DISTRIBUTION SHEET

To DISTRIBUTION	From ANALYTICAL SERVICES	Page 1 of 2
		Date: 01/26/95
Project Title/Work Order WHC-SD-WM-DP-082, Rev. 0 45 Day Safety Screen Results for Tank 241-C-108 - Augers 94-012, 94-014 and 94-015		EDT NO.: EDT-610402
		ECN NO.: N/A

Name	MSIN	Text With all Attach	Addendum 1A Only	EDT/ECN Only
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J. E. Meacham	S7-15			X
P. M. Morant	H4-25			X
A. F. Noonan	K9-81	X		
A. D. Rice	T6-06	X		
P. Sathyanarayana	R2-12	2		
R. D. Schreiber	R2-12			X
B. C. Simpson	R2-12			X
D. A. Turner	S7-15			X
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DISTRIBUTION SHEET

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		Date: 01/26/95		
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		ECN NO.: N/A		
Name	MSIN	Text With all Attach	Addendum 1A Only	EDT/ECN Only

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55 Sta-5

ENGINEERING DATA TRANSMITTAL

Page 1 of 1
1. EDT 610402

2. To: (Receiving Organization) Distribution		3. From: (Originating Organization) Program Support		4. Related EDT No.: N/A	
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				13. Permit/Permit Application No.: N/A	
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(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	WHC-SD-WM-DP-082	N/A	0	45 Day Safety Screen Results for Tank C-108 - Augers 94-012, 94-014 and 94-015	Q	2	1	

16. KEY					
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		2. Release	5. Post-Review	2. Approved w/comment	5. Reviewed w/comment
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2	1	Cog. Mgr. J. G. Kristofzski	<i>J. G. Kristofzski</i>	1-26-95	T6-06				
2	1	QA Tzu L. TUNG	<i>Tzu L. Tung</i>	1-31-95	S3-30				
		Safety							
		Env.							

18. A. E. Young <i>A. E. Young</i> 1-26-95 Signature of EDT Originator Date		19. _____ Authorized Representative Date for Receiving Organization		20. J. G. Kristofzski <i>J. G. Kristofzski</i> 1-26-95 Cognizant Manager Date		21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments	
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Document Title: 45 Day Safety Screen Results for Tank 241-C108 -
Augers 94-012, 94-014 and 94-015

Release Date: 1/31/95

**This document was reviewed following the
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Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-082, REV. 0

ANALYTICAL SERVICES

**45 DAY SAFETY SCREEN RESULTS FOR TANK 241-C-108,
AUGERS 94-012, 94-014 AND 94-015**

TANK: 241-C-108

DATE: JANUARY 26, 1995

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WHC-SD-WM-DP-082, REV. 0

NARRATIVE

45 DAY SAFETY SCREEN RESULTS FOR TANK 241-C-108
AUGERS 94-012, 94-014, 94-015

Summary

Three auger samples from tank C-108 were received by the 222-S laboratories. These samples underwent safety screening analysis (DSC, TGA, and Alpha Total) in accordance with reference below. No results exceeded the notification criteria.

Sample Receipt and Extrusion

Riser 7

Due to the calculated depth of sludge at riser 7, two augers were used to sample the sludge. The first (94-AUG-012) was a ten inch auger, the second (94-AUG-014) was a 20 inch auger.

Auger 94-AUG-012

Auger 94-AUG-012 was sampled on 11/18/94, and received at the 222-S laboratory on 11/21/94. Extrusion took place on 11/22, with the total amount of solid material recovered being about 95 grams. No drainable liquid was recovered. The sample recovery, based on an expected sample length of 10 inches, was 33 percent. The solid material was yellow to brown in color, crumbly in texture, and was deposited along the entire length of the auger, with the heaviest accumulation being on the uppermost flutes (flutes 1 and 2). To test for the presence of an upper layer, the sample was segregated into two portions, with flutes 1 and 2 (containing 29 grams) being designated as quarter segment A1, and the remainder of the auger, flutes 3-9 (containing 67 grams), being designated as quarter segment A2. Results for quarter segment A1 appear on page one of the summary table as sample numbers S94T000288 and S94T000289. Results for quarter segment A2 appear as sample numbers S94T000290 and S94T000296.

Auger 94-AUG-014

Auger 94-AUG-014 was sampled on 11/18/94, and received at the 222-S laboratory on 11/21/94. Extrusion took place on 11/22, with the total amount of solid material recovered being about 349 grams. No drainable liquid was recovered. The sample recovery, based on an expected sample length of 9 inches, was 100 percent. The solid material was tan in color, more moist and paste-like in appearance than the auger 12 sample. The sample was deposited on all but the two uppermost flutes of the auger (flutes 1 and 2). The heaviest accumulation was observed on the lower half of the auger (flutes 10-19). The solids were segregated into two portions, with flutes 3-13 (containing 206 grams) being designated as quarter segment B, and flutes 14-19 (containing 143 grams) being designated as quarter segment C. Results for these quarter segments appear on page 2 of the summary table.

Riser 4

One 20 inch auger (94-AUG-015) was used to sample the tank C-108 contents at riser 4.

Auger 94-AUG-015

Auger 94-AUG-015 was sampled on 12/12/94, and received at the 222-S laboratory on 12/14/94. Extrusion took place on 12/15, with the total amount of solid material recovered being about 295 grams. No drainable liquid was recovered. The expected sample length was 21 inches. The sample recovery was not calculated. The solid material was tan in color, moist and paste-like in appearance, with an off white material embedded throughout. The sample was distributed along the entire length of the auger. The off white chunks were hard, and could not be homogenized. If this material represented a discreet layer, then a significant amount of mixing occurred during the sampling process. Auger 15 was segregated into quarter segments, with flutes 1-4 designated as quarter segment A (105 grams), flutes 5-9 as quarter segment B (70 grams), flutes 10-14 as quarter segment C (55 grams), and flutes 15-19 as quarter segment D (65 grams). Results for these quarter segments appear on page 3 of the summary table.

