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NUCLEAR RADIATION HEATING IN LIQUID HYDROGEN

VOLUME II: EXPERIMENTAL DATA

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by

W. A. Hehs
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D. M. Wheeler

prepared for

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Contract NAS 3-3324

NUCLEAR AEROSPACE RESEARCH FACILITY

operated by
General Dynamics/Fort Worth

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30 JUNE 1964

Contract NAS 3-3324

Technical Management
NASA-Lewis Research Center
Advanced Development and Evaluation Division
Cleveland, Ohio
D. J. Connolley

NUCLEAR AEROSPACE RESEARCH FACILITY

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FOREWORD

This is the second volume of a two-volume report on the results of a study on nuclear-radiation heating of liquid hydrogen and the resultant mixing. The study was performed at the Nuclear Aerospace Research Facility by General Dynamics/ Fort Worth for the National Aeronautics and Space Administration under the direction of the Lewis Research Center.

A description of the experimental equipment and procedures and a discussion of the results are contained in Volume I. The experimental data are presented in this volume.

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1. INTRODUCTION

Experimental data obtained in a study of nuclear radiation heating of liquid hydrogen are presented in this, the second of a two-volume report.

Descriptions of the experimental arrangement, experimental procedures, calculational procedures, and discussions of the purposes and results of the study are given in Volume I. Results of wall heating and radiation mapping measurements have been presented in their entirety in Volume I and are therefore not included in this volume.

Information pertinent to the use of the data presented in this volume is given in Section 2.

2. DISCUSSION OF DATA PRESENTATION

The experimental data from the Boil-Off and Self-Pressurization Runs and from the Flow Runs are presented in Sections 3 and 4, respectively. The data from a particular run are compiled in a specific subsection for ease of further analysis. The content of each subsection depends on the type of run, as noted below:

Section 3; Boil-Off and Self-Pressurization Runs:

- A set of notes on the run
- Plots of pressure vs time
- Plots of temperature profiles at various times
- Tables of pressure and temperature data

Section 4; Flow Runs

- A set of notes on the run
- Composite plots of system pressure, liquid volume, and pressurization gas volume vs time
- Copies of strip-chart-recorded temperature data
- Tables of temperature data
- A table summarizing test conditions and results

At the beginning of Section 3 is a table summarizing the boil-off data from all the runs. At the beginning of Section 4 is a table giving the time history of all the flow runs.

2.1 Test Identification

With the two exceptions explained below, each run is identified by two numbers. The first is the test number, the second is the reactor run number. The second number is necessary

because some tests were repeated. For example, two runs were necessary to successfully complete test 14; these are identified as Run 14-97 and Run 14-99.

The exceptions concern tests 8, 9, and 10. Tests 8 and 9 did not require nuclear heating; so these are designated simply as Run 8 and Run 9, although the self-pressurization data for test 8 were obtained on one day and the boil-off data a few days later. The other exception, test 10, included seven special runs, which are designated as Run 10(8-1)-105, Run 10(5-1)-105, etc. (see Subsection 3.3).

All the runs from which the data in Sections 3 and 4 were obtained are listed in Tables 2.1-1 and 2.1-2. Information with which to identify the type of test and the types of data taken accompanies the run number.

2.2 Sequence-of-Events Notation

All data for a given run are referenced to the same zero time, corresponding to a given clock time. In general, the zero-time reference corresponds to the time at which the timer on the temperature-data recording system was turned on. Where data of interest were obtained before the zero reference, negative time indices are specified. Clock times have been used in the chronologies presented with the descriptions of the non-flow runs (Section 3) in order to avoid the unwieldiness of large negative or positive time indices.

The following notations have been used where applicable on graphs and data tables:

Table 2.1-1

Parametric Conditions and Types of Data Obtained on Boil-Off and Self-Pressurization Runs

Section	Test No.	Reactor Run No.	Reactor Config.	Power Level (Mw)	Liquid Level (in.)	Liquid Volume (gal)	Types of Data Obtained: Boil-off w/o Nuc. Heating	Boil-off w/Nuc. Heating	Self-Press.	Temp Data
3.1	8	--	-	0	40.7	108.5			x	x
		--	-	0	45.7	125.5	x			
3.2	9	--	-	0	26.2	58.0			x	x
		--	-	0	28.8	67.0	x			
3.3	10	89	1	0	40.7	108.5				x
				1.405	40.7	108.5			x	x
		94	1	0	44.1	120.3	x			
	10(8-1)	105	1	1.00	43.7	118.5		x		
				1.0 & 2.1	43.7	118.5			x	
	10(5-1)	105	1	1.56	32.3	79.4		x		
	10(3-1)	105	1	2.00	27.4	62.2		x		
	10(7-1)	106	1	1.964	18.0	29.7		x		
	10(5-2)	105	2	1.54	32.3	79.4		x		
	10(3-2)	105	2	2.05	25.3	55.0		x	x	
	10(7-2)	105	2	2.07	18.0	29.7		x		
3.4	11	92	1	0	16.4	24.4				x
				1.35	16.4	24.4			x	x
		95		0	27.4	62.2	x			
3.5	12	90	2	0	35.4	89.6				x
				2.807	35.4	89.6			x	x
		103		5.725	44.7	122		x		
3.6	13	93	2	0	27.4	62.2				x
				2.55	27.4	62.2			x	x
		96		0	24.5	52.0	x			

Table 2.1-2

Summary of Parametric Conditions and Data Obtained for Flow Runs

Test No.	Reactor Run No.	Reactor Config.[a]	Power Level (Mw)[b]	Liquid Volume (gal)	Mean Flow Rate[c] (lb/sec)	Mean Press. (psia)	Temp Rise[c] (°R)
14	97	1	0.711	115.0	0.031	29.5	3.5
14	99	1	0.492	118.5	0.048	28.5	3.4
15	98	1	0.985	118.5	0.052	59.8	5.1
15	110	1	1.043	115.0	0.038	60.0	7.7
16	101	1	0.715	115.0	0.135	59.0	1.1
16	110	1	1.065	115.0	0.134	54.0	1.6
17	108	1	3.00	109.0	0.125	55.0	4.0
18	100	1	0.555	116.5	0.039	29.0	4.2
19	101	2	0.985	111.5	0.055	29.4	2.6
19	110	2	1.092	111.5	0.041	34.3	3.2
20	102	2	2.175	111.5	0.037	57.0	9.6
21	102	2	1.560	115.0	0.101	58.8	1.8
22	109	2	5.72	118.5	0.13	54.0	4.0
23	101	2	2.22	115.0	0.104	27.4	2.7

[a] Heating gradient in LH_2 differed for the two configurations because of differing ratios of neutron/gamma-ray radiation intensities.

[b] Power levels are indicative of relative heating rates.

[c] Over time interval during which effects of transient conditions at beginning and end of test were negligible. See discussions on individual runs in Volume II, Section 4.

Notation	Event
Timer On	Timer of digital data system turned on
PS	Pressurization Started
RL	Reactor Level (desired power level reached)
FS	Flow Started (start of liquid outflow from system)
RS	Reactor Shutdown
DP	System Depressurized

The relative times at which these events occurred and at which the liquid level passed a given thermometer or level sensor are presented, along with the corresponding liquid volumes, in Table 4.0-1 at the beginning of Section 4. The limited amount of timing information pertinent to the non-flow runs is presented with the pressurization data for these runs.

2.3 Temperature Data Tables

Thermometers were located at 30 points inside the LH_2 tank to register temperatures during the various tests. The locations of these thermometers, as well as the liquid-level sensors, are shown in Figure 2.3-1 and listed in Table 2.3-1. Computer printouts of the temperature data were reproduced for use in this report. Included in the printouts are voltage readings that were used to check against the input data.

Time, temperature, and voltage values shown in the tables are given in terms of minutes, degrees Rankine, and millivolts, respectively. Since time is designated by whole minutes only, interpolation may be necessary in some instances in order to correlate measurements with the events noted in Section 2.2.

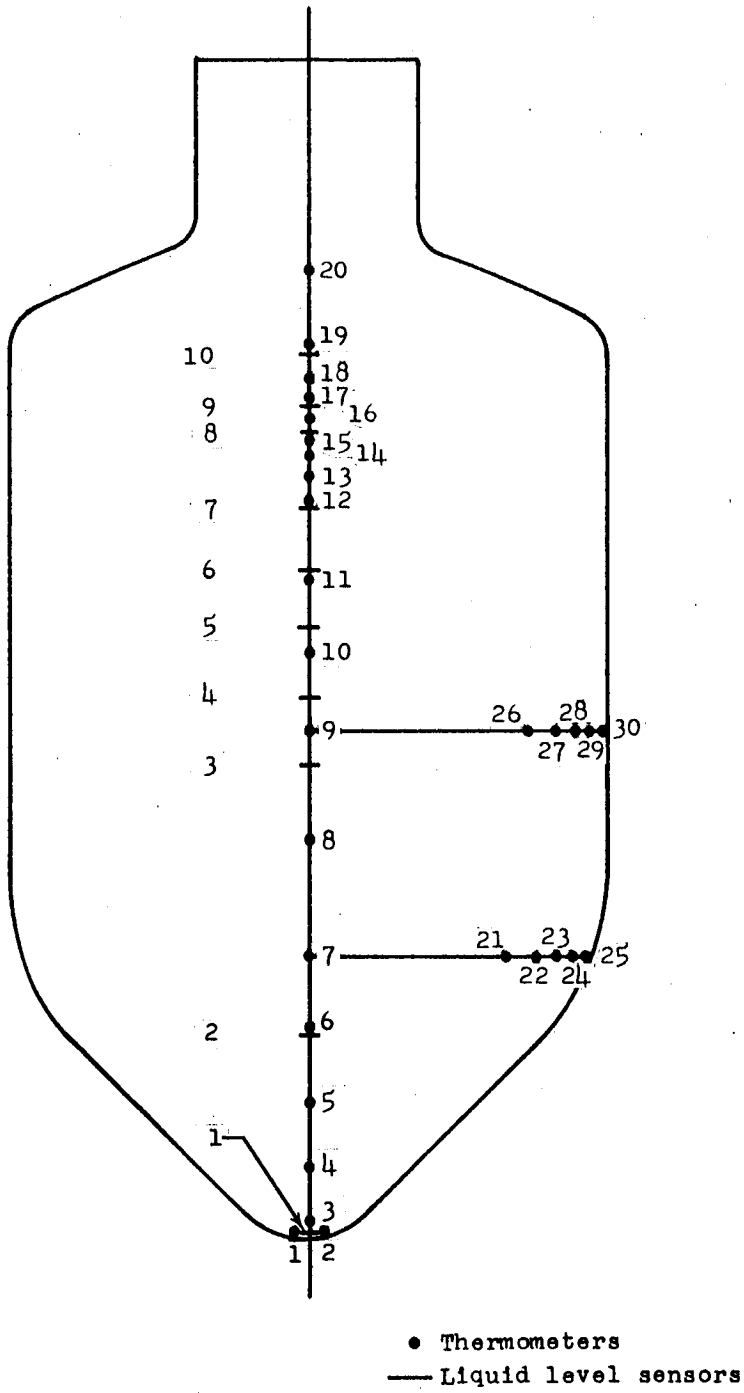

Figure 2.3-1 Thermometer and Liquid-Level Sensor Locations

Table 2.3-1

Thermometer and Liquid-Level-Sensor Locations

Thermometer Number	Liquid Level Sensor	Vertical Height[a] (in.)	Radial Distance From Centerline (in.)	Volume Below Sensor (gal)
20		51.69	0.5	--
19		47.69	0.5	132.5
	10	47.02	0.5	130.1
18		45.69	0.5	125.5
17		44.69	0.5	122.0
	9	44.13	0.5	120.3
16		43.69	0.5	118.5
15		42.69	0.5	115.0
	8	42.69	0.5	115.0
14		41.69	0.5	111.5
13		40.69	0.5	108.5
12		39.44	0.5	104.8
	7	39.25	0.5	103.7
	6	35.78	0.5	91.5
11		35.44	0.5	89.6
	5	32.30	0.5	79.4
10		31.44	0.5	76.1
	4	28.82	0.5	67.2
9		27.44	0.5	62.2
26		26.19	12.0	58.0
27		26.19	14.0	58.0
28		26.19	15.0	58.0
29		26.19	15.5	58.0
30		26.19	16.0	58.0
	3	25.32	0.5	55.0
8		21.44	0.5	41.5
7		15.44	0.5	21.4
21		14.19	12.0	17.7
22		14.19	14.0	17.7
23		14.19	15.0	17.7
24		14.19	15.5	17.7
25		14.19	16.0	17.7
6		11.44	0.5	10.5
	2	10.44	0.5	8.2
5		7.44	0.5	3.7
4		3.94	0.5	0.83
3		1.13	0.5	~0
	1	0.69	0.5	~0
2		0.07	0.5	~0
1		0.07	0.5	~0

[a]From inside bottom of tank.

The method of interpolation is illustrated in Figure 2.3-2. On the first page of each temperature data table is the time interval between successive measurements with a given thermometer during continuous data sampling. In general, this interval was 0.309 min, resulting from a sampling rate of 103.6 samples/min for the 32 channels. Deviations from this value during the entire experiment were less than 0.003 min. Note that only 30 of the 32 channels recorded temperature data. Channels 31 and 32 were used for pretest checkout, and data tabulated for these "thermometers" (channels) are to be disregarded. Note also that the first digit is not printed for time values greater than 99, e.g., 103 min will appear as 3. References to preceding readings in the table indicate where the time is greater than 99 minutes.

Maximum temperatures indicated in the tables are of the order of 94°R. The amplifier used in the temperature-measurement system saturated at the bridge output voltage corresponding to this temperature, so that no higher temperatures were measured with the cryogenic thermometers.

Nine thermometers responded intermittently, drifted from calibration or failed during the experiment. These thermometers and the runs on which they malfunctioned, together with a notation as to the type of malfunction, are listed in Table 2.3-2.

Occasionally on Channel 21 (Thermometer 21) and frequently on Channel 1 during some runs, the multiplexer switch would intermittently fail to close. This resulted in a zero input voltage to the digital recording system and an erroneous temperature indication of 59.7°F. The erroneous data are predominantly

THERMOMETER 1			THERMOMETER i			THERMOMETER j			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0			0			0			0		
0			1			1			1		
4			4			5			5		
5			5			5			5		
5			5			5			5		
5			5			5			6		
6			6			6			6		

A one-minute period

Measurements were made sequentially, channel (thermometer) 1 to 32 to 1, etc. Scan time was nominally 0.309 minute, or 18.5 seconds for a 32-channel scan (record); therefore, during continuous recording, the time interval between measurements with a given thermometer is 0.309 minute.

Figure 2.3-2 Time Interpolation in the Temperature Data Tables

Table 2.3-2

Malfunctioning Thermometers

Run No.	Thermometer Number								
	1	4	6	11	12	20	21	25	30
8			F			F		C	F
9			C			F		C	F
10-89			C			F			F
11-92			C			F			F
12-90			C			F		C	F
13-93		C	C			F		C	F
14-97	E	C	C	C	F	F		C	
14-99	E		E	C	F	F	E	C	
15-98	E		F	C	F	F	E	C	
15-110	E	C	F	C	F	F	E	C	
16-101	E		F	C	F	F	E	C	
16-110	E	C	F	C	F	F	E	C	
17-108	E	C	F	C	F	F	E	C	
18-100	E		F	C	F	F	E	C	
19-101	E		F	C	F	F	E	C	
19-110	E	C	F	C	F	F	E	C	
20-102	E		C	C	F	F	E	C	
21-102	E		C	C	F	F	E	C	
22-109	E	F	F	F	F	F	E	C	
23-101	E		F	C	F	F	E	C	

F: No useful data obtained on indicated run

C: Thermometer channel off calibration

E: Intermittent input to recording system

identifiable, and the primary handicap resulting was some difficulty in time correlation of the strip-chart recorded data for Thermometer 1.

2.4 Thermometer Strip-Chart Data

Copies of the strip-chart data obtained from several thermometers on each flow run (Section 4) are presented to illustrate thermometer response as the liquid-gas interface dropped past the thermometer. The thermometer-bridge outputs and temperature scales on the chart records are nonlinear. Because of the large number of records and the purpose of the data, only nominal temperature values are indicated on these graphs. On some channels, the recorders responded to the switching transients of the digital data system and produced timing marks corresponding to the sampling interval. These have been shown where recorded.

Where determinable, the time interval corresponding to a 1-in. change in liquid level, $\Delta t/\Delta x$, has been determined graphically from plots of liquid level versus time for specific thermometers and has been noted on the copies of the strip-chart records.

2.5 Measurement Accuracies

Measurement accuracies are discussed in detail in Appendix B, Volume I. Liquid-hydrogen temperature measurements were accurate to $\pm$ 0.2°R, with the exceptions discussed under subsection 2.3 above and noted in Table 2.3-2. Pressure measurements near 0 psig (system vented to atmosphere for boil-off measurements) were accurate to $\pm$ 0.25 psi. Measurements above atmospheric pressure were accurate to $\pm$ 8% of the measurement. Boil-off measurements, in terms of standard cubic feet (scf) of evolved

gas, and corresponding heating values are estimated to be accurate to $\pm$ 25%. Pressurization-gas-usage values are estimated to be accurate to $\pm$ 5%. Repeatability of liquid-volume-versus-time values during the flow runs was $\pm$ 2.2 gallons. Possible systematic error in specification of tank volume was $\pm$ 5%.

3. BOIL-OFF AND SELF-PRESSURIZATION TESTS

Data from Runs 8 through 13 are presented in this section. Subsections devoted to each run contain the following:

A set of notes on the run

Plot(s) of pressure versus time

Plots of temperature profiles at various time

Tables of pressure and temperature data

The results of the boil-off tests have been consolidated into Table 3.0-1 and are not reiterated elsewhere.

A chronology of test events is given in Table 3.0-2 to enable the reader to trace the history of the hydrogen used in each test.

Table 3.0-1

Summary of Boil-Off Data

Liquid Level (in.)	Liquid Volume (gal)	Venting Rate (scfm)			Power Level (Mw)	Nuclear Heating Rate		Ambient Heating Rate (watts)	Run No.
		Total[a]	Ambient[b] Heat Leak	Nuclear[c]		scfm/Mw	watts/Mw		
				Ambient Heat Leak Only					
24.5	52.0	1.26	----	----	0	----	----	23.3	13-96
27.4	62.2	1.21	----	----	0	----	----	22.3	11-95
28.8	67.0	1.19	----	----	0	----	----	22.0	9
44.1	120.3	1.29	----	----	0	----	----	23.8	10-94
45.7	125.5	1.41	----	----	0	----	----	26.0	8
				Configuration 1					
18.0	29.7	30.0	1.16	28.8	1.96	14.7	271	----	10(7-1)-106
27.4	62.2	37.1	1.24	35.8	2.0	17.9	331	----	10(3-1)-105
32.3	79.4	32.2	1.26	30.9	1.56	19.8	366	----	10(5-1)-105
43.7	118.5	23.2	1.34	21.8	1.0	21.8	403	----	10(8-1)-105
				Configuration 2					
18.0	29.7	16.4	1.16	15.2	2.07	7.34	136	----	10(7-2)-105
25.3	55.0	21.8	1.21	20.6	2.05	10.1	186	----	10(3-2)-105
32.3	79.4	17.7	1.26	16.5	1.54	10.7	197	----	10(5-2)-105
44.7	122.0	64.6	1.35	63.2	5.73	11.0	204	----	12-103

a Gas evolution rate due to nuclear heating plus ambient heat leak

b Values shown for Configurations 1 and 2 were taken from plot of ambient heat leak data

c Total venting rate minus ambient heat leak venting rate

Table 3.0-2

Chronology of Events for Self-Pressurization and Boil-Off Tests

Date	Time	Event	Run
14 Aug 63	1538	Filled tank to approximately 115 gal.	8
	1538 to 1711	Attempted boil-off measurements. LH_2 volume reduced to 108.5 gal.	
	1711 to 1916	Self-pressurized tank to 20.6 psia.	
	1916 to 2016	Tank Vented.	
	2016 to 2030	Tank vented for boil-off tests at 1.405 Mw.	10-89
	2030 to 2116	Self-pressurized to 40.4 psia at 1.405-Mw power. Shut down reactor at 2116.	
	2116 to 2124	Self-pressurized tank from 40.4 to 41.1 psia by ambient heat leak.	
	2124 to 2256	Tank vented. Liquid volume, about 90 gal.	
	2256 to 2309	Tank vented. 2.807-Mw power	12-90
	2309 to 2356	Self-pressurized to 43.8 psia at 2.807-Mw power. Shut down reactor at 2356.	
	2356 to 0007	Self-pressurized from 43.8 to 44.4 psia by ambient heat leak.	
15 Aug 63	0007 to 0150	Tank vented. Liquid volume reduced to about 60 gal.	9
	0150 to 0410	Self-pressurized to 22.8 psia. Liquid volume, about 58 gal.	
	0410 to 0755	Tank vented. Approximately 20 gal of LH_2 added between 0630 and 0700 for a total volume of 55 gal.	

[a]A chronology of test events is given because of possible interest in the history of the hydrogen used on each test.

Table 3.0-2 (Cont'd)

Date	Time	Event	Run
15 Aug 63	0755 to 0931	Attempted boil-off measurements at 1.35 Mw.	11-92
	0931 to 1007	Self-pressurized to 59.3 psia at 1.35 Mw. Liquid volume, approximately 24 gal.	
	1007 to 1130	Tank vented.	
	1130 to 1215	Added approximately 45 gal of LH_2 for a total volume in tank of 69 gal.	
	1215 to 1340	Tank vented.	
	1340 to 1423	Self-pressurized to 47 psia at 2.55 Mw. Liquid volume, 62.2 gal. Shut down reactor at 1423.	13-93
	1423 to 1432	Self-pressurized from 47 to 49.4 psia by ambient heat leak.	
20 Aug 63	0210	Filled tank to 126 gal.	8
	0210 to 0305	Tank vented for boil-off measurements.	
	0305 to 0359	Tank vented for boil-off measurements during ambient heat leak. Approximately 120 gal of LH_2 in tank.	10-94
	0359 to 0435	Tank vented for boil-off measurements at 1.29 Mw. (data invalid)	
	0435 to 0532	Tank vented.	
	0532 to 0616	Tank vented for boil-off measurements at 2.74 Mw. (data invalid)	12-94
	0616 to 0805	Dumped LH_2, leaving approximately 67 gal in tank. Vented tank.	
	0805 to 0850	Tank vented for boil-off measurements during ambient heat leak.	9

Table 3.0-2 (Cont'd)

Date	Time	Event	Run
20 Aug 63	0850 to 0942	Tank vented for boil-off measurements during ambient heat leak.	11-95
	0942 to 1019	Tank vented for boil-off measurements at 0.675 Mw. (data invalid)	
	1019 to 1200	Tank vented.	
	1200 to 1209	Tank vented for boil-off measurements during ambient heat leak.	13-96
	1209 to 1244	Tank vented for boil-off measurements at 1.42 Mw. Approximately 55 gal in tank.	
22 Aug 63	~1500	Completed filling tank. Probably topped off again before start of boil-off measurements but no record.	12-103
	1850 to 1855	Tank vented for boil-off measurements at 5.725 Mw. Liquid volume, 122 gal. Control system scram at 1855.	
	1855 to 2103	Tank vented.	
	2103 to 2125	Tank vented for boil-off measurements at 2.025 Mw. Liquid volume, 119 gal.	
26 Aug 63	~1000	Completed filling tank to approximately 125 gal.	10(8-1) -105
	1000 to 1303	Tank vented.	
	1303 to 1325	Tank vented for boil-off measurements at 1.0 Mw. Liquid volume, 119 gal.	
	1325 to 1336	Self-pressurized to 19.2 psia at 1.0 Mw.	
	1336 to 1351	Self-pressurized from 19.2 psia to 30.7 psia at 2.1 Mw.	

Table 3.0-2 (Cont'd)

Date	Time	Event	Run
26 Aug 63	1351 to 1507	Dumped LH_2 and depressurized, leaving 79 gal in tank.	
	1507 to 1527	Tank vented for boil-off measurements at 1.56 Mw.	10(5-1) -105
	1527	Changed to Configuration 2 without reactor shutdown.	10(5-2) -105
	1527 to 1540	Tank vented for boil-off measurements at 1.54 Mw. Shut down reactor at 1540.	
	1540 to 1648	Tank vented. Dumped LH_2 leaving approximately 62 gal in tank. Switched to Configuration 1.	10(3-1) -105
	1648 to 1706	Tank vented for boil-off measurements at 2.0 Mw.	
	1706	Switched to Configuration 2 without reactor shutdown.	10(3-2) -105
	1706 to 1717	Tank vented for boil-off measurements at 2.05 Mw.	
	1717 to 1730	Self-pressurized to 23.1 psia at 2.05 Mw. Shut down reactor at 1730.	
	1730 to 1836	Dumped LH_2, leaving approximately 30 gal in tank after depressurization.	10(7-2) -105
	1836 to 1848	Tank vented for boil-off measurements at 2.07 Mw.	
	1848 to 1944	Switched to Configuration 1 and vented tank.	10(7-1) -106
	1944 to 1956	Tank vented for boil-off measurements at 1.964 Mw.	
	1956 to 2004	Tank vented for boil-off measurements at 0.98 Mw. Shut down reactor at 2004. Liquid volume, approximately 30 gal.	

3.1 Run 8

This boil-off and self-pressurization test was made without nuclear heating in order to obtain ambient-heat-leak data for the full-tank condition. The temperature and self-pressurization data were obtained on 14 August 1963 and the boil-off data were recorded on 20 August 1963.

Upon start of self-pressurization, the ullage-gas temperature rose significatly and the system pressure increased abruptly (Figs. 3.1-1 and -2). A possible explanation of this occurrence is that whenever the dewar is vented, the gas being warmed by the uninsulated tank lid escapes before it can circulate and mix with the colder gas. When the system is closed, the heat leak through the lid causes the ullage gas to reach a higher equilibrium temperature and pressure, relative to the LH_2 temperature and vapor pressure.

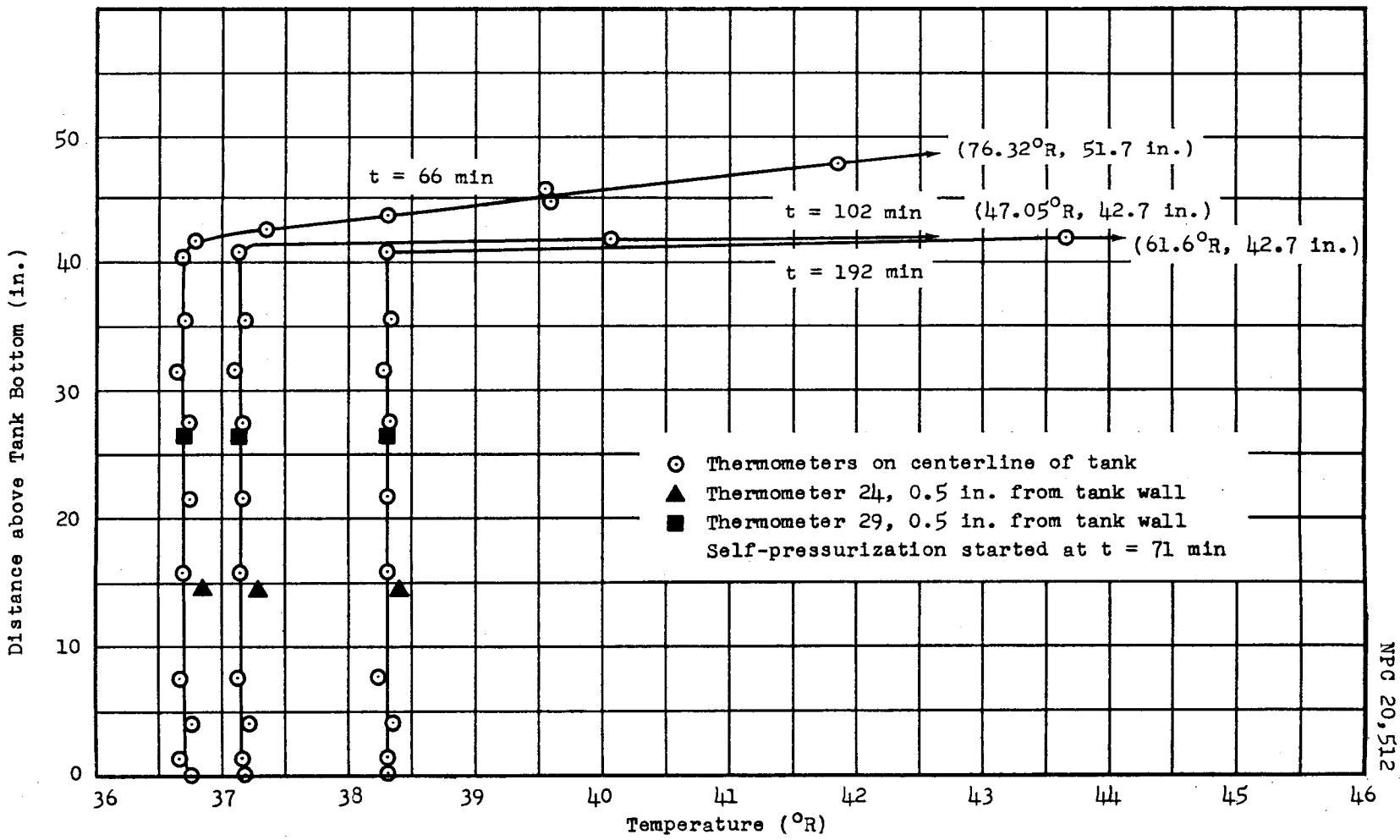

Figure 3.1-1 Temperature Profiles: Run 8

NPC 20,512

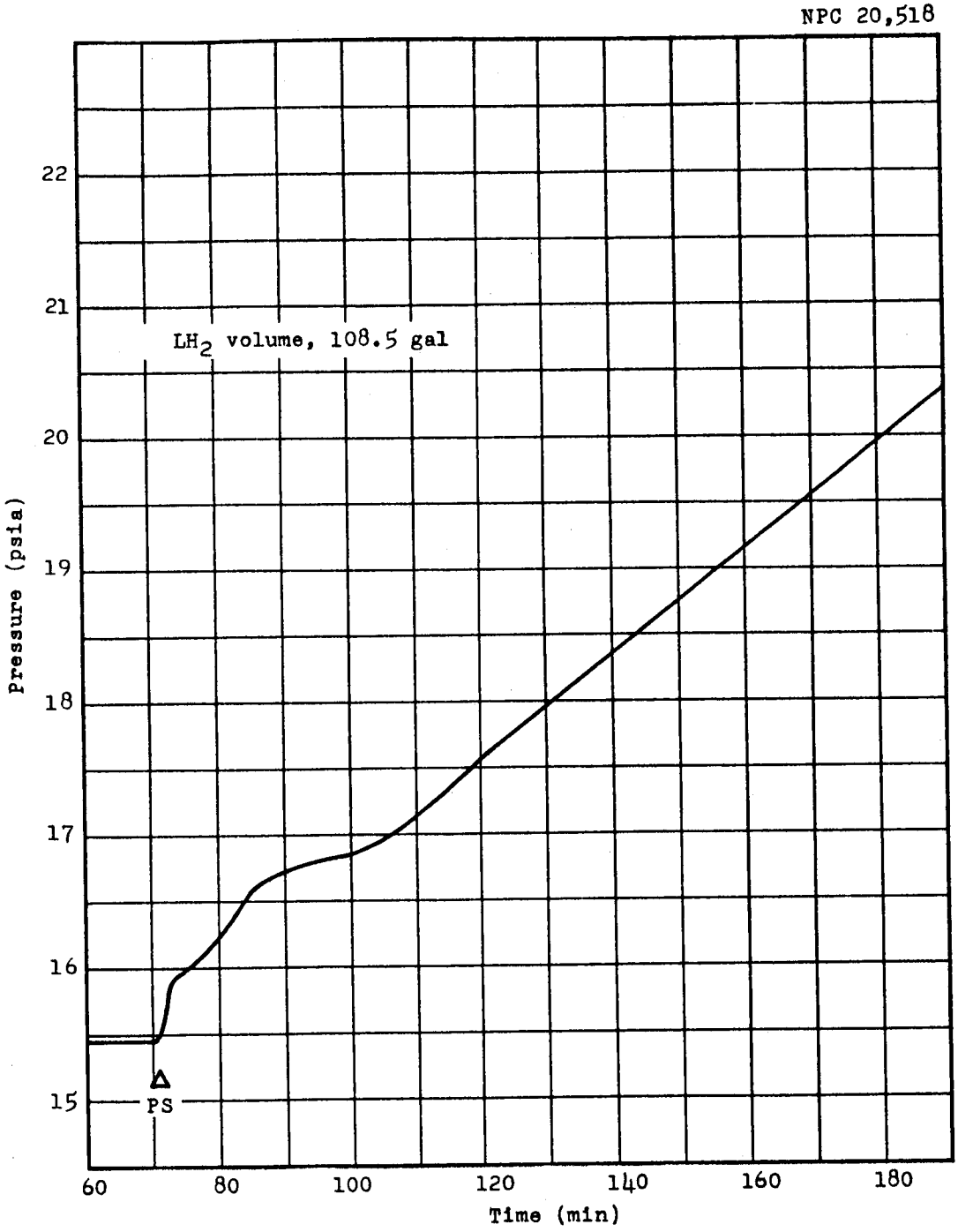

Figure 3.1-2 Self-Pressurization Data: Run 8

Table 3.1-1

Pressure Data From Run 8

Time: 1600 to 1936 Date: 14 August 1963

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
0	15.9	Timer On	86.6	16.6	
5.0	16.3		98.6	16.8	
10.0	16.3		105.0	17.0	
15.0	16.5		109.7	17.1	
20.0	16.7		114.4	17.3	
25.0	16.7		120.7	17.6	
27.0	17.0		128.8	18.0	
32.0	16.4		135.5	18.2	
42.0	15.9		143.0	18.4	
45.0	15.5		150.0	18.6	
60.0	15.4		155.0	18.9	
70.0	15.4		162.7	19.2	
71.0	15.5	PS	171.0	19.6	
72.0	15.9		182.3	20.1	
75.5	16.0		191.8	20.4	
79.7	16.2		195.5	20.6	

TABLE 3.1-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 8

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.81	57.49	0	36.80	57.51	0	36.84	57.45	0	36.85	57.44
1	36.79	57.52	1	36.82	57.48	1	36.81	57.49	1	36.82	57.48
6	36.96	57.30	6	36.90	57.37	6	36.89	57.39	6	36.96	57.29
7	36.99	57.25	7	36.92	57.35	7	36.88	57.40	7	36.94	57.32
7	36.93	57.34	7	36.95	57.31	7	36.93	57.34	7	36.97	57.28
11	36.99	57.26	11	36.98	57.27	11	36.99	57.25	11	37.00	57.24
12	37.02	57.21	12	36.99	57.25	12	37.01	57.23	12	37.05	57.17
12	37.03	57.20	12	37.01	57.23	12	37.03	57.20	12	37.05	57.18
20	37.13	57.06	20	37.13	57.07	20	37.14	57.05	20	37.18	57.00
21	37.20	56.97	21	37.13	57.06	21	37.12	57.08	21	37.19	56.99
21	37.19	56.99	21	37.14	57.05	21	37.17	57.01	21	37.22	56.95
26	37.24	56.92	26	37.21	56.96	26	37.19	56.98	26	58.09	5.70
26	37.19	56.98	26	37.19	56.99	26	37.19	56.98	26	37.27	56.88
26	37.24	56.91	26	37.21	56.96	26	37.19	56.98	26	37.26	56.89
31	37.32	56.81	31	37.30	56.83	31	37.28	56.86	31	37.32	56.81
31	37.28	56.86	31	37.27	56.88	31	37.27	56.88	31	37.32	56.80
31	37.33	56.79	31	37.26	56.89	31	37.32	56.81	31	37.34	56.78
36	37.17	57.01	36	37.14	57.05	36	37.11	57.10	36	37.19	56.99
36	37.18	57.00	36	37.20	56.97	36	37.12	57.08	36	37.19	56.98
36	37.14	57.05	36	37.12	57.08	36	37.14	57.05	36	37.19	56.99
41	37.14	57.05	41	37.14	57.05	41	37.10	57.11	41	37.17	57.01
41	37.13	57.06	41	37.09	57.12	41	37.12	57.08	41	37.15	57.04
41	37.09	57.12	41	37.08	57.14	41	37.03	57.20	41	37.12	57.08
46	36.87	57.41	46	36.84	57.46	46	36.81	57.49	46	36.90	57.37
51	36.80	57.50	51	36.77	57.54	51	36.73	57.60	51	36.80	57.51
56	36.74	57.58	56	36.72	57.61	56	36.72	57.61	56	36.77	57.55
61	36.74	57.59	61	36.72	57.61	61	36.74	57.59	61	36.78	57.53
66	36.74	57.59	66	36.74	57.59	66	36.68	57.66	66	36.74	57.58
72	36.80	57.50	72	36.74	57.58	72	36.72	57.61	72	36.80	57.51
77	36.82	57.48	77	36.79	57.52	77	36.80	57.51	77	36.84	57.45
82	36.89	57.39	82	36.87	57.41	82	36.88	57.40	82	36.91	57.36
82	36.89	57.39	82	36.87	57.41	82	36.87	57.42	82	36.92	57.35
87	37.02	57.21	87	36.93	57.33	87	36.96	57.29	87	36.98	57.27
87	36.96	57.30	87	36.95	57.31	87	36.94	57.32	87	36.99	57.25
92	37.08	57.13	92	36.99	57.25	92	37.00	57.24	92	37.03	57.20
92	37.02	57.21	92	37.02	57.22	92	37.00	57.24	92	37.06	57.16
97	37.11	57.09	97	37.11	57.10	97	37.08	57.13	97	37.13	57.06
98	37.13	57.07	98	37.06	57.16	98	37.05	57.18	98	37.12	57.08
2	37.19	56.99	2	37.12	57.08	2	37.13	57.07	2	37.22	56.95
2	37.17	57.01	2	37.16	57.03	2	37.16	57.03	2	37.20	56.97
7	37.24	56.91	7	37.26	56.89	7	37.23	56.93	7	37.27	56.87
7	37.27	56.87	7	37.22	56.94	7	37.23	56.93	7	37.28	56.86
12	37.28	56.86	12	37.28	56.86	12	37.27	56.88	12	37.34	56.78
12	37.32	56.80	12	37.29	56.85	12	37.28	56.86	12	37.31	56.82

TABLE 3.1-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
17	37.40	56.68	17	37.32	56.80	17	37.37	56.74	17	37.41	56.67
17	37.39	56.69	17	37.35	56.76	17	37.34	56.78	17	37.39	56.69
22	37.42	56.65	22	37.39	56.69	22	37.39	56.69	22	37.46	56.60
22	37.39	56.69	22	37.44	56.63	22	37.38	56.71	22	37.46	56.60
27	37.50	56.54	27	37.47	56.59	27	37.47	56.59	27	37.50	56.54
27	37.52	56.52	27	37.47	56.59	27	37.47	56.58	27	37.53	56.50
37	37.62	56.37	37	37.60	56.40	37	37.61	56.38	37	37.68	56.28
38	37.61	56.38	38	37.61	56.39	38	37.59	56.42	38	37.66	56.32
42	37.68	56.29	42	37.74	56.20	42	37.66	56.32	42	37.69	56.27
42	37.68	56.28	42	37.67	56.30	42	37.68	56.29	42	37.72	56.22
47	37.76	56.17	47	37.72	56.22	47	37.74	56.20	47	37.75	56.18
47	37.75	56.18	47	37.71	56.24	47	37.75	56.19	47	37.78	56.14
52	37.83	56.07	52	37.82	56.08	52	37.79	56.12	52	37.83	56.07
52	37.87	56.01	52	37.81	56.10	52	37.82	56.08	52	37.81	56.09
57	37.88	55.99	57	37.84	56.05	57	37.84	56.05	57	37.90	55.96
58	37.86	56.02	58	37.83	56.07	58	37.89	55.98	58	37.90	55.96
62	37.94	55.90	62	37.92	55.94	62	37.88	56.00	62	37.96	55.88
62	37.91	55.95	62	37.92	55.94	62	37.92	55.94	62	37.97	55.87
68	37.99	55.84	68	37.96	55.88	68	37.96	55.88	68	38.06	55.72
68	37.98	55.85	68	37.99	55.84	68	37.98	55.85	68	38.03	55.76
72	38.05	55.73	72	38.04	55.75	72	38.04	55.75	72	38.08	55.69
72	38.09	55.68	72	38.05	55.73	72	38.05	55.73	72	38.11	55.65
82	38.19	55.53	82	38.16	55.57	82	38.18	55.55	82	38.23	55.47
83	38.18	55.54	83	38.16	55.58	83	38.14	55.60	83	38.22	55.48
92	38.33	55.32	92	38.28	55.40	92	38.29	55.38	92	38.32	55.34
92	38.32	55.34	92	38.29	55.39	92	38.30	55.37	92	38.34	55.31

TABLE 3.1-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.76	57.56	0	94.35	-212.12	0	36.79	57.52	0	36.79	57.52
1	36.75	57.57	1	94.35	-212.12	1	36.79	57.52	1	36.81	57.49
6	36.85	57.44	6	94.35	-212.12	7	36.87	57.41	7	36.93	57.33
7	36.84	57.46	7	94.35	-212.12	7	36.90	57.38	7	36.91	57.36
7	36.89	57.39	7	94.52	-213.14	7	36.89	57.39	7	36.91	57.36
11	36.91	57.36	11	94.33	-212.02	11	36.96	57.29	11	36.98	57.27
12	36.97	57.28	12	94.28	-211.72	12	36.96	57.29	12	36.99	57.25
12	36.98	57.27	13	94.35	-212.12	13	36.99	57.25	13	37.02	57.21
20	37.11	57.10	20	94.35	-212.12	20	37.11	57.09	20	37.19	56.99
21	37.11	57.09	21	94.63	-213.84	21	37.11	57.09	21	37.14	57.05
22	37.11	57.09	22	94.35	-212.12	22	37.12	57.08	22	37.15	57.04
26	37.19	56.99	26	94.32	-211.92	26	37.17	57.01	26	37.23	56.93
26	37.19	56.99	26	94.35	-212.12	26	37.19	56.99	26	37.24	56.91
26	37.18	57.00	26	94.35	-212.12	26	37.18	57.00	26	37.24	56.92
31	37.22	56.94	31	94.35	-212.12	31	37.27	56.87	31	37.27	56.88
31	37.24	56.91	31	94.35	-212.12	31	37.26	56.89	31	37.29	56.85
31	37.24	56.92	31	94.35	-212.12	31	37.25	56.90	31	37.31	56.82
36	37.11	57.10	36	94.35	-212.12	36	37.13	57.06	36	37.15	57.04
36	37.11	57.10	36	94.52	-213.14	36	37.12	57.08	36	37.15	57.04
36	37.10	57.11	36	94.52	-213.14	36	37.11	57.10	36	37.17	57.01
41	37.10	57.11	41	94.35	-212.12	41	37.09	57.12	41	37.13	57.06
41	37.06	57.16	41	94.52	-213.14	41	37.11	57.09	41	37.19	56.99
41	37.05	57.17	41	94.52	-213.14	41	37.03	57.20	41	37.10	57.11
46	36.80	57.51	46	94.52	-213.14	46	36.87	57.41	46	36.86	57.43
51	36.73	57.60	51	94.62	-213.74	51	36.74	57.58	51	36.77	57.54
56	36.70	57.64	56	94.52	-213.14	56	36.74	57.59	56	35.02	59.61
61	36.70	57.64	61	94.65	-213.94	61	36.70	57.63	61	36.73	57.60
66	36.66	57.69	66	94.68	-214.15	66	36.68	57.66	66	36.73	57.60
72	36.68	57.66	72	94.68	-214.15	72	36.73	57.60	72	36.74	57.59
77	36.77	57.55	77	94.52	-213.14	77	36.79	57.52	77	36.82	57.48
82	36.84	57.46	82	38.20	55.52	82	36.82	57.48	82	36.89	57.39
82	36.83	57.47	82	38.22	55.49	82	36.84	57.46	82	36.90	57.38
87	36.88	57.40	87	38.23	55.47	87	36.91	57.36	87	36.94	57.32
87	36.90	57.37	87	38.24	55.46	87	36.93	57.33	87	36.96	57.29
92	36.98	57.27	92	38.27	55.42	92	36.98	57.27	92	37.02	57.21
92	36.98	57.27	92	38.29	55.39	92	37.01	57.23	92	37.05	57.18
97	37.07	57.15	97	38.32	55.34	97	37.07	57.15	97	37.19	56.99
98	37.05	57.17	98	38.35	55.29	98	37.06	57.16	98	37.09	57.12
2	37.12	57.08	2	38.40	55.22	2	37.16	57.03	2	37.16	57.02
2	37.13	57.07	2	38.42	55.19	2	37.11	57.10	2	37.16	57.02
7	37.18	57.00	7	37.04	57.19	7	37.17	57.01	7	37.22	56.95
7	37.18	57.00	7	38.45	55.15	7	37.17	57.01	7	37.26	56.89
12	37.25	56.90	12	38.52	55.05	12	37.25	56.90	12	37.30	56.83
12	37.22	56.94	12	38.51	55.06	13	37.25	56.90	13	37.29	56.85

TABLE 3.1-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
17	37.32	56.80	17	38.57	54.97	17	37.32	56.80	17	37.40	56.68
17	37.32	56.81	17	38.57	54.97	17	37.36	56.75	17	38.78	54.66
22	37.40	56.68	22	38.62	54.90	22	37.38	56.71	22	37.40	56.68
22	37.39	56.69	22	38.62	54.90	22	37.38	56.71	22	37.39	56.69
27	37.44	56.63	27	38.63	54.88	27	37.46	56.60	27	37.48	56.57
27	37.45	56.61	27	38.70	54.78	27	37.47	56.58	27	37.49	56.55
37	37.56	56.46	37	38.79	54.64	37	37.56	56.45	37	37.62	56.37
38	37.58	56.43	38	38.79	54.64	38	37.60	56.40	38	37.61	56.39
42	37.61	56.38	42	38.83	54.58	42	37.61	56.39	42	37.68	56.29
42	37.62	56.37	42	38.85	54.56	42	37.61	56.39	42	37.67	56.30
47	37.68	56.29	47	38.90	54.49	47	37.69	56.27	47	37.72	56.23
47	37.70	56.26	47	38.92	54.46	47	37.70	56.25	47	37.75	56.18
52	37.77	56.15	52	38.99	54.36	52	37.75	56.19	52	37.77	56.15
52	37.75	56.19	52	38.95	54.41	52	37.75	56.19	52	37.82	56.08
57	37.81	56.09	57	39.04	54.29	57	37.81	56.09	57	37.85	56.04
58	37.84	56.06	58	39.04	54.29	58	37.81	56.09	58	37.87	56.01
62	37.87	56.01	62	39.08	54.23	62	37.90	55.97	62	37.90	55.97
62	37.86	56.02	62	39.08	54.23	62	37.88	56.00	62	37.90	55.96
68	37.95	55.89	68	39.20	54.06	68	37.96	55.88	68	37.98	55.85
68	37.97	55.86	68	39.17	54.11	68	37.95	55.89	68	38.03	55.76
72	38.01	55.80	72	39.22	54.03	72	38.01	55.80	72	38.10	55.67
72	38.01	55.80	72	39.22	54.04	72	38.04	55.75	72	38.05	55.74
82	38.12	55.64	82	39.33	53.89	82	38.16	55.58	82	38.14	55.60
83	38.14	55.61	83	39.36	53.84	83	38.16	55.57	83	38.16	55.57
92	38.22	55.48	92	39.47	53.68	92	38.29	55.38	92	38.30	55.37
92	38.22	55.48	92	39.50	53.65	92	38.29	55.39	92	38.30	55.37

TABLE 3.1-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.78	57.53	0	36.74	57.59	0	36.81	57.49	0	36.95	57.31
1	36.89	57.39	1	36.73	57.60	1	36.81	57.49	1	36.95	57.31
7	36.88	57.40	7	36.84	57.46	7	36.91	57.36	7	37.05	57.18
7	36.89	57.39	7	36.84	57.46	7	36.92	57.35	7	37.04	57.19
7	36.89	57.39	7	36.84	57.46	7	36.93	57.34	7	37.05	57.17
11	36.95	57.31	11	36.92	57.35	11	36.99	57.25	11	37.09	57.12
12	36.96	57.29	12	36.92	57.35	12	36.99	57.26	12	37.11	57.09
13	37.02	57.21	13	36.95	57.31	13	37.01	57.23	13	37.15	57.04
21	37.11	57.09	21	37.05	57.18	21	37.13	57.07	21	37.25	56.90
21	37.10	57.11	21	37.10	57.11	21	37.16	57.03	21	37.25	56.90
22	37.11	57.10	22	37.06	57.16	22	37.14	57.05	22	37.26	56.89
26	37.18	57.00	26	37.13	57.06	26	37.22	56.95	26	37.32	56.80
26	37.17	57.01	26	37.17	57.01	26	37.21	56.96	26	37.35	56.76
26	37.18	57.00	26	37.13	57.06	26	37.22	56.95	26	37.32	56.80
31	37.24	56.91	31	37.22	56.95	31	37.25	56.90	31	37.41	56.67
31	37.28	56.86	31	37.21	56.96	31	37.28	56.86	31	37.41	56.67
31	37.34	56.78	31	37.21	56.96	31	37.32	56.81	31	37.42	56.66
36	37.19	56.99	36	37.05	57.18	36	37.14	57.05	36	37.29	56.85
36	37.12	57.08	36	37.11	57.09	36	37.15	57.04	36	37.25	56.90
36	37.14	57.05	36	37.08	57.13	36	37.13	57.06	36	37.27	56.88
41	37.09	57.12	41	37.04	57.19	41	37.11	57.10	41	37.26	56.89
41	37.08	57.14	41	37.03	57.20	41	37.11	57.10	41	37.24	56.92
41	37.07	57.15	41	37.02	57.22	41	37.11	57.09	41	37.21	56.96
46	36.83	57.47	46	36.76	57.56	46	36.84	57.46	46	36.97	57.28
51	36.71	57.62	51	36.68	57.66	51	36.75	57.57	51	36.87	57.41
56	36.73	57.60	56	36.65	57.71	56	36.72	57.61	56	36.89	57.39
61	36.72	57.61	61	36.66	57.70	61	36.74	57.59	61	36.86	57.43
66	36.68	57.66	66	36.63	57.73	66	36.70	57.64	66	36.87	57.41
72	36.70	57.63	72	36.64	57.72	72	36.74	57.59	72	36.87	57.42
77	36.77	57.54	77	36.72	57.61	77	36.80	57.51	77	36.96	57.29
82	36.87	57.41	82	36.79	57.52	82	36.87	57.42	82	36.99	57.25
82	36.89	57.39	82	36.80	57.51	82	36.87	57.41	82	37.05	57.18
87	36.92	57.35	87	36.89	57.39	87	36.96	57.29	87	37.11	57.10
87	36.96	57.29	87	36.87	57.41	87	36.96	57.30	87	37.09	57.12
92	36.96	57.30	92	36.95	57.31	92	37.01	57.23	92	37.17	57.01
92	37.04	57.19	92	36.96	57.29	92	37.03	57.20	92	37.16	57.02
97	37.03	57.20	97	37.02	57.22	97	37.10	57.11	97	37.23	56.93
98	37.06	57.16	98	37.02	57.21	98	37.09	57.12	98	37.19	56.98
2	37.13	57.06	2	37.08	57.13	2	37.17	57.01	2	37.28	56.86
2	37.19	56.99	2	37.10	57.11	2	37.19	56.99	2	37.28	56.86
7	37.26	56.89	7	37.16	57.02	7	37.24	56.91	7	37.36	56.75
7	37.26	56.89	7	37.16	57.02	7	37.24	56.91	7	37.36	56.75
12	37.34	56.78	12	37.22	56.95	12	37.29	56.85	12	37.42	56.65
13	37.27	56.88	13	37.24	56.92	13	37.32	56.81	13	37.39	56.69

TABLE 3.1-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
17	37.39	56.70	17	37.29	56.85	17	37.37	56.74	17	37.47	56.58
17	37.32	56.80	17	37.30	56.83	17	37.35	56.76	17	37.47	56.59
22	37.39	56.70	22	37.36	56.75	22	37.43	56.64	22	37.52	56.51
22	37.39	56.70	22	37.36	56.75	22	37.47	56.58	22	37.54	56.49
27	37.45	56.61	27	37.42	56.66	27	37.50	56.54	27	37.61	56.39
27	37.46	56.60	27	37.41	56.67	27	37.47	56.59	27	37.61	56.38
37	37.56	56.46	37	37.56	56.46	37	37.61	56.39	37	37.72	56.22
38	37.60	56.40	38	37.54	56.49	38	37.61	56.38	38	37.75	56.18
42	37.62	56.37	42	37.61	56.39	42	37.66	56.32	42	37.76	56.17
42	37.66	56.31	42	37.59	56.41	42	37.68	56.28	42	37.82	56.08
47	37.71	56.24	47	37.67	56.30	47	37.72	56.22	47	37.84	56.05
47	37.69	56.27	47	37.66	56.32	47	37.75	56.19	47	37.86	56.02
52	37.77	56.16	52	37.72	56.22	52	37.81	56.10	52	37.91	55.95
52	37.77	56.16	52	37.70	56.25	52	37.83	56.07	52	37.92	55.94
57	37.83	56.07	57	37.78	56.14	57	37.88	56.00	57	37.99	55.83
58	37.83	56.07	58	37.78	56.14	58	37.89	55.98	58	37.98	55.85
62	37.96	55.88	62	37.86	56.03	62	37.91	55.95	62	38.02	55.79
62	37.90	55.97	62	37.86	56.02	62	37.92	55.93	62	38.03	55.76
68	37.95	55.89	68	37.93	55.92	68	38.01	55.81	68	38.10	55.66
68	37.97	55.87	68	37.94	55.90	68	38.00	55.82	68	38.12	55.63
72	38.05	55.73	72	37.97	55.87	72	38.05	55.73	72	38.19	55.53
72	38.05	55.73	72	37.99	55.84	72	38.08	55.69	72	38.18	55.54
82	38.16	55.57	82	38.12	55.64	82	38.20	55.52	82	38.31	55.36
83	38.17	55.56	83	38.13	55.62	83	38.20	55.51	83	38.33	55.33
92	38.32	55.34	92	38.26	55.43	92	38.31	55.36	92	38.42	55.19
92	38.32	55.34	92	38.27	55.41	92	38.35	55.30	92	38.44	55.16

TABLE 3.1-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.77	57.55	0	37.46	56.60	0	39.19	54.08	0	41.31	50.73
1	36.80	57.51	1	37.59	56.42	1	39.30	53.92	1	41.55	50.29
7	36.87	57.42	7	37.83	56.07	7	40.87	51.50	7	43.62	46.16
7	36.89	57.39	7	37.82	56.08	7	41.03	51.23	7	43.88	45.84
7	36.88	57.40	7	37.92	55.94	7	41.11	51.09	7	44.14	45.48
11	36.94	57.32	11	38.05	55.74	11	42.11	49.20	11	45.69	41.99
12	36.96	57.29	12	37.58	56.43	12	42.43	48.58	12	46.00	41.03
13	36.96	57.30	13	38.21	55.50	13	42.59	48.27	13	41.56	50.27
21	37.09	57.12	21	37.39	56.69	21	45.29	43.17	21	50.46	30.36
21	37.11	57.10	21	38.59	54.95	21	45.34	43.04	21	50.75	29.49
22	37.11	57.09	22	38.70	54.77	22	45.40	42.89	22	50.95	28.85
26	37.19	56.99	26	37.44	56.62	26	46.35	40.01	26	52.57	23.53
26	37.16	57.02	26	38.12	55.64	26	46.30	40.15	26	52.91	23.02
26	37.19	56.99	26	37.81	56.10	26	46.42	39.84	26	53.24	22.53
31	37.24	56.92	31	39.15	54.13	31	47.84	36.87	31	54.28	16.74
31	37.26	56.89	31	38.68	54.81	31	47.96	36.45	31	54.33	16.24
31	37.26	56.89	31	39.20	54.06	31	47.95	36.49	32	54.43	15.86
36	37.10	57.11	36	37.08	57.13	36	37.43	56.64	36	38.49	55.09
36	37.12	57.08	36	37.07	57.15	36	37.42	56.65	36	38.59	54.95
36	37.09	57.12	36	37.06	57.16	36	37.46	56.60	36	38.66	54.84
41	37.08	57.13	41	37.04	57.19	41	37.73	56.21	41	39.63	53.47
41	37.06	57.16	41	37.02	57.21	41	37.39	56.69	41	38.93	54.45
41	37.05	57.18	41	36.97	57.28	41	37.26	56.89	41	38.23	55.47
46	36.81	57.49	46	36.78	57.53	46	36.99	57.26	46	37.42	56.66
51	36.74	57.59	51	36.77	57.55	51	36.99	57.25	51	37.53	56.50
56	36.70	57.63	56	36.78	57.53	56	37.03	57.20	56	37.81	56.09
61	36.65	57.71	61	36.63	57.73	61	37.18	57.00	61	38.10	55.67
66	36.68	57.66	66	36.77	57.55	66	37.36	56.75	66	38.31	55.35
72	36.73	57.60	72	36.92	57.35	72	37.88	56.00	72	38.90	54.49
77	36.80	57.51	77	37.52	56.52	77	39.18	54.09	77	40.50	52.11
82	36.87	57.42	82	37.87	56.01	82	40.38	52.29	82	42.01	49.41
82	36.84	57.45	82	37.92	55.94	82	40.46	52.17	82	42.09	49.24
87	36.92	57.35	87	36.88	57.40	87	41.76	49.89	87	44.14	45.47
87	36.91	57.36	87	38.37	55.27	87	41.86	49.70	87	44.34	45.16
92	36.96	57.30	92	38.80	54.63	92	43.36	46.80	92	46.33	40.07
92	37.04	57.19	92	38.84	54.57	92	43.48	46.58	92	46.51	39.62
97	37.06	57.16	97	39.59	53.53	97	45.43	42.81	97	49.39	33.03
98	37.07	57.15	98	39.72	53.35	98	45.52	42.54	98	49.61	32.51
2	37.13	57.07	2	39.95	52.94	2	46.98	38.62	2	51.52	25.83
2	37.12	57.08	3	40.17	52.61	3	47.09	38.42	3	51.60	25.31
7	37.21	56.96	7	40.63	51.90	7	48.79	34.36	7	54.36	18.21
7	37.21	56.96	7	40.65	51.86	7	48.90	34.12	8	54.30	17.57
12	37.25	56.90	12	41.03	51.23	12	50.57	30.04	12	56.84	10.12
13	37.27	56.88	13	41.20	50.93	13	50.66	29.77	13	56.92	9.83

TABLE 3.1-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
17	37.30	56.83	17	41.59	50.22	17	51.52	25.96	17	58.83	3.04
17	37.34	56.78	17	41.57	50.25	17	51.52	25.81	17	58.98	2.53
22	37.35	56.76	22	42.06	49.31	22	53.43	22.22	22	60.38	-4.20
22	37.41	56.67	22	42.01	49.41	22	53.57	21.98	23	60.45	-4.66
27	37.44	56.62	27	41.95	49.51	27	54.39	18.76	27	61.51	-11.14
27	37.47	56.58	27	42.25	48.92	27	54.37	18.44	28	61.60	-11.66
37	37.59	56.41	37	42.81	47.82	37	56.32	11.97	37	63.62	-24.03
38	37.61	56.39	38	42.62	48.20	38	56.45	11.51	38	63.70	-24.57
42	37.64	56.34	42	42.95	47.57	42	57.07	9.32	42	64.60	-30.02
42	37.64	56.34	42	42.77	47.90	43	57.26	8.65	43	64.63	-30.24
47	37.69	56.27	47	43.07	47.34	47	57.95	6.19	47	65.48	-35.42
47	37.66	56.31	47	43.19	47.11	47	57.90	6.37	47	65.57	-35.96
52	37.75	56.18	52	43.31	46.88	52	58.69	3.57	52	66.38	-40.95
52	37.77	56.15	52	43.26	46.98	53	58.86	2.94	53	66.38	-40.93
57	37.81	56.09	57	43.27	46.96	57	59.50	0.67	57	67.25	-46.29
58	37.88	56.00	58	43.81	45.93	58	59.46	0.81	58	67.31	-46.61
62	37.88	55.99	62	43.53	46.49	62	59.90	-1.31	62	67.92	-50.38
62	37.89	55.98	63	42.14	49.14	63	59.86	-1.04	63	68.01	-50.94
68	37.96	55.88	68	41.09	51.13	68	60.29	-3.66	68	68.92	-56.48
68	37.99	55.84	68	43.09	47.30	68	60.39	-4.28	68	68.95	-56.69
72	38.03	55.78	72	43.43	46.68	72	60.58	-5.46	72	69.51	-60.11
72	38.03	55.78	72	43.52	46.51	72	60.61	-5.63	73	69.49	-60.00
82	38.16	55.57	82	43.48	46.58	82	61.18	-9.12	82	70.78	-67.84
83	38.18	55.55	83	43.60	46.18	83	61.27	-9.66	83	70.85	-68.31
92	38.31	55.35	92	43.47	46.61	92	61.61	-11.74	92	71.97	-75.18
92	38.29	55.39	92	43.85	45.87	92	61.64	-11.95	92	71.99	-75.30

TABLE 3.1-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	43.06	47.35	0	44.07	45.58	0	49.13	33.61	0	94.35	-212.12
1	43.42	46.69	1	44.60	44.73	1	49.93	31.75	1	94.35	-212.12
7	46.38	39.94	7	48.58	34.85	7	55.62	14.35	7	94.35	-212.12
7	46.62	39.36	7	48.97	33.96	7	56.04	12.97	7	94.52	-213.14
7	46.98	38.62	7	49.35	33.12	7	56.36	11.84	7	94.35	-212.12
11	49.30	33.23	11	51.55	25.52	11	59.69	0.01	11	94.35	-212.12
12	50.05	31.46	12	52.79	23.19	12	60.30	-3.76	12	94.35	-212.12
13	50.54	30.14	13	53.86	21.42	13	60.76	-6.54	13	94.35	-212.12
21	55.53	14.42	21	59.43	0.92	21	65.58	-36.02	21	94.35	-212.12
21	55.98	13.20	21	59.85	-0.95	21	66.00	-38.65	21	94.62	-213.74
22	56.17	12.50	22	60.03	-2.06	22	66.19	-39.76	22	94.52	-213.14
26	58.66	3.67	26	61.83	-13.07	26	68.67	-54.95	26	94.33	-212.02
26	58.81	3.12	26	61.99	-14.10	26	68.89	-56.28	26	94.35	-212.12
26	59.07	2.21	26	62.10	-14.76	26	69.13	-57.76	26	94.32	-211.92
31	59.69	-0.	31	64.03	-26.56	31	71.70	-73.49	31	94.35	-212.12
31	59.69	-0.	31	64.20	-27.58	31	71.91	-74.78	31	94.35	-212.12
32	59.69	-0.	32	64.42	-28.92	32	72.17	-76.40	32	94.35	-212.12
36	42.53	48.37	36	50.19	31.11	36	63.20	-21.48	36	94.52	-213.14
36	42.39	48.66	36	49.61	32.53	36	62.84	-19.28	36	94.35	-212.12
36	42.44	48.56	36	49.19	33.48	36	62.45	-16.90	36	94.52	-213.14
41	43.52	46.51	41	48.14	35.94	41	59.54	0.52	41	94.35	-212.12
41	42.15	49.13	41	46.36	39.98	41	56.93	9.80	41	94.52	-213.14
41	40.90	51.45	41	44.68	44.57	42	54.35	18.18	42	94.35	-212.12
46	38.36	55.28	46	37.94	55.90	46	40.46	52.18	46	77.84	-111.06
51	38.41	55.21	51	38.12	55.64	51	39.73	53.24	51	69.40	-59.42
56	38.79	54.65	56	38.61	54.91	56	40.42	52.23	56	70.57	-66.57
61	39.21	54.05	61	39.10	54.20	61	41.20	50.93	61	74.23	-89.00
66	39.59	53.52	66	39.56	53.56	66	41.84	49.73	66	76.32	-101.77
72	40.39	52.28	72	40.52	52.08	72	43.36	46.80	72	85.07	-155.33
77	42.06	49.30	77	42.63	48.18	77	46.95	38.67	77	94.35	-212.12
82	44.30	45.22	82	45.63	42.19	82	51.63	26.44	82	94.52	-213.14
82	44.52	44.87	82	45.82	41.60	82	51.61	25.28	83	94.62	-213.74
87	46.88	38.81	87	49.30	33.22	87	56.72	10.56	87	94.35	-212.12
87	47.05	38.48	87	49.65	32.43	88	56.99	9.58	88	94.52	-213.14
92	50.42	30.48	92	53.64	21.86	92	70.66	-67.11	92	94.35	-212.12
93	50.63	29.84	93	54.00	21.11	93	60.99	-7.95	93	94.52	-213.14
97	54.35	19.80	97	57.43	8.02	97	64.09	-26.94	97	94.68	-214.15
98	54.39	19.10	98	57.69	7.11	98	64.32	-28.31	98	94.68	-214.15
2	57.09	9.25	2	60.60	-5.60	2	67.11	-45.39	2	94.52	-213.14
3	57.31	8.47	3	60.75	-6.47	3	67.30	-46.59	3	94.58	-213.54
7	59.69	-0.	7	62.92	-19.74	7	70.23	-64.49	7	94.62	-213.74
8	59.69	-0.	8	63.11	-20.96	8	70.45	-65.85	8	94.68	-214.15
12	59.69	-0.	12	65.34	-34.56	12	73.40	-83.88	12	94.52	-213.14
13	59.69	-0.	13	65.48	-35.45	13	73.54	-84.79	13	94.62	-213.74

TABLE 3.F-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
17	59.69	-0.	17	67.55	-48.08	17	76.29	-101.57	17	94.52	-213.14
17	59.69	-0.	17	67.72	-49.17	18	76.45	-102.58	18	94.62	-213.74
22	59.69	-0.	22	69.78	-61.74	22	79.13	-118.95	22	94.65	-213.94
23	59.69	-0.	23	69.93	-62.67	23	79.26	-119.76	23	94.65	-213.94
27	59.69	-0.	27	71.89	-74.67	27	81.83	-135.52	27	94.35	-212.12
28	59.69	-0.	28	72.04	-75.57	28	82.02	-136.63	28	94.52	-213.14
37	59.69	-0.	37	75.95	-99.53	38	87.02	-167.25	38	94.66	-214.05
38	59.69	-0.	38	76.11	-100.50	38	87.17	-168.16	38	94.65	-213.94
42	59.69	-0.	42	77.69	-110.16	42	89.13	-180.19	42	94.65	-213.94
43	59.69	-0.	43	77.71	-110.26	43	89.36	-181.60	43	94.68	-214.15
47	59.69	-0.	47	79.42	-120.77	47	91.41	-194.14	47	94.62	-213.74
48	59.69	-0.	48	79.54	-121.47	48	91.58	-195.15	48	94.68	-214.15
52	59.69	-0.	52	81.11	-131.07	52	93.39	-206.26	52	94.68	-214.15
53	59.69	-0.	53	81.22	-131.78	53	93.69	-208.08	53	94.83	-215.06
57	59.69	-0.	57	82.81	-141.48	57	94.62	-213.74	57	94.91	-215.56
58	59.69	-0.	58	82.91	-142.09	58	94.55	-213.34	58	94.90	-215.46
62	59.69	-0.	62	84.26	-150.38	62	94.52	-213.14	62	94.78	-214.75
63	59.69	-0.	63	84.33	-150.78	63	94.52	-213.14	63	94.88	-215.36
68	59.69	-0.	68	85.96	-160.79	68	94.65	-213.94	68	94.91	-215.56
68	59.69	-0.	68	86.09	-161.59	68	94.58	-213.54	68	94.90	-215.46
72	59.69	-0.	72	87.09	-167.66	72	94.52	-213.14	72	94.85	-215.16
73	59.69	-0.	73	87.09	-167.66	73	94.62	-213.74	73	94.90	-215.46
82	59.69	-0.	82	89.68	-183.52	82	94.35	-212.12	82	94.76	-214.65
83	59.69	-0.	83	89.76	-184.03	83	94.62	-213.74	83	94.90	-215.46
92	59.69	-0.	92	91.94	-197.37	92	94.15	-210.91	92	94.42	-212.53
92	59.69	-0.	92	92.04	-197.98	93	94.27	-211.62	93	94.52	-213.14

TABLE 3.1-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.77	57.55	0	36.77	57.54	0	36.85	57.44	0	36.90	57.37
1	36.80	57.50	1	36.81	57.49	1	36.89	57.39	1	36.89	57.39
7	36.92	57.35	7	36.90	57.37	7	36.99	57.25	7	37.01	57.23
7	36.88	57.40	7	36.90	57.37	7	37.03	57.20	7	37.02	57.21
7	36.91	57.36	7	36.91	57.36	7	36.99	57.26	7	37.00	57.24
11	36.98	57.27	11	36.97	57.28	11	37.03	57.20	11	37.11	57.09
12	36.97	57.28	12	36.99	57.25	12	37.06	57.16	12	37.08	57.13
13	36.99	57.25	13	37.00	57.24	13	37.07	57.15	13	37.11	57.09
21	37.13	57.07	21	37.14	57.05	21	37.20	56.97	21	37.23	56.93
21	37.14	57.05	21	37.13	57.06	21	37.22	56.95	21	37.26	56.89
22	37.14	57.05	22	37.15	57.04	22	37.22	56.94	22	37.22	56.94
26	37.19	56.98	26	37.19	56.99	26	37.27	56.88	26	37.29	56.85
26	37.22	56.95	26	37.22	56.95	26	37.28	56.86	26	37.30	56.83
26	37.21	56.96	26	37.21	56.96	26	37.27	56.87	26	37.29	56.84
31	37.29	56.85	31	37.32	56.81	31	37.35	56.76	31	37.37	56.72
31	37.27	56.88	31	37.28	56.86	31	37.35	56.76	31	37.39	56.70
32	37.29	56.85	32	37.29	56.85	32	37.35	56.76	32	37.38	56.71
36	37.14	57.05	36	37.16	57.02	36	37.23	56.93	36	37.26	56.89
36	37.13	57.06	36	37.14	57.05	36	37.21	56.96	36	37.27	56.88
36	37.15	57.04	36	37.16	57.03	36	37.21	56.96	37	37.21	56.96
41	37.11	57.10	41	37.14	57.05	41	37.20	56.97	41	37.24	56.92
41	37.12	57.08	41	37.11	57.10	41	37.18	57.00	41	37.19	56.98
42	37.08	57.14	42	37.11	57.10	42	37.19	56.99	42	37.18	57.00
36	36.86	57.43	46	36.88	57.40	46	36.95	57.31	46	36.94	57.32
51	36.74	57.58	51	36.76	57.56	51	36.84	57.46	51	36.87	57.41
56	36.75	57.57	56	36.74	57.58	56	36.81	57.49	56	36.86	57.43
61	36.74	57.59	61	36.77	57.55	61	36.79	57.52	61	36.84	57.46
66	36.72	57.61	66	36.73	57.60	66	36.80	57.51	66	36.84	57.45
72	36.73	57.60	72	36.75	57.57	72	36.80	57.51	72	36.84	57.46
77	36.80	57.51	77	36.79	57.52	77	36.89	57.39	77	36.91	57.36
82	36.86	57.43	82	36.87	57.41	82	36.93	57.33	82	36.96	57.29
83	36.85	57.44	83	36.87	57.41	83	36.96	57.30	83	36.99	57.25
87	36.94	57.32	87	36.95	57.31	87	37.02	57.22	87	37.05	57.17
88	36.94	57.32	88	36.96	57.30	88	37.02	57.22	88	37.06	57.16
92	37.02	57.21	92	37.03	57.20	92	37.08	57.13	92	37.11	57.10
93	37.00	57.24	93	37.01	57.23	93	37.06	57.16	93	37.11	57.10
97	37.08	57.14	97	37.11	57.10	97	37.16	57.03	98	37.17	57.01
98	37.11	57.10	98	37.09	57.12	98	37.16	57.03	98	37.18	57.00
2	37.17	57.01	2	37.17	57.01	2	37.23	56.93	2	37.27	56.88
3	37.15	57.04	3	37.17	57.01	3	37.23	56.93	3	37.25	56.90
7	37.21	56.96	7	37.22	56.95	7	37.29	56.85	7	37.34	56.77
8	37.24	56.92	8	37.22	56.95	8	37.29	56.85	8	37.34	56.77
12	37.29	56.85	12	37.28	56.86	12	37.34	56.78	12	37.39	56.69
13	37.30	56.83	13	37.29	56.85	13	37.37	56.72	13	37.39	56.70

TABLE 3.1-2 (Cont'd)

THERMOMETER 21

TIME	TEMP	VOLTAGE
17	37.36	56.75
18	37.39	56.70
22	37.43	56.64
23	37.40	56.68
27	37.47	56.58
28	37.45	56.61
38	37.58	56.43
38	37.60	56.40
42	37.63	56.35
43	37.67	56.30
47	37.75	56.19
48	37.75	56.19
52	37.78	56.14
53	37.75	56.19
57	37.85	56.04
58	37.85	56.04
62	37.88	55.99
63	37.94	55.91
68	37.99	55.84
68	37.99	55.84
72	38.05	55.74
73	38.03	55.76
82	38.16	55.57
83	38.19	55.53
92	38.29	55.38
93	38.31	55.36

THERMOMETER 22

TIME	TEMP	VOLTAGE
17	37.35	56.76
18	37.37	56.74
22	37.41	56.67
23	37.42	56.66
27	37.47	56.58
28	37.49	56.56
38	37.60	56.40
38	37.63	56.36
42	37.67	56.30
43	37.68	56.28
47	37.72	56.22
48	37.72	56.22
52	37.79	56.13
53	37.82	56.08
57	37.85	56.04
58	37.87	56.01
62	37.92	55.94
63	37.93	55.92
68	37.98	55.85
68	38.00	55.82
72	38.03	55.76
73	38.05	55.74
82	38.16	55.58
83	38.18	55.54
92	38.31	55.36
93	38.33	55.33

THERMOMETER 23

TIME	TEMP	VOLTAGE
17	37.43	56.64
18	37.42	56.65
22	37.48	56.57
23	37.47	56.58
27	37.54	56.48
28	37.54	56.49
38	37.67	56.30
38	37.68	56.29
42	37.72	56.23
43	37.74	56.20
47	37.79	56.12
48	37.79	56.12
52	37.85	56.04
53	37.86	56.03
58	37.90	55.96
58	37.93	55.92
62	37.97	55.87
63	37.99	55.83
68	38.05	55.74
69	38.06	55.72
72	38.11	55.65
73	38.10	55.66
82	38.24	55.45
83	38.24	55.46
92	38.37	55.27
93	38.38	55.25

THERMOMETER 24

TIME	TEMP	VOLTAGE
17	37.47	56.59
18	37.42	56.65
22	37.49	56.55
23	37.49	56.55
27	37.57	56.44
28	37.56	56.46
38	37.68	56.29
38	37.69	56.27
42	37.77	56.16
43	37.75	56.19
47	37.80	56.11
48	37.80	56.11
52	37.88	55.99
53	37.88	55.99
58	37.94	55.90
58	37.97	55.87
62	38.00	55.82
63	38.01	55.80
68	38.09	55.68
69	38.10	55.67
72	38.16	55.58
73	38.13	55.62
82	38.25	55.44
83	38.25	55.44
92	38.40	55.22
93	38.43	55.18

