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		Date: 05/09/95

Project Title/Work Order

WHC-SD-WM-DP-111, Rev. 0, "45-Day Safety Screen Results for Tank
241-C-101, Auger Sample 95-AUG-019"

EDT NO.: EDT-612153

ECN NO.: N/A

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

Pacific Northwest Laboratory

J. R. Gormsen	K7-28		X
S. J. Harris	K7-22	X	
K. L. Silvers	P7-27		X

U.S. Department of Energy, RL

C. A. Babel	S7-54	X	
-------------	-------	---	--

Westinghouse Hanford Company

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H. Babad	S7-30	X	
R. J. Cash	S7-15	X	
J. L. Deichman	H4-19		X
G. D. Forehand	S7-31		X
C. E. Golberg	H5-49		X
V. W. Hall	H4-21		X
D. C. Hetzer	S6-31		X
L. Jensen	T6-07	X	
G. D. Johnson	G1-19	X	
N. W. Kirch	R2-11	X	
J. G. Kristofzski	T6-06	X	
M. J. Kupfer	H5-49	X	
E. J. Lipke	S7-14		X
N. G. McDuffie	S7-15	X	
J. E. Meacham	S7-15	X	
P. M. Morant	H4-25	X	
L. M. Sasaki	R2-12	X	
B. C. Simpson	R2-12		X
D. A. Turner	S7-15	X	
J. A. Voogd	R4-01		X
Central Files	L8-04	2	
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ENGINEERING DATA TRANSMITTAL

Page 1 of 1
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2	1	Cog. Mgr. J.G. Kristofzski	<i>[Signature]</i>	5/10/95							
2	1	QA W.A. Hendricksen	<i>[Signature]</i>	5/10/95							
		Safety									
		Env.									

18. A.E. Young <i>[Signature]</i> 5-9-95 Signature of EDT Originator		19. Authorized Representative Date for Receiving Organization		20. J.G. Kristofzski <i>[Signature]</i> 5-10-95 Cognizant Manager Date		21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments	
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BD-7400-172-2 (04/94) GEF097

C-27

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Document Number: WHC-SD-WM-DP-111, REV 0

Document Title: 45-Day Safety Screen Results for Tank 241-C-101,
Auger Sample 95-AUG-019

Release Date: 5/11/95

**This document was reviewed following the
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WHC Information Release Administration Specialist:

Kara M. Broz

May 11, 1995

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**Westinghouse
Hanford Company**

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-111, REV. 0

ANALYTICAL SERVICES

**45-DAY SAFETY SCREEN RESULTS FOR TANK 241-C-101,
AUGER SAMPLE 95-AUG-019**

Date Printed:

MAY 9, 1995

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MASTER

TABLE OF CONTENTS

Narrative	1
Sample Data Summary	5
Undigested Analyses Results - Direct	8
Differential Scanning Calorimetry(DSC)	
DSC Worklist # 1218	9
DSC Worklist # 1219	16
DSC Worklist # 1233	20
Thermogravimetric Analyses (TGA)	
TGA Worklist # 1239	24
TGA Worklist # 1240	32
TGA Worklist # 1252	36

This Document consists of pages 1 through 39.

WHC-SD-WM-DP-111, REV. 0

NARRATIVE

SUMMARY

One auger sample from tank 241-C-101 was received by the 222-S Laboratory and underwent safety screening analyses - differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha analysis - in accordance with the tank characterization plan (Reference 1).

Analytical results for the TGA on the crust sample (the uppermost portion of the auger sample) (sample number S95T000823) were less than the safety screening notification limit of 17 weight percent water. Verbal and written notifications were made on May 3, 1995.

No exotherms were observed in the DSC analyses and the total alpha results were well below the safety screening notification limit.

SCOPE

This document serves as the 45-day report deliverable for the tank 241-C-101 auger sample collected on March 29, 1995. The sample was received, extruded, and analyzed by the 222-S Laboratory in accordance with the TCP (Reference 1). Any exceptions to the plan are discussed in the following sections.

This report includes the primary safety screening results (DSC, TGA, and total alpha) obtained from the analyses and copies of all DSC and TGA raw data scans as requested per the TCP. Although not included in this report, a photograph of the extruded sample was taken and is available. This report also includes bulk density measurements required by Characterization Plant Engineering (Reference 2). Additional analyses (pH, total organic carbon, and total inorganic carbon) are being performed on the drainable liquid at the request of Characterization Process Control; these analyses will be reported at a later date in a final report for this auger sample.

