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"45-DAY SAFETY SCREENING RESULTS FOR TANK 241-U-106, PUSH MODE CORES 147 AND 148."

Franciska H. Steen
Westinghouse Hanford Company, Richland, WA 99352
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ANALYTICAL SERVICES

222-S LABORATORY ANALYTICAL REPORT FOR TANK 241-U-106, PUSH MODE CORES 147 AND 148

Project Coordinator: FRANCISKA H. STEEN

Prepared for the U.S. Department of Energy
Office of Environmental Restoration
and Waste Management

by

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NARRATIVE

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222-S ANALYTICAL SERVICES

222-S LABORATORY ANALYTICAL REPORT FOR TANK 241-U-106 CORES 147 AND 148

This document is the 45-day report deliverable for tank 241-U-106 push mode core segments collected between May 8, 1996 and May 10, 1996 and received by the 222-S Laboratory between May 14, 1996 and May 16, 1996. The segments were subsampled and analyzed in accordance with the *Tank 241-U-106 Push Mode Core Sampling and Analysis Plan* (TSAP) (Brown, T.M., 1996) and the *Safety Screening Data Quality Objective* (DQO) (Dukelow, et al., 1995). The analytical results are included in Table 1.

Attachment 1 is a cross reference to relate the tank farm identification numbers to the 222-S Laboratory LabCore sample numbers. The subsamples generated in the laboratory for analysis are identified in these diagrams with their sources shown. Primary safety screening results and the raw data from Differential Scanning Calorimetry (DSC) and thermogravimetric analyses (TGA) are included in this report.

Eighteen of the nineteen samples submitted for DSC analysis exceeded the notification limit of 480 Joules/gram (dry weight basis) as stated in the Safety Screening DQO (Dukelow, et al., 1995). Appropriate notifications were made for each of these instances. The DSC results ranged from 480.2 Joules/gram to 1024.0 Joules/gram (dry weight basis) . Cyanide analysis was requested for these samples and the Reactive Screening System Tool (RSST) analysis was requested for the sample exhibiting the highest exotherm in accordance with the TSAP (Brown, 1996). The results for these analyses will be reported in a revision to this document.

Appearance and Sample Handling

Core 147

Five push mode core segments were removed from tank 241-U-106 riser 19 on May 8, 1996 and May 9, 1996. Segments were received by the 222-S Laboratory between May 14, 1996 and May 16, 1996. Table 2 summarizes the extrusion information.

Core 148

Five push mode core segments were removed from tank 241-U-106 riser 2 on May 10, 1996. The segments were received by the 222-S Laboratory on May 14, 1996. Table 3 summarizes the extrusion information.

Field Blank

No field blank from tank 241-U-106 was provided to the 222-S laboratory.

Table 2. Sample Receipt and Extrusion Information for 241-U-106, Core 147.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
96-215	1	5/08/96	5/16/96	5/21/96	0.0	314.5-Drainable	0.0	The liquid was amber in color and clear. There was no organic layer present. Collected approximately 230 mls of liquid.
96-216	2	5/09/96	5/16/96	5/21/96	8.0	132.0-Drainable	201.2-upper half	The solids were dark brown in color and resembled a sludge slurry. The liquid was dark brown in color and opaque. There was no organic layer present. Collected approximately 90 mls of liquid.
96-217	3	5/09/96	5/14/96	5/20/96	17.0	0.0	178.7-upper half 200.8-lower half	The solids were dark brown in color and resembled a sludge slurry.
96-218	4	5/09/96	5/14/96	5/21/96	19.0	0.0	211.3-upper half 213.8-lower half	The solids were dark brown in color and resembled a sludge slurry.
96-219	5	5/09/96	5/14/96	5/20/96	14.0	0.0	260.1-upper half 91.5-lower half	The lower four inches of solids were dark brown in color and resembled a wet salt. The upper ten inches of solids were dark brown in color and resembled a sludge slurry.

*Approximate Inches Extruded

Table 3. Sample Receipt and Extrusion Information for 241-U-106, Core 148.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
96-220	1	5/10/96	5/14/96	5/15/96	0.0	116.5-Drainable	0.0	The liquid was amber in color and opaque. There was no organic layer present. Collected approximately 80 mls of liquid.
96-221	2	5/10/96	5/14/96	5/20/96	9.0	124.1-Drainable	104.3-upper half 120.8-lower half	The solids were light gray to dark brown in color and resembled a sludge slurry. The liquid was gray-brown in color and opaque. There was no organic layer present. Collected approximately 80 mls of liquid.
96-222	3	5/10/96	5/14/96	5/20/96	18.0	0.0	202.8-upper half 197.4-lower half	The solids were dark brown in color and resembled a wet sludge.
96-223	4	5/10/96	5/14/96	5/20/96	19.0	0.0	227.1-upper half 194.3-lower half	The solids were dark brown in color and resembled a wet sludge.
96-224	5	5/10/96	5/14/96	5/21/96	11.0	0.0	188.0-upper half 134.3-lower half	The lower five inches of solids were dark brown and resembled a moist salt. The upper six inches of solids were dark brown in color and resembled a sludge slurry.

*Approximate Inches Extruded

Analytical Results Summary

The data summary table (Table 1) included in this report compiles the safety screening analytical results and applicable action limits associated with each subsample submitted.

Differential Scanning Calorimetry (DSC)

Eighteen of the samples submitted for DSC analysis exceeded the notification limit of 480 Joules/gram (dry weight basis) as stated in the Safety Screening DQO (Dukelow, et al., 1995). The DSC results ranged from 480.2 Joules/gram to 1024 Joules/gram. The RSST analysis was requested for the sample exhibiting the highest exotherm in accordance with the TSAP (Brown, 1996). The results for this analysis will be reported in a revision to this document.

The DSC analyses were performed in duplicate on direct subsamples. The exothermic energy based on dry weight of subsample was calculated for all subsamples. The average of the TGA results for each subsample was used in the dry weight correction for that subsample. Five of the nineteen subsamples were the sum of two or more exotherms. More information may be obtained by examining the raw data. The standard recovery for this analysis was within the required limits and the relative percent differences (RPDs) for all sample results were below 20 percent.

Thermogravimetric Analysis (TGA)

The TGA analyses were performed in duplicate on direct subsamples. Typically results were determined by summing the weight loss steps which occurred below 200°C; weight loss steps above this were not used to determine the result. Seven of the nineteen subsamples were the sum of two weight loss steps. More information may be obtained by examining the raw data. The standard recovery for this analysis was within the required limits and RPDs for all sample results were less than 13 percent.

Density

Bulk density was performed on the lower half portion of each segment as required by the TSAP (Brown, 1996). The results of the bulk density test ranged from 1.490 g/mL to 1.870 g/mL. The higher bulk density of 1.870 g/mL was used to calculate the solid total alpha activity action limit for the tank.

Total alpha results for liquids do not require correction for density. The specific gravity results for the liquid samples will be reported in a revision to this document.

Total Alpha (AT)

The total alpha (AT) analyses were performed in duplicate on direct subsamples for the liquids. Total alpha analyses were performed on the lower half portion of each segment as required by the TSAP (Brown, 1996). Solid subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion digest is indicated with an "F" in the aliquot class (A#) column in Table 1.

All liquid AT results were below the total alpha activity action limit of 61.5 μCi/mL. All solid AT results were below the total alpha activity limit of 32.9 μCi/g (based on a bulk density of 1.870 g/mL). High RPDs were reported for samples S96T003031 and S96T003064. Replicate data for sample S96T003031 indicated the high RPD was due to sample heterogeneity. The high RPD for sample S96T003064 was due to the low level of alpha activity and no rerun was requested. The standard recovery for this analysis was within the required limits.

Procedures

Table 4 lists the analytical procedures used for performing the sample analyses. Abbreviations for analyses are defined in the table notes.

Table 4. Analytical Procedures

Analysis	Sample Portion	Preparation Procedure	Analysis Procedure
DSC	Solid/Liquid	N/A	LA-514-113, Rev. C-1 LA-514-114, Rev. C-1
TGA	Solid/Liquid	N/A	LA-514-114, Rev. C-1 LA-560-112, Rev. B-1
AT	Solid Liquid	LA-549-141, Rev. F-0 N/A	LA-508-101, Rev. D-2
Bulk Density	Solid	N/A	LO-160-103, Rev. B-0

Notes:
+ = preparation procedure is for fusion digest on solid
Abbreviations:
N/A = not applicable (these are direct samples)
DSC = differential scanning calorimetry
TGA = thermogravimetric analysis
AT = total alpha activity

References

Brown, T. M., 1996, *Tank 241-U-106 Push Mode Core Sampling and Analysis Plan*, WHC-SD-WM-TSAP-093, Rev. 0, Westinghouse Hanford Company, Richland, WA 99352.

Dukelow, G. T., J. W. Hunt, H. Babad, and J. E. Meacham, 1995, *Tank Safety ScreeningData Quality Objective*, WHC-SD-WM-SP-004, Rev. 2, Westinghouse Hanford Company, Richland, WA 99352.

ATTACHMENT 1

U-106 SAMPLE BREAKDOWN

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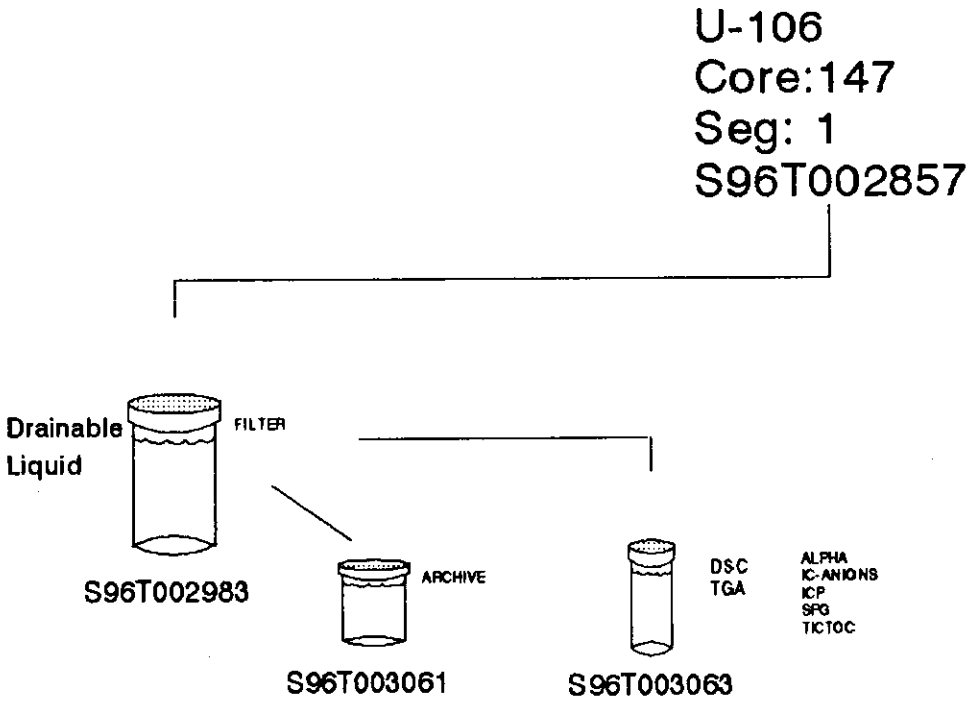
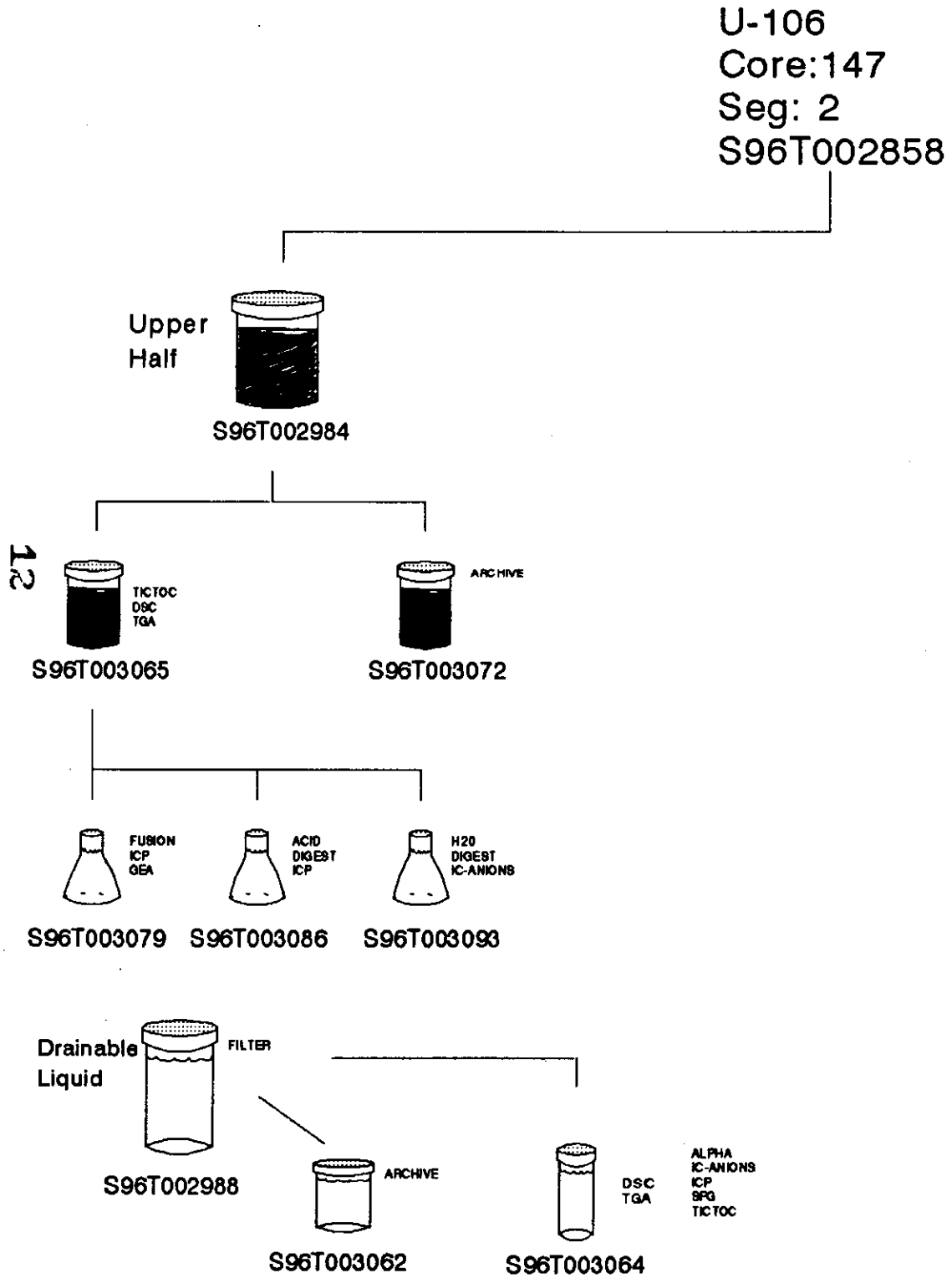
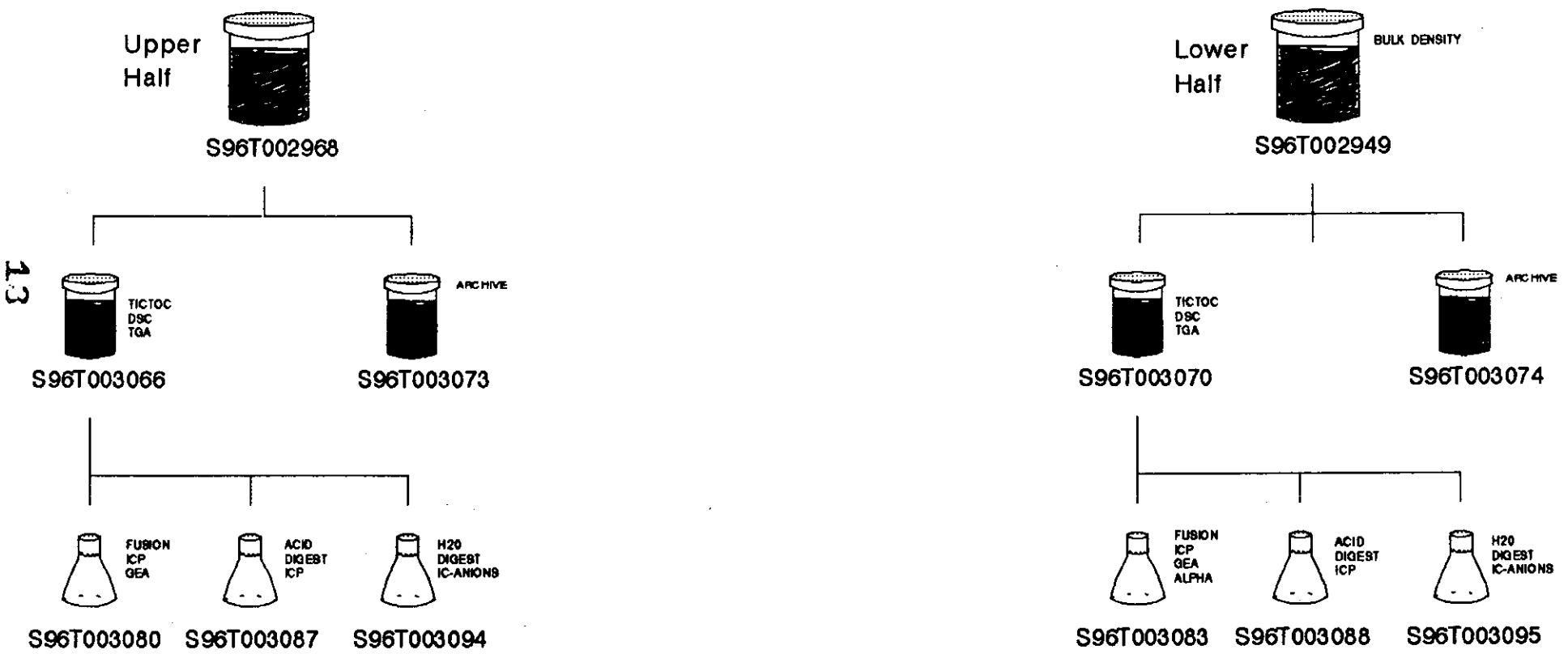
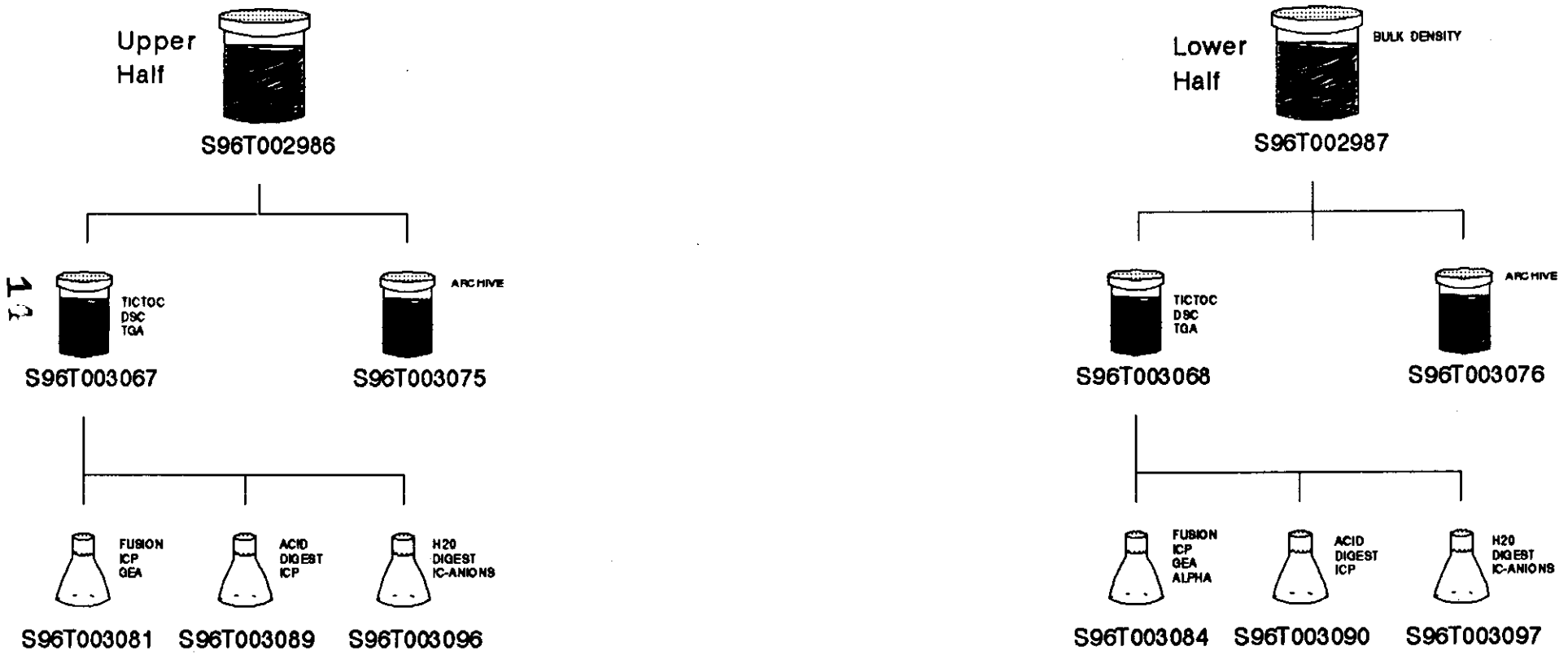

U-106
Core:147
Seg: 1
S96T002857
Drainable
Liquid
FILTER
S96T002983
ARCHIVE
S96T003061
DSC
TGA
ALPHA
IC-ANIONS
ICP
SPG
TICTOC
S96T003063

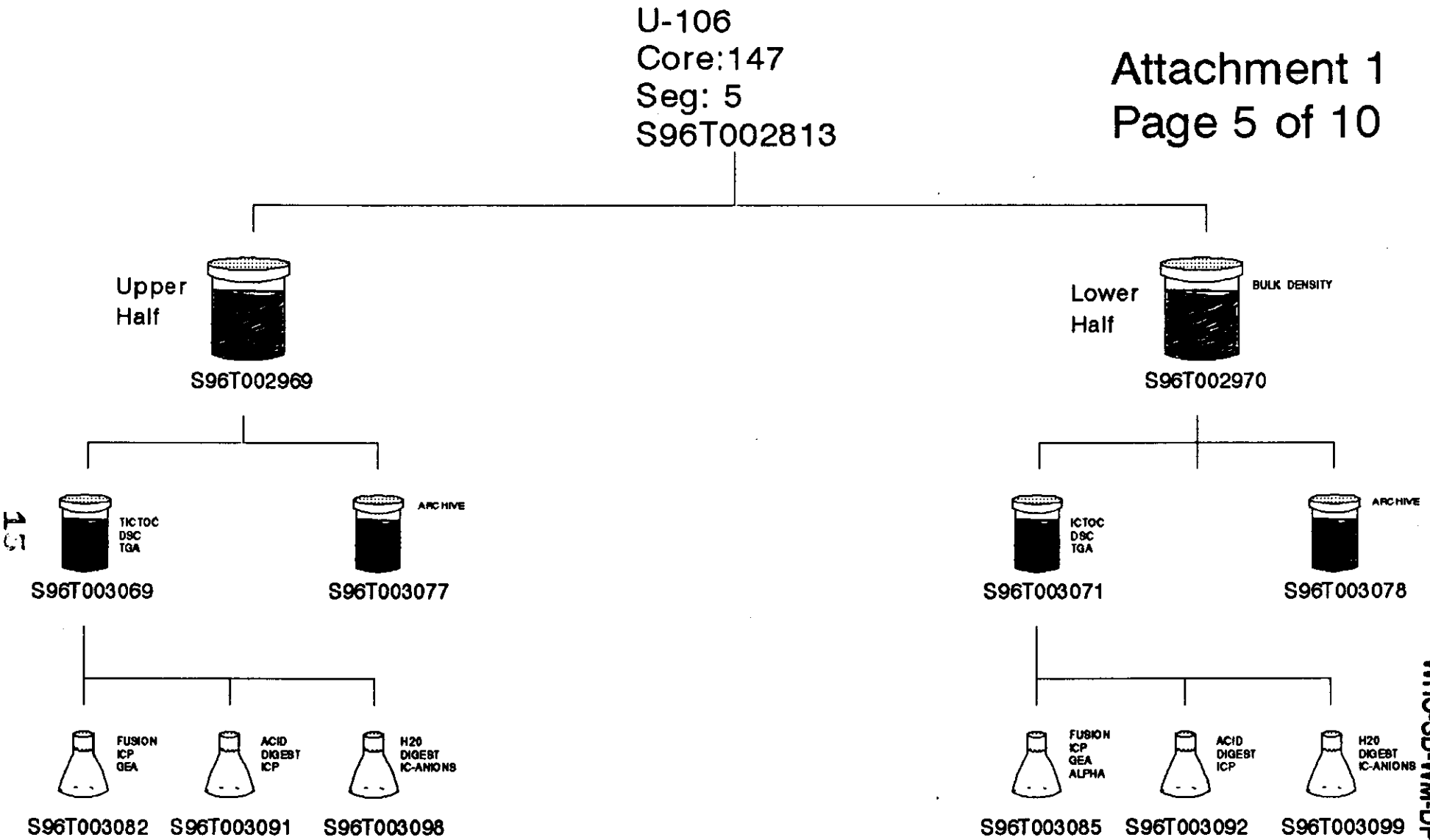

U-106
Core:147
Seg: 2
S96T002858
Upper Half
S96T002984
TICTOC
DSC
TGA
S96T003065
ARCHIVE
S96T003072
FUSION
ICP
GEA
S96T003079
ACID
DIGEST
ICP
S96T003086
H20
DIGEST
IC-ANIONS
S96T003093
Drainable Liquid
FILTER
S96T002988
ARCHIVE
S96T003062
DSC
TGA
ALPHA
IC-ANIONS
ICP
SPG
TICTOC
S96T003064

U-106
Core:147
Seg: 3
S96T002811



U-106
Core:147
Seg: 4
S96T002812




U-106
Core:147
Seg: 5
S96T002813
Upper Half
S96T002969
Lower Half
BULK DENSITY
S96T002970
TICTOC
DSC
TGA
S96T003069
ARCHIVE
S96T003077
ICTOC
DSC
TGA
S96T003071
ARCHIVE
S96T003078
FUSION
ICP
GEA
S96T003082
ACID
DIGEST
ICP
S96T003091
H20
DIGEST
IC-ANIONS
S96T003098
FUSION
ICP
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ALPHA
S96T003085
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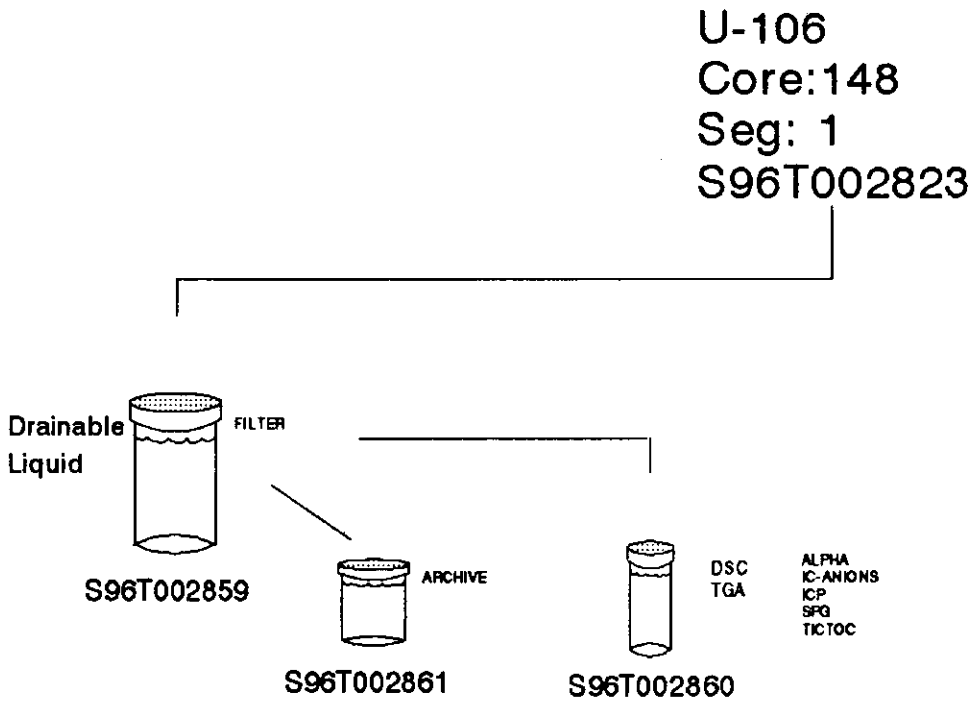
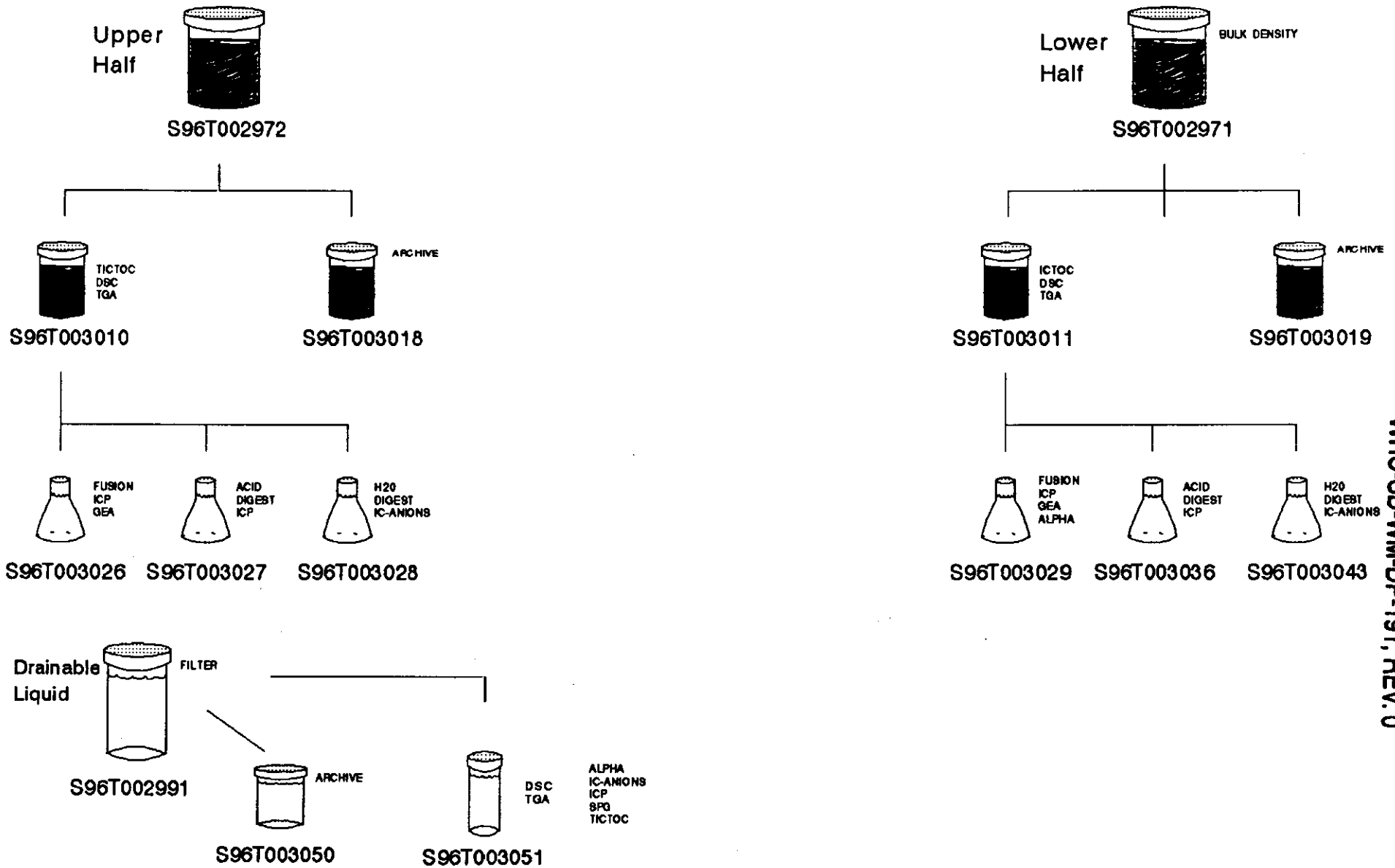
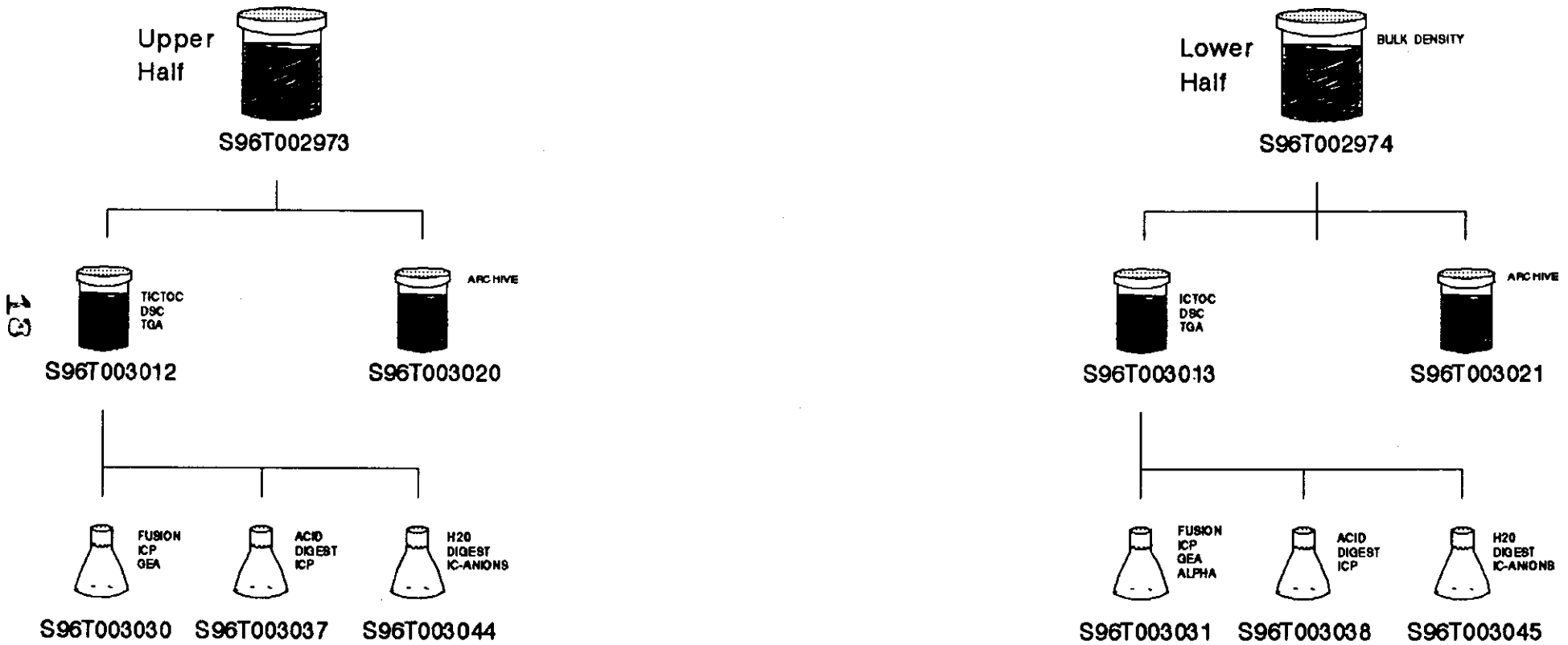
DIGEST
ICP
S96T003092
H20
DIGEST
IC-ANIONS
S96T003099


U-106
Core:148
Seg: 1
S96T002823
Drainable
Liquid
FILTER
S96T002859
ARCHIVE
S96T002861
DSC
TGA
ALPHA
IC-ANIONS
ICP
SPG
TICTOC
S96T002860

U-106
Core:148
Seg: 2
S96T002824



U-106
Core:148
Seg: 3
S96T002818



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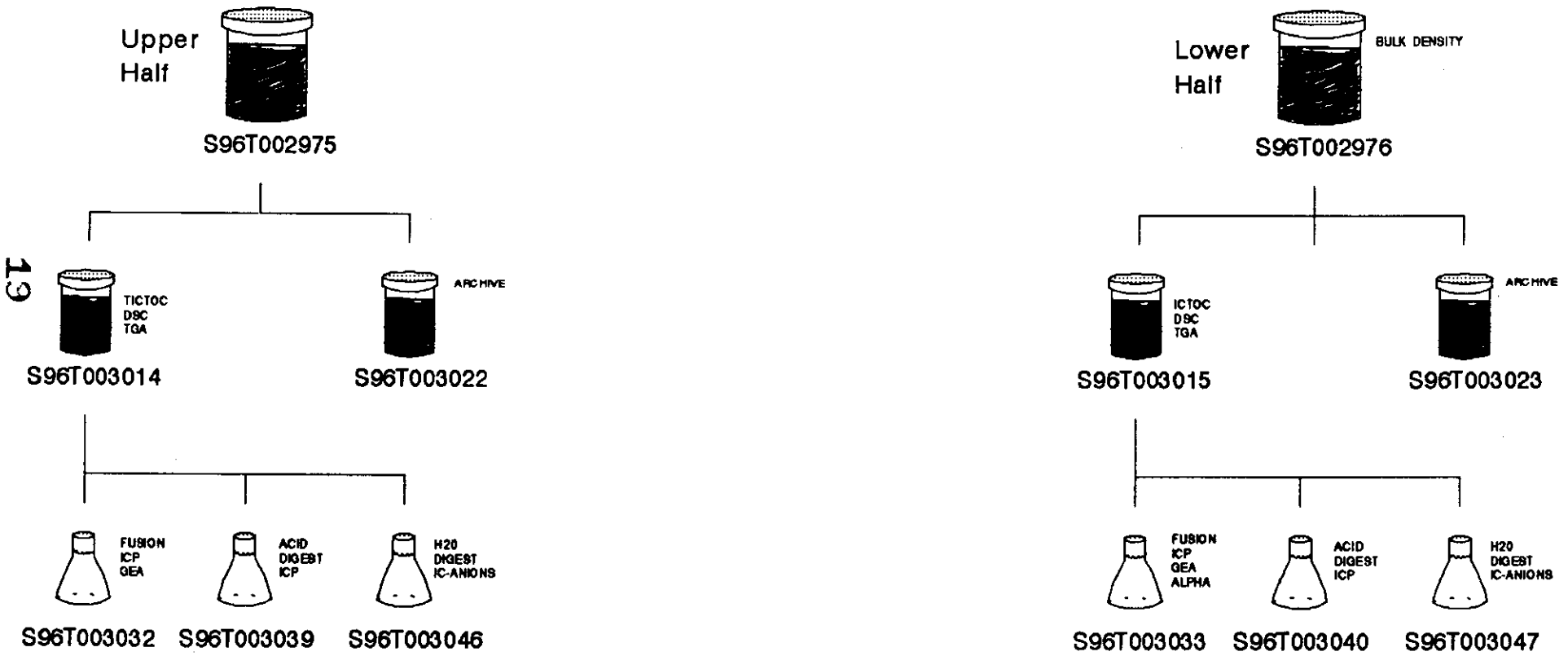

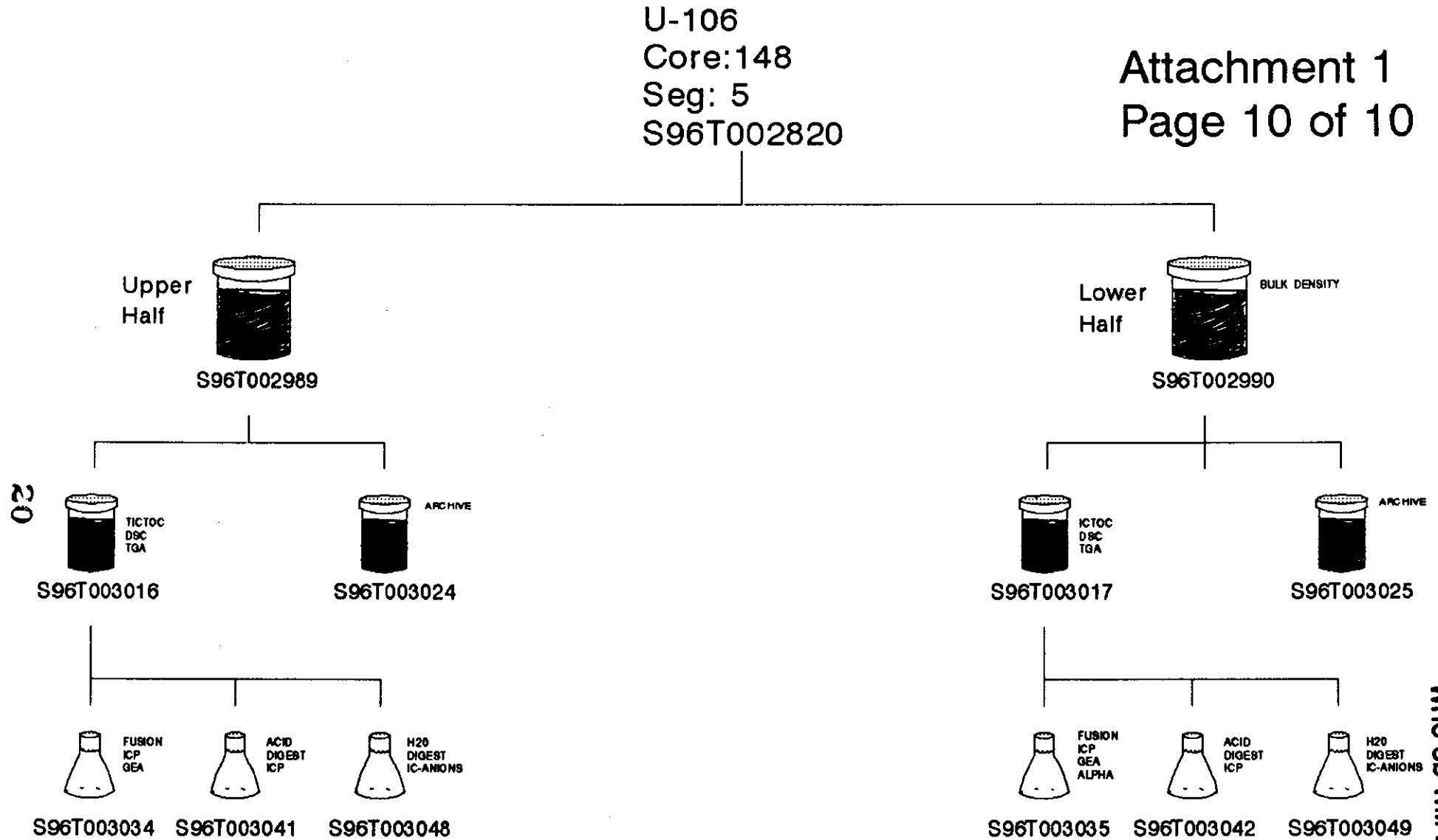
U-106
Core:148
Seg: 5
S96T002820
Upper Half
S96T002989
Lower Half
BULK DENSITY
S96T002990
TICTOC
DSC
TGA
S96T003016
ARCHIVE
S96T003024
ICTOC
DSC
TGA
S96T003017
ARCHIVE
S96T003025
FUSION
ICP
GEA
S96T003034
ACID
DIGEST
ICP
S96T003041
H20
DIGEST
IC-ANIONS
S96T003048
FUSION
ICP
GEA
ALPHA
S96T003035
ACID
DIGEST
ICP
S96T003042
H20
DIGEST
IC-ANIONS
S96T003049

SAMPLE DATA SUMMARY

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INTERIM

Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 147
SEGMENT #: 1

SEGMENT PORTION: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003063			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	107.9	n/a	4.85e+02	485.8	485.2	0.23	n/a	n/a	n/a
S96T003063			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	9.65e+02	967.3	966.2	0.22	n/a	n/a	n/a
S96T003063			% Water by TGA using Mettler	%	None	None	99.85	n/a	49.88	49.68	49.78	0.40	n/a	n/a	n/a
S96T003063			Alpha in Liquid Samples	uCi/mL	-1.0e+03	41.50	96.09	<4.16e-02	3.46e-01	3.71e-01	3.58e-01	6.97	87.47	1.03e-01	3.24E+01

=> Limit violated
=> Selected Limit

INTERIM

23

INTERIM

Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 147
SEGMENT #: 2

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003065			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	104.0	n/a	4.01e+02	383.5	392.4	4.51	n/a	n/a	n/a
S96T003065			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	6.89e+02	658.3	673.5	4.50	n/a	n/a	n/a
S96T003065			% Water by TGA using Mettler	%	None	None	99.86	n/a	40.85	42.63	41.74	4.26	n/a	n/a	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003064			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	107.9	n/a	4.27e+02	413.0	420.1	3.40	n/a	n/a	n/a
S96T003064			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	8.20e+02	792.7	806.5	3.41	n/a	n/a	n/a
S96T003064			% Water by TGA using Mettler	%	None	None	99.85	n/a	47.59	48.20	47.90	1.27	n/a	n/a	n/a
S96T003064			Alpha in Liquid Samples	uCi/mL	-1.0e+03	61.50	96.09	<4.16e-02	3.13e-01	2.26e-01	2.70e-01	32.3	89.69	1.03e-01	3.53E+01

=> Limit violated
=> Selected Limit

INTERIM

INTERIM

Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 147
SEGMENT #: 3

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003066			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	104.0	n/a	3.46e+02	343.0	344.6	0.93	n/a	n/a	n/a
S96T003066			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	5.84e+02	578.9	581.6	0.93	n/a	n/a	n/a
S96T003066			% Water by TGA using Mettler	%	None	None	99.86	n/a	42.12	39.37	40.74	6.75	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T002949			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.490	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T003070			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	109.7	n/a	3.14e+02	355.5	334.5	12.6	n/a	n/a	n/a
S96T003070			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	5.25e+02	595.3	560.1	12.6	n/a	n/a	n/a
S96T003070			% Water by TGA using Mettler	%	None	None	98.99	n/a	40.43	40.13	40.28	0.74	n/a	n/a	n/a
S96T003083	F		Alpha of Digested Solid	uCi/g	-1.0e+03	32.90	100.0	1.10e-02	1.070	1.140	1.105	6.33	81.62	7.00e-03	5.19E+00

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Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 147
SEGMENT #: 4

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003067			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	110.4	n/a	3.84e+02	380.7	382.6	0.99	n/a	n/a	n/a
S96T003067			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	7.03e+02	696.0	699.5	0.99	n/a	n/a	n/a
S96T003067			% Water by TGA using Mettler	%	None	None	98.99	n/a	46.39	44.21	45.30	4.81	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T002987			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.510	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T003068			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	109.7	n/a	3.60e+02	322.3	341.2	11.1	n/a	n/a	n/a
S96T003068			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	6.19e+02	554.4	586.7	11.0	n/a	n/a	n/a
S96T003068			% Water by TGA using Mettler	%	None	None	98.97	n/a	41.77	41.96	41.87	0.45	n/a	n/a	n/a
S96T003084		F	Alpha of Digested Solid	uCi/g	-1.0e+03	32.90	107.8	<4.52e-03	1.260	1.330	1.295	5.41	n/a	7.00e-03	4.66E+00

=> Limit violated
=> Selected Limit

INTERIM

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Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 147
SEGMENT #: 5

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003069			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	109.7	n/a	4.05e+02	378.9	392.0	6.71	n/a	n/a	n/a
S96T003069			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	6.12e+02	572.3	592.1	6.70	n/a	n/a	n/a
S96T003069			% Water by TGA using Mettler	%	None	None	99.32	n/a	33.78	33.80	33.79	0.06	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T002970			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.870	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T003071			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	108.3	n/a	5.67e+02	470.1	518.8	18.8	n/a	n/a	n/a
S96T003071			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	1.02e+03	848.1	936.0	18.8	n/a	n/a	n/a
S96T003071			% Water by TGA using Mettler	%	None	None	98.92	n/a	46.27	42.87	44.57	7.63	n/a	n/a	n/a
S96T003085	F		Alpha of Digested Solid	uCi/g	-1.0e+03	32.00	107.8	<4.52e-03	6.61e-01	5.29e-01	5.95e-01	22.2	88.58	7.00e-03	6.33E+00

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Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 148
SEGMENT #: 1

SEGMENT PORTION: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T002860			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	8.15e+02	875.8	845.2	7.24	n/a	n/a	n/a
S96T002860			DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+03	480.0	100.4	n/a	4.17e+02	448.3	432.6	7.23	n/a	n/a	n/a
S96T002860			% Water by TGA on Perkin Elmer	%	None	None	99.95	n/a	49.10	48.52	48.81	1.19	n/a	n/a	n/a
S96T002860			Alpha in Liquid Samples	uCi/mL	-1.0e+03	61.50	102.3	<6.23e-03	2.87e-01	2.73e-01	2.80e-01	5.00	96.10	1.30e-02	1.39E+01

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Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 148
SEGMENT #: 2

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003010			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	106.9	n/a	4.55e+02	464.0	459.4	2.00	n/a	n/a	n/a
S96T003010			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	7.85e+02	801.0	793.0	2.00	n/a	n/a	n/a
S96T003010			% Water by TGA using Mettler	%	None	None	98.61	n/a	43.80	40.33	42.06	8.25	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T002971			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.580	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T003011			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	98.42	n/a	4.46e+02	469.3	457.6	5.11	n/a	n/a	n/a
S96T003011			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	7.72e+02	811.9	791.7	5.10	n/a	n/a	n/a
S96T003011			% Water by TGA using Mettler	%	None	None	98.61	n/a	42.20	42.19	42.20	0.02	n/a	n/a	n/a
S96T003029		F	Alpha of Digested Solid	uCi/g	-1.0e+03	32.90	122.7	<5.19e-03	1.190	1.170	1.180	1.69	87.47	7.00e-03	4.92E+00

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003051			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	8.51e+02	850.3	850.8	0.11	n/a	n/a	n/a
S96T003051			DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+03	480.0	101.9	n/a	4.44e+02	443.0	443.2	0.11	n/a	n/a	n/a
S96T003051			% Water by TGA on Perkin Elmer	%	None	None	99.95	n/a	48.11	47.68	47.89	0.90	n/a	n/a	n/a
S96T003051			Alpha in Liquid Samples	uCi/mL	-1.0e+03	61.50	102.3	<6.23e-03	3.07e-01	2.65e-01	2.86e-01	14.7	77.72	1.30e-02	1.36E+01

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Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 148
SEGMENT #: 3

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003012			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	98.42	n/a	4.19e+02	438.4	428.6	4.55	n/a	n/a	n/a
S96T003012			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	7.52e+02	786.8	769.3	4.55	n/a	n/a	n/a
S96T003012			% Water by TGA using Mettler	%	None	None	99.97	n/a	44.78	43.77	44.28	2.28	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T002974			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.680	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T003013			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	98.42	n/a	4.42e+02	483.0	462.6	8.84	n/a	n/a	n/a
S96T003013			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	8.39e+02	916.2	877.4	8.84	n/a	n/a	n/a
S96T003013			% Water by TGA using Mettler	%	None	None	99.97	n/a	46.92	47.63	47.28	1.50	n/a	n/a	n/a
S96T003031		F	Alpha of Digested Solid	uCi/g	-1.0e+03	32.00	119.5	<3.55e-02	2.240	1.400	1.820	46.2	n/a	4.70e-02	8.21E+00

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Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 148
SEGMENT #: 4

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003014			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	5.45e+02	449.0	497.0	19.3	n/a	n/a	n/a
S96T003014			DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+03	480.0	102.4	n/a	2.99e+02	246.4	272.7	19.3	n/a	n/a	n/a
S96T003014			% Water by TGA on Perkin Elmer	%	None	None	99.78	n/a	46.51	43.77	45.14	6.07	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T002976			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.640	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T003015			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	8.72e+02	848.5	860.2	2.72	n/a	n/a	n/a
S96T003015			DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+03	480.0	102.4	n/a	4.84e+02	471.1	477.6	2.72	n/a	n/a	n/a
S96T003015			% Water by TGA on Perkin Elmer	%	None	None	99.78	n/a	45.08	43.88	44.48	2.70	n/a	n/a	n/a
S96T003033		F	Alpha of Digested Solid	uCi/g	-1.0e+03	32.90	119.5	<3.55e-02	1.670	1.720	1.695	2.95	99.44	4.80e-02	9.23E+00

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Table 1. 45-Day Data Summary Table
U-106 (P)

CORE NUMBER: 148
SEGMENT #: 5

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003016			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	105.8	n/a	3.51e+02	324.4	337.9	7.96	n/a	n/a	n/a
S96T003016			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	4.80e+02	443.5	461.9	7.95	n/a	n/a	n/a
S96T003016			% Water by TGA using Mettler	%	None	None	99.92	n/a	25.20	28.49	26.84	12.3	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T002990			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.570	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T003017			DSC Exotherm using Mettler	Joules/g	-1.0e+03	480.0	105.8	n/a	46.60	49.20	47.90	5.43	n/a	n/a	n/a
S96T003017			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+03	480.0	n/a	n/a	55.88	58.99	57.44	5.41	n/a	n/a	n/a
S96T003017			% Water by TGA using Mettler	%	None	None	99.92	n/a	16.83	16.36	16.59	2.83	n/a	n/a	n/a
S96T003035		F	Alpha of Digested Solid	uCi/g	-1.0e+03	32.90	106.2	<2.26e-03	2.22e-01	2.44e-01	2.33e-01	9.44	76.60	4.00e-03	7.16E+00

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CHAIN OF CUSTODY FORMS

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CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number: 200W-08-TP
(2) Sample Number: 96-215
(3) Supervisor: Hartley
(4) Tank: 4-106
(5) Riser: 19
(6) Segment: 1
(7) Core: 147
(8) Cask Serial Number: C2001

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	1 mR/hr	1 mR/hr
Side Dose Rate	25 mR/hr	25 mR/hr
Bottom Dose Rate	10 mR/hr	10 mR/hr
Smearable Contamination	<20 dpm/100cm² (Alpha)	<20 dpm (Alpha)
	<1000 dpm/100cm² (Beta-Gamma)	<1000 dpm (Beta-Gamma)
RCT* (HPT)	(Signature)	RCT* (HPT) (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-001040
B. Cask Seal Number	11477
C. Sampler Serial Number	95-0095
D. Date and Time Sampler Unseated	5-8-96, 2141
E. Expected Liquid Content	90%
F. Expected Solid Content	10%
G. Dose Rate Through Drill String	1.4 R/HR
H. Expected Sample Length	6" Stroke

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments: 6" Stroke, Water on Bottom of Sampler

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
4-106	2225	For Hartley James Sickels	1305 5-16-96	
(19) Relinquished By (Sign and PRINT): James Sickels		(20) Received By (Sign and PRINT): Burmeens	(21) Date/Time: 5-16-96 2140	(22) Receiver Comments
(23) Relinquished By (Sign and PRINT): Burmeens		(24) Received By (Sign and PRINT): E.E. Dubrow	(25) Date/Time: 5-16-96 1700	(26) Receiver Comments
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?		
☒ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No	Cask Seal No. ☑ Yes ☐ No	Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43

BC-6000-309 (02/94)

002 509 373 1432 05/16/96 14:47

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number: 200W-08-TP (2) Sample Number: 96-216 (3) Supervisor: Darren Pierce

(4) Tank: T49 U-104 (5) Riser: 19 (6) Segment: 2 (7) Core: 147 (8) Cask Serial Number: ~~T545~~ 70 5-9-96

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	.5 mR/hr	<1 mR/hr
Side Dose Rate	15 mR/hr	22 mR/hr
Bottom Dose Rate	5 mR/hr	5 mR/hr
Smearable Contamination	<20 dpm/100cm² (Alpha)	<20 dpm (Alpha)
	<1K dpm/100cm² (Beta-Gamma)	<100 dpm (Beta-Gamma)
RCT* (HPT)	R Klein (Signature)	RCT* (HPT) Filipicen (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-00104-0
B. Cask Seal Number	~~70~~ 1545 5-9-96
C. Sampler Serial Number	94-3185
D. Date and Time Sampler Unseated	5-9-96 0121
E. Expected Liquid Content	10%
F. Expected Solid Content	90%
G. Dose Rate Through Drill String	1-4 R/hr
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments: X-Ray showed a Full sampler

(34) Laboratory Comments:

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
4706	2225	James Sickels For Lagiewski James Sickels	1330 5-16-96	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels		B Watkins	5-16-96 9:10	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
B Watkins		E E Dubes	5-16-96 1430	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?
☒ Yes ☐ No	☒ Yes ☐ No	Shipment No.: ☒ Yes ☐ No; Cask Seal No.: ☒ Yes ☐ No; Sample No.: ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 56-85 Goldenrod - Tank Farm Operations, 54-43 BC-6000-309 (02/94)

003 509 373 1432 14:47 05/16/96

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 96-217 (3) Supervisor Daniel DeLaare

(4) Tank U-106 (5) Riser 19 (6) Segment 3 (7) Core 147 (8) Cask Serial Number 1547 73 5-9-96

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	.5 mrem/hr	.5
Side Dose Rate	56 mrem/hr	56 mrem
Bottom Dose Rate	12 mrem/hr	12 mrem
Smearable Contamination	<20 (Alpha)	<20 (Alpha)
	<1,000 (Beta-Gamma)	<1K (Beta-Gamma)
RCT* (HPT)	D J Dodson (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-00104-0
B. Cask Seal Number	73 1547 5-9-96
C. Sampler Serial Number	95-112s
D. Date and Time Sampler Unseated	5-9-96 0233
E. Expected Liquid Content	10%
F. Expected Solid Content	90%
G. Dose Rate Through Drill String	1-5R/hr
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

COPY

(12) Field Comments
small amount of waste on Bottom of sampler
X-Ray showed Approximatley 85% Recovery

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
U-106	222-S	FOR D. LAPIERRE James Sickels JAMES SICKELS	1123 5-14-96	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels JAMES SICKELS		[illegible]	1123 5-14-96	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
[illegible]		[illegible] N LAPIERS	1200 5-14-96	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?
☑ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No; Cask Seal No. ☑ Yes ☐ No; Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

WHC-SD-WM-DP-191, REV. 0

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

) Shipment Number 200 W.08-TF (2) Sample Number 96-218 (3) Supervisor Damon DePiano

) Tank U-106 (5) Riser 19 (6) Segment 4 (7) Core 147 (8) Cask Serial Number C 1021

sdiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	< .5 mrem/hr	< .5
Side Dose Rate	50 mrem/hr	50 mrem
Bottom Dose Rate	16 mrem/hr	16 mrem
Smearable Contamination	< 20 (Alpha)	< 20 (Alpha)
	< 1,000 (Beta-Gamma)	< 1K (Beta-Gamma)
RCT* (HPT)	DJ Dodson (Signature)	RCT* (HPT) [illegible] (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-00104-0
B. Cask Seal Number	1549
C. Sampler Serial Number	95-3135
D. Date and Time Sampler Unseated	5-9-96 0517
E. Expected Liquid Content	10%
F. Expected Solid Content	90%
G. Dose Rate Through Drill String	1.4 R/hr
H. Expected Sample Length	19"

1) INFORMATION (Include statement of laboratory tests to be performed.)

COPY

2) Field Comments
Small amount of waste on bottom of sampler.
-Ray showed sampler was full of waste.

(34) Laboratory Comments

3) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
U-106	2225	For D. LaPicard James Sickels	1105 5-14-96	
9) Relinquished By (Sign and PRINT)		**(20) Received By (Sign and PRINT)**	**(21) Date/Time**	**(22) Receiver Comments**
James Sickels JAMES SICKELS		[illegible] C.A. Byrd	1115 5-14-96	
3) Relinquished By (Sign and PRINT)		**(24) Received By (Sign and PRINT)**	**(25) Date/Time**	**(26) Receiver Comments**
[illegible] C.A. Byrd		[illegible] N LAPIERS	1200 5-14-96	
7) Relinquished By (Sign and PRINT)		**(28) Received By (Sign and PRINT)**	**(29) Date/Time**	**(30) Receiver Comments**

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?
☐ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No; Cask Seal No. ☑ Yes ☐ No; Sample No. ☑ Yes ☐ No

STRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

WHC-SD-WM-DP-191, REV. 0

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

1) Shipment Number 200 W 08-TF (2) Sample Number 96-219 (3) Supervisor M. C. Jones

4) Tank U-106 (5) Riser 19 (6) Segment 5 (7) Core 147 (8) Cask Serial Number SU-1011C

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	.5 mrem/hr	.5 mREM
Side Dose Rate	28 mrem/hr	28 mREM
Bottom Dose Rate	7 mrem/hr	7 mREM
Smearable Contamination	<20 (Alpha)	<20 (Alpha)
	<1,000 (Beta-Gamma)	<1K (Beta-Gamma)
RCT* (HPT)	D J Dodson (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-00104
B. Cask Seal Number	10470
C. Sampler Serial Number	94-0525
D. Date and Time Sampler Unseated	5-9-96 1000
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	700 MR/HR
H. Expected Sample Length	17" 79 mes

11) INFORMATION (Include statement of laboratory tests to be performed.)

COPY

33

12) Field Comments

HDB went off 17" into stroke.

(34) Laboratory Comments

13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
U-106	222-S	FOR M. JONES James Sickels JAMES SICKELS	1105 5-14-96	
19) Relinquished By (Sign and PRINT)		**(20) Received By (Sign and PRINT)**	**(21) Date/Time**	**(22) Receiver Comments**
James Sickels JAMES SICKELS		C E Boyd	1105 5-14-96	
23) Relinquished By (Sign and PRINT)		**(24) Received By (Sign and PRINT)**	**(25) Date/Time**	**(26) Receiver Comments**
C E Boyd		Virginia N LAPIERS	12:15 5-14-96	
27) Relinquished By (Sign and PRINT)		**(28) Received By (Sign and PRINT)**	**(29) Date/Time**	**(30) Receiver Comments**

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?		
☑ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No	Cask Seal No. ☑ Yes ☐ No	Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling Goldenrod - Task Force Operations

WHC-SD-WM-DP-191, REV. 0

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 96-220 (3) Supervisor Damon Thomas

(4) Tank U-106 (5) Riser 2 (6) Segment 1 (7) Core 148 (8) Cask Serial Number 1010c

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	1.5 mrem/hr	0.5 mR/hr
Side Dose Rate	30 mrem/hr	25 mR/hr
Bottom Dose Rate	10 mrem/hr	10 mR/hr
Smearable Contamination	<20 DPM/100cm² (Alpha)	<20 dpm/100cm² (Alpha)
	<1,000 DPM/100cm² (Beta-Gamma)	<1000 dpm/100cm² (Beta-Gamma)
	RCT* (HPT) (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-00102
B. Cask Seal Number	11462
C. Sampler Serial Number	95-0625
D. Date and Time Sampler Unseated	5-10-96 0428
E. Expected Liquid Content	10%
F. Expected Solid Content	90%
G. Dose Rate Through Drill String	1R/hr
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

(12) Field Comments

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
U-106	2225	for D. Lapham James Sickels	1330 5-14-96	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels			1335 5-14-96	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
		EE Dickens	5-14-96	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?		
☑ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No	Cask Seal No. ☑ Yes ☐ No	Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S8-85 Goldenrod - Tank Farm Operations, S4-43

BC-6000-309 (02/94)

002 509 373 1432 05/14/96 15:09

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 96-221 (3) Supervisor Damon DeFiore

(4) Tank 4-106 (5) Riser 2 (6) Segment 2 (7) Core 148 (8) Cask Serial Number C 1016

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	.5 mrem/hr	.5 mR/hr
Side Dose Rate	52 mrem/hr	25 mR/hr
Bottom Dose Rate	15 mrem/hr	15 mR/hr
Smearable Contamination	<20 DPM/100cm² (Alpha)	<20 dpm (Alpha)
	<1,000 DPM/100 cm² (Beta-Gamma)	<1000 dpm (Beta-Gamma)
RCT* (HPT)	DJ DeFiore (Signature)	RCT* (HPT) (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-00102
B. Cask Seal Number	11456
C. Sampler Serial Number	95-1565
D. Date and Time Sampler Unseated	5-10-96 0536
E. Expected Liquid Content	10%
F. Expected Solid Content	90%
G. Dose Rate Through Drill String	1.5 R/hr
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

41

(12) Field Comments
small amount of waste on Bottom of sampler

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
4-106	2225	for D. Lapiment James Sickels	1330 5-14-96	
(19) Relinquished By (Sign and PRINT) James Sickels		(20) Received By (Sign and PRINT) C. Ed Byrd	(21) Date/Time 1335 5-14-96	(22) Receiver Comments
(23) Relinquished By (Sign and PRINT) C. Ed Byrd		(24) Received By (Sign and PRINT)	(25) Date/Time 1410 5-14-96	(26) Receiver Comments
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Report?		
☑ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No	Cask Seal No. ☑ Yes ☐ No	Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

05/14/96 15:10 509 373 1432 003

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TP (2) Sample Number 96-222 (3) Supervisor Dave DeLoach

(4) Tank U-106 (5) Riser 2 (6) Segment 3 (7) Core 148 (8) Cask Serial Number 61

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	<.5 mrem/hr	<0.5
Side Dose Rate	44 mrem/hr	44 mrem
Bottom Dose Rate	28 mrem/hr	28 mrem
Smearable Contamination (Alpha)	<20	<20
(Beta-Gamma)	<1,000	<1K
RCT* (HPT) (Signature)	D J Dodson	
RCT* (HPT) (Signature)		

(10) Shipment Description

A. Work Package Number	US-96-00102
B. Cask Seal Number	11455
C. Sampler Serial Number	95-134S
D. Date and Time Sampler Unseated	5-10-96 0630
E. Expected Liquid Content	10%
F. Expected Solid Content	90%
G. Dose Rate Through Drill String	1500 mR/hr
H. Expected Sample Length	19'

(11) INFORMATION (Include statement of laboratory tests to be performed.)