TABLE 3.1-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.68	56.29	0	36.76	57.56	0	36.74	57.59	0	36.75	57.57
1	37.77	56.16	1	36.80	57.51	1	36.77	57.55	1	36.80	57.51
7	37.80	56.11	7	36.87	57.41	7	36.85	57.44	7	36.87	57.42
7	37.90	55.97	7	36.87	57.41	7	36.86	57.43	7	36.87	57.41
7	37.85	56.04	8	36.90	57.38	8	36.89	57.39	8	36.90	57.38
11	37.90	55.97	11	36.95	57.31	11	36.93	57.33	11	36.93	57.34
12	37.90	55.96	12	36.96	57.29	12	36.95	57.31	12	36.96	57.30
13	37.94	55.91	13	36.99	57.26	13	36.97	57.28	13	36.97	57.28
21	38.01	55.80	21	37.11	57.10	21	37.09	57.12	21	37.09	57.12
21	38.03	55.76	21	37.13	57.07	21	37.10	57.11	21	37.10	57.11
22	38.10	55.67	22	37.12	57.08	22	37.11	57.09	22	37.10	57.11
26	38.18	55.55	26	37.19	56.99	26	37.17	57.01	26	37.18	57.00
26	38.12	55.63	26	37.19	56.98	26	37.16	57.02	26	37.18	57.00
26	38.13	55.62	26	37.19	56.99	26	37.19	56.99	26	37.19	56.99
31	38.15	55.59	31	37.25	56.90	31	37.24	56.92	31	37.25	56.90
31	38.18	55.54	31	37.26	56.89	31	37.23	56.93	31	37.24	56.91
32	38.20	55.52	32	37.28	56.86	32	37.26	56.89	32	37.25	56.90
36	38.02	55.79	36	37.14	57.05	36	37.09	57.12	36	37.11	57.09
36	38.04	55.75	36	37.13	57.07	36	37.08	57.14	36	37.09	57.12
37	38.01	55.80	37	37.11	57.10	37	37.08	57.14	37	37.08	57.13
41	37.98	55.85	41	37.10	57.11	41	37.07	57.15	41	37.08	57.13
41	38.05	55.73	41	37.06	57.16	41	37.04	57.19	41	37.05	57.18
42	37.97	55.87	42	37.05	57.17	42	37.02	57.22	42	37.02	57.21
46	37.81	56.10	46	36.83	57.47	46	36.80	57.51	46	36.80	57.51
51	37.77	56.16	51	36.74	57.59	51	36.70	57.63	51	36.71	57.62
56	37.69	56.27	56	36.70	57.63	56	36.69	57.65	56	36.74	57.59
61	37.67	56.30	61	36.70	57.63	61	36.67	57.67	61	36.69	57.65
66	37.68	56.28	66	36.70	57.64	66	36.66	57.69	66	36.68	57.66
72	37.67	56.30	72	36.70	57.64	72	36.69	57.65	72	36.70	57.64
77	37.68	56.29	77	36.76	57.56	77	36.74	57.58	77	36.78	57.53
82	37.82	56.08	82	36.87	57.42	82	36.82	57.48	82	36.84	57.45
83	37.82	56.08	83	36.86	57.43	83	36.84	57.46	83	36.84	57.46
87	37.88	55.99	87	36.93	57.33	87	36.90	57.37	87	36.90	57.38
88	37.86	56.03	88	36.93	57.33	88	36.91	57.36	88	36.92	57.35
92	37.96	55.88	92	37.02	57.22	92	36.97	57.28	92	37.01	57.23
93	37.75	56.19	93	36.99	57.25	93	36.98	57.27	93	36.99	57.26
98	38.01	55.80	98	37.06	57.16	98	37.05	57.17	98	37.06	57.16
98	38.01	55.80	98	37.06	57.16	98	37.05	57.18	98	37.08	57.13
2	38.07	55.71	2	37.13	57.06	2	37.11	57.09	2	37.13	57.06
3	38.03	55.76	3	37.17	57.01	3	37.11	57.10	3	37.12	57.08
7	38.13	55.62	7	37.22	56.95	7	37.18	57.00	7	37.19	56.99
8	38.16	55.57	8	37.21	56.96	8	37.19	56.98	8	37.18	57.00
12	38.21	55.50	12	37.29	56.85	12	37.24	56.92	12	37.24	56.91
13	38.14	55.60	13	37.32	56.81	13	37.24	56.91	13	37.25	56.90

TABLE 3.1-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
17	38.22	55.49	17	37.34	56.78	17	37.32	56.81	17	37.30	56.83
18	38.29	55.39	18	37.36	56.75	18	37.32	56.80	18	37.33	56.79
22	38.44	55.17	22	37.41	56.67	22	37.37	56.74	22	37.38	56.71
23	38.37	55.27	23	37.39	56.69	23	37.37	56.74	23	37.39	56.70
27	38.44	55.17	27	37.47	56.58	27	37.42	56.65	27	37.45	56.61
28	38.35	55.29	28	37.46	56.60	28	37.44	56.62	28	37.47	56.58
38	38.50	55.07	38	37.60	56.40	38	37.57	56.44	38	37.59	56.42
38	38.53	55.03	38	37.60	56.40	38	37.57	56.44	38	37.59	56.41
42	38.50	55.08	42	37.64	56.34	42	37.61	56.38	42	37.64	56.34
43	38.52	55.04	43	37.63	56.35	43	37.63	56.36	43	37.66	56.32
47	38.64	54.87	47	37.71	56.24	47	37.68	56.29	47	37.68	56.29
48	38.64	54.87	48	37.71	56.24	48	37.69	56.27	48	37.68	56.29
52	38.74	54.72	52	37.77	56.15	52	37.75	56.19	52	37.79	56.12
53	38.63	54.89	53	37.77	56.15	53	37.75	56.18	53	37.78	56.14
58	38.70	54.78	58	37.84	56.05	58	37.80	56.11	58	37.83	56.07
58	38.70	54.78	58	37.86	56.02	58	37.81	56.09	58	37.83	56.07
62	38.80	54.63	62	37.88	56.00	62	37.87	56.01	62	37.88	55.99
63	38.77	54.67	63	37.90	55.97	63	37.88	56.00	63	37.87	56.01
68	38.88	54.51	68	37.99	55.84	68	37.97	55.86	68	38.01	55.80
69	38.92	54.46	69	38.00	55.82	69	37.98	55.85	69	37.97	55.87
72	38.95	54.42	72	38.05	55.74	72	38.02	55.79	72	38.05	55.73
73	38.95	54.41	73	38.03	55.76	73	38.03	55.78	73	38.05	55.74
82	39.12	54.17	82	38.16	55.57	82	38.16	55.57	82	38.16	55.58
83	39.05	54.28	83	38.21	55.50	83	38.18	55.55	83	38.16	55.57
92	39.22	54.04	92	38.29	55.38	92	38.28	55.40	92	38.29	55.39
93	39.20	54.07	93	38.29	55.39	93	38.27	55.41	93	38.31	55.36

TABLE 3.1-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.76	57.56	0	62.66	-18.19	0	94.35	-212.12	0	94.71	-214.35
1	36.81	57.49	1	62.58	-17.68	1	94.35	-212.12	1	94.75	-214.55
7	36.87	57.41	7	62.75	-18.75	7	94.35	-212.12	7	94.71	-214.35
7	36.88	57.40	7	62.81	-19.10	7	94.52	-213.14	7	94.83	-215.06
8	36.90	57.37	8	62.86	-19.40	8	94.35	-212.12	8	94.81	-214.95
11	36.94	57.32	11	62.50	-17.17	11	94.35	-212.12	11	94.68	-214.15
12	36.99	57.25	12	62.66	-18.18	12	94.35	-212.12	12	94.68	-214.15
13	36.98	57.27	13	62.81	-19.10	13	94.35	-212.12	13	94.63	-213.84
21	37.11	57.10	21	62.88	-19.49	21	94.35	-212.12	21	94.76	-214.65
21	37.14	57.05	21	62.82	-19.15	21	94.52	-213.14	21	94.83	-215.06
22	37.12	57.08	22	62.97	-20.10	22	94.55	-213.34	22	94.88	-215.36
26	37.18	57.00	26	62.99	-20.21	26	94.35	-212.12	26	94.65	-213.94
26	37.19	56.99	26	62.83	-19.19	26	94.35	-212.12	26	94.68	-214.15
26	37.20	56.97	27	63.06	-20.61	27	94.35	-212.12	27	94.66	-214.05
31	37.26	56.89	31	62.90	-19.62	31	94.35	-212.12	31	94.66	-214.05
31	37.26	56.89	31	62.98	-20.12	31	94.35	-212.12	31	94.68	-214.15
32	37.29	56.85	32	62.98	-20.11	32	94.35	-212.12	32	94.71	-214.35
36	37.12	57.08	36	63.26	-21.82	36	94.55	-213.34	36	94.85	-215.16
36	37.11	57.10	36	62.82	-19.16	36	94.62	-213.74	36	94.88	-215.36
37	37.10	57.11	37	62.77	-18.88	37	94.52	-213.14	37	94.78	-214.75
41	37.10	57.11	41	62.88	-19.50	41	94.35	-212.12	41	94.75	-214.55
41	37.07	57.15	41	62.73	-18.62	41	94.52	-213.14	41	94.85	-215.16
42	37.04	57.19	42	62.63	-17.98	42	94.35	-212.12	42	94.76	-214.65
46	36.81	57.49	46	62.86	-19.39	46	94.55	-213.34	46	94.85	-215.16
51	36.71	57.62	51	62.89	-19.61	51	94.62	-213.74	51	94.93	-215.66
56	36.74	57.59	56	62.99	-20.18	56	94.62	-213.74	56	94.93	-215.66
61	36.69	57.65	61	62.98	-20.13	61	94.68	-214.15	61	94.95	-215.76
66	36.70	57.63	66	62.83	-19.19	66	94.68	-214.15	66	94.98	-215.97
72	36.73	57.60	72	62.98	-20.12	72	94.35	-212.12	72	94.85	-215.16
77	36.80	57.51	77	62.99	-20.20	77	94.45	-212.73	77	94.70	-214.25
82	36.84	57.45	82	63.19	-21.43	82	94.52	-213.14	82	94.85	-215.16
83	36.84	57.46	83	62.86	-19.39	83	94.68	-214.15	83	94.95	-215.76
87	36.93	57.34	87	62.98	-20.16	87	94.52	-213.14	87	94.81	-214.95
88	36.95	57.31	88	63.31	-22.15	88	94.52	-213.14	88	94.86	-215.26
92	37.01	57.23	92	62.98	-20.11	92	94.35	-212.12	92	94.81	-214.95
93	36.99	57.26	93	62.86	-19.38	93	94.62	-213.74	93	94.86	-215.26
98	37.09	57.12	98	62.96	-20.01	98	94.68	-214.15	98	95.04	-216.37
98	37.10	57.11	98	62.85	-19.32	98	94.68	-214.15	98	95.04	-216.37
2	37.13	57.06	2	62.74	-18.69	2	94.52	-213.14	2	94.83	-215.06
3	37.13	57.06	3	62.82	-19.13	3	94.62	-213.74	3	94.91	-215.56
7	37.21	56.96	7	62.99	-20.20	7	94.62	-213.74	7	94.93	-215.66
8	37.19	56.98	8	62.92	-19.80	8	94.68	-214.15	8	94.99	-216.07
12	37.27	56.88	12	62.70	-18.39	12	94.55	-213.34	12	94.93	-215.66
13	37.29	56.85	13	62.86	-19.39	13	94.62	-213.74	13	94.91	-215.56

TABLE 3.1-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
17	37.33	56.79	17	62.92	-19.80	17	94.35	-212.12	17	94.85	-215.16
18	37.34	56.78	18	63.09	-20.81	18	94.62	-213.74	18	94.90	-215.46
22	37.39	56.69	22	62.99	-20.20	22	94.55	-213.34	22	94.90	-215.46
23	37.40	56.68	23	62.96	-20.00	23	94.65	-213.94	23	94.95	-215.76
27	37.46	56.60	27	63.03	-20.41	27	94.52	-213.14	27	94.81	-214.95
28	37.49	56.56	28	62.69	-18.38	28	94.52	-213.14	28	94.86	-215.26
38	37.60	56.40	38	62.92	-19.78	38	94.68	-214.15	38	94.98	-215.97
38	37.59	56.41	38	63.27	-21.91	38	94.68	-214.15	38	94.96	-215.86
42	37.64	56.34	42	62.99	-20.20	42	94.62	-213.74	42	94.95	-215.76
43	37.64	56.34	43	63.09	-20.82	43	94.68	-214.15	43	95.01	-216.17
47	37.71	56.24	47	63.28	-21.99	47	94.62	-213.74	47	94.91	-215.56
48	37.71	56.24	48	62.83	-19.19	48	94.68	-214.15	48	95.01	-216.17
52	37.80	56.11	52	62.63	-17.99	52	94.62	-213.74	52	94.93	-215.66
53	37.82	56.08	53	62.66	-18.18	53	94.68	-214.15	53	95.01	-216.17
58	37.84	56.05	58	62.66	-18.15	58	94.55	-213.34	58	94.90	-215.46
58	37.84	56.05	58	62.99	-20.20	58	94.55	-213.34	58	94.90	-215.46
62	37.90	55.96	62	62.59	-17.78	62	94.35	-212.12	62	94.76	-214.65
63	37.88	56.00	63	62.86	-19.40	63	94.60	-213.64	63	94.90	-215.46
68	38.00	55.82	68	62.50	-17.17	68	94.52	-213.14	68	94.86	-215.26
69	37.98	55.85	69	62.63	-17.98	69	94.55	-213.34	69	94.91	-215.56
72	38.07	55.71	72	62.59	-17.75	72	94.52	-213.14	72	94.83	-215.06
73	38.07	55.71	73	62.70	-18.40	73	94.62	-213.74	73	94.91	-215.56
82	38.19	55.53	82	62.43	-16.79	82	94.52	-213.14	82	94.85	-215.16
83	38.16	55.58	83	62.76	-18.79	83	94.52	-213.14	83	94.86	-215.26
92	38.30	55.37	92	62.66	-18.20	92	94.12	-210.71	92	94.42	-212.53
93	38.31	55.35	93	62.50	-17.19	93	94.19	-211.11	93	94.50	-213.03

3.2 Run 9

This boil-off and self-pressurization test without nuclear heating was made in order to obtain ambient-heat-leak data for the half-full tank condition, as opposed to the full tank employed in Run 8. The temperature and self-pressurization data were obtained on 15 August 1963 and the boil-off data on 20 August 1963. A history of the liquid hydrogen used in these tests may be traced in the chronological summary of events in Table 3.0-2.

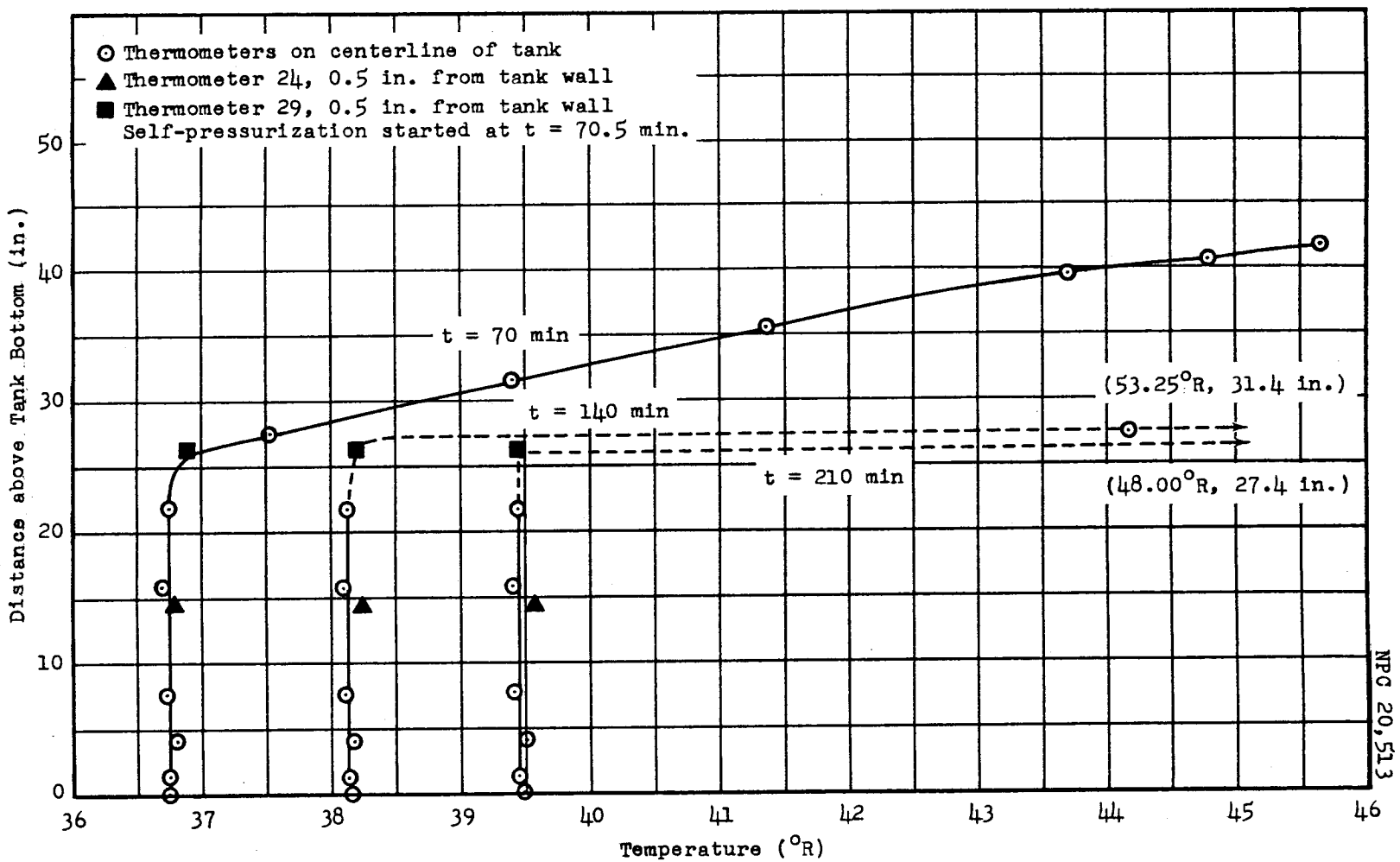

Figure 3.2-1 Temperature Profiles: Run 9

NPC 20,513

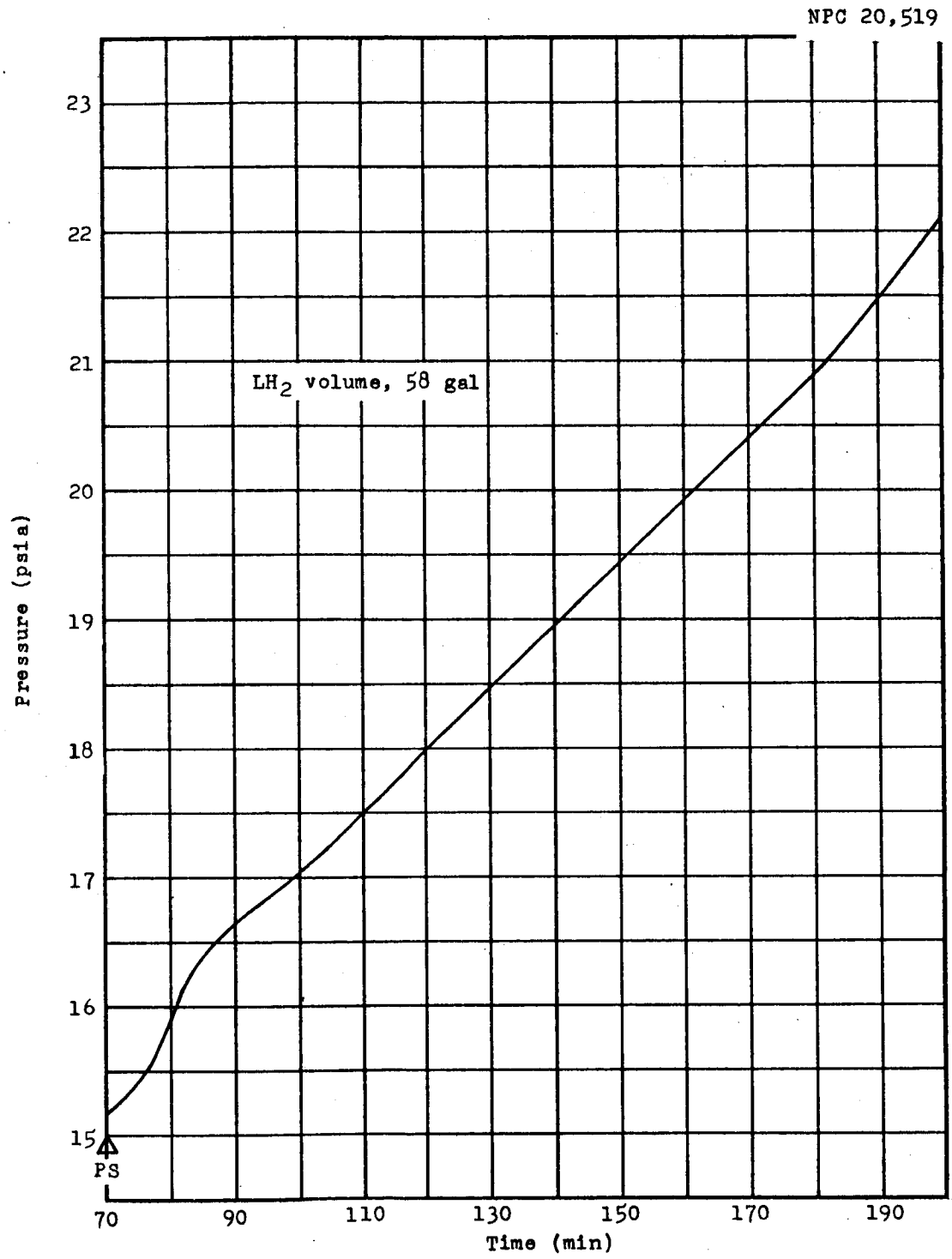

Figure 3.2-2 Self-Pressurization Data: Run 9

Table 3.2-1

Pressure Data From Run 9

Time: 0039.5 to 0410 Date: 15 August 1963

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
0	-	Timer On	138.6	19.0	
8.5	14.7		143.8	19.1	
15.0	15.0		146.0	19.3	
22.5	15.0		150.5	19.5	
28.3	15.2		154.0	19.6	
50.5	15.2		157.1	19.8	
60.5	15.2		164.4	20.1	
70.5	15.2	PS	170.5	20.5	
72.5	15.3		177.0	20.6	
76.2	15.5		180.0	20.8	
79.8	15.9		182.1	20.9	
87.5	16.6		184.5	21.2	
99.9	17.1		191.5	21.9	
105.5	17.2		201.0	22.2	
112.7	17.8		209.5	22.8	
117.5	17.9		210.5	-	DP
126.8	18.5				

TABLE 3.2-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 9

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	36.68	57.66	22	36.71	57.62	22	36.70	57.64	22	36.75	57.57
22	36.68	57.66	22	36.70	57.63	22	36.70	57.64	22	36.72	57.61
25	36.72	57.61	25	36.73	57.60	25	36.72	57.61	25	36.76	57.56
25	36.73	57.60	25	36.72	57.61	25	36.74	57.59	25	36.75	57.57
30	36.74	57.58	30	36.75	57.57	30	36.77	57.55	30	36.76	57.56
30	36.76	57.56	30	36.73	57.60	30	36.74	57.59	30	36.76	57.56
40	36.74	57.58	40	36.77	57.55	40	36.73	57.60	40	36.80	57.50
40	36.76	57.56	40	36.76	57.56	40	36.73	57.60	40	36.79	57.52
50	36.80	57.51	50	36.76	57.56	50	36.73	57.60	50	36.78	57.53
50	36.81	57.49	50	36.75	57.57	50	36.71	57.62	50	36.79	57.52
60	36.75	57.57	60	36.74	57.58	60	36.71	57.62	60	36.80	57.50
60	36.76	57.56	60	36.77	57.55	60	36.75	57.57	60	36.81	57.49
70	36.79	57.52	70	36.75	57.57	70	36.75	57.57	70	36.80	57.51
70	36.76	57.56	70	36.76	57.56	70	36.73	57.60	70	36.79	57.52
75	36.89	57.39	75	36.84	57.46	75	36.86	57.43	75	36.89	57.39
75	36.87	57.41	75	36.85	57.44	75	36.87	57.41	75	36.90	57.38
80	36.94	57.32	80	36.91	57.36	80	36.95	57.31	80	36.99	57.26
80	36.96	57.29	80	36.93	57.34	80	36.93	57.33	80	36.99	57.25
85	37.02	57.21	85	37.04	57.19	85	37.04	57.19	85	37.09	57.12
85	37.09	57.12	85	37.07	57.15	85	37.05	57.18	85	37.11	57.10
90	37.17	57.01	90	37.16	57.03	90	37.16	57.02	90	37.16	57.02
90	37.17	57.01	90	37.13	57.06	90	37.19	56.99	90	37.22	56.95
95	37.24	56.92	95	37.24	56.91	95	37.27	56.88	95	37.28	56.86
95	37.33	56.79	95	37.26	56.89	95	37.32	56.81	95	37.32	56.80
0	37.39	56.69	0	37.36	56.75	0	37.32	56.80	0	37.38	56.71
0	37.38	56.71	0	37.39	56.70	0	37.38	56.71	0	37.40	56.68
5	37.50	56.54	5	37.47	56.58	5	37.47	56.58	5	37.50	56.54
5	37.54	56.48	5	37.44	56.62	5	37.44	56.63	5	37.51	56.53
10	37.59	56.41	10	37.57	56.44	10	37.53	56.50	10	37.59	56.41
11	37.61	56.38	11	37.58	56.43	11	37.56	56.46	11	37.60	56.40
15	37.68	56.28	15	37.68	56.29	15	37.63	56.35	15	37.68	56.29
15	37.75	56.18	15	37.70	56.26	15	37.69	56.27	15	37.71	56.24
20	37.79	56.12	20	37.75	56.18	20	37.79	56.12	20	37.81	56.10
20	37.82	56.08	20	37.78	56.14	20	37.77	56.15	20	37.81	56.09
25	37.90	55.96	25	37.88	56.00	25	37.81	56.09	25	37.88	55.99
25	37.92	55.94	25	37.86	56.02	25	37.88	55.99	25	37.90	55.96
30	37.98	55.85	30	37.96	55.88	30	37.94	55.90	30	37.98	55.85
40	38.23	55.47	40	38.16	55.57	40	38.14	55.60	40	38.16	55.58
40	38.14	55.60	40	38.16	55.57	40	38.16	55.57	40	38.20	55.52
50	38.37	55.27	50	38.35	55.29	50	38.35	55.29	50	38.37	55.26
50	38.37	55.27	50	38.33	55.33	50	38.34	55.31	50	38.37	55.26
60	38.50	55.08	60	38.54	55.02	60	38.53	55.03	60	38.57	54.98
60	38.57	54.97	60	38.52	55.05	60	38.50	55.07	60	38.54	55.02
70	38.70	54.77	70	38.73	54.73	70	38.70	54.77	70	38.78	54.66

*Timing interval = 0.319 minutes.

TABLE 3.2-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
80	38.87	54.53	80	38.87	54.53	80	38.86	54.55	80	38.93	54.45
80	38.92	54.46	80	38.90	54.49	80	38.90	54.49	80	38.93	54.44
90	39.05	54.27	90	39.06	54.26	90	39.09	54.22	90	39.08	54.23
90	39.08	54.23	90	39.11	54.19	90	39.08	54.23	90	39.12	54.17
0	39.27	53.97	0	39.25	54.00	0	39.22	54.03	0	39.30	53.92
0	39.35	53.85	0	39.28	53.95	0	39.21	54.05	0	39.35	53.85
10	39.50	53.65	10	39.50	53.65	10	39.46	53.70	10	39.52	53.62
10	39.50	53.65	10	39.49	53.66	10	39.46	53.70	10	39.53	53.61

TABLE 3.2-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	36.66	57.70	22	38.01	55.80	22	36.65	57.71	22	36.69	57.65
22	36.66	57.70	22	38.02	55.79	22	36.60	57.77	22	36.69	57.65
25	36.65	57.71	25	37.99	55.83	25	36.66	57.69	25	36.70	57.63
25	36.69	57.65	25	38.01	55.80	25	36.67	57.67	25	36.70	57.63
30	36.69	57.65	30	38.01	55.80	30	36.72	57.61	30	36.74	57.59
30	36.69	57.65	30	38.01	55.80	30	36.72	57.61	30	36.73	57.60
40	36.72	57.61	40	38.00	55.82	40	36.70	57.64	40	36.72	57.61
40	36.70	57.63	40	38.02	55.79	40	36.65	57.71	40	36.72	57.61
50	36.65	57.71	50	37.97	55.87	50	36.69	57.65	50	36.72	57.61
50	36.70	57.64	50	37.97	55.86	50	36.67	57.67	50	36.75	57.57
60	36.70	57.64	60	37.96	55.88	60	36.75	57.57	60	36.73	57.60
60	36.70	57.64	60	37.97	55.86	60	36.72	57.61	60	36.75	57.57
70	36.70	57.64	70	37.96	55.88	70	36.65	57.71	70	36.73	57.60
70	36.74	57.59	70	37.97	55.86	70	36.73	57.60	70	36.74	57.59
75	36.81	57.49	75	38.04	55.75	75	36.82	57.48	75	36.84	57.46
75	36.80	57.50	75	38.05	55.73	75	36.84	57.45	75	36.84	57.45
80	36.85	57.44	80	38.11	55.65	80	36.87	57.41	80	36.95	57.31
80	36.92	57.35	80	38.11	55.65	80	36.95	57.31	80	36.94	57.32
85	36.99	57.25	85	38.22	55.48	85	37.04	57.19	85	37.03	57.20
85	36.98	57.27	85	38.23	55.47	85	36.96	57.30	85	37.07	57.15
90	37.10	57.11	90	38.31	55.36	90	37.10	57.11	90	37.16	57.03
90	37.13	57.07	90	38.27	55.42	90	37.11	57.10	90	37.14	57.05
95	37.17	57.01	95	38.41	55.21	95	37.33	56.79	95	37.24	56.91
95	37.25	56.90	95	38.43	55.18	95	37.26	56.89	95	37.24	56.91
0	37.33	56.79	0	38.50	55.08	0	37.34	56.77	0	37.36	56.75
0	37.30	56.83	0	38.51	55.06	0	37.32	56.81	0	37.36	56.75
5	37.39	56.69	5	38.61	54.92	5	37.40	56.68	5	37.47	56.58
5	37.39	56.69	5	38.59	54.94	5	37.43	56.64	5	37.47	56.59
10	37.53	56.50	10	38.68	54.81	10	37.54	56.48	10	37.52	56.51
11	37.54	56.48	11	38.70	54.78	11	37.57	56.44	11	37.56	56.45
15	37.63	56.35	15	38.79	54.64	15	37.64	56.34	15	37.65	56.33
15	37.59	56.42	15	38.81	54.61	15	37.64	56.34	15	37.67	56.30
20	37.72	56.23	20	38.91	54.47	20	37.76	56.17	20	37.78	56.14
20	37.74	56.20	20	38.88	54.51	20	37.74	56.20	20	37.73	56.21
25	37.81	56.09	25	38.97	54.38	25	37.81	56.09	25	37.83	56.07
25	37.82	56.08	25	39.01	54.33	25	37.81	56.09	25	37.85	56.04
30	37.94	55.90	30	39.10	54.21	30	37.92	55.93	30	37.95	55.89
40	38.11	55.65	40	39.25	53.99	40	38.08	55.69	40	38.12	55.63
40	38.11	55.65	40	39.31	53.91	40	38.12	55.63	40	38.12	55.63
50	38.27	55.42	50	39.48	53.67	50	38.29	55.39	50	38.29	55.39
50	38.27	55.41	50	39.49	53.66	50	38.22	55.48	50	38.31	55.36
60	38.43	55.18	60	39.65	53.34	60	38.48	55.11	60	38.48	55.10
60	38.47	55.12	60	39.66	53.33	60	38.50	55.07	60	38.50	55.07
70	38.70	54.78	70	39.86	53.06	70	38.65	54.86	70	38.72	54.75

TABLE 3.2-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
80	38.84	54.57	80	40.03	52.82	80	38.84	54.57	80	38.86	54.54
80	38.83	54.58	80	45.46	42.70	80	38.77	54.67	80	38.84	54.57
90	39.05	54.28	90	40.22	52.53	90	39.06	54.26	90	39.05	54.27
90	39.02	54.31	90	40.21	52.55	90	39.01	54.33	90	39.01	54.33
0	39.19	54.08	0	40.40	52.26	0	39.20	54.07	0	39.22	54.03
0	39.22	54.04	0	40.42	52.24	0	39.23	54.02	0	39.23	54.02
10	39.41	53.77	10	40.58	51.99	10	39.38	53.80	10	39.45	53.71
10	39.41	53.77	10	40.61	51.93	10	39.45	53.71	10	39.44	53.72

TABLE 3.2-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	36.87	57.41	22	37.84	56.05	22	38.16	55.58	22	38.94	54.43
22	36.92	57.35	22	37.88	56.00	22	38.20	55.52	22	39.05	54.27
25	37.33	56.79	25	38.04	55.75	25	38.50	55.07	25	39.50	53.65
25	37.30	56.83	25	38.05	55.74	25	38.50	55.08	25	39.48	53.67
30	37.32	56.80	30	38.32	55.34	30	38.95	54.42	30	40.15	52.64
30	37.31	56.82	30	38.33	55.32	30	38.95	54.42	30	40.05	52.79
40	37.39	56.69	40	38.70	54.78	40	39.71	53.36	40	41.23	50.87
40	37.41	56.67	40	38.71	54.76	40	39.70	53.28	40	41.23	50.87
50	37.44	56.63	50	38.91	54.47	50	40.36	52.33	50	42.07	49.28
50	37.44	56.62	50	38.93	54.45	50	40.40	52.26	50	42.16	49.11
60	37.47	56.58	60	39.22	54.04	60	40.92	51.41	60	42.90	47.66
60	37.47	56.58	60	39.08	54.23	60	40.91	51.43	60	42.92	47.61
70	37.47	56.59	70	39.36	53.83	70	41.28	50.78	70	43.62	46.16
70	37.59	56.42	70	39.46	53.70	70	41.44	50.49	70	43.87	45.85
75	38.35	55.29	75	40.36	52.33	75	42.41	48.61	75	45.44	42.78
75	38.37	55.26	75	40.38	52.30	75	42.51	48.41	75	45.52	42.54
80	39.01	54.33	80	41.22	50.89	80	43.51	46.54	80	46.68	39.22
80	39.05	54.27	80	41.26	50.81	80	43.65	46.29	80	46.84	38.88
85	39.71	53.36	85	42.10	49.23	85	44.90	44.12	85	48.49	35.06
85	39.71	53.27	85	42.21	49.00	85	44.97	43.97	85	48.61	34.76
90	40.31	52.40	90	43.05	47.37	90	45.83	41.55	90	50.47	30.34
90	40.36	52.33	90	43.03	47.42	90	45.90	41.32	90	50.60	29.95
95	40.85	51.53	95	44.17	45.44	95	46.99	38.60	95	51.96	24.49
95	40.84	51.56	95	44.24	45.33	95	47.12	38.36	95	52.10	24.24
0	41.30	50.74	0	45.17	43.50	0	48.40	35.27	0	54.34	17.97
0	41.37	50.61	0	45.26	43.25	0	48.52	34.99	0	54.30	17.53
5	41.75	49.90	5	45.90	41.32	5	50.02	31.54	5	56.70	10.63
5	41.79	49.82	5	45.95	41.19	5	50.08	31.38	5	56.85	10.09
10	42.13	49.17	10	46.69	39.19	10	51.42	27.34	10	58.99	2.49
11	42.24	48.95	11	46.91	38.76	11	51.65	26.67	11	59.39	1.08
15	42.47	48.50	15	47.87	36.76	15	52.89	23.05	15	60.76	-6.54
15	42.48	48.47	15	47.92	36.57	15	53.13	22.70	15	60.85	-7.08
20	42.75	47.94	20	48.85	34.23	20	54.34	18.06	20	62.30	-15.97
20	42.83	47.79	20	48.90	34.12	20	54.32	17.79	20	62.41	-16.66
25	43.10	47.28	25	50.03	31.50	25	55.85	13.65	25	63.92	-25.88
25	43.12	47.25	25	50.10	31.32	25	56.26	12.20	25	64.05	-26.68
30	43.48	46.59	30	57.36	8.28	30	57.89	6.38	30	65.75	-37.10
40	44.14	45.47	40	53.18	22.62	40	60.60	-5.54	40	69.17	-58.03
40	44.20	45.39	40	53.34	22.36	40	60.67	-5.97	40	69.31	-58.86
50	44.88	44.16	50	54.37	16.06	50	62.80	-19.05	50	72.82	-80.34
50	44.90	44.13	50	54.43	15.86	50	62.87	-19.47	50	72.95	-81.14
60	45.41	42.86	60	57.11	9.18	60	65.09	-33.04	60	76.50	-102.88
60	45.45	42.74	60	57.15	9.03	60	65.18	-33.57	60	76.62	-103.59
70	45.82	41.58	70	59.20	1.73	70	67.54	-48.04	70	80.30	-126.12

TABLE 3.2-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
80	46.29	40.18	80	60.55	-5.26	80	69.84	-62.10	80	83.75	-147.24
80	46.27	40.23	80	60.58	-5.46	80	69.93	-62.66	80	83.91	-148.26
90	42.15	49.12	90	61.77	-12.74	90	72.26	-76.91	90	87.30	-168.97
90	46.64	39.32	91	61.80	-12.93	91	72.32	-77.30	91	87.45	-169.88
0	47.64	37.54	0	62.94	-19.92	0	74.59	-91.17	0	90.73	-189.99
0	47.64	37.54	0	63.01	-20.31	0	74.67	-91.66	0	90.85	-190.70
10	47.96	36.46	10	64.16	-27.35	10	76.85	-105.00	10	93.62	-207.68
10	48.00	36.32	10	64.20	-27.63	10	76.98	-105.81	10	93.53	-207.07

TABLE 3.2-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	39.14	54.15	22	39.41	53.76	22	39.72	53.25	22	40.03	52.81
22	39.21	54.05	22	39.50	53.65	22	39.74	53.23	22	40.09	52.73
25	39.68	53.41	25	40.04	52.80	25	40.46	52.17	25	40.77	51.66
25	39.72	53.35	25	40.06	52.77	25	40.56	52.02	25	40.89	51.46
30	40.46	52.18	30	40.85	51.54	30	41.35	50.66	30	41.72	49.95
30	40.40	52.26	30	40.84	51.55	30	41.40	50.56	30	41.77	49.87
40	41.57	50.25	40	42.09	49.24	40	42.78	47.89	40	43.31	46.89
40	41.65	50.10	41	42.13	49.16	41	42.85	47.75	41	43.36	46.80
50	42.62	48.21	50	43.31	46.88	50	44.28	45.26	50	44.93	44.06
50	42.64	48.17	50	43.31	46.89	50	44.30	45.22	50	45.02	43.85
60	43.66	46.28	60	44.63	44.67	60	45.48	42.66	60	46.00	41.03
60	43.60	46.18	61	44.73	44.48	61	45.49	42.63	61	46.03	40.94
70	44.74	44.46	70	45.60	42.27	70	41.59	50.21	70	47.37	37.95
70	44.89	44.15	70	45.71	41.95	70	46.46	39.73	70	47.62	37.57
75	46.17	40.50	75	47.51	37.74	75	48.58	34.85	75	49.82	32.04
75	46.23	40.35	75	47.66	37.51	75	48.75	34.46	75	49.95	31.71
80	48.01	36.29	80	49.40	33.01	80	50.93	28.91	80	51.64	25.17
80	48.02	36.25	80	49.68	32.36	80	51.06	28.51	80	51.83	24.72
85	50.05	31.46	85	51.69	26.58	85	53.73	21.69	85	54.28	16.67
85	50.21	31.05	85	51.58	26.30	85	50.18	31.13	85	54.44	15.83
90	51.56	25.47	90	54.37	19.56	90	56.09	12.80	90	58.06	5.78
90	51.69	25.04	90	54.39	19.00	90	56.25	12.23	90	58.23	5.18
95	54.38	18.57	95	56.58	11.06	95	58.98	2.53	95	60.72	-6.33
95	54.35	18.10	95	56.73	10.51	95	59.21	1.71	95	60.84	-7.01
0	56.62	10.92	0	59.32	1.33	0	61.17	-9.08	0	62.89	-19.57
0	56.81	10.24	0	59.51	0.65	0	61.30	-9.85	0	63.05	-20.56
5	59.13	1.98	5	61.20	-9.21	5	63.24	-21.70	5	65.22	-33.83
5	59.29	1.41	5	61.37	-10.28	5	63.34	-22.31	5	65.38	-34.81
10	60.94	-7.65	10	63.08	-20.72	10	65.42	-35.08	10	67.64	-48.63
11	61.21	-9.30	11	63.40	-22.72	11	65.77	-37.19	11	68.08	-51.32
15	62.61	-17.87	15	65.10	-33.10	15	67.65	-48.72	15	70.18	-64.19
15	59.69	-0.	15	65.25	-34.01	15	67.78	-49.53	15	70.33	-65.14
20	64.42	-28.96	20	67.16	-45.70	20	69.99	-63.04	20	72.74	-79.86
20	64.53	-29.61	20	67.30	-46.57	20	70.14	-63.97	20	72.88	-80.74
25	66.28	-40.32	25	69.32	-58.92	25	72.35	-77.50	25	75.30	-95.55
25	59.69	-0.	26	69.47	-59.88	26	72.54	-78.61	26	75.51	-96.81
31	68.36	-53.04	31	71.68	-73.37	31	74.92	-93.24	31	78.10	-112.68
40	59.69	-0.	40	75.93	-99.40	40	79.57	-121.68	40	83.01	-142.70
41	72.34	-77.39	41	76.05	-100.14	41	79.74	-122.69	41	83.16	-143.61
50	76.20	-101.06	50	80.36	-126.53	50	84.31	-150.68	50	87.98	-173.12
50	76.37	-102.07	50	80.48	-127.23	50	84.41	-151.29	50	88.14	-174.13
60	80.28	-126.02	60	84.72	-153.21	60	88.92	-178.88	60	92.88	-203.13
60	80.31	-126.22	60	84.86	-154.02	60	89.00	-179.38	60	93.01	-203.94
70	84.34	-150.88	70	89.13	-180.19	70	93.49	-206.87	70	93.69	-208.08

TABLE 3.2-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
80	88.14	-174.13	80	93.13	-204.65	80	93.66	-207.88	80	93.77	-208.59
80	88.26	-174.83	80	93.28	-205.56	80	93.77	-208.59	80	93.86	-209.09
90	91.89	-197.07	90	93.62	-207.68	90	93.81	-208.79	90	93.82	-208.89
91	92.07	-198.18	91	93.56	-207.27	91	93.76	-208.49	91	93.77	-208.59
0	93.36	-206.06	0	93.72	-208.28	0	93.77	-208.59	0	93.76	-208.49
0	93.49	-206.87	0	93.72	-208.28	0	93.76	-208.49	1	93.74	-208.39
10	93.79	-208.69	10	93.87	-209.19	10	93.89	-209.30	10	93.91	-209.40
10	93.69	-208.08	10	93.76	-208.49	10	93.77	-208.59	11	93.74	-208.39

TABLE 3.2-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	40.98	51.31	22	40.75	51.70	22	42.53	48.37	22	81.65	-134.41
22	41.08	51.15	22	40.75	51.70	22	42.62	48.20	22	81.95	-136.23
25	41.72	49.96	25	41.56	50.26	25	43.62	46.16	25	83.63	-146.54
25	41.77	49.86	26	41.60	50.20	26	43.86	45.86	26	83.88	-148.05
30	42.68	48.08	30	42.62	48.20	30	45.19	43.46	30	84.81	-153.71
30	42.72	48.00	30	42.68	48.08	31	45.38	42.95	31	84.97	-154.72
40	44.68	44.57	40	44.79	44.37	40	47.20	38.23	40	87.33	-169.17
41	44.77	44.40	41	44.89	44.14	41	47.34	37.99	41	87.50	-170.19
50	45.96	41.14	50	46.19	40.45	50	49.35	33.11	50	90.11	-186.15
50	46.03	40.93	50	46.21	40.41	50	49.42	32.96	51	90.29	-187.26
60	47.55	37.68	60	47.99	36.35	60	51.36	27.53	60	93.23	-205.25
61	47.67	37.50	61	47.97	36.40	61	51.37	27.49	61	93.38	-206.16
70	49.04	33.79	70	49.87	31.90	70	53.71	21.73	70	93.53	-207.07
70	49.23	33.39	70	50.13	31.26	70	54.11	20.82	70	93.46	-206.67
75	51.58	26.87	75	52.21	24.06	75	57.24	8.70	75	93.36	-206.06
75	51.64	26.46	76	52.97	22.94	76	57.50	7.78	76	93.36	-206.06
80	54.36	18.29	80	55.98	13.20	80	60.90	-7.43	80	93.36	-206.06
80	54.31	17.62	80	56.18	12.46	81	61.14	-8.90	81	93.44	-206.57
85	57.68	7.14	85	59.70	-0.06	85	64.00	-26.37	85	93.43	-206.47
85	57.85	6.53	86	59.84	-0.91	86	64.17	-27.42	86	93.49	-206.87
90	59.69	-0.	90	62.11	-14.83	90	67.22	-46.07	90	93.36	-206.06
90	59.69	-0.	90	62.27	-15.78	90	67.44	-47.45	91	93.36	-206.06
95	59.69	-0.	95	64.77	-31.09	95	70.61	-66.85	95	93.43	-206.47
95	59.69	-0.	95	64.96	-32.23	95	70.86	-68.36	96	93.53	-207.07
0	65.51	-35.63	0	67.65	-48.70	0	74.01	-87.61	0	93.46	-206.67
1	65.70	-36.77	1	67.83	-49.81	1	74.30	-89.42	1	93.36	-206.06
5	68.21	-52.13	5	70.54	-66.41	5	77.51	-109.04	5	93.53	-207.07
5	68.41	-53.34	6	70.77	-67.80	6	77.71	-110.26	6	93.46	-206.67
10	70.98	-69.09	10	73.59	-85.04	10	80.84	-129.46	10	93.56	-207.27
11	71.39	-71.61	11	74.03	-87.79	11	81.47	-133.30	11	93.56	-207.27
15	73.78	-86.21	15	76.53	-103.08	15	84.26	-150.38	15	93.53	-207.07
15	73.96	-87.36	15	76.71	-104.19	15	84.49	-151.79	16	93.53	-207.07
20	76.60	-103.49	20	79.56	-121.58	20	87.42	-169.68	20	93.53	-207.07
20	76.71	-104.19	20	79.70	-122.48	20	87.78	-171.90	22	93.51	-206.97
25	79.42	-120.77	25	82.51	-139.66	25	90.72	-189.89	25	93.53	-207.07
26	79.62	-121.98	26	82.71	-140.88	26	91.05	-191.91	26	93.49	-206.87
31	82.41	-139.06	31	85.65	-158.87	31	93.53	-207.07	31	93.77	-208.59
40	87.68	-171.30	40	91.11	-192.32	40	93.56	-207.27	40	93.82	-208.89
41	87.75	-171.70	41	91.31	-193.53	41	93.81	-208.79	41	93.81	-208.79
50	92.98	-203.74	50	93.69	-208.08	50	93.86	-209.09	50	93.86	-209.09
50	92.70	-202.02	50	93.69	-208.08	51	93.77	-208.59	51	93.86	-209.09
60	93.62	-207.68	60	93.89	-209.30	60	93.91	-209.40	60	93.91	-209.40
60	93.64	-207.78	60	93.91	-209.40	60	93.91	-209.40	60	93.91	-209.40
70	93.56	-207.27	71	93.72	-208.28	71	93.84	-208.99	71	93.84	-208.99

TABLE 3.2-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
80	93.79	-208.69	80	93.77	-208.59	80	93.76	-208.49	80	93.77	-208.59
80	93.82	-208.89	80	93.79	-208.69	81	93.82	-208.89	81	93.84	-208.99
90	93.81	-208.79	90	93.82	-208.89	90	93.84	-208.99	90	93.82	-208.89
91	93.77	-208.59	91	93.76	-208.49	91	93.76	-208.49	91	93.76	-208.49
0	93.76	-208.49	0	93.81	-208.79	0	93.77	-208.59	0	93.79	-208.69
1	93.76	-208.49	1	93.76	-208.49	1	93.76	-208.49	1	93.77	-208.59
10	93.91	-209.40	10	93.91	-209.40	10	93.89	-209.30	10	93.89	-209.30
11	93.66	-207.88	11	93.69	-208.08	11	93.72	-208.28	11	93.82	-208.89

TABLE 3.2-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	36.67	57.67	22	36.69	57.65	22	36.74	57.58	22	36.77	57.54
22	36.67	57.67	22	36.68	57.66	22	36.77	57.55	22	36.81	57.49
25	36.70	57.64	25	36.68	57.66	25	36.76	57.56	25	36.81	57.49
26	36.70	57.64	26	36.72	57.61	26	36.76	57.56	26	36.80	57.50
30	36.71	57.62	30	36.73	57.60	30	36.78	57.53	30	36.80	57.50
31	36.71	57.62	31	36.74	57.59	31	36.80	57.50	31	36.80	57.51
40	36.72	57.61	40	36.73	57.60	40	36.81	57.49	40	36.84	57.45
41	36.72	57.61	41	36.74	57.59	41	36.81	57.49	41	36.84	57.45
50	36.70	57.63	50	36.74	57.58	50	36.80	57.50	50	36.82	57.48
51	36.74	57.59	51	36.73	57.60	51	36.83	57.47	51	36.87	57.41
60	36.71	57.62	60	36.71	57.62	60	36.81	57.49	60	36.83	57.47
61	36.74	57.59	61	36.72	57.61	61	36.80	57.50	61	36.82	57.48
70	36.73	57.60	70	36.75	57.57	70	36.83	57.47	70	36.80	57.50
71	36.73	57.60	71	36.74	57.59	71	36.80	57.50	71	36.84	57.45
75	36.81	57.49	75	36.84	57.45	75	36.88	57.40	75	36.91	57.36
76	36.83	57.47	76	36.84	57.46	76	36.90	57.37	76	36.96	57.29
80	36.96	57.29	80	36.95	57.31	80	37.02	57.22	80	37.04	57.19
81	36.93	57.34	81	36.95	57.31	81	37.01	57.23	81	37.05	57.18
85	37.04	57.19	85	37.04	57.19	85	37.12	57.08	85	37.16	57.03
86	37.03	57.20	86	37.06	57.16	86	37.13	57.06	86	37.17	57.01
90	37.13	57.07	90	37.13	57.06	90	37.22	56.95	90	37.26	56.89
91	37.12	57.08	91	37.16	57.03	91	37.22	56.94	91	37.24	56.92
95	37.25	56.90	95	37.23	56.93	95	37.32	56.80	95	37.34	56.78
96	37.26	56.89	96	37.26	56.89	96	37.32	56.80	96	37.36	56.75
0	37.35	56.76	0	37.36	56.75	0	37.42	56.66	0	37.46	56.60
1	37.34	56.78	1	37.37	56.72	1	37.42	56.66	1	37.44	56.62
5	37.47	56.59	5	37.45	56.61	5	37.54	56.49	5	37.56	56.46
6	37.47	56.59	6	37.47	56.58	6	37.54	56.48	6	37.58	56.43
10	37.54	56.49	10	37.56	56.45	10	37.64	56.34	10	37.67	56.30
11	37.56	56.46	11	37.58	56.43	11	37.64	56.34	11	37.68	56.28
15	37.66	56.32	15	37.63	56.35	15	37.71	56.24	15	37.75	56.19
16	37.68	56.28	16	37.66	56.31	16	37.73	56.21	16	37.77	56.16
20	37.75	56.19	20	37.75	56.19	20	37.84	56.06	20	37.86	56.03
21	37.76	56.17	21	37.81	56.10	21	37.84	56.06	21	37.86	56.03
25	37.84	56.06	25	37.84	56.05	25	37.92	55.94	25	37.96	55.88
26	37.86	56.03	26	37.84	56.05	26	37.92	55.94	26	37.96	55.88
31	37.97	55.87	31	37.95	55.89	31	38.04	55.75	31	38.09	55.68
40	59.69	-0.	40	38.14	55.61	40	38.18	55.54	40	38.24	55.46
41	59.69	-0.	41	38.16	55.58	41	38.20	55.51	41	38.23	55.47
50	59.69	-0.	50	38.29	55.38	50	38.37	55.26	50	38.39	55.23
51	59.69	-0.	51	38.31	55.36	51	38.38	55.25	51	38.42	55.20
60	59.69	-0.	60	38.50	55.08	60	38.58	54.96	60	38.63	54.89
61	59.69	-0.	61	38.50	55.07	61	38.55	55.00	61	38.59	54.94
71	59.69	-0.	71	38.68	54.81	71	38.77	54.67	71	38.76	54.69

TABLE 3.2-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
80	59.69	-0.	80	38.90	54.48	80	38.94	54.43	80	38.97	54.39
81	59.69	-0.	81	38.87	54.53	81	38.91	54.47	81	38.95	54.42
90	59.69	-0.	90	39.05	54.28	90	39.11	54.19	90	39.15	54.14
91	59.69	-0.	91	39.06	54.26	91	39.13	54.16	91	39.20	54.06
0	59.69	-0.	0	39.49	53.66	0	39.32	53.90	0	39.34	53.86
1	59.69	-0.	1	39.24	54.01	1	39.30	53.93	1	39.35	53.85
10	59.69	-0.	10	39.45	53.71	10	39.53	53.61	10	39.57	53.55
11	59.69	-0.	11	39.45	53.71	11	39.51	53.63	11	39.55	53.58

TABLE 3.2-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	37.60	56.40	22	36.63	57.73	22	36.60	57.77	22	36.62	57.75
22	37.67	56.30	22	36.63	57.73	22	36.62	57.75	22	36.64	57.72
25	37.67	56.30	25	36.65	57.71	25	36.62	57.75	25	36.66	57.70
26	37.61	56.39	26	36.66	57.70	26	36.64	57.72	26	36.63	57.73
30	37.66	56.31	30	36.72	57.61	30	36.67	57.67	30	36.82	57.48
31	37.77	56.16	31	36.72	57.61	31	36.65	57.71	31	36.79	57.52
40	37.67	56.30	40	36.90	57.38	40	36.70	57.64	40	36.87	57.41
41	37.68	56.29	41	36.87	57.42	41	36.70	57.64	41	36.80	57.50
50	37.75	56.18	50	36.87	57.42	50	36.80	57.50	50	36.82	57.48
51	37.61	56.39	51	36.90	57.37	51	36.83	57.47	51	36.87	57.41
60	37.72	56.23	60	36.88	57.40	60	36.86	57.43	60	36.89	57.39
61	37.70	56.26	61	36.93	57.33	61	36.87	57.42	61	36.89	57.39
70	37.78	56.14	70	36.96	57.29	70	36.90	57.37	70	36.95	57.31
71	37.71	56.24	71	36.97	57.28	71	36.96	57.29	71	36.95	57.31
75	37.75	56.19	75	37.46	56.60	75	37.44	56.63	75	37.34	56.77
76	37.74	56.20	76	37.42	56.65	76	37.47	56.58	76	37.32	56.81
80	37.87	56.01	80	37.83	56.07	80	37.83	56.07	80	37.66	56.32
81	37.87	56.01	81	37.85	56.04	81	37.86	56.02	81	37.64	56.34
85	38.00	55.82	85	38.15	55.59	85	38.16	55.58	85	37.90	55.96
86	37.88	55.99	86	38.12	55.64	86	38.18	55.54	86	37.96	55.88
90	38.07	55.70	90	38.39	55.24	90	37.05	57.17	90	38.12	55.63
91	38.01	55.80	91	38.44	55.17	91	38.50	55.08	91	38.23	55.47
95	38.15	55.59	95	38.71	54.76	95	38.69	54.79	95	38.37	55.27
96	38.16	55.58	96	38.69	54.79	96	38.72	54.74	96	38.33	55.32
0	38.44	55.17	0	38.86	54.55	0	38.95	54.41	0	38.59	54.95
1	38.29	55.39	1	38.86	54.55	1	38.97	54.38	1	38.52	55.04
5	38.44	55.17	5	39.04	54.29	5	39.20	54.07	5	38.74	54.72
6	38.45	55.15	6	39.08	54.23	6	39.21	54.05	6	38.75	54.70
10	38.50	55.07	10	39.15	54.13	10	39.34	53.86	10	38.74	54.72
11	38.54	55.02	11	39.08	54.23	11	39.20	54.07	11	38.60	54.93
15	38.59	54.95	15	39.17	54.11	15	39.25	53.99	15	38.50	55.08
16	38.66	54.85	16	39.15	54.13	16	39.30	53.93	16	38.74	54.72
20	38.74	54.71	20	39.18	54.09	20	39.25	53.99	20	38.28	55.40
21	38.77	54.68	21	39.20	54.07	21	39.31	53.91	21	38.29	55.39
25	38.73	54.73	25	39.33	53.88	25	39.47	53.69	25	38.32	55.34
26	38.80	54.63	26	39.28	53.95	26	39.42	53.75	26	38.35	55.30
31	38.91	54.47	31	39.37	53.82	31	39.46	53.70	31	38.33	55.32
40	39.14	54.15	40	39.56	53.56	40	39.57	53.55	40	38.50	55.08
41	39.12	54.17	41	39.56	53.57	41	39.56	53.56	41	38.38	55.25
50	39.43	53.74	50	39.71	53.37	50	39.69	53.39	50	38.37	55.27
51	39.42	53.75	51	39.67	53.32	51	39.70	53.38	51	38.36	55.28
60	39.56	53.56	60	39.87	53.05	60	39.88	53.03	60	38.58	54.96
61	39.61	53.50	61	39.90	53.01	61	39.80	53.15	61	38.56	54.99
71	39.71	53.26	71	39.94	52.95	71	39.79	53.16	71	38.70	54.77

TABLE 3.2-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
80	39.93	52.96	80	39.48	53.67	80	39.98	52.89	80	38.87	54.53
81	39.86	53.06	81	39.49	53.66	81	40.00	52.85	81	38.92	54.46
90	40.22	52.53	90	39.56	53.57	90	40.18	52.60	90	39.05	54.27
91	40.14	52.65	91	39.55	53.58	91	40.16	52.63	91	39.07	54.24
0	40.34	52.35	0	39.33	53.89	0	40.35	52.34	0	39.29	53.94
1	40.36	52.32	1	39.42	53.75	1	40.38	52.29	1	39.28	53.95
10	40.56	52.02	10	39.61	53.50	10	40.51	52.10	10	39.41	53.76
11	40.47	52.15	11	38.91	54.47	11	38.85	54.56	11	38.84	54.57

TABLE 3.2-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	36.66	57.70	22	63.29	-22.03	22	94.35	-212.12	22	94.75	-214.55
22	36.66	57.69	22	63.29	-22.03	22	94.35	-212.12	22	94.80	-214.85
25	36.66	57.69	25	62.99	-20.20	25	94.35	-212.12	25	94.68	-214.15
26	36.65	57.71	26	63.16	-21.21	26	94.35	-212.12	26	94.68	-214.15
30	36.68	57.66	30	62.99	-20.20	30	94.32	-211.92	30	94.63	-213.84
31	36.70	57.63	31	62.99	-20.20	31	94.35	-212.12	31	94.71	-214.35
40	36.72	57.61	40	62.65	-18.12	40	94.52	-213.14	40	94.78	-214.75
41	36.70	57.63	41	62.86	-19.41	41	94.35	-212.12	41	94.68	-214.15
50	36.76	57.56	50	62.99	-20.17	50	94.52	-213.14	50	94.83	-215.06
51	36.80	57.51	51	62.76	-18.79	51	94.62	-213.74	51	94.91	-215.56
60	36.86	57.43	60	62.69	-18.38	60	94.68	-214.15	60	94.99	-216.07
61	36.89	57.39	61	62.99	-20.20	61	93.46	-206.67	61	93.71	-208.18
70	36.90	57.37	70	62.86	-19.41	70	93.36	-206.06	70	93.72	-208.28
71	36.95	57.31	71	62.70	-18.41	71	93.53	-207.07	71	93.77	-208.59
75	37.31	56.82	75	62.91	-19.73	75	93.36	-206.06	75	93.64	-207.78
76	37.28	56.86	76	63.03	-20.41	76	93.46	-206.67	76	93.71	-208.18
80	37.54	56.48	80	63.08	-20.72	80	93.53	-207.07	80	93.76	-208.49
81	37.63	56.35	81	62.98	-20.13	81	93.36	-206.06	81	93.67	-207.98
85	37.88	56.00	85	62.96	-20.02	85	93.46	-206.67	85	93.69	-208.08
86	37.90	55.96	86	63.32	-22.23	86	93.46	-206.67	86	93.74	-208.39
90	38.02	55.79	90	62.73	-18.58	90	93.33	-205.86	90	93.57	-207.38
91	38.12	55.64	91	62.85	-19.32	91	93.36	-206.06	91	93.67	-207.98
95	38.31	55.36	95	62.83	-19.20	95	93.36	-206.06	95	93.67	-207.98
96	38.24	55.45	96	62.50	-17.17	96	93.53	-207.07	96	93.72	-208.28
0	38.50	55.07	0	62.80	-19.01	0	93.49	-206.87	0	93.71	-208.18
1	38.24	55.46	1	62.92	-19.80	1	93.36	-206.06	1	93.62	-207.68
5	38.37	55.27	5	62.92	-19.74	5	93.49	-206.87	5	93.76	-208.49
6	38.50	55.07	6	62.69	-18.38	6	93.49	-206.87	6	93.72	-208.28
10	38.30	55.37	10	63.32	-22.22	10	93.56	-207.27	10	93.82	-208.89
11	38.09	55.68	11	62.99	-20.20	11	93.49	-206.87	11	93.72	-208.28
15	38.12	55.63	15	63.18	-21.33	15	93.46	-206.67	15	93.74	-208.39
16	38.16	55.58	16	63.19	-21.43	16	93.53	-207.07	16	93.79	-208.69
20	38.19	55.53	20	62.82	-19.15	20	93.53	-207.07	20	93.79	-208.69
21	38.22	55.48	21	63.28	-21.98	21	93.46	-206.67	21	93.71	-208.18
25	38.10	55.66	25	62.99	-20.20	25	93.53	-207.07	25	93.79	-208.69
26	38.05	55.73	26	63.30	-22.12	26	93.48	-206.77	26	94.68	-214.15
31	38.04	55.75	31	62.93	-19.82	31	93.51	-206.97	31	93.77	-208.59
40	38.21	55.50	40	62.37	-16.37	40	93.59	-207.48	40	93.81	-208.79
41	38.21	55.50	41	62.37	-16.37	41	93.46	-206.67	41	93.69	-208.08
50	38.37	55.27	50	62.46	-16.98	50	93.53	-207.07	50	93.77	-208.59
51	38.37	55.27	51	62.91	-19.72	51	93.62	-207.68	51	93.86	-209.09
60	38.57	54.98	60	62.66	-18.18	60	93.62	-207.68	60	93.91	-209.40
61	38.56	54.99	61	62.60	-17.79	61	93.66	-207.88	61	93.87	-209.19
71	38.74	54.71	71	62.73	-18.57	71	93.56	-207.27	71	93.84	-208.99

TABLE 3.2-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
80	38.90	54.49	80	62.71	-18.49	80	93.53	-207.07	80	93.81	-208.79
81	38.92	54.46	81	62.99	-20.17	81	93.53	-207.07	81	93.72	-208.28
90	39.05	54.27	90	62.96	-20.01	90	93.53	-207.07	90	93.76	-208.49
91	39.09	54.22	91	62.99	-20.20	91	93.53	-207.07	91	93.81	-208.79
0	39.29	53.94	0	63.32	-22.22	0	93.53	-207.07	0	93.77	-208.59
1	39.28	53.95	1	62.98	-20.12	1	93.53	-207.07	1	93.81	-208.79
10	39.44	53.72	10	63.26	-21.82	10	93.53	-207.07	10	93.74	-208.39
11	38.81	54.62	11	62.99	-20.19	11	93.53	-207.07	11	93.82	-208.89

3.3 Run 10

Run 10 was originally planned as a boil-off and self-pressurization run for the full-tank condition with experimental Configuration 1. Temperature and self-pressurization data were obtained during reactor run 89 with approximately 109 gallons of liquid hydrogen. After persistent difficulties in obtaining boil-off data on this and other runs, a series of special runs was made during which the boil-off data and some self-pressurization data were obtained. These runs are identified as 10(8-1)-105, 10(7-1)-106, etc. and included some made with Configuration 2. The self-pressurization data are presented in this section.

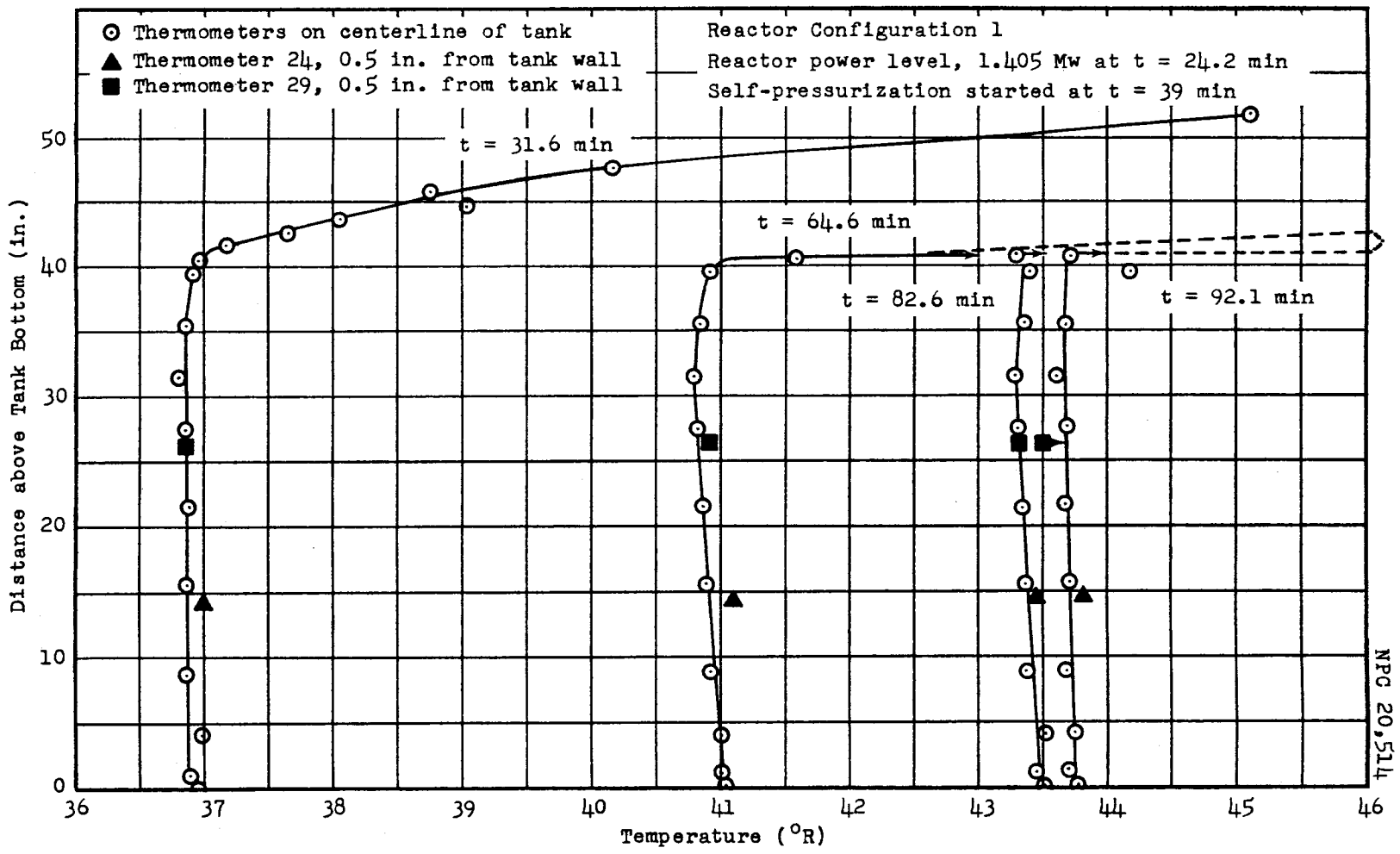

Figure 3.3-1 Temperature Profiles: Run 10-89

NPC 20,514

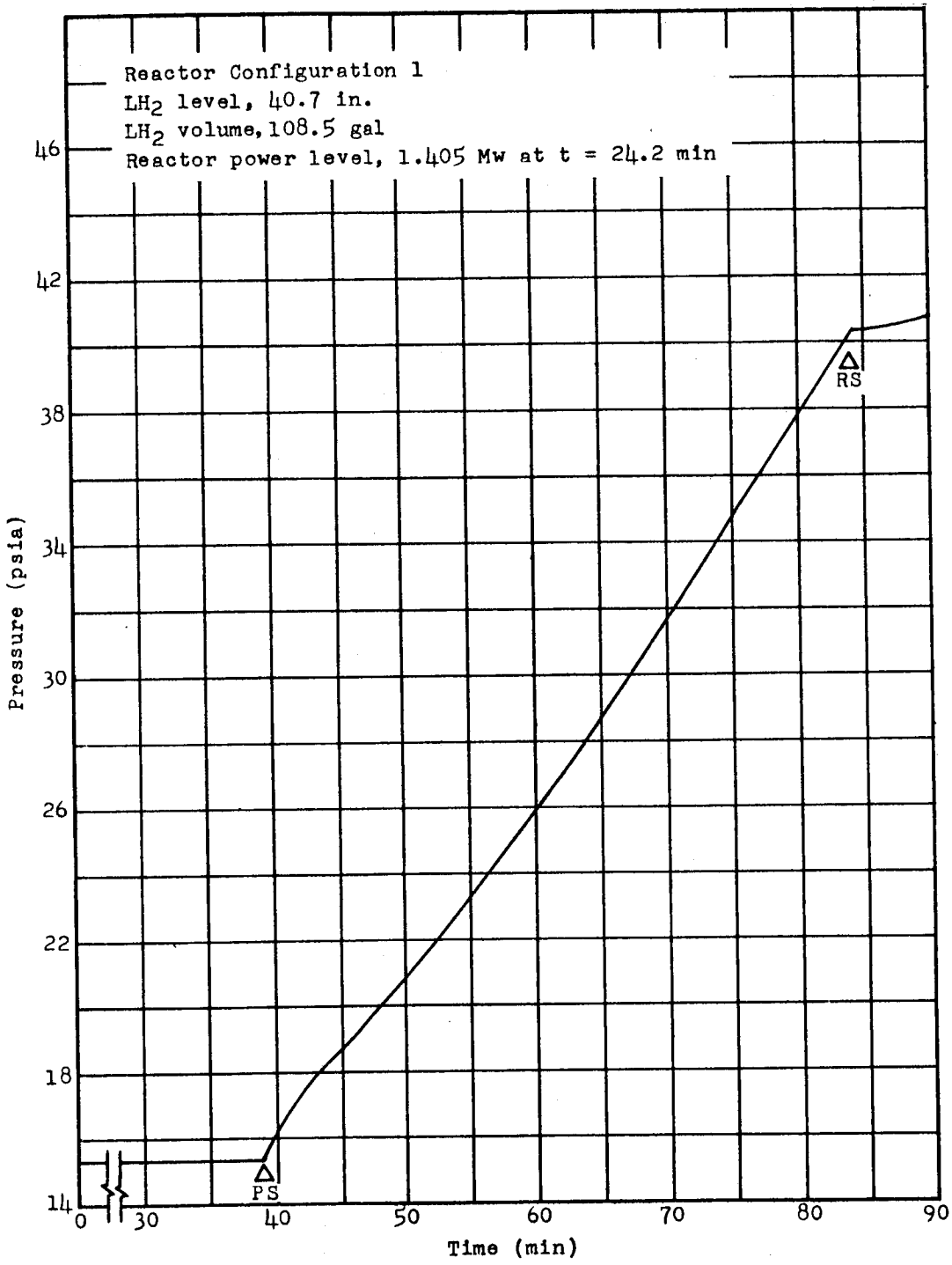

Figure 3.3-2 Self-Pressurization Data: Run 10-89

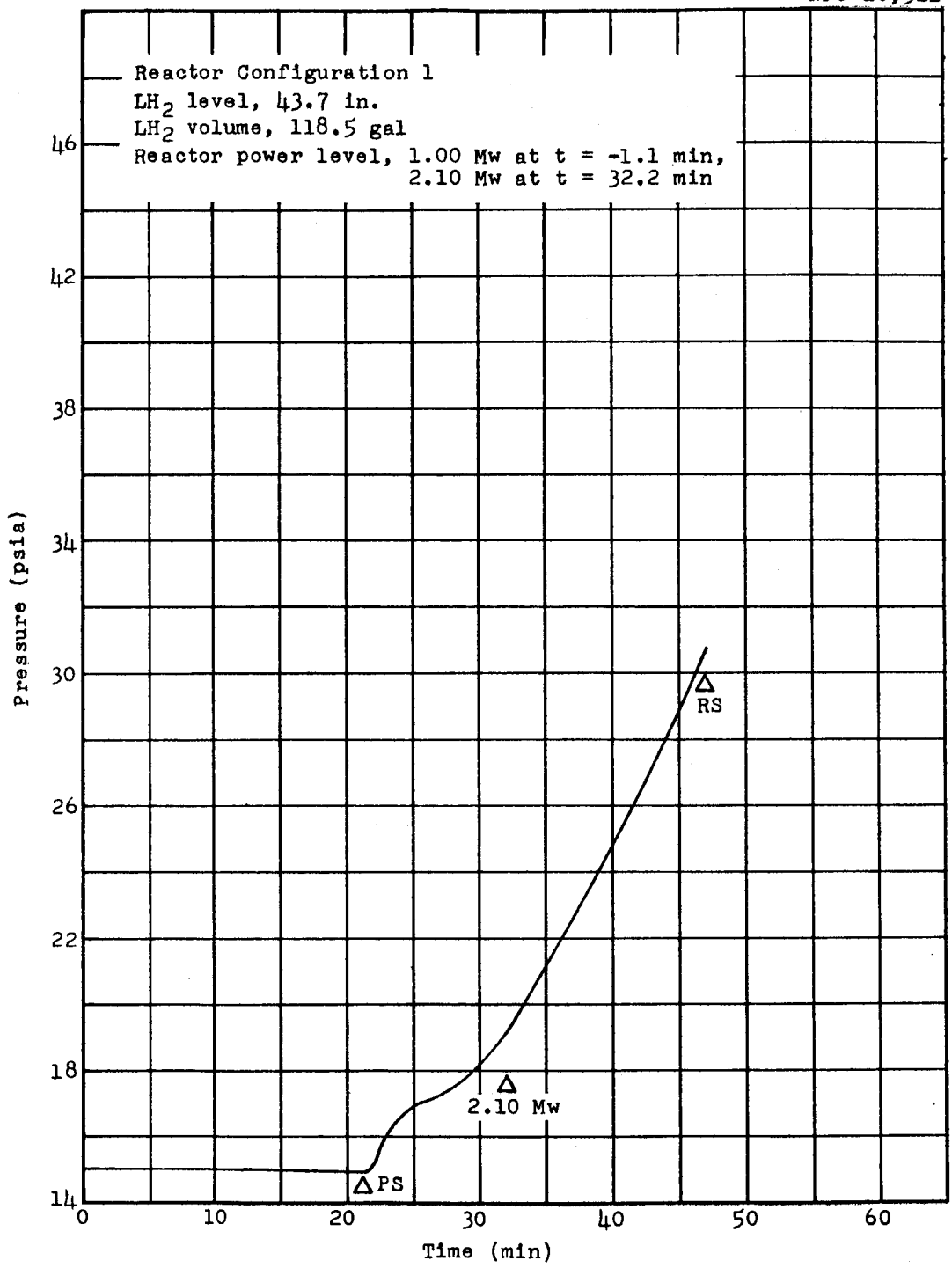

Figure 3.3-3 Self-Pressurization Data: Run 10(8-1)-105

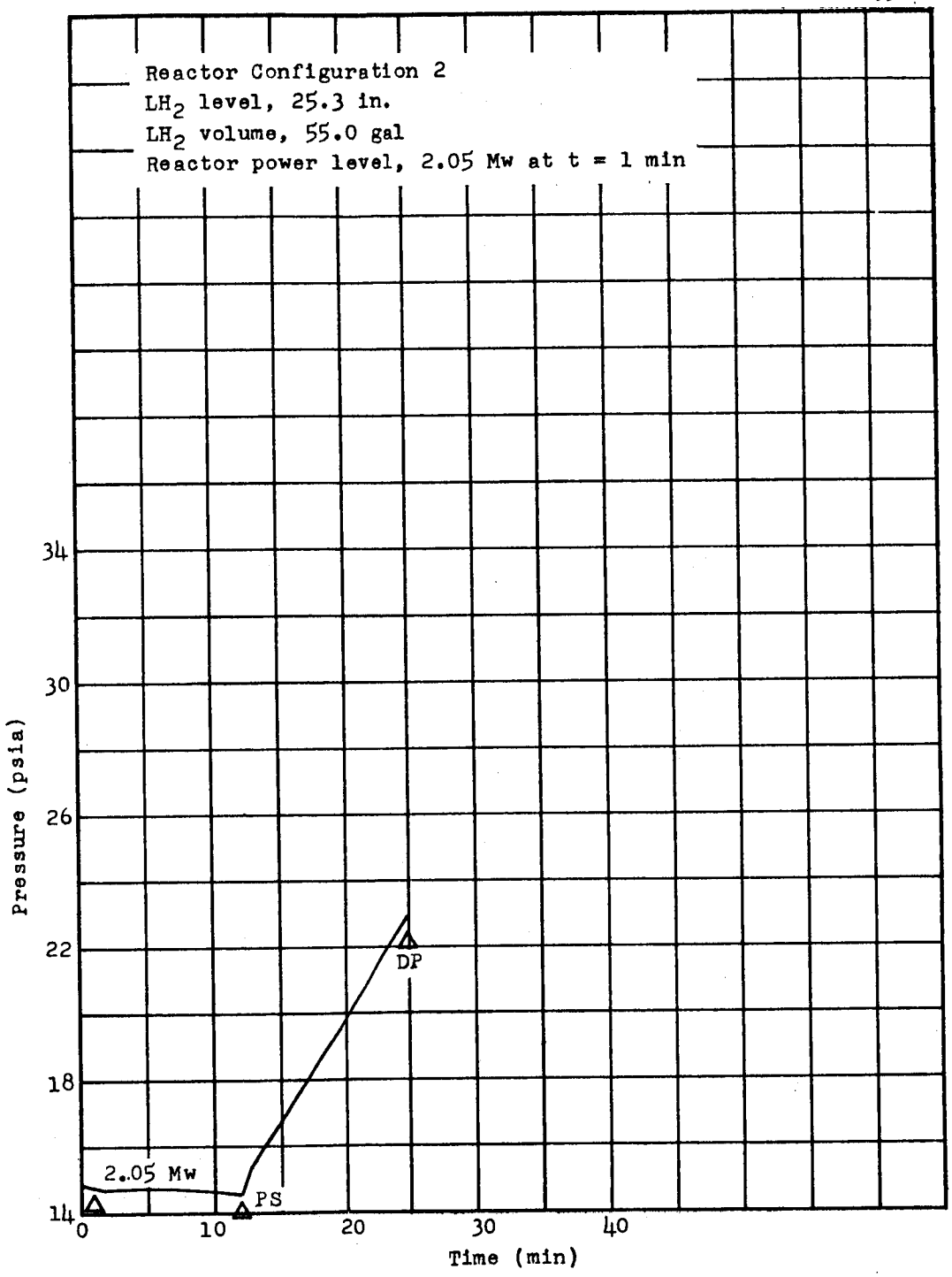

Figure 3.3-4 Self-Pressurization Data: Run 10(3-2)-105

Table 3.3-1

Pressure Data From Run 10-89

Time: 1951.5 to 2133.6 Date: 14 August 1963

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
0	15.3	Timer On	64.0	28.0	
24.2	15.3	1.405 Mw	65.0	28.3	
25.0	15.3		66.0	29.3	
28.0	15.4		67.0	29.9	
34.0	15.4		68.0	30.4	
37.0	15.4		69.0	31.1	
39.0	15.4	PS	70.0	31.6	
40.0	16.2		71.0	32.4	
42.0	17.3		72.0	32.8	
43.0	18.1		73.0	33.5	
46.0	19.2		74.0	34.2	
48.0	19.8		75.0	34.8	
50.0	20.7		76.0	35.0	
51.0	21.3		79.0	37.2	
52.0	21.7		80.0	38.0	
53.0	21.8		81.0	38.4	
54.0	22.9		82.0	39.0	
55.0	23.6		84.0	40.4	
56.0	24.5		84.3	40.4	RS
58.0	24.9		85.0	40.4	
61.0	26.4		86.0	40.5	
62.0	26.9		87.0	40.5	
63.0	27.4		88.0	40.7	

