DISTRIBUTION SHEET

To Distribution	From Characterization Plans and Reports	Page 1 of 2 Date: 05/24/95
Project Title/Work Order WHC-SD-WM-DP-114, Rev. 0, "60-Day Safety Screen Results and Final Report for Tank 241-C-111, Auger Samples 95-AUG-002, 95-AUG-003, 95-AUG-016 and 95-AUG-017"		EDT NO.: EDT-612157 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
H. Babad	S7-30	X	
R. J. Cash	S7-15	X	
G. D. Forehand	S7-31		X
C. E. Golberg	H5-49		X
V. W. Hall	H4-21		X
D. C. Hetzer	S6-31		X
L. Jensen	T6-07	X	
G. D. Johnson	S7-15	X	
N. W. Kirch	R2-11	X	
J. G. Kristofzski	T6-06	X	
M. J. Kupfer	H5-49	X	
E. J. Lipke	S7-14		X
N. G. McDuffie	S7-15	X	
J. E. Meacham	S7-15	X	
P. M. Morant	H4-25	X	
B. C. Simpson	R2-12		X
A. D. Rice	T6-06	X	
D. A. Turner	S7-15	X	
J. A. Voogd	R4-01		X
Central Files	L8-04	2	
EDMC	H6-08	X	
LTIC	T6-03		X
OSTI	L8-07	2	
TCRC	R2-12	2	
TFIC (Tank Farm Information Center)	R1-20		X

DISTRIBUTION SHEET

To Distribution	From Characterization Plans and Reports	Page 2 of 2 Date: 05/24/95
Project Title/Work Order WHC-SD-WM-DP-114, Rev. 0, "60-Day Safety Screen Results and Final Report for Tank 241-C-111, Auger Samples 95-AUG-002, 95-AUG-003, 95-AUG-016 and 95-AUG-017"		EDT NO.: EDT-612157 ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY	
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. Einan 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	
Los Alamos Technical Associates A. T. DiCenso 750 Swift Boulevard Suite # 4 Richland, WA 99352		X		

MAY 30 1995
55 Sta-5

ENGINEERING DATA TRANSMITTAL

1. EDT No. 612157

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Distribution	Characterization Plans and Reports	N/A
5. Proj./Prog./Dept./Div.:	**6. Cog. Engr.:**	**7. Purchase Order No.:**
Tank 241-C-111/Waste Management/CPR/Char. Eng.	Andrew D. Rice	N/A

8. Originator Remarks:
This document is being released into the Supporting Document System for retrievability purposes.

9. Equip./Component No.: N/A

10. System/Bldg./Facility: N/A

11. Receiver Remarks:
For Release.

12. Major Assm. Dwg. No.: N/A

13. Permit/Permit Application No.: N/A

14. Required Response Date: 05/24/95

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-114	N/A	0	60-Day Safety Screen Results and Final Report for Tank 241-C-111, Auger Samples 95-AUG-002, 95-AUG-003, 95-AUG-016 and 95-AUG-017	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 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.
2	1	Cog.Eng. A.D. Rice	A.D. Rice	5-24-95	T6-06						
2	1	Cog. Mgr. J.G. Kristofzski		5/24/95	T6-06						
2	1	QA W.A. Hendricksen	W.A. Hendricksen	5/24/95	T6-03						
		Safety									
		Env.									

18. A.E. Young — Signature of EDT Originator — Date: 5-24-95

19. Authorized Representative for Receiving Organization — Date

20. J.G. Kristofzski — Cognizant Manager — Date: 5/24/95

21. DOE APPROVAL (if required) Ctrl. No.
- [ ] Approved
- [ ] Approved w/comments
- [ ] Disapproved w/comments

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

y

RELEASE AUTHORIZATION

Document Number:	WHC-SD-WM-DP-114, REV 0
Document Title:	60-Day Safety Screen Results and Final Report for Tank 241-C-111, Auger Samples 95-AUG-002, 95-AUG-003, 95-AUG-016, and 95-AUG-017
Release Date:	5/30/95

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 M. Broz — May 30, 1995

SUPPORTING DOCUMENT

1. Total Pages 174

2. Title	3. Number	4. Rev No.
60-Day Safety Screen Results and Final Report for Tank 241-C-111, Auger Samples 95-AUG-002, 95-AUG-003, 95-AUG-016 and 95-AUG-017	WHC-SD-WM-DP-114	0

5. Key Words

60-Day, Safety Screen, Safety Screen Results, Final Report, Tank 241-C-111, Tank C-111, C-111, Auger Samples, 95-AUG-002, 95-AUG-003, 95-AUG-016, 95-AUG-017

6. Author

Name: Andrew D. Rice

Signature

Organization/Charge Code 75310/MDR21

7. Abstract

N/A

8. RELEASE STAMP

OFFICIAL RELEASE
BY WHC
DATE MAY 30 1995
55 Sta. 5

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

A-6400-073 (08/94) WEF124

MASTER

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-114, REV. 0

ANALYTICAL SERVICES

60-DAY SAFETY SCREEN RESULTS AND FINAL REPORT FOR TANK 241-C-111, AUGER SAMPLES 95-AUG-002, 95-AUG-003, 95-AUG-016 AND 95-AUG-017

Date Printed: MAY 24 1995

DISCLAIMER

TABLE OF CONTENTS

This Document consists of pages 1 through 171.

NARRATIVE

Summary

Initial auger sampling of tank C-111 took place on 1/17/95. Two augers were taken. Sample recovery was deemed inadequate, so a second sampling event was planned and performed. The results from both sampling events have been combined into this report. This report represents the final deliverable for these two sampling events.

The four auger samples from tank C-111 were received by the 222-S laboratories, and underwent safety screening analysis (DSC, TGA, and Alpha Total), and the primary Ferrocyanide DQO analyses (ICP Ni, CN, TOC) in accordance with reference (1) below. No results exceeded the notification limits.

Sample Receipt and Extrusion

Auger 95-AUG-002

Auger 95-AUG-002, a 10 inch auger, was sampled on 1/17/95, and received at the 222-S laboratory the same day. Extrusion took place on 1/18. No sample was observed on the auger. No drainable liquid was recovered. The expected sample length was 8 inches.

Auger 95-AUG-003

Auger 95-AUG-003, a 20 inch auger, was sampled on 1/17/95, and received at the 222-S laboratory the same day. Extrusion took place on 1/18, with the total amount of solid material recovered being 3.56 grams. No drainable liquid was recovered. The expected sample length was 7 inches. The solid material was brown in color, dry and crumbly in appearance. The sample was located on the tip and lowest two flutes of the auger. Homogenization was not performed because this would result in unacceptable moisture and sample loss. The entire sample was provided to the laboratory for analysis. Due to the small amount of sample recovered, a memorandum of understanding (reference (2) below) was provided to the 222-S laboratory requesting that a DSC, TGA, and ICP Ni analysis be performed. Results for this sample appear on page 1 of table 1, the analytical data summary table.

Auger 94-AUG-016

Auger 95-AUG-016, a 20 inch auger, was sampled on 3/25/95, and received at the 222-S laboratory on 3/27. Extrusion took place on 3/31, with the total amount of solid material recovered being 275 grams. No drainable liquid was recovered. The expected sample length was 12 inches. The bottom 12 inches of the auger were completely full with sample material. The solid material was dark brown in color, with the bottom 4 inches being darker than the upper 8 inches. On the bottom flutes, beneath this dark layer of heavy paste, an inner layer of crumbly tan solids could be seen. Auger 16 was segregated into quarter segments, with flutes 1-9 designated as quarter segment B (82.0 grams), flutes 10-13 as quarter segment C (120 grams), and flutes 14-18 as quarter segment D (73.6 grams). Results for these quarter segments appear on page 2 of table 1.

Auger 95-AUG-017
Auger 95-AUG-017, a 20 inch auger, was sampled on 3/25/95, and received at the 222-S laboratory on 3/27. Extrusion took place on 3/31, with the total amount of solid material recovered being 47 grams. No drainable liquid was recovered. The expected sample length was 12.75 inches. The solids were very dry and crumbly in appearance, off white in color, and did not adhere to the auger but fell to the tray below upon extrusion. Based on its appearance, this sample was classified as "saltcake", and analyzed accordingly. The required analyses for "saltcake" samples are DSC and TGA only. Results for this sample appear on page 3 of table 1.

Analytical Results

TGA (Moisture)
The weight percent water by Thermogravimetric Analysis (TGA) was performed using procedures LA-560-112 Rev. A-2 (Mettler) and LA-514-114 Rev. B-0 (Perkin-Elmer) with a nitrogen purge. All results were above the notification limit, which is calculated for each sample based on the DSC results, therefore no notifications were made (TGA notification is made only when results are below the notification limit). Sample S95T000122, auger 95-AUG-003, exceeded the Tank Characterization Plan (TCP) precision criteria. The sample result was 26.5%, the duplicate 35.5%, with a relative percent deviation (RPD) of 28.9 between the sample and duplicate. A third analysis, identified as dup2, was performed. The dup2 result was 22.2%. The dup2 result is does not appear in the summary table, but is contained in the raw data. Sample S95T000571, the "C" quarter segment from 95-AUG-016, also exceeded the 10% precision criteria, but by a smaller amount. The sample result was 44.7%, the duplicate 38.6%, with a relative percent deviation (RPD) of 14.8 between the sample and duplicate. A triplicate sample was run with the result of 38.5%. The triplicate result does not appear in the summary table, but is contained in the raw data. All samples met the TCP accuracy criteria of 10%.

The sample from 95-AUG-017, a "saltcake" sample (S95T000577), demonstrated zero weight loss in the region of water. This behavior was observed in a previous sample (core 59) from tank C-111, and indicates the sample is composed of a hydrophobic compound such as aluminum hydroxide. The core 59 sample was similar in appearance to the 95-AUG-017 "saltcake" sample. Notification was not required because the TGA limit is based on the DSC result. The DSC result for S95T000577 was less than detectable exotherms.

DSC
Differential thermal analyses (DSC) were performed using procedures LA-514-113 Rev. B-1 (Mettler), and LA-514-114 Rev. B-0 (Perkin Elmer) under a nitrogen purge. None of the samples contained exotherms above the instrument detection limit. No analytical problems were noted. All samples met the TCP accuracy and precision criteria of 10%.

Alpha Total
The Alpha Total (AT) analyses were performed using procedure LA-508-101 Rev. D-2. As required in references (1) and (2) below, only samples from 95-AUG-016 were analyzed for AT. The TCP requested Alpha Total analysis on a half segment level. Results have been provided on a quarter segment level because the fusion preparations are performed on quarter segments. The effort involved to provide the additional alpha results is minimal. All sample results were fifty to one hundred fold lower than the TCP notification limit of 41 uCi/g. No analytical problems were noted. The TCP accuracy and precision criteria of 20% were met in each case.

Total Organic Carbon
The total organic carbon (TOC) analyses were performed using procedure LA-342-100 Rev. A-0. As required in references (1) and (2) below, only samples from 95-AUG-016 were analyzed for TOC. Only one quarter segment was required to be analyzed for TOC, but batching efficiency allowed for all quarter segments to be analyzed with minimal additional effort. All sample results were far below the TCP notification limit of 30,000 ug/g. No analytical problems were noted. All TCP accuracy and precision criteria (20%) were met.

Cyanide
The cyanide (CN) analyses were performed using procedure LA-695-102 Rev. C-0. As required in references (1) and (2) below, only samples from 95-AUG-016 were analyzed for CN. Only one quarter segment was required to be analyzed for TOC, but batching efficiency allowed for all quarter segments to be analyzed with minimal additional effort. All sample results were far below the TCP notification limit of 39,000 ug/g. One rerun was performed due to high spike recovery. All TCP accuracy and precision criteria (10%) were met.

ICP Ni
The ICP Ni analyses were performed using procedure LA-505-161 Rev. A-1. As required in references (1) and (2) below, only samples from 95-AUG-003 and 95-AUG-016 were analyzed for Ni. Only every other quarter segment was required to be analyzed for Ni, but batching efficiency allowed for all quarter segments to be analyzed with minimal additional effort. The samples were prepared by fusion in zirconium crucibles. Nickel crucibles are typically used but are believed to introduce significant amounts of nickel to the sample during the fusion process. Quarter segments "B" and "C" of 95-AUG-016 exceeded the TCP precision criteria of 10%. This is most likely due to the two distinct layers observed in the sample (see extrusion discussion above). The TCP accuracy criteria (10%) were met.

References:

(1) WHC-SD-WM-TP-209, REV. 1C, "Tank 241-C-111 Tank Characterization Plan", dated March 16, 1995, Westinghouse Hanford Company, Richland, WA 99352.

(2) WHC Internal Memo 71520-95-105, D. Bratzel to J. Kristofzski, "Memorandum of Understanding for Analysis of Tank 241-C-111 Sample 95-AUG-003", dated February 21, 1995.

SAMPLE DATA SUMMARY

Table 1: 60 Day and Final Report for Augers 95-AUG-003/16/17
C-111

CORE NUMBER: n/a
SEGMENT #: 95-AUG-003

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%
S95T000122			% Water by TGA using Mettler	%	-1.000	101.000	99.31	n/a	26.54	35.50	31.02	28.9	n/a	n/a	n/a
S95T000122			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	482.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T000122			DSC Exotherm using Mettler	Joules/g	-1.000	482.000	99.12	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000123		Z	Nickel -ICP-Fusion	ug/g	None	None	102.6	5.520	2.11e+04	21400	21250	1.41	n/a	105.0	n/a

=> Limit violated
=> Selected Limit

Table 1: 60 Day and Final Report for Augers 95-AUG-003/16/17
C-111

CORE NUMBER: n/a
SEGMENT #: 95-AUG-016

SEGMENT PORTION: B Second Quarter 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%
S95T000570			TOC by Persulfate/Coulometry	ug/g	-1.000	30000.00	96.00	23.90	639.0	7.24e2	6.82e+02	12.5	n/a	80.00	n/a
S95T000570			% Water by TGA on Perkin Elmer	%	None	None	99.21	n/a	28.01	28.24	28.12	0.82	n/a	n/a	n/a
S95T000570			DSC Exotherm on Perkin Elmer	Joules/g	None	None	95.78	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000570			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	482.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T000570			Cyanide by Microdist. & Spec.	ug/g	-1.000	39000.00	101.4	5.00e-01	93.80	83.6	88.70	11.5	97.70	1.500	n/a
S95T000573		Z	Nickel -ICP-Fusion	ug/g	None	None	101.5	1.46e-01	1.55e+04	20770.70	18131	29.1	95.40	206.0	n/a
S95T000573		Z	Alpha of Digested Solid	uCi/g	-1.000	41.000	81.76	<3.79e-02	6.82e-01	8.15e-1	7.48e-01	17.8	89.10	8.40e-02	14.9

C Third Quarter of Segment: C Third Quarter 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%
S95T000571			TOC by Persulfate/Coulometry	ug/g	-1.000	30000.00	96.00	23.90	1.22e+03	1.28e3	1.25e+03	4.80	98.60	80.00	n/a
S95T000571			% Water by TGA on Perkin Elmer	%	None	None	99.21	n/a	44.74	38.58	41.66	14.8	n/a	n/a	n/a
S95T000571			DSC Exotherm on Perkin Elmer	Joules/g	None	None	95.78	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000571			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	482.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T000571			Cyanide by Microdist. & Spec.	ug/g	-1.000	39000.00	105.8	4.30e-01	155.0	151	153.0	2.61	106.0	2.400	n/a
S95T000574		Z	Nickel -ICP-Fusion	ug/g	None	None	101.5	1.46e-01	2.24e+04	27325.09	24878	19.7	88.00	197.0	n/a
S95T000574		Z	Alpha of Digested Solid	uCi/g	-1.000	41.000	81.76	<3.79e-02	3.80e-01	4.04e-1	3.92e-01	6.12	103.8	8.10e-02	21.3

D Bottom Quarter of Segment: D Bottom Quarter 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%
S95T000572			TOC by Persulfate/Coulometry	ug/g	-1.000	30000.00	94.33	37.20	909.0	8.93e2	9.01e+02	1.78	n/a	80.00	n/a
S95T000572			% Water by TGA using Mettler	%	-1.000	101.000	100.6	n/a	44.23	44.25	44.24	0.05	n/a	n/a	n/a
S95T000572			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	482.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T000572			DSC Exotherm using Mettler	Joules/g	-1.000	482.000	92.09	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000572			Cyanide by Microdist. & Spec.	ug/g	-1.000	39000.00	105.8	4.30e-01	107.0	104	105.5	2.84	n/a	4.600	n/a
S95T000575		Z	Nickel -ICP-Fusion	ug/g	None	None	101.5	1.46e-01	1.15e+04	11424.04	11451	0.47	94.40	181.0	n/a
S95T000575		Z	Alpha of Digested Solid	uCi/g	-1.000	41.000	81.76	<3.32e-02	3.85e-01	4.06e-1	3.96e-01	5.31	90.00	7.40e-02	22.5

=> Limit violated
=> Selected Limit

Table 1: 60 Day and Final Report for Augers 95-AUG-003/16/17
C-111

CORE NUMBER: n/a
SEGMENT #: 95-AUG-017

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%
S95T000577			% Water by TGA using Mettler	%	-1.000	101.000	100.6	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000577			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	482.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T000577			DSC Exotherm using Mettler	Joules/g	-1.000	482.000	92.09	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a

=> Limit violated
=> Selected Limit

CHAIN OF CUSTODY FORMS

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number: 52094 (2) Sample Number: 95-AUG-002 (3) Supervisor: PRAZNIK

(4) Tank: C111 (5) Riser: 2 (6) Cask Serial Number: C1052

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

(8) Shipment Description

A. Work Package Number	2E-94-0699-WJ
B. Cask Seal Number	3795
C. Date and Time Sample Removed from Tank	1-17-95 / 1130 hrs
D. Expected Liquid Content	5%
E. Expected Solid Content	95%
F. Dose Rate Through Drill String	1 mR/hr
G. Expected Sample Length	8"

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

11

WHC-SD-WM-DP-114, REV. 0

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C-111/R/2	222 S LAB	PRAZNIK, R.J.	1-17-95	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
PRAZNIK, R.J.			1-17-95 1409	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
		N LAFIERS	1-17-95 1525	
(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)

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 52094 (2) Sample Number 95-AUG-003 (3) Supervisor PRAZNIK

(4) Tank C-111 (5) Riser 2 (6) Cask Serial Number C1034

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5	<0.5
Side Dose Rate	<0.5	<0.5
Bottom Dose Rate	0.7	0.7
Smearable Contamination	<200 DPM (Alpha)	<20 DPM (Alpha)
	<1000 DPM (Beta-Gamma)	<1000 DPM (Beta-Gamma)
RCT*	(Signature)	RCT* J.W. Evans (Signature)

(8) Shipment Description

A. Work Package Number	2E-94-0699-W
B. Cask Seal Number	3793
C. Date and Time Sample Removed from Tank	1-17-95 / 1230 hrs
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	15 mR/hr
G. Expected Sample Length	≈ 7"

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

12

WHC-SD-WM-DP-114, REV 0

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C-111 / R/2	2225 Lab	PRAZNIK, R.J.	1-17-95	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
PRAZNIK R.J.		James Fruhauf	1-17-95 1409	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
James Fruhauf		N LAPIERS	1-17-95 1525	
(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)

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-016 (3) Supervisor PRAZNIK, R.S.

(4) Tank C-111 (5) Riser #6 (6) Cask Serial Number 1014C

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	20.5 mR/hr	< .5 mR/hr
Side Dose Rate	40 mR/hr	40 mR/hr
Bottom Dose Rate	2.1 mR/hr	2.0 mR/hr
Smearable Contamination	< 20 dpm (Alpha)	< 20 dpm (Alpha)
	< 1000 dpm (Beta-Gamma)	< 1K dpm (Beta-Gamma)
RCT*	(Signature)	RCT* (Signature)

(8) Shipment Description

A. Work Package Number ES-94-00669-W

B. Cask Seal Number #1025

C. Date and Time Sample Removed from Tank 3-25-95 / 1045hrs

D. Expected Liquid Content 10%

E. Expected Solid Content 90%

F. Dose Rate Through Drill String 2 R/hr uncorrected

G. Expected Sample Length 12"

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

13

WHC-SD-WM-DP-114, REV. 0

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C111 R/6	222S LAB	PRAZNIK, R.J.	3-27-95/0830	EVERYTHING INTACT
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
KAREN LEE 3-27-95		KAREN LEE	3-27-95/130	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
KAREN LEE		EE Dukes	3-27-95 1200	
(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)

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W-08TF (2) Sample Number 95-AUG-017 (3) Supervisor Praznik, R.J.

(4) Tank C111 (5) Riser #3 (6) Cask Serial Number 1007C

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5mR/hr	<.5 mR/hr
Side Dose Rate	<0.5mR/hr	<.5 mR/hr
Bottom Dose Rate	1mR/hr	<.5 mR/hr
Smearable Contamination	<20dpm (Alpha)	<20 dpm (Alpha)
	<1000dpm (Beta-Gamma)	<1K dpm (Beta-Gamma)
RCT*	[signature] (Signature)	[signature] (Signature)

(8) Shipment Description

A. Work Package Number	ES-94-00689W
B. Cask Seal Number	#1026
C. Date and Time Sample Removed from Tank	3-25-95/1645hr
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	5mR/hr
G. Expected Sample Length	≈ 12 3/4"

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

14

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C-111 R/3	222S LAB	PRAZNIK, R.J. [signature]	3-27-95/0830	Everything Intact
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
[signature] KAREN LEE 3-27-95		[signature] KAREN LEE	3/27/95 1130	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
[signature] KAREN LEE		E E [signature]	3-27-95 1200	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release? ☒ Yes ☐ No

(29) Seal Intact Upon Receipt? ☒ Yes ☐ No

(30) Seal Data Consistent with this Record?

Shipment No. ☒ Yes ☐ No

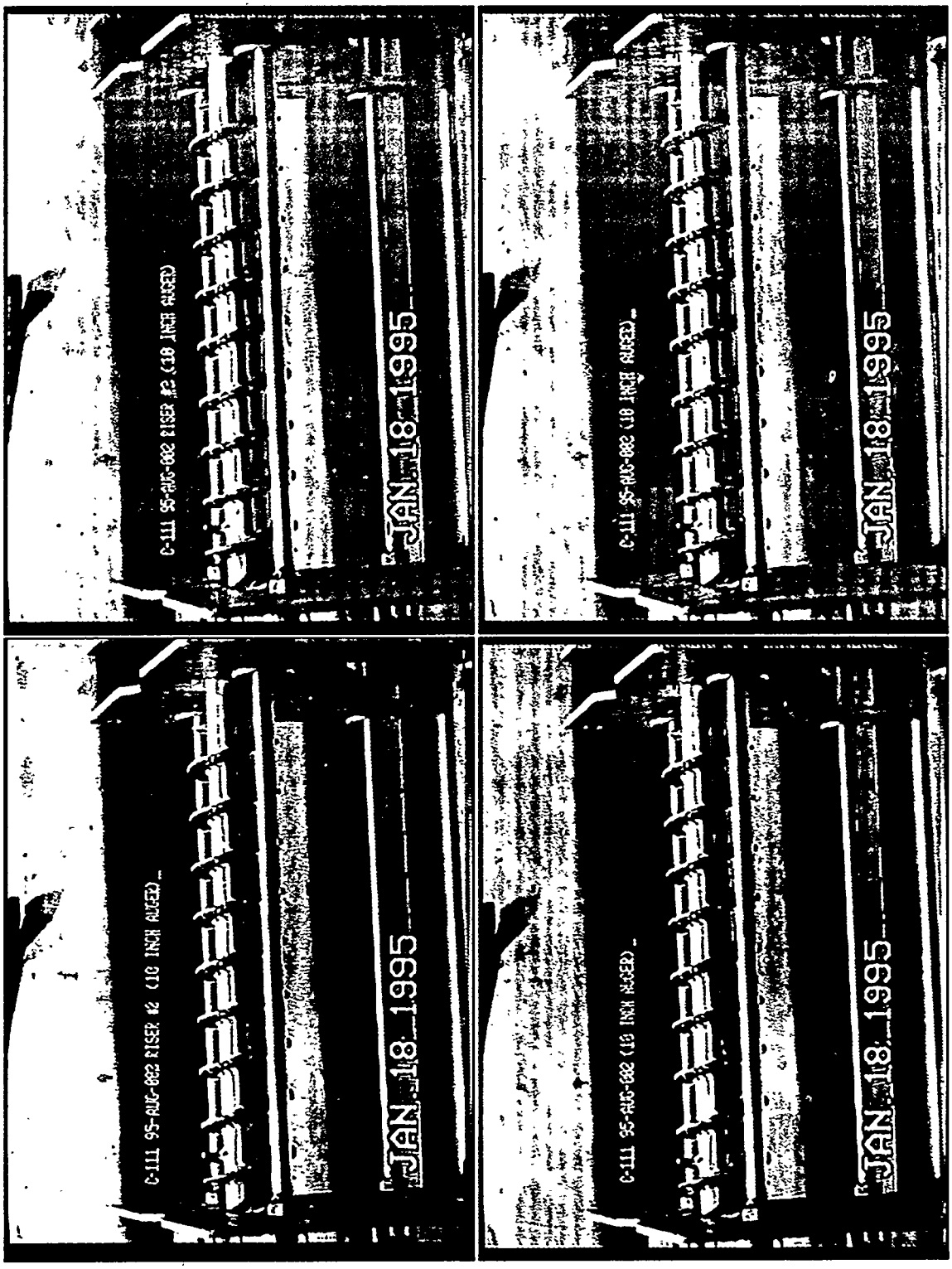
Cask Seal No. ☒ Yes ☐ No

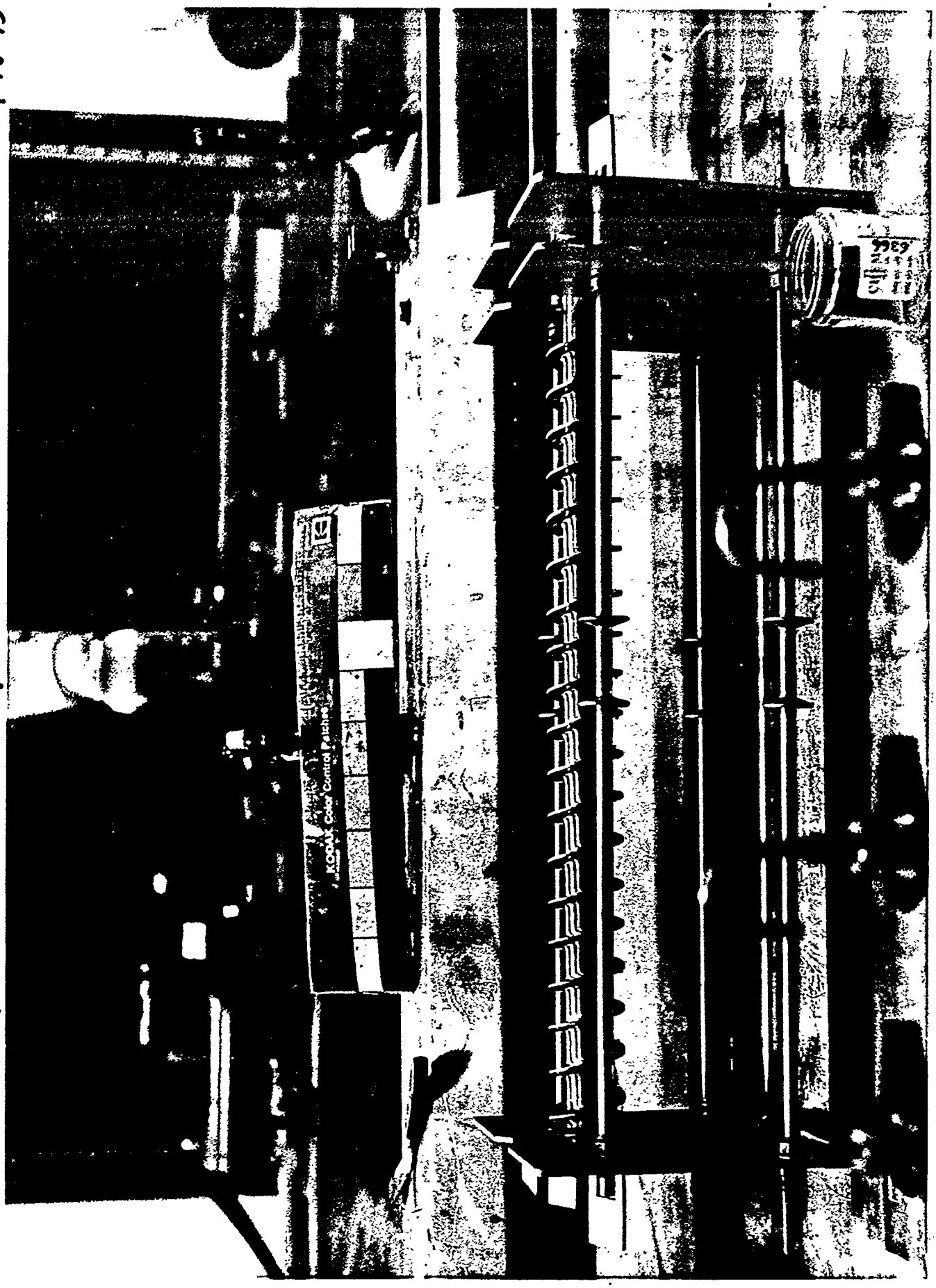
Sample No. ☒ Yes ☐ No

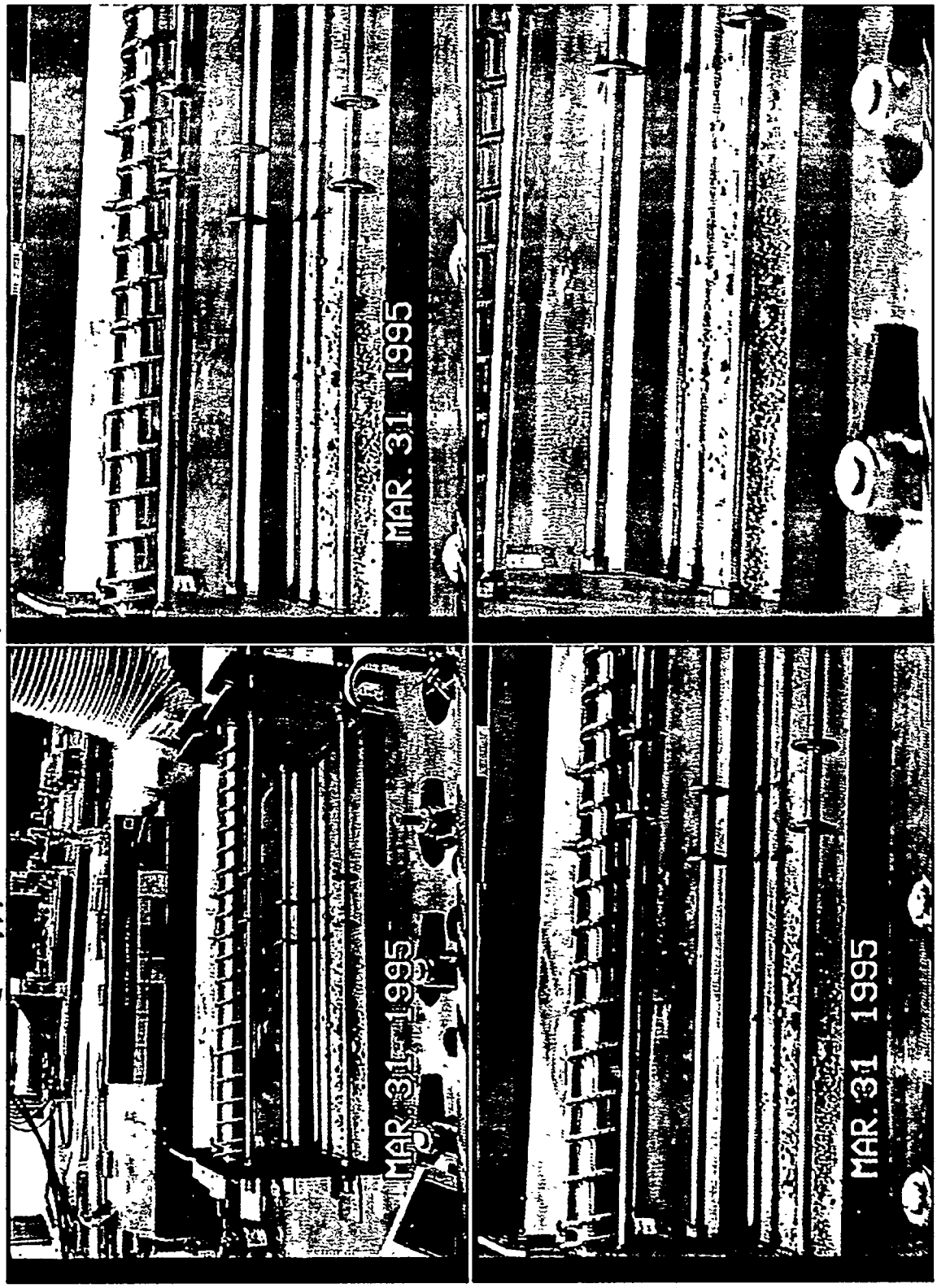
DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling ...

PHOTOGRAPHS

C-111 95-AUG-002 RISER 2




95-AUG-003 RISER 2 TANK C-111 1-18-95
KODAK Color Control Patches


C-111 95 AUG-017 Riser #3 3-31-95
MAR 31 1995
MAR 31 1995
MAR 31 1995
MAR 31 1995


C-111 95-AUG-016 Riser #6 3-31-95
MAR 31 1995
MAR 31 1995
MAR 31 1995
MAR 31 1995

HOT CELL LOGBOOK

DRS 1.5C

WHC-SD-WM-DP-114, REV. 0

RECORD COPY
NOT FOR CIRCULATION
MAY 14 1993
RECEIVED WHC BCSR
DOCUMENT CONTROL

NOTEBOOK NUMBER: WHC-N-742 1

DATE OF ISSUE: 5-14-93

SERIES AND COPY: 1

TITLE (INDICATE SUBJECT CONTENT): TANK C-111

AUTHOR(S) - DEPARTMENT AND SECTION

R.K. Fuller

222-S LABORATORY - HOT CELL OPERATIONS

PERIOD COVERED (INCLUSIVE - MONTH, DATE, YEAR)
FROM 4-14-94 TO

IF CONTINUED FROM ANOTHER NOTEBOOK,
GIVE NOTEBOOK NUMBER

IF CONTINUED IN ANOTHER NOTEBOOK,
GIVE NOTEBOOK NUMBER

ROUTE TO	P.R. NO.	LOCATION	ROUTE DATE	SIGNATURE & DATE
R.K. Fuller	67528	T6-30	MAY 14 1993	Keith Fuller 5/18/94

Table of Contents

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 52094 (2) Sample Number 95-AUG-002 (3) Supervisor PRAZNIK

(4) Tank C111 (5) Riser 2 (6) Cask Serial Number C1052

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

(8) Shipment Description	
A. Work Package Number	2E-94-0699-W2 3795
B. Cask Seal Number	
C. Date and Time Sample Removed from Tank	1-17-95 / 1130 hrs
D. Expected Liquid Content	5%
E. Expected Solid Content	95%
F. Dose Rate Through Drill String	1 mR/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 C-111/R/2	(12) Destination 222 S LAB	(13) Sender Name (Sign and PRINT) PRAZNIK, R.J.	(14) Date/Time 1-17-95	(15) Sender Comments
(17) Relinquished By (Sign and PRINT) PRAZNIK, R.J.		(18) Received By (Sign and PRINT)	(19) Date/Time 1-17-95 1409	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT) N LAPIERS	(23) Date/Time 1-17-95 1525	(24) Receiver Comments
(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

28 01/18/95

WHC-SD-WM-DP-114, REV 0

January 18/1995

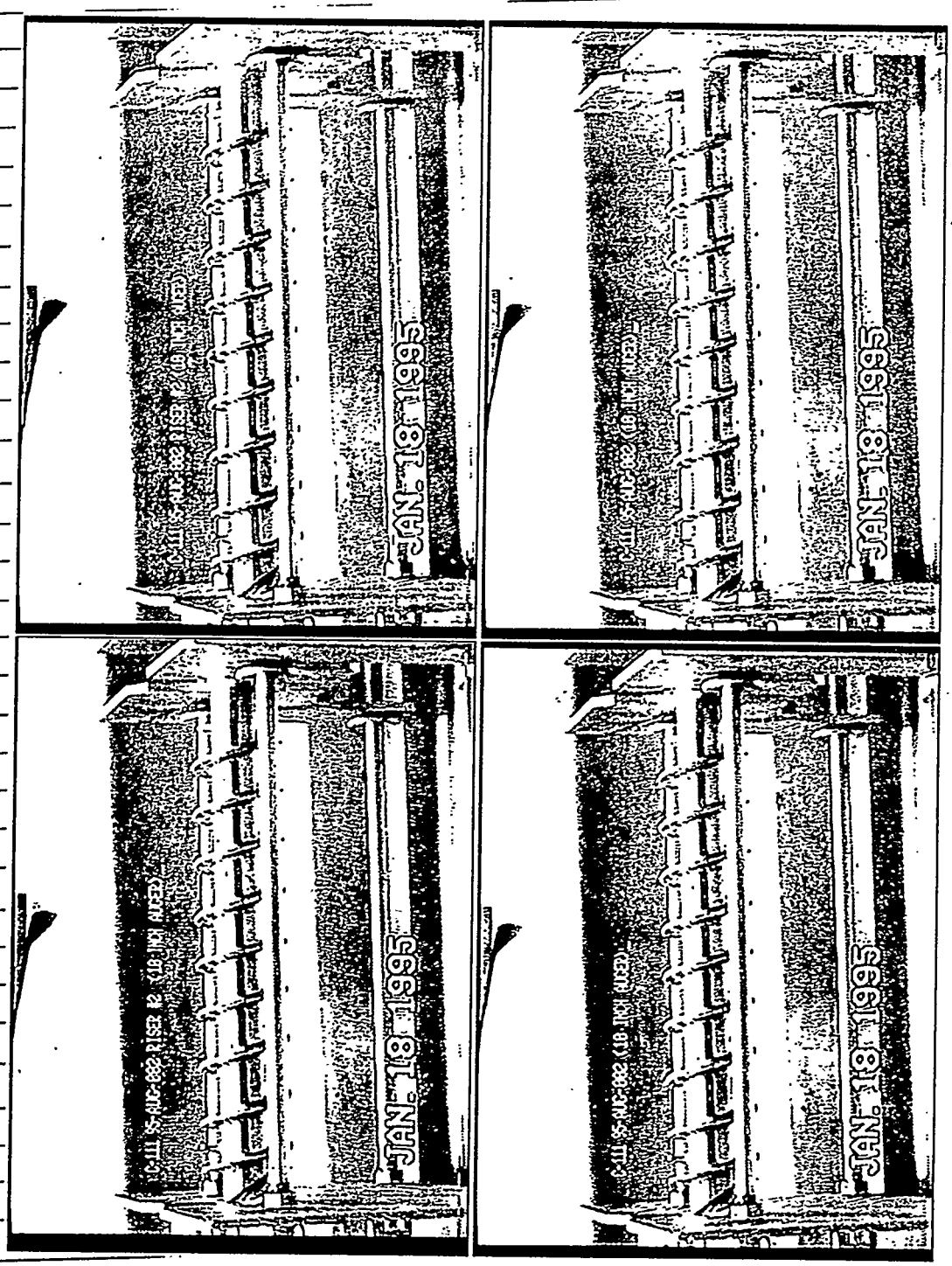
Tank: C-111 Riser 2. (95-AUG-002)
TCP # WHC-SD-WM-TP-209
Cask # C1052
Logbook # WHC-N-742

Video Tape #1 (C farm)
Photos used: 2 & 3 with Hasselblad Camera
word perfect directory for this tank -
(C:\WPDATA\WORKPLANS\CFARM\C-111)
word perfect file: C111AUG.INF
work tish #421

Balance Check = 20g - 19.94g SCCg - 500.00g.
Temperature = 79.8 Humidity = 25%

There was NO liner liquid = Completely Empty.
Description of solids = NONE (Empty)
Riser = Completely Empty
Record dose rate through drill string (1 hr)

1/18/95
K. Hunter



* See note

Tank C-111 Riser 2
TCP#: WHC-SD-WM-TP209
Sample#: 95-AUG-003
Cask #: C1034 (Dose Rate through drill String 15 mR/HR)
Logbook#: WHC-N-742
PHOTO: Hasselblad camera was used on frame 4 & 5
Video Tape Number #1 (C-Farm)
wordperfect directory: (C:\WPDATA\WKPlans\CFarm\C111)
wordperfect file: C111 AUG.INF
work list # 420

Balance Check = 20g = 19.996g 500g = 499.965g
HOT Cell Temp. 79.1 Humidity 25%

Description of Solids:

Small amount of Brown solids on tipped of Auger - No material on flute. #1-18
Sample was very dry and brittle
A 20ml vial was used to collect Sample
At Time 14:06.

