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

Document number: SD-WM-DP-141

Section 2 **of** 2

Title: 90 DAY SAFETY SCREENING RESULTS and FINAL REPORT for TANK 241-T-108, AUGER SAMPLES 95-AUG-035 and 95-AUG-037

Date: 10/23/95 **Revision:** 1

Originator: JOHN H. BALDWIN
Co: WHC

Recipient:
Co:

References: ECN-625763

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RADIOCHEMICAL ANALYSES

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LABCORE Data Entry Template for Worklist# 1969

Analyst: S.C.L. **Instrument:** AB00 16 **Book #** 112 B5 2

Method: LA-508-101 Rev/Mod D-2 WHC-SD-WM-DP-141, REV. 1

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. 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
95000097	T-108	4	SAMPLE	S95T001321	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000097	T-108	4	SAMPLE	S95T001321	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000097	T-108	5	DUP	S95T001321	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000097	T-108	5	DUP	S95T001321	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000097	T-108	6	SPK	S95T001321	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000099	T-108	7	SAMPLE	S95T001324	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000099	T-108	7	SAMPLE	S95T001324	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000099	T-108	8	DUP	S95T001324	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000099	T-108	8	DUP	S95T001324	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000099	T-108	9	SPK	S95T001324	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 1969

Sue C Lai 8-1-95 C.J. Opinion 8-8-95

Data Entry Comments:

High RPD values are acceptable due to low alpha activity. Sample B21 will be rerun due to low SPK recovery. 8/8/95

A spike: 112 B43

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

LABCORE Data Entry Template for Worklist# 1969

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

WHC-SD-WM-DP-141, REV. 1

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141, REV. 1

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

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	3746	4437
1969	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
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		124.367	147.400
Sample #	Sample Concentration in µCi/L		2.66E-02	BOOK#
WORKLIST#1969	Replicate Concentration in µCi/L		3.16E-02	132B52
Instrument Code				
WB27806	Average Concentration in µCi/L		2.9092E-02	
Analyst				
SCL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
08/07/95	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/mL (Average) =	2.91E-05	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	3.2%	1.48E-07 µCi/mL

Data Entry by:		Date:	08/08/95
Approved by:		Date:	8/8/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141, REV. 1

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

				BLANK	REPLICATE
Type	DETECTOR NUMBER			16	16
BLANK	DISH SIZE 1 , 2 , or 5	(MS)		2	2
Work List	TOTAL COUNTS	(TC)		3	1
1969	COUNT TIME in MINUTES	(CT)		30	30
AT or TB ?	BACKGROUND in cpm	(BKG)		0.5	0.5
AT	SAMPLE SIZE in mL	(SS)		0.500	0.500
Test Code	DILUTION FACTOR	(DF)		1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)		2.204	2.204
Matrix	EFFICIENCY FACTOR	(EFF)		0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.301	0.301
Sample #	Sample Concentration in µCi/g		<	5.85E-04	BOOK#
S95T1321	Replicate Concentration in µCi/g		<	5.85E-04	132B52
Instrument Code					
WB27806	Maximum Concentration in µCi/g		<	5.8525E-04	
Analyst					
SCL					
Date					
08/07/95					
Time					
01:00 PM					

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

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

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

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

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 5.85E-04	DETECTION LEVEL
LESS Than Value was Determined from Lc.				1.35E-03 µCi/g
RELATIVE COUNTING ERROR		=	69.3%	

Data Entry by:	[signature]	Date:	08/08/95
Approved by:	[signature]	Date:	8/8/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WMC-SD-WM-DF- 141, REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	750	781
1969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.204	2.204
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		24.500	25.533
Sample #	Sample Concentration in µCi/g		4.76E-02	BOOK#
S95T1321	Replicate Concentration in µCi/g		4.96E-02	132B52
Instrument Code				
WB27806	Average Concentration in µCi/g		4.8601E-02	
Analyst				
SCL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
08/07/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	4.86E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	7.4%	1.35E-03 µCi/g

Data Entry by:	[signature]	Date:	08/08/95
Approved by:	[signature]	Date:	8/8/95

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141, REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	557	613
1969	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1944	2.1944
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		18.067	19.933
Sample #	Sample Concentration in µCi/g		3.53E-02	BOOK#
S95T1321	Replicate Concentration in µCi/g		3.89E-02	132B52
Instrument Code				
WB27806	Average Concentration in µCi/g		3.7074E-02	
Analyst				
SCL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
08/07/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	3.71E-02	DETECTION LEVEL
				1.35E-03 µCi/g
RELATIVE COUNTING ERROR		=	8.6%	

Data Entry by:	[signature]	Date:	08/08/95
Approved by:	[signature]	Date:	8/8/95

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			16	16
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	41553	39203
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.5	0.5
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.500	0.500
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS/L		(Dg/L)	2.204	2.204
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE VALUE in µCi/L		(SVal)	44.783	44.783
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2104	0.2104
SAMPLE + SPIKE µCi/g		(S+S)	2.69E+00	2.54E+00
AVERAGE or MAXIMUM µCi/g from FORM C			4.8601E-02	
BOOK#			112B43	

Type	Work List	AT or TB ?	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SPIKE	1969	AT	@ALPHA01	SOLID	S95T1321	WB27806	SCL	08/07/95	01:00 PM

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

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

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

RESULT AVG. PERCENT SPIKE RECOVERY = 63.1%

Data Entry by: [signature] Date: 08-Aug-95

Approved by: [signature] Date: 8/8/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-CD-WM-DP-141, REV. 1

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

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	335	410
1969	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
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.2276	2.2276
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		10.667	13.167
Sample #	Sample Concentration in µCi/g		1.03E-01	BOOK#
S95T1324	Replicate Concentration in µCi/g		1.27E-01	132B52
Instrument Code				
WB27806	Average Concentration in µCi/g		1.1453E-01	
Analyst				
SCL				
Date				
08/07/95				
Time				
01:00 PM				

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

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

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

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

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	1.15E-01	DETECTION LEVEL
				6.66E-03 µCi/g
RELATIVE COUNTING ERROR		=	11.5%	

Data Entry by:	[signature]	Date:	08/08/95
Approved by:	[signature]	Date:	8/8/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141, REV 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
DUPLICATE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	238	262
1969	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
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.2456	2.2456
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		7.433	8.233
Sample #	Sample Concentration in µCi/g		7.09E-02	BOOK#
S95T1324	Replicate Concentration in µCi/g		7.85E-02	132B52
Instrument Code				
WB27806	Average Concentration in µCi/g		7.4682E-02	
Analyst				
SCL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
08/07/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	7.47E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	14.0%	6.61E-03 µCi/g

Data Entry by:		Date:	08/08/95
Approved by:		Date:	8/8/95

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

Type			SPIKE	REPLICATE
SPIKE	DETECTOR NUMBER		16	16
Work List	DISH SIZE 1 , 2 , or 5	(MS)	2	2
1969	TOTAL COUNTS	(TC)	50806	53009
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.5	0.5
Test Code	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
@ALPHA01	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
Matrix	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.2276	2.2276
SOLID	SPIKE VOLUME in mL	(SVol)	0.100	0.100
Sample #	SPIKE DILUTION FACTOR	(SDF)	1	1
S95T1324	SPIKE VALUE in µCi/L	(SVal)	44.783	44.783
Instrument Code	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
WB27806	SAMPLE + SPIKE µCi/g	(S+S)	1.63E+01	1.70E+01
Analyst	AVERAGE or MAXIMUM µCi/g from FORM C		1.1500E-01	
SCL	BOOK#		112B43	
Date				
08/07/95				
Time				
01:00 PM				

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

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

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

RESULT **AVG. PERCENT SPIKE RECOVERY = 82.1%**

Data Entry by: Date: 08-Aug-95

Approved by: Date: 8/8/95

Form 508101_X Rev. 1.3

LABCORE Data Entry Template for Worklist# 1977

Analyst: S.L **Instrument:** AB00 16 WB27806 **Book #** 132B52

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

Worklist Comment: Use .500 mL sample size. Use .100 mL A-SPK. SLF Rerun #1. SLF 8/9/95

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	1.17			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000097	T-108	4	SAMPLE	S95T001321	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000097	T-108	4	SAMPLE	S95T001321	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000097	T-108	5	DUP	S95T001321	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000097	T-108	5	DUP	S95T001321	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000097	T-108	6	SPK	S95T001321	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 1977

Sue C Lai 8-9-95
Analyst Signature **Date**

Sharon L Holden 8-10-95
Analyst Signature **Date**

Data Entry Comments:

spike: ~~112B52~~ (SL) 8-9-95
112B43

Low SPK recovery is consistent with the first run. This is the result of high dissolved solids content in the sample. No further reruns requested. 8-11-95

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

WHC-SD-WM-DP-141, REV. 1

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

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STANDARD	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	4318	4387
1977	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		143.533	145.833
Sample #	Sample Concentration in µCi/L		3.07E-02	BOOK#
WORKLIST#1977	Replicate Concentration in µCi/L		3.12E-02	132B52
Instrument Code				
WB27806	Average Concentration in µCi/L		3.0976E-02	
Analyst				
SCL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
08/09/95	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	3.10E-05	DETECTION LEVEL
				1.35E-07 µCi/mL
RELATIVE COUNTING ERROR		=	3.0%	

Data Entry by:	Sharon Gallagher	Date:	08/10/95
Approved by:	[illegible]	Date:	8/11/95

Form 508101_C Rev. 1.3

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-141, REV. 1

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

LA-548-101 (A-3) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		16	16
BLANK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work Line	TOTAL COUNTS	(TC)	6	22
1977	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.204	2.204
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.269	0.333
Sample #	Sample Concentration in µCi/g	<	5.23E-04	BOOK#
S95T1321	Replicate Concentration in µCi/g		6.48E-04	
Instrument Code				
WB27806	Maximum Concentration in µCi/g	<	6.4759E-04	
Analyst				
SCL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
08/09/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 6.48E-04	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				1.22E-03 µCi/g
RELATIVE COUNTING ERROR		=	138.6%	

Data Entry by: [signature] Date: 08/10/95

Approved by: [signature] Date: 8/11/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141 , REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	827	804
1977	COUNT TIME in MINUTES	(CT)	30	30
AT or TB 2	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.204	2.204
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		27.167	26.400
Sample #	Sample Concentration in µCi/g		5.28E-02	BOOK#
S95T1321	Replicate Concentration in µCi/g		5.13E-02	
Instrument Code				
WB27806	Average Concentration in µCi/g		5.2034E-02	
Analyst				
SCL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
08/09/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	5.20E-02	DETECTION LEVEL
				1.22E-03 µCi/g
RELATIVE COUNTING ERROR		=	7.1%	

Data Entry by:	Shyrony Acle	Date:	08/10/95
Approved by:	[illegible]	Date:	8/11/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141 , REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	628	592
1977	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1944	2.1944
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		20.533	19.333
Sample #	Sample Concentration in µCi/g		4.01E-02	BOOK#
S95T1321	Replicate Concentration in µCi/g		3.77E-02	
Instrument Code				
WB27806	Average Concentration in µCi/g		3.8895E-02	
Analyst				
SCL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
08/09/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	3.89E-02	DETECTION LEVEL
				1.23E-03 µCi/g
RELATIVE COUNTING ERROR		=	8.3%	

Data Entry by:	[signature]	Date:	08/10/95
Approved by:	[signature]	Date:	8/11/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141, REV. 1

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

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	42045	38242
1977	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	0.4	0.4
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.204	2.204
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	44.782	44.782
S95T1321	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	2.72E+00	2.48E+00
WB27806	AVERAGE or MAXIMUM µCi/g from FORM C		5.2034E-02	
Analyst	BOOK#		112B43	
SCL				
Date				
08/09/95				
Time				
01:00 PM				

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

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

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

RESULT **AVG. PERCENT SPIKE RECOVERY = 62.7%**

Data Entry by:	Sharon [illegible]	Date:	10-Aug-95
Approved by:	[illegible]	Date:	8/11/95

Form 508101_X Rev. 1.3

LABCORE Data Entry Template for Worklist# 2007

Analyst: KGT **Instrument:** GEA00 3 **Book #** 13-655

Method: LA-548-121 Rev/Mod D-1

Worklist Comment: RUSH - GEA T-108; use 1 mL sample size. R(1) -PPB

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				@GEA-02	CO60-02	SOLID			N/A	uCi/g
		1	STD				@GEA-02	CO60-02E	SOLID			N/A	% Ct. Error
		1	STD				@GEA-02	CS13702	SOLID			N/A	uCi/g
		1	STD				@GEA-02	CS13702E	SOLID			N/A	% Ct. Error
		2	BLNK-PREP				@GEA-02	CO60-02	SOLID			N/A	uCi/g
		2	BLNK-PREP				@GEA-02	CS13702	SOLID			N/A	uCi/g
		2	BLNK-PREP				@GEA-02	EU15402	SOLID			N/A	uCi/g
		2	BLNK-PREP				@GEA-02	EU15502	SOLID			N/A	uCi/g
		2	BLNK-PREP				@GEA-02	AM24102	SOLID			N/A	uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	CO60-02	SOLID	N/A			uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	CO60-02E	SOLID	N/A			% Ct. Error
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	CS13702	SOLID	N/A			uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	CS13702E	SOLID	N/A			% Ct. Error
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	EU15402	SOLID	N/A			uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	EU15402E	SOLID	N/A			% Ct. Error
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	EU15502	SOLID	N/A			uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	EU15502E	SOLID	N/A			% Ct. Error
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	AM24102	SOLID	N/A			uCi/g

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 2007

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------		MATRIX	ACTUAL	FOUND	DL	UNIT
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	AM24102E	SOLID	N/A			% Ct. Error
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	CO60-02	SOLID			N/A	uCi/g
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	CO60-02E	SOLID			N/A	% Ct. Error
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	CS13702	SOLID			N/A	uCi/g
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	CS13702E	SOLID			N/A	% Ct. Error
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	EU15402	SOLID			N/A	uCi/g
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	EU15402E	SOLID			N/A	% Ct. Error
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	EU15502	SOLID			N/A	uCi/g
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	EU15502E	SOLID			N/A	% Ct. Error
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	AM24102	SOLID			N/A	uCi/g
95000097	T-108	4	DUP	S95T001321	0	F	@GEA-02	AM24102E	SOLID			N/A	% Ct. Error
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	CO60-02	SOLID	N/A			uCi/g
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	CO60-02E	SOLID	N/A			% Ct. Error
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	CS13702	SOLID	N/A			uCi/g
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	CS13702E	SOLID	N/A			% Ct. Error
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	EU15402	SOLID	N/A			uCi/g
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	EU15402E	SOLID	N/A			% Ct. Error
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	EU15502	SOLID	N/A			uCi/g
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	EU15502E	SOLID	N/A			% Ct. Error
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	AM24102	SOLID	N/A			uCi/g
95000099	T-108	5	SAMPLE	S95T001324	0	F	@GEA-02	AM24102E	SOLID	N/A			% Ct. Error

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 2007

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------		MATRIX	ACTUAL	FOUND	DL	UNIT
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	CO60-02	SOLID			N/A	uCi/g
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	CO60-02E	SOLID			N/A	% Ct. Error
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	CS13702	SOLID			N/A	uCi/g
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	CS13702E	SOLID			N/A	% Ct. Error
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	EU15402	SOLID			N/A	uCi/g
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	EU15402E	SOLID			N/A	% Ct. Error
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	EU15502	SOLID			N/A	uCi/g
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	EU15502E	SOLID			N/A	% Ct. Error
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	AM24102	SOLID			N/A	uCi/g
95000099	T-108	6	DUP	S95T001324	0	F	@GEA-02	AM24102E	SOLID			N/A	% Ct. Error

Final page for worklist # 2007

Analyst Signature 8-15-95 Date

Analyst Signature 8-17-95 Date

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141, 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	CO-60		3.42E+01	3.42E-02	1.04			0.00E+00			
Work List	CS-137		2.47E+01	2.47E-02	1.54			0.00E+00			
2007				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
LIQUID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
WORKLIST#2007				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Report #				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Dupl. Report #				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			
WC39831				0.00E+00				0.00E+00			
Analyst				0.00E+00				0.00E+00			
KGH				0.00E+00				0.00E+00			
Date											
08/15/95											
Time											
07:55 PM											

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

AVERAGE = (SAMPLE + DUPLICATE) / 2

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

Data Entry by: Sharon L Hall Date: 08/17/95

Approved by: B Bachelor Date: 8/17/95

Form 548121_1 Rev 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-141, 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

2.204 < 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	CO-60	<	2.57E-02	1.17E-02				ERR			
Matrix	CS-137	<	4.86E-02	2.20E-02				ERR			
2007	EU-154	<	6.26E-02	2.84E-02				ERR			
Test Code	EU-155	<	5.38E-02	2.44E-02				ERR			
@GEA-02	AM-241	<	1.47E-01	6.67E-02				ERR			
Matrix				0.00E+00				ERR			
LIQUID				0.00E+00				ERR			
Sample #				0.00E+00				ERR			
S96T1321				0.00E+00				ERR			
				0.00E+00				ERR			
Plant ID				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Qual. Plant ID				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Instrument Code				0.00E+00				ERR			
WC39631				0.00E+00				ERR			
Analyst				0.00E+00				ERR			
KGH				0.00E+00				ERR			
Date											
08/15/96											
Time											
07:55 PM											

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

AVERAGE = (SAMPLE + DUPLICATE) / 2

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

Data Entry by: [signature] Date: 08/17/95

Approved by: [signature] Date: 8/17/95

Form 548121_1 Rev. 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141, 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

2.204 < Enter SAMPLE g/L 2.1944 < Enter DUPLICATE g/L

	ANALYTE	? <	SAMPLE µCi/L	REPORT µCi/g	COUNTING ERROR %	? <	DUPLICATE µCi/L	REPORT µCi/g	COUNTING ERROR %		AVERAGE µCi/g	RPD
SAMPLE	CO-60	<	3.01E-02	1.36E-02		<	2.78E-02	1.27E-02		<	1.32E-02	NA
	CS-137		1.36E+00	6.19E-01	6.1		1.37E+00	6.25E-01	6.53		6.22E-01	1.0
2007	EU-154	<	9.82E-02	4.46E-02		<	8.08E-02	3.68E-02		<	4.07E-02	NA
	EU-155	<	6.43E-02	2.92E-02		<	6.33E-02	2.88E-02		<	2.90E-02	NA
GCEA-02	AM-241	<	2.06E-01	9.30E-02		<	1.79E-01	8.15E-02		<	8.72E-02	NA
				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
595T1321				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
WC38831				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
KOH				0.00E+00				0.00E+00				
08/16/95												
07:55 PM												

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

AVERAGE = (SAMPLE + DUPLICATE) / 2

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

Data Entry by: Sharon L Hale Date: 08/17/95

Approved by: [signature] Date: 8/18/95

Form 548121_1 Rev. 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 141 , 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

2.2276 < Enter SAMPLE g/L 2.2456 < 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	CO-60	<	3.09E-02	1.39E-02		<	2.87E-02	1.28E-02		<	1.33E-02	NA
Work Unit	CS-137		8.39E+00	3.77E+00	2.38		6.72E+00	2.99E+00	2.73		3.38E+00	22.8
2007	EU-154	<	1.17E-01	5.27E-02		<	1.08E-01	4.79E-02		<	5.03E-02	NA
Test Code	EU-155	<	1.24E-01	5.55E-02		<	1.10E-01	4.90E-02		<	5.22E-02	NA
@GEA-02	AM-241	<	3.83E-01	1.72E-01		<	3.23E-01	1.44E-01		<	1.58E-01	NA
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
S95T1324				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Slurry ID				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Sub-Slurry ID				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				
WC39831				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
KGH				0.00E+00				0.00E+00				
Date												
08/16/95												
Time												
07:55 PM												

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

AVERAGE = (SAMPLE + DUPLICATE) / 2

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

Data Entry by: Sharon L Hall Date: 08/17/95

Approved by: B Machelor Date: 8/17/95

```
*****************************************************************************
* 222-S Laboratory Counting Room   16-AUG-1995 00:37:41.99                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              WRKLST#2007-STD
Sample Size:            1.00000E-03 LI
Dilution Factor:        1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:            GEA3
File Number:            dka300:[spec.GEA3]3g3919.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:50:11.77 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      15-AUG-1995 23:46:52.32
Decayed to:             15-AUG-1995 23:46:52.32
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: 8-16-95

Verified by:

Machelor 8/17/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.57*	21893	1.53	1323.31	1316	15	1.5		CS-137	24.7
0	1173.02	21574	1.84	2346.31	2337	18	1.5		CO-60	34.0
0	1332.27	19689	1.92	2664.92	2656	20	1.5		CO-60	34.5
0	1744.19	11	0.97	3489.19	3485	7	109.9			

WHC-SD-WM-DP-141, REV. 1

Sample ID : WRKLST#2007-STD
Acquisition date : 15-AUG-1995 23:46:52

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.000	3.424E+01	3.424E+01	0.036E+01	1.04	
CS-137	30.00Y	1.000	2.474E+01	2.474E+01	0.038E+01	1.54	
		Total Activity :	5.899E+01	5.899E+01			
		Grand Total Activity :	5.899E+01	5.899E+01			

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

WHC-SD-WM-DP-141, REV 1

Sample ID : WRKLST#2007-STD Acquisition date : 15-AUG-1995 23:46:52

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	1389.	477.59	1.2278E+00
NA-22	104.	1274.53	8.0017E-02
NA-24	37.	1368.55	5.1711E-02
K-40	164.	1460.75	1.0487E+00
SC-46	779.	1120.55	1.9654E-01
CR-51	1479.	320.08	9.5330E-01
MN-54	1022.	834.83	1.7480E-01
CO-56	1043.	846.76	1.7884E-01
CO-57	1505.	122.06	6.7134E-02
CO-58	929.	810.78	1.6341E-01
FE-59	1013.	1099.25	3.9036E-01
ZN-65	966.	1115.55	4.2997E-01
SE-75	1624.	264.66	1.4966E-01
KR-85	1040.	514.00	2.6861E+01
SR-85	1040.	514.01	1.2146E-01
Y-88	20.	1836.06	4.6895E-02
Y-90	22.	1760.70	1.6782E-01
Y-91	285.	1204.67	4.2143E+01
NB-94	1135.	871.09	1.9117E-01
NB-95	884.	765.78	1.5128E-01
ZR-95	857.	756.73	2.7001E-01
RU-103	1116.	497.08	1.2924E-01
RURH-106	862.	621.93	2.5154E+00
AG-108m	810.	722.94	1.5141E-01
CD-109	1323.	88.03	2.0847E+00
AG-110M	1173.	657.76	1.6133E-01
SN-113	1349.	391.69	1.6695E-01
TE-123m	1593.	159.00	7.1058E-02
SB-124	806.	602.73	1.2016E-01
SB-125	1342.	427.89	3.8887E-01
TE-125m	1417.	109.27	2.1213E+01
I-129	1306.	39.60	0.0000E+00
I-131	1317.	364.48	1.2336E-01
XE-131m	1567.	163.93	3.0656E+00
BA-133	1348.	356.02	1.6025E-01
CS-134	743.	604.70	1.1594E-01
CS-136	1011.	818.51	1.7155E-01
CS-138	39.	1435.86	1.1517E-01
CE-139	1527.	165.85	7.4615E-02
BA-140	958.	537.31	4.7635E-01
LA-140	26.	1596.21	5.0760E-02
CE-141	1567.	145.44	1.1965E-01
CE-144	1540.	133.51	5.1410E-01
CEPR-144	1540.	133.51	1.0272E+00
EU-152	37.	1408.01	2.4795E-01
EU-154	104.	1274.51	2.3256E-01
EU-155	1311.	86.54	2.3524E-01
HF-181	1175.	482.18	1.4629E-01
TA-182	1234.	67.75	3.4293E-01
HG-203	1509.	279.20	1.0758E-01
BI-207	773.	569.70	1.1210E-01

Sample ID : WRKLST#2007-STD Acquisition date : 15-AUG-1995 23:46:52

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	1514.	277.36	1.3844E+00
PB-210	1190.	46.50	0.0000E+00
BI-212	818.	727.18	2.0891E+00
PB-212	1894.	238.63	2.0101E-01
BI-214	854.	609.31	2.7250E-01
PB-214	1331.	351.92	4.8869E-01
RA-224	1871.	240.99	2.2181E+00
RA-226	1748.	186.10	1.9576E+00
AC-228	1254.	911.21	7.8433E-01
TH-228	1380.	84.37	6.5569E+00
TH-229	1309.	88.47	3.0050E-01
U-232	1204.	57.78	1.6245E+02
PA-233	1468.	312.17	2.4337E-01
PA-234M	1001.	1001.03	3.4260E-01
TH-234	1227.	63.29	4.1635E+00
U-235	1740.	185.71	1.1872E-01
NP-237	1315.	86.48	6.2424E-01
U-237	1210.	59.54	7.6074E-01
NP-238	1069.	984.45	7.4490E-01
NP-239	1341.	106.12	2.6182E-01
PU-239	1532.	129.30	8.9150E+02
AM-241	1210.	59.54	7.2969E-01
AM-243	1194.	74.67	1.7038E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room    16-AUG-1995 02:50:14.44                 *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                WRKLST12007-[illegible]
Sample Size:              1.00000E-03 [illegible]
Dilution Factor:          1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3920.cnf
Geometry:                 42
Description:
Count Time:               0 00:[illegible]:00.00 [illegible]
Real Time:                0 00:[illegible]:00.[illegible] [illegible]

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        16-AUG-1995 01:59:34.53
Decayed to:               16-AUG-1995 01:59:34.53
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:   10-MAR-1994 10:28:40.20
*****************************************************************************
```

Removed by:

date: 8-16-95

Verified by:

B Machelor 8/17/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	PW	%Err	Fit	Nuclides	Activity uCi/LI
0	661.53*	43	1.70	1323.24	1319	9	61.3		CS-137	4.858E-02

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Sample ID : WRKLST#2007-BLAN Acquisition date : 16-AUG-1995 01:59:34

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified, 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~~	~~4.858E-02~~	~~4.858E-02~~	~~2.979E-02~~	~~61.32~~	BKG
		Total Activity :	4.858E-02	4.858E-02			
		Grand Total Activity :	4.858E-02	4.858E-02			

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

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Sample ID : WRKLST#2007-BLAN
Acquisition date : 16-AUG-1995 01:59:34