42

COPY

(12) Field Comments
small amount of waste on Bottom of sampler,

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
U-106	222S	For B. LAPEIRE James Sickels	1045 5-15-96	
(19) Relinquished By (Sign and PRINT) James Sickels JAMES SICKELS		(20) Received By (Sign and PRINT) J L Hensley JL HENSLEY	(21) Date/Time 1100 5-15-96	(22) Receiver Comments
(23) Relinquished By (Sign and PRINT) J L Hensley JL HENSLEY		(24) Received By (Sign and PRINT) N Lapiers NLAPIERS	(25) Date/Time 1130 5-14-96	(26) Receiver Comments
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?		
☒ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No	Cask Seal No. ☑ Yes ☐ No	Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

WHC-SD-WM-DP-191, REV. 0

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 96-223 (3) Supervisor M.C. JONES

(4) Tank U-106 (5) Riser 2 (6) Segment 4 (7) Core 148 (8) Cask Serial Number C-2008

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	.5 mrem/hr	.5
Side Dose Rate	.58 mrem/hr	.58 mrem
Bottom Dose Rate	< .5 mrem/hr	<0.5
Smearable Contamination	<20 (Alpha)	<20 (Alpha)
	<1,000 (Beta-Gamma)	<1K (Beta-Gamma)
RCT* (HPT)	D J Doelson (Signature)	[illegible] (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-00102
B. Cask Seal Number	10471
C. Sampler Serial Number	95-064S
D. Date and Time Sampler Unseated	5/10/96 1010
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	1.3 R/HR
H. Expected Sample Length	19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)

43

COPY

(12) Field Comments

NO X-RAY.

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
U-106	222-S	JON M. JONES / James Sickels JAMES SICKELS	1100 5-14-96	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels JAMES SICKELS		J L Hensley J L HENSLEY	1100 5-14-96	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
J L Hensley J L HENSLEY		N Lapiers N LAPIERS	1100 5-14-96	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?		
☒ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No	Cask Seal No. ☑ Yes ☐ No	Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43

BC-6000-309 (02/94)

WHC-SD-WM-DP-191, REV. 0

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

1) Shipment Number 200W-08-TF (2) Sample Number 96-224 (3) Supervisor M. C. Jones

4) Tank U-106 (5) Riser 2 (6) Segment 5 (7) Core 148 (8) Cask Serial Number G1053

Radiation Survey Data:	(9) FIELD	(33) LABORATORY
Over Top Dose Rate	.5	.5
Side Dose Rate	30 mrem/hr	30 mrem
Bottom Dose Rate	5	5 mrem
Smearable Contamination	<20 (Alpha)	<20 (Alpha)
	<1,000 (Beta-Gamma)	<1K (Beta-Gamma)
RCT* (HPT)	D J Dodson (Signature)	RCT* (HPT) [illegible] (Signature)

(10) Shipment Description

A. Work Package Number	WS-96-00102
B. Cask Seal Number	11494
C. Sampler Serial Number	95-315
D. Date and Time Sampler Unseated	5-10-96, 1741
E. Expected Liquid Content	30%
F. Expected Solid Content	70%
G. Dose Rate Through Drill String	700 mr/HR
H. Expected Sample Length	16 1/4

(11) INFORMATION (Include statement of laboratory tests to be performed.)

41

COPY

(12) Field Comments

HDB went off 16 1/2" in to stroke
No X-RAY

(34) Laboratory Comments

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
U-106	222 S	James Sickels JAMES SICKELS	1845 5-14-96	
(19) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
James Sickels JAMES SICKELS		J L Hensley JL HENSLEY	1800 5-14-96	
(23) Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
J L Hensley JL HENSLEY		N Lapiers N LAPIERS	1900 5-14-96	
(27) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?		
☒ Yes ☐ No	☒ Yes ☐ No	Shipment No. ☒ Yes ☐ No	Cask Seal No. ☒ Yes ☐ No	Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43

BC-6000-309 (02/94)

WHC-SD-WM-DP-191, REV 0

INORGANIC ANALYSES

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LABCORE Data Entry Template for Worklist# 10567

Analyst: EAL **Instrument:** DSC0 1 **Book #** 12N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: U-106 DSC RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	31.4*	N/A	Joules/g
96000641	U-106 (P)	2	SAMPLE	S96T003067	0		DSC-01	SOLID	N/A	384.5		Joules/g
96000641	U-106 (P)	3	DUP	S96T003067	0		DSC-01	SOLID	384.5	380.7	N/A	Joules/g
		4	STD				DSC-01	SOLID	28.45	31.2	N/A	Joules/g
96000641	U-106 (P)	5	SAMPLE	S96T003070	0		DSC-01	SOLID	N/A	313.5		Joules/g
96000641	U-106 (P)	6	DUP	S96T003070	0		DSC-01	SOLID	313.5	355.5	N/A	Joules/g

Final page for worklist # 10567

See attached for signatures

Analyst Signature **Date** 7-12-96

Verified/Validated by PDX
Blandina Valenzuela 7-15-96

Analyst Signature **Date**

Data Entry Comments: S96T003067 results are the sum of two exotherms.

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# 10567

Analyst: [illegible] **Instrument:** DSC0 **Book #** 12NHB

Method: LA-514-113 Rev/Mod

Worklist Comment: U-106 DSC RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
96000641	U-106 (P)	2	SAMPLE	S96T003067	0		DSC-01	SOLID	N/A			Joules/g
96000641	U-106 (P)	3	DUP	S96T003067	0		DSC-01	SOLID			N/A	Joules/g
96000641	U-106 (P)	4	SAMPLE	S96T003070	0		DSC-01	SOLID	N/A			Joules/g
96000641	U-106 (P)	5	DUP	S96T003070	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 10567

R. Lambel 07-05-96
Analyst Signature Date

RJ McCown 7/5/96

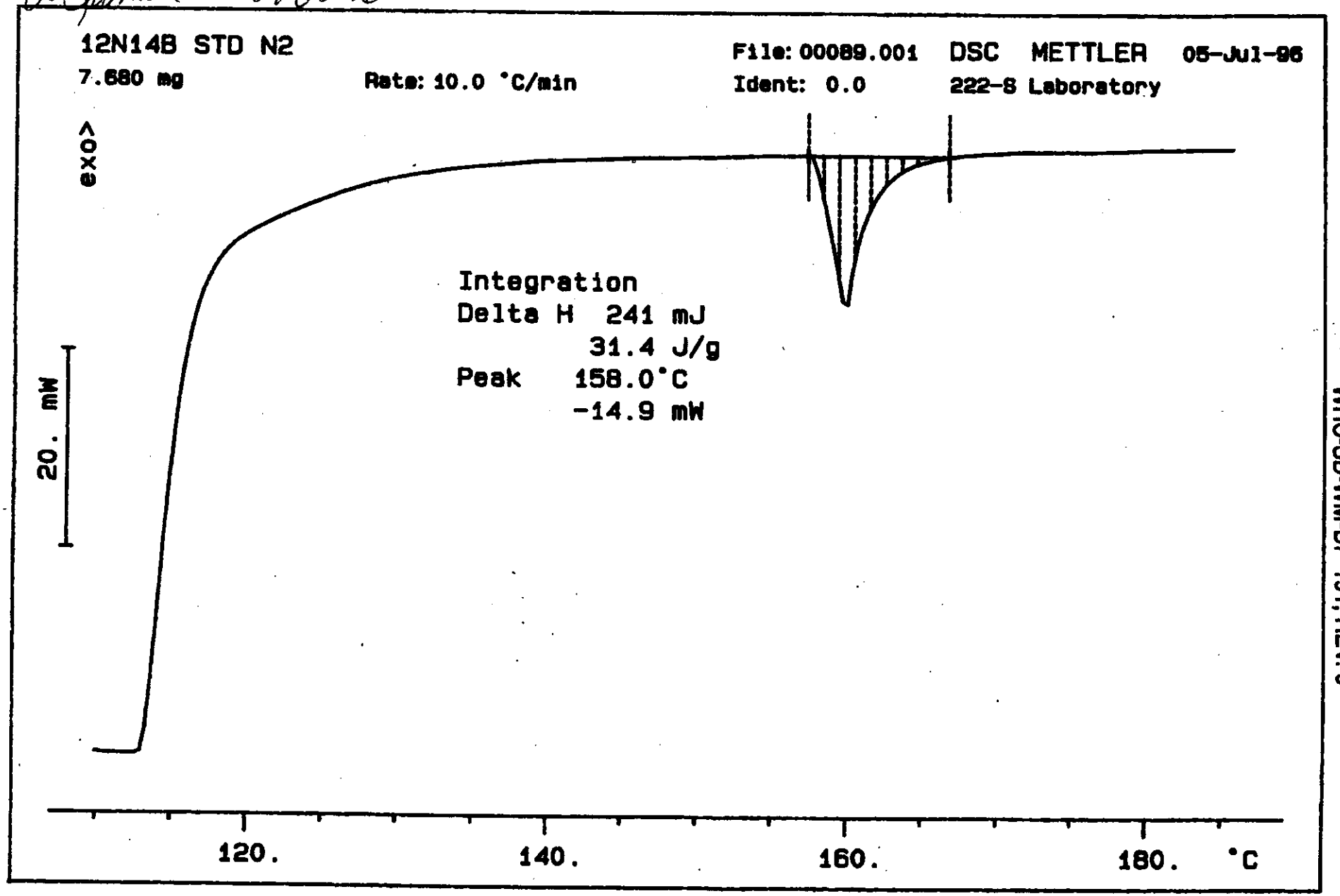
Analyst Signature Date

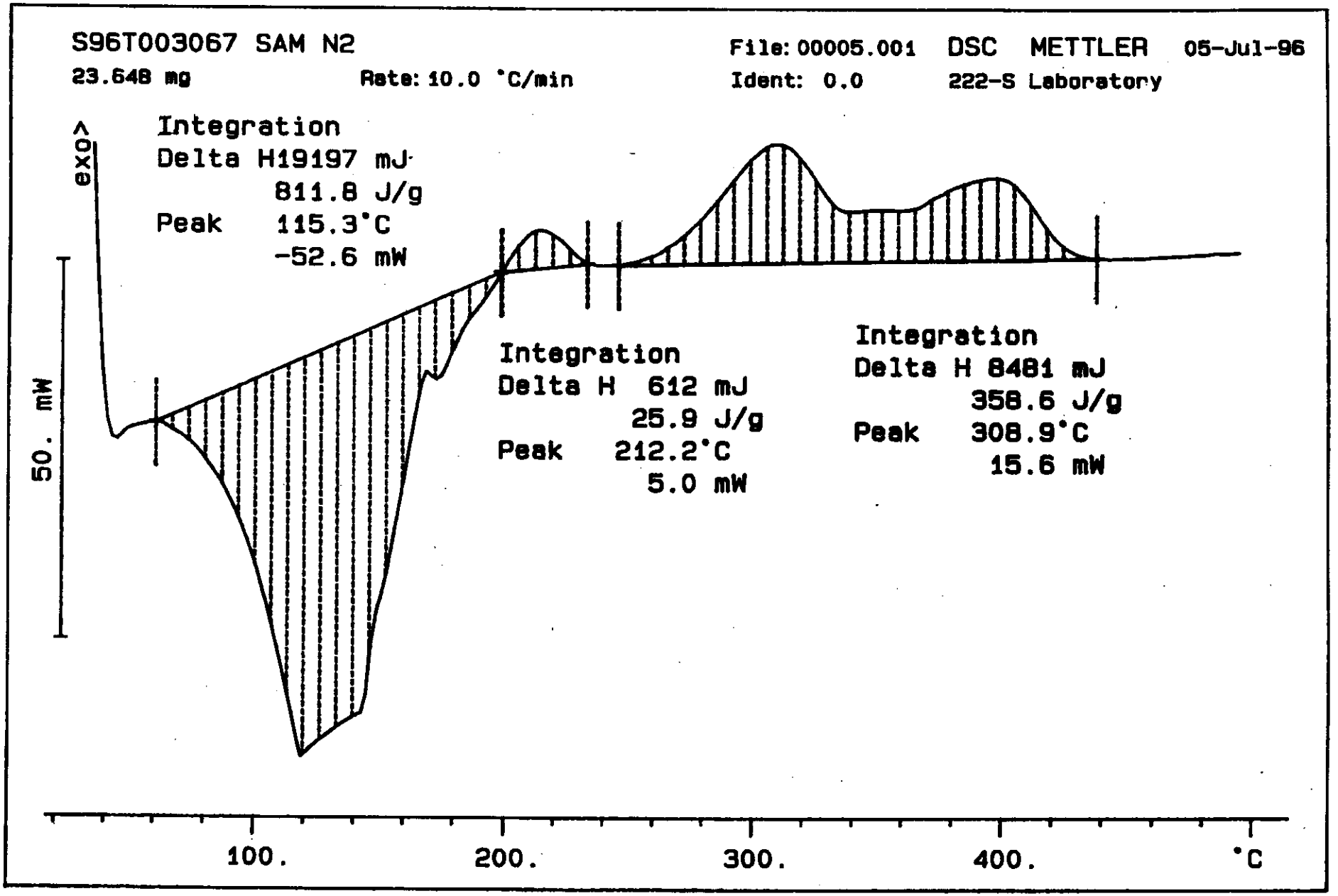
Data Entry Comments:

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 49 TO 54.

A Lambel 07-05-96

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Rate: 10.0 °C/min
File: 00005.001
Ident: 0.0
DSC METTLER
222-S Laboratory
05-Jul-96
exo>
50. mW
Integration
Delta H19197 mJ
811.8 J/g
Peak 115.3°C
-52.6 mW
Integration
Delta H 612 mJ
25.9 J/g
Peak 212.2°C
5.0 mW
Integration
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Peak 308.9°C
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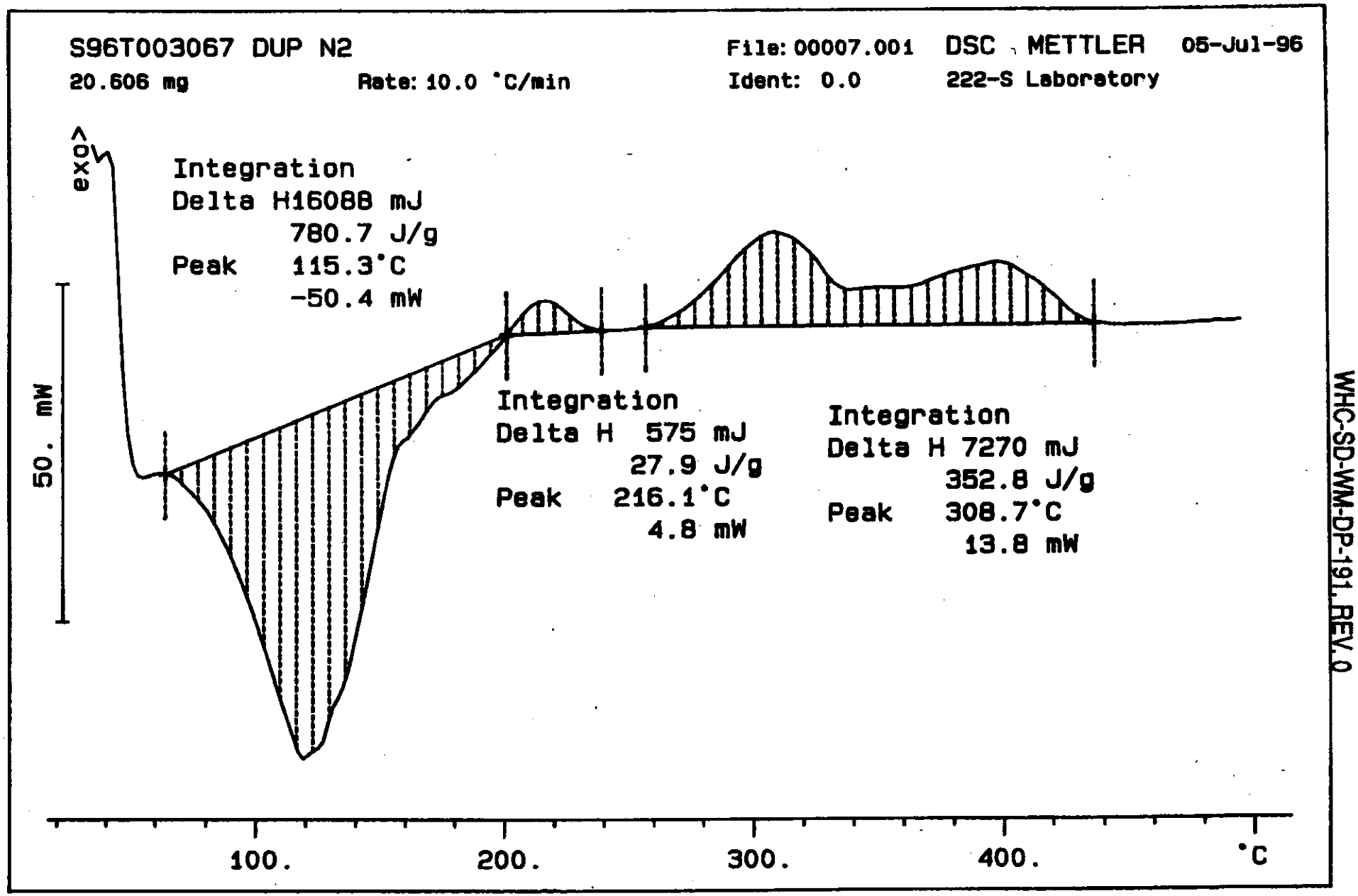
100.
200.
300.
400.
°C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Rate: 10.0 °C/min
File: 00007.001
Ident: 0.0
DSC , METTLER
222-S Laboratory
05-Jul-96
exo>
Integration
Delta H16088 mJ
780.7 J/g
Peak 115.3°C
-50.4 mW
Integration
Delta H 575 mJ
27.9 J/g
Peak 216.1°C
4.8 mW
Integration
Delta H 7270 mJ
352.8 J/g
Peak 308.7°C
13.8 mW
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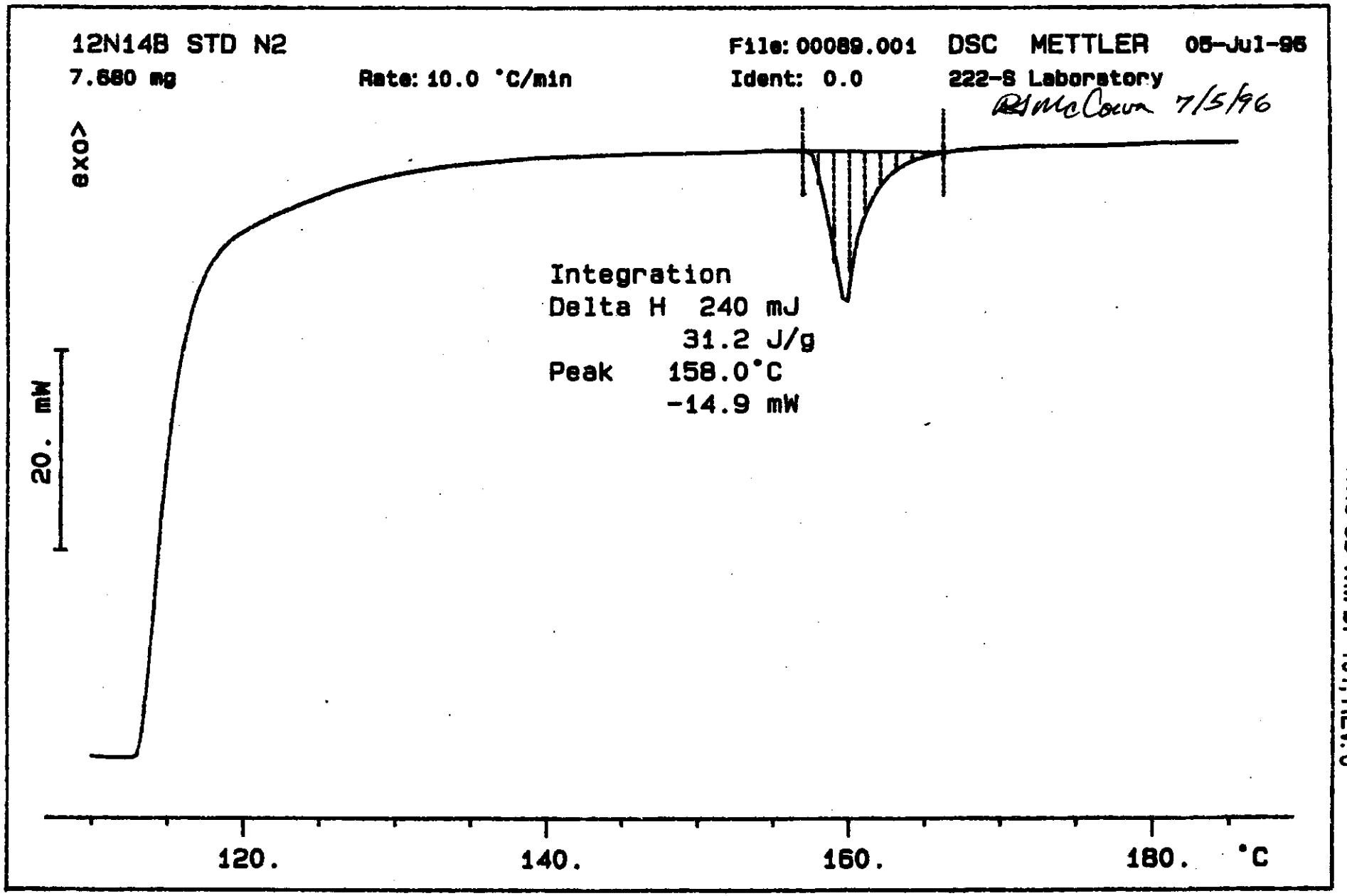
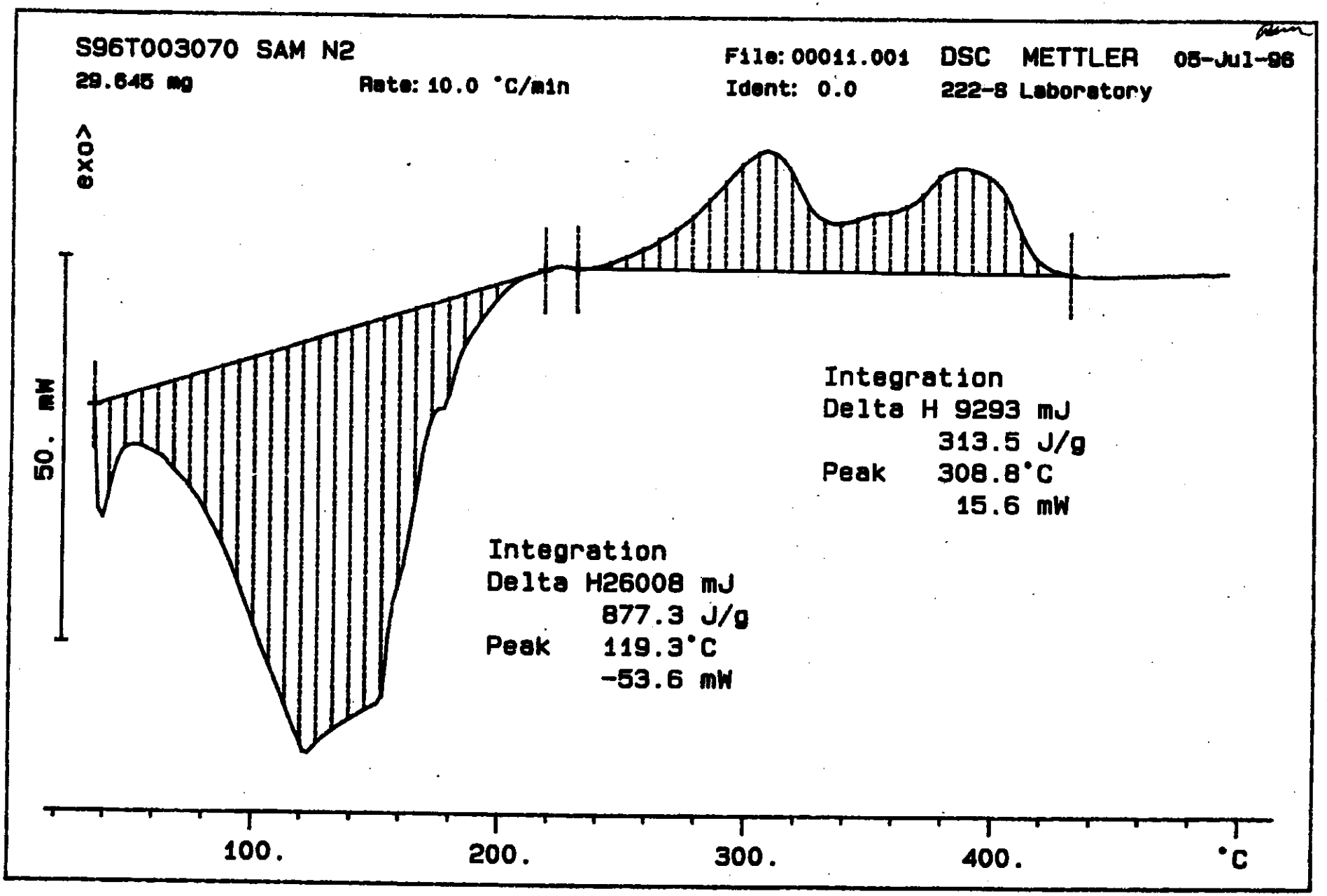
100.
200.
300.
400.
°C


12N14B STD N2
7.680 mg
Rate: 10.0 °C/min
File: 00089.001
DSC METTLER 05-Jul-96
Ident: 0.0
222-S Laboratory
RJ McCown 7/5/96
exo>
20. mW
Integration
Delta H 240 mJ
31.2 J/g
Peak 158.0°C
-14.9 mW
120.
140.
160.
180.
°C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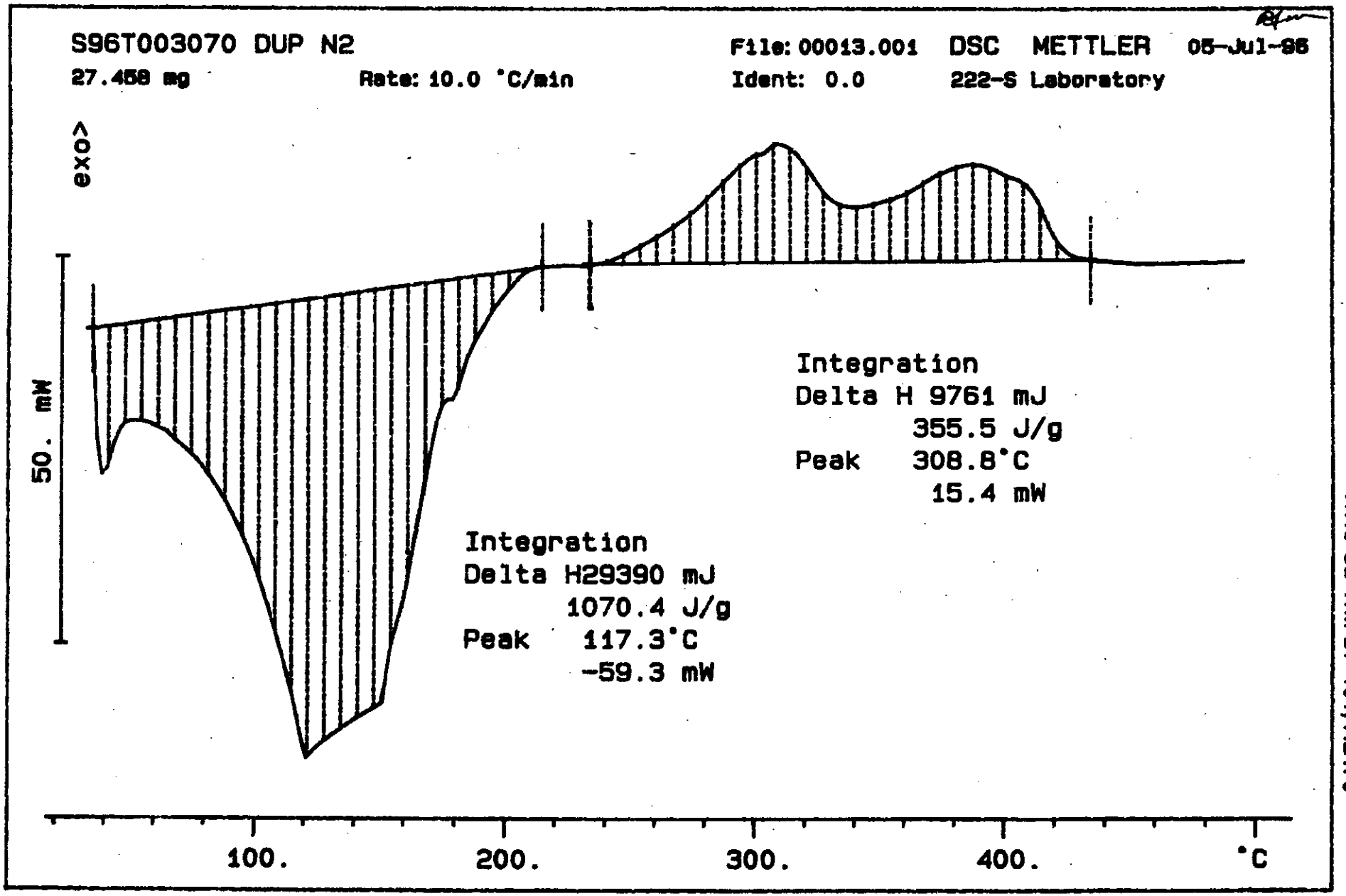
Ident: 0.0
DSC METTLER
222-S Laboratory
05-Jul-96
exo>
50. mW
Integration
Delta H 9293 mJ
313.5 J/g
Peak 308.8°C
15.6 mW
Integration
Delta H26008 mJ
877.3 J/g
Peak 119.3°C
-53.6 mW
100.
200.
300.
400.
°C


S96T003070 DUP N2
27.458 mg
Rate: 10.0 °C/min
File: 00013.001
Ident: 0.0
DSC METTLER
222-S Laboratory
05-Jul-96
exo>
50. mW
Integration
Delta H 9761 mJ
355.5 J/g
Peak 308.8°C
15.4 mW
Integration
Delta H29390 mJ
1070.4 J/g
Peak 117.3°C
-59.3 mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10568

Analyst: DPB **Instrument:** DSC0 1 **Book #** 12N.14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: U-106 DSC RUN UNDER N2. lc

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID	28.45	29.6	N/A	Joules/g
96000641	U-106 (P)	2 SAMPLE	S96T003065	0		DSC-01	SOLID	N/A	401.2		Joules/g
96000641	U-106 (P)	3 DUP	S96T003065	0		DSC-01	SOLID	401.2	383.5	N/A	Joules/g
96000641	U-106 (P)	4 SAMPLE	S96T003066	0		DSC-01	SOLID	N/A	346.2		Joules/g
96000641	U-106 (P)	5 DUP	S96T003066	0		DSC-01	SOLID	346.2	343.0	N/A	Joules/g

Final page for worklist # 10568

Daniel R. Bromley 7/8/96 1645
Analyst Signature Date

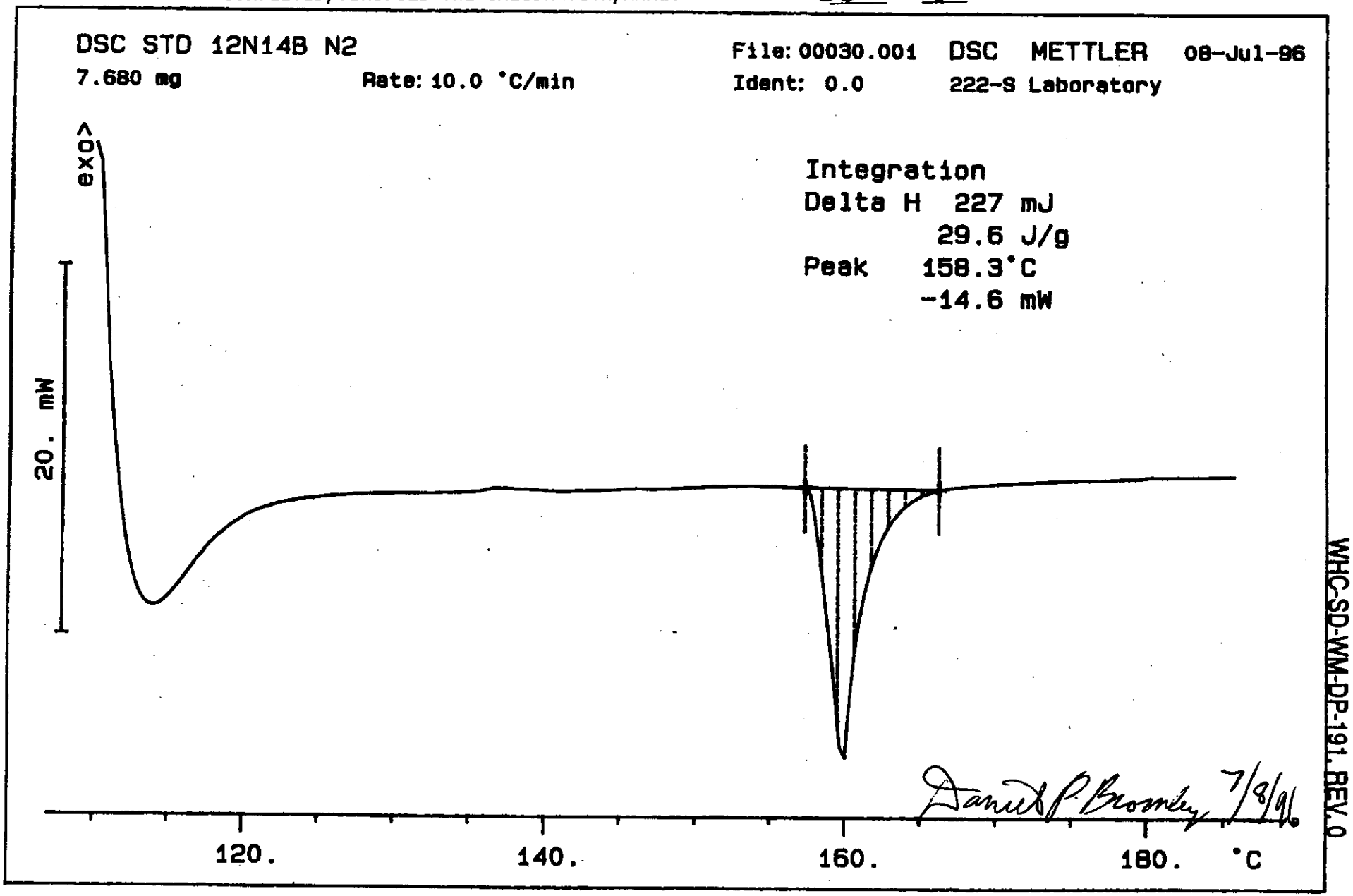
[illegible] 7-12-96
Analyst Signature Date

Verified/Validated by
Blandina Valenzuela
7-15-96

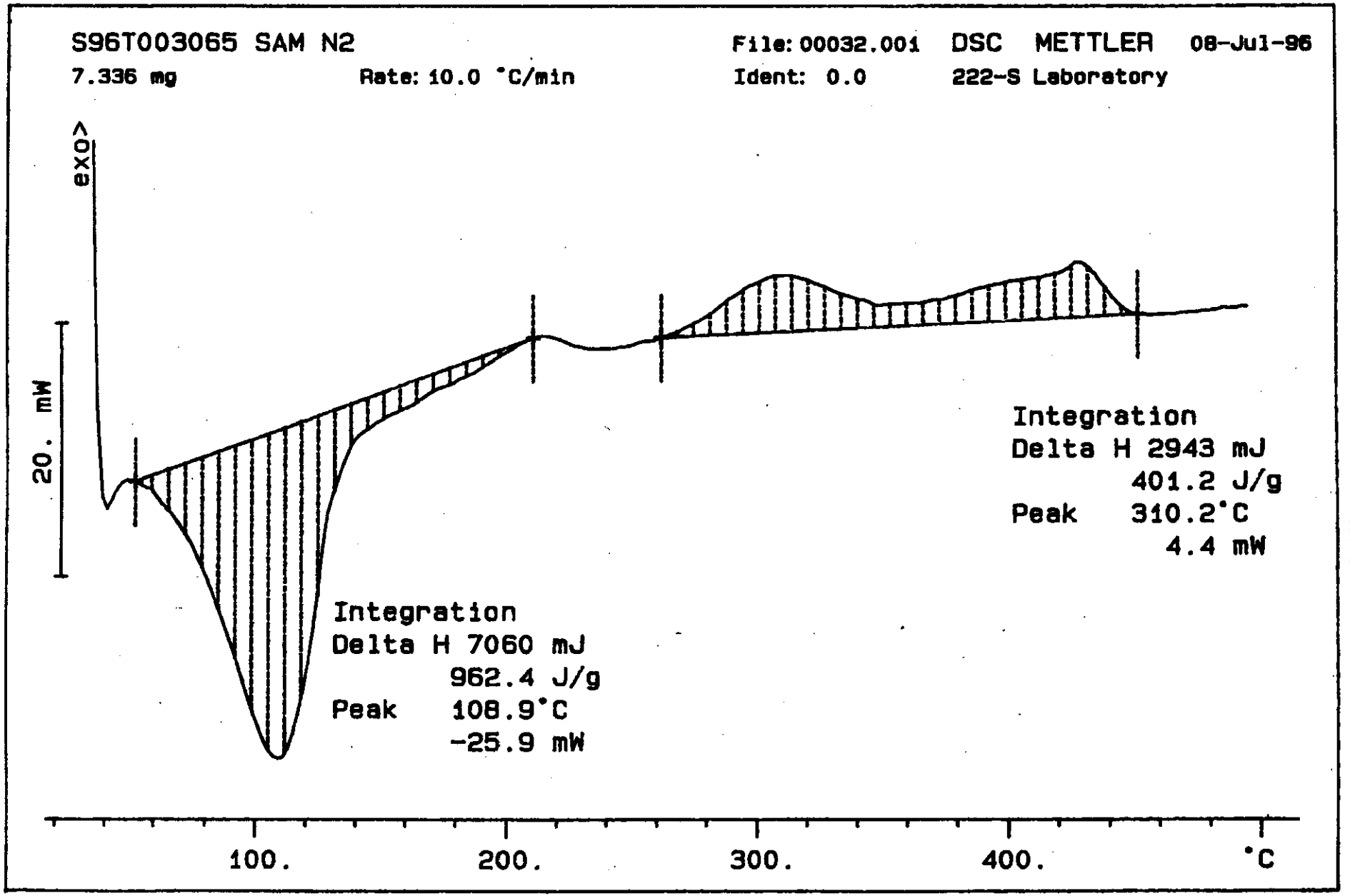
Data Entry Comments:

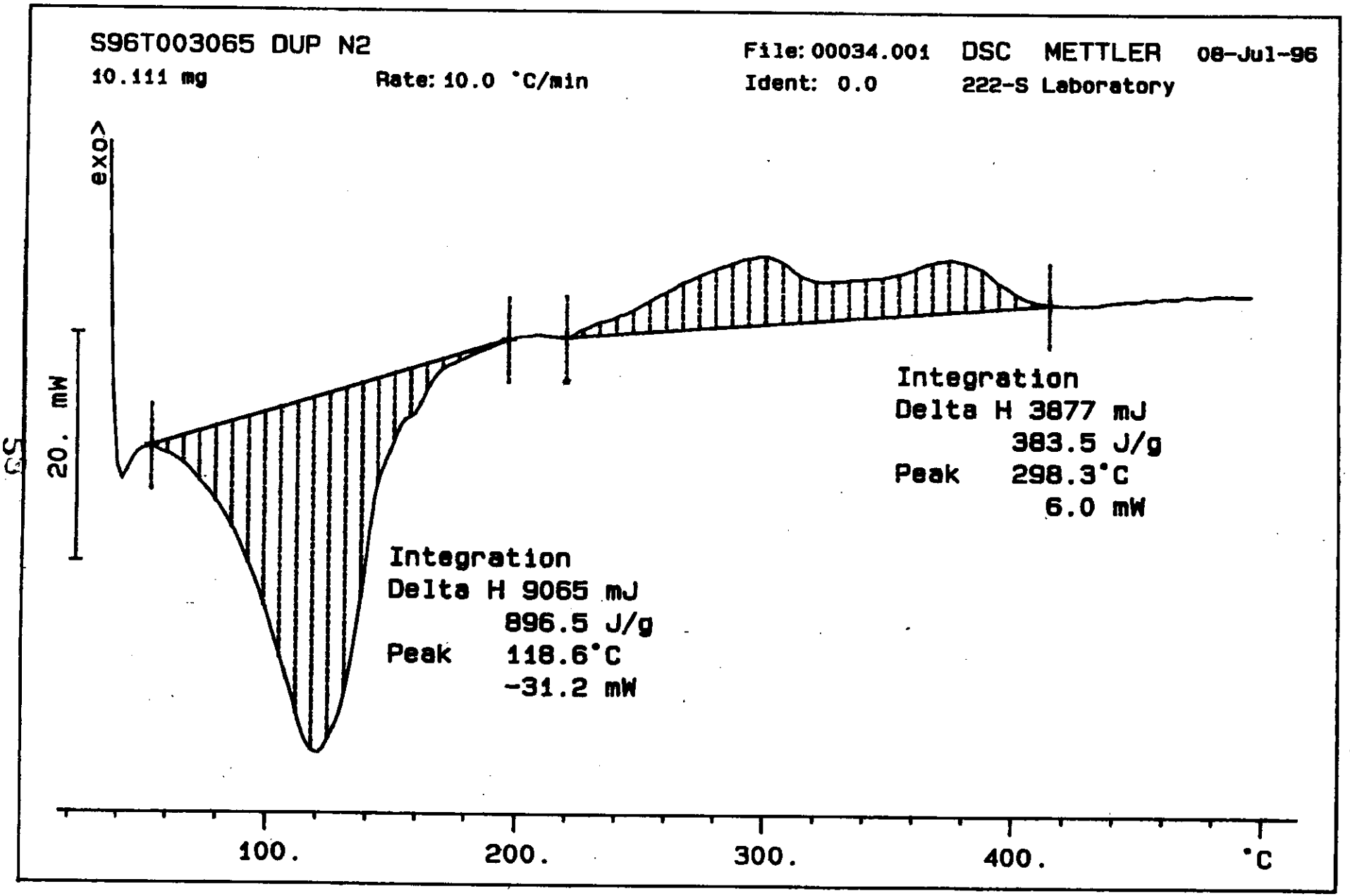
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

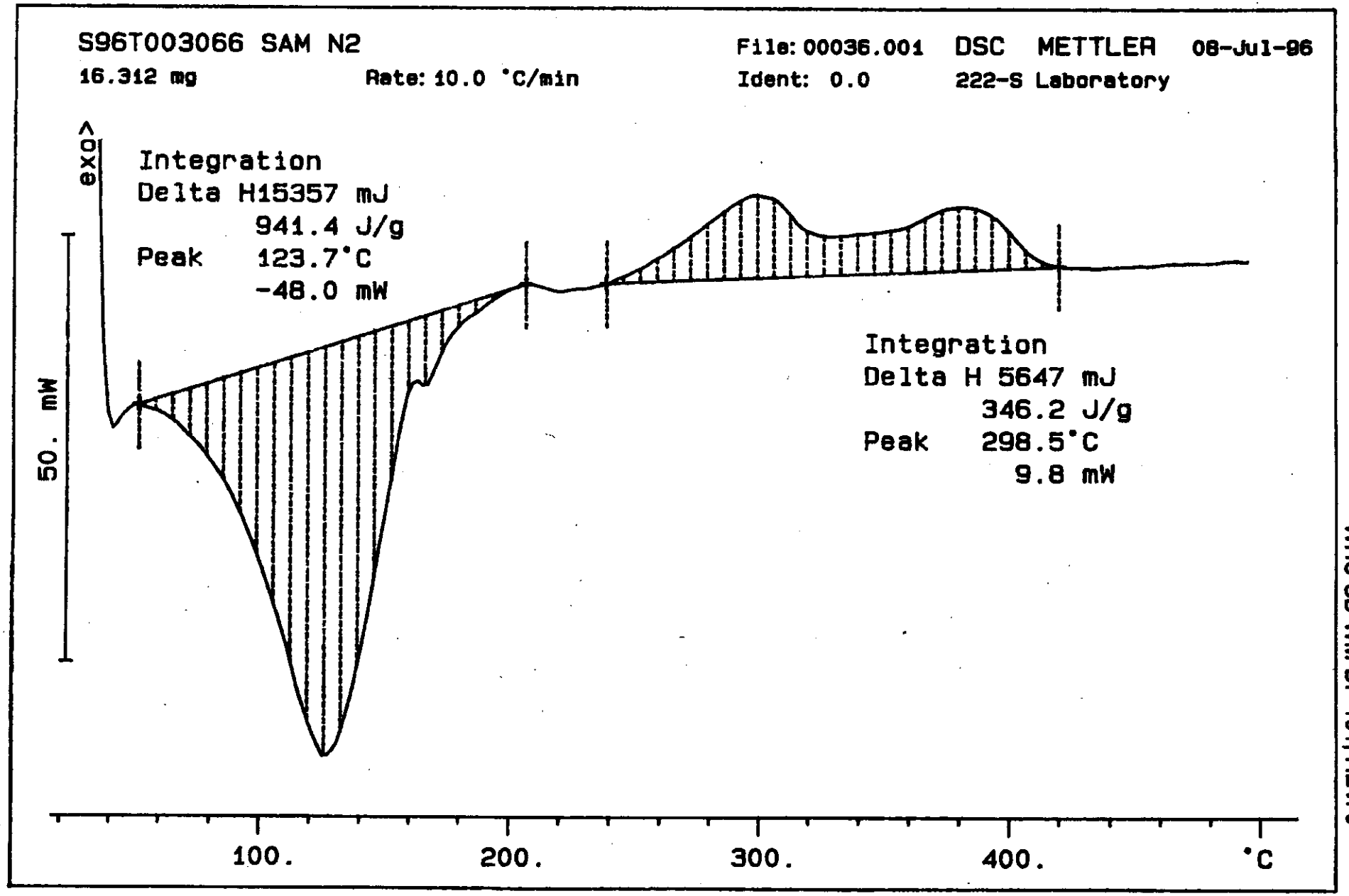
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 56 TO 60.

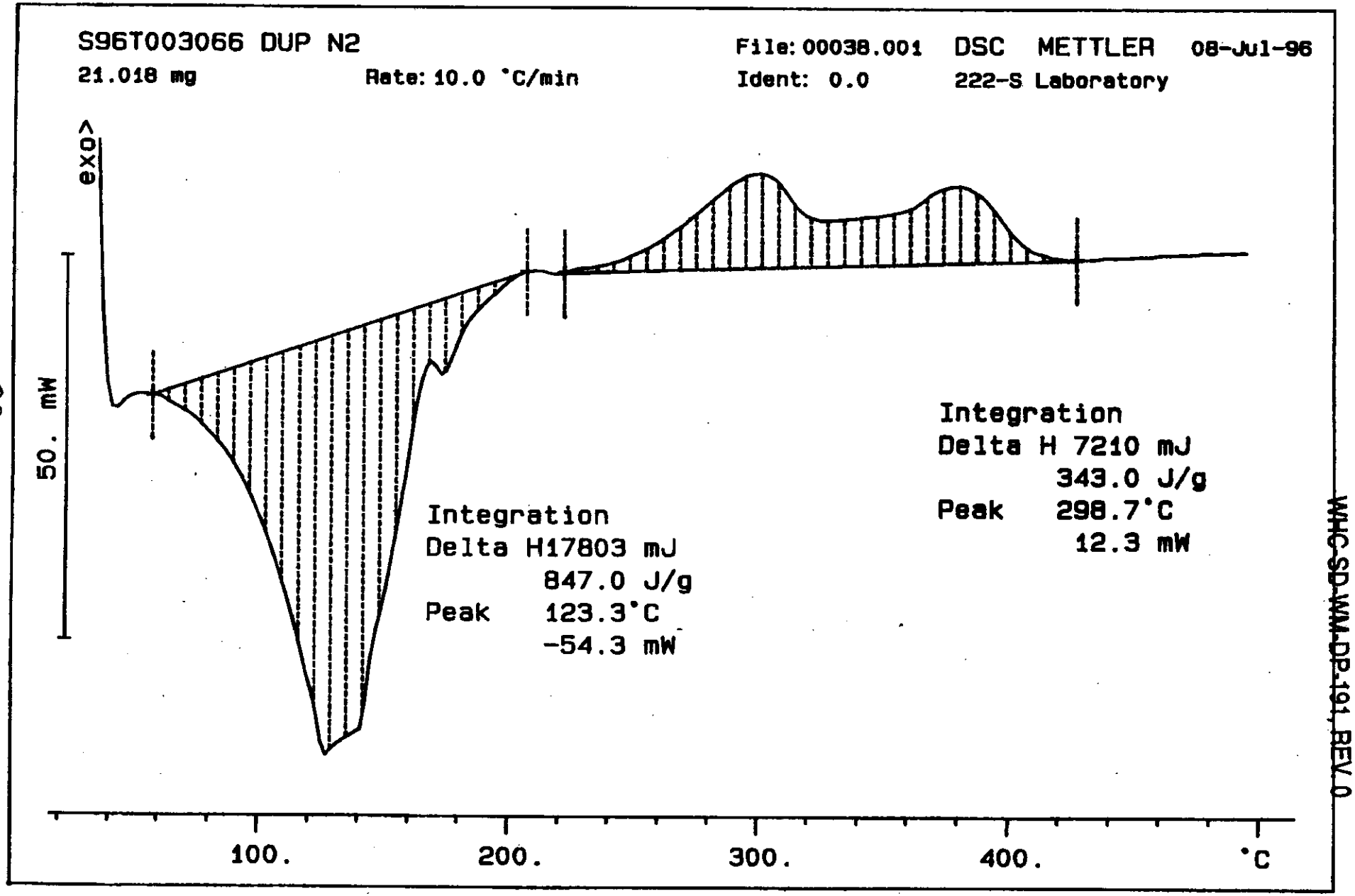


WHC-SD-WM-DP-191, REV.0


S96T003065 SAM N2
7.336 mg
Rate: 10.0 °C/min
File: 00032.001
Ident: 0.0
DSC METTLER
222-S Laboratory
08-Jul-96
exo>
20. mW
Integration
Delta H 7060 mJ
962.4 J/g
Peak 108.9°C
-25.9 mW
Integration
Delta H 2943 mJ
401.2 J/g
Peak 310.2°C
4.4 mW
100.
200.
300.
400.
°C


S96T003065 DUP N2
10.111 mg
Rate: 10.0 °C/min
File: 00034.001
Ident: 0.0
DSC METTLER
222-S Laboratory
08-Jul-96
exo>
20. mW
Integration
Delta H 9065 mJ
896.5 J/g
Peak 118.6°C
-31.2 mW
Integration
Delta H 3877 mJ
383.5 J/g
Peak 298.3°C
6.0 mW
100.
200.
300.
400.
°C


S96T003066 SAM N2
16.312 mg
Rate: 10.0 °C/min
File: 00036.001
Ident: 0.0
DSC METTLER
222-S Laboratory
08-Jul-96
exo>
Integration
Delta H15357 mJ
941.4 J/g
Peak 123.7°C
-48.0 mW
Integration
Delta H 5647 mJ
346.2 J/g
Peak 298.5°C
9.8 mW
50. mW
100.
200.
300.
400.
°C


S96T003066 DUP N2
21.018 mg
Rate: 10.0 °C/min
File: 00038.001
Ident: 0.0
DSC METTLER
222-S Laboratory
08-Jul-96
exo>
50. mW
Integration
Delta H17803 mJ
847.0 J/g
Peak 123.3°C
-54.3 mW
Integration
Delta H 7210 mJ
343.0 J/g
Peak 298.7°C
12.3 mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10569

Analyst: RLM **Instrument:** DSC0 1 **Book #** 12N14B

Method: LA-514-113 Rev/Mod B-1 C-1 7-22-96 BMV

Worklist Comment: U-106 DSC RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	LIQUID	28.45	30.7	N/A	Joules/g
96000641	U-106 (P)	2	SAMPLE	S96T003063	0		DSC-01	LIQUID	N/A	484.7		Joules/g
96000641	U-106 (P)	3	DUP	S96T003063	0		DSC-01	LIQUID	484.7	485.8	N/A	Joules/g
96000641	U-106 (P)	4	SAMPLE	S96T003064	0		DSC-01	LIQUID	N/A	427.3		Joules/g
96000641	U-106 (P)	5	DUP	S96T003064	0		DSC-01	LIQUID	427.3	413.0	N/A	Joules/g

Final page for worklist # 10569

RLMcCown 7/7/96
Analyst Signature Date

Analyst Signature Date

Verified/Validated by
Blandina Valenzuela
7-15-96

Data Entry Comments: S96T003063 is the sum of two exotherms
S96T003064 is the sum of two exotherms

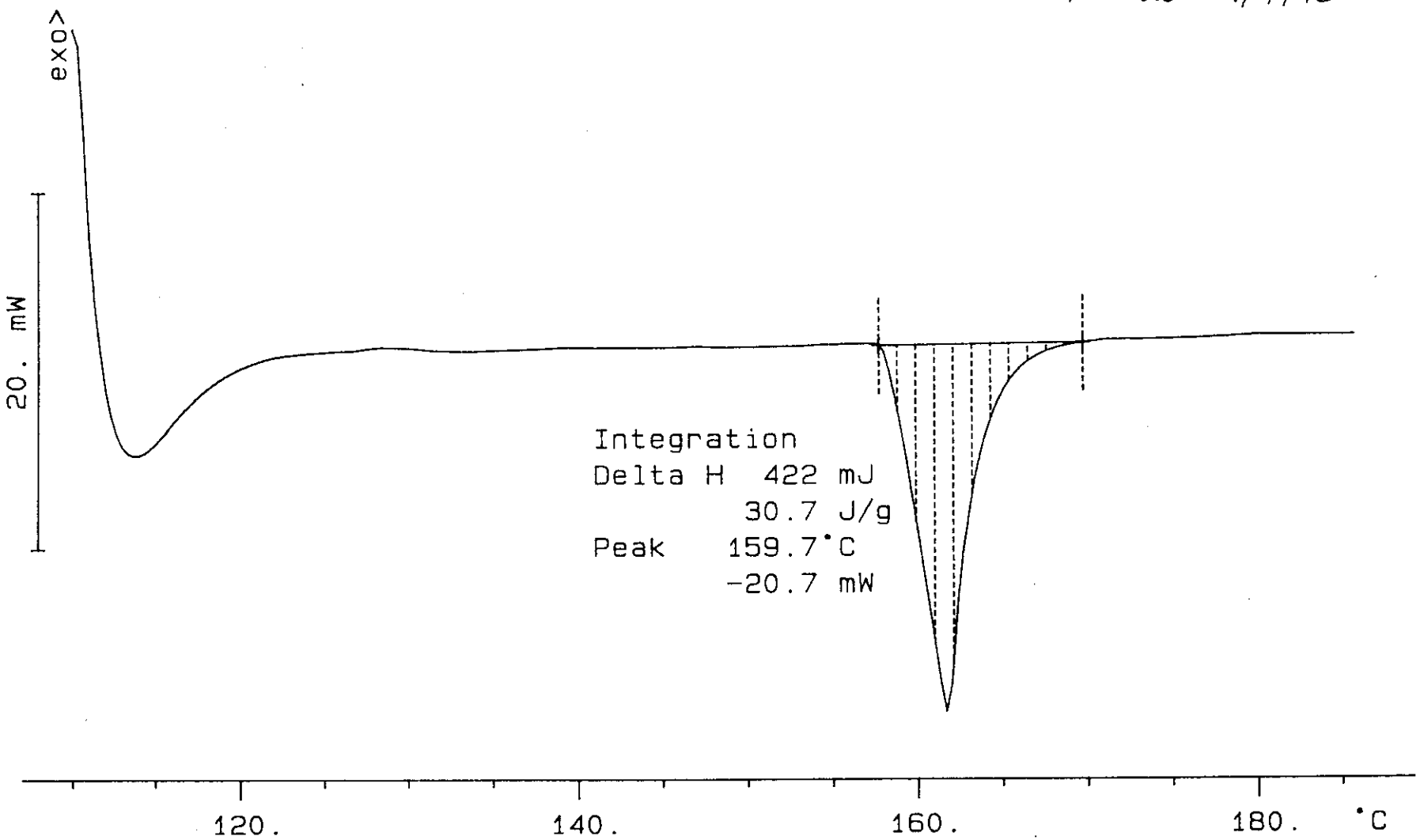
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 62 TO 66.

