COMPLETE

ENGINEERING CHANGE NOTICE

1. ECN № 625764

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [] Direct Revision [X] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	John M. Conner, Characterization Plans, Coordination and Reports, R2-12, 373-2711	[] Yes [X] No	10/19/95
	5. Project Title/No./Work Order No. Tank 241-B-112	6. Bldg./Sys./Fac. No. N/A	7. Approval Designator Q
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-WM-DP-105, Rev. 0	9. Related ECN No(s). N/A	10. Related PO No. N/A

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[] Yes (fill out Blk. 11b) [X] No (NA Blks. 11b, 11c, 11d)	N/A	N/A Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change

This ECN is being generated in order to update/add additional information to the existing document.

13a. Justification (mark one)

Criteria Change	[]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[X]

13b. Justification Details

This ECN will assist in the completion of the documentation process for this document.

14. Distribution (include name, MSIN, and no. of copies)

See attached distribution sheet.

RELEASE STAMP

OFFICIAL RELEASE BY WHC 3

DATE OCT 26 1995

Sta. 4

A-7900-013-2 (11/94) GEF095

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1) ECN-625764

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[X] No	Savings	[] $	Savings	[] $	Delay	[]

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
N/A		

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog. Eng. J.M. Conner	10/26/95	PE	
Cog. Mgr. J.G. Kristofzski	10/26/95	QA	
QA Tzu L. Tung	10/26/95	Safety	
Safety		Design	
Environ.		Environ.	
Other		Other	
program Support A.D. Rice	10-26-95		
		DEPARTMENT OF ENERGY	
		Signature or a Control Number that tracks the Approval Signature	
		ADDITIONAL	

RELEASE AUTHORIZATION

Document Number:	WHC-SD-WM-DP-105, REV 1
Document Title:	Final Report for Tank 241-B-112, Auger Samples 95-AUG-014 and 95-AUG-015
Release Date:	10/26/95

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 Broz 10/26/95

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SUPPORTING DOCUMENT

1. Total Pages 83

2. Title	3. Number	4. Rev No.
Final Report for Tank 241-B-112, Auger Samples 95-AUG-014 and 95-AUG-015	WHC-SD-WM-DP-105	1

5. Key Words	6. Author
Final Report, Tank 241-B-112, Tank B-112, B-112, B Farm, Auger Samples, 95-AUG-014, 95-AUG-015	Name: John M. Conner Signature Organization/Charge Code 75310/N4G4C

7. Abstract

N/A

8. RELEASE STAMP

OFFICIAL RELEASE BY WHC
DATE OCT 2 6 1995
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A-6400-073 (08/94) WEF124

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RECORD OF REVISION	(1) Document Number WHC-SD-WM-DP-105	Page A

(2) Title
Final Report for Tank 241-B-112, Auger Samples 95-AUG-014 and 95-AUG-015

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release (5) Cog. Engr.	(6) Cog. Mgr. Date
0	(7) Initially released 05/01/95 on EDT-610421.	J.M. Conner	J.G. Kristofzski
1 RS	Incorporate per ECN-625764.	J.M. Conner	J.G. Kristofzski
		JM Conner	John Kristofzski 10/26/95

A-7320-005 (08/91) WEF168

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Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-105, REV. 1

ANALYTICAL SERVICES

FINAL REPORT FOR TANK 241-B-112, AUGER SAMPLES 95-AUG-014 AND 95-AUG-015

Date Printed: OCTOBER 18, 1995

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PART I

WHC-SD-WM-DP-112, REV. 1

REVISED FINAL REPORT FOR TANK 241-C-203, AUGER SAMPLES 95-AUG-020 AND 95-AUG-021

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NARRATIVE

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FINAL REPORT FOR TANK 241-B-112, AUGER SAMPLES 95-AUG-014 AND 95-AUG-015

ANALYTICAL SUMMARY

Two auger samples from tank 241-B-112 (B-112) were received in the 222-S Laboratories and underwent safety screening analyses, consisting of differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha activity. All results for all analyses (DSC, TGA, and total alpha) were within the safety screening notification limits specified in the Tank Characterization Plan (TCP) [1]. No notifications nor secondary analyses were required.

SCOPE

This document constitutes the final laboratory report for the tank B-112 auger samples collected on March 16, 1995 (samples 95-AUG-014 and 95-AUG-015). As no additional analyses have been performed, the 45-day report, included as part II of this document (beginning on page 44), contains the data summary tables, discussions of the analytical methods and data, and raw data scans for DSC and TGA analyses. The data summary tables from the 45-day report (pp. 50-52) will serve as the final data summary tables as well.

Additional information provided in this revision includes the sample chain-of-custody sheets, photographs of the extruded auger samples, copies of the laboratory hot-cell notebook pages, and the raw data for the total alpha analyses.

REFERENCE

[1] R. D. Schreiber, *Tank 241-B-112 Tank Characterization Plan*, WHC-SD-WM-TP-302, Rev. 0, February 6, 1995.

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CHAIN OF CUSTODY FORMS

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COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number _____ (2) Sample Number 95-AUG-015 (3) Supervisor PRAZNIK

(4) Tank B112 (5) Riser 3 (6) Cask Serial Number 1037

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<2 mR	<0.5 MR/HR
Side Dose Rate	<2 mR	1.5 MR/HR
Bottom Dose Rate		<0.5 MR/HR
Smearable Contamination (Alpha)	<20 DPM	<20 DPM
(Beta-Gamma)	<1K DPM	<1000 DPM
RCT* (Signature)	[signature]	RCT* [signature]

(8) Shipment Description	
A. Work Package Number	ES-95-00079-0
B. Cask Seal Number	1024
C. Date and Time Sample Removed from Tank	3-16-95/1200hrs
D. Expected Liquid Content	30%
E. Expected Solid Content	70%
F. Dose Rate Through Drill String	45 mR/hr
G. Expected Sample Length	8"

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

CT

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
B112 R/7	222S LABS	PRAZNIK R.J. [signature]	3-17-95/1000	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
[signature] DA KRAUT		SGentle SGentle	3-17-95/1145	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
SGentle SGENTLE		03-17-95 D Sandra Cobb Sandra Cobb		
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
		Shipment No.	Cask Seal No.	Sample No.
☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

WHC-SD-WM-DP-125, REV. 1

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number _____ (2) Sample Number 95-AVG-014 (3) Supervisor PRAZNIK

(4) Tank B112 (5) Riser 7 (6) Cask Serial Number 1033

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<2mR	<0.5 mR/HR
Side Dose Rate	<2mR	3 mR/HR
Bottom Dose Rate	<2mR	<0.5 mR/HR
Smearable Contamination	<20 DPM (Alpha)	<20 DPM (Alpha)
	<1K DPM (Beta-Gamma)	<1000 DPM (Beta-Gamma)
RCT* (Signature)		RCT* (Signature)

(8) Shipment Description

A. Work Package Number	ES-95-00079-0
B. Cask Seal Number	1023
C. Date and Time Sample Removed from Tank	3-16-95/ 1030hrs
D. Expected Liquid Content	30%
E. Expected Solid Content	70%
F. Dose Rate Through Drill String	250 mR/hr
G. Expected Sample Length	8"

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

6

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
B112 R/M	222 S LABS	PRAZNIK, RJ	3/17/95/1000hrs	
(17) Relinquished By (Sign and PRINT)		**(18) Received By (Sign and PRINT)**	**(19) Date/Time**	**(20) Receiver Comments**
DA KRAHN		S Gentle S Gentle	3-17-95/1145	
(21) Relinquished By (Sign and PRINT)		**(22) Received By (Sign and PRINT)**	**(23) Date/Time**	**(24) Receiver Comments**
S Gentle SGENTLE		1300 03-17-95 Sandra Cobb		
(25) Relinquished By (Sign and PRINT)		**(26) Received By (Sign and PRINT)**	**(27) Date/Time**	**(28) Receiver Comments**

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
		Shipment No.	Cask Seal No.	Sample No.
☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

WHC-SD-WM-DP-105, REV. 1

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

HOT CELL LOG BOOK

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WHC-SD-WM-DP-105, REV. 1

NOTEBOOK/LOGBOOK UNCLASSIFIED COVERSHEET

SECTION I	
RECORD COPY NOT FOR CIRCULATION FEB 1 7 1995 RECEIVED WHC BCSF DOCUMENT CONTROL	Notebook No. WHC-N-1123 1 Date of issue 2-17-95 Copy 1 Title 241-B-112
Author R.K. Fuller	If continued from another notebook give the notebook number

This is a Controlled Notebook. The assigned custodian is responsible for this book. When the book is completed, contact your Records Management Specialist for a Retention Schedule. Complete Section II of this form and return the Notebook to Unclassified Document Control, A4-18.

Responsible Custodian	Payroll No.	MSIN	Date Assigned
R.K. Fuller		T6-31	FEB 1 7 1995

SECTION II Complete this section prior to returning notebook to Unclassified Document Control, A4-18

Abstract: (Give brief description of notebook contents)

Period Covered: (Inclusive dates - Month/Day/Year)

Certification Statement: This notebook does ☐ does not ☐ contain any Quality Assurance Record Material (as described in Section 9.0 of WHC-CM-3-5) and has been verified to be a complete and legible record.

Custodian's Signature and Date

Retention Schedule:	Specialist Concurrence Name	Custodian's Manager's Name

BD-6001-256 (10/93)

Table of Contents

				pages
1	B112	95-AUG-014	Riser #7	6-9
2	B112	95-AUG-015	Riser #3	10-13

Pages 2 through 5 of Hot Cell Log Book number
WHC-N-1123 Copy 1 were intentionally left Blank.

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number _____ (2) Sample Number 95-AVG-014 (3) Supervisor PRAZNIK

(4) Tank B112 (5) Riser 7 (6) Cask Serial Number 1033

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<2mR	<0.5 mR/HR
Side Dose Rate	<2mR	3 mR/HR
Bottom Dose Rate	<2mR	<0.5 mR/HR
Smearable Contamination (Alpha)	<20 DPM	<20 DPM
(Beta-Gamma)	<1K DPM	<1000 DPM
RCT* (Signature)	[signature]	RCT* [signature]

(8) Shipment Description	
A. Work Package Number	ES-95-00079-0
B. Cask Seal Number	1023
C. Date and Time Sample Removed from Tank	3-16-95/ 1030hrs
D. Expected Liquid Content	30%
E. Expected Solid Content	70%
F. Dose Rate Through Drill String	250 mR/hr
G. Expected Sample Length	8"

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

11

Keith Fuller 3-22-95

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
B112 R/M	222 S LABS	PRAZNIK RJ [signature]	3-17-95/1000hrs	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
DA KLAHN		S Gentle S Gentle	3-17-95/1145	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT) 1330 03-17-95	(23) Date/Time	(24) Receiver Comments
S Gentle SGENTLE		Sandra Cobb Sandra Cobb		
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
		Shipment No.	Cask Seal No.	Sample No.
☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

WHC-SD-WM-DP-125, REV 1

95-AUG-014 RISER # 7 3/27/95

Sample # : 95-AUG-014
Cask # : 1033
Dose rate through drill string = 250 mR/hr
Work list # 777 Labcore number = S95T 000356

Tape # 6 B Farm
20 gm wt = 19.99 grams 500 gm wt = 499.97 grams
Temp = 80.6 °F Humidity = 20 %

Solids:

Total amount of solid material recovered was about 7 grams. A small amount of dark brown solid sample was located on flutes #2 through #8. Sample was damp. Drainable liquid (less than 5 ml) dripped off the auger onto the auger tray when the auger sleeve was removed. Did not recover the drainable liquid. Some gray solids were collected from flutes #2 and #3 (possible crust). Subsampled the remaining flutes (#4 through #8).

Subsample Information:

(1) Subsampled solids on flutes #2 and #3. Possible crust sample. Gray Solids

- Vial # 6499 (20 ml - vial size)
- 2.02 grams recovered

(2) Subsampled solids on flutes #4 through #8. Remaining solids. Brown solids.

- Vial # 6633 (20 ml - vial size)
- 5.70 grams recovered

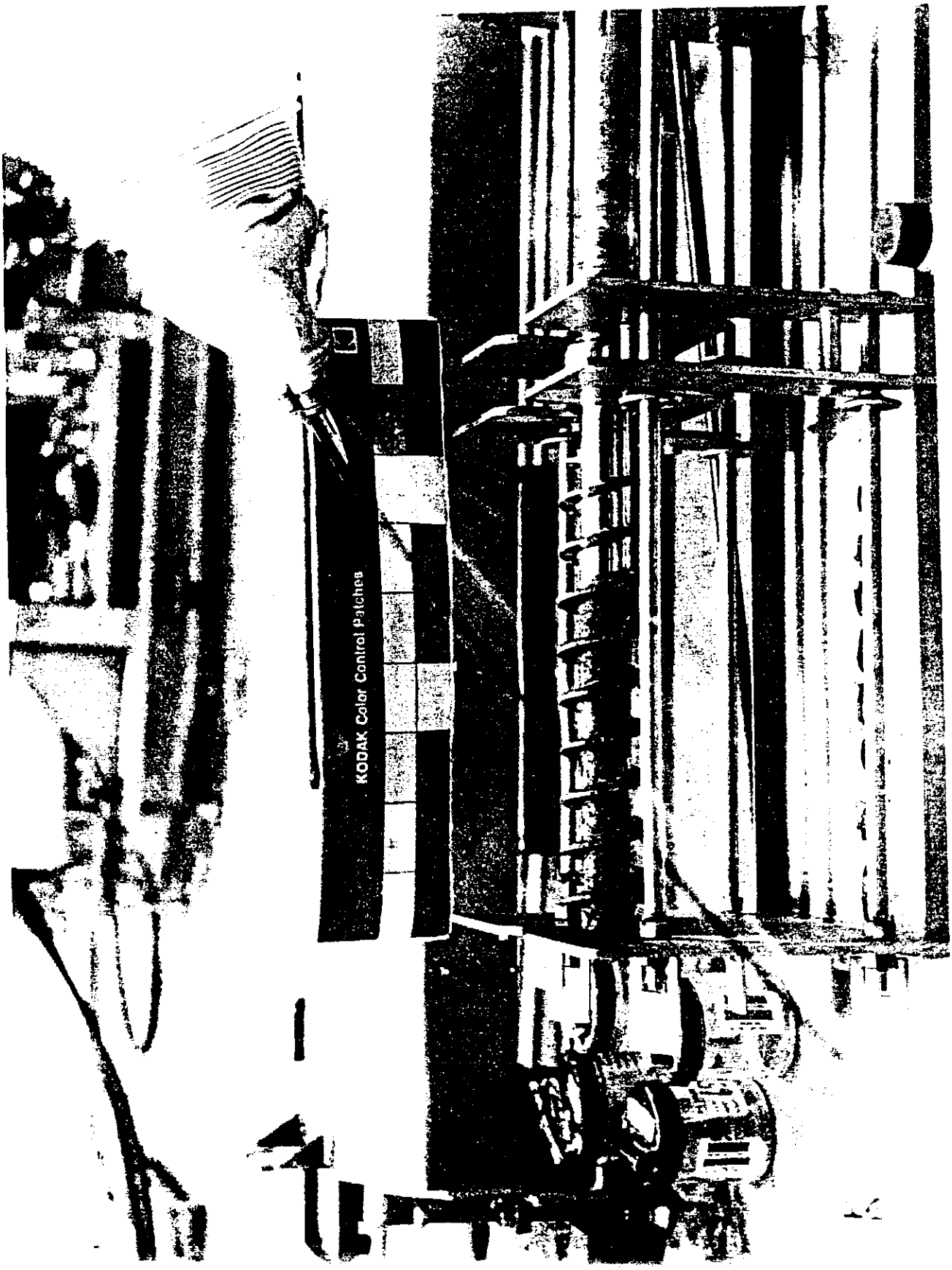
Keith Fuller
3/27/95

3/27/95

- Did not divide sample into 1/2 segments due to the lack of material.