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	28.	477.[illegible]	1.7552E-01
NA-22	8.	1274.[illegible]	2.1619E-02
NA-24	13.	1368.[illegible]	3.0119E-02
K-40	136.	1460.[illegible]	9.5372E-01
SC-46	31.	1120.[illegible]	3.9413E-02
CR-51	45.	320.[illegible]	1.6613E-01
MN-54	12.	834.[illegible]	1.8702E-02
CO-56	21.	846.[illegible]	2.5424E-02
CO-57	75.	122.[illegible]	1.5003E-02
CO-58	9.	810.[illegible]	1.6254E-02
FE-59	11.	1099.[illegible]	4.1049E-02
CO-60	10.	1332.[illegible]	2.5736E-02
ZN-65	13.	1115.[illegible]	5.0270E-02
SE-75	70.	264.[illegible]	3.1149E-02
KR-85	43.	514.[illegible]	5.4861E+00
SR-85	43.	514.[illegible]	2.4735E-02
Y-88	4.	1836.[illegible]	2.0924E-02
Y-90	7.	1760.[illegible]	9.4696E-02
Y-91	14.	1204.[illegible]	9.3131E+00
NB-94	14.	871.[illegible]	2.1527E-02
NB-95	9.	765.[illegible]	1.5301E-02
ZR-95	21.	756.[illegible]	4.2015E-02
RU-103	41.	497.[illegible]	2.4731E-02
RURH-106	24.	622.[illegible]	4.1620E-01
AG-108m	18.	722.[illegible]	2.2579E-02
CD-109	76.	88.[illegible]	5.0079E-01
AG-110M	21.	657.[illegible]	2.1478E-02
SN-113	44.	391.[illegible]	3.0028E-02
TE-123m	96.	159.[illegible]	1.7454E-02
SB-124	30.	602.[illegible]	2.3204E-02
SB-125	45.	427.[illegible]	7.1299E-02
TE-125m	78.	109.[illegible]	4.9722E+00
I-129	49.	38.[illegible]	0.0000E+00
I-131	53.	364.[illegible]	2.4646E-02
XE-131m	79.	163.[illegible]	6.8641E-01
BA-133	51.	356.[illegible]	3.1308E-02
CS-134	72.	604.[illegible]	1.9737E-02
CS-136	11.	818.[illegible]	1.7794E-02
CS-138	3.	1436.[illegible]	3.1942E-02
CE-139	64.	165.[illegible]	1.5267E-02
BA-140	39.	537.[illegible]	9.6217E-02
LA-140	8.	1596.[illegible]	2.7910E-02
CE-141	89.	145.[illegible]	2.8459E-02
CE-144	75.	133.[illegible]	1.1357E-01
CEPR-144	75.	133.[illegible]	2.2677E-01
EU-152	5.	1408.[illegible]	8.7873E-02
EU-154	8.	1274.[illegible]	6.2642E-02
EU-155	68.	86.[illegible]	5.3768E-02
HF-181	31.	482.[illegible]	2.3573E-02
TA-182	61.	67.[illegible]	7.6392E-02
HG-203	58.	279.[illegible]	2.1105E-02

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Sample ID : WRKLST#2607-BLAN Acquisition date : 16-AUG-1995 01:59:34

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	34.	569.[illegible]	1.9684E-02
TL-208	63.	27.[illegible]	2.8312E-01
PB-210	49.	46.[illegible]	0.0000E+00
BI-212	20.	727.[illegible]	3.2868E-01
PB-212	55.	238.[illegible]	4.5118E-02
BI-214	40.	609.[illegible]	5.8744E-02
PB-214	70.	351.[illegible]	1.1173E-01
RA-224	70.	240.[illegible]	4.3051E-01
RA-226	86.	186.[illegible]	4.3307E-01
AC-228	34.	911.[illegible]	1.2917E-01
TH-228	78.	84.[illegible]	1.3478E+00
TH-229	75.	86.[illegible]	7.1901E-02
U-232	[illegible]	[illegible]	3.5276E+01
PA-233	[illegible]	31[illegible]	4.4203E-02
PA-234M	19.	100.[illegible]	4.6685E-02
TH-234	61.	63.[illegible]	9.3214E-01
U-235	67.	185.[illegible]	2.6474E-02
NP-237	67.	86.[illegible]	1.4116E-01
U-237	49.	59.[illegible]	1.5316E-01
NP-238	21.	984.[illegible]	1.0492E-01
NP-239	67.	106.[illegible]	5.8594E-02
PU-239	75.	129.[illegible]	1.9679E+02
AM-241	49.	59.[illegible]	1.4691E-01
AM-243	59.	74.[illegible]	4.0944E-02

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**********************************************************************
222-S Laboratory Counting Room    16-AUG-1995 05:05:26.67                *
**********************************************************************
    >>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                  95T1321-SAMPLE
Sample Size:                1.00000E-03 LI
Dilution Factor:            1.00000E+00

    >>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:                GEA3
File Number:                DKA300:[spec.GEA3]3g3923.cnf
Geometry:                   42
Description:
Count Time:                 00:50:00.00 sec
Real Time:                  00:50:00.64 sec

    >>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:          16-AUG-1995 04:14:46.71
Decayed to:                 16-AUG-1995 04:14:46.71
Standard Deviations:        1
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
**********************************************************************
```

Post-NID Peak Search Report

Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
32.16	73	0.94	64.89	61	9	72.2			
122.58	91	0.33	245.65	240	11	58.6		CO-57	3.387E-02
609.32*	19	1.73	1219.22	1215	11	116.4			
661.59*	1207	1.50	1323.35	1317	13	6.1		CS-137	1.36

Removed by: [signature]
date: 8-16-95

Verified by: [signature] 8/17/95

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WHC-SD-WM-DP-141, REV. 1

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Summary of Nuclide Activity
Sample [illegible] T1321[illegible] [illegible]

Acquisition date : 16-AUG-1995 04:14:46

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
~~[illegible]-57~~	~~271.[illegible]0D~~	~~1.[illegible]~~	~~3.387E-02~~	~~3.387E-02~~	~~1.983E-02~~	~~58.55~~	BKG
[illegible]-137	30.00Y	1.000	1.364E+00	1.364E+00	0.083E+00	6.10	
			---	---			
Total Activity :			1.398E+00	1.398E+00			
Grand Total Activity :			1.398E+00	1.398E+00			

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

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nclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
-7	7[illegible]	477.59	2.7509E-01
-22	[illegible]	1274.53	3.3839E-02
-24	[illegible]	1368.55	2.5156E-02
40	13[illegible]	1460.75	9.4496E-01
-46	34	1120.55	4.0791E-02
-51	91	320.08	2.4045E-01
-54	1[illegible]	834.83	1.9485E-02
-56	21[illegible]	846.76	2.5424E-02
-58	14[illegible]	810.78	2.0301E-02
-59	12	1099.25	4.2635E-02
-60	14	1332.50	3.0068E-02
-65	1[illegible]	1115.55	6.0505E-02
-75	91	264.66	3.5453E-02
-85	67	514.00	6.8032E+00
-85	67[illegible]	514.01	3.0749E-02
88	[illegible]	1836.06	2.5700E-02
90	[illegible]	1760.70	4.0866E-02
91	1[illegible]	1204.67	8.4317E+00
-94	1[illegible]	871.09	1.9920E-02
-95	20	765.78	2.2582E-02
-95	21[illegible]	756.73	4.2303E-02
-103	62[illegible]	497.08	3.0428E-02
RH-106	26[illegible]	621.93	4.3337E-01
-108m	22[illegible]	722.94	2.5116E-02
-109	10[illegible]	88.03	5.9243E-01
-110M	4[illegible]	657.76	3.2141E-02
-113	6[illegible]	391.69	3.7665E-02
-122m	12[illegible]	159.00	2.0163E-02
-124	2[illegible]	602.73	2.1075E-02
-125	6[illegible]	427.89	8.2072E-02
-125m	107[illegible]	109.27	5.8250E+00
129	74[illegible]	39.60	0.0000E+00
131	57[illegible]	364.48	2.5602E-02
-131m	99[illegible]	163.93	7.7238E-01
-133	8[illegible]	356.02	3.9240E-02
-134	2[illegible]	604.70	2.2865E-02
-136	1[illegible]	818.51	1.8359E-02
-138	[illegible]	1435.86	4.8828E-02
-139	8[illegible]	165.85	1.7636E-02
-140	[illegible]	537.31	1.1555E-01
-140	[illegible]	1596.21	2.2065E-02
-1[illegible]	[illegible]	145.44	2.8545E-02
-1[illegible]4	1[illegible]	133.51	1.4018E-01
PR-1[illegible]	115	133.51	2.8013E-01
-152	[illegible]	1408.01	1.2088E-01
-154	1[illegible]	1274.51	9.8205E-02
-155	98[illegible]	86.54	6.4287E-02
-181	5[illegible]	482.18	3.1539E-02
-182	[illegible]	67.75	8.4676E-02
-203	19[illegible]	279.20	2.8678E-02
-207	[illegible]	569.70	2.5234E-02

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WHC-SD-WM-DP-141, REV. 1

Nuclide	Background Sum	Energy (keV)	MDA (uCi/ml)
-208	[illegible]	277.36	3.4461E-01
-210	[illegible]	46.50	0.0000E+00
-212	[illegible]	727.18	3.5967E-01
-212	13[illegible]	238.63	5.4308E-02
-214	5[illegible]	609.31	7.1176E-02
-214	100[illegible]	351.92	1.3370E-01
-224	11[illegible]	240.99	5.5218E-01
-226	1[illegible]	186.10	5.3610E-01
-228	[illegible]	911.21	1.3388E-01
-[illegible]	1[illegible]	34.37	1.7944E+00
-229	1[illegible]	88.47	8.3557E-02
2[illegible]	[illegible]	57.78	4.5493E+01
-233	[illegible]	312.17	5.3310E-02
-234M	[illegible]	1001.03	4.0760E-02
-234	[illegible]	63.29	1.1138E+00
-235	12[illegible]	185.71	3.2042E-02
-237	[illegible]	86.48	1.7011E-01
237	[illegible]	59.54	2.1362E-01
-238	[illegible]	984.45	8.9793E-02
-239	12[illegible]	106.12	7.9748E-02
-239	11[illegible]	129.30	2.4401E+02
-241	[illegible]	59.54	2.0490E-01
-[illegible]	1[illegible]	74.67	5.3449E-02

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222-S Laboratory Counting Room 16-AUG-1995 06:00:48.78

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

Sample ID: 5T1321-DUP
Sample Size: 1.00000E-03 LI
Dilution Factor: 1.00000E+00

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

Detector ID: GEA3
File Number: DKA300:[spec.GEA3]3g3924.cnf
Geometry: 12
Description:
Count Time: 00:50:00.00 sec
Real Time: 00:50:00.64 sec

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

Sample Count Time: 16-AUG-1995 05:09:56.83
Decayed to: 16-AUG-1995 05:09:56.83
Standard Deviations: 1
Analysis Library: GNVGEA
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

Last-NIM Peak Search Report

	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
1	186.09*	63	[illegible]	371.81	369	8	62.0		RA-226	0.633
2	614.83	76	[illegible]	1233.82	1213	43	86.7			
3	661.18*	1214	[illegible]	1323.33	1315	16	6.5		CS-137	1.37
4	1[illegible]	21	[illegible]	2078.90	2071	16	74.4			

Removed by:

date: 8-16-95

Verified by:

8/17/95

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Summary of Nuclide Activity
Sample ID : S95T1321[illegible] Acquisition date : 16-AUG-1995 05:09:56

Total number of lines in spectrum	4	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	2	50.00%

Nuclide Type

Nuclide	Half-life	Fr. Ab.	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
S-137	30.00Y	1.00	1.372E+00	1.372E+00	0.090E+00	6.53	
~~Ra-226~~	~~1600.00Y~~	~~1.00~~	~~6.327E-01~~	~~6.327E-01~~	~~3.923E-01~~	~~62.00~~	~~BK~~
			---	---			
	Total Activity :		2.005E+00	2.005E+00			

Grand Total Activity : 2.005E+00 2.005E+00

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

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Acquisition date : 16-AUG-1995 05:09:56

Nuclide	Becq. Sig.	Energy (keV)	MDA (uCi/ml)
-7	[illegible]	477.59	2.7703E-01
-22	[illegible]	1274.53	2.7846E-02
-24	[illegible]	1368.55	2.7861E-02
-40	1[illegible]	1460.75	9.1492E-01
-46	[illegible]	1120.55	3.1742E-02
-51	[illegible]	320.08	2.2099E-01
-54	[illegible]	834.83	2.6525E-02
-56	[illegible]	846.76	2.1503E-02
-57	1[illegible]	122.06	2.0115E-02
-60	[illegible]	810.78	1.1988E-02
-60	[illegible]	1099.25	3.7622E-02
-60	[illegible]	1332.50	2.7778E-02
-65	[illegible]	1115.55	4.1352E-02
-75	[illegible]	264.66	3.6745E-02
-85	[illegible]	514.00	6.2123E+00
-85	[illegible]	514.01	2.8046E-02
-88	[illegible]	1836.06	1.7641E-02
-88	[illegible]	1760.70	5.2225E-02
-91	[illegible]	1204.67	8.8081E+00
-92	[illegible]	871.09	2.4029E-02
-95	[illegible]	765.78	2.2360E-02
-95	[illegible]	756.73	3.2945E-02
-103	[illegible]	497.08	2.8717E-02
-106m	[illegible]	621.93	4.6748E-01
-108m	[illegible]	722.94	2.4863E-02
-109	1[illegible]	88.03	5.8550E-01
-110m	[illegible]	657.76	3.4697E-02
-113	[illegible]	391.69	3.7907E-02
-123m	1[illegible]	159.00	1.8497E-02
-124	[illegible]	602.73	2.4587E-02
-125	[illegible]	427.89	9.7019E-02
-125m	1[illegible]	109.27	5.9624E+00
-129	[illegible]	39.58	0.0000E+00
-131	[illegible]	364.48	2.9582E-02
-131m	1[illegible]	163.93	8.3152E-01
-132	[illegible]	356.02	3.6954E-02
-132	[illegible]	604.70	2.4763E-02
-132	[illegible]	818.51	2.4879E-02
-132	[illegible]	1435.86	5.2163E-02
-135	1[illegible]	165.85	1.9788E-02
-140	[illegible]	537.31	8.4749E-02
-140	[illegible]	1596.21	1.7457E-02
-141	1[illegible]	145.44	3.2236E-02
-144	[illegible]	133.51	1.2612E-01
PR-144	[illegible]	133.51	2.5209E-01
-152	[illegible]	1408.01	1.4570E-01
-154	[illegible]	1274.51	8.0772E-02
-155	[illegible]	86.54	6.3256E-02
-[illegible]	[illegible]	482.18	3.2775E-02
-182	[illegible]	67.75	8.6628E-02
-20[illegible]	[illegible]	279.20	2.5728E-02

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Nuclide	Backg Sub	Energy (KeV)	MDA (uCi/ml)
[illegible]-207	[illegible]	569.70	2.2971E-02
[illegible]	[illegible]	277.36	3.3448E-01
[illegible]	[illegible]	46.50	0.0000E+00
[illegible]	[illegible]	727.18	3.3869E-01
[illegible]-212	1[illegible]	238.63	4.8067E-02
[illegible]	[illegible]	609.31	6.8109E-02
[illegible]	1[illegible]	351.92	1.3954E-01
[illegible]	1[illegible]	240.99	5.2597E-01
[illegible]	[illegible]	911.21	1.2785E-01
[illegible]	1[illegible]	[illegible].37	1.9432E+00
[illegible]	1[illegible]	[illegible].47	8.3122E-02
[illegible]	[illegible]	57.78	3.7881E+01
[illegible]	[illegible]	312.17	5.6312E-02
[illegible]-234M	[illegible]	1001.03	3.6034E-02
[illegible]	[illegible]	63.29	1.0836E+00
[illegible]	1[illegible]	185.71	3.5369E-02
[illegible]	[illegible]	86.48	1.6849E-01
[illegible]	[illegible]	59.54	1.8646E-01
[illegible]	[illegible]	984.45	7.2053E-02
[illegible]	1[illegible]	106.12	7.5977E-02
[illegible]	1[illegible]	129.30	2.4116E+02
[illegible]	[illegible]	59.54	1.7886E-01
[illegible]	1[illegible]	74.07	4.9528E-02

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```
[illegible]
[illegible]-8 Laboratory [illegible] Counting Room   16-AUG-1995 07:06:12.28                    *
[illegible]
    >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                    9581324-SAMPLE
Sample Size:                  .00000E-03 LI
Dilution Factor:              1.00000E+00

    >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:                  CEA3
Count Name:                   RA300:[spec.CEA3]3g3925.cnf
Comment:                      ..
Description:
Live Time:                     00:50:00.00 sec
Real Time:                     00:50:01.50 sec

    >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:            16-AUG-1995 06:15:26.54
Entered on:                   16-AUG-1995 06:15:26.54
Standard Deviations:
Analysis Library:             .DIVGEA
Analyst:                      ..
Bkg Found Subtract:           RA300:[SPEC.GEA3]3CBACK

    >>>>>>>>>> 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
[illegible]
```

Removed by:

date: 8-16-95

Verified by:

8/17/95

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Automatic Peak Search Report

Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
[illegible]	121	[illegible]	246.34	243	8	57.9		CO-57	4.615E-02
[illegible]	7427	[illegible]	333.36	1316	14	2.4		CS-137	8.39
[illegible]	[illegible]	[illegible]	617.22	2538	19	35.4		NA-22	5.402E-02

WHC-SD-WM-DP-144, REV. 1

Acquisition Date : 16-AUG-1995 06:15:26

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	Half Life	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~5.402E-02~~	~~1.910E-02~~	~~35.36~~	~~STEU~~
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~4.015E-02~~	~~2.671E-02~~	~~57.89~~	~~BKG~~
[illegible]	[illegible]	[illegible]388E+00	8.388E+00	0.200E+00	2.38	
		---	---			
Total Activity :		8.488E+00	8.488E+00			

Grand Total Activity : 8.488E+00 8.488E+00

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

BEST AVAILABLE COPY

Acquisition date : 16-AUG-1995 06:15:26

Nuclide	Rel. Int.	Energy (keV)	MDA (uCi/ml)
-7	1	477.59	5.1844E-01
-2		1366.55	1.4214E-02
40	1	1460.75	8.9814E-01
-40		1120.55	4.0418E-02
-5	2	320.08	3.8036E-01
-5		834.83	2.1440E-02
-5		846.76	2.7817E-02
-5		810.78	1.9123E-02
-5		1099.25	5.2023E-02
-6	1	1332.50	3.0929E-02
-6		1115.55	5.6133E-02
-7	2	254.00	5.9852E-02
-8	1	514.00	9.8848E+00
-8	1	514.01	4.4656E-02
60		1836.06	2.0864E-02
90		1760.70	1.2332E-01
91		1204.67	6.3500E+00
-9	2	871.09	2.6970E-02
-9		755.78	2.8565E-02
-9		756.73	4.1245E-02
-1	1	657.66	4.6881E-02
RH-1		621.93	6.1268E-01
-1		722.94	3.3043E-02
-1	1	88.03	1.0148E+00
-1	1	657.76	5.8162E-02
-1	2	391.69	6.8772E-02
-1	2	159.00	3.1081E-02
-194		602.73	3.6069E-02
-1	3	127.89	1.6793E-01
-1	2	109.27	1.0652E+01
12	2	35.00	0.0000E+00
13	3	364.48	4.8142E-02
-1	2	163.93	1.3290E+00
-1	1	356.02	6.4362E-02
-1		604.70	3.7465E-02
-1		818.51	2.0871E-02
-1		1435.86	4.5180E-02
-1	2	165.85	3.2806E-02
-1	1	337.31	1.6360E-01
-1		1596.21	1.6497E-02
-1	3	145.44	5.4204E-02
-1	3	133.51	2.4172E-01
PR-1		133.51	4.8290E-01
-1		1498.01	1.1159E-01
-1		1274.51	1.1749E-01
-19		66.54	1.2350E-01
-1	3	482.18	6.2563E-02
-1	2	67.75	1.6020E-01
-2	2	279.20	4.5592E-02
-2 7		569.70	3.5457E-02
-2	3	277.36	6.0342E-01

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[illegible]	Dec. [illegible]	Energy (keV)	MDA (uCi/ml)
[illegible]	[illegible]	46.50	0.0000E+00
[illegible]	[illegible]	727.18	3.8024E-01
[illegible]	[illegible]	238.63	8.4349E-02
[illegible]	[illegible]	[illegible]	8.9812E-02
[illegible]	[illegible]	[illegible]	2.1107E-01
[illegible]	[illegible]	[illegible]	9.4204E-01
[illegible]	[illegible]	[illegible]	8.7619E-01
[illegible]	[illegible]	[illegible]	1.1968E-01
[illegible]	[illegible]	[illegible]	3.2731E+00
[illegible]	[illegible]	[illegible]	1.4882E-01
[illegible]	[illegible]	97.78	8.3864E+01
[illegible]	[illegible]	512.17	9.5337E-02
[illegible]	[illegible]	1001.03	5.0127E-02
[illegible]	[illegible]	63.29	2.0179E+00
[illegible]	[illegible]	185.71	5.3800E-02
[illegible]	[illegible]	96.48	3.2813E-01
[illegible]	[illegible]	99.54	5.9897E-01
[illegible]	[illegible]	[illegible]	8.1760E-02
[illegible]	[illegible]	[illegible]	1.3853E-01
[illegible]	[illegible]	[illegible]	4.2318E+02
[illegible]	[illegible]	[illegible]	3.8186E-01
[illegible]	[illegible]	[illegible]	8.9760E-02