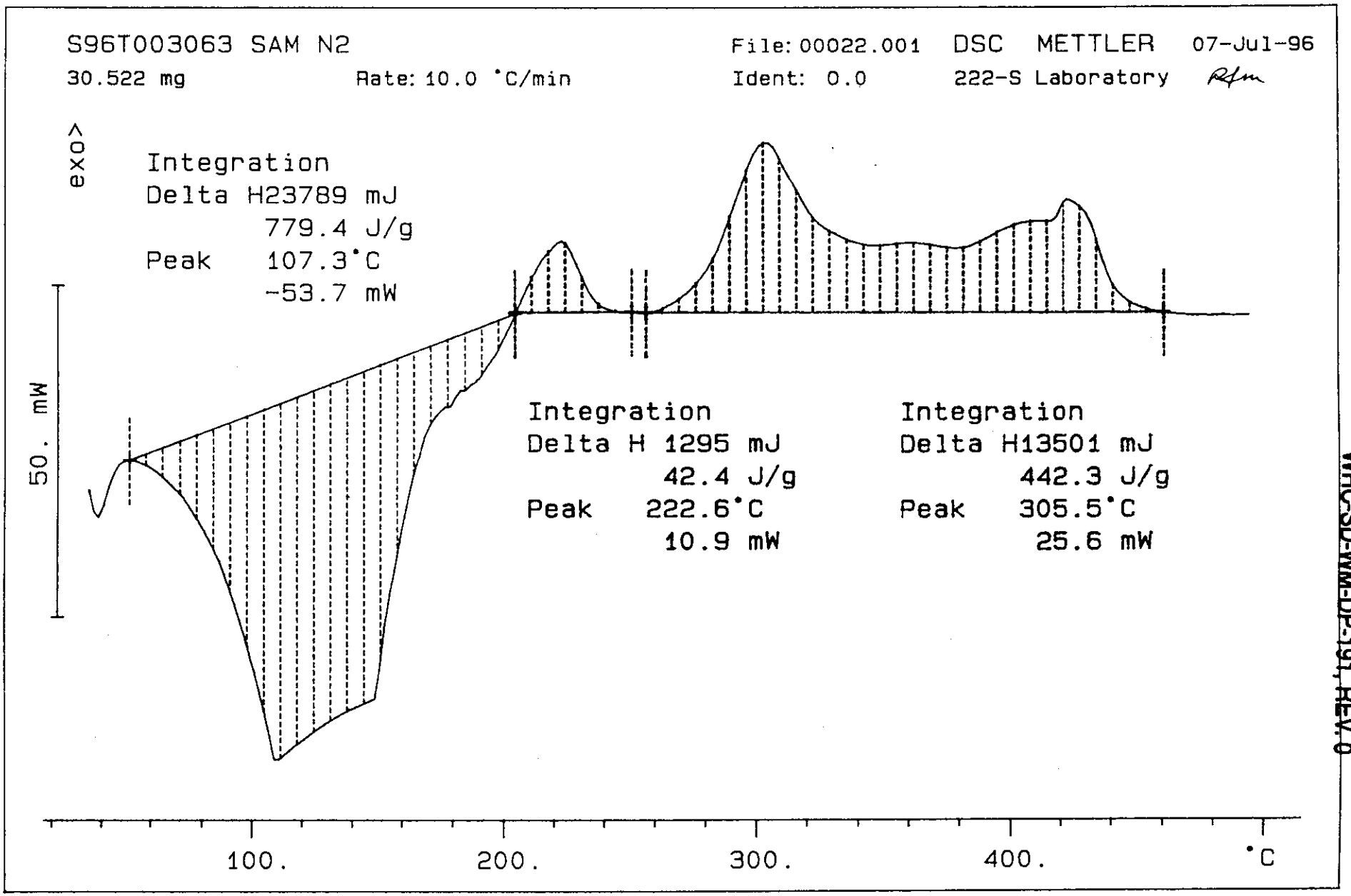
DSC STD 12N14B N2 File: 00019.001 DSC METTLER 07-Jul-96

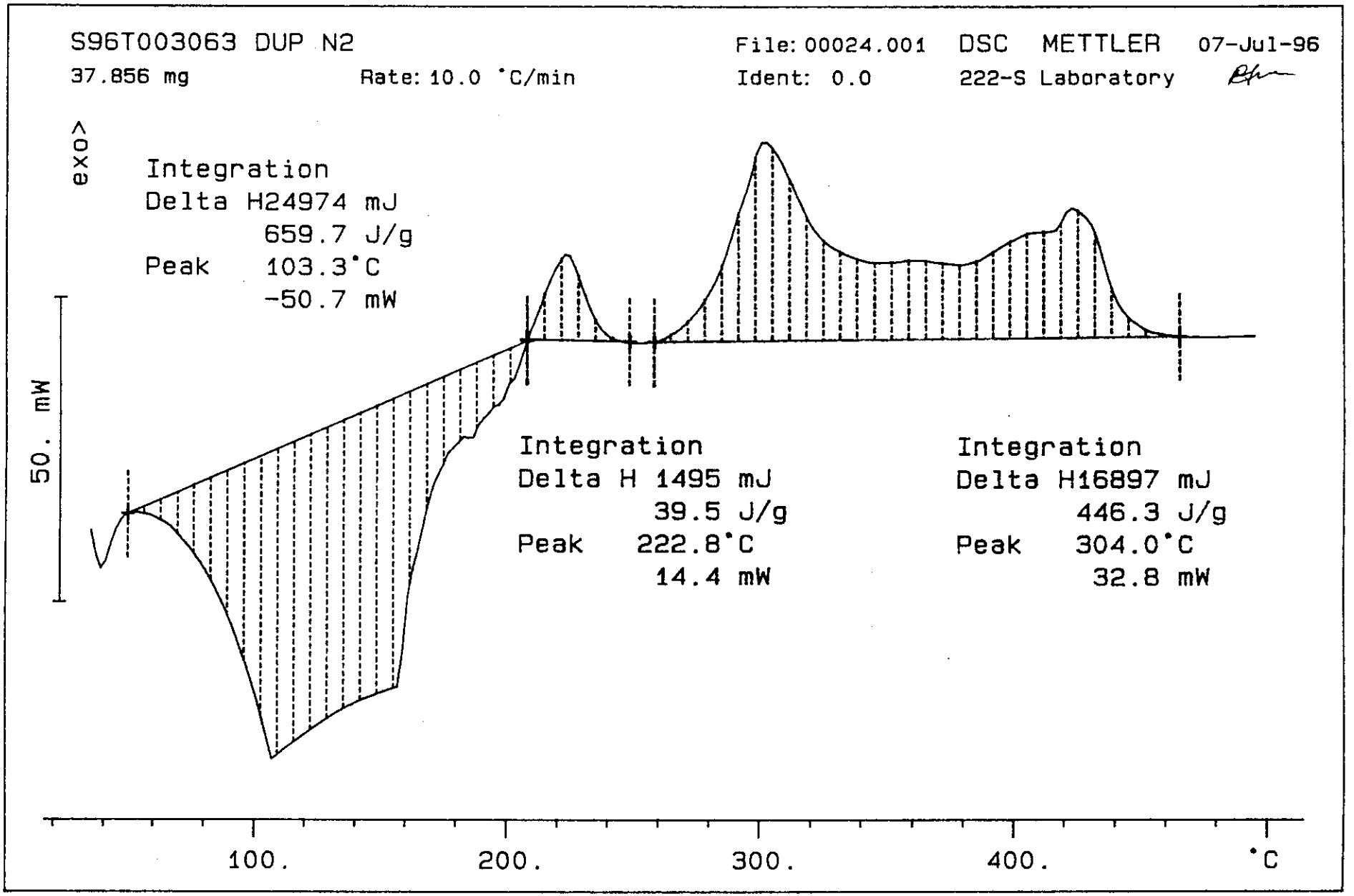
13.760 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

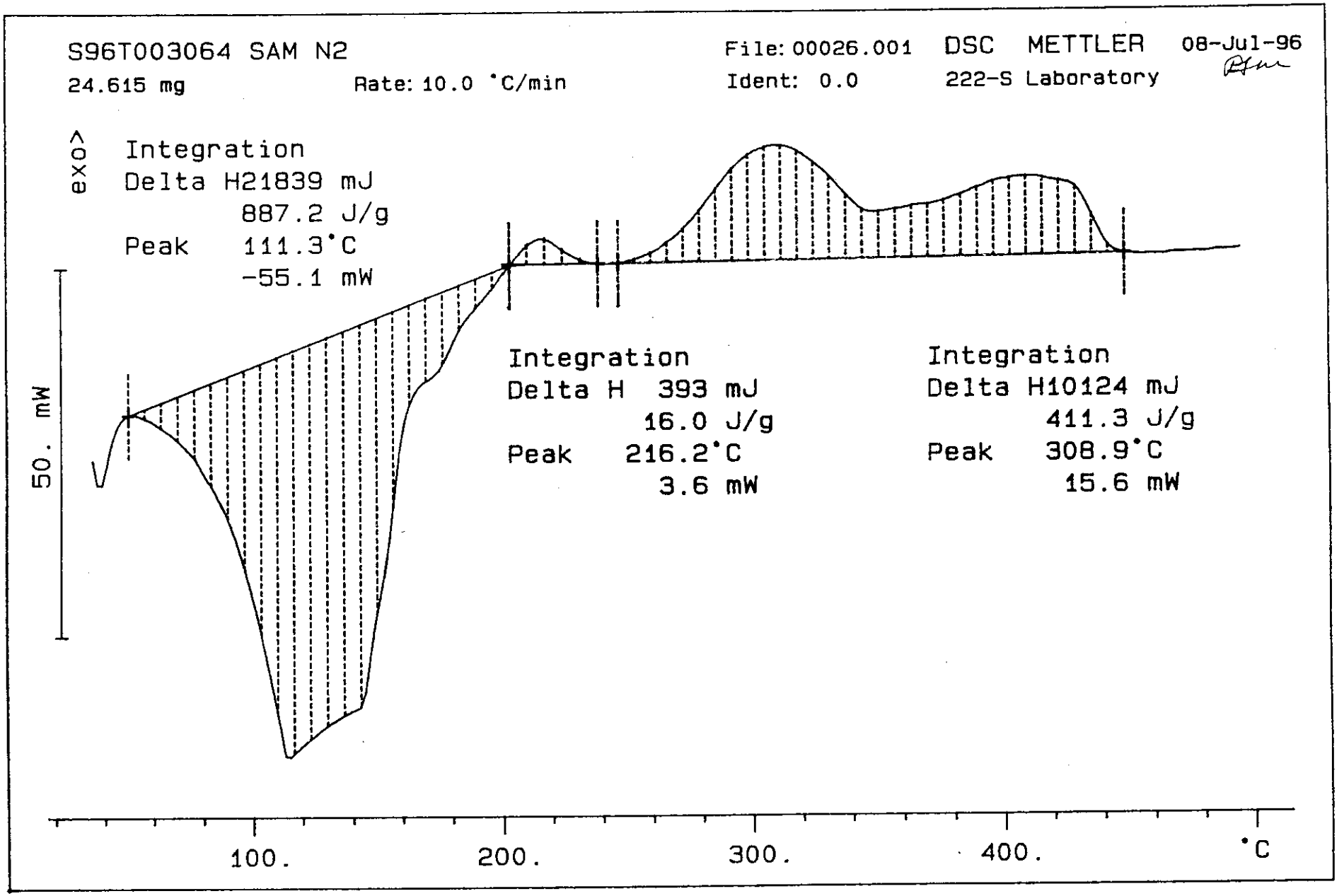
RHMcCown 7/7/96

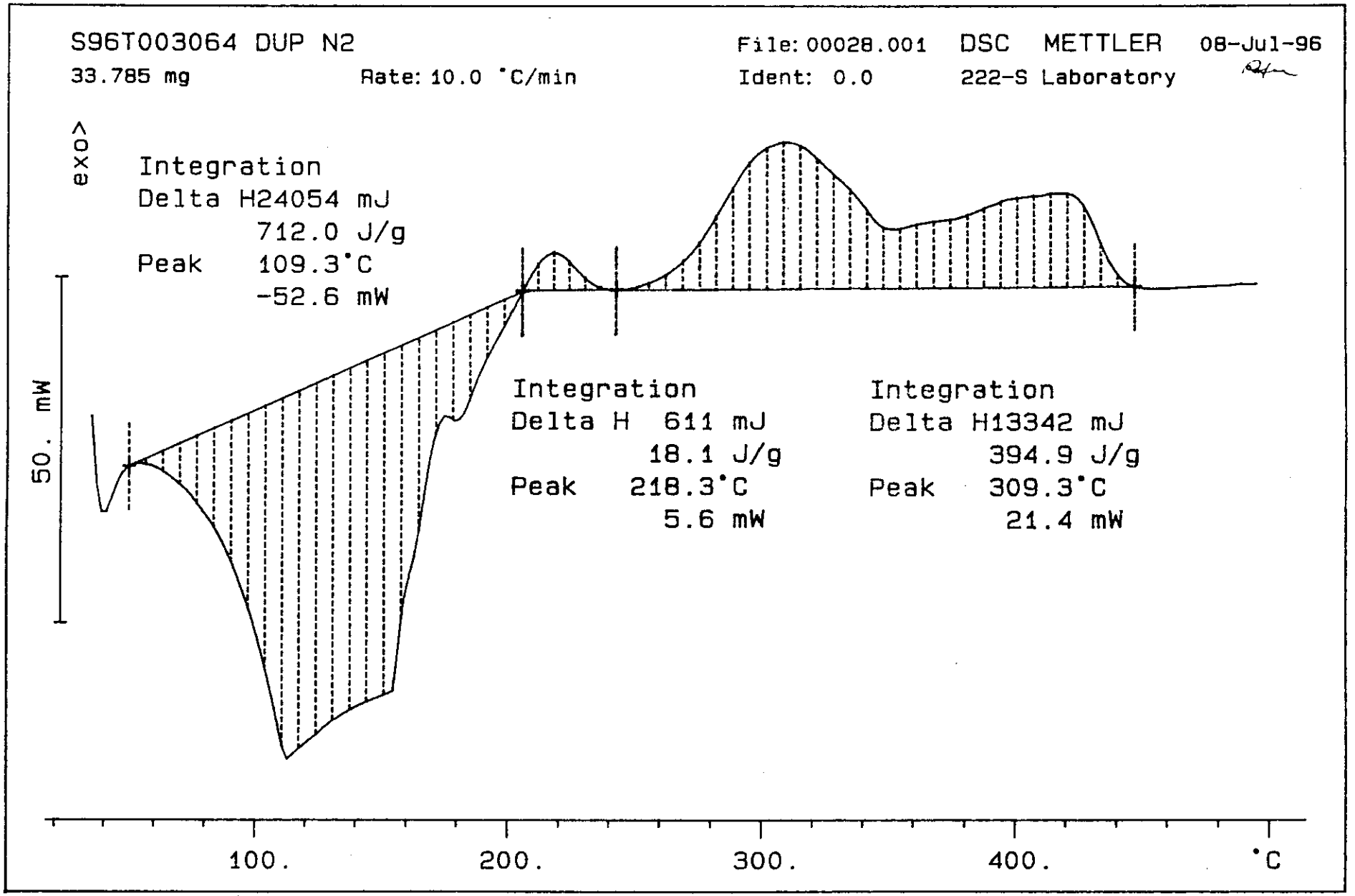


WHC-SD-WM-DP-191, REV. 0


S96T003063 SAM N2
30.522 mg
Rate: 10.0 °C/min
File: 00022.001
Ident: 0.0
DSC METTLER
222-S Laboratory
07-Jul-96
exo>
50. mW
Integration
Delta H23789 mJ
779.4 J/g
Peak 107.3°C
-53.7 mW
Integration
Delta H 1295 mJ
42.4 J/g
Peak 222.6°C
10.9 mW
Integration
Delta H13501 mJ
442.3 J/g
Peak 305.5°C
25.6 mW
100.
200.
300.
400.
°C


S96T003063 DUP N2
37.856 mg
Rate: 10.0 °C/min
File: 00024.001
Ident: 0.0
DSC METTLER
222-S Laboratory
07-Jul-96
<exo
Integration
Delta H24974 mJ
659.7 J/g
Peak 103.3°C
-50.7 mW
50. mW
Integration
Delta H 1495 mJ
39.5 J/g
Peak 222.8°C
14.4 mW
Integration
Delta H16897 mJ
446.3 J/g
Peak 304.0°C
32.8 mW
100.
200.
300.
400.
°C


S96T003064 SAM N2
24.615 mg
Rate: 10.0 °C/min
File: 00026.001
Ident: 0.0
DSC METTLER
222-S Laboratory
08-Jul-96
exo>
Integration
Delta H21839 mJ
887.2 J/g
Peak 111.3°C
-55.1 mW
Integration
Delta H 393 mJ
16.0 J/g
Peak 216.2°C
3.6 mW
Integration
Delta H10124 mJ
411.3 J/g
Peak 308.9°C
15.6 mW
50. mW
100.
200.
300.
400.
°C


S96T003064 DUP N2
33.785 mg
Rate: 10.0 °C/min
File: 00028.001
Ident: 0.0
DSC METTLER
222-S Laboratory
08-Jul-96
exo>
50. mW
Integration
Delta H24054 mJ
712.0 J/g
Peak 109.3°C
-52.6 mW
Integration
Delta H 611 mJ
18.1 J/g
Peak 218.3°C
5.6 mW
Integration
Delta H13342 mJ
394.9 J/g
Peak 309.3°C
21.4 mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10570

Analyst: [illegible] **Instrument:** DSC0 1 **Book #** 62W14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: U-106 DSC RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	31.2 *	N/A	Joules/g
96000641	U-106 (P)	2	SAMPLE	S96T003068	0		DSC-01	SOLID	N/A	360.2		Joules/g
96000641	U-106 (P)	3	DUP	S96T003068	0		DSC-01	SOLID	360.2	322.3	N/A	Joules/g
96000641	U-106 (P)	4	SAMPLE	S96T003069	0		DSC-01	SOLID	N/A	405.2		Joules/g
96000641	U-106 (P)	5	DUP	S96T003069	0		DSC-01	SOLID	405.2	378.9	N/A	Joules/g

Final page for worklist # 10570

[illegible] 7/6/96
Analyst Signature **Date**

[illegible] 7-13-96
Analyst Signature **Date**

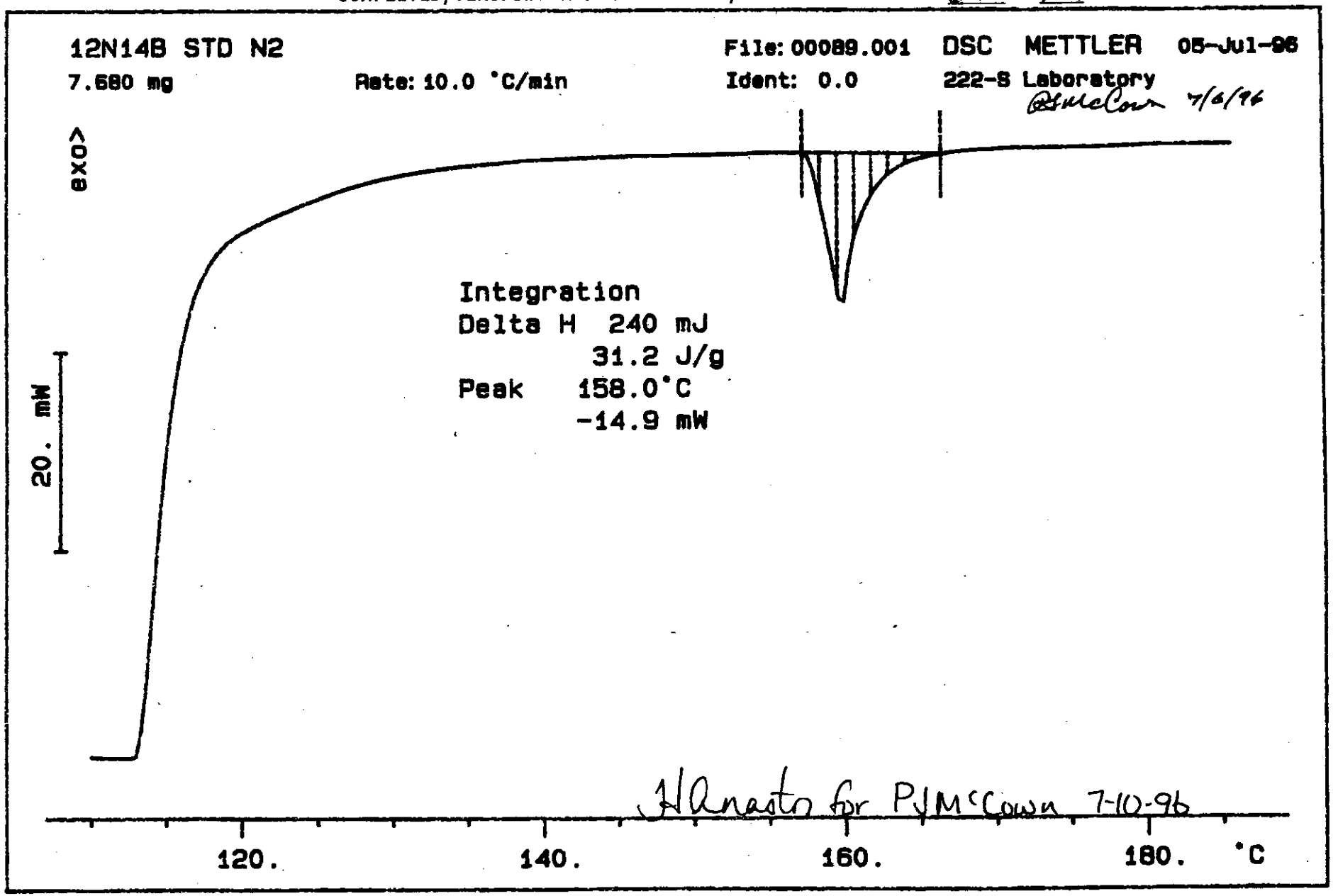
Rae Ann Green 7/6/96

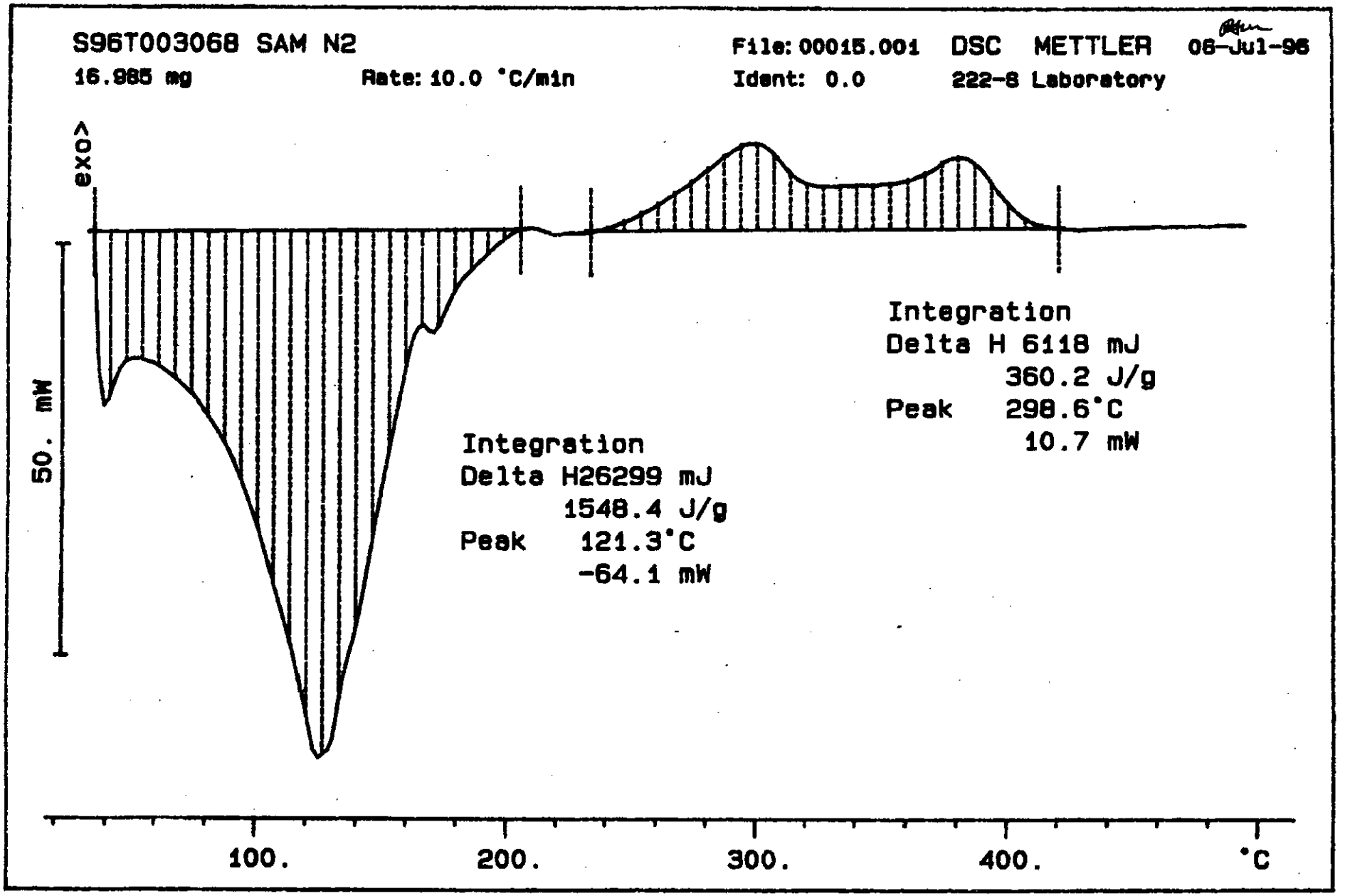
Validated by [illegible] 7-15-96

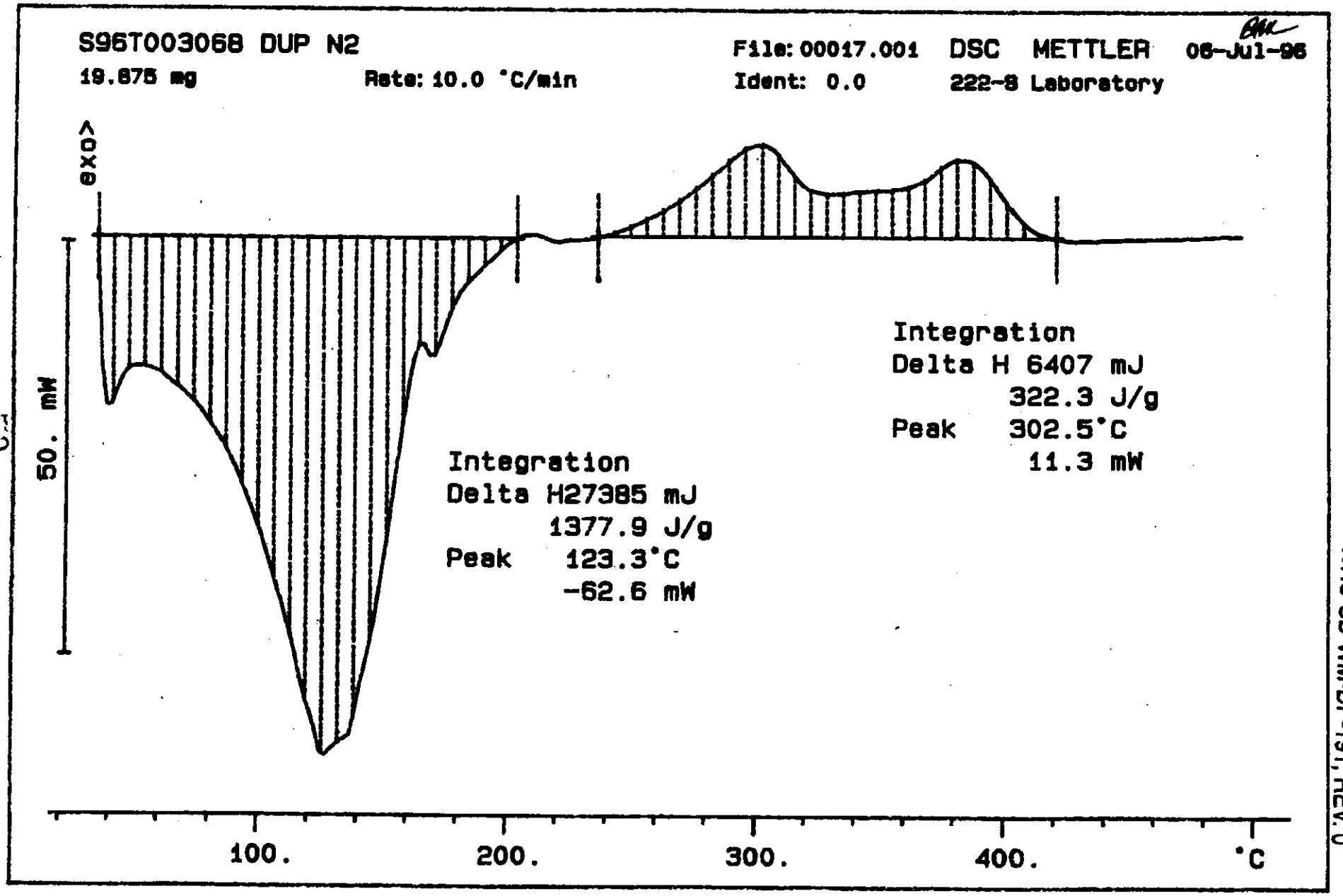
Data Entry Comments: S96T003068 3069 [illegible] 7-10-96 is the sum of two exotherms.

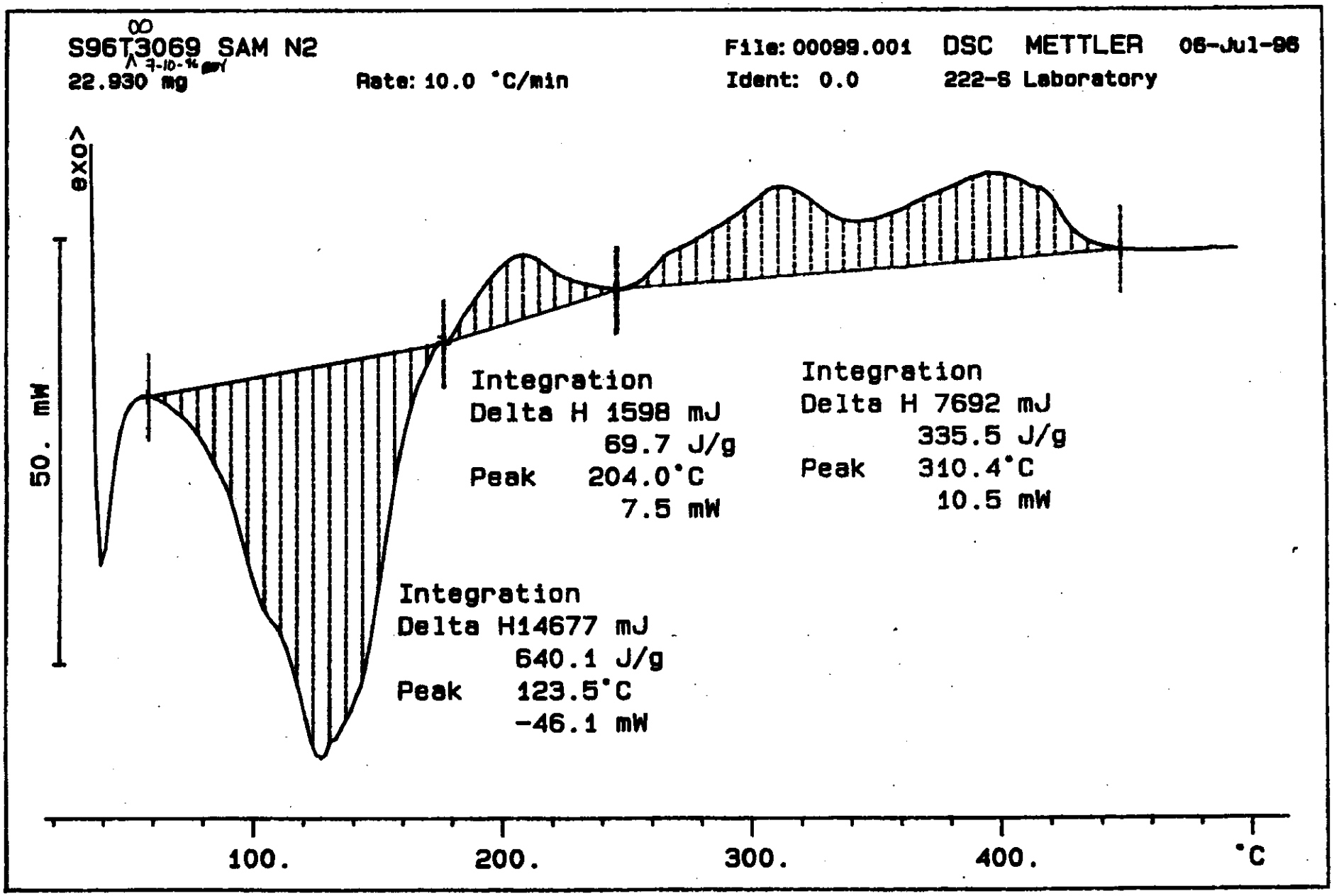
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

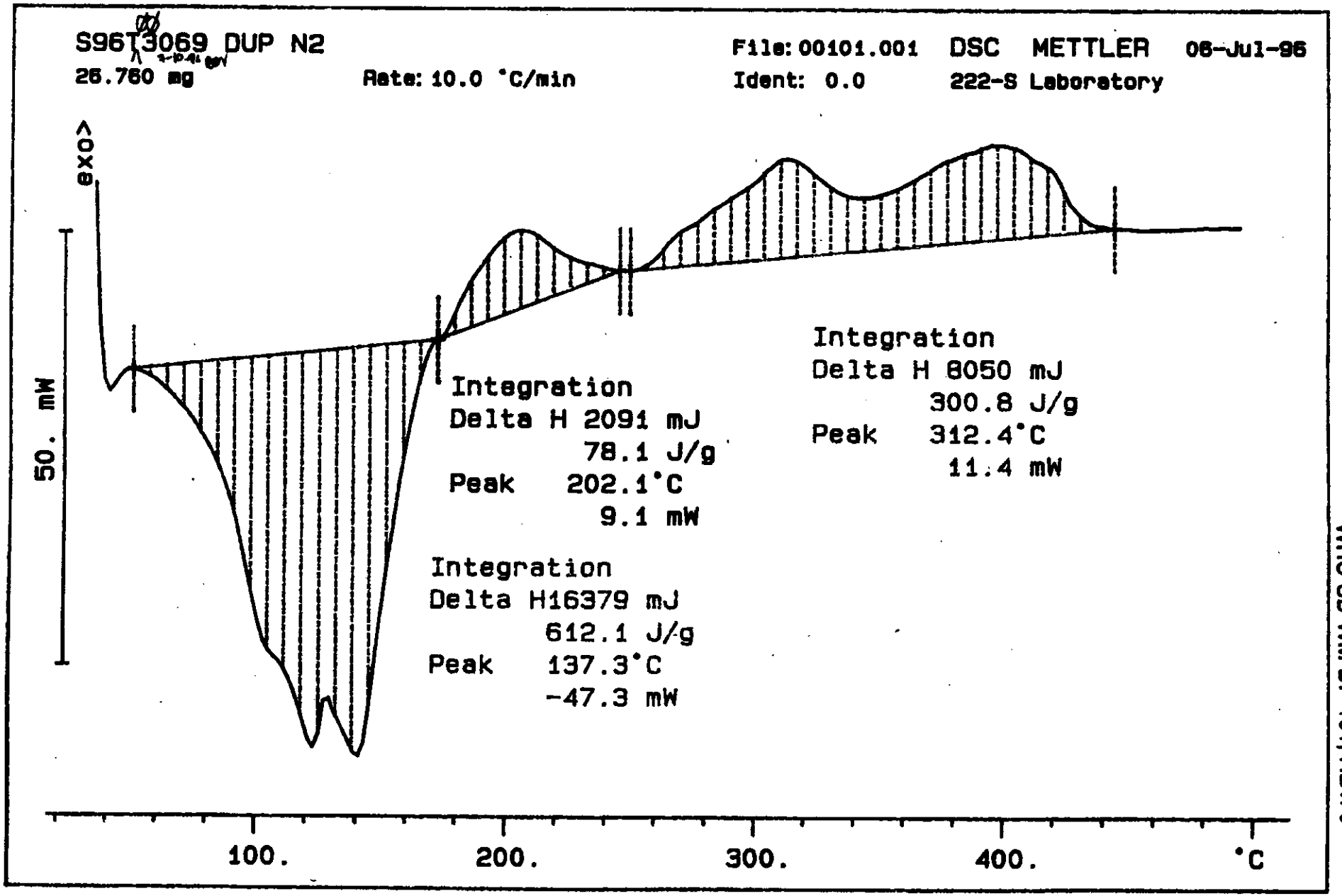
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 68 TO 72.




S96T003068 SAM N2
16.985 mg
Rate: 10.0 °C/min
File: 00015.001
Ident: 0.0
DSC METTLER
222-S Laboratory
06-Jul-96
exo>
50. mW
Integration
Delta H26299 mJ
1548.4 J/g
Peak 121.3°C
-64.1 mW
Integration
Delta H 6118 mJ
360.2 J/g
Peak 298.6°C
10.7 mW
100.
200.
300.
400.
°C


S96T003068 DUP N2
19.875 mg
Rate: 10.0 °C/min
File: 00017.001
Ident: 0.0
DSC METTLER
222-S Laboratory
06-Jul-96
<exo
50. mW
Integration
Delta H27385 mJ
1377.9 J/g
Peak 123.3°C
-62.6 mW
Integration
Delta H 6407 mJ
322.3 J/g
Peak 302.5°C
11.3 mW
100.
200.
300.
400.
°C


S96T3069 SAM N2
22.930 mg
Rate: 10.0 °C/min
File: 00099.001
Ident: 0.0
DSC METTLER
222-S Laboratory
06-Jul-96
exo>
50. mW
Integration
Delta H 1598 mJ
69.7 J/g
Peak 204.0°C
7.5 mW
Integration
Delta H 7692 mJ
335.5 J/g
Peak 310.4°C
10.5 mW
Integration
Delta H14677 mJ
640.1 J/g
Peak 123.5°C
-46.1 mW
100.
200.
300.
400.
°C


S96T3069 DUP N2
26.760 mg
Rate: 10.0 °C/min
File: 00101.001
Ident: 0.0
DSC METTLER
222-S Laboratory
06-Jul-96
exo>
50. mW
Integration
Delta H 2091 mJ
78.1 J/g
Peak 202.1°C
9.1 mW
Integration
Delta H16379 mJ
612.1 J/g
Peak 137.3°C
-47.3 mW
Integration
Delta H 8050 mJ
300.8 J/g
Peak 312.4°C
11.4 mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10572

Analyst: EAL **Instrument:** DSC0 **Book #** 12N4B

Method: LA-514-113 Rev/Mod C-1 7-22-96 BCV

Worklist Comment: U-106 DSC RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	30.8 * 567.4 7-12-96 BCV	N/A	Joules/g
96000641	U-106 (P)	2	SAMPLE	S96T003071	0		DSC-01	SOLID	N/A	~~1004~~ 567.4 7-11-96 BCV		Joules/g
96000641	U-106 (P)	3	DUP	S96T003071	0		DSC-01	SOLID	~~1004~~ 7-11-96 BCV	470.1	N/A	Joules/g

Final page for worklist # 10572

A Lambel 07-05-96
Analyst Signature Date

Analyst Signature Date 7-12-96

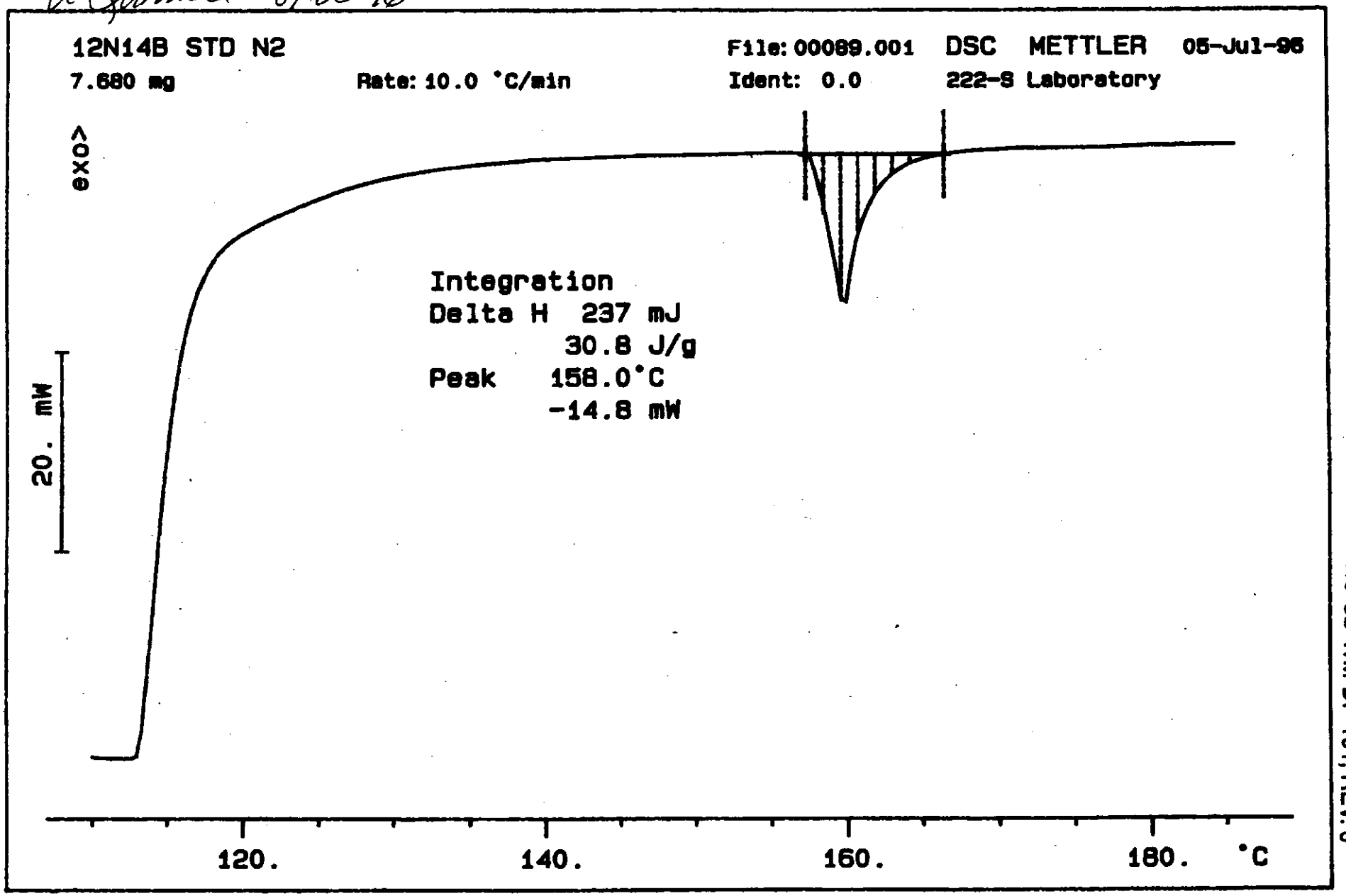
Verified/Validated by
Blandina
Valenzuela
7-15-96

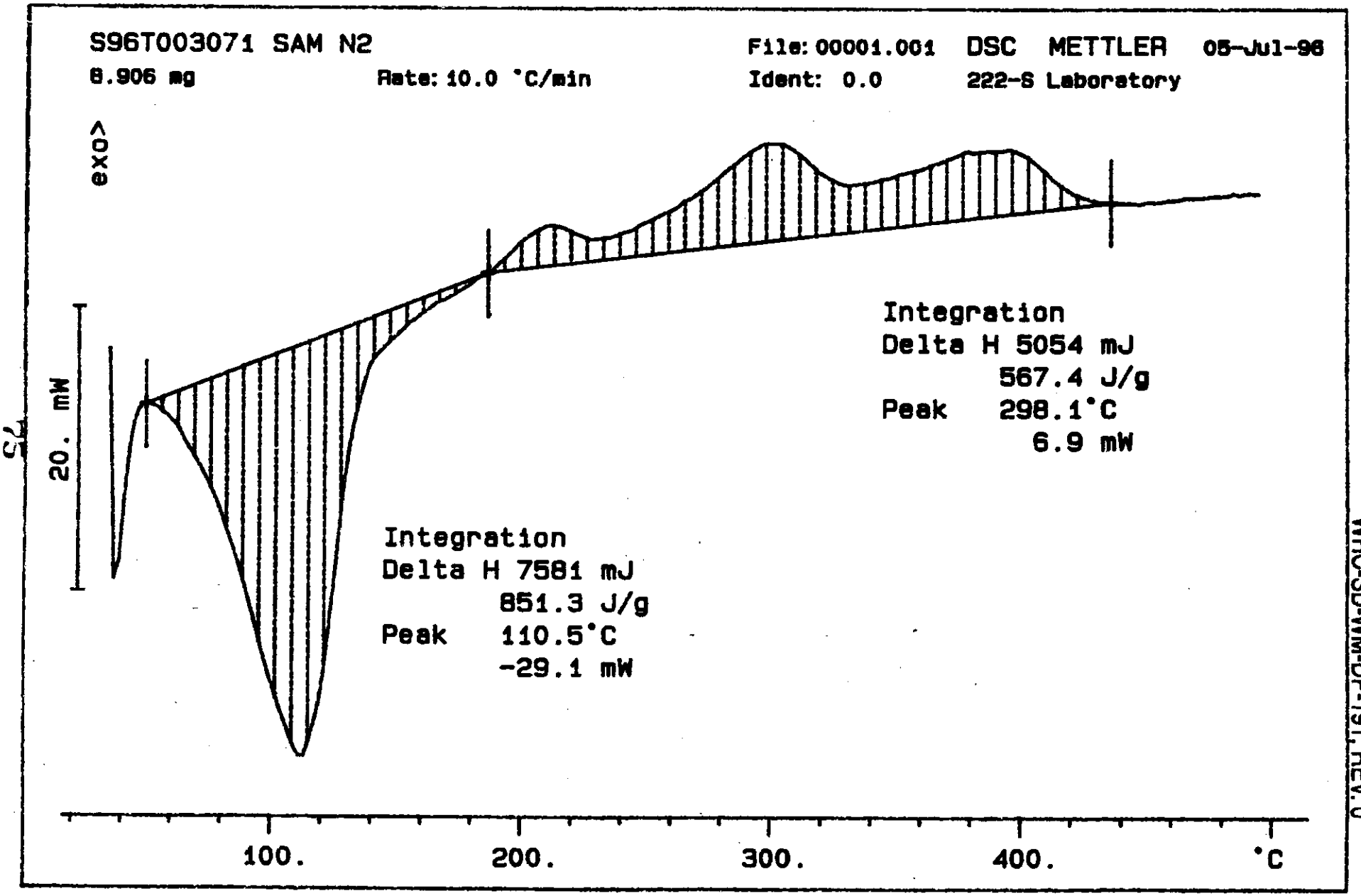
Data Entry Comments:

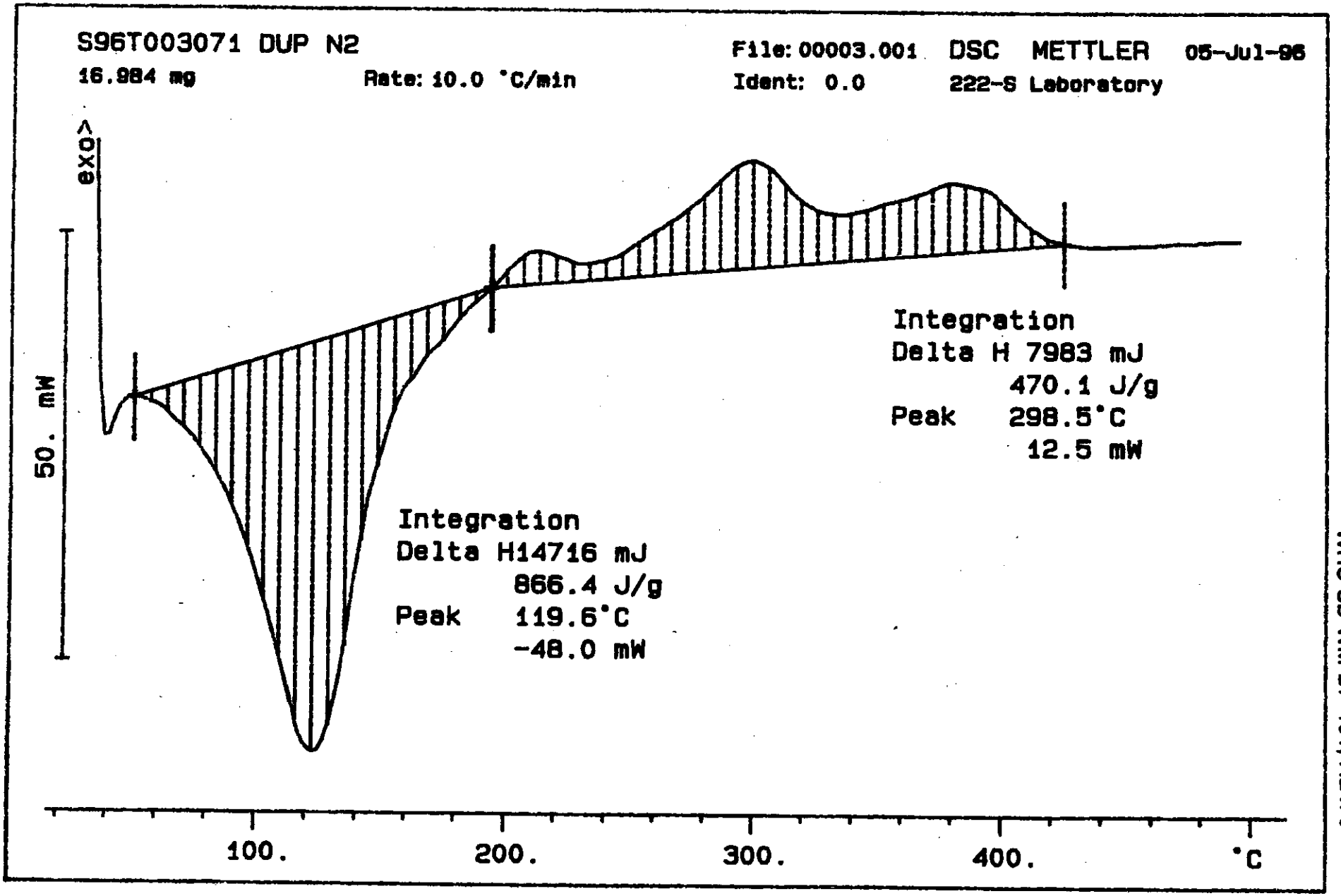
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 73 TO 76.

A Lambel 07.05.96




S96T003071 SAM N2
8.906 mg
Rate: 10.0 °C/min
File: 00001.001
Ident: 0.0
DSC METTLER
222-S Laboratory
05-Jul-96
exo>
20. mW
Integration
Delta H 5054 mJ
567.4 J/g
Peak 298.1°C
6.9 mW
Integration
Delta H 7581 mJ
851.3 J/g
Peak 110.5°C
-29.1 mW
100.
200.
300.
400.
°C


S96T003071 DUP N2
16.984 mg
Rate: 10.0 °C/min
File: 00003.001
Ident: 0.0
DSC METTLER
222-S Laboratory
05-Jul-96
exo>
50. mW
Integration
Delta H 7983 mJ
470.1 J/g
Peak 298.5°C
12.5 mW
Integration
Delta H14716 mJ
866.4 J/g
Peak 119.6°C
-48.0 mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10765

Analyst: BDV **Instrument:** DSC01 **Book #** ~~12N~~ 7-12-96 BDV

Method: LA-514-113 Rev/Mod —

Worklist Comment: Dry DSC for U-106. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
96000641	U-106 (P)	1 SAMPLE	S96T003063	0		DSC-02	LIQUID	N/A	965.2		Joules/g Dry
96000641	U-106 (P)	2 DUP	S96T003063	0		DSC-02	LIQUID	965.2	967.3	N/A	Joules/g Dry
96000641	U-106 (P)	3 SAMPLE	S96T003064	0		DSC-02	LIQUID	N/A	820.2		Joules/g Dry
96000641	U-106 (P)	4 DUP	S96T003064	0		DSC-02	LIQUID	820.2	792.7	N/A	Joules/g Dry
96000641	U-106 (P)	5 SAMPLE	S96T003071	0		DSC-02	SOLID	N/A	1024		Joules/g Dry
96000641	U-106 (P)	6 DUP	S96T003071	0		DSC-02	SOLID	1024	848.1	N/A	Joules/g Dry

Data entered + verified by

Final page for worklist # 10765

Blandina Valenzuela 7-12-96

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

BEST AVAILABLE COPY

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.

U-106

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
[illegible]	494.7	49.75	965.2
3023	485.8	49.79	967.3
3064	427.3	47.90	820.3
3064D	413.6	47.90	793.7
3071	567.4	44.57	1024
3071D	490.1	44.57	848.1

LABCORE Data Entry Template for Worklist# 10772

Analyst: RTM **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-114 Rev/Mod 0 1

Worklist Comment: U-106 DSC Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	LIQUID	28.45	28.57	N/A	Joules/g
96000643	U-106 (P)	2	SAMPLE	S96T002860	0		DSC-03	LIQUID	N/A	417.0		Joules/g
96000643	U-106 (P)	3	DUP	S96T002860	0		DSC-03	LIQUID	417.0	448.3	N/A	Joules/g
		4	STD				DSC-03	LIQUID	28.45	28.99	N/A	Joules/g
96000643	U-106 (P)	5	SAMPLE	S96T003051	0		DSC-03	LIQUID	N/A	443.5		Joules/g
96000643	U-106 (P)	6	DUP	S96T003051	0		DSC-03	LIQUID	443.5	443.0	N/A	Joules/g

Final page for worklist # 10772

See attached for signatures

Analyst Signature **Date** 7-18-96

Analyst Signature **Date**

Verified/Validated by
Blandina Valenzuela 7-18-96

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# 10772

Analyst: [illegible] **Instrument:** DSC0 _____ **Book #** 12N4B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: U-106 DSC Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	LIQUID			N/A	Joules/g
96000643	U-106 (P)	2	SAMPLE	S96T002860	0		DSC-01	LIQUID	N/A			Joules/g
96000643	U-106 (P)	3	DUP	S96T002860	0		DSC-01	LIQUID			N/A	Joules/g
96000643	U-106 (P)	4	SAMPLE	S96T003051	0		DSC-01	LIQUID	N/A			Joules/g
96000643	U-106 (P)	5	DUP	S96T003051	0		DSC-01	LIQUID			N/A	Joules/g

Final page for worklist # 10772

[illegible] 7/13/96
Analyst Signature **Date**

Analyst Signature **Date**

RSMcCaron 7/13/94

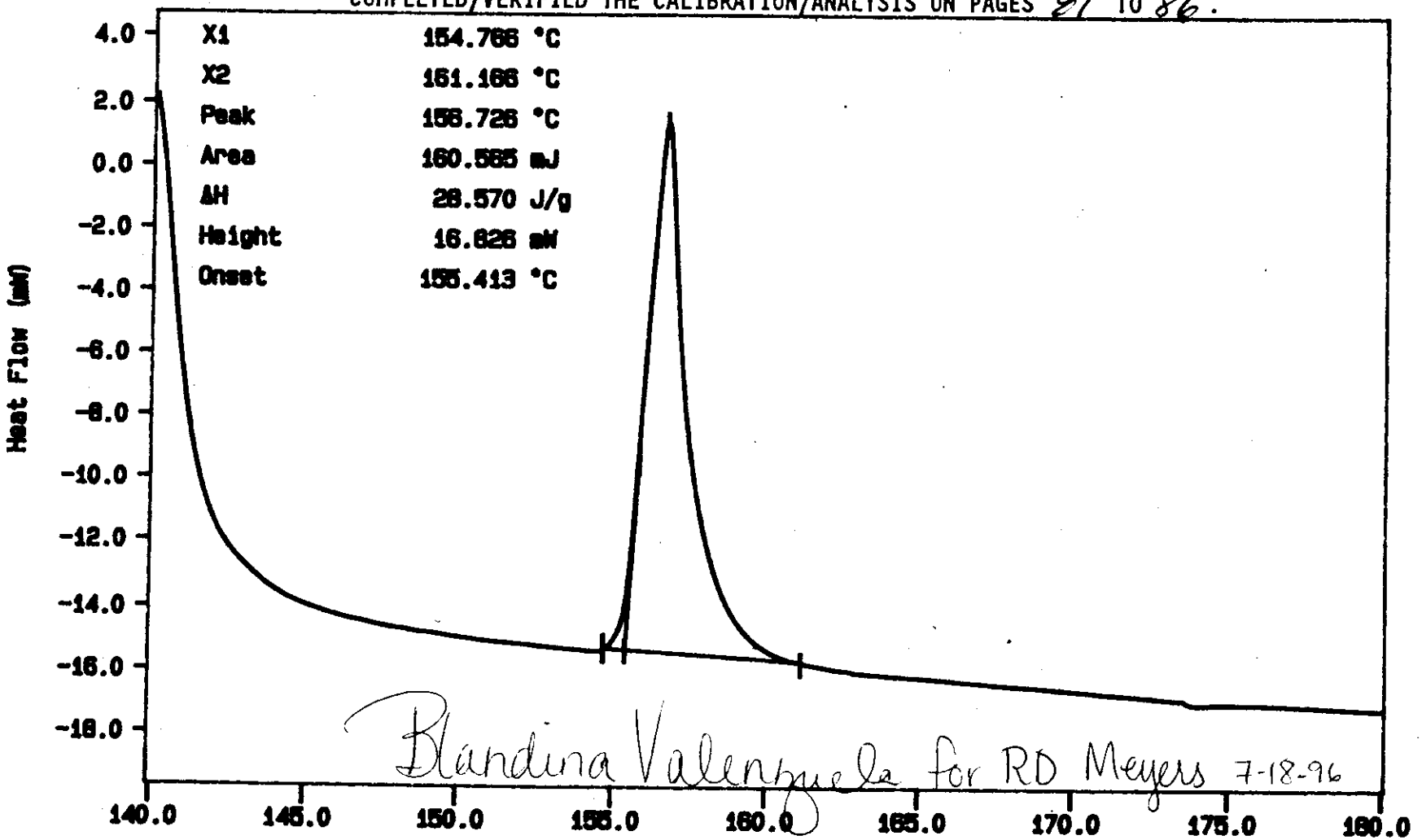
DSC 03 instrument
was used.
7-18-96
for B Valenzuela

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.

Curve 1: DSC
File info: IND071301 Fri Jul 12 21:28:55 1996
Sample Weight: 5.620 mg
12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 81 TO 86.

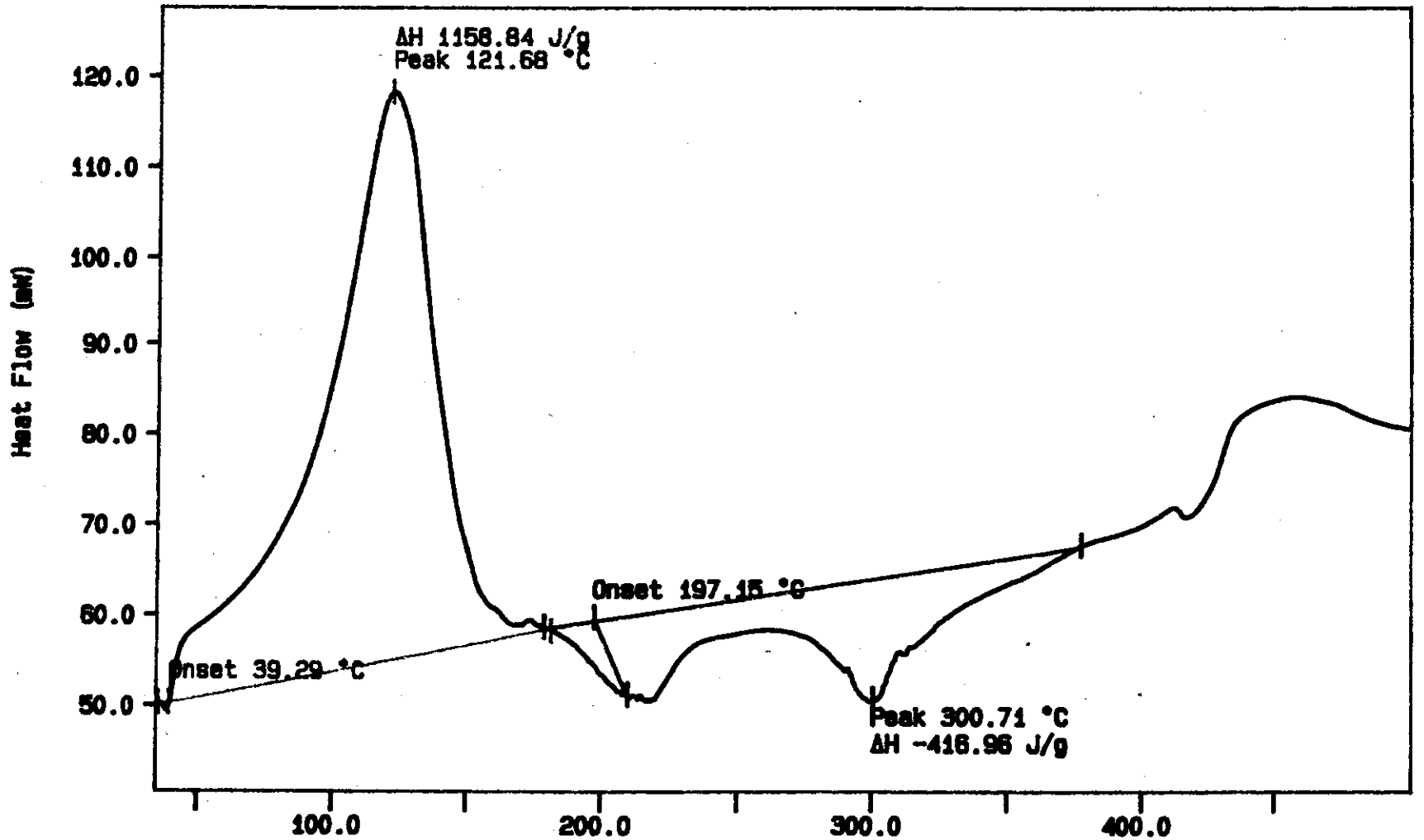


Blandina Valenzuela for RD Meyers 7-18-96

N2, EXOTHERM DOWN
TEMP: 140.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 180.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 00:13:49 1996

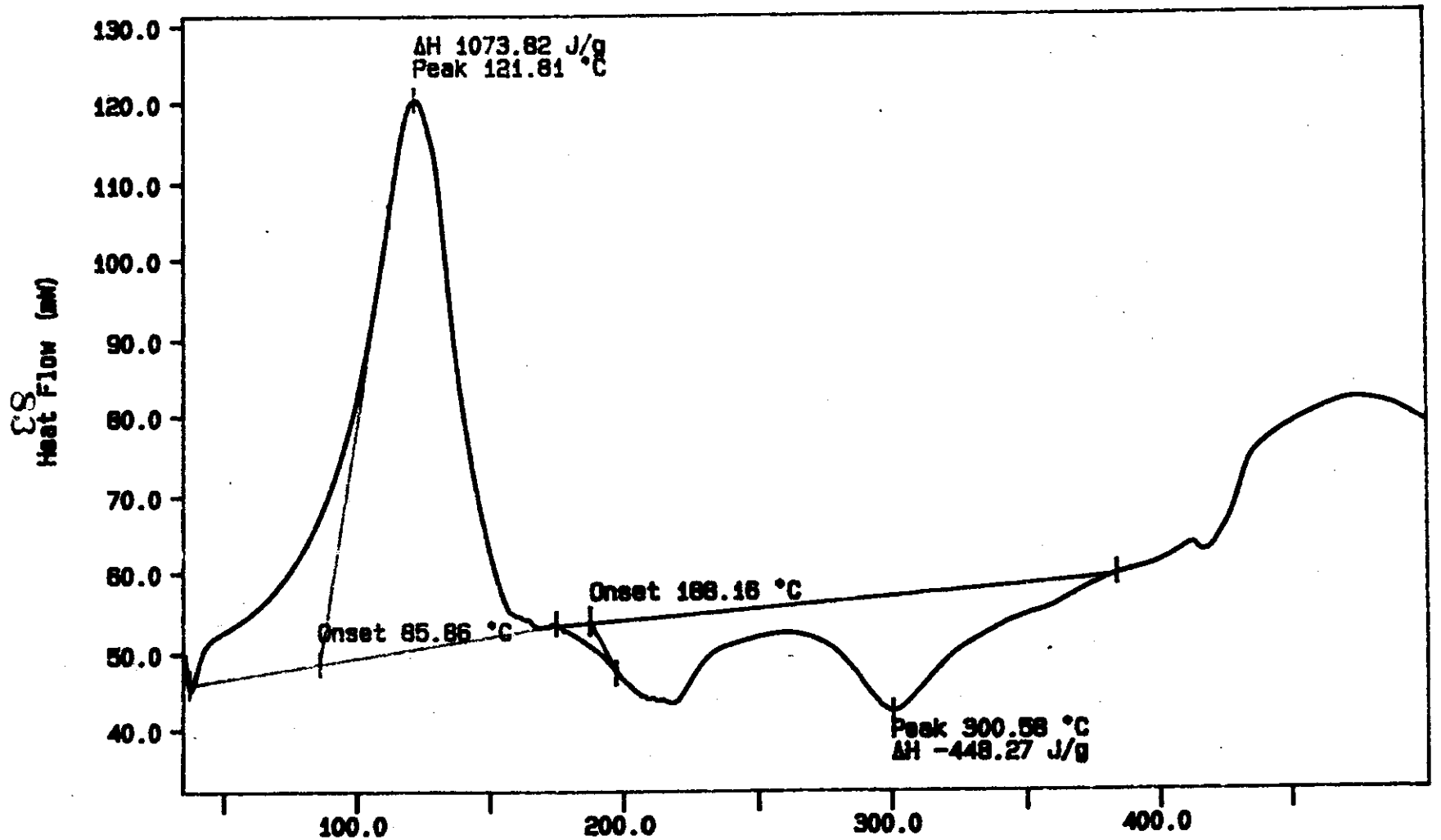
Curve 1: DSC
File info: SAM071301 Sat Jul 13 01:18:39 1996
Sample Weight: 16.190 mg
S96T002860



N2 10C/min
TEMP: 35.0 C TIME: 0.0 min RATE: 10.0 C/min

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jul 16 10:24:02 1996

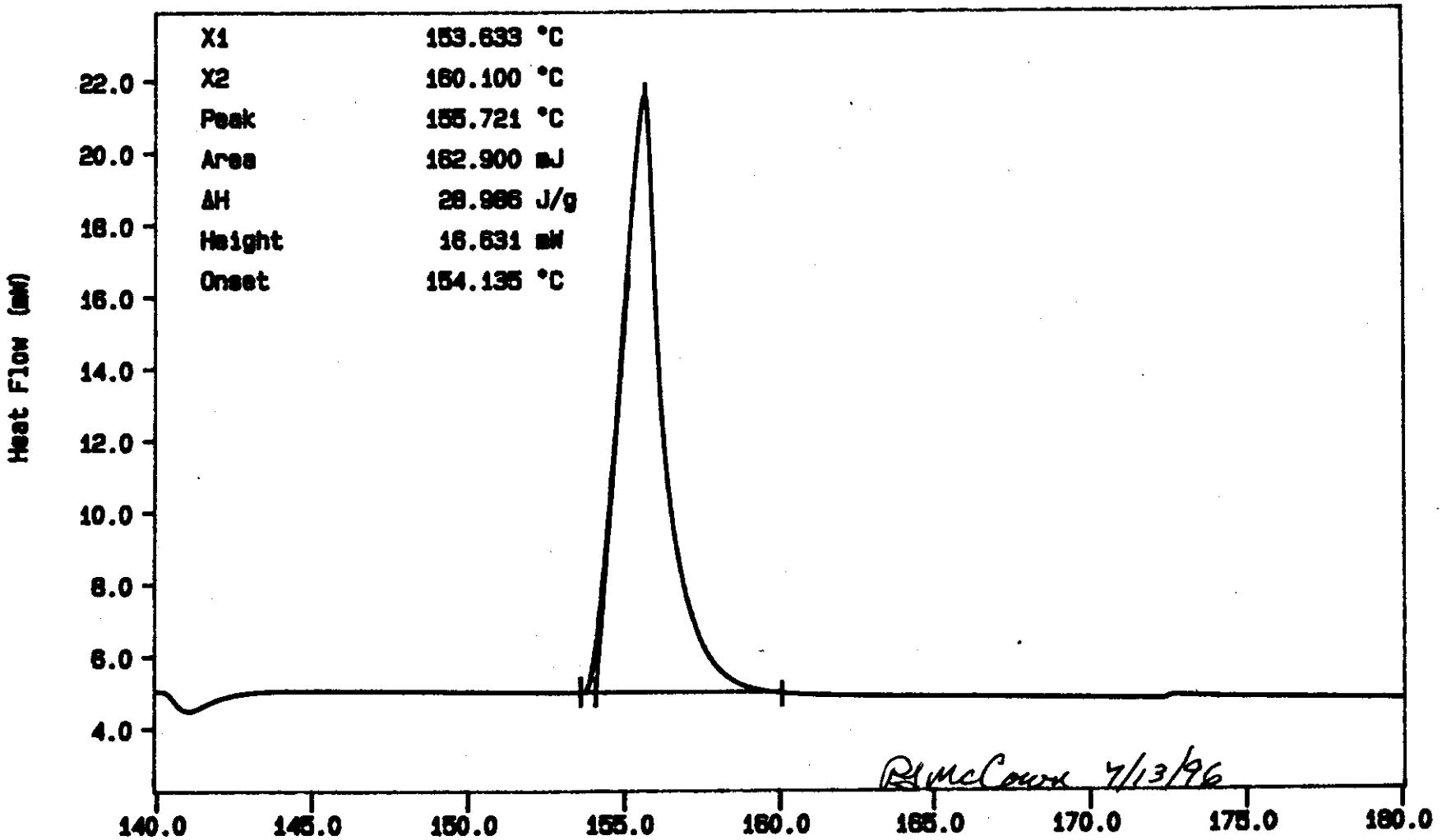
Curve 1: DSC
File info: SAM071302 Sat Jul 13 03:52:38 1996
Sample Weight: 17.670 mg
S96T002860DUP



N2 10C/min
TEMP: 35.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 400.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jul 16 10:32:42 1996

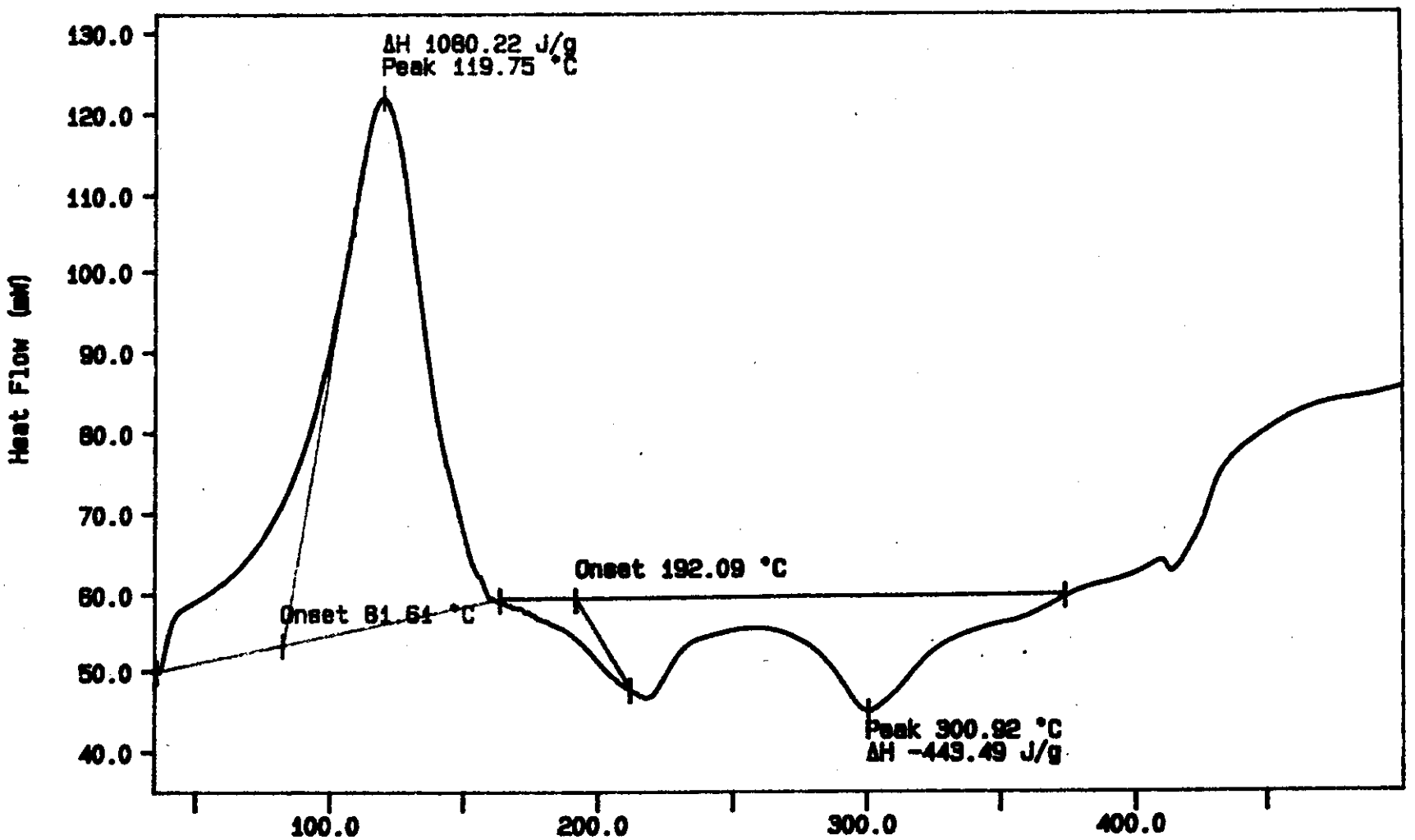
Curve 1: DSC
File info: IND071302 Sat Jul 13 07:10:26 1996
Sample Weight: 5.620 mg
12N14-B INDIUM AT 10C/MIN