Analytical ResultsTGA (Moisture)

The weight percent water by Thermogravimetric Analysis (TGA) was performed utilizing procedure LA-560-112 with a nitrogen purge. All results were above the notification (Action) limit, therefore no notifications were made. Sample S94T000288, auger 12 quarter segment A1, exceeded the Tank Characterization Plan (TCP) precision criteria of 10% with a Relative Percent Deviation (RPD) between the sample and duplicate of 135. A rerun was requested and analyzed. The rerun result substantiated the apparent heterogeneous nature of the sample. The initial sample result was 15.35% water, its duplicate was 2.99%, and the rerun was 6.01%. Sample S94T000290, auger 12 quarter segment A2, demonstrated very much the same behavior. The sample result was 9.94% water, the duplicate was 27.66%, and the rerun was 11.98%. Rerun results are available in the raw data, but do not appear on the summary table. Two other samples (S94T000292/361) also exceeded the 10% precision criteria, but by a much smaller amount. These samples were not rerun due to the high dose rate of the samples, and the low probability of improving the results, which is a factor of the small amount of sample used (10-20mg) and the homogeneity problems mentioned above. All samples met the TCP accuracy criteria of 10%.

DSC

Differential thermal analyses were performed using procedure LA-514-113, and a Mettler Model 20 Differential Scanning Calorimeter (DSC) under a nitrogen purge. There were no results which exceeded the safety screen notification (Action) limit of 482 joules/g. Two samples (S94T000291/292) exceeded the TCP limit for precision. No rerun was requested due to the small exotherm in each case, the dose rate, and the heterogeneous behavior of these samples. All samples met the TCP accuracy criteria.

Alpha Total

The Alpha Total analyses were performed using procedure LA-508-101. Most of the alpha results for C-108 were below the detection limit. This is due to the very high beta to alpha activity ratio in these samples. Large dilutions are necessary to reduce the beta activity on the sample mount to acceptable levels. The "less than" values reported are significantly below the notification limit. Samples S94T000296 and S94T000298 each had one result above the detection limit, but were still significantly below the notification limit. The TCP requested Alpha Total analysis on a half segment level. Results have been provided on a quarter segment level to make use of existing fusion preparations performed for ICP analyses. The effort involved to provide the additional alpha results is minimal. Spike results were required once for each matrix, but have been provided on a more frequent basis. All spike results met the TCP requirements. The TCP accuracy criteria was met in each case.

Reference

WHC-SD-WM-TP-211, REV. 0, "Tank 241-C-108 Tank Characterization Plan", dated October 26, 1994, Westinghouse Hanford Company, Richland, WA 99352

WHC-SD-WM-DP-082, REV. 0

SAMPLE DATA SUMMARY

45 DAY SAFETY SCREEN RESULTS FOR C-108 94-AUG-012/014/015
C-108

CORE NUMBER: n/a
SEGMENT #: 94-AUG-012

SEGMENT PORTION: A Top Quarter of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S94T000288			% Water by TGA using Mettler	%	n/a	101.000	99.56	n/a	15.35	2.99	9.170	135	n/a	0.000	n/a
S94T000288			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	482.000	n/a	n/a	0	0	0.000	n/a	n/a	0.000	n/a
S94T000288			DSC Exotherm using Mettler	Joules/g	n/a	n/a	104.7	n/a	0	0	0.000	n/a	n/a	0.000	n/a
S94T000289			Alpha of Digested Solid	uCi/g	n/a	41.000	89.24	<2.88e-02	< 4.70e-2	<5.01e-2	n/a	n/a	81.00	0.066	500
S94T000290			% Water by TGA using Mettler	%	n/a	101.000	99.56	n/a	9.94	27.66	18.80	94.3	n/a	0.000	n/a
S94T000290			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	482.000	n/a	n/a	0	0	0.000	n/a	n/a	0.000	n/a
S94T000290			DSC Exotherm using Mettler	Joules/g	n/a	n/a	100.5	n/a	0	0	0.000	n/a	n/a	0.000	n/a
S94T000296			Alpha of Digested Solid	uCi/g	n/a	41.000	89.24	<2.88e-02	< 5.88e-2	1.08e-1	n/a	n/a	88.90	0.063	231.9

=> Limit violated

=> Selected Limit

WHC-SD-WM-DP-082, REV. 0

45 DAY SAFETY SCREEN RESULTS FOR C-108 94-AUG-012/014/015
C-108

CORE NUMBER: n/a
SEGMENT #: 94-AUG-014

SEGMENT PORTION: B Second Quarter of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S94T000292			% Water by TGA using Mettler	%	n/a	101.000	98.68	n/a	32.97	39.15	36.06	17.1	n/a	0.000		n/a
S94T000292			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	482.000	n/a	n/a	50.3	35.5	42.90	34.5	n/a	0.000		n/a
S94T000292			DSC Exotherm using Mettler	Joules/g	n/a	n/a	98.42	n/a	33.7	21.6	27.65	43.8	n/a	0.000		n/a
S94T000298			Alpha of Digested Solid	uCi/g	n/a	41.000	89.24	<3.17e-02	4.81e-2	<4.25e-2	n/a	n/a	n/a	0.071		92.9

SEGMENT PORTION: C Third Quarter of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S94T000291			% Water by TGA using Mettler	%	n/a	101.000	98.68	n/a	45.76	46.28	46.02	1.13	n/a	0.000		n/a
S94T000291			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	482.000	n/a	n/a	102.1	116.3	109.2	13.0	n/a	0.000		n/a
S94T000291			DSC Exotherm using Mettler	Joules/g	n/a	n/a	105.4	n/a	55.4	62.5	58.95	12.0	n/a	0.000		n/a
S94T000297			Alpha of Digested Solid	uCi/g	n/a	41.000	89.24	<3.17e-02	<3.17e-2	<3.17e-2	n/a	n/a	n/a	0.073		196.0

=> Limit violated

=> Selected Limit

WHC-SD-WM-DP-082, REV. 0

45 DAY SAFETY SCREEN RESULTS FOR C-108 94-AUG-012/014/015
C-108

CORE NUMBER: n/a
SEGMENT #: 94-AUG-015

SEGMENT PORTION: A Top Quarter of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S94T000361			% Water by TGA using Mettler	%	n/a	101.000	100.0	n/a	51.85	46.8	49.33	10.2	n/a	0.000	n/a	n/a
S94T000361			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	482.000	n/a	n/a	0	0	0.000	n/a	n/a	0.000	n/a	n/a
S94T000361			DSC Exotherm using Mettler	Joules/g	n/a	n/a	99.12	n/a	0	0	0.000	0.00	n/a	0.000	n/a	n/a
S94T000367			Alpha of Digested Solid	uCi/g	n/a	41.000	99.02	<2.65e-02	< 3.41E-2	<3.41E-2	n/a	n/a	91.10	0.062	500	