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```
**********************************************************************
* 221-S Laboratory Counting Room   16-AUG-1995 08:01:07.99           *
**********************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                  S95T1324-DUP
Sample Size:                1.00000E-03 LI
Dilution Factor:            1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:                GEA3
File Number:                dka300:[spec.GEA3]3g3926.cnf
Geometry:                   42
Description:
Count Time:                 0 00:50:00.00 sec
Real Time:                  0 00:50:01.31 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:          16-AUG-1995 07:10:32.57
Recorded On:                16-AUG-1995 07:10:32.57
Energy Deviations:          2
Analysis Library:           ENVGPA
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
**********************************************************************
```

List-All Peak Search Report

Energy	Area	Chan Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
121.11	111	244.70	239	12	81.0		CO-57	4.118E-02
661.66	5948	1323.35	1315	17	2.7		CS-137	6.72

Removed by:

C. Quinn

date: 8-16-95

Verified by:

B. Machelor 8/17/95

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WHC-SD-WM-DP-141, REV. 1

Summary of Nuclide Activity
Sample ID : S95T1324

Acquisition date : 16-AUG-1995 07:10:32

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		Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~[illegible]-5~~	~~[illegible]~~		~~[illegible].118E-02~~	~~4.118E-02~~	~~3.336E-02~~	~~81.01~~	BKG
[illegible]-137	30.00Y		[illegible].722E+00	6.722E+00	0.184E+00	2.73	
			---	---			
Total Activity :			[illegible].763E+00	6.763E+00			

Grand Total Activity : [illegible].763E+00 6.763E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"[illegible]" = Manually [illegible] "A" = Nuclide specific abn. limit

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Nuclide	Bckgrd Sig	Energy (keV)	MDA (uCi/LI)
...-7	2[illegible]	477.59	4.8970E-01
...-22	[illegible]	1274.53	3.6973E-02
...-22	[illegible]	1368.55	2.0116E-02
K 40	1[illegible]	1460.75	9.7142E-01
...-46	[illegible]	1120.55	3.8778E-02
...-51	2[illegible]	320.08	3.6400E-01
...-54	[illegible]	834.83	2.2554E-02
...-56	[illegible]	846.76	2.3697E-02
...-56	[illegible]	810.78	2.4569E-02
...-57	[illegible]	1099.25	4.7490E-02
...-60	[illegible]	1332.50	2.8708E-02
...-65	[illegible]	1115.55	5.4538E-02
...-75	2[illegible]	264.66	5.6319E-02
...-85	1[illegible]	514.00	9.6083E+00
...-85	1[illegible]	514.01	4.3411E-02
...-88	[illegible]	1836.06	2.7368E-02
...-90	[illegible]	1760.70	7.7297E-02
...-91	[illegible]	1204.67	8.5252E+00
...-94	[illegible]	871.09	2.3469E-02
...-95	[illegible]	765.78	2.1809E-02
...-97	[illegible]	736.73	4.2020E-02
...-103	1[illegible]	497.08	4.7612E-02
...RU-106	[illegible]	621.93	6.5700E-01
...-110M	[illegible]	722.94	3.4227E-02
...-109	2[illegible]	88.03	9.5171E-01
...-113M	1[illegible]	657.76	5.4281E-02
...-113	1[illegible]	391.69	6.2559E-02
...-113M	2[illegible]	159.00	2.7892E-02
...-124	[illegible]	602.73	3.0616E-02
...-125	2[illegible]	427.89	1.5999E-01
...-125M	2[illegible]	109.27	9.5170E+00
...125	1[illegible]	39.60	0.0000E+00
...13[illegible]	2[illegible]	364.48	5.0221E-02
...-1[illegible]M	2[illegible]	163.93	1.2880E+00
...-13[illegible]	1[illegible]	356.02	6.0348E-02
...-1[illegible]	[illegible]	604.70	3.2889E-02
...-13[illegible]	[illegible]	818.51	2.7125E-02
...-13[illegible]	[illegible]	1435.86	4.3612E-02
...-13[illegible]	2[illegible]	165.85	3.0080E-02
...-1[illegible]	[illegible]	537.31	1.5017E-01
...-1[illegible]	[illegible]	1596.21	1.4461E-02
...-14[illegible]	2[illegible]	145.44	4.9440E-02
...-14[illegible]	2[illegible]	153.51	2.0847E-01
...PR-14[illegible]	2[illegible]	133.51	4.1054E-01
...-1[illegible]	[illegible]	1408.01	1.3587E-01
...-1[illegible]	[illegible]	1274.51	1.0751E-01
...-1[illegible]	2[illegible]	86.54	1.1015E-01
...-1[illegible]	1[illegible]	482.18	5.5897E-02
...-1[illegible]	2[illegible]	67.75	1.5246E-01
...-20[illegible]	2[illegible]	279.20	4.1544E-02
...-20[illegible]	[illegible]	569.70	3.5711E-02

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Nuclide	Peak Sum	Energy (keV)	MDA (uCi/ml)
-208	2[illegible]	277.36	5.40[illegible]E-01
-210	1[illegible]	46.50	0.000[illegible]E+00
-212	[illegible]	727.18	3.957[illegible]E-01
-214	2[illegible]	238.63	7.880[illegible]E-02
-216	[illegible]	609.31	8.490[illegible]E-02
-218	2[illegible]	351.92	1.981[illegible]E-01
-220	2[illegible]	240.99	8.399[illegible]E-01
-222	3[illegible]	186.10	8.558[illegible]E-01
-224	[illegible]	911.21	1.246[illegible]E-01
-226	2[illegible]	34.37	2.880[illegible]E+00
-228	2[illegible]	38.47	1.359[illegible]E-01
-230	2[illegible]	57.78	7.383[illegible]E+01
-232	2[illegible]	312.17	9.030[illegible]E-02
-234	[illegible]	1001.03	3.577[illegible]E-02
-236	2[illegible]	53.29	1.87[illegible]E+00
-238	3[illegible]	185.71	5.30[illegible]E-02
-240	2[illegible]	36.48	2.90[illegible]E-01
-242	2[illegible]	59.54	3.36[illegible]E-01
-244	[illegible]	984.45	7.10[illegible]E-02
-246	2[illegible]	106.12	1.19[illegible]E-01
-248	2[illegible]	109.30	3.68[illegible]E+02
-250	2[illegible]	59.54	3.22[illegible]E-01
-252	2[illegible]	74.67	7.87[illegible]E-02

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

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LABCORE Data Entry Template for Worklist# 1981

Analyst: KGH **Instrument:** GEA00 3 **Book #** 136B52

Method: LA-548-121 Rev/Mod D-1

OUT FOR RERUN

Worklist Comment: GEA T-108 - use 1 mL sample size. R(0) -ppb

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				@GEA-02	C060-02	SOLID			N/A	uCi/g
		1	STD				@GEA-02	C060-02E	SOLID			N/A	% Ct. Error
		1	STD				@GEA-02	CS13702	SOLID			N/A	uCi/g
		1	STD				@GEA-02	CS13702E	SOLID			N/A	% Ct. Error
		2	BLNK-PREP				@GEA-02	C060-02	SOLID			N/A	uCi/g
		2	BLNK-PREP				@GEA-02	CS13702	SOLID			N/A	uCi/g
		2	BLNK-PREP				@GEA-02	EU15402	SOLID			N/A	uCi/g
		2	BLNK-PREP				@GEA-02	EU15502	SOLID			N/A	uCi/g
		2	BLNK-PREP				@GEA-02	AM24102	SOLID			N/A	uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	C060-02	SOLID	N/A			uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	C060-02E	SOLID	N/A			% Ct. Error
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	CS13702	SOLID	N/A			uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	CS13702E	SOLID	N/A			% Ct. Error
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	EU15402	SOLID	N/A			uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	EU15402E	SOLID	N/A			% Ct. Error
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	EU15502	SOLID	N/A			uCi/g
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	EU15502E	SOLID	N/A			% Ct. Error
95000097	T-108	3	SAMPLE	S95T001321	0	F	@GEA-02	AM24102	SOLID	N/A			uCi/g

Data Entry Comments:

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

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LABCORE Data Entry Template for Worklist# 1981

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------		MATRIX	ACTUAL	FOUND	DL	UNIT
95000097	T-108	3 SAMPLE	S95T001321	0	F	@GEA-02	AM24102E	SOLID	N/A			% Ct. Error
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	CO60-02	SOLID			N/A	uCi/g
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	CO60-02E	SOLID			N/A	% Ct. Error
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	CS13702	SOLID			N/A	uCi/g
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	CS13702E	SOLID			N/A	% Ct. Error
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	EU15402	SOLID			N/A	uCi/g
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	EU15402E	SOLID			N/A	% Ct. Error
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	EU15502	SOLID			N/A	uCi/g
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	EU15502E	SOLID			N/A	% Ct. Error
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	AM24102	SOLID			N/A	uCi/g
95000097	T-108	4 DUP	S95T001321	0	F	@GEA-02	AM24102E	SOLID			N/A	% Ct. Error
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	CO60-02	SOLID	N/A			uCi/g
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	CO60-02E	SOLID	N/A			% Ct. Error
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	CS13702	SOLID	N/A			uCi/g
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	CS13702E	SOLID	N/A			% Ct. Error
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	EU15402	SOLID	N/A			uCi/g
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	EU15402E	SOLID	N/A			% Ct. Error
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	EU15502	SOLID	N/A			uCi/g
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	EU15502E	SOLID	N/A			% Ct. Error
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	AM24102	SOLID	N/A			uCi/g
95000099	T-108	5 SAMPLE	S95T001324	0	F	@GEA-02	AM24102E	SOLID	N/A			% Ct. Error

Data Entry Comments:

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

~~165~~ 165 JMO 10/18/95

LABCORE Data Entry Template for Worklist# 1981

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------		MATRIX	ACTUAL	FOUND	DL	UNIT
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	CO60-02	SOLID			N/A	uCi/g
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	CO60-02E	SOLID			N/A	% Ct. Error
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	CS13702	SOLID			N/A	uCi/g
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	CS13702E	SOLID			N/A	% Ct. Error
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	EU15402	SOLID			N/A	uCi/g
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	EU15402E	SOLID			N/A	% Ct. Error
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	EU15502	SOLID			N/A	uCi/g
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	EU15502E	SOLID			N/A	% Ct. Error
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	AM24102	SOLID			N/A	uCi/g
95000099	T-108	6 DUP	S95T001324	0	F	@GEA-02	AM24102E	SOLID			N/A	% Ct. Error

Final page for worklist # 1981

8-12-95

Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

~~167~~ 166 10/18/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-141, 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	CO-60		3.38E+01	3.38E-02	1.06			0.00E+00			
Work List	CS-137		2.47E+01	2.47E-02	1.54			0.00E+00			
1981				0.00E+00				0.00E+00			
Test Code				0.00E+00				0.00E+00			
@GEA-02				0.00E+00				0.00E+00			
Matrix				0.00E+00				0.00E+00			
LIQUID				0.00E+00				0.00E+00			
Sample #				0.00E+00				0.00E+00			
WORKLIST#1981				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
Dilution DF				0.00E+00				0.00E+00			
1				0.00E+00				0.00E+00			
				0.00E+00				0.00E+00			
DOH's Dilution 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											
08/12/96											
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: Sharon L Walsh Date: 08/14/95

Approved by: [illegible] Date: 8/15/95

Form 548121_1 Rev. 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-141, 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

2.204 < 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	CO-60	<	2.51E-02	1.14E-02				ERR			
Work Unit	CS-137		1.23E-01	5.60E-02	30.84			ERR			
1981	EU-154	<	8.55E-02	3.88E-02				ERR			
Test Code	EU-155	<	5.93E-02	2.69E-02				ERR			
@GEA-02	AM-241	<	1.56E-01	7.08E-02				ERR			
Matrix				0.00E+00				ERR			
SOLID				0.00E+00				ERR			
Sample #				0.00E+00				ERR			
S95T1321				0.00E+00				ERR			
				0.00E+00				ERR			
Client ID				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Work Plan#				0.00E+00				ERR			
1				0.00E+00				ERR			
				0.00E+00				ERR			
Instrument Code				0.00E+00				ERR			
WC39931				0.00E+00				ERR			
Analyst				0.00E+00				ERR			
KGH				0.00E+00				ERR			
Date											
08/12/95											
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: Shannon L Walker Date: 08/14/95

Approved by: R Macbeth Date: 8/15/95

Form 548121_1 Rev. 2.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP- 141, 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

2.204 < Enter SAMPLE g/L 2.1944 < 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	CO-60	<	3.23E-02	1.47E-02		<	2.86E-02	1.30E-02		<	1.38E-02	NA
[illegible]	CS-137		1.48E+00	6.58E-01	6.05		1.48E+00	6.76E-01	6.94		6.67E-01	2.7
1981	EU-154	<	8.70E-02	3.95E-02		<	8.39E-02	3.82E-02		<	3.89E-02	NA
[illegible]	EU-155	<	6.94E-02	3.15E-02		<	6.27E-02	2.86E-02		<	3.00E-02	NA
@GEA-02	AM-241	<	2.25E-01	1.02E-01		<	2.14E-01	9.74E-02		<	9.96E-02	NA
[illegible]				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
[illegible]				0.00E+00				0.00E+00				
S95T1321				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
[illegible]				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
[illegible]				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
[illegible]				0.00E+00				0.00E+00				
WC30831				0.00E+00				0.00E+00				
[illegible]				0.00E+00				0.00E+00				
KGH				0.00E+00				0.00E+00				
Date												
08/12/95												
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: Sharon L Walker Date: 08/14/95

Approved by: B Machelor Date: 8/15/95

Form 548121_1 Rev. 2.3

~~170~~ 10/18/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP 141 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

2.2275 < Enter SAMPLE g/L 2.2456 < 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	CO-60	<	3.30E-02	1.48E-02		<	2.66E-02	1.18E-02		<	1.33E-02	NA
Work Line	CS-137		8.24E+00	3.70E+00	2.41		6.68E+00	2.96E+00	2.68		3.33E+00	22.0
1991	EU-154	<	1.16E-01	5.16E-02		<	1.41E-01	6.27E-02		<	5.71E-02	NA
Test Code	EU-155	<	1.18E-01	5.28E-02		<	1.16E-01	5.19E-02		<	5.23E-02	NA
GEA-02	AM-241	<	3.58E-01	1.61E-01		<	3.25E-01	1.45E-01		<	1.53E-01	NA
Matrix				0.00E+00				0.00E+00				
SOLID				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
596T1324				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Sample #				0.00E+00				0.00E+00				
1				0.00E+00				0.00E+00				
				0.00E+00				0.00E+00				
Dup Sample #				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				
WC35831				0.00E+00				0.00E+00				
Analyst				0.00E+00				0.00E+00				
KGH				0.00E+00				0.00E+00				
Date												
08/12/95												
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: Shirley L Wald Date: 08/15/95

Approved by: B Bachelor Date: 8/15/95

Form 548121_1 Rev. 2.3

```
*************************************************************************
* 222-S Laboratory Counting Room   12-AUG-1995 23:19:17.02             *
*************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              WORKLIST#1981-ST
Sample Size:            1.00000E-03 LI
Dilution Factor:        1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:            GEA3
File Number:            dka300:[spec.GEA3]3g3885.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:50:11.56 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      12-AUG-1995 22:28:29.01
Decayed to:             12-AUG-1995 22:28:29.01
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: 8-12-95

Verified by:

8/14/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.63*	21863	1.50	1323.44	1316	15	1.5		CS-137	24.7
0	1173.14	21524	1.94	2346.54	2338	20	1.5		CO-60	33.9
0	1332.38	19208	1.94	2665.14	2655	21	1.5		CO-60	33.6
0	1709.78	12	1.31	3420.33	3415	13	136.7			
0	1718.87	9	0.62	3438.52	3431	16	220.6			

WHC-SD-WM-DP-141, REV. 1

Sample ID : WORKLIST#1981-ST Acquisition date : 12-AUG-1995 22:28:29

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	3.378E+01	3.378E+01	0.036E+01	1.06	
CS-137	30.00Y	1.000	2.471E+01	2.471E+01	0.038E+01	1.54	
		Total Activity :	5.849E+01	5.849E+01			
		Grand Total Activity :	5.849E+01	5.849E+01			

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

Sample ID : WORKLIST#1981-ST Acquisition date : 12-AUG-1995 22:28:29

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	1404.	477.59	1.2343E+00
NA-22	100.	1274.53	7.8625E-02
NA-24	32.	1368.55	4.7716E-02
K-40	176.	1460.75	1.0850E+00
SC-46	774.	1120.55	1.9602E-01
CR-51	1320.	320.08	9.0087E-01
MN-54	991.	834.83	1.7210E-01
CO-56	964.	846.76	1.7191E-01
CO-57	1437.	122.06	6.5600E-02
CO-58	912.	810.78	1.6188E-01
FE-59	949.	1099.25	3.7765E-01
ZN-65	882.	1115.55	4.1095E-01
SE-75	1628.	264.66	1.4985E-01
KR-85	1022.	514.00	2.6625E+01
SR-85	1021.	514.01	1.2038E-01
Y-88	20.	1836.06	4.6487E-02
Y-90	24.	1760.70	1.7508E-01
Y-91	258.	1204.67	4.0129E+01
NB-94	1100.	871.09	1.8820E-01
NB-95	814.	765.78	1.4518E-01
ZR-95	800.	756.73	2.6076E-01
RU-103	1051.	497.08	1.2539E-01
RURH-106	794.	621.93	2.4148E+00
AG-108m	801.	722.94	1.5056E-01
CD-109	1283.	88.03	2.0529E+00
AG-110M	1117.	657.76	1.5742E-01
SN-113	1268.	391.69	1.6187E-01
TE-123m	1560.	159.00	7.0316E-02
SB-124	775.	602.73	1.1782E-01
SB-125	1330.	427.89	3.8710E-01
TE-125m	1361.	109.27	2.0784E+01
I-129	1256.	39.60	0.0000E+00
I-131	1323.	364.48	1.2362E-01
XE-131m	1608.	163.93	3.1057E+00
BA-133	1291.	356.02	1.5684E-01
CS-134	748.	604.70	1.1627E-01
CS-136	943.	818.51	1.6566E-01
CS-138	25.	1435.86	9.2378E-02
CE-139	1572.	165.85	7.5695E-02
BA-140	922.	537.31	4.6740E-01
LA-140	19.	1596.21	4.3273E-02
CE-141	1602.	145.44	1.2098E-01
CE-144	1531.	133.51	5.1249E-01
CEPR-144	1531.	133.51	1.0241E+00
EU-152	26.	1408.01	2.0804E-01
EU-154	100.	1274.51	2.2856E-01
EU-155	1294.	86.54	2.3376E-01
HF-181	1149.	482.18	1.4469E-01
TA-182	1167.	67.75	3.3341E-01
HG-203	1513.	279.20	1.0774E-01
BI-207	811.	569.70	1.1480E-01

Sample ID : WORKLIST#1981-ST Acquisition date : 12-AUG-1995 22:28:29

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	1482.	277.36	1.3697E+00
PB-210	1229.	46.50	0.0000E+00
BI-212	798.	727.18	2.0632E+00
PB-212	1769.	238.63	1.9426E-01
BI-214	871.	609.31	2.7521E-01
PB-214	1342.	351.92	4.9067E-01
RA-224	1826.	240.99	2.1919E+00
RA-226	1736.	186.10	1.9510E+00
AC-228	1260.	911.21	7.8643E-01
TH-228	1277.	84.37	6.3059E+00
TH-229	1267.	88.47	2.9570E-01
U-232	1134.	57.78	1.5763E+02
PA-233	1359.	312.17	2.3412E-01
PA-234M	1050.	1001.03	3.5100E-01
TH-234	1178.	63.29	4.0796E+00
U-235	1690.	185.71	1.1698E-01
NP-237	1294.	86.48	6.1925E-01
U-237	1203.	59.54	7.5840E-01
NP-238	1058.	984.45	7.4122E-01
NP-239	1384.	106.12	2.6594E-01
PU-239	1475.	129.30	8.7487E+02
AM-241	1203.	59.54	7.2747E-01
AM-243	1233.	74.67	1.7312E-01

```
*****************************************************************************
* 222-S Laboratory Counting Room   13-AUG-1995 00:11:53.65                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              WORKLIST#1981-BL
Sample Size:            1.00000E-03 LI
Dilution Factor:        1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:            GEA3
File Number:            dka300:[spec.GEA3]3g3886.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:50:00.50 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      12-AUG-1995 23:21:15.62
Decayed to:             12-AUG-1995 23:21:15.62
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: 8-13-95

Verified by:

8/14/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	32.31	74	1.78	65.20	61	10	69.2			
0	661.67*	109	1.27	1323.52	1318	12	30.8		CS-137	0.123

WHC-SD-WM-DP-141, REV. 1

Sample ID : WORKLIST#198L-BL
Acquisition date : 12-AUG-1995 23:21:15

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	1.234E-01	1.234E-01	0.380E-01	30.84	
		Total Activity :	1.234E-01	1.234E-01			
		Grand Total Activity :	1.234E-01	1.234E-01			

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

WHC-SD-WM-DP-141, REV. 1

Sample ID : WORKLIST#1981-BL
Acquisition date : 12-AUG-1995 23:21:15

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	32.	477.59	1.8680E-01
NA-22	14.	1274.53	2.9358E-02
NA-24	9.	1368.55	2.6068E-02
K-40	112.	1460.75	8.6604E-01
SC-46	28.	1120.55	3.7425E-02
CR-51	54.	320.08	1.8221E-01
MN-54	21.	834.83	2.4885E-02
CO-56	15.	846.76	2.1778E-02
CO-57	66.	122.06	1.4076E-02
CO-58	14.	810.78	1.9927E-02
FE-59	13.	1099.25	4.3811E-02
CO-60	10.	1332.50	2.5146E-02
ZN-65	22.	1115.55	6.5615E-02
SE-75	54.	264.66	2.7262E-02
KR-85	55.	514.00	6.1795E+00
SR-85	55.	514.01	2.7898E-02
Y-88	3.	1836.06	1.8173E-02
Y-90	6.	1760.70	8.8170E-02
Y-91	12.	1204.67	8.5486E+00
NB-94	19.	871.09	2.4466E-02
NB-95	21.	765.78	2.3286E-02
ZR-95	15.	756.73	3.6048E-02
RU-103	31.	497.08	2.1638E-02
RURH-106	22.	621.93	4.0062E-01
AG-108m	17.	722.94	2.2009E-02
CD-109	79.	88.03	5.0896E-01
AG-110M	32.	657.76	2.6720E-02
SN-113	41.	391.69	2.9144E-02
TE-123m	87.	159.00	1.6617E-02
SB-124	17.	602.73	1.7417E-02
SB-125	42.	427.89	6.8385E-02
TE-125m	72.	109.27	4.7784E+00
I-129	37.	39.60	0.0000E+00
I-131	40.	364.48	2.1432E-02
XE-131m	97.	163.93	7.6135E-01
BA-133	46.	356.02	2.9622E-02
CS-134	15.	604.70	1.6304E-02
CS-136	22.	818.51	2.5276E-02
CS-138	4.	1435.86	3.7920E-02
CE-139	77.	165.85	1.6796E-02
BA-140	24.	537.31	7.5829E-02
LA-140	6.	1596.21	2.3278E-02
CE-141	77.	145.44	2.6526E-02
CE-144	74.	133.51	1.1277E-01
CEPR-144	74.	133.51	2.2533E-01
EU-152	12.	1408.01	1.3794E-01
EU-154	14.	1274.51	8.5537E-02
EU-155	83.	86.54	5.9306E-02
HF-181	42.	482.18	2.7748E-02
TA-182	50.	67.75	6.9300E-02
HG-203	65.	279.20	2.2263E-02

Sample ID : WORKLIST#1981-BL Acquisition date : 12-AUG-1995 23:21:15

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	23.	569.70	1.9529E-02
TL-208	61.	277.36	2.7794E-01
PB-210	42.	46.50	0.0000E+00
BI-212	18.	727.18	3.1373E-01
PB-212	97.	238.63	4.5484E-02
BI-214	47.	609.31	6.3999E-02
PB-214	63.	351.92	1.0629E-01
RA-224	86.	240.99	4.7574E-01
RA-226	88.	186.10	4.3973E-01
AC-228	41.	911.21	1.4102E-01
TH-228	73.	84.37	1.5047E+00
TH-229	76.	88.47	7.2409E-02
U-232	59.	57.78	3.5869E+01
PA-233	55.	312.17	4.6920E-02
PA-234M	18.	1001.03	4.6068E-02
TH-234	45.	63.29	7.9487E-01
U-235	88.	185.71	2.6722E-02
NP-237	83.	86.48	1.5701E-01
U-237	55.	59.54	1.6273E-01
NP-238	11.	984.45	7.3938E-02
NP-239	66.	106.12	5.7896E-02
PU-239	89.	129.30	2.1478E+02
AM-241	55.	59.54	1.5609E-01
AM-243	70.	74.67	4.1141E-02

WHC-SD-WM-DP-141, REV. 1

```
*****************************************************************************
* 222-S Laboratory Counting Room   13-AUG-1995 01:16:18.75                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T001321-SAM
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3887.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.64 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        13-AUG-1995 00:25:42.95
Decayed to:               13-AUG-1995 00:25:42.95
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: 8-13-95

Verified by:

B Bachelor 8/14/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	661.68*	1283	1.56	1323.53	1317	12	6.1		CS-137	1.45
0	1083.14	8	5.74	2166.50	2161	16	242.1			

WHC-SD-WM-DP-141, REV 1

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Sample ID : S95T001321-SAM
Acquisition date : 13-AUG-1995 00:25:42

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	1.450E+00	1.450E+00	0.088E+00	6.05	
		Total Activity :	1.450E+00	1.450E+00			
		Grand Total Activity :	1.450E+00	1.450E+00			

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

WHC-SD-WM-DP- 141, REV. 1

Sample ID : S95T001321-SAM Acquisition date : 13-AUG-1995 00:25:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	63.	477.59	2.6239E-01
NA-22	15.	1274.53	2.9977E-02
NA-24	5.	1368.55	1.8586E-02
K-40	132.	1460.75	9.4182E-01
SC-46	25.	1120.55	3.5435E-02
CR-51	72.	320.08	2.1099E-01
MN-54	30.	834.83	2.9985E-02
CO-56	16.	846.76	2.2204E-02
CO-57	136.	122.06	2.0152E-02
CO-58	5.	810.78	1.1988E-02
FE-59	12.	1099.25	4.2477E-02
CO-60	16.	1332.50	3.2342E-02
ZN-65	10.	1115.55	4.4338E-02
SE-75	81.	264.66	3.3461E-02
KR-85	62.	514.00	6.5772E+00
SR-85	62.	514.01	2.9703E-02
Y-88	1.	1836.06	9.5408E-03
Y-90	8.	1760.70	9.8791E-02
Y-91	14.	1204.67	9.3131E+00
NB-94	8.	871.09	1.5735E-02
NB-95	16.	765.78	2.0303E-02
ZR-95	17.	756.73	3.8355E-02
RU-103	59.	497.08	2.9768E-02
RURH-106	25.	621.93	4.2986E-01
AG-108m	32.	722.94	3.0065E-02
CD-109	110.	88.03	6.0207E-01
AG-110M	47.	657.76	3.2355E-02
SN-113	78.	391.69	4.0080E-02
TE-123m	99.	159.00	1.7673E-02
SB-124	37.	602.73	2.5621E-02
SB-125	74.	427.89	9.1115E-02
TE-125m	92.	109.27	5.4174E+00
I-129	93.	39.60	0.0000E+00
I-131	59.	364.48	2.6143E-02
XE-131m	108.	163.93	8.0361E-01
BA-133	67.	356.02	3.5693E-02
CS-134	33.	604.70	2.4514E-02
CS-136	15.	818.51	2.0710E-02
CS-138	1.	1435.86	1.8442E-02
CE-139	115.	165.85	2.0504E-02
BA-140	41.	537.31	9.8449E-02
LA-140	2.	1596.21	1.3955E-02
CE-141	99.	145.44	3.0112E-02
CE-144	113.	133.51	1.3908E-01
CEPR-144	113.	133.51	2.7794E-01
EU-152	5.	1408.01	9.0945E-02
EU-154	15.	1274.51	8.6972E-02
EU-155	114.	86.54	6.9389E-02
HF-181	63.	482.18	3.3882E-02
TA-182	92.	67.75	9.3836E-02
HG-203	91.	279.20	2.6406E-02

Sample ID : S95T001321-SAM Acquisition date : 13-AUG-1995 00:25:42

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BI-207	32.	569.70	2.2941E-02
TL-208	90.	277.36	3.3704E-01
PB-210	81.	46.50	0.0000E+00
BI-212	32.	727.18	4.1052E-01
PB-212	110.	238.63	4.8352E-02
BI-214	44.	609.31	6.1715E-02
PB-214	80.	351.92	1.1983E-01
RA-224	114.	240.99	5.4848E-01
RA-226	130.	186.10	5.3319E-01
AC-228	33.	911.21	1.2814E-01
TH-228	116.	84.37	1.9034E+00
TH-229	99.	88.47	8.2435E-02
U-232	96.	57.78	4.5970E+01
PA-233	105.	312.17	6.4969E-02
PA-234M	18.	1001.03	4.5948E-02
TH-234	87.	63.29	1.1091E+00
U-235	132.	185.71	3.2669E-02
NP-237	115.	86.48	1.8490E-01
U-237	115.	59.54	2.3405E-01
NP-238	12.	984.45	7.7979E-02
NP-239	116.	106.12	7.7129E-02
PU-239	111.	129.30	2.4052E+02
AM-241	115.	59.54	2.2450E-01
AM-243	107.	74.67	5.1045E-02

WHC-SD-WM-DP-141, REV. 1

```
*****************************************************************************
* 222-S Laboratory Counting Room   13-AUG-1995 02:07:15.76                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:                S95T001321-DUP
Sample Size:              1.00000E-03 LI
Dilution Factor:          1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:              GEA3
File Number:              dka300:[spec.GEA3]3g3888.cnf
Geometry:                 42
Description:
Count Time:               0 00:50:00.00 sec
Real Time:                0 00:50:00.64 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:        13-AUG-1995 01:16:29.74
Decayed to:               13-AUG-1995 01:16:29.74
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 Johnson
date: 8-13-95

Verified by: B Bachelor 8/14/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	122.85	47	0.77	246.18	243	6	74.6		CO-57	1.759E-02
0	661.68*	1312	1.48	1323.53	1316	14	5.9		CS-137	1.48

WHC-SD-WM-DP-141, REV.1

Summary of Nuclide Activity
Sample ID : S95T001321-DUP

Acquisition date : 13-AUG-1995 01:16:29

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~CO-57~~	~~271.80D~~	~~1.000~~	~~1.759E-02~~	~~1.759E-02~~	~~1.312E-02~~	~~74.61~~	BKG
CS-137	30.00Y	1.000	1.483E+00	1.483E+00	0.088E+00	5.94	
		Total Activity :	1.500E+00	1.500E+00			
		Grand Total Activity :	1.500E+00	1.500E+00			

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

WHC-SD-WM-DP-141, REV. 1

Sample ID : S95T001321-DUP Acquisition date : 13-AUG-1995 01:16:29

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	92.	477.59	3.1603E-01
NA-22	14.	1274.53	2.8931E-02
NA-24	4.	1368.55	1.6936E-02
K-40	129.	1460.75	9.2945E-01
SC-46	20.	1120.55	3.1723E-02
CR-51	85.	320.08	2.2890E-01
MN-54	13.	834.83	1.9997E-02
CO-56	14.	846.76	2.0844E-02
CO-58	17.	810.78	2.2416E-02
FE-59	9.	1099.25	3.7622E-02
CO-60	12.	1332.50	2.8543E-02
ZN-65	11.	1115.55	4.6447E-02
SE-75	79.	264.66	3.3060E-02
KR-85	66.	514.00	6.7520E+00
SR-85	66.	514.01	3.0517E-02
Y-88	3.	1836.06	1.8173E-02
Y-90	9.	1760.70	1.0751E-01
Y-91	17.	1204.67	1.0191E+01
NB-94	21.	871.09	2.6104E-02
NB-95	13.	765.78	1.8676E-02
ZR-95	24.	756.73	4.4743E-02
RU-103	40.	497.08	2.4596E-02
RURH-106	29.	621.93	4.5824E-01
AG-108m	29.	722.94	2.8478E-02
CD-109	101.	88.03	5.7566E-01
AG-110M	46.	657.76	3.2042E-02
SN-113	64.	391.69	3.6376E-02
TE-123m	105.	159.00	1.8281E-02
SB-124	22.	602.73	1.9957E-02
SB-125	60.	427.89	8.1884E-02
TE-125m	92.	109.27	5.4185E+00
I-129	80.	39.60	0.0000E+00
I-131	73.	364.48	2.9100E-02
XE-131m	118.	163.93	8.4056E-01
BA-133	80.	356.02	3.9034E-02
CS-134	25.	604.70	2.1361E-02
CS-136	15.	818.51	2.1151E-02
CS-138	6.	1435.86	4.6858E-02
CE-139	99.	165.85	1.8977E-02
BA-140	32.	537.31	8.6725E-02
LA-140	6.	1596.21	2.3278E-02
CE-141	109.	145.44	3.1598E-02
CE-144	115.	133.51	1.4068E-01
CEPR-144	115.	133.51	2.8110E-01
EU-152	6.	1408.01	9.8237E-02
EU-154	14.	1274.51	8.3930E-02
EU-155	93.	86.54	6.2737E-02
HF-181	69.	482.18	3.5439E-02
TA-182	83.	67.75	8.9130E-02
HG-203	78.	279.20	2.4442E-02
BI-207	37.	569.70	2.4637E-02

Sample ID : S95T001321-DUP Acquisition date : 13-AUG-1995 01:16:29

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	76.	277.36	3.1094E-01
PB-210	84.	46.50	0.0000E+00
BI-212	18.	727.18	3.1172E-01
PB-212	131.	238.63	5.2909E-02
BI-214	54.	609.31	6.8451E-02
PB-214	107.	351.92	1.3824E-01
RA-224	131.	240.99	5.8706E-01
RA-226	120.	186.10	5.1281E-01
AC-228	22.	911.21	1.0388E-01
TH-228	95.	84.37	1.7242E+00
TH-229	104.	88.47	8.4593E-02
U-232	97.	57.78	4.6081E+01
PA-233	88.	312.17	5.9708E-02
PA-234M	13.	1001.03	3.9119E-02
TH-234	90.	63.29	1.1296E+00
U-235	127.	185.71	3.2011E-02
NP-237	94.	86.48	1.6662E-01
U-237	104.	59.54	2.2274E-01
NP-238	11.	984.45	7.5570E-02
NP-239	94.	106.12	6.9169E-02
PU-239	100.	129.30	2.2750E+02
AM-241	104.	59.54	2.1366E-01
AM-243	98.	74.67	4.8804E-02