N2, EXOTHERM DOWN
TEMP: 140.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 180.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 08:54:12 1996

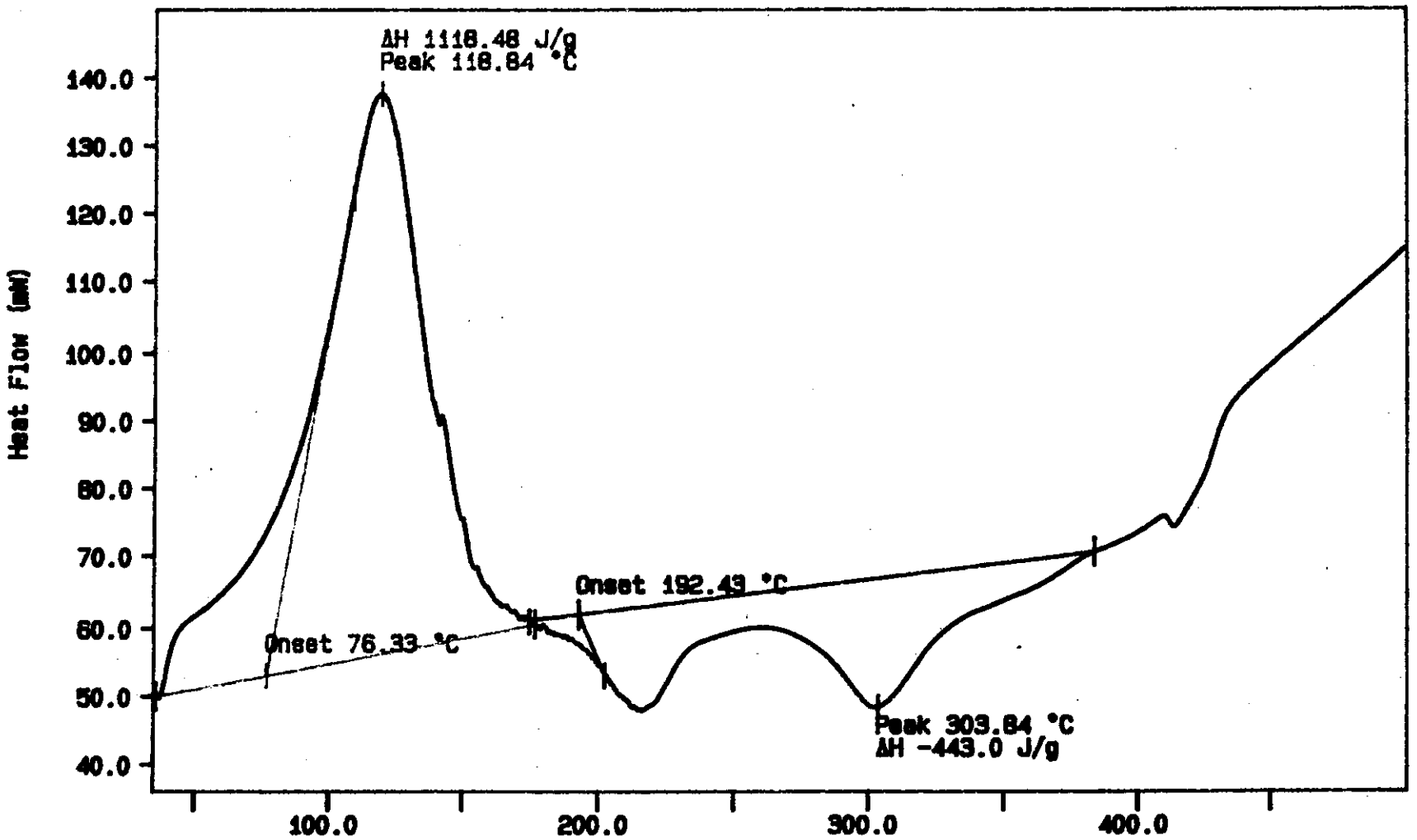
Curve 1: DSC
File info: SAM071303 Sat Jul 13 10:32:37 1996
Sample Weight: 17.510 mg
S96T003051



N2 10C/min
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 400.0 C

PJ MCCOMN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jul 16 10:42:09 1996

Curve 1: DSC
File info: SAM071304 Sat Jul 13 12:50:36 1996
Sample Weight: 22.600 mg
S96T003051 DUP



N2 10C/min
TEMP: [illegible] C TIME: 0.0 min RATE: 10.0 C/min
TEMP: [illegible] C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jul 16 10:50:59 1996

LABCORE Data Entry Template for Worklist# 10774

Analyst: JDS **Instrument:** DSC0 1 **Book #** 12N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: U-106 DSC Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	28.0	N/A	Joules/g
96000643	U-106 (P)	2	SAMPLE	S96T003011	0		DSC-01	SOLID	N/A	445.9		Joules/g
96000643	U-106 (P)	3	DUP	S96T003011	0		DSC-01	SOLID	445.9	469.3	N/A	Joules/g

Final page for worklist # 10774

See attached for signature
Analyst Signature Date

Stu Peter 7-17-96
Analyst Signature Date

Verified/Validated by
Blandina Valenzuela 7-18-96

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# 10774

Analyst: RDM/JDS **Instrument:** DSC0 _____ **Book #** 12N4B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: U-106 DSC Run under N2. gjh

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
~~96000643~~	~~U-106 (P)~~	~~2 SAMPLE~~	~~S96T003010~~	~~0~~	7-16-96 BDV	DSC-01	SOLID	N/A			Joules/g
~~96000643~~	~~U-106 (P)~~	~~3 DUP~~	~~S96T003010~~	~~0~~	7-16-96 BDV	DSC-01	SOLID			N/A	Joules/g
96000643	U-106 (P)	4 SAMPLE	S96T003011	0		DSC-01	SOLID	N/A			Joules/g
96000643	U-106 (P)	5 DUP	S96T003011	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 10774

R D Mayer 7/13/96
Analyst Signature **Date**

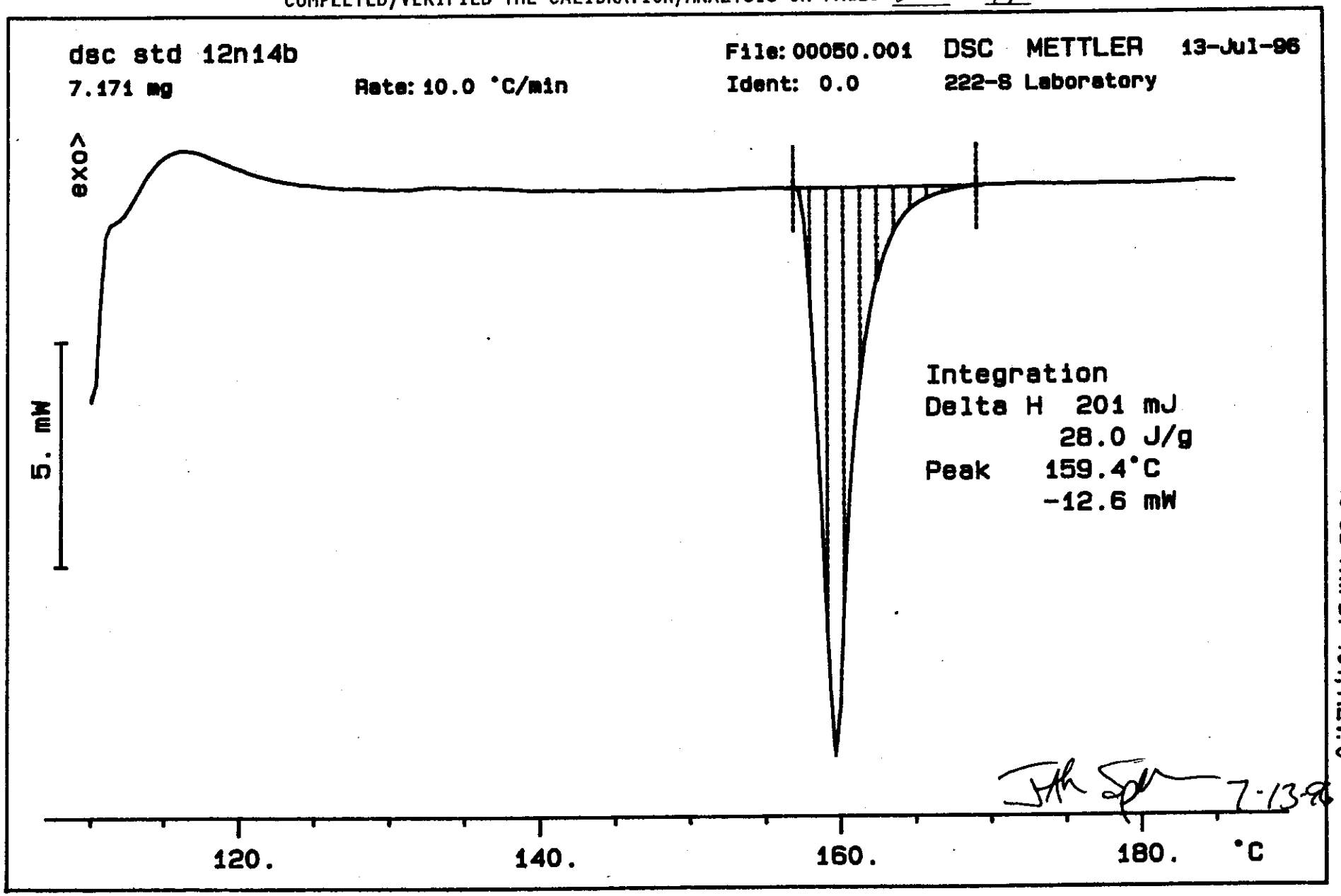
JDS 7/13/96
Analyst Signature **Date**

Sample ~~3~~ 4 S96T003010 were removed from worklist because it had problems. 7-16-96 BDV
7-16-96 BDV

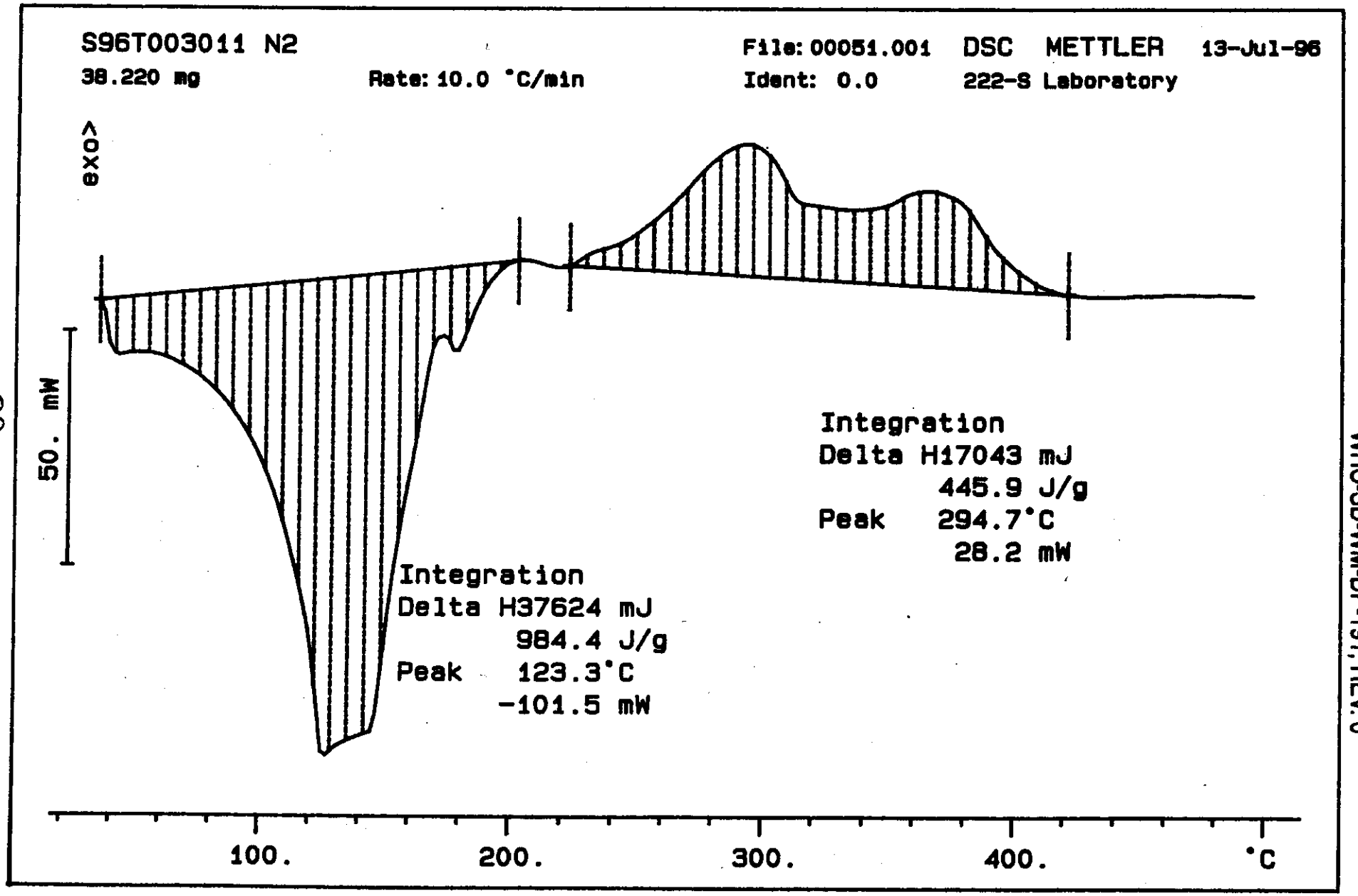
Data Entry Comments:

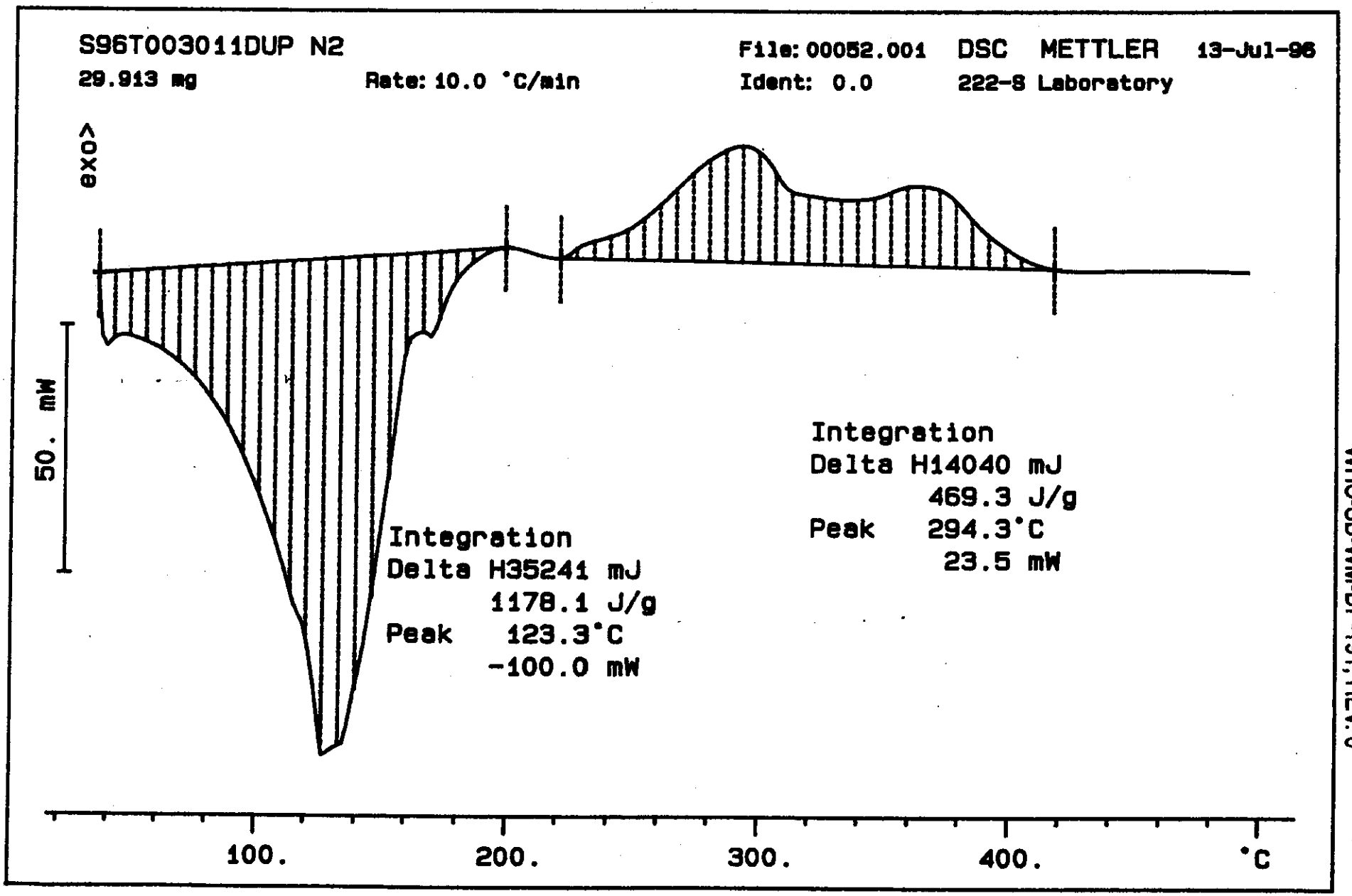
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 89 TO 91.



7-13-96


S96T003011 N2
38.220 mg
Rate: 10.0 °C/min
File: 00051.001
Ident: 0.0
DSC METTLER
222-S Laboratory
13-Jul-96
exo>
50. mW
Integration
Delta H37624 mJ
984.4 J/g
Peak 123.3°C
-101.5 mW
Integration
Delta H17043 mJ
445.9 J/g
Peak 294.7°C
28.2 mW
100.
200.
300.
400.
°C


S96T003011DUP N2
29.913 mg
Rate: 10.0 °C/min
File: 00052.001
DSC METTLER
13-Jul-96
Ident: 0.0
222-S Laboratory
exo>
50. mW
Integration
Delta H35241 mJ
1178.1 J/g
Peak 123.3°C
-100.0 mW
Integration
Delta H14040 mJ
469.3 J/g
Peak 294.3°C
23.5 mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10776

Analyst: SDS **Instrument:** DSC0 1 **Book #** 12N148

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: U-106 DSC Run under N2. gjh

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID	28.45	28.0	N/A	Joules/g
96000643	U-106 (P)	2 SAMPLE	S96T003012	0		DSC-01	SOLID	N/A	418.9		Joules/g
96000643	U-106 (P)	3 DUP	S96T003012	0		DSC-01	SOLID	418.9	438.4	N/A	Joules/g
96000643	U-106 (P)	4 SAMPLE	S96T003013	0		DSC-01	SOLID	N/A	442.1		Joules/g
96000643	U-106 (P)	5 DUP	S96T003013	0		DSC-01	SOLID	442.1	483.0	N/A	Joules/g

Final page for worklist # 10776

SDS 7-14-96
Analyst Signature **Date**

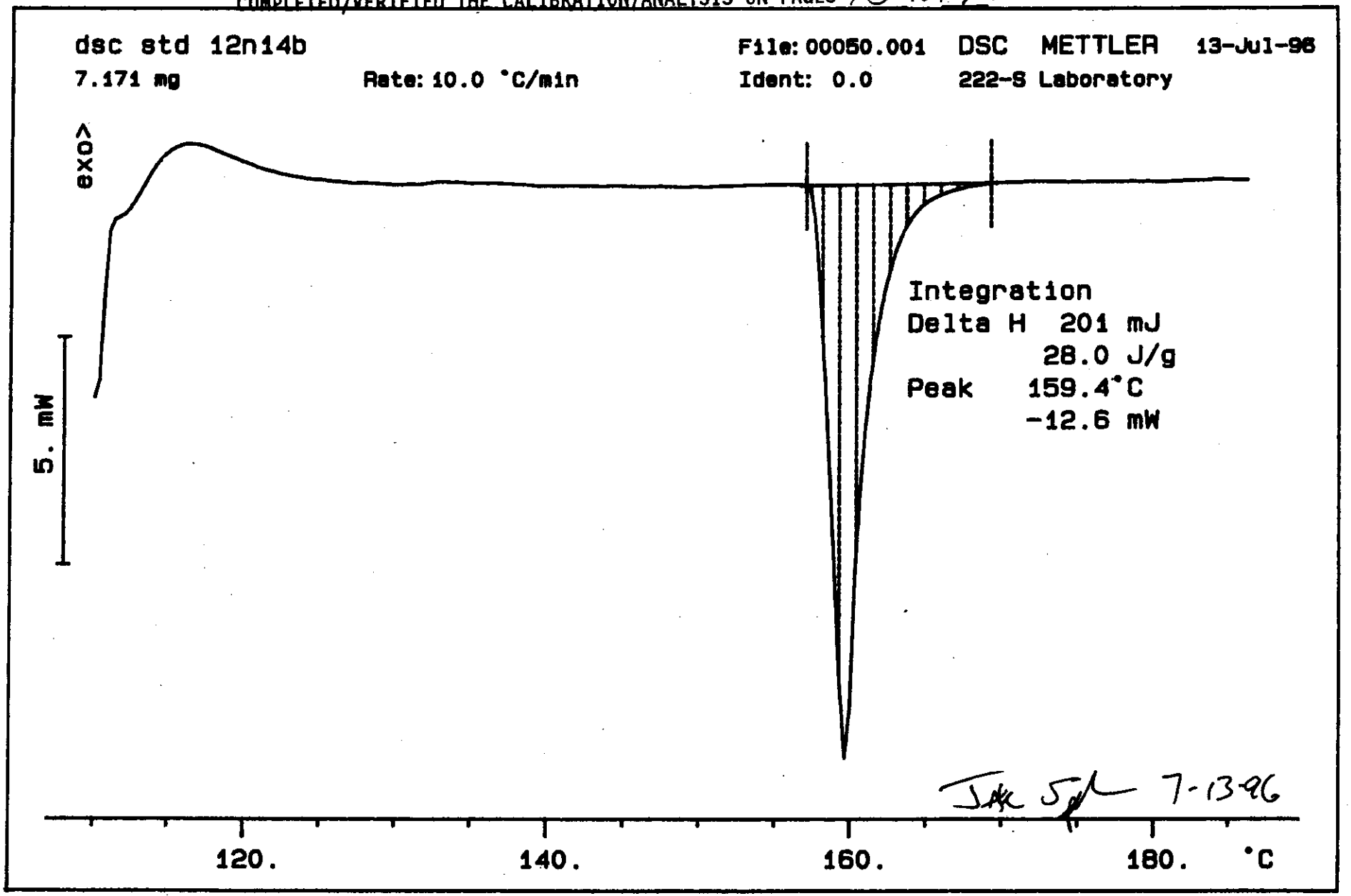
7-17-96
Analyst Signature **Date**

Verified/Validated by
Blandina
Valenzuela
7 18 96

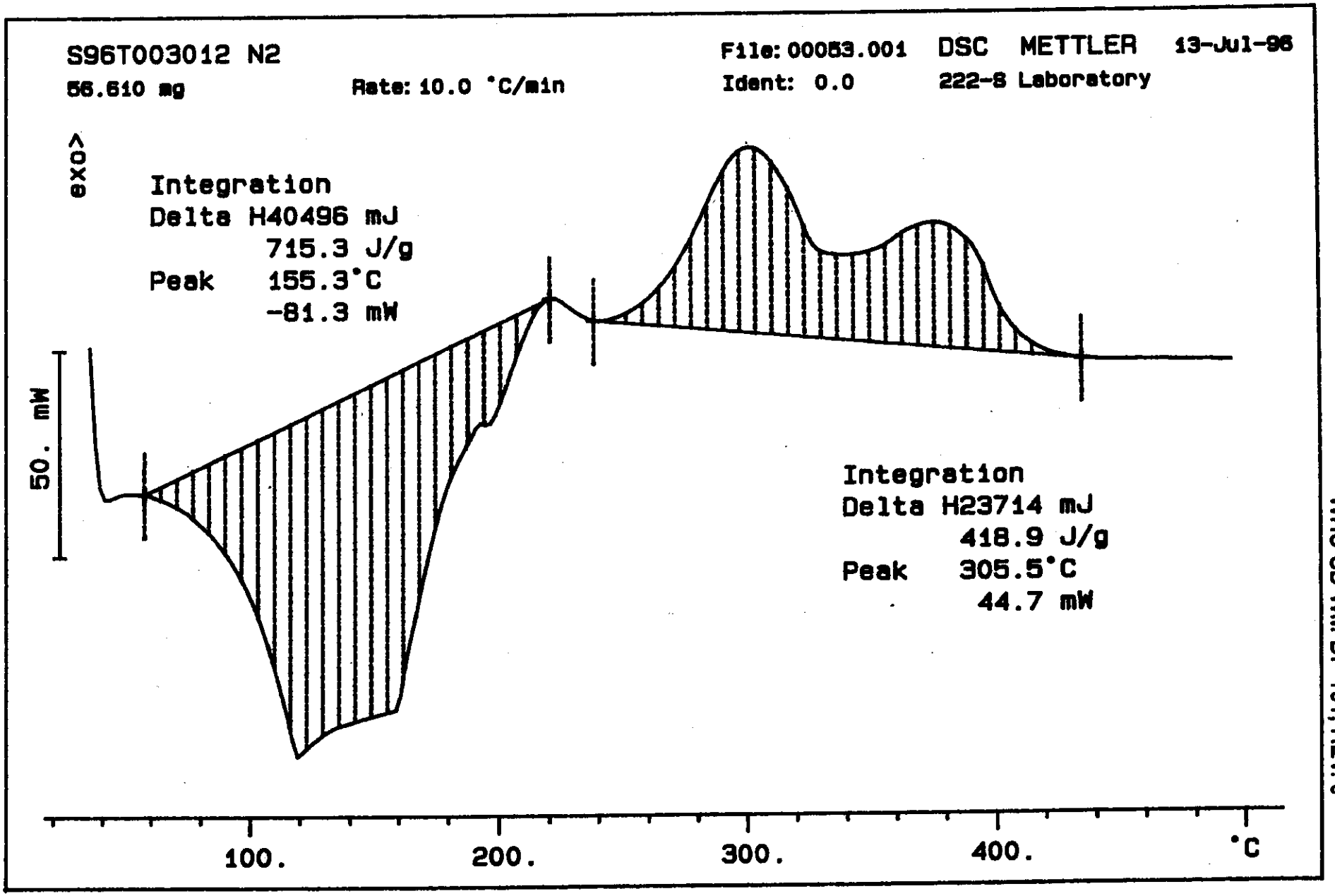
Data Entry Comments: S96T003013 results are the sum of two exotherms.

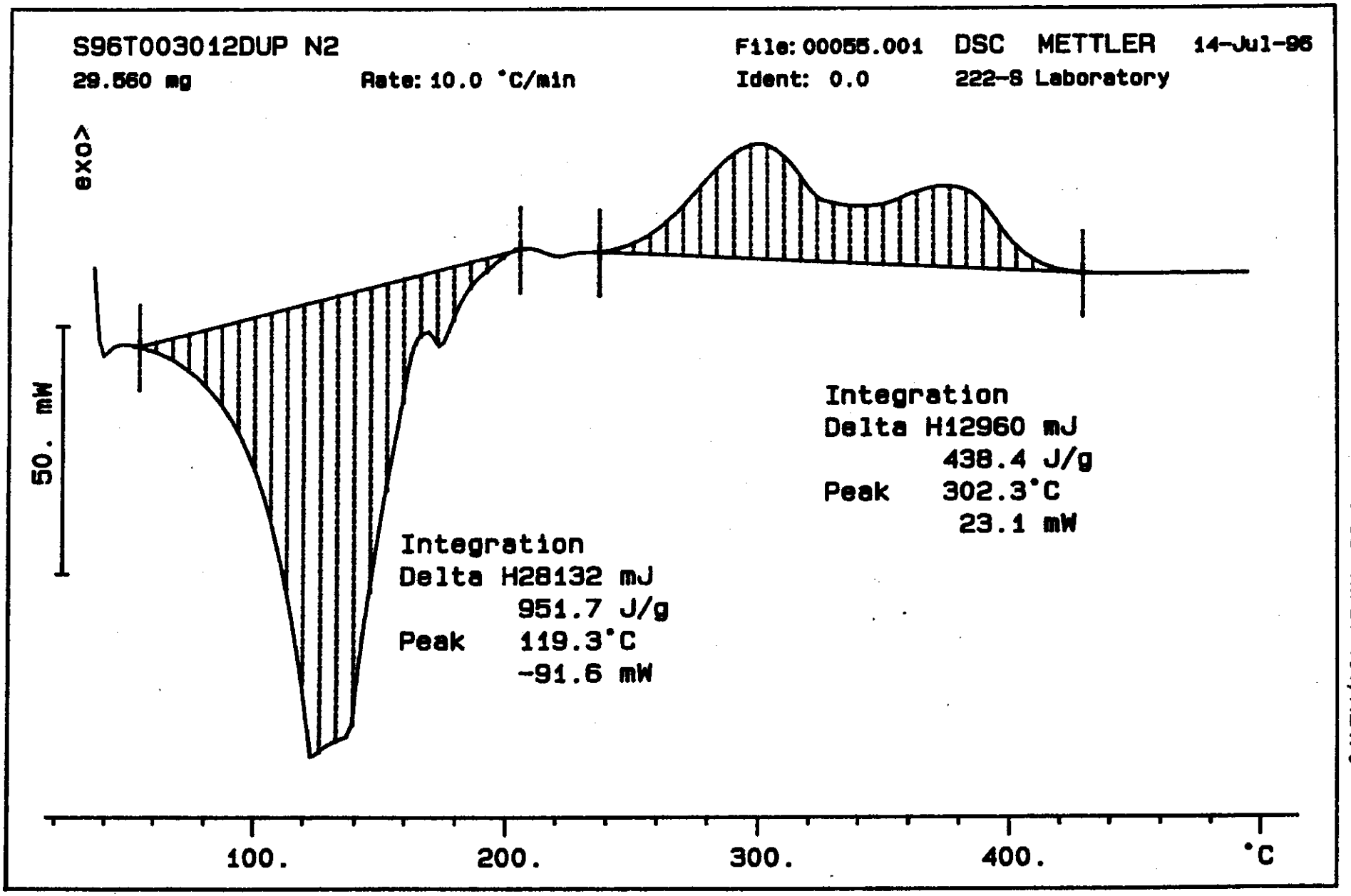
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

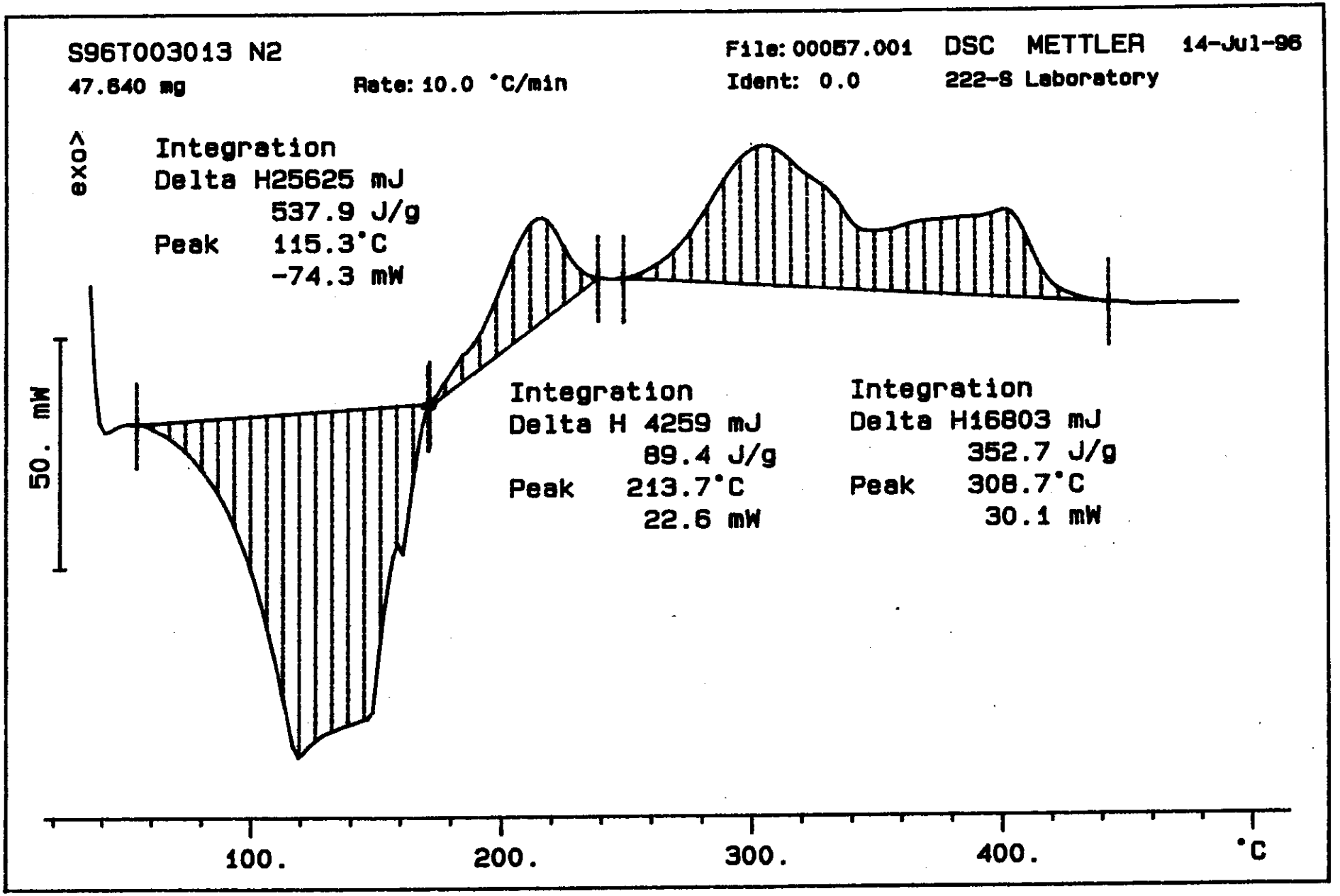
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 93 TO 97.

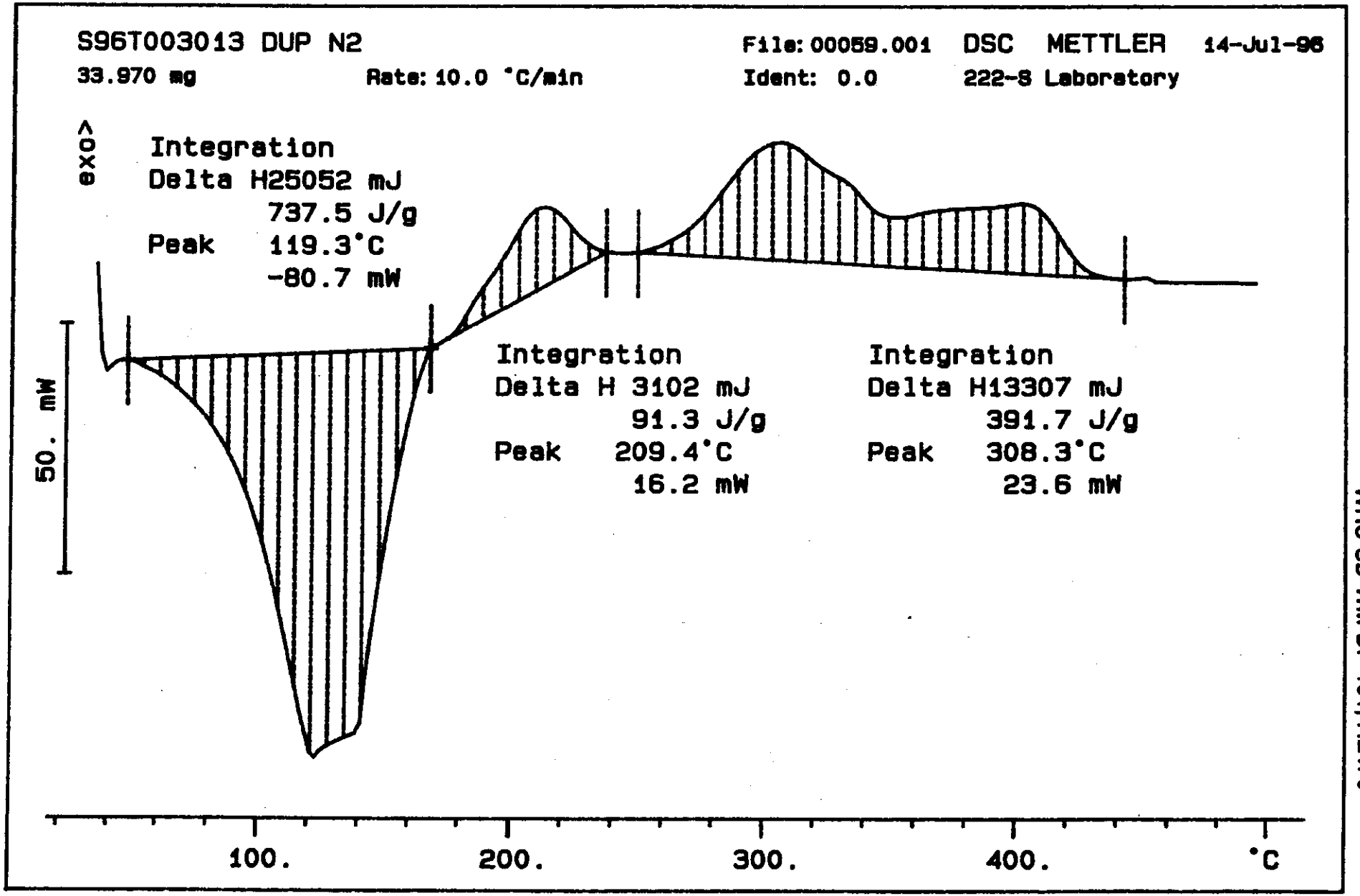


JAK 7-13-96


S96T003012 N2
56.610 mg
Rate: 10.0 °C/min
File: 00053.001
Ident: 0.0
DSC METTLER
222-S Laboratory
13-Jul-96
exo>
Integration
Delta H40496 mJ
715.3 J/g
Peak 155.3°C
-81.3 mW
50. mW
Integration
Delta H23714 mJ
418.9 J/g
Peak 305.5°C
44.7 mW
100.
200.
300.
400.
°C


S96T003012DUP N2
29.560 mg
Rate: 10.0 °C/min
File: 00055.001
Ident: 0.0
DSC METTLER
222-S Laboratory
14-Jul-96
exo>
50. mW
Integration
Delta H28132 mJ
951.7 J/g
Peak 119.3°C
-91.6 mW
Integration
Delta H12960 mJ
438.4 J/g
Peak 302.3°C
23.1 mW
100.
200.
300.
400.
°C


S96T003013 N2
47.640 mg
Rate: 10.0 °C/min
File: 00057.001
Ident: 0.0
DSC METTLER
222-S Laboratory
14-Jul-96
<exo
Integration
Delta H25625 mJ
537.9 J/g
Peak 115.3°C
-74.3 mW
Integration
Delta H 4259 mJ
89.4 J/g
Peak 213.7°C
22.6 mW
Integration
Delta H16803 mJ
352.7 J/g
Peak 308.7°C
30.1 mW
50. mW
100.
200.
300.
400.
°C


S96T003013 DUP N2
33.970 mg
Rate: 10.0 °C/min
File: 00059.001
Ident: 0.0
DSC METTLER
222-S Laboratory
14-Jul-96
exo>
Integration
Delta H25052 mJ
737.5 J/g
Peak 119.3°C
-80.7 mW
Integration
Delta H 3102 mJ
91.3 J/g
Peak 209.4°C
16.2 mW
Integration
Delta H13307 mJ
391.7 J/g
Peak 308.3°C
23.6 mW
50. mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10778

Analyst: JDS **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: U-106 DSC Run under N2. gjh

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	29.14	N/A	Joules/g
96000643	U-106 (P)	2 SAMPLE	S96T003014	0		DSC-03	SOLID	N/A	299.0		Joules/g
96000643	U-106 (P)	3 DUP	S96T003014	0		DSC-03	SOLID	299.0	246.4	N/A	Joules/g
96000643	U-106 (P)	4 SAMPLE	S96T003015	0		DSC-03	SOLID	N/A	484.1		Joules/g
96000643	U-106 (P)	5 DUP	S96T003015	0		DSC-03	SOLID	484.1	471.1	N/A	Joules/g

Final page for worklist # 10778

See attached for signature
Analyst Signature **Date** 7-16-96 BOV

Verified / Validated by Blandina Valenzuela 7-18-96

[illegible] 7-17-96
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.

LABCORE Data Entry Template for Worklist# 10778

Analyst: SDS **Instrument:** DSC0 _____ **Book #** 12N148

Method: LA-514-113 Rev/Mod _____

Worklist Comment: U-106 DSC Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
96000643	U-106 (P)	2	SAMPLE	S96T003014	0		DSC-01	SOLID	N/A			Joules/g
96000643	U-106 (P)	3	DUP	S96T003014	0		DSC-01	SOLID			N/A	Joules/g
96000643	U-106 (P)	4	SAMPLE	S96T003015	0		DSC-01	SOLID	N/A			Joules/g
96000643	U-106 (P)	5	DUP	S96T003015	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 10778

7-14-96

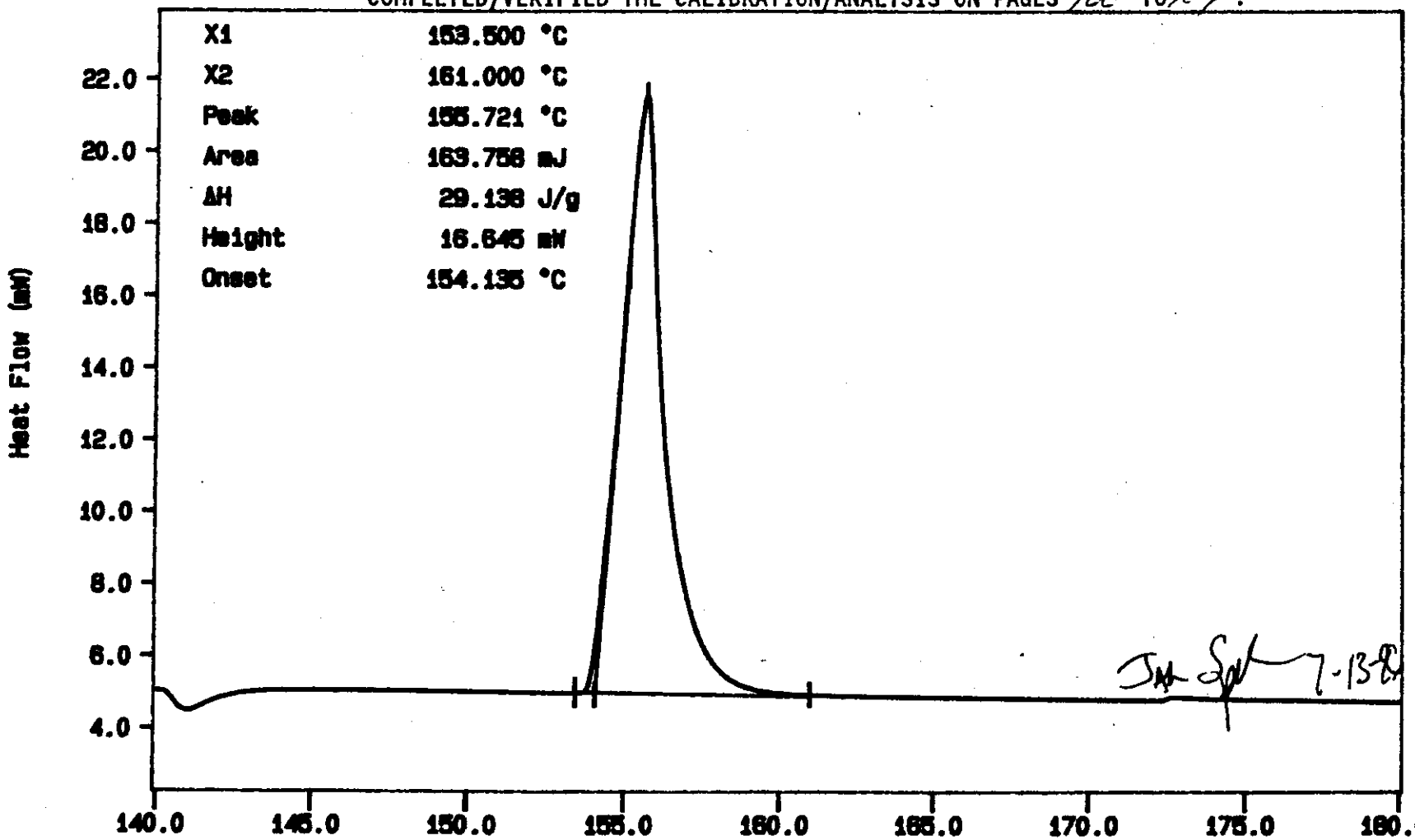
Analyst Signature **Date** **Analyst Signature** **Date**

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.

Curve 1: DSC
File info: IND071302 Sat Jul 13 07:10:26 1996
Sample Weight: 5.620 mg
12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 100 TO 104.

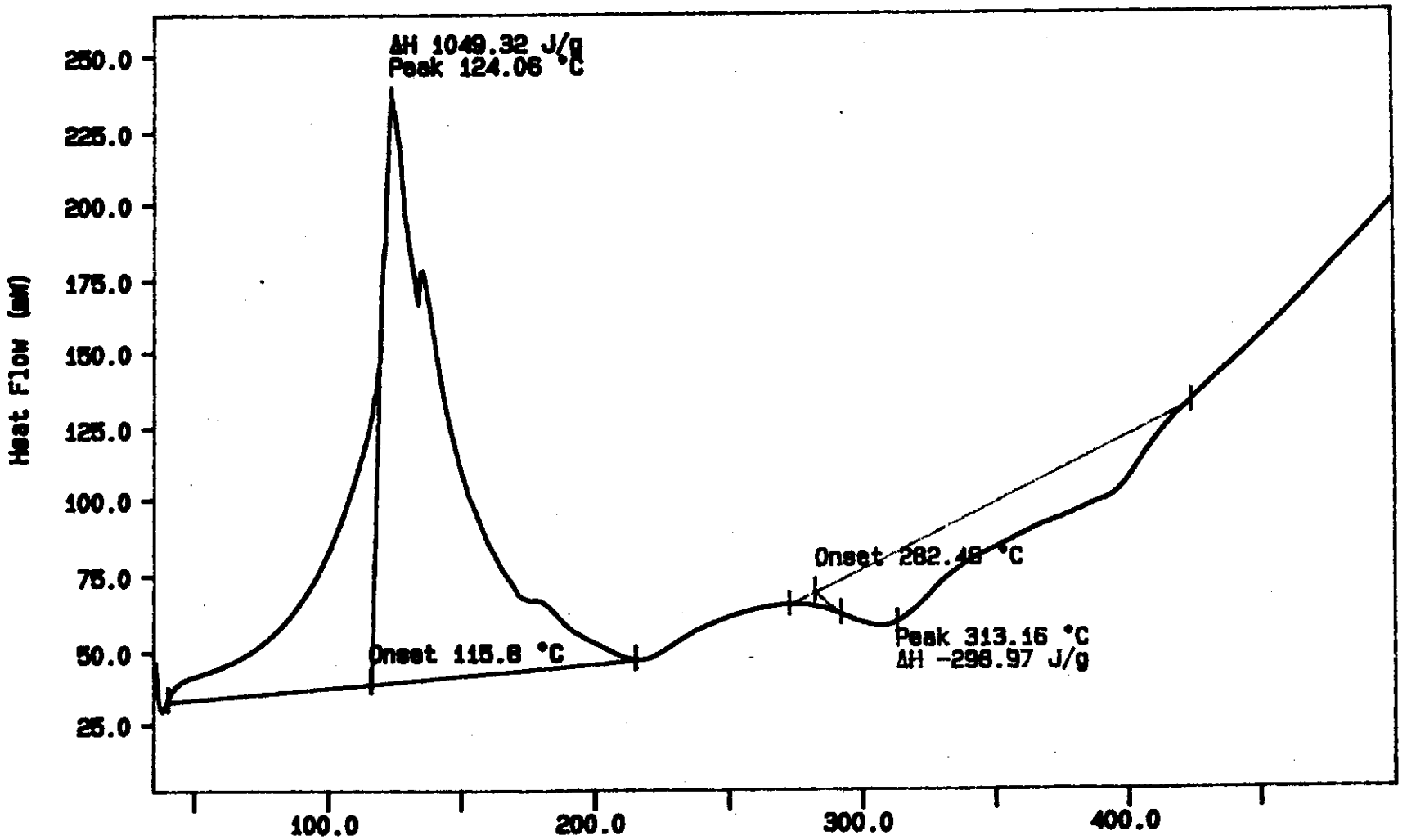


JM Sp 7-13-96

N2, EXOTHERM DOWN
TEMP: 140.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 180.0 C

PJ MCCOMN
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 18:38:32 1996

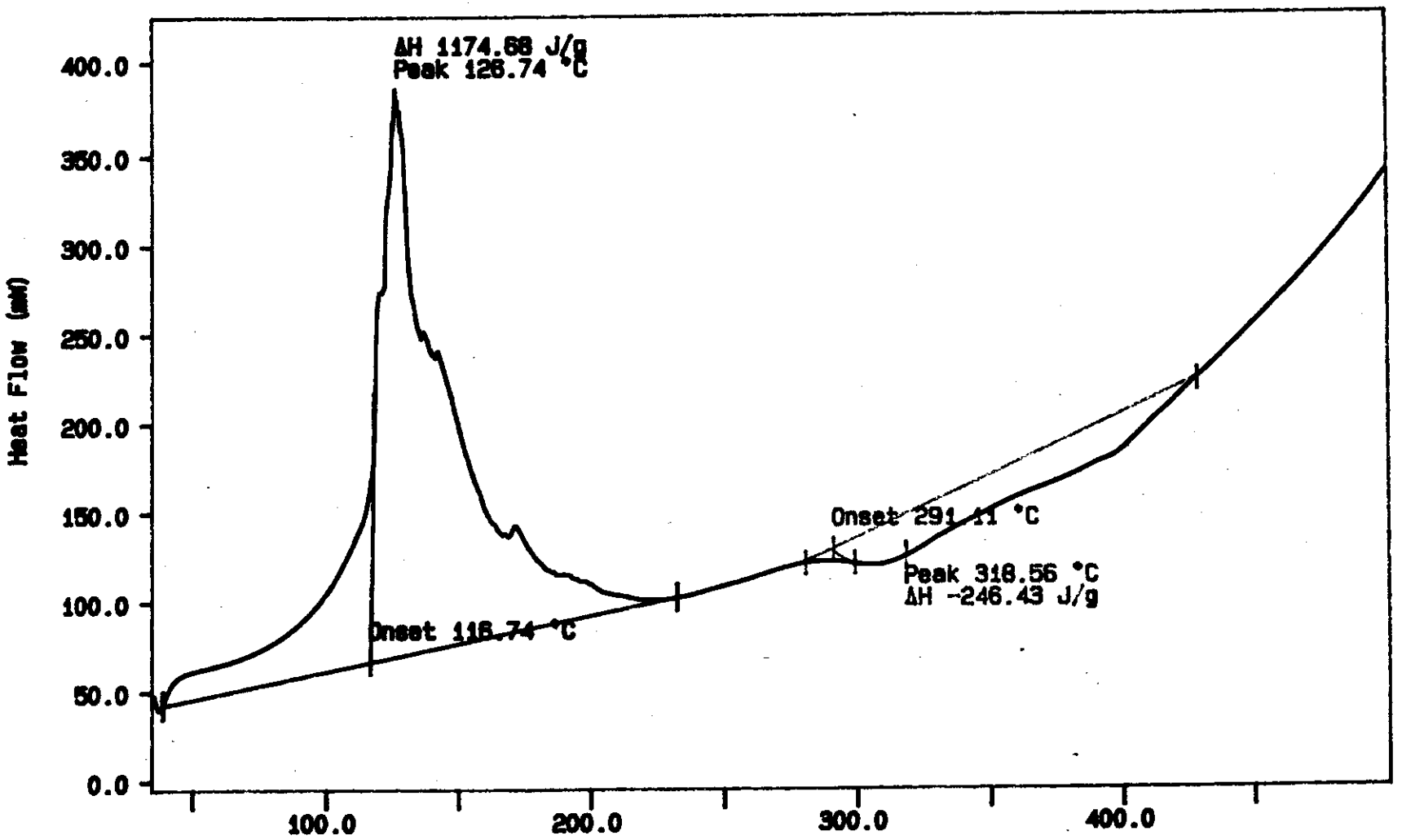
Curve 1: DSC
File info: SAM071306 Sat Jul 13 23:11:29 1996
Sample Weight: 44.990 mg
S96T003014



N2 10C/min
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 400.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jul 14 00:04:58 1996

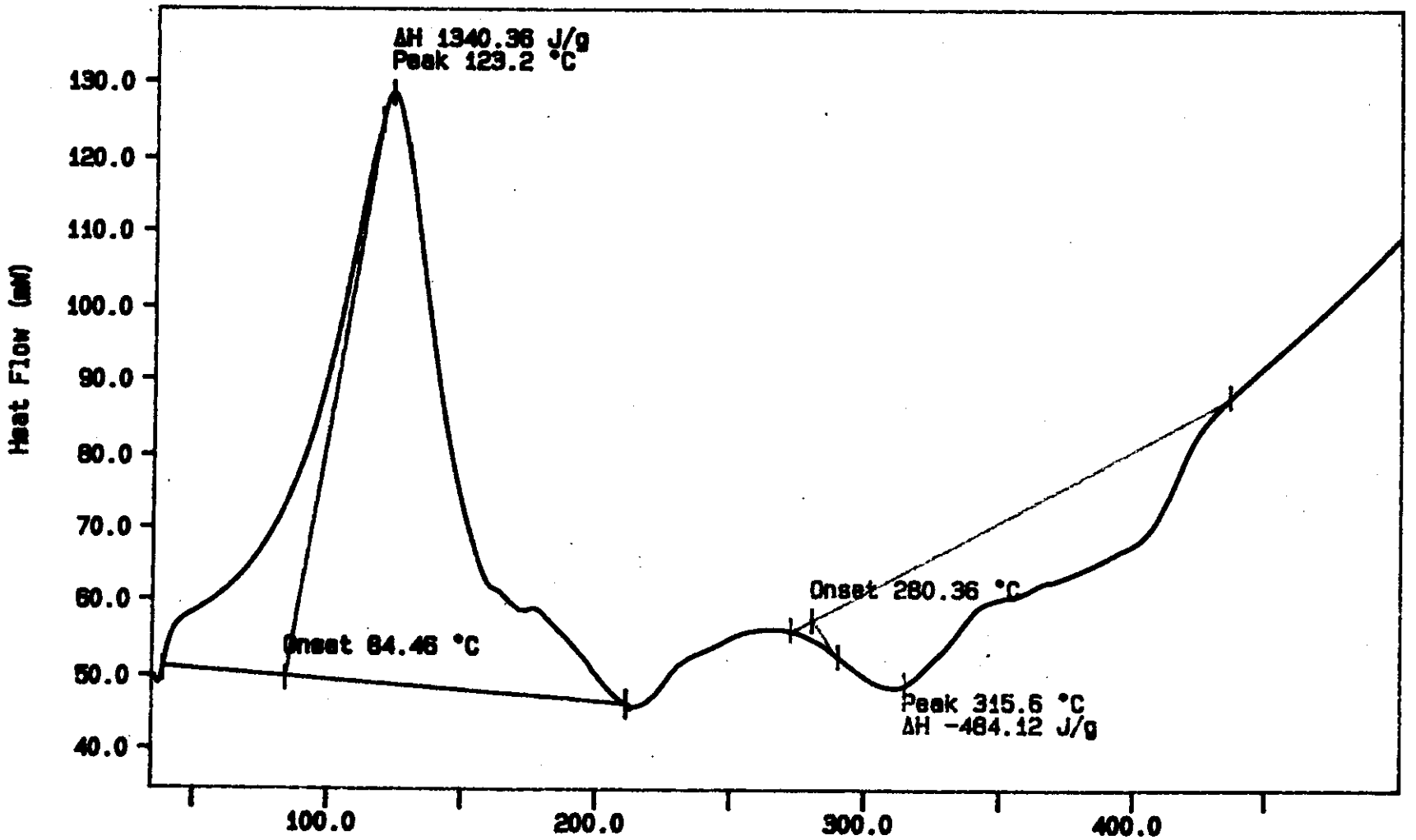
Curve 1: DSC
File info: SAM071401 Sun Jul 14 00:56:21 1996
Sample Weight: 59.330 mg
S96T003014DUP



N2 10C/min
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 450.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jul 14 01:09:58 1996

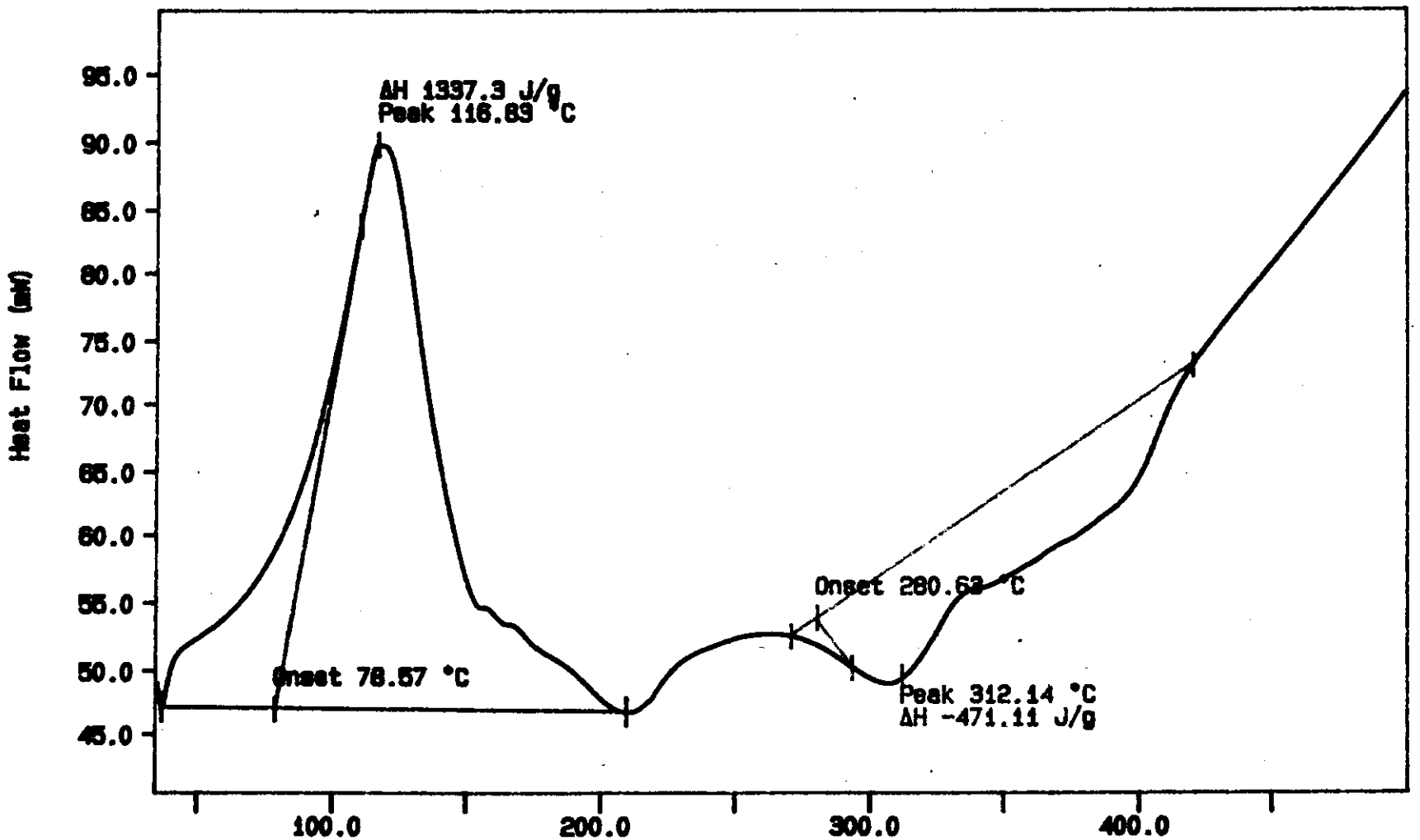
Curve 1: DSC
File info: SAM071402 Sun Jul 14 02:09:43 1996
Sample Weight: 20.360 mg
S96T003015



N2 10C/min
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jul 14 02:41:23 1996

Curve 1: DSC
File info: SAM071403 Sun Jul 14 03:42:47 1996
Sample Weight: 10.830 mg
S96T003015DUP



N2 10C/min
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jul 14 05:29:46 1996

LABCORE Data Entry Template for Worklist# 10780

Analyst: RJM **Instrument:** DSC0 1 **Book #** 12N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: U-106 DSC Run under N2. gjh

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID	28.45	30.1	N/A	Joules/g
96000643	U-106 (P)	2 SAMPLE	S96T003016	0		DSC-01	SOLID	N/A	351.3		Joules/g
96000643	U-106 (P)	3 DUP	S96T003016	0		DSC-01	SOLID	351.3	324.4	N/A	Joules/g
96000643	U-106 (P)	4 SAMPLE	S96T003017	0		DSC-01	SOLID	N/A	46.6		Joules/g
96000643	U-106 (P)	5 DUP	S96T003017	0		DSC-01	SOLID	46.6	49.2	N/A	Joules/g

Final page for worklist # 10780

RJMcCown 7/14/96
Analyst Signature Date

Stephen 7-17-96
Analyst Signature Date

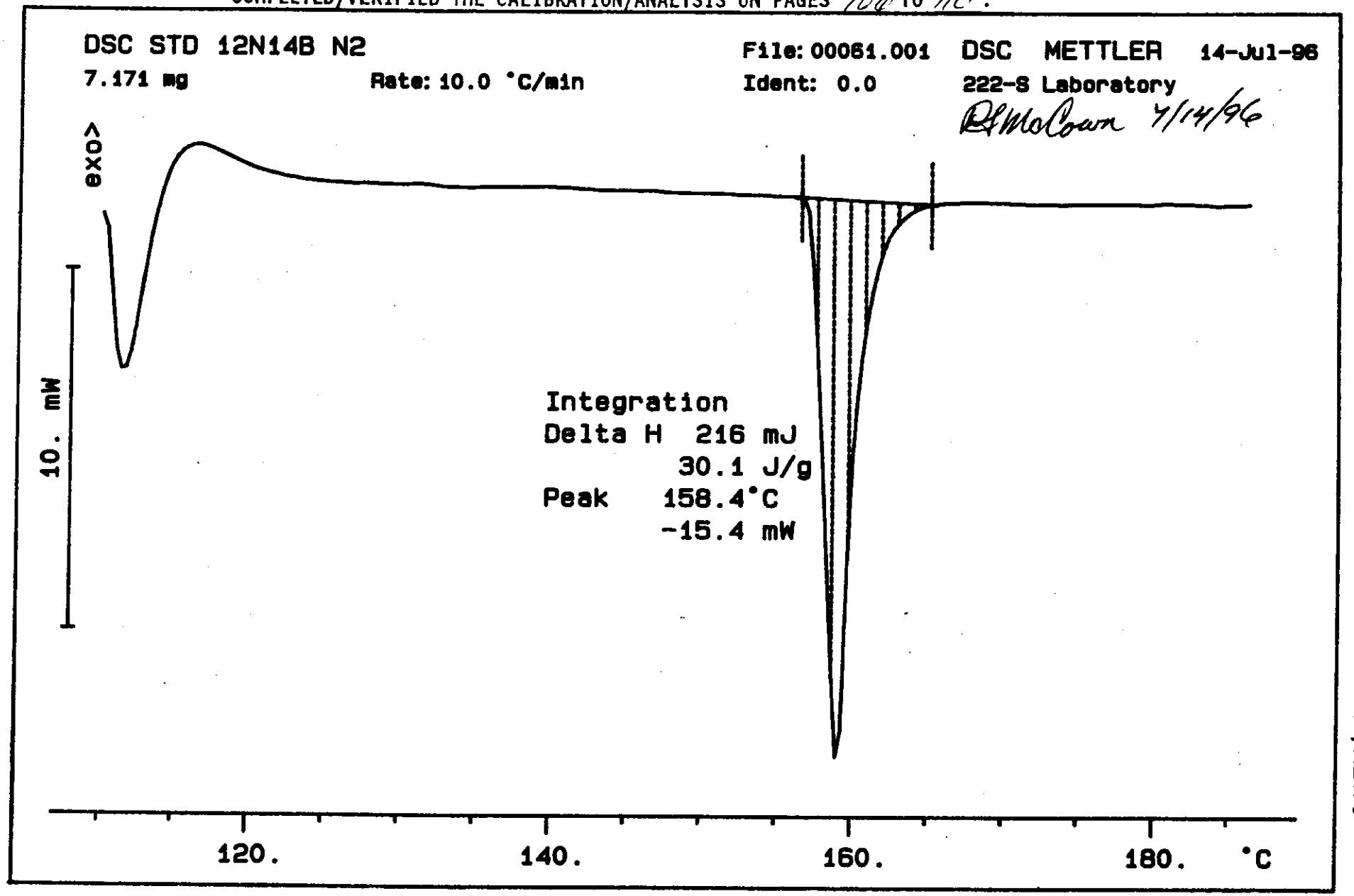
Verified/Validated by
Blandina Valenzuela 7-18-96

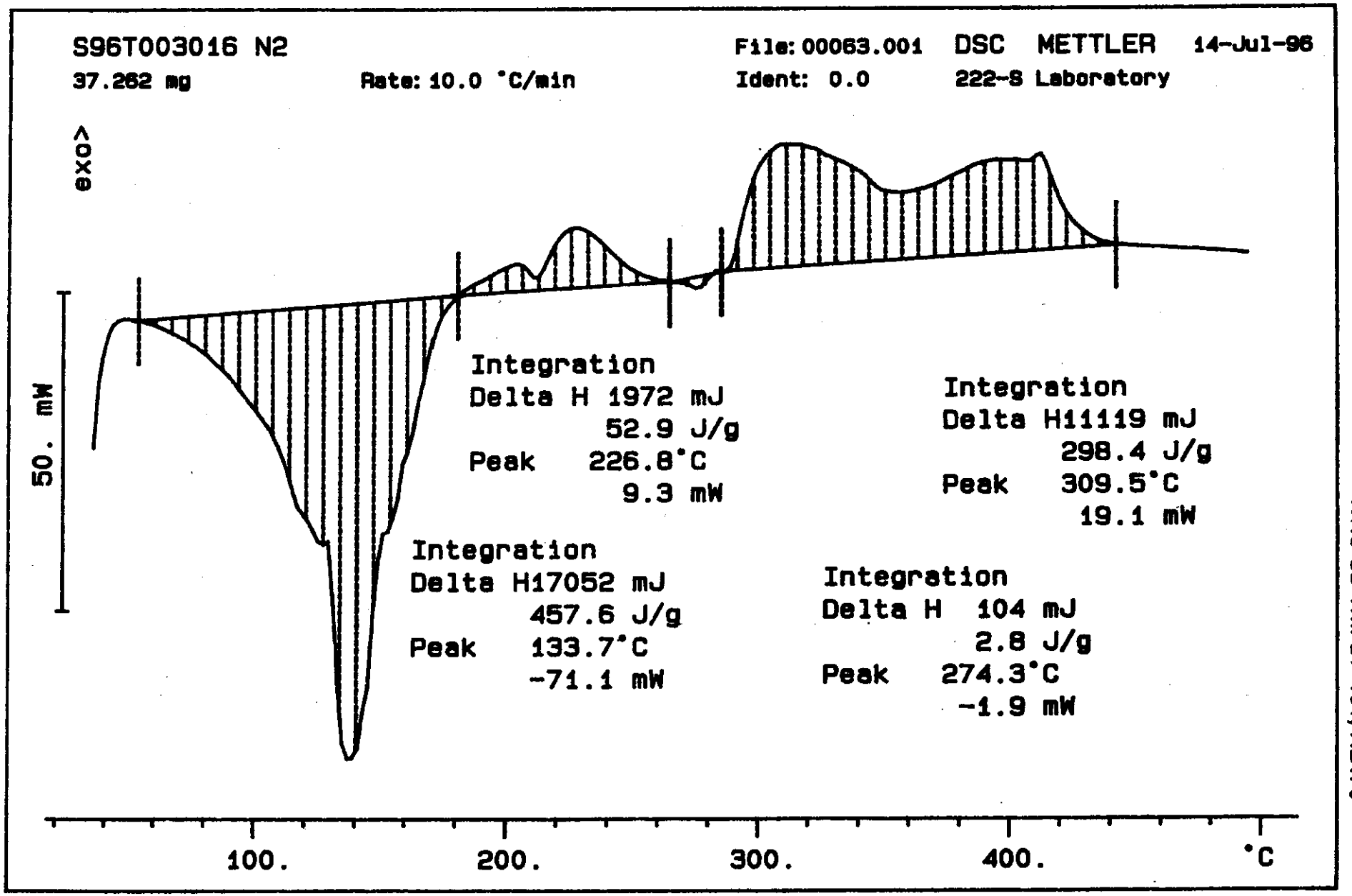
S96T003016 results are the sum of two exotherms.

