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APR 17 1995

55 Stan S

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 610412

2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) Characterization Plans and Reports	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: Tank 241-AX-102/Waste Management/CPR/Char. Eng.	6. Cog. Engr.: Andrew D. Rice	7. Purchase Order No.: N/A
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15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-WM-DP-100	N/A	0	45-Day Safety Screen Results for Tank 241-AX-102, Augers 95-AUG-006 and 95-AUG-007	Q	2	1	

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

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2	1	Cog.Eng. A. D. Rice	[signature]	3-29-95	TU-06						
2	1	Cog. Mgr. J. G. Kristofzski	[signature]	3/29/95	TU-06						
2	1	QA Tzu L. Tung	[signature]	3/29/95	S3-30						
		Safety									
		Env.									

18. A. E. Young [signature] 3-29-95 Signature of EDT Originator Date	19. Authorized Representative for Receiving Organization Date	20. J. G. Kristofzski [signature] 3/29/95 Cognizant Manager Date	21. DOE APPROVAL (if required) Ctrl. No. [] Approved [] Approved w/comments [] Disapproved w/comments

BD-7400-172-2 (04/94) GEF097

APR 1995 RECEIVED EDMC

BD-7400-172-1

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RELEASE AUTHORIZATION

Document Number:	WHC-SD-WM-DP-100, REV.0
Document Title:	45-Day Safety Results for the Tank 241-AX-102, Auger Samples, 95-AUG-006 and 95-AUG-007
Release Date:	April 17, 1995

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz

April 17, 1995

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SUPPORTING DOCUMENT

1. Total Pages 27

2. Title	3. Number	4. Rev No.
45-Day Safety Screen Results for Tank 241-AX-102, Augers 95-AUG-006 and 95-AUG-007	WHC-SD-WM-DP-100	0

5. Key Words

45-Day, Safety Screen, Tank 241-AX-102, Tank AX-102, AX-102, Augers, Auger 95-AUG-006, Auger 95-AUG-007

6. Author

Name: Andrew D. Rice

Signature

Organization/Charge Code 8E480/MDR21

7. Abstract

N/A

8. RELEASE STAMP

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BY WHC
DATE APR 17 1995
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A-6400-073 (08/94) WEF124

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Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-100, REV. 0

222-S ANALYTICAL SERVICES

PROJECT: 45-DAY SAFETY SCREEN RESULTS FOR TANK 241-AX-102, AUGERS 95-AUG-006, AND 95-AUG-007

Date Printed: MARCH 28 1995

9513338.2323

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This Document consists of pages 1 through 24.

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NARRATIVE

45-DAY SAFETY SCREEN RESULTS FOR TANK 241-AX-102, AUGERS 95-AUG-006, AND 95-AUG-007

Summary

Two auger samples from tank AX-102 were received by the 222-S laboratories. These samples underwent safety screening analysis (DSC, TGA, and Alpha Total) in accordance with reference (1) below. The DSC results for both auger samples (S95T000203 and S95T000206) exceeded the notification criteria of 481 joules/g (dry). Notification was made on 3/23/95, as required in reference (1).

Sample Receipt and Extrusion

Auger 95-AUG-006 (Riser 3A)

Auger 95-AUG-006 was sampled on 2/10/95, and received at the 222-S laboratory on 2/13. Extrusion took place on 3/1, with the total amount of solid material recovered being 1.97 grams. No drainable or liner liquid was recovered. The sample recovery, based on an expected sample length of 1 inch, was estimated at 10 percent. The solid material was dark brown in color, and was distributed as a thin layer, or film, on flutes 2-9. The entire sample was provided to the laboratory for analysis, and results appear on table one as sample numbers S95T000203 and S95T000204.

Auger 95-AUG-007 (Riser 9E)

Auger 95-AUG-007 was sampled on 2/14/95, and received at the 222-S laboratory on 2/15. Extrusion took place on 3/1, with the total amount of solid material recovered being 34.5 grams. A small quantity (2 grams) of drainable liquid was recovered, but was not analyzed. No liner liquid was observed. The sample recovery, based on an expected sample length of 1 inch, was estimated at 100 percent. The solid material was dark brown in color, and was distributed as a thin layer on flutes 2-9. The sample was sufficiently wet that upon extrusion some of the solid material and associated liquid fell from the auger to the tray below. This material was collected for analysis. A subsample was provided to the laboratory for analysis, and results appear on table one as sample numbers S95T000206 and S95T000208.

Analytical Results

TGA (Moisture)

The weight percent water by Thermogravimetric Analysis (TGA) was performed using procedure LA-560-112, with a nitrogen purge. All results were above the notification limit (notification is made if the sample is analyzed at <u>less than</u> 17 percent water), therefore no notifications were made. All samples met the precision and accuracy criteria stated in reference (1).

DSC

Differential thermal analyses were performed using procedure LA-514-113, and a Mettler Model 20 Differential Scanning Calorimeter (DSC) under a nitrogen purge. Both results exceeded the safety screen notification limit of 481 joules/g (dry). For the 95-AUG-006 sample (S95T000203), both the sample and duplicate results slightly exceeded the limit. For the 95-AUG-007 sample (S95T000206), only the duplicate result exceeded the limit. Dry results were calculated using the average percent water by TGA for each sample. Sample S95T000206 slightly exceeded the precision criteria stated in reference (1). No rerun was requested. All samples met the TCP accuracy criteria.

Alpha Total

The Alpha Total analyses were performed using procedure LA-508-101. All alpha total results were below the notification limit. One sample (S95T000204) slightly exceeded the precision criteria. Both samples demonstrated lower than normal spike recovery. This was most likely due to solids observed in the sample mount. A rerun at a higher dilution was requested and run. The spike recoveries improved, but at the cost of counting statistics. The initial results appear in Table 1. The TCP accuracy criteria was met in each case.

References: (1) WHC-SD-WM-TP-227, REV. 1, "Tank 241-AX-102 Tank Characterization Plan", Westinghouse Hanford Company, Richland, WA 99352, dated 1/24/95.

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SAMPLE DATA SUMMARY

45 DAY SAFETY SCREEN RESULTS FOR AX-102 95-AUG-006,007
AX-102

CORE NUMBER: n/a
SEGMENT #: 95-AUG-006

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000203			% Water by TGA using Mettler	%	17.000	n/a	97.26	n/a	29.57	28.01	28.79	5.42	n/a	0.000	n/a
S95T000203			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	481.000	n/a	n/a	494	488	491.0	1.22	n/a	0.000	n/a
S95T000203			DSC Exotherm using Mettler	Joules/g	n/a	n/a	98.42	n/a	352.1	347.8	350.0	1.23	n/a	0.000	n/a
S95T000204	F		Alpha of Digested Solid	uCi/g	n/a	41.000	93.89	<3.15e-02	1.20e00	1.35e00	1.27e+00	11.8	72.20	0.071	11.0

=> Limit violated
=> Selected Limit

5

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45 DAY SAFETY SCREEN RESULTS FOR AX-102 95-AUG-006,007
AX-102

CORE NUMBER: n/a
SEGMENT #: 95-AUG-007

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000206			% Water by TGA using Mettler	%	17.000	n/a	97.26	n/a	31.12	33.30	32.21	6.77	n/a	0.000	n/a
S95T000206			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	481.000	n/a	n/a	416	487	451.5	15.7	n/a	0.000	n/a
S95T000206			DSC Exotherm using Mettler	Joules/g	n/a	n/a	98.42	n/a	282.3	330.3	306.3	15.7	n/a	0.000	n/a
S95T000208	F		Alpha of Digested Solid	uCi/g	n/a	41.000	93.89	<3.15e-02	1.27e00	1.15	1.21e+00	9.92	67.00	0.064	9.5

