1.83E+01	1.90E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		4.9330E-03	
FUS-ZR01				
Sample #				
S96T000251	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27809	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL.) *100			
Chemist				
SLF				
Analyst				
JMV				
Date Complete				
02/12/96				
Analysis Date				
02/09/96	QC ACTUAL	=	3.92E-02	
Analysis Time	QC FOUND	=	3.28E-02	
03:00 PM	AVG. PERCENT SPIKE RECOVERY	=	83.6%	
Sample Point				
BY-106				

Analyst:		SEH	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SPIKE.WB1 Rev. 1.0 508101ML

02/09/96 15:33
A-0004-1

LAD 41-96
~~WHC-SD-WM-DP-103, REV. 1~~

WHC-SD-WM-DP-103, REV. 1
RUSH

LABCORE Data Entry Template for Worklist# 5625

Analyst: DSS **Instrument:** AB00 14 **Book#** 33B56

Method: LA-508-101 Rev/Mod D-2 spk # 119B43

Worklist Comment: Use ~~.100 mL~~ .150 ml sample size. Rerun #1. SLF

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S95T004179	0	Z	@ALPHA01	SOLID	95000229	BY-106
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S95T004179	0	Z	@ALPHA01	SOLID		
6	SPK	S95T004179	0	Z	@ALPHA01	SOLID		

Final page for worklist # 5625

D S Suffen 2-10-96 / 2130
Analyst Signature Date

SE Hogan 2/12/96
Analyst Signature Date

C.J. Ogaren 2/12/96

Data Entry Comments:

SPK recovery is acceptable due to the low sample alpha activities involved. [signature] 2/12/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 5625

Analyst: dgg **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .100 mL sample size. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01 ALPHA01	SOLID	1.66E-05	1.44E-5	86.750	% Recovery
1	STD		0		@ALPHA01 ALPHA01E	SOLID	1.00	4.25E+00	4.250	% Ct. Error
2	BLNK-PREP		0		@ALPHA01 ALPHA01	SOLID	1	<2.26E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01 ALPHA01	SOLID	1.00E+00	8.64E-01	0.860	uCi/g
4	SAMPLE	S95T004179	0	Z	@ALPHA01 ALPHA01	SOLID	N/A <	1.73E-03	3.580e-003	uCi/g
4	SAMPLE	S95T004179	0	Z	@ALPHA01 ALPHA01E	SOLID	N/A	5.00E+02	0.000	% Ct. Error
5	DUP	S95T004179	0	Z	@ALPHA01 ALPHA01	SOLID	<1.73E-3	<2.29E-3		RPD
5	DUP	S95T004179	0	Z	@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
6	SPK	S95T004179	0	Z	@ALPHA01 ALPHA01	SOLID	3.92E-02	2.74E-02	69.900	% Recovery

Final page for worklist# 5625

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 2/12/96 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

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

			STANDARD	REPLICATE
DETECTOR NUMBER			14	14
DISH SIZE (1 , 2 , or 5)		(MS)	2	2
GROSS COUNTS		(GC)	2225	2152
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.27	0.27
SAMPLE SIZE in mL		(SS)	10.000	10.000
DILUTION FACTOR		(DF)	1	1
STANDARD BOOK NUMBER		(Std BN)	33B56	33B56
EFFICIENCY FACTOR		(EFF)	0.2274	0.2274
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			73.897	71.463
Standard Value in µCi/mL			1.66E-05	
Concentration in µCi/L	=		1.46E-02	
Replicate Concentration in µCi/L	=		1.42E-02	
AVERAGE CONCENTRATION in µCi/L	=		1.4397E-02	

Type	STD
Work List	5625
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	LIQUID
Batch Number	96001186
Rerun	0
Sample Prep	N/A
Sample #	WL#5625
Instrument Code	WB27807
Prepared By	SEH
Chemist	SLF
Analyst	DGG
Date Complete	02/12/96
Analysis Date	02/10/96
Analysis Time	09:30 PM
Sample Point	BY-106

Rs (Sample Count Rate) = (TC / CT) - BKG
ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL		1.44E-05	1.06E-07 µCi/mL
RELATIVE COUNTING ERROR	=	4.2%	

Analyst:	SEH	Date: 12-Feb-96	
Signature of Chemist:	SLF	Date: 2/12/96	

STANDARD.WB1 Rev. 1.0 508101M

1608

~~WHC-SD-WM-DP-103, REV. 1~~ LAD 9-1-96

WORKBOOK PAGE: BLANK2

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		14	14
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	11	3
5625	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.150	0.150
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9692	1.9692
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.337	0.221

Blank Concentration in µCi/g	<	2.26E-03
Replicate Concentration in µCi/g	<	1.48E-03
Maximum Concentration in µCi/g	<	2.2602E-03

Batch Number: 96001186
Rerun: 0
Sample Prep: N/A
Sample #: WL#5625
Instrument Code: WB27807
Prepared By: SEH
Chemist: SLF
Analyst: DGG
Date Complete: 02/12/96
Analysis Date: 02/10/96
Analysis Time: 09:30 PM
Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g (Maximum)	=	< 2.26E-03		
LESS THAN Value was Determined from Rmax.				3.58E-03 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:	DGG	Date: 12-Feb-96	
Signature of Chemist:	SLF	Date: 2/12/96	

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

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	GROSS COUNTS	(GC)	6	9
5625	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.150	0.150
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9692	1.9692
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.221	0.257

Batch Number			
96001186	Blank Concentration in µCi/g	<	1.48E-03
Rerun	Replicate Concentration in µCi/g	<	1.73E-03
1	Maximum Concentration in µCi/g	<	1.7264E-03

Sample Prep: FUS-ZR01

Sample #: S95T004179

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: DGG

Date Complete: 02/12/96

Analysis Date: 02/10/96

Analysis Time: 09:30 PM

Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g	(Maximum)	=	< 1.73E-03	
LESS Than Value was Determined from Lc.				
RELATIVE COUNTING ERROR			500.0%	3.58E-03 µCi/g

Analyst:		DGG	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

1610

WORKBOOK PAGE: DUP5

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	11	5
5625	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.150	0.150
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9476	1.9476
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.337	0.221

Batch Number			
96001186	Blank Concentration in µCi/g	<	2.29E-03
Rerun	Replicate Concentration in µCi/g	<	1.50E-03
1	Maximum Concentration in µCi/g	<	2.2853E-03

Sample Prep: FUS-ZR01

Sample #: S95T004179

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: DGG

Date Complete: 02/12/96

Analysis Date: 02/10/96

Analysis Time: 09:30 PM

Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g (Maximum)	=	< 2.29E-03		
LESS THAN Value was Determined from Rmax.				3.62E-03 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:	DGG	Date: 12-Feb-96	
Signature of Chemist:	SLF	Date: 2/12/96	

SAMPLE.WB1 Rev. 1.0 508101ML

1611

WORKBOOK PAGE: SPIKE6

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	38542	44478
5625	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.150	0.150
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9692	1.9692
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96001186	SPIKE VALUE in µCi/mL	(SVal)	3.9206E-02	3.9206E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
1	SAMPLE + SPIKE µCi/g	(S+S)	8.61E+00	9.94E+00
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE	<	1.7264E-03	
FUS-ZR01				
Sample #				
S95T004179				
Instrument Code				
WB27807				
Prepared By				
SEH				
Chemist				
SLF				
Analyst				
DGG				
Date Complete				
02/12/96				
Analysis Date				
02/10/96				
Analysis Time				
09:30 PM				
Sample Point				
BY-106				

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

NOTE: **Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.**

QC ACTUAL	=	3.92E-02
QC FOUND	=	2.74E-02
AVG. PERCENT SPIKE RECOVERY	=	69.9%

Analyst:		SEH	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 5626

Analyst: ADS **Instrument:** AB00 16 **Book#** 33B56

Method: LA-508-101 Rev/Mod D-2 Spk# 119B43

Worklist Comment: Use .100 mL sample size. Rerun #1. SLF

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S95T004185	0	Z	@ALPHA01	SOLID	95000229	BY-106
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S95T004185	0	Z	@ALPHA01	SOLID		
6	SPK	S95T004185	0	Z	@ALPHA01	SOLID		

Final page for worklist # 5626

A. D. Soffen 2-10-96 / 2130
Analyst Signature Date

Sylvia Z. Cohen 2/12/96
Analyst Signature Date
C.J. Garvin 2/12/96

Data Entry Comments: The RPD is acceptable due to low sample alpha activity. [signature] 2/12/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 5626

Analyst: dgg **Instrument:** AB16 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .100 mL sample size. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.66E-05	1.65E-5	99.400 % Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	4.14E+00	4.140 % Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	<1.42E-3	uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	5.00E+02	500.000 % Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	6.41E-01	0.640 uCi/g
4	SAMPLE	S95T004185	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	1.46E-02	3.670e-003 uCi/g
4	SAMPLE	S95T004185	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	3.12E+01	0.000 % Ct. Error
5	DUP	S95T004185	0	Z	@ALPHA01	ALPHA01	SOLID	1.46E-2	1.70E-2	15.190 RPD
5	DUP	S95T004185	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	3.05E+01	30.500 % Ct. Error
6	SPK	S95T004185	0	Z	@ALPHA01	ALPHA01	SOLID	3.92E-02	3.48E-02	88.700 % Recovery

Final page for worklist# 5626

Analyst Signature **Date** **Analyst Signature** **Date**

2/12/96
Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2369	2251
5626	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	33B56	33B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		78.837	74.903
Batch Number	Standard Value in µCi/mL		1.66E-05	
96001187	Concentration in µCi/L	=	1.69E-02	
Rerun	Replicate Concentration in µCi/L	=	1.60E-02	
0	AVERAGE CONCENTRATION in µCi/L	=	1.6457E-02	

Sample Prep: N/A

Sample #: WL5626

Instrument Code: WB27806

Prepared By: SZC

Chemist: SLF

Analyst: DGG

Date Complete: 02/12/96

Analysis Date: 02/10/96

Analysis Time: 09:30 PM

Sample Point: BY-106

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

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL		1.65E-05	8.52E-08 µCi/mL
RELATIVE COUNTING ERROR	=	4.1%	

Analyst:		SZC	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		16	16
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2	3
5626	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3232	2.3232
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.154	0.154
Batch Number				
96001187	Blank Concentration in µCi/g	<	1.42E-03	
Rerun	Replicate Concentration in µCi/g	<	1.42E-03	
0	Maximum Concentration in µCi/g	<	1.4155E-03	
Sample Prep				
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG			
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
WL5626				
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			
Prepared By				
SZC				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Maximum)	=	< 1.42E-03	DETECTION LEVEL
Analyst				
DGG	LESS Than Value was Determined from Lc.			
Date Complete				3.67E-03
02/12/96	RELATIVE COUNTING ERROR		500.0%	µCi/g
Analysis Date				
02/10/96				
Analysis Time				
09:30 PM				
Sample Point				
BY-106				

Analyst:		DGG	Date: 12-Feb-96
Signature of Chemist:		SLF	Date:

BLANK.WB1 Rev. 1.0 508101ML

~~WHC-SD-WM-DP-103, REV. 1~~ LAD 4-1-96

WORKBOOK PAGE: SAM4

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	GROSS COUNTS	(GC)	50	53
5626	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3232	2.3232
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.537	1.637

Batch Number	
96001187	Blank Concentration in µCi/g 1.42E-02
Rerun	Replicate Concentration in µCi/g 1.51E-02
1	Average Concentration in µCi/g 1.4622E-02
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S95T004185	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SZC	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.46E-02
Analyst	
DGG	
Date Complete	
02/12/96	RELATIVE COUNTING ERROR 31.2%
Analysis Date	
02/10/96	
Analysis Time	
09:30 PM	
Sample Point	
BY-106	

DETECTION LEVEL
3.67E-03 µCi/g

Analyst:		DGG	Date: 12-Feb-96
Signature of Chemist:		SLF	Date: 2/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

1617

~~WHC-SD-WM-DP-103, REV. 1~~
LAD 41-96

WORKBOOK PAGE: DUP5

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	52	61
5626	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2072	2.2072
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.603	1.903
Batch Number				
96001187	Blank Concentration in µCi/g		1.56E-02	
Rerun	Replicate Concentration in µCi/g		1.85E-02	
1	Average Concentration in µCi/g		1.7007E-02	

Sample Prep: FUS-ZR01
Sample #: S95T004185
Instrument Code: WB27806
Prepared By: SZC
Chemist: SLF
Analyst: DGG
Date Complete: 02/12/96
Analysis Date: 02/10/96
Analysis Time: 09:30 PM
Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	1.70E-02	
RELATIVE COUNTING ERROR		30.5%	3.86E-03 µCi/g

Analyst:	DGG	Date: 12-Feb-96	
Signature of Chemist:	SLF	Date: 2/12/96	

SAMPLE.WB1 Rev. 1.0 508101ML

1618

WORKBOOK PAGE: SPIKE6

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	52652	44895
5626	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3232	2.3232
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96001187	SPIKE VALUE in µCi/mL	(SVal)	3.9206E-02	3.9206E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
1	SAMPLE + SPIKE µCi/g	(S+S)	1.62E+01	1.38E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.4622E-02	
FUS-ZR01				
Sample #				
S95T004185				
Instrument Code				
WB27806				
Prepared By				
SZC				
Chemist				
SLF				
Analyst				
DGG				
Date Complete				
02/12/96				
Analysis Date				
02/10/96				
Analysis Time				
09:30 PM				
Sample Point				
BY-106				

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.92E-02
QC FOUND	=	3.48E-02
AVG. PERCENT SPIKE RECOVERY	=	88.7%

Analyst:	SZC	Date: 12-Feb-96
Signature of Chemist:	SLF	Date: 2/12/96

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 5960

Analyst: S.C.L **Instrument:** AB00 #18 **Book#** 38156

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: BY-106 DETERMINE SS USING LUDLUM,SPIKE USE 0.1ML APPROP.SPK

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	LIQUID		
2	BLNK				@ALPHA01	LIQUID		
3	BLNK/BKG				@ALPHA01	LIQUID		
4	SAMPLE	S96T000258	0		@ALPHA01	LIQUID	95000229	BY-106
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S96T000258	0		@ALPHA01	LIQUID		

Final page for worklist # 5960

Sue Lai 2-28-96
Analyst Signature **Date**

M. Brennan 2/29/96
Analyst Signature **Date**

SE Hogan 2/29/96

Data Entry Comments:

S = Worklist Slot Number; R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 5960

Analyst: scl **Instrument:** AB18 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: BY-106 DETERMINE SS USING LUDLUM,SPIKE USE 0.1ML APPROP.SPK

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	1.53e-05	1.47e-5	96.080	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00	4.4	4.400	% Ct. Error
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1	<5.65e-3		uCi/mL
2	BLNK		0	@ALPHA01	ALPHA01E	LIQUID	1.00	500.0	500.000	% Ct. Error
3	BLNK/BKG		0	@ALPHA01	ALPHA01	LIQUID	1	.74	0.740	uCi/mL
4	SAMPLE	S96T000258	0	@ALPHA01	ALPHA01	LIQUID	N/A	< 4.86e-3	1.170e-002	uCi/mL
4	SAMPLE	S96T000258	0	@ALPHA01	ALPHA01E	LIQUID	N/A	500.0	0.000	% Ct. Error
5	DUP	S96T000258	0	@ALPHA01	ALPHA01	LIQUID	<4.86e-3	<1.97e-2		RPD
5	DUP	S96T000258	0	@ALPHA01	ALPHA01E	LIQUID	1.00	500.0	500.000	% Ct. Error

Final page for worklist# 5960

Analyst Signature **Date** **Analyst Signature** **Date**

2/29/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		18	18
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2028	2095
5960	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	38B56	38B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		67.330	69.563
Batch Number	Standard Value in µCi/mL		1.53E-05	
96001585	Concentration in µCi/L	=	1.45E-02	
Rerun	Replicate Concentration in µCi/L	=	1.50E-02	
0	AVERAGE CONCENTRATION in µCi/L	=	1.4717E-02	

Sample Prep: N/A

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

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

Sample #: WL5960

Instrument Code: WB27809

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/29/96

Analysis Date: 02/28/96

Analysis Time: 11:30 AM

Sample Point: BY-106

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL		1.47E-05	1.15E-07 µCi/mL
RELATIVE COUNTING ERROR	=	4.4%	

Analyst:	MCB	Date: 29-Feb-96	
Signature of Chemist:	SLF	Date: 2/29/96	

STANDARD.WB1 Rev. 1.0 508101ML

1622

WORKBOOK PAGE: BLANK2

WHC-SD-WM-DP-103, REV. 1

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

			BLNK	REPLICATE
Type	DETECTOR NUMBER		18	18
BLNK	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	3
5960	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.257	0.221

Batch Number		
96001585	Blank Concentration in µCi/L	< 5.65E+00
Rerun	Replicate Concentration in µCi/L	< 4.86E+00
0	Maximum Concentration in µCi/L	< 5.6465E+00

Sample Prep: N/A

Sample #: WL5960

Instrument Code: WB27809

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/29/96

Analysis Date: 02/28/96

Analysis Time: 11:30 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 5.65E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			1.17E-02 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:		SCL	Date: 29-Feb-96
Signature of Chemist:		SLF	Date: 2/29/96

BLANK.WB1 Rev. 1.0 508101ML

1623

WORKBOOK PAGE: SAM4

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

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3	7
5960	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.221	0.221
Batch Number				
96001585	Blank Concentration in µCi/L	<	4.86E+00	
Rerun	Replicate Concentration in µCi/L	<	4.86E+00	
0	Maximum Concentration in µCi/L	<	4.8554E+00	
Sample Prep				
N/A				
Sample #				
S96T000258				
Instrument Code				
WB27809				
Prepared By				
MCB				
Chemist				
SLF				
Analyst				
SCL				
Date Complete				
02/29/96				
Analysis Date				
02/28/96				
Analysis Time				
11:30 AM				
Sample Point				
BY-106				

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.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 4.86E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.			1.17E-02 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:	SCL		Date: 29-Feb-96
Signature of Chemist:		SLF	Date: 2/29/96

SAMPLE.WB1 Rev. 1.0 508101ML

1624

WORKBOOK PAGE: DUP5

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	35	7
5960	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.897	0.221
Batch Number				
96001585	Blank Concentration in µCi/L		1.97E+01	
Rerun	Replicate Concentration in µCi/L	<	4.86E+00	
0	Maximum Concentration in µCi/L	<	1.9667E+01	

Sample Prep: N/A

Sample #: S96T000258

Instrument Code: WB27809

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 02/29/96

Analysis Date: 02/28/96

Analysis Time: 11:30 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 1.97E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rs.			
RELATIVE COUNTING ERROR		500.0%	1.17E-02 µCi/mL

Analyst:		SCL	Date: 29-Feb-96
Signature of Chemist:		SLF	Date: 2/29/96

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 7446

Analyst: KNT **Instrument:** AB00 13 **Book#** 47B56

Method: LA-508-101 Rev/Mod ~~A-0~~ SLF 4/11/96 D-2

Worklist Comment: Use .100 mL sample size. Rerun #1. SLF

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@AB-01	SOLID		
2	BLNK-PREP				@AB-01	SOLID		
3	BLNK/BKG				@AB-01	SOLID		
4	SAMPLE	S96T000379	0	Z	@AB-01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E, BETA-01 , BETA-01E							
5	DUP	S96T000379	0	Z	@AB-01	SOLID		
6	SPK	S96T000379	0	Z	@AB-01	SOLID		

Final page for worklist # 7446

Kim Thomas 4-9-96
Analyst Signature Date

Sharon L Walch 4-10-96
Analyst Signature Date

M. G. Brown 4/10/96

Data Entry Comments:

The RPD for 379 At is acceptable due to low sample alpha activity. [signature] 4/11/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 7446

Analyst: knt **Instrument:** AB13 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .100 mL sample size. Rerun #1. SLF

Seq	Type	Sample#	R	A		Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@AB-01	ALPHA01	SOLID	1.28E-04	1.26E-4	98.440	% Recovery
1	STD			0	@AB-01	ALPHA01E	SOLID	1	4.37E+00	4.370	% Ct. Error
1	STD			0	@AB-01	BETA-01	SOLID	1.81E-03	1.79E-3	98.900	% Recovery
1	STD			0	@AB-01	BETA-01E	SOLID	1	8.19E-01	0.820	% Ct. Error
2	BLNK-PREP			0	@AB-01	ALPHA01	SOLID	1	<3.31E-3		uCi/g
2	BLNK-PREP			0	@AB-01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
2	BLNK-PREP			0	@AB-01	BETA-01	SOLID	1	8.94E-2	9.000e-002	uCi/g
2	BLNK-PREP			0	@AB-01	BETA-01E	SOLID	1.00	5.05E+01	50.500	% Ct. Error
3	BLNK/BKG			0	@AB-01	ALPHA01	SOLID	1.00E+00	1.17E+00	1.170	uCi/g
3	BLNK/BKG			0	@AB-01	BETA-01	SOLID	1.00E+00	3.46E+00	3.460	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	N/A	8.60E-03	4.250e-003	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	ALPHA01E	SOLID	N/A	4.45E+01	0.000	% Ct. Error
4	SAMPLE	S96T000379	0	Z	@AB-01	BETA-01	SOLID	N/A	8.32E+01	1.070e-002	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	BETA-01E	SOLID	N/A	2.50E-01	0.000	% Ct. Error
5	DUP	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	8.60E-3	1.18E-2	31.370	RPD
5	DUP	S96T000379	0	Z	@AB-01	ALPHA01E	SOLID	1.00	4.55E+01	45.500	% Ct. Error
5	DUP	S96T000379	0	Z	@AB-01	BETA-01	SOLID	8.32E+1	7.72E+1	7.480	RPD
5	DUP	S96T000379	0	Z	@AB-01	BETA-01E	SOLID	1.00	2.71E-01	0.270	% Ct. Error
6	SPK	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	3.59E-02	3.13E-02	87.190	% Recovery
6	SPK	S96T000379	0	Z	@AB-01	BETA-01	SOLID	1.92E-01	1.82E-01	94.790	% Recovery

Final page for worklist# 7446

Analyst Signature **Date** **Analyst Signature** **Date**

Reviewer Signature 4/11/96 **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WHC-SD-WM-DP-103, REV. 1

LABCORE Completed Worklist Report for Worklist# 7446

Analyst: knt **Instrument:** AB13 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .100 mL sample size. Rerun #1. SLF

Seq	Type	Sample#	R	A		Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@AB-01	ALPHA01	SOLID	1.28E-04	1.26E-4	98.440	% Recovery
1	STD		0		@AB-01	ALPHA01E	SOLID	1	4.37E+00	4.370	% Ct. Error
1	STD		0		@AB-01	BETA-01	SOLID	1.81E-03	1.79E-3	98.900	% Recovery
1	STD		0		@AB-01	BETA-01E	SOLID	1	8.19E-01	0.820	% Ct. Error
2	BLNK-PREP		0		@AB-01	ALPHA01	SOLID	1	<3.31E-3		uCi/g
2	BLNK-PREP		0		@AB-01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
2	BLNK-PREP		0		@AB-01	BETA-01	SOLID	1	8.94E-2	9.000e-002	uCi/g
2	BLNK-PREP		0		@AB-01	BETA-01E	SOLID	1.00	5.05E+01	50.500	% Ct. Error
3	BLNK/BKG		0		@AB-01	ALPHA01	SOLID	0.00E+00	1.17E+00	0.000	uCi/g
3	BLNK/BKG		0		@AB-01	BETA-01	SOLID	0.00E+00	3.46E+00	0.000	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	N/A	8.60E-03	4.250e-003	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	ALPHA01E	SOLID	N/A	4.45E+01	0.000	% Ct. Error
4	SAMPLE	S96T000379	0	Z	@AB-01	BETA-01	SOLID	N/A	8.32E+01	1.070e-002	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	BETA-01E	SOLID	N/A	2.50E-01	0.000	% Ct. Error
5	DUP	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	8.60E-3	1.18E-2	31.370	RPD
5	DUP	S96T000379	0	Z	@AB-01	ALPHA01E	SOLID	1.00	4.55E+01	45.500	% Ct. Error
5	DUP	S96T000379	0	Z	@AB-01	BETA-01	SOLID	8.32E+1	7.72E+1	7.480	RPD
5	DUP	S96T000379	0	Z	@AB-01	BETA-01E	SOLID	1.00	2.71E-01	0.270	% Ct. Error
6	SPK	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	3.59E-02	3.13E-02	87.190	% Recovery
6	SPK	S96T000379	0	Z	@AB-01	BETA-01	SOLID	1.92E-01	1.82E-01	94.790	% Recovery

Final page for worklist# 7446

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

Corrected QC Actual + yield for BLNK/BKG
4/11/96

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

WHC-SD-WM-DP-103, REV. 1

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

			STANDARD	REPLICATE
DETECTOR NUMBER			13	13
DISH SIZE (1 , 2 , or 5)	(MS)		2	2
GROSS COUNTS	(GC)		59222	58064
COUNT TIME in MINUTES	(CT)		30	30
BACKGROUND in cpm	(BKG)		9	9
SAMPLE SIZE in mL	(SS)		1.000	1.000
DILUTION FACTOR	(DF)		1	1
STANDARD BOOK NUMBER	(Std BN)		47B56	47B56
EFFICIENCY FACTOR	(EFF)		0.4892	0.4892
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			1965.067	1926.467
Standard Value in µCi/mL			1.81E-03	
Concentration in µCi/L		=	1.81E+00	
Replicate Concentration in µCi/L		=	1.77E+00	
AVERAGE CONCENTRATION in µCi/L		=	1.7916E+00	

Type	STD
Work List	7446
AT or TB ?	TB
Test Code	@AB-01
Matrix	LIQUID
Batch Number	96003205
Rerun	0
Sample Prep	N/A
Sample #	WL7446
Instrument Code	WB27810
Prepared By	SLH
Chemist	SLF
Analyst	KNT
Date Complete	04/10/96
Analysis Date	04/09/96
Analysis Time	10:45 AM
Sample Point	BY-106

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

TOTAL BETA µCi/L = Rs * 1000mL/L * DF / (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.

				DETECTION LEVEL
TOTAL BETA CONCENTRATION in µCi/mL	=	1.79E-03		
RELATIVE COUNTING ERROR	=	0.8%		2.44E-06 µCi/mL

Analyst:		SLH	Date: 10-Apr-96
Signature of Chemist:		SLF	Date: 4/11/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: STD2

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		13	13
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2120	2037
7446	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		70.397	67.630
Batch Number	Standard Value in µCi/mL		1.28E-04	
96003205	Concentration in µCi/L	=	1.28E-01	
Rerun	Replicate Concentration in µCi/L	=	1.23E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.2550E-01	
Sample Prep				
N/A				
Sample #				
WL7446				
Instrument Code				
WB27810				
Prepared By				
SLH				
Chemist				
SLF				
Analyst				
KNT				
Date Complete				
04/10/96				
Analysis Date				
04/09/96				
Analysis Time				
10:45 AM				
Sample Point				
BY-106				

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

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.26E-04		DETECTION LEVEL
RELATIVE COUNTING ERROR	=	4.4%		9.70E-07 µCi/mL

Analyst:		SLH	Date: 10-Apr-96
Signature of Chemist:		SLF	Date: 4/11/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK3

WHC-SD-WM-DP-103, REV. 1

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		13	13
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	368	1503
7446	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	9	9
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	EFFICIENCY FACTOR	(EFF)	0.4892	0.4892
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.267	41.100

Batch Number	
96003205	Blank Concentration in µCi/g 1.32E-02
Rerun	Replicate Concentration in µCi/g 1.66E-01
0	Average Concentration in µCi/g 8.9400E-02

Sample Prep: N/A

Sample #: WL7446

Instrument Code: WB27810

Prepared By: SLH

Chemist: SLF

Analyst: KNT

Date Complete: 04/10/96

Analysis Date: 04/09/96

Analysis Time: 10:45 AM

Sample Point: BY-106

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.

			DETECTION LEVEL
TOTAL BETA in µCi/g (Average)	=	8.94E-02	1.07E-02 µCi/g
RELATIVE COUNTING ERROR		50.5%	

Analyst:		KNT	Date: 10-Apr-96
Signature of Chemist:		SLF	Date: 4/11/96

BLANK.WB1 Rev. 1.0 508101ML

1631

WORKBOOK PAGE: BLANK4

WHC-SD-WM-DP-103, REV. 1

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		13	13
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	6	13
7446	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.221	0.416

Batch Number			
96003205	Blank Concentration in µCi/g	<	1.76E-03
Rerun	Replicate Concentration in µCi/g	<	3.31E-03
0	Maximum Concentration in µCi/g	<	3.3108E-03

Sample Prep: N/A

Sample #: WL7446

Instrument Code: WB27810

Prepared By: SLH

Chemist: SLF

Analyst: KNT

Date Complete: 04/10/96

Analysis Date: 04/09/96

Analysis Time: 10:45 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Maximum)	=	< 3.31E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.			4.25E-03 µCi/g
RELATIVE COUNTING ERROR		500.0%	

Analyst:	KNT		Date: 10-Apr-96
Signature of Chemist:	SLF		Date: 4/11/96

BLANK.WB1 Rev. 1.0 508101ML

1632

WORKBOOK PAGE: SAM7

WHC-SD-WM-DP-103, REV. 1

TB : 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	GROSS COUNTS	(GC)	613888	625426
7446	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	9	9
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	EFFICIENCY FACTOR	(EFF)	0.4892	0.4892
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		20453.933	20838.533

Batch Number	
96003205	Blank Concentration in µCi/g 8.24E+01
Rerun	Replicate Concentration in µCi/g 8.40E+01
1	Average Concentration in µCi/g 8.3206E+01
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000379	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH	
Chemist	
SLF	TOTAL BETA in µCi/g (Average) = 8.32E+01
Analyst	
KNT	
Date Complete	
04/10/96	RELATIVE COUNTING ERROR 0.3%
Analysis Date	
04/09/96	
Analysis Time	
10:45 AM	
Sample Point	
BY-106	

DETECTION LEVEL
1.07E-02 µCi/g

Analyst:		KNT	Date: 10-Apr-96
Signature of Chemist:		SLF	Date: 4/11/96

SAMPLE.WB1 Rev. 1.0 508101ML

1633

WORKBOOK PAGE: SAM8

WHC-SD-WM-DP-103, REV. 1

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	GROSS COUNTS	(GC)	43	38
7446	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.163	0.997

Blank Concentration in µCi/g	9.26E-03
Replicate Concentration in µCi/g	7.93E-03
Average Concentration in µCi/g	8.5960E-03

Batch Number: 96003205

Rerun: 1

Sample Prep: FUS-ZR01

Sample #: S96T000379

Instrument Code: WB27810

Prepared By: SLH

Chemist: SLF

Analyst: KNT

Date Complete: 04/10/96

Analysis Date: 04/09/96

Analysis Time: 10:45 AM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	8.60E-03	
RELATIVE COUNTING ERROR		44.5%	4.25E-03 µCi/g

Analyst:	KNT		Date: 10-Apr-96
Signature of Chemist:	SLF		Date: 4/11/96

SAMPLE.WB1 Rev. 1.0 508101ML

1634

WORKBOOK PAGE: DUP9

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		13	13
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	544425	524239
7446	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	9	9
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1244	2.1244
Matrix	EFFICIENCY FACTOR	(EFF)	0.4892	0.4892
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		18138.500	17465.633

Batch Number	
96003205	Blank Concentration in µCi/g 7.86E+01
Rerun	Replicate Concentration in µCi/g 7.57E+01
1	Average Concentration in µCi/g 7.7160E+01
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	TOTAL BETA µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000379	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH	
Chemist	
SLF	
Analyst	
KNT	
Date Complete	
04/10/96	
Analysis Date	
04/09/96	
Analysis Time	
10:45 AM	
Sample Point	
BY-106	

			DETECTION LEVEL
TOTAL BETA in µCi/g (Average)	=	7.72E+01	
RELATIVE COUNTING ERROR		0.3%	1.15E-02 µCi/g

Analyst:	KNT		Date: 10-Apr-96
Signature of Chemist:		SLF	Date: 4/11/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

WHC-SD-WM-DP-103, REV. 1

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		13	13
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	62	37
7446	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1244	2.1244
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.797	0.963
Batch Number				
96003205	Blank Concentration in µCi/g		1.54E-02	
Rerun	Replicate Concentration in µCi/g		8.25E-03	
1	Average Concentration in µCi/g		1.1813E-02	

Sample Prep: FUS-ZR01

Sample #: S96T000379

Instrument Code: WB27810

Prepared By: SLH

Chemist: SLF

Analyst: KNT

Date Complete: 04/10/96

Analysis Date: 04/09/96

Analysis Time: 10:45 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Average)	=	1.18E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		45.5%	4.57E-03 µCi/g

Analyst:	KNT	Date: 10-Apr-96	
Signature of Chemist:	SLF	Date: 4/11/96	

SAMPLE.WB1 Rev. 1.0 508101ML

1636

WORKBOOK PAGE: SPIKE11

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

			SPIKE	REPLICATE
DETECTOR NUMBER			13	13
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	403985	405357
COUNT TIME in MINUTES		(CT)	10	10
BACKGROUND in cpm		(BKG)	9	9
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	2.2848	2.2848
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE BOOK NUMBER		(Spk BN)	42B56	42B56
SPIKE VALUE in µCi/mL		(SVal)	1.9228E-01	1.9228E-01
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.4892	0.4892
SAMPLE + SPIKE µCi/g		(S+S)	1.63E+02	1.63E+02
AVERAGE or MAXIMUM µCi/g in SAMPLE			8.3206E+01	

Type	SPK
Work List	7446
AT or TB ?	TB
Test Code	@AB-01
Matrix	SOLID
Batch Number	96003205
Rerun	1
Sample Prep	FUS-ZR01
Sample #	S96T000379
Instrument Code	WB27810
Prepared By	SLH
Chemist	SLF
Analyst	KNT
Date Complete	04/10/96
Analysis Date	04/09/96
Analysis Time	10:45 AM
Sample Point	BY-106

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	1.92E-01
QC FOUND	=	1.82E-01
AVG. PERCENT SPIKE RECOVERY	=	94.9%

Analyst:	SLH		Date: 10-Apr-96
Signature of Chemist:		SLF	Date: 4/11/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE12

WHC-SD-WM-DP-103, REV. 1

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		13	13
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51803	51559
7446	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96003205	SPIKE VALUE in µCi/mL	(SVal)	3.5897E-02	3.5897E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
1	SAMPLE + SPIKE µCi/g	(S+S)	1.37E+01	1.37E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		8.5960E-03	
FUS-ZR01				
Sample #				
S96T000379				
Instrument Code				
WB27810				
Prepared By				
SLH				
Chemist				
SLF				
Analyst				
KNT				
Date Complete				
04/10/96				
Analysis Date				
04/09/96				
Analysis Time				
10:45 AM				
Sample Point				
BY-106				

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.59E-02
QC FOUND	=	3.13E-02
AVG. PERCENT SPIKE RECOVERY	=	87.2%

Analyst:	SLH	Date: 10-Apr-96
Signature of Chemist:	SLF	Date: 4/11/96

SPIKE.WB1 Rev. 1.0 508101ML

I:\508101\OUT\AB7446.WB1 04/10/96

THE FOLLOWING ANALYSES WERE RERUN. THEY ARE INCLUDED IN THE DATA PACKAGE BUT THE RESULTS HAVE NOT BEEN REPORTED IN THE FINAL SUMMARY REPORTS.

LABCORE Data Entry Template for Worklist# 5338

Analyst: [illegible] **Instrument:** AB00 #15 **Book#** 23B56

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using Ludlum. Use 0.1mL spike. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T000106	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S96T000106	0	Z	@ALPHA01	SOLID		
6	SAMPLE	S96T000107	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S96T000107	0	Z	@ALPHA01	SOLID		
8	SAMPLE	S96T000250	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
9	DUP	S96T000250	0	Z	@ALPHA01	SOLID		
10	SPK	S96T000250	0	Z	@ALPHA01	SOLID		
11	SAMPLE	S96T000251	0	Z	@ALPHA01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E							
12	DUP	S96T000251	0	Z	@ALPHA01	SOLID		
13	SPK	S96T000251	0	Z	@ALPHA01	SOLID		

DATA NOT USED IN PACKAGE

Final page for worklist # 5338

A Lambel 02-01-96
Analyst Signature Date

[illegible] 2/2/96
Analyst Signature Date

C.J. Opinion 2/2/96

Data Entry Comments: BLNK value indicates contamination. Also low SPK recoveries. Batch will be rerun. [illegible] 2/8/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 5338

Analyst: eal **Instrument:** AB15 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum. Use 0.1mL spike. skm

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.02E-05	8.76E-6	85.880	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	5.30E+00	5.300	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	<5.30E-1		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	8.22E+01	82.200	uCi/g
4	SAMPLE	S96T000106	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	4.98E-03	5.740e-003	uCi/g
4	SAMPLE	S96T000106	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	9.82E+01	0.000	% Ct. Error
5	DUP	S96T000106	0	Z	@ALPHA01	ALPHA01	SOLID	4.98E-3	5.61E-3	11.900	RPD
5	DUP	S96T000106	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	8.09E+01	80.900	% Ct. Error
6	SAMPLE	S96T000107	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	3.13E-02	5.850e-003	uCi/g
6	SAMPLE	S96T000107	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	2.27E+01	0.000	% Ct. Error
7	DUP	S96T000107	0	Z	@ALPHA01	ALPHA01	SOLID	3.13E-2	2.97E-2	5.250	RPD
7	DUP	S96T000107	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	2.38E+01	23.800	% Ct. Error
8	SAMPLE	S96T000250	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	5.34E-03	4.870e-003	uCi/g
8	SAMPLE	S96T000250	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	7.29E+01	0.000	% Ct. Error
9	DUP	S96T000250	0	Z	@ALPHA01	ALPHA01	SOLID	5.34E-3	4.67E-3	13.390	RPD
9	DUP	S96T000250	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	6.96E+01	69.600	% Ct. Error
10	SPK	S96T000250	0	Z	@ALPHA01	ALPHA01	SOLID	3.92E-02	2.50E-02	63.780	% Recovery
11	SAMPLE	S96T000251	0	Z	@ALPHA01	ALPHA01	SOLID	N/A	9.73E-03	6.250e-003	uCi/g
11	SAMPLE	S96T000251	0	Z	@ALPHA01	ALPHA01E	SOLID	N/A	5.56E+01	0.000	% Ct. Error
12	DUP	S96T000251	0	Z	@ALPHA01	ALPHA01	SOLID	9.73E-3	3.91E-3	85.300	RPD
12	DUP	S96T000251	0	Z	@ALPHA01	ALPHA01E	SOLID	1.00	1.16E+02	115.800	% Ct. Error
13	SPK	S96T000251	0	Z	@ALPHA01	ALPHA01	SOLID	3.92E-02	2.35E-02	60.100	% Recovery

Final page for worklist# 5338

Analyst Signature **Date** **Analyst Signature** **Date**

2/8/96

Reviewer Signature **Date**

DATA
NOT USED
IN PACKAGE

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1401	1395
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	23B56	23B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		46.370	46.170
Batch Number	Standard Value in µCi/mL		1.02E-05	
96000882	Concentration in µCi/L	=	8.78E-03	
Rerun	Replicate Concentration in µCi/L	=	8.74E-03	
0	AVERAGE CONCENTRATION in µCi/L	=	8.7573E-03	

Sample Prep: N/A
Sample #: WL5338
Instrument Code: WB26872
Prepared By: MCB
Chemist: SLF
Analyst: EAL
Date Complete: 02/02/96
Analysis Date: 02/01/96
Analysis Time: 04:46 AM
Sample Point: BY-106

Rs (Sample Count Rate) = (TC / CT) - BKG
ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

				DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL			8.76E-06	1.10E-07 µCi/mL
RELATIVE COUNTING ERROR	=		5.3%	

Analyst:		MCB	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

STANDARD.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: BLANK2

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		15	15
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1618	10
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9128	1.9128
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		53.603	0.249

Batch Number			
96000882	Blank Concentration in µCi/g		5.30E-01
Rerun	Replicate Concentration in µCi/g	<	2.46E-03
0	Maximum Concentration in µCi/g	<	5.3039E-01

Sample Prep: N/A

Sample #: WL5338

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:46 AM

Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g	(Maximum)	=	< 5.30E-01	
LESS THAN Value was Determined from Rs.				5.74E-03 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

BLANK.WB1 Rev. 1.0 508101ML

DATA
NOT USED
IN PACKAGE

WORKBOOK PAGE: SAM4

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	GROSS COUNTS	(GC)	29	21
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9128	1.9128
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.637	0.370

Batch Number	
96000882	Blank Concentration in µCi/g 6.30E-03
Rerun	Replicate Concentration in µCi/g 3.66E-03
0	Average Concentration in µCi/g 4.9803E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000106	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 4.98E-03
Analyst	
EAL	
Date Complete	
02/02/96	RELATIVE COUNTING ERROR 98.2%
Analysis Date	
02/01/96	
Analysis Time	
04:46 AM	
Sample Point	
BY-106	

DETECTION LEVEL 5.74E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: DUP5

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	24	27
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.7552	1.7552
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.470	0.570

Batch Number	
96000882	Blank Concentration in µCi/g 5.07E-03
Rerun	Replicate Concentration in µCi/g 6.15E-03
0	Average Concentration in µCi/g 5.6072E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000106	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 5.61E-03
Analyst	
EAL	
Date Complete	
02/02/96	RELATIVE COUNTING ERROR 80.9%
Analysis Date	
02/01/96	
Analysis Time	
04:46 AM	
Sample Point	
BY-106	

DETECTION LEVEL
6.26E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SAM6

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	GROSS COUNTS	(GC)	101	105
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.876	1.876
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.037	3.170

Batch Number	
96000882	Blank Concentration in µCi/g 3.06E-02
Rerun	Replicate Concentration in µCi/g 3.20E-02
0	Average Concentration in µCi/g 3.1309E-02
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000107	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 3.13E-02
Analyst	
EAL	
Date Complete	
02/02/96	RELATIVE COUNTING ERROR 22.7%
Analysis Date	
02/01/96	
Analysis Time	
04:46 AM	
Sample Point	
BY-106	

DETECTION LEVEL
5.85E-03 µCi/g

Analyst:	EAL	Date: 02-Feb-96	
Signature of Chemist:	SLF	Date: 2/8/96	

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

~~WHC-SD-WM-DP-103, REV. 1~~
LAD 4-1-96

WHC-SD-WM-DP-103, REV. 1

WORKBOOK PAGE: DUP7

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	107	94
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.922	1.922
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.237	2.803

Batch Number	
96000882	Blank Concentration in µCi/g 3.19E-02
Rerun	Replicate Concentration in µCi/g 2.76E-02
0	Average Concentration in µCi/g 2.9739E-02

Sample Prep: FUS-ZR01

Sample #: S96T000107

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:46 AM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	2.97E-02	
RELATIVE COUNTING ERROR		23.8%	5.71E-03 µCi/g

Analyst:	EAL		Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SAM8

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	GROSS COUNTS	(GC)	32	26
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2568	2.2568
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.737	0.537

Batch Number	
96000882	Blank Concentration in µCi/g 6.18E-03
Rerun	Replicate Concentration in µCi/g 4.50E-03
0	Average Concentration in µCi/g 5.3394E-03

Sample Prep: FUS-ZR01

Sample #: S96T000250

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:46 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Average)	=	5.34E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		72.9%	4.87E-03 µCi/g

Analyst:	EAL		Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: DUP9

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	27	28
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3764	2.3764
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.570	0.603

Batch Number	
96000882	Blank Concentration in µCi/g 4.54E-03
Rerun	Replicate Concentration in µCi/g 4.81E-03
0	Average Concentration in µCi/g 4.6724E-03

Sample Prep: FUS-ZR01

Sample #: S96T000250

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:46 AM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Average)	=	4.67E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		69.6%	4.62E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SPIKE10

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPK	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	42691	36523
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2568	2.2568
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96000882	SPIKE VALUE in µCi/mL	(SVal)	3.9208E-02	3.9208E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
0	SAMPLE + SPIKE µCi/g	(S+S)	1.19E+01	1.02E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		5.3394E-03	
FUS-ZR01				
Sample #				
S96T000250				
Instrument Code				
WB26872				
Prepared By				
MCB				
Chemist				
SLF				
Analyst				
EAL				
Date Complete				
02/02/96				
Analysis Date				
02/01/96	QC ACTUAL	=	3.92E-02	
Analysis Time	QC FOUND	=	2.50E-02	
04:46 AM	AVG. PERCENT SPIKE RECOVERY	=	63.7%	
Sample Point				
BY-106				

Rs (Sample Count Rate) = (TC / CT) - BKG
SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)
QC ACTUAL = SVal
QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))
PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

Analyst:	MCB		Date: 02-Feb-96
Signature of Chemist:	SLF		Date: 2/8/96

SPIKE.WB1 Rev. 1.0 508101ML

DATA
NOT USED
IN PACKAGE

~~WHC-SD-WM-DP-103, REV. 1~~ LAD 4-1-96 → WHC-SD-WM-DP-103, REV. 1

WORKBOOK PAGE: SAM1

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	GROSS COUNTS	(GC)	33	41
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.758	1.758
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.770	1.037

Batch Number	
96000882	Blank Concentration in µCi/g 8.29E-03
Rerun	Replicate Concentration in µCi/g 1.12E-02
0	Average Concentration in µCi/g 9.7252E-03
Sample Prep	
FUS-ZR01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000251	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 9.73E-03
Analyst	
EAL	
Date Complete	
02/02/96	RELATIVE COUNTING ERROR 55.6%
Analysis Date	
02/01/96	
Analysis Time	
04:46 AM	
Sample Point	
BY-106	

DETECTION LEVEL
6.25E-03 µCi/g

Analyst:		EAL	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

SAMPLE.WB1 Rev. 1.0 50810\ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: DUP12

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	19	22
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.7112	1.7112
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.303	0.403

Batch Number	
96000882	Blank Concentration in µCi/g 3.35E-03
Rerun	Replicate Concentration in µCi/g 4.46E-03
0	Average Concentration in µCi/g 3.9080E-03

Sample Prep: FUS-ZR01

Sample #: S96T000251

Instrument Code: WB26872

Prepared By: MCB

Chemist: SLF

Analyst: EAL

Date Complete: 02/02/96

Analysis Date: 02/01/96

Analysis Time: 04:46 AM

Sample Point: BY-106

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.

		DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average) =	3.91E-03	6.42E-03 µCi/g
RELATIVE COUNTING ERROR	115.8%	

Analyst:	EAL		Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

SAMPLE.WB1 Rev. 1. 50810 ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SPIKE13

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPK	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	37436	37291
5338	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.758	1.758
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96000882	SPIKE VALUE in µCi/mL	(SVal)	3.9208E-02	3.9208E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
0	SAMPLE + SPIKE µCi/g	(S+S)	1.34E+01	1.34E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		9.7252E-03	
FUS-ZR01				
Sample #				
S96T000251				
Instrument Code				
WB26872				
Prepared By				
MCB				
Chemist				
SLF				
Analyst				
EAL				
Date Complete				
02/02/96				
Analysis Date				
02/01/96				
Analysis Time				
04:46 AM				
Sample Point				
BY-106				

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

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

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.92E-02	
QC FOUND	=	2.35E-02	
AVG. PERCENT SPIKE RECOVERY	=	60.1%	

Analyst:		MCB	Date: 02-Feb-96
Signature of Chemist:		SLF	Date: 2/8/96

SPIKE.WB1 Rev. 1.0 508101ML

DATA
NOT USED
IN PACKAGE

Draft 3

03/27/96 10:34
A-0004-1

LABCORE Data Entry Template for Worklist# 7029

Analyst: AHL **Instrument:** AB00 18 **Book#** 47856

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@AB-01	SOLID		
2	BLNK-PREP				@AB-01	SOLID		
3	BLNK/BKG				@AB-01	SOLID		
4	SAMPLE	S96T000379	0	Z	@AB-01	SOLID	95000229	BY-106
	Analytes Requested: ALPHA01 , ALPHA01E, BETA-01 , BETA-01E							
5	DUP	S96T000379	0	Z	@AB-01	SOLID		
6	SPK	S96T000379	0	Z	@AB-01	SOLID		

Final page for worklist # 7029

A Lewis 4/3/96
Analyst Signature **Date**

Sue Hogan 4/5/96
Analyst Signature **Date**

C.J. Opinca 4/5/96
Sue Hogan 4/5/96

DATA NOT USED IN PACKAGE

Data Entry Comments: SPK recovery for TR is out of limits. Batch will be rerun. AA 4/8/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 7029

Analyst: akl **Instrument:** AB18 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A		Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@AB-01	ALPHA01	SOLID	1.28E-04	1.42E-4	110.940	% Recovery
1	STD		0		@AB-01	ALPHA01E	SOLID	1	4.44E+00	4.440	% Ct. Error
1	STD		0		@AB-01	BETA-01	SOLID	1.81E-03	1.96E-3	108.290	% Recovery
1	STD		0		@AB-01	BETA-01E	SOLID	1	8.36E-01	0.840	% Ct. Error
2	BLNK-PREP		0		@AB-01	ALPHA01	SOLID	1	<3.31E-3		uCi/g
2	BLNK-PREP		0		@AB-01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
2	BLNK-PREP		0		@AB-01	BETA-01	SOLID	1	2.31E-2	2.000e-002	uCi/g
2	BLNK-PREP		0		@AB-01	BETA-01E	SOLID	1.00	4.00E+01	40.000	% Ct. Error
3	BLNK/BKG		0		@AB-01	ALPHA01	SOLID	1.00E+00	1.17E+00	1.170	uCi/g
3	BLNK/BKG		0		@AB-01	BETA-01	SOLID	1.00E+00	1.63E+00	1.630	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	N/A	7.21E-03	5.250e-003	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	ALPHA01E	SOLID	N/A	6.53E+01	0.000	% Ct. Error
4	SAMPLE	S96T000379	0	Z	@AB-01	BETA-01	SOLID	N/A	8.24E+01	1.160e-002	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	BETA-01E	SOLID	N/A	2.69E-01	0.000	% Ct. Error
5	DUP	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	7.21E-3	8.94E-3	21.420	RPD
5	DUP	S96T000379	0	Z	@AB-01	ALPHA01E	SOLID	1.00	5.46E+01	54.600	% Ct. Error
5	DUP	S96T000379	0	Z	@AB-01	BETA-01	SOLID	8.24E+1	7.75E+1	6.130	RPD
5	DUP	S96T000379	0	Z	@AB-01	BETA-01E	SOLID	1.00	2.88E-01	0.290	% Ct. Error
6	SPK	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	3.59E-02	3.20E-02	89.140	% Recovery
6	SPK	S96T000379	0	Z	@AB-01	BETA-01	SOLID	1.92E-01	1.29E-01	67.190	% Recovery

Final page for worklist# 7029

Analyst Signature **Date** **Analyst Signature** **Date**

4/8/96

Reviewer Signature **Date**

DATA NOT USED IN PACKAGE

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 7029

Analyst: akl **Instrument:** AB18 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A		Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@AB-01	ALPHA01	SOLID	1.28E-04	1.42E-4	110.940	% Recovery
1	STD		0		@AB-01	ALPHA01E	SOLID	1	4.44E+00	4.440	% Ct. Error
1	STD		0		@AB-01	BETA-01	SOLID	1.81E-03	1.96E-3	108.290	% Recovery
1	STD		0		@AB-01	BETA-01E	SOLID	1	8.36E-01	0.840	% Ct. Error
2	BLNK-PREP		0		@AB-01	ALPHA01	SOLID	1	<3.31E-3		uCi/g
2	BLNK-PREP		0		@AB-01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
2	BLNK-PREP		0		@AB-01	BETA-01	SOLID	1	2.31E-2	2.000e-002	uCi/g
2	BLNK-PREP		0		@AB-01	BETA-01E	SOLID	1.00	4.00E+01	40.000	% Ct. Error
3	BLNK/BKG		0		@AB-01	ALPHA01	SOLID	0.00E+00	1.17E+00	0.000	uCi/g
3	BLNK/BKG		0		@AB-01	BETA-01	SOLID	0.00E+00	1.63E+00	0.000	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	N/A	7.21E-03	5.250e-003	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	ALPHA01E	SOLID	N/A	6.53E+01	0.000	% Ct. Error
4	SAMPLE	S96T000379	0	Z	@AB-01	BETA-01	SOLID	N/A	8.24E+01	1.160e-002	uCi/g
4	SAMPLE	S96T000379	0	Z	@AB-01	BETA-01E	SOLID	N/A	2.69E-01	0.000	% Ct. Error
5	DUP	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	7.21E-3	8.94E-3	21.420	RPD
5	DUP	S96T000379	0	Z	@AB-01	ALPHA01E	SOLID	1.00	5.46E+01	54.600	% Ct. Error
5	DUP	S96T000379	0	Z	@AB-01	BETA-01	SOLID	8.24E+1	7.75E+1	6.130	RPD
5	DUP	S96T000379	0	Z	@AB-01	BETA-01E	SOLID	1.00	2.88E-01	0.290	% Ct. Error
6	SPK	S96T000379	0	Z	@AB-01	ALPHA01	SOLID	3.59E-02	3.20E-02	89.140	% Recovery
6	SPK	S96T000379	0	Z	@AB-01	BETA-01	SOLID	1.92E-01	1.29E-01	67.190	% Recovery

Final page for worklist# 7029

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

Corrected QC actual + yield for BLNK/BKG.