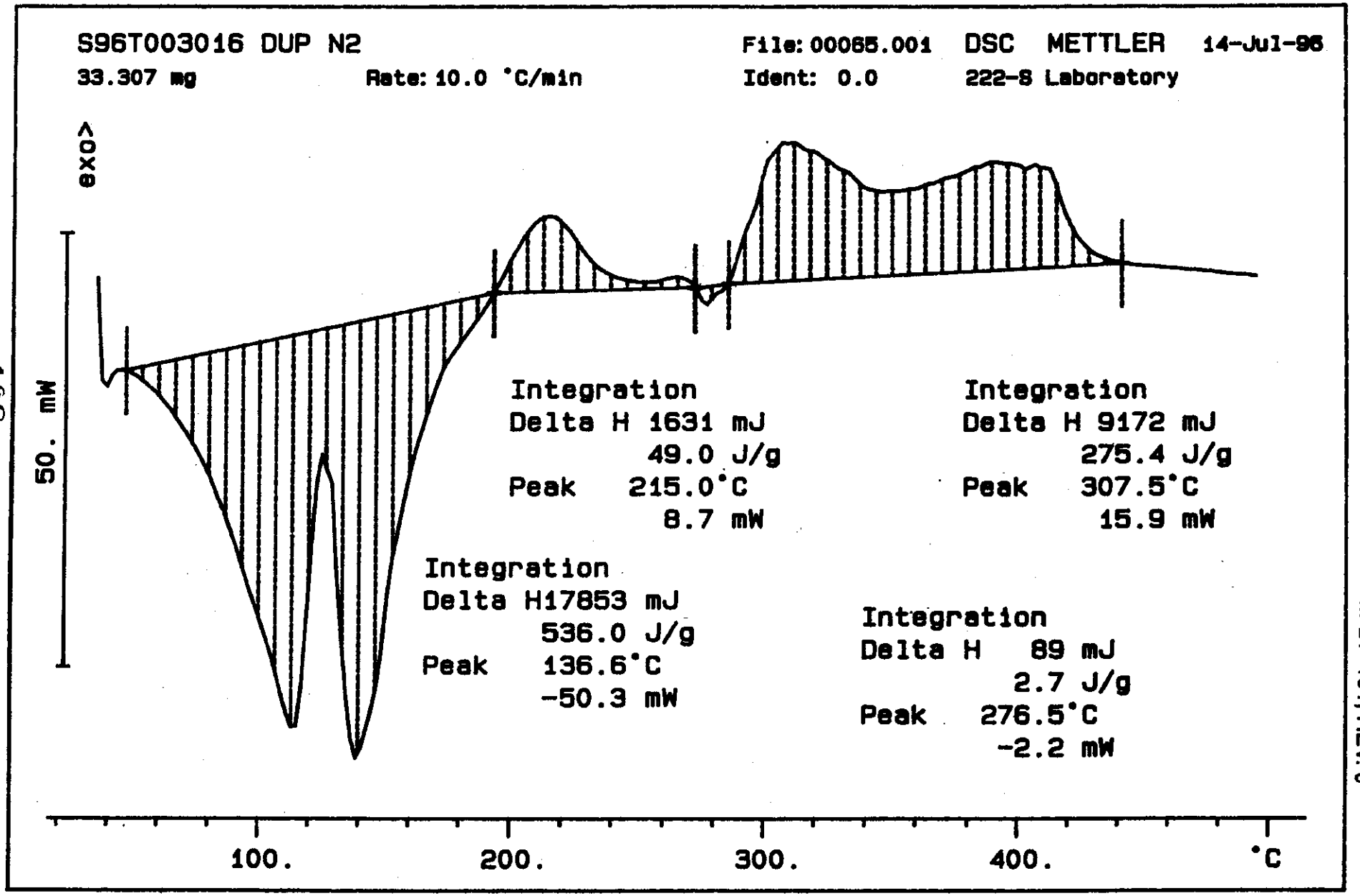
Data Entry Comments:

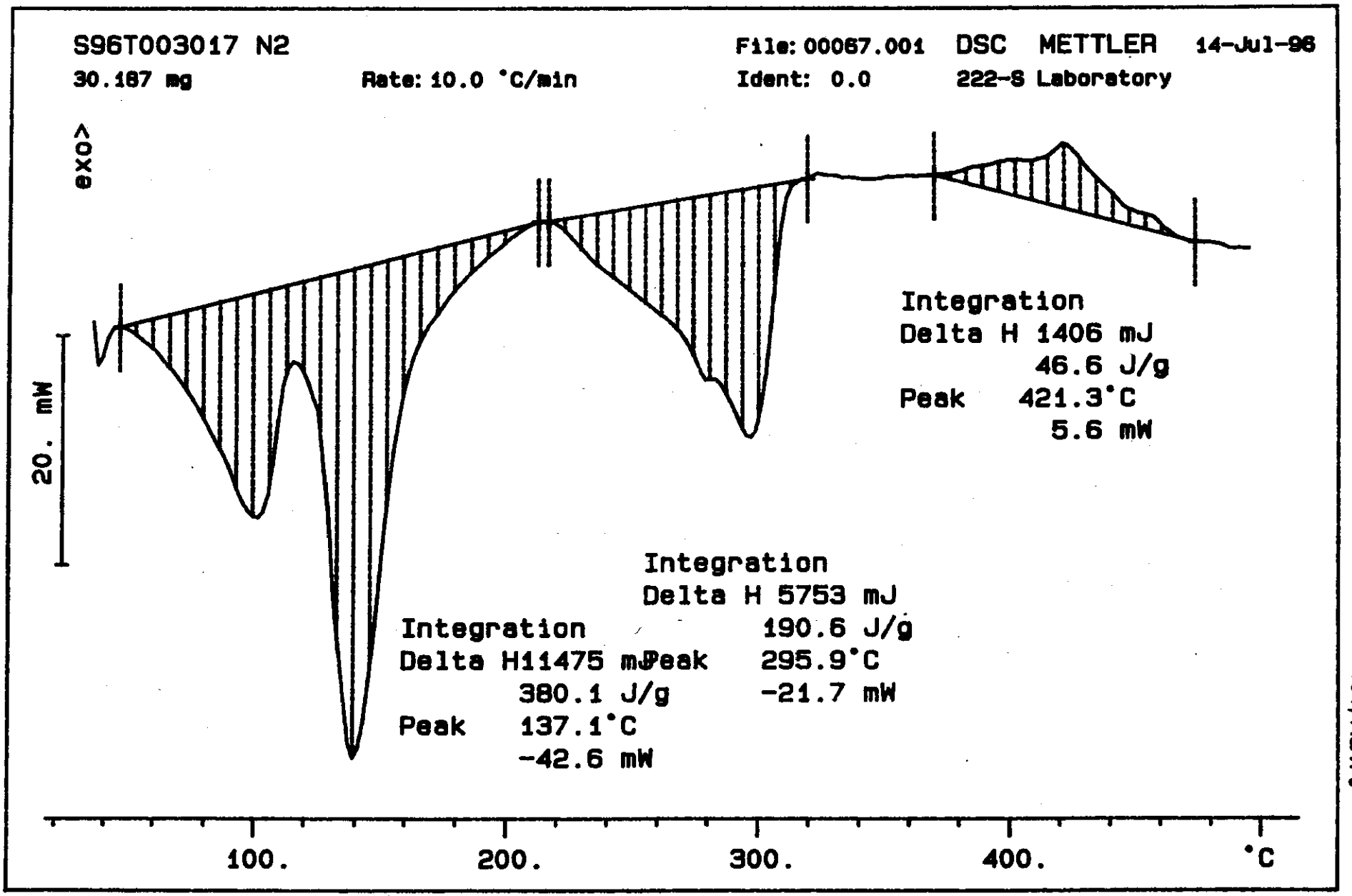
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

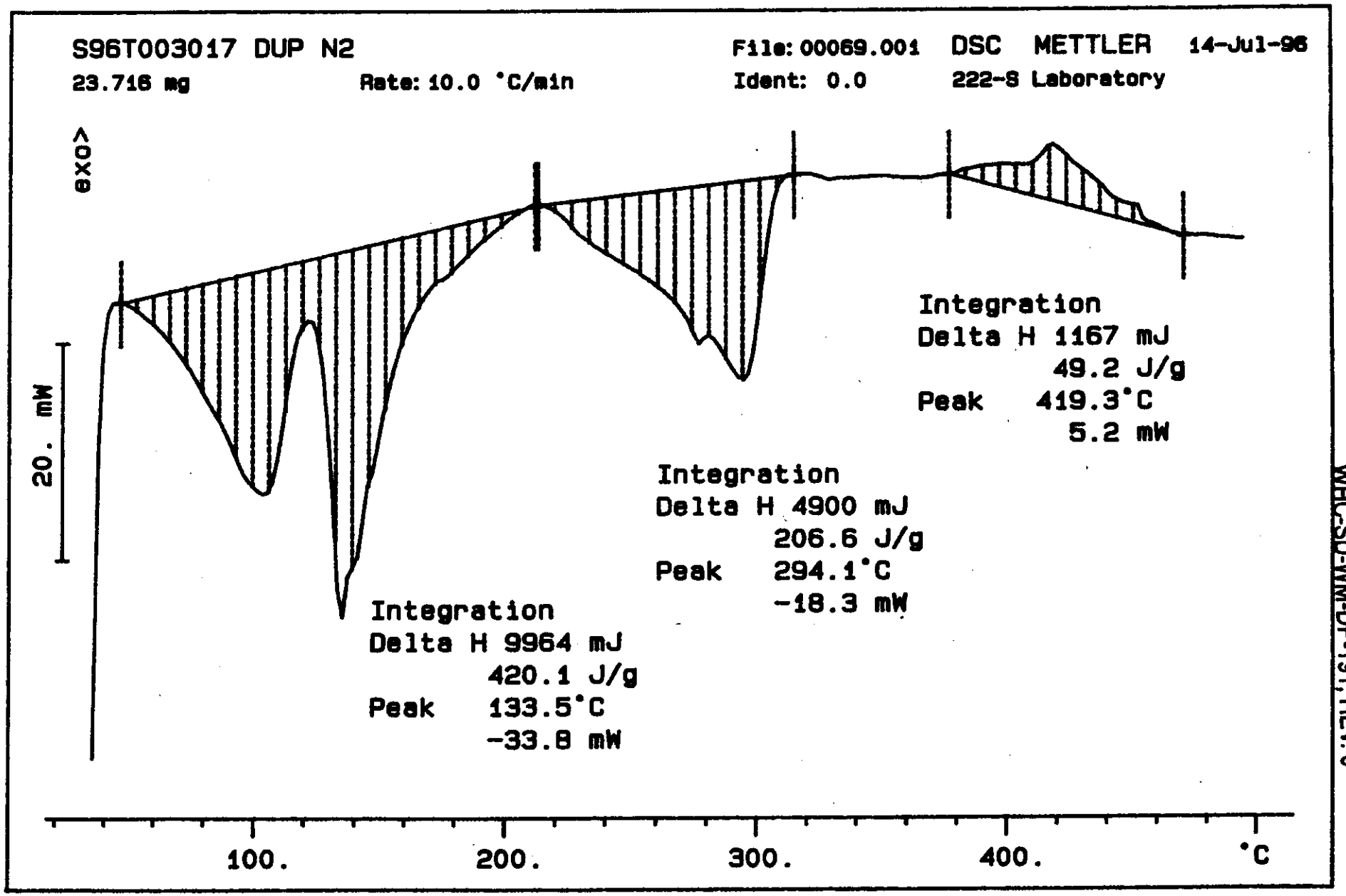
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 106 TO 110.




S96T003016 N2
37.262 mg
Rate: 10.0 °C/min
File: 00063.001
Ident: 0.0
DSC METTLER
222-S Laboratory
14-Jul-96
<exo
50. mW
Integration
Delta H 1972 mJ
52.9 J/g
Peak 226.8°C
9.3 mW
Integration
Delta H11119 mJ
298.4 J/g
Peak 309.5°C
19.1 mW
Integration
Delta H17052 mJ
457.6 J/g
Peak 133.7°C
-71.1 mW
Integration
Delta H 104 mJ
2.8 J/g
Peak 274.3°C
-1.9 mW
100.
200.
300.
400.
°C


S96T003016 DUP N2
33.307 mg
Rate: 10.0 °C/min
File: 00065.001
Ident: 0.0
DSC METTLER
222-S Laboratory
14-Jul-96
exo>
50. mW
Integration
Delta H 1631 mJ
49.0 J/g
Peak 215.0°C
8.7 mW
Integration
Delta H 9172 mJ
275.4 J/g
Peak 307.5°C
15.9 mW
Integration
Delta H17853 mJ
536.0 J/g
Peak 136.6°C
-50.3 mW
Integration
Delta H 89 mJ
2.7 J/g
Peak 276.5°C
-2.2 mW
100.
200.
300.
400.
°C


S96T003017 N2
30.187 mg
Rate: 10.0 °C/min
File: 00067.001
Ident: 0.0
DSC METTLER
222-S Laboratory
14-Jul-96
exo>
20. mW
Integration
Delta H 1406 mJ
46.6 J/g
Peak 421.3°C
5.6 mW
Integration
Delta H 5753 mJ
190.6 J/g
Peak 295.9°C
-21.7 mW
Integration
Delta H11475 mJ
380.1 J/g
Peak 137.1°C
-42.6 mW
100.
200.
300.
400.
°C


S96T003017 DUP N2
23.716 mg
Rate: 10.0 °C/min
File: 00069.001
Ident: 0.0
DSC METTLER
222-S Laboratory
14-Jul-96
exo>
20. mW
Integration
Delta H 9964 mJ
420.1 J/g
Peak 133.5°C
-33.8 mW
Integration
Delta H 4900 mJ
206.6 J/g
Peak 294.1°C
-18.3 mW
Integration
Delta H 1167 mJ
49.2 J/g
Peak 419.3°C
5.2 mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10843

Analyst: ADP **Instrument:** DSC0 1 **Book #** 12N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: Please run U-106 DSCs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	30.4	N/A	Joules/g
96000643	U-106 (P)	2	SAMPLE	S96T003010	0		DSC-01	SOLID	N/A	454.8		Joules/g
96000643	U-106 (P)	3	DUP	S96T003010	0		DSC-01	SOLID	454.8	464.6	N/A	Joules/g

Final page for worklist # 10843

Arthur Purnto 7-16-96
Analyst Signature **Date**

Analyst Signature **Date**

Verified/validated by
Blandina Valenzuela
7-18-96

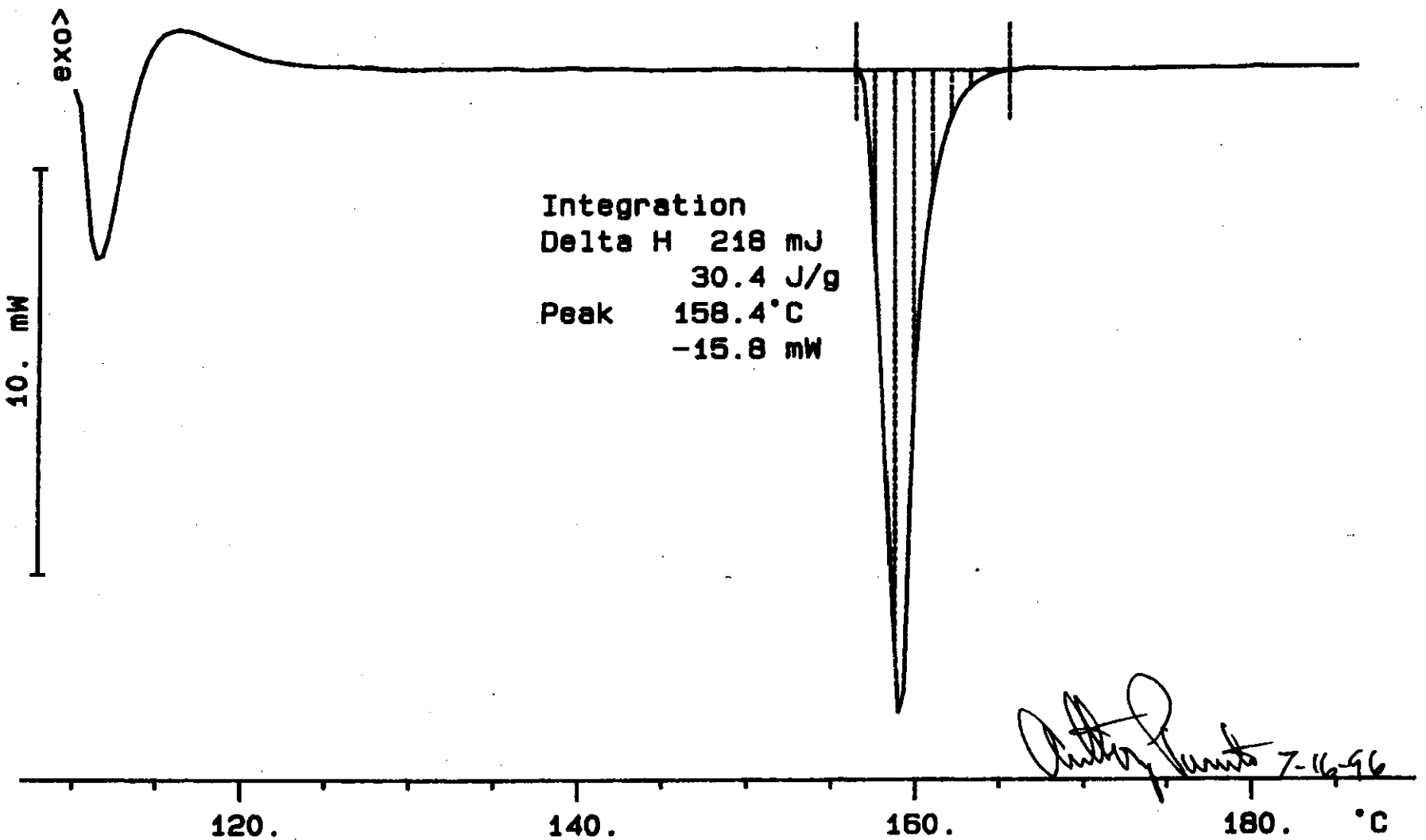
Data Entry Comments:

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.

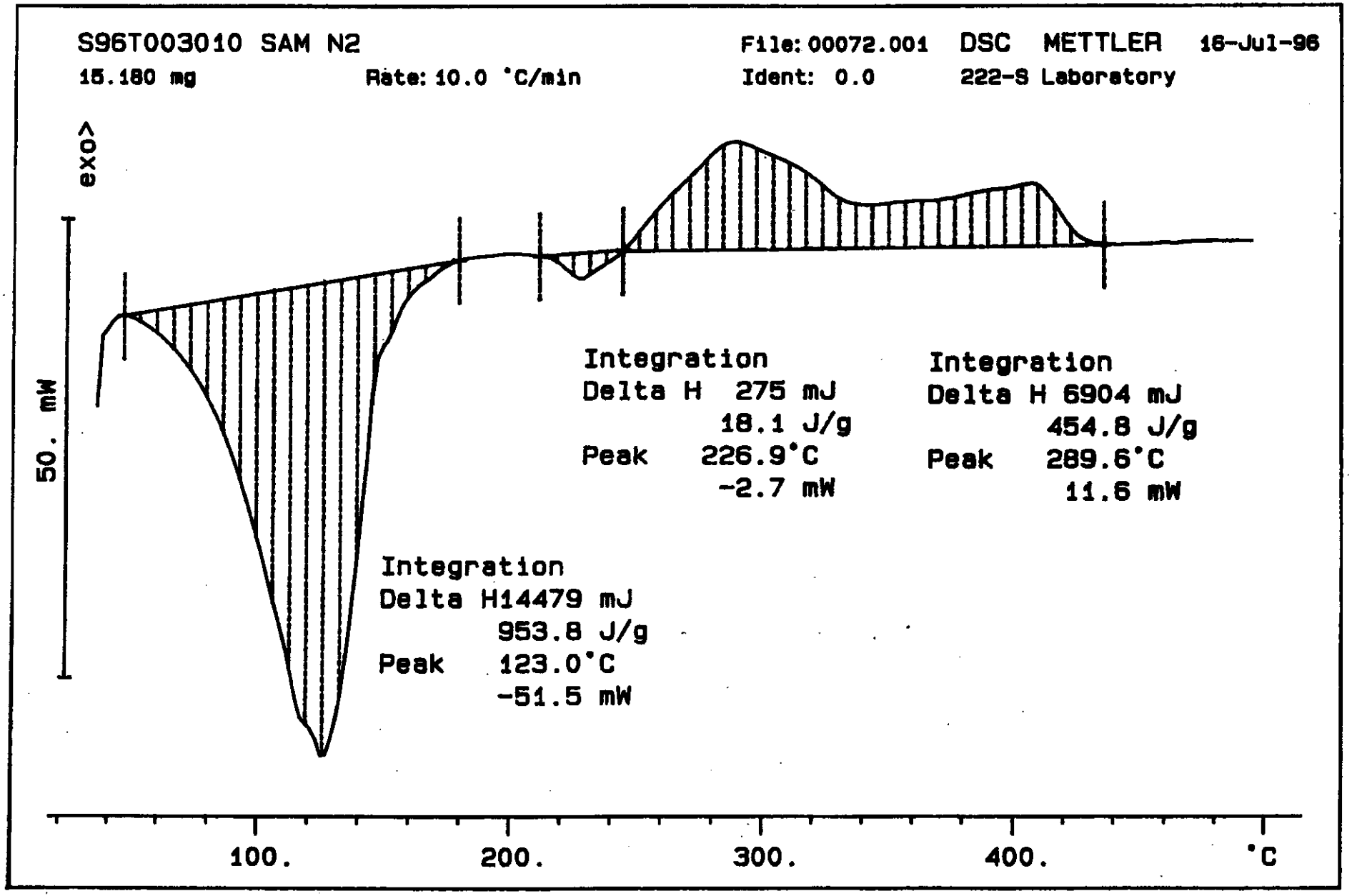
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 112 TO 114.

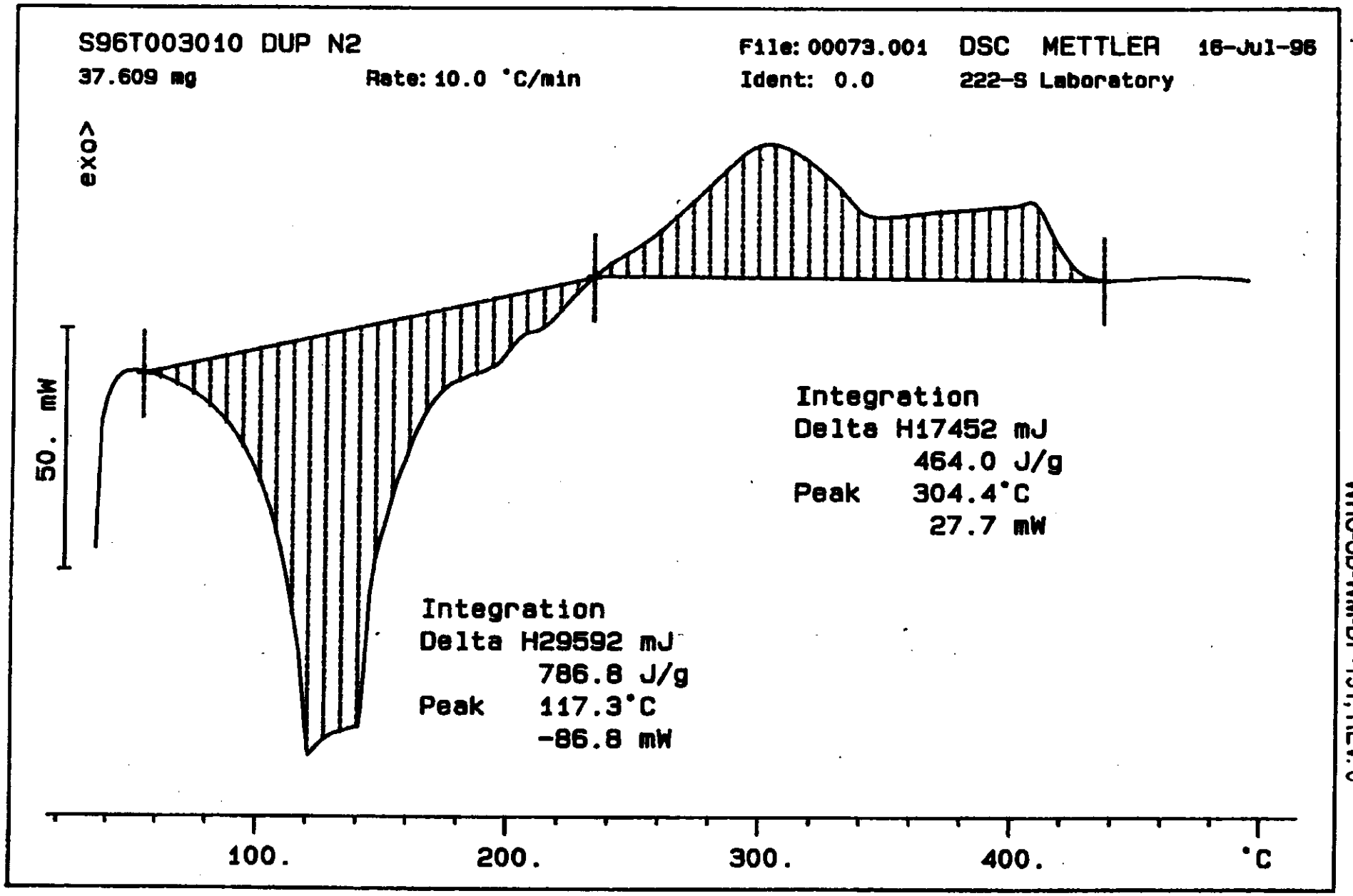
DSC STD 12N14 B N2 File: 00071.001 DSC METTLER 16-Jul-96

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



7-16-96


S96T003010 SAM N2
15.180 mg
Rate: 10.0 °C/min
File: 00072.001
Ident: 0.0
DSC METTLER
222-S Laboratory
16-Jul-96
exo>
50. mW
Integration
Delta H 275 mJ
18.1 J/g
Peak 226.9°C
-2.7 mW
Integration
Delta H 6904 mJ
454.8 J/g
Peak 289.6°C
11.6 mW
Integration
Delta H14479 mJ
953.8 J/g
Peak 123.0°C
-51.5 mW
100.
200.
300.
400.
°C


S96T003010 DUP N2
37.609 mg
Rate: 10.0 °C/min
File: 00073.001
Ident: 0.0
DSC METTLER
222-S Laboratory
16-Jul-96
<exo
.05 mW
Integration
Delta H17452 mJ
464.0 J/g
Peak 304.4°C
27.7 mW
Integration
Delta H29592 mJ
786.8 J/g
Peak 117.3°C
-86.8 mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10913

Analyst: BDV **Instrument:** DSC01 **Book #** ~~12~~ 7-18-96 BDV

Method: LA-514-113 Rev/Mod —

Worklist Comment: Dry DSC for U-106. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
96000641	U-106 (P)	1 SAMPLE	S96T003067	0		DSC-02	SOLID	N/A	702.9		Joules/g Dry
96000641	U-106 (P)	2 DUP	S96T003067	0		DSC-02	SOLID	702.9	696.0	N/A	Joules/g Dry
96000641	U-106 (P)	3 SAMPLE	S96T003068	0		DSC-02	SOLID	N/A	619.0		Joules/g Dry
96000641	U-106 (P)	4 DUP	S96T003068	0		DSC-02	SOLID	619.0	554.4	N/A	Joules/g Dry
96000641	U-106 (P)	5 SAMPLE	S96T003069	0		DSC-02	SOLID	N/A	612.0		Joules/g Dry
96000641	U-106 (P)	6 DUP	S96T003069	0		DSC-02	SOLID	612.0	572.3	N/A	Joules/g Dry
96000641	U-106 (P)	7 SAMPLE	S96T003070	0		DSC-02	SOLID	N/A	524.9		Joules/g Dry
96000641	U-106 (P)	8 DUP	S96T003070	0		DSC-02	SOLID	524.9	595.3	N/A	Joules/g Dry
96000643	U-106 (P)	9 SAMPLE	S96T003011	0		DSC-02	SOLID	N/A	771.5		Joules/g Dry
96000643	U-106 (P)	10 DUP	S96T003011	0		DSC-02	SOLID	771.5	811.9	N/A	Joules/g Dry

Final page for worklist # 10913

Blandina Valenzuela

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.

worklistrpt Version 2.1 05/15/95
07/18/96 11:23

LABCORE Data Entry Template for Worklist# 10916

Analyst: BDV **Instrument:** DSC01 **Book #** —

Method: LA-514-113 Rev/Mod —

Worklist Comment: U-106 dry DSC. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
96000643	U-106 (P)	1 SAMPLE	S96T002860	0	DSC-02	LIQUID	N/A	814.6		Joules/g Dry
96000643	U-106 (P)	2 DUP	S96T002860	0	DSC-02	LIQUID	814.6	875.8	N/A	Joules/g Dry
96000643	U-106 (P)	3 SAMPLE	S96T003051	0	DSC-02	LIQUID	N/A	851.2		Joules/g Dry
96000643	U-106 (P)	4 DUP	S96T003051	0	DSC-02	LIQUID	851.2	850.3	N/A	Joules/g Dry
96000643	U-106 (P)	5 SAMPLE	S96T003012	0	DSC-02	SOLID	N/A	751.8		Joules/g Dry
96000643	U-106 (P)	6 DUP	S96T003012	0	DSC-02	SOLID	751.8	786.8	N/A	Joules/g Dry
96000643	U-106 (P)	7 SAMPLE	S96T003013	0	DSC-02	SOLID	N/A	838.6		Joules/g Dry
96000643	U-106 (P)	8 DUP	S96T003013	0	DSC-02	SOLID	838.6	916.2	N/A	Joules/g Dry
96000643	U-106 (P)	9 SAMPLE	S96T003014	0	DSC-02	SOLID	N/A	545.0		Joules/g Dry
96000643	U-106 (P)	10 DUP	S96T003014	0	DSC-02	SOLID	545.0	449.0	N/A	Joules/g Dry
96000643	U-106 (P)	11 SAMPLE	S96T003015	0	DSC-02	SOLID	N/A	871.9		Joules/g Dry
96000643	U-106 (P)	12 DUP	S96T003015	0	DSC-02	SOLID	871.9	848.5	N/A	Joules/g Dry
96000643	U-106 (P)	13 SAMPLE	S96T003016	0	DSC-02	SOLID	N/A	180.2		Joules/g Dry
96000643	U-106 (P)	14 DUP	S96T003016	0	DSC-02	SOLID	180.2	443.5	N/A	Joules/g Dry
96000643	U-106 (P)	15 SAMPLE	S96T003017	0	DSC-02	SOLID	N/A	55.88		Joules/g Dry
96000643	U-106 (P)	16 DUP	S96T003017	0	DSC-02	SOLID	55.88	58.99	N/A	Joules/g Dry

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# 10916

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

Final page for worklist # 10916

Blanditina Valenzuela 7-18-96

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.

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S96T003012	418.9	44.28	751.5
3012D	438.4	44.25	786.8
3013	442.1	47.28	838.6
3013D	483.0	47.28	916.2
3014	299.0	45.14	545.0
3014D	246.4	45.14	449.0
3015	424.1	44.45	871.9
3015D	[illegible]	[illegible]	849.5
3016	[illegible]	36.85	[illegible]
3016D	[illegible]	36.85	443.5
3017	46.6	16.00	55.55
3017D	[illegible]	16.0[illegible]	58.9[illegible]
~~3347~~			
~~3347D~~			
2860	[illegible]	[illegible]	514.6
2860D	[illegible]	[illegible]	[illegible]
3057	413.0	47.90	851.2
3057D	443.0	47.90	856.3

LABCORE Data Entry Template for Worklist# 10930

Analyst: BDV **Instrument:** DSC01 **Book #** —

Method: LA-514-113 Rev/Mod —

Worklist Comment: Dry DSC for U-106. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
96000643	U-106 (P)	1 SAMPLE	S96T003010	0		DSC-02	SOLID	N/A	785.1		Joules/g Dry
96000643	U-106 (P)	2 DUP	S96T003010	0		DSC-02	SOLID	785.1	801.0	N/A	Joules/g Dry
96000641	U-106 (P)	3 SAMPLE	S96T003065	0		DSC-02	SOLID	N/A	688.6		Joules/g Dry
96000641	U-106 (P)	4 DUP	S96T003065	0		DSC-02	SOLID	688.6	658.3	N/A	Joules/g Dry
96000641	U-106 (P)	5 SAMPLE	S96T003066	0		DSC-02	SOLID	N/A	584.3		Joules/g Dry
96000641	U-106 (P)	6 DUP	S96T003066	0		DSC-02	SOLID	584.3	578.9	N/A	Joules/g Dry

Final page for worklist # 10930

Blandina Valenzuela

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.

U-106 dry DSC

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S96T003010	454.8	42.07	785.1
3010D	464.0	42.07	801.0
3065	401.2	41.74 575	688.6
3065D	383.5	41.74	658.3
3066	346.2	40.75 575	584.3
3066D	343.0	40.75	578.9
3067	384.5	45.3	702.9
3067D	390.7	45.3	696.0
3068	360.2	41.87	619.0
3068D	322.3	41.87	554.4
3069	405.2	33.99	612.0
3069D	378.9	33.99	572.3
3070	313.5	40.28	524.9
3070D	355.5	40.28	595.3
3011	445.9	42.20	771.5
3011D	469.3	42.20	811.9

worklistrpt Version 2.1 05/15/95
07/09/96 11:52

LABCORE Data Entry Template for Worklist# 10574

Analyst: tal **Instrument:** TGA01 **Book #** 82N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.2	58.60*	N/A	%
96000641	U-106 (P)	2	SAMPLE	S96T003067	0		TGA-01	SOLID	N/A	46.39		%
96000641	U-106 (P)	3	DUP	S96T003067	0		TGA-01	SOLID	46.39	44.21	N/A	%
		4	STD				TGA-01	SOLID	59.2	58.6*	N/A	%
96000641	U-106 (P)	5	SAMPLE	S96T003070	0		TGA-01	SOLID	N/A	40.43		%
96000641	U-106 (P)	6	DUP	S96T003070	0		TGA-01	SOLID	40.43	40.13	N/A	%

Final page for worklist # 10574

See Attached for Signatures
Analyst Signature **Date**

[signature] 7-11-96
Analyst Signature **Date**

Validated by Hlnastn 7-15 96

Data Entry Comments: S96T003067 is the sum of 2 weight loss steps, dup only had one step reported.

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.

worklistrpt Version 2.1 05/15/95
07/04/96 00:01

LABCORE Data Entry Template for Worklist# 10574

Analyst: SAL **Instrument:** TGA0 1 **Book #** ~~82B8A~~ NLA 7-9-96 82N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.2	58.60	N/A	%
96000641	U-106 (P)	2	SAMPLE	S96T003067	0		TGA-01	SOLID	N/A	~~17.75~~ 46.39	NLA 7-9-96	%
96000641	U-106 (P)	3	DUP STD	S96T003067	0		TGA-01	SOLID	46.39	44.21	N/A	%
96000641	U-106 (P)	4	SAMPLE	S96T003070	0		TGA-01	SOLID	N/A			%
96000641	U-106 (P)	5	DUP	S96T003070	0		TGA-01	SOLID			N/A	%

Final page for worklist # 10574

A Lambell 07-05-96
Analyst Signature **Date**

RJ McCown 7/5/96

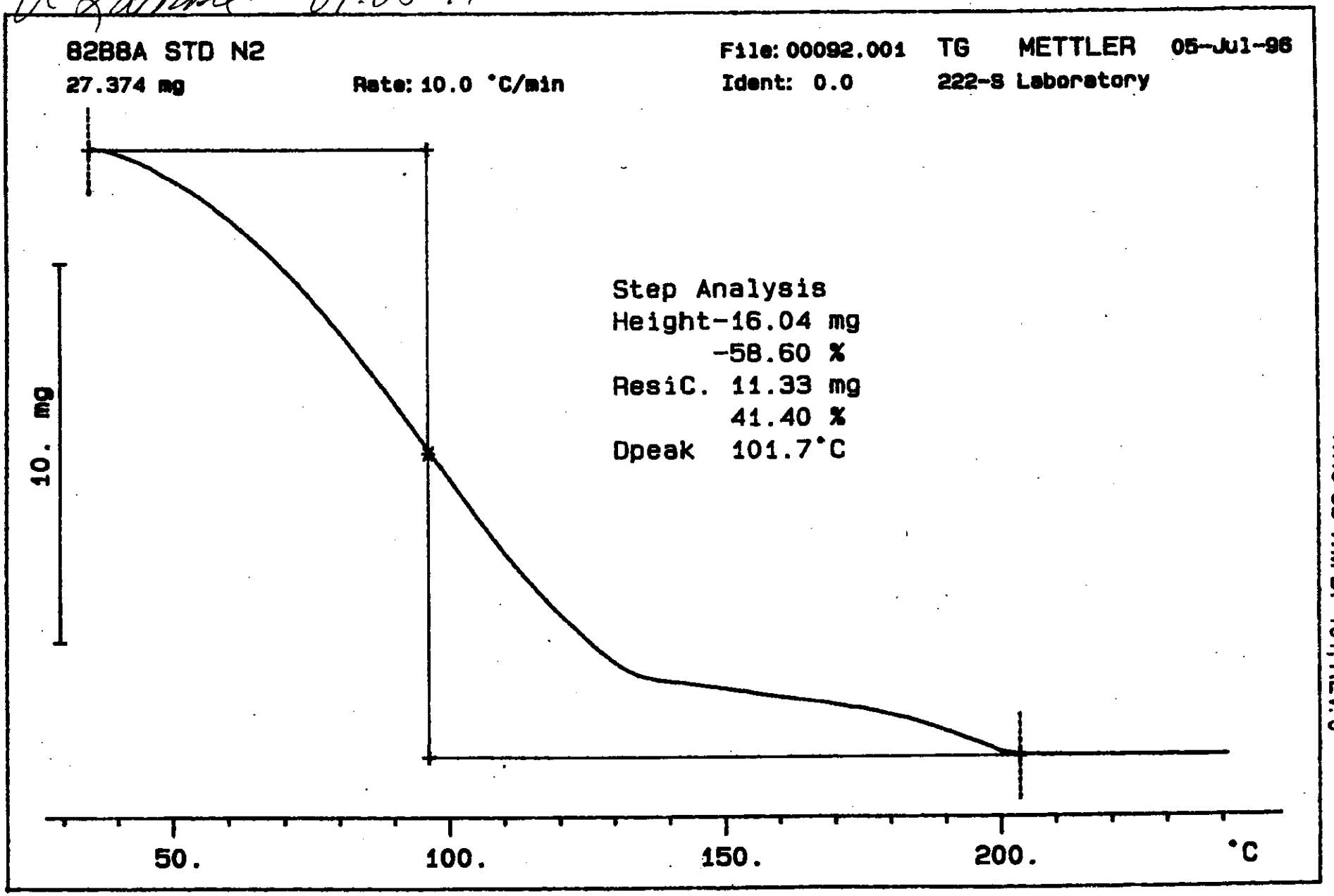
Analyst Signature **Date**

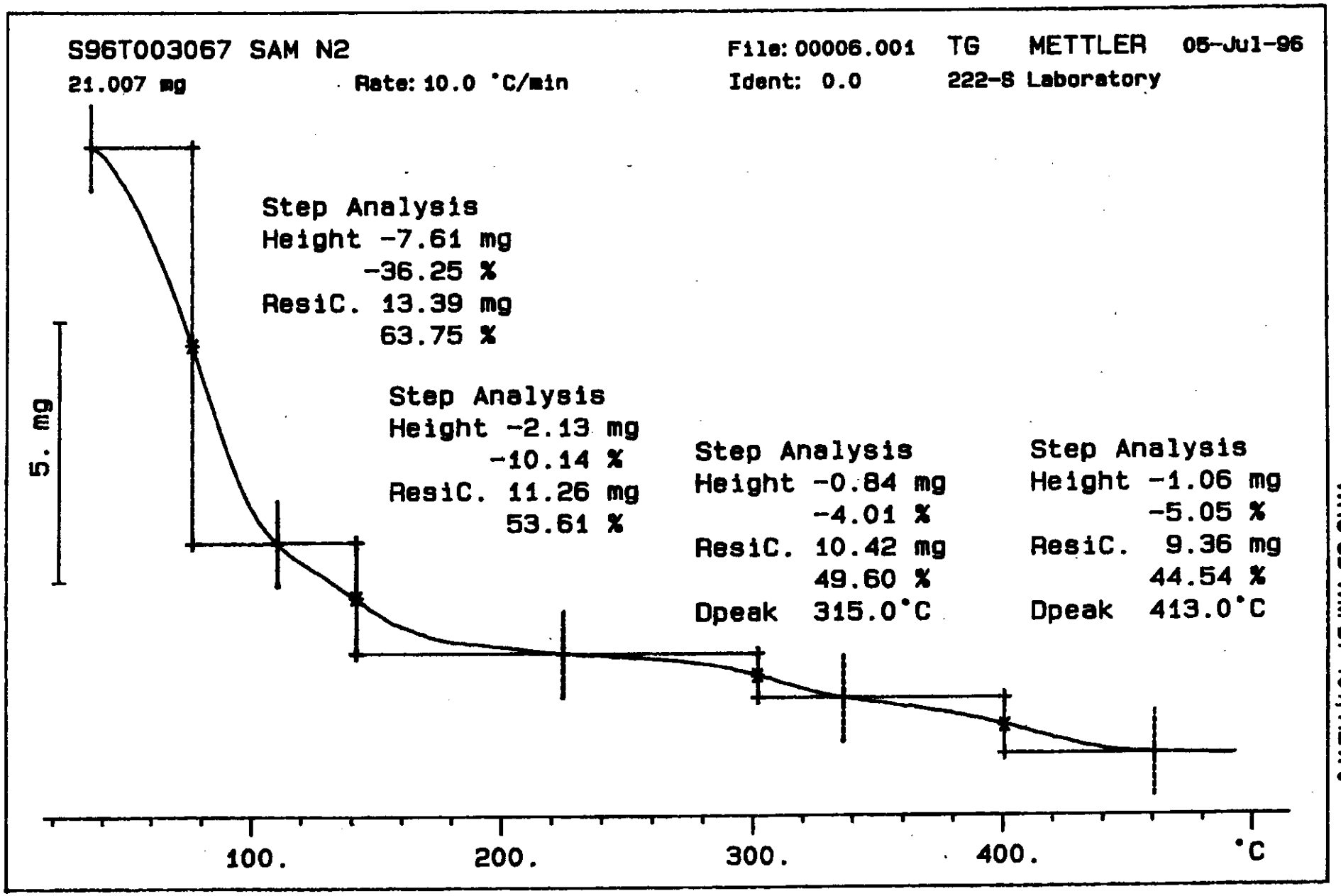
Data Entry Comments: S96T003067 is the sum of two weight loss steps, dup only had one step reported.

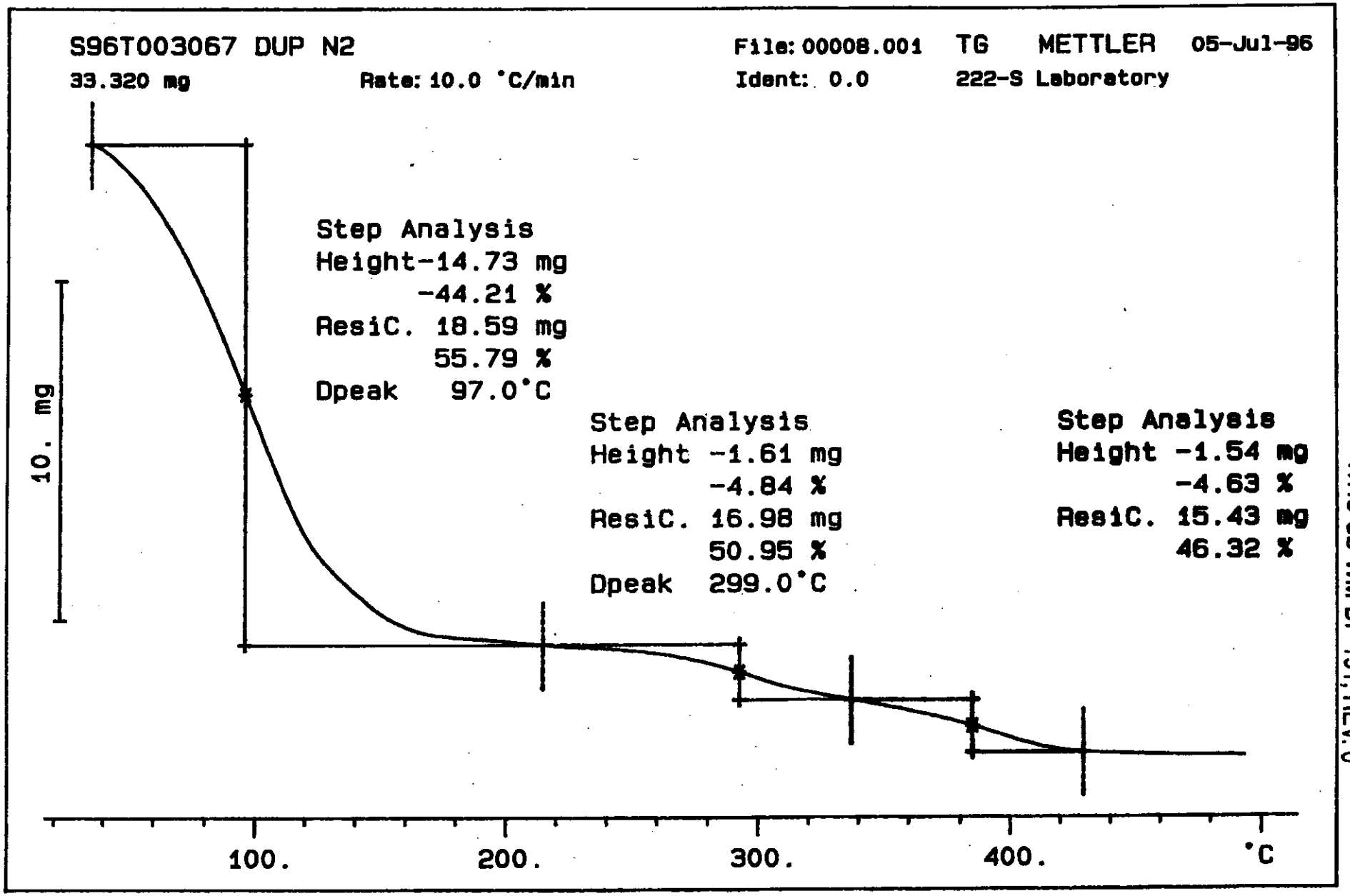
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

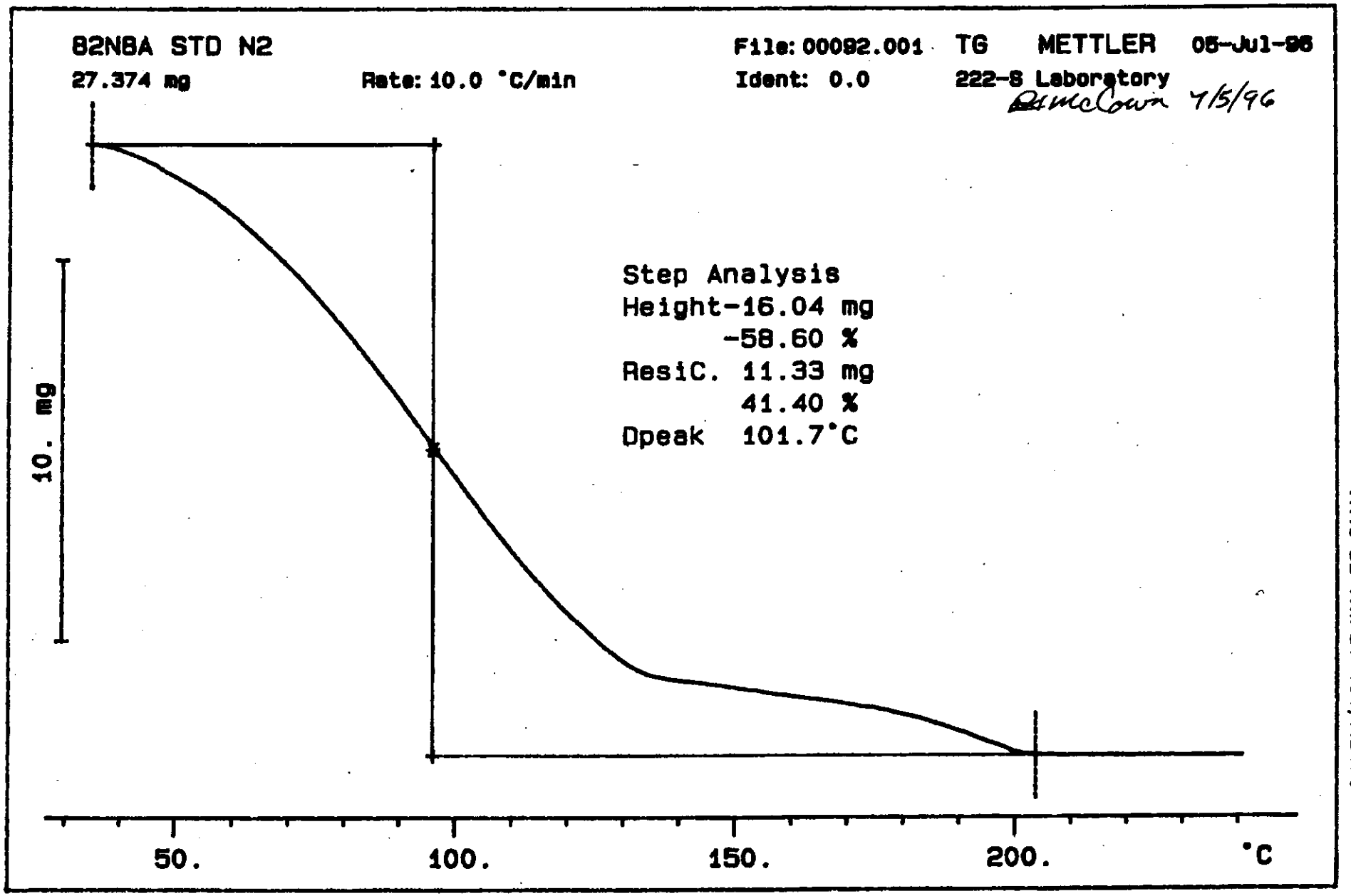
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 123 TO 126.

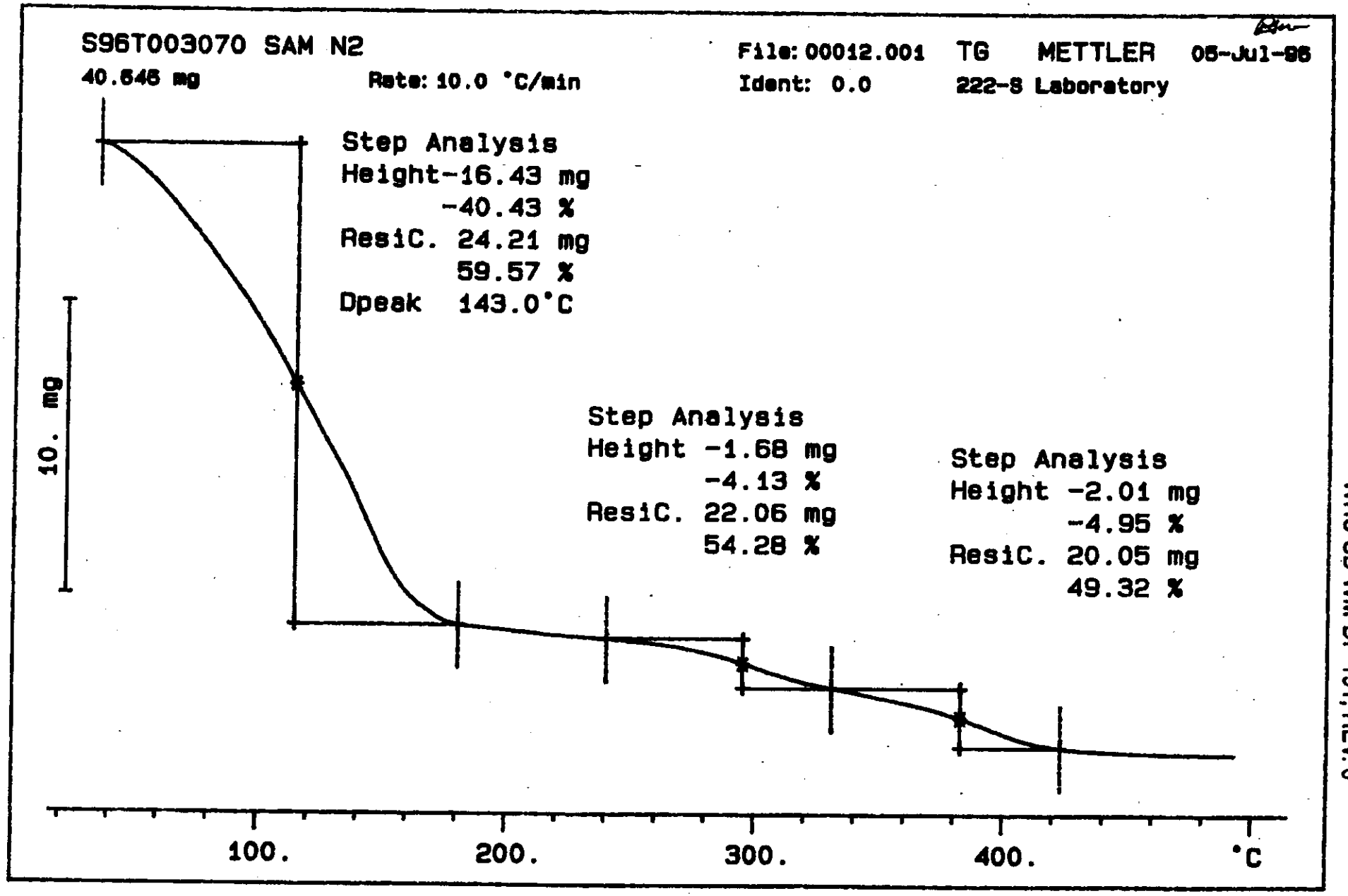
A Lambel 07.05.96

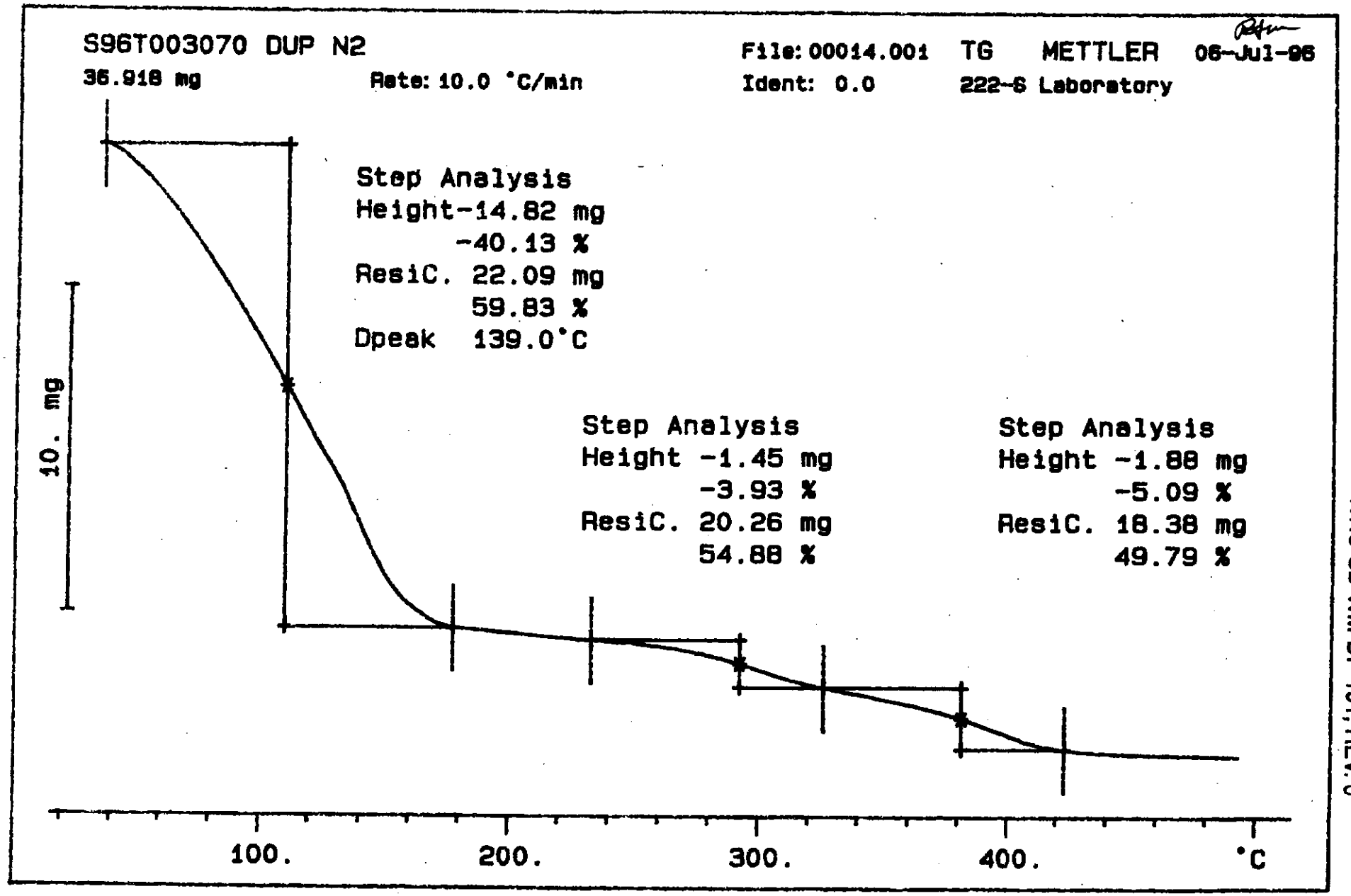



S96T003067 SAM N2
21.007 mg
Rate: 10.0 °C/min
File: 00006.001
Ident: 0.0
TG
METTLER
05-Jul-96
222-S Laboratory
Step Analysis
Height -7.61 mg
-36.25 %
ResiC. 13.39 mg
63.75 %
Step Analysis
Height -2.13 mg
-10.14 %
ResiC. 11.26 mg
53.61 %
Step Analysis
Height -0.84 mg
-4.01 %
ResiC. 10.42 mg
49.60 %
Dpeak 315.0°C
Step Analysis
Height -1.06 mg
-5.05 %
ResiC. 9.36 mg
44.54 %
Dpeak 413.0°C
5. mg
100.
200.
300.
400.
°C


S96T003067 DUP N2
33.320 mg
Rate: 10.0 °C/min
File: 00008.001
TG
METTLER
05-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -14.73 mg
-44.21 %
ResiC. 18.59 mg
55.79 %
Dpeak 97.0°C
Step Analysis
Height -1.61 mg
-4.84 %
ResiC. 16.98 mg
50.95 %
Dpeak 299.0°C
Step Analysis
Height -1.54 mg
-4.63 %
ResiC. 15.43 mg
46.32 %
10. mg
100.
200.
300.
400.
°C


82N8A STD N2
27.374 mg
Rate: 10.0 °C/min
File: 00092.001
Ident: 0.0
TG METTLER 05-Jul-96
222-S Laboratory
DJ McCown 7/5/96
Step Analysis
Height-16.04 mg
-58.60 %
ResiC. 11.33 mg
41.40 %
Dpeak 101.7°C
10. mg
50.
100.
150.
200.
°C


S96T003070 SAM N2
40.646 mg
Rate: 10.0 °C/min
File: 00012.001
TG
METTLER
05-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -16.43 mg
-40.43 %
ResiC. 24.21 mg
59.57 %
Dpeak 143.0°C
Step Analysis
Height -1.68 mg
-4.13 %
ResiC. 22.06 mg
54.28 %
Step Analysis
Height -2.01 mg
-4.95 %
ResiC. 20.05 mg
49.32 %
10. mg
100.
200.
300.
400.
°C


S96T003070 DUP N2
36.918 mg
Rate: 10.0 °C/min
File: 00014.001 TG METTLER 06-Jul-96
Ident: 0.0 222-S Laboratory
Step Analysis
Height -14.82 mg
-40.13 %
ResiC. 22.09 mg
59.83 %
Dpeak 139.0°C
Step Analysis
Height -1.45 mg
-3.93 %
ResiC. 20.26 mg
54.88 %
Step Analysis
Height -1.88 mg
-5.09 %
ResiC. 18.38 mg
49.79 %
10. mg
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10575

Analyst: DPB **Instrument:** TGA0 1 **Book #** 82N8-A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.2	59.12	N/A	%
96000641	U-106 (P)	2	SAMPLE	S96T003065	0		TGA-01	SOLID	N/A	40.85		%
96000641	U-106 (P)	3	DUP	S96T003065	0		TGA-01	SOLID	40.85	42.63	N/A	%
96000641	U-106 (P)	4	SAMPLE	S96T003066	0		TGA-01	SOLID	N/A	42.12		%
96000641	U-106 (P)	5	DUP	S96T003066	0		TGA-01	SOLID	42.12	39.37	N/A	%

