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Tank 241-BY-107, Cores 151 and 161, Analytical Results for the 45 Day Report

Larry L. Fritts

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U.S. Department of Energy Contract DE-AC06-87RL10930

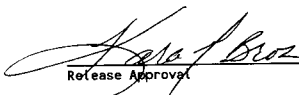
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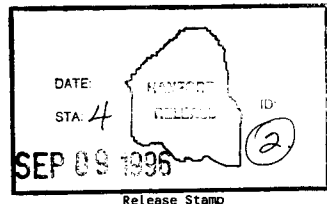
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ANALYTICAL SERVICES

**TANK 241-BY-107, CORES 151 AND 161,
ANALYTICAL RESULTS FOR THE 45 DAY REPORT**

Project Coordinator: Larry L. Fritts

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

by

**Westinghouse Hanford Company
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Richland, Washington**

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Narrative

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222-S ANALYTICAL SERVICES

TANK 241-BY-107, CORES 151 AND 161,
ANALYTICAL RESULTS FOR THE 45 DAY REPORT

This document is the 45-day laboratory report for tank 241-BY-107. Push mode core segments were removed from risers 8 and 9B between June 5, 1996, and July 26, 1996. Segments were received and extruded at the 222-S Analytical Laboratory. Analyses were performed in accordance with *Tank 241-BY-107 Push Mode Core Sampling and Analysis Plan* (TSAP) (McCain, 1996) and the Safety Screening Data Quality Objective (DQO) (Dukelow, et al., 1995).

None of the subsamples submitted for Total Alpha Activity (AT) analysis or Differential Scanning Calorimetry (DSC) exceeded the notification limits as stated in the DQO. Statistical evaluation of results by calculating the 95% upper confidence limit is not performed by the 222-S Laboratory and is not considered in this report.

Primary safety screening results are included in the data summary table (Table 1). The raw data from DSC and TGA analyses are included in this report.

Appearance and Sample Handling

Two cores of six segments were expected from this tank. Segments labeled one through four were received by the 222-S Laboratory. The tank coordinator has indicated these are believed to be complete cores.

Attachment 1 is a cross reference to relate the tank farm identification numbers to the 222-S Laboratory LabCore sample numbers. The subsamples generated in the laboratory for analysis are identified in these diagrams with their sources shown.

Core 151

Five push mode core segments were removed from tank 241-BY-107 riser 8 between June 5, 1996, and June 12, 1996. All segments were received by the 222-S Laboratory between June 11, 1996, and June 13, 1996. Table 2 summarizes the extrusion information.

Core 161

Six push mode core segments were removed from tank 241-BY-107 riser 9B between July 19, 1996, and July 26, 1996. All segments were received by the 222-S Laboratory between July 29, 1996, and August 6, 1996. Table 3 summarizes the extrusion information.

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Field Blank

A field blank was not provided to the 222-S Laboratory.

Hydrostatic Head Fluid Blank

There is no indication of the use of hydrostatic head fluid in procuring these samples. A blank was not provided to the 222-S Laboratory.

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Table 2. Sample Receipt and Extrusion Information for Tank 241-BY-107, Core 151.

Customer Id	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded	Liquid Recovered (g)	Solids Recovered (g)	Notes
96-247	1	6/5/96	6/11/96	6/19/96	1.0	321.4--drainable	41.5--lower half	The drainable liquid was green and opaque. The solids were gray and resembled a wet saltcake.
96-247-A	1A	6/5/96	6/11/96	6/19/96	1.0	153.6--drainable	21.0--lower half	The drainable liquid was greenish-yellow and opaque. The solids were dark gray and resembled a wet saltcake.
96-248	2	6/10/96	6/11/96	6/20/96	10.0	142.7--drainable	104.6--upper half 108.4--lower half	The drainable liquid was brown and opaque. The solids were dark gray. The upper half solids resembled a wet saltcake; the lower half solids resembled a sludge slurry.
96-249	3	6/11/96	6/13/96	6/20/96	14.0	0.0	218.2--upper half 153.8--lower half	The solids were dark brown and resembled a mixture of saltcake slurry and sludge slurry.
96-250	4	6/12/96	6/13/96	6/20/96	15.0	0.0	181.4--upper half 193.2--lower half	The upper half solids were dark brown with the top two inches being gray and resembled a mixture of saltcake slurry and sludge slurry. The lower half solids had a reddish-brown center with a dark brown outside with the lower three inches being just reddish-brown and resembled a wet sludge.

*Approximate Inches Extruded

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Table 3. Sample Receipt and Extrusion Information for Tank 241-BY-107, Core 161.

Customer Id	Segment	Date Sampled	Date Received	Date Extruded	Length Extruded	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
96-387	1	7/19/96	7/29/96	7/31/96	4.0	203.2--drainable	112.9--lower half	The drainable liquid was green and opaque. The solids were gray in color and resembled a wet saltcake.
96-388	2	7/19/96	7/29/96	7/31/96	7.0	157.8--drainable	27.3--qtr seg: A 36.3--qtr seg: B 39.6--qtr seg: C	The drainable liquid was green and opaque. Quarter segment A was dark gray and resembled a wet sludge (as noted in the logbook). Quarter segment B was dark gray and resembled a wet saltcake. Quarter segment C was white with large well defined crystals and resembled a wet saltcake.
96-388A	2A	7/19/96	7/29/96	7/31/96	10.0	179.1--drainable	26.8--upper half 99.0--lower half	The drainable liquid was green and opaque. The solids were gray and resembled a mixture of wet sludge and wet saltcake.
96-389	3	7/25/96	8/6/96	8/12/96	5.0	76.5--drainable	110.2--lower half	The drainable liquid was gray and opaque. The solids were gray and resembled a wet saltcake. Saltcake crystals were well-defined and up to 1/2" in length.
96-389A	3A	7/25/96	8/2/96	8/8/96	Unmeasurable	193.5--drainable	60.2--filtered solids	The drainable liquid was green and opaque. The solids were gray and resembled a salt slurry. The solids were added to the drainable liquid. After filtering, the filtered solids were analyzed as a lower half solid.
96-390	4	7/26/96	8/6/96	8/12/96	11.0	57.8--drainable	64.4--upper half 202.1--lower half	The drainable liquid was gray and opaque. The upper half solids were dark gray and resembled a wet saltcake. The lower half solids were reddish-brown and resembled a wet sludge.

* Approximate Inches Extruded

Analytical Results Summary

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

Core 161, segment 2, quarter segment C (S96T004215) contained hard crystals that made it difficult to homogenize. This sample may not have been completely homogenized.

Differential Scanning Calorimetry (DSC)

None of the subsamples submitted for Differential Scanning Calorimetry (DSC) exceeded the notification limits as stated in the TSAP. Statistical evaluation of the results by calculating the 95% upper confidence limit is not performed by the 222-S Laboratory and is not considered in this report.

The DSC analyses were performed in duplicate on direct subsamples. The exothermic energy based on dry weight of subsample was calculated for all subsamples. The average of the thermogravimetric analysis (TGA) results for each subsample was used in the dry weight correction for that subsample.

Relative percent differences (RPD) greater than 30% were reported for eight of the twenty-seven subsamples. The results for these subsamples were near the detection limit for the instrument and resulted in a decrease in precision. No further analysis for six of these subsamples was requested. A second analysis of core 151, segment 2, drainable liquid (S96T003872) and core 161, segment 2A, drainable liquid (S96T004232) was performed (denoted by a 1 in the replicate (R) column of table 1). The duplicate thermogram for these two subsamples showed a sharp exotherm at a low temperature (177.89°C and 219.2°C, respectively). The sample result for S96T003872 showed the same behavior as the duplicate from the original run. The results for S96T004232 did not exhibit the same sharp exotherm. Further analyses of these subsamples by DSC would not provide any more information.

Four segments were the result of two exotherms: core 161, segment 2, quarter segment A (S96T004219); core 161, segment 2A, drainable liquid (S96T004232); core 161, segment 3, drainable liquid (S96T004411); and core 161, segment 4, drainable liquid (S96T004412).

Standard recovery criterion as stated in the TSAP was met for all subsamples.

Thermogravimetric Analysis (TGA)

The TGA analyses were performed in duplicate on direct subsamples. Typically results were determined by summing weight loss steps below 200°C but may be extended to 250°C; weight loss steps above this were not used to determine the result. Core 161, segment 1, lower half (S96T004218) thermogram shows a second weight loss step that ends at approximately 380°C. The chemist noted that the thermogram indicates the sample lost weight up to this temperature and was probably due to the strong attraction between hydrated salts. The results reported for this subsample include this second weight loss step. More information may be obtained by examining the raw data.

An RPD greater than 30% was reported for one of the twenty-seven subsamples. Core 151, segment 1, lower half (S96T003506) was reported with an RPD of 44.5%. The result for this subsample was near the detection level of the instrument and resulted in a decrease in precision. A second analysis of core 151, segment 2, upper half (S96T003535) was performed (denoted by a 1 in the replicate (R) column of table 1) due to differences in appearance of the thermograms between the sample and duplicate sample. These differences were not seen in the second analysis. The results for both analyses are presented in table 1.

Standard recovery criterion as stated in the TSAP was met for all subsamples.

Density

Bulk density analysis was performed for eight of the eighteen solid subsamples. As required by the TSAP, the analysis was only requested on lower half segments. Segment 2 of core 161 was subsampled into "quarter segments" and the bulk density analysis was requested for the lower two subsegments. Three requested bulk densities could not be performed due to the dryness and hardness of the subsample: core 151, segment 1, lower half (S96T003506); core 161, segment 2, quarter segment C (S96T004215); and core 161, segment 3, lower half (S96T004391). The bulk density of core 161, segment 2, quarter segment B (S96T004214) was noted as difficult to perform due to the hard crystal/slurry mixture.

The results of the bulk density test ranged from 1.57 g/mL to 1.91 g/mL. The highest bulk density of 1.91 g/mL was used to calculate the solid total alpha activity notification limit for this tank (32.2 $\mu\text{Ci/g}$).

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

Total Alpha (AT)

The liquid AT results were below the total alpha activity notification limit of 61.5 $\mu\text{Ci/mL}$. All solid AT results were below the total alpha activity notification limit of 32.2 $\mu\text{Ci/g}$ (based on a bulk density of 1.91 g/mL).

The AT analyses were performed in duplicate on direct subsamples for the liquids. Solid subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion digest is indicated with an "F" in the aliquot class (A#) column in the data summary table (Table 1). As required by the TSAP, the analysis was only requested on lower half segments. Segment 2 of core 161 was subsampled into "quarter segments" and the AT analysis was requested for the lower two subsegments.

RPDs greater than 20% were reported for five of the twenty-four subsamples. Count replicate results shows this was the result of low sample alpha activity and sample heterogeneity. Continuing reruns were not requested.

A spike recovery of 74.1% was reported for core 151, segment 1A, lower half (S96T003511). This is a result of self-absorption from dissolved solids in the sample. A rerun analysis was not requested. The result for this sample may be biased low.

Standard criterion as stated in the TSAP was met for all subsamples.

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Procedures

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

Table 4. Analytical Procedures

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

Notes:

+ = preparation procedure is for fusion digest on solid

Abbreviations:

N/A = not applicable (these are direct subsamples)

DSC = differential scanning calorimetry

TGA = thermogravimetric analysis

AT = total alpha activity

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References

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

McCain, D. J., 1996, *Tank 241-BY-107 Push Mode Core Sampling and Analysis Plan*, WHC-SD-WM-TSAP-098, Rev. 0-A, Westinghouse Hanford Company, Richland, WA 99352.

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SAMPLE DATA SUMMARY

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Table 1. Data Summary Table
8Y-107

CORE NUMBER: 151
SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961003506		Bulk Density of Sample	g/mL	Lower	Upper									
S961003507		DSC Exotherm Dry Calculated	Joules/g	None	None	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961003507		DSC Exotherm Dry Calculated	Joules/g	-1.0e+00	486.8	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003507		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	486.8	101.5	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003507		% Water by TGA on Perkin Elmer	%	None	None	99.81	n/a	12.28	7.810	10.04	44.5	n/a	n/a	n/a
S961003843	F	Alpha of Digested Solid	UCI/g	-1.0e+00	32.38	87.50	<1.10e-03	<1.91e-03	<2.82e-3	n/a	n/a	n/a	3.00e-03	1.84e+02

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961003847		DSC Exotherm using Mettler	Joules/g	Lower	Upper									
S961003847		DSC Exotherm Dry Calculated	Joules/g	-1.0e+00	486.8	103.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003847		DSC Exotherm Dry Calculated	Joules/g	-1.0e+00	486.8	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003847		% Water by TGA using Mettler	%	None	None	99.86	n/a	48.75	49.08	48.91	0.67	n/a	n/a	n/a
S961003847		Alpha in Liquid Samples	UCI/mL	-1.0e+00	83.38	116.4	<1.94e-02	<1.18e-02	<1.18e-2	n/a	n/a	108.9	3.20e-02	5.00e+02

=> Limit Violated
=> Selected Limit

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Table 1. Data Summary Table
By-107

CORE NUMBER: 151
SEGMENT #: 1A

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S961003510		DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003510		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	480.0	101.5	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003510		% Water by TGA on Perkin Elmer	%	None	None	99.81	n/a	28.90	29.55	29.23	2.22	n/a	n/a	n/a
S961003511	F	Alpha of Digested Solid	UCI/g	-1.0e+00	52.28	87.50	<1.10e-03	8.35e-03	9.97e-03	9.16e-03	17.7	74.09	3.00e-03	5.15E-01

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S961003871		DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	103.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003871		DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003871		% Water by TGA using Mettler	%	None	None	99.86	n/a	48.82	50.49	49.66	3.36	n/a	n/a	n/a
S961003871		Alpha in Liquid Samples	UCI/mL	-1.0e+00	61.30	116.4	<1.94e-02	<1.18e-02	<1.56e-2	n/a	n/a	n/a	3.20e-02	5.00E+02

=> Limit violated
=> Selected Limit

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Table 1. Data Summary Table
81-107

CORE NUMBER: 151
SEGMENT #: 2

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961003535		DSC Exotherm Dry	Joules/g	Lower	Upper	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003535		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	488.8	102.0	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003535		% Water by TGA on Perkin Elmer	%	None	None	100.5	n/a	46.93	36.03	41.44	26.1	n/a	n/a	n/a
S961003535	1	% Water by TGA on Perkin Elmer	%	None	None	99.86	n/a	36.18	36.50	36.34	0.88	n/a	n/a	n/a
S961003850	F	Alpha of Digested Solid	UCI/g	-1.0e+00	32.28	94.53	<1.07e-02	1.68e-02	<3.20E-2	n/a	n/a	78.55	2.60e-02	1.25E+02

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961003517		Bulk Density of Sample	g/mL	Lower	Upper	n/a	n/a	1.730	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961003526		DSC Exotherm using Mettler	Joules/g	-1.0e+00	488.8	104.4	n/a	28.10	26.00	27.05	7.76	n/a	n/a	n/a
S961003526		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	488.8	n/a	n/a	50.49	46.71	48.60	7.78	n/a	n/a	n/a
S961003526		% Water by TGA using Mettler	%	None	None	99.16	n/a	41.75	46.92	44.34	11.7	n/a	n/a	n/a
S961003849	F	Alpha of Digested Solid	UCI/g	-1.0e+00	32.28	87.50	<1.10e-03	4.08e-02	3.14e-02	3.61e-02	26.0	n/a	1.10e-02	4.14E+01

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961003872		DSC Exotherm Dry	Joules/g	Lower	Upper	n/a	n/a	0.00e+00	48.00	24.00	200	n/a	n/a	n/a
S961003872	1	DSC Exotherm Dry	Joules/g	-1.0e+00	488.8	n/a	n/a	24.50	0.00e+00	12.25	200	n/a	n/a	n/a
S961003872		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	488.8	101.9	n/a	0.00e+00	24.80	12.40	200	n/a	n/a	n/a
S961003872	1	DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	488.8	93.81	n/a	12.63	0.00e+00	6.315	200	n/a	n/a	n/a
S961003872		% Water by TGA on Perkin Elmer	%	None	None	99.66	n/a	48.26	48.47	48.36	0.43	n/a	n/a	n/a
S961003872		Alpha in Liquid Samples	UCI/mL	-1.0e+00	81.59	116.4	<1.94e-02	<2.31e-02	<1.94E-2	n/a	n/a	n/a	3.20e-02	5.00E+02

=> Limit violated
=> Selected Limit

Table 1. Data Summary Table
81-107

CORE NUMBER: 151
SEGMENT #: 3

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S961003537		DSC Exotherm Dry	Calculated	-1.0e+00	488.8	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003537		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	488.8	101.4	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961003537		% Water by TGA on Perkin Elmer	%	None	None	99.32	n/a	48.93	47.10	48.02	3.81	n/a	n/a	n/a
S961003952	F	Alpha of Digested Solid	UCI/g	-1.0e+00	32.28	94.53	<1.07e-02	1.89e-02	1.53e-02	1.71e-02	21.1	n/a	2.30e-02	1.13E+02

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S961003515		Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.840	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961003527		DSC Exotherm using Mettler	Joules/g	-1.0e+00	488.8	104.4	n/a	14.70	40.40	27.55	93.3	n/a	n/a	n/a
S961003527		DSC Exotherm Dry	Calculated	-1.0e+00	488.8	n/a	n/a	27.90	76.67	52.28	93.3	n/a	n/a	n/a
S961003527		% Water by TGA using Mettler	%	None	None	99.16	n/a	48.36	46.25	47.30	4.46	n/a	n/a	n/a
S961003951	F	Alpha of Digested Solid	UCI/g	-1.0e+00	32.28	94.53	<1.07e-02	1.44e-02	<2.31E-2	n/a	n/a	n/a	2.30e-02	1.13E+02

=> Limit violated
=> Selected Limit

Table 1. Data Summary Table
81-107

CORE NUMBER: 151
SEGMENT #: 4

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Action Limits	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003538		DSC Exotherm Dry	Joules/g	Lower: -1.0e+00 Upper: 488.8	n/a	n/a	64.10	64.58	64.34	0.75	n/a	n/a	n/a
S96T003538		DSC Exotherm on Perkin Elmer	Joules/g	None	101.4	n/a	44.52	44.85	44.69	0.74	n/a	n/a	n/a
S96T003538		% Water by TGA on Perkin Elmer	%	None	99.32	n/a	31.24	29.86	30.55	4.52	n/a	n/a	n/a
S96T003854	F	Alpha of Digested Solid	UC1/g	None	94.53	<1.07e-02	<4.22e-02	6.37e-02	n/a	n/a	n/a	6.00e-02	2.30E+02

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Action Limits	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T003516		Bulk Density of Sample	g/mL	Lower: None Upper: 488.8	n/a	n/a	1.870	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T003528		DSC Exotherm Dry	Joules/g	Lower: -1.0e+00 Upper: 488.8	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T003528		DSC Exotherm on Perkin Elmer	Joules/g	None	102.0	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T003528		% Water by TGA on Perkin Elmer	%	None	100.5	n/a	36.44	36.79	36.61	0.96	n/a	n/a	n/a
S96T003853	F	Alpha of Digested Solid	UC1/g	None	94.53	<1.07e-02	1.16e-01	1.58e-01	1.37e-01	30.7	n/a	1.17e-01	7.92E+01

=> Limit violated
=> Selected Limit

Table 1. Data Summary Table
BY-107

CORE NUMBER: 161
SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #/F	Analyte	Unit	Action Limits		Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper								
S96T004212		Bulk Density of Sample	g/mL	None	None	n/a	1.610	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T004218		DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	n/a	56.80	45.40	51.10	22.3	n/a	n/a	n/a
S96T004218		DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	99.00	79.10	89.05	22.3	n/a	n/a	n/a
S96T004218		% Water by TGA using Mettler	%	None	None	n/a	42.80	42.40	42.60	0.94	n/a	n/a	n/a
S96T004240	F	Alpha of Digested Solid	UCi/g	-1.0e+00	32.20	104.7	3.07e-02	3.20e-02	3.14e-02	4.15	79.11	3.00e-03	2.18E-01

Drainable Liquid: Drainable Liquid

Sample#	R #/F	Analyte	Unit	Action Limits		Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper								
S96T004230		DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	n/a	5.400	5.100	5.250	5.71	n/a	n/a	n/a
S96T004230		DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	10.70	10.10	10.40	5.77	n/a	n/a	n/a
S96T004230		% Water by TGA using Mettler	%	None	None	n/a	49.47	49.60	49.53	0.26	n/a	n/a	n/a
S96T004230		Alpha in Liquid Samples	UCi/mL	-1.0e+00	61.30	93.75	<2.94e-03	<6.71E-3	n/a	n/a	n/a	8.00e-03	5.00E-02

=> Limit violated
=> Selected Limit

Table 1. Data Summary Table
81-107

CORE NUMBER: 161
SEGMENT #: 2

SEGMENT PORTION: A Top Quarter of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004219		DSC Exotherm using Mettler	Joules/g	Lower	Upper			69.50	67.90	68.70	2.33	n/a	n/a	n/a
S961004219		DSC Exotherm Dry Calculated	Joules/g	-1.0e+00	488.8	105.4	n/a	1.09e+02	106.0	107.5	2.79	n/a	n/a	n/a
S961004219		% Water by TGA using Mettler	%	None	None	99.14	n/a	36.70	35.70	36.20	2.76	n/a	n/a	n/a

B Second Quarter of Segment: B Second Quarter of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004214		Bulk Density of Sample	g/mL	Lower	Upper			1.970	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961004220		DSC Exotherm using Mettler	Joules/g	None	None	n/a	n/a	0.00e+00	8.100	4.050	200	n/a	n/a	n/a
S961004220		DSC Exotherm Dry Calculated	Joules/g	-1.0e+00	488.8	105.4	n/a	0.00e+00	13.10	6.550	200	n/a	n/a	n/a
S961004220		% Water by TGA using Mettler	%	None	None	99.12	n/a	36.94	39.45	38.20	6.57	n/a	n/a	n/a
S961004241	F	Alpha of Digested Solid	LCI/g	-1.0e+00	32.38	104.7	2.00e-03	8.12e-03	6.89e-03	7.51e-03	16.4	n/a	3.00e-03	3.50E-01

C Third Quarter of Segment: C Third Quarter of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004215		Bulk Density of Sample	g/mL	Lower	Upper			na	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961004221		DSC Exotherm using Mettler	Joules/g	-1.0e+00	488.8	105.4	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961004221		DSC Exotherm Dry Calculated	Joules/g	-1.0e+00	488.8	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961004221		% Water by TGA using Mettler	%	None	None	99.12	n/a	24.55	19.40	21.98	23.4	n/a	n/a	n/a
S961004242	F	Alpha of Digested Solid	LCI/g	-1.0e+00	32.38	92.97	-2.50e-03	-4.08e-03	-3.86e-3	n/a	n/a	87.47	6.00e-03	5.00E-02

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004231		DSC Exotherm using Mettler	Joules/g	Lower	Upper			4.400	3.300	3.850	28.6	n/a	n/a	n/a
S961004231		DSC Exotherm Dry Calculated	Joules/g	-1.0e+00	488.8	103.3	n/a	8.790	6.590	7.690	28.6	n/a	n/a	n/a
S961004231		% Water by TGA using Mettler	%	None	None	99.12	n/a	50.08	49.81	49.95	0.54	n/a	n/a	n/a
S961004231		Alpha in Liquid Samples	LCI/mL	-1.0e+00	83.38	93.75	-5.79e-03	-4.85e-03	-1.38E-2	n/a	n/a	83.01	8.00e-03	5.00E-02

=> Limit violated
=> Selected Limit

Table 1. Data Summary Table
81-107

CORE NUMBER: 161
SEGMENT #: 2A

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004222		DSC Exotherm Dry	Joules/g	Lower	Upper									
S961004222		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	488.8	n/a	n/a	89.90	39.80	64.85	77.3	n/a	n/a	n/a
S961004222		% Water by TGA on Perkin Elmer	%	None	None	99.75	n/a	63.20	28.00	45.60	77.2	n/a	n/a	n/a
								33.65	25.75	29.70	26.6	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004217		Bulk Density of Sample	g/mL	Lower	Upper									
S961004223		DSC Exotherm Dry	Joules/g	-1.0e+00	488.8	n/a	n/a	1.860	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961004223		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	488.8	n/a	n/a	12.20	0.00e+00	6.100	200	n/a	n/a	n/a
S961004223		% Water by TGA on Perkin Elmer	%	None	None	99.75	n/a	7.820	0.00e+00	3.910	200	n/a	n/a	n/a
S961004243	F	Alpha of Digested Solid	UCI/g	-1.0e+00	32.28	92.97	<2.50e-03	31.25	40.98	36.11	26.9	n/a	n/a	n/a
								<5.00e-03	<4.41E-3	n/a	n/a	n/a	6.00e-03	1.64E+02

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004232		DSC Exotherm using Mettler	Joules/g	Lower	Upper									
S961004232	1	DSC Exotherm using Mettler	Joules/g	-1.0e+00	488.8	96.66	n/a	8.900	48.80	28.85	138	n/a	n/a	n/a
S961004232		DSC Exotherm Dry	Joules/g	-1.0e+00	488.8	88.22	n/a	78.80	80.10	79.45	1.64	n/a	n/a	n/a
S961004232	1	DSC Exotherm Dry	Joules/g	-1.0e+00	488.8	n/a	n/a	17.50	95.70	56.60	138	n/a	n/a	n/a
S961004232		DSC Exotherm Dry	Joules/g	-1.0e+00	488.8	n/a	n/a	1.55e+02	157.2	155.9	1.67	n/a	n/a	n/a
S961004232		% Water by TGA using Mettler	%	None	None	99.00	n/a	49.14	48.91	49.02	0.47	n/a	n/a	n/a
S961004232		Alpha in Liquid Samples	UCI/mL	-1.0e+00	81.38	93.75	<5.79e-03	<2.94e-03	<3.91E-3	n/a	n/a	n/a	8.00e-03	5.00E+02

=> Limit violated
=> Selected Limit

Table 1. Data Summary Table
81-107

CODE NUMBER: 161
SEGMENT #: 3

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Action Limits			Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper										
5961004301		Bulk Density of Sample	g/mL	None	None		n/a	n/a	na	n/a	n/a	n/a	n/a	5.00e-01	n/a
5961004395		DSC Exotherm Dry	Joules/g	-1.0e+00	488.8		n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
5961004395		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	488.8		98.42	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
5961004395		% Water By TGA on Perkin Elmer	%	None	None		97.06	n/a	48.05	44.08	46.06	8.62	n/a	n/a	n/a
5961004398		F Alpha of Digested Solid	UCI/g	-1.0e+00	32.28		107.0	2.00e-03	6.94e-03	5.59e-03	6.26e-03	21.5	n/a	4.00e-03	5.32E+01

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Action Limits			Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper										
5961004411		DSC Exotherm using Mettler	Joules/g	-1.0e+00	488.8		105.1	n/a	47.30	16.30	31.80	97.5	n/a	n/a	n/a
5961004411		DSC Exotherm Dry	Joules/g	-1.0e+00	488.8		n/a	n/a	89.10	30.70	59.90	97.5	n/a	n/a	n/a
5961004411		% Water By TGA using Mettler	%	None	None		99.93	n/a	46.36	47.43	46.89	2.28	n/a	n/a	n/a
5961004411		Alpha in Liquid Samples	UCI/mL	-1.0e+00	81.98		83.59	<7.99e-03	<4.68e-03	<7.99E-3	n/a	n/a	n/a	1.00e-02	5.00E+02

=> Limit violated
=> Selected Limit

Table 1. Data Summary Table
BY-107

CORE NUMBER: 161
SEGMENT #: 3A

SEGMENT PORTION: L Lower Half of Segment

Sample#	RAM	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S961004348		Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.370	n/a	n/a	n/a	n/a	5.00e-01	n/a	n/a
S961004349		DSC Exotherm using Mettler	Joules/g	-1.0e+00	4483.8	109.0	n/a	31.60	34.10	32.85	7.61	n/a	n/a	n/a	n/a
S961004349		DSC Exotherm Dry Calculated	Joules/g	-1.0e+00	4483.8	n/a	n/a	56.10	60.50	58.30	7.55	n/a	n/a	n/a	n/a
S961004349		% Water by TGA using Mettler	%	None	None	99.21	n/a	40.89	46.34	43.62	12.5	n/a	n/a	n/a	n/a
S961004351		Alpha of Distilled Solid	uCi/g	-1.0e+00	52.28	107.0	2.00e-03	1.33e-02	1.63e-02	1.48e-02	20.3	76.32	4.00e-03	3.38E+01	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	Analyte	Unit	Action Limits		Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper								
S961003346	ASC	Exotherm using Mettler	Joules/g	-1.0e+00	449.3	n/a	20.80	1.100	10.95	180	n/a	n/a	
S961003346	ASC	Exotherm Dry	Joules/g Dry	-1.0e+00	640.3	n/a	40.20	2.120	21.16	180	n/a	n/a	
S961003346		Water by TGA using Mettler	% Water by TGA using Mettler	None	None	99.00	48.31	48.08	48.19	0.52	n/a	n/a	
S961003346		Alpha in Liquid Samples	αC/mL	-1.0e+00	61.38	93.75	<3.91e-03	<3.91E-3		n/a	n/a	8.00e-03	5.00E+02

==> Limit violated
==> Selected Limit

Table 1. Data Summary Table
BY-107

CORE NUMBER: 161
SEGMENT #: 4

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S96T004396		DSC Exotherm Dry	Joules/g Dry	-1.0e+00	249.8	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004396		DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+00	483.8	98.42	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004396		% Water by TGA on Perkin Elmer	%	None	None	97.06	n/a	43.68	45.41	44.55	3.88	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S96T004393		Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.700	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T004397		DSC Exotherm using Mettler	Joules/g	-1.0e+00	483.8	104.7	n/a	2.18e+02	246.3	232.3	12.1	n/a	n/a	n/a
S96T004397		DSC Exotherm Dry	Joules/g Dry	-1.0e+00	483.8	n/a	n/a	3.56e+02	401.0	378.5	11.9	n/a	n/a	n/a
S96T004397		% Water by TGA using Mettler	%	None	None	99.93	n/a	38.59	38.69	38.64	0.26	n/a	n/a	n/a
S96T004400	F	Alpha of Digested Solid	uCi/g	-1.0e+00	32.8	107.0	2.00e-03	2.06e-01	2.22e-01	2.14e-01	7.48	n/a	3.90e-02	2.64E+01

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S96T004412		DSC Exotherm using Mettler	Joules/g	-1.0e+00	249.8	105.1	n/a	10.50	10.70	10.60	1.89	n/a	n/a	n/a
S96T004412		DSC Exotherm Dry	Joules/g Dry	-1.0e+00	483.8	n/a	n/a	19.70	20.10	19.90	2.01	n/a	n/a	n/a
S96T004412		% Water by TGA using Mettler	%	None	None	99.93	n/a	45.14	48.43	46.78	7.03	n/a	n/a	n/a
S96T004412		Alpha in Liquid Samples	uCi/mL	-1.0e+00	61.36	83.59	<7.95e-03	<7.95e-03	<3.85E-3	n/a	n/a	81.62	1.00e-02	1.96E+02

=> Limit violated
=> Selected Limit

WHC-SD-WM-DP-197, REV. 0

ATTACHMENT 1

BY-107 PUSH MODE CORE SAMPLE BREAKDOWNS

WHC-SD-WM-DP-197, REV. 0

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BY-107

Core:151

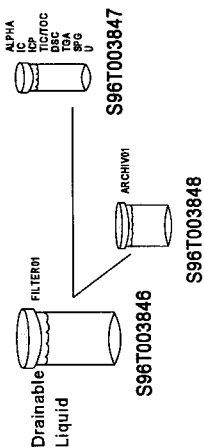
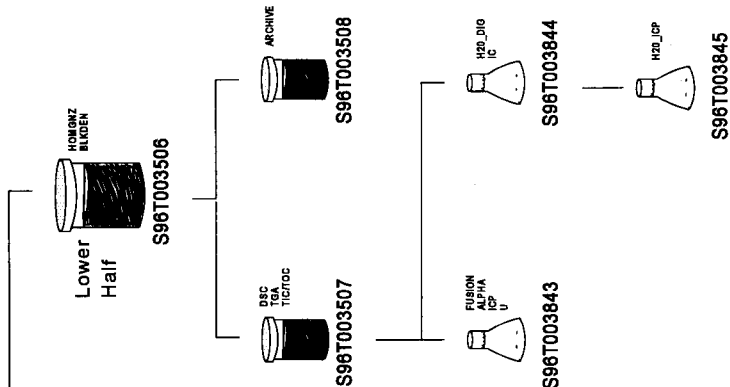
Seg: 1 (96-247)

S96T003488

Attachment 1

Page 1 of 11

WHC-SD-WM-DP-197, REV. 0



BY-107

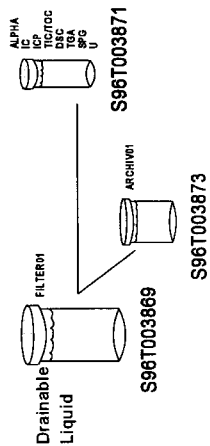
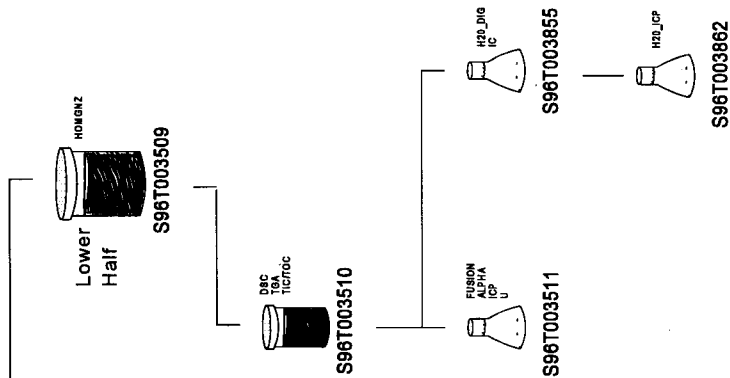
Core:151

Seg: 1A (96-247-A)

S96T003489

Attachment 1
Page 2 of 11

WHC-SD-WM-DP-197, REV. 0



BY-107

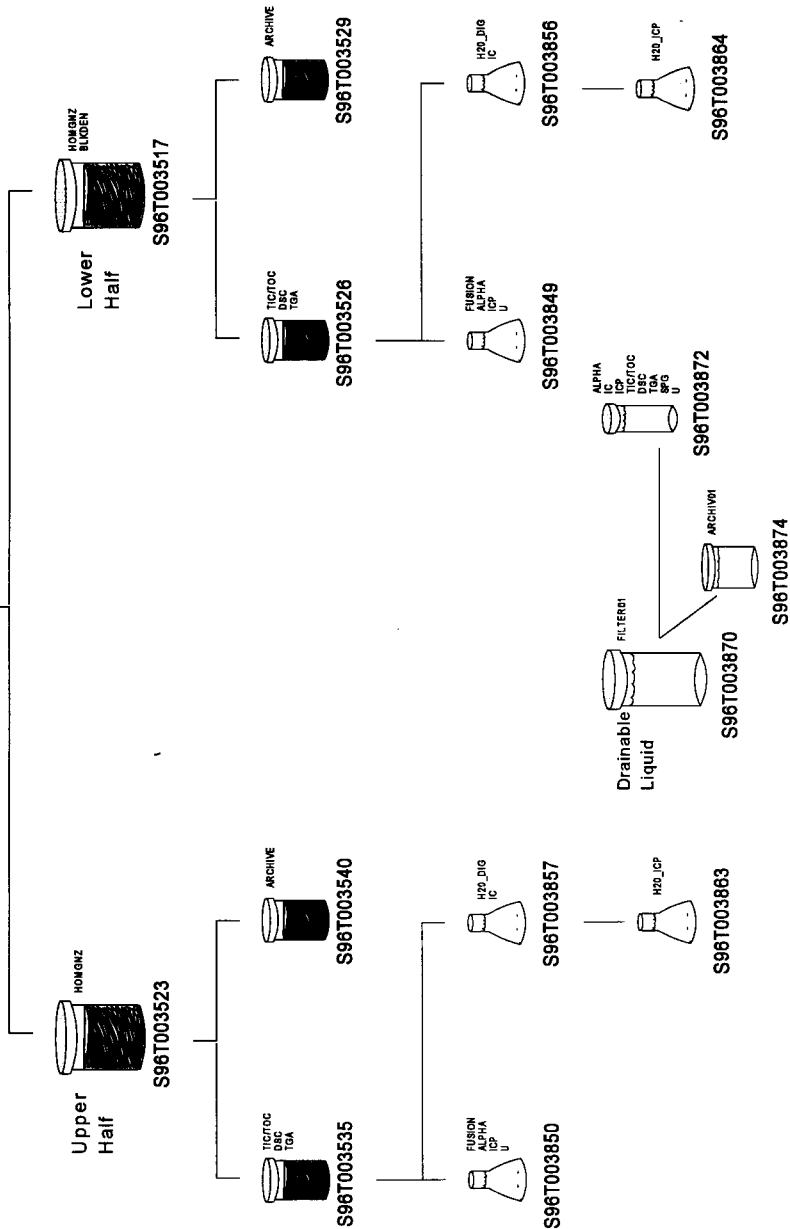
Core:151

Seg: 2 (96-248)

S96T003490

Attachment 1

Page 3 of 11



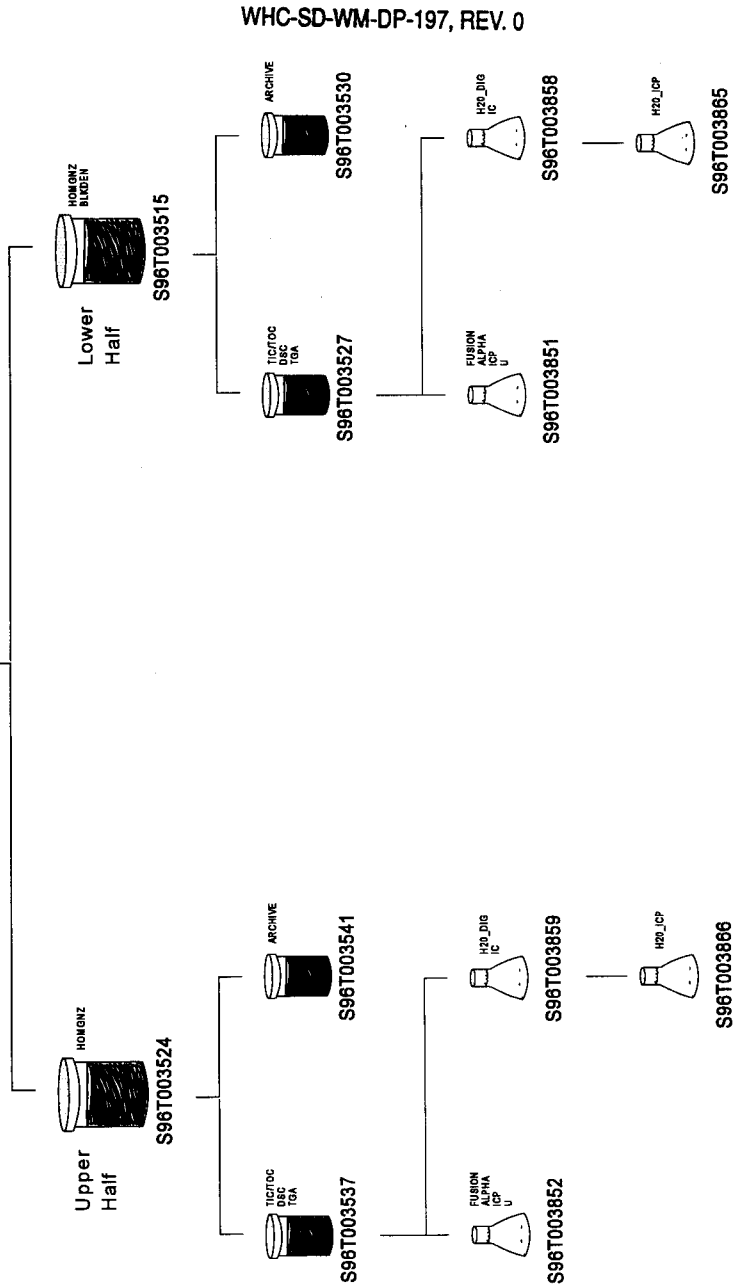
BY-107

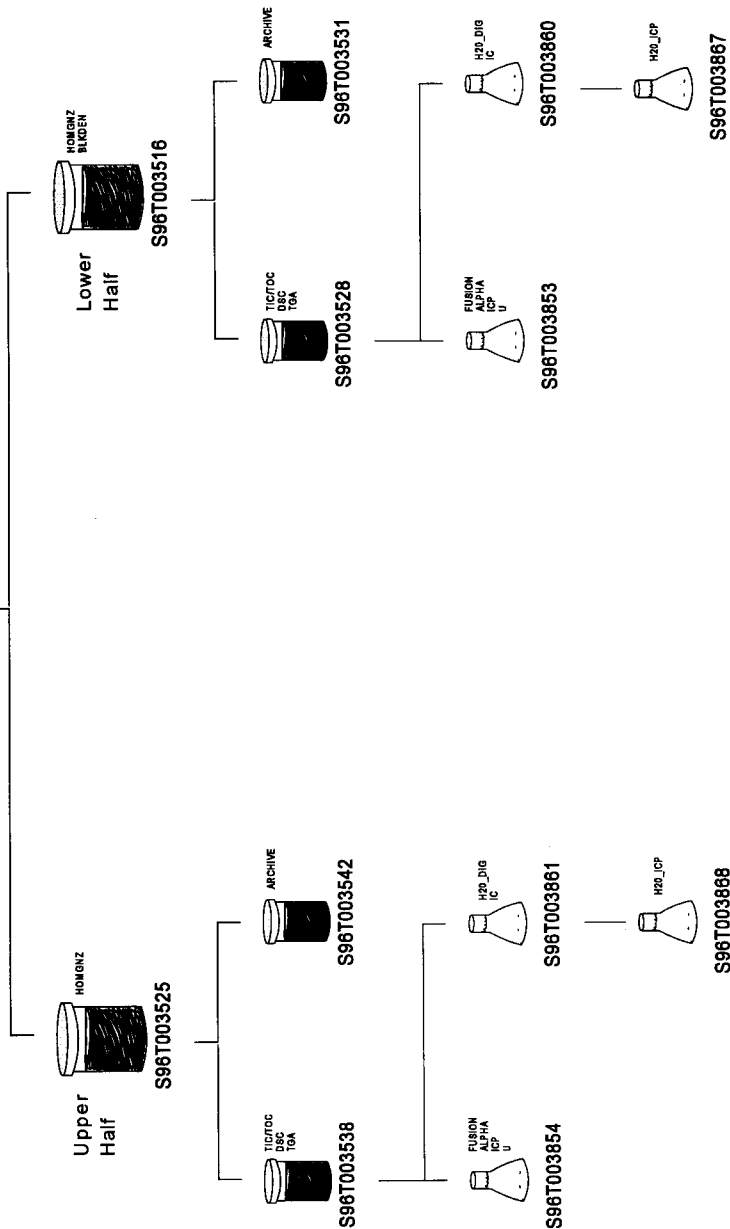
Core:151

Seg: 3 (96-249)

S96T003500

Attachment 1
Page 4 of 11





BY-107

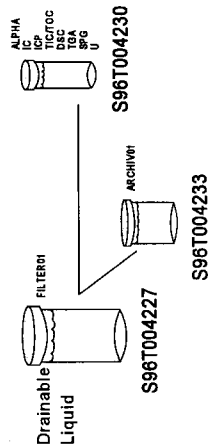
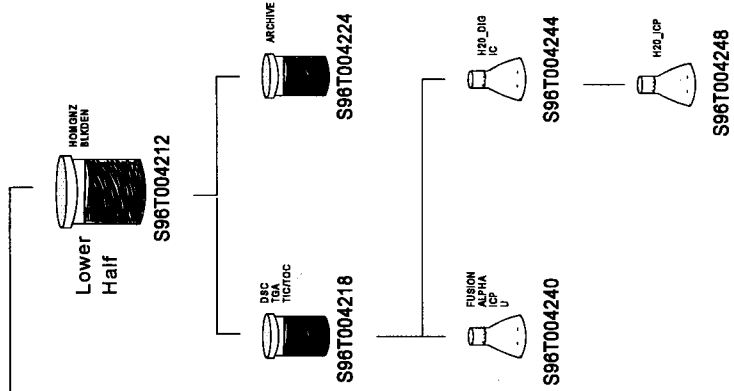
Core:161

Seg: 1 (96-387)

S96T004119

Attachment 1

Page 6 of 11



BY-107

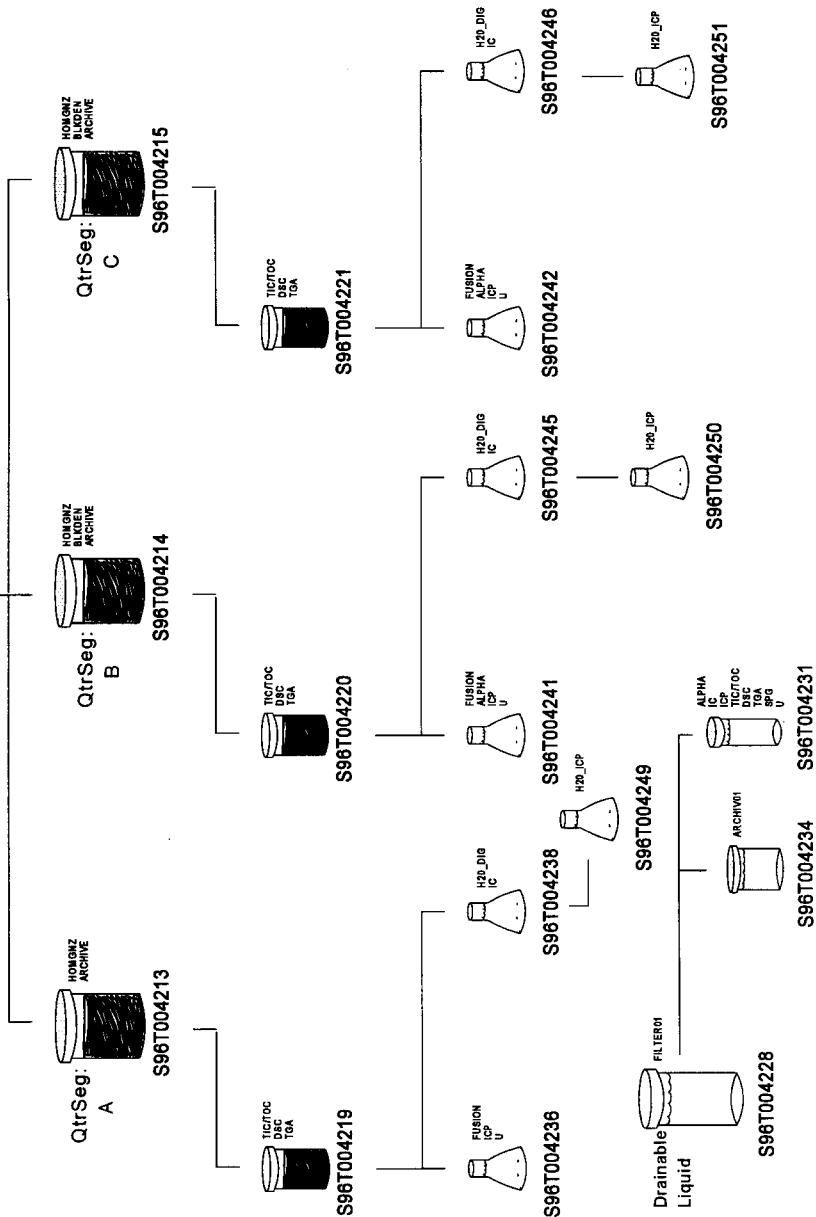
Core:161

Seg: 2 (96-388)

S96T004120

Attachment 1
Page 7 of 11

WHC-SD-WM-DP-197, REV. 0



BY-107

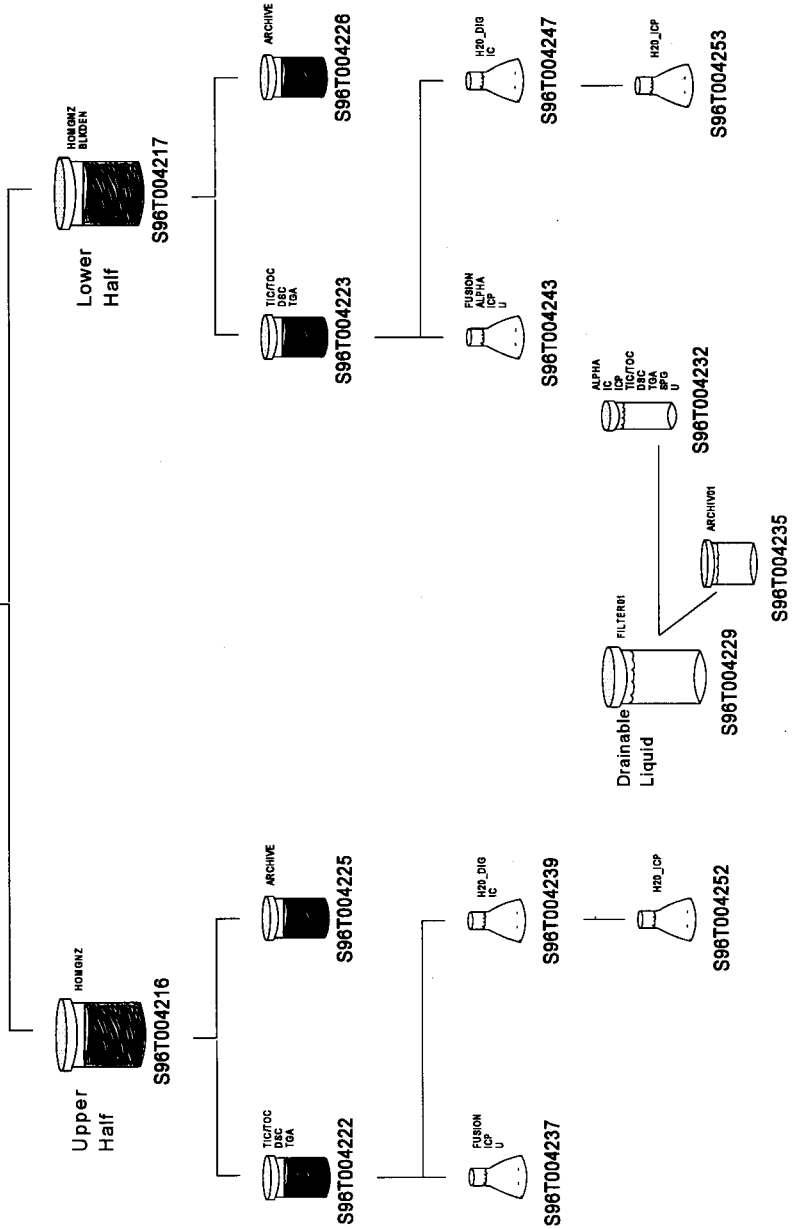
Core:161

Seg: 2A (96-388A)

S96T004121

Attachment 1
Page 8 of 11

WHC-SD-WM-DP-197, REV. 0



BY-107

Core:161

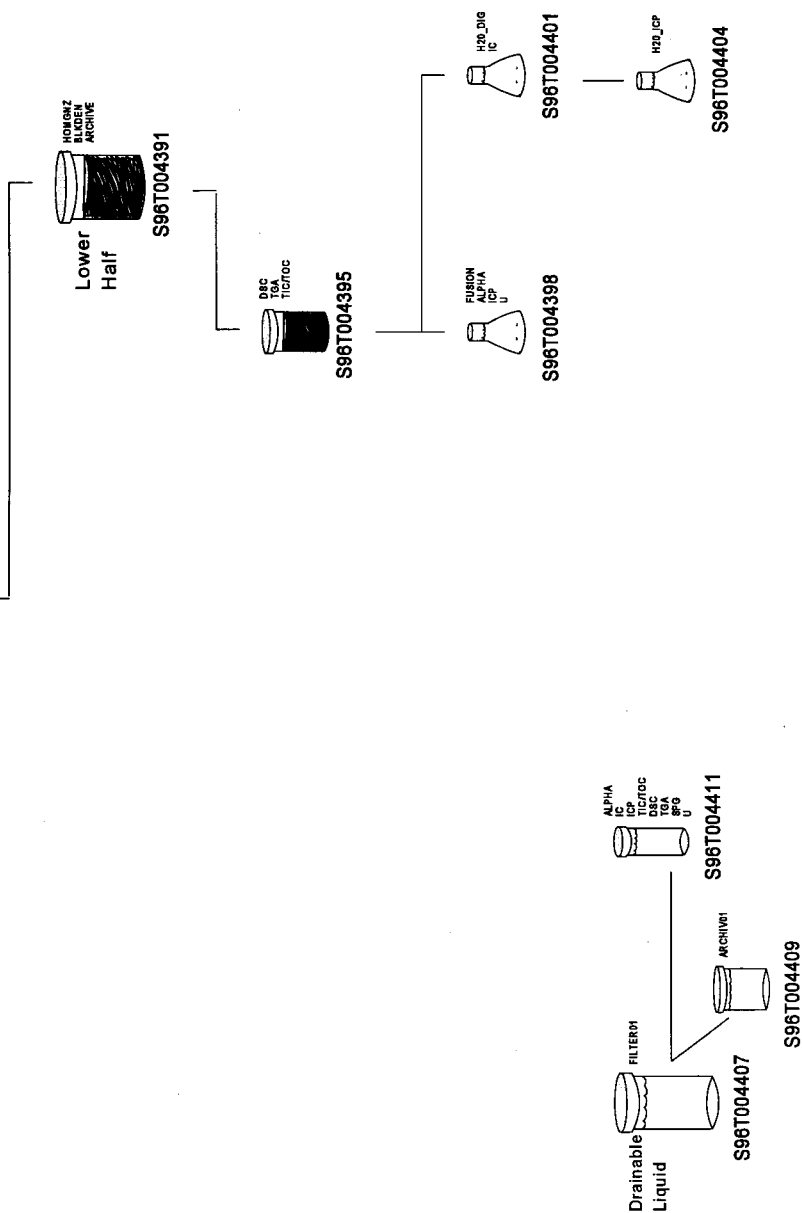
Seg: 3 (96-389)

S96T004320

Attachment 1

Page 9 of 11

WHC-SD-WM-DP-197, REV. 0



BY-107

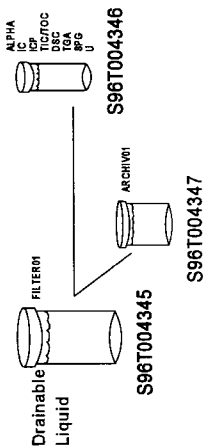
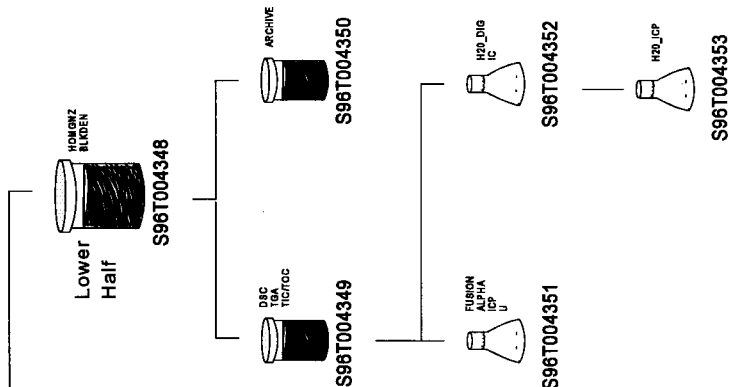
Core:161

Seg: 3A (96-389A)

S96T004265

The lower half solids represent the solids collected by filtering the drainable liquid.

Attachment 1
Page 10 of 11



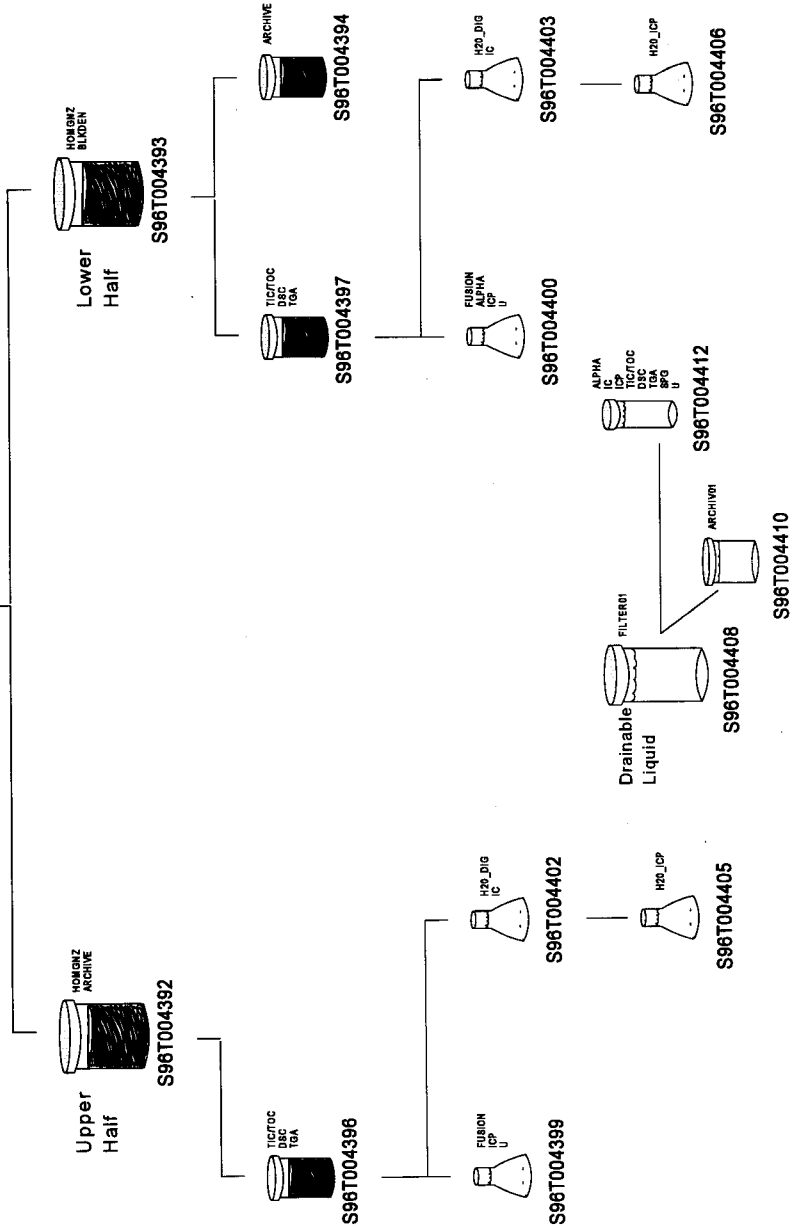
BY-107

Core:161

Seg: 4 (96-390)

S96T004321

Attachment 1
Page 11 of 11



WHC-SD-MM-DP-197, REV. 0

CHAIN OF CUSTODY FORMS

WHC-SD-WM-DP-197, REV. 0

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COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 96-247 (3) Supervisor M.C. Jones
 (4) Tank BX-107 (5) Riser 8 (6) Segment 1 (7) Core 151 (8) Cask Serial Number C-2000

Radionuclide Survey Data:

(9) FIELD

Over Top Dose Rate < 1
 Side Dose Rate 24
 Bottom Dose Rate 15
 Smearable Contamination < 15 (Alpha)
< 1K (Beta-Gamma)
 RCT* (HPT) [Signature] RCT* (HPT) [Signature]

(10) Shipment Description

A. Work Package Number WES-96-0004-13
 B. Cask Seal Number 10438
 C. Sampler Serial Number 95-0735
 D. Date and Time Sampler Unseated 6-5-96/1953
 E. Expected Liquid Content 10%
 F. Expected Solid Content 90%
 G. Dose Rate Through Drill String 1.5 R/hr
 H. Expected Sample Length 5

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

40

WHC-SD-WM-DP-197, REV. C

(12) Field Comments

SAMPLE WAS ONLY PUSHED 5" BEFOR IT BROKE
 Through a head 14yr.

(34) Laboratory Comments

(13) Point of Origin <u>BX-107</u>	(14) Destination <u>222-S</u>	(15) Sender Name (Sign and PRINT) <u>WILLIAM R. SPANZIO, JR. M.C. JONES</u>	(16) Date/Time <u>6-11-96/1405</u>	(17) Sender Comments
(20) Requisitioned By (Sign and PRINT) <u>WILLIAM R. SPANZIO, JR.</u>	(21) Received By (Sign and PRINT) <u>[Signature]</u>	(22) Date/Time <u>6-11-96/1410</u>	(23) Receiver Comments	
(23) Requisitioned By (Sign and PRINT) <u>[Signature]</u>	(24) Received By (Sign and PRINT) <u>[Signature]</u>	(25) Date/Time <u>6-11-96/1435</u>	(26) Receiver Comments	
(27) Requisitioned By (Sign and PRINT) <u>[Signature]</u>	(28) Received By (Sign and PRINT) <u>[Signature]</u>	(29) Date/Time	(30) Receiver Comments	
(18) Seal Intact Upon Release? ☒ Yes ☐ No		(31) Seal Intact Upon Receipt? ☒ Yes ☐ No		(32) Seal Data Consistent with this Record? ☒ Yes ☐ No
Shipment No. ☒ Yes ☐ No		Cask Seal No. ☒ Yes ☐ No		Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 56-95 Goldenrod - Tank Farm Operations, 54-43

BC-3000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

(1) Shipment Number 220W-08-11 (2) Sample Number 96-247-A (3) Supervisor M.C. Jones
 (4) Tank BY-107 (5) Riser 8 (6) Segment 1A (7) Core 151 (8) Cask Serial Number 5U-76

Radiation Survey Data:

(9) FIELD

Over Top Dose Rate

Side Dose Rate

Bottom Dose Rate

Measurable Contamination

(33) LABORATORY

4.5 m/hr

2.0 m/hr

8 m/hr

5200 m/hr

(Alpha)

21K

(Beta-Gamma)

(Signature)

RCI* (HPT)

RCI* (HPT)

(Signature)

(Signature)

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

WHC-SD-WM DP-197, REV. 0

(12) Field Comments

(34) Laboratory Comments

41

(13) Point of Origin BY-107 (14) Destination 222-S (15) Sender Name (Sign and PRINT) W. J. Jones (16) Date/Time 6-11-96
 (17) Receiver Name (Sign and PRINT) W. J. Jones (18) Date/Time 6-11-96
 (19) Receiver Name (Sign and PRINT) W. J. Jones (20) Date/Time 6-11-96
 (21) Receiver Name (Sign and PRINT) W. J. Jones (22) Date/Time 6-11-96
 (23) Receiver Name (Sign and PRINT) W. J. Jones (24) Date/Time 6-11-96
 (25) Receiver Name (Sign and PRINT) W. J. Jones (26) Date/Time 6-11-96
 (27) Receiver Name (Sign and PRINT) W. J. Jones (28) Date/Time 6-11-96
 (29) Receiver Name (Sign and PRINT) W. J. Jones (30) Date/Time 6-11-96

(18) Seal Intact Upon Release?

(31) Seal Intact Upon Receipt?

(32) Seal Data Consistent with this Record?

Yes ☐ No ☐

Yes ☒ No ☐

Yes ☐ No ☐

Yes ☒ No ☐

Yes ☐ No ☐

Cask Seal No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, SG-85

Goldenrod - Tank Farm Operations, S4-43

Goldenrod - Tank Farm Operations, S4-43

Goldenrod - Tank Farm Operations, S4-43

500

509 373 1432

(performed by a 68801 architecture) for assessment of the

06/13/96 14:03

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipman Number 220-107-08-77 (2) Sample Number 96-387 (3) Supervisor M. C. Jones

(4) Tank BY-107 (5) Rise 9B (6) Segment 1 (7) Core 161 (8) Cast Seal Number 1033

Reduction Survey Date: _____

Over Top Dose Rate 5.5 MR/hr (9) FIELD (10) LABORATORY

Side Dose Rate 30 MR/hr (11) A. Work Package Number ES-96-00423

Bottom Dose Rate 0 MR/hr (12) B. Cast Seal Number 10202

Seizable Contamination <20 DPM (13) C. Sampler Serial Number 948694-1835

(14) D. Date and Time Sampled Unsealed 7-19-96/ 234

(15) E. Expected Liquid Content 30%

(16) F. Expected Solid Content 70%

(17) G. Dose Rate Through Oak Stripping 1.2 R/hr

(18) H. Expected Sample Length 10"

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

509 373 1432

(1) Field Comments

(14) Laboratory Comments

45

Point of Origin BY-107 (14) Destination 220-5

Signature by Shipman (PRINT) Stanley B. Carter (15) Signature by Recipient (PRINT) Stanley B. Carter

Signature by Shipman (SIGN) [Signature] (16) Date/Time 7/19/96

Signature by Recipient (SIGN) [Signature] (17) Date/Time 7/19/96

Signature by Shipman (PRINT) Stanley B. Carter (18) Signature by Recipient (PRINT) Stanley B. Carter

Signature by Shipman (SIGN) [Signature] (19) Date/Time 7/19/96

Signature by Recipient (SIGN) [Signature] (20) Date/Time 7/19/96

(21) Seal Intact Upon Receipt? ☒ Yes ☐ No (22) Seal Date Consistent with this Record? ☒ Yes ☐ No

(23) Seal Intact Upon Release? ☒ Yes ☐ No (24) Seal Date Consistent with this Record? ☒ Yes ☐ No

SHIPMAN: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 56-85 Goldenrod - Tank Farm Operations, 34-43

Sample No. 96-387 ☐ Yes ☐ No

9C-6003-309 (02/84)

13:40

07/29/96

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

(1) Shipment Number	2004-08-77	(2) Sample Number	96-388	(3) Supervisor	M. C. Jones	(4) Cask Serial Number	54-77
(4) Tank	BY-107	(5) River	90	(6) Segment	2	(7) Core	161
Radiation Survey Data:							
Over Top Dose Rate	6.5 mR/hr	(9) FIELD	6.5 mR/hr	(10) Shipment Description			
Side Dose Rate	20 mR/hr		20 mR/hr	A. Work Package Number: ES-96-00423			
Bottom Dose Rate	5 mR/hr		4 mR/hr	B. Cask Seal Number: 10203			
Smearable Contamination	520 dpm		220 dpm	C. Sampler Serial Number: 95-3079			
	Alphas		Alphas	D. Date and Time Sampler Unsealed: 7-14-96 1400			
	1000 dpm		1000 dpm	E. Expected Liquid Content: 30%			
	(Beta/Gamma)		(Beta/Gamma)	F. Expected Solid Content: 70%			
RCF* (NPT)	OKC	RCF* (NPT)	OKC	G. Dose Rate Through Dull Stripping: 1.3 R/hr			
	(Signature)		(Signature)	H. Expected Sample Length: 9"			

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

(12) Field Comments

(24) Laboratory Comments

46

(13) Point of Origin	BY-107	(14) Destination	222-S	(15) Sender Name (Sign and PRINT)	Forrest Steven B Cozine	(16) Date/Time	11/13/96	(17) Sender Comments	
(18) Requisition By (Sign and PRINT)	Forrest Steven B Cozine	(19) Requisition By (Sign and PRINT)	Forrest Steven B Cozine	(20) Received By (Sign and PRINT)	Forrest Steven B Cozine	(21) Date/Time	11/13/96	(22) Receiver Comments	
(23) Requisition By (Sign and PRINT)	Forrest Steven B Cozine	(24) Requisition By (Sign and PRINT)	Forrest Steven B Cozine	(25) Received By (Sign and PRINT)	Forrest Steven B Cozine	(26) Date/Time	11/13/96	(27) Receiver Comments	
(28) Requisition By (Sign and PRINT)	Forrest Steven B Cozine	(29) Requisition By (Sign and PRINT)	Forrest Steven B Cozine	(30) Received By (Sign and PRINT)	Forrest Steven B Cozine	(31) Date/Time	11/13/96	(32) Receiver Comments	
(33) Seal Inset Upon Receipt?	☒ Yes ☐ No	(34) Seal Inset Upon Receipt?	☒ Yes ☐ No	(35) Seal Data Consistent with this Record?					
(36) Seal Inset Upon Release?	☒ Yes ☐ No	(37) Seal Inset Upon Release?	☒ Yes ☐ No	(38) Seal Data Consistent with this Record?					
(39) Seal Inset Upon Release?	☒ Yes ☐ No	(40) Seal Inset Upon Release?	☒ Yes ☐ No	(41) Seal Data Consistent with this Record?					
(42) Seal Inset Upon Release?	☒ Yes ☐ No	(43) Seal Inset Upon Release?	☒ Yes ☐ No	(44) Seal Data Consistent with this Record?					