=> Limit violated
=> Selected Limit

9

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UNDIGESTED SAMPLES ANALYSES - DIRECT

worklistrpt Version 2.0 02/21/95
03/21/95 10:55

LABCORE Data Entry Template for Worklist# 646

Analyst: DWS **Instrument:** DSC01 **Book #** 12N14-A

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

WHC-SD-WM-DP-100, REV. 0

Worklist Comment: Please run AX-102 DSC under N2. JMF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD	12N14-A			DSC-01	SOLID	28.45	27.6	N/A	Joules/g
95000014	AX-102	2	SAMPLE	S95T000203	0		DSC-01	SOLID	N/A	352.1		Joules/g
95000014	AX-102	3	DUP	S95T000203	0		DSC-01	SOLID	352.1	347.8	N/A	Joules/g
		4	STD				DSC-01	SOLID	28.45	28.0	N/A	Joules/g
95000015	AX-102	5	SAMPLE	S95T000206	0		DSC-01	SOLID	N/A	282.3		Joules/g
95000015	AX-102	6	DUP	S95T000206	0		DSC-01	SOLID	282.3	330.3	N/A	Joules/g

Final page for worklist # 646

See attached for signatures 3/21/95
Analyst Signature **Date**

Analyst Signature **Date**

Data entered and verified by
Blandina Valenzuela 3/22/95

Data Entry Comments: S95T000203 produced an endotherm at 131.5°C with a delta H of 851.4 J/g. S95T000206 produced an endotherm at 128.2°C with a delta H of 794.7 ~~E~~ J/g.
3/21/95 BDV

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.

9513338.2352

LABCORE Data Entry Template for Worklist# 646

Analyst: ms **Instrument:** DSC01 **Book #** 12424-A

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

WHC-SD-WM-DP-100, REV. 0

Worklist Comment: Please run AX-102 DSC under N2. JMF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	~~28.45~~	~~27.6~~	3/21/95 BDV N/A	Joules/g
95000014	AX-102	2	SAMPLE	S95T000203	0		DSC-01	SOLID	N/A	~~352.1~~	3/21/95 BDV	Joules/g
95000014	AX-102	3	DUP	S95T000203	0		DSC-01	SOLID	~~352.1~~	~~347.8~~	3/21/95 BDV N/A	Joules/g
95000015	AX-102	4	SAMPLE	S95T000206	0		DSC-01	SOLID	N/A			Joules/g
95000015	AX-102	5	DUP	S95T000206	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 646

[signature] 3-18-95

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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

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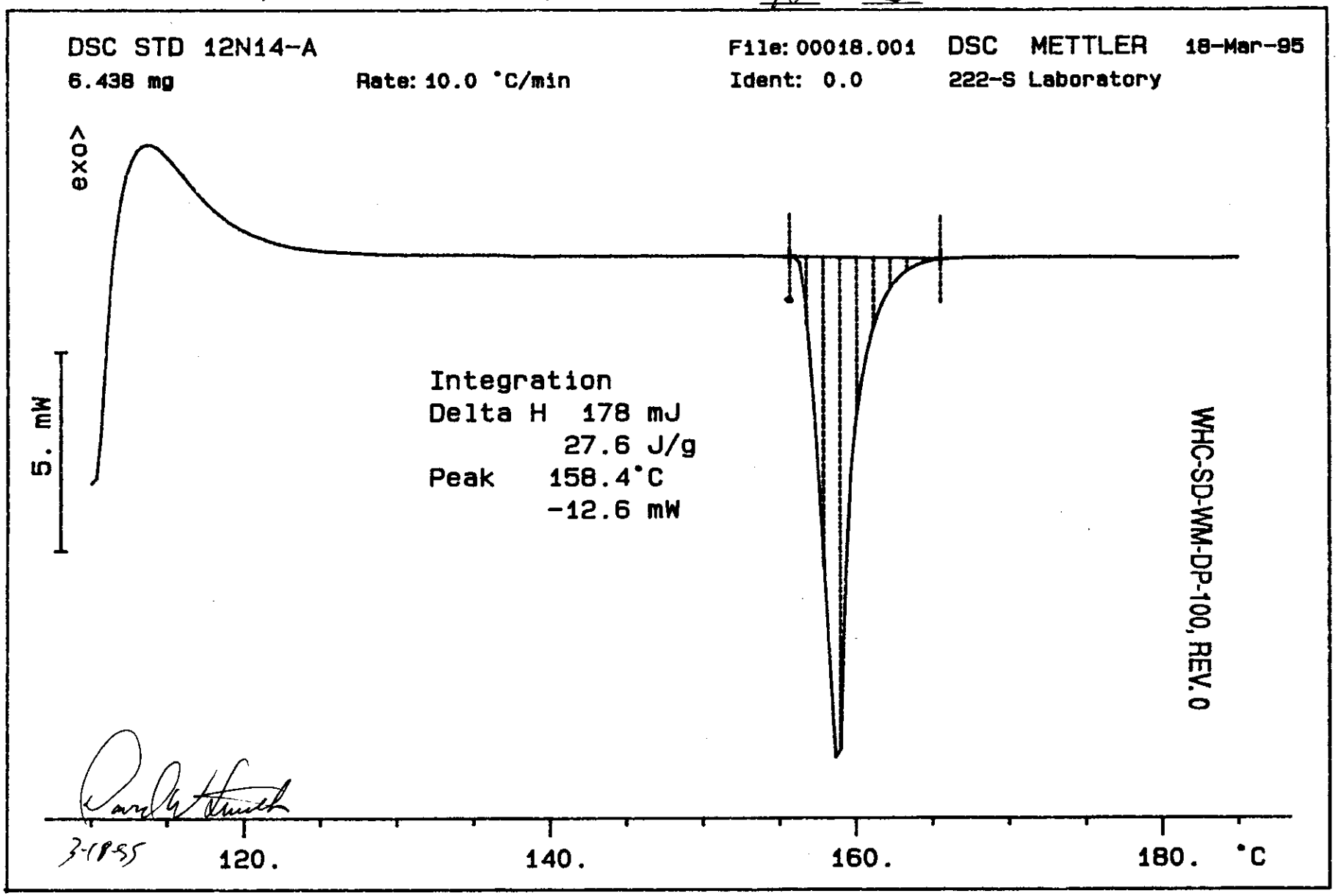