4/5/96

DATA NOT USED IN PACKAGE

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		18	18
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	55622	56304
7029	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)	1	1
@AB-01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.4260	0.4260
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1846.067	1868.800
Batch Number	Standard Value in µCi/mL		1.81E-03	
96002737	Concentration in µCi/L	=	1.95E+00	
Rerun	Replicate Concentration in µCi/L	=	1.98E+00	
0	AVERAGE CONCENTRATION in µCi/L	=	1.9640E+00	

Sample Prep: N/A

Sample #: WL#7029

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: AKL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 12:00 PM

Sample Point: BY-106

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

TOTAL BETA µCi/L = Rs * 1000mL/L * DF / (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.

				DETECTION LEVEL
TOTAL BETA CONCENTRATION in µCi/mL	=	1.96E-03		
RELATIVE COUNTING ERROR	=	0.8%		2.64E-06 µCi/mL

Analyst:		SEH	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

STANDARD.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: STD2

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		18	18
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1978	2007
7029	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		65.633	66.600
Batch Number	Standard Value in µCi/mL		1.28E-04	
96002737	Concentration in µCi/L	=	1.41E-01	
Rerun	Replicate Concentration in µCi/L	=	1.43E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.4216E-01	

Sample Prep: N/A

Sample #: WL#7029

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: AKL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 12:00 PM

Sample Point: BY-106

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

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (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.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.42E-04	1.20E-06 µCi/mL
RELATIVE COUNTING ERROR	=	4.4%	

Analyst:		SEH	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

STANDARD.WB1 Rev. 1.0 508101ML

DATA NOT USED PACKAGE

WORKBOOK PAGE: BLANK3

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		18	18
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	360	420
7029	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	EFFICIENCY FACTOR	(EFF)	0.4260	0.4260
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.000	6.000

Batch Number	
96002737	Blank Concentration in µCi/g 1.85E-02
Rerun	Replicate Concentration in µCi/g 2.78E-02
0	Average Concentration in µCi/g 2.3140E-02

Sample Prep: N/A

Sample #: WL#7029

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: AKL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 12:00 PM

Sample Point: BY-106

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.

			DETECTION LEVEL
TOTAL BETA in µCi/g (Average)	=	2.31E-02	
RELATIVE COUNTING ERROR		40.0%	1.16E-02 µCi/g

Analyst:		AKL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

BLANK.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: BLANK4

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

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		18	18
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	12
7029	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)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.352

Batch Number			
96002737	Blank Concentration in µCi/g	<	2.20E-03
Rerun	Replicate Concentration in µCi/g	<	3.31E-03
0	Maximum Concentration in µCi/g	<	3.3129E-03

Sample Prep: N/A

Sample #:

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: AKL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 12:00 PM

Sample Point: BY-106

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.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g	(Maximum)	=	< 3.31E-03	
LESS THAN Value was Determined from Rmax.				5.25E-03 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:		AKL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

BLANK.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SAM7

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

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	530920	538451
7029	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	EFFICIENCY FACTOR	(EFF)	0.4260	0.4260
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		17689.333	17940.367

Batch Number	
96002737	
Rerun	
0	
Sample Prep	
FUS-ZR01	
Sample #	
S96T000379	
Instrument Code	
WB27809	
Prepared By	
SEH	
Chemist	
SLF	
Analyst	
AKL	
Date Complete	
04/05/96	
Analysis Date	
04/03/96	
Analysis Time	
12:00 PM	
Sample Point	
BY-106	

Blank Concentration in µCi/g	8.19E+01
Replicate Concentration in µCi/g	8.30E+01
Average Concentration in µCi/g	8.2446E+01

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.

			DETECTION LEVEL
TOTAL BETA in µCi/g (Average)	=	8.24E+01	
RELATIVE COUNTING ERROR		0.3%	1.16E-02 µCi/g

Analyst:		AKL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SAM8

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

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	27	37
7029	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)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.600	0.933
Batch Number				
96002737	Blank Concentration in µCi/g		5.65E-03	
Rerun	Replicate Concentration in µCi/g		8.78E-03	
0	Average Concentration in µCi/g		7.2148E-03	

Sample Prep: FUS-ZR01

Sample #: S96T000379

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: AKL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 12:00 PM

Sample Point: BY-106

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.

ALPHA TOTAL in µCi/g (Average)	=	7.21E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		65.3%	5.25E-03 µCi/g

Analyst:	AKL		Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: DUP1

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	32	39
7029	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)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1244	2.1244
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.767	1.000
Batch Number				
96002737	Blank Concentration in µCi/g		7.76E-03	
Rerun	Replicate Concentration in µCi/g		1.01E-02	
0	Average Concentration in µCi/g		8.9403E-03	

Sample Prep: FUS-ZR01

Sample #: S96T000379

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: AKL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 12:00 PM

Sample Point: BY-106

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.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	8.94E-03	
RELATIVE COUNTING ERROR		54.6%	5.64E-03 µCi/g

Analyst:	AKL		Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: DUP9

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	465232	469143
7029	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1244	2.1244
Matrix	EFFICIENCY FACTOR	(EFF)	0.4260	0.4260
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		15499.733	15630.100
Batch Number				
96002737	Blank Concentration in µCi/g		7.71E+01	
Rerun	Replicate Concentration in µCi/g		7.78E+01	
0	Average Concentration in µCi/g		7.7473E+01	

Sample Prep: FUS-ZR01

Sample #: S96T000379

Instrument Code: WB27809

Prepared By: SEH

Chemist: SLF

Analyst: AKL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 12:00 PM

Sample Point: BY-106

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.

TOTAL BETA in µCi/g (Average)	=	7.75E+01	DETECTION LEVEL
RELATIVE COUNTING ERROR		0.3%	1.24E-02 µCi/g

Analyst:		AKL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SPIKE12

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		18	18
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	44093	45246
7029	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)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002737	SPIKE VALUE in µCi/mL	(SVal)	3.5898E-02	3.5898E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
0	SAMPLE + SPIKE µCi/g	(S+S)	1.38E+01	1.42E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		7.2148E-03	
FUS-ZR01				
Sample #				
S96T000379	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27809	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
AKL				
Date Complete				
04/05/96				
Analysis Date				
04/03/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	3.20E-02	
12:00 PM	AVG. PERCENT SPIKE RECOVERY	=	89.1%	
Sample Point				
BY-106				

Analyst:		SEH	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SPIKE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

WORKBOOK PAGE: SPIKE11

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		18	18
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	900050	900139
7029	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	8	8
TB	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2848	2.2848
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	42B56	42B56
96002737	SPIKE VALUE in µCi/mL	(SVal)	1.9235E-01	1.9235E-01
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.426	0.426
0	SAMPLE + SPIKE µCi/g	(S+S)	1.39E+02	1.39E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		8.2446E+01	
FUS-ZR01				
Sample #				
S96T000379	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27809	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
AKL				
Date Complete				
04/05/96				
Analysis Date				
04/03/96	QC ACTUAL	=	1.92E-01	
Analysis Time	QC FOUND	=	1.29E-01	
12:00 PM	AVG. PERCENT SPIKE RECOVERY	=	67.0%	
Sample Point				
BY-106				

Analyst:		SEH	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SPIKE.WB1 Rev. 1.0 508101ML

DATA NOT USED IN PACKAGE

LABCORE Data Entry Template for Worklist# 288

Analyst: KGH **Instrument:** GEA00 02 **Method:** LA-548-121 D-1

Worklist Comment: Use 1 mL sample size. -PPB

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	64852			@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	S94T000314	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000314	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000314	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000314	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
5	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
5	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
6	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
7	SAMPLE	S94T000315	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
7	SAMPLE	S94T000315	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
8	DUP	S94T000315	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
8	DUP	S94T000315	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
9	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
9	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
10	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
11	SAMPLE	S94T000316	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
11	SAMPLE	S94T000316	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
12	DUP	S94T000316	0	F	@GEA-01	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# 288

Analyst: KGH **Instrument:** GEA00 _____ **Method:** LA-548-121 D-1

Worklist Comment: Use 1 mL sample size. -PPB

Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit
12	DUP	S94T000316	0	F	@GEA-01 CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 288

Kristin Hughes
Analyst Signature

12-23-94
Date

Data Entry Comments:

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

1668

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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		21.1800	2.12E-02	4.83			0.00E+00		1.06E-02	200.0
Work List	CS137		24.6600	2.47E-02	5.38			0.00E+00		1.23E-02	200.0
288				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			
S94T314,315,316				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 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			
KGH				0.00E+00				0.00E+00			
Date											
12/23/94											
Time											
10:45 AM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/27/94

Approved by: [signature] Date: 12/27/94

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

2.6772 < 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	CS137	<	0.0747	2.79E-02				ERR		ERR	NA
Work List				0.00E+00				ERR		ERR	ERR
288				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			
S94T315				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			
KGH				0.00E+00				ERR			
Date											
12/23/94											
Time											
10:46 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/27/94

Approved by: [signature] Date: 12/27/94

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

2.6772 < Enter SAMPLE g/L 2.6688 < 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	CS137		356.9000	1.33E+02	0.4		356.6000	1.34E+02	0.4	1.34E+02	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
288				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			
S94T315				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			
KGH				0.00E+00				0.00E+00			
Date											
12/23/94											
Time											
10:45 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/27/94

Approved by: [signature] Date: 12/27/94

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

2.6484 < 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	CS137	<	0.0718	2.71E-02				ERR		ERR	NA
Work List				0.00E+00				ERR		ERR	ERR
288				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			
S94T316				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			
KGH				0.00E+00				ERR			
Date											
12/23/94											
Time											
10:45 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/27/94

Approved by: [signature] Date: 12/27/94

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

2.6484 < Enter SAMPLE g/L 2.6588 < 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	CS137		166.9000	6.30E+01	0.59		166.8000	6.27E+01	0.59	6.27E+01	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
288				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			
S94T316				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			
KGH				0.00E+00				0.00E+00			
Date											
12/23/94											
Time											
10:45 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 12/27/94

Approved by: [signature] Date: 12/27/94

Form 548121_1 Rev. 2.2

****
* 222-S Laboratory Counting Room 23-DEC-1994 15:06:27.49 *
****

WHC-SD-WM-DP-103, REV. 1

>>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<

Sample ID: S94T314STANDARD
Sample Size: 1.00000E-03 LI
Dilution Factor: 1.00000E+01
Conversion LI to LI: 1.00000E+00

Removed by: [signature]
date: 12/23/94

>>>>>>>>>> COUNT INFORMATION <<<<<<<<<<

Detector ID: GEA2
File Number: dka300:[spec.GEA2]2g2514.cnf
Geometry: 42
Description:
Count Time: 0 00:50:00.00 sec
Real Time: 0 00:50:01.17 sec

[signature] 12/27/94

>>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<

Sample Count Time: 23-DEC-1994 14:15:49.66
Decayed to: 23-DEC-1994 14:15:49.66
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

****

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.87*	1776	1.49	1323.76	1317	13	5.4		CS-137	24.7
0	1121.27	24	0.81	2242.58	2240	6	69.8			
0	1173.56	1092	1.91	2347.18	2337	19	6.5		CO-60	21.5
0	1332.86	958	1.94	2665.87	2659	16	7.2		CO-60	20.9

Sample ID : S94T314STANDARD
Acquisition date : 23-DEC-1994 14:15:49

WHC-SD-WM-DP-103, REV. 1

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	2.118E+01	2.118E+01	0.102E+01	4.83	
CS-137	30.00Y	1.000	2.465E+01	2.465E+01	0.133E+01	5.38	
Total Activity :			4.583E+01	4.583E+01			
Grand Total Activity :			4.583E+01	4.583E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T314STANDARD Acquisition date : 23-DEC-1994 14:15:49

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	125.	477.59	4.5326E+00
NA-22	27.	1274.53	5.0647E-01
NA-24	7.	1368.55	2.6867E-01
K-40	111.	1460.75	1.0766E+01
SC-46	66.	1120.55	7.0932E-01
CR-51	154.	320.08	3.7571E+00
MN-54	57.	834.83	5.0432E-01
CO-56	84.	846.76	6.2154E-01
CO-57	197.	122.06	3.1375E-01
CO-58	67.	810.78	5.3868E-01
FE-59	72.	1099.25	1.2862E+00
ZN-65	50.	1115.55	1.2132E+00
SE-75	156.	264.66	5.7130E-01
KR-85	113.	514.00	1.0940E+02
SR-85	112.	514.01	4.9388E-01
Y-88	2.	1836.06	1.8630E-01
Y-90	7.	1760.70	1.1784E+00
Y-91	27.	1204.67	1.6206E+02
NB-94	67.	871.09	5.6713E-01
NB-95	50.	765.78	4.4248E-01
ZR-95	48.	756.73	7.8349E-01
RU-103	110.	497.08	5.0088E-01
RURH-106	68.	621.93	8.6686E+00
AG-108m	63.	722.94	5.1750E-01
CD-109	165.	88.03	9.8472E+00
AG-110M	91.	657.76	5.5198E-01
SN-113	123.	391.69	6.1031E-01
TE-123m	199.	159.00	3.1566E-01
SB-124	79.	602.73	4.6334E-01
SB-125	149.	427.89	1.5780E+00
TE-125m	184.	109.27	1.0058E+02
I-129	150.	39.60	0.0000E+00
I-131	124.	364.48	4.5969E-01
XE-131m	214.	163.93	1.4204E+01
BA-133	140.	356.02	6.2617E-01
CS-134	75.	604.70	4.5415E-01
CS-136	69.	818.51	5.4758E-01
CS-138	7.	1435.86	5.9719E-01
CE-139	199.	165.85	3.3765E-01
BA-140	82.	537.31	1.7275E+00
LA-140	2.	1596.21	1.7446E-01
CE-141	203.	145.44	5.4486E-01
CE-144	187.	133.51	2.2845E+00
CEPR-144	186.	133.51	4.5635E+00
EU-152	12.	1408.01	1.7207E+00
EU-154	27.	1274.51	1.4682E+00
EU-155	163.	86.54	1.1100E+00
HF-181	121.	482.18	5.7946E-01
TA-182	152.	67.75	1.4845E+00
HG-203	182.	279.20	4.5823E-01
BI-207	61.	569.70	3.8896E-01

Sample ID : S94T314STANDARD Acquisition date : 23-DEC-1994 14:15:49

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	183.	277.36	5.9071E+00
PB-210	127.	46.50	0.0000E+00
BI-212	62.	727.18	7.0702E+00
PB-212	198.	238.63	8.0303E-01
BI-214	85.	609.31	1.0544E+00
PB-214	181.	351.92	2.1856E+00
RA-224	202.	240.99	8.9955E+00
RA-226	232.	186.10	8.8855E+00
AC-228	88.	911.21	2.5490E+00
TH-228	156.	84.37	2.9490E+01
TH-229	172.	88.47	1.4593E+00
U-232	135.	57.78	5.2299E+02
PA-233	155.	312.17	9.6658E-01
PA-234M	67.	1001.03	1.0932E+00
TH-234	155.	63.29	1.7100E+01
U-235	235.	185.71	5.4322E-01
NP-237	163.	86.48	2.9434E+00
U-237	145.	59.54	2.7422E+00
NP-238	76.	984.45	2.4496E+00
NP-239	152.	106.12	1.1634E+00
PU-239	186.	129.30	3.9789E+03
AM-241	145.	59.54	2.6304E+00
AM-243	138.	74.67	7.5246E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   23-DEC-1994 16:03:50.44                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                SS94T314BLANK
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]2g2515.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:        23-DEC-1994 15:13:10.75
Decayed to:               23-DEC-1994 15:13:10.75
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: Raymond

date: 12.23.94

R Bachelor 12/27/94

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	352.17*	24	1.04	704.54	700	8	97.0			
0	510.81*	49	2.81	1021.70	1013	20	77.5			

Sample ID : SS94T314BLANK
Acquisition date : 23-DEC-1994 15:13:10

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	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 : SS94T314BLANK
Acquisition date : 23-DEC-1994 15:13:10

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	22.	477.59	1.9094E-01
NA-22	7.	1274.53	2.6385E-02
NA-24	4.	1368.55	2.1070E-02
K-40	106.	1460.75	1.0485E+00
SC-46	26.	1120.55	4.4298E-02
CR-51	65.	320.08	2.4413E-01
MN-54	29.	834.83	3.6178E-02
CO-56	9.	846.76	2.0378E-02
CO-57	72.	122.06	1.8964E-02
CO-58	13.	810.78	2.3566E-02
FE-59	10.	1099.25	4.8096E-02
CO-60	12.	1332.50	3.5119E-02
ZN-65	12.	1115.55	5.9076E-02
SE-75	65.	264.66	3.6702E-02
KR-85	45.	514.00	6.9422E+00
SR-85	45.	514.01	3.1296E-02
Y-88	4.	1836.06	2.6346E-02
Y-90	2.	1760.70	6.2987E-02
Y-91	11.	1204.67	1.0123E+01
NB-94	22.	871.09	3.2738E-02
NB-95	23.	765.78	3.0238E-02
ZR-95	17.	756.73	4.6350E-02
RU-103	30.	497.08	2.6155E-02
RURH-106	29.	621.93	5.6243E-01
AG-108m	25.	722.94	3.2316E-02
CD-109	74.	88.03	6.6141E-01
AG-110M	14.	657.76	2.1408E-02
SN-113	44.	391.69	3.6361E-02
TE-123m	58.	159.00	1.7071E-02
SB-124	23.	602.73	2.5133E-02
SB-125	47.	427.89	8.8075E-02
TE-125m	73.	109.27	6.3350E+00
I-129	59.	39.60	0.0000E+00
I-131	49.	364.48	2.8924E-02
XE-131m	75.	163.93	8.4006E-01
BA-133	44.	356.02	3.5170E-02
CS-134	24.	604.70	2.5403E-02
CS-136	16.	818.51	2.6204E-02
CS-137	126.	661.66	7.2434E-02
CS-138	2.	1435.86	3.4842E-02
CE-139	75.	165.85	2.0787E-02
BA-140	24.	537.31	9.2375E-02
LA-140	3.	1596.21	2.0288E-02
CE-141	76.	145.44	3.3390E-02
CE-144	74.	133.51	1.4340E-01
CEPR-144	73.	133.51	2.8647E-01
EU-152	9.	1408.01	1.5249E-01
EU-154	7.	1274.51	7.6447E-02
EU-155	76.	86.54	7.5837E-02
HF-181	36.	482.18	3.1470E-02
TA-182	60.	67.75	9.3170E-02

Sample ID : SS94T314BLANK Acquisition date : 23-DEC-1994 15:13:10

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	46.	279.20	2.3025E-02
BI-207	25.	569.70	2.5075E-02
TL-208	57.	277.36	3.3017E-01
PB-210	52.	46.50	0.0000E+00
BI-212	26.	727.18	4.6045E-01
PB-212	81.	238.63	5.1323E-02
BI-214	69.	609.31	9.4971E-02
PB-214	71.	351.92	1.3704E-01
RA-224	74.	240.99	5.4421E-01
RA-226	70.	186.10	4.8956E-01
AC-228	24.	911.21	1.3307E-01
TH-228	66.	84.37	1.9139E+00
TH-229	68.	88.47	9.1468E-02
U-232	66.	57.78	3.6511E+01
PA-233	50.	312.17	5.5014E-02
PA-234M	12.	1001.03	4.7190E-02
TH-234	64.	63.29	1.1017E+00
U-235	75.	185.71	3.0674E-02
NP-237	76.	86.48	2.0033E-01
U-237	62.	59.54	1.7935E-01
NP-238	12.	984.45	9.8975E-02
NP-239	59.	106.12	7.2303E-02
PU-239	76.	129.30	2.5439E+02
AM-241	62.	59.54	1.7202E-01
AM-243	80.	74.67	5.7164E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   23-DEC-1994 22:20:14.57                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000315SAM
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]2g2520.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:34.30 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        23-DEC-1994 21:29:05.63
Decayed to:               23-DEC-1994 21:29:05.63
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  VR
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: Raymond

date: 12-23-94

Bachelor 12/27/94

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.80*	257176	1.51	1323.61	1315	17	0.4		CS-137	357.

Sample ID : S94T000315SAM
Acquisition date : 23-DEC-1994 21:29:05

WHC-SD-WM-DP-103, REV. 1

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	3.569E+02	3.569E+02	0.014E+02	0.40	
		Total Activity :	3.569E+02	3.569E+02			
		Grand Total Activity :	3.569E+02	3.569E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T000315SAM
Acquisition date : 23-DEC-1994 21:29:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	8192.	477.59	3.6713E+00
NA-22	17.	1274.53	4.0142E-02
NA-24	2.	1368.55	1.4902E-02
K-40	112.	1460.75	1.0785E+00
SC-46	36.	1120.55	5.2201E-02
CR-51	6743.	320.08	2.4850E+00
MN-54	54.	834.83	4.9214E-02
CO-56	56.	846.76	5.0761E-02
CO-57	7357.	122.06	1.9179E-01
CO-58	50.	810.78	4.6624E-02
FE-59	27.	1099.25	7.8451E-02
CO-60	18.	1332.50	4.3040E-02
ZN-65	25.	1115.55	8.5603E-02
SE-75	7521.	264.66	3.9616E-01
KR-85	4161.	514.00	6.6465E+01
SR-85	4160.	514.01	3.0050E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	4.	1760.70	8.9082E-02
Y-91	18.	1204.67	1.3186E+01
NB-94	55.	871.09	5.1534E-02
NB-95	87.	765.78	5.8244E-02
ZR-95	74.	756.73	9.7347E-02
RU-103	4992.	497.08	3.3756E-01
RURH-106	1713.	621.93	4.3598E+00
AG-108m	90.	722.94	6.1908E-02
CD-109	6346.	88.03	6.1163E+00
AG-110M	4562.	657.76	3.9067E-01
SN-113	7315.	391.69	4.7066E-01
TE-123m	7448.	159.00	1.9309E-01
SB-124	1747.	602.73	2.1771E-01
SB-125	8157.	427.89	1.1664E+00
TE-125m	6802.	109.27	6.1132E+01
I-129	6167.	39.60	0.0000E+00
I-131	6697.	364.48	3.3734E-01
XE-131m	7302.	163.93	8.2991E+00
BA-133	6896.	356.02	4.4007E-01
CS-134	1737.	604.70	2.1805E-01
CS-136	71.	818.51	5.5652E-02
CS-138	8.	1435.86	6.4303E-02
CE-139	7404.	165.85	2.0589E-01
BA-140	2955.	537.31	1.0352E+00
LA-140	5.	1596.21	2.8565E-02
CE-141	7491.	145.44	3.3112E-01
CE-144	7439.	133.51	1.4424E+00
CEPR-144	7438.	133.51	2.8822E+00
EU-152	7.	1408.01	1.3401E-01
EU-154	17.	1274.51	1.1690E-01
EU-155	6343.	86.54	6.9277E-01
HF-181	6548.	482.18	4.2561E-01
TA-182	6071.	67.75	9.3864E-01
HG-203	7162.	279.20	2.8764E-01

Sample ID : S94T000315SAM Acquisition date : 23-DEC-1994 21:29:05

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	1955.	569.70	2.2002E-01
TL-208	7233.	277.36	3.7142E+00
PB-210	6026.	46.50	0.0000E+00
BI-212	76.	727.18	7.8122E-01
PB-212	8215.	238.63	5.1719E-01
BI-214	1787.	609.31	4.8484E-01
PB-214	6677.	351.92	1.3347E+00
RA-224	8195.	240.99	5.7332E+00
RA-226	9483.	186.10	5.6807E+00
AC-228	56.	911.21	2.0275E-01
TH-228	6356.	84.37	1.8795E+01
TH-229	6354.	88.47	8.8718E-01
U-232	5933.	57.78	3.4694E+02
PA-233	6802.	312.17	6.3973E-01
PA-234M	32.	1001.03	7.5687E-02
TH-234	5944.	63.29	1.0588E+01
U-235	9437.	185.71	3.4445E-01
NP-237	6345.	86.48	1.8352E+00
U-237	5936.	59.54	1.7562E+00
NP-238	28.	984.45	1.4725E-01
NP-239	6598.	106.12	7.6742E-01
PU-239	7383.	129.30	2.5087E+03
AM-241	5936.	59.54	1.6845E+00
AM-243	6308.	74.67	5.0891E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   23-DEC-1994 23:29:55.54                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000315DUP
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]2g2522.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:34.24 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        23-DEC-1994 22:38:46.42
Decayed to:               23-DEC-1994 22:38:46.42
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  VR
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.U. Milicia

date: 12-23-94

R.S. Bachelor 12/27/94

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.80*	256951	1.50	1323.61	1315	17	0.4		CS-137	357.

Sample ID : S94T000315DUP
Acquisition date : 23-DEC-1994 22:38:46

WHC-SD-WM-DP-103, REV. 1

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	3.566E+02	3.566E+02	0.014E+02	0.40	
		Total Activity :	3.566E+02	3.566E+02			
		Grand Total Activity :	3.566E+02	3.566E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S94T000315DUP

Acquisition date : 23-DEC-1994 22:38:46

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	8102.	477.59	3.6511E+00
NA-22	22.	1274.53	4.5333E-02
NA-24	7.	1368.55	2.7815E-02
K-40	107.	1460.75	1.0554E+00
SC-46	30.	1120.55	4.7896E-02
CR-51	6661.	320.08	2.4699E+00
MN-54	52.	834.83	4.8293E-02
CO-56	50.	846.76	4.8000E-02
CO-57	7296.	122.06	1.9099E-01
CO-58	60.	810.78	5.0711E-02
FE-59	23.	1099.25	7.2584E-02
CO-60	18.	1332.50	4.3359E-02
ZN-65	28.	1115.55	9.0976E-02
SE-75	7443.	264.66	3.9412E-01
KR-85	4139.	514.00	6.6286E+01
SR-85	4139.	514.01	2.9974E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	6.	1760.70	1.0676E-01
Y-91	20.	1204.67	1.3804E+01
NB-94	48.	871.09	4.7980E-02
NB-95	70.	765.78	5.2349E-02
ZR-95	61.	756.73	8.8400E-02
RU-103	5064.	497.08	3.3997E-01
RURH-106	1717.	621.93	4.3656E+00
AG-108m	87.	722.94	6.0835E-02
CD-109	6389.	88.03	6.1369E+00
AG-110M	4701.	657.76	3.9659E-01
SN-113	7296.	391.69	4.7007E-01
TE-123m	7507.	159.00	1.9385E-01
SB-124	1762.	602.73	2.1863E-01
SB-125	8313.	427.89	1.1775E+00
TE-125m	6691.	109.27	6.0629E+01
I-129	6339.	39.60	0.0000E+00
I-131	6918.	364.48	3.4286E-01
XE-131m	7573.	163.93	8.4517E+00
BA-133	6753.	356.02	4.3549E-01
CS-134	1788.	604.70	2.2125E-01
CS-136	49.	818.51	4.6390E-02
CS-138	7.	1435.86	6.2396E-02
CE-139	7419.	165.85	2.0610E-01
BA-140	2962.	537.31	1.0363E+00
LA-140	4.	1596.21	2.4876E-02
CE-141	7528.	145.44	3.3193E-01
CE-144	7537.	133.51	1.4519E+00
CEPR-144	7537.	133.51	2.9013E+00
EU-152	5.	1408.01	1.1326E-01
EU-154	22.	1274.51	1.3158E-01
EU-155	6362.	86.54	6.9381E-01
HF-181	6462.	482.18	4.2282E-01
TA-182	6002.	67.75	9.3326E-01
HG-203	7192.	279.20	2.8824E-01

Sample ID : S94T000315DUP Acquisition date : 23-DEC-1994 22:38:46

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	1891.	569.70	2.1639E-01
TL-208	7146.	277.36	3.6918E+00
PB-210	6022.	46.50	0.0000E+00
BI-212	95.	727.18	8.7483E-01
PB-212	8268.	238.63	5.1885E-01
BI-214	1742.	609.31	4.7865E-01
PB-214	6709.	351.92	1.3379E+00
RA-224	8133.	240.99	5.7115E+00
RA-226	9608.	186.10	5.7180E+00
AC-228	59.	911.21	2.0914E-01
TH-228	6347.	84.37	1.8782E+01
TH-229	6402.	88.47	8.9049E-01
U-232	5973.	57.78	3.4811E+02
PA-233	6764.	312.17	6.3791E-01
PA-234M	32.	1001.03	7.5717E-02
TH-234	6068.	63.29	1.0698E+01
U-235	9521.	185.71	3.4598E-01
NP-237	6361.	86.48	1.8374E+00
U-237	5924.	59.54	1.7544E+00
NP-238	40.	984.45	1.7645E-01
NP-239	6584.	106.12	7.6662E-01
PU-239	7468.	129.30	2.5231E+03
AM-241	5924.	59.54	1.6829E+00
AM-243	6250.	74.67	5.0656E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-DEC-1994 00:49:11.35                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000316BLK
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]2g2523.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:        23-DEC-1994 23:58:17.86
Decayed to:               23-DEC-1994 23:58:17.86
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. Milligan

date: 12-24-94

Bachelor 12/27/94

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	352.21*	32	1.22	704.63	700	10	86.8			
0	589.18	66	8.79	1178.41	1163	36	62.5			
0	1121.25	21	1.09	2242.54	2237	10	58.9			
0	1461.12*	22	2.11	2922.51	2912	20	128.4		K-40	0.478

Summary of Nuclide Activity
Sample ID : S94T000316BLK

Acquisition date : 23-DEC-1994 23:58:17

WHC-SD-WM-DP-103, REV. 1

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~~	~~4.778E-01~~	~~4.778E-01~~	~~6.132E-01~~	~~128.36~~	BKG 12/27/94
		Total Activity :	4.778E-01	4.778E-01			
		Grand Total Activity :	4.778E-01	4.778E-01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T000316BLK Acquisition date : 23-DEC-1994 23:58:17

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	27.	477.59	2.1089E-01
NA-22	7.	1274.53	2.5744E-02
NA-24	8.	1368.55	2.9797E-02
SC-46	28.	1120.55	4.5959E-02
CR-51	68.	320.08	2.4980E-01
MN-54	19.	834.83	2.9197E-02
CO-56	12.	846.76	2.3526E-02
CO-57	74.	122.06	1.9247E-02
CO-58	18.	810.78	2.7648E-02
FE-59	17.	1099.25	6.3060E-02
CO-60	16.	1332.50	4.0472E-02
ZN-65	9.	1115.55	5.1546E-02
SE-75	50.	264.66	3.2296E-02
KR-85	43.	514.00	6.7359E+00
SR-85	43.	514.01	3.0382E-02
Y-88	1.	1836.06	1.3173E-02
Y-90	5.	1760.70	9.9592E-02
Y-91	13.	1204.67	1.1350E+01
NB-94	17.	871.09	2.8534E-02
NB-95	22.	765.78	2.9573E-02
ZR-95	15.	756.73	4.3517E-02
RU-103	25.	497.08	2.3783E-02
RURH-106	24.	621.93	5.2065E-01
AG-108m	10.	722.94	2.0816E-02
CD-109	72.	88.03	6.4968E-01
AG-110M	20.	657.76	2.5684E-02
SN-113	38.	391.69	3.3970E-02
TE-123m	63.	159.00	1.7736E-02
SB-124	27.	602.73	2.7277E-02
SB-125	31.	427.89	7.1529E-02
TE-125m	61.	109.27	5.7903E+00
I-129	59.	39.60	0.0000E+00
I-131	41.	364.48	2.6471E-02
XE-131m	86.	163.93	8.9887E-01
BA-133	43.	356.02	3.4681E-02
CS-134	26.	604.70	2.6516E-02
CS-136	18.	818.51	2.8413E-02
CS-137	124.	661.66	7.1828E-02
CS-138	5.	1435.86	5.1387E-02
CE-139	78.	165.85	2.1087E-02
BA-140	27.	537.31	9.8938E-02
LA-140	4.	1596.21	2.4673E-02
CE-141	78.	145.44	3.3739E-02
CE-144	81.	133.51	1.5044E-01
CEPR-144	81.	133.51	3.0055E-01
EU-152	6.	1408.01	1.2407E-01
EU-154	7.	1274.51	7.5008E-02
EU-155	63.	86.54	6.9213E-02
HF-181	36.	482.18	3.1665E-02
TA-182	60.	67.75	9.2928E-02
HG-203	60.	279.20	2.6316E-02

Sample ID : S94T000316BLK Acquisition date : 23-DEC-1994 23:58:17

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	30.	569.70	2.7475E-02
TL-208	72.	277.36	3.7068E-01
PB-210	59.	46.50	0.0000E+00
BI-212	20.	727.18	3.9635E-01
PB-212	77.	238.63	4.9933E-02
BI-214	55.	609.31	8.5375E-02
PB-214	80.	351.92	1.4544E-01
RA-224	78.	240.99	5.5842E-01
RA-226	74.	186.10	5.0203E-01
AC-228	27.	911.21	1.4153E-01
TH-228	61.	84.37	1.8406E+00
TH-229	74.	88.47	9.5879E-02
U-232	58.	57.78	3.4313E+01
PA-233	57.	312.17	5.8320E-02
PA-234M	9.	1001.03	3.9358E-02
TH-234	60.	63.29	1.0653E+00
U-235	77.	185.71	3.1190E-02
NP-237	63.	86.48	1.8216E-01
U-237	74.	59.54	1.9632E-01
NP-238	12.	984.45	9.8975E-02
NP-239	77.	106.12	8.2832E-02
PU-239	72.	129.30	2.4836E+02
AM-241	74.	59.54	1.8830E-01
AM-243	75.	74.67	5.5651E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-DEC-1994 01:46:41.19                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              S94T000316SAM
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]2g2524.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:50:16.17 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      24-DEC-1994 00:55:47.95
Decayed to:             24-DEC-1994 00:55:47.95
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: 12-24-94

R. Bachelor 12/27/94

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.79*	120250	1.50	1323.61	1316	16	0.6		CS-137	167.

Sample ID : S94T000316SAM
Acquisition date : 24-DEC-1994 00:55:47

Total number of lines in spectrum	1	WHC-SD-WM-DP-103, REV. 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	1.669E+02	1.669E+02	0.001E+03	0.59	
		Total Activity :	1.669E+02	1.669E+02			
		Grand Total Activity :	1.669E+02	1.669E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T000316SAM Acquisition date : 24-DEC-1994 00:55:47

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	3835.	477.59	2.5118E+00
NA-22	10.	1274.53	3.0800E-02
NA-24	5.	1368.55	2.2616E-02
K-40	109.	1460.75	1.0652E+00
SC-46	24.	1120.55	4.2682E-02
CR-51	3093.	320.08	1.6831E+00
MN-54	27.	834.83	3.4559E-02
CO-56	35.	846.76	4.0123E-02
CO-57	3384.	122.06	1.3007E-01
CO-58	25.	810.78	3.2577E-02
FE-59	15.	1099.25	5.9387E-02
CO-60	10.	1332.50	3.2572E-02
ZN-65	14.	1115.55	6.3878E-02
SE-75	3608.	264.66	2.7439E-01
KR-85	1926.	514.00	4.5221E+01
SR-85	1925.	514.01	2.0443E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	3.	1760.70	7.7145E-02
Y-91	15.	1204.67	1.2173E+01
NB-94	27.	871.09	3.6035E-02
NB-95	40.	765.78	3.9346E-02
ZR-95	27.	756.73	5.9195E-02
RU-103	2289.	497.08	2.2860E-01
RURH-106	784.	621.93	2.9498E+00
AG-108m	41.	722.94	4.1587E-02
CD-109	3122.	88.03	4.2902E+00
AG-110M	2126.	657.76	2.6669E-01
SN-113	3423.	391.69	3.2195E-01
TE-123m	3537.	159.00	1.3306E-01
SB-124	826.	602.73	1.4971E-01
SB-125	3851.	427.89	8.0141E-01
TE-125m	3261.	109.27	4.2326E+01
I-129	2890.	39.60	0.0000E+00
I-131	3102.	364.48	2.2959E-01
XE-131m	3522.	163.93	5.7637E+00
BA-133	3117.	356.02	2.9585E-01
CS-134	845.	604.70	1.5209E-01
CS-136	21.	818.51	3.0527E-02
CS-138	6.	1435.86	5.6423E-02
CE-139	3517.	165.85	1.4189E-01
BA-140	1440.	537.31	7.2268E-01
LA-140	3.	1596.21	2.0289E-02
CE-141	3440.	145.44	2.2439E-01
CE-144	3466.	133.51	9.8457E-01
CEPR-144	3466.	133.51	1.9674E+00
EU-152	8.	1408.01	1.4383E-01
EU-154	10.	1274.51	8.9664E-02
EU-155	3101.	86.54	4.8439E-01
HF-181	3043.	482.18	2.9015E-01
TA-182	2794.	67.75	6.3678E-01
HG-203	3374.	279.20	1.9742E-01

Sample ID : S94T000316SAM Acquisition date : 24-DEC-1994 00:55:47

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	904.	569.70	1.4964E-01
TL-208	3412.	277.36	2.5512E+00
PB-210	2919.	46.50	0.0000E+00
BI-212	36.	727.18	5.4000E-01
PB-212	3912.	238.63	3.5690E-01
BI-214	872.	609.31	3.3861E-01
PB-214	3169.	351.92	9.1673E-01
RA-224	3885.	240.99	3.9474E+00
RA-226	4537.	186.10	3.9291E+00
AC-228	30.	911.21	1.4913E-01
TH-228	3054.	84.37	1.3028E+01
TH-229	3115.	88.47	6.2116E-01
U-232	2711.	57.78	2.3452E+02
PA-233	3229.	312.17	4.4079E-01
PA-234M	26.	1001.03	6.7910E-02
TH-234	2823.	63.29	7.2969E+00
U-235	4502.	185.71	2.3790E-01
NP-237	3109.	86.48	1.2846E+00
U-237	2752.	59.54	1.1957E+00
NP-238	21.	984.45	1.2769E-01
NP-239	3122.	106.12	5.2786E-01
PU-239	3576.	129.30	1.7458E+03
AM-241	2752.	59.54	1.1470E+00
AM-243	2923.	74.67	3.4641E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-DEC-1994 03:00:51.09                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000316DUP
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]2g2525.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:16.16 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-DEC-1994 02:09:59.23
Decayed to:               24-DEC-1994 02:09:59.23
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: 12-24-94

B. Bachelor 12/27/94

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.80*	120210	1.49	1323.62	1316	16	0.6		CS-137	167.
0	1121.35	23	1.41	2242.73	2236	14	73.2			

Summary of Nuclide Activity
Sample ID : S94T000316DUP

Acquisition date : 24-DEC-1994 02:09:59

WHC-SD-WM-DP-103, REV. 1

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	1.668E+02	1.668E+02	0.001E+03	0.59	
		Total Activity :	1.668E+02	1.668E+02			
		Grand Total Activity :	1.668E+02	1.668E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T000316DUP
Acquisition date : 24-DEC-1994 02:09:59

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	3692.	477.59	2.4647E+00
NA-22	10.	1274.53	3.1589E-02
NA-24	5.	1368.55	2.3559E-02
K-40	106.	1460.75	1.0515E+00
SC-46	28.	1120.55	4.6406E-02
CR-51	3125.	320.08	1.6916E+00
MN-54	24.	834.83	3.3120E-02
CO-56	20.	846.76	3.0348E-02
CO-57	3465.	122.06	1.3161E-01
CO-58	31.	810.78	3.6464E-02
FE-59	22.	1099.25	7.1282E-02
CO-60	6.	1332.50	2.5524E-02
ZN-65	11.	1115.55	5.6986E-02
SE-75	3616.	264.66	2.7468E-01
KR-85	1911.	514.00	4.5043E+01
SR-85	1910.	514.01	2.0364E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	3.	1760.70	8.2690E-02
Y-91	16.	1204.67	1.2403E+01
NB-94	19.	871.09	3.0672E-02
NB-95	35.	765.78	3.6973E-02
ZR-95	38.	756.73	6.9346E-02
RU-103	2399.	497.08	2.3398E-01
RURH-106	808.	621.93	2.9947E+00
AG-108m	35.	722.94	3.8713E-02
CD-109	2998.	88.03	4.2036E+00
AG-110M	2190.	657.76	2.7068E-01
SN-113	3370.	391.69	3.1945E-01
TE-123m	3622.	159.00	1.3466E-01
SB-124	846.	602.73	1.5147E-01
SB-125	3814.	427.89	7.9756E-01
TE-125m	3155.	109.27	4.1632E+01
I-129	2858.	39.60	0.0000E+00
I-131	3154.	364.48	2.3150E-01
XE-131m	3477.	163.93	5.7264E+00
BA-133	3105.	356.02	2.9527E-01
CS-134	832.	604.70	1.5091E-01
CS-136	28.	818.51	3.4891E-02
CS-138	5.	1435.86	5.0210E-02
CE-139	3553.	165.85	1.4263E-01
BA-140	1435.	537.31	7.2122E-01
LA-140	7.	1596.21	3.3580E-02
CE-141	3566.	145.44	2.2846E-01
CE-144	3615.	133.51	1.0056E+00
CEPR-144	3615.	133.51	2.0094E+00
EU-152	7.	1408.01	1.2954E-01
EU-154	11.	1274.51	9.1952E-02
EU-155	3042.	86.54	4.7972E-01
HF-181	3035.	482.18	2.8974E-01
TA-182	2849.	67.75	6.4301E-01
HG-203	3366.	279.20	1.9718E-01

Sample ID : S94T000316DUP Acquisition date : 24-DEC-1994 02:09:59

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	965.	569.70	1.5457E-01
TL-208	3250.	277.36	2.4898E+00
PB-210	2843.	46.50	0.0000E+00
BI-212	37.	727.18	5.4651E-01
PB-212	3974.	238.63	3.5970E-01
BI-214	851.	609.31	3.3465E-01
PB-214	3162.	351.92	9.1558E-01
RA-224	3917.	240.99	3.9637E+00
RA-226	4395.	186.10	3.8675E+00
AC-228	23.	911.21	1.2907E-01
TH-228	3089.	84.37	1.3102E+01
TH-229	3026.	88.47	6.1223E-01
U-232	2835.	57.78	2.3984E+02
PA-233	3099.	312.17	4.3180E-01
PA-234M	20.	1001.03	5.9981E-02
TH-234	2826.	63.29	7.3005E+00
U-235	4344.	185.71	2.3370E-01
NP-237	3042.	86.48	1.2708E+00
U-237	2826.	59.54	1.2117E+00
NP-238	15.	984.45	1.0888E-01
NP-239	3176.	106.12	5.3245E-01
PU-239	3464.	129.30	1.7184E+03
AM-241	2826.	59.54	1.1623E+00
AM-243	2896.	74.67	3.4483E-01

KB

B1/106

LABCORE Data Entry Template for Worklist# 305

Analyst: KGH **Instrument:** GEA00 4 **Method:** LA-548-121 D-1

Worklist Comment: Use 1 mL sample size. - PPB

WHC-SD-WM-DP-103, REV. 1

	Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	1	STD	64852			@GEA-01	CO60-02	SOLID			N/A	uCi/g
	1	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
2	2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
	3	SAMPLE	S94T000306	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
3	3	SAMPLE	S94T000306	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
	4	DUP	S94T000306	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	4	DUP	S94T000306	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
	5	SAMPLE	S94T000312	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
	5	SAMPLE	S94T000312	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
	6	DUP	S94T000312	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
	6	DUP	S94T000312	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
		STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
	7	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
7	8	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
	9	SAMPLE	S94T000347	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
	9	SAMPLE	S94T000347	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
	10	DUP	S94T000347	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
	10	DUP	S94T000347	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
	11	SAMPLE	S94T000348	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
	11	SAMPLE	S94T000348	0	F	@GEA-01	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# 305

Analyst: KGH **Instrument:** GEA00 4 **Method:** LA-548-121 D-1

Worklist Comment: Use 1 mL sample size. - PPB

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
12	DUP	S94T000348	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
12	DUP	S94T000348	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 305

Kristine D. Hughes
Analyst Signature

12-30-94
Date

M C Brown

1/3/95

Data Entry Comments:

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

Page: 2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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		20.4900	2.05E-02	2.35			0.00E+00		0.00E+00	NA
Work List	CS137		26.8300	2.68E-02	2.33			0.00E+00		1.34E-02	200.0
305				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			
WORKLIST#305				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 * 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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
08:40 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.786 < 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	CS137	<	0.0223	1.25E-02				ERR		ERR	NA
Work List				0.00E+00				ERR		ERR	ERR
306				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			
S94T306				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			
KGH				0.00E+00				ERR			
Date											
12/30/94											
Time											
09:40 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.786 < Enter SAMPLE g/L 1.7828 < 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	CS137		223.1000	1.25E+02	0.24		230.9000	1.30E+02	0.23	1.30E+02	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
306				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			
S94T306				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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
09:40 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: M Bregman Date: 01/03/95

Approved by: R Thacker Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.806 < Enter SAMPLE g/L 1.816 < 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	CS137		306.4000	1.70E+02	0.2		316.1000	1.74E+02	0.2	1.74E+02	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
306				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			
S94T312				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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
09:40 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.9048 < 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	CS137	<	0.0247	1.30E-02				ERR		ERR	NA
Work List				0.00E+00				ERR		ERR	ERR
305				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			
S94T347,348				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			
KGH				0.00E+00				ERR			
Date											
12/30/94											
Time											
09:40 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.9048 < Enter SAMPLE g/L 1.9152 < 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	CS137		140.0000	7.35E+01	0.3		170.5000	8.90E+01	0.27	8.90E+01	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
306				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			
S94T347				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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
09:40 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95.