SAMPLE RECEIPT, EXTRUSION, AND SUBSAMPLING

Auger sample 95-AUG-19 was collected from riser 8 of tank 241-C-101 using a 20 inch auger bit. Two auger samples were to be obtained from the tank in accordance with the TCP. However, a tank walkdown revealed that only one riser was available for sampling and a sample at a second riser could not be taken.

The waste depth under riser 8 was estimated to be about 30 inches. A 10 inch auger sample and a 20 inch auger sample were to be taken to sample the full 30 inches of waste. Errors during sampling resulted in the auger penetrating the full depth of the waste. Therefore, any stratification of waste in the auger sample cannot be assumed to be representative of the waste stratification in the tank.

The auger sample was received at the 222-S Laboratory on March 30, 1995 and extruded on April 14, 1995. The outside of the liner which contained the sample and the inside of the shipping cask were found to be contaminated with waste and modifications to the hot cell procedure were required to load the sample safely into the hot cell.

The auger sample was completely full with sample material. The solids were thick and mud-like in appearance and dark brown in color. The lower half of the auger contained waste that was damp looking and was more tightly packed with solids than the upper half. The upper flutes of the auger were drier than the lower flutes and had some white or off-white material mixed in with the brown solids. Flutes #1 through #4 appeared to have some crust-like material. 592 grams of solids were recovered from the sampler; this was divided into 15.47 grams of crust, 189.78 grams of upper half solids, and 386.79 grams of lower half solids. 32.19 grams of drainable liquid were recovered from the liner.

ANALYTICAL RESULTS

Analytical results appear in the Sample Data Summary. Sample and duplicate results are presented in the tables of the Sample Data Summary while any rerun results are provided in footnotes to the tables.

TGA (Moisture)

The weight percent water by TGA was performed under a nitrogen purge using either procedure LA-560-112, Rev. A-2 on a Mettler TG 50 instrument or procedure LA-514-114, Rev. B-0 on a Perkin-Elmer TGA 7 instrument. The drainable liquid sample contained 73.80 weight percent water and the solid samples averaged from 15.43 weight percent for the crust to 33.92 weight percent water for the lower half solids. The relative percent differences (RPDs) between samples and duplicates were below 10% for all but one sample; a rerun of this sample resulted in an acceptable RPD. The Laboratory Measurement Control System (LMCS) control standard for all samples was well within the program's specified accuracy control limits of 90 to 110 percent.

The TGA result for the crust sample (S95T000823) was less than the notification limit of 17 weight percent water (notification is made if the sample analyzed is less than 17 weight percent water). The result for this sample was 10.46 weight percent and the duplicate was 20.4 weight percent, resulting in an average of 15.43 weight percent. The rerun had a result of 19.79 weight percent, indicating that the sample may have sufficient moisture.

DSC

DSC analyses were performed under a nitrogen purge using either procedure LA-514-113, Rev. B-1 on a Mettler DSC 20 instrument or procedure LA-514-114, Rev.

B-0 on a Perkin Elmer DSC 7 instrument. The DSC scans from these two instruments show exotherms differently; exotherms on the Perkin Elmer are shown as downward peaks while the Mettler shows them as upward peaks. No exotherms were observed for any of the samples. The LMCS control standards for the samples ranged from 95.25 to 109.7 percent and were within the program's specified accuracy control limits of 90 to 110 percent.

Total Alpha

The total alpha analyses were performed using procedure LA-508-101, Rev. D-2. All total alpha results were below the notification limit; average results ranged from 0.96 to 1.18 $\mu\text{Ci/g}$. All three samples exceeded the precision criteria with RPDs ranging from 15.8 to 32.6 percent. Spike recoveries ranged from 80.8 to 88.9 percent, which is typical for the total alpha analyses but are outside the program's 90 to 110 percent. No reruns were requested as the total alpha results were less than 5 percent of the action limit of 41 $\mu\text{Ci/g}$.

References:

1. WHC-SD-WM-TP-285, Rev. 1, "Tank 241-C-101 Tank Characterization Plan," dated March 8, 1995, Westinghouse Hanford Company, Richland, Washington, 99352.
2. "C-101 Bulk Density Measurement," DSI from C. A. Esvelt to L. M. Sasaki, dated May 9, 1995, Westinghouse Hanford Company, Richland, Washington, 99352.