[illegible] 3/27/95

B112 95-AUG-014 Riser 47 3/27/95
Photograph



B112 95-AUG-014

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number _____ (2) Sample Number 95-AUG-015 (3) Supervisor PRAZNIK

(4) Tank B112 (5) Riser 3 (6) Cask Serial Number 1037

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<2 mR	<0.5 MR/HR
Side Dose Rate	<2 mR	1.5 MR/HR
Bottom Dose Rate		<0.5 MR/HR
Smearable Contamination	<20 DPM (Alpha)	<20 DPM (Alpha)
	<1K DPM (Beta-Gamma)	<1000 DPM (Beta-Gamma)
RCT*	(Signature)	RCT* (Signature)

(8) Shipment Description	
A. Work Package Number	ES-95-00079-0
B. Cask Seal Number	1024
C. Date and Time Sample Removed from Tank	3-16-95/1200hrs
D. Expected Liquid Content	30%
E. Expected Solid Content	70%
F. Dose Rate Through Drill String	45mR/hr
G. Expected Sample Length	8"

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

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
B112 R/7	222S LABS	PRAZNIK, R.J.	3-17-95/1000	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
DA KRAHN		SGentle SGentle	3-17-95/1145	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
SGentle SGENTLE		Sandra Cobb Sandra Cobb 03-17-95		
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
		Shipment No.	Cask Seal No.	Sample No.
☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

WHC-SD-WM-DP-105, REV. 1

B112 95-AUG-015 Riser #3 3/28/95

Cask # 1037 Lab core #: S95T000357
Dose rate through drill string = 45 nR/hr
Worklist # 778 = Lab Worklist
Tape #6 B-Farm
10 gm = 19.99 grams 500 gm = 499.97
Temp = 81.0°F 20% Humidity

No Liner Liquid

Solids Description:

Flute #2 was clean. Flutes #3-8 ~~w~~ 3/28/95 had very little material. A little bit of drainable liquid dripped on the tray. Some dark material on flutes #7 and #8. No visible crust. Will not divide into half segments due to ~~lack~~ RKT 3/28/95 lack of material. Collected sample in an 20 mL vial

Subsample Information:

B112 95-AUG-015 Solids (all solids from auger)

jar/vial # 6653 (20 mL vial size)
Jvial wt: 30.20 grams
Initial wt: 27.50 grams
net wt: 2.70 grams (ENTIRE SAMPLE)

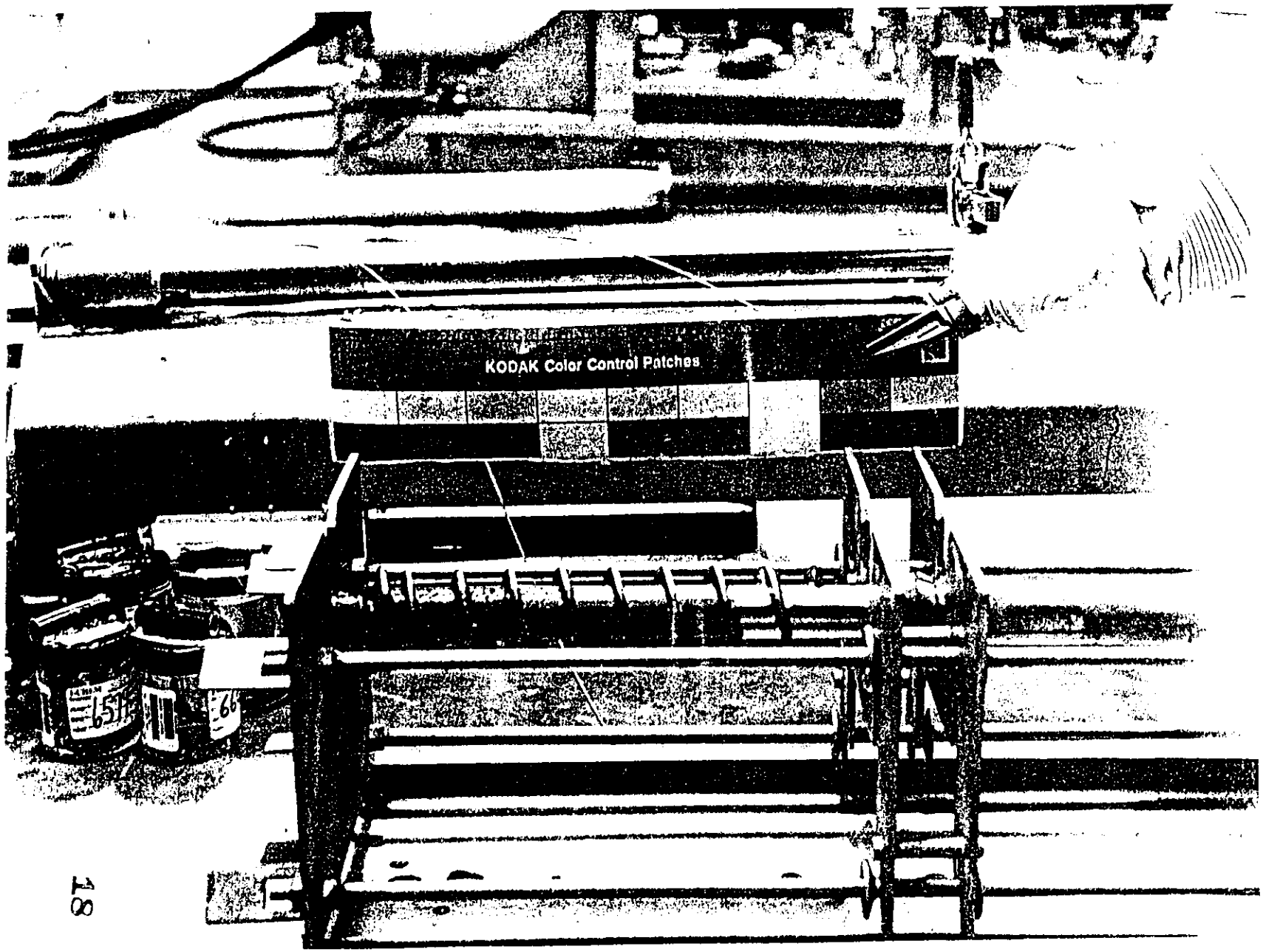
John M. Conner = Project Coordinator

Sample will be loaded out for laboratory analyses

Keith Fuller
3/28/95

3/28/55 [illegible]

B112 95-AUG-015



REV. 1

18

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PHOTOGRAPHS

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3/27/95

B112 95-AUG-014

B112 95-AUG-015

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SAMPLE HANDLING

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LABCORE Data Entry Template for Worklist# 862

Analyst: EC **Instrument:** BA000 NA **Book #** NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: B-112 95-AUG-015 Riser 3 Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	19.99	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	499.97	N/A	
95000036	B-112	3	SAMPLE	S95T000453	0		DLIQVOL1	SOLID	N/A	0		mL
95000036	B-112	4	SAMPLE	S95T000453	0		DLIQWT01	SOLID	N/A	0		g
95000036	B-112	5	SAMPLE	S95T000453	0		EST.G/ML	SOLID	N/A	0		g/mL
95000036	B-112	6	SAMPLE	S95T000453	0		EXTRUD01	SOLID	N/A	complete		
95000036	B-112	7	SAMPLE	S95T000453	0		LLIQWT01	SOLID	N/A	0		g
95000036	B-112	8	SAMPLE	S95T000453	0		NOTEBOOK	SOLID	N/A	WHC-N-1123		
95000036	B-112	9	SAMPLE	S95T000453	0		SLDVOL01	SOLID	N/A	2		mL
95000036	B-112	10	SAMPLE	S95T000453	0		SLDWT-01	SOLID	N/A	2		g
95000036	B-112	11	SAMPLE	S95T000453	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 862

EC 3-29-95
Analyst Signature **Date**

EC 3-29-95
Analyst Signature **Date**

Was originally worklist #748.

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# 777

Analyst: RK7 **Instrument:** BA000 _____ **Book #** _____

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: B-112 95-AUG-014 Riser #7

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	19.99	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	499.97	N/A	
95000032	B-112	3	SAMPLE	S95T000356	0		DLIQVOL1	SOLID	N/A	<5		mL
95000032	B-112	4	SAMPLE	S95T000356	0		DLIQWT01	SOLID	N/A	0		g
95000032	B-112	5	SAMPLE	S95T000356	0		EST.G/ML	SOLID	N/A	0		g/mL
95000032	B-112	6	SAMPLE	S95T000356	0		EXTRUD01	SOLID	N/A	Complete		
95000032	B-112	7	SAMPLE	S95T000356	0		LLIQWT01	SOLID	N/A	0		g
95000032	B-112	8	SAMPLE	S95T000356	0		NOTEBOOK	SOLID	N/A	WHC-N-1123		
95000032	B-112	9	SAMPLE	S95T000356	0		SLDVOL01	SOLID	N/A	7		mL
95000032	B-112	10	SAMPLE	S95T000356	0		SLDWT-01	SOLID	N/A	7		g
95000032	B-112	11	SAMPLE	S95T000356	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 777

Keith Fuller 3/28/95
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.

SAMPLE PREPARATIONS

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LABCORE Data Entry Template for Worklist# 997

Analyst: KRM **Instrument:** FUS01 AL11066 **Book #** _____

Method: LA-549-141 Rev/Mod C-2

452 BDII 4-21-95

Worklist Comment: B-112 FUSION DIGEST ~~356~~ >481

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP	~~RW~~ 4/16/95 BDII 595T000452 481 4-21-95		FUSION01	SOLID	250 mL		N/A	g/L
95000032	B-112	2 SAMPLE	~~595T000481~~ 595T000452 481 BDII 4-21-95	0 F	FUSION01	SOLID	N/A	.4272		g/L
95000032	B-112	3 DUP	~~595T000481~~	0 F	FUSION01	SOLID	.4272	.4296	N/A	g/L

Final page for worklist # 997

4-17-95
Analyst Signature **Date**

4-17-95
Analyst Signature **Date**

481 ~~452~~ BDII 4-21-95 SMP

$\frac{.1068\ G}{.250\ L} = .4272\ G/L$

481 ~~452~~ BDII 4-21-95 Dup

$\frac{.1074\ G}{.250\ L} = .4296\ G/L$

356 BDII 4-21-95
~~481~~ ~~RW~~
~~356 mL~~ 4-16-95

* Sample # 595T000~~481~~ could not be located. Used sample # 595T000452 instead. Both sample #'s are from TK- B-112 / V6633 / Segment #1 / lower half.

** Sample 452 was used correctly to create 481.
BDII 4-21-95 *356 was the parent sample in demographics for both 452 and 481, instead of 452 being 481's parent sample. Bernard Griffin II 4-21-95

Data Entry Comments: 30 mL HCL 35 mRad/hr 3.5 mR/hr Dob Clements

Dose Rate

Bernard Griffin II 4-21-95

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

LABCORE Data Entry Template for Worklist# 1192

Analyst: Cmh **Instrument:** FUS01 AL11066 **Book #** _____

Method: LA-549-141 Rev/Mod C-2

Worklist Comment: SUPER RUSH B-112 FUSION - 357->864, 454->865

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	250ml	250ml	N/A	g/L
95000032	B-112	2 SAMPLE .5154g → 250ml	S95T000864	0 F	FUSION01	SOLID	N/A	2.0616		g/L
95000032	B-112	3 DUP .5197g → 250ml	S95T000864	0 F	FUSION01	SOLID	2.0616	2.0788	N/A	g/L
95000036	B-112	4 SAMPLE .4992g → 250ml	S95T000865	0 F	FUSION01	SOLID	N/A	1.9968		g/L
95000036	B-112	5 DUP .4980g → 250ml	S95T000865	0 F	FUSION01	SOLID	1.9968	1.9920	N/A	g/L

Final page for worklist # 1192

[signature] 4-24-95
Analyst Signature **Date**

Bethard Griffin II 4-26-95
Analyst Signature **Date**

Data Entry Comments: OTR: 3 mrad/hr & Jim Evens
Calibration for AL11066 1) WT: 200.0000 G
2) WT: 100.0000 G
3) WT: 100.0000 G

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

Bethard Griffin II 4-26-95

INORGANIC ANALYSES

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LABCORE Data Entry Template for Worklist# 1207

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

Method: LA-514-113 Rev/Mod —

WHC-SD-WM-DP-105, REV. 1

Worklist Comment: Calculated dry DSC for B-112. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
95000032	B-112	1 SAMPLE	S95T000357	0		DSC-02	SOLID	N/A	31.9		Joules/g Dry
95000032	B-112	2 DUP	S95T000357	0		DSC-02	SOLID	31.9	8.3	N/A	Joules/g Dry
95000032	B-112	3 DUP2	S95T000357	0		DSC-02	SOLID	31.9	27.2	N/A	Joules/g Dry
95000032	B-112	4 SAMPLE	S95T000452	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
95000032	B-112	5 DUP	S95T000452	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
95000036	B-112	6 SAMPLE	S95T000454	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
95000036	B-112	7 DUP	S95T000454	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry

Final page for worklist # 1207

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.

WHC-SD-WM-DP-105, REV. 0

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S95T000357	21.9	31.34	31.9
357D	5.7	31.34	8.3
357D2	18.7	31.34	27.2
452	Ø	43.42	Ø
452D	Ø	43.42	Ø
454	Ø	46.36	Ø
454D	Ø	46.36	Ø

RADIOCHEMICAL ANALYSES

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SUPER RUSH

worklistrpt Version 2.0 02/21/95
04/24/95 15:49

LABCORE Data Entry Template for Worklist# 1199

Analyst: KGH **Instrument:** AB00 #15 WB 26872 **Book #** 107352

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

Worklist Comment: Determine sample size using Ludlum. SLF WHC-SD-WM-DP-105, REV. 1

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		1	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		2	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		2	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		3	BLNK/BKG	0.45			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000032	B-112	4	SAMPLE	S95T000481	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000032	B-112	4	SAMPLE	S95T000481	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000032	B-112	5	DUP	S95T000481	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000032	B-112	5	DUP	S95T000481	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000032	B-112	6	SPK	S95T000481	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		7	STD				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		7	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		8	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		8	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		9	BLNK/BKG	.24			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000032	B-112	10	SAMPLE	S95T000864	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000032	B-112	10	SAMPLE	S95T000864	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000032	B-112	11	DUP	S95T000864	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Data Entry Comments:

Low SPK recovery is the result of Disk corrosion by HCl.
No rerun requested. [signature] 5/1/95

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

LABCORE Data Entry Template for Worklist# 1199

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
95000032	B-112	11	DUP	S95T000864	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000036	B-112	12	SAMPLE	S95T000865	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000036	B-112	12	SAMPLE	S95T000865	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000036	B-112	13	DUP	S95T000865	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000036	B-112	13	DUP	S95T000865	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error

Final page for worklist # 1199

4-24-95 K.M.
Analyst Signature Date
4-24-95

Sharon Hallada 4-25-95
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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-105, REV. 1

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

LA-548-101 (A-3) LIQUIDS

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STANDARD	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	4639	4658
1199	COUNT TIME in MINUTES	(CT)	30	30
AT or IB ?	BACKGROUND in cpm	(BKG)	0.7	0.7
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		153.933	154.900
Sample #	Sample Concentration in µCi/L		2.91E-02	BOOK#
WRKLST 1199	Replicate Concentration in µCi/L		2.93E-02	107B52
Instrument Code				
WB26872	Average Concentration in µCi/L		2.9226E-02	
Analyst				
KGH				
Date				
04/24/95				
Time				
04:00 PM				

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

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

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

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

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

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	2.92E-05	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	2.9%	1.52E-07 µCi/mL

Data Entry by: Shyron L Hopkins Date: 04/25/95

Approved by: [signature] Date: 4/25/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-105, REV. 1

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

LA-548-101 (A-3) SOLIDS

			BLANK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLANK	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	6	13
1199	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	0.7	0.7
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	0.4272	0.4272
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.356	0.356
Sample #	Sample Concentration in µCi/g	<	3.16E-03	BOOK#
S95T481	Replicate Concentration in µCi/g	<	3.16E-03	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	3.1583E-03	
Analyst				
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/24/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 3.16E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				7.12E-03 µCi/g
RELATIVE COUNTING ERROR		=	142.9%	

Data Entry by:	[signature]	Date:	04/25/95
Approved by:	[signature]	Date:	4/25/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-105, REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	50	66
1199	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.7	0.7
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	0.4272	0.4272
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.967	1.500
Sample #	Sample Concentration in µCi/g		8.57E-03	BOOK#
S95T481	Replicate Concentration in µCi/g		1.33E-02	
Instrument Code				
WB26872	Average Concentration in µCi/g		1.0928E-02	
Analyst				
KGH				
Date				
04/24/95				
Time				
04:00 PM				

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

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

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

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

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	1.09E-02	DETECTION LEVEL
				7.12E-03 µCi/g
RELATIVE COUNTING ERROR		=	56.9%	