TRANSPORTATION: WHITE - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 88-85 Goldenrod - Tank Farm Operations, 84-43

8C-0000-309 (03/94)

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 2000-01-17 (2) Sample Number 96-388A (3) Supervisor M. C. Jones
 (4) Task BX-107 (5) Riser 9B (6) Segment 2A (7) Core 161 (8) Cask Serial Number C2012

Radiation Survey Data		(3) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	<u>6.5 mR/hr</u>	(31) FIELD	<u>6.5 mR/hr</u>	A. Work Package Number	<u>ES-96-00423</u>
Side Dose Rate	<u>50 mR/hr</u>		<u>20 mR/hr</u>	B. Cask Exam Number	<u>11485</u>
Bottom Dose Rate	<u>6 mR/hr</u>		<u>4 mR/hr</u>	C. Sampler Serial Number	<u>94-456-5</u>
Measurable Contamination	<u>620 dpm</u>	(Alpha)	<u>230</u>	D. Date and Time Sampler Unopened	<u>7-18-96 0803</u>
	<u>6100 dpm</u>	(Beta-Gamma)	<u>1100</u>	E. Expected Liquid Content	<u>20%</u>
	<u>1000 dpm</u>	(Background)	<u>1000</u>	F. Expected Solid Content	<u>80%</u>
RCF* <u>0.01</u>		RCF* <u>0.01</u>		G. Dose Rate Through Drill String	<u>1.1 R/hr</u>
DWT <u>0.01</u>		DWT <u>0.01</u>		H. Expected Sample Length	<u>9"</u>

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

47

(12) Field Comments		(14) Laboratory Comments	
Sampler Clean			
(13) Point of Origin <u>107BY</u>	(15) Signer (Type, Date and PRINT) <u>Steven B. Conner</u>	(16) Date/Time <u>7/29/96</u>	(17) Sender Comments
(19) Released by (Sign and PRINT) <u>Steven B. Conner</u>	(20) Received by (Sign and PRINT) <u>Steven B. Conner</u>	(21) Date/Time <u>7/29/96</u>	(22) Receiver Comments
(23) Released by (Sign and PRINT) <u>Steven B. Conner</u>	(24) Received by (Sign and PRINT) <u>Steven B. Conner</u>	(25) Date/Time <u>7/29/96</u>	(26) Receiver Comments
(27) Relinquished by (Sign and PRINT) <u>Steven B. Conner</u>	(28) Received by (Sign and PRINT) <u>Steven B. Conner</u>	(29) Date/Time <u>7/29/96</u>	(30) Receiver Comments
(31) Sent intact Upon Receipt?		(32) Sold Data Consistent with this Receipt?	
☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
Shipment No. ☒ Yes ☐ No		Cask Seal No. ☒ Yes ☐ No	

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 56-85 Goldens - Tank Farm Operations, 54-43 8C-8000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

Shipment Number 200w-08-TF (2) Sample Number 96-389 (3) Supervisor R. Frank Fort
 Tank Bx-107 (5) Riser 9B (6) Segment 3 (7) Core 161 (8) Cast Serial Number C-2002

(19) FIELD Over Top Dose Rate <u>50.5 ml/hr</u> Side Dose Rate <u>15 ml/hr</u> Bottom Dose Rate <u>6 ml/hr</u> Smearable Contamination <u>< 20 ppm</u> (Alpha) <u>41K ppm</u> (Beta-Gamma) <u>DR</u> RCT* (HPT) <u>DR</u> (Signature) RCT* (HPT) <u>DR</u> (Signature)		(33) LABORATORY (10) Shipment Description A. Work Package Number <u>ES-96-00423</u> B. Cast Seal Number <u>10349</u> C. Sampler Serial Number <u>94-4545</u> D. Date and Time Sampler Unsealed <u>7-25-96/2115</u> E. Expected Liquid Content <u>36%</u> F. Expected Solid Content <u>70%</u> G. Dose Rate Through Drill String <u>9.1" 200w/r</u> H. Expected Sample Length <u>9.2" [7" X-RAY]</u>	
---	--	--	--

INFORMATION (include statement of laboratory tests to be performed.)

(1) Field Comments <u>sample X-rayed = 7"</u> <u>segment due flowline going from</u> <u>200 165 to 225 162</u> <u>sample above - no liquid</u>		(34) Laboratory Comments	
(16) Seal Intact Upon Receipt? ☒ Yes ☐ No		(31) Seal Intact Upon Receipt? ☒ Yes ☐ No	
(18) Seal Intact Upon Release? ☒ Yes ☐ No		(32) Seal Date Consistent with this Record? ☒ Yes ☐ No	
(15) Sender Name (Sign and PRINT) <u>James Sicksels</u>		(16) Date/Time <u>8-6-96</u>	
(14) Destination <u>2225 Lab</u>		(17) Sender Comments	
(13) Relinquished By (Sign and PRINT) <u>James Sicksels</u>		(21) Date/Time <u>8-6-96</u>	
(12) Received By (Sign and PRINT) <u>James Sicksels</u>		(22) Receiver Comments	
(11) Relinquished By (Sign and PRINT) <u>James Sicksels</u>		(25) Date/Time <u>8-6-96</u>	
(10) Received By (Sign and PRINT) <u>James Sicksels</u>		(26) Receiver Comments	
(9) Relinquished By (Sign and PRINT) <u>James Sicksels</u>		(29) Date/Time <u>8-6-96</u>	
(8) Received By (Sign and PRINT) <u>James Sicksels</u>		(30) Receiver Comments	

00

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(13) Supervisor R. Frank Lust

Shipment Number 2000-04-E (2) Sample Number 96-389A (3) Core 141 (4) Core Serial Number 25-0

Tank 84-107 (5) Rise 9B (6) Sagitt 3A

(7) FIELD

Over Top Dose Rate <0.5

Side Dose Rate 30

Bottom Dose Rate 15

Seamable Contamination <20

(8) pH <1K

(9) FIELD

Over Top Dose Rate 30

Side Dose Rate 15

Bottom Dose Rate 15

Seamable Contamination <20

(10) SHIPMENT CLASSIFICATION

A. Work Package Number ES-96-00423

B. Core Serial Number 10345

C. Sampler Serial Number 95-389A

D. Date and Time Sample Unseated 7-25-96/1905

E. Expected Liquid Content 30%

F. Expected Solid Content 70%

G. Dose Rate Through the Oil Stiff 1.5R

H. Expected Sample Length 9 1/2" X-80Y = 7 or 80%

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

(13) Field Comments 2nd 1/2 segment from downhole dip
sample has small amount of liquid dips
sample X-rayed = 7" of water or 80%

(14) Laboratory Comments

(15) Point of Origin R-9B (16) Description Box 107 36 2225 W465

(17) Date/Time 7-25-96 (18) Date/Time 7-25-96

(19) Date/Time 7-25-96 (20) Date/Time 7-25-96

(21) Date/Time 7-25-96 (22) Date/Time 7-25-96

(23) Date/Time 7-25-96 (24) Date/Time 7-25-96

(25) Date/Time 7-25-96 (26) Date/Time 7-25-96

(27) Date/Time 7-25-96 (28) Date/Time 7-25-96

(29) Date/Time 7-25-96 (30) Date/Time 7-25-96

(31) Date/Time 7-25-96 (32) Date/Time 7-25-96

(33) Date/Time 7-25-96 (34) Date/Time 7-25-96

(35) Date/Time 7-25-96 (36) Date/Time 7-25-96

(37) Date/Time 7-25-96 (38) Date/Time 7-25-96

(39) Date/Time 7-25-96 (40) Date/Time 7-25-96

(41) Date/Time 7-25-96 (42) Date/Time 7-25-96

(43) Date/Time 7-25-96 (44) Date/Time 7-25-96

(45) Date/Time 7-25-96 (46) Date/Time 7-25-96

(47) Date/Time 7-25-96 (48) Date/Time 7-25-96

(49) Date/Time 7-25-96 (50) Date/Time 7-25-96

(51) Date/Time 7-25-96 (52) Date/Time 7-25-96

(53) Date/Time 7-25-96 (54) Date/Time 7-25-96

(55) Date/Time 7-25-96 (56) Date/Time 7-25-96

(57) Date/Time 7-25-96 (58) Date/Time 7-25-96

(59) Date/Time 7-25-96 (60) Date/Time 7-25-96

(61) Date/Time 7-25-96 (62) Date/Time 7-25-96

(63) Date/Time 7-25-96 (64) Date/Time 7-25-96

(65) Date/Time 7-25-96 (66) Date/Time 7-25-96

(67) Date/Time 7-25-96 (68) Date/Time 7-25-96

(69) Date/Time 7-25-96 (70) Date/Time 7-25-96

(71) Date/Time 7-25-96 (72) Date/Time 7-25-96

(73) Date/Time 7-25-96 (74) Date/Time 7-25-96

(75) Date/Time 7-25-96 (76) Date/Time 7-25-96

(77) Date/Time 7-25-96 (78) Date/Time 7-25-96

(79) Date/Time 7-25-96 (80) Date/Time 7-25-96

(81) Date/Time 7-25-96 (82) Date/Time 7-25-96

(83) Date/Time 7-25-96 (84) Date/Time 7-25-96

(85) Date/Time 7-25-96 (86) Date/Time 7-25-96

(87) Date/Time 7-25-96 (88) Date/Time 7-25-96

(89) Date/Time 7-25-96 (90) Date/Time 7-25-96

(91) Date/Time 7-25-96 (92) Date/Time 7-25-96

(93) Date/Time 7-25-96 (94) Date/Time 7-25-96

(95) Date/Time 7-25-96 (96) Date/Time 7-25-96

(97) Date/Time 7-25-96 (98) Date/Time 7-25-96

(99) Date/Time 7-25-96 (100) Date/Time 7-25-96

Body

WHC-SD-WM-DP-197, REV. 0

50

(34) Laboratory Comments

Field Comments
sample not X-rayed
sample clear - no liquid

3) Point of Origin	R-9B	114) Destination	222S LABS	115) Sender Name (Sign and PRINT)	James Suckel	116) Date/Time	8-16-96	117) Sender Comments	
9) Relinquished By (Sign and PRINT)	James Suckel	120) Received By (Sign and PRINT)	James Suckel	121) Date/Time	8-16-96	122) Receiver Comments			
13) Relinquished By (Sign and PRINT)	James Suckel	124) Received By (Sign and PRINT)	James Suckel	125) Date/Time	8-16-96	126) Receiver Comments			
17) Relinquished By (Sign and PRINT)	James Suckel	128) Received By (Sign and PRINT)	James Suckel	129) Date/Time	8-16-96	130) Receiver Comments			
(31) Seal Intact Upon Release?				(32) Seal Data Consistent with this Record?					
☒ Yes ☐ No				Signament No. ☐ Yes ☐ No				Sample No. ☐ Yes ☐ No	
DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S&B5 Goldenrod - Tank Farm Operations, S&43				9C-6000-309 102894					

WMC-SD-WM-DP-197, REV. 0

INORGANIC ANALYSES

WHC-SD-WM-DP-197, REV. 0

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LABCORE Data Entry Template for Worklist#

10919

Analyst: RWK Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.89</u>	<u>N/A</u>	Joules/g
96000836	BY-107	2 SAMPLE	S96T003507	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000836	BY-107	3 DUP	S96T003507	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000836	BY-107	4 SAMPLE	S96T003510	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000836	BY-107	5 DUP	S96T003510	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

10919

See attached for signatures
Analyst Signature Date 7-22-96

[Signature] 7-22-96
Analyst Signature Date

Validated by Hanestn 7.23.96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

10919

Analyst: RLK Instrument: DSC0 _____ Book # 12014-BMethod: LA-514-113 Rev/Mod C-1

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	_____	_____	N/A	Joules/g
96000836	BY-107	2 SAMPLE	S96T003507	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96000836	BY-107	3 DUP	S96T003507	0	DSC-01	SOLID	_____	_____	N/A	Joules/g
96000836	BY-107	4 SAMPLE	S96T003510	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96000836	BY-107	5 DUP	S96T003510	0	DSC-01	SOLID	_____	_____	N/A	Joules/g

Final page for worklist #

10919

RLK 7/19/96
 Analyst Signature Date

 Analyst Signature Date

Data Entry Comments:

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

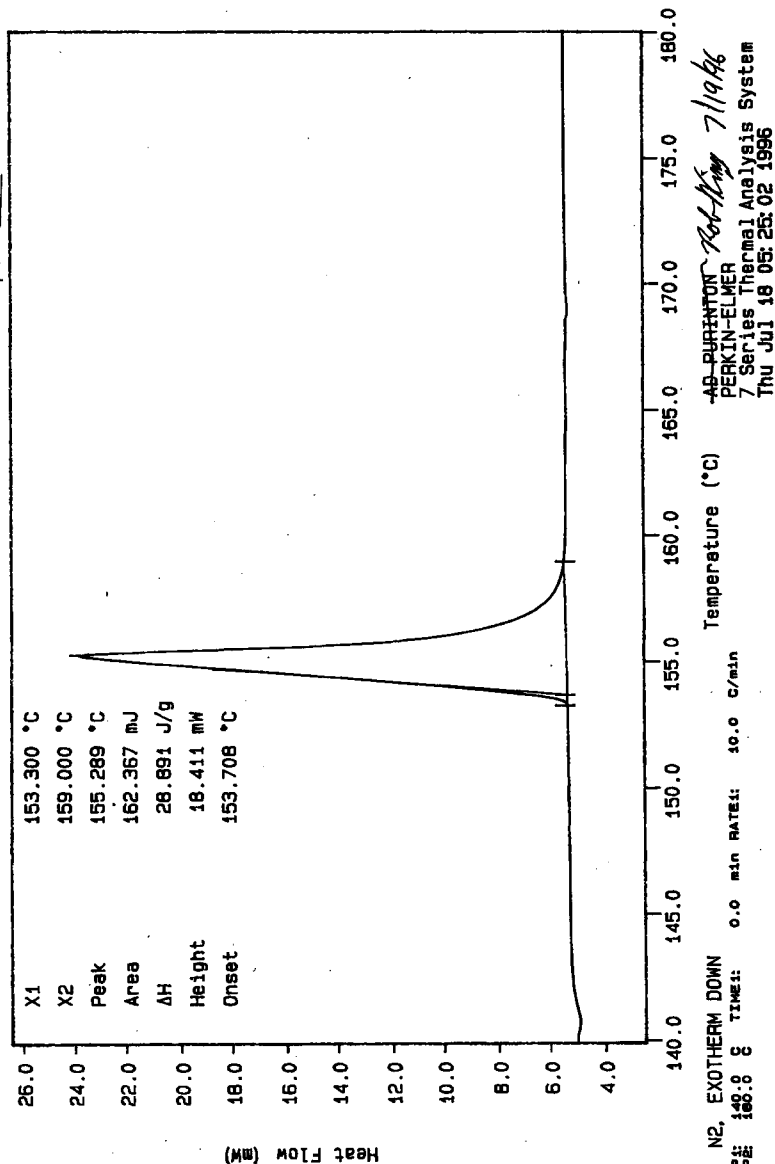
Curve 1: DSC

File Info: IND071801 Thu Jul 18 05: 04: 42 1996

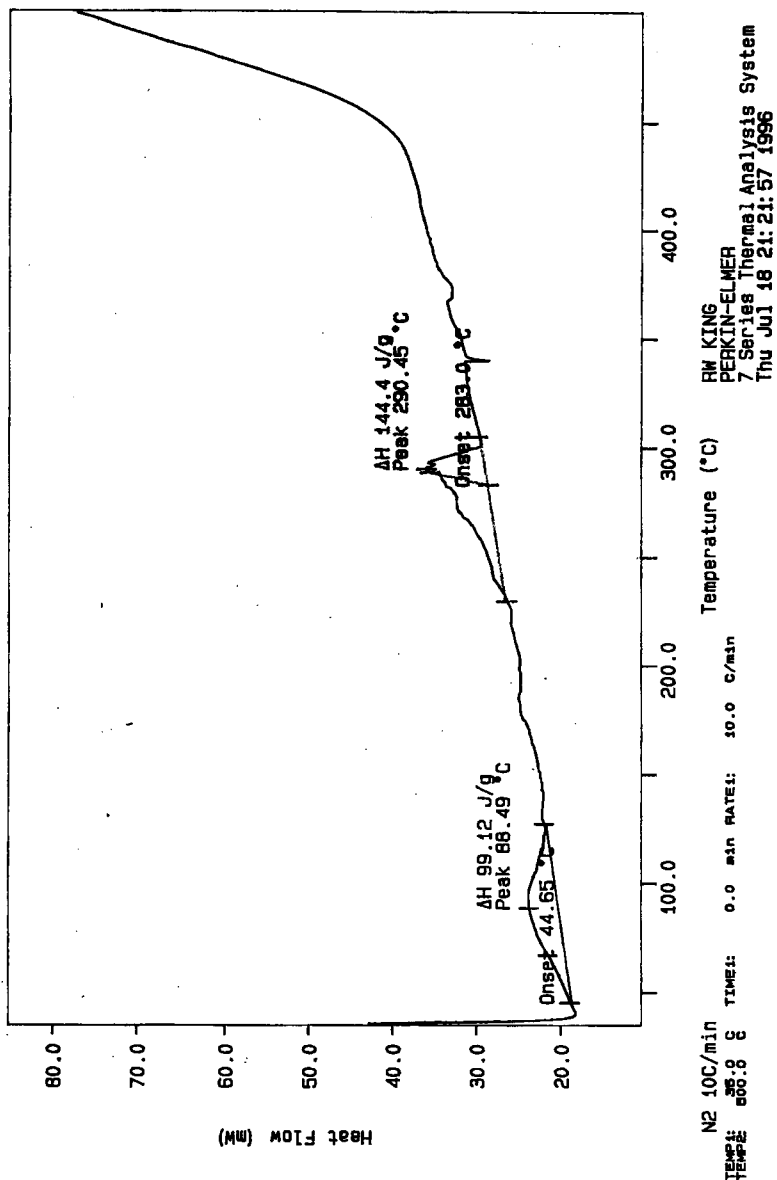
Sample Weight: 5.620 mg

12N14-B INDIUM AT 10C/MIN

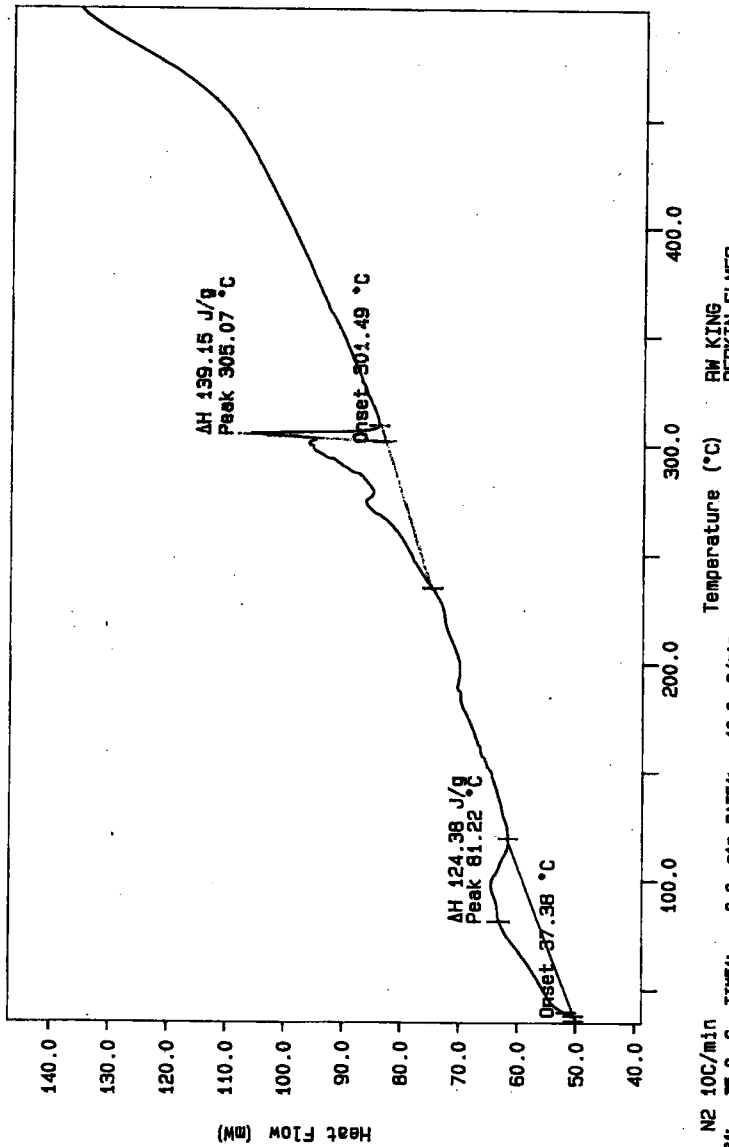
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 54 TO 58.



Curve 1: DSC
 File Info: SAM071807 Thu Jul 18 19:29:30 1996
 Sample Weight: 8.440 mg
 S96T003507

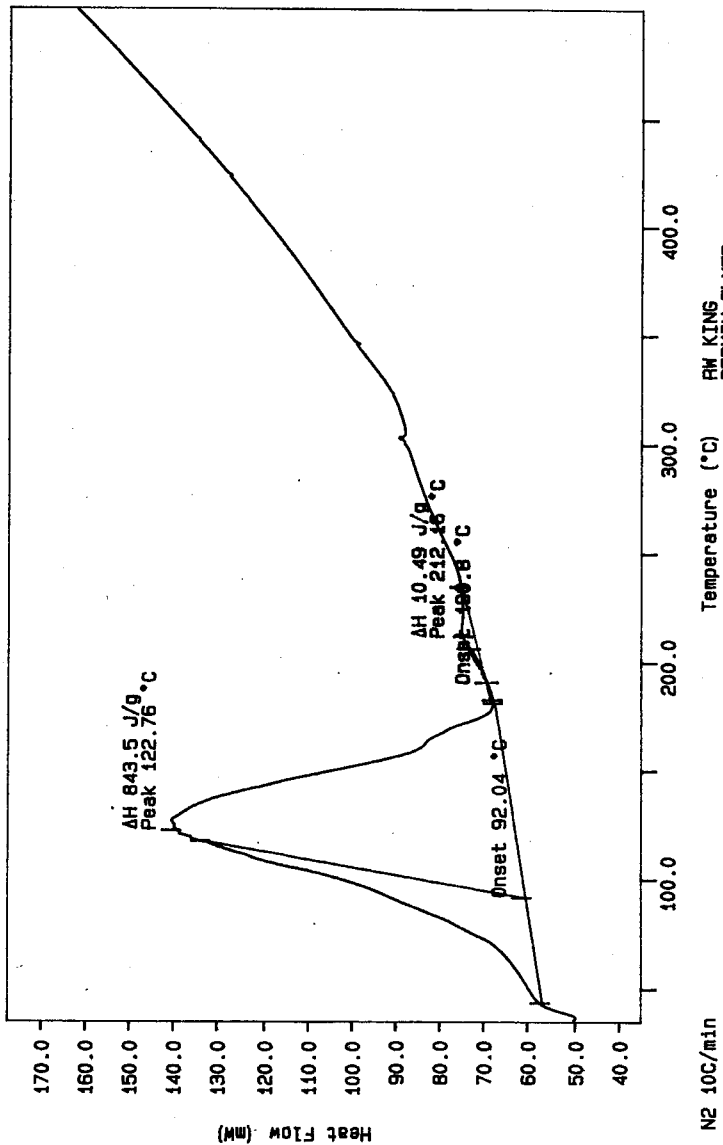


Curve 1: DSC
 File info: SAM071902 Fri Jul 19 00:59:13 1996
 Sample Weight: 17.060 mg
 S96T003507 IIRP DuP
 7-15-96 RWR



N2 10C/min
 TEMPI: 60.0 °C
 TIME: 0.0 min RATE: 10.0 C/min
 RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Jul 19 02:16:16 1996

Curve 1: DSC
 File Info: SAM071809 Thu Jul 18 22:30:35 1996
 Sample Weight: 31.120 mg
 S96T003510



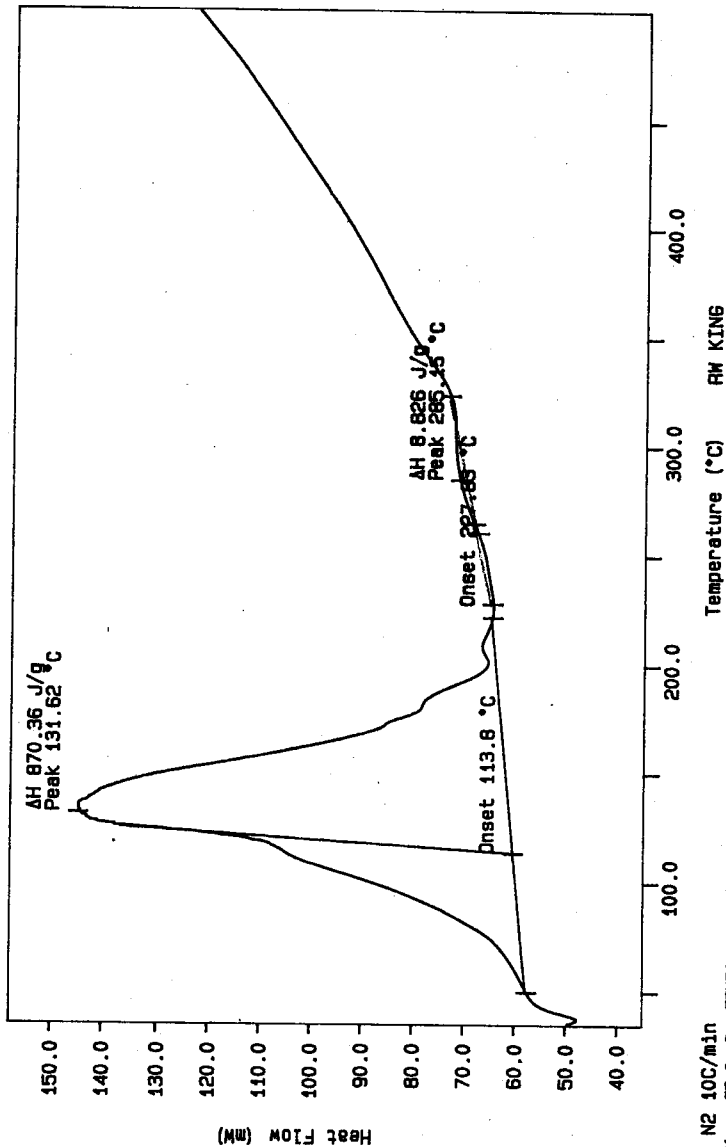
RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Jul 18 22:54:40 1996

Curve 1: DSC

File Info: SAM071901 Thu Jul 18 23:38:05 1996

Sample Weight: 33.320 mg

S96T003510 DUP



N2 10C/min
TEMP: 33.0 °C
TIME: 00.0 s

0.0 min RATE: 10.0 C/min

Temperature (°C)

RH KING
PERKIN-ELMER
7 Series Thermal Analysis System
Fri Jul 19 00:38:25 1996

LABCORE Data Entry Template for Worklist#

10921

Analyst: RDM Instrument: DSC0 1 Book # 12N148

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	<u>28.45</u>	<u>32.8</u>	<u>N/A</u>	Joules/g
96000836	BY-107	2	SAMPLE	S96T003526	0		DSC-01	SOLID	<u>N/A</u>	<u>28.1</u>		Joules/g
96000836	BY-107	3	DUP	S96T003526	0		DSC-01	SOLID	<u>28.1</u>	<u>26.0</u>	<u>N/A</u>	Joules/g
96000836	BY-107	4	SAMPLE	S96T003527	0		DSC-01	SOLID	<u>N/A</u>	<u>14.7</u>		Joules/g
		5	STD				DSC-01	SOLID	<u>28.45</u>	<u>29.7</u>	<u>N/A</u>	Joules/g
96000836	BY-107	6	DUP	S96T003527	0		DSC-01	SOLID	<u>14.7</u>	<u>40.4</u>	<u>N/A</u>	Joules/g

Final page for worklist #

10921

See attached for signatures
Analyst Signature Date 7-22-96

[Signature] 7-22-96
Analyst Signature Date

Verified/Validated by
Blandina Valenzuela
7-23-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

10921

Analyst: PMInstrument: DSC0 1Book # 12N14BMethod: LA-514-113 Rev/Mod C-1

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>32.8</u>	<u>7.22-96</u> ^{err}	Joules/g
96000836	BY-107	2 SAMPLE	S96T003526	0	DSC-01	SOLID	<u>N/A</u>	<u>28.1</u>	<u>7.22-96</u> ^{80V}	Joules/g
96000836	BY-107	3 DUP	S96T003526	0	DSC-01	SOLID	<u>28.1</u>	<u>26.0</u>	<u>7.22-96</u> ^{err}	Joules/g
96000836	BY-107	4 SAMPLE	S96T003527	0	DSC-01	SOLID	<u>N/A</u>			Joules/g
96000836	BY-107	5 DUP	S96T003527	0	DSC-01	SOLID			<u>N/A</u>	Joules/g

Final page for worklist #

10921

Analyst Signature PMDate 7/26/96

Analyst Signature

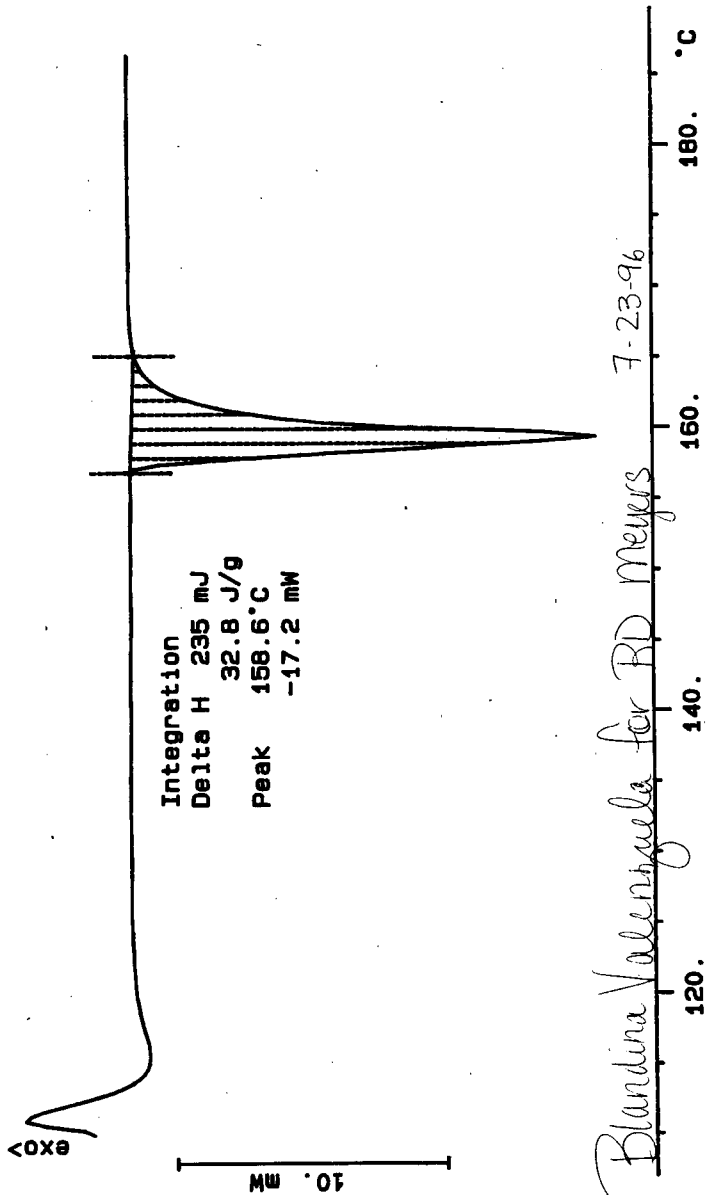
Date

Data Entry Comments:

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

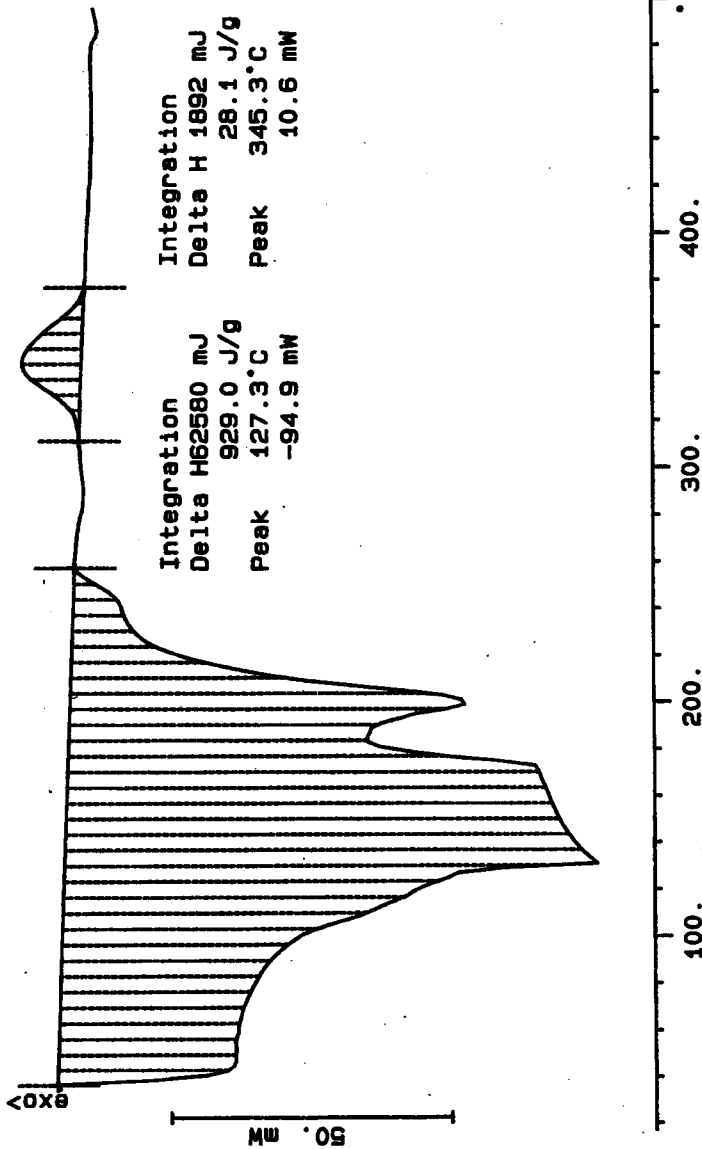
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 141 TO 142.

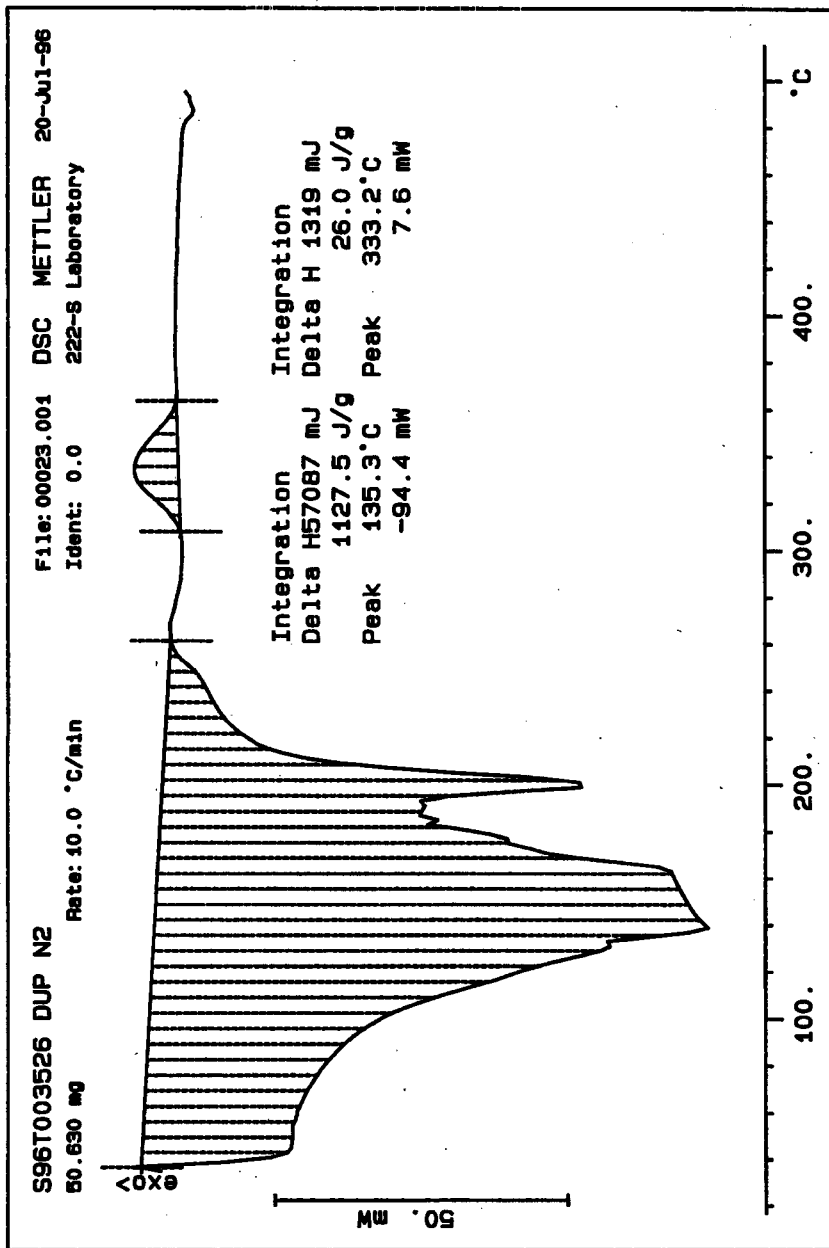
DSC STD 12N14-B Rate: 10.0 °C/min File: 00020.001 DSC METTLER 20-Jul-96
7.171 mg Ident: 0.0 222-S Laboratory

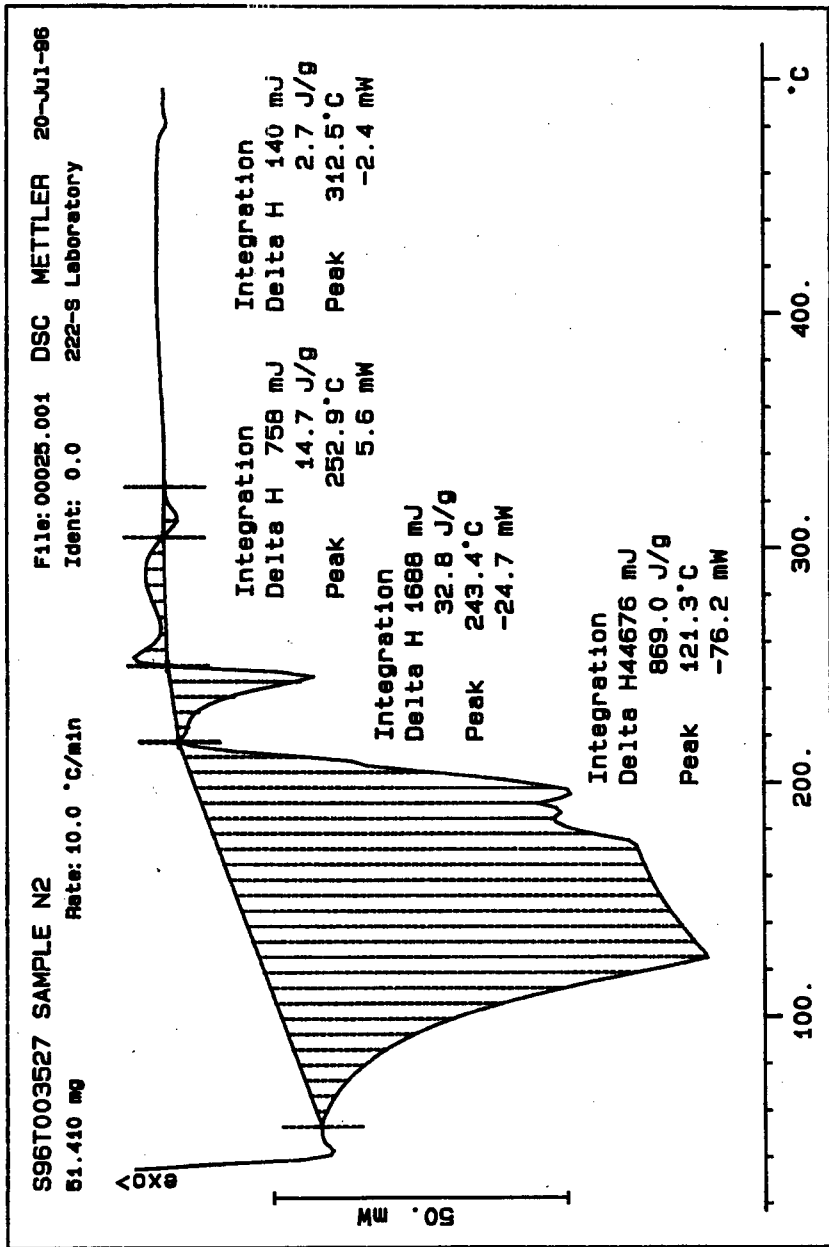


Blandina Valenzuela for RD Meyers 7-23-96

S96T003526 N2
 67.360 mg
 Rate: 10.0 °C/min
 File: 00021.001 DSC METTLER 20-Jul-86
 Ident: 0.0 222-S Laboratory







DSC STD 12N14-B

7.171 mg

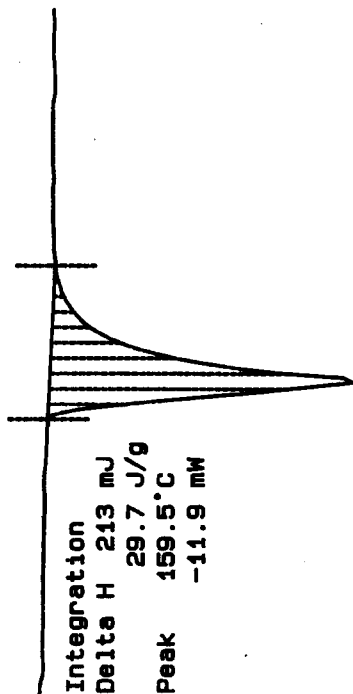
Rate: 10.0 °C/min

File: 00027.001 DSC METTLER 21-Jul-86

Ident: 0.0 222-8 Laboratory

exo>

10. mW



120.

140.

160.

180.

°C

S96T003527 DUP N2

29.770 mg

Rate: 10.0 °C/min

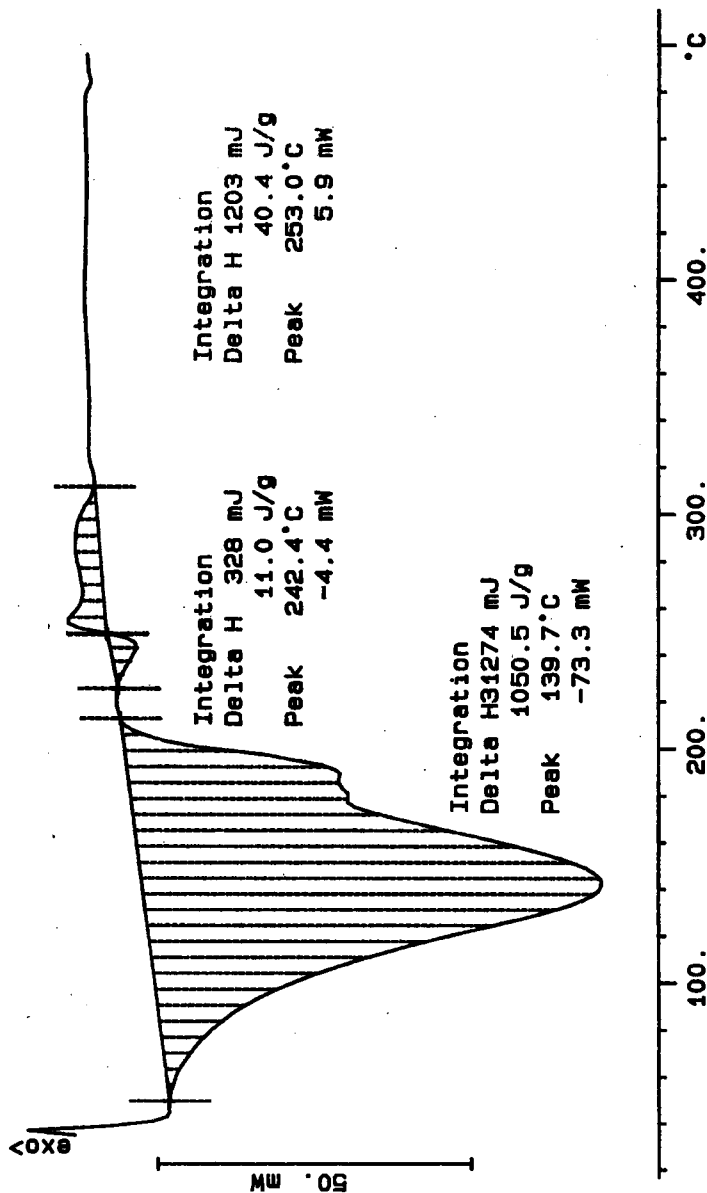
File: 00029.001

DSC METTLER

21-Jul-86

Ident: 0.0

222-S Laboratory



LABCORE Data Entry Template for Worklist#

10923

Analyst: RDM Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>29.01</u>	<u>*</u>	Joules/g
96000836	BY-107	2 SAMPLE	S96T003528	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000836	BY-107	3 DUP	S96T003528	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000836	BY-107	4 SAMPLE	S96T003535	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000836	BY-107	5 DUP	S96T003535	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

10923

See attached for signatures

Analyst Signature

Date

7-22-96 *RD*

[Signature]
Analyst Signature

Date

7-22-96

Validated by *H Anast* 7-23-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

10923

Analyst: Rom Instrument: DSC0 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
96000836	BY-107	2	SAMPLE	S96T003528	0		DSC-01	SOLID	N/A			Joules/g
96000836	BY-107	3	DUP	S96T003528	0		DSC-01	SOLID			N/A	Joules/g
96000836	BY-107	4	SAMPLE	S96T003535	0		DSC-01	SOLID	N/A			Joules/g
96000836	BY-107	5	DUP	S96T003535	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist #

10923

Rom
Analyst Signature
7/20/96
Date

Analyst Signature Date

DSC-03 instrument
was used.

7-25-96
BOR

Data Entry Comments:

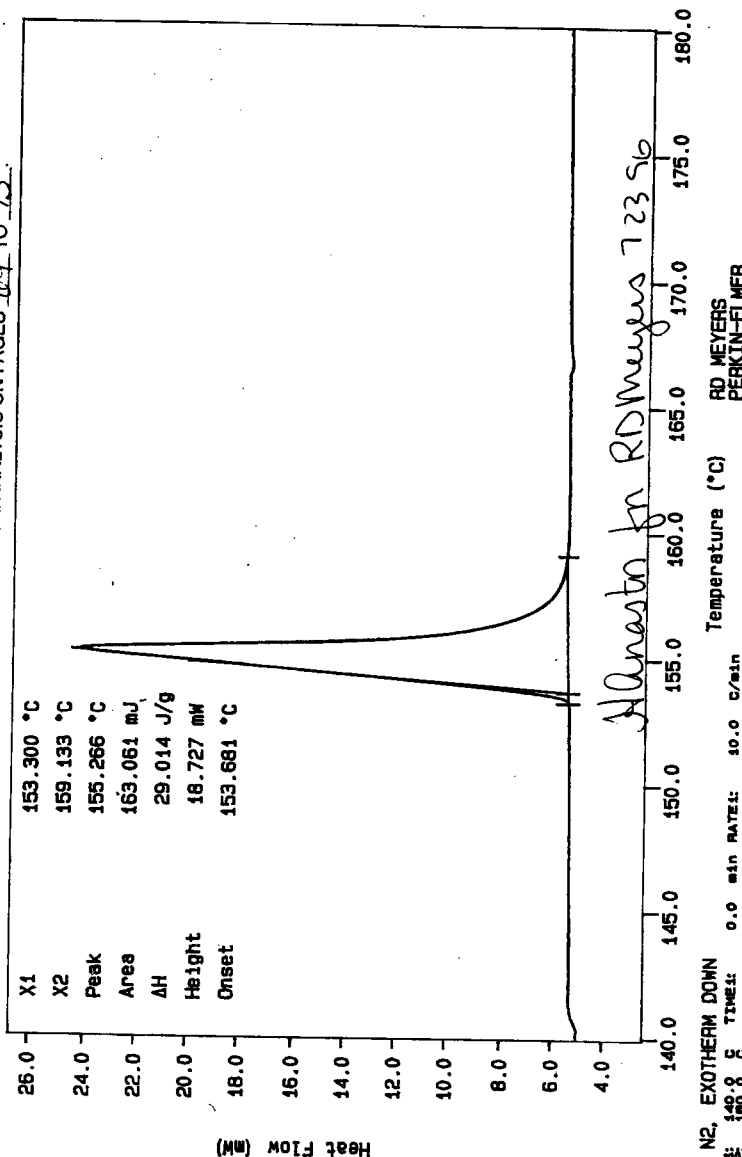
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File Info: IND072001 Sat Jul 20 05:30:16 1996

Sample Weight: 5.620 mg

12N14-B INDIUM AT 10C/MIN

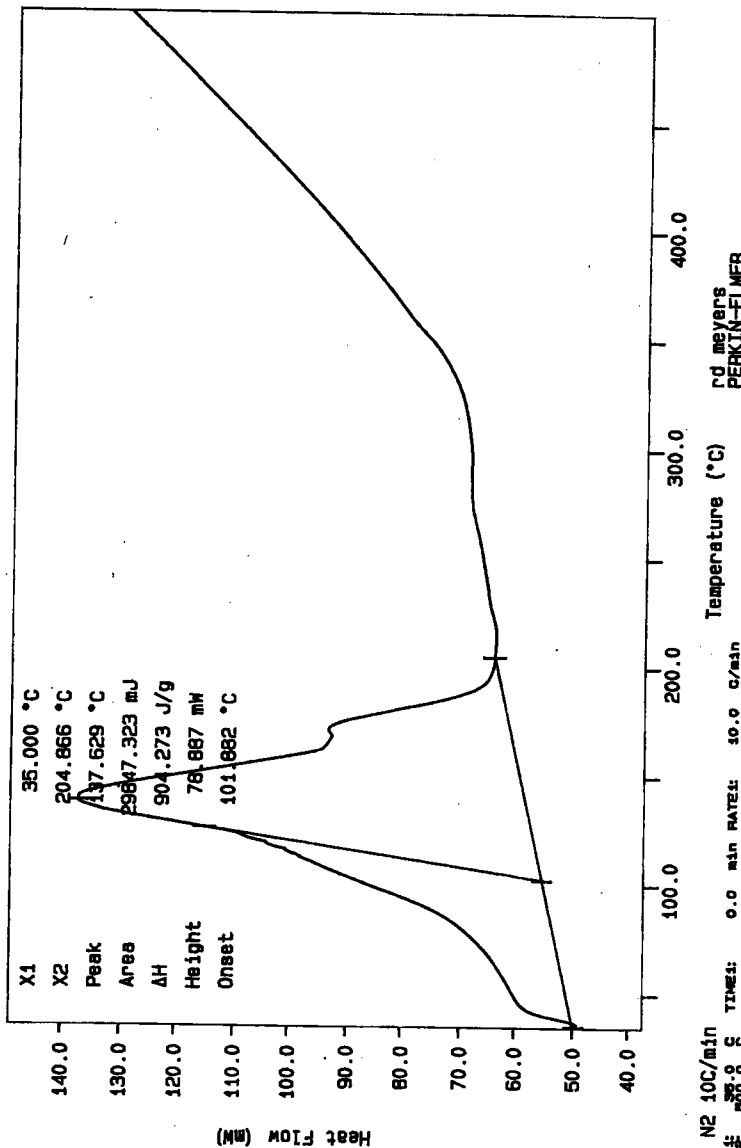
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 69 TO 73.

N2, EXOTHERM DOWN

TEMP: 140.0 °C TIME: 0.0 min RATE: 10.0 °C/min

RD MEYERS
PERKIN-ELMER7 Series Thermal Analysis System
Sat Jul 20 09:11:12 1996

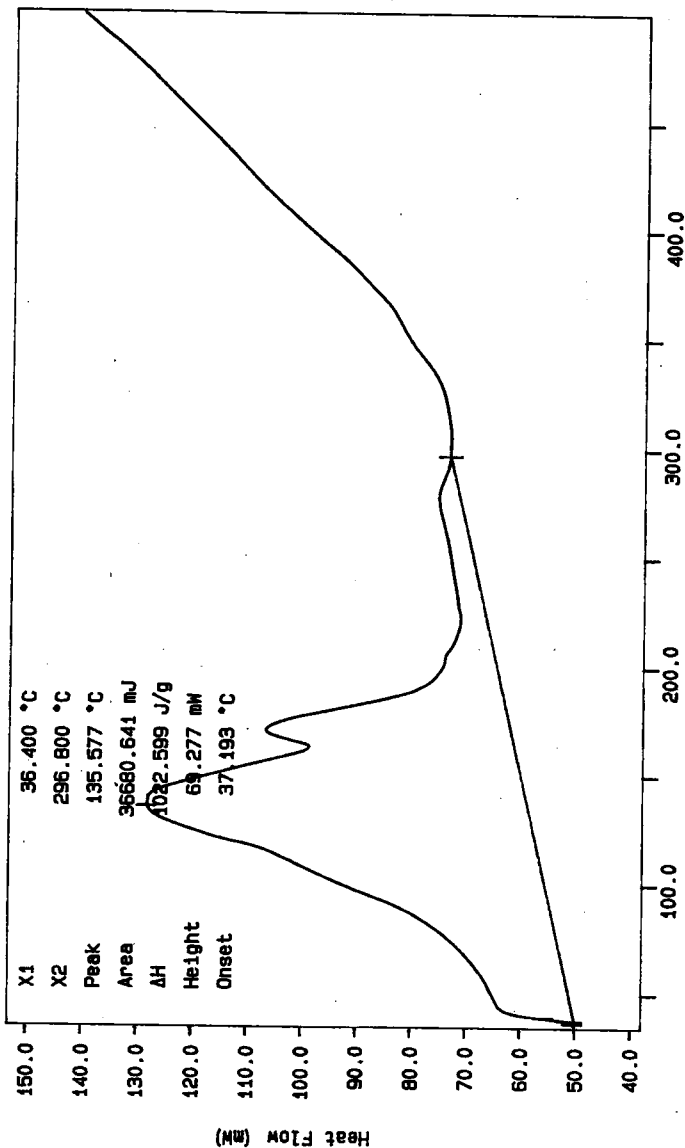
Curve 1: DSC
 File info: SAM072002 Sat Jul 20 13:06:42 1996
 Sample Weight: 33.007 mg
 S96T003528



rd meyers
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Jul 20 14:49:03 1996

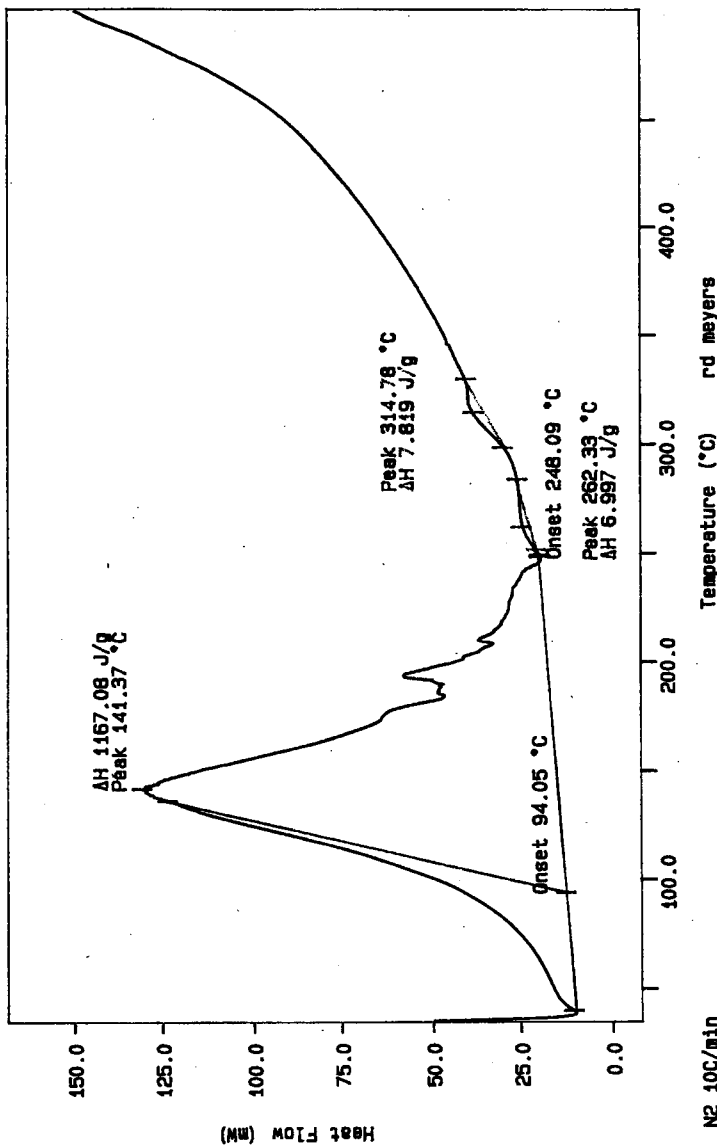
N2 10C/min
 TEMP: 50.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min

Curve 1: DSC
 File info: sam072001 Sat Jul 20 11:00:01 1996
 Sample Weight: 35.870 mg
 S96T003528 DWP 4-b⁹⁶₁₀₀



N2 10C/min
 TEMP 30.8 °C
 TIME 0.0 min RATE: 10.0 C/min
 rd meyers
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Jul 20 11:51:32 1996

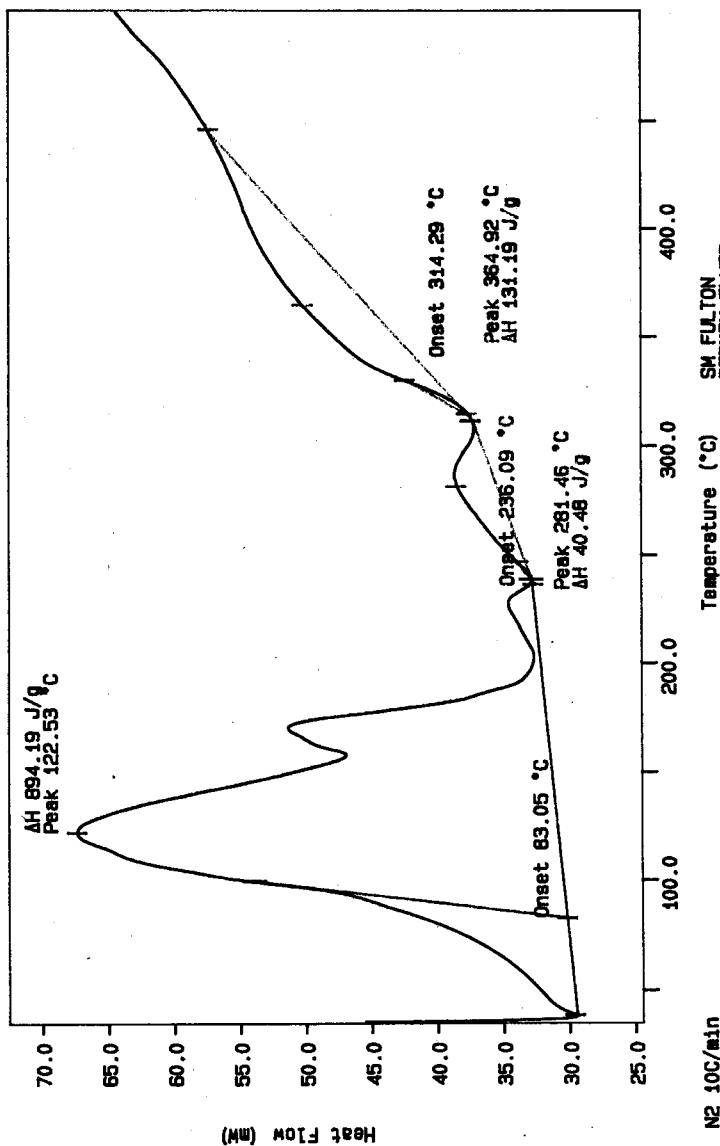
Curve 1: DSC
 File Info: SAM072003 Sat Jul 20 15:55:14 1996
 Sample Weight: 41.670 mg
 S96T003535



rd meyers
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Jul 20 15:47:58 1996

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

Curve 1: DSC
 File info: SAM072004 Sat Jul 20 21:26:49 1996
 Sample Weight: 17.710 mg
 S96T003535 DUP



SM FLATON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 02:58:58 1996

N2 10C/min
 TEMPERATURE 300.0 °C
 TIME: 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist#

10924

Analyst: RDM Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.86</u>	<u>N/A</u>	Joules/g
96000836	BY-107	2 SAMPLE	S96T003537	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000836	BY-107	3 DUP	S96T003537	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000836	BY-107	4 SAMPLE	S96T003538	0	DSC-03	SOLID	<u>N/A</u>	<u>44.52</u>		Joules/g
96000836	BY-107	5 DUP	S96T003538	0	DSC-03	SOLID	<u>44.52</u>	<u>44.85</u>	<u>N/A</u>	Joules/g

Final page for worklist #

10924

See attached for signatures
Analyst Signature RDM Date 7-22-96
BDY

[Signature] 7-22-96
Analyst Signature Date

Verified/Validate by
Blandina
Valenzuela 7-23-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

10924

Analyst: RPR Instrument: DSC0 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96000836	BY-107	2 SAMPLE	S96T003537	0	DSC-01	SOLID	N/A			Joules/g
96000836	BY-107	3 DUP	S96T003537	0	DSC-01	SOLID			N/A	Joules/g
96000836	BY-107	4 SAMPLE	S96T003538	0	DSC-01	SOLID	N/A			Joules/g
96000836	BY-107	5 DUP	S96T003538	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 10924

Lucie M. Tullon
Analyst Signature Date

Analyst Signature Date

DSC-03 instrument was
used.

7-22-96

Blandina
Valenzuela

Data Entry Comments:

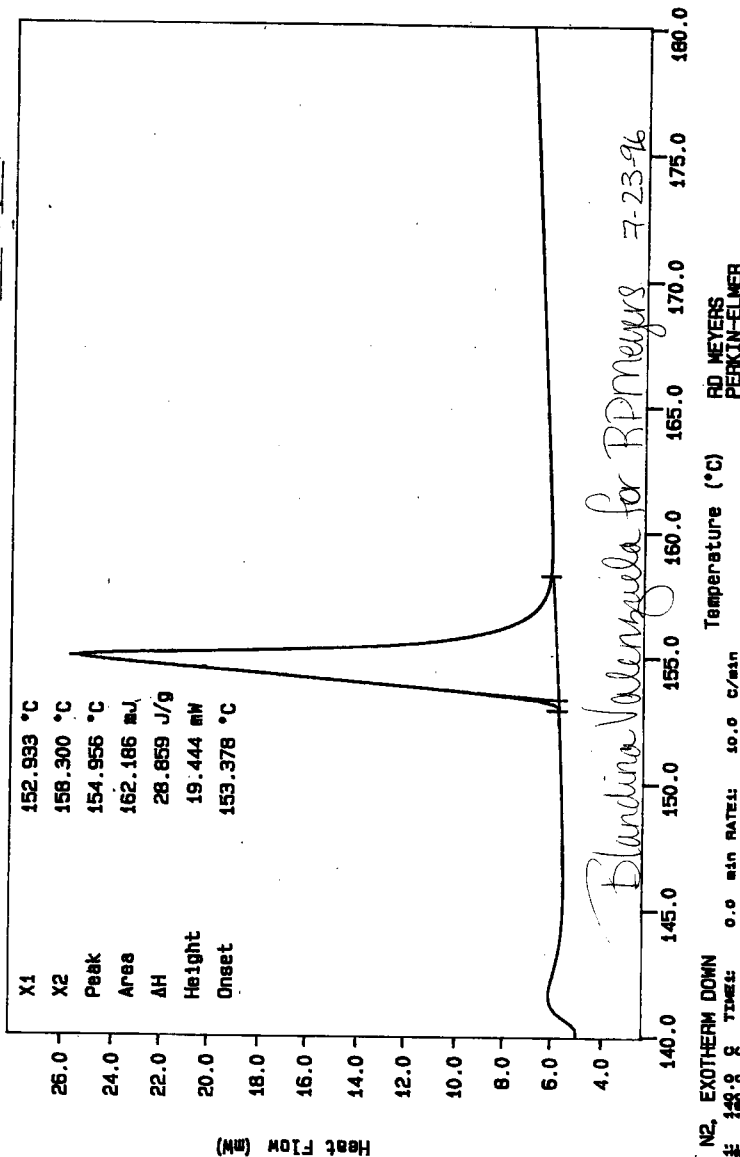
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File Info: IND072101 Sun Jul 21 14: 04: 30 1996

Sample Weight: 5.620 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 74 TO 80.