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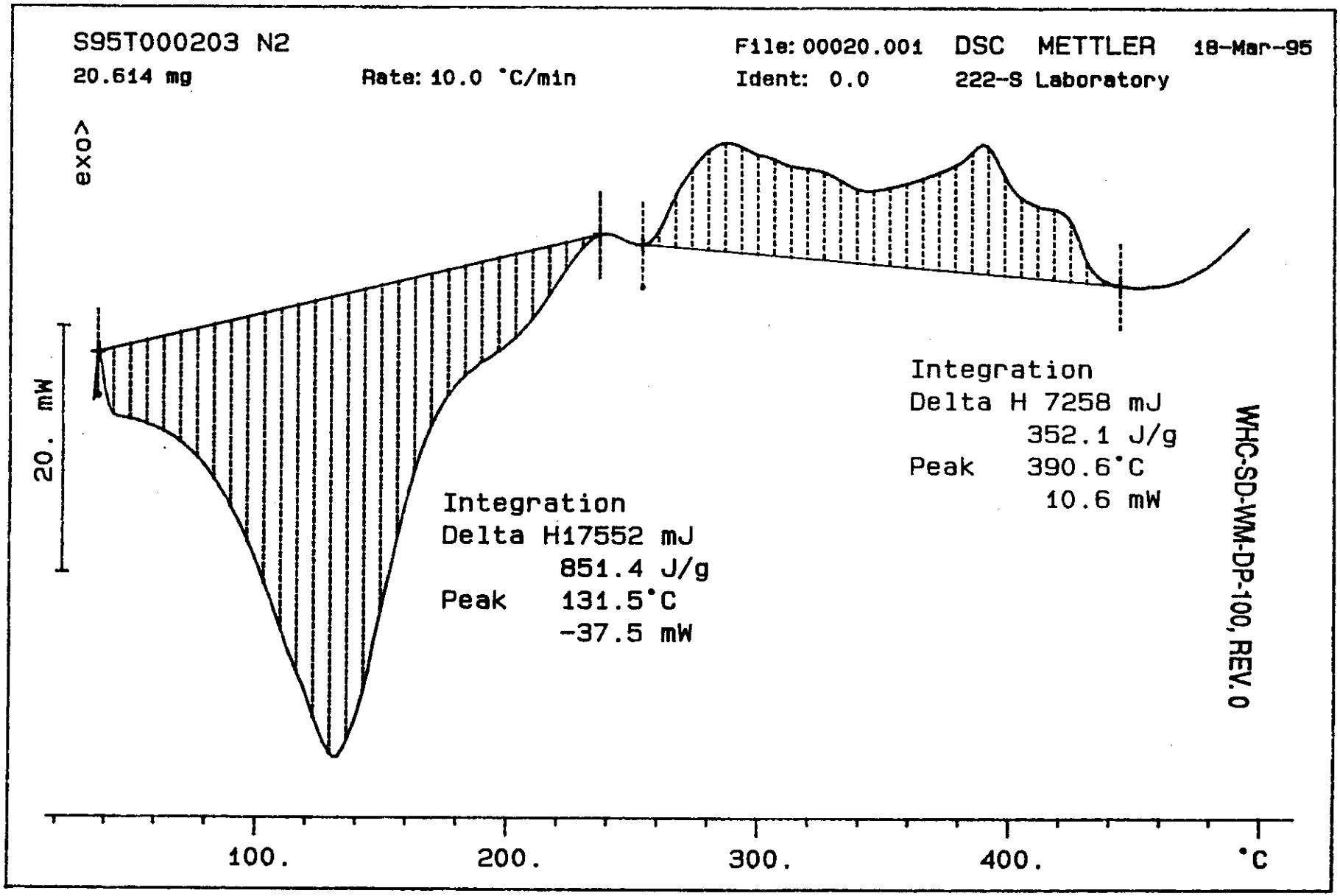

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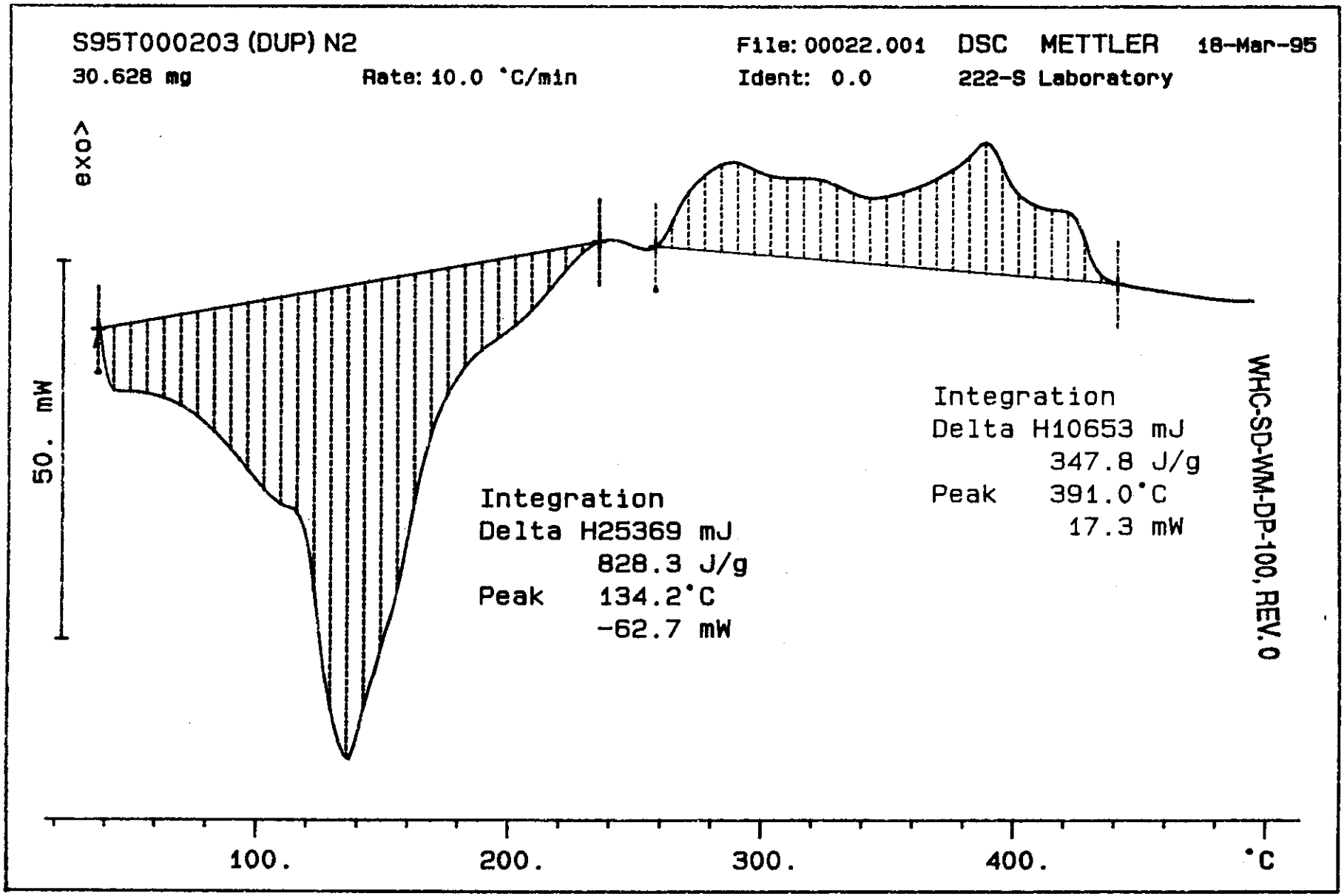