Data Entry by:	Thomas J. Haldeman	Date:	04/25/95
Approved by:	[illegible]	Date:	4/25/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 105, REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	58	55
1199	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.7	0.7
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	0.4296	0.4296
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.233	1.133
Sample #	Sample Concentration in µCi/g		1.09E-02	BOOK#
S95T481	Replicate Concentration in µCi/g		9.99E-03	
Instrument Code				
WB26872	Average Concentration in µCi/g		1.0427E-02	
Analyst				
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/24/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Average) =	1.04E-02	
				7.08E-03 µCi/g
RELATIVE COUNTING ERROR		=	50.3%	

Data Entry by:	[signature]	Date:	04/25/95
Approved by:	[signature]	Date:	4/25/95

Form 508101_C Rev. 1.3

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 105 REV 1

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

			SPIKE	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	39451	43171
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.7	0.7
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.500	0.500
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS/L		(Dg/L)	0.4272	0.4272
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE VALUE in µCi/L		(SVal)	36.372	36.372
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.238	0.238
SAMPLE + SPIKE µCi/g		(S+S)	1.16E+01	1.27E+01
AVERAGE or MAXIMUM µCi/g from FORM C			1.0928E-02	
BOOK#			94B43	

Type
SPIKE
Work List
1199
AT or TB ?
AT
Test Code
@ALPHA01
Matrix
SOLID
Sample #
S95T481
Instrument Code
WB26872
Analyst
KGH
Date
04/24/95
Time
04:00 PM

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

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

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

RESULT **AVG. PERCENT SPIKE RECOVERY = 71.6%**

Data Entry by: Sharon Lyttle		Date:	25-Apr-95
Approved by: [signature]		Date:	4/25/95

Form 508101_X Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-105, REV. 1

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

LA-548-101 (A-3) SOLIDS

				BLANK	REPLICATE
Type	DETECTOR NUMBER			15	15
BLANK	DISH SIZE 1 , 2 , or 5	(MS)		2	2
Work List	TOTAL COUNTS	(TC)		4	6
1199	COUNT TIME in MINUTES	(CT)		30	30
AT or IB ?	BACKGROUND in cpm	(BKG)		0.7	0.7
AT	SAMPLE SIZE in mL	(SS)		0.500	0.500
Test Code	DILUTION FACTOR	(DF)		1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)		2.0616	2.0616
Matrix	EFFICIENCY FACTOR	(EFF)		0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.356	0.356
Sample #	Sample Concentration in µCi/g		<	6.54E-04	BOOK#
S95T864	Replicate Concentration in µCi/g		<	6.54E-04	
Instrument Code					
WB26872	Maximum Concentration in µCi/g		<	6.5446E-04	
Analyst					
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG				
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)				
04/24/95					
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100				
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				

v RESULTS v

				DETECTION LEVEL
ALPHA TOTAL	in µCi/g	(Maximum) =	< 6.54E-04	
LESS Than Value was Determined from Lc.				1.48E-03 µCi/g
RELATIVE COUNTING ERROR		=	67.9%	

Data Entry by:	Shannon [illegible]	Date:	04/25/95
Approved by:	[illegible]	Date:	4/25/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-105, REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	27	13
1199	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.7	0.7
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.0616	2.0616
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.581	0.356
Sample #	Sample Concentration in µCi/g	<	1.07E-03	BOOK#
S95T864	Replicate Concentration in µCi/g	<	6.54E-04	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	1.0669E-03	
Analyst				
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/24/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 1.07E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				1.48E-03 µCi/g
RELATIVE COUNTING ERROR		=	226.3%	

Data Entry by:	Sharon L Flynn	Date:	04/25/95
Approved by:	[signature]	Date:	4/25/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP- 105 REV 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	17	18
1199	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.7	0.7
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.6788	2.6788
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.356	0.356
Sample #	Sample Concentration in µCi/g	<	5.04E-04	BOOK#
S95T864	Replicate Concentration in µCi/g	<	5.04E-04	
Instrument Code				
WB26872	Maximum Concentration in µCi/g	<	5.0367E-04	
Analyst				
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/24/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 5.04E-04	DETECTION LEVEL
LESS Than Value was Determined from Lc.				1.14E-03 µCi/g
RELATIVE COUNTING ERROR		=	500.0%	

Data Entry by:	Sharon L Flagg	Date:	04/25/95
Approved by:	[signature]	Date:	4/25/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-105, REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	55	64
1199	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	0.7	0.7
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.9968	1.9968
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.133	1.433
Sample #	Sample Concentration in µCi/g		2.15E-03	BOOK#
S95T865	Replicate Concentration in µCi/g		2.72E-03	
Instrument Code				
WB26872	Average Concentration in µCi/g		2.4328E-03	
Analyst				
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/24/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	2.43E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	50.3%	1.52E-03 µCi/g

Data Entry by:	[signature]	Date:	04/25/95
Approved by:	[signature]	Date:	4/25/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-CD-WM-DP-105, REV. 1

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	67	55
1199	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.7	0.7
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	1.992	1.992
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.533	1.133
Sample #	Sample Concentration in µCi/g		2.91E-03	BOOK#
S95T865	Replicate Concentration in µCi/g		2.15E-03	
Instrument Code				
WB26872	Average Concentration in µCi/g		2.5337E-03	
Analyst				
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/24/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
04:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	2.53E-03	DETECTION LEVEL
				1.53E-03 µCi/g
RELATIVE COUNTING ERROR		=	50.3%	

Data Entry by:	[signature]	Date:	04/25/95
Approved by:	[signature]	Date:	4/25/95

Form 508101_C Rev. 1.3

Page 1 of 1

Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

PART II

WHC-SD-WM-DP-105, REV. 1

WHC-SD-WM-DP-105, REV. 0

ANALYTICAL SERVICES

45-DAY SAFETY SCREEN RESULTS FOR TANK 241-B-112, AUGER SAMPLES, 95-AUG-014 AND 95-AUG-015

Date Printed: APRIL 26, 1995

Hanford Operations and Engineering Contractor for the US Department of Energy

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NARRATIVE

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45-DAY SAFETY SCREEN RESULTS FOR TANK 241-B-112, AUGER SAMPLES 95-AUG-014 AND 95-AUG-015

ANALYTICAL SUMMARY

Two auger samples from tank 241-B-112 (B-112) were received in the 222-S Laboratories and underwent safety screening analyses, consisting of differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha activity. All results for all analyses (DSC, TGA, and total alpha) were within the safety screening notification limits specified in the Tank Characterization Plan (TCP). No notifications nor secondary analyses were required.

SCOPE

This document serves as the 45-day report deliverable for the tank B-112 auger samples collected on March 16, 1995 (95-AUG-014 and 95-AUG-015). The 222-S Laboratories received, extruded, and analyzed each sample in accordance with the TCP referenced below. Included in this report are the primary safety screening results obtained from the analyses and copies of all DSC and TGA raw data scans as requested per the TCP. Photographs of the auger samples were taken during extrusion and, although not included in this report, are available.

SAMPLE RECEIPT, EXTRUSION, AND SUBSAMPLING

Auger 95-AUG-014

Auger sample 95-AUG-014 was collected from riser 7 of tank B-112 using a 10 inch auger bit. It was received into the 222-S Laboratories on March 17, 1995 at 1145 and extruded on March 27, 1995. A small amount of drainable liquid dripped off the auger (less than 5 mL), but no liquid was recovered for analysis. A gray substance was noticed on flutes 2 and 3 at the top of the auger. These moist solids were subsampled as a possible crust sample (2.02 g recovered in vial# 6499). Wet brown solids were subsampled from flutes 4 through 8 (5.70 g subsampled into vial #6633). A total of 7.72 g of material was recovered from this sample. All analyses required per the TCP were conducted. No archive sample was retained since so little material was collected.

Auger 95-AUG-015

Auger sample 95-AUG-015 was collected from riser 3 of tank B-112 using a 10 inch auger bit. It was received into the 222-S Laboratories on March 17, 1995 at 1145 and extruded on March 28, 1995. There was no drainable liquid, and only 2.70 g of material was recovered. This material (brown solids) was scraped from flutes 3 through 8 of the auger and subsampled into vial #6653. All analyses required per the TCP were conducted. No archive sample was retained since so little material was collected.

SAMPLE IDENTIFICATION INFORMATION

Table 1: Sample Identification

LABCORE Sample ID	Customer Sample ID	Analyses
S96T000356	95-AUG-014, Riser 7, auger sample	Extrusion
S95T000357	95-AUG-014, Riser 7, upper half (crust) subsample	DSC/TGA
S95T000864	95-AUG-014, Riser 7, upper half (crust) subsample fusion/digest	Total alpha
S95T000452	95-AUG-014, Riser 7, remaining solids subsample	DSC/TGA
S95T000481	95-AUG-014, Riser 7, remaining solids fusion/digest	Total alpha
S95T000453	95-AUG-015, Riser 3, auger sample	Extrusion
S95T000454	95-AUG-015, Riser 3, subsample	DSC/TGA
S95T000865	95-AUG-015, Riser 3, fusion/digest	Total alpha

ANALYTICAL RESULTS

Analytical results are presented in Tables 2 and 3, with the applicable notification limits shaded.

DSC (Energetics Content)

DSC analyses were performed under a nitrogen atmosphere using procedure LA-514-113, Rev. B-1. For samples exhibiting exotherms, dry weight basis results were calculated from the wet weight basis results by using the average percent water by TGA for each sample. Both the wet and dry results are given in Tables 2 and 3.

Sample S95T000357 exhibited a small exotherm (in both sample and duplicate). The average value for the exotherm was 13.80 J/g with a relative percent difference (RPD) of 117%, which failed the precision criterion stated in the TCP. The large RPD is due to the presence of an exotherm near the detection limit and lack of homogenization (as explained below for TGA). The average exotherm is less than 3% of the limit of 481 J/g. A third sample was analyzed for S95T000357, resulting in an exotherm of 18.7 J/g. This result does not appear in Table 2, but is provided in the raw data. No other sample exhibited an exotherm.

TGA (Moisture Content)

Weight percent water was performed under a nitrogen atmosphere using procedure LA-560-112, Rev. A-2. Results for samples S95T000357, S95T000452, and S95T000454 and their duplicates ranged in value from 21% to 47% percent water by weight. These results are all above the safety screening action limit of 17% by weight.

The RPD for sample S95T000357 was 62.4% (results were 40.19 and 21.08). This disparity is most likely due to the fact that the sample was not homogenized. Due to the very small amount of sample available, the material was subsampled directly from the auger into a 20 mL vial without homogenization, which would have resulted in unacceptable sample loss.

A third sample was analyzed for sample S95T000357, yielding a result of 32.75% water by weight. A third sample was also analyzed for S95T000452, yielding a result of 46.96% water by weight. These results do not appear in Table 2, but are provided in the raw data.

Total Alpha Activity

Analyses for total alpha activity were performed on samples S95T000481, S95T000864, and S95T000865. Samples were prepared by fusion using procedure LA-549-141, Rev. C-2, and analyses were performed using procedure LA-508-101, Rev. D-2. A sample duplicate was performed on each sample and a spike was performed on sample S95T000481.

The spike recovery was 71.6%, but no rerun was deemed necessary since the samples were near detection limits and far below the safety screening action limit of 41 uCi/g.

REFERENCE

Schreiber, R. D. 1995, WHC-SD-WM-TP-302, Rev. 0, "Tank 241-B-112 Tank Characterization Plan," dated February 6, 1995.

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SAMPLE DATA SUMMARY

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45 Day Safety Screen Results for B-112
B-112

RISER: 7
SEGMENT #: 95-AUG-014

TABLE 2

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000357			% Water by TGA using Mettler	%	99.61	n/a	40.19	21.08	30.63	62.4	n/a	n/a	n/a
S95T000357			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	31.9	8.3	20.10	117	n/a	n/a	n/a
S95T000357			DSC Exotherm using Mettler	Joules/g	110.4	n/a	21.9	5.7	13.80	117	n/a	n/a	n/a
S95T000864		F	Alpha of Digested Solid	uCi/g	98.65	<6.54e-04	<1.07e-3	<5.04e-4	n/a	n/a	n/a	1.00e-03	226.3

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000452			% Water by TGA using Mettler	%	99.61	n/a	40.04	43.26	41.65	7.73	n/a	n/a	n/a
S95T000452			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000452			DSC Exotherm using Mettler	Joules/g	110.4	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000481		F	Alpha of Digested Solid	uCi/g	98.65	<3.16e-03	1.09e-2	1.04e-2	1.06e-02	4.69	71.60	7.00e-03	56.9

WHC-SD-WM-DP-105, REV. 1

26-apr-1995 13:01:02
A-0002-1

45 Day Safety Screen Results for B-112
B-112

TABLE 3

RISER: 3
SEGMENT #: 95-AUG-015

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000454			% Water by TGA using Mettler	%	99.61	n/a	45.57	47.14	46.36	3.39	n/a	n/a	n/a
S95T000454			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000454			DSC Exotherm using Mettler	Joules/g	99.12	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000865		F	Alpha of Digested Solid	uCi/g	98.65	<6.54e-04	2.43e-3	2.53e-3	2.48e-03	4.03	n/a	2.00e-03	50.3

WHC-SD-WM-DP-105, REV. 1

WHC-SD-WM-DP-105, REV. 0

UNDIGESTED SAMPLE ANALYSES - DIRECT

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LABCORE Data Entry Template for Worklist# 922

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

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

Worklist Comment: Please run B-112 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	28.45	28.2	N/A	Joules/g
95000036	B-112	2 SAMPLE	S95T000454	0	DSC-01	SOLID	N/A	Ø		Joules/g
95000036	B-112	3 DUP	S95T000454	0	DSC-01	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 922

Susie M. Dalton
Analyst Signature Date

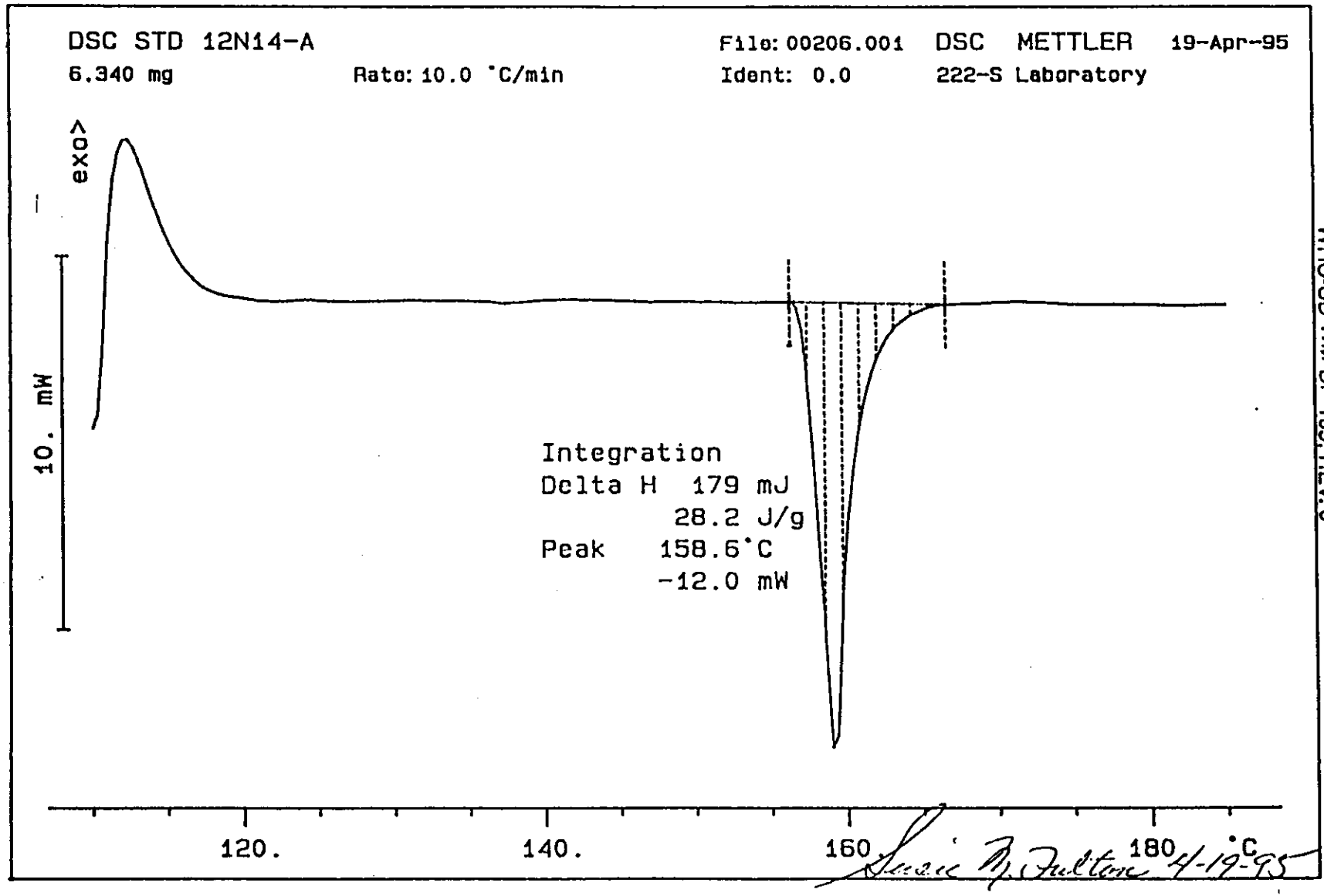
RE Wright 4/21/95
Analyst Signature Date

Verified by Blandina Valenzuela 4/24/95

Data Entry Comments: Sample S95T000454 produced two endotherms one at 121.3°C with a delta H of 1117.6 J/g and the second at 211.0°C with a delta H of 4.5 J/g

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 55 TO 57.