N2, EXOTHERM DOWN

TEMP: 148.8 °C

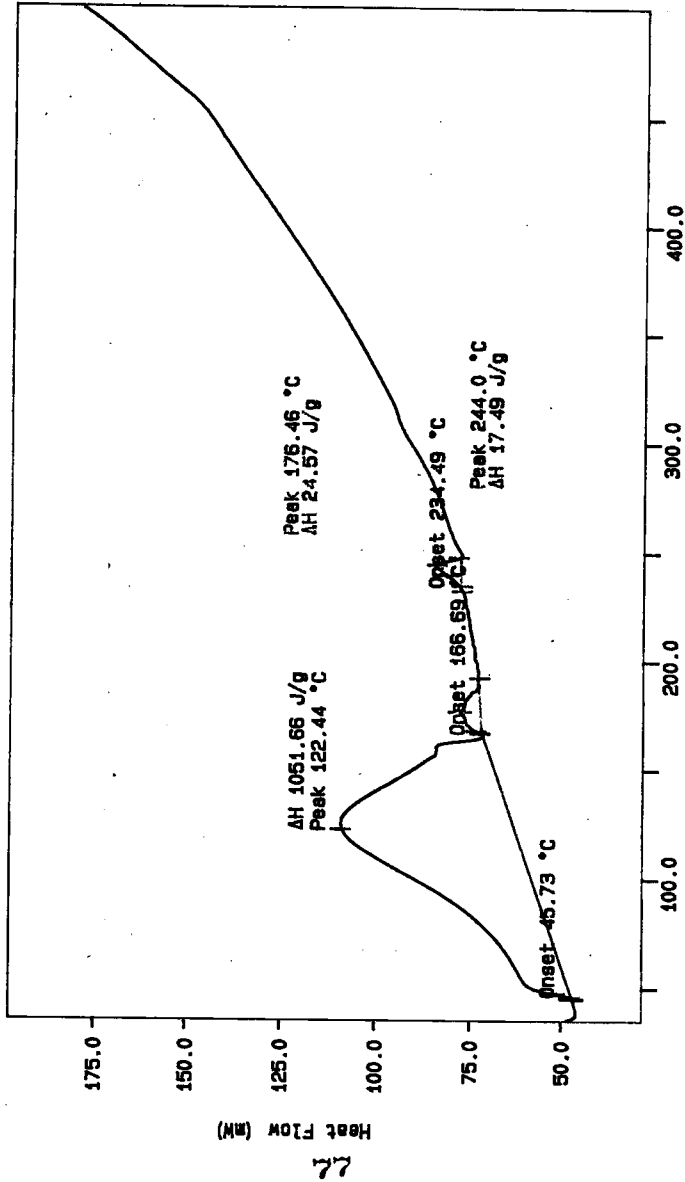
0.0 min RATE: 10.0 C/min

Temperature (°C)

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System

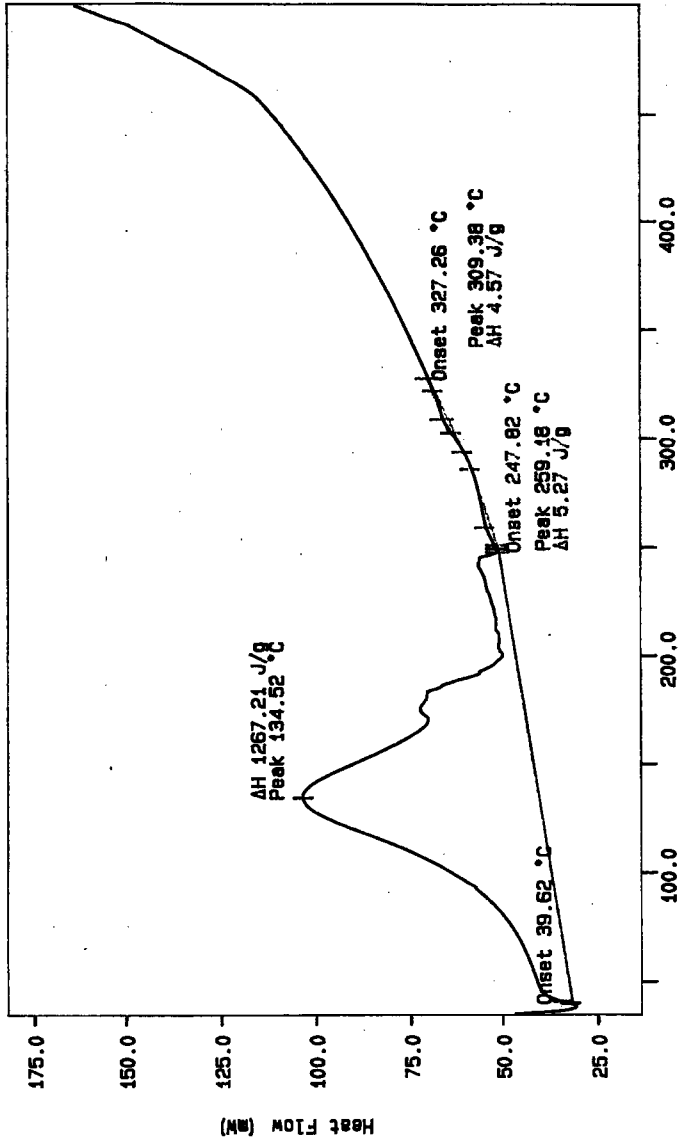
Sun Jul 21 14: 07: 37 1996

Curve 1: DSC
 File info: SAM072101 Sun Jul 21 15:01:20 1996
 Sample Weight: 17.150 mg
 S96T003537



N2 10C/min
 THERM 50.0 g
 TIME: 0.0 min RATE: 10.0 C/min
 rd meyers
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 15:05:44 1996

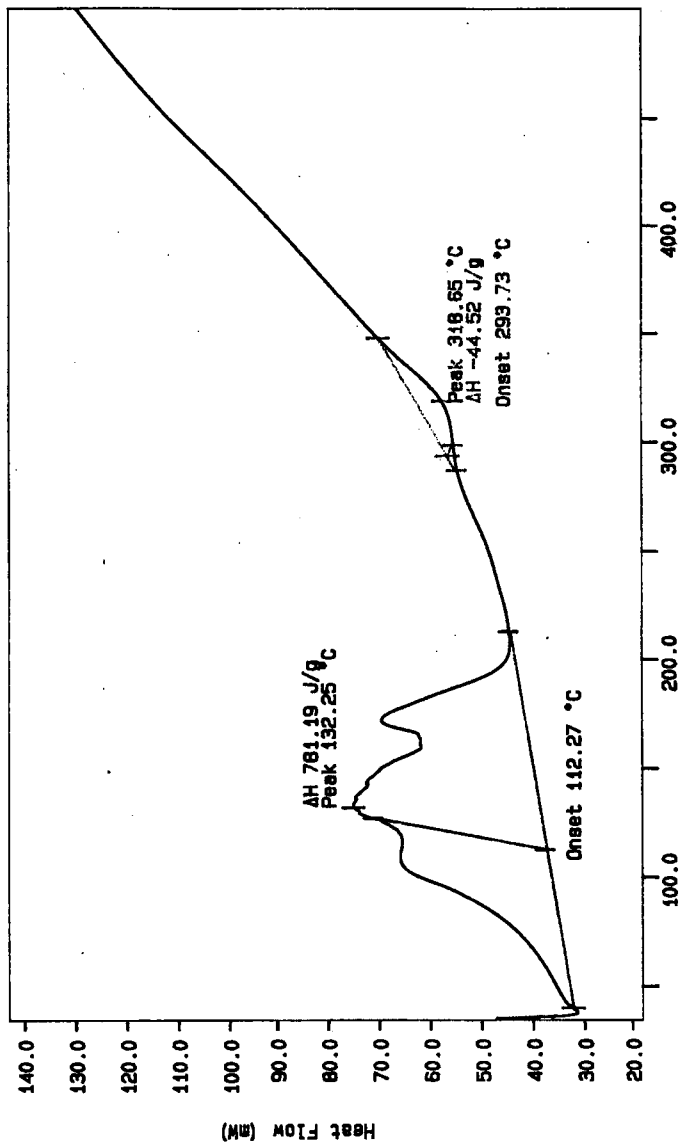
Curve 1: DSC
 File info: SAN072102 Sun Jul 21 15:56:42 1996
 Sample Weight: 22.030 mg
 S96T003537DUP



rd meyers
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 16:38 1996

N2 10C/min
 TIME 35.8 S
 RATE 0.0 min RATE: 10.0 C/min

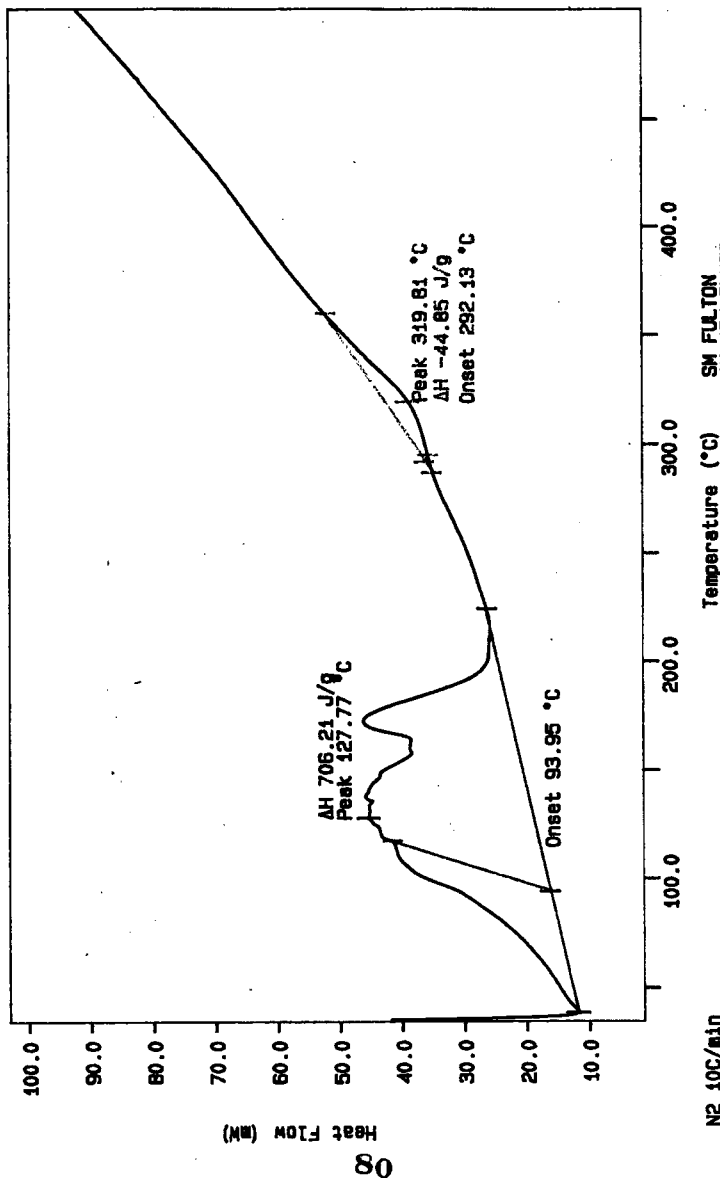
Curve 1: DSC
 File Info: SAM072104 Sun Jul 21 19:12:16 1996
 Sample Weight: 23.330 mg
 S96T003538



SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 20:20:44 1996

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

Curve 1: DSC
 File Info: SAM072105 Sun Jul 21 21:02:35 1996
 Sample Weight: 20.540 mg
 S96T003538 DUP



SM FLATON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 21:17:13 1996

N2 10C/min
 TIME: 00:08
 RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist#

11186

Analyst: BDY Instrument: DSC01 Book # 12 ⁷⁻²⁷⁻¹⁶ BDY

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSCs for BY-107. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96000836	BY-107	1 SAMPLE	S96T003507	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000836	BY-107	2 DUP	S96T003507	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000836	BY-107	3 SAMPLE	S96T003510	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000836	BY-107	4 DUP	S96T003510	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000836	BY-107	5 SAMPLE	S96T003526	0	DSC-02	SOLID	N/A	50.49		Joules/g Dry
96000836	BY-107	6 DUP	S96T003526	0	DSC-02	SOLID	50.49	46.71	N/A	Joules/g Dry
96000836	BY-107	7 SAMPLE	S96T003527	0	DSC-02	SOLID	N/A	27.90		Joules/g Dry
96000836	BY-107	8 DUP	S96T003527	0	DSC-02	SOLID	27.90	76.67	N/A	Joules/g Dry
96000836	BY-107	9 SAMPLE	S96T003528	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000836	BY-107	10 DUP	S96T003528	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000836	BY-107	11 SAMPLE	S96T003535	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000836	BY-107	12 DUP	S96T003535	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000836	BY-107	13 SAMPLE	S96T003537	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000836	BY-107	14 DUP	S96T003537	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000836	BY-107	15 SAMPLE	S96T003538	0	DSC-02	SOLID	N/A	64.10		Joules/g Dry
96000836	BY-107	16 DUP	S96T003538	0	DSC-02	SOLID	64.10	64.58	N/A	Joules/g Dry

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

11186

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

Final page for worklist #

11186

Verified + Validated by

Blandina Valenzuela 7-29-96

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

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

BY-107

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S96T003507	Ø	—	Ø
3507D	Ø	—	Ø
3510	Ø	—	Ø
3510D	Ø	—	Ø
3526	28.1	44.34	50.49
3526D	26.0	44.54	46.71
3527	14.7	47.52	27.90
3527D	40.4	47.52	76.67
3528	Ø	—	Ø
3528D	Ø	—	Ø
3535	Ø	—	Ø
3535D	Ø	—	Ø
3537	Ø	—	Ø
3537D	Ø	—	Ø
3532	44.52	30.55	64.10
3532D	44.85	30.55	64.55

LABCORE Data Entry Template for Worklist#

11806

Analyst: RM

Instrument: DSC0 1

Book # 12NHB

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>29.4</u>	<u>N/A</u>	Joules/g
96000836	BY-107	2 SAMPLE	S96T003847	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000836	BY-107	3 DUP	S96T003847	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000836	BY-107	4 SAMPLE	S96T003871	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000836	BY-107	5 DUP	S96T003871	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

11806

RM
Analyst Signature

Date

RE Wright
Analyst Signature

8/14/96
Date

Verified/Validated by

Blandina

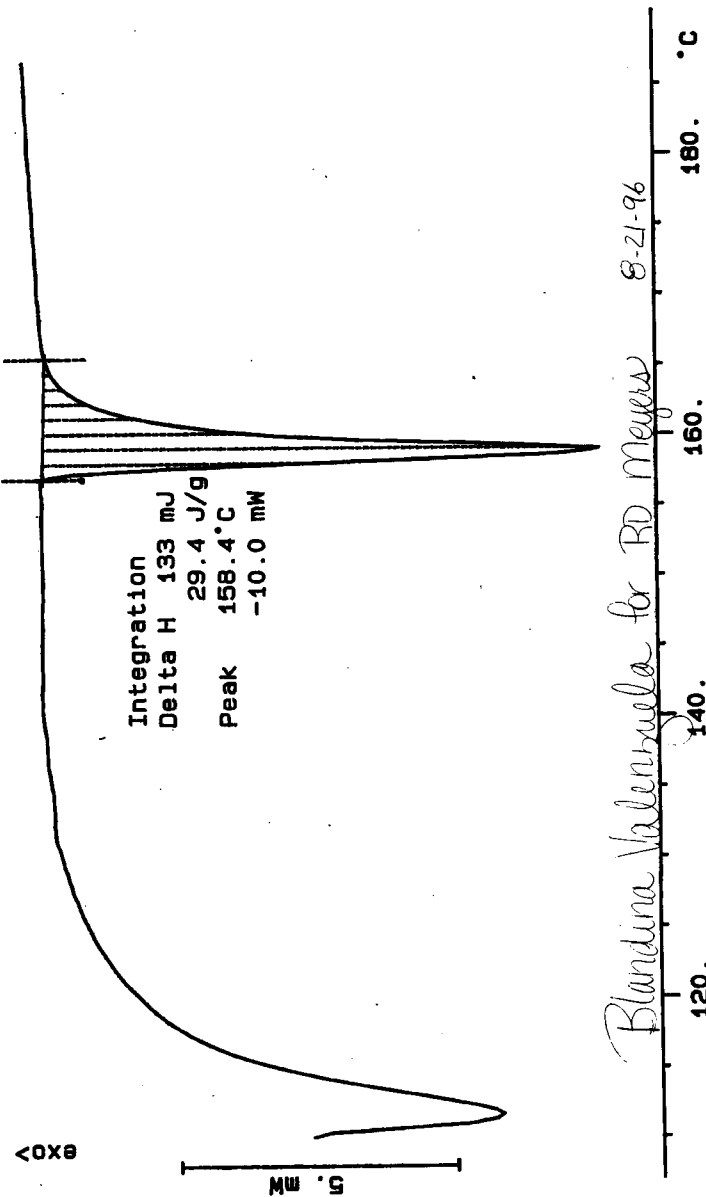
Valenzuela 8-21-96

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 85 TO 89.

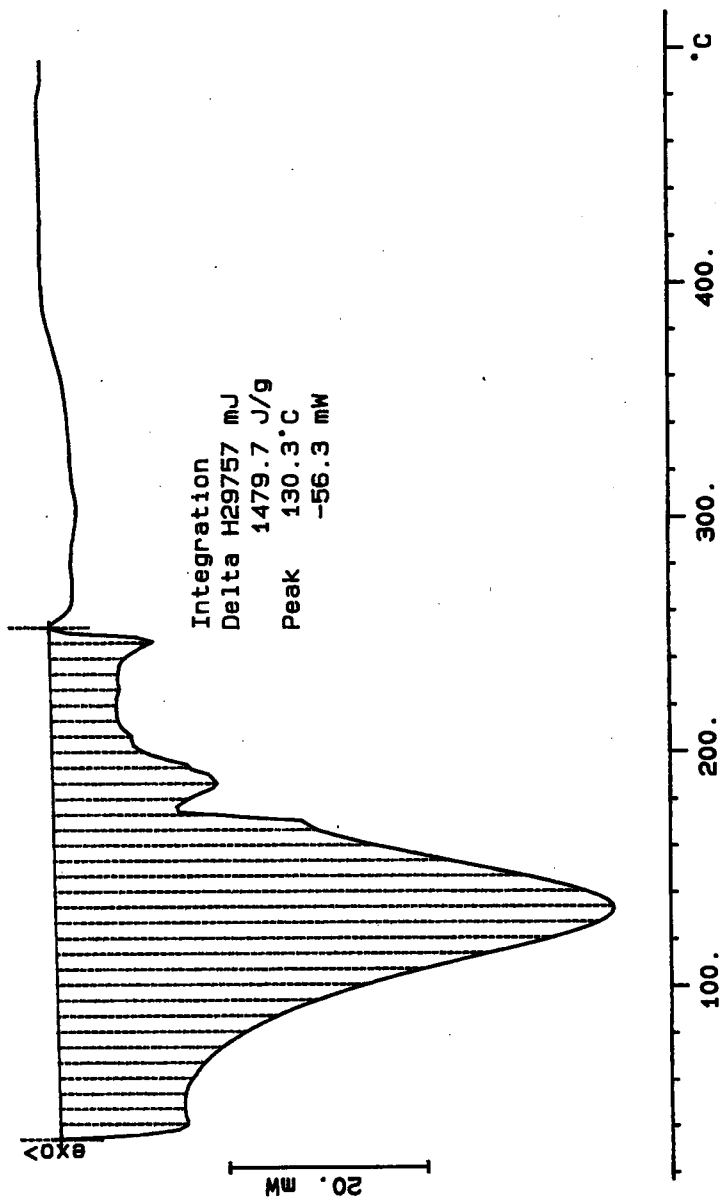
DSC STD 12N14-B File: 00070.001 DSC METTLER 10-Aug-96
4.510 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

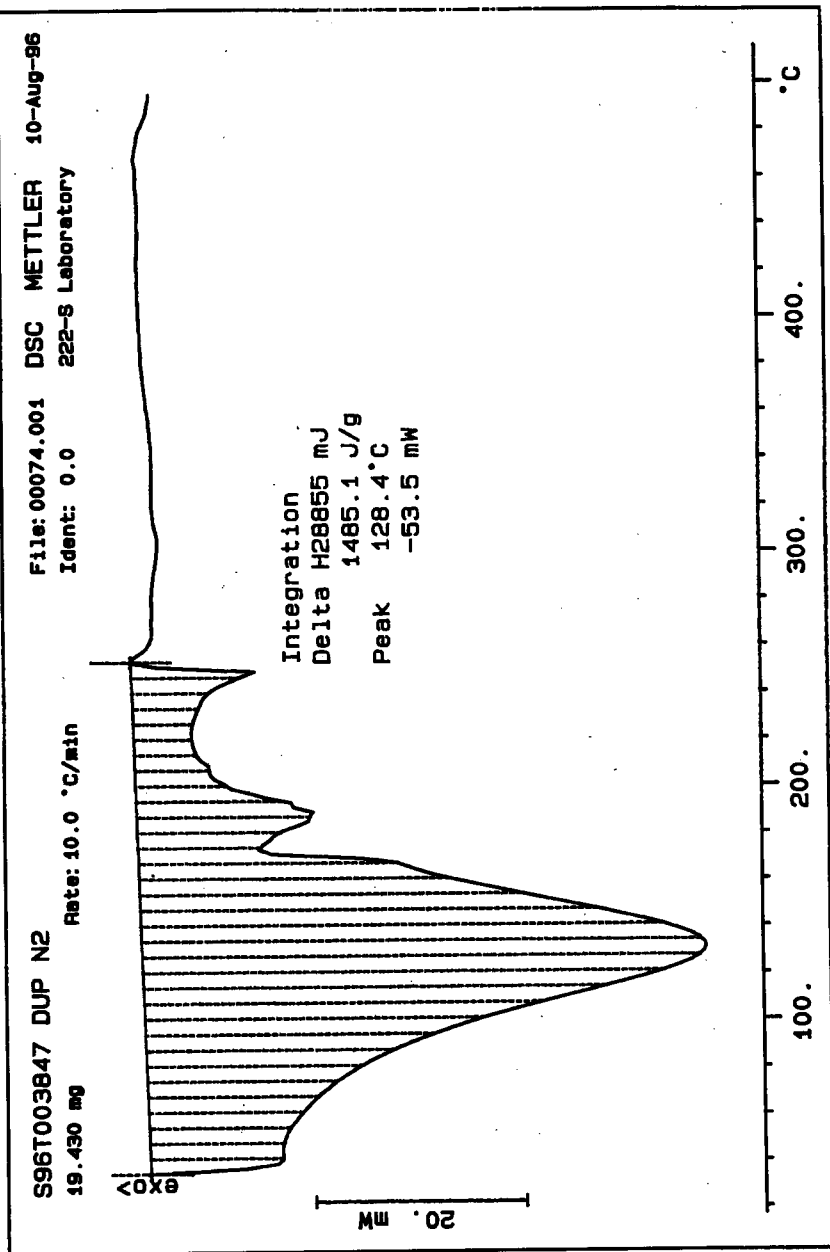


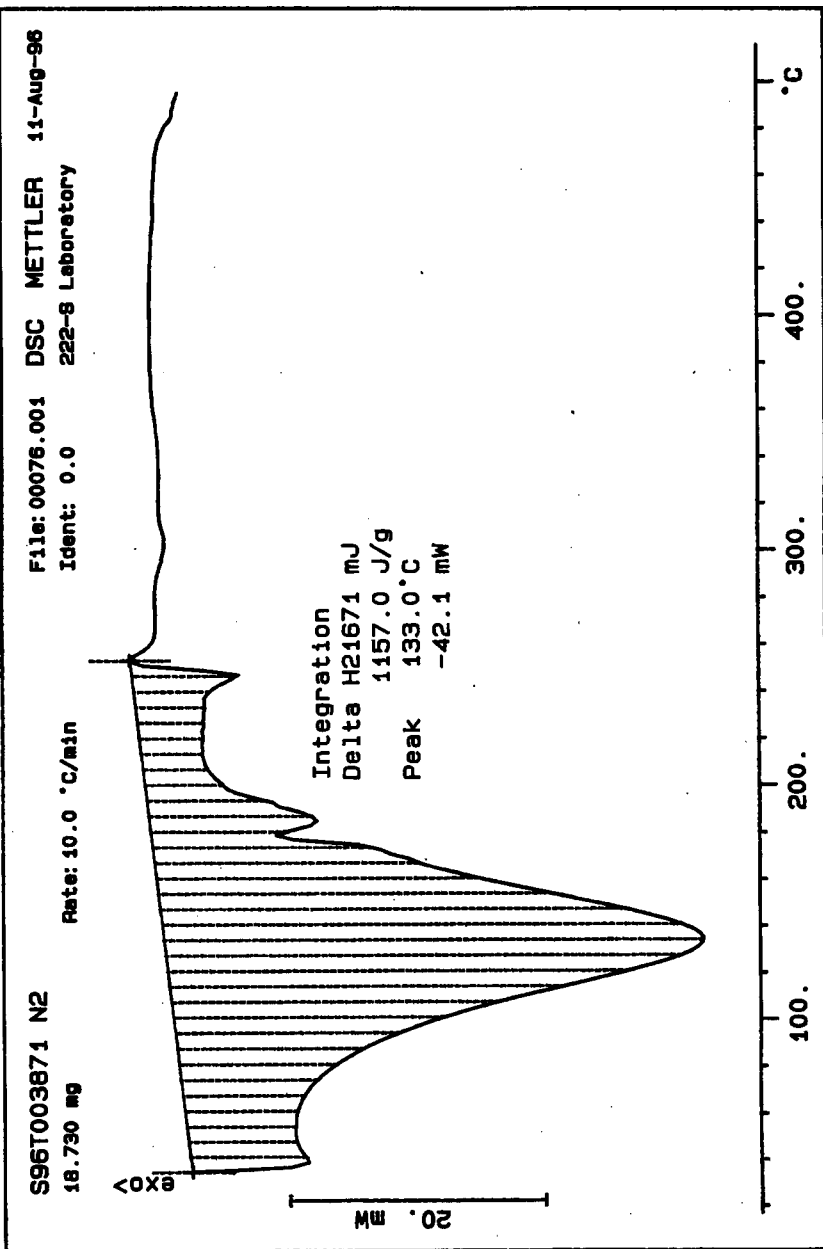
Blandina Valenzuela for RD Meyers 8-21-96

File: 00072.001 DSC METTLER 10-AUG-96
Ident: 0.0 222-S Laboratory

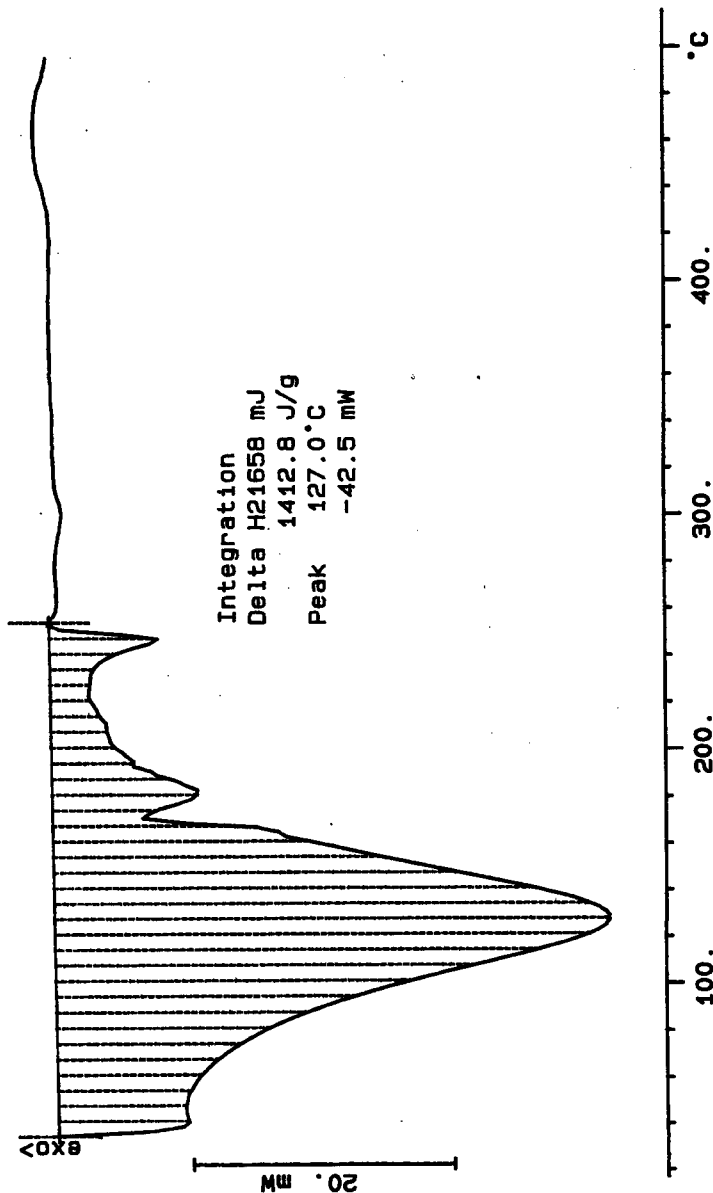
S96T003847 N2
20.110 mg Rate: 10.0 °C/min







S96T003871 DUP N2
15.330 mg
Rate: 10.0 °C/min
File: 00078.001 DSC METTLER 11-Aug-96
Ident: 0.0 222-S Laboratory



LABCORE Data Entry Template for Worklist#

11807

Analyst: RDM Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>28.98</u>	<u>N/A</u>	Joules/g
96000836	BY-107	2 SAMPLE	S96T003872	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
96000836	BY-107	3 DUP	S96T003872	0	DSC-03	LIQUID	<u>0</u>	<u>24.8</u>	<u>N/A</u>	Joules/g

Final page for worklist # 11807

See attached for signatures
Analyst Signature RDM Date 8-13-96
for

RDM 8-14-96
Analyst Signature Date

Verified/Validated by
Bardina
Valenzuela 8-14-96

Data Entry Comments:

The sharp exotherm seen within the water evaporation
suggests a decomposition of a relatively pure substance was occurring
at a very low temperature. The heat of the reaction may be quenched
some by water's evaporation.

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#

11807

Analyst:

RMM

Instrument: DSC0

Book # 12N1413

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID			N/A	Joules/g
96000836	BY-107	2 SAMPLE	S96T003872	0	DSC-01	LIQUID	N/A			Joules/g
96000836	BY-107	3 DUP	S96T003872	0	DSC-01	LIQUID			N/A	Joules/g

Final page for worklist #

11807

RMM
Analyst Signature

8/10/96
Date

Analyst Signature

Date

DSC-03 instrument
was used.

8-13-96

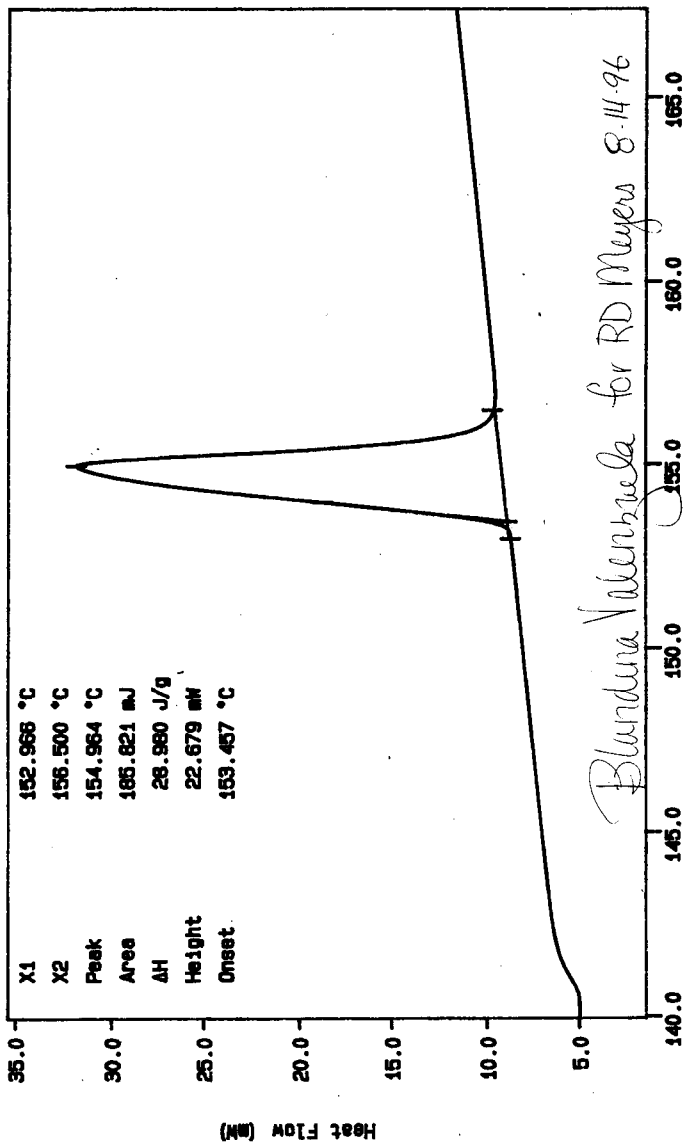
Blandina
Valenzuela

Data Entry Comments:

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

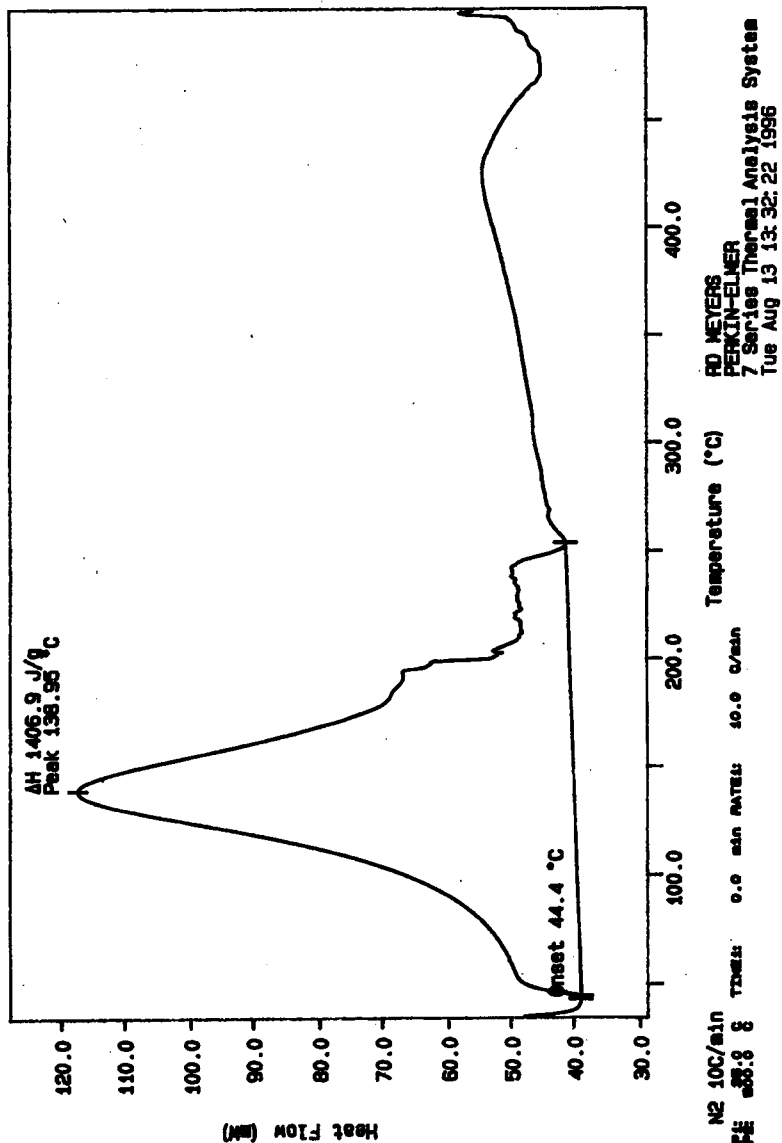
Curve 1: DSC
 File Info: IND0609.01 Fri Aug 9 09:42:21 1996
 Sample Weight: 8.412 mg
 12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 92 TO 94.

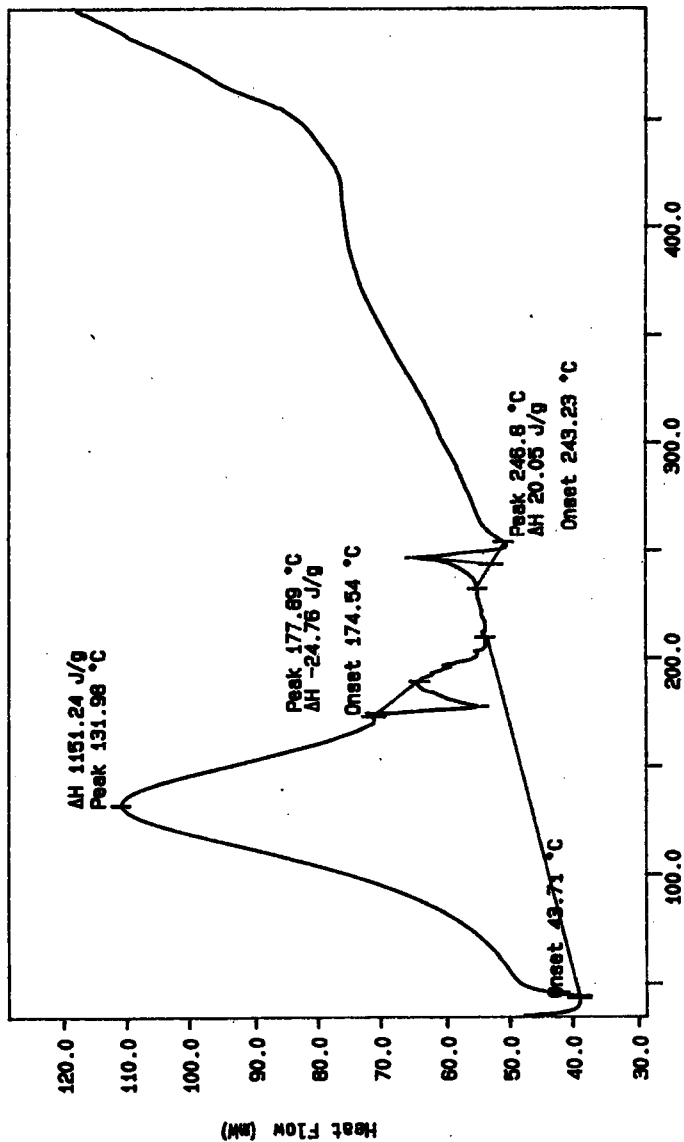


N2, EXOTHERM DOWN
 TIME 148.8 s
 0.0 min RATE: 10.0 C/min
 80 VALENZUELA
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 9 16:15:52 1996

Curve 1: DSC
 File Info: SAN080901 Fri Aug 9 21:51:41 1996
 Sample Weight: 25.200 mg
 S96T003672



Curve 1: DSC
 File Info: SAN080902 Sat Aug 10 00:51:06 1996
 Sample Weight: 23.210 mg
 SS6T003872DUP



RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 13 13:38:44 1996

N2 10C/min
 TIME: 05.8 s
 RATE: 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist#

12041

Analyst: SMF Instrument: DSC0 1 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>30.6*</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004230	0	DSC-01	LIQUID	<u>N/A</u>	<u>5.4</u>		Joules/g
96001061	BY-107	3 DUP	S96T004230	0	DSC-01	LIQUID	<u>5.4</u>	<u>5.1</u>	<u>N/A</u>	Joules/g
		4 STD			DSC-01	LIQUID	<u>28.45</u>	<u>29.4</u>	<u>N/A</u>	Joules/g
96001061	BY-107	5 SAMPLE	S96T004231	0	DSC-01	LIQUID	<u>N/A</u>	<u>4.4</u>		Joules/g
96001061	BY-107	6 DUP	S96T004231	0	DSC-01	LIQUID	<u>4.4</u>	<u>3.3</u>	<u>N/A</u>	Joules/g

Final page for worklist #

12041

See attached for signatures
Analyst Signature Date 8-20-96 _{BBY}

W. Honaker 8-20-96
Analyst Signature Date

Verified/Validated by
Blancina
Valenzuela
8-21-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

12041

Analyst: SMF **Instrument:** DSC0 **Book #** 12N14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	LIQUID			N/A	Joules/g
96001061	BY-107	2	SAMPLE	S96T004230	0		DSC-01	LIQUID	N/A			Joules/g
96001061	BY-107	3	DUP	S96T004230	0		DSC-01	LIQUID			N/A	Joules/g
96001061	BY-107	4	SAMPLE	S96T004231	0		DSC-01	LIQUID	N/A			Joules/g
96001061	BY-107	5	DUP	S96T004231	0		DSC-01	LIQUID			N/A	Joules/g

Final page for worklist #

12041

Lucie M. Dalton 8-18-96
Analyst Signature **Date**

Analyst Signature **Date**

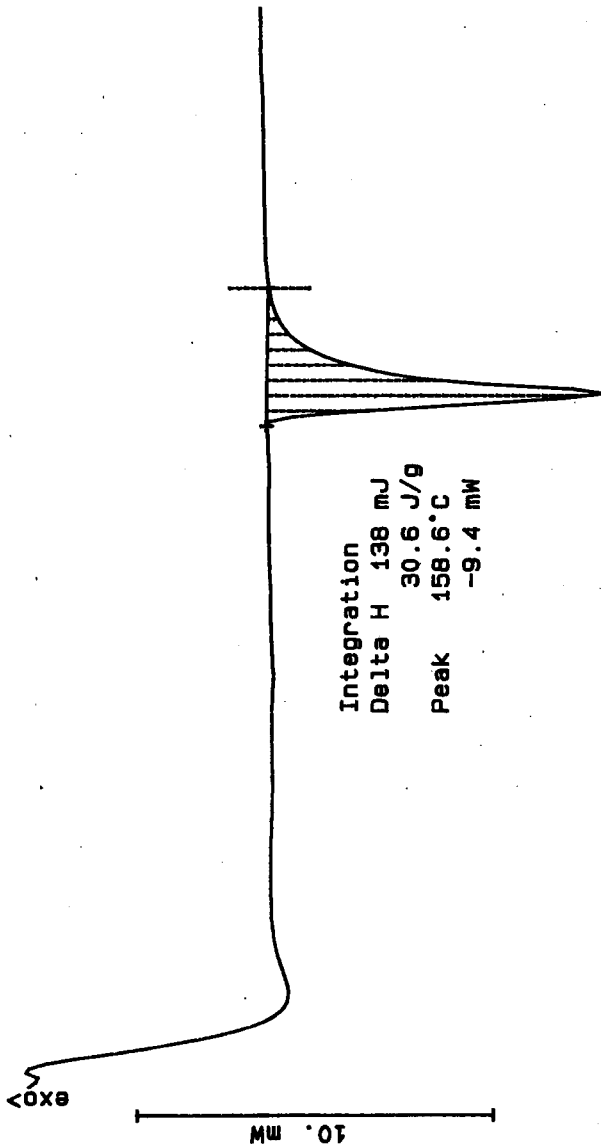
Bl McCown 8/19/96

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 47 TO 102.

DSC STD 12N14-B Rate: 10.0 °C/min File: 00079.001 DSC METTLER 18-AUG-96
4.510 mg Ident: 0.0 222-S Laboratory



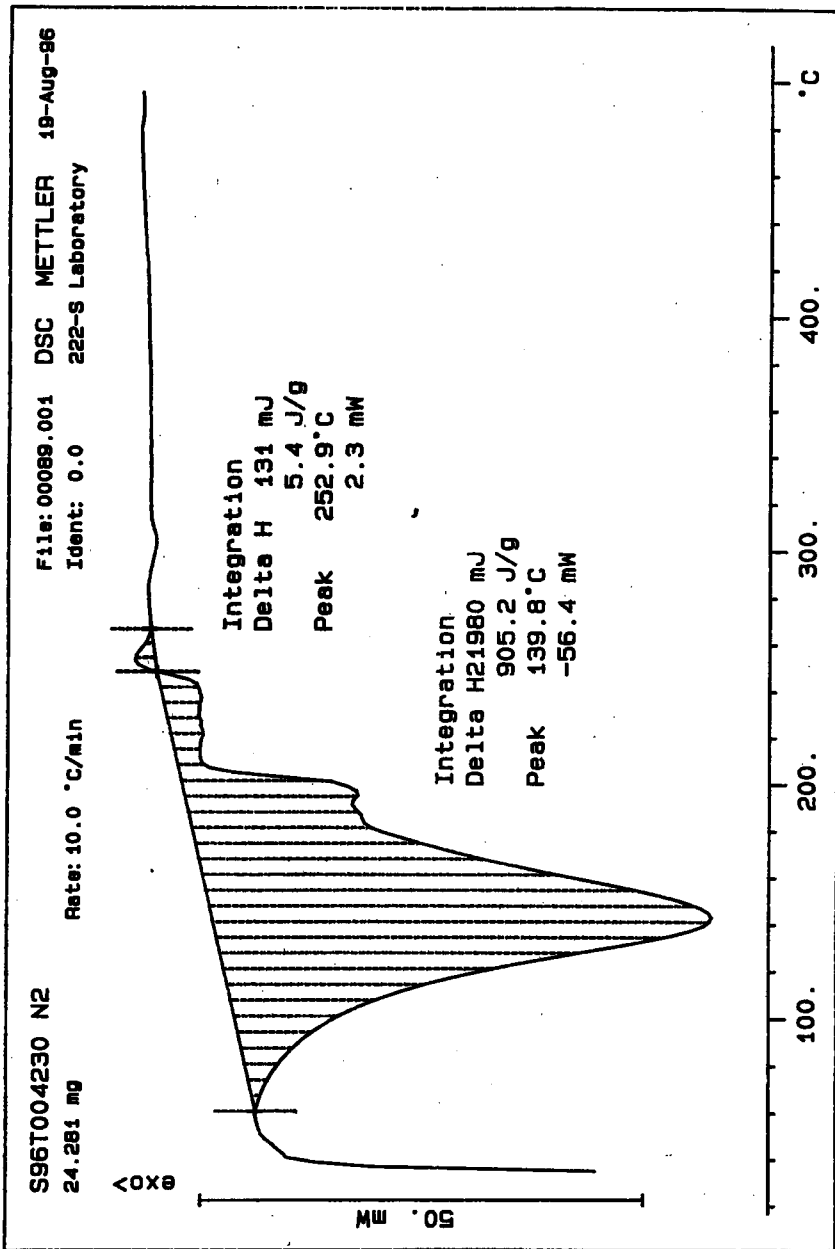
120.

140.

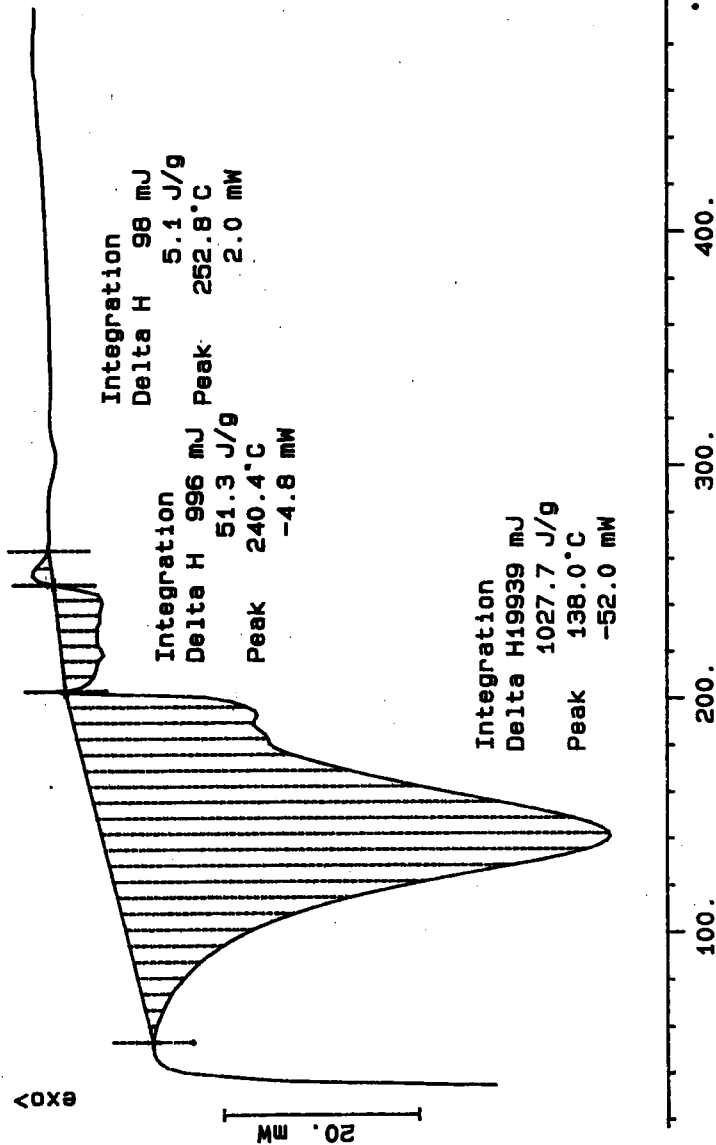
160.

180.

J. J. J. J.



S96T004230 DUP N2
 19.402 mg
 Rate: 10.0 °C/min
 File: 00091.001 DSC METTLER 19-Aug-96
 Ident: 0.0 222-S Laboratory



DSC STD 12N14B

4.510 mg

Rate: 10.0 °C/min

File: 00093.001

Ident: 0.0

DSC METTLER

19-Aug-86

222-S Laboratory

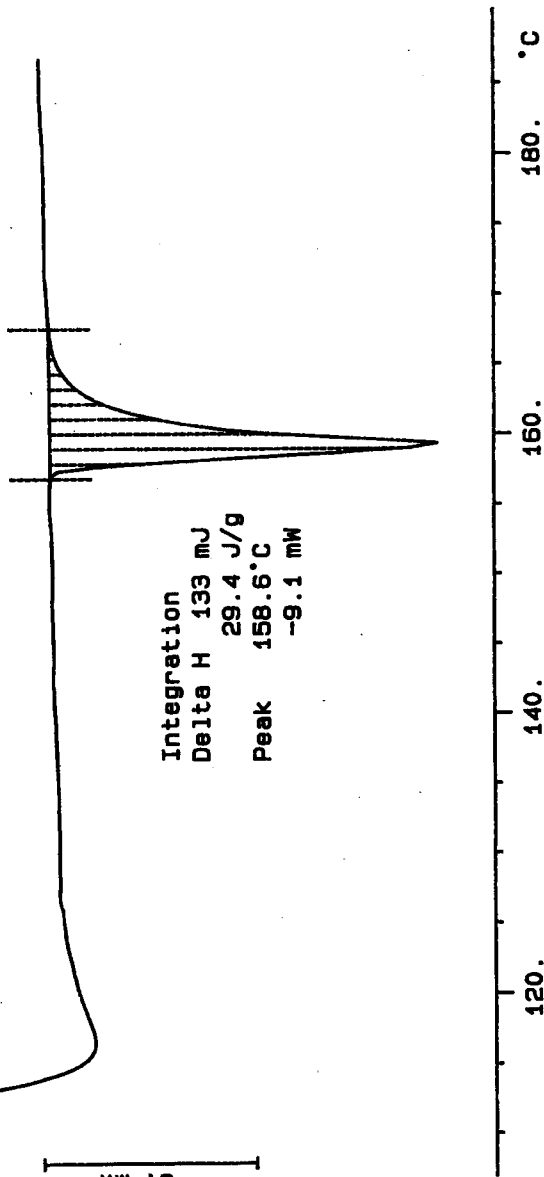
By McCowan 8/19/86

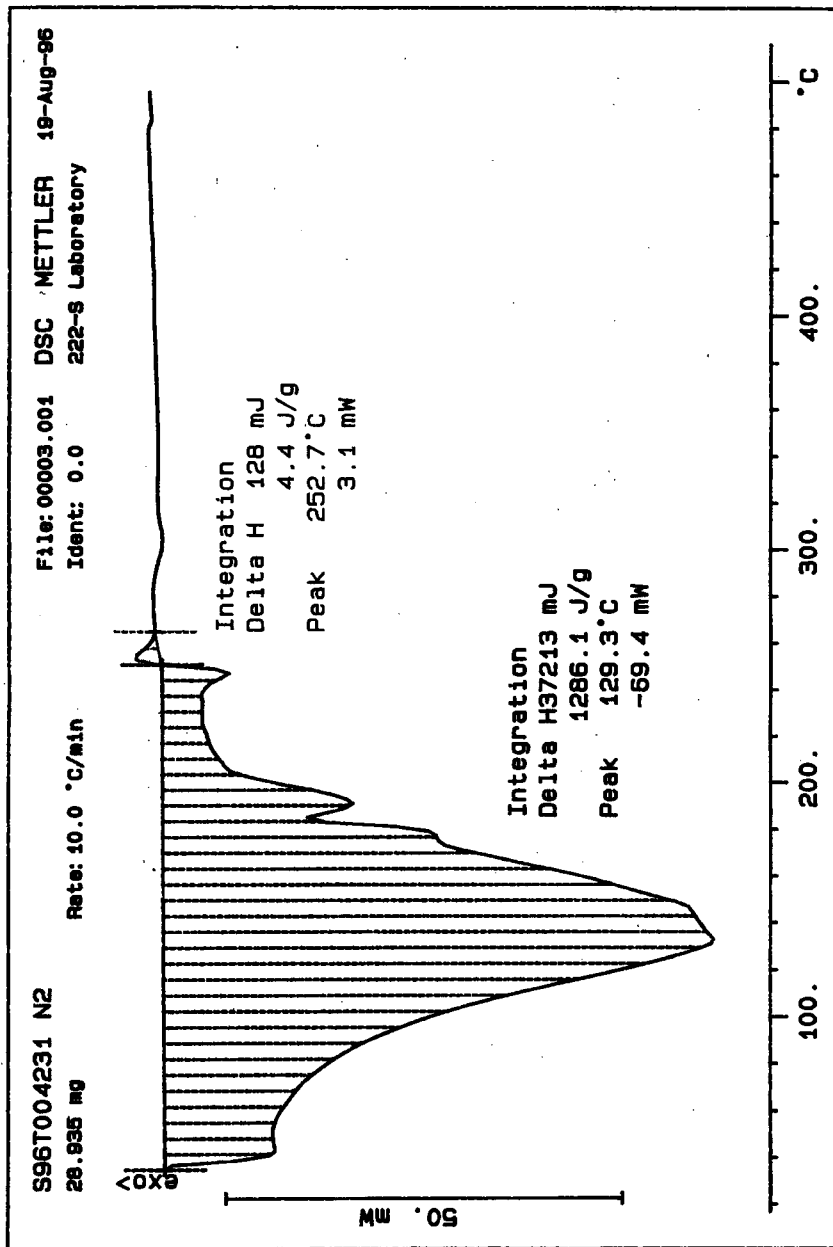
exo

>

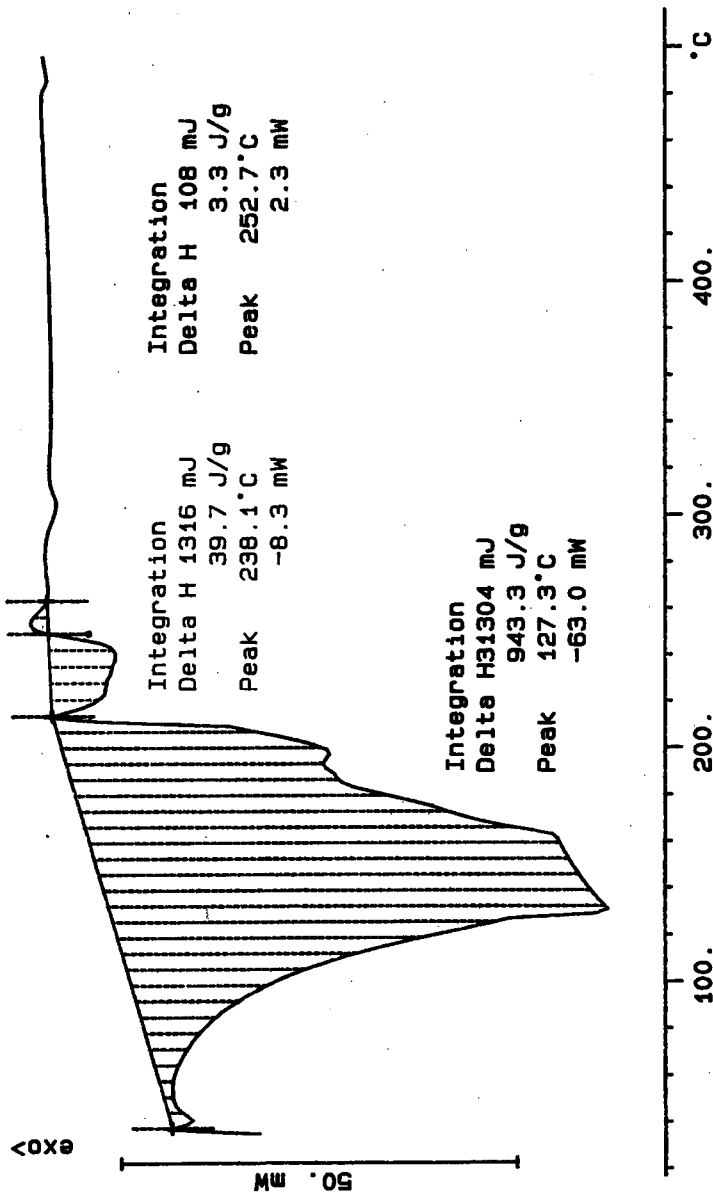
5 mW

Integration
Delta H 133 mJ
29.4 J/g
Peak 158.6°C
-9.1 mW





S96T004231 DUP N2
 33.185 mg
 File: 00005.001 DSC METTLER 19-Aug-86
 Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory



LABCORE Data Entry Template for Worklist#

12042

Analyst: AM

Instrument: DSC0 1

Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>27.5</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004232 0		DSC-01	LIQUID	<u>N/A</u>	<u>8.9</u>		Joules/g
96001061	BY-107	3 DUP	S96T004232 0		DSC-01	LIQUID	<u>8.9</u>	<u>48.8</u>	<u>N/A</u>	Joules/g
96001061	BY-107	4 SAMPLE	S96T004346 0		DSC-01	LIQUID	<u>N/A</u>	<u>20.8</u>		Joules/g
96001061	BY-107	5 DUP	S96T004346 0		DSC-01	LIQUID	<u>20.8</u>	<u>1.1</u>	<u>N/A</u>	Joules/g

Final page for worklist #

12042

AM 8-23-96
Analyst Signature Date

21/26 8-22-96
Analyst Signature Date

Verified/Validated by Blandina
Valenzuela
8-28-96

S96T004232:

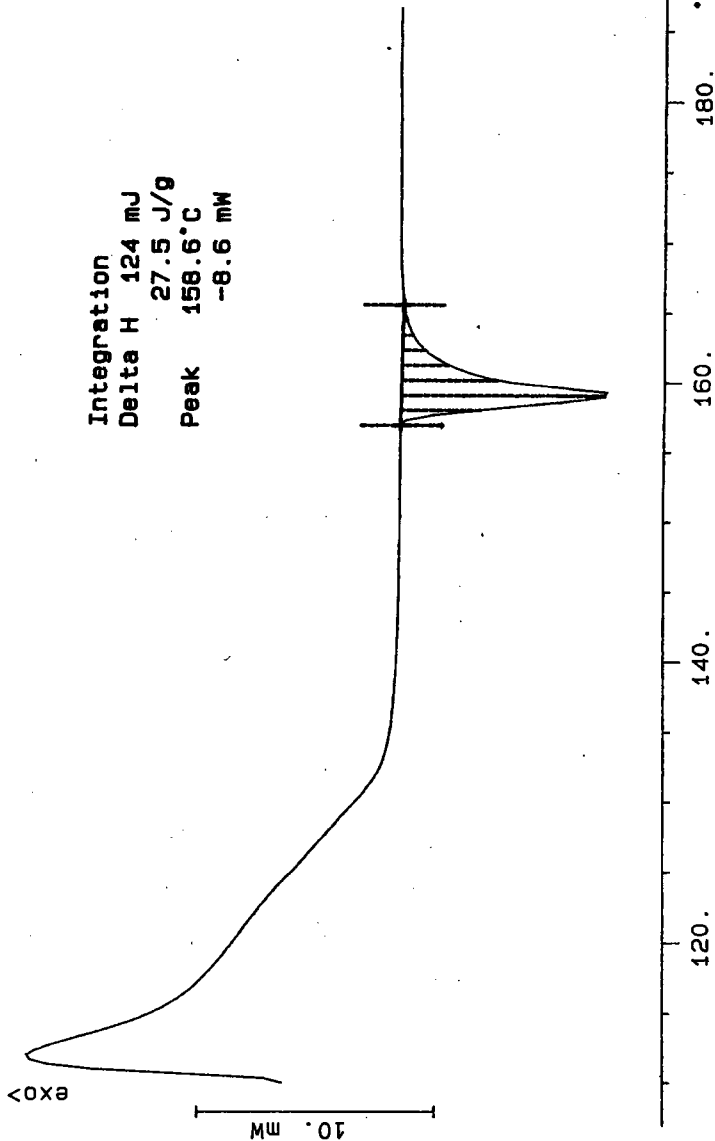
Data Entry Comments:

The exotherm seen at approximately 210°C appears to be a decomposition of a pure substance, we have not seen an exotherm this low on the temperature scale.

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 104 TO 108.

DSC STD 12N14-B File: 00041.001 DSC METTLER 23-Aug-96
4.510 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory



Murphy 8-23-96

S96T004232 SAM

31.804 mg

Rate: 10.0 °C/min

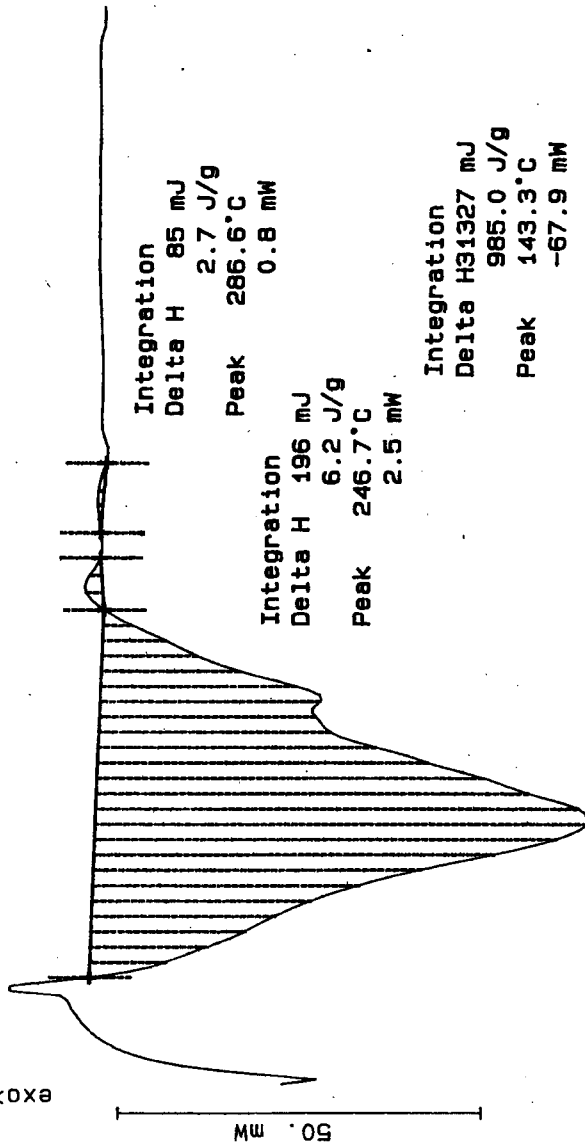
File: 00043.001

DSC METTLER

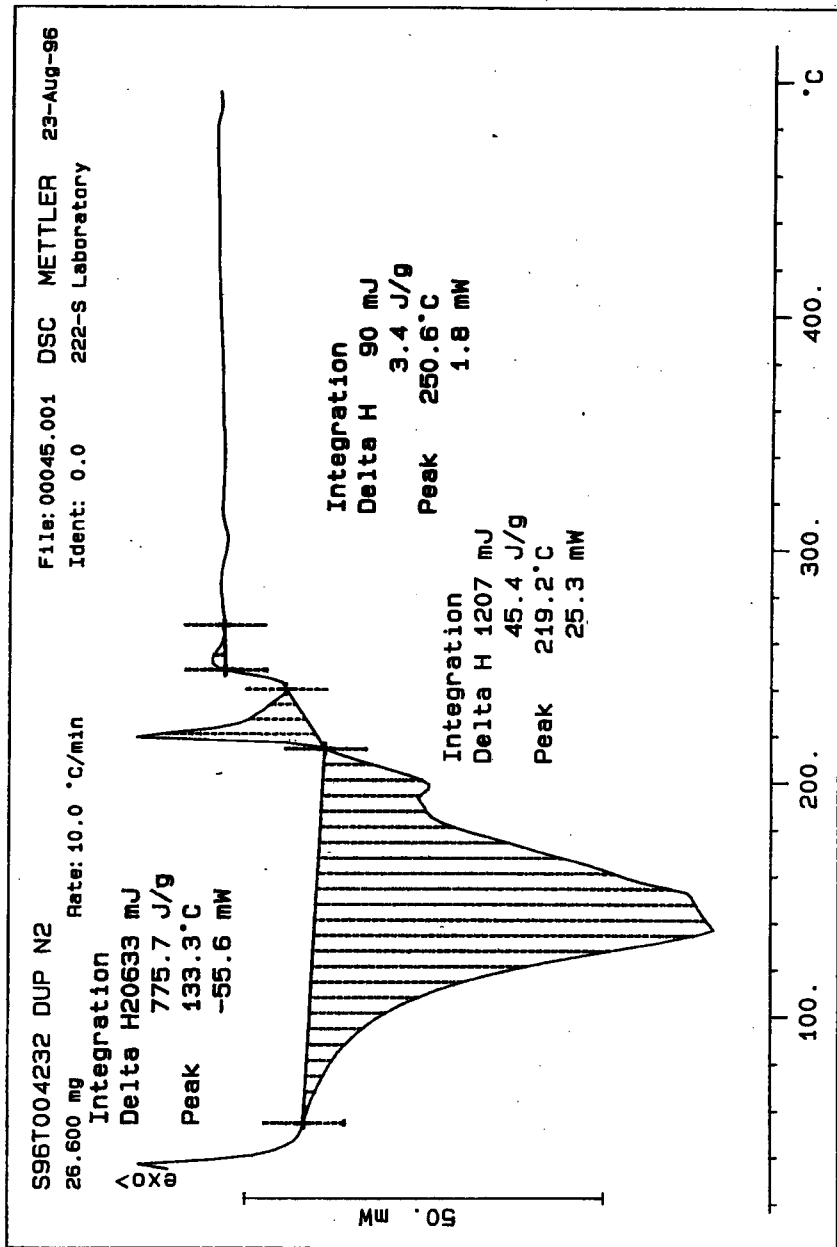
23-Aug-96

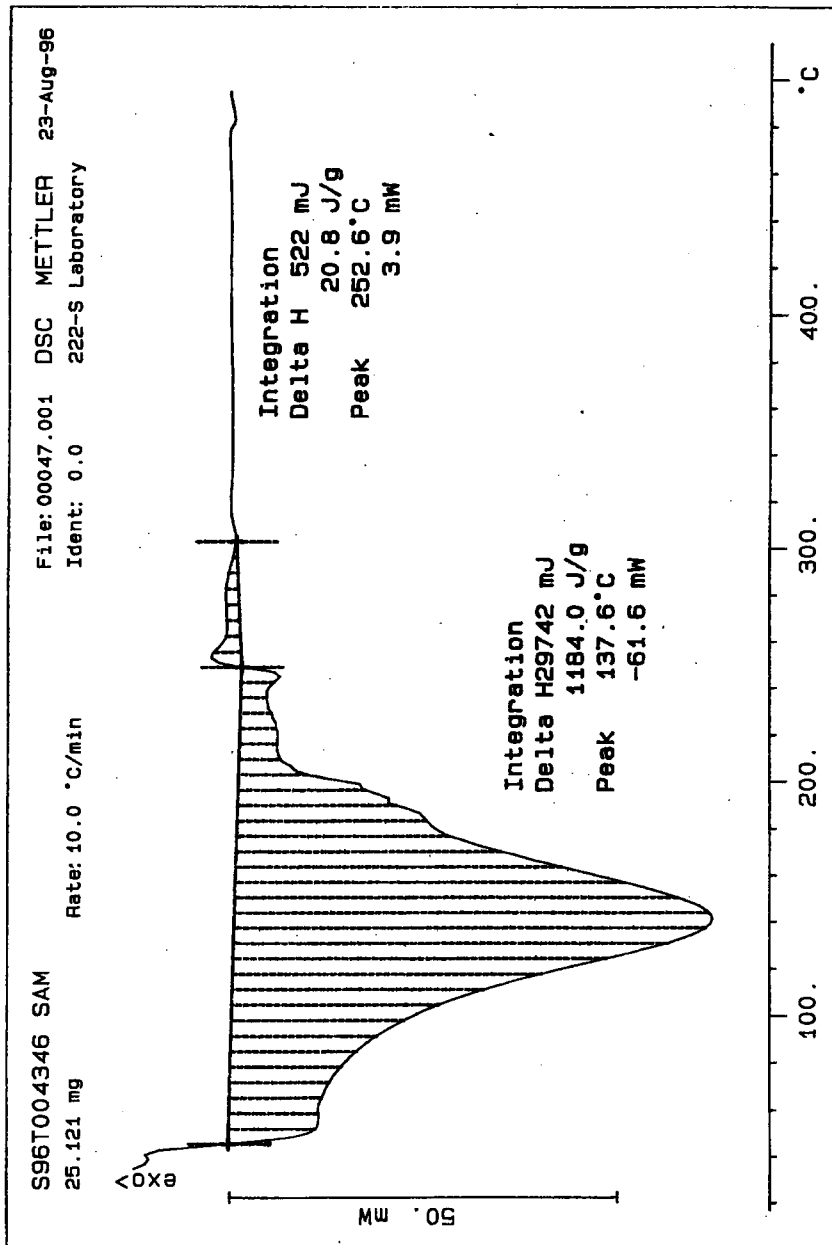
Ident: 0.0 222-S Laboratory

exo



°C

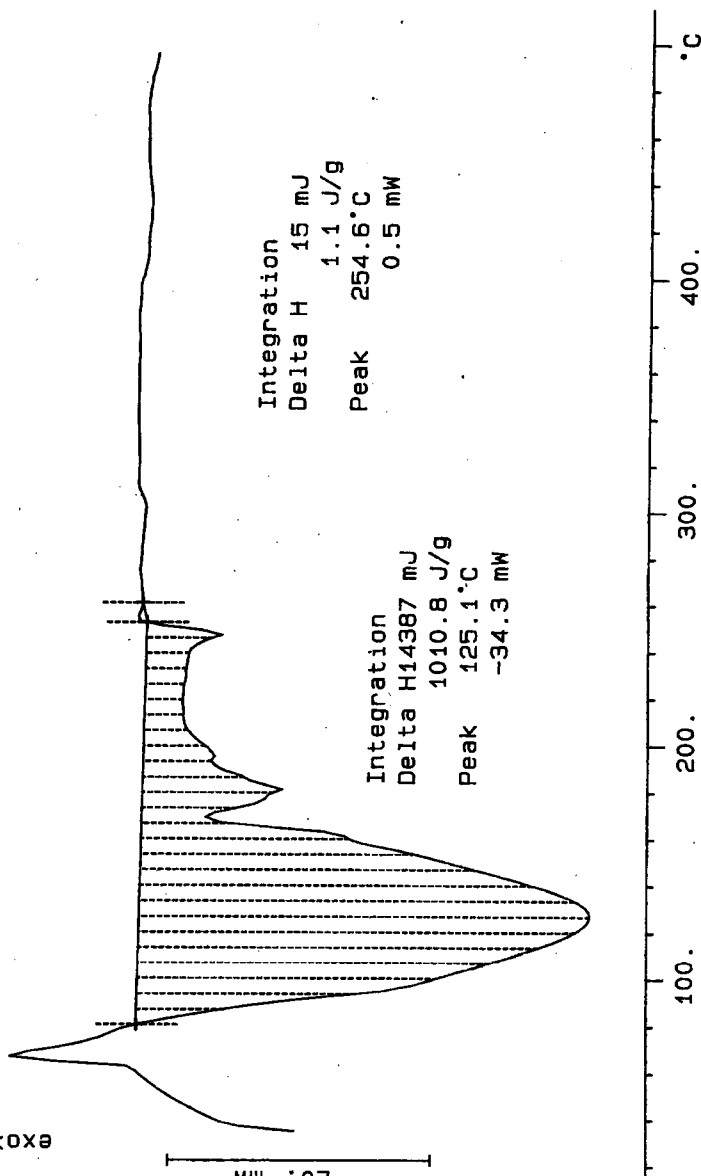




S96T004346 DUP N2
 14.233 mg
 Rate: 10.0 °C/min
 File: 00049.001 DSC METTLER 23-Aug-96
 Ident: 0.0 222-S Laboratory

exo >

20. mW



Integration
 Delta H 15 mJ
 1.1 J/g
 Peak 254.6°C
 0.5 mW

Integration
 Delta H14387 mJ
 1010.8 J/g
 Peak 125.1°C
 -34.3 mW

LABCORE Data Entry Template for Worklist#

12050

Analyst: DcD Instrument: DSC0 1 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>30.0</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004218	0	DSC-01	SOLID	<u>N/A</u>	<u>56.8</u>		Joules/g
96001061	BY-107	3 DUP	S96T004218	0	DSC-01	SOLID	<u>56.8</u>	<u>45.4</u>	<u>N/A</u>	Joules/g
96001061	BY-107	4 SAMPLE	S96T004219	0	DSC-01	SOLID	<u>N/A</u>	<u>69.5</u>		Joules/g
96001061	BY-107	5 DUP	S96T004219	0	DSC-01	SOLID	<u>69.5</u>	<u>67.9</u>	<u>N/A</u>	Joules/g