Final page for worklist # 10575

Daniel P. Bramley 7/8/96 1645

Analyst Signature Date

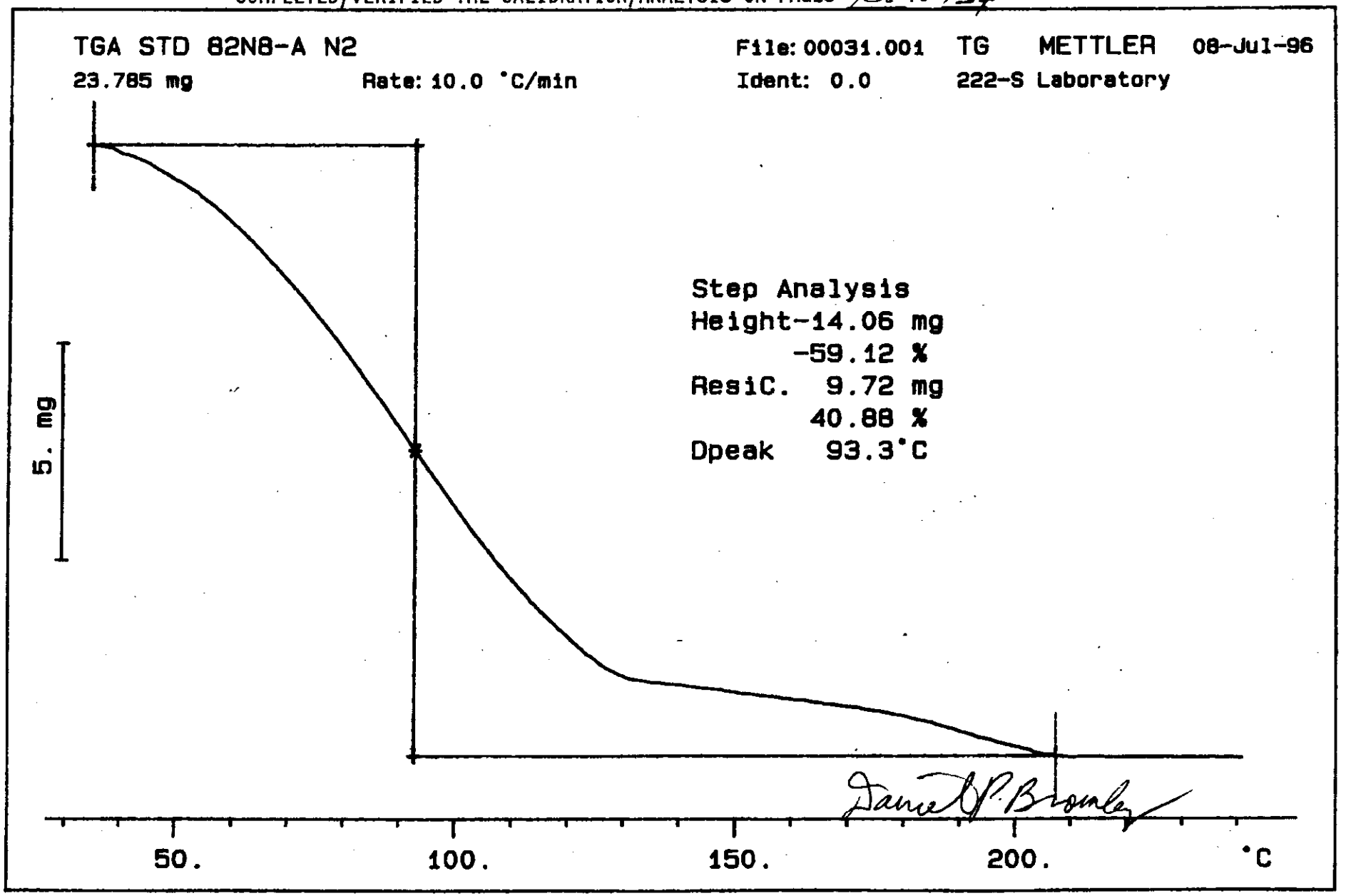
Analyst Signature Date

Verified/Validated by
Blandina Valenzuela
7-18-96

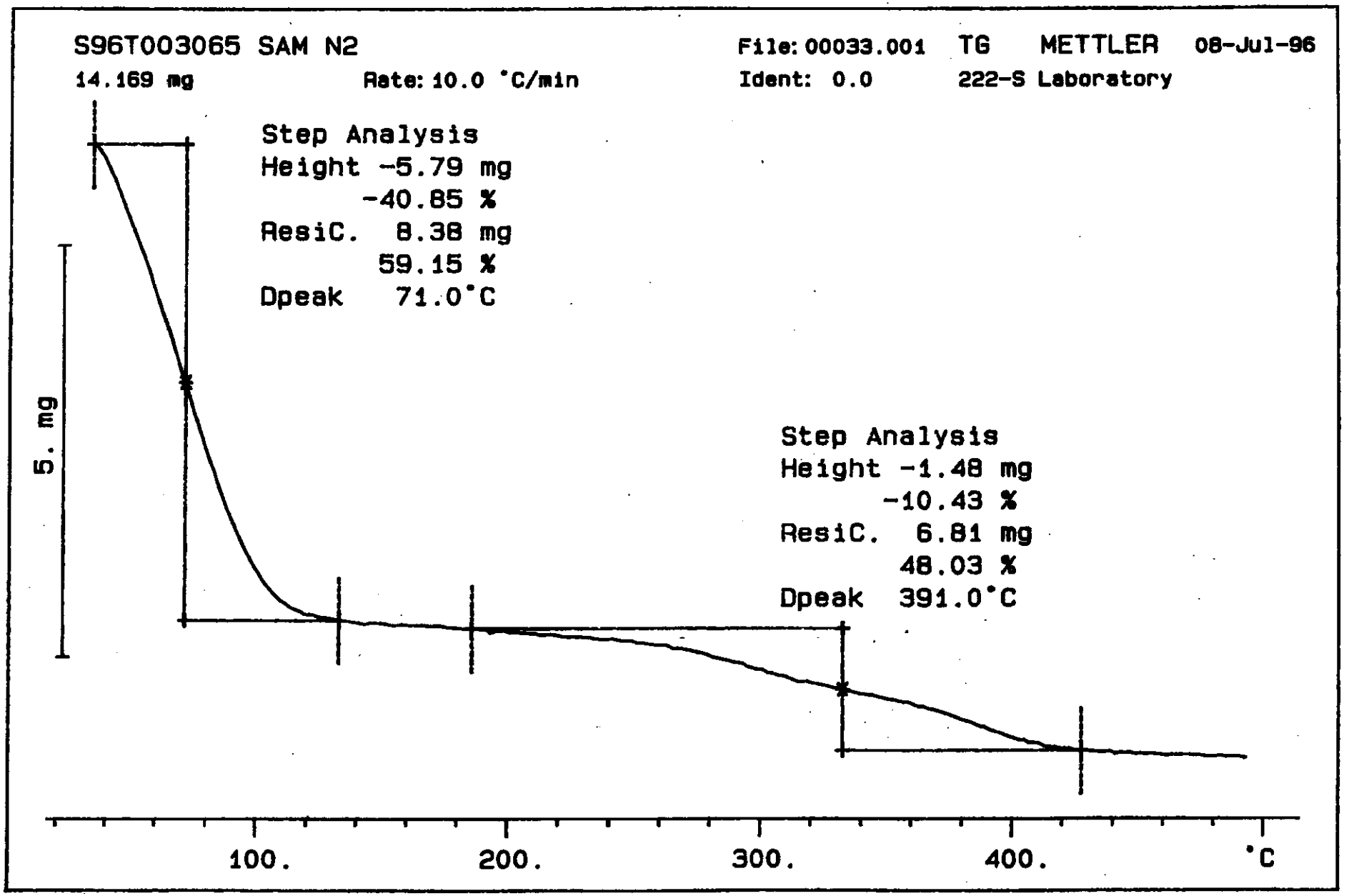
Data Entry Comments:

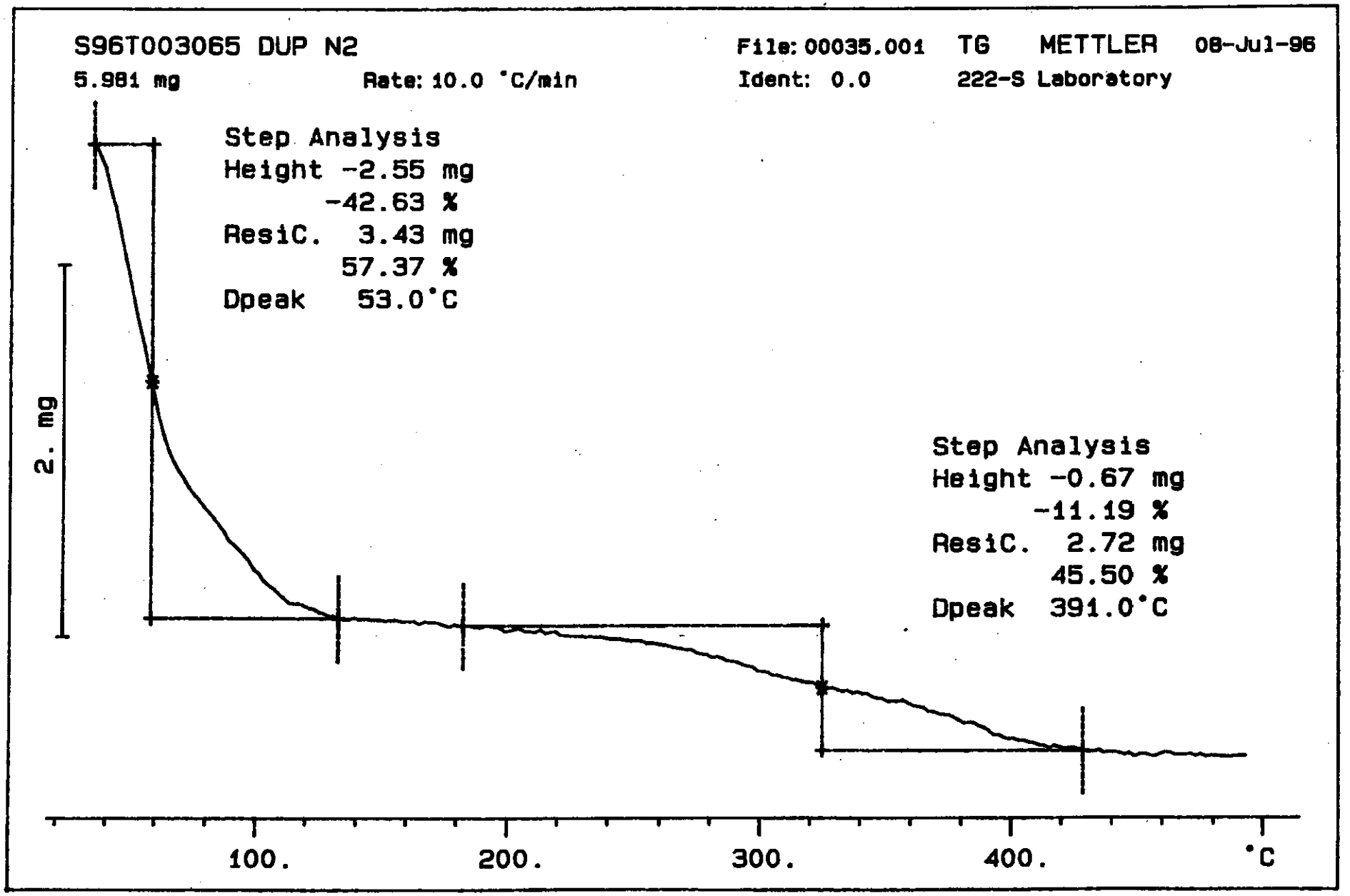
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

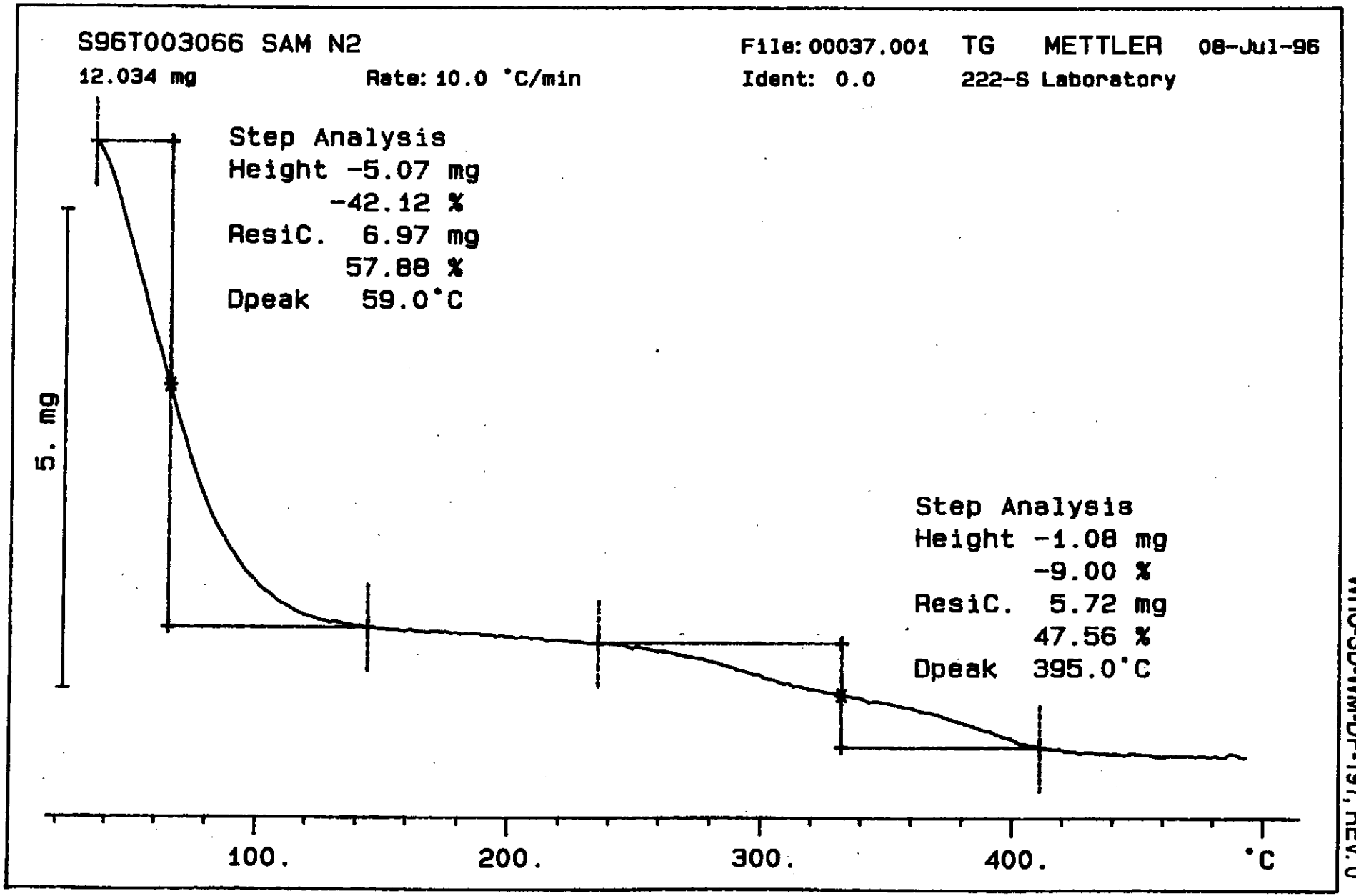
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 130 TO 134

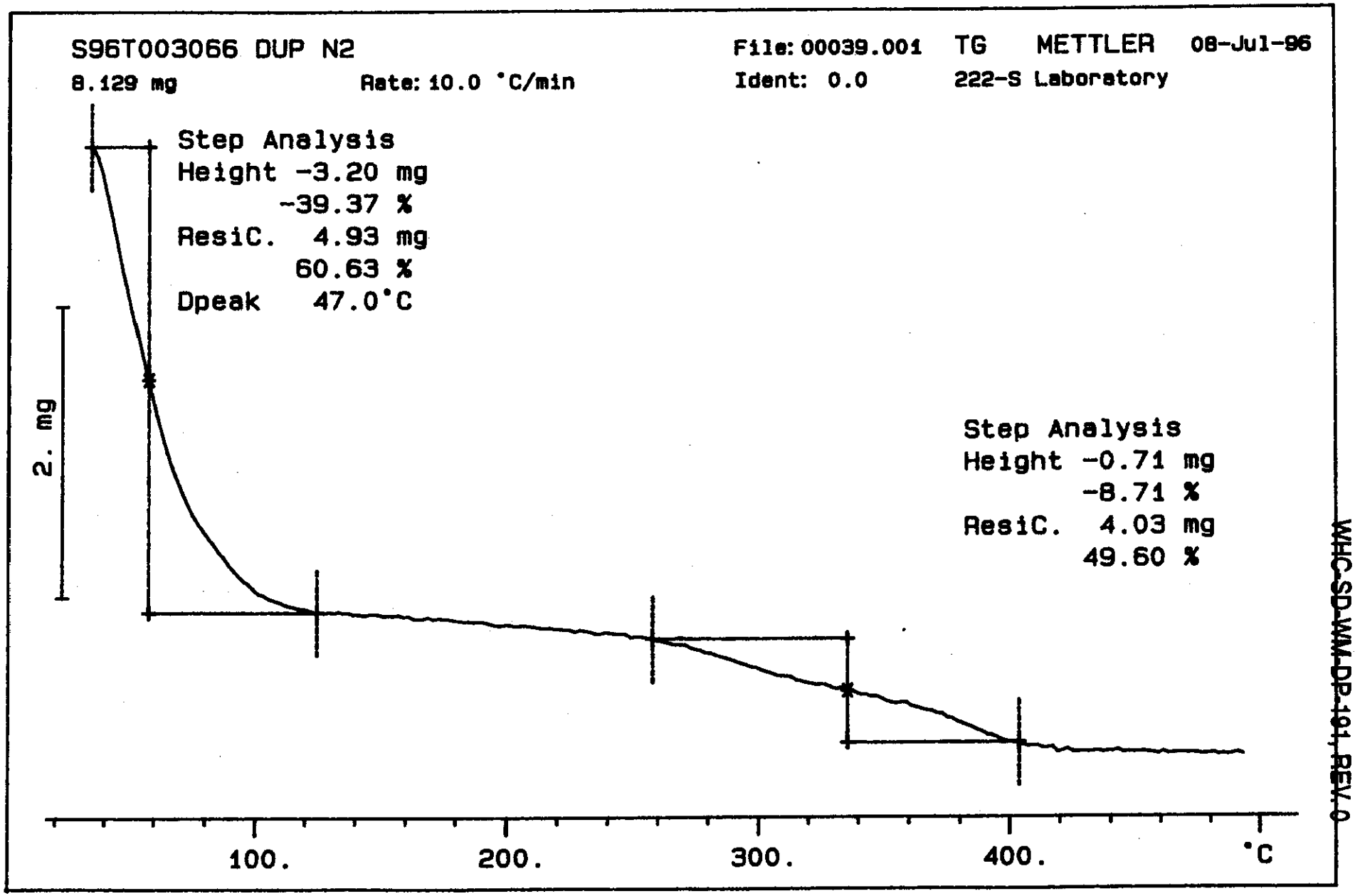


Daniel P. Bromley


S96T003065 SAM N2
14.169 mg
Rate: 10.0 °C/min
File: 00033.001
TG
METTLER
08-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -5.79 mg
-40.85 %
ResiC. 8.38 mg
59.15 %
Dpeak 71.0°C
Step Analysis
Height -1.48 mg
-10.43 %
ResiC. 6.81 mg
48.03 %
Dpeak 391.0°C
5. mg
100.
200.
300.
400.
°C


S96T003065 DUP N2
5.981 mg
Rate: 10.0 °C/min
File: 00035.001
TG METTLER 08-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -2.55 mg
-42.63 %
ResiC. 3.43 mg
57.37 %
Dpeak 53.0°C
Step Analysis
Height -0.67 mg
-11.19 %
ResiC. 2.72 mg
45.50 %
Dpeak 391.0°C
2. mg
100.
200.
300.
400.
°C


S96T003066 SAM N2
12.034 mg
Rate: 10.0 °C/min
File: 00037.001
TG
METTLER
08-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -5.07 mg
-42.12 %
ResiC. 6.97 mg
57.88 %
Dpeak 59.0°C
Step Analysis
Height -1.08 mg
-9.00 %
ResiC. 5.72 mg
47.56 %
Dpeak 395.0°C
5. mg
100.
200.
300.
400.
°C


S96T003066 DUP N2
8.129 mg
Rate: 10.0 °C/min
File: 00039.001
Ident: 0.0
TG
METTLER
08-Jul-96
222-S Laboratory
Step Analysis
Height -3.20 mg
-39.37 %
ResiC. 4.93 mg
60.63 %
Dpeak 47.0°C
Step Analysis
Height -0.71 mg
-8.71 %
ResiC. 4.03 mg
49.60 %
2. mg
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10576

Analyst: RLM **Instrument:** TGA0 1 **Book #** 82U8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA RUN UNDER N2. lc

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	59.2	59.11	N/A	%
96000641	U-106 (P)	2 SAMPLE	S96T003063	0	TGA-01	LIQUID	N/A	49.88		%
96000641	U-106 (P)	3 DUP	S96T003063	0	TGA-01	LIQUID	49.88	49.68	N/A	%
96000641	U-106 (P)	4 SAMPLE	S96T003064	0	TGA-01	LIQUID	N/A	47.59		%
96000641	U-106 (P)	5 DUP	S96T003064	0	TGA-01	LIQUID	47.59	48.2	N/A	%

Final page for worklist # 10576

RLMcCown 7/7/96
Analyst Signature **Date**

[illegible] 7-11-96
Analyst Signature **Date**

Validated by H Anastas 7-15-96

Data Entry Comments: S96T003063 is the sum of two weight loss steps

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 136 TO 140.

TGA STD 82N8A N2

29.820 mg

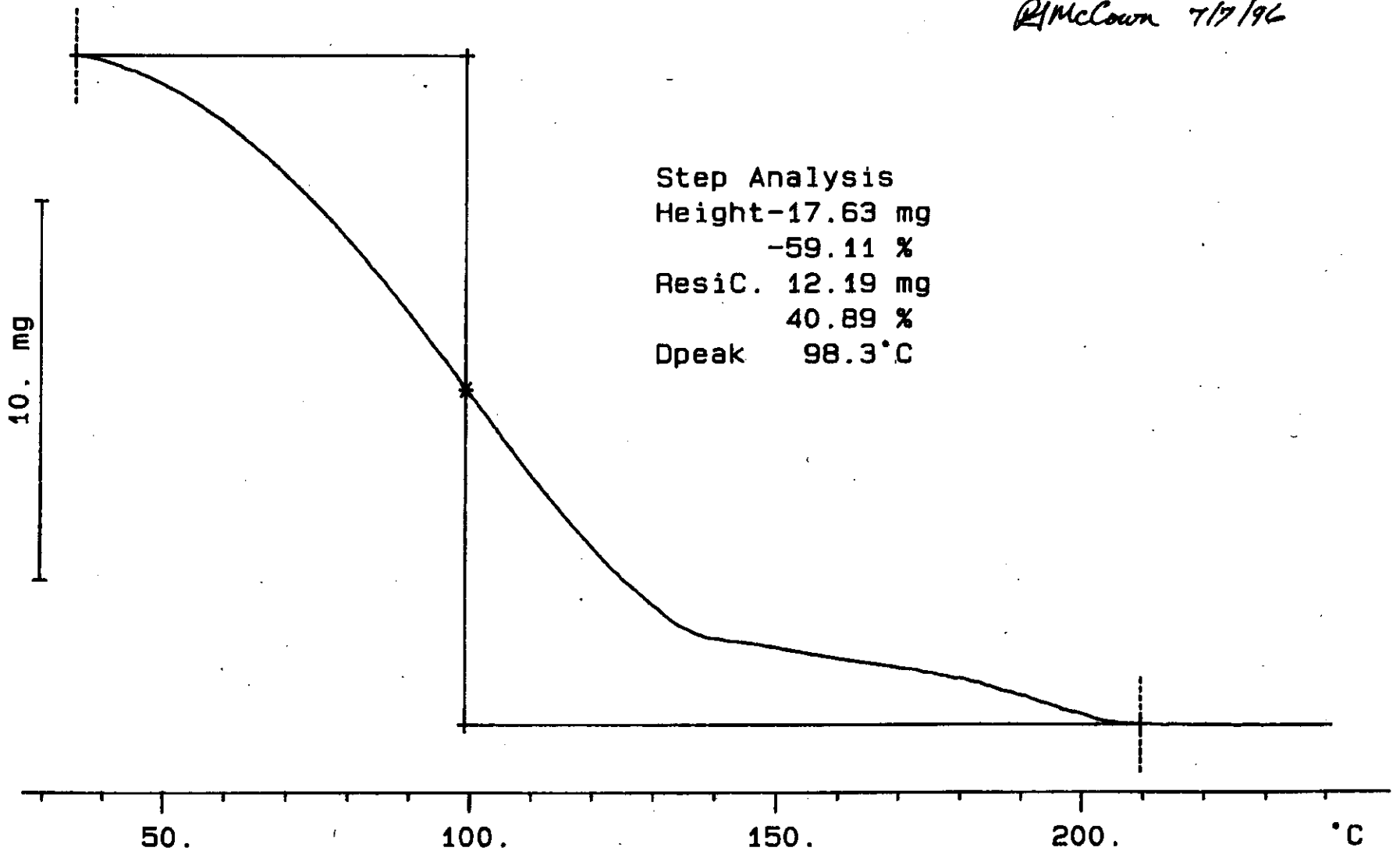
Rate: 10.0 °C/min

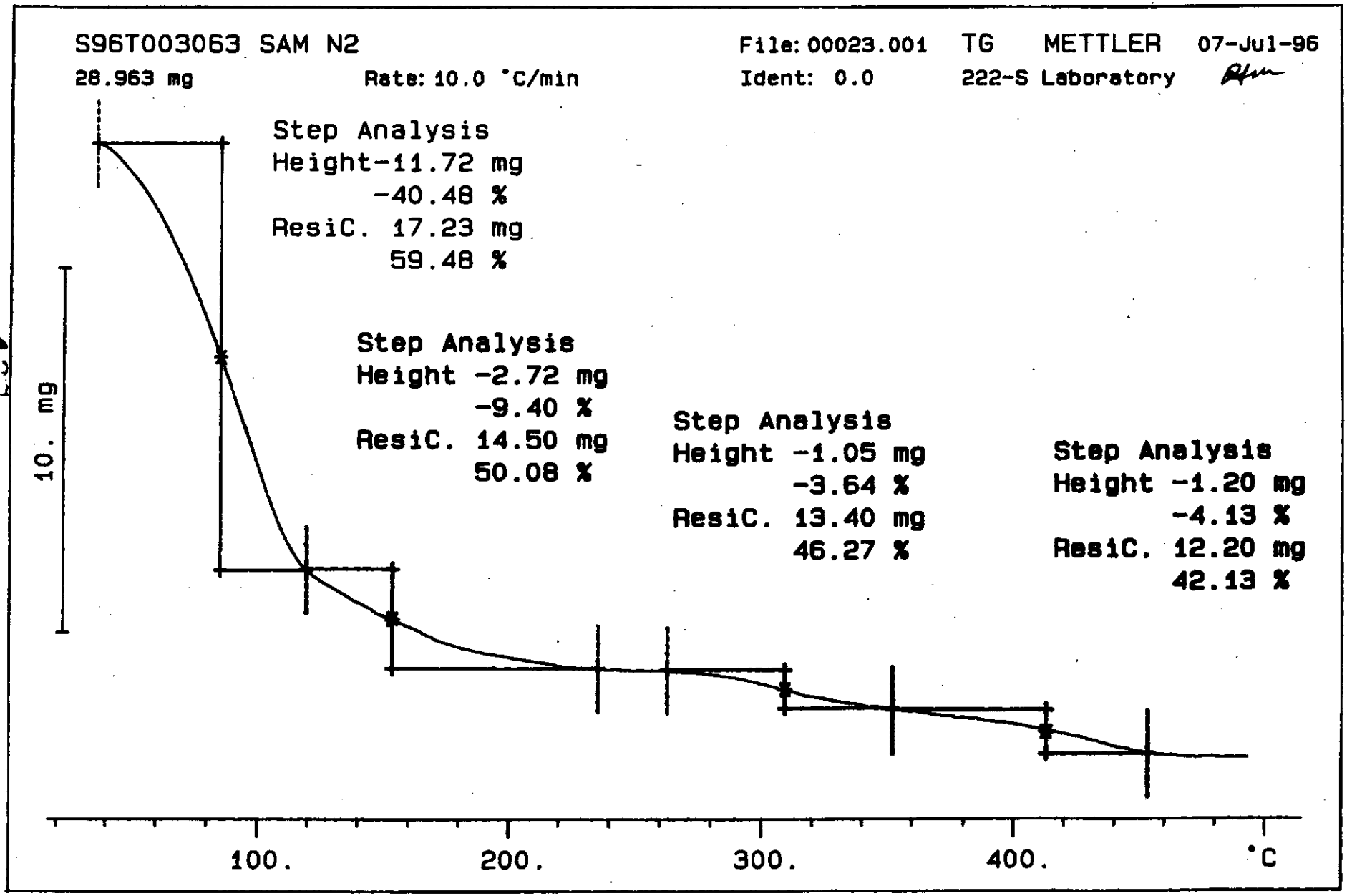
File: 00020.001 TG METTLER 07-Jul-96

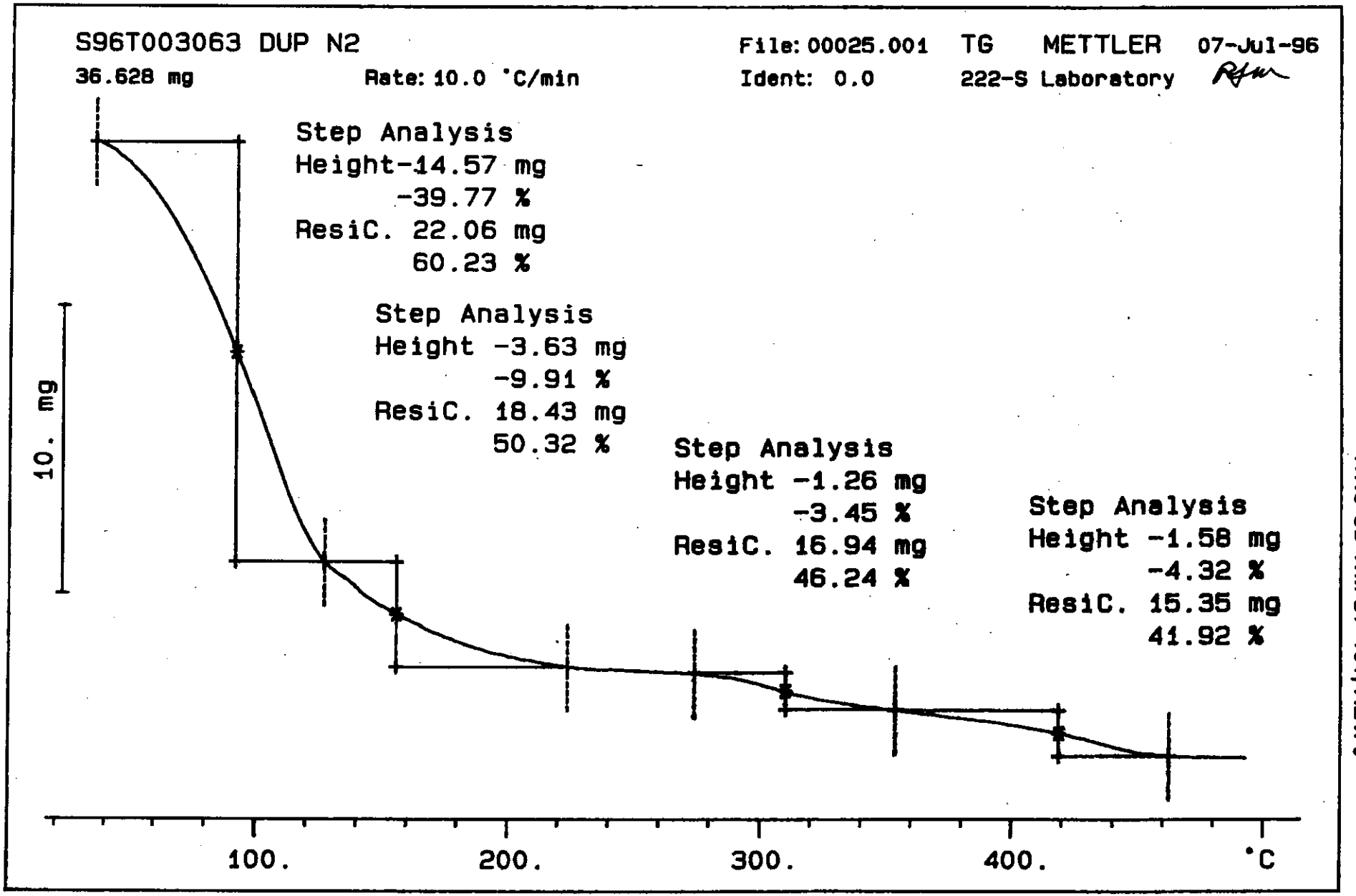
Ident: 0.0

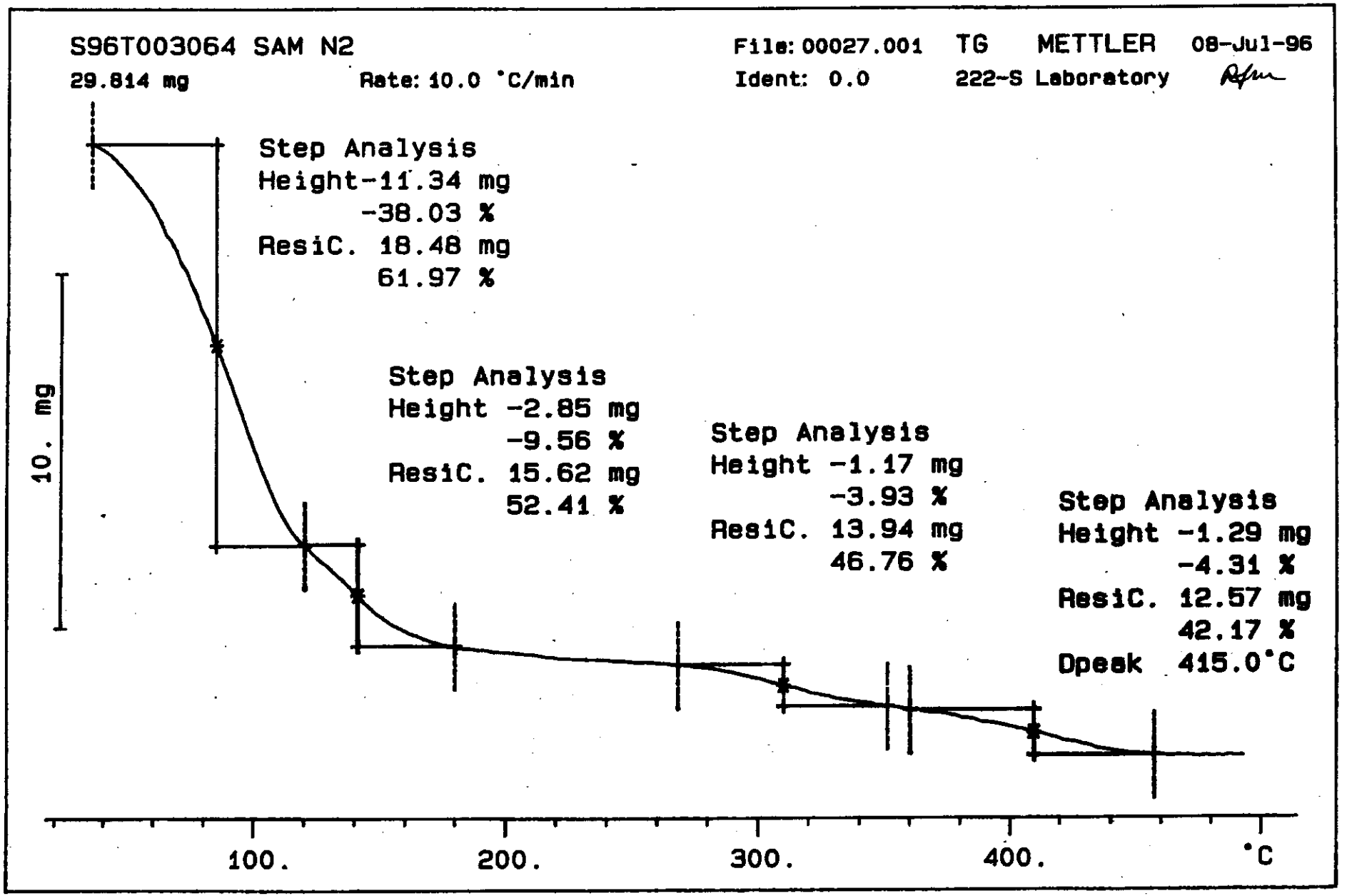
222-S Laboratory

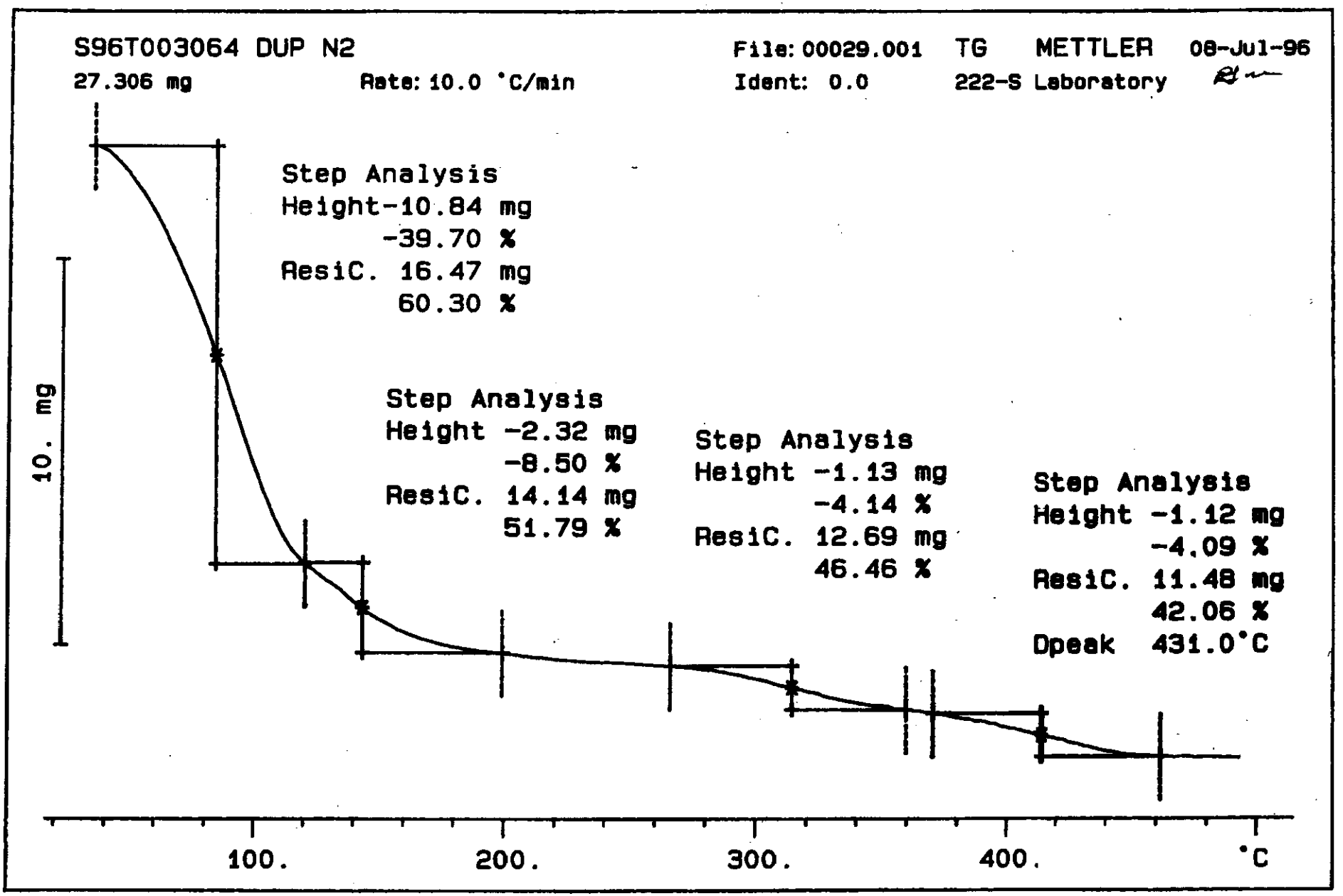
RJ McCown 7/7/96




S96T003063 SAM N2
28.963 mg
Rate: 10.0 °C/min
File: 00023.001
Ident: 0.0
TG
METTLER
07-Jul-96
222-S Laboratory
Step Analysis
Height -11.72 mg
-40.48 %
ResiC. 17.23 mg
59.48 %
Step Analysis
Height -2.72 mg
-9.40 %
ResiC. 14.50 mg
50.08 %
Step Analysis
Height -1.05 mg
-3.64 %
ResiC. 13.40 mg
46.27 %
Step Analysis
Height -1.20 mg
-4.13 %
ResiC. 12.20 mg
42.13 %
10. mg
100.
200.
300.
400.
°C


S96T003063 DUP N2
36.628 mg
Rate: 10.0 °C/min
File: 00025.001
Ident: 0.0
TG
METTLER
222-S Laboratory
07-Jul-96
Step Analysis
Height -14.57 mg
-39.77 %
ResiC. 22.06 mg
60.23 %
Step Analysis
Height -3.63 mg
-9.91 %
ResiC. 18.43 mg
50.32 %
Step Analysis
Height -1.26 mg
-3.45 %
ResiC. 16.94 mg
46.24 %
Step Analysis
Height -1.58 mg
-4.32 %
ResiC. 15.35 mg
41.92 %
10. mg
100.
200.
300.
400.
°C


S96T003064 SAM N2
29.814 mg
Rate: 10.0 °C/min
File: 00027.001
TG METTLER 08-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -11.34 mg
-38.03 %
ResiC. 18.48 mg
61.97 %
Step Analysis
Height -2.85 mg
-9.56 %
ResiC. 15.62 mg
52.41 %
Step Analysis
Height -1.17 mg
-3.93 %
ResiC. 13.94 mg
46.76 %
Step Analysis
Height -1.29 mg
-4.31 %
ResiC. 12.57 mg
42.17 %
Dpeak 415.0°C
10. mg
100.
200.
300.
400.
°C


S96T003064 DUP N2
27.306 mg
Rate: 10.0 °C/min
File: 00029.001
Ident: 0.0
TG
222-S Laboratory
METTLER
08-Jul-96
Step Analysis
Height -10.84 mg
-39.70 %
ResiC. 16.47 mg
60.30 %
Step Analysis
Height -2.32 mg
-8.50 %
ResiC. 14.14 mg
51.79 %
Step Analysis
Height -1.13 mg
-4.14 %
ResiC. 12.69 mg
46.46 %
Step Analysis
Height -1.12 mg
-4.09 %
ResiC. 11.48 mg
42.06 %
Dpeak 431.0°C
10. mg
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10577

Analyst: PJM **Instrument:** TGA0 1 **Book #** 82N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA RUN UNDER N2. lc

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	~~58.5~~ 59.2	58.59*	N/A	%
96000641	U-106 (P)	2 SAMPLE	S96T003068	0		TGA-01	SOLID	N/A	41.77		%
96000641	U-106 (P)	3 DUP	S96T003068	0		TGA-01	SOLID	41.77	41.96	N/A	%
		4 STD				TGA-01	SOLID	59.2	58.80	N/A	%
96000641	U-106 (P)	5 SAMPLE	S96T003069	0		TGA-01	SOLID	N/A	33.78		%
96000641	U-106 (P)	6 DUP	S96T003069	0		TGA-01	SOLID	33.78	33.8	N/A	%

Final page for worklist # 10577

See attached for signatures
Analyst Signature **Date** 7-11-96

[signature] 7-12-96
Analyst Signature **Date**

Verified/Validated by
Blandina
Valenzuela
7-15-96

Data Entry Comments: S96T003069 results are the sum of two weight loss steps

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# 10577

Analyst: [illegible] **Instrument:** TGA0 1 **Book #** 52WBA

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA RUN UNDER N2. lc

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
96000641	U-106 (P)	2	SAMPLE	S96T003068	0		TGA-01	SOLID	N/A			%
96000641	U-106 (P)	3	DUP STD	S96T003068	0		TGA-01	SOLID			N/A	%
96000641	U-106 (P)	4	SAMPLE	S96T003069	0		TGA-01	SOLID	N/A			%
96000641	U-106 (P)	5	DUP	S96T003069	0		TGA-01	SOLID			N/A	%

Final page for worklist # 10577

[illegible] 7/6/96
Analyst Signature Date

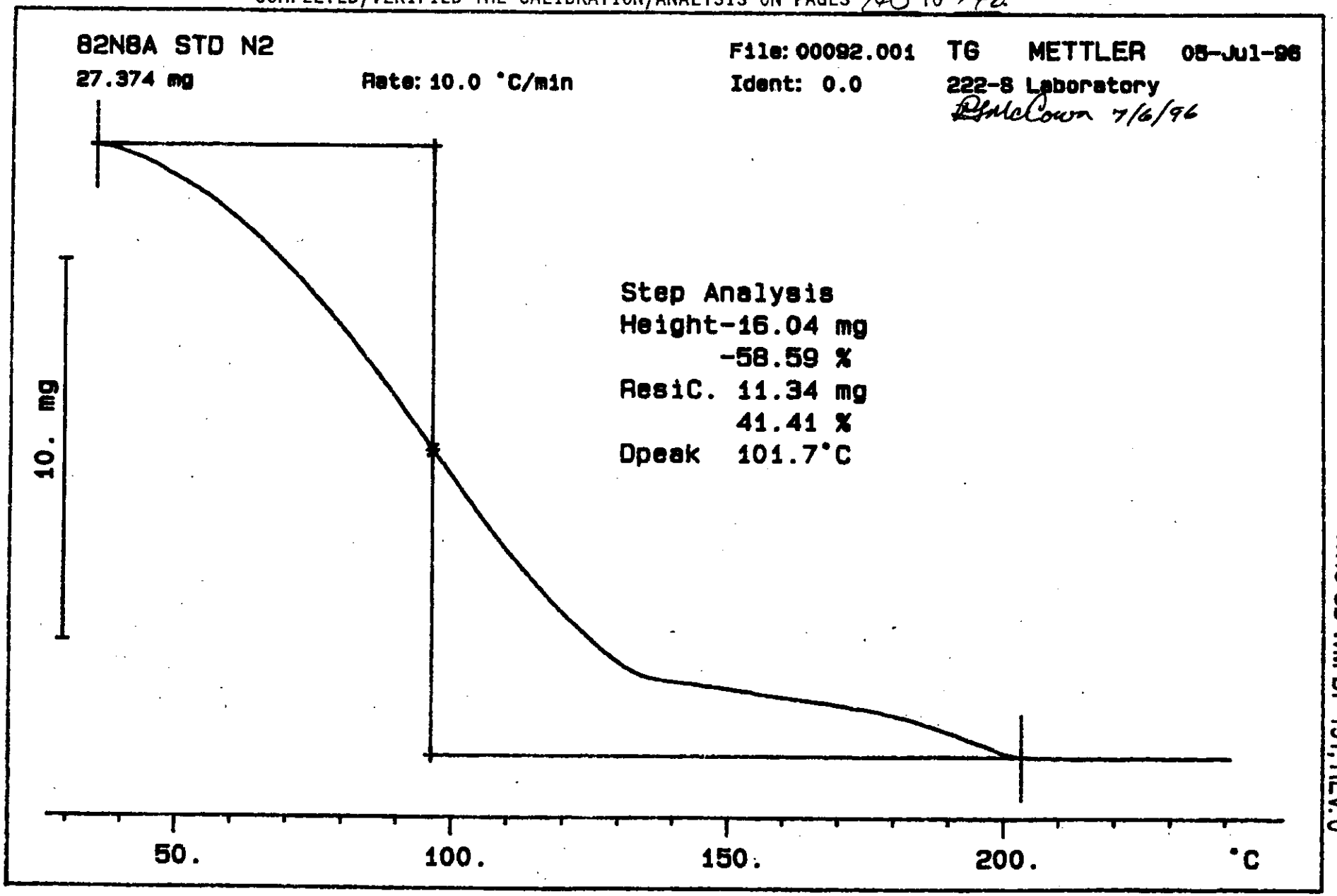
Rai Ann Green 7/6/96

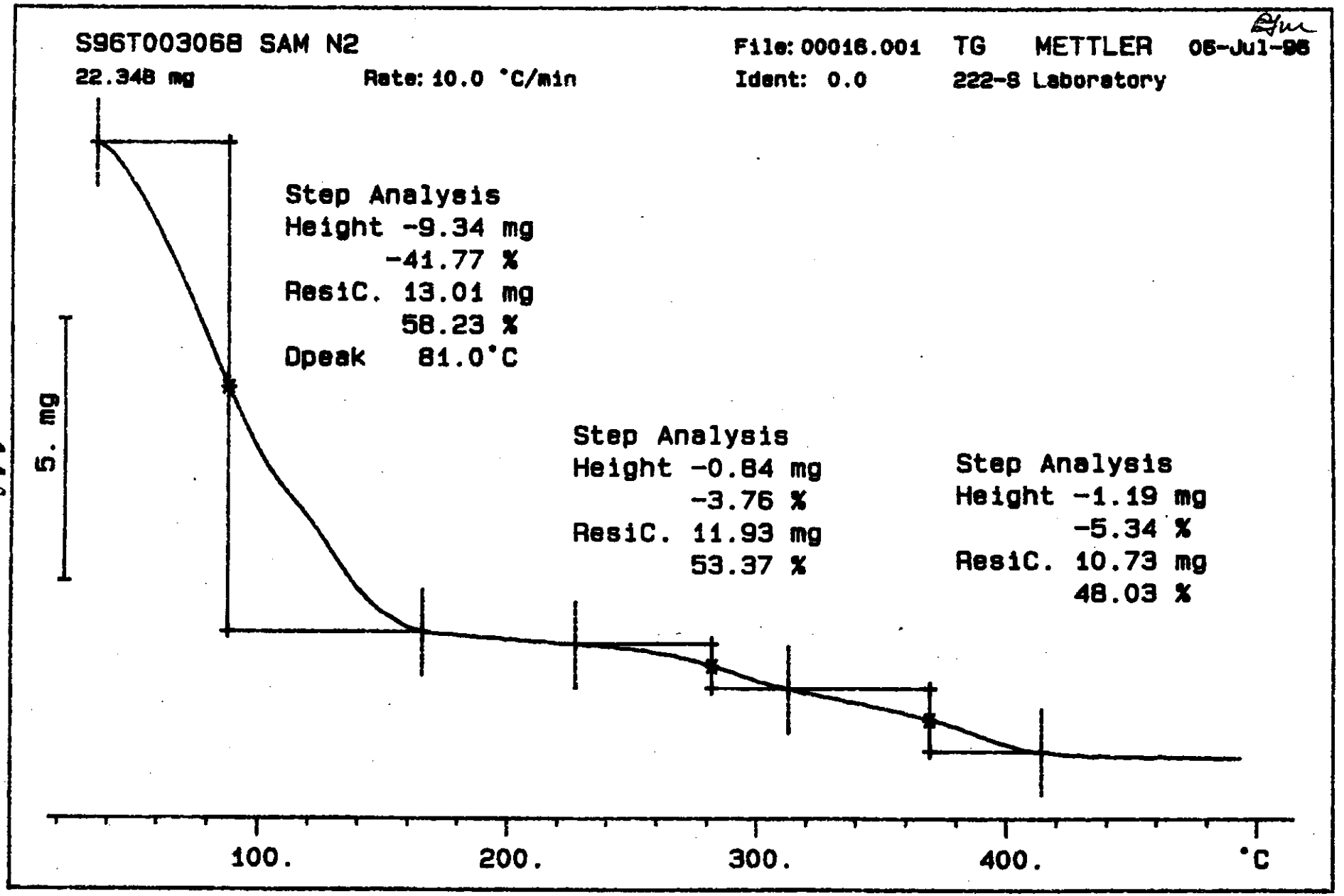
Analyst Signature Date

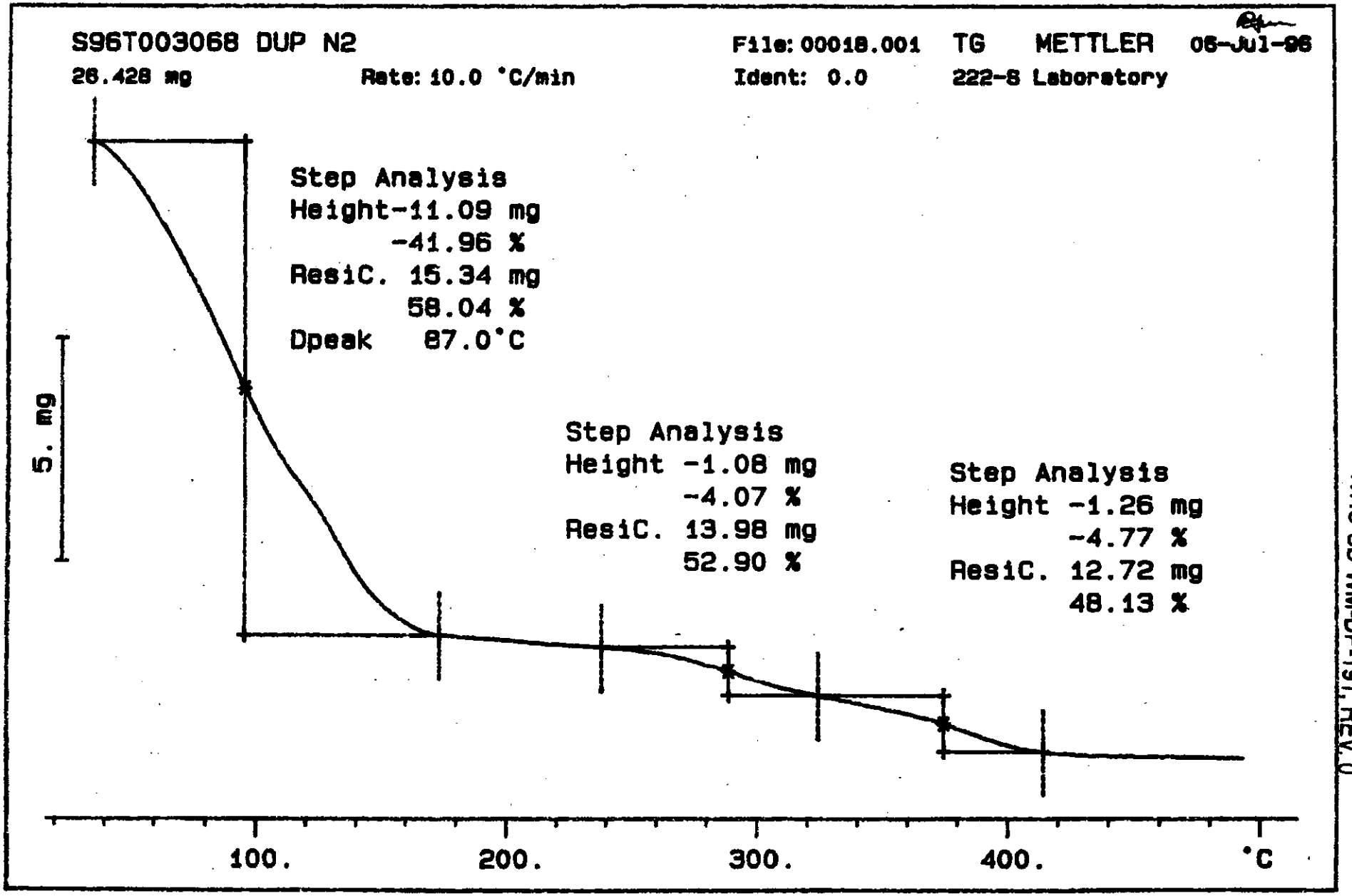
Data Entry Comments:

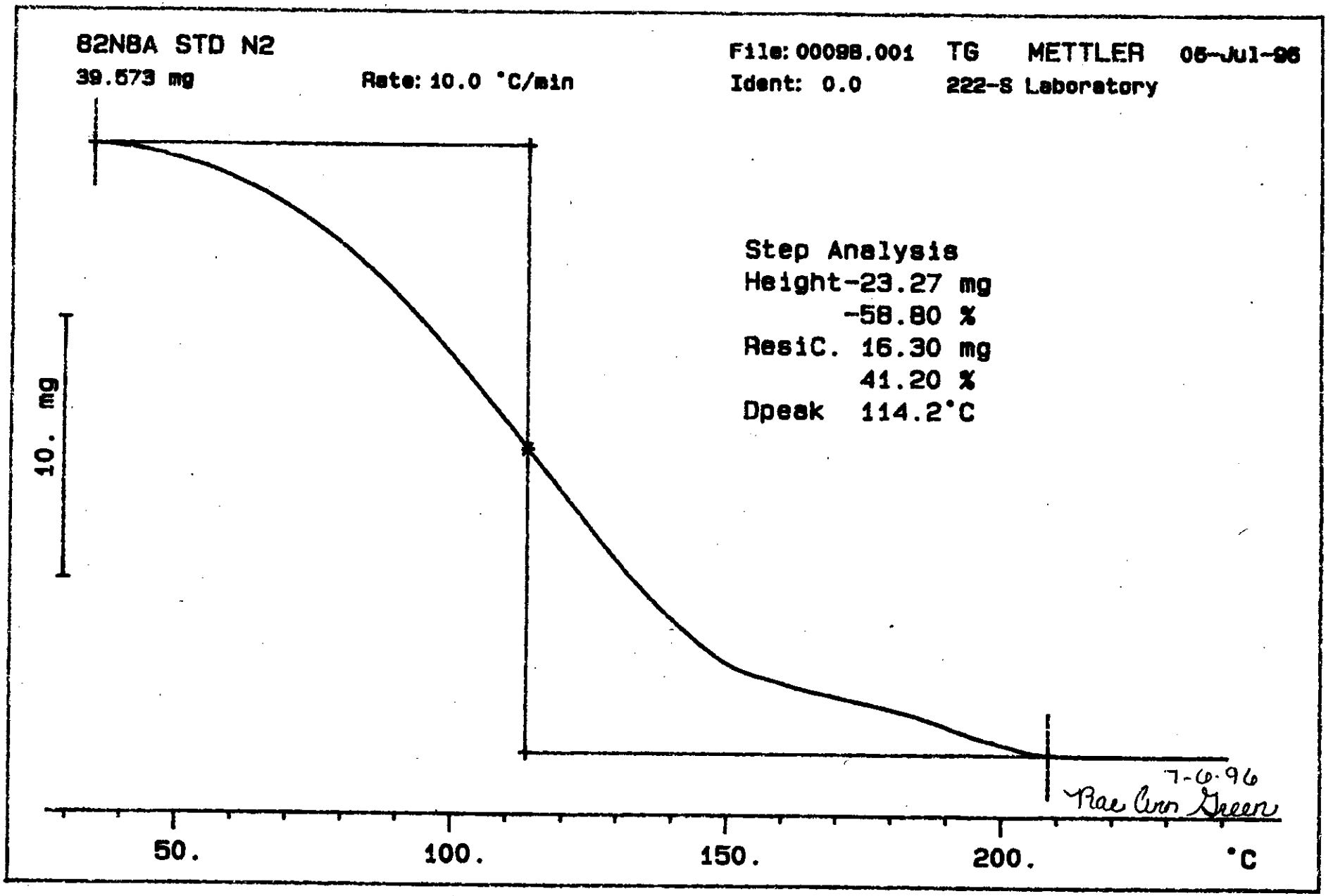
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

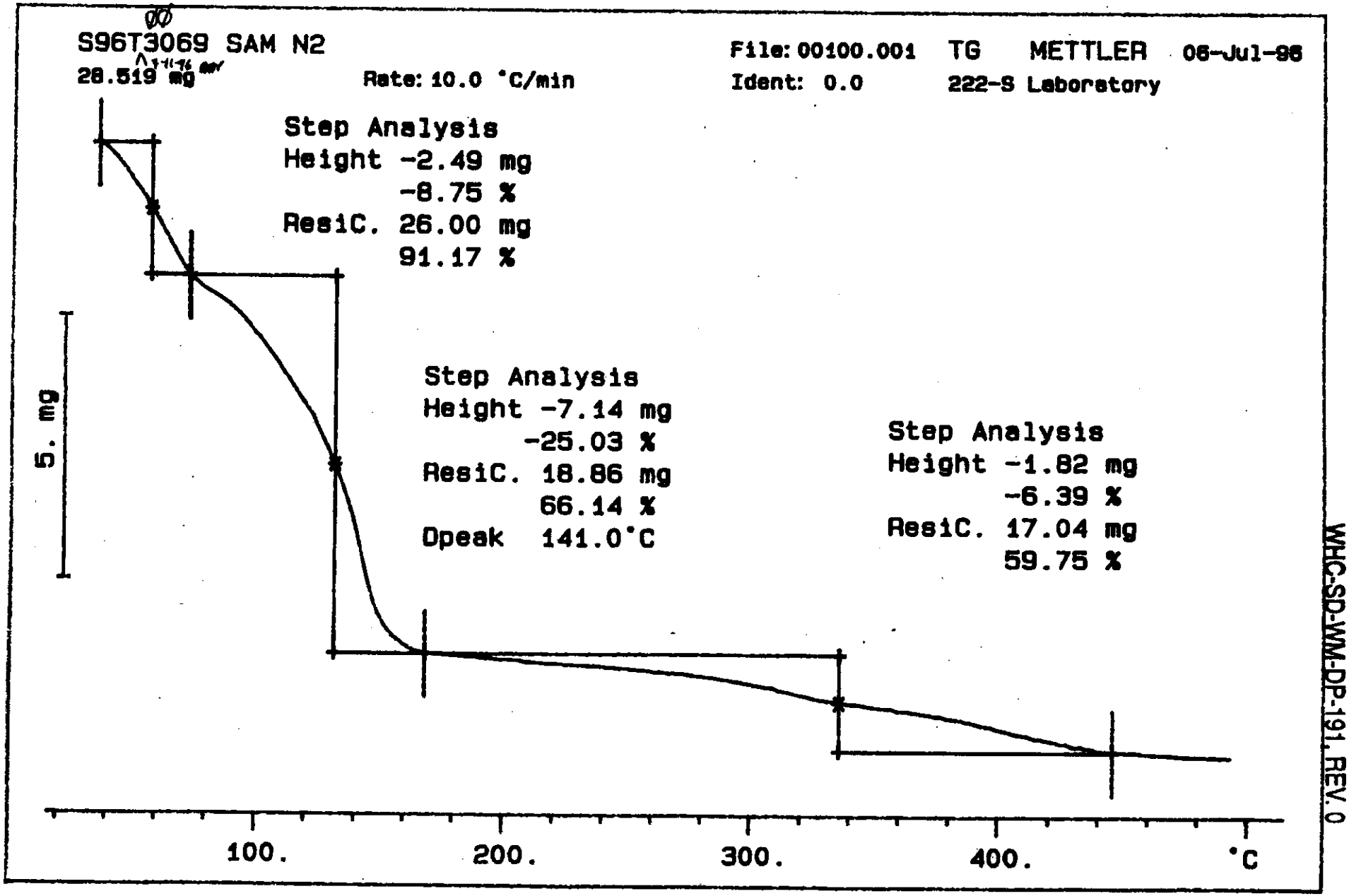
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 143 TO 148