Susie M. Fulton 4-19-95

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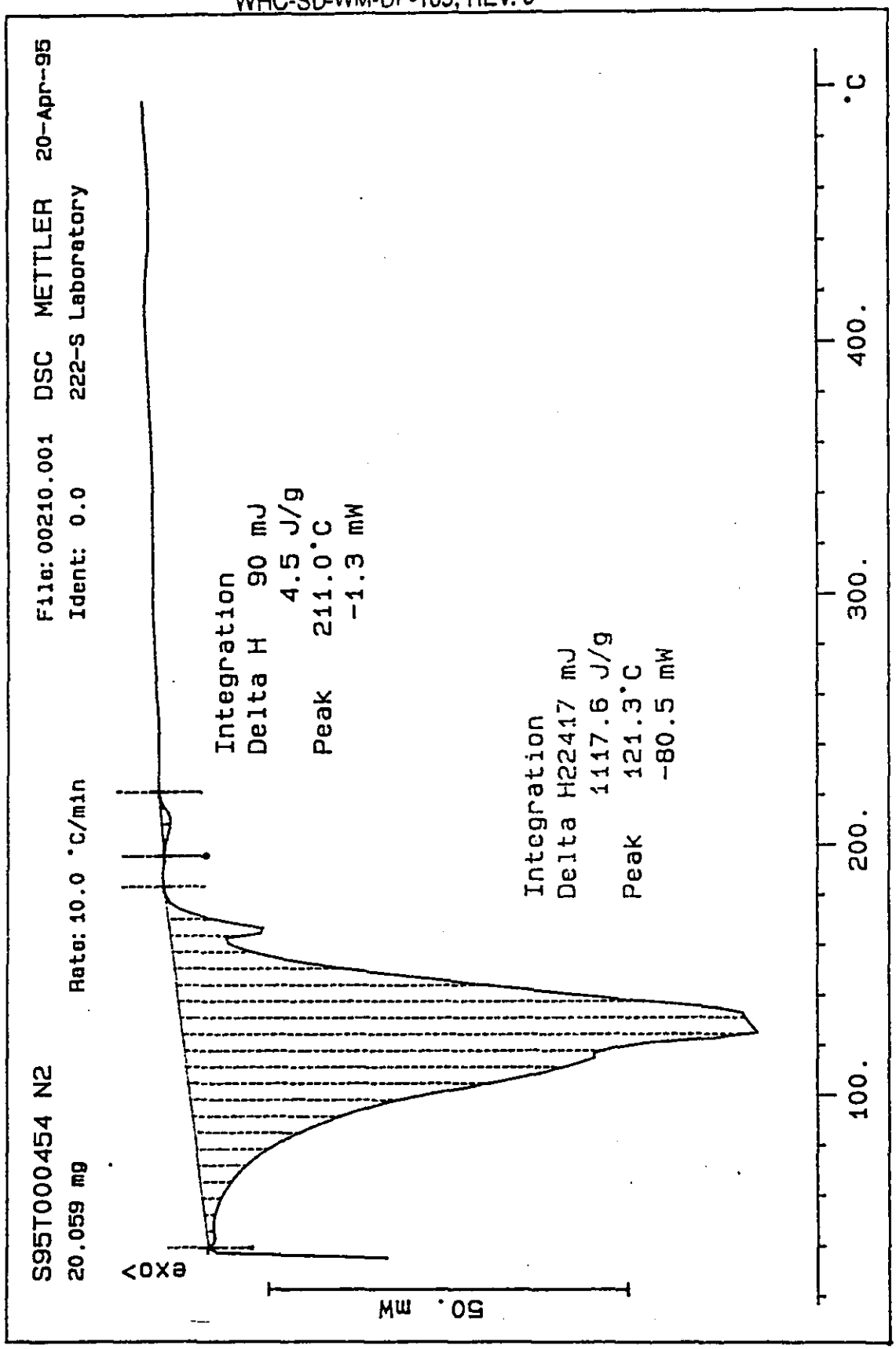
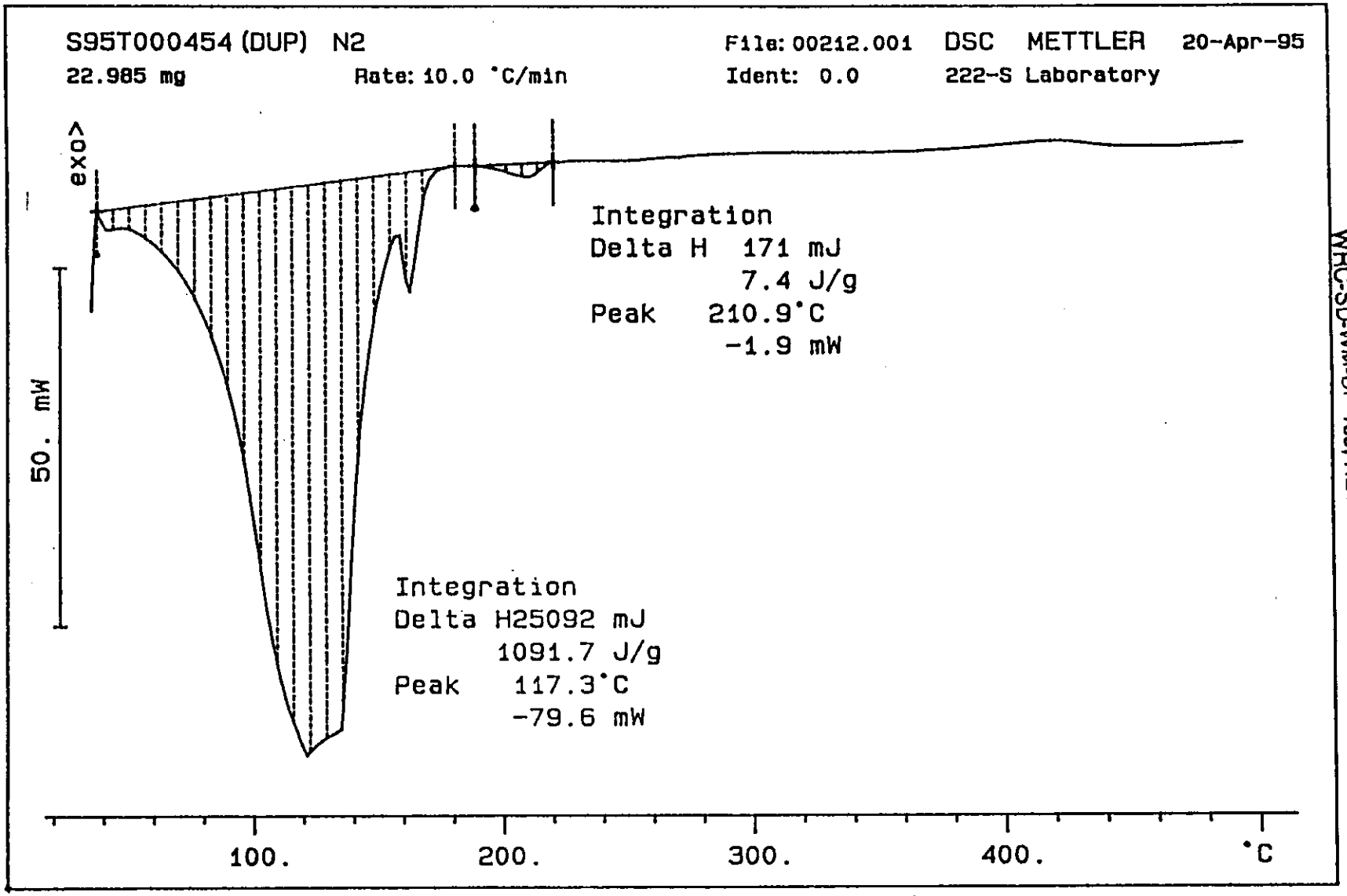
WHC-SD-WM-DP-105, REV. 0





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worklistrpt Version 2.0 02/21/95
04/24/95 13:43

LABCORE Data Entry Template for Worklist# 921

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

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

Worklist Comment: Please run B-112 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID	28.45	31.0	N/A	Joules/g
95000032	B-112	2 SAMPLE	S95T000357	0		DSC-01	SOLID	N/A	21.9		Joules/g
95000032	B-112	3 DUP	S95T000357	0		DSC-01	SOLID	21.9	5.7	N/A	Joules/g
		4 STD				DSC-01	SOLID	28.45	31.4	N/A	Joules/g
95000032	B-112	5 DUP2	S95T000357	0		DSC-01	SOLID	21.9	18.7	N/A	Joules/g
95000032	B-112	6 SAMPLE	S95T000452	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000032	B-112	7 DUP	S95T000452	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 921

See attached for Signatures
Analyst Signature Date

Data entered and verified by
Blandina Valenzuela 4/25/95
Analyst Signature Date

Data Entry Comments: S95T000357 produced two endotherms one at 115.3°C with a delta H of 883.0 J/g, and the second at 258.1°C with a delta H of 96.9 J/g. The Std and DUP2 for S95T000357 was performed later, once the chemist was able to look at the results

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. S95T000452 produced ~~a dei~~ an endotherm of 947.4 J/g ~~with~~ at 115.3°C
BDY 4/25/95
4/25/95 BDY

worklistrpt Version 2.0 02/21/95
04/03/95 12:51

LABCORE Data Entry Template for Worklist# 921

Analyst: DWS **Instrument:** DSC01 _____ **Book #** 12N74-A

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

Worklist Comment: Please run B-112 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	31.0	N/A	Joules/g
95000032	B-112	2	SAMPLE	S95T000357	0		DSC-01	SOLID	N/A	21.9		Joules/g
95000032	B-112	3	DUP	S95T000357	0		DSC-01	SOLID	21.9		N/A	Joules/g
95000032	B-112	4	SAMPLE	S95T000452	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000032	B-112	5	DUP	S95T000452	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 921

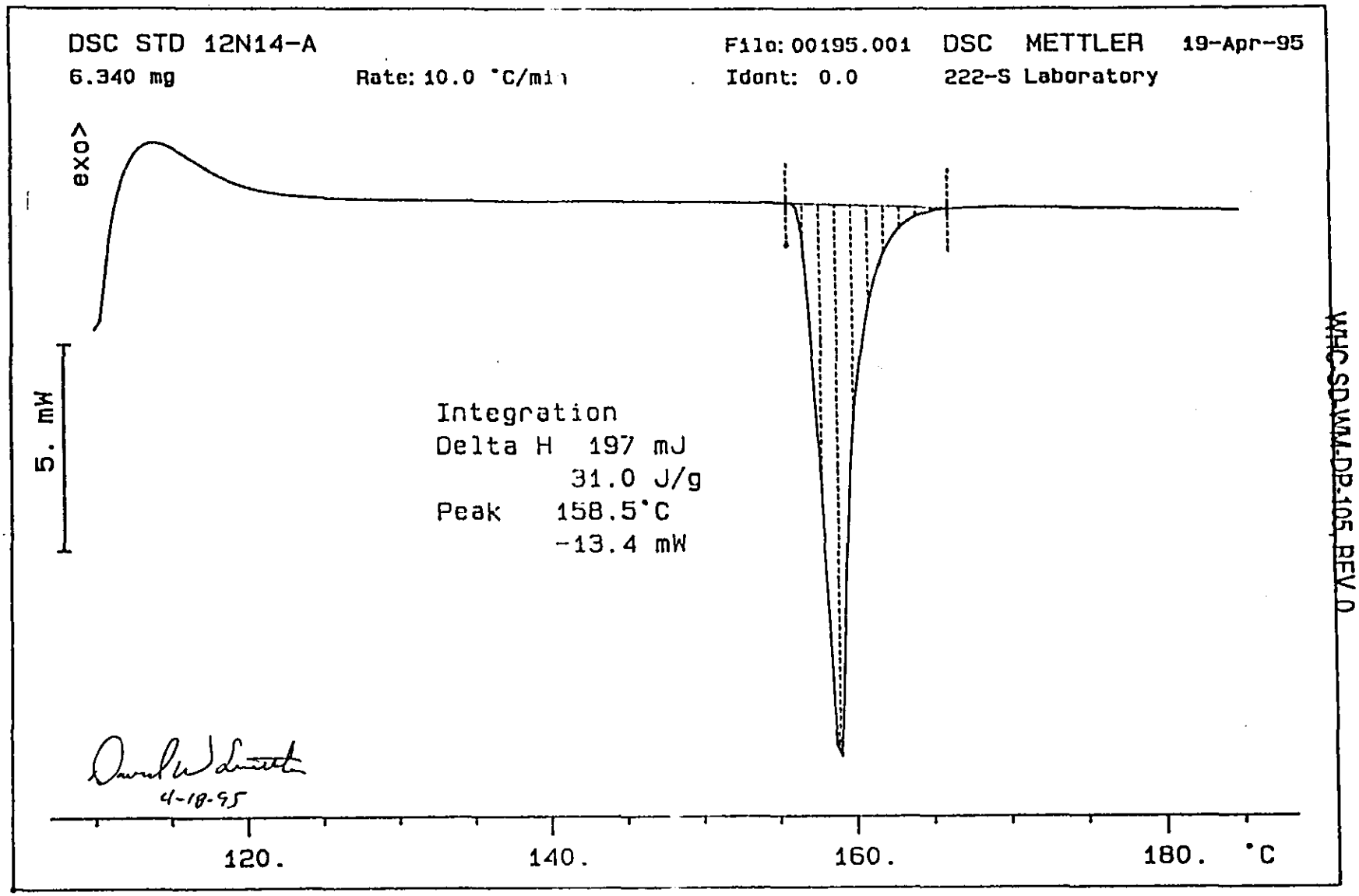
Daniel W Smith 4-18-95
Analyst Signature Date

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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 60 TO 65.