```
*****************************************************************************
* 222-S Laboratory Counting Room   13-AUG-1995 03:02:52.54                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              S95T001324-SAM
Sample Size:            1.00000E-03 LI
Dilution Factor:        1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:            GEA3
File Number:            dka300:[spec.GEA3]3g3889.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:50:01.48 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      13-AUG-1995 02:12:15.33
Decayed to:             13-AUG-1995 02:12:15.33
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: 8-13-95

Verified by:

8/14/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	123.11	64	1.01	246.71	243	8	115.5		CO-57	2.385E-02
0	661.64*	7290	1.50	1323.46	1315	16	2.4		CS-137	8.24

WHC-CD-WM-OP-141, REV. 1

Sample ID : S95T001324-SAM
Acquisition date : 13-AUG-1995 02:12:15

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~CO-57~~	~~271.80D~~	~~1.000~~	~~2.385E-02~~	~~2.385E-02~~	~~2.754E-02~~	~~115.45~~	~~BK~~ 9
CS-137	30.00Y	1.000	8.240E+00	8.240E+00	0.199E+00	2.41	
			---	---			
Total Activity :			8.263E+00	8.263E+00			
Grand Total Activity :			8.263E+00	8.263E+00			

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

Minimum Detectable Activity Report
Sample ID : S95T001324-SAM

Page : 3
Acquisition date : 13-AUG-1995 02:12:15

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	238.	477.59	5.0856E-01
NA-22	25.	1274.53	3.9548E-02
NA-24	7.	1368.55	2.1826E-02
K-40	149.	1460.75	1.0001E+00
SC-46	22.	1120.55	3.2769E-02
CR-51	263.	320.08	4.0219E-01
MN-54	16.	834.83	2.2178E-02
CO-56	11.	846.76	1.8560E-02
CO-58	20.	810.78	2.4091E-02
FE-59	13.	1099.25	4.4211E-02
CO-60	16.	1332.50	3.3001E-02
ZN-65	9.	1115.55	4.2191E-02
SE-75	265.	264.66	6.0515E-02
KR-85	154.	514.00	1.0327E+01
SR-85	154.	514.01	4.6669E-02
Y-88	7.	1836.06	2.7759E-02
Y-90	2.	1760.70	5.1569E-02
Y-91	12.	1204.67	8.5252E+00
NB-94	28.	871.09	2.9880E-02
NB-95	19.	765.78	2.2264E-02
ZR-95	23.	756.73	4.4006E-02
RU-103	163.	497.08	4.9419E-02
RURH-106	64.	621.93	6.8297E-01
AG-108m	30.	722.94	2.8930E-02
CD-109	317.	88.03	1.0210E+00
AG-110M	135.	657.76	5.4805E-02
SN-113	226.	391.69	6.8370E-02
TE-123m	327.	159.00	3.2211E-02
SB-124	67.	602.73	3.4624E-02
SB-125	264.	427.89	1.7251E-01
TE-125m	312.	109.27	9.9563E+00
I-129	230.	39.60	0.0000E+00
I-131	211.	364.48	4.9397E-02
XE-131m	296.	163.93	1.3323E+00
BA-133	233.	356.02	6.6625E-02
CS-134	60.	604.70	3.3032E-02
CS-136	15.	818.51	2.0601E-02
CS-138	6.	1435.86	4.5180E-02
CE-139	307.	165.85	3.3456E-02
BA-140	101.	537.31	1.5489E-01
LA-140	6.	1596.21	2.4171E-02
CE-141	312.	145.44	5.3394E-02
CE-144	357.	133.51	2.4755E-01
CEPR-144	357.	133.51	4.9473E-01
EU-152	9.	1408.01	1.1974E-01
EU-154	25.	1274.51	1.1490E-01
EU-155	328.	86.54	1.1767E-01
HF-181	202.	482.18	6.0663E-02
TA-182	292.	67.75	1.6673E-01
HG-203	223.	279.20	4.1383E-02
BI-207	74.	569.70	3.4588E-02

Sample ID : S95T001324-SAM Acquisition date : 13-AUG-1995 02:12:15

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	224.	277.36	5.3232E-01
PB-210	224.	46.50	0.0000E+00
BI-212	21.	727.18	3.3439E-01
PB-212	334.	238.63	8.4419E-02
BI-214	81.	609.31	8.4065E-02
PB-214	243.	351.92	2.0859E-01
RA-224	310.	240.99	9.0305E-01
RA-226	336.	186.10	8.5820E-01
AC-228	43.	911.21	1.4474E-01
TH-228	369.	84.37	3.3916E+00
TH-229	314.	88.47	1.4719E-01
U-232	255.	57.78	7.4689E+01
PA-233	218.	312.17	9.3859E-02
PA-234M	22.	1001.03	5.0750E-02
TH-234	268.	63.29	1.9449E+00
U-235	339.	185.71	5.2373E-02
NP-237	330.	86.48	3.1259E-01
U-237	292.	59.54	3.7340E-01
NP-238	15.	984.45	8.8845E-02
NP-239	361.	106.12	1.3590E-01
PU-239	329.	129.30	4.1318E+02
AM-241	291.	59.54	3.5815E-01
AM-243	338.	74.67	9.0620E-02