Vial #-6486 = Sample discription
Size - 20ml ~~C III 95 AUG 003 Riser 2 RTL~~ 1/18/95
final wt. 30.829 gram (C111 95 AUG C03 Riser 2)
Initial wt. 27.261
net 3.568g

There were no liner liquid collected.

*See Chain of Custody on Page 32. RK Fuller 1/18/95

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number: 52094 (2) Sample Number: 95-AIX-003 (3) Supervisor: PRAZNIK

(4) Tank: C-111 (5) Riser: 2 (6) Cask Serial Number: C1034

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5	<0.5
Side Dose Rate	<0.5	<0.5
Bottom Dose Rate	0.7	0.7
Smearable Contamination	<200 DPM (Alpha)	<20 DPM (Alpha)
	<1000 DPM (Beta-Gamma)	<1000 DPM (Beta-Gamma)
RCT*	(Signature)	(Signature)

(8) Shipment Description

A. Work Package Number	2E-94-0699-W
B. Cask Seal Number	3793
C. Date and Time Sample Removed from Tank	1-17-95 / 1230 hrs
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	15 mR/hr
G. Expected Sample Length	≈ 7"

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

27

(10) Field Comments

(32) Laboratory Comments

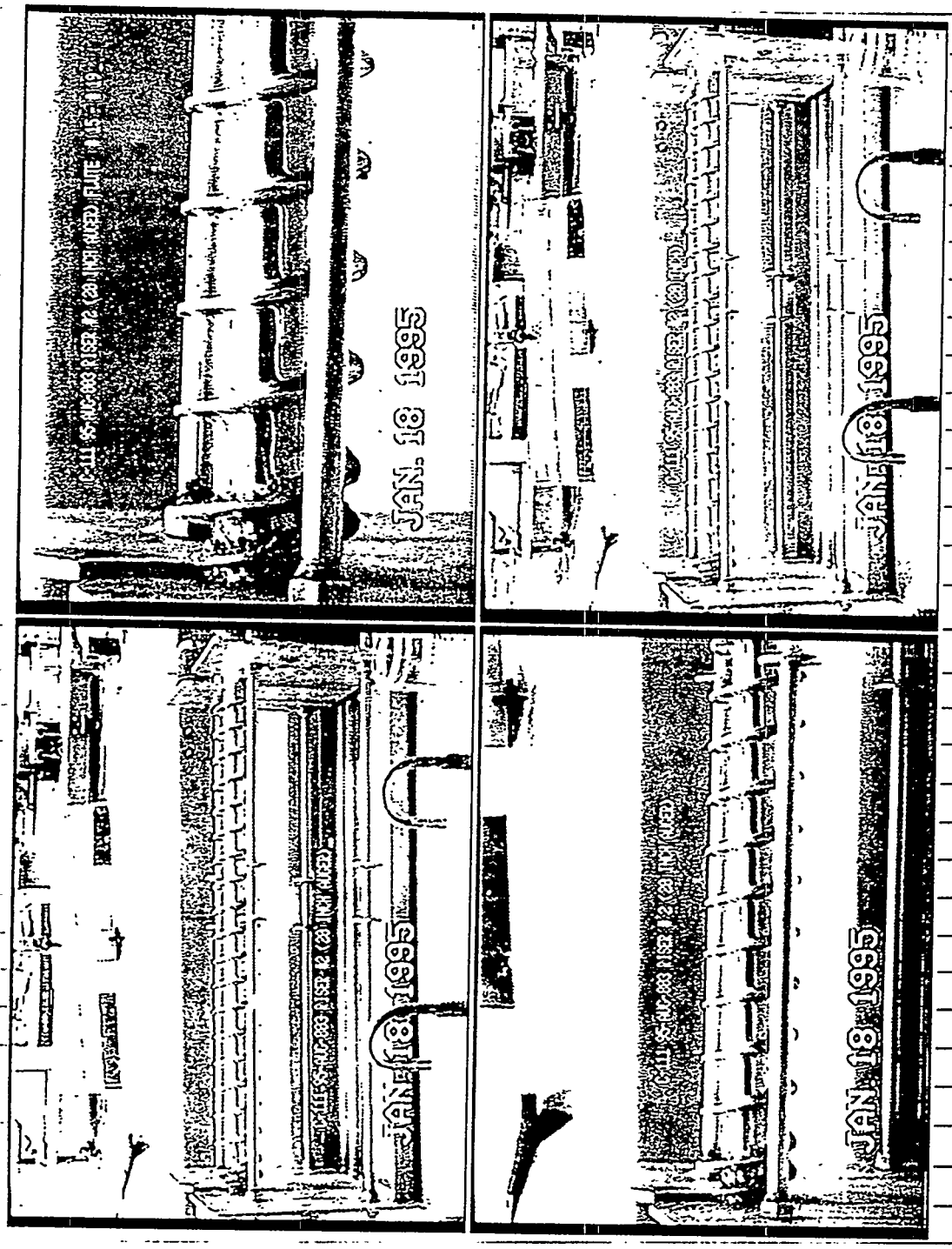
(11) Point of Origin: C-111 R/2	(12) Destination: 222S Lab	(13) Sender Name (Sign and PRINT): PRAZNIK, R.J.	(14) Date/Time: 1-17-95	(15) Sender Comments
(17) Relinquished By (Sign and PRINT): PRAZNIK R.J.		(18) Received By (Sign and PRINT): James Fruhauf	(19) Date/Time: 1-17-95 1409	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT): James Fruhauf		(22) Received By (Sign and PRINT): N LAPIERS	(23) Date/Time: 1-17-95 1525	(24) Receiver Comments
(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

BEST AVAILABLE COPY

WHC-SD-WM-DP-114, REV. 0

32



R Hunter 7/18/95

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W-08TF (2) Sample Number 95-AUG-017 (3) Supervisor PERZNIK, R.J.

(4) Tank C111 (5) Riser #3 (6) Cask Serial Number 1007C

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5mR/hr	<.5 mR/hr
Side Dose Rate	<0.5mR/hr	<.5 mR/hr
Bottom Dose Rate	1mR/hr	<.5 mR/hr
Smearable Contamination (Alpha)	<20dpm	<20 dpm
(Beta-Gamma)	<1000dpm	<1K dpm
RCT* (Signature)		

(8) Shipment Description

A. Work Package Number	ES-94-006GW
B. Cask Seal Number	#1026
C. Date and Time Sample Removed from Tank	3-25-95 / 1645hr
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	5mR/hr
G. Expected Sample Length	≈ 12 3/4"

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

29

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C-111 R/3	222S LAB	PERZNIK, R.J.	3-27-95/0830	EVERYTHING INTACT
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
		KAREN LEE	3/27/95 1130	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
KAREN LEE			3-27-95 1200	
(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)

3/31/95 C-111 95-Aug-017

Labcore # 595T800479 WHC-SD-WM-DP-114, REV. 0

Pc = Andy Rice
20 gm = 19.99
500 gm = 499.96
Temp. 82.1 (F)
Humidity 20%

Solids Description

Light cream color very dry and crumbley, fell off augers. Auger has 18 flutes, flutes 1-8 were clean flutes 9-18 contained sample.
Collected solids in one jar.

SAmple Description— C-111 95-Aug-017

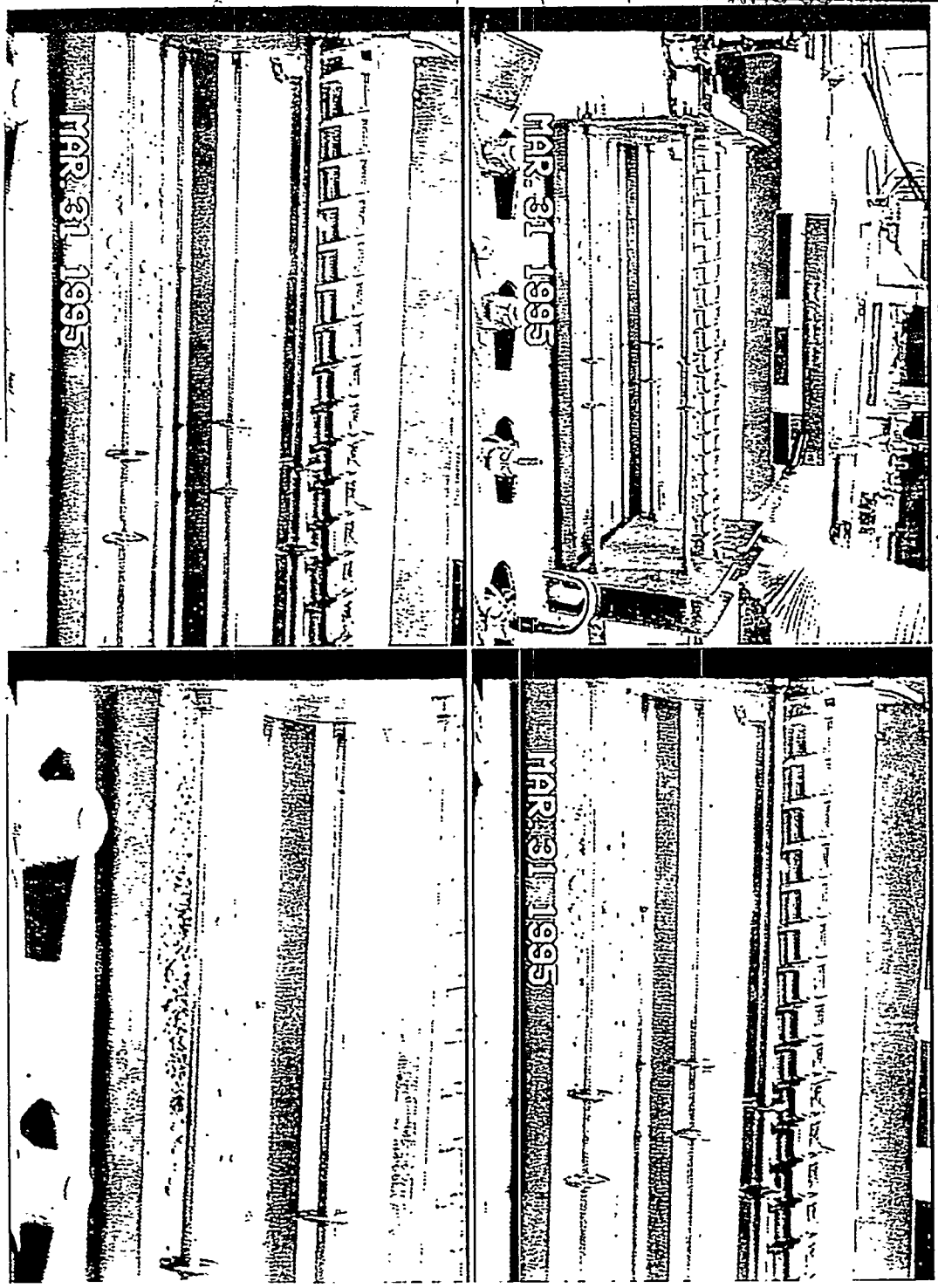
Jar # 6679
Jar Size # 125mL.
(A) Final wt 175.36 gms
(B) Tot. WT 128.07 gms
(C) Net wt. 47.29 gms

AB Campbell 3/31/95

3/31/95 C-111 95-NCD-017

36

QA Complete
3-31-95



C-111 95-AUG-017 Riser #3 3-31-95

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-016 (3) Supervisor PRAZNIK, R.S.

(4) Tank C-111 (5) Riser #6 (6) Cask Serial Number 1014C

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	20.5 mR/hr	1.5 mR/hr
Side Dose Rate	40mR/hr	40 mR/hr
Bottom Dose Rate	2.1mR/hr	2.0 mR/hr
Smearable Contamination	<200dpm (Alpha)	<20 dpm (Alpha)
	<1000dpm (Beta-Gamma)	<1K dpm (Beta-Gamma)
RCT*	(Signature)	RCT* (Signature)

(8) Shipment Description

A. Work Package Number	ES-94-00699-W
B. Cask Seal Number	#1025
C. Date and Time Sample Removed from Tank	3-25-95 / 1045hrs
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	2R/hr uncorrected
G. Expected Sample Length	12"

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

33

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
C111 R/6	222S LAB	PRAZNIK, R.S.	32795/0830	EVERYTHING INTACT
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
KAREN LEE	3-27-95	KAREN LEE	3-27-95/130	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
KAREN LEE		EEDuhrs	3-27-95 1200	
(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)

38

WHC-SD-WM-DP-114, REV. 0

3/31/95 C-111 95-Aug-016

Labcore # 595T000478
P.C. = Andy Rice
20 gm 19.99
500 gm 499.95
Temp 82.1 (F)
Humidity 20%

Solids Description; milk chocolate brown, Paste consistency, Bulk of solids on flutes 8-18 (Flutes are completely full of Sample. Some of the solids are composed of a crumbley material tan in color.

Sample Description -

Jar # 6681 Jar Size 125 ml Flutes 14-18
(A) Final wt # 201.88 gms.
(B) int wt # 128.30 gms C-111 95-Aug-016
(C) Net wt # 73.58 gms QTR Seg D

Jar 6682 Jar Size 125 ml Flutes 10-13
(A) Final wt # 247.76 gms
(B) INT WT # 127.99 gms C-111 95-Aug-016
(C) Net WT # 119.77 gms QTR Seg C

Jar 6683 Jar Size 125 ml Flutes 1-9
(A) Final WT # 210.11
(B) INT WT # 128.06 C-111 95-Aug-016
(C) Net WT # 82.05 QTR Seg B

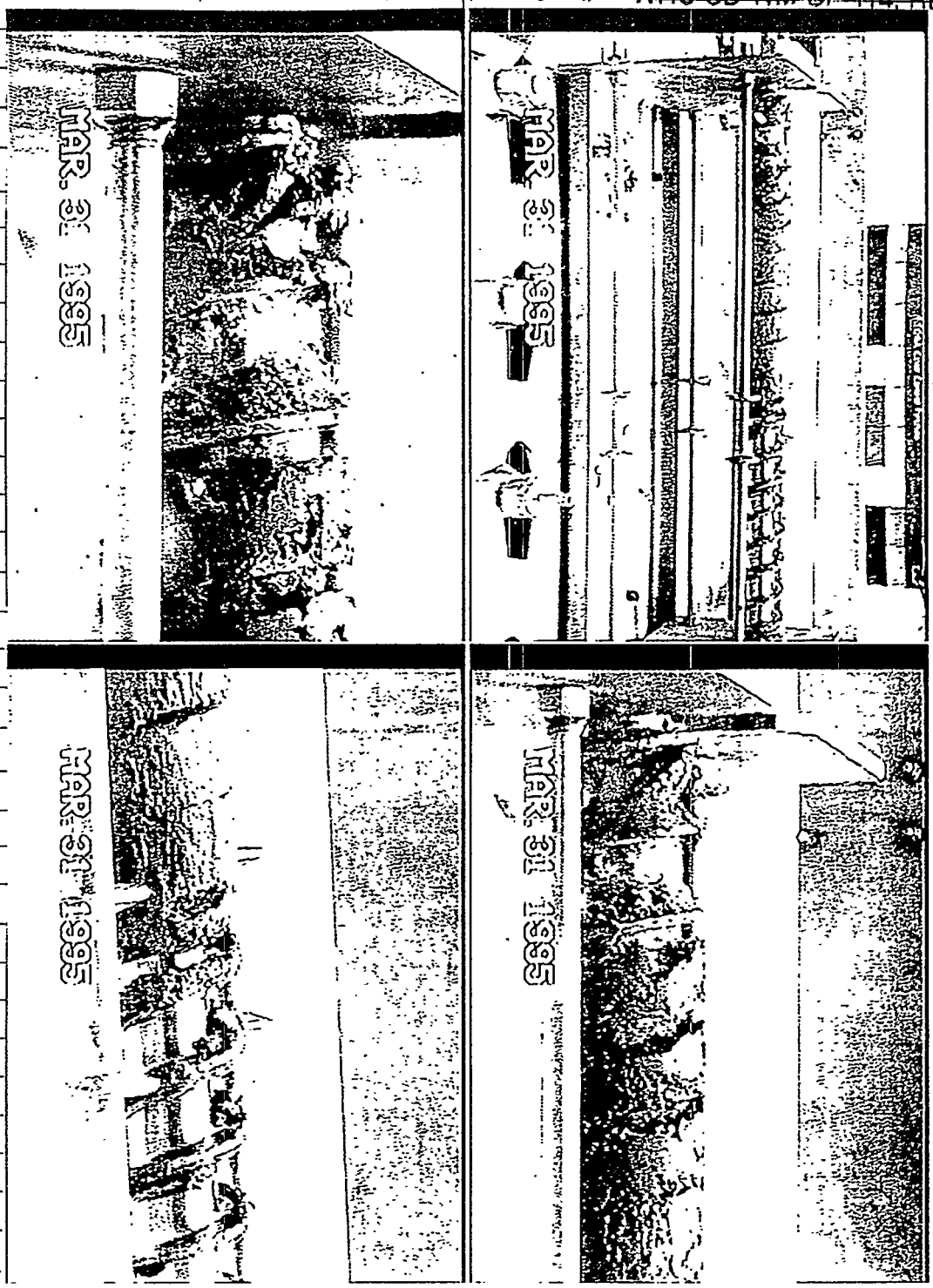
Post Extrusion Jar # 6681 WT 73.58 gms
Jar # 6682 WT 119.77 gms
Jar # 6683 WT 82.05 gms
Total WT 275.40 gms

A B Campbell
3/31/95

JB Campbell
3/31/95

3-31-95

C-111-95-AUG-016



C-111 95-AUG-016 Riser #6 3-31-95

42 WHC-SD-WM-DP-114, REV. 0 March 31, 95

HOMOGENIZATION & SUBSAMPLING

C-111 (AUGER) 95-AUG-017 Riser #3

JAR# 6679 (125 ml)
Initial wt. 175.30 gram
Final wt. 171.89
Net wt. 3.31

JAR# 6819 (20 ml)
Initial wt. 27.35 gram
Final wt 30.45
Net wt. 3.10

- Transferred 3.10 grams into vial # 6819, which was submitted to the Lab: DSC & TGA.

C-111 (AUGER) 95-AUG-016 Riser # 6

JAR# 6681 (125 ml)
Initial wt. 201.59 gram
Final wt. 193.03
Net wt. 8.56

- Transferred 5.63 grams into vial # 6820, which was submitted to the Lab: DSC/TGA/CN/TOC/Fusion.

3/31/95

March 31, 95

Homogenization & Subsampling

C-111 · 95 AUG-016 Riser #6

JAN # 6853 (125 ml)
Initial wt. 209.76 gram
Final wt. 200.25
Net wt. 9.51

JAN # 6822 (20 ml)
Initial wt. 27.40 gm
Final wt. 32.62
Net wt. 5.22

- Transferred 5.22 grams into vial # 6822, which was submitted to the Lab: DSC/TGA/CN/TOC/Fusion

C-111 95 AUG-016 Riser #6

JAN # 6852 (125 ml)
Initial wt. 248.51 gm
Final wt. 238.16
Net wt. 10.35

JAN # 6821 (20 ml)
Initial wt. 27.08 gm
Final wt. 32.44
Net wt. 5.36

- Transferred 5.36 grams into vial # 6821, which was submitted to the Lab: DSC/TGA/CN/TOC/Fusion.

S.L. Bw 3/31/95

SAMPLE HANDLING

LABCORE Data Entry Template for Worklist# 420

Analyst: EC Instrument: BA000 _____ Method: LO-160-103 A-6

Worklist Comment: C-111 95-AUG-003 Extrusion

Seg	Type	Sample#	Rep	AlTest	Matrix	Actual	Found	DL	Uni
1	INSTCHK01			EXTRUD01	SOLID	20	19.99	N/A	
2	INSTCHK02			EXTRUD01	SOLID	500	499.96	N/A	
3	SAMPLE	S95T000023	0	DLIQVOL1	SOLID	N/A	0		mL
4	SAMPLE	S95T000023	0	DLIQWT01	SOLID	N/A	0		g
5	SAMPLE	S95T000023	0	EST.G/ML	SOLID	N/A	0		g/mL
6	SAMPLE	S95T000023	0	EXTRUD01	SOLID	N/A	complete		
7	SAMPLE	S95T000023	0	LLIQWT01	SOLID	N/A	0		g
8	SAMPLE	S95T000023	0	NOTEBOOK	SOLID	N/A	WHC-N-742		
9	SAMPLE	S95T000023	0	SLDVOL01	SOLID	N/A	0		mL
10	SAMPLE	S95T000023	0	SLDWT-01	SOLID	N/A	3		g
11	SAMPLE	S95T000023	0	ORGVOL01	SOLID	N/A	0		mL
12	SAMPLE	S95T000023	0	FSLDWT01	SOLID	N/A	0		g

Final page for worklist # 420

Analyst Signature

1-18-95
Date

1-18-95

Data Entry Comments:

Reviewed by 1-18-95

Units shown for QC (SPK) may not reflect the actual units. Page: 1

LABCORE Data Entry Template for Worklist# 421

Analyst: EC Instrument: BA000 _____ Method: LO-160-103 A-6

Worklist Comment: C-111 95-AUG-002 Extrusion

Seg	Type	Sample#	Rep	AlTest	Matrix	Actual	Found	DL	Uni
1	INSTCHK01			EXTRUD01	SOLID	20	19.94	N/A	
2	INSTCHK02			EXTRUD01	SOLID	500	500.00	N/A	
3	SAMPLE	S95T000025	0	DLIQVOL1	SOLID	N/A	0		mL
4	SAMPLE	S95T000025	0	DLIQWT01	SOLID	N/A	0		g
5	SAMPLE	S95T000025	0	EST.G/ML	SOLID	N/A	0		g/mL
6	SAMPLE	S95T000025	0	EXTRUD01	SOLID	N/A	complete 0 EC 1-18-95		
7	SAMPLE	S95T000025	0	LLIQWT01	SOLID	N/A	0		g
8	SAMPLE	S95T000025	0	NOTEBOOK	SOLID	N/A	WHC-N-742		
9	SAMPLE	S95T000025	0	SLDVOL01	SOLID	N/A	0		mL
10	SAMPLE	S95T000025	0	SLDWT-01	SOLID	N/A	0		g
11	SAMPLE	S95T000025	0	ORGVOL01	SOLID	N/A	0		mL
12	SAMPLE	S95T000025	0	FSLDWT01	SOLID	N/A	0		g

Final page for worklist # 421

EC
Analyst Signature

1-18-95
Date

1-18-95

Data Entry Comments:

Worklist Reviewed by

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

LABCORE Data Entry Template for Worklist# 869

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

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

Worklist Comment: C-111 95-AUG-016 Riser #6 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	499.95	N/A	
95000041	C-111	3	SAMPLE	S95T000478	0		DLIQVOL1	SOLID	N/A	0		mL
95000041	C-111	4	SAMPLE	S95T000478	0		DLIQWT01	SOLID	N/A	0		g
95000041	C-111	5	SAMPLE	S95T000478	0		EST.G/ML	SOLID	N/A	0		g/mL
95000041	C-111	6	SAMPLE	S95T000478	0		EXTRUD01	SOLID	N/A	complete		
95000041	C-111	7	SAMPLE	S95T000478	0		LLIQWT01	SOLID	N/A	0		g
95000041	C-111	8	SAMPLE	S95T000478	0		NOTEBOOK	SOLID	N/A	WHC-N-742		
95000041	C-111	9	SAMPLE	S95T000478	0		SLDVOL01	SOLID	N/A	275		mL
95000041	C-111	10	SAMPLE	S95T000478	0		SLDWT-01	SOLID	N/A	275		g
95000041	C-111	11	SAMPLE	S95T000478	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 869

EC 4-3-95
Analyst Signature **Date**

EC 4-3-95
Analyst Signature **Date**

Data Entry Comments:

Reviewed 4/3/95 RKT

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# 870

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

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

Worklist Comment: C-111 95-AUG-017 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	499.96	N/A	
95000042	C-111	3	SAMPLE	S95T000479	0		DLIQVOL1	SOLID	N/A	0		mL
95000042	C-111	4	SAMPLE	S95T000479	0		DLIQWT01	SOLID	N/A	0		g
95000042	C-111	5	SAMPLE	S95T000479	0		EST.G/ML	SOLID	N/A	0		g/mL
95000042	C-111	6	SAMPLE	S95T000479	0		EXTRUD01	SOLID	N/A	Complete		
95000042	C-111	7	SAMPLE	S95T000479	0		LLIQWT01	SOLID	N/A	0		g
95000042	C-111	8	SAMPLE	S95T000479	0		NOTEBOOK	SOLID	N/A	WHC-N-742		
95000042	C-111	9	SAMPLE	S95T000479	0		SLDVOL01	SOLID	N/A	47		mL
95000042	C-111	10	SAMPLE	S95T000479	0		SLDWT-01	SOLID	N/A	47		g
95000042	C-111	11	SAMPLE	S95T000479	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 870

EC 3-31-95
Analyst Signature **Date**

EC 3-31-95
Analyst Signature **Date**

Data Entry Comments:

Reviewed 4/3/95 RKT

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

LABCORE Data Entry Template for Worklist# 611

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

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

Worklist Comment: C-111 FUSION DIGEST (W/ZR. CRUCIBLE)-122->123, .25G--->.250L

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1.BLNK-PREP				FUS-ZR01	SOLID	250.0	250.0	N/A	g/L
95000005	C-111	2 SAMPLE	S95T000123	0	Z	FUS-ZR01	SOLID	N/A	4.0008		g/L
		1.00029 → .250l = 4.0008 g/l									
95000005	C-111	3 DUP	S95T000123	0	Z	FUS-ZR01	SOLID	4.0008	4.0020	N/A	g/L
		1.00059 → .250l = 4.0020 g/l									

Final page for worklist # 611

[signature] 4-6-95
Analyst Signature **Date**

Bertrand Griffin II 4-7-95
Analyst Signature **Date**

Data Entry Comments: HPT was Bob Clemons
4500 mrad
150 mR

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
04/13/95 14:47

LABCORE Data Entry Template for Worklist# 1129

Analyst: L m L **Instrument:** FUS01 AL11066 **Book #** _____

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

Worklist Comment: C-111 FUSION (ZR) - 572->575

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				FUS-ZR01	SOLID	.2506	.2906	N/A	g/L
95000041	C-111	2	SAMPLE	S95T000575	0	Z	FUS-ZR01	SOLID	N/A	2.3260		g/L
				.5815g → .2506 = (2.3260 g/L)								
95000041	C-111	3	DUP	S95T000575	0	Z	FUS-ZR01	SOLID	2.3260	2.3408	N/A	g/L
				.5852g → .2506 = (2.3408 g/L)								

Final page for worklist # 1129

L m L 4-18-95
Analyst Signature **Date**

Bethann D Griffin II 4-19-95
Analyst Signature **Date**

Data Entry Comments:

HPT - .5 cj
OTR - 10 mrad
Bethann D Griffin II 4-19-95

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# 1130

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

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

Worklist Comment: C-111 FUSION (ZR) - 570->573, 571->574

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT	
		1	BLNK-PREP				FUS-ZR01	SOLID	_____	_____	N/A	g/L	
95000041	C-111	2	SAMPLE	S95T000573	0	Z	FUS-ZR01	SOLID	N/A	2.0400		g/L	25 mL
.5100g → 250 mL / (2.0400 g/L)													
95000041	C-111	3	DUP	S95T000573	0	Z	FUS-ZR01	SOLID	2.0400	2.0648	N/A	g/L	25 mL
.5162g → 250 mL / (2.0648 g/L)													
95000041	C-111	4	SAMPLE	S95T000574	0	Z	FUS-ZR01	SOLID	N/A	2.1276		g/L	25 mL HF
.5319g → 250 mL / (2.1276 g/L)													
95000041	C-111	5	DUP	S95T000574	0	Z	FUS-ZR01	SOLID	2.1276	2.1360	N/A	g/L	25 mL HF
.5340g → 250 mL / (2.1360 g/L)													

Final page for worklist # 1130

Analyst Signature Date 4-18-95

Analyst Signature Date 4-24-95

Data Entry Comments: Sig Landed.
OTP 10 mrad/hr
Bertrand Griffin II 4-24-95

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.

INORGANIC ANALYSES

LABCORE Data Entry Template for Worklist# 588

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

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

Worklist Comment: Please run C-111 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
95000005	C-111	2 SAMPLE	S95T000122	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000005	C-111	3 DUP	S95T000122	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g
95000005	C-111	4 DUP2	S95T000122	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 588

See attached for signatures 3/22/95
Analyst Signature **Date**

Data entered and verified by
Blandina Valenzuela 3/22/95
Analyst Signature **Date**

Data Entry Comments: dark brown clay like material, very crumbly. S95T000122 produced two endotherms one at 104.0°C with a delta H of 854.1 J/g and the second at 300.6°C with a delta H of 231.7 J/g

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

LABCORE Data Entry Template for Worklist# 588

Analyst: SMF **Instrument:** DSC01 _____ **Method:** LA-514-113/B-1

Worklist Comment: Please run C-111 DSC under N2. bdv

Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit
1	STD				DSC-01	SOLID	28.45	28.2	N/A	Joule
2	SAMPLE	S95T000122	0		DSC-01	SOLID	N/A	Ø		Joule
3	DUP	S95T000122	0		DSC-01	SOLID	Ø	Ø	N/A	Joule

Final page for worklist # 588

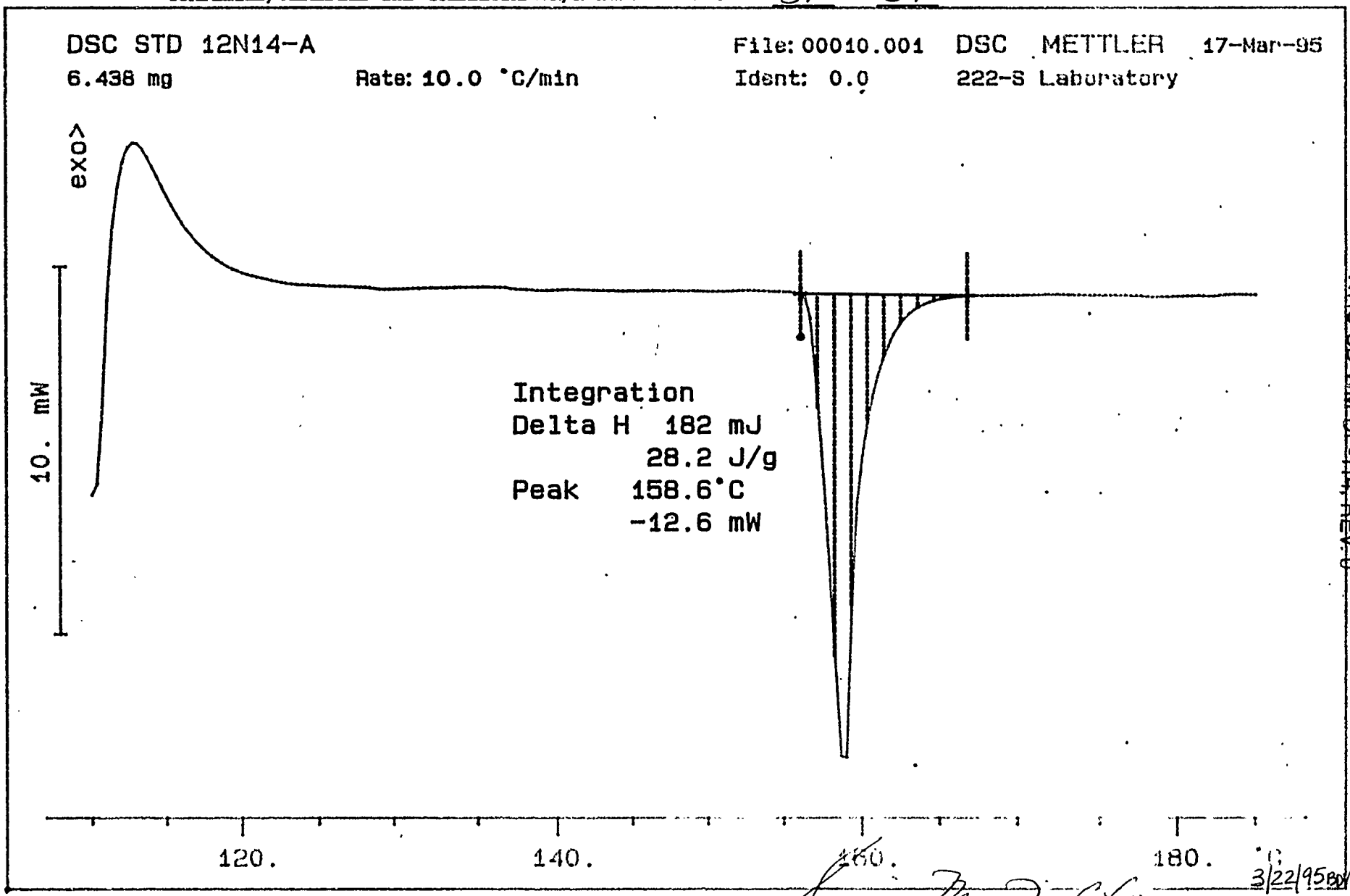
Susie M. Fulton
Analyst Signature

3-18-95
Date

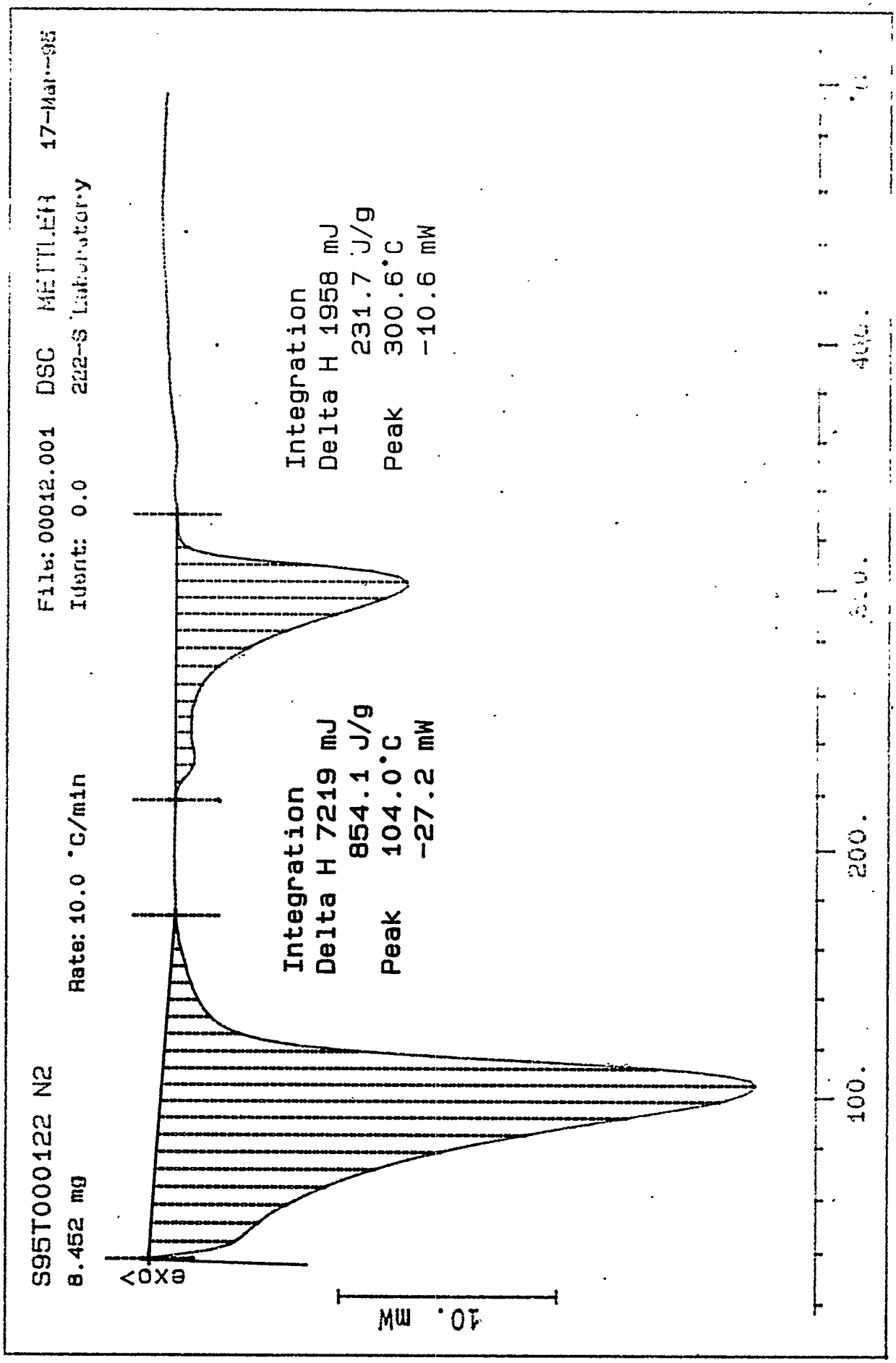
Data Entry Comments: dark brown clay like material, very crumbly.

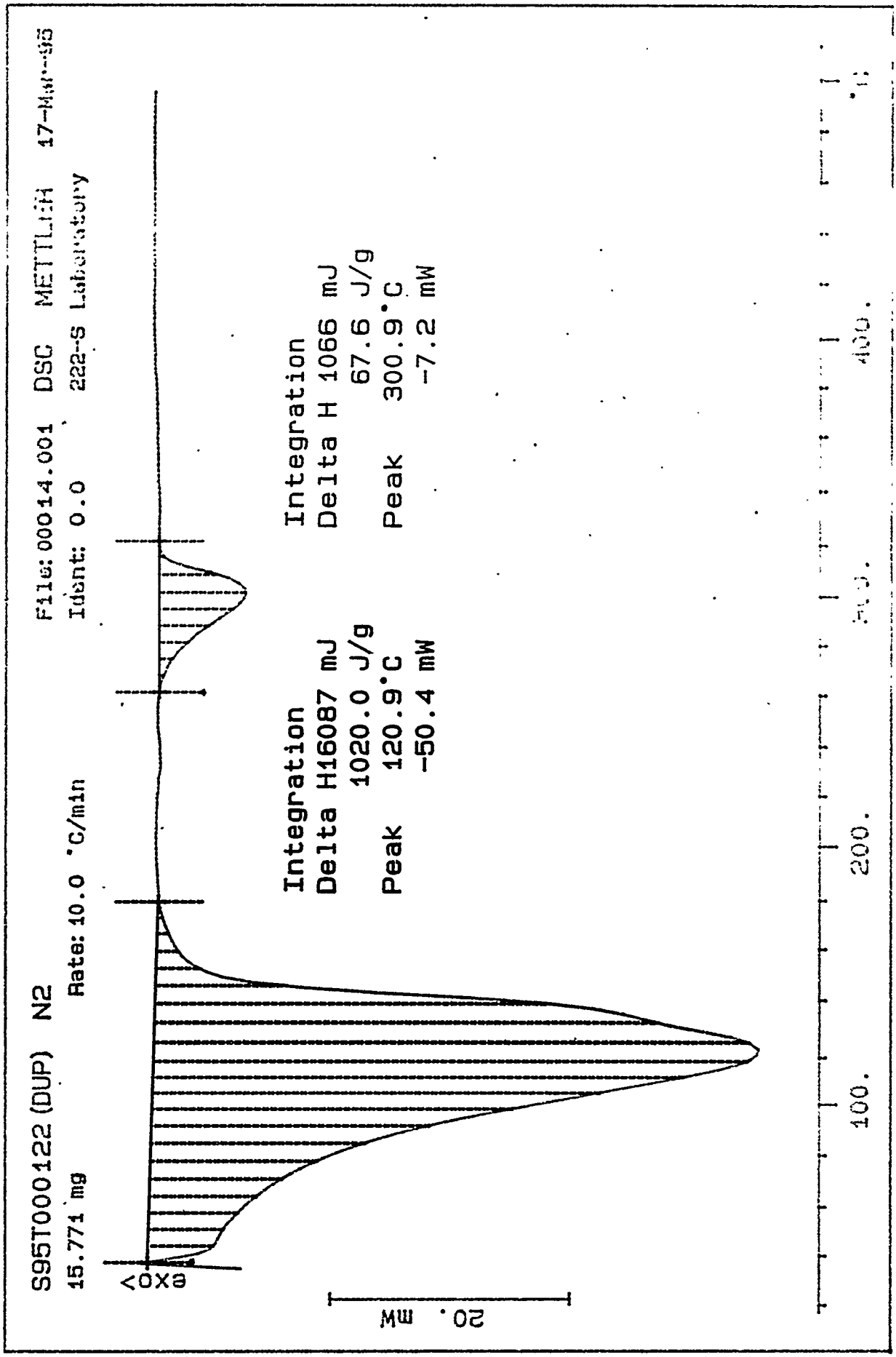
Units shown for QC (SPK) may not reflect the actual units.