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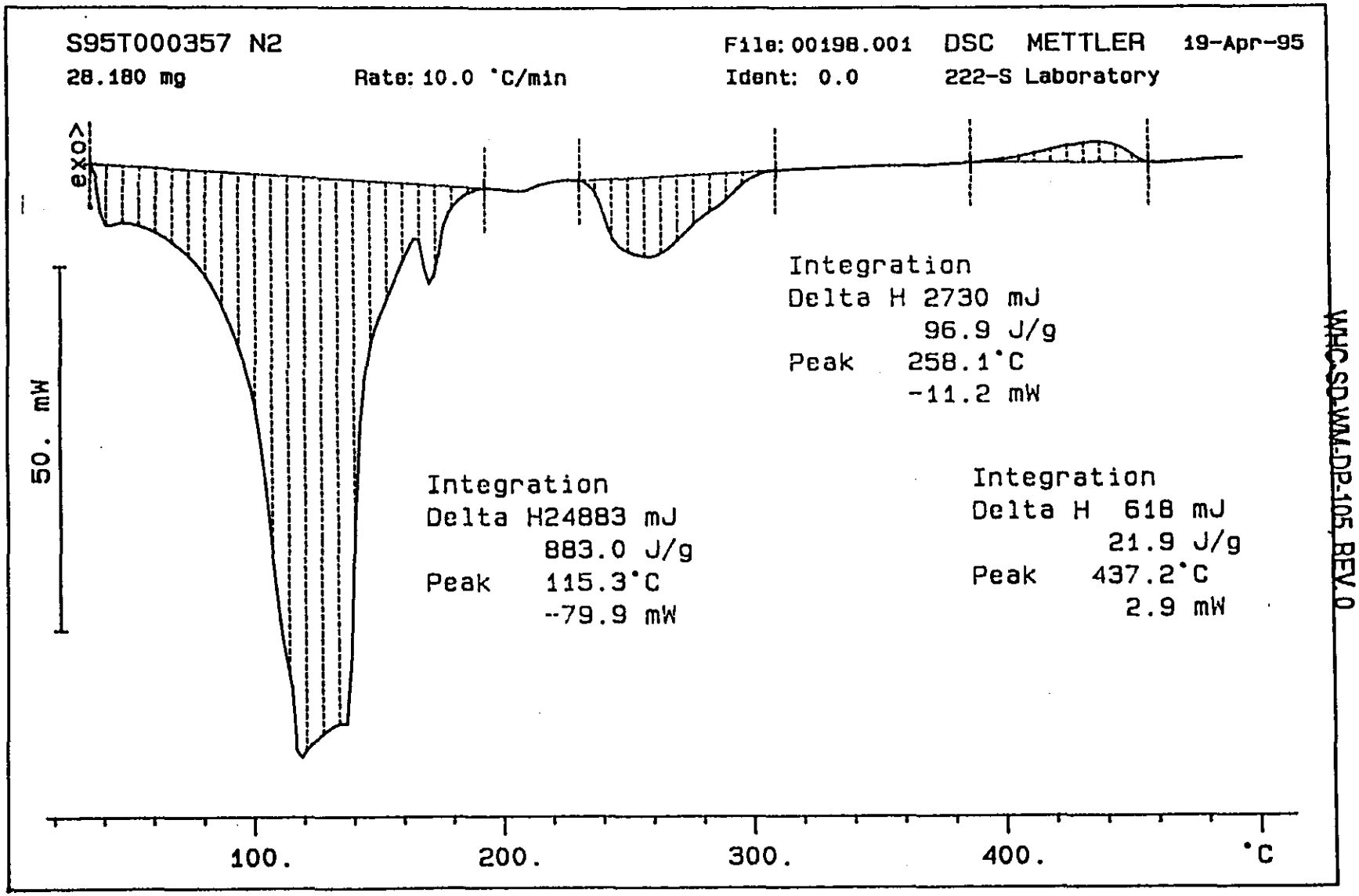
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222-S Laboratory
19-Apr-95
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50. mW
Integration
Delta H 2730 mJ
96.9 J/g
Peak 258.1°C
-11.2 mW
Integration
Delta H24883 mJ
883.0 J/g
Peak 115.3°C
-79.9 mW
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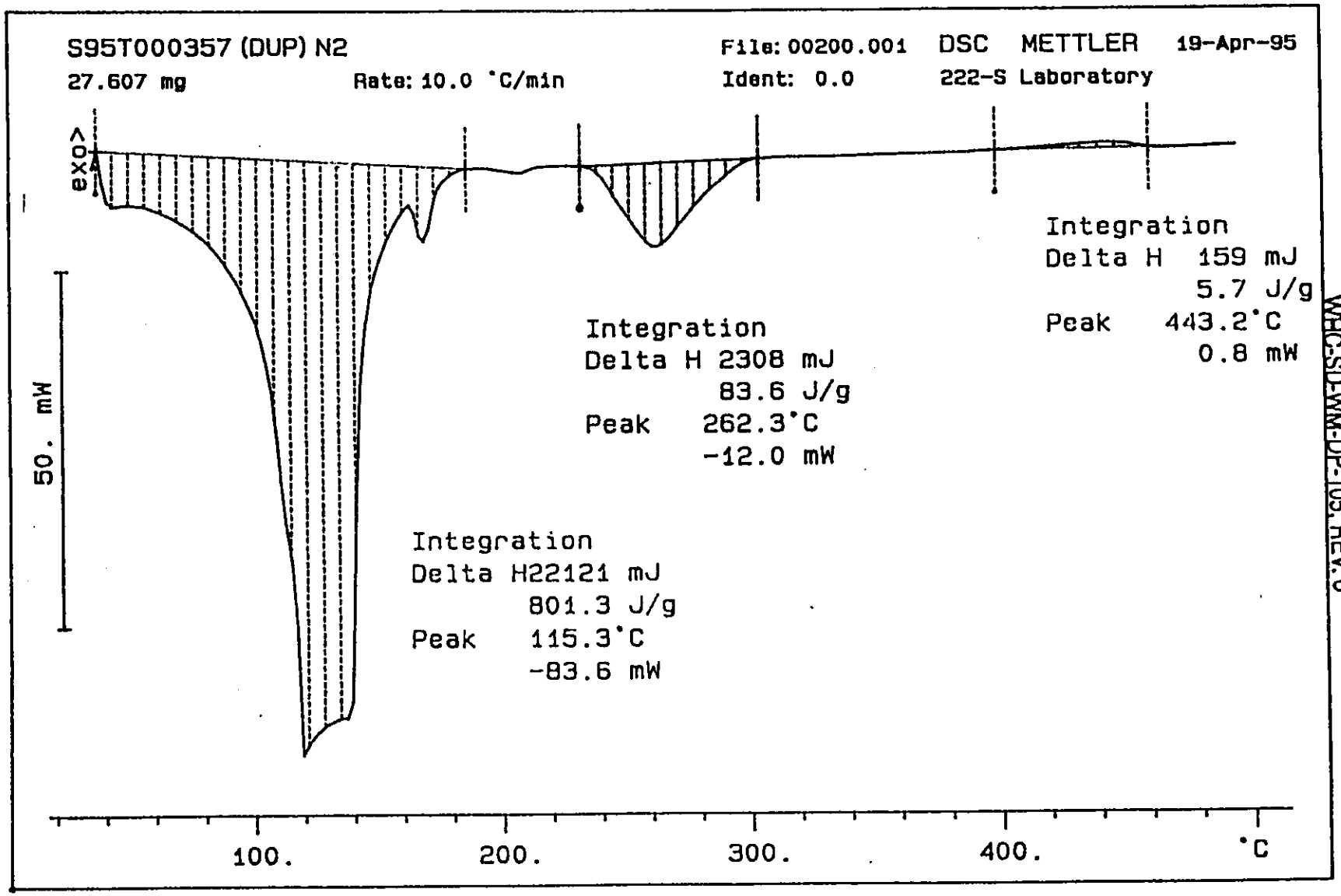
200.
300.
400.
°C



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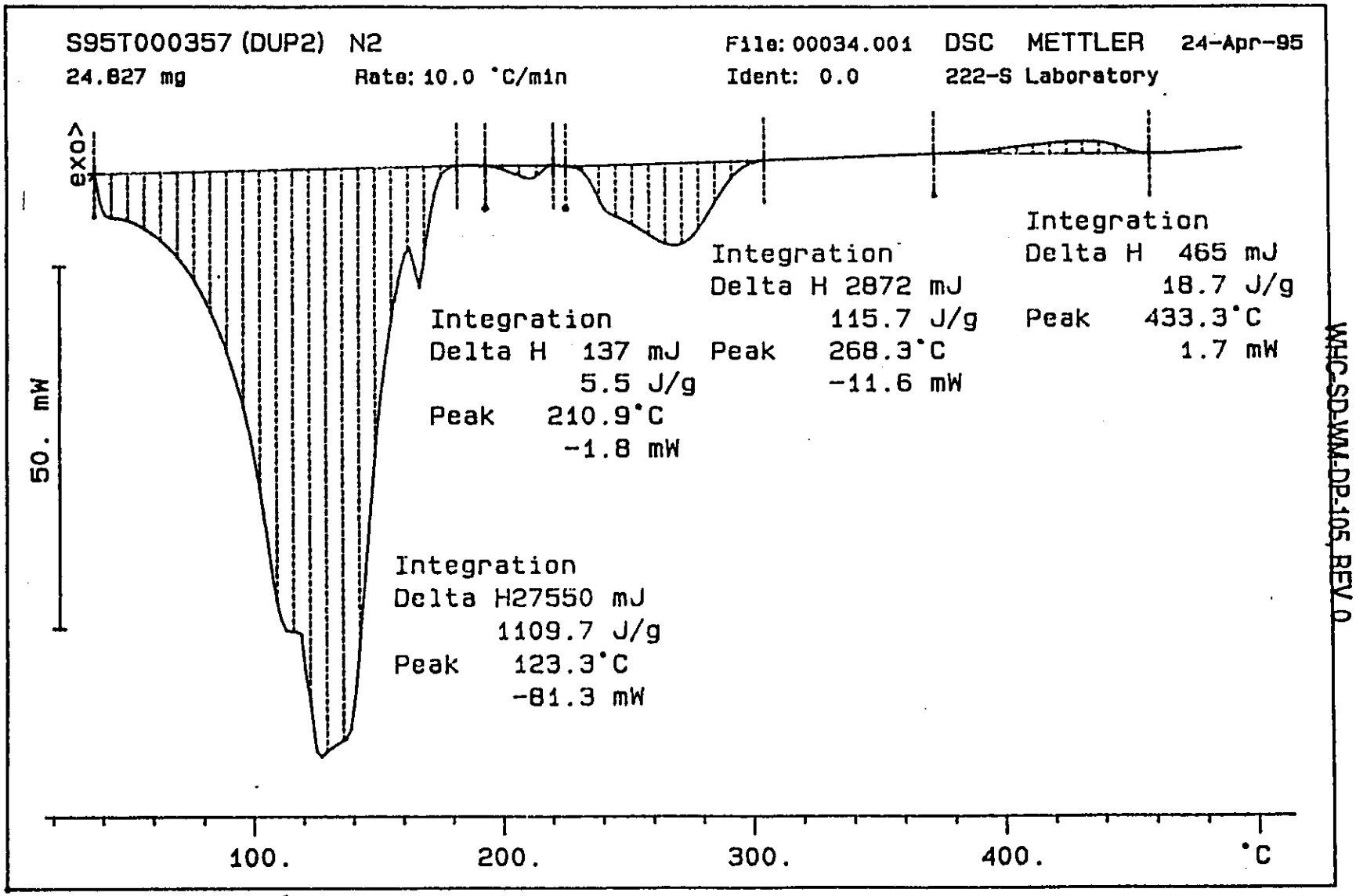
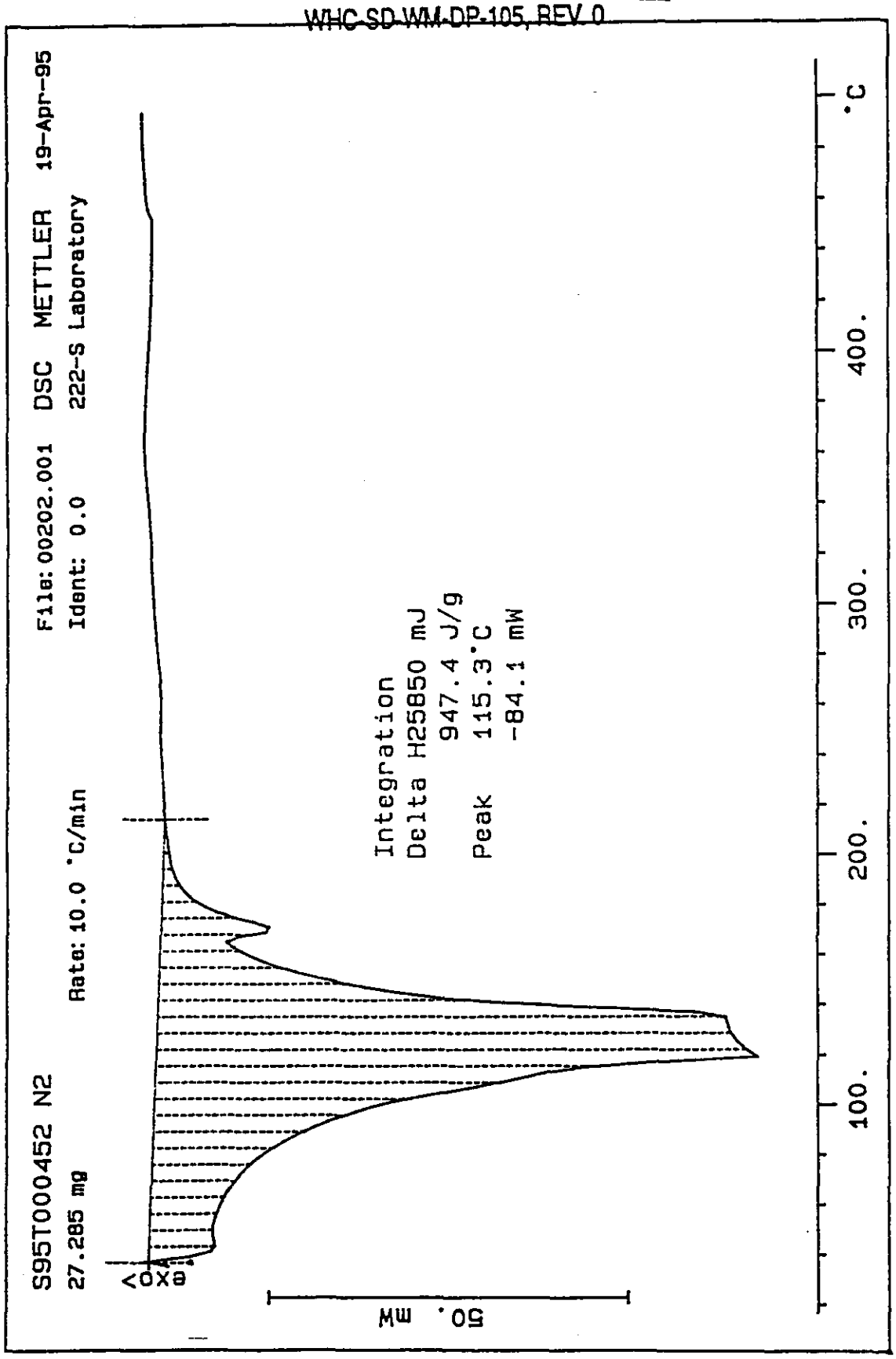
WHC-SD-WM-DP-105, REV. 0

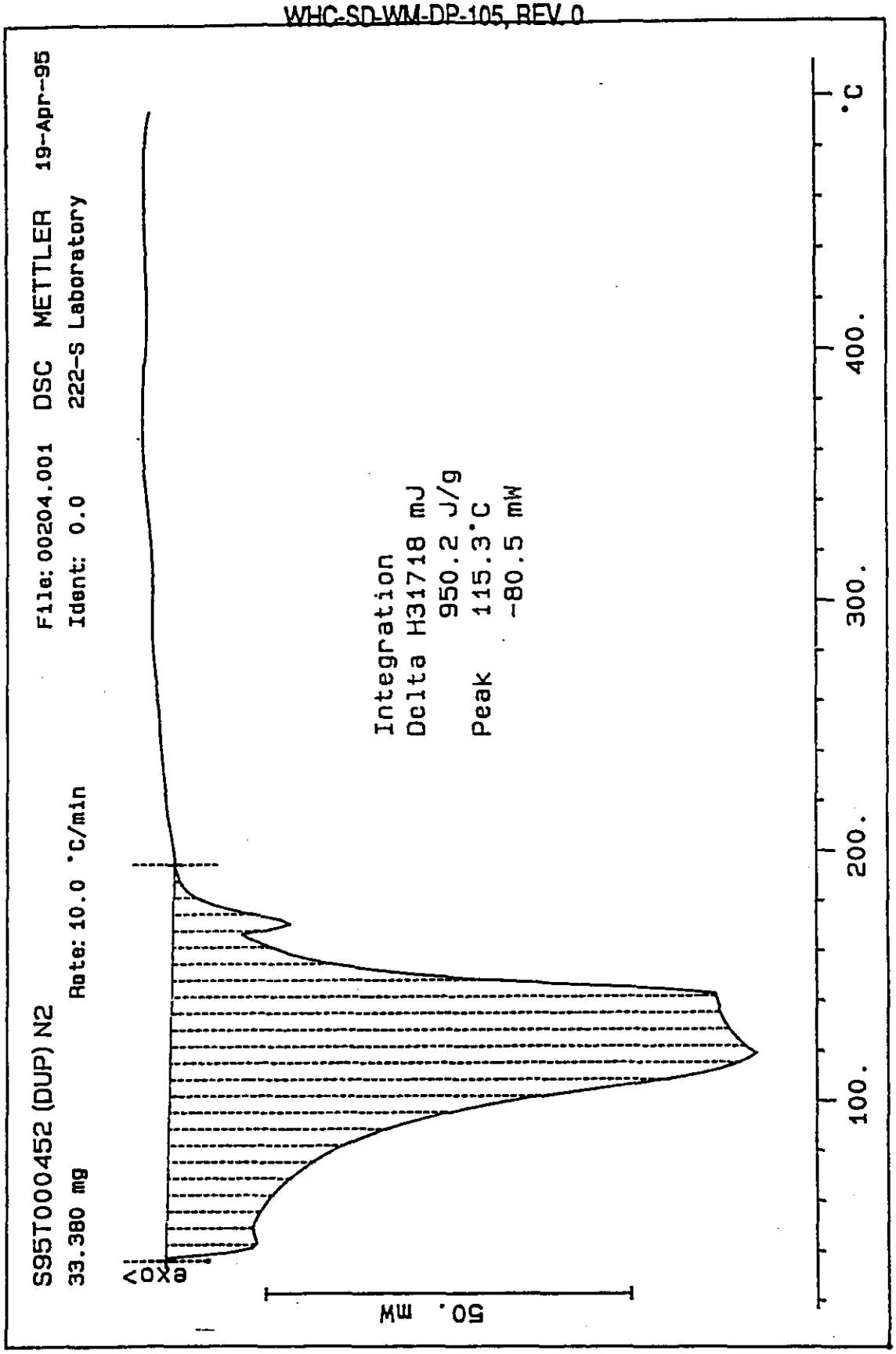


WHC-SD-WM-DP-105, REV. 0

WHC-SD-WM-DP-105, REV. 0


S95T000452 N2
27.285 mg
Rate: 10.0 °C/min
File: 00202.001
Ident: 0.0
DSC METTLER 19-Apr-95
222-S Laboratory
Integration
Delta H25850 mJ
947.4 J/g
Peak 115.3°C
-84.1 mW
exo>
50. mW
100.
200.
300.
400.
°C