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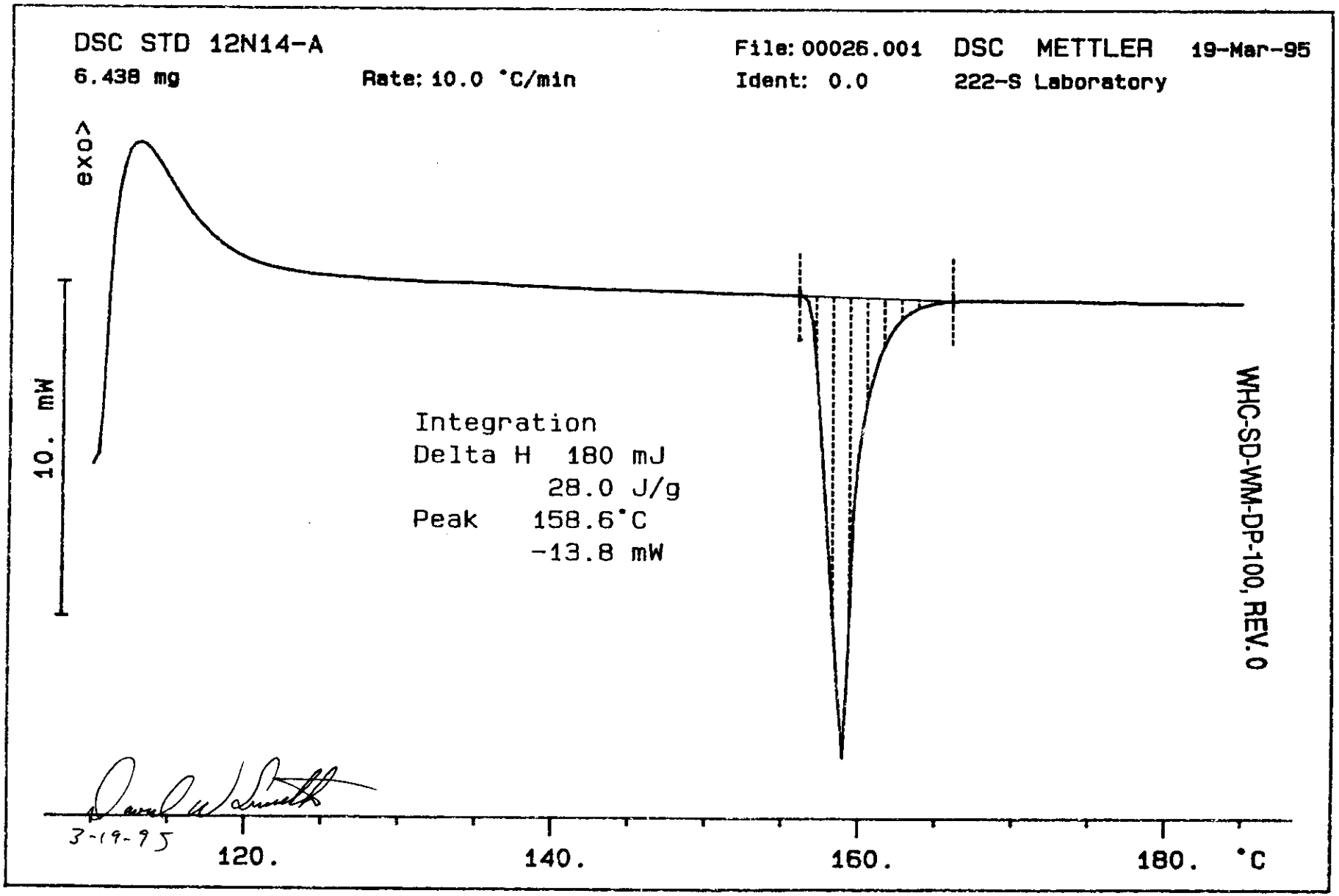

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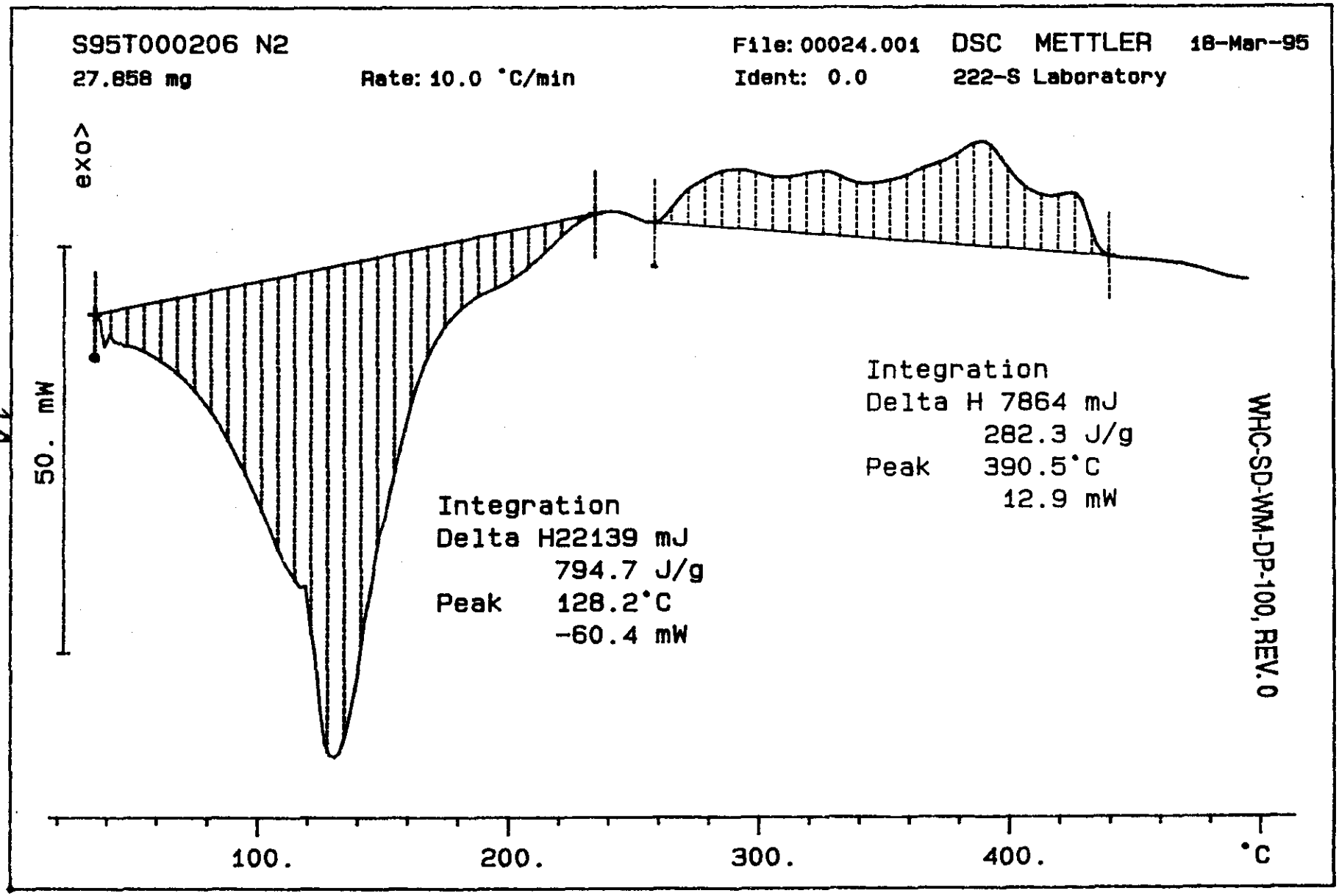

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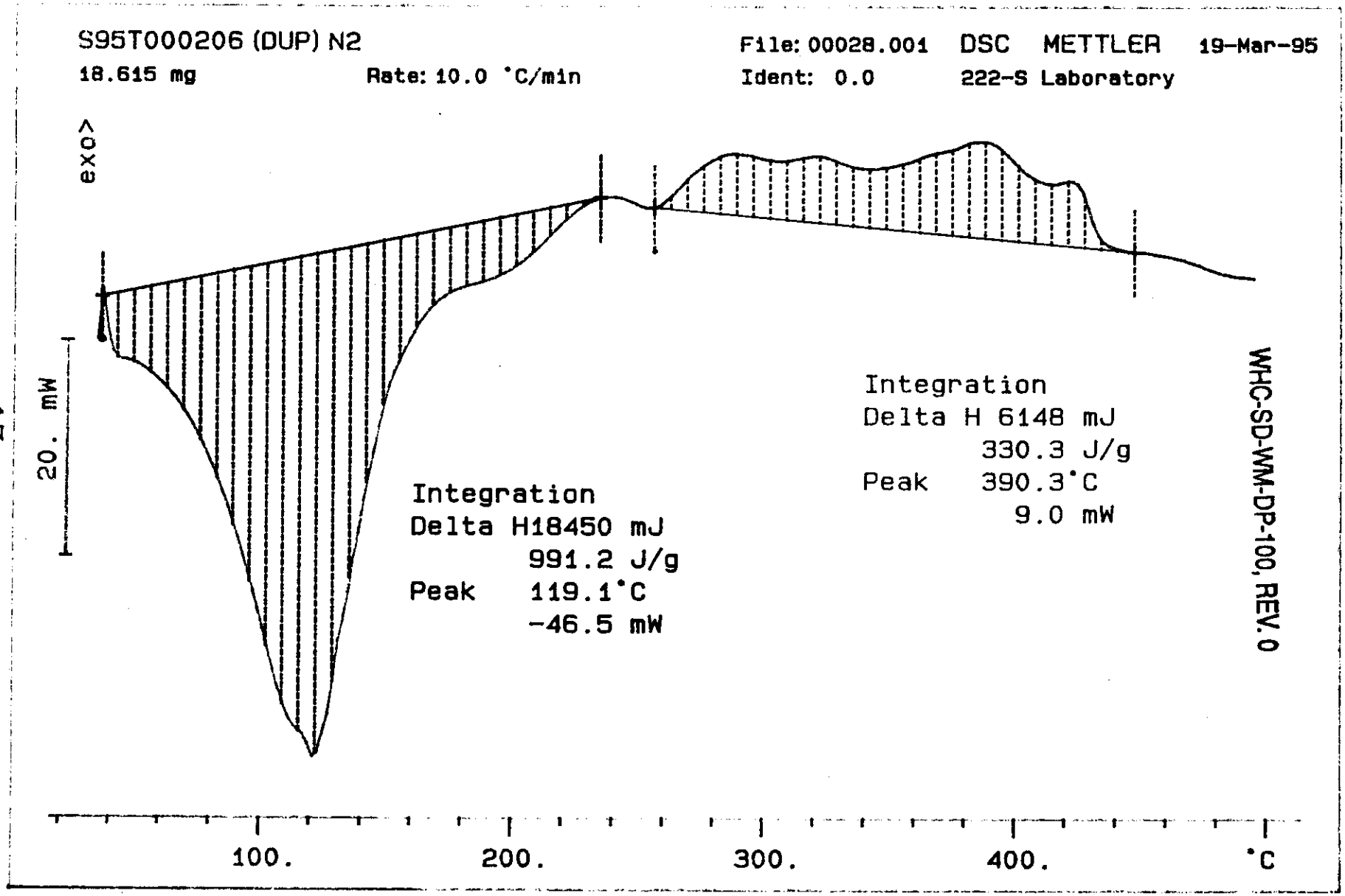