Final page for worklist # 12050

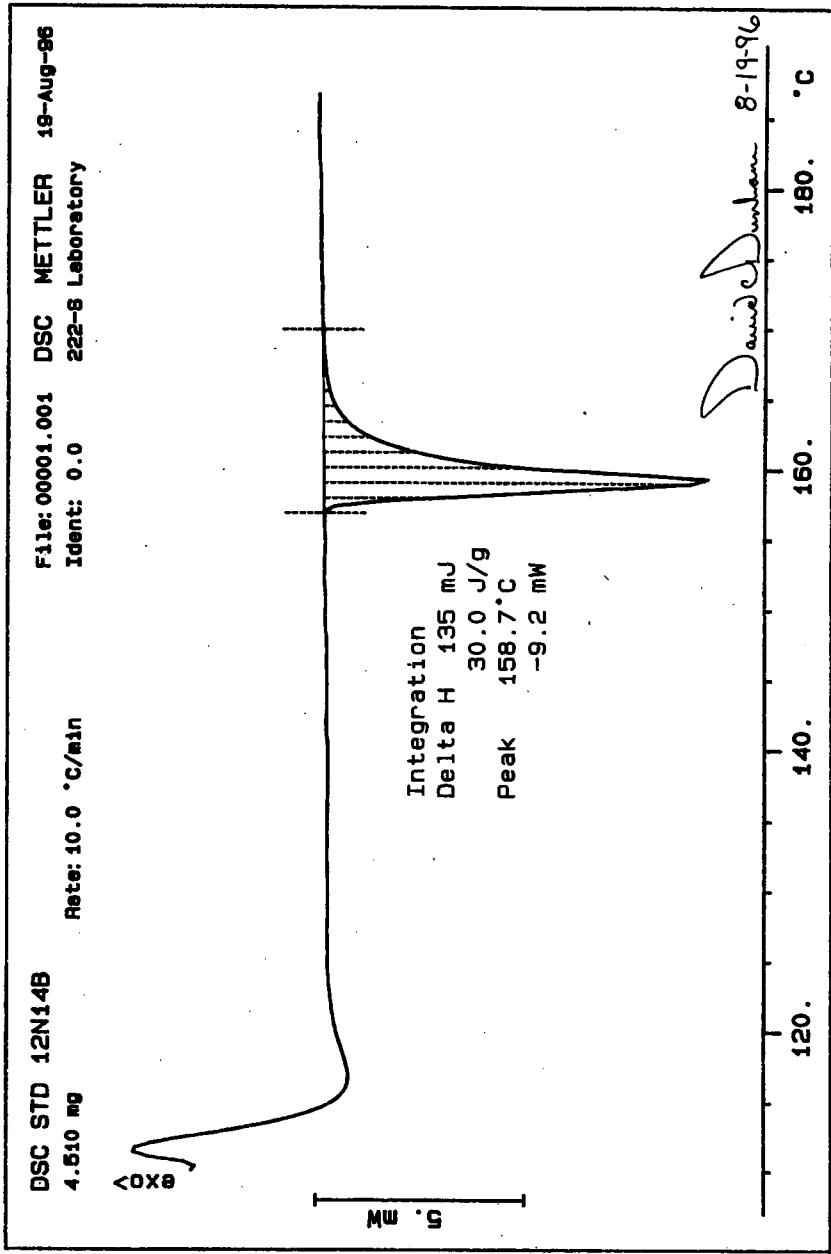
Daniel D. Dunham 8-19-96
Analyst Signature Date

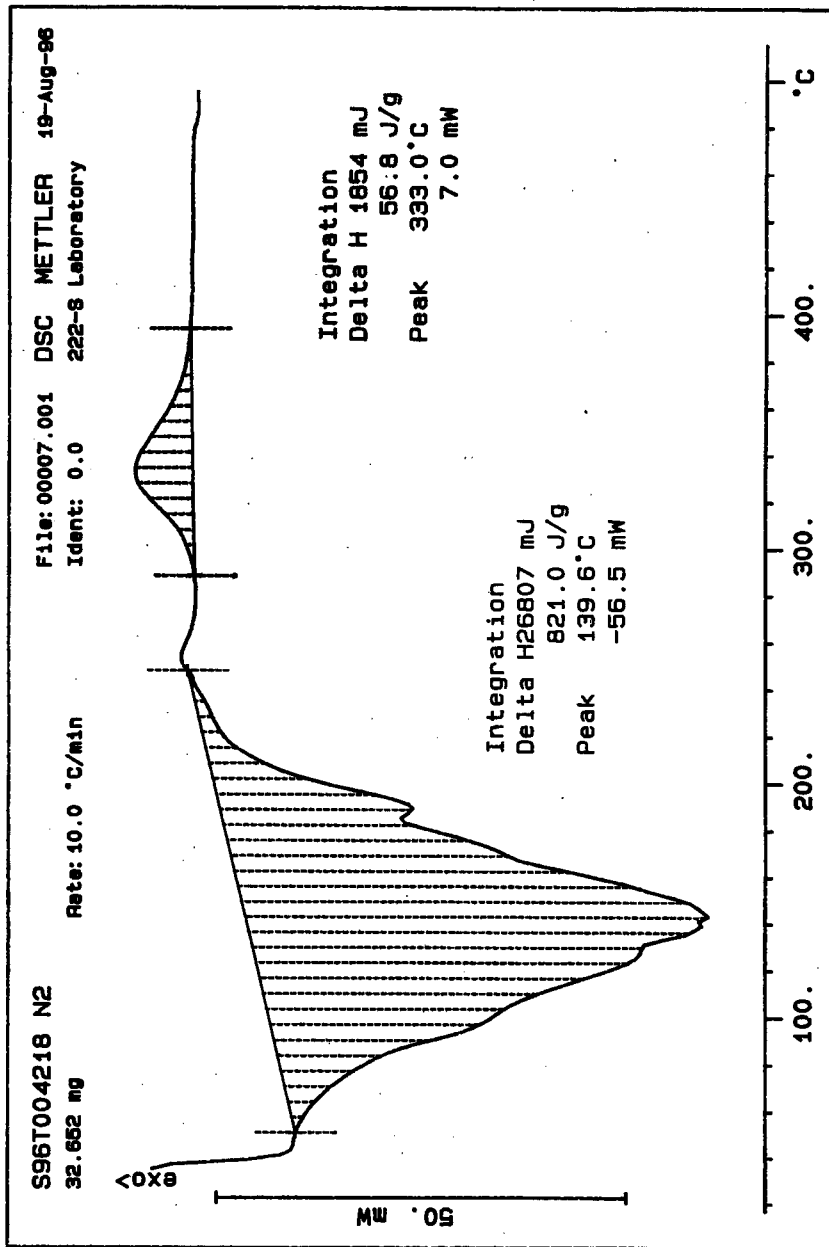
Steven Bee 8/21/96
Analyst Signature Date

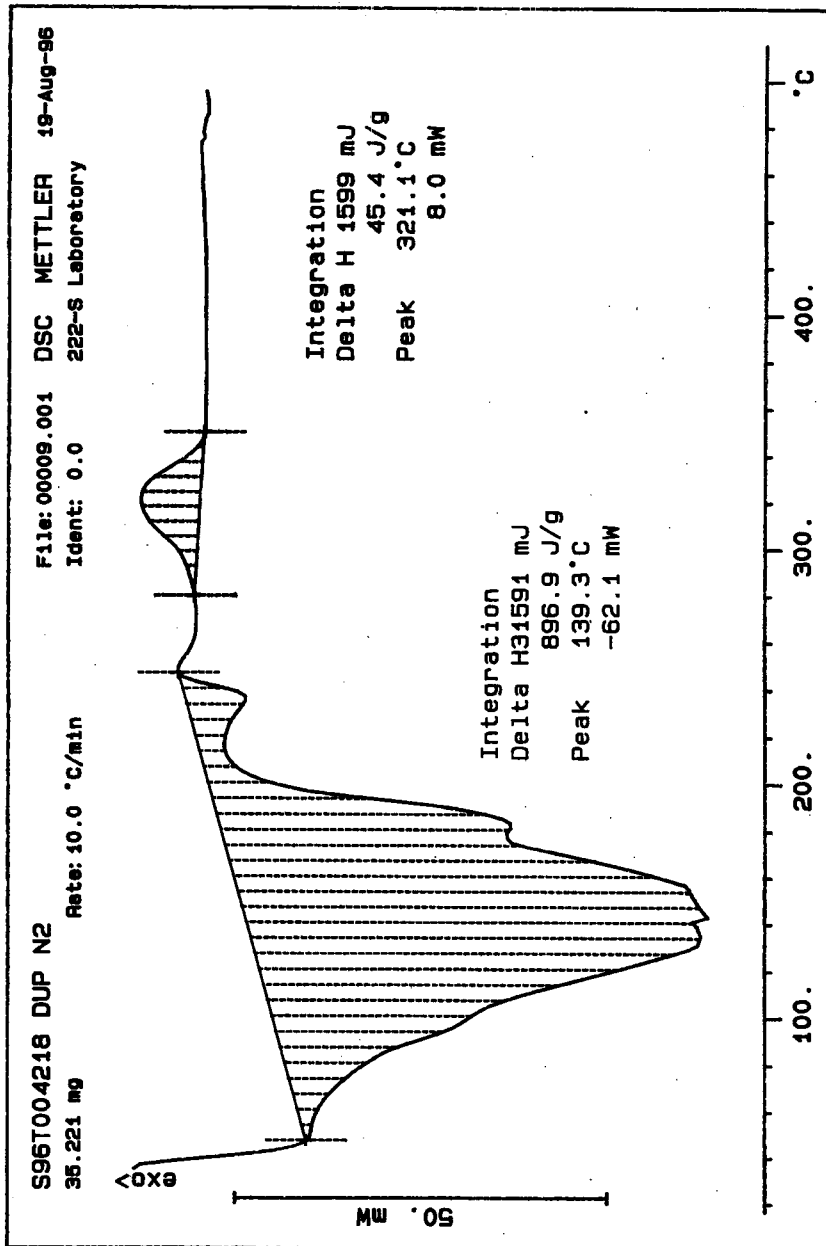
Verified/Validated by
Blandina Valenzuela
8-25-96 ^{DM}
8-23-96

Data Entry Comments: S96T004219 results are the sum of two exotherms

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







S96T004219 N2

14.950 mg

Rate: 10.0 °C/min

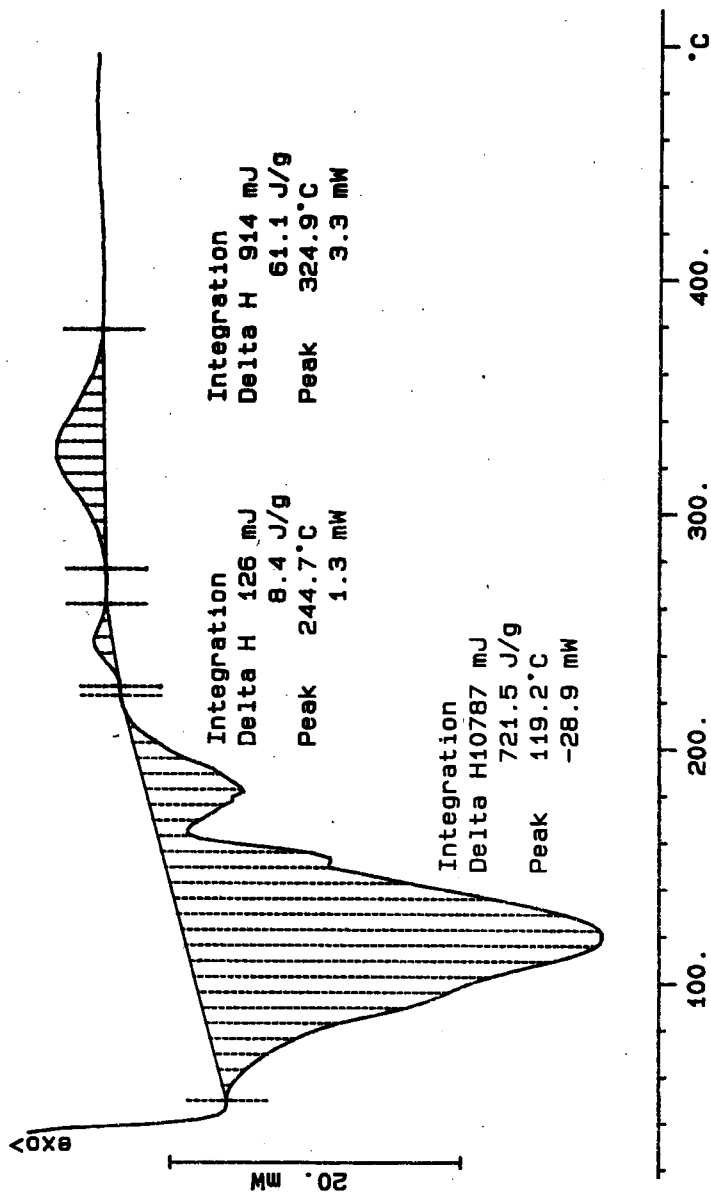
File: 00011.001

DSC METTLER

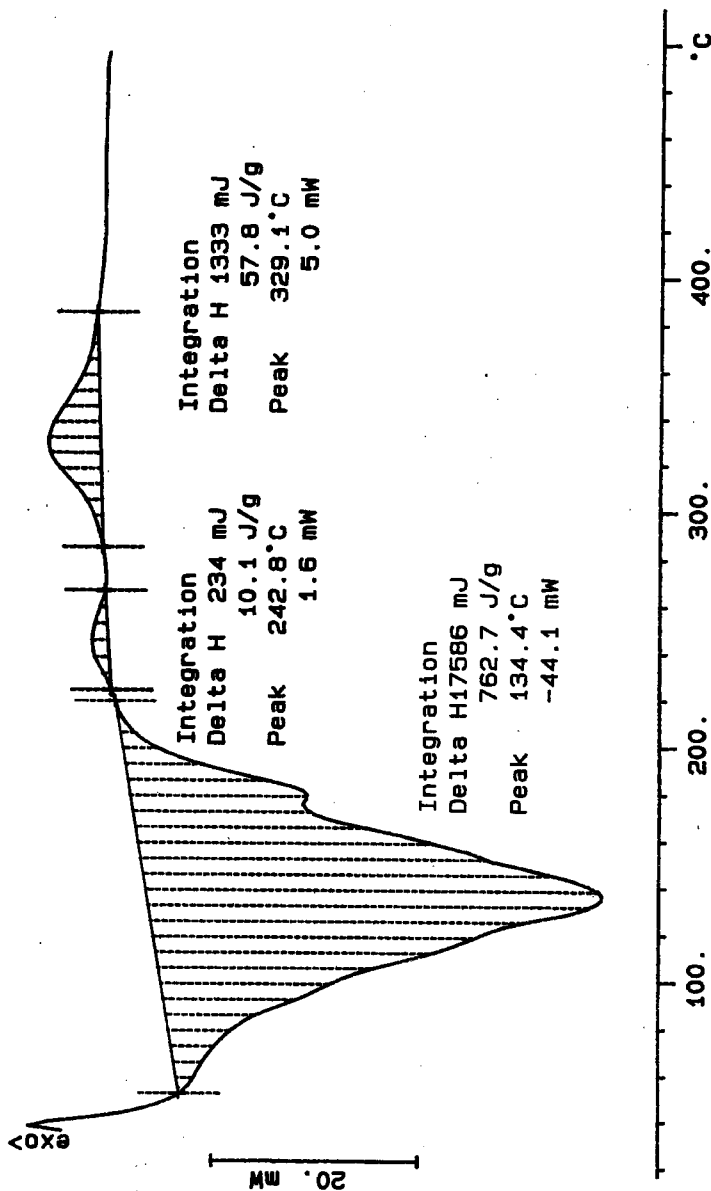
19-Aug-86

Ident: 0.0

222-8 Laboratory



S96T004219 DUP N2
 23.056 mg
 Rate: 10.0 °C/min
 File: 00013.001
 Ident: 0.0
 DSC METTLER
 222-S Laboratory
 19-Aug-86



LABCORE Data Entry Template for Worklist#

12051

Analyst: DGD Instrument: DSC0 1 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>30.0</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004220	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001061	BY-107	3 DUP	S96T004220	0	DSC-01	SOLID	<u>Ø</u>	<u>8.1</u>	<u>N/A</u>	Joules/g
96001061	BY-107	4 SAMPLE	S96T004221	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001061	BY-107	5 DUP	S96T004221	0	DSC-01	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

12051

Analyst Signature

Date

8-20-96

207

Analyst Signature

Date

Newlight 8/21/96

Verified/Validated by

Blandina

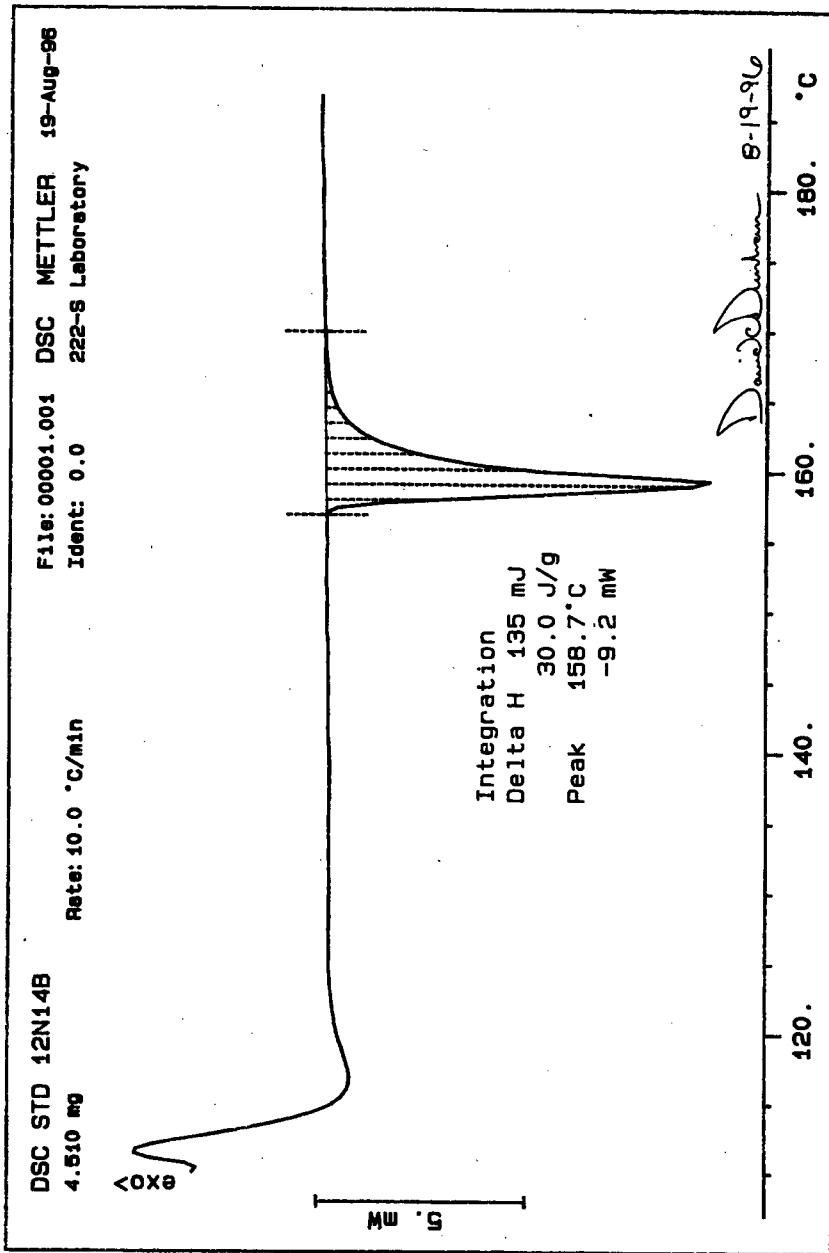
Valenzuela

8-22-96

Data Entry Comments:

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

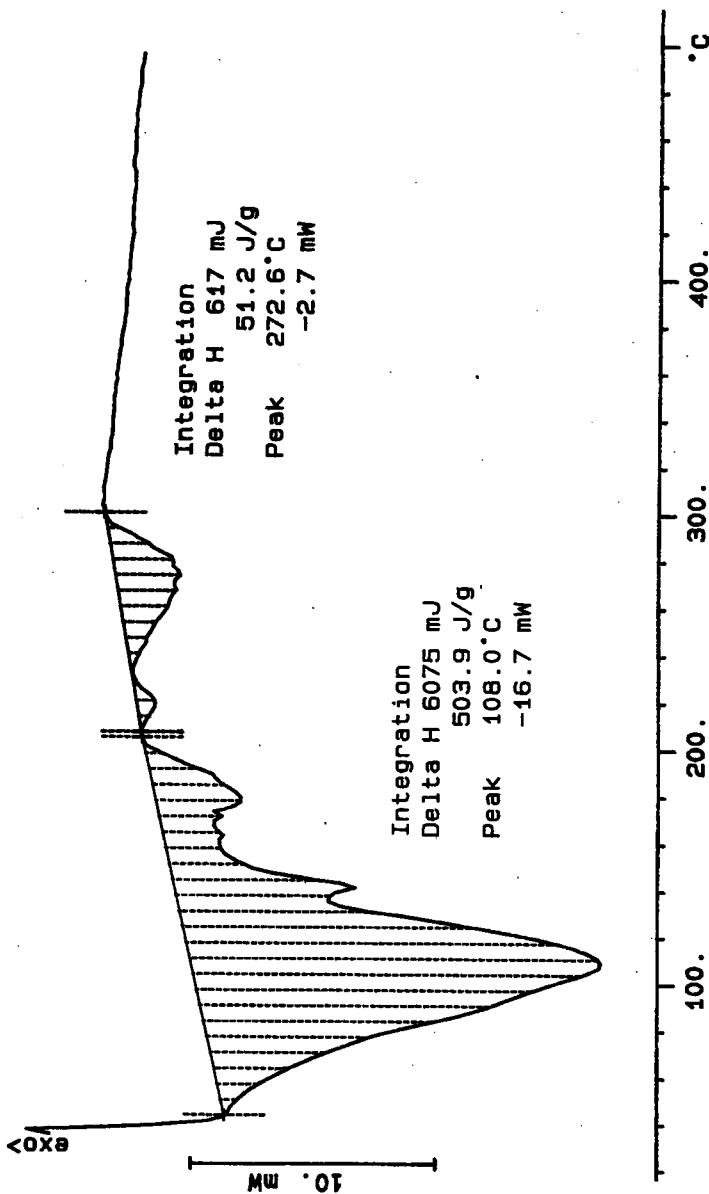
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 116 TO 120.



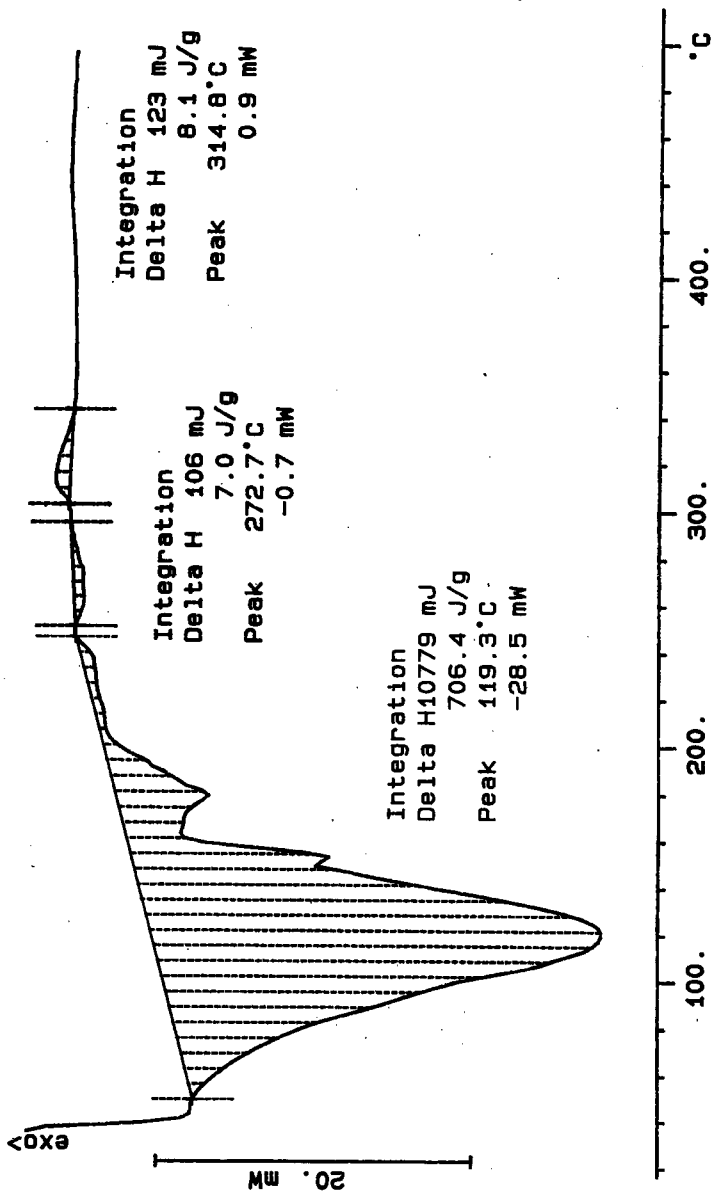
S96T004220 N2
12.056 mg

Rate: 10.0 °C/min

File: 00045.001 DSC METTLER 19-Aug-98
Ident: 0.0 222-S Laboratory



S96T004220 DUP N2
 15.258 mg
 Rate: 10.0 °C/min
 File: 00017.001 DSC METTLER 20-Aug-96
 Ident: 0.0 222-S Laboratory



S96T004221 N2

32.816 mg

Rate: 10.0 °C/min

File: 00019.001

DSC METTLER

20-Aug-96

Ident: 0.0 222-S Laboratory

exo
Δ

Integration

Delta H 6712 mJ

204.5 J/g

Peak

149.7 °C

-13.6 mW

Integration

Delta H 3467 mJ

105.7 J/g

Peak

301.1 °C

-18.9 mW

10. mW

100.

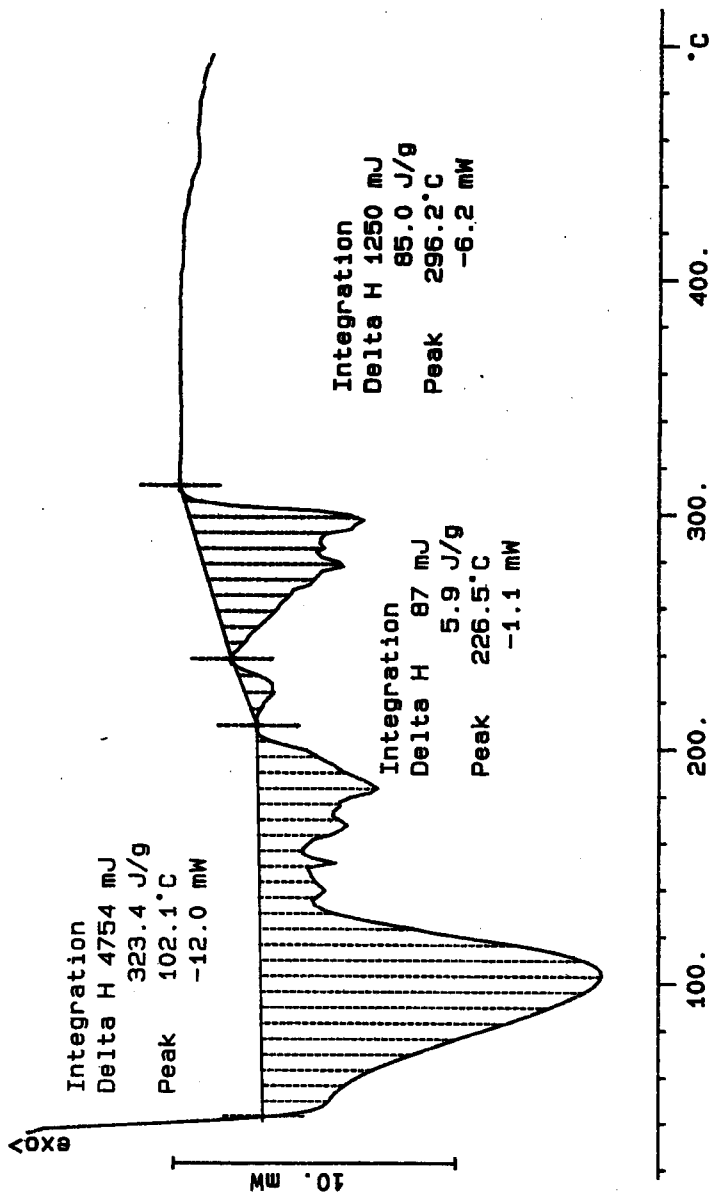
200.

300.

400.

°C

S96T004221 DUP N2
14.700 mg
Rate: 10.0 °C/min
File: 00021.001 DSC METTLER 20-AUG-96
Ident: 0.0 222-S Laboratory



LABCORE Data Entry Template for Worklist# 12052

Analyst: RWK Instrument: DSC0 3 Book # 12N148

Method: LA-514-114 Rev/Mod _____

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCI

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>27.65</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004222	0	DSC-03	SOLID	<u>N/A</u>	<u>63.2</u>		Joules/g
96001061	BY-107	3 DUP	S96T004222	0	DSC-03	SOLID	<u>63.2</u>	<u>28.0</u>	<u>N/A</u>	Joules/g
96001061	BY-107	4 SAMPLE	S96T004223	0	DSC-03	SOLID	<u>N/A</u>	<u>7.82</u>		Joules/g
96001061	BY-107	5 DUP	S96T004223	0	DSC-03	SOLID	<u>7.82</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 12052

See attached for signatures
Analyst Signature _____

Date 8-23-96

RWK
Analyst Signature _____

8-26-96
Date _____

Verified/Validated by
Blandina
Valenzuela
8-27-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

12052

Analyst: RLK Instrument: DSC0 Book # 12714-B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
96001061	BY-107	2	SAMPLE	S96T004222	0		DSC-01	SOLID	N/A			Joules/g
96001061	BY-107	3	DUP	S96T004222	0		DSC-01	SOLID			N/A	Joules/g
96001061	BY-107	4	SAMPLE	S96T004223	0		DSC-01	SOLID	N/A			Joules/g
96001061	BY-107	5	DUP	S96T004223	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 12052

Rob King 8/21/96
Analyst Signature Date

Analyst Signature Date

DSC-03 instrument
was used.

8.23.96

Blandina
Valenzuela

Data Entry Comments:

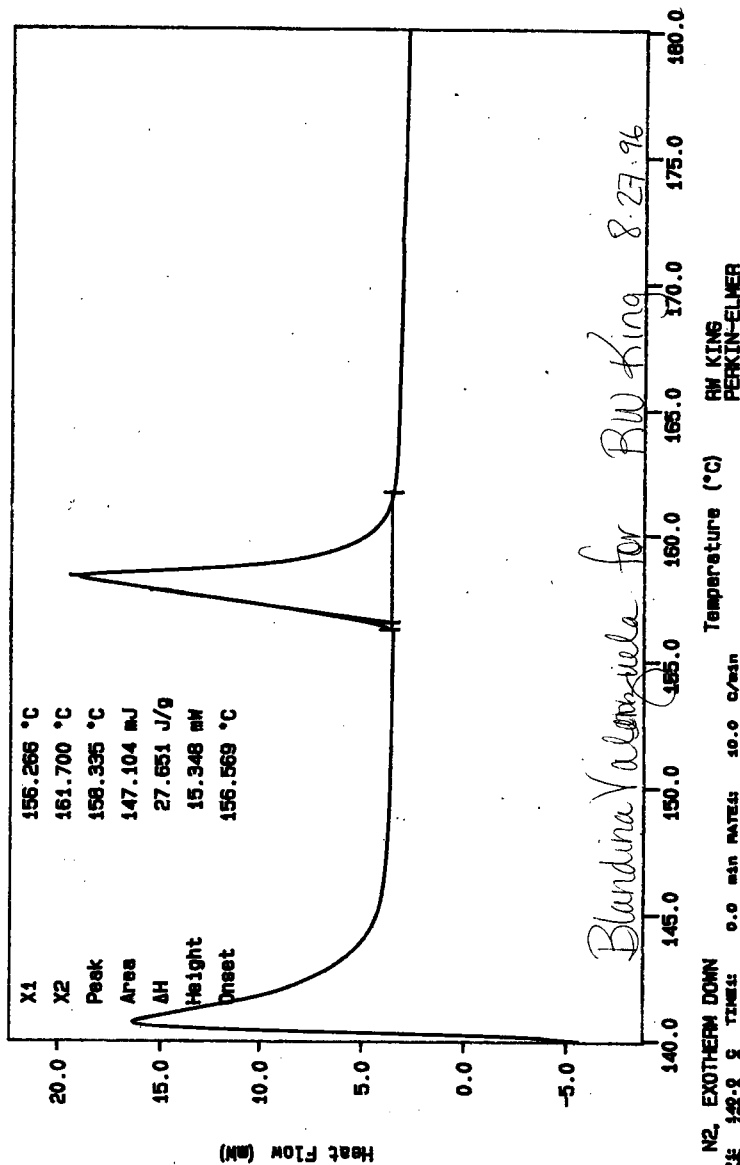
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File Info: IND082101 Wed Aug 21 05:36:46 1996

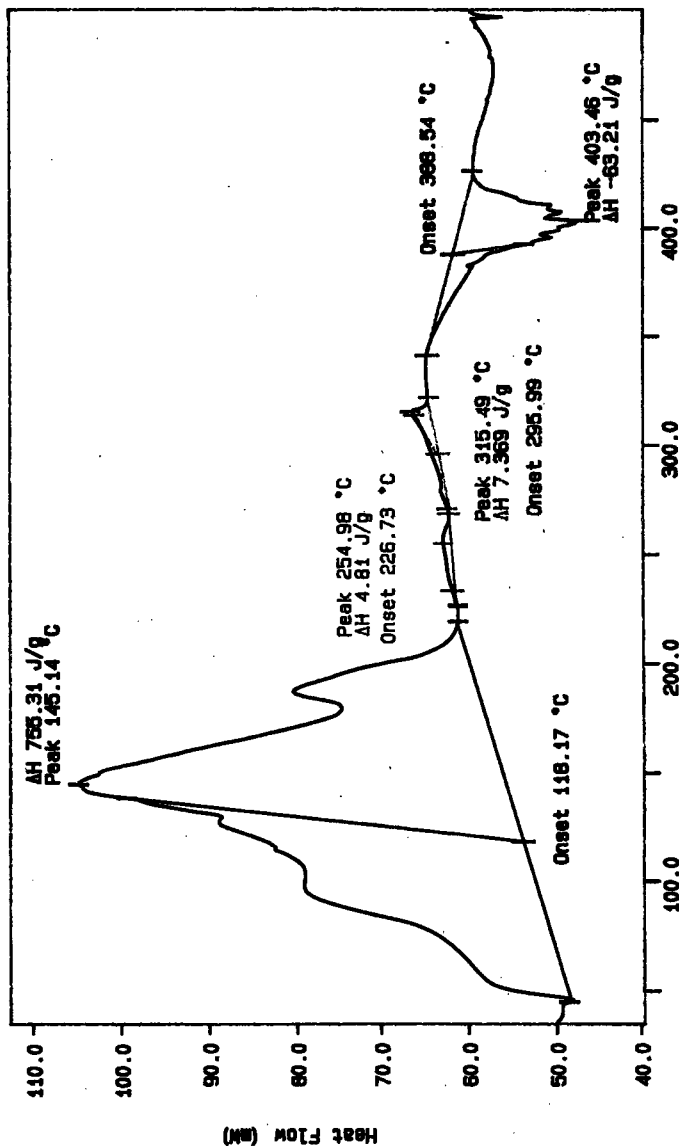
Sample Weight: 5.320 mg

12M14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 123 TO 127.

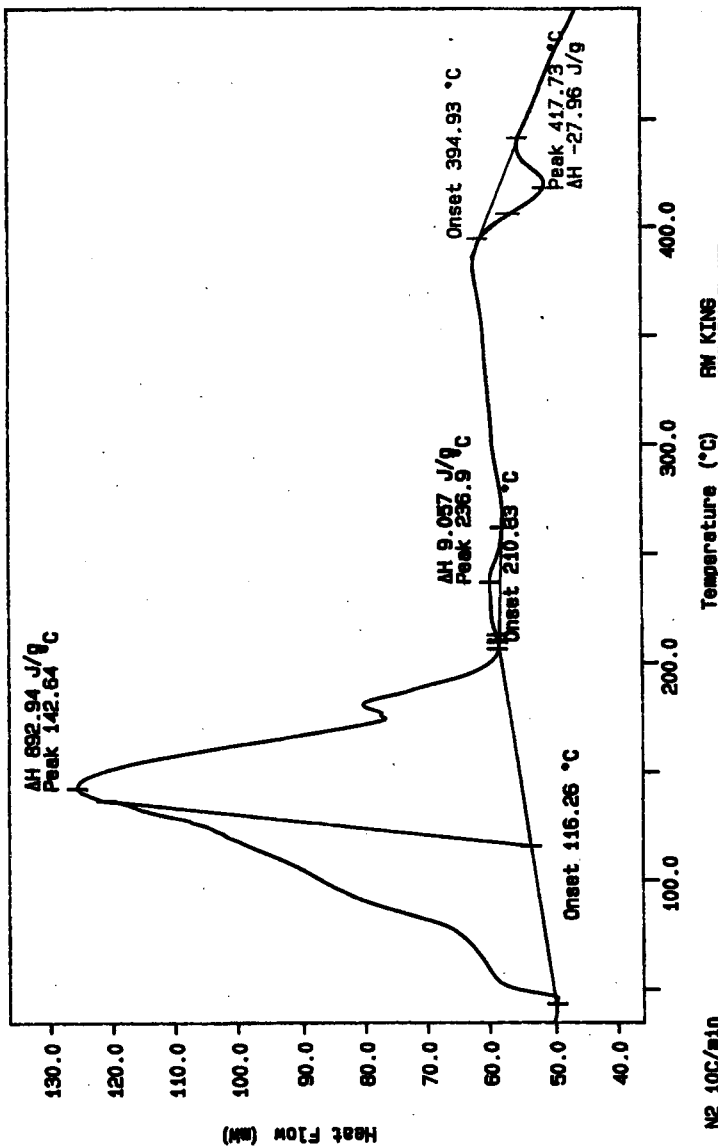
FW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 21 05:46:41 1996

Curve 1: DSC
 File Info: SAM082102 Wed Aug 21 09:59:13 1996
 Sample Weight: 30.780 mg
 S96T004222



N2 10C/min
 TONEN 38.8 g
 0.0 min RATE: 10.0 C/min
 FM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 23 09:08:50 1996

Curve 1: DSC
 File Info: SAM082103 Wed Aug 21 10:56:21 1996
 Sample Weight: 33.270 mg
 896T004222 DUP



FW KINS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 23 09:28:49 1996

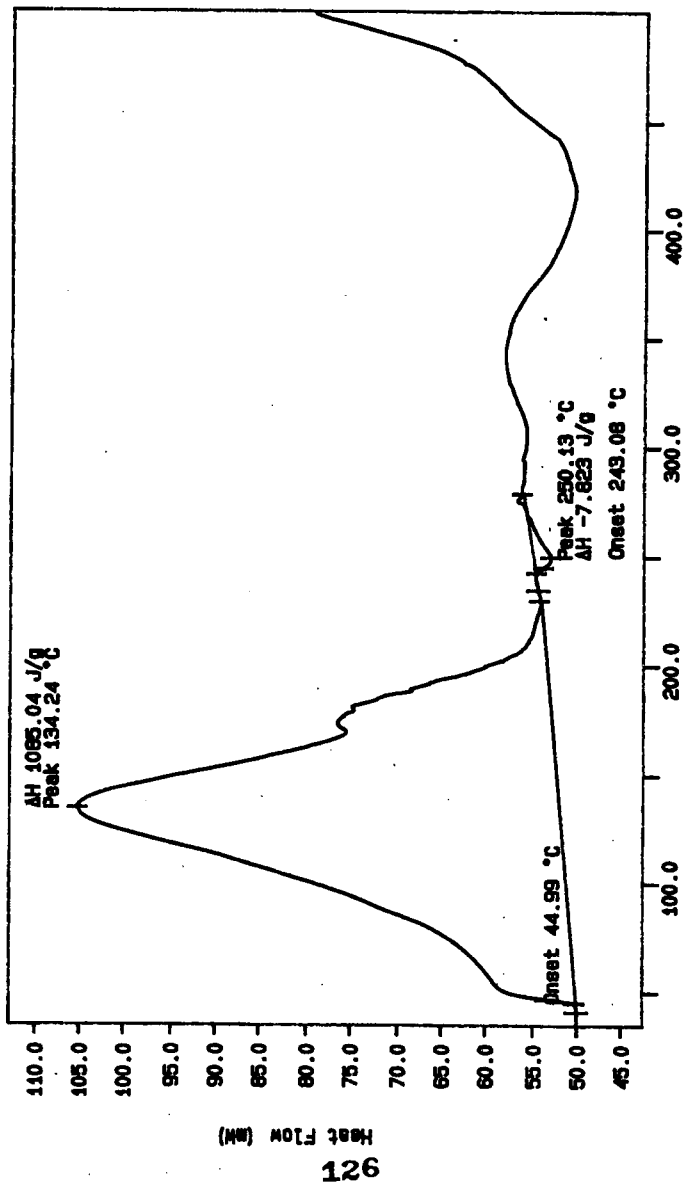
N2 10C/min
 RATE 10.0 C/min
 TIME 08.8 g
 TONEL 0.0 min RATE: 10.0 C/min

Curve 1: DSC

File info: SAK082104 Wed Aug 21 13:08:26 1996

Sample Weight: 23.120 mg

896T004223



N2 100/min

TIME 55.88

0.0 min RATE: 50.0 °/min

Temperature (°C)

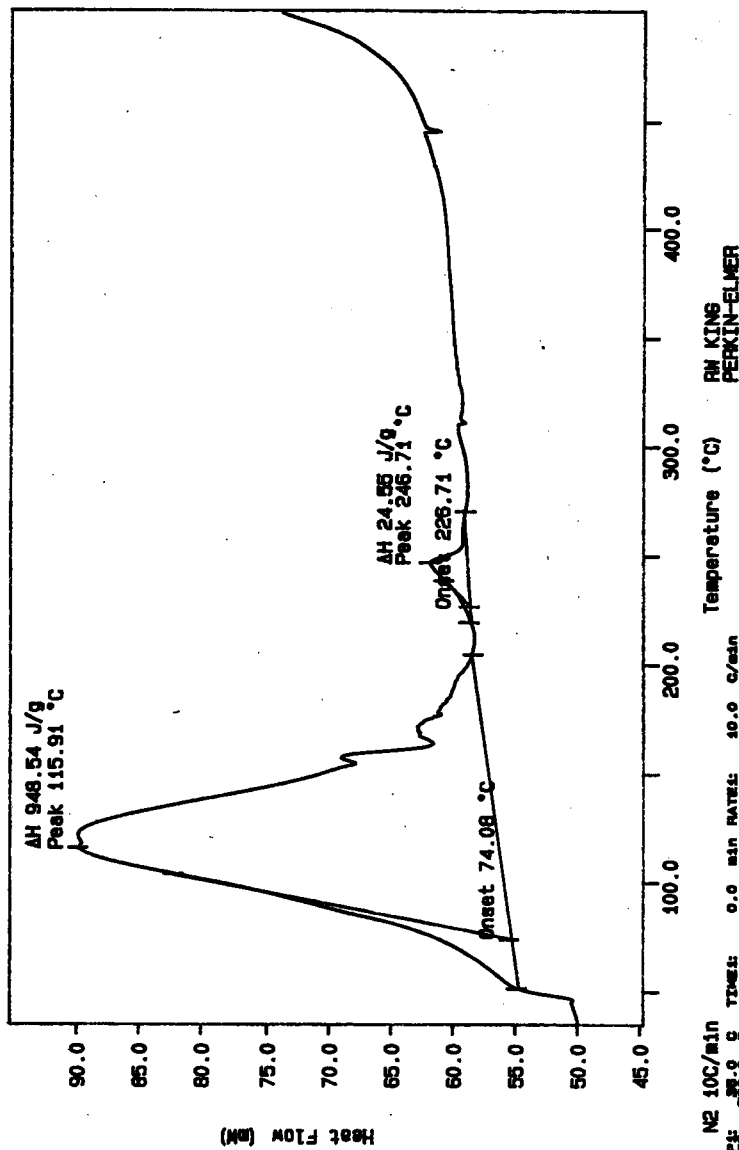
RM KING
PERKIN-ELMER
7 Series Thermal Analysis System
Fri Aug 23 09:52:47 1996

Curve 1: DSC

File info: SAN082105 Wed Aug 21 14: 06: 03 1996

Sample Weight: 12.730 mg

SS6T004223 DUP



N2 100/min

TIME: 00:08

10.0 °C/min

0.0 min RATE:

Temperature (°C)

PN KINS

PERKIN-ELMER

7 Series Thermal Analysis System
Wed Aug 21 14: 17: 09 1996

LABCORE Data Entry Template for Worklist#

12054

Analyst: SMF Instrument: DSC01 _____ Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCI

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>31.0*</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004349	0	DSC-01	SOLID	<u>N/A</u>	<u>31.6</u>		Joules/g
96001061	BY-107	3 DUP	S96T004349	0	DSC-01	SOLID	<u>31.6</u>	<u>34.1</u>	<u>N/A</u>	Joules/g

Final page for worklist #

12054

Susie M. Jullien 8-18-96
Analyst Signature Date

D. D. D. D. 8-20-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela 8-21-96

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 129 TO 131.

DSC STD 12N14-B Rate: 10.0 °C/min File: 00079.001 DSC METTLER 18-Aug-96
4.510 mg Ident: 0.0 222-S Laboratory

exo

10. mW

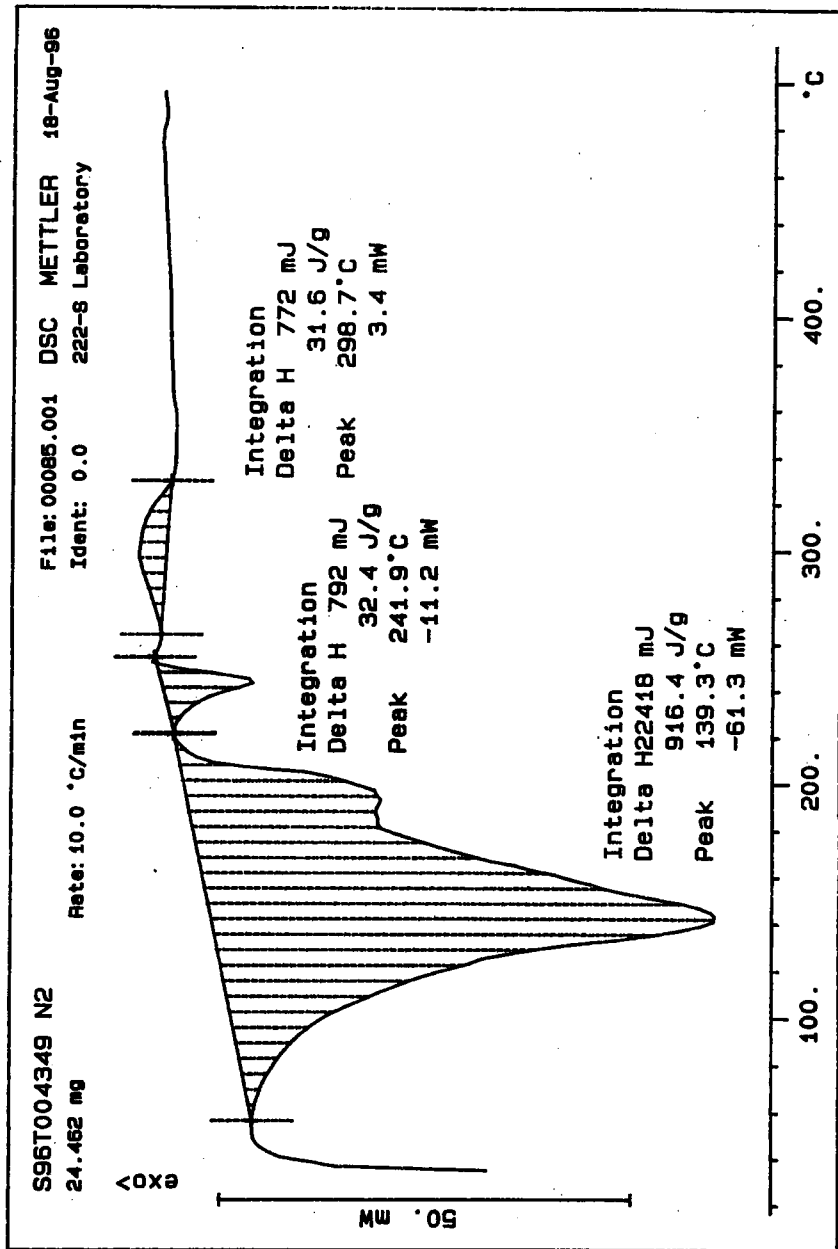
Integration
Delta H 140 mJ
31.0 J/g
Peak 158.6°C
-9.5 mW

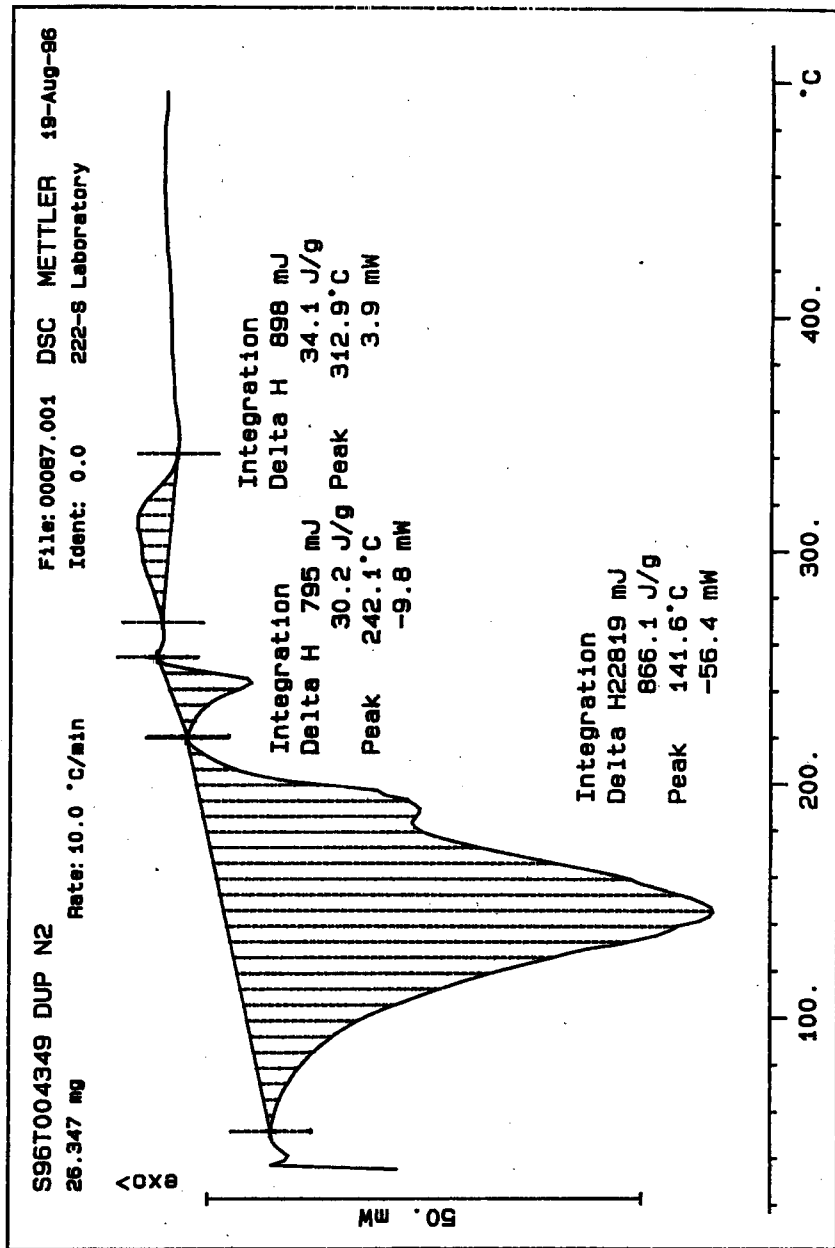
120.

140.

160.

Lusie M. Sullivan 8-18-96





LABCORE Data Entry Template for Worklist#

12150

Analyst: JKM Instrument: DSC0 1 Book # 12114-B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>29.9</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004411 0		DSC-01	LIQUID	<u>N/A</u>	<u>47.3</u>		Joules/g
96001061	BY-107	3 DUP	S96T004411 0		DSC-01	LIQUID	<u>47.3</u>	<u>16.3</u>	<u>N/A</u>	Joules/g
96001061	BY-107	4 SAMPLE	S96T004412 0		DSC-01	LIQUID	<u>N/A</u>	<u>10.5</u>		Joules/g
96001061	BY-107	5 DUP	S96T004412 0		DSC-01	LIQUID	<u>10.5</u>	<u>10.7</u>	<u>N/A</u>	Joules/g

Final page for worklist # 12150

JKM 8/21/96
Analyst Signature Date

RPL 8-26-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela 8-27-96

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 133 TO 137

DSC STD 12N14-B

4.510 mg

Rate: 10.0 °C/min

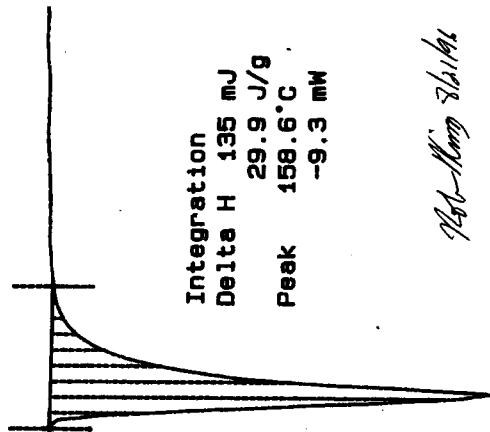
File: 00023.001

DSC METTLER 21-Aug-98

Ident: 0.0 222-S Laboratory

Exo

<O>



Integration
Delta H 135 mJ
29.9 J/g
Peak 158.6°C
-9.3 mW

Robt-Hong Davis

5. mW

120.

140.

160.

180.

°C

S96T004411 N2

32.104 mg

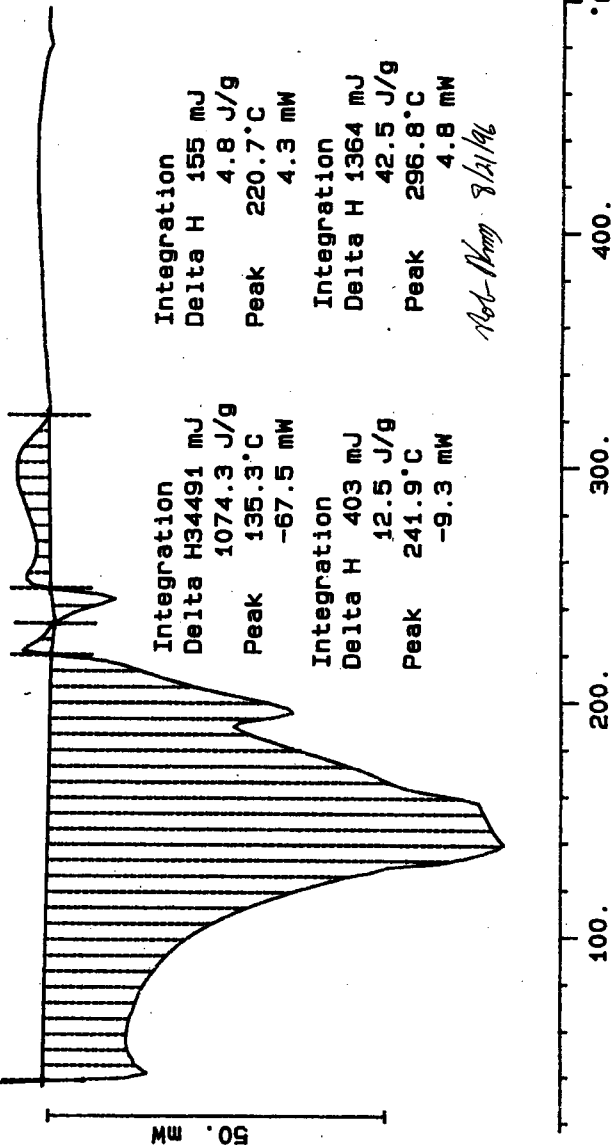
Rate: 10.0 °C/min

File: 00025.001

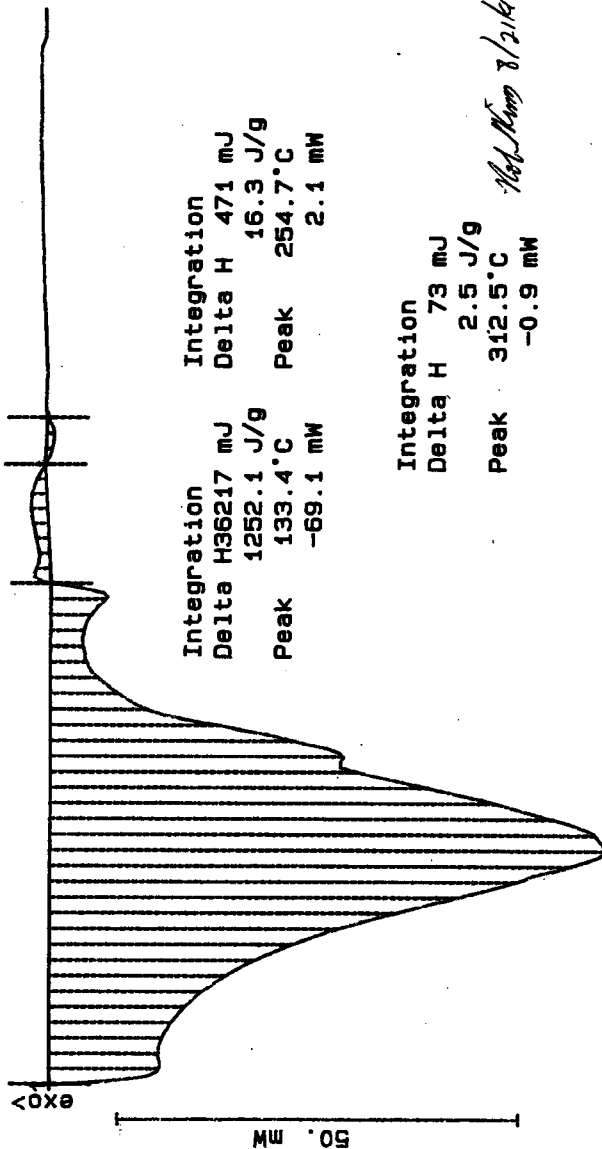
DSC METTLER 21-Aug-96

Ident: 0.0 222-S Laboratory

exo



S96T004411 DUP N2
 28.925 mg
 Rate: 10.0 °C/min
 File: 00027.001 DSC METTLER 21-Aug-96
 Ident: 0.0 222-S Laboratory



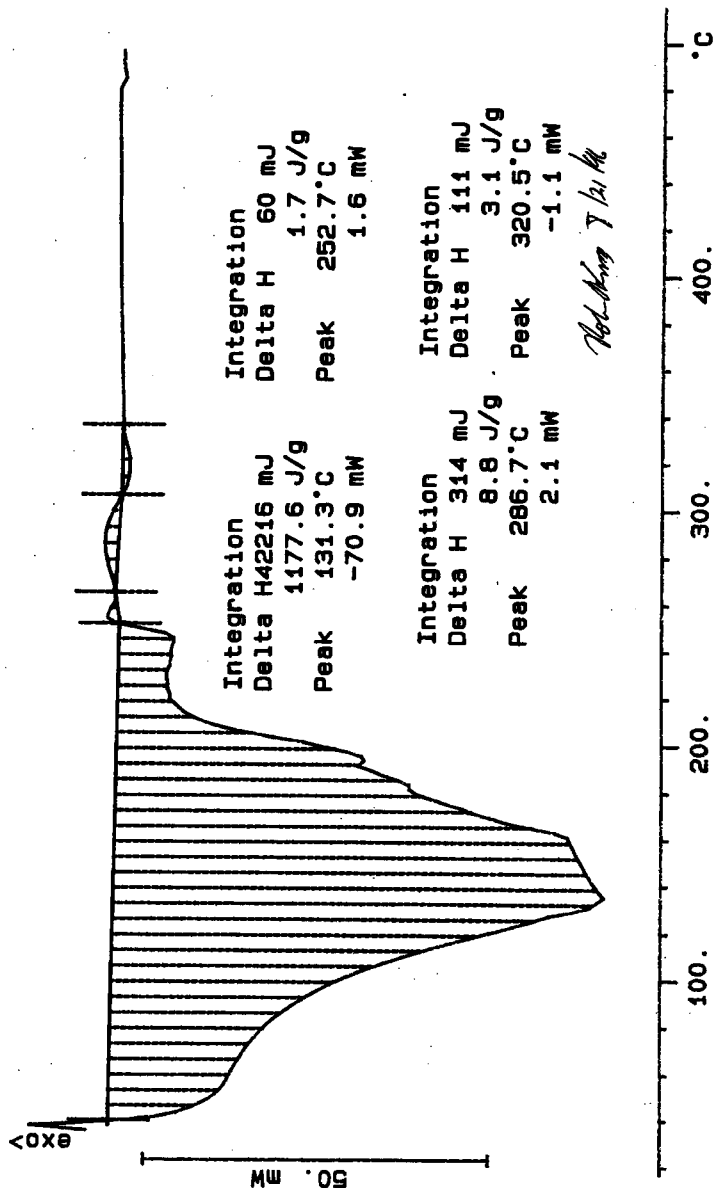
S96T004412 N2

35.850 mg

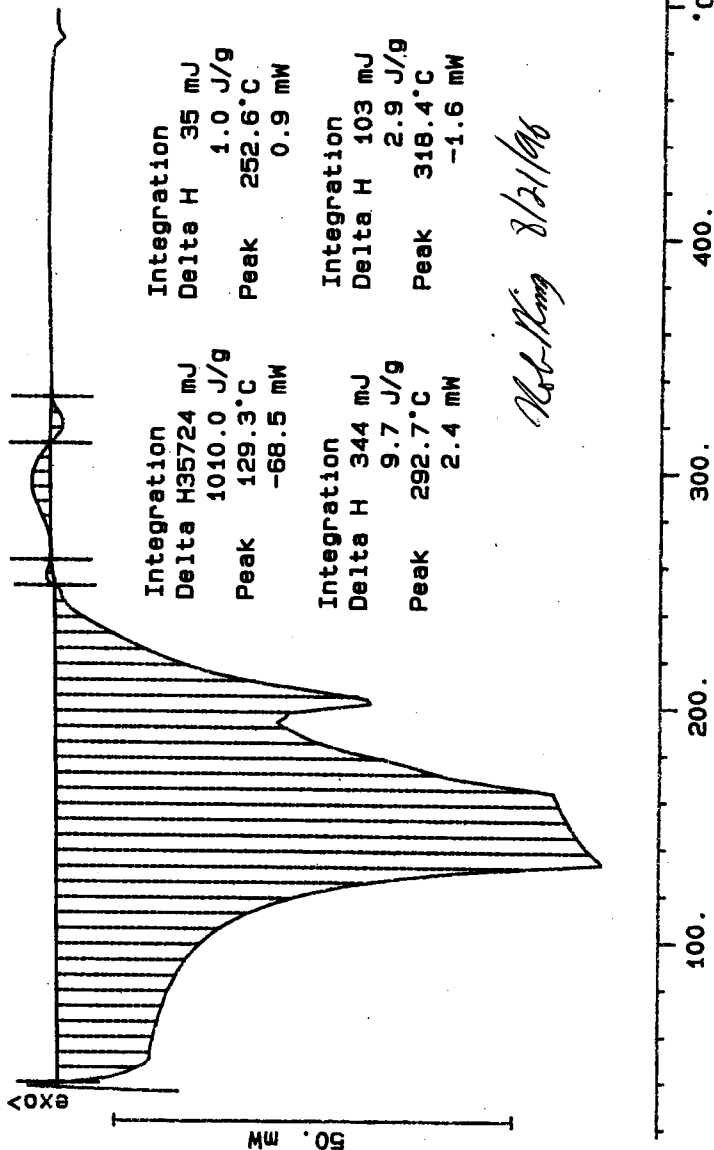
Rate: 10.0 °C/min

File: 00029.001 DSC METTLER 21-Aug-96

Ident: 0.0 222-S Laboratory



S96T004412 DUP N2
 35.370 mg
 Rate: 10.0 °C/min
 File: 00031.001
 Ident.: 0.0
 DSC METTLER 21-AUG-96
 222-S Laboratory



LABCORE Data Entry Template for Worklist# 12151

Analyst: RDM Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.00</u>	<u>*</u>	<u>N/A</u> Joules/g
96001061	BY-107	2 SAMPLE	S96T004395	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001061	BY-107	3 DUP	S96T004395	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001061	BY-107	4 SAMPLE	S96T004396	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001061	BY-107	5 DUP	S96T004396	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 12151

See attached for signatures
Analyst Signature Date 8-23-96
BOY

8-26-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
8-27-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

12151

Analyst: RDM Instrument: DSC0 _____ Book # 12N14B

Method: LA-514-113 Rev/Mod 61

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCI

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	_____	_____	N/A	Joules/g
96001061	BY-107	2 SAMPLE	S96T004395	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001061	BY-107	3 DUP	S96T004395	0	DSC-01	SOLID	_____	_____	N/A	Joules/g
96001061	BY-107	4 SAMPLE	S96T004396	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001061	BY-107	5 DUP	S96T004396	0	DSC-01	SOLID	_____	_____	N/A	Joules/g

Final page for worklist # 12151

RDM
Analyst Signature
8/22/96
Date

Analyst Signature Date

DSC-03 instrument
was used.