SEGMENT PORTION: B Second Quarter of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S94T000362			% Water by TGA using Mettler	%	n/a	101.000	100.0	n/a	48.57	50.45	49.51	3.80	n/a	0.000	n/a	n/a
S94T000362			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	482.000	n/a	n/a	0	0	0.000	n/a	n/a	0.000	n/a	n/a
S94T000362			DSC Exotherm using Mettler	Joules/g	n/a	n/a	99.12	n/a	0	0	0.000	0.00	n/a	0.000	n/a	n/a
S94T000368			Alpha of Digested Solid	uCi/g	n/a	41.000	99.02	<2.65e-02	< 2.90E-2	<3.61E-2	n/a	n/a	87.60	0.068	500	

SEGMENT PORTION: C Third Quarter of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S94T000363			% Water by TGA using Mettler	%	n/a	101.000	98.48	n/a	52.97	52.41	52.69	1.06	n/a	0.000	n/a	n/a
S94T000363			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	482.000	n/a	n/a	0	0	0.000	n/a	n/a	0.000	n/a	n/a
S94T000363			DSC Exotherm using Mettler	Joules/g	n/a	n/a	102.3	n/a	0	0	0.000	n/a	n/a	0.000	n/a	n/a
S94T000369			Alpha of Digested Solid	uCi/g	n/a	41.000	97.17	<3.97e-02	< 3.63E-2	<3.62E-2	n/a	n/a	92.40	0.067	500	

SEGMENT PORTION: D Bottom Quarter of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S94T000364			% Water by TGA using Mettler	%	n/a	101.000	98.48	n/a	47.79	49.23	48.51	2.97	n/a	0.000	n/a	n/a
S94T000364			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	482.000	n/a	n/a	0	0	0.000	n/a	n/a	0.000	n/a	n/a
S94T000364			DSC Exotherm using Mettler	Joules/g	n/a	n/a	102.3	n/a	0	0	0.000	n/a	n/a	0.000	n/a	n/a
S94T000370			Alpha of Digested Solid	uCi/g	n/a	41.000	96.28	<2.41e-02	< 1.67E-1	<2.46e-2	n/a	n/a	85.60	0.057	459.7	

=> Limit violated
=> Selected Limit

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WHC-SD-WM-DP-082, REV. 0

UNDIGESTED SAMPLE ANALYSES

DIFFERENTIAL SCANNING CALORIMETRY

LABCORE Data Entry Template for Worklist# 186

0A

C108

Analyst: KLV Instrument: DSC01 Method: LA-514-113 B-0 B-1
LAD
1-25-95

Worklist Comment: Please run C-108 under N2. JMF

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	<u>12N14A</u>			DSC-01	SOLID			N/A	Joule/g
2	SAMPLE	S94T000288	0		DSC-01	SOLID	N/A			Joule/g
3	DUP	S94T000288	0		DSC-01	SOLID			N/A	Joule/g
4	STD				DSC-01	SOLID			N/A	Joule/g
5	SAMPLE	S94T000290	0		DSC-01	SOLID	N/A			Joule/g
6	DUP	S94T000290	0		DSC-01	SOLID			N/A	Joule/g

Final page for worklist # 186

LAD
1-20-95

Analyst Signature

Date

WHC-SD-WM-DP-082, REV. 0

Data Entry Comments:

See other copy of 186 for data JMF
12/6/94

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

Page: 1

LABCORE Data Entry Template for Worklist# 186

Analyst: KLV Instrument: DSC01 Method: LA-514-113 B-1

Worklist Comment: Please run C-108 under N2. JMF

Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit
1	STD	12N14A			DSC-01	SOLID	28.45	29.8	N/A	Joule/g
2	SAMPLE	S94T000288	0		DSC-01	SOLID	N/A	658.0	N/A	Joule/g
3	DUP	S94T000288	0		DSC-01	SOLID	0	0	N/A	Joule/g
4	STD	12N14A			DSC-01	SOLID	28.45	28.6	N/A	Joule/g
5	SAMPLE	S94T000290	0		DSC-01	SOLID	N/A	0	N/A	Joule/g
6	DUP	S94T000290	0		DSC-01	SOLID	0	0	N/A	Joule/g

Final page for worklist # 186

LAD
1-30-95

KLV
Analyst Signature

12/2/94
Date

WHC-SD-WM-DP-082, REV. 0

Data entered & verified by B.D. Valenzuela 12/6/94

Data Entry Comments:

12N14A S94T000288 has two endotherms of 453.7 J/g at 110.2°C and 658.1 J/g at 286.3°C; duplicate 366.1 J/g at 112.8°C and 744.3 J/g at 279.3°C. S94T000290 has two endotherms of 712.5 J/g at 122.8°C and 439.6 J/g at 278.3°C; duplicate 397.2 J/g at 112.1°C and 643.1 J/g at 286.2°C. J.M. Foye 12/5/94 11

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

Page:

DSC STD

6.604 mg

Rate: 10.0 °C/min

File: 00061.001

DSC METTLER

01-Dec-94

Ident: 0.0

222-S Laboratory

exo

5. mW

Integration

Delta H 197 mJ

29.8 J/g

Peak 159.1 °C

-9.0 mW

WHC-SD-WM-DP-082, REV.0

120.

140.

160.

180. °C

12N14A

LAD 105-8
4208A

12/1/94

DSC STD
6.604 mg

Rate: 10.0 °C/min

File: 00066.001 DSC METTLER 02-Dec-94
Ident: 0.0 222-S Laboratory

exo>

WHC-SD-WM-DP-082, REV. 0

180. °C

150.

140.

120.