WHC-SD-WM-DP-100, REV. 0

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LABCORE Data Entry Template for Worklist# 779

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

Method: LA-514-113 Rev/Mod B-1 WHC-SD-WM-DP-100, REV. 0

Worklist Comment: Calculated Dry DSC for AX-102

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	DSC ~~ACTUAL~~ 3/22/95 BDV	TGA ~~FOUND~~ 3/22/95 BDV	Dry DSC ~~DL~~ 3/22/95 BDV	UNIT
95000014	AX-102	1 SAMPLE	S95T000203	0		DSC-02	SOLID	3/22/95 BDV ~~N/A~~ 352.1	28.79	494	Joules/g Dry
95000014	AX-102	2 DUP	S95T000203	0		DSC-02	SOLID	347.8	28.79	488 3/22/95 BDV ~~N/A~~	Joules/g Dry
95000015	AX-102	3 SAMPLE	S95T000206	0		DSC-02	SOLID	3/22/95 BDV ~~N/A~~ 282.3	32.21	416	Joules/g Dry
95000015	AX-102	4 DUP	S95T000206	0		DSC-02	SOLID	330.3	32.21	487 3/22/95 BDV ~~N/A~~	Joules/g Dry

Final page for worklist # 779

Blandina Valenzuela 3/22/95
Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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worklistrpt Version 2.0 02/21/95
03/21/95 11:09

LABCORE Data Entry Template for Worklist# 647

Analyst: DWS **Instrument:** TGA01 **Book #** 42N8-A

Method: LA-560-112 Rev/Mod A-2 WHC-SD-WM-DP-100, REV. 0

Worklist Comment: Please run under N2. AX-102 JMF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.19	57.44	N/A	%
95000014	AX-102	2	SAMPLE	S95T000203	0		TGA-01	SOLID	N/A	29.57		%
95000014	AX-102	3	DUP	S95T000203	0		TGA-01	SOLID	29.57	28.01	N/A	%
95000015	AX-102	4	SAMPLE	S95T000206	0		TGA-01	SOLID	N/A	31.12		%
		5	STD				TGA-01	SOLID	59.19	57.57	N/A	%
95000015	AX-102	6	DUP	S95T000206	0		TGA-01	SOLID	31.12	33.30	N/A	%

Final page for worklist # 647

See attached for signatures 3/21/95
Analyst Signature **Date**

Analyst Signature **Date**

Data entered and verified by
Blandina Valenzuela 3/22/95

Data Entry Comments: S95T000203 produced a second weight loss step of 17% after the initial water loss. S95T000206 produced a second weight loss step of 20.11% after the initial water loss.

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

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worklistrpt Version 2.0 02/21/95
03/03/95 16:14

LABCORE Data Entry Template for Worklist# 647

Analyst: DWS **Instrument:** TGA01 **Book #** 42WB-A

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

WHC-SD-WM-DP-100, REV. 0

Worklist Comment: Please run under N2. AX-102 JMF

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	~~59.19~~	~~57.44~~	3/21/95 BDV N/A	%
95000014	AX-102	2 SAMPLE	S95T000203	0		TGA-01	SOLID	N/A	~~29.57~~	3/21/95 BDV	%
95000014	AX-102	3 DUP	S95T000203	0		TGA-01	SOLID	~~29.57~~	~~28.01~~	3/21/95 BDV N/A	%
95000015	AX-102	4 SAMPLE	S95T000206	0		TGA-01	SOLID	N/A			%
95000015	AX-102	5 DUP	S95T000206	0		TGA-01	SOLID			N/A	%

Final page for worklist # 647

Analyst Signature Date 5-18-95

Analyst Signature Date

Data Entry Comments: ~~S95T000203 produced a second weight loss step~~ 3/22/95 BDV

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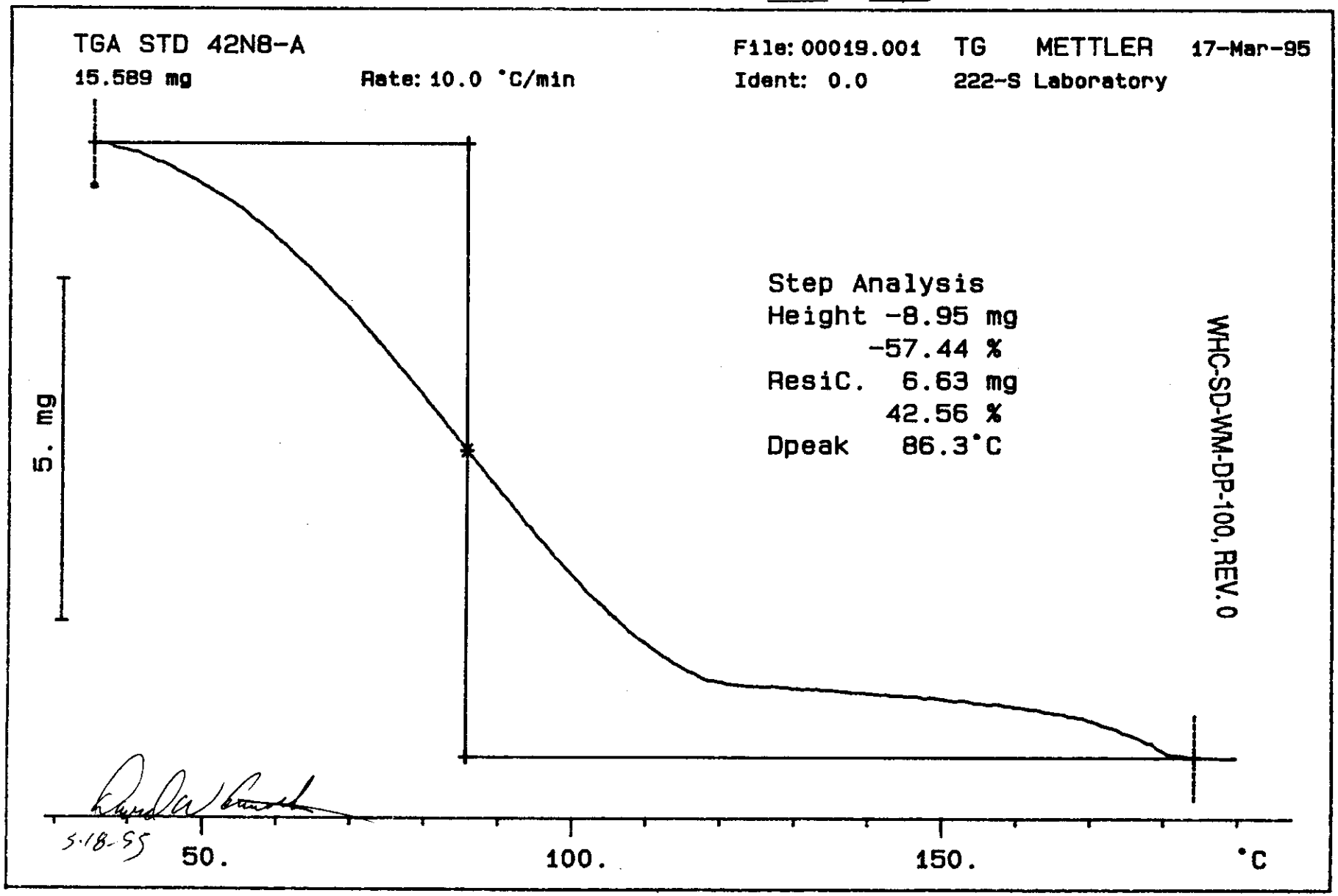