8-23-96

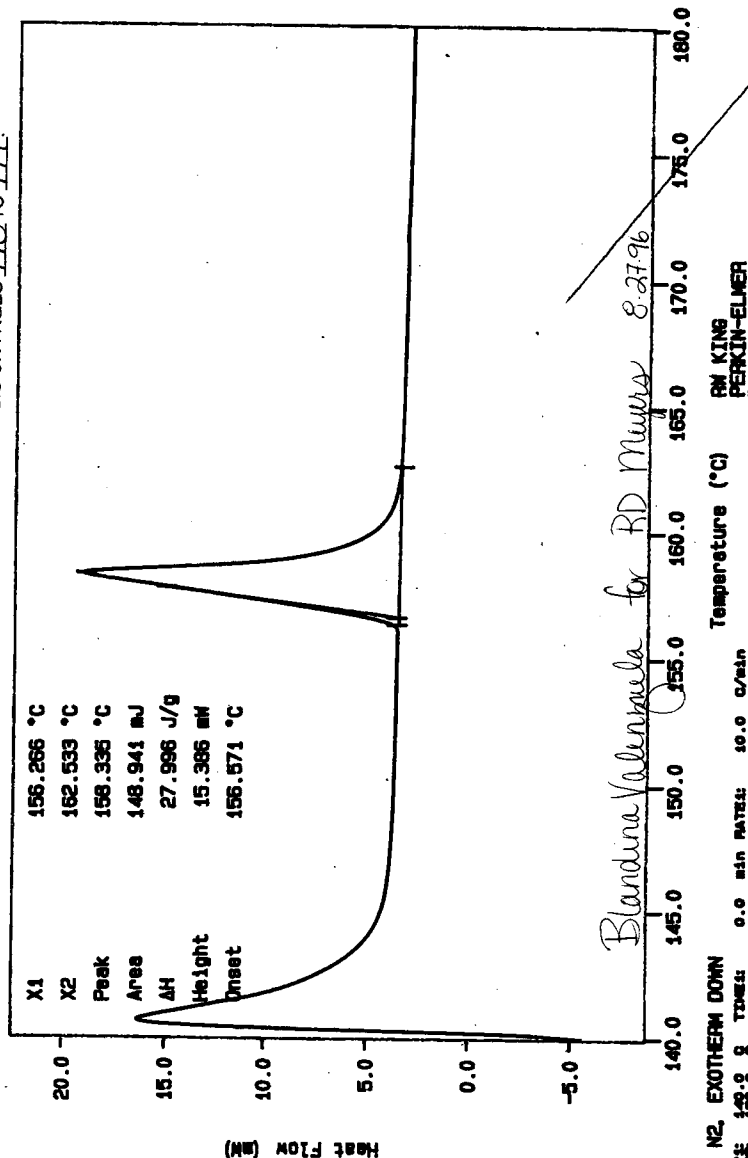
Blandina
Valenzuela

Data Entry Comments:

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

Curve 1: DSC
 File Info: IND082101 Wed Aug 21 08:36:46 1996
 Sample Weight: 5.320 mg
 12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 140 TO 144.

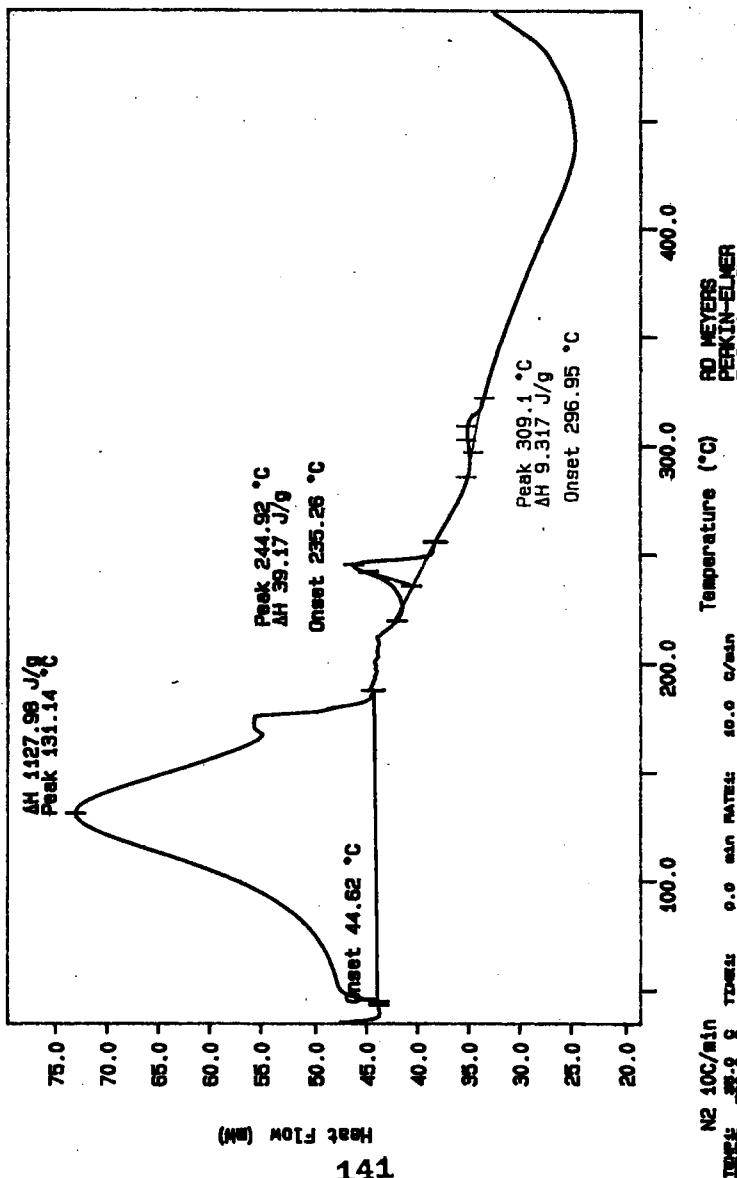


N2, EXOTHERM DOWN

TIME: 148.8 s THERM: 0.0 min RATE: 10.0 C/min

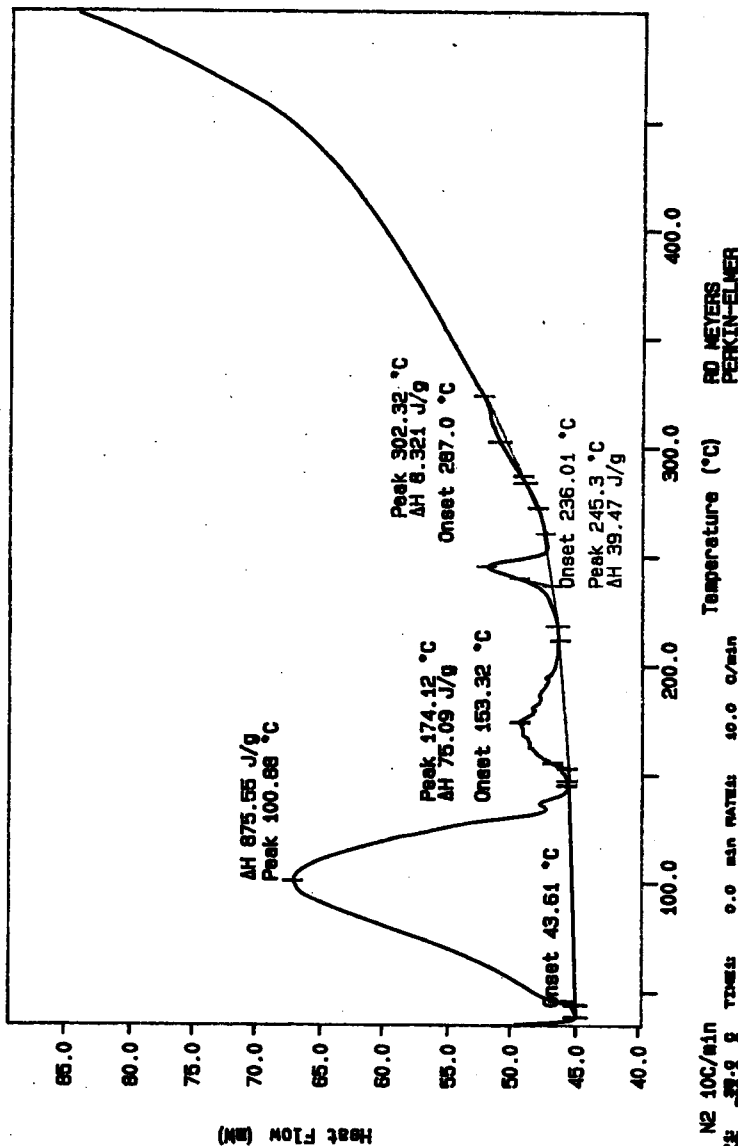
RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 21 17:22:12 1996

Curve 1: DSC
 File Info: SAM082106 Wed Aug 21 19:20:47 1996
 Sample Weight: 10.190 mg
 S98T004395



SD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 23 08:19:39 1996

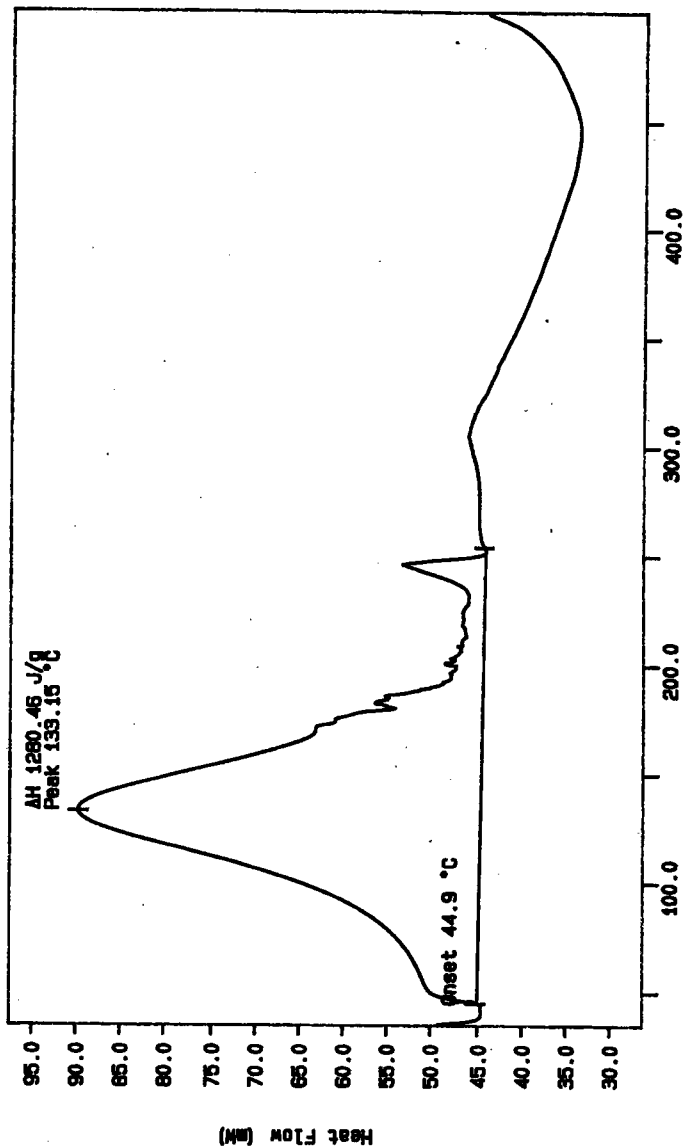
Curve 1: DSC
 File Info: SAN082107 Wed Aug 21 21:40:42 1996
 Sample Weight: 7.870 mg
 S96T004396DUP



80 MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 23 06:27:33 1996

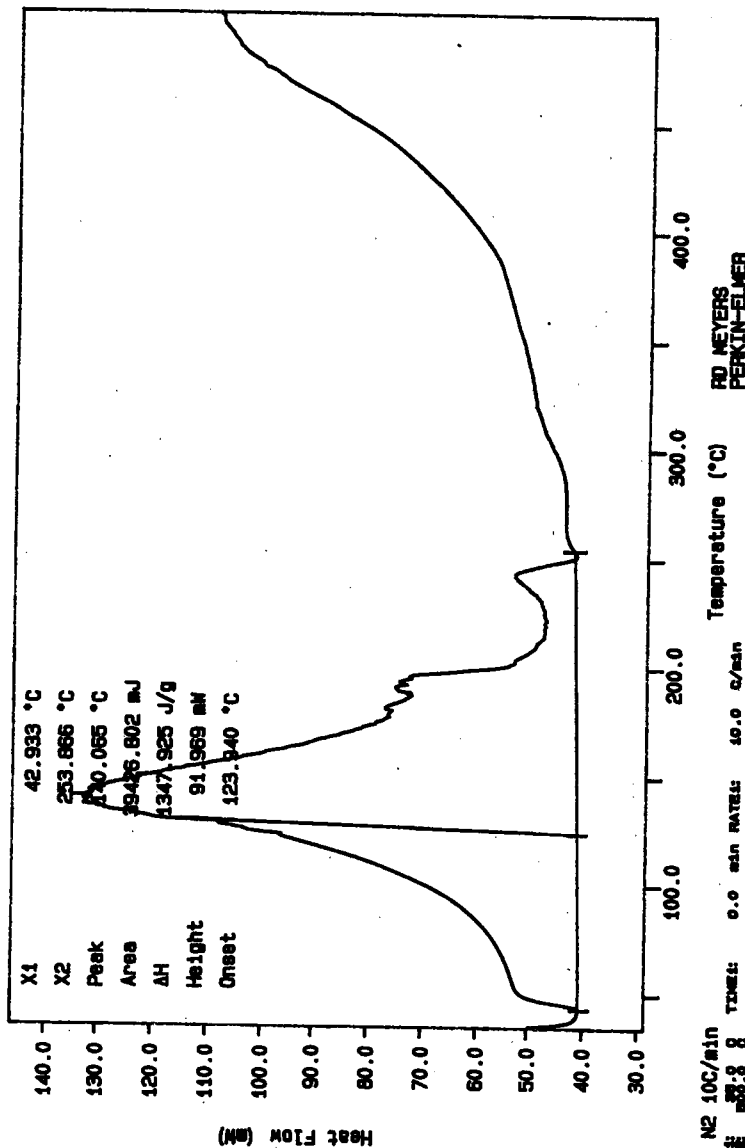
N2 100/min
 100.0
 0.0 min RATE: 10.0 C/min

Curve 1: DSC
 File Info: SAM082201 Thu Aug 22 00:30:33 1996
 Sample Weight: 15.560 mg
 S96T004396



N2 100/min
 TIME 55.88
 RATE 0.0 min RATE 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Aug 22 01:01:25 1996

Curve 1: DSC
 File Info: SAM082202 Thu Aug 22 01:51:06 1996
 Sample Weight: 29.250 mg
 S96T004396DUP



RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Aug 22 02:49:12 1996

LABCORE Data Entry Template for Worklist#

12152

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

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

Worklist Comment: BY-107 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>29.8*</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004397	0	DSC-01	SOLID	<u>N/A</u>	<u>218.3</u>		Joules/g
96001061	BY-107	3 DUP	S96T004397	0	DSC-01	SOLID	<u>218.3</u>	<u>246.3</u>	<u>N/A</u>	Joules/g

Final page for worklist # 12152

Rom 8/22/96
Analyst Signature Date

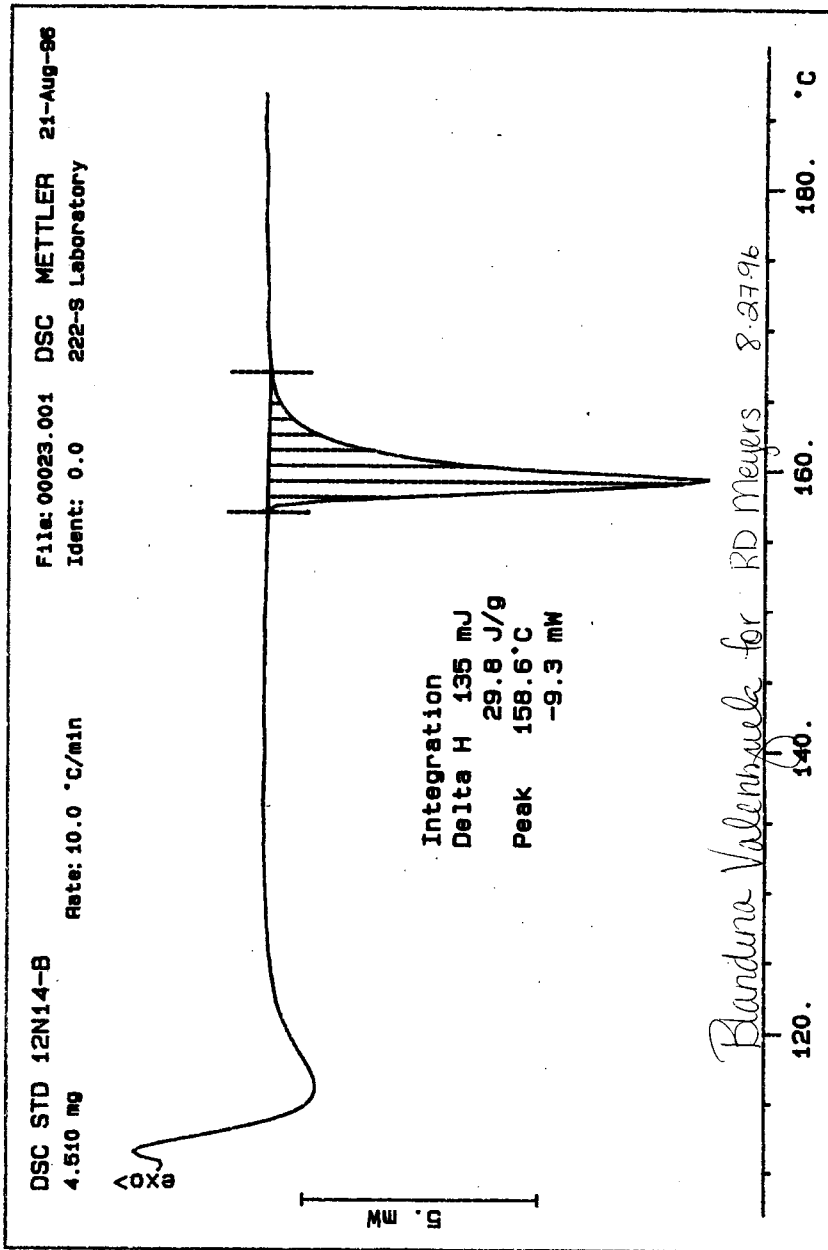
R. Stuck 8-26-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
8.27.96

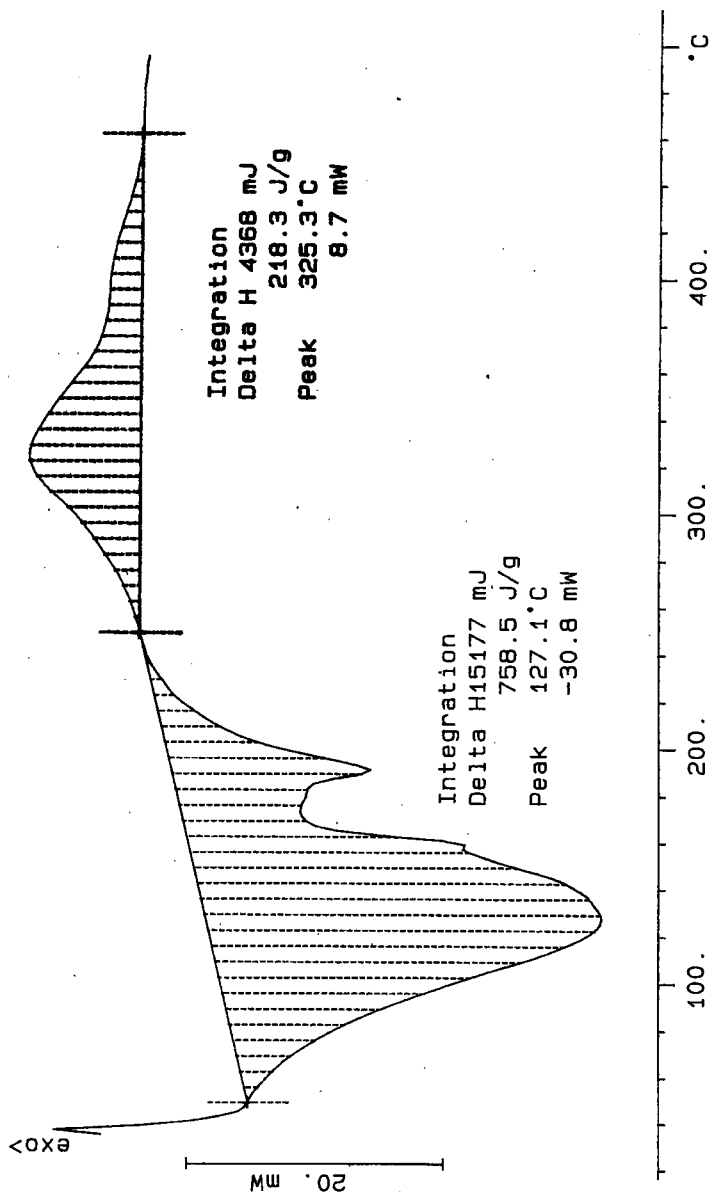
Data Entry Comments:

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

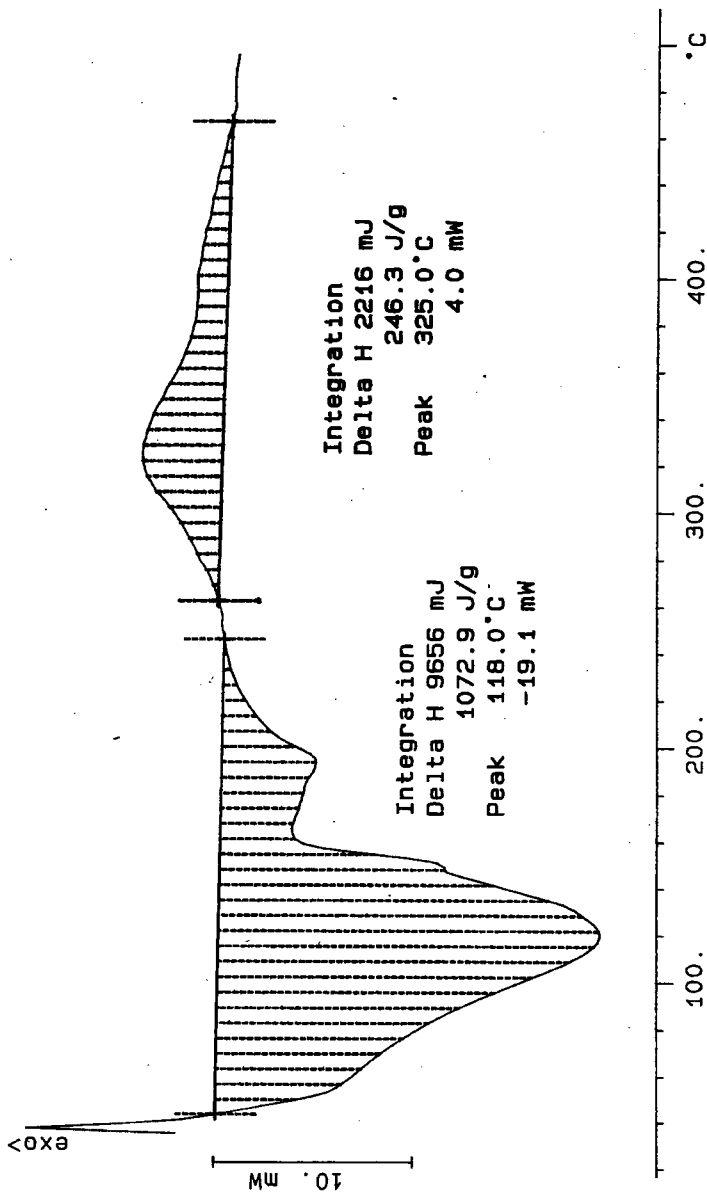
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 146 TO 148.



S96T004397 N2
20.010 mg
Rate: 10.0 °C/min
File: 00033.001 DSC METTLER 22-Aug-96
Ident: 0.0 222-S Laboratory



S96T004397 DUP N2
9.000 mg
Rate: 10.0 °C/min
File: 00035.001 DSC METTLER 22-Aug-96
Ident: 0.0 222-S Laboratory



LABCORE Data Entry Template for Worklist# 12367

Analyst: BDY Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for BY-107. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001061	BY-107	1 SAMPLE	S96T004218	0	DSC-02	SOLID	N/A	99.0		Joules/g Dry
96001061	BY-107	2 DUP	S96T004218	0	DSC-02	SOLID	99.0	79.1	N/A	Joules/g Dry
96001061	BY-107	3 SAMPLE	S96T004219	0	DSC-02	SOLID	N/A	109		Joules/g Dry
96001061	BY-107	4 DUP	S96T004219	0	DSC-02	SOLID	109	106	N/A	Joules/g Dry
96001061	BY-107	5 SAMPLE	S96T004220	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001061	BY-107	6 DUP	S96T004220	0	DSC-02	SOLID	Ø	13.1	N/A	Joules/g Dry
96001061	BY-107	7 SAMPLE	S96T004221	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001061	BY-107	8 DUP	S96T004221	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001061	BY-107	9 SAMPLE	S96T004222	0	DSC-02	SOLID	N/A	89.9		Joules/g Dry
96001061	BY-107	10 DUP	S96T004222	0	DSC-02	SOLID	89.9	39.8	N/A	Joules/g Dry
96001061	BY-107	11 SAMPLE	S96T004223	0	DSC-02	SOLID	N/A	12.2		Joules/g Dry
96001061	BY-107	12 DUP	S96T004223	0	DSC-02	SOLID	12.2	Ø	N/A	Joules/g Dry
96001061	BY-107	13 SAMPLE	S96T004349	0	DSC-02	SOLID	N/A	56.1		Joules/g Dry
96001061	BY-107	14 DUP	S96T004349	0	DSC-02	SOLID	56.1	60.5	N/A	Joules/g Dry

Final page for worklist # 12367

Blandina Valenzuela 8-27-96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

worklistrpt Version 2.1 05/15/95
08/27/96 14:37

Page: 1

LABCORE Data Entry Template for Worklist# 12368

Analyst: BOY Instrument: DSC01 Book # _____

Method: LA-514-113 Rev/Mod _____

Worklist Comment: Dry DSC for BY-107. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001061	BY-107	1 SAMPLE	S96T004395	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001061	BY-107	2 DUP	S96T004395	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001061	BY-107	3 SAMPLE	S96T004396	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001061	BY-107	4 DUP	S96T004396	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001061	BY-107	5 SAMPLE	S96T004397	0	DSC-02	SOLID	N/A	356		Joules/g Dry
96001061	BY-107	6 DUP	S96T004397	0	DSC-02	SOLID	356	401	N/A	Joules/g Dry
96000836	BY-107	7 SAMPLE	S96T003847	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000836	BY-107	8 DUP	S96T003847	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000836	BY-107	9 SAMPLE	S96T003871	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000836	BY-107	10 DUP	S96T003871	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000836	BY-107	11 SAMPLE	S96T003872	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000836	BY-107	12 DUP	S96T003872	0	DSC-02	LIQUID	Ø	48.0	N/A	Joules/g Dry
96001061	BY-107	13 SAMPLE	S96T004230	0	DSC-02	LIQUID	N/A	10.7		Joules/g Dry
96001061	BY-107	14 DUP	S96T004230	0	DSC-02	LIQUID	10.7	10.1	N/A	Joules/g Dry
96001061	BY-107	15 SAMPLE	S96T004231	0	DSC-02	LIQUID	N/A	8.79		Joules/g Dry
96001061	BY-107	16 DUP	S96T004231	0	DSC-02	LIQUID	8.79	6.59	N/A	Joules/g Dry
96001061	BY-107	17 SAMPLE	S96T004411	0	DSC-02	LIQUID	N/A	89.1		Joules/g Dry
96001061	BY-107	18 DUP	S96T004411	0	DSC-02	LIQUID	89.1	30.7	N/A	Joules/g Dry

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12368

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001061	BY-107	19 SAMPLE	S96T004412	0	DSC-02	LIQUID	N/A	19.7		Joules/g Dry
96001061	BY-107	20 DUP	S96T004412	0	DSC-02	LIQUID	19.7	20.1	N/A	Joules/g Dry

Final page for worklist # 12368

Blandina Valenzuela
Analyst Signature

8-27-96
Date

Analyst Signature

Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12427

Analyst: BDV Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for BY-107. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001061	BY-107	1 SAMPLE	S96T004232	0	DSC-02	LIQUID	<u>N/A</u>	<u>17.5</u>		Joules/g Dry
96001061	BY-107	2 DUP	S96T004232	0	DSC-02	LIQUID	<u>17.5</u>	<u>95.7</u>	<u>N/A</u>	Joules/g Dry
96001061	BY-107	3 SAMPLE	S96T004346	0	DSC-02	LIQUID	<u>N/A</u>	<u>40.2</u>		Joules/g Dry
96001061	BY-107	4 DUP	S96T004346	0	DSC-02	LIQUID	<u>40.2</u>	<u>2.12</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 12427

Blandina Valenzuela 8-28-96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12579

Analyst: DeD Instrument: DSC0 1 Book # 12N14-B

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

Worklist Comment: Please analyze BY-107 on Mettler DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>25.1</u>	<u>N/A</u>	Joules/g
96001061	BY-107	2 SAMPLE	S96T004232	1	DSC-01	LIQUID	<u>N/A</u>	<u>78.8</u>		Joules/g
96001061	BY-107	3 DUP	S96T004232	1	DSC-01	LIQUID	<u>78.8</u>	<u>80.1</u>	<u>N/A</u>	Joules/g

Final page for worklist # 12579

David C. Dunham
Analyst Signature

9-3-96
Date

Reedlight
Analyst Signature

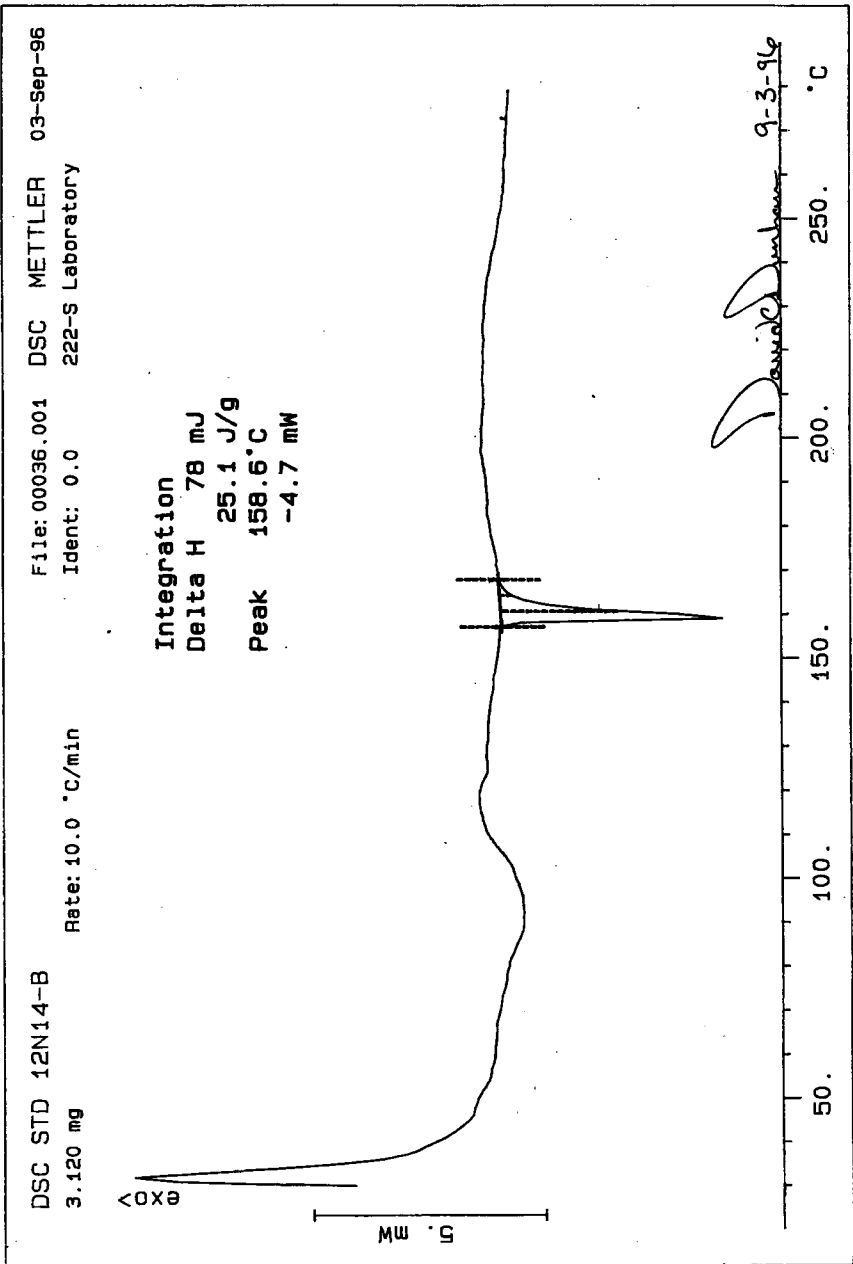
9/5/96
Date

Verified/Validated by
Blandina
Valenzuela
9-6-96

Data Entry Comments: S96T004232 results are the sum of two exotherms.

The thermograms do not resemble the previously run thermograms.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 154 TO 164.



S96T004232 SAM N2

13.560 mg

Rate: 10.0 °C/min

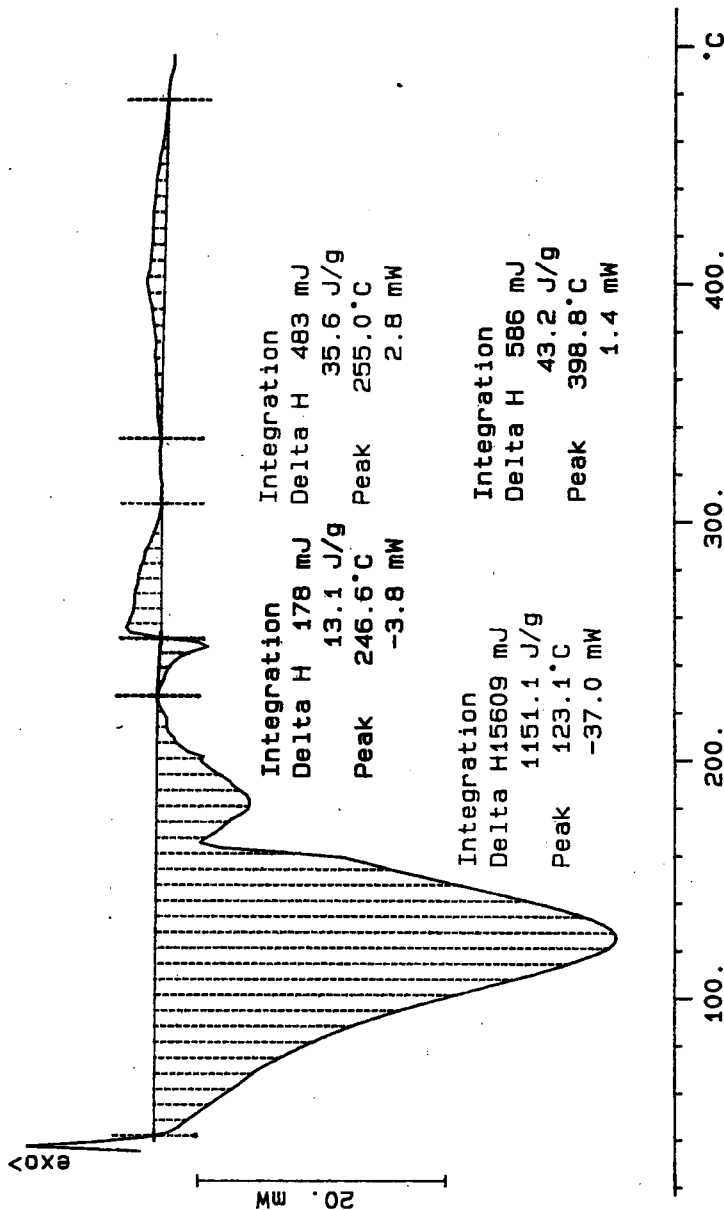
File: 00038.001

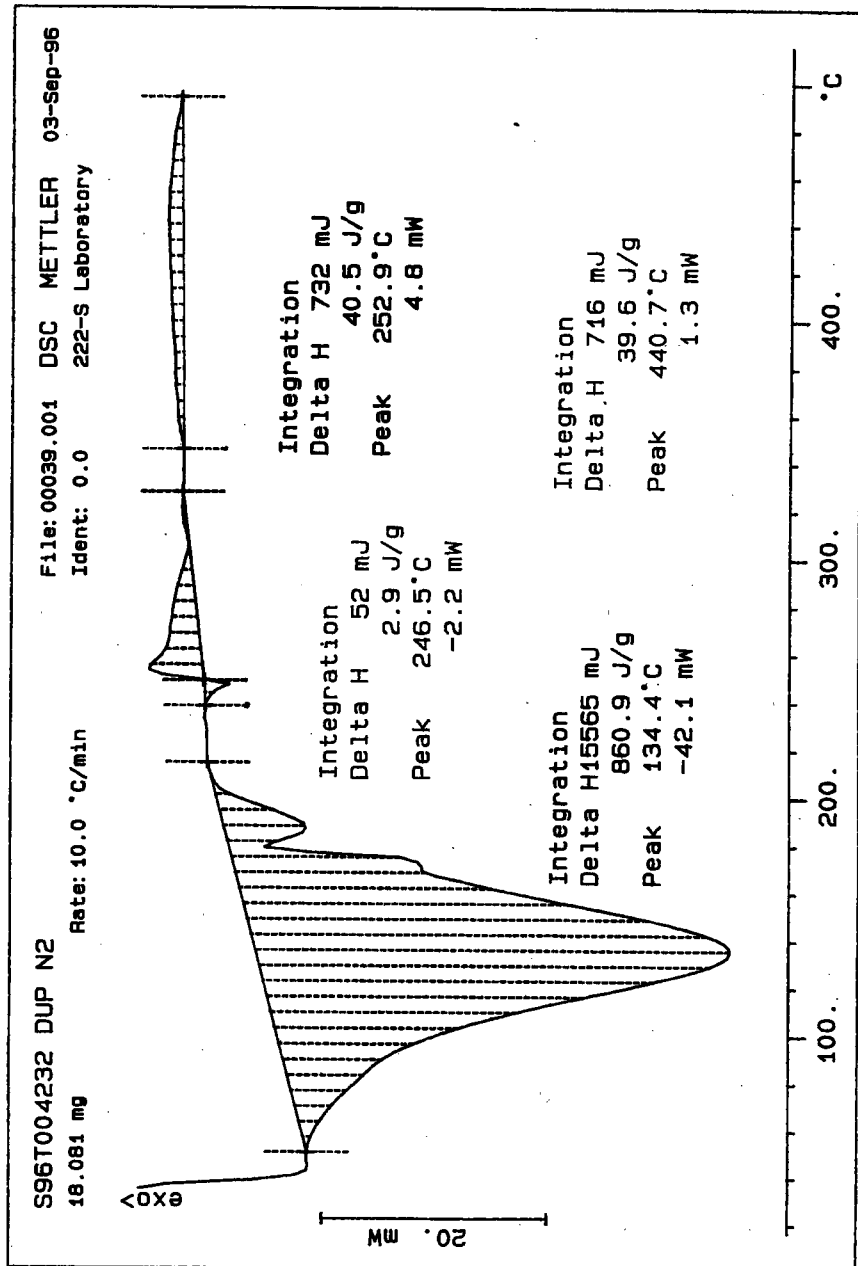
DSC METTLER

03-Sep-96

Ident: 0.0

222-S Laboratory





LABCORE Data Entry Template for Worklist# 12580

Analyst: Dcd Instrument: DSC0 3 Book # 12N14-B

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

Worklist Comment: Please analyze BY-107 reruns on the Perkin Elmer under N2. gW

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>26.69</u>	<u>N/A</u>	Joules/g
96000836	BY-107	2 SAMPLE	S96T003872	1	DSC-03	LIQUID	<u>N/A</u>	<u>12.63</u>		Joules/g
96000836	BY-107	3 DUP	S96T003872	1	DSC-03	LIQUID	<u>12.63</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 12580

Daniel D. Duncan 9-3-96
Analyst Signature Date

Ne Wright 9/5/96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
9-6-96

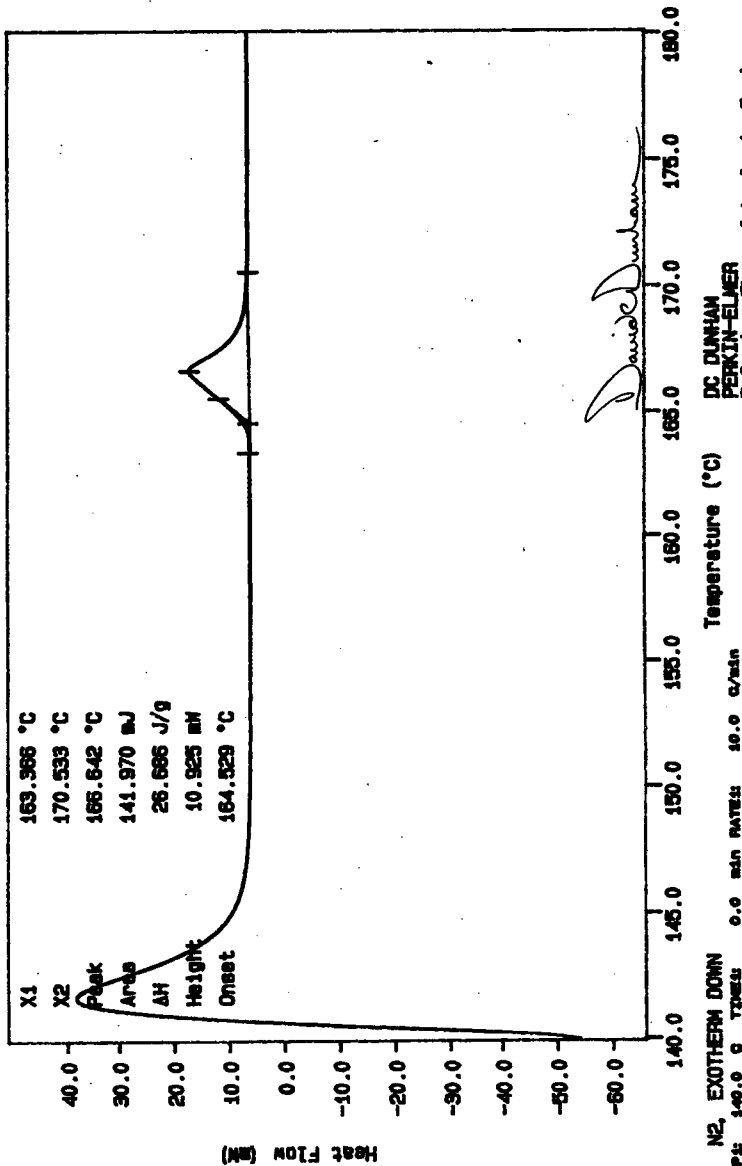
Data Entry Comments:

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

Curve 1: DSC
File Infor: IN0090301 Tue Sep 3 09:10:05 1996

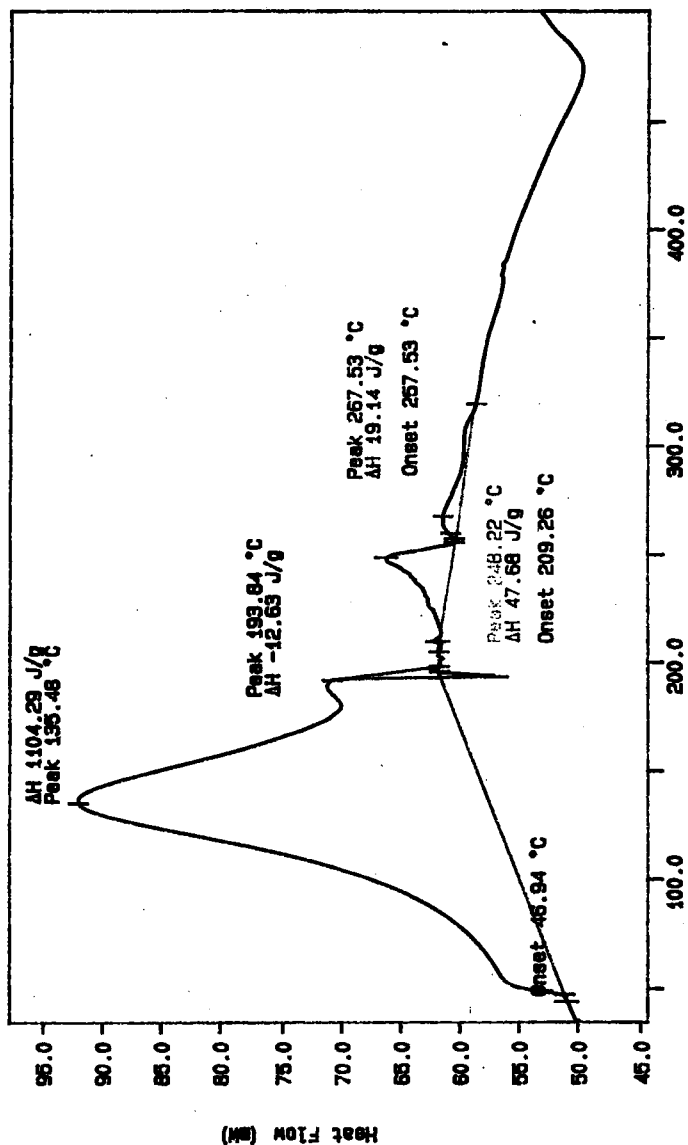
Sample Weight: 5.320 mg

12N14-B INDUIM AT 10C/MIN (SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 158 TO 160.)



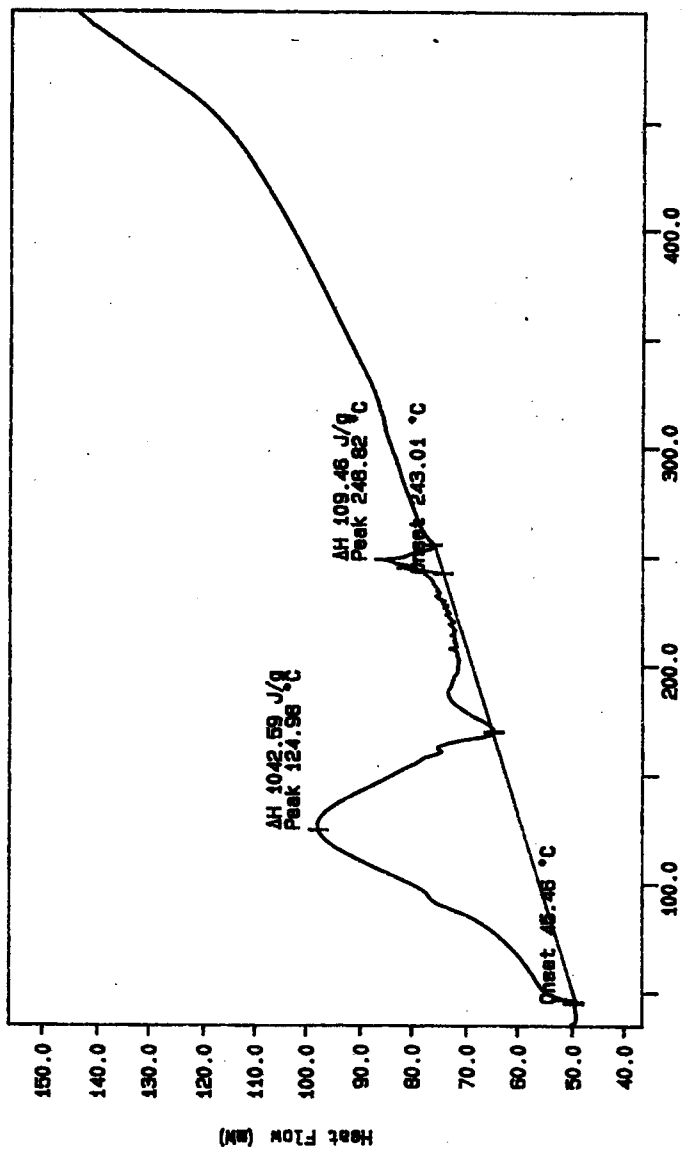
N2, EXOTHERM DOWN
163.8 g
0.0 min RATE: 10.0 c/min
DC DUNHAM
PERKIN-ELMER
7 Series Thermal Analysis System

Curve 1: DSC
 File info: SAM090301 Tue Sep 3 13:15:49 1986
 Sample Weight: 12.300 mg
 9967003872



N2 10C/min
 TIME 55.8 g
 0.0 min RATE 50.0 g/min
 DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mod 500

Curve 1: DSC
 File Info: SAM090302 Tue Sep 3 15:50:14 1986
 Sample Weight: 14.420 mg
 986T003872 DUP



N2 10C/min
 TIME: 00:08
 TIME: 00:08
 0.0 min RATE: 10.0 C/min
 DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Sep 3 1986

LABCORE Data Entry Template for Worklist# 12698

Analyst: BDV Instrument: DSC01 Book # _____

Method: LA-514-113 Rev/Mod _____

Worklist Comment: Dry DSC for BY-107 (reruns). bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96000836	BY-107	1 SAMPLE	S96T003872	1		DSC-02	LIQUID	N/A	24.5 ⁵ ₁₆	9-6-96 ⁷⁶ BDV	Joules/g Dry
96000836	BY-107	2 DUP	S96T003872	1		DSC-02	LIQUID	24.5	Ø	N/A	Joules/g Dry
96001061	BY-107	3 SAMPLE	S96T004232	1		DSC-02	LIQUID	N/A	154.6		Joules/g Dry
96001061	BY-107	4 DUP	S96T004232	1		DSC-02	LIQUID	154.6	157.2	N/A	Joules/g Dry

Final page for worklist # 12698

Blandina Valenzuela 9-6-96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

10910

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

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>59.09*</u>	<u>N/A</u>	%
96000836	BY-107	2 SAMPLE	S96T003507	0	TGA-03	SOLID	<u>N/A</u>	<u>12.28</u>		%
96000836	BY-107	3 DUP	S96T003507	0	TGA-03	SOLID	<u>12.28</u>	<u>7.81</u>	<u>N/A</u>	%
96000836	BY-107	4 SAMPLE	S96T003510	0	TGA-03	SOLID	<u>N/A</u>	<u>28.9</u>		%
96000836	BY-107	5 DUP	S96T003510	0	TGA-03	SOLID	<u>28.9</u>	<u>29.55</u>	<u>N/A</u>	%

Final page for worklist #

10910

See Attached for Signatures
Analyst Signature **Date**

RJ Jones 7-22-96
Analyst Signature **Date**

Validated by JH Anastro 7-23-96

Data Entry Comments:

S96T003507 is the sum of two weight loss steps.

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

LABCORE Data Entry Template for Worklist#

10910

Analyst: RLK Instrument: TGA0 Book # 820FA

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96000836	BY-107	2 SAMPLE	S96T003507	0	TGA-01	SOLID	N/A			%
96000836	BY-107	3 DUP	S96T003507	0	TGA-01	SOLID			N/A	%
96000836	BY-107	4 SAMPLE	S96T003510	0	TGA-01	SOLID	N/A			%
96000836	BY-107	5 DUP	S96T003510	0	TGA-01	SOLID			N/A	%

Final page for worklist # 10910

RLK 7/19/96
Analyst Signature Date

Analyst Signature Date

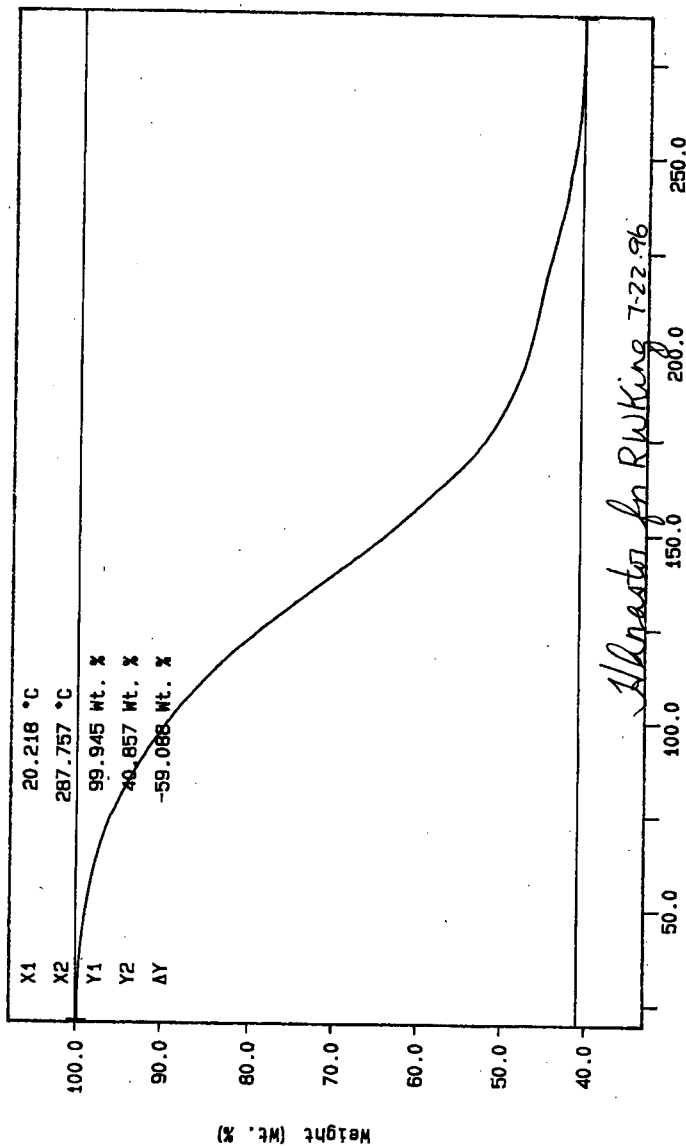
TGA
DSC-03 instrument was used.
7-25-96
DBY

Data Entry Comments:

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

Curve 1: TGA
 File info: TER071802 Thu Jul 18 05:17:48 1996
 Sample Weight: 24.475 mg
 TGA STD 82NB-A

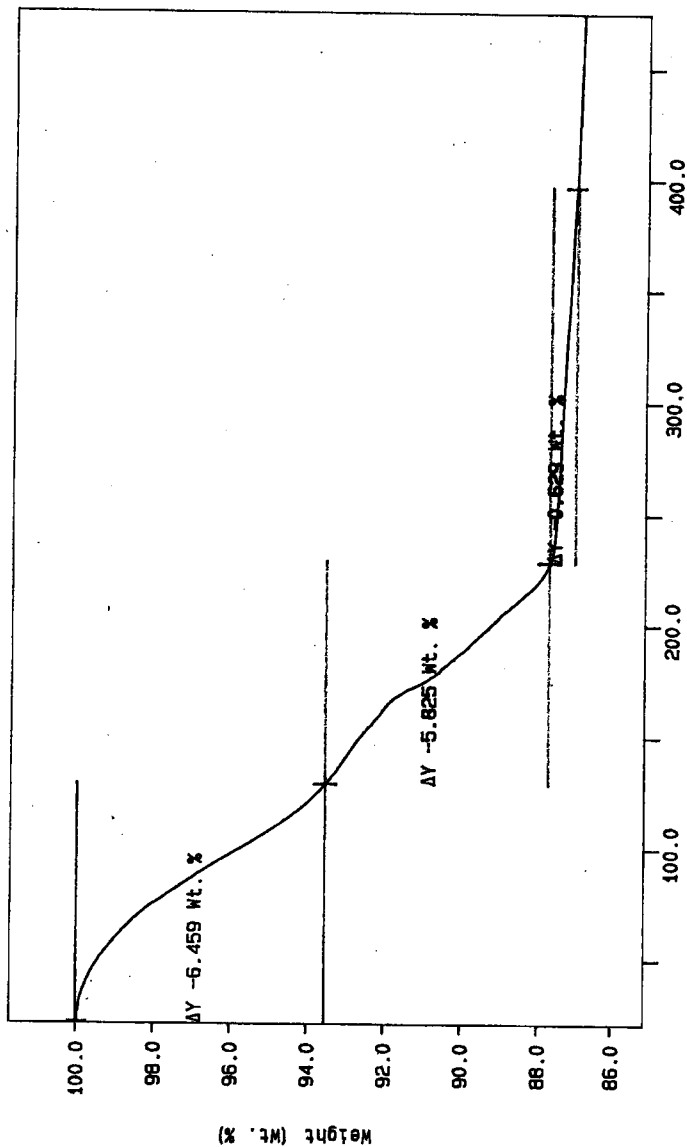
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 164 TO 168.



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

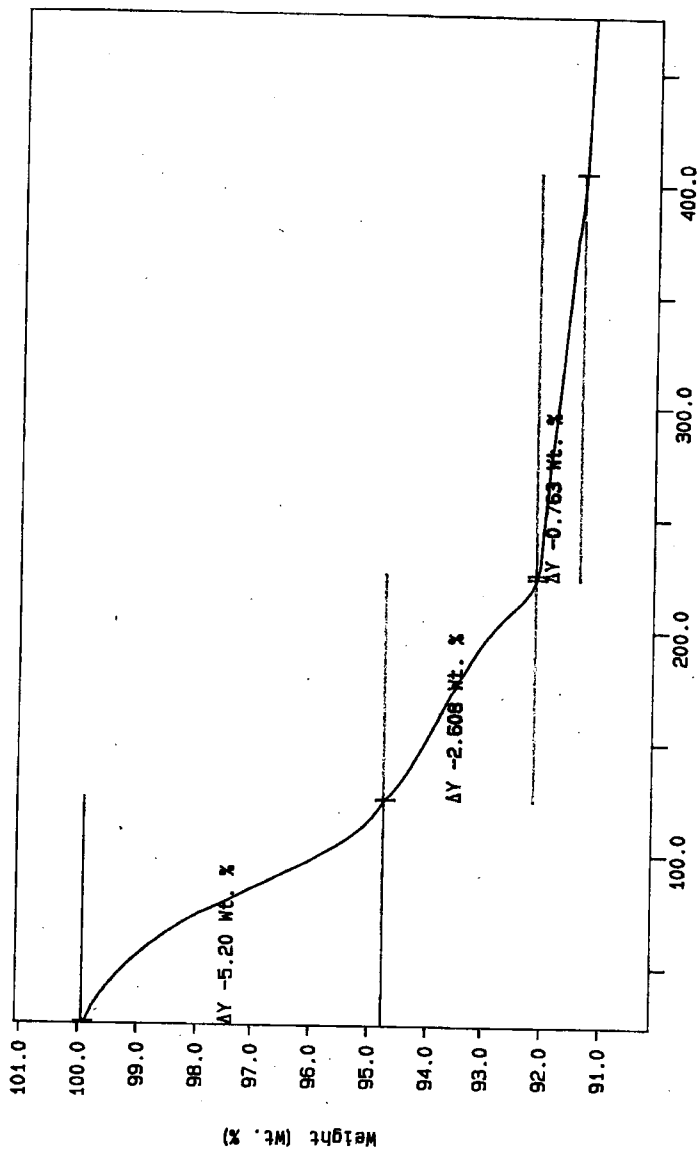
AS-PURINTON *Ret. Name*
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Jul 18 05:54:13 1996

Curve 1: TGA
 File info: SAM071807 Thu Jul 18 19:23:46 1996
 Sample Weight: 20.689 mg
 S96T003507



10C/MIN N2
 TEMP: 35.0 °C
 TIME: 00:00
 0.0 min RATE: 10.0 C/min
 RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Jul 18 21:15:24 1996

Curve 1: TGA
 File info: SAM071808 Thu Jul 18 21: 00: 34 1996
 Sample Weight: 17.942 mg
 S96T003507 DUP



10C/MIN N2
 TEMP: 50.0 °C
 TIME: 000.0 s

Temperature (°C)

0.0 min RATE: 10.0 C/min

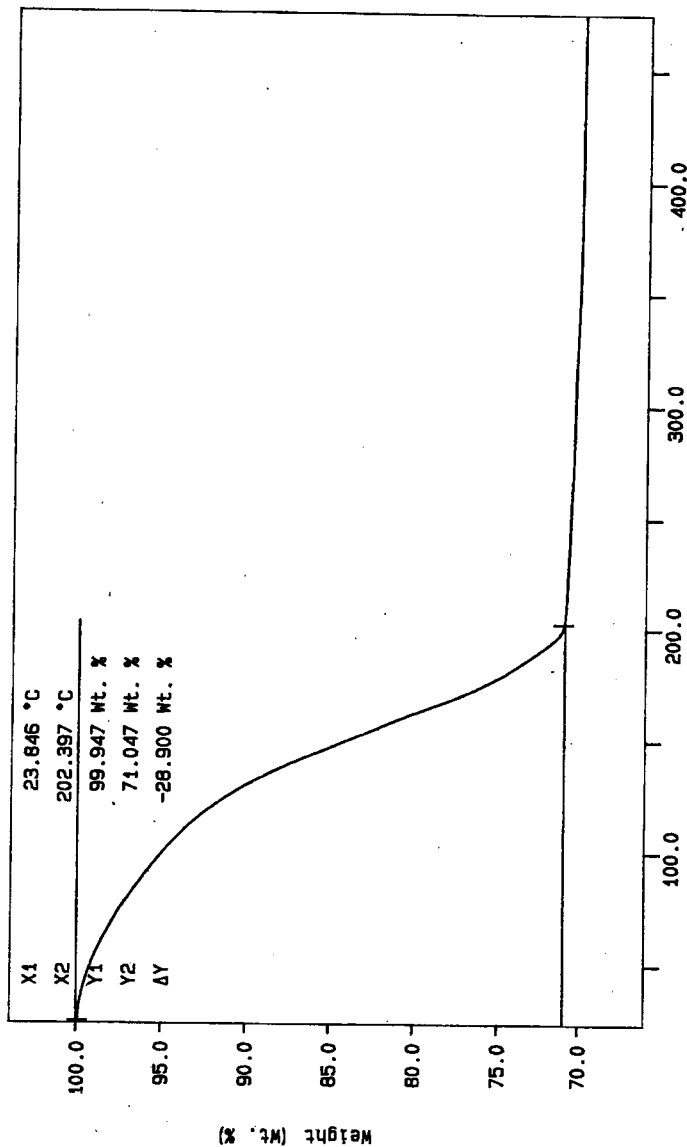
HW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Jul 18 21: 47: 59 1996

Curve 1: TGA

File Info: SAM071809 Thu Jul 18 22:23:12 1996

Sample Weight: 20.879 mg

S96T003510



10C/MIN N2

TEMP: 25.0 °C

TIME: 600.0 S

TIME: 0.0 min RATE: 10.0 °C/min

RM KING

PERKIN-ELMER

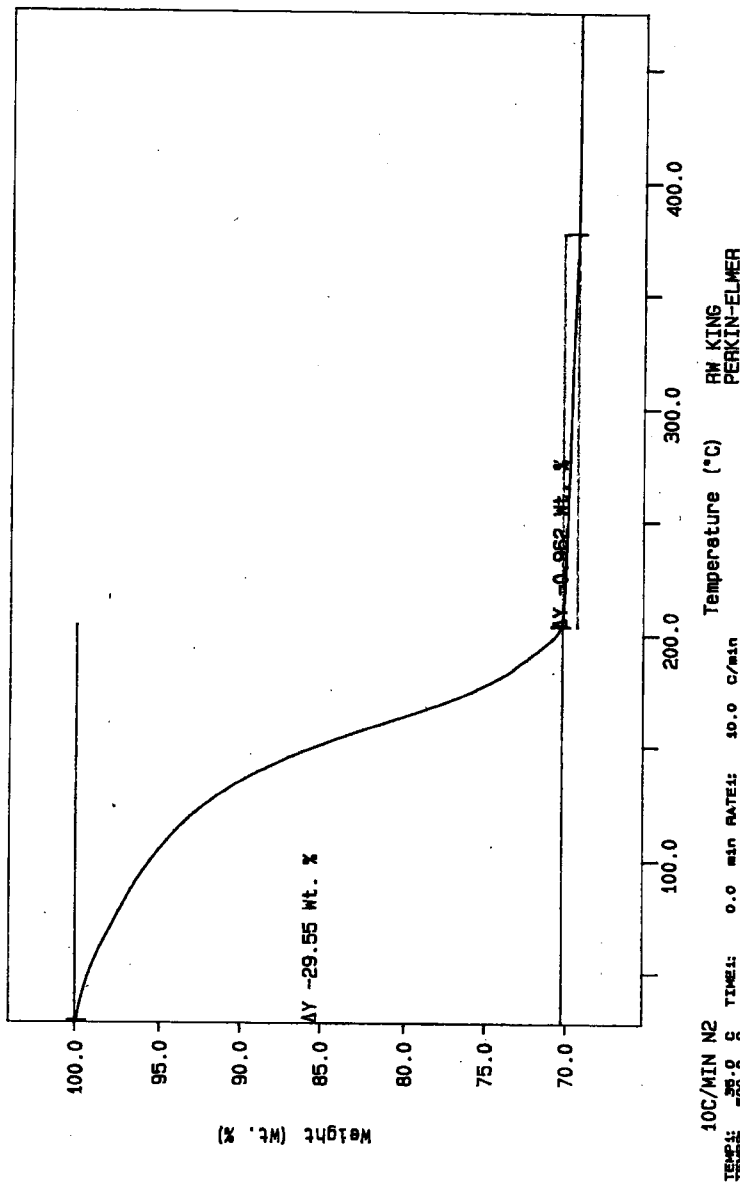
7 Series Thermal Analysis System

Thu Jul 18 22:28:31 1996

File info: SAM071901 Thu Jul 18 23:32:55 1996

Sample Weight: 21.650 mg

596T003510 DUP



RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Jul 19 00:13:53 1996

LABCORE Data Entry Template for Worklist#

10911

Analyst: RDM Instrument: TGA0 1 Book # 82W8A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>59.2</u>	<u>N/A</u>	<u>%</u>
96000836	BY-107	2 SAMPLE	S96T003526	0	TGA-01	SOLID	<u>N/A</u>	<u>41.75</u>		<u>%</u>
96000836	BY-107	3 DUP	S96T003526	0	TGA-01	SOLID	<u>41.75</u>	<u>46.92</u>	<u>N/A</u>	<u>%</u>
96000836	BY-107	4 SAMPLE	S96T003527	0	TGA-01	SOLID	<u>N/A</u>	<u>48.36</u>		<u>%</u>
		5 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.7</u>	<u>N/A</u>	<u>%</u>
96000836	BY-107	6 DUP	S96T003527	0	TGA-01	SOLID	<u>48.36</u>	<u>46.25</u>	<u>N/A</u>	<u>%</u>

Final page for worklist #

10911

See Attached for Signatures
Analyst Signature Date

R. J. Jones 7-22-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela 7-23-96

Data Entry Comments:

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

worklistrpt Version 2.1 05/15/95
07/18/96 09:51

Page: 1

LABCORE Data Entry Template for Worklist#

10911

Analyst: RON Instrument: TGA0 Book # B2N8AMethod: LA-560-112 Rev/Mod B-1

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96000836	BY-107	2 SAMPLE	S96T003526	0	TGA-01	SOLID	N/A			%
96000836	BY-107	3 DUP	S96T003526	0	TGA-01	SOLID			N/A	%
96000836	BY-107	4 SAMPLE	S96T003527	0	TGA-01	SOLID	N/A			%
96000836	BY-107	5 DUP	S96T003527	0	TGA-01	SOLID			N/A	%