Table 3.3-1 (Continued)

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
89.0	40.8				
90.0	40.8				
92.0	41.1				
92.1	-	DP			

Table 3.3-2

Pressure Data From Run 10(8-1)-105

Time: 1303.7 to 1351 Date: 26 August 1963

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
-3.7	14.4		32.3	19.2	
-1.1	14.4	1.00 Mw	33.3	20.0	
0.0	-	Timer On	34.3	20.6	
0.3	15.0		35.3	21.3	
12.3	15.0		36.3	22.0	
16.3	14.9		37.3	22.9	
21.3	14.9	PS	38.3	23.5	
22.3	15.8		39.3	24.3	
23.3	16.2		40.3	25.2	
24.3	16.5		41.3	26.1	
25.3	17.0		42.3	26.6	
26.3	17.1		43.3	27.4	
27.3	17.2		44.3	28.1	
28.3	17.6		45.3	29.1	
29.3	18.0		46.3	30.4	
30.3	18.3		47.1	-	RS
31.3	18.8		47.3	30.8	
32.2	-	2.10 Mw			

Table 3.3-3

Pressure Data From Run 10(3-2)-105

Time: 1706 to 1730 Date: 26 August 1963

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
0	14.9	Timer On	16.0	17.4	
1.0	14.8	2.05 Mw	16.2	18.0	
2.0	14.7		18.0	18.6	
3.0	14.7		18.2	19.4	
8.0	14.7		20.0	19.8	
12.0	14.6	PS	20.9	20.5	
12.6	15.4		22.0	21.3	
13.0	15.6		22.8	22.0	
13.5	15.9		24.0	22.1	
13.8	16.2		24.2	22.5	
14.3	16.9		25.0	23.1	DP
15.5	17.0				

TABLE 3.3-4 THERMOMETER DATA FOR EXPERIMENTAL RUN 10 - 89

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.76	57.56	0	36.72	57.61	0	36.70	57.63	0	36.77	57.54
0	36.72	57.61	0	36.74	57.59	0	36.70	57.64	0	36.76	57.56
0	36.76	57.56	0	36.73	57.60	0	36.69	57.65	0	36.76	57.56
0	36.76	57.56	0	36.75	57.57	0	36.73	57.60	0	36.78	57.53
10	36.71	57.62	10	36.73	57.60	10	36.73	57.60	10	36.78	57.53
10	36.73	57.60	10	36.72	57.61	10	36.72	57.61	10	36.80	57.50
15	36.81	57.49	15	36.74	57.59	15	36.71	57.62	15	36.78	57.53
15	36.74	57.59	15	36.73	57.60	15	36.69	57.65	15	36.81	57.49
20	36.75	57.57	20	36.75	57.57	20	36.68	57.66	20	36.76	57.56
20	36.80	57.51	20	36.74	57.59	20	36.75	57.57	20	36.76	57.56
25	36.89	57.39	25	36.89	57.39	25	36.82	57.48	25	36.87	57.41
25	36.95	57.31	25	36.90	57.37	25	36.82	57.48	25	36.89	57.39
28	36.90	57.37	28	36.96	57.29	28	36.86	57.43	28	36.97	57.28
28	36.92	57.35	28	36.95	57.31	28	36.89	57.39	28	36.93	57.33
31	36.93	57.34	31	36.95	57.31	31	36.87	57.41	31	36.96	57.30
31	36.93	57.33	31	36.95	57.31	31	36.87	57.41	31	36.96	57.30
34	36.92	57.35	34	36.96	57.29	34	36.89	57.39	34	36.97	57.28
55	39.62	53.49	55	39.66	53.33	55	39.58	53.54	55	39.63	53.47
58	40.09	52.73	58	40.15	52.64	58	40.00	52.86	58	40.07	52.76
58	40.20	52.56	58	40.20	52.57	58	40.10	52.71	58	40.10	52.71
61	40.51	52.10	61	40.59	51.97	61	40.44	52.21	61	40.51	52.10
61	40.60	51.94	61	40.66	51.84	61	40.55	52.04	61	40.55	52.03
64	40.95	51.36	64	41.05	51.20	64	40.94	51.38	64	40.95	51.36
64	41.04	51.22	64	41.13	51.06	64	41.01	51.26	64	41.03	51.23
67	41.39	50.59	67	41.45	50.48	67	41.37	50.62	67	41.40	50.56
67	41.48	50.41	67	41.52	50.34	67	41.42	50.53	67	41.47	50.43
70	41.88	49.65	70	41.87	49.68	70	41.82	49.77	70	41.90	49.62
70	41.87	49.68	70	41.91	49.59	70	41.83	49.75	70	41.85	49.71
73	42.25	48.93	73	42.29	48.84	73	42.17	49.09	73	42.18	49.06
73	42.26	48.90	73	42.31	48.80	73	42.20	49.03	73	42.27	48.89
76	42.62	48.21	76	42.64	48.17	76	42.54	48.36	76	42.62	48.21
76	42.73	47.99	76	42.71	48.02	76	42.68	48.07	76	42.72	48.00
79	43.10	47.29	79	43.10	47.29	79	43.04	47.40	79	43.06	47.35
79	43.14	47.21	79	43.16	47.16	79	43.03	47.41	79	43.08	47.32
82	43.47	46.61	82	43.49	46.57	82	43.44	46.66	82	43.49	46.56
82	43.53	46.50	82	43.53	46.49	82	43.44	46.66	82	43.53	46.50
85	43.66	46.28	85	43.66	46.27	85	43.64	46.30	85	43.65	46.29
85	43.66	46.27	85	43.61	46.17	85	43.64	46.30	85	43.60	46.19
88	43.63	46.15	88	43.66	46.11	88	43.69	46.21	88	43.64	46.14
88	43.64	46.14	88	43.70	46.07	88	43.70	46.20	88	43.66	46.11
91	43.70	46.06	91	43.74	46.01	91	43.69	46.08	91	43.75	46.00
92	43.73	46.03	92	43.78	45.97	92	43.68	46.09	92	43.73	46.03
94	41.05	51.20	94	41.05	51.19	94	41.03	51.23	94	41.09	51.13
94	40.55	52.03	94	40.52	52.08	94	40.50	52.11	94	40.58	51.99

TABLE 3.3-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
97	37.54	56.48	97	37.52	56.51	97	37.53	56.50	97	37.60	56.40
97	37.32	56.80	97	37.30	56.83	97	37.30	56.83	97	37.36	56.75
3	36.63	57.73	3	36.63	57.73	3	36.63	57.74	3	36.67	57.67
3	36.66	57.70	3	36.66	57.70	3	36.64	57.72	3	36.67	57.67

TABLE 3.3-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.70	57.63	0	37.92	55.93	0	36.72	57.61	0	36.72	57.61
0	36.70	57.64	0	37.94	55.90	0	36.67	57.67	0	36.73	57.60
0	36.65	57.71	0	37.96	55.88	0	36.74	57.59	0	36.73	57.60
0	36.70	57.64	0	37.94	55.90	0	36.72	57.61	0	36.73	57.60
10	36.70	57.64	10	37.94	55.90	10	36.72	57.61	10	36.75	57.57
10	36.70	57.63	10	37.95	55.89	10	36.65	57.71	10	36.72	57.61
15	36.74	57.59	15	37.96	55.88	15	36.70	57.64	15	36.75	57.57
15	36.65	57.71	15	37.93	55.92	15	36.68	57.66	15	36.74	57.58
20	36.65	57.71	20	37.91	55.95	20	36.70	57.63	20	36.72	57.61
20	36.70	57.64	20	37.94	55.90	20	36.72	57.61	20	36.74	57.59
25	36.80	57.50	25	38.01	55.81	25	36.80	57.51	25	36.81	57.49
25	36.81	57.49	25	38.01	55.80	25	36.78	57.53	25	36.80	57.50
28	36.80	57.51	28	38.06	55.72	28	36.84	57.45	28	36.87	57.41
28	36.83	57.47	28	38.05	55.73	28	36.82	57.48	28	36.85	57.44
31	36.86	57.43	31	38.05	55.74	31	36.84	57.45	31	36.87	57.41
31	36.84	57.45	31	38.06	55.72	31	36.86	57.43	31	36.89	57.39
34	36.83	57.47	34	38.05	55.74	34	36.84	57.45	34	36.84	57.45
55	39.49	53.66	55	40.58	51.99	55	39.50	53.65	55	39.50	53.65
58	39.96	52.92	58	40.99	51.29	58	39.90	53.01	58	39.88	53.04
58	39.95	52.93	58	41.04	51.22	58	39.98	52.89	58	39.95	52.93
61	40.34	52.36	61	41.39	50.58	61	40.42	52.24	61	40.36	52.33
61	40.46	52.18	61	41.47	50.43	61	40.42	52.23	61	40.43	52.22
64	40.89	51.47	64	41.79	49.82	64	40.84	51.56	64	40.82	51.59
64	40.94	51.39	64	34.81	59.84	64	40.91	51.43	64	40.88	51.48
67	41.32	50.71	67	42.19	49.04	67	41.27	50.79	67	41.25	50.83
67	41.34	50.67	67	42.26	48.90	67	41.31	50.73	67	41.34	50.67
70	41.69	50.02	70	42.58	48.28	70	41.70	50.00	70	41.64	50.11
70	41.77	49.86	70	42.66	48.11	70	41.73	49.93	70	41.73	49.94
73	42.11	49.21	73	42.99	47.49	73	42.09	49.25	73	42.09	49.24
73	42.21	49.01	73	43.05	47.38	73	42.14	49.15	73	42.12	49.19
76	42.55	48.34	76	43.42	46.69	76	42.45	48.53	76	42.47	48.49
76	42.61	48.22	76	43.45	46.63	76	42.57	48.30	76	42.53	48.38
79	42.98	47.50	79	43.89	45.82	79	42.90	47.66	79	42.88	47.69
79	42.96	47.54	79	43.87	45.85	79	42.95	47.56	79	42.96	47.55
82	43.36	46.79	82	44.40	45.06	82	43.33	46.85	82	43.31	46.88
82	43.36	46.80	82	44.40	45.07	82	43.37	46.78	82	43.34	46.83
85	43.53	46.49	85	44.69	44.56	85	43.62	46.34	85	43.60	46.38
85	43.62	46.34	85	44.68	44.57	85	43.60	46.37	85	43.60	46.38
88	43.67	46.26	88	44.74	44.46	88	43.68	46.22	88	43.67	46.26
88	43.68	46.22	88	44.76	44.42	88	43.70	46.20	88	43.67	46.25
91	43.65	46.13	91	44.79	44.37	91	43.70	46.07	91	43.62	46.16
92	43.66	46.11	92	44.82	44.30	92	43.70	46.07	92	43.66	46.11
94	41.02	51.24	94	41.95	49.52	94	40.98	51.32	94	40.97	51.33
94	40.53	52.06	94	41.47	50.43	94	40.55	52.04	94	40.42	52.23

TABLE 3.3-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
97	37.51	56.53	97	38.68	54.80	97	37.46	56.60	97	37.51	56.53
97	37.30	56.83	97	38.50	55.08	97	37.24	56.92	97	37.28	56.86
3	36.56	57.82	3	37.85	56.04	3	36.57	57.81	3	36.64	57.72
3	36.56	57.82	3	37.86	56.02	3	36.63	57.74	3	36.63	57.73

TABLE 3.3-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.72	57.61	0	36.64	57.72	0	36.73	57.60	0	36.84	57.46
0	36.69	57.65	0	36.65	57.71	0	36.71	57.62	0	36.84	57.46
0	36.70	57.64	0	36.66	57.69	0	36.75	57.57	0	36.87	57.41
0	36.70	57.64	0	36.65	57.71	0	36.74	57.58	0	36.84	57.46
10	36.72	57.61	10	36.63	57.73	10	36.73	57.60	10	36.83	57.47
10	36.69	57.65	10	36.66	57.70	10	36.74	57.59	10	36.86	57.43
15	36.71	57.62	15	36.66	57.69	15	36.73	57.60	15	36.87	57.41
15	36.70	57.64	15	36.66	57.70	15	36.75	57.57	15	36.86	57.43
20	36.72	57.61	20	36.64	57.72	20	36.68	57.66	20	36.87	57.41
20	36.66	57.69	20	36.65	57.71	20	36.71	57.62	20	36.84	57.46
25	36.73	57.60	25	36.72	57.61	25	36.81	57.49	25	36.90	57.38
25	36.78	57.53	25	36.74	57.59	25	36.80	57.50	25	36.92	57.35
28	36.80	57.51	28	36.74	57.58	28	36.80	57.50	28	36.95	57.31
28	36.80	57.50	28	36.80	57.51	28	36.84	57.45	28	36.96	57.29
31	36.89	57.39	31	36.80	57.51	31	36.85	57.44	31	36.94	57.32
31	36.81	57.49	31	36.79	57.52	31	36.84	57.45	31	36.91	57.36
34	36.81	57.49	34	36.80	57.51	34	36.85	57.44	34	36.90	57.38
55	39.47	53.69	55	39.41	53.77	55	39.51	53.63	56	39.58	53.54
58	39.85	53.07	58	39.79	53.16	58	39.85	53.07	58	39.96	52.92
58	39.90	53.01	58	39.86	53.06	58	39.91	52.99	58	40.04	52.80
61	40.36	52.32	61	40.28	52.44	61	40.34	52.35	61	40.47	52.15
61	40.42	52.24	61	40.34	52.36	61	40.42	52.23	61	40.53	52.07
64	40.79	51.63	64	40.76	51.68	64	40.85	51.53	64	40.89	51.46
64	40.85	51.54	64	40.81	51.60	64	40.85	51.54	64	40.96	51.35
67	41.25	50.84	67	41.21	50.90	67	41.28	50.78	67	41.37	50.62
67	41.34	50.68	67	41.25	50.83	67	41.32	50.70	67	41.37	50.61
70	41.64	50.11	70	41.61	50.18	70	41.69	50.02	70	41.73	49.93
70	41.72	49.96	70	41.69	50.01	71	41.74	49.92	71	41.81	49.79
73	42.05	49.33	73	42.02	49.38	73	42.10	49.22	73	42.16	49.11
73	42.11	49.21	73	42.07	49.29	73	42.13	49.16	73	42.20	49.03
76	42.46	48.51	76	42.42	48.60	76	42.52	48.40	76	42.57	48.31
76	42.52	48.40	76	42.47	48.50	76	42.54	48.35	76	42.61	48.23
79	42.87	47.71	79	42.84	47.77	79	42.90	47.65	79	42.93	47.60
79	42.92	47.61	79	42.87	47.72	79	42.99	47.49	79	42.98	47.50
82	43.28	46.94	82	43.24	47.02	82	43.34	46.84	82	43.36	46.79
82	43.35	46.81	52	43.32	46.87	82	43.37	46.78	82	43.43	46.67
85	43.59	46.40	85	43.53	46.49	85	43.64	46.31	85	43.61	46.17
85	43.61	46.35	85	43.53	46.49	85	43.66	46.28	85	43.61	46.17
88	43.64	46.30	88	43.63	46.33	88	43.63	46.15	88	43.70	46.06
88	43.60	46.18	88	43.65	46.29	88	43.65	46.13	88	43.69	46.08
91	43.63	46.15	91	43.60	46.19	91	43.67	46.10	91	43.79	45.95
92	43.68	46.09	92	43.60	46.19	92	43.67	46.10	92	44.16	45.45
94	40.96	51.35	94	40.86	51.51	94	40.94	51.38	94	40.99	51.30
94	40.48	52.14	94	40.35	52.34	94	40.42	52.24	94	40.42	52.23

TABLE 3.3-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
97	37.47	56.59	97	37.42	56.66	97	37.47	56.58	97	37.54	56.48
97	37.26	56.89	97	37.19	56.99	97	37.24	56.91	97	37.32	56.81
3	36.57	57.81	3	36.55	57.84	3	36.57	57.81	3	36.88	57.40
3	36.61	57.76	3	36.54	57.85	3	36.64	57.72	3	36.96	57.29

TABLE 3.3-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.89	57.39	0	37.61	56.38	0	38.97	54.38	0	39.62	53.48
0	36.84	57.46	0	37.54	56.48	0	38.99	54.36	0	39.72	53.35
0	36.75	57.57	0	37.59	56.41	0	39.31	53.91	0	40.22	52.53
0	36.71	57.62	0	37.59	56.41	0	39.34	53.86	0	40.28	52.44
10	36.70	57.64	10	37.52	56.51	10	39.37	53.82	10	40.55	52.04
10	36.70	57.63	10	37.53	56.50	10	39.34	53.86	11	40.55	52.04
15	36.73	57.60	15	37.48	56.57	15	39.42	53.75	15	40.66	51.84
15	36.71	57.62	15	37.54	56.49	15	39.40	53.78	15	40.67	51.83
20	36.71	57.62	20	37.55	56.47	20	39.44	53.73	20	40.80	51.62
20	36.74	57.59	20	37.54	56.48	20	39.41	53.76	20	40.84	51.55
25	36.92	57.35	25	37.26	56.89	25	38.48	55.10	25	39.80	53.15
25	36.89	57.39	25	37.26	56.89	25	38.19	55.53	25	39.12	54.18
28	36.96	57.29	28	37.17	57.01	28	37.68	56.28	28	37.95	55.89
28	36.96	57.30	28	37.22	56.95	28	37.68	56.29	28	37.95	55.89
31	36.96	57.29	31	37.19	56.99	31	37.65	56.33	31	38.02	55.79
31	36.96	57.29	31	37.16	57.03	31	37.64	56.34	32	38.07	55.71
34	36.99	57.25	34	37.27	56.88	34	37.68	56.28	34	38.05	55.73
56	43.24	47.01	56	51.64	26.47	56	56.78	10.35	56	59.93	-1.50
58	43.15	47.18	58	52.46	23.69	58	58.50	4.23	58	61.67	-12.11
58	43.08	47.31	58	52.28	23.96	59	58.87	2.93	59	61.87	-13.32
61	42.25	48.92	61	52.90	23.04	61	60.13	-2.69	61	63.45	-23.03
61	42.40	48.64	61	52.88	23.06	61	60.15	-2.83	61	63.70	-24.54
64	41.59	50.21	64	53.09	22.76	64	60.91	-7.44	64	64.97	-32.34
64	41.54	50.31	64	53.17	22.63	64	60.97	-7.83	65	65.09	-33.06
67	41.36	50.64	67	51.68	25.07	67	61.34	-10.11	67	66.29	-40.41
67	41.36	50.63	67	51.77	24.85	67	61.43	-10.64	67	66.52	-41.83
70	41.69	50.02	70	51.24	27.90	70	61.61	-11.72	70	67.50	-47.80
71	41.73	49.93	71	51.37	27.50	71	61.72	-12.42	71	67.35	-46.86
73	42.05	49.33	73	50.87	29.11	73	61.57	-11.50	73	68.21	-52.13
73	42.06	49.30	74	50.61	29.90	74	61.73	-12.50	74	68.25	-52.41
76	42.41	48.61	76	49.70	32.31	76	61.59	-11.61	76	68.87	-56.20
76	42.50	48.44	76	49.62	32.50	76	61.59	-11.64	77	68.92	-56.47
79	42.84	47.78	79	48.23	35.69	79	61.24	-9.46	79	69.12	-57.71
79	42.88	47.70	79	48.17	35.85	79	61.53	-11.24	79	69.03	-57.15
82	43.25	47.00	82	46.21	40.40	82	60.08	-2.36	82	68.50	-53.91
82	43.31	46.88	82	45.68	42.03	82	59.87	-1.07	82	68.51	-53.98
85	43.59	46.40	85	45.41	42.84	85	58.22	5.22	85	67.13	-45.56
85	43.58	46.41	85	45.41	42.84	85	58.41	4.55	86	67.10	-45.35
88	43.64	46.30	88	45.34	43.04	88	57.47	7.90	88	66.25	-40.14
88	43.65	46.29	88	45.18	43.47	88	57.46	7.93	88	66.16	-39.62
91	43.70	46.20	91	44.97	43.98	91	56.64	10.85	91	65.45	-35.27
92	43.62	46.16	92	45.07	43.75	92	56.39	11.72	92	65.22	-33.86
94	40.79	51.63	94	40.86	51.51	94	40.76	51.68	94	40.76	51.69
94	40.27	52.46	94	40.27	52.46	94	40.25	52.49	94	40.24	52.51

TABLE 3.3-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
97	37.39	56.70	97	37.36	56.75	97	37.37	56.74	97	37.44	56.62
97	37.17	57.01	97	37.13	57.06	97	37.13	57.06	98	37.22	56.94
3	36.62	57.75	3	37.04	57.19	3	37.67	56.30	3	37.82	56.08
3	36.66	57.70	4	37.10	57.11	4	37.73	56.21	4	37.93	55.92

TABLE 3.3-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	41.01	51.27	0	41.15	51.02	0	45.38	42.95	0	93.69	-208.08
0	41.02	51.25	0	41.24	50.85	0	45.51	42.56	0	93.86	-209.09
0	41.88	49.66	0	42.46	48.52	0	46.60	39.41	0	93.69	-208.08
0	41.93	49.56	0	42.56	48.32	0	46.71	39.15	0	93.86	-209.09
10	42.34	48.75	10	43.34	46.84	10	47.70	37.46	10	93.69	-208.08
11	42.42	48.59	11	43.36	46.80	11	47.74	37.27	11	93.69	-208.08
15	42.65	48.13	15	43.74	46.02	15	48.06	36.16	15	93.69	-208.08
16	42.67	48.10	16	43.88	45.84	16	48.09	36.06	16	93.86	-209.09
20	42.90	47.65	20	44.32	45.20	20	48.49	35.05	20	93.86	-209.09
20	42.90	47.65	20	44.34	45.16	21	48.49	35.06	21	93.95	-209.70
25	41.87	49.68	25	43.10	47.28	25	46.88	38.82	25	67.84	-49.87
25	41.24	50.66	25	42.41	48.62	25	46.32	40.10	25	65.05	-32.80
26	39.15	54.13	28	38.85	54.56	28	40.66	51.84	28	50.10	31.32
26	39.10	54.21	26	38.85	54.56	29	40.51	52.09	29	48.75	34.45
31	39.02	54.31	31	38.68	54.80	31	40.16	52.63	31	45.11	43.65
32	39.05	54.27	32	38.84	54.57	32	40.16	52.63	32	45.06	43.76
34	39.15	54.14	34	38.81	54.61	34	40.14	52.65	34	45.11	43.66
56	59.69	-0.	56	64.45	-29.11	56	69.15	-57.87	56	93.86	-209.09
58	59.69	-0.	58	67.22	-46.05	58	72.42	-77.90	58	93.82	-208.89
59	59.69	-0.	59	67.57	-48.24	59	72.65	-80.57	59	93.86	-209.09
61	59.69	-0.	61	70.31	-64.98	61	76.05	-100.10	61	93.69	-208.08
62	59.69	-0.	62	70.62	-66.89	62	76.53	-103.08	62	93.79	-208.69
64	59.69	-0.	64	73.18	-82.56	64	79.57	-121.68	64	93.69	-208.08
65	59.69	-0.	65	73.39	-83.87	65	80.07	-124.71	65	93.86	-209.09
67	59.69	-0.	67	75.73	-98.14	67	83.01	-142.70	67	93.86	-209.09
66	59.69	-0.	68	76.13	-100.62	68	83.32	-144.62	68	93.89	-209.30
70	59.69	-0.	70	78.28	-113.79	70	86.28	-162.71	70	93.79	-208.69
71	59.69	-0.	71	78.58	-115.61	71	86.61	-164.73	71	93.95	-209.70
73	59.69	-0.	73	80.48	-127.23	73	89.17	-180.39	73	93.69	-208.08
74	59.69	-0.	74	80.84	-129.46	74	89.35	-181.50	74	93.86	-209.09
76	59.69	-0.	76	82.51	-139.66	76	91.77	-196.36	76	93.86	-209.09
77	59.69	-0.	77	82.71	-140.88	77	92.15	-198.68	77	94.02	-210.10
79	59.69	-0.	79	84.23	-150.18	79	93.79	-208.69	79	93.95	-209.70
79	59.69	-0.	80	84.48	-151.69	80	93.82	-208.89	80	94.07	-210.41
82	78.28	-113.79	82	85.20	-156.14	82	93.69	-208.08	82	94.00	-210.00
82	78.02	-112.18	82	85.38	-157.25	83	93.82	-208.89	83	94.09	-210.51
85	77.77	-110.66	85	85.19	-156.04	85	93.69	-208.08	85	94.00	-210.00
86	77.66	-109.95	86	85.12	-155.63	86	93.69	-208.08	86	94.05	-210.31
88	59.69	-0.	88	84.31	-150.68	88	93.69	-208.08	88	93.97	-209.80
89	59.69	-0.	89	84.11	-149.47	89	93.84	-208.99	89	94.12	-210.71
91	59.69	-0.	91	83.27	-144.31	91	93.86	-209.09	91	94.12	-210.71
92	59.69	-0.	92	82.99	-142.60	92	93.92	-209.50	92	94.17	-211.01
94	41.31	50.72	94	40.72	51.75	94	41.03	51.23	94	41.89	49.64
94	40.85	51.54	95	40.22	52.54	95	40.45	52.19	95	41.48	50.41

TABLE 3.3-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
97	38.07	55.70	97	37.56	56.45	97	37.86	56.03	97	39.20	54.06
98	37.97	55.86	98	37.33	56.79	98	37.94	55.91	98	39.41	53.76
3	38.63	54.89	3	38.12	55.63	3	38.62	54.90	3	57.45	7.97
4	38.76	54.69	4	38.18	55.55	4	38.74	54.72	4	59.32	1.31

TABLE 3.3-4 (Cont'd)

THERMOMETER 21

TIME	TEMP	VOLTAGE
0	36.74	57.59
0	36.75	57.57
0	36.74	57.58
0	36.74	57.58
10	36.74	57.59
11	36.77	57.55
15	36.75	57.57
16	36.72	57.61
20	36.72	57.61
21	36.75	57.57
25	36.82	57.48
25	36.81	57.49
28	36.84	57.45
29	36.86	57.43
31	36.86	57.43
32	36.86	57.43
34	36.85	57.44
56	39.55	53.58
58	39.93	52.96
59	40.00	52.86
61	40.41	52.25
62	40.49	52.13
64	40.94	51.39
65	40.94	51.39
67	41.30	50.74
68	41.36	50.63
70	41.75	49.90
71	41.79	49.83
73	42.14	49.14
74	42.26	48.91
76	42.51	48.42
77	42.56	48.32
79	42.92	47.62
80	59.69	-0.
82	59.69	-0.
83	59.69	-0.
85	59.69	-0.
86	59.69	-0.
88	43.60	46.18
89	43.60	46.19
91	43.70	46.07
92	43.68	46.09
94	40.77	51.66
95	40.28	52.45

THERMOMETER 22

TIME	TEMP	VOLTAGE
0	36.74	57.59
0	36.73	57.60
0	36.73	57.60
0	36.73	57.60
10	36.73	57.60
11	36.75	57.57
15	36.75	57.57
16	36.74	57.58
20	36.74	57.59
21	36.74	57.58
25	36.80	57.51
25	36.83	57.47
28	36.85	57.44
29	36.84	57.46
31	36.89	57.39
32	36.85	57.44
34	36.87	57.41
56	39.59	53.53
58	39.93	52.96
59	40.06	52.77
61	40.49	52.12
62	40.52	52.08
64	40.98	51.32
65	40.97	51.34
67	41.34	50.68
68	41.38	50.60
70	41.76	49.89
71	41.80	49.81
73	42.17	49.08
74	42.21	49.00
76	42.54	48.35
77	42.59	48.27
79	42.94	47.58
80	43.00	47.47
82	43.36	46.80
83	43.39	46.74
85	43.61	46.35
86	43.63	46.33
88	43.69	46.21
89	43.60	46.19
91	43.67	46.10
92	43.71	46.05
94	40.78	51.65
95	40.28	52.44

THERMOMETER 23

TIME	TEMP	VOLTAGE
0	36.81	57.49
0	36.81	57.49
0	36.82	57.48
0	36.81	57.49
10	36.83	57.47
11	36.82	57.48
15	36.79	57.52
16	36.82	57.48
20	36.82	57.48
21	36.79	57.52
25	36.87	57.42
25	36.87	57.41
28	36.93	57.33
29	36.91	57.36
31	36.95	57.31
32	36.92	57.35
34	36.96	57.30
56	39.72	53.35
58	40.00	52.85
59	40.17	52.61
61	40.58	51.98
62	40.62	51.91
64	41.00	51.28
65	41.01	51.26
67	41.40	50.57
68	41.43	50.50
70	41.81	49.78
71	41.84	49.73
73	42.23	48.97
74	42.27	48.88
76	42.57	48.31
77	42.62	48.20
79	42.99	47.49
80	43.04	47.40
82	43.39	46.75
83	43.48	46.59
85	43.68	46.22
86	43.68	46.22
88	43.68	46.09
89	43.68	46.09
91	43.78	45.97
92	43.75	46.00
94	40.82	51.59
95	40.28	52.45

THERMOMETER 24

TIME	TEMP	VOLTAGE
0	36.84	57.45
0	36.80	57.50
0	36.83	57.47
0	36.84	57.46
10	36.85	57.44
11	36.80	57.50
15	36.87	57.41
16	36.80	57.50
20	36.86	57.43
21	36.83	57.47
25	36.91	57.36
25	36.93	57.34
28	36.97	57.28
29	36.96	57.29
31	37.01	57.23
32	36.99	57.25
34	36.94	57.32
56	39.72	53.35
58	40.07	52.76
59	40.20	52.56
61	40.61	51.92
62	40.61	51.92
64	41.08	51.15
65	41.08	51.14
67	41.48	50.42
68	41.51	50.37
70	41.86	49.70
71	41.90	49.62
72	42.22	48.99
74	42.29	48.85
76	42.61	48.22
77	42.66	48.11
79	43.00	47.47
80	43.05	47.38
82	43.45	46.64
83	43.49	46.57
85	43.60	46.19
86	43.60	46.19
88	43.70	46.06
89	43.74	46.02
91	43.77	45.98
92	43.80	45.94
94	40.85	51.53
95	40.35	52.34

TABLE 3.3-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
97	37.42	56.65	97	37.43	56.64	97	37.49	56.56	97	37.51	56.53
98	37.22	56.95	98	37.24	56.92	98	37.28	56.86	98	37.32	56.81
3	36.64	57.72	3	36.66	57.70	3	36.68	57.66	3	36.73	57.60
4	36.65	57.71	4	36.63	57.73	4	36.70	57.63	4	36.73	57.60

TABLE 3.3-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.68	56.29	0	36.69	57.65	0	36.69	57.65	0	36.66	57.70
0	37.65	56.33	0	36.69	57.65	0	36.67	57.67	0	36.69	57.65
0	37.59	56.41	0	36.69	57.65	0	36.67	57.67	0	36.70	57.64
0	37.66	56.31	0	36.69	57.65	0	36.67	57.67	0	36.69	57.65
10	37.75	56.18	10	36.73	57.60	10	36.65	57.71	10	36.68	57.66
11	37.61	56.39	11	36.70	57.63	11	36.67	57.67	11	36.69	57.65
15	37.68	56.29	15	36.69	57.65	15	36.69	57.65	15	36.68	57.66
16	37.68	56.28	16	36.71	57.62	16	36.69	57.65	16	36.67	57.67
20	37.69	56.27	20	36.75	57.57	20	36.65	57.71	20	36.69	57.65
21	37.68	56.28	21	36.70	57.64	21	36.69	57.65	21	36.68	57.66
25	37.68	56.29	25	36.73	57.60	25	36.70	57.64	25	36.75	57.57
25	37.77	56.16	25	36.81	57.49	25	36.77	57.55	25	36.76	57.56
26	37.79	56.13	28	36.81	57.49	28	36.80	57.51	28	36.79	57.52
29	37.79	56.13	29	36.82	57.48	29	36.75	57.57	29	36.78	57.53
31	37.90	55.97	31	36.81	57.49	31	36.80	57.50	31	36.82	57.48
32	37.79	56.13	32	36.84	57.45	32	36.80	57.50	32	36.84	57.45
34	37.82	56.08	34	36.84	57.46	34	36.82	57.48	34	36.80	57.51
56	40.41	52.25	56	39.56	53.57	56	39.46	53.70	56	39.49	53.66
58	40.83	51.57	58	39.89	53.02	58	39.88	53.03	58	39.92	52.98
59	40.95	51.37	59	39.89	53.02	59	39.95	52.93	59	39.93	52.96
61	41.19	50.94	61	40.37	52.31	61	40.38	52.29	61	40.39	52.28
62	41.34	50.67	62	40.46	52.17	62	40.44	52.21	62	40.47	52.15
64	41.67	50.06	64	40.81	51.60	64	40.87	51.50	64	40.83	51.57
65	41.79	49.82	65	40.85	51.53	65	40.88	51.48	65	40.87	51.50
67	42.00	49.42	67	41.24	50.85	67	41.26	50.81	67	41.26	50.82
68	42.12	49.19	68	41.32	50.70	68	41.33	50.69	68	41.31	50.72
70	42.41	48.61	70	41.68	50.04	70	41.70	50.00	70	41.73	49.93
71	42.54	48.36	71	41.71	49.98	71	41.76	49.89	71	41.73	49.94
73	42.82	47.80	73	42.09	49.25	73	42.08	49.26	73	42.05	49.32
74	42.85	47.76	74	42.15	49.13	74	42.10	49.22	74	42.17	49.08
76	43.28	46.94	76	42.52	48.40	76	42.51	48.42	76	42.50	48.43
77	43.30	46.91	77	42.52	48.40	77	42.53	48.38	77	42.50	48.43
79	43.68	46.22	79	42.88	47.69	79	42.87	47.71	79	42.93	47.60
80	43.60	46.18	80	42.93	47.60	80	42.96	47.55	80	42.94	47.59
82	44.21	45.38	82	43.31	46.88	82	43.32	46.87	82	43.31	46.89
83	44.21	45.38	83	43.36	46.80	83	43.34	46.83	83	43.37	46.78
85	44.50	44.90	85	43.60	46.38	85	43.59	46.40	85	43.58	46.41
86	44.49	44.91	86	43.60	46.38	86	43.59	46.40	86	43.58	46.41
88	44.52	44.86	88	43.64	46.30	88	43.65	46.29	88	43.64	46.31
89	44.57	44.77	89	43.68	46.23	89	43.68	46.23	89	43.66	46.28
91	44.52	44.87	91	43.65	46.13	91	43.60	46.19	91	43.62	46.16
92	44.57	44.78	92	43.58	46.41	92	43.43	46.67	92	43.44	46.66
94	41.51	50.37	94	40.67	51.83	94	40.65	51.87	94	40.61	51.92
95	41.10	51.11	95	40.20	52.56	95	40.12	52.69	95	40.10	52.71

TABLE 3.3-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
97	38.35	55.29	97	37.38	56.71	97	37.34	56.78	97	37.34	56.77
98	38.14	55.61	98	37.19	56.99	98	37.14	57.05	98	37.13	57.06
3	37.49	56.55	3	36.57	57.81	3	36.55	57.83	3	36.57	57.81
4	37.61	56.38	4	36.59	57.79	4	36.59	57.79	4	36.57	57.81

TABLE 3.3-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.69	57.65	0	62.46	-16.97	0	93.69	-208.08	0	94.02	-210.10
0	36.70	57.64	0	62.50	-17.18	0	93.86	-209.09	0	94.15	-210.91
0	36.70	57.64	0	62.50	-17.17	0	93.69	-208.08	0	94.07	-210.41
0	36.70	57.64	0	62.53	-17.38	0	93.89	-209.30	0	94.19	-211.11
10	36.70	57.64	10	62.50	-17.17	10	93.69	-208.08	10	94.00	-210.00
11	36.70	57.63	11	62.77	-18.85	11	93.79	-208.69	11	94.07	-210.41
15	36.70	57.63	15	62.68	-18.28	15	93.69	-208.08	15	94.04	-210.20
16	36.69	57.65	16	62.37	-16.38	16	93.86	-209.09	16	94.15	-210.91
20	36.72	57.61	20	62.33	-16.17	20	93.86	-209.09	20	94.15	-210.91
21	36.71	57.62	21	62.53	-17.37	21	93.89	-209.30	21	94.24	-211.42
25	36.77	57.55	25	62.24	-15.61	25	93.69	-208.08	25	94.04	-210.20
25	36.77	57.55	25	62.33	-16.16	25	93.69	-208.08	25	93.95	-209.70
28	36.80	57.51	28	62.27	-15.78	28	93.62	-207.68	28	93.92	-209.50
29	36.80	57.51	29	62.10	-14.74	29	93.69	-208.08	29	93.99	-209.90
31	36.82	57.48	31	62.12	-14.85	31	93.69	-208.08	31	93.95	-209.70
32	36.80	57.50	32	62.66	-18.19	32	93.69	-208.08	32	94.04	-210.20
34	36.84	57.45	34	62.83	-19.20	34	93.66	-207.88	34	93.92	-209.50
56	39.57	53.55	56	61.18	-9.09	56	93.92	-209.50	56	94.17	-211.01
58	39.93	52.97	58	61.45	-10.79	58	93.82	-208.89	58	94.09	-210.51
59	40.00	52.86	59	61.54	-11.33	59	93.89	-209.30	59	94.15	-210.91
61	40.44	52.20	61	61.97	-13.95	61	93.69	-208.08	61	94.02	-210.10
62	40.55	52.04	62	62.18	-15.25	62	93.86	-209.09	62	94.14	-210.81
64	40.90	51.45	64	62.17	-15.15	64	93.82	-208.89	64	94.04	-210.20
65	40.88	51.48	65	62.33	-16.17	65	93.86	-209.09	65	94.12	-210.71
67	41.25	50.84	67	62.33	-16.16	67	93.86	-209.09	67	94.12	-210.71
68	41.34	50.68	68	62.50	-17.17	68	93.86	-209.09	68	94.19	-211.11
70	41.71	49.97	70	62.33	-16.16	70	93.82	-208.89	70	94.10	-210.61
71	41.79	49.83	71	62.50	-17.19	71	93.95	-209.70	71	94.22	-211.32
73	42.11	49.20	73	62.33	-16.16	73	93.69	-208.08	73	94.04	-210.20
74	42.18	49.07	74	62.54	-17.46	74	93.95	-209.70	74	94.19	-211.11
76	42.51	48.42	76	62.46	-16.98	76	93.86	-209.09	76	94.12	-210.71
77	42.51	48.42	77	62.48	-17.07	77	93.86	-209.09	77	94.20	-211.22
79	42.97	47.53	79	62.53	-17.37	79	93.69	-208.08	79	94.02	-210.10
80	42.94	47.58	80	62.99	-20.22	80	93.86	-209.09	80	94.17	-211.01
82	43.30	46.91	82	62.92	-19.77	82	93.69	-208.08	82	94.02	-210.10
83	43.39	46.75	83	62.99	-20.20	83	93.79	-208.69	83	94.07	-210.41
85	43.59	46.39	85	62.99	-20.20	85	93.69	-208.08	85	94.00	-210.00
86	43.59	46.39	86	62.81	-19.10	86	93.82	-208.89	86	94.09	-210.51
88	43.67	46.25	88	62.83	-19.19	88	93.69	-208.08	88	94.02	-210.10
89	43.66	46.27	89	62.91	-19.71	89	93.95	-209.70	89	94.24	-211.42
91	43.63	46.15	91	62.56	-17.59	91	93.82	-208.89	91	94.10	-210.61
92	43.48	46.58	92	62.83	-19.19	92	93.79	-208.69	92	94.07	-210.41
94	40.62	51.91	94	62.98	-20.12	94	93.82	-208.89	94	94.09	-210.51
95	40.10	52.71	95	62.93	-19.82	95	93.86	-209.09	95	94.17	-211.01

TABLE 3.3-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
97	37.36	56.75	97	62.37	-16.38	97	93.86	-209.09	97	94.17	-211.01
98	37.16	57.03	98	62.48	-17.09	98	93.95	-209.70	98	94.24	-211.42
3	36.59	57.79	3	62.84	-19.29	3	93.69	-208.08	3	94.00	-210.00
4	36.57	57.81	4	62.69	-18.38	4	93.86	-209.09	4	94.12	-210.71

3.4 Run 11

Run 11 was scheduled as a boil-off and self-pressurization test for Configuration 1 and a half-full tank of liquid hydrogen. However, only the self-pressurization data were obtained with a liquid volume of approximately 24 gallons. The data are presented in Figure 3.4-1.

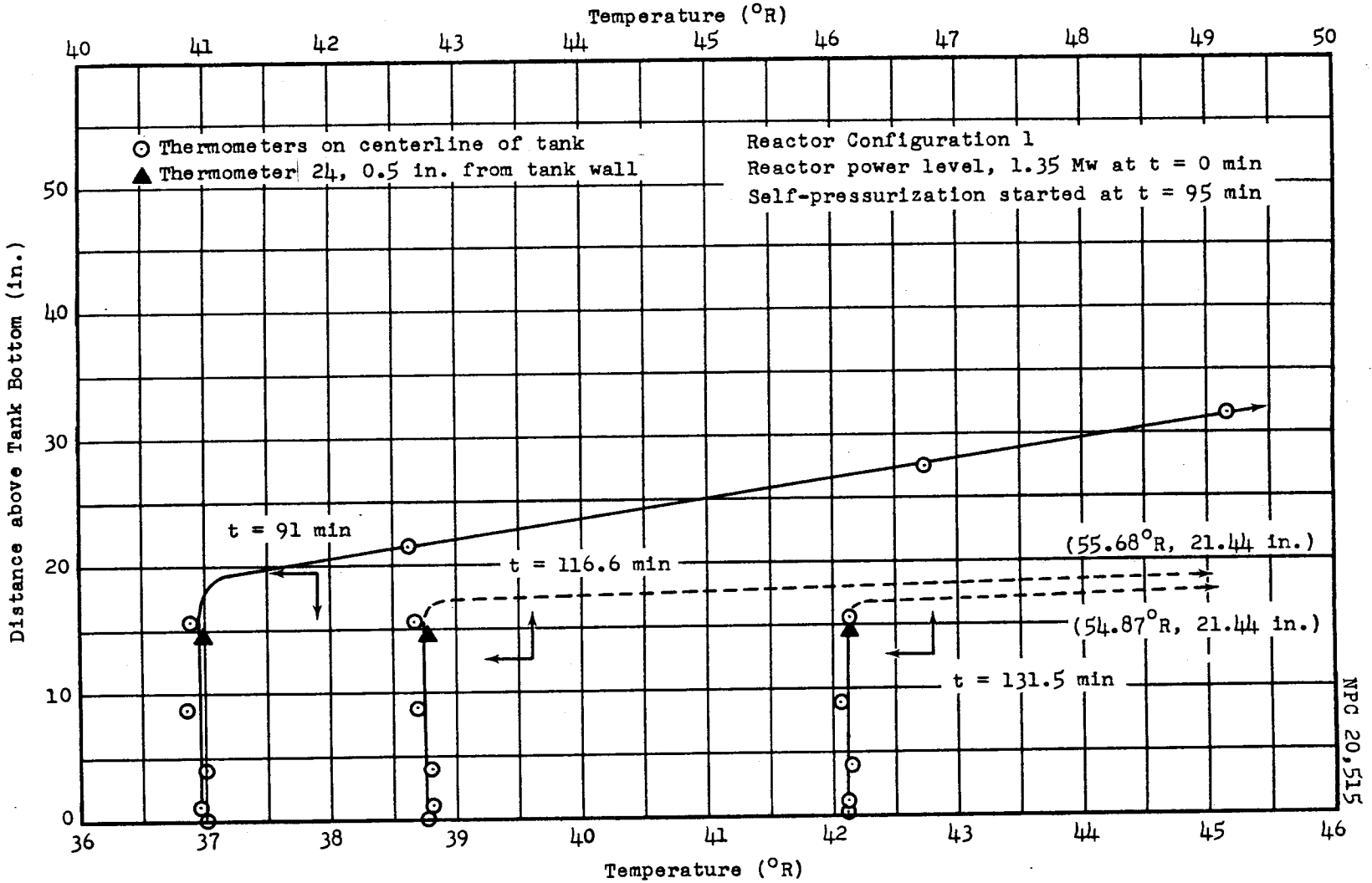

Figure 3.4-1 Temperature Profiles: Run 11-92

NPC 20,515

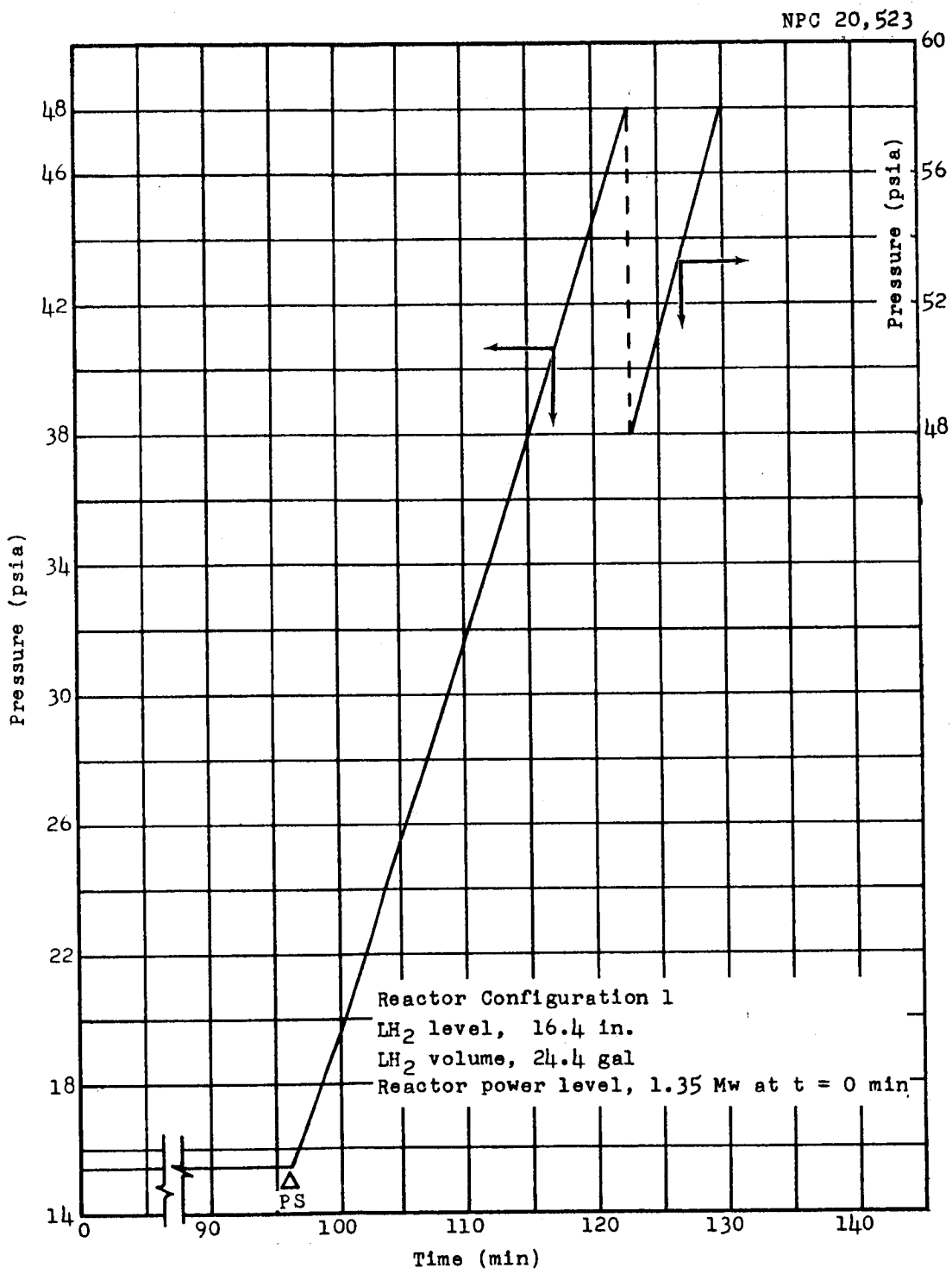

Figure 3.4-2 Self-Pressurization Data: Run 11-92

Table 3.4-1

Pressure Data From Run 11-92

Time: 0755 to 1005.8 Date: 15 August 1963

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
0	15.4	Timer On	104.0	24.4	
0	-	1.35 Mw	105.0	25.6	
5.0	15.4		107.0	28.0	
50.0	15.4		110.0	31.5	
55.0	15.4		112.0	33.9	
65.0	15.4		115.0	37.7	
96.0	15.4	PS	120.0	44.3	
97.0	16.4		125.0	50.9	
98.0	17.5		126.0	52.2	
99.0	18.7		127.0	53.7	
100.0	19.8		128.0	55.1	
101.0	21.0		129.0	56.5	
102.0	22.0		130.0	58.0	
103.0	23.2		130.8	59.3	RS,DP

TABLE 3.4-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 11-92

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	36.33	58.11	1	36.39	58.03	1	36.42	58.00	1	36.64	57.72
1	36.30	58.14	1	36.41	58.01	1	36.42	58.00	1	36.57	57.81
2	36.28	58.17	2	36.32	58.12	2	36.42	58.00	2	36.57	57.81
6	36.27	58.18	6	36.41	58.01	6	36.41	58.01	6	36.56	57.82
6	36.19	58.27	6	36.45	57.96	6	36.50	57.90	6	36.63	57.74
11	36.40	58.02	11	36.50	57.90	11	36.40	58.02	11	36.74	57.59
11	36.24	58.21	11	36.36	58.07	11	36.41	58.01	11	36.56	57.82
16	36.23	58.22	16	36.33	58.11	16	36.50	57.90	16	36.65	57.71
16	36.42	58.00	16	36.41	58.01	16	36.47	57.93	16	36.64	57.72
21	36.23	58.22	21	36.47	57.94	21	36.41	58.01	21	36.64	57.72
21	36.28	58.17	21	36.66	57.70	21	36.51	57.89	21	36.65	57.71
26	36.23	58.22	26	36.45	57.96	26	36.41	58.01	26	36.64	57.72
26	36.23	58.22	26	36.40	58.02	26	36.50	57.90	26	36.63	57.74
31	36.24	58.21	31	36.24	58.21	31	36.41	58.01	31	36.66	57.70
31	36.50	57.90	31	36.41	58.01	31	36.44	57.97	31	36.64	57.72
36	36.34	58.09	36	36.45	57.96	36	36.58	57.80	36	36.56	57.82
36	36.43	57.98	36	36.41	58.01	36	36.47	57.94	36	36.65	57.71
41	36.23	58.22	41	36.56	57.82	41	36.51	57.88	41	36.64	57.72
41	36.32	58.12	41	36.42	57.99	41	36.50	57.90	41	36.57	57.81
46	36.30	58.14	46	36.50	57.90	46	36.40	58.02	46	36.60	57.77
46	36.41	58.01	46	36.49	57.91	46	36.47	57.93	46	36.63	57.73
51	36.42	58.00	51	36.41	58.01	51	36.47	57.93	51	36.64	57.72
51	36.24	58.21	51	36.40	58.02	51	36.47	57.93	51	36.59	57.79
56	36.42	58.00	56	36.48	57.92	56	36.45	57.96	56	36.63	57.73
57	36.32	58.12	57	36.44	57.97	57	36.48	57.92	57	36.68	57.66
61	36.33	58.11	61	36.47	57.93	61	36.48	57.92	61	36.72	57.61
62	36.24	58.21	62	36.48	57.92	62	36.44	57.97	62	36.63	57.74
66	36.42	58.00	66	36.41	58.01	66	36.47	57.93	66	36.56	57.82
66	36.32	58.12	66	36.44	57.97	66	36.48	57.92	66	36.68	57.66
71	36.34	58.09	71	37.47	56.58	71	36.48	57.92	71	36.63	57.73
71	36.45	57.96	71	36.57	57.81	71	36.47	57.93	71	36.57	57.81
76	36.42	58.00	76	36.41	58.01	76	36.47	57.93	76	36.72	57.61
77	36.40	58.02	77	36.41	58.01	77	36.51	57.89	77	36.64	57.72
81	36.31	58.13	81	37.39	56.70	81	36.31	58.13	81	37.39	56.70
81	36.19	58.27	81	36.73	57.60	81	36.41	58.01	81	36.74	57.59
86	36.99	57.26	86	36.99	57.25	86	36.96	57.30	86	37.01	57.23
86	36.97	57.28	86	37.02	57.21	86	36.93	57.34	86	36.94	57.32
91	36.96	57.30	91	37.02	57.22	91	36.92	57.35	91	37.00	57.24
91	37.04	57.19	91	37.02	57.21	91	36.96	57.29	91	36.99	57.25
97	36.99	57.25	97	37.02	57.22	97	36.96	57.29	97	37.04	57.19
97	37.13	57.06	97	37.19	56.99	97	37.10	57.11	97	37.13	57.06
1	38.37	55.27	1	38.46	55.14	1	38.34	55.31	1	38.37	55.26
1	38.51	55.06	1	38.57	54.98	1	38.47	55.12	1	38.53	55.03
6	40.09	52.72	6	40.14	52.65	6	40.07	52.76	6	40.10	52.71

* Timing interval = 0.31 minute.

TABLE 3.4-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
6	40.20	52.56	6	40.24	52.51	6	40.15	52.64	6	40.21	52.55
11	41.53	50.33	11	41.59	50.22	11	41.49	50.39	11	41.54	50.30
11	41.60	50.19	11	41.67	50.06	11	41.59	50.21	11	41.62	50.16
16	42.76	47.92	16	42.80	47.85	16	42.72	48.00	16	42.79	47.86
16	42.88	47.69	16	42.89	47.68	16	42.82	47.80	16	42.89	47.68
21	44.16	45.45	21	44.17	45.44	21	44.08	45.57	21	44.17	45.44
21	44.28	45.25	21	44.33	45.18	21	44.21	45.38	21	44.30	45.22
26	45.32	43.11	26	45.36	43.00	26	45.30	43.16	26	45.34	43.05
26	45.38	42.95	26	45.41	42.84	26	45.38	42.94	26	45.41	42.84
31	46.11	40.70	31	46.12	40.65	31	46.08	40.79	31	46.14	40.62
31	46.17	40.51	31	46.21	40.41	31	46.13	40.63	31	46.20	40.43
38	36.66	57.70	38	36.65	57.71	38	36.59	57.78	38	36.66	57.70
38	36.63	57.73	38	36.66	57.70	38	36.57	57.81	38	36.65	57.71

TABLE 3.4-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	35.93	58.57	1	37.75	56.18	1	36.51	57.89	1	35.98	58.52
1	35.81	58.72	1	37.76	56.17	1	36.61	57.76	1	35.94	58.56
2	35.88	58.64	2	37.76	56.17	2	36.64	57.72	2	35.94	58.56
6	35.90	58.61	6	37.82	56.08	6	36.48	57.92	6	35.97	58.53
6	35.93	58.57	6	37.73	56.21	6	36.51	57.89	6	35.99	58.50
11	35.88	58.64	11	37.82	56.08	11	36.47	57.94	11	35.98	58.51
11	35.88	58.64	11	37.76	56.17	11	36.61	57.76	12	35.99	58.50
16	35.88	58.64	16	37.75	56.19	16	36.74	57.59	16	35.90	58.61
16	35.96	58.54	16	37.68	56.29	16	36.50	57.90	16	35.90	58.61
21	35.92	58.58	21	37.75	56.19	21	36.47	57.93	21	35.90	58.61
21	35.99	58.50	21	37.81	56.10	21	36.51	57.88	21	35.98	58.52
26	35.90	58.61	26	37.67	56.30	26	36.57	57.81	26	35.90	58.61
26	35.91	58.59	26	37.75	56.18	26	36.51	57.89	26	35.89	58.62
31	36.03	58.46	31	37.75	56.19	31	36.60	57.77	31	35.89	58.62
31	35.99	58.50	31	37.74	56.20	31	36.52	57.87	31	35.98	58.51
36	35.98	58.51	36	37.68	56.29	36	36.51	57.89	36	36.11	58.36
36	35.88	58.64	36	37.76	56.17	36	36.60	57.77	36	36.17	58.30
41	35.93	58.57	41	37.68	56.29	41	36.51	57.89	41	36.17	58.30
41	35.90	58.61	41	37.68	56.28	41	36.64	57.72	41	36.15	58.32
46	35.90	58.61	46	37.77	56.16	46	36.41	58.01	46	36.60	57.77
46	36.08	58.40	46	37.74	56.20	46	36.47	57.93	46	36.52	57.87
51	35.90	58.61	51	37.75	56.19	51	36.64	57.72	51	36.49	57.91
51	35.99	58.50	51	37.75	56.18	51	36.50	57.90	51	36.61	57.76
56	36.08	58.40	56	37.72	56.23	56	36.61	57.76	56	36.60	57.77
57	35.98	58.52	57	37.73	56.21	57	36.59	57.79	57	36.52	57.87
61	35.96	58.54	61	37.73	56.21	61	36.64	57.72	61	36.83	57.47
62	36.03	58.46	62	37.74	56.20	62	36.61	57.76	62	36.79	57.52
66	35.95	58.55	66	37.77	56.16	66	36.73	57.60	66	36.88	57.40
66	35.98	58.52	66	37.73	56.21	66	36.44	57.97	66	36.96	57.29
71	36.08	58.40	71	37.81	56.10	71	36.57	57.81	71	36.99	57.25
71	35.98	58.51	71	37.79	56.12	71	36.73	57.60	71	36.97	57.28
76	35.90	58.61	76	37.79	56.12	76	36.59	57.78	76	37.34	56.78
77	36.06	58.42	77	37.81	56.09	77	36.52	57.87	77	37.39	56.70
81	35.90	58.61	81	37.89	55.98	81	36.40	58.02	81	37.44	56.62
81	36.08	58.40	81	37.75	56.19	81	36.63	57.74	81	37.52	56.52
86	36.85	57.44	86	38.13	55.62	86	36.82	57.48	86	38.39	55.24
86	36.85	57.44	86	38.11	55.65	86	36.81	57.49	86	38.47	55.12
91	36.84	57.46	91	38.16	55.57	91	36.87	57.41	91	38.62	54.90
91	36.87	57.41	91	38.14	55.61	91	36.82	57.48	91	38.65	54.86
97	36.88	57.40	97	38.18	55.55	97	36.87	57.41	97	38.86	54.54
97	37.02	57.21	97	38.31	55.36	97	36.95	57.31	97	39.68	53.30
1	38.24	55.46	1	39.61	53.50	1	38.24	55.46	1	46.70	39.17
1	38.38	55.25	1	39.70	53.38	1	38.35	55.29	1	47.44	37.85
6	39.97	52.90	6	41.17	50.97	6	39.91	52.99	6	54.14	20.72

TABLE 3.4-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
6	40.09	52.73	6	41.30	50.74	6	40.05	52.79	6	54.34	19.85
11	41.45	50.47	11	42.52	48.40	11	41.41	50.54	11	55.75	14.02
11	41.52	50.34	11	42.55	48.33	11	41.47	50.43	11	55.82	13.74
16	42.68	48.07	16	43.85	45.88	16	42.66	48.11	16	55.68	14.31
16	42.78	47.88	16	43.99	45.69	16	42.76	47.92	16	55.71	14.15
21	43.99	45.69	21	45.25	43.29	21	43.99	45.69	21	54.39	15.99
22	44.14	45.48	22	45.34	43.06	22	44.14	45.48	22	54.49	15.68
26	45.27	43.24	26	46.11	40.68	26	45.28	43.21	26	54.55	15.55
26	45.34	43.04	26	46.17	40.50	26	45.34	43.06	26	54.59	15.47
31	46.06	40.85	31	47.28	38.10	31	46.14	40.61	31	54.87	15.06
31	46.12	40.67	31	47.42	37.87	31	46.13	40.64	31	54.85	15.08
38	36.49	57.91	38	38.50	55.08	38	36.50	57.90	39	36.56	57.82
38	36.52	57.87	38	38.51	55.06	38	36.56	57.82	38	36.56	57.82

TABLE 3.4-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	39.25	53.99	1	40.13	52.67	1	41.26	50.81	1	61.55	-11.38
1	39.41	53.77	1	40.34	52.35	1	41.44	50.49	1	61.56	-11.42
2	39.41	53.76	2	40.60	51.94	2	41.66	50.09	2	62.99	-20.21
6	39.12	54.18	6	40.99	51.30	6	42.89	47.68	6	63.03	-20.41
6	39.05	54.27	6	40.88	51.49	6	42.77	47.90	6	62.22	-15.48
11	39.19	54.08	11	40.93	51.40	11	42.75	47.94	11	62.34	-16.20
12	39.12	54.17	12	40.97	51.34	12	42.86	47.73	12	62.17	-15.16
16	39.41	53.76	16	41.26	50.81	16	43.17	47.14	16	62.14	-14.97
16	39.41	53.77	16	41.36	50.64	16	48.18	35.81	16	62.33	-16.17
21	39.55	53.58	21	41.30	50.74	21	43.47	46.60	21	62.18	-15.24
21	39.66	53.43	21	41.47	50.43	21	43.47	46.61	21	62.44	-16.84
26	39.79	53.16	26	41.63	50.13	26	43.68	46.23	26	62.35	-16.25
26	39.70	53.28	26	41.47	50.43	26	43.59	46.39	26	62.55	-17.50
31	40.00	52.85	31	41.95	49.51	31	43.85	45.88	31	63.03	-20.41
31	39.85	53.07	31	41.69	50.02	31	43.85	45.88	31	62.45	-16.89
36	40.34	52.35	36	41.98	49.45	36	44.14	45.48	36	62.65	-18.10
36	40.34	52.36	36	42.00	49.42	36	44.26	45.30	36	62.46	-16.97
41	40.47	52.15	41	42.20	49.02	41	44.46	44.97	41	63.19	-21.42
41	40.47	52.16	41	42.09	49.24	42	44.54	44.83	42	63.03	-20.41
46	40.66	51.85	46	42.36	48.71	46	44.78	44.39	46	62.78	-18.89
46	40.65	51.86	46	42.32	48.79	46	44.88	44.17	46	62.79	-18.97
51	40.90	51.45	51	42.61	48.22	51	45.02	43.86	51	63.03	-20.41
51	40.89	51.46	51	42.62	48.20	51	45.08	43.71	51	63.16	-21.22
56	40.96	51.35	56	42.97	47.53	56	45.26	43.25	56	63.99	-26.29
57	41.08	51.15	57	42.82	47.81	57	45.29	43.18	57	63.17	-21.28
61	41.31	50.73	61	43.06	47.36	61	45.43	42.80	61	64.64	-30.32
62	41.37	50.62	62	43.20	47.08	62	45.56	42.41	62	64.64	-30.32
66	41.45	50.48	66	43.37	46.78	66	45.58	42.34	66	62.99	-20.21
66	41.47	50.44	66	43.29	46.93	66	45.66	42.11	66	63.16	-21.22
71	41.71	49.98	71	43.62	46.34	71	45.80	41.65	71	63.22	-21.58
71	41.71	49.97	71	43.48	46.59	71	45.77	41.75	71	62.99	-20.21
76	41.84	49.73	76	43.77	45.98	76	45.95	41.19	76	63.61	-23.96
77	41.81	49.78	77	43.84	45.89	77	45.90	41.33	77	63.26	-21.82
81	42.02	49.38	81	44.01	45.66	81	46.08	40.79	81	63.83	-25.37
81	42.06	49.30	81	44.10	45.53	81	46.11	40.68	81	63.52	-23.43
86	42.25	48.93	86	44.94	44.03	86	46.68	39.22	86	63.83	-25.37
86	42.59	48.27	86	45.01	43.89	86	46.66	39.26	86	63.01	-20.33
91	42.77	47.91	91	45.15	43.55	91	46.88	38.82	91	63.30	-22.12
91	42.70	48.03	91	45.13	43.59	91	46.89	38.80	91	63.83	-25.33
97	42.99	47.48	97	45.46	42.70	97	47.34	38.00	97	63.85	-25.46
97	43.89	45.82	97	45.90	41.34	97	48.19	35.80	97	64.27	-28.00
1	51.92	24.56	1	54.37	18.39	1	56.36	11.84	1	68.96	-56.70
1	53.49	22.12	1	54.32	16.31	1	57.21	8.80	1	69.10	-57.60
6	59.69	-0.	6	63.18	-21.33	6	64.47	-29.28	6	75.54	-97.02

TABLE 3.4-2 (Cont'd)

THERMOMETER 9

TIME	TEMP	VOLTAGE
6	59.69	-0.
11	59.69	-0.
11	59.69	-0.
16	59.69	-0.
16	59.69	-0.
21	78.68	-116.22
22	78.94	-117.84
26	81.31	-132.29
26	81.52	-133.60
31	82.63	-140.37
31	82.81	-141.48
38	36.55	57.83
38	36.57	57.81

THERMOMETER 10

TIME	TEMP	VOLTAGE
6	63.60	-23.95
11	70.22	-64.47
11	70.71	-67.42
16	77.44	-108.64
16	77.97	-111.87
21	84.29	-150.58
22	84.92	-154.42
26	90.37	-187.77
26	90.73	-189.99
31	93.62	-207.68
31	93.69	-208.08
38	36.75	57.57
38	36.75	57.57

THERMOMETER 11

TIME	TEMP	VOLTAGE
6	64.88	-31.74
11	71.86	-74.47
11	72.35	-77.46
16	79.37	-120.46
16	79.89	-123.60
21	86.69	-165.23
22	87.12	-167.86
26	93.51	-206.97
26	93.62	-207.68
31	93.91	-209.40
31	94.02	-210.10
38	37.19	56.99
38	37.34	56.78

THERMOMETER 12

TIME	TEMP	VOLTAGE
6	76.20	-101.06
11	82.73	-140.98
11	83.68	-146.84
16	90.73	-189.99
17	91.20	-192.82
21	93.66	-207.88
22	93.69	-208.08
26	93.81	-208.79
26	93.86	-209.09
31	93.94	-209.60
31	94.05	-210.31
38	59.87	-1.09
38	60.07	-2.35

TABLE 3.4-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	42.67	48.10	1	43.69	46.21	1	44.54	44.83	1	45.02	43.85
1	42.83	47.79	1	43.59	46.39	1	44.44	45.00	1	44.90	44.12
2	42.87	47.71	2	43.48	46.59	2	44.35	45.15	2	44.70	44.53
6	44.62	44.68	6	45.09	43.69	6	45.37	42.97	6	45.45	42.75
6	44.69	44.55	6	45.18	43.49	6	45.41	42.85	6	45.54	42.47
11	45.11	43.66	11	45.55	42.45	11	45.95	41.19	11	46.10	40.71
12	45.14	43.58	12	45.61	42.24	12	45.95	41.18	12	46.13	40.63
16	45.29	43.18	16	45.74	41.86	16	46.15	40.59	16	46.35	40.03
16	45.34	43.04	16	45.82	41.60	16	41.53	50.32	16	46.41	39.87
21	45.63	42.20	21	46.06	40.83	21	46.56	39.50	21	46.75	39.08
22	45.59	42.32	22	46.07	40.82	22	46.55	39.52	22	46.73	39.11
26	45.70	41.96	26	46.17	40.51	26	46.59	39.43	26	47.10	38.39
26	45.77	41.75	26	46.20	40.42	27	46.75	39.08	27	46.99	38.60
31	46.00	41.01	31	46.44	39.80	31	47.09	38.41	31	47.44	37.85
31	45.96	41.14	31	46.41	39.87	31	47.01	38.55	32	47.36	37.97
36	46.13	40.64	36	46.68	39.22	36	47.52	37.72	36	47.74	37.31
36	46.17	40.50	37	46.79	39.00	37	47.46	37.81	37	47.76	37.20
41	46.35	40.01	41	46.96	38.66	41	47.76	37.19	41	47.89	36.69
42	46.35	40.02	42	47.10	38.39	42	47.74	37.29	42	47.94	36.50
46	46.64	39.32	46	47.46	37.81	46	47.94	36.50	46	48.11	36.00
46	46.63	39.34	46	47.42	37.88	46	48.02	36.27	46	48.19	35.79
51	46.88	38.81	51	47.73	37.42	51	48.20	35.78	51	48.39	35.29
51	46.92	38.74	51	47.81	36.98	51	48.20	35.77	51	48.52	34.98
56	47.34	37.99	56	47.95	36.47	56	48.44	35.17	56	48.74	34.47
57	47.34	38.00	57	47.99	36.35	57	48.50	35.02	57	48.79	34.37
61	47.76	37.38	61	48.08	36.08	61	48.66	34.66	61	49.11	33.64
62	47.61	37.59	62	48.14	35.94	62	48.89	34.15	62	49.15	33.56
66	47.82	36.94	66	48.40	35.26	66	49.10	33.68	66	49.40	33.01
66	47.83	36.91	66	48.44	35.16	66	49.20	33.46	66	49.45	32.90
71	48.02	36.27	71	48.62	34.75	71	49.42	32.95	71	49.68	32.35
71	48.05	36.18	71	48.70	34.57	71	49.42	32.96	71	49.64	32.44
76	48.35	35.38	76	48.99	33.91	76	49.68	32.36	76	50.03	31.51
77	48.33	35.43	77	49.10	33.66	77	49.75	32.19	77	49.98	31.63
81	48.52	34.98	81	49.20	33.45	81	49.97	31.66	81	50.22	31.01
81	49.16	33.54	81	49.72	32.26	81	50.33	30.72	82	50.67	29.72
86	49.44	32.91	86	49.94	31.72	86	50.61	29.92	86	50.96	28.82
86	49.46	32.85	86	49.93	31.75	86	50.64	29.83	86	50.99	28.73
91	49.71	32.30	91	50.23	31.00	91	50.84	29.20	91	51.15	28.20
91	49.76	32.17	91	50.22	31.01	91	50.72	29.57	91	51.19	28.07
97	50.09	31.35	97	50.52	30.18	97	51.08	28.45	97	51.50	27.10
98	50.98	28.76	98	51.51	27.07	98	51.67	25.08	98	52.34	23.86
1	59.18	1.80	1	59.74	-0.32	1	60.32	-3.84	1	60.70	-6.15
1	59.82	-0.82	1	60.26	-3.51	1	60.80	-6.80	1	61.21	-9.31
6	66.36	-40.84	6	66.98	-44.64	6	67.71	-49.07	6	68.26	-52.46

TABLE 3.4-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
6	66.92	-44.22	6	67.54	-48.02	6	68.23	-52.27	6	68.79	-55.69
11	73.92	-87.07	11	74.58	-91.14	11	75.40	-96.17	11	75.98	-99.70
11	74.38	-89.93	11	75.07	-94.10	11	75.92	-99.34	11	76.52	-102.98
16	81.47	-133.30	16	82.21	-137.85	16	83.09	-143.20	16	83.62	-146.44
17	82.13	-137.34	17	82.73	-140.98	17	83.60	-146.33	17	84.11	-149.47
21	89.03	-179.58	21	89.79	-184.23	21	90.35	-187.67	21	90.88	-190.90
22	89.68	-183.52	22	90.39	-187.87	22	91.13	-192.42	22	91.54	-194.94
26	93.82	-208.89	26	93.87	-209.19	26	93.89	-209.30	26	93.87	-209.19
26	93.82	-208.89	26	93.91	-209.40	26	93.97	-209.80	26	93.97	-209.80
31	93.91	-209.40	31	93.92	-209.50	31	93.95	-209.70	31	93.94	-209.60
31	93.99	-209.90	31	94.04	-210.20	31	94.07	-210.41	31	94.09	-210.51
38	37.44	56.62	38	37.52	56.51	38	37.56	56.46	38	37.70	56.25
38	37.52	56.51	38	37.59	56.41	38	37.68	56.29	38	37.81	56.09

TABLE 3.4-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	45.97	41.10	1	46.16	40.54	1	48.71	34.53	1	64.48	-29.32
2	45.88	41.39	2	46.09	40.74	2	48.44	35.16	2	61.97	-13.94
2	45.76	41.79	2	45.93	41.23	2	48.23	35.68	2	60.02	-2.01
6	46.23	40.33	6	46.18	40.47	6	47.74	37.29	6	54.06	20.94
7	46.27	40.24	7	46.28	40.21	7	47.74	37.41	7	54.10	20.83
11	47.31	38.05	11	47.34	38.00	11	48.88	34.16	11	54.30	17.59
12	47.40	37.91	12	47.32	38.03	12	48.96	33.98	12	54.31	17.73
16	47.78	37.36	16	47.74	37.29	16	49.46	32.85	16	54.67	15.33
16	47.75	37.39	16	47.74	37.30	17	49.47	32.84	17	54.83	15.10
21	47.91	36.59	21	47.95	36.48	21	49.83	32.00	21	55.48	14.46
22	47.95	36.49	22	47.97	36.40	22	49.98	31.64	22	55.71	14.14
26	48.15	35.89	26	48.21	35.73	26	50.15	31.21	26	56.05	12.93
27	48.15	35.90	27	48.20	35.77	27	50.16	31.18	27	55.94	13.34
31	48.44	35.17	31	48.56	34.90	31	50.42	30.48	31	56.14	12.62
32	48.52	34.99	32	48.61	34.76	32	50.55	30.11	32	56.42	11.63
36	48.78	34.38	36	48.89	34.15	36	46.50	39.65	36	56.65	10.81
37	48.82	34.30	37	48.82	34.29	37	50.75	29.50	37	56.56	11.13
41	48.96	33.98	41	49.17	33.51	41	50.97	28.78	41	56.67	10.72
42	49.11	33.64	42	49.15	33.56	42	51.00	28.70	42	56.90	9.92
46	49.43	32.93	46	49.57	32.62	46	51.28	27.78	46	57.27	8.60
47	49.42	32.95	47	49.51	32.75	47	51.22	27.99	47	57.24	8.71
51	49.74	32.22	51	49.82	32.03	51	51.47	27.19	51	57.63	7.33
51	49.72	32.27	51	49.75	32.20	52	51.41	27.37	52	57.41	8.10
56	50.10	31.32	56	50.06	31.43	56	51.62	26.41	56	57.58	7.49
57	50.06	31.43	57	50.13	31.26	57	51.53	26.05	57	57.72	6.98
61	50.42	30.47	61	50.42	30.48	61	51.62	25.25	61	58.29	4.97
62	50.40	30.52	62	50.47	30.32	62	51.62	25.25	62	58.10	5.66
66	50.65	29.79	66	50.68	29.70	66	51.97	24.46	66	58.38	4.66
66	50.63	29.84	67	50.61	29.91	67	52.03	24.36	67	58.50	4.23
71	50.87	29.13	71	50.88	29.09	71	52.34	23.86	71	58.72	3.45
72	50.94	28.87	72	50.93	28.92	72	52.43	23.73	72	58.84	3.03
76	51.06	28.50	76	51.15	28.21	76	53.15	22.67	76	59.17	1.83
77	51.14	28.23	77	51.20	28.05	77	53.11	22.72	77	59.35	1.20
81	51.27	27.80	81	51.40	27.40	81	53.33	22.37	81	59.62	0.23
82	51.62	26.74	82	51.69	26.57	82	53.99	21.13	82	59.77	-0.50
86	51.52	25.85	86	51.52	25.74	86	54.28	20.18	86	59.89	-1.21
86	51.52	25.94	87	51.53	25.68	87	54.33	19.90	87	59.97	-1.74
91	51.67	25.10	91	51.69	25.05	91	54.38	19.43	91	60.18	-2.99
91	51.69	25.03	92	51.72	24.96	92	54.39	19.37	92	60.25	-3.44
97	52.25	24.00	97	52.42	23.75	97	54.30	17.56	97	62.13	-14.95
98	54.28	20.21	98	54.37	19.57	98	56.48	11.41	98	69.66	-61.02
1	61.64	-11.91	1	62.01	-14.18	1	64.36	-28.57	1	93.53	-207.07
2	62.20	-15.34	2	62.58	-17.67	2	64.93	-32.07	2	93.62	-207.68
6	69.54	-60.26	6	70.03	-63.28	6	72.80	-80.24	6	93.66	-207.88