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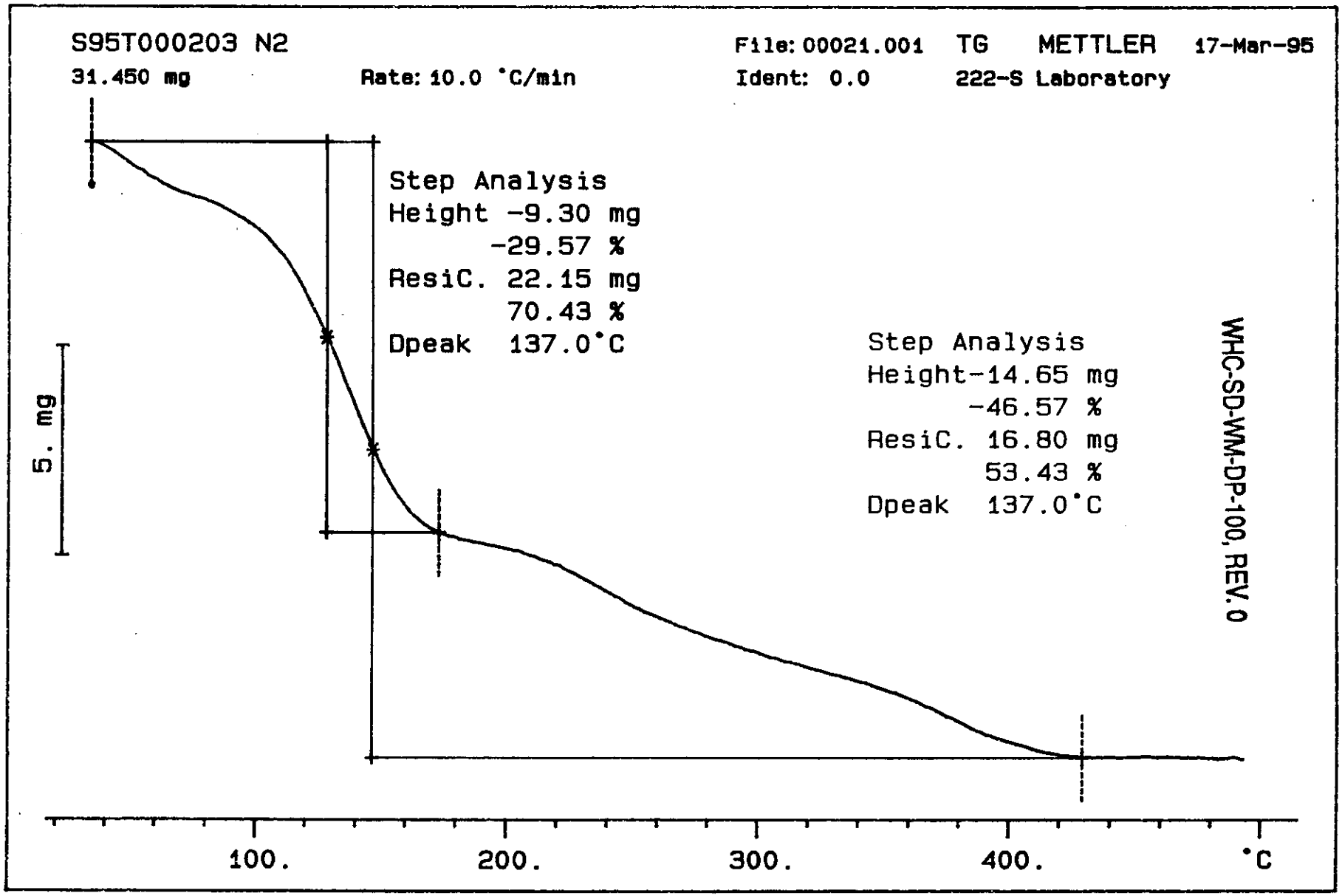

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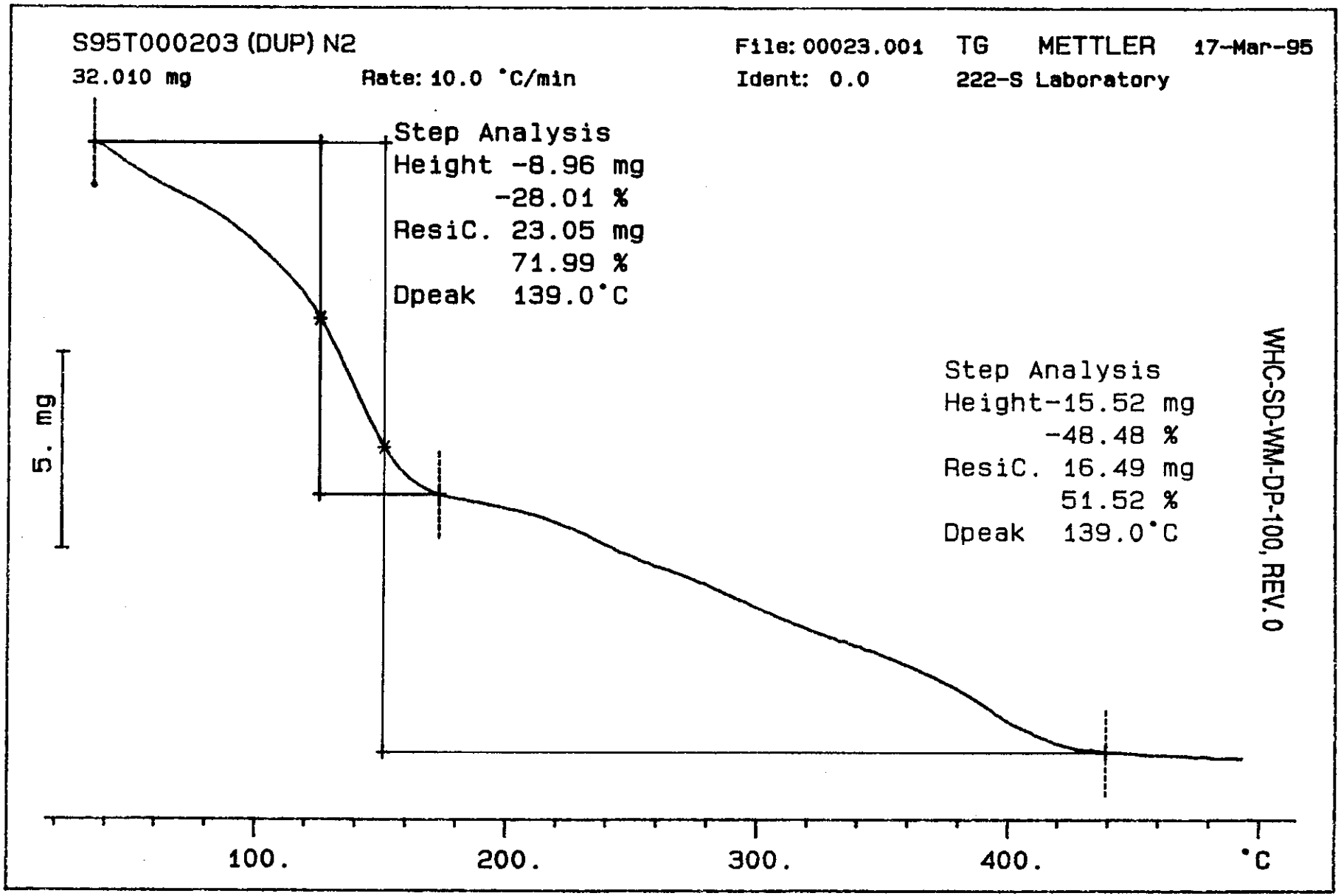