Final page for worklist # 10911

RON 7/20/96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

S96T003526 N2

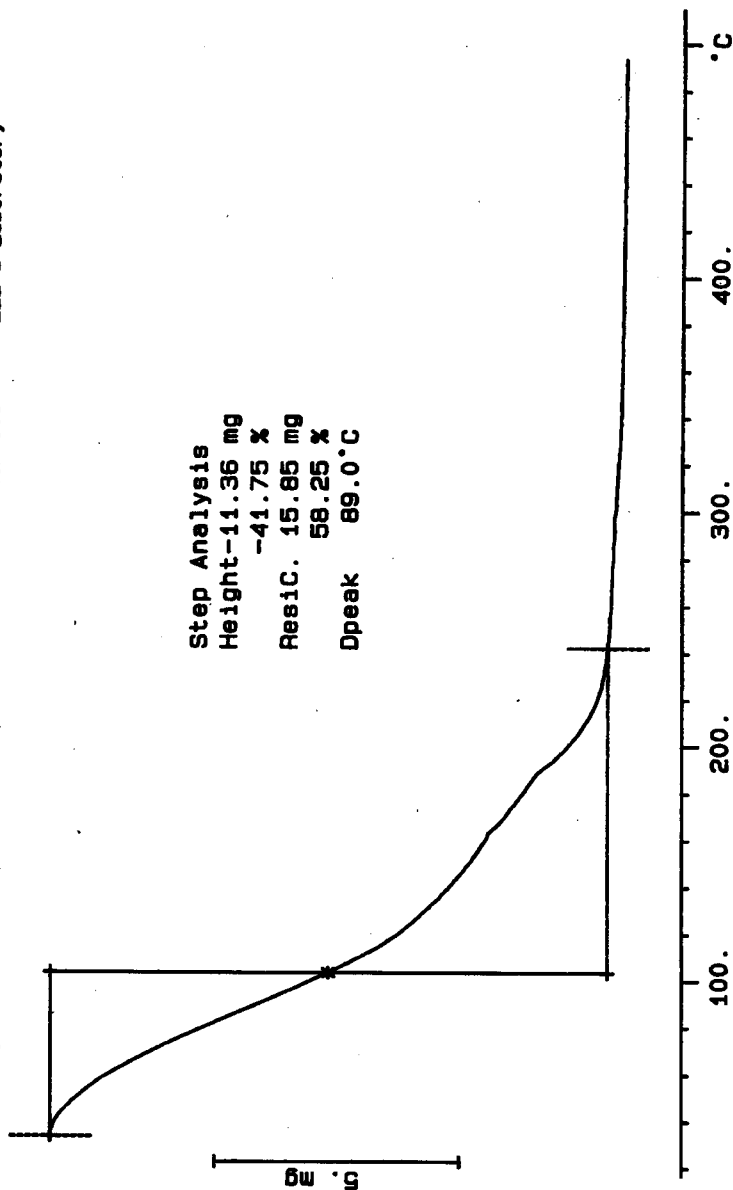
27.208 mg

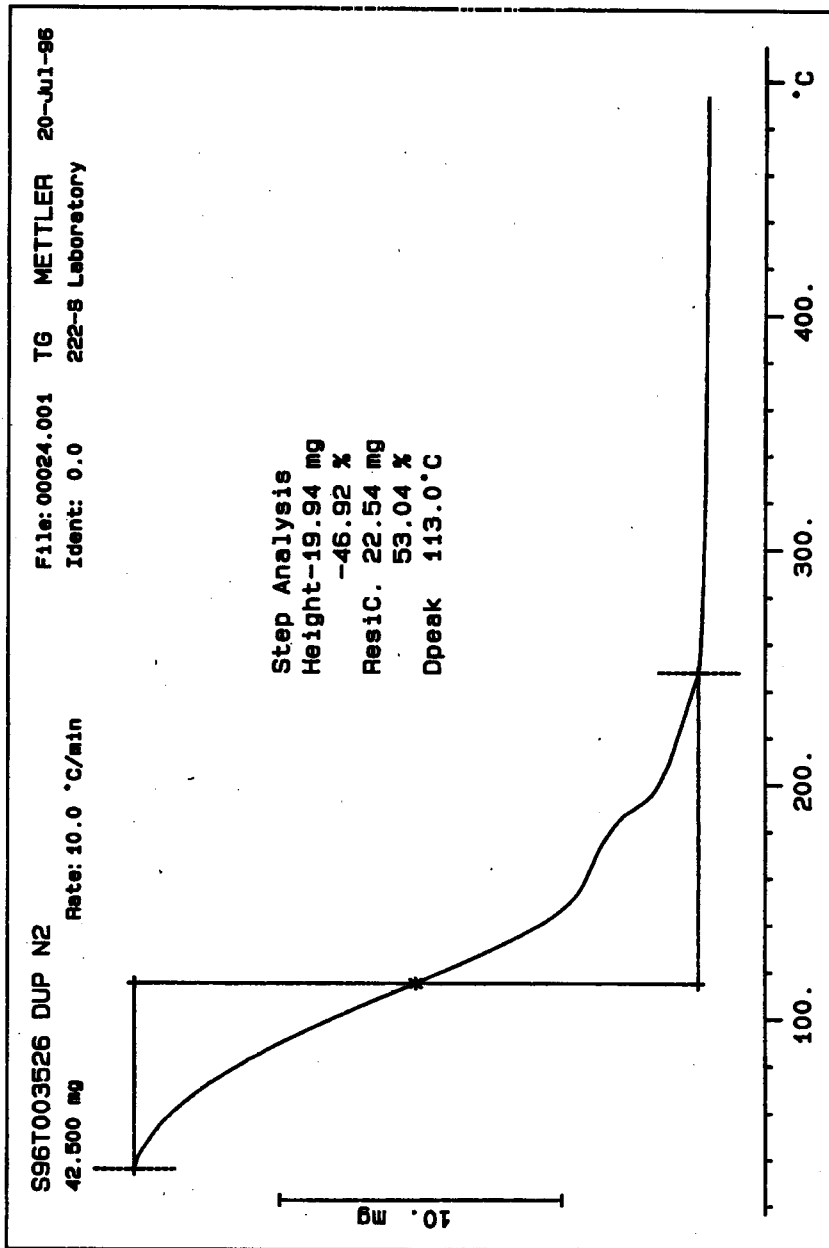
Rate: 10.0 °C/min

File: 00022.001 TG METTLER 20-Jul-86

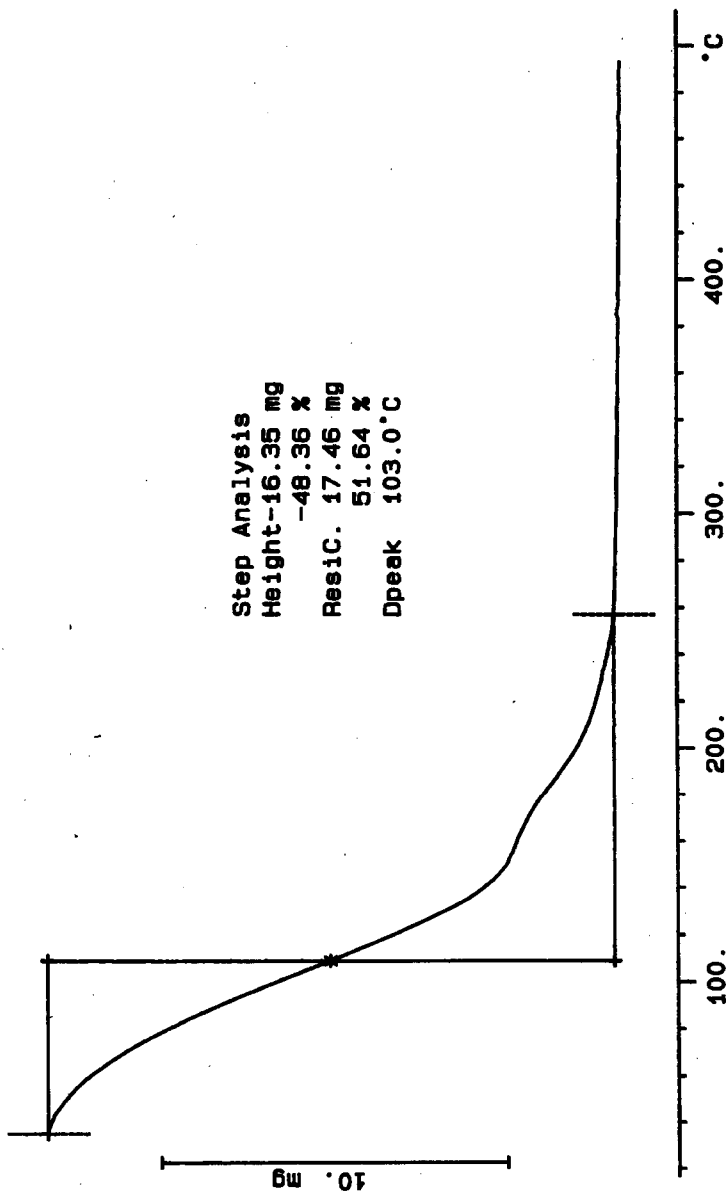
Ident: 0.0 222-S Laboratory

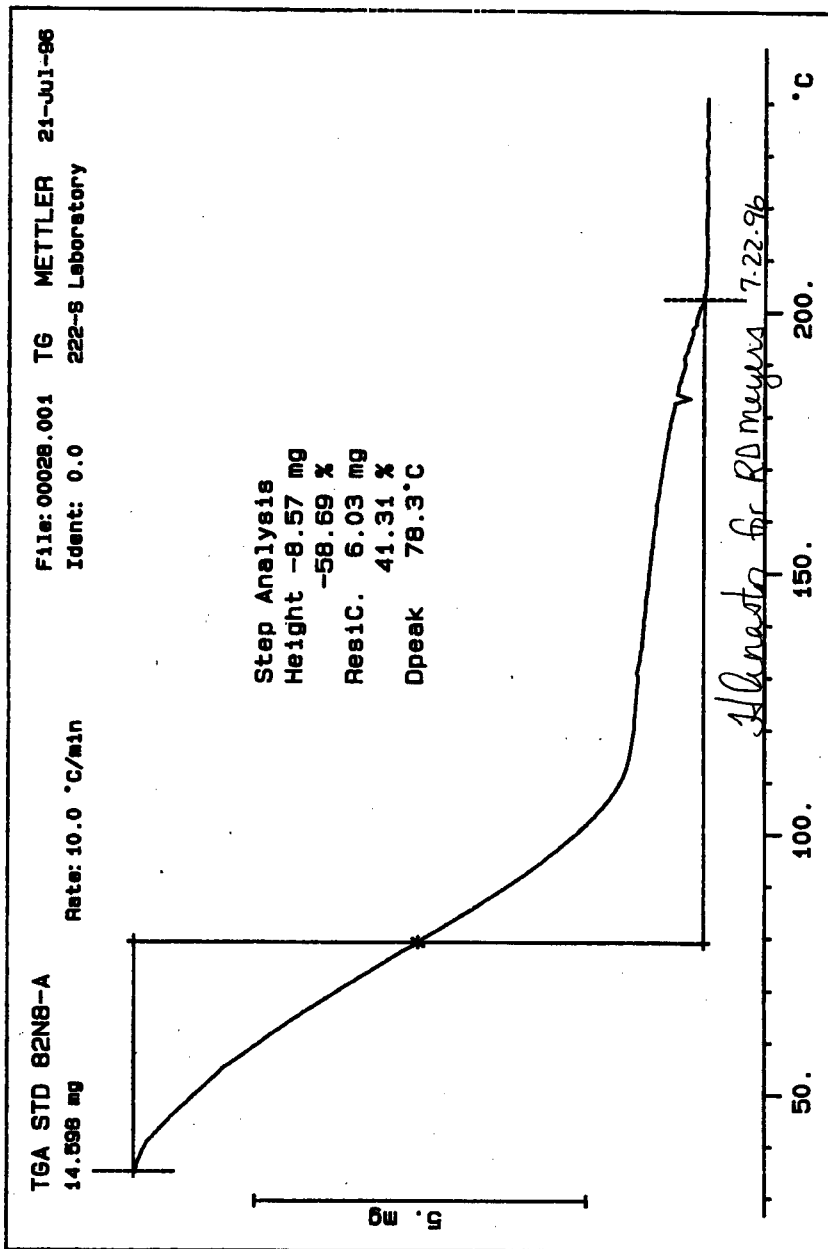
Step Analysis
Height-11.36 mg
-41.75 %
ResidC. 15.85 mg
58.25 %
Dpeak 89.0 °C

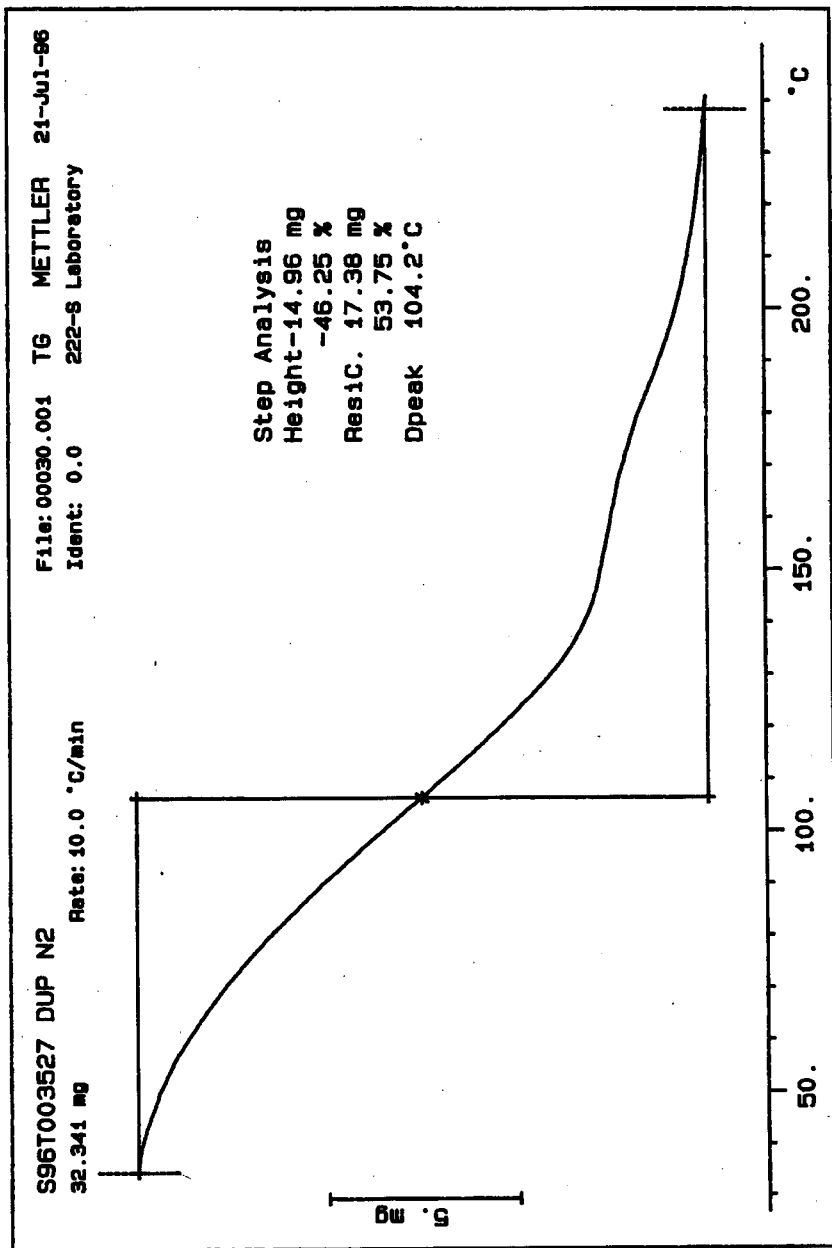




S96T003527 SAMPLE N2
33.803 mg
Rate: 10.0 °C/min
File: 00026.001 TG METTLER 20-Jul-96
Ident: 0.0 222-S Laboratory







LABCORE Data Entry Template for Worklist#

10912

Analyst: RDM Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	<u>59.2</u>	<u>59.5</u>	<u>N/A</u>	%
96000836	BY-107	2	SAMPLE	S96T003528	0		TGA-03	SOLID	<u>N/A</u>	<u>36.44</u>		%
96000836	BY-107	3	DUP	S96T003528	0		TGA-03	SOLID	<u>36.44</u>	<u>36.79</u>	<u>N/A</u>	%
96000836	BY-107	4	SAMPLE	S96T003535	0		TGA-03	SOLID	<u>N/A</u>	<u>46.85</u>		%
96000836	BY-107	5	DUP	S96T003535	0		TGA-03	SOLID	<u>46.85</u>	<u>36.026</u>	<u>N/A</u>	%

Final page for worklist #

10912

See attached for Signatures
Analyst Signature Date

ES Jones 7-22-96
Analyst Signature Date

Validated by HAnastor 7.23.96

Data Entry Comments:

S96T003535 will be rerun due to high RPDs

+ differences in the thermogram.

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#

10912

Analyst: RPM Instrument: TGA0 Book # SLNBA

Method: LA-560-112 Rev/Mod (-)

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
96000836	BY-107	2	SAMPLE	S96T003528	0		TGA-01	SOLID	N/A			%
96000836	BY-107	3	DUP	S96T003528	0		TGA-01	SOLID			N/A	%
96000836	BY-107	4	SAMPLE	S96T003535	0		TGA-01	SOLID	N/A			%
96000836	BY-107	5	DUP	S96T003535	0		TGA-01	SOLID			N/A	%

Final page for worklist # 10912

RPM 7/20/96
Analyst Signature Date

Analyst Signature Date

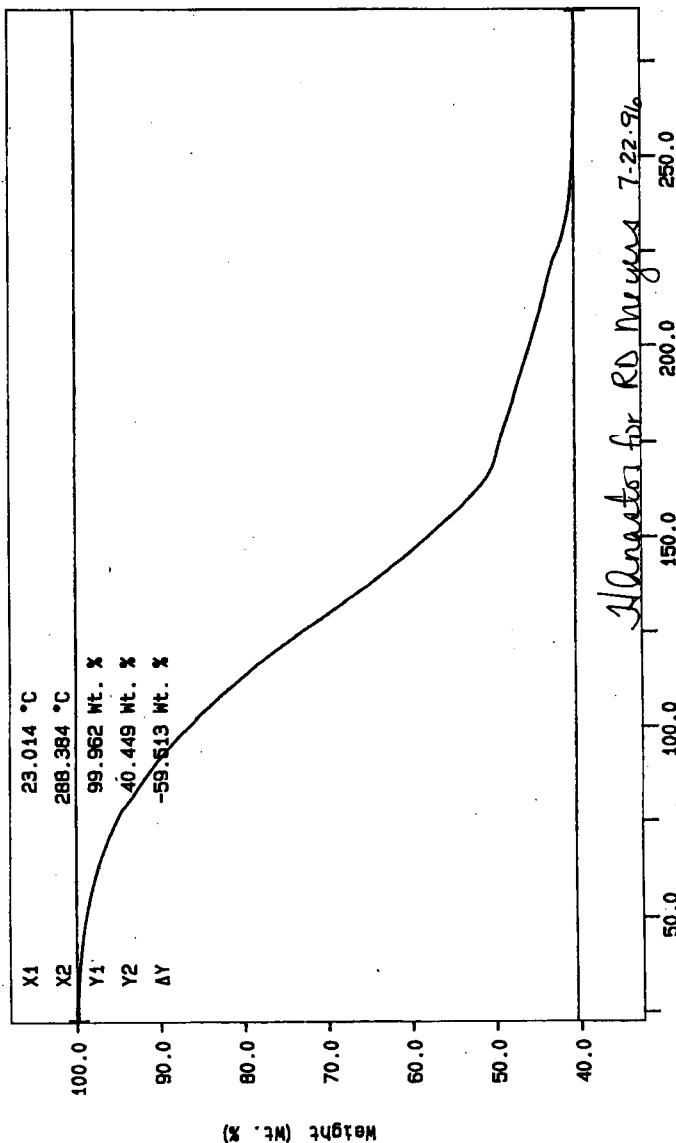
TGA-03 instrument was used.

Data Entry Comments:

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

Curve 1: TGA
 File Info: TER072001 Sat Jul 20 05:58:45 1996
 Sample Weight: 17.334 mg
 TGA STD 82NB-A

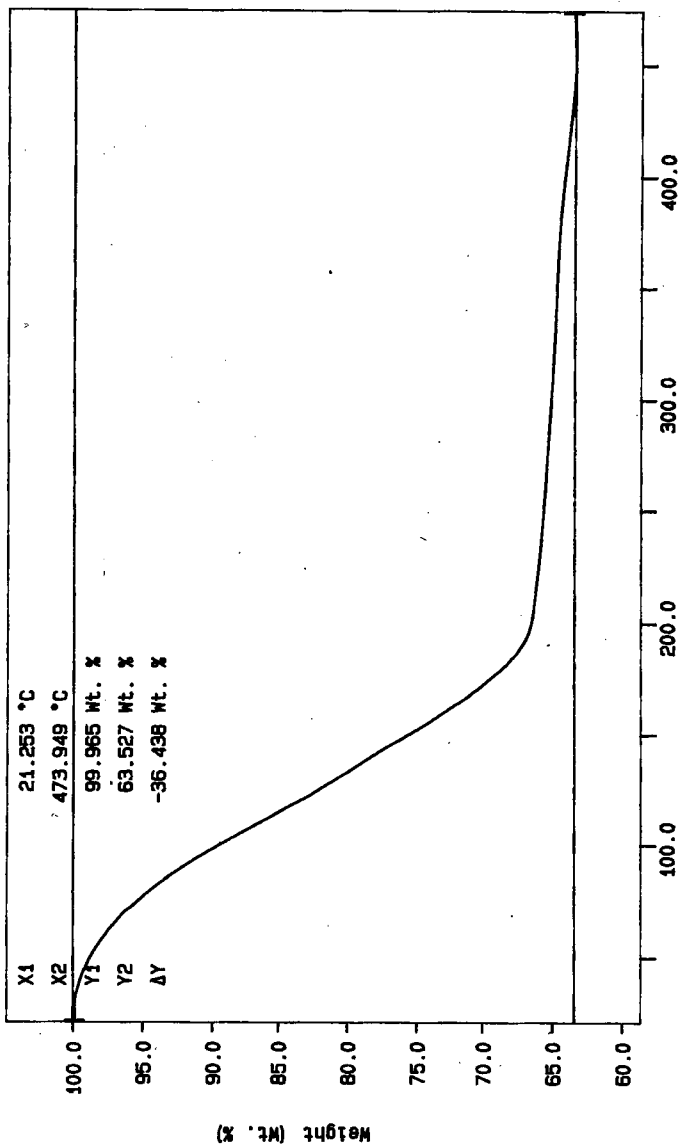
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 179 TO 183.



Signature for RO Meyers 7-22-96

N2 10C/MIN
 TEMP: 38.0 °C
 TIME: 388.0 s
 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Jul 20 09:24:51 1996

Curve 1: TGA
 File Info: SAM072001 Sat Jul 20 11:05:17 1996
 Sample Weight: 12.787 mg
 S96T003528



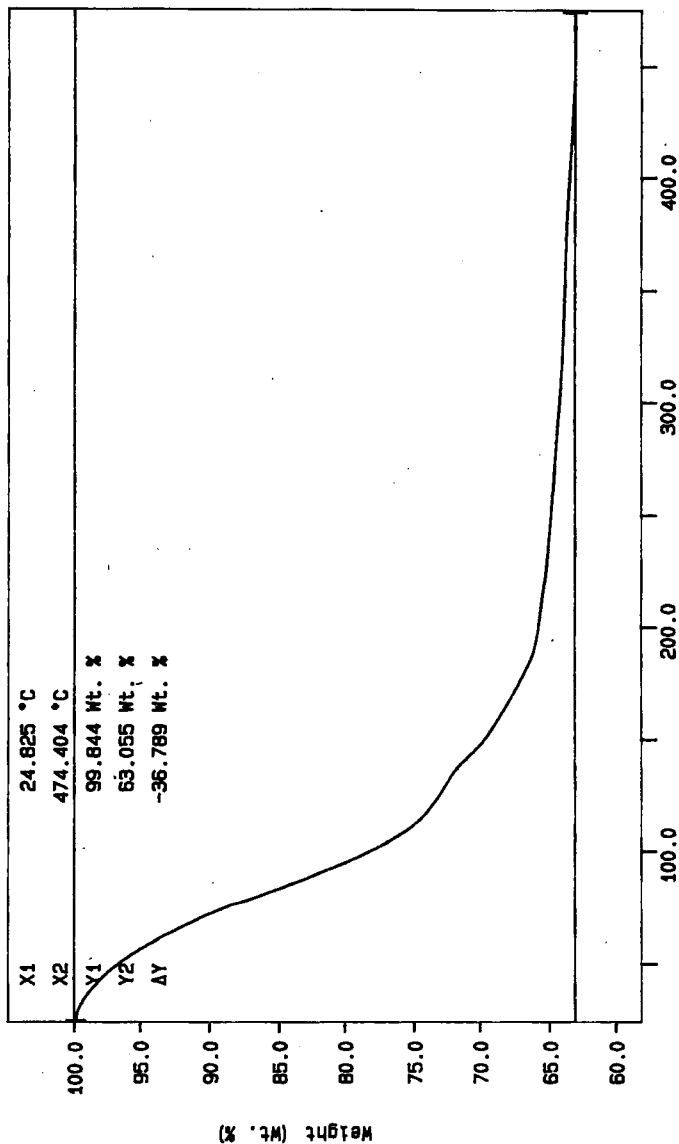
RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Jul 20 12:00:25 1996

Temperature (°C)

10.0 c/min RATE: 0.0 min RATE: 10.0 c/min

10C/MIN N2
 TIME: 00:08
 TEMP: 650.0 °C

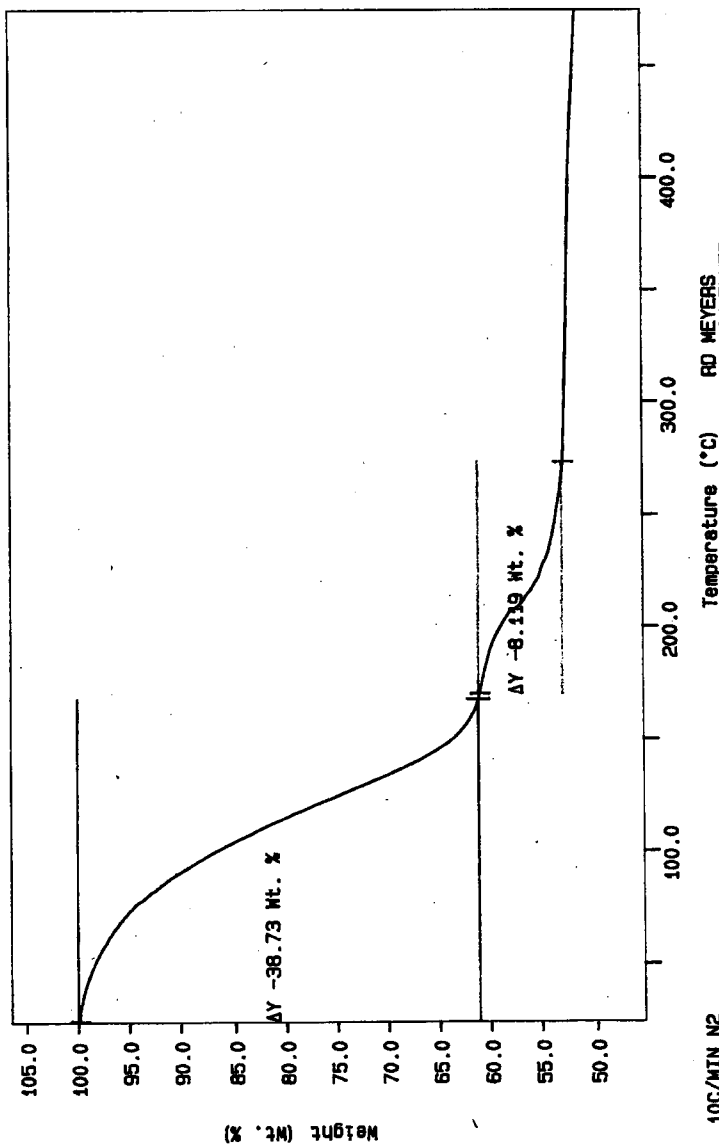
Curve 1: TGA
 File Info: SAM072002 Sat Jul 20 13:11:34 1996
 Sample Weight: 3.764 mg
 S96T003528DUP



181

10C/MIN N2
 TEMPI 350.0 °C
 TIME: 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Jul 20 14:55:45 1996

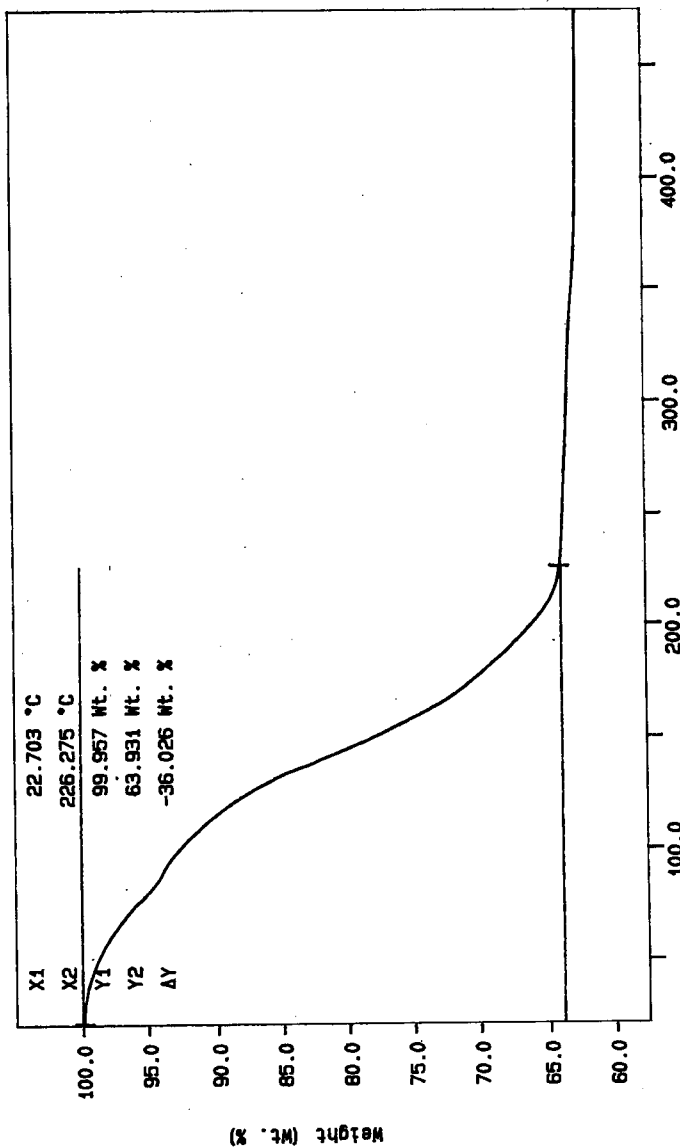
Curve 1: T6A
 File Info: SAM072023 Sat Jul 20 16:00:21 1996
 Sample Weight: 8.863 mg
 S96T003535



RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Jul 20 16:28:51 1996

10C/MIN N2
 TEMP: 500.8 C
 TIME: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File info: SAM072004 Sat Jul 20 21:32:37 1996
 Sample Weight: 17.397 mg
 S96T003535 DUP



SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 01:32:32 1996

Temperature (°C)

10C/MIN N2
 0.0 min RATE: 10.0 C/min

TEMP: 200.0 °C
 TIME: 0.0

LABCORE Data Entry Template for Worklist#

10914

Analyst: RDM Instrument: TGA0 3 Book # 82N8AMethod: LA-514-114 Rev/Mod C-1

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.8</u>	<u>N/A</u>	%
96000836	BY-107	2 SAMPLE	S96T003537	0	TGA-03	SOLID	<u>N/A</u>	<u>48.93</u>		%
96000836	BY-107	3 DUP	S96T003537	0	TGA-03	SOLID	<u>48.93</u>	<u>47.10</u>	<u>N/A</u>	%
96000836	BY-107	4 SAMPLE	S96T003538	0	TGA-03	SOLID	<u>N/A</u>	<u>31.24</u>		%
96000836	BY-107	5 DUP	S96T003538	0	TGA-03	SOLID	<u>31.24</u>	<u>29.86</u>	<u>N/A</u>	%

Final page for worklist # 10914

See Attached for Signatures
Analyst Signature DateRDM 7-22-96
Analyst Signature DateVerified/Validated by
Blandina
Valenzuela 7-23-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

10914

Analyst: RPM Instrument: TGA0 Book # 02N9A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96000836	BY-107	2 SAMPLE	S96T003537	0	TGA-01	SOLID	N/A			%
96000836	BY-107	3 DUP	S96T003537	0	TGA-01	SOLID			N/A	%
96000836	BY-107	4 SAMPLE	S96T003538	0	TGA-01	SOLID	N/A			%
96000836	BY-107	5 DUP	S96T003538	0	TGA-01	SOLID			N/A	%

Final page for worklist #

10914

Analyst Signature RPM Date 7/21/96

Analyst Signature _____ Date _____

Lusie M. Julton

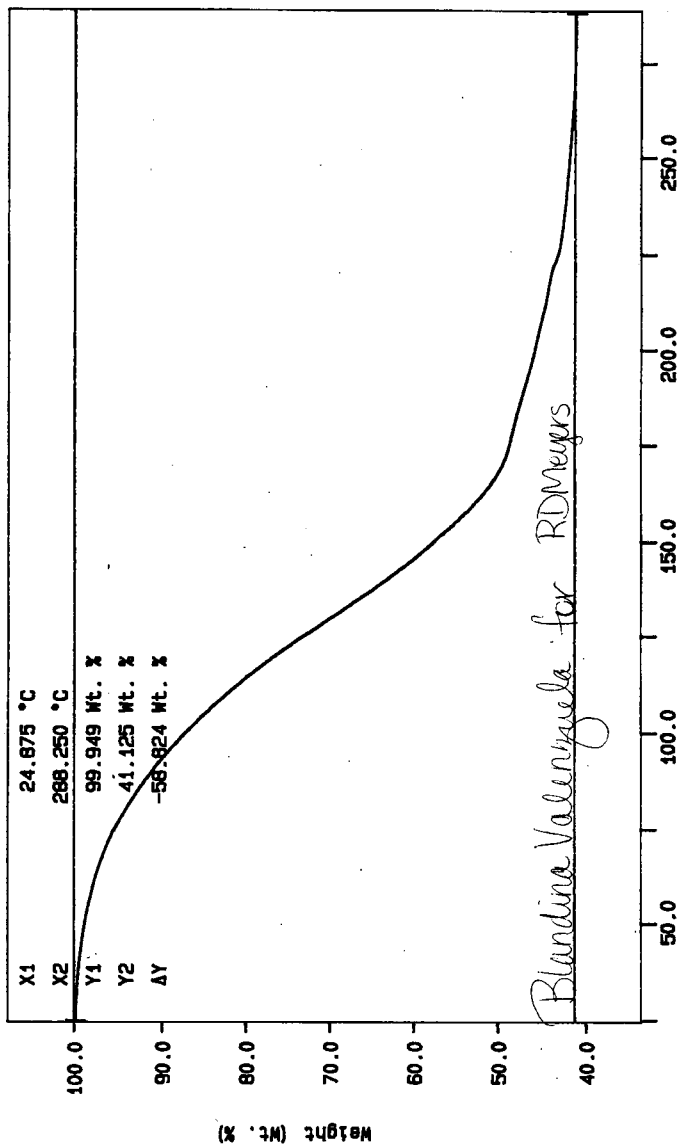
TGA-03 Instrument was used.

Data Entry Comments:

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

Curve 1: TGA
 File Info: TER072101 Sun Jul 21 09:04:19 1996
 Sample Weight: 15.977 mg
 TGA STD 82N8-A

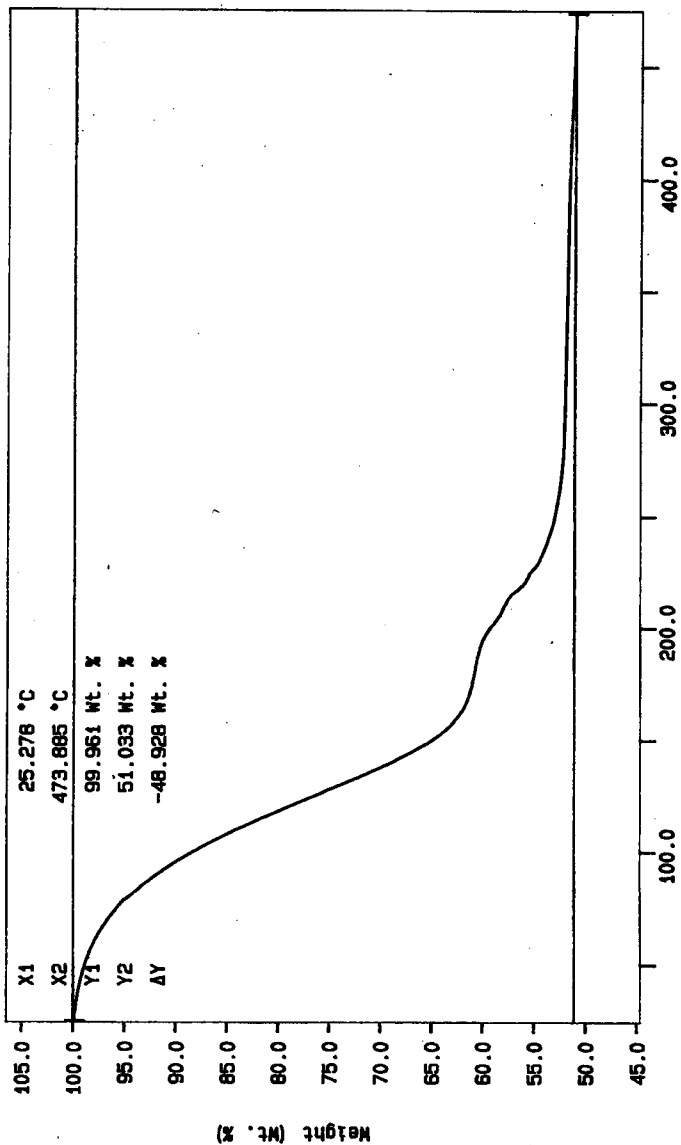
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 186 TO 190.



RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 14:00:54 1996

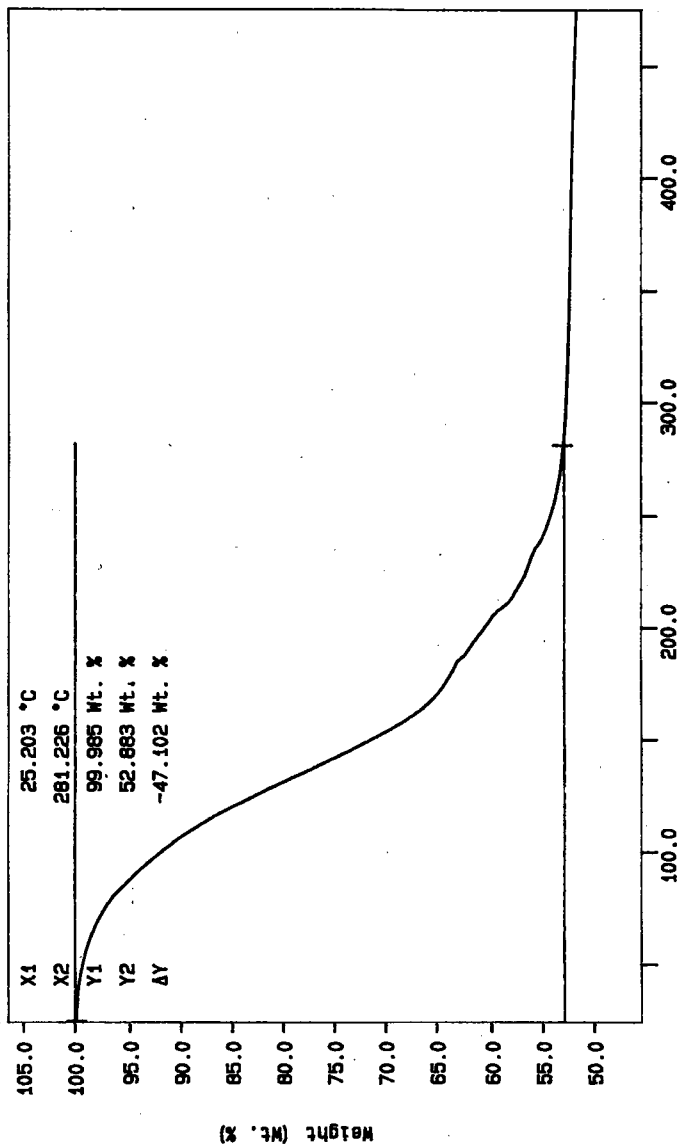
N2 10C/MIN
 TEMP: 350.0 °C
 TIME: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAM072101 Sun Jul 21 15:05:45 1996
 Sample Weight: 10.015 mg
 S96T003537



10C/MIN N2
 TEMP: 26.8 °C
 TIME: 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 15:11:39 1996

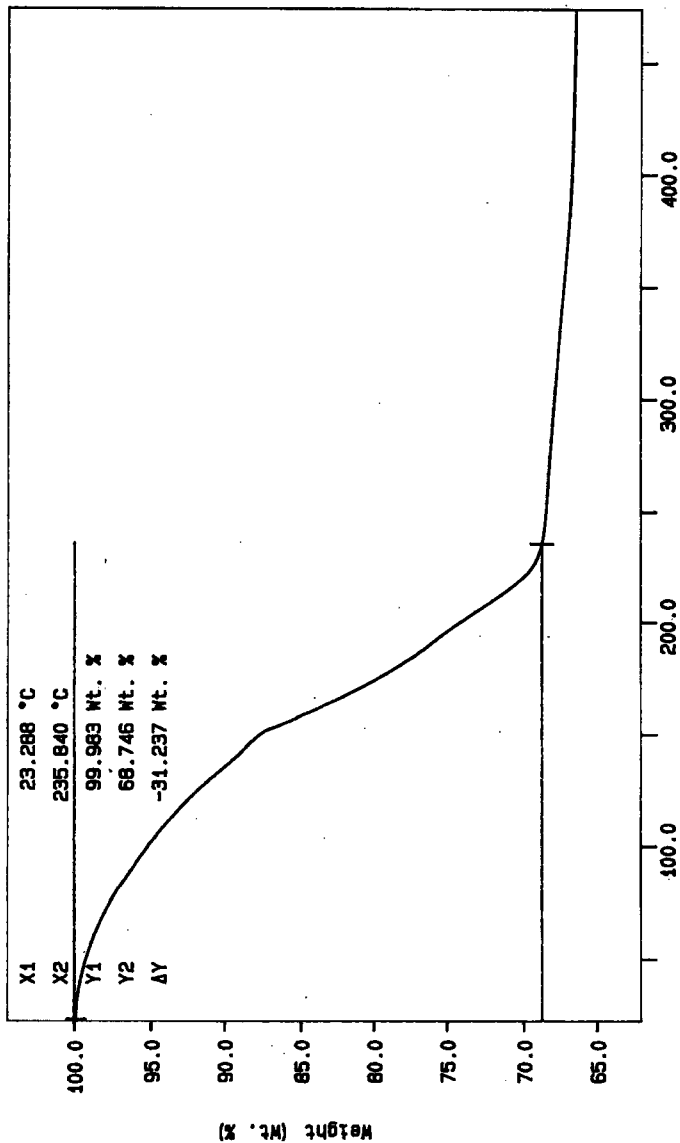
Curve 1: TGA
 File Info: SAM072102 Sun Jul 21 16:15:59 1996
 Sample Weight: 16.400 mg
 S96T003537DUP



RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 16:08:49 1996

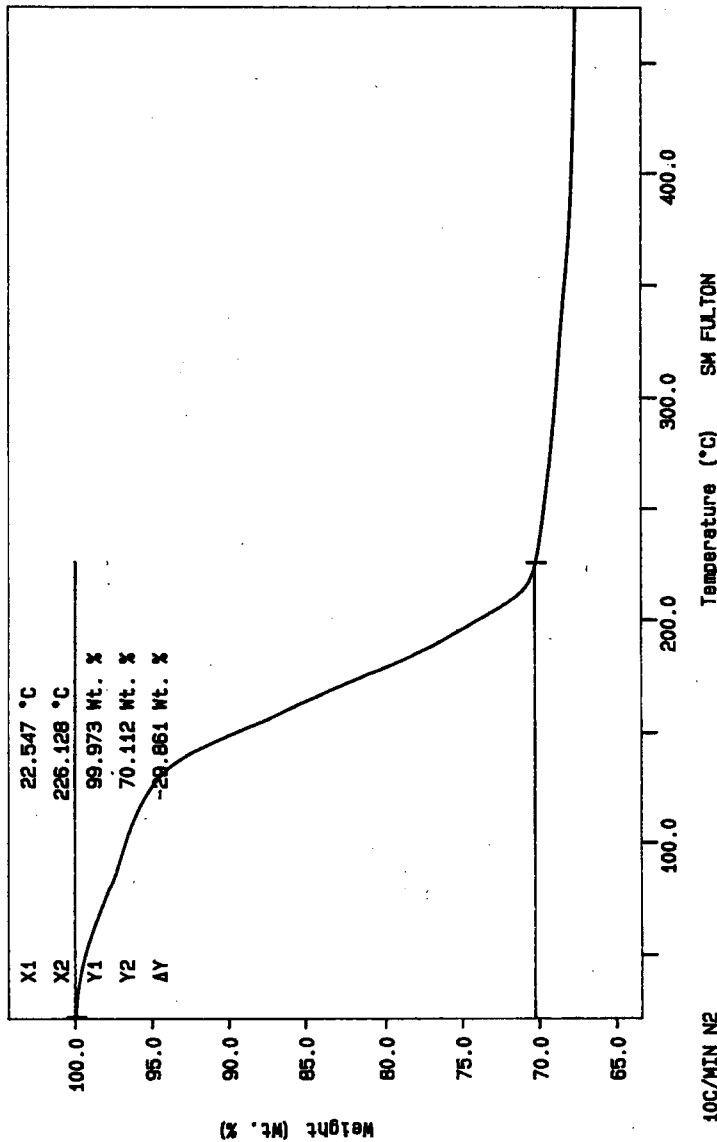
10C/MIN N2
 TEMP: 28.8 °C
 TIME: 00:00:00
 RATE: 10.0 °C/min

Curve 1: TGA
 File info: SAM072104 Sun Jul 21 19:14:10 1996
 Sample Weight: 23.083 mg
 -996085578UP-SMF 7/21/96
 S96T002538



100/MIN N2
 TIME: 00:08
 0.0 min RATE: 10.0 C/min
 SM FILT ON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 20:07:31 1996

Curve 1: T6A
 File Info: SAN072105 Sun Jul 21 21:04:30 1996
 Sample Weight: 30.065 mg
 S96T003538 DUP



10C/MIN N2
 TEMPERATURE 30.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 SM FLATON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Jul 21 21:23:54 1996

LABCORE Data Entry Template for Worklist#

11076

Analyst: KRM Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: BY-107 TGA Reruns. RUN UNDER N2. hla

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>59.12*</u>	<u>N/A</u>	%
96000836	BY-107	2 SAMPLE	S96T003535	1	TGA-03	SOLID	<u>N/A</u>	<u>36.18</u>		%
96000836	BY-107	3 DUP	S96T003535	1	TGA-03	SOLID	<u>36.18</u>	<u>36.50</u>	<u>N/A</u>	%

Final page for worklist #

11076

[Signature] 7-3-96
Analyst Signature Date

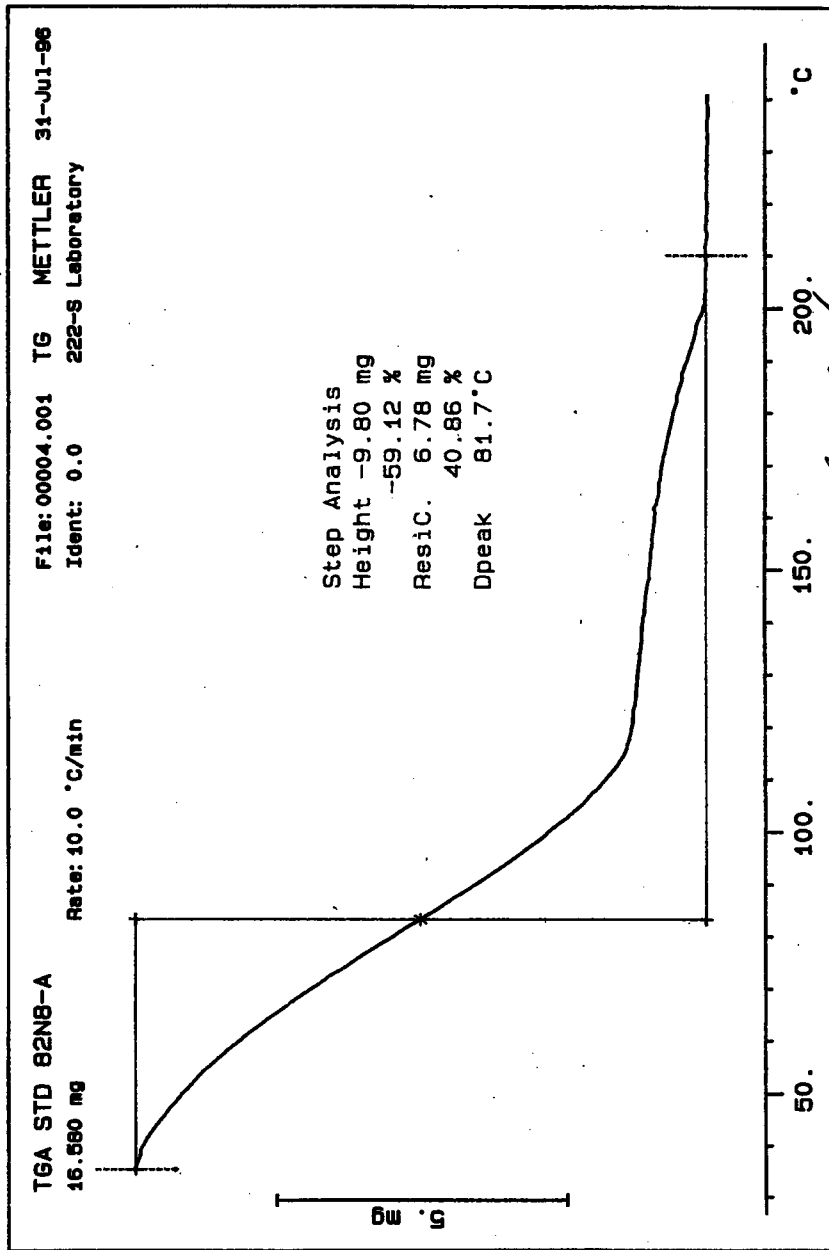
[Signature] 8-6-96
Analyst Signature Date

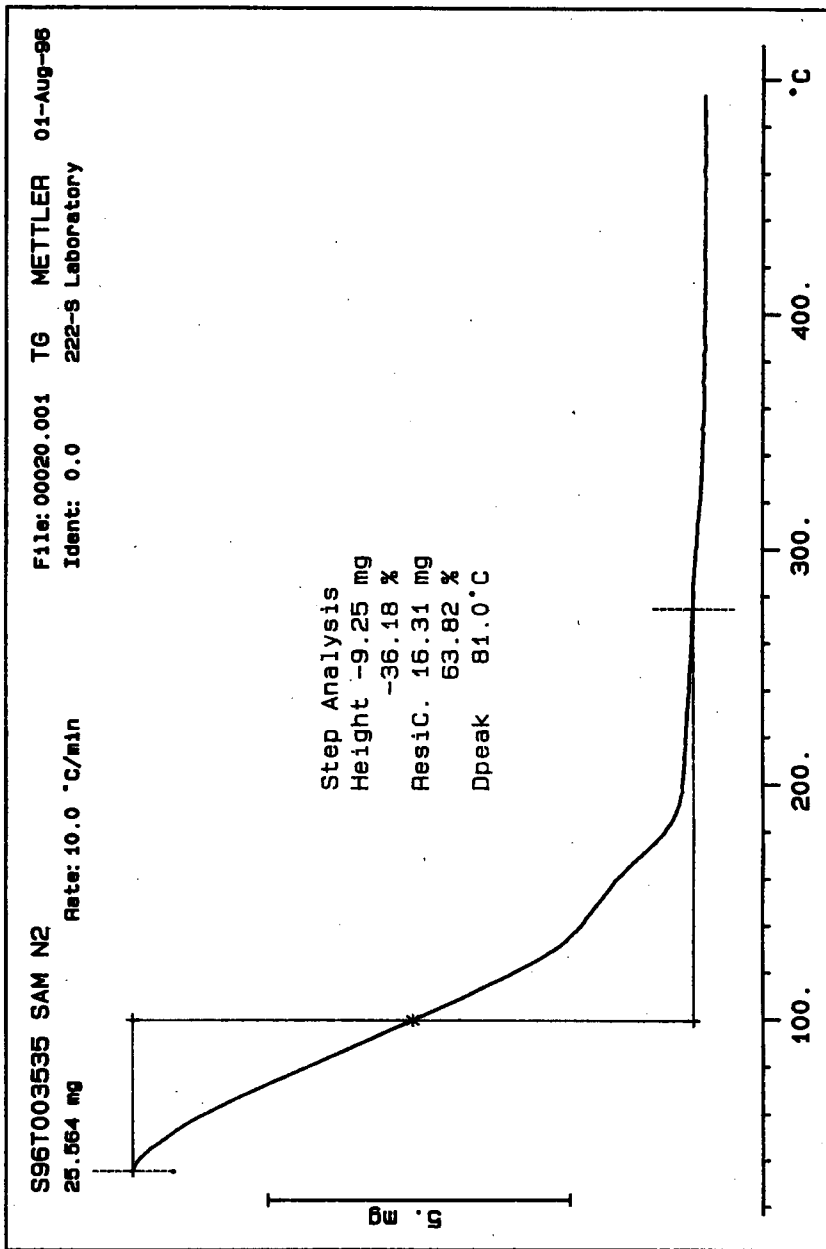
Verified/Validated by
Blandina
Valepinela 8-7-96

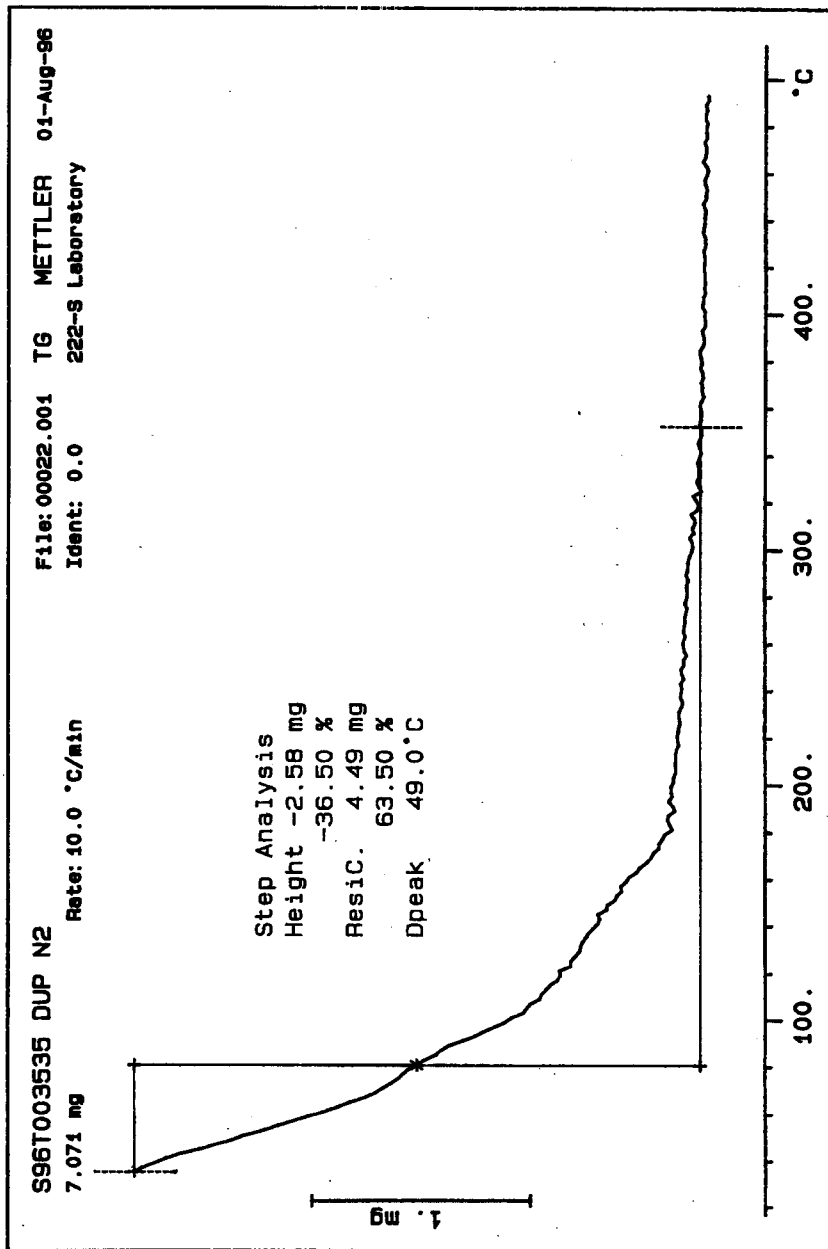
Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 192 TO 194.







worklistrpt Version 2.1 05/15/95
08/09/96 10:17

Page: 1

LABCORE Data Entry Template for Worklist#

11803

Analyst: ROM Instrument: TGA0 1 Book # 82NBAMethod: LA-560-112 Rev/Mod B-1

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>59.12</u>	<u>N/A</u>	%
96000836	BY-107	2 SAMPLE	S96T003847	0	TGA-01	LIQUID	<u>N/A</u>	<u>48.75</u>		%
96000836	BY-107	3 DUP	S96T003847	0	TGA-01	LIQUID	<u>48.75</u>	<u>49.08</u>	<u>N/A</u>	%
96000836	BY-107	4 SAMPLE	S96T003871	0	TGA-01	LIQUID	<u>N/A</u>	<u>48.82</u>		%
96000836	BY-107	5 DUP	S96T003871	0	TGA-01	LIQUID	<u>48.82</u>	<u>50.49</u>	<u>N/A</u>	%

Final page for worklist #

11803

ROM 8/11/96
Analyst Signature Date

R. J. Jones 8-14-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
8-14-96

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 196 TO 200.

TGA STD 82NB-A

9.122 mg

Rate: 10.0 °C/min

File: 00071.001

TG - METTLER

10-AUG-96

Ident: 0.0

222-8 Laboratory

Step Analysis

Height -5.39 mg

-59.12 %

Resid. 3.73 mg

40.88 %

Dpeak 62.5 °C

2. mg

Blandina Valenzuela for RD Meyers

8-14-96

50.

100.

150.

200.

°C

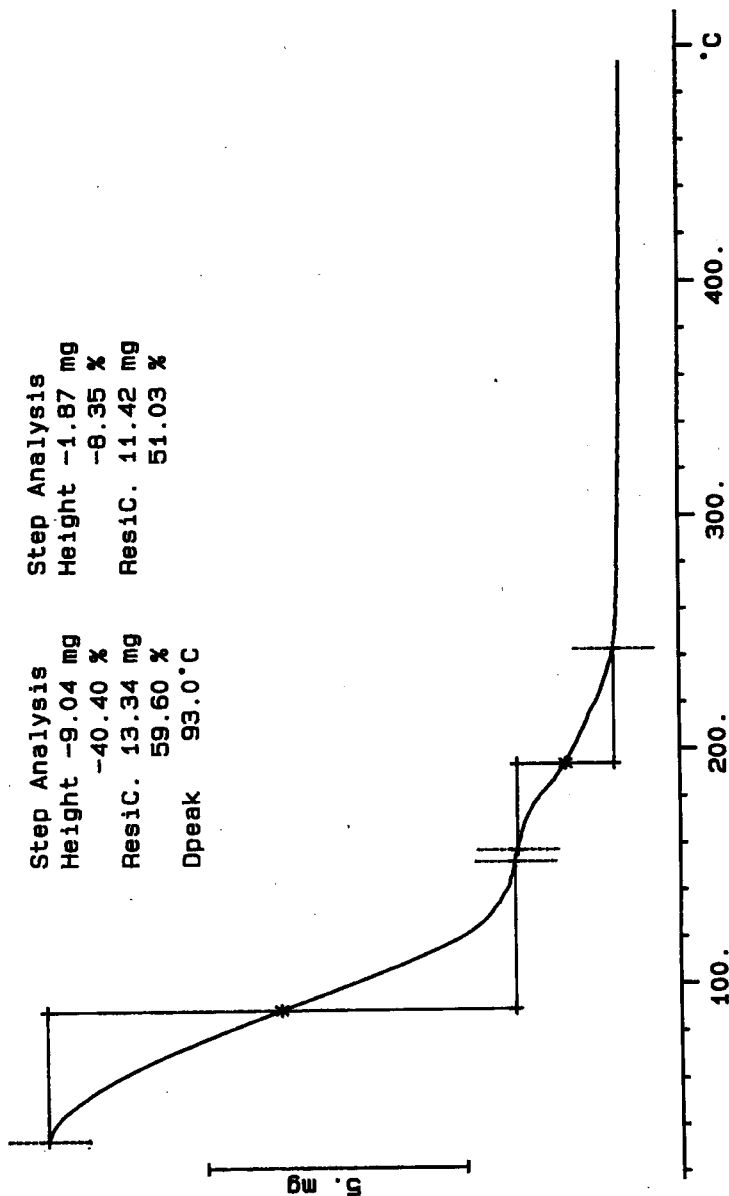
S96T003847 N2
22.386 mg

Rate: 10.0 °C/min

File: 00079.001 TG METTLER 10-Aug-88
Ident: 0.0 222-S Laboratory

Step Analysis
Height -9.04 mg
-40.40 %
Resid. 13.34 mg
59.60 %
Dpeak 93.0 °C

Step Analysis
Height -1.87 mg
-8.35 %
Resid. 11.42 mg
51.03 %



S96T003847 DUP N2

19.085 mg

Rate: 10.0 °C/min

File: 00075.001

TG METTLER

10-Aug-88

Ident: 0.0 222-8 Laboratory

Step Analysis

Height -7.80 mg

-40.91 %

Resid. 11.26 mg

59.09 %

Dpeak 87.0°C

Step Analysis

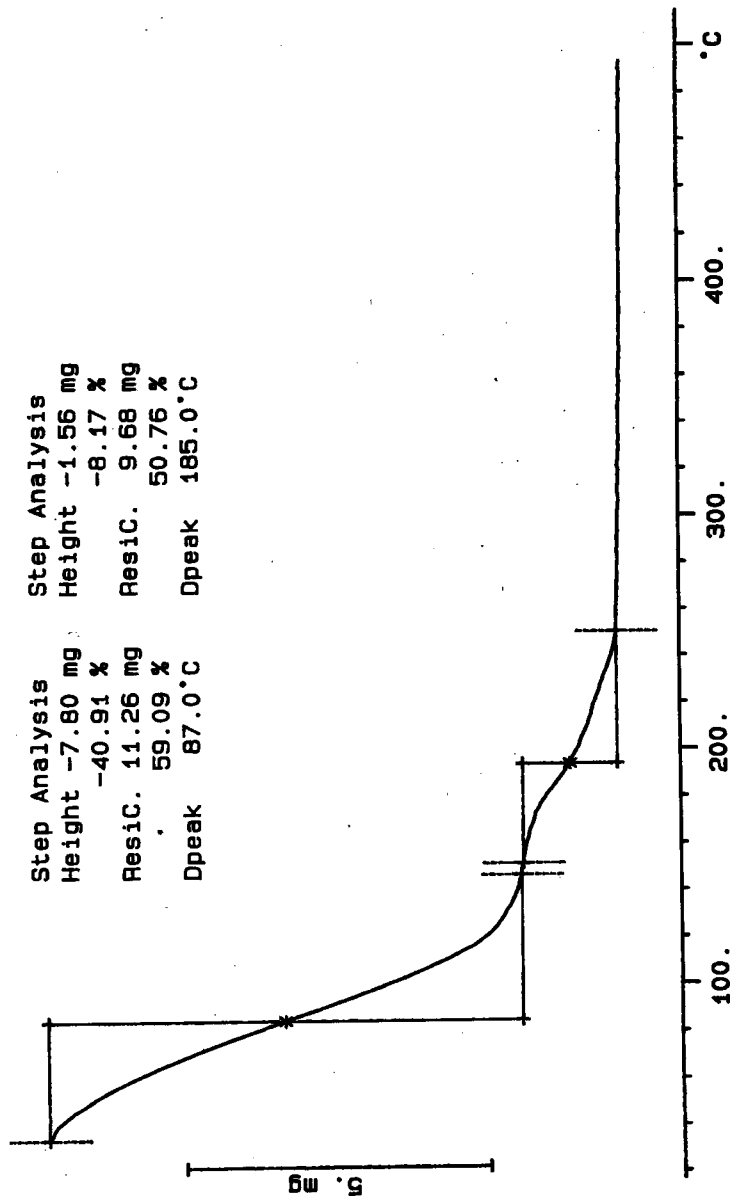
Height -1.56 mg

-8.17 %

Resid. 9.68 mg

50.76 %

Dpeak 185.0°C



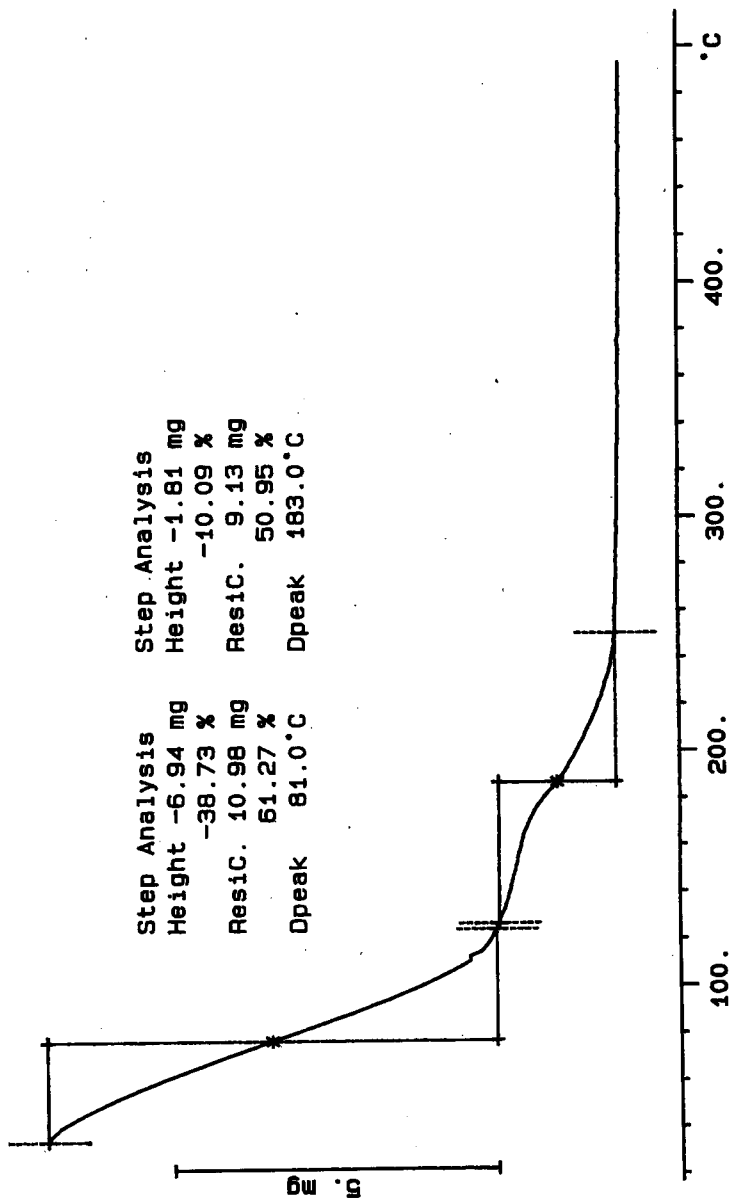
S96T003871 N2

17.923 mg

Rate: 10.0 °C/min

File: 00077.001 T6 METTLER 11-Aug-86

Ident: 0.0 222-8 Laboratory



S96T003871 DUP N2

12.875 mg

Rate: 10.0 °C/min

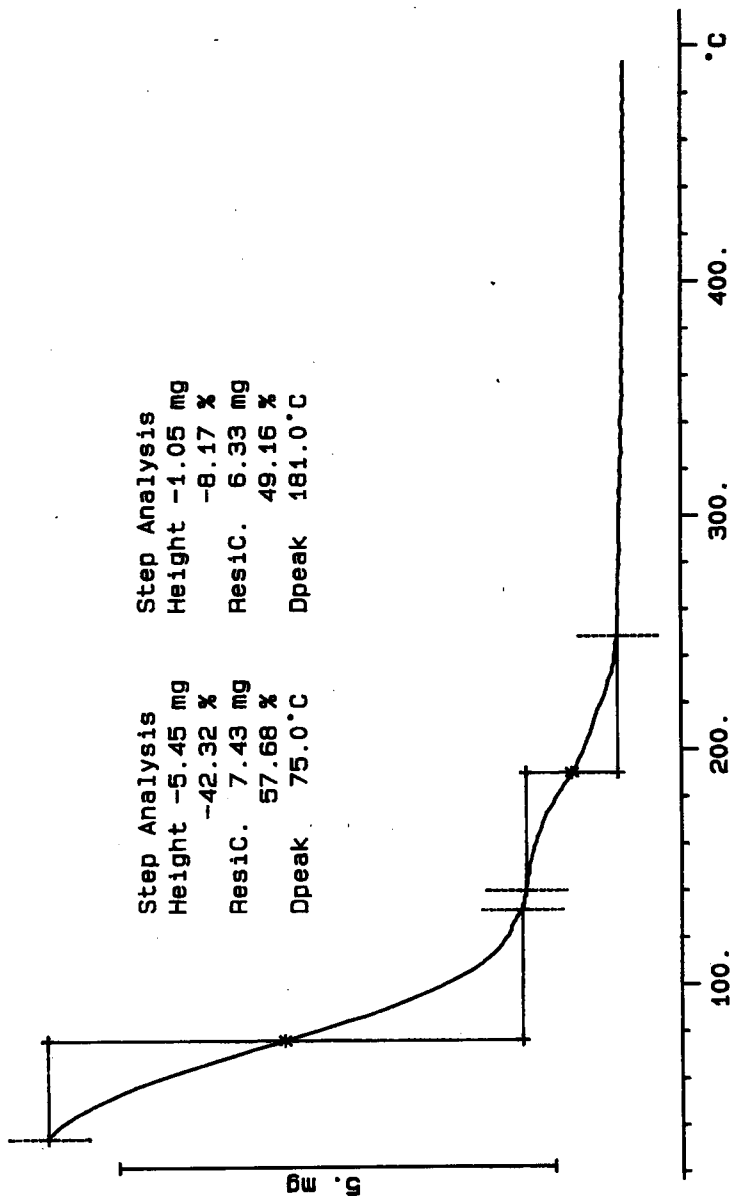
File: 00079.001

Ident: 0.0

TG METTLER

11-Aug-98

222-S Laboratory



LABCORE Data Entry Template for Worklist#

11804

Analyst: RDM Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	59.2	58.00 8-14-96 DM	N/A	%
96000836	BY-107	2 SAMPLE	S96T003872	0	TGA-03	LIQUID	N/A	48.26		%
96000836	BY-107	3 DUP	S96T003872	0	TGA-03	LIQUID	48.26	48.47	N/A	%

Final page for worklist #

11804

See attached for signatures
Analyst Signature RDM Date 8-13-96

RDM 8-14-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela 8-14-96

Data Entry Comments:

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

worklistrpt Version 2.1 05/15/95
08/09/96 10:18

Page: 1

LABCORE Data Entry Template for Worklist#

11804

Analyst: EDM Instrument: TGA0 _____ Book # 82N8AMethod: LA-560-112 Rev/Mod C-1

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCI

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	_____	_____	N/A	%
96000836	BY-107	2 SAMPLE	S96T003872	0	TGA-01	LIQUID	N/A	_____	_____	%
96000836	BY-107	3 DUP	S96T003872	0	TGA-01	LIQUID	_____	_____	N/A	%

Final page for worklist #

11804

EDM 8/16/96
 Analyst Signature Date

 Analyst Signature Date

TGA-03 instrument
 was used.