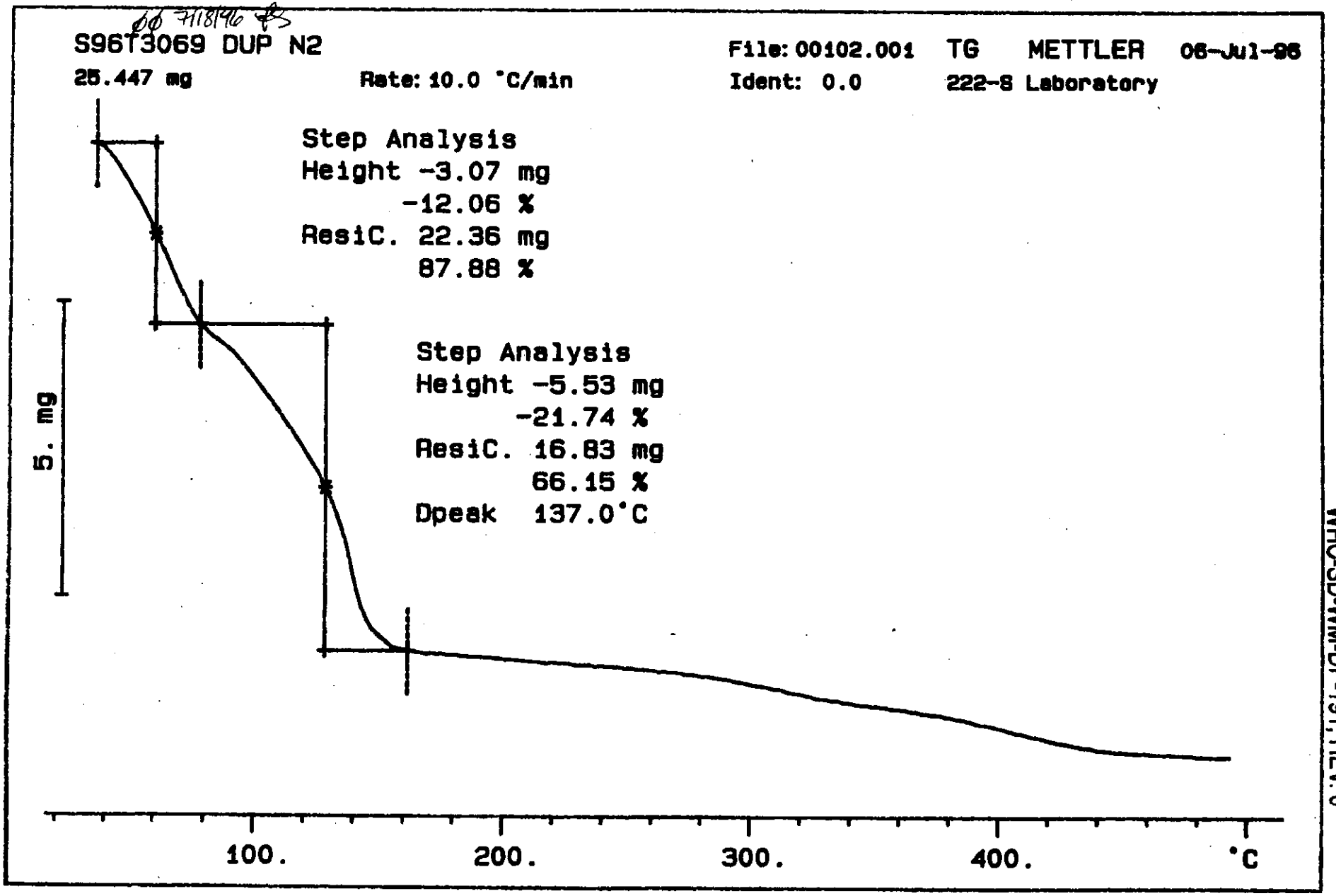



S96T003068 SAM N2
22.348 mg
Rate: 10.0 °C/min
File: 00016.001
Ident: 0.0
TG
METTLER
05-Jul-96
222-S Laboratory
Step Analysis
Height -9.34 mg
-41.77 %
ResiC. 13.01 mg
58.23 %
Dpeak 81.0°C
Step Analysis
Height -0.84 mg
-3.76 %
ResiC. 11.93 mg
53.37 %
Step Analysis
Height -1.19 mg
-5.34 %
ResiC. 10.73 mg
48.03 %
5. mg
100.
200.
300.
400.
°C


S96T003068 DUP N2
26.428 mg
Rate: 10.0 °C/min
File: 00018.001
Ident: 0.0
TG METTLER 06-Jul-96
222-S Laboratory
Step Analysis
Height -11.09 mg
-41.96 %
ResiC. 15.34 mg
58.04 %
Dpeak 87.0°C
Step Analysis
Height -1.08 mg
-4.07 %
ResiC. 13.98 mg
52.90 %
Step Analysis
Height -1.26 mg
-4.77 %
ResiC. 12.72 mg
48.13 %
6m °G
100.
200.
300.
400.
°C


82NBA STD N2
39.573 mg
Rate: 10.0 °C/min
File: 00098.001 TG METTLER 05-Jul-96
Ident: 0.0 222-S Laboratory
Step Analysis
Height -23.27 mg
-58.80 %
ResiC. 16.30 mg
41.20 %
Dpeak 114.2°C
10. mg
50.
100.
150.
200.
°C
7-6-96
Rae Ann Green


S96T3069 SAM N2
28.519 mg
Rate: 10.0 °C/min
File: 00100.001 TG METTLER 06-Jul-96
Ident: 0.0 222-S Laboratory
Step Analysis
Height -2.49 mg
-8.75 %
ResiC. 26.00 mg
91.17 %
Step Analysis
Height -7.14 mg
-25.03 %
ResiC. 18.86 mg
66.14 %
Dpeak 141.0°C
Step Analysis
Height -1.82 mg
-6.39 %
ResiC. 17.04 mg
59.75 %
5. mg
100.
200.
300.
400.
°C


S96T3069 DUP N2
25.447 mg
Rate: 10.0 °C/min
File: 00102.001
TG
METTLER
06-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -3.07 mg
-12.06 %
ResiC. 22.36 mg
87.88 %
Step Analysis
Height -5.53 mg
-21.74 %
ResiC. 16.83 mg
66.15 %
Dpeak 137.0°C
5. mg
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10578

Analyst: EAL **Instrument:** TGA0 1 **Book #** ~~82BBA~~ 82NBA Rev 7-9-96

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA RUN UNDER N2. lc

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	59.2	58.56*	N/A	%
96000641	U-106 (P)	2 SAMPLE	S96T003071	0	TGA-01	SOLID	N/A	46.27		%
96000641	U-106 (P)	3 DUP	S96T003071	0	TGA-01	SOLID	46.27	42.87	N/A	%

Final page for worklist # 10578

A Lambel 07-05-96
Analyst Signature Date

[illegible] 7-11-96
Analyst Signature Date

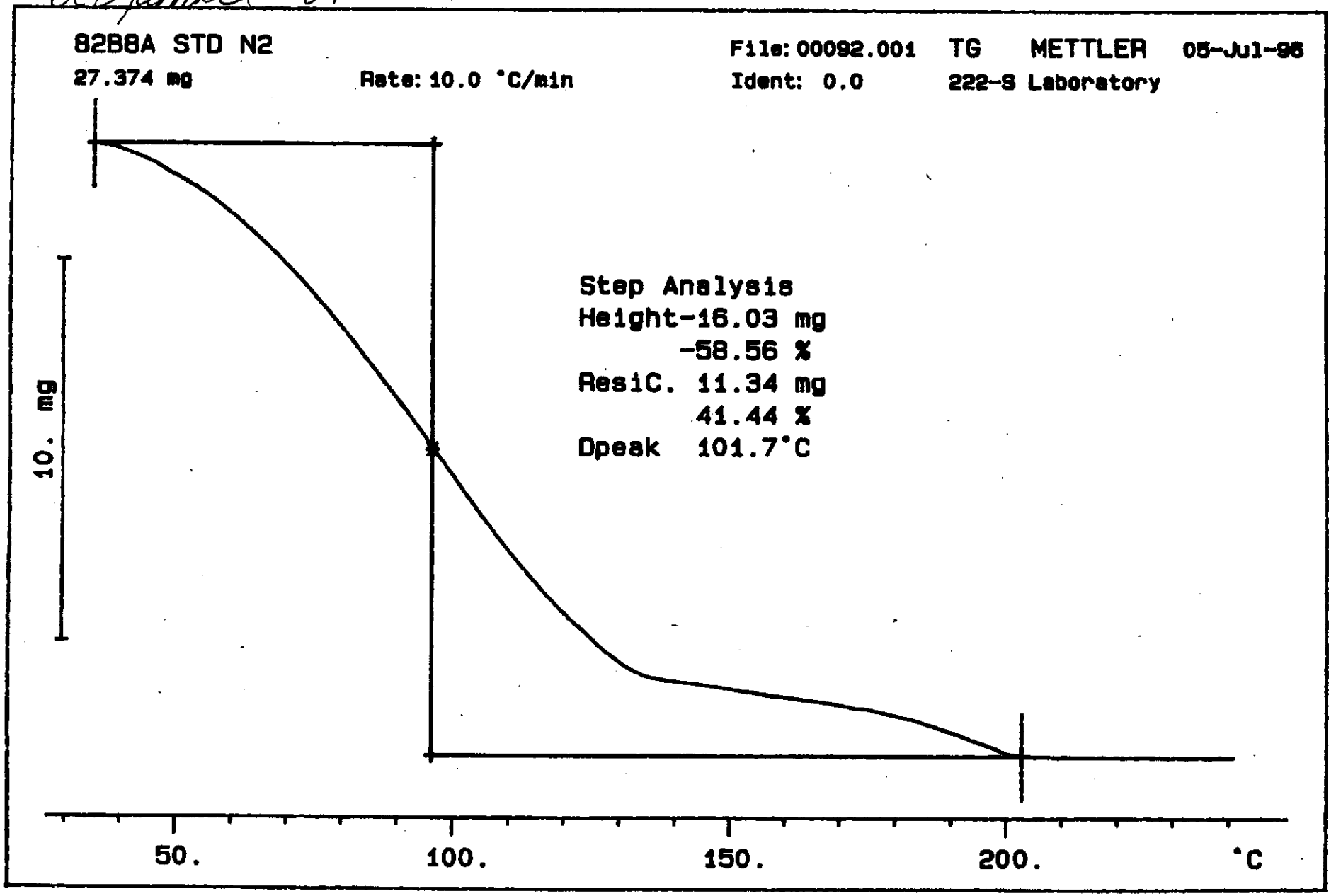
Validated by HAnastn 7-15-96

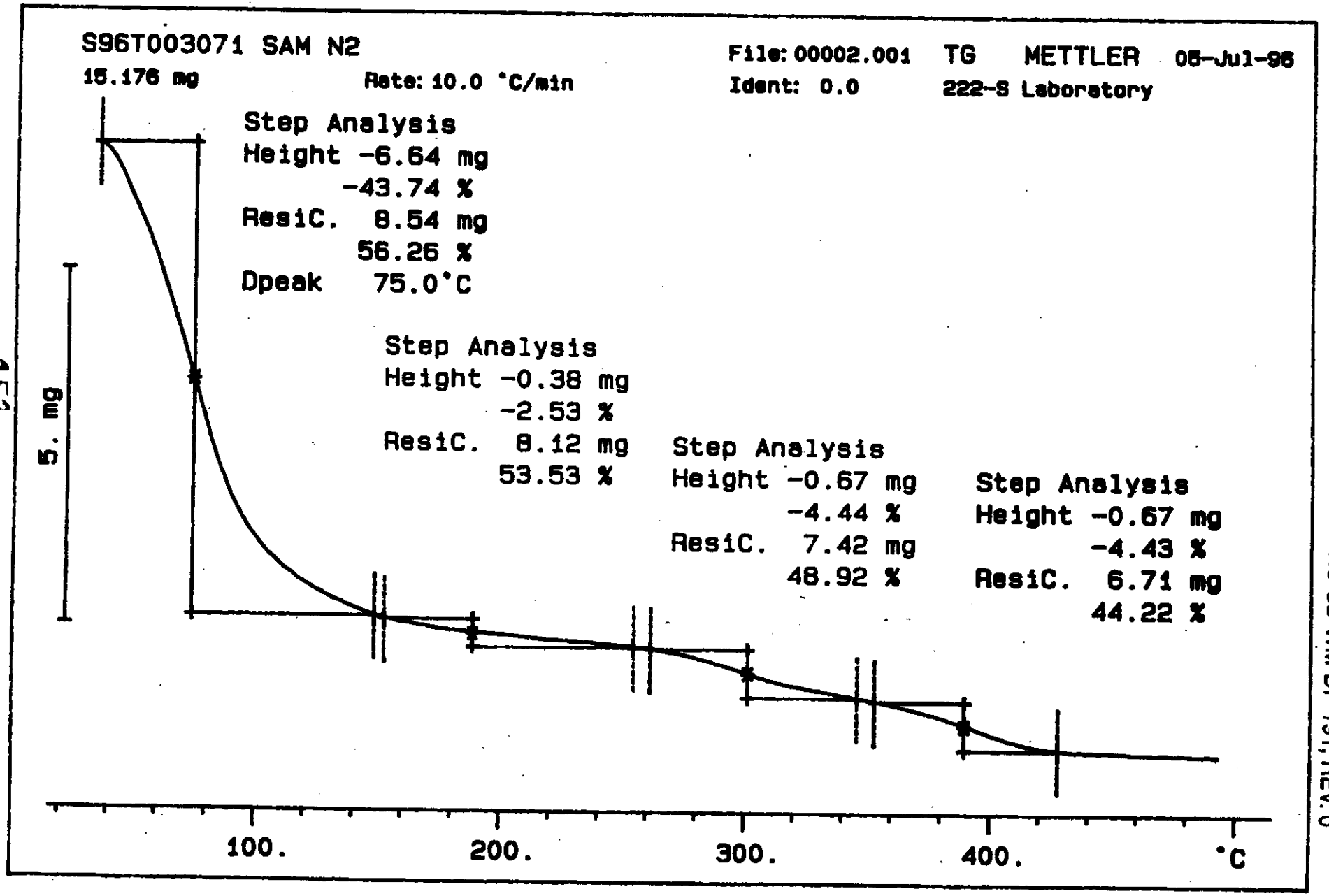
Data Entry Comments: S96T003071 is the sum of several weight loss steps.

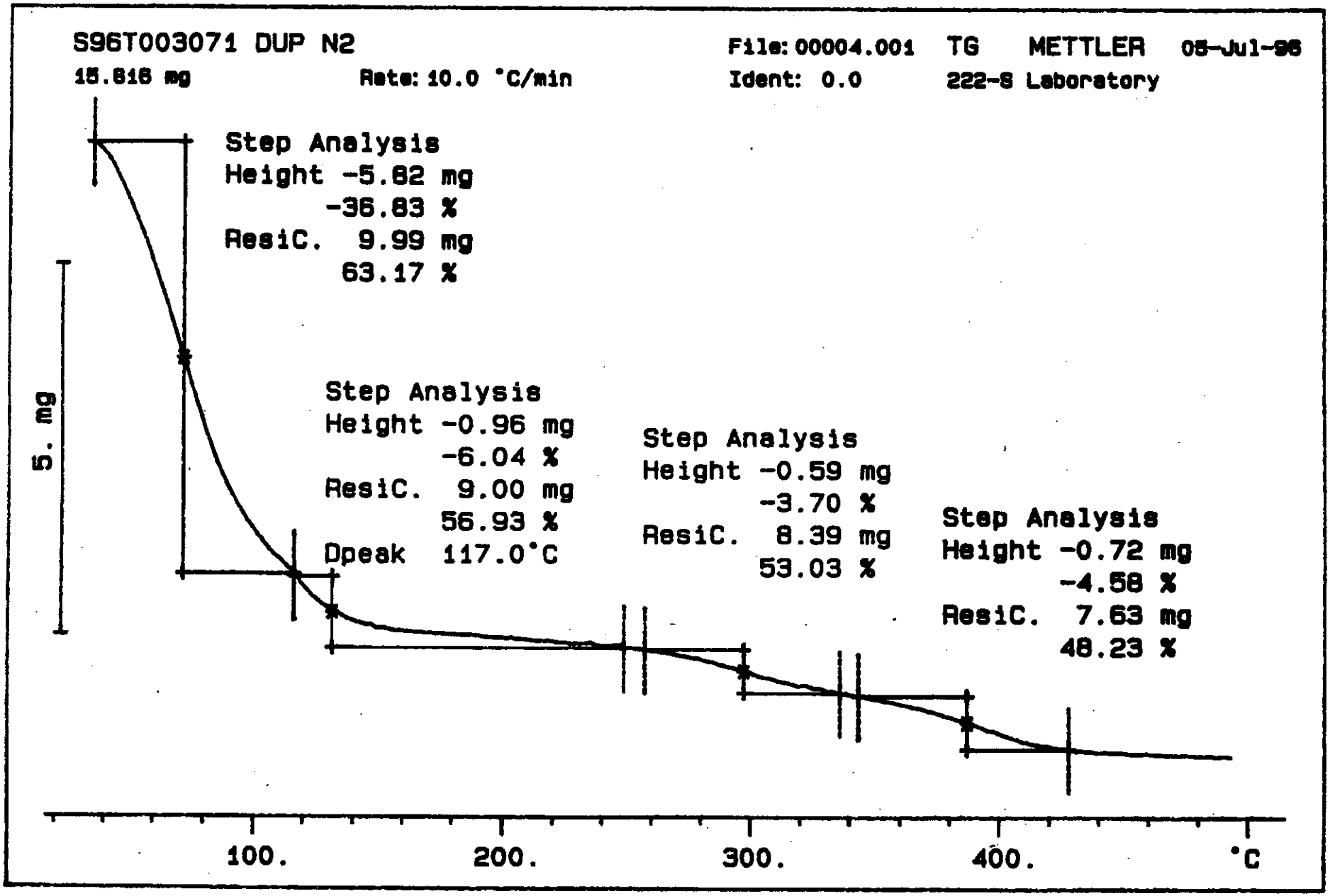
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 151 TO 152.

A. Lambel 07-05-96




S96T003071 SAM N2
15.176 mg
Rate: 10.0 °C/min
File: 00002.001
TG
METTLER
05-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -6.64 mg
-43.74 %
ResiC. 8.54 mg
56.26 %
Dpeak 75.0°C
Step Analysis
Height -0.38 mg
-2.53 %
ResiC. 8.12 mg
53.53 %
Step Analysis
Height -0.67 mg
-4.44 %
ResiC. 7.42 mg
48.92 %
Step Analysis
Height -0.67 mg
-4.43 %
ResiC. 6.71 mg
44.22 %
5. mg
100.
200.
300.
400.
°C


S96T003071 DUP N2
15.816 mg
Rate: 10.0 °C/min
File: 00004.001
TG
METTLER
05-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -5.82 mg
-36.83 %
ResiC. 9.99 mg
63.17 %
Step Analysis
Height -0.96 mg
-6.04 %
ResiC. 9.00 mg
56.93 %
Dpeak 117.0°C
Step Analysis
Height -0.59 mg
-3.70 %
ResiC. 8.39 mg
53.03 %
Step Analysis
Height -0.72 mg
-4.58 %
ResiC. 7.63 mg
48.23 %
5. mg
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10773

Analyst: RDM **Instrument:** TGA0 3 **Book #** 82N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: U-106 TGA Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	LIQUID	59.2	59.17	N/A	%
96000643	U-106 (P)	2	SAMPLE	S96T002860	0		TGA-03	LIQUID	N/A	49.1		%
96000643	U-106 (P)	3	DUP	S96T002860	0		TGA-03	LIQUID	49.1	48.52	N/A	%
96000643	U-106 (P)	4	SAMPLE	S96T003051	0		TGA-03	LIQUID	N/A	48.11		%
96000643	U-106 (P)	5	DUP	S96T003051	0		TGA-03	LIQUID	48.11	47.68	N/A	%

Final page for worklist # 10773

See attached for signatures
Analyst Signature **Date** 7-16-96 BDV

Verified / Validated by
Blandina
Valenzuela
7-18-96

[signature] 7-17-96
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.

LABCORE Data Entry Template for Worklist# 10773

Analyst: KDM **Instrument:** TGA0 _____ **Book #** 82N8A

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: U-106 TGA Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	LIQUID			N/A	%
96000643	U-106 (P)	2	SAMPLE	S96T002860	0		TGA-01	LIQUID	N/A			%
96000643	U-106 (P)	3	DUP	S96T002860	0		TGA-01	LIQUID			N/A	%
96000643	U-106 (P)	4	SAMPLE	S96T003051	0		TGA-01	LIQUID	N/A			%
96000643	U-106 (P)	5	DUP	S96T003051	0		TGA-01	LIQUID			N/A	%

Final page for worklist # 10773

KDMcLyn 7/13/96
Analyst Signature **Date**

Analyst Signature **Date**

BLMcCown 7/13/96

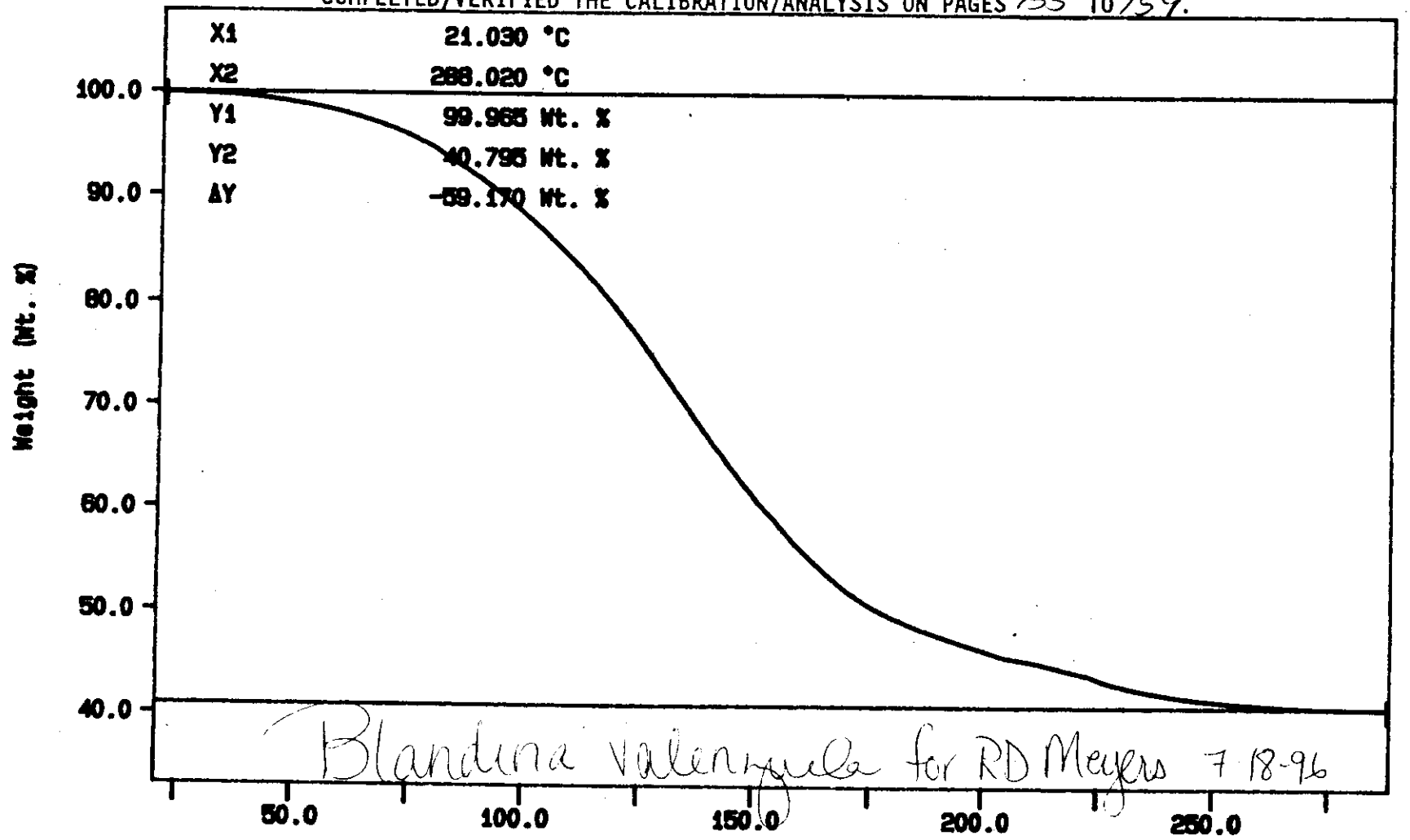
TGA-03 instrument was used.
7-16-96
[illegible]

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.

Curve 1: TGA
File info: TER071301 Fri Jul 12 21:56:25 1996
Sample Weight: 20.288 mg
TGA STD 82NB-A

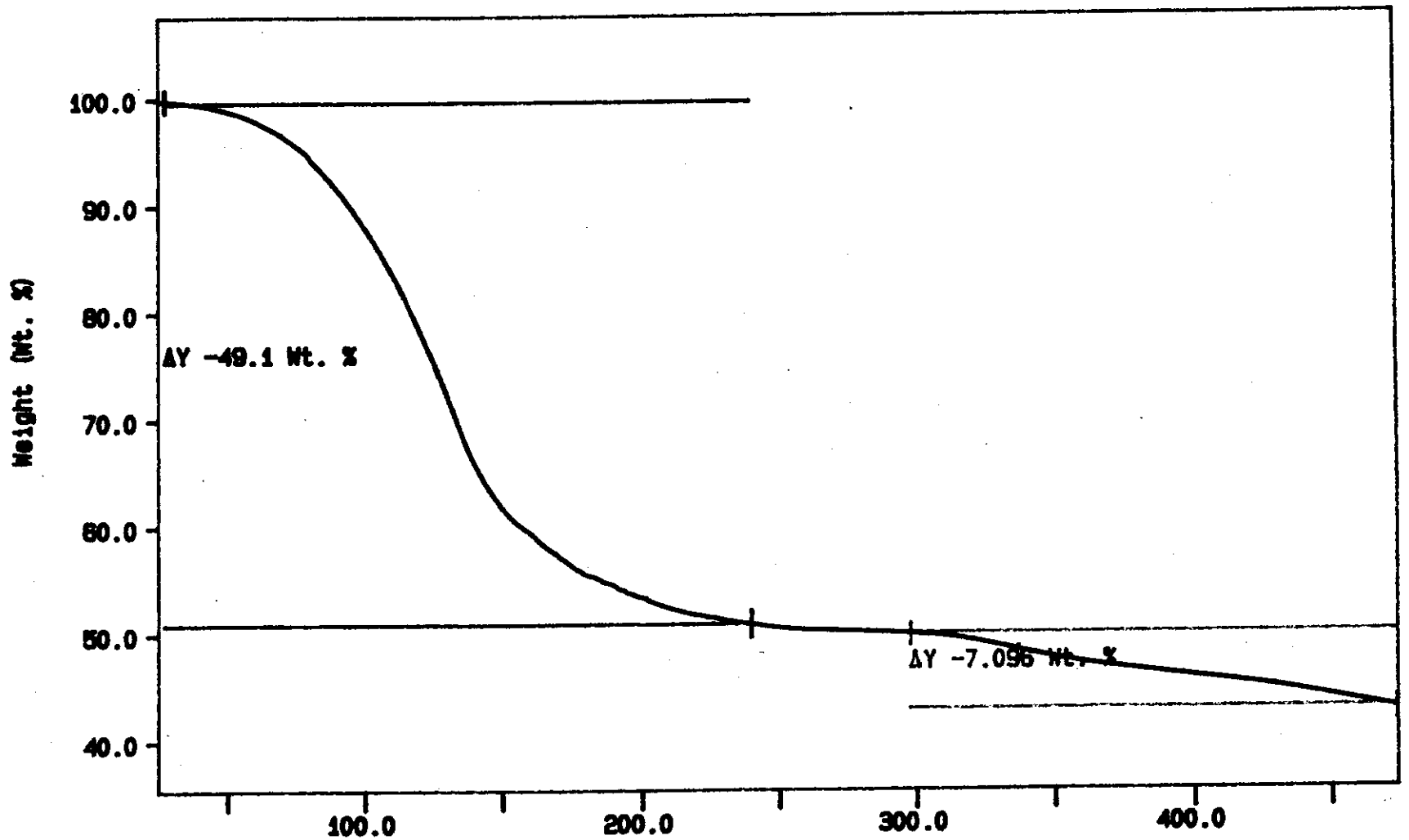
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 155 TO 159.



N2 10C/MIN
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 00:21:03 1996

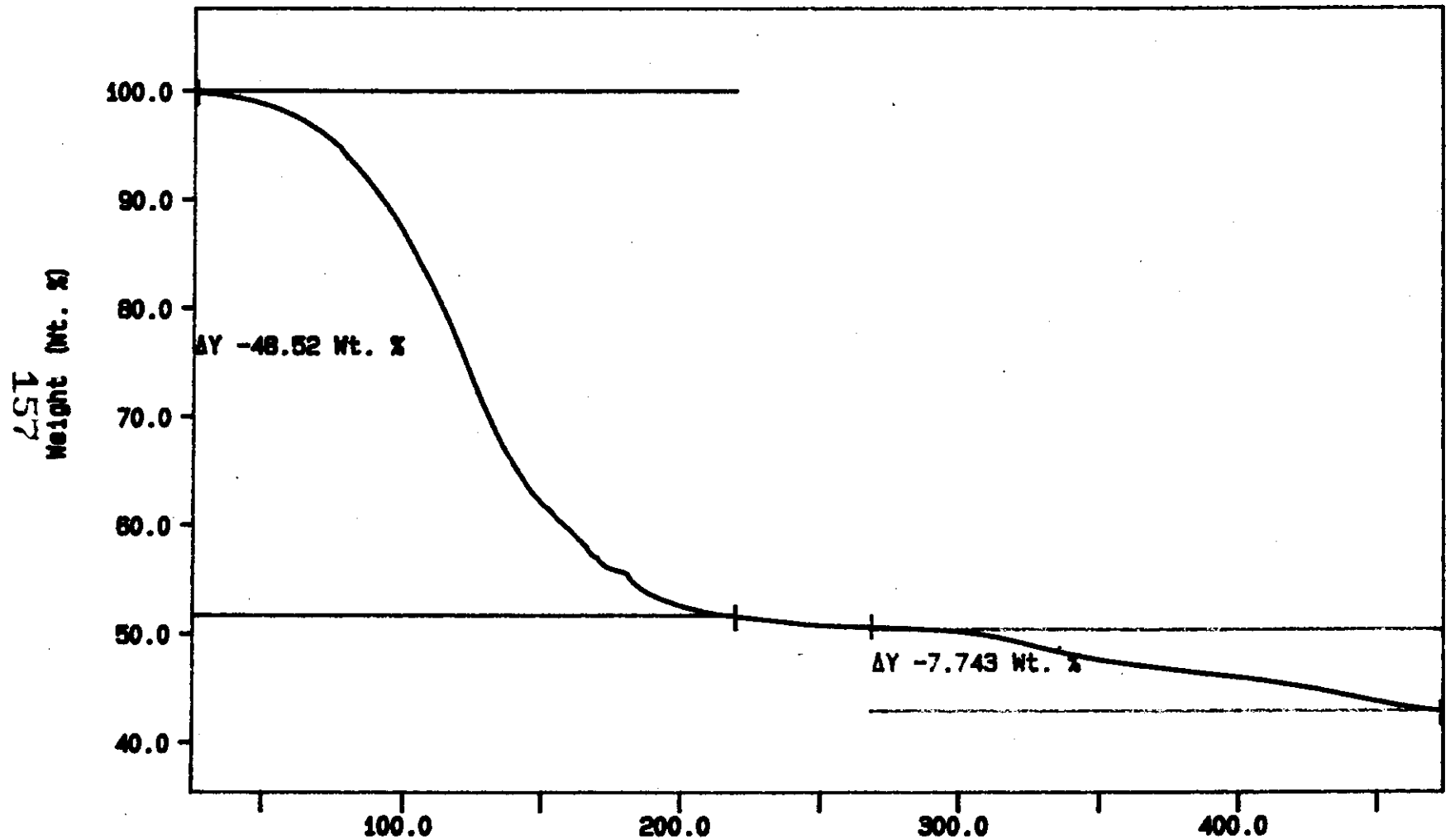
Curve 1: TGA
File info: SAM071301 Sat Jul 13 01:21:01 1996
Sample Weight: 16.509 mg
S96T002860



10C/MIN N2
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 400.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jul 16 08:57:20 1996

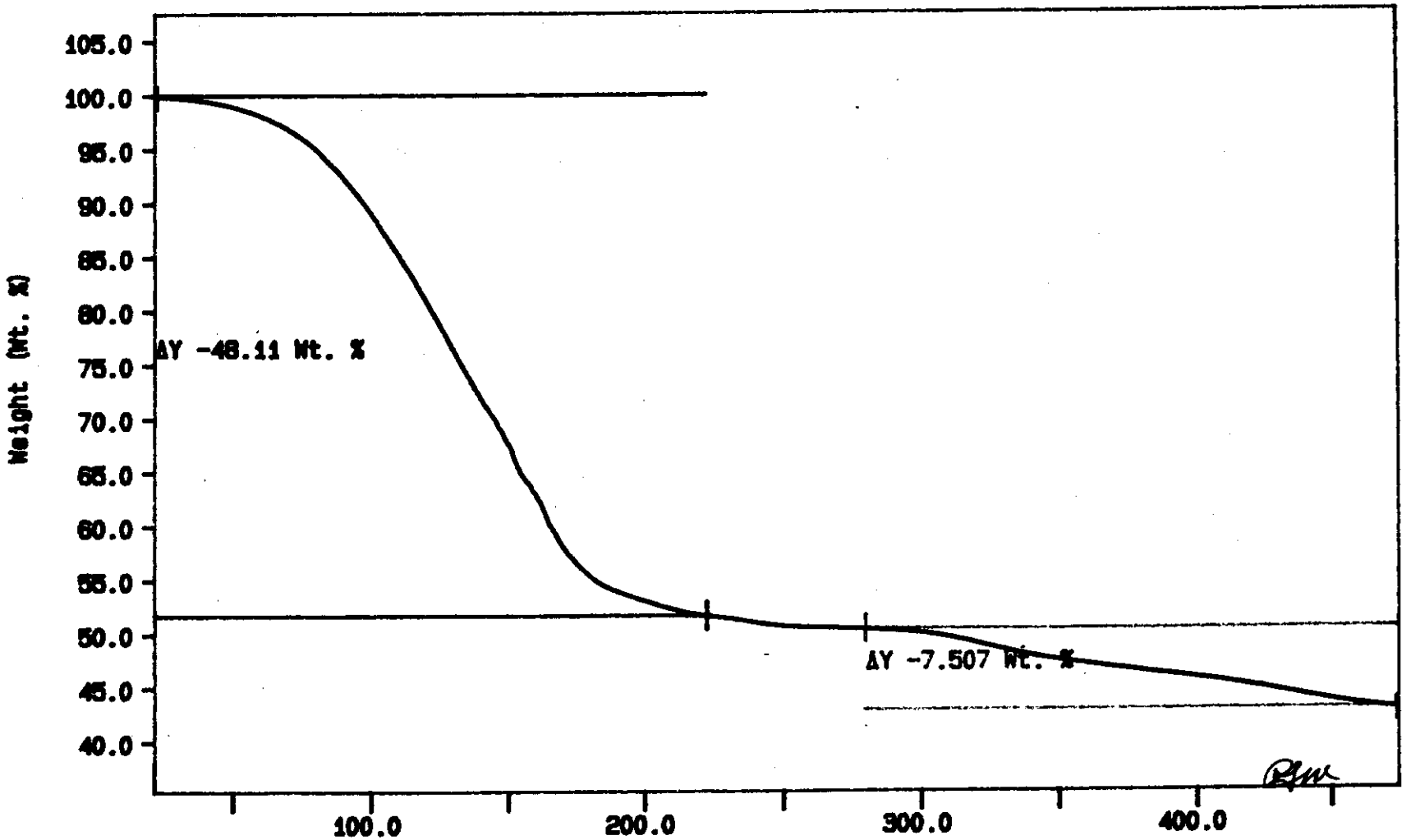
Curve 1: TGA
File info: SAM071302 Sat Jul 13 03:57:57 1996
Sample Weight: 15.698 mg
S96T002860DUP



10C/MIN N2
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 800.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 06:41:53 1996

Curve 1: TGA
File info: SAM071303 Sat Jul 13 10:35:20 1996
Sample Weight: 20.893 mg
S96T003051

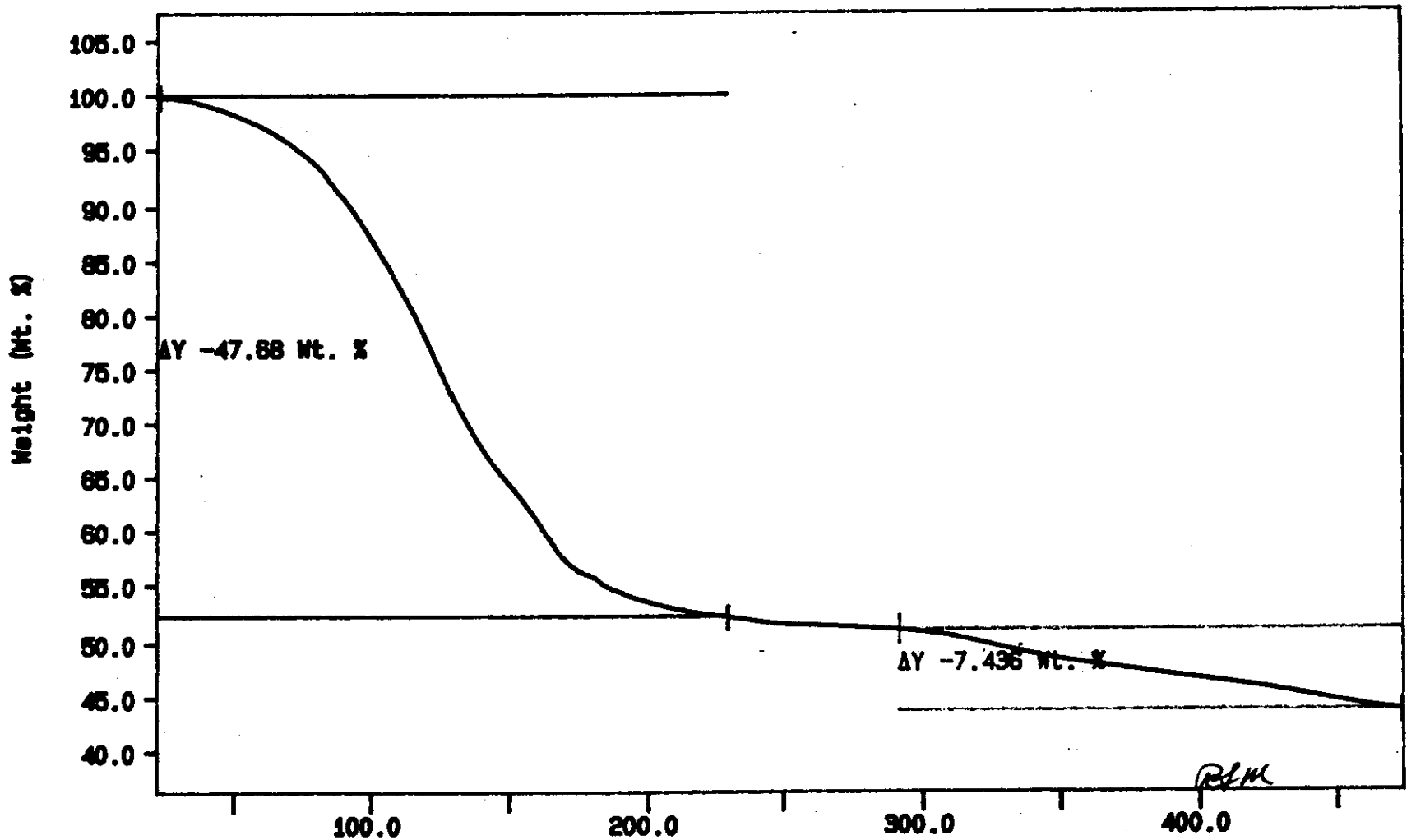


10C/MIN N2
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 850.0 C

PJ MCCOMB
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 10:42:02 1996

WHC-SD-WM-DP-191, REV. 0

Curve 1: TGA
File info: SAM071304 Sat Jul 13 12:50:29 1996
Sample Weight: 18.493 mg
S96T003051 DUP



10C/MIN N2
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 400.0 C

PJ MCCOMN
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 12:57:53 1996

worklistrpt Version 2.1 05/15/95
07/16/96 08:37

LABCORE Data Entry Template for Worklist# 10775

Analyst: RDM **Instrument:** TGA0 1 **Book #** 82N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.2	58.38	N/A	%
96000643	U-106 (P)	2	SAMPLE	S96T003010	0		TGA-01	SOLID	N/A	43.80		%
		3	STD				TGA-01	SOLID	59.2	59.18	N/A	%
96000643	U-106 (P)	4	DUP	S96T003010	0		TGA-01	SOLID	43.80	40.33	N/A	%
96000643	U-106 (P)	5	SAMPLE	S96T003011	0		TGA-01	SOLID	N/A	42.20		%
96000643	U-106 (P)	6	DUP	S96T003011	0		TGA-01	SOLID	42.20	42.19	N/A	%

Final page for worklist # 10775

See attached for signatures
Analyst Signature **Date** 7-16-96 BDY

Verified / Validated by Klandina Valenzuela 7-18-96

Steve Petti 7-17-96
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.

LABCORE Data Entry Template for Worklist# 10775

Analyst: RMM **Instrument:** TGA0 **Book #** 92NB-A

Method: LA-560-112 Rev/Mod ~~B-2~~ 7-16-96 B-1

Worklist Comment: U-106 TGA Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
96000643	U-106 (P)	2	SAMPLE	S96T003010	0		TGA-01	SOLID	N/A			%
96000643	U-106 (P)	3	DUP	S96T003010	0		TGA-01	SOLID			N/A	%
96000643	U-106 (P)	4	SAMPLE	S96T003011	0		TGA-01	SOLID	N/A			%
96000643	U-106 (P)	5	DUP	S96T003011	0		TGA-01	SOLID			N/A	%

Final page for worklist # 10775

RMMyn 7/13/96
Analyst Signature **Date**

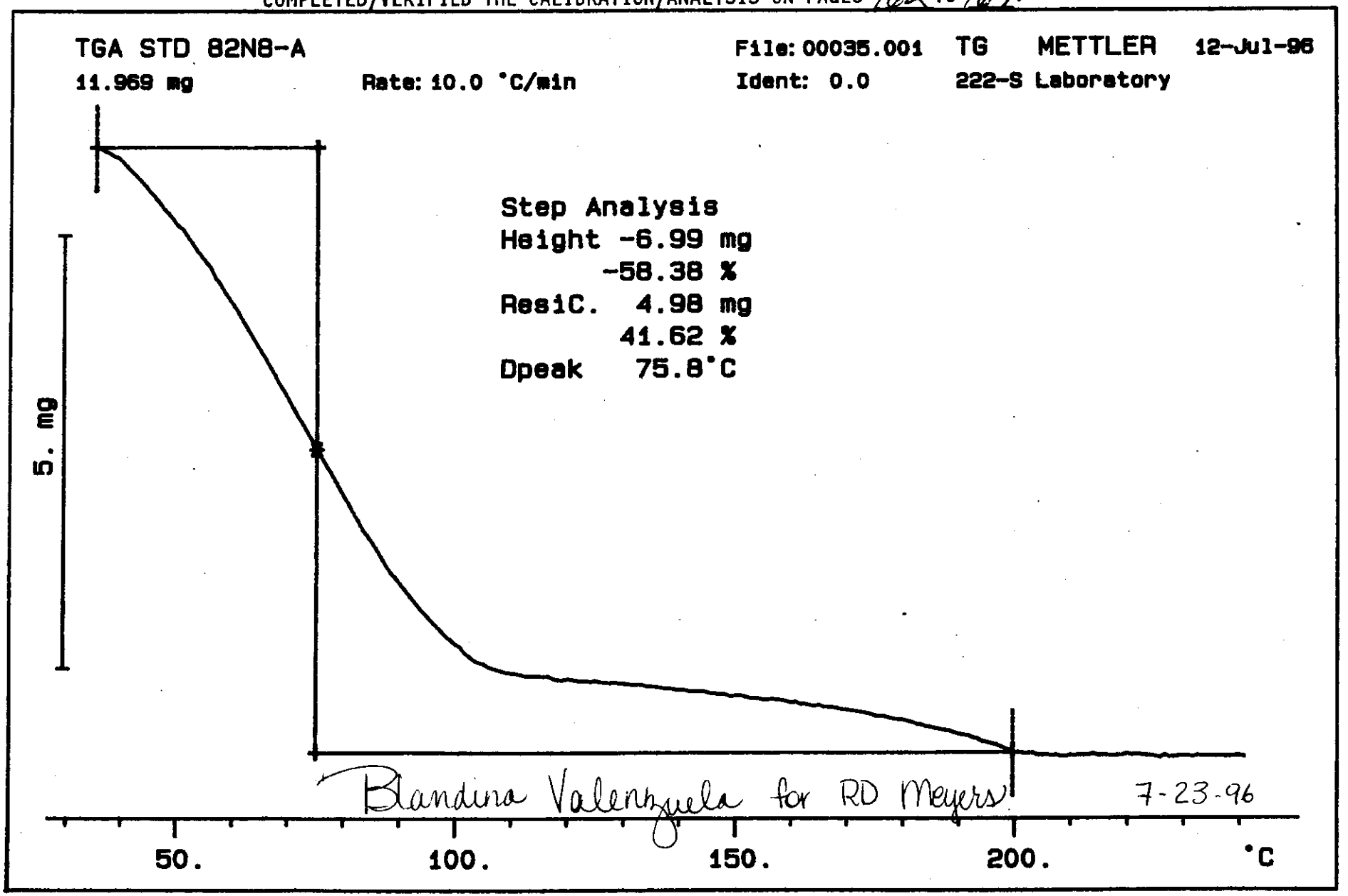
Analyst Signature **Date**

BJ McCown 7/13/96

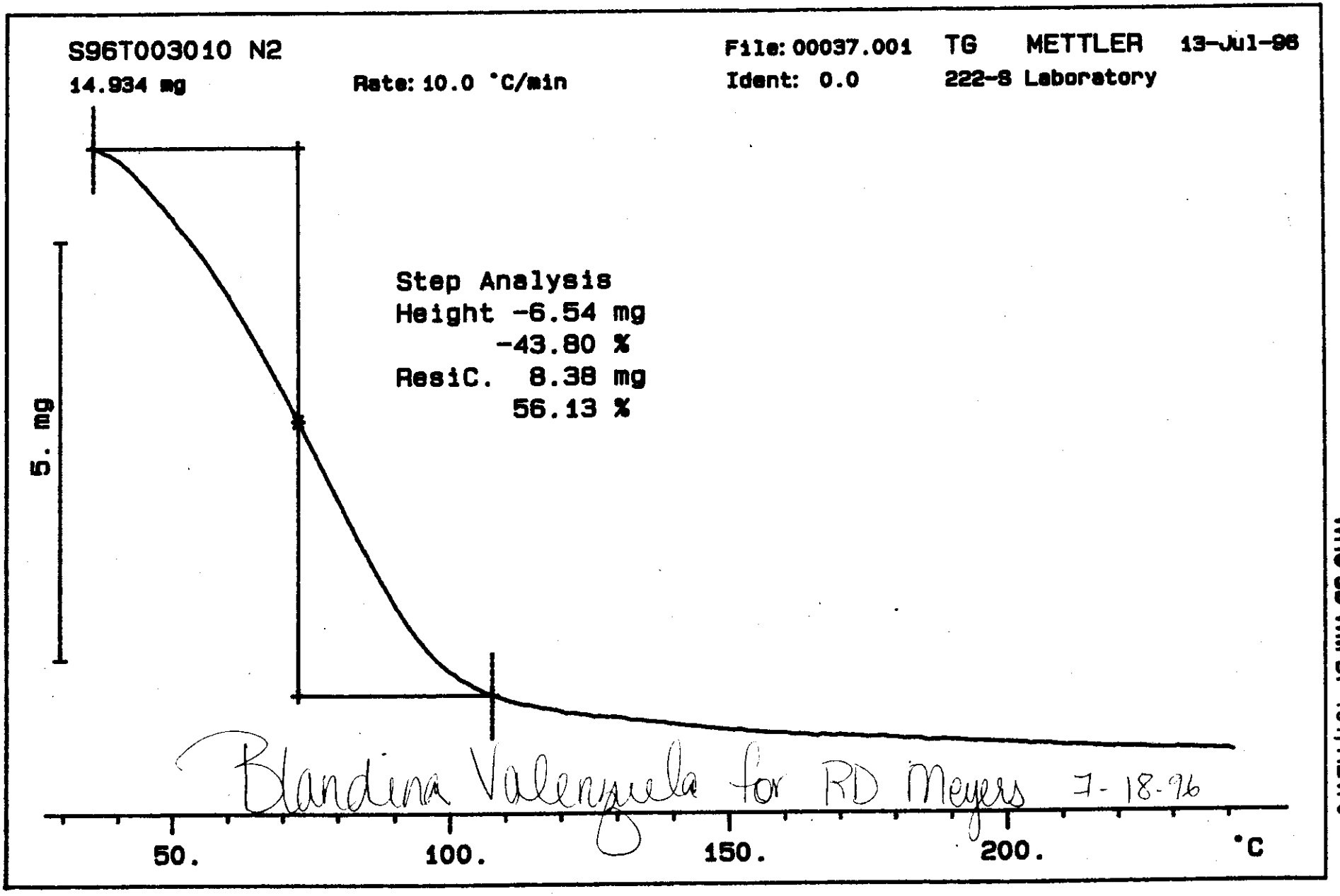
Data Entry Comments:

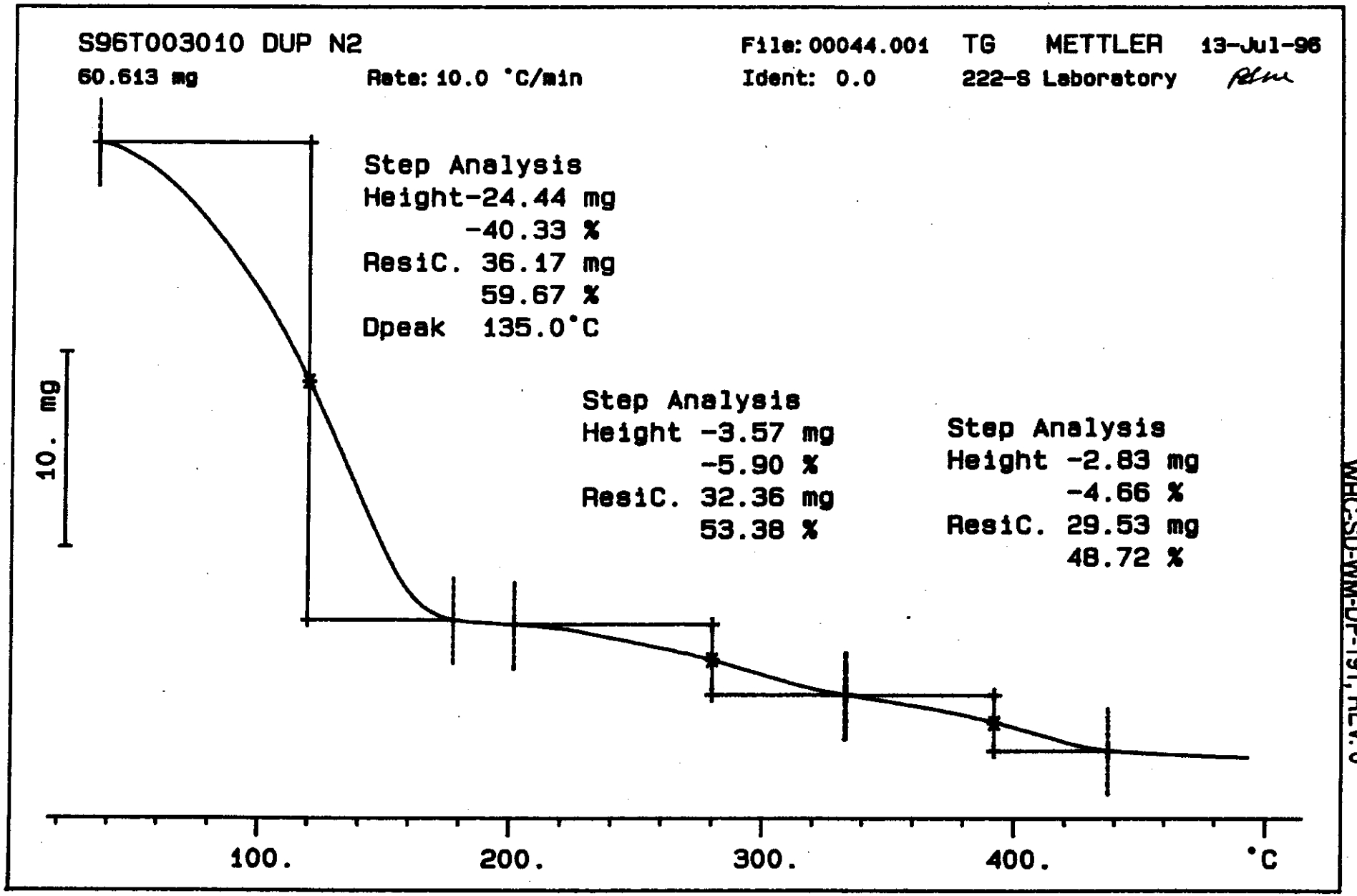
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

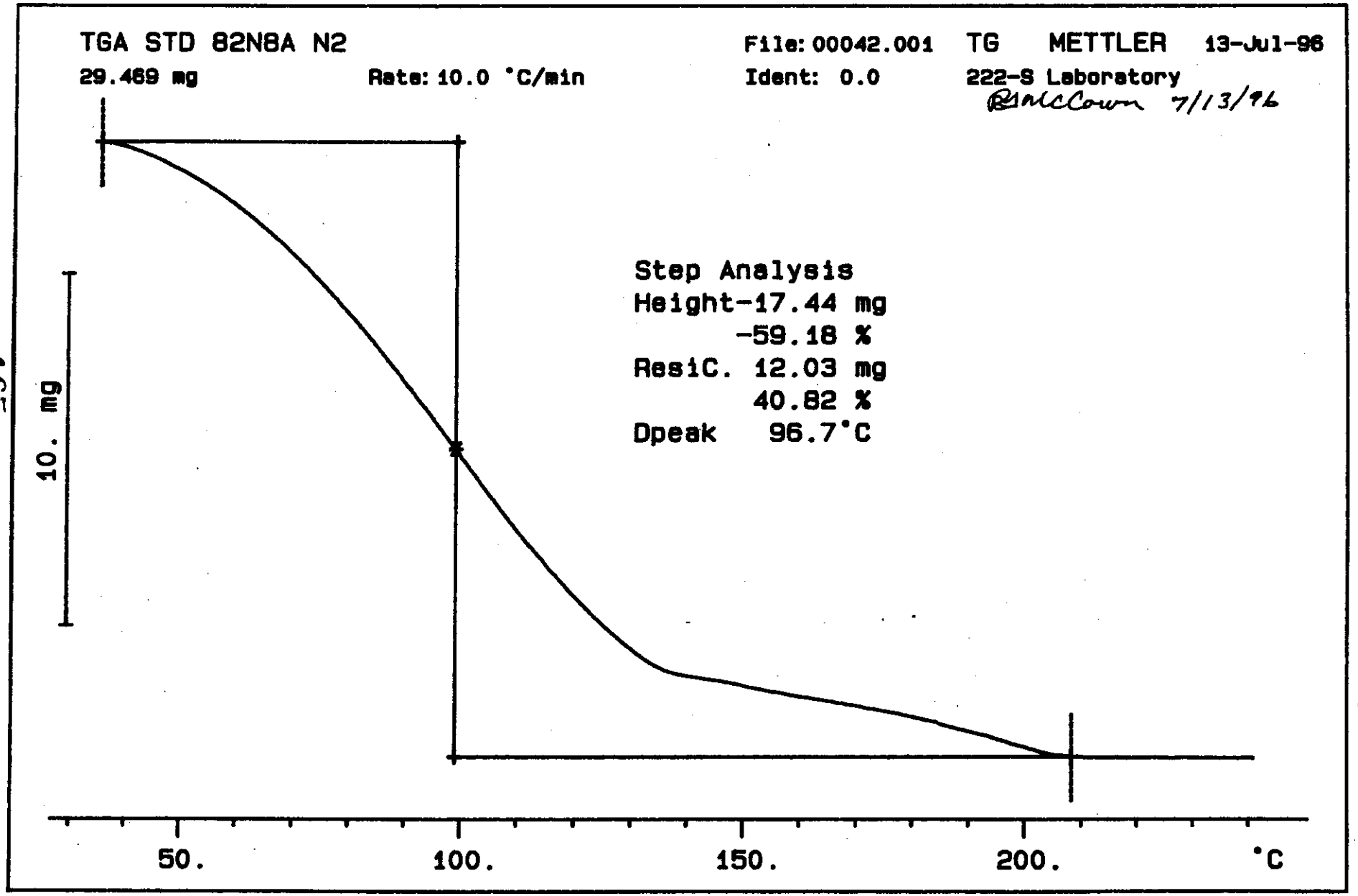
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 162 TO 167.

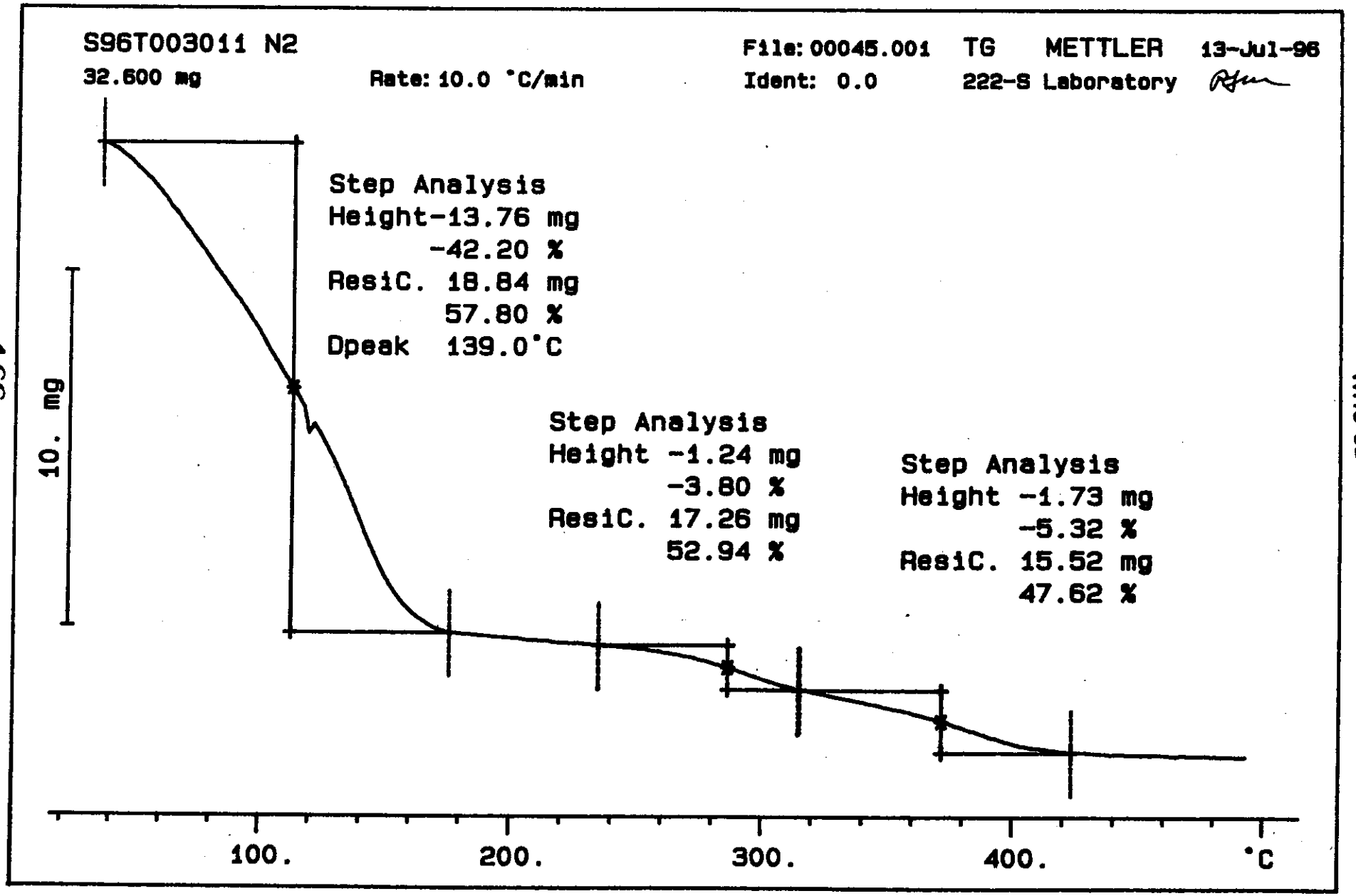


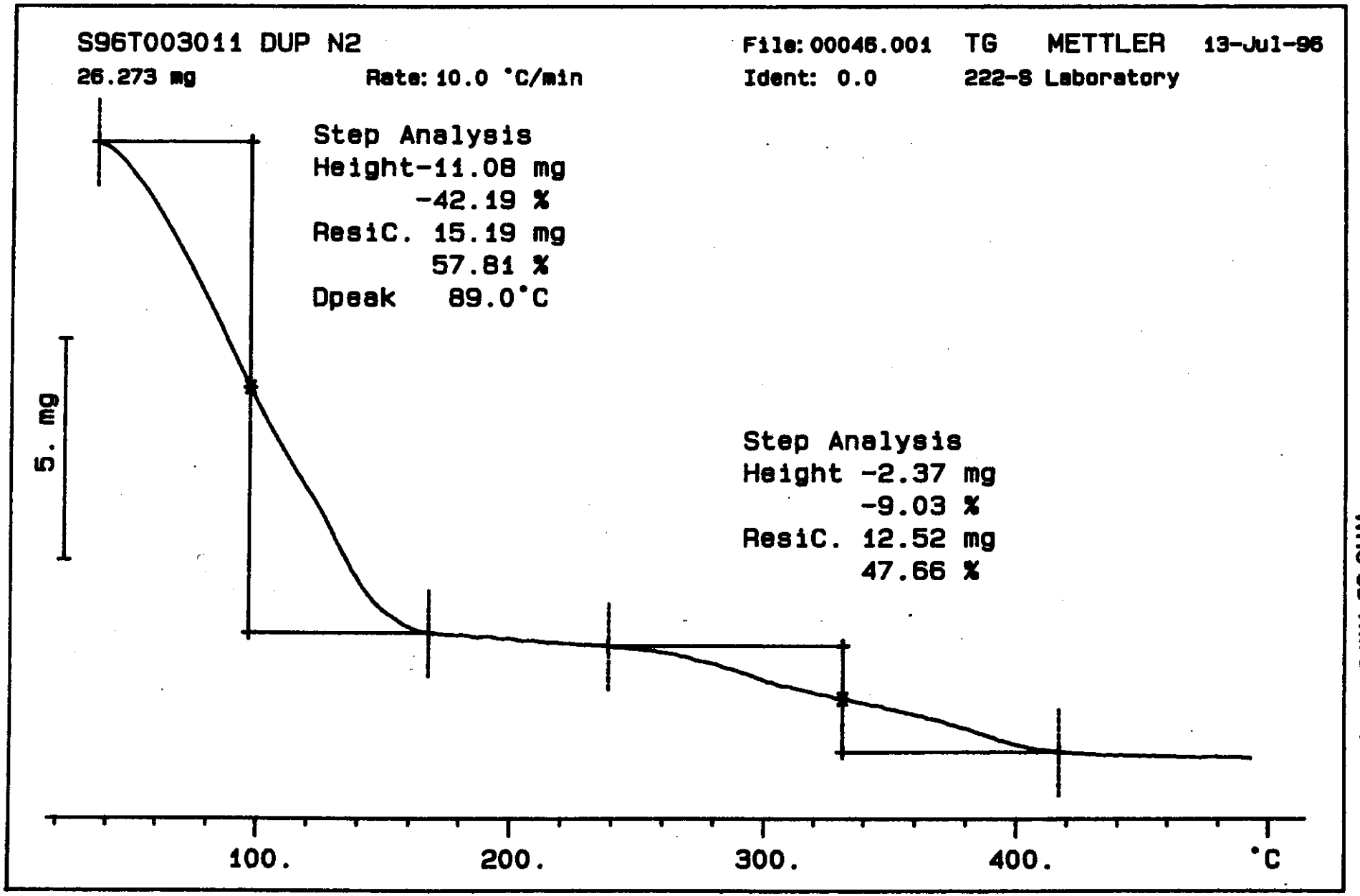
Blandina Valenzuela for RD Meyers 7-23-96


S96T003010 N2
14.934 mg
Rate: 10.0 °C/min
File: 00037.001
TG
METTLER
13-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -6.54 mg
-43.80 %
ResiC. 8.38 mg
56.13 %
5. mg
50.
100.
150.
200.
°C
Blandina Valenzuela for RD Meyers 7-18-96


S96T003010 DUP N2
60.613 mg
Rate: 10.0 °C/min
File: 00044.001
Ident: 0.0
TG
METTLER
222-S Laboratory
13-Jul-96
Step Analysis
Height -24.44 mg
-40.33 %
ResiC. 36.17 mg
59.67 %
Dpeak 135.0°C
Step Analysis
Height -3.57 mg
-5.90 %
ResiC. 32.36 mg
53.38 %
Step Analysis
Height -2.83 mg
-4.66 %
ResiC. 29.53 mg
48.72 %
10. mg
100.
200.
300.
400.
°C


TGA STD 82N8A N2
29.469 mg
Rate: 10.0 °C/min
File: 00042.001
Ident: 0.0
TG METTLER 13-Jul-96
222-S Laboratory
RSMcCown 7/13/96
Step Analysis
Height-17.44 mg
-59.18 %
ResiC. 12.03 mg
40.82 %
Dpeak 96.7°C
10. mg
50.
100.
150.
200.
°C


S96T003011 N2
32.600 mg
Rate: 10.0 °C/min
File: 00045.001
TG
METTLER
13-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -13.76 mg
-42.20 %
ResiC. 18.84 mg
57.80 %
Dpeak 139.0°C
Step Analysis
Height -1.24 mg
-3.80 %
ResiC. 17.26 mg
52.94 %
Step Analysis
Height -1.73 mg
-5.32 %
ResiC. 15.52 mg
47.62 %
10. mg
100.
200.
300.
400.
°C


S96T003011 DUP N2
26.273 mg
Rate: 10.0 °C/min
File: 00046.001
TG
METTLER
13-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -11.08 mg
-42.19 %
ResiC. 15.19 mg
57.81 %
Dpeak 89.0°C
Step Analysis
Height -2.37 mg
-9.03 %
ResiC. 12.52 mg
47.66 %
5. mg
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10777

Analyst: JDS **Instrument:** TGA0 1 **Book #** 82N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.2	59.18	N/A	%
96000643	U-106 (P)	2	SAMPLE	S96T003012	0		TGA-01	SOLID	N/A	44.78		%
96000643	U-106 (P)	3	DUP	S96T003012	0		TGA-01	SOLID	44.78	43.77	N/A	%
96000643	U-106 (P)	4	SAMPLE	S96T003013	0		TGA-01	SOLID	N/A	46.92		%
96000643	U-106 (P)	5	DUP	S96T003013	0		TGA-01	SOLID	46.92	47.63	N/A	%