WHC-SD-WM-DP-141, REV. 1

```
*****************************************************************************
* 222-S Laboratory Counting Room   13-AUG-1995 03:56:08.95                  *
*****************************************************************************
      >>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<
Sample ID:              S95T001324-DUP
Sample Size:            1.00000E-03 LI
Dilution Factor:        1.00000E+00

      >>>>>>>>>> COUNT INFORMATION <<<<<<<<<<
Detector ID:            GEA3
File Number:            dka300:[spec.GEA3]3g3890.cnf
Geometry:               42
Description:
Count Time:             0 00:50:00.00 sec
Real Time:              0 00:50:01.29 sec

      >>>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<
Sample Count Time:      13-AUG-1995 03:05:32.91
Decayed to:             13-AUG-1995 03:05:32.91
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: 8-13-95

Verified by:

8/14/95

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/LI
0	123.69	153	1.11	247.87	244	11	53.2			
0	661.65*	5890	1.62	1323.47	1315	15	2.7		CS-137	6.66
0	1274.30	31	1.92	2548.94	2541	18	65.7		NA-22	5.258E-02

WHC-SD-WM-DP-141, REV. 1

Sample ID : S95T001324-DUP Acquisition date : 13-AUG-1995 03:05:32

Total number of lines in spectrum	3	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	3	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/LI	Wtd Mean Decay Corr uCi/LI	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
~~NA-22~~	~~2.60Y~~	~~1.000~~	~~5.258E-02~~	~~5.258E-02~~	~~3.455E-02~~	~~65.72~~	BKG
CS-137	30.00Y	1.000	6.658E+00	6.658E+00	0.178E+00	2.68	
		Total Activity :	6.710E+00	6.710E+00			
		Grand Total Activity :	6.710E+00	6.710E+00			

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

WHC-SD-WM-DP-141, REV. 1

Sample ID : S95T001324-DUP Acquisition date : 13-AUG-1995 03:05:32

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
BE-7	189.	477.59	4.5241E-01
NA-24	12.	1368.55	2.9119E-02
K-40	110.	1460.75	8.5827E-01
SC-46	19.	1120.55	3.0661E-02
CR-51	190.	320.08	3.4158E-01
MN-54	14.	834.83	2.0221E-02
CO-56	13.	846.76	2.0144E-02
CO-57	366.	122.06	3.3108E-02
CO-58	19.	810.78	2.3459E-02
FE-59	16.	1099.25	4.9048E-02
CO-60	11.	1332.50	2.6559E-02
ZN-65	20.	1115.55	6.2233E-02
SE-75	227.	264.66	5.5980E-02
KR-85	129.	514.00	9.4560E+00
SR-85	129.	514.01	4.2728E-02
Y-88	4.	1836.06	2.0924E-02
Y-90	3.	1760.70	6.0463E-02
Y-91	15.	1204.67	9.6420E+00
NB-94	25.	871.09	2.8118E-02
NB-95	26.	765.78	2.5917E-02
ZR-95	18.	756.73	3.8914E-02
RU-103	148.	497.08	4.6992E-02
RURH-106	48.	621.93	5.9341E-01
AG-108m	28.	722.94	2.8299E-02
CD-109	289.	88.03	9.7478E-01
AG-110M	114.	657.76	5.0404E-02
SN-113	187.	391.69	6.2113E-02
TE-123m	258.	159.00	2.8603E-02
SB-124	53.	602.73	3.0769E-02
SB-125	230.	427.89	1.6081E-01
TE-125m	256.	109.27	9.0144E+00
I-129	200.	39.60	0.0000E+00
I-131	192.	364.48	4.7049E-02
XE-131m	270.	163.93	1.2727E+00
BA-133	194.	356.02	6.0817E-02
CS-134	50.	604.70	3.0119E-02
CS-136	23.	818.51	2.5894E-02
CS-138	4.	1435.86	3.7924E-02
CE-139	272.	165.85	3.1518E-02
BA-140	97.	537.31	1.5183E-01
LA-140	3.	1596.21	1.7091E-02
CE-141	268.	145.44	4.9534E-02
CE-144	303.	133.51	2.2818E-01
CEPR-144	304.	133.51	4.5603E-01
EU-152	11.	1408.01	1.3387E-01
EU-154	38.	1274.51	1.4074E-01
EU-155	321.	86.54	1.1649E-01
HF-181	154.	482.18	5.3018E-02
TA-182	231.	67.75	1.4846E-01
HG-203	233.	279.20	4.2282E-02
BI-207	65.	569.70	3.2591E-02

Sample ID : S95T001324-DUP Acquisition date : 13-AUG-1995 03:05:32

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/LI)
TL-208	233.	277.36	5.4277E-01
PB-210	196.	46.50	0.0000E+00
BI-212	24.	727.18	3.5899E-01
PB-212	256.	238.63	7.3939E-02
BI-214	59.	609.31	7.1672E-02
PB-214	198.	351.92	1.8830E-01
RA-224	244.	240.99	8.0071E-01
RA-226	289.	186.10	7.9580E-01
AC-228	31.	911.21	1.2425E-01
TH-228	282.	84.37	2.9626E+00
TH-229	279.	88.47	1.3874E-01
U-232	208.	57.78	6.7579E+01
PA-233	192.	312.17	8.7908E-02
PA-234M	15.	1001.03	4.1490E-02
TH-234	242.	63.29	1.8480E+00
U-235	294.	185.71	4.8810E-02
NP-237	323.	86.48	3.0916E-01
U-237	240.	59.54	3.3875E-01
NP-238	16.	984.45	8.9966E-02
NP-239	278.	106.12	1.1923E-01
PU-239	254.	129.30	3.6320E+02
AM-241	240.	59.54	3.2490E-01
AM-243	269.	74.67	8.0896E-02

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Hanford Company

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WHC-SD-WM-DP-141, REV. 1

PART II

WHC-SD-WM-DP-141, REV. 0

ANALYTICAL SERVICES

45-DAY SAFETY SCREEN RESULTS FOR TANK 241-T-108 AUGER SAMPLES, 95-AUG-035 AND 95-AUG-037

Date Printed: AUGUST 23, 1995

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TGA Worklist # 1992 34
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WHC-SD-WM-DP-141, REV. 1

WHC-SD-WM-DP-141, REV. 0

NARRATIVE

45-DAY SAFETY SCREEN RESULTS FOR TANK 241-T-108 AUGER SAMPLES, 95-AUG-035 AND 95-AUG-037

ANALYTICAL SUMMARY

Two auger samples from tank 241-T-108 (T-108) were received at the 222-S Laboratories and underwent safety screening analyses, consisting of differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha activity (*Tank 241-T-108 Auger Sampling and Analysis Plan* (SAP)[1]).

As required by the *Tank Safety Screening Data Quality Objective* (DQO) [2], a 90% confidence interval was calculated for the sample results. The precision requirements of the SAP were satisfied by comparing a one-sided 90% confidence interval of the mean for each sample to the action limit, rather than requiring a relative percent difference between sample and duplicate results of less than 10%. The statistical technique that was used is described in Attachment 1. The TGA analysis at the 90% confidence level found the water content of both samples to be less than the minimum limit stated in the DQO. The chemists notified the Project Coordinator as required. Upon evaluation of the data, and because the DSC results were zero, the Project Coordinator determined that additional notifications were not necessary.

When compared to the decision rules in the DQO, none of the data indicate that the tank should be considered "unsafe." The tank can be considered "safe" once it has been determined that no flammability concern exists in the tank vapor space.

SCOPE

This document serves as the 45-day report deliverable for the tank T-108 auger samples collected on July 19 and July 21, 1995 (samples 95-AUG-35 and 95-AUG-037). The 222-S Laboratories received, extruded, and analyzed each sample in accordance with the SAP. Included in this report are the primary safety screening results obtained from the analyses, and copies of all DSC and TGA raw data scans as requested in the SAP. Any additional analyses conducted by the 222-S Laboratories on the T-108 auger samples will be included in a revision to this report.

SAMPLE RECEIPT, EXTRUSION, AND SUBSAMPLING

Two auger samples were taken from T-108. The two samples are identified as 95-AUG-35 and 95-AUG-37. The samples were received at the 222-S Laboratory on July 21 and extruded on July 24. As a result of the small sample recovery, the samples were not divided into half-segment subsamples but were homogenized as single samples. Subsamples for laboratory analyses and archiving were created per the tank SAP. Table 1 provides the sampling and extrusion report for the two auger samples.