WHC-SD-WM-DP-111, REV. 0

SAMPLE DATA SUMMARY

45-Day Safety Screen Results for 95-AUG-019
C-101

CORE NUMBER: n/a
SEGMENT #: n/a

SEGMENT PORTION: n/a Crust

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T000823*			% Water by TGA on Perkin Elmer	%	17.000	200.000	97.64	n/a	10.46	20.4	15.43	64.1	n/a	n/a	n/a
S95T000823			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.000	100.4	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000823			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000824			Alpha of Digested Solid	uCi/g	-1.000	41.000	83.11	<3.42e-01	9.86e-01	1.37e+0	1.18e+00	32.6	80.80	7.79e-01	61.2

U Upper Half of Segment: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T000826			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
S95T000827			% Water by TGA on Perkin Elmer	%	17.000	200.000	97.64	n/a	23.35	21.8	22.58	7.08	n/a	n/a	n/a
S95T000827			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.000	100.4	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000827			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000828			Alpha of Digested Solid	uCi/g	-1.000	41.000	83.11	<3.42e-01	8.69e-01	1.04e+0	9.55e-01	17.9	85.10	4.83e-01	42.7

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T000830			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.730	n/a	n/a	n/a	n/a	5.00e-01	n/a
S95T000831			% Water by TGA using Mettler	%	17.000	200.000	99.49	n/a	33.63	34.2	33.92	1.77	n/a	n/a	n/a
S95T000831			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000831			DSC Exotherm using Mettler	Joules/g	-1.000	481.000	95.25	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000832			Alpha of Digested Solid	uCi/g	-1.000	41.000	83.11	<2.73e-01	1.050	1.23e+0	1.14e+00	15.8	88.90	6.20e-01	70.5

=> Limit violated
=> Selected Limit

* Note: TGA for sample# S95T000823 was rerun. Rerun result was 19.79%

WHC-SD-WM-DP-111, REV.0

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T000820			% Water by TGA using Mettler	%	17.000	200.000	99.51	n/a	73.80	73.8	73.80	0.00	n/a	n/a	n/a
S95T000820			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a
S95T000820			DSC Exotherm using Mettler	Joules/g	-1.000	481.000	109.7	n/a	0.00e+00	0	0.000	n/a	n/a	n/a	n/a

=> Limit violated
=> Selected Limit

WHC-SD-WM-DP-111, REV.0

WHC-SD-WM-DP-111, REV. 0

UNDIGESTED ANALYSES RESULTS - DIRECT

LABCORE Data Entry Template for Worklist# 1218

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

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

Worklist Comment: Please run C-101 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.61</u>	<u>N/A</u>	Joules/g
95000048	C-101	2 SAMPLE	S95T000823	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000048	C-101	3 DUP	S95T000823	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
95000048	C-101	4 SAMPLE	S95T000827	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000048	C-101	5 DUP	S95T000827	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 1218

See attached for signatures 5/1/95

Analyst Signature [Signature] Date 5-1-95

Verified by 5/01/95
Blandina Valenzuela
Analyst Signature [Signature] Date 5/01/95

Data Entry Comments:

S95T000823 produced two endotherms one at 114.9°C with a delta H of 471.74 J/g and second at 285.92^{511.15}°C with a delta H of 471.91 J/g
S95T000827 produced two endotherms one at 111.9°C with a delta H of 671.7 J/g and the second at 280.3°C with a delta H of 475.6 J/g

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

LABCORE Data Entry Template for Worklist# 1218

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

Method: LA-514-113 Rev/Mod LA-514-114/B-D

Worklist Comment: SMF Please run C-101 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.15</u>	<u>28.61</u>	<u>5/11/95</u> <u>BDV N/A</u>	Joules/g
95000048	C-101	2 SAMPLE	S95T000823	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>	<u>5/11/95 BDV</u>	Joules/g
95000048	C-101	3 DUP	S95T000823	0	DSC-01	SOLID	<u>Ø</u>	<u>Ø</u>	<u>5/11/95 BDV</u> <u>N/A</u>	Joules/g
95000048	C-101	4 SAMPLE	S95T000827	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>	<u>5/11/95 BDV</u>	Joules/g
95000048	C-101	5 DUP	S95T000827	0	DSC-01	SOLID	<u>Ø</u>	<u>Ø</u>	<u>5/11/95 BDV</u> <u>N/A</u>	Joules/g