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 02:06:40.43                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                STD-WORKLIST#305
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:              dka300:[spec.GEA4]4g4886.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:05.05 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 01:16:00.01
Decayed to:               31-DEC-1994 01:16:00.01
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: Em Bailey

date: 12-31-94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	609.17*	76	2.07	1218.24	1213	11	105.6			
0	662.05*	8754	1.48	1324.01	1319	12	2.3		CS-137	26.8
0	1173.70*	4642	1.73	2347.35	2339	18	3.5		CO-60	20.5
0	1332.95	4265	1.88	2665.90	2658	17	3.2		CO-60	20.5
0	1509.53	26	0.95	3019.12	3015	10	45.0			
0	1730.36	20	1.40	3460.86	3457	9	78.3			
0	1765.47*	36	2.43	3531.09	3523	19	68.1			

Sample ID : STD-WORKLIST#305 Acquisition date : 31-DEC-1994 01:16:00

Total number of lines in spectrum	7	
Number of unidentified lines	2	WHC-SD-WM-DP-103, REV. 1
Number of lines tentatively identified by NID	5	71.43%

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	2.049E+01	2.049E+01	0.048E+01	2.35	
CS-137	30.00Y	1.000	2.683E+01	2.683E+01	0.062E+01	2.33	
		Total Activity :	4.732E+01	4.732E+01			
		Grand Total Activity :	4.732E+01	4.732E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : STD-WORKLIST#305 Acquisition date : 31-DEC-1994 01:16:00

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	543.	477.59	2.1760E+00
NA-22	65.	1274.53	1.7525E-01
NA-24	39.	1368.55	1.4458E-01
K-40	851.	1460.75	6.5983E+00
SC-46	280.	1120.55	3.3127E-01
CR-51	569.	320.08	1.6116E+00
MN-54	303.	834.83	2.7055E-01
CO-56	290.	846.76	2.6900E-01
CO-57	626.	122.06	1.1810E-01
CO-58	296.	810.78	2.6051E-01
FE-59	253.	1099.25	5.4937E-01
ZN-65	257.	1115.55	6.2486E-01
SE-75	648.	264.66	2.5733E-01
KR-85	561.	514.00	5.6446E+01
SR-85	560.	514.01	2.5499E-01
Y-88	16.	1836.06	1.1875E-01
Y-90	16.	1760.70	4.0424E-01
Y-91	131.	1204.67	7.9562E+01
NB-94	312.	871.09	2.8758E-01
NB-95	250.	765.78	2.2480E-01
ZR-95	259.	756.73	4.1378E-01
RU-103	424.	497.08	2.2736E-01
RURH-106	307.	621.93	4.1081E+00
AG-108m	263.	722.94	2.3813E-01
CD-109	568.	88.03	3.6216E+00
AG-110M	308.	657.76	2.2433E-01
SN-113	531.	391.69	2.8532E-01
TE-123m	690.	159.00	1.2734E-01
SB-124	293.	602.73	1.9987E-01
SB-125	557.	427.89	6.9113E-01
TE-125m	557.	109.27	3.6081E+01
I-129	439.	39.60	0.0000E+00
I-131	560.	364.48	2.1882E-01
XE-131m	651.	163.93	5.3719E+00
BA-133	582.	356.02	2.8657E-01
CS-134	303.	604.70	2.0406E-01
CS-136	290.	818.51	2.6004E-01
CS-138	29.	1435.86	2.7279E-01
CE-139	654.	165.85	1.3277E-01
BA-140	382.	537.31	8.5844E-01
LA-140	23.	1596.21	1.3061E-01
CE-141	603.	145.44	2.0249E-01
CE-144	634.	133.51	9.0090E-01
CEPR-144	634.	133.51	1.8000E+00
EU-152	40.	1408.01	7.0472E-01
EU-154	65.	1274.51	5.0805E-01
EU-155	613.	86.54	4.2532E-01
HF-181	466.	482.18	2.6154E-01
TA-182	534.	67.75	5.5442E-01
HG-203	628.	279.20	1.8897E-01
BI-207	329.	569.70	2.0541E-01

Sample ID : STD-WORKLIST#305 Acquisition date : 31-DEC-1994 01:16:00

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	643.	277.36	2.4562E+00
PB-210	507.	46.50	0.0000E+00
BI-212	298.	727.18	3.4836E+00
PB-212	832.	238.63	3.6275E-01
BI-214	511.	609.31	5.7977E-01
PB-214	675.	351.92	9.4562E-01
RA-224	788.	240.99	3.9194E+00
RA-226	798.	186.10	3.5911E+00
AC-228	439.	911.21	1.3392E+00
TH-228	630.	84.37	1.1665E+01
TH-229	569.	88.47	5.2547E-01
U-232	524.	57.78	2.2115E+02
PA-233	604.	312.17	4.2480E-01
PA-234M	270.	1001.03	5.0669E-01
TH-234	523.	63.29	6.3802E+00
U-235	799.	185.71	2.1844E-01
NP-237	616.	86.48	1.1295E+00
U-237	503.	59.54	1.0709E+00
NP-238	291.	984.45	1.1082E+00
NP-239	541.	106.12	4.5007E-01
PU-239	675.	129.30	1.6161E+03
AM-241	503.	59.54	1.0272E+00
AM-243	638.	74.67	3.1859E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 03:02:28.13                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T306-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]4g4887.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:02.28 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 02:11:47.22
Decayed to:               31-DEC-1994 02:11:47.22
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: Eric Bella

date: 12-31-94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	340.20*	171	8.13	680.33	672	20	70.0			
0	662.11*	73	1.07	1324.13	1319	11	77.0		CS-137	2.229E-02
0	1662.21	12	1.36	3324.54	3322	6	74.8			
0	1764.87*	14	2.42	3529.89	3523	15	155.9			

Sample ID : S94T306-BLANK Acquisition date : 31-DEC-1994 02:11:47

WHC-SD-WM-DP-103, REV. 1

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~~	~~2.229E-02~~	~~2.229E-02~~	~~1.715E-02~~	~~76.96~~	BKG 1/3/95
Total Activity :			2.229E-02	2.229E-02			
Grand Total Activity :			2.229E-02	2.229E-02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T306-BLANK
Acquisition date : 31-DEC-1994 02:11:47

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	166.	477.59	1.2044E-01
NA-22	48.	1274.53	1.5080E-02
NA-24	22.	1368.55	1.0989E-02
K-40	832.	1460.75	6.5225E-01
SC-46	131.	1120.55	2.2712E-02
CR-51	245.	320.08	1.0571E-01
MN-54	105.	834.83	1.5885E-02
CO-56	95.	846.76	1.5405E-02
CO-57	314.	122.06	8.3636E-03
CO-58	93.	810.78	1.4621E-02
FE-59	71.	1099.25	2.9092E-02
CO-60	73.	1332.50	1.9036E-02
ZN-65	72.	1115.55	3.3014E-02
SE-75	283.	264.66	1.6998E-02
KR-85	259.	514.00	3.8332E+00
SR-85	258.	514.01	1.7307E-02
Y-88	13.	1836.06	1.0646E-02
Y-90	18.	1760.70	4.1890E-02
Y-91	79.	1204.67	6.1798E+00
NB-94	61.	871.09	1.2679E-02
NB-95	108.	765.78	1.4773E-02
ZR-95	76.	756.73	2.2485E-02
RU-103	141.	497.08	1.3119E-02
RURH-106	108.	621.93	2.4322E-01
AG-108m	96.	722.94	1.4409E-02
CD-109	321.	88.03	2.7205E-01
AG-110M	100.	657.76	1.2752E-02
SN-113	207.	391.69	1.7801E-02
TE-123m	323.	159.00	8.7073E-03
SB-124	127.	602.73	1.3147E-02
SB-125	174.	427.89	3.8650E-02
TE-125m	341.	109.27	2.8211E+00
I-129	216.	39.60	0.0000E+00
I-131	233.	364.48	1.4104E-02
XE-131m	332.	163.93	3.8365E-01
BA-133	217.	356.02	1.7490E-02
CS-134	125.	604.70	1.3085E-02
CS-136	96.	818.51	1.4962E-02
CS-138	26.	1435.86	2.5883E-02
CE-139	357.	165.85	9.8032E-03
BA-140	141.	537.31	5.2039E-02
LA-140	35.	1596.21	1.6319E-02
CE-141	316.	145.44	1.4664E-02
CE-144	319.	133.51	6.3914E-02
CEPR-144	319.	133.51	1.2771E-01
EU-152	31.	1408.01	6.1927E-02
EU-154	48.	1274.51	4.3811E-02
EU-155	360.	86.54	3.2575E-02
HF-181	171.	482.18	1.5851E-02
TA-182	250.	67.75	3.7935E-02
HG-203	317.	279.20	1.3415E-02

Sample ID : S94T306-BLANK Acquisition date : 31-DEC-1994 02:11:47

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	124.	569.70	1.2615E-02
TL-208	326.	277.36	1.7501E-01
PB-210	200.	46.50	0.0000E+00
BI-212	115.	727.18	2.1703E-01
PB-212	430.	238.63	2.6072E-02
BI-214	283.	609.31	4.3131E-02
PB-214	368.	351.92	6.9852E-02
RA-224	411.	240.99	2.8299E-01
RA-226	407.	186.10	2.5649E-01
AC-228	162.	911.21	8.1332E-02
TH-228	360.	84.37	8.8111E-01
TH-229	313.	88.47	3.8989E-02
U-232	246.	57.78	1.5154E+01
PA-233	250.	312.17	2.7324E-02
PA-234M	77.	1001.03	2.7079E-02
TH-234	266.	63.29	4.5497E-01
U-235	410.	185.71	1.5646E-02
NP-237	362.	86.48	8.6551E-02
U-237	226.	59.54	7.1841E-02
NP-238	79.	984.45	5.7702E-02
NP-239	277.	106.12	3.2204E-02
PU-239	331.	129.30	1.1313E+02
AM-241	226.	59.54	6.8910E-02
AM-243	397.	74.67	2.5128E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 09:38:24.00                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T306-SAMPLE
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:              NI3BA:1.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:29.72 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 06:53:04.16
Decayed to:               31-DEC-1994 06:53:04.16
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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:

Em Baela

date: 12-31-94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
4	26.76	1220	1.00	53.52	52	8	21.6	1.44E+01		
4	28.34	913	0.90	56.69	52	8	35.1		I-129	0.000E+00
0	31.06	464	0.97	62.13	60	6	84.1			
0	662.13*	727713	1.46	1324.16	1316	16	0.2		CS-137	223.
0	970.01*	43	1.12	1939.95	1936	11	101.3			
0	1764.93*	32	2.02	3530.01	3524	17	85.2			

Summary of Nuclide Activity
Sample ID : S94T306-SAMPLE

Acquisition date : 31-DEC-1994 06:53:04

Total number of lines in spectrum	6	WHC-SD-WM-DP-103, REV. 1
Number of unidentified lines	2	
Number of lines tentatively identified by NID	4	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
~~I-129~~	~~5.73E+09D~~	~~1.000~~	~~0.000E+00~~	~~0.000E+00~~	~~0.000E+00~~	~~0.00~~	~~K~~ 1/3/95
CS-137	30.00Y	1.000	2.231E+02	2.231E+02	0.005E+02	0.24	
Total Activity :			2.231E+02	2.231E+02			
Grand Total Activity :			2.231E+02	2.231E+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)
BE-7	21075.	477.59	1.3550E+00
NA-22	71.	1274.53	1.8247E-02
NA-24	45.	1368.55	1.5612E-02
K-40	825.	1460.75	6.4974E-01
SC-46	149.	1120.55	2.4223E-02
CR-51	15754.	320.08	8.4765E-01
MN-54	157.	834.83	1.9450E-02
CO-56	149.	846.76	1.9253E-02
CO-57	14228.	122.06	5.6320E-02
CO-58	152.	810.78	1.8654E-02
FE-59	98.	1099.25	3.4251E-02
CO-60	55.	1332.50	1.6553E-02
ZN-65	86.	1115.55	3.6054E-02
SE-75	16619.	264.66	1.3036E-01
KR-85	10321.	514.00	2.4220E+01
SR-85	10319.	514.01	1.0951E-01
Y-88	9.	1836.06	8.7664E-03
Y-90	23.	1760.70	4.7728E-02
Y-91	72.	1204.67	5.9256E+00
NB-94	150.	871.09	1.9957E-02
NB-95	185.	765.78	1.9328E-02
ZR-95	165.	756.73	3.2988E-02
RU-103	12623.	497.08	1.2405E-01
RURH-106	3708.	621.93	1.4267E+00
AG-108m	228.	722.94	2.2206E-02
CD-109	12993.	88.03	1.7316E+00
AG-110M	5730.	657.76	9.6704E-02
SN-113	17894.	391.69	1.6570E-01
TE-123m	14852.	159.00	5.9060E-02
SB-124	3809.	602.73	7.2062E-02
SB-125	20834.	427.89	4.2282E-01
TE-125m	13423.	109.27	1.7711E+01
I-131	16638.	364.48	1.1928E-01
XE-131m	15066.	163.93	2.5850E+00
BA-133	16274.	356.02	1.5150E-01
CS-134	3705.	604.70	7.1334E-02
CS-136	153.	818.51	1.8908E-02
CS-138	33.	1435.86	2.9850E-02
CE-139	15339.	165.85	6.4289E-02
BA-140	7117.	537.31	3.7038E-01
LA-140	24.	1596.21	1.3473E-02
CE-141	14815.	145.44	1.0040E-01
CE-144	14631.	133.51	4.3283E-01
CEPR-144	14631.	133.51	8.6489E-01
EU-152	30.	1408.01	6.1732E-02
EU-154	71.	1274.51	5.3029E-02
EU-155	13094.	86.54	1.9658E-01
HF-181	16906.	482.18	1.5756E-01
TA-182	12220.	67.75	2.6531E-01
HG-203	16137.	279.20	9.5783E-02
BI-207	4441.	569.70	7.5506E-02

Sample ID : S94T306-SAMPLE Acquisition date : 31-DEC-1994 06:53:04

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	16200.	277.36	1.2328E+00
PB-210	12012.	46.50	0.0000E+00
BI-212	259.	727.18	3.2492E-01
PB-212	18264.	238.63	1.6996E-01
BI-214	4048.	609.31	1.6312E-01
PB-214	16704.	351.92	4.7735E-01
RA-224	18089.	240.99	1.8782E+00
RA-226	20602.	186.10	1.8246E+00
AC-228	201.	911.21	9.0608E-02
TH-228	12784.	84.37	5.2528E+00
TH-229	12895.	88.47	2.5022E-01
U-232	12103.	57.78	1.0628E+02
PA-233	15855.	312.17	2.1772E-01
PA-234M	87.	1001.03	2.8805E-02
TH-234	12151.	63.29	3.0749E+00
U-235	20292.	185.71	1.1006E-01
NP-237	13096.	86.48	5.2068E-01
U-237	12246.	59.54	5.2851E-01
NP-238	113.	984.45	6.9123E-02
NP-239	13317.	106.12	2.2338E-01
PU-239	14752.	129.30	7.5570E+02
AM-241	12246.	59.54	5.0692E-01
AM-243	12752.	74.67	1.4241E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 10:56:55.05                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T306-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]4g4891.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:32.51 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 10:04:45.64
Decayed to:               31-DEC-1994 10:04:45.64
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: Em Barker

date: 12-31-94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
10	26.78	1284	1.23	53.57	52	8	16.7	3.77E+00		
10	28.10	1783	2.03	56.19	52	8	26.1		I-129	0.000E+00
0	31.93	488	1.63	63.86	61	7	91.3			
0	662.12*	753370	1.47	1324.15	1316	16	0.2		CS-137	231.
0	911.96*	59	1.26	1823.83	1817	14	100.5			
0	1377.68*	27	1.88	2755.36	2746	17	105.2			

Sample ID : S94T306-DUP Acquisition date : 31-DEC-1994 10:04:45

Total number of lines in spectrum	6	WHC-SD-WM-DP-103, REV. 1
Number of unidentified lines	3	
Number of lines tentatively identified by NID	3	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
~~I-129~~	~~5.73E+09D~~	~~1.000~~	~~0.000E+00~~	~~0.000E+00~~	~~0.000E+00~~	~~0.00~~	BHC 1/3/95
CS-137	30.00Y	1.000	2.309E+02	2.309E+02	0.005E+02	0.23	
		Total Activity :	2.309E+02	2.309E+02			
		Grand Total Activity :	2.309E+02	2.309E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T306-DUP Acquisition date : 31-DEC-1994 10:04:45

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	21563.	477.59	1.3707E+00
NA-22	69.	1274.53	1.7947E-02
NA-24	37.	1368.55	1.4159E-02
K-40	847.	1460.75	6.5835E-01
SC-46	154.	1120.55	2.4606E-02
CR-51	16303.	320.08	8.6229E-01
MN-54	154.	834.83	1.9287E-02
CO-56	133.	846.76	1.8195E-02
CO-57	14658.	122.06	5.7165E-02
CO-58	159.	810.78	1.9081E-02
FE-59	90.	1099.25	3.2794E-02
CO-60	52.	1332.50	1.6082E-02
ZN-65	105.	1115.55	3.9826E-02
SE-75	17310.	264.66	1.3304E-01
KR-85	10561.	514.00	2.4500E+01
SR-85	10557.	514.01	1.1076E-01
Y-88	17.	1836.06	1.2073E-02
Y-90	18.	1760.70	4.1746E-02
Y-91	68.	1204.67	5.7392E+00
NB-94	137.	871.09	1.9080E-02
NB-95	196.	765.78	1.9926E-02
ZR-95	202.	756.73	3.6565E-02
RU-103	12821.	497.08	1.2502E-01
RURH-106	3867.	621.93	1.4571E+00
AG-108m	229.	722.94	2.2215E-02
CD-109	13126.	88.03	1.7405E+00
AG-110M	5914.	657.76	9.8240E-02
SN-113	18482.	391.69	1.6840E-01
TE-123m	15572.	159.00	6.0475E-02
SB-124	3984.	602.73	7.3704E-02
SB-125	21479.	427.89	4.2931E-01
TE-125m	13462.	109.27	1.7737E+01
I-131	17220.	364.48	1.2134E-01
XE-131m	15341.	163.93	2.6085E+00
BA-133	16940.	356.02	1.5457E-01
CS-134	3928.	604.70	7.3445E-02
CS-136	169.	818.51	1.9869E-02
CS-138	26.	1435.86	2.6431E-02
CE-139	15525.	165.85	6.4678E-02
BA-140	7360.	537.31	3.7665E-01
LA-140	33.	1596.21	1.5793E-02
CE-141	15547.	145.44	1.0285E-01
CE-144	15255.	133.51	4.4197E-01
CEPR-144	15254.	133.51	8.8311E-01
EU-152	46.	1408.01	7.5743E-02
EU-154	69.	1274.51	5.2126E-02
EU-155	13203.	86.54	1.9739E-01
HF-181	17135.	482.18	1.5862E-01
TA-182	12780.	67.75	2.7132E-01
HG-203	16743.	279.20	9.7563E-02
BI-207	4485.	569.70	7.5882E-02

Sample ID : S94T306-DUP Acquisition date : 31-DEC-1994 10:04:45

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	16693.	277.36	1.2515E+00
PB-210	12459.	46.50	0.0000E+00
BI-212	247.	727.18	3.1752E-01
PB-212	18728.	238.63	1.7211E-01
BI-214	4022.	609.31	1.6258E-01
PB-214	17060.	351.92	4.8264E-01
RA-224	18622.	240.99	1.9057E+00
RA-226	21131.	186.10	1.8479E+00
AC-228	243.	911.21	9.9640E-02
TH-228	13112.	84.37	5.3199E+00
TH-229	13178.	88.47	2.5295E-01
U-232	12436.	57.78	1.0773E+02
PA-233	16163.	312.17	2.1982E-01
PA-234M	100.	1001.03	3.0866E-02
TH-234	12582.	63.29	3.1290E+00
U-235	20838.	185.71	1.1153E-01
NP-237	13209.	86.48	5.2291E-01
U-237	12554.	59.54	5.3511E-01
NP-238	99.	984.45	6.4756E-02
NP-239	13436.	106.12	2.2438E-01
PU-239	15071.	129.30	7.6381E+02
AM-241	12554.	59.54	5.1326E-01
AM-243	13143.	74.67	1.4458E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 11:52:47.76                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T312-SAMPLE
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]4g4892.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:52:03.11 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 11:00:06.80
Decayed to:               31-DEC-1994 11:00:06.80
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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:

Em Bareler

date: 12-31-94

Strachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	27.74	4021	2.95	55.48	52	9	14.7			
0	662.17*	999641	1.46	1324.25	1316	16	0.2		CS-137	306.

Sample ID : S94T312-SAMPLE
Acquisition date : 31-DEC-1994 11:00:06

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	3.064E+02	3.064E+02	0.006E+02	0.20	
		Total Activity :	3.064E+02	3.064E+02			
		Grand Total Activity :	3.064E+02	3.064E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T312-SAMPLE
Acquisition date : 31-DEC-1994 11:00:06

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	29002.	477.59	1.5896E+00
NA-22	73.	1274.53	1.8459E-02
NA-24	26.	1368.55	1.1766E-02
K-40	825.	1460.75	6.4953E-01
SC-46	174.	1120.55	2.6138E-02
CR-51	21888.	320.08	9.9913E-01
MN-54	222.	834.83	2.3129E-02
CO-56	220.	846.76	2.3415E-02
CO-57	19808.	122.06	6.6453E-02
CO-58	221.	810.78	2.2521E-02
FE-59	116.	1099.25	3.7228E-02
CO-60	51.	1332.50	1.5934E-02
ZN-65	106.	1115.55	4.0149E-02
SE-75	23018.	264.66	1.5342E-01
KR-85	14029.	514.00	2.8238E+01
SR-85	14026.	514.01	1.2767E-01
Y-88	13.	1836.06	1.0718E-02
Y-90	22.	1760.70	4.6257E-02
Y-91	102.	1204.67	7.0234E+00
NB-94	190.	871.09	2.2479E-02
NB-95	234.	765.78	2.1737E-02
ZR-95	274.	756.73	4.2568E-02
RU-103	17007.	497.08	1.4399E-01
RURH-106	5102.	621.93	1.6736E+00
AG-108m	300.	722.94	2.5433E-02
CD-109	17519.	88.03	2.0107E+00
AG-110M	7753.	657.76	1.1248E-01
SN-113	24352.	391.69	1.9330E-01
TE-123m	20731.	159.00	6.9776E-02
SB-124	5193.	602.73	8.4141E-02
SB-125	28453.	427.89	4.9413E-01
TE-125m	18200.	109.27	2.0623E+01
I-129	16710.	39.60	0.0000E+00
I-131	22844.	364.48	1.3976E-01
XE-131m	20520.	163.93	3.0168E+00
BA-133	22484.	356.02	1.7808E-01
CS-134	5221.	604.70	8.4677E-02
CS-136	203.	818.51	2.1730E-02
CS-138	25.	1435.86	2.5905E-02
CE-139	20702.	165.85	7.4687E-02
BA-140	9767.	537.31	4.3389E-01
LA-140	24.	1596.21	1.3543E-02
CE-141	20451.	145.44	1.1797E-01
CE-144	19999.	133.51	5.0604E-01
CEPR-144	19999.	133.51	1.0112E+00
EU-152	50.	1408.01	7.9014E-02
EU-154	73.	1274.51	5.3703E-02
EU-155	17504.	86.54	2.2728E-01
HF-181	22814.	482.18	1.8303E-01
TA-182	16546.	67.75	3.0871E-01
HG-203	22184.	279.20	1.1230E-01

Sample ID : S94T312-SAMPLE Acquisition date : 31-DEC-1994 11:00:06

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	5972.	569.70	8.7557E-02
TL-208	22137.	277.36	1.4411E+00
PB-210	16518.	46.50	0.0000E+00
BI-212	303.	727.18	3.5178E-01
PB-212	24775.	238.63	1.9795E-01
BI-214	5348.	609.31	1.8748E-01
PB-214	22317.	351.92	5.5487E-01
RA-224	24398.	240.99	2.1814E+00
RA-226	28055.	186.10	2.1292E+00
AC-228	254.	911.21	1.0195E-01
TH-228	17413.	84.37	6.1306E+00
TH-229	17582.	88.47	2.9217E-01
U-232	16592.	57.78	1.2443E+02
PA-233	21869.	312.17	2.5570E-01
PA-234M	126.	1001.03	3.4633E-02
TH-234	16695.	63.29	3.6042E+00
U-235	27583.	185.71	1.2831E-01
NP-237	17498.	86.48	6.0185E-01
U-237	16620.	59.54	6.1571E-01
NP-238	124.	984.45	7.2389E-02
NP-239	18000.	106.12	2.5972E-01
PU-239	20077.	129.30	8.8159E+02
AM-241	16620.	59.54	5.9056E-01
AM-243	17314.	74.67	1.6594E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 13:11:28.59                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T312-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]4g4894.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:52:07.06 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 12:18:42.88
Decayed to:               31-DEC-1994 12:18:42.88
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: Em Bailey

date: 12-31-94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	27.91	4913	3.41	55.82	52	10	13.4			
0	662.05*	1031289	1.46	1324.01	1317	15	0.2		CS-137	316.

Sample ID : S94T312-DUP
Acquisition date : 31-DEC-1994 12:18:42

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	3.161E+02	3.161E+02	0.006E+02	0.20	
		Total Activity :	3.161E+02	3.161E+02			
		Grand Total Activity :	3.161E+02	3.161E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T312-DUP
Acquisition date : 31-DEC-1994 12:18:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	29725.	477.59	1.6093E+00
NA-22	65.	1274.53	1.7440E-02
NA-24	40.	1368.55	1.4770E-02
K-40	863.	1460.75	6.6430E-01
SC-46	172.	1120.55	2.5959E-02
CR-51	21983.	320.08	1.0013E+00
MN-54	221.	834.83	2.3097E-02
CO-56	224.	846.76	2.3659E-02
CO-57	20034.	122.06	6.6830E-02
CO-58	236.	810.78	2.3267E-02
FE-59	133.	1099.25	3.9915E-02
CO-60	56.	1332.50	1.6690E-02
ZN-65	100.	1115.55	3.8918E-02
SE-75	23373.	264.66	1.5460E-01
KR-85	14547.	514.00	2.8754E+01
SR-85	14544.	514.01	1.3001E-01
Y-88	6.	1836.06	7.1756E-03
Y-90	19.	1760.70	4.2867E-02
Y-91	93.	1204.67	6.6999E+00
NB-94	183.	871.09	2.2026E-02
NB-95	279.	765.78	2.3771E-02
ZR-95	272.	756.73	4.2442E-02
RU-103	17745.	497.08	1.4708E-01
RURH-106	5393.	621.93	1.7207E+00
AG-108m	326.	722.94	2.6539E-02
CD-109	18162.	88.03	2.0473E+00
AG-110M	8350.	657.76	1.1673E-01
SN-113	25633.	391.69	1.9832E-01
TE-123m	21276.	159.00	7.0688E-02
SB-124	5415.	602.73	8.5921E-02
SB-125	29472.	427.89	5.0289E-01
TE-125m	18660.	109.27	2.0882E+01
I-129	17367.	39.60	0.0000E+00
I-131	23473.	364.48	1.4167E-01
XE-131m	21767.	163.93	3.1071E+00
BA-133	23311.	356.02	1.8132E-01
CS-134	5406.	604.70	8.6166E-02
CS-136	221.	818.51	2.2695E-02
CS-138	27.	1435.86	2.7181E-02
CE-139	21678.	165.85	7.6427E-02
BA-140	10060.	537.31	4.4035E-01
LA-140	23.	1596.21	1.3196E-02
CE-141	21105.	145.44	1.1984E-01
CE-144	20867.	133.51	5.1691E-01
CEPR-144	20868.	133.51	1.0329E+00
EU-152	43.	1408.01	7.3854E-02
EU-154	65.	1274.51	5.0699E-02
EU-155	18225.	86.54	2.3192E-01
HF-181	23655.	482.18	1.8637E-01
TA-182	17202.	67.75	3.1478E-01
HG-203	22905.	279.20	1.1411E-01

Sample ID : S94T312-DUP Acquisition date : 31-DEC-1994 12:18:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	6180.	569.70	8.9069E-02
TL-208	23024.	277.36	1.4697E+00
PB-210	16791.	46.50	0.0000E+00
BI-212	327.	727.18	3.6542E-01
PB-212	25434.	238.63	2.0057E-01
BI-214	5530.	609.31	1.9064E-01
PB-214	23240.	351.92	5.6661E-01
RA-224	25339.	240.99	2.2231E+00
RA-226	29006.	186.10	2.1650E+00
AC-228	259.	911.21	1.0286E-01
TH-228	18067.	84.37	6.2446E+00
TH-229	18129.	88.47	2.9668E-01
U-232	17151.	57.78	1.2651E+02
PA-233	22150.	312.17	2.5734E-01
PA-234M	134.	1001.03	3.5745E-02
TH-234	17293.	63.29	3.6683E+00
U-235	28584.	185.71	1.3062E-01
NP-237	18238.	86.48	6.1445E-01
U-237	16863.	59.54	6.2021E-01
NP-238	130.	984.45	7.4111E-02
NP-239	18679.	106.12	2.6457E-01
PU-239	20454.	129.30	8.8984E+02
AM-241	16863.	59.54	5.9487E-01
AM-243	17998.	74.67	1.6919E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 14:10:27.98                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T347-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]4g4895.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:02.25 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 13:19:51.72
Decayed to:               31-DEC-1994 13:19:51.72
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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
*****************************************************************************

Post-NID Peak Search Report
***** No peaks found *****
```

Removed by: Em Baller

date: 12-31-94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Sample ID : S94T347-BLANK
Acquisition date : 31-DEC-1994 13:19:51

**** There are no nuclides meeting summary criteria **** WHC-SD-WM-DP-103, REV. 1

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T347-BLANK Acquisition date : 31-DEC-1994 13:19:51

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	146.	477.59	1.1280E-01
NA-22	50.	1274.53	1.5355E-02
NA-24	52.	1368.55	1.6832E-02
K-40	819.	1460.75	6.4719E-01
SC-46	140.	1120.55	2.3475E-02
CR-51	248.	320.08	1.0632E-01
MN-54	93.	834.83	1.4961E-02
CO-56	66.	846.76	1.2876E-02
CO-57	297.	122.06	8.1415E-03
CO-58	100.	810.78	1.5171E-02
FE-59	68.	1099.25	2.8403E-02
CO-60	50.	1332.50	1.5774E-02
ZN-65	74.	1115.55	3.3405E-02
SE-75	288.	264.66	1.7149E-02
KR-85	266.	514.00	3.8909E+00
SR-85	265.	514.01	1.7561E-02
Y-88	14.	1836.06	1.0866E-02
Y-90	16.	1760.70	4.0070E-02
Y-91	74.	1204.67	5.9737E+00
NB-94	83.	871.09	1.4886E-02
NB-95	118.	765.78	1.5469E-02
ZR-95	86.	756.73	2.3868E-02
RU-103	156.	497.08	1.3773E-02
RURH-106	105.	621.93	2.4055E-01
AG-108m	99.	722.94	1.4627E-02
CD-109	329.	88.03	2.7543E-01
AG-110M	106.	657.76	1.3171E-02
SN-113	207.	391.69	1.7825E-02
TE-123m	320.	159.00	8.6717E-03
SB-124	124.	602.73	1.3018E-02
SB-125	156.	427.89	3.6595E-02
TE-125m	291.	109.27	2.6058E+00
I-129	260.	39.60	0.0000E+00
I-131	246.	364.48	1.4503E-02
XE-131m	351.	163.93	3.9452E-01
BA-133	218.	356.02	1.7532E-02
CS-134	125.	604.70	1.3076E-02
CS-136	98.	818.51	1.5085E-02
CS-137	300.	661.66	2.4678E-02
CS-138	26.	1435.86	2.5942E-02
CE-139	349.	165.85	9.6962E-03
BA-140	141.	537.31	5.2099E-02
LA-140	26.	1596.21	1.3938E-02
CE-141	324.	145.44	1.4845E-02
CE-144	341.	133.51	6.6120E-02
CEPR-144	341.	133.51	1.3211E-01
EU-152	43.	1408.01	7.3169E-02
EU-154	51.	1274.51	4.4771E-02
EU-155	347.	86.54	3.2003E-02
HF-181	171.	482.18	1.5855E-02
TA-182	258.	67.75	3.8553E-02

Sample ID : S94T347-BLANK Acquisition date : 31-DEC-1994 13:19:51

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	276.	279.20	1.2519E-02
BI-207	157.	569.70	1.4219E-02
TL-208	272.	277.36	1.5964E-01
PB-210	240.	46.50	0.0000E+00
BI-212	131.	727.18	2.3111E-01
PB-212	447.	238.63	2.6580E-02
BI-214	326.	609.31	4.6312E-02
PB-214	340.	351.92	6.7072E-02
RA-224	399.	240.99	2.7908E-01
RA-226	387.	186.10	2.5016E-01
AC-228	179.	911.21	8.5591E-02
TH-228	341.	84.37	8.5830E-01
TH-229	330.	88.47	4.0037E-02
U-232	207.	57.78	1.3907E+01
PA-233	259.	312.17	2.7832E-02
PA-234M	75.	1001.03	2.6728E-02
TH-234	235.	63.29	4.2717E-01
U-235	383.	185.71	1.5114E-02
NP-237	347.	86.48	8.4719E-02
U-237	225.	59.54	7.1564E-02
NP-238	81.	984.45	5.8644E-02
NP-239	263.	106.12	3.1380E-02
PU-239	312.	129.30	1.0987E+02
AM-241	225.	59.54	6.8645E-02
AM-243	365.	74.67	2.4079E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 15:03:44.35                  *
*****************************************************************************
     >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T347-SAMPLE
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]4g4896.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:56.42 sec

     >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 14:12:14.12
Decayed to:               31-DEC-1994 14:12:14.12
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: 12-31-94

1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
6	26.53	1238	1.26	53.07	51	9	16.5	8.49E+00		
6	28.25	569	0.92	56.51	51	9	51.1		I-129	0.000E+00
0	661.90*	456689	1.45	1323.71	1316	16	0.3		CS-137	140.
0	1323.08	29	1.30	2646.15	2643	7	58.1			
0	1730.18	24	0.88	3460.51	3456	12	49.8			

Summary of Nuclide Activity
Sample ID : S94T347-SAMPLE

Acquisition date : 31-DEC-1994 14:12:14

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	5	
Number of unidentified lines	3	
Number of lines tentatively identified by NID	2	40.00%

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
~~I-129~~	~~5.73E+09D~~	~~1.000~~	~~0.000E+00~~	~~0.000E+00~~	~~0.000E+00~~	~~0.00~~	BKG 1/3/95
CS-137	30.00Y	1.000	1.400E+02	1.400E+02	0.004E+02	0.30	
		Total Activity :	1.400E+02	1.400E+02			
		Grand Total Activity :	1.400E+02	1.400E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T347-SAMPLE
Acquisition date : 31-DEC-1994 14:12:14

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	13182.	477.59	1.0717E+00
NA-22	60.	1274.53	1.6812E-02
NA-24	38.	1368.55	1.4396E-02
K-40	818.	1460.75	6.4696E-01
SC-46	117.	1120.55	2.1442E-02
CR-51	10022.	320.08	6.7607E-01
MN-54	101.	834.83	1.5584E-02
CO-56	110.	846.76	1.6550E-02
CO-57	9044.	122.06	4.4902E-02
CO-58	103.	810.78	1.5345E-02
FE-59	69.	1099.25	2.8616E-02
CO-60	61.	1332.50	1.7421E-02
ZN-65	76.	1115.55	3.3855E-02
SE-75	10525.	264.66	1.0374E-01
KR-85	6588.	514.00	1.9351E+01
SR-85	6587.	514.01	8.7491E-02
Y-88	18.	1836.06	1.2429E-02
Y-90	22.	1760.70	4.6473E-02
Y-91	67.	1204.67	5.7059E+00
NB-94	106.	871.09	1.6754E-02
NB-95	138.	765.78	1.6715E-02
ZR-95	135.	756.73	2.9851E-02
RU-103	7751.	497.08	9.7202E-02
RURH-106	2426.	621.93	1.1541E+00
AG-108m	144.	722.94	1.7626E-02
CD-109	7980.	88.03	1.3571E+00
AG-110M	4126.	657.76	8.2057E-02
SN-113	11335.	391.69	1.3188E-01
TE-123m	9516.	159.00	4.7274E-02
SB-124	2386.	602.73	5.7030E-02
SB-125	12993.	427.89	3.3390E-01
TE-125m	8475.	109.27	1.4073E+01
I-131	10537.	364.48	9.4918E-02
XE-131m	9540.	163.93	2.0569E+00
BA-133	10336.	356.02	1.2074E-01
CS-134	2366.	604.70	5.6997E-02
CS-136	99.	818.51	1.5182E-02
CS-138	30.	1435.86	2.8145E-02
CE-139	9715.	165.85	5.1164E-02
BA-140	4598.	537.31	2.9771E-01
LA-140	21.	1596.21	1.2548E-02
CE-141	9406.	145.44	8.0002E-02
CE-144	9428.	133.51	3.4744E-01
CEPR-144	9428.	133.51	6.9426E-01
EU-152	47.	1408.01	7.6664E-02
EU-154	60.	1274.51	4.8778E-02
EU-155	8093.	86.54	1.5454E-01
HF-181	10319.	482.18	1.2309E-01
TA-182	7728.	67.75	2.1098E-01
HG-203	10195.	279.20	7.6130E-02
BI-207	2749.	569.70	5.9409E-02

Sample ID : S94T347-SAMPLE Acquisition date : 31-DEC-1994 14:12:14

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	10362.	277.36	9.8598E-01
PB-210	7587.	46.50	0.0000E+00
BI-212	162.	727.18	2.5701E-01
PB-212	11474.	238.63	1.3471E-01
BI-214	2616.	609.31	1.3113E-01
PB-214	10508.	351.92	3.7648E-01
RA-224	11228.	240.99	1.4797E+00
RA-226	13044.	186.10	1.4518E+00
AC-228	205.	911.21	9.1430E-02
TH-228	8177.	84.37	4.2009E+00
TH-229	7943.	88.47	1.9638E-01
U-232	7603.	57.78	8.4235E+01
PA-233	9863.	312.17	1.7172E-01
PA-234M	91.	1001.03	2.9439E-02
TH-234	7595.	63.29	2.4311E+00
U-235	12820.	185.71	8.7478E-02
NP-237	8109.	86.48	4.0970E-01
U-237	7694.	59.54	4.1893E-01
NP-238	81.	984.45	5.8454E-02
NP-239	8317.	106.12	1.7652E-01
PU-239	9338.	129.30	6.0125E+02
AM-241	7694.	59.54	4.0183E-01
AM-243	7993.	74.67	1.1275E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 17:01:16.11                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T347-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]4g4897.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:08.36 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 16:09:31.64
Decayed to:               31-DEC-1994 16:09:31.64
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
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: 12-31-94

1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	27.33	2632	3.11	54.67	51	9	16.5			
0	661.88*	556209	1.44	1323.67	1316	16	0.3		CS-137	170.
0	1592.84	82	8.93	3185.76	3172	31	22.1			

Sample ID : S94T347-DUP
Acquisition date : 31-DEC-1994 16:09:31
WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	3	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	1	33.33%

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	1.705E+02	1.705E+02	0.005E+02	0.27	
		Total Activity :	1.705E+02	1.705E+02			
		Grand Total Activity :	1.705E+02	1.705E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T347-DUP Acquisition date : 31-DEC-1994 16:09:31

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	15977.	477.59	1.1798E+00
NA-22	58.	1274.53	1.6509E-02
NA-24	35.	1368.55	1.3676E-02
K-40	862.	1460.75	6.6418E-01
SC-46	138.	1120.55	2.3286E-02
CR-51	12032.	320.08	7.4078E-01
MN-54	122.	834.83	1.7149E-02
CO-56	116.	846.76	1.7026E-02
CO-57	10962.	122.06	4.9436E-02
CO-58	152.	810.78	1.8688E-02
FE-59	80.	1099.25	3.0946E-02
CO-60	67.	1332.50	1.8259E-02
ZN-65	83.	1115.55	3.5494E-02
SE-75	12727.	264.66	1.1408E-01
KR-85	7846.	514.00	2.1117E+01
SR-85	7844.	514.01	9.5477E-02
Y-88	12.	1836.06	1.0304E-02
Y-90	18.	1760.70	4.2371E-02
Y-91	79.	1204.67	6.2039E+00
NB-94	98.	871.09	1.6170E-02
NB-95	140.	765.78	1.6799E-02
ZR-95	160.	756.73	3.2508E-02
RU-103	9534.	497.08	1.0780E-01
RURH-106	2946.	621.93	1.2717E+00
AG-108m	160.	722.94	1.8567E-02
CD-109	9731.	88.03	1.4986E+00
AG-110M	5181.	657.76	9.1947E-02
SN-113	13537.	391.69	1.4412E-01
TE-123m	11534.	159.00	5.2045E-02
SB-124	2961.	602.73	6.3539E-02
SB-125	15977.	427.89	3.7027E-01
TE-125m	10163.	109.27	1.5410E+01
I-129	9412.	39.60	0.0000E+00
I-131	12585.	364.48	1.0373E-01
XE-131m	11555.	163.93	2.2639E+00
BA-133	12382.	356.02	1.3215E-01
CS-134	2954.	604.70	6.3691E-02
CS-136	124.	818.51	1.6998E-02
CS-138	32.	1435.86	2.9131E-02
CE-139	11547.	165.85	5.5779E-02
BA-140	5430.	537.31	3.2350E-01
LA-140	31.	1596.21	1.5308E-02
CE-141	11327.	145.44	8.7792E-02
CE-144	11344.	133.51	3.8113E-01
CEPR-144	11343.	133.51	7.6152E-01
EU-152	33.	1408.01	6.4868E-02
EU-154	58.	1274.51	4.7963E-02
EU-155	9574.	86.54	1.6809E-01
HF-181	12626.	482.18	1.3616E-01
TA-182	9278.	67.75	2.3118E-01
HG-203	12439.	279.20	8.4095E-02

Sample ID : S94T347-DUP Acquisition date : 31-DEC-1994 16:09:31

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	3277.	569.70	6.4862E-02
TL-208	12393.	277.36	1.0783E+00
PB-210	9279.	46.50	0.0000E+00
BI-212	194.	727.18	2.8135E-01
PB-212	13825.	238.63	1.4787E-01
BI-214	3086.	609.31	1.4242E-01
PB-214	12702.	351.92	4.1477E-01
RA-224	13693.	240.99	1.6341E+00
RA-226	15954.	186.10	1.6056E+00
AC-228	210.	911.21	9.2526E-02
TH-228	9795.	84.37	4.5979E+00
TH-229	9846.	88.47	2.1864E-01
U-232	9167.	57.78	9.2489E+01
PA-233	12259.	312.17	1.9145E-01
PA-234M	105.	1001.03	3.1639E-02
TH-234	9203.	63.29	2.6761E+00
U-235	15684.	185.71	9.6756E-02
NP-237	9586.	86.48	4.4545E-01
U-237	9313.	59.54	4.6089E-01
NP-238	84.	984.45	5.9562E-02
NP-239	9939.	106.12	1.9297E-01
PU-239	11232.	129.30	6.5939E+02
AM-241	9313.	59.54	4.4207E-01
AM-243	9819.	74.67	1.2497E-01

By/04

LABCORE Data Entry Template for Worklist# 341

Analyst: KGH **Instrument:** GEA00 3 **Method:** LA-548-121 D-1

Worklist Comment: Use 1 mL sample size. -PPB

WHC-SD-WM-DP-103, REV. 1

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	64B52			@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	S94T000349	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000349	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000349	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000349	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
5	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
5	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
6	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
7	SAMPLE	S94T000350	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
7	SAMPLE	S94T000350	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
8	DUP	S94T000350	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
8	DUP	S94T000350	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 341

Analyst Signature

Date 12-30-94

1/3/95

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-103, REV. 1

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		20.7200	2.07E-02	4.22			0.00E+00		1.04E-02	200.0
Work List	Cs137		26.3800	2.64E-02	4.69			0.00E+00		1.32E-02	200.0
341				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			
WORKLIST#341				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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
07:10 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.86 < 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	CS137	<	0.0395	2.13E-02				ERR		ERR	NA
Work List				0.00E+00				ERR		ERR	ERR
341				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			
S94T349				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			
KGH				0.00E+00				ERR			
Date											
12/30/94											
Time											
07:10 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.86 < Enter SAMPLE g/L 1.89 < 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	CS137		413.7000	2.22E+02	0.34		414.2000	2.19E+02	0.34	2.19E+02	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
341				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			
S94T349				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 + 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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
07:10 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2/2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

2.018 < 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	CS137	<	0.0413	2.05E-02				ERR		ERR	NA
Work List				0.00E+00				ERR		ERR	ERR
341				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			
S94T350				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			
KGH				0.00E+00				ERR			
Date											
12/30/94											
Time											
07:10 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

2.018 < Enter SAMPLE g/L 2.034 < 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	CS137		123.6000	6.12E+01	0.62		114.3000	5.62E+01	0.64	5.62E+01	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
341				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			
S94T350				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			
KGH				0.00E+00				0.00E+00			
Date				0.00E+00				0.00E+00			
12/30/94											
Time											
07:10 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

1751

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-DEC-1994 21:17:06.16                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                STD-WORKLIST#341
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3998.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:        30-DEC-1994 20:26:30.64
Decayed to:               30-DEC-1994 20:26:30.64
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: 12/30/94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	197.35	59	1.30	395.11	391	8	85.9			
0	661.64*	2334	1.60	1323.45	1316	16	4.7		CS-137	26.4
0	1173.23	1336	1.82	2346.72	2337	19	6.0		CO-60	21.1
0	1243.24	33	9.79	2486.80	2472	28	107.0			
0	1332.50	1166	2.04	2665.37	2656	18	5.9		CO-60	20.4

Sample ID : STD-WORKLIST#341 Acquisition date : 30-DEC-1994 20:26:30

WHC-SD-WM-DP-103, REV. 1

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	2.072E+01	2.072E+01	0.087E+01	4.22	
CS-137	30.00Y	1.000	2.638E+01	2.638E+01	0.124E+01	4.69	
		Total Activity :	4.710E+01	4.711E+01			
		Grand Total Activity :	4.710E+01	4.711E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : STD-WORKLIST#341 Acquisition date : 30-DEC-1994 20:26:30

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	148.	477.59	4.0141E+00
NA-22	25.	1274.53	3.9540E-01
NA-24	8.	1368.55	2.4643E-01
K-40	144.	1460.75	9.8200E+00
SC-46	59.	1120.55	5.4019E-01
CR-51	158.	320.08	3.1197E+00
MN-54	86.	834.83	5.0595E-01
CO-56	85.	846.76	5.0944E-01
CO-57	183.	122.06	2.3422E-01
CO-58	74.	810.78	4.6039E-01
FE-59	83.	1099.25	1.1197E+00
ZN-65	61.	1115.55	1.0844E+00
SE-75	170.	264.66	4.8359E-01
KR-85	124.	514.00	9.2764E+01
SR-85	124.	514.01	4.1926E-01
Y-88	1.	1836.06	1.0372E-01
Y-90	9.	1760.70	1.0400E+00
Y-91	24.	1204.67	1.2258E+02
NB-94	66.	871.09	4.6249E-01
NB-95	71.	765.78	4.2922E-01
ZR-95	61.	756.73	7.1792E-01
RU-103	88.	497.08	3.6206E-01
RURH-106	85.	621.93	7.9020E+00
AG-108m	65.	722.94	4.2792E-01
CD-109	181.	88.03	7.7044E+00
AG-110M	94.	657.76	4.5656E-01
SN-113	119.	391.69	4.9542E-01
TE-123m	191.	159.00	2.4624E-01
SB-124	82.	602.73	3.8413E-01
SB-125	141.	427.89	1.2622E+00
TE-125m	175.	109.27	7.4465E+01
I-129	152.	39.60	0.0000E+00
I-131	120.	364.48	3.7241E-01
XE-131m	177.	163.93	1.0295E+01
BA-133	131.	356.02	4.9911E-01
CS-134	86.	604.70	3.9359E-01
CS-136	89.	818.51	5.0783E-01
CS-138	8.	1435.86	5.0826E-01
CE-139	147.	165.85	2.3165E-01
BA-140	80.	537.31	1.3731E+00
LA-140	8.	1596.21	2.8309E-01
CE-141	183.	145.44	4.0929E-01
CE-144	168.	133.51	1.6960E+00
CEPR-144	168.	133.51	3.3894E+00
EU-152	7.	1408.01	1.0695E+00
EU-154	25.	1274.51	1.1506E+00
EU-155	184.	86.54	8.8040E-01
HF-181	118.	482.18	4.6441E-01
TA-182	143.	67.75	1.1664E+00
HG-203	204.	279.20	3.9535E-01
BI-207	91.	569.70	3.8550E-01

Sample ID : STD-WORKLIST#341 Acquisition date : 30-DEC-1994 20:26:30

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	203.	277.36	5.0660E+00
PB-210	138.	46.50	0.0000E+00
BI-212	66.	727.18	5.9510E+00
PB-212	224.	238.63	6.9137E-01
BI-214	100.	609.31	9.3238E-01
PB-214	170.	351.92	1.7451E+00
RA-224	219.	240.99	7.5869E+00
RA-226	230.	186.10	7.1056E+00
AC-228	112.	911.21	2.3443E+00
TH-228	183.	84.37	2.3875E+01
TH-229	169.	88.47	1.0803E+00
U-232	147.	57.78	5.6765E+02
PA-233	171.	312.17	8.3068E-01
PA-234M	86.	1001.03	1.0052E+00
TH-234	142.	63.29	1.4183E+01
U-235	232.	185.71	4.3355E-01
NP-237	185.	86.48	2.3384E+00
U-237	126.	59.54	2.4508E+00
NP-238	86.	984.45	2.1099E+00
NP-239	175.	106.12	9.4550E-01
PU-239	189.	129.30	3.1348E+03
AM-241	126.	59.54	2.3509E+00
AM-243	167.	74.67	6.3772E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-DEC-1994 22:39:57.72                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T349-BLANK
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3999.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:        30-DEC-1994 21:49:18.80
Decayed to:               30-DEC-1994 21:49:18.80
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: 12/30/94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	1460.82*	19	1.49	2922.13	2914	16134.0			K-40	0.328

Summary of Nuclide Activity
Sample ID : S94T349-BLANK

Acquisition date : 30-DEC-1994 21:49:18

WHC-SD-WM-DP-103, REV. 1

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~~	~~3.282E-01~~	~~3.282E-01~~	~~4.397E-01~~	~~133.99~~	BKG 1/3/95
Total Activity :			3.282E-01	3.282E-01			
Grand Total Activity :			3.282E-01	3.282E-01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T349-BLANK Acquisition date : 30-DEC-1994 21:49:18

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	31.	477.59	1.8251E-01
NA-22	11.	1274.53	2.6235E-02
NA-24	5.	1368.55	1.8586E-02
SC-46	28.	1120.55	3.7014E-02
CR-51	50.	320.08	1.7545E-01
MN-54	23.	834.83	2.6504E-02
CO-56	19.	846.76	2.4187E-02
CO-57	74.	122.06	1.4910E-02
CO-58	17.	810.78	2.2324E-02
FE-59	9.	1099.25	3.6545E-02
CO-60	8.	1332.50	2.2510E-02
ZN-65	4.	1115.55	2.7298E-02
SE-75	66.	264.66	3.0063E-02
KR-85	53.	514.00	6.0687E+00
SR-85	53.	514.01	2.7381E-02
Y-88	1.	1836.06	1.0492E-02
Y-90	4.	1760.70	7.1038E-02
Y-91	11.	1204.67	8.4468E+00
NB-94	18.	871.09	2.4229E-02
NB-95	22.	765.78	2.3780E-02
ZR-95	18.	756.73	3.9134E-02
RU-103	29.	497.08	2.0727E-02
RURH-106	26.	621.93	4.3632E-01
AG-108m	19.	722.94	2.2975E-02
CD-109	72.	88.03	4.8470E-01
AG-110M	19.	657.76	2.0687E-02
SN-113	51.	391.69	3.2580E-02
TE-123m	66.	159.00	1.4435E-02
SB-124	32.	602.73	2.4043E-02
SB-125	28.	427.89	5.6467E-02
TE-125m	63.	109.27	4.4839E+00
I-129	57.	39.60	0.0000E+00
I-131	39.	364.48	2.1139E-02
XE-131m	72.	163.93	6.5624E-01
BA-133	47.	356.02	3.0019E-02
CS-134	23.	604.70	2.0250E-02
CS-136	22.	818.51	2.5246E-02
CS-137	57.	661.66	3.9549E-02
CS-138	9.	1435.86	5.4775E-02
CE-139	81.	165.85	1.7186E-02
BA-140	15.	537.31	5.9240E-02
LA-140	11.	1596.21	3.2074E-02
CE-141	75.	145.44	2.6167E-02
CE-144	84.	133.51	1.2034E-01
CEPR-144	84.	133.51	2.4055E-01
EU-152	9.	1408.01	1.2201E-01
EU-154	11.	1274.51	7.5947E-02
EU-155	71.	86.54	5.4640E-02
HF-181	39.	482.18	2.6622E-02
TA-182	55.	67.75	7.2468E-02
HG-203	54.	279.20	2.0400E-02

Sample ID : S94T349-BLANK Acquisition date : 30-DEC-1994 21:49:18

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	23.	569.70	1.9426E-02
TL-208	57.	277.36	2.6874E-01
PB-210	43.	46.50	0.0000E+00
BI-212	24.	727.18	3.5939E-01
PB-212	71.	238.63	3.8922E-02
BI-214	52.	609.31	6.7197E-02
PB-214	70.	351.92	1.1147E-01
RA-224	82.	240.99	4.6554E-01
RA-226	75.	186.10	4.0589E-01
AC-228	36.	911.21	1.3314E-01
TH-228	63.	84.37	1.4006E+00
TH-229	72.	88.47	7.0361E-02
U-232	48.	57.78	3.2587E+01
PA-233	45.	312.17	4.2356E-02
PA-234M	16.	1001.03	4.3384E-02
TH-234	77.	63.29	1.0442E+00
U-235	71.	185.71	2.3930E-02
NP-237	71.	86.48	1.4514E-01
U-237	57.	59.54	1.6518E-01
NP-238	11.	984.45	7.3938E-02
NP-239	59.	106.12	5.5103E-02
PU-239	73.	129.30	1.9437E+02
AM-241	57.	59.54	1.5844E-01
AM-243	66.	74.67	4.0158E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-DEC-1994 23:35:12.95                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T349-SAMPLE
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3000.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:44.31 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        30-DEC-1994 22:43:40.17
Decayed to:               30-DEC-1994 22:43:40.17
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: Em Barela

date: 12-31-94

B Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.59*	366044	1.54	1323.36	1315	17	0.3		CS-137	414.
0	1460.52*	26	1.97	2921.52	2913	18	103.8		K-40	0.465

Summary of Nuclide Activity
Sample ID : S94T349-SAMPLE

Acquisition date : 30-DEC-1994 22:43:40

WHC-SD-WM-DP-103, REV. 1

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~~	~~4.654E-01~~	~~4.654E-01~~	~~4.830E-01~~	~~103.77~~	BKG 1/5/95
CS-137	30.00Y	1.000	4.137E+02	4.137E+02	0.014E+02	0.34	
		Total Activity :	4.142E+02	4.142E+02			
		Grand Total Activity :	4.142E+02	4.142E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T349-SAMPLE Acquisition date : 30-DEC-1994 22:43:40

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	10857.	477.59	3.4327E+00
NA-22	27.	1274.53	4.1044E-02
NA-24	8.	1368.55	2.4638E-02
SC-46	36.	1120.55	4.2545E-02
CR-51	8599.	320.08	2.2990E+00
MN-54	105.	834.83	5.6144E-02
CO-56	78.	846.76	4.8912E-02
CO-57	9131.	122.06	1.6537E-01
CO-58	92.	810.78	5.1456E-02
FE-59	36.	1099.25	7.3544E-02
CO-60	12.	1332.50	2.7654E-02
ZN-65	34.	1115.55	8.0918E-02
SE-75	9540.	264.66	3.6277E-01
KR-85	5501.	514.00	6.1783E+01
SR-85	5500.	514.01	2.7934E-01
Y-88	5.	1836.06	2.3407E-02
Y-90	4.	1760.70	7.1521E-02
Y-91	24.	1204.67	1.2290E+01
NB-94	61.	871.09	4.4308E-02
NB-95	108.	765.78	5.2854E-02
ZR-95	118.	756.73	1.0025E-01
RU-103	6792.	497.08	3.1880E-01
RURH-106	1869.	621.93	3.7042E+00
AG-108m	120.	722.94	5.8305E-02
CD-109	7832.	88.03	5.0717E+00
AG-110M	6746.	657.76	3.8691E-01
SN-113	9431.	391.69	4.4151E-01
TE-123m	9431.	159.00	1.7290E-01
SB-124	1912.	602.73	1.8507E-01
SB-125	11005.	427.89	1.1134E+00
TE-125m	8469.	109.27	5.1852E+01
I-129	7236.	39.60	0.0000E+00
I-131	8790.	364.48	3.1871E-01
XE-131m	9263.	163.93	7.4531E+00
BA-133	8727.	356.02	4.0773E-01
CS-134	1900.	604.70	1.8534E-01
CS-136	85.	818.51	4.9656E-02
CS-138	13.	1435.86	6.6593E-02
CE-139	9308.	165.85	1.8421E-01
BA-140	3807.	537.31	9.4979E-01
LA-140	6.	1596.21	2.4173E-02
CE-141	9474.	145.44	2.9423E-01
CE-144	9437.	133.51	1.2725E+00
CEPR-144	9437.	133.51	2.5427E+00
EU-152	5.	1408.01	9.0944E-02
EU-154	27.	1274.51	1.1890E-01
EU-155	7794.	86.54	5.7367E-01
HF-181	8571.	482.18	3.9515E-01
TA-182	7388.	67.75	8.3897E-01
HG-203	9209.	279.20	2.6578E-01
BI-207	2331.	569.70	1.9464E-01

Sample ID : S94T349-SAMPLE Acquisition date : 30-DEC-1994 22:43:40

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	9333.	277.36	3.4373E+00
PB-210	7132.	46.50	0.0000E+00
BI-212	136.	727.18	8.5266E-01
PB-212	10864.	238.63	4.8146E-01
BI-214	2007.	609.31	4.1765E-01
PB-214	8804.	351.92	1.2636E+00
RA-224	10634.	240.99	5.2889E+00
RA-226	12343.	186.10	5.2019E+00
AC-228	86.	911.21	2.0493E-01
TH-228	7738.	84.37	1.5525E+01
TH-229	7845.	88.47	7.3566E-01
U-232	6985.	57.78	3.9121E+02
PA-233	8561.	312.17	5.8738E-01
PA-234M	51.	1001.03	7.7417E-02
TH-234	7162.	63.29	1.0060E+01
U-235	12253.	185.71	3.1501E-01
NP-237	7792.	86.48	1.5193E+00
U-237	7173.	59.54	1.8523E+00
NP-238	54.	984.45	1.6674E-01
NP-239	8190.	106.12	6.4705E-01
PU-239	9185.	129.30	2.1831E+03
AM-241	7173.	59.54	1.7766E+00
AM-243	7467.	74.67	4.2606E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 01:02:08.54                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T349-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3001.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:44.30 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 00:10:48.21
Decayed to:               31-DEC-1994 00:10:48.21
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: Em Barela

date: 12-31-94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.58*	366456	1.53	1323.34	1315	17	0.3		CS-137	414.

Sample ID : S94T349-DUP
Acquisition date : 31-DEC-1994 00:10:48

Total number of lines in spectrum	1	WHC-SD-WM-DP-103, REV. 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	4.142E+02	4.142E+02	0.014E+02	0.34	
		Total Activity :	4.142E+02	4.142E+02			
		Grand Total Activity :	4.142E+02	4.142E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T349-DUP Acquisition date : 31-DEC-1994 00:10:48

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	11012.	477.59	3.4572E+00
NA-22	23.	1274.53	3.7937E-02
NA-24	6.	1368.55	2.0122E-02
K-40	129.	1460.75	9.2945E-01
SC-46	42.	1120.55	4.5894E-02
CR-51	8508.	320.08	2.2868E+00
MN-54	88.	834.83	5.1279E-02
CO-56	83.	846.76	5.0337E-02
CO-57	8976.	122.06	1.6396E-01
CO-58	96.	810.78	5.2604E-02
FE-59	39.	1099.25	7.6292E-02
CO-60	15.	1332.50	3.1301E-02
ZN-65	30.	1115.55	7.5439E-02
SE-75	9511.	264.66	3.6222E-01
KR-85	5467.	514.00	6.1593E+01
SR-85	5467.	514.01	2.7850E-01
Y-88	2.	1836.06	1.4181E-02
Y-90	6.	1760.70	8.7400E-02
Y-91	25.	1204.67	1.2399E+01
NB-94	78.	871.09	5.0072E-02
NB-95	107.	765.78	5.2679E-02
ZR-95	105.	756.73	9.4329E-02
RU-103	6744.	497.08	3.1767E-01
RURH-106	1802.	621.93	3.6379E+00
AG-108m	130.	722.94	6.0707E-02
CD-109	7732.	88.03	5.0392E+00
AG-110M	6971.	657.76	3.9331E-01
SN-113	9434.	391.69	4.4157E-01
TE-123m	9270.	159.00	1.7142E-01
SB-124	2006.	602.73	1.8954E-01
SB-125	10976.	427.89	1.1119E+00
TE-125m	8165.	109.27	5.0914E+01
I-129	7432.	39.60	0.0000E+00
I-131	8928.	364.48	3.2120E-01
XE-131m	9320.	163.93	7.4759E+00
BA-133	8859.	356.02	4.1079E-01
CS-134	2000.	604.70	1.9014E-01
CS-136	98.	818.51	5.3531E-02
CS-138	8.	1435.86	5.3113E-02
CE-139	9270.	165.85	1.8383E-01
BA-140	3918.	537.31	9.6347E-01
LA-140	8.	1596.21	2.7913E-02
CE-141	9412.	145.44	2.9328E-01
CE-144	9171.	133.51	1.2545E+00
CEPR-144	9171.	133.51	2.5066E+00
EU-152	9.	1408.01	1.2201E-01
EU-154	23.	1274.51	1.1012E-01
EU-155	7692.	86.54	5.6991E-01
HF-181	8873.	482.18	4.0205E-01
TA-182	7213.	67.75	8.2896E-01
HG-203	9255.	279.20	2.6645E-01

Sample ID : S94T349-DUP Acquisition date : 31-DEC-1994 00:10:48

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	2345.	569.70	1.9524E-01
TL-208	9248.	277.36	3.4217E+00
PB-210	6977.	46.50	0.0000E+00
BI-212	126.	727.18	8.2048E-01
PB-212	10638.	238.63	4.7643E-01
BI-214	1936.	609.31	4.1028E-01
PB-214	8625.	351.92	1.2507E+00
RA-224	10570.	240.99	5.2729E+00
RA-226	12412.	186.10	5.2165E+00
AC-228	87.	911.21	2.0654E-01
TH-228	7786.	84.37	1.5573E+01
TH-229	7642.	88.47	7.2610E-01
U-232	7142.	57.78	3.9560E+02
PA-233	8512.	312.17	5.8569E-01
PA-234M	40.	1001.03	6.8897E-02
TH-234	7271.	63.29	1.0136E+01
U-235	12367.	185.71	3.1647E-01
NP-237	7694.	86.48	1.5097E+00
U-237	7206.	59.54	1.8565E+00
NP-238	51.	984.45	1.6312E-01
NP-239	8088.	106.12	6.4302E-01
PU-239	9129.	129.30	2.1765E+03
AM-241	7206.	59.54	1.7807E+00
AM-243	7400.	74.67	4.2413E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 02:05:46.09                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T350-BLANK
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3002.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.42 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 01:15:07.75
Decayed to:               31-DEC-1994 01:15:07.75
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: Em Bueler

date: 12-31-94

Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	1460.69*	15	1.76	2921.87	2912	20182.4			K-40	0.260

Summary of Nuclide Activity
Sample ID : S94T350-BLANK

Acquisition date : 31-DEC-1994 01:15:07

Total number of lines in spectrum 1 WHC-SD-WM-DP-103, REV. 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~~	~~2.604E-01~~	~~2.604E-01~~	4.749E-01	182.36	BKGD 3/13/95
Total Activity :			2.604E-01	2.604E-01			
Grand Total Activity :			2.604E-01	2.604E-01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T350-BLANK
Acquisition date : 31-DEC-1994 01:15:07

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	28.	477.59	1.7395E-01
NA-22	11.	1274.53	2.6204E-02
NA-24	3.	1368.55	1.4667E-02
SC-46	19.	1120.55	3.0661E-02
CR-51	49.	320.08	1.7321E-01
MN-54	20.	834.83	2.4452E-02
CO-56	16.	846.76	2.2150E-02
CO-57	80.	122.06	1.5515E-02
CO-58	12.	810.78	1.8720E-02
FE-59	12.	1099.25	4.2269E-02
CO-60	8.	1332.50	2.2357E-02
ZN-65	16.	1115.55	5.5572E-02
SE-75	45.	264.66	2.4833E-02
KR-85	50.	514.00	5.8968E+00
SR-85	50.	514.01	2.6612E-02
Y-88	3.	1836.06	1.8173E-02
Y-90	1.	1760.70	4.0025E-02
Y-91	11.	1204.67	8.4553E+00
NB-94	24.	871.09	2.7680E-02
NB-95	22.	765.78	2.3935E-02
ZR-95	17.	756.73	3.8340E-02
RU-103	29.	497.08	2.0706E-02
RURH-106	27.	621.93	4.4256E-01
AG-108m	16.	722.94	2.1526E-02
CD-109	67.	88.03	4.6745E-01
AG-110M	20.	657.76	2.1220E-02
SN-113	39.	391.69	2.8551E-02
TE-123m	71.	159.00	1.4993E-02
SB-124	27.	602.73	2.2065E-02
SB-125	28.	427.89	5.6394E-02
TE-125m	57.	109.27	4.2436E+00
I-129	41.	39.60	0.0000E+00
I-131	33.	364.48	1.9611E-02
XE-131m	69.	163.93	6.4329E-01
BA-133	39.	356.02	2.7161E-02
CS-134	33.	604.70	2.4468E-02
CS-136	10.	818.51	1.7062E-02
CS-137	62.	661.66	4.1321E-02
CS-138	10.	1435.86	5.7122E-02
CE-139	92.	165.85	1.8274E-02
BA-140	29.	537.31	8.2958E-02
LA-140	4.	1596.21	1.9735E-02
CE-141	74.	145.44	2.6003E-02
CE-144	78.	133.51	1.1563E-01
CEPR-144	78.	133.51	2.3104E-01
EU-152	9.	1408.01	1.2201E-01
EU-154	11.	1274.51	7.5718E-02
EU-155	71.	86.54	5.4618E-02
HF-181	23.	482.18	2.0359E-02
TA-182	71.	67.75	8.1984E-02
HG-203	50.	279.20	1.9493E-02

Sample ID : S94T350-BLANK Acquisition date : 31-DEC-1994 01:15:07

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	29.	569.70	2.1525E-02
TL-208	54.	277.36	2.6057E-01
PB-210	60.	46.50	0.0000E+00
BI-212	10.	727.18	2.2862E-01
PB-212	83.	238.63	4.1963E-02
BI-214	56.	609.31	7.0070E-02
PB-214	82.	351.92	1.2071E-01
RA-224	61.	240.99	3.9899E-01
RA-226	89.	186.10	4.4092E-01
AC-228	27.	911.21	1.1573E-01
TH-228	68.	84.37	1.4556E+00
TH-229	65.	88.47	6.6952E-02
U-232	54.	57.78	3.4487E+01
PA-233	49.	312.17	4.4649E-02
PA-234M	15.	1001.03	4.1290E-02
TH-234	48.	63.29	8.2531E-01
U-235	93.	185.71	2.7402E-02
NP-237	72.	86.48	1.4569E-01
U-237	51.	59.54	1.5619E-01
NP-238	12.	984.45	7.7979E-02
NP-239	78.	106.12	6.3289E-02
PU-239	72.	129.30	1.9358E+02
AM-241	51.	59.54	1.4982E-01
AM-243	63.	74.67	3.9108E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 03:01:38.82                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T350-SAMPLE
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3003.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:13.36 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 02:10:48.41
Decayed to:               31-DEC-1994 02:10:48.41
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: 12-31-94

[signature] 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.58*	109360	1.53	1323.34	1315	17	0.6		CS-137	124.

WHC-SD-WM-DP-103, REV. 1

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	1.236E+02	1.236E+02	0.008E+02	0.62	
		Total Activity :	1.236E+02	1.236E+02			
		Grand Total Activity :	1.236E+02	1.236E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T350-SAMPLE
Acquisition date : 31-DEC-1994 02:10:48

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	3377.	477.59	1.9145E+00
NA-22	9.	1274.53	2.3286E-02
NA-24	11.	1368.55	2.7628E-02
K-40	122.	1460.75	9.0557E-01
SC-46	25.	1120.55	3.5359E-02
CR-51	2661.	320.08	1.2789E+00
MN-54	18.	834.83	2.3027E-02
CO-56	24.	846.76	2.7003E-02
CO-57	2761.	122.06	9.0930E-02
CO-58	26.	810.78	2.7538E-02
FE-59	17.	1099.25	5.0997E-02
CO-60	6.	1332.50	2.0259E-02
ZN-65	13.	1115.55	4.9106E-02
SE-75	2936.	264.66	2.0126E-01
KR-85	1609.	514.00	3.3410E+01
SR-85	1608.	514.01	1.5104E-01
Y-88	3.	1836.06	1.8173E-02
Y-90	5.	1760.70	7.9425E-02
Y-91	15.	1204.67	9.7313E+00
NB-94	11.	871.09	1.9094E-02
NB-95	35.	765.78	3.0272E-02
ZR-95	31.	756.73	5.1376E-02
RU-103	2043.	497.08	1.7487E-01
RURH-106	562.	621.93	2.0318E+00
AG-108m	33.	722.94	3.0361E-02
CD-109	2308.	88.03	2.7529E+00
AG-110M	2069.	657.76	2.1428E-01
SN-113	2823.	391.69	2.4154E-01
TE-123m	2839.	159.00	9.4861E-02
SB-124	592.	602.73	1.0300E-01
SB-125	3332.	427.89	6.1259E-01
TE-125m	2502.	109.27	2.8186E+01
I-129	2196.	39.60	0.0000E+00
I-131	2574.	364.48	1.7245E-01
XE-131m	2900.	163.93	4.1703E+00
BA-133	2729.	356.02	2.2799E-01
CS-134	583.	604.70	1.0269E-01
CS-136	19.	818.51	2.3745E-02
CS-138	6.	1435.86	4.6801E-02
CE-139	2853.	165.85	1.0199E-01
BA-140	1103.	537.31	5.1118E-01
LA-140	3.	1596.21	1.5804E-02
CE-141	2753.	145.44	1.5861E-01
CE-144	2884.	133.51	7.0354E-01
CEPR-144	2884.	133.51	1.4058E+00
EU-152	6.	1408.01	9.8913E-02
EU-154	9.	1274.51	6.7806E-02
EU-155	2384.	86.54	3.1729E-01
HF-181	2709.	482.18	2.2215E-01
TA-182	2271.	67.75	4.6518E-01
HG-203	2684.	279.20	1.4350E-01

Sample ID : S94T350-SAMPLE Acquisition date : 31-DEC-1994 02:10:48

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	721.	569.70	1.0827E-01
TL-208	2717.	277.36	1.8546E+00
PB-210	2152.	46.50	0.0000E+00
BI-212	29.	727.18	3.9267E-01
PB-212	3190.	238.63	2.6092E-01
BI-214	641.	609.31	2.3602E-01
PB-214	2620.	351.92	6.8571E-01
RA-224	3153.	240.99	2.8800E+00
RA-226	3710.	186.10	2.8521E+00
AC-228	37.	911.21	1.3516E-01
TH-228	2331.	84.37	8.5204E+00
TH-229	2263.	88.47	3.9512E-01
U-232	2145.	57.78	2.1679E+02
PA-233	2489.	312.17	3.1672E-01
PA-234M	11.	1001.03	3.5231E-02
TH-234	2188.	63.29	5.5602E+00
U-235	3655.	185.71	1.7204E-01
NP-237	2389.	86.48	8.4124E-01
U-237	2095.	59.54	1.0011E+00
NP-238	19.	984.45	9.9478E-02
NP-239	2480.	106.12	3.5605E-01
PU-239	2731.	129.30	1.1904E+03
AM-241	2095.	59.54	9.6027E-01
AM-243	2242.	74.67	2.3346E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 06:20:21.26                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S946350-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3006.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:12.40 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 05:29:28.44
Decayed to:               31-DEC-1994 05:29:28.44
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: Em Barela

date: 12-31-94

1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.60*	101086	1.55	1323.38	1315	17	0.6		CS-137	114.
0	1764.18*	4	1.38	3529.21	3524	12	202.9			

Sample ID : S946350-DUP
Acquisition date : 31-DEC-1994 05:29:28

WHC-SD-WM-DP-103, REV. 1

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	1.143E+02	1.143E+02	0.007E+02	0.64	
		Total Activity :	1.143E+02	1.143E+02			
		Grand Total Activity :	1.143E+02	1.143E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S946350-DUP

Acquisition date : 31-DEC-1994 05:29:28

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	2940.	477.59	1.7863E+00
NA-22	11.	1274.53	2.5538E-02
NA-24	9.	1368.55	2.5158E-02
K-40	116.	1460.75	8.8137E-01
SC-46	28.	1120.55	3.7238E-02
CR-51	2543.	320.08	1.2503E+00
MN-54	23.	834.83	2.6050E-02
CO-56	21.	846.76	2.5236E-02
CO-57	2562.	122.06	8.7596E-02
CO-58	27.	810.78	2.7638E-02
FE-59	17.	1099.25	5.0383E-02
CO-60	7.	1332.50	2.0987E-02
ZN-65	20.	1115.55	6.1311E-02
SE-75	2651.	264.66	1.9122E-01
KR-85	1539.	514.00	3.2677E+01
SR-85	1539.	514.01	1.4774E-01
Y-88	2.	1836.06	1.4753E-02
Y-90	6.	1760.70	8.5865E-02
Y-91	10.	1204.67	7.7596E+00
NB-94	27.	871.09	2.9749E-02
NB-95	29.	765.78	2.7336E-02
ZR-95	30.	756.73	5.0105E-02
RU-103	1937.	497.08	1.7024E-01
RURH-106	522.	621.93	1.9574E+00
AG-108m	38.	722.94	3.2651E-02
CD-109	2171.	88.03	2.6702E+00
AG-110M	1913.	657.76	2.0604E-01
SN-113	2569.	391.69	2.3042E-01
TE-123m	2627.	159.00	9.1252E-02
SB-124	571.	602.73	1.0112E-01
SB-125	3057.	427.89	5.8679E-01
TE-125m	2293.	109.27	2.6980E+01
I-129	2057.	39.60	0.0000E+00
I-131	2467.	364.48	1.6883E-01
XE-131m	2569.	163.93	3.9252E+00
BA-133	2458.	356.02	2.1640E-01
CS-134	529.	604.70	9.7824E-02
CS-136	16.	818.51	2.1499E-02
CS-138	9.	1435.86	5.4159E-02
CE-139	2632.	165.85	9.7956E-02
BA-140	1079.	537.31	5.0569E-01
LA-140	5.	1596.21	2.1084E-02
CE-141	2568.	145.44	1.5318E-01
CE-144	2560.	133.51	6.6275E-01
CEPR-144	2560.	133.51	1.3243E+00
EU-152	8.	1408.01	1.1504E-01
EU-154	11.	1274.51	7.4055E-02
EU-155	2115.	86.54	2.9885E-01
HF-181	2463.	482.18	2.1181E-01
TA-182	2051.	67.75	4.4210E-01
HG-203	2576.	279.20	1.4058E-01

Sample ID : S946350-DUP Acquisition date : 31-DEC-1994 05:29:28

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	721.	569.70	1.0829E-01
TL-208	2593.	277.36	1.8117E+00
PB-210	2038.	46.50	0.0000E+00
BI-212	38.	727.18	4.4738E-01
PB-212	2959.	238.63	2.5127E-01
BI-214	590.	609.31	2.2644E-01
PB-214	2493.	351.92	6.6877E-01
RA-224	3004.	240.99	2.8107E+00
RA-226	3486.	186.10	2.7644E+00
AC-228	40.	911.21	1.4032E-01
TH-228	2120.	84.37	8.1258E+00
TH-229	2151.	88.47	3.8519E-01
U-232	2017.	57.78	2.1024E+02
PA-233	2372.	312.17	3.0918E-01
PA-234M	16.	1001.03	4.3448E-02
TH-234	1992.	63.29	5.3062E+00
U-235	3437.	185.71	1.6684E-01
NP-237	2111.	86.48	7.9072E-01
U-237	1957.	59.54	9.6760E-01
NP-238	17.	984.45	9.3150E-02
NP-239	2184.	106.12	3.3415E-01
PU-239	2584.	129.30	1.1581E+03
AM-241	1957.	59.54	9.2810E-01
AM-243	2078.	74.67	2.2477E-01

By106 By106

LABCORE Data Entry Template for Worklist# 342

Analyst: KGH **Instrument:** GEA00 4 **Method:** LA-548-121 D-1

Worklist Comment: Use 1 mL sample size. -PPB

WHC-SD-WM-DP-103, REV. 1

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	64B52			@GEA-01	CO60-02	LIQUID			N/A	uCi/m
1	STD				@GEA-01	CS13702	LIQUID			N/A	uCi/m
2	BLNK-PREP				@GEA-01	CS13702	LIQUID			N/A	uCi/m
3	SAMPLE	S94T000389	0		@GEA-01	CS13702	LIQUID	N/A			uCi/m
3	SAMPLE	S94T000389	0		@GEA-01	CS13702E	LIQUID	N/A			% Ct.
4	DUP	S94T000389	0		@GEA-01	CS13702	LIQUID			N/A	uCi/m

Final page for worklist # 342

Analyst Signature

Date 10-30-94

1/3/95

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-103, REV. 1

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		21.1500	2.12E-02	2.29			0.00E+00		0.00E+00	NA
Work List	CS137		26.2000	2.62E-02	2.4			0.00E+00		1.31E-02	200.0
342				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			
WORKLIST#342				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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
06:35 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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
BLANK	CS137	<	0.0231	2.31E-05				0.00E+00		0.00E+00	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
342				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			
S94T389				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 x 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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
06:36 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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	CS137		122.0000	1.22E-01	0.32		122.4000	1.22E-01	0.32	1.22E-01	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
342				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			
S94T389				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			
KGH				0.00E+00				0.00E+00			
Date											
12/30/94											
Time											
06:35 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/03/95

Approved by: [signature] Date: 1/3/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-DEC-1994 21:15:27.26                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                STD-WORKLIST#342
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:              dka300:[spec.GEA4]4g4882.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:05.06 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        30-DEC-1994 20:24:44.19
Decayed to:               30-DEC-1994 20:24:44.19
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
*****************************************************************************
```