TABLE 3.4-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
7	70.12	-63.83	7	70.57	-66.58	7	73.42	-84.01	7	93.69	-208.08
11	77.34	-108.03	11	78.00	-112.08	11	80.98	-130.27	11	93.69	-208.08
11	77.99	-111.97	11	78.43	-114.70	12	81.50	-133.50	12	93.69	-208.08
16	85.12	-155.63	16	85.65	-158.87	16	88.79	-178.07	16	93.62	-207.68
17	85.60	-158.56	17	86.26	-162.61	17	89.38	-181.71	17	93.69	-208.08
21	92.40	-200.20	21	93.05	-204.14	21	93.77	-208.59	21	93.91	-209.40
22	93.20	-205.05	22	93.69	-208.08	22	93.94	-209.60	22	94.00	-210.00
26	93.87	-209.19	26	93.89	-209.30	26	93.89	-209.30	26	93.87	-209.19
26	93.99	-209.90	27	93.97	-209.80	27	94.00	-210.00	27	93.99	-209.90
31	93.94	-209.60	31	93.91	-209.40	31	93.92	-209.50	31	93.94	-209.60
32	94.12	-210.71	32	94.09	-210.51	32	94.09	-210.51	32	94.09	-210.51
38	38.50	55.07	38	38.05	55.73	38	38.70	54.77	38	63.44	-22.93
38	38.72	54.75	38	38.30	55.37	38	39.15	54.14	38	63.20	-21.50

TABLE 3.4-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	36.32	58.12	1	36.23	58.22	1	36.30	58.14	1	36.44	57.97
2	36.24	58.21	2	36.25	58.20	2	36.42	58.00	2	36.40	58.02
2	36.32	58.12	2	36.20	58.26	2	36.32	58.12	2	36.38	58.04
6	36.31	58.13	6	36.25	58.20	6	36.33	58.10	6	36.42	58.00
7	36.24	58.21	7	36.24	58.21	7	36.30	58.14	7	36.44	57.97
11	36.28	58.17	11	36.25	58.20	11	36.33	58.10	11	36.42	58.00
12	36.34	58.09	12	36.20	58.26	12	36.24	58.21	12	36.38	58.04
16	36.26	58.19	16	36.25	58.20	16	36.33	58.11	16	36.50	57.90
17	36.31	58.13	17	36.23	58.22	17	36.37	58.06	17	36.41	58.01
21	36.42	58.00	21	36.23	58.22	21	36.35	58.08	21	36.40	58.02
22	36.33	58.11	22	36.22	58.24	22	36.31	58.13	22	36.42	58.00
26	36.24	58.21	26	36.23	58.22	26	36.30	58.14	26	36.33	58.11
27	36.29	58.15	27	36.19	58.27	27	36.28	58.17	27	36.42	58.00
31	36.42	58.00	31	36.23	58.22	31	36.31	58.13	31	36.39	58.03
32	36.32	58.12	32	36.24	58.21	32	36.30	58.14	32	36.44	57.97
36	36.30	58.14	36	36.16	58.31	36	36.31	58.13	36	36.50	57.90
37	36.24	58.21	37	36.23	58.22	37	36.31	58.13	37	36.39	58.03
41	36.33	58.11	41	36.15	58.32	41	36.31	58.13	41	36.42	58.00
42	36.32	58.12	42	36.24	58.21	42	36.24	58.21	42	36.40	58.02
46	36.30	58.14	46	36.26	58.19	46	36.32	58.12	46	36.41	58.01
37	36.34	58.09	47	36.20	58.26	47	36.33	58.11	47	36.47	57.94
51	36.24	58.21	51	36.26	58.19	51	36.42	58.00	51	36.33	58.11
52	36.24	58.21	52	36.23	58.22	52	36.32	58.12	52	36.33	58.11
56	36.33	58.10	56	36.22	58.24	56	36.33	58.11	56	36.32	58.12
57	36.42	58.00	57	36.24	58.21	57	36.30	58.14	57	36.36	58.07
61	36.40	58.02	61	36.23	58.22	61	36.33	58.11	61	36.39	58.03
62	36.32	58.12	62	36.30	58.14	62	36.31	58.13	62	36.42	57.99
66	36.28	58.17	66	36.33	58.10	66	36.42	58.00	66	36.24	58.21
67	36.32	58.12	67	36.23	58.22	67	36.33	58.11	67	36.44	57.97
71	36.24	58.21	71	36.25	58.20	71	36.35	58.08	71	36.41	58.01
72	36.33	58.11	72	36.23	58.23	72	36.34	58.09	72	36.50	57.90
76	36.32	58.12	76	36.25	58.20	76	36.37	58.06	76	36.40	58.02
77	36.33	58.11	77	36.30	58.14	77	36.36	58.07	77	36.33	58.11
81	36.28	58.17	81	36.20	58.26	81	36.24	58.21	81	36.47	57.94
82	36.87	57.42	82	36.87	57.41	82	36.92	57.35	82	36.95	57.31
86	36.84	57.46	86	36.87	57.41	86	36.93	57.34	86	36.94	57.32
87	36.86	57.43	87	36.87	57.42	87	36.93	57.33	87	36.97	57.28
91	36.85	57.44	91	36.89	57.39	91	36.92	57.35	91	36.98	57.27
92	36.89	57.39	92	36.87	57.42	92	36.93	57.33	92	36.96	57.29
97	36.88	57.40	97	36.87	57.41	97	36.96	57.30	97	37.00	57.24
98	37.03	57.20	98	37.02	57.22	98	37.08	57.14	98	37.14	57.05
1	38.30	55.37	1	38.29	55.39	1	38.38	55.25	1	38.44	55.17
2	38.42	55.19	2	38.42	55.20	2	38.48	55.10	2	38.50	55.07
6	39.95	52.94	6	39.97	52.90	6	40.03	52.81	6	40.11	52.70

TABLE 3.4-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
7	40.10	52.71	7	40.11	52.70	7	40.19	52.58	7	40.21	52.55
11	41.47	50.44	11	41.46	50.46	11	41.51	50.37	11	41.55	50.28
12	41.55	50.29	12	41.57	50.25	12	41.60	50.19	12	41.64	50.11
16	59.69	-0.	16	42.69	48.05	16	42.78	47.89	16	42.77	47.91
17	59.69	-0.	17	42.80	47.85	17	42.87	47.72	17	42.90	47.65
21	59.69	-0.	21	44.03	45.63	21	44.11	45.52	21	44.16	45.45
22	59.69	-0.	22	44.18	45.42	22	44.25	45.32	22	44.30	45.23
26	59.69	-0.	26	45.29	43.19	26	45.32	43.09	26	45.35	43.03
27	59.69	-0.	27	45.34	43.05	27	45.38	42.93	27	45.39	42.90
31	59.69	-0.	31	46.08	40.79	31	46.11	40.70	31	46.13	40.64
32	59.69	-0.	32	46.12	40.65	32	46.16	40.55	32	46.17	40.51
38	36.55	57.84	38	36.56	57.82	38	36.63	57.73	38	36.66	57.70
38	36.58	57.80	38	36.58	57.80	38	36.64	57.72	38	36.69	57.65

TABLE 3.4-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	36.17	58.29	1	38.55	55.01	1	38.29	55.38	1	38.22	55.49
2	36.11	58.37	2	38.52	55.04	2	38.37	55.26	2	38.16	55.58
2	36.15	58.32	2	38.48	55.11	2	38.31	55.36	2	38.15	55.59
6	36.15	58.32	6	38.31	55.35	6	38.12	55.64	6	38.03	55.78
7	36.21	58.25	7	38.28	55.40	7	38.15	55.59	7	37.94	55.90
11	36.27	58.18	11	38.46	55.14	11	36.91	57.36	11	38.12	55.64
12	36.13	58.34	12	38.46	55.14	12	38.31	55.36	12	38.22	55.49
16	36.16	58.31	16	38.63	54.89	16	38.42	55.20	16	38.44	55.17
17	36.07	58.41	17	38.59	54.94	17	38.46	55.14	17	38.28	55.40
21	36.27	58.18	21	38.79	54.65	21	38.63	54.89	21	38.44	55.16
22	36.17	58.30	22	38.77	54.68	22	38.67	54.83	22	38.43	55.18
26	36.12	58.35	26	38.84	54.57	26	38.77	54.67	26	38.56	54.99
27	36.25	58.20	27	39.06	54.26	27	38.83	54.58	27	38.61	54.91
31	36.16	58.31	31	39.10	54.20	31	38.97	54.38	31	38.77	54.67
32	36.17	58.29	32	39.20	54.06	32	38.97	54.38	32	38.84	54.57
36	36.15	58.32	36	39.35	53.85	36	39.12	54.17	36	39.01	54.33
37	36.16	58.31	37	39.41	53.77	37	39.20	54.06	37	39.05	54.27
41	36.16	58.31	41	39.56	53.56	41	39.38	53.81	41	39.12	54.17
42	36.16	58.31	42	39.57	53.55	42	39.42	53.75	42	39.28	53.96
46	36.28	58.16	46	39.67	53.32	46	39.64	53.46	46	39.47	53.68
47	36.16	58.31	47	39.70	53.38	47	39.55	53.58	47	39.41	53.76
51	36.23	58.23	51	39.93	52.96	51	39.81	53.13	51	39.65	53.34
52	36.26	58.19	52	39.94	52.95	52	39.75	53.21	52	39.68	53.31
56	36.27	58.18	56	40.09	52.73	56	39.94	52.95	56	39.72	53.25
57	36.17	58.29	57	40.15	52.64	57	39.97	52.90	57	39.78	53.17
61	36.18	58.28	61	40.36	52.33	61	40.28	52.44	61	40.07	52.76
62	36.25	58.20	62	40.34	52.36	62	40.20	52.56	62	40.06	52.77
66	36.07	58.41	66	40.52	52.08	66	40.37	52.31	66	40.18	52.59
67	36.25	58.20	67	40.57	52.00	67	40.34	52.35	67	40.20	52.56
71	36.07	58.41	71	40.74	51.71	71	40.53	52.07	71	40.42	52.24
72	36.07	58.41	72	40.75	51.70	72	40.56	52.01	72	40.35	52.34
76	36.25	58.20	76	40.91	51.43	76	40.76	51.69	76	40.53	52.07
77	36.25	58.20	77	41.03	51.23	77	40.84	51.55	77	40.60	51.95
81	36.27	58.18	81	41.09	51.12	81	40.97	51.33	81	40.73	51.74
82	38.03	55.76	82	41.52	50.34	82	41.51	50.36	82	41.41	50.55
86	37.91	55.95	86	41.69	50.02	86	41.67	50.06	86	41.55	50.29
87	38.05	55.73	87	41.70	49.99	87	41.63	50.13	87	41.51	50.36
91	37.90	55.97	91	41.79	49.82	91	41.79	49.82	91	41.70	50.00
92	38.05	55.73	92	41.84	49.72	92	41.81	49.79	92	41.68	50.03
97	37.95	55.89	97	42.36	48.71	97	42.39	48.66	97	42.25	48.93
98	38.18	55.55	98	43.35	46.81	98	43.35	46.82	98	43.23	47.03
1	39.43	53.74	1	51.52	25.99	1	51.52	25.95	1	51.57	26.25
2	39.47	53.68	2	52.44	23.71	2	52.51	23.61	2	52.33	23.88
6	41.02	51.25	6	61.19	-9.20	6	61.24	-9.47	6	61.16	-8.98

TABLE 3.4-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
7	41.10	51.11	7	61.61	-11.72	7	61.65	-12.02	7	61.57	-11.52
11	42.31	48.81	11	67.07	-45.19	11	67.15	-45.65	11	66.99	-44.65
12	42.36	48.71	12	67.44	-47.44	12	67.51	-47.87	12	67.35	-46.89
16	43.64	46.30	16	71.84	-74.35	16	71.99	-75.27	16	71.68	-73.38
17	43.71	46.05	17	72.14	-76.17	17	72.32	-77.30	17	71.98	-75.24
21	45.02	43.86	21	74.63	-91.45	21	74.92	-93.18	21	74.40	-90.05
22	45.14	43.58	22	74.83	-92.65	22	75.15	-94.61	22	74.55	-90.92
26	45.90	41.34	26	75.94	-99.42	26	76.18	-100.95	26	75.48	-96.61
27	45.97	41.13	27	75.90	-99.19	27	76.18	-100.95	27	75.48	-96.63
31	46.93	38.72	31	75.94	-99.45	31	76.30	-101.67	31	75.43	-96.33
32	47.02	38.54	32	75.99	-99.75	32	76.40	-102.27	32	75.49	-96.69
38	37.68	56.29	38	36.52	57.87	38	36.51	57.89	38	36.49	57.91
38	37.77	56.16	38	36.56	57.82	38	36.51	57.88	38	36.52	57.87

TABLE 3.4-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	38.18	55.55	1	84.46	-151.59	1	93.86	-209.09	1	94.15	-210.91
2	38.22	55.48	2	85.33	-156.95	2	93.86	-209.09	2	94.17	-211.01
2	38.01	55.80	2	85.33	-156.95	2	93.86	-209.09	2	94.17	-211.01
6	37.89	55.98	6	84.91	-154.32	6	93.69	-208.08	6	94.05	-210.31
7	37.88	55.99	7	84.76	-153.41	7	93.79	-208.69	7	94.05	-210.31
11	38.02	55.79	11	84.81	-153.71	11	93.86	-209.09	11	94.10	-210.61
12	38.11	55.65	12	84.84	-153.91	12	93.69	-208.08	12	94.04	-210.20
16	38.18	55.54	16	84.79	-153.61	16	93.82	-208.89	16	94.07	-210.41
17	38.16	55.58	17	84.44	-151.49	17	93.82	-208.89	17	94.10	-210.61
21	38.37	55.27	21	84.95	-154.62	21	93.86	-209.09	21	94.09	-210.51
22	38.43	55.18	22	84.95	-154.62	22	93.86	-209.09	22	94.17	-211.01
26	38.49	55.09	26	84.62	-152.60	26	93.86	-209.09	26	94.14	-210.81
27	38.59	54.94	27	85.05	-155.23	27	93.69	-208.08	27	93.95	-209.70
31	38.68	54.80	31	85.05	-155.23	31	93.69	-208.08	31	94.09	-210.51
32	38.77	54.67	32	84.59	-152.40	32	93.84	-208.99	32	94.12	-210.71
36	38.87	54.53	36	85.25	-156.44	36	93.79	-208.69	36	94.12	-210.71
37	38.95	54.42	37	84.77	-153.51	37	93.69	-208.08	37	94.02	-210.10
41	38.98	54.37	41	84.46	-151.59	41	93.86	-209.09	41	94.09	-210.51
42	39.12	54.18	42	85.12	-155.63	42	93.69	-208.08	42	94.00	-210.00
46	39.34	53.86	46	85.12	-155.63	46	93.69	-208.08	46	94.02	-210.10
47	39.38	53.81	47	85.17	-155.94	47	93.86	-209.09	47	94.05	-210.31
51	39.52	53.62	51	85.40	-157.35	51	93.69	-208.08	51	93.97	-209.80
52	39.56	53.56	52	85.00	-154.92	52	93.69	-208.08	52	94.02	-210.10
56	39.71	53.37	56	84.62	-152.60	56	93.69	-208.08	56	94.10	-210.61
57	39.71	53.26	57	84.94	-154.52	57	93.66	-207.88	57	93.94	-209.60
61	39.93	52.97	61	84.62	-152.60	61	93.69	-208.08	61	94.09	-210.51
62	39.96	52.92	62	84.44	-151.49	62	93.59	-207.48	62	93.86	-209.09
66	40.11	52.70	66	84.71	-153.11	66	93.66	-207.88	66	93.95	-209.70
67	40.16	52.63	67	84.92	-154.42	67	93.86	-209.09	67	94.14	-210.81
71	40.27	52.46	71	84.46	-151.59	71	93.86	-209.09	71	94.19	-211.11
72	40.28	52.44	72	84.77	-153.51	72	93.86	-209.09	72	94.17	-211.01
76	40.50	52.11	76	84.77	-153.51	76	93.66	-207.88	76	93.94	-209.60
77	40.52	52.08	77	85.33	-156.95	77	93.69	-208.08	77	93.99	-209.90
81	40.60	51.95	81	85.07	-155.33	81	93.66	-207.88	81	93.92	-209.50
82	41.34	50.67	82	63.35	-22.43	82	93.66	-207.88	82	93.92	-209.50
86	41.56	50.26	86	63.32	-22.19	86	93.53	-207.07	86	93.86	-209.09
87	41.48	50.41	87	63.16	-21.21	87	93.69	-208.08	87	93.95	-209.70
91	41.70	50.00	91	63.39	-22.63	91	93.56	-207.27	91	93.86	-209.09
92	41.66	50.08	92	63.14	-21.13	92	93.62	-207.68	92	93.89	-209.30
97	42.27	48.88	97	63.50	-23.33	97	93.53	-207.07	97	93.77	-208.59
98	43.21	47.07	98	62.86	-19.39	98	93.66	-207.88	98	93.94	-209.60
1	51.56	26.24	1	63.19	-21.41	1	93.53	-207.07	1	93.79	-208.69
2	52.32	23.89	2	63.32	-22.22	2	93.62	-207.68	2	93.87	-209.19
6	59.69	-0.	6	62.97	-20.10	6	93.69	-208.08	6	94.02	-210.10

TABLE 3.4-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
7	59.69	-0.	7	63.38	-22.59	7	93.69	-208.08	7	94.00	-210.00
11	59.69	-0.	11	63.03	-20.41	11	93.67	-207.98	11	93.95	-209.70
12	59.69	-0.	12	63.29	-22.04	12	93.69	-208.08	12	94.04	-210.20
16	59.69	-0.	16	62.83	-19.19	16	93.66	-207.88	16	93.94	-209.60
17	59.69	-0.	17	63.30	-22.12	17	93.69	-208.08	17	94.00	-210.00
21	59.69	-0.	21	63.16	-21.23	21	93.69	-208.08	21	93.99	-209.90
22	59.69	-0.	22	62.91	-19.73	22	93.69	-208.08	22	93.97	-209.80
26	75.36	-95.91	26	63.02	-20.40	26	93.53	-207.07	26	93.84	-208.99
27	75.28	-95.38	27	63.29	-22.02	27	93.69	-208.08	27	93.97	-209.80
31	75.36	-95.92	31	63.16	-21.23	31	93.67	-207.98	31	93.92	-209.50
32	75.27	-95.36	32	63.26	-21.83	32	93.79	-208.69	32	94.05	-210.31
38	36.53	57.86	38	63.32	-22.22	38	93.69	-208.08	38	94.07	-210.41
38	36.52	57.87	38	62.98	-20.13	38	93.69	-208.08	38	93.97	-209.80

3.5 Run 12

This boil-off and self-pressurization test was planned for experimental Configuration 2 and a full tank of liquid hydrogen. Temperature and self-pressurization measurements were made during reactor run 90 with 90 gallons of hydrogen in the tank. The boil-off data were obtained during reactor run 103 with approximately 122 gallons of hydrogen in the tank.

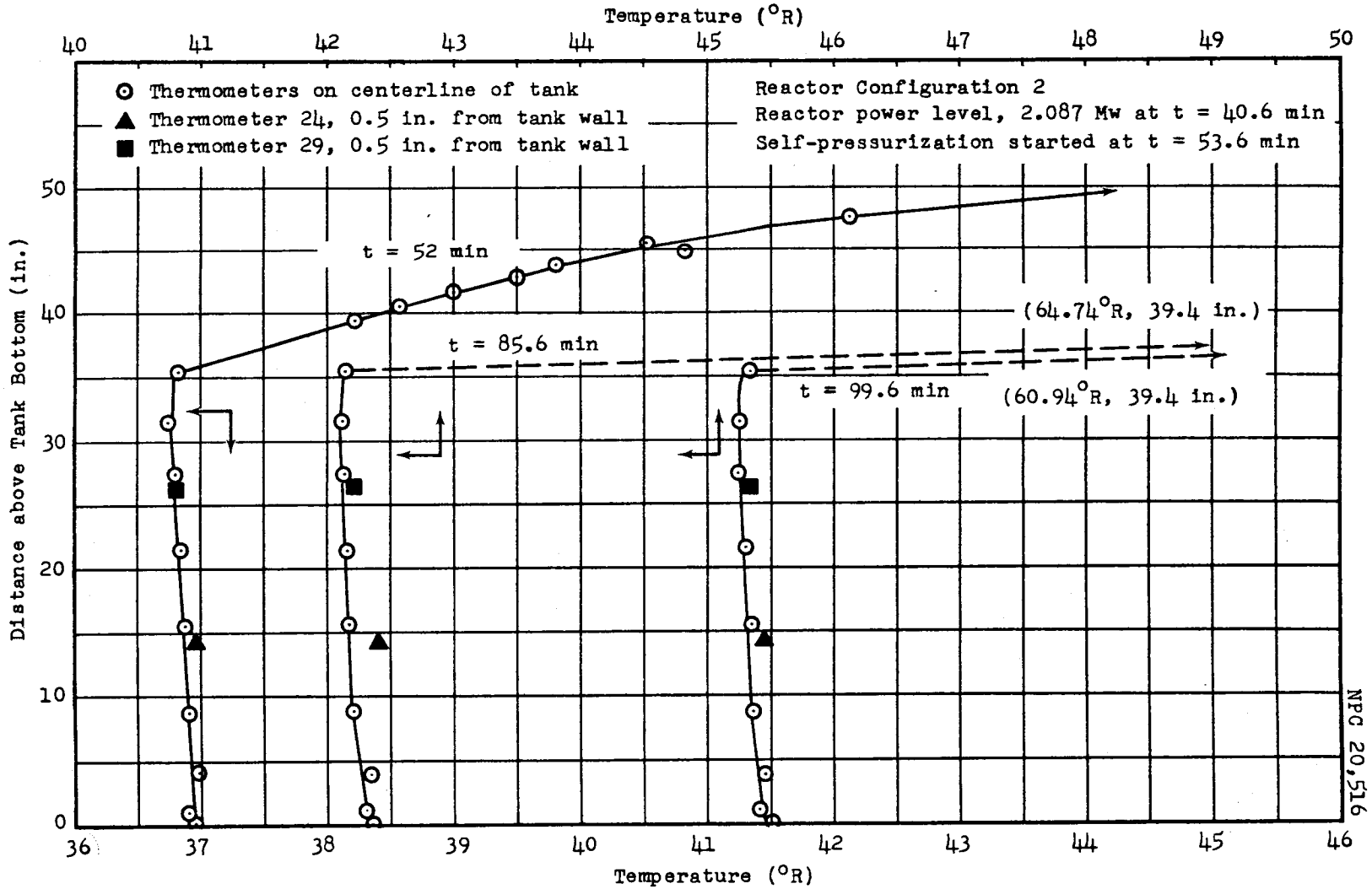

Figure 3.5-1 Temperature Profiles: Run 12-90

NPC 20,516

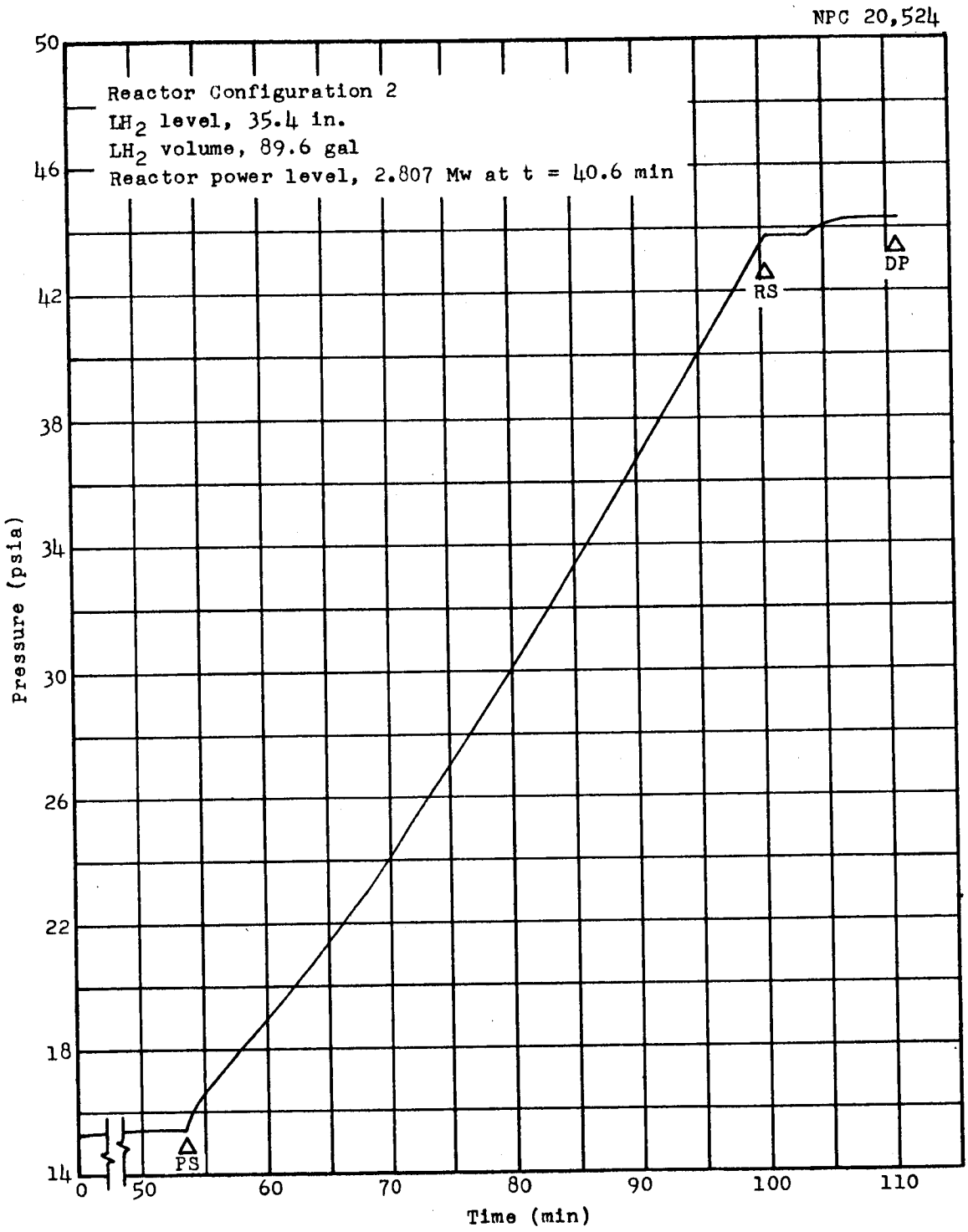

Figure 3.5-2 Self-Pressurization Data: Run 12-90

Table 3.5-1

Pressure Data From Run 12-90

Time: 2215.8 to 0007.4 Date: 14 August 1963

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
0	15.0	Timer On	76.6	28.0	
40.6	15.0	2.807 Mw	79.6	29.9	
43.6	15.2		82.6	31.7	
46.6	15.3		85.6	33.7	
49.6	15.4		88.6	35.6	
52.6	15.4		91.6	37.6	
53.6	15.4	PS	94.6	39.8	
55.6	16.9		97.6	41.8	
58.6	18.3		98.6	42.4	
61.6	19.8		99.6	43.3	
64.6	21.1		100.3	43.8	RS
67.6	22.7		103.6	43.8	
70.6	24.4		106.4	44.3	
71.6	25.0		108.6	44.4	
73.6	26.2		111.6	44.4	DP

TABLE 3.5-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 12-90

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
35	36.75	57.57	35	36.74	57.58	35	36.72	57.61	35	36.77	57.54
36	36.81	57.49	36	36.80	57.51	36	36.77	57.55	36	36.79	57.52
40	36.86	57.43	40	36.89	57.39	40	36.84	57.45	40	36.88	57.40
40	36.90	57.38	40	36.93	57.34	40	36.85	57.44	40	36.91	57.36
43	36.96	57.29	43	36.96	57.30	43	36.89	57.39	43	36.96	57.30
43	36.95	57.31	43	36.96	57.30	43	36.89	57.39	43	36.97	57.28
46	36.93	57.33	46	36.94	57.32	46	36.89	57.39	46	36.98	57.27
46	36.94	57.32	46	36.97	57.28	46	36.87	57.41	46	36.99	57.25
49	37.04	57.19	49	36.96	57.29	49	36.87	57.41	49	36.96	57.30
49	36.93	57.33	49	36.96	57.30	49	36.90	57.37	49	36.96	57.30
52	36.93	57.33	52	36.97	57.28	52	36.90	57.38	52	36.97	57.28
52	36.91	57.36	52	36.96	57.30	52	36.89	57.39	52	36.98	57.27
55	37.48	56.57	55	37.54	56.48	55	37.28	56.86	55	37.35	56.76
55	37.47	56.58	55	37.54	56.49	55	37.42	56.65	55	37.50	56.54
58	37.89	55.98	58	37.98	55.85	58	37.85	56.04	58	37.92	55.93
58	37.94	55.90	58	38.01	55.80	58	37.91	55.95	58	37.93	55.92
61	38.35	55.30	61	38.48	55.11	61	38.35	55.30	61	38.37	55.26
61	38.48	55.10	61	38.60	54.93	61	38.42	55.19	61	38.50	55.08
64	38.90	54.48	64	38.97	54.39	64	38.84	54.57	64	38.90	54.48
64	38.97	54.38	64	39.13	54.16	64	38.96	54.40	64	38.98	54.37
67	39.53	53.61	67	39.59	53.52	67	39.46	53.70	67	39.49	53.66
67	39.55	53.58	67	39.63	53.47	67	39.48	53.67	67	39.54	53.59
71	40.14	52.65	71	40.22	52.54	71	40.15	52.64	71	40.14	52.65
71	40.20	52.56	71	40.28	52.45	71	40.22	52.54	71	40.20	52.57
73	40.53	52.06	73	40.50	52.11	73	40.47	52.16	73	40.50	52.11
73	40.60	51.95	73	40.61	51.92	73	40.49	52.12	73	40.59	51.97
76	40.97	51.34	76	41.02	51.24	76	40.95	51.36	76	40.99	51.29
76	41.04	51.21	76	41.13	51.05	76	41.04	51.22	76	41.03	51.23
79	41.48	50.42	79	41.52	50.34	79	41.41	50.55	79	41.42	50.52
79	41.47	50.43	79	41.55	50.28	79	41.48	50.42	79	41.53	50.33
82	41.89	49.63	82	41.95	49.52	82	41.80	49.81	82	41.88	49.66
83	41.98	49.45	83	42.04	49.34	83	41.94	49.53	83	41.98	49.46
85	42.31	48.80	85	42.35	48.73	85	42.28	48.87	85	42.33	48.76
85	42.33	48.77	85	42.40	48.64	85	42.30	48.82	85	42.33	48.77
88	42.73	47.98	88	42.77	47.91	88	42.69	48.05	88	42.74	47.97
88	42.72	48.00	88	42.82	47.81	88	42.73	47.99	88	42.79	47.86
91	43.14	47.21	91	43.19	47.11	91	43.10	47.28	91	43.13	47.22
91	43.19	47.11	91	43.22	47.05	91	43.17	47.15	91	43.23	47.04
94	43.59	46.40	94	43.67	46.26	94	43.70	46.07	94	43.67	46.26
94	43.66	46.28	94	43.61	46.17	94	43.64	46.30	94	43.66	46.27
97	44.07	45.58	97	44.14	45.47	97	44.03	45.63	97	44.13	45.49
98	44.17	45.44	98	44.21	45.38	98	44.13	45.49	98	44.19	45.41
99	44.46	44.96	99	44.49	44.92	99	44.40	45.06	99	44.45	44.98
99	44.49	44.92	99	44.57	44.78	99	44.45	44.99	99	44.52	44.86

* Timing interval = 0.31 minute.

TABLE 3.5-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
3	44.51	44.89	3	44.52	44.86	3	44.46	44.96	3	44.52	44.87
3	44.57	44.78	3	44.52	44.87	3	44.47	44.95	3	44.55	44.82
8	44.62	44.68	8	44.60	44.73	8	44.54	44.83	8	44.61	44.71
8	44.59	44.74	8	44.61	44.71	8	44.54	44.83	8	44.63	44.67
13	42.10	49.23	13	42.07	49.29	13	42.14	49.15	13	42.09	49.24
13	42.07	49.28	13	41.51	50.37	13	42.05	49.33	13	42.01	49.40

TABLE 3.5-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
35	36.73	57.60	35	37.92	55.93	35	36.69	57.65	35	36.75	57.57
36	36.73	57.60	36	37.92	55.93	36	36.69	57.65	36	36.75	57.57
40	36.80	57.51	40	37.97	55.86	40	36.80	57.51	40	36.79	57.52
40	36.80	57.50	40	37.99	55.83	40	36.81	57.49	40	36.81	57.49
43	36.83	57.47	43	38.03	55.76	43	36.85	57.44	43	36.89	57.39
43	36.85	57.44	43	38.01	55.80	43	36.87	57.41	43	36.87	57.41
46	36.89	57.39	46	38.05	55.74	46	36.89	57.39	46	36.89	57.39
46	36.87	57.41	46	38.03	55.76	46	36.89	57.39	46	36.84	57.46
49	36.85	57.44	49	38.01	55.80	49	36.83	57.47	49	36.87	57.42
49	36.87	57.41	49	38.06	55.72	49	36.85	57.44	49	36.88	57.40
52	36.86	57.43	52	38.03	55.76	52	36.84	57.46	52	36.85	57.44
52	36.87	57.41	52	38.05	55.73	52	36.89	57.39	52	36.84	57.46
55	37.26	56.89	55	38.38	55.25	55	37.17	57.01	55	37.18	57.00
55	37.32	56.81	55	38.48	55.11	55	37.28	56.86	55	37.28	56.86
58	37.82	56.08	58	38.84	54.57	58	37.75	56.19	58	37.74	56.20
58	37.85	56.04	58	38.97	54.38	58	37.81	56.10	58	37.81	56.09
61	38.24	55.45	61	39.46	53.70	61	38.27	55.42	61	38.22	55.48
61	38.33	55.32	61	39.51	53.63	61	38.37	55.27	61	38.31	55.36
64	38.84	54.57	64	39.90	53.00	64	38.79	54.65	64	38.79	54.64
64	38.84	54.57	64	40.01	52.84	64	38.86	54.55	64	38.83	54.58
67	39.36	53.83	67	40.48	52.14	67	39.35	53.85	67	39.32	53.90
67	39.43	53.74	67	40.49	52.12	67	39.39	53.79	67	39.42	53.75
71	40.00	52.85	71	41.09	51.13	71	40.04	52.80	71	40.02	52.83
71	40.10	52.71	71	41.17	50.97	71	40.11	52.70	71	40.07	52.76
73	40.40	52.26	73	41.34	50.67	73	40.36	52.33	73	40.36	52.32
73	40.44	52.20	73	41.41	50.54	73	40.41	52.25	73	40.43	52.22
76	40.90	51.45	76	41.79	49.82	76	40.88	51.49	76	40.85	51.53
76	40.94	51.38	76	41.84	49.73	76	40.94	51.39	76	40.89	51.46
79	41.34	50.67	79	42.22	48.98	79	41.34	50.68	79	41.31	50.72
79	41.40	50.56	79	42.27	48.89	79	41.36	50.63	79	41.37	50.62
82	41.81	49.79	82	42.67	48.10	82	41.80	49.81	82	41.74	49.92
83	41.90	49.61	83	42.80	47.84	83	41.87	49.67	83	41.89	49.63
85	42.19	49.04	85	43.10	47.28	85	42.16	49.11	85	42.15	49.12
85	42.25	48.92	85	43.14	47.20	85	42.27	48.89	85	42.23	48.97
88	42.62	48.21	88	43.60	46.38	88	42.64	48.16	88	42.58	48.28
88	42.69	48.05	88	43.67	46.26	88	42.66	48.11	88	42.62	48.21
91	43.07	47.34	91	44.13	45.49	91	43.04	47.40	91	43.03	47.41
91	43.08	47.31	91	44.21	45.37	91	43.08	47.32	91	43.09	47.30
94	43.48	46.59	94	44.65	44.63	94	43.48	46.59	94	43.48	46.58
94	43.57	46.43	94	44.70	44.54	94	43.55	46.47	94	43.50	46.55
97	43.97	45.72	97	45.06	43.76	97	43.95	45.74	97	43.95	45.74
98	44.07	45.58	98	45.14	43.57	98	44.06	45.59	98	44.01	45.66
99	44.35	45.14	99	45.30	43.15	99	44.33	45.18	99	44.30	45.22
99	44.39	45.08	99	45.34	43.05	99	44.37	45.11	99	44.40	45.06

TABLE 3.5-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
3	44.46	44.97	3	45.39	42.92	3	44.48	44.94	3	44.45	44.98
3	44.48	44.94	3	45.40	42.88	3	44.47	44.95	3	44.46	44.96
8	44.50	44.90	8	45.45	42.74	8	44.57	44.77	8	44.53	44.85
8	44.55	44.81	8	45.45	42.74	8	44.52	44.87	8	44.53	44.85
13	42.08	49.26	13	43.04	47.40	13	42.00	49.43	13	41.95	49.52
13	35.03	59.60	13	43.05	47.38	13	42.00	49.43	13	41.97	49.47

TABLE 3.5-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
35	36.70	57.63	35	36.64	57.72	35	36.73	57.60	35	38.70	54.77
36	36.72	57.61	36	36.64	57.72	36	36.74	57.58	36	38.66	54.84
40	36.74	57.59	40	36.70	57.64	40	36.80	57.51	40	39.00	54.34
40	36.75	57.57	40	36.75	57.57	40	36.76	57.56	40	38.86	54.55
43	36.79	57.52	43	36.77	57.55	43	36.83	57.47	43	38.16	55.58
43	36.81	57.49	43	36.76	57.56	43	36.80	57.50	43	38.16	55.57
46	36.81	57.49	46	36.73	57.60	46	36.85	57.44	46	38.18	55.54
46	36.79	57.52	46	36.77	57.55	46	36.87	57.41	46	38.24	55.45
49	36.79	57.52	49	36.74	57.58	49	36.87	57.41	49	38.24	55.45
49	36.83	57.47	49	36.76	57.56	49	36.80	57.50	49	38.18	55.55
52	36.80	57.51	52	36.76	57.56	52	36.80	57.50	52	38.22	55.49
52	36.81	57.49	52	36.73	57.60	52	36.83	57.47	52	38.29	55.39
55	37.16	57.03	55	37.13	57.06	55	37.48	56.57	55	41.94	49.53
55	37.24	56.91	55	37.20	56.97	55	37.41	56.67	55	42.31	48.81
58	37.70	56.26	58	37.67	56.30	58	37.75	56.19	58	45.77	41.76
58	37.75	56.19	58	37.77	56.16	58	37.81	56.09	58	46.07	40.82
61	38.22	55.49	61	38.17	55.56	61	38.29	55.39	61	49.79	32.11
61	38.24	55.45	61	38.23	55.47	61	38.29	55.38	61	50.29	30.83
64	38.70	54.78	64	38.72	54.74	64	38.77	54.67	64	54.03	21.03
64	38.85	54.56	64	38.79	54.64	64	38.84	54.57	64	54.35	19.78
67	39.26	53.98	67	39.28	53.95	67	39.33	53.89	67	56.99	9.60
67	39.36	53.84	67	39.34	53.86	67	39.38	53.80	67	57.34	8.36
71	39.96	52.92	71	39.92	52.98	71	40.00	52.85	71	60.52	-5.05
71	39.99	52.87	71	40.00	52.85	71	40.09	52.73	71	60.68	-6.06
73	40.30	52.42	73	40.30	52.42	73	40.36	52.33	73	61.54	-11.31
73	40.33	52.37	73	40.35	52.34	73	40.42	52.24	73	61.67	-12.12
76	40.80	51.62	76	40.79	51.64	76	40.87	51.50	76	62.73	-18.60
76	40.85	51.54	76	40.81	51.60	76	40.97	51.33	76	62.92	-19.74
79	41.26	50.82	79	41.25	50.84	79	41.31	50.73	79	63.81	-25.23
79	41.32	50.71	79	41.31	50.72	79	41.35	50.65	79	63.81	-25.21
82	41.68	50.03	82	41.69	50.02	82	41.74	49.92	82	64.37	-28.65
83	41.79	49.83	83	41.82	49.77	83	41.96	49.49	83	64.47	-29.24
85	42.12	49.19	85	42.11	49.21	85	42.15	49.12	85	64.74	-30.92
85	42.16	49.11	85	42.18	49.06	85	42.22	48.98	85	64.84	-31.49
88	42.56	48.32	88	42.51	48.41	88	42.57	48.31	88	64.64	-30.32
88	42.60	48.24	88	42.56	48.32	88	42.67	48.09	88	64.74	-30.91
91	42.98	47.51	91	42.93	47.60	91	43.03	47.42	91	64.16	-27.36
91	43.00	47.46	91	43.03	47.41	91	43.07	47.34	91	64.11	-27.07
94	43.38	46.77	94	43.39	46.74	94	43.45	46.63	94	63.07	-20.66
94	43.45	46.63	94	43.47	46.60	94	43.53	46.49	94	62.99	-20.21
97	43.85	45.88	97	43.85	45.87	97	43.99	45.69	97	61.77	-12.73
98	43.99	45.69	98	43.94	45.76	98	44.16	45.45	98	61.82	-13.04
99	44.24	45.33	99	44.25	45.32	99	44.32	45.20	99	60.94	-7.64
99	44.27	45.27	99	44.30	45.23	99	44.34	45.17	99	60.86	-7.17

TABLE 3.5-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
3	44.42	45.04	3	44.40	45.06	3	44.46	44.97	3	59.46	0.83
3	44.52	44.86	3	44.40	45.07	3	44.51	44.88	3	59.29	1.41
8	44.51	44.88	8	44.48	44.93	8	44.60	44.72	8	57.18	8.90
8	44.48	44.93	8	44.48	44.94	8	44.58	44.76	8	56.94	9.76
13	41.95	49.52	13	41.94	49.54	13	42.51	48.42	13	43.36	46.79
13	41.96	49.49	13	41.93	49.56	13	42.42	48.60	13	44.13	45.49

TABLE 3.5-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
35	39.72	53.35	35	41.04	51.22	35	42.19	49.05	35	43.30	46.91
36	39.66	53.43	36	41.04	51.21	36	42.21	49.00	36	43.34	46.84
40	39.88	53.04	40	41.16	50.99	40	42.32	48.78	40	43.29	46.93
40	39.71	53.37	40	40.97	51.33	41	41.95	49.51	41	43.00	47.46
43	38.50	55.07	43	39.04	54.29	43	39.64	53.46	43	40.15	52.64
43	38.42	55.19	43	38.98	54.37	44	39.53	53.61	44	40.00	52.85
46	38.44	55.16	46	38.79	54.65	46	39.42	53.75	46	39.73	53.24
46	38.43	55.18	46	38.90	54.49	46	39.38	53.80	47	39.69	53.29
49	38.56	54.99	49	38.96	54.40	49	39.33	53.89	49	39.67	53.42
49	38.46	55.14	49	38.92	54.46	49	39.45	53.71	50	39.74	53.23
52	38.64	54.87	52	39.06	54.26	52	39.48	53.67	52	39.79	53.16
52	38.50	55.08	52	38.97	54.39	52	39.50	53.64	52	39.71	53.27
55	42.31	48.81	55	42.94	47.59	55	43.56	46.45	55	43.91	45.79
55	42.81	47.82	55	43.41	46.71	56	44.28	45.26	56	44.66	44.61
58	46.27	40.22	58	47.34	37.99	58	48.20	35.77	58	48.93	34.05
58	46.70	39.17	58	47.89	36.69	58	48.75	34.46	58	49.64	32.46
61	50.72	29.59	61	51.53	26.08	61	53.23	22.54	61	54.39	19.16
61	51.17	28.12	61	51.98	24.44	61	54.11	20.81	62	54.28	17.30
64	54.27	17.08	64	56.36	11.82	64	57.84	6.58	64	59.29	1.40
64	54.73	15.24	65	56.90	9.91	65	58.43	4.47	65	59.84	-0.93
67	58.85	3.00	67	60.37	-4.16	67	61.52	-11.21	67	62.71	-18.50
67	59.29	1.41	67	60.70	-6.17	67	61.91	-13.58	68	63.05	-20.59
71	62.28	-15.87	71	64.04	-26.61	71	65.73	-36.95	71	67.27	-46.40
71	62.53	-17.37	71	64.39	-28.79	72	66.13	-39.40	72	67.71	-49.07
73	63.81	-25.24	73	65.92	-38.15	73	67.64	-49.86	73	69.70	-61.23
73	64.10	-26.97	74	66.21	-39.92	74	68.21	-52.14	74	70.06	-63.46
76	59.69	-0.	76	68.56	-54.28	76	70.94	-68.83	76	73.08	-81.96
76	66.08	-39.12	76	68.81	-55.80	76	71.28	-70.93	76	73.52	-84.63
79	67.60	-48.43	79	70.98	-69.11	79	73.90	-86.98	79	76.37	-102.07
79	67.78	-49.51	79	71.31	-71.11	79	74.20	-88.82	79	76.70	-104.09
82	69.08	-57.46	82	73.17	-82.53	82	76.58	-103.38	82	79.56	-121.58
83	69.49	-59.95	83	73.66	-85.52	83	77.28	-107.63	83	80.35	-126.43
85	70.18	-64.20	85	74.97	-93.51	85	78.98	-118.04	85	82.40	-138.96
85	59.69	-0.	85	75.21	-94.99	85	79.24	-119.66	85	82.68	-140.68
88	70.95	-68.88	88	76.27	-101.46	88	81.09	-130.97	88	84.79	-153.61
88	70.80	-68.00	88	76.52	-102.98	88	81.11	-131.07	88	85.05	-155.23
91	70.98	-69.11	91	77.18	-107.02	91	82.40	-138.96	91	86.84	-166.14
91	70.97	-69.00	91	77.18	-107.02	91	82.54	-139.87	91	87.02	-167.25
94	70.35	-65.22	94	77.18	-107.02	94	83.19	-143.81	94	88.21	-174.53
94	70.26	-64.71	94	77.24	-107.43	94	83.34	-144.72	95	88.19	-174.43
97	69.43	-59.60	97	76.88	-105.20	97	83.47	-145.53	97	89.02	-179.48
98	69.09	-57.53	98	77.01	-106.01	98	83.37	-144.92	98	89.22	-180.70
99	68.53	-54.10	99	76.30	-101.67	99	83.34	-144.72	99	89.31	-181.30
0	68.28	-52.54	0	76.16	-100.77	0	83.25	-144.21	0	89.33	-181.40

TABLE 3.5-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
3	66.54	-41.92	3	74.42	-90.16	3	81.47	-133.30	3	88.16	-174.23
4	66.40	-41.07	4	74.04	-87.85	4	81.32	-132.39	4	87.98	-173.12
8	64.40	-28.83	8	71.63	-73.05	8	79.03	-118.34	8	85.83	-159.98
8	64.31	-28.26	8	71.55	-72.57	8	78.80	-116.93	8	85.71	-159.27
13	44.15	45.46	13	44.27	45.28	13	44.30	45.22	13	44.39	45.08
13	44.16	45.45	13	44.23	45.34	13	44.32	45.20	13	44.45	44.99

TABLE 3.5-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
35	45.43	42.81	35	46.05	40.87	36	49.74	32.21	36	89.88	-184.74
36	45.39	42.91	36	46.03	40.94	36	49.73	32.23	36	89.89	-184.84
40	45.35	43.01	40	46.13	40.64	40	49.58	32.58	40	71.78	-73.98
41	44.97	43.97	41	45.77	41.74	41	49.06	33.76	41	66.96	-44.49
43	41.48	50.41	43	41.64	50.12	43	45.11	43.64	43	55.39	14.53
44	41.27	50.80	44	41.29	50.77	44	44.51	44.88	44	54.35	18.15
46	40.84	51.55	46	40.65	51.87	46	42.37	48.70	46	48.93	34.05
47	40.80	51.61	47	40.53	52.06	47	42.25	48.93	47	48.32	35.45
49	40.70	51.78	49	40.57	52.00	49	42.13	49.17	49	47.31	38.05
50	40.79	51.63	50	40.55	52.04	50	42.09	49.25	50	47.19	38.24
52	40.82	51.58	52	40.52	52.08	52	42.11	49.21	52	47.15	38.31
52	40.82	51.59	52	40.54	52.05	53	42.13	49.17	53	47.10	38.40
55	45.21	43.39	55	45.43	42.81	55	48.72	34.51	55	73.28	-83.18
56	45.60	42.28	56	45.87	41.42	56	49.54	32.68	56	76.02	-99.96
58	50.61	29.92	58	51.74	26.66	58	55.97	13.23	58	92.12	-198.48
59	51.19	28.06	59	51.82	24.74	59	56.81	10.22	59	93.62	-207.68
61	56.20	12.40	61	57.88	6.44	61	61.68	-12.18	61	93.53	-207.07
62	56.86	10.06	62	58.56	4.03	62	62.28	-15.87	62	93.67	-207.98
64	59.69	-0.	64	62.35	-16.29	64	66.19	-39.81	64	93.53	-207.07
65	59.69	-0.	65	62.82	-19.17	65	66.82	-43.65	65	93.62	-207.68
67	64.71	-30.69	67	66.33	-40.62	67	70.69	-67.32	67	93.53	-207.07
68	65.16	-33.45	68	66.82	-43.64	68	71.21	-70.53	68	93.69	-208.08
71	69.82	-61.98	71	71.69	-73.44	71	76.70	-104.09	71	93.56	-207.27
72	70.27	-64.75	72	72.22	-76.68	72	77.28	-107.63	72	93.66	-207.88
73	72.45	-78.10	73	74.43	-90.24	73	79.69	-122.38	73	93.66	-207.88
74	72.85	-80.53	74	74.92	-93.19	74	80.22	-125.62	74	93.69	-208.08
76	76.17	-100.87	76	78.40	-114.50	76	84.03	-148.96	76	93.69	-208.08
76	76.60	-103.49	77	78.83	-117.13	77	84.46	-151.59	77	93.69	-208.08
79	79.90	-123.70	79	82.26	-138.15	79	88.06	-173.62	79	93.69	-208.08
80	80.25	-125.82	80	82.76	-141.18	80	88.69	-177.46	80	93.69	-208.08
82	83.35	-144.82	82	86.04	-161.29	82	92.19	-198.89	82	93.79	-208.69
83	84.23	-150.18	83	87.05	-167.46	83	93.24	-205.35	83	94.00	-210.00
85	86.64	-164.93	85	89.63	-183.22	85	93.69	-208.08	85	94.05	-210.31
86	86.97	-166.95	86	90.01	-185.55	86	93.86	-209.09	86	94.15	-210.91
88	89.46	-182.21	88	92.91	-203.33	88	94.00	-210.00	88	94.00	-210.00
88	89.76	-184.03	89	93.18	-204.95	89	94.02	-210.10	89	94.15	-210.91
91	92.01	-197.77	91	93.86	-209.09	91	94.12	-210.71	91	94.15	-210.91
91	92.15	-198.68	91	93.86	-209.09	92	94.09	-210.51	92	94.10	-210.61
94	93.69	-208.08	94	94.12	-210.71	94	94.19	-211.11	94	94.20	-211.22
95	93.62	-207.68	95	94.00	-210.00	95	94.00	-210.00	95	94.00	-210.00
97	93.69	-208.08	97	94.19	-211.11	97	94.22	-211.32	97	94.22	-211.32
98	93.69	-208.08	98	94.12	-210.71	98	94.14	-210.81	98	94.14	-210.81
99	93.86	-209.09	99	94.25	-211.52	99	94.28	-211.72	99	94.28	-211.72
0	93.86	-209.09	0	94.24	-211.42	0	94.27	-211.62	0	94.25	-211.52

TABLE 3.5-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
3	93.69	-208.08	3	94.19	-211.11	3	94.22	-211.32	3	94.24	-211.42
4	93.86	-209.09	4	94.25	-211.52	4	94.27	-211.62	4	94.28	-211.72
8	93.69	-208.08	8	94.24	-211.42	8	94.22	-211.32	8	94.25	-211.52
9	93.86	-209.09	9	94.27	-211.62	9	94.30	-211.82	9	94.35	-212.12
13	45.10	43.67	13	44.88	44.16	13	51.61	25.28	13	93.99	-209.90
13	45.23	43.34	13	45.10	43.67	14	52.66	23.39	14	94.02	-210.10

TABLE 3.5-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
36	36.74	57.58	36	36.74	57.58	36	36.82	57.48	36	36.87	57.41
36	36.74	57.58	36	36.74	57.58	36	36.81	57.49	36	36.83	57.47
40	36.80	57.51	40	36.82	57.48	40	36.89	57.39	40	36.96	57.29
41	36.84	57.45	41	36.82	57.48	41	36.88	57.40	41	36.95	57.31
43	36.89	57.39	43	36.87	57.41	43	36.95	57.31	43	36.96	57.30
44	36.84	57.46	44	36.85	57.44	44	36.91	57.36	44	36.98	57.27
46	36.84	57.46	46	36.87	57.41	46	36.95	57.31	46	37.04	57.19
47	36.88	57.40	47	36.87	57.41	47	36.91	57.36	47	36.99	57.25
49	36.87	57.42	49	36.85	57.44	49	36.96	57.29	49	36.98	57.27
50	36.86	57.43	50	36.87	57.41	50	36.94	57.32	50	36.99	57.25
52	36.84	57.46	52	36.84	57.46	52	36.95	57.31	52	36.97	57.28
53	36.86	57.43	53	36.89	57.39	53	36.93	57.34	53	36.96	57.29
55	37.26	56.89	55	37.27	56.88	55	37.32	56.81	55	37.35	56.76
56	37.30	56.83	56	37.33	56.79	56	37.47	56.59	56	37.46	56.60
58	37.82	56.08	58	37.84	56.05	58	37.93	55.92	58	37.99	55.83
59	37.88	56.00	59	37.91	55.95	59	38.01	55.80	59	38.08	55.69
61	38.31	55.36	61	38.34	55.31	61	38.42	55.19	61	38.50	55.07
62	38.38	55.25	62	38.40	55.22	62	38.43	55.18	62	38.49	55.09
64	38.84	54.57	64	38.90	54.48	64	38.97	54.39	64	38.97	54.39
65	38.90	54.48	65	38.95	54.42	65	39.00	54.35	65	39.09	54.22
67	39.38	53.81	67	39.38	53.80	67	39.47	53.69	67	39.50	53.64
68	39.48	53.67	68	39.51	53.63	68	39.64	53.46	68	39.65	53.45
71	40.08	52.74	71	40.06	52.77	71	40.16	52.62	71	40.14	52.65
72	40.07	52.75	72	40.11	52.70	72	40.20	52.57	72	40.23	52.52
73	40.42	52.23	73	40.46	52.18	73	40.56	52.02	73	40.52	52.08
74	40.54	52.05	74	40.49	52.12	74	40.56	52.02	74	40.58	51.98
76	40.89	51.46	76	40.90	51.45	76	40.97	51.33	76	41.00	51.28
77	40.96	51.35	77	40.99	51.30	77	41.08	51.14	77	41.11	51.09
79	41.36	50.64	79	41.39	50.58	79	41.49	50.40	79	41.53	50.32
80	41.45	50.48	80	41.47	50.44	80	41.53	50.33	80	41.53	50.33
82	59.69	-0.	82	41.79	49.82	82	41.87	49.67	82	41.88	49.65
83	59.69	-0.	83	41.94	49.54	83	42.01	49.40	83	42.02	49.39
85	59.69	-0.	85	42.24	48.95	85	42.30	48.82	85	42.39	48.66
86	59.69	-0.	86	42.29	48.85	86	42.34	48.74	86	42.42	48.60
88	59.69	-0.	88	42.66	48.11	88	42.68	48.08	88	42.75	47.95
89	59.69	-0.	89	42.71	48.02	89	42.79	47.86	89	42.81	47.82
91	59.69	-0.	91	43.11	47.27	91	43.15	47.17	91	43.15	47.18
92	59.69	-0.	92	43.14	47.20	92	43.17	47.15	92	43.21	47.07
94	59.69	-0.	94	43.53	46.49	94	43.61	46.36	94	43.59	46.39
95	59.69	-0.	95	43.62	46.34	95	43.67	46.25	95	43.60	46.19
97	59.69	-0.	97	44.02	45.65	97	44.09	45.55	97	44.14	45.48
98	59.69	-0.	98	44.08	45.57	98	44.16	45.45	98	44.17	45.43
99	59.69	-0.	99	44.37	45.12	99	44.45	44.98	99	44.45	44.99
0	59.69	-0.	0	44.41	45.05	0	44.49	44.92	0	44.53	44.84

TABLE 3.5-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
3	59.69	-0.	3	44.48	44.94	3	44.55	44.81	3	44.57	44.78
4	59.69	-0.	4	44.48	44.94	4	44.55	44.81	4	44.57	44.78
8	59.69	-0.	8	44.57	44.78	8	44.61	44.71	8	44.62	44.69
9	59.69	-0.	9	44.57	44.77	9	44.62	44.68	9	44.66	44.62
13	41.95	49.52	13	41.95	49.51	13	42.03	49.36	13	42.07	49.28
14	41.97	49.48	14	41.96	49.49	14	42.02	49.39	14	42.05	49.32

TABLE 3.5-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
36	37.66	56.31	36	36.71	57.62	36	36.67	57.67	36	36.69	57.65
36	37.66	56.31	36	36.70	57.63	36	36.70	57.63	36	36.68	57.66
40	37.81	56.10	40	36.76	57.56	40	36.70	57.64	40	36.74	57.59
41	37.75	56.19	41	36.78	57.53	41	36.71	57.62	41	36.76	57.56
43	37.77	56.15	43	36.81	57.49	43	36.78	57.53	43	36.80	57.50
44	37.82	56.08	44	36.80	57.50	44	36.80	57.50	44	36.77	57.54
46	37.89	55.98	46	36.82	57.48	46	36.81	57.49	46	36.80	57.50
47	37.75	56.19	47	36.86	57.43	47	36.80	57.50	47	36.81	57.49
49	37.86	56.03	49	36.84	57.45	49	36.83	57.47	49	36.80	57.50
50	37.81	56.09	50	36.82	57.48	50	36.81	57.49	50	36.80	57.51
52	37.81	56.10	52	36.79	57.52	52	36.76	57.56	52	36.77	57.55
53	37.82	56.08	53	36.79	57.52	53	36.80	57.50	53	36.81	57.49
55	38.22	55.49	55	37.22	56.95	55	37.22	56.94	55	37.26	56.89
56	38.32	55.34	56	37.25	56.90	56	37.25	56.90	56	37.32	56.81
58	38.83	54.58	58	37.77	56.16	58	37.68	56.29	58	37.75	56.19
59	38.86	54.55	59	37.82	56.08	59	37.82	56.08	59	37.84	56.05
61	39.28	53.95	61	38.32	55.34	61	38.28	55.40	61	38.29	55.39
62	39.30	53.93	62	38.35	55.29	62	38.33	55.32	62	38.36	55.28
64	39.86	53.06	64	38.79	54.65	64	38.79	54.65	64	38.88	54.52
65	39.86	53.06	65	38.87	54.53	65	38.87	54.53	65	38.86	54.54
67	40.34	52.36	67	39.33	53.88	67	39.33	53.88	67	39.36	53.84
68	40.40	52.26	68	39.45	53.71	68	39.43	53.74	68	39.44	53.72
71	41.03	51.23	71	40.02	52.83	71	40.01	52.84	71	40.00	52.86
72	41.02	51.24	72	40.09	52.73	72	40.09	52.73	72	40.03	52.81
73	41.25	50.83	73	40.37	52.31	73	40.38	52.30	73	40.40	52.26
74	41.31	50.73	74	40.45	52.19	74	40.45	52.19	74	40.47	52.16
76	41.71	49.98	76	40.85	51.54	76	40.86	51.52	76	40.85	51.53
77	41.79	49.82	77	40.91	51.43	77	40.90	51.45	77	40.89	51.47
79	42.21	49.00	79	41.30	50.74	79	41.32	50.70	79	41.35	50.65
80	42.15	49.13	80	46.19	40.44	80	41.40	50.57	80	41.38	50.60
82	42.58	48.29	82	41.75	49.90	82	41.77	49.87	82	41.78	49.85
83	42.65	48.14	83	41.87	49.67	83	41.91	49.59	83	41.90	49.62
85	43.00	47.46	85	42.18	49.07	85	42.18	49.07	85	42.21	49.00
86	43.03	47.41	86	42.24	48.94	86	42.26	48.90	86	42.26	48.91
88	43.44	46.66	88	42.62	48.21	88	42.60	48.25	88	42.58	48.28
89	43.50	46.55	89	42.66	48.11	89	42.65	48.13	89	42.69	48.06
91	43.81	45.92	91	43.06	47.35	91	43.03	47.41	91	43.01	47.44
92	44.03	45.63	92	43.07	47.33	92	43.08	47.31	92	43.10	47.28
94	44.46	44.96	94	43.47	46.60	94	43.48	46.59	94	43.47	46.61
95	44.51	44.89	95	43.50	46.55	95	43.55	46.46	95	43.53	46.50
97	44.94	44.03	97	44.00	45.68	97	43.97	45.72	97	43.97	45.71
98	44.93	44.05	98	44.03	45.64	98	44.02	45.65	98	44.03	45.63
99	45.10	43.67	99	44.33	45.18	99	44.30	45.22	99	44.30	45.23
0	45.11	43.66	0	44.39	45.08	0	44.39	45.08	0	44.38	45.10

TABLE 3.5-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
3	45.17	43.50	3	44.44	45.00	3	44.46	44.97	3	44.43	45.01
4	45.15	43.56	4	44.45	44.99	4	44.43	45.02	4	44.45	44.99
8	45.23	43.34	8	44.52	44.87	8	44.53	44.85	8	44.53	44.85
9	45.23	43.35	9	44.52	44.86	9	44.53	44.85	9	44.51	44.89
13	42.66	48.11	13	41.96	49.49	13	41.92	49.58	13	41.93	49.56
14	42.68	48.07	14	41.97	49.48	14	41.95	49.51	14	41.97	49.48

TABLE 3.5-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
36	36.74	57.59	36	62.99	-20.20	36	4127.74	308.94	36	93.97	-209.80
36	36.70	57.63	36	62.99	-20.20	36	93.69	-208.08	36	93.97	-209.80
40	36.77	57.55	40	62.99	-20.20	40	93.69	-208.08	40	94.04	-210.20
41	36.77	57.54	41	62.99	-20.20	41	93.62	-207.68	41	93.94	-209.60
43	36.81	57.49	43	62.99	-20.20	43	93.69	-208.08	43	94.05	-210.31
44	36.80	57.50	44	63.09	-20.81	44	93.69	-208.08	44	93.94	-209.60
46	36.84	57.45	46	63.19	-21.42	46	93.69	-208.08	46	94.02	-210.10
47	36.80	57.50	47	62.99	-20.20	47	93.79	-208.69	47	94.09	-210.51
49	36.84	57.45	49	62.92	-19.80	49	93.79	-208.69	49	94.10	-210.61
50	36.84	57.45	50	63.16	-21.21	50	93.69	-208.08	50	94.07	-210.41
52	36.80	57.50	52	63.28	-21.95	52	93.69	-208.08	52	94.00	-210.00
53	36.81	57.49	53	63.11	-20.92	53	93.69	-208.08	53	93.99	-209.90
55	37.27	56.88	55	62.83	-19.20	55	93.53	-207.07	55	93.81	-208.79
56	37.31	56.82	56	62.76	-18.81	56	93.66	-207.88	56	93.91	-209.40
58	37.79	56.12	58	62.78	-18.89	58	93.53	-207.07	58	93.79	-208.69
59	37.86	56.03	59	63.09	-20.81	59	93.62	-207.68	59	93.89	-209.30
61	38.31	55.36	61	62.83	-19.19	61	93.53	-207.07	61	93.86	-209.09
62	38.39	55.23	62	63.19	-21.42	62	93.69	-208.08	62	94.00	-210.00
64	38.86	54.54	64	62.99	-20.20	64	93.53	-207.07	64	93.84	-208.99
65	38.84	54.57	65	63.08	-20.73	65	93.53	-207.07	65	93.86	-209.09
67	39.41	53.77	67	62.99	-20.20	67	93.53	-207.07	67	93.82	-208.89
68	39.49	53.66	68	62.99	-20.20	68	93.69	-208.08	68	93.94	-209.60
71	40.07	52.76	71	63.32	-22.22	71	93.56	-207.27	71	93.87	-209.19
72	40.06	52.77	72	63.29	-22.05	72	93.67	-207.98	72	93.95	-209.70
73	40.42	52.23	73	63.09	-20.81	73	93.69	-208.08	73	93.95	-209.70
74	40.47	52.15	74	62.93	-19.82	74	93.69	-208.08	74	94.00	-210.00
76	40.84	51.56	76	62.59	-17.77	76	93.69	-208.08	76	94.02	-210.10
77	40.96	51.35	77	62.81	-19.11	77	93.69	-208.08	77	94.07	-210.41
79	41.37	50.62	79	62.69	-18.38	79	93.69	-208.08	79	94.04	-210.20
80	41.43	50.51	80	62.69	-18.37	80	93.69	-208.08	80	94.05	-210.31
82	41.80	49.81	82	62.81	-19.09	82	93.69	-208.08	82	94.02	-210.10
83	41.93	49.55	83	62.85	-19.36	83	93.86	-209.09	83	94.15	-210.91
85	42.21	49.01	85	62.88	-19.49	85	93.69	-208.08	85	94.05	-210.31
86	42.27	48.88	86	62.95	-19.98	86	93.86	-209.09	86	94.14	-210.81
88	42.62	48.21	88	62.88	-19.50	88	93.69	-208.08	88	94.05	-210.31
89	42.69	48.05	89	62.66	-18.15	89	93.86	-209.09	89	94.15	-210.91
91	43.03	47.42	91	62.66	-18.18	91	93.69	-208.08	91	94.12	-210.71
92	43.11	47.27	92	62.66	-18.18	92	93.89	-209.30	92	94.24	-211.42
94	43.47	46.60	94	62.81	-19.12	94	93.86	-209.09	94	94.19	-211.11
95	43.55	46.46	95	62.74	-18.70	95	93.69	-208.08	95	94.02	-210.10
97	44.00	45.67	97	62.74	-18.70	97	93.86	-209.09	97	94.19	-211.11
98	44.06	45.59	98	62.98	-20.11	98	93.89	-209.30	98	94.20	-211.22
99	44.34	45.16	99	62.99	-20.20	99	93.95	-209.70	99	94.24	-211.42
0	44.39	45.08	0	62.96	-20.00	0	93.67	-207.98	0	93.95	-209.70

TABLE 3.5-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
3	44.44	45.00	3	63.14	-21.11	3	93.99	-209.90	3	94.28	-211.72
4	44.46	44.96	4	63.21	-21.52	4	94.02	-210.10	4	94.28	-211.72
8	44.53	44.84	8	62.99	-20.20	8	93.99	-209.90	8	94.25	-211.52
9	44.56	44.80	9	63.02	-20.40	9	93.95	-209.70	9	94.27	-211.62
13	41.95	49.52	13	63.21	-21.52	13	93.92	-209.50	13	94.24	-211.42
14	41.97	49.47	14	62.99	-20.21	14	94.02	-210.10	14	94.32	-211.92

3.6 Run 13

This run was to be a boil-off and self-pressurization test for the half-full tank condition, Configuration 2. Temperature and self-pressurization data were obtained on 15 August 1963 during reactor run 93. Boil-off measurements were attempted on 20 August during reactor run 96; however, because of pressure differentials in the modified flowmeter hook-up, only the background data (ambient heat leak, zero reactor power) were valid.

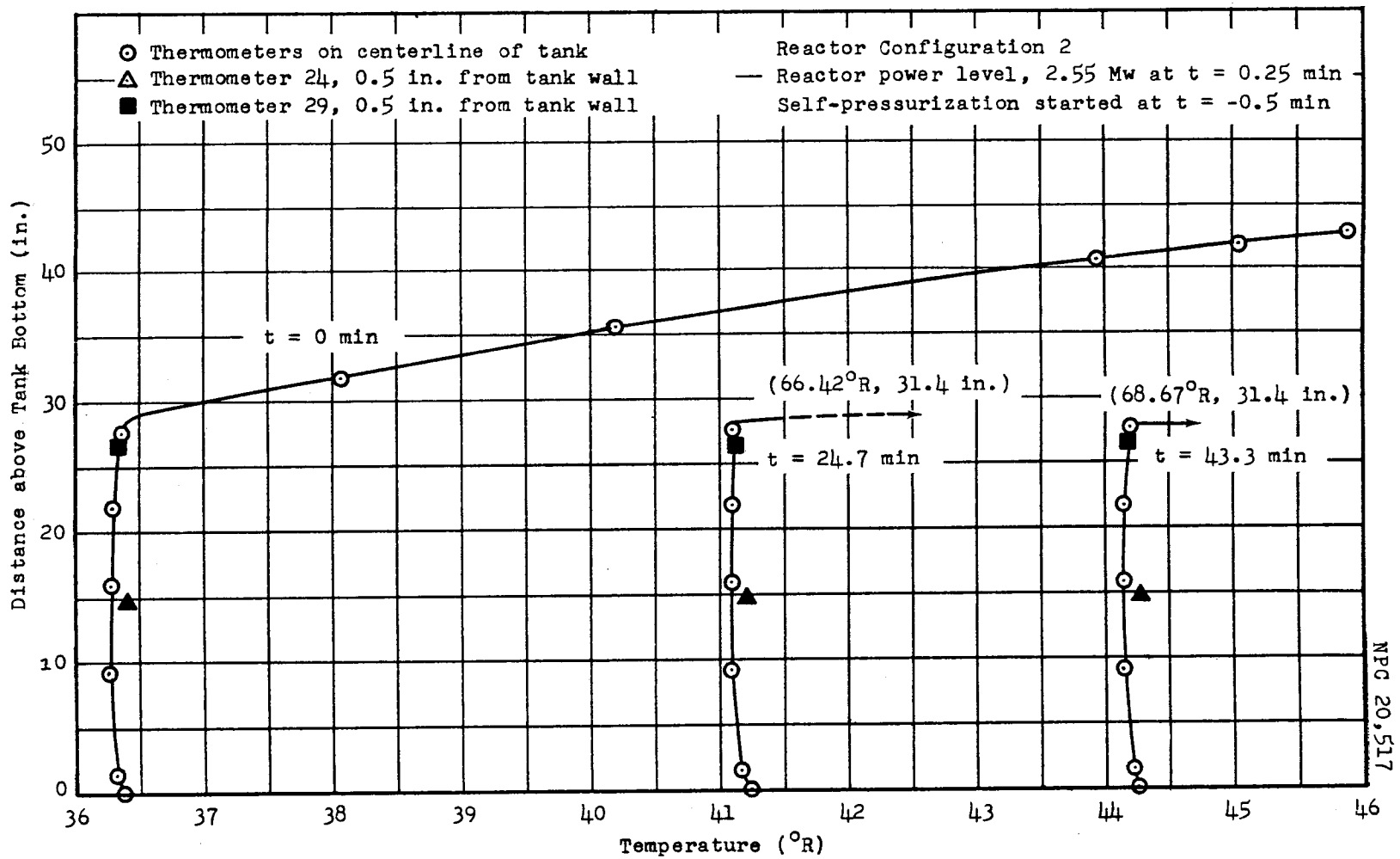

Figure 3.6-1 Temperature Profiles: Run 13-93

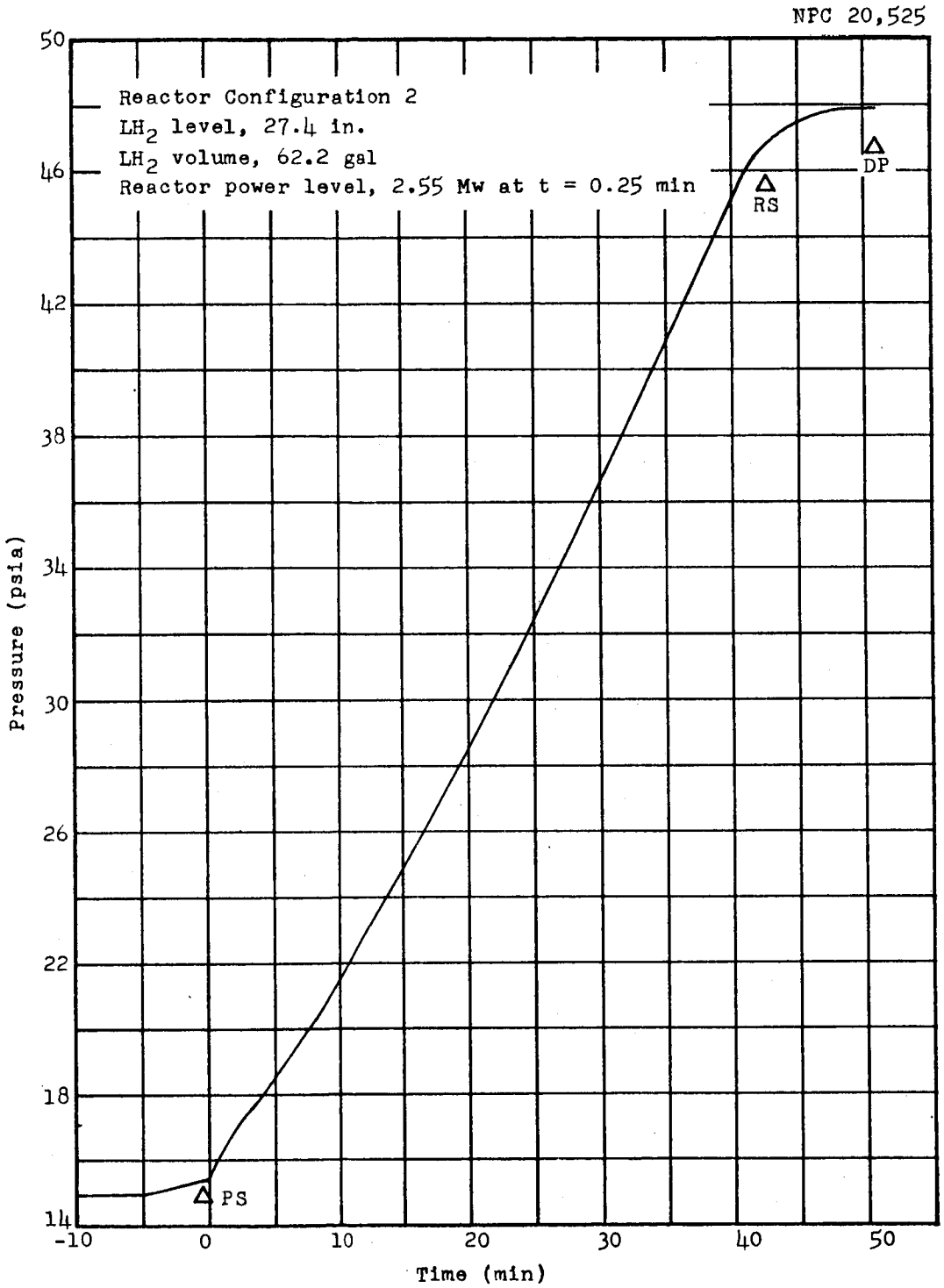

Figure 3.6-2 Self-Pressurization Data: Run 13-93

Table 3.6-1

Pressure Data From Run 13-93

Time: 1340.5 to 1432 Date: 15 August 1963

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
-5.5	14.9		17.5	26.7	
-0.5	15.4	PS	18.6	27.5	
0.0	-	Timer On	19.4	28.0	
+ .25	15.4	2.55 Mw	20.9	29.4	
0.9	16.1		21.7	29.9	
1.8	16.8		22.7	30.5	
2.9	17.4		23.8	31.5	
3.9	17.9		24.7	32.0	
5.1	18.5		25.5	32.8	
6.1	19.3		26.7	33.8	
6.9	19.8		27.7	34.4	
8.2	20.4		28.9	35.6	
9.2	21.3		29.7	36.3	
10.3	22.4		30.7	37.0	
11.5	22.8		31.6	38.0	
13.5	24.0		32.1	38.8	
14.4	24.5		33.0	39.4	
14.8	24.8		34.0	40.0	
15.6	25.4		34.5	40.6	

Table 3.6-1 (Continued)

Time (min)	Pressure (psia)	Event	Time (min)	Pressure (psia)	Event
35.6	41.3		42.7	46.9	RS
37.0	42.5		43.6	47.2	
37.5	43.2		45.5	47.6	
38.7	44.0		47.8	47.9	
39.7	44.8		51.0	49.4	
40.5	45.5		51.5	-	DP
41.5	46.4				

TABLE 3.6-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 13 —93

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.87	57.42	0	36.88	57.40	0	36.86	57.43	0	38.27	55.42
0	36.87	57.41	0	36.88	57.40	0	36.81	57.49	0	38.27	55.41
0	36.90	57.38	0	36.91	57.36	0	36.84	57.45	0	38.29	55.38
0	37.11	57.10	0	37.17	57.01	0	37.11	57.09	0	38.43	55.18
1	37.18	57.00	1	37.21	56.96	1	37.11	57.09	1	38.44	55.16
4	37.87	56.01	4	37.88	55.99	4	37.82	56.08	4	39.12	54.17
4	37.89	55.98	4	37.99	55.84	4	37.85	56.04	4	39.19	54.08
9	38.83	54.58	9	38.89	54.50	9	38.77	54.68	9	40.56	52.02
9	38.90	54.48	9	38.97	54.38	9	38.81	54.62	9	40.60	51.95
14	39.87	53.05	14	39.88	53.04	14	39.71	53.26	14	41.98	49.46
14	39.89	53.02	14	39.97	52.90	14	39.85	53.07	14	42.57	48.31
19	40.81	51.60	19	40.88	51.49	19	40.77	51.67	19	41.80	49.80
19	40.88	51.48	19	40.96	51.35	19	40.84	51.55	19	42.57	48.30
24	41.70	49.99	24	41.76	49.89	24	41.65	50.10	24	41.93	49.55
24	41.75	49.90	24	41.80	49.81	24	41.70	50.00	24	41.92	49.58
29	42.50	48.43	29	42.57	48.31	29	42.49	48.46	29	42.72	48.01
29	42.56	48.32	29	42.60	48.24	29	42.51	48.41	29	42.79	47.87
34	43.39	46.75	34	43.47	46.60	34	43.34	46.83	34	43.63	46.32
35	43.48	46.58	35	43.56	46.44	35	43.47	46.61	35	43.65	46.13
39	44.37	45.12	39	44.43	45.02	39	44.28	45.26	39	44.64	44.65
39	44.46	44.96	39	44.49	44.91	39	44.36	45.13	39	44.69	44.55
43	44.76	44.43	43	44.81	44.32	43	44.70	44.53	43	44.97	43.97
43	44.76	44.43	43	44.23	45.34	43	44.72	44.50	43	44.98	43.96
43	44.77	44.40	43	44.83	44.27	43	44.75	44.44	43	44.99	43.92

* Timing interval = 0.31 minute.