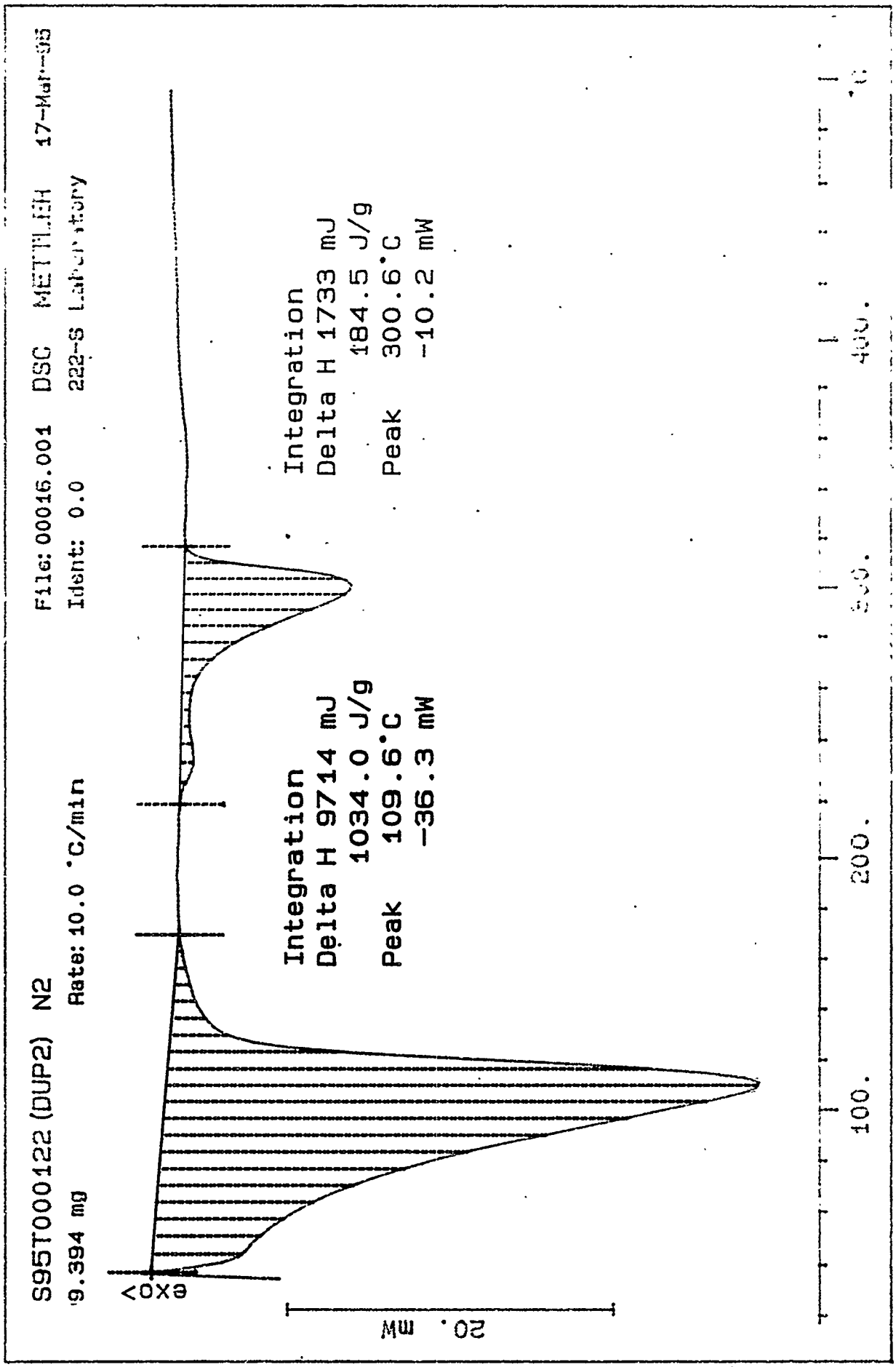
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 51 TO 54.



3/22/95 BDY




S95T000122 (DUP) N2
15.771 mg
Rate: 10.0 °C/min
File: 000014.001 DSC METTLER 17-Mar-95
Ident: 0.0 222-S Laboratory
Integration
Delta H16087 mJ
1020.0 J/g
Peak 120.9°C
-50.4 mW
Integration
Delta H 1066 mJ
67.6 J/g
Peak 300.9°C
-7.2 mW
EXO>
20. mW
100.
200.
400.


S95T000122 (DUP2) N2
9.394 mg
Rate: 10.0 °C/min
File: 00016.001 DSC METTLER 17-Mar-95
Ident: 0.0 222-S Laboratory
Integration
Delta H 9714 mJ
1034.0 J/g
Peak 109.6°C
-36.3 mW
Integration
Delta H 1733 mJ
184.5 J/g
Peak 300.6°C
-10.2 mW
EXO>
20. mW
100.
200.
300.
400.

LABCORE Data Entry Template for Worklist# 1009

Analyst: SMF **Instrument:** ~~DSC01 03~~ 5/9/95 BDV **Book #** 12N14-A

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

Worklist Comment: Please run C-111 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	26.76	N/A	Joules/g
95000041	C-111	2 SAMPLE	S95T000570	0		DSC-03	SOLID	N/A	Ø		Joules/g
95000041	C-111	3 DUP	S95T000570	0		DSC-03	SOLID	Ø	Ø	N/A	Joules/g
		4 STD				DSC-03	SOLID	28.45	27.25	N/A	Joules/g
95000041	C-111	5 SAMPLE	S95T000571	0		DSC-03	SOLID	N/A	Ø		Joules/g
95000041	C-111	6 DUP	S95T000571	0		DSC-03	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 1009

See attached for Signatures 5/9/95 BDV
Analyst Signature **Date**

5-9-95
Analyst Signature **Date**

Verified by Blandina Valenzuela 5/9/95

Data Entry Comments: These samples and duplicates were analyzed on two different days. The respective standard is above the sample and duplicate. S95T000570 was run second. It produced two endothermic regions, one at 102.7°C with a delta H of 760.1 J/g, and the second was at 264.7°C with a delta H of 363.5°C. Sample was a reddish-brown, thick clay like material.

S95T000571 was run first. It produced two endotherms one at 126.4°C with a delta H of 1110.2 J/g and the second at ~~113.3~~ 242.4°C with a delta H of 113.3. Sample was a reddish brown thick clay 5/9/95 BDV like material.

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# 1009

Analyst: SMF **Instrument:** DSC01 _____ **Book #** 12N14-17

Method: LA-514-~~113~~ 114 Rev/Mod B-0 SMF

Worklist Comment: Please run C-111 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
95000041	C-111	2	SAMPLE	S95T000570	0		DSC-01	SOLID	N/A			Joules/g
95000041	C-111	3	DUP	S95T000570	0		DSC-01	SOLID			N/A	Joules/g
95000041	C-111	4	SAMPLE	S95T000571	0		DSC-01	SOLID	N/A			Joules/g
95000041	C-111	5	DUP	S95T000571	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 1009

Susie M. Dutton 5-5-95
Analyst Signature **Date**

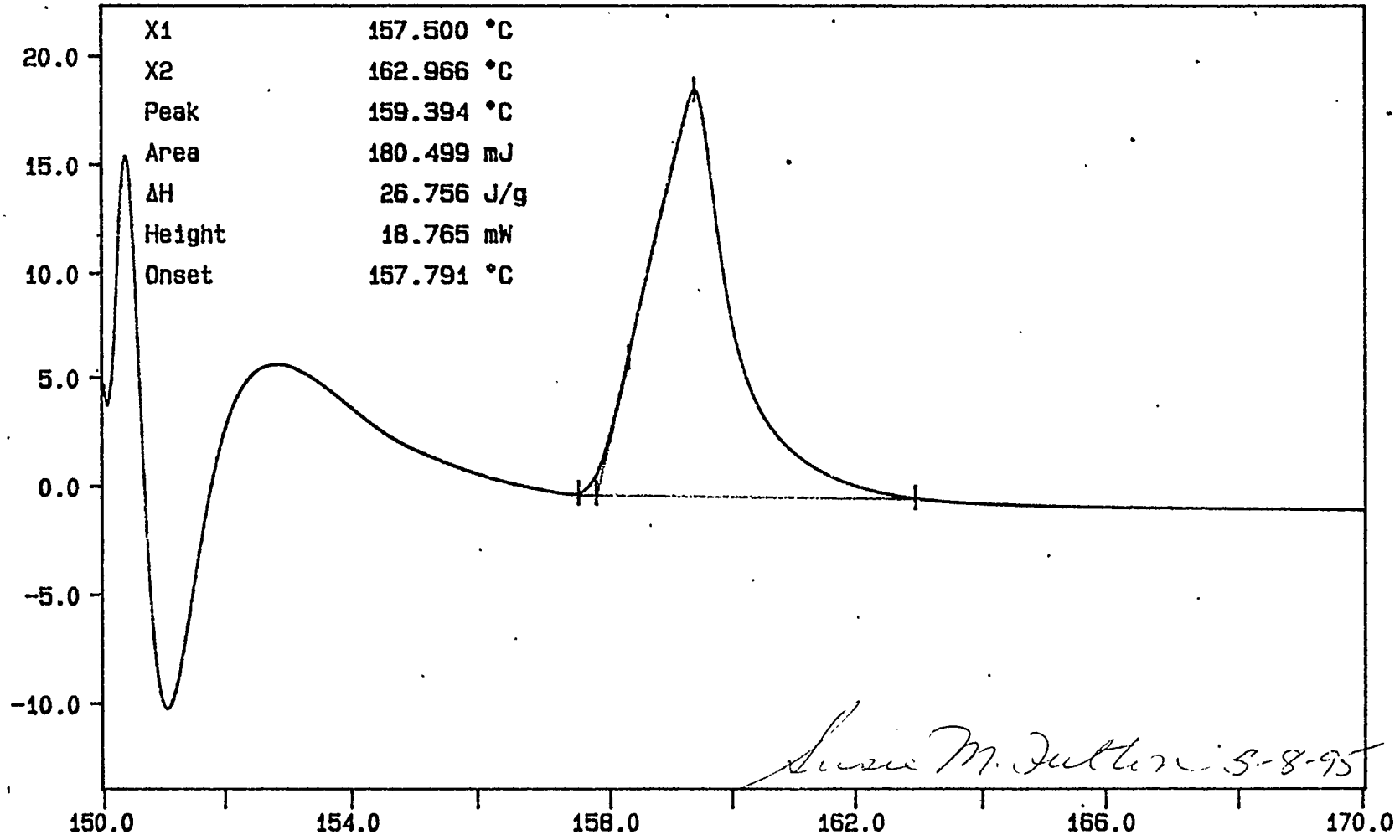
_____
Analyst Signature **Date**

Data Entry Comments:
S95T000571 - Redish Brown, thick clay like material
S95T000570 - Same as S95T000571
Other instrument was used

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: IND050801 Mon May 8 08:12:11 1995
Sample Weight: 6.746 mg
Indium at 10c/min

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 57 TO 62.



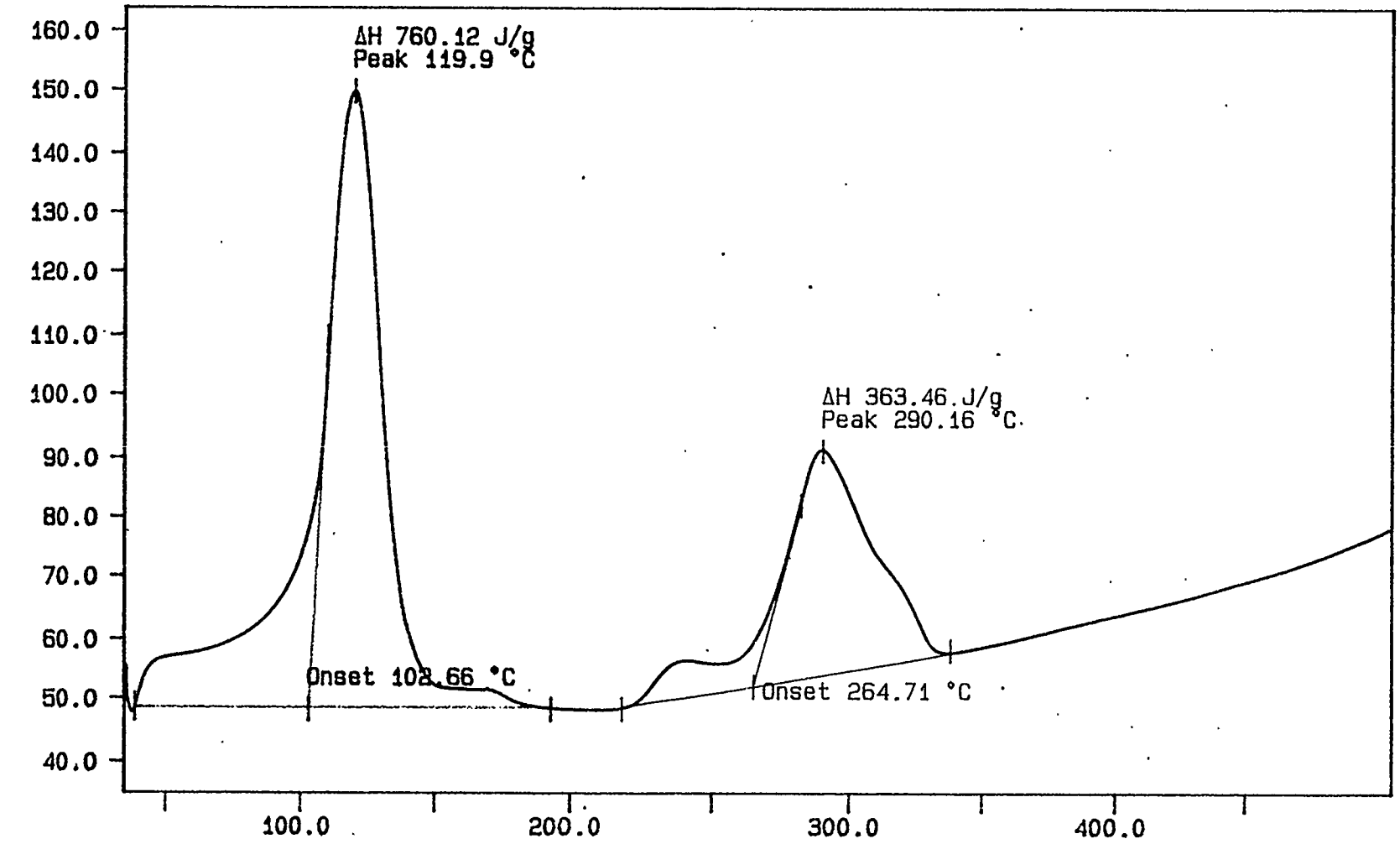
25

Lisa M. Fulton 5-8-95

N2 exotherm down
TEMP1: 150.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 170.0 C

SM FULTON
Westinghouse Hanford Co.
222-S Lab
Mon May 8 08:28:34 1995

Curve 1: DSC
File info: SAM050801 Mon May 8 09:58:55 1995
Sample Weight: 25.330 mg
S95T000570, 10C/min



exotherm down, nitrogen purge gas

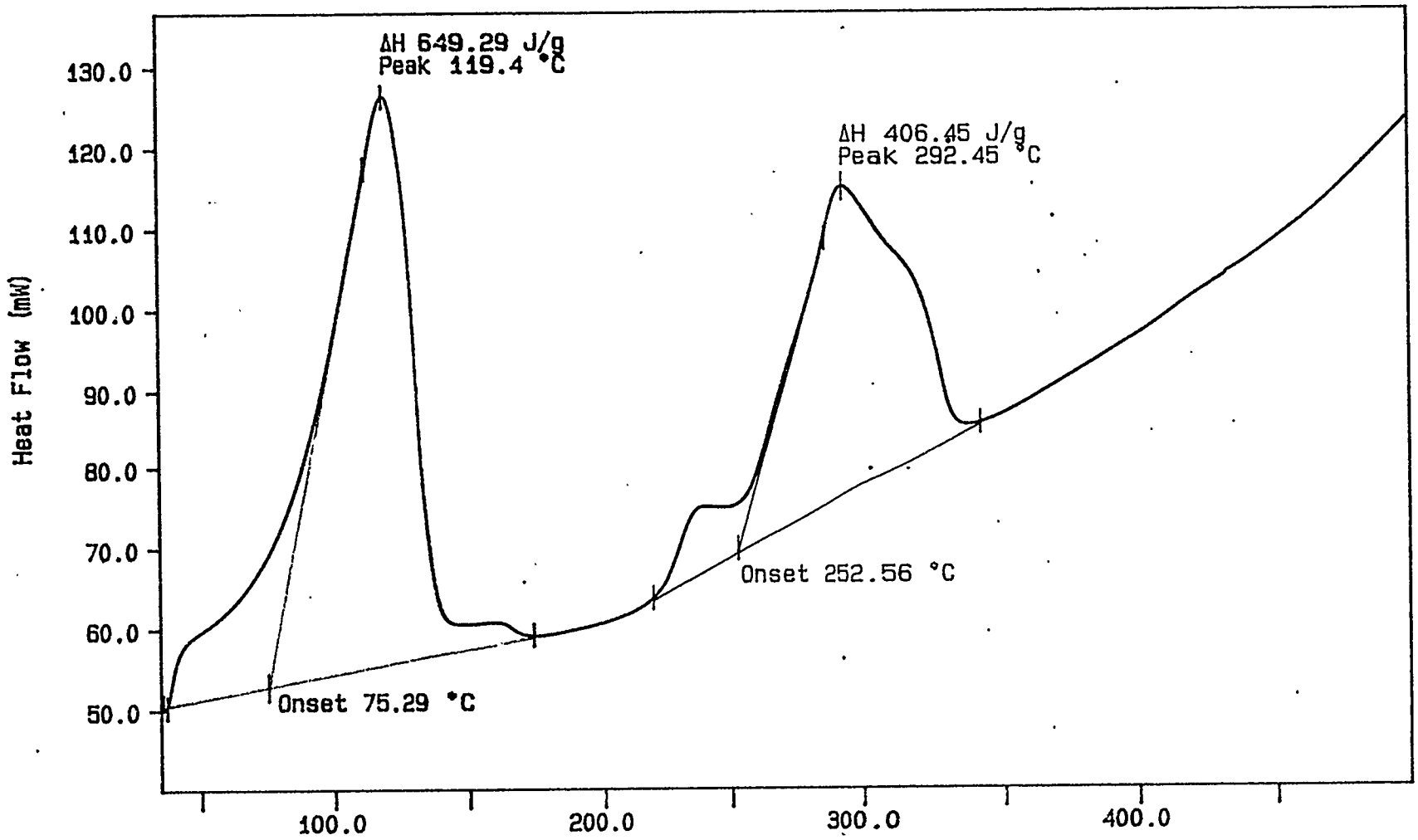
Temperature (°C)

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Mon May 8 10:00:31 1995

58

Curve 1: DSC
File info: SAM050802 Mon May 8 12:34:57 1995
Sample Weight: 29.120 mg
S95T000570 (DUP), 10C/min



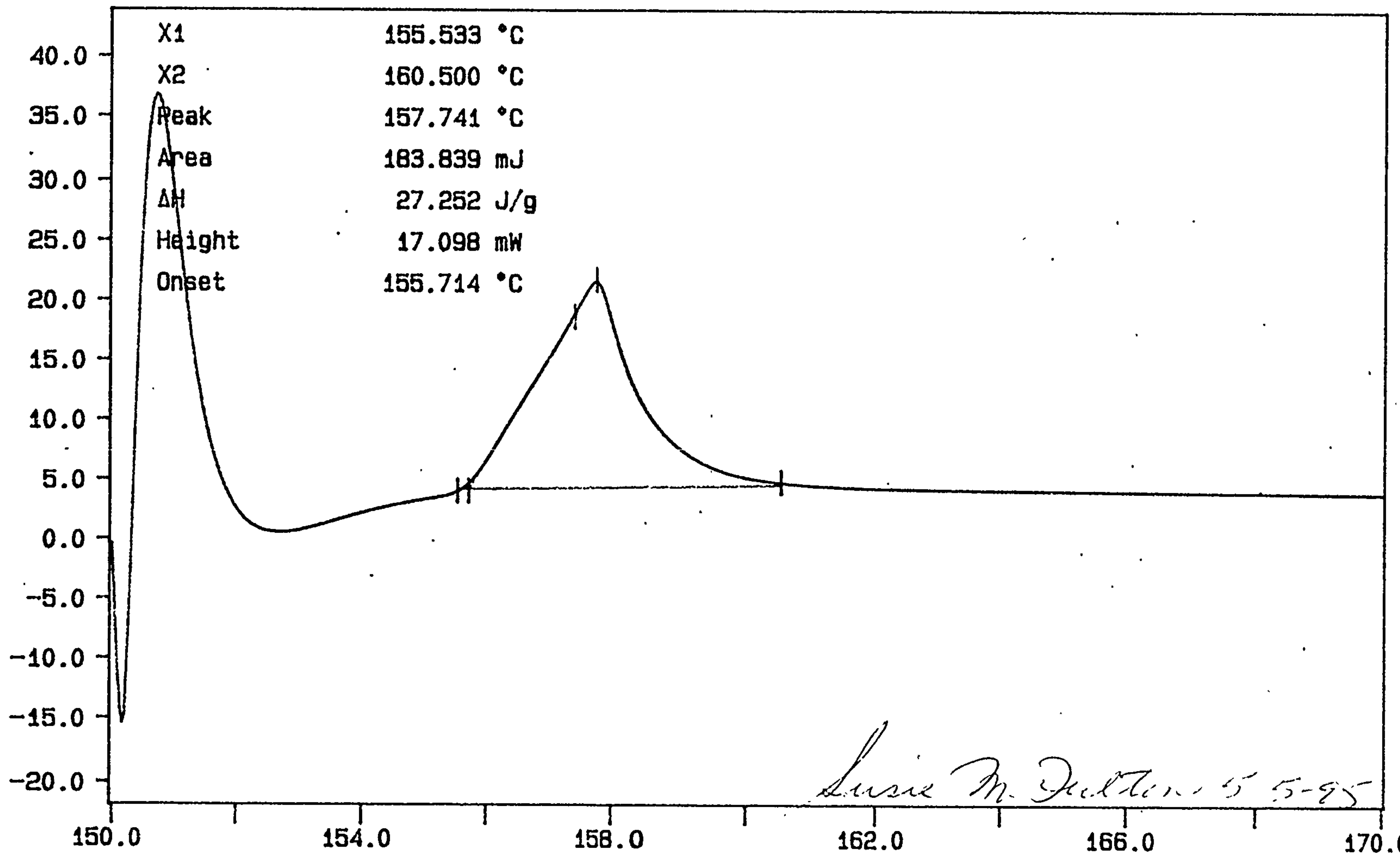
exotherm down, nitrogen purge gas

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Mon May 8 12:39:08 1995

59

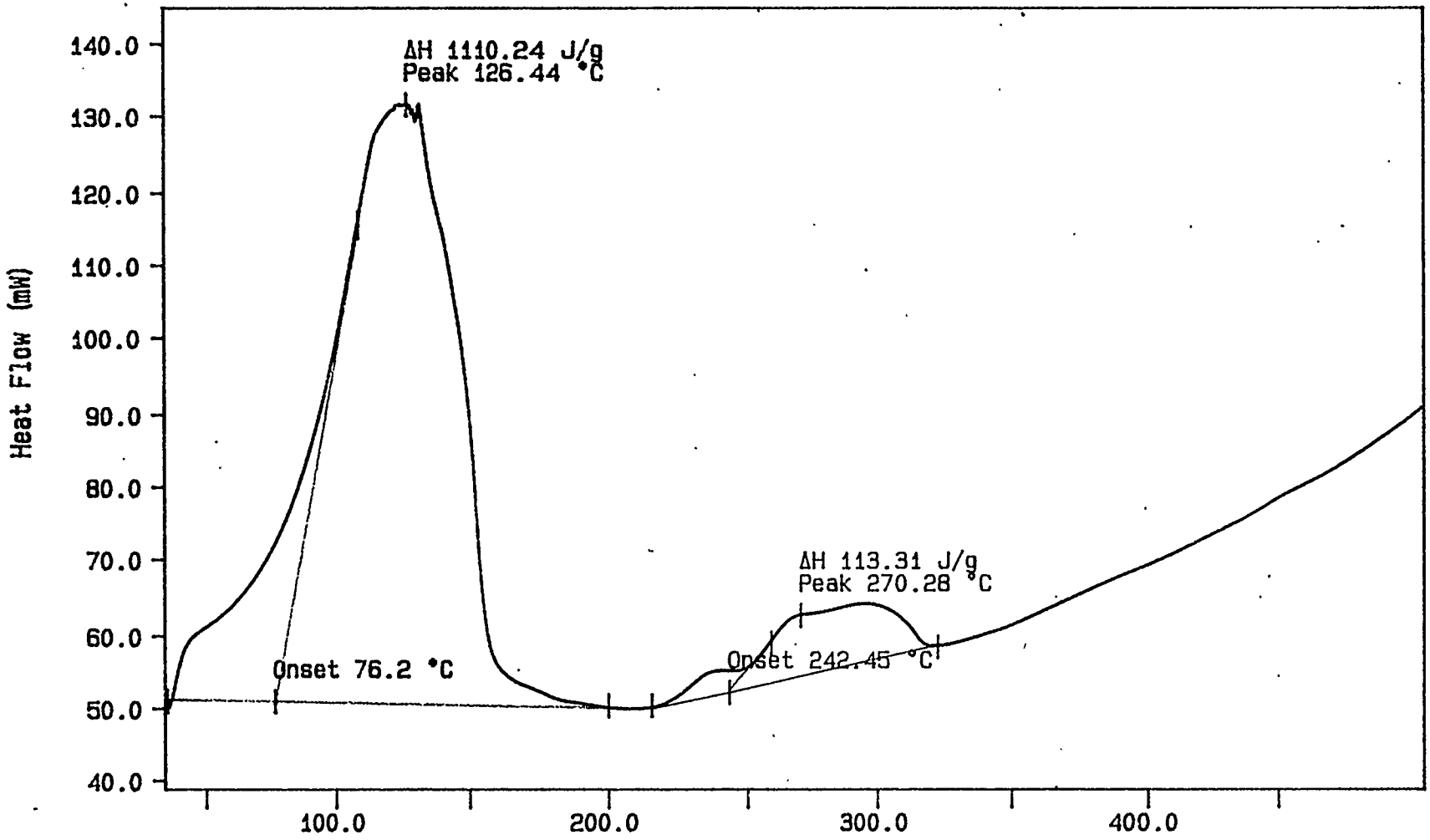
Curve 1: DSC
File info: IND050501 Fri May 5 09:02:39 1995
Sample Weight: 6.746 mg
Indium at 10c/min



N2 exotherm down
TEMP1: 150.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 170.0 C

SM FULTON
Westinghouse Hanford Co.
222-S Lab
Fri May 5 09:06:51 1995

Curve 1: DSC
File info: SAM050501 Fri May 5 14:15:12 1995
Sample Weight: 26.590 mg
S95T000751, 10C/min



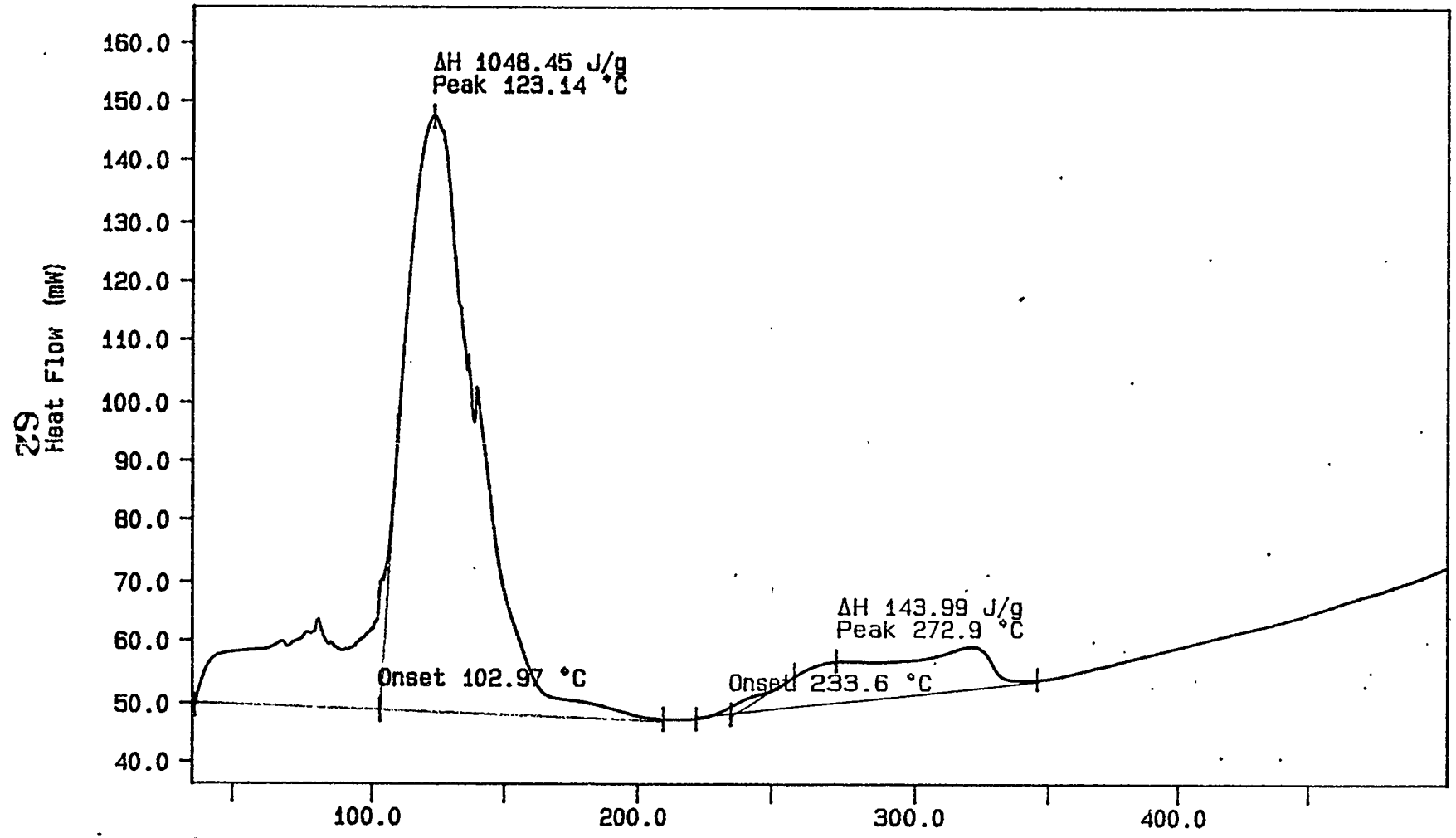
exotherm down, nitrogen purge gas

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

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Fri May 5 14:21:28 1995

G1

Curve 1: DSC
File info: SAM050502 Fri May 5 12:16:15 1995
Sample Weight: 21.920 mg
S95T000571 (DUP). 10C/min



exotherm down, nitrogen purge gas Temperature (°C)

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Fri May 5 13:18:01 1995

WHC-SD-WM-DP-114, REV. 0

LABCORE Data Entry Template for Worklist# 1011

Analyst: BCW 5/8/95 BDV **Instrument:** DSC01 _____ **Book #** 12N14-A

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

Worklist Comment: Please run C-111 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	28.45	26.2	N/A	Joules/g
95000041	C-111	2	SAMPLE	S95T000572	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000041	C-111	3	DUP	S95T000572	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g
95000042	C-111	4	SAMPLE	S95T000577	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000042	C-111	5	DUP	S95T000577	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 1011

B Wegner 5/5/95
Analyst Signature **Date**

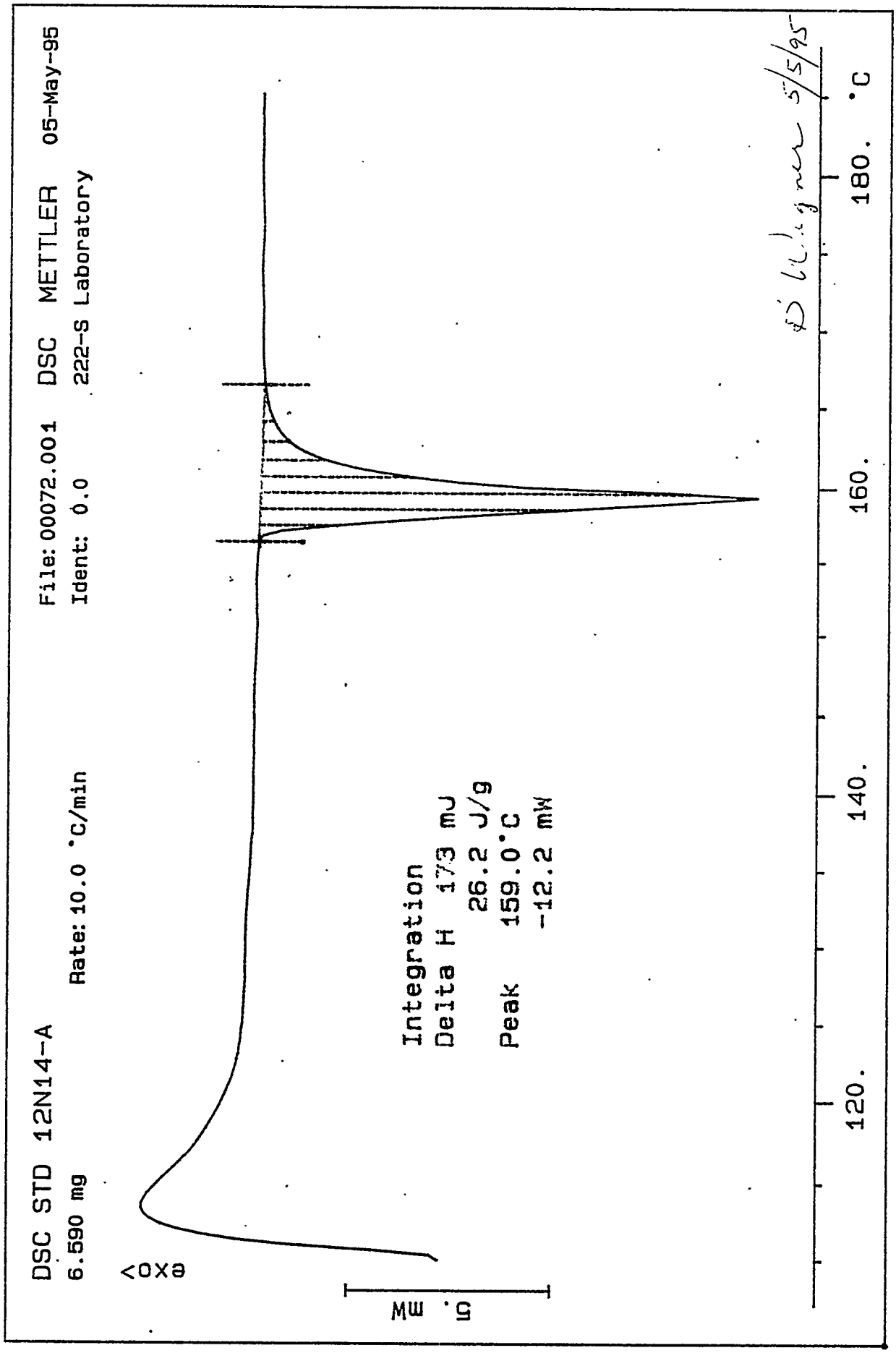
Analyst Signature 5/8/95 **Date**

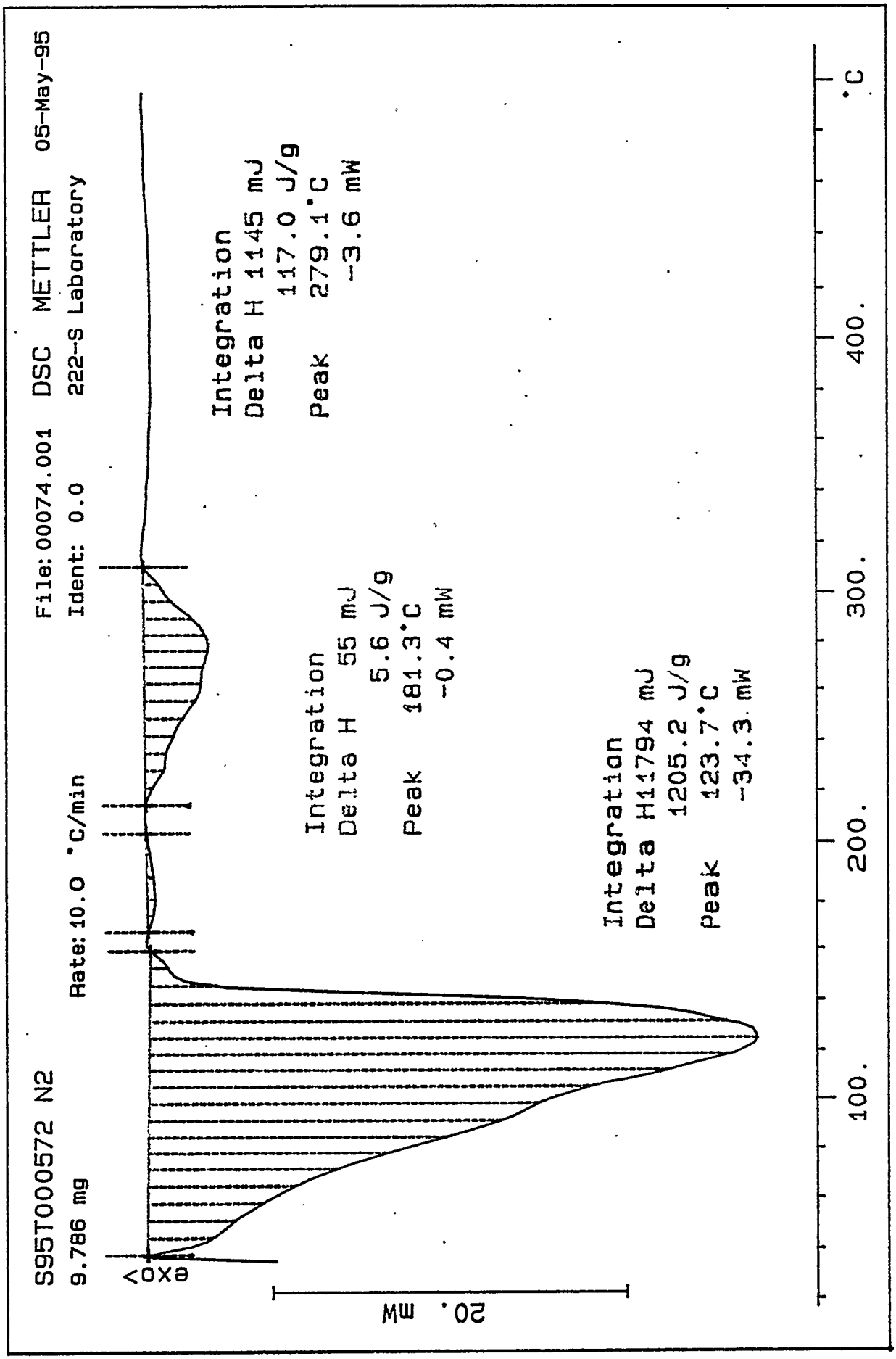
Verified by Blandina Valenzuela 5/9/95

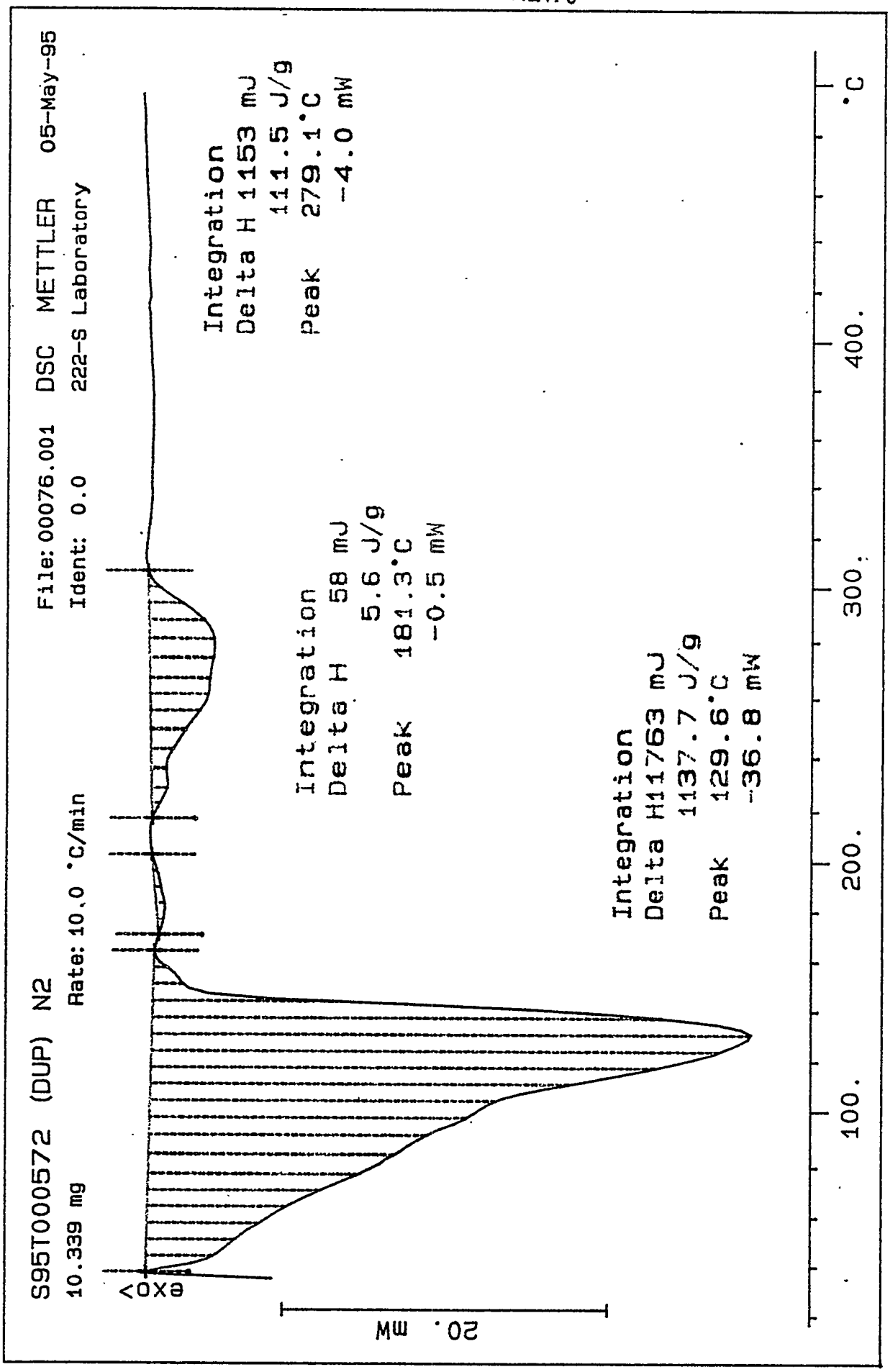
Data Entry Comments: S95T000572 - Brownish Red Clay-Like Substan
S95T000577 - Sand colored - very dry particle