WHC-SD-WM-DP-103, REV. 1
Removed by:
date: 12/30/94
Bachelor 1/3/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	662.24*	8547	1.44	1324.38	1318	12	2.4		CS-137	26.2
0	1173.86*	4751	1.73	2347.67	2338	20	3.4		CO-60	21.0
0	1333.14	4437	1.83	2666.27	2657	18	3.1		CO-60	21.3

Sample ID : STD-WORKLIST#342 Acquisition date : 30-DEC-1994 20:24:44

Total number of lines in spectrum	3	WHC-SD-WM-DP-103, REV. 1
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	2.115E+01	2.115E+01	0.049E+01	2.29	
CS-137	30.00Y	1.000	2.620E+01	2.620E+01	0.063E+01	2.40	
		Total Activity :	4.735E+01	4.735E+01			
		Grand Total Activity :	4.735E+01	4.735E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : STD-WORKLIST#342 Acquisition date : 30-DEC-1994 20:24:44

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	533.	477.59	2.1548E+00
NA-22	77.	1274.53	1.8963E-01
NA-24	42.	1368.55	1.5169E-01
K-40	882.	1460.75	6.7159E+00
SC-46	285.	1120.55	3.3474E-01
CR-51	558.	320.08	1.5955E+00
MN-54	294.	834.83	2.6640E-01
CO-56	304.	846.76	2.7539E-01
CO-57	606.	122.06	1.1623E-01
CO-58	279.	810.78	2.5288E-01
FE-59	280.	1099.25	5.7874E-01
ZN-65	271.	1115.55	6.4126E-01
SE-75	638.	264.66	2.5538E-01
KR-85	527.	514.00	5.4711E+01
SR-85	526.	514.01	2.4716E-01
Y-88	16.	1836.06	1.1743E-01
Y-90	19.	1760.70	4.3696E-01
Y-91	117.	1204.67	7.5226E+01
NB-94	291.	871.09	2.7803E-01
NB-95	274.	765.78	2.3523E-01
ZR-95	247.	756.73	4.0409E-01
RU-103	443.	497.08	2.3242E-01
RURH-106	293.	621.93	4.0091E+00
AG-108m	275.	722.94	2.4357E-01
CD-109	548.	88.03	3.5561E+00
AG-110M	322.	657.76	2.2927E-01
SN-113	561.	391.69	2.9335E-01
TE-123m	657.	159.00	1.2426E-01
SB-124	313.	602.73	2.0671E-01
SB-125	587.	427.89	7.0966E-01
TE-125m	587.	109.27	3.7040E+01
I-129	489.	39.60	0.0000E+00
I-131	581.	364.48	2.2288E-01
XE-131m	646.	163.93	5.3519E+00
BA-133	520.	356.02	2.7073E-01
CS-134	303.	604.70	2.0406E-01
CS-136	274.	818.51	2.5266E-01
CS-138	40.	1435.86	3.2330E-01
CE-139	603.	165.85	1.2749E-01
BA-140	362.	537.31	8.3575E-01
LA-140	33.	1596.21	1.5656E-01
CE-141	582.	145.44	1.9906E-01
CE-144	631.	133.51	8.9917E-01
CEPR-144	632.	133.51	1.7969E+00
EU-152	43.	1408.01	7.3896E-01
EU-154	77.	1274.51	5.5122E-01
EU-155	632.	86.54	4.3203E-01
HF-181	454.	482.18	2.5813E-01
TA-182	498.	67.75	5.3581E-01
HG-203	656.	279.20	1.9318E-01
BI-207	300.	569.70	1.9620E-01

Sample ID : STD-WORKLIST#342 Acquisition date : 30-DEC-1994 20:24:44

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	664.	277.36	2.4966E+00
PB-210	508.	46.50	0.0000E+00
BI-212	303.	727.18	3.5181E+00
PB-212	881.	238.63	3.7336E-01
BI-214	491.	609.31	5.6802E-01
PB-214	735.	351.92	9.8716E-01
RA-224	792.	240.99	3.9288E+00
RA-226	760.	186.10	3.5038E+00
AC-228	463.	911.21	1.3754E+00
TH-228	592.	84.37	1.1305E+01
TH-229	542.	88.47	5.1317E-01
U-232	500.	57.78	2.1598E+02
PA-233	607.	312.17	4.2614E-01
PA-234M	277.	1001.03	5.1285E-01
TH-234	572.	63.29	6.6742E+00
U-235	765.	185.71	2.1366E-01
NP-237	634.	86.48	1.1459E+00
U-237	533.	59.54	1.1027E+00
NP-238	309.	984.45	1.1425E+00
NP-239	561.	106.12	4.5861E-01
PU-239	645.	129.30	1.5796E+03
AM-241	533.	59.54	1.0578E+00
AM-243	659.	74.67	3.2374E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-DEC-1994 22:41:08.35                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T389-BLANK
Sample Size:              1.00000E-03 LI
Dilution Factor:          0.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA4
File Number:              dka300:[spec.GEA4]4g4883.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:02.29 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        30-DEC-1994 21:50:30.99
Decayed to:               30-DEC-1994 21:50:30.99
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: MB

date: 12/30/94

BBachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	609.74*	65	1.38	1219.39	1214	13	101.3			
0	911.84*	55	1.55	1823.59	1817	16	100.5			
0	1183.64	42	1.72	2367.24	2364	8	56.1			

Sample ID : S94T389-BLANK
Acquisition date : 30-DEC-1994 21:50:30

Total number of lines in spectrum	3	WHC-SD-WM-DP-103, REV. 1
Number of unidentified lines	1	
Number of lines tentatively identified by NID	2	66.67%

**** 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 : S94T389-BLANK Acquisition date : 30-DEC-1994 21:50:30

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	167.	477.59	1.2064E-01
NA-22	46.	1274.53	1.4703E-02
NA-24	40.	1368.55	1.4759E-02
K-40	810.	1460.75	6.4366E-01
SC-46	126.	1120.55	2.2254E-02
CR-51	302.	320.08	1.1734E-01
MN-54	104.	834.83	1.5813E-02
CO-56	96.	846.76	1.5452E-02
CO-57	331.	122.06	8.5871E-03
CO-58	68.	810.78	1.2531E-02
FE-59	64.	1099.25	2.7659E-02
CO-60	48.	1332.50	1.5445E-02
ZN-65	58.	1115.55	2.9769E-02
SE-75	343.	264.66	1.8718E-02
KR-85	246.	514.00	3.7424E+00
SR-85	246.	514.01	1.6891E-02
Y-88	14.	1836.06	1.1117E-02
Y-90	22.	1760.70	4.7177E-02
Y-91	81.	1204.67	6.2733E+00
NB-94	93.	871.09	1.5750E-02
NB-95	96.	765.78	1.3915E-02
ZR-95	85.	756.73	2.3661E-02
RU-103	154.	497.08	1.3691E-02
RURH-106	123.	621.93	2.6031E-01
AG-108m	106.	722.94	1.5116E-02
CD-109	308.	88.03	2.6659E-01
AG-110M	98.	657.76	1.2642E-02
SN-113	224.	391.69	1.8521E-02
TE-123m	358.	159.00	9.1740E-03
SB-124	147.	602.73	1.4159E-02
SB-125	171.	427.89	3.8330E-02
TE-125m	314.	109.27	2.7079E+00
I-129	225.	39.60	0.0000E+00
I-131	199.	364.48	1.3047E-02
XE-131m	376.	163.93	4.0859E-01
BA-133	196.	356.02	1.6647E-02
CS-134	147.	604.70	1.4195E-02
CS-136	93.	818.51	1.4705E-02
CS-137	262.	661.66	2.3070E-02
CS-138	29.	1435.86	2.7344E-02
CE-139	373.	165.85	1.0021E-02
BA-140	155.	537.31	5.4729E-02
LA-140	26.	1596.21	1.3916E-02
CE-141	327.	145.44	1.4913E-02
CE-144	312.	133.51	6.3218E-02
CEPR-144	312.	133.51	1.2628E-01
EU-152	52.	1408.01	8.1062E-02
EU-154	46.	1274.51	4.2716E-02
EU-155	350.	86.54	3.2129E-02
HF-181	171.	482.18	1.5847E-02
TA-182	306.	67.75	4.1962E-02

Sample ID : S94T389-BLANK Acquisition date : 30-DEC-1994 21:50:30

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	285.	279.20	1.2718E-02
BI-207	123.	569.70	1.2545E-02
TL-208	302.	277.36	1.6843E-01
PB-210	272.	46.50	0.0000E+00
BI-212	126.	727.18	2.2691E-01
PB-212	447.	238.63	2.6592E-02
BI-214	353.	609.31	4.8179E-02
PB-214	396.	351.92	7.2450E-02
RA-224	385.	240.99	2.7384E-01
RA-226	413.	186.10	2.5830E-01
AC-228	207.	911.21	9.1911E-02
TH-228	374.	84.37	8.9858E-01
TH-229	300.	88.47	3.8181E-02
U-232	231.	57.78	1.4674E+01
PA-233	269.	312.17	2.8345E-02
PA-234M	73.	1001.03	2.6301E-02
TH-234	265.	63.29	4.5416E-01
U-235	410.	185.71	1.5637E-02
NP-237	352.	86.48	8.5341E-02
U-237	222.	59.54	7.1154E-02
NP-238	70.	984.45	5.4299E-02
NP-239	285.	106.12	3.2658E-02
PU-239	308.	129.30	1.0913E+02
AM-241	222.	59.54	6.8248E-02
AM-243	379.	74.67	2.4537E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   30-DEC-1994 23:36:58.97                  *
*****************************************************************************
     >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T389-SAMPLE
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]4g4884.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:49.33 sec

     >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        30-DEC-1994 22:45:30.03
Decayed to:               30-DEC-1994 22:45:30.03
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 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
10	26.56	1054	1.54	53.13	51	9	14.2	8.75E-01		
10	28.14	1007	1.72	56.28	51	9	33.4		I-129	0.000E+00
0	662.02*	398031	1.45	1323.95	1316	16	0.3		CS-137	122.
0	1765.02*	23	1.90	3530.20	3524	16	106.8			

Summary of Nuclide Activity
Sample ID : S94T389-SAMPLE

Acquisition date : 30-DEC-1994 22:45:30

WHC-SD-WM-DP-103, REV. 1

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
~~I-129~~	~~5.73E+09D~~	~~1.000~~	~~0.000E+00~~	~~0.000E+00~~	~~0.000E+00~~	~~0.00~~	BKG 1/3/95
CS-137	30.00Y	1.000	1.220E+02	1.220E+02	0.004E+02	0.32	
		Total Activity :	1.220E+02	1.220E+02			
		Grand Total Activity :	1.220E+02	1.220E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T389-SAMPLE Acquisition date : 30-DEC-1994 22:45:30

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	11334.	477.59	9.9371E-01
NA-22	50.	1274.53	1.5326E-02
NA-24	50.	1368.55	1.6509E-02
K-40	839.	1460.75	6.5512E-01
SC-46	141.	1120.55	2.3517E-02
CR-51	8708.	320.08	6.3018E-01
MN-54	87.	834.83	1.4526E-02
CO-56	109.	846.76	1.6524E-02
CO-57	7830.	122.06	4.1779E-02
CO-58	106.	810.78	1.5585E-02
FE-59	76.	1099.25	3.0071E-02
CO-60	60.	1332.50	1.7273E-02
ZN-65	55.	1115.55	2.8809E-02
SE-75	9191.	264.66	9.6942E-02
KR-85	5639.	514.00	1.7902E+01
SR-85	5637.	514.01	8.0938E-02
Y-88	12.	1836.06	1.0384E-02
Y-90	19.	1760.70	4.3668E-02
Y-91	61.	1204.67	5.4346E+00
NB-94	78.	871.09	1.4433E-02
NB-95	147.	765.78	1.7224E-02
ZR-95	139.	756.73	3.0354E-02
RU-103	6905.	497.08	9.1749E-02
RURH-106	2017.	621.93	1.0522E+00
AG-108m	128.	722.94	1.6624E-02
CD-109	6999.	88.03	1.2709E+00
AG-110M	3315.	657.76	7.3552E-02
SN-113	9850.	391.69	1.2294E-01
TE-123m	8324.	159.00	4.4214E-02
SB-124	2098.	602.73	5.3483E-02
SB-125	11433.	427.89	3.1323E-01
TE-125m	7363.	109.27	1.3117E+01
I-131	9157.	364.48	8.8485E-02
XE-131m	8516.	163.93	1.9435E+00
BA-133	9010.	356.02	1.1273E-01
CS-134	2053.	604.70	5.3093E-02
CS-136	100.	818.51	1.5270E-02
CS-138	28.	1435.86	2.7343E-02
CE-139	8566.	165.85	4.8042E-02
BA-140	4023.	537.31	2.7845E-01
LA-140	24.	1596.21	1.3575E-02
CE-141	8187.	145.44	7.4639E-02
CE-144	8342.	133.51	3.2683E-01
CEPR-144	8342.	133.51	6.5307E-01
EU-152	51.	1408.01	7.9811E-02
EU-154	50.	1274.51	4.4580E-02
EU-155	7127.	86.54	1.4503E-01
HF-181	8986.	482.18	1.1487E-01
TA-182	6819.	67.75	1.9819E-01
HG-203	8878.	279.20	7.1042E-02
BI-207	2473.	569.70	5.6347E-02

Sample ID : S94T389-SAMPLE Acquisition date : 30-DEC-1994 22:45:30

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	8919.	277.36	9.1476E-01
PB-210	6405.	46.50	0.0000E+00
BI-212	165.	727.18	2.5940E-01
PB-212	10111.	238.63	1.2646E-01
BI-214	2265.	609.31	1.2201E-01
PB-214	9204.	351.92	3.5192E-01
RA-224	9837.	240.99	1.3850E+00
RA-226	11248.	186.10	1.3482E+00
AC-228	202.	911.21	9.0862E-02
TH-228	7026.	84.37	3.8941E+00
TH-229	6966.	88.47	1.8391E-01
U-232	6630.	57.78	7.8657E+01
PA-233	8581.	312.17	1.6017E-01
PA-234M	78.	1001.03	2.7254E-02
TH-234	6788.	63.29	2.2982E+00
U-235	11097.	185.71	8.1387E-02
NP-237	7142.	86.48	3.8450E-01
U-237	6687.	59.54	3.9053E-01
NP-238	96.	984.45	6.3538E-02
NP-239	7299.	106.12	1.6537E-01
PU-239	8196.	129.30	5.6329E+02
AM-241	6687.	59.54	3.7459E-01
AM-243	7060.	74.67	1.0597E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   31-DEC-1994 01:03:31.92                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T389-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]4g4885.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:49.39 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        31-DEC-1994 00:12:07.64
Decayed to:               31-DEC-1994 00:12:07.64
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: Em Barela

date: 12-31-94

R Bachelor 1/3/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	27.56	909	2.57	55.11	52	7	34.1			
0	662.02*	399379	1.45	1323.94	1316	16	0.3		CS-137	122.

Sample ID : S94T389-DUP Acquisition date : 31-DEC-1994 00:12:07

Total number of lines in spectrum	2	WHC-SD-WM-DP-103, REV. 1
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	1.224E+02	1.224E+02	0.004E+02	0.32	
		Total Activity :	1.224E+02	1.224E+02			
		Grand Total Activity :	1.224E+02	1.224E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T389-DUP Acquisition date : 31-DEC-1994 00:12:07

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	11292.	477.59	9.9188E-01
NA-22	59.	1274.53	1.6688E-02
NA-24	35.	1368.55	1.3782E-02
K-40	831.	1460.75	6.5216E-01
SC-46	139.	1120.55	2.3389E-02
CR-51	8673.	320.08	6.2892E-01
MN-54	98.	834.83	1.5346E-02
CO-56	103.	846.76	1.6043E-02
CO-57	7965.	122.06	4.2138E-02
CO-58	107.	810.78	1.5655E-02
FE-59	60.	1099.25	2.6807E-02
CO-60	59.	1332.50	1.7128E-02
ZN-65	64.	1115.55	3.1192E-02
SE-75	9192.	264.66	9.6947E-02
KR-85	5603.	514.00	1.7846E+01
SR-85	5601.	514.01	8.0675E-02
Y-88	21.	1836.06	1.3589E-02
Y-90	18.	1760.70	4.2663E-02
Y-91	87.	1204.67	6.4825E+00
NB-94	112.	871.09	1.7259E-02
NB-95	127.	765.78	1.6005E-02
ZR-95	138.	756.73	3.0229E-02
RU-103	6813.	497.08	9.1134E-02
RURH-106	2071.	621.93	1.0664E+00
AG-108m	134.	722.94	1.6992E-02
CD-109	6998.	88.03	1.2709E+00
AG-110M	3332.	657.76	7.3741E-02
SN-113	9717.	391.69	1.2211E-01
TE-123m	8122.	159.00	4.3674E-02
SB-124	2120.	602.73	5.3763E-02
SB-125	11496.	427.89	3.1408E-01
TE-125m	7264.	109.27	1.3029E+01
I-129	6652.	39.60	0.0000E+00
I-131	9005.	364.48	8.7748E-02
XE-131m	8309.	163.93	1.9196E+00
BA-133	8968.	356.02	1.1246E-01
CS-134	2156.	604.70	5.4411E-02
CS-136	107.	818.51	1.5814E-02
CS-138	37.	1435.86	3.1024E-02
CE-139	8251.	165.85	4.7151E-02
BA-140	3913.	537.31	2.7465E-01
LA-140	33.	1596.21	1.5791E-02
CE-141	8246.	145.44	7.4903E-02
CE-144	8160.	133.51	3.2324E-01
CEPR-144	8158.	133.51	6.4584E-01
EU-152	46.	1408.01	7.6364E-02
EU-154	59.	1274.51	4.8452E-02
EU-155	7119.	86.54	1.4495E-01
HF-181	9023.	482.18	1.1510E-01
TA-182	6705.	67.75	1.9652E-01
HG-203	8914.	279.20	7.1190E-02

WHC-SD-WM-DP-103, REV. 1

Sample ID : S94T389-DUP Acquisition date : 31-DEC-1994 00:12:07

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	2339.	569.70	5.4800E-02
TL-208	8988.	277.36	9.1828E-01
PB-210	6607.	46.50	0.0000E+00
BI-212	148.	727.18	2.4539E-01
PB-212	10086.	238.63	1.2630E-01
BI-214	2282.	609.31	1.2247E-01
PB-214	9131.	351.92	3.5053E-01
RA-224	9886.	240.99	1.3884E+00
RA-226	11160.	186.10	1.3429E+00
AC-228	190.	911.21	8.8144E-02
TH-228	7262.	84.37	3.9590E+00
TH-229	6994.	88.47	1.8427E-01
U-232	6612.	57.78	7.8549E+01
PA-233	8761.	312.17	1.6184E-01
PA-234M	93.	1001.03	2.9690E-02
TH-234	6797.	63.29	2.2998E+00
U-235	11015.	185.71	8.1087E-02
NP-237	7123.	86.48	3.8399E-01
U-237	6699.	59.54	3.9089E-01
NP-238	100.	984.45	6.5136E-02
NP-239	7221.	106.12	1.6448E-01
PU-239	8163.	129.30	5.6214E+02
AM-241	6699.	59.54	3.7494E-01
AM-243	7090.	74.67	1.0619E-01

KB

By106

QA

LABCORE Data Entry Template for Worklist# 346

Analyst: DCD **Instrument:** GEA00 2 **Method:** LA-548-121 /D-1

Worklist Comment: Use 1 mL sample size. Label as 2nd re-run. -PPB WHC-SD-WM-DP-103, REV. 1

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	64B52			@GEA-01	CS13702	SOLID			N/A	uCi/g
1	STD				@GEA-01	CS13702E	SOLID			N/A	% Ct.
1	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
1	STD				@GEA-01	CO60-02E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000314	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
4	DUP	S94T000314	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000314	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 346

David C. Dunham
Analyst Signature

1-6-95
Date

McBierman

1-9-95

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-103, REV. 1

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		20.6000	2.06E-02	5.02			0.00E+00		1.03E-02	200.0
Work List	CS137		26.2300	2.62E-02	5.33			0.00E+00		1.31E-02	200.0
346				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			
S94T314				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											
01/06/95											
Time											
08:20 AM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/09/95

Approved by: [signature] Date: 1/9/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

2.4676 < 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	CS137	<	0.0766	3.07E-02				ERR		ERR	NA
Work List				0.00E+00				ERR		ERR	ERR
346				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			
S94T314				0.00E+00				ERR			
				0.00E+00				ERR			
Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
DUF'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											
01/06/95											
Time											
08:20 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/09/95

Approved by: [signature] Date: 1/9/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

2.4576 < Enter SAMPLE g/L 2.4796 < 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	CS137		536.6000	2.18E+02	0.33		533.5000	2.15E+02	0.33	2.15E+02	NA
Work List				0.00E+00				0.00E+00		0.00E+00	ERR
346				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			
S94T314				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											
01/06/95											
Time											
08:20 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/09/95

Approved by: [signature] Date: 1/9/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room    6-JAN-1995 16:36:43.21                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T314-STANDARD
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]2g2614.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.14 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        6-JAN-1995 15:46:05.35
Decayed to:               6-JAN-1995 15:46:05.35
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 Bailey

date: 1-6-95

Bachelor 1/9/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.60*	1890	1.48	1323.22	1315	15	5.3		CS-137	26.2
0	1173.11	1100	1.77	2346.28	2337	19	6.9		CO-60	21.6
0	1237.72	24	1.42	2475.53	2468	16	65.4			
0	1332.46	905	2.25	2665.08	2657	20	7.3		CO-60	19.7

Summary of Nuclide Activity
Sample ID : S94T314-STANDARD Acquisition date : 6-JAN-1995 15:46:05

WHC-SD-WM-DP-103, REV. 1

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	2.060E+01	2.060E+01	0.103E+01	5.02	
CS-137	30.00Y	1.000	2.623E+01	2.623E+01	0.140E+01	5.33	
Total Activity :			4.683E+01	4.683E+01			
Grand Total Activity :			4.683E+01	4.683E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S94T314-STANDARD

Acquisition date : 6-JAN-1995 15:46:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	140.	477.59	4.7966E+00
NA-22	17.	1274.53	4.0040E-01
NA-24	11.	1368.55	3.5168E-01
K-40	111.	1460.75	1.0762E+01
SC-46	56.	1120.55	6.5512E-01
CR-51	143.	320.08	3.6234E+00
MN-54	74.	834.83	5.7627E-01
CO-56	70.	846.76	5.6751E-01
CO-57	190.	122.06	3.0798E-01
CO-58	54.	810.78	4.8329E-01
FE-59	69.	1099.25	1.2638E+00
ZN-65	66.	1115.55	1.3917E+00
SE-75	175.	264.66	6.0397E-01
KR-85	108.	514.00	1.0716E+02
SR-85	108.	514.01	4.8416E-01
Y-88	0.	1836.06	0.0000E+00
Y-90	8.	1760.70	1.2748E+00
Y-91	19.	1204.67	1.3610E+02
NB-94	69.	871.09	5.7510E-01
NB-95	64.	765.78	5.0005E-01
ZR-95	53.	756.73	8.2257E-01
RU-103	103.	497.08	4.8404E-01
RURH-106	67.	621.93	8.5955E+00
AG-108m	61.	722.94	5.1127E-01
CD-109	148.	88.03	9.3321E+00
AG-110M	114.	657.76	6.1721E-01
SN-113	121.	391.69	6.0624E-01
TE-123m	178.	159.00	2.9865E-01
SB-124	66.	602.73	4.2221E-01
SB-125	134.	427.89	1.4936E+00
TE-125m	169.	109.27	9.6395E+01
I-129	150.	39.60	0.0000E+00
I-131	133.	364.48	4.7482E-01
XE-131m	177.	163.93	1.2913E+01
BA-133	162.	356.02	6.7518E-01
CS-134	69.	604.70	4.3569E-01
CS-136	66.	818.51	5.3543E-01
CS-138	5.	1435.86	5.2905E-01
CE-139	178.	165.85	3.1942E-01
BA-140	95.	537.31	1.8580E+00
LA-140	5.	1596.21	2.8691E-01
CE-141	207.	145.44	5.5059E-01
CE-144	181.	133.51	2.2486E+00
CEPR-144	181.	133.51	4.4938E+00
EU-152	6.	1408.01	1.2407E+00
EU-154	17.	1274.51	1.1619E+00
EU-155	155.	86.54	1.0841E+00
HF-181	115.	482.18	5.6509E-01
TA-182	158.	67.75	1.5156E+00
HG-203	149.	279.20	4.1495E-01
BI-207	79.	569.70	4.4253E-01

Sample ID : S94T314-STANDARD Acquisition date : 6-JAN-1995 15:46:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	151.	277.36	5.3586E+00
PB-210	155.	46.50	0.0000E+00
BI-212	72.	727.18	7.5817E+00
PB-212	221.	238.63	8.4794E-01
BI-214	102.	609.31	1.1596E+00
PB-214	181.	351.92	2.1841E+00
RA-224	210.	240.99	9.1732E+00
RA-226	168.	186.10	7.5589E+00
AC-228	98.	911.21	2.6924E+00
TH-228	144.	84.37	2.8316E+01
TH-229	152.	88.47	1.3719E+00
U-232	154.	57.78	5.5970E+02
PA-233	155.	312.17	9.6612E-01
PA-234M	76.	1001.03	1.1630E+00
TH-234	153.	63.29	1.6990E+01
U-235	165.	185.71	4.5529E-01
NP-237	155.	86.48	2.8651E+00
U-237	134.	59.54	2.6370E+00
NP-238	77.	984.45	2.4631E+00
NP-239	174.	106.12	1.2478E+00
PU-239	207.	129.30	4.2015E+03
AM-241	134.	59.54	2.5295E+00
AM-243	151.	74.67	7.8650E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    6-JAN-1995 17:37:57.75                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T314-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]2g2615.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.44 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        6-JAN-1995 16:47:23.25
Decayed to:               6-JAN-1995 16:47:23.25
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 Baeke

date: 1-6-95

Bachelor 1/9/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	1460.72*	21	1.82	2921.71	2912	20111.6			K-40	0.456

Summary of Nuclide Activity
Sample ID : S94T314-BLANK

Acquisition date : 6-JAN-1995 16:47:23

WHC-SD-WM-DP-103, REV. 1

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~~	~~4.558E-01~~	~~4.558E-01~~	~~5.085E-01~~	~~111.56~~	BKG 1/9/95
		Total Activity :	4.558E-01	4.558E-01			
		Grand Total Activity :	4.558E-01	4.558E-01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S94T314-BLANK

Acquisition date : 6-JAN-1995 16:47:23

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	22.	477.59	1.9223E-01
NA-22	6.	1274.53	2.4423E-02
NA-24	9.	1368.55	3.0779E-02
SC-46	19.	1120.55	3.8521E-02
CR-51	41.	320.08	1.9438E-01
MN-54	24.	834.83	3.2554E-02
CO-56	22.	846.76	3.1821E-02
CO-57	66.	122.06	1.8120E-02
CO-58	24.	810.78	3.2110E-02
FE-59	10.	1099.25	4.8954E-02
CO-60	8.	1332.50	2.8211E-02
ZN-65	20.	1115.55	7.6710E-02
SE-75	54.	264.66	3.3639E-02
KR-85	43.	514.00	6.7605E+00
SR-85	43.	514.01	3.0521E-02
Y-88	4.	1836.06	2.6346E-02
Y-90	8.	1760.70	1.2345E-01
Y-91	14.	1204.67	1.1797E+01
NB-94	12.	871.09	2.4146E-02
NB-95	26.	765.78	3.1999E-02
ZR-95	20.	756.73	4.9939E-02
RU-103	28.	497.08	2.5504E-02
RURH-106	13.	621.93	3.8294E-01
AG-108m	18.	722.94	2.8015E-02
CD-109	61.	88.03	5.9998E-01
AG-110M	21.	657.76	2.6205E-02
SN-113	46.	391.69	3.7332E-02
TE-123m	65.	159.00	1.8040E-02
SB-124	24.	602.73	2.5667E-02
SB-125	42.	427.89	8.3676E-02
TE-125m	84.	109.27	6.7908E+00
I-129	62.	39.60	0.0000E+00
I-131	33.	364.48	2.3507E-02
XE-131m	70.	163.93	8.1026E-01
BA-133	47.	356.02	3.6255E-02
CS-134	20.	604.70	2.3161E-02
CS-136	20.	818.51	2.9764E-02
CS-137	137.	661.66	7.5455E-02
CS-138	7.	1435.86	6.2413E-02
CE-139	62.	165.85	1.8848E-02
BA-140	28.	537.31	1.0118E-01
LA-140	9.	1596.21	3.6396E-02
CE-141	83.	145.44	3.4885E-02
CE-144	88.	133.51	1.5653E-01
CEPR-144	88.	133.51	3.1284E-01
EU-152	8.	1408.01	1.4327E-01
EU-154	6.	1274.51	7.0955E-02
EU-155	63.	86.54	6.8991E-02
HF-181	32.	482.18	2.9565E-02
TA-182	72.	67.75	1.0209E-01
HG-203	55.	279.20	2.5108E-02

Sample ID : S94T314-BLANK Acquisition date : 6-JAN-1995 16:47:23

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	25.	569.70	2.4665E-02
TL-208	58.	277.36	3.3223E-01
PB-210	53.	46.50	0.0000E+00
BI-212	28.	727.18	4.7041E-01
PB-212	75.	238.63	4.9354E-02
BI-214	47.	609.31	7.8349E-02
PB-214	80.	351.92	1.4534E-01
RA-224	58.	240.99	4.8155E-01
RA-226	82.	186.10	5.2940E-01
AC-228	31.	911.21	1.5157E-01
TH-228	75.	84.37	2.0388E+00
TH-229	63.	88.47	8.8395E-02
U-232	58.	57.78	3.4269E+01
PA-233	46.	312.17	5.2844E-02
PA-234M	17.	1001.03	5.5710E-02
TH-234	72.	63.29	1.1618E+00
U-235	85.	185.71	3.2630E-02
NP-237	64.	86.48	1.8405E-01
U-237	54.	59.54	1.6811E-01
NP-238	8.	984.45	7.8504E-02
NP-239	70.	106.12	7.9021E-02
PU-239	73.	129.30	2.5003E+02
AM-241	54.	59.54	1.6125E-01
AM-243	62.	74.67	5.0644E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room     6-JAN-1995 18:36:03.79                 *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T314-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]2g2616.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:51.46 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        6-JAN-1995 17:44:37.42
Decayed to:               6-JAN-1995 17:44:37.42
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 Barek

date: 1-6-95

Bachelor 1/9/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.54*	386656	1.52	1323.10	1315	17	0.3		CS-137	537.