Final page for worklist # 10777

JDS 7-14-96
Analyst Signature **Date**

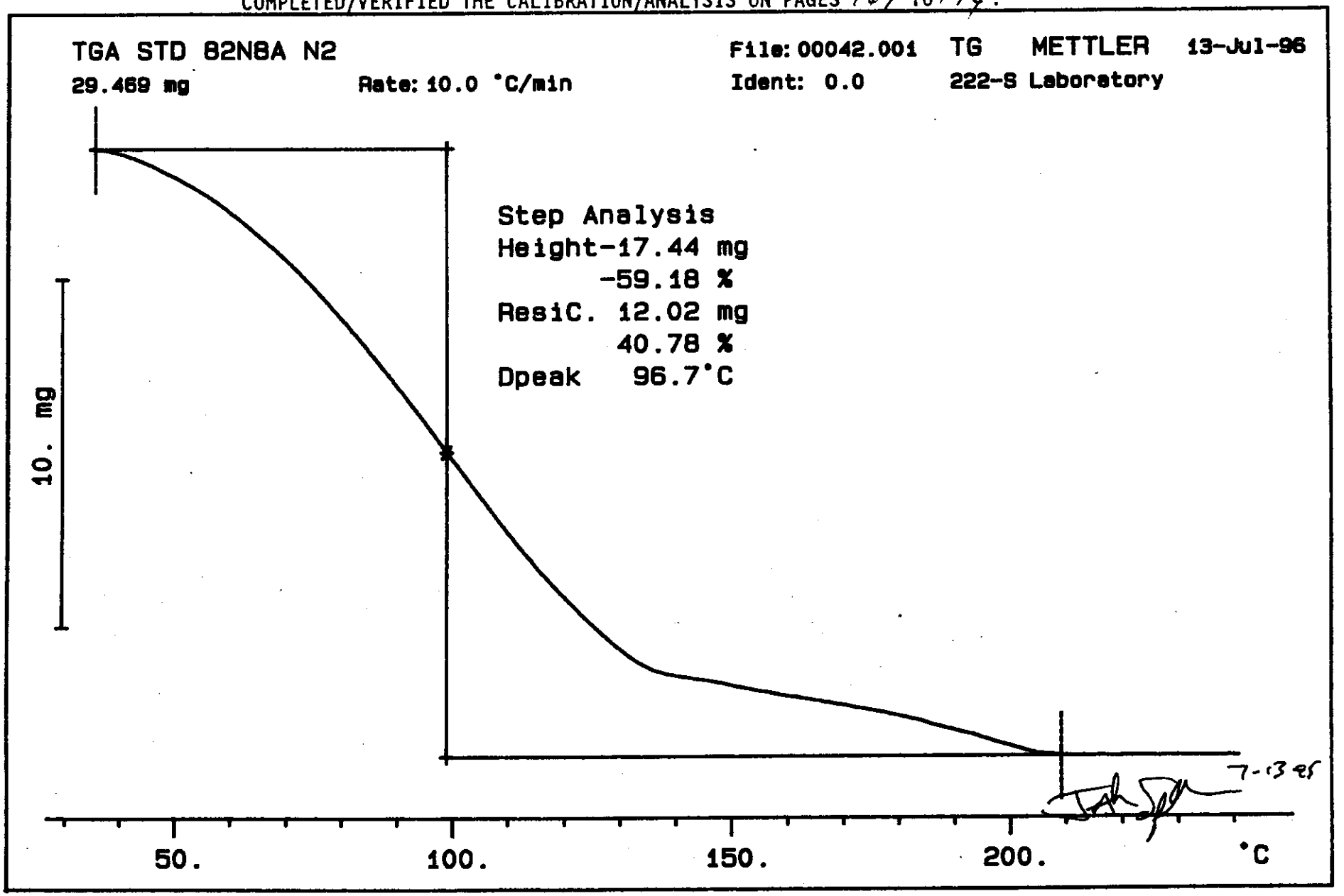
[illegible] 7-17-96
Analyst Signature **Date**

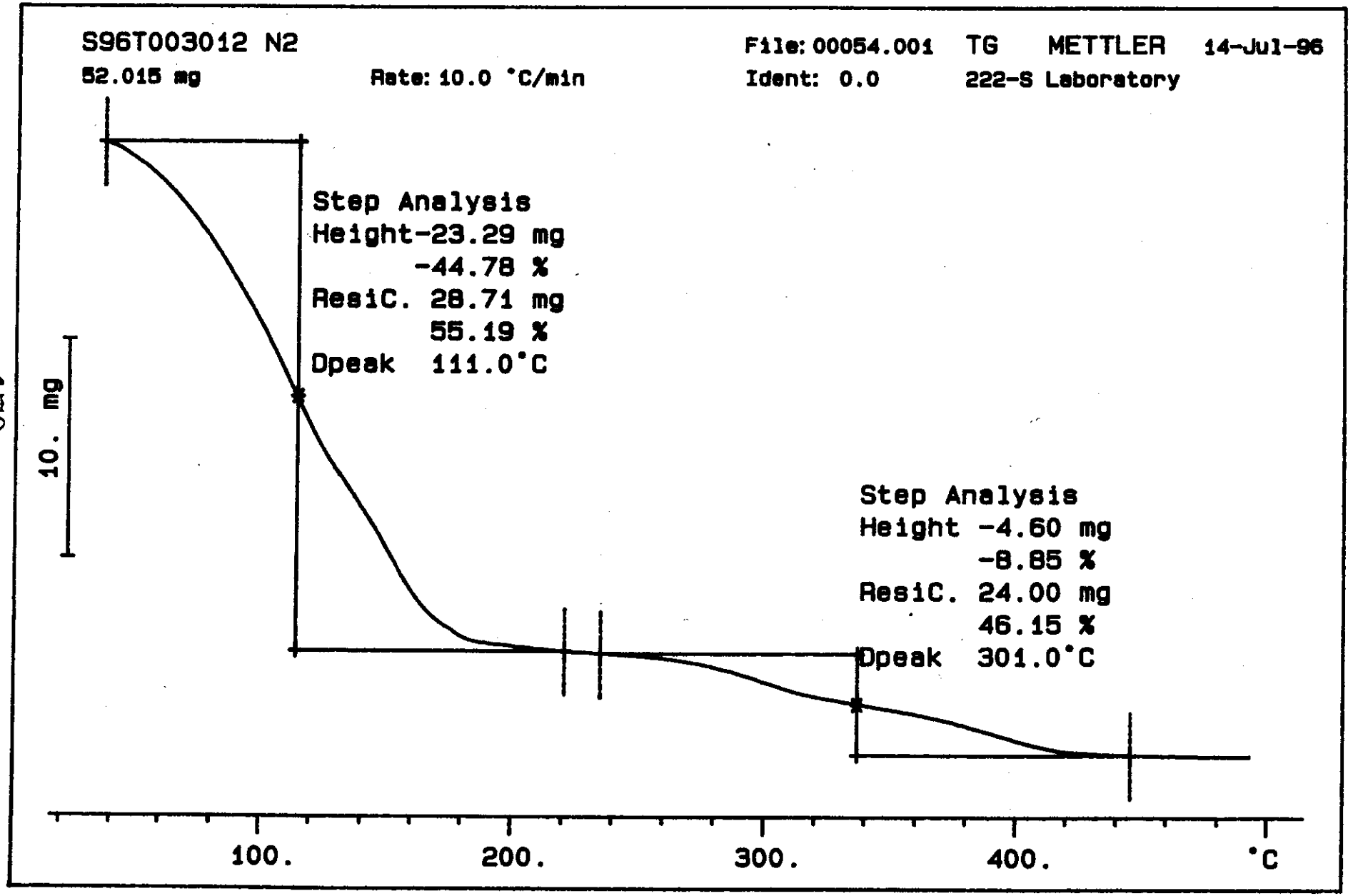
Verified/Validated by
Blandina Valenzuela
7-18-96

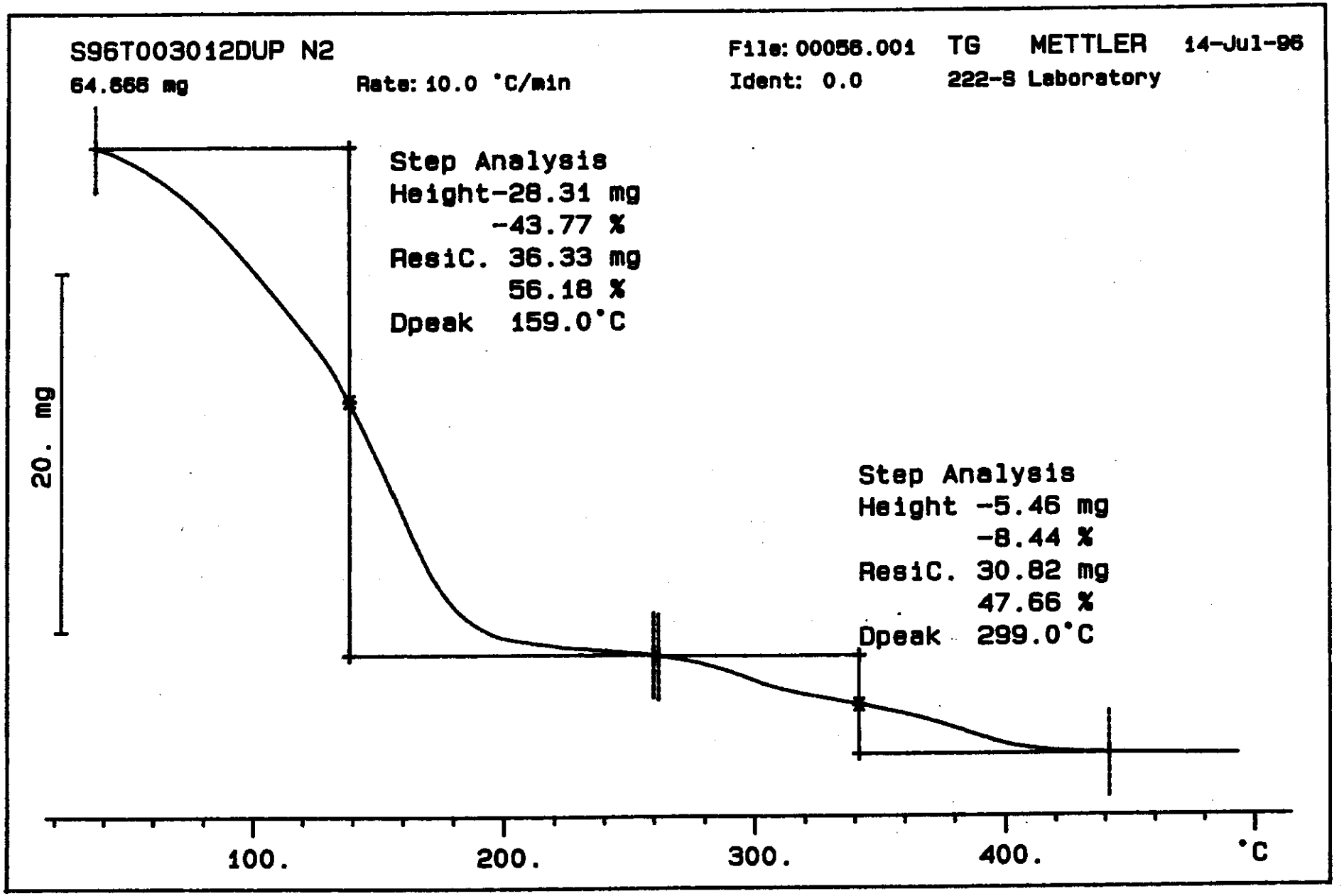
Data Entry Comments:

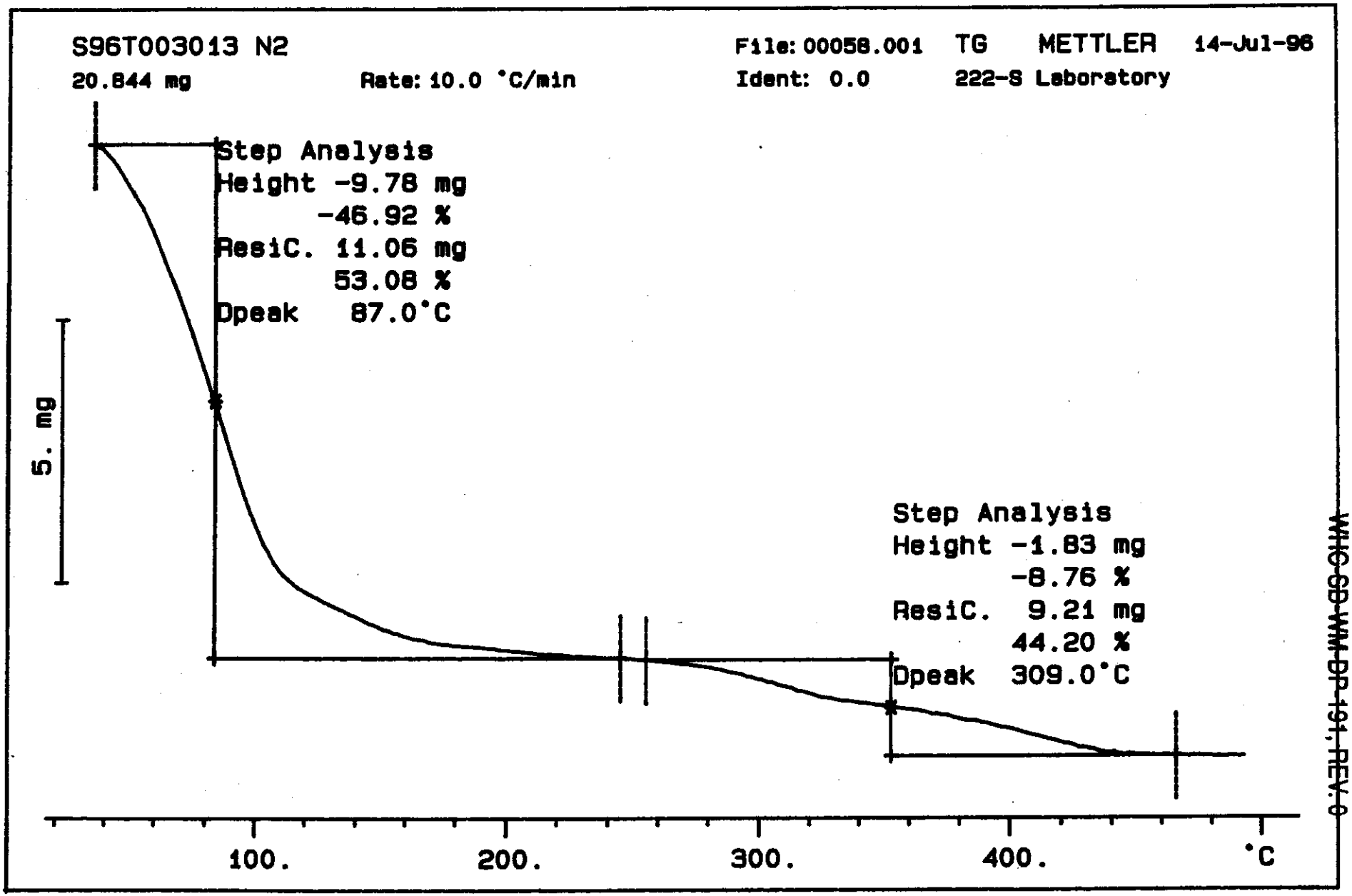
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 169 TO 174.

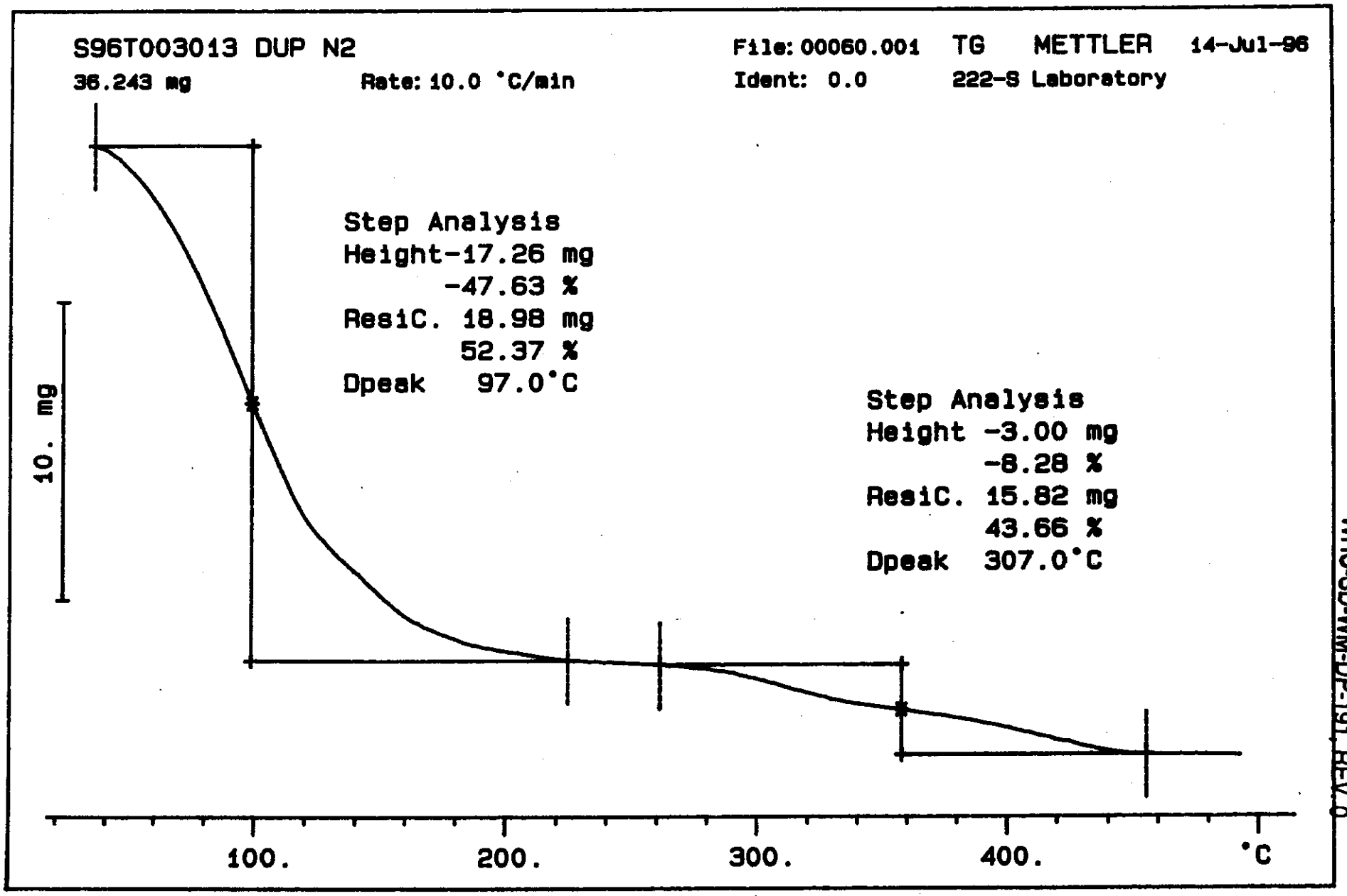



S96T003012 N2
52.015 mg
Rate: 10.0 °C/min
File: 00054.001
TG
METTLER
14-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -23.29 mg
-44.78 %
ResiC. 28.71 mg
55.19 %
Dpeak 111.0°C
Step Analysis
Height -4.60 mg
-8.85 %
ResiC. 24.00 mg
46.15 %
Dpeak 301.0°C
10. mg
100.
200.
300.
400.
°C


S96T003012DUP N2
64.666 mg
Rate: 10.0 °C/min
File: 00056.001
TG
METTLER
14-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -28.31 mg
-43.77 %
ResiC. 36.33 mg
56.18 %
Dpeak 159.0°C
Step Analysis
Height -5.46 mg
-8.44 %
ResiC. 30.82 mg
47.66 %
Dpeak 299.0°C
20. mg
100.
200.
300.
400.
°C



WHC-SD-WM-DP-191, REV.0


S96T003013 DUP N2
36.243 mg
Rate: 10.0 °C/min
File: 00060.001
TG
METTLER
14-Jul-96
Ident: 0.0
222-S Laboratory
Step Analysis
Height -17.26 mg
-47.63 %
ResiC. 18.98 mg
52.37 %
Dpeak 97.0°C
Step Analysis
Height -3.00 mg
-8.28 %
ResiC. 15.82 mg
43.66 %
Dpeak 307.0°C
10. mg
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 10779

Analyst: JDS **Instrument:** TGA0 3 **Book #** 82N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: U-106 TGA Run under N2. gjh

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.2	59.07 *	N/A	%
96000643	U-106 (P)	2 SAMPLE	S96T003014	0		TGA-03	SOLID	N/A	46.51		%
96000643	U-106 (P)	3 DUP	S96T003014	0		TGA-03	SOLID	46.51	43.77	N/A	%
96000643	U-106 (P)	4 SAMPLE	S96T003015	0		TGA-03	SOLID	N/A	45.08		%
96000643	U-106 (P)	5 DUP	S96T003015	0		TGA-03	SOLID	45.08	43.88	N/A	%

Final page for worklist # 10779

See attached for signatures
Analyst Signature **Date** 7-16-96 BDY

[illegible] 7-17-96
Analyst Signature **Date**

Verified/Validated by
Blandina
Valenzuela 7-18-96

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# 10779

Analyst: Sds **Instrument:** TGA0 **Book #** 82148A

Method: LA-560-112 Rev/Mod

Worklist Comment: U-106 TGA Run under N2. gjh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
96000643	U-106 (P)	2	SAMPLE	S96T003014	0		TGA-01	SOLID	N/A			%
96000643	U-106 (P)	3	DUP	S96T003014	0		TGA-01	SOLID			N/A	%
96000643	U-106 (P)	4	SAMPLE	S96T003015	0		TGA-01	SOLID	N/A			%
96000643	U-106 (P)	5	DUP	S96T003015	0		TGA-01	SOLID			N/A	%

Final page for worklist # 10779

JAh Sp 7-14-96

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

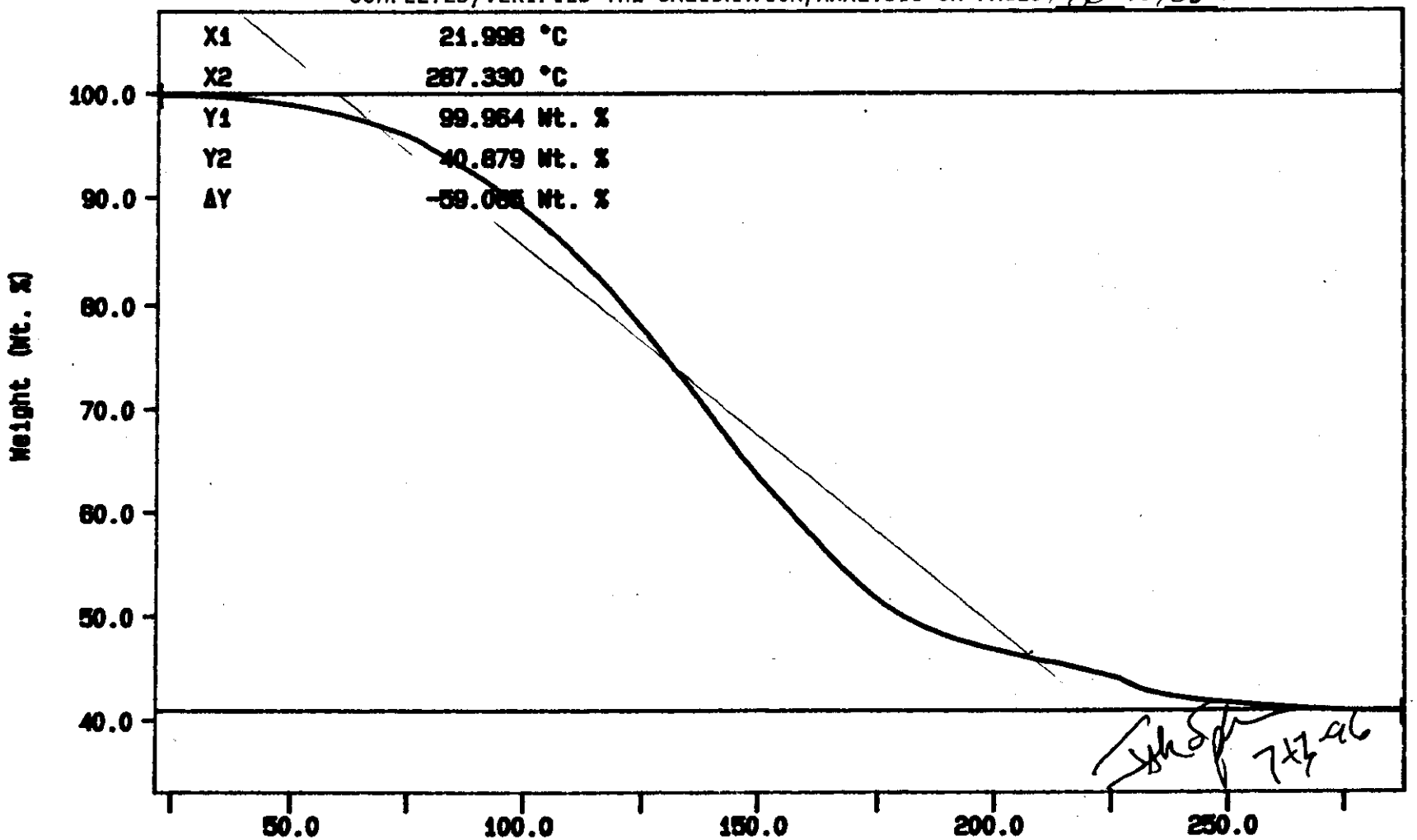
TGA-03 instrument was used.
7-16-96
Blandina Valenzuela

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.

Curve 1: TGA
File info: TER071302 Sat Jul 13 07:32:01 1996
Sample Weight: 24.649 mg
TGA STD B2N8-A

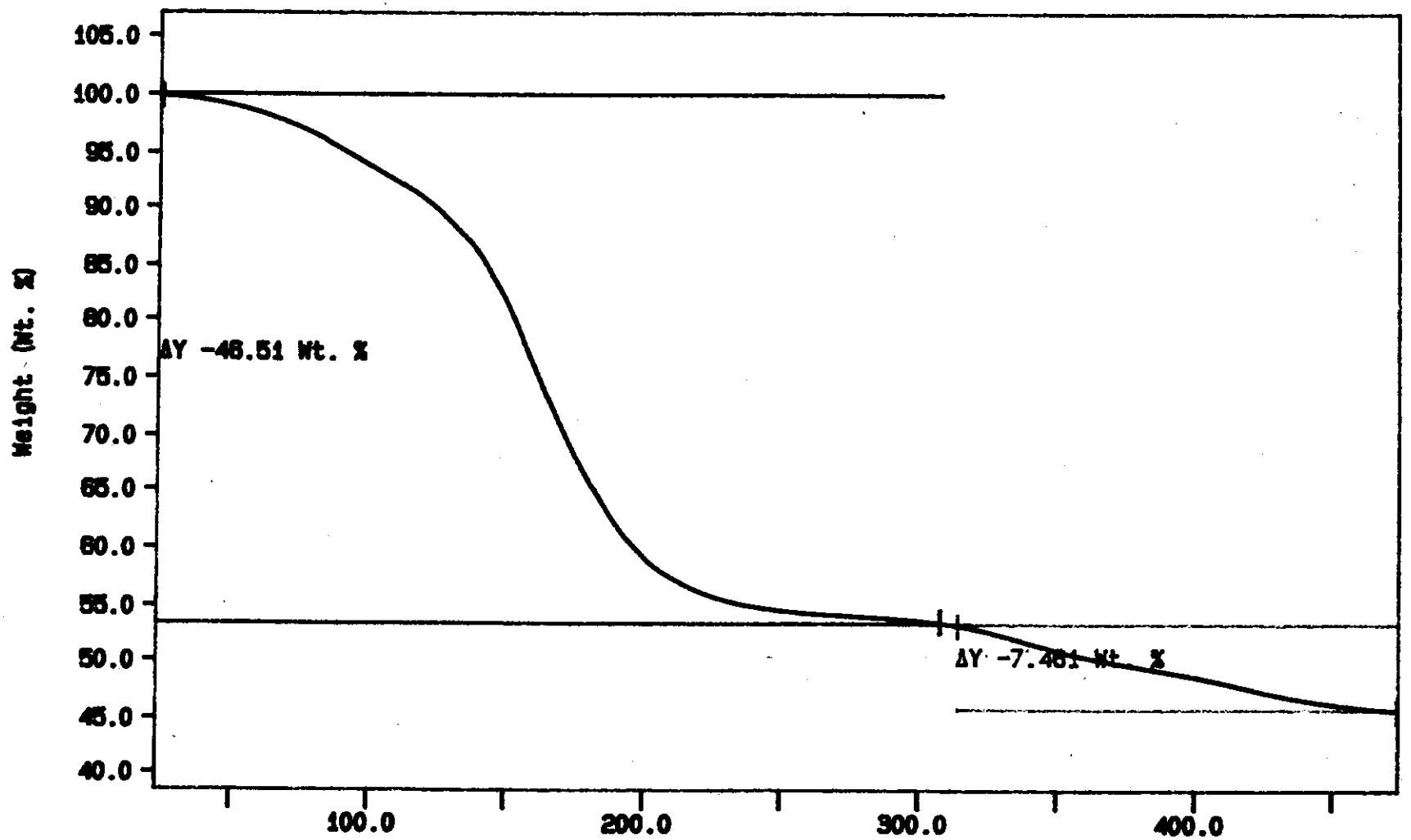
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 176 TO 180.



N2 10C/MIN
TEMP: 35.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 300.0 C

PJ MCCONN
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 18:44:43 1996

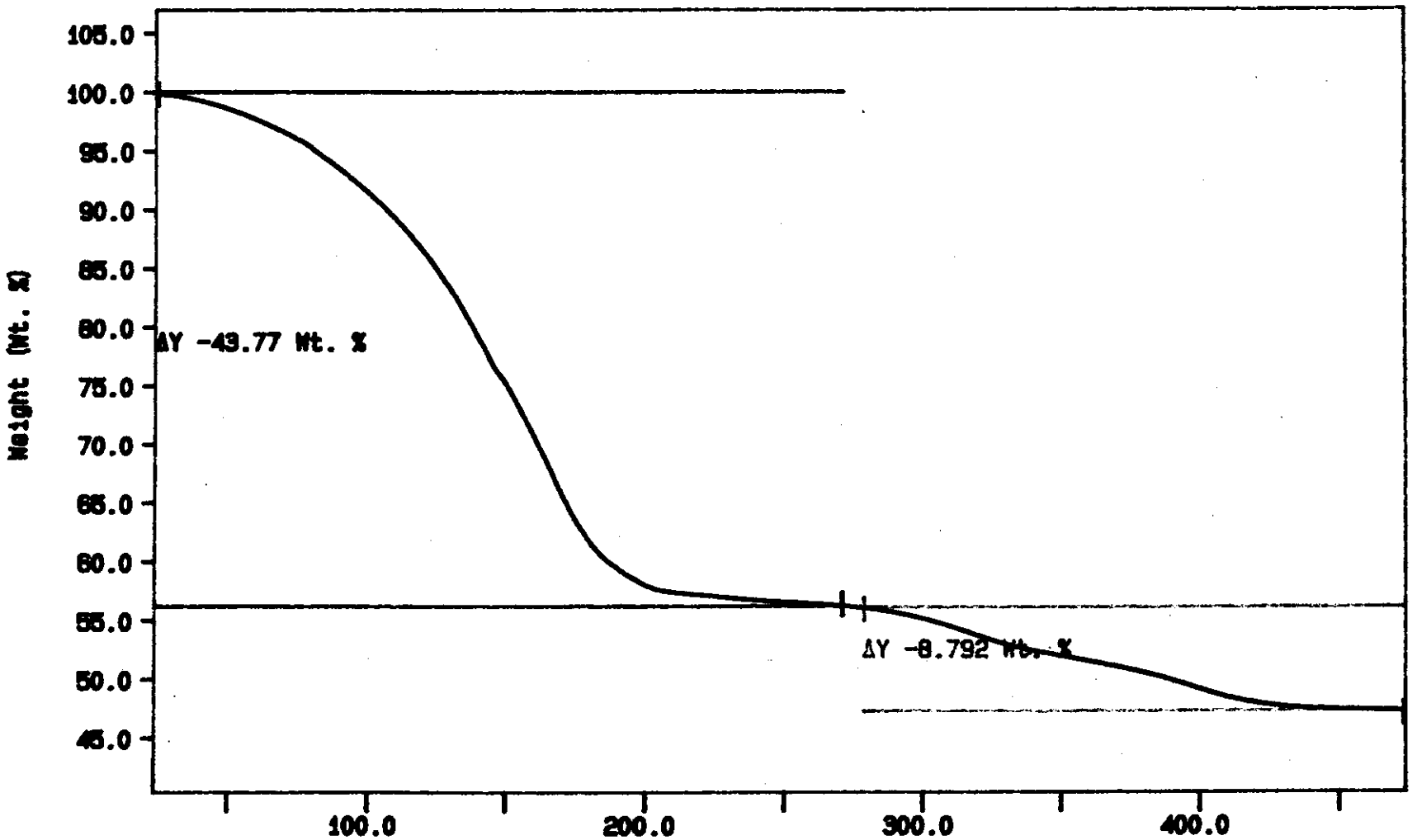
Curve 1: TGA
File info: SAM071305 Sat Jul 13 23:18:56 1996
Sample Weight: 31.869 mg
S96T003014



10C/MIN N2
TEMP: 30.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 450.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jul 13 23:53:56 1996

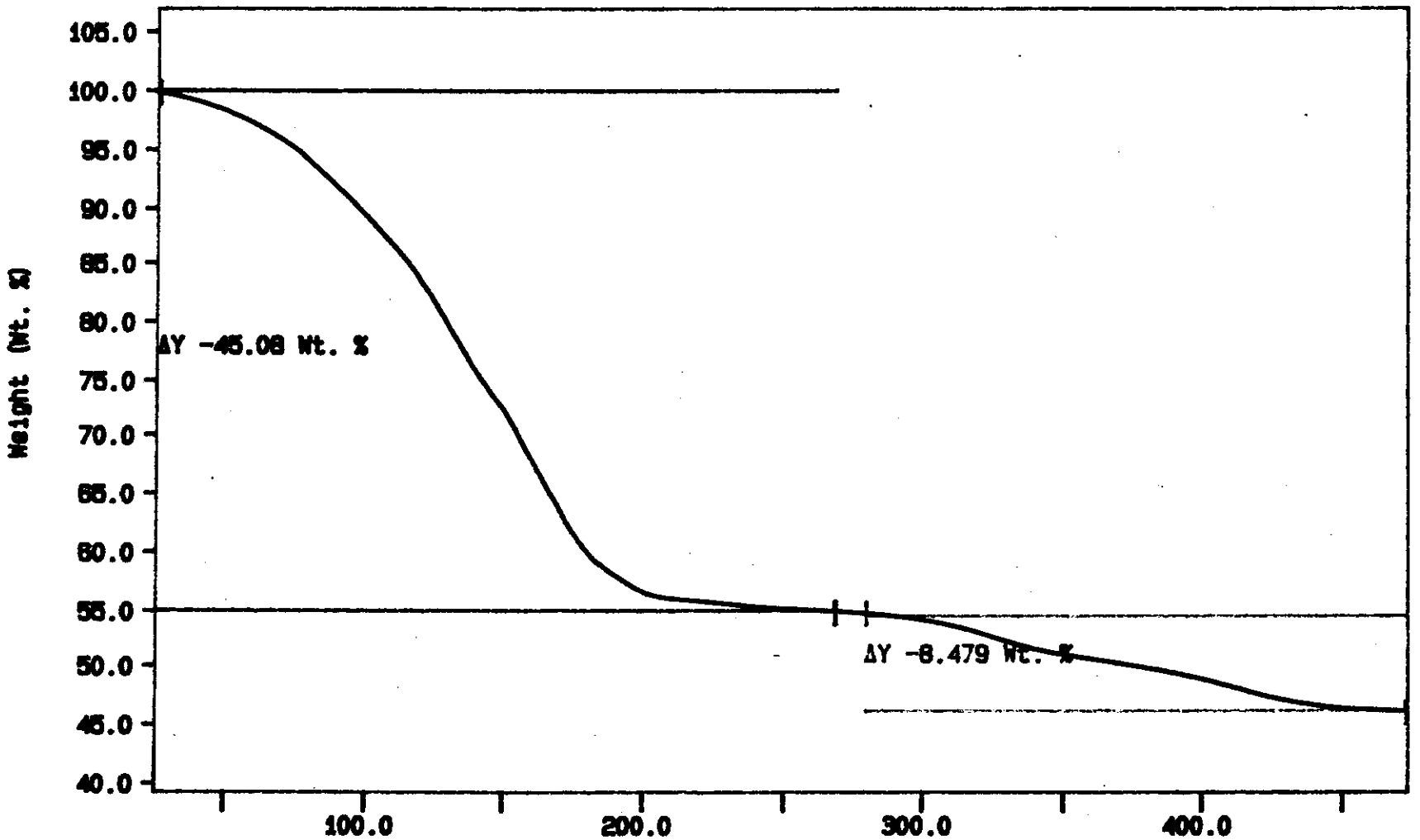
Curve 1: TGA
File info: SAN071401 Sun Jul 14 01:02:20 1996
Sample Weight: 25.638 mg
S96T003014DUP



10C/MIN N2
TEMP: 30.0 C TIME: 0.0 min RATE: 10.0 C/min

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jul 14 01:19:55 1996

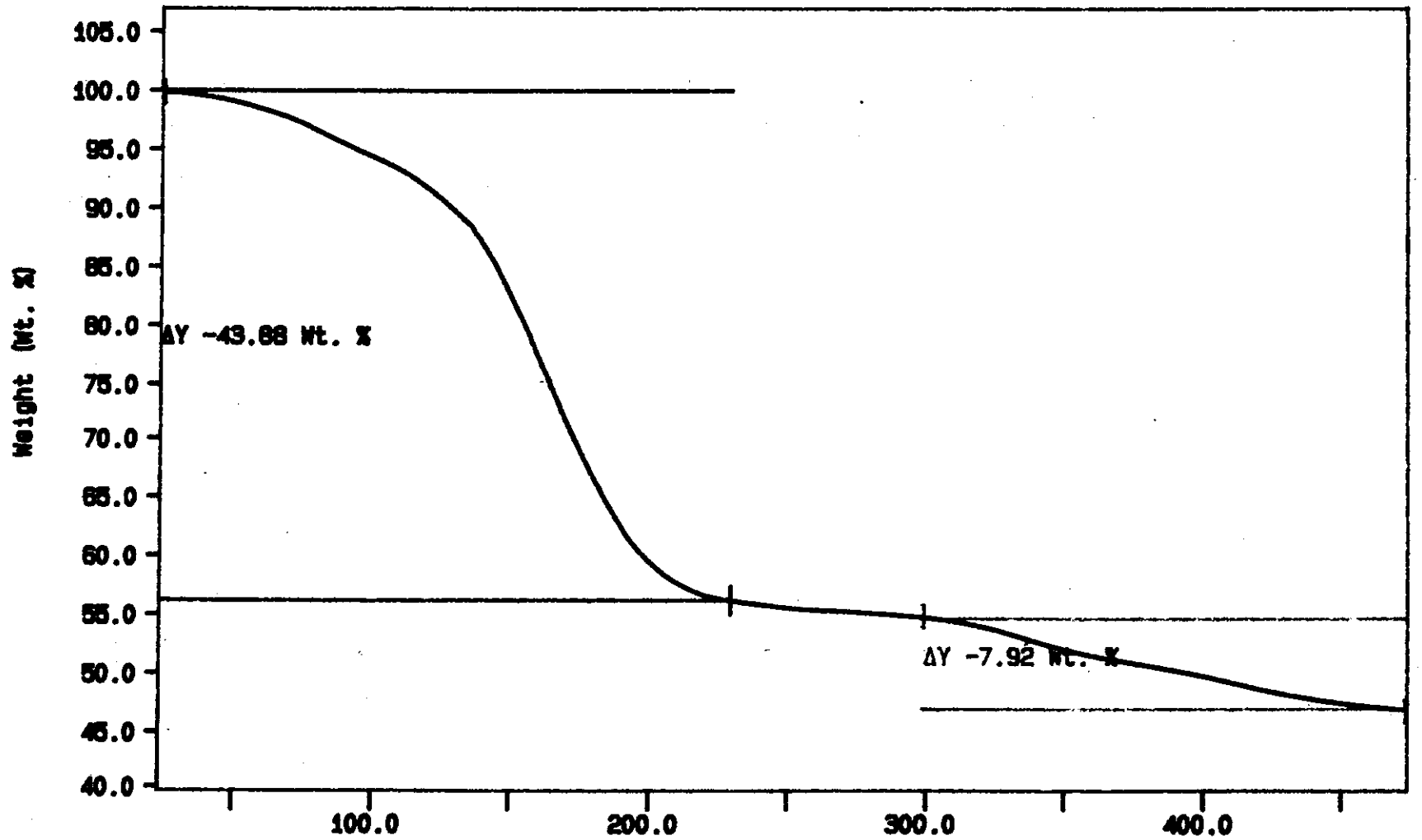
Curve 1: TGA
File info: SAM071402 Sun Jul 14 02:13:10 1996
Sample Weight: 19.324 mg
S96T003015



10C/MIN N2
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jul 14 02:36:19 1996

Curve 1: TGA
File info: SAN071403 Sun Jul 14 03:47:02 1996
Sample Weight: 32.913 mg
S96T003015DUP



10C/MIN N2
TEMP: 25.0 C TIME: 0.0 min RATE: 10.0 C/min

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jul 14 05:19:15 1996

LABCORE Data Entry Template for Worklist# 10781

Analyst: [illegible] **Instrument:** TGA0 1 **Book #** 8208A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: U-106 TGA Run under N2. gjh

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	59.2	59.15	N/A	%
96000643	U-106 (P)	2 SAMPLE	S96T003016	0		TGA-01	SOLID	N/A	25.2		%
96000643	U-106 (P)	3 DUP	S96T003016	0		TGA-01	SOLID	25.2	28.49	N/A	%
96000643	U-106 (P)	4 SAMPLE	S96T003017	0		TGA-01	SOLID	N/A	16.83		%
96000643	U-106 (P)	5 DUP	S96T003017	0		TGA-01	SOLID	16.83	16.36	N/A	%

Final page for worklist # 10781

BMcCown 7/14/96
Analyst Signature **Date**

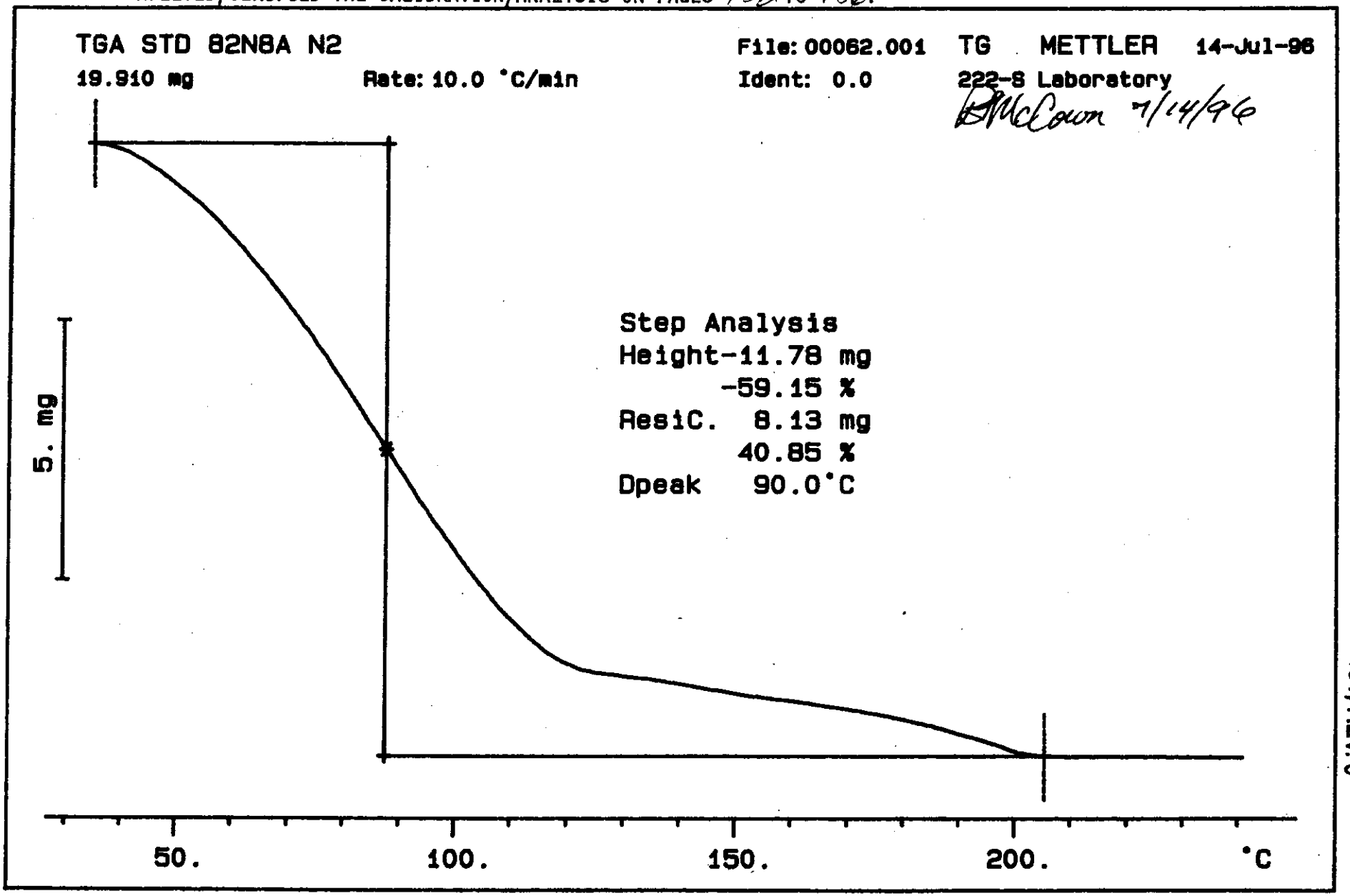
[illegible] 7-17-96
Analyst Signature **Date**

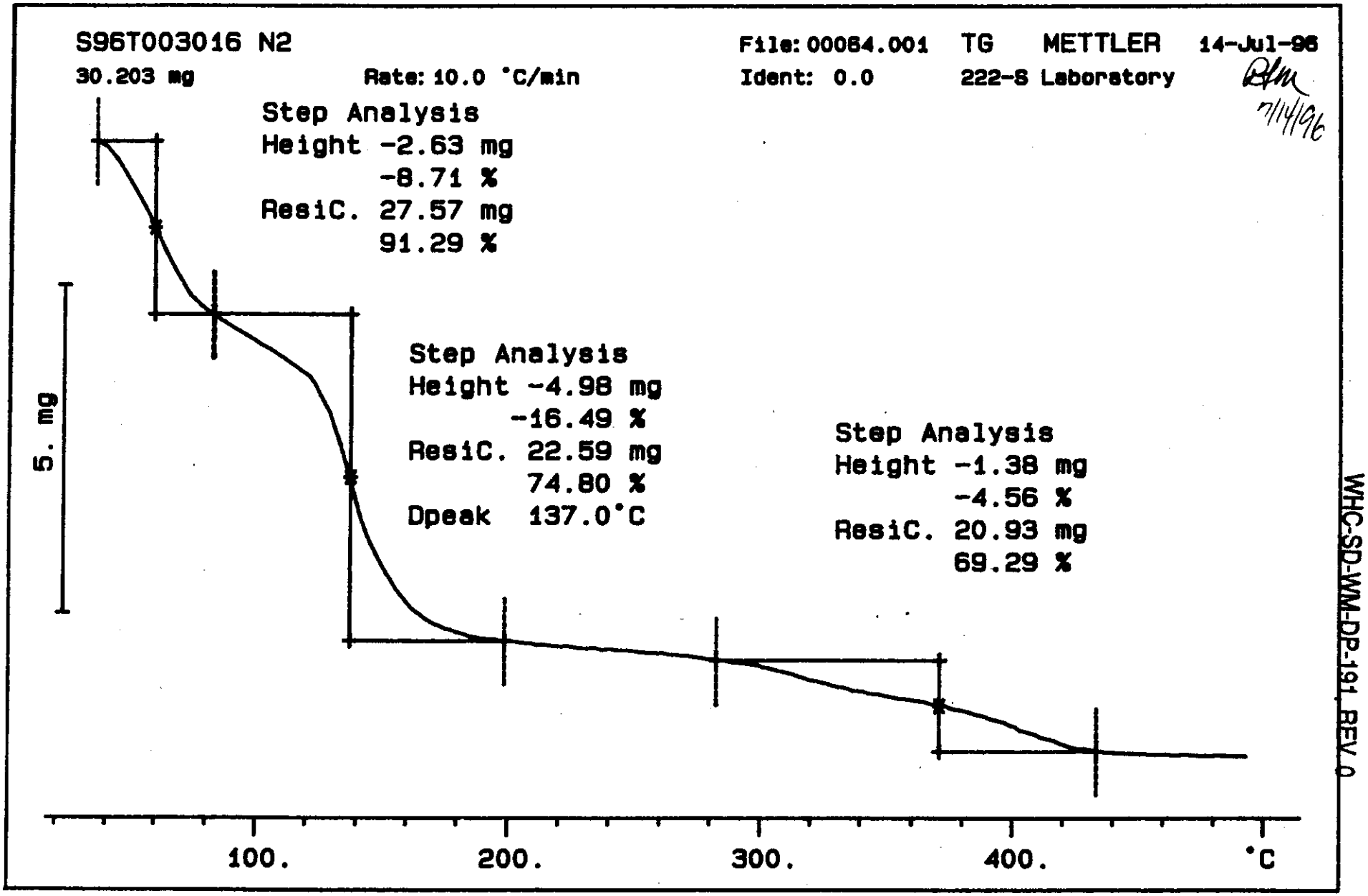
Verified by
Validated
Blandina Valenzuela 5-18-96

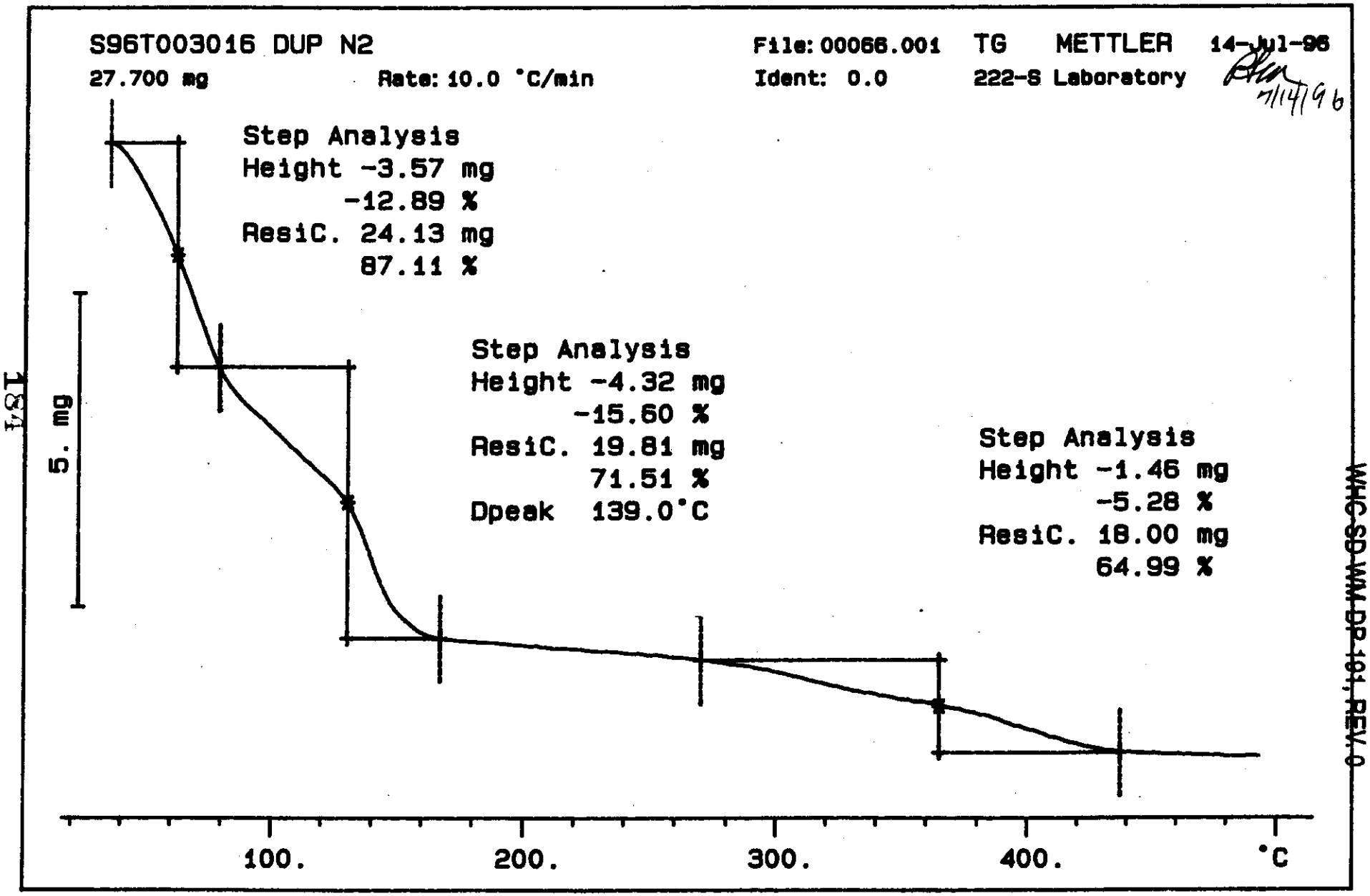
Data Entry Comments:

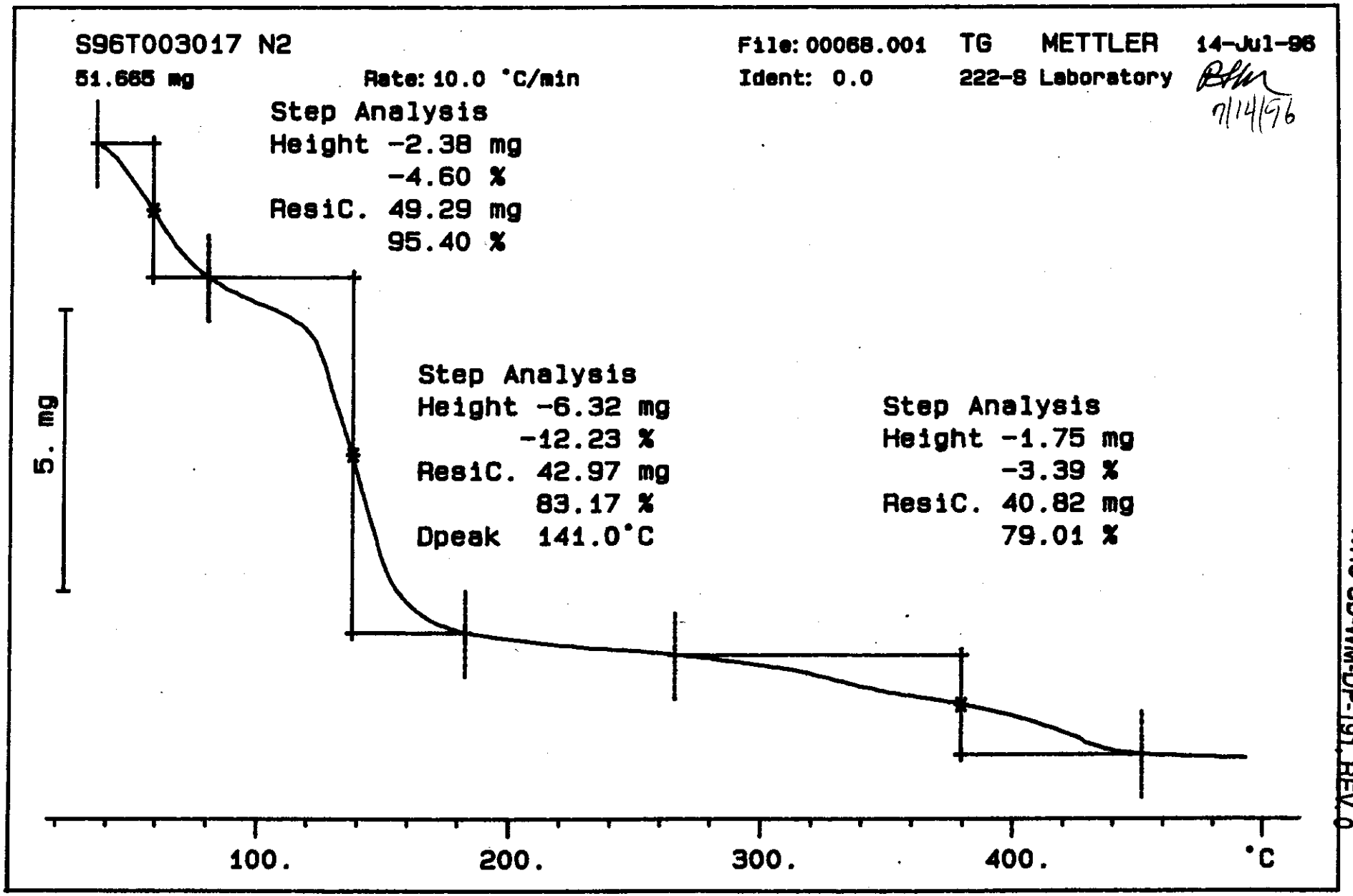
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

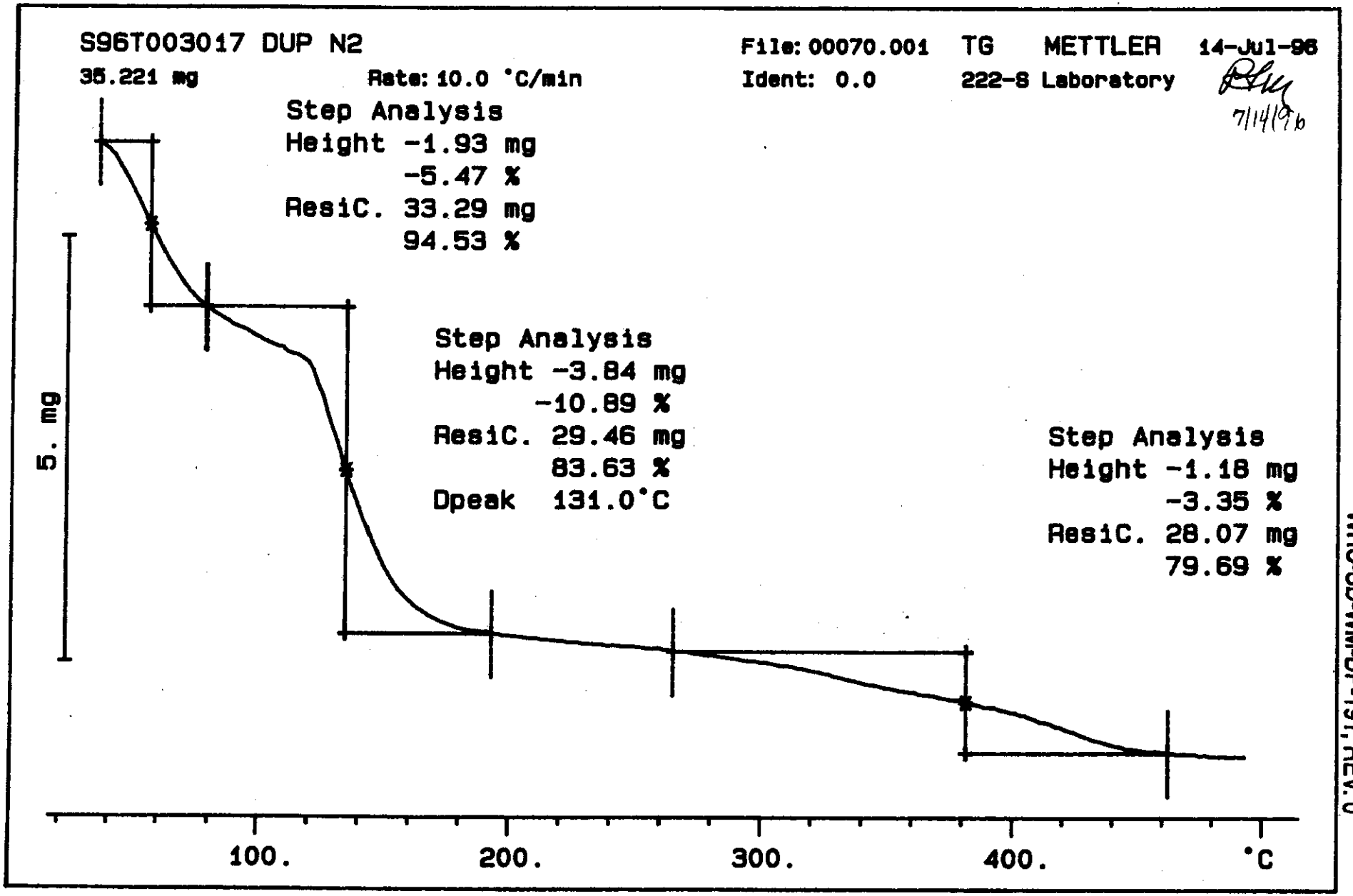
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 182 TO 186.




S96T003016 N2
30.203 mg
Rate: 10.0 °C/min
File: 00064.001
TG
METTLER
14-Jul-96
Ident: 0.0
222-S Laboratory
7/14/96
Step Analysis
Height -2.63 mg
-8.71 %
ResiC. 27.57 mg
91.29 %
Step Analysis
Height -4.98 mg
-16.49 %
ResiC. 22.59 mg
74.80 %
Dpeak 137.0°C
Step Analysis
Height -1.38 mg
-4.56 %
ResiC. 20.93 mg
69.29 %
5. mg
100.
200.
300.
400.
°C


S96T003016 DUP N2
27.700 mg
Rate: 10.0 °C/min
File: 00066.001
Ident: 0.0
TG METTLER 14-Jul-96
222-S Laboratory
7/14/96
Step Analysis
Height -3.57 mg
-12.89 %
ResiC. 24.13 mg
87.11 %
Step Analysis
Height -4.32 mg
-15.60 %
ResiC. 19.81 mg
71.51 %
Dpeak 139.0°C
Step Analysis
Height -1.46 mg
-5.28 %
ResiC. 18.00 mg
64.99 %
5. mg
100.
200.
300.
400.
°C


S96T003017 N2
51.665 mg
Rate: 10.0 °C/min
File: 00068.001
TG METTLER
14-Jul-96
Ident: 0.0
222-S Laboratory
7/14/96
Step Analysis
Height -2.38 mg
-4.60 %
ResiC. 49.29 mg
95.40 %
Step Analysis
Height -6.32 mg
-12.23 %
ResiC. 42.97 mg
83.17 %
Dpeak 141.0°C
Step Analysis
Height -1.75 mg
-3.39 %
ResiC. 40.82 mg
79.01 %
5. mg
100.
200.
300.
400.
°C


S96T003017 DUP N2
35.221 mg
Rate: 10.0 °C/min
File: 00070.001
Ident: 0.0
TG
222-S Laboratory
METTLER
14-Jul-96
7/14/96
Step Analysis
Height -1.93 mg
-5.47 %
ResiC. 33.29 mg
94.53 %
Step Analysis
Height -3.84 mg
-10.89 %
ResiC. 29.46 mg
83.63 %
Dpeak 131.0°C
Step Analysis
Height -1.18 mg
-3.35 %
ResiC. 28.07 mg
79.69 %
5. mg
100.
200.
300.
400.
°C

DISTRIBUTION SHEET

To Distribution	From Production Planning & Control	Page 1 of 1
		Date: 07-22-96
Project Title/Work Order **WHC-SD-WM-DP-191, REV. 0** "45-Day Safety Screening Results for Tank 241-U-106, Push Mode Cores 147 and 148.		EDT NO.: 614800
		ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY
Pacific Northwest Laboratory			
J. R. Gormsen	K7-28		X
S. J. Harris	K7-22	X	
K. L. Silvers	P7-27		X
U.S. Department of Energy, RL			
C. A. Babel	S7-54	X	
Westinghouse Hanford Company			
J. N. Appel	G3-21		X
T. M. Brown	R2-12		
D. C. Hetzer	S6-31		X
J. E. Hyatt	S3-31	X	
T. J. Kelley	S7-21	X	
N. W. Kirch	R2-11	X	
M. J. Kupfer	H5-49	X	
J. E. Meacham	S7-15	X	
K. L. Powell	T6-04		X
J. B. Schaffer (SD COV SHT., DST. SHT, ROR)	R2-12		X*
F. H. Steen	T6-06	X	
M. J. Sutey	T4-07	X	
T. T. Tran (LATA)	B1-44	X	
J. A. Voogd	H5-03		X
L. R. Webb (SD COV SHT., DST. SHT, ROR)	T6-06		X *
A. E. Young	R2-12	X	
Central Files	A3-88	2	
EDMC	H6-08	X	
LTIC	T6-03		X
U. S. Department of Energy			
Jim Poppiti 12800 Middlebrook Rd. Trevion II, EM-36 Germantown, MD 20874			X
Defense Nuclear Federal Safety Board			
Rich Tontodonato 625 Indiana Ave. N. W. Washington D.C. 20004		X	

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