Handwritten signature
12/2/94

S94T000288 N2
12.474 mg

Rate: 10.0 °C/min

File: 00062.001 DSC METTLER 01-Dec-94
Ident: 0.0 222-S Laboratory

EXOV

S94T000288 (DUP) N2

20.006 mg

Rate: 10.0 °C/min

File: 00064.001

DSC METTLER

01-Dec-94

Ident: 0.0 222-S Laboratory

S94T000290 N2
18.531 mg

File: 00069.001 DSC METTLER 02-Dec-94
Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

exo

20. mW

WHC-SD-WM-DP-082, REV. 0

Integration
Delta H 8145 mJ
439.6 J/g
Peak 278.3°C
-32.0 mW

Integration
Delta H13203 mJ
712.5 J/g
Peak 122.8°C
-42.2 mW

°C

400.

300.

200.

100.

S94T000290 (DUP) N2

14.875 mg

Rate: 10.0 °C/min

File: 00071.001

Ident: 0.0

DSC METTLER 02-Dec-94

222-S Laboratory

10A

LABCORE Data Entry Template for Worklist# 187

Analyst: DWS Instrument: DSC01 Method: LA-514-113 B-1

Worklist Comment: Please run C-108 samples N2. JMF

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	#12N14-A			DSC-01	SOLID	28.45	30.0	N/A	Joule/g
2	SAMPLE	S94T000291	0		DSC-01	SOLID	N/A	55.4		Joule/g
3	DUP	S94T000291	0		DSC-01	SOLID	55.4	62.5	N/A	Joule/g
4	SAMPLE	S94T000292	0		DSC-01	SOLID	N/A	25.2		Joule/g
5	DUP	S94T000292	0		DSC-01	SOLID	25.2	19.2	N/A	Joule/g

Final page for worklist # 187

[Signature]
Analyst Signature

11-30-94
Date

WHC-SD-WM-DP-082, REV. 0

Verified 12/7/94. Re-run put out on S94T000292. JMF
 Re-run was not requested for S94T000291 because 309/g is the upper administrative limit for the standard. JMF 12/7/94
 Data Entry Comments:
 S94T000291 has two endotherms of 950.19/g at 124.8°C and 140.49/g at 283.7°C. Duplicate has 1072.37/g at 118.6°C and 114.69/g at 28.2°C. The exotherm is at 325°C.
 S94T000292 has two endotherms of 1050.89/g at 127°C and 171.57/g at 279.1°C. Duplicate has 773.9 g/g at 119.3°C and 254.79/g at 282.6°C. The exotherm is at 330°C. J.M. Fuy 12/1/94. See Reports #49 & #50. 934. DATA ENTERED
 12-2-94 834

Std

6.604 mg

Rate: 10.0 °C/min

File: 00049.001

DSC METTLER

30-Nov-94

Ident: 0.0

222-S Laboratory

exo >

5. mW

Integration
Delta H 198 mJ
30.0 J/g
Peak 159.0 °C
-9.4 mW

WHC-SD-WM-DP-082, REV. 0

120.

140.

160.

180. °C

19

12N14A

Devon W Smith 11-30-94

S94T000291 N2

24.759 mg

Rate: 10.0 °C/min

File: 00051.001 DSC METTLER 30-Nov-94

Ident: 0.0 222-S Laboratory

exo>

50. mW

Integration
Delta H 23524 mJ
950.1 J/g
Peak 124.8°C
-92.0 mW

Integration
Delta H 3475 mJ
140.4 J/g
Peak 283.7°C
-10.1 mW

Integration
Delta H 1373 mJ
55.4 J/
Peak 325.9°C
15.7 mW

WHC-SD-WM-DP-082, REV.0

100.

200.

300.

400.

°C

S94T000291 N2 (DUP)

20.871 mg

File: 00053.001 DSC METTLER 30-Nov-94

Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

WHC-SD-WM-DP-082, REV. 0

exo >

S94T000292 N2
28.577 mg

Rate: 10.0 °C/min

File: 00055.001 DSC METTLER 30-Nov-94
Ident: 0.0 222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

S94T000292 N2 (DUP)

24.975 mg

Rate: 10.0 °C/min

File: 00057.001 DSC METTLER 30-Nov-94

Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist# 220

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

Worklist Comment: Please run under N2, this is a rerun due to poor RPD. JMF

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD				DSC-01	SOLID	<u>28.45</u>	<u>28.0</u>	<u>N/A</u>	Joule/g
2	SAMPLE	S94T000292	0		DSC-01	SOLID	<u>N/A</u>	<u>33.7</u>		Joule/g
3	DUP	S94T000292	0		DSC-01	SOLID	<u>33.7</u>	<u>21.6</u>	<u>N/A</u>	Joule/g

Final page for worklist # 220

LAD
1-30-95

KLV
Analyst Signature

12/8/94
Date

WHC-SD-WM-DP-082, REV. 0

Verified 12/12/94 J. M. Lye

Data Entry Comments:

Std #12N14A DATA ENTERED 12-10-94

S94T000292 has two endotherms of 894.6 J/g at 128.7°C and 212.4 J/g at 286.9°C; duplicate has 930.8 J/g at 120.5°C and 282.4 J/g at 284.8°C

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

Page:

JMF
12/9/94

DSC STD

6.619 mg

Rate: 10.0 °C/min

File: 00089.001 DSC METTLER 09-Dec-94

Ident: 0.0 222-S Laboratory

exo

WHC-SD-WM-DP-082, REV. 0

Integration
Delta H 186 mJ
28.0 J/g
Peak 160.7°C
-8.1 mW

120.

140.

160.

180. °C

Std# 12N14A J. Vogl 12/9/94

S94T000292 N2
19.904 mg

File: 00090.001 DSC METTLER 09-Dec-94
Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

100. 200. 300. 400. °C

S94T000292 (DUP) N2

19.933 mg

Rate: 10.0 °C/min

File: 00091.001

Ident: 0.0

DSC METTLER 09-Dec-94

222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

LABCORE Data Entry Template for Worklist# 277

Analyst: KLV Instrument: DSC01 _____ Method: LA-514-113 B-1

Worklist Comment: Please run C-108 under N2. BDV

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	12 N/A			DSC-01	SOLID	28.45	28.2	N/A	Joule/g
2	SAMPLE	S94T000361	0		DSC-01	SOLID	N/A	204.6	Q MF 1/18/95	Joule/g
3	DUP	S94T000361	0		DSC-01	SOLID	204.6	157.7	N/A	Joule/g
4	SAMPLE	S94T000362	0		DSC-01	SOLID	N/A	1137.9	Q MF 1/18/95	Joule/g
5	DUP	S94T000362	0		DSC-01	SOLID	128.8	134.8	N/A	Joule/g