Sample ID : S94T314-SAMPLE Acquisition date : 6-JAN-1995 17:44:37

Total number of lines in spectrum	1	WHC-SD-WM-DP-103, REV. 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	5.366E+02	5.366E+02	0.018E+02	0.33	
		Total Activity :	5.366E+02	5.366E+02			
		Grand Total Activity :	5.366E+02	5.366E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T314-SAMPLE
Acquisition date : 6-JAN-1995 17:44:37

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	12255.	477.59	4.4903E+00
NA-22	12.	1274.53	3.3264E-02
NA-24	10.	1368.55	3.2488E-02
K-40	105.	1460.75	1.0455E+00
SC-46	48.	1120.55	6.0891E-02
CR-51	9995.	320.08	3.0254E+00
MN-54	105.	834.83	6.8777E-02
CO-56	105.	846.76	6.9530E-02
CO-57	10984.	122.06	2.3435E-01
CO-58	111.	810.78	6.9241E-02
FE-59	51.	1099.25	1.0875E-01
CO-60	7.	1332.50	2.7456E-02
ZN-65	42.	1115.55	1.1102E-01
SE-75	11210.	264.66	4.8365E-01
KR-85	6254.	514.00	8.1480E+01
SR-85	6253.	514.01	3.6842E-01
Y-88	1.	1836.06	1.3173E-02
Y-90	4.	1760.70	9.4391E-02
Y-91	27.	1204.67	1.6123E+01
NB-94	100.	871.09	6.9419E-02
NB-95	127.	765.78	7.0443E-02
ZR-95	140.	756.73	1.3401E-01
RU-103	7625.	497.08	4.1718E-01
RURH-106	2638.	621.93	5.4101E+00
AG-108m	144.	722.94	7.8271E-02
CD-109	9487.	88.03	7.4780E+00
AG-110M	11112.	657.76	6.0972E-01
SN-113	10832.	391.69	5.7275E-01
TE-123m	11168.	159.00	2.3645E-01
SB-124	2756.	602.73	2.7345E-01
SB-125	12715.	427.89	1.4562E+00
TE-125m	10234.	109.27	7.4981E+01
I-129	9152.	39.60	0.0000E+00
I-131	10369.	364.48	4.1977E-01
XE-131m	11199.	163.93	1.0278E+01
BA-133	9937.	356.02	5.2825E-01
CS-134	2764.	604.70	2.7510E-01
CS-136	125.	818.51	7.3886E-02
CS-138	6.	1435.86	5.6717E-02
CE-139	11129.	165.85	2.5242E-01
BA-140	4475.	537.31	1.2738E+00
LA-140	6.	1596.21	3.0386E-02
CE-141	11234.	145.44	4.0550E-01
CE-144	11105.	133.51	1.7624E+00
CEPR-144	11106.	133.51	3.5218E+00
EU-152	9.	1408.01	1.4858E-01
EU-154	12.	1274.51	9.6306E-02
EU-155	9616.	86.54	8.5298E-01
HF-181	9883.	482.18	5.2288E-01
TA-182	9009.	67.75	1.1434E+00
HG-203	10756.	279.20	3.5249E-01

Sample ID : S94T314-SAMPLE Acquisition date : 6-JAN-1995 17:44:37

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	2963.	569.70	2.7086E-01
TL-208	10731.	277.36	4.5241E+00
PB-210	9152.	46.50	0.0000E+00
BI-212	206.	727.18	1.2859E+00
PB-212	12809.	238.63	6.4580E-01
BI-214	2700.	609.31	5.9597E-01
PB-214	9912.	351.92	1.6309E+00
RA-224	12517.	240.99	7.0855E+00
RA-226	14289.	186.10	6.9731E+00
AC-228	94.	911.21	2.6261E-01
TH-228	9557.	84.37	2.3047E+01
TH-229	9464.	88.47	1.0827E+00
U-232	9036.	57.78	4.2816E+02
PA-233	10125.	312.17	7.8050E-01
PA-234M	52.	1001.03	9.6490E-02
TH-234	8808.	63.29	1.2889E+01
U-235	14135.	185.71	4.2156E-01
NP-237	9626.	86.48	2.2604E+00
U-237	9008.	59.54	2.1635E+00
NP-238	68.	984.45	2.3207E-01
NP-239	10036.	106.12	9.4647E-01
PU-239	11268.	129.30	3.0993E+03
AM-241	9008.	59.54	2.0752E+00
AM-243	9307.	74.67	6.1815E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    6-JAN-1995 19:33:48.12                  *
*****************************************************************************
     >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T314-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]2g2617.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:51.20 sec

     >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        6-JAN-1995 18:41:48.29
Decayed to:               6-JAN-1995 18:41:48.29
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 Barela

date: 1-6-95

Bachelor 1/9/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.54*	384454	1.52	1323.11	1315	17	0.3		CS-137	534.

Sample ID : S94T314-DUP Acquisition date : 6-JAN-1995 18:41:48

WHC-SD-WM-DP-103, REV. 1

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	5.335E+02	5.335E+02	0.018E+02	0.33	
		Total Activity :	5.335E+02	5.335E+02			
		Grand Total Activity :	5.335E+02	5.335E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T314-DUP Acquisition date : 6-JAN-1995 18:41:48

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	12206.	477.59	4.4814E+00
NA-22	25.	1274.53	4.8384E-02
NA-24	4.	1368.55	2.0992E-02
K-40	115.	1460.75	1.0957E+00
SC-46	52.	1120.55	6.2849E-02
CR-51	9965.	320.08	3.0209E+00
MN-54	110.	834.83	7.0169E-02
CO-56	117.	846.76	7.3392E-02
CO-57	10908.	122.06	2.3353E-01
CO-58	104.	810.78	6.6881E-02
FE-59	49.	1099.25	1.0676E-01
CO-60	6.	1332.50	2.4882E-02
ZN-65	34.	1115.55	9.9608E-02
SE-75	11342.	264.66	4.8650E-01
KR-85	6203.	514.00	8.1152E+01
SR-85	6202.	514.01	3.6691E-01
Y-88	2.	1836.06	1.8630E-02
Y-90	1.	1760.70	4.4542E-02
Y-91	22.	1204.67	1.4717E+01
NB-94	93.	871.09	6.6960E-02
NB-95	138.	765.78	7.3397E-02
ZR-95	133.	756.73	1.3052E-01
RU-103	7681.	497.08	4.1871E-01
RURH-106	2692.	621.93	5.4658E+00
AG-108m	167.	722.94	8.4302E-02
CD-109	9584.	88.03	7.5164E+00
AG-110M	11195.	657.76	6.1200E-01
SN-113	10786.	391.69	5.7153E-01
TE-123m	11139.	159.00	2.3614E-01
SB-124	2631.	602.73	2.6718E-01
SB-125	12422.	427.89	1.4394E+00
TE-125m	10001.	109.27	7.4125E+01
I-129	9100.	39.60	0.0000E+00
I-131	10085.	364.48	4.1398E-01
XE-131m	11082.	163.93	1.0224E+01
BA-133	10001.	356.02	5.2996E-01
CS-134	2653.	604.70	2.6949E-01
CS-136	112.	818.51	7.0043E-02
CS-138	5.	1435.86	5.3297E-02
CE-139	11094.	165.85	2.5202E-01
BA-140	4497.	537.31	1.2770E+00
LA-140	1.	1596.21	1.2338E-02
CE-141	11191.	145.44	4.0472E-01
CE-144	11048.	133.51	1.7579E+00
CEPR-144	11048.	133.51	3.5126E+00
EU-152	7.	1408.01	1.2954E-01
EU-154	25.	1274.51	1.4046E-01
EU-155	9504.	86.54	8.4801E-01
HF-181	9753.	482.18	5.1944E-01
TA-182	8951.	67.75	1.1397E+00
HG-203	10563.	279.20	3.4932E-01

Sample ID : S94T314-DUP Acquisition date : 6-JAN-1995 18:41:48

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	2966.	569.70	2.7099E-01
TL-208	10749.	277.36	4.5280E+00
PB-210	8944.	46.50	0.0000E+00
BI-212	169.	727.18	1.1645E+00
PB-212	12798.	238.63	6.4553E-01
BI-214	2650.	609.31	5.9046E-01
PB-214	10200.	351.92	1.6544E+00
RA-224	12377.	240.99	7.0459E+00
RA-226	14296.	186.10	6.9749E+00
AC-228	100.	911.21	2.7196E-01
TH-228	9335.	84.37	2.2777E+01
TH-229	9585.	88.47	1.0896E+00
U-232	8762.	57.78	4.2163E+02
PA-233	10050.	312.17	7.7761E-01
PA-234M	38.	1001.03	8.2362E-02
TH-234	9027.	63.29	1.3048E+01
U-235	14085.	185.71	4.2080E-01
NP-237	9515.	86.48	2.2474E+00
U-237	8997.	59.54	2.1621E+00
NP-238	59.	984.45	2.1548E-01
NP-239	9834.	106.12	9.3691E-01
PU-239	11058.	129.30	3.0702E+03
AM-241	8997.	59.54	2.0739E+00
AM-243	9222.	74.67	6.1530E-01

KB

BV/OG

OA

LABCORE Data Entry Template for Worklist# 391

Analyst: ANP **Instrument:** GEA00 GEA #4 **Method:** LA-548-121 D-1

Worklist Comment: 1 mL sample size. Label as 2nd re-run. Be careful! -PPB WHC-SD-WM-DP-103, REV. 1

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	64B52			@GEA-01	CS13702	SOLID			N/A	uCi/g
1	STD	64B52			@GEA-01	CS13702E	SOLID			N/A	% Ct.
1	STD	64B52			@GEA-01	CO60-02	SOLID			N/A	uCi/g
1	STD	64B52			@GEA-01	CO60-02E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000348	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000348	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000348	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000348	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 391

Analyst Signature

1-11-95
Date
1-12-95

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-103, REV. 1

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		20.7700	2.08E-02	2.31			0.00E+00		1.04E-02	200.0
Work List	CS137		27.2600	2.73E-02	2.4			0.00E+00		1.36E-02	200.0
391				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			
WORKLIST#391				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											
01/11/95											
Time											
07:30 PM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/12/95

Approved by: [signature] Date: 1/12/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.9724 < 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	CS137	<	0.0251	1.27E-02				ERR		ERR	NA
Work List				0.00E+00				ERR			
391				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			
S94T348				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											
01/11/95											
Time											
07:30 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: M S Brown Date: 01/12/95

Approved by: R Bachelor Date: 1/12/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

1.9724 < Enter SAMPLE g/L 1.9856 < 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	CS137		158.4000	8.03E+01	0.28		203.8000	1.03E+02	0.25	1.03E+02	NA
Work List				0.00E+00				0.00E+00			
391				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			
S94T348				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 x 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				0.00E+00				0.00E+00			
01/11/95											
Time											
07:30 PM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/12/95

Approved by: [signature] Date: 1/12/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   11-JAN-1995 23:01:38.65                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T348-STANDARD
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:              dka300:[spec.GEA4]4g4983.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:05.12 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        11-JAN-1995 22:10:51.97
Decayed to:               11-JAN-1995 22:10:51.97
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  EMB
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: _____ 1/12/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	609.86*	80	1.19	1219.63	1216	10	90.5			
0	661.90*	8895	1.43	1323.71	1316	16	2.4		CS-137	27.3
0	1173.50*	4695	1.78	2346.96	2338	18	3.4		CO-60	20.7
0	1332.79	4334	1.88	2665.57	2657	18	3.2		CO-60	20.8
0	1975.83	12	1.59	3951.92	3949	10	114.3			

Sample ID : S94T348-STANDARD Acquisition date : 11-JAN-1995 22:10:51

WHC-SD-WM-DP-103, REV. 1

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	2.077E+01	2.077E+01	0.048E+01	2.31	
CS-137	30.00Y	1.000	2.726E+01	2.726E+01	0.065E+01	2.40	
		Total Activity :	4.804E+01	4.804E+01			
		Grand Total Activity :	4.804E+01	4.804E+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)
BE-7	529.	477.59	2.1464E+00
NA-22	70.	1274.53	1.8112E-01
NA-24	44.	1368.55	1.5406E-01
K-40	793.	1460.75	6.3673E+00
SC-46	279.	1120.55	3.3103E-01
CR-51	583.	320.08	1.6299E+00
MN-54	291.	834.83	2.6524E-01
CO-56	328.	846.76	2.8591E-01
CO-57	605.	122.06	1.1615E-01
CO-58	248.	810.78	2.3865E-01
FE-59	272.	1099.25	5.7008E-01
ZN-65	240.	1115.55	6.0279E-01
SE-75	699.	264.66	2.6727E-01
KR-85	526.	514.00	5.4700E+01
SR-85	526.	514.01	2.4713E-01
Y-88	20.	1836.06	1.3261E-01
Y-90	25.	1760.70	4.9298E-01
Y-91	127.	1204.67	7.8364E+01
NB-94	307.	871.09	2.8546E-01
NB-95	283.	765.78	2.3933E-01
ZR-95	265.	756.73	4.1858E-01
RU-103	433.	497.08	2.2971E-01
RURH-106	290.	621.93	3.9924E+00
AG-108m	260.	722.94	2.3693E-01
CD-109	549.	88.03	3.5594E+00
AG-110M	329.	657.76	2.3169E-01
SN-113	545.	391.69	2.8915E-01
TE-123m	692.	159.00	1.2748E-01
SB-124	308.	602.73	2.0500E-01
SB-125	581.	427.89	7.0602E-01
TE-125m	558.	109.27	3.6118E+01
I-129	516.	39.60	0.0000E+00
I-131	560.	364.48	2.1878E-01
XE-131m	651.	163.93	5.3748E+00
BA-133	546.	356.02	2.7762E-01
CS-134	312.	604.70	2.0691E-01
CS-136	272.	818.51	2.5190E-01
CS-138	34.	1435.86	2.9633E-01
CE-139	642.	165.85	1.3155E-01
BA-140	348.	537.31	8.1875E-01
LA-140	23.	1596.21	1.3137E-01
CE-141	690.	145.44	2.1669E-01
CE-144	665.	133.51	9.2253E-01
CEPR-144	664.	133.51	1.8431E+00
EU-152	50.	1408.01	7.9404E-01
EU-154	70.	1274.51	5.2576E-01
EU-155	586.	86.54	4.1590E-01
HF-181	523.	482.18	2.7717E-01
TA-182	527.	67.75	5.5102E-01
HG-203	661.	279.20	1.9386E-01
BI-207	320.	569.70	2.0263E-01

Sample ID : S94T348-STANDARD Acquisition date : 11-JAN-1995 22:10:51

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	679.	277.36	2.5248E+00
PB-210	498.	46.50	0.0000E+00
BI-212	290.	727.18	3.4404E+00
PB-212	880.	238.63	3.7317E-01
BI-214	486.	609.31	5.6497E-01
PB-214	715.	351.92	9.7374E-01
RA-224	794.	240.99	3.9342E+00
RA-226	816.	186.10	3.6316E+00
AC-228	400.	911.21	1.2790E+00
TH-228	582.	84.37	1.1208E+01
TH-229	550.	88.47	5.1671E-01
U-232	502.	57.78	2.1641E+02
PA-233	573.	312.17	4.1384E-01
PA-234M	296.	1001.03	5.3098E-01
TH-234	540.	63.29	6.4829E+00
U-235	812.	185.71	2.2021E-01
NP-237	590.	86.48	1.1051E+00
U-237	537.	59.54	1.1068E+00
NP-238	290.	984.45	1.1064E+00
NP-239	575.	106.12	4.6414E-01
PU-239	665.	129.30	1.6043E+03
AM-241	537.	59.54	1.0616E+00
AM-243	679.	74.67	3.2857E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 01:32:20.39                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000348-BLK
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]4g4984.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:02.29 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 00:41:42.05
Decayed to:               12-JAN-1995 00:41:42.05
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
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
*****************************************************************************