WHC-SD-WM-DP-105, REV. 0



worklistrpt Version 2.0 02/21/95
04/19/95 14:41

LABCORE Data Entry Template for Worklist# 929

Analyst: DWS **Instrument:** TGA01 _____ **Book #** 42N84

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

Worklist Comment: Please run B-112 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	59.19	57.62	N/A	%
95000032	B-112	2 SAMPLE	S95T000357	0		TGA-01	SOLID	N/A	40.19		%
95000032	B-112	3 DUP	S95T000357	0		TGA-01	SOLID	40.19	21.08	N/A	%
95000032	B-112	4 SAMPLE	S95T000452	0		TGA-01	SOLID	N/A	40.04		%
95000032	B-112	5 DUP	S95T000452	0		TGA-01	SOLID	40.04	43.26	N/A	%
		6 STD				TGA-01	SOLID	~~N/A~~ 59.19 4/24/95	58.96	N/A	%
95000032	B-112	7 DUP2	S95T000357	0		TGA-01	SOLID	40.19	32.75	N/A	%
95000032	B-112	8 DUP2	S95T000452	0		TGA-01	SOLID	40.04	46.96	N/A	%

Final page for worklist # 929

See attached for signatures
Analyst Signature Date

Analyst Signature Date 4-25-95

Verified by Blandina Velenzuela 4/25/95

Data Entry Comments: The DUP2 for samples S95T000357 and S95T000452 were run 4/24/95 on the day after the others 4/24/95 BDV samples. Once the chemist was able to look at the results.

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 2.0 02/21/95
04/03/95 13:04

LABCORE Data Entry Template for Worklist# 929

Analyst: aWS **Instrument:** TGA01 **Book #** 42287

Method: LA-560-112 Rev/Mod 4-2

Worklist Comment: Please run B-112 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	59.19	57.62	N/A	%
									40.19 gmi 4/19/95		
95000032	B-112	2 SAMPLE	S95T000357	0		TGA-01	SOLID	N/A	~~39.70~~		%
							gmi 4/19/95		40.19		
95000032	B-112	3 DUP	S95T000357	0		TGA-01	SOLID	~~39.70~~	21.08	N/A	%
95000032	B-112	4 SAMPLE	S95T000452	0		TGA-01	SOLID	N/A	40.04		%
95000032	B-112	5 DUP	S95T000452	0		TGA-01	SOLID	40.04	43.26	N/A	%

Final page for worklist # 929

Analyst Signature Date 4-19-95

Analyst Signature Date 4-19-95

Data Entry Comments:
S95T000357 has a second weight loss step of 3.41% at 268°C, duplicate has 4.49% at 270°C. The sample must be non-homogeneous

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 75.