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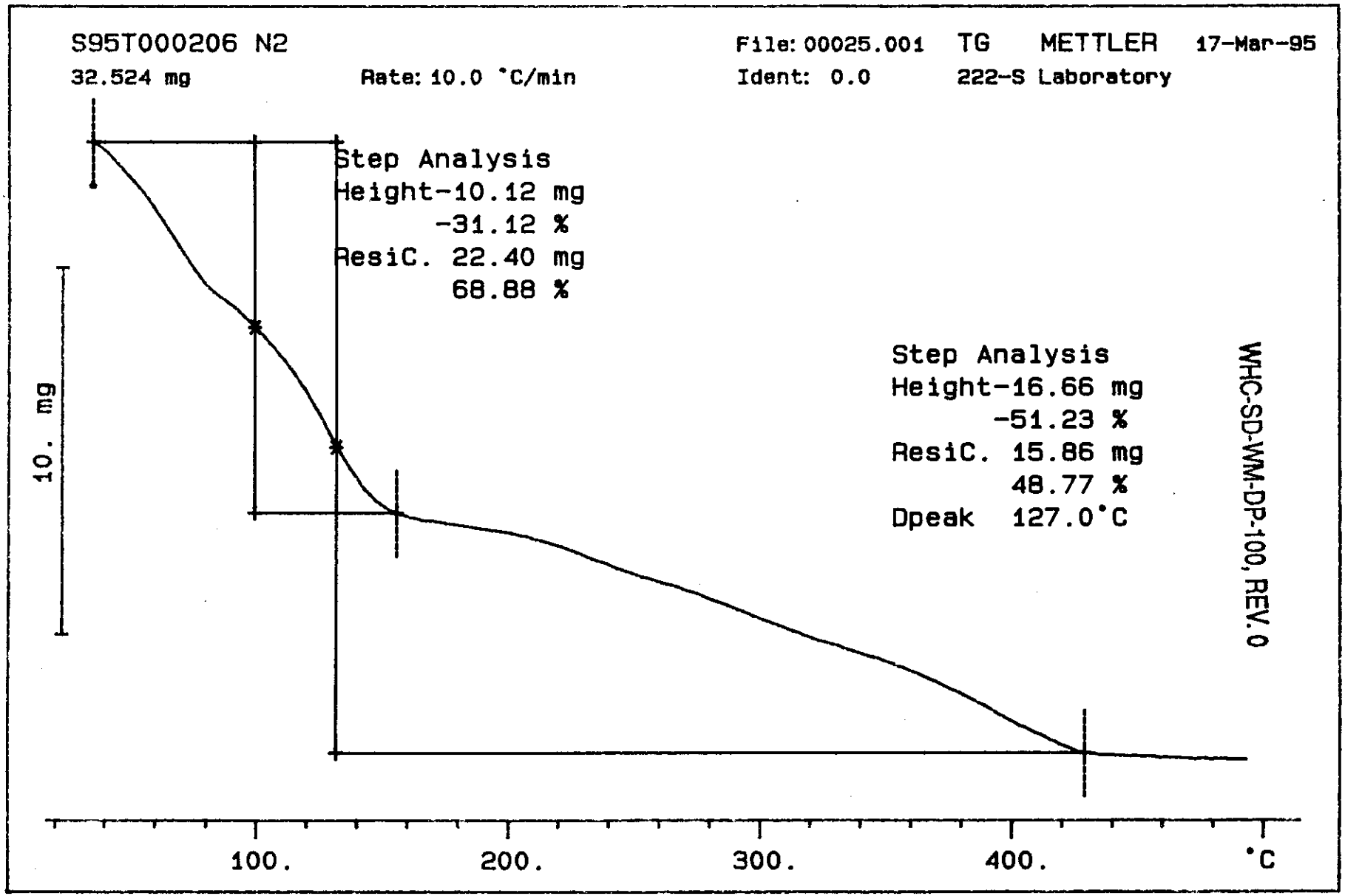

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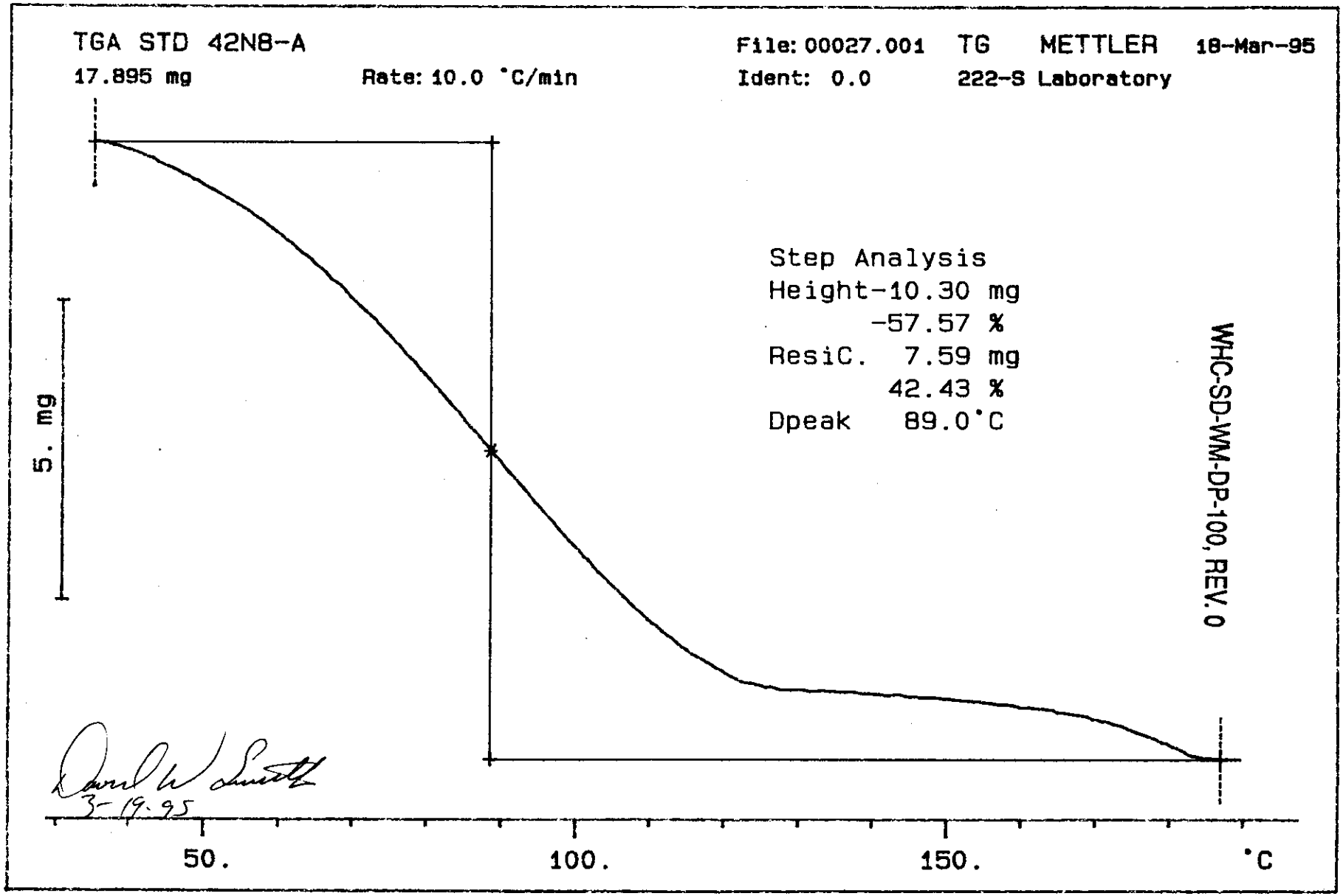
95 1338.2346