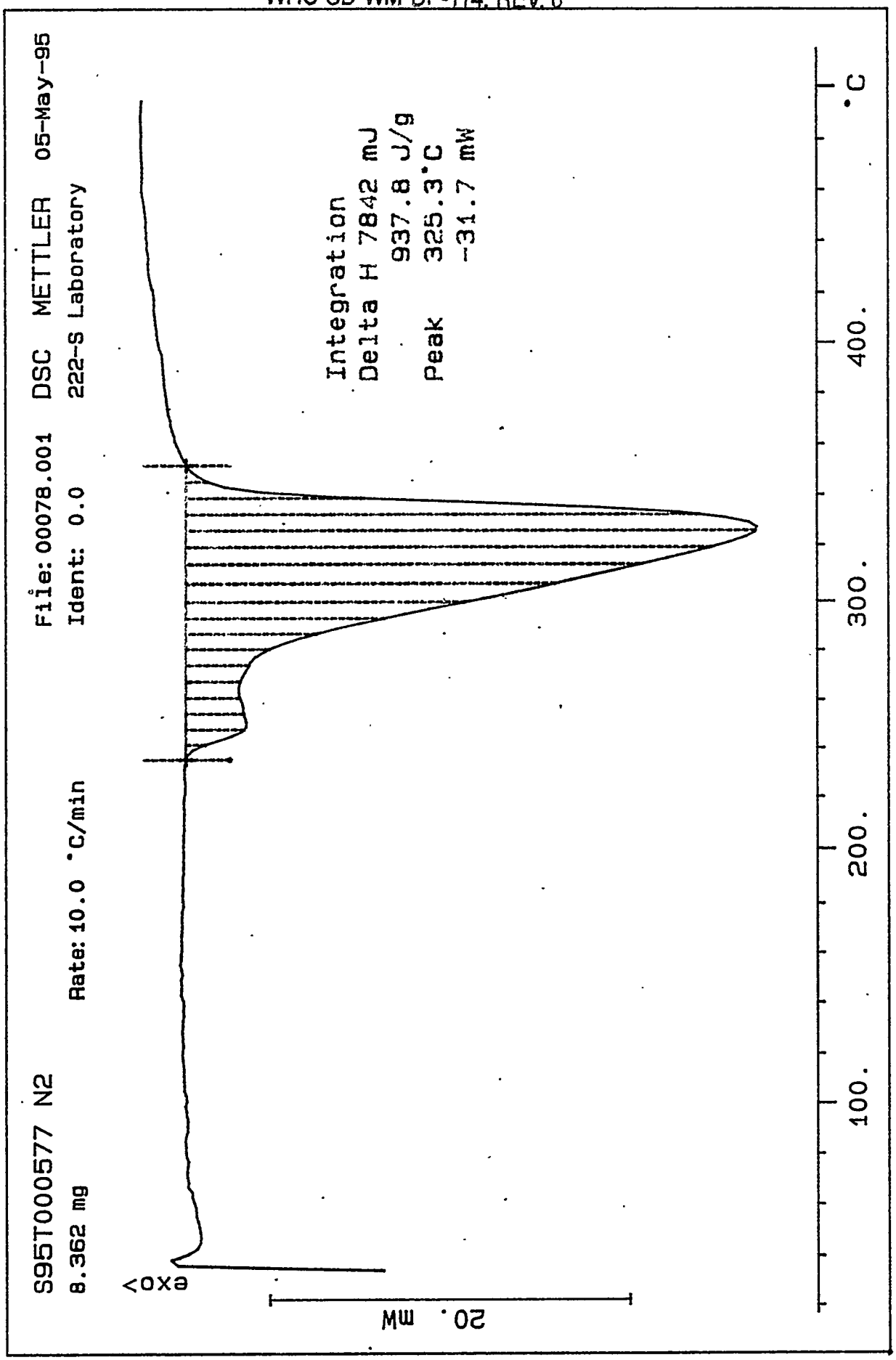
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

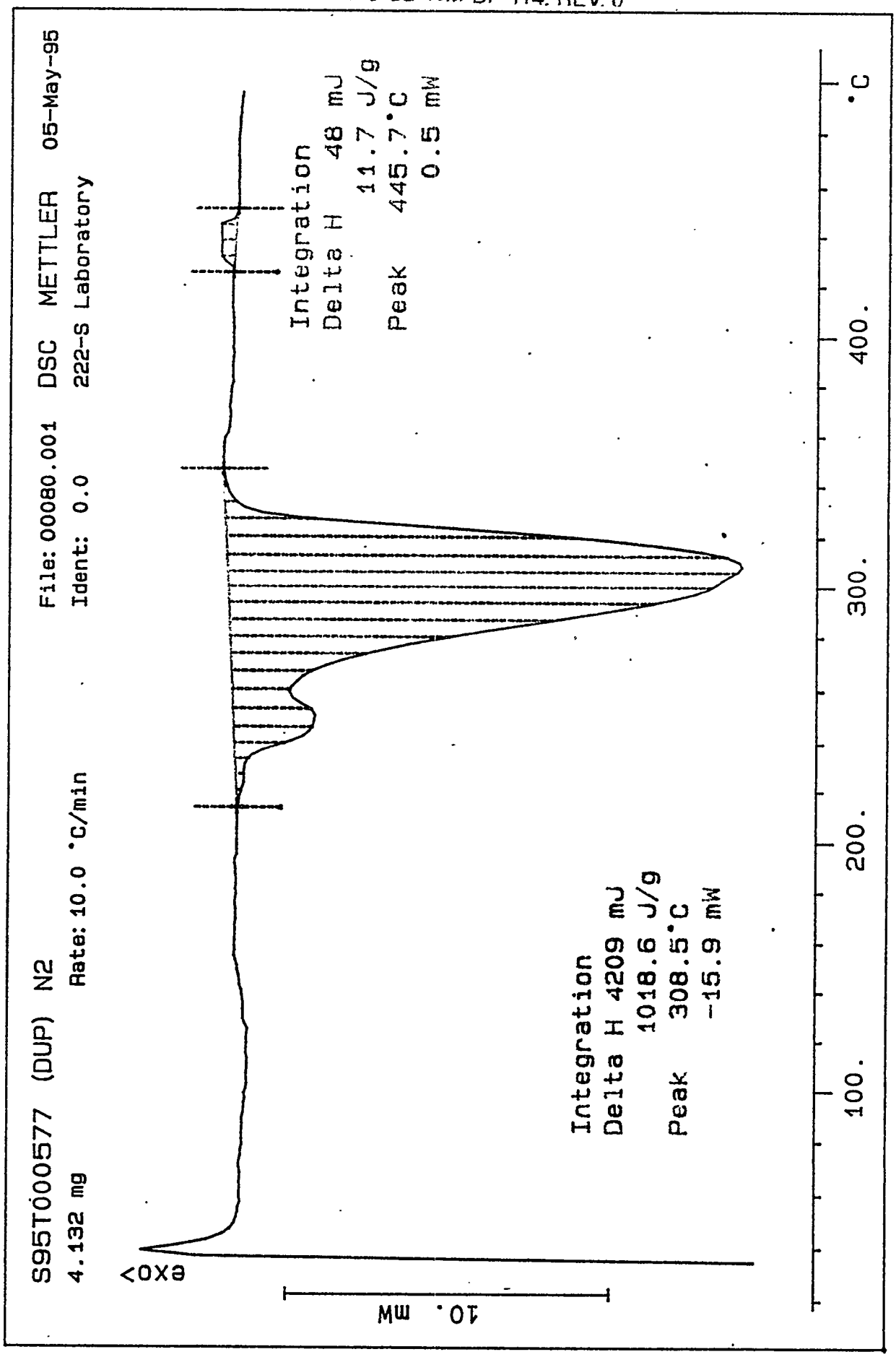
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 64 TO 64.











LABCORE Data Entry Template for Worklist# 589

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

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

Worklist Comment: Please run C-111 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.19	58.78	N/A	%
95000005	C-111	2	SAMPLE	S95T000122	0		TGA-01	SOLID	N/A	26.54		%
95000005	C-111	3	DUP	S95T000122	0		TGA-01	SOLID	26.54	35.50	N/A	%
95000005	C-111	4	DUP2	S95T000122	0		TGA-01	SOLID	26.54	22.15	N/A	%

Final page for worklist # 589

1 Data entered + verified by

See attached for signatures 3/22/95
Analyst Signature **Date**

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

D

Data Entry Comments: Sample was dark brown clay like material and very crumbly. S95T000122 produced a second weight loss step after the initial water loss at 273.0°C with a 8.97% loss.

3/22/95 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.

LABCORE Data Entry Template for Worklist# 589

Analyst: SMF **Instrument:** TGA01 _____ **Method:** LA-560-112/A-2

Worklist Comment: Please run C-111 TGA under N2. bdv

Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit
1	STD				TGA-01	SOLID			N/A	%
2	SAMPLE	S95T000122	0		TGA-01	SOLID	N/A			%
3	DUP	S95T000122	0		TGA-01	SOLID			N/A	%

Final page for worklist # 589

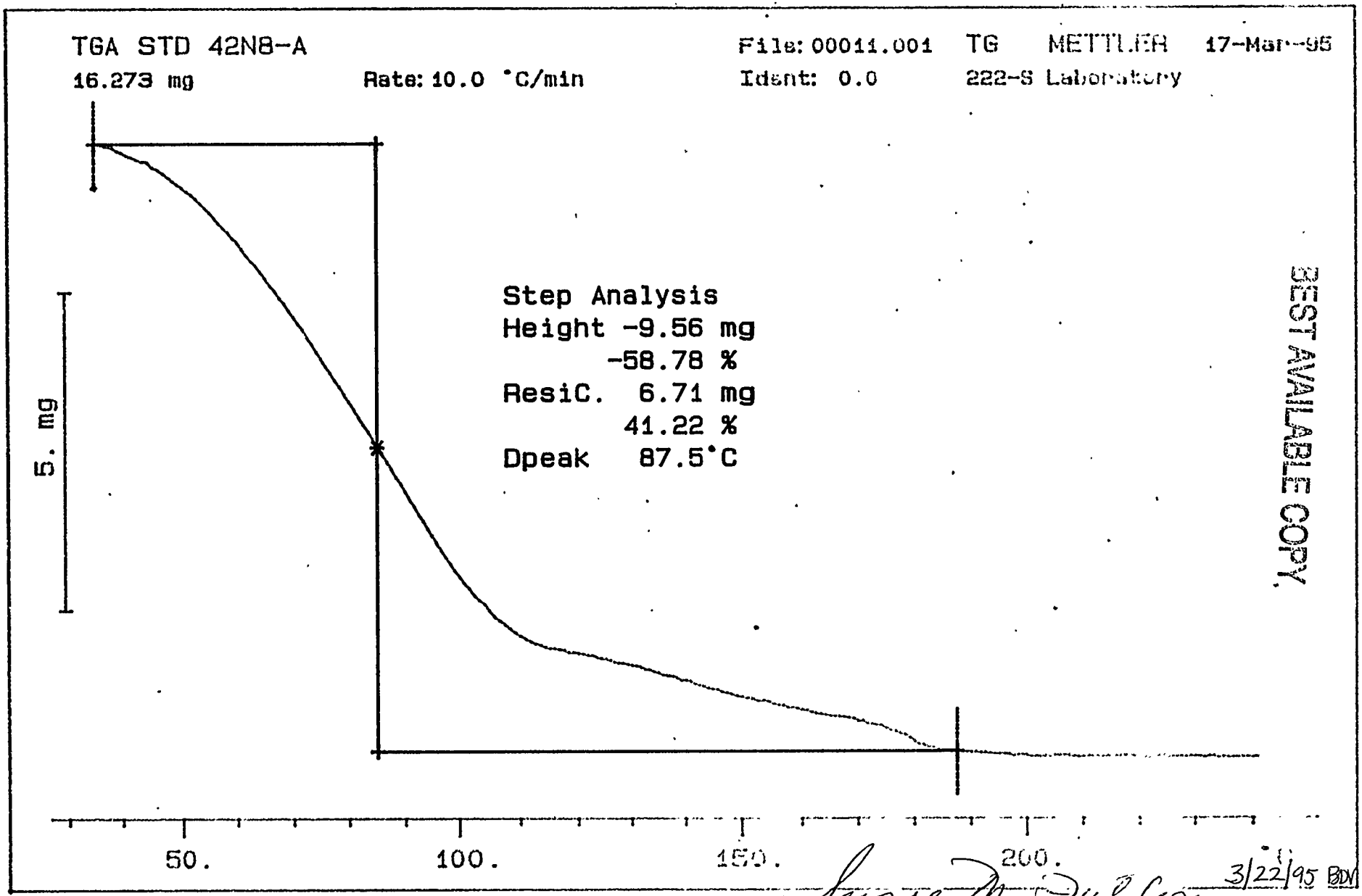
Susie M. Fulton
Analyst Signature

3-18-95
Date

Data Entry Comments:
sample dark brown clay like material and very crumbly

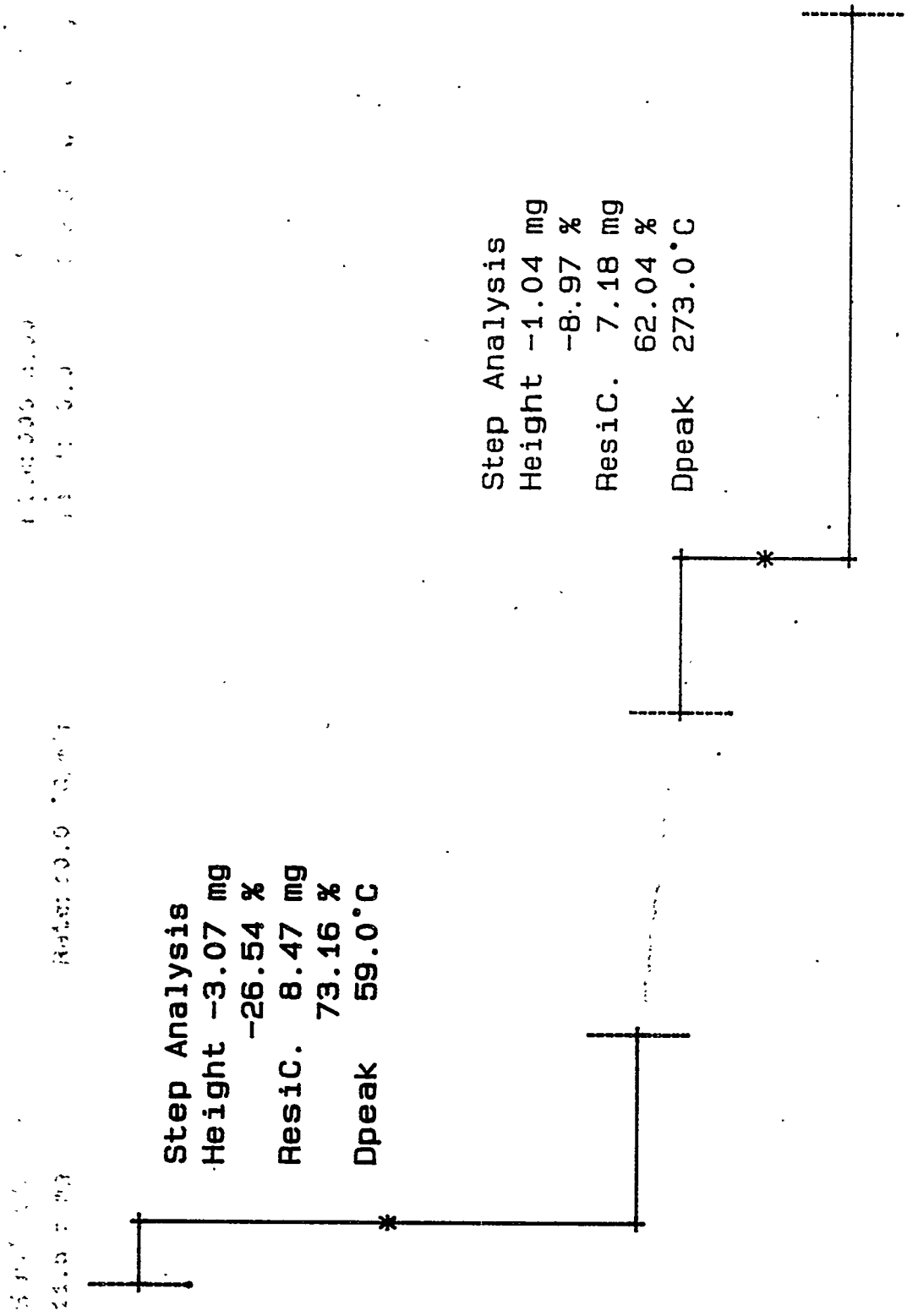
Units shown for QC (SPK) may not reflect the actual units.

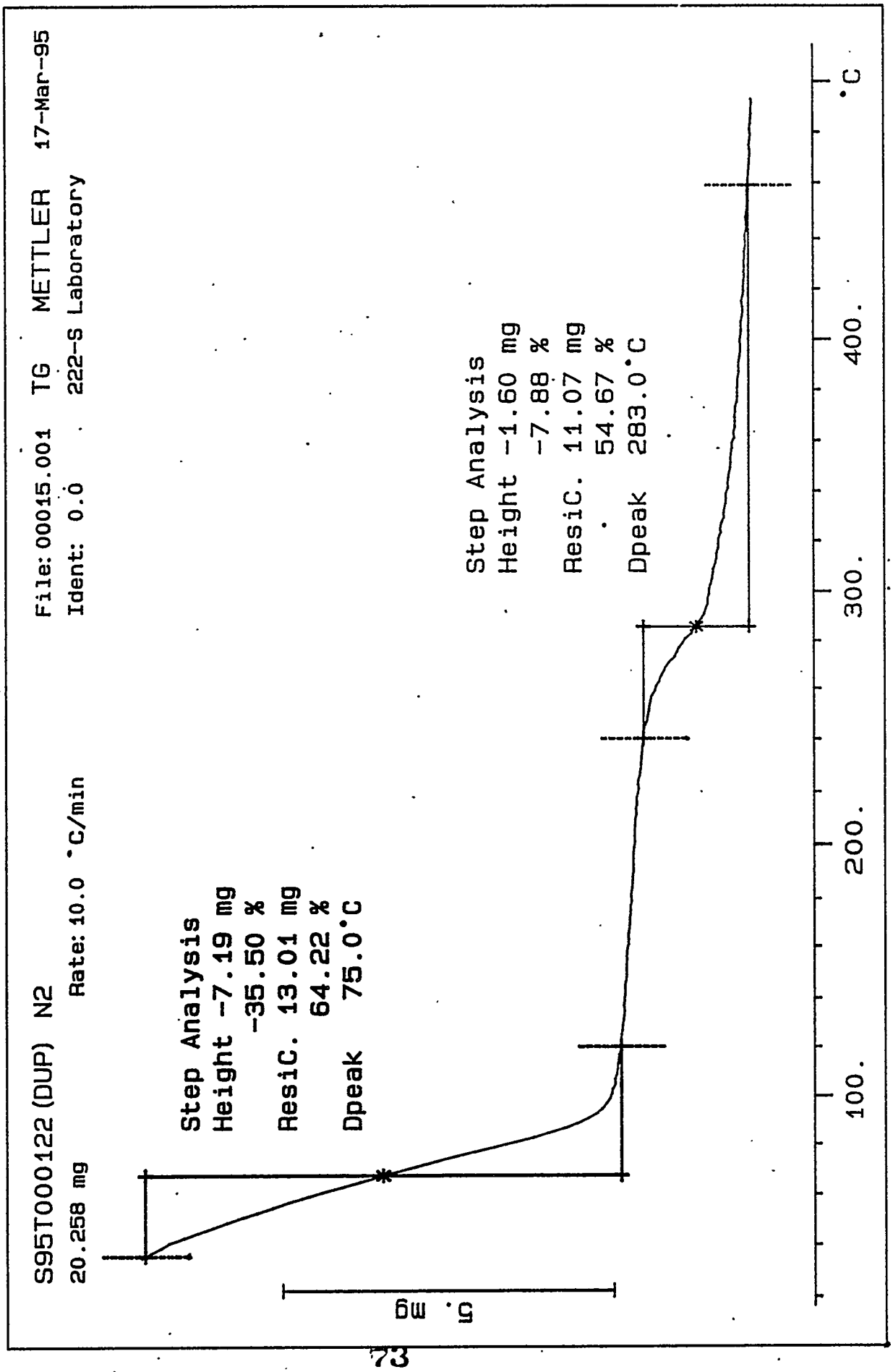
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 71 TO 74.

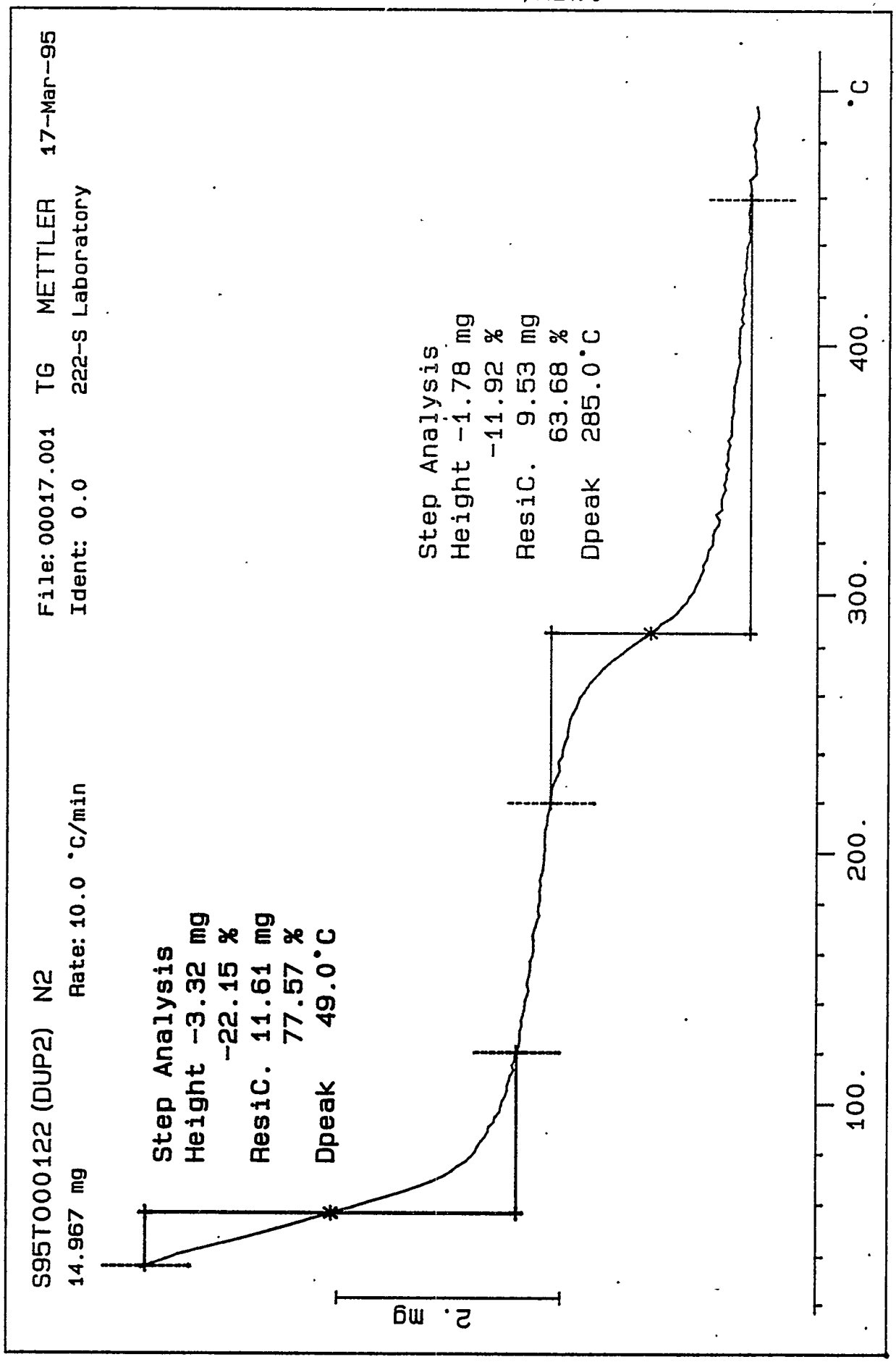


Susie M. Dulcon 3/22/95 BDM

71


Step Analysis
Height -3.07 mg
-26.54 %
ResiC. 8.47 mg
73.16 %
Dpeak 59.0°C
Step Analysis
Height -1.04 mg
-8.97 %
ResiC. 7.18 mg
62.04 %
Dpeak 273.0°C


S95T000122 (DUP) N2
20.258 mg
Rate: 10.0 °C/min
File: 00015.001 TG METTLER 17-Mar-95
Ident: 0.0 222-S Laboratory
Step Analysis
Height -7.19 mg
-35.50 %
ResiC. 13.01 mg
64.22 %
Dpeak 75.0°C
Step Analysis
Height -1.60 mg
-7.88 %
ResiC. 11.07 mg
54.67 %
Dpeak 283.0°C
5. mg
100.
200.
300.
400.
°C



LABCORE Data Entry Template for Worklist# 1044

Analyst: SMF **Instrument:** ~~TGA01~~ 03 5/9/95 BDV **Book #** 42N8-A

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

Worklist Comment: Please run C-111 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.19	58.72	N/A	%
95000041	C-111	2	SAMPLE	S95T000570	0		TGA-03	SOLID	N/A	28.01		%
95000041	C-111	3	DUP	S95T000570	0		TGA-03	SOLID	28.01	28.24	N/A	%
		4	STD				TGA-03	SOLID	59.19	58.54	N/A	%
95000041	C-111	5	SAMPLE	S95T000571	0		TGA-03	SOLID	44.74 N/A	~~38.58~~ 5/9/95 BDV 5.71 5/9/95 BDV		%
95000041	C-111	6	DUP	S95T000571	0		TGA-03	BDV 5/9/95 SOLID	~~38.58~~ 44.74	38.58	N/A	%
95000041	C-111	7	TRIPL	S95T000571	0		TGA-03	BDV 5/9/95 SOLID	~~38.58~~ 44.74	38.47	N/A	%

Final page for worklist # 1044

See attached for Signatures 5/9/95
Analyst Signature **Date**

Verified by Blandina Valenzuela BDV 5/9/95

Analyst Signature **Date** 5-9-95

The samples were run on two different days. The respective standard is found above the sample and duplicate.
S95T000570 was run second. It produced a second weight loss step of ~~5.87%~~ 14.66% at approximately ~~300~~ 280°C. ~~A triple was run 0. 5/9/95 BDV~~ 5/9/95 BDV

Data Entry Comments: S95T000571 was run first. It produced a second weight loss step of 5.87% at approximately 280°C. A triple was run due to high RPD's.

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# 1044

Analyst: SMF **Instrument:** TGA01 **Book #** 42N8-17

Method: ~~LA-560-112 Rev/Mod~~ LA-514-114/B-0

Worklist Comment: Please run C-111 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
95000041	C-111	2	SAMPLE	S95T000570	0		TGA-01	SOLID	N/A			%
95000041	C-111	3	DUP	S95T000570	0		TGA-01	SOLID			N/A	%
95000041	C-111	4	SAMPLE	S95T000571	0		TGA-01	SOLID	N/A			%
95000041	C-111	5	DUP	S95T000571	0		TGA-01	SOLID			N/A	%

Final page for worklist # 1044

Susie M. Sutton 5-5-95

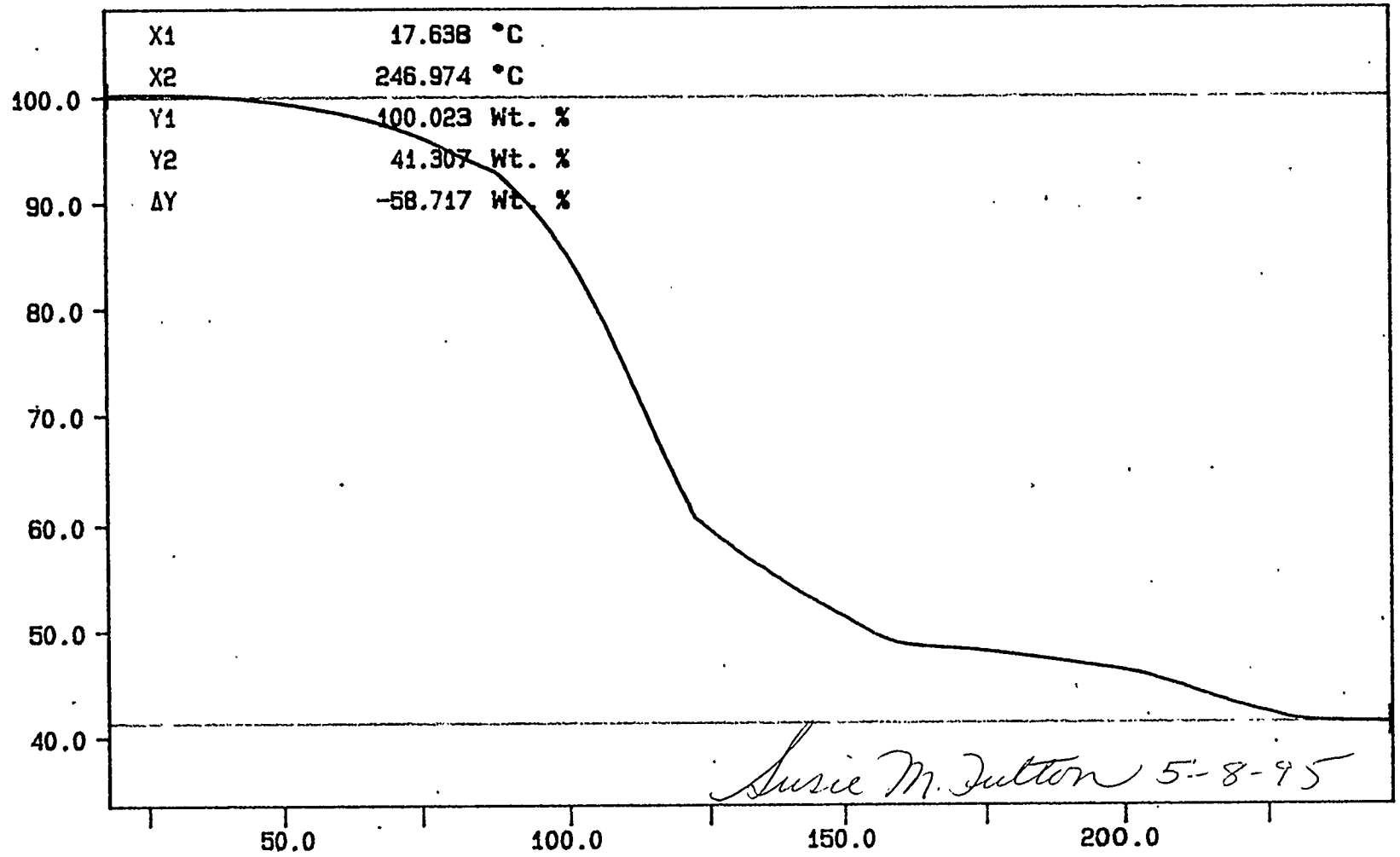
Analyst Signature **Date** **Analyst Signature** **Date**

Data Entry Comments:
S95T000571 - Reddish-Brown thick, clay like material
S95T000570 - Same as S95T000571
Other instrument was used.

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: TER050801 Mon May 8 08:46:50 1995
Sample Weight: 12.046 mg
42N8A Terliq

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 77 TO 83.