TABLE 3.6-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.77	57.54	0	38.06	55.72	0	36.79	57.52	0	36.79	57.52
0	36.78	57.53	0	38.05	55.74	0	36.79	57.52	0	36.80	57.51
0	36.79	57.52	0	38.03	55.76	0	36.78	57.53	0	36.80	57.51
0	36.99	57.26	0	38.22	55.49	0	36.96	57.29	0	36.96	57.30
1	37.04	57.19	1	38.32	55.34	1	37.08	57.13	1	37.04	57.19
4	37.70	56.26	4	38.88	54.51	4	37.66	56.32	4	37.66	56.31
4	37.75	56.19	4	38.91	54.47	4	37.74	56.20	4	37.72	56.23
9	38.66	54.85	9	39.82	53.12	9	38.68	54.81	9	38.68	54.80
9	38.74	54.71	9	39.92	52.98	9	38.69	54.79	9	38.74	54.72
14	39.66	53.33	14	40.79	51.64	14	39.71	53.36	14	39.72	53.35
14	39.77	53.19	14	40.88	51.49	14	39.72	53.25	14	39.75	53.21
19	40.71	51.77	19	41.69	50.02	19	40.70	51.79	19	40.73	51.73
19	40.77	51.67	19	41.74	49.92	19	40.79	51.63	19	40.76	51.69
24	41.58	50.24	24	42.51	48.41	24	41.58	50.23	24	41.58	50.24
24	41.63	50.13	24	42.56	48.32	24	41.65	50.10	24	41.66	50.09
29	42.42	48.60	29	43.41	46.70	29	42.39	48.65	29	42.41	48.61
29	42.48	48.48	29	43.47	46.60	29	42.45	48.53	29	42.46	48.52
34	43.33	46.85	34	44.57	44.77	34	43.31	46.88	34	43.30	46.90
35	43.38	46.76	35	44.66	44.61	35	43.35	46.81	35	43.34	46.83
39	44.22	45.36	39	45.37	42.96	39	44.22	45.36	39	44.17	45.44
39	44.30	45.22	39	45.41	42.86	39	44.28	45.25	39	44.24	45.33
43	44.63	44.67	43	45.67	42.08	43	44.65	44.63	43	44.67	44.60
43	44.67	44.60	43	45.68	42.04	43	44.67	44.59	43	44.67	44.59
43	44.71	44.51	43	45.69	41.99	43	44.74	44.47	43	44.68	44.57

TABLE 3.6-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.87	57.41	0	38.57	54.98	0	40.71	51.77	0	61.67	-12.13
0	36.89	57.39	0	38.56	54.99	0	40.71	51.76	0	61.30	-9.85
0	36.91	57.36	0	38.59	54.95	0	40.71	51.76	0	61.85	-13.24
0	37.54	56.48	0	40.28	52.45	0	42.23	48.96	0	62.10	-14.75
1	37.74	56.20	1	40.85	51.53	1	42.74	47.97	1	62.50	-17.18
4	40.68	51.82	4	45.81	41.64	4	47.98	36.37	4	64.13	-27.18
4	40.79	51.63	4	46.16	40.55	4	48.49	35.04	4	64.97	-32.34
9	43.07	47.33	9	53.49	22.12	9	56.11	12.70	9	68.57	-54.36
9	43.25	47.00	9	54.16	20.65	9	56.59	11.02	9	69.31	-58.85
14	41.31	50.73	14	59.89	-1.20	14	62.40	-16.56	14	74.75	-92.17
14	43.22	47.05	14	60.15	-2.80	14	62.74	-18.64	14	65.28	-34.22
19	42.64	48.17	19	63.62	-24.06	19	67.70	-49.03	19	439.22	112.18
19	42.85	47.76	19	63.80	-25.15	19	68.08	-51.35	19	311.81	107.93
24	42.61	48.22	24	66.42	-41.16	24	73.13	-82.27	24	386.81	110.56
24	42.21	49.01	24	66.55	-42.01	24	73.46	-84.29	24	314.47	108.03
29	42.41	48.61	29	68.21	-52.14	29	78.14	-112.88	29	269.08	106.21
29	42.48	48.47	29	68.10	-51.47	29	78.47	-114.91	29	224.68	104.19
34	43.31	46.88	34	68.90	-56.38	34	82.64	-140.47	34	235.21	104.70
35	43.38	46.76	35	68.87	-56.18	35	82.97	-142.49	35	182.58	101.97
39	44.20	45.39	39	69.01	-57.07	39	85.80	-159.78	39	93.36	-206.06
39	44.27	45.27	39	68.93	-56.53	39	86.11	-161.70	39	93.34	-205.96
43	44.68	44.58	43	68.67	-54.97	43	87.18	-168.26	43	93.36	-206.06
43	44.75	44.45	43	68.62	-54.67	43	87.20	-168.37	43	93.36	-206.06
43	44.68	44.57	43	68.54	-54.17	43	87.15	-168.06	43	93.36	-206.06

TABLE 3.6-2 (Cont'd)

THERMOMETER 13

TIME	TEMP	VOLTAGE
0	44.44	45.00
0	44.51	44.88
0	44.51	44.88
0	45.86	41.45
1	46.27	40.24
4	51.61	26.38
4	51.85	24.68
9	59.99	-1.83
9	60.28	-3.62
14	65.63	-36.38
14	66.06	-38.98
19	71.90	-74.71
19	72.45	-78.12
24	78.43	-114.70
24	78.88	-117.43
29	84.79	-153.61
29	85.25	-156.44
34	91.46	-194.44
35	91.86	-196.86
39	93.54	-207.17
40	93.48	-206.77
43	93.53	-207.07
43	93.53	-207.07
43	93.51	-206.97

THERMOMETER 14

TIME	TEMP	VOLTAGE
0	45.55	42.44
0	45.54	42.48
0	45.55	42.42
0	47.09	38.41
1	47.75	37.22
4	53.65	21.84
4	54.23	20.41
9	60.91	-7.48
9	61.34	-10.10
14	66.90	-44.11
14	67.34	-46.80
19	73.52	-84.66
19	73.93	-87.14
24	80.22	-125.62
24	80.66	-128.35
29	86.77	-165.74
29	87.27	-168.77
34	93.36	-206.06
35	93.46	-206.67
39	93.64	-207.78
40	93.57	-207.38
43	93.57	-207.38
43	93.57	-207.38
43	93.59	-207.48

THERMOMETER 15

TIME	TEMP	VOLTAGE
0	46.37	39.97
0	46.42	39.84
0	50.48	30.31
0	48.32	35.46
1	48.92	34.08
4	54.29	17.47
4	54.60	15.45
9	62.15	-15.05
9	62.55	-17.49
14	68.51	-53.99
14	68.96	-56.72
19	75.29	-95.50
19	75.72	-98.12
24	82.15	-137.44
24	82.63	-140.37
29	88.85	-178.47
30	89.30	-181.20
34	93.62	-207.68
35	93.64	-207.78
39	93.66	-207.88
40	93.59	-207.48
43	93.57	-207.38
43	93.61	-207.58
43	93.61	-207.58

THERMOMETER 16

TIME	TEMP	VOLTAGE
0	47.69	37.48
0	47.69	37.47
0	47.74	37.30
0	49.53	32.70
1	50.20	31.08
4	56.02	13.03
4	56.61	10.94
9	63.33	-22.30
9	63.74	-24.77
14	70.00	-63.09
14	70.45	-65.88
19	76.93	-105.51
19	77.43	-108.54
24	83.90	-148.15
25	84.34	-150.88
29	90.62	-189.29
30	91.10	-192.22
34	93.67	-207.98
35	93.62	-207.68
39	93.64	-207.78
40	93.61	-207.58
43	93.57	-207.38
43	93.61	-207.58
43	93.61	-207.58

TABLE 3.6-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	49.48	32.81	0	50.36	30.62	0	54.34	19.82	0	93.36	-206.06
0	49.52	32.72	0	50.52	30.18	0	54.33	19.89	0	93.39	-206.26
0	49.58	32.58	0	46.27	40.24	0	54.37	19.59	0	93.36	-206.06
0	51.47	27.19	0	52.31	23.90	0	56.59	11.01	0	93.36	-206.06
1	51.55	25.54	1	53.60	21.93	1	57.33	8.40	1	93.46	-206.67
4	58.50	4.24	4	60.07	-2.32	4	63.60	-23.91	4	93.53	-207.07
4	59.12	2.04	4	60.54	-5.17	4	64.13	-27.14	5	93.36	-206.06
9	65.48	-35.43	9	67.14	-45.59	9	71.81	-74.18	9	93.49	-206.87
9	65.93	-38.20	9	67.63	-48.60	10	72.32	-77.32	10	93.36	-206.06
14	72.57	-78.84	14	74.54	-90.85	14	79.75	-122.79	14	93.46	-206.67
14	73.06	-81.83	15	75.04	-93.95	15	80.33	-126.32	15	93.49	-206.87
19	79.75	-122.79	19	81.88	-135.82	19	87.38	-169.48	19	93.46	-206.67
19	80.27	-125.92	19	82.31	-138.45	20	87.84	-172.31	20	93.46	-206.67
24	86.90	-166.55	24	88.97	-179.18	24	93.46	-206.67	24	93.66	-207.88
25	87.40	-169.58	25	89.48	-182.31	25	93.36	-206.06	25	93.62	-207.68
29	92.70	-202.02	29	93.67	-207.98	29	93.69	-208.08	29	93.69	-208.08
30	92.70	-202.02	30	93.66	-207.88	30	93.69	-208.08	30	93.69	-208.08
34	93.64	-207.78	35	93.66	-207.88	35	93.64	-207.78	35	93.66	-207.88
35	93.62	-207.68	35	93.64	-207.78	35	93.64	-207.78	35	93.66	-207.88
39	93.66	-207.88	39	93.66	-207.88	39	93.66	-207.88	39	93.67	-207.98
40	93.57	-207.38	40	93.64	-207.78	40	93.59	-207.48	40	93.62	-207.68
43	93.62	-207.68	43	93.67	-207.98	43	93.67	-207.98	43	93.64	-207.78
43	93.61	-207.58	43	93.62	-207.68	43	93.66	-207.88	43	93.64	-207.78
43	93.62	-207.68	43	93.62	-207.68	43	93.64	-207.78	43	93.61	-207.58

TABLE 3.6-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.81	57.49	0	36.80	57.51	0	36.88	57.40	0	36.91	57.36
0	36.80	57.51	0	36.82	57.48	0	36.87	57.41	0	36.95	57.31
0	36.80	57.50	0	36.82	57.48	0	36.89	57.39	0	36.92	57.35
0	37.01	57.23	0	37.03	57.20	0	37.08	57.13	1	37.17	57.01
1	37.08	57.13	1	37.07	57.15	1	37.13	57.06	1	37.17	57.01
4	37.75	56.18	4	37.78	56.14	4	37.85	56.04	4	37.86	56.03
5	37.79	56.13	5	37.80	56.11	5	37.92	55.93	5	37.99	55.84
9	38.72	54.75	9	38.74	54.71	9	38.80	54.63	9	38.82	54.60
10	38.77	54.67	10	38.79	54.65	10	38.84	54.57	10	38.91	54.47
15	45.31	43.13	14	39.77	53.18	14	39.86	53.06	14	39.94	52.95
15	39.76	53.20	15	39.83	53.11	15	39.90	53.01	15	39.93	52.97
19	40.79	51.63	19	40.80	51.62	19	40.83	51.57	19	40.85	51.54
20	40.83	51.57	20	40.85	51.54	20	40.89	51.46	20	40.96	51.35
24	59.69	-0.	24	41.65	50.10	24	41.71	49.98	24	41.73	49.94
25	59.69	-0.	25	41.72	49.96	25	41.79	49.83	25	41.79	49.82
29	59.69	-0.	29	42.47	48.50	29	42.51	48.42	29	42.56	48.32
30	59.69	-0.	30	42.52	48.39	30	42.59	48.26	30	42.62	48.20
35	59.69	-0.	35	43.35	46.82	35	43.44	46.66	35	43.44	46.65
35	59.69	-0.	35	43.45	46.64	35	43.49	46.56	35	43.53	46.49
39	59.69	-0.	39	44.29	45.24	39	44.34	45.17	39	44.34	45.17
40	59.69	-0.	40	44.34	45.16	40	44.41	45.05	40	44.44	45.00
43	59.69	-0.	43	44.76	44.42	43	44.76	44.42	43	44.78	44.38
43	59.69	-0.	43	44.79	44.36	43	44.77	44.41	43	44.80	44.35
43	59.69	-0.	43	44.68	44.58	43	44.79	44.36	43	44.80	44.34

TABLE 3.6-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	38.01	55.80	0	36.78	57.53	0	36.73	57.60	0	36.74	57.58
0	38.01	55.81	0	36.77	57.54	0	36.74	57.58	0	36.73	57.60
0	37.99	55.84	0	36.76	57.56	0	36.73	57.60	0	36.77	57.54
1	38.09	55.68	1	36.94	57.32	1	36.96	57.29	1	36.95	57.31
1	38.16	55.58	1	37.03	57.20	1	37.02	57.21	1	37.02	57.21
4	38.83	54.58	4	37.66	56.32	4	37.66	56.31	4	37.69	56.27
5	39.05	54.28	5	37.75	56.19	5	37.74	56.20	5	37.75	56.18
9	39.85	53.07	9	38.65	54.86	9	38.66	54.85	9	38.67	54.83
10	39.90	53.01	10	38.70	54.77	10	38.70	54.77	10	38.77	54.68
14	40.94	51.39	14	39.71	53.37	14	39.71	53.36	14	39.70	53.38
15	40.94	51.39	15	39.75	53.21	15	39.73	53.24	15	39.73	53.24
19	41.72	49.96	19	40.75	51.70	19	40.74	51.72	19	40.73	51.73
20	41.73	49.93	20	40.75	51.70	20	40.79	51.63	20	40.79	51.63
24	42.58	48.29	24	41.59	50.22	24	41.58	50.24	24	41.58	50.23
25	42.62	48.21	25	41.63	50.13	25	41.60	50.19	25	41.63	50.13
29	43.36	46.79	29	42.40	48.63	29	42.41	48.62	29	42.36	48.71
30	43.48	46.58	30	42.46	48.52	30	42.47	48.50	30	42.49	48.46
35	44.52	44.86	35	43.32	46.87	35	43.29	46.92	35	43.28	46.95
35	44.57	44.77	35	43.36	46.80	35	43.34	46.84	35	43.36	46.80
39	45.19	43.46	39	44.19	45.41	39	44.22	45.36	39	44.22	45.36
40	45.27	43.23	40	44.28	45.25	40	44.28	45.26	40	44.27	45.27
43	45.51	42.55	43	44.68	44.58	43	44.68	44.58	43	44.65	44.63
43	45.46	42.72	43	44.68	44.57	43	44.69	44.56	43	44.67	44.60
44	45.51	42.55	44	44.69	44.55	44	44.68	44.57	44	44.68	44.57

TABLE 3.6-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.79	57.52	0	62.96	-20.01	0	93.36	-206.06	0	93.69	-208.08
0	36.77	57.55	0	62.99	-20.21	0	93.36	-206.06	0	93.66	-207.88
0	36.78	57.53	0	63.04	-20.53	0	93.46	-206.67	0	93.67	-207.98
1	36.99	57.25	1	63.46	-23.05	1	93.49	-206.87	1	93.69	-208.08
1	37.07	57.15	1	63.36	-22.46	1	93.49	-206.87	1	93.74	-208.39
4	37.73	56.21	4	62.99	-20.20	4	93.49	-206.87	4	93.74	-208.39
5	37.76	56.17	5	63.14	-21.13	5	93.46	-206.67	5	93.76	-208.49
9	38.70	54.78	9	62.52	-17.34	9	93.36	-206.06	9	93.62	-207.68
10	38.73	54.73	10	62.83	-19.19	10	93.36	-206.06	10	93.67	-207.98
14	39.66	53.33	14	62.70	-18.44	14	93.36	-206.06	14	93.64	-207.78
15	39.74	53.22	15	62.89	-19.58	15	93.49	-206.87	15	93.74	-208.39
19	40.71	51.76	19	62.42	-16.73	19	93.53	-207.07	19	93.74	-208.39
20	40.80	51.62	20	62.69	-18.37	20	93.43	-206.47	20	93.72	-208.28
24	41.63	50.14	24	62.83	-19.22	24	93.33	-205.86	24	93.57	-207.38
25	41.63	50.13	25	62.83	-19.21	25	93.36	-206.06	25	93.59	-207.48
29	42.40	48.64	29	62.81	-19.10	29	93.36	-206.06	29	93.67	-207.98
30	42.48	48.47	30	62.89	-19.61	30	93.39	-206.26	30	93.67	-207.98
35	43.33	46.85	35	62.79	-18.95	35	93.36	-206.06	35	93.64	-207.78
35	43.36	46.79	35	62.99	-20.19	35	93.33	-205.86	35	93.62	-207.68
39	44.25	45.31	39	62.59	-17.78	39	93.36	-206.06	39	93.61	-207.58
40	44.30	45.23	40	62.90	-19.62	40	93.36	-206.06	40	93.61	-207.58
43	44.68	44.58	43	62.93	-19.81	43	93.33	-205.86	43	93.56	-207.27
43	44.68	44.58	43	62.64	-18.08	43	93.36	-206.06	43	93.62	-207.68
44	44.71	44.52	44	62.76	-18.79	44	93.33	-205.86	44	93.62	-207.68

4. FLOW RUNS

Data from Runs 14 through 23 are presented in this section. The results from each test are given in separate subsections containing the following:

A set of notes on the run

Composite plots of system pressure, liquid volume, and pressurization gas volume versus time

Copies of strip-chart-recorded temperature data

Table of temperature data

A table summarizing test conditions and results

Pertinent timing information for all the runs has been consolidated into Table 4.0-1. In a few cases, on runs where saturation conditions were reached, it was not possible to distinguish between the times at which the liquid level reached the bottom two or three sampling positions in the tank.

The test parameters for these runs include LH_2 flow rate, the tank pressurization, the heating gradient in the LH_2, and the heating rate. The following definitions are used in the discussions of the parametric conditions for the flow tests:

Condition	Definition
high flow rate	$\sim$0.12 lb/sec of LH_2
low flow rate	$\sim$0.04 lb/sec of LH_2
high pressure	$\sim$60 psia tank pressurization
low pressure	$\sim$30 psia tank pressurization
high heating gradient	Configuration 1, with which a relatively high neutron/gamma dose-rate ratio was obtained
low heating gradient	Configuration 2, with which a relatively low neutron/gamma dose-rate ratio was obtained

Heating rates are defined on the basis of the experimental configuration and somewhat arbitrarily on the basis of reactor power level:

Configuration 1

high heating rate	>1.5 Mw	
medium heating rate	>0.75 Mw	<1.5 Mw
low heating rate	<0.75 Mw	

Configuration 2

high heating rate	>3.0 Mw	
medium heating rate	>1.5 Mw	<3.0 Mw
low heating rate	⩽1.0 Mw	

Information contained in the tables summarizing the test conditions and results is based on the selected intervals noted in each of the tables, during which the desired parameters are stabilized, and effects of instabilities at the beginning and end of the run are minimized.

Table 4.0-1

Timing Data for Flow Runs

Run No.		14-97	14-99	15-98	15-110	16-101
Date		8-21-63	8-21-63	8-21-63	8-28-63	8-21-63
EVENT:						
Timer on (Zero Time)		0508.5	1214.2	0910.4	0406.6	0005.1
		Minutes after Zero Time				
Press. started		4.5	2.1	3.3	11.6	3.7
At level power		14.5	5.6	7.6	14.9	6.6
Flow Started		23.5	9.8	9.0	16.3	7.0
Reactor shut down		60.4	35.3	33.1	45.6	16.3
Liquid Level (in.)	Liquid Volume (gal)					
45.7	125.5	-	-	-	-	-
44.7	122.0	-	-	9.5	11.9	-
43.7	118.5	-	10.1	10.2	12.4	1.3
42.7	115.0	24.3	11.2	11.2	15.5	7.5
41.7	111.5	25.6	12.4	12.0	16.4	7.7
40.7	108.0	26.7	-	12.5	17.2	8.0
39.4	103.5	27.9	-	13.6	17.9	8.3
35.8	91.5	-	-	-	-	-
35.4	89.6	31.5	17.2	15.6	20.2	9.2
32.3	79.4	-	-	-	-	-
31.4	76.1	35.0	20.1	18.1	22.6	10.2
28.8	67.2	-	-	19.8	-	-
27.4	62.2	38.6	22.9	20.5	25.1	11.1
26.2	58.0	39.8	23.5	21.4	26.0	11.4
25.3	55.0	-	-	21.9	-	-
21.4	41.5	44.9	26.7	24.2	30.2	12.7
15.4	21.4	51.9	30.2	27.8	37.2	14.3
14.2	17.7	54.1	31.0	28.7	38.6	14.7
10.4	8.2	-	32.8	30.6	-	-
7.4	3.7	59.4	33.7	31.6	45.0	15.7
3.9	0.8	60.5	35.0	32.3	45.2	-
0.1	0	60.5	35.2	32.5	45.2	15.9

Table 4.0-1 (Cont'd)

Timing Data

Run No.		16-110	17-108	18-100	19-101	19-110
Date		8-28-63	8-27-63	8-21-63	8-21-63	8-28-63
EVENT:						
Timer on		0223.5	2109.6	1537.2	2159.2	0610.6
		Minutes after Zero Time				
Press. Started		17.5	6.2	6.4	-0.2	15.4
At level power		18.8	7.9	8.9	3.9	21.1
Flow started		20.0	8.8	10.4	11.0	21.4
Reactor shut down		29.0	17.6	38.8	30.9	48.9
Liquid Level (in.)	Liquid Volume (gal)					
45.7	125.5	-	-	-		
44.7	122.0	17.7	-	-		14.2
43.7	118.5	17.8	-	6.8		14.5
42.7	115.0	20.6	-	10.7		15.1
41.7	111.5	21.2	6.0	12.3	10.9	22.2
40.7	108.0	21.4	9.0	13.7	12.0	23.0
39.4	103.5	21.7	9.6	14.6	-	23.9
35.8	91.5	-	-	16.9	-	-
35.4	89.6	22.6	10.5	17.2	15.5	26.5
32.3	79.4	-	-	19.3	-	28.1
31.4	76.1	23.5	11.7	19.9	17.3	29.5
28.8	67.2	-	-	21.6	-	-
27.4	62.2	24.5	12.7	22.9	20.0	32.8
26.2	58.0	24.8	13.0	24.0	20.6	33.9
25.3	55.0	-	-	24.4	-	-
21.4	41.5	26.0	14.0	27.6	23.2	37.6
15.4	21.4	27.5	15.6	32.5	26.7	42.6
14.2	17.7	27.9	16.0	33.8	27.6	43.8
10.4	8.2	-	-	35.8	-	-
7.4	3.7	28.9	17.2	37.7	30.1	48.2
3.9	0.8	29.0	17.3	39.8	30.4	48.2
0.1	0	29.1	17.5	39.8	30.9	48.6

Table 4.0-1 (Cont'd)

Timing Data

Run No.		20-102	21-102	22-109	23-101
Date		8-22-63	8-22-63	8-28-63	8-21-63
EVENT:					
Timer on		0557.2	0949.2	0046.5	1932.2
		Minutes after Zero Time			
Press. started		-0.4	2.2	5.9	2.6
At level power		+0.2	2.8	7.4	2.0
Flow started		2.9	5.1	8.5	2.9
Reactor shut down		33.1	17.7	17.8	15.3
Liquid Level (in.)	Liquid Volume (gal)				
45.7	125.5	-	-	6.1	
44.7	122.0	-	-	6.2	
43.7	118.5	-	2.8	8.7	2.9
42.7	115.0	-	6.5	9.0	4.5
41.7	111.5	3.2	7.0	9.5	4.8
40.7	108.0	4.0	7.5	9.8	5.2
39.4	103.5	5.0	8.1	10.0	5.7
35.8	91.5	8.1	-	-	-
35.4	89.6	8.4	9.3	11.0	6.9
32.3	79.4	10.8	-	-	-
31.4	76.1	11.6	10.5	12.1	8.1
28.8	67.2	13.6	-	-	-
27.4	62.2	14.8	11.8	13.0	9.3
26.2	58.0	15.8	12.2	13.4	9.9
25.3	55.0	16.6	-	-	-
21.4	41.5	19.8	13.7	14.6	11.2
15.4	21.4	24.9	15.6	16.0	13.2
14.2	17.7	26.3	16.0	16.4	13.7
10.4	8.2	28.8	-	-	-
7.4	3.7	30.5	17.3	17.4	14.8
3.9	0.8	32.6	17.6	17.6	15.1
0.1	0	33.3	17.7	17.7	15.3

4.1 Run 14

Run 14 was a low-flow-rate, low-system-pressure, low-heating-rate test made with Configuration 1. Specifically, the desired test conditions required a 0.04-lb/sec flow rate and 30-psia system pressure. Two reactor runs were made.

Reactor Run 97

A summary of parametric conditions and test results is presented in Table 4.1-1. Timing information for the run is given in Table 4.0-1. Pressure and flow data are presented in Figure 4.1-1 and strip-chart data for the individual thermometors are reproduced in Figures 4.1-2 through 4.1-10.

The tank was filled 23 minutes before the timer was turned on for this run, or 46 minutes before flow started. This was the first flow run, and difficulty was encountered in obtaining coincidence of the specified system pressure, reactor power, and start of flow, and in obtaining a steady flow rate (see Fig. 4.1-1). Pressurization started 19 minutes before flow began, and the required power level was reached 9 minutes before flow was started. The flow rate decreased after t=40 minutes and was increased by adjustment of the flow control valve after t=55 minutes.

Saturation conditions were reached at approximately t=50 minutes (volume = 29 gal), as indicated by the constant temperature recorded by the submerged thermometers from that time until the end of the run (Figs. 4.1-7 through 4.1-10 for Thermometers 7, 25, 4, and 1).

As expected, the amount of pressurization gas (PGH_2) required

after saturated conditions were reached was small. The existence of a thin stratified liquid layer (<1-in. thick) is indicated by the strip-chart recorder (SCR) data for Thermometers 14, 11, 10, and 9, and 8 (Figs. 4.1-2 through 4.1-6). The SCR data for Thermometer 11 is presented, although its response was erratic.

The rise in gas temperature as a function of time and distance above the fluid was nearly linear during the period when the flow rate was quite small (Figs. 4.1-7 and 4.1-8).

Reactor run 99 (below) was made in an attempt to obtain a constant flow rate and better starting conditions.

Reactor Run 99

The heating-rate (reactor power level) was reduced for this second trial in an effort to prevent boiling near the end of the run. Parametric conditions and test results are summarized in Table 4.1-3. The pressure and flow data are plotted in Figure 4.1-11; the strip-chart data are reproduced in Figures 4.1-12 through 4.1-21.

The tank was filled approximately 20 minutes before the timer was turned on for this run. Other timing information for the run is given in Table 4.0-1.

Some difficulty was encountered in obtaining the desired system pressure; however, pressure was stabilized at 29.6 psia for the latter half of the run (Fig. 4.1-11). The flow rate was slightly higher than desired - 0.048 lb/sec instead of 0.040 lb/sec. - and, in spite of the reduced heating rate, saturation temperatures were reached near the end of the run as indicated

by the data for Thermometers 4 and 1, shown in Figures 4.1-20 and 4.1-21, respectively.

Table 4.1-1

Parametric Conditions and Test Results Summary
for Run 14-97

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	115	24.3
Pressure (psia)	30	30	
Temperature[b] (°R)		37.9	
Weight[c] (lb)	66 - 74	67.2	
Final Conditions[d]			
Pressure (psia)	30	30.5	59.5
Temperature (°R)	≤ 41.3	41.38	
Saturation Temp[e] (°R)	41.3	41.36	
Run Data			
Temperature Rise (°R)	4	3.5	24.3 - 59.5
Run Time[f] (min)	27 - 33	45.9	14.5 - 60.4
Flow Time (min)	27 - 33	36.2	24.3 - 60.5
Flow Rate[g]: (gpm)	4.08	3.18	
(lb/sec)	0.04	0.031	
Power Level (Mw)	0.625	0.711	
Integrated Power (Mw-hr)	0.313	0.544	

[a] Immediately after pressurization at indicated time.
[b] At bottom of tank.
[c] Temp = 37.9°R, Vol. = 115 gal, ρ = 4.37 lb/ft^3 = 0.584 lb/gal.
[d] At 1 min before tank was emptied and/or at indicated time.
[e] H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f] Time from reactor at level power to tank empty.
[g] Initial volume (or weight) divided by flow time.

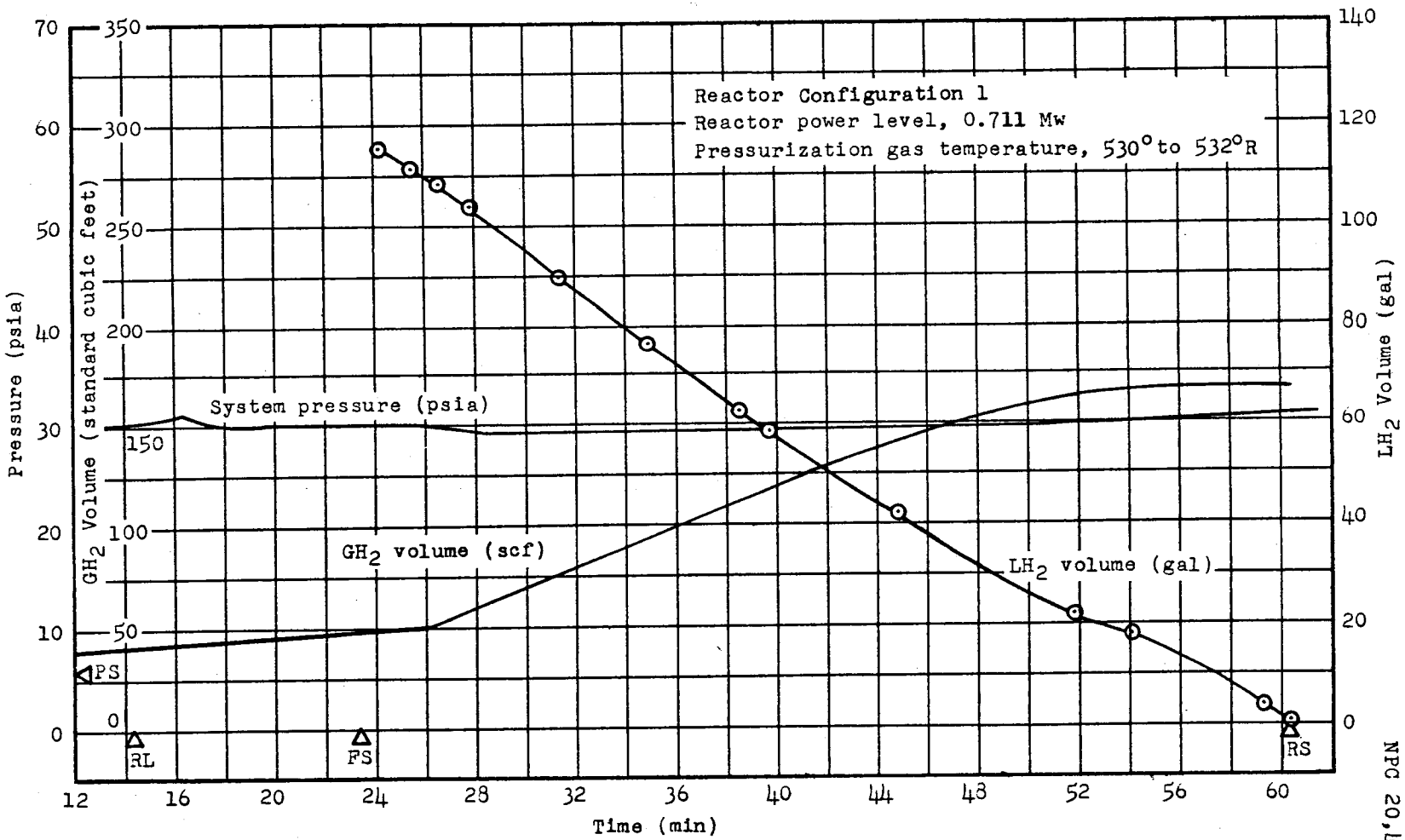

Figure 4.1-1 Pressure and Flow Data: Run 14-97

NPC 20,498

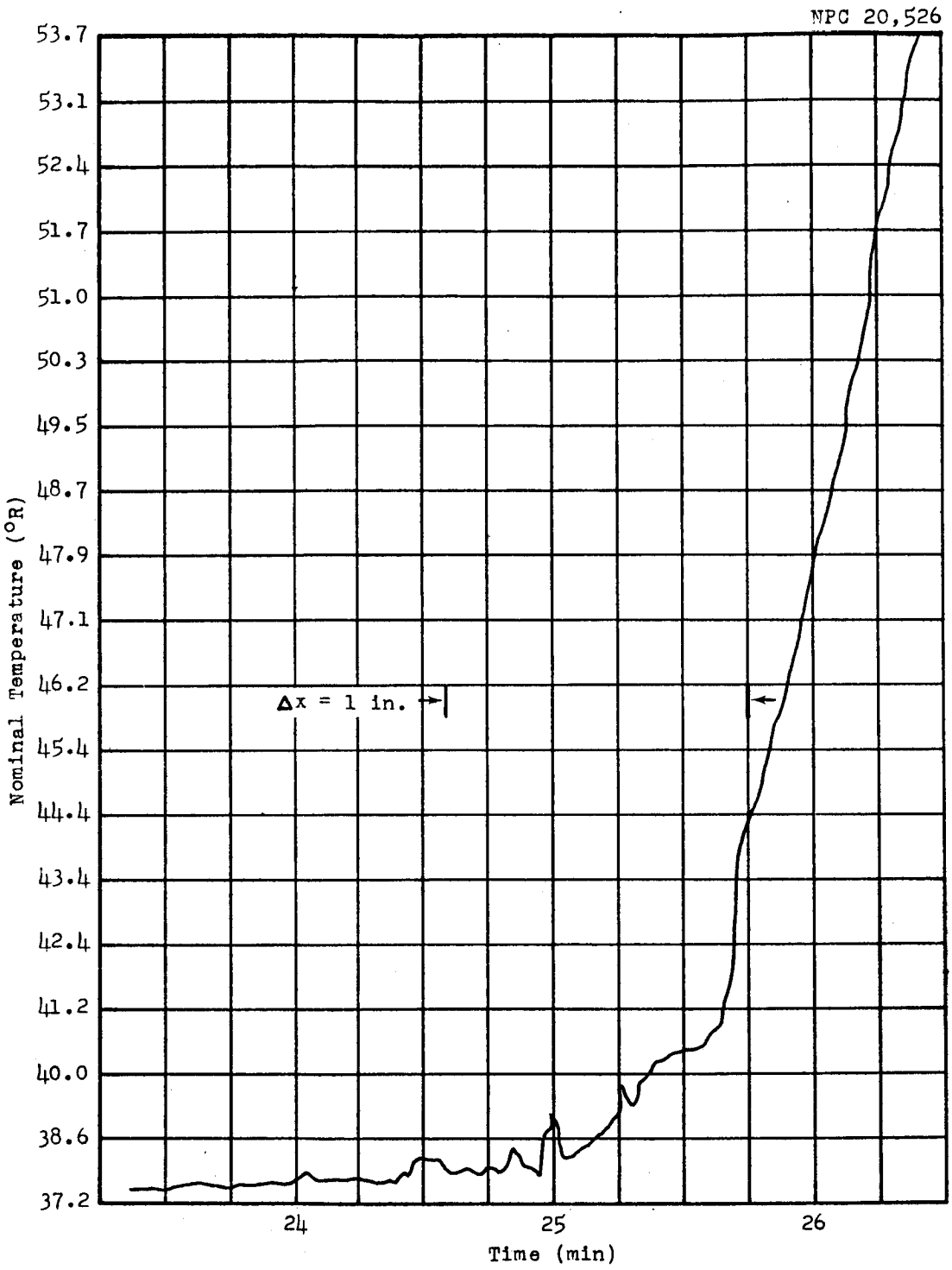

Figure 4.1-2 Strip-Chart Temperature Data: Run 14-97, Thermometer 14

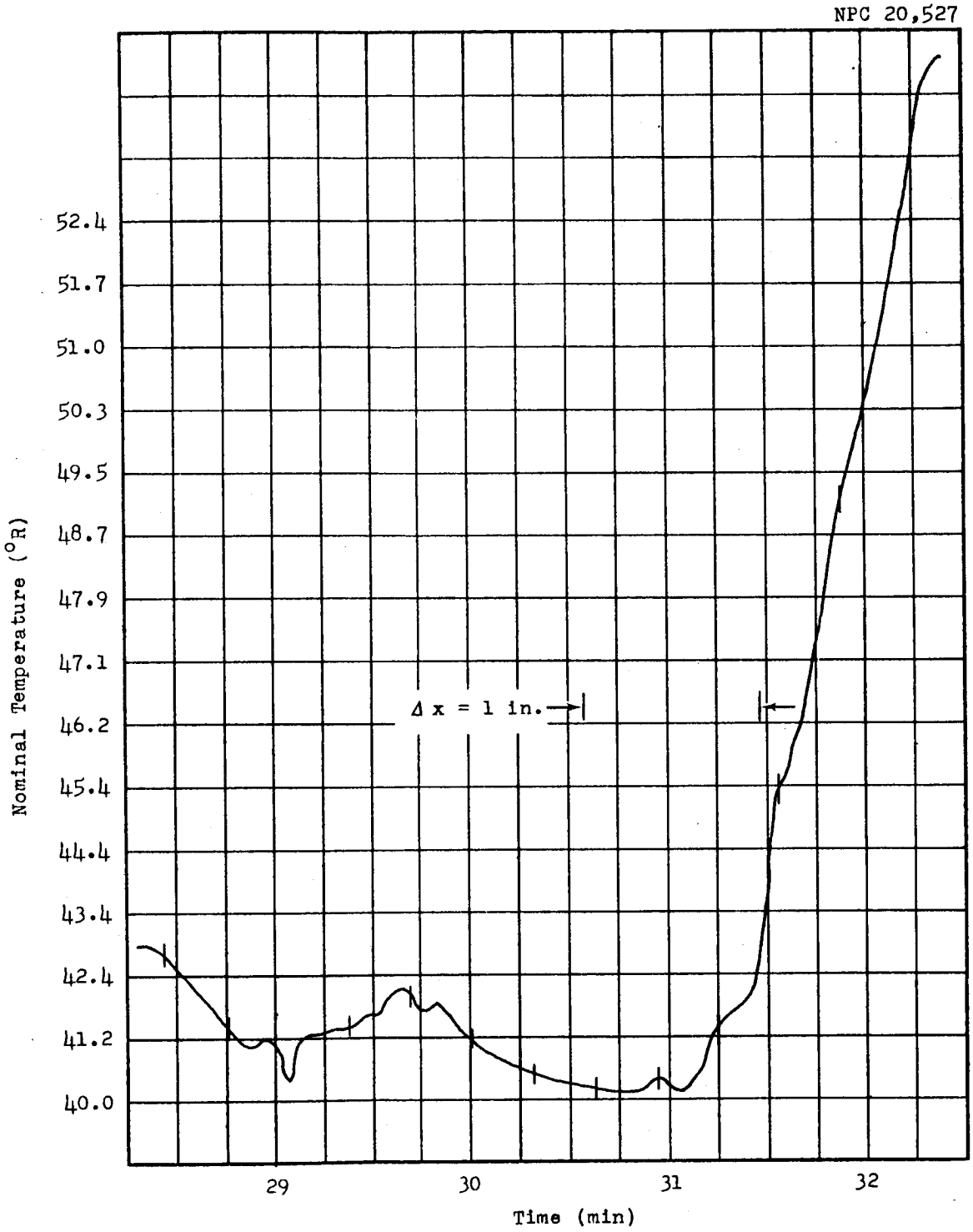

Figure 4.1-3 Strip-Chart Temperature Data: Run 14-97, Thermometer 11

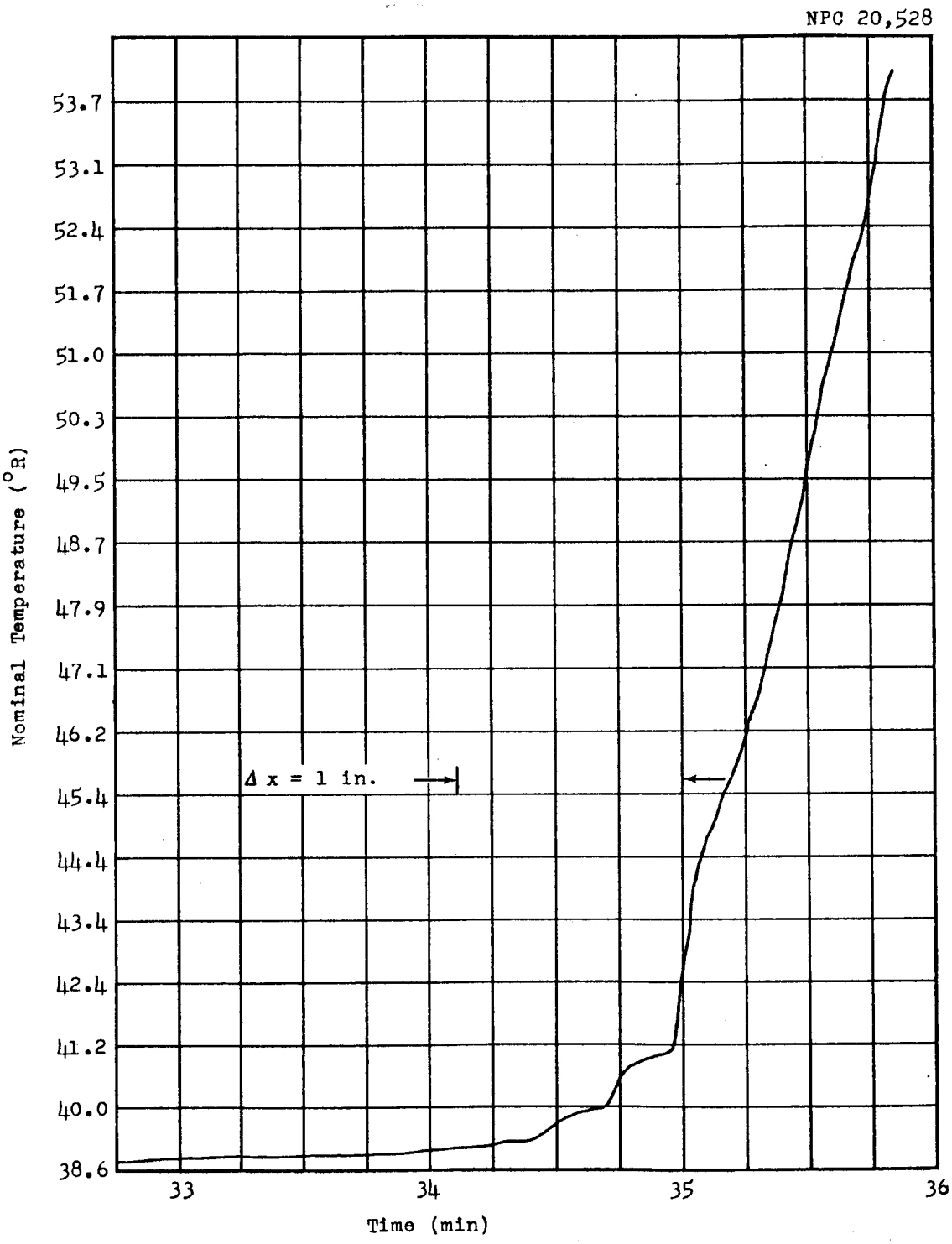

Figure 4.1-4 Strip-Chart Temperature Data: Run 14-97, Thermometer 10

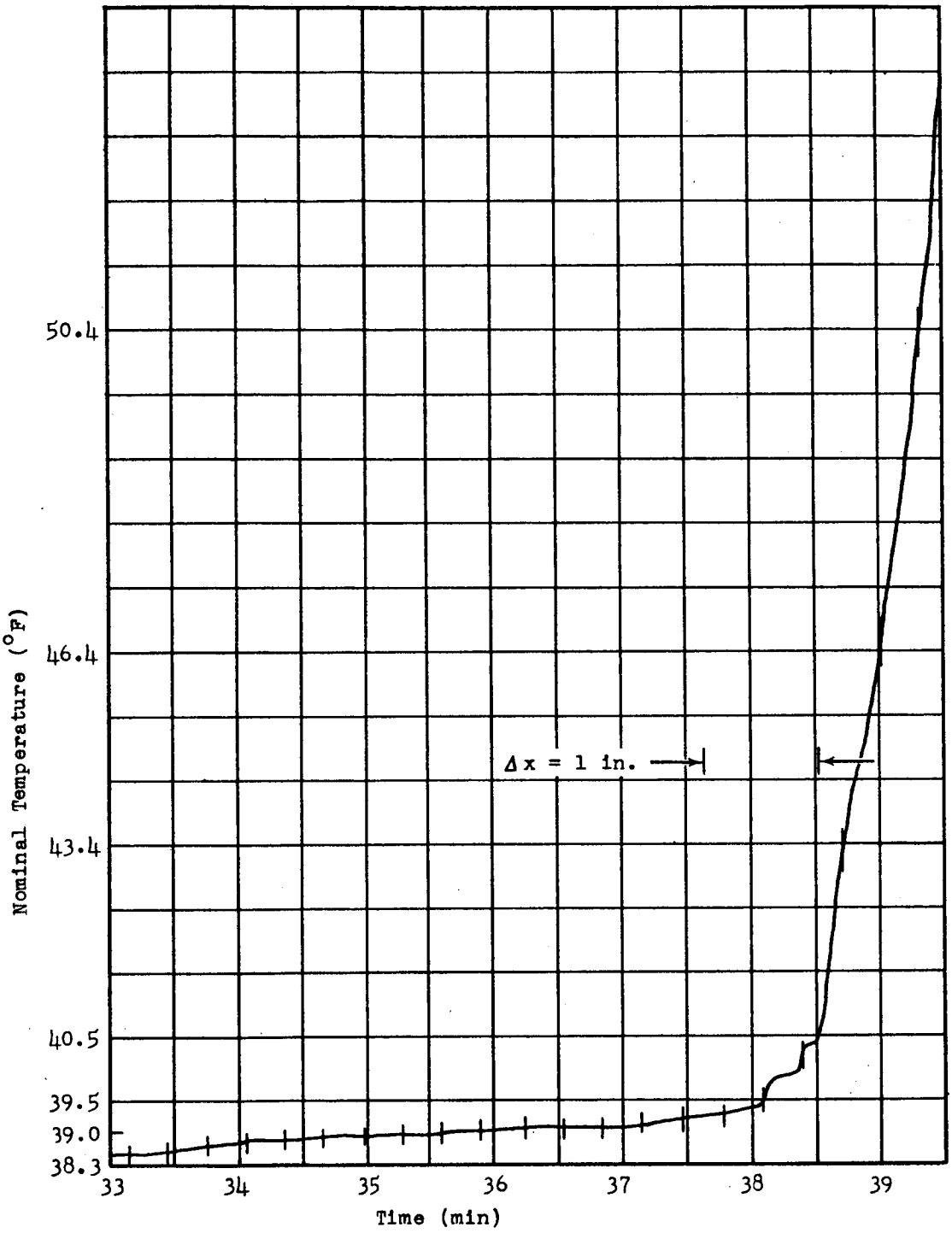

Figure 4.1-5 Strip-Chart Temperature Data: Run 14-97, Thermometer 9

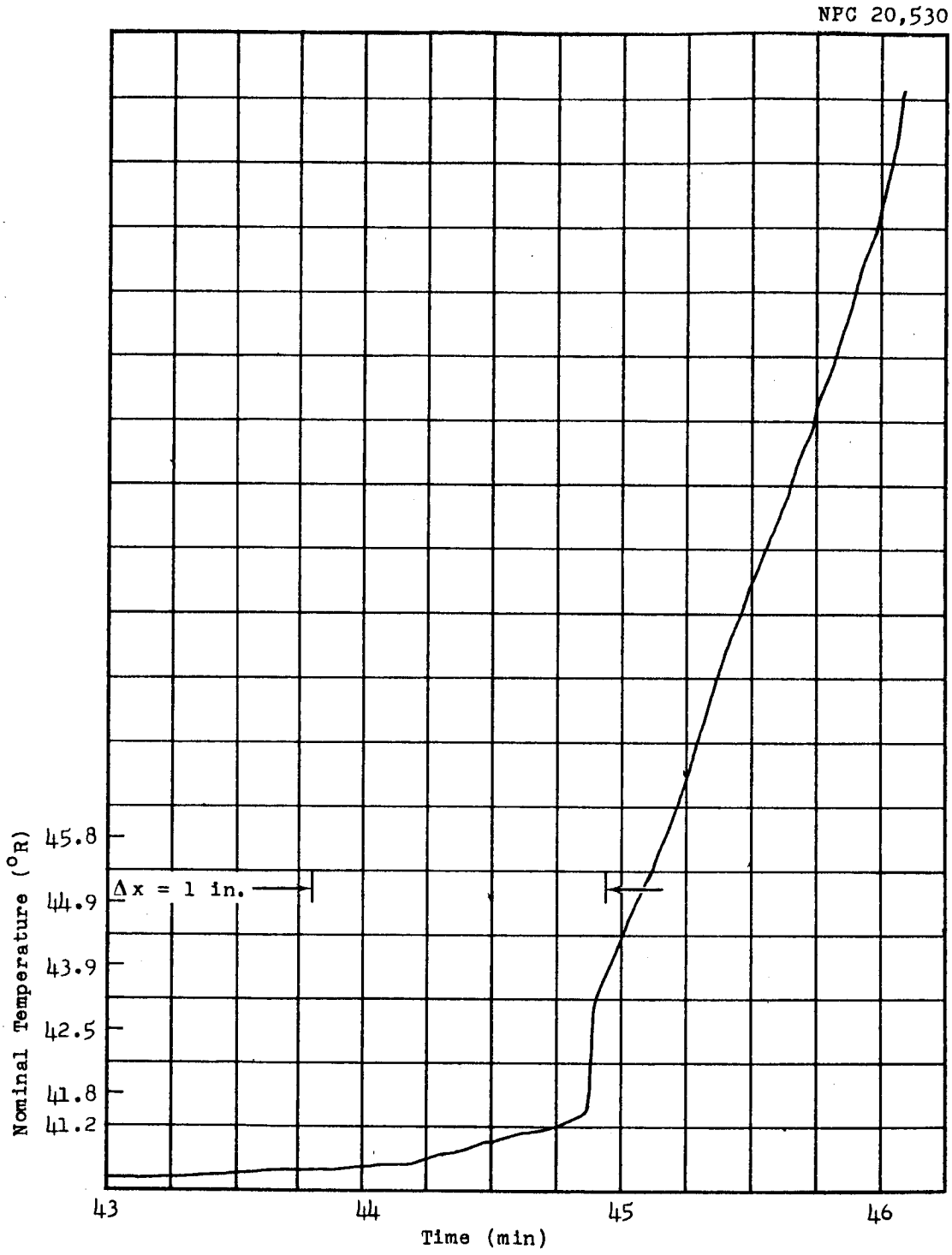

Figure 4.1-6 Strip-Chart Temperature Data: Run 14-97, Thermometer 8

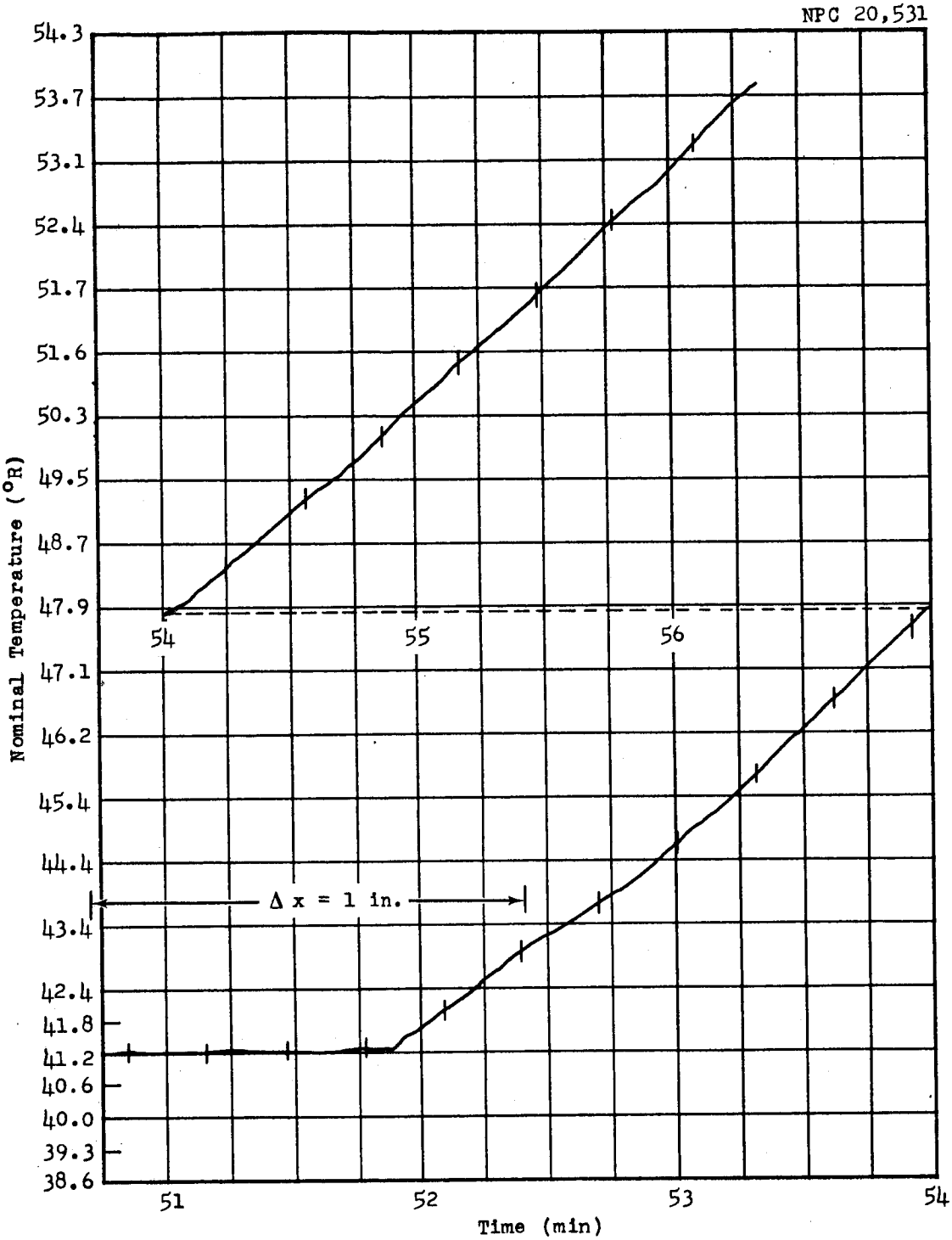

Figure 4.1-7 Strip-Chart Temperature Data: Run 14-97, Thermometer 7

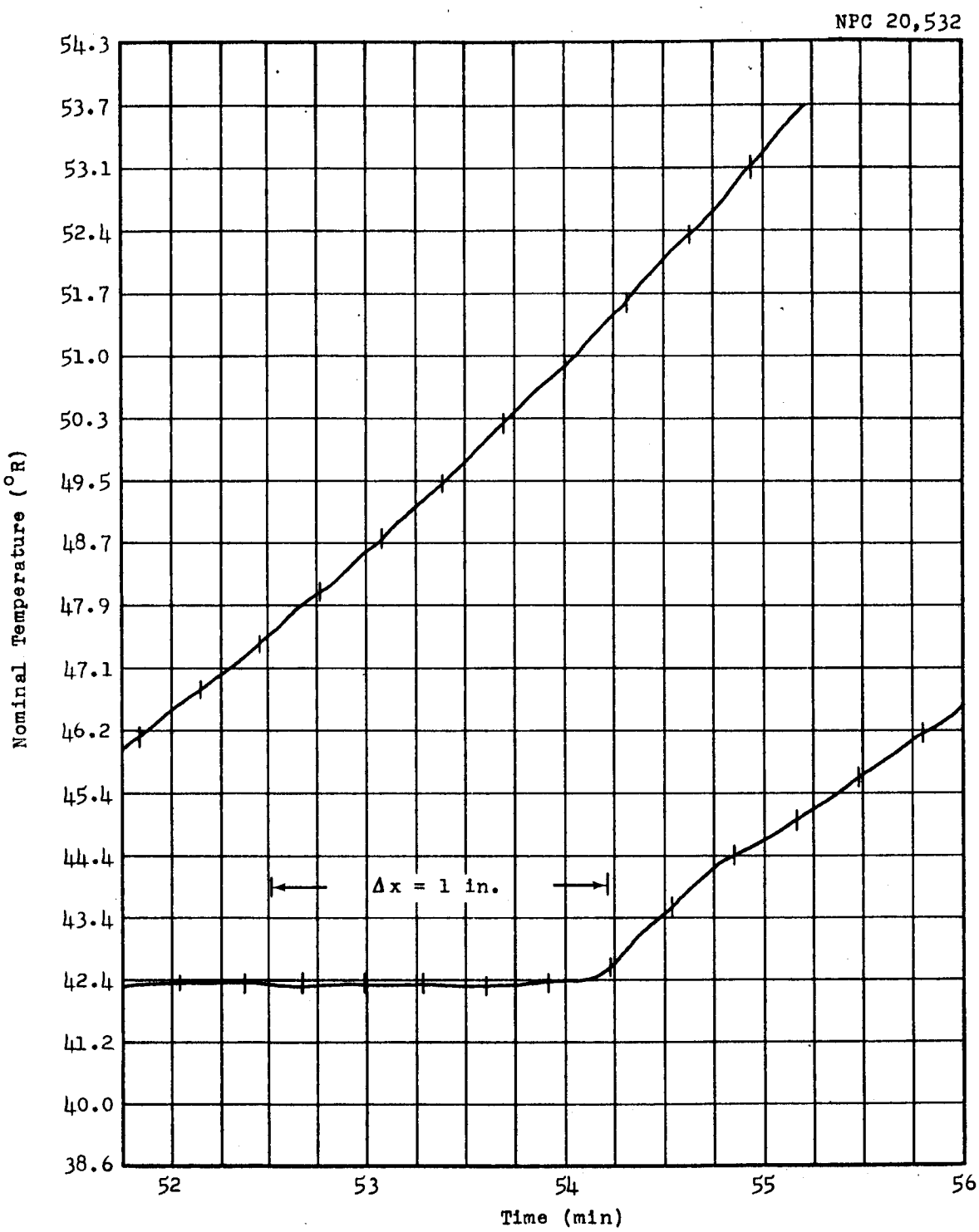

Figure 4.1-8 Strip-Chart Temperature Data: Run 14-97, Thermometer 25

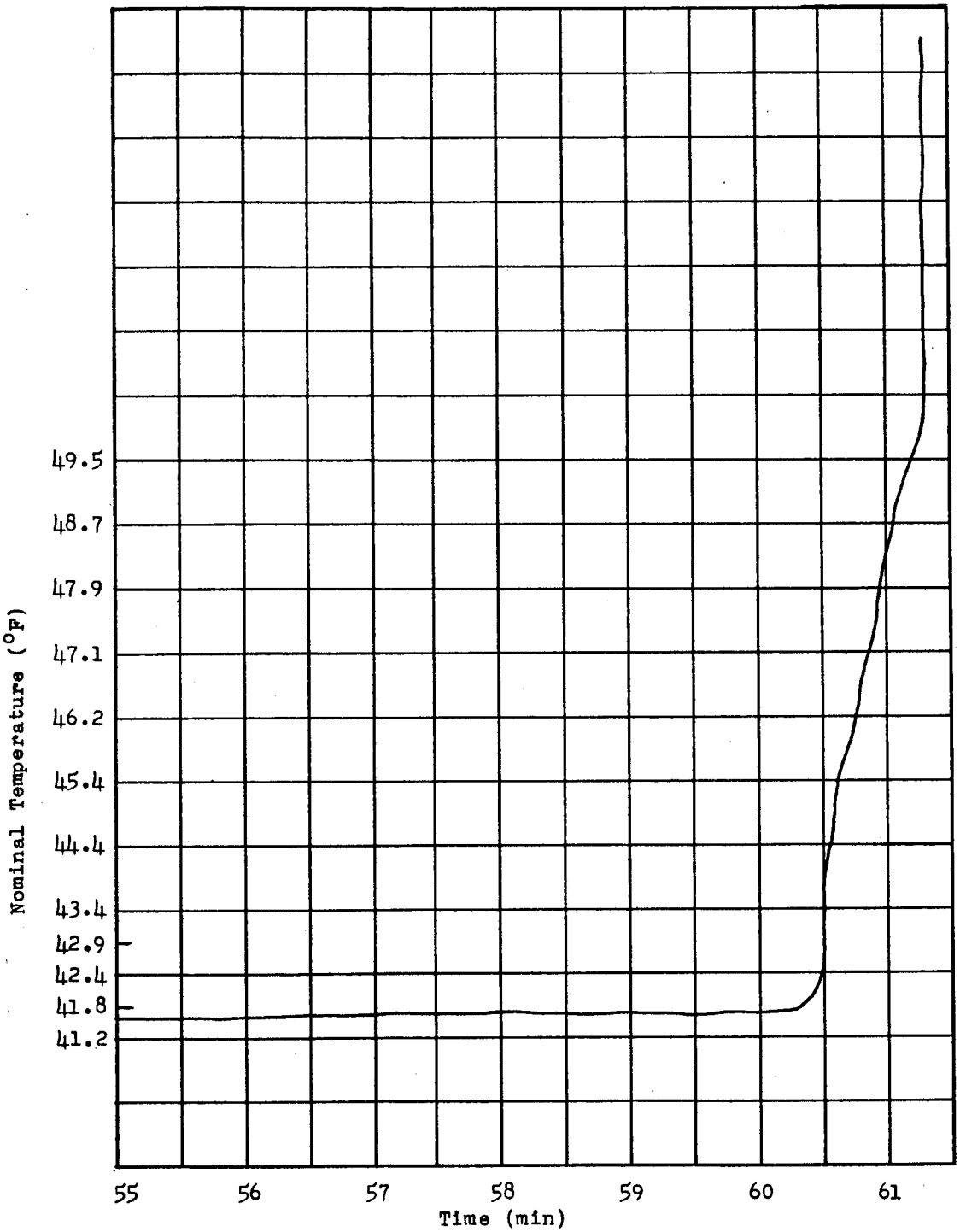

Figure 4.1-9 Strip-Chart Temperature Data: Run 14-97, Thermometer 4

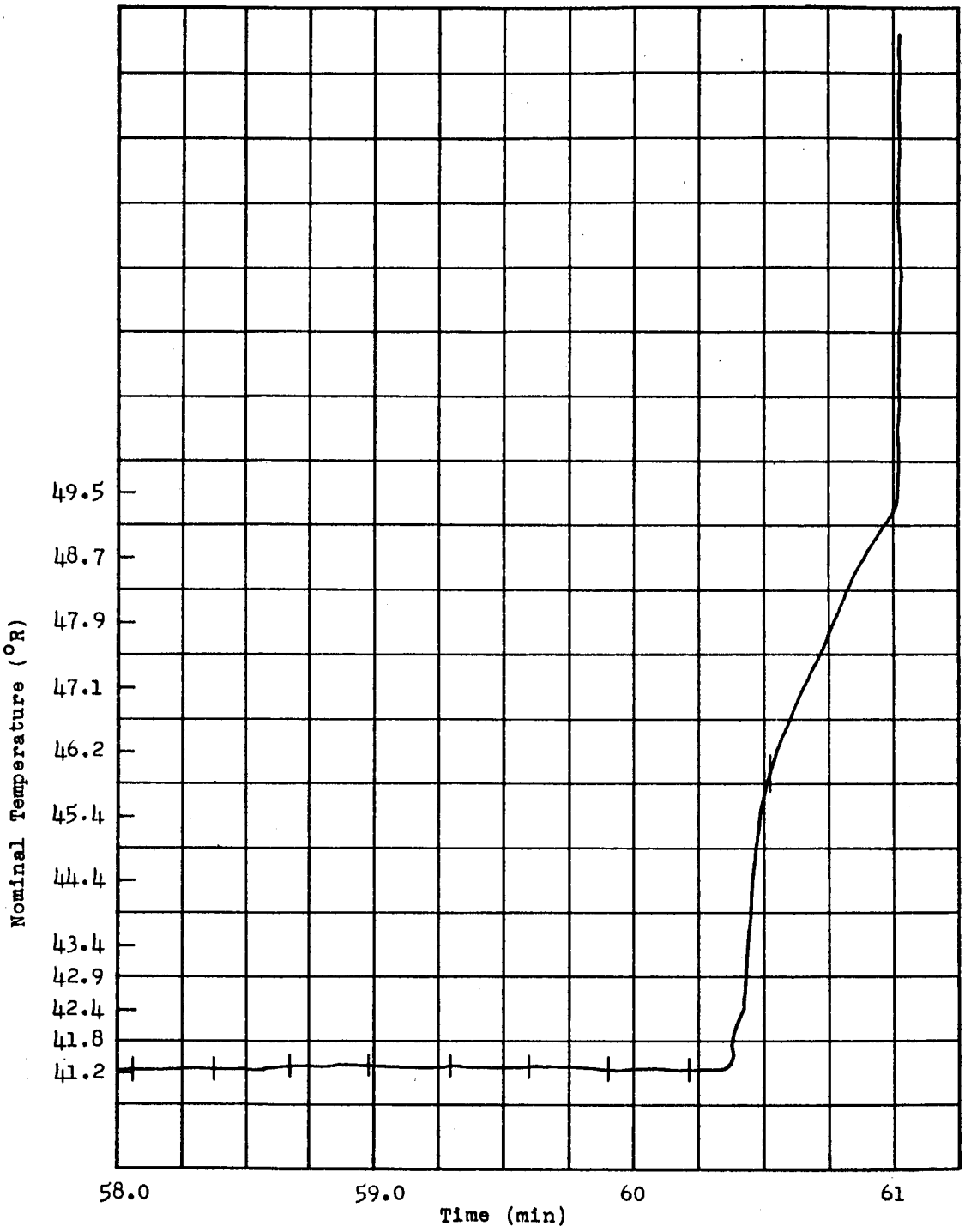

Figure 4.1-10 Strip-Chart Temperature Data: Run 14-97, Thermometer 1

TABLE 4.1-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 14-97

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.67	57.67	0	36.69	57.65	0	36.69	57.65	0	39.70	53.28
0	36.67	57.67	0	36.72	57.61	0	36.63	57.73	0	39.72	53.25
13	37.02	57.22	13	36.95	57.31	13	37.20	56.97	13	40.66	51.85
14	37.02	57.22	14	36.92	57.35	14	37.33	56.79	14	40.56	52.02
14	37.06	57.16	14	36.99	57.25	14	37.18	57.00	14	40.51	52.10
14	37.04	57.19	14	37.03	57.20	14	37.08	57.14	14	40.51	52.10
15	37.11	57.09	15	37.03	57.20	15	37.08	57.13	15	40.47	52.16
15	37.11	57.09	15	37.08	57.13	15	37.05	57.17	15	40.39	52.28
15	37.06	57.16	15	37.09	57.12	15	37.08	57.14	15	40.43	52.22
16	37.10	57.11	16	37.12	57.08	16	37.13	57.06	16	40.43	52.22
16	37.16	57.03	16	37.13	57.06	16	37.13	57.07	16	40.38	52.29
16	37.24	56.91	16	37.22	56.95	16	37.22	56.94	16	40.44	52.20
16	37.24	56.91	16	37.24	56.92	16	37.34	56.78	16	40.61	51.93
17	37.27	56.88	17	37.22	56.94	17	37.33	56.79	17	40.60	51.94
17	37.27	56.87	17	37.32	56.80	17	37.54	56.48	17	40.56	52.01
17	37.31	56.82	17	37.29	56.85	17	37.28	56.86	17	40.60	51.94
18	37.33	56.79	18	37.39	56.70	18	37.35	56.76	18	40.73	51.73
18	37.41	56.67	18	37.42	56.65	18	37.45	56.61	18	40.76	51.68
18	37.43	56.64	18	37.43	56.64	18	37.39	56.70	18	40.55	52.03
19	37.48	56.57	19	37.49	56.56	19	37.50	56.54	19	40.61	51.93
19	37.61	56.39	19	37.50	56.54	19	38.16	55.58	19	40.85	51.53
19	37.50	56.54	19	37.55	56.47	19	37.50	56.54	19	40.54	52.05
20	37.81	56.09	20	37.61	56.39	20	38.30	55.37	20	41.09	51.13
20	37.56	56.45	20	37.60	56.40	20	37.56	56.45	20	40.49	52.12
20	37.61	56.39	20	37.56	56.45	20	37.73	56.21	20	40.59	51.97
20	37.65	56.33	20	37.68	56.28	20	37.70	56.26	20	40.36	52.33
21	37.63	56.36	21	37.64	56.34	21	37.67	56.30	21	40.35	52.34
21	37.76	56.17	21	37.86	56.02	21	38.16	55.57	21	40.59	51.97
21	37.72	56.23	21	37.85	56.04	21	37.75	56.19	21	40.36	52.33
22	37.77	56.15	22	37.74	56.20	22	37.79	56.13	22	40.42	52.24
22	37.75	56.19	22	37.75	56.18	22	37.82	56.08	22	40.45	52.19
22	38.44	55.17	22	37.86	56.02	22	38.88	54.52	22	40.55	52.04
23	37.81	56.09	23	37.85	56.04	23	37.86	56.03	23	40.44	52.21
23	37.88	55.99	23	37.88	55.99	23	37.84	56.05	23	40.36	52.33
23	38.07	55.70	23	37.98	55.85	23	37.96	55.88	23	40.26	52.47
24	37.92	55.94	24	37.88	55.99	24	37.88	55.99	24	40.05	52.78
24	37.92	55.93	24	37.97	55.87	24	37.95	55.89	24	40.06	52.77
24	38.01	55.81	24	38.00	55.82	24	38.03	55.76	24	40.05	52.79
24	37.97	55.86	24	37.99	55.84	24	37.99	55.84	25	40.17	52.61
25	38.03	55.76	25	38.02	55.79	25	38.04	55.75	25	40.27	52.46
25	38.01	55.80	25	38.01	55.80	25	38.05	55.74	25	40.40	52.26
25	38.02	55.79	25	38.07	55.71	25	38.07	55.70	25	40.51	52.10
26	38.02	55.79	26	38.12	55.63	26	38.10	55.66	26	40.35	52.34
26	38.10	55.67	26	38.14	55.61	26	38.09	55.68	26	40.28	52.45

* Timing interval = 0.38 minute.