Final page for worklist # 1218

Susie M. Dul for 4-29-95
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

S95T000823 - Dark Brown clay-like material

S95T000827 - Dark Brown clay-like material

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

Curve 1: DSC

File info: IND042902 Sat Apr 29 16:57:30 1995

Sample Weight: 6.340 mg

BEST AVAILABLE COPY

12N04-A Indium at 10c/min

5/10/95
BDY

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 11 TO 15

N2 exotherm down

TEMP1: 150.0 °C TIME1: 0.0 min RATE1: 10.0 °C/min
TEMP2: 170.0 °C

Temperature (°C)

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Sat Apr 29 17:03:13 1995

Curve 1: DSC

File info: SAM042901 Sat Apr 29 18:18:15 1995

Sample Weight: 21.380 mg

S95T000823, 10C/min

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WHC-SD-WM-DP-111, REV.0

exotherm down, nitrogen purge gas

TEMP1: 36.0 °C TIME1: 0.0 min RATE1: 10.0 °C/min

TEMP2: 500.0 °C

Temperature (°C)

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Sat Apr 29 18:23:37 1995

Curve 1: DSC

File info: SAM042902 Sat Apr 29 19:23 1995

Sample Weight: 29.640 mg

S95T000823 (DUP), 10C/min

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WHC-SD-WM-DP-111, REV. 0

exotherm down, nitrogen purge gas

TEMP: 35.0 °C TIME: 0.0 min RATE: 10.0 °C/min

Temperature (°C)

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Sat Apr 29 19:22:32 1995

Curve 1: DSC

File info: SAM042903 Sat Apr 29 20:16:50 1995

Sample Weight: 24.290 mg

S95T000827, 10C/min

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14

WMC-SD-WM-DP-111, REV.0

exotherm down, nitrogen purge gas

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

Temperature (°C)

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Sat Apr 29 21:17:55 1995

Curve 1: DSC

File info: SAM042904 Sat Apr 29 22:09:55 1995

Sample Weight: 17.840 mg

S95T000827 (DUP), 10C/min

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WHC-SD-WM-DP-111, REV.0

exotherm down, nitrogen purge gas

TEMP1: 35.0 °C TIME1: 0.0 min RATE1: 10.0 °C/min

TEMP2: 500.0 °C

Temperature (°C)

SM Fulton

Westinghouse Hanford Co.

222-S Lab

Sat Apr 29 22:14:55 1995

LABCORE Data Entry Template for Worklist# 1219

Analyst: RDM Instrument: DSC01 Book # 12N14A

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

Worklist Comment: Please run C-101 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>27.1</u>	<u>N/A</u>	Joules/g
95000048	C-101	2 SAMPLE	S95T000831	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000048	C-101	3 DUP	S95T000831	0	DSC-01	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 1219

RDM 4/29/95
Analyst Signature Date

[Signature] 5/1/95
Analyst Signature Date

Verified by Blandina Valenzuela 5/1/95

Data Entry Comments: S95T000831 produced two endotherms, one at 115.3°C with a
delta H of 786.6 J/g and the second at 288.8°C with a delta H of 356.3 J/g

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

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SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 17 TO 19.

DSC STD 12N14-A

6.525 mg

Rate: 10.0 °C/min

File: 00088.001

DSC METTLER

28-Apr-95

Ident: 0.0

222-8 Laboratory

Integration

Delta H 177 mJ

27.1 J/g

Peak 160.9°C

-8.6 mW

WHC-SD-WM-DP-111, REV.0

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S95T000831 N2
29.315 mg
File: 00089.001 DSC METTLER 28-Apr-95
Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

Exov

50 mW

100. 200. 300. 400. °C

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LABCORE Data Entry Template for Worklist# 1233

Analyst: SAT Instrument: DSC01 Book # 12N14-A

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

Worklist Comment: Please run C-101 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>31.2</u>	<u>N/A</u>	Joules/g
95000048	C-101	2 SAMPLE	S95T000820	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000048	C-101	3 DUP	S95T000820	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 1233

Susie M. Sutton 4-29-95
Analyst Signature Date

Blandina Valenzuela 5-1-95
Analyst Signature Date

Data Entry Comments:

S95T000820 Bright yellow liquid. It produced three endotherms,
one at 107.3°C with a delta H of 1504.1 J/g, second at 157.1°C with a delta H of
18.0 J/g and third at 219.0°C with a delta H of 16.0 J/g

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

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SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 21 TO 23.