Final page for worklist # 277

Analyst Signature

1-13-95

Date

1-16-95

WHC-SD-WM-DP-082, REV. 0

Verified 1/18/95. JMF

Data Entry Comments:

Sample S94T000361 has two endotherms of 846.9 J/g at 124.1°C and 204.6 J/g at 287.7°C; duplicate has 894.3 J/g at 122.3°C and 157.7 J/g at 283.7°C. S94T000362 has two endotherms of 1137.9 J/g at 124.1°C and 128.8 J/g at 263.5°C; dup has 880.1 J/g at 125.9°C and 134.8 J/g at 281.7°C. JMF

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

Page: 1

DSC STD
6.416 mg

Rate: 10.0 °C/min

File: 00035.001 DSC METTLER 13-Jan-95
Ident: 0.0 222-S Laboratory

exo >

10. mW

WHC-SD-WM-DP-082, REV. 0

Integration
Delta H 181 mJ
28.2 J/g
Peak 159.4°C
-12.5 mW

120. 140. 160. 180. °C

Std # 12014A PL Vogel 1-13-95

S94T000361 N2
11.101 mg

File: 00036.001 DSC METTLER 13-Jan-95
Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

exov

20. mW

WHC-SD-WM-DP-082, REV. 0

Integration
Delta H 2271 mJ
204.6 J/g
Peak 287.7 °C
-5.7 mW

Integration
Delta H 9401 mJ
846.9 J/g
Peak 124.1 °C
-33.6 mW

°C

400.

300.

200.

100.

S94T000361 (DUP) N2

10.385 mg

File: 00037.001 DSC METTLER 13-Jan-95

Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

exo >

20. mW

S94T000362 N2
16.107 mg

File: 00038.001 DSC METTLER 13-Jan-95
Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

WHC-SD-WM-DP-082, REV. 0

S94T000362 (DUP) N2
12.393 mg
Rate: 10.0 °C/min
File: 00039.001 DSC METTLER 13-Jan-95
Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist# 278

. CA

Analyst: DWS Instrument: DSC01 Method: LA-514-113 B-1

Worklist Comment: Please run C-108 DSC under N2. BDV

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD				DSC-01	SOLID	28.45	29.1	N/A	Joule/g
2	SAMPLE	S94T000363	0		DSC-01	SOLID	N/A	Ø		Joule/g
3	DUP	S94T000363	0		DSC-01	SOLID	Ø	Ø	N/A	Joule/g
4	SAMPLE	S94T000364	0		DSC-01	SOLID	N/A	Ø		Joule/g
5	STD				DSC-01	SOLID	1/17/95 BDV Ø 28.45	1/17/95 BDV Ø 27.8	N/A	Joule/g
6	DUP	S94T000364	0		DSC-01	SOLID	Ø	Ø	N/A	Joule/g

Final page for worklist # 278

LAD
1-30-95

See attached page for signature
Analyst Signature

[Signature]

1-17-95
Date
1-18-95

WHC-SD-WM-DP-082, REV. 0

Verified 1/18/95. J.M. Faye

Data Entry Comments: S94T000363 had one endotherm at 113.3°C with a delta H of 951.8 J/g. S94T000364 had two endotherms one at 113.3°C with a delta H of 952.6 J/g and the second one at 265.2°C with a delta H of 75.1 J/g.

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

LABCORE Data Entry Template for Worklist# 278

Analyst: pus Instrument: DSC01 Method: LA-514-113 - B ~1

Worklist Comment: Please run C-108 DSC under N2. BDV

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	12N14-A			DSC-01	SOLID	28.45	29.1	N/A	Joule/g
2	SAMPLE	S94T000363	0		DSC-01	SOLID	N/A	Ø		Joule/g
3	DUP	S94T000363	0		DSC-01	SOLID	Ø	Ø	N/A	Joule/g
4	SAMPLE	S94T000364	0		DSC-01	SOLID	N/A	Ø		Joule/g
5	DUP	S94T000364	0		DSC-01	SOLID	Ø	Ø	N/A	Joule/g

Final page for worklist # 278

LAD
1-30-95

Analyst Signature

1-11-95
Date

WHC-SD-WM-DP-082, REV. 0

Data Entry Comments:

DSC STD

6.585 mg

Rate: 10.0 °C/min

File: 00040.001

DSC METTLER

14-Jan-95

Ident: 0.0

222-S Laboratory

exo>

10. mW

Integration
Delta H 192 mJ
29.1 J/g
Peak 159.1 °C
-13.7 mW

WHC-SD-WM-DP-082, REV.0

120.

140.

160.

180. °C

Std #
12N14-A

David W. Smith
1-14-95

S94T000363 N2

35.405 mg

Rate: 10.0 °C/min

File: 00041.001 DSC METTLER

14-Jan-95

Ident: 0.0 222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

S94T000363 (DUP) N2
23.065 mg
Rate: 10.0 °C/min
File: 00042.001 DSC METTLER 14-Jan-95
Ident: 0.0 222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

S94T000364 N2

33.536 mg

Rate: 10.0 °C/min

File: 00043.001

DSC METTLER

14-Jan-95

Ident: 0.0

222-S Laboratory

exo>

50. mW

Integration

Delta H 2518 mJ

75.1 J/g

Peak 265.2°C

-6.8 mW

Integration

Delta H 31947 mJ

952.6 J/g

Peak 113.3°C

-87.4 mW

BEST AVAILABLE COPY

WHC-SD-WM-DP-082, REV. 0

100.

200.

300.

400.