8-13-96

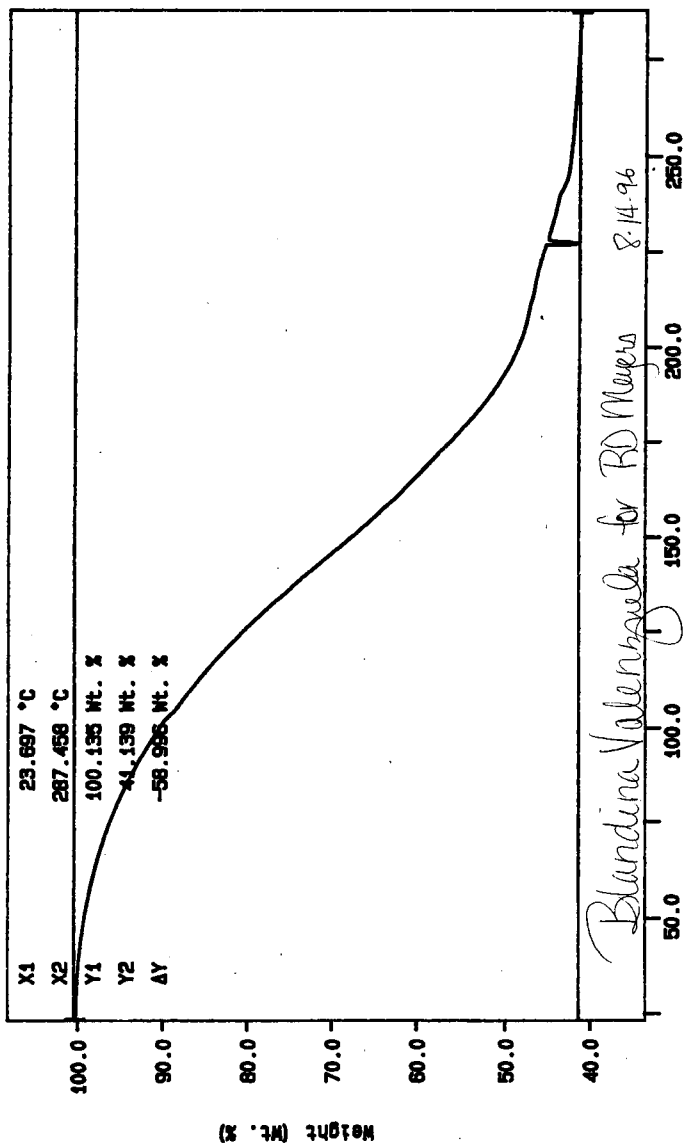
Blandina
 Valenzuela

Data Entry Comments:

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

Curve 1: TGA
 File Info: TER060996 Fri Aug 9 07:16:47 1996
 Sample Weight: 33.107 mg
 TGA STD 82N6-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 CALIBRATED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 203 TO 205.



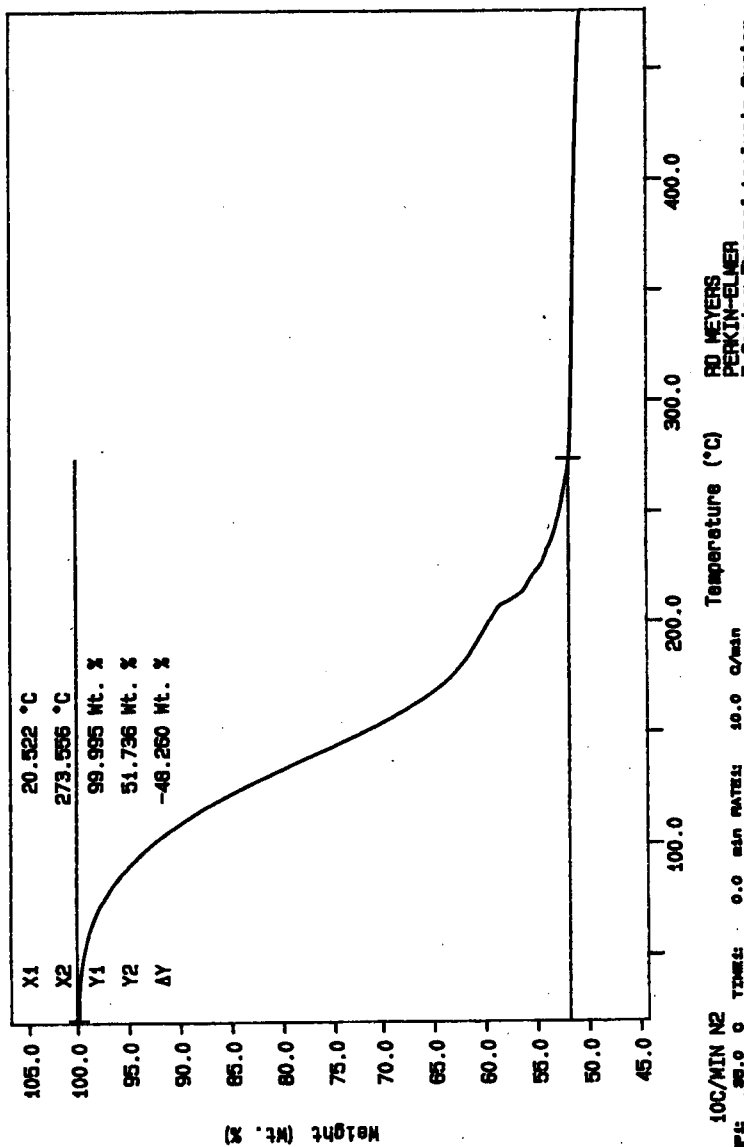
N2 10C/MIN
 TGA 33.107 g
 TIME: 0.0 min RATE: 10.0 g/min
 PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 9 16:08:55 1996

Curve 1: TGA

File Info: SAM080301 Fri Aug 9 21:57:14 1996

Sample Weight: 16.334 mg

S96T003672



100/MIN N2

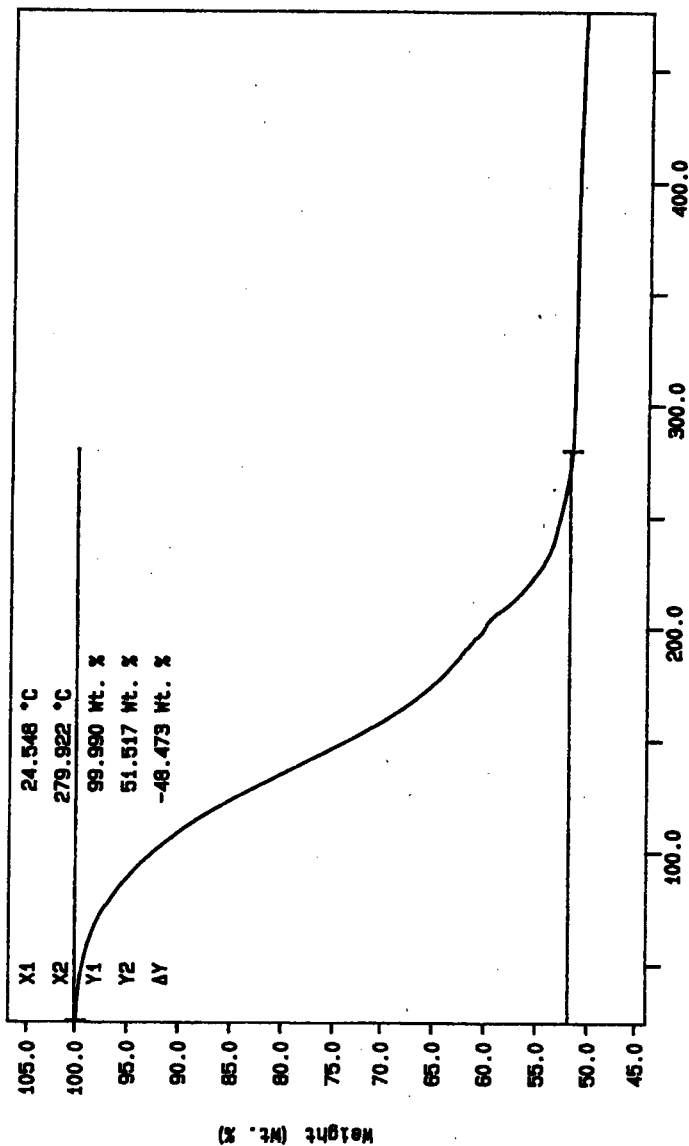
TIME: 00:08

0.0 min RATE: 10.0 °C/min

Temperature (°C)

80 MEYERS
PERKIN-ELMER7 Series Thermal Analysis System
Set Aug 10 00:05:06 1996

Curve 1: TGA
 File Info: SAM080902 Sat Aug 10 00:56:40 1996
 Sample Weight: 19.224 mg
 S96T003872DUP



10C/MIN N2
 THERM 880.8 g
 TIME 0.0 min RATE 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Aug 10 02:41:53 1996

LABCORE Data Entry Template for Worklist#

12038

Analyst: SMF Instrument: TGA0 1 Book # 82N8A

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

Worklist Comment: BY-107 TGA, run under N2. rcj

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	59.2	58.84	* N/A	%
96001061	BY-107	2 SAMPLE	S96T004230	0	TGA-01	LIQUID	N/A	49.47		%
96001061	BY-107	3 DUP	S96T004230	0	TGA-01	LIQUID	49.47	49.6	N/A	%
		4 STD			TGA-01	LIQUID	59.2	58.68	N/A	%
96001061	BY-107	5 SAMPLE	S96T004231	0	TGA-01	LIQUID	N/A	50.08		%
96001061	BY-107	6 DUP	S96T004231	0	TGA-01	LIQUID	50.08	49.81	N/A	%

Final page for worklist #

12038

See attached for signatures
Analyst Signature _____ Date 8-20-96
EDV

Atkinson
Analyst Signature _____ Date 8-20-96

Verified/Validated by
Blandina
Valenzuela

Data Entry Comments: S96T004230 results are the sum of two weight loss steps

S96T004231 results are the sum of two weight loss steps

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

LABCORE Data Entry Template for Worklist#

12038

Analyst: SMF Instrument: TGA0 Book # 82N8-A

Method: LA-560-112 Rev/Mod _____

Worklist Comment: BY-107 TGA, run under N2. rcj

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	_____	_____	N/A	%
96001061	BY-107	2 SAMPLE	S96T004230	0	TGA-01	LIQUID	N/A	_____	_____	%
96001061	BY-107	3 DUP	S96T004230	0	TGA-01	LIQUID	_____	_____	N/A	%
96001061	BY-107	4 SAMPLE	S96T004231	0	TGA-01	LIQUID	N/A	_____	_____	%
96001061	BY-107	5 DUP	S96T004231	0	TGA-01	LIQUID	_____	_____	N/A	%

Final page for worklist #

12038

Lusie M. Dutton 8-18-96
Analyst Signature Date
R. McCown 8/19/96

Analyst Signature Date

Data Entry Comments:

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

TGA STD 82N8-A
16.788 mg

File: 00080.001 TG METTLER 18-Aug-96
Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

Step Analysis
Height -9.87 mg
-58.84 %
Resid. 6.90 mg
41.16 %
Dpeak 86.7 °C

5. mg

50. 100. 150. 200.

Swao M. Dulter 8-18-96

Step Analysis
Height -9.87 mg
ResidC. 6.90 mg
Dpeak 41.16 %
86.7 °C

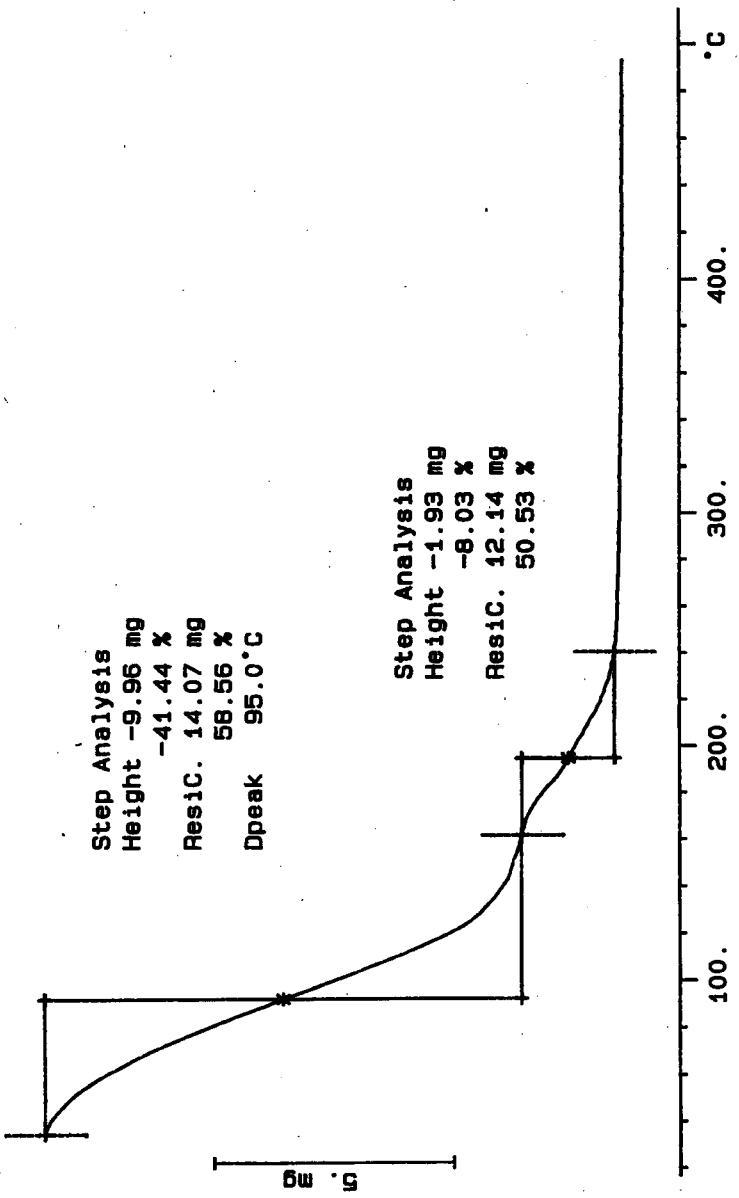
Lucas 2007, Jul to Sep 8-96

S96T004230 N2
24.025 mg
File: 00080.001 TG METTLER 19-Aug-96
Ident: 0.0 222-S Laboratory

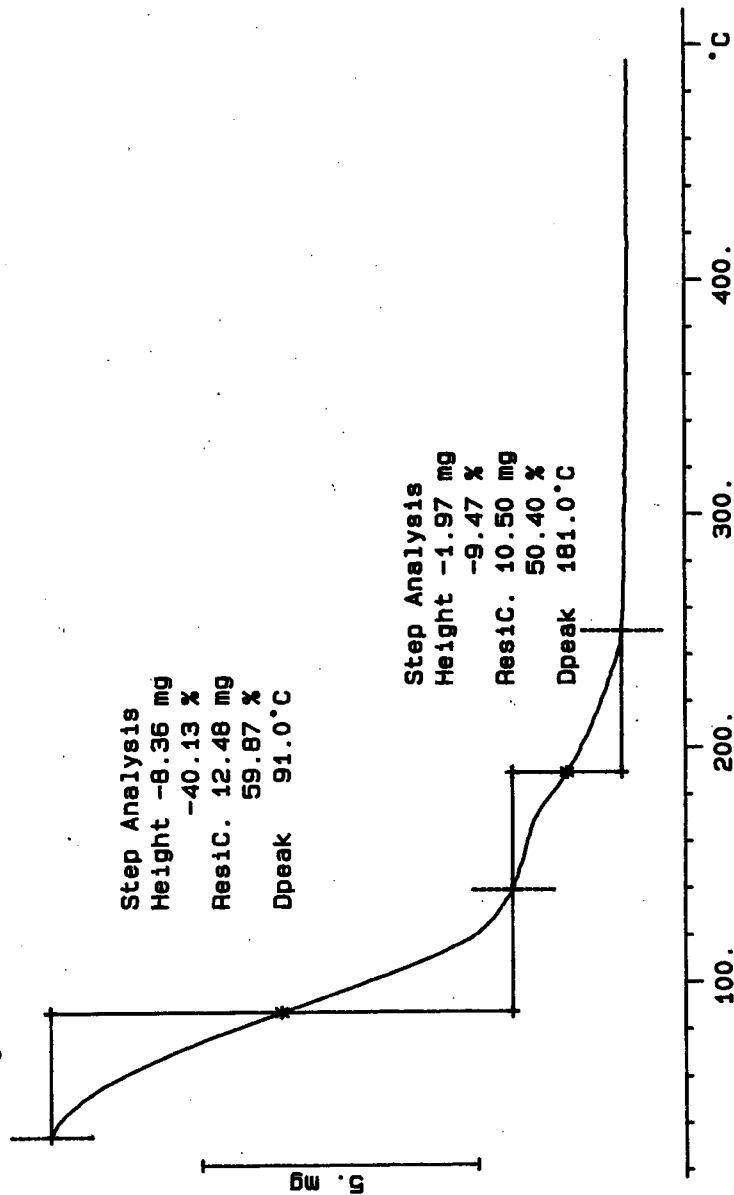
Rate: 10.0 °C/min

Step Analysis
Height -9.96 mg
-41.44 %
ResidC. 14.07 mg
58.56 %
Dpeak 95.0 °C

Step Analysis
Height -1.93 mg
-8.03 %
ResidC. 12.14 mg
50.53 %



S96T004230 DUP N2
 20.839 mg
 Rate: 10.0 °C/min
 File: 00082.001 TG METTLER 19-Aug-86
 Ident: 0.0 222-S Laboratory



TGA STD 82N8A

18.119 mg

Rate: 10.0 °C/min

File: 00084.001

Ident: 0.0

TG METTLER

19-Aug-86

222-S Laboratory

APMCL 8/19/96

Step Analysis

Height-10.63 mg

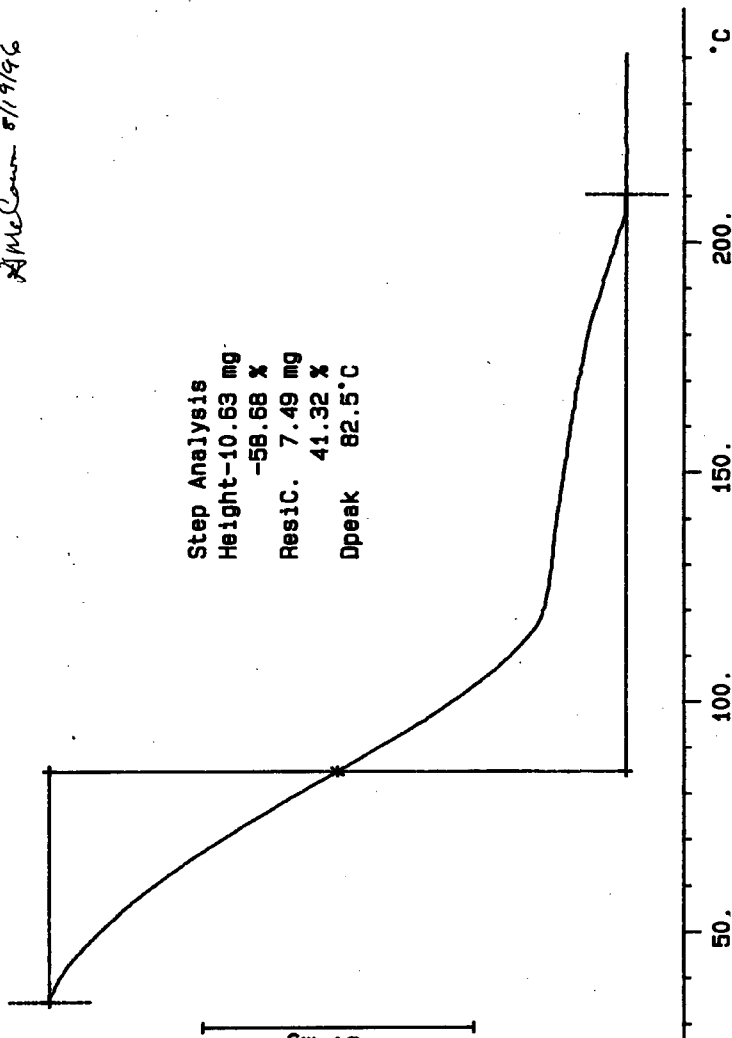
-58.68 %

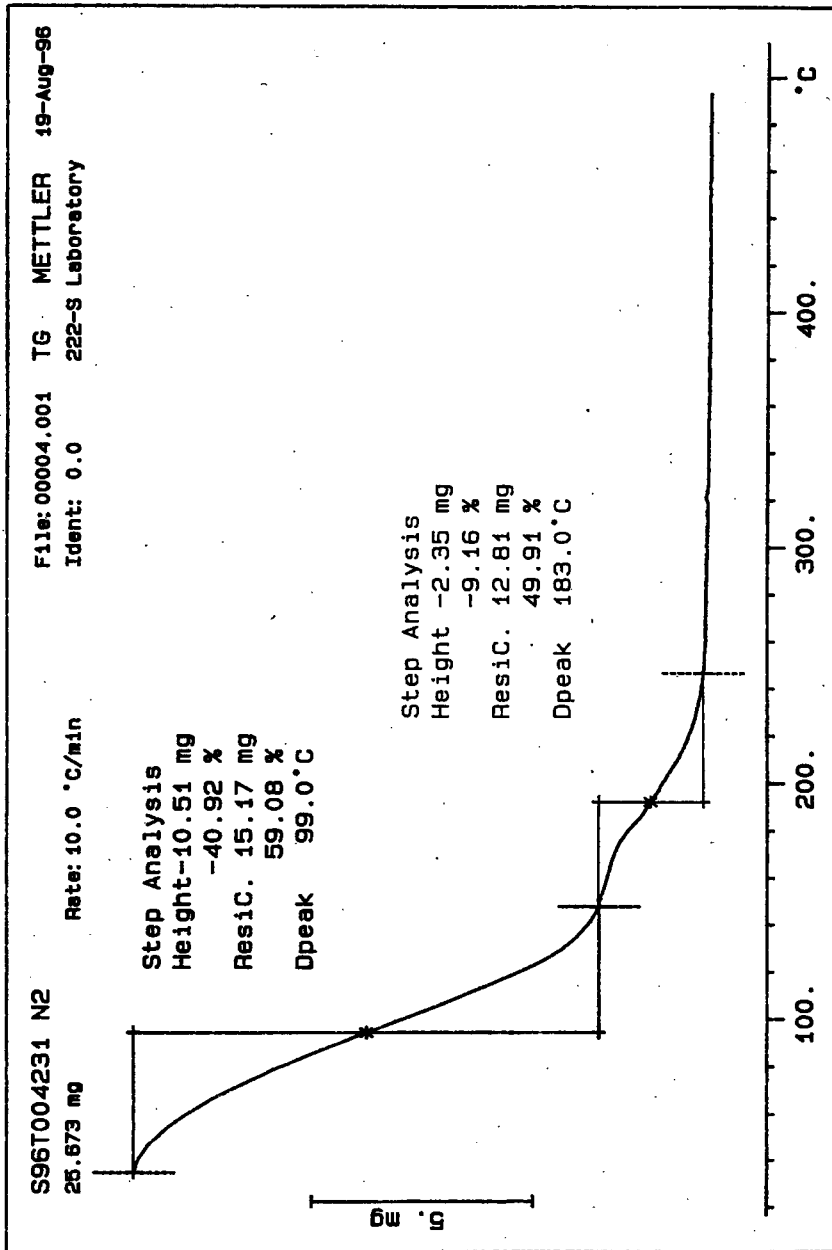
ResidC. 7.49 mg

41.32 %

Dpeak 82.5°C

5. mg

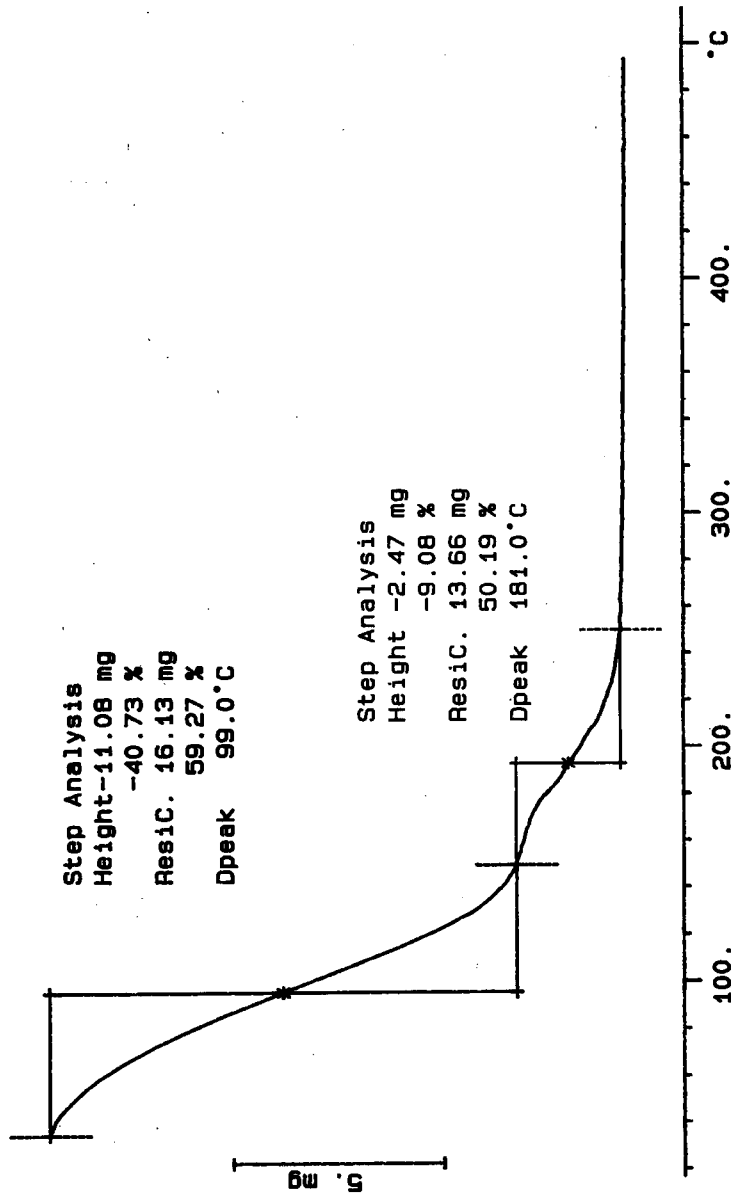




S96T004231 DUP N2
 27.219 mg
 Rate: 10.0 °C/min
 File: 00006.001 TG METTLER 19-AUG-86
 Ident: 0.0 222-S Laboratory

Step Analysis
 Height-11.08 mg
 -40.73 %
 Res1C. 16.13 mg
 59.27 %
 Dpeak 99.0 °C

Step Analysis
 Height -2.47 mg
 -9.08 %
 Res1C. 13.66 mg
 50.19 %
 Dpeak 181.0 °C



LABCORE Data Entry Template for Worklist#

12039

Analyst: QAM

Instrument: TGA0 1

Book # 82N8A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>58.61</u>	<u>N/A</u>	<u>%</u>
96001061	BY-107	2 SAMPLE	S96T004232	0	TGA-01	LIQUID	<u>N/A</u>	<u>49.14</u>		<u>%</u>
96001061	BY-107	3 DUP	S96T004232	0	TGA-01	LIQUID	<u>49.14</u>	<u>48.91</u>	<u>N/A</u>	<u>%</u>
96001061	BY-107	4 SAMPLE	S96T004346	0	TGA-01	LIQUID	<u>N/A</u>	<u>48.31</u>		<u>%</u>
96001061	BY-107	5 DUP	S96T004346	0	TGA-01	LIQUID	<u>48.31</u>	<u>48.06</u>	<u>N/A</u>	<u>%</u>

Final page for worklist #

12039

QAMurphy 8-23-96
Analyst Signature Date

Rt Blc 8-27-96
Analyst Signature Date

Verified/Validated by

Blandina

Valenzuela 8-28-96

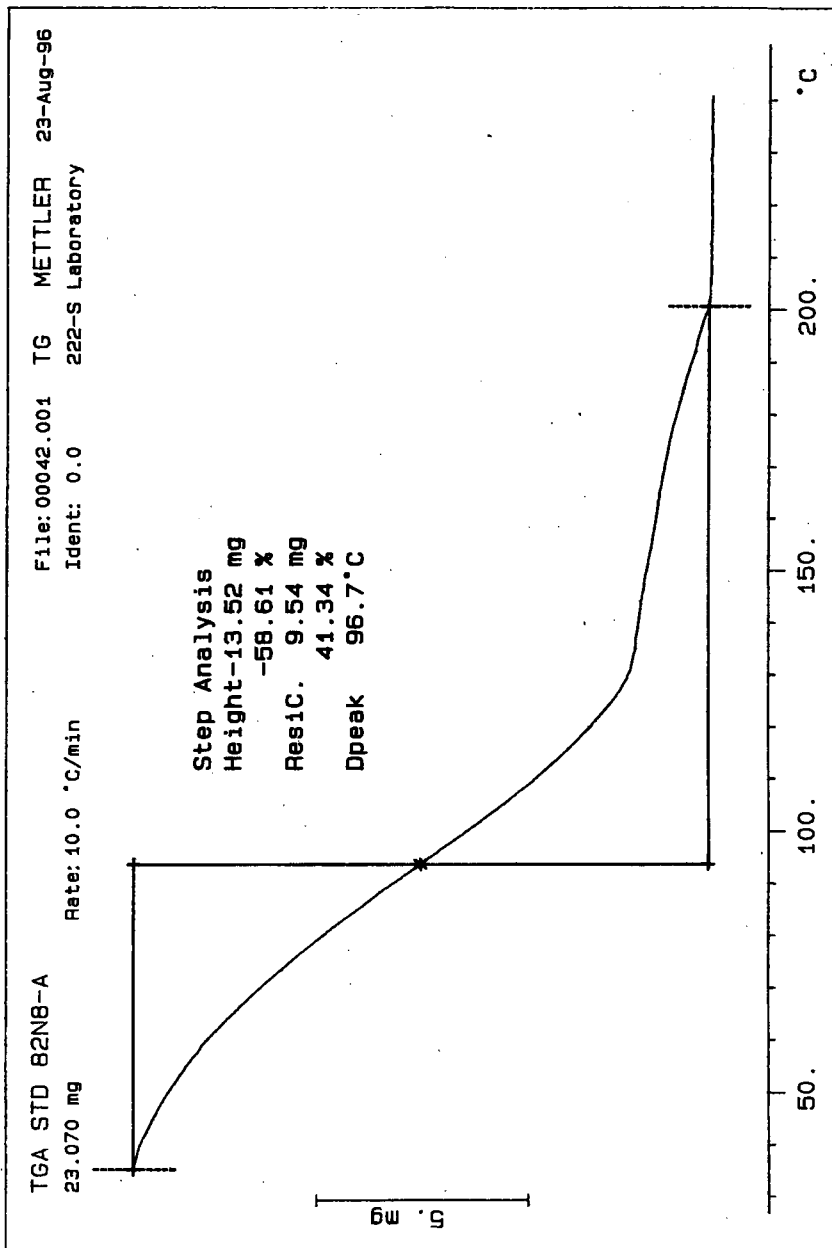
Data Entry Comments:

S96T004232 results are the sum of two weight loss steps.

S96T004346 results are the sum of two weight loss steps.

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 215 TO 216.



gammaphy 8-23-96

S96T004232 SAM

26.477 mg

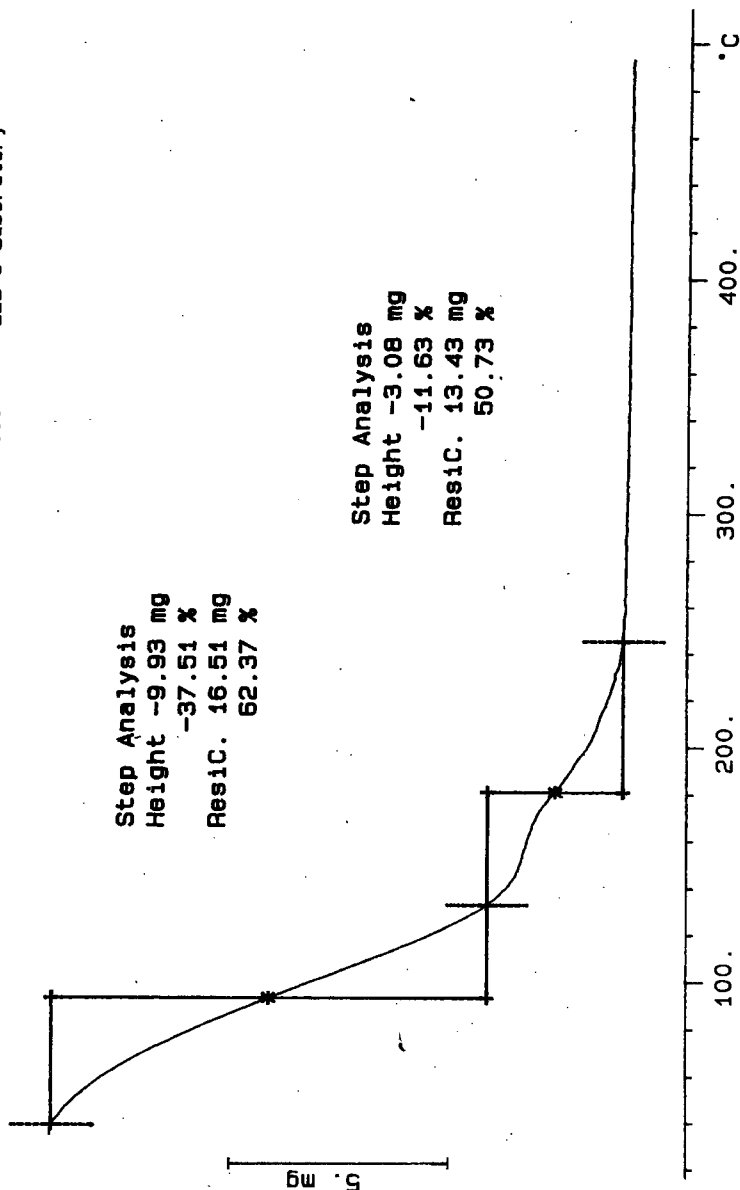
Rate: 10.0 °C/min

File: 00044.001 TG METTLER 23-Aug-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height -9.93 mg
-37.51 %
Resid. 16.51 mg
62.37 %

Step Analysis
Height -3.08 mg
-11.63 %
Resid. 13.43 mg
50.73 %



S96T004232 DUP

21.364 mg

Rate: 10.0 °C/min

File: 00046.001 TG

METTLER

23-Aug-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -8.35 mg

-39.07 %

Resid. 13.02 mg

60.93 %

Step Analysis

Height -2.10 mg

-9.84 %

Resid. 10.88 mg

50.94 %

Dpeak 183.0 °C

5. mg

100.

200.

300.

400.

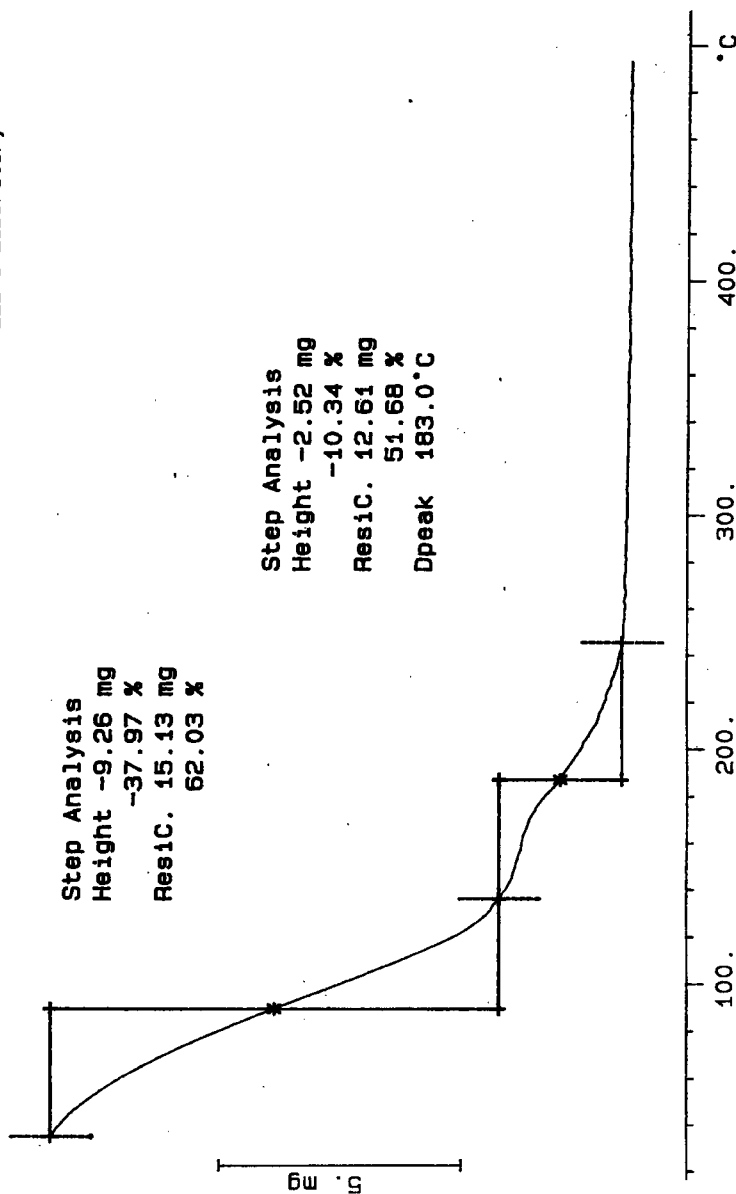
°C

S96T004346 SAM

24.398 mg

Rate: 10.0 °C/min

File: 00048.001 TG METTLER 23-Aug-96
 Ident: 0.0 222-S Laboratory



S96T004346 DUP N2
 17.855 mg
 Rate: 10.0 °C/min
 File: 00050.001 TG METTLER 23-Aug-96
 Ident: 0.0 222-S Laboratory

Step Analysis
 Height -6.96 mg
 -38.98 %
 ResiC. 10.90 mg
 61.02 %
 Dpeak 87.0 °C

Step Analysis
 Height -1.62 mg
 -9.08 %
 ResiC. 9.27 mg
 51.94 %
 Dpeak 183.0 °C

5. mg

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist#

12044

Analyst: DCD Instrument: TGA0 1 Book # 82N0A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.69</u>	<u>N/A</u>	%
96001061	BY-107	2 SAMPLE	S96T004218	0	TGA-01	SOLID	<u>N/A</u>	<u>42.8</u>		%
96001061	BY-107	3 DUP	S96T004218	0	TGA-01	SOLID	<u>42.8</u>	<u>42.4</u>	<u>N/A</u>	%
96001061	BY-107	4 SAMPLE	S96T004219	0	TGA-01	SOLID	<u>N/A</u>	<u>36.7</u>		%
96001061	BY-107	5 DUP	S96T004219	0	TGA-01	SOLID	<u>36.7</u>	<u>35.7</u>	<u>N/A</u>	%

Final page for worklist # 12044

David C Dunham 8-19-96
Analyst Signature Date

James Bee 8/21/96
Analyst Signature Date

Verified/Validated by

Blandina

Valenzuela 8-22-96

Data Entry Comments: S96T004218 sample thermogram produced two weight loss steps. The second had a ~~sec~~⁸⁻²⁰⁻⁹⁶ ending limit of ~~4~~⁸⁻²⁰⁻⁹⁶ ~380°C. The shape of the thermogram seemed to indicate the sample continued to lose weight until then, and probably due to strongly attraction from the hydrated salt.
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 220 TO 224.

TGA STD 82N8A

18.119 mg

Rate: 10.0 °C/min

File: 00002.001

TG METTLER

19-Aug-98

Ident: 0.0

222-S Laboratory

Step Analysis
Height -9.14 mg
-50.44 %
Resid. 8.98 mg
49.56 %
Dpeak 82.5 °C

Step Analysis
Height -1.49 mg
-8.25 %
Resid. 7.49 mg
41.32 %
Dpeak 185.8 °C

5. mg

Blandina Valenzuela for Dave Durham 8-22-98

°C

S96T004216 N2

36.352 mg

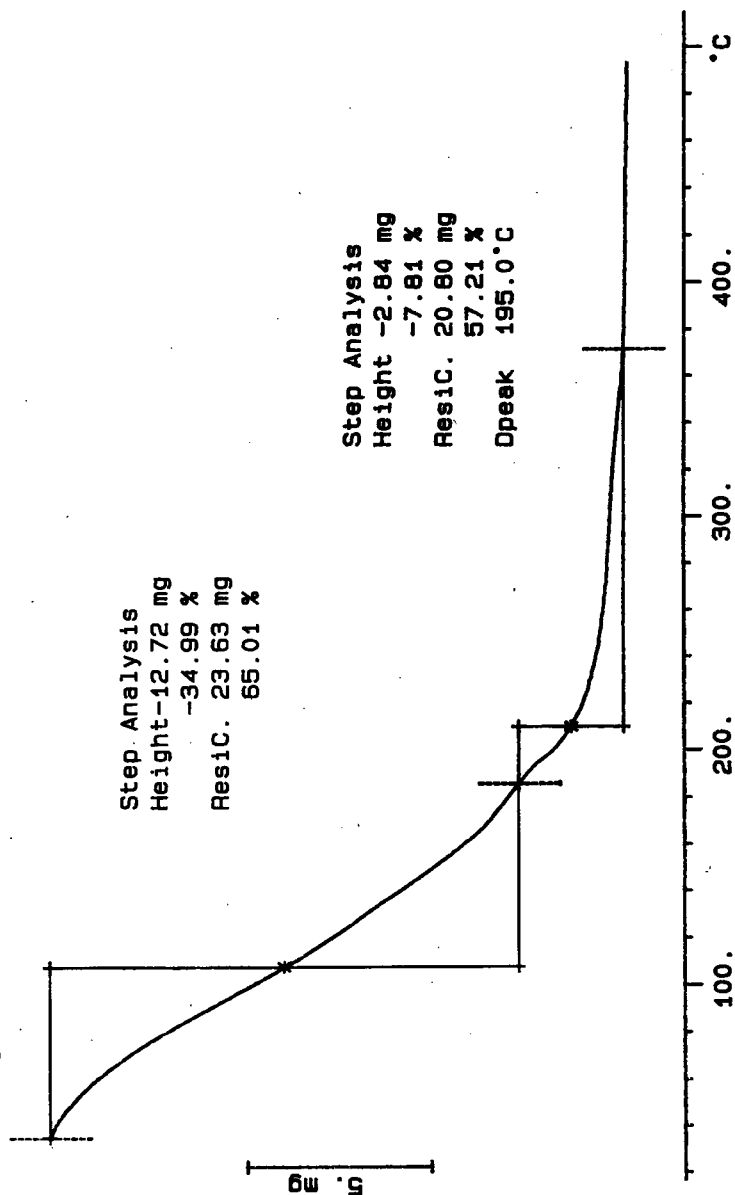
Rate: 10.0 °C/min

File: 00008.001

TG METTLER

19-Aug-96

Ident: 0.0 222-S Laboratory



S96T004218 DUP N2

32.329 mg

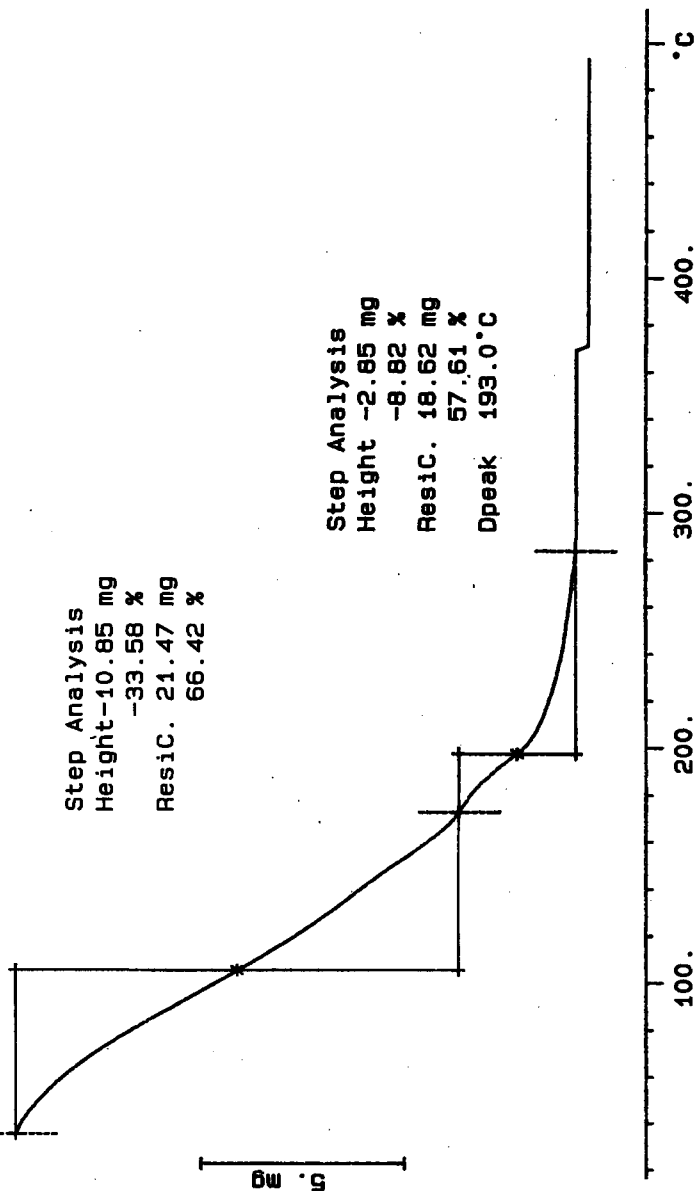
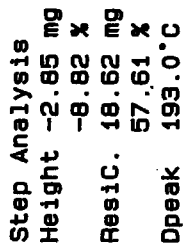
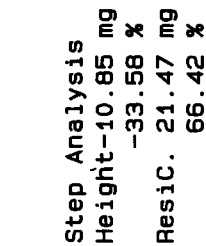
Rate: 10.0 °C/min

File: 00010.001

METTLER

19-AUG-96

Ident: 0.0 222-S Laboratory

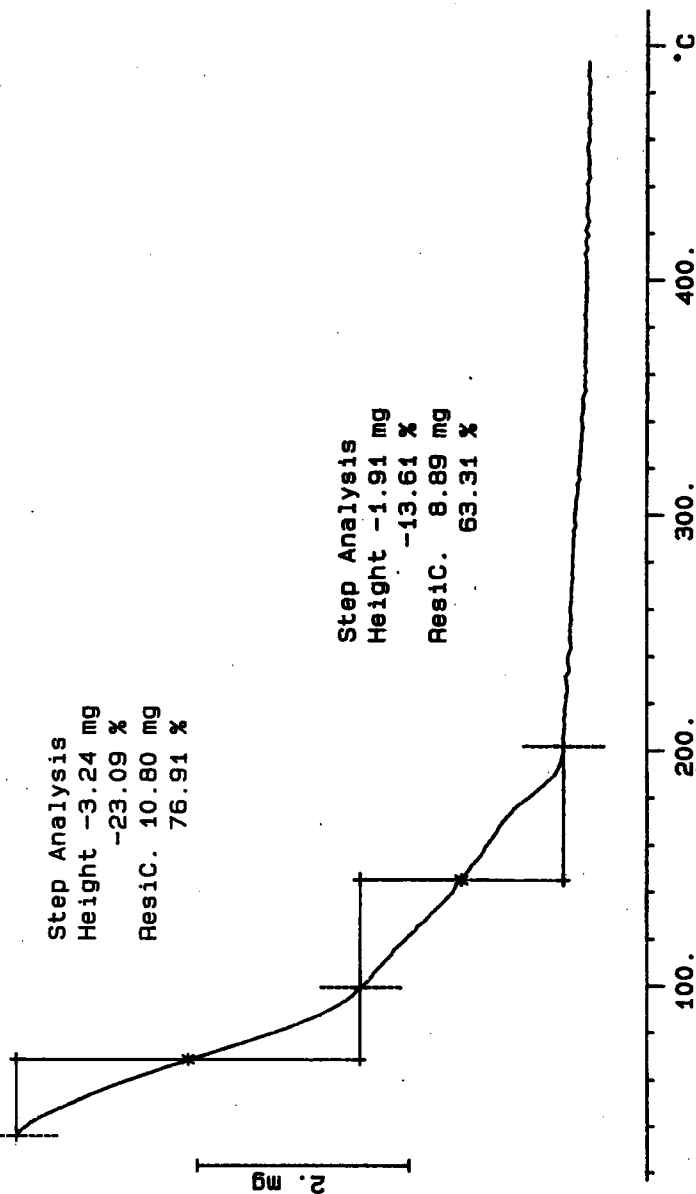


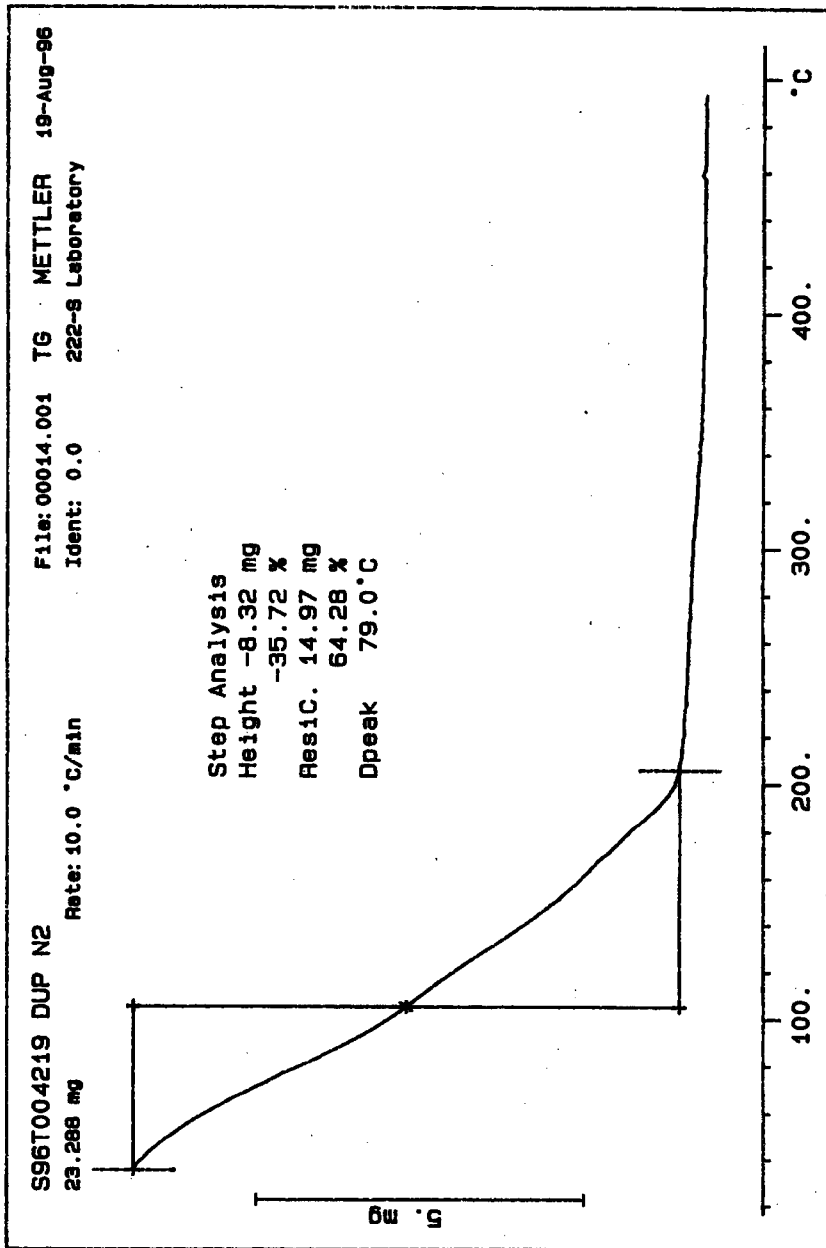
•

S96T004219 N2

14.036 mg

Rate: 10.0 °C/min

File: 00042.001 TG METTLER 19-AUG-96
Ident: 0.0 222-S Laboratory



LABCORE Data Entry Template for Worklist#

12045

Analyst: DD Instrument: TGA0 1 Book # B2NBA

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.68</u>	<u>N/A</u>	%
96001061	BY-107	2 SAMPLE	S96T004220	0	TGA-01	SOLID	<u>N/A</u>	<u>36.94</u>		%
96001061	BY-107	3 DUP	S96T004220	0	TGA-01	SOLID	<u>36.94</u>	<u>39.45</u>	<u>N/A</u>	%
96001061	BY-107	4 SAMPLE	S96T004221	0	TGA-01	SOLID	<u>N/A</u>	<u>24.55</u>		%
96001061	BY-107	5 DUP	S96T004221	0	TGA-01	SOLID	<u>24.55</u>	<u>19.4</u>	<u>N/A</u>	%

Final page for worklist #

12045

Daniel C. Durham 8-19-96
Analyst Signature Date

KEWIGHT 8/21/96
Analyst Signature Date

Verified/Validated by
Blandina Valenzuela
8-22-96

Data Entry Comments:

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

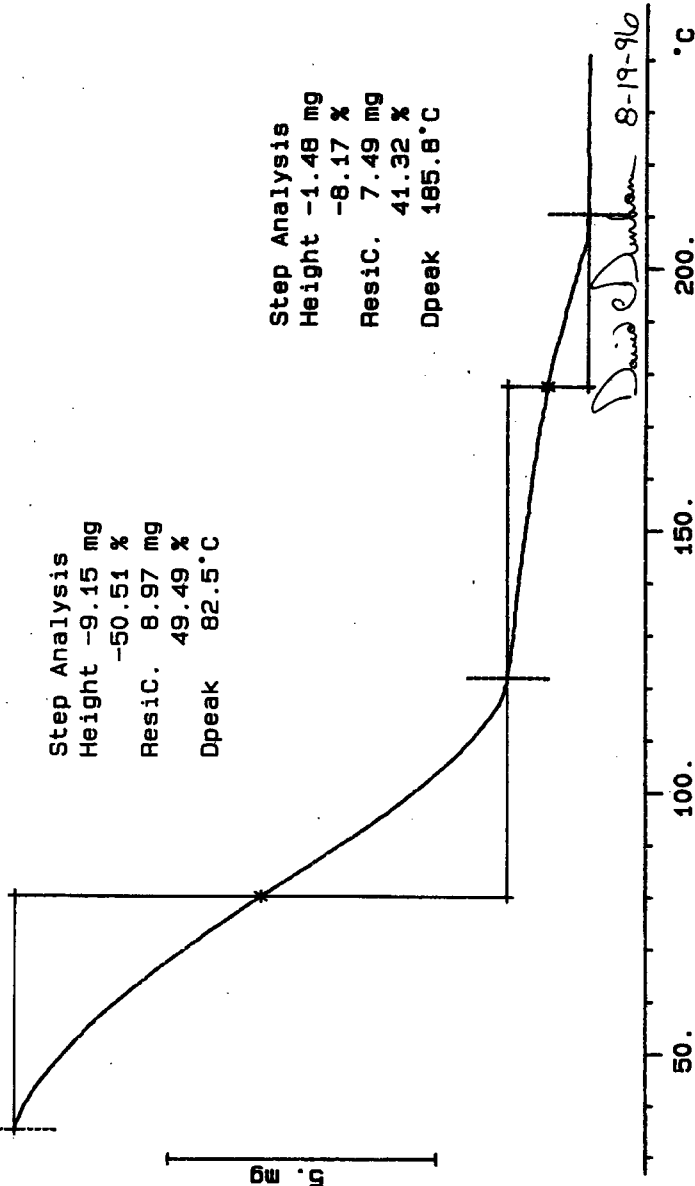
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 HAS VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 226 TO 230

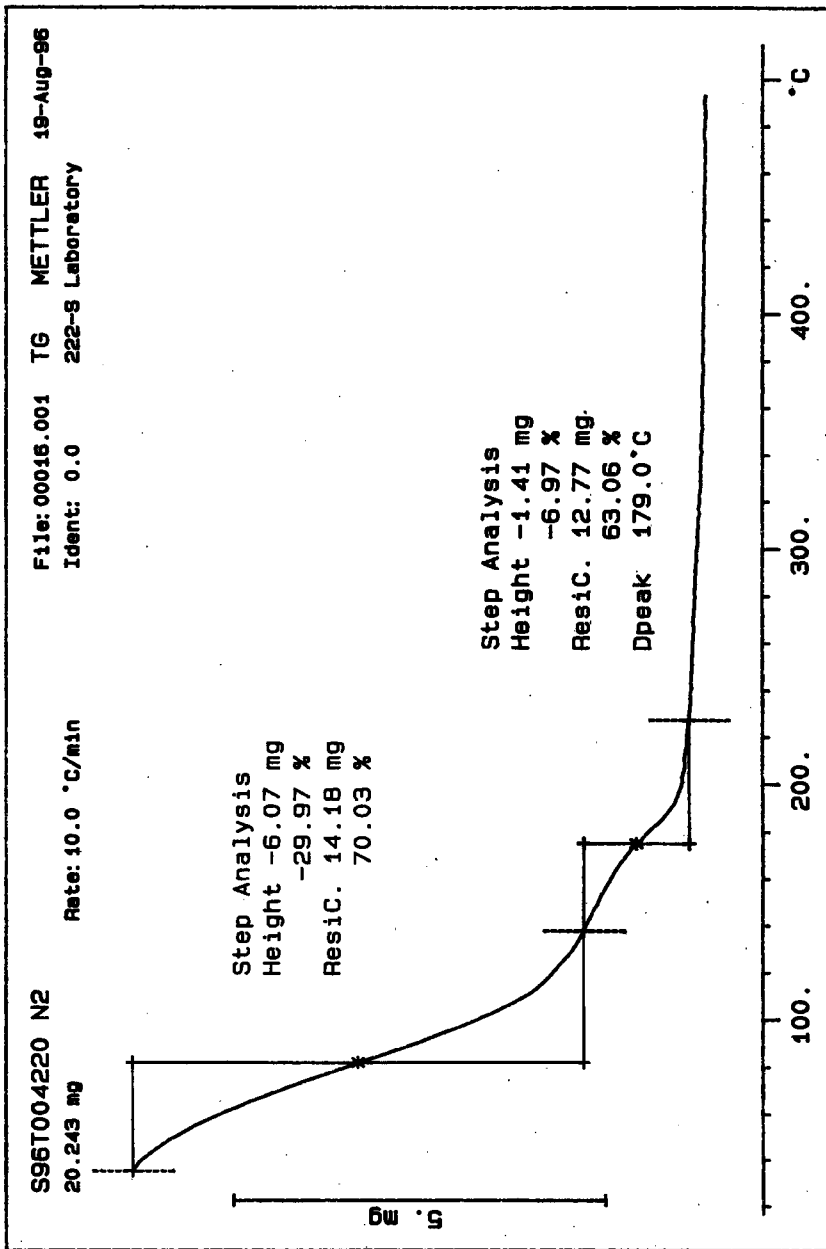
TGA STD 82N8A

18.119 mg

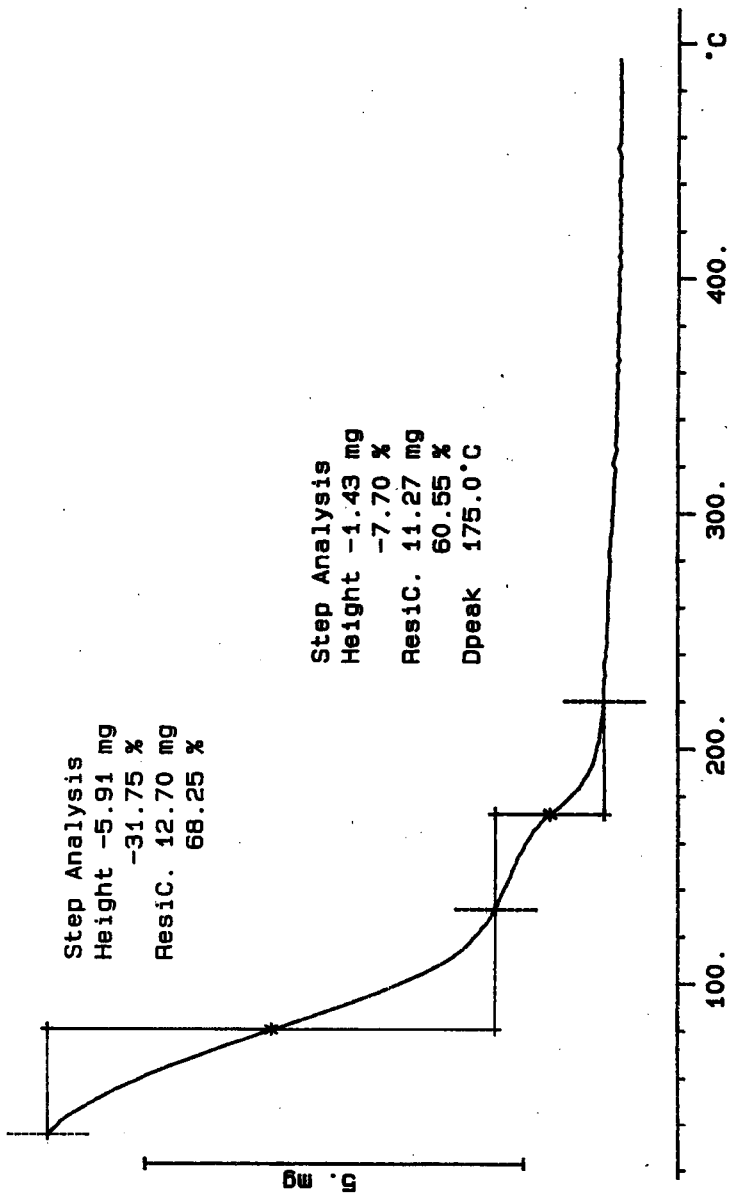
File: 00002.001 TG METTLER 19-Aug-96
 Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min





S96T004220 DUP N2
18.611 mg
Rate: 10.0 °C/min
File: 00018.001 TG METTLER 20-Aug-96
Ident: 0.0 222-S Laboratory



S96T004221 N2

8.975 mg

Rate: 10.0 °C/min

File: 00020.001

Ident: 0.0

TG METTLER 20-Aug-86

222-S Laboratory

Step Analysis

Height -1.39 mg

-15.54 %

ResidC. 7.58 mg

84.46 %

Step Analysis

Height -0.81 mg

-9.01 %

ResidC. 6.77 mg

75.45 %

Dpeak 181.0 °C

1. mg

°C

100.

200.

300.

400.

S96T004221 DUP N2

33.620 mg

Rate: 10.0 °C/min

File: 00022.001

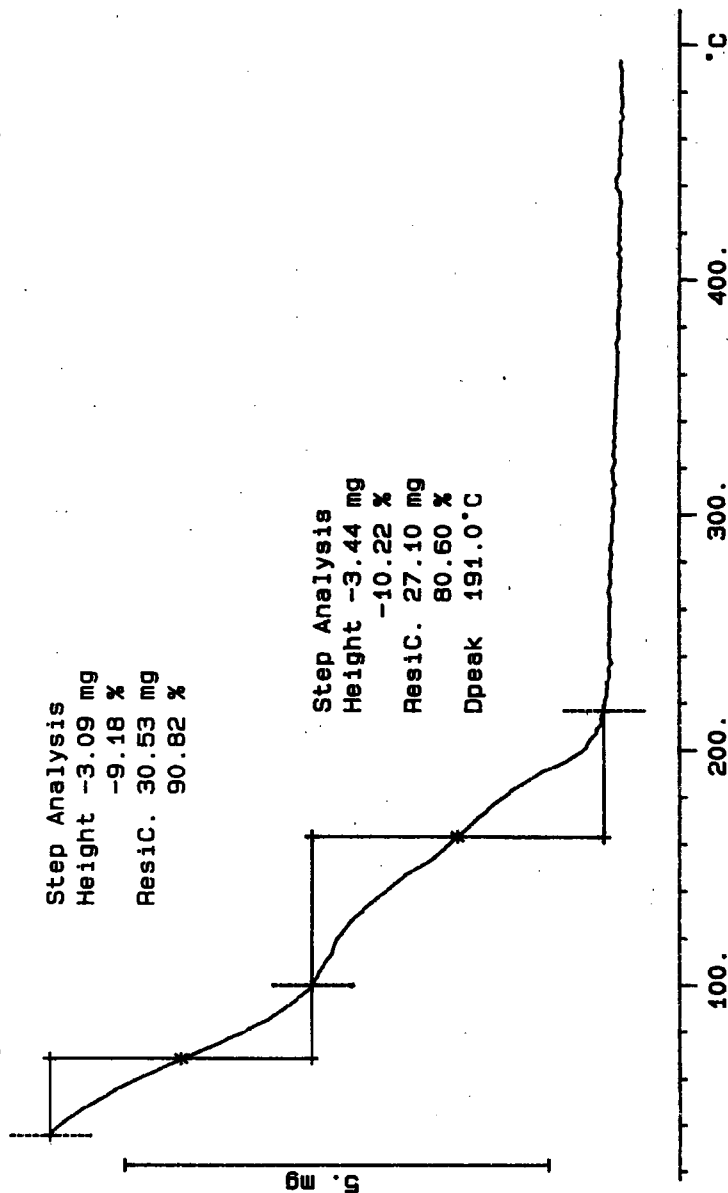
TG METTLER

20-Aug-86

Ident: 0.0 222-S Laboratory

Step Analysis
Height -3.09 mg
-9.18 %
Resid. 30.53 mg
90.82 %

Step Analysis
Height -3.44 mg
-10.22 %
Resid. 27.10 mg
80.60 %
Dpeak 191.0 °C



LABCORE Data Entry Template for Worklist# 12046

Analyst: RWK Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	<u>59.2</u>	<u>59.05</u>	<u>N/A</u>	%
96001061	BY-107	2	SAMPLE	S96T004222	0		TGA-03	SOLID	<u>N/A</u>	<u>33.65</u>		%
96001061	BY-107	3	DUP	S96T004222	0		TGA-03	SOLID	<u>33.65</u>	<u>25.75</u>	<u>N/A</u>	%
96001061	BY-107	4	SAMPLE	S96T004223	0		TGA-03	SOLID	<u>N/A</u>	<u>31.25</u>		%
96001061	BY-107	5	DUP	S96T004223	0		TGA-03	SOLID	<u>31.25</u>	<u>40.98</u>	<u>N/A</u>	%

Final page for worklist # 12046

See attached for signatures

Analyst Signature 8-23-96
Date 8-23-96

8-26-96
Analyst Signature 8-26-96
Date

Verified/Validated by
Blandina
Valenzuela
8-27-96

Data Entry Comments: S96T004222 results are the sum of two weight loss
steps

S96T004223 results are the sum of three weight loss steps.