DSC STD 12N14-A

6.340 mg

Rate: 10.0 °C/min

File: 00102.001

DSC METTLER 29-Apr-95

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-111, REV.0

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S95T000820 (DUP) N2

12.664 mg

Rate: 10.0 °C/min

File: 00106.001

DSC METTLER

29-Apr-95

Ident: 0.0

222-S Laboratory

exo>

23

50. mW

Integration

Delta H 155 mJ

12.2 J/g

Peak 161.2°C

-1.2 mW

Integration

Delta H 196 mJ

15.5 J/g

Peak 219.0°C

-5.0 mW

Integration

Delta H 17105 mJ

1350.7 J/g

Peak 107.3°C

-87.5 mW

100.

200.

300.

400.

°C

WHC-SD-WM-DP-111, REV.0

LABCORE Data Entry Template for Worklist# 1239

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

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

Worklist Comment: Please run C-101 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>57.19</u> <u>57.8</u>	<u>57.84</u>	N/A	%
95000048	C-101	2 SAMPLE	S95T000823	0	TGA-03	SOLID	N/A	<u>10.46</u>		%
95000048	C-101	3 DUP	S95T000823	0	TGA-03	SOLID	<u>10.46</u>	<u>20.42</u>	N/A	%
95000048	C-101	4 TRIPL	S95T000823	0	TGA-03	SOLID	<u>10.46</u>	<u>19.79</u>	N/A	%
95000048	C-101	5 SAMPLE	S95T000827	0	TGA-03	SOLID	N/A	<u>23.35</u>		%
95000048	C-101	6 DUP	S95T000827	0	TGA-03	SOLID	<u>23.35</u>	<u>21.84</u>	N/A	%

Final page for worklist # 1239

See attached for signatures 5/1/95

Analyst Signature

Date

Analyst Signature

Date

5-1-95
Verified by Blandina Valenzuela 5-1-95

Data Entry Comments: S95T000823 produced a second weight loss step of 18.81%
at approximately 300°C. S95T000827 produced a second weight loss step of
16.57% at approximately 300°C

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# 1239

Analyst: SWF Instrument: TGA01 Book # 42N8-A

Method: ~~LA-560-112 Rev/Mod~~ LA-514-114/B0

Worklist Comment: Please run C-101 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.19</u>	<u>57.84</u>	<u>N/A</u>	%
95000048	C-101	2 SAMPLE	S95T000823	0	TGA-01	SOLID	<u>N/A</u>			%
95000048	C-101	3 DUP	S95T000823	0	TGA-01	SOLID			<u>N/A</u>	%
95000048	C-101	4 SAMPLE	S95T000827	0	TGA-01	SOLID	<u>N/A</u>			%
95000048	C-101	5 DUP	S95T000827	0	TGA-01	SOLID			<u>N/A</u>	%

Final page for worklist # 1239

Lucie M. Daulton 4-29-95
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

S95T000823 - Dark Brown clay-like material

Curve 1: TGA

File info: TER042901 Sat Apr 29 17:06:47 1995

Sample Weight: 17.913 mg

42N8A Terliq

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 26 TO 31.

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WHC-SD-WM-DP-111, REV.0

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

Temperature (°C)

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Apr 29 17:18:15 1995

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Curve 1: TGA
 File Info: SAM042901 Sat Apr 29 18:18:55 1995
 Sample Weight: 17.060 mg
 S95T000823, 10C/min

SM Fulton
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Apr 29 18:33:24 1995

N2
 TEMP: 35.0 C
 TEMPE: 500.0 C
 RATE: 0.0 MIN RATE: 10.0 C/min

Curve 1: TGA
 File info: SAM042902 Sat Apr 29 19:28:46 1995
 Sample Weight: 21.273 mg
 S95T000823 (DUP), 10C/min

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N2
 TEMP: 95.0 °C
 TIME: 800.0 s
 RATE: 0.0 min RATE: 10.0 C/min
 SM Fulton
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Apr 29 19:32:30 1995

Curve 1: TGA

File info: SAM042906 Sat Apr 29 23:23:25 1995

Sample Weight: 14.479 mg

S95T000823 (TRIPL), 10C/min

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WHC-SD-WM-DP-111, REV.0

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

Temperature (°C)