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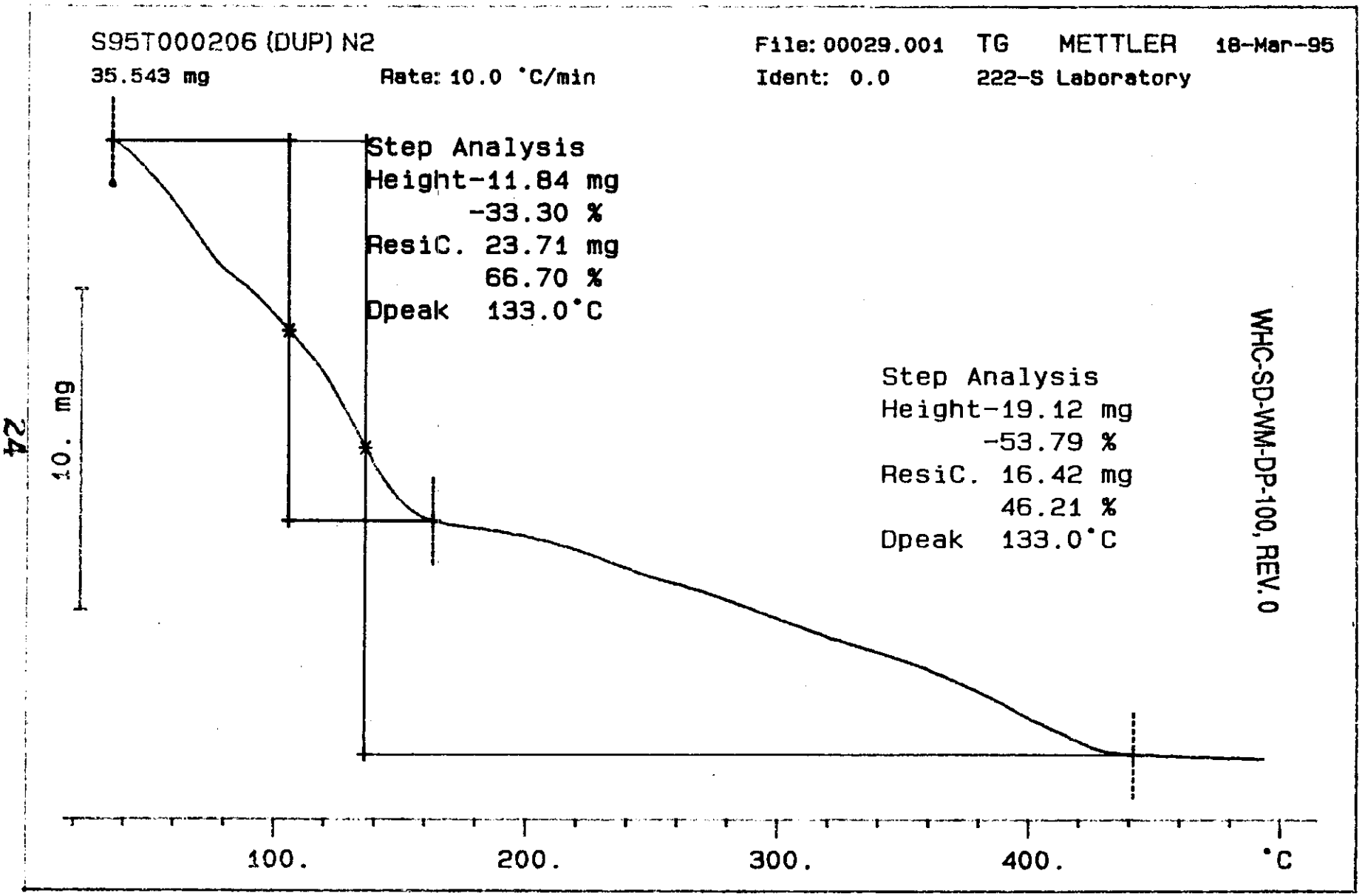

WHC-SD-WM-DP-100, REV. 0

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DISTRIBUTION SHEET

To	From	Page 1 of 2
DISTRIBUTION	CHARACTERIZATION PLANS AND REPORTS	Date: 03/29/95
Project Title/Work Order WHC-SD-WM-DP-100, Rev. 0, "45-Day Safety Screen Results for Tank 241-AX-102, Augers 95-AUG-006 and 95-AUG-007"		EDT NO.: EDT-610412 ECN NO.: N/A

Name	MSIN	Text With all Attach	Summary Only	EDT/ECN Only
ONSITE				
Pacific Northwest Laboratory				
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S. J. Harris	K7-22			X
P. G. Heasler	K5-12			X
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J. L. Scott	R3-87			X
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Westinghouse Hanford Company				
J. N. Appel	G3-21			X
C. E. Golberg	H5-49			X
V. W. Hall	H4-21			X
D. C. Hetzer	S6-31			X
L. Jensen	T6-07	X		
N. W. Kirch	R2-11	X		
J. G. Kristofzski	T6-06	X		
E. J. Lipke	S7-14			X
J. E. Meacham	S7-15	X		
A. D. Rice	T6-06	X		
P. Sathyanarayana	R2-12	2		
B. C. Simpson	R2-12			X
D. A. Turner	S7-15			X
J. A. Voogd	R4-01			X
W. I. Winters	T6-50			X
Central Files	L8-04	2		
EDMC	H6-08	X		
LTIC	T6-03			X
OSTI	L8-07	2		
TFIC (Tank Farm Information	R1-20			X

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DISTRIBUTION SHEET

To	From	Page 2 of 2
DISTRIBUTION	CHARACTERIZATION PLANS AND REPORTS	Date: 03/29/95
Project Title/Work Order WHC-SD-WM-DP-100, Rev. 0, "45-Day Safety Screen Results for Tank 241-AX-102, Augers 95-AUG-006 and 95-AUG-007"		EDT NO.: EDT-610412 ECN NO.: N/A

Name	MSIN	Text With all Attach	Summary Only	EDT/ECN Only
OFFSITE				
Washington State Department of Ecology Single-Shell Tank Unit Manager S. E. McKinney P.O. Box 47600 Olympia, Washington 98504-7600				X
Environmental Protection Agency Single-Shell Tank Unit Manager D. R. Eian 712 Swift Boulevard, Suite 5 Richland, Washington 99352				X
U. S. Department of Energy Jim Poppiti 12800 Middlebrook Rd. Trevion II, EM-36 Germantown, MD 20874				X