Post-NID Peak Search Report
***** No peaks found *****
```

Removed by:

date: 1-12-95

1/12/95

WHC-SD-WM-DP-103, REV. 1

**** 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 : S94T000348-BLK Acquisition date : 12-JAN-1995 00:41:42

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	171.	477.59	1.2190E-01
NA-22	63.	1274.53	1.7226E-02
NA-24	44.	1368.55	1.5349E-02
K-40	832.	1460.75	6.5255E-01
SC-46	133.	1120.55	2.2833E-02
CR-51	260.	320.08	1.0891E-01
MN-54	83.	834.83	1.4179E-02
CO-56	78.	846.76	1.3977E-02
CO-57	337.	122.06	8.6657E-03
CO-58	72.	810.78	1.2855E-02
FE-59	63.	1099.25	2.7365E-02
CO-60	60.	1332.50	1.7283E-02
ZN-65	59.	1115.55	2.9935E-02
SE-75	316.	264.66	1.7974E-02
KR-85	267.	514.00	3.8991E+00
SR-85	266.	514.01	1.7595E-02
Y-88	12.	1836.06	1.0304E-02
Y-90	25.	1760.70	4.9459E-02
Y-91	83.	1204.67	6.3241E+00
NB-94	85.	871.09	1.4998E-02
NB-95	93.	765.78	1.3742E-02
ZR-95	97.	756.73	2.5280E-02
RU-103	153.	497.08	1.3679E-02
RURH-106	114.	621.93	2.5029E-01
AG-108m	96.	722.94	1.4377E-02
CD-109	300.	88.03	2.6304E-01
AG-110M	102.	657.76	1.2889E-02
SN-113	189.	391.69	1.7023E-02
TE-123m	361.	159.00	9.2018E-03
SB-124	105.	602.73	1.1942E-02
SB-125	182.	427.89	3.9507E-02
TE-125m	302.	109.27	2.6545E+00
I-129	242.	39.60	0.0000E+00
I-131	213.	364.48	1.3504E-02
XE-131m	351.	163.93	3.9433E-01
BA-133	240.	356.02	1.8409E-02
CS-134	127.	604.70	1.3192E-02
CS-136	82.	818.51	1.3850E-02
CS-137	310.	661.66	2.5116E-02
CS-138	26.	1435.86	2.5827E-02
CE-139	334.	165.85	9.4858E-03
BA-140	129.	537.31	4.9942E-02
LA-140	28.	1596.21	1.4545E-02
CE-141	333.	145.44	1.5046E-02
CE-144	337.	133.51	6.5735E-02
CEPR-144	337.	133.51	1.3135E-01
EU-152	40.	1408.01	7.1292E-02
EU-154	63.	1274.51	4.9983E-02
EU-155	354.	86.54	3.2322E-02
HF-181	138.	482.18	1.4236E-02
TA-182	290.	67.75	4.0860E-02

Sample ID : S94T000348-BLK Acquisition date : 12-JAN-1995 00:41:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	300.	279.20	1.3067E-02
BI-207	141.	569.70	1.3458E-02
TL-208	340.	277.36	1.7862E-01
PB-210	247.	46.50	0.0000E+00
BI-212	127.	727.18	2.2737E-01
PB-212	482.	238.63	2.7612E-02
BI-214	313.	609.31	4.5329E-02
PB-214	387.	351.92	7.1587E-02
RA-224	385.	240.99	2.7415E-01
RA-226	406.	186.10	2.5615E-01
AC-228	172.	911.21	8.3936E-02
TH-228	365.	84.37	8.8704E-01
TH-229	293.	88.47	3.7734E-02
U-232	249.	57.78	1.5235E+01
PA-233	252.	312.17	2.7457E-02
PA-234M	85.	1001.03	2.8455E-02
TH-234	261.	63.29	4.5030E-01
U-235	399.	185.71	1.5441E-02
NP-237	361.	86.48	8.6502E-02
U-237	258.	59.54	7.6650E-02
NP-238	85.	984.45	5.9762E-02
NP-239	296.	106.12	3.3290E-02
PU-239	328.	129.30	1.1275E+02
AM-241	258.	59.54	7.3526E-02
AM-243	376.	74.67	2.4469E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 03:05:16.45                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000348-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]4g4985.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:03.77 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 02:13:37.25
Decayed to:               12-JAN-1995 02:13:37.25
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
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: [signature]

date: 1-12-95

[signature]

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	27.08	1844	2.44	54.15	51	8	20.9			
0	661.87*	516846	1.46	1323.64	1316	16	0.3		CS-137	158.
0	860.61	44	1.46	1721.13	1719	8	72.8			
0	1333.38	18	0.70	2666.75	2664		8104.1			
0	1764.90*	24	2.39	3529.96	3521		22112.8			

Sample ID : S94T000348-SAM
Acquisition date : 12-JAN-1995 02:13:37

WHC-SD-WM-DP-103, REV. 1

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	1.584E+02	1.584E+02	0.004E+02	0.28	
		Total Activity :	1.584E+02	1.584E+02			
		Grand Total Activity :	1.584E+02	1.584E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S94T000348-SAm

Acquisition date : 12-JAN-1995 02:13:37

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	14638.	477.59	1.1293E+00
NA-22	62.	1274.53	1.7107E-02
NA-24	33.	1368.55	1.3407E-02
K-40	832.	1460.75	6.5234E-01
SC-46	143.	1120.55	2.3727E-02
CR-51	11140.	320.08	7.1280E-01
MN-54	131.	834.83	1.7783E-02
CO-56	135.	846.76	1.8345E-02
CO-57	10284.	122.06	4.7882E-02
CO-58	119.	810.78	1.6536E-02
FE-59	87.	1099.25	3.2149E-02
CO-60	53.	1332.50	1.6246E-02
ZN-65	86.	1115.55	3.6068E-02
SE-75	11918.	264.66	1.1039E-01
KR-85	7274.	514.00	2.0333E+01
SR-85	7272.	514.01	9.1928E-02
Y-88	9.	1836.06	8.8536E-03
Y-90	24.	1760.70	4.8497E-02
Y-91	82.	1204.67	6.2862E+00
NB-94	106.	871.09	1.6750E-02
NB-95	158.	765.78	1.7897E-02
ZR-95	126.	756.73	2.8855E-02
RU-103	8867.	497.08	1.0396E-01
RURH-106	2594.	621.93	1.1933E+00
AG-108m	147.	722.94	1.7827E-02
CD-109	9006.	88.03	1.4417E+00
AG-110M	5000.	657.76	9.0331E-02
SN-113	12898.	391.69	1.4068E-01
TE-123m	10793.	159.00	5.0347E-02
SB-124	2698.	602.73	6.0654E-02
SB-125	14938.	427.89	3.5803E-01
TE-125m	9384.	109.27	1.4809E+01
I-129	8426.	39.60	0.0000E+00
I-131	11807.	364.48	1.0048E-01
XE-131m	10931.	163.93	2.2019E+00
BA-133	11687.	356.02	1.2839E-01
CS-134	2713.	604.70	6.1041E-02
CS-136	131.	818.51	1.7503E-02
CS-138	34.	1435.86	3.0155E-02
CE-139	10864.	165.85	5.4103E-02
BA-140	5042.	537.31	3.1174E-01
LA-140	26.	1596.21	1.3922E-02
CE-141	10684.	145.44	8.5264E-02
CE-144	10538.	133.51	3.6734E-01
CEPR-144	10538.	133.51	7.3403E-01
EU-152	39.	1408.01	6.9574E-02
EU-154	62.	1274.51	4.9716E-02
EU-155	9223.	86.54	1.6498E-01
HF-181	11619.	482.18	1.3062E-01
TA-182	8744.	67.75	2.2443E-01
HG-203	11499.	279.20	8.0853E-02

Sample ID : S94T000348 Acquisition date : 12-JAN-1995 02:13:37

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	3059.	569.70	6.2668E-02
TL-208	11675.	277.36	1.0466E+00
PB-210	8633.	46.50	0.0000E+00
BI-212	181.	727.18	2.7173E-01
PB-212	12887.	238.63	1.4277E-01
BI-214	2854.	609.31	1.3695E-01
PB-214	11831.	351.92	3.9997E-01
RA-224	12764.	240.99	1.5777E+00
RA-226	14790.	186.10	1.5460E+00
AC-228	211.	911.21	9.2834E-02
TH-228	9247.	84.37	4.4676E+00
TH-229	8975.	88.47	2.0875E-01
U-232	8630.	57.78	8.9744E+01
PA-233	11257.	312.17	1.8346E-01
PA-234M	79.	1001.03	2.7341E-02
TH-234	8667.	63.29	2.5970E+00
U-235	14613.	185.71	9.3395E-02
NP-237	9250.	86.48	4.3759E-01
U-237	8636.	59.54	4.4382E-01
NP-238	84.	984.45	5.9710E-02
NP-239	9357.	106.12	1.8724E-01
PU-239	10424.	129.30	6.3522E+02
AM-241	8636.	59.54	4.2570E-01
AM-243	8977.	74.67	1.1949E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 04:00:14.60                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000348-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]4g4986.cnf
Geometry:                 41
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:21.61 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 03:08:05.84
Decayed to:               12-JAN-1995 03:08:05.84
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  ALJ
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: 1-12-95

1/12/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	27.13	2530	2.48	54.26	51	8	17.0			
0	75.31*	349	1.05	150.60	149	6	100.3		AM-243	9.462E-02
0	661.87*	664920	1.46	1323.64	1316	16	0.2		CS-137	204.
0	1382.26	61	13.62	2764.52	2753	36	91.6			
0	1592.57	25	0.99	3185.22	3182	12	74.7			

Summary of Nuclide Activity
Sample ID : S94T000348-DUP

Acquisition date : 12-JAN-1995 03:08:05

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	5	
Number of unidentified lines	3	
Number of lines tentatively identified by NID	2	40.00%

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	2.038E+02	2.038E+02	0.005E+02	0.25	
~~AM-243~~	~~7380.00Y~~	~~1.000~~	~~9.462E-02~~	~~9.462E-02~~	~~9.493E-02~~	~~100.33~~	BKG 11/2/95
	Total Activity :		2.039E+02	2.039E+02			
	Grand Total Activity :		2.039E+02	2.039E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T000348-DUP Acquisition date : 12-JAN-1995 03:08:05

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	18785.	477.59	1.2793E+00
NA-22	92.	1274.53	2.0830E-02
NA-24	37.	1368.55	1.4158E-02
K-40	857.	1460.75	6.6210E-01
SC-46	164.	1120.55	2.5391E-02
CR-51	14506.	320.08	8.1338E-01
MN-54	157.	834.83	1.9440E-02
CO-56	129.	846.76	1.7911E-02
CO-57	13050.	122.06	5.3937E-02
CO-58	134.	810.78	1.7510E-02
FE-59	102.	1099.25	3.4866E-02
CO-60	66.	1332.50	1.8119E-02
ZN-65	90.	1115.55	3.6858E-02
SE-75	15272.	264.66	1.2496E-01
KR-85	9270.	514.00	2.2954E+01
SR-85	9269.	514.01	1.0378E-01
Y-88	17.	1836.06	1.2136E-02
Y-90	25.	1760.70	4.9591E-02
Y-91	89.	1204.67	6.5500E+00
NB-94	140.	871.09	1.9259E-02
NB-95	174.	765.78	1.8742E-02
ZR-95	202.	756.73	3.6561E-02
RU-103	11388.	497.08	1.1782E-01
RURH-106	3444.	621.93	1.3751E+00
AG-108m	194.	722.94	2.0477E-02
CD-109	11769.	88.03	1.6481E+00
AG-110M	6527.	657.76	1.0321E-01
SN-113	16410.	391.69	1.5868E-01
TE-123m	13773.	159.00	5.6875E-02
SB-124	3439.	602.73	6.8470E-02
SB-125	18962.	427.89	4.0338E-01
TE-125m	12243.	109.27	1.6914E+01
I-129	11068.	39.60	0.0000E+00
I-131	15100.	364.48	1.1363E-01
XE-131m	13899.	163.93	2.4828E+00
BA-133	14992.	356.02	1.4541E-01
CS-134	3496.	604.70	6.9289E-02
CS-136	132.	818.51	1.7565E-02
CS-138	27.	1435.86	2.6803E-02
CE-139	13910.	165.85	6.1221E-02
BA-140	6439.	537.31	3.5229E-01
LA-140	27.	1596.21	1.4238E-02
CE-141	13524.	145.44	9.5929E-02
CE-144	13634.	133.51	4.1782E-01
CEPR-144	13634.	133.51	8.3491E-01
EU-152	31.	1408.01	6.2708E-02
EU-154	92.	1274.51	6.0505E-02
EU-155	11790.	86.54	1.8654E-01
HF-181	14996.	482.18	1.4839E-01
TA-182	11271.	67.75	2.5480E-01
HG-203	14714.	279.20	9.1461E-02

Sample ID : S94T000348-DUP Acquisition date : 12-JAN-1995 03:08:05

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	4028.	569.70	7.1915E-02
TL-208	14686.	277.36	1.1738E+00
PB-210	11034.	46.50	0.0000E+00
BI-212	203.	727.18	2.8787E-01
PB-212	16456.	238.63	1.6133E-01
BI-214	3555.	609.31	1.5286E-01
PB-214	15054.	351.92	4.5254E-01
RA-224	16245.	240.99	1.7799E+00
RA-226	18803.	186.10	1.7431E+00
AC-228	244.	911.21	9.9875E-02
TH-228	11616.	84.37	5.0072E+00
TH-229	11735.	88.47	2.3870E-01
U-232	10880.	57.78	1.0076E+02
PA-233	14309.	312.17	2.0683E-01
PA-234M	91.	1001.03	2.9432E-02
TH-234	11082.	63.29	2.9365E+00
U-235	18485.	185.71	1.0504E-01
NP-237	11801.	86.48	4.9425E-01
U-237	10982.	59.54	5.0050E-01
NP-238	110.	984.45	6.8242E-02
NP-239	11983.	106.12	2.1189E-01
PU-239	13281.	129.30	7.1702E+02
AM-241	10983.	59.54	4.8007E-01

KB

By/DL

QA

LABCORE Data Entry Template for Worklist# 392

Analyst: RAG **Instrument:** GEA00 3 **Method:** LA-548-121 / D-1

Worklist Comment: Use 1 mL sample size. -PPB

WHC-SD-WM-DP-103, REV. 1

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
1	STD				@GEA-01	CS13702E	SOLID			N/A	% Ct.
1	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g
1	STD				@GEA-01	CO60-02E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000307	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000307	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000307	0	R	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000307	0	R	@GEA-01	CS13702E	SOLID			N/A	% Ct.
5	SAMPLE	S94T000317	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
5	SAMPLE	S94T000317	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
6	DUP	S94T000317	0	R	@GEA-01	CS13702	SOLID			N/A	uCi/g
6	DUP	S94T000317	0	R	@GEA-01	CS13702E	SOLID			N/A	% Ct.
7	SAMPLE	S94T000318	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
7	SAMPLE	S94T000318	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
8	DUP	S94T000318	0	R	@GEA-01	CS13702	SOLID			N/A	uCi/g
8	DUP	S94T000318	0	R	@GEA-01	CS13702E	SOLID			N/A	% Ct.
9	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
9	STD				@GEA-01	CS13702E	SOLID			N/A	% Ct.
9	STD				@GEA-01	CO60-02	SOLID			N/A	uCi/g

Data Entry Comments: STD # 64B52 - STD sample size - .100ml

Blank sampl. size - 1ml

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

LABCORE Data Entry Template for Worklist# 392

Analyst: _____ **Instrument:** GEA00 _____ **Method:** LA-548-121

Worklist Comment: Use 1 mL sample size. -PPB

WHC-SD-WM-DP-103, REV. 1

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
9	STD				@GEA-01	CO60-02E	SOLID			N/A	% Ct.
10	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
11	SAMPLE	S94T000319	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
11	SAMPLE	S94T000319	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
12	DUP	S94T000319	0	R	@GEA-01	CS13702	SOLID			N/A	uCi/g
12	DUP	S94T000319	0	R	@GEA-01	CS13702E	SOLID			N/A	% Ct.
13	SAMPLE	S94T000320	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
13	SAMPLE	S94T000320	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
14	DUP	S94T000320	0	R	@GEA-01	CS13702	SOLID			N/A	uCi/g
14	DUP	S94T000320	0	R	@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 392

Rae Ann Green
Analyst Signature

M G Brown

January 12, 1995
Date
1-13-95

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-103, REV. 1

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	CS137		26.3600	2.64E-02	4.64			0.00E+00		0.00E+00	NA
Work List	CO60		20.7200	2.07E-02	4.37			0.00E+00		1.04E-02	200.0
392				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			
WORKLIST#392				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			
RAG				0.00E+00				0.00E+00			
Date											
01/12/95											
Time											
10:00 AM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/13/95

Approved by: [signature] Date: 1/13/95

Form 548121_1 Rev. 2.2

1842

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

4.9489 < 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	CS137	<	0.0410	8.28E-03				ERR		ERR	NA
Work List				0.00E+00				ERR			
392				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			
S94T307				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			
RAG				0.00E+00				ERR			
Date											
01/12/95											
Time											
10:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/13/95

Approved by: [signature] Date: 1/13/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

4.9489 < Enter SAMPLE g/L 5.9014 < 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	CS137		673.8000	1.36E+02	0.26		800.2000	1.36E+02	0.24	1.36E+02	0.4
Work List				0.00E+00				0.00E+00			
392				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			
S94T307				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			
RAG				0.00E+00				0.00E+00			
Date											
01/12/95											
Time											
10:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/13/95

Approved by: [signature] Date: 1/13/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

14.3996 < Enter SAMPLE g/L 12.998 < 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	CS137		2348.0000	1.63E+02	0.14		2079.0000	1.60E+02	0.15	1.62E+02	1.9
Work List				0.00E+00				0.00E+00			
392				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			
S94T317				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			
RAG				0.00E+00				0.00E+00			
Date											
01/12/95											
Time											
10:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/13/95

Approved by: [signature] Date: 1/13/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

6.9348 < Enter SAMPLE g/L 7.4725 < 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	CS137		1119.0000	1.61E+02	0.21		1152.0000	1.64E+02	0.2	1.58E+02	4.6
Work List				0.00E+00				0.00E+00			
392				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			
S94T318				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			
RAG				0.00E+00				0.00E+00			
Date											
01/12/95											
Time											
10:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/13/95

Approved by: [signature] Date: 1/13/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

12.9512 < 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	CS137	<	0.0305	2.36E-03				ERR		ERR	NA
Work List				0.00E+00				ERR			
392				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			
S94T319				0.00E+00				ERR			
				0.00E+00				ERR			
Digest DF				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
DUP+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			
RAG				0.00E+00				ERR			
Date											
01/12/95											
Time											
10:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/13/95

Approved by: [signature] Date: 1/13/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

12.9512 < Enter SAMPLE g/L 12.5217 < 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	CS137		1395.0000	1.08E+02	0.18		1611.0000	1.29E+02	0.17	1.18E+02	17.7
Work List				0.00E+00				0.00E+00			
392				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			
S94T319				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			
RAG				0.00E+00				0.00E+00			
Date											
01/12/95											
Time											
10:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/13/95

Approved by: [signature] Date: 1/13/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

13.7168 < Enter SAMPLE g/L 14.0801 < 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	CS137		816.7000	5.95E+01	0.24		959.5000	6.81E+01	0.22	6.38E+01	13.5
Work List				0.00E+00				0.00E+00			
392				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			
S94T320				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			
RAG				0.00E+00				0.00E+00			
Date											
01/12/95											
Time											
10:00 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/13/95

Approved by: [signature] Date: 01/13/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 13:51:22.85                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                STD-WRKLST#392
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+01
Conversion 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 00:50:01.21 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 10:44:45.58
Decayed to:               12-JAN-1995 10:44:45.58
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: 1-12-95

B Bachelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.74*	2332	1.47	1323.66	1316	16	4.6		CS-137	26.4
0	1173.40	1294	1.87	2347.08	2339	18	6.4		CO-60	20.4
0	1332.61	1201	2.00	2665.59	2657	17	6.0		CO-60	21.0

Sample ID : STD-WRKLST#392 Acquisition date : 12-JAN-1995 10:44:45

WHC-SD-WM-DP-103, REV. 1

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	2.072E+01	2.072E+01	0.091E+01	4.37	
CS-137	30.00Y	1.000	2.636E+01	2.636E+01	0.122E+01	4.64	
		Total Activity :	4.708E+01	4.708E+01			
		Grand Total Activity :	4.708E+01	4.708E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : STD-WRKLST#392
Acquisition date : 12-JAN-1995 10:44:45

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	132.	477.59	3.7779E+00
NA-22	10.	1274.53	2.4821E-01
NA-24	10.	1368.55	2.6296E-01
K-40	137.	1460.75	9.5753E+00
SC-46	75.	1120.55	6.1062E-01
CR-51	160.	320.08	3.1331E+00
MN-54	71.	834.83	4.6145E-01
CO-56	86.	846.76	5.1358E-01
CO-57	166.	122.06	2.2271E-01
CO-58	68.	810.78	4.4311E-01
FE-59	74.	1099.25	1.0556E+00
ZN-65	58.	1115.55	1.0528E+00
SE-75	199.	264.66	5.2390E-01
KR-85	140.	514.00	9.8436E+01
SR-85	139.	514.01	4.4482E-01
Y-88	5.	1836.06	2.3407E-01
Y-90	3.	1760.70	6.1521E-01
Y-91	26.	1204.67	1.2626E+02
NB-94	85.	871.09	5.2244E-01
NB-95	68.	765.78	4.2007E-01
ZR-95	57.	756.73	6.9365E-01
RU-103	96.	497.08	3.7809E-01
RURH-106	73.	621.93	7.2978E+00
AG-108m	76.	722.94	4.6343E-01
CD-109	136.	88.03	6.6940E+00
AG-110M	102.	657.76	4.7515E-01
SN-113	141.	391.69	5.3927E-01
TE-123m	178.	159.00	2.3736E-01
SB-124	76.	602.73	3.6884E-01
SB-125	150.	427.89	1.2995E+00
TE-125m	187.	109.27	7.7114E+01
I-129	141.	39.60	0.0000E+00
I-131	148.	364.48	4.1365E-01
XE-131m	199.	163.93	1.0916E+01
BA-133	134.	356.02	5.0532E-01
CS-134	77.	604.70	3.7225E-01
CS-136	66.	818.51	4.3966E-01
CS-138	5.	1435.86	4.3080E-01
CE-139	192.	165.85	2.6476E-01
BA-140	97.	537.31	1.5176E+00
LA-140	9.	1596.21	2.9264E-01
CE-141	214.	145.44	4.4188E-01
CE-144	167.	133.51	1.6941E+00
CEPR-144	167.	133.51	3.3848E+00
EU-152	5.	1408.01	8.9377E-01
EU-154	10.	1274.51	7.2113E-01
EU-155	160.	86.54	8.2104E-01
HF-181	128.	482.18	4.8377E-01
TA-182	149.	67.75	1.1924E+00
HG-203	163.	279.20	3.5391E-01
BI-207	89.	569.70	3.8037E-01

Sample ID : STD-WRKLST#392 Acquisition date : 12-JAN-1995 10:44:45

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	168.	277.36	4.6132E+00
PB-210	142.	46.50	0.0000E+00
BI-212	50.	727.18	5.1679E+00
PB-212	210.	238.63	6.6908E-01
BI-214	108.	609.31	9.6877E-01
PB-214	154.	351.92	1.6613E+00
RA-224	212.	240.99	7.4588E+00
RA-226	211.	186.10	6.8092E+00
AC-228	96.	911.21	2.1749E+00
TH-228	169.	84.37	2.2951E+01
TH-229	137.	88.47	9.7274E-01
U-232	120.	57.78	5.1172E+02
PA-233	153.	312.17	7.8458E-01
PA-234M	72.	1001.03	9.1618E-01
TH-234	141.	63.29	1.4130E+01
U-235	209.	185.71	4.1169E-01
NP-237	161.	86.48	2.1834E+00
U-237	122.	59.54	2.4129E+00
NP-238	62.	984.45	1.7890E+00
NP-239	159.	106.12	9.0180E-01
PU-239	169.	129.30	2.9620E+03
AM-241	122.	59.54	2.3147E+00
AM-243	161.	74.67	6.2473E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 12:57:12.44                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                SS94T000307-BLK
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3092.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:        12-JAN-1995 12:06:36.28
Decayed to:               12-JAN-1995 12:06:36.28
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: 1.12.95

Bachelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	351.95*	41	4.40	704.20	696	16	92.3			
0	1460.92*	14	1.43	2922.33	2916	14	186.9		K-40	0.254

Summary of Nuclide Activity
Sample ID : SS94T000307-BLK

Acquisition date : 12-JAN-1995 12:06:36

WHC-SD-WM-DP-103, REV. 1

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~~	~~2.545E-01~~	~~2.545E-01~~	~~4.756E-01~~	~~186.88~~	BKG 1/13/95
Total Activity :			2.545E-01	2.545E-01			
Grand Total Activity :			2.545E-01	2.545E-01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : SS94T000307-BLK Acquisition date : 12-JAN-1995 12:06:36

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	39.	477.59	2.0613E-01
NA-22	7.	1274.53	2.0470E-02
NA-24	9.	1368.55	2.4906E-02
SC-46	29.	1120.55	3.8098E-02
CR-51	51.	320.08	1.7705E-01
MN-54	17.	834.83	2.2579E-02
CO-56	21.	846.76	2.5471E-02
CO-57	82.	122.06	1.5686E-02
CO-58	14.	810.78	2.0028E-02
FE-59	12.	1099.25	4.2269E-02
CO-60	7.	1332.50	2.0823E-02
ZN-65	10.	1115.55	4.3368E-02
SE-75	59.	264.66	2.8504E-02
KR-85	48.	514.00	5.7808E+00
SR-85	48.	514.01	2.6108E-02
Y-88	3.	1836.06	1.8173E-02
Y-90	7.	1760.70	9.1443E-02
Y-91	17.	1204.67	1.0164E+01
NB-94	16.	871.09	2.2715E-02
NB-95	16.	765.78	2.0381E-02
ZR-95	16.	756.73	3.6331E-02
RU-103	24.	497.08	1.8901E-02
RURH-106	24.	621.93	4.2201E-01
AG-108m	14.	722.94	1.9653E-02
CD-109	72.	88.03	4.8586E-01
AG-110M	19.	657.76	2.0474E-02
SN-113	36.	391.69	2.7178E-02
TE-123m	68.	159.00	1.4675E-02
SB-124	23.	602.73	2.0376E-02
SB-125	25.	427.89	5.2808E-02
TE-125m	51.	109.27	4.0158E+00
I-129	59.	39.60	0.0000E+00
I-131	43.	364.48	2.2264E-02
XE-131m	81.	163.93	6.9748E-01
BA-133	47.	356.02	3.0064E-02
CS-134	20.	604.70	1.8968E-02
CS-136	18.	818.51	2.2677E-02
CS-137	61.	661.66	4.0991E-02
CS-138	6.	1435.86	4.5875E-02
CE-139	81.	165.85	1.7223E-02
BA-140	25.	537.31	7.6421E-02
LA-140	3.	1596.21	1.7091E-02
CE-141	64.	145.44	2.4124E-02
CE-144	79.	133.51	1.1651E-01
CEPR-144	79.	133.51	2.3289E-01
EU-152	8.	1408.01	1.1504E-01
EU-154	7.	1274.51	5.9646E-02
EU-155	76.	86.54	5.6811E-02
HF-181	39.	482.18	2.6745E-02
TA-182	49.	67.75	6.8243E-02
HG-203	60.	279.20	2.1367E-02

Sample ID : SS94T000307-BLK Acquisition date : 12-JAN-1995 12:06:36

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	20.	569.70	1.7995E-02
TL-208	57.	277.36	2.6790E-01
PB-210	48.	46.50	0.0000E+00
BI-212	16.	727.18	2.8894E-01
PB-212	69.	238.63	3.8262E-02
BI-214	50.	609.31	6.5968E-02
PB-214	76.	351.92	1.1649E-01
RA-224	78.	240.99	4.5287E-01
RA-226	82.	186.10	4.2332E-01
AC-228	33.	911.21	1.2747E-01
TH-228	81.	84.37	1.5836E+00
TH-229	73.	88.47	7.0757E-02
U-232	35.	57.78	2.7861E+01
PA-233	46.	312.17	4.2925E-02
PA-234M	28.	1001.03	5.6830E-02
TH-234	49.	63.29	8.3259E-01
U-235	82.	185.71	2.5704E-02
NP-237	78.	86.48	1.5192E-01
U-237	46.	59.54	1.4814E-01
NP-238	15.	984.45	8.7823E-02
NP-239	78.	106.12	6.3033E-02
PU-239	70.	129.30	1.8992E+02
AM-241	46.	59.54	1.4211E-01
AM-243	74.	74.67	4.2520E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room    12-JAN-1995 14:53:23.68                 *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T307-SAMPLE
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3095.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:12.55 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 14:01:34.77
Decayed to:               12-JAN-1995 14:01:34.77
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: MB

date: 1-12-95

Bachelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.67*	596162	1.56	1323.51	1315	17	0.3		CS-137	674.

Sample ID : S94T307-SAMPLE
Acquisition date : 12-JAN-1995 14:01:34

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	6.738E+02	6.738E+02	0.018E+02	0.26	
		Total Activity :	6.738E+02	6.738E+02			
		Grand Total Activity :	6.738E+02	6.738E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T307-SAMPLE Acquisition date : 12-JAN-1995 14:01:34

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	18059.	477.59	4.4272E+00
NA-22	42.	1274.53	5.0940E-02
NA-24	9.	1368.55	2.4895E-02
K-40	120.	1460.75	8.9601E-01
SC-46	88.	1120.55	6.6219E-02
CR-51	14207.	320.08	2.9550E+00
MN-54	202.	834.83	7.7677E-02
CO-56	213.	846.76	8.0833E-02
CO-57	14495.	122.06	2.0836E-01
CO-58	231.	810.78	8.1453E-02
FE-59	92.	1099.25	1.1743E-01
CO-60	13.	1332.50	2.9226E-02
ZN-65	67.	1115.55	1.1345E-01
SE-75	15473.	264.66	4.6201E-01
KR-85	8935.	514.00	7.8742E+01
SR-85	8934.	514.01	3.5602E-01
Y-88	5.	1836.06	2.3461E-02
Y-90	6.	1760.70	8.7013E-02
Y-91	38.	1204.67	1.5404E+01
NB-94	166.	871.09	7.3096E-02
NB-95	274.	765.78	8.4272E-02
ZR-95	274.	756.73	1.5275E-01
RU-103	10991.	497.08	4.0554E-01
RURH-106	3119.	621.93	4.7856E+00
AG-108m	328.	722.94	9.6353E-02
CD-109	12486.	88.03	6.4035E+00
AG-110M	11175.	657.76	4.9798E-01
SN-113	15430.	391.69	5.6473E-01
TE-123m	14891.	159.00	2.1726E-01
SB-124	3273.	602.73	2.4214E-01
SB-125	17935.	427.89	1.4213E+00
TE-125m	13400.	109.27	6.5225E+01
I-129	11682.	39.60	0.0000E+00
I-131	14455.	364.48	4.0870E-01
XE-131m	14839.	163.93	9.4334E+00
BA-133	14206.	356.02	5.2020E-01
CS-134	3251.	604.70	2.4243E-01
CS-136	219.	818.51	7.9900E-02
CS-138	6.	1435.86	4.4084E-02
CE-139	15088.	165.85	2.3453E-01
BA-140	6159.	537.31	1.2081E+00
LA-140	4.	1596.21	1.8894E-02
CE-141	14998.	145.44	3.7022E-01
CE-144	14938.	133.51	1.6010E+00
CEPR-144	14938.	133.51	3.1992E+00
EU-152	10.	1408.01	1.2696E-01
EU-154	42.	1274.51	1.4771E-01
EU-155	12423.	86.54	7.2427E-01
HF-181	14510.	482.18	5.1415E-01
TA-182	11757.	67.75	1.0584E+00
HG-203	14887.	279.20	3.3794E-01

Sample ID : S94T307-SAMPLE Acquisition date : 12-JAN-1995 14:01:34

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	3862.	569.70	2.5058E-01
TL-208	15030.	277.36	4.3620E+00
PB-210	11689.	46.50	0.0000E+00
BI-212	305.	727.18	1.2755E+00
PB-212	17319.	238.63	6.0790E-01
BI-214	3193.	609.31	5.2685E-01
PB-214	14254.	351.92	1.6155E+00
RA-224	17058.	240.99	6.6989E+00
RA-226	20288.	186.10	6.6692E+00
AC-228	169.	911.21	2.8819E-01
TH-228	12404.	84.37	1.9656E+01
TH-229	12482.	88.47	9.2793E-01
U-232	11447.	57.78	5.0082E+02
PA-233	13823.	312.17	7.4635E-01
PA-234M	119.	1001.03	1.1827E-01
TH-234	11786.	63.29	1.2905E+01
U-235	20033.	185.71	4.0278E-01
NP-237	12428.	86.48	1.9188E+00
U-237	11466.	59.54	2.3419E+00
NP-238	100.	984.45	2.2836E-01
NP-239	12989.	106.12	8.1491E-01
PU-239	14838.	129.30	2.7747E+03
AM-241	11466.	59.54	2.2462E+00
AM-243	11979.	74.67	5.3964E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 16:08:04.42                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              S94T307-DUP
Sample Size:            1.00000E-03 LI
Dilution Factor:        1.00000E+00
Conversion LI to LI:    1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:            GEA3
File Number:            dka300:[spec.GEA3]3g3096.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:51:26.44 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      12-JAN-1995 15:16:03.10
Decayed to:             12-JAN-1995 15:16:03.10
Standard Deviations:    2
Analysis Library:       ENVGEA
Analyst:                MB
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: 1-12-95

R. J. Machelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.67*	708004	1.56	1323.52	1315	17	0.2		CS-137	800.
0	1322.88	86	2.47	2646.14	2642	10	42.0			
0	1460.72*	24	1.62	2921.93	2913	16	122.8		K-40	0.427

Summary of Nuclide Activity
Sample ID : S94T307-DUP

Acquisition date : 12-JAN-1995 15:16:03

WHC-SD-WM-DP-103, REV. 1

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
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~4.273E-01~~	~~4.273E-01~~	~~5.245E-01~~	~~122.75~~	BK 1/13/95
CS-137	30.00Y	1.000	8.002E+02	8.002E+02	0.019E+02	0.24	
		Total Activity :	8.007E+02	8.007E+02			
		Grand Total Activity :	8.007E+02	8.007E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S94T307-DUP

Acquisition date : 12-JAN-1995 15:16:03

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	21315.	477.59	4.8097E+00
NA-22	44.	1274.53	5.2145E-02
NA-24	8.	1368.55	2.3689E-02
SC-46	92.	1120.55	6.7426E-02
CR-51	16527.	320.08	3.1872E+00
MN-54	279.	834.83	9.1301E-02
CO-56	247.	846.76	8.7065E-02
CO-57	17107.	122.06	2.2635E-01
CO-58	285.	810.78	9.0440E-02
FE-59	130.	1099.25	1.3966E-01
CO-60	21.	1332.50	3.7469E-02
ZN-65	108.	1115.55	1.4405E-01
SE-75	18421.	264.66	5.0411E-01
KR-85	10740.	514.00	8.6329E+01
SR-85	10738.	514.01	3.9031E-01
Y-88	5.	1836.06	2.3461E-02
Y-90	7.	1760.70	9.5781E-02
Y-91	36.	1204.67	1.5034E+01
NB-94	250.	871.09	8.9654E-02
NB-95	377.	765.78	9.8857E-02
ZR-95	378.	756.73	1.7922E-01
RU-103	13147.	497.08	4.4355E-01
RURH-106	3597.	621.93	5.1391E+00
AG-108m	495.	722.94	1.1844E-01
CD-109	14774.	88.03	6.9654E+00
AG-110M	12835.	657.76	5.3367E-01
SN-113	18168.	391.69	6.1279E-01
TE-123m	17962.	159.00	2.3862E-01
SB-124	3950.	602.73	2.6601E-01
SB-125	21248.	427.89	1.5471E+00
TE-125m	16014.	109.27	7.1303E+01
I-129	13751.	39.60	0.0000E+00
I-131	17140.	364.48	4.4504E-01
XE-131m	17788.	163.93	1.0328E+01
BA-133	17120.	356.02	5.7106E-01
CS-134	3981.	604.70	2.6828E-01
CS-136	313.	818.51	9.5475E-02
CS-138	4.	1435.86	3.7354E-02
CE-139	17810.	165.85	2.5481E-01
BA-140	7509.	537.31	1.3339E+00
LA-140	5.	1596.21	2.1087E-02
CE-141	17791.	145.44	4.0321E-01
CE-144	17646.	133.51	1.7401E+00
CEPR-144	17646.	133.51	3.4771E+00
EU-152	13.	1408.01	1.4473E-01
EU-154	44.	1274.51	1.5143E-01
EU-155	14836.	86.54	7.9148E-01
HF-181	17153.	482.18	5.5901E-01
TA-182	13914.	67.75	1.1514E+00
HG-203	17747.	279.20	3.6897E-01
BI-207	4657.	569.70	2.7516E-01

Sample ID : S94T307-DUP Acquisition date : 12-JAN-1995 15:16:03

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	17654.	277.36	4.7275E+00
PB-210	13625.	46.50	0.0000E+00
BI-212	510.	727.18	1.6497E+00
PB-212	20376.	238.63	6.5937E-01
BI-214	3921.	609.31	5.8382E-01
PB-214	16888.	351.92	1.7626E+00
RA-224	20230.	240.99	7.2952E+00
RA-226	23749.	186.10	7.2156E+00
AC-228	191.	911.21	3.0639E-01
TH-228	14793.	84.37	2.1466E+01
TH-229	14743.	88.47	1.0085E+00
U-232	13665.	57.78	5.4720E+02
PA-233	16698.	312.17	8.2033E-01
PA-234M	143.	1001.03	1.2946E-01
TH-234	13871.	63.29	1.4000E+01
U-235	23454.	185.71	4.3582E-01
NP-237	14847.	86.48	2.0972E+00
U-237	13672.	59.54	2.5573E+00
NP-238	149.	984.45	2.7778E-01
NP-239	15413.	106.12	8.8772E-01
PU-239	17828.	129.30	3.0415E+03
AM-241	13672.	59.54	2.4528E+00
AM-243	14192.	74.67	5.8738E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 17:23:29.26                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T317-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3097.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:54:31.19 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 16:28:21.27
Decayed to:               12-JAN-1995 16:28:21.27
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: 1-12-95

Bachelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.68*	2076950	1.58	1323.53	1315	18	0.1		CS-137	2.348E+03
0	1322.49	1035	2.93	2645.34	2638	20	15.2			

Sample ID : S94T317-SAM
Acquisition date : 12-JAN-1995 16:28:21

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	2.348E+03	2.348E+03	0.003E+03	0.14	
		Total Activity :	2.348E+03	2.348E+03			
		Grand Total Activity :	2.348E+03	2.348E+03			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S94T317-SAM

Acquisition date : 12-JAN-1995 16:28:21

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	64611.	477.59	8.3741E+00
NA-22	387.	1274.53	1.5434E-01
NA-24	48.	1368.55	5.8794E-02
K-40	137.	1460.75	9.5913E-01
SC-46	830.	1120.55	2.0300E-01
CR-51	49910.	320.08	5.5389E+00
MN-54	2487.	834.83	2.7269E-01
CO-56	2437.	846.76	2.7337E-01
CO-57	50438.	122.06	3.8867E-01
CO-58	2675.	810.78	2.7729E-01
FE-59	893.	1099.25	3.6651E-01
CO-60	61.	1332.50	6.3546E-02
ZN-65	818.	1115.55	3.9574E-01
SE-75	54481.	264.66	8.6694E-01
KR-85	32656.	514.00	1.5053E+02
SR-85	32651.	514.01	6.8063E-01
Y-88	1.	1836.06	1.0492E-02
Y-90	9.	1760.70	1.0756E-01
Y-91	436.	1204.67	5.2137E+01
NB-94	2098.	871.09	2.5991E-01
NB-95	3085.	765.78	2.8266E-01
ZR-95	3338.	756.73	5.3279E-01
RU-103	40459.	497.08	7.7812E-01
RURH-106	11926.	621.93	9.3580E+00
AG-108m	3900.	722.94	3.3230E-01
CD-109	43734.	88.03	1.1984E+01
AG-110M	40417.	657.76	9.4703E-01
SN-113	54730.	391.69	1.0636E+00
TE-123m	52845.	159.00	4.0929E-01
SB-124	12858.	602.73	4.7994E-01
SB-125	64061.	427.89	2.6863E+00
TE-125m	46456.	109.27	1.2145E+02
I-129	40681.	39.60	0.0000E+00
I-131	51364.	364.48	7.7049E-01
XE-131m	52750.	163.93	1.7787E+01
BA-133	50913.	356.02	9.8480E-01
CS-134	12773.	604.70	4.8058E-01
CS-136	2675.	818.51	2.7907E-01
CS-138	28.	1435.86	1.0155E-01
CE-139	53164.	165.85	4.4024E-01
BA-140	23908.	537.31	2.3803E+00
LA-140	12.	1596.21	3.4055E-02
CE-141	52612.	145.44	6.9340E-01
CE-144	51835.	133.51	2.9824E+00
CEPR-144	51832.	133.51	5.9593E+00
EU-152	36.	1408.01	2.4258E-01
EU-154	386.	1274.51	4.4796E-01
EU-155	43261.	86.54	1.3515E+00
HF-181	52008.	482.18	9.7340E-01
TA-182	40716.	67.75	1.9696E+00
HG-203	52661.	279.20	6.3560E-01

Sample ID : S94T317-SAM Acquisition date : 12-JAN-1995 16:28:21

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	15046.	569.70	4.9457E-01
TL-208	53043.	277.36	8.1945E+00
PB-210	39972.	46.50	0.0000E+00
BI-212	3891.	727.18	4.5549E+00
PB-212	61378.	238.63	1.1444E+00
BI-214	12644.	609.31	1.0484E+00
PB-214	50823.	351.92	3.1540E+00
RA-224	60750.	240.99	1.2645E+01
RA-226	70396.	186.10	1.2423E+01
AC-228	1736.	911.21	9.2290E-01
TH-228	43191.	84.37	3.6679E+01
TH-229	43744.	88.47	1.7372E+00
U-232	40505.	57.78	9.4209E+02
PA-233	49709.	312.17	1.4154E+00
PA-234M	1211.	1001.03	3.7686E-01
TH-234	40739.	63.29	2.3993E+01
U-235	69607.	185.71	7.5080E-01
NP-237	43241.	86.48	3.5791E+00
U-237	40109.	59.54	4.3807E+00
NP-238	1324.	984.45	8.2966E-01
NP-239	46122.	106.12	1.5361E+00
PU-239	51451.	129.30	5.1670E+03
AM-241	40109.	59.54	4.2012E+00
AM-243	41796.	74.67	1.0080E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 18:43:47.84                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T317-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3098.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:56.94 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 17:48:51.54
Decayed to:               12-JAN-1995 17:48:51.54
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: 1-12-95

B Machelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	185.22*	840	1.52	370.86	369	6	85.6		RA-226	8.46
0	661.68*	1839067	1.58	1323.53	1315	18	0.2		CS-137	2.079E+03
0	1322.03	985	2.58	2644.43	2636	18	12.9			

Summary of Nuclide Activity
Sample ID : S94T317-DUP

Acquisition date : 12-JAN-1995 17:48:51

WHC-SD-WM-DP-103, REV. 1

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~~	~~2.079E+03~~	~~2.079E+03~~	~~0.003E+03~~	~~0.15~~	BKG 1/13/95
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~8.463E+00~~	~~8.463E+00~~	~~7.247E+00~~	~~85.63~~	
		Total Activity :	2.087E+03	2.087E+03			
		Grand Total Activity :	2.087E+03	2.087E+03			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T317-DUP Acquisition date : 12-JAN-1995 17:48:51

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	57012.	477.59	7.8663E+00
NA-22	310.	1274.53	1.3815E-01
NA-24	44.	1368.55	5.6214E-02
K-40	143.	1460.75	9.7693E-01
SC-46	663.	1120.55	1.8137E-01
CR-51	44190.	320.08	5.2118E+00
MN-54	1994.	834.83	2.4417E-01
CO-56	1968.	846.76	2.4567E-01
CO-57	44945.	122.06	3.6690E-01
CO-58	2197.	810.78	2.5132E-01
FE-59	793.	1099.25	3.4539E-01
CO-60	40.	1332.50	5.1207E-02
ZN-65	611.	1115.55	3.4192E-01
SE-75	48389.	264.66	8.1703E-01
KR-85	28897.	514.00	1.4160E+02
SR-85	28892.	514.01	6.4025E-01
Y-88	2.	1836.06	1.4838E-02
Y-90	7.	1760.70	9.4730E-02
Y-91	309.	1204.67	4.3905E+01
NB-94	1655.	871.09	2.3084E-01
NB-95	2523.	765.78	2.5561E-01
ZR-95	2555.	756.73	4.6611E-01
RU-103	35134.	497.08	7.2510E-01
RURH-106	10248.	621.93	8.6747E+00
AG-108m	3103.	722.94	2.9640E-01
CD-109	38509.	88.03	1.1246E+01
AG-110M	35229.	657.76	8.8416E-01
SN-113	48453.	391.69	1.0007E+00
TE-123m	46259.	159.00	3.8293E-01
SB-124	11070.	602.73	4.4532E-01
SB-125	56746.	427.89	2.5282E+00
TE-125m	41145.	109.27	1.1429E+02
I-129	36426.	39.60	0.0000E+00
I-131	45489.	364.48	7.2508E-01
XE-131m	46474.	163.93	1.6695E+01
BA-133	44764.	356.02	9.2342E-01
CS-134	11083.	604.70	4.4765E-01
CS-136	2030.	818.51	2.4309E-01
CS-138	25.	1435.86	9.4703E-02
CE-139	46510.	165.85	4.1177E-01
BA-140	20771.	537.31	2.2186E+00
LA-140	5.	1596.21	2.2579E-02
CE-141	46209.	145.44	6.4984E-01
CE-144	45740.	133.51	2.8016E+00
CEPR-144	45740.	133.51	5.5981E+00
EU-152	25.	1408.01	2.0435E-01
EU-154	310.	1274.51	4.0174E-01
EU-155	38529.	86.54	1.2755E+00
HF-181	45376.	482.18	9.0922E-01
TA-182	36235.	67.75	1.8580E+00
HG-203	46033.	279.20	5.9426E-01

Sample ID : S94T317-DUP Acquisition date : 12-JAN-1995 17:48:51

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	13093.	569.70	4.6135E-01
TL-208	46163.	277.36	7.6446E+00
PB-210	35850.	46.50	0.0000E+00
BI-212	3042.	727.18	4.0277E+00
PB-212	54107.	238.63	1.0745E+00
BI-214	10904.	609.31	9.7358E-01
PB-214	44480.	351.92	2.9338E+00
RA-224	53360.	240.99	1.1850E+01
AC-228	1420.	911.21	8.3465E-01
TH-228	38661.	84.37	3.4702E+01
TH-229	38396.	88.47	1.6275E+00
U-232	35500.	57.78	8.8197E+02
PA-233	44017.	312.17	1.3319E+00
PA-234M	999.	1001.03	3.4238E-01
TH-234	36103.	63.29	2.2587E+01
U-235	61539.	185.71	7.0595E-01
NP-237	38547.	86.48	3.3792E+00
U-237	35665.	59.54	4.1308E+00
NP-238	1025.	984.45	7.2982E-01
NP-239	40441.	106.12	1.4383E+00
PU-239	45279.	129.30	4.8472E+03
AM-241	35665.	59.54	3.9617E+00
AM-243	37197.	74.67	9.5093E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 19:40:42.78                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T318-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3099.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:52:02.48 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 18:48:06.17
Decayed to:               12-JAN-1995 18:48:06.17
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: 1-12-95

R. Machelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	186.00*	496	0.79	372.43	370	6	106.9		RA-226	5.00
0	661.67*	990392	1.57	1323.52	1315	17	0.2		CS-137	1.119E+03
0	1322.35	273	1.34	2645.06	2637	16	23.9			
0	1764.58*	13	3.14	3530.00	3520	21	76.9			

Summary of Nuclide Activity
Sample ID : S94T318-SAM

Acquisition date : 12-JAN-1995 18:48:06

WHC-SD-WM-DP-103, REV. 1

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	1.119E+03	1.119E+03	0.002E+03	0.21	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~4.998E+00~~	~~4.998E+00~~	~~5.344E+00~~	~~106.93~~	BRG 1/13/95
		Total Activity :	1.124E+03	1.124E+03			
		Grand Total Activity :	1.124E+03	1.124E+03			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	29903.	477.59	5.6969E+00
NA-22	83.	1274.53	7.1415E-02
NA-24	11.	1368.55	2.8699E-02
K-40	118.	1460.75	8.8894E-01
SC-46	184.	1120.55	9.5652E-02
CR-51	23367.	320.08	3.7899E+00
MN-54	517.	834.83	1.2427E-01
CO-56	527.	846.76	1.2716E-01
CO-57	23777.	122.06	2.6686E-01
CO-58	639.	810.78	1.3557E-01
FE-59	210.	1099.25	1.7774E-01
CO-60	12.	1332.50	2.8192E-02
ZN-65	161.	1115.55	1.7543E-01
SE-75	26108.	264.66	6.0014E-01
KR-85	15053.	514.00	1.0220E+02
SR-85	15053.	514.01	4.6213E-01
Y-88	1.	1836.06	9.5408E-03
Y-90	7.	1760.70	9.1831E-02
Y-91	93.	1204.67	2.4125E+01
NB-94	456.	871.09	1.2121E-01
NB-95	629.	765.78	1.2762E-01
ZR-95	784.	756.73	2.5829E-01
RU-103	18526.	497.08	5.2653E-01
RURH-106	5219.	621.93	6.1904E+00
AG-108m	878.	722.94	1.5768E-01
CD-109	21043.	88.03	8.3130E+00
AG-110M	18389.	657.76	6.3880E-01
SN-113	25910.	391.69	7.3179E-01
TE-123m	24924.	159.00	2.8108E-01
SB-124	5548.	602.73	3.1525E-01
SB-125	30015.	427.89	1.8387E+00
TE-125m	22217.	109.27	8.3985E+01
I-129	19542.	39.60	0.0000E+00
I-131	23822.	364.48	5.2467E-01
XE-131m	25105.	163.93	1.2270E+01
BA-133	23857.	356.02	6.7413E-01
CS-134	5580.	604.70	3.1764E-01
CS-136	612.	818.51	1.3345E-01
CS-138	11.	1435.86	6.1908E-02
CE-139	25049.	165.85	3.0219E-01
BA-140	10842.	537.31	1.6029E+00
LA-140	8.	1596.21	2.7381E-02
CE-141	24829.	145.44	4.7633E-01
CE-144	24896.	133.51	2.0669E+00
CEPR-144	24894.	133.51	4.1300E+00
EU-152	9.	1408.01	1.2085E-01
EU-154	83.	1274.51	2.0773E-01
EU-155	20973.	86.54	9.4104E-01
HF-181	24219.	482.18	6.6424E-01
TA-182	19198.	67.75	1.3525E+00
HG-203	25090.	279.20	4.3872E-01

Sample ID : S94T318-SAM Acquisition date : 12-JAN-1995 18:48:06

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	6663.	569.70	3.2910E-01
TL-208	25097.	277.36	5.6366E+00
PB-210	19234.	46.50	0.0000E+00
BI-212	866.	727.18	2.1492E+00
PB-212	28713.	238.63	7.8273E-01
BI-214	5358.	609.31	6.8245E-01
PB-214	23718.	351.92	2.1016E+00
RA-224	28549.	240.99	8.6667E+00
AC-228	398.	911.21	4.4173E-01
TH-228	20629.	84.37	2.5349E+01
TH-229	21181.	88.47	1.2088E+00
U-232	19212.	57.78	6.4883E+02
PA-233	23486.	312.17	9.7287E-01
PA-234M	268.	1001.03	1.7743E-01
TH-234	19014.	63.29	1.6392E+01
U-235	32962.	185.71	5.1666E-01
NP-237	20978.	86.48	2.4929E+00
U-237	19188.	59.54	3.0297E+00
NP-238	276.	984.45	3.7835E-01
NP-239	21567.	106.12	1.0502E+00
PU-239	24434.	129.30	3.5607E+03
AM-241	19188.	59.54	2.9058E+00
AM-243	20173.	74.67	7.0030E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 20:38:34.54                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T318-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3100.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:52:06.24 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 19:45:53.10
Decayed to:               12-JAN-1995 19:45:53.10
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. Malicia

date: 1-12-95

Bachelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.67*	1019476	1.57	1323.51	1315	18	0.2		CS-137	1.152E+03
0	1322.41	243	2.70	2645.18	2637	16	28.1			

Sample ID : S94T318-DUP
Acquisition date : 12-JAN-1995 19:45:53

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	1.152E+03	1.152E+03	0.002E+03	0.20	
		Total Activity :	1.152E+03	1.152E+03			
		Grand Total Activity :	1.152E+03	1.152E+03			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T318-DUP
Acquisition date : 12-JAN-1995 19:45:53

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	31063.	477.59	5.8064E+00
NA-22	93.	1274.53	7.5568E-02
NA-24	12.	1368.55	2.9906E-02
K-40	139.	1460.75	9.6410E-01
SC-46	216.	1120.55	1.0347E-01
CR-51	23959.	320.08	3.8375E+00
MN-54	586.	834.83	1.3232E-01
CO-56	592.	846.76	1.3478E-01
CO-57	24563.	122.06	2.7124E-01
CO-58	651.	810.78	1.3674E-01
FE-59	206.	1099.25	1.7617E-01
CO-60	16.	1332.50	3.2543E-02
ZN-65	189.	1115.55	1.9037E-01
SE-75	26449.	264.66	6.0405E-01
KR-85	15434.	514.00	1.0349E+02
SR-85	15431.	514.01	4.6790E-01
Y-88	2.	1836.06	1.4838E-02
Y-90	2.	1760.70	5.2882E-02
Y-91	115.	1204.67	2.6816E+01
NB-94	512.	871.09	1.2841E-01
NB-95	733.	765.78	1.3775E-01
ZR-95	812.	756.73	2.6285E-01
RU-103	18917.	497.08	5.3205E-01
RURH-106	5285.	621.93	6.2297E+00
AG-108m	907.	722.94	1.6027E-01
CD-109	21428.	88.03	8.3887E+00
AG-110M	19115.	657.76	6.5128E-01
SN-113	26480.	391.69	7.3981E-01
TE-123m	25724.	159.00	2.8556E-01
SB-124	5756.	602.73	3.2112E-01
SB-125	31103.	427.89	1.8718E+00
TE-125m	23050.	109.27	8.5546E+01
I-129	19834.	39.60	0.0000E+00
I-131	24533.	364.48	5.3245E-01
XE-131m	25553.	163.93	1.2379E+01
BA-133	24529.	356.02	6.8356E-01
CS-134	5721.	604.70	3.2163E-01
CS-136	627.	818.51	1.3507E-01
CS-138	6.	1435.86	4.6732E-02
CE-139	25814.	165.85	3.0677E-01
BA-140	11032.	537.31	1.6168E+00
LA-140	2.	1596.21	1.2348E-02
CE-141	25561.	145.44	4.8331E-01
CE-144	25508.	133.51	2.0921E+00
CEPR-144	25508.	133.51	4.1805E+00
EU-152	14.	1408.01	1.4989E-01
EU-154	93.	1274.51	2.1974E-01
EU-155	21384.	86.54	9.5022E-01
HF-181	24895.	482.18	6.7346E-01
TA-182	20105.	67.75	1.3840E+00
HG-203	25332.	279.20	4.4083E-01

Sample ID : S94T318-DUP Acquisition date : 12-JAN-1995 19:45:53

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	6803.	569.70	3.3255E-01
TL-208	25431.	277.36	5.6740E+00
PB-210	19663.	46.50	0.0000E+00
BI-212	931.	727.18	2.2280E+00
PB-212	29693.	238.63	7.9598E-01
BI-214	5700.	609.31	7.0389E-01
PB-214	24547.	351.92	2.1394E+00
RA-224	29245.	240.99	8.7718E+00
RA-226	34260.	186.10	8.6665E+00
AC-228	458.	911.21	4.7389E-01
TH-228	21441.	84.37	2.5843E+01
TH-229	21315.	88.47	1.2126E+00
U-232	19758.	57.78	6.5798E+02
PA-233	24235.	312.17	9.8827E-01
PA-234M	288.	1001.03	1.8364E-01
TH-234	19957.	63.29	1.6793E+01
U-235	33994.	185.71	5.2469E-01
NP-237	21386.	86.48	2.5170E+00
U-237	19761.	59.54	3.0746E+00
NP-238	304.	984.45	3.9723E-01
NP-239	22177.	106.12	1.0649E+00
PU-239	24976.	129.30	3.6000E+03
AM-241	19761.	59.54	2.9489E+00
AM-243	20503.	74.67	7.0600E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 22:00:08.30                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              S94T319-BLK
Sample Size:            1.00000E-03 LI
Dilution Factor:        1.00000E+00
Conversion LI to LI:    1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:            GEA3
File Number:            dka300:[spec.GEA3]3g3102.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:50:00.42 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      12-JAN-1995 21:09:33.40
Decayed to:             12-JAN-1995 21:09:33.40
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. Milcin

date: 1-12-95

R Machelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	609.51*	24	1.82	1219.20	1214	10	75.7			

WHC-SD-WM-DP-103, REV. 1

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

Minimum Detectable Activity Report
Sample ID : S94T319-BLK

Acquisition date : 12-JAN-1995 21:09:33

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	32.	477.59	1.8698E-01
NA-22	11.	1274.53	2.6235E-02
NA-24	5.	1368.55	1.8586E-02
K-40	129.	1460.75	9.3099E-01
SC-46	29.	1120.55	3.7627E-02
CR-51	65.	320.08	1.9954E-01
MN-54	22.	834.83	2.5873E-02
CO-56	10.	846.76	1.7454E-02
CO-57	72.	122.06	1.4642E-02
CO-58	16.	810.78	2.1701E-02
FE-59	15.	1099.25	4.7118E-02
CO-60	8.	1332.50	2.3019E-02
ZN-65	11.	1115.55	4.6366E-02
SE-75	68.	264.66	3.0577E-02
KR-85	52.	514.00	6.0078E+00
SR-85	52.	514.01	2.7074E-02
Y-88	4.	1836.06	2.0525E-02
Y-90	7.	1760.70	9.1815E-02
Y-91	17.	1204.67	1.0428E+01
NB-94	16.	871.09	2.2667E-02
NB-95	18.	765.78	2.1393E-02
ZR-95	16.	756.73	3.6618E-02
RU-103	25.	497.08	1.9237E-02
RURH-106	26.	621.93	4.3424E-01
AG-108m	14.	722.94	1.9716E-02
CD-109	64.	88.03	4.5925E-01
AG-110M	19.	657.76	2.0419E-02
SN-113	38.	391.69	2.7932E-02
TE-123m	69.	159.00	1.4782E-02
SB-124	26.	602.73	2.1511E-02
SB-125	42.	427.89	6.8743E-02
TE-125m	71.	109.27	4.7554E+00
I-129	53.	39.60	0.0000E+00
I-131	38.	364.48	2.1052E-02
XE-131m	80.	163.93	6.9410E-01
BA-133	45.	356.02	2.9160E-02
CS-134	21.	604.70	1.9572E-02
CS-136	13.	818.51	1.9726E-02
CS-137	34.	661.66	3.0515E-02
CS-138	5.	1435.86	4.1237E-02
CE-139	75.	165.85	1.6533E-02
BA-140	28.	537.31	8.1215E-02
LA-140	7.	1596.21	2.5475E-02
CE-141	78.	145.44	2.6763E-02
CE-144	75.	133.51	1.1360E-01
CEPR-144	75.	133.51	2.2703E-01
EU-152	4.	1408.01	7.9637E-02
EU-154	11.	1274.51	7.5947E-02
EU-155	66.	86.54	5.2948E-02
HF-181	34.	482.18	2.4904E-02
TA-182	57.	67.75	7.3969E-02

Sample ID : S94T319-BLK Acquisition date : 12-JAN-1995 21:09:33

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	61.	279.20	2.1690E-02
BI-207	33.	569.70	2.3263E-02
TL-208	67.	277.36	2.9156E-01
PB-210	59.	46.50	0.0000E+00
BI-212	18.	727.18	3.0731E-01
PB-212	81.	238.63	4.1575E-02
BI-214	53.	609.31	6.8062E-02
PB-214	51.	351.92	9.5547E-02
RA-224	56.	240.99	3.8282E-01
RA-226	80.	186.10	4.1959E-01
AC-228	32.	911.21	1.2568E-01
TH-228	60.	84.37	1.3626E+00
TH-229	65.	88.47	6.7066E-02
U-232	49.	57.78	3.2709E+01
PA-233	57.	312.17	4.7735E-02
PA-234M	19.	1001.03	4.7295E-02
TH-234	58.	63.29	9.0776E-01
U-235	76.	185.71	2.4876E-02
NP-237	67.	86.48	1.4079E-01
U-237	48.	59.54	1.5222E-01
NP-238	9.	984.45	6.7255E-02
NP-239	56.	106.12	5.3303E-02
PU-239	77.	129.30	1.9924E+02
AM-241	48.	59.54	1.4602E-01
AM-243	74.	74.67	4.2299E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   12-JAN-1995 22:57:31.62                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T319-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3103.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:52:34.31 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 22:04:22.39
Decayed to:               12-JAN-1995 22:04:22.39
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: 1-12-95

Machelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.67*	1234417	1.57	1323.52	1315	18	0.2		CS-137	1.395E+03
0	1322.80	251	2.11	2645.97	2641	17	33.9			

Sample ID : S94T319-SAM
Acquisition date : 12-JAN-1995 22:04:22

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	1.395E+03	1.395E+03	0.003E+03	0.18	
		Total Activity :	1.395E+03	1.395E+03			
		Grand Total Activity :	1.395E+03	1.395E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T319-SAM
Acquisition date : 12-JAN-1995 22:04:22

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	37866.	477.59	6.4108E+00
NA-22	148.	1274.53	9.5573E-02
NA-24	20.	1368.55	3.8348E-02
K-40	134.	1460.75	9.4689E-01
SC-46	296.	1120.55	1.2121E-01
CR-51	29002.	320.08	4.2222E+00
MN-54	847.	834.83	1.5909E-01
CO-56	787.	846.76	1.5531E-01
CO-57	30132.	122.06	3.0041E-01
CO-58	957.	810.78	1.6589E-01
FE-59	308.	1099.25	2.1530E-01
CO-60	31.	1332.50	4.5277E-02
ZN-65	278.	1115.55	2.3055E-01
SE-75	32424.	264.66	6.6880E-01
KR-85	19061.	514.00	1.1500E+02
SR-85	19058.	514.01	5.1999E-01
Y-88	1.	1836.06	1.0492E-02
Y-90	6.	1760.70	8.8190E-02
Y-91	124.	1204.67	2.7848E+01
NB-94	726.	871.09	1.5287E-01
NB-95	1071.	765.78	1.6656E-01
ZR-95	1179.	756.73	3.1662E-01
RU-103	23229.	497.08	5.8959E-01
RURH-106	6544.	621.93	6.9320E+00
AG-108m	1346.	722.94	1.9525E-01
CD-109	25711.	88.03	9.1890E+00
AG-110M	23534.	657.76	7.2266E-01
SN-113	32037.	391.69	8.1374E-01
TE-123m	31082.	159.00	3.1389E-01
SB-124	7048.	602.73	3.5534E-01
SB-125	37594.	427.89	2.0579E+00
TE-125m	27705.	109.27	9.3786E+01
I-129	24483.	39.60	0.0000E+00
I-131	30035.	364.48	5.8915E-01
XE-131m	31164.	163.93	1.3671E+01
BA-133	29932.	356.02	7.5510E-01
CS-134	7028.	604.70	3.5648E-01
CS-136	940.	818.51	1.6546E-01
CS-138	13.	1435.86	6.8144E-02
CE-139	31195.	165.85	3.3723E-01
BA-140	13520.	537.31	1.7899E+00
LA-140	6.	1596.21	2.3287E-02
CE-141	30807.	145.44	5.3059E-01
CE-144	30902.	133.51	2.3028E+00
CEPR-144	30901.	133.51	4.6013E+00
EU-152	21.	1408.01	1.8600E-01
EU-154	148.	1274.51	2.7767E-01
EU-155	25990.	86.54	1.0476E+00
HF-181	30040.	482.18	7.3978E-01
TA-182	24353.	67.75	1.5232E+00
HG-203	30744.	279.20	4.8564E-01

Sample ID : S94T319-SAM Acquisition date : 12-JAN-1995 22:04:22

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	8342.	569.70	3.6826E-01
TL-208	31028.	277.36	6.2673E+00
PB-210	23843.	46.50	0.0000E+00
BI-212	1359.	727.18	2.6918E+00
PB-212	36211.	238.63	8.7901E-01
BI-214	6981.	609.31	7.7902E-01
PB-214	29932.	351.92	2.3736E+00
RA-224	35695.	240.99	9.6912E+00
RA-226	41327.	186.10	9.5186E+00
AC-228	601.	911.21	5.4292E-01
TH-228	25870.	84.37	2.8387E+01
TH-229	25808.	88.47	1.3343E+00
U-232	23777.	57.78	7.2179E+02
PA-233	29538.	312.17	1.0910E+00
PA-234M	437.	1001.03	2.2643E-01
TH-234	24060.	63.29	1.8439E+01
U-235	40870.	185.71	5.7531E-01
NP-237	25984.	86.48	2.7744E+00
U-237	23852.	59.54	3.3780E+00
NP-238	423.	984.45	4.6861E-01
NP-239	27234.	106.12	1.1802E+00
PU-239	30952.	129.30	4.0076E+03
AM-241	23852.	59.54	3.2398E+00
AM-243	24668.	74.67	7.7440E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   13-JAN-1995 00:01:16.16                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T319-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3104.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:52:59.58 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        12-JAN-1995 23:07:38.45
Decayed to:               12-JAN-1995 23:07:38.45
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: [signature]

date: 1-13-95

[signature] 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.67*	1425063	1.57	1323.52	1315	18	0.2		CS-137	1.611E+03
0	1322.26	473	3.27	2644.88	2636	26	28.1			
0	1765.05*	12	1.54	3530.95	3524	16	81.7			

Sample ID : S94T319-DUP Acquisition date : 12-JAN-1995 23:07:38

WHC-SD-WM-DP-103, REV. 1

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	1.611E+03	1.611E+03	0.003E+03	0.17	
		Total Activity :	1.611E+03	1.611E+03			
		Grand Total Activity :	1.611E+03	1.611E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T319-DUP Acquisition date : 12-JAN-1995 23:07:38

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	43680.	477.59	6.8854E+00
NA-22	212.	1274.53	1.1415E-01
NA-24	21.	1368.55	3.8517E-02
K-40	130.	1460.75	9.3468E-01
SC-46	381.	1120.55	1.3742E-01
CR-51	33581.	320.08	4.5433E+00
MN-54	1097.	834.83	1.8105E-01
CO-56	1095.	846.76	1.8322E-01
CO-57	34647.	122.06	3.2213E-01
CO-58	1236.	810.78	1.8852E-01
FE-59	416.	1099.25	2.5013E-01
CO-60	20.	1332.50	3.6575E-02
ZN-65	363.	1115.55	2.6350E-01
SE-75	36987.	264.66	7.1431E-01
KR-85	21947.	514.00	1.2341E+02
SR-85	21944.	514.01	5.5797E-01
Y-88	7.	1836.06	2.7277E-02
Y-90	9.	1760.70	1.0557E-01
Y-91	182.	1204.67	3.3665E+01
NB-94	928.	871.09	1.7284E-01
NB-95	1476.	765.78	1.9551E-01
ZR-95	1508.	756.73	3.5809E-01
RU-103	26907.	497.08	6.3455E-01
RURH-106	7770.	621.93	7.5531E+00
AG-108m	1809.	722.94	2.2635E-01
CD-109	29869.	88.03	9.9040E+00
AG-110M	27071.	657.76	7.7505E-01
SN-113	37439.	391.69	8.7967E-01
TE-123m	36059.	159.00	3.3809E-01
SB-124	8417.	602.73	3.8831E-01
SB-125	43591.	427.89	2.2159E+00
TE-125m	31567.	109.27	1.0011E+02
I-129	27783.	39.60	0.0000E+00
I-131	34906.	364.48	6.3514E-01
XE-131m	36050.	163.93	1.4704E+01
BA-133	34506.	356.02	8.1075E-01
CS-134	8341.	604.70	3.8834E-01
CS-136	1252.	818.51	1.9092E-01
CS-138	16.	1435.86	7.6271E-02
CE-139	35956.	165.85	3.6204E-01
BA-140	15697.	537.31	1.9286E+00
LA-140	12.	1596.21	3.3717E-02
CE-141	35476.	145.44	5.6939E-01
CE-144	35511.	133.51	2.4685E+00
CEPR-144	35509.	133.51	4.9324E+00
EU-152	22.	1408.01	1.9077E-01
EU-154	211.	1274.51	3.3149E-01
EU-155	29637.	86.54	1.1187E+00
HF-181	34796.	482.18	7.9619E-01
TA-182	27788.	67.75	1.6271E+00
HG-203	35716.	279.20	5.2345E-01

Sample ID : S94T319-DUP Acquisition date : 12-JAN-1995 23:07:38

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	9824.	569.70	3.9962E-01
TL-208	35811.	277.36	6.7331E+00
PB-210	27603.	46.50	0.0000E+00
BI-212	1707.	727.18	3.0172E+00
PB-212	41375.	238.63	9.3960E-01
BI-214	8113.	609.31	8.3976E-01
PB-214	34335.	351.92	2.5530E+00
RA-224	40839.	240.99	1.0366E+01
RA-226	47850.	186.10	1.0242E+01
AC-228	796.	911.21	6.2486E-01
TH-228	29396.	84.37	3.0259E+01
TH-229	29788.	88.47	1.4335E+00
U-232	27346.	57.78	7.7407E+02
PA-233	33815.	312.17	1.1674E+00
PA-234M	560.	1001.03	2.5639E-01
TH-234	27520.	63.29	1.9720E+01
U-235	47202.	185.71	6.1827E-01
NP-237	29638.	86.48	2.9631E+00
U-237	27182.	59.54	3.6061E+00
NP-238	608.	984.45	5.6202E-01
NP-239	31241.	106.12	1.2641E+00
PU-239	35172.	129.30	4.2721E+03
AM-241	27182.	59.54	3.4585E+00
AM-243	28615.	74.67	8.3405E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   13-JAN-1995 01:39:57.32                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T000320-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3105.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:28.38 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        13-JAN-1995 00:47:54.49
Decayed to:               13-JAN-1995 00:47:54.49
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: 1-13-95

1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.67*	722566	1.56	1323.52	1315	18	0.2		CS-137	817.
0	1323.26	88	1.54	2646.89	2642	12	48.1			

Sample ID : S94T000320-SAM
Acquisition date : 13-JAN-1995 00:47:54

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	8.167E+02	8.167E+02	0.020E+02	0.24	
		Total Activity :	8.167E+02	8.167E+02			
		Grand Total Activity :	8.167E+02	8.167E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T000320-SAM
Acquisition date : 13-JAN-1995 00:47:54

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	22058.	477.59	4.8929E+00
NA-22	76.	1274.53	6.8304E-02
NA-24	8.	1368.55	2.4634E-02
K-40	132.	1460.75	9.4182E-01
SC-46	99.	1120.55	7.0132E-02
CR-51	16926.	320.08	3.2254E+00
MN-54	304.	834.83	9.5277E-02
CO-56	283.	846.76	9.3215E-02
CO-57	17723.	122.06	2.3039E-01
CO-58	318.	810.78	9.5588E-02
FE-59	118.	1099.25	1.3323E-01
CO-60	10.	1332.50	2.6120E-02
ZN-65	120.	1115.55	1.5175E-01
SE-75	18810.	264.66	5.0940E-01
KR-85	10938.	514.00	8.7118E+01
SR-85	10937.	514.01	3.9392E-01
Y-88	5.	1836.06	2.3461E-02
Y-90	5.	1760.70	8.2273E-02
Y-91	45.	1204.67	1.6757E+01
NB-94	234.	871.09	8.6838E-02
NB-95	382.	765.78	9.9489E-02
ZR-95	376.	756.73	1.7890E-01
RU-103	13251.	497.08	4.4529E-01
RURH-106	3803.	621.93	5.2846E+00
AG-108m	475.	722.94	1.1593E-01
CD-109	15153.	88.03	7.0543E+00
AG-110M	13429.	657.76	5.4589E-01
SN-113	18560.	391.69	6.1935E-01
TE-123m	18475.	159.00	2.4200E-01
SB-124	3973.	602.73	2.6679E-01
SB-125	21605.	427.89	1.5600E+00
TE-125m	16210.	109.27	7.1739E+01
I-129	14385.	39.60	0.0000E+00
I-131	17399.	364.48	4.4839E-01
XE-131m	18134.	163.93	1.0428E+01
BA-133	17278.	356.02	5.7369E-01
CS-134	3899.	604.70	2.6551E-01
CS-136	321.	818.51	9.6726E-02
CS-138	8.	1435.86	5.3459E-02
CE-139	18349.	165.85	2.5863E-01
BA-140	7802.	537.31	1.3597E+00
LA-140	8.	1596.21	2.7556E-02
CE-141	18179.	145.44	4.0759E-01
CE-144	17994.	133.51	1.7572E+00
CEPR-144	17992.	133.51	3.5111E+00
EU-152	13.	1408.01	1.4470E-01
EU-154	76.	1274.51	1.9860E-01
EU-155	15196.	86.54	8.0101E-01
HF-181	17311.	482.18	5.6158E-01
TA-182	14401.	67.75	1.1713E+00
HG-203	18088.	279.20	3.7250E-01

Sample ID : S94T000320-SAM Acquisition date : 13-JAN-1995 00:47:54

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	4750.	569.70	2.7787E-01
TL-208	18191.	277.36	4.7988E+00
PB-210	14163.	46.50	0.0000E+00
BI-212	487.	727.18	1.6107E+00
PB-212	20911.	238.63	6.6797E-01
BI-214	3798.	609.31	5.7458E-01
PB-214	17264.	351.92	1.7827E+00
RA-224	20796.	240.99	7.3967E+00
RA-226	24419.	186.10	7.3167E+00
AC-228	197.	911.21	3.1119E-01
TH-228	15115.	84.37	2.1698E+01
TH-229	15191.	88.47	1.0237E+00
U-232	14114.	57.78	5.5611E+02
PA-233	16963.	312.17	8.2680E-01
PA-234M	144.	1001.03	1.3016E-01
TH-234	14089.	63.29	1.4110E+01
U-235	24148.	185.71	4.4222E-01
NP-237	15195.	86.48	2.1216E+00
U-237	14036.	59.54	2.5912E+00
NP-238	140.	984.45	2.6942E-01
NP-239	15974.	106.12	9.0373E-01
PU-239	18165.	129.30	3.0702E+03
AM-241	14036.	59.54	2.4853E+00
AM-243	14520.	74.67	5.9412E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   13-JAN-1995 02:38:56.29                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T0003201-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3106.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:44.34 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        13-JAN-1995 01:46:32.83
Decayed to:               13-JAN-1995 01:46:32.83
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: A Johansen

date: 1-13-95

BS Bachelor 1/13/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.67*	848932	1.57	1323.51	1315	17	0.2		CS-137	960.
0	1321.83	207	2.03	2644.03	2637	18	27.5			

Sample ID : S94T0003201-DUP
Acquisition date : 13-JAN-1995 01:46:32

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	9.595E+02	9.595E+02	0.021E+02	0.22	
		Total Activity :	9.595E+02	9.595E+02			
		Grand Total Activity :	9.595E+02	9.595E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T0003201-DUP
Acquisition date : 13-JAN-1995 01:46:32

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	25700.	477.59	5.2814E+00
NA-22	80.	1274.53	7.0090E-02
NA-24	10.	1368.55	2.6795E-02
K-40	130.	1460.75	9.3304E-01
SC-46	145.	1120.55	8.4713E-02
CR-51	20128.	320.08	3.5174E+00
MN-54	391.	834.83	1.0818E-01
CO-56	401.	846.76	1.1094E-01
CO-57	20472.	122.06	2.4762E-01
CO-58	464.	810.78	1.1548E-01
FE-59	157.	1099.25	1.5349E-01
CO-60	21.	1332.50	3.7377E-02
ZN-65	176.	1115.55	1.8370E-01
SE-75	22108.	264.66	5.5225E-01
KR-85	12775.	514.00	9.4151E+01
SR-85	12772.	514.01	4.2568E-01
Y-88	3.	1836.06	1.8173E-02
Y-90	9.	1760.70	1.0847E-01
Y-91	70.	1204.67	2.0892E+01
NB-94	355.	871.09	1.0698E-01
NB-95	501.	765.78	1.1389E-01
ZR-95	569.	756.73	2.2004E-01
RU-103	15967.	497.08	4.8881E-01
RURH-106	4390.	621.93	5.6776E+00
AG-108m	671.	722.94	1.3787E-01
CD-109	17664.	88.03	7.6163E+00
AG-110M	15847.	657.76	5.9299E-01
SN-113	22098.	391.69	6.7582E-01
TE-123m	21199.	159.00	2.5923E-01
SB-124	4695.	602.73	2.9000E-01
SB-125	25586.	427.89	1.6977E+00
TE-125m	19148.	109.27	7.7970E+01
I-129	16849.	39.60	0.0000E+00
I-131	20727.	364.48	4.8940E-01
XE-131m	21486.	163.93	1.1351E+01
BA-133	20229.	356.02	6.2076E-01
CS-134	4728.	604.70	2.9239E-01
CS-136	396.	818.51	1.0737E-01
CS-138	3.	1435.86	3.3643E-02
CE-139	21691.	165.85	2.8120E-01
BA-140	9195.	537.31	1.4761E+00
LA-140	4.	1596.21	1.9740E-02
CE-141	21357.	145.44	4.4177E-01
CE-144	21228.	133.51	1.9086E+00
CEPR-144	21228.	133.51	3.8137E+00
EU-152	16.	1408.01	1.6479E-01
EU-154	80.	1274.51	2.0368E-01
EU-155	17693.	86.54	8.6433E-01
HF-181	20436.	482.18	6.1017E-01
TA-182	16801.	67.75	1.2652E+00
HG-203	20990.	279.20	4.0128E-01

Sample ID : S94T0003201-DUP Acquisition date : 13-JAN-1995 01:46:32

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	5527.	569.70	2.9974E-01
TL-208	21192.	277.36	5.1796E+00
PB-210	16473.	46.50	0.0000E+00
BI-212	642.	727.18	1.8501E+00
PB-212	24920.	238.63	7.2921E-01
BI-214	4644.	609.31	6.3536E-01
PB-214	20631.	351.92	1.9541E+00
RA-224	24526.	240.99	8.0327E+00
RA-226	28502.	186.10	7.9048E+00
AC-228	279.	911.21	3.6996E-01
TH-228	17732.	84.37	2.3501E+01
TH-229	17752.	88.47	1.1066E+00
U-232	16381.	57.78	5.9912E+02
PA-233	20050.	312.17	8.9889E-01
PA-234M	178.	1001.03	1.4431E-01
TH-234	16519.	63.29	1.5278E+01
U-235	28082.	185.71	4.7689E-01
NP-237	17691.	86.48	2.2892E+00
U-237	16394.	59.54	2.8004E+00
NP-238	215.	984.45	3.3430E-01
NP-239	19004.	106.12	9.8575E-01
PU-239	21049.	129.30	3.3049E+03
AM-241	16394.	59.54	2.6859E+00
AM-243	17158.	74.67	6.4583E-01

KB

By 106

QA

WHC-SD-WM-DP-103, REV. 1

LABCORE Data Entry Template for Worklist# 426

Analyst: MCJ **Instrument:** GEA00 3 **Method:** LA-548-121/D-1

Worklist Comment: Use 1 mL sample size. -PPB (Re-run of samples) (Due to contaminated blank QB 1/25/95) ~~(Due to high RPD.)~~

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	# 64852			@GEA-01	CO60-02	SOLID			N/A	uCi/g
1	STD				@GEA-01	CO60-02E	SOLID			N/A	% Ct.
1	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
1	STD				@GEA-01	CS13702E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000374	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000374	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000374	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000374	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
5	SAMPLE	S94T000375	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
5	SAMPLE	S94T000375	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
6	DUP	S94T000375	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
6	DUP	S94T000375	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 426

Mike Jones
Analyst Signature

1-24-95
Date

M Brown

1-26-95

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-103, REV. 1

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		21.3400	2.13E-02	4.23			0.00E+00		1.07E-02	200.0
Work List	CS137		25.8600	2.59E-02	4.66			0.00E+00		1.29E-02	200.0
426				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			
WORKLIST 426				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			
MCJ				0.00E+00				0.00E+00			
Date											
01/24/95											
Time											
06:30 AM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

2.032 < 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	CS137	<	0.0347	1.71E-02				ERR		ERR	NA
Work List				0.00E+00				ERR			
426				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			
S94T374				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			
MCJ				0.00E+00				ERR			
Date											
01/24/95											
Time											
06:30 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

2.032 < Enter SAMPLE g/L 2.0372 < 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	CS137		198.6000	9.77E+01	0.49		208.1000	1.02E+02	0.48	9.99E+01	4.4
Work List				0.00E+00				0.00E+00			
426				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			
S94T374				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			
MCJ				0.00E+00				0.00E+00			
Date											
01/24/95											
Time											
06:30 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

1905

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-103, REV. 1

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

2.1472 < Enter SAMPLE g/L 2.146 < 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	CS137		133.8000	6.23E+01	0.59		131.4000	6.12E+01	0.6	6.18E+01	1.8
Work List				0.00E+00				0.00E+00			
426				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			
S94T375				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			
DUF x 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			
MCJ				0.00E+00				0.00E+00			
Date											
01/24/95											
Time											
06:30 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 12:21:24.08                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                WORKLIST#426-STD
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+01
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3197.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.24 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 11:30:44.03
Decayed to:               24-JAN-1995 11:30:44.03
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.82*	2287	1.60	1323.81	1316	15	4.7		CS-137	25.8
0	1173.35	1350	1.84	2346.96	2337	20	6.1		CO-60	21.3
0	1332.65	1221	2.00	2665.68	2658	19	5.8		CO-60	21.4

Sample ID : WORKLIST#426-STD Acquisition date : 24-JAN-1995 11:30:44

WHC-SD-WM-DP-103, REV. 1

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	2.134E+01	2.134E+01	0.090E+01	4.23	
CS-137	30.00Y	1.000	2.585E+01	2.585E+01	0.120E+01	4.65	
		Total Activity :	4.718E+01	4.718E+01			
		Grand Total Activity :	4.718E+01	4.718E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : WORKLIST#426-STD Acquisition date : 24-JAN-1995 11:30:44

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	137.	477.59	3.8529E+00
NA-22	16.	1274.53	3.1581E-01
NA-24	7.	1368.55	2.2404E-01
K-40	141.	1460.75	9.7299E+00
SC-46	66.	1120.55	5.7299E-01
CR-51	152.	320.08	3.0597E+00
MN-54	75.	834.83	4.7326E-01
CO-56	80.	846.76	4.9555E-01
CO-57	187.	122.06	2.3695E-01
CO-58	74.	810.78	4.6082E-01
FE-59	69.	1099.25	1.0188E+00
ZN-65	61.	1115.55	1.0776E+00
SE-75	172.	264.66	4.8677E-01
KR-85	118.	514.00	9.0624E+01
SR-85	118.	514.01	4.0944E-01
Y-88	6.	1836.06	2.5327E-01
Y-90	3.	1760.70	6.3696E-01
Y-91	20.	1204.67	1.1265E+02
NB-94	92.	871.09	5.4545E-01
NB-95	61.	765.78	3.9598E-01
ZR-95	67.	756.73	7.5540E-01
RU-103	117.	497.08	4.1814E-01
RURH-106	65.	621.93	6.9150E+00
AG-108m	67.	722.94	4.3475E-01
CD-109	153.	88.03	7.0955E+00
AG-110M	83.	657.76	4.2875E-01
SN-113	153.	391.69	5.6193E-01
TE-123m	206.	159.00	2.5537E-01
SB-124	75.	602.73	3.6567E-01
SB-125	147.	427.89	1.2856E+00
TE-125m	177.	109.27	7.5035E+01
I-129	147.	39.60	0.0000E+00
I-131	135.	364.48	3.9553E-01
XE-131m	188.	163.93	1.0611E+01
BA-133	139.	356.02	5.1518E-01
CS-134	80.	604.70	3.7921E-01
CS-136	71.	818.51	4.5507E-01
CS-138	11.	1435.86	6.1172E-01
CE-139	177.	165.85	2.5381E-01
BA-140	103.	537.31	1.5615E+00
LA-140	6.	1596.21	2.3959E-01
CE-141	215.	145.44	4.4282E-01
CE-144	193.	133.51	1.8182E+00
CEPR-144	193.	133.51	3.6331E+00
EU-152	10.	1408.01	1.2754E+00
EU-154	16.	1274.51	9.1865E-01
EU-155	155.	86.54	8.0838E-01
HF-181	128.	482.18	4.8315E-01
TA-182	152.	67.75	1.2039E+00
HG-203	162.	279.20	3.5245E-01
BI-207	81.	569.70	3.6270E-01

Sample ID : WORKLIST#426-STD Acquisition date : 24-JAN-1995 11:30:44

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	157.	277.36	4.4632E+00
PB-210	136.	46.50	0.0000E+00
BI-212	70.	727.18	6.1133E+00
PB-212	228.	238.63	6.9769E-01
BI-214	94.	609.31	9.0279E-01
PB-214	168.	351.92	1.7344E+00
RA-224	200.	240.99	7.2488E+00
RA-226	187.	186.10	6.4094E+00
AC-228	94.	911.21	2.1471E+00
TH-228	169.	84.37	2.2913E+01
TH-229	159.	88.47	1.0486E+00
U-232	163.	57.78	5.9838E+02
PA-233	153.	312.17	7.8681E-01
PA-234M	74.	1001.03	2.7674E+01
TH-234	180.	63.29	1.5955E+01
U-235	188.	185.71	3.8972E-01
NP-237	157.	86.48	2.1549E+00
U-237	136.	59.54	2.5492E+00
NP-238	85.	984.45	2.1028E+00
NP-239	147.	106.12	8.6757E-01
PU-239	196.	129.30	3.1853E+03
AM-241	136.	59.54	2.4450E+00
AM-243	177.	74.67	6.5531E-01

```
*************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 13:45:53.11              *
*************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T374-BLANK
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3199.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:        24-JAN-1995 12:55:10.92
Decayed to:               24-JAN-1995 12:55:10.92
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: 1-24-95

1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	351.82*	26	1.61	703.94	699	10	106.9			
0	609.77*	28	1.43	1219.72	1214	14	86.1			
0	773.37	19	1.04	1546.90	1543	10	63.1			
0	911.38*	11	2.10	1822.94	1820	8	111.7			
0	1120.68*	16	1.72	2241.60	2237	12	83.4			

Sample ID : S94T374-BLANK
Acquisition date : 24-JAN-1995 12:55:10

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	5	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	4	80.00%

**** 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 : S94T374-BLANK Acquisition date : 24-JAN-1995 12:55:10

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	24.	477.59	1.6137E-01
NA-22	9.	1274.53	2.3771E-02
NA-24	5.	1368.55	1.8934E-02
K-40	136.	1460.75	9.5544E-01
SC-46	29.	1120.55	3.8133E-02
CR-51	55.	320.08	1.8416E-01
MN-54	12.	834.83	1.9235E-02
CO-56	17.	846.76	2.2676E-02
CO-57	76.	122.06	1.5074E-02
CO-58	17.	810.78	2.2263E-02
FE-59	12.	1099.25	4.1899E-02
CO-60	11.	1332.50	2.6430E-02
ZN-65	12.	1115.55	4.7932E-02
SE-75	66.	264.66	3.0097E-02
KR-85	57.	514.00	6.3060E+00
SR-85	57.	514.01	2.8465E-02
Y-88	2.	1836.06	1.4838E-02
Y-90	6.	1760.70	8.7783E-02
Y-91	15.	1204.67	9.7921E+00
NB-94	16.	871.09	2.2926E-02
NB-95	13.	765.78	1.8058E-02
ZR-95	23.	756.73	4.3768E-02
RU-103	26.	497.08	1.9899E-02
RURH-106	29.	621.93	4.5885E-01
AG-108m	20.	722.94	2.3637E-02
CD-109	57.	88.03	4.3220E-01
AG-110M	22.	657.76	2.2132E-02
SN-113	48.	391.69	3.1452E-02
TE-123m	77.	159.00	1.5659E-02
SB-124	24.	602.73	2.0585E-02
SB-125	35.	427.89	6.2404E-02
TE-125m	59.	109.27	4.3205E+00
I-129	53.	39.60	0.0000E+00
I-131	50.	364.48	2.3937E-02
XE-131m	101.	163.93	7.7966E-01
BA-133	44.	356.02	2.9018E-02
CS-134	19.	604.70	1.8383E-02
CS-136	12.	818.51	1.8428E-02
CS-137	44.	661.66	3.4678E-02
CS-138	5.	1435.86	4.0495E-02
CE-139	73.	165.85	1.6296E-02
BA-140	27.	537.31	8.0090E-02
LA-140	4.	1596.21	1.8631E-02
CE-141	88.	145.44	2.8395E-02
CE-144	77.	133.51	1.1527E-01
CEPR-144	77.	133.51	2.3027E-01
EU-152	9.	1408.01	1.1859E-01
EU-154	9.	1274.51	6.8760E-02
EU-155	48.	86.54	4.5047E-02
HF-181	28.	482.18	2.2604E-02
TA-182	54.	67.75	7.2022E-02

Sample ID : S94T374-BLANK Acquisition date : 24-JAN-1995 12:55:10

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	64.	279.20	2.2234E-02
BI-207	32.	569.70	2.2646E-02
TL-208	65.	277.36	2.8621E-01
PB-210	42.	46.50	0.0000E+00
BI-212	27.	727.18	3.8088E-01
PB-212	86.	238.63	4.2820E-02
BI-214	57.	609.31	7.0517E-02
PB-214	74.	351.92	1.1496E-01
RA-224	81.	240.99	4.6281E-01
RA-226	87.	186.10	4.3758E-01
AC-228	28.	911.21	1.1796E-01
TH-228	53.	84.37	1.2859E+00
TH-229	58.	88.47	6.3147E-02
U-232	50.	57.78	3.3263E+01
PA-233	56.	312.17	4.7614E-02
PA-234M	14.	1001.03	1.2005E+00
TH-234	63.	63.29	9.4726E-01
U-235	84.	185.71	2.6080E-02
NP-237	49.	86.48	1.2024E-01
U-237	52.	59.54	1.5826E-01
NP-238	14.	984.45	8.6307E-02
NP-239	66.	106.12	5.7883E-02
PU-239	74.	129.30	1.9551E+02
AM-241	52.	59.54	1.5181E-01
AM-243	74.	74.67	4.2355E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 14:44:43.18                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T374-SAMPLE
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3200.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:21.25 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 13:53:42.50
Decayed to:               24-JAN-1995 13:53:42.50
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.77*	175740	1.55	1323.72	1315	18	0.5		CS-137	199.