TABLE 4.1-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
26	38.12	55.63	26	38.13	55.62	26	38.15	55.59	26	40.21	52.55
27	38.15	55.59	27	38.25	55.44	27	38.16	55.57	27	40.23	52.52
27	38.16	55.58	27	38.19	55.53	27	38.20	55.51	27	40.20	52.56
27	38.20	55.52	27	38.23	55.47	27	38.20	55.52	27	40.10	52.71
28	38.23	55.47	28	38.22	55.49	28	38.28	55.40	28	40.14	52.65
28	38.27	55.41	28	38.31	55.35	28	38.27	55.41	28	40.02	52.83
28	38.25	55.44	28	38.34	55.31	28	38.29	55.38	28	40.09	52.73
29	38.28	55.40	29	38.36	55.28	29	38.33	55.32	29	40.21	52.55
29	38.37	55.27	29	38.39	55.24	29	38.31	55.35	29	40.14	52.66
29	38.35	55.30	29	38.39	55.23	29	38.37	55.27	29	40.03	52.81
29	38.42	55.20	29	38.47	55.12	29	38.40	55.22	29	40.09	52.72
30	38.44	55.17	30	38.46	55.13	30	38.41	55.21	30	40.28	52.45
30	38.43	55.18	30	38.50	55.08	30	38.46	55.14	30	40.67	51.83
30	38.45	55.15	30	38.56	54.99	30	38.45	55.15	30	40.68	51.82
31	38.55	55.01	31	38.52	55.04	31	38.55	55.01	31	40.38	52.29
31	38.56	54.99	31	38.60	54.93	31	38.57	54.98	31	40.80	51.62
31	38.67	54.83	31	38.58	54.96	31	38.64	54.87	31	40.42	52.23
32	38.61	54.91	32	38.64	54.87	32	38.61	54.92	32	40.46	52.17
32	38.71	54.76	32	38.72	54.75	32	38.66	54.84	32	40.26	52.48
32	38.70	54.77	32	38.67	54.83	32	38.65	54.86	32	40.36	52.33
33	38.72	54.74	33	38.67	54.83	33	38.74	54.71	33	40.40	52.26
33	38.72	54.75	33	38.70	54.77	33	38.74	54.71	33	40.21	52.55
33	38.78	54.66	33	38.87	54.53	33	38.78	54.66	33	40.26	52.47
33	38.80	54.63	33	38.78	54.66	33	38.82	54.60	33	40.60	51.94
34	38.86	54.55	34	38.91	54.47	34	38.86	54.54	34	40.56	52.02
34	38.88	54.52	34	38.87	54.53	34	38.91	54.47	34	40.06	52.77
34	38.88	54.52	34	38.95	54.41	34	38.93	54.45	34	40.34	52.35
35	38.98	54.37	35	39.03	54.30	35	38.99	54.36	35	40.18	52.59
35	39.01	54.33	35	39.06	54.26	35	39.01	54.33	35	40.00	52.85
35	39.02	54.32	35	39.01	54.33	35	39.06	54.26	35	40.32	52.38
36	39.02	54.31	36	39.09	54.22	36	39.07	54.24	36	40.32	52.38
36	39.11	54.19	36	39.14	54.15	36	39.10	54.21	36	40.08	52.74
36	39.07	54.24	36	39.20	54.06	36	39.17	54.11	36	39.94	52.95
37	39.20	54.07	37	39.22	54.03	37	39.18	54.09	37	40.08	52.74
37	39.30	53.92	37	39.27	53.97	37	39.26	53.98	37	40.05	52.78
37	39.26	53.98	37	39.25	54.00	37	39.28	53.95	37	40.07	52.76
37	39.33	53.89	37	39.35	53.85	38	39.31	53.91	38	39.97	52.90
38	39.34	53.86	38	39.42	53.75	38	39.42	53.75	38	40.00	52.85
38	39.43	53.74	38	39.38	53.81	38	39.44	53.73	38	39.80	53.14
38	39.49	53.66	38	39.47	53.68	38	39.44	53.73	38	39.76	53.20
39	39.45	53.71	39	39.46	53.70	39	39.50	53.65	39	39.76	53.20
39	39.53	53.61	39	39.58	53.54	39	39.52	53.62	39	39.71	53.26
39	39.59	53.53	39	39.65	53.45	39	39.61	53.50	39	39.75	53.21
40	39.59	53.52	40	39.72	53.35	40	39.68	53.40	40	39.79	53.16

TABLE 4.1-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
40	39.64	53.46	40	39.71	53.37	40	39.68	53.41	40	39.74	53.22
40	39.71	53.36	40	39.68	53.30	40	39.68	53.31	40	39.83	53.10
41	39.72	53.35	41	39.74	53.22	41	39.72	53.25	41	39.86	53.06
41	39.76	53.20	41	39.80	53.15	41	39.77	53.18	41	39.88	53.04
41	39.86	53.06	41	39.82	53.12	41	39.84	53.09	41	39.97	52.90
42	39.83	53.10	42	39.86	53.06	42	39.88	53.04	42	39.98	52.89
42	39.88	53.04	42	39.93	52.96	42	39.93	52.97	42	40.01	52.84
42	39.93	52.96	42	40.00	52.86	42	39.96	52.92	42	40.07	52.76
42	40.02	52.83	42	40.16	52.63	42	40.03	52.81	42	40.16	52.62
43	40.07	52.76	43	40.16	52.62	43	40.07	52.76	43	40.20	52.57
43	40.10	52.71	43	40.15	52.64	43	40.12	52.69	43	40.28	52.44
43	40.20	52.56	43	40.19	52.58	43	40.17	52.61	43	40.34	52.36
44	40.19	52.58	44	40.24	52.51	44	40.27	52.46	44	40.30	52.41
46	40.71	51.76	46	40.73	51.74	46	40.74	51.72	46	40.80	51.62
47	40.77	51.67	47	40.83	51.57	47	40.77	51.66	47	40.83	51.57
47	40.83	51.57	47	40.86	51.52	47	40.85	51.54	47	40.92	51.41
47	40.96	51.35	47	40.97	51.33	47	40.91	51.44	47	41.02	51.24
48	40.97	51.34	48	41.02	51.25	48	40.97	51.33	48	41.05	51.19
48	59.69	-0.	48	41.04	51.22	48	40.99	51.29	48	41.07	51.16
48	59.69	-0.	48	41.08	51.15	48	41.08	51.14	48	41.14	51.04
49	59.69	-0.	49	41.14	51.04	49	41.12	51.08	49	41.19	50.94
49	59.69	-0.	49	41.14	51.03	49	41.15	51.02	49	41.25	50.84
49	59.69	-0.	49	41.16	50.99	49	41.17	50.97	49	41.24	50.85
49	59.69	-0.	49	41.19	50.94	50	41.18	50.95	50	41.28	50.78
50	41.19	50.94	50	41.21	50.91	50	41.21	50.91	50	41.30	50.74
50	59.69	-0.	50	41.22	50.88	50	41.21	50.90	50	41.30	50.74
50	41.25	50.83	50	41.24	50.86	50	41.23	50.87	50	41.33	50.69
51	59.69	-0.	51	41.25	50.83	51	41.24	50.85	51	41.35	50.66
51	59.69	-0.	51	41.26	50.82	51	41.25	50.83	51	41.34	50.68
51	59.69	-0.	51	41.26	50.81	51	41.26	50.81	51	41.35	50.65
52	41.27	50.79	52	41.26	50.81	52	41.29	50.77	52	41.36	50.63
52	59.69	-0.	52	41.28	50.78	52	41.28	50.78	52	41.36	50.63
52	59.69	-0.	52	41.29	50.77	52	41.28	50.78	52	41.39	50.58
53	41.31	50.72	53	41.31	50.73	53	41.27	50.80	53	41.41	50.54
53	59.69	-0.	53	41.31	50.72	53	41.28	50.78	53	41.40	50.57
53	41.42	50.52	53	41.30	50.74	53	41.29	50.76	53	41.39	50.59
54	41.31	50.72	54	41.31	50.73	54	41.31	50.73	54	41.48	50.42
54	59.69	-0.	54	41.32	50.70	54	41.30	50.74	54	41.40	50.56
54	59.69	-0.	54	41.33	50.69	54	41.31	50.72	54	41.42	50.52
54	41.32	50.70	54	41.33	50.69	54	41.32	50.71	54	41.43	50.50
55	41.35	50.66	55	41.33	50.69	55	41.36	50.64	55	41.42	50.53
55	41.42	50.52	55	41.34	50.68	55	41.33	50.69	55	41.44	50.49
55	41.33	50.69	55	41.35	50.65	55	41.34	50.68	55	41.43	50.50
56	41.36	50.64	56	41.35	50.66	56	41.36	50.63	56	41.42	50.53

TABLE 4.1-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
56	59.69	-0.	56	41.35	50.65	56	41.32	50.70	56	41.43	50.50
56	41.41	50.54	56	41.35	50.66	56	41.33	50.69	56	41.42	50.52
57	41.35	50.66	57	41.35	50.66	57	41.34	50.67	57	41.48	50.42
57	41.37	50.62	57	41.35	50.65	57	41.35	50.66	57	41.44	50.49
57	41.36	50.64	57	41.37	50.62	57	41.36	50.64	57	41.44	50.49
58	59.69	-0.	58	41.36	50.64	58	41.34	50.67	58	41.45	50.48
58	59.69	-0.	58	41.36	50.63	58	41.36	50.64	58	41.46	50.46
58	59.69	-0.	58	41.37	50.61	58	41.35	50.65	58	41.53	50.32
58	59.69	-0.	58	41.38	50.60	58	41.37	50.61	58	41.44	50.49
59	41.37	50.61	59	41.38	50.60	59	41.37	50.62	59	41.46	50.45
59	59.69	-0.	59	41.40	50.56	59	41.38	50.60	59	41.46	50.45
59	59.69	-0.	59	41.42	50.53	59	41.36	50.64	59	41.48	50.42
60	59.69	-0.	60	41.40	50.56	60	41.37	50.61	60	41.48	50.42
60	59.69	-0.	60	41.37	50.61	60	41.36	50.64	60	42.98	47.50

TABLE 4.1-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.56	57.82	0	93.53	-207.07	0	36.59	57.79	0	36.64	57.72
0	36.62	57.75	0	93.56	-207.27	0	36.61	57.76	0	36.65	57.71
13	36.80	57.50	13	93.62	-207.68	13	36.84	57.45	13	36.87	57.41
14	36.86	57.43	14	93.62	-207.68	14	36.87	57.41	14	36.90	57.38
14	36.87	57.41	14	93.64	-207.78	14	36.84	57.45	14	36.88	57.40
14	36.87	57.41	14	93.62	-207.68	14	36.87	57.41	14	36.91	57.36
15	36.88	57.40	15	93.62	-207.68	15	36.95	57.31	15	36.93	57.34
15	36.96	57.29	15	93.62	-207.68	15	36.88	57.40	15	36.96	57.29
15	36.96	57.30	15	93.62	-207.68	15	36.96	57.30	15	36.98	57.27
16	36.96	57.30	16	93.62	-207.68	16	36.93	57.33	16	36.99	57.25
16	36.96	57.30	16	93.62	-207.68	16	37.01	57.23	16	37.05	57.18
16	37.10	57.11	16	93.62	-207.68	16	37.04	57.19	16	37.07	57.15
16	37.11	57.10	16	93.62	-207.68	16	37.18	57.00	17	37.11	57.09
17	37.19	56.99	17	93.53	-207.07	17	37.13	57.06	17	37.16	57.02
17	37.23	56.93	17	93.53	-207.07	17	37.16	57.03	17	37.18	57.00
17	37.19	56.98	17	93.53	-207.07	17	37.17	57.01	17	37.19	56.98
18	37.22	56.94	18	93.53	-207.07	18	37.24	56.91	18	37.24	56.92
18	37.24	56.91	18	93.53	-207.07	18	37.22	56.94	18	37.28	56.86
18	37.24	56.91	18	93.53	-207.07	18	37.27	56.88	18	37.32	56.80
19	37.36	56.75	19	93.53	-207.07	19	37.33	56.79	19	37.32	56.80
19	37.58	56.43	19	93.53	-207.07	19	37.32	56.81	19	37.36	56.75
19	37.34	56.77	19	93.53	-207.07	19	37.35	56.76	19	37.39	56.70
20	37.59	56.41	20	93.56	-207.27	20	37.37	56.72	20	37.42	56.65
20	37.44	56.63	20	93.53	-207.07	20	37.39	56.70	20	37.44	56.63
20	37.45	56.61	20	93.53	-207.07	20	37.47	56.58	20	37.47	56.58
20	37.47	56.59	21	93.53	-207.07	21	37.49	56.56	21	37.50	56.54
21	37.53	56.50	21	93.53	-207.07	21	37.52	56.52	21	37.54	56.48
21	38.16	55.58	21	93.59	-207.48	21	37.75	56.19	21	37.65	56.33
21	37.65	56.33	21	93.53	-207.07	21	37.61	56.38	21	37.61	56.38
22	37.60	56.40	22	93.56	-207.27	22	37.60	56.40	22	37.67	56.30
22	37.67	56.30	22	93.53	-207.07	22	37.64	56.34	22	37.65	56.33
22	37.72	56.23	22	93.53	-207.07	22	37.66	56.32	22	37.71	56.24
23	37.74	56.20	23	93.53	-207.07	23	37.70	56.25	23	37.72	56.22
23	37.75	56.18	23	93.53	-207.07	23	37.75	56.19	23	37.76	56.17
23	37.81	56.09	23	93.53	-207.07	23	37.76	56.17	23	37.78	56.14
24	37.77	56.15	24	93.53	-207.07	24	37.77	56.15	24	37.82	56.08
24	37.85	56.04	24	93.69	-208.08	24	37.80	56.11	24	37.85	56.04
24	37.84	56.06	24	93.59	-207.48	24	37.84	56.06	24	37.86	56.03
25	37.86	56.03	25	93.56	-207.27	25	37.86	56.03	25	37.88	55.99
25	37.86	56.03	25	93.53	-207.07	25	37.89	55.98	25	37.88	55.99
25	37.88	55.99	25	93.53	-207.07	25	37.88	56.00	25	37.91	55.95
25	38.01	55.80	25	93.56	-207.27	25	37.90	55.96	25	37.95	55.89
26	37.93	55.92	26	93.59	-207.48	26	37.94	55.91	26	37.98	55.85
26	38.00	55.82	26	93.53	-207.07	26	38.00	55.82	26	38.01	55.81

TABLE 4.1-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
26	38.01	55.81	26	93.53	-207.07	26	38.01	55.81	26	38.03	55.78
27	38.06	55.72	27	93.56	-207.27	27	38.03	55.76	27	38.07	55.70
27	38.06	55.72	27	93.53	-207.07	27	38.10	55.67	27	38.09	55.68
27	38.11	55.65	27	93.62	-207.68	27	38.08	55.69	27	38.15	55.59
28	38.16	55.57	28	93.67	-207.98	28	38.12	55.63	28	38.17	55.56
28	38.15	55.59	28	93.62	-207.68	28	38.12	55.63	28	38.16	55.58
28	38.18	55.55	28	93.69	-208.08	28	38.22	55.48	28	38.18	55.54
29	38.18	55.54	29	93.66	-207.88	29	38.19	55.53	29	38.21	55.50
29	38.25	55.44	29	93.66	-207.88	29	38.24	55.45	29	38.24	55.45
29	38.27	55.41	29	93.69	-208.08	29	38.29	55.39	29	38.29	55.38
29	38.31	55.36	29	93.69	-208.08	29	38.29	55.38	29	38.33	55.32
30	38.33	55.33	30	93.69	-208.08	30	38.33	55.33	30	38.34	55.31
30	38.36	55.28	30	93.69	-208.08	30	38.34	55.31	30	38.37	55.26
30	38.39	55.23	30	93.66	-207.88	30	38.41	55.21	30	38.40	55.22
31	38.39	55.23	31	93.69	-208.08	31	38.44	55.17	31	38.40	55.22
31	38.48	55.10	31	93.69	-208.08	31	38.43	55.18	31	38.57	54.97
31	38.49	55.09	31	93.69	-208.08	31	38.43	55.18	31	38.50	55.07
32	38.50	55.07	32	93.69	-208.08	32	38.50	55.07	32	38.48	55.10
32	38.52	55.04	32	93.69	-208.08	32	38.52	55.05	32	38.57	54.97
32	38.59	54.95	32	93.69	-208.08	32	38.56	54.99	32	38.58	54.96
33	38.57	54.98	33	93.69	-208.08	33	38.64	54.87	33	38.63	54.88
33	38.61	54.91	33	93.69	-208.08	33	38.63	54.88	33	38.67	54.83
33	38.65	54.86	33	93.69	-208.08	33	38.65	54.86	33	38.70	54.78
33	38.69	54.79	34	93.69	-208.08	34	38.70	54.78	34	38.73	54.73
34	38.74	54.72	34	93.69	-208.08	34	38.72	54.74	34	38.77	54.67
34	38.74	54.71	34	93.69	-208.08	34	38.79	54.65	34	38.79	54.64
34	38.81	54.61	34	93.69	-208.08	34	38.86	54.55	34	38.85	54.56
35	38.85	54.56	35	93.69	-208.08	35	38.85	54.56	35	38.91	54.47
35	38.88	54.51	35	93.69	-208.08	35	38.90	54.48	35	38.91	54.47
35	38.90	54.48	35	93.69	-208.08	35	38.92	54.46	35	38.97	54.38
36	38.95	54.41	36	93.69	-208.08	36	38.95	54.42	36	38.98	54.37
36	38.98	54.37	36	93.69	-208.08	36	38.98	54.37	36	39.06	54.26
36	39.05	54.28	36	93.69	-208.08	36	39.12	54.18	36	39.07	54.24
37	39.09	54.22	37	93.69	-208.08	37	39.07	54.24	37	39.12	54.17
37	39.12	54.17	37	93.69	-208.08	37	39.15	54.13	37	39.20	54.06
37	39.14	54.15	37	93.69	-208.08	37	39.19	54.08	37	39.15	54.13
38	39.16	54.12	38	93.69	-208.08	38	39.20	54.06	38	39.27	53.97
38	39.24	54.01	38	93.69	-208.08	38	39.22	54.03	38	39.28	53.95
38	39.26	53.98	38	93.69	-208.08	38	39.27	53.97	38	39.34	53.86
38	39.30	53.92	38	93.69	-208.08	38	39.36	53.84	38	39.41	53.77
39	39.36	53.83	39	93.69	-208.08	39	39.42	53.75	39	39.50	53.65
39	39.45	53.71	39	93.69	-208.08	39	39.43	53.74	39	39.50	53.65
39	39.44	53.72	39	93.69	-208.08	39	39.50	53.65	39	39.58	53.54
40	39.49	53.66	40	93.69	-208.08	40	39.53	53.61	40	39.58	53.54

TABLE 4.1-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
40	39.56	53.56	40	93.66	-207.88	40	39.65	53.45	40	39.62	53.48
40	39.59	53.52	40	93.62	-207.68	40	39.64	53.46	40	39.70	53.38
41	39.64	53.46	41	93.64	-207.78	41	39.71	53.37	41	39.68	53.30
41	39.64	53.46	41	93.67	-207.98	41	39.72	53.25	41	39.74	53.22
41	39.72	53.25	41	93.69	-208.08	41	39.70	53.28	41	39.78	53.17
42	39.74	53.22	42	93.69	-208.08	42	39.80	53.15	42	39.85	53.08
42	39.79	53.16	42	93.69	-208.08	42	39.83	53.11	42	39.94	52.95
42	39.82	53.12	42	93.69	-208.08	42	39.92	52.98	42	40.08	52.74
42	39.89	53.02	42	93.67	-207.98	43	39.97	52.90	43	40.06	52.77
43	39.95	52.93	43	93.66	-207.88	43	39.97	52.90	43	40.14	52.65
43	39.99	52.87	43	93.69	-208.08	43	40.05	52.79	43	40.21	52.55
43	40.06	52.77	43	93.69	-208.08	43	40.12	52.69	43	40.31	52.40
44	40.08	52.74	44	93.66	-207.88	44	40.14	52.66	44	40.54	52.05
46	40.59	51.97	46	93.67	-207.98	46	40.65	51.86	46	61.22	-9.34
47	40.65	51.86	47	93.69	-208.08	47	40.76	51.69	47	62.38	-16.45
47	40.76	51.68	47	93.69	-208.08	47	40.84	51.55	47	63.49	-23.24
47	40.82	51.58	47	93.66	-207.88	47	40.84	51.56	47	64.58	-29.90
48	40.86	51.52	48	93.62	-207.68	48	40.89	51.46	48	65.63	-36.35
48	40.92	51.41	48	93.62	-207.68	48	40.94	51.39	48	66.69	-42.83
48	40.96	51.35	48	93.62	-207.68	48	41.02	51.24	48	67.69	-48.98
49	41.04	51.22	49	93.56	-207.27	49	41.09	51.13	49	68.68	-55.04
49	41.06	51.18	49	93.56	-207.27	49	41.11	51.09	49	69.58	-60.55
49	41.10	51.11	49	93.59	-207.48	49	41.10	51.11	49	70.25	-64.63
50	41.10	51.10	50	93.59	-207.48	50	41.12	51.07	50	70.89	-68.57
50	41.12	51.08	50	93.61	-207.58	50	41.13	51.05	50	71.50	-72.25
50	41.14	51.04	50	93.62	-207.68	50	41.18	50.96	50	72.04	-75.58
50	41.16	50.99	50	93.59	-207.48	50	41.19	50.94	50	20.66	78.98
51	41.17	50.98	51	93.62	-207.68	51	41.20	50.92	51	73.06	-81.81
51	41.17	50.98	51	93.62	-207.68	51	41.17	50.97	51	73.48	-84.39
51	41.18	50.96	51	93.56	-207.27	51	41.20	50.92	51	73.92	-87.11
52	41.18	50.95	52	93.62	-207.68	52	41.74	49.92	52	74.36	-89.78
52	41.18	50.96	52	93.62	-207.68	52	42.76	47.93	52	74.75	-92.16
52	41.20	50.93	52	93.69	-208.08	52	43.59	46.39	52	75.20	-94.91
53	41.20	50.92	53	93.69	-208.08	53	44.74	44.47	53	75.59	-97.31
53	41.22	50.88	53	93.69	-208.08	53	45.65	42.13	53	75.99	-99.73
53	41.20	50.93	53	93.69	-208.08	53	46.43	39.82	53	76.37	-102.07
54	41.23	50.87	54	93.69	-208.08	54	47.76	37.38	54	76.75	-104.39
54	41.24	50.86	54	93.69	-208.08	54	48.28	35.55	54	77.05	-106.21
54	41.23	50.87	54	93.66	-207.88	54	49.25	33.33	54	77.49	-108.94
54	41.26	50.82	54	93.62	-207.68	54	50.12	31.28	54	77.85	-111.17
55	41.25	50.83	55	93.66	-207.88	55	50.93	28.91	55	78.17	-113.09
55	41.25	50.83	55	93.66	-207.88	55	51.57	26.88	55	78.56	-115.51
55	41.26	50.82	55	93.67	-207.98	55	52.03	24.37	55	78.96	-117.94
56	41.25	50.83	56	93.69	-208.08	56	53.45	22.18	56	79.31	-120.06

TABLE 4.1-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
56	41.26	50.81	56	93.69	-208.08	56	54.36	19.68	56	79.65	-122.18
56	41.27	50.80	56	93.66	-207.88	56	54.28	17.30	56	80.05	-124.61
57	41.29	50.77	57	93.62	-207.68	57	55.06	14.84	57	80.35	-126.43
57	41.29	50.77	57	93.66	-207.88	57	56.22	12.34	57	80.73	-128.75
57	41.29	50.77	57	93.62	-207.68	57	56.94	9.79	57	81.09	-130.97
58	41.27	50.79	58	93.62	-207.68	58	57.59	7.48	58	81.45	-133.20
58	41.31	50.73	58	93.66	-207.88	58	58.32	4.85	58	81.82	-135.42
58	41.31	50.72	58	93.69	-208.08	58	59.06	2.22	58	82.18	-137.64
59	41.27	50.80	59	93.62	-207.68	59	59.77	-0.49	59	82.53	-139.77
59	41.41	50.55	59	93.61	-207.58	59	60.20	-3.12	59	82.92	-142.19
59	43.24	47.02	59	93.66	-207.88	59	60.65	-5.87	59	83.25	-144.21
59	44.67	44.59	59	93.62	-207.68	59	61.13	-8.82	59	83.67	-146.74
60	45.93	41.23	60	93.66	-207.88	60	61.59	-11.60	60	83.95	-148.46
60	47.56	37.67	60	93.56	-207.27	60	62.08	-14.61	60	84.38	-151.08

TABLE 4.1-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.56	57.82	0	36.53	57.86	0	41.69	50.01	0	62.19	-15.27
0	36.55	57.83	0	36.54	57.85	0	41.63	50.13	0	61.51	-11.16
13	36.89	57.39	13	36.79	57.52	13	42.05	49.33	13	62.18	-15.26
14	36.84	57.46	14	36.80	57.51	14	42.04	49.34	14	62.99	-20.21
14	36.87	57.42	14	36.80	57.50	14	42.04	49.35	14	61.33	-10.02
14	36.89	57.39	14	36.82	57.48	14	42.04	49.34	14	62.22	-15.47
15	36.96	57.29	15	36.86	57.43	15	42.04	49.34	15	62.50	-17.18
15	36.90	57.37	15	36.87	57.41	15	42.06	49.30	15	62.99	-20.21
15	36.93	57.33	15	36.87	57.41	15	42.09	49.25	15	61.35	-10.19
16	36.96	57.29	16	36.92	57.35	16	42.10	49.22	16	62.08	-14.62
16	36.97	57.28	16	36.94	57.32	16	42.12	49.18	16	63.32	-22.23
16	37.03	57.20	16	36.97	57.28	16	42.17	49.09	16	61.31	-9.89
17	37.08	57.13	17	37.04	57.19	17	42.20	49.02	17	61.31	-9.89
17	37.11	57.09	17	37.05	57.18	17	42.26	48.90	17	62.40	-16.60
17	37.19	56.99	17	37.10	57.11	17	42.21	49.01	17	62.99	-20.21
17	37.19	56.98	17	37.12	57.08	17	42.26	48.91	17	62.12	-14.87
18	37.24	56.92	18	37.18	57.00	18	42.26	48.91	18	61.53	-11.27
18	37.23	56.93	18	37.20	56.97	18	42.30	48.82	18	61.33	-10.02
18	37.24	56.91	18	37.21	56.96	18	42.31	48.81	18	62.10	-14.72
19	37.30	56.83	19	37.33	56.79	19	42.35	48.72	19	63.06	-20.62
19	37.34	56.77	19	37.32	56.80	19	42.39	48.66	19	63.01	-20.31
19	37.39	56.70	19	37.31	56.82	19	42.39	48.65	19	62.41	-16.62
20	37.38	56.71	20	37.39	56.70	20	42.40	48.63	20	62.99	-20.21
20	37.38	56.71	20	37.37	56.74	20	42.40	48.63	20	63.01	-20.31
20	37.42	56.65	20	37.42	56.66	20	42.46	48.52	20	62.50	-17.20
21	37.47	56.59	21	37.43	56.64	21	42.50	48.44	21	62.22	-15.47
21	37.52	56.52	21	37.47	56.59	21	42.46	48.51	21	63.06	-20.62
21	37.61	56.38	21	37.52	56.52	21	42.54	48.35	21	62.55	-17.52
21	37.58	56.43	21	37.50	56.54	21	42.57	48.30	21	62.18	-15.26
22	37.59	56.41	22	37.47	56.59	22	42.57	48.31	22	61.34	-10.10
22	37.61	56.39	22	37.54	56.49	22	42.59	48.27	22	62.73	-18.60
22	37.73	56.21	22	37.65	56.33	22	42.67	48.10	22	62.13	-14.93
23	37.68	56.29	23	37.62	56.37	23	42.64	48.16	23	63.16	-21.22
23	37.71	56.24	23	37.66	56.31	23	42.67	48.09	23	61.85	-13.24
23	37.75	56.19	23	37.75	56.18	23	42.73	47.99	23	62.73	-18.60
24	37.82	56.08	24	37.78	56.14	24	42.72	48.00	24	63.32	-22.23
24	37.84	56.06	24	37.75	56.19	24	42.73	47.99	24	63.16	-21.22
24	37.85	56.04	24	37.81	56.10	24	42.73	47.98	24	62.60	-17.81
25	37.86	56.03	25	37.80	56.11	25	42.77	47.91	25	61.51	-11.17
25	37.90	55.97	25	37.85	56.04	25	42.79	47.87	25	62.51	-17.23
25	37.90	55.96	25	37.88	56.00	25	42.81	47.82	25	61.51	-11.16
25	37.92	55.93	25	37.90	55.96	25	42.81	47.82	26	61.51	-11.17
26	37.98	55.85	26	37.92	55.93	26	42.82	47.80	26	63.34	-22.34
26	37.98	55.85	26	37.94	55.91	26	42.93	47.60	26	63.36	-22.47

TABLE 4.1-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
26	37.94	55.90	26	37.94	55.91	26	42.90	47.66	26	62.83	-19.24
27	38.07	55.71	27	38.10	55.67	27	42.93	47.60	27	63.36	-22.44
27	38.07	55.70	27	37.99	55.83	27	42.95	47.56	27	62.62	-17.93
27	38.08	55.69	27	38.03	55.76	27	42.97	47.53	27	64.31	-28.30
28	38.10	55.66	28	38.09	55.68	28	42.98	47.50	28	66.33	-40.65
28	38.15	55.59	28	38.10	55.67	28	42.90	47.65	28	68.11	-51.55
28	38.14	55.61	28	38.15	55.59	28	41.64	50.12	28	70.42	-65.69
29	38.22	55.49	29	38.18	55.54	29	40.35	52.34	29	72.90	-80.85
29	38.22	55.49	29	38.20	55.52	29	41.64	50.12	29	74.56	-91.01
29	38.27	55.41	29	38.20	55.52	29	42.02	49.38	29	77.18	-107.02
30	38.37	55.27	30	38.28	55.40	30	41.27	50.80	30	79.51	-121.27
30	38.44	55.17	30	38.33	55.33	30	45.85	41.51	30	81.70	-134.71
30	38.37	55.26	30	38.35	55.29	30	40.38	52.30	30	82.96	-142.39
30	38.37	55.27	30	38.36	55.28	30	40.42	52.23	30	85.37	-157.15
31	38.43	55.18	31	38.44	55.17	31	41.52	50.34	31	87.43	-169.78
31	38.50	55.08	31	38.36	55.28	31	45.51	42.55	31	88.97	-179.18
31	38.46	55.13	31	38.48	55.10	31	48.66	34.66	31	90.97	-191.41
32	38.55	55.01	32	38.57	54.97	32	52.03	24.36	32	92.30	-199.59
32	38.57	54.97	32	38.54	55.02	32	56.48	11.40	32	93.69	-208.08
32	38.64	54.87	32	38.57	54.98	32	60.61	-5.61	32	93.69	-208.08
33	38.60	54.93	33	38.71	54.76	33	62.53	-17.37	33	93.69	-208.08
33	38.70	54.77	33	38.71	54.76	33	64.41	-28.87	33	93.69	-208.08
33	38.69	54.79	33	38.78	54.66	33	66.21	-39.89	33	93.69	-208.08
34	38.78	54.66	34	38.77	54.67	34	67.98	-50.72	34	93.62	-207.68
34	38.79	54.65	34	38.98	54.37	34	69.68	-61.12	34	93.69	-208.08
34	38.86	54.54	34	39.67	53.42	34	71.34	-71.30	34	93.69	-208.08
34	38.90	54.48	34	41.08	51.14	34	72.99	-81.40	34	93.67	-207.98
35	38.93	54.44	35	46.32	40.09	35	74.55	-90.94	35	93.69	-208.08
35	38.99	54.36	35	50.99	28.72	35	76.13	-100.61	35	93.69	-208.08
35	38.96	54.40	35	54.28	17.10	35	77.57	-109.45	35	93.69	-208.08
36	39.07	54.25	36	58.65	3.68	36	79.08	-118.64	36	93.69	-208.08
36	39.08	54.23	36	60.85	-7.09	36	80.51	-127.44	36	93.69	-208.08
36	39.12	54.18	36	62.56	-17.59	36	81.97	-136.33	36	93.69	-208.08
37	39.14	54.15	37	64.22	-27.73	37	83.44	-145.32	37	93.69	-208.08
37	39.34	53.86	37	65.82	-37.53	37	84.87	-154.12	37	93.69	-208.08
37	39.56	53.57	37	67.38	-47.08	37	86.33	-163.01	37	93.69	-208.08
38	39.54	53.59	38	68.91	-56.42	38	87.75	-171.70	38	93.69	-208.08
38	40.28	52.45	38	70.42	-65.66	38	89.15	-180.29	38	93.69	-208.08
38	43.53	46.49	38	71.87	-74.55	38	90.39	-187.87	38	93.69	-208.08
38	46.46	39.74	39	73.29	-83.21	39	91.84	-196.76	39	93.69	-208.08
39	50.61	29.91	39	74.66	-91.64	39	93.23	-205.25	39	93.82	-208.89
39	54.42	15.87	39	76.03	-99.99	39	93.67	-207.98	39	93.89	-209.30
39	58.34	4.81	39	77.38	-108.24	39	93.62	-207.68	39	93.86	-209.09
40	59.69	-0.	40	78.61	-115.81	40	93.69	-208.08	40	93.91	-209.40

TABLE 4.1-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
40	59.69	-0.	40	79.85	-123.39	40	93.69	-208.08	40	93.87	-209.19
40	59.69	-0.	40	81.04	-130.67	40	93.69	-208.08	40	93.89	-209.30
41	59.69	-0.	41	82.33	-138.55	41	93.62	-207.68	41	93.87	-209.19
41	59.69	-0.	41	83.53	-145.93	41	93.69	-208.08	41	93.91	-209.40
41	59.69	-0.	41	84.82	-153.81	41	93.67	-207.98	41	93.91	-209.40
42	59.69	-0.	42	86.01	-161.09	42	93.69	-208.08	42	93.89	-209.30
42	59.69	-0.	42	87.20	-168.37	42	93.69	-208.08	42	93.89	-209.30
42	59.69	-0.	42	88.36	-175.44	42	93.69	-208.08	42	93.87	-209.19
43	59.69	-0.	43	89.50	-182.41	43	93.62	-207.68	43	93.87	-209.19
43	59.69	-0.	43	90.64	-189.39	43	93.69	-208.08	43	93.89	-209.30
43	59.69	-0.	43	91.71	-195.96	43	93.69	-208.08	43	93.92	-209.50
43	59.69	-0.	43	92.82	-202.73	43	93.76	-208.49	43	93.92	-209.50
44	59.69	-0.	44	93.69	-208.08	44	93.89	-209.30	44	93.91	-209.40
46	86.09	-161.59	46	93.67	-207.98	46	93.89	-209.30	47	93.91	-209.40
47	87.18	-168.26	47	93.69	-208.08	47	93.89	-209.30	47	93.92	-209.50
47	88.01	-173.32	47	93.69	-208.08	47	93.95	-209.70	47	93.95	-209.70
47	89.00	-179.38	47	93.67	-207.98	47	93.89	-209.30	47	93.91	-209.40
48	89.88	-184.74	48	93.67	-207.98	48	93.87	-209.19	48	93.89	-209.30
48	90.72	-189.89	48	93.62	-207.68	48	93.87	-209.19	48	93.89	-209.30
48	91.53	-194.84	48	93.64	-207.78	48	93.86	-209.09	48	93.82	-208.89
49	92.32	-199.69	49	93.67	-207.98	49	93.81	-208.79	49	93.86	-209.09
49	93.08	-204.34	49	93.69	-208.08	49	93.81	-208.79	49	93.81	-208.79
49	93.49	-206.87	49	93.77	-208.59	49	93.79	-208.69	49	93.82	-208.89
50	93.46	-206.67	50	93.79	-208.69	50	93.79	-208.69	50	93.81	-208.79
50	93.53	-207.07	50	93.82	-208.89	50	93.86	-209.09	50	93.84	-208.99
50	93.49	-206.87	50	93.79	-208.69	50	93.82	-208.89	50	93.82	-208.89
50	93.53	-207.07	51	93.86	-209.09	51	93.87	-209.19	51	93.89	-209.30
51	93.53	-207.07	51	93.84	-208.99	51	93.86	-209.09	51	93.87	-209.19
51	93.53	-207.07	51	93.84	-208.99	51	93.84	-208.99	51	93.86	-209.09
51	93.53	-207.07	51	93.81	-208.79	51	93.82	-208.89	51	93.82	-208.89
52	93.53	-207.07	52	93.82	-208.89	52	93.86	-209.09	52	93.86	-209.09
52	93.53	-207.07	52	93.86	-209.09	52	93.89	-209.30	52	93.89	-209.30
52	93.62	-207.68	52	93.92	-209.50	52	93.92	-209.50	52	93.92	-209.50
53	93.62	-207.68	53	93.91	-209.40	53	93.92	-209.50	53	93.91	-209.40
53	93.62	-207.68	53	93.89	-209.30	53	93.94	-209.60	53	93.91	-209.40
53	93.56	-207.27	53	93.89	-209.30	53	93.91	-209.40	53	93.92	-209.50
54	93.62	-207.68	54	93.89	-209.30	54	93.81	-208.79	54	93.89	-209.30
54	93.53	-207.07	54	93.87	-209.19	54	93.91	-209.40	54	93.94	-209.60
54	93.53	-207.07	54	93.86	-209.09	54	93.77	-208.59	54	93.79	-208.69
55	93.53	-207.07	55	93.86	-209.09	55	93.89	-209.30	55	93.86	-209.09
55	93.53	-207.07	55	93.87	-209.19	55	93.89	-209.30	55	93.87	-209.19
55	93.53	-207.07	55	93.87	-209.19	55	93.89	-209.30	55	93.89	-209.30
55	93.53	-207.07	55	93.87	-209.19	55	93.89	-209.30	55	93.91	-209.40
56	93.56	-207.27	56	93.91	-209.40	56	93.92	-209.50	56	93.91	-209.40

TABLE 4.1-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
56	93.59	-207.48	56	93.89	-209.30	56	93.91	-209.40	56	93.89	-209.30
56	93.53	-207.07	56	93.86	-209.09	56	93.86	-209.09	56	93.86	-209.09
57	93.61	-207.58	57	93.86	-209.09	57	93.87	-209.19	57	93.92	-209.50
57	93.53	-207.07	57	93.84	-208.99	57	93.89	-209.30	57	93.89	-209.30
57	93.53	-207.07	57	93.82	-208.89	57	93.84	-208.99	57	93.84	-208.99
58	93.53	-207.07	58	93.84	-208.99	58	93.87	-209.19	58	93.86	-209.09
58	93.53	-207.07	58	93.81	-208.79	58	93.84	-208.99	58	93.86	-209.09
58	93.53	-207.07	58	93.86	-209.09	58	93.84	-208.99	58	93.86	-209.09
59	93.53	-207.07	59	93.86	-209.09	59	93.89	-209.30	59	93.87	-209.19
59	93.53	-207.07	59	93.81	-208.79	59	93.89	-209.30	59	93.87	-209.19
59	93.53	-207.07	59	93.81	-208.79	59	93.84	-208.99	59	93.87	-209.19
59	93.56	-207.27	59	93.82	-208.89	59	93.86	-209.09	59	93.84	-208.99
60	93.53	-207.07	60	93.81	-208.79	60	93.86	-209.09	60	93.86	-209.09
60	93.53	-207.07	60	93.84	-208.99	60	93.82	-208.89	60	93.82	-208.89

TABLE 4.1-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.56	57.82	20	36.56	57.82	0	36.55	57.83	0	36.56	57.82
0	36.57	57.81	0	36.59	57.79	1	36.56	57.82	1	36.59	57.79
13	36.85	57.44	13	36.90	57.37	13	38.22	55.49	13	44.62	44.69
14	36.86	57.43	14	37.04	57.19	14	38.70	54.77	14	44.65	44.63
14	36.88	57.40	14	36.98	57.27	14	38.18	55.55	14	44.76	44.42
14	36.92	57.35	14	37.02	57.22	14	38.30	55.37	14	44.84	44.26
15	36.91	57.36	15	36.98	57.27	15	38.13	55.62	15	45.05	43.79
15	36.88	57.40	15	36.89	57.39	15	38.20	55.51	15	44.98	43.94
15	36.98	57.27	15	36.99	57.26	15	38.53	55.03	15	45.34	43.04
16	36.96	57.30	16	36.93	57.34	16	38.29	55.39	16	45.75	41.81
16	36.93	57.33	16	36.95	57.31	16	37.11	57.09	16	45.72	41.92
16	37.03	57.20	16	37.03	57.20	16	39.57	53.55	16	46.59	39.42
17	37.11	57.09	17	37.17	57.01	17	39.18	54.09	17	48.03	36.23
17	37.10	57.11	17	37.12	57.08	17	37.75	56.19	17	49.20	33.46
17	37.10	57.11	17	37.10	57.11	17	37.16	57.03	17	49.83	32.00
17	37.27	56.88	17	37.24	56.91	17	37.52	56.51	18	50.97	28.80
18	37.32	56.81	18	37.42	56.65	18	37.66	56.32	18	50.53	30.15
18	37.28	56.86	18	37.37	56.72	18	38.37	55.26	18	50.29	30.83
18	37.30	56.83	18	37.37	56.72	18	37.99	55.84	18	50.33	30.72
19	37.37	56.72	19	37.46	56.60	19	38.57	54.97	19	50.37	30.61
19	37.44	56.62	19	37.45	56.61	19	38.16	55.57	19	49.21	33.42
19	37.45	56.61	19	37.74	56.20	19	37.88	55.99	19	50.32	30.73
20	37.47	56.58	20	37.46	56.60	20	38.43	55.18	20	50.07	31.40
20	37.42	56.66	20	37.38	56.71	20	39.12	54.18	20	50.98	28.75
20	37.47	56.58	20	37.50	56.54	20	37.68	56.29	20	49.90	31.82
21	37.54	56.48	21	37.79	56.13	21	38.10	55.67	21	50.29	30.83
21	37.56	56.45	21	37.64	56.34	21	37.88	55.99	21	51.34	27.60
21	37.52	56.52	21	37.54	56.49	21	37.95	55.89	21	50.57	30.05
21	37.54	56.48	22	37.54	56.48	22	38.44	55.16	22	50.83	29.24
22	37.66	56.31	22	37.70	56.26	22	38.02	55.79	22	51.47	27.20
22	37.70	56.25	22	37.74	56.20	22	38.59	54.94	22	52.03	24.37
22	37.67	56.30	22	37.66	56.31	22	37.69	56.27	22	51.36	27.54
23	37.67	56.30	23	37.89	55.98	23	38.15	55.59	23	53.29	22.45
23	37.82	56.08	23	37.88	56.00	23	38.33	55.32	23	54.29	20.16
23	37.79	56.12	23	38.02	55.79	23	39.04	54.29	23	54.30	17.58
24	37.92	55.94	24	38.03	55.78	24	40.16	52.62	24	58.11	5.61
24	37.89	55.98	24	38.57	54.98	24	44.67	44.59	24	60.90	-7.39
24	37.96	55.88	24	38.13	55.62	24	48.18	35.81	24	63.02	-20.38
25	38.02	55.79	25	38.66	54.84	25	52.62	23.45	25	65.03	-32.67
25	38.10	55.66	25	40.46	52.17	25	56.27	12.14	25	66.72	-43.04
25	38.18	55.55	25	43.42	46.69	25	59.90	-1.27	25	68.56	-54.28
26	38.42	55.20	26	47.97	36.40	26	62.68	-18.30	26	70.41	-65.58
26	38.72	54.75	26	52.44	23.71	26	65.02	-32.61	26	72.27	-77.02
26	40.72	51.75	26	56.95	9.72	26	67.21	-45.99	26	74.11	-88.23

TABLE 4.1-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
26	46.01	40.99	26	60.93	-7.60	26	69.33	-59.00	26	75.86	-98.99
27	50.90	29.00	27	63.76	-24.89	27	71.40	-71.64	27	77.64	-109.85
27	54.55	15.56	27	66.06	-39.00	27	73.39	-83.87	27	79.42	-120.77
27	59.34	1.23	27	68.18	-51.95	27	75.24	-95.19	27	81.16	-131.38
28	62.43	-16.78	28	70.29	-64.86	28	77.03	-106.11	28	82.96	-142.39
28	59.69	-0.	28	72.26	-76.92	28	78.81	-117.03	28	84.71	-153.11
28	66.93	-44.29	28	74.15	-88.52	28	80.61	-128.04	28	86.59	-164.63
29	69.04	-57.20	29	76.12	-100.54	29	82.43	-139.16	29	88.49	-176.25
29	71.05	-69.50	29	77.95	-111.77	29	84.31	-150.68	29	90.35	-187.67
29	59.69	-0.	29	79.74	-122.69	29	86.18	-162.10	29	92.24	-199.19
30	74.88	-92.94	30	81.55	-133.80	30	88.01	-173.32	30	93.69	-208.08
30	59.69	-0.	30	83.34	-144.72	30	89.89	-184.84	30	93.69	-208.08
30	59.69	-0.	30	85.22	-156.24	30	91.76	-196.26	30	93.67	-207.98
30	80.22	-125.62	30	87.07	-167.56	30	93.64	-207.78	31	93.89	-209.30
31	81.95	-136.23	31	88.87	-178.57	31	93.69	-208.08	31	93.92	-209.50
31	59.69	-0.	31	90.59	-189.08	31	93.69	-208.08	31	93.94	-209.60
31	59.69	-0.	31	92.55	-201.11	31	93.79	-208.69	31	93.94	-209.60
32	59.69	-0.	32	93.69	-208.08	32	93.94	-209.60	32	94.00	-210.00
32	89.02	-179.48	32	93.69	-208.08	32	93.97	-209.80	32	93.99	-209.90
32	90.72	-189.89	32	93.69	-208.08	32	93.97	-209.80	32	93.99	-209.90
33	92.48	-200.71	33	93.79	-208.69	33	93.95	-209.70	33	93.97	-209.80
33	93.86	-209.09	33	93.92	-209.50	33	93.95	-209.70	33	93.95	-209.70
33	93.89	-209.30	33	94.00	-210.00	33	94.02	-210.10	33	94.04	-210.20
34	93.81	-208.79	34	93.94	-209.60	34	93.94	-209.60	34	93.95	-209.70
34	93.82	-208.89	34	93.94	-209.60	34	93.92	-209.50	34	93.94	-209.60
34	93.86	-209.09	34	93.92	-209.50	34	93.94	-209.60	34	93.94	-209.60
35	93.86	-209.09	35	93.95	-209.70	35	93.94	-209.60	35	93.94	-209.60
35	93.89	-209.30	35	93.95	-209.70	35	93.97	-209.80	35	93.95	-209.70
35	93.84	-208.99	35	93.92	-209.50	35	93.94	-209.60	35	93.94	-209.60
35	93.86	-209.09	35	93.91	-209.40	35	93.95	-209.70	35	93.94	-209.60
36	93.84	-208.99	36	93.94	-209.60	36	93.99	-209.90	36	93.95	-209.70
36	93.86	-209.09	36	93.94	-209.60	36	93.94	-209.60	36	93.92	-209.50
36	93.84	-208.99	36	93.94	-209.60	36	93.91	-209.40	36	93.91	-209.40
37	93.84	-208.99	37	93.92	-209.50	37	93.94	-209.60	37	93.94	-209.60
37	93.86	-209.09	37	93.94	-209.60	37	93.94	-209.60	37	93.92	-209.50
37	93.84	-208.99	37	93.94	-209.60	37	93.94	-209.60	37	93.95	-209.70
38	93.86	-209.09	38	93.95	-209.70	38	93.94	-209.60	38	93.95	-209.70
38	93.86	-209.09	38	93.92	-209.50	38	93.95	-209.70	38	93.94	-209.60
38	93.84	-208.99	38	93.92	-209.50	38	93.92	-209.50	38	93.94	-209.60
39	93.82	-208.89	39	93.92	-209.50	39	93.92	-209.50	39	93.94	-209.60
39	93.82	-208.89	39	93.92	-209.50	39	93.92	-209.50	39	93.91	-209.40
39	93.86	-209.09	39	93.91	-209.40	39	93.91	-209.40	39	93.92	-209.50
39	93.84	-208.99	39	93.94	-209.60	39	93.91	-209.40	39	93.92	-209.50
40	93.82	-208.89	40	93.91	-209.40	40	93.91	-209.40	40	93.91	-209.40

TABLE 4.1-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
40	93.86	-209.09	40	93.91	-209.40	40	93.91	-209.40	40	93.91	-209.40
40	93.84	-208.99	40	93.91	-209.40	40	93.91	-209.40	40	93.89	-209.30
41	93.79	-208.69	41	93.87	-209.19	41	93.86	-209.09	41	93.87	-209.19
41	93.86	-209.09	41	93.92	-209.50	41	93.94	-209.60	41	93.95	-209.70
41	93.86	-209.09	41	93.92	-209.50	41	93.94	-209.60	41	93.87	-209.19
42	93.86	-209.09	42	93.79	-208.69	42	93.91	-209.40	42	93.91	-209.40
42	93.86	-209.09	42	93.91	-209.40	42	93.92	-209.50	42	93.91	-209.40
42	93.86	-209.09	42	93.91	-209.40	42	93.91	-209.40	42	93.91	-209.40
43	93.82	-208.89	43	93.87	-209.19	43	93.89	-209.30	43	93.89	-209.30
43	93.87	-209.19	43	93.92	-209.50	43	93.92	-209.50	43	93.91	-209.40
43	93.91	-209.40	43	93.94	-209.60	43	93.94	-209.60	43	93.94	-209.60
43	93.92	-209.50	43	93.94	-209.60	44	93.94	-209.60	44	93.92	-209.50
44	93.92	-209.50	44	93.91	-209.40	44	93.92	-209.50	44	93.91	-209.40
47	93.91	-209.40	47	93.91	-209.40	47	93.91	-209.40	47	93.91	-209.40
47	93.92	-209.50	47	93.91	-209.40	47	93.91	-209.40	47	93.94	-209.60
47	93.95	-209.70	47	93.95	-209.70	47	93.95	-209.70	47	93.97	-209.80
47	93.92	-209.50	47	93.91	-209.40	47	93.89	-209.30	47	93.91	-209.40
48	93.89	-209.30	48	93.89	-209.30	48	93.87	-209.19	48	93.89	-209.30
48	93.91	-209.40	48	93.89	-209.30	48	93.89	-209.30	48	93.86	-209.09
48	93.84	-208.99	48	93.87	-209.19	48	93.86	-209.09	48	93.84	-208.99
49	93.79	-208.69	49	93.82	-208.89	49	93.81	-208.79	49	93.82	-208.89
49	93.82	-208.89	49	93.79	-208.69	49	93.79	-208.69	49	93.81	-208.79
49	93.82	-208.89	49	93.82	-208.89	49	93.82	-208.89	49	93.81	-208.79
50	93.82	-208.89	50	93.84	-208.99	50	93.81	-208.79	50	93.82	-208.89
50	93.86	-209.09	50	93.86	-209.09	50	93.86	-209.09	50	93.86	-209.09
50	93.84	-208.99	50	93.86	-209.09	50	93.84	-208.99	50	93.86	-209.09
51	93.87	-209.19	51	93.86	-209.09	51	93.86	-209.09	51	93.87	-209.19
51	93.86	-209.09	51	93.87	-209.19	51	93.87	-209.19	51	93.87	-209.19
51	93.84	-208.99	51	93.72	-208.28	51	93.79	-208.69	51	93.84	-208.99
51	93.86	-209.09	51	93.87	-209.19	51	93.84	-208.99	51	93.84	-208.99
52	93.87	-209.19	52	93.89	-209.30	52	93.86	-209.09	52	93.86	-209.09
52	93.87	-209.19	52	93.91	-209.40	52	93.89	-209.30	52	93.87	-209.19
52	93.94	-209.60	52	93.92	-209.50	52	93.94	-209.60	52	93.92	-209.50
53	93.94	-209.60	53	93.94	-209.60	53	93.92	-209.50	53	93.91	-209.40
53	93.92	-209.50	53	93.92	-209.50	53	93.94	-209.60	53	93.91	-209.40
53	93.92	-209.50	53	93.92	-209.50	53	93.92	-209.50	53	93.94	-209.60
54	93.91	-209.40	54	93.89	-209.30	54	93.92	-209.50	54	93.92	-209.50
54	93.91	-209.40	54	93.91	-209.40	54	93.91	-209.40	54	93.92	-209.50
54	93.87	-209.19	54	93.87	-209.19	54	93.87	-209.19	54	93.89	-209.30
55	93.87	-209.19	55	93.87	-209.19	55	93.89	-209.30	55	93.87	-209.19
55	93.89	-209.30	55	93.89	-209.30	55	93.89	-209.30	55	93.91	-209.40
55	93.89	-209.30	55	93.87	-209.19	55	93.89	-209.30	55	93.91	-209.40
55	93.91	-209.40	55	93.92	-209.50	55	93.91	-209.40	56	93.92	-209.50
56	93.89	-209.30	56	93.91	-209.40	56	93.94	-209.60	56	93.91	-209.40

TABLE 4.1-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
56	93.91	-209.40	56	93.92	-209.50	56	93.91	-209.40	56	93.91	-209.40
56	93.89	-209.30	56	93.89	-209.30	56	93.87	-209.19	56	93.87	-209.19
57	93.87	-209.19	57	93.87	-209.19	57	93.87	-209.19	57	93.89	-209.30
57	93.86	-209.09	57	93.86	-209.09	57	93.87	-209.19	57	93.87	-209.19
57	93.86	-209.09	57	93.86	-209.09	57	93.86	-209.09	57	93.86	-209.09
58	93.84	-208.99	58	93.86	-209.09	58	93.86	-209.09	58	93.87	-209.19
58	93.86	-209.09	58	93.89	-209.30	58	93.91	-209.40	58	93.87	-209.19
58	93.82	-208.89	58	93.86	-209.09	58	93.89	-209.30	58	93.86	-209.09
59	93.86	-209.09	59	93.84	-208.99	59	93.86	-209.09	59	93.87	-209.19
59	93.89	-209.30	59	93.87	-209.19	59	93.89	-209.30	59	93.91	-209.40
59	93.89	-209.30	59	93.84	-208.99	59	93.86	-209.09	59	93.87	-209.19
60	93.89	-209.30	60	93.86	-209.09	60	93.84	-208.99	60	93.89	-209.30
60	93.82	-208.89	60	93.86	-209.09	60	93.86	-209.09	60	93.84	-208.99
60	93.86	-209.09	60	93.87	-209.19	60	93.84	-208.99	60	93.86	-209.09

TABLE 4.1-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.82	56.08	0	39.44	53.72	0	42.82	47.80	0	81.29	-132.19
1	37.86	56.03	1	39.41	53.76	1	42.88	47.70	1	81.32	-132.39
14	54.37	16.05	14	61.43	-10.63	14	72.59	-78.94	14	93.62	-207.68
14	54.53	15.60	14	61.58	-11.58	14	72.75	-79.94	14	93.62	-207.68
14	54.91	15.01	14	61.72	-12.41	14	72.95	-81.18	14	93.62	-207.68
14	55.58	14.38	14	61.90	-13.54	14	73.11	-82.10	14	93.59	-207.48
15	55.89	13.51	15	62.07	-14.56	15	73.39	-83.86	15	93.61	-207.58
15	56.17	12.52	15	62.32	-16.07	15	73.72	-85.88	15	93.62	-207.68
15	56.72	10.57	15	62.62	-17.94	15	75.91	-99.29	15	93.59	-207.48
16	57.01	9.52	16	62.80	-19.01	16	74.42	-90.16	16	93.56	-207.27
16	57.38	8.20	16	63.26	-21.82	16	74.64	-91.49	16	93.66	-207.88
16	58.12	5.59	16	63.68	-24.45	16	75.27	-95.37	16	93.61	-207.58
17	59.69	-0.	17	64.31	-28.29	17	76.35	-101.97	17	93.57	-207.38
17	59.69	-0.	17	64.82	-31.41	17	77.47	-108.84	17	93.56	-207.27
17	59.69	-0.	17	65.88	-37.86	17	78.78	-116.83	17	93.53	-207.07
18	59.69	-0.	18	66.46	-41.42	18	79.69	-122.38	18	93.53	-207.07
18	59.69	-0.	18	66.84	-43.75	18	80.03	-124.51	18	93.53	-207.07
18	59.69	-0.	18	67.32	-46.68	18	80.66	-128.35	18	93.56	-207.27
18	59.69	-0.	18	67.66	-48.75	18	81.02	-130.57	18	93.53	-207.07
19	59.69	-0.	19	68.06	-51.22	19	81.44	-133.10	19	93.53	-207.07
19	59.69	-0.	19	68.27	-52.50	19	81.49	-133.40	19	93.53	-207.07
19	59.69	-0.	19	68.84	-56.00	19	82.28	-138.25	19	93.53	-207.07
20	59.69	-0.	20	69.09	-57.53	20	82.64	-140.47	20	93.53	-207.07
20	59.69	-0.	20	69.56	-60.43	20	83.40	-145.12	20	93.53	-207.07
20	59.69	-0.	20	69.68	-61.14	20	83.47	-145.53	20	93.56	-207.27
21	59.69	-0.	21	70.09	-63.66	21	83.98	-148.66	21	93.56	-207.27
21	59.69	-0.	21	70.61	-66.84	21	84.81	-153.71	21	93.56	-207.27
21	59.69	-0.	21	70.80	-67.96	21	84.97	-154.72	21	93.59	-207.48
22	59.69	-0.	22	71.18	-70.32	22	85.55	-158.26	22	93.56	-207.27
22	59.69	-0.	22	71.59	-72.82	22	86.03	-161.19	22	93.56	-207.27
22	59.69	-0.	22	72.13	-76.16	22	86.75	-165.64	22	93.62	-207.68
22	59.69	-0.	22	72.22	-76.70	22	86.92	-166.65	22	93.53	-207.07
23	59.69	-0.	23	72.95	-81.14	23	88.08	-173.72	23	93.61	-207.58
23	59.69	-0.	23	73.56	-84.89	23	88.82	-178.27	23	93.59	-207.48
23	59.69	-0.	23	74.12	-88.29	23	89.43	-182.01	23	93.53	-207.07
24	59.69	-0.	24	75.51	-96.83	24	91.71	-195.96	24	93.62	-207.68
24	59.69	-0.	24	76.85	-105.00	24	93.53	-207.07	24	93.84	-208.99
24	59.69	-0.	24	78.00	-112.08	24	93.62	-207.68	24	93.81	-208.79
25	59.69	-0.	25	79.54	-121.47	25	93.56	-207.27	25	93.81	-208.79
25	59.69	-0.	25	80.98	-130.27	25	93.56	-207.27	25	93.81	-208.79
25	59.69	-0.	25	82.56	-139.97	25	93.61	-207.58	25	93.79	-208.69
26	59.69	-0.	26	84.11	-149.47	26	93.56	-207.27	26	93.77	-208.59
26	59.69	-0.	26	85.96	-160.79	26	93.56	-207.27	26	93.82	-208.89
26	59.69	-0.	26	87.83	-172.21	26	93.53	-207.07	26	93.77	-208.59

TABLE 4.1-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
26	82.91	-142.09	26	89.66	-183.42	27	93.53	-207.07	27	93.79	-208.69
27	84.71	-153.11	27	91.64	-195.55	27	93.59	-207.48	27	93.84	-208.99
27	86.51	-164.12	27	93.53	-207.07	27	93.76	-208.49	27	93.81	-208.79
27	88.32	-175.24	27	93.69	-208.08	27	93.87	-209.19	27	93.91	-209.40
28	90.06	-185.85	28	93.69	-208.08	28	93.87	-209.19	28	93.89	-209.30
28	92.07	-198.18	28	93.69	-208.08	28	93.89	-209.30	28	93.92	-209.50
28	93.53	-207.07	28	93.92	-209.50	28	93.95	-209.70	28	93.94	-209.60
29	93.53	-207.07	29	93.89	-209.30	29	93.92	-209.50	29	93.92	-209.50
29	93.53	-207.07	29	93.89	-209.30	29	93.87	-209.19	29	93.91	-209.40
29	93.62	-207.68	29	93.92	-209.50	29	93.94	-209.60	29	93.92	-209.50
30	93.69	-208.08	30	93.91	-209.40	30	93.92	-209.50	30	93.95	-209.70
30	93.69	-208.08	30	93.94	-209.60	30	93.95	-209.70	30	93.99	-209.90
30	93.69	-208.08	30	93.94	-209.60	30	93.92	-209.50	30	93.92	-209.50
31	93.79	-208.69	31	93.94	-209.60	31	93.94	-209.60	31	93.95	-209.70
31	93.84	-208.99	31	93.95	-209.70	31	93.94	-209.60	31	93.99	-209.90
31	93.92	-209.50	31	93.94	-209.60	31	93.94	-209.60	31	93.95	-209.70
31	93.97	-209.80	31	93.99	-209.90	31	93.94	-209.60	31	93.95	-209.70
32	94.00	-210.00	32	93.99	-209.90	32	93.97	-209.80	32	93.97	-209.80
32	93.97	-209.80	32	93.99	-209.90	32	93.99	-209.90	32	93.99	-209.90
32	93.99	-209.90	32	93.97	-209.80	32	93.95	-209.70	32	93.95	-209.70
33	93.97	-209.80	33	93.97	-209.80	33	93.92	-209.50	33	94.00	-210.00
33	93.97	-209.80	33	93.99	-209.90	33	93.95	-209.70	33	93.97	-209.80
33	94.02	-210.10	33	94.02	-210.10	33	94.02	-210.10	33	94.02	-210.10
34	93.94	-209.60	34	93.95	-209.70	34	93.94	-209.60	34	93.95	-209.70
34	93.94	-209.60	34	93.94	-209.60	34	93.97	-209.80	34	93.94	-209.60
34	93.95	-209.70	34	93.97	-209.80	34	93.95	-209.70	34	93.97	-209.80
35	93.97	-209.80	35	93.97	-209.80	35	93.95	-209.70	35	93.95	-209.70
35	93.94	-209.60	35	93.92	-209.50	35	93.99	-209.90	35	93.97	-209.80
35	93.92	-209.50	35	93.95	-209.70	35	93.94	-209.60	35	93.94	-209.60
35	93.94	-209.60	35	93.94	-209.60	35	93.94	-209.60	36	93.95	-209.70
36	93.95	-209.70	36	93.94	-209.60	36	93.92	-209.50	36	93.95	-209.70
36	93.91	-209.40	36	93.92	-209.50	36	93.94	-209.60	36	93.95	-209.70
36	93.94	-209.60	36	93.95	-209.70	36	93.94	-209.60	36	93.97	-209.80
37	93.94	-209.60	37	93.94	-209.60	37	93.94	-209.60	37	93.95	-209.70
37	93.95	-209.70	37	93.94	-209.60	37	93.94	-209.60	37	93.95	-209.70
37	93.94	-209.60	37	93.95	-209.70	37	93.92	-209.50	37	93.95	-209.70
38	93.95	-209.70	38	93.95	-209.70	38	93.95	-209.70	38	93.97	-209.80
38	93.94	-209.60	38	93.94	-209.60	38	93.94	-209.60	38	93.95	-209.70
38	93.95	-209.70	38	93.94	-209.60	38	93.94	-209.60	38	93.94	-209.60
39	93.94	-209.60	39	93.94	-209.60	39	93.95	-209.70	39	93.94	-209.60
39	93.92	-209.50	39	93.92	-209.50	39	93.92	-209.50	39	93.92	-209.50
39	93.92	-209.50	39	93.92	-209.50	39	93.92	-209.50	39	93.92	-209.50
40	93.89	-209.30	40	93.91	-209.40	40	93.91	-209.40	40	93.94	-209.60
40	93.89	-209.30	40	93.91	-209.40	40	93.92	-209.50	40	93.94	-209.60

TABLE 4.1-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
40	93.92	-209.50	40	93.92	-209.50	40	93.87	-209.19	40	93.91	-209.40
40	93.89	-209.30	40	93.91	-209.40	40	93.91	-209.40	40	93.94	-209.60
41	93.89	-209.30	41	93.87	-209.19	41	93.87	-209.19	41	93.87	-209.19
41	93.92	-209.50	41	93.92	-209.50	41	93.94	-209.60	41	93.95	-209.70
41	93.92	-209.50	41	93.92	-209.50	41	93.94	-209.60	41	93.94	-209.60
42	93.91	-209.40	42	93.91	-209.40	42	93.91	-209.40	42	93.92	-209.50
42	93.91	-209.40	42	93.92	-209.50	42	93.94	-209.60	42	93.91	-209.40
42	93.92	-209.50	42	93.92	-209.50	42	93.92	-209.50	42	93.92	-209.50
43	93.89	-209.30	43	93.91	-209.40	43	93.89	-209.30	43	93.91	-209.40
43	93.91	-209.40	43	93.92	-209.50	43	93.92	-209.50	43	93.92	-209.50
43	93.92	-209.50	43	93.94	-209.60	43	93.94	-209.60	43	93.94	-209.60
44	93.94	-209.60	44	93.92	-209.50	44	93.94	-209.60	44	93.95	-209.70
44	93.91	-209.40	44	93.91	-209.40	44	93.91	-209.40	44	93.94	-209.60
47	93.91	-209.40	47	93.91	-209.40	47	93.89	-209.30	47	93.91	-209.40
47	93.95	-209.70	47	93.95	-209.70	47	93.94	-209.60	47	93.95	-209.70
47	93.95	-209.70	47	93.97	-209.80	47	93.91	-209.40	47	93.91	-209.40
47	93.94	-209.60	47	93.91	-209.40	47	93.92	-209.50	48	93.91	-209.40
48	93.87	-209.19	48	93.89	-209.30	48	93.87	-209.19	48	93.89	-209.30
48	93.87	-209.19	48	93.87	-209.19	48	93.84	-208.99	48	93.87	-209.19
48	93.86	-209.09	48	93.86	-209.09	48	93.82	-208.89	48	93.82	-208.89
49	93.79	-208.69	49	93.84	-208.99	49	93.81	-208.79	49	93.84	-208.99
49	93.82	-208.89	49	93.82	-208.89	49	93.79	-208.69	49	93.84	-208.99
49	93.82	-208.89	49	93.84	-208.99	49	93.82	-208.89	49	93.81	-208.79
50	93.82	-208.89	50	93.84	-208.99	50	93.82	-208.89	50	93.82	-208.89
50	93.84	-208.99	50	93.86	-209.09	50	93.84	-208.99	50	93.86	-209.09
50	93.84	-208.99	50	94.02	-210.10	50	93.86	-209.09	50	93.87	-209.19
51	93.86	-209.09	51	93.84	-208.99	51	93.86	-209.09	51	93.87	-209.19
51	93.86	-209.09	51	93.87	-209.19	51	93.86	-209.09	51	93.91	-209.40
51	93.82	-208.89	51	93.84	-208.99	51	93.81	-208.79	51	93.82	-208.89
51	93.86	-209.09	52	93.86	-209.09	52	93.87	-209.19	52	93.86	-209.09
52	93.87	-209.19	52	93.86	-209.09	52	93.86	-209.09	52	93.86	-209.09
52	93.87	-209.19	52	93.89	-209.30	52	93.87	-209.19	52	93.87	-209.19
52	93.92	-209.50	52	93.94	-209.60	52	93.94	-209.60	52	93.94	-209.60
53	93.92	-209.50	53	93.94	-209.60	53	93.92	-209.50	53	93.92	-209.50
53	93.92	-209.50	53	93.91	-209.40	53	93.92	-209.50	53	93.92	-209.50
53	93.91	-209.40	53	93.89	-209.30	53	93.91	-209.40	53	93.94	-209.60
54	93.92	-209.50	54	93.92	-209.50	54	93.91	-209.40	54	93.92	-209.50
54	93.91	-209.40	54	93.92	-209.50	54	93.91	-209.40	54	93.94	-209.60
54	93.87	-209.19	54	93.87	-209.19	54	93.87	-209.19	54	93.89	-209.30
55	93.89	-209.30	55	93.87	-209.19	55	93.89	-209.30	55	93.87	-209.19
55	93.89	-209.30	55	93.91	-209.40	55	93.89	-209.30	55	93.91	-209.40
55	93.89	-209.30	55	93.87	-209.19	55	93.91	-209.40	55	93.91	-209.40
56	93.91	-209.40	56	93.92	-209.50	56	93.91	-209.40	56	93.92	-209.50
56	93.91	-209.40	56	93.91	-209.40	56	93.92	-209.50	56	93.92	-209.50

TABLE 4.1-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
56	93.91	-209.40	56	93.91	-209.40	56	93.91	-209.40	56	93.91	-209.40
56	93.89	-209.30	56	93.87	-209.19	56	93.89	-209.30	56	93.92	-209.50
57	93.89	-209.30	57	93.87	-209.19	57	93.87	-209.19	57	93.91	-209.40
57	93.89	-209.30	57	93.86	-209.09	57	93.86	-209.09	57	93.89	-209.30
57	93.87	-209.19	57	93.86	-209.09	57	93.87	-209.19	57	93.89	-209.30
58	93.84	-208.99	58	93.87	-209.19	58	93.86	-209.09	58	93.87	-209.19
58	93.86	-209.09	58	93.86	-209.09	58	93.87	-209.19	58	93.86	-209.09
58	93.87	-209.19	58	93.87	-209.19	58	93.82	-208.89	58	93.91	-209.40
59	93.82	-208.89	59	93.82	-208.89	59	93.84	-208.99	59	93.84	-208.99
59	93.86	-209.09	59	93.84	-208.99	59	93.82	-208.89	59	93.87	-209.19
59	93.84	-208.99	59	93.89	-209.30	59	93.91	-209.40	59	93.92	-209.50
60	93.91	-209.40	60	93.89	-209.30	60	93.89	-209.30	60	93.92	-209.50
60	93.82	-208.89	60	93.87	-209.19	60	93.84	-208.99	60	93.87	-209.19
60	93.87	-209.19	60	93.86	-209.09	60	93.87	-209.19	60	93.87	-209.19

TABLE 4.1-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.62	57.75	0	36.63	57.74	0	36.71	57.62	0	36.74	57.58
1	36.64	57.72	1	36.63	57.73	1	36.73	57.60	1	36.73	57.60
14	36.86	57.43	14	36.87	57.42	14	36.95	57.31	14	36.98	57.27
14	36.88	57.40	14	36.87	57.42	14	36.93	57.33	14	36.96	57.30
14	36.88	57.40	14	36.88	57.40	14	36.95	57.31	14	36.96	57.30
14	36.95	57.31	14	36.93	57.33	14	37.03	57.20	15	37.03	57.20
15	36.91	57.36	15	36.97	57.28	15	37.02	57.22	15	37.05	57.17
15	36.95	57.31	15	36.98	57.27	15	37.05	57.18	15	37.03	57.20
15	36.95	57.31	15	36.99	57.26	15	37.08	57.14	15	37.09	57.12
16	36.99	57.26	16	37.02	57.21	16	37.09	57.12	16	37.10	57.11
16	37.04	57.19	16	37.05	57.17	16	37.14	57.05	16	37.19	56.99
16	37.03	57.20	16	37.10	57.11	16	37.15	57.04	16	37.22	56.95
17	37.11	57.10	17	37.14	57.05	17	37.19	56.98	17	37.23	56.93
17	37.17	57.01	17	37.19	56.98	17	37.29	56.84	17	37.25	56.90
17	37.19	56.98	17	37.22	56.95	17	37.27	56.87	17	37.31	56.82
18	37.24	56.91	18	37.24	56.91	18	37.34	56.78	18	37.39	56.69
18	37.29	56.85	18	37.28	56.86	18	37.36	56.75	18	37.35	56.76
18	37.29	56.84	18	37.30	56.83	18	37.39	56.70	18	37.42	56.66
18	37.28	56.86	18	37.30	56.83	18	37.38	56.71	19	37.39	56.70
19	37.34	56.78	19	37.37	56.72	19	37.42	56.65	19	37.50	56.54
19	37.39	56.69	19	37.39	56.70	19	37.42	56.65	19	37.50	56.54
19	37.39	56.70	19	37.42	56.66	19	37.46	56.60	19	37.52	56.52
20	37.47	56.58	20	37.49	56.55	20	37.56	56.45	20	37.59	56.42
20	37.43	56.64	20	37.47	56.59	20	37.53	56.50	20	37.60	56.40
20	37.47	56.59	20	37.52	56.51	20	37.55	56.47	20	37.61	56.39
21	37.49	56.55	21	37.50	56.54	21	37.57	56.44	21	37.64	56.34
21	37.55	56.47	21	37.55	56.47	21	37.63	56.36	21	37.68	56.29
21	37.56	56.45	21	37.58	56.43	21	37.66	56.32	21	37.71	56.24
22	37.60	56.40	22	37.59	56.41	22	37.70	56.25	22	37.78	56.14
22	37.66	56.32	22	37.69	56.27	22	37.78	56.14	22	37.81	56.10
22	37.70	56.25	22	37.71	56.24	22	37.79	56.12	22	37.83	56.07
23	37.68	56.29	23	37.66	56.31	23	37.75	56.18	23	37.75	56.18
23	37.72	56.22	23	37.75	56.18	23	37.84	56.06	23	37.86	56.02
23	37.78	56.14	23	37.77	56.15	23	37.84	56.06	23	37.88	55.99
23	37.78	56.14	23	37.78	56.14	23	37.88	55.99	23	37.93	55.92
24	37.79	56.12	24	37.81	56.09	24	37.89	55.98	24	37.91	55.95
24	37.84	56.06	24	37.84	56.05	24	37.90	55.96	24	37.93	55.92
24	37.81	56.09	24	37.86	56.02	24	37.92	55.93	24	37.97	55.87
25	37.93	55.92	25	37.97	55.87	25	38.02	55.79	25	38.02	55.79
25	37.91	55.95	25	37.95	55.89	25	38.00	55.82	25	38.03	55.76
25	37.94	55.91	25	37.96	55.88	25	38.01	55.80	25	38.05	55.74
26	37.97	55.87	26	37.98	55.85	26	38.05	55.74	26	38.07	55.70
26	37.97	55.86	26	37.99	55.84	26	38.04	55.75	26	38.10	55.67
26	38.03	55.78	26	38.03	55.76	26	38.10	55.66	26	38.15	55.59

TABLE 4.1-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	38.05	55.74	27	38.07	55.71	27	38.14	55.61	27	38.16	55.58
27	38.07	55.70	27	38.10	55.67	27	38.16	55.58	27	38.22	55.48
27	38.11	55.65	27	38.16	55.57	27	38.22	55.48	27	38.25	55.44
27	59.69	-0.	27	38.12	55.63	27	38.20	55.51	27	38.24	55.46
28	59.69	-0.	28	38.14	55.60	28	38.25	55.44	28	38.26	55.43
28	59.69	-0.	28	38.18	55.55	28	38.27	55.41	28	38.33	55.33
28	59.69	-0.	28	38.23	55.47	28	38.29	55.38	28	38.42	55.19
29	59.69	-0.	29	38.26	55.43	29	38.33	55.33	29	38.37	55.26
29	59.69	-0.	29	38.27	55.41	29	38.33	55.33	29	38.35	55.29
29	59.69	-0.	29	38.30	55.37	29	38.36	55.28	29	38.44	55.17
30	59.69	-0.	30	38.36	55.28	30	38.44	55.16	30	38.47	55.12
30	59.69	-0.	30	38.32	55.34	30	38.40	55.22	30	38.46	55.13
30	59.69	-0.	30	38.38	55.25	30	38.46	55.14	30	38.49	55.09
31	59.69	-0.	31	38.41	55.21	31	38.52	55.05	31	38.57	54.98
31	59.69	-0.	31	38.46	55.14	31	38.51	55.06	31	38.53	55.03
31	59.69	-0.	31	38.44	55.16	31	38.52	55.05	31	38.52	55.04
31	59.69	-0.	31	38.52	55.05	32	38.59	54.94	32	38.63	54.89
32	59.69	-0.	32	38.57	54.98	32	38.65	54.86	32	38.68	54.80
32	59.69	-0.	32	38.57	54.98	32	38.66	54.85	32	38.71	54.76
32	59.69	-0.	32	38.59	54.94	32	38.68	54.81	32	38.71	54.76
33	59.69	-0.	33	38.61	54.91	33	38.69	54.79	33	38.77	54.68
33	59.69	-0.	33	38.67	54.83	33	38.78	54.66	33	38.79	54.65
33	59.69	-0.	33	38.74	54.72	33	38.79	54.65	33	38.84	54.57
34	59.69	-0.	34	38.74	54.72	34	38.83	54.58	34	38.88	54.52
34	59.69	-0.	34	38.79	54.64	34	38.88	54.52	34	38.93	54.44
34	59.69	-0.	34	38.83	54.59	34	38.87	54.53	34	38.91	54.47
35	59.69	-0.	35	38.86	54.55	35	38.86	54.55	35	38.91	54.47
35	59.69	-0.	35	38.87	54.53	35	38.93	54.44	35	38.98	54.37
35	59.69	-0.	35	38.90	54.48	35	39.02	54.32	35	39.09	54.22
36	59.69	-0.	36	39.02	54.32	36	39.09	54.22	36	39.07	54.24
36	59.69	-0.	36	39.00	54.35	36	39.07	54.25	36	39.05	54.27
36	59.69	-0.	36	39.02	54.32	36	39.08	54.23	36	39.10	54.21
36	59.69	-0.	36	39.07	54.24	36	39.16	54.12	36	39.21	54.05
37	59.69	-0.	37	39.12	54.17	37	39.24	54.01	37	39.26	53.98
37	59.69	-0.	37	39.15	54.13	37	39.22	54.03	37	39.27	53.97
37	59.69	-0.	37	39.19	54.08	37	39.30	53.92	37	39.32	53.90
38	59.69	-0.	38	39.25	54.00	38	39.30	53.93	38	39.33	53.88
38	59.69	-0.	38	39.29	53.94	38	39.34	53.86	38	39.42	53.75
38	59.69	-0.	38	39.31	53.91	38	39.41	53.77	38	39.41	53.76
39	59.69	-0.	39	39.38	53.81	39	39.44	53.73	39	39.49	53.66
39	59.69	-0.	39	39.44	53.73	39	39.54	53.59	39	39.55	53.58
39	59.69	-0.	39	39.50	53.65	39	39.55	53.58	39	39.59	53.53
40	59.69	-0.	40	39.50	53.65	40	39.56	53.56	40	39.62	53.49
40	59.69	-0.	40	39.56	53.56	40	39.68	53.41	40	39.68	53.31

TABLE 4.1-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
40	59.69	-0.	40	39.61	53.50	40	39.67	53.42	40	39.72	53.35
40	59.69	-0.	40	39.67	53.42	40	39.68	53.30	41	39.74	53.23
41	59.69	-0.	41	39.70	53.38	41	39.71	53.27	41	39.76	53.20
41	59.69	-0.	41	39.69	53.29	41	39.76	53.20	41	39.79	53.16
41	59.69	-0.	41	39.70	53.28	41	39.83	53.11	41	39.88	53.03
42	59.69	-0.	42	39.80	53.15	42	39.85	53.07	42	39.94	52.95
42	59.69	-0.	42	39.85	53.08	42	39.90	53.00	42	39.93	52.96
42	59.69	-0.	42	39.93	52.96	42	39.99	52.87	42	40.03	52.81
43	59.69	-0.	43	39.94	52.95	43	40.03	52.82	43	40.05	52.78
43	59.69	-0.	43	39.98	52.88	43	40.05	52.78	43	40.10	52.71
43	59.69	-0.	43	40.08	52.74	43	40.18	52.60	43	40.22	52.53
44	59.69	-0.	44	40.12	52.68	44	40.22	52.53	44	40.27	52.46
44	59.69	-0.	44	40.17	52.61	44	40.24	52.50	44	40.29	52.43
47	59.69	-0.	47	40.66	51.85	47	40.73	51.73	47	40.76	51.68
47	59.69	-0.	47	40.73	51.73	47	40.80	51.62	47	40.81	51.60
47	59.69	-0.	47	40.77	51.66	47	40.88	51.48	47	40.91	51.44
48	59.69	-0.	48	40.86	51.52	48	40.93	51.40	48	40.94	51.38
48	59.69	-0.	48	40.90	51.45	48	40.95	51.36	48	41.02	51.24
48	59.69	-0.	48	40.95	51.36	48	41.01	51.26	48	41.05	51.19
48	59.69	-0.	48	41.04	51.22	48	41.08	51.14	48	41.09	51.12
49	59.69	-0.	49	41.08	51.15	49	41.10	51.10	49	41.14	51.04
49	59.69	-0.	49	41.09	51.12	49	41.14	51.04	49	41.17	50.97
49	59.69	-0.	49	41.10	51.10	49	41.17	50.98	49	41.20	50.92
50	59.69	-0.	50	41.13	51.05	50	41.18	50.95	50	41.19	50.94
50	59.69	-0.	50	41.15	51.02	50	41.20	50.92	50	41.23	50.87
50	59.69	-0.	50	41.16	50.99	50	41.22	50.88	50	41.25	50.83
51	59.69	-0.	51	41.16	50.99	51	41.23	50.87	51	41.25	50.83
51	59.69	-0.	51	41.18	50.95	51	41.25	50.83	51	41.27	50.80
51	59.69	-0.	51	41.18	50.95	51	41.25	50.83	51	41.27	50.79
52	59.69	-0.	52	41.20	50.92	52	41.26	50.81	52	41.29	50.77
52	59.69	-0.	52	41.21	50.91	52	41.26	50.81	52	41.31	50.73
52	59.69	-0.	52	41.22	50.88	52	41.28	50.78	52	41.29	50.77
52	59.69	-0.	52	41.22	50.89	52	41.28	50.78	52	41.29	50.76
53	59.69	-0.	53	41.21	50.90	53	41.26	50.82	53	41.31	50.72
53	59.69	-0.	53	41.25	50.83	53	41.31	50.72	53	41.34	50.68
53	59.69	-0.	53	41.41	50.54	53	41.31	50.73	53	41.30	50.74
54	59.69	-0.	54	41.97	49.47	54	41.59	50.22	54	34.44	60.23
54	59.69	-0.	54	42.44	48.55	54	42.38	48.67	54	42.52	48.39
54	59.69	-0.	54	43.03	47.41	54	43.35	46.82	54	43.14	47.20
55	59.69	-0.	55	43.99	45.69	55	44.11	45.52	55	43.77	45.98
55	59.69	-0.	55	44.80	44.34	55	44.97	43.97	55	44.62	44.69
55	59.69	-0.	55	45.39	42.90	55	45.50	42.60	55	45.23	43.33
56	59.69	-0.	56	45.89	41.35	56	46.00	41.01	56	45.74	41.85
56	59.69	-0.	56	46.41	39.87	56	46.55	39.51	56	46.16	40.54