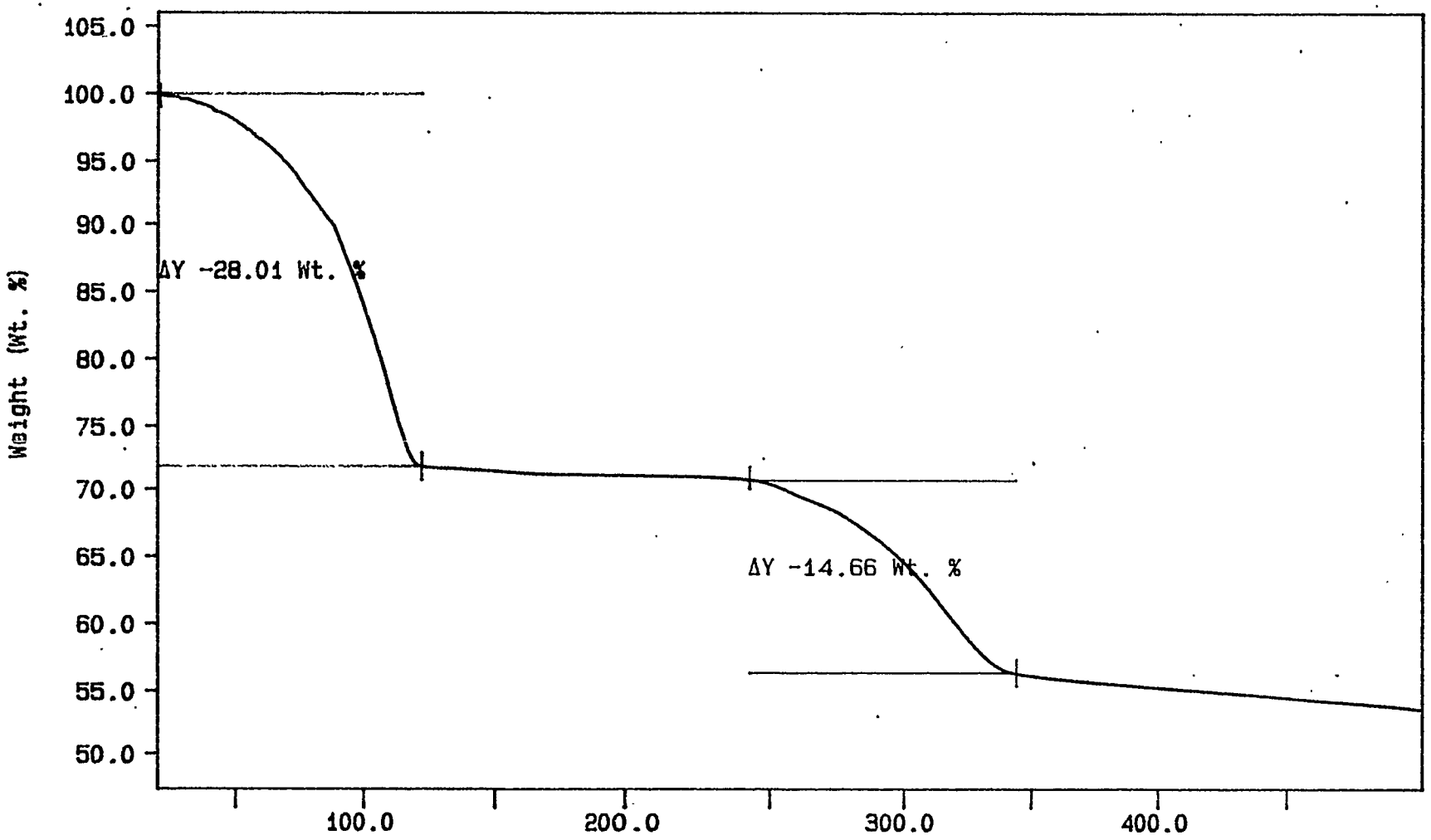


77

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 250.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Mon May 8 08:49:50 1995

Curve 1: TGA
File info: SAM050801 Mon May 8 09:59:20 1995
Sample Weight: 19.201 mg
S956T000570, 10C/min

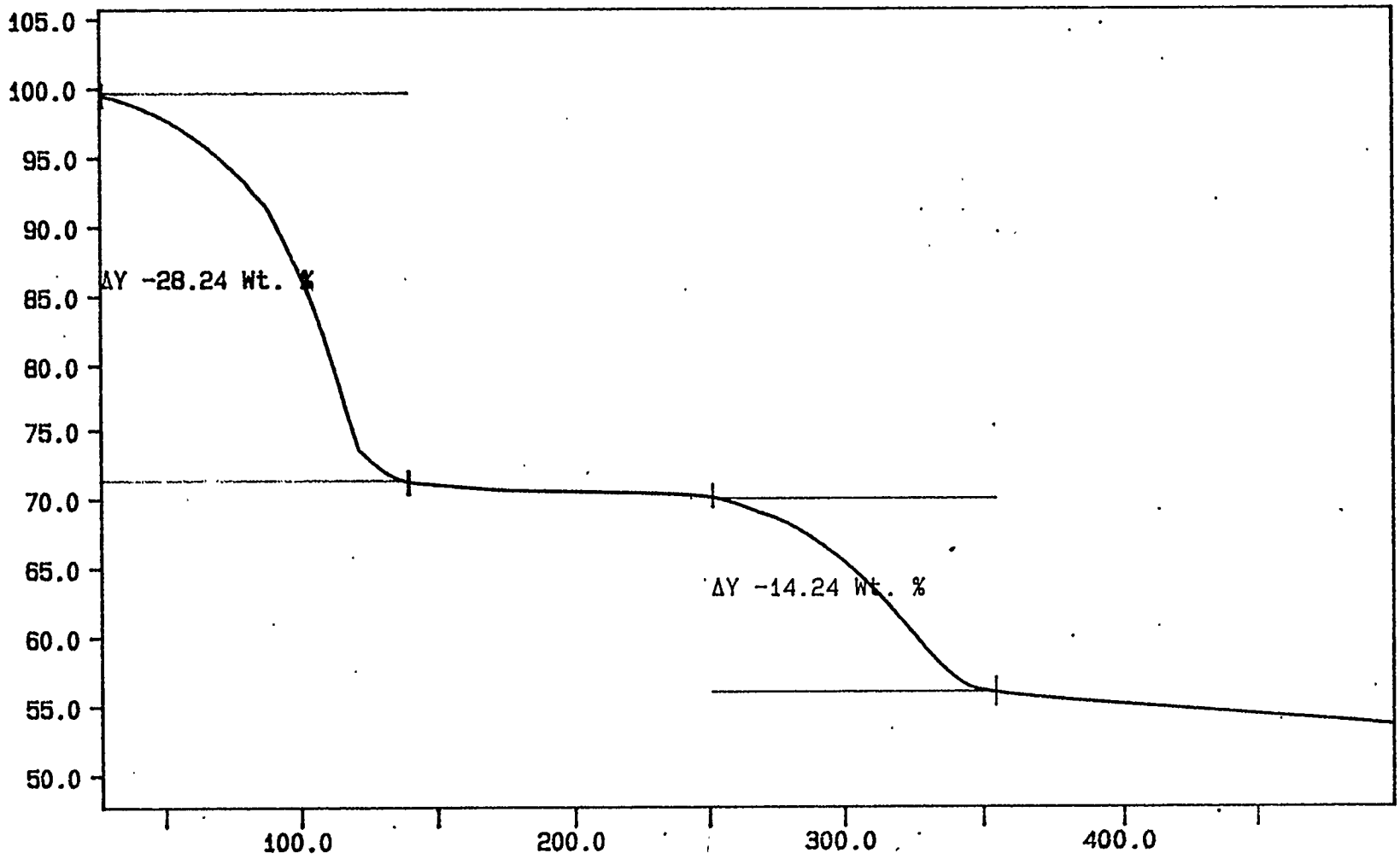


N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Mon May 8 10:08:17 1995

82

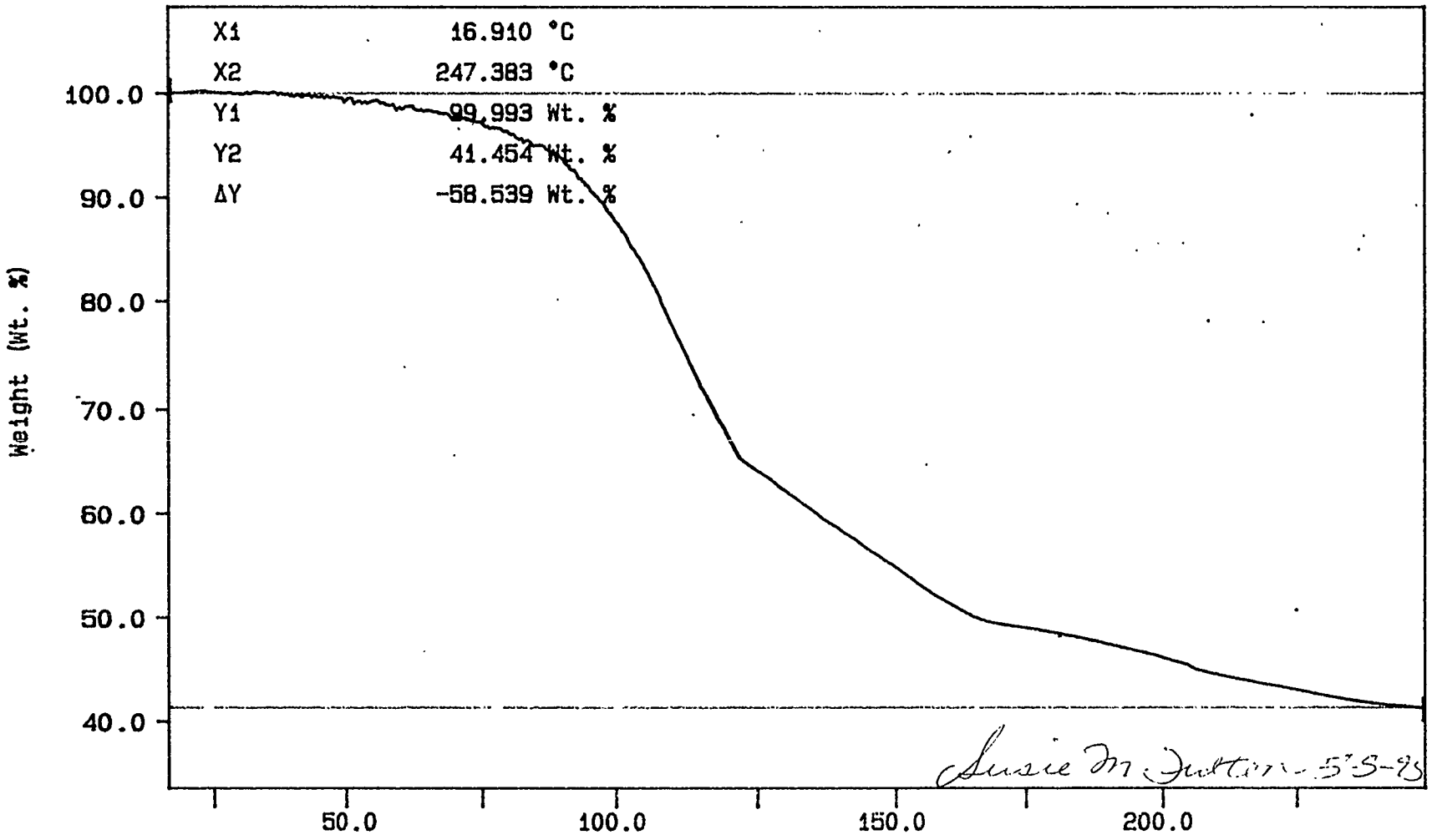
Curve 1: TGA
File info: SAM050802 Mon May 8 11:05:38 1995
Sample Weight: 24.761 mg
S95T000570 (DUP). 10C/min



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

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Mon May 8 11:40:31 1995

Curve 1: TGA
File info: TER050501 Fri May 5 09:21:48 1995
Sample Weight: 13.854 mg
42N8A Terliq



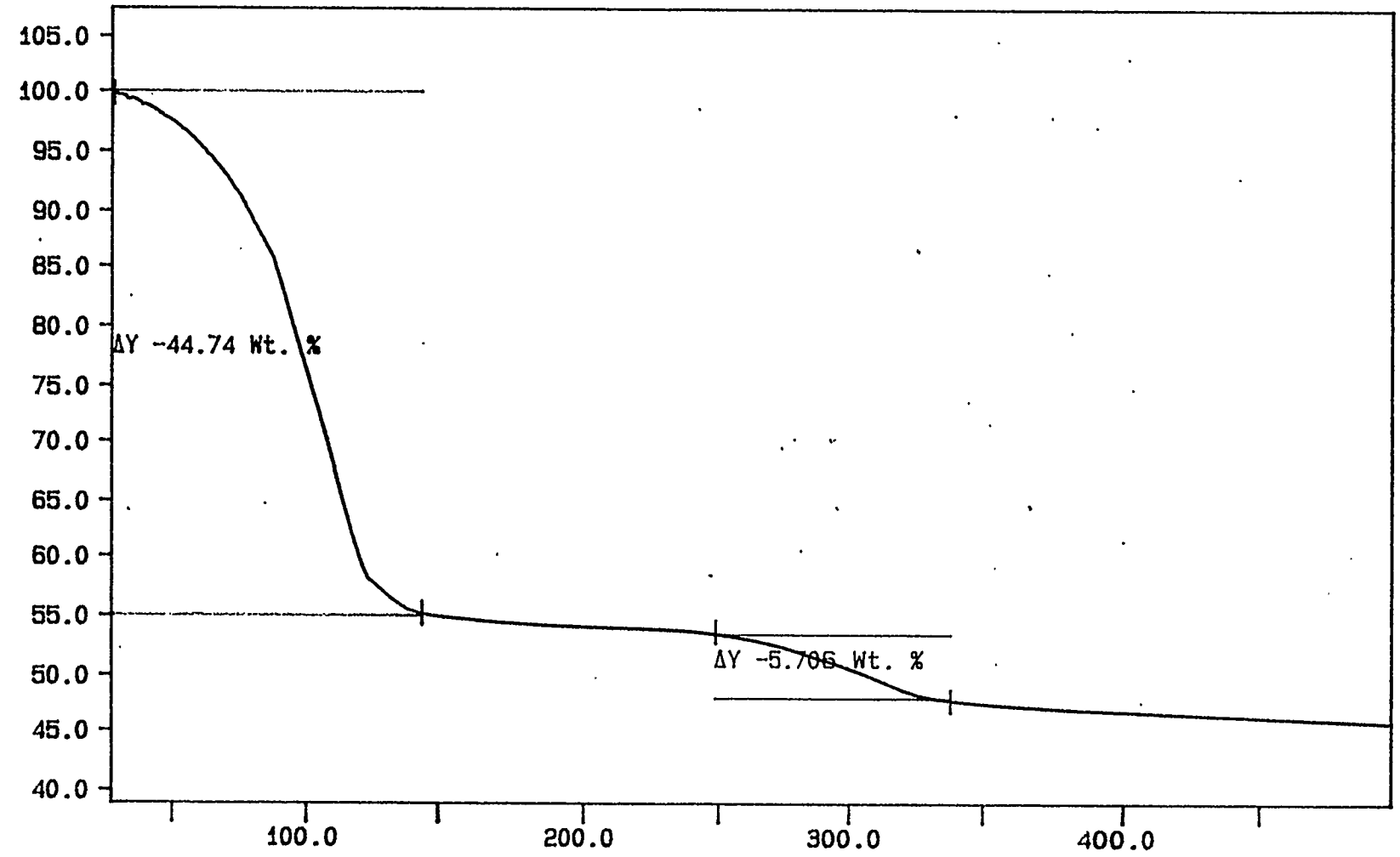
Susie M Fulton 5-5-95

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 250.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Fri May 5 10:39:45 1995

80

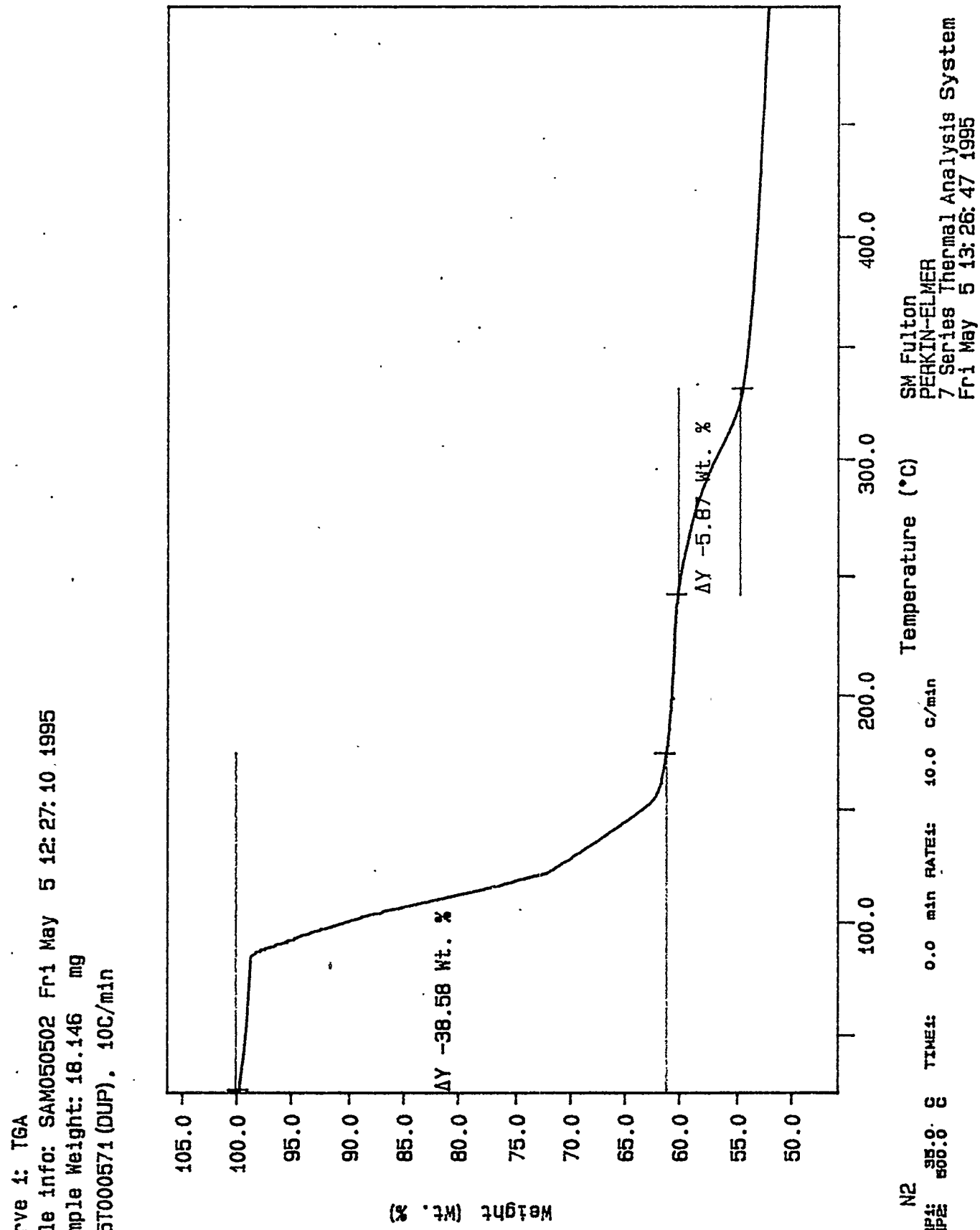
Curve 1: TGA
File info: SAM050501 Fri May 5 14:17:08 1995
Sample Weight: 18.493 mg
S95T000571, 10C/min

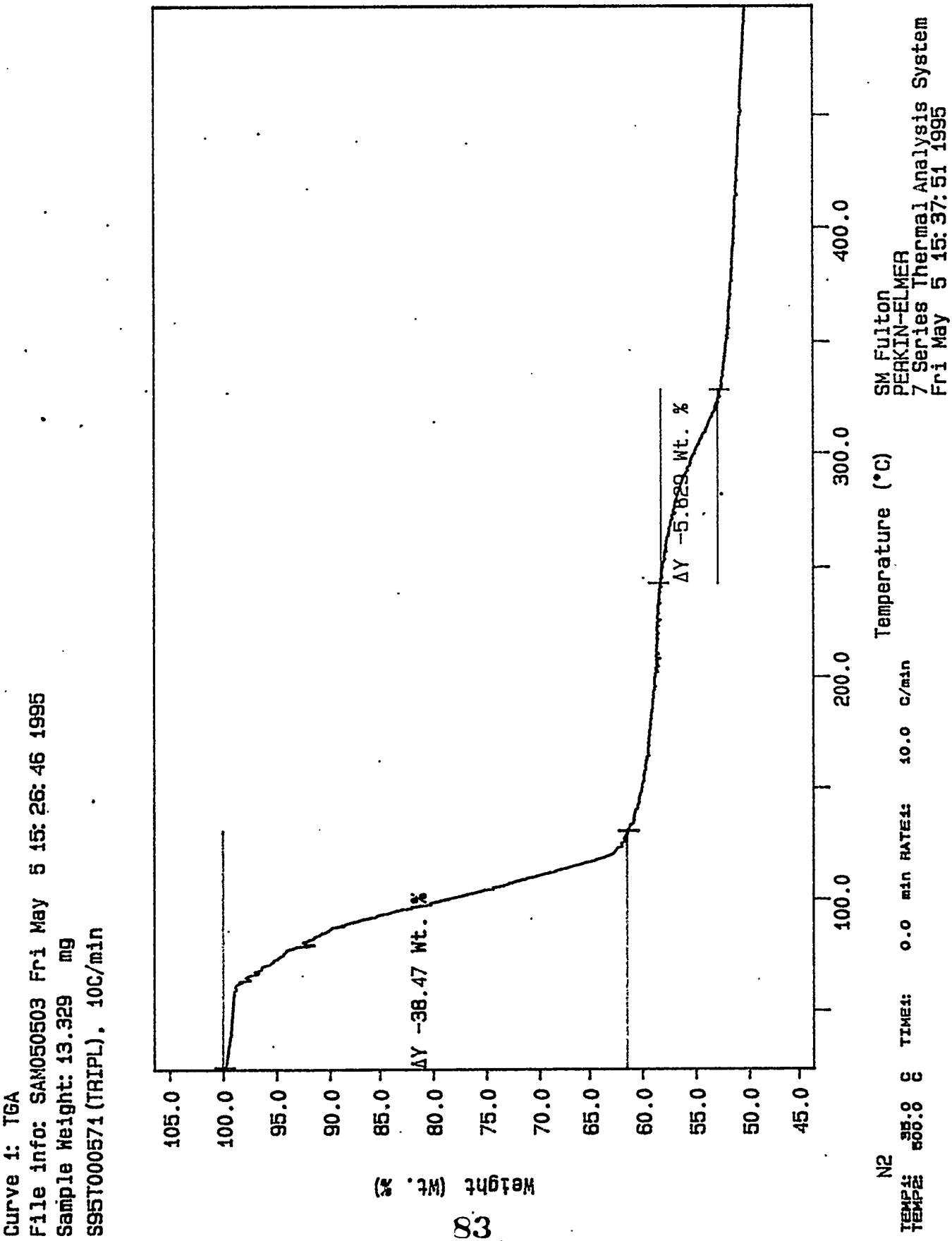


S1

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Fri May 5 14:35:03 1995




Curve 1: TGA
File Info: SAM050503 Fri May 5 15:26:46 1995
Sample Weight: 13.329 mg
S95T000571(TRIPL). 10C/min
105.0
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
Weight (Wt. %)
ΔY -38.47 Wt. %
ΔY -5.829 Wt. %
100.0
200.0
300.0
400.0
Temperature (°C)
SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Fri May 5 15:37:51 1995
N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

LABCORE Data Entry Template for Worklist# 1045

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

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

Worklist Comment: Please run C-111 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.19	59.54	N/A	%
95000041	C-111	2	SAMPLE	S95T000572	0		TGA-01	SOLID	N/A	44.23		%
95000041	C-111	3	DUP	S95T000572	0		TGA-01	SOLID	44.23	44.25	N/A	%
		4	STD				TGA-01	SOLID	59.19	59.05	N/A	%
95000042	C-111	5	SAMPLE	S95T000577	0		TGA-01	SOLID	N/A	Ø		%
95000042	C-111	6	DUP	S95T000577	0		TGA-01	SOLID	Ø	Ø	N/A	%

Final page for worklist # 1045

See attached for signatures 5/10/95
Analyst Signature **Date**

5-12-95
Analyst Signature **Date**

Verified by Blandina Valenzuela 5/15/95

Data Entry Comments: S95T000572 produced a second weight loss step of 8.52% at 275°C. Sample ~~S95T000572~~ 5/10/95 BDV S95T000577 was run a couple of days after S95T000572, a corresponding standard was run with it.

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# 1045

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

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

Worklist Comment: Please run C-111 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.19	59.54	N/A	%
95000041	C-111	2	SAMPLE	S95T000572	0		TGA-01	SOLID	N/A			%
95000041	C-111	3	DUP	S95T000572	0		TGA-01	SOLID			N/A	%
95000042	C-111	4	SAMPLE	S95T000577	0		TGA-01	SOLID	N/A	Ø		%
95000042	C-111	5	DUP	S95T000577	0		TGA-01	SOLID	Ø	Ø	N/A	%

Final page for worklist # 1045

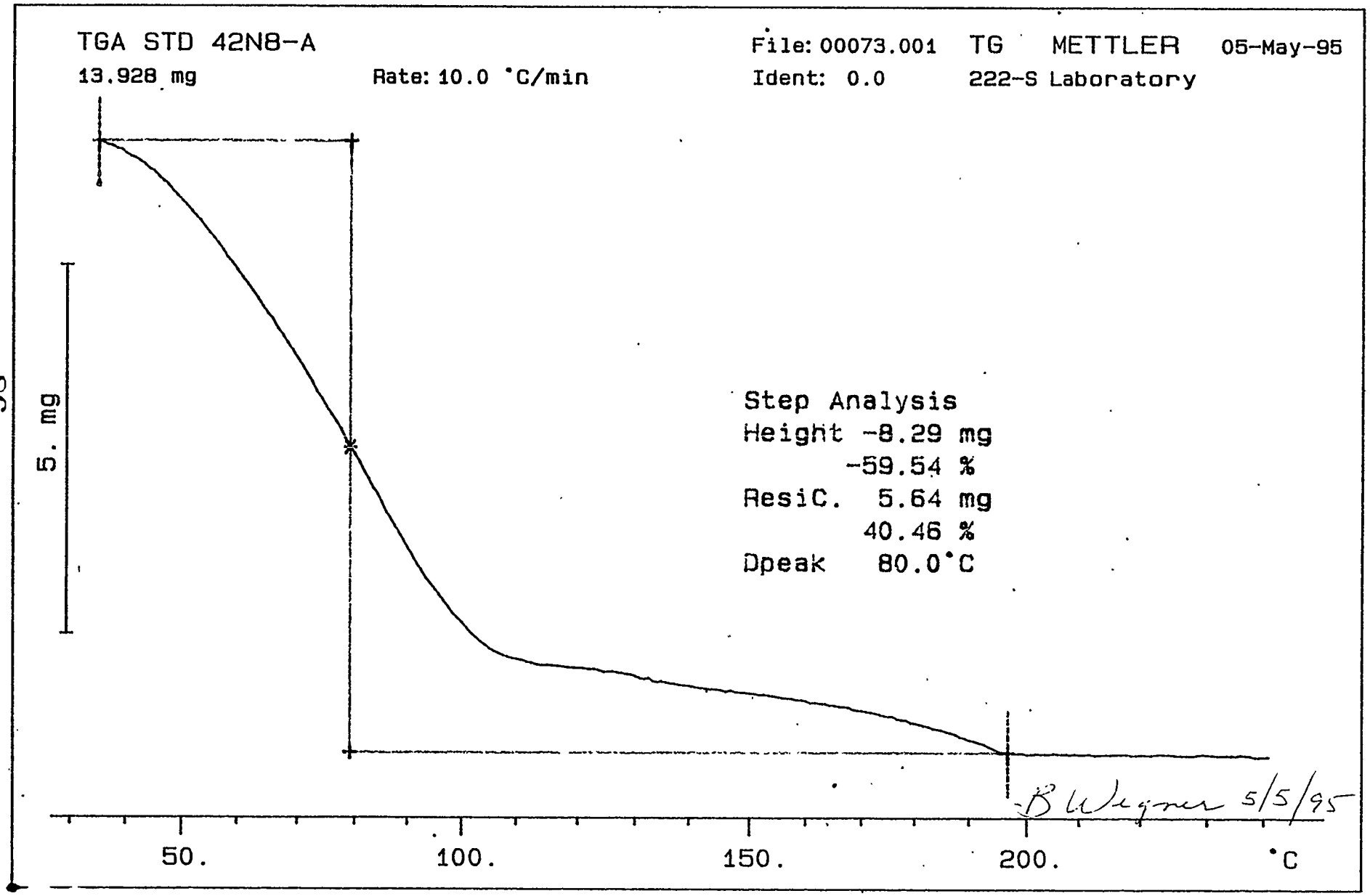
B Wegner 5/5/95
Analyst Signature **Date**

Analyst Signature **Date**

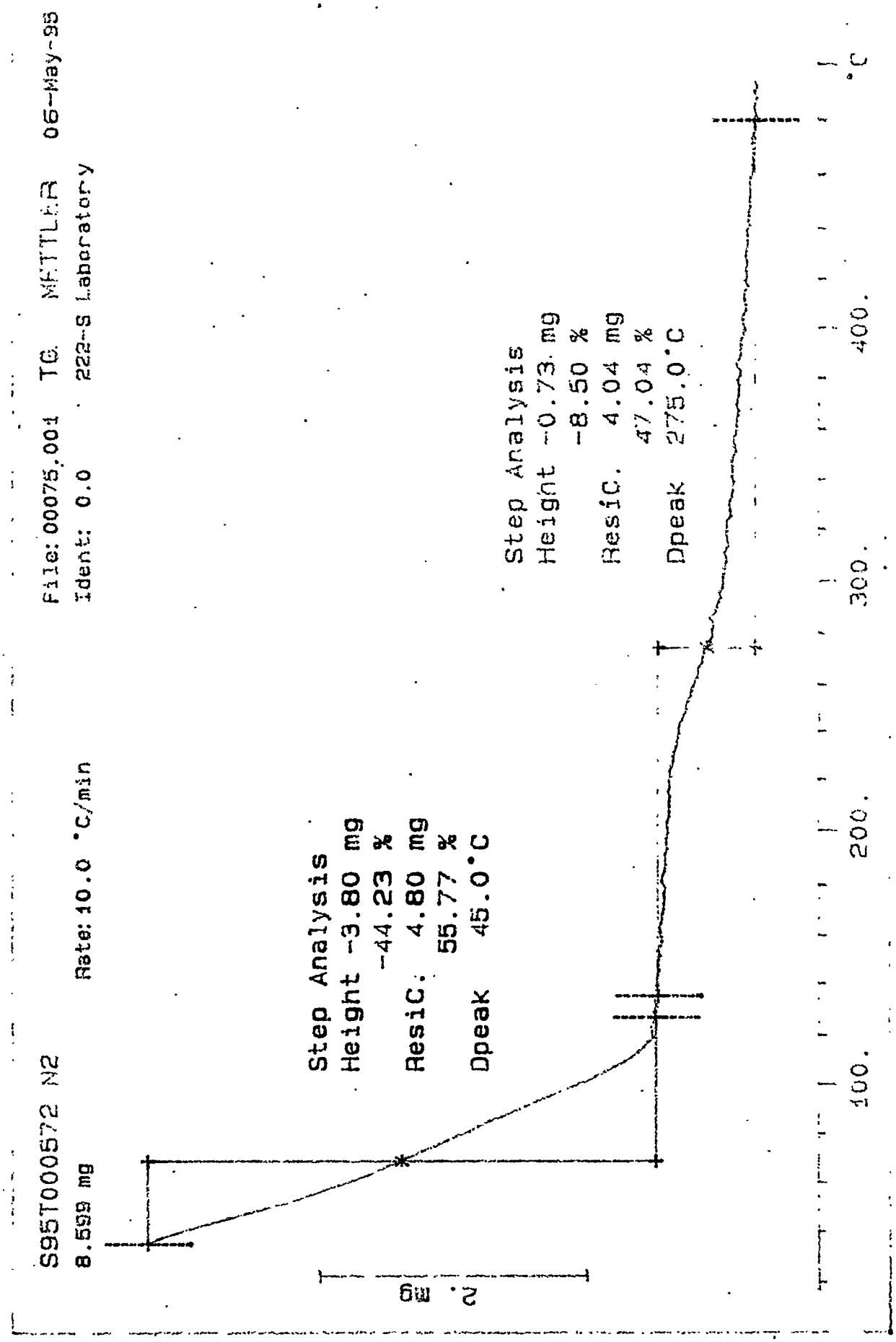
Data Entry Comments:
S95T000572 - Brownish - wet clay-like substance
S95T000577 - Sand colored - very dry particles

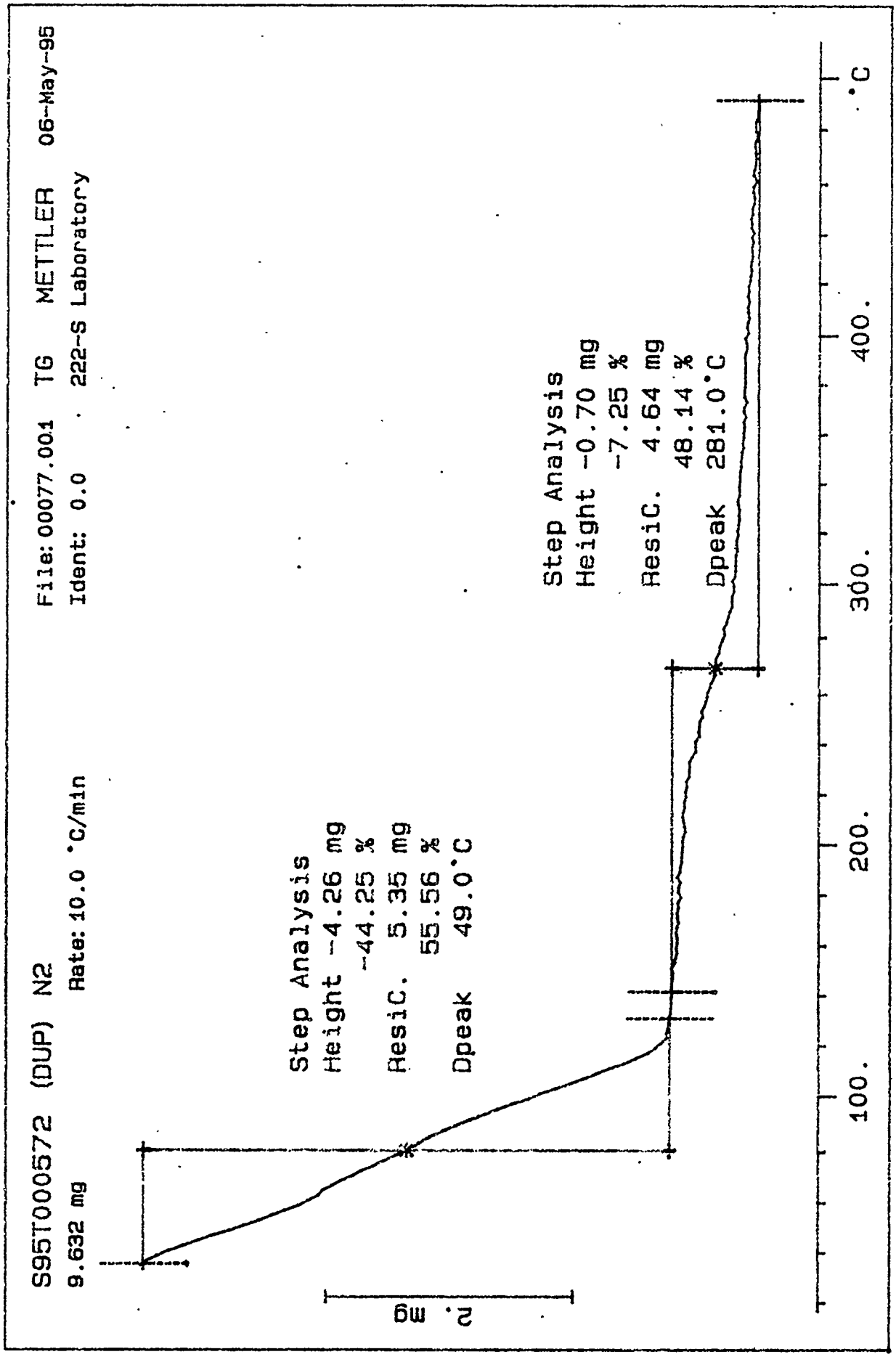
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

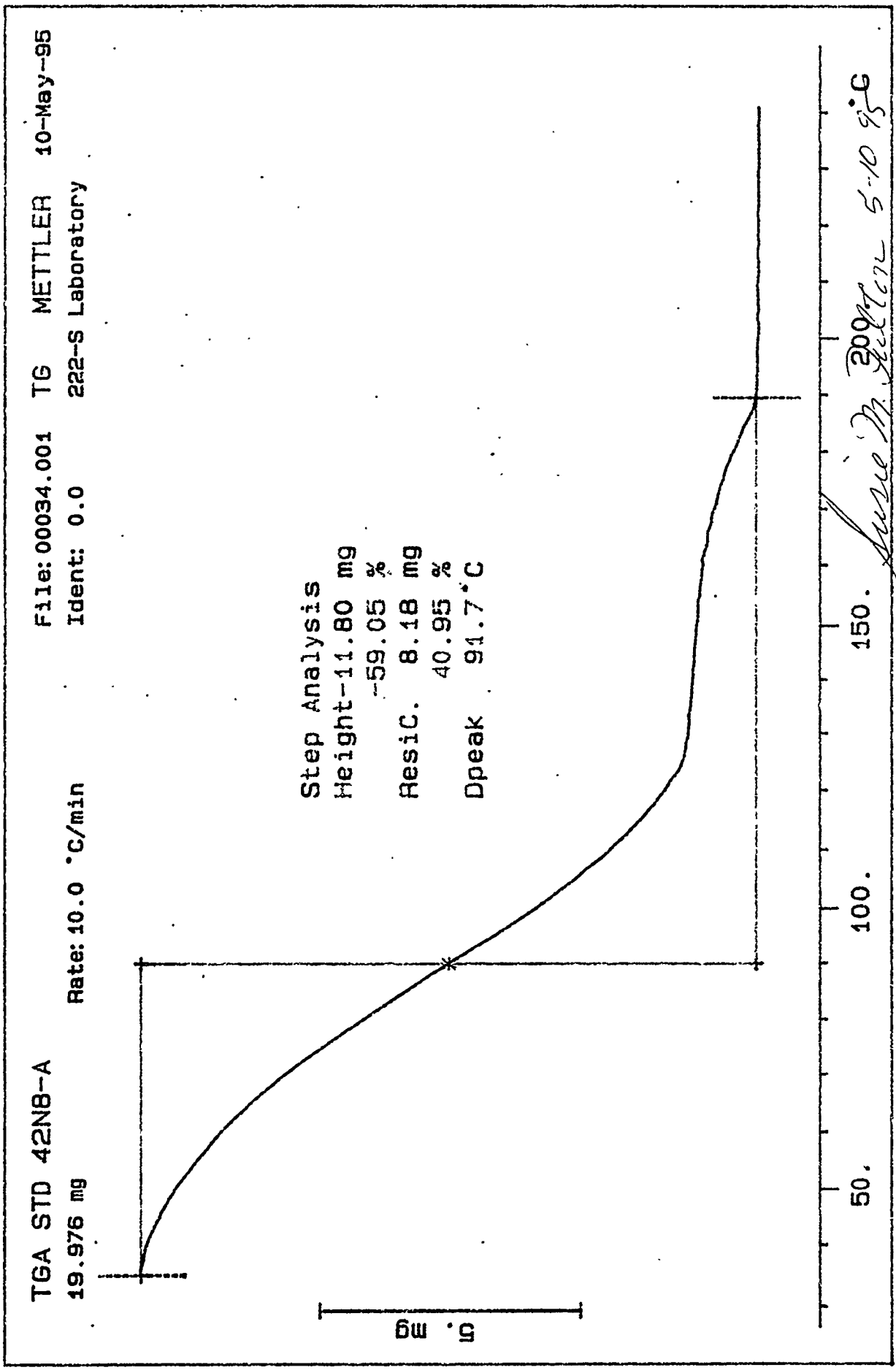
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 86 TO 91.