TABLE 1: SUMMARY DESCRIPTION OF AUGER SAMPLES

Core Number	Riser	Sample Total Weight (Grams)	Sample Collection General Description
95-AUG-35	5	43.2	A small amount of sample was collected from flutes 14-19. As the auger sleeve was removed, most of the sample fell into the sample tray. The sample appeared to be a mixture of medium brown and clear crystals.
95-AUG-37	2	30.5	A small amount of sample was collected from flutes 5 to 19. As the auger sleeve was removed, most of the sample fell into the sample tray. The sample appeared to be a crystalline material, which was a mixture of medium brown and clear crystals.

ANALYTICAL RESULTS

Differential Scanning Calorimetry (DSC)

DSC analyses were performed under a nitrogen atmosphere using procedure LA-514-113, Rev. B-1 or procedure LA-514-114, Rev. B-0. The results are shown in Tables 2 and 3 and the raw data scans are attached. The samples were analyzed in duplicate. Any exotherms on the scans would be visible as a rise (Mettler) or a sink (Perkin Elmer) from the baseline established at the beginning and ending of the scan. Neither of the samples exhibited any exotherms, therefore, the upper 90% confidence level values calculated for each sample (presented in Table 4) are all zero as well. Both standards run with these samples exhibited recoveries within the 90-110 percent range specified in the SAP.

Thermogravimetric Analysis (TGA)

Weight percent water is calculated from weight loss by TGA. These analyses were performed under a nitrogen atmosphere using procedure LA-560-112, Rev. A-2 or LA-514-114, Rev B-0. The samples and their related "immediate" samples from the un-homogenized extrusions were analyzed in duplicate. "Immediate" samples are samples for TGA analysis that were immediately taken directly from the un-homoginized sample as it was extruded onto the extrusion tray. TGA as well as DSC analyses were performed on homoginized samples for each auger sample. The results are presented in Tables 2 and 3, and the raw data scans are attached.

The results for 95-AUG-035 were well below the minimum action limit of 17 weight percent water, ranging from 0.54 to 4.32 percent water by weight. A re-run was performed for both the sample and the "immediate" sample. Per the revised safety screening DQO, the sample results were compared to the action

limit at a 90% confidence level. These comparisons are presented in Table 5. A summary of the statistical technique is presented in Attachment 1. The lower 90% confidence level for this sample (0.174) is well below the minimum action limit of 17%. The percent recovery for each standard analyzed was within the 90-110% range specified in the SAP.

The results for 95-AUG-037 were well above the minimum action limit of 17 weight percent water, ranging from 35.93 to 38.68 percent water by weight. The associated "immediate" sample however ranged in value from 1.68 to 39.36 percent water by weight. A re-run was performed for the "immediate" sample. Per the revised safety screening DQO [2], the sample results were compared to the action limit at a 90% confidence level. These comparisons are presented in Table 5. A summary of the statistical technique is presented in Attachment 1. The lower 90% confidence level for this sample (11.757) is below the minimum action limit of 17%. The percent recovery for each standard analyzed was within the 90-110% range specified in the SAP.

Alpha Total

Analyses for total alpha activity were performed on two samples. Samples were prepared by fusion using procedure LA-549-141, Rev. D-0, and analyses were performed using procedure LA-508-101, Rev. D-2. Two fusions were prepared per sample (for duplicate results). Sample and duplicate results ranged from 0.0389 to 0.115 μCi/g. Since all of the results were well below the safety screening limit of 41 μCi/g, reruns to increase reproducibility were deemed unnecessary. The upper 90% confidence level for each sample has been calculated and is presented in Table 6. All of the adjusted results are far below the action limit. The total alpha results are presented in Tables 2 and 3.

Two control standards were run, with recoveries of 104.3 and 111.1 percent, slightly exceeding the SAP target of 90 to 110%. Since the results for these samples were very low and the standard recovery was within the method control limits (70.5% to 128.9%), reruns to improve standard recovery were deemed unnecessary. Spikes were performed on the two samples, with spike recoveries of 82.10 and 62.70%. A rerun of the spiked samples produced identical recoveries. Since the sample results were far below the action limit, the poor spike recovery did not necessitate further testing. These quality control results are presented in Tables 2 and 3.

Responsible Project Coordinator: J. H. Baldwin

REFERENCE

[1] J. H. Baldwin, "*Tank 241-T-108 Auger Sampling and Analysis Plan*, WHC-SD-WM-TSAP-013, Rev. 0, Westinghouse Hanford Company, Richland, Washington, July 12, 1995.

[2] H. Babad, J. W. Hunt, and K. S. Redus, *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 1, Westinghouse Hanford Company, Richland, Washington, April 27, 1995.

INTERIM

T-108 SAFETY SCREEN RESULTS
T-108

CORE NUMBER: 95-AUG-035
SEGMENT #: 95-AUG-035

Table 2

SEGMENT PORTION: Immediate Sampling (to check moisture loss)

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001332	1		% Water by TGA using Mettler	%	17.00	999.0	101.4	n/a	8.30e-01	2.430	1.630	98.2	n/a	n/a	n/a
S95T001332			% Water by TGA using Mettler	%	17.00	999.0	101.0	n/a	2.480	5.60e-01	1.520	126	n/a	n/a	n/a

W Whole Segment: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001320			% Water by TGA on Perkin Elmer	%	17.00	999.0	95.78	n/a	5.40e-01	1.120	8.30e-01	69.9	n/a	n/a	n/a
S95T001320			% Water by TGA using Mettler	%	17.00	999.0	101.3	n/a	4.320	7.70e-01	2.545	139	n/a	n/a	n/a
S95T001320			DSC Exotherm Dry Calculated	Joules/g Dry	None	None	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001320			DSC Exotherm using Mettler	Joules/g	-9.9e+01	480.0	100.5	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001321	F		Alpha of Digested Solid	uCi/g	-9.9e+01	41.00	111.1	<6.48e-04	5.20e-02	3.89e-02	4.54e-02	28.8	62.70	1.22e-03	7.1

=> Limit violated
=> Selected Limit

INTERIM

INTERIM

T-108 SAFETY SCREEN RESULTS
T-108

CORE NUMBER: 95-AUG-037
SEGMENT #: 95-AUG-037

Table 3

SEGMENT PORTION: Immediate Sampling (to check moisture loss)

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001333	1		% Water by TGA using Mettler	%	17.00	999.0	101.4	n/a	39.36	24.44	31.90	46.8	n/a	n/a	n/a
S95T001333			% Water by TGA using Mettler	%	17.00	999.0	101.3	n/a	19.66	1.680	10.67	169	n/a	n/a	n/a

W Whole Segment: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001323			% Water by TGA using Mettler	%	17.00	999.0	101.4	n/a	35.93	38.68	37.30	7.37	n/a	n/a	n/a
S95T001323			DSC Exotherm on Perkin Elmer	Joules/g	-9.9e+01	480.0	95.33	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001323			DSC Exotherm Dry Calculated	Joules/g Dry	None	None	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001324	F		Alpha of Digested Solid	uCi/g	-9.9e+01	41.00	104.3	<5.85e-04	1.15e-01	7.47e-02	9.49e-02	42.5	82.10	6.66e-03	11.5

=> Limit violated