°C

DSC STD
6.585 mg
Rate: 10.0 °C/min
File: 00044.001
Ident: 0.0
DSC METTLER
222-S Laboratory
15-Jan-95

exo v

Std # 12N14-A

David W. Smith
1-10-95

S94T000364 (DUP) N2

36.219 mg

File: 00045.001 DSC METTLER 15-Jan-95

Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

LABCORE Data Entry Template for Worklist# 401

Analyst: JMF/bdv Instrument: DSC01 Method: LA-514-113

Worklist Comment: Calculated C-108 dry DSC. bdv

Seg	Type	Sample#	Rep	AI	Test	Matrix	DSC ^{Joule/g}	TGA %	DSC 02	Unit
							Actual	Found	DE ^{Calc}	
1	SAMPLE	S94T000288	0		DSC-02 12-6-94 7-94	SOLID	0	15.35	0	Joule/g ^{dry}
2	DUP	S94T000288	0		DSC-02 12-6-94	SOLID	0	2.99	0 N/A	Joule/g
3	SAMPLE	S94T000290	0		DSC-02 12/6 12/7	SOLID	0	4.44	0	Joule/g
4	DUP	S94T000290	0		DSC-02 12-7-94	SOLID	0	11.98	0 N/A	Joule/g
5	SAMPLE	S94T000291	0		DSC-02 11/30 11/30	SOLID	55.4	45.56	102.1	Joule/g
6	DUP	S94T000291	0		DSC-02 11-30-94	SOLID	62.5	46.28	116.3 N/A	Joule/g
7	SAMPLE	S94T000292	0		DSC-02 12/8 11/30	SOLID	35.7	52.97	50.3	Joule/g
8	DUP	S94T000292	0		DSC-02 11-30-94	SOLID	31.6	39.15	35.5 N/A	Joule/g
9	SAMPLE	S94T000361	0		DSC-02 1/13 12/29	SOLID	0	51.85	0	Joule/g
10	DUP	S94T000361	0		DSC-02	SOLID	0	46.20	0 N/A	Joule/g
11	SAMPLE	S94T000362	0		DSC-02 12/29 1/13	SOLID	0	42.57	0	Joule/g
12	DUP	S94T000362	0		DSC-02	SOLID	0	50.45	0 N/A	Joule/g
13	SAMPLE	S94T000363	0		DSC-02 1/13 1/4	SOLID	0	52.97	0	Joule/g
14	DUP	S94T000363	0		DSC-02	SOLID	0	52.41	0 N/A	Joule/g
15	SAMPLE	S94T000364	0		DSC-02 1/13 1/4	SOLID	0	47.79	0	Joule/g
16	DUP	S94T000364	0		DSC-02	SOLID	0	49.23	0 N/A	Joule/g

Final page for worklist # 401

JMF
Analyst Signature

1/20/95
Date

WHC-SD-WM-DP-082, REV. 0

Data Entry Comments:

Entered and verified 1/20/95 J. M. Fuy

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

Page: 1

Blandina Valenzuela 42

WHC-SD-WM-DP-082, REV. 0

UNDIGESTED SAMPLE ANALYSES

THERMAL GRAVIMETRIC ANALYSES

LABCORE Data Entry Template for Worklist# 184

CA
1

Analyst: KLV Instrument: TGA01 Method: LA-560-112 A-2

Worklist Comment: Please run under N2. JMF

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	42N8A			TGA-01	SOLID	59.19	58.93	N/A	%
2	SAMPLE	S94T000288	0		TGA-01	SOLID	N/A	15.35		%
3	DUP	S94T000288	0		TGA-01	SOLID	15.35	6.01	N/A	%
4	STD				TGA-01	SOLID	59.19	58.45	N/A	%
5	DUP	S94T000288	0		TGA-01	SOLID	15.35	2.99	N/A	%
6	SAMPLE	S94T000290	0		TGA-01	SOLID	N/A	9.94		%
7	DUP	S94T000290	0		TGA-01	SOLID	9.94	27.66	N/A	%
8	STD				TGA-01	SOLID	59.19	58.77	N/A	%
9	DUP	S94T000290	0		TGA-01	SOLID	9.94	11.98	N/A	%

Final page for worklist # 184

Analyst Signature

Date

12/7/94

See attached worklist for analyst signature

WHC-SD-WM-DP-082, REV. 0

Reviewed & verified 12/7/94. J.M. Luyke

Data Entry Comments:

S94T000288 has second weight loss step of 27.74% at 277°C; duplicate 1 has 28.54% at 277°C; duplicate 2 has 29.19% at 273°C. JMF

S94T000290 has a second weight loss step of 25.77% at 271°C; duplicate 1 has 12.12% at 271°C; duplicate 2 has 25.10% at 279°C. JMF

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

Page: 1

LABCORE Data Entry Template for Worklist# 184

Analyst: KLV Instrument: TGA01 Method: LA-560-112 A-2

Worklist Comment: Please run under N2. JMF

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	42N8A			TGA-01	SOLID	59.19	58.93	N/A	%
2	SAMPLE	S94T000288	0		TGA-01	SOLID	N/A	15.35		%
3	DUP	S94T000288	0		TGA-01	SOLID	15.35	6.01	N/A	%
	DUP?						15.35	2.99		
4	SAMPLE	S94T000290	0		TGA-01	SOLID	N/A	9.94		%
5	DUP	S94T000290	0		TGA-01	SOLID	9.94	27.66	N/A	%
	STD	42N8A					59.19	58.45		

Final page for worklist # 184

Analyst Signature

12/2/94
Date

WHC-SD-WM-DP-082, REV. 0

Data Entry Comments:

Std # 42N8A

TGA STD
11.872 mg

Rate: 10.0 °C/min

File: 00082.001
Ident: 0.0

TG METTLER 07-Dec-94
222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

Step Analysis
Height -6.98 mg
-58.77 %
ResidC. 4.89 mg
41.23 %
Dpeak 65.0 °C

STD# 42N8A

[Signature] 12/7/94

TGA STD
18.490 mg

Rate: 10.0 °C/min

File: 00067.001 TG METTLER 02-Dec-94
Ident: 0.0 222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

Step Analysis
Height-10.81 mg
-58.45 %
ResidC. 7.68 mg
41.55 %
Dpeak 81.0°C

Handwritten: 12/2/94 SHD # 42N8A

TGA STD

14.321 mg

Rate: 10.0 °C/min

File: 00060.001

TG METTLER

01-Dec-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height -8.44 mg

-58.93 %

ResiC. 5.88 mg

41.07 %

Dpeak 75.0 °C

WHC-SD-WM-DP-082, REV. 0

48

5. mg

100.

200.

300.

400.