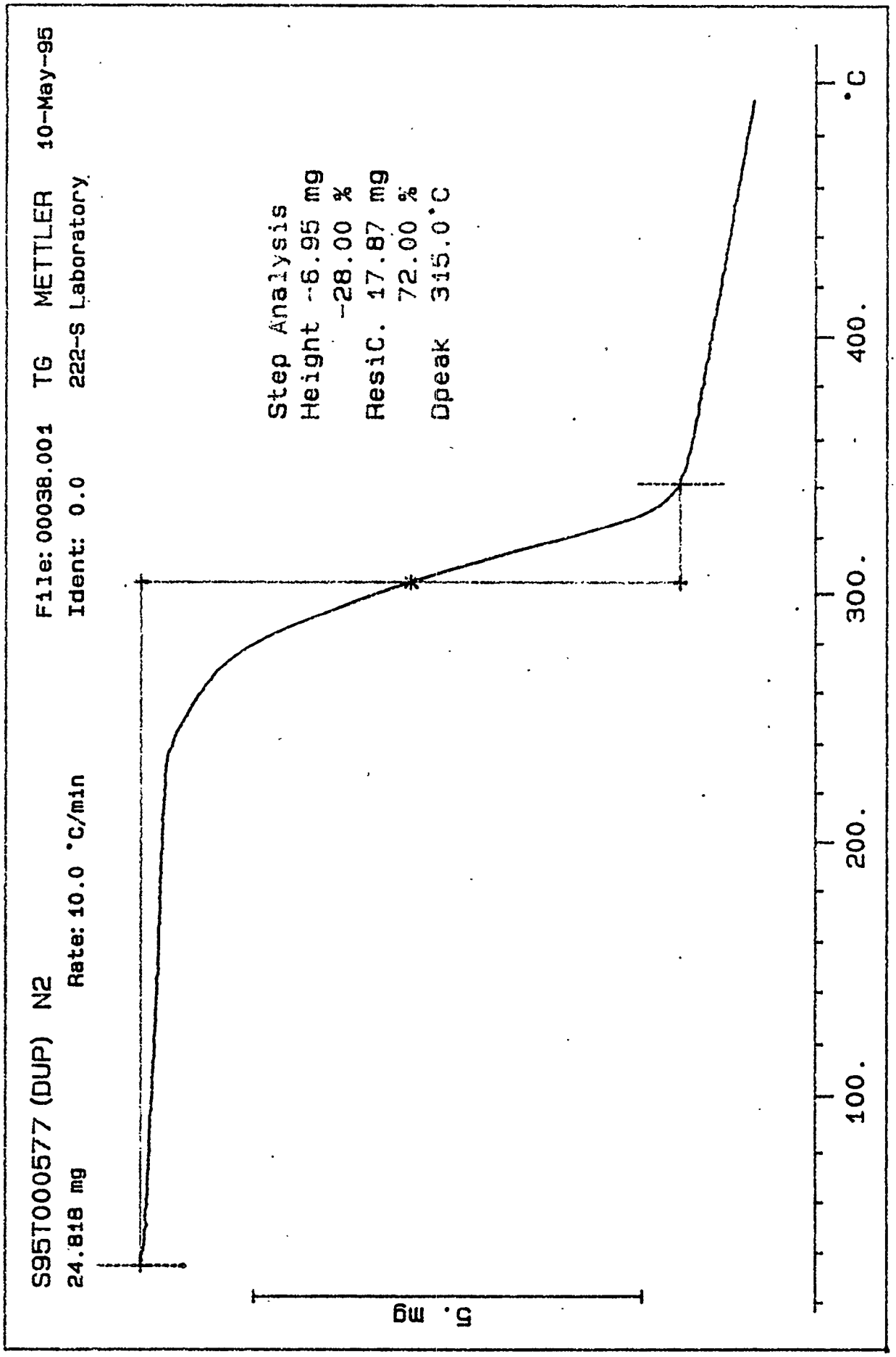


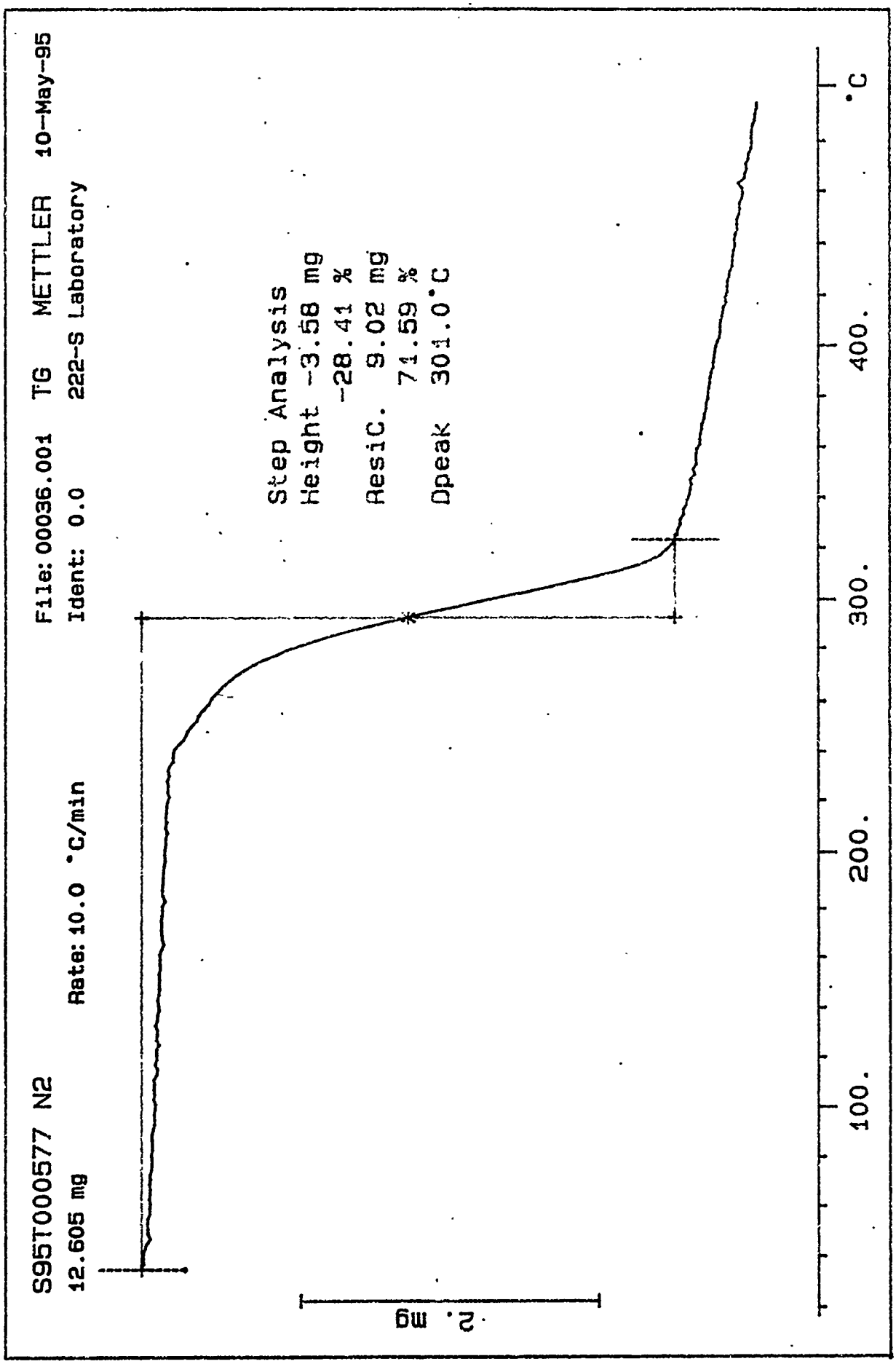
86


S95T000572 N2
8.599 mg
Rate: 10.0 °C/min
File: 00075.001 TG METTLER 06-May-95
Ident: 0.0 222-S Laboratory
Step Analysis
Height -3.80 mg
-44.23 %
Resic. 4.80 mg
55.77 %
Dpeak 45.0°C
Step Analysis
Height -0.73 mg
-8.50 %
Resic. 4.04 mg
47.04 %
Dpeak 275.0°C
2. mg
100.
200.
300.
400.
°C









LABCORE Data Entry Template for Worklist# 1186

Analyst: [illegible] **Instrument:** SP01 _____ **Book #** 54N813

Method: LA-695-102 Rev/Mod C-O

Worklist Comment: C-111 Cyanide

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	0.5	N/A	ug/g
		2	STD				CN-01	SOLID	917	930	N/A	~~ug/g~~ ug/ml gwb 4/27/95
95000041	C-111	3	SAMPLE	S95T000570	0		CN-01	SOLID	N/A	93.8	1.5	ug/g
95000041	C-111	4	DUP	S95T000570	0		CN-01	SOLID	93.8	83.6	N/A	ug/g
95000041	C-111	5	SPK	S95T000570	0		CN-01	SOLID	100	97.7	N/A	~~ug/g~~ % gwb 4/27/95
		6	STD				CN-01	SOLID	917	926	N/A	~~ug/g~~ ug/ml gwb 4/27/95

Final page for worklist # 1186

[illegible] 4.27.95
Analyst Signature **Date**

[illegible] 4-27-95
Analyst Signature **Date**

.4330 grams of S95T000570 in 5ml EDTA/CN - 0.250ml aliquot
Std = .500ml of .250 to total V of 25ml - 54N813
Spike = .250ml of Std dilution

Revised RW Schroeder 4-28-95

.038 Blank
.721 Standard
.344 Sample
.312 Duplicate
.680 Spike
.719 Standard

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.

(1) Blank $\frac{(0.038 - 0.014205)}{0.143914} = 0.165 \text{ mg } CN^-$

$\frac{0.165 \text{ mg}}{4.00 \text{ ml}} \times \frac{5.00 \text{ ml}}{0.4330 \text{ g}} = 0.5 \text{ mg/g}$

(2) STD

$\frac{(0.721 - 0.038) - 0.014205}{0.143914} = 4.65 \text{ mg } CN^-$

$\frac{4.65 \text{ mg } CN^-}{0.500 \text{ ml}} \times 100 \text{ d.f.} = 930 \text{ ppm}$ gwo 4/29/95

930/917 x 100% = 101% rec.

(3) Sample $\frac{(0.344 - 0.038) - 0.014205}{0.143914} = 2.03 \text{ mg } CN^-$

$\frac{2.03 \text{ mg}}{0.250 \text{ ml}} \times \frac{5.00 \text{ ml}}{0.4330 \text{ g}} = 93.8 \text{ mg/g}$

(4) Dup $\frac{(0.312 - 0.038) - 0.014205}{0.143914} = 1.81 \text{ mg } CN^-$

$\frac{1.81 \text{ mg}}{0.250 \text{ ml}} \times \frac{5.00 \text{ ml}}{0.4330 \text{ g}} = 83.6 \text{ mg/g}$

(5) Spike $\frac{(0.680 - 0.344) - 0.014205}{0.143914} = 2.24 \text{ mg } CN^-$

$\frac{2.24 \text{ mg } CN}{0.250 \text{ ml}} \times 100 \text{ d.f.} = 896 \text{ ppm}$ 896/917 x 100% = 97.7% rec.

(6) Std. $\frac{(0.719 - 0.038) - 0.014205}{0.143914} = 4.63 \text{ mg } CN^-$

$\frac{4.63 \text{ mg } CN^-}{0.500 \text{ ml}} \times 100 \text{ d.f.} = 926 \text{ ppm}$ 926/917 x 100% = 101% rec.

93

Cyanide Calibration with EDTA/en and Ammonium Sulfamate

Date: April 18, 1995
Calibraton Standard: 44N8C
Instrument ID: WA93252
Working Standard Concentration: 1026 ppm / 100 d.f. = 10.26 ppm

Sample	Vol. Working Std. (ml)	ug CN-	Net Abs.
1	0	0	0
2	0.05	0.513	0.054
3	0.2	2.05	0.358
4	0.4	4.1	0.605
5	0.6	6.16	0.909
6	1	10.26	1.5
7	1.2	12.31	1.767

Regression Output:

Constant	0.014205
Std Err of Y Est	0.029141
R Squared	0.998507
No. of Observations	7
Degrees of Freedom	5

X Coefficient(s)	0.143914
Std Err of Coef.	0.002489

4/27/95

LABCORE Data Entry Template for Worklist# 1274

Analyst: CR **Instrument:** SP01 WK93252 **Book #** _____

Method: LA-695-102 Rev/Mod C-O

Worklist Comment: C-111 Cyanide Rerun

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	0.43	N/A	ug/g
		2	STD				CN-01	SOLID	917	943	N/A	ug/ml ~~ug/g~~ gwB 5/3/95
95000041	C-111	3	SAMPLE	S95T000571	0		CN-01	SOLID	N/A	155	2.4 ~~1.5~~ gwB 5/3/95	ug/g
95000041	C-111	4	DUP	S95T000571	0		CN-01	SOLID	155	151	N/A	ug/g
95000041	C-111	5	SPK	S95T000571	0		CN-01	SOLID	100	106	N/A	~~ug/g~~ gwB 5/3/95
95000041	C-111	6	SAMPLE	S95T000572	0		CN-01	SOLID	N/A	107	4.6 ~~1.5~~ gwB 5/3/95	ug/g
95000041	C-111	7	DUP	S95T000572	0		CN-01	SOLID	107	104	N/A	ug/g
		8	STD				CN-01	SOLID	917	970	N/A	ug/ml ~~ug/g~~ gwB 5/3/95

Final page for worklist # 1274

L Knight 5.2.95
Analyst Signature **Date**

L S Jones 5-3-95
Analyst Signature **Date**

S95T000571 = .6250g into 5ml EDTA/en
S95T000572 = .3290g into 5ml EDTA/en
Sample Size .250ml
Std Dilution = .250ml of 54N83 to Vol. 25ml
Std Size = .500ml
Spike = .250ml of std dilution

.045 Blank
.738 Std
.755 571
.737 571 Duplicate
1.103 571 spiked
.313 572
.306 572
.757 Std

5/3/95

Data Entry Comments: LABCORE IS ROUNDING DL BACK TO 2.0. RCJ 5.0

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.

Cyanide Calibration with EDTA/en and Ammonium Sulfamate

Date: April 18, 1995
Calibraton Standard: 44N8C
Instrument ID: WA93252
Working Standard Concentration: 1026 ppm / 100 d.f. = 10.26 ppm

Sample	Vol. Working Std. (ml)	ug CN-	Net Abs.
1	0	0	0
2	0.05	0.513	0.054
3	0.2	2.05	0.358
4	0.4	4.1	0.605
5	0.6	6.16	0.909
6	1	10.26	1.5
7	1.2	12.31	1.767

Regression Output:

Constant	0.014205
Std Err of Y Est	0.029141
R Squared	0.998507
No. of Observations	7
Degrees of Freedom	5

X Coefficient(s)	0.143914
Std Err of Coef.	0.002489

5/3/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.62500
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1274	Aliquot Analyzed from Dissolution (A)	4.00000
Test Code	Dilution Factor (DF)	1.250
CN-01	Absorbance of Blank	0.000
Matrix	Absorbance of Sample	0.045
Liquid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
Blank	µg of Cyanide	0.214
Instrument Code	µg CN- /g	4.28E-01
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
05/02/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	4.28E-01	Detection Limit µg CN- / g
Calibration Date			
04/18/95			2.00E-01

Data Entry by: [signature] Date: 05/03/95

Approved by: RW Schroeder Date: 5-3-95

Form 695102C1 Rev. 1.4

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

CN- DETERMINATION : LA-695-102 (C-0) SPIKE, STANDARD

Type		NA	STANDARD
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
1274	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		917
CN-01	Absorbance of Blank		0.045
Matrix	Absorbance of Standard		0.738
Liquid	Y-Intercept Value		0.014205
Sample #	Slope Value		0.143914
54N8B	µg of CN in Standard		4.717
Instrument Code			
WA93252			
Analyst			
Knight			
Date	µg of CN-/mL in Standard		943
05/02/95			
Time	Standard % Recovery		102.9%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
04/18/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:		Date:	05/03/95
Approved by:		Date:	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.62500
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1274	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	20.000
CN-01	Absorbance of Blank	0.045
Matrix	Absorbance of Sample	0.755
Solid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000571	µg of Cyanide	4.835
Instrument Code	µg CN- /g	1.55E+02
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
05/02/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.55E+02
Calibration Date		
04/18/95		

Detection Limit µg CN- / g
~~3.20E+00 +5~~
2.40e+00

RWD 5/3/95 RWJ 5/3/95

Data Entry by: [signature] Date: 05/03/95

Approved by: R W Johnson Date: 5-3-95

Form 695102C1 Rev. 1.4

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.62500
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1274	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	20.000
CN-01	Absorbance of Blank	0.045
Matrix	Absorbance of Sample	0.737
Solid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000571dup	µg of Cyanide	4.710
Instrument Code	µg CN- /g	1.51E+02
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
05/02/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	1.51E+02	Detection Limit µg CN- / g
Calibration Date			
04/18/95			~~3.20E+00~~ 2.40E+00

Data Entry by: [signature] Date: 05/03/95

Approved by: RW Schroeder Date: 5-3-95

Form 695102C-1 Rev. 1.4 Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

CN- DETERMINATION : LA-695-102 (C-0) SPIKE, STANDARD

Type		SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
1274	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	917	
CN-01	Absorbance of Blank	0.045	
Matrix	Absorbance of Sample+Spike	1.103	
Liquid	Y-Intercept Value	0.014205	
Sample #	Slope Value	0.143914	
S95T000571	µg of CN- in Sample+Spike	7.253	ERR
Instrument Code			
WA93252			
Analyst	Known µg of CN- in Original Sample	4.8350	
Knight			
Date	µg of CN- in Spike	2.2925	
05/02/95			
Time	Spike % Recovery	105.5%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
04/18/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:		Date: 05/03/95
Approved by:	RW Schroeder	Date: 5-3-95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.32900
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1274	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	20.000
CN-01	Absorbance of Blank	0.045
Matrix	Absorbance of Sample	0.313
Solid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000572	µg of Cyanide	1.764
Instrument Code	µg CN- /g	1.07E+02
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
05/02/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.07E+02
Calibration Date		
04/18/95		

Detection Limit µg CN- / g
~~6.08E+00~~ 4.6 E+00

gwb 5/3/95 gwb5/3:

Data Entry by: [signature] Date: 05/03/95

Approved by: R W Schroeder Date: 5-3-95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.32900
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1274	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	20.000
CN-01	Absorbance of Blank	0.045
Matrix	Absorbance of Sample	0.306
Solid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000572dup	µg of Cyanide	1.715
Instrument Code	µg CN- /g	1.04E+02
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
05/02/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	1.04E+02	Detection Limit µg CN- / g
Calibration Date			
04/18/95			~~6.08E+00~~ 4.6E+00

JWK 3/31/9 2nd STP/9

Data Entry by: [signature] Date: 05/03/95

Approved by: [signature] Date: 5-3-95

Form 695102C1 Rev. 1.4

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

CN- DETERMINATION : LA-695-102 (C-0) SPIKE, STANDARD

Type		NA	STANDARD
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
1274	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		917
CN-01	Absorbance of Blank		0.045
Matrix	Absorbance of Standard		0.757
Liquid	Y-Intercept Value		0.014205
Sample #	Slope Value		0.143914
54N8B	µg of CN in Standard		4.849
Instrument Code			
WA93252			
Analyst			
Knight			
Date	µg of CN-/mL in Standard		970
05/02/95			
Time	Standard % Recovery		105.8%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
04/18/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:		Date:	05/03/95
Approved by:	RW Schroeder	Date:	5-3-95

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

WHC-SD-WM-DP-114, REV. 0
"DATA NOT USED IN PACKAGE"

LABCORE Data Entry Template for Worklist# 1187

Analyst: JK **Instrument:** SP01 WA93252 **Book #** _____

Method: LA-695-102 Rev/Mod C-0

Worklist Comment: C-111 Cyanide

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	~~<1~~ 0.2 gwb 5/1/95	N/A	ug/g
		2	STD				CN-01	SOLID	9.17	~~9.17~~ E2 8.99 E2	N/A	~~ug/g~~ ug/ml 4-28-95 ~~ug/g~~ gwb 4/28/95
95000041	C-111	3	SAMPLE	S95T000571	0		CN-01	SOLID	N/A	~~7.12~~ 142 gwb 5/1/95	1.5	ug/g
95000041	C-111	4	DUP	S95T000571	0		CN-01	SOLID	~~7.12~~ 142	~~7.47~~ 149 gwb 5/1/95	N/A	ug/g
95000041	C-111	5	SPK	S95T000571	0		CN-01	SOLID	100	127.3	N/A	~~ug/g~~ gwb 5/1/95
95000041	C-111	6	SAMPLE	S95T000572	0		CN-01	SOLID	N/A	~~5.51~~ 110 gwb 5/1/95	1.5	ug/g
95000041	C-111	7	DUP	S95T000572	0		CN-01	SOLID	~~5.51~~ E2	~~5.47~~ 108 E2 gwb 5/1/95	N/A	ug/g
		8	STD				CN-01	SOLID	9.17	9.49	N/A	~~ug/g~~ ug/ml gwb 4/28/95

Final page for worklist # 1187

LS Knight 4.27.95
Analyst Signature **Date**

MC Boll 4-28-95
Analyst Signature **Date**

S95T000571 = .6250g into 5ml EDTA/cn
S95T000572 = .3290g into 5ml EDTA/cn
Sample Size .250ml
Standard = .500ml of .250 ~~#2~~ 25ml Volume 54N8B
Spike = .250ml of .250 (54N8B) Brought to Volume w/ .125ml NaOH
R 4.27.95

.031 Blank
.692 Standard
.686 S95T000571
.717 Duplicate
1.106 Spike
.306 S95T000571
.302 Duplicate
.728 Standard

Data Entry Comments:

Spike Recovery OOR (127%)

NOTE: The D.L. reported is The MDL.

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.

Cyanide Calibration with EDTA/en and Ammonium Sulfamate

Date: April 18, 1995
Calibraton Standard: 44N8C
Instrument ID: WA93252
Working Standard Concentration: 1026 ppm / 100 d.f. = 10.26 ppm

Sample	Vol. Working Std. (ml)	ug CN-	Net Abs.
1	0	0	0
2	0.05	0.513	0.054
3	0.2	2.05	0.358
4	0.4	4.1	0.605
5	0.6	6.16	0.909
6	1	10.26	1.5
7	1.2	12.31	1.767

Regression Output:

Constant	0.014205
Std Err of Y Est	0.029141
R Squared	0.998507
No. of Observations	7
Degrees of Freedom	5

X Coefficient(s)	0.143914
Std Err of Coef.	0.002489

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

CN- DETERMINATION : LA-695-102 (C-0) SPIKE, STANDARD

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
1187	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		917
CN-01	Absorbance of Blank		0.031
Matrix	Absorbance of Standard		0.692
LIQUID	Y-Intercept Value		0.014205
Sample #	Slope Value		0.143914
STD	µg of CN in Standard		4.494
Instrument Code			
WA93252			
Analyst			
KNIGHT			
Date	µg of CN-/mL in Standard		899
04/27/95			
Time	Standard % Recovery		98.0%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
04/18/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:		Date:	04/28/95
Approved by:		Date:	5/1/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.62500
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1187	Aliquot Analyzed from Dissolution (A)	4.00000
Test Code	Dilution Factor (DF)	1.250
CN-01	Absorbance of Blank	0.000
Matrix	Absorbance of Sample	0.031
Blank	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000571sam	µg of Cyanide	0.117
Instrument Code	µg CN- /g	2.33E-01
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
04/27/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	2.33E-01	Detection Limit µg CN- / g
Calibration Date			
04/18/95			2.00E-01

Data Entry by: Jon W Boell Date: 05/01/95

Approved by: Jon W Boell Date: 5/1/95

Form 695102C1 Rev. 1.4

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.62500
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1187	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	20.000
CN-01	Absorbance of Blank	0.031
Matrix	Absorbance of Sample	0.686
Solid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000571sam	µg of Cyanide	4.453
Instrument Code	µg CN- /g	1.42E+02
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
04/27/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.42E+02
Calibration Date		
04/18/95		

Detection Limit µg CN- / g
3.20E+00

Data Entry by: J.W. Bell Date: 05/01/95

Approved by: J.W. Bell Date: 5/1/95

Form 695102C1 Rev. 1.4

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams · (SS)	0.62500
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1187	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	20.000
CN-01	Absorbance of Blank	0.031
Matrix	Absorbance of Sample	0.717
Solid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000571dup	µg of Cyanide	4.668
Instrument Code	µg CN- /g	1.49E+02
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
04/27/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.49E+02
Calibration Date		
04/18/95		

Detection Limit µg CN- / g
3.20E+00

Data Entry by: [signature] Date: 05/01/95

Approved by: [signature] Date: 5/1/95

Form 695102C1 Rev. 1.4

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

CN- DETERMINATION : LA-695-102 (C-0) SPIKE, STANDARD

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
1187	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	917	
CN-01	Absorbance of Blank	0.031	
Matrix	Absorbance of Sample+Spike	1.106	
LIQUID	Y-Intercept Value	0.014205	
Sample #	Slope Value	0.143914	
S95T571SPK	µg of CN- in Sample+Spike	7.371	
Instrument Code			
WA93252			
Analyst	Known µg of CN- in Original Sample	4.4530	
KNIGHT			
Date	µg of CN- in Spike	2.2925	
04/27/95			
Time	Spike % Recovery	127.3%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
04/18/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:		Date:	04/28/95
Approved by:		Date:	5/1/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.32900
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1187	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	20.000
CN-01	Absorbance of Blank	0.031
Matrix	Absorbance of Sample	0.306
Solid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000572sam	µg of Cyanide	1.812
Instrument Code	µg CN- /g	1.10E+02
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
04/27/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.10E+02
Calibration Date		
04/18/95		

Detection Limit µg CN- / g
6.08E+00

Data Entry by: Date: 05/01/95

Approved by: Date: 5/1/95

Form 695102C1 Rev. 1.4

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

CN- DETERMINATION : LA-695-102 (C-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.32900
Work List	Dissolution Volume (EDTA/en + sample) (DV	5.00000
1187	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	20.000
CN-01	Absorbance of Blank	0.031
Matrix	Absorbance of Sample	0.302
Solid	Y-Intercept Value	0.014205
Sample #	Slope Value	0.143914
S95T000572dup	µg of Cyanide	1.784
Instrument Code	µg CN- /g	1.08E+02
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
Knight	µg/g of Cyanide = µg Cyanide / SS (g) * DF	
Date	Dilution Factor = (DV / SS) * A	
04/27/95	Detection Limit = 0.1µg Cyanide / SS * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.08E+02
Calibration Date		
04/18/95		

Detection Limit µg CN- / g
6.08E+00

Data Entry by: [signature] Date: 05/01/95

Approved by: [signature] Date: 5/11/95

Form 695102C1 Rev. 1.4

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

CN- DETERMINATION : LA-695-102 (C-0) SPIKE, STANDARD

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
1187	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		917
CN-01	Absorbance of Blank		0.031
Matrix	Absorbance of Standard		0.728
LIQUID	Y-Intercept Value		0.014205
Sample #	Slope Value		0.143914
STD	µg of CN in Standard		4.744
Instrument Code			
WA93252			
Analyst			
KNIGHT			
Date	µg of CN-/mL in Standard		949
04/27/95			
Time	Standard % Recovery		103.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
04/18/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:		Date:	04/28/95
Approved by:		Date:	5/1/95

LABCORE Data Entry Template for Worklist# 624

Analyst: JK Soto **Instrument:** JK 4-14-95 ICP01-2 **Method:** LA-505-151 Book# 40848 Q-1 4/04/14/95

Worklist Comment: ICP Fusion C111

Seq	Type	Sample#	R	A	Test	Matrix	Analytes Requested
1	ICV				@ICP-QC	QC	
2	ICB				@ICP-QC	QC	
3	ICSA				@ICP-QC	QC	
4	ICSAB	JK 4-14-95			@ICP-QC	QC	
5	PREPBLK ~~KARL~~ TJG				@ICP-F02	SOLID	
6	SAMPLE	S95T000123	0	F	@ICP-F02	SOLID	AL-F-01 , CA-F-01 , CR-F-01 , FE-F-01 , K-F-01 , NA-F-01 , NI-F-01 , ZN-F-01 , ZR-F-01
7	DUP	S95T000123	0	F	@ICP-F02	SOLID	
8	ICSA				@ICP-QC	QC	
9	ICSAB				@ICP-QC	QC	
10	CCV				@ICP-QC	QC	
11	CCB				@ICP-QC	QC	

Final page for worklist # 624

JK Soto 04-14-95

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

S95T000123_L 1.00029 → 250 ml, .5-10-2-8 (105 x 250)/1.0002 = 26245

S95T000123 1.00029 → 250 .5-10 (41 x 250)/1.0002 = 5249

S95T000123_D 1.00059 → 250 .5-10 (41 x 250)/1.0005 = 5247

S95T000123_Q 1.00029 → 250 .5-10 (41 x 250)/1.0002 = 5249

Post Spike .5 ml sample + 2 ml SSTS + 8 ml 2% HNO_3

Prepblk TJG 1.9 ml

Data Entry Comments:

Analysis Report Summary Fri 04-14-95 11:11:12 AM page 1

	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	950414A	ICP2	04/14/95	09:58	DKS	Q	CONC
2	ICB	950414A	ICP2	04/14/95	10:02	DKS	Q	CONC
3	ICSA	950414A	ICP2	04/14/95	10:06	DKS	Q	CONC
4	ICSAB	950414A	ICP2	04/14/95	10:09	DKS	Q	CONC
5	PREPBLKTJA	950414A	ICP2	04/14/95	10:21	DKS	S	CONC
6	S95T000123_L	950414A	ICP2	04/14/95	10:26	DKS	S	CONC
7	S95T000123	950414A	ICP2	04/14/95	10:31	DKS	S	CONC
8	S95T000123_D	950414A	ICP2	04/14/95	10:36	DKS	S	CONC
9	S95T000123_A	950414A	ICP2	04/14/95	10:43	DKS	S	CONC
10	ICSA	950414A	ICP2	04/14/95	10:52	DKS	Q	CONC
11	ICSAB	950414A	ICP2	04/14/95	10:56	DKS	Q	CONC
12	CCV_1	950414A	ICP2	04/14/95	11:02	DKS	Q	CONC
13	CCB_1	950414A	ICP2	04/14/95	11:06	DKS	Q	CONC

DK LdD

04-14-95

C-111 S95T000123

Analysis Report Averages Fri 04-14-95 11:11:12 AM page 2

#	Sample Name	Ag 2??	Al	As	B	Ba	Be
1	ICV	5.089	4.959	5.109	4.957	4.972	5.256
2	ICB	.0004	-.0071	-.0172	-.0016	.0001	-.0001
3	ICSA	.0029	243.6	-.0158	-.0061	.0020	.0001
4	ICSAB	Q.5139	244.6	-.0031	-.0050	.4817	.5084
5	PREPBLKTJA	.0060	.0426	.0273	-.0489	.0287	-.0018
6	S95T000123_L	64.56	119500.	74.67	-116.1	58.59	-2.332
7	S95T000123_	57.23	118300.	-35.30	1.883	55.29	1.127
8	S95T000123_D	62.99	118100.	-45.34	4.936	55.13	1.347
9	S95T000123_A	1561.	123300.	5328.	5016.	5048.	5340.
10	ICSA	.0012	252.6	-.0373	-.0015	.0018	.0002
11	ICSAB	.9716	234.3	-.0462	.0005	.4763	.5002
12	CCV_1	5.281	5.179	5.320	5.173	5.276	Q5.539
13	CCB_1	.0014	-.0024	-.0038	-.0027	.0000	-.0000

#	Sample Name	Bi	Ca 52?	Cd	Ce	Co	Cr 52.1
1	ICV	5.000	5.058	5.165	5.065	5.132	5.191
2	ICB	.0667	.0178	.0000	-.0002	.0038	.0004
3	ICSA	.0809	250.7	.0010	.0072	.0074	.0011
4	ICSAB	.0856	255.0	.9952	.0030	.4933	.4923
5	PREPBLKTJA	-10.45	.5043	-.0188	-.0833	.0437	.0248
6	S95T000123_L	177.3	15440.	16.60	55.55	36.50	319.1
7	S95T000123_	-422.0	15280.	4.944	21.99	17.59	300.9
8	S95T000123_D	-553.0	15560.	2.836	45.37	10.09	301.7
9	S95T000123_A	4521.	20510.	5255.	5205.	5222.	5577.
10	ICSA	.0986	255.5	.0001	-.0004	.0061	-.0010
11	ICSAB	.1066	248.4	.9616	.0008	.4746	.4739
12	CCV_1	5.264	5.370	5.422	5.389	5.373	5.448
13	CCB_1	.0601	.0174	.0005	-.0044	.0027	-.0005

#	Sample Name	Cu	Eu	Fe 2??	K n/a	La	Li
1	ICV	4.992	.0081	5.090	4.874	4.980	4.973
2	ICB	-.0008	.0025	.0045	.0521	.0004	.0025
3	ICSA	-.0089	-.0134	92.80	.1239	-.0029	.0053
4	ICSAB	.4772	-.0163	94.08	.0039	-.0045	.9706
5	PREPBLKTJA	.0068	.0415	.1127	15270.	-.0022	.0317
6	S95T000123_L	52.75	38.21	54230.	2315e3	37.44	37.85
7	S95T000123_	57.50	19.49	53450.	2253e3	46.25	12.11
8	S95T000123_D	57.56	23.01	54070.	2236e3	49.78	16.14
9	S95T000123_A	5083.	27.61	58470.	2242e3	5137.	4977.
10	ICSA	-.0096	-.0130	95.20	-.0585	-.0046	.0044
11	ICSAB	.4761	-.0068	92.82	.0173	-.0025	.9698
12	CCV_1	5.255	.0081	5.338	5.179	5.292	5.179
13	CCB_1	-.0010.	.0017	.0033	.0265	-.0004	.0017

Analysis Report Averages Fri 04-14-95 11:11:12 AM page 3

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.907	5.050	5.060	4.973	5.051	5.134
2	ICB	-.0005	.0011	.0024	.0197	.0014	.0090
3	ICSA	239.5	-.0021	-.0141	190.6	.0058	.0004
4	ICSAB	240.5	.4788	-.0131	190.4	.0020	.9658
5	PREPBLKTJA	.2176	.0681	.0221	4.955	.0247	5.519
6	S95T000123_L	2911.	447.7	-19.48	15190.	43.82	21800.
7	S95T000123	2668.	434.0	-11.09	14710.	68.32	21050.
8	S95T000123_D	2614.	440.1	-12.29	14440.	66.68	21360.
9	S95T000123_A	7508.	5475.	5179.	19590.	5216.	26260.
10	ICSA	247.5	-.0029	-.0117	200.6	.0015	-.0052
11	ICSAB	239.6	.4617	-.0148	192.6	.0031	.9260
12	CCV_1	5.136	5.295	5.323	5.202	5.352	5.389
13	CCB_1	.0012	.0007	-.0011	.0153	.0006	-.0011

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.214	5.035	5.043	4.855	4.995	4.935
2	ICB	.0251	.0416	.0016	.0043	.0267	.0227
3	ICSA	.1249	.1215	-.0286	-.0112	.1048	.0432
4	ICSAB	.1198	1.101	-.0081	-.0037	.1220	.0427
5	PREPBLKTJA	.4634	.8862	-.1752	-.0436	-2.650	.7127
6	S95T000123_L	19760.	6136.	-62.40	-13.53	186.5	8643.
7	S95T000123	18990.	5485.	78.62	31.58	-288.4	8515.
8	S95T000123_D	19280.	5602.	130.4	50.78	-303.2	8557.
9	S95T000123_A	24450.	10540.	5312.	4961.	4759.	13490.
10	ICSA	.1203	.0884	-.0278	.0050	.1044	.0339
11	ICSAB	.1346	1.008	.0080	-.0136	.1177	.0695
12	CCV_1	Q5.617	5.249	5.321	5.108	5.255	5.139
13	CCB_1	.0471	.0331	-.0023	-.0014	.0415	.0176

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.899	4.957	-.0661	4.883	4.878	9.348
2	ICB	.0293	.0008	-.0101	.0005	-.0204	.0997
3	ICSA	.0256	.0014	-.0289	.0018	.0214	.1145
4	ICSAB	.0238	.0016	-.0206	.0013	.0621	.0758
5	PREPBLKTJA	.4126	.0114	.1333	.0153	.0424	-2.730
6	S95T000123_L	349.3	263.6	-71.68	155.0	-110.4	26490.
7	S95T000123	83.34	249.9	-86.44	152.0	-159.6	25190.
8	S95T000123_D	139.7	250.5	-76.90	149.5	-9.617	25080.
9	S95T000123_A	5056.	5288.	-142.9	5125.	4779.	34340.
10	ICSA	.0092	.0014	-.0302	.0010	.0130	.0778
11	ICSAB	.0099	.0017	-.0254	.0010	.0294	.0751
12	CCV_1	5.199	5.241	-.0571	5.148	5.097	9.882
13	CCB_1	.0176	.0006	-.0052	.0000	.0102	.0645

Na 19,999.0

Ni 96,299.0

Analysis Report Averages Fri 04-14-95 11:11:12 AM page 4

	Sample Name	V	Y	Zn	Zr
1	ICV	4.948	.0120	5.134	4.951
2	ICB	.0051	.0013	.0015	.0049
3	ICSA	.0076	.0081	-.0118	.0037
4	ICSAB	.4942	.0084	.9899	.0028
5	PREPBLKTJA	.0946	.0204	.0160	.0966
6	S95T000123_L	72.58	32.90	450.5	38.12
7	S95T000123	34.43	22.21	417.2	18.41
8	S95T000123_D	42.13	24.67	420.6	39.78
9	S95T000123_A	5077.	33.73	5628.	5083.
10	ICSA	.0039	.0074	-.0130	.0026
11	ICSAB	.4796	.0076	.9490	.0034
12	CCV_1	5.206	.0122	5.319	5.232
13	CCB_1	.0041	.0009	.0010	.0024

DK GA

04-14-95.