=> Selected Limit

INTERIM

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WHC-SD-WM-DP-141, REV. 0

Table 4. 90% Upper Confidence Interval Limits for DSC (Units are in joules/g).

Sample Number and Description	$\hat{\mu}$	$\hat{\sigma}^2_{\hat{\mu}}$	UL
S95T001320 95-Auger-035	0	0	0
S95T001323 95-Auger-037	0	0	0

Table 5. 90% Lower Confidence Interval Limits for (TGA) Percent Water (Units are in %).

Sample Numbers and Description	$\hat{\mu}$	$\hat{\sigma}^2_{\hat{\mu}}$	LL
S95T001332, S95T001320 95-Auger-035	1.631	0.224	0.174
S95T001333, S95T001323 95-Auger-037	26.625	62.147	11.757

Table 6. 90% Upper Confidence Interval Limits for Total Alpha (Units are in μCi/g).

Sample Number and Description	$\hat{\mu}$	$\hat{\sigma}^2_{\hat{\mu}}$	UL
S95T001321 95-Auger-035	0.05	0.000043	0.07
S95T001324 95-Auger-037	0.09	0.000406	0.16

ATTACHMENT 1

The 90% Confidence Interval lower limit (LL) on the mean for percent water (TGA) data is

$$\hat{\mu} - t_{(a-1)} * \sqrt{\hat{\sigma}^2_{\hat{\mu}}}$$

where $\hat{\mu}$ is the ordinary sample mean, $\hat{\sigma}^2_{\hat{\mu}}$ is the variance of the sample mean and $t_{(a-1)}$ is a quantile from Student's t distribution with a-1 degrees of freedom. In this equations, a is number of sampling groups (immediate and regular sampling), and $t_{(1)}$ is equal to 3.078 for a one-sided 90% confidence interval.

The 90% Confidence Interval upper limit (UL) on the mean for DSC and total alpha data is

$$\hat{\mu} + t_{(a-1)} * \sqrt{\hat{\sigma}^2_{\hat{\mu}}}$$

where $\hat{\mu}$ is the ordinary sample mean and $\hat{\sigma}^2_{\hat{\mu}}$ is the variance of the sample mean and $t_{(a-1)}$ is a quantile from Student's t distribution with a-1 degrees of freedom. In this equations, a is the number of samples in each segment, and $t_{(1)}$ is equal to 3.078 for a one-sided 90% confidence interval.

Note: For DSC and Total Alpha, $\hat{\sigma}^2_{\hat{\mu}} = \hat{\sigma}^2/n$, where $\hat{\sigma}^2$ is the sample variance.

Table 4 gives the upper limit (UL) to the 90% confidence interval for DSC for each segment in T-108. If the upper limit is less than 481 joules/g, then we reject the null hypothesis that the mean DSC is greater than or equal to 481 joules/g.

Table 5 gives the lower limits (LL) to the 90% confidence interval on the percent water (TGA) for each segment in T-108. If the lower limit is greater than 17%, then we reject the null hypothesis that the mean percent water is less than or equal to 17 percent.

Table 6 gives the upper limit (UL) to the 90% confidence interval on the Total Alpha for each segment in T-108. If the upper limit is less than 41 μCi/g, then we reject the null hypothesis that the mean Total Alpha is greater than or equal to 41 μCi/g.

WHC-SD-WM-DP-141, REV. 0

INORGANIC ANALYSES

LABCORE Data Entry Template for Worklist# 1921

Analyst: SMF **Instrument:** DSC0 1 **Book #** 12N14A

Method: LA-514-113 Rev/Mod B-1 / B-0 LA-514-114 WHC-SD-WM-OP-141, REV. 1

Worklist Comment: Please run T-108 DSCs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	28.6	N/A	Joules/g
95000097	T-108	2	SAMPLE	S95T001320	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000097	T-108	3	DUP	S95T001320	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g
		4	STD				DSC-03	SOLID	28.45	~~26.02~~ 27.12 8-15-95 BDV	N/A	Joules/g
95000099	T-108	5	SAMPLE	S95T001323	0		DSC-03	SOLID	N/A	Ø		Joules/g
95000099	T-108	6	DUP	S95T001323	0		DSC-03	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 1921

See attached for signatures
Analyst Signature Date 8-11-95

Analyst Signature Date 8-15-95

Verified by Blandina Valenzuela
8-15-95

S95T001320 produced three endotherms one at ~~94.1 J/g~~ 8-11-95 BDV 68.8°C with a delta H of 94.1 J/g; second at 276.3°C with a delta H of 35.2 J/g; and third at 305.3°C with a delta H of 109.5 J/g.

Data Entry Comments: S95T001323 produced three endothermic regions one at 114.8°C with a delta H of 1103.07 J/g; second at 254.1°C with a delta H of 5.82 J/g and third at ~~296~~ 308.80°C with a delta H of 37.3 J/g.

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

LABCORE Data Entry Template for Worklist# 1921

Analyst: SMB Instrument: DSC0 _____ Book # 12N147

Method: LA-514-113 Rev/Mod B-1 WHC-SD-WM-DP-141, REV. 1

Worklist Comment: Please run T-108 DSCs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
95000097	T-108	2	SAMPLE	S95T001320	0		DSC-01	SOLID	N/A			Joules/g
95000097	T-108	3	DUP	S95T001320	0		DSC-01	SOLID			N/A	Joules/g
95000099	T-108	4	SAMPLE	S95T001323	0		DSC-01	SOLID	N/A			Joules/g
95000099	T-108	5	DUP	S95T001323	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 1921

Susie M. Fulton
Analyst Signature Date

Analyst Signature Date

Other instrument was used.
8-11-95
BDV

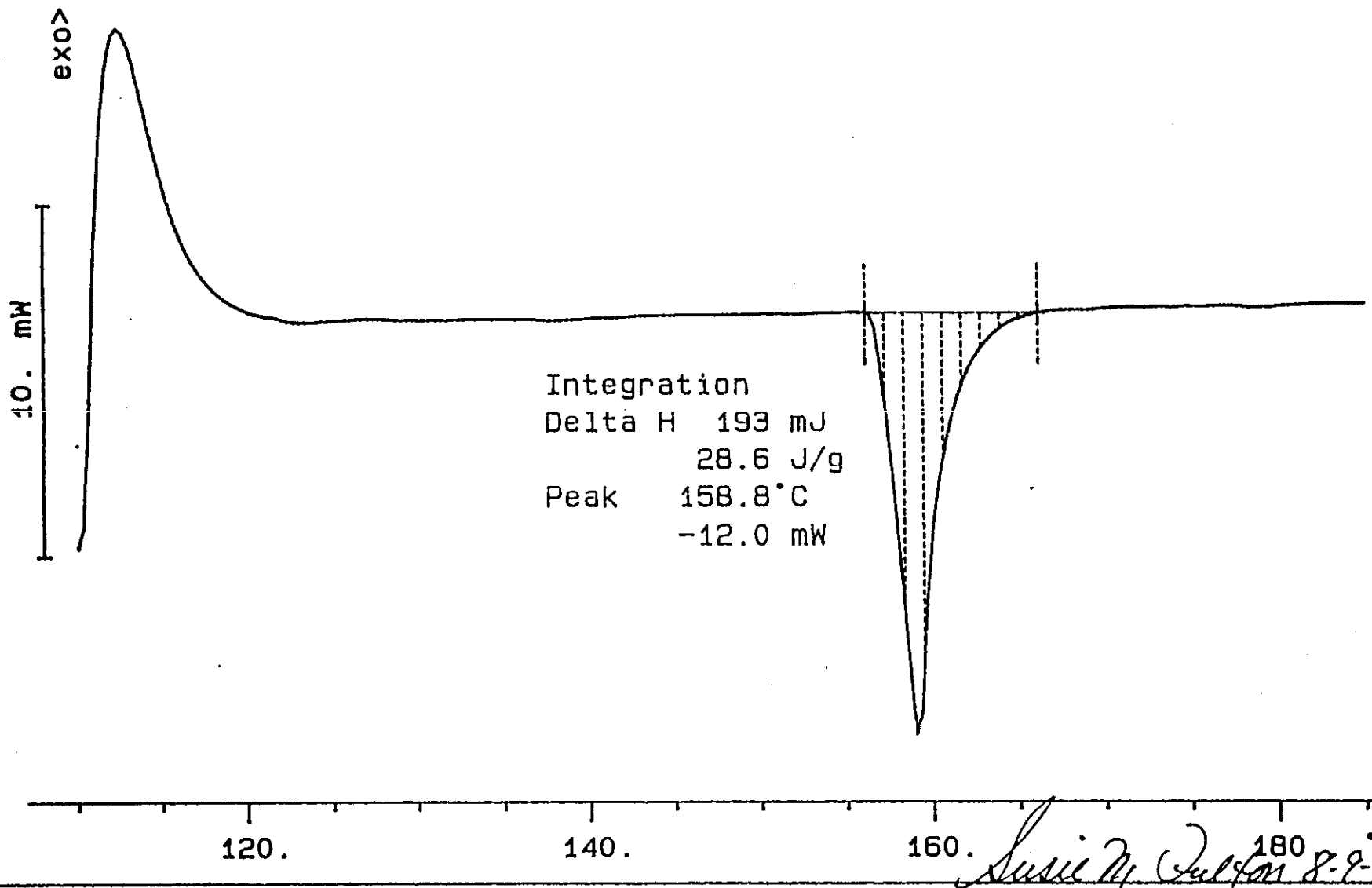
Data Entry Comments: S95T001320 is light tan crambly sample w/ large clear crystals many which are larger than

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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 208 TO 213.

BEST AVAILABLE COPY

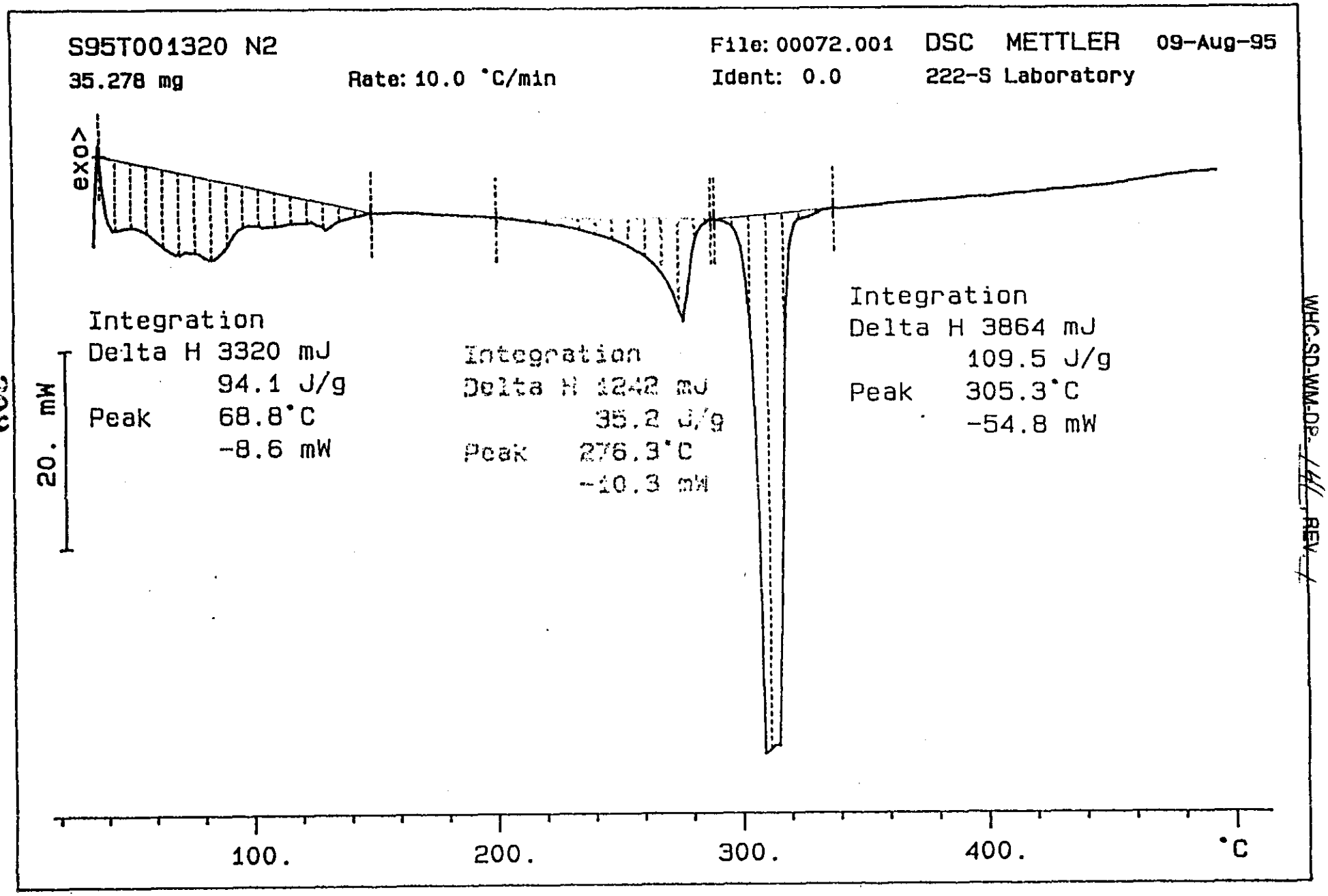
DSC STD 12N14A
6.740 mg
Rate: 10.0 °C/min
File: 00070.001
Ident: 0.0
DSC METTLER
222-S Laboratory
09-Aug-95



Susie M. Sulton 8-9-95

WHC-SD-WM-DP-141, REV. 1

BEST AVAILABLE COPY

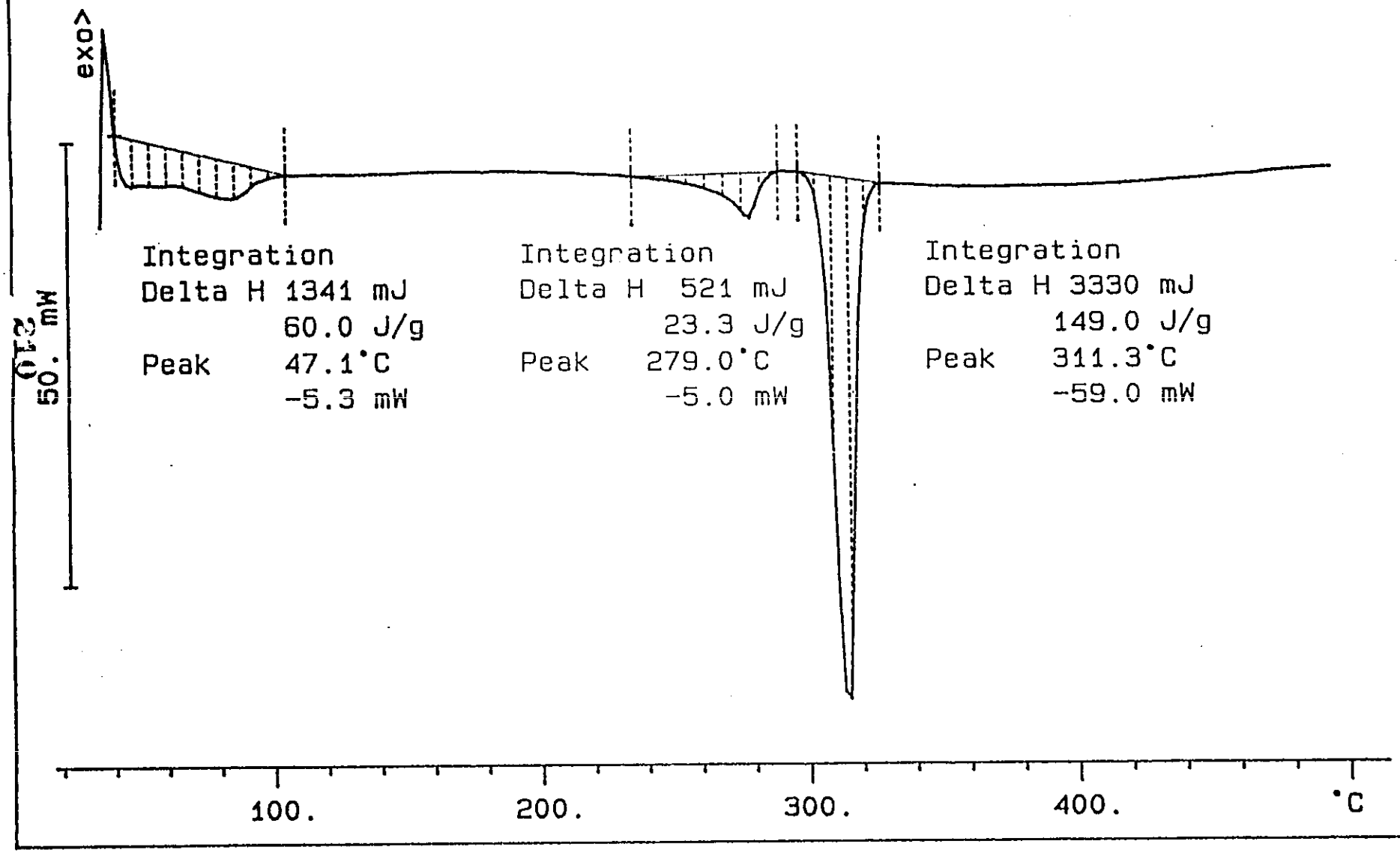


WHC-SD-WM-DP- 141 REV. 1

BEST AVAILABLE COPY

S95T001320DUP N2 File: 00074.001 DSC METTLER 09-Aug-95

22.354 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

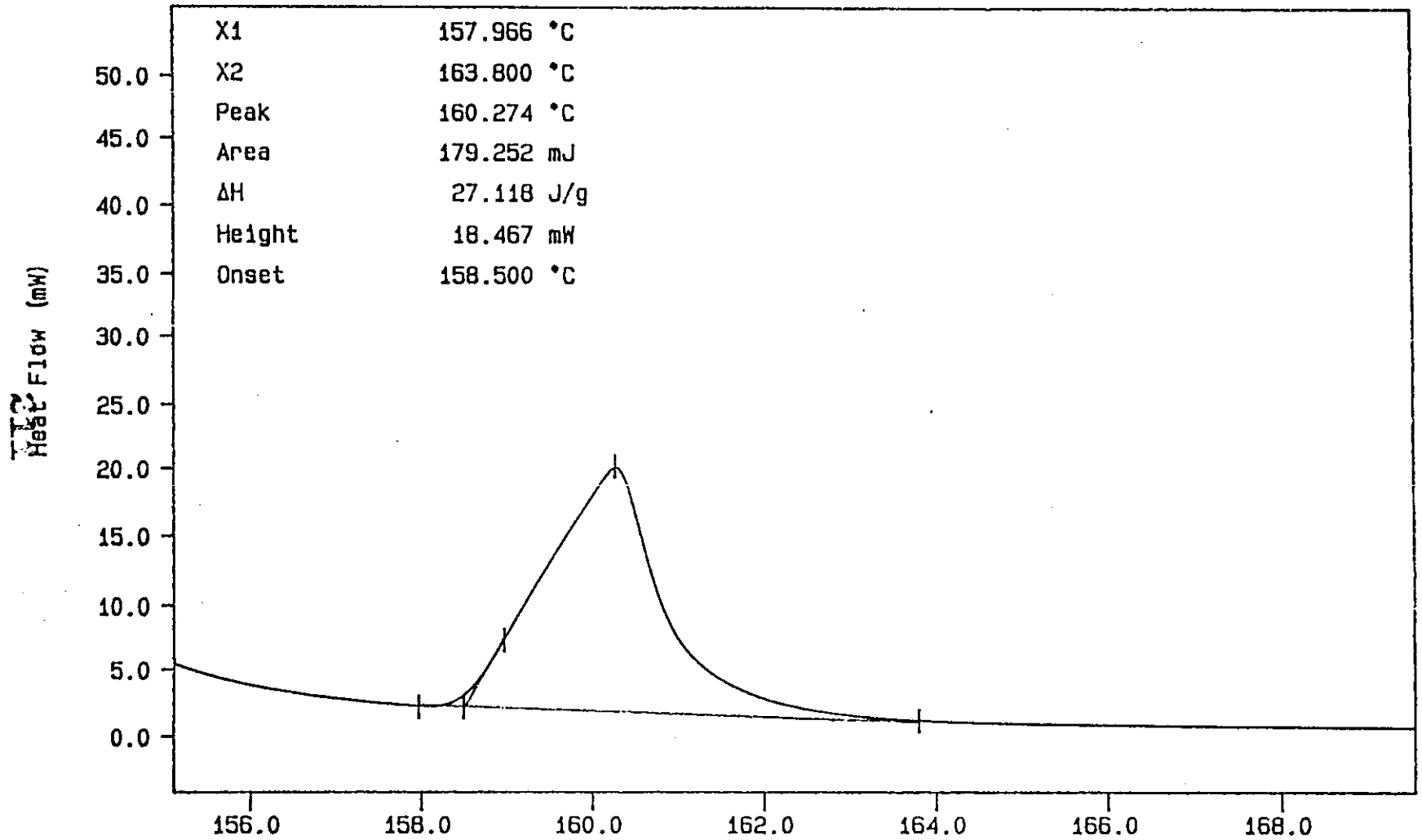


WHC-SD-WM-DP-141, REV. 1

210

Curve 1: DSC
File info: IND081001 Thu Aug 10 09:59:53 1995
Sample Weight: 6.610 mg
12N14A Indium at 10C/min

BEST AVAILABLE COPY



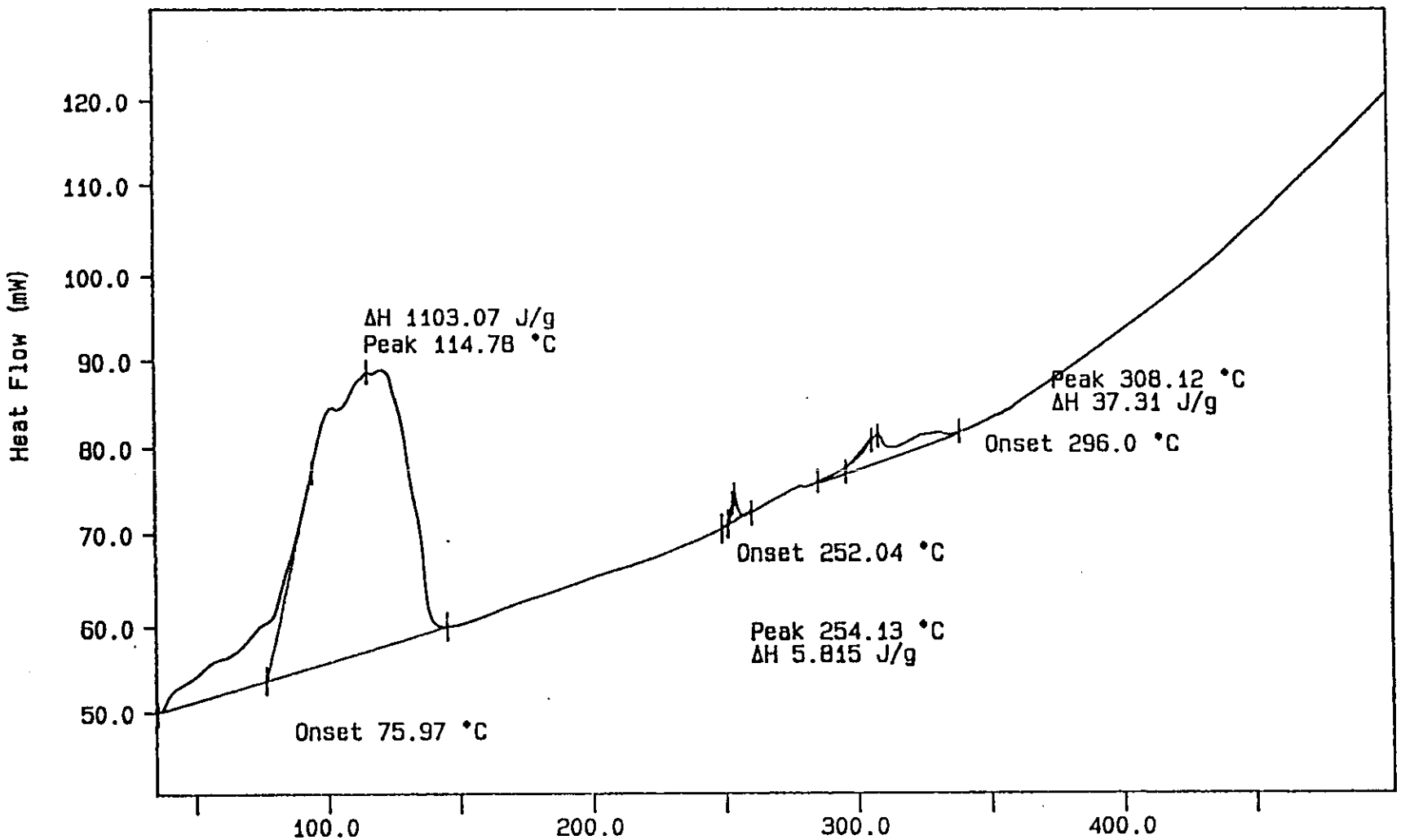
WHC-SD-WM-DF-141, REV. 1

N2, EXOTHERM DOWN
TEMP1: 150.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 170.0 C

AD PURINTON
PERKIN ELMER
222-S Lab
Tue Aug 15 07:47:55 1995

Curve 1: DSC
File info: SAM081001 Thu Aug 10 14:07:00 1995
Sample Weight: 8.260 mg
S95T001323

BEST AVAILABLE COPY



exotherm down, N2 purge gas
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

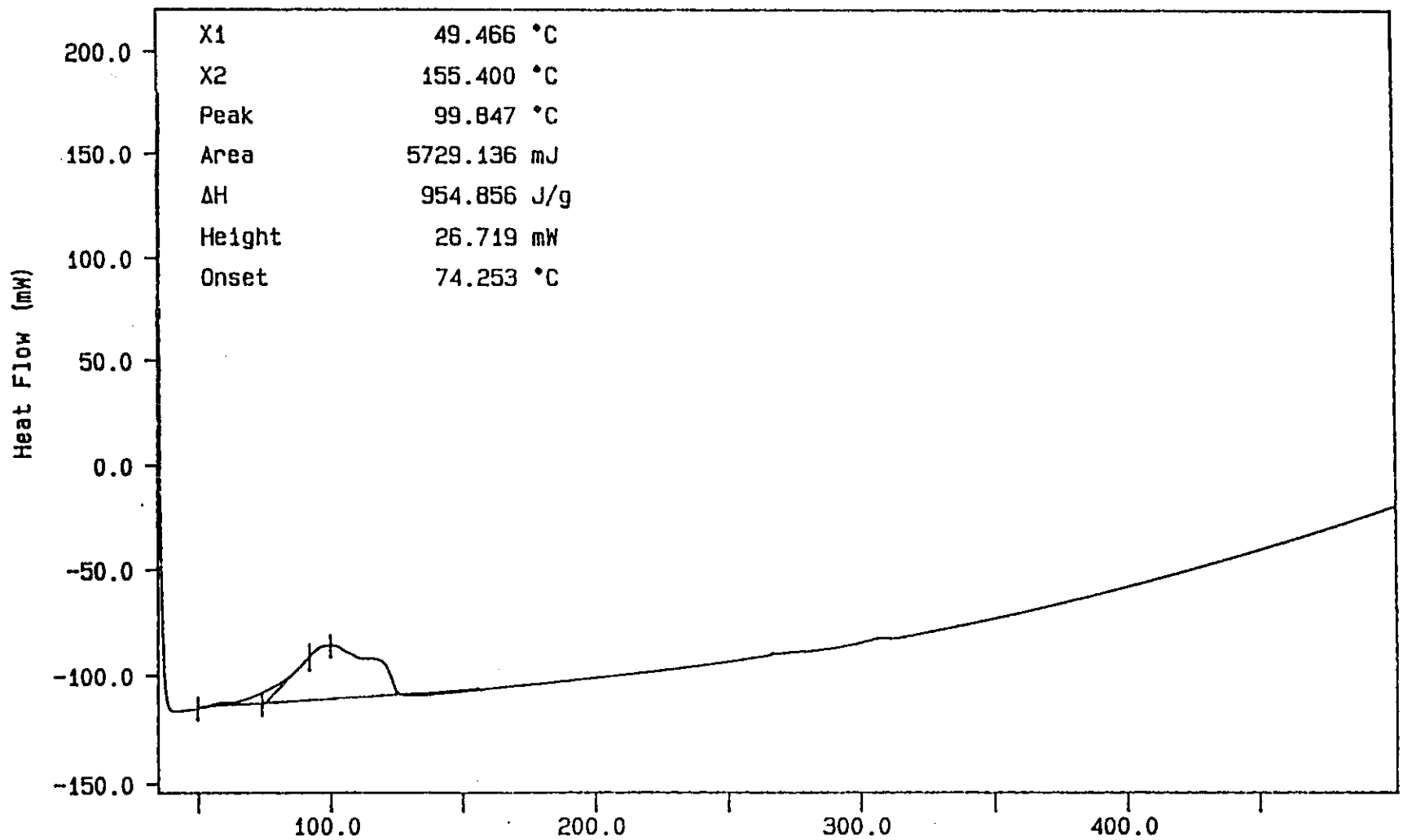
AD PURINTON
PERKIN ELMER
222-S Lab
Thu Aug 10 14:43:00 1995

WHC-SD-WM-DP-141, REV 1

2142

Curve 1: DSC
File info: SAM081002 Thu Aug 10 15:13:05 1995
Sample Weight: 6.000 mg
S95T001323 DUP 8-11-95 BDV

BEST AVAILABLE COPY



exotherm down, N2 purge gas
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

AD PURINTON
PERKIN ELMER
222-S Lab
Thu Aug 10 16:06:12 1995

WHC-SD-WM-DF-141, REV. 1

2113

LABCORE Data Entry Template for Worklist# 1923

Analyst: SMF **Instrument:** TGA0 1 **Book #** 65N8-A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run T-108 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	59.74	60.53	N/A	%
95000097	T-108	2 SAMPLE	S95T001320	0		TGA-01	SOLID	N/A	4.32		%
95000097	T-108	3 DUP	S95T001320	0		TGA-01	SOLID	4.32	.77	N/A	%
		4 STD				TGA-01	SOLID	59.74	60.56	N/A	%
95000099	T-108	5 SAMPLE	S95T001323	0		TGA-01	SOLID	N/A	35.93		%
95000099	T-108	6 DUP	S95T001323	0		TGA-01	SOLID	35.93	38.68	N/A	%

Final page for worklist # 1923

See attached for signature
Analyst Signature Date 8-15-95

Analyst Signature Date 8-15-95

Verified by Blandina Valenzuela 8-15-95