°C

K. Vogel 12/1/94 STD # H2N8A

S94T000288 N2

18.571 mg

Rate: 10.0 °C/min

File: 00063.001

TG

METTLER

01-Dec-94

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-082, REV.0

S94T000288 (DUP) N2
 22.484 mg

File: 00065.001 TG METTLER 01-Dec-94
 Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

WHC-SD-WM-DP-082, REV. 0

S94T000288 (DUP) N2

17.205 mg

Rate: 10.0 °C/min

File: 00068.001

TG

METTLER

02-Dec-94

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

Step Analysis
Height -0.51 mg
-2.99 %
ResiC. 16.69 mg
97.01 %

Step Analysis
Height -5.02 mg
-29.19 %
ResiC. 11.53 mg
67.04 %
Dpeak 273.0 °C

S94T000290 N2

13.157 mg

Rate: 10.0 °C/min

File: 00070.001

TG

METTLER

02-Dec-94

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-082, REV.0

Step Analysis
Height -1.31 mg
-9.94 %
ResiC. 11.85 mg
90.06 %
Dpeak 45.0 °C

Step Analysis
Height -3.39 mg
-25.77 %
ResiC. 8.31 mg
63.16 %
Dpeak 271.0 °C

S94T000290 (DUP) N2

19.997 mg

Rate: 10.0 °C/min

File: 00072.001

TG

METTLER

02-Dec-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height -5.53 mg

-27.66 %

ResiC. 14.47 mg

72.34 %

Dpeak 99.0 °C

Step Analysis

Height -2.42 mg

-12.12 %

ResiC. 11.83 mg

59.16 %

Dpeak 271.0 °C

WHC-SD-WM-DP-082, REV.0

53

S94T000290 (DUP) N2

17.904 mg

Rate: 10.0 °C/min

File: 00083.001

TG

METTLER

07-Dec-94

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-082, REV.0

Step Analysis
Height -2.14 mg
-11.98 %
ResiC. 15.76 mg
88.02 %
Dpeak 47.0 °C

Step Analysis
Height -4.49 mg
-25.10 %
ResiC. 11.14 mg
62.24 %
Dpeak 279.0 °C

LABCORE Data Entry Template for Worklist# 185

0A
'2

Analyst: DWS Instrument: TGA01 Method: LA-560-112 A-2

Worklist Comment: Please run under N2. JMF

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	#42N8A			TGA-01	SOLID	<u>59.19</u>	<u>58.41</u>	<u>N/A</u>	%
2	SAMPLE	S94T000291	0		TGA-01	SOLID	<u>N/A</u>	<u>45.76</u>		%
3	DUP	S94T000291	0		TGA-01	SOLID	<u>45.76</u>	<u>46.28</u>	<u>N/A</u>	%
4	SAMPLE	S94T000292	0		TGA-01	SOLID	<u>N/A</u>	<u>32.97</u>		%
5	DUP	S94T000292	0		TGA-01	SOLID	<u>32.97</u>	<u>39.15</u>	<u>N/A</u>	%

Final page for worklist # 185

DWS
Analyst Signature

11-30-94
Date

WHC-SD-WM-DP-082, REV. 0

Verified 12/6/94 J.M. Luge

Data Entry Comments:

S94T000291 has a second weight loss step of 6.25% at 250°C; duplicate has 6.79% at 250°C. S94T000292 has a second step of 11.77% at 250°C; duplicate has 9.32% at 250°C. J.M. Luge 12/1/94

Units shown for QC (SPK) may not reflect the actual units. DATA Entered 12-2-94 854

Page: 1

STD

56

Std# 4208A *David A. Smith* 11-30-94

S94T000291 N2

24.666 mg

Rate: 10.0 °C/min

File: 00052.001

TG

METTLER

30-Nov-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height-11.29 mg

-45.76 %

ResiC. 13.38 mg

54.24 %

Dpeak 95.0 °C

Step Analysis

Height -1.54 mg

-6.25 %

ResiC. 11.84 mg

47.99 %

WHC-SD-WM-DP-082, REV. 0

S94T000291 N2 (DUP)

26.050 mg

Rate: 10.0 °C/min

File: 00054.001

TG

METTLER

30-Nov-94

Ident: 0.0

222-S Laboratory

Step Analysis
Height-12.06 mg
-46.28 %
ResiC. 13.99 mg
53.72 %

Step Analysis
Height -1.77 mg
-6.79 %
ResiC. 12.23 mg
46.93 %

WHC-SD-WM-DP-082, REV. 0

S94T000292 N2

23.709 mg

Rate: 10.0 °C/min

File: 00056.001

TG

METTLER

30-Nov-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height -7.82 mg

-32.97 %

ResiC. 15.89 mg

67.03 %

Dpeak 83.0 °C

Step Analysis

Height -2.79 mg

-11.77 %

ResiC. 13.10 mg

55.26 %

Dpeak 263.0 °C

WMC-SD-WM-DP-082, REV. 0

S94T000292 N2 (DUP)

26.129 mg

Rate: 10.0 °C/min

File: 00058.001

TG METTLER

30-Nov-94

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

Step Analysis
Height-10.23 mg
-39.15 %
ResiC. 15.90 mg
60.85 %
Dpeak 83.0 °C

Step Analysis
Height -2.44 mg
-9.32 %
ResiC. 13.46 mg
51.53 %

LABCORE Data Entry Template for Worklist# 279

Analyst: KLV Instrument: TGA01 Method: LA-560-112 A-2

Worklist Comment: Please run C-108 TGA under N2. BDV

Seg	Type	Sample#	Rep	Al	Test	Matrix	Actual	Found	DL	Unit
1	STD	<u>KV 12/29/94</u> <u>42N8A</u>			TGA-01	SOLID	<u>59.19</u>	<u>59.19</u>	<u>N/A</u>	%
2	SAMPLE	S94T000361	0		TGA-01	SOLID	<u>N/A</u>	<u>51.85</u>		%
3	DUP	S94T000361	0		TGA-01	SOLID	<u>51.85</u>	<u>46.80</u>	<u>N/A</u>	%
4	SAMPLE	S94T000362	0		TGA-01	SOLID	<u>N/A</u>	<u>48.57</u>		%
5	DUP	S94T000362	0		TGA-01	SOLID	<u>48.57</u>	<u>50.45</u>	<u>N/A</u>	%

Final page for worklist # 279

KLV
Analyst Signature

12/29/94
Date

1/10/95

1/11/95

Verified by Blandina Valenzuela

WHC-SD-WM-DP-082, REV. 0

Data Entry Comments:

S94T000361 had a second weight loss step of 6.27%

S94T000362 had a second weight loss step of 8.07%

TGA STD

17.191 mg

Rate: 10.0 °C/min

File: 00079.001

TG

METTLER

29-Dec-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height-10.17 mg

-59.19 %

ResidC. 7.02 mg

40.81 %

Dpeak 77.0 °C

WHC-SD-WM-DP-082, REV.0

23

5. mg

100.