Sample ID : S94T374-SAMPLE
Acquisition date : 24-JAN-1995 13:53:42
WHC-SD-WM-DP-103, REV. 1

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	1.986E+02	1.986E+02	0.001E+03	0.49	
		Total Activity :	1.986E+02	1.986E+02			
		Grand Total Activity :	1.986E+02	1.986E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T374-SAMPLE
Acquisition date : 24-JAN-1995 13:53:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	5334.	477.59	2.4061E+00
NA-22	19.	1274.53	3.4398E-02
NA-24	8.	1368.55	2.3954E-02
K-40	136.	1460.75	9.5593E-01
SC-46	34.	1120.55	4.1178E-02
CR-51	4150.	320.08	1.5971E+00
MN-54	36.	834.83	3.2885E-02
CO-56	26.	846.76	2.8067E-02
CO-57	4347.	122.06	1.1411E-01
CO-58	33.	810.78	3.0693E-02
FE-59	19.	1099.25	5.2824E-02
CO-60	6.	1332.50	1.9935E-02
ZN-65	15.	1115.55	5.3944E-02
SE-75	4661.	264.66	2.5356E-01
KR-85	2636.	514.00	4.2772E+01
SR-85	2637.	514.01	1.9342E-01
Y-88	2.	1836.06	1.4181E-02
Y-90	5.	1760.70	7.6413E-02
Y-91	13.	1204.67	8.9058E+00
NB-94	32.	871.09	3.2009E-02
NB-95	47.	765.78	3.4917E-02
ZR-95	35.	756.73	5.4594E-02
RU-103	3191.	497.08	2.1853E-01
RURH-106	922.	621.93	2.6019E+00
AG-108m	43.	722.94	3.4788E-02
CD-109	3789.	88.03	3.5274E+00
AG-110M	2369.	657.76	2.2927E-01
SN-113	4567.	391.69	3.0724E-01
TE-123m	4449.	159.00	1.1875E-01
SB-124	980.	602.73	1.3247E-01
SB-125	5286.	427.89	7.7161E-01
TE-125m	4125.	109.27	3.6189E+01
I-129	3437.	39.60	0.0000E+00
I-131	4284.	364.48	2.2250E-01
XE-131m	4496.	163.93	5.1922E+00
BA-133	4304.	356.02	2.8632E-01
CS-134	942.	604.70	1.3048E-01
CS-136	35.	818.51	3.1872E-02
CS-138	3.	1435.86	3.3235E-02
CE-139	4512.	165.85	1.2825E-01
BA-140	1896.	537.31	6.7020E-01
LA-140	7.	1596.21	2.5724E-02
CE-141	4541.	145.44	2.0370E-01
CE-144	4536.	133.51	8.8223E-01
CEPR-144	4536.	133.51	1.7628E+00
EU-152	2.	1408.01	5.3781E-02
EU-154	19.	1274.51	1.0035E-01
EU-155	3678.	86.54	3.9407E-01
HF-181	4232.	482.18	2.7766E-01
TA-182	3542.	67.75	5.8091E-01
HG-203	4265.	279.20	1.8088E-01

Sample ID : S94T374-SAMPLE Acquisition date : 24-JAN-1995 13:53:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	1116.	569.70	1.3468E-01
TL-208	4369.	277.36	2.3519E+00
PB-210	3396.	46.50	0.0000E+00
BI-212	53.	727.18	5.3204E-01
PB-212	5241.	238.63	3.3441E-01
BI-214	933.	609.31	2.8474E-01
PB-214	4143.	351.92	8.6346E-01
RA-224	5118.	240.99	3.6692E+00
RA-226	5931.	186.10	3.6058E+00
AC-228	39.	911.21	1.3873E-01
TH-228	3692.	84.37	1.0724E+01
TH-229	3814.	88.47	5.1297E-01
U-232	3444.	57.78	2.7470E+02
PA-233	4132.	312.17	4.0824E-01
PA-234M	25.	1001.03	1.6041E+00
TH-234	3407.	63.29	6.9391E+00
U-235	5842.	185.71	2.1750E-01
NP-237	3672.	86.48	1.0430E+00
U-237	3423.	59.54	1.2796E+00
NP-238	18.	984.45	9.5508E-02
NP-239	3951.	106.12	4.4941E-01
PU-239	4425.	129.30	1.5153E+03
AM-241	3423.	59.54	1.2274E+00
AM-243	3582.	74.67	2.9510E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 16:05:55.44                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T374-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3201.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:22.26 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 15:14:57.02
Decayed to:               24-JAN-1995 15:14:57.02
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  MB
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: 1.24.95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.74*	184080	1.55	1323.66	1315	18	0.5		CS-137	208.
0	1120.16*	17	1.71	2240.57	2237	12	100.8			

Sample ID : S94T374-DUP
Acquisition date : 24-JAN-1995 15:14:57

WHC-SD-WM-DP-103, REV. 1

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	2.081E+02	2.081E+02	0.001E+03	0.48	
		Total Activity :	2.081E+02	2.081E+02			
		Grand Total Activity :	2.081E+02	2.081E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T374-DUP Acquisition date : 24-JAN-1995 15:14:57

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	5573.	477.59	2.4594E+00
NA-22	15.	1274.53	3.0573E-02
NA-24	2.	1368.55	1.1419E-02
K-40	129.	1460.75	9.2913E-01
SC-46	38.	1120.55	4.3423E-02
CR-51	4343.	320.08	1.6338E+00
MN-54	33.	834.83	3.1463E-02
CO-56	35.	846.76	3.2725E-02
CO-57	4524.	122.06	1.1641E-01
CO-58	32.	810.78	3.0219E-02
FE-59	27.	1099.25	6.3991E-02
CO-60	16.	1332.50	3.2554E-02
ZN-65	18.	1115.55	5.8544E-02
SE-75	4777.	264.66	2.5672E-01
KR-85	2818.	514.00	4.4220E+01
SR-85	2817.	514.01	1.9990E-01
Y-88	3.	1836.06	1.8173E-02
Y-90	7.	1760.70	9.2188E-02
Y-91	9.	1204.67	7.6828E+00
NB-94	28.	871.09	2.9954E-02
NB-95	43.	765.78	3.3369E-02
ZR-95	39.	756.73	5.7618E-02
RU-103	3416.	497.08	2.2609E-01
RURH-106	939.	621.93	2.6264E+00
AG-108m	59.	722.94	4.0789E-02
CD-109	3964.	88.03	3.6080E+00
AG-110M	2542.	657.76	2.3748E-01
SN-113	4749.	391.69	3.1331E-01
TE-123m	4707.	159.00	1.2216E-01
SB-124	1077.	602.73	1.3893E-01
SB-125	5483.	427.89	7.8586E-01
TE-125m	4124.	109.27	3.6183E+01
I-129	3680.	39.60	0.0000E+00
I-131	4318.	364.48	2.2338E-01
XE-131m	4658.	163.93	5.2851E+00
BA-133	4395.	356.02	2.8935E-01
CS-134	1060.	604.70	1.3843E-01
CS-136	43.	818.51	3.5358E-02
CS-138	5.	1435.86	4.0626E-02
CE-139	4770.	165.85	1.3186E-01
BA-140	1885.	537.31	6.6837E-01
LA-140	6.	1596.21	2.4828E-02
CE-141	4745.	145.44	2.0823E-01
CE-144	4697.	133.51	8.9781E-01
CEPR-144	4698.	133.51	1.7941E+00
EU-152	10.	1408.01	1.2806E-01
EU-154	15.	1274.51	8.8589E-02
EU-155	3963.	86.54	4.0904E-01
HF-181	4472.	482.18	2.8543E-01
TA-182	3530.	67.75	5.7990E-01
HG-203	4714.	279.20	1.9017E-01

Sample ID : S94T374-DUP Acquisition date : 24-JAN-1995 15:14:57

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	1132.	569.70	1.3566E-01
TL-208	4767.	277.36	2.4567E+00
PB-210	3694.	46.50	0.0000E+00
BI-212	47.	727.18	5.0047E-01
PB-212	5391.	238.63	3.3915E-01
BI-214	1041.	609.31	3.0083E-01
PB-214	4380.	351.92	8.8797E-01
RA-224	5365.	240.99	3.7567E+00
RA-226	6125.	186.10	3.6646E+00
AC-228	27.	911.21	1.1609E-01
TH-228	3957.	84.37	1.1102E+01
TH-229	3978.	88.47	5.2387E-01
U-232	3501.	57.78	2.7696E+02
PA-233	4357.	312.17	4.1921E-01
PA-234M	17.	1001.03	1.3161E+00
TH-234	3688.	63.29	7.2188E+00
U-235	6034.	185.71	2.2106E-01
NP-237	3966.	86.48	1.0839E+00
U-237	3516.	59.54	1.2968E+00
NP-238	17.	984.45	9.3552E-02
NP-239	4171.	106.12	4.6176E-01
PU-239	4525.	129.30	1.5323E+03
AM-241	3516.	59.54	1.2439E+00
AM-243	3851.	74.67	3.0596E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 17:24:28.43                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T-375-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3202.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:14.44 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 16:33:40.33
Decayed to:               24-JAN-1995 16:33:40.33
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: 1.24.95

B Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.75*	118401	1.56	1323.68	1315	17	0.6		CS-137	134.

Sample ID : S94T-375-SAM
Acquisition date : 24-JAN-1995 16:33:40

WHC-SD-WM-DP-103, REV. 1

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	1.338E+02	1.338E+02	0.008E+02	0.59	
		Total Activity :	1.338E+02	1.338E+02			
		Grand Total Activity :	1.338E+02	1.338E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T-375-SAM
Acquisition date : 24-JAN-1995 16:33:40

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	3525.	477.59	1.9558E+00
NA-22	12.	1274.53	2.6736E-02
NA-24	5.	1368.55	1.8588E-02
K-40	126.	1460.75	9.1858E-01
SC-46	27.	1120.55	3.6756E-02
CR-51	2823.	320.08	1.3173E+00
MN-54	15.	834.83	2.0990E-02
CO-56	21.	846.76	2.5518E-02
CO-57	2924.	122.06	9.3576E-02
CO-58	27.	810.78	2.8082E-02
FE-59	14.	1099.25	4.5732E-02
CO-60	10.	1332.50	2.5282E-02
ZN-65	12.	1115.55	4.8309E-02
SE-75	3075.	264.66	2.0596E-01
KR-85	1720.	514.00	3.4543E+01
SR-85	1720.	514.01	1.5619E-01
Y-88	2.	1836.06	1.4838E-02
Y-90	4.	1760.70	7.3859E-02
Y-91	10.	1204.67	8.0446E+00
NB-94	27.	871.09	2.9736E-02
NB-95	25.	765.78	2.5527E-02
ZR-95	29.	756.73	4.9253E-02
RU-103	2161.	497.08	1.7983E-01
RURH-106	593.	621.93	2.0870E+00
AG-108m	24.	722.94	2.5979E-02
CD-109	2573.	88.03	2.9069E+00
AG-110M	1621.	657.76	1.8965E-01
SN-113	3105.	391.69	2.5334E-01
TE-123m	2977.	159.00	9.7145E-02
SB-124	653.	602.73	1.0814E-01
SB-125	3509.	427.89	6.2873E-01
TE-125m	2677.	109.27	2.9153E+01
I-129	2375.	39.60	0.0000E+00
I-131	2875.	364.48	1.8225E-01
XE-131m	2965.	163.93	4.2165E+00
BA-133	2913.	356.02	2.3557E-01
CS-134	654.	604.70	1.0874E-01
CS-136	35.	818.51	3.1966E-02
CS-138	6.	1435.86	4.5266E-02
CE-139	3046.	165.85	1.0537E-01
BA-140	1241.	537.31	5.4234E-01
LA-140	4.	1596.21	1.8892E-02
CE-141	3097.	145.44	1.6823E-01
CE-144	2999.	133.51	7.1732E-01
CEPR-144	2999.	133.51	1.4334E+00
EU-152	17.	1408.01	1.6769E-01
EU-154	12.	1274.51	7.7944E-02
EU-155	2568.	86.54	3.2928E-01
HF-181	2806.	482.18	2.2611E-01
TA-182	2453.	67.75	4.8348E-01
HG-203	2934.	279.20	1.5002E-01

Sample ID : S94T-375-SAM Acquisition date : 24-JAN-1995 16:33:40

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	766.	569.70	1.1160E-01
TL-208	2997.	277.36	1.9477E+00
PB-210	2339.	46.50	0.0000E+00
BI-212	33.	727.18	4.2056E-01
PB-212	3558.	238.63	2.7554E-01
BI-214	690.	609.31	2.4498E-01
PB-214	2810.	351.92	7.1026E-01
RA-224	3526.	240.99	3.0453E+00
RA-226	4010.	186.10	2.9652E+00
AC-228	35.	911.21	1.3040E-01
TH-228	2467.	84.37	8.7660E+00
TH-229	2589.	88.47	4.2262E-01
U-232	2326.	57.78	2.2573E+02
PA-233	2908.	312.17	3.4249E-01
PA-234M	16.	1001.03	1.2772E+00
TH-234	2391.	63.29	5.8133E+00
U-235	3970.	185.71	1.7931E-01
NP-237	2565.	86.48	8.7172E-01
U-237	2289.	59.54	1.0464E+00
NP-238	19.	984.45	9.8945E-02
NP-239	2595.	106.12	3.6418E-01
PU-239	2976.	129.30	1.2427E+03
AM-241	2289.	59.54	1.0037E+00
AM-243	2476.	74.67	2.4535E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 19:18:57.03                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T-375-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00
Conversion LI to LI:      1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3203.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:14.19 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 18:28:05.33
Decayed to:               24-JAN-1995 18:28:05.33
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: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.76*	116216	1.53	1323.69	1315	17	0.6		CS-137	131.
0	914.97	37	12.58	1830.12	1819	35	105.7			
0	1461.03*	17	2.01	2922.55	2916	18	164.7		K-40	0.303

Summary of Nuclide Activity
Sample ID : S94T-375-DUP

Acquisition date : 24-JAN-1995 18:28:05

Total number of lines in spectrum	3	WHC-SD-WM-DP-103, REV. 1
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
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~3.034E-01~~	~~3.034E-01~~	~~4.997E-01~~	~~164.68~~	BKG 1/25/95
CS-137	30.00Y	1.000	1.314E+02	1.314E+02	0.008E+02	0.60	
		Total Activity :	1.317E+02	1.317E+02			
		Grand Total Activity :	1.317E+02	1.317E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T-375-DUP
Acquisition date : 24-JAN-1995 18:28:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	3545.	477.59	1.9616E+00
NA-22	8.	1274.53	2.1885E-02
NA-24	6.	1368.55	2.0426E-02
SC-46	37.	1120.55	4.3010E-02
CR-51	2716.	320.08	1.2921E+00
MN-54	21.	834.83	2.5124E-02
CO-56	23.	846.76	2.6515E-02
CO-57	2961.	122.06	9.4169E-02
CO-58	31.	810.78	2.9692E-02
FE-59	23.	1099.25	5.8806E-02
CO-60	12.	1332.50	2.8192E-02
ZN-65	13.	1115.55	5.0326E-02
SE-75	3123.	264.66	2.0755E-01
KR-85	1729.	514.00	3.4641E+01
SR-85	1729.	514.01	1.5663E-01
Y-88	3.	1836.06	1.7641E-02
Y-90	5.	1760.70	7.9425E-02
Y-91	13.	1204.67	9.0681E+00
NB-94	35.	871.09	3.3610E-02
NB-95	25.	765.78	2.5413E-02
ZR-95	23.	756.73	4.3777E-02
RU-103	2163.	497.08	1.7992E-01
RURH-106	553.	621.93	2.0148E+00
AG-108m	25.	722.94	2.6512E-02
CD-109	2426.	88.03	2.8223E+00
AG-110M	1661.	657.76	1.9198E-01
SN-113	3035.	391.69	2.5044E-01
TE-123m	2896.	159.00	9.5814E-02
SB-124	634.	602.73	1.0658E-01
SB-125	3516.	427.89	6.2935E-01
TE-125m	2708.	109.27	2.9322E+01
I-129	2264.	39.60	0.0000E+00
I-131	2747.	364.48	1.7817E-01
XE-131m	2974.	163.93	4.2232E+00
BA-133	2904.	356.02	2.3522E-01
CS-134	635.	604.70	1.0712E-01
CS-136	22.	818.51	2.5053E-02
CS-138	10.	1435.86	5.7238E-02
CE-139	2932.	165.85	1.0339E-01
BA-140	1251.	537.31	5.4450E-01
LA-140	4.	1596.21	1.8892E-02
CE-141	3022.	145.44	1.6619E-01
CE-144	2938.	133.51	7.1002E-01
CEPR-144	2938.	133.51	1.4188E+00
EU-152	4.	1408.01	7.9637E-02
EU-154	8.	1274.51	6.3584E-02
EU-155	2448.	86.54	3.2152E-01
HF-181	2852.	482.18	2.2795E-01
TA-182	2366.	67.75	4.7481E-01
HG-203	2831.	279.20	1.4736E-01
BI-207	745.	569.70	1.1008E-01

Sample ID : S94T-375-DUP Acquisition date : 24-JAN-1995 18:28:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	2971.	277.36	1.9393E+00
PB-210	2298.	46.50	0.0000E+00
BI-212	34.	727.18	4.2456E-01
PB-212	3437.	238.63	2.7080E-01
BI-214	665.	609.31	2.4034E-01
PB-214	2861.	351.92	7.1671E-01
RA-224	3377.	240.99	2.9805E+00
RA-226	3957.	186.10	2.9455E+00
AC-228	26.	911.21	1.1270E-01
TH-228	2528.	84.37	8.8746E+00
TH-229	2425.	88.47	4.0904E-01
U-232	2331.	57.78	2.2601E+02
PA-233	2704.	312.17	3.3026E-01
PA-234M	15.	1001.03	1.2484E+00
TH-234	2350.	63.29	5.7625E+00
U-235	3910.	185.71	1.7795E-01
NP-237	2452.	86.48	8.5236E-01
U-237	2252.	59.54	1.0379E+00
NP-238	19.	984.45	9.8945E-02
NP-239	2583.	106.12	3.6337E-01
PU-239	2930.	129.30	1.2330E+03
AM-241	2252.	59.54	9.9553E-01
AM-243	2475.	74.67	2.4527E-01

B1/06 . OA

LABCORE Data Entry Template for Worklist# 427

Analyst: MCJ **Instrument:** GEA00 2 **Method:** LA-548-121/D-1 RBS 1/25/95

Worklist Comment: Use 1 mL sample size. -PPB ~~(Re-run of samples due to contaminated blank)~~

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	#64B52			@GEA-01	CO60-02	SOLID			N/A	uCi/g
1	STD				@GEA-01	CO60-02E	SOLID			N/A	% Ct.
1	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
1	STD				@GEA-01	CS13702E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000392	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000392	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000392	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000392	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
5	SAMPLE	S94T000393	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
5	SAMPLE	S94T000393	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
6	DUP	S94T000393	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
6	DUP	S94T000393	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.
7	SAMPLE	S94T000394	0	F	@GEA-01	CS13702	SOLID	N/A			uCi/g
7	SAMPLE	S94T000394	0	F	@GEA-01	CS13702E	SOLID	N/A			% Ct.
8	DUP	S94T000394	0	F	@GEA-01	CS13702	SOLID			N/A	uCi/g
8	DUP	S94T000394	0	F	@GEA-01	CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 427

Mike Jones
Analyst Signature

1-24-95
Date

1-26-95

Data Entry Comments:

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

Page: 1

LABCORE Data Entry Template for Worklist# 427

Analyst: MCJ **Instrument:** GEA00 _____ **Method:** LA-548-121/D-1

Worklist Comment: Use 1 mL sample size. -PPB WHC-SD-WM-DP-103, REV. 1

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

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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		20.2000	2.02E-02	4.97			0.00E+00		1.01E-02	200.0
Work List	CS137		25.0600	2.51E-02	5.32			0.00E+00		1.25E-02	200.0
WORKLIST#427				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			
WORKLIST#427				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			
MCJ				0.00E+00				0.00E+00			
Date											
01/24/95											
Time											
06:30 AM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

1.884 < 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	CS137	<	0.0685	3.63E-02				ERR		ERR	NA
Work List				0.00E+00				ERR			
427				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			
S94T392				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			
MCJ				0.00E+00				ERR			
Date											
01/24/95											
Time											
06:30 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Bachelor Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

1.884 < Enter SAMPLE g/L 1.884 < 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	CS137		37.7900	2.01E+01	1.26		36.6900	1.95E+01	1.27	1.98E+01	3.0
Work List				0.00E+00				0.00E+00			
427				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			
S94T392				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			
MCJ				0.00E+00				0.00E+00			
Date											
01/24/95											
Time											
06:30 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

1.94 < Enter SAMPLE g/L 1.936 < 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	CS137		167.0000	8.61E+01	0.69		211.3000	1.09E+02	0.52	9.76E+01	23.6
Work List				0.00E+00				0.00E+00			
427				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			
S94T393				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			
MCJ				0.00E+00				0.00E+00			
Date											
01/24/96											
Time											
06:30 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

1.96 < Enter SAMPLE g/L 1.964 < 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	CS137		25.5900	1.31E+01	1.53		26.1000	1.33E+01	1.51	1.32E+01	1.8
Work List				0.00E+00				0.00E+00			
427				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			
S94T394				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			
MCJ				0.00E+00				0.00E+00			
Date											
01/24/95											
Time											
06:30 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 08:15:18.15                  *
*****************************************************************************
     >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T392-STD
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]2g2765.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.12 sec

     >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 07:24:40.10
Decayed to:               24-JAN-1995 07:24:40.10
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:

date: 1-24-95

1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.93*	1805	1.52	1323.88	1316	15	5.3		CS-137	25.1
0	1173.66	993	1.80	2347.37	2340	16	7.2		CO-60	19.5
0	1333.00	962	1.93	2666.15	2660	17	6.9		CO-60	20.9

Sample ID : S94T392-STD
Acquisition date : 24-JAN-1995 07:24:40

Total number of lines in spectrum 3
Number of unidentified lines 0
Number of lines tentatively identified by NID 3 100.00%

WHC-SD-WM-DP-103, REV. 1

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	2.020E+01	2.020E+01	0.100E+01	4.97	
CS-137	30.00Y	1.000	2.506E+01	2.506E+01	0.133E+01	5.32	
		Total Activity :	4.526E+01	4.526E+01			
		Grand Total Activity :	4.526E+01	4.526E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T392-STD Acquisition date : 24-JAN-1995 07:24:40

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	137.	477.59	4.7424E+00
NA-22	17.	1274.53	4.0197E-01
NA-24	10.	1368.55	3.3208E-01
K-40	111.	1460.75	1.0743E+01
SC-46	64.	1120.55	7.0255E-01
CR-51	137.	320.08	3.5430E+00
MN-54	46.	834.83	4.5327E-01
CO-56	65.	846.76	5.4664E-01
CO-57	169.	122.06	2.9076E-01
CO-58	60.	810.78	5.1095E-01
FE-59	55.	1099.25	1.1253E+00
ZN-65	56.	1115.55	1.2878E+00
SE-75	170.	264.66	5.9608E-01
KR-85	109.	514.00	1.0747E+02
SR-85	109.	514.01	4.8558E-01
Y-88	1.	1836.06	1.3173E-01
Y-90	6.	1760.70	1.0576E+00
Y-91	25.	1204.67	1.5458E+02
NB-94	74.	871.09	5.9640E-01
NB-95	72.	765.78	5.2864E-01
ZR-95	53.	756.73	8.2645E-01
RU-103	95.	497.08	4.6550E-01
RURH-106	77.	621.93	9.2265E+00
AG-108m	57.	722.94	4.9072E-01
CD-109	157.	88.03	9.6154E+00
AG-110M	96.	657.76	5.6774E-01
SN-113	116.	391.69	5.9332E-01
TE-123m	178.	159.00	2.9873E-01
SB-124	58.	602.73	3.9616E-01
SB-125	134.	427.89	1.4940E+00
TE-125m	153.	109.27	9.1655E+01
I-129	140.	39.60	0.0000E+00
I-131	117.	364.48	4.4659E-01
XE-131m	195.	163.93	1.3556E+01
BA-133	113.	356.02	5.6224E-01
CS-134	71.	604.70	4.4142E-01
CS-136	65.	818.51	5.3217E-01
CS-138	3.	1435.86	4.1742E-01
CE-139	183.	165.85	3.2356E-01
BA-140	89.	537.31	1.8003E+00
LA-140	5.	1596.21	2.7585E-01
CE-141	173.	145.44	5.0273E-01
CE-144	169.	133.51	2.1747E+00
CEPR-144	169.	133.51	4.3459E+00
EU-152	13.	1408.01	1.8320E+00
EU-154	17.	1274.51	1.1692E+00
EU-155	162.	86.54	1.1070E+00
HF-181	109.	482.18	5.5005E-01
TA-182	150.	67.75	1.4759E+00
HG-203	161.	279.20	4.3068E-01
BI-207	67.	569.70	4.0836E-01

Sample ID : S94T392-STD Acquisition date : 24-JAN-1995 07:24:40

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	154.	277.36	5.4199E+00
PB-210	147.	46.50	0.0000E+00
BI-212	58.	727.18	6.8386E+00
PB-212	195.	238.63	7.9601E-01
BI-214	108.	609.31	1.1911E+00
PB-214	165.	351.92	2.0885E+00
RA-224	191.	240.99	8.7491E+00
RA-226	185.	186.10	7.9433E+00
AC-228	100.	911.21	2.7175E+00
TH-228	152.	84.37	2.9060E+01
TH-229	157.	88.47	1.3925E+00
U-232	128.	57.78	5.0969E+02
PA-233	150.	312.17	9.4976E-01
PA-234M	66.	1001.03	1.0826E+00
TH-234	132.	63.29	1.5787E+01
U-235	177.	185.71	4.7209E-01
NP-237	162.	86.48	2.9282E+00
U-237	157.	59.54	2.8583E+00
NP-238	50.	984.45	1.9884E+00
NP-239	141.	106.12	1.1226E+00
PU-239	161.	129.30	3.7005E+03
AM-241	157.	59.54	2.7417E+00
AM-243	146.	74.67	7.7461E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 09:09:14.48                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T392-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]2g2766.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.44 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 08:18:30.67
Decayed to:               24-JAN-1995 08:18:30.67
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: MB

date: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	1121.70	20	5.32	2243.44	2238	17	94.7			

Sample ID : S94T392-BLANK
Acquisition date : 24-JAN-1995 08:18:30

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

Minimum Detectable Activity Report
Sample ID : S94T392-BLANK

Acquisition date : 24-JAN-1995 08:18:30

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	33.	477.59	2.3393E-01
NA-22	8.	1274.53	2.8055E-02
NA-24	7.	1368.55	2.7873E-02
K-40	120.	1460.75	1.1198E+00
SC-46	24.	1120.55	4.2757E-02
CR-51	46.	320.08	2.0538E-01
MN-54	13.	834.83	2.3974E-02
CO-56	12.	846.76	2.3512E-02
CO-57	69.	122.06	1.8632E-02
CO-58	12.	810.78	2.2760E-02
FE-59	16.	1099.25	6.0771E-02
CO-60	5.	1332.50	2.3432E-02
ZN-65	13.	1115.55	6.1009E-02
SE-75	66.	264.66	3.7106E-02
KR-85	43.	514.00	6.7280E+00
SR-85	43.	514.01	3.0387E-02
Y-88	2.	1836.06	1.8630E-02
Y-90	1.	1760.70	4.4539E-02
Y-91	11.	1204.67	1.0430E+01
NB-94	21.	871.09	3.1673E-02
NB-95	18.	765.78	2.6827E-02
ZR-95	22.	756.73	5.2556E-02
RU-103	35.	497.08	2.8444E-02
RURH-106	20.	621.93	4.7362E-01
AG-108m	13.	722.94	2.3313E-02
CD-109	66.	88.03	6.2201E-01
AG-110M	15.	657.76	2.2190E-02
SN-113	35.	391.69	3.2349E-02
TE-123m	69.	159.00	1.8556E-02
SB-124	26.	602.73	2.6336E-02
SB-125	33.	427.89	7.3770E-02
TE-125m	61.	109.27	5.7754E+00
I-129	67.	39.60	0.0000E+00
I-131	37.	364.48	2.5221E-02
XE-131m	62.	163.93	7.6668E-01
BA-133	42.	356.02	3.4409E-02
CS-134	28.	604.70	2.7790E-02
CS-136	17.	818.51	2.7097E-02
CS-137	113.	661.66	6.8466E-02
CS-138	6.	1435.86	5.6292E-02
CE-139	74.	165.85	2.0544E-02
BA-140	26.	537.31	9.7110E-02
LA-140	5.	1596.21	2.7585E-02
CE-141	77.	145.44	3.3649E-02
CE-144	74.	133.51	1.4388E-01
CEPR-144	74.	133.51	2.8760E-01
EU-152	9.	1408.01	1.4912E-01
EU-154	8.	1274.51	8.1508E-02
EU-155	70.	86.54	7.2955E-02
HF-181	30.	482.18	2.9023E-02
TA-182	63.	67.75	9.5993E-02

Sample ID : S94T392-BLANK Acquisition date : 24-JAN-1995 08:18:30

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	57.	279.20	2.5624E-02
BI-207	25.	569.70	2.4897E-02
TL-208	58.	277.36	3.3293E-01
PB-210	64.	46.50	0.0000E+00
BI-212	25.	727.18	4.5021E-01
PB-212	85.	238.63	5.2747E-02
BI-214	43.	609.31	7.5277E-02
PB-214	64.	351.92	1.3038E-01
RA-224	62.	240.99	4.9838E-01
RA-226	78.	186.10	5.1549E-01
AC-228	38.	911.21	1.6644E-01
TH-228	79.	84.37	2.0993E+00
TH-229	61.	88.47	8.7217E-02
U-232	51.	57.78	3.2106E+01
PA-233	55.	312.17	5.7539E-02
PA-234M	11.	1001.03	4.3482E-02
TH-234	47.	63.29	9.4232E-01
U-235	84.	185.71	3.2545E-02
NP-237	71.	86.48	1.9358E-01
U-237	44.	59.54	1.5179E-01
NP-238	13.	984.45	1.0138E-01
NP-239	68.	106.12	7.7970E-02
PU-239	75.	129.30	2.5303E+02
AM-241	44.	59.54	1.4559E-01
AM-243	70.	74.67	5.3697E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 10:07:59.46                  *
*****************************************************************************
     >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T392-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]2g2767.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:03.95 sec

     >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 09:17:19.80
Decayed to:               24-JAN-1995 09:17:19.80
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: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.86*	27235	1.52	1323.74	1315	18	1.2		CS-137	37.8

Sample ID : S94T392-SAMPLE
Acquisition date : 24-JAN-1995 09:17:19

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	3.779E+01	3.779E+01	0.047E+01	1.25	
		Total Activity :	3.779E+01	3.779E+01			
		Grand Total Activity :	3.779E+01	3.779E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T392-SAMPLE
Acquisition date : 24-JAN-1995 09:17:19

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	903.	477.59	1.2189E+00
NA-22	6.	1274.53	2.4513E-02
NA-24	6.	1368.55	2.5668E-02
K-40	100.	1460.75	1.0216E+00
SC-46	19.	1120.55	3.7933E-02
CR-51	768.	320.08	8.3883E-01
MN-54	19.	834.83	2.9170E-02
CO-56	20.	846.76	3.0348E-02
CO-57	794.	122.06	6.2995E-02
CO-58	14.	810.78	2.4382E-02
FE-59	11.	1099.25	5.1387E-02
CO-60	6.	1332.50	2.5524E-02
ZN-65	14.	1115.55	6.4702E-02
SE-75	832.	264.66	1.3175E-01
KR-85	499.	514.00	2.3022E+01
SR-85	499.	514.01	1.0407E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	2.	1760.70	6.2988E-02
Y-91	17.	1204.67	1.2853E+01
NB-94	15.	871.09	2.6639E-02
NB-95	10.	765.78	2.0185E-02
ZR-95	15.	756.73	4.4100E-02
RU-103	517.	497.08	1.0867E-01
RURH-106	175.	621.93	1.3947E+00
AG-108m	20.	722.94	2.8889E-02
CD-109	728.	88.03	2.0716E+00
AG-110M	508.	657.76	1.3039E-01
SN-113	766.	391.69	1.5234E-01
TE-123m	869.	159.00	6.5960E-02
SB-124	222.	602.73	7.7526E-02
SB-125	899.	427.89	3.8721E-01
TE-125m	813.	109.27	2.1130E+01
I-129	663.	39.60	0.0000E+00
I-131	735.	364.48	1.1175E-01
XE-131m	817.	163.93	2.7761E+00
BA-133	700.	356.02	1.4025E-01
CS-134	232.	604.70	7.9689E-02
CS-136	20.	818.51	2.9483E-02
CS-138	10.	1435.86	7.3788E-02
CE-139	875.	165.85	7.0771E-02
BA-140	340.	537.31	3.5087E-01
LA-140	8.	1596.21	3.5072E-02
CE-141	844.	145.44	1.1116E-01
CE-144	899.	133.51	5.0141E-01
CEPR-144	899.	133.51	1.0019E+00
EU-152	6.	1408.01	1.2472E-01
EU-154	6.	1274.51	7.0991E-02
EU-155	781.	86.54	2.4306E-01
HF-181	664.	482.18	1.3554E-01
TA-182	640.	67.75	3.0487E-01
HG-203	746.	279.20	9.2845E-02

Sample ID : S94T392-SAMPLE Acquisition date : 24-JAN-1995 09:17:19

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	220.	569.70	7.3815E-02
TL-208	760.	277.36	1.2043E+00
PB-210	673.	46.50	0.0000E+00
BI-212	28.	727.18	4.7331E-01
PB-212	1019.	238.63	1.8215E-01
BI-214	220.	609.31	1.7000E-01
PB-214	765.	351.92	4.4944E-01
RA-224	949.	240.99	1.9511E+00
RA-226	1024.	186.10	1.8665E+00
AC-228	33.	911.21	1.5685E-01
TH-228	793.	84.37	6.6409E+00
TH-229	723.	88.47	2.9931E-01
U-232	671.	57.78	1.1666E+02
PA-233	729.	312.17	2.0945E-01
PA-234M	14.	1001.03	1.4807E+00
TH-234	704.	63.29	3.6450E+00
U-235	1020.	185.71	1.1326E-01
NP-237	786.	86.48	6.4579E-01
U-237	690.	59.54	5.9876E-01
NP-238	20.	984.45	1.2578E-01
NP-239	814.	106.12	2.6955E-01
PU-239	891.	129.30	8.7166E+02
AM-241	690.	59.54	5.7435E-01
AM-243	718.	74.67	1.7174E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 11:12:42.40                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T392-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]2g2768.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:03.85 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 10:21:59.54
Decayed to:               24-JAN-1995 10:21:59.54
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  RW
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: [signature]

date: 1-24-95

[signature] 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.86*	26437	1.55	1323.74	1315	18	1.3		CS-137	36.7

Sample ID : S94T392-DUP
Acquisition date : 24-JAN-1995 10:21:59

WHC-SD-WM-DP-103, REV. 1

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	3.669E+01	3.669E+01	0.047E+01	1.27	
		Total Activity :	3.669E+01	3.669E+01			
		Grand Total Activity :	3.669E+01	3.669E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T392-DUP Acquisition date : 24-JAN-1995 10:21:59

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	857.	477.59	1.1875E+00
NA-22	5.	1274.53	2.1830E-02
NA-24	8.	1368.55	2.9798E-02
K-40	114.	1460.75	1.0893E+00
SC-46	20.	1120.55	3.9053E-02
CR-51	664.	320.08	7.7990E-01
MN-54	10.	834.83	2.0980E-02
CO-56	16.	846.76	2.7144E-02
CO-57	863.	122.06	6.5682E-02
CO-58	15.	810.78	2.5331E-02
FE-59	6.	1099.25	3.8523E-02
CO-60	16.	1332.50	4.0472E-02
ZN-65	12.	1115.55	6.0745E-02
SE-75	792.	264.66	1.2860E-01
KR-85	439.	514.00	2.1587E+01
SR-85	439.	514.01	9.7608E-02
Y-88	3.	1836.06	2.2817E-02
Y-90	2.	1760.70	7.0291E-02
Y-91	9.	1204.67	9.2792E+00
NB-94	14.	871.09	2.6145E-02
NB-95	16.	765.78	2.4811E-02
ZR-95	20.	756.73	5.0953E-02
RU-103	469.	497.08	1.0343E-01
RURH-106	215.	621.93	1.5433E+00
AG-108m	23.	722.94	3.1193E-02
CD-109	713.	88.03	2.0500E+00
AG-110M	482.	657.76	1.2705E-01
SN-113	736.	391.69	1.4926E-01
TE-123m	837.	159.00	6.4735E-02
SB-124	194.	602.73	7.2567E-02
SB-125	891.	427.89	3.8540E-01
TE-125m	781.	109.27	2.0716E+01
I-129	684.	39.60	0.0000E+00
I-131	732.	364.48	1.1150E-01
XE-131m	826.	163.93	2.7918E+00
BA-133	740.	356.02	1.4414E-01
CS-134	182.	604.70	7.0562E-02
CS-136	12.	818.51	2.2759E-02
CS-138	6.	1435.86	5.8057E-02
CE-139	832.	165.85	6.9024E-02
BA-140	336.	537.31	3.4924E-01
LA-140	6.	1596.21	2.9465E-02
CE-141	852.	145.44	1.1166E-01
CE-144	846.	133.51	4.8633E-01
CEPR-144	846.	133.51	9.7197E-01
EU-152	8.	1408.01	1.4456E-01
EU-154	5.	1274.51	6.3422E-02
EU-155	748.	86.54	2.3789E-01
HF-181	734.	482.18	1.4251E-01
TA-182	695.	67.75	3.1761E-01
HG-203	782.	279.20	9.5046E-02

Sample ID : S94T392-DUP Acquisition date : 24-JAN-1995 10:21:59

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	214.	569.70	7.2832E-02
TL-208	808.	277.36	1.2415E+00
PB-210	661.	46.50	0.0000E+00
BI-212	22.	727.18	4.1632E-01
PB-212	918.	238.63	1.7290E-01
BI-214	236.	609.31	1.7614E-01
PB-214	739.	351.92	4.4184E-01
RA-224	918.	240.99	1.9187E+00
RA-226	1048.	186.10	1.8887E+00
AC-228	21.	911.21	1.2433E-01
TH-228	752.	84.37	6.4667E+00
TH-229	697.	88.47	2.9374E-01
U-232	684.	57.78	1.1779E+02
PA-233	733.	312.17	2.1008E-01
PA-234M	11.	1001.03	1.2948E+00
TH-234	631.	63.29	3.4492E+00
U-235	1057.	185.71	1.1529E-01
NP-237	748.	86.48	6.3032E-01
U-237	700.	59.54	6.0285E-01
NP-238	11.	984.45	9.1428E-02
NP-239	800.	106.12	2.6724E-01
PU-239	852.	129.30	8.5214E+02
AM-241	700.	59.54	5.7827E-01
AM-243	732.	74.67	1.7333E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 12:09:15.28                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T393-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]2g2769.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:16.11 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 11:18:22.21
Decayed to:               24-JAN-1995 11:18:22.21
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: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.83*	120328	1.52	1323.68	1315	17	0.6		CS-137	167.
0	1765.15*	7	1.43	3530.94	3525	13	125.7			

Sample ID : S94T393-SAMPLE Acquisition date : 24-JAN-1995 11:18:22

Total number of lines in spectrum	2	WHC-SD-WM-DP-103, REV. 1
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	1.670E+02	1.670E+02	0.001E+03	0.59	
		Total Activity :	1.670E+02	1.670E+02			
		Grand Total Activity :	1.670E+02	1.670E+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)
BE-7	3861.	477.59	2.5203E+00
NA-22	11.	1274.53	3.2824E-02
NA-24	2.	1368.55	1.4780E-02
K-40	113.	1460.75	1.0852E+00
SC-46	26.	1120.55	4.4476E-02
CR-51	3173.	320.08	1.7047E+00
MN-54	23.	834.83	3.2352E-02
CO-56	25.	846.76	3.3923E-02
CO-57	3463.	122.06	1.3159E-01
CO-58	30.	810.78	3.5711E-02
FE-59	13.	1099.25	5.4647E-02
CO-60	13.	1332.50	3.6481E-02
ZN-65	19.	1115.55	7.4048E-02
SE-75	3512.	264.66	2.7072E-01
KR-85	2000.	514.00	4.6075E+01
SR-85	2000.	514.01	2.0835E-01
Y-88	1.	1836.06	1.5229E-02
Y-90	3.	1760.70	8.2690E-02
Y-91	15.	1204.67	1.2048E+01
NB-94	14.	871.09	2.6372E-02
NB-95	33.	765.78	3.5993E-02
ZR-95	27.	756.73	5.8981E-02
RU-103	2314.	497.08	2.2982E-01
RURH-106	819.	621.93	3.0156E+00
AG-108m	42.	722.94	4.2267E-02
CD-109	3017.	88.03	4.2168E+00
AG-110M	2095.	657.76	2.6474E-01
SN-113	3270.	391.69	3.1470E-01
TE-123m	3481.	159.00	1.3200E-01
SB-124	763.	602.73	1.4392E-01
SB-125	3822.	427.89	7.9841E-01
TE-125m	3075.	109.27	4.1102E+01
I-129	2968.	39.60	0.0000E+00
I-131	3242.	364.48	2.3470E-01
XE-131m	3568.	163.93	5.8013E+00
BA-133	3163.	356.02	2.9801E-01
CS-134	765.	604.70	1.4471E-01
CS-136	36.	818.51	3.9830E-02
CS-138	5.	1435.86	5.1506E-02
CE-139	3575.	165.85	1.4307E-01
BA-140	1414.	537.31	7.1592E-01
LA-140	4.	1596.21	2.5905E-02
CE-141	3521.	145.44	2.2700E-01
CE-144	3466.	133.51	9.8464E-01
CEPR-144	3466.	133.51	1.9674E+00
EU-152	6.	1408.01	1.2407E-01
EU-154	11.	1274.51	9.5195E-02
EU-155	3067.	86.54	4.8171E-01
HF-181	3033.	482.18	2.8966E-01
TA-182	2798.	67.75	6.3727E-01
HG-203	3420.	279.20	1.9876E-01

Sample ID : S94T393-SAMPLE Acquisition date : 24-JAN-1995 11:18:22

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	985.	569.70	1.5614E-01
TL-208	3384.	277.36	2.5404E+00
PB-210	2848.	46.50	0.0000E+00
BI-212	40.	727.18	5.6952E-01
PB-212	4049.	238.63	3.6309E-01
BI-214	858.	609.31	3.3602E-01
PB-214	3233.	351.92	9.2582E-01
RA-224	3929.	240.99	3.9697E+00
RA-226	4487.	186.10	3.9076E+00
AC-228	30.	911.21	1.4821E-01
TH-228	3047.	84.37	1.3013E+01
TH-229	3035.	88.47	6.1315E-01
U-232	2909.	57.78	2.4294E+02
PA-233	3180.	312.17	4.3762E-01
PA-234M	17.	1001.03	1.6591E+00
TH-234	2883.	63.29	7.3741E+00
U-235	4482.	185.71	2.3737E-01
NP-237	3072.	86.48	1.2770E+00
U-237	2940.	59.54	1.2359E+00
NP-238	20.	984.45	1.2633E-01
NP-239	3204.	106.12	5.3478E-01
PU-239	3501.	129.30	1.7274E+03
AM-241	2940.	59.54	1.1855E+00
AM-243	2959.	74.67	3.4851E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 13:44:36.51                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T393-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]2g2771.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:20.32 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 12:53:38.64
Decayed to:               24-JAN-1995 12:53:38.64
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: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.83*	152252	1.51	1323.68	1315	17	0.5		CS-137	211.
0	1322.61	13	1.55	2645.36	2642	9	83.3			
0	1461.27*	8	2.15	2922.81	2914	16	283.3		K-40	0.171

Summary of Nuclide Activity
Sample ID : S94T393-DUP

Acquisition date : 24-JAN-1995 12:53:38

WHC-SD-WM-DP-103, REV. 1

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
~~K-40~~	~~1.28E+09Y~~	~~1.000~~	~~1.706E-01~~	~~1.706E-01~~	~~4.833E-01~~	~~283.31~~	BK4 11/25/95
CS-137	30.00Y	1.000	2.113E+02	2.113E+02	0.011E+02	0.52	
		Total Activity :	2.115E+02	2.115E+02			
		Grand Total Activity :	2.115E+02	2.115E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	4775.	477.59	2.8029E+00
NA-22	13.	1274.53	3.4667E-02
NA-24	4.	1368.55	2.0988E-02
SC-46	23.	1120.55	4.2003E-02
CR-51	3937.	320.08	1.8988E+00
MN-54	22.	834.83	3.1170E-02
CO-56	25.	846.76	3.3955E-02
CO-57	4289.	122.06	1.4644E-01
CO-58	32.	810.78	3.7009E-02
FE-59	23.	1099.25	7.3155E-02
CO-60	7.	1332.50	2.6770E-02
ZN-65	18.	1115.55	7.2098E-02
SE-75	4417.	264.66	3.0360E-01
KR-85	2590.	514.00	5.2433E+01
SR-85	2589.	514.01	2.3707E-01
Y-88	4.	1836.06	2.6171E-02
Y-90	4.	1760.70	9.1671E-02
Y-91	10.	1204.67	9.6492E+00
NB-94	28.	871.09	3.6619E-02
NB-95	38.	765.78	3.8468E-02
ZR-95	31.	756.73	6.3365E-02
RU-103	2928.	497.08	2.5852E-01
RURH-106	1071.	621.93	3.4467E+00
AG-108m	37.	722.94	3.9709E-02
CD-109	3856.	88.03	4.7677E+00
AG-110M	2642.	657.76	2.9733E-01
SN-113	4336.	391.69	3.6238E-01
TE-123m	4482.	159.00	1.4979E-01
SB-124	1040.	602.73	1.6798E-01
SB-125	4965.	427.89	9.1000E-01
TE-125m	4014.	109.27	4.6961E+01
I-129	3497.	39.60	0.0000E+00
I-131	4105.	364.48	2.6411E-01
XE-131m	4409.	163.93	6.4489E+00
BA-133	4031.	356.02	3.3646E-01
CS-134	1082.	604.70	1.7213E-01
CS-136	26.	818.51	3.3534E-02
CS-138	10.	1435.86	7.3966E-02
CE-139	4523.	165.85	1.6092E-01
BA-140	1750.	537.31	7.9665E-01
LA-140	6.	1596.21	3.1391E-02
CE-141	4467.	145.44	2.5569E-01
CE-144	4449.	133.51	1.1155E+00
CEPR-144	4448.	133.51	2.2288E+00
EU-152	8.	1408.01	1.3968E-01
EU-154	13.	1274.51	1.0040E-01
EU-155	3891.	86.54	5.4256E-01
HF-181	3900.	482.18	3.2846E-01
TA-182	3723.	67.75	7.3503E-01
HG-203	4291.	279.20	2.2264E-01
BI-207	1198.	569.70	1.7219E-01