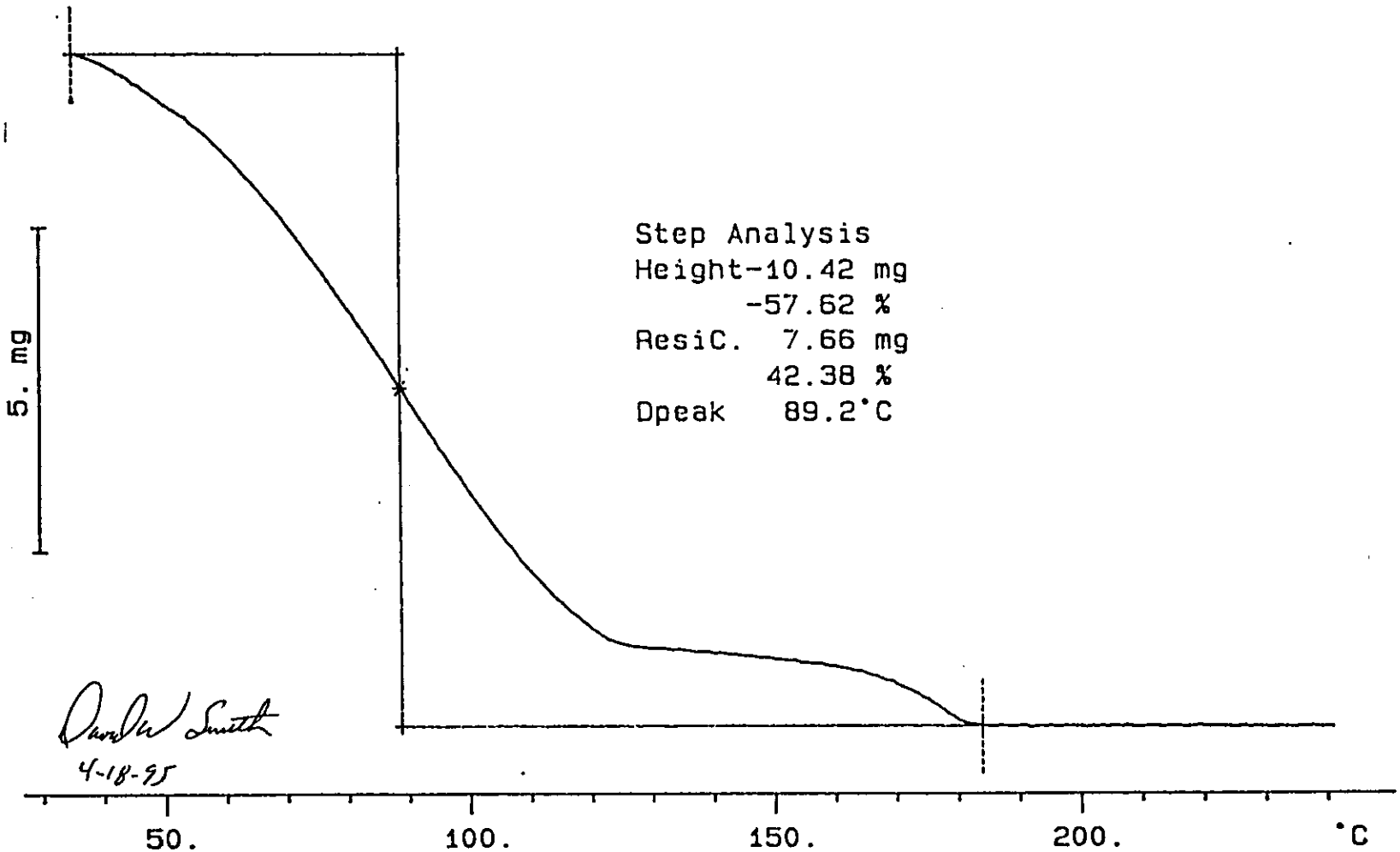
TGA STD 42N8-A

18.076 mg

Rate: 10.0 °C/min

File: 00197.001 TG METTLER 18-Apr-95

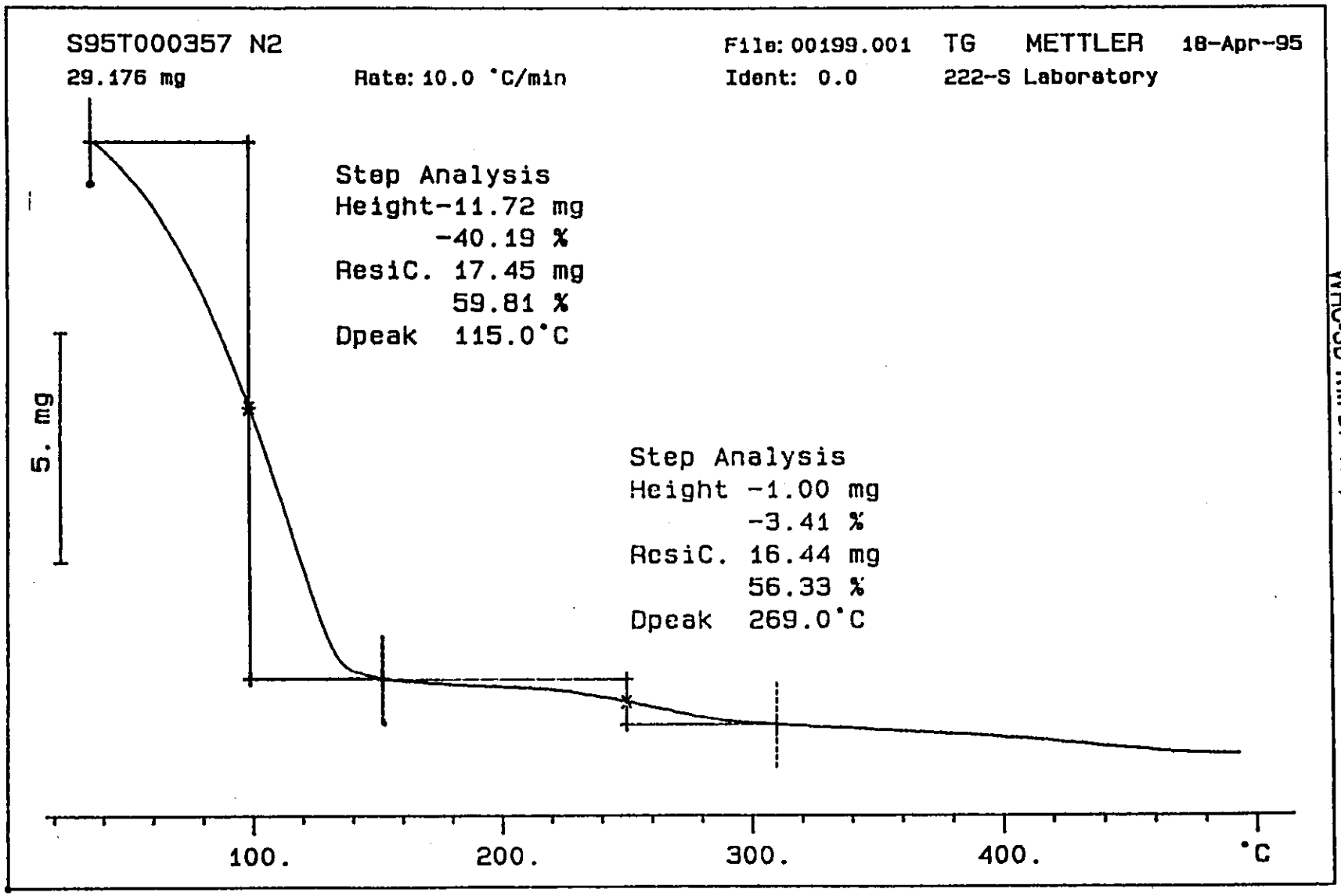
Ident: 0.0 222-S Laboratory

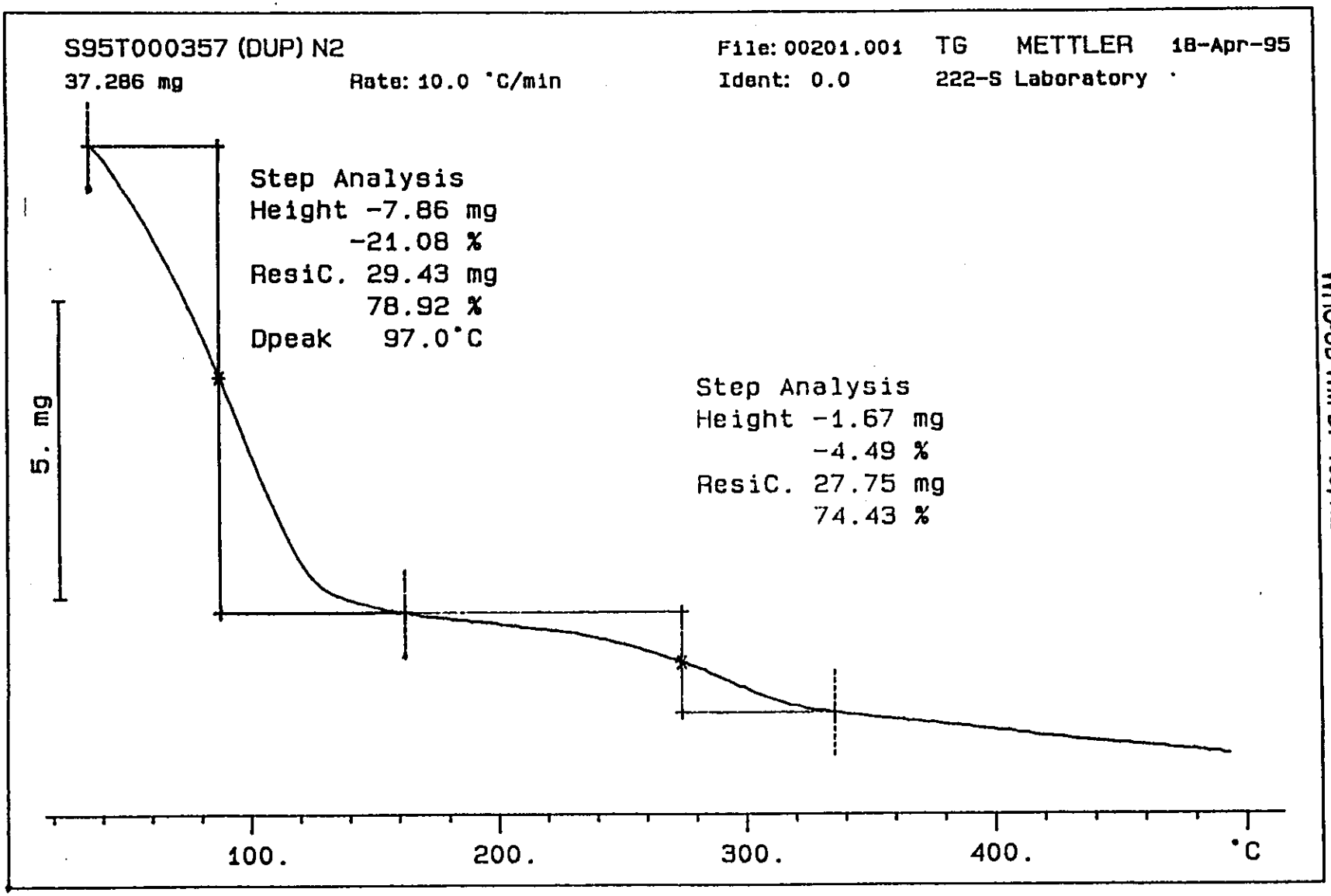


Step Analysis
Height-10.42 mg
-57.62 %
ResiC. 7.66 mg
42.38 %
Dpeak 89.2°C

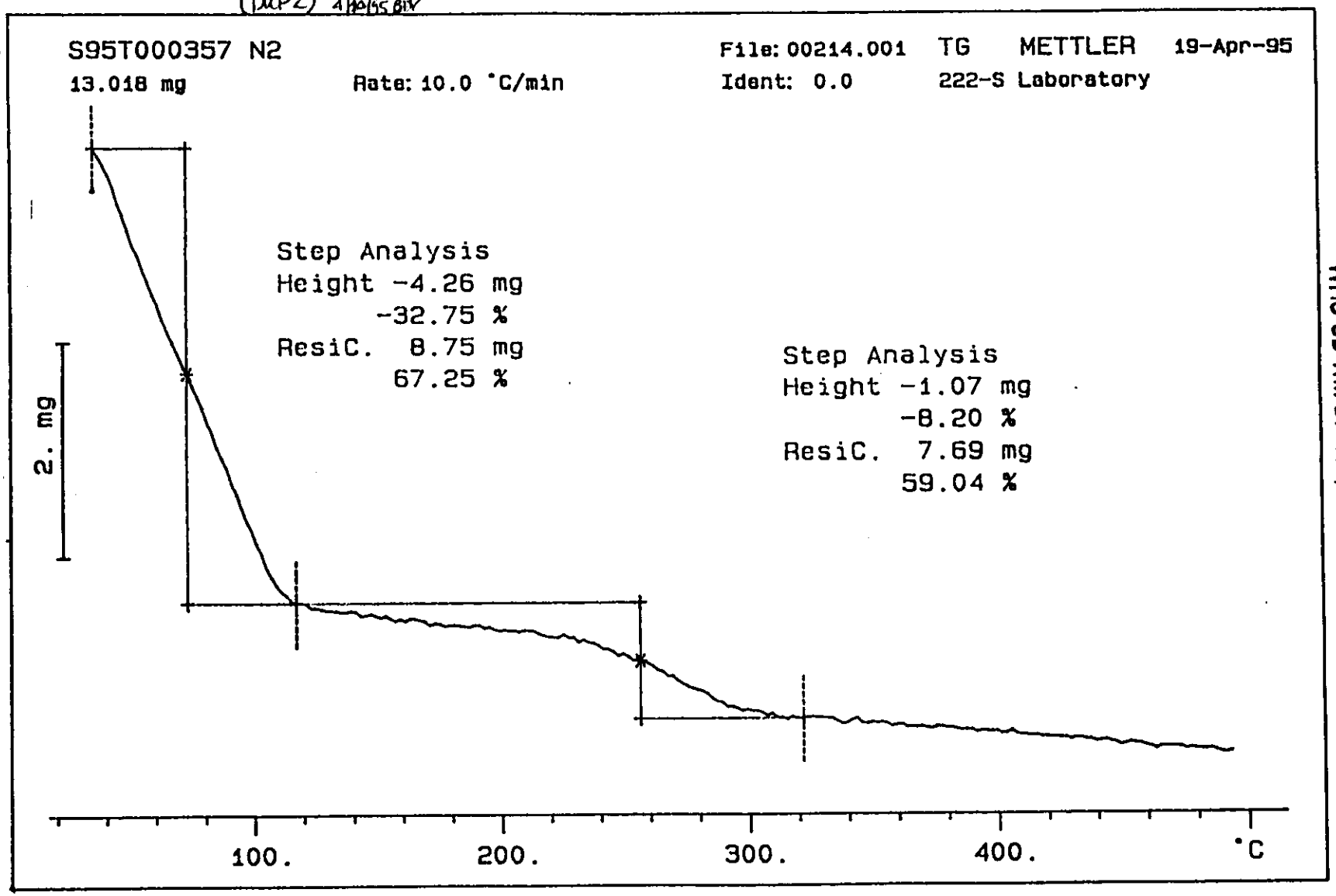
Daniel W Smith
4-18-95

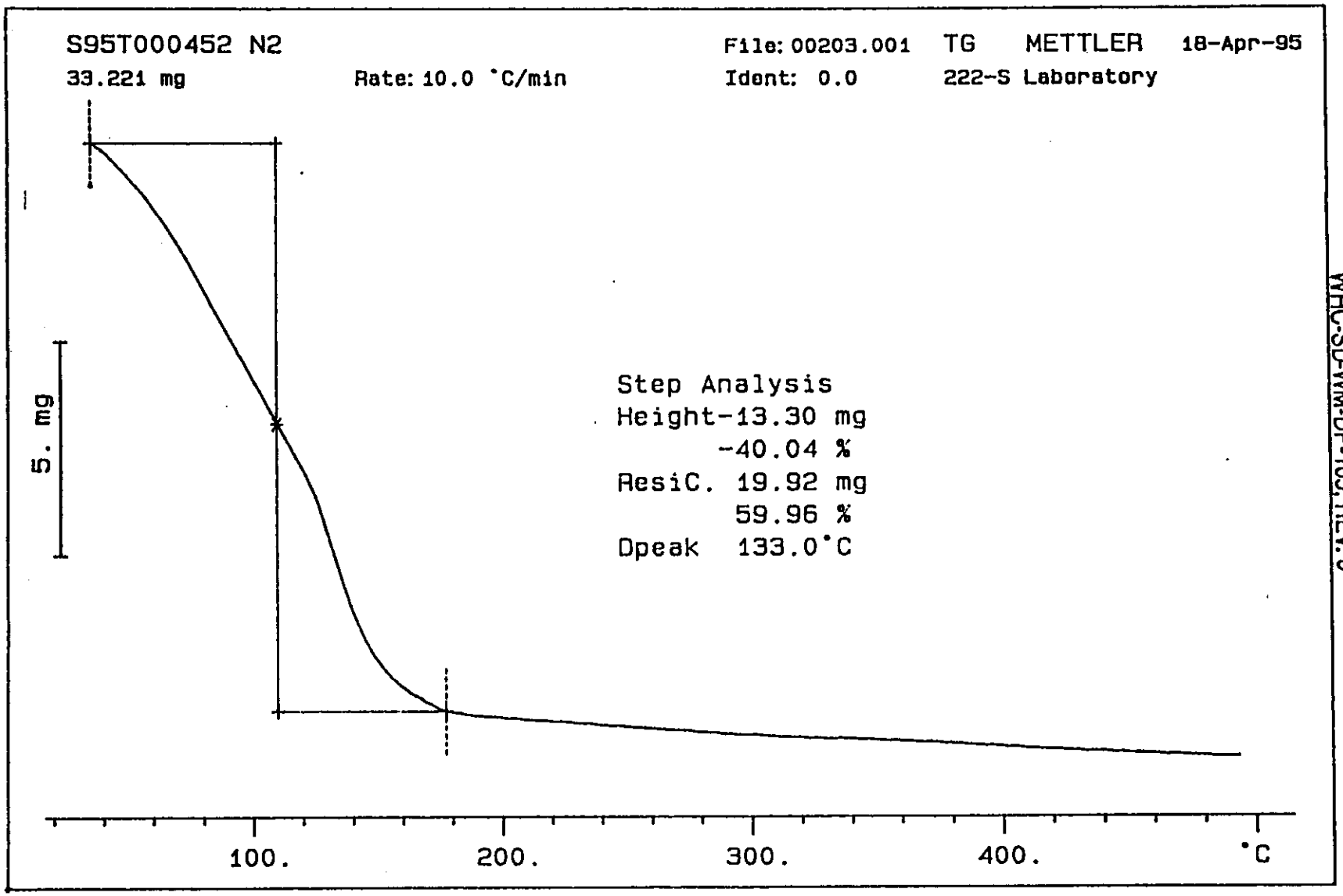
WHC-SD-WM-DP-105, REV. 1
WHC-SD-WM-DP-105, REV.0

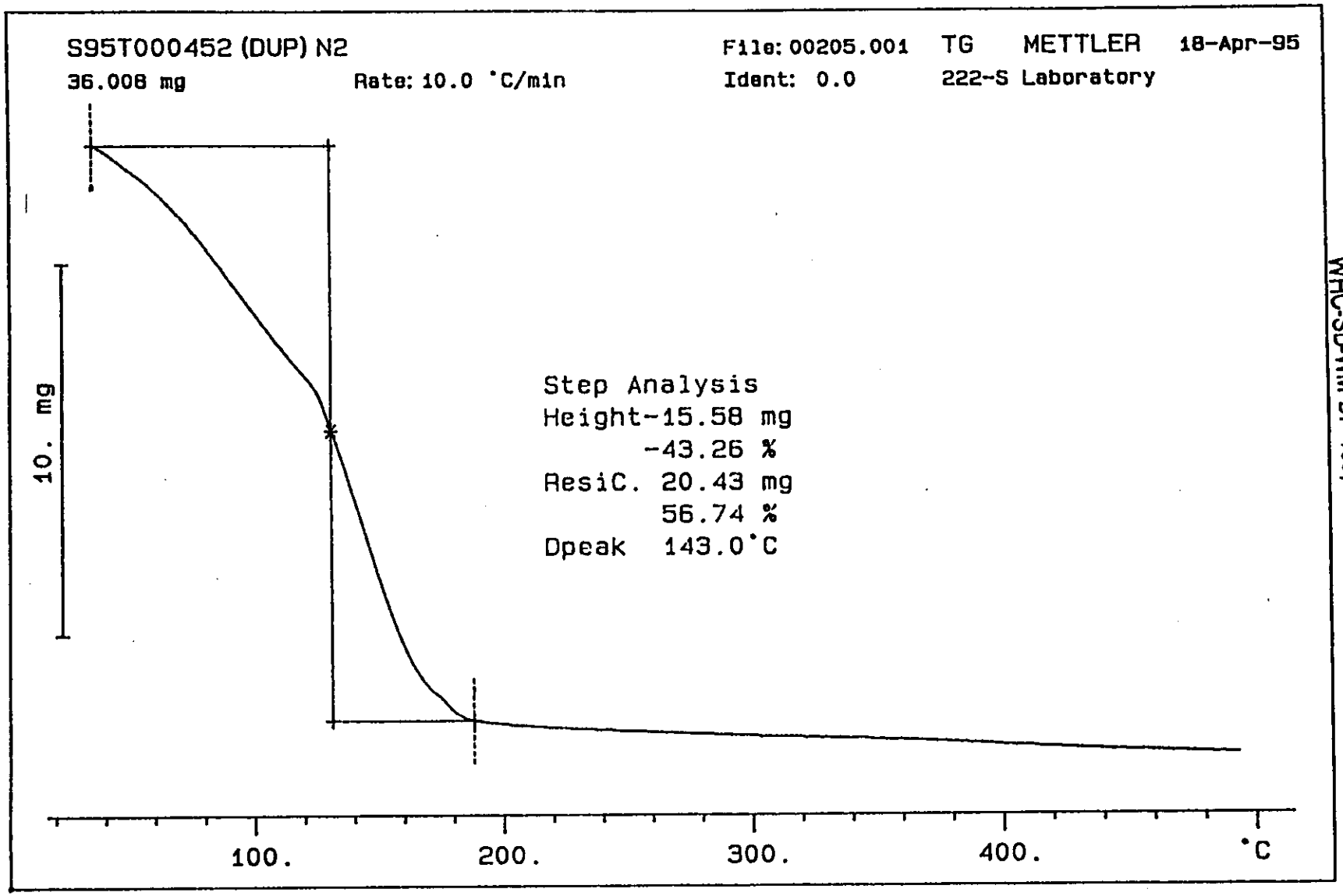

S95T000357 N2
29.176 mg
Rate: 10.0 °C/min
File: 00199.001
Ident: 0.0
TG
METTLER
222-S Laboratory
18-Apr-95
Step Analysis
Height -11.72 mg
-40.19 %
ResiC. 17.45 mg
59.81 %
Dpeak 115.0°C
Step Analysis
Height -1.00 mg
-3.41 %
ResiC. 16.44 mg
56.33 %
Dpeak 269.0°C
5. mg
100.
200.
300.
400.
°C

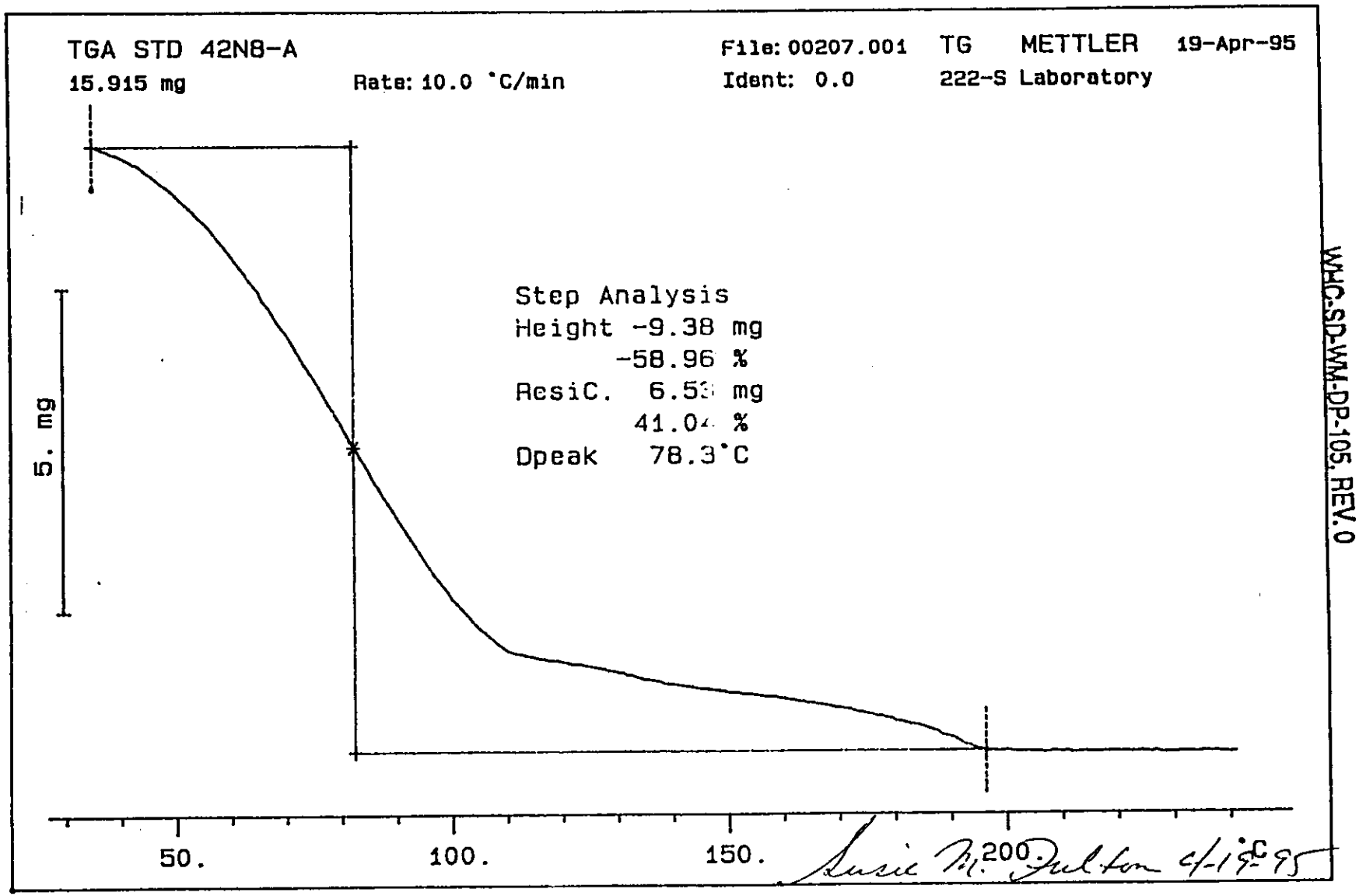

S95T000357 (DUP) N2
37.286 mg
Rate: 10.0 °C/min
File: 00201.001
TG METTLER 18-Apr-95
Ident: 0.0
222-S Laboratory
Step Analysis
Height -7.86 mg
-21.08 %
ResiC. 29.43 mg
78.92 %
Dpeak 97.0°C
Step Analysis
Height -1.67 mg
-4.49 %
ResiC. 27.75 mg
74.43 %
5. mg
100.
200.
300.
400.
°C