TABLE 4.1-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
56	59.69	-0.	56	47.21	38.21	56	47.42	37.88	56	46.84	38.89
56	59.69	-0.	56	47.94	36.51	57	48.06	36.15	57	47.74	37.31
57	59.69	-0.	57	48.64	34.69	57	48.81	34.32	57	48.31	35.48
57	59.69	-0.	57	49.49	32.79	57	49.69	32.34	57	49.10	33.66
57	59.69	-0.	57	50.33	30.72	57	50.48	30.31	57	49.97	31.66
58	59.69	-0.	58	50.98	28.75	58	51.11	28.33	58	50.66	29.76
58	59.69	-0.	58	51.64	26.69	58	51.56	26.23	58	51.30	27.73
58	59.69	-0.	58	52.06	24.30	58	52.36	23.83	58	51.56	25.47
59	59.69	-0.	59	53.52	22.06	59	53.78	21.60	59	52.68	23.35
59	59.69	-0.	59	54.36	19.71	59	54.39	19.20	59	54.08	20.90
59	59.69	-0.	59	54.28	17.20	59	54.28	16.73	59	54.38	18.55
60	59.69	-0.	60	55.19	14.70	60	55.69	14.20	60	54.37	16.07
60	59.69	-0.	60	56.29	12.09	60	56.43	11.58	60	55.88	13.52
60	59.69	-0.	60	57.07	9.32	60	57.22	8.77	60	56.63	10.86

TABLE 4.1-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.61	56.39	0	36.58	57.80	0	36.55	57.84	0	36.58	57.80
1	37.61	56.38	1	36.57	57.81	1	36.58	57.80	1	36.59	57.79
14	37.74	56.20	14	36.83	57.47	14	36.83	57.47	14	36.83	57.47
14	37.81	56.10	14	36.83	57.47	14	36.83	57.47	14	36.83	57.47
14	37.81	56.09	14	36.84	57.46	14	36.80	57.50	14	36.83	57.47
15	37.94	55.90	15	36.89	57.39	15	36.87	57.41	15	36.87	57.42
15	37.91	55.95	15	36.90	57.37	15	36.87	57.42	15	36.91	57.36
15	38.03	55.78	15	36.90	57.37	15	36.88	57.40	15	36.90	57.37
15	37.88	55.99	15	36.95	57.31	15	36.93	57.34	15	36.97	57.28
16	37.87	56.01	16	36.99	57.26	16	36.93	57.33	16	36.97	57.28
16	37.94	55.91	16	37.01	57.23	16	37.01	57.23	16	37.01	57.23
16	38.03	55.76	16	37.06	57.16	16	37.08	57.14	16	37.03	57.20
17	38.01	55.80	17	37.12	57.08	17	37.05	57.17	17	37.07	57.15
17	38.09	55.68	17	37.19	56.99	17	37.13	57.07	17	37.12	57.08
17	38.16	55.57	17	37.18	57.00	17	37.13	57.07	17	37.13	57.06
18	38.20	55.51	18	37.22	56.95	18	37.16	57.02	18	37.20	56.97
18	38.22	55.48	18	37.18	57.00	18	37.19	56.98	18	37.20	56.97
18	38.16	55.58	18	37.27	56.88	18	37.22	56.94	18	37.25	56.90
19	38.18	55.54	19	37.30	56.83	19	37.25	56.90	19	37.26	56.89
19	38.24	55.46	19	37.30	56.83	19	37.33	56.79	19	37.31	56.82
19	38.31	55.36	19	37.35	56.76	19	37.32	56.81	19	37.35	56.76
19	38.30	55.37	19	37.32	56.80	19	37.34	56.77	19	37.32	56.80
20	38.37	55.26	20	37.38	56.71	20	37.39	56.70	20	37.40	56.68
20	38.35	55.29	20	37.39	56.69	20	37.43	56.64	20	37.39	56.70
20	38.44	55.17	20	37.46	56.60	20	37.44	56.63	20	37.44	56.63
21	38.39	55.23	21	37.45	56.61	21	37.44	56.63	21	37.47	56.59
21	38.44	55.17	21	37.48	56.57	21	37.47	56.59	21	37.50	56.54
21	38.48	55.10	21	37.53	56.50	21	37.51	56.53	21	37.54	56.49
22	38.58	54.96	22	37.57	56.44	22	37.57	56.44	22	37.56	56.45
22	38.63	54.89	22	37.59	56.42	22	37.58	56.43	22	37.61	56.39
22	38.55	55.00	22	37.61	56.39	22	37.59	56.41	22	37.61	56.38
23	38.56	54.99	23	37.61	56.38	23	37.61	56.38	23	37.61	56.39
23	38.68	54.80	23	37.69	56.27	23	37.68	56.28	23	37.69	56.27
23	38.70	54.78	23	37.75	56.18	23	37.71	56.24	23	37.68	56.29
23	38.71	54.76	23	37.76	56.17	23	37.75	56.18	23	37.75	56.19
24	38.70	54.78	24	37.78	56.14	24	37.77	56.16	24	37.78	56.14
24	38.70	54.77	24	37.77	56.15	24	37.77	56.16	24	37.76	56.17
24	38.70	54.77	24	37.83	56.07	24	37.82	56.08	24	37.81	56.10
25	38.82	54.60	25	37.85	56.04	25	37.86	56.03	25	37.85	56.04
25	38.88	54.52	25	37.86	56.02	25	37.86	56.02	25	37.88	56.00
25	38.73	54.73	25	37.88	55.99	25	37.87	56.01	25	37.88	56.00
26	38.88	54.52	26	37.90	55.96	26	37.87	56.01	26	37.88	55.99
26	38.88	54.52	26	37.97	55.86	26	37.92	55.93	26	37.94	55.90
26	38.83	54.58	26	37.99	55.83	26	37.94	55.90	26	37.99	55.84

TABLE 4.1-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	38.91	54.47	27	38.01	55.80	27	37.99	55.83	27	38.02	55.79
27	38.91	54.47	27	38.03	55.76	27	38.03	55.76	27	38.01	55.80
27	38.98	54.37	27	38.04	55.75	27	38.05	55.73	27	38.03	55.76
27	39.04	54.29	28	38.10	55.66	28	38.06	55.72	28	38.07	55.71
28	39.07	54.25	28	38.12	55.63	28	38.10	55.66	28	38.09	55.68
28	39.15	54.14	28	38.16	55.58	28	38.13	55.62	28	38.14	55.60
28	39.20	54.06	28	38.17	55.56	28	38.13	55.62	28	38.14	55.60
29	39.26	53.98	29	38.18	55.54	29	38.19	55.53	29	38.19	55.53
29	39.26	53.98	29	38.22	55.49	29	38.20	55.52	29	38.21	55.50
29	39.20	54.07	29	38.24	55.45	29	38.22	55.48	29	38.24	55.45
30	39.35	53.85	30	38.24	55.45	30	38.26	55.43	30	38.27	55.41
30	39.30	53.93	30	38.35	55.30	30	38.30	55.37	30	38.29	55.38
30	39.43	53.74	30	38.37	55.27	30	38.33	55.32	30	38.36	55.28
31	39.59	53.53	31	38.39	55.23	31	38.35	55.29	31	38.39	55.24
31	39.57	53.55	31	38.40	55.22	31	38.38	55.25	31	38.39	55.23
31	39.61	53.50	31	38.43	55.18	31	38.44	55.17	31	38.43	55.18
32	39.56	53.56	32	38.45	55.15	32	38.46	55.13	32	38.47	55.12
32	39.56	53.56	32	38.49	55.09	32	38.50	55.08	32	38.52	55.05
32	39.71	53.27	32	38.57	54.97	32	38.56	54.99	32	38.52	55.04
32	39.71	53.36	32	38.53	55.03	32	38.52	55.04	32	38.52	55.04
33	39.80	53.15	33	38.61	54.92	33	38.60	54.93	33	38.63	54.88
33	39.71	53.26	33	38.63	54.88	33	38.61	54.92	33	38.61	54.91
33	39.94	52.95	33	38.71	54.76	33	38.65	54.86	33	38.63	54.88
34	39.78	53.17	34	38.72	54.75	34	38.68	54.81	34	38.71	54.76
34	39.93	52.96	34	38.77	54.68	34	38.73	54.73	34	38.74	54.72
34	39.93	52.96	34	38.79	54.64	34	38.77	54.67	34	38.78	54.66
35	40.00	52.86	35	38.78	54.66	35	38.79	54.64	35	38.79	54.65
35	40.05	52.78	35	38.83	54.58	35	38.82	54.60	35	38.85	54.56
35	40.09	52.73	35	38.94	54.43	35	38.92	54.46	35	38.92	54.46
36	40.07	52.75	36	38.97	54.38	36	38.93	54.44	36	38.91	54.47
36	40.25	52.49	36	38.96	54.40	36	38.94	54.43	36	38.98	54.37
36	40.20	52.56	36	39.00	54.35	36	38.99	54.36	36	38.99	54.36
36	40.21	52.55	36	39.13	54.16	36	39.06	54.26	37	39.06	54.26
37	40.34	52.36	37	39.15	54.14	37	39.10	54.21	37	39.05	54.28
37	40.45	52.19	37	39.13	54.16	37	39.10	54.20	37	39.10	54.20
37	40.49	52.12	37	39.17	54.11	37	39.14	54.15	37	39.13	54.16
38	40.51	52.09	38	39.25	54.00	38	39.20	54.07	38	39.20	54.06
38	40.53	52.07	38	39.24	54.01	38	39.24	54.01	38	39.28	53.95
38	40.53	52.07	38	39.44	53.73	38	39.37	53.82	38	39.31	53.91
39	40.66	51.84	39	38.88	54.51	39	39.49	53.66	39	39.36	53.83
39	40.66	51.84	39	39.83	53.11	39	39.88	53.04	39	39.46	53.70
39	40.72	51.75	39	40.30	52.41	39	40.80	51.61	39	40.24	52.50
40	40.73	51.73	40	44.90	44.12	40	45.38	42.93	40	40.91	51.44
40	40.87	51.50	40	48.92	34.08	40	49.39	33.03	40	47.61	37.59

TABLE 4.1-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
40	40.84	51.55	40	51.81	24.77	40	52.87	23.08	40	51.23	27.95
41	40.84	51.56	41	54.79	15.16	41	55.90	13.48	41	54.37	18.39
41	40.95	51.36	41	58.03	5.90	41	58.48	4.29	41	57.13	9.10
41	41.02	51.25	41	60.19	-3.04	41	60.46	-4.70	41	59.69	0.01
41	41.08	51.15	41	61.60	-11.67	41	61.86	-13.30	41	61.12	-8.73
42	41.06	51.18	42	62.98	-20.16	42	63.25	-21.78	42	62.51	-17.27
42	41.08	51.14	42	64.34	-28.48	42	64.60	-30.02	42	63.89	-25.68
42	41.16	50.99	42	65.67	-36.57	42	65.94	-38.24	42	65.22	-33.87
43	41.31	50.72	43	66.95	-44.44	43	67.21	-46.04	43	66.52	-41.81
43	41.36	50.64	43	68.21	-52.15	43	68.47	-53.70	43	67.79	-49.60
43	41.39	50.59	43	69.43	-59.62	43	69.71	-61.31	43	69.04	-57.23
44	41.40	50.56	44	70.64	-67.04	44	70.89	-68.56	44	70.24	-64.57
44	41.47	50.44	44	71.83	-74.28	44	72.07	-75.77	44	71.43	-71.82
47	41.89	49.63	47	80.86	-129.56	47	81.27	-132.09	47	80.65	-128.25
47	41.96	49.50	47	81.75	-135.02	47	82.20	-137.74	47	81.59	-134.01
47	42.10	49.23	47	82.68	-140.68	47	83.12	-143.40	47	82.53	-139.77
48	42.07	49.28	48	83.63	-146.54	48	84.03	-148.96	48	83.39	-145.02
48	42.11	49.20	48	84.54	-152.10	48	84.89	-154.22	48	84.31	-150.68
48	42.20	49.02	48	85.43	-157.55	48	85.75	-159.47	48	85.19	-156.04
48	42.20	49.03	48	86.28	-162.71	49	86.57	-164.53	49	86.01	-161.09
49	42.31	48.80	49	87.09	-167.66	49	87.37	-169.38	49	86.82	-166.04
49	42.28	48.86	49	87.73	-171.60	49	88.01	-173.32	49	87.46	-169.98
49	42.28	48.86	49	88.31	-175.14	49	88.59	-176.85	49	88.06	-173.62
50	42.37	48.70	50	88.87	-178.57	50	89.10	-179.99	50	88.54	-176.55
50	42.37	48.70	50	89.33	-181.40	50	89.60	-183.02	50	89.05	-179.68
50	42.36	48.71	50	89.76	-184.03	50	90.07	-185.95	50	89.50	-182.41
51	42.40	48.63	51	90.26	-187.06	51	90.45	-188.27	51	89.94	-185.14
51	42.37	48.70	51	90.55	-188.88	51	90.75	-190.09	51	90.21	-186.76
51	42.35	48.72	51	90.95	-191.31	51	91.20	-192.82	51	90.65	-189.49
52	42.46	48.52	52	91.40	-194.04	52	91.63	-195.45	52	91.10	-192.22
52	42.35	48.72	52	91.76	-196.26	52	92.01	-197.77	52	91.44	-194.34
52	42.42	48.60	52	92.14	-198.58	52	92.42	-200.30	52	91.82	-196.66
52	42.36	48.71	53	92.53	-201.01	53	92.78	-202.52	53	92.25	-199.29
53	41.87	49.68	53	92.93	-203.43	53	93.16	-204.85	53	92.63	-201.61
53	42.48	48.48	53	93.26	-205.45	53	93.54	-207.17	53	93.00	-203.84
53	42.44	48.56	53	93.67	-207.98	53	93.86	-209.09	53	93.36	-206.06
54	42.55	48.34	54	93.69	-208.08	54	93.87	-209.19	54	93.71	-208.18
54	43.59	46.39	54	93.66	-207.88	54	93.87	-209.19	54	93.86	-209.09
54	44.68	44.58	54	93.62	-207.68	54	93.84	-208.99	54	93.89	-209.30
55	45.14	43.57	55	93.66	-207.88	55	93.84	-208.99	55	93.86	-209.09
55	45.68	42.03	55	93.66	-207.88	55	93.86	-209.09	55	93.87	-209.19
55	46.08	40.79	55	93.67	-207.98	55	93.89	-209.30	55	93.87	-209.19
56	46.60	39.41	56	93.69	-208.08	56	93.89	-209.30	56	93.89	-209.30
56	47.46	37.81	56	93.69	-208.08	56	93.89	-209.30	56	93.91	-209.40

TABLE 4.1-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
56	48.09	36.07	56	93.69	-208.08	56	93.87	-209.19	56	93.91	-209.40
57	48.67	34.62	57	93.66	-207.88	57	93.86	-209.09	57	93.87	-209.19
57	49.52	32.73	57	93.66	-207.88	57	93.86	-209.09	57	93.87	-209.19
57	50.33	30.72	57	93.66	-207.88	57	93.87	-209.19	57	93.89	-209.30
57	50.94	28.90	57	93.56	-207.27	57	93.81	-208.79	57	93.86	-209.09
58	51.65	26.67	58	93.62	-207.68	58	93.84	-208.99	58	93.84	-208.99
58	51.77	24.86	58	93.62	-207.68	58	93.82	-208.89	58	93.89	-209.30
58	53.23	22.55	58	93.66	-207.88	58	93.82	-208.89	58	93.86	-209.09
59	54.28	20.19	59	93.62	-207.68	59	93.86	-209.09	59	93.87	-209.19
59	54.31	17.73	59	93.62	-207.68	59	93.82	-208.89	59	93.82	-208.89
59	54.65	15.37	59	93.62	-207.68	59	93.87	-209.19	59	93.86	-209.09
60	56.08	12.82	60	93.56	-207.27	60	93.86	-209.09	60	93.86	-209.09
60	56.77	10.38	60	93.62	-207.68	60	93.86	-209.09	60	93.81	-208.79
60	57.49	7.82	60	93.66	-207.88	60	93.81	-208.79	60	93.86	-209.09

TABLE 4.1-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.59	57.79	0	36.61	57.76	0	93.62	-207.68	0	93.81	-208.79
1	36.58	57.80	1	36.59	57.79	1	93.53	-207.07	1	93.81	-208.79
14	36.83	57.47	14	36.85	57.44	14	93.62	-207.68	14	93.86	-209.09
14	36.84	57.45	14	36.87	57.41	14	93.62	-207.68	14	93.86	-209.09
14	36.87	57.41	14	36.86	57.43	14	93.62	-207.68	14	93.86	-209.09
15	36.92	57.35	15	36.95	57.31	15	93.61	-207.58	15	93.84	-208.99
15	36.94	57.32	15	36.95	57.31	15	93.56	-207.27	15	93.86	-209.09
15	36.95	57.31	15	36.97	57.28	15	93.53	-207.07	15	93.82	-208.89
15	36.99	57.26	15	37.02	57.21	15	93.56	-207.27	16	93.86	-209.09
16	36.99	57.26	16	37.02	57.21	16	93.62	-207.68	16	93.86	-209.09
16	37.10	57.11	16	37.06	57.16	16	93.62	-207.68	16	93.86	-209.09
16	37.08	57.14	16	37.13	57.07	16	93.56	-207.27	16	93.82	-208.89
17	37.09	57.12	17	37.11	57.10	17	93.62	-207.68	17	93.84	-208.99
17	37.17	57.01	17	37.21	56.96	17	93.53	-207.07	17	93.81	-208.79
17	37.16	57.02	17	37.18	57.00	17	93.53	-207.07	17	93.82	-208.89
18	37.24	56.91	18	37.26	56.89	18	93.53	-207.07	18	93.84	-208.99
18	37.24	56.91	18	37.31	56.82	18	93.56	-207.27	18	93.82	-208.89
18	37.27	56.87	18	37.28	56.86	18	93.53	-207.07	18	93.79	-208.69
19	37.29	56.85	19	37.28	56.86	19	93.53	-207.07	19	93.82	-208.89
19	37.39	56.70	19	37.31	56.82	19	93.53	-207.07	19	93.77	-208.59
19	37.32	56.80	19	37.40	56.68	19	93.53	-207.07	19	93.77	-208.59
19	37.37	56.72	19	37.41	56.67	20	93.53	-207.07	20	93.81	-208.79
20	37.42	56.66	20	37.44	56.62	20	93.53	-207.07	20	93.76	-208.49
20	37.42	56.65	20	37.47	56.58	20	93.53	-207.07	20	93.79	-208.69
20	37.47	56.59	20	37.52	56.52	20	93.53	-207.07	20	93.79	-208.69
21	37.42	56.65	21	37.47	56.58	21	93.56	-207.27	21	93.81	-208.79
21	37.49	56.55	21	37.54	56.49	21	93.56	-207.27	21	93.82	-208.89
21	37.54	56.49	21	37.60	56.40	21	93.53	-207.07	21	93.81	-208.79
22	37.58	56.43	22	37.63	56.36	22	93.59	-207.48	22	93.82	-208.89
22	37.66	56.32	22	37.69	56.27	22	93.56	-207.27	22	93.82	-208.89
22	37.68	56.29	22	37.68	56.29	22	93.62	-207.68	22	93.82	-208.89
23	37.65	56.33	23	37.67	56.30	23	93.56	-207.27	23	93.82	-208.89
23	37.69	56.27	23	37.72	56.23	23	93.53	-207.07	23	93.79	-208.69
23	37.72	56.23	23	37.81	56.10	23	93.53	-207.07	23	93.84	-208.99
24	37.75	56.19	24	37.77	56.16	24	93.53	-207.07	24	93.79	-208.69
24	37.80	56.11	24	37.84	56.05	24	93.53	-207.07	24	93.81	-208.79
24	37.79	56.13	24	37.81	56.09	24	93.61	-207.58	24	93.81	-208.79
24	37.84	56.05	24	37.81	56.10	24	93.59	-207.48	24	93.82	-208.89
25	37.85	56.04	25	37.88	55.99	25	93.53	-207.07	25	93.79	-208.69
25	37.88	55.99	25	37.91	55.95	25	93.53	-207.07	25	93.81	-208.79
25	37.92	55.94	25	37.91	55.95	25	93.62	-207.68	25	93.82	-208.89
26	37.94	55.90	26	37.97	55.86	26	93.53	-207.07	26	93.81	-208.79
26	37.97	55.87	26	38.03	55.78	26	93.53	-207.07	26	93.82	-208.89
26	38.00	55.82	26	38.04	55.75	26	93.53	-207.07	26	93.77	-208.59

TABLE 4.1-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	38.05	55.73	27	38.07	55.70	27	93.53	-207.07	27	93.79	-208.69
27	38.01	55.81	27	38.07	55.71	27	93.53	-207.07	27	93.76	-208.49
27	38.08	55.69	27	38.12	55.63	27	93.69	-208.08	27	93.91	-209.40
28	38.10	55.66	28	38.10	55.66	28	93.69	-208.08	28	93.92	-209.50
28	38.12	55.63	28	38.16	55.57	28	93.62	-207.68	28	93.86	-209.09
28	38.16	55.58	28	38.20	55.51	28	93.62	-207.68	28	93.89	-209.30
28	38.19	55.53	28	38.20	55.51	28	93.69	-208.08	28	93.91	-209.40
29	38.21	55.50	29	38.24	55.45	29	93.69	-208.08	29	93.89	-209.30
29	38.24	55.46	29	38.29	55.39	29	93.69	-208.08	29	93.91	-209.40
29	38.27	55.41	29	38.28	55.40	29	93.69	-208.08	29	93.92	-209.50
30	38.29	55.39	30	38.35	55.29	30	93.69	-208.08	30	93.89	-209.30
30	38.31	55.35	30	38.32	55.34	30	93.69	-208.08	30	93.92	-209.50
30	38.35	55.29	30	38.41	55.21	30	93.69	-208.08	30	93.89	-209.30
31	38.40	55.22	31	38.41	55.21	31	93.69	-208.08	31	93.94	-209.60
31	38.42	55.20	31	38.42	55.20	31	93.67	-207.98	31	93.92	-209.50
31	38.43	55.18	31	38.49	55.09	31	93.69	-208.08	31	93.91	-209.40
32	38.50	55.07	32	38.52	55.05	32	93.69	-208.08	32	93.97	-209.80
32	38.50	55.07	32	38.53	55.03	32	93.69	-208.08	32	93.99	-209.90
32	38.55	55.01	32	38.59	54.94	32	93.69	-208.08	32	93.95	-209.70
32	38.56	54.99	33	38.60	54.93	33	93.69	-208.08	33	93.97	-209.80
33	38.67	54.83	33	38.63	54.89	33	93.69	-208.08	33	93.95	-209.70
33	38.65	54.86	33	38.71	54.76	33	93.69	-208.08	33	93.92	-209.50
33	38.69	54.79	33	38.70	54.77	33	93.69	-208.08	33	93.95	-209.70
34	38.69	54.79	34	38.72	54.75	34	93.69	-208.08	34	93.94	-209.60
34	38.73	54.73	34	38.79	54.65	34	93.69	-208.08	34	93.92	-209.50
34	38.77	54.68	34	38.85	54.56	34	93.69	-208.08	34	93.91	-209.40
35	38.80	54.63	35	38.87	54.53	35	93.69	-208.08	35	93.94	-209.60
35	38.86	54.54	35	38.87	54.53	35	93.69	-208.08	35	93.95	-209.70
35	38.95	54.41	35	38.93	54.45	35	93.69	-208.08	35	93.95	-209.70
36	38.92	54.46	36	38.90	54.48	36	93.69	-208.08	36	93.92	-209.50
36	38.98	54.37	36	38.98	54.37	36	93.69	-208.08	36	93.92	-209.50
36	39.00	54.34	36	39.01	54.33	36	93.69	-208.08	36	93.94	-209.60
37	39.12	54.17	37	39.14	54.15	37	93.67	-207.98	37	93.92	-209.50
37	39.09	54.22	37	39.11	54.19	37	93.69	-208.08	37	93.92	-209.50
37	39.16	54.12	37	39.12	54.17	37	93.69	-208.08	37	93.92	-209.50
37	39.15	54.13	37	39.20	54.06	37	93.69	-208.08	37	93.94	-209.60
38	39.19	54.08	38	39.26	53.98	38	93.69	-208.08	38	93.94	-209.60
38	39.27	53.97	38	39.36	53.84	38	93.69	-208.08	38	93.94	-209.60
38	39.33	53.88	38	39.37	53.82	38	93.69	-208.08	38	93.92	-209.50
39	39.38	53.80	39	39.46	53.70	39	93.69	-208.08	39	93.91	-209.40
39	39.46	53.70	39	39.50	53.64	39	93.69	-208.08	39	93.92	-209.50
39	40.27	52.46	39	40.38	52.30	39	93.69	-208.08	39	93.89	-209.30
40	40.89	51.47	40	41.02	51.24	40	93.69	-208.08	40	93.89	-209.30
40	46.78	39.01	40	47.76	37.17	40	93.69	-208.08	40	93.89	-209.30

TABLE 4.1-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
40	51.03	28.60	40	51.39	27.44	40	93.69	-208.08	40	93.87	-209.19
41	54.39	19.00	41	54.31	17.63	41	93.66	-207.88	41	93.86	-209.09
41	56.96	9.70	41	57.33	8.40	41	93.69	-208.08	41	93.92	-209.50
41	59.52	0.61	41	59.81	-0.71	41	93.69	-208.08	41	93.91	-209.40
41	59.69	-0.	41	61.24	-9.51	41	93.69	-208.08	42	93.91	-209.40
42	59.69	-0.	42	62.65	-18.10	42	93.69	-208.08	42	93.91	-209.40
42	59.69	-0.	42	64.02	-26.48	42	93.69	-208.08	42	93.92	-209.50
42	59.69	-0.	42	65.36	-34.67	42	93.66	-207.88	42	93.89	-209.30
43	59.69	-0.	43	66.64	-42.55	43	93.69	-208.08	43	93.89	-209.30
43	59.69	-0.	43	67.90	-50.24	43	93.69	-208.08	43	93.92	-209.50
43	59.69	-0.	43	69.15	-57.87	43	93.69	-208.08	43	93.89	-209.30
44	59.69	-0.	44	70.34	-65.19	44	93.69	-208.08	44	93.92	-209.50
44	59.69	-0.	44	71.53	-72.44	44	93.66	-207.88	44	93.89	-209.30
47	76.20	-101.05	47	80.81	-129.26	47	93.69	-208.08	47	93.92	-209.50
47	76.20	-101.05	47	81.77	-135.12	47	93.69	-208.08	47	93.95	-209.70
47	76.20	-101.05	47	82.73	-140.98	47	93.69	-208.08	47	93.91	-209.40
48	83.35	-144.82	48	83.49	-145.63	48	93.67	-207.98	48	93.89	-209.30
48	76.20	-101.05	48	84.48	-151.69	48	93.67	-207.98	48	93.86	-209.09
48	76.20	-101.05	48	85.25	-156.44	48	93.62	-207.68	48	93.84	-208.99
49	85.90	-160.38	49	85.93	-160.58	49	93.59	-207.48	49	93.79	-208.69
49	86.71	-165.33	49	86.85	-166.24	49	93.62	-207.68	49	93.82	-208.89
49	76.20	-101.05	49	87.51	-170.29	49	93.56	-207.27	49	93.81	-208.79
49	76.20	-101.05	49	88.06	-173.62	49	93.62	-207.68	49	93.81	-208.79
50	76.20	-101.05	50	88.52	-176.45	50	93.62	-207.68	50	93.84	-208.99
50	76.20	-101.05	50	89.10	-179.99	50	93.62	-207.68	50	93.84	-208.99
50	89.40	-181.81	50	89.55	-182.72	50	93.64	-207.78	50	93.86	-209.09
51	76.20	-101.05	51	89.93	-185.04	51	93.62	-207.68	51	93.86	-209.09
51	76.20	-101.05	51	90.29	-187.26	51	93.66	-207.88	51	93.87	-209.19
51	76.20	-101.05	51	90.70	-189.79	51	93.62	-207.68	51	93.79	-208.69
52	90.97	-191.41	52	91.13	-192.42	52	93.62	-207.68	52	93.86	-209.09
52	91.28	-193.33	52	91.51	-194.74	52	93.62	-207.68	52	93.84	-208.99
52	91.71	-195.96	52	91.91	-197.17	52	93.69	-208.08	52	93.95	-209.70
53	92.11	-198.38	53	92.25	-199.29	53	93.69	-208.08	53	93.92	-209.50
43	92.40	-200.20	53	92.62	-201.51	53	93.77	-208.59	53	93.91	-209.40
53	92.88	-203.13	53	92.93	-203.43	53	93.79	-208.69	53	93.91	-209.40
53	93.26	-205.45	53	93.38	-206.16	53	93.84	-208.99	53	93.91	-209.40
54	93.62	-207.68	54	93.71	-208.18	54	93.87	-209.19	54	93.92	-209.50
54	93.67	-207.98	54	93.86	-209.09	54	93.89	-209.30	54	93.89	-209.30
54	93.69	-208.08	54	93.87	-209.19	54	93.89	-209.30	54	93.87	-209.19
55	93.66	-207.88	55	93.86	-209.09	55	93.87	-209.19	55	93.91	-209.40
55	93.69	-208.08	55	93.87	-209.19	55	93.89	-209.30	55	93.89	-209.30
55	93.69	-208.08	55	93.87	-209.19	55	93.91	-209.40	55	93.91	-209.40
56	93.69	-208.08	56	93.91	-209.40	56	93.92	-209.50	56	93.91	-209.40
56	93.69	-208.08	56	93.91	-209.40	56	93.89	-209.30	56	93.92	-209.50

TABLE 4.1-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
56	93.69	-208.08	56	93.87	-209.19	56	93.92	-209.50	56	93.87	-209.19
57	93.69	-208.08	57	93.86	-209.09	57	93.91	-209.40	57	93.89	-209.30
57	93.69	-208.08	57	93.87	-209.19	57	93.89	-209.30	57	93.92	-209.50
57	93.69	-208.08	57	93.84	-208.99	57	93.86	-209.09	57	93.91	-209.40
57	93.64	-207.78	58	93.86	-209.09	58	93.86	-209.09	58	93.82	-208.89
58	93.67	-207.98	58	93.86	-209.09	58	93.86	-209.09	58	93.87	-209.19
58	93.66	-207.88	58	93.84	-208.99	58	93.87	-209.19	58	93.89	-209.30
58	93.69	-208.08	58	93.86	-209.09	58	93.84	-208.99	58	93.87	-209.19
59	93.69	-208.08	59	93.89	-209.30	59	93.87	-209.19	59	93.87	-209.19
59	93.67	-207.98	59	93.86	-209.09	59	93.87	-209.19	59	93.87	-209.19
59	93.66	-207.88	59	93.86	-209.09	59	93.84	-208.99	59	93.91	-209.40
60	93.66	-207.88	60	93.82	-208.89	60	93.82	-208.89	60	93.86	-209.09
60	93.67	-207.98	60	93.81	-208.79	60	93.82	-208.89	60	93.86	-209.09
60	93.69	-208.08	60	93.84	-208.99	60	93.86	-209.09	60	93.89	-209.30

Table 4.1-3

Parametric Conditions and Test Results Summary
for Run 14-99

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	118.5	10.1
Pressure (psia)	30	27.5	
Temperature[b] (^{o}R)		37.2	
Weight[c] (lb)	66 - 74	69.7	
Final Conditions[d]			
Pressure (psia)	30	29.6	34.2
Temperature (^{o}R)	$\leq$ 41.3	40.6	
Saturation Temp[e] (^{o}R)	41.3	41.2	
Run Data			
Temperature Rise (^{o}R)	4	3.4	10.1 - 34.2
Run Time[f] (min)	27 - 33	29.7	5.6 - 35.3
Flow Time (min)	27 - 33	24.1	10.1 - 35.2
Flow Rate[g]: (gpm)	4.08	4.92	
(lb/sec)	0.04	0.048	
Power Level (Mw)	0.5	0.492	
Integrated Power (Mw-hr)	0.25	0.244	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank
[c]Temp = 37.2^{o}R, Vol. = 118.5 gal, ρ = 4.398 lbs/ft^3 = 0.588 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

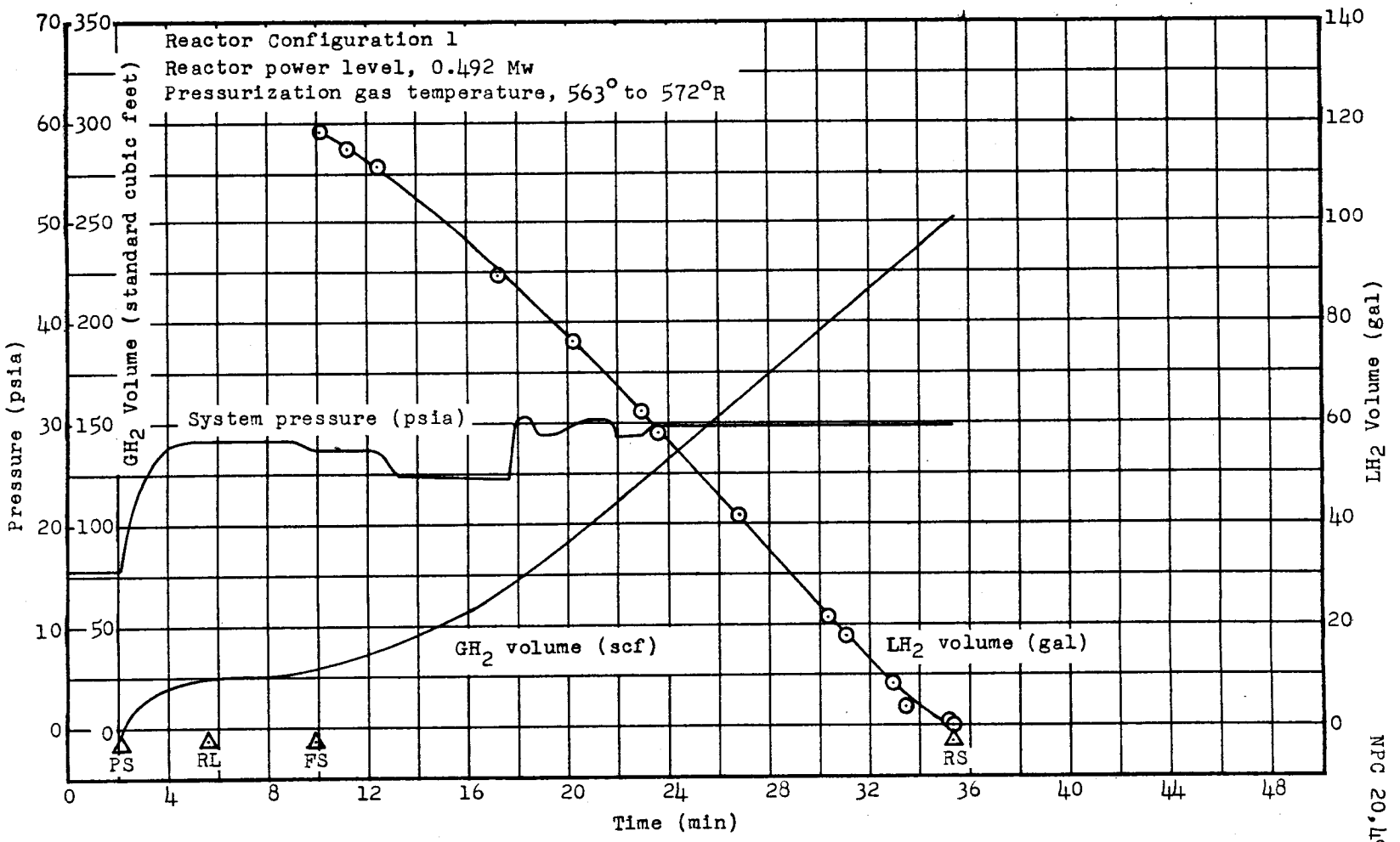

Figure 4.1-11 Pressure and Flow Data: Run 14-99

NPC 20,499

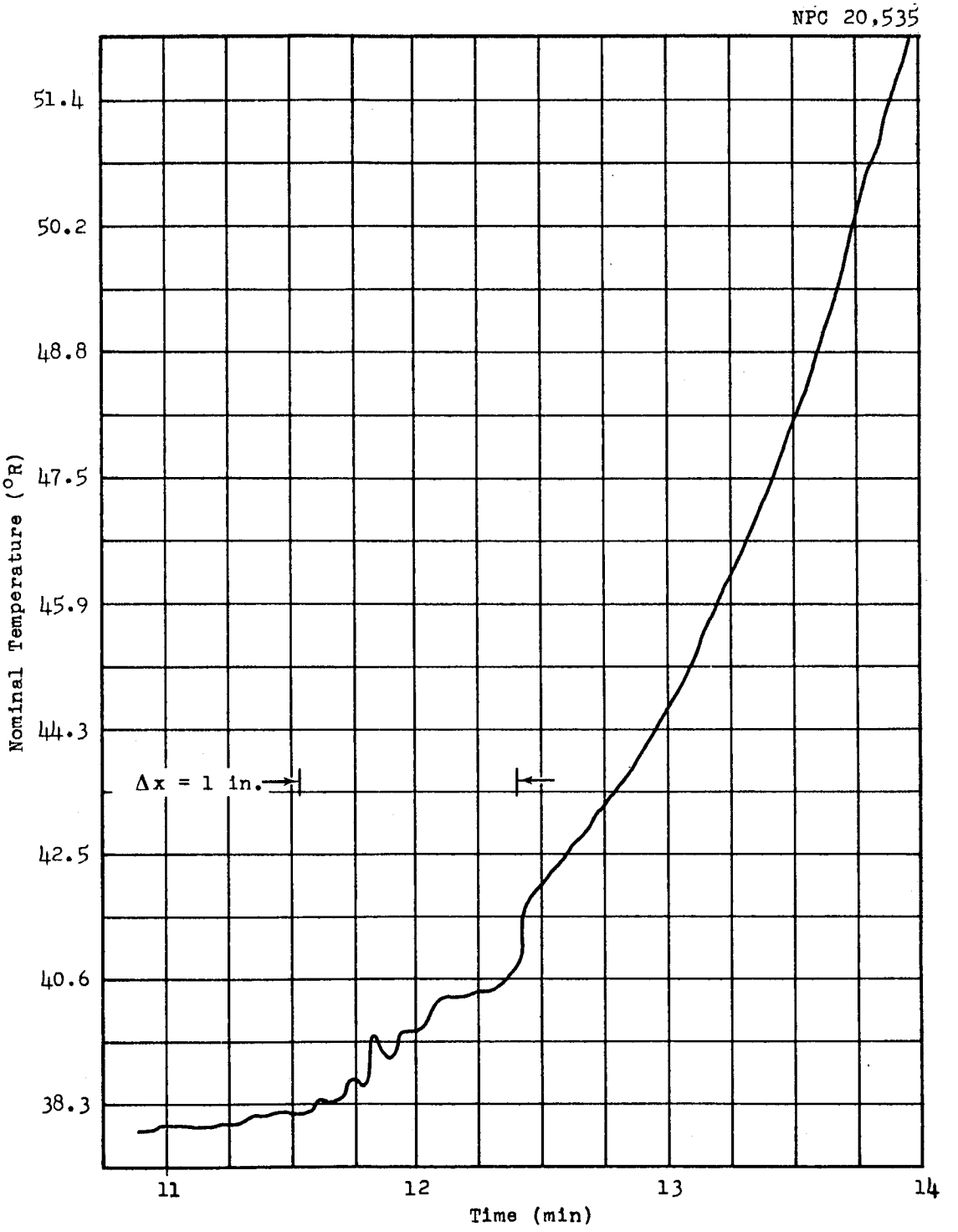

Figure 4.1-12 Strip-Chart Temperature Data: Run 14-99, Thermometer 14

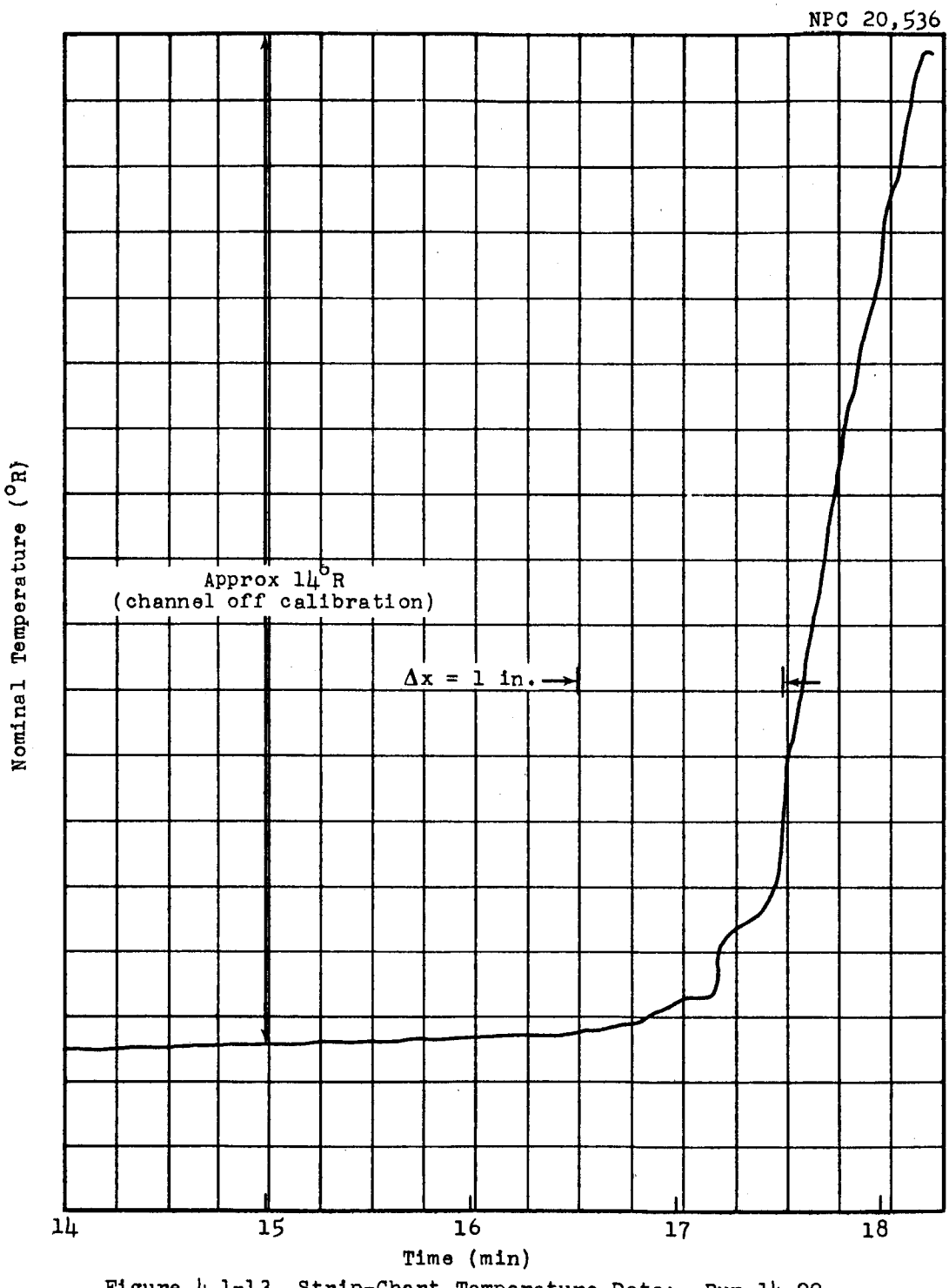

Figure 4.1-13 Strip-Chart Temperature Data: Run 14-99, Thermometer 11

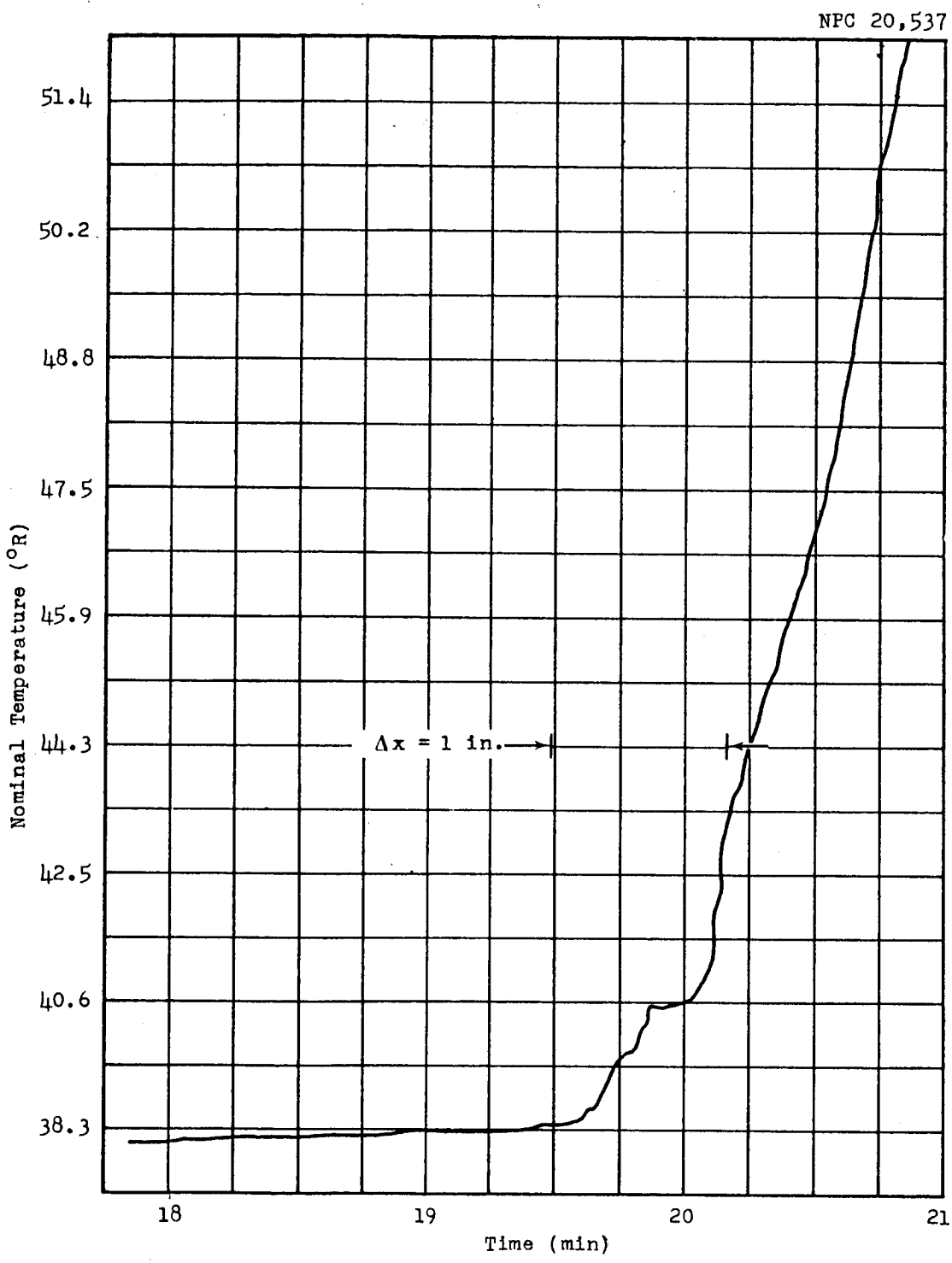

Figure 4.1-14 Strip-Chart Temperature Data: Run 14-99, Thermometer 10

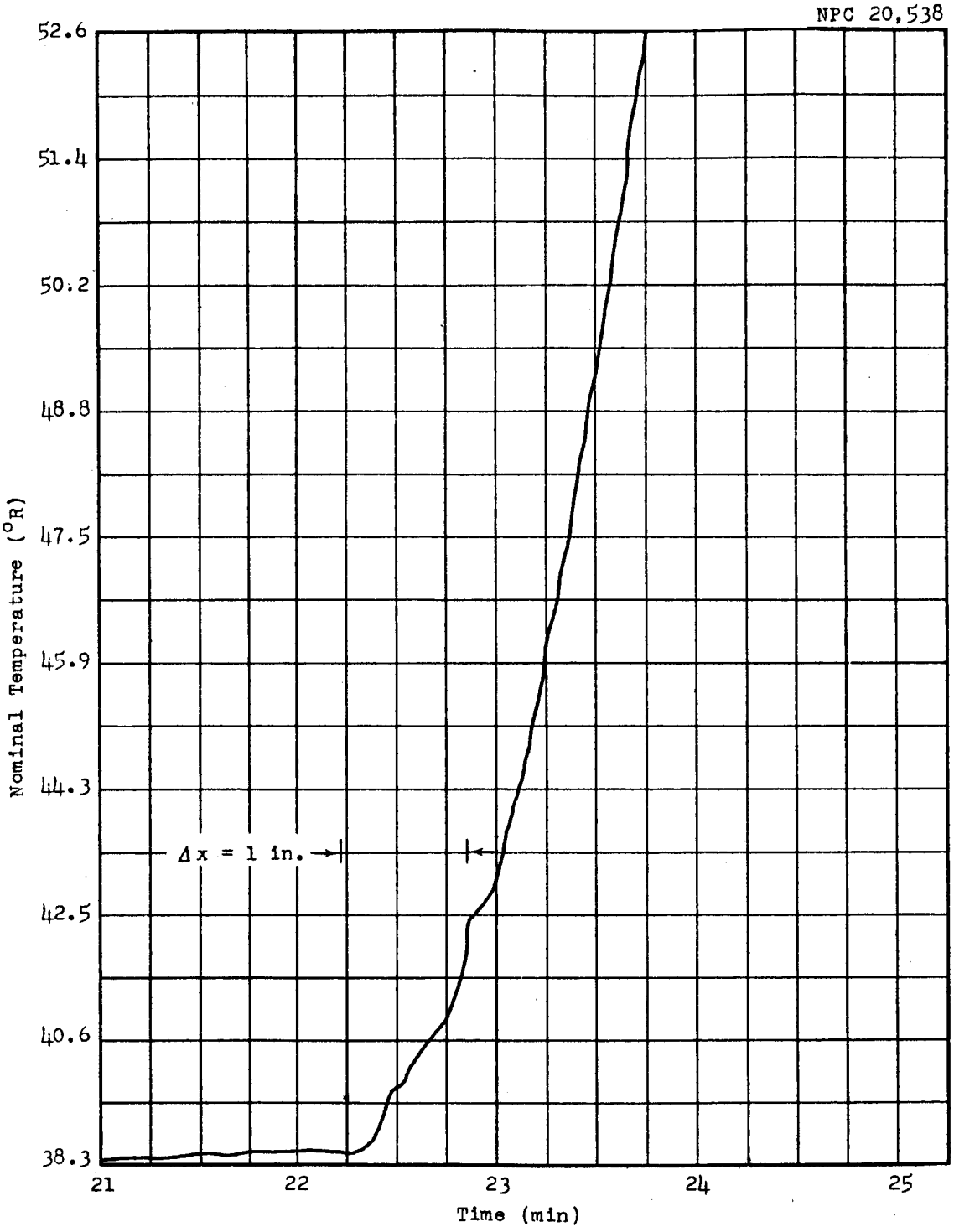

Figure 4.1-15 Strip-Chart Temperature Data: Run 14-99, Thermometer 9

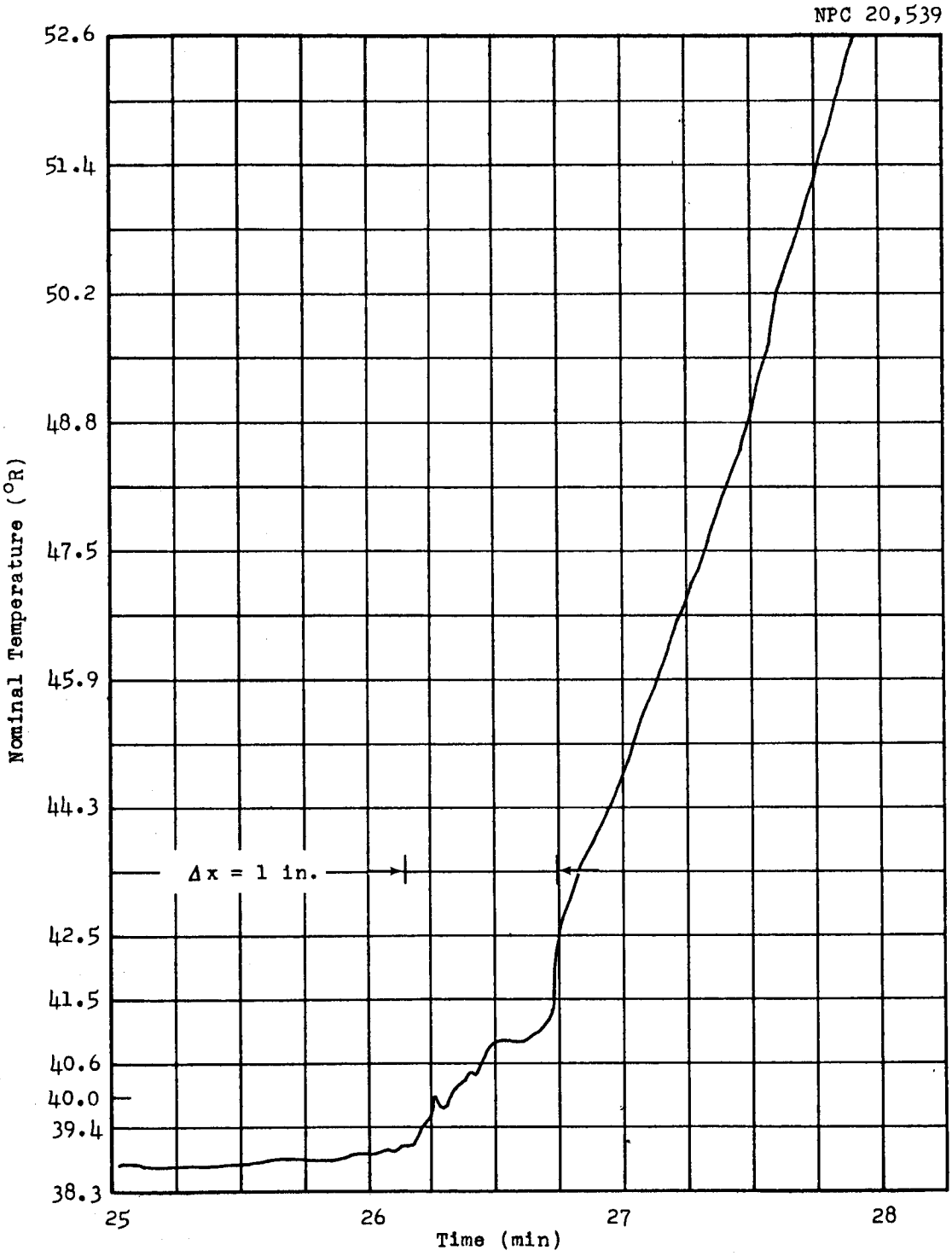

Figure 4.1-16 Strip-Chart Temperature Data: Run 14-99, Thermometer 8

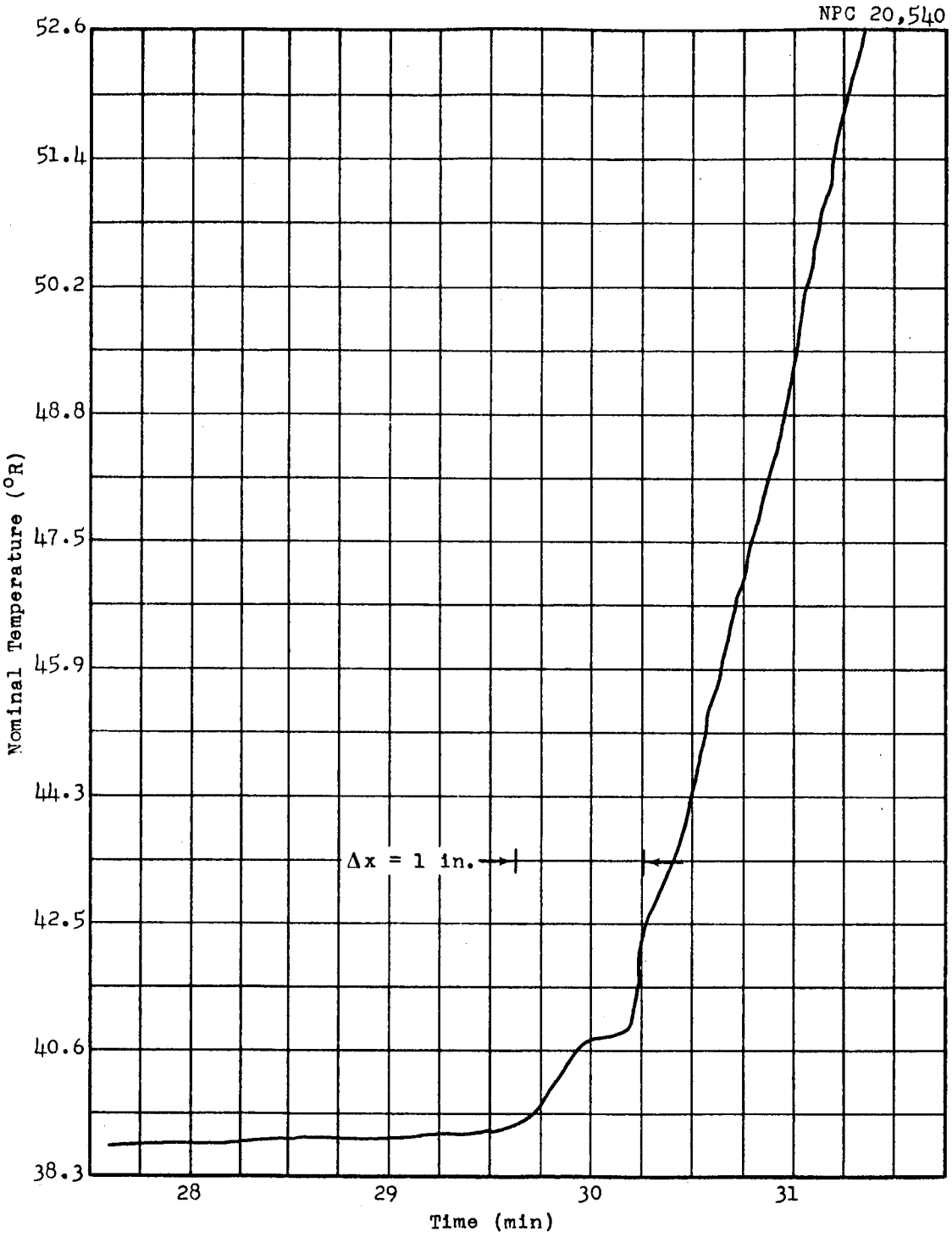

Figure 4.1-17 Strip-Chart Temperature Data: Run 14-99, Thermometer 7

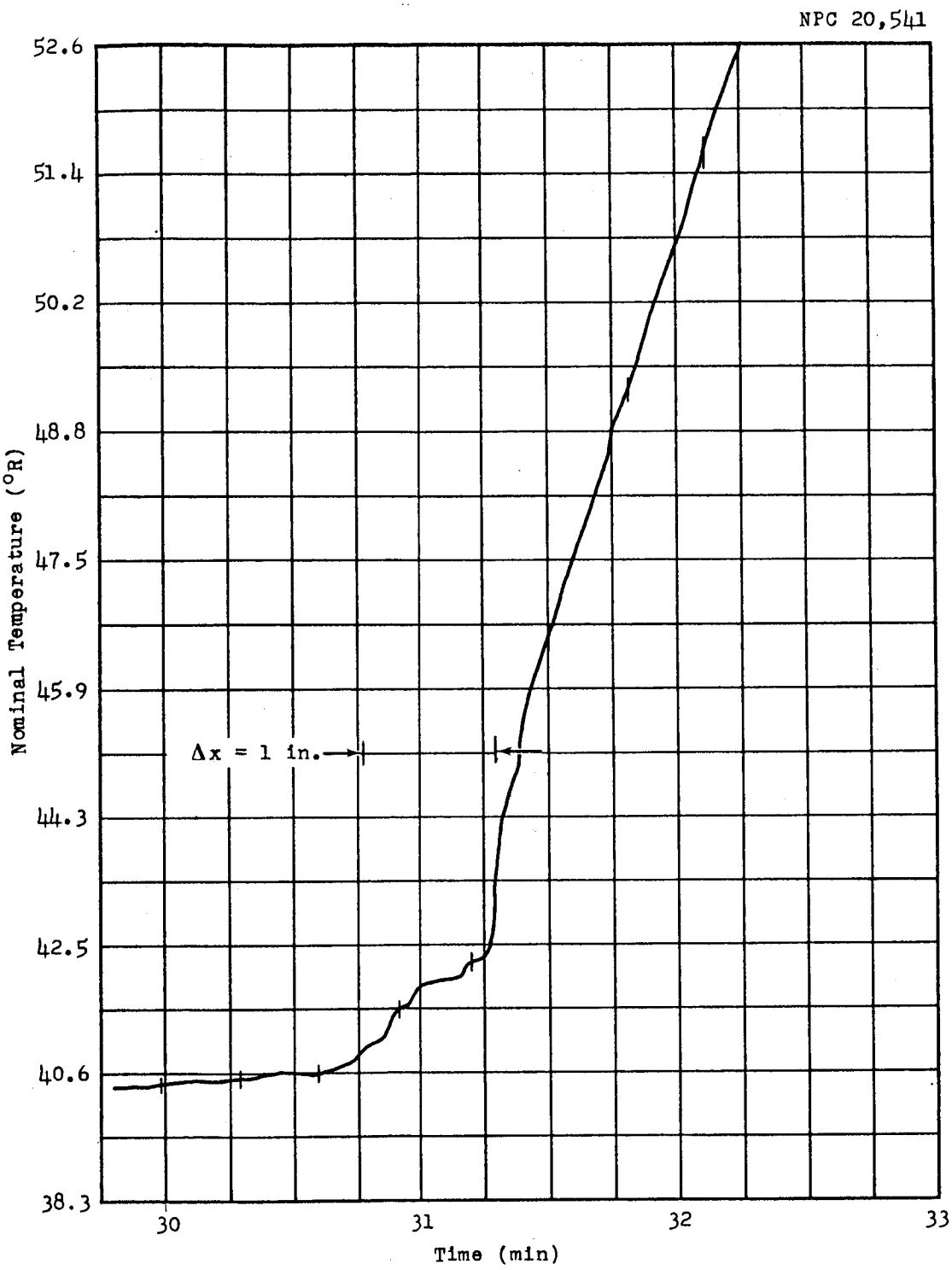

Figure 4.1-18 Strip-Chart Temperature Data: Run 14-99, Thermometer 25

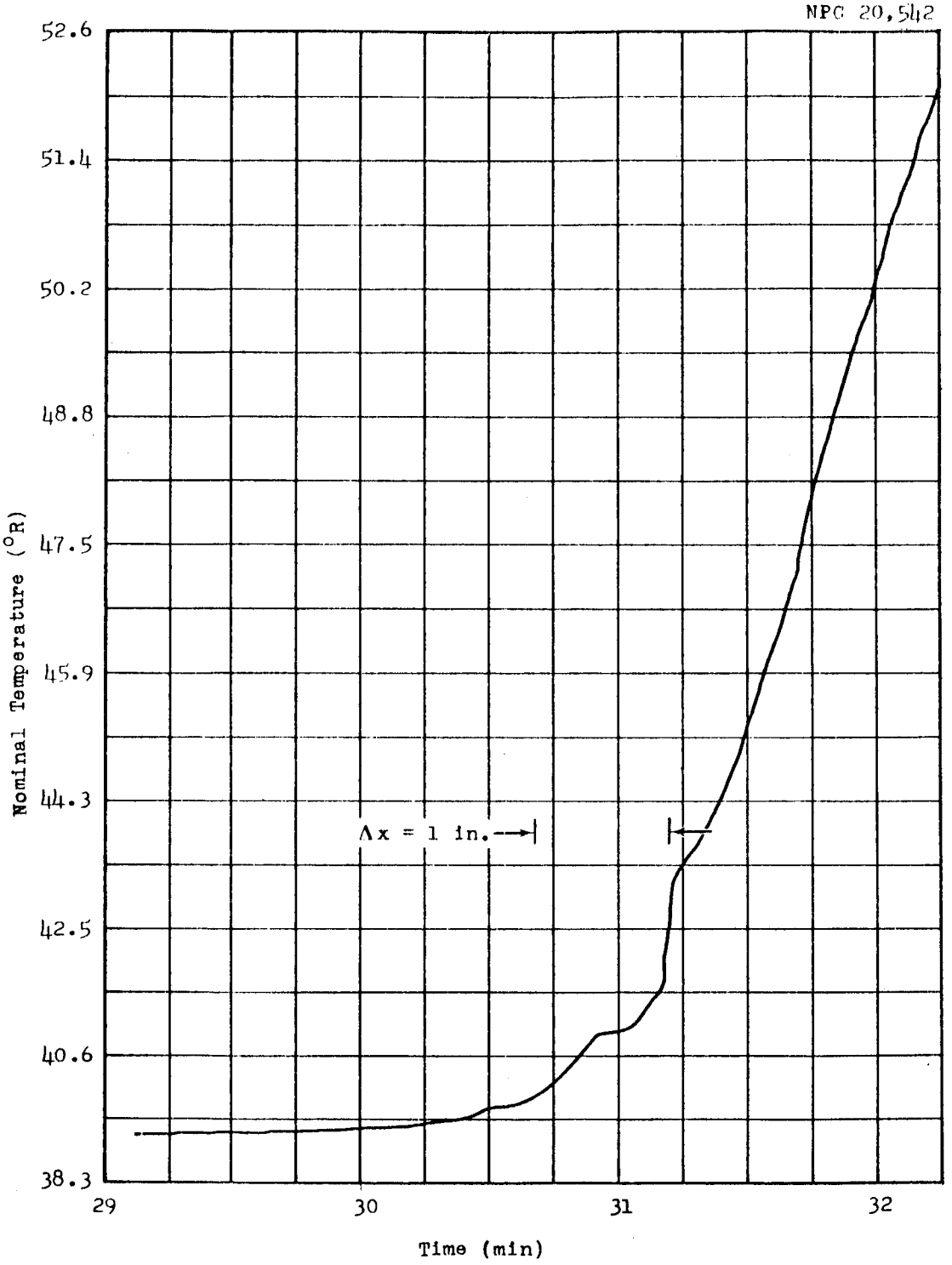

Figure 4.1-19 Strip-Chart Temperature Data: Run 14-99, Thermometer 22

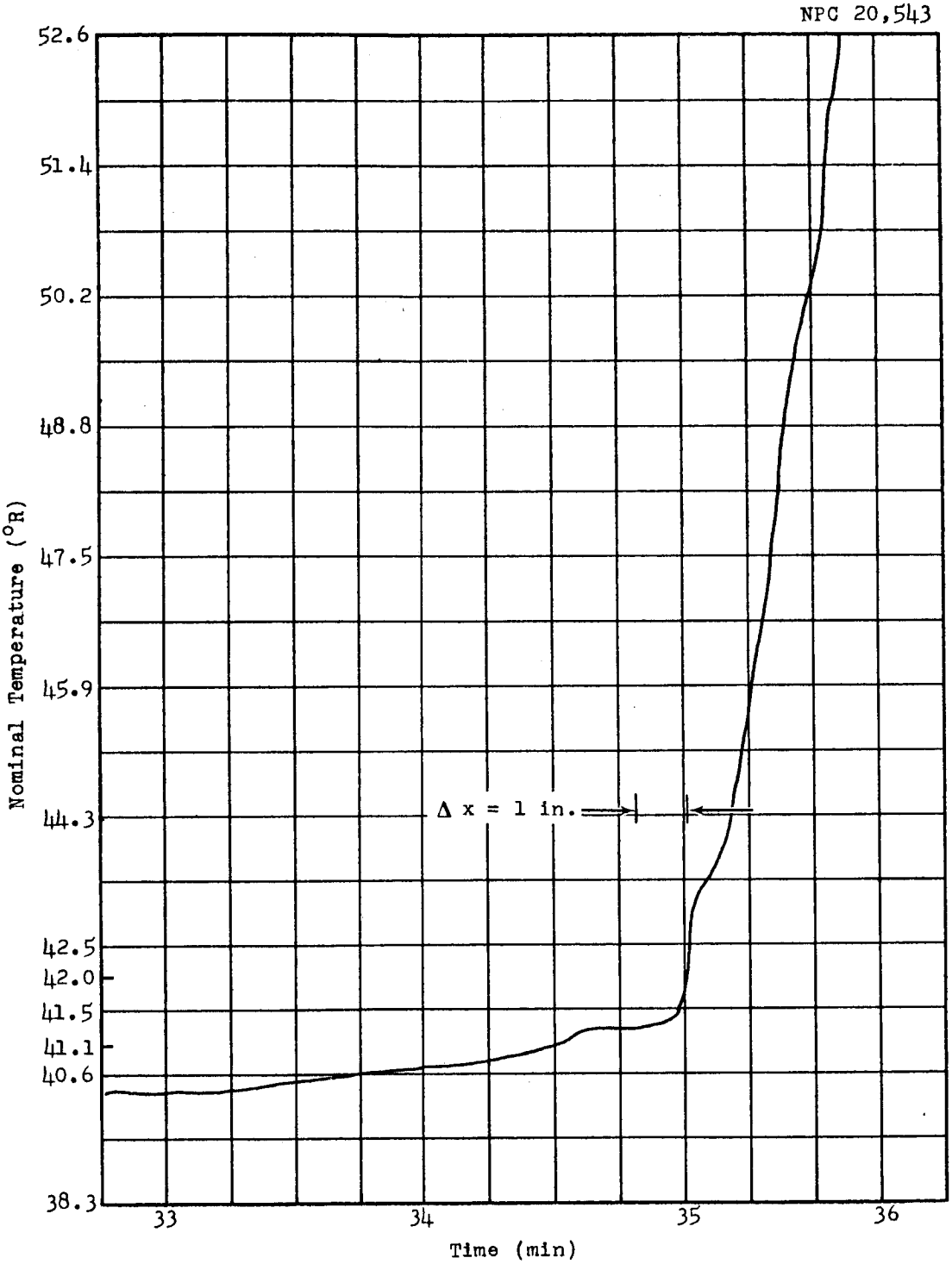

Figure 4.1-20 Strip-Chart Temperature Data: Run 14-99, Thermometer 4

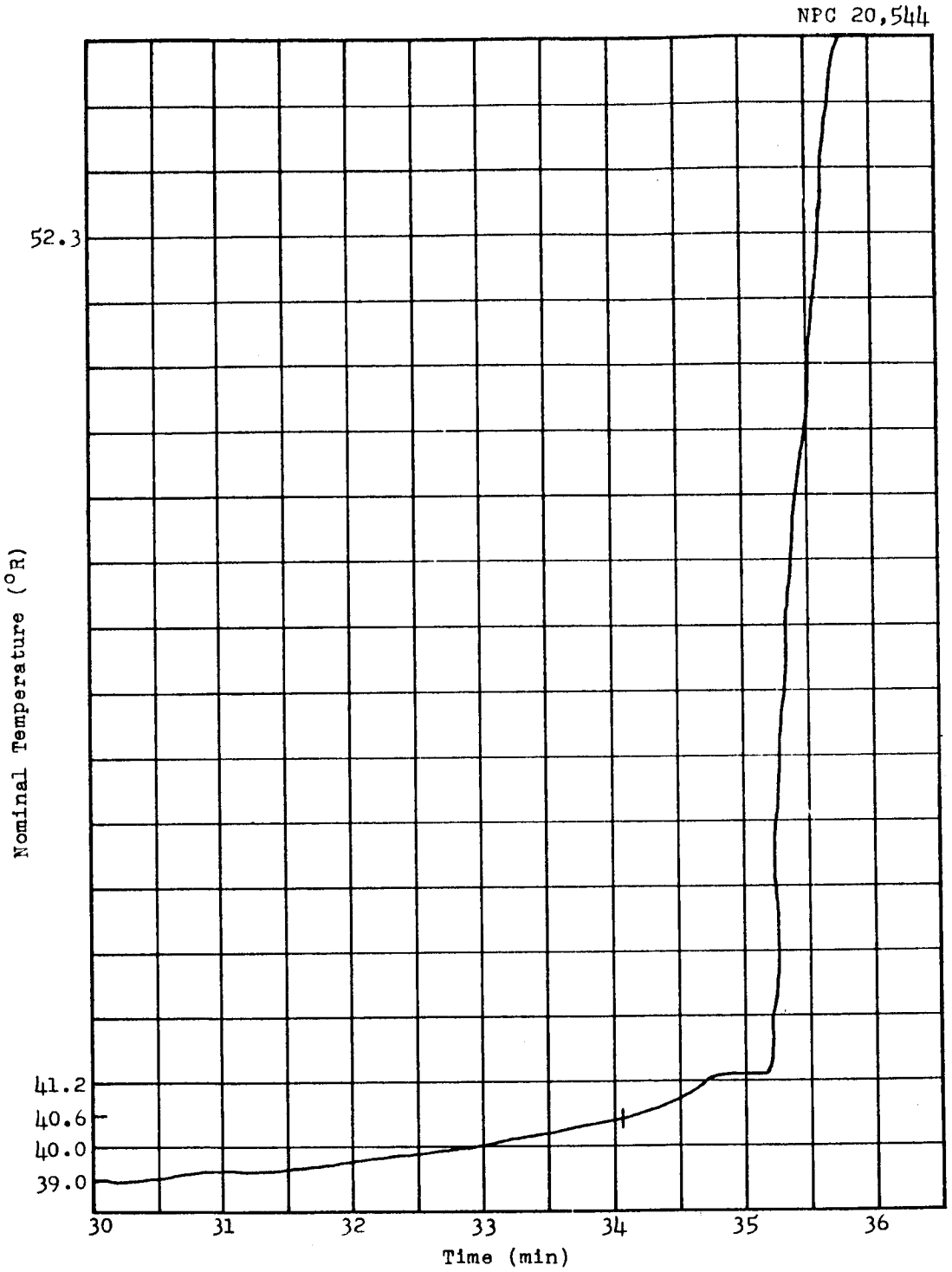

Figure 4.1-21 Strip-Chart Temperature Data: Run 14-99, Thermometer 1

TABLE 4.1-4 THERMOMETER DATA FOR EXPERIMENTAL RUN 14-99

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.75	57.57	0	36.72	57.61	0	36.74	57.59	0	36.78	57.53
0	36.69	57.65	0	36.74	57.59	0	36.70	57.63	0	36.80	57.51
0	36.72	57.61	0	36.74	57.59	0	36.70	57.63	0	36.80	57.50
3	36.83	57.47	3	36.82	57.48	3	36.98	57.27	3	37.06	57.16
3	36.84	57.45	3	36.80	57.50	3	37.11	57.09	3	37.09	57.12
3	36.83	57.47	3	36.85	57.44	3	37.11	57.09	3	37.32	56.81
4	36.88	57.40	4	36.84	57.45	4	37.04	57.19	4	37.13	57.06
4	36.93	57.34	4	37.13	57.07	4	36.93	57.34	4	37.13	57.07
4	36.89	57.39	4	36.81	57.49	4	37.11	57.09	4	37.17	57.01
5	37.02	57.22	5	36.89	57.39	5	37.03	57.20	5	37.16	57.03
5	36.99	57.26	5	37.01	57.23	5	37.39	56.69	5	37.17	57.01
5	36.91	57.36	5	36.93	57.34	5	36.99	57.25	5	37.06	57.16
6	37.02	57.22	6	37.02	57.21	6	36.93	57.34	6	37.09	57.12
6	37.02	57.22	6	36.99	57.25	6	37.00	57.24	6	37.18	57.00
6	37.04	57.19	6	37.01	57.23	6	37.40	56.68	6	37.23	56.93
6	37.04	57.19	7	37.02	57.22	7	37.24	56.92	7	37.19	56.98
7	37.03	57.20	7	37.02	57.21	7	37.04	57.19	7	37.21	56.96
7	37.04	57.19	7	37.03	57.20	7	37.06	57.16	7	37.21	56.96
7	37.06	57.16	7	37.16	57.02	7	37.07	57.15	7	37.24	56.92
8	37.03	57.20	8	37.06	57.16	8	37.05	57.18	8	37.27	56.87
8	37.13	57.06	8	37.18	57.00	8	37.08	57.14	8	37.30	56.83
8	37.14	57.05	8	37.12	57.08	8	37.15	57.04	8	37.36	56.75
9	37.18	57.00	9	37.16	57.02	9	37.16	57.02	9	37.34	56.78
9	37.17	57.01	9	37.19	56.98	9	37.19	56.99	9	37.39	56.69
9	37.11	57.10	9	37.19	56.99	9	37.13	57.06	9	37.39	56.70
10	37.15	57.04	10	37.18	57.00	10	37.20	56.97	10	37.43	56.64
10	37.26	56.89	10	37.24	56.92	10	37.24	56.92	10	37.47	56.59
10	37.42	56.65	10	37.37	56.74	10	37.76	56.17	10	37.71	56.24
11	37.24	56.91	11	37.26	56.89	11	37.29	56.85	11	37.50	56.54
11	37.24	56.91	11	37.29	56.85	11	37.28	56.86	11	37.56	56.46
11	37.32	56.80	11	37.28	56.86	11	37.29	56.85	11	37.55	56.47
11	37.28	56.86	11	37.32	56.80	11	37.33	56.79	11	37.58	56.43
12	37.31	56.82	12	37.35	56.76	12	37.33	56.79	12	37.64	56.34
14	37.52	56.51	14	37.54	56.49	14	37.54	56.49	14	37.85	56.04
15	37.47	56.58	15	37.50	56.54	15	37.52	56.51	15	37.85	56.04
15	37.54	56.48	15	37.56	56.46	15	37.54	56.48	15	37.86	56.03
15	37.54	56.49	15	37.52	56.52	15	37.53	56.50	15	37.89	55.98
16	37.61	56.38	16	37.61	56.39	16	37.61	56.39	16	37.97	55.87
16	37.61	56.38	16	37.62	56.37	16	37.60	56.40	16	38.03	55.78
16	37.59	56.41	16	37.61	56.38	16	37.61	56.38	16	37.97	55.87
17	37.66	56.32	17	37.64	56.34	17	37.63	56.35	17	37.99	55.84
17	37.67	56.30	17	37.68	56.29	17	37.67	56.30	17	38.03	55.76
17	37.68	56.28	17	37.75	56.19	17	37.70	56.25	17	38.03	55.76
18	37.75	56.18	18	37.72	56.23	18	37.75	56.18	18	38.07	55.71