Sample ID : S94T393-DUP Acquisition date : 24-JAN-1995 12:53:38

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	4274.	277.36	2.8551E+00
PB-210	3721.	46.50	0.0000E+00
BI-212	37.	727.18	5.4263E-01
PB-212	5019.	238.63	4.0426E-01
BI-214	1129.	609.31	3.8546E-01
PB-214	4113.	351.92	1.0451E+00
RA-224	4802.	240.99	4.3886E+00
RA-226	5754.	186.10	4.4249E+00
AC-228	31.	911.21	1.5209E-01
TH-228	3815.	84.37	1.4562E+01
TH-229	3824.	88.47	6.8828E-01
U-232	3547.	57.78	2.6827E+02
PA-233	4019.	312.17	4.9192E-01
PA-234M	20.	1001.03	1.7888E+00
TH-234	3566.	63.29	8.2015E+00
U-235	5707.	185.71	2.6785E-01
NP-237	3895.	86.48	1.4379E+00
U-237	3682.	59.54	1.3831E+00
NP-238	17.	984.45	1.1517E-01
NP-239	4046.	106.12	6.0094E-01
PU-239	4475.	129.30	1.9532E+03
AM-241	3682.	59.54	1.3267E+00
AM-243	3764.	74.67	3.9309E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 14:43:35.74                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T394-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]2g2772.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:02.88 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 13:52:54.66
Decayed to:               24-JAN-1995 13:52:54.66
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: MCBrown

date: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.86*	18441	1.55	1323.74	1315	17	1.5		CS-137	25.6

Sample ID : S94T394-SAMPLE
Acquisition date : 24-JAN-1995 13:52:54
WHC-SD-WM-DP-103, REV. 1

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	2.559E+01	2.559E+01	0.039E+01	1.53	
		Total Activity :	2.559E+01	2.559E+01			
		Grand Total Activity :	2.559E+01	2.559E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T394-SAMPLE Acquisition date : 24-JAN-1995 13:52:54

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	628.	477.59	1.0166E+00
NA-22	7.	1274.53	2.5744E-02
NA-24	10.	1368.55	3.2478E-02
K-40	114.	1460.75	1.0893E+00
SC-46	17.	1120.55	3.5727E-02
CR-51	539.	320.08	7.0228E-01
MN-54	14.	834.83	2.5031E-02
CO-56	15.	846.76	2.6283E-02
CO-57	560.	122.06	5.2928E-02
CO-58	16.	810.78	2.6187E-02
FE-59	12.	1099.25	5.3591E-02
CO-60	8.	1332.50	2.8703E-02
ZN-65	21.	1115.55	7.9538E-02
SE-75	609.	264.66	1.1274E-01
KR-85	371.	514.00	1.9849E+01
SR-85	371.	514.01	8.9697E-02
Y-88	6.	1836.06	3.2125E-02
Y-90	6.	1760.70	1.0910E-01
Y-91	9.	1204.67	9.3686E+00
NB-94	15.	871.09	2.7011E-02
NB-95	17.	765.78	2.6014E-02
ZR-95	31.	756.73	6.2569E-02
RU-103	397.	497.08	9.5157E-02
RURH-106	151.	621.93	1.2963E+00
AG-108m	12.	722.94	2.2456E-02
CD-109	512.	88.03	1.7379E+00
AG-110M	373.	657.76	1.1170E-01
SN-113	567.	391.69	1.3102E-01
TE-123m	611.	159.00	5.5305E-02
SB-124	135.	602.73	6.0546E-02
SB-125	635.	427.89	3.2544E-01
TE-125m	546.	109.27	1.7325E+01
I-129	564.	39.60	0.0000E+00
I-131	515.	364.48	9.3594E-02
XE-131m	627.	163.93	2.4321E+00
BA-133	527.	356.02	1.2160E-01
CS-134	130.	604.70	5.9715E-02
CS-136	16.	818.51	2.6278E-02
CS-138	3.	1435.86	4.2239E-02
CE-139	623.	165.85	5.9705E-02
BA-140	220.	537.31	2.8220E-01
LA-140	4.	1596.21	2.3744E-02
CE-141	640.	145.44	9.6755E-02
CE-144	615.	133.51	4.1485E-01
CEPR-144	615.	133.51	8.2896E-01
EU-152	6.	1408.01	1.2407E-01
EU-154	7.	1274.51	7.5008E-02
EU-155	537.	86.54	2.0157E-01
HF-181	442.	482.18	1.1052E-01
TA-182	494.	67.75	2.6773E-01
HG-203	605.	279.20	8.3584E-02

Sample ID : S94T394-SAMPLE Acquisition date : 24-JAN-1995 13:52:54

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	152.	569.70	6.1290E-02
TL-208	601.	277.36	1.0708E+00
PB-210	513.	46.50	0.0000E+00
BI-212	24.	727.18	4.4322E-01
PB-212	694.	238.63	1.5036E-01
BI-214	151.	609.31	1.4109E-01
PB-214	567.	351.92	3.8670E-01
RA-224	654.	240.99	1.6190E+00
RA-226	729.	186.10	1.5749E+00
AC-228	20.	911.21	1.2150E-01
TH-228	552.	84.37	5.5400E+00
TH-229	516.	88.47	2.5270E-01
U-232	473.	57.78	9.7926E+01
PA-233	525.	312.17	1.7780E-01
PA-234M	18.	1001.03	1.6826E+00
TH-234	480.	63.29	3.0092E+00
U-235	724.	185.71	9.5437E-02
NP-237	538.	86.48	5.3420E-01
U-237	498.	59.54	5.0854E-01
NP-238	14.	984.45	1.0533E-01
NP-239	547.	106.12	2.2089E-01
PU-239	624.	129.30	7.2957E+02
AM-241	498.	59.54	4.8780E-01
AM-243	536.	74.67	1.4828E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 16:04:23.72                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T394-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]2g2773.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:02.91 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 15:13:44.77
Decayed to:               24-JAN-1995 15:13:44.77
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: Raymond

date: 1.24.95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.86*	18806	1.53	1323.73	1315	17	1.5		CS-137	26.1

Sample ID : S94T394-DUP
Acquisition date : 24-JAN-1995 15:13:44

WHC-SD-WM-DP-103, REV. 1

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	2.610E+01	2.610E+01	0.039E+01	1.51	
		Total Activity :	2.610E+01	2.610E+01			
		Grand Total Activity :	2.610E+01	2.610E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T394-DUP Acquisition date : 24-JAN-1995 15:13:44

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	638.	477.59	1.0243E+00
NA-22	11.	1274.53	3.2689E-02
NA-24	8.	1368.55	2.9798E-02
K-40	111.	1460.75	1.0749E+00
SC-46	22.	1120.55	4.0694E-02
CR-51	522.	320.08	6.9140E-01
MN-54	14.	834.83	2.5170E-02
CO-56	16.	846.76	2.7176E-02
CO-57	589.	122.06	5.4273E-02
CO-58	25.	810.78	3.2577E-02
FE-59	11.	1099.25	5.0236E-02
CO-60	9.	1332.50	3.0354E-02
ZN-65	16.	1115.55	6.8803E-02
SE-75	582.	264.66	1.1023E-01
KR-85	353.	514.00	1.9362E+01
SR-85	353.	514.01	8.7504E-02
Y-88	2.	1836.06	1.8630E-02
Y-90	4.	1760.70	9.3921E-02
Y-91	17.	1204.67	1.2994E+01
NB-94	13.	871.09	2.5162E-02
NB-95	18.	765.78	2.6169E-02
ZR-95	17.	756.73	4.6770E-02
RU-103	406.	497.08	9.6222E-02
RURH-106	143.	621.93	1.2585E+00
AG-108m	19.	722.94	2.8457E-02
CD-109	544.	88.03	1.7915E+00
AG-110M	362.	657.76	1.1013E-01
SN-113	570.	391.69	1.3137E-01
TE-123m	607.	159.00	5.5106E-02
SB-124	153.	602.73	6.4423E-02
SB-125	690.	427.89	3.3912E-01
TE-125m	576.	109.27	1.7795E+01
I-129	496.	39.60	0.0000E+00
I-131	585.	364.48	9.9733E-02
XE-131m	592.	163.93	2.3627E+00
BA-133	508.	356.02	1.1947E-01
CS-134	156.	604.70	6.5261E-02
CS-136	14.	818.51	2.4683E-02
CS-138	6.	1435.86	5.8276E-02
CE-139	594.	165.85	5.8303E-02
BA-140	257.	537.31	3.0515E-01
LA-140	6.	1596.21	3.0218E-02
CE-141	612.	145.44	9.4651E-02
CE-144	637.	133.51	4.2211E-01
CEPR-144	637.	133.51	8.4343E-01
EU-152	8.	1408.01	1.4383E-01
EU-154	11.	1274.51	9.5141E-02
EU-155	524.	86.54	1.9908E-01
HF-181	533.	482.18	1.2147E-01
TA-182	470.	67.75	2.6109E-01
HG-203	573.	279.20	8.1347E-02

Sample ID : S94T394-DUP Acquisition date : 24-JAN-1995 15:13:44

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	169.	569.70	6.4759E-02
TL-208	592.	277.36	1.0623E+00
PB-210	489.	46.50	0.0000E+00
BI-212	23.	727.18	4.3091E-01
PB-212	617.	238.63	1.4168E-01
BI-214	174.	609.31	1.5109E-01
PB-214	579.	351.92	3.9095E-01
RA-224	658.	240.99	1.6245E+00
RA-226	825.	186.10	1.6758E+00
AC-228	25.	911.21	1.3465E-01
TH-228	568.	84.37	5.6171E+00
TH-229	538.	88.47	2.5804E-01
U-232	507.	57.78	1.0143E+02
PA-233	558.	312.17	1.8322E-01
PA-234M	11.	1001.03	1.3303E+00
TH-234	515.	63.29	3.1156E+00
U-235	832.	185.71	1.0225E-01
NP-237	529.	86.48	5.2971E-01
U-237	513.	59.54	5.1610E-01
NP-238	16.	984.45	1.1322E-01
NP-239	559.	106.12	2.2340E-01
PU-239	600.	129.30	7.1530E+02
AM-241	513.	59.54	4.9505E-01
AM-243	529.	74.67	1.4736E-01

KB

QA

LABCORE Data Entry Template for Worklist# 435

Analyst: SMF **Instrument:** GEA00 2 **Method:** LA-548-121/D-1

Worklist Comment: Use 1 mL sample size. -PPB

Seg	Type	Sample#	Rep	Al	Test		Matrix	Actual	Found	DL	Unit
1	STD	#64B52			@GEA-01	CO60-02	SOLID			N/A	uCi/g
1	STD				@GEA-01	CO60-02E	SOLID			N/A	% Ct.
1	STD				@GEA-01	CS13702	SOLID			N/A	uCi/g
1	STD				@GEA-01	CS13702E	SOLID			N/A	% Ct.
2	BLNK-PREP				@GEA-01	CS13702	SOLID			N/A	uCi/g
3	SAMPLE	S94T000351	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
3	SAMPLE	S94T000351	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
4	DUP	S94T000351	0	R	@GEA-01	CS13702	SOLID			N/A	uCi/g
4	DUP	S94T000351	0	R	@GEA-01	CS13702E	SOLID			N/A	% Ct.
5	SAMPLE	S94T000352	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
5	SAMPLE	S94T000352	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
6	DUP	S94T000352	0	R	@GEA-01	CS13702	SOLID			N/A	uCi/g
6	DUP	S94T000352	0	R	@GEA-01	CS13702E	SOLID			N/A	% Ct.
7	SAMPLE	S94T000353	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
7	SAMPLE	S94T000353	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
8	DUP	S94T000353	0	R	@GEA-01	CS13702	SOLID			N/A	uCi/g
8	DUP	S94T000353	0	R	@GEA-01	CS13702E	SOLID			N/A	% Ct.
9	SAMPLE	S94T000354	0	R	@GEA-01	CS13702	SOLID	N/A			uCi/g
9	SAMPLE	S94T000354	0	R	@GEA-01	CS13702E	SOLID	N/A			% Ct.
10	DUP	S94T000354	0	R	@GEA-01	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# 435

Analyst: SMF **Instrument:** GEA00 _____ **Method:** LA-548-121/D-1

Worklist Comment: Use 1 mL sample size. -PPB

Seg Type	Sample#	Rep Al	Test	Matrix	Actual	Found	DL	Unit
10 DUP	S94T000354	0 R	@GEA-01 CS13702E	SOLID			N/A	% Ct.

Final page for worklist # 435

Susie M. Fulton
Analyst Signature

1-24-95
Date

[signature]

1-27-95

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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		21.0100	2.10E-02	4.69			0.00E+00		1.05E-02	200.0
Work List	CS137		26.6000	2.66E-02	5.16			0.00E+00		1.33E-02	200.0
436				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			
WORKLIST#436				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			
DUF'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											
03:45 AM											

REPORT (µCi/mL) = SAMPLE (µCi/L) / 1000mL/L * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

9.8081 < Enter SAMPLE g/L 9.7734 < 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	CS137		746.2000	7.63E+01	0.28		633.1000	6.48E+01	0.3	7.05E+01	16.3
Work List				0.00E+00				0.00E+00			
436				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			
S94T352				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											
03:45 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

9.6723 < Enter SAMPLE g/L 9.7463 < 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	CS137		2164.0000	2.24E+02	0.17		2266.0000	2.32E+02	0.16	2.28E+02	3.8
Work List				0.00E+00				0.00E+00			
436				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			
S94T353				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											
03:46 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

9.6161 < Enter SAMPLE g/L 9.5496 < 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	CS137		577.3000	6.00E+01	0.32		556.7000	5.83E+01	0.32	5.92E+01	2.9
Work List				0.00E+00				0.00E+00			
435				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
4GEA-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			
S94T354				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			
WC3B931				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											
03:45 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

```
*****************************************************************************
* 222-S Laboratory Counting Room   24-JAN-1995 23:29:45.21                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T-351-STD
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]2g2779.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:01.14 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 22:39:08.76
Decayed to:               24-JAN-1995 22:39:08.76
Standard Deviations:      2
Analysis Library:         ENVGEA
Analyst:                  VR
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. Hamilicia

date: 1-24-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.88*	1917	1.47	1323.78	1317	12	5.2		CS-137	26.6
0	1173.57	1071	1.95	2347.21	2338	18	6.8		CO-60	21.0
0	1332.93	964	2.00	2666.01	2656	18	6.4		CO-60	21.0

Sample ID : S94T-351-STD
Acquisition date : 24-JAN-1995 22:39:08
WHC-SD-WM-DP-103, REV. 1

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	2.101E+01	2.101E+01	0.099E+01	4.69	
CS-137	30.00Y	1.000	2.660E+01	2.660E+01	0.137E+01	5.16	
		Total Activity :	4.761E+01	4.761E+01			
		Grand Total Activity :	4.761E+01	4.761E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T-351-STD
Acquisition date : 24-JAN-1995 22:39:08

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	138.	477.59	4.7644E+00
NA-22	14.	1274.53	3.7137E-01
NA-24	5.	1368.55	2.3557E-01
K-40	87.	1460.75	9.5277E+00
SC-46	70.	1120.55	7.3409E-01
CR-51	142.	320.08	3.6084E+00
MN-54	66.	834.83	5.4459E-01
CO-56	64.	846.76	5.4288E-01
CO-57	217.	122.06	3.2943E-01
CO-58	64.	810.78	5.2497E-01
FE-59	77.	1099.25	1.3323E+00
ZN-65	65.	1115.55	1.3811E+00
SE-75	171.	264.66	5.9683E-01
KR-85	85.	514.00	9.4747E+01
SR-85	84.	514.01	4.2817E-01
Y-88	0.	1836.06	0.0000E+00
Y-90	3.	1760.70	8.3214E-01
Y-91	23.	1204.67	1.4808E+02
NB-94	74.	871.09	5.9635E-01
NB-95	74.	765.78	5.3711E-01
ZR-95	64.	756.73	9.0614E-01
RU-103	96.	497.08	4.6922E-01
RURH-106	65.	621.93	8.4694E+00
AG-108m	62.	722.94	5.1575E-01
CD-109	167.	88.03	9.9072E+00
AG-110M	98.	657.76	5.7179E-01
SN-113	143.	391.69	6.5834E-01
TE-123m	166.	159.00	2.8858E-01
SB-124	66.	602.73	4.2359E-01
SB-125	133.	427.89	1.4879E+00
TE-125m	162.	109.27	9.4243E+01
I-129	125.	39.60	0.0000E+00
I-131	114.	364.48	4.4010E-01
XE-131m	176.	163.93	1.2881E+01
BA-133	126.	356.02	5.9448E-01
CS-134	75.	604.70	4.5415E-01
CS-136	72.	818.51	5.6073E-01
CS-138	2.	1435.86	3.5425E-01
CE-139	168.	165.85	3.1041E-01
BA-140	93.	537.31	1.8350E+00
LA-140	4.	1596.21	2.5761E-01
CE-141	178.	145.44	5.1007E-01
CE-144	160.	133.51	2.1150E+00
CEPR-144	160.	133.51	4.2238E+00
EU-152	9.	1408.01	1.4873E+00
EU-154	15.	1274.51	1.0804E+00
EU-155	160.	86.54	1.1009E+00
HF-181	124.	482.18	5.8471E-01
TA-182	142.	67.75	1.4375E+00
HG-203	167.	279.20	4.3975E-01
BI-207	77.	569.70	4.3568E-01

Sample ID : S94T-351-STD Acquisition date : 24-JAN-1995 22:39:08

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	179.	277.36	5.8495E+00
PB-210	140.	46.50	0.0000E+00
BI-212	73.	727.18	7.6589E+00
PB-212	217.	238.63	8.4132E-01
BI-214	85.	609.31	1.0544E+00
PB-214	181.	351.92	2.1877E+00
RA-224	196.	240.99	8.8683E+00
RA-226	173.	186.10	7.6716E+00
AC-228	88.	911.21	2.5459E+00
TH-228	173.	84.37	3.0987E+01
TH-229	162.	88.47	1.4154E+00
U-232	148.	57.78	5.4772E+02
PA-233	147.	312.17	9.4238E-01
PA-234M	73.	1001.03	3.3780E+01
TH-234	149.	63.29	1.6736E+01
U-235	175.	185.71	4.6859E-01
NP-237	159.	86.48	2.9072E+00
U-237	169.	59.54	2.9622E+00
NP-238	67.	984.45	2.2907E+00
NP-239	166.	106.12	1.2165E+00
PU-239	169.	129.30	3.7943E+03
AM-241	169.	59.54	2.8415E+00
AM-243	166.	74.67	8.2433E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   25-JAN-1995 00:38:30.75                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T351-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]2g2780.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.44 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        24-JAN-1995 23:47:51.87
Decayed to:               24-JAN-1995 23:47:51.87
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. Hmilein

date: 1-25-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	512.32*	41	1.94	1024.72	1014	22	97.9			
0	911.78*	22	1.34	1823.54	1819	14	86.4			

Sample ID : S94T351-BLK
Acquisition date : 24-JAN-1995 23:47:51

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

**** 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 : S94T351-BLK Acquisition date : 24-JAN-1995 23:47:51

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	30.	477.59	2.2329E-01
NA-22	6.	1274.53	2.3821E-02
NA-24	10.	1368.55	3.2477E-02
K-40	108.	1460.75	1.0603E+00
SC-46	18.	1120.55	3.6954E-02
CR-51	53.	320.08	2.2050E-01
MN-54	19.	834.83	2.9382E-02
CO-56	14.	846.76	2.5372E-02
CO-57	66.	122.06	1.8167E-02
CO-58	14.	810.78	2.4419E-02
FE-59	9.	1099.25	4.4617E-02
CO-60	4.	1332.50	2.0356E-02
ZN-65	13.	1115.55	6.1009E-02
SE-75	58.	264.66	3.4710E-02
KR-85	51.	514.00	7.3760E+00
SR-85	51.	514.01	3.3295E-02
Y-88	3.	1836.06	2.2817E-02
Y-90	6.	1760.70	1.0676E-01
Y-91	15.	1204.67	1.2048E+01
NB-94	17.	871.09	2.8392E-02
NB-95	18.	765.78	2.6273E-02
ZR-95	19.	756.73	4.9805E-02
RU-103	25.	497.08	2.3817E-02
RURH-106	16.	621.93	4.2700E-01
AG-108m	23.	722.94	3.1589E-02
CD-109	65.	88.03	6.2122E-01
AG-110M	24.	657.76	2.8325E-02
SN-113	37.	391.69	3.3527E-02
TE-123m	65.	159.00	1.8047E-02
SB-124	26.	602.73	2.6703E-02
SB-125	26.	427.89	6.6227E-02
TE-125m	81.	109.27	6.6586E+00
I-129	53.	39.60	0.0000E+00
I-131	41.	364.48	2.6406E-02
XE-131m	83.	163.93	8.8306E-01
BA-133	45.	356.02	3.5686E-02
CS-134	24.	604.70	2.5463E-02
CS-136	16.	818.51	2.6351E-02
CS-137	116.	661.66	6.9470E-02
CS-138	6.	1435.86	5.7675E-02
CE-139	70.	165.85	2.0044E-02
BA-140	30.	537.31	1.0472E-01
LA-140	3.	1596.21	2.2778E-02
CE-141	88.	145.44	3.5818E-02
CE-144	75.	133.51	1.4519E-01
CEPR-144	75.	133.51	2.9010E-01
EU-152	6.	1408.01	1.1923E-01
EU-154	6.	1274.51	6.9438E-02
EU-155	70.	86.54	7.2914E-02
HF-181	32.	482.18	2.9832E-02
TA-182	78.	67.75	1.0668E-01

Sample ID : S94T351-BLK Acquisition date : 24-JAN-1995 23:47:51

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
HG-203	66.	279.20	2.7529E-02
BI-207	30.	569.70	2.7238E-02
TL-208	70.	277.36	3.6471E-01
PB-210	49.	46.50	0.0000E+00
BI-212	27.	727.18	4.6667E-01
PB-212	86.	238.63	5.3045E-02
BI-214	53.	609.31	8.3637E-02
PB-214	59.	351.92	1.2496E-01
RA-224	83.	240.99	5.7580E-01
RA-226	92.	186.10	5.6015E-01
AC-228	40.	911.21	1.7159E-01
TH-228	72.	84.37	1.9937E+00
TH-229	68.	88.47	9.2053E-02
U-232	59.	57.78	3.4652E+01
PA-233	49.	312.17	5.4146E-02
PA-234M	11.	1001.03	1.3106E+00
TH-234	58.	63.29	1.0423E+00
U-235	93.	185.71	3.4240E-02
NP-237	70.	86.48	1.9329E-01
U-237	56.	59.54	1.6998E-01
NP-238	10.	984.45	9.0725E-02
NP-239	76.	106.12	8.2482E-02
PU-239	56.	129.30	2.1816E+02
AM-241	56.	59.54	1.6305E-01
AM-243	82.	74.67	5.7989E-02

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

9.7865 < 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	CS137	<	0.0696	7.10E-03				ERR		ERR	NA
Work List				0.00E+00				ERR			
436				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			
S94T351				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											
03:45 AM											

REPORT (µCi/g) = SAMPLE (µCi/L) / (g/L) * DF

AVERAGE = (SAMPLE + DUPLICATE) / 2

RPD = |(SAMPLE - DUPLICATE)| / AVERAGE * 100

Data Entry by: [signature] Date: 01/27/95

Approved by: [signature] Date: 1/30/95

Form 548121_1 Rev. 2.2

1984

```
*****************************************************************************
* 222-S Laboratory Counting Room   25-JAN-1995 04:36:17.75                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T352-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]2g2784.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:12.24 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        25-JAN-1995 03:44:31.14
Decayed to:               25-JAN-1995 03:44:31.14
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. McLain

date: 1-25-95

B. Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.81*	539156	1.52	1323.63	1315	17	0.3		CS-137	748.
0	1151.79	29	1.26	2303.63	2299	11	74.0			

Sample ID : S94T352-SAM
Acquisition date : 25-JAN-1995 03:44:31

WHC-SD-WM-DP-103, REV. 1

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	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	7.482E+02	7.482E+02	0.021E+02	0.28	
		Total Activity :	7.482E+02	7.482E+02			
		Grand Total Activity :	7.482E+02	7.482E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T352-SAM Acquisition date : 25-JAN-1995 03:44:31

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	17050.	477.59	5.2965E+00
NA-22	28.	1274.53	5.1536E-02
NA-24	9.	1368.55	3.0865E-02
K-40	109.	1460.75	1.0652E+00
SC-46	68.	1120.55	7.1938E-02
CR-51	13874.	320.08	3.5645E+00
MN-54	179.	834.83	8.9603E-02
CO-56	199.	846.76	9.5686E-02
CO-57	15251.	122.06	2.7614E-01
CO-58	186.	810.78	8.9659E-02
FE-59	69.	1099.25	1.2660E-01
CO-60	11.	1332.50	3.4179E-02
ZN-65	72.	1115.55	1.4601E-01
SE-75	15776.	264.66	5.7378E-01
KR-85	8707.	514.00	9.6140E+01
SR-85	8707.	514.01	4.3473E-01
Y-88	0.	1836.06	0.0000E+00
Y-90	7.	1760.70	1.2191E-01
Y-91	38.	1204.67	1.9221E+01
NB-94	164.	871.09	8.8824E-02
NB-95	250.	765.78	9.8607E-02
ZR-95	247.	756.73	1.7788E-01
RU-103	10605.	497.08	4.9199E-01
RURH-106	3707.	621.93	6.4140E+00
AG-108m	309.	722.94	1.1471E-01
CD-109	13318.	88.03	8.8605E+00
AG-110M	9848.	657.76	5.7402E-01
SN-113	15402.	391.69	6.8296E-01
TE-123m	15753.	159.00	2.8082E-01
SB-124	3866.	602.73	3.2387E-01
SB-125	17355.	427.89	1.7013E+00
TE-125m	13897.	109.27	8.7377E+01
I-129	12954.	39.60	0.0000E+00
I-131	14334.	364.48	4.9355E-01
XE-131m	15293.	163.93	1.2010E+01
BA-133	14047.	356.02	6.2806E-01
CS-134	3852.	604.70	3.2474E-01
CS-136	199.	818.51	9.3315E-02
CS-138	4.	1435.86	4.8584E-02
CE-139	15599.	165.85	2.9884E-01
BA-140	6306.	537.31	1.5121E+00
LA-140	6.	1596.21	3.0223E-02
CE-141	15577.	145.44	4.7748E-01
CE-144	15448.	133.51	2.0787E+00
CEPR-144	15449.	133.51	4.1537E+00
EU-152	12.	1408.01	1.7546E-01
EU-154	28.	1274.51	1.4951E-01
EU-155	13424.	86.54	1.0078E+00
HF-181	13800.	482.18	6.1787E-01
TA-182	12454.	67.75	1.3444E+00
HG-203	15274.	279.20	4.2005E-01

Sample ID : S94T352-SAM Acquisition date : 25-JAN-1995 03:44:31

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	4243.	569.70	3.2410E-01
TL-208	15181.	277.36	5.3810E+00
PB-210	12624.	46.50	0.0000E+00
BI-212	298.	727.18	1.5470E+00
PB-212	17693.	238.63	7.5902E-01
BI-214	3844.	609.31	7.1110E-01
PB-214	14258.	351.92	1.9630E+00
RA-224	17400.	240.99	8.3545E+00
RA-226	20105.	186.10	8.2714E+00
AC-228	145.	911.21	3.2641E-01
TH-228	13263.	84.37	2.7150E+01
TH-229	13289.	88.47	1.2830E+00
U-232	12545.	57.78	5.0450E+02
PA-233	14049.	312.17	9.1980E-01
PA-234M	109.	1001.03	4.2263E+00
TH-234	12318.	63.29	1.5242E+01
U-235	19834.	185.71	4.9936E-01
NP-237	13422.	86.48	2.6691E+00
U-237	12407.	59.54	2.5390E+00
NP-238	112.	984.45	2.9761E-01
NP-239	13860.	106.12	1.1123E+00
PU-239	15555.	129.30	3.6414E+03
AM-241	12407.	59.54	2.4353E+00
AM-243	12941.	74.67	7.2889E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   25-JAN-1995 05:49:42.90                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T352-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]2g2785.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:51:00.98 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        25-JAN-1995 04:58:08.39
Decayed to:               25-JAN-1995 04:58:08.39
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: 1-25-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.81*	456238	1.51	1323.64	1315	17	0.3		CS-137	633.

Sample ID : S94T352-DUP Acquisition date : 25-JAN-1995 04:58:08

WHC-SD-WM-DP-103, REV. 1

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	6.331E+02	6.331E+02	0.019E+02	0.30	
		Total Activity :	6.331E+02	6.331E+02			
		Grand Total Activity :	6.331E+02	6.331E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S94T352-DUP

Acquisition date : 25-JAN-1995 04:58:08

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	14693.	477.59	4.9169E+00
NA-22	25.	1274.53	4.9276E-02
NA-24	7.	1368.55	2.7820E-02
K-40	119.	1460.75	1.1111E+00
SC-46	69.	1120.55	7.2468E-02
CR-51	11770.	320.08	3.2831E+00
MN-54	124.	834.83	7.4464E-02
CO-56	153.	846.76	8.3877E-02
CO-57	12745.	122.06	2.5243E-01
CO-58	146.	810.78	7.9401E-02
FE-59	48.	1099.25	1.0588E-01
CO-60	7.	1332.50	2.6770E-02
ZN-65	41.	1115.55	1.0963E-01
SE-75	13149.	264.66	5.2382E-01
KR-85	7247.	514.00	8.7710E+01
SR-85	7246.	514.01	3.9659E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	7.	1760.70	1.1531E-01
Y-91	27.	1204.67	1.6288E+01
NB-94	125.	871.09	7.7648E-02
NB-95	191.	765.78	8.6330E-02
ZR-95	192.	756.73	1.5658E-01
RU-103	9073.	497.08	4.5507E-01
RURH-106	3146.	621.93	5.9084E+00
AG-108m	241.	722.94	1.0133E-01
CD-109	11419.	88.03	8.2043E+00
AG-110M	8214.	657.76	5.2423E-01
SN-113	12868.	391.69	6.2425E-01
TE-123m	13232.	159.00	2.5736E-01
SB-124	3196.	602.73	2.9446E-01
SB-125	14799.	427.89	1.5711E+00
TE-125m	12073.	109.27	8.1442E+01
I-129	11027.	39.60	0.0000E+00
I-131	12071.	364.48	4.5292E-01
XE-131m	13155.	163.93	1.1139E+01
BA-133	11868.	356.02	5.7730E-01
CS-134	3224.	604.70	2.9707E-01
CS-136	158.	818.51	8.3091E-02
CS-138	7.	1435.86	6.2972E-02
CE-139	13331.	165.85	2.7627E-01
BA-140	5290.	537.31	1.3849E+00
LA-140	6.	1596.21	3.1235E-02
CE-141	13305.	145.44	4.4129E-01
CE-144	13146.	133.51	1.9176E+00
CEPR-144	13146.	133.51	3.8316E+00
EU-152	14.	1408.01	1.8639E-01
EU-154	25.	1274.51	1.4271E-01
EU-155	11339.	86.54	9.2627E-01
HF-181	11622.	482.18	5.6703E-01
TA-182	10697.	67.75	1.2459E+00
HG-203	12937.	279.20	3.8659E-01

Sample ID : S94T352-DUP Acquisition date : 25-JAN-1995 04:58:08

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	3483.	569.70	2.9368E-01
TL-208	12762.	277.36	4.9338E+00
PB-210	10533.	46.50	0.0000E+00
BI-212	230.	727.18	1.3579E+00
PB-212	14768.	238.63	6.9345E-01
BI-214	3273.	609.31	6.5611E-01
PB-214	11855.	351.92	1.7865E+00
RA-224	14682.	240.99	7.6742E+00
RA-226	16946.	186.10	7.5938E+00
AC-228	110.	911.21	2.8476E-01
TH-228	11239.	84.37	2.4992E+01
TH-229	11475.	88.47	1.1922E+00
U-232	10588.	57.78	4.6348E+02
PA-233	11812.	312.17	8.4337E-01
PA-234M	77.	1001.03	3.5341E+00
TH-234	10616.	63.29	1.4150E+01
U-235	16778.	185.71	4.5929E-01
NP-237	11353.	86.48	2.4548E+00
U-237	10710.	59.54	2.3590E+00
NP-238	71.	984.45	2.3658E-01
NP-239	11767.	106.12	1.0249E+00
PU-239	13036.	129.30	3.3335E+03
AM-241	10710.	59.54	2.2627E+00
AM-243	10852.	74.67	6.6746E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   25-JAN-1995 06:59:58.79                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T353-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]2g2787.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:41.23 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        25-JAN-1995 06:05:41.65
Decayed to:               25-JAN-1995 06:05:41.65
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: 1-25-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	185.90*	795	0.84	372.17	370	6	87.8		RA-226	9.98
0	661.82*	1559150	1.53	1323.66	1315	17	0.2		CS-137	2.164E+03
0	1322.61	654	2.12	2645.38	2637	20	17.8			

Sample ID : S94T353-SAM Acquisition date : 25-JAN-1995 06:05:41

WHC-SD-WM-DP-103, REV. 1

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	2.164E+03	2.164E+03	0.004E+03	0.17	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~9.979E+00~~	~~9.979E+00~~	~~8.763E+00~~	~~87.82~~	BKG 1/25/95
			---	---			
Total Activity :			2.174E+03	2.174E+03			
Grand Total Activity :			2.174E+03	2.174E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T353-SAM
Acquisition date : 25-JAN-1995 06:05:41

WHC-SD-WM-DP-103, REV. 1

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	51418.	477.59	9.1979E+00
NA-22	225.	1274.53	1.4653E-01
NA-24	25.	1368.55	5.2265E-02
K-40	97.	1460.75	1.0062E+00
SC-46	499.	1120.55	1.9544E-01
CR-51	41148.	320.08	6.1388E+00
MN-54	1572.	834.83	2.6553E-01
CO-56	1589.	846.76	2.7032E-01
CO-57	43885.	122.06	4.6842E-01
CO-58	1727.	810.78	2.7304E-01
FE-59	581.	1099.25	3.6671E-01
CO-60	38.	1332.50	6.2489E-02
ZN-65	475.	1115.55	3.7437E-01
SE-75	45826.	264.66	9.7791E-01
KR-85	26461.	514.00	1.6760E+02
SR-85	26460.	514.01	7.5786E-01
Y-88	6.	1836.06	3.1216E-02
Y-90	4.	1760.70	9.4415E-02
Y-91	246.	1204.67	4.8794E+01
NB-94	1382.	871.09	2.5826E-01
NB-95	2088.	765.78	2.8507E-01
ZR-95	2159.	756.73	5.2544E-01
RU-103	32122.	497.08	8.5628E-01
RURH-106	11595.	621.93	1.1343E+01
AG-108m	2624.	722.94	3.3437E-01
CD-109	38283.	88.03	1.5022E+01
AG-110M	29404.	657.76	9.9185E-01
SN-113	45073.	391.69	1.1683E+00
TE-123m	45942.	159.00	4.7957E-01
SB-124	11982.	602.73	5.7016E-01
SB-125	52188.	427.89	2.9503E+00
TE-125m	40834.	109.27	1.4978E+02
I-129	37687.	39.60	0.0000E+00
I-131	42174.	364.48	8.4665E-01
XE-131m	45753.	163.93	2.0775E+01
BA-133	42299.	356.02	1.0899E+00
CS-134	12041.	604.70	5.7415E-01
CS-136	1681.	818.51	2.7112E-01
CS-138	13.	1435.86	8.6476E-02
CE-139	45641.	165.85	5.1119E-01
BA-140	19529.	537.31	2.6612E+00
LA-140	9.	1596.21	3.6416E-02
CE-141	45426.	145.44	8.1542E-01
CE-144	45460.	133.51	3.5658E+00
CEPR-144	45460.	133.51	7.1253E+00
EU-152	15.	1408.01	1.9753E-01
EU-154	225.	1274.51	4.2583E-01
EU-155	38402.	86.54	1.7046E+00
HF-181	41488.	482.18	1.0713E+00
TA-182	36523.	67.75	2.3022E+00
HG-203	44397.	279.20	7.1616E-01

Sample ID : S94T353-SAM Acquisition date : 25-JAN-1995 06:05:41

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	13255.	569.70	5.7287E-01
TL-208	44705.	277.36	9.2341E+00
PB-210	36562.	46.50	0.0000E+00
BI-212	2478.	727.18	4.4593E+00
PB-212	51141.	238.63	1.2904E+00
BI-214	11600.	609.31	1.2353E+00
PB-214	41679.	351.92	3.4413E+00
RA-224	50916.	240.99	1.4293E+01
AC-228	1070.	911.21	8.8764E-01
TH-228	38142.	84.37	4.6042E+01
TH-229	38092.	88.47	2.1722E+00
U-232	35995.	57.78	8.5455E+02
PA-233	41784.	312.17	1.5863E+00
PA-234M	761.	1001.03	1.1720E+01
TH-234	36165.	63.29	2.6117E+01
U-235	57494.	185.71	8.5019E-01
NP-237	38426.	86.48	4.5163E+00
U-237	35988.	59.54	4.3246E+00
NP-238	732.	984.45	7.5959E-01
NP-239	40472.	106.12	1.9012E+00
PU-239	45205.	129.30	6.2076E+03
AM-241	35988.	59.54	4.1477E+00
AM-243	37559.	74.67	1.2418E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   25-JAN-1995 08:00:38.07                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T353-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]2g2788.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:53:52.08 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        25-JAN-1995 07:05:47.45
Decayed to:               25-JAN-1995 07:05:47.45
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:

date: 1-25-95

1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	185.61*	658	1.48	371.57	370	5	94.4		RA-226	8.25
0	661.82*	1632936	1.53	1323.65	1315	17	0.2		CS-137	2.266E+03
0	1322.80	689	2.78	2645.74	2637	24	21.0			

Summary of Nuclide Activity
Sample ID : S94T353-DUP

Page : 2
Acquisition date : 25-JAN-1995 07:05:47

WHC-SD-WM-DP-103, REV. 1

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	2.266E+03	2.266E+03	0.004E+03	0.16	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~8.254E+00~~	~~8.254E+00~~	~~7.789E+00~~	~~94.36~~	BKG 1/25/9.
	Total Activity :		2.274E+03	2.274E+03			
	Grand Total Activity :		2.274E+03	2.274E+03			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : S94T353-DUP Acquisition date : 25-JAN-1995 07:05:47

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	53466.	477.59	9.3794E+00
NA-22	238.	1274.53	1.5069E-01
NA-24	37.	1368.55	6.3758E-02
K-40	115.	1460.75	1.0922E+00
SC-46	552.	1120.55	2.0554E-01
CR-51	43906.	320.08	6.3412E+00
MN-54	1825.	834.83	2.8615E-01
CO-56	1644.	846.76	2.7501E-01
CO-57	46645.	122.06	4.8292E-01
CO-58	1972.	810.78	2.9179E-01
FE-59	561.	1099.25	3.6021E-01
CO-60	29.	1332.50	5.4021E-02
ZN-65	488.	1115.55	3.7959E-01
SE-75	48095.	264.66	1.0018E+00
KR-85	27804.	514.00	1.7180E+02
SR-85	27806.	514.01	7.7688E-01
Y-88	3.	1836.06	2.2817E-02
Y-90	4.	1760.70	8.9108E-02
Y-91	281.	1204.67	5.2128E+01
NB-94	1485.	871.09	2.6767E-01
NB-95	2330.	765.78	3.0114E-01
ZR-95	2350.	756.73	5.4813E-01
RU-103	33798.	497.08	8.7834E-01
RURH-106	12175.	621.93	1.1623E+01
AG-108m	2840.	722.94	3.4786E-01
CD-109	40120.	88.03	1.5379E+01
AG-110M	31105.	657.76	1.0201E+00
SN-113	47399.	391.69	1.1981E+00
TE-123m	47477.	159.00	4.8751E-01
SB-124	12485.	602.73	5.8201E-01
SB-125	54261.	427.89	3.0083E+00
TE-125m	42401.	109.27	1.5262E+02
I-129	39336.	39.60	0.0000E+00
I-131	44213.	364.48	8.6688E-01
XE-131m	47545.	163.93	2.1178E+01
BA-133	43516.	356.02	1.1055E+00
CS-134	12326.	604.70	5.8089E-01
CS-136	1802.	818.51	2.8071E-01
CS-138	15.	1435.86	9.1314E-02
CE-139	47989.	165.85	5.2417E-01
BA-140	20547.	537.31	2.7296E+00
LA-140	12.	1596.21	4.3396E-02
CE-141	47649.	145.44	8.3513E-01
CE-144	47437.	133.51	3.6426E+00
CEPR-144	47437.	133.51	7.2786E+00
EU-152	20.	1408.01	2.2760E-01
EU-154	238.	1274.51	4.3791E-01
EU-155	39966.	86.54	1.7390E+00
HF-181	43290.	482.18	1.0944E+00
TA-182	38304.	67.75	2.3577E+00
HG-203	46050.	279.20	7.2937E-01

Sample ID : S94T353-DUP Acquisition date : 25-JAN-1995 07:05:47

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	13897.	569.70	5.8658E-01
TL-208	46149.	277.36	9.3821E+00
PB-210	38066.	46.50	0.0000E+00
BI-212	2700.	727.18	4.6549E+00
PB-212	53572.	238.63	1.3207E+00
BI-214	12405.	609.31	1.2774E+00
PB-214	43578.	351.92	3.5252E+00
RA-224	53493.	240.99	1.4651E+01
AC-228	1151.	911.21	9.2028E-01
TH-228	39868.	84.37	4.7073E+01
TH-229	40183.	88.47	2.2310E+00
U-232	37886.	57.78	8.7671E+02
PA-233	43315.	312.17	1.6151E+00
PA-234M	825.	1001.03	1.2243E+01
TH-234	37837.	63.29	2.6714E+01
U-235	60488.	185.71	8.7205E-01
NP-237	39947.	86.48	4.6048E+00
U-237	37986.	59.54	4.4431E+00
NP-238	855.	984.45	8.2079E-01
NP-239	41924.	106.12	1.9351E+00
PU-239	47442.	129.30	6.3594E+03
AM-241	37986.	59.54	4.2613E+00
AM-243	38904.	74.67	1.2638E+00

```
*****************************************************************************
* 222-S Laboratory Counting Room   25-JAN-1995 09:04:26.33                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T354-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]2g2789.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:55.45 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        25-JAN-1995 08:12:52.70
Decayed to:               25-JAN-1995 08:12:52.70
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: MB

date: 1-25-95

Bachelor 1/25/95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	508.67	256	2.26	1017.42	1015	7	98.2			
0	661.81*	416024	1.52	1323.63	1315	17	0.3		CS-137	577.

Sample ID : S94T354-SAMPLE Acquisition date : 25-JAN-1995 08:12:52

Total number of lines in spectrum 2
Number of unidentified lines 1
Number of lines tentatively identified by NID 1 50.00%

WHC-SD-WM-DP-103, REV. 1

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	5.773E+02	5.773E+02	0.018E+02	0.32	
		Total Activity :	5.773E+02	5.773E+02			
		Grand Total Activity :	5.773E+02	5.773E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T354-SAMPLE Acquisition date : 25-JAN-1995 08:12:52

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	13143.	477.59	4.6503E+00
NA-22	20.	1274.53	4.3566E-02
NA-24	8.	1368.55	2.9688E-02
K-40	109.	1460.75	1.0652E+00
SC-46	54.	1120.55	6.4129E-02
CR-51	10775.	320.08	3.1412E+00
MN-54	131.	834.83	7.6699E-02
CO-56	120.	846.76	7.4306E-02
CO-57	11898.	122.06	2.4390E-01
CO-58	166.	810.78	8.4669E-02
FE-59	48.	1099.25	1.0524E-01
CO-60	9.	1332.50	3.1039E-02
ZN-65	38.	1115.55	1.0591E-01
SE-75	12195.	264.66	5.0447E-01
KR-85	6690.	514.00	8.4274E+01
SR-85	6690.	514.01	3.8107E-01
Y-88	2.	1836.06	1.8630E-02
Y-90	5.	1760.70	9.7030E-02
Y-91	24.	1204.67	1.5086E+01
NB-94	107.	871.09	7.1776E-02
NB-95	175.	765.78	8.2468E-02
ZR-95	185.	756.73	1.5377E-01
RU-103	8211.	497.08	4.3292E-01
RURH-106	2697.	621.93	5.4706E+00
AG-108m	191.	722.94	9.0161E-02
CD-109	10384.	88.03	7.8237E+00
AG-110M	7509.	657.76	5.0121E-01
SN-113	11936.	391.69	6.0122E-01
TE-123m	12080.	159.00	2.4591E-01
SB-124	2899.	602.73	2.8043E-01
SB-125	13461.	427.89	1.4983E+00
TE-125m	10884.	109.27	7.7327E+01
I-129	9814.	39.60	0.0000E+00
I-131	11145.	364.48	4.3520E-01
XE-131m	12145.	163.93	1.0703E+01
BA-133	11040.	356.02	5.5680E-01
CS-134	2912.	604.70	2.8233E-01
CS-136	118.	818.51	7.1749E-02
CS-138	8.	1435.86	6.4504E-02
CE-139	12048.	165.85	2.6263E-01
BA-140	4906.	537.31	1.3338E+00
LA-140	4.	1596.21	2.4676E-02
CE-141	12007.	145.44	4.1922E-01
CE-144	12044.	133.51	1.8354E+00
CEPR-144	12044.	133.51	3.6676E+00
EU-152	8.	1408.01	1.4327E-01
EU-154	20.	1274.51	1.2619E-01
EU-155	10272.	86.54	8.8158E-01
HF-181	10728.	482.18	5.4478E-01
TA-182	9785.	67.75	1.1916E+00
HG-203	11400.	279.20	3.6289E-01

Sample ID : S94T354-SAMPLE Acquisition date : 25-JAN-1995 08:12:52

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	3246.	569.70	2.8349E-01
TL-208	11558.	277.36	4.6952E+00
PB-210	9692.	46.50	0.0000E+00
BI-212	170.	727.18	1.1689E+00
PB-212	13497.	238.63	6.6293E-01
BI-214	2853.	609.31	6.1263E-01
PB-214	10874.	351.92	1.7094E+00
RA-224	13314.	240.99	7.3078E+00
RA-226	15397.	186.10	7.2384E+00
AC-228	82.	911.21	2.4609E-01
TH-228	10196.	84.37	2.3805E+01
TH-229	10331.	88.47	1.1312E+00
U-232	9837.	57.78	4.4674E+02
PA-233	11020.	312.17	8.1463E-01
PA-234M	56.	1001.03	3.0067E+00
TH-234	9723.	63.29	1.3542E+01
U-235	15307.	185.71	4.3868E-01
NP-237	10275.	86.48	2.3354E+00
U-237	9814.	59.54	2.2582E+00
NP-238	55.	984.45	2.0903E-01
NP-239	10505.	106.12	9.6836E-01
PU-239	11967.	129.30	3.1939E+03
AM-241	9814.	59.54	2.1660E+00
AM-243	10047.	74.67	6.4224E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   25-JAN-1995 10:08:48.78                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S94T354-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]2g2790.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:53.43 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        25-JAN-1995 09:17:19.42
Decayed to:               25-JAN-1995 09:17:19.42
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: MB

date: 1-25-95

WHC-SD-WM-DP-103, REV. 1

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	184.82*	438	0.78	369.99	368	6	78.7		RA-226	5.49
0	661.81*	401139	1.51	1323.63	1315	17	0.3		CS-137	557.

Summary of Nuclide Activity
Sample ID : S94T354-DUP

Acquisition date : 25-JAN-1995 09:17:19

WHC-SD-WM-DP-103, REV. 1

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	5.567E+02	5.567E+02	0.018E+02	0.32	
~~RA-226~~	~~1600.00Y~~	~~1.000~~	~~5.494E+00~~	~~5.494E+00~~	~~4.323E+00~~	~~78.68~~	BKG 1/25/95
	Total Activity :		5.622E+02	5.622E+02			
	Grand Total Activity :		5.622E+02	5.622E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : S94T354-DUP
Acquisition date : 25-JAN-1995 09:17:19

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	12697.	477.59	4.5707E+00
NA-22	27.	1274.53	5.0883E-02
NA-24	2.	1368.55	1.4904E-02
K-40	104.	1460.75	1.0418E+00
SC-46	58.	1120.55	6.6428E-02
CR-51	10396.	320.08	3.0855E+00
MN-54	111.	834.83	7.0592E-02
CO-56	105.	846.76	6.9507E-02
CO-57	11511.	122.06	2.3990E-01
CO-58	126.	810.78	7.3750E-02
FE-59	36.	1099.25	9.1524E-02
CO-60	9.	1332.50	3.0354E-02
ZN-65	45.	1115.55	1.1466E-01
SE-75	11563.	264.66	4.9123E-01
KR-85	6427.	514.00	8.2604E+01
SR-85	6426.	514.01	3.7347E-01
Y-88	3.	1836.06	2.2614E-02
Y-90	6.	1760.70	1.1310E-01
Y-91	29.	1204.67	1.6852E+01
NB-94	92.	871.09	6.6792E-02
NB-95	132.	765.78	7.1634E-02
ZR-95	169.	756.73	1.4688E-01
RU-103	7880.	497.08	4.2410E-01
RURH-106	2680.	621.93	5.4531E+00
AG-108m	172.	722.94	8.5640E-02
CD-109	10047.	88.03	7.6958E+00
AG-110M	7261.	657.76	4.9289E-01
SN-113	11274.	391.69	5.8433E-01
TE-123m	11508.	159.00	2.4001E-01
SB-124	2753.	602.73	2.7328E-01
SB-125	13183.	427.89	1.4828E+00
TE-125m	10412.	109.27	7.5633E+01
I-129	9544.	39.60	0.0000E+00
I-131	10563.	364.48	4.2368E-01
XE-131m	11557.	163.93	1.0441E+01
BA-133	10527.	356.02	5.4371E-01
CS-134	2769.	604.70	2.7531E-01
CS-136	134.	818.51	7.6474E-02
CS-138	11.	1435.86	7.7853E-02
CE-139	11694.	165.85	2.5875E-01
BA-140	4740.	537.31	1.3110E+00
LA-140	5.	1596.21	2.7588E-02
CE-141	11655.	145.44	4.1302E-01
CE-144	11440.	133.51	1.7888E+00
CEPR-144	11440.	133.51	3.5745E+00
EU-152	6.	1408.01	1.1923E-01
EU-154	27.	1274.51	1.4805E-01
EU-155	9802.	86.54	8.6120E-01
HF-181	10291.	482.18	5.3357E-01
TA-182	9370.	67.75	1.1661E+00
HG-203	11128.	279.20	3.5853E-01

Sample ID : S94T354-DUP Acquisition date : 25-JAN-1995 09:17:19

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	3088.	569.70	2.7652E-01
TL-208	11122.	277.36	4.6058E+00
PB-210	9450.	46.50	0.0000E+00
BI-212	164.	727.18	1.1488E+00
PB-212	12997.	238.63	6.5053E-01
BI-214	2815.	609.31	6.0849E-01
PB-214	10621.	351.92	1.6888E+00
RA-224	12946.	240.99	7.2060E+00
AC-228	92.	911.21	2.6009E-01
TH-228	9786.	84.37	2.3322E+01
TH-229	10068.	88.47	1.1167E+00
U-232	9334.	57.78	4.3517E+02
PA-233	10469.	312.17	7.9398E-01
PA-234M	60.	1001.03	3.1085E+00
TH-234	9228.	63.29	1.3192E+01
U-235	14692.	185.71	4.2978E-01
NP-237	9802.	86.48	2.2810E+00
U-237	9348.	59.54	2.2039E+00
NP-238	57.	984.45	2.1267E-01
NP-239	10281.	106.12	9.5796E-01
PU-239	11430.	129.30	3.1214E+03
AM-241	9348.	59.54	2.1139E+00
AM-243	9412.	74.67	6.2161E-01