Data Entry Comments: The noise found on the thermogram is due to the fact we are getting close to the limits of the instrument.

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

LABCORE Data Entry Template for Worklist# 1923

Analyst: SAF **Instrument:** TGA0 _____ **Book #** 65N817

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run T-108 TGAs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
95000099	T-108	2	SAMPLE	S95T001323	0		TGA-01	SOLID	N/A			%
95000099	T-108	3	DUP	S95T001323	0		TGA-01	SOLID			N/A	%
95000097	T-108	4	SAMPLE	S95T001320	0		TGA-01	SOLID	N/A			%
95000097	T-108	5	DUP	S95T001320	0		TGA-01	SOLID			N/A	%

Final page for worklist # 1923

Susie M. Fulton 8-9-95
Analyst Signature Date

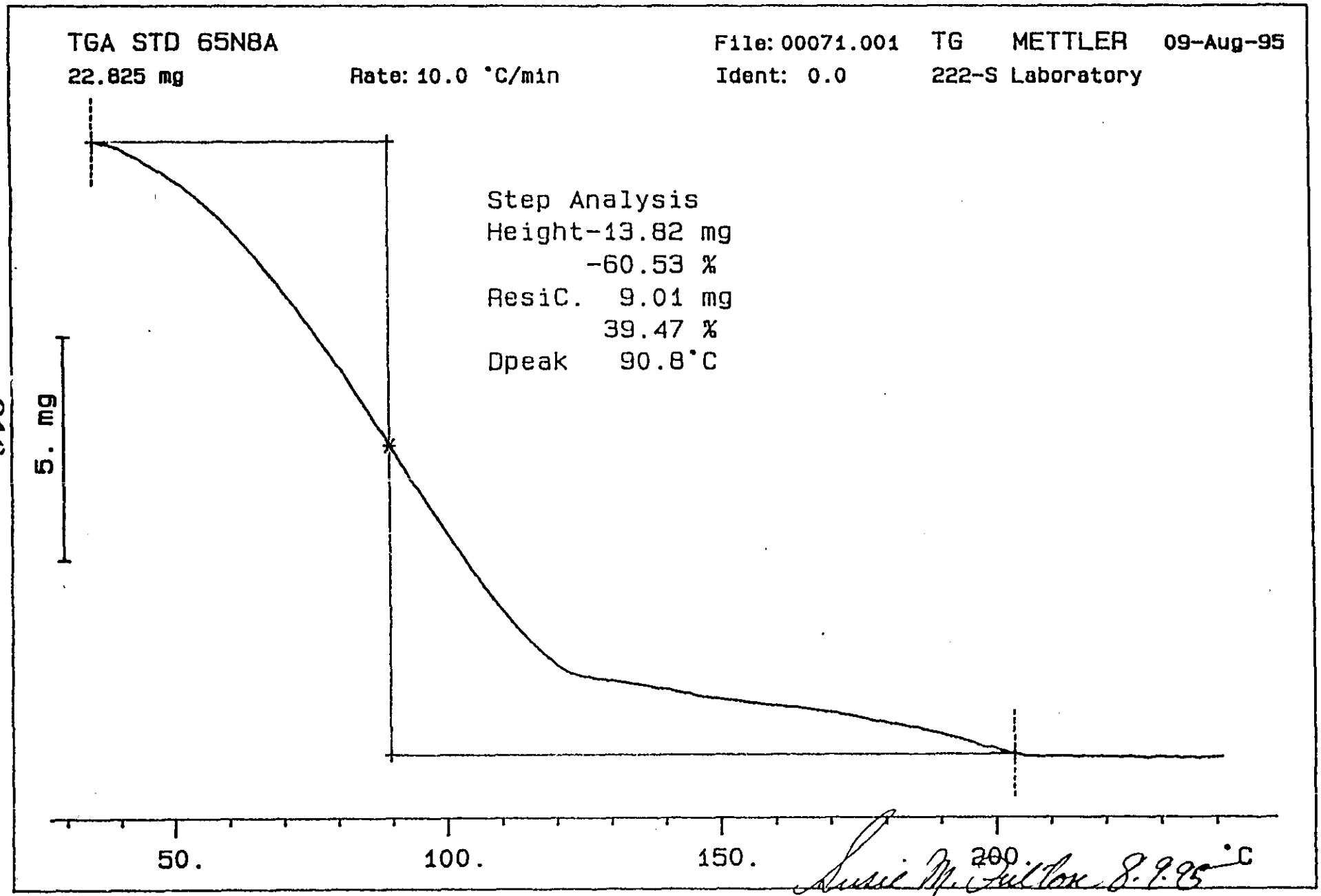
[illegible] 8-14-95
Analyst Signature Date

Data Entry Comments: S95T001320 is a light tan crumbly sample w/ large clear crystals, most of which are larger than the pan.

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.

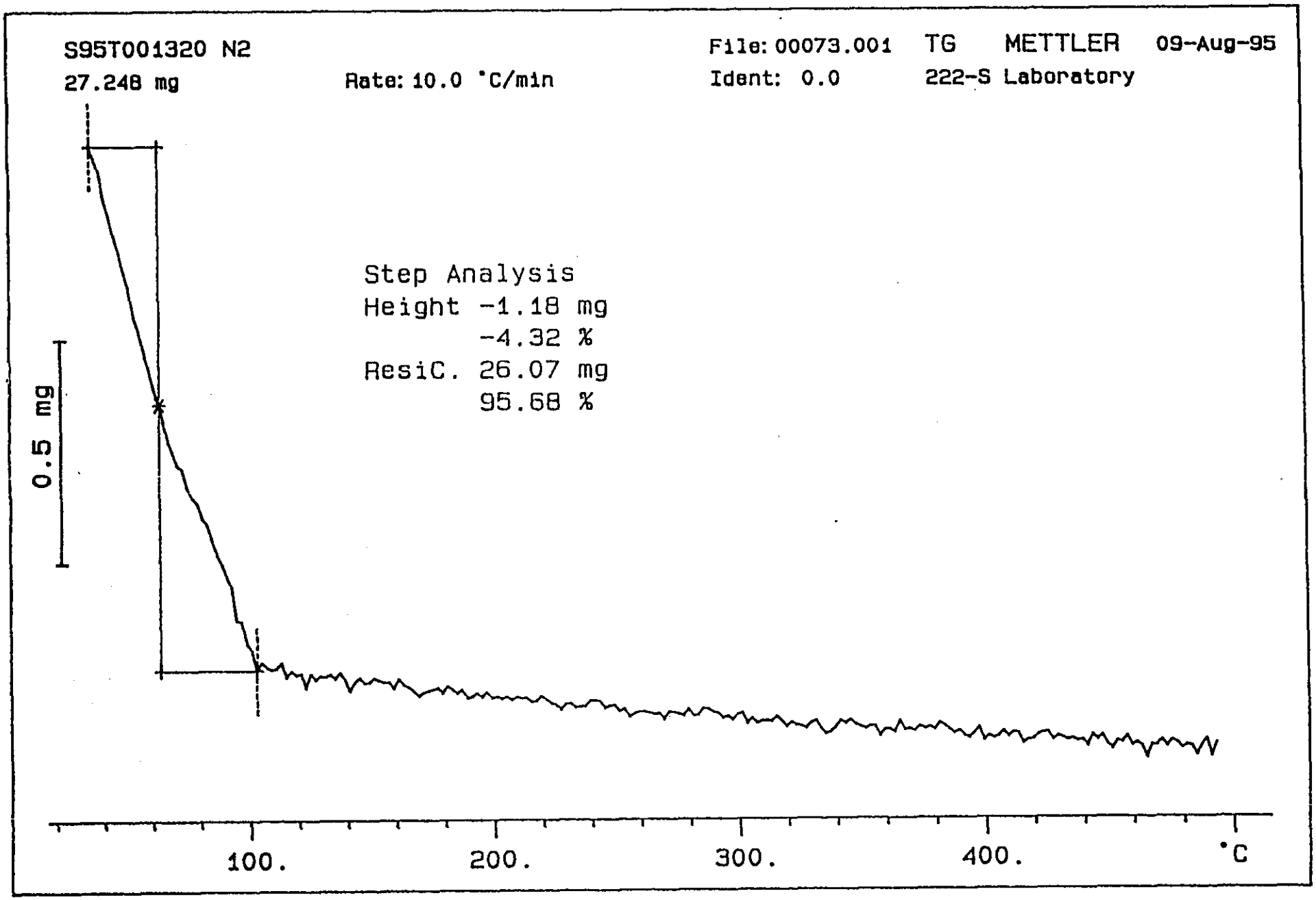
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 216 TO 221.

BEST AVAILABLE COPY



Susie M. Fulton 8.9.95

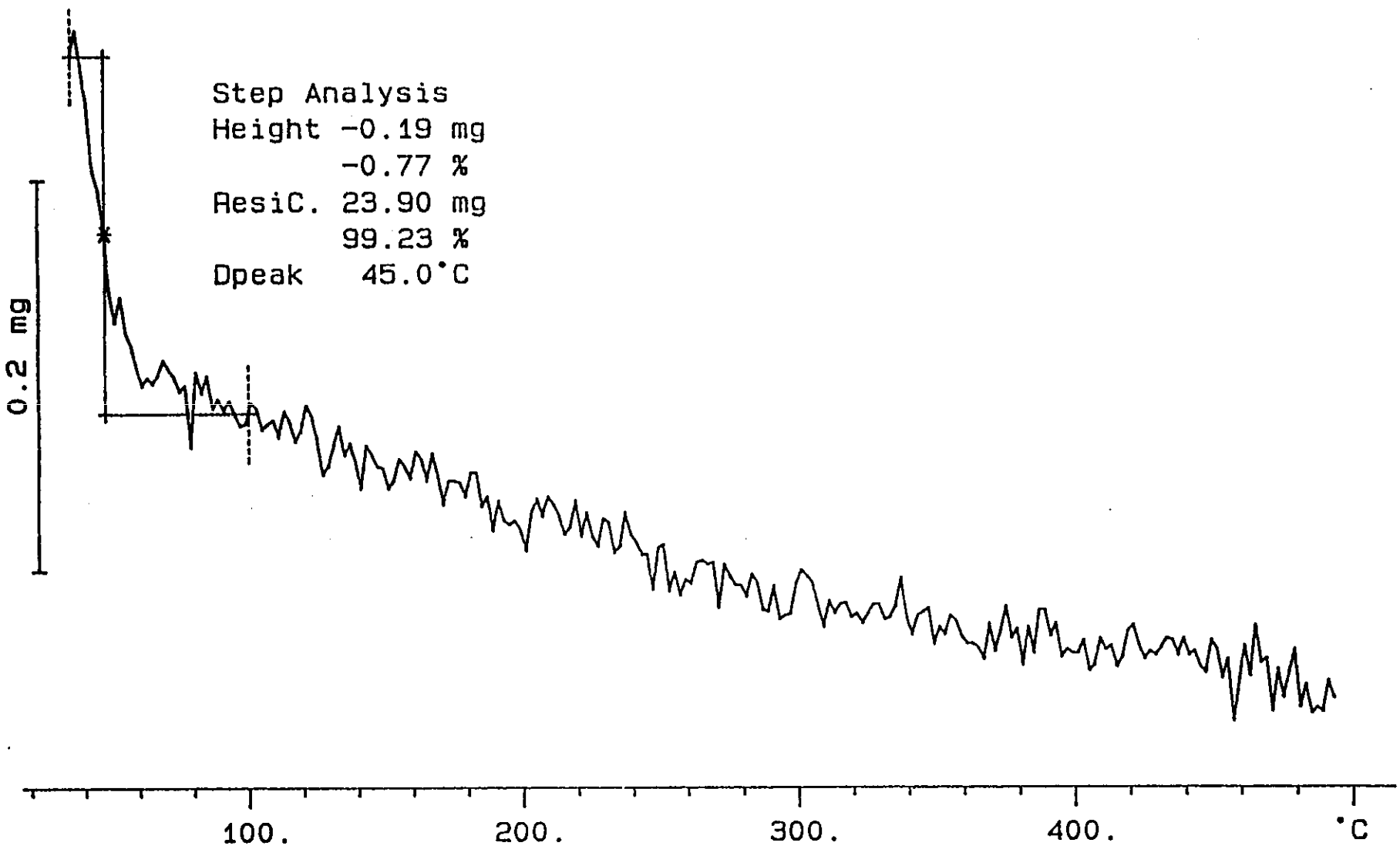
BEST AVAILABLE COPY



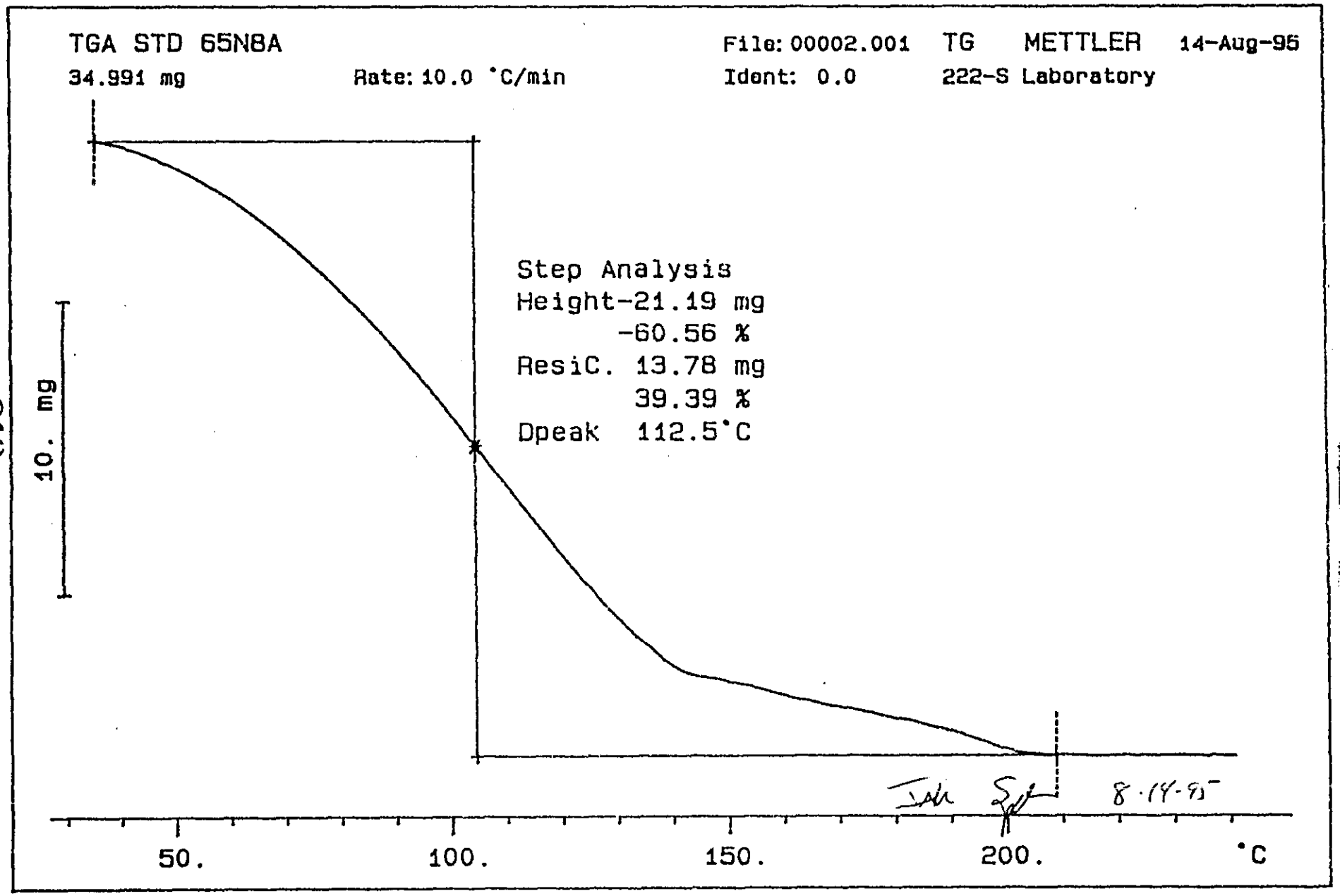
BEST AVAILABLE COPY

S95T001320DUP N2 File: 00075.001 TG METTLER 09-Aug-95

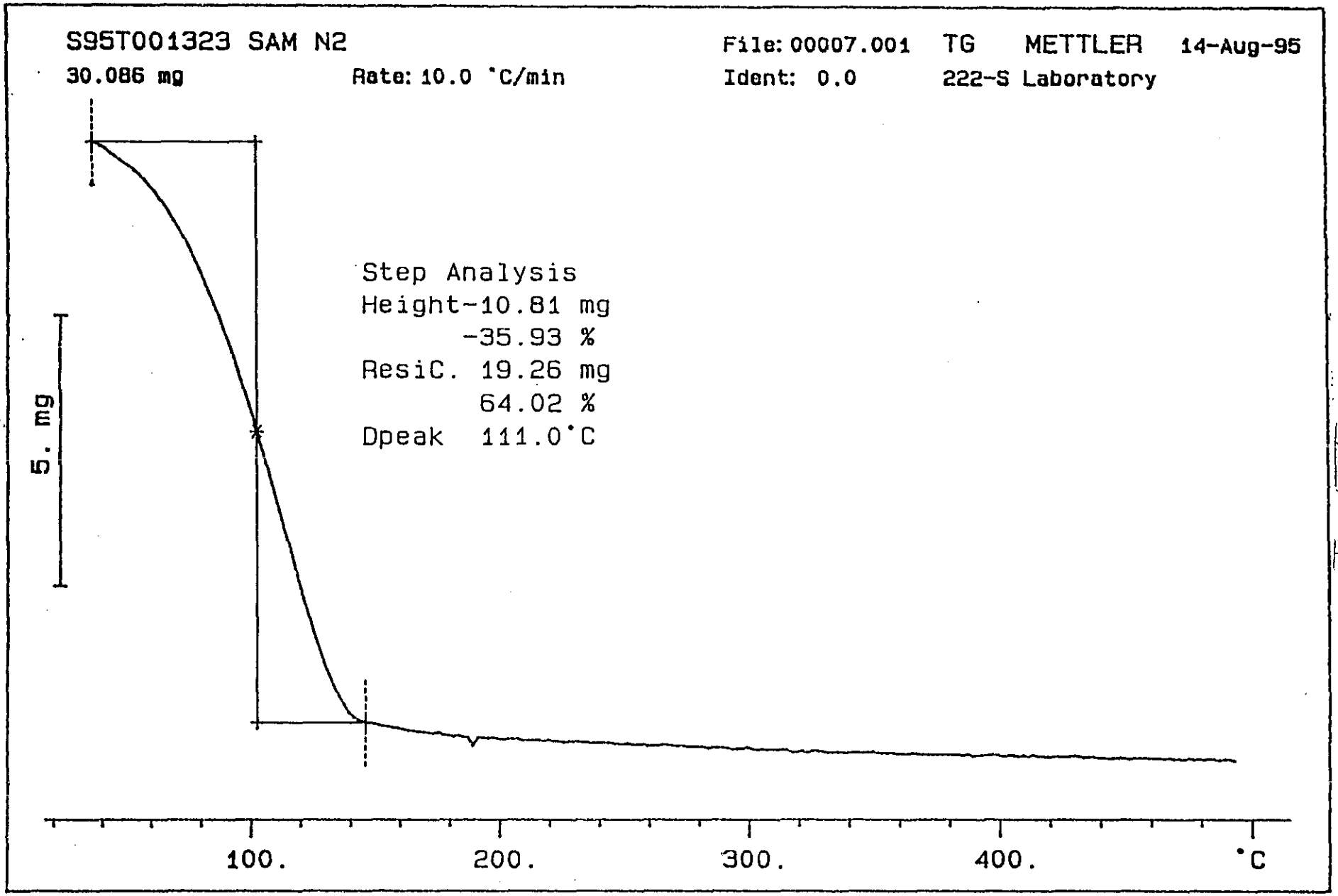
24.083 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory



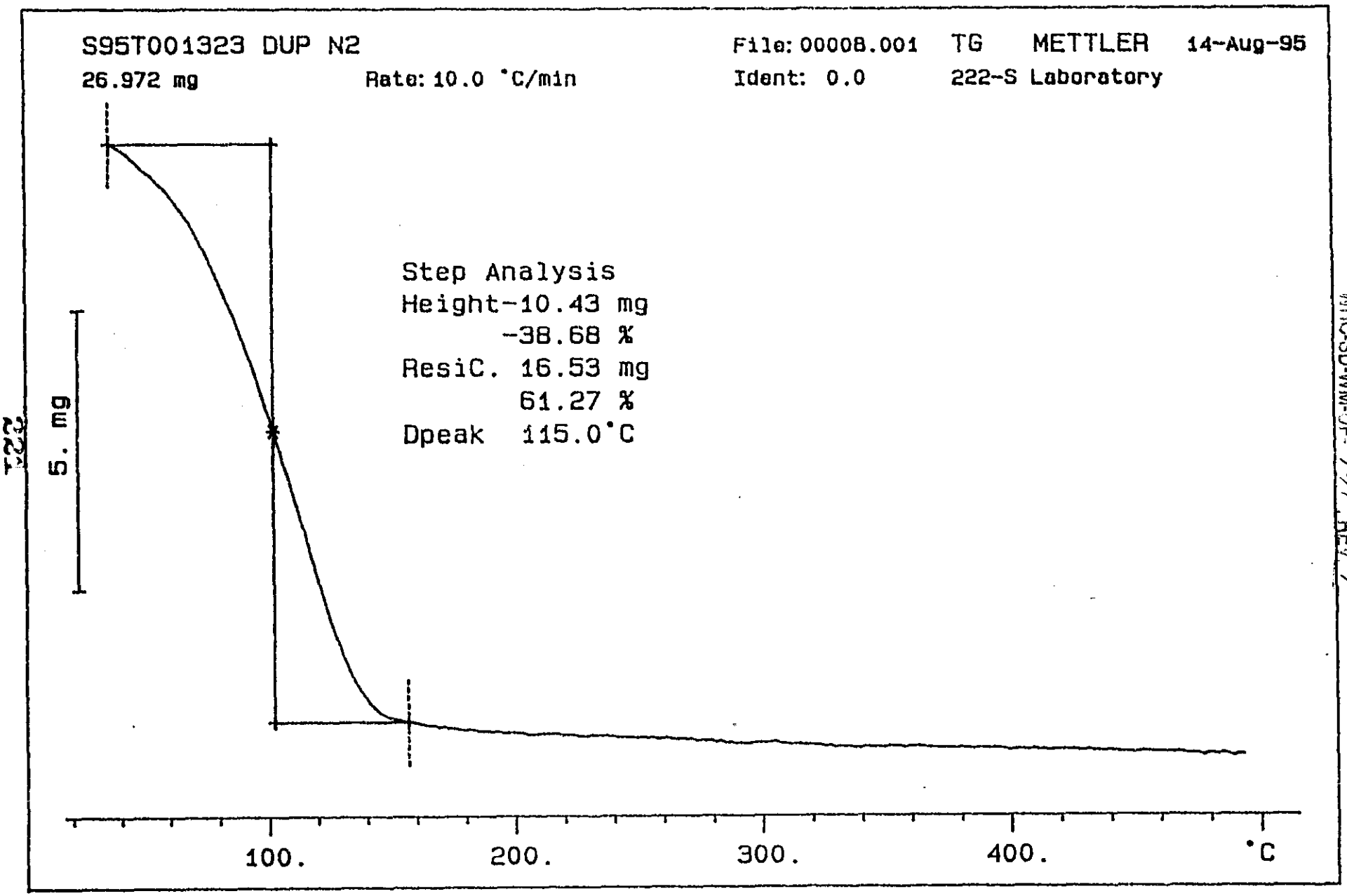
BEST AVAILABLE COPY



BEST AVAILABLE COPY



BEST AVAILABLE COPY



LABCORE Data Entry Template for Worklist# 1940

Analyst: JDS **Instrument:** TGA0 1 **Book #** 65N8-A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run T-108 TGAs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.74	60.31	N/A	%
95000097	T-108	2	SAMPLE	S95T001332	0		TGA-01	SOLID	N/A	2.48		%
95000097	T-108	3	DUP	S95T001332	0		TGA-01	SOLID	2.48	.56	N/A	%
		4	STD				TGA-01	SOLID	59.74	60.54	N/A	%
95000099	T-108	5	SAMPLE	S95T001333	0		TGA-01	SOLID	N/A	19.66		%
95000099	T-108	6	DUP	S95T001333	0		TGA-01	SOLID	19.66	1.68	N/A	%

Final page for worklist # 1940

See attached for signatures
Analyst Signature Date 8-14-95

Verified by Blandina Valenzuela 8-15-95

[signature] 8-15-95
Analyst Signature Date

Data Entry Comments: The noise on the TGA thermogram indicates we are getting close to the limits of the machine. Sample S95T001333 produce a second weight loss step of 3.24% at approximately 280°C

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

LABCORE Data Entry Template for Worklist# 1940

Analyst: ds **Instrument:** TGA0 **Book #** 65N8A

Method: LA-560-112 Rev/Mod

Worklist Comment: Please run T-108 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID			N/A	%
95000097	T-108	2 SAMPLE	S95T001332	0		TGA-01	SOLID	N/A			%
95000097	T-108	3 DUP	S95T001332	0		TGA-01	SOLID			N/A	%
95000099	T-108	4 SAMPLE	S95T001333	0		TGA-01	SOLID	N/A			%
95000099	T-108	5 DUP	S95T001333	0		TGA-01	SOLID			N/A	%

Final page for worklist # 1940

Jah Sp 8-14-95

Analyst Signature Date

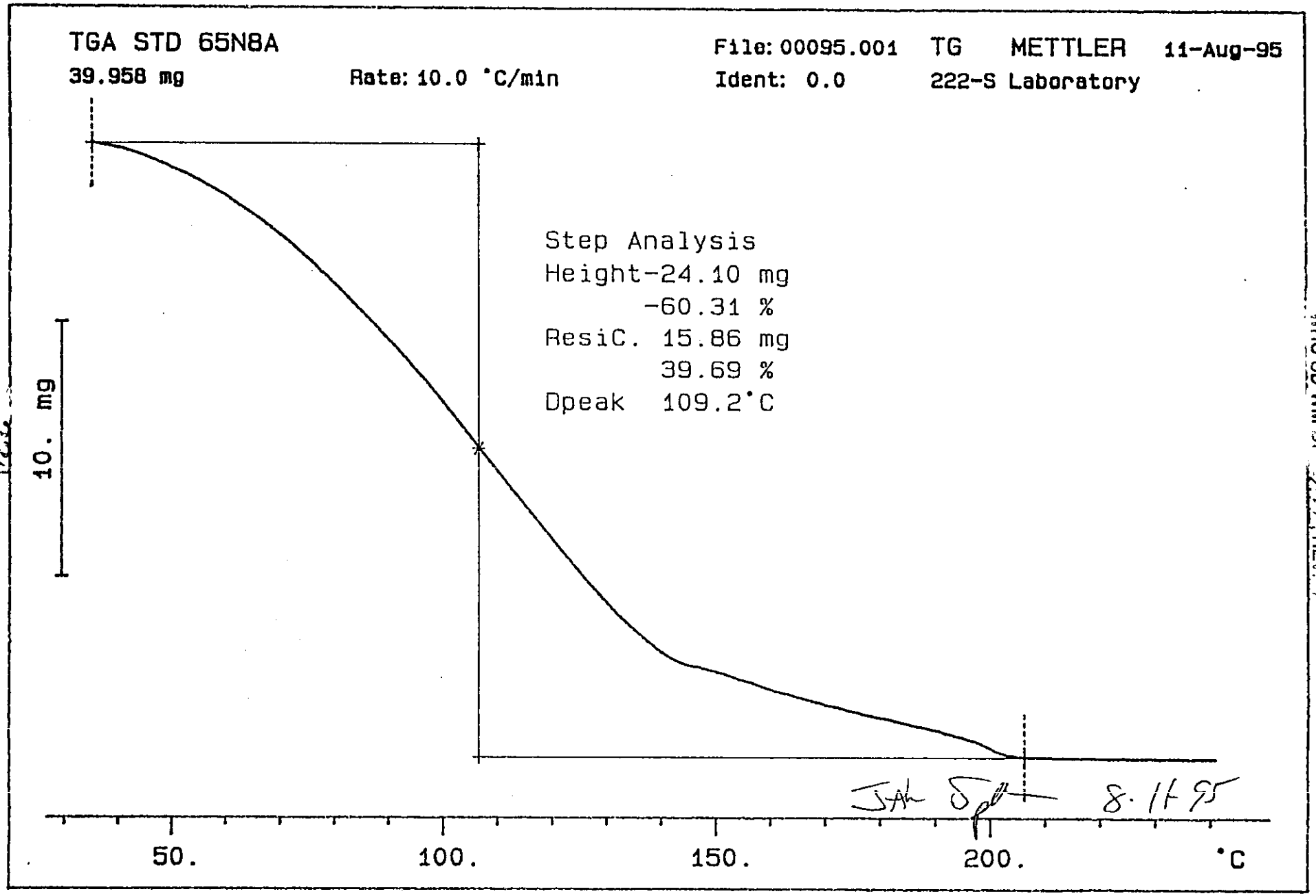
Analyst Signature Date

Data Entry Comments:

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

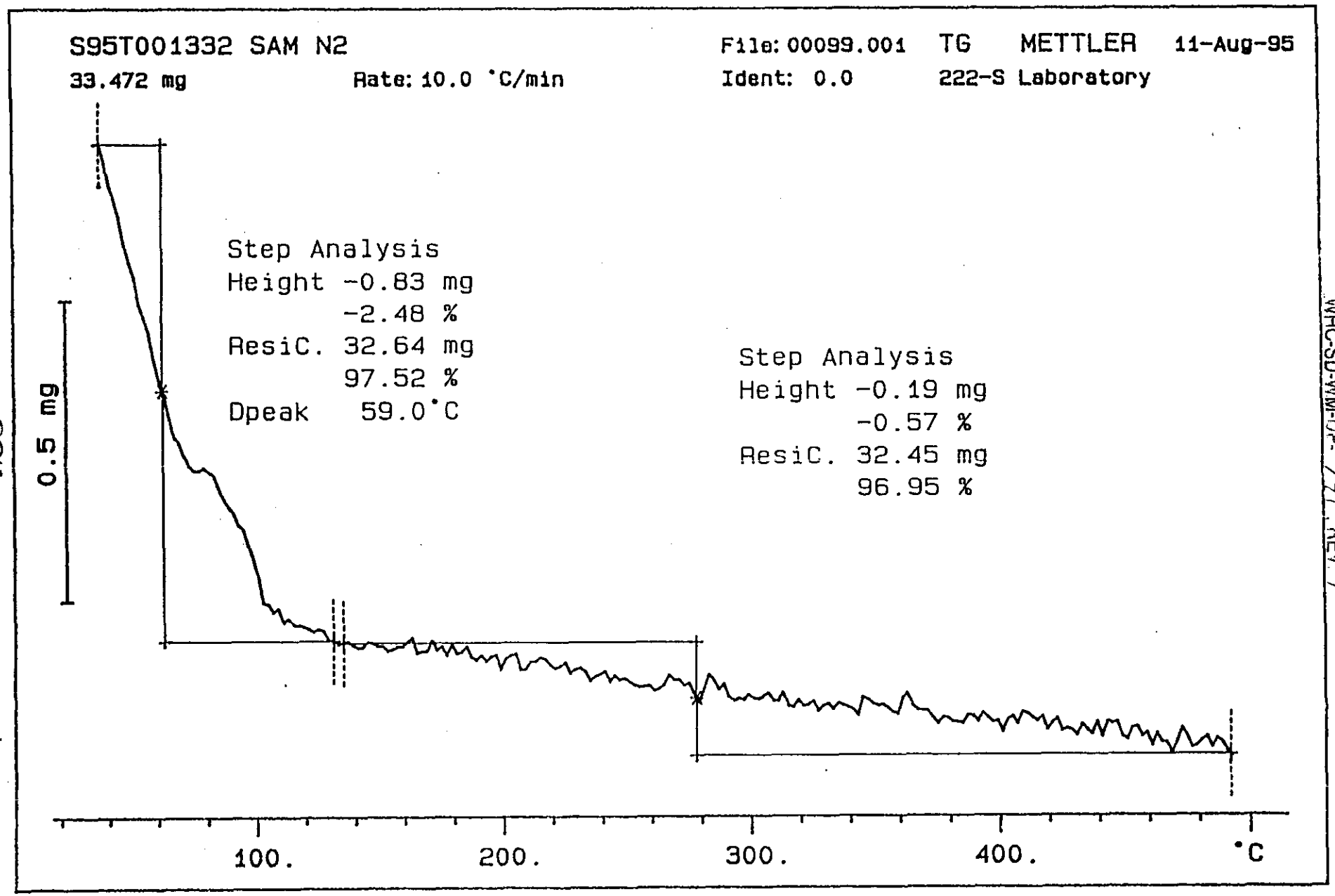
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 224 TO 229.

BEST AVAILABLE COPY

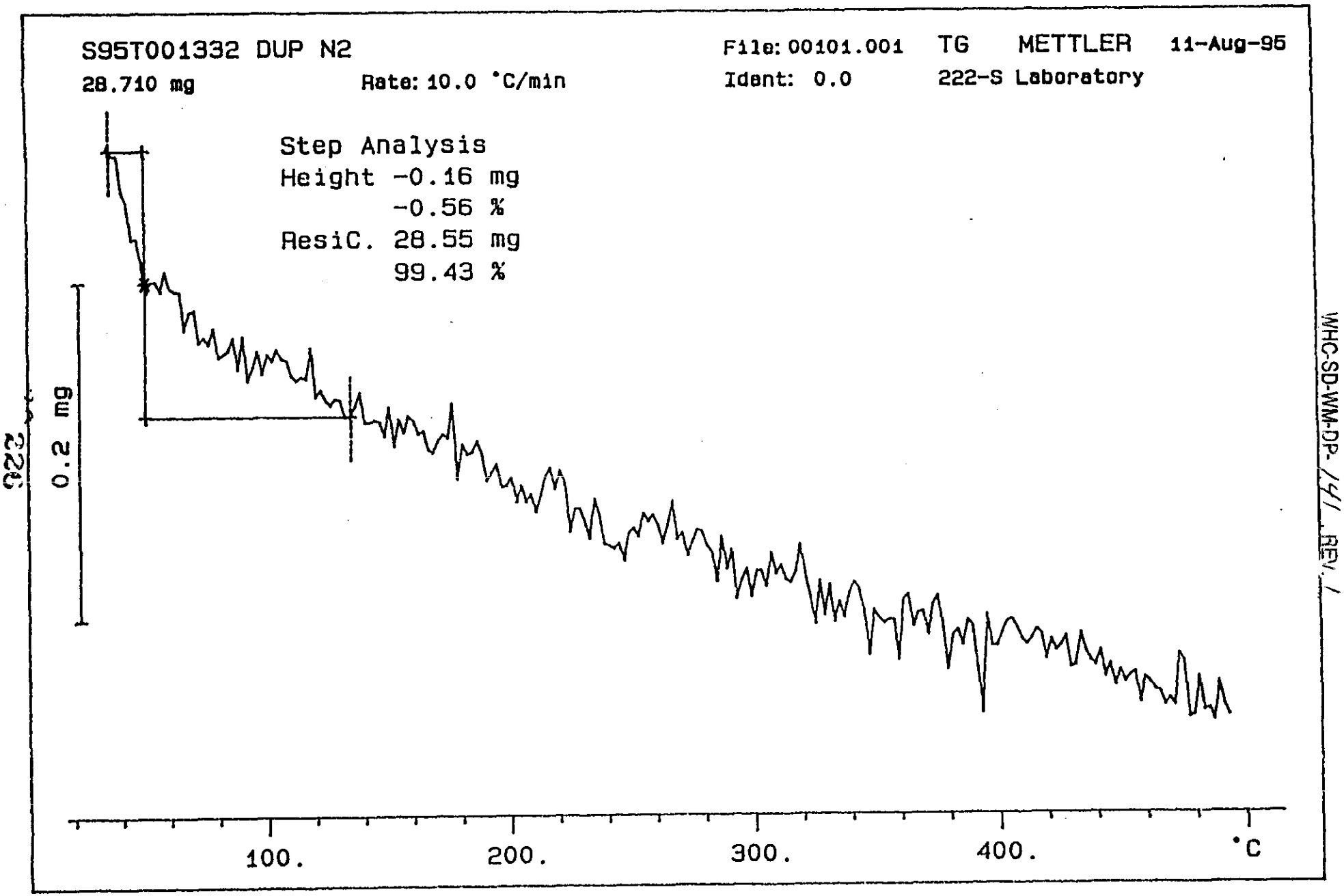


WHC-SD-WM-DP-141, REV. 1

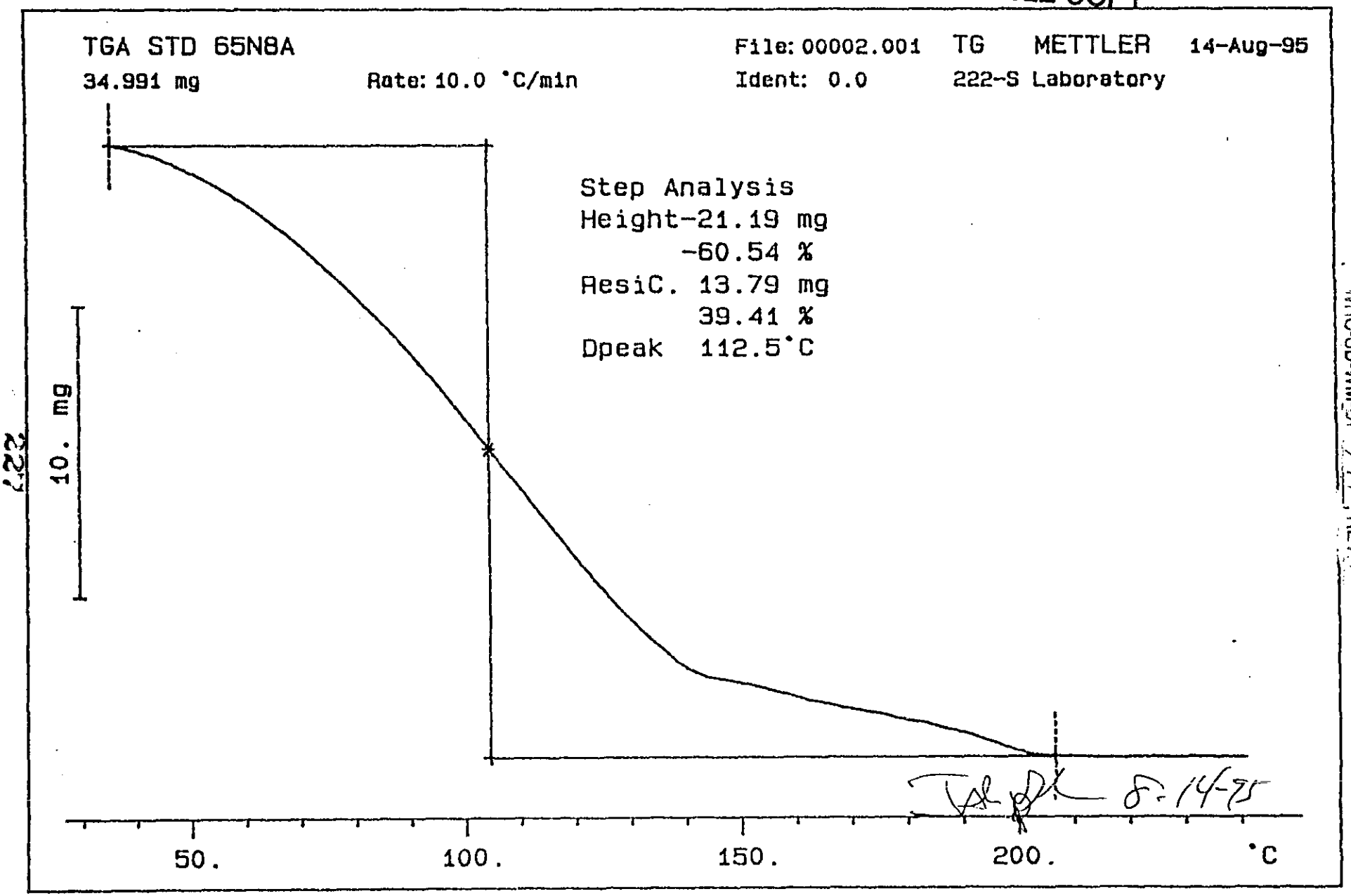
BEST AVAILABLE COPY



BEST AVAILABLE COPY



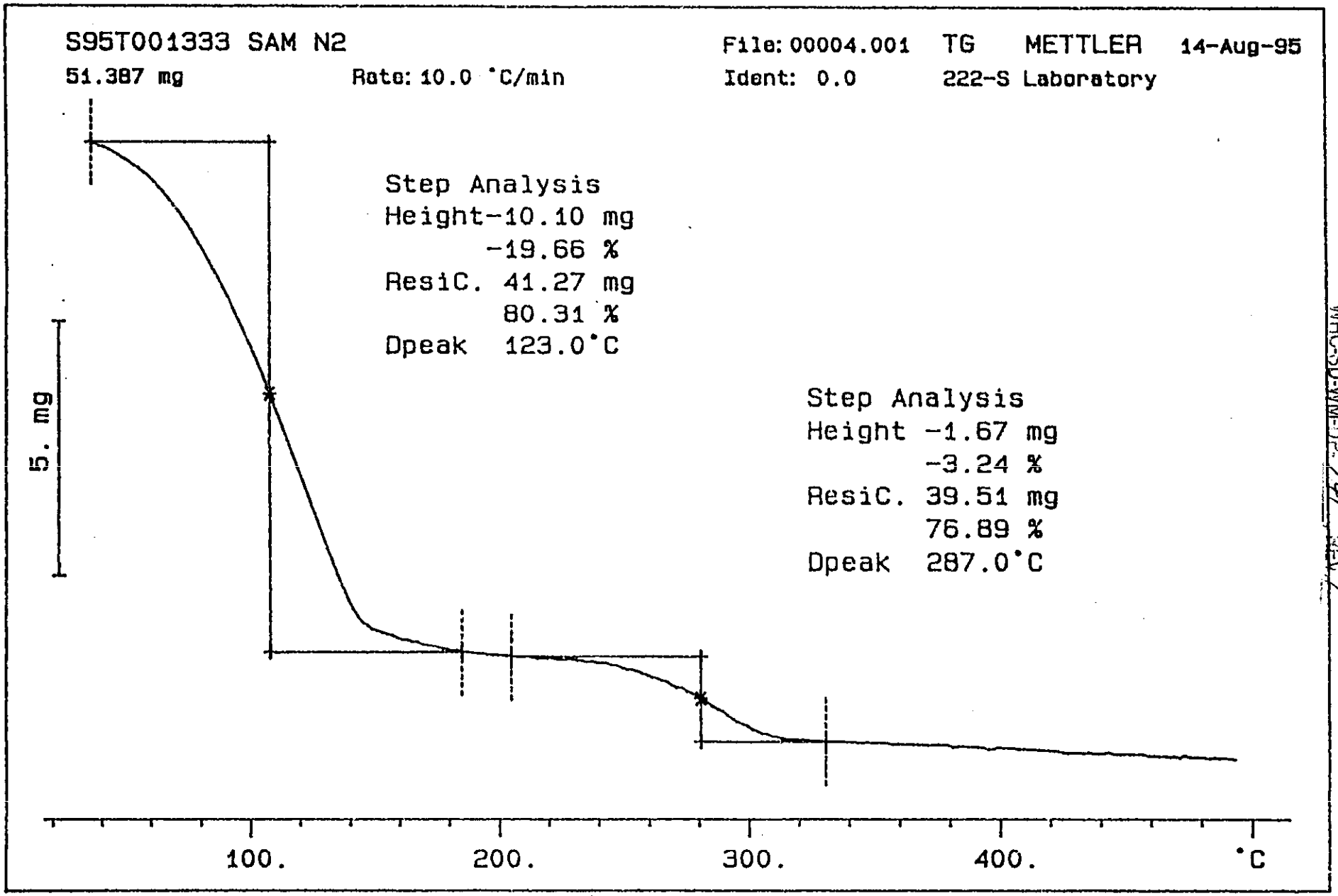
BEST AVAILABLE COPY



8-14-95

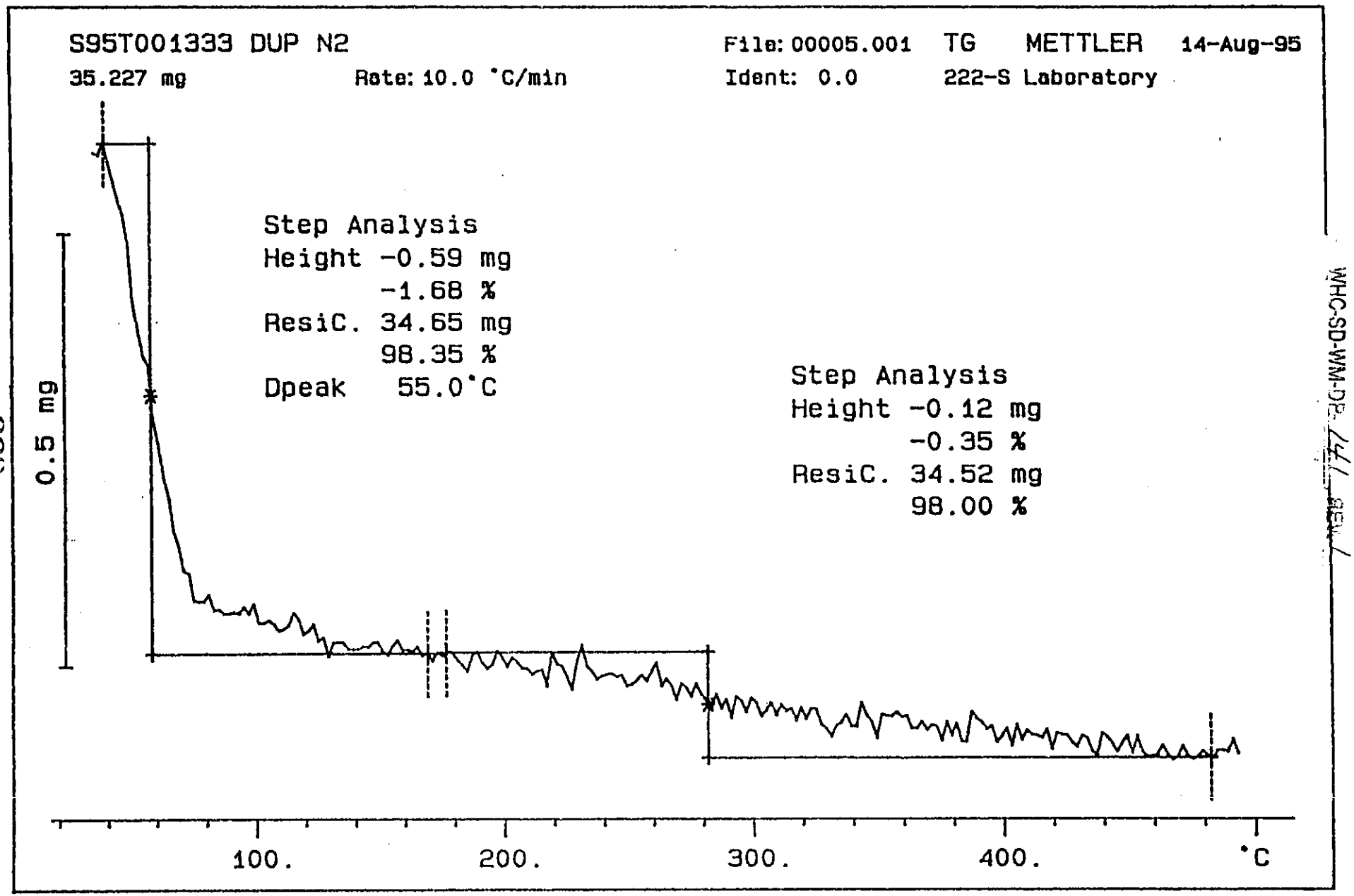
WHC-SD-WM-DP-141, REV. 1

BEST AVAILABLE COPY



WHC-SD-WM-DP-141 REV 1

BEST AVAILABLE COPY



LABCORE Data Entry Template for Worklist# 1992

Analyst: ADP **Instrument:** DSC01 3 **Book #** 65N8-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run T-108 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.74	57.22	N/A	%
95000097	T-108	2	SAMPLE	S95T001320	1		TGA-03	SOLID	N/A	.54		%
95000097	T-108	3	DUP	S95T001320	1		TGA-03	SOLID	.54	1.12	N/A	%

Final page for worklist # 1992

BD Valenzuela for AD Purinton 8-14-95
Analyst Signature Date

Verified by Blandina Valenzuela 8-15-95

8-15-95
Analyst Signature Date

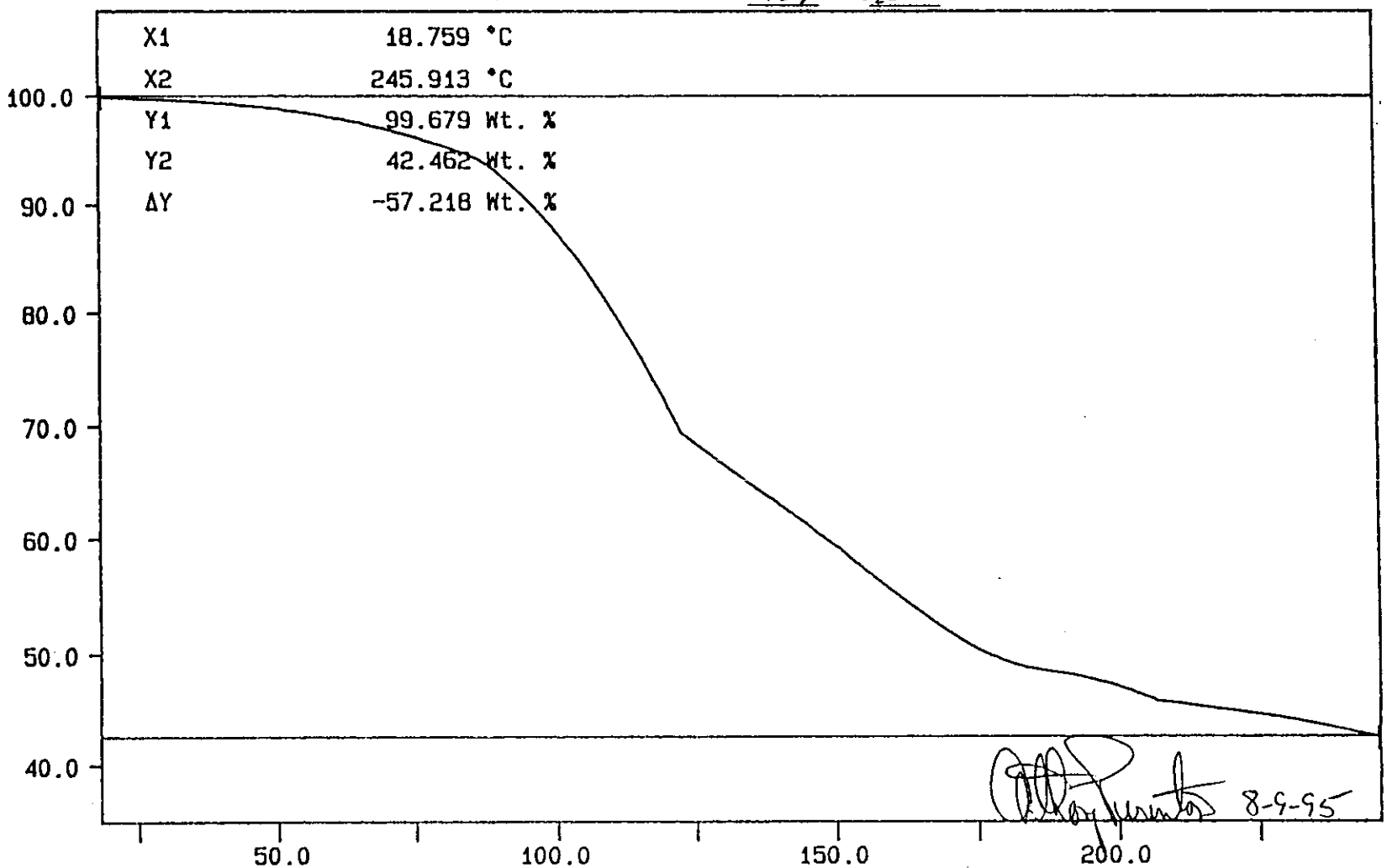
Data Entry Comments: The noise on the thermogram indicates we are getting close to the limits of the instrument.

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.

Curve 1: TGA
File info: ter080901 Wed Aug 9 11:06:50 1995
Sample Weight: 13.931 mg
65N8-A Terliq

BEST AVAILABLE COPY

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 231 TO 233.



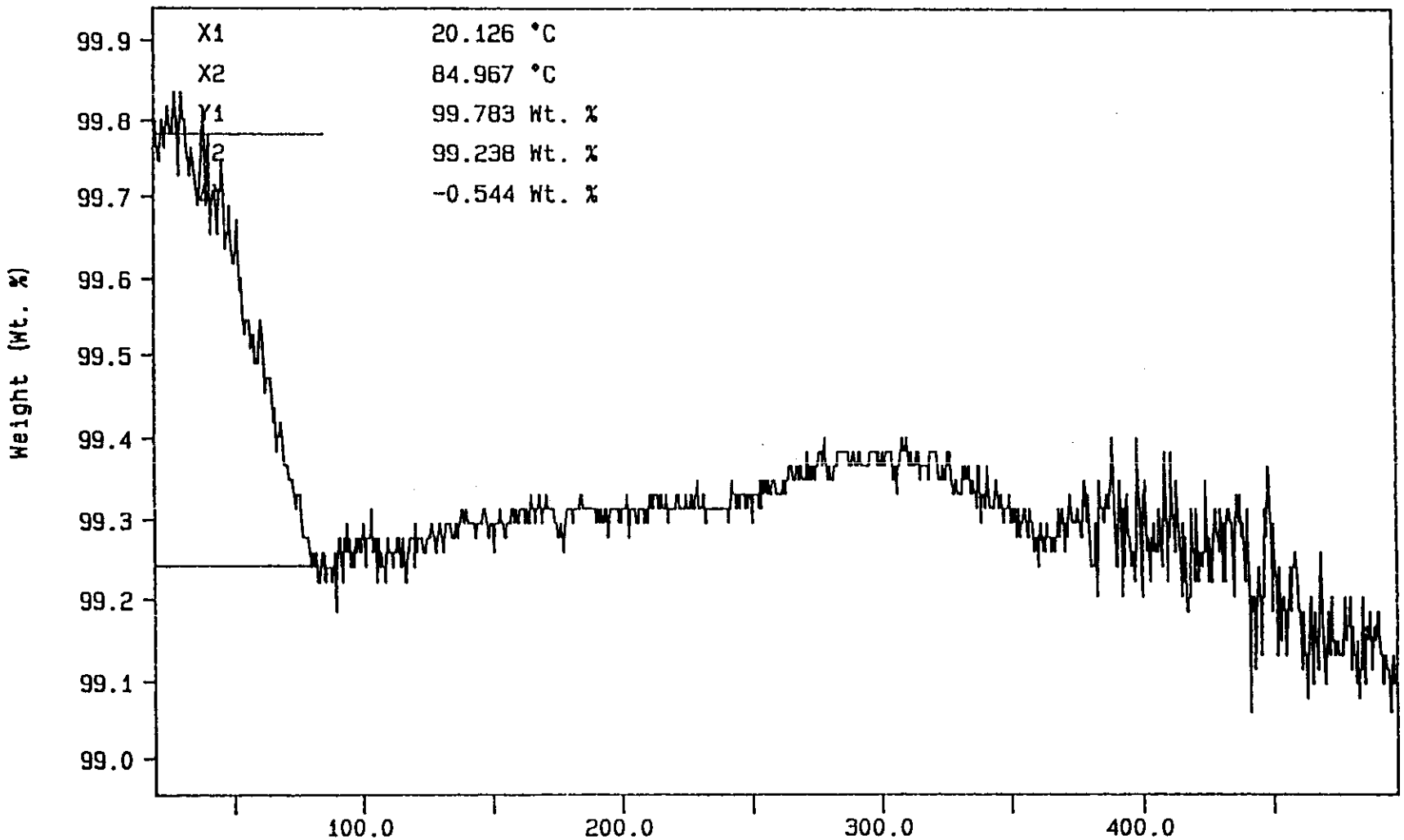
N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 200.0 C

ad purinton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 9 11:18:01 1995

WHC-SD-WM-DP-141, REV 1

Curve 1: TGA
File info: SAM080901 Wed Aug 9 12:23:32 1995
Sample Weight: 7.790 mg
S95T001320

BEST AVAILABLE COPY



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

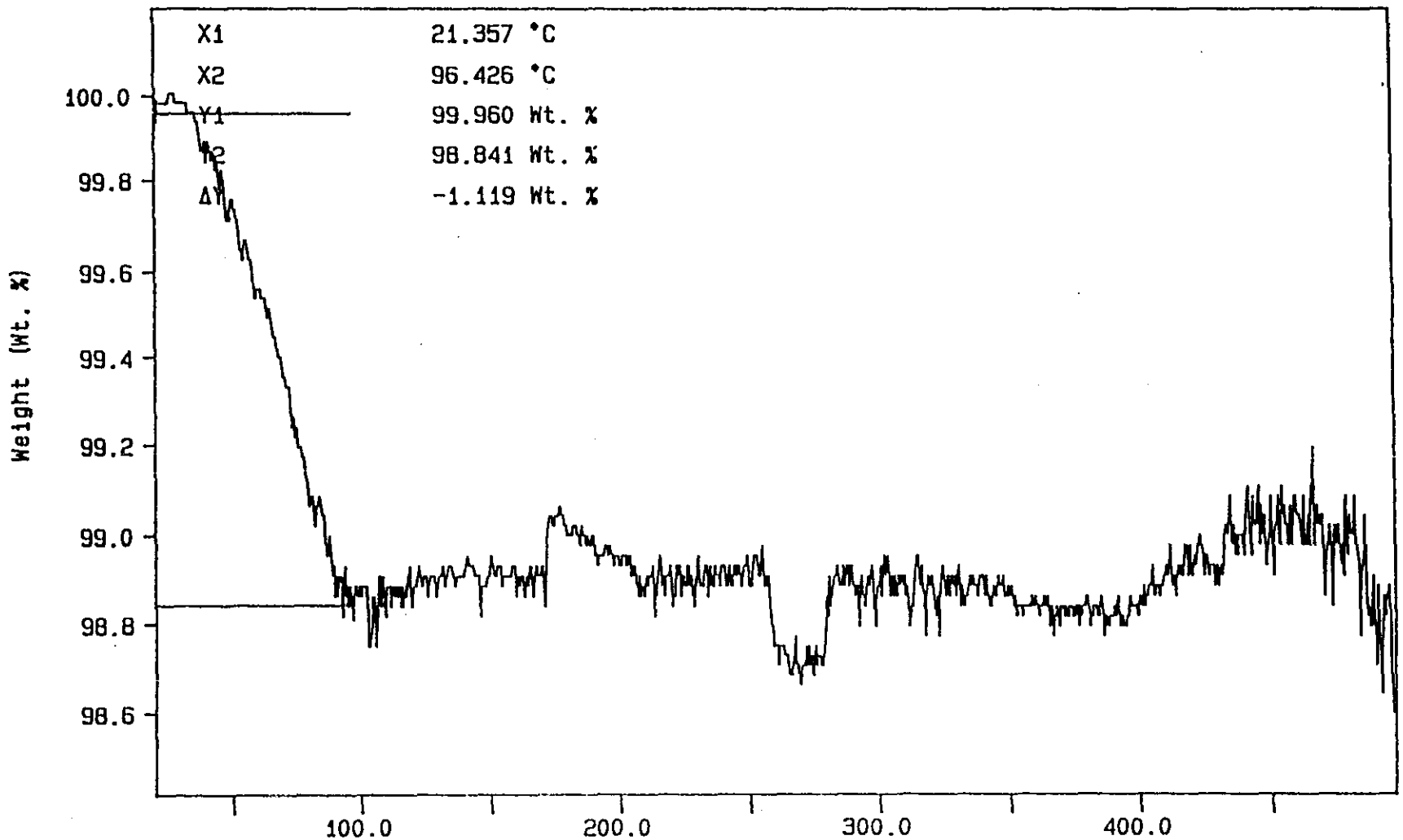
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 9 13:20:21 1995

WHC-SD-WM-DP-141, REV. 1

232

Curve 1: TGA
File info: SAM080902 Wed Aug 9 14:19:51 1995
Sample Weight: 6.318 mg
S95T001320 DUP

BEST AVAILABLE COPY



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 9 14:23:10 1995

233

WHC-SD-WM-DP-141, REV. 1

LABCORE Data Entry Template for Worklist# 1996

Analyst: [illegible] **Instrument:** TGA01 _____ **Book #** 65N8A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run T-108 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	59.74	60.58	N/A	%
95000097	T-108	2 SAMPLE	S95T001332	1		TGA-01	SOLID	N/A	.83		%
95000097	T-108	3 DUP	S95T001332	1		TGA-01	SOLID	.83	2.43	N/A	%
95000099	T-108	4 SAMPLE	S95T001333	1		TGA-01	SOLID	N/A	39.36		%
95000099	T-108	5 DUP	S95T001333	1		TGA-01	SOLID	39.36	24.44	N/A	%

Final page for worklist # 1996

[illegible] 8/15/95
Analyst Signature Date

[illegible] 8-15-95
Analyst Signature Date

Verified by Blandina Valenzuela 8-15-95

Data Entry Comments: The noise on the TGA thermogram indicates we are getting close to the limits of the ~~MAC~~ BDV 8-15-95 instrument.

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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 235 TO 239

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TGA STD 65N8A

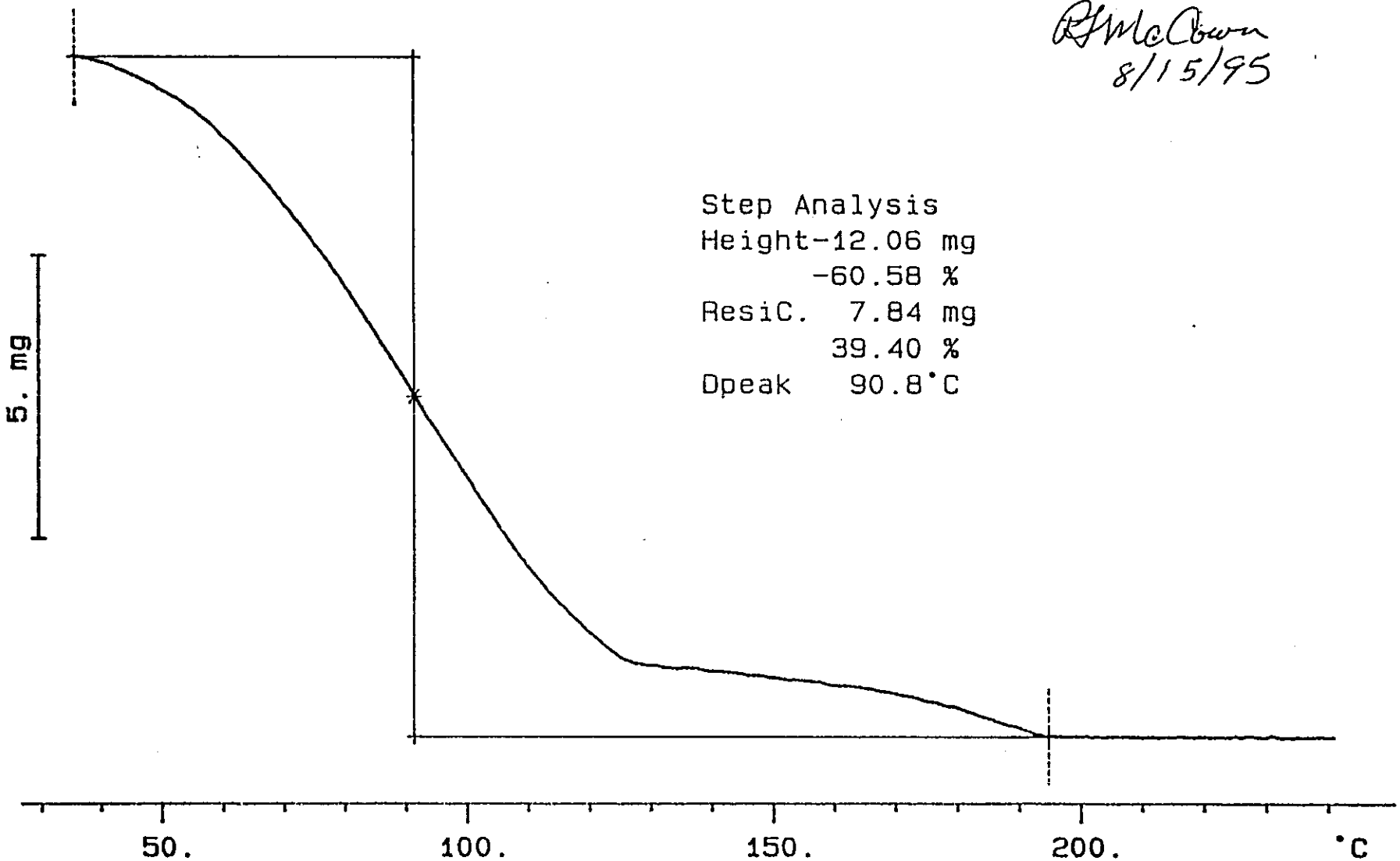
19.908 mg

Rate: 10.0 °C/min

File: 00009.001 TG METTLER 15-Aug-95

Ident: 0.0 222-S Laboratory

RJ McCown
8/15/95



235

WHC-SD-WM-SP-147, REV. 1

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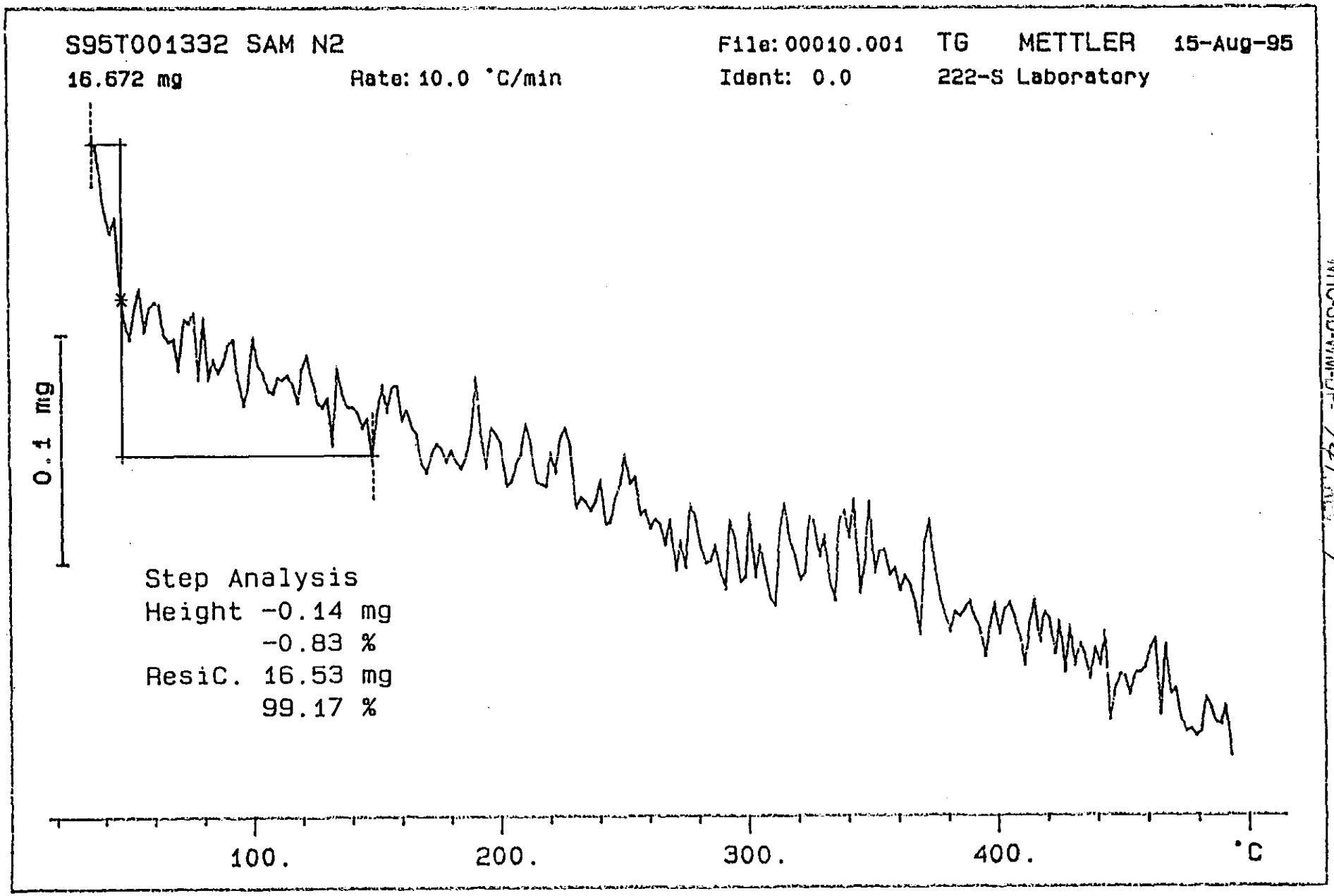

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S95T001332 DUP N2

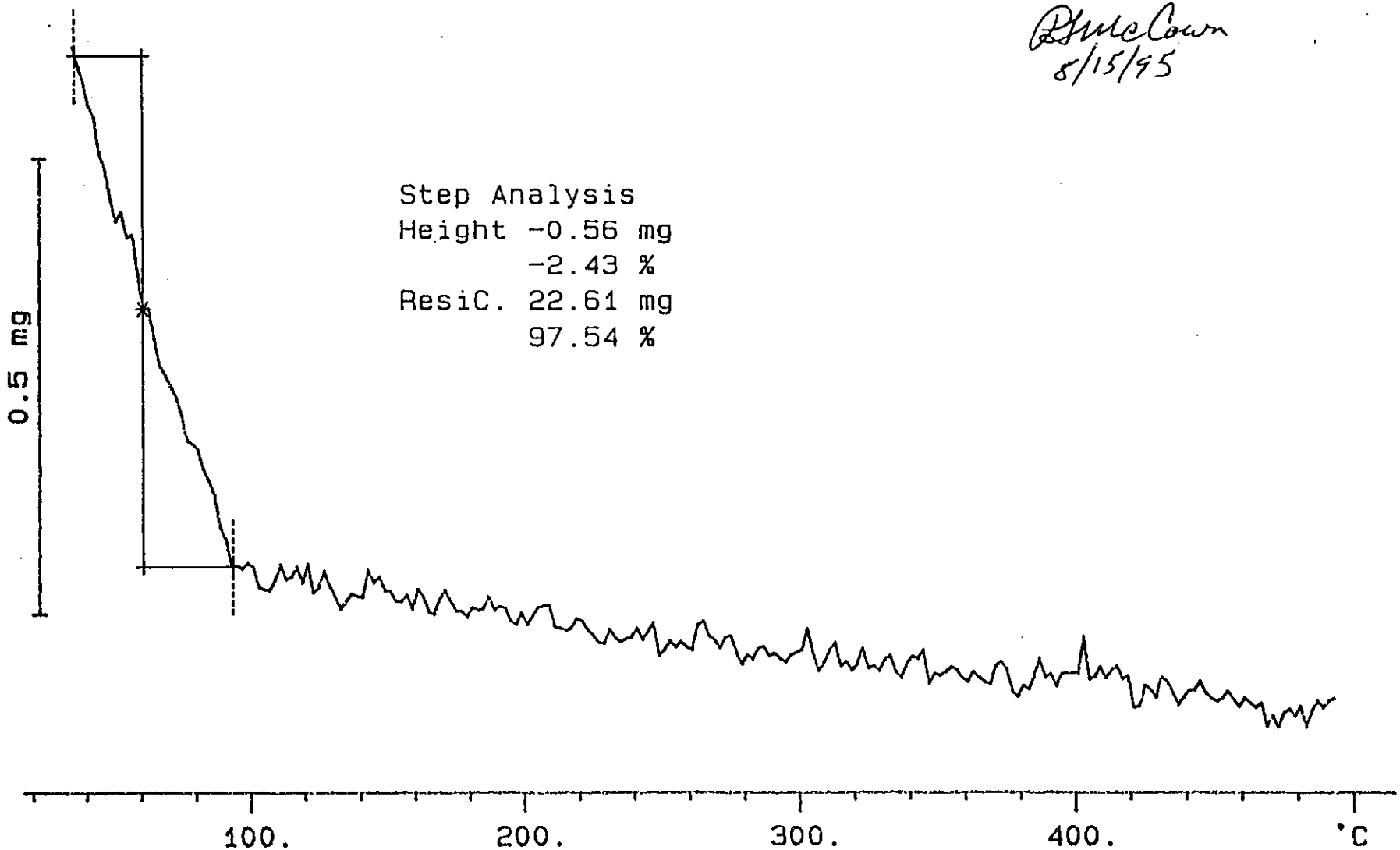
23.177 mg

Rate: 10.0 °C/min

File: 00011.001 TG METTLER 15-Aug-95

Ident: 0.0 222-S Laboratory

D.S. McCown
8/15/95



WHC-SD-WM-DP-141, REV. 1

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S95T001333 SAM N2

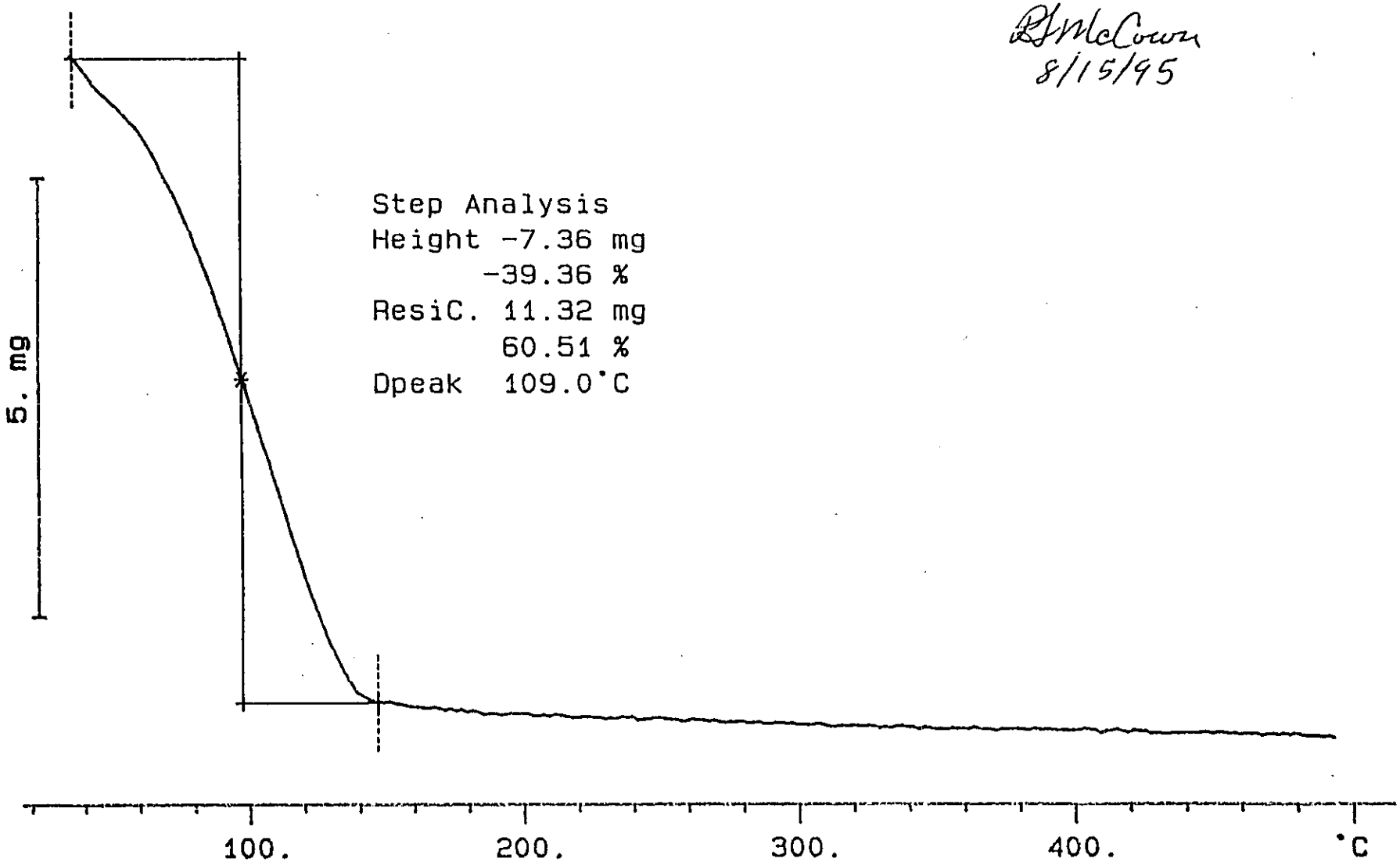
18.710 mg

Rate: 10.0 °C/min

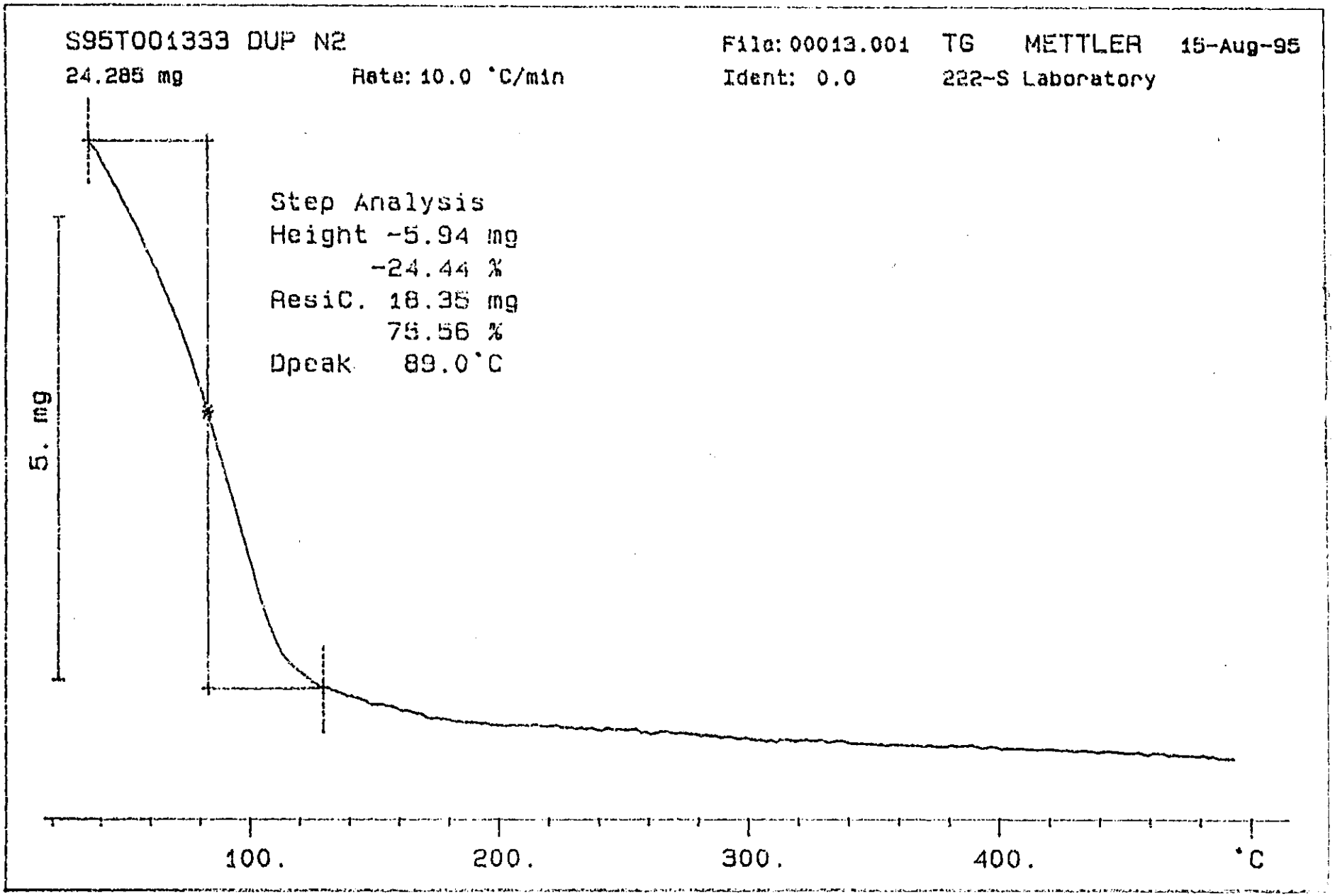
File: 00012.001 TG METTLER 15-Aug-95

Ident: 0.0 222-S Laboratory

RJ McCown
8/15/95



WHC-SD-WM-ER-444, REV. 1

238

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