C-111 S95T000123

LABCORE Data Entry Template for Worklist# 1004

Analyst: JK Sato **Instrument:** ICP01 _____ **Book#** 40848.B

Method: LA-505-151 Rev/Mod D-2

Worklist Comment: ICP C-111 FUSION DIGEST

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	ICSA				@ICP-QC	QC		
4	ICSAB				@ICP-QC	QC		
5	PREPBLKARL				@ICP-F02	SOLID		
6	SAMPLE	S95T000573	0	F	@ICP-F02	SOLID	95000041	C-111
	Analytes Requested: NI-F-01							
7	DUP	S95T000573	0	F	@ICP-F02	SOLID		
8	SPK	S95T000573	0	F	@ICP-F02	SOLID		
9	CCV				@ICP-QC	QC		
10	CCB				@ICP-QC	QC		
11	SAMPLE	S95T000574	0	F	@ICP-F02	SOLID	95000041	C-111
	Analytes Requested: NI-F-01							
12	DUP	S95T000574	0	F	@ICP-F02	SOLID		
CCV CCB	13 SPK Prepblkarl	S95T000574	0	F	@ICP-F02	SOLID		
14	SAMPLE	S95T000575	0	F	@ICP-F02	SOLID	95000041	C-111
	Analytes Requested: NI-F-01							
15	DUP	S95T000575	0	F	@ICP-F02	SOLID		
16	SPK	S95T000575	0	F	@ICP-F02	SOLID		
17	ICSA				@ICP-QC	QC		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 1004

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
18	ICSAB				@ICP-QC	QC		
19	CCV				@ICP-QC	QC		
20	CCB				@ICP-QC	QC		

Final page for worklist # 1004

JK Lee 04-26-95

Analyst Signature **Date**

Analyst Signature **Date**

Prep blk QrL .5-10

S95T000573_L, .5100g in 250ml, .5-10-1-4 (250 x 105)/.5100 = 51470

S95T000573 .5100g in 250 .5-10 (250 x 21)/.5100 = 10294

S95T000573_D .5142g in 250 .5-10 (250 x 21)/.5142 = 10170

S95T000573_Q .5100g in 250 .5-10 (250 x 21)/.5100 = 10294 .5ml sample + 2ml SSTS + 8ml HNO_3

S95T000574_L .5319g in 250ml .5-10-1-4 (250 x 105)/.5319 = 49351

S95T000574 .5319g in 250 .5-10 (250 x 21)/.5319 = 9870

S95T000574_D .5340g in 250 .5-10 (250 x 21)/.5340 = 9831

S95T000574_Q .5319g in 250 .5-10 (250 x 21)/.5319 = 9870 .5ml sample + 2ml SSTS + 8ml HNO_3

Prep blk QrL .5-10

S95T000575_L .5815g in 250ml, .5-10-1-4 (250 x 105)/.5815 = 45142

S95T000575 .5815g in 250 .5-10 (250 x 21)/.5815 = 9028

S95T000575_D .5852g in 250 .5-10 (250 x 21)/.5852 = 8971

S95T000575_Q .5815g in 250 .5-10 (250 x 21)/.5815 = 9028

Data Entry Comments:

SP 04/27/95

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

LABCORE Data Entry Template for Worklist# 1004

Analyst: _____ **Instrument:** ICP01 _____ **Book#** _____

Method: LA-505-151 Rev/Mod _____

Worklist Comment: ICP C-111 FUSION DIGEST

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	ICSA				@ICP-QC	QC		
4	ICSAB				@ICP-QC	QC		
5	PREPBLKARL				@ICP-F02	SOLID		
6	SAMPLE	S95T000573	0	F	@ICP-F02	SOLID	95000041	C-111
	Analytes Requested: NI-F-01							
7	DUP	S95T000573	0	F	@ICP-F02	SOLID		
8	SPK	S95T000573	0	F	@ICP-F02	SOLID		
9	CCV				@ICP-QC	QC		
10	CCB				@ICP-QC	QC		
11	SAMPLE	S95T000574	0	F	@ICP-F02	SOLID	95000041	C-111
	Analytes Requested: NI-F-01							
12	DUP	S95T000574	0	F	@ICP-F02	SOLID		
13	SPK	S95T000574	0	F	@ICP-F02	SOLID		
14	CCV				@ICP-QC	QC		
15	CCB				@ICP-QC	QC		
16	PREPBLKARL				@ICP-F02	SOLID		
17	SAMPLE	S95T000575	0	F	@ICP-F02	SOLID	95000041	C-111
	Analytes Requested: NI-F-01							

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 1004

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
18	DUP	S95T000575	0	F	@ICP-F02	SOLID		
19	SPK	S95T000575	0	F	@ICP-F02	SOLID		
20	ICSA				@ICP-QC	QC		
21	ICSAB				@ICP-QC	QC		
22	CCV				@ICP-QC	QC		
23	CCB				@ICP-QC	QC		

Final page for worklist # 1004

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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

OUTPUT	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	1004	1			ICV	AG				4.9679			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
2	1004	1			ICV	AL				5.1132			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
3	1004	1			ICV	AS				5.0653			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
4	1004	1			ICV	B				5.0763			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
5	1004	1			ICV	BA				5.0345			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
6	1004	1			ICV	BE				5.2178			1.0000	04/26/95	13:16	dks	0.005	@ICP-QC			
7	1004	1			ICV	BI				5.0783			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
8	1004	1			ICV	CA				5.1179			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
9	1004	1			ICV	CD				5.0940			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
10	1004	1			ICV	CE				5.1505			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
11	1004	1			ICV	CO				5.1842			1.0000	04/26/95	13:16	dks	0.02	@ICP-QC			
12	1004	1			ICV	CR				5.1239			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
13	1004	1			ICV	CU				5.1285			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
14	1004	1			ICV	FE				5.0254			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
15	1004	1			ICV	K				5.0028			1.0000	04/26/95	13:16	dks	0.3	@ICP-QC			
16	1004	1			ICV	LA				4.9978			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
17	1004	1			ICV	LI				5.2210			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
18	1004	1			ICV	MG				5.1236			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
19	1004	1			ICV	MN				5.0521			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
20	1004	1			ICV	MO				5.2872			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
21	1004	1			ICV	NA				5.1803			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
22	1004	1			ICV	ND				4.9740			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
23	1004	1			ICV	NI				5.0725			1.0000	04/26/95	13:16	dks	0.02	@ICP-QC			
24	1004	1			ICV	P				5.3404			1.0000	04/26/95	13:16	dks	0.2	@ICP-QC			
25	1004	1			ICV	PB				5.0521			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
26	1004	1			ICV	S				5.3690			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
27	1004	1			ICV	SB				4.8850			1.0000	04/26/95	13:16	dks	0.2	@ICP-QC			
28	1004	1			ICV	SE				5.6219			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
29	1004	1			ICV	SI				4.9255			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
30	1004	1			ICV	SM				5.2912			1.0000	04/26/95	13:16	dks	0.1	@ICP-QC			
31	1004	1			ICV	SR				5.0278			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
32	1004	1			ICV	TI				5.0280			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
33	1004	1			ICV	TL				4.9578			1.0000	04/26/95	13:16	dks	0.2	@ICP-QC			
34	1004	1			ICV	U				9.8858			1.0000	04/26/95	13:16	dks	0.4	@ICP-QC			
35	1004	1			ICV	V				5.0361			1.0000	04/26/95	13:16	dks	0.05	@ICP-QC			
36	1004	1			ICV	ZN				5.1791			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
37	1004	1			ICV	ZR				5.0287			1.0000	04/26/95	13:16	dks	0.01	@ICP-QC			
38	1004	2			ICB	AG				0.0048			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
39	1004	2			ICB	AL				0.0012			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
40	1004	2			ICB	AS				-0.0052			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
41	1004	2			ICB	B				0.0007			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
42	1004	2			ICB	BA				0.0014			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
43	1004	2			ICB	BE				0.0015			1.0000	04/26/95	13:24	dks	0.005	@ICP-QC			
44	1004	2			ICB	BI				-0.0052			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
45	1004	2			ICB	CA				0.0039			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
46	1004	2			ICB	CD				0.0038			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
47	1004	2			ICB	CE				0.0156			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
48	1004	2			ICB	CO				0.0000			1.0000	04/26/95	13:24	dks	0.02	@ICP-QC			
49	1004	2			ICB	CR				0.0039			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
50	1004	2			ICB	CU				-0.0035			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
51	1004	2			ICB	FE				-0.0031			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
52	1004	2			ICB	K				-0.1446			1.0000	04/26/95	13:24	dks	0.3	@ICP-QC			
53	1004	2			ICB	LA				0.0033			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
54	1004	2			ICB	LI				0.0019			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
55	1004	2			ICB	MG				0.0008			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
56	1004	2			ICB	MN				-0.0025			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
57	1004	2			ICB	MO				0.0020			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
58	1004	2			ICB	NA				0.0105			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
59	1004	2			ICB	ND				0.0066			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
60	1004	2			ICB	NI				0.0043			1.0000	04/26/95	13:24	dks	0.02	@ICP-QC			
61	1004	2			ICB	P				0.0065			1.0000	04/26/95	13:24	dks	0.2	@ICP-QC			
62	1004	2			ICB	PB				-0.0110			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
63	1004	2			ICB	S				-0.0024			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
64	1004	2			ICB	SB				0.0427			1.0000	04/26/95	13:24	dks	0.2	@ICP-QC			
65	1004	2			ICB	SE				-0.0021			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
66	1004	2			ICB	SI				0.0013			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
67	1004	2			ICB	SM				0.0118			1.0000	04/26/95	13:24	dks	0.1	@ICP-QC			
68	1004	2			ICB	SR				0.0014			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
69	1004	2			ICB	TI				0.0007			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
70	1004	2			ICB	TL				0.0168			1.0000	04/26/95	13:24	dks	0.2	@ICP-QC			
71	1004	2			ICB	U				0.0179			1.0000	04/26/95	13:24	dks	0.4	@ICP-QC			
72	1004	2			ICB	V				0.0029			1.0000	04/26/95	13:24	dks	0.05	@ICP-QC			
73	1004	2			ICB	ZN				-0.0160			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
74	1004	2			ICB	ZR				0.0021			1.0000	04/26/95	13:24	dks	0.01	@ICP-QC			
75	1004	3			ICSA	AG				0.0058			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
76	1004	3			ICSA	AL				211.5595			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
77	1004	3			ICSA	AS				-0.0026			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
78	1004	3			ICSA	B				-0.0442			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
79	1004	3			ICSA	BA				0.0012			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
80	1004	3			ICSA	BE				0.0031			1.0000	04/26/95	13:28	dks	0.005	@ICP-QC			
81	1004	3			ICSA	BI				0.0091			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
82	1004	3			ICSA	CA				19.0828			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
83	1004	3			ICSA	CD				0.0148			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
84	1004	3			ICSA	CE				0.0258			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
85	1004	3			ICSA	CO				0.0045			1.0000	04/26/95	13:28	dks	0.02	@ICP-QC			
86	1004	3			ICSA	CR				-0.0079			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
87	1004	3			ICSA	CU				-0.0100			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
88	1004	3			ICSA	FE				148.3207			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
89	1004	3			ICSA	K				-0.1590			1.0000	04/26/95	13:28	dks	0.3	@ICP-QC			
90	1004	3			ICSA	LA				0.0130			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
91	1004	3			ICSA	LI				0.0014			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
92	1004	3			ICSA	MG				19.7070			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
93	1004	3			ICSA	MN				0.0046			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
94	1004	3			ICSA	MO				-0.0004			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
95	1004	3			ICSA	NA				192.8637			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
96	1004	3			ICSA	ND				0.0002			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
97	1004	3			ICSA	NI				-0.0530			1.0000	04/26/95	13:28	dks	0.02	@ICP-QC			
98	1004	3			ICSA	P				0.0322			1.0000	04/26/95	13:28	dks	0.2	@ICP-QC			
99	1004	3			ICSA	PB				0.0331			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
100	1004	3			ICSA	S				0.1905			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
101	1004	3			ICSA	SB				0.0145			1.0000	04/26/95	13:28	dks	0.2	@ICP-QC			
102	1004	3			ICSA	SE				0.0779			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
103	1004	3			ICSA	SI				0.1019			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
104	1004	3			ICSA	SM				0.0424			1.0000	04/26/95	13:28	dks	0.1	@ICP-QC			
105	1004	3			ICSA	SR				0.0011			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
106	1004	3			ICSA	TI				0.0018			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
107	1004	3			ICSA	TL				0.0461			1.0000	04/26/95	13:28	dks	0.2	@ICP-QC			
108	1004	3			ICSA	U				0.1813			1.0000	04/26/95	13:28	dks	0.4	@ICP-QC			
109	1004	3			ICSA	V				-0.0007			1.0000	04/26/95	13:28	dks	0.05	@ICP-QC			
110	1004	3			ICSA	ZN				0.0721			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
111	1004	3			ICSA	ZR				0.0038			1.0000	04/26/95	13:28	dks	0.01	@ICP-QC			
112	1004	4			ICSAB	AG				1.7708			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
113	1004	4			ICSAB	AL				211.7403			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
114	1004	4			ICSAB	AS				0.0066			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
115	1004	4			ICSAB	B				-0.0445			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
116	1004	4			ICSAB	BA				0.5008			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
117	1004	4			ICSAB	BE				0.5053			1.0000	04/26/95	13:30	dks	0.005	@ICP-QC			
118	1004	4			ICSAB	BI				0.0057			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
119	1004	4			ICSAB	CA				19.0193			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
120	1004	4			ICSAB	CD				1.0237			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
121	1004	4			ICSAB	CE				0.0284			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
122	1004	4			ICSAB	CO				0.5204			1.0000	04/26/95	13:30	dks	0.02	@ICP-QC			
123	1004	4			ICSAB	CR				0.5089			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
124	1004	4			ICSAB	CU				0.4824			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
125	1004	4			ICSAB	FE				146.7244			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
126	1004	4			ICSAB	K				-0.0945			1.0000	04/26/95	13:30	dks	0.3	@ICP-QC			
127	1004	4			ICSAB	LA				0.0152			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
128	1004	4			ICSAB	LI				0.9467			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
129	1004	4			ICSAB	MG				19.7145			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
130	1004	4			ICSAB	MN				0.5108			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
131	1004	4			ICSAB	MO				-0.0024			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
132	1004	4			ICSAB	NA				194.0646			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
133	1004	4			ICSAB	ND				-0.0088			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
134	1004	4			ICSAB	NI				0.9410			1.0000	04/26/95	13:30	dks	0.02	@ICP-QC			
135	1004	4			ICSAB	P				0.0171			1.0000	04/26/95	13:30	dks	0.2	@ICP-QC			
136	1004	4			ICSAB	PB				1.0195			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
137	1004	4			ICSAB	S				0.1761			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
138	1004	4			ICSAB	SB				0.0553			1.0000	04/26/95	13:30	dks	0.2	@ICP-QC			
139	1004	4			ICSAB	SE				0.0616			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
140	1004	4			ICSAB	SI				0.1066			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
141	1004	4			ICSAB	SM				0.0731			1.0000	04/26/95	13:30	dks	0.1	@ICP-QC			
142	1004	4			ICSAB	SR				0.0026			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
143	1004	4			ICSAB	TI				0.0050			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
144	1004	4			ICSAB	TL				0.1011			1.0000	04/26/95	13:30	dks	0.2	@ICP-QC			
145	1004	4			ICSAB	U				0.2985			1.0000	04/26/95	13:30	dks	0.4	@ICP-QC			
146	1004	4			ICSAB	V				0.5064			1.0000	04/26/95	13:30	dks	0.05	@ICP-QC			
147	1004	4			ICSAB	ZN				1.0622			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
148	1004	4			ICSAB	ZR				0.0057			1.0000	04/26/95	13:30	dks	0.01	@ICP-QC			
149	1004	5			PREPBLKARL	AG-F-01				0.0680			21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
150	1004	5			PREPBLKARL	AL-F-01				2.4313			21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
151	1004	5			PREPBLKARL	AS-F-01				-0.2260			21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
152	1004	5			PREPBLKARL	B-F-01				0.0458			21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
153	1004	5			PREPBLKARL	BA-F-01				0.0450			21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
154	1004	5			PREPBLKARL	BE-F-01				0.0148			21.0000	04/26/95	13:37	dks	0.005	@ICP-F02			

OUTPUT	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
164	1004	5			PREPBLKARL	BI-F-01				-0.1325		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
165	1004	5			PREPBLKARL	CA-F-01				0.2741		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
166	1004	5			PREPBLKARL	CD-F-01				0.0484		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
167	1004	5			PREPBLKARL	CE-F-01				0.0511		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
168	1004	5			PREPBLKARL	CO-F-01				0.0952		21.0000	04/26/95	13:37	dks	0.02	@ICP-F02			
169	1004	5			PREPBLKARL	CR-F-01				0.0408		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
170	1004	5			PREPBLKARL	CU-F-01				-0.0779		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
171	1004	5			PREPBLKARL	FE-F-01				1.5707		21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
172	1004	5			PREPBLKARL	K-F-01				12968.8269		21.0000	04/26/95	13:37	dks	0.3	@ICP-F02			
173	1004	5			PREPBLKARL	LA-F-01				0.0655		21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
174	1004	5			PREPBLKARL	LI-F-01				0.0271		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
175	1004	5			PREPBLKARL	MG-F-01				0.2115		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
176	1004	5			PREPBLKARL	MN-F-01				-0.0798		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
177	1004	5			PREPBLKARL	MO-F-01				0.0099		21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
178	1004	5			PREPBLKARL	NA-F-01				6.6491		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
179	1004	5			PREPBLKARL	ND-F-01				0.2966		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
180	1004	5			PREPBLKARL	NI-F-01				0.1335		21.0000	04/26/95	13:37	dks	0.02	@ICP-F02			
181	1004	5			PREPBLKARL	P-F-01				-0.4163		21.0000	04/26/95	13:37	dks	0.2	@ICP-F02			
182	1004	5			PREPBLKARL	PB-F-01				-0.1807		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
183	1004	5			PREPBLKARL	S-F-01				-0.2179		21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
184	1004	5			PREPBLKARL	SB-F-01				1.3347		21.0000	04/26/95	13:37	dks	0.2	@ICP-F02			
185	1004	5			PREPBLKARL	SE-F-01				0.0134		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
186	1004	5			PREPBLKARL	SI-F-01				0.0371		21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
187	1004	5			PREPBLKARL	SM-F-01				0.7965		21.0000	04/26/95	13:37	dks	0.1	@ICP-F02			
188	1004	5			PREPBLKARL	SR-F-01				0.0175		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
189	1004	5			PREPBLKARL	TI-F-01				0.0178		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
190	1004	5			PREPBLKARL	TL-F-01				1.4915		21.0000	04/26/95	13:37	dks	0.2	@ICP-F02			
191	1004	5			PREPBLKARL	U-F-01				4.2615		21.0000	04/26/95	13:37	dks	0.4	@ICP-F02			
192	1004	5			PREPBLKARL	V-F-01				0.1431		21.0000	04/26/95	13:37	dks	0.05	@ICP-F02			
193	1004	5			PREPBLKARL	ZN-F-01				-0.6447		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
194	1004	5			PREPBLKARL	ZR-F-01				9.3375		21.0000	04/26/95	13:37	dks	0.01	@ICP-F02			
195	1004	6	S95T000573			NI-F-01				15490.5280		10294.1178	04/26/95	13:49	dks	0.02	@ICP-F02			
196	1004	7	S95T000573		DUP	NI-F-01		15490.5280		20770.7059		10170.4768	04/26/95	13:53	dks	0.02	@ICP-F02			
197	1004	8	S95T000573_A		SPK	NI-F-01		25784.6456		25308.8066		10294.1178	04/26/95	13:57	dks	0.02	@ICP-F02			
198	1004	9			CCV	AG				3.7774		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
199	1004	9			CCV	AL				5.0454		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
200	1004	9			CCV	AS				4.9482		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
201	1004	9			CCV	B				5.0506		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
202	1004	9			CCV	BA				4.9630		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
203	1004	9			CCV	BE				5.1460		1.0000	04/26/95	14:05	dks	0.005	@ICP-QC			
204	1004	9			CCV	BI				4.9678		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
205	1004	9			CCV	CA				5.0851		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
206	1004	9			CCV	CD				5.0246		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
207	1004	9			CCV	CE				4.9860		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
208	1004	9			CCV	CO				5.0894		1.0000	04/26/95	14:05	dks	0.02	@ICP-QC			
209	1004	9			CCV	CR				5.0326		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
210	1004	9			CCV	CU				5.1060		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
211	1004	9			CCV	FE				4.9808		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
212	1004	9			CCV	K				5.3185		1.0000	04/26/95	14:05	dks	0.3	@ICP-QC			
213	1004	9			CCV	LA				4.9652		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
214	1004	9			CCV	LI				5.2013		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
215	1004	9			CCV	MG				5.0178		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
216	1004	9			CCV	MN				4.9927		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
217	1004	9			CCV	MO				5.1656		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
218	1004	9			CCV	NA				5.1495		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
219	1004	9			CCV	ND				4.9632		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
220	1004	9			CCV	NI				4.9979		1.0000	04/26/95	14:05	dks	0.02	@ICP-QC			
221	1004	9			CCV	P				5.2649		1.0000	04/26/95	14:05	dks	0.2	@ICP-QC			
222	1004	9			CCV	PB				4.9687		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
223	1004	9			CCV	S				5.2594		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
224	1004	9			CCV	SB				4.6468		1.0000	04/26/95	14:05	dks	0.2	@ICP-QC			
225	1004	9			CCV	SE				5.5314		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
226	1004	9			CCV	SI				4.8584		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
227	1004	9			CCV	SM				5.1579		1.0000	04/26/95	14:05	dks	0.1	@ICP-QC			
228	1004	9			CCV	SR				4.9593		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
229	1004	9			CCV	TI				4.9524		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
230	1004	9			CCV	TL				4.9377		1.0000	04/26/95	14:05	dks	0.2	@ICP-QC			
231	1004	9			CCV	U				9.8781		1.0000	04/26/95	14:05	dks	0.4	@ICP-QC			
232	1004	9			CCV	V				4.9731		1.0000	04/26/95	14:05	dks	0.05	@ICP-QC			
233	1004	9			CCV	ZN				5.0923		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
234	1004	9			CCV	ZR				4.9719		1.0000	04/26/95	14:05	dks	0.01	@ICP-QC			
235	1004	10			CCB	AG				0.2375		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
236	1004	10			CCB	AL				0.0030		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
237	1004	10			CCB	AS				0.0036		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
238	1004	10			CCB	B				0.0047		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
239	1004	10			CCB	BA				0.0027		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
240	1004	10			CCB	BE				0.0031		1.0000	04/26/95	14:09	dks	0.005	@ICP-QC			
241	1004	10			CCB	BI				0.0052		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
242	1004	10			CCB	CA				0.0027		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
243	1004	10			CCB	CD				0.0029		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
244	1004	10			CCB	CE				-0.0066		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
245	1004	10			CCB	CO				0.0027		1.0000	04/26/95	14:09	dks	0.02	@ICP-QC			
246	1004	10			CCB	CR				0.0054		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
247	1004	10			CCB	CU				-0.0023		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
248	1004	10			CCB	FE				0.0059		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
249	1004	10			CCB	K				0.0475		1.0000	04/26/95	14:09	dks	0.3	@ICP-QC			
250	1004	10			CCB	LA				-0.0007		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
251	1004	10			CCB	LI				0.0037		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
252	1004	10			CCB	MG				0.0035		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
253	1004	10			CCB	MN				-0.0011		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
254	1004	10			CCB	MO				0.0041		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
255	1004	10			CCB	NA				0.0243		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
256	1004	10			CCB	ND				0.0113		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
257	1004	10			CCB	NI				0.0036		1.0000	04/26/95	14:09	dks	0.02	@ICP-QC			
258	1004	10			CCB	P				-0.0218		1.0000	04/26/95	14:09	dks	0.2	@ICP-QC			
259	1004	10			CCB	PB				-0.0021		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
260	1004	10			CCB	S				-0.0034		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
261	1004	10			CCB	SB				0.0674		1.0000	04/26/95	14:09	dks	0.2	@ICP-QC			
262	1004	10			CCB	SE				0.0081		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
263	1004	10			CCB	SI				-0.0076		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
264	1004	10			CCB	SM				-0.0262		1.0000	04/26/95	14:09	dks	0.1	@ICP-QC			
265	1004	10			CCB	SR				0.0031		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
266	1004	10			CCB	TI				0.0017		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
267	1004	10			CCB	TL				-0.0555		1.0000	04/26/95	14:09	dks	0.2	@ICP-QC			
268	1004	10			CCB	U				-0.1035		1.0000	04/26/95	14:09	dks	0.4	@ICP-QC			
269	1004	10			CCB	V				0.0024		1.0000	04/26/95	14:09	dks	0.05	@ICP-QC			
270	1004	10			CCB	ZN				-0.0218		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
271	1004	10			CCB	ZR				0.0004		1.0000	04/26/95	14:09	dks	0.01	@ICP-QC			
272	1004	11	S95T000574			NI-F-01				22430.9380		9870.2761	04/26/95	14:17	dks	0.02	@ICP-F02			
273	1004	12	S95T000574		DUP	NI-F-01		22430.9380		27325.0629		9531.4907	04/26/95	14:22	dks	0.02	@ICP-F02			
274	1004	13	S95T000574_A		SPK	NI-F-01		32301.2154		31113.3837		9870.2761	04/26/95	14:26	dks	0.02	@ICP-F02			
275	1004	14			CCV	AG				2.5802		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
276	1004	14			CCV	AL				4.9696		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
277	1004	14			CCV	AS				4.9081		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
278	1004	14			CCV	B				5.0215		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
279	1004	14			CCV	BA				4.8922		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
280	1004	14			CCV	BE				5.0955		1.0000	04/26/95	14:31	dks	0.005	@ICP-QC			
281	1004	14			CCV	BI				4.9349		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
282	1004	14			CCV	CA				5.0398		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
283	1004	14			CCV	CD				5.0055		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
284	1004	14			CCV	CE				4.9682		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
285	1004	14			CCV	CO				5.0211		1.0000	04/26/95	14:31	dks	0.02	@ICP-QC			
286	1004	14			CCV	CR				5.0328		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
287	1004	14			CCV	CU				5.0319		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
288	1004	14			CCV	FE				4.9968		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
289	1004	14			CCV	K				5.6957		1.0000	04/26/95	14:31	dks	0.3	@ICP-QC			
290	1004	14			CCV	LA				4.9211		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
291	1004	14			CCV	LI				5.0103		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
292	1004	14			CCV	MG				4.9682		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
293	1004	14			CCV	MN				4.9685		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
294	1004	14			CCV	MO				5.0969		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
295	1004	14			CCV	NA				4.9786		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
296	1004	14			CCV	ND				4.9663		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
297	1004	14			CCV	NI				4.9930		1.0000	04/26/95	14:31	dks	0.02	@ICP-QC			
298	1004	14			CCV	P				5.2563		1.0000	04/26/95	14:31	dks	0.2	@ICP-QC			
299	1004	14			CCV	PB				5.0310		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
300	1004	14			CCV	S				5.2049		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
301	1004	14			CCV	SB				4.7514		1.0000	04/26/95	14:31	dks	0.2	@ICP-QC			
302	1004	14			CCV	SE				5.4035		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
303	1004	14			CCV	SI				4.8004		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
304	1004	14			CCV	SM				4.9479		1.0000	04/26/95	14:31	dks	0.1	@ICP-QC			
305	1004	14			CCV	SR				4.8784		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
306	1004	14			CCV	TI				4.8675		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
307	1004	14			CCV	TL				4.8851		1.0000	04/26/95	14:31	dks	0.2	@ICP-QC			
308	1004	14			CCV	U				9.8557		1.0000	04/26/95	14:31	dks	0.4	@ICP-QC			
309	1004	14			CCV	V				4.9505		1.0000	04/26/95	14:31	dks	0.05	@ICP-QC			
310	1004	14			CCV	ZN				5.0740		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
311	1004	14			CCV	ZR				4.9308		1.0000	04/26/95	14:31	dks	0.01	@ICP-QC			
312	1004	15			CCB	AG				0.2199		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
313	1004	15			CCB	AL				0.0020		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
314	1004	15			CCB	AS				-0.0024		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
315	1004	15			CCB	B				0.0068		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
316	1004	15			CCB	BA				0.0045		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
317	1004	15			CCB	BE				0.0033		1.0000	04/26/95	14:35	dks	0.005	@ICP-QC			

OUTPUT	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
309	1004	15			CCB	BI				-0.0016		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
310	1004	15			CCB	CA				0.0044		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
311	1004	15			CCB	CD				0.0049		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
312	1004	15			CCB	CE				0.0164		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
313	1004	15			CCB	CO				0.0063		1.0000	04/26/95	14:35	dks	0.02	@ICP-QC			
314	1004	15			CCB	CR				0.0072		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
315	1004	15			CCB	CU				-0.0014		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
316	1004	15			CCB	FE				0.0028		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
317	1004	15			CCB	K				0.4429		1.0000	04/26/95	14:35	dks	0.3	@ICP-QC			
318	1004	15			CCB	LA				0.0068		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
319	1004	15			CCB	LI				0.0040		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
320	1004	15			CCB	MG				0.0035		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
321	1004	15			CCB	MN				-0.0008		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
322	1004	15			CCB	MO				0.0050		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
323	1004	15			CCB	NA				0.0335		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
324	1004	15			CCB	ND				0.0073		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
325	1004	15			CCB	NI				0.0050		1.0000	04/26/95	14:35	dks	0.02	@ICP-QC			
326	1004	15			CCB	P				0.0062		1.0000	04/26/95	14:35	dks	0.2	@ICP-QC			
327	1004	15			CCB	PB				0.0028		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
328	1004	15			CCB	S				0.0036		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
329	1004	15			CCB	SB				0.0615		1.0000	04/26/95	14:35	dks	0.2	@ICP-QC			
330	1004	15			CCB	SE				0.0131		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
331	1004	15			CCB	SI				0.0128		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
332	1004	15			CCB	SM				0.0792		1.0000	04/26/95	14:35	dks	0.1	@ICP-QC			
333	1004	15			CCB	SR				0.0034		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
334	1004	15			CCB	TI				0.0047		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
335	1004	15			CCB	TL				0.1238		1.0000	04/26/95	14:35	dks	0.2	@ICP-QC			
336	1004	15			CCB	U				0.2621		1.0000	04/26/95	14:35	dks	0.4	@ICP-QC			
337	1004	15			CCB	V				0.0060		1.0000	04/26/95	14:35	dks	0.05	@ICP-QC			
338	1004	15			CCB	ZN				0.0061		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
339	1004	15			CCB	ZR				0.0006		1.0000	04/26/95	14:35	dks	0.01	@ICP-QC			
340	1004	16			PREPBLKARL	AG-F-01				0.0783		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
341	1004	16			PREPBLKARL	AL-F-01				-0.0127		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
342	1004	16			PREPBLKARL	AS-F-01				-0.0910		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
343	1004	16			PREPBLKARL	B-F-01				0.0492		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
344	1004	16			PREPBLKARL	BA-F-01				0.0358		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
345	1004	16			PREPBLKARL	BE-F-01				0.0266		21.0000	04/26/95	14:40	dks	0.005	@ICP-F02			
346	1004	16			PREPBLKARL	BI-F-01				-0.2802		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
347	1004	16			PREPBLKARL	CA-F-01				0.0412		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
348	1004	16			PREPBLKARL	CD-F-01				0.0373		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
349	1004	16			PREPBLKARL	CE-F-01				-0.1684		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
350	1004	16			PREPBLKARL	CO-F-01				0.0189		21.0000	04/26/95	14:40	dks	0.02	@ICP-F02			
351	1004	16			PREPBLKARL	CR-F-01				0.0736		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
352	1004	16			PREPBLKARL	CU-F-01				-0.0040		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
353	1004	16			PREPBLKARL	FE-F-01				0.1306		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
354	1004	16			PREPBLKARL	K-F-01				12163.2022		21.0000	04/26/95	14:40	dks	0.3	@ICP-F02			
355	1004	16			PREPBLKARL	LA-F-01				0.0539		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
356	1004	16			PREPBLKARL	LI-F-01				0.0263		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
357	1004	16			PREPBLKARL	MG-F-01				0.0619		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
358	1004	16			PREPBLKARL	MN-F-01				-0.0651		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
359	1004	16			PREPBLKARL	MO-F-01				0.0637		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
360	1004	16			PREPBLKARL	NA-F-01				4.9248		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
361	1004	16			PREPBLKARL	ND-F-01				0.1501		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
362	1004	16			PREPBLKARL	NI-F-01				0.1456		21.0000	04/26/95	14:40	dks	0.02	@ICP-F02			
363	1004	16			PREPBLKARL	P-F-01				0.1479		21.0000	04/26/95	14:40	dks	0.2	@ICP-F02			
364	1004	16			PREPBLKARL	PB-F-01				0.0683		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
365	1004	16			PREPBLKARL	S-F-01				-0.0818		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
366	1004	16			PREPBLKARL	SB-F-01				0.6039		21.0000	04/26/95	14:40	dks	0.2	@ICP-F02			
367	1004	16			PREPBLKARL	SE-F-01				0.0789		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
368	1004	16			PREPBLKARL	SI-F-01				0.4257		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
369	1004	16			PREPBLKARL	SM-F-01				0.6060		21.0000	04/26/95	14:40	dks	0.1	@ICP-F02			
370	1004	16			PREPBLKARL	SR-F-01				0.0273		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
371	1004	16			PREPBLKARL	TI-F-01				0.0325		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
372	1004	16			PREPBLKARL	TL-F-01				0.9944		21.0000	04/26/95	14:40	dks	0.2	@ICP-F02			
373	1004	16			PREPBLKARL	U-F-01				1.9382		21.0000	04/26/95	14:40	dks	0.4	@ICP-F02			
374	1004	16			PREPBLKARL	V-F-01				0.0730		21.0000	04/26/95	14:40	dks	0.05	@ICP-F02			
375	1004	16			PREPBLKARL	ZN-F-01				-0.6386		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
376	1004	16			PREPBLKARL	ZR-F-01				0.9127		21.0000	04/26/95	14:40	dks	0.01	@ICP-F02			
377	1004	17	S95T000575			NI-F-01				11477.5510		9028.3749	04/26/95	14:46	dks	0.02	@ICP-F02			
378	1004	18	S95T000575		DUP	NI-F-01		11477.5510		11424.0464		8971.2919	04/26/95	14:51	dks	0.02	@ICP-F02			
379	1004	19	S95T000575_A		SPK	NI-F-01		20505.9259		20002.0331		9028.3749	04/26/95	14:55	dks	0.02	@ICP-F02			
380	1004	20			ICSA	AG				0.1790		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
381	1004	20			ICSA	AL				210.9348		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
382	1004	20			ICSA	AS				0.0047		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
383	1004	20			ICSA	B				-0.0444		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
384	1004	20			ICSA	BA				0.0008		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
385	1004	20			ICSA	BE				0.0028		1.0000	04/26/95	15:01	dks	0.005	@ICP-QC			
386	1004	20			ICSA	BI				0.0007		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
387	1004	20			ICSA	CA				18.9524		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
388	1004	20			ICSA	CD				0.0168		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
389	1004	20			ICSA	CE				-0.0059		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
390	1004	20			ICSA	CO				0.0018		1.0000	04/26/95	15:01	dks	0.02	@ICP-QC			
391	1004	20			ICSA	CR				-0.0054		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
392	1004	20			ICSA	CU				-0.0196		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
393	1004	20			ICSA	FE				146.5156		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
394	1004	20			ICSA	K				0.5035		1.0000	04/26/95	15:01	dks	0.3	@ICP-QC			
395	1004	20			ICSA	LA				0.0126		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
396	1004	20			ICSA	LI				0.0015		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
397	1004	20			ICSA	MG				19.4502		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
398	1004	20			ICSA	MN				0.0049		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
399	1004	20			ICSA	MO				-0.0003		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
400	1004	20			ICSA	NA				194.0964		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
401	1004	20			ICSA	ND				-0.0014		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
402	1004	20			ICSA	NI				-0.0552		1.0000	04/26/95	15:01	dks	0.02	@ICP-QC			
403	1004	20			ICSA	P				0.0306		1.0000	04/26/95	15:01	dks	0.2	@ICP-QC			
404	1004	20			ICSA	PB				0.0465		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
405	1004	20			ICSA	S				0.1819		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
406	1004	20			ICSA	SB				0.0191		1.0000	04/26/95	15:01	dks	0.2	@ICP-QC			
407	1004	20			ICSA	SE				0.0594		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
408	1004	20			ICSA	SI				0.0969		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
409	1004	20			ICSA	SM				0.0286		1.0000	04/26/95	15:01	dks	0.1	@ICP-QC			
410	1004	20			ICSA	SR				0.0009		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
411	1004	20			ICSA	TI				0.0011		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
412	1004	20			ICSA	TL				0.0019		1.0000	04/26/95	15:01	dks	0.2	@ICP-QC			
413	1004	20			ICSA	U				0.1186		1.0000	04/26/95	15:01	dks	0.4	@ICP-QC			
414	1004	20			ICSA	V				-0.0023		1.0000	04/26/95	15:01	dks	0.05	@ICP-QC			
415	1004	20			ICSA	ZN				0.0716		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
416	1004	20			ICSA	ZR				0.0010		1.0000	04/26/95	15:01	dks	0.01	@ICP-QC			
417	1004	21			ICSAB	AG				1.4475		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
418	1004	21			ICSAB	AL				208.5707		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
419	1004	21			ICSAB	AS				0.0024		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
420	1004	21			ICSAB	B				-0.0458		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
421	1004	21			ICSAB	BA				0.4871		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
422	1004	21			ICSAB	BE				0.4941		1.0000	04/26/95	15:04	dks	0.005	@ICP-QC			
423	1004	21			ICSAB	BI				0.0172		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
424	1004	21			ICSAB	CA				18.7835		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
425	1004	21			ICSAB	CD				1.0005		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
426	1004	21			ICSAB	CE				0.0567		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
427	1004	21			ICSAB	CO				0.5067		1.0000	04/26/95	15:04	dks	0.02	@ICP-QC			
428	1004	21			ICSAB	CR				0.4950		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
429	1004	21			ICSAB	CU				0.4716		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
430	1004	21			ICSAB	FE				146.1149		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
431	1004	21			ICSAB	K				0.2391		1.0000	04/26/95	15:04	dks	0.3	@ICP-QC			
432	1004	21			ICSAB	LA				0.0168		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
433	1004	21			ICSAB	LI				0.9307		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
434	1004	21			ICSAB	MG				19.4135		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
435	1004	21			ICSAB	MN				0.5023		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
436	1004	21			ICSAB	MO				-0.0014		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
437	1004	21			ICSAB	NA				190.8336		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
438	1004	21			ICSAB	ND				-0.0212		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
439	1004	21			ICSAB	NI				0.9242		1.0000	04/26/95	15:04	dks	0.02	@ICP-QC			
440	1004	21			ICSAB	P				0.0167		1.0000	04/26/95	15:04	dks	0.2	@ICP-QC			
441	1004	21			ICSAB	PB				0.9913		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
442	1004	21			ICSAB	S				0.1699		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
443	1004	21			ICSAB	SB				0.0328		1.0000	04/26/95	15:04	dks	0.2	@ICP-QC			
444	1004	21			ICSAB	SE				0.0644		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
445	1004	21			ICSAB	SI				0.0671		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
446	1004	21			ICSAB	SM				0.0061		1.0000	04/26/95	15:04	dks	0.1	@ICP-QC			
447	1004	21			ICSAB	SR				0.0002		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
448	1004	21			ICSAB	TI				-0.0000		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
449	1004	21			ICSAB	TL				-0.0211		1.0000	04/26/95	15:04	dks	0.2	@ICP-QC			
450	1004	21			ICSAB	U				0.0311		1.0000	04/26/95	15:04	dks	0.4	@ICP-QC			
451	1004	21			ICSAB	V				0.4953		1.0000	04/26/95	15:04	dks	0.05	@ICP-QC			
452	1004	21			ICSAB	ZN				1.0505		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
453	1004	21			ICSAB	ZR				-0.0020		1.0000	04/26/95	15:04	dks	0.01	@ICP-QC			
454	1004	22			CCV	AG				3.5746		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
455	1004	22			CCV	AL				5.2509		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
456	1004	22			CCV	AS				5.0264		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
457	1004	22			CCV	B				5.0411		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
458	1004	22			CCV	BA				4.9699		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
459	1004	22			CCV	BE				5.2102		1.0000	04/26/95	15:09	dks	0.005	@ICP-QC			
460	1004	22			CCV	BI				5.0344		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
461	1004	22			CCV	CA				5.0079		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
462	1004	22			CCV	CD				5.0001		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			

OUTPUT	A	P	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
443	1004	22			CCV	CE				5.1032		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
444	1004	22			CCV	CO				5.1724		1.0000	04/26/95	15:09	dks	0.02	@ICP-QC			
445	1004	22			CCV	CR				5.1279		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
446	1004	22			CCV	CU				5.0682		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
447	1004	22			CCV	FE				5.1381		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
448	1004	22			CCV	K				5.4782		1.0000	04/26/95	15:09	dks	0.3	@ICP-QC			
449	1004	22			CCV	LA				4.9794		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
470	1004	22			CCV	LI				5.0797		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
471	1004	22			CCV	MG				5.1191		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
472	1004	22			CCV	MN				5.0504		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
473	1004	22			CCV	MO				5.2585		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
474	1004	22			CCV	NA				5.2040		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
475	1004	22			CCV	ND				4.9291		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
476	1004	22			CCV	NI				5.0580		1.0000	04/26/95	15:09	dks	0.02	@ICP-QC			
477	1004	22			CCV	P				5.5247		1.0000	04/26/95	15:09	dks	0.2	@ICP-QC			
478	1004	22			CCV	PB				5.0245		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
479	1004	22			CCV	S				5.4211		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
480	1004	22			CCV	SB				4.7724		1.0000	04/26/95	15:09	dks	0.2	@ICP-QC			
481	1004	22			CCV	SE				5.6080		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
482	1004	22			CCV	SI				4.9025		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
483	1004	22			CCV	SM				5.0729		1.0000	04/26/95	15:09	dks	0.1	@ICP-QC			
484	1004	22			CCV	SR				4.9609		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
485	1004	22			CCV	TI				5.0022		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
486	1004	22			CCV	TL				4.9743		1.0000	04/26/95	15:09	dks	0.2	@ICP-QC			
487	1004	22			CCV	U				9.8892		1.0000	04/26/95	15:09	dks	0.4	@ICP-QC			
488	1004	22			CCV	V				5.0206		1.0000	04/26/95	15:09	dks	0.05	@ICP-QC			
489	1004	22			CCV	ZN				5.1592		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
490	1004	22			CCV	ZR				5.0714		1.0000	04/26/95	15:09	dks	0.01	@ICP-QC			
491	1004	23			CCB	AG				0.3461		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
492	1004	23			CCB	AL				0.0594		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
493	1004	23			CCB	AS				-0.0108		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
494	1004	23			CCB	B				0.0032		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
495	1004	23			CCB	BA				0.0025		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
496	1004	23			CCB	BE				0.0024		1.0000	04/26/95	15:14	dks	0.005	@ICP-QC			
497	1004	23			CCB	BI				-0.0038		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
498	1004	23			CCB	CA				0.0092		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
499	1004	23			CCB	CD				0.0043		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
500	1004	23			CCB	CE				0.0009		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
501	1004	23			CCB	CO				0.0018		1.0000	04/26/95	15:14	dks	0.02	@ICP-QC			
502	1004	23			CCB	CR				0.0036		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
503	1004	23			CCB	CU				-0.0031		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
504	1004	23			CCB	FE				0.0565		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
505	1004	23			CCB	K				0.2502		1.0000	04/26/95	15:14	dks	0.3	@ICP-QC			
506	1004	23			CCB	LA				0.0044		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
507	1004	23			CCB	LI				0.0025		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
508	1004	23			CCB	MG				0.0094		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
509	1004	23			CCB	MN				-0.0021		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
510	1004	23			CCB	MO				0.0025		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
511	1004	23			CCB	NA				0.1058		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
512	1004	23			CCB	ND				0.0034		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
513	1004	23			CCB	NI				0.0057		1.0000	04/26/95	15:14	dks	0.02	@ICP-QC			
514	1004	23			CCB	P				-0.0007		1.0000	04/26/95	15:14	dks	0.2	@ICP-QC			
515	1004	23			CCB	PB				-0.0119		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
516	1004	23			CCB	S				0.0038		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
517	1004	23			CCB	SB				0.0081		1.0000	04/26/95	15:14	dks	0.2	@ICP-QC			
518	1004	23			CCB	SE				0.0156		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
519	1004	23			CCB	SI				0.0050		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
520	1004	23			CCB	SM				0.0203		1.0000	04/26/95	15:14	dks	0.1	@ICP-QC			
521	1004	23			CCB	SR				0.0021		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
522	1004	23			CCB	TI				0.0015		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
523	1004	23			CCB	TL				0.0349		1.0000	04/26/95	15:14	dks	0.2	@ICP-QC			
524	1004	23			CCB	U				0.0979		1.0000	04/26/95	15:14	dks	0.4	@ICP-QC			
525	1004	23			CCB	V				0.0036		1.0000	04/26/95	15:14	dks	0.05	@ICP-QC			
526	1004	23			CCB	ZN				0.0138		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
527	1004	23			CCB	ZR				0.0029		1.0000	04/26/95	15:14	dks	0.01	@ICP-QC			
528																				

SP 04/27/95

LABCORE Data Entry Template for Worklist# 1203

Analyst: KRM **Instrument:** TOC01 **Book #** 10N12E

Method: LA-342-100 Rev/Mod A-0

Worklist Comment: C-111, TOC-02 (Persulfate) include TIC data w/ batch.