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

LABCORE Data Entry Template for Worklist#

12046

Analyst: RA Instrument: TGA0 8-23-96 Book # 82128-A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96001061	BY-107	2 SAMPLE	S96T004222	0	TGA-01	SOLID	N/A			%
96001061	BY-107	3 DUP	S96T004222	0	TGA-01	SOLID			N/A	%
96001061	BY-107	4 SAMPLE	S96T004223	0	TGA-01	SOLID	N/A			%
96001061	BY-107	5 DUP	S96T004223	0	TGA-01	SOLID			N/A	%

Final page for worklist #

12046

Rob King 8/21/96
Analyst Signature Date

Analyst Signature Date

TGA-03 instrument
was used.

8-23-96

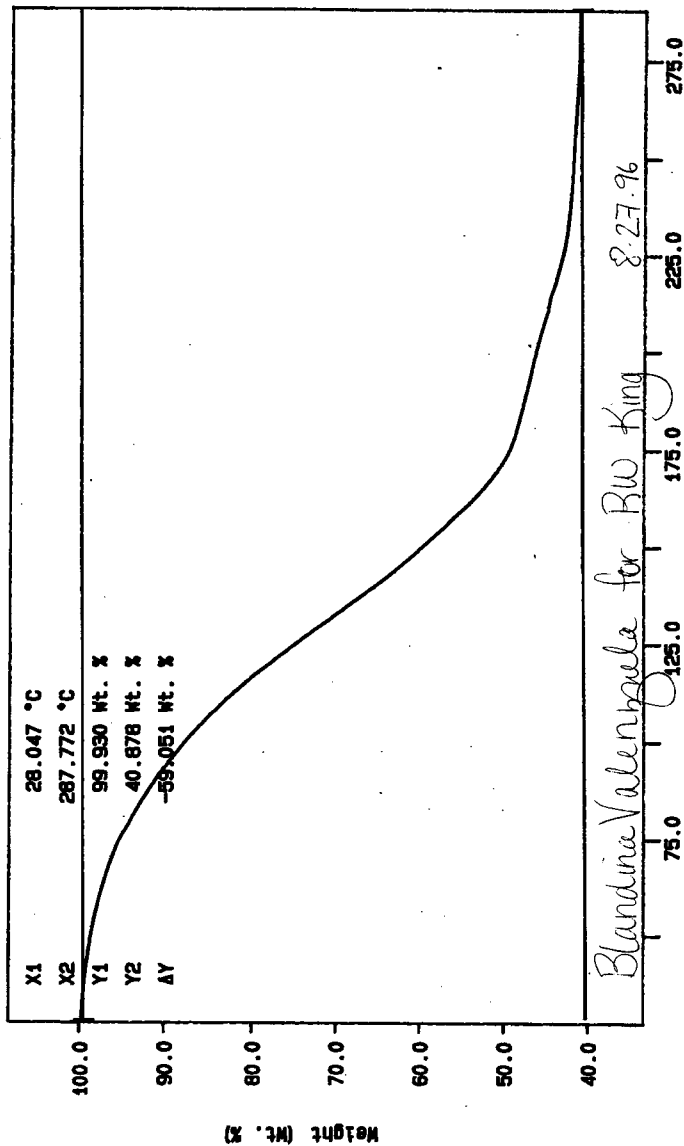
Blandina
Valenzuela

Data Entry Comments:

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

Curve 1: TGA
 File info: qsave
 Sample Weight: 18.415 mg
 TGA STD 82N8-A
 Med Aug 21 08: 41: 09 1996

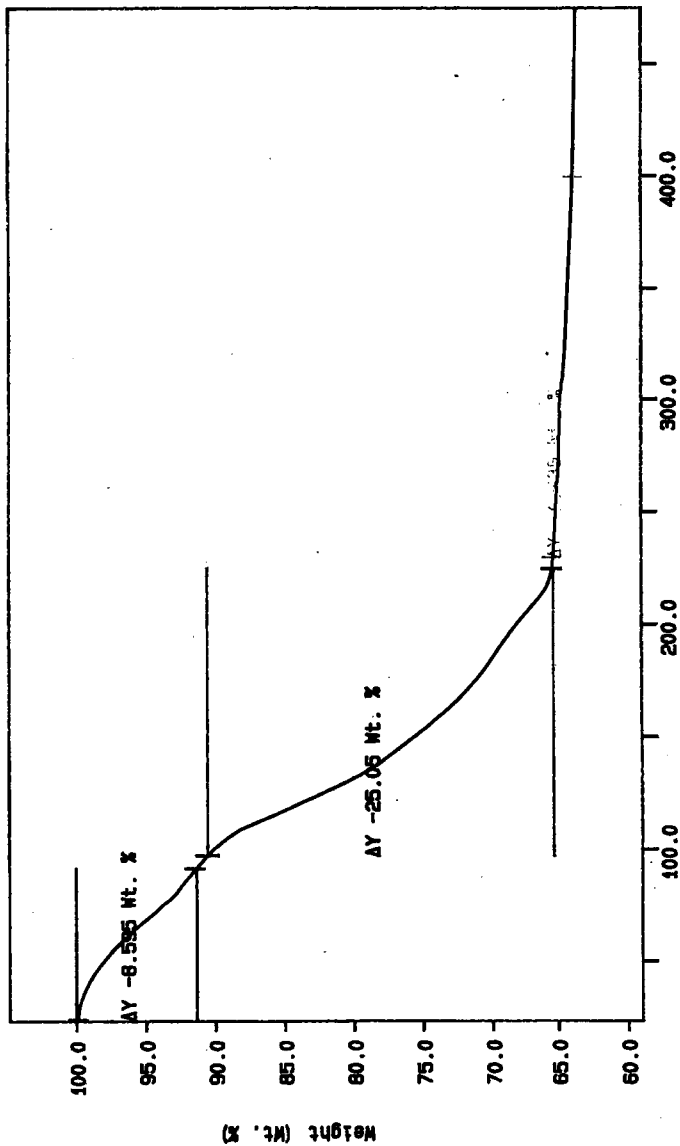
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 233 TO 237.



RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Med Aug 21 07: 41: 20 1996

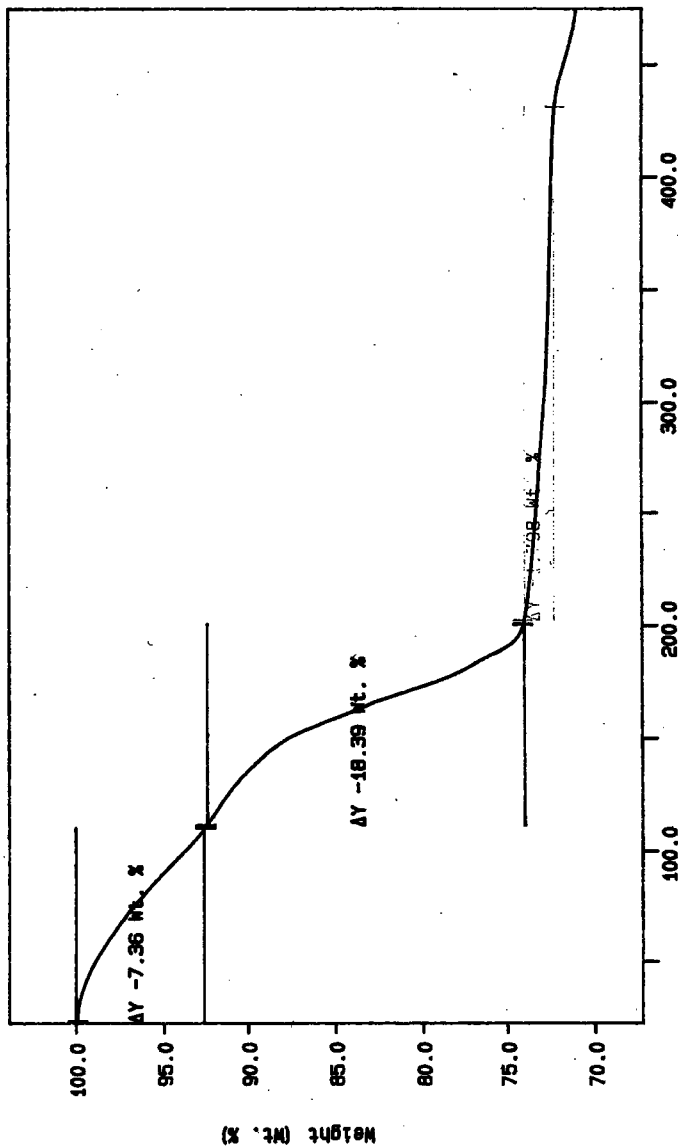
N2 10C/MIN
 TGA: 300.0 g
 TGA: 300.0 g
 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAK082101 Wed Aug 21 08:38:46 1996
 Sample Weight: 10.365 mg
 S96T004222



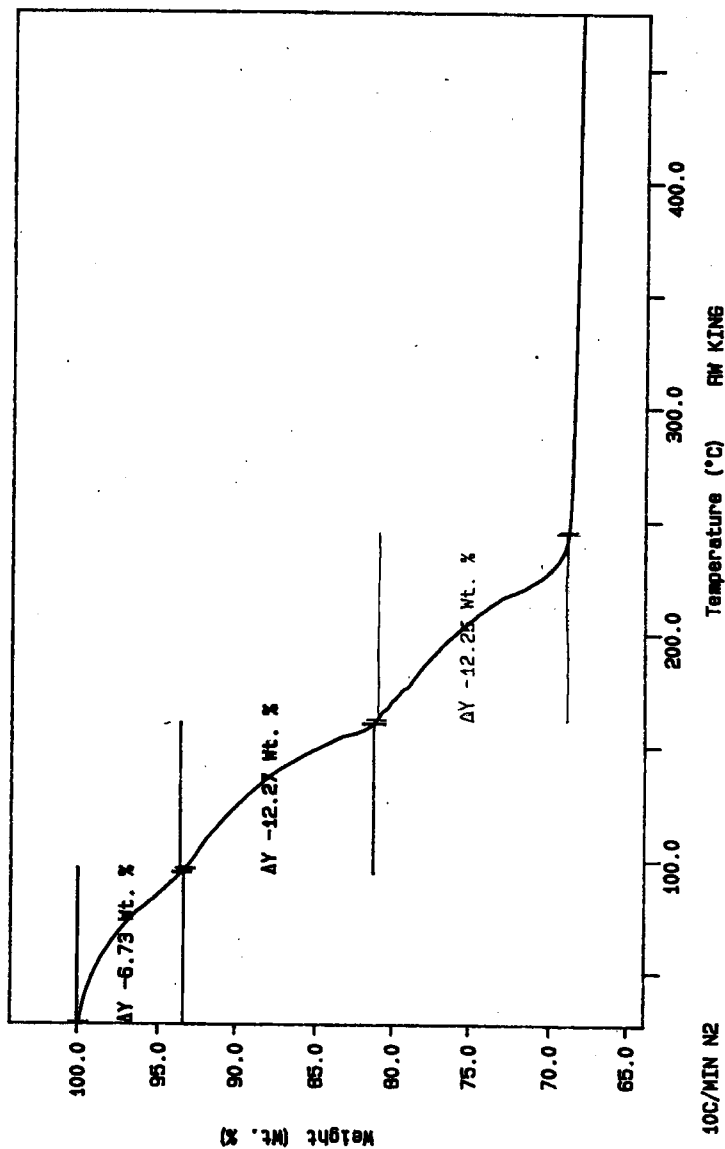
10C/MIN N2
 TIME: 35.8 s
 RATE: 23.8 g
 0.0 min RATE: 10.0 C/min
 RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 21 08:37:03 1996

Curve 1: TGA
 File info: SAM082102 Wed Aug 21 09:54:00 1996
 Sample Weight: 15.870 mg
 S96T004222 DUF



10C/MIN N2
 TIME 08:08
 0.0 MIN RATE: 10.0 C/min
 RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 21 09:57:26 1996

Curve 1: TGA
 File Info: SAM082103 Wed Aug 21 11:04:25 1996
 Sample Weight: 25.679 mg
 S96T004223



10C/MIN N2
 THERM 38.8 g
 TIME: 0.0 min RATE: 10.0 C/min

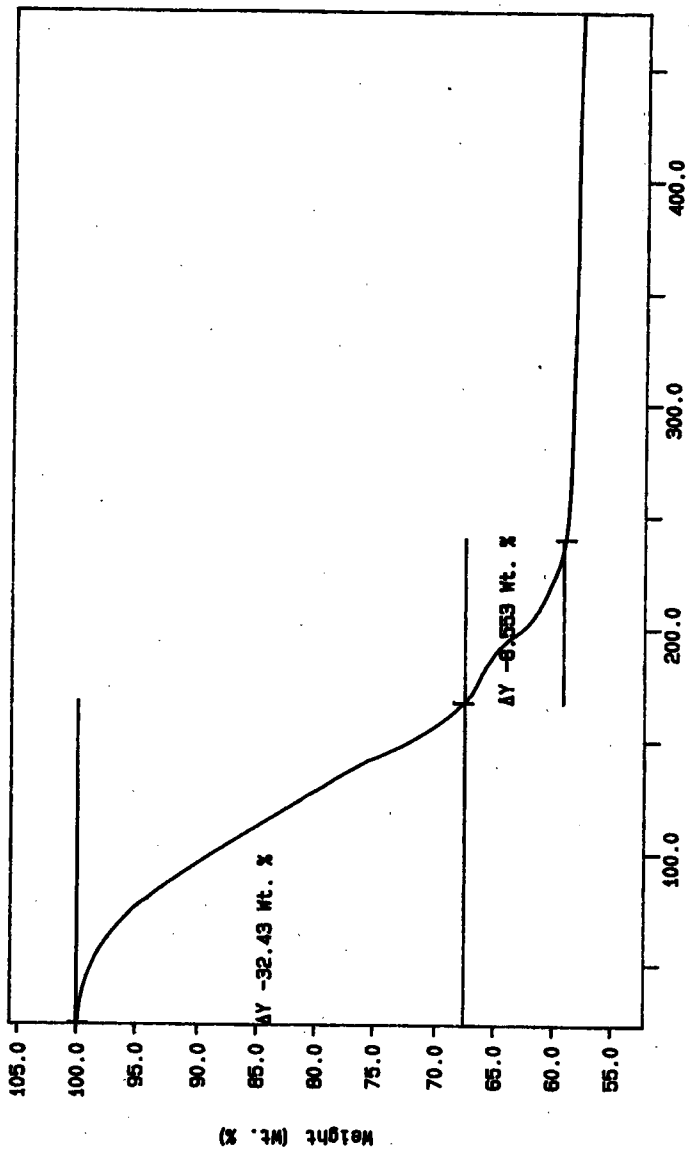
HW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 21 12:26:22 1996

Curve 1: TGA

File Info: SAN082104 Wed Aug 21 12:58:49 1996

Sample Weight: 20.273 mg

S96T004223 DUP



10C/MIN N2

TIME 23.8 8

TIME 00.0 8

0.0 min RATE: 10.0 C/min

RM KING
PERKIN-ELMER
7 Series Thermal Analysis System

Wed Aug 21 13:04:04 1996

LABCORE Data Entry Template for Worklist#

12048

Analyst: SME Instrument: TGA01 Book # 82N8A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	59.9	58.73*	N/A	%
96001061	BY-107	2 SAMPLE	S96T004349 0		TGA-01	SOLID	N/A	40.89		%
96001061	BY-107	3 DUP	S96T004349 0		TGA-01	SOLID	40.89	66.34	N/A	%

Final page for worklist # 12048

Susie M. Tilton 8-18-96
Analyst Signature Date

Susan Bee 8/20/96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
8-22-96

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 234 TO 244.

TGA STD 82NB-A

16.768 mg

Rate: 10.0 °C/min

File: 00080.001

Ident: 0.0

TG METTLER

222-S Laboratory

18-Aug-96

Step Analysis

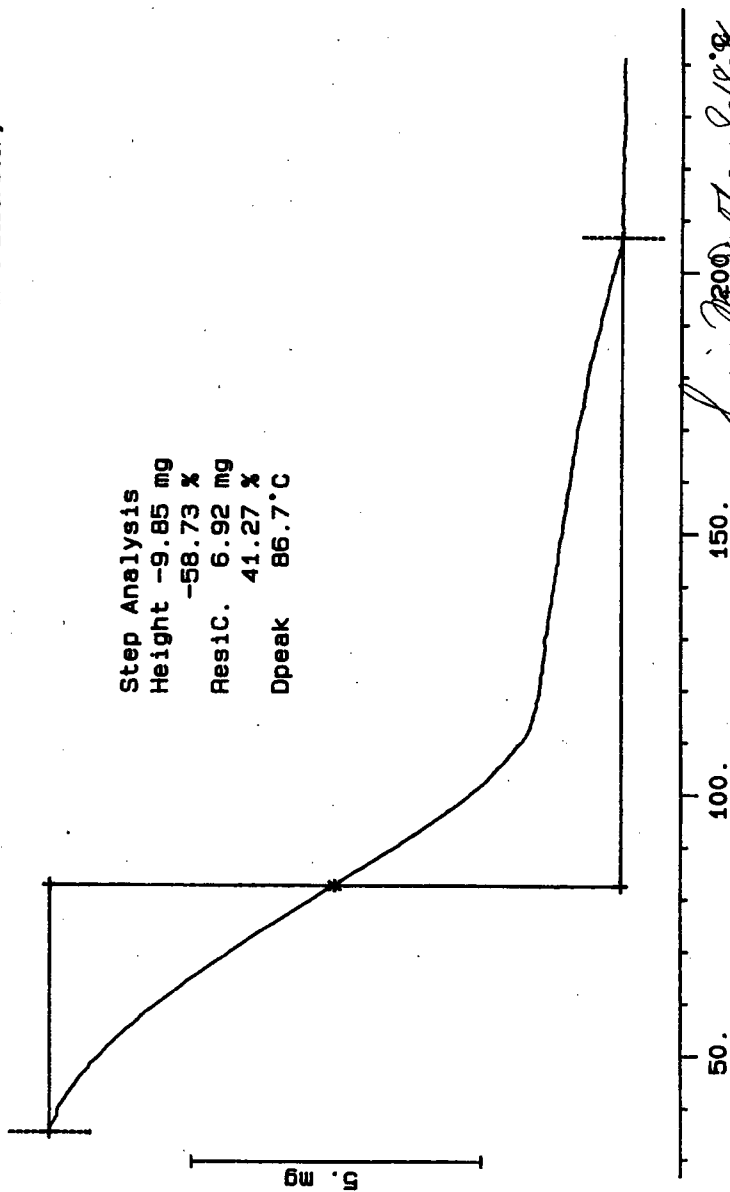
Height -9.85 mg

-58.73 %

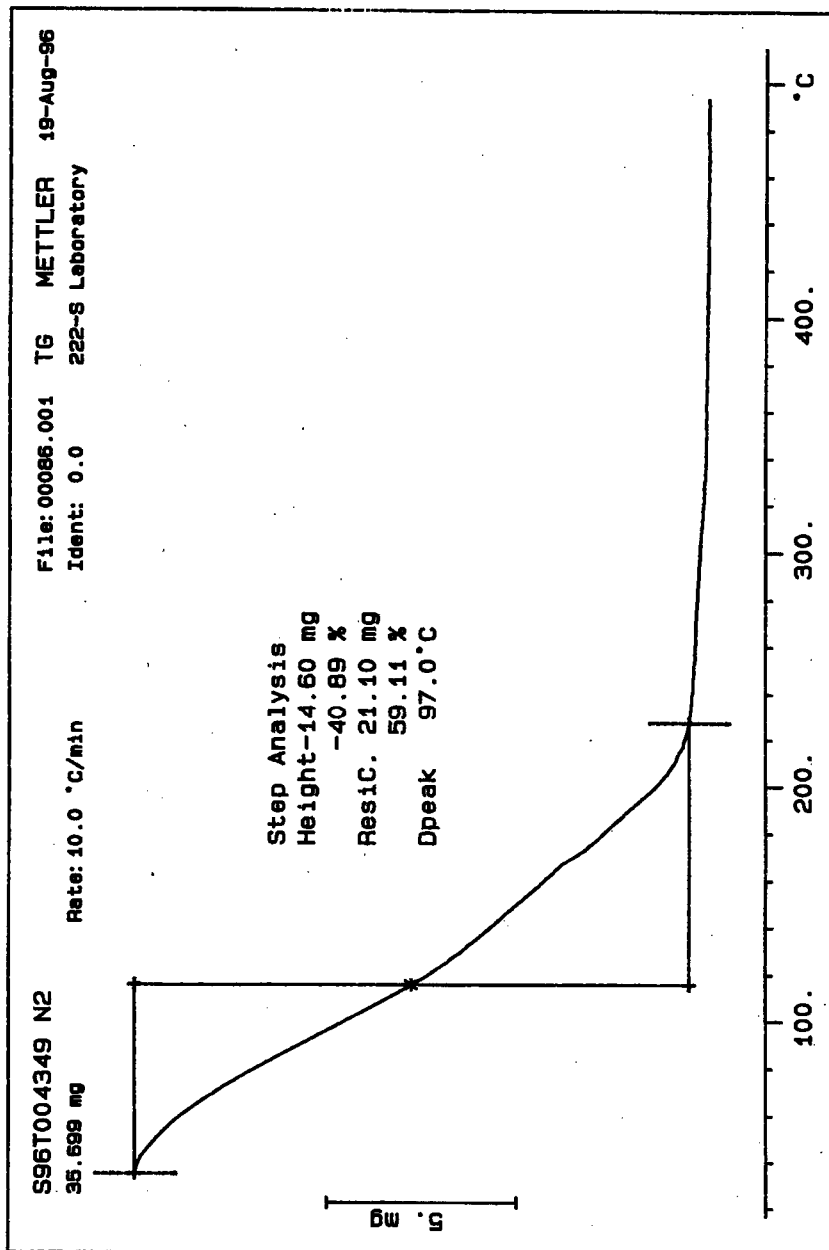
Resid. 6.92 mg

41.27 %

Dpeak 86.7 °C



2000
Lucie M. Sutton 8-18-96



S96T004349 DUP N2

43.599 mg

Rate: 10.0 °C/min

File: 00086.001 TG METTLER 19-Aug-86

Ident: 0.0 222-S Laboratory

Step Analysis

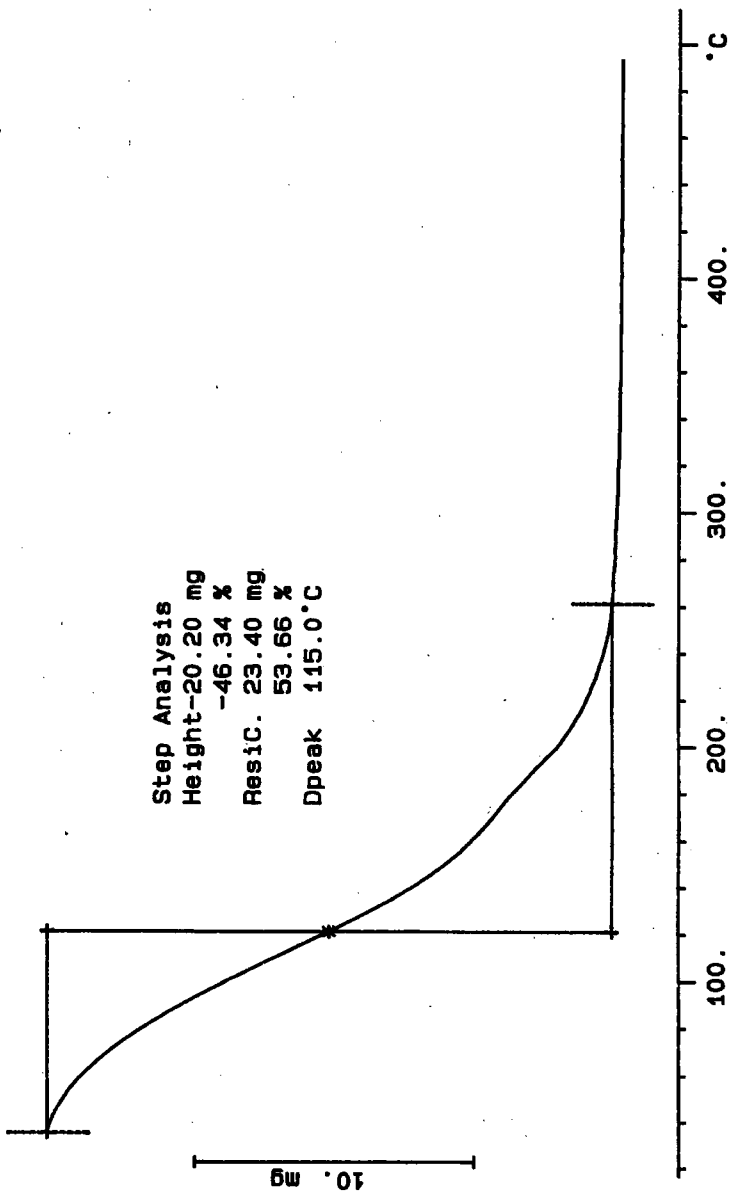
Height-20.20 mg

-46.34 %

Resid. 23.40 mg

53.66 %

Dpeak 115.0 °C



worklist rpt Version 2.1 05/15/95
08/20/96 10:23

Page: 1

LABCORE Data Entry Template for Worklist#

12147

Analyst: RLK Instrument: TGA0 1 Book # 8278-AMethod: LA-560-112 Rev/Mod 13-1

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>59.16</u>	<u>N/A</u>	%
96001061	BY-107	2 SAMPLE	S96T004411 0		TGA-01	LIQUID	<u>N/A</u>	<u>46.36</u>		%
96001061	BY-107	3 DUP	S96T004411 0		TGA-01	LIQUID	<u>46.36</u>	<u>47.43</u>	<u>N/A</u>	%
96001061	BY-107	4 SAMPLE	S96T004412 0		TGA-01	LIQUID	<u>N/A</u>	<u>45.14</u>		%
96001061	BY-107	5 DUP	S96T004412 0		TGA-01	LIQUID	<u>45.14</u>	<u>48.43</u>	<u>N/A</u>	%

Final page for worklist # 12147

RLK 8/21/96
Analyst Signature Date

RLK 8-26-96
Analyst Signature Date

Verified/Validated by
Blandina Valenzuela
8-27-96

Data Entry Comments: S96T004411 results are the sum of two weight loss steps

S96T004412 results are the sum of two weight loss steps.

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 243 TO 247.

TGA STD 82N8-A

17.837 mg

Rate: 10.0 °C/min

File: 00024.001 TG METTLER 21-Aug-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height-10.55 mg

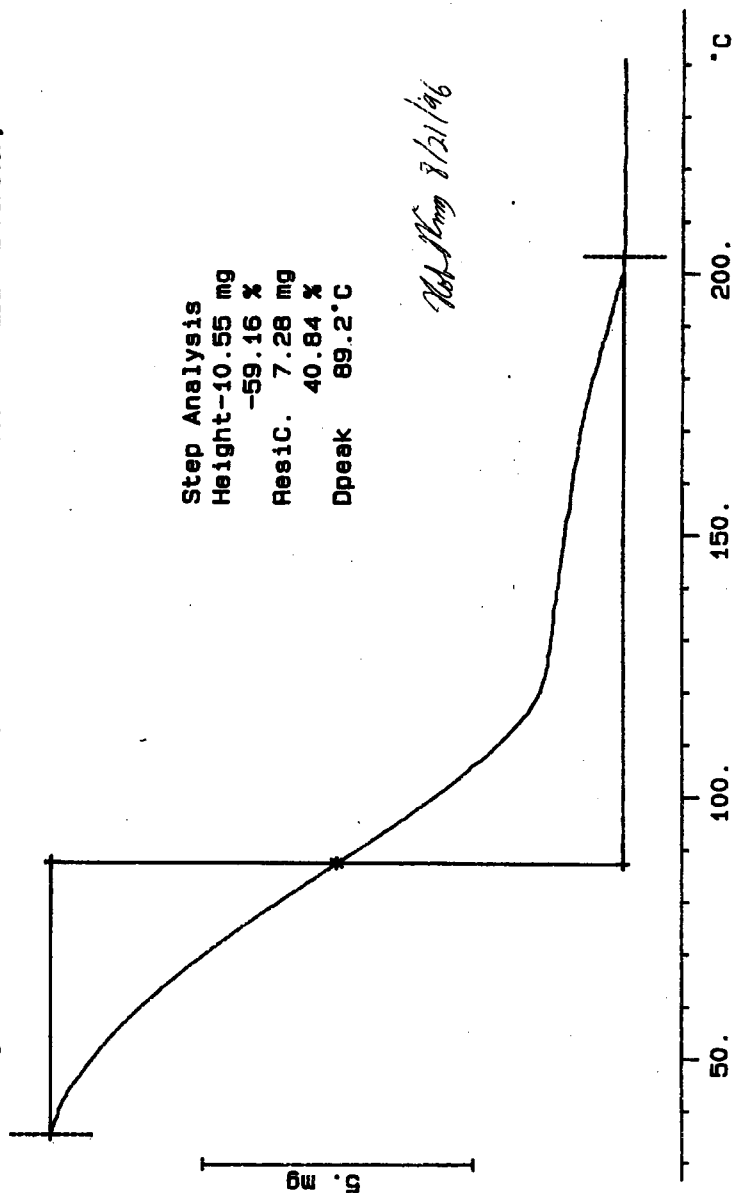
-59.16 %

ResidC. 7.28 mg

40.84 %

Dpeak 89.2°C

Ref. Nong 8/21/96



S96T004411 N2

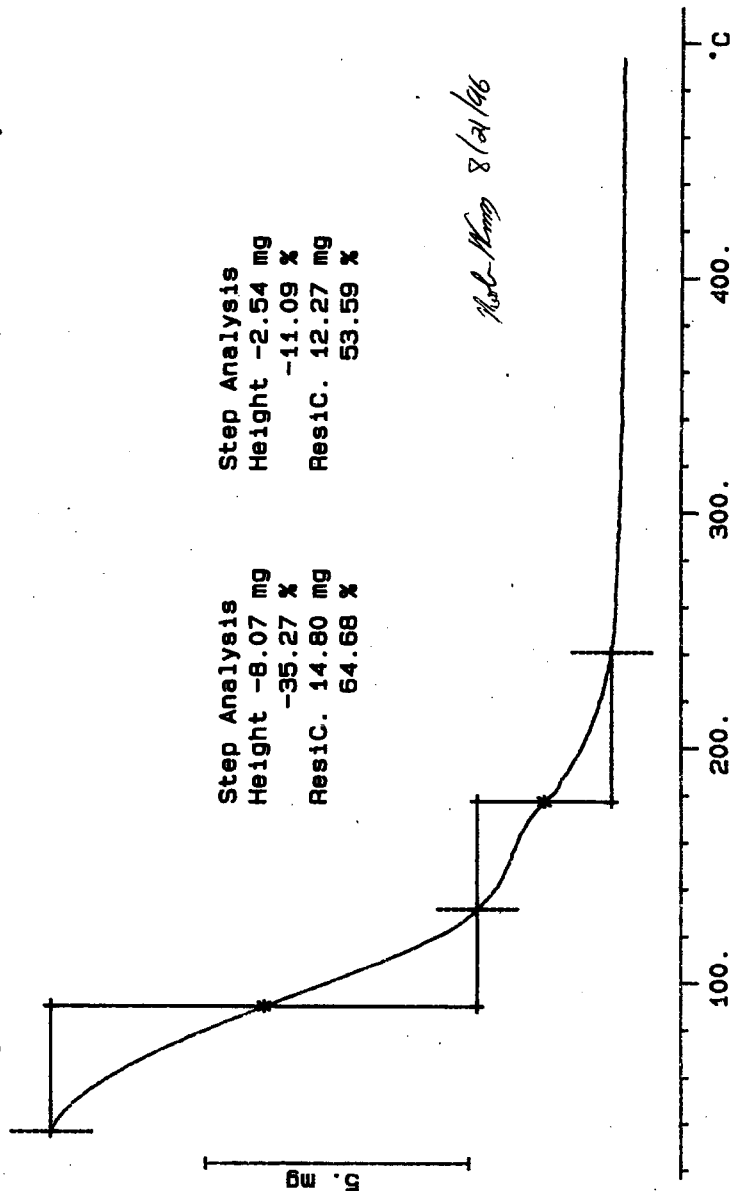
22.888 mg

Rate: 10.0 °C/min

File: 00026.001 TG

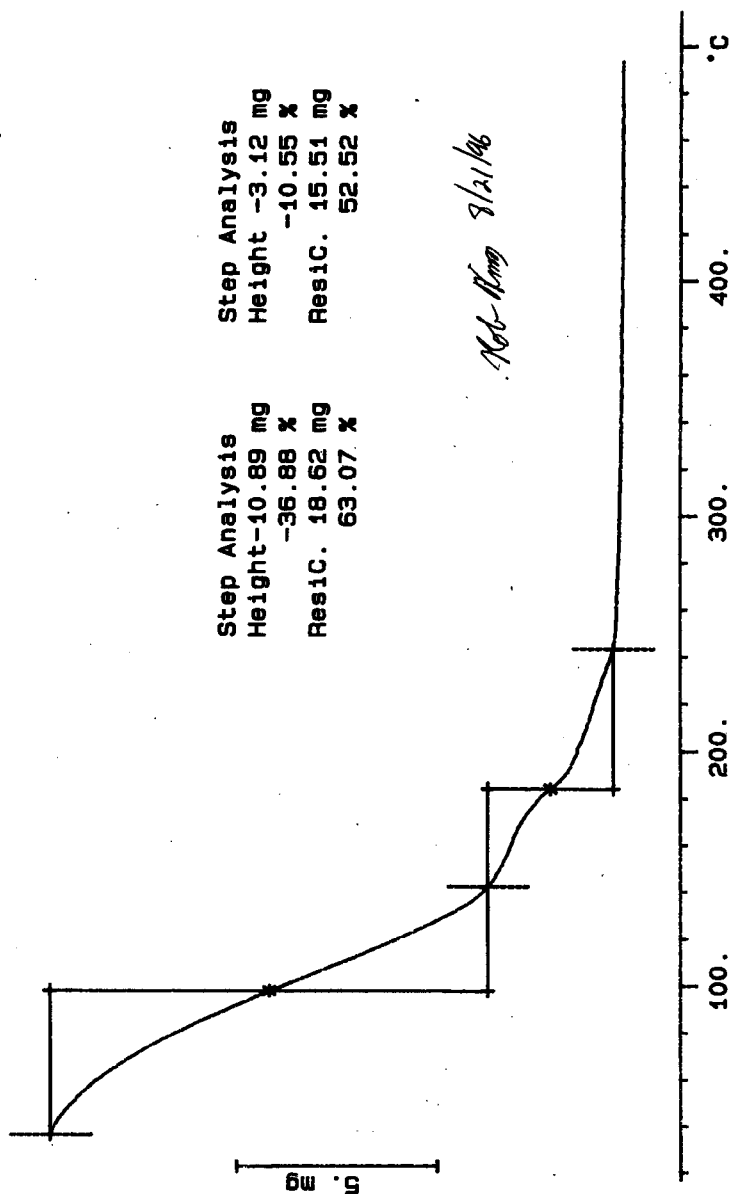
METTLER 21-Aug-96

Ident: 0.0 222-S Laboratory



Rob. Wang 8/21/96

S96T004411 DUP N2
 29.522 mg
 Rate: 10.0 °C/min
 File: 00028.001 TG METTLER 21-Aug-86
 Ident: 0.0 222-S Laboratory



S96T004412 N2

22.280 mg

Rate: 10.0 °C/min

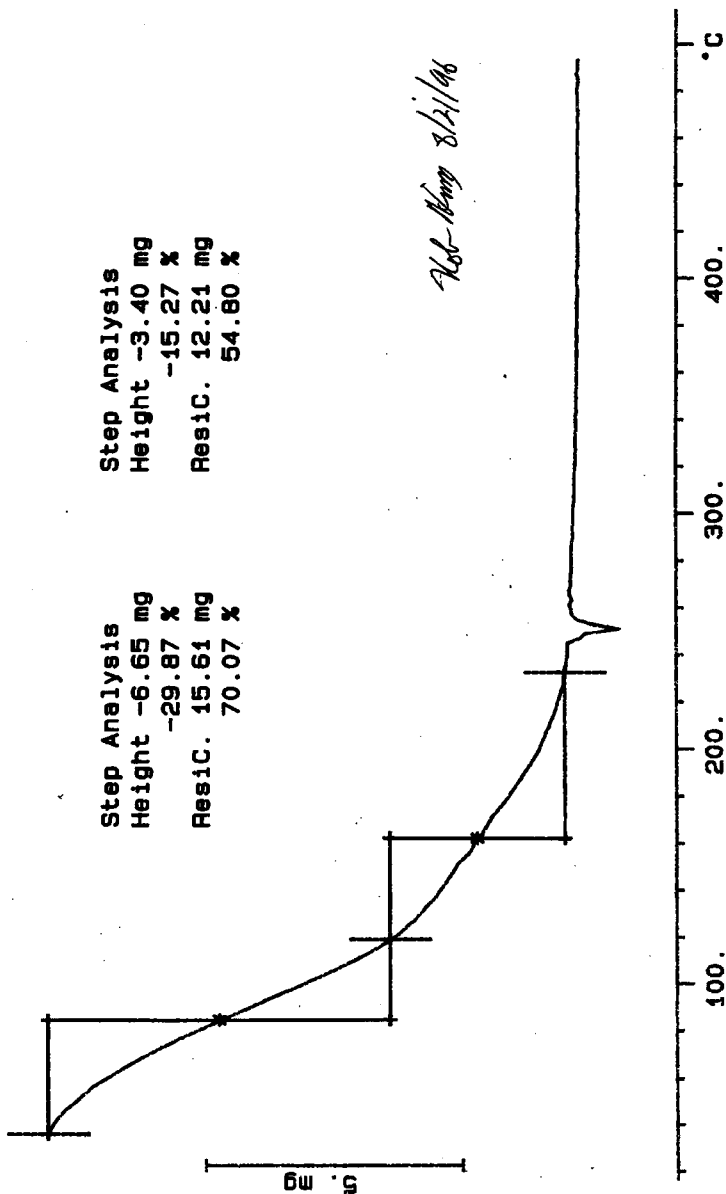
File: 00030.001 TG METTLER 21-Aug-98
Ident: 0.0 222-S Laboratory

Step Analysis

Height -6.65 mg
-29.87 %
Res1C. 15.61 mg
70.07 %

Step Analysis

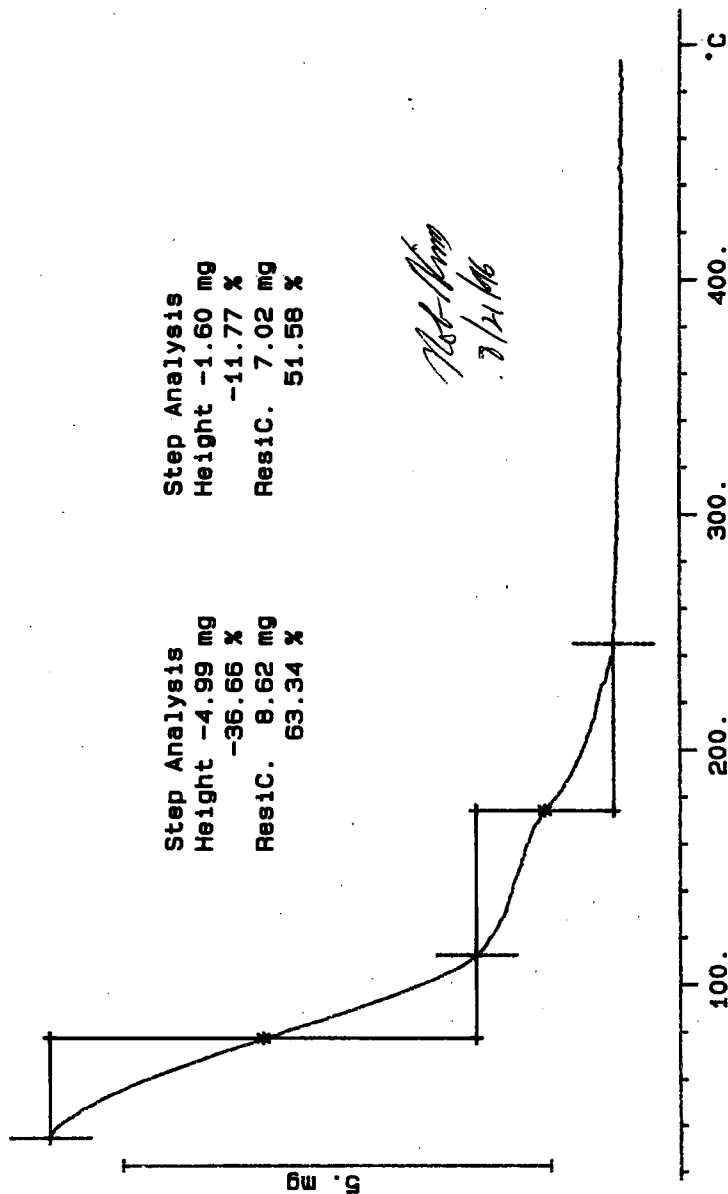
Height -3.40 mg
-15.27 %
Res1C. 12.21 mg
54.80 %



S96T004412 DUP N2
 13.615 mg
 Rate: 10.0 °C/min
 File: 00032.001 TG METTLER 21-Aug-86
 Ident: 0.0 222-S Laboratory

Step Analysis
 Height -1.60 mg
 -11.77 %
 ResidC. 7.02 mg
 51.58 %

Step Analysis
 Height -4.99 mg
 -36.66 %
 ResidC. 8.62 mg
 63.34 %



LABCORE Data Entry Template for Worklist# 12148

Analyst: RDM Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	59.2	57.46*	N/A	%
96001061	BY-107	2 SAMPLE	S96T004395	0	TGA-03	SOLID	N/A	48.05		%
96001061	BY-107	3 DUP	S96T004395	0	TGA-03	SOLID	48.05	44.08	N/A	%
96001061	BY-107	4 SAMPLE	S96T004396	0	TGA-03	SOLID	N/A	43.68		%
96001061	BY-107	5 DUP	S96T004396	0	TGA-03	SOLID	43.68	45.41	N/A	%

Final page for worklist # 12148

See attached for signatures
Analyst Signature Date 8-23-96
BDY

 8-26-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
8-27-96

Data Entry Comments: S96T004395 results are the sum of two weight loss steps

S96T004396 results are the sum of two weight loss steps.

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

LABCORE Data Entry Template for Worklist#

12148

Analyst: RDM Instrument: TGA0 _____ Book # ELNNA

Method: LA-560-112 Rev/Mod (-)

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCI

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96001061	BY-107	2 SAMPLE	S96T004395	0	TGA-01	SOLID	N/A			%
96001061	BY-107	3 DUP	S96T004395	0	TGA-01	SOLID			N/A	%
96001061	BY-107	4 SAMPLE	S96T004396	0	TGA-01	SOLID	N/A			%
96001061	BY-107	5 DUP	S96T004396	0	TGA-01	SOLID			N/A	%

Final page for worklist # 12148

RDM 8/22/96
Analyst Signature Date

Analyst Signature Date

TGA-03 instrument
was used.
8-23-96

Blandina
Valenzuela

Data Entry Comments:

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

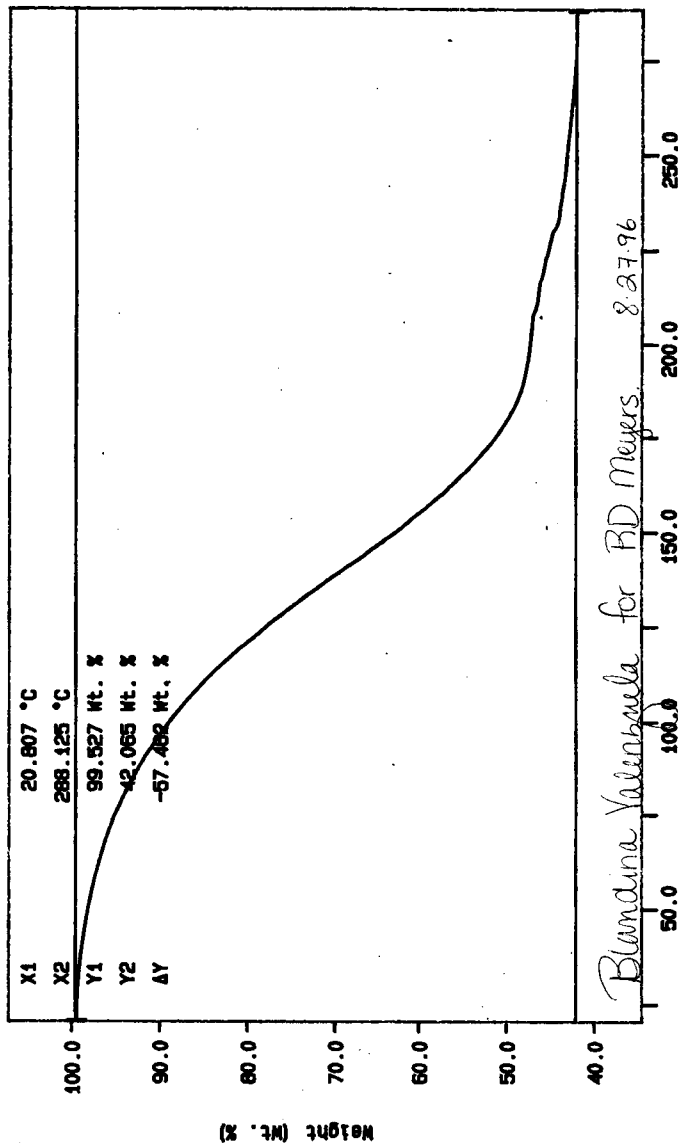
Curve 1: TGA

File Info: T6082101 Wed Aug 21 05:54:58 1996

Sample Weight: 21.995 mg

TGA STD 8208-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 252 TO 254.



N2 10C/MIN
TIME: 55.8 g

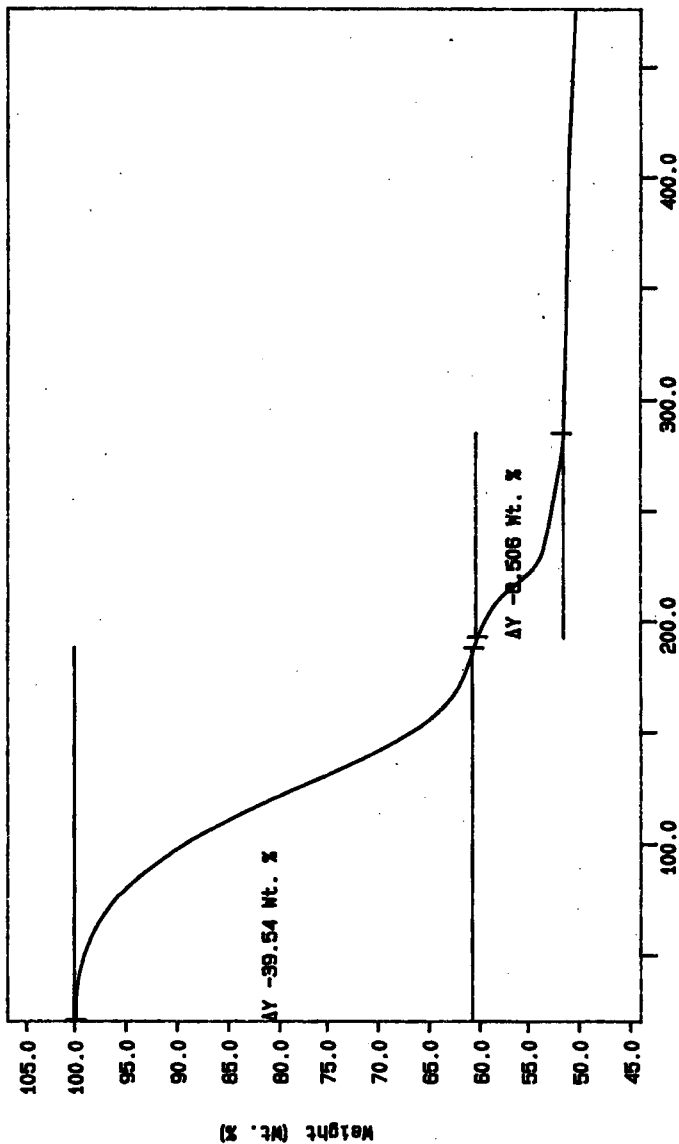
0.0 min RATE: 10.0 C/min

Temperature (°C)

RM KING
PERKIN-ELMER

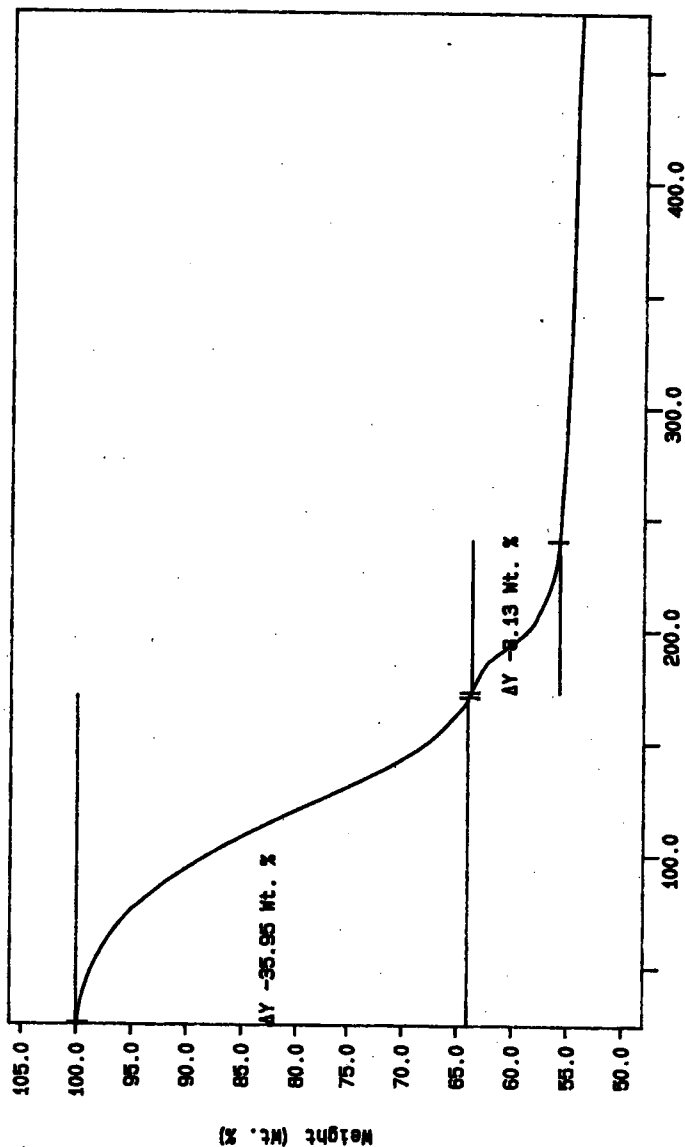
7 Series Thermal Analysis System
Wed Aug 21 17:28:02 1996

Curve 1: TGA
 File Info: SAM082106 Wed Aug 21 19:27:07 1996
 Sample Weight: 10.693 mg
 96T004395



10C/MIN N2
 THERM 800.8 g THERM 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 21 20:55:45 1996

Curve 1: TGA
 File Info: SAM082107 Wed Aug 21 21:47:20 1996
 Sample Weight: 8.703 mg
 S96T0043950UP



10C/MIN N2

TIME: 28.8 g

TIMES: 0.0 min RATE: 10.0 C/MIN

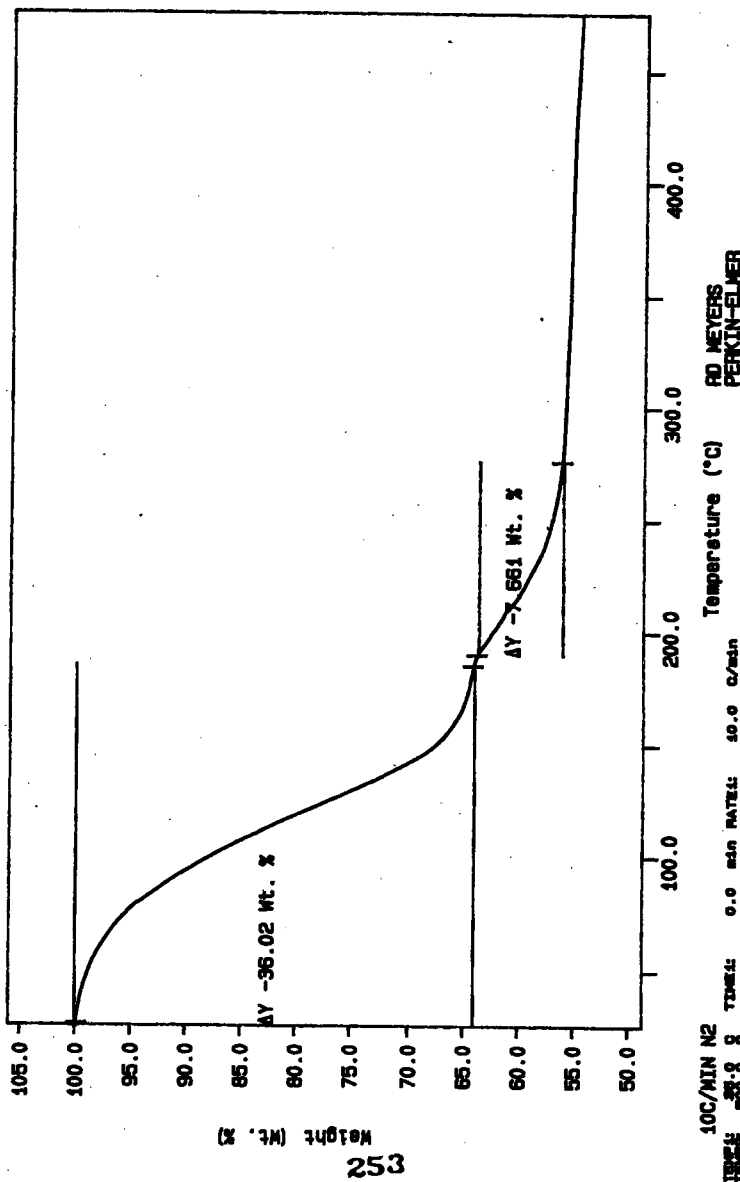
RD MEYERS

PERKIN-ELMER

7 Series Thermal Analysis System

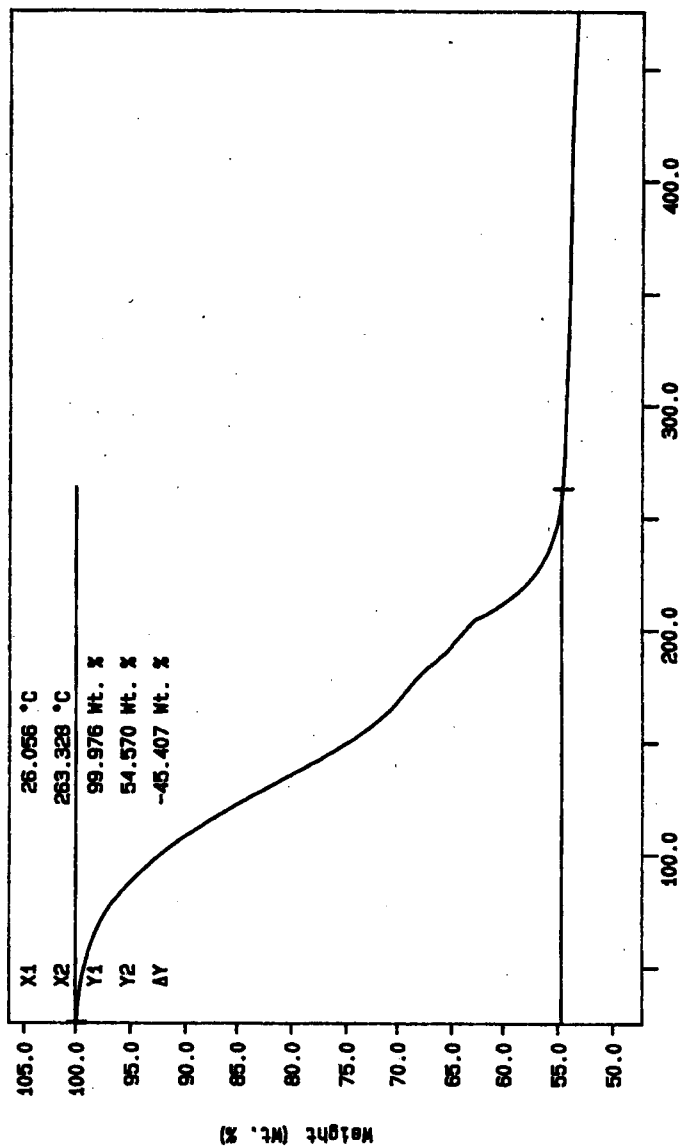
Wed Aug 21 23:45:36 1996

Curve 1: TGA
 File Info: SAK082201 Thu Aug 22 00:35:59 1996
 Sample Weight: 9.343 mg
 S96T004396



RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Aug 22 01:06:34 1996

Curve 1: T8A
 File info: SAN082202 Thu Aug 22 01:57:05 1996
 Sample Weight: 15.754 mg
 S98T004396DUP



10C/MIN N2
 TIME 58.8 g
 0.0 min RATE: 50.0 C/min

LABCORE Data Entry Template for Worklist#

12149

Analyst: RMM Instrument: TGA0 1 Book # 92N0A

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

Worklist Comment: BY-107 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	59.2	59.16 *	N/A	%
96001061	BY-107	2 SAMPLE	S96T004397 0		TGA-01	SOLID	N/A	38.59		%
96001061	BY-107	3 DUP	S96T004397 0		TGA-01	SOLID	38.59	38.69	N/A	%

Final page for worklist # 12149

Analyst Signature RMM

Date 8/21/96

Analyst Signature R. J. Schuch

Date 8-26-96

Verified/Validated by

Blandina Valenzuela

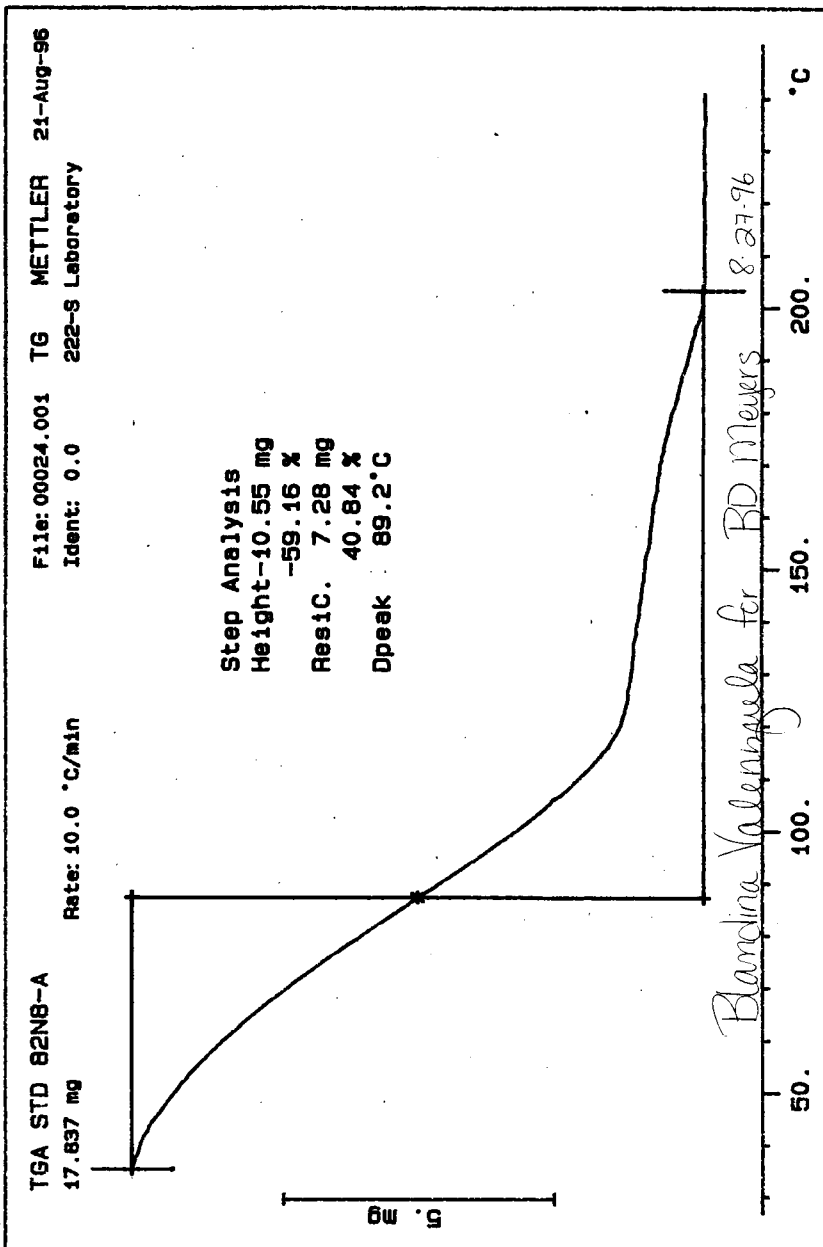
8-27-96

Data Entry Comments:

Sample results are the sum of two weight loss steps.

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 254 TO 258.



S96T004397 N2

7.773 mg

Rate: 10.0 °C/min

File: 00034.001

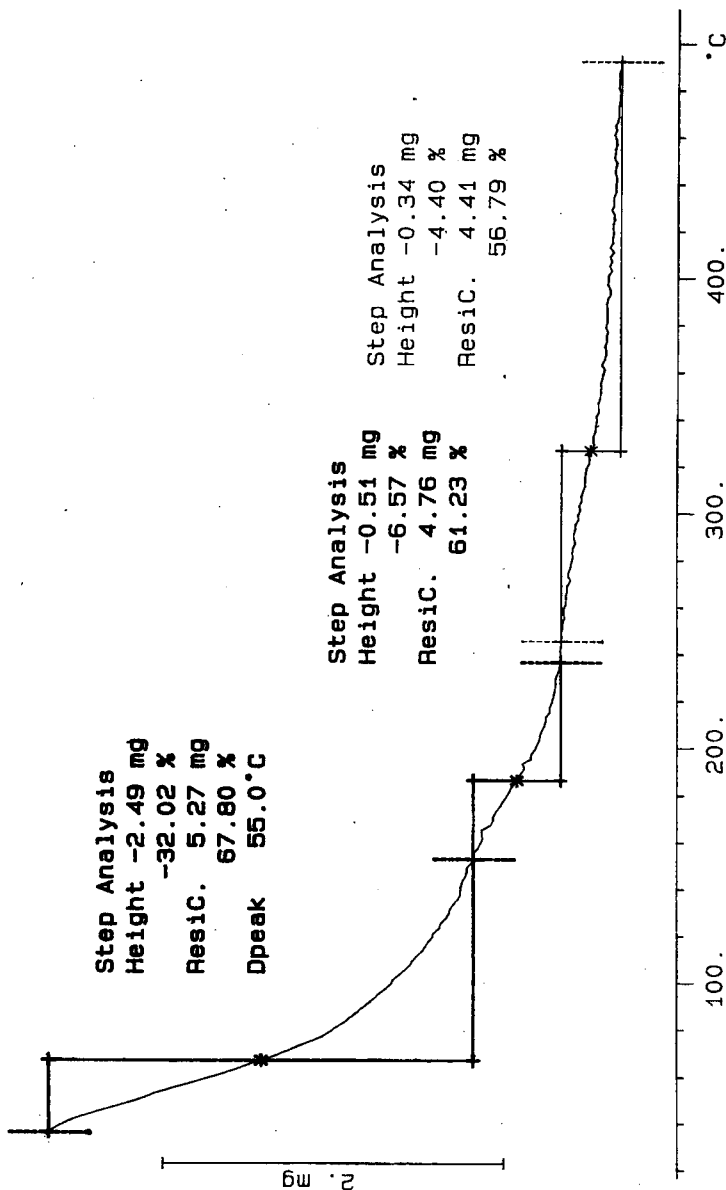
TG METTLER 22-Aug-96

Ident: 0.0 222-S Laboratory

Step Analysis
 Height -2.49 mg
 -32.02 %
 ResidC. 5.27 mg
 67.80 %
 Dpeak 55.0 °C

Step Analysis
 Height -0.51 mg
 -6.57 %
 ResidC. 4.76 mg
 61.23 %

Step Analysis
 Height -0.34 mg
 -4.40 %
 ResidC. 4.41 mg
 56.79 %



S96T004397 DUP N2

18.368 mg

Rate: 10.0 °C/min

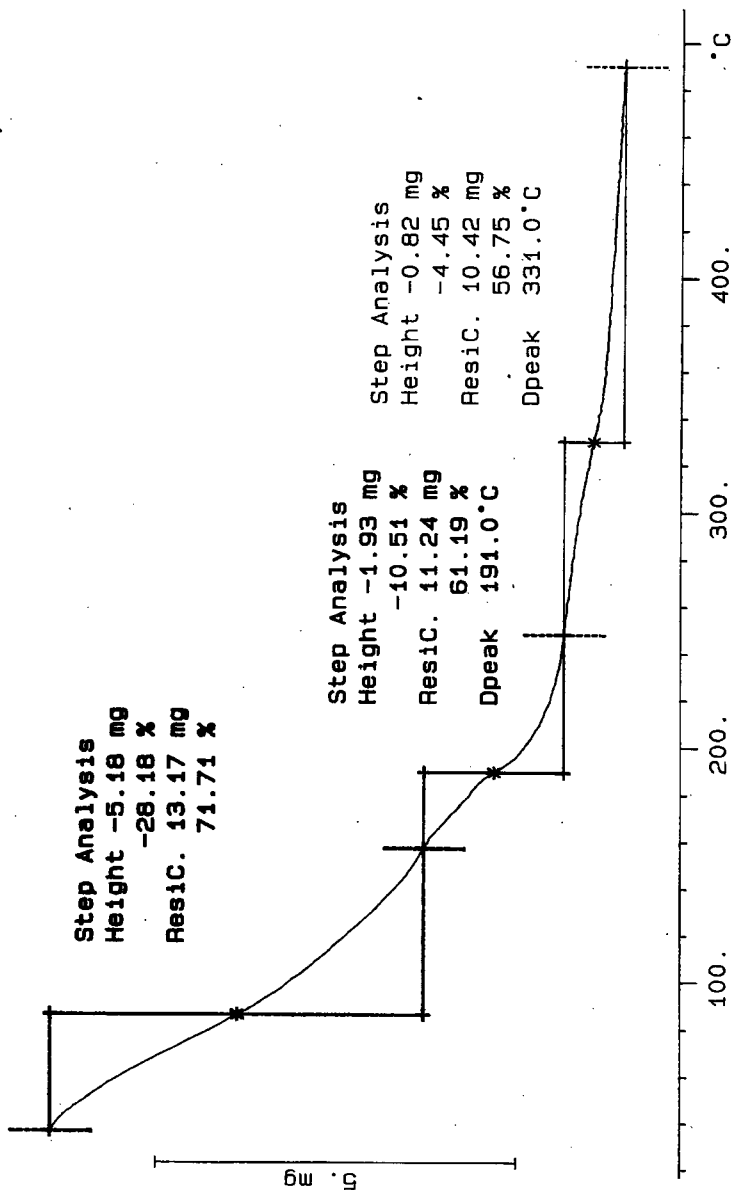
File: 00036.001 TG METTLER 22-Aug-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height -5.18 mg
-28.18 %
ResiC. 13.17 mg
71.71 %

Step Analysis
Height -1.93 mg
-10.51 %
ResiC. 11.24 mg
61.19 %
Dpeak 191.0 °C

Step Analysis
Height -0.82 mg
-4.45 %
ResiC. 10.42 mg
56.75 %
Dpeak 331.0 °C



DISTRIBUTION SHEET

To Distribution	From Production Planning & Control	Page 1 of 1
		Date: 09/09/96
Project Title/Work Order WHC-SD-WM-DP-197, Rev. 0, "Tank 241-BY-107, Cores 151 and 161, Analytical Results for the 45 Day Report"		EDT NO.: EDT-617494
		ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY	
------	------	-------------------------	-----------------	--

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A. E. Young (Narrative & Sample Data Summary)	R2-12	X		
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EDMC	H6-08	X		
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Defense Nuclear Federal Safety Board

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* Needs only releasing paperwork, not a copy of the released document.