(DUP2) 4/20/95 BIV



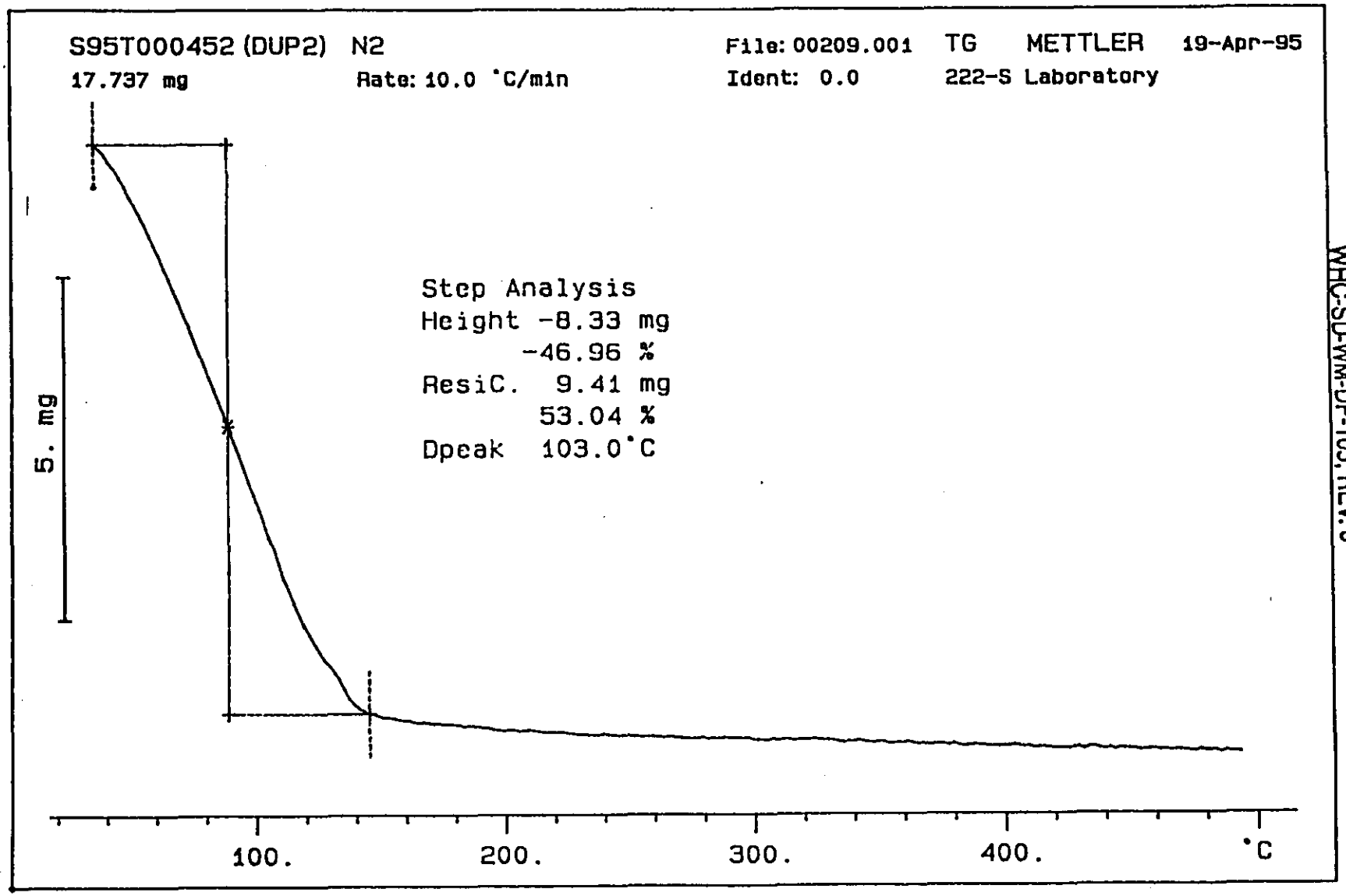

S95T000452 N2
33.221 mg
Rate: 10.0 °C/min
File: 00203.001
Ident: 0.0
TG
METTLER
222-S Laboratory
18-Apr-95
5. mg
Step Analysis
Height-13.30 mg
-40.04 %
ResiC. 19.92 mg
59.96 %
Dpeak 133.0°C
100.
200.
300.
400.
°C


S95T000452 (DUP) N2
36.008 mg
Rate: 10.0 °C/min
File: 00205.001
Ident: 0.0
TG
METTLER
222-S Laboratory
18-Apr-95
10. mg
Step Analysis
Height-15.58 mg
-43.26 %
ResiC. 20.43 mg
56.74 %
Dpeak 143.0°C
100.
200.
300.
400.
°C



WHC-SD-WM-DP-105, REV. 0

WHC-SD-WM-DP-105, REV. 1


S95T000452 (DUP2) N2
17.737 mg
Rate: 10.0 °C/min
File: 00209.001
Ident: 0.0
TG METTLER 19-Apr-95
222-S Laboratory
Step Analysis
Height -8.33 mg
-46.96 %
ResiC. 9.41 mg
53.04 %
Dpeak 103.0°C
5. mg
100.
200.
300.
400.
°C

worklistrpt Version 2.0 02/21/95
04/03/95 13:05

LABCORE Data Entry Template for Worklist# 930

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

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

Worklist Comment: Please run B-112 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.19	58.96	N/A	%
95000036	B-112	2	SAMPLE	S95T000454	0		TGA-01	SOLID	N/A	45.57		%
95000036	B-112	3	DUP	S95T000454	0		TGA-01	SOLID	45.57	47.14	N/A	%

Final page for worklist # 930

Susie M. Dutton 4-19-95
Analyst Signature Date

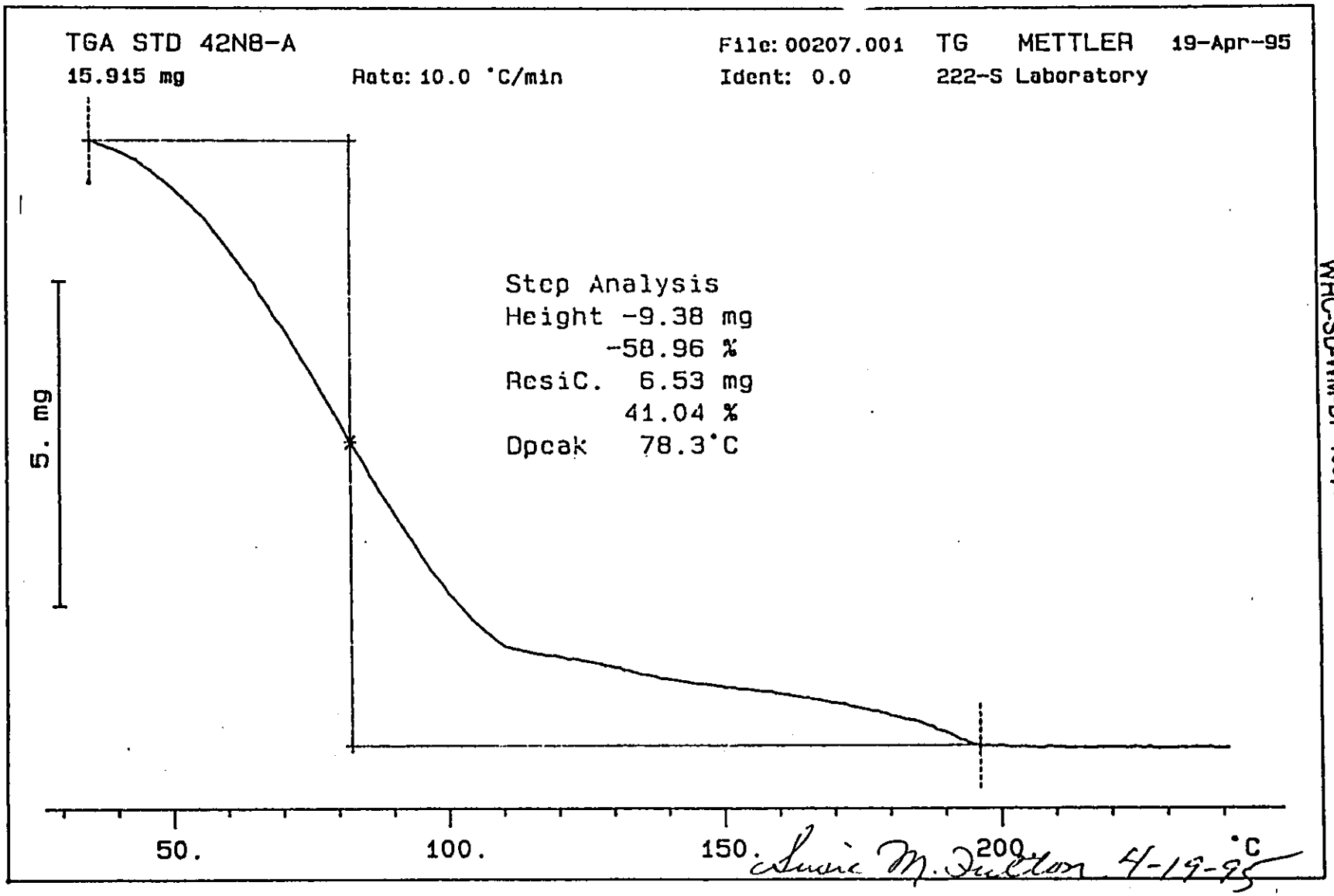
RE Wright 4/21/95
Analyst Signature Date

Verified by Blandina Valenzuela

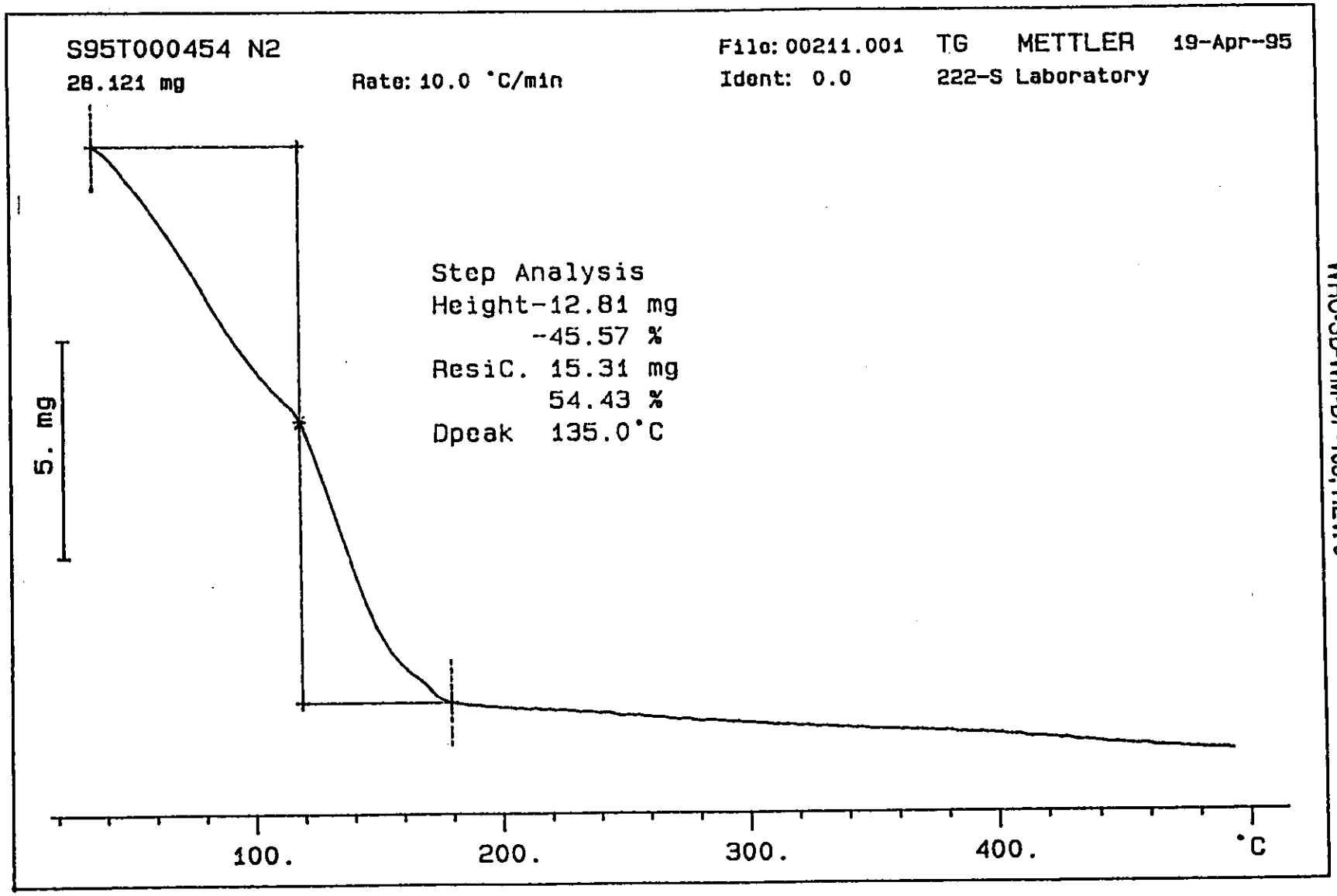
Data Entry Comments:

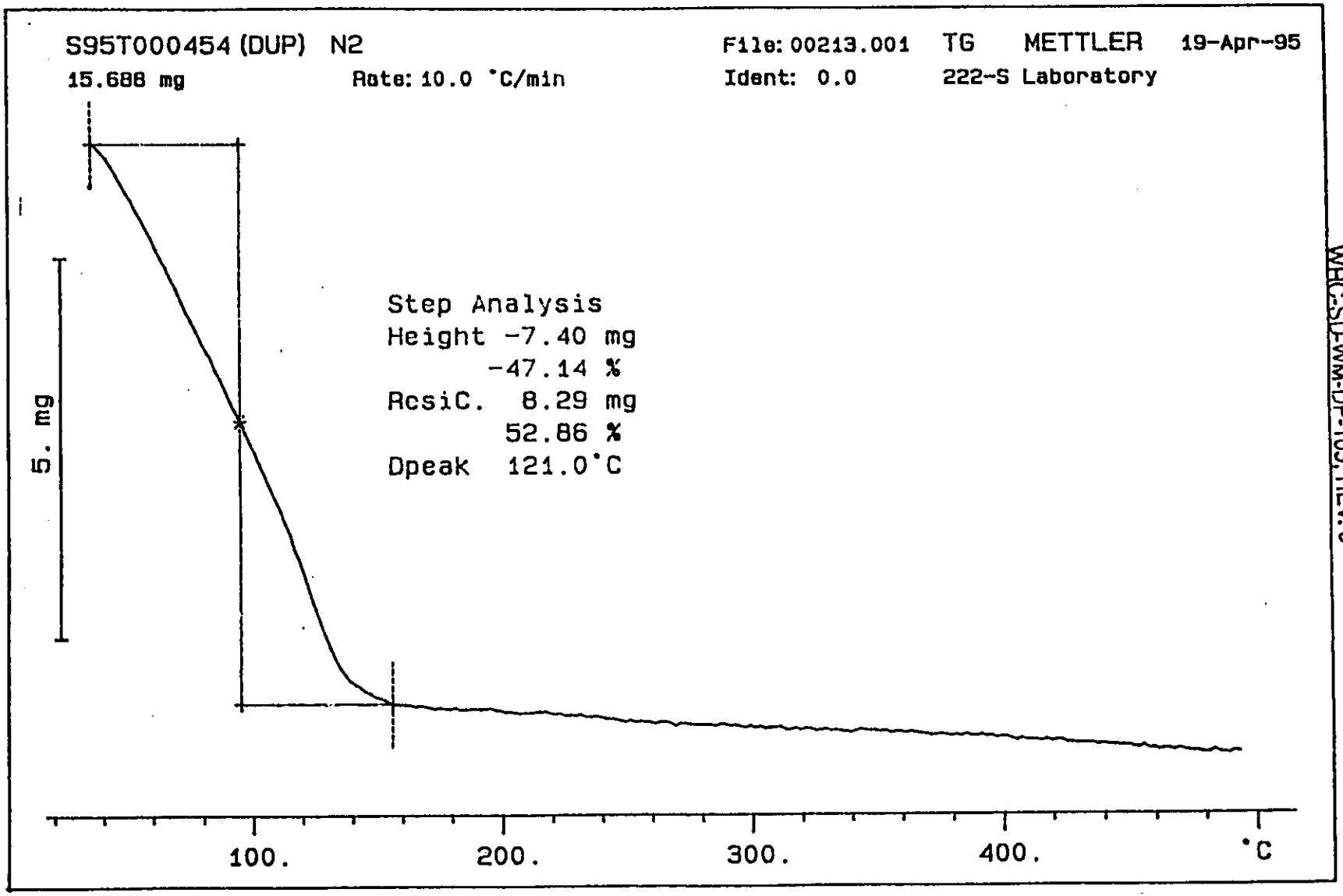
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 72 TO 79.



Susie M. Dutton 4-19-95


S95T000454 N2
28.121 mg
Rate: 10.0 °C/min
File: 00211.001
Ident: 0.0
TG
METTLER
222-S Laboratory
19-Apr-95
Step Analysis
Height-12.81 mg
-45.57 %
ResiC. 15.31 mg
54.43 %
Dpeak 135.0°C
5. mg
100.
200.
300.
400.
°C


S95T000454 (DUP) N2
15.688 mg
Rate: 10.0 °C/min
File: 00213.001
Ident: 0.0
TG METTLER 19-Apr-95
222-S Laboratory
Step Analysis
Height -7.40 mg
-47.14 %
RcsiC. 8.29 mg
52.86 %
Dpeak 121.0°C
5. mg
100.
200.
300.
400.
°C