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				TOC-02	SOLID	1	23.9	N/A	ug/g
		2	STD				TOC-02	SOLID	3.00E3	2.88E3	N/A	~~ug/g~~ ug/mL gwb 5/8/95
95000041	C-111	3	SAMPLE	S95T000570	0		TOC-02	SOLID	N/A	6.39E2	80	ug/g
95000041	C-111	4	DUP	S95T000570	0		TOC-02	SOLID	6.39E2	7.24E2	N/A	ug/g
95000041	C-111	5	SAMPLE	S95T000571	0		TOC-02	SOLID	N/A	1.22E3	80	ug/g
95000041	C-111	6	DUP	S95T000571	0		TOC-02	SOLID	1.22E3	1.28E3	N/A	ug/g
95000041	C-111	7	SPK	S95T000571	0		TOC-02	SOLID	100	98.6	N/A	~~%~~ ug/g gwb 5/8/95

Final page for worklist # 1203

4-28-95
Analyst Signature **Date**

5-8-95
Analyst Signature **Date**

5/8/95

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.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 04/27/95 Time: 08:33:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.20	50.00
3	1.50	0.70	71.43
4	2.01	1.00	30.00
5	2.51	1.20	16.67
6	3.01	1.30	7.69
7	3.51	1.50	13.33
8	4.00	1.60	6.25
9	4.50	1.70	5.88
10	5.00	1.80	5.56
11	5.50	1.90	5.26
12	6.00	2.00	5.00
13	6.50	2.20	9.09
14	7.00	2.30	4.35
15	7.50	2.50	8.00
16	8.00	2.50	0.00
17	8.50	2.60	3.85
18	9.00	2.80	7.14
19	9.50	2.90	3.45
20	10.00	3.00	3.33
21	10.50	3.10	3.23
22	11.00	3.20	3.13

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 130 **TO** 143.

BLANK VALUE = 3.2 micrograms carbon
BLANK FACTOR = 3.2 / 10.99982 = +2.9E-01 ug/min Carbon

Sample Run By: 4-27-95
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 04/27/95 Time: 08:47:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	3.20	100.00
3	1.51	11.20	71.43
4	2.00	15.30	26.80
5	2.50	16.80	8.93
6	3.00	17.80	5.62
7	3.50	18.50	3.78
8	4.00	19.20	3.65
9	4.50	20.10	4.48
10	5.00	20.60	2.43
11	5.50	20.90	1.44
12	6.00	21.30	1.88
13	6.50	21.70	1.84
14	7.00	22.00	1.36
15	7.50	22.30	1.35
16	8.00	22.50	0.89
17	8.50	22.80	1.32
18	9.00	23.00	0.87
19	9.50	23.20	0.86
20	10.00	23.50	1.28
21	10.50	23.80	1.26
22	11.00	23.90	0.42

BLANK VALUE = 23.9 micrograms carbon
BLANK FACTOR = 23.9 / 10.99884 = +2.17E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 04/27/95 Time: 09:00:18

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.00	0.00
2	1.00	95.70	100.00
3	1.50	338.20	71.70
4	2.00	482.70	29.94
5	2.50	547.80	11.88
6	3.00	568.00	3.56
7	3.50	573.70	0.99
8	4.00	575.70	0.35
9	4.50	576.70	0.17
10	5.00	577.30	0.10
11	5.50	577.80	0.09
12	6.00	578.70	0.16
13	6.50	579.30	0.10
14	7.00	579.60	0.05
15	7.50	580.00	0.07
16	8.00	580.30	0.05
17	8.50	580.60	0.05
18	9.00	580.70	0.02
19	9.50	580.90	0.03
20	10.00	581.10	0.03
21	10.50	581.30	0.03
22	11.00	581.40	0.02

USER INPUT BLANK VALUE
BLANK VALUE = 3.189664 micrograms carbon
BLANK FACTOR = 3.189664 / 10.99884 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:
(581.4 - 3.189664)(1)/(1000) = +5.782E-01 g/L Carbon
(581.4 - 3.189664)(1)/(1000)(12) = +4.818E-02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 04/27/95 Time: 09:12:22

Sample Size = 250 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.17 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	53.40	100.00
3	1.51	337.60	84.18
4	2.00	618.50	45.42
5	2.50	705.70	12.36
6	3.00	725.10	2.68
7	3.50	732.00	0.94
8	4.00	735.00	0.41
9	4.50	736.10	0.15
10	5.00	737.20	0.15
11	5.50	738.00	0.11
12	6.00	739.00	0.14
13	6.50	739.50	0.07
14	7.00	740.10	0.08
15	7.50	740.60	0.07
16	8.00	741.00	0.05
17	8.50	741.60	0.08
18	9.00	741.90	0.04
19	9.50	742.20	0.04
20	10.00	742.60	0.05
21	10.50	742.90	0.04
22	11.00	743.10	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 23.86749 micrograms carbon
BLANK FACTOR = 23.86749 / 10.99884 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(743.1 - 23.87146)(1)/(250) = +2.877E+00 g/L Carbon
(743.1 - 23.87146)(1)/(250)(12) = +2.397E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

P

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 570 Date: 04/27/95 Time: 12:04:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	2.80	100.00
3	1.51	28.60	90.21
4	2.00	89.90	68.19
5	2.50	141.10	36.29
6	3.00	165.50	14.74
7	3.50	175.00	5.43
8	4.00	178.50	1.96
9	4.50	180.00	0.83
10	5.00	180.70	0.39
11	5.50	181.30	0.33
12	6.00	181.60	0.17
13	6.50	182.00	0.22
14	7.00	182.30	0.16
15	7.50	182.50	0.11
16	8.00	182.80	0.16
17	8.50	182.90	0.05
18	9.00	183.20	0.16
19	9.50	183.30	0.05
20	10.00	183.50	0.11
21	10.50	183.70	0.11
22	11.00	183.90	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 3.189664 micrograms carbon
BLANK FACTOR = 3.189664 / 10.99884 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:
(183.9 - 3.189646)(1)/(1) = +1.807E+02 g/L Carbon
(183.9 - 3.189646)(1)/(1)(12) = +1.506E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

.070492

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 570 Date: 04/27/95 Time: 12:18:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.17 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	6.60	100.00
3	1.51	25.30	73.91
4	2.00	40.20	37.06
5	2.50	49.00	17.96
6	3.00	54.00	9.26
7	3.50	56.50	4.42
8	4.00	58.60	3.58
9	4.50	59.90	2.17
10	5.00	61.40	2.44
11	5.50	62.30	1.44
12	6.00	63.00	1.11
13	6.50	63.70	1.10
14	7.00	64.40	1.09
15	7.50	65.30	1.38
16	8.00	66.10	1.21
17	8.50	66.70	0.90
18	9.00	67.30	0.89
19	9.50	67.70	0.59
20	10.00	68.10	0.59
21	10.50	68.50	0.58
22	11.00	68.90	0.58

USER INPUT BLANK VALUE
BLANK VALUE = 23.86749 micrograms carbon
BLANK FACTOR = 23.86749 / 10.99884 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(68.9 - 23.87371)(1)/(1) = +4.50E+01 g/L Carbon
(68.9 - 23.87371)(1)/(1)(12) = +3.75E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

.070%

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 570 Date: 04/27/95 Time: 12:34:57

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	8.00	83.75
3	1.50	112.20	92.87
4	2.00	318.30	64.75
5	2.50	487.20	34.67
6	3.00	573.70	15.08
7	3.50	616.20	6.90
8	4.00	635.60	3.05
9	4.50	643.20	1.18
10	5.00	646.50	0.51
11	5.50	648.60	0.32
12	6.00	650.10	0.23
13	6.50	651.30	0.18
14	7.00	652.10	0.12
15	7.50	652.90	0.12
16	8.00	653.60	0.11
17	8.50	654.20	0.09
18	9.00	654.80	0.09
19	9.50	655.40	0.09
20	10.00	655.80	0.06
21	10.50	656.30	0.08
22	11.00	656.70	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 3.189664 micrograms carbon
BLANK FACTOR = 3.189664 / 10.99884 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:
(656.7 - 3.189664)(1)/(1) = +6.535E+02 g/L Carbon
(656.7 - 3.189664)(1)/(1)(12) = +5.446E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

.2515

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 570 Date: 04/27/95 Time: 12:47:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.17 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.10	0.00
2	1.01	10.80	99.07
3	1.51	51.40	78.99
4	2.01	98.90	48.03
5	2.51	134.20	26.30
6	3.01	155.40	13.64
7	3.51	167.80	7.39
8	4.01	175.90	4.60
9	4.50	182.00	3.35
10	5.00	186.50	2.41
11	5.50	190.40	2.05
12	6.00	193.60	1.65
13	6.50	196.00	1.22
14	7.00	198.40	1.21
15	7.50	200.20	0.90
16	8.00	202.00	0.89
17	8.50	203.40	0.69
18	9.00	204.80	0.68
19	9.50	206.20	0.68
20	10.00	207.80	0.77
21	10.50	209.20	0.67
22	11.00	210.40	0.57

USER INPUT BLANK VALUE
BLANK VALUE = 23.86749 micrograms carbon
BLANK FACTOR = 23.86749 / 10.99884 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(210.4 - 23.87358)(1)/(1) = +1.865E+02 g/L Carbon
(210.4 - 23.87358)(1)/(1)(12) = +1.554E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

.2575g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 571 Date: 04/27/95 Time: 13:03:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	14.20	97.18
3	1.51	130.20	89.09
4	2.00	385.50	66.23
5	2.50	670.60	42.51
6	3.00	857.70	21.81
7	3.50	949.70	9.69
8	4.00	993.60	4.42
9	4.50	1014.60	2.07
10	5.00	1022.60	0.78
11	5.50	1026.90	0.42
12	6.00	1029.60	0.26
13	6.50	1031.70	0.20
14	7.00	1033.20	0.15
15	7.50	1034.90	0.16
16	8.00	1035.80	0.09
17	8.50	1036.80	0.10
18	9.00	1037.80	0.10
19	9.50	1038.80	0.10
20	10.00	1039.60	0.08
21	10.50	1040.30	0.07
22	11.00	1041.00	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 3.189664 micrograms carbon
BLANK FACTOR = 3.189664 / 10.99884 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1041 - 3.189965)(1)/(1) = +1.0378E+03 g/L Carbon
(1041 - 3.189965)(1)/(1)(12) = +8.6484E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

.26009

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 571 Date: 04/27/95 Time: 13:22:07

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.17 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	16.30	96.93
3	1.51	75.20	78.32
4	2.00	149.70	49.77
5	2.50	206.50	27.51
6	3.00	245.70	15.95
7	3.50	270.10	9.03
8	4.00	286.30	5.66
9	4.50	297.40	3.73
10	5.00	305.70	2.72
11	5.50	311.50	1.86
12	6.00	316.50	1.58
13	6.50	320.70	1.31
14	7.00	323.80	0.96
15	7.50	326.80	0.92
16	8.00	329.40	0.79
17	8.50	331.80	0.72
18	9.00	334.00	0.66
19	9.50	335.80	0.54
20	10.00	337.80	0.59
21	10.50	339.90	0.62
22	11.00	341.80	0.56

USER INPUT BLANK VALUE
BLANK VALUE = 23.86749 micrograms carbon
BLANK FACTOR = 23.86749 / 10.99884 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(341.8 - 23.86563)(1)/(1) = +3.179E+02 g/L Carbon
(341.8 - 23.86563)(1)/(1)(12) = +2.649E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

-26009

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 571 Date: 04/27/95 Time: 13:34:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.80	0.00
2	1.01	99.80	97.19
3	1.51	472.70	78.89
4	2.01	906.90	47.88
5	2.51	1173.30	22.71
6	3.00	1301.50	9.85
7	3.50	1362.50	4.48
8	4.00	1392.60	2.16
9	4.50	1405.70	0.93
10	5.00	1412.20	0.46
11	5.50	1416.40	0.30
12	6.00	1419.70	0.23
13	6.50	1422.50	0.20
14	7.00	1424.30	0.13
15	7.50	1426.00	0.12
16	8.00	1427.60	0.11
17	8.50	1429.10	0.10
18	9.00	1430.50	0.10
19	9.50	1431.70	0.08
20	10.00	1432.80	0.08
21	10.50	1433.60	0.06
22	11.00	1434.10	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 3.189664 micrograms carbon
BLANK FACTOR = 3.189664 / 10.99884 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1434.1 - 3.190442)(1)/(1) = +1.4309E+03 g/L Carbon
(1434.1 - 3.190442)(1)/(1)(12) = +1.1924E+02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

3567 2

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 571 Date: 04/27/95 Time: 13:46:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.17 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	2.20	0.00
2	1.01	22.30	90.13
3	1.51	132.50	83.17
4	2.01	238.20	44.37
5	2.51	303.70	21.57
6	3.00	344.00	11.72
7	3.51	372.20	7.58
8	4.01	391.70	4.98
9	4.50	407.20	3.81
10	5.00	418.60	2.72
11	5.50	429.10	2.45
12	6.00	437.80	1.99
13	6.50	444.50	1.51
14	7.00	451.20	1.48
15	7.50	455.90	1.03
16	8.00	460.60	1.02
17	8.50	465.20	0.99
18	9.00	468.70	0.75
19	9.50	472.10	0.72
20	10.00	475.10	0.63
21	10.50	477.50	0.50
22	11.00	480.10	0.54

USER INPUT BLANK VALUE
BLANK VALUE = 23.86749 micrograms carbon
BLANK FACTOR = 23.86749 / 10.99884 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(480.1 - 23.87132)(1)/(1) = +4.562E+02 g/L Carbon
(480.1 - 23.87132)(1)/(1)(12) = +3.802E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

3567 2

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 571 + SPK Date: 04/27/95 Time: 13:58:34

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	2.70	0.00
2	1.01	46.10	94.14
3	1.51	383.40	87.98
4	2.01	893.10	57.07
5	2.51	1266.30	29.47
6	3.01	1457.80	13.14
7	3.51	1542.60	5.50
8	4.01	1582.70	2.53
9	4.50	1601.80	1.19
10	5.00	1610.80	0.56
11	5.50	1616.10	0.33
12	6.01	1619.70	0.22
13	6.51	1623.00	0.20
14	7.00	1625.90	0.18
15	7.50	1627.80	0.12
16	8.00	1630.00	0.13
17	8.50	1631.80	0.11
18	9.00	1633.70	0.12
19	9.50	1635.10	0.09
20	10.00	1636.60	0.09
21	10.50	1638.10	0.09
22	11.00	1639.30	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 3.189664 micrograms carbon
BLANK FACTOR = 3.189664 / 10.99884 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1639.3 - 3.190478)(1)/(1) = +1.6361E+03 g/L Carbon
(1639.3 - 3.190478)(1)/(1)(12) = +1.3634E+02 Molar Carbon

Sample Run By: KR MONTEITH 00000

142

.31882 + .500mL 15N12R

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 571 + SPK Date: 04/27/95 Time: 14:10:42

Sample Size = 1 uL Analyst : KR MONTEITH
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = 2.17 ug/minute C % Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.00	0.00
2	1.01	58.60	96.59
3	1.51	268.70	78.19
4	2.00	463.10	41.98
5	2.50	550.10	15.82
6	3.00	593.10	7.25
7	3.50	618.90	4.17
8	4.00	636.10	2.70
9	4.50	648.30	1.88
10	5.00	658.20	1.50
11	5.50	666.00	1.17
12	6.00	673.50	1.11
13	6.50	679.10	0.82
14	7.00	683.80	0.69
15	7.50	688.50	0.68
16	8.00	692.30	0.55
17	8.50	695.80	0.50
18	9.00	698.90	0.44
19	9.50	701.80	0.41
20	10.00	704.40	0.37
21	10.50	706.40	0.28
22	11.00	708.60	0.31

USER INPUT BLANK VALUE
BLANK VALUE = 23.86749 micrograms carbon
BLANK FACTOR = 23.86749 / 10.99884 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(708.6 - 23.86563)(1)/(1) = +6.847E+02 g/L Carbon
(708.6 - 23.86563)(1)/(1)(12) = +5.706E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

143

3188g + .100 mL IONIZE

LABCORE Data Entry Template for Worklist# 1348

Analyst: KRM **Instrument:** TOC01 **Book #** 10N126

Method: LA-342-100 Rev/Mod A-0

Worklist Comment: C-111 U203 TOC-02 krm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				TOC-02	SOLID	1	372	N/A	ug/g
		2	STD				TOC-02	SOLID	3.00E3	2.83E3	N/A	ug/g
95000041	C-111	3	SAMPLE	S95T000572	0		TOC-02	SOLID	N/A	9.09E2	80	ug/g
95000041	C-111	4	DUP	S95T000572	0		TOC-02	SOLID	9.09E2	8.93E2	N/A	ug/g
95000051	U-203	5	SAMPLE	S95T000639	0		TOC-02	SOLID	N/A	6.55E1	80	ug/g
95000051	U-203	6	DUP	S95T000639	0		TOC-02	SOLID	6.55E1	6.56E1	N/A	ug/g

Final page for worklist # 1348

5-7-95

Analyst Signature Date

Analyst Signature Date

5/8/95
Reviewed RW Schroeder 5-8-95

Data Entry Comments: TOC result for sample 639 was detectable, but less than detection limit of 80. Therefore, it was reported as <80 in Labcore.

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.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>> WHC-SD-WM-DP-114, REV. 0

Sample: BLK Date: 05/05/95 Time: 17:11:41

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.20	50.00
3	1.51	0.50	60.00
4	2.01	0.80	37.50
5	2.51	1.10	27.27
6	3.00	1.30	15.38
7	3.50	1.50	13.33
8	4.00	1.70	11.76
9	4.50	1.90	10.53
10	5.00	2.10	9.52
11	5.50	2.30	8.70
12	6.00	2.40	4.17
13	6.50	2.50	4.00
14	7.00	2.80	10.71
15	7.50	2.90	3.45
16	8.00	3.00	3.33
17	8.50	3.20	6.25
18	9.00	3.40	5.88
19	9.50	3.60	5.56
20	10.00	3.70	2.70
21	10.50	3.90	5.13
22	11.00	4.10	4.88

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 145 **TO** 156.

BLANK VALUE = 4.1 micrograms carbon
BLANK FACTOR = 4.1 / 11.00073 = +3.7E-01 ug/min Carbon

Sample Run By: KR MONTEITH 5-6-95 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>> WHC-SD-WM-DP-114, REV. 0

Sample: BLK Date: 05/05/95 Time: 17:29:54

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	4.40	100.00
3	1.50	11.80	62.71
4	2.00	18.70	36.90
5	2.50	23.90	21.76
6	3.01	26.50	9.81
7	3.51	28.00	5.36
8	4.01	29.30	4.44
9	4.50	30.30	3.30
10	5.00	31.00	2.26
11	5.50	31.70	2.21
12	6.00	32.30	1.86
13	6.50	32.80	1.52
14	7.00	33.30	1.50
15	7.50	33.80	1.48
16	8.00	34.40	1.74
17	8.50	34.90	1.43
18	9.00	35.40	1.41
19	9.50	35.80	1.12
20	10.00	36.20	1.10
21	10.50	36.70	1.36
22	11.00	37.20	1.34

BLANK VALUE = 37.2 micrograms carbon
BLANK FACTOR = 37.2 / 11.00073 = +3.38E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-114, REV. 0

Sample: STD Date: 05/05/95 Time: 17:45:45

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .37 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	Analysis Time	Coulometer	% Difference ==
1	0.51	123.10	0.00
2	1.01	285.60	56.90
3	1.51	398.90	28.40
4	2.00	465.90	14.38
5	2.50	505.10	7.76
6	3.00	526.90	4.14
7	3.50	536.20	1.73
8	4.00	541.20	0.92
9	4.50	543.70	0.46
10	5.00	545.50	0.33
11	5.50	546.70	0.22
12	6.00	547.40	0.13
13	6.50	548.20	0.15
14	7.00	548.90	0.13
15	7.50	549.60	0.13
16	8.00	550.10	0.09
17	8.50	550.70	0.11
18	9.00	551.20	0.09
19	9.50	551.60	0.07
20	10.00	552.10	0.09
21	10.50	552.40	0.05
22	11.00	552.80	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 4.070271 micrograms carbon
BLANK FACTOR = 4.070271 / 11.00073 = +3.7E-01 ug/min Carbon

SAMPLE RESULTS:
(552.8 - 4.069955)(1)/(1000) = +5.487E-01 g/L Carbon
(552.8 - 4.069955)(1)/(1000)(12) = +4.573E-02 Molar Carbon

Sample Run By: KR MONTEITH 00000

SUPPORTING DATA

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-114, REV. 0

Sample: STD Date: 05/05/95 Time: 17:57:57

Sample Size = 300 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.38 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	24.40	100.00
3	1.51	182.80	86.65
4	2.00	505.40	63.83
5	2.50	741.50	31.84
6	3.00	823.00	9.90
7	3.50	853.80	3.61
8	4.00	865.90	1.40
9	4.50	871.00	0.59
10	5.00	874.40	0.39
11	5.50	876.40	0.23
12	6.00	878.30	0.22
13	6.50	879.70	0.16
14	7.00	881.00	0.15
15	7.50	882.00	0.11
16	8.00	882.90	0.10
17	8.50	883.70	0.09
18	9.00	884.50	0.09
19	9.50	885.30	0.09
20	10.00	885.80	0.06
21	10.50	886.60	0.09
22	11.00	887.10	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 37.18248 micrograms carbon
BLANK FACTOR = 37.18248 / 11.00073 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(887.1 - 37.18536)(1)/(300) = +2.833E+00 g/L Carbon
(887.1 - 37.18536)(1)/(300)(12) = +2.361E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-114, REV. 0

Sample: 572 Date: 05/05/95 Time: 18:34:50

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .37 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	4.70	93.62
3	1.51	50.00	90.60
4	2.00	152.70	67.26
5	2.50	277.00	44.87
6	3.00	372.30	25.60
7	3.50	432.10	13.84
8	4.00	467.70	7.61
9	4.50	485.30	3.63
10	5.00	494.10	1.78
11	5.50	498.40	0.86
12	6.00	501.10	0.54
13	6.50	503.40	0.46
14	7.00	505.50	0.42
15	7.50	507.00	0.30
16	8.00	508.40	0.28
17	8.50	509.40	0.20
18	9.00	510.50	0.22
19	9.50	511.30	0.16
20	10.00	512.30	0.20
21	10.50	512.90	0.12
22	11.00	513.80	0.18

USER INPUT BLANK VALUE
BLANK VALUE = 4.070271 micrograms carbon
BLANK FACTOR = 4.070271 / 11.00073 = +3.7E-01 ug/min Carbon

SAMPLE RESULTS:
(513.8 - 4.069955)(1)/(1) = +5.097E+02 g/L Carbon
(513.8 - 4.069955)(1)/(1)(12) = +4.248E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

2390g

SUPPORTING DATA

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TLCTOC. REV 2.0

WHC-SD-WM-DP-114, REV. 0

Sample: 572 Date: 05/05/95 Time: 18:46:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.38 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	13.30	94.74
3	1.50	56.40	76.42
4	2.00	104.70	46.13
5	2.50	141.90	26.22
6	3.00	166.10	14.57
7	3.50	182.70	9.09
8	4.00	195.00	6.31
9	4.50	205.50	5.11
10	5.00	213.70	3.84
11	5.50	220.60	3.13
12	6.00	226.20	2.48
13	6.50	231.50	2.29
14	7.00	235.60	1.74
15	7.50	239.20	1.51
16	8.00	241.90	1.12
17	8.50	244.60	1.10
18	9.00	247.00	0.97
19	9.50	249.20	0.88
20	10.00	250.90	0.68
21	10.50	252.80	0.75
22	11.00	254.40	0.63

USER INPUT BLANK VALUE
BLANK VALUE = 37.18248 micrograms carbon
BLANK FACTOR = 37.18248 / 11.00073 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(254.4 - 37.17588)(1)/(1) = +2.172E+02 g/L Carbon
(254.4 - 37.17588)(1)/(1)(12) = +1.810E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

.2390g 150

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-114, REV. 0

Sample: 572 Date: 05/05/95 Time: 18:58:23

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .37 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.50	0.00
2	1.01	5.80	74.14
3	1.51	46.40	87.50
4	2.00	157.70	70.58
5	2.50	305.70	48.41
6	3.01	432.80	29.37
7	3.51	519.10	16.62
8	4.01	571.20	9.12
9	4.50	598.80	4.61
10	5.00	612.20	2.19
11	5.50	619.80	1.23
12	6.00	623.80	0.64
13	6.50	626.70	0.46
14	7.00	628.70	0.32
15	7.50	630.20	0.24
16	8.00	631.60	0.22
17	8.50	633.10	0.24
18	9.00	634.30	0.19
19	9.50	635.50	0.19
20	10.00	636.40	0.14
21	10.50	637.60	0.19
22	11.00	638.40	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 4.070271 micrograms carbon
BLANK FACTOR = 4.070271 / 11.00073 = +3.7E-01 ug/min Carbon

SAMPLE RESULTS:
(638.4 - 4.070903)(1)/(1) = +6.343E+02 g/L Carbon
(638.4 - 4.070903)(1)/(1)(12) = +5.286E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

.3265

SUPPORTING DATA

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-114. REV 0

Sample: 572 Date: 05/05/95 Time: 20:25:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.38 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	23.70	94.51
3	1.51	115.40	79.46
4	2.00	171.40	32.67
5	2.50	204.40	16.14
6	3.00	229.20	10.82
7	3.50	250.40	8.47
8	4.00	264.90	5.47
9	4.50	270.10	1.93
10	5.00	279.00	3.19
11	5.50	287.20	2.86
12	6.00	300.40	4.39
13	6.50	307.90	2.44
14	7.00	312.40	1.44
15	7.50	315.80	1.08
16	8.00	318.50	0.85
17	8.50	320.70	0.69
18	9.00	322.50	0.56
19	9.50	324.20	0.52
20	10.00	325.90	0.52
21	10.50	327.30	0.43
22	11.00	328.80	0.46

USER INPUT BLANK VALUE
BLANK VALUE = 37.18248 micrograms carbon
BLANK FACTOR = 37.18248 / 11.00073 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(328.8 - 37.18206)(1)/(1) = +2.916E+02 g/L Carbon
(328.8 - 37.18206)(1)/(1)(12) = +2.430E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

152 .3265g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 639 Date: 05/05/95 Time: 20:39:35

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .37 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	6.30	95.24
3	1.51	71.00	91.13
4	2.00	165.10	57.00
5	2.50	234.40	29.56
6	3.00	280.20	16.35
7	3.50	311.30	9.99
8	4.00	331.90	6.21
9	4.50	344.80	3.74
10	5.00	352.20	2.10
11	5.50	357.60	1.51
12	6.00	361.60	1.11
13	6.50	364.50	0.80
14	7.00	367.30	0.76
15	7.50	369.60	0.62
16	8.00	371.60	0.54
17	8.50	373.30	0.46
18	9.00	375.00	0.45
19	9.50	376.60	0.42
20	10.00	378.00	0.37
21	10.50	379.60	0.42
22	11.00	380.80	0.32

USER INPUT BLANK VALUE
BLANK VALUE = 4.070271 micrograms carbon
BLANK FACTOR = 4.070271 / 11.00073 = +3.7E-01 ug/min Carbon

SAMPLE RESULTS:
(380.8 - 4.06991)(1)/(1) = +3.767E+02 g/L Carbon
(380.8 - 4.06991)(1)/(1)(12) = +3.139E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

-9729

SUPPORTING DATA

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-114, REV. 0

Sample: 639 Date: 05/05/95 Time: 20:51:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.38 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	5.00	76.00
3	1.51	17.30	71.10
4	2.01	37.60	53.99
5	2.51	54.20	30.63
6	3.01	64.30	15.71
7	3.51	70.60	8.92
8	4.01	74.90	5.74
9	4.51	78.60	4.71
10	5.00	81.40	3.44
11	5.50	84.00	3.10
12	6.00	86.30	2.67
13	6.50	88.50	2.49
14	7.00	89.90	1.56
15	7.50	91.60	1.86
16	8.00	93.40	1.93
17	8.50	94.80	1.48
18	9.00	96.00	1.25
19	9.50	97.30	1.34
20	10.00	98.40	1.12
21	10.50	99.70	1.30
22	11.00	100.90	1.19

USER INPUT BLANK VALUE
BLANK VALUE = 37.18248 micrograms carbon
BLANK FACTOR = 37.18248 / 11.00073 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(100.9 - 37.18867)(1)/(1) = +6.371E+01 g/L Carbon
(100.9 - 37.18867)(1)/(1)(12) = +5.309E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

9729

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-114, REV. 0

Sample: 639 Date: 05/05/95 Time: 21:06:02

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .37 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	9.40	86.17
3	1.50	97.20	90.33
4	2.00	214.80	54.75
5	2.50	297.00	27.68
6	3.00	349.30	14.97
7	3.50	385.90	9.48
8	4.00	416.70	7.39
9	4.50	445.70	6.51
10	5.00	471.60	5.49
11	5.50	492.90	4.32
12	6.00	510.40	3.43
13	6.50	522.20	2.26
14	7.00	530.70	1.60
15	7.50	535.60	0.91
16	8.00	539.20	0.67
17	8.50	542.10	0.53
18	9.00	544.20	0.39
19	9.50	546.10	0.35
20	10.00	547.70	0.29
21	10.50	549.20	0.27
22	11.00	550.70	0.27

USER INPUT BLANK VALUE
BLANK VALUE = 4.070271 micrograms carbon
BLANK FACTOR = 4.070271 / 11.00073 = +3.7E-01 ug/min Carbon

SAMPLE RESULTS:
(550.7 - 4.070226)(1)/(1) = +5.466E+02 g/L Carbon
(550.7 - 4.070226)(1)/(1)(12) = +4.555E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

155 1.1861 SUPPORTING DATA

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-114, REV. 0

Sample: 639 Date: 05/05/95 Time: 21:39:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.38 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	7.00	94.29
3	1.50	28.60	75.52
4	2.00	51.50	44.47
5	2.50	66.30	22.32
6	3.00	74.70	11.24
7	3.50	80.70	7.43
8	4.00	85.60	5.72
9	4.50	89.20	4.04
10	5.00	92.40	3.46
11	5.50	95.20	2.94
12	6.00	97.70	2.56
13	6.50	100.30	2.59
14	7.00	102.20	1.86
15	7.50	104.20	1.92
16	8.00	105.90	1.61
17	8.50	107.60	1.58
18	9.00	109.30	1.56
19	9.50	110.80	1.35
20	10.00	112.10	1.16
21	10.50	113.50	1.23
22	11.00	115.00	1.30

USER INPUT BLANK VALUE
BLANK VALUE = 37.18248 micrograms carbon
BLANK FACTOR = 37.18248 / 11.00073 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(115 - 37.17876)(1)/(1) = +7.782E+01 g/L Carbon
(115 - 37.17876)(1)/(1)(12) = +6.485E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

156

1.1861g

RADIOCHEMICAL ANALYSES

RUSH RUSH 14.15

worklistrpt Version 2.0 02/21/95
04/24/95 14:39

LABCORE Data Entry Template for Worklist# 1196

Analyst: AKL **Instrument:** AB00 15 **Book #** 1D7B52

WB26872

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

Worklist Comment: Run under RWP 273. Determine sample size using Ludlum. SLF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		1	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		2	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		2	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		3	BLNK/BKG	.33			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000041	C-111	4	SAMPLE	S95T000573	0		@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000041	C-111	4	SAMPLE	S95T000573	0		@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000041	C-111	5	DUP	S95T000573	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000041	C-111	5	DUP	S95T000573	0		@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000041	C-111	6	SPK	S95T000573	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000041	C-111	7	SAMPLE	S95T000574	0		@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000041	C-111	7	SAMPLE	S95T000574	0		@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000041	C-111	8	DUP	S95T000574	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000041	C-111	8	DUP	S95T000574	0		@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000041	C-111	9	SPK	S95T000574	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		10	STD				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		10	STD				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		11	BLNK-PREP				@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 1196

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL*	FOUND	DL	UNIT
		11	BLNK-PREP				@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		12	BLNK/BKG	.31			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000041	C-111	13	SAMPLE	S95T000575	0		@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000041	C-111	13	SAMPLE	S95T000575	0		@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000041	C-111	14	DUP	S95T000575	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000041	C-111	14	DUP	S95T000575	0		@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000041	C-111	15	SPK	S95T000575	0		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 1196

Alita Lewis 4/27/95
Analyst Signature **Date**

Shawna L Holden 4-28-95
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

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)	3601	4112
1196	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
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		119.133	136.167
Sample #	Sample Concentration in µCi/L		2.25E-02	BOOK#
WRKLST 1196	Replicate Concentration in µCi/L		2.58E-02	107B52
Instrument Code				
WB26872	Average Concentration in µCi/L		2.4160E-02	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
04/27/95	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
02:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/mL	(Average) =	2.42E-05	DETECTION LEVEL
				1.70E-07 µCi/mL
RELATIVE COUNTING ERROR		=	3.3%	

Data Entry by: Sharon L Hatton Date: 04/28/95

Approved by: [signature] Date: 5/1/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

Type			BLANK	REPLICATE
BLANK	DETECTOR NUMBER		15	15
Work List	DISH SIZE 1, 2, or 5	(MS)	2	2
1196	TOTAL COUNTS	(TC)	11	7
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.9	0.9
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.04	2.04
SOLID	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
Sample #	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.404	0.404
S95T573	Sample Concentration in µCi/g	<	3.79E-02	BOOK#
Instrument Code	Replicate Concentration in µCi/g	<	3.79E-02	
WB26872	Maximum Concentration in µCi/g	<	3.7872E-02	
Analyst				
AKL				
Date				
04/27/95				
Time				
02:00 PM				

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

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

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

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

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 3.79E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.				8.42E-02 µCi/g
RELATIVE COUNTING ERROR		=	75.5%	

Data Entry by:	Sharon [illegible]	Date:	04/28/95
Approved by:	[illegible]	Date:	5/1/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		15	15
Work List	DISH SIZE 1 , 2 , or 5	(MS)	2	2
1196	TOTAL COUNTS	(TC)	247	244
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.9	0.9
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.04	2.04
SOLID	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
Sample #	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		7.333	7.233
S95T573	Sample Concentration in µCi/g		6.87E-01	BOOK#
Instrument Code	Replicate Concentration in µCi/g		6.78E-01	
WB26872	Average Concentration in µCi/g		6.8248E-01	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/27/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
02:00 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) =	6.82E-01	
RELATIVE COUNTING ERROR	=	14.9%	8.42E-02 µCi/g

Data Entry by: [signature] Date: 04/28/95

Approved by: [signature] Date: 5/1/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

Type			SAMPLE	REPLICATE
DUPLICATE	DETECTOR NUMBER		15	15
Work List	DISH SIZE 1, 2, or 5	(MS)	2	2
1196	TOTAL COUNTS	(TC)	294	288
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.9	0.9
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.0648	2.0648
SOLID	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
Sample #	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		8.900	8.700
S95T573	Sample Concentration in µCi/g		8.24E-01	BOOK#
Instrument Code	Replicate Concentration in µCi/g		8.05E-01	
WB26872	Average Concentration in µCi/g		8.1470E-01	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/27/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
02:00 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) =	8.15E-01	
RELATIVE COUNTING ERROR	=	13.3%	8.32E-02 µCi/g

Data Entry by: Sharon J. Valdez Date: 04/28/95

Approved by: [signature] Date: 5/1/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	53477	49730
1196	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.04	2.04
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.372	36.372
S95T573	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.67E+02	1.55E+02
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		6.8248E-01	
Analyst	BOOK#		94B43	
AKL				
Date				
04/27/95				
Time				
02:00 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 = 89.1%

Data Entry by:	Shannon Marlow	Date:	28-Apr-95
Approved by:	[signature]	Date:	5/1/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	149	159
1196	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1276	2.1276
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.067	4.400
Sample #	Sample Concentration in µCi/g		3.65E-01	BOOK#
S95T574	Replicate Concentration in µCi/g		3.95E-01	
Instrument Code				
WB26872	Average Concentration in µCi/g		3.8035E-01	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/27/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
02:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	3.80E-01	DETECTION LEVEL
				8.08E-02 µCi/g
RELATIVE COUNTING ERROR		=	21.3%	

Data Entry by: Sharon L Hartsfield Date: 04/28/95

Approved by: [signature] Date: 5/1/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5 . (MS)	2	2
Work List	TOTAL COUNTS (TC)	156	169
1196	COUNT TIME in MINUTES (CT)	30	30
A1 or TB ?	BACKGROUND in cpm (BKG)	0.9	0.9
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.136	2.136
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	4.300	4.733
Sample #	Sample Concentration in µCi/g	3.85E-01	BOOK#
S95T574	Replicate Concentration in µCi/g	4.24E-01	
Instrument Code			
WB26872	Average Concentration in µCi/g	4.0421E-01	
Analyst			
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)		
04/27/95			
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100		
02:00 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) =	4.04E-01	
RELATIVE COUNTING ERROR	=	20.6%	8.05E-02 µCi/g

Data Entry by: Sharon L Holder Date: 04/28/95

Approved by: [signature] Date: 5/1/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

Type	DETECTOR NUMBER		SPIKE	REPLICATE
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	59836	60198
1196	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.1276	2.1276
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.372	36.372
S95T574	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.79E+02	1.80E+02
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		3.8035E-01	
Analyst	BOOK#		94B43	
AKL				
Date				
04/27/95				
Time				
02:00 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 = 103.8%

Data Entry by:	Sharon L Wahlen	Date:	28-Apr-95
Approved by:	[signature]	Date:	5/1/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

Type			BLANK	REPLICATE
BLANK	DETECTOR NUMBER		15	15
Work List	DISH SIZE 1 , 2 , or 5	(MS)	2	2
1196	TOTAL COUNTS	(TC)	8	9
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.9	0.9
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.326	2.326
SOLID	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
Sample #	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.404	0.404
S95T575	Sample Concentration in µCi/g	<	3.32E-02	BOOK#
Instrument Code	Replicate Concentration in µCi/g	<	3.32E-02	
WB26872	Maximum Concentration in µCi/g	<	3.3216E-02	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/27/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
02:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Maximum) =	< 3.32E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.				7.39E-02 µCi/g
RELATIVE COUNTING ERROR		=	65.3%	

Data Entry by: [signature] Date: 04/28/95

Approved by: [signature] Date: 5/1/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		15	15
Work List	DISH SIZE 1 , 2 , or 5	(MS)	2	2
1196	TOTAL COUNTS	(TC)	196	139
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.9	0.9
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.326	2.326
SOLID	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
Sample #	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5.633	3.733
S95T575	Sample Concentration in µCi/g		4.63E-01	BOOK#
Instrument Code	Replicate Concentration in µCi/g		3.07E-01	
WB26872	Average Concentration in µCi/g		3.8489E-01	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/27/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
02:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	3.85E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		=	22.5%	7.39E-02 µCi/g

Data Entry by: Sharon L Updyke Date: 04/28/95

Approved by: [signature] Date: 5/1/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
DUPLICATE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	178	174
1196	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.3408	2.3408
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5.033	4.900
Sample #	Sample Concentration in µCi/g		4.11E-01	BOOK#
S95T575	Replicate Concentration in µCi/g		4.00E-01	
Instrument Code				
WB26872	Average Concentration in µCi/g		4.0559E-01	
Analyst				
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)			
04/27/95				
Time	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100			
02:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			

v RESULTS v

ALPHA TOTAL	in µCi/g	(Average) =	4.06E-01	DETECTION LEVEL
				7.34E-02 µCi/g
RELATIVE COUNTING ERROR		=	18.9%	

Data Entry by: Thomas M. Hatch Date: 04/28/95

Approved by: [signature] Date: 5/1/95

Form 508101_C Rev. 1.3

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPIKE	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	49186	54876
1196	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.9	0.9
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L	(Dg/L)	2.326	2.326
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Sample #	SPIKE VALUE in µCi/L	(SVal)	36.372	36.372
S95T575	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.238	0.238
Instrument Code	SAMPLE + SPIKE µCi/g	(S+S)	1.35E+02	1.50E+02
WB26872	AVERAGE or MAXIMUM µCi/g from FORM C		3.8489E-01	
Analyst	BOOK#		94B43	
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
04/27/95	PERCENT SPIKE RECOVERY = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*100			
Time				
02:00 PM				

RESULT | AVG. PERCENT SPIKE RECOVERY = 90.0%

Data Entry by: Sharon Fitzpatrick Date: 28-Apr-95

Approved by: [signature] Date: 5/1/95

Form 508101_X Rev. 1.3