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Apr 29 23:25:45 1995

Curve 1: TGA

File info: SAM042904 Sat Apr 29 20:40:31 1995

Sample Weight: 20.581 mg

S95T000827, 10C/min

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

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Apr 29 21:58:47 1995

WHC-SD-WM-DP-111, REV.0

Curve 1: TGA

File info: SAM042905 Sat Apr 29 22:12:21 1995

Sample Weight: 22.189 mg

S95T000827 (DUP), 10C/min

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WMC-SD-WM-DP-111, REV.0

N2

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

TEMP2: 500.0 C

Temperature (°C)

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Apr 29 22:21:40 1995

LABCORE Data Entry Template for Worklist# 1240

Analyst: BWF Instrument: TGA01 Book # 42N8-A

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

Worklist Comment: Please run C-101 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.19</u>	<u>58.89</u>	<u>N/A</u>	%
95000048	C-101	2 SAMPLE	S95T000831	0	TGA-01	SOLID	<u>N/A</u>	<u>33.63</u>		%
95000048	C-101	3 DUP	S95T000831	0	TGA-01	SOLID	<u>33.63</u>	<u>34.19</u>	<u>N/A</u>	%

Final page for worklist # 1240

Susie M. Fulton 4-29-95
Analyst Signature Date

Rh 5-1-95

Analyst Signature Date

Verified by Blandina Valenzuela 5/1/95

Data Entry Comments: S95T000831 produced a second weight loss step of 11.34%
at 309.0°C

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SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 33 TO 35.

TGA STD 42N8-A

14.740 mg

Rate: 10.0 °C/min

File: 00103.001

TG METTLER

29-Apr-95

Ident: 0.0

222-S Laboratory

Step Analysis
Height -8.68 mg
-58.89 %
Resid. 6.06 mg
41.11 %
Dpeak 80.8 °C

BEST AVAILABLE COPY

S95T000831 N2

29.634 mg

Rate: 10.0 °C/min

File: 00002.001

TG

METTLER

29-Apr-95

Ident: 0.0

222-S Laboratory

Step Analysis
Height -9.97 mg
-33.63 %
ResidC. 19.67 mg
66.37 %
Dpeak 73.0 °C

Step Analysis
Height -3.36 mg
-11.34 %
ResidC. 15.94 mg
53.78 %
Dpeak 309.0 °C

34

WHC-SD-WM-DP-111, REV. 0

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S95T000831 (DUP) N2

19.109 mg

Rate: 10.0 °C/min

File: 00003.001

TG

METTLER

29-Apr-95

Ident: 0.0

222-8 Laboratory

Step Analysis

Height -6.53 mg

-34.19 %

ResidC. 12.58 mg

65.81 %

Step Analysis

Height -2.11 mg

-11.06 %

ResidC. 10.13 mg

53.04 %

Dpeak 307.0°C

35

LABCORE Data Entry Template for Worklist# 1252

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

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

Worklist Comment: Please run C-101 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.19</u>	<u>58.90</u>	<u>N/A</u>	<u>%</u>
95000048	C-101	2 SAMPLE	S95T000820	0	TGA-01	LIQUID	<u>N/A</u>	<u>73.79</u>		<u>%</u>
95000048	C-101	3 DUP	S95T000820	0	TGA-01	LIQUID	<u>73.79</u>	<u>73.82</u>	<u>N/A</u>	<u>%</u>

Final page for worklist # 1252

Susie M. Fulton 4-29-95
Analyst Signature Date

Analyst Signature Date

W. B. 5-1-95

Verified by Blandina Valenzuela 5-1-95

Data Entry Comments:

S95T000820 Bright yellow liquid

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.

BEST AVAILABLE COPY

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 37 TO 39.

TGA STD 42N8-A

14.740 mg

Rate: 10.0 °C/min

File: 00103.001

TG

METTLER

29-Apr-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -8.68 mg

-58.90 %

ResidC. 6.06 mg

41.10 %

Dpeak 80.8 °C

WHCSD-WM-DP-111, REV. 0

BEST AVAILABLE COPY

S95T000820 N2

11.427 mg

Rate: 10.0 °C/min

File: 00105.001

TG

METTLER

29-Apr-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -8.43 mg

-73.79 %

ResidC. 2.99 mg

26.21 %

Dpeak 83.0 °C

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