200.

300.

400

°C

std # 42N8A

Handwritten signature and date: 12/29/94

S94T000361 N2

17.700 mg

Rate: 10.0 °C/min

File: 00081.001

TG

METTLER

29-Dec-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height -9.18 mg

-51.85 %

ResiC. 8.47 mg

47.87 %

Dpeak 117.0 °C

Step Analysis

Height -1.11 mg

-6.27 %

ResiC. 7.35 mg

41.55 %

Dpeak 267.0 °C

WHC-SD-WM-DP-082, REV.0

63

S94T000361 (DUP) N2

19.773 mg

Rate: 10.0 °C/min

File: 00083.001

TG

METTLER

29-Dec-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height -9.25 mg

-46.80 %

ResiC. 10.52 mg

53.20 %

Dpeak 63.0 °C

Step Analysis

Height -1.54 mg

-7.77 %

ResiC. 8.83 mg

44.64 %

Dpeak 267.0 °C

WHC-SD-WM-DP-082, REV.0

64

S94T000362 N2

12.148 mg

Rate: 10.0 °C/min

File: 00085.001

Ident: 0.0

TG METTLER

29-Dec-94

222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

Step Analysis
Height -5.90 mg
-48.57 %
ResiC. 6.25 mg
51.43 %
Dpeak 61.0 °C

Step Analysis
Height -0.98 mg
-8.07 %
ResiC. 5.16 mg
42.50 %
Dpeak 271.0 °C

S94T000362 (DUP) N2

15.537 mg

Rate: 10.0 °C/min

File: 00087.001

TG

METTLER

29-Dec-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height -7.84 mg

-50.45 %

ResiC. 7.65 mg

49.25 %

Dpeak 117.0 °C

Step Analysis

Height -0.75 mg

-4.80 %

ResiC. 6.90 mg

44.38 %

Dpeak 249.0 °C

WHC-SD-WM-DP-082, REV.0

LABCORE Data Entry Template for Worklist# 280

Analyst: KLW Instrument: TGA01. Method: LA-560-112 A - 2

Worklist Comment: Please run C-108 TGA under N2. BDV

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	42 N/A LAD 1-25-95			TGA-01	SOLID	59.19	58.29	N/A	%
2	SAMPLE	S94T000363	0		TGA-01	SOLID	N/A	52.97		%
3	DUP	S94T000363	0		TGA-01	SOLID	52.97	52.41	N/A	%
4	SAMPLE	S94T000364	0		TGA-01	SOLID	N/A	47.79		%
5	DUP	S94T000364	0		TGA-01	SOLID	47.79	49.23	N/A	%

Final page for worklist # 280

See attached for signatures
Analyst Signature

Date 1/4/95
1/10/95

Verified by Blandina Valenzuela

1/11/95

WHC-SD-WM-DP-082, REV. 0

Data Entry Comments:

S94T000363 had a second weight loss of 4.01%

S94T000363 had a second weight loss of 5.00%

LABCORE Data Entry Template for Worklist# 280

Analyst: KLK Instrument: TGA01 Method: LA-560-112 A-2

Worklist Comment: Please run C-108 TGA under N2. BDV

Seg	Type	Sample#	Rep	AI	Test	Matrix	Actual	Found	DL	Unit
1	STD	24N8A			TGA-01	SOLID	59.19	58.29	N/A	%
2	SAMPLE	S94T000363	0		TGA-01	SOLID	N/A	52.97 BDV 1/4/95		%
3	DUP	S94T000363	0		TGA-01	SOLID	52 BDV 1/4/95	57.55 BDV 1/4/95	N/A	%
4	SAMPLE	S94T000364	0		TGA-01	SOLID	N/A	53.30 BDV 1/4/95		%
5	DUP	S94T000364	0		TGA-01	SOLID	53.30 BDV 1/4/95	54.06 BDV 1/4/95	N/A	%

Final page for worklist # 280

Analyst Signature

Date

WHC-SD-WM-DP-082, REV. 0

Data Entry Comments:

S94T000363 had a second weight loss of 4.01%

TGA STD
13.250 mg

Rate: 10.0 °C/min

File: 00089.001 TG METTLER
Ident: 0.0 222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

```

Step Analysis
Height -7.72 mg
      -58.29 %
ResiC.  5.53 mg
      41.71 %
Dpeak   65.0°C
  
```

Std #4208A

400. *[Signature]* 12/30/94

S94T000363 N2

17.065 mg

Rate: 10.0 °C/min

File: 00092.001

TG

METTLER

30-Dec-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height -9.04 mg

-52.97 %

ResiC. 7.99 mg

46.84 %

Dpeak 75.0 °C

Step Analysis

Height -0.68 mg

-4.01 %

ResiC. 7.31 mg

42.87 %

Dpeak 255.0 °C

WHC-SD-WM-DP-082, REV.0

S94T000363 (DUP) N2

11.332 mg

Rate: 10.0 °C/min

File: 00094.001

TG METTLER

30-Dec-94

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

S94T000364 N2

17.564 mg

File: 00096.001

TG METTLER

30-Dec-94

Rate: 10.0 °C/min

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-082, REV. 0

Step Analysis
Height -8.39 mg
-47.79 %
Resid. 9.09 mg
51.77 %
Dpeak 115.0 °C

Step Analysis
Height -0.88 mg
-5.00 %
Resid. 8.21 mg
46.74 %
Dpeak 251.0 °C

S94T000364 (DUP) N2

12.545 mg

Rate: 10.0 °C/min

File: 00098.001

TG

METTLER

30-Dec-94

Ident: 0.0

222-S Laboratory

Step Analysis

Height -6.18 mg

-49.23 %

ResiC. 6.34 mg

50.54 %

Dpeak 119.0 °C

Step Analysis

Height -0.60 mg

-4.80 %

ResiC. 5.73 mg

45.67 %

Dpeak 259.0 °C

WHC-SD-WM-DP-082, REV. 0