* Timing Interval = 0.309

TABLE 4.1-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	37.76	56.17	18	37.75	56.19	18	37.75	56.18	18	38.07	55.71
18	37.79	56.12	18	37.77	56.15	18	37.79	56.13	18	38.12	55.63
18	37.88	56.00	18	37.77	56.15	18	37.80	56.11	18	38.13	55.62
19	37.86	56.02	19	37.78	56.14	19	37.80	56.11	19	38.16	55.58
19	37.88	56.00	19	37.86	56.03	19	37.89	55.98	19	38.18	55.54
19	37.88	56.00	19	37.91	55.95	19	37.88	55.99	19	38.22	55.49
20	37.84	56.05	20	37.92	55.94	20	37.86	56.02	20	38.19	55.53
20	37.94	55.90	20	37.95	55.89	20	37.96	55.88	20	38.28	55.40
20	37.97	55.86	20	37.95	55.89	20	37.96	55.88	20	38.26	55.43
21	38.01	55.81	21	38.00	55.82	21	38.01	55.81	21	38.30	55.37
21	38.01	55.81	21	38.06	55.72	21	38.02	55.79	21	38.38	55.25
21	38.09	55.68	21	38.02	55.79	21	37.98	55.85	21	38.27	55.41
22	38.03	55.76	22	38.02	55.79	22	38.02	55.79	22	38.33	55.33
22	38.12	55.64	22	38.09	55.68	22	38.08	55.69	22	38.35	55.30
22	38.10	55.66	22	38.12	55.63	22	38.09	55.68	22	38.41	55.21
22	38.14	55.61	22	38.16	55.58	22	38.12	55.64	23	38.43	55.18
23	38.16	55.58	23	38.20	55.52	23	38.19	55.53	23	38.46	55.13
23	38.19	55.53	23	38.27	55.41	23	38.23	55.47	23	38.51	55.06
23	38.29	55.39	23	38.30	55.37	23	38.28	55.40	23	38.57	54.97
24	38.24	55.46	24	38.22	55.48	24	38.29	55.38	24	38.60	54.93
24	38.33	55.32	24	38.36	55.28	24	38.31	55.36	24	38.63	54.88
24	38.29	55.38	24	38.37	55.27	24	38.33	55.33	24	38.63	54.88
25	38.35	55.30	25	38.34	55.31	25	38.32	55.34	25	38.66	54.84
25	38.36	55.28	25	38.43	55.18	25	38.39	55.23	25	38.72	54.74
25	38.42	55.20	25	38.48	55.11	25	38.42	55.20	25	38.77	54.67
26	38.44	55.17	26	38.45	55.15	26	38.48	55.11	26	38.83	54.58
26	38.50	55.07	26	38.50	55.07	26	38.50	55.08	26	38.86	54.55
26	38.51	55.06	26	38.52	55.04	26	38.56	54.99	26	38.86	54.55
26	38.59	54.95	26	38.60	54.93	27	38.58	54.96	27	38.93	54.45
27	38.63	54.89	27	38.70	54.78	27	38.68	54.81	27	38.95	54.42
27	38.63	54.89	27	38.66	54.84	27	38.70	54.77	27	39.01	54.33
27	38.73	54.73	27	38.74	54.72	27	38.70	54.77	27	39.07	54.25
28	38.77	54.68	28	38.75	54.70	28	38.75	54.70	28	39.12	54.17
28	38.85	54.56	28	38.82	54.60	28	38.82	54.60	28	39.15	54.14
28	38.89	54.50	28	38.84	54.57	28	38.84	54.57	28	39.15	54.13
29	38.90	54.48	29	38.92	54.46	29	38.95	54.42	29	39.27	53.97
29	38.95	54.41	29	39.00	54.35	29	38.97	54.38	29	39.30	53.92
29	39.06	54.26	29	39.00	54.35	29	39.02	54.31	29	39.35	53.85
30	39.04	54.29	30	39.12	54.18	30	39.07	54.25	30	39.40	53.78
30	39.13	54.16	30	39.17	54.11	30	39.16	54.12	30	39.52	53.62
30	39.22	54.03	30	39.28	53.96	30	39.22	54.03	30	39.62	53.49
30	39.28	53.96	31	39.27	53.97	31	39.28	53.96	31	39.67	53.42
31	39.35	53.85	31	39.37	53.82	31	39.34	53.86	31	39.74	53.23
31	39.40	53.78	31	39.53	53.61	31	39.45	53.71	31	39.77	53.18

TABLE 4.1-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	59.69	-0.	31	39.57	53.55	31	39.56	53.56	31	39.85	53.07
32	39.72	53.35	32	38.91	54.47	32	38.90	54.49	32	39.90	53.01
32	59.69	-0.	32	39.67	53.32	32	39.69	53.29	32	40.01	52.84
32	59.69	-0.	32	39.80	53.15	32	39.83	53.11	32	40.05	52.79
33	59.69	-0.	33	39.90	53.00	33	39.92	52.98	33	40.21	52.55
33	59.69	-0.	33	39.45	53.71	33	40.08	52.74	33	40.40	52.26
33	40.22	52.53	33	40.28	52.45	33	40.27	52.46	33	40.53	52.07
34	40.41	52.25	34	40.47	52.16	34	40.46	52.17	34	40.74	51.71
34	59.69	-0.	34	40.75	51.70	34	40.79	51.64	34	41.02	51.24
34	59.69	-0.	34	41.10	51.10	34	41.14	51.04	34	41.26	50.81
34	59.69	-0.	35	41.12	51.07	35	41.12	51.07	35	42.57	48.31
35	59.69	-0.	35	45.05	43.78	35	45.65	42.14	35	47.84	36.85
35	52.35	23.85	35	51.54	26.98	35	55.03	14.87	35	54.39	18.99
35	59.69	-0.	35	54.39	15.97	35	60.53	-5.14	35	57.53	7.68
36	59.69	-0.	36	57.28	8.57	36	64.30	-28.22	36	58.61	3.84
36	60.67	-6.00	36	59.52	0.61	36	63.32	-22.23	36	59.42	0.95
36	64.61	-30.14	36	60.12	-2.65	36	61.51	-11.12	36	59.83	-0.84
37	61.84	-13.13	37	61.01	-8.10	37	60.58	-5.44	37	60.40	-4.35
37	64.15	-27.28	37	61.67	-12.12	37	61.43	-10.67	37	60.98	-7.88
37	64.31	-28.29	37	62.46	-16.97	37	62.17	-15.16	37	61.75	-12.60
38	63.82	-25.25	38	63.52	-23.44	38	63.32	-22.23	38	62.26	-15.76
38	64.44	-29.10	38	63.27	-21.92	38	64.34	-28.48	38	62.90	-19.67
40	71.88	-74.58	40	68.56	-54.27	40	68.16	-51.84	40	67.60	-48.40
41	69.02	-57.11	41	69.27	-58.61	41	70.70	-67.40	41	68.20	-52.07

TABLE 4.1-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.61	57.76	0	46.17	40.51	0	36.60	57.77	0	36.66	57.70
0	36.62	57.75	0	46.17	40.53	0	36.64	57.72	0	36.60	57.77
0	36.66	57.70	0	46.17	40.50	0	36.64	57.72	0	36.65	57.71
3	36.70	57.63	3	47.79	37.34	3	36.74	57.59	3	36.75	57.57
3	36.77	57.54	3	47.90	36.65	3	36.71	57.62	3	36.76	57.56
3	36.79	57.52	3	47.97	36.42	3	36.74	57.58	3	36.78	57.53
4	36.73	57.60	4	48.02	36.25	4	36.77	57.55	4	36.76	57.56
4	36.85	57.44	4	48.06	36.15	4	36.75	57.57	4	36.75	57.57
4	36.85	57.44	4	48.08	36.10	4	36.78	57.53	4	36.76	57.56
5	36.93	57.34	5	48.08	36.09	5	36.80	57.51	5	36.77	57.54
5	36.94	57.32	5	48.11	36.00	5	36.82	57.48	5	36.80	57.51
5	36.84	57.45	5	48.12	35.98	5	36.88	57.40	5	36.85	57.44
6	36.84	57.45	6	48.11	36.00	6	36.82	57.48	6	36.84	57.46
6	36.90	57.37	6	48.14	35.94	6	36.84	57.45	6	36.87	57.42
6	36.95	57.31	6	48.18	35.82	6	36.96	57.29	6	36.87	57.42
7	36.92	57.35	7	48.17	35.84	7	36.87	57.41	7	36.88	57.40
7	36.93	57.34	7	48.20	35.78	7	36.90	57.37	7	36.92	57.35
7	36.95	57.31	7	48.19	35.80	7	36.96	57.29	7	36.96	57.30
7	36.98	57.27	7	48.24	35.66	7	36.96	57.29	7	36.96	57.29
8	36.99	57.25	8	48.25	35.63	8	36.93	57.34	8	36.99	57.25
8	36.99	57.26	8	48.31	35.48	8	36.97	57.28	8	37.00	57.24
8	36.99	57.25	8	48.36	35.36	8	37.04	57.19	8	37.02	57.21
9	37.02	57.21	9	48.38	35.31	9	37.07	57.15	9	37.05	57.18
9	37.05	57.18	9	48.43	35.18	9	37.03	57.20	9	37.02	57.21
9	37.05	57.18	9	48.48	35.08	9	37.07	57.15	9	37.07	57.15
10	37.11	57.09	10	48.48	35.07	10	37.11	57.10	10	37.08	57.13
10	37.16	57.03	10	48.67	34.63	10	37.12	57.08	10	37.11	57.09
10	37.33	56.79	10	48.72	34.52	10	37.13	57.06	10	37.13	57.06
11	37.15	57.04	11	48.81	34.32	11	37.18	57.00	11	37.16	57.02
11	37.13	57.07	11	48.88	34.16	11	37.19	56.99	11	37.18	57.00
11	37.17	57.01	11	49.03	33.83	11	37.22	56.95	11	37.20	56.97
11	37.19	56.99	11	49.19	33.48	11	37.22	56.95	11	37.23	56.93
12	37.19	56.99	12	49.34	33.13	12	37.22	56.95	12	37.22	56.95
14	37.37	56.72	14	51.54	26.98	14	37.39	56.70	14	37.43	56.64
15	37.38	56.71	15	51.56	25.46	15	37.43	56.64	15	37.43	56.64
15	37.46	56.60	15	52.12	24.21	15	37.39	56.69	15	37.41	56.67
15	37.44	56.62	15	53.07	22.78	15	37.47	56.58	15	37.47	56.58
16	37.50	56.54	16	53.95	21.22	16	37.44	56.62	16	37.45	56.61
16	37.56	56.46	16	54.39	19.34	16	37.49	56.55	16	37.48	56.57
16	37.50	56.54	16	54.27	16.93	16	37.54	56.49	16	37.53	56.50
17	37.51	56.53	17	56.05	12.94	17	37.52	56.52	17	37.53	56.50
17	37.57	56.44	17	60.19	-3.03	17	37.56	56.45	17	37.61	56.39
17	37.61	56.39	17	93.20	-205.05	17	37.57	56.44	17	37.58	56.43
18	37.61	56.38	18	92.70	-202.02	18	37.63	56.36	18	37.63	56.35

TABLE 4.1-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	37.66	56.32	18	37.55	56.47	18	37.66	56.32	18	37.68	56.29
18	37.64	56.34	18	37.58	56.43	18	37.66	56.32	18	37.70	56.26
18	37.68	56.29	18	37.56	56.46	19	37.68	56.29	19	37.74	56.20
19	37.72	56.22	19	37.61	56.38	19	37.69	56.27	19	37.75	56.19
19	37.74	56.20	19	37.66	56.31	19	37.75	56.19	19	37.75	56.19
19	37.78	56.14	19	37.67	56.30	19	37.75	56.19	19	37.77	56.15
20	37.79	56.12	20	37.69	56.27	20	37.79	56.12	20	37.79	56.12
20	37.81	56.10	20	37.70	56.25	20	37.81	56.10	20	37.84	56.06
20	37.84	56.06	20	37.75	56.19	20	37.84	56.05	20	37.88	56.00
21	37.90	55.97	21	37.79	56.12	21	37.88	55.99	21	37.97	55.87
21	37.90	55.97	21	37.81	56.10	21	37.90	55.96	21	37.96	55.88
21	37.88	55.99	21	37.83	56.07	21	37.92	55.94	21	37.94	55.90
22	37.94	55.90	22	37.86	56.03	22	37.99	55.84	22	37.95	55.89
22	37.99	55.83	22	37.95	55.89	22	37.97	55.87	22	37.99	55.83
22	38.03	55.78	22	37.92	55.94	22	37.98	55.85	22	38.03	55.76
23	38.01	55.80	23	37.97	55.87	23	38.08	55.69	23	38.09	55.68
23	38.11	55.65	23	38.01	55.81	23	38.12	55.64	23	38.12	55.64
23	38.12	55.63	23	38.04	55.75	23	38.16	55.58	23	38.15	55.59
23	38.16	55.57	23	38.08	55.69	23	38.34	55.31	23	38.18	55.55
24	38.18	55.55	24	38.12	55.64	24	38.23	55.47	24	38.28	55.40
24	38.22	55.49	24	38.18	55.55	24	38.23	55.47	24	38.25	55.44
24	38.27	55.42	24	38.18	55.55	24	38.26	55.43	24	38.32	55.34
25	38.25	55.44	25	38.19	55.53	25	38.26	55.43	25	38.37	55.26
25	38.28	55.40	25	38.22	55.48	25	38.37	55.27	25	38.46	55.14
25	38.37	55.27	25	38.29	55.38	25	38.37	55.27	25	38.57	54.98
26	38.37	55.26	26	38.30	55.37	26	38.39	55.24	26	39.56	53.56
26	38.40	55.22	26	38.35	55.29	26	38.44	55.16	26	41.08	51.15
26	38.43	55.18	26	38.43	55.18	26	38.49	55.09	26	44.77	44.40
27	38.49	55.09	27	38.42	55.20	27	38.51	55.06	27	47.77	37.37
27	38.52	55.04	27	38.49	55.09	27	38.59	54.95	27	50.67	29.72
27	38.61	54.92	27	38.54	55.02	27	38.59	54.94	27	54.14	20.71
27	38.63	54.88	27	38.54	55.02	27	38.70	54.78	27	56.69	10.65
28	38.67	54.83	28	38.63	54.88	28	38.72	54.74	28	59.01	2.42
28	38.73	54.73	28	38.69	54.79	28	38.77	54.67	28	60.62	-5.71
28	38.77	54.67	28	38.70	54.77	28	38.85	54.56	28	61.93	-13.72
29	38.79	54.65	29	38.82	54.60	29	38.89	54.50	29	63.23	-21.68
29	38.88	54.52	29	38.86	54.55	29	39.07	54.25	29	64.53	-29.61
29	38.93	54.44	29	38.92	54.46	29	39.64	53.46	29	65.80	-37.38
30	38.98	54.37	30	38.98	54.37	30	41.02	51.24	30	67.07	-45.17
30	39.07	54.24	30	39.06	54.26	30	43.78	45.97	30	68.31	-52.76
30	39.12	54.18	30	39.12	54.17	30	46.99	38.59	30	69.57	-60.44
31	39.20	54.06	31	39.20	54.07	31	50.49	30.28	31	70.79	-67.92
31	39.30	53.93	31	39.36	53.83	31	54.23	20.40	31	71.99	-75.30
31	39.39	53.79	31	39.44	53.72	31	56.08	12.84	31	73.18	-82.54

TABLE 4.1-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	39.46	53.70	31	39.70	53.38	31	58.11	5.60	31	74.34	-89.64
32	39.59	53.53	32	40.85	51.54	32	59.92	-1.42	32	75.46	-96.54
32	39.68	53.40	32	41.29	50.76	32	61.02	-8.14	32	76.55	-103.18
32	39.77	53.19	32	45.05	43.79	32	62.11	-14.82	32	77.59	-109.55
33	39.94	52.95	33	48.02	36.27	33	63.12	-21.01	33	78.43	-114.70
33	39.46	53.70	33	51.15	28.22	33	64.09	-26.95	33	79.42	-120.77
33	58.23	5.19	33	53.95	21.21	33	64.97	-32.33	33	80.20	-125.52
34	41.13	51.05	34	55.16	14.73	34	65.92	-38.10	34	80.96	-130.17
34	44.27	45.27	34	57.20	8.86	34	66.74	-43.17	34	81.67	-134.51
34	46.51	39.62	34	58.75	3.36	34	67.51	-47.88	34	83.95	-148.46
35	49.76	32.12	35	59.99	-1.81	35	68.18	-51.94	35	84.38	-151.08
35	54.21	20.47	35	61.33	-10.02	35	69.15	-57.90	35	83.16	-143.61
35	54.37	18.39	35	62.36	-16.34	35	69.90	-62.52	35	83.82	-147.65
35	56.56	11.11	35	62.15	-15.03	35	69.65	-60.96	35	83.55	-146.03
36	57.82	6.65	36	61.87	-13.33	36	69.63	-60.86	36	83.49	-145.63
36	58.90	2.79	36	62.10	-14.77	36	69.69	-61.19	36	83.45	-145.43
36	59.97	-1.73	36	62.17	-15.15	36	69.70	-61.24	36	83.67	-146.74
37	60.67	-6.00	37	62.00	-14.11	37	70.05	-63.37	37	83.83	-147.75
37	61.27	-9.65	37	62.17	-15.15	37	70.16	-64.08	37	67.53	-48.00
37	61.97	-13.95	37	62.45	-16.87	37	70.21	-64.36	37	84.18	-149.87
48	62.51	-17.28	38	62.99	-20.20	38	70.42	-65.67	38	84.26	-150.38
38	63.12	-21.01	38	63.58	-23.79	38	70.57	-66.58	38	84.54	-152.10
40	68.09	-51.39	40	68.20	-52.11	40	71.04	-69.44	40	85.78	-159.67
41	68.62	-54.66	41	69.01	-57.06	41	71.19	-70.41	41	86.08	-161.49

TABLE 4.1-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.60	57.77	0	36.56	57.82	0	41.87	49.68	0	62.70	-18.39
0	36.60	57.77	0	36.55	57.83	0	41.86	49.70	0	62.55	-17.48
0	36.63	57.74	0	36.57	57.81	0	41.90	49.61	0	62.17	-15.16
3	36.71	57.62	3	36.66	57.69	3	41.96	49.49	3	62.33	-16.17
3	36.74	57.58	3	36.66	57.69	3	41.96	49.49	3	62.38	-16.48
3	36.72	57.61	4	36.65	57.71	4	41.94	49.53	4	63.32	-22.23
4	36.72	57.61	4	36.68	57.66	4	41.93	49.55	4	62.18	-15.22
4	36.74	57.58	4	36.69	57.65	4	34.99	59.65	4	62.34	-16.20
4	36.73	57.60	4	36.70	57.64	4	41.93	49.55	4	61.92	-13.64
5	36.78	57.53	5	36.70	57.64	5	41.95	49.52	5	62.44	-16.81
5	36.80	57.51	5	36.73	57.60	5	42.01	49.41	5	62.25	-15.66
5	36.78	57.53	5	36.74	57.58	5	41.97	49.47	5	62.00	-14.15
6	36.80	57.51	6	36.77	57.55	6	41.96	49.49	6	61.96	-13.90
6	36.82	57.48	6	36.77	57.55	6	41.99	49.44	6	62.40	-16.57
6	36.88	57.40	6	36.79	57.52	6	42.01	49.41	6	61.52	-11.19
7	36.89	57.39	7	36.81	57.49	7	42.03	49.37	7	62.66	-18.19
7	36.89	57.39	7	36.83	57.47	7	42.09	49.24	7	62.44	-16.81
7	36.95	57.31	7	36.85	57.44	7	42.05	49.32	7	62.22	-15.46
7	36.96	57.29	8	36.85	57.44	8	42.11	49.21	8	62.38	-16.48
8	36.93	57.33	8	36.89	57.39	8	42.11	49.21	8	62.55	-17.48
8	36.96	57.30	8	36.93	57.33	8	42.10	49.23	8	62.22	-15.46
8	36.99	57.26	8	36.94	57.32	8	42.10	49.22	8	63.00	-20.23
9	37.02	57.21	9	36.96	57.30	9	42.12	49.19	9	62.51	-17.28
9	37.03	57.20	9	36.98	57.27	9	42.17	49.09	9	62.39	-16.52
9	37.02	57.22	9	36.99	57.26	9	42.18	49.07	9	62.39	-16.50
10	37.07	57.15	10	36.96	57.30	10	42.16	49.11	10	62.22	-15.47
10	37.03	57.20	10	37.02	57.22	10	42.21	49.00	10	62.11	-14.83
10	37.11	57.09	10	37.03	57.20	10	42.21	49.00	10	61.50	-11.06
11	37.18	57.00	11	37.09	57.12	11	42.22	48.98	11	62.18	-15.22
11	37.16	57.03	11	37.10	57.11	11	42.21	49.01	11	61.87	-13.33
11	37.18	57.00	11	37.11	57.10	11	42.23	48.97	11	61.65	-11.97
12	37.17	57.01	12	37.12	57.08	12	42.25	48.92	12	61.65	-11.97
12	37.22	56.95	12	37.17	57.01	12	42.26	48.91	12	62.66	-18.19
15	37.39	56.70	15	37.36	56.75	15	42.42	48.60	15	64.65	-30.38
15	37.38	56.71	15	37.34	56.77	15	42.51	48.42	15	65.47	-35.36
15	37.41	56.67	15	37.39	56.69	15	42.47	48.50	15	67.04	-44.98
15	37.42	56.65	15	37.42	56.66	15	42.49	48.46	15	67.98	-50.76
16	37.50	56.54	16	37.39	56.69	16	42.56	48.32	16	69.77	-61.72
16	37.47	56.59	16	37.44	56.62	16	42.58	48.29	16	71.41	-71.70
16	37.54	56.48	16	37.49	56.55	16	42.84	47.78	16	73.28	-83.18
17	37.53	56.50	17	37.54	56.48	17	43.38	46.77	17	74.55	-90.95
17	37.56	56.45	17	37.52	56.51	17	44.66	44.62	17	76.20	-101.06
17	37.60	56.40	17	37.59	56.41	17	48.07	36.12	17	80.50	-127.34
18	37.67	56.30	18	37.65	56.33	18	51.56	25.47	18	84.77	-153.51

TABLE 4.1-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	37.64	56.34	18	37.68	56.29	18	55.81	14.22	18	87.43	-169.78
18	37.66	56.32	18	37.70	56.25	18	58.24	5.15	18	86.77	-165.74
19	37.70	56.25	19	37.68	56.29	19	60.69	-6.10	19	89.33	-181.40
19	37.70	56.25	19	37.82	56.08	19	62.29	-15.94	19	91.23	-193.02
19	37.77	56.15	19	38.27	55.41	19	64.82	-31.42	19	92.70	-202.02
19	37.82	56.08	19	40.52	52.08	19	64.79	-31.24	19	92.70	-202.02
20	37.81	56.10	20	44.98	43.96	20	68.10	-51.47	20	92.70	-202.02
20	37.84	56.05	20	48.48	35.07	20	70.80	-68.00	20	93.20	-205.05
20	37.88	55.99	20	53.91	21.31	20	73.20	-82.66	20	93.23	-205.25
21	37.98	55.85	21	57.40	8.13	21	75.26	-95.27	21	93.28	-205.56
21	38.00	55.82	21	59.22	1.66	21	75.81	-98.63	21	93.29	-205.66
21	38.11	55.65	21	60.25	-3.42	21	76.13	-100.60	21	93.29	-205.66
22	38.50	55.07	22	61.06	-8.39	22	76.68	-103.99	22	93.29	-205.66
22	40.71	51.76	22	63.32	-22.22	22	80.05	-124.61	22	93.29	-205.66
22	43.19	47.11	22	64.83	-31.46	22	81.40	-132.89	22	93.34	-205.96
23	46.14	40.61	23	67.09	-45.28	23	84.59	-152.40	23	93.28	-205.56
23	50.83	29.23	23	69.03	-57.18	23	86.79	-165.84	23	93.20	-205.05
23	54.29	16.50	23	70.69	-67.30	23	88.74	-177.76	23	93.29	-205.66
23	57.66	7.21	23	72.26	-76.96	24	90.72	-189.89	24	93.23	-205.25
24	59.69	-0.	24	73.96	-87.34	24	92.75	-202.32	24	93.36	-206.06
24	59.69	-0.	24	75.57	-97.20	24	92.70	-202.02	24	93.46	-206.67
24	59.69	-0.	24	77.16	-106.92	24	93.23	-205.25	24	93.53	-207.07
25	59.69	-0.	25	78.76	-116.72	25	93.29	-205.66	25	93.53	-207.07
25	59.69	-0.	25	80.27	-125.92	25	93.29	-205.66	25	93.53	-207.07
25	59.69	-0.	25	81.72	-134.81	25	93.23	-205.25	25	93.51	-206.97
26	59.69	-0.	26	83.19	-143.81	26	93.28	-205.56	26	93.49	-206.87
26	59.69	-0.	26	84.77	-153.51	26	93.20	-205.05	26	93.49	-206.87
26	59.69	-0.	26	86.44	-163.72	26	93.28	-205.56	26	93.53	-207.07
27	59.69	-0.	27	88.08	-173.72	27	93.23	-205.25	27	93.51	-206.97
27	59.69	-0.	27	89.83	-184.43	27	93.29	-205.66	27	93.49	-206.87
27	59.69	-0.	27	91.53	-194.84	27	93.29	-205.66	27	93.49	-206.87
27	59.69	-0.	27	93.21	-205.15	28	93.46	-206.67	28	93.51	-206.97
28	59.69	-0.	28	93.20	-205.05	28	93.46	-206.67	28	93.46	-206.67
28	59.69	-0.	28	93.20	-205.05	28	93.48	-206.77	28	93.49	-206.87
28	59.69	-0.	28	93.23	-205.25	28	93.49	-206.87	28	93.49	-206.87
29	59.69	-0.	29	93.20	-205.05	29	93.46	-206.67	29	93.66	-207.88
29	59.69	-0.	29	93.20	-205.05	29	93.46	-206.67	29	93.51	-206.97
29	59.69	-0.	29	93.20	-205.05	29	93.48	-206.77	29	93.49	-206.87
30	86.72	-165.44	30	93.20	-205.05	30	93.49	-206.87	30	93.53	-207.07
30	88.22	-174.63	30	93.28	-205.56	30	93.53	-207.07	30	93.54	-207.17
30	89.66	-183.42	30	93.29	-205.66	30	93.56	-207.27	30	93.57	-207.38
31	90.88	-190.90	31	93.29	-205.66	31	93.57	-207.38	31	93.57	-207.38
31	92.40	-200.20	31	93.39	-206.26	31	93.56	-207.27	31	93.59	-207.48
31	92.70	-202.02	31	93.61	-207.58	31	93.64	-207.78	31	93.66	-207.88

TABLE 4.1-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	92.70	-202.02	32	93.62	-207.68	32	93.67	-207.98	32	93.66	-207.88
32	92.70	-202.02	32	93.62	-207.68	32	93.64	-207.78	32	93.67	-207.98
32	92.70	-202.02	32	93.61	-207.58	32	95.31	-217.99	32	93.64	-207.78
32	92.70	-202.02	32	93.59	-207.48	32	93.64	-207.78	32	93.66	-207.88
33	92.70	-202.02	33	93.61	-207.58	33	93.64	-207.78	33	93.61	-207.58
33	92.70	-202.02	33	93.59	-207.48	33	93.62	-207.68	33	93.62	-207.68
33	92.70	-202.02	33	93.57	-207.38	33	93.61	-207.58	33	93.62	-207.68
34	92.70	-202.02	34	93.57	-207.38	34	93.62	-207.68	34	93.61	-207.58
34	92.70	-202.02	34	2417.10	308.44	34	93.59	-207.48	34	93.59	-207.48
34	92.70	-202.02	34	93.53	-207.07	34	93.57	-207.38	34	93.54	-207.17
35	92.70	-202.02	35	93.48	-206.77	35	93.44	-206.57	35	93.48	-206.77
35	92.70	-202.02	35	93.44	-206.57	35	93.48	-206.77	35	93.41	-206.36
35	92.70	-202.02	35	93.44	-206.57	35	93.44	-206.57	35	93.44	-206.57
35	92.70	-202.02	36	93.46	-206.67	36	93.49	-206.87	36	93.51	-206.97
36	92.70	-202.02	36	93.49	-206.87	36	93.53	-207.07	36	93.53	-207.07
36	92.70	-202.02	36	93.49	-206.87	36	93.48	-206.77	36	93.46	-206.67
36	92.70	-202.02	36	93.44	-206.57	36	93.44	-206.57	36	93.49	-206.87
37	92.70	-202.02	37	93.38	-206.16	37	93.43	-206.47	37	93.43	-206.47
37	92.70	-202.02	37	93.41	-206.36	37	93.41	-206.36	37	93.48	-206.77
37	92.70	-202.02	37	93.46	-206.67	37	93.48	-206.77	37	93.49	-206.87
38	92.70	-202.02	38	93.46	-206.67	38	93.53	-207.07	38	93.51	-206.97
38	92.70	-202.02	38	93.62	-207.68	38	93.59	-207.48	38	93.56	-207.27
40	92.70	-202.02	40	93.53	-207.07	40	93.57	-207.38	40	93.59	-207.48
41	92.70	-202.02	41	93.53	-207.07	41	93.56	-207.27	41	93.61	-207.58

TABLE 4.1-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.59	57.78	0	36.58	57.80	0	36.61	57.76	0	36.59	57.79
0	36.58	57.80	0	36.61	57.76	0	36.58	57.80	0	36.63	57.74
0	36.61	57.76	0	36.59	57.78	0	36.59	57.78	0	36.60	57.77
3	36.70	57.63	3	36.68	57.66	3	36.71	57.62	3	37.07	57.15
3	36.74	57.59	3	36.68	57.66	3	36.77	57.54	3	37.07	57.15
4	36.74	57.58	4	36.72	57.61	4	36.79	57.52	4	37.02	57.21
4	36.72	57.61	4	36.70	57.63	4	36.74	57.58	4	37.17	57.01
4	36.71	57.62	4	36.72	57.61	4	36.85	57.44	4	37.04	57.19
4	36.74	57.59	4	36.73	57.60	4	36.77	57.55	4	37.94	55.90
5	36.75	57.57	5	36.76	57.56	5	36.81	57.49	5	37.25	56.90
5	36.76	57.56	5	36.75	57.57	5	36.81	57.49	5	38.02	55.79
5	36.80	57.51	5	36.76	57.56	5	36.80	57.51	5	37.61	56.39
6	36.81	57.49	6	36.80	57.50	6	36.92	57.35	6	38.27	55.41
6	36.80	57.50	6	36.81	57.49	6	36.83	57.47	6	37.48	56.57
6	36.80	57.51	6	36.80	57.51	6	36.81	57.49	6	37.53	56.50
7	36.80	57.51	7	36.83	57.47	7	36.84	57.46	7	38.16	55.57
7	36.99	57.26	7	36.98	57.27	7	37.05	57.17	7	37.18	57.00
7	36.95	57.31	7	36.96	57.30	7	37.15	57.04	7	37.97	55.87
8	37.01	57.23	8	36.99	57.26	8	37.11	57.09	8	39.04	54.29
8	37.02	57.22	8	36.99	57.25	8	37.14	57.05	8	38.50	55.07
8	37.04	57.19	8	36.96	57.30	8	37.08	57.14	8	37.74	56.20
8	37.03	57.20	8	37.10	57.11	8	37.12	57.08	8	37.94	55.90
9	37.02	57.22	9	37.05	57.18	9	37.32	56.80	9	39.40	53.78
9	37.06	57.16	9	37.09	57.12	9	37.13	57.06	9	39.13	54.16
9	37.02	57.22	9	37.11	57.09	9	37.52	56.52	9	40.89	51.47
10	37.19	56.99	10	37.16	57.03	10	37.56	56.45	10	42.94	47.58
10	37.15	57.04	10	37.13	57.07	10	38.70	54.77	10	45.28	43.21
10	37.14	57.05	10	37.16	57.02	10	39.41	53.76	10	45.78	41.72
11	37.18	57.00	11	37.32	56.81	11	40.42	52.24	11	48.01	36.28
11	37.24	56.92	11	37.72	56.23	11	42.79	47.87	11	50.18	31.13
11	37.36	56.75	11	36.87	57.42	11	44.62	44.68	11	51.72	24.96
12	37.32	56.81	12	39.71	53.36	12	46.35	40.03	12	54.30	20.11
12	37.39	56.70	12	40.67	51.83	12	48.21	35.73	12	56.08	12.82
15	54.34	18.05	15	60.82	-6.91	15	65.09	-33.04	15	69.56	-60.39
15	57.01	9.54	15	62.29	-15.93	15	66.73	-43.06	15	71.38	-71.55
15	59.46	0.83	15	63.80	-25.16	15	68.43	-53.46	15	73.24	-82.93
15	60.94	-7.63	15	65.38	-34.82	15	70.17	-64.14	16	75.17	-94.72
16	62.43	-16.75	16	67.07	-45.14	16	72.04	-75.60	16	77.16	-106.92
16	64.01	-26.44	16	68.86	-56.15	16	74.02	-87.69	16	79.13	-118.95
16	59.69	-0.	16	70.71	-67.46	16	75.99	-99.78	16	81.01	-130.47
17	67.35	-46.89	17	72.61	-79.08	17	77.94	-111.67	17	83.16	-143.61
17	69.12	-57.70	17	74.56	-90.99	17	79.89	-123.60	17	85.45	-157.65
17	74.38	-89.87	17	80.65	-128.25	17	87.18	-168.26	17	93.20	-205.05
18	59.69	-0.	18	86.21	-162.30	18	93.20	-205.05	18	93.49	-206.87

TABLE 4.1-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	81.29	-132.19	18	88.08	-173.72	18	93.20	-205.05	18	93.48	-206.77
18	80.50	-127.34	18	86.79	-165.84	18	93.20	-205.05	18	93.46	-206.67
19	83.16	-143.61	19	90.34	-187.57	19	93.20	-205.05	19	93.41	-206.36
19	85.63	-158.77	19	93.20	-205.05	19	93.46	-206.67	19	93.49	-206.87
19	90.45	-188.27	19	92.70	-202.02	19	93.44	-206.57	19	93.46	-206.67
20	59.69	-0.	20	93.20	-205.05	20	93.46	-206.67	20	93.51	-206.97
20	93.33	-205.86	20	93.46	-206.67	20	93.44	-206.57	20	93.49	-206.87
20	93.46	-206.67	20	93.57	-207.38	20	93.56	-207.27	20	93.56	-207.27
20	93.46	-206.67	20	93.54	-207.17	20	93.56	-207.27	20	93.56	-207.27
21	93.44	-206.57	21	93.54	-207.17	21	93.56	-207.27	21	93.57	-207.38
21	93.49	-206.87	21	93.59	-207.48	21	93.57	-207.38	21	93.57	-207.38
21	93.46	-206.67	21	93.59	-207.48	21	93.56	-207.27	21	93.57	-207.38
22	93.46	-206.67	22	93.57	-207.38	22	93.59	-207.48	22	93.61	-207.58
22	93.48	-206.77	22	93.56	-207.27	22	93.56	-207.27	22	93.54	-207.17
22	93.49	-206.87	22	93.59	-207.48	22	93.61	-207.58	22	93.53	-207.07
23	93.46	-206.67	23	93.56	-207.27	23	93.56	-207.27	23	93.56	-207.27
23	93.44	-206.57	23	93.53	-207.07	23	93.54	-207.17	23	93.51	-206.97
23	93.43	-206.47	23	93.53	-207.07	23	93.54	-207.17	23	93.56	-207.27
24	93.44	-206.57	24	93.51	-206.97	24	93.53	-207.07	24	93.54	-207.17
24	93.41	-206.36	24	93.48	-206.77	24	93.49	-206.87	24	93.49	-206.87
24	93.39	-206.26	24	93.49	-206.87	24	93.48	-206.77	24	93.46	-206.67
24	93.46	-206.67	24	93.49	-206.87	24	93.53	-207.07	24	93.53	-207.07
25	93.46	-206.67	25	93.54	-207.17	25	93.57	-207.38	25	93.57	-207.38
25	93.49	-206.87	25	93.56	-207.27	25	93.53	-207.07	25	93.56	-207.27
25	93.46	-206.67	25	93.53	-207.07	25	93.54	-207.17	25	93.56	-207.27
26	93.48	-206.77	26	93.54	-207.17	26	93.54	-207.17	26	93.53	-207.07
26	93.46	-206.67	26	93.49	-206.87	26	93.49	-206.87	26	93.53	-207.07
26	93.51	-206.97	26	93.53	-207.07	26	93.53	-207.07	26	93.54	-207.17
27	93.51	-206.97	27	93.54	-207.17	27	93.51	-206.97	27	93.53	-207.07
27	93.53	-207.07	27	93.51	-206.97	27	93.53	-207.07	27	93.51	-206.97
27	93.51	-206.97	27	93.51	-206.97	27	93.51	-206.97	27	93.53	-207.07
28	93.53	-207.07	28	93.53	-207.07	28	93.51	-206.97	28	93.51	-206.97
28	93.46	-206.67	28	93.48	-206.77	28	93.48	-206.77	28	93.51	-206.97
27	93.49	-206.87	28	93.54	-207.17	28	93.51	-206.97	28	93.53	-207.07
28	93.51	-206.97	28	93.48	-206.77	28	93.51	-206.97	28	93.49	-206.87
29	93.49	-206.87	29	93.49	-206.87	29	93.49	-206.87	29	93.51	-206.97
29	93.48	-206.77	29	93.49	-206.87	29	93.49	-206.87	29	93.49	-206.87
29	93.51	-206.97	29	93.48	-206.77	29	93.49	-206.87	29	93.49	-206.87
30	93.51	-206.97	30	93.53	-207.07	30	93.54	-207.17	30	93.53	-207.07
30	93.56	-207.27	30	93.57	-207.38	30	93.56	-207.27	30	93.56	-207.27
30	93.61	-207.58	30	93.57	-207.38	30	93.56	-207.27	30	93.57	-207.38
31	93.59	-207.48	31	93.59	-207.48	31	93.61	-207.58	31	93.61	-207.58
31	93.62	-207.68	31	93.61	-207.58	31	93.59	-207.48	31	93.61	-207.58
31	93.64	-207.78	31	93.66	-207.88	31	93.64	-207.78	31	93.61	-207.58

TABLE 4.1-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	93.69	-208.08	32	93.66	-207.88	32	93.66	-207.88	32	93.67	-207.98
32	93.67	-207.98	32	93.62	-207.68	32	93.64	-207.78	32	93.66	-207.88
32	93.66	-207.88	32	93.66	-207.88	32	93.64	-207.78	32	93.61	-207.58
32	93.66	-207.88	32	93.66	-207.88	32	93.67	-207.98	32	93.66	-207.88
33	93.66	-207.88	33	93.67	-207.98	33	93.64	-207.78	33	93.66	-207.88
33	93.61	-207.58	33	93.62	-207.68	33	93.61	-207.58	33	93.62	-207.68
33	93.61	-207.58	33	93.59	-207.48	33	93.61	-207.58	33	95.26	-217.68
34	93.61	-207.58	34	93.62	-207.68	34	93.62	-207.68	34	93.59	-207.48
34	93.62	-207.68	34	93.61	-207.58	34	93.62	-207.68	34	93.61	-207.58
34	93.56	-207.27	34	93.57	-207.38	34	93.56	-207.27	34	93.57	-207.38
35	93.46	-206.67	35	93.49	-206.87	35	93.49	-206.87	35	93.28	-205.56
35	93.48	-206.77	35	93.43	-206.47	35	93.44	-206.57	35	93.43	-206.47
35	93.46	-206.67	35	93.46	-206.67	35	93.46	-206.67	35	93.46	-206.67
36	93.48	-206.77	36	93.51	-206.97	36	93.51	-206.97	36	93.53	-207.07
36	93.51	-206.97	36	93.53	-207.07	36	93.51	-206.97	36	93.51	-206.97
36	93.48	-206.77	36	93.48	-206.77	36	93.51	-206.97	36	93.51	-206.97
36	93.48	-206.77	36	93.43	-206.47	36	93.48	-206.77	36	93.48	-206.77
37	93.49	-206.87	37	93.49	-206.87	37	93.41	-206.36	37	93.44	-206.57
37	93.43	-206.47	37	93.51	-206.97	37	93.48	-206.77	37	93.43	-206.47
37	93.48	-206.77	37	93.44	-206.57	37	93.48	-206.77	37	93.46	-206.67
38	93.51	-206.97	38	93.49	-206.87	39	93.51	-206.97	38	93.51	-206.97
38	93.54	-207.17	38	93.43	-206.47	38	93.54	-207.17	38	93.54	-207.17
40	93.57	-207.38	40	93.57	-207.38	40	93.56	-207.27	41	93.54	-207.17
41	93.59	-207.48	41	93.61	-207.58	41	93.59	-207.48	41	93.61	-207.58

TABLE 4.1-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.14	57.05	0	37.05	57.18	0	38.95	54.42	0	62.38	-16.46
0	37.15	57.04	0	37.03	57.20	0	39.04	54.29	0	62.76	-18.81
1	37.07	57.15	1	37.09	57.12	1	39.31	53.91	1	64.57	-29.88
3	43.40	46.73	3	45.78	41.73	3	54.39	18.71	3	93.36	-206.06
3	43.74	46.01	3	46.20	40.42	3	56.18	12.46	3	93.36	-206.06
4	43.94	45.75	4	46.53	39.56	4	57.35	8.30	4	93.36	-206.06
4	44.01	45.66	4	46.79	38.98	4	58.24	5.15	4	93.39	-206.26
4	43.97	45.72	4	47.06	38.47	4	58.78	3.22	4	93.36	-206.06
4	43.94	45.75	5	47.43	37.86	5	59.43	0.94	5	93.29	-205.66
5	44.04	45.62	5	47.77	37.16	5	59.89	-1.21	5	93.36	-206.06
5	44.06	45.59	5	47.99	36.35	5	60.17	-2.93	5	93.29	-205.66
5	44.12	45.51	5	48.28	35.56	5	60.49	-4.91	5	93.36	-206.06
6	44.31	45.21	6	48.68	34.61	6	60.86	-7.18	6	93.36	-206.06
6	44.77	44.41	6	49.21	33.42	6	61.36	-10.20	6	93.36	-206.06
6	44.53	44.85	6	49.53	32.70	6	61.43	-10.65	6	93.36	-206.06
7	45.43	42.80	7	50.61	29.91	7	62.45	-16.91	7	93.36	-206.06
7	45.36	42.99	7	50.88	29.06	7	62.87	-19.45	7	93.34	-205.96
7	45.71	41.94	7	51.37	27.50	7	63.49	-23.27	7	93.33	-205.86
8	45.79	41.69	8	51.55	26.17	8	63.86	-25.54	8	93.34	-205.96
8	45.96	41.14	8	51.93	24.54	8	64.30	-28.19	8	93.29	-205.66
8	46.17	40.53	8	52.65	23.41	8	64.58	-29.91	8	93.36	-206.06
8	46.42	39.85	9	53.42	22.23	9	64.95	-32.19	9	93.33	-205.86
9	46.85	38.86	9	54.34	19.87	9	65.51	-35.59	9	93.29	-205.66
9	47.76	37.19	9	54.33	17.95	9	66.16	-39.61	9	93.34	-205.96
9	49.69	32.34	9	56.33	11.93	9	68.42	-53.45	9	93.33	-205.86
10	51.16	28.18	10	57.55	7.61	10	69.32	-58.94	10	93.36	-206.06
10	53.70	21.74	10	59.29	1.41	10	71.23	-70.60	10	93.36	-206.06
10	54.55	15.55	10	60.06	-2.25	10	71.93	-74.89	10	93.36	-206.06
11	56.25	12.21	11	61.32	-9.99	11	75.97	-99.60	11	93.36	-206.06
11	57.85	6.55	11	62.40	-16.58	11	75.81	-98.65	11	93.46	-206.67
11	59.51	0.65	11	63.57	-23.75	11	77.51	-109.04	11	93.36	-206.06
12	59.69	-0.	12	64.81	-31.33	12	79.46	-120.97	12	93.36	-206.06
12	59.69	-0.	12	66.19	-39.78	12	81.57	-133.90	12	93.36	-206.06
15	75.51	-96.81	15	81.85	-135.62	15	93.26	-205.45	15	93.53	-207.07
15	77.49	-108.94	15	84.03	-148.96	15	93.20	-205.05	15	93.54	-207.17
15	79.44	-120.87	15	86.29	-162.81	15	93.23	-205.25	15	93.51	-206.97
16	81.37	-132.69	16	88.87	-178.57	16	93.36	-206.06	16	93.61	-207.58
16	83.45	-145.43	16	91.64	-195.55	16	93.36	-206.06	16	93.64	-207.78
16	85.76	-159.57	16	93.36	-206.06	16	93.64	-207.78	16	93.59	-207.48
16	88.42	-175.84	16	93.23	-205.25	16	93.54	-207.17	16	93.56	-207.27
17	91.05	-191.91	17	93.26	-205.45	17	93.53	-207.07	17	93.54	-207.17
17	92.70	-202.02	17	93.48	-206.77	17	93.53	-207.07	17	93.54	-207.17
17	93.29	-205.66	17	93.46	-206.67	17	93.51	-206.97	17	93.49	-206.87
18	93.36	-206.06	18	93.48	-206.77	18	93.46	-206.67	18	93.49	-206.87

TABLE 4.1-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	93.48	-206.77	18	93.49	-206.87	18	93.51	-206.97	18	93.51	-206.97
18	93.36	-206.06	18	93.46	-206.67	18	93.51	-206.97	18	93.49	-206.87
19	93.46	-206.67	19	93.48	-206.77	19	93.46	-206.67	19	93.48	-206.77
19	93.49	-206.87	19	93.49	-206.87	19	93.49	-206.87	19	93.49	-206.87
19	93.48	-206.77	19	93.46	-206.67	19	93.48	-206.77	19	93.48	-206.77
20	93.53	-207.07	20	93.48	-206.77	20	93.48	-206.77	20	93.53	-207.07
20	93.48	-206.77	20	93.48	-206.77	20	93.51	-206.97	20	93.51	-206.97
20	93.56	-207.27	20	93.54	-207.17	20	93.59	-207.48	20	93.57	-207.38
20	93.57	-207.38	20	93.56	-207.27	20	93.57	-207.38	20	93.54	-207.17
21	93.51	-206.97	21	93.53	-207.07	21	93.54	-207.17	21	93.56	-207.27
21	93.61	-207.58	21	93.59	-207.48	21	93.61	-207.58	21	93.59	-207.48
21	93.59	-207.48	21	93.59	-207.48	21	93.59	-207.48	21	93.57	-207.38
22	93.57	-207.38	22	93.57	-207.38	22	93.57	-207.38	22	93.57	-207.38
22	93.56	-207.27	22	93.57	-207.38	22	93.57	-207.38	22	93.54	-207.17
22	93.57	-207.38	22	93.57	-207.38	22	93.59	-207.48	22	93.59	-207.48
23	93.56	-207.27	23	93.57	-207.38	23	93.56	-207.27	23	93.57	-207.38
23	93.53	-207.07	23	93.54	-207.17	23	93.53	-207.07	23	93.54	-207.17
23	93.53	-207.07	23	93.54	-207.17	23	93.54	-207.17	23	93.54	-207.17
24	93.49	-206.87	24	93.41	-206.36	24	93.44	-206.57	24	93.53	-207.07
24	93.49	-206.87	24	93.53	-207.07	24	93.49	-206.87	24	93.53	-207.07
24	93.48	-206.77	24	93.48	-206.77	24	93.48	-206.77	24	93.48	-206.77
24	93.53	-207.07	24	93.54	-207.17	25	93.56	-207.27	25	93.57	-207.38
25	93.57	-207.38	25	93.57	-207.38	25	93.56	-207.27	25	93.57	-207.38
25	93.56	-207.27	25	93.57	-207.38	25	93.56	-207.27	25	93.56	-207.27
25	93.54	-207.17	25	93.53	-207.07	25	93.53	-207.07	25	93.54	-207.17
26	93.53	-207.07	26	93.54	-207.17	26	93.56	-207.27	26	93.54	-207.17
26	93.54	-207.17	26	93.56	-207.27	26	93.54	-207.17	26	93.54	-207.17
26	93.53	-207.07	26	93.54	-207.17	26	93.53	-207.07	26	93.53	-207.07
27	93.54	-207.17	27	93.49	-206.87	27	93.51	-206.97	27	93.51	-206.97
27	93.51	-206.97	27	93.54	-207.17	27	93.53	-207.07	27	93.56	-207.27
27	93.51	-206.97	27	93.51	-206.97	27	93.53	-207.07	27	93.51	-206.97
28	93.53	-207.07	28	93.53	-207.07	28	93.53	-207.07	28	93.51	-206.97
28	93.51	-206.97	28	93.53	-207.07	28	93.51	-206.97	28	93.49	-206.87
28	93.53	-207.07	28	93.51	-206.97	28	93.53	-207.07	28	93.51	-206.97
28	93.51	-206.97	28	93.51	-206.97	29	93.51	-206.97	29	93.51	-206.97
29	93.49	-206.87	29	93.49	-206.87	29	93.49	-206.87	29	93.51	-206.97
29	93.49	-206.87	29	93.49	-206.87	29	93.51	-206.97	29	93.51	-206.97
29	93.49	-206.87	29	93.48	-206.77	29	93.48	-206.77	29	93.51	-206.97
30	93.51	-206.97	30	93.51	-206.97	30	93.53	-207.07	30	93.53	-207.07
30	93.57	-207.38	30	93.56	-207.27	30	93.57	-207.38	30	93.57	-207.38
30	93.57	-207.38	30	93.59	-207.48	30	93.57	-207.38	30	93.59	-207.48
31	93.61	-207.58	31	93.62	-207.68	31	93.59	-207.48	31	93.57	-207.38
31	93.61	-207.58	31	93.62	-207.68	31	93.59	-207.48	31	93.62	-207.68
31	93.66	-207.88	31	93.66	-207.88	31	93.67	-207.98	31	93.67	-207.98

TABLE 4.1-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	93.66	-207.88	32	93.67	-207.98	32	93.64	-207.78	32	93.66	-207.88
32	93.67	-207.98	32	93.66	-207.88	32	93.64	-207.78	32	93.64	-207.78
32	93.62	-207.68	32	93.66	-207.88	32	93.64	-207.78	32	93.62	-207.68
32	93.66	-207.88	33	93.64	-207.78	33	93.66	-207.88	33	93.66	-207.88
33	93.66	-207.88	33	93.66	-207.88	33	93.64	-207.78	33	93.64	-207.78
33	93.64	-207.78	33	93.62	-207.68	33	93.64	-207.78	33	93.62	-207.68
33	93.61	-207.58	33	93.61	-207.58	33	93.61	-207.58	33	93.61	-207.58
34	93.61	-207.58	34	93.59	-207.48	34	93.61	-207.58	34	93.62	-207.68
34	93.61	-207.58	34	93.62	-207.68	34	93.62	-207.68	34	93.61	-207.58
34	93.56	-207.27	34	93.56	-207.27	34	93.54	-207.17	34	93.56	-207.27
35	93.29	-205.66	35	93.36	-206.06	35	93.38	-206.16	35	93.44	-206.57
35	93.46	-206.67	35	93.48	-206.77	35	93.44	-206.57	35	93.44	-206.57
35	93.48	-206.77	35	93.46	-206.67	35	93.48	-206.77	35	93.49	-206.87
36	93.51	-206.97	36	93.56	-207.27	36	93.48	-206.77	36	93.51	-206.97
36	93.53	-207.07	36	93.51	-206.97	36	93.48	-206.77	37	93.39	-206.26
36	93.46	-206.67	36	93.43	-206.47	36	93.43	-206.47	36	93.46	-206.67
36	93.49	-206.87	37	93.49	-206.87	37	93.46	-206.67	37	93.51	-206.97
37	93.39	-206.26	37	93.43	-206.47	37	93.44	-206.57	37	93.44	-206.57
37	93.44	-206.57	37	93.43	-206.47	37	93.44	-206.57	37	93.46	-206.67
37	93.46	-206.67	37	93.48	-206.77	37	93.46	-206.67	37	93.49	-206.87
38	93.51	-206.97	38	93.54	-207.17	38	93.53	-207.07	38	93.54	-207.17
38	93.51	-206.97	38	93.56	-207.27	38	93.56	-207.27	38	93.57	-207.38
41	93.53	-207.07	41	93.54	-207.17	41	93.56	-207.27	41	93.57	-207.38
41	93.59	-207.48	41	93.64	-207.78	41	93.59	-207.48	41	93.59	-207.48

TABLE 4.1-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.64	57.72	0	36.65	57.71	0	36.73	57.60	0	36.77	57.55
0	36.63	57.74	0	36.64	57.72	0	36.74	57.59	0	36.77	57.55
1	36.65	57.71	1	36.66	57.70	1	36.75	57.57	1	36.73	57.60
3	36.72	57.61	3	36.73	57.60	3	36.81	57.49	3	36.86	57.43
3	36.76	57.56	3	36.74	57.58	3	36.84	57.45	3	36.84	57.46
4	36.77	57.54	4	36.77	57.55	4	36.84	57.45	4	36.88	57.40
4	36.74	57.59	4	36.76	57.56	4	36.83	57.47	4	36.88	57.40
4	36.77	57.55	4	36.74	57.58	4	36.84	57.46	4	36.87	57.42
5	36.77	57.55	5	36.77	57.54	5	36.84	57.45	5	36.89	57.39
5	36.79	57.52	5	36.80	57.51	5	36.89	57.39	5	36.98	57.27
5	36.83	57.47	5	36.84	57.45	5	36.92	57.35	5	36.98	57.27
5	36.80	57.50	5	36.84	57.45	5	36.96	57.29	5	36.99	57.25
6	36.84	57.46	6	36.86	57.43	6	36.92	57.35	6	36.97	57.28
6	36.87	57.41	6	36.89	57.39	6	36.96	57.30	6	36.95	57.31
6	36.88	57.40	6	36.89	57.39	6	36.96	57.30	6	37.04	57.19
7	36.91	57.36	7	36.91	57.36	7	36.99	57.26	7	37.04	57.19
7	36.93	57.33	7	36.95	57.31	7	36.95	57.31	7	37.11	57.09
7	36.94	57.32	7	36.95	57.31	7	37.01	57.23	7	37.03	57.20
8	36.97	57.28	8	36.96	57.29	8	37.03	57.20	8	37.12	57.08
8	36.97	57.28	8	36.98	57.27	8	37.05	57.17	8	37.13	57.07
8	36.99	57.25	8	37.01	57.23	8	37.10	57.11	8	37.10	57.11
9	37.02	57.21	9	37.05	57.18	9	37.11	57.10	9	37.18	57.00
9	37.10	57.11	9	37.08	57.14	9	37.14	57.05	9	37.23	56.93
9	37.03	57.20	9	37.06	57.16	9	37.16	57.03	9	37.16	57.02
9	37.03	57.20	9	37.06	57.16	9	37.13	57.06	9	37.16	57.03
10	37.06	57.16	10	37.11	57.09	10	37.19	56.99	10	37.23	56.93
10	37.11	57.10	10	37.12	57.08	10	37.20	56.97	10	37.26	56.89
10	37.13	57.06	10	37.16	57.03	10	37.23	56.93	10	37.24	56.92
11	37.18	57.00	11	37.17	57.01	11	37.25	56.90	11	37.29	56.85
11	37.16	57.03	11	37.18	57.00	11	37.25	56.90	11	37.29	56.84
11	37.19	56.99	11	37.21	56.96	11	37.30	56.83	11	37.35	56.76
12	37.19	56.98	12	37.21	56.96	12	37.29	56.85	12	37.33	56.79
12	37.28	56.86	12	37.24	56.91	12	37.29	56.84	12	37.32	56.81
15	37.42	56.65	15	37.43	56.64	15	38.12	55.63	15	37.52	56.52
15	37.49	56.56	15	37.47	56.59	15	37.54	56.49	15	37.57	56.44
15	37.45	56.61	15	37.47	56.58	15	37.54	56.48	15	37.60	56.40
16	37.48	56.57	16	37.47	56.59	16	37.52	56.52	16	37.57	56.44
16	37.49	56.55	16	37.49	56.56	16	37.61	56.39	16	37.61	56.38
16	37.54	56.48	16	37.55	56.47	16	37.61	56.39	16	37.63	56.35
16	37.54	56.48	16	37.56	56.46	17	37.62	56.37	17	37.68	56.29
17	59.69	-0.	17	37.56	56.45	17	37.62	56.37	17	37.63	56.36
17	59.69	-0.	17	37.58	56.43	17	37.67	56.30	17	37.67	56.30
17	59.69	-0.	17	37.63	56.36	17	37.70	56.26	17	37.70	56.25
18	59.69	-0.	18	37.67	56.30	18	37.75	56.19	18	37.75	56.19

TABLE 4.1-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	59.69	-0.	18	37.67	56.30	18	37.74	56.20	18	37.75	56.19
18	59.69	-0.	18	37.67	56.30	18	37.78	56.14	18	37.81	56.09
19	59.69	-0.	19	37.71	56.24	19	37.77	56.15	19	37.83	56.07
19	59.69	-0.	19	37.77	56.16	19	37.86	56.03	19	37.89	55.98
19	59.69	-0.	19	37.77	56.16	19	37.88	55.99	19	37.90	55.96
20	59.69	-0.	20	37.77	56.15	20	37.85	56.04	20	37.90	55.97
20	59.69	-0.	20	37.81	56.09	20	37.89	55.98	20	37.93	55.92
20	59.69	-0.	20	37.86	56.03	20	37.93	55.92	20	37.99	55.84
21	59.69	-0.	21	37.93	55.92	21	38.00	55.82	21	38.05	55.73
21	59.69	-0.	21	37.94	55.91	21	37.99	55.84	21	37.98	55.85
21	59.69	-0.	21	37.92	55.94	21	37.99	55.83	21	38.01	55.81
21	59.69	-0.	21	37.94	55.90	21	37.99	55.83	21	38.06	55.72
22	59.69	-0.	22	37.94	55.90	22	38.03	55.78	22	38.04	55.75
22	59.69	-0.	22	38.01	55.81	22	38.11	55.65	22	38.14	55.61
22	59.69	-0.	22	38.03	55.76	22	38.13	55.62	22	38.17	55.56
23	59.69	-0.	23	38.09	55.68	23	38.16	55.58	23	38.20	55.51
23	59.69	-0.	23	38.10	55.66	23	38.18	55.55	23	38.24	55.45
23	59.69	-0.	23	38.14	55.61	23	38.22	55.48	23	38.29	55.38
24	59.69	-0.	24	38.18	55.55	24	38.22	55.48	24	38.25	55.44
24	59.69	-0.	24	38.20	55.51	24	38.29	55.38	24	38.29	55.38
24	59.69	-0.	24	38.23	55.47	24	38.29	55.38	24	38.37	55.27
25	59.69	-0.	25	38.27	55.41	25	38.33	55.33	25	38.36	55.28
25	59.69	-0.	25	38.29	55.39	25	38.37	55.26	25	38.44	55.16
25	59.69	-0.	25	38.37	55.27	25	38.45	55.15	25	38.43	55.18
25	59.69	-0.	25	38.35	55.29	25	38.42	55.20	25	38.50	55.07
26	59.69	-0.	26	38.43	55.18	26	38.46	55.14	26	38.55	55.01
26	59.69	-0.	26	38.44	55.16	26	38.50	55.08	26	38.57	54.97
26	59.69	-0.	26	38.49	55.09	26	38.57	54.97	26	38.62	54.90
27	59.69	-0.	27	38.52	55.04	27	38.62	54.90	27	38.66	54.84
27	59.69	-0.	27	38.57	54.98	27	38.66	54.85	27	38.68	54.81
27	59.69	-0.	27	38.62	54.90	27	38.72	54.75	27	38.77	54.68
28	59.69	-0.	28	38.67	54.83	28	38.74	54.71	28	38.79	54.64
28	59.69	-0.	28	38.70	54.77	28	38.77	54.67	28	38.85	54.56
28	59.69	-0.	28	38.76	54.69	28	38.83	54.59	28	38.88	54.51
29	59.69	-0.	29	38.83	54.58	29	38.92	54.46	29	38.93	54.44
29	59.69	-0.	29	38.90	54.49	29	38.97	54.38	29	38.98	54.37
29	59.69	-0.	29	38.94	54.43	29	39.03	54.30	29	39.05	54.27
29	59.69	-0.	29	39.04	54.29	29	39.12	54.18	29	39.12	54.17
30	59.69	-0.	30	39.13	54.16	30	39.18	54.09	30	39.23	54.02
30	59.69	-0.	30	39.47	53.68	30	39.59	53.53	30	39.42	53.75
30	59.69	-0.	30	40.44	52.21	30	40.74	51.71	30	39.98	52.89
31	59.69	-0.	31	41.51	50.37	31	41.28	50.78	31	41.21	50.90
31	59.69	-0.	31	45.25	43.29	31	45.73	41.87	31	45.62	42.22
31	59.69	-0.	31	48.47	35.09	31	49.37	33.07	31	48.52	34.97

TABLE 4.1-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	59.69	-0.	32	51.53	26.07	32	51.67	25.10	32	51.41	27.37
32	59.69	-0.	32	54.38	18.51	32	54.31	17.71	32	54.33	19.89
32	59.69	-0.	32	56.46	11.46	32	56.69	10.66	32	56.07	12.86
33	59.69	-0.	33	58.37	4.69	33	58.57	3.97	33	57.99	6.04
33	60.13	-2.67	33	59.95	-1.59	33	60.06	-2.28	33	59.73	-0.24
33	61.14	-8.86	33	60.96	-7.76	33	61.07	-8.45	33	60.71	-6.23
33	62.10	-14.72	33	61.90	-13.53	33	62.01	-14.17	33	61.66	-12.04
34	62.99	-20.18	34	62.79	-18.99	34	62.91	-19.73	34	62.56	-17.57
34	63.84	-25.42	34	63.65	-24.21	34	63.73	-24.75	34	63.40	-22.69
34	64.61	-30.09	34	64.40	-28.83	34	64.50	-29.42	34	64.15	-27.28
35	65.07	-32.91	35	64.89	-31.79	35	65.01	-32.53	35	64.71	-30.71
35	67.05	-45.05	35	66.90	-44.14	35	67.02	-44.83	35	66.66	-42.66
35	66.86	-43.85	35	66.63	-42.45	35	66.73	-43.10	35	66.38	-40.96
36	66.78	-43.39	36	66.60	-42.30	36	66.74	-43.13	36	66.41	-41.13
36	66.92	-44.22	36	66.56	-42.06	36	66.68	-42.79	36	66.37	-40.88
36	66.96	-44.49	36	66.70	-42.92	36	66.85	-43.82	36	66.51	-41.72
37	67.07	-45.19	37	66.90	-44.13	37	66.99	-44.66	37	66.66	-42.64
37	67.19	-45.87	37	67.03	-44.94	37	67.16	-45.71	37	66.83	-43.68
37	67.33	-46.75	37	67.15	-45.63	37	67.28	-46.44	37	66.90	-44.14
37	67.40	-47.20	37	67.27	-46.38	37	67.45	-47.49	37	67.14	-45.59
38	67.58	-48.31	38	67.42	-47.33	38	67.49	-47.75	38	67.15	-45.66
38	67.68	-48.90	38	67.49	-47.73	38	67.57	-48.25	38	67.12	-45.47
41	68.37	-53.10	41	66.34	-52.95	41	68.58	-54.42	41	68.57	-54.36
41	69.01	-57.07	41	69.07	-57.41	41	69.35	-59.12	41	69.34	-59.08

TABLE 4.1-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.61	56.39	0	36.64	57.72	0	36.59	57.79	0	36.60	57.77
0	37.62	56.37	0	36.60	57.77	0	36.59	57.79	0	36.60	57.77
1	37.67	56.30	1	36.64	57.72	1	36.59	57.78	1	36.62	57.75
3	37.65	56.33	3	36.71	57.62	3	36.67	57.67	3	36.70	57.63
3	37.62	56.37	3	36.75	57.57	3	36.70	57.64	3	36.75	57.57
4	37.65	56.33	4	36.74	57.59	4	36.70	57.64	4	36.68	57.66
4	37.67	56.30	4	36.74	57.59	4	36.68	57.66	4	36.70	57.64
4	37.66	56.31	4	36.75	57.57	4	36.70	57.64	4	36.73	57.60
5	37.61	56.39	5	36.74	57.59	5	36.71	57.62	5	36.71	57.62
5	37.81	56.10	5	36.77	57.55	5	36.72	57.61	5	36.76	57.56
5	37.75	56.19	5	36.80	57.51	5	36.78	57.53	5	36.73	57.60
5	37.81	56.09	6	36.77	57.54	6	36.75	57.57	6	36.78	57.53
6	37.76	56.17	6	36.80	57.51	6	36.80	57.51	6	36.80	57.50
6	37.82	56.08	6	36.80	57.50	6	36.81	57.49	6	36.83	57.47
6	37.90	55.97	6	36.86	57.43	6	36.82	57.48	6	36.84	57.46
7	37.81	56.10	7	36.89	57.39	7	36.84	57.46	7	36.84	57.46
7	37.90	55.97	7	36.87	57.42	7	36.85	57.44	7	36.92	57.35
7	37.86	56.02	7	36.88	57.40	7	36.90	57.38	7	36.90	57.37
8	37.90	55.97	8	36.93	57.33	8	36.90	57.38	8	36.91	57.36
8	37.92	55.93	8	36.94	57.32	8	36.95	57.31	8	36.93	57.33
8	37.88	55.99	8	36.96	57.30	8	36.96	57.30	8	36.97	57.28
9	37.91	55.95	9	36.96	57.30	9	36.97	57.28	9	36.98	57.27
9	38.06	55.72	9	36.99	57.26	9	36.96	57.30	9	36.99	57.26
9	37.88	55.99	9	37.02	57.22	9	37.00	57.24	9	37.02	57.21
10	38.03	55.78	10	37.04	57.19	10	37.03	57.20	10	37.03	57.20
10	38.01	55.80	10	37.07	57.15	10	37.03	57.20	10	37.07	57.15
10	38.03	55.76	10	37.08	57.13	10	37.05	57.17	10	37.08	57.13
10	38.02	55.79	10	37.11	57.10	10	37.11	57.10	10	37.11	57.09
11	38.02	55.79	11	37.18	57.00	11	37.11	57.10	11	37.12	57.08
11	38.01	55.80	11	37.13	57.07	11	37.11	57.10	11	37.14	57.05
11	38.13	55.62	11	37.13	57.06	11	37.11	57.10	11	37.13	57.06
12	38.18	55.55	12	37.16	57.02	12	37.17	57.01	12	37.19	56.99
12	38.15	55.59	12	37.20	56.97	12	37.16	57.02	12	37.19	56.99
15	38.22	55.48	15	37.37	56.72	15	37.35	56.76	15	37.36	56.75
15	38.37	55.27	15	37.40	56.68	15	37.37	56.74	15	37.37	56.72
15	38.42	55.19	15	37.46	56.60	15	37.43	56.64	15	37.41	56.67
16	38.35	55.29	16	37.43	56.64	16	37.43	56.64	16	37.44	56.63
16	38.37	55.26	16	37.44	56.63	16	37.41	56.67	16	37.49	56.56
16	38.47	55.12	16	37.50	56.54	16	37.44	56.63	16	37.49	56.55
17	38.42	55.19	17	37.47	56.59	17	37.48	56.57	17	37.47	56.59
17	38.50	55.07	17	37.52	56.51	17	37.49	56.56	17	37.52	56.51
17	38.58	54.96	17	37.53	56.50	17	37.54	56.48	17	37.55	56.47
17	38.53	55.03	17	37.62	56.37	17	37.57	56.44	17	37.56	56.45
18	38.63	54.89	18	37.64	56.34	18	37.59	56.41	18	37.64	56.34

TABLE 4.1-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	38.64	54.87	18	37.66	56.32	18	37.62	56.37	18	37.61	56.39
18	38.72	54.75	18	37.67	56.30	18	37.63	56.36	18	37.65	56.33
19	38.70	54.78	19	37.69	56.27	19	37.65	56.33	19	37.67	56.30
19	38.85	54.56	19	37.74	56.20	19	37.70	56.26	19	37.70	56.25
19	38.79	54.65	19	37.76	56.17	19	37.72	56.23	19	37.75	56.19
20	38.86	54.55	20	37.77	56.16	20	37.75	56.19	20	37.78	56.14
20	38.88	54.51	20	37.84	56.05	20	37.82	56.08	20	37.79	56.12
20	38.83	54.58	20	37.84	56.05	20	37.84	56.06	20	37.83	56.07
21	38.91	54.47	21	37.88	55.99	21	37.84	56.05	21	37.85	56.04
21	38.93	54.45	21	37.92	55.94	21	37.88	56.00	21	37.84	56.05
21	39.05	54.28	21	37.92	55.94	21	37.87	56.01	21	37.89	55.98
21	39.05	54.28	21	37.92	55.93	21	37.88	55.99	22	37.90	55.97
22	39.05	54.28	22	38.05	55.73	22	38.06	55.72	22	38.03	55.76
22	39.12	54.18	22	37.99	55.83	22	37.97	55.87	22	37.99	55.83
22	39.13	54.16	22	38.20	55.51	22	38.22	55.48	22	38.20	55.51
23	39.18	54.09	23	39.09	54.22	23	40.08	52.74	23	38.37	55.26
23	39.24	54.01	23	41.86	49.70	23	43.36	46.79	23	41.02	51.25
23	39.33	53.88	23	46.18	40.48	23	46.56	39.49	23	46.11	40.68
24	39.31	53.91	24	50.50	30.24	24	50.79	29.36	24	50.05	31.46
24	39.43	53.74	24	54.02	21.06	24	54.37	19.62	24	53.40	22.27
24	39.42	53.75	24	56.27	12.15	24	56.66	10.75	24	55.95	13.28
25	39.48	53.67	25	58.77	3.27	25	59.17	1.85	25	58.40	4.58
25	39.49	53.66	25	60.58	-5.46	25	60.82	-6.91	25	60.38	-4.23
25	39.63	53.47	25	61.99	-14.06	25	62.23	-15.54	25	61.82	-13.01
25	39.56	53.57	25	63.41	-22.74	26	63.65	-24.23	26	63.21	-21.52
26	39.69	53.39	26	64.81	-31.32	26	65.07	-32.93	26	64.63	-30.21
26	39.71	53.36	26	66.22	-39.98	26	66.49	-41.60	26	66.07	-39.02
26	39.71	53.26	26	67.62	-48.52	26	67.89	-50.20	26	67.44	-47.45
27	39.90	53.01	27	69.02	-57.11	27	69.29	-58.73	27	68.82	-55.88
27	39.81	53.13	27	70.44	-65.76	27	70.70	-67.36	27	70.22	-64.45
27	39.90	53.00	27	71.84	-74.33	27	72.10	-75.97	27	71.59	-72.83
28	39.90	53.00	28	73.20	-82.67	28	73.48	-84.40	28	72.96	-81.19
28	40.01	52.84	28	74.59	-91.19	28	74.89	-93.04	28	74.31	-89.45
28	40.07	52.76	28	75.97	-99.62	28	76.32	-101.77	28	75.75	-98.30
29	40.22	52.54	29	77.34	-108.03	29	77.72	-110.36	29	77.05	-106.21
29	40.12	52.69	29	78.73	-116.52	29	79.03	-118.34	29	78.51	-115.21
29	40.20	52.56	29	80.10	-124.91	29	80.50	-127.34	29	79.90	-123.70
29	40.28	52.44	29	81.40	-132.89	30	81.87	-135.72	30	81.21	-131.68
30	40.35	52.34	30	82.64	-140.47	30	83.25	-144.21	30	82.56	-139.97
30	40.49	52.12	30	83.80	-147.55	30	84.61	-152.50	30	83.95	-148.46
30	41.37	50.61	30	85.04	-155.13	30	86.00	-160.99	30	85.32	-156.85
31	42.26	48.90	31	86.26	-162.61	31	87.22	-168.47	31	86.59	-164.63
31	46.51	39.61	31	87.63	-170.99	31	88.34	-175.34	31	87.89	-172.61
31	49.84	31.99	31	88.90	-178.78	31	89.53	-182.62	31	88.93	-178.98

TABLE 4.1-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	52.09	24.26	32	90.21	-186.76	32	90.64	-189.39	32	90.14	-186.35
32	54.27	16.79	32	91.38	-193.93	32	91.79	-196.46	32	91.26	-193.23
32	56.91	9.89	32	92.48	-200.71	32	92.88	-203.13	32	92.24	-199.19
33	58.72	3.44	33	93.36	-206.06	33	93.62	-207.68	33	93.36	-206.06
33	60.14	-2.73	33	93.20	-205.05	33	93.59	-207.48	33	93.62	-207.68
33	61.11	-8.70	33	93.29	-205.66	33	93.53	-207.07	33	93.59	-207.48
33	62.03	-14.32	34	93.36	-206.06	34	93.57	-207.38	34	93.57	-207.38
34	62.92	-19.77	34	93.33	-205.86	34	93.57	-207.38	34	93.61	-207.58
34	63.75	-24.86	34	93.34	-205.96	34	93.57	-207.38	34	93.61	-207.58
34	64.45	-29.12	34	93.29	-205.66	34	93.54	-207.17	34	93.57	-207.38
35	65.02	-32.63	35	92.70	-202.02	35	93.36	-206.06	35	93.48	-206.77
35	66.86	-43.86	35	92.70	-202.02	35	93.43	-206.47	35	93.48	-206.77
35	66.61	-42.35	35	92.70	-202.02	35	93.44	-206.57	35	93.46	-206.67
36	66.58	-42.14	36	93.20	-205.05	36	93.46	-206.67	36	93.46	-206.67
36	66.64	-42.53	36	93.23	-205.25	36	93.51	-206.97	36	93.49	-206.87
36	66.68	-42.75	36	93.20	-205.05	36	93.49	-206.87	36	93.51	-206.97
37	66.87	-43.97	37	93.16	-204.85	37	93.44	-206.57	37	93.43	-206.47
37	67.05	-45.07	37	93.20	-205.05	37	93.39	-206.26	37	93.41	-206.36
37	67.12	-45.47	37	93.20	-205.05	37	93.41	-206.36	37	93.48	-206.77
38	67.41	-47.28	38	93.20	-205.05	38	93.46	-206.67	38	93.48	-206.77
38	67.35	-46.88	38	93.20	-205.05	38	93.53	-207.07	38	93.54	-207.17
38	67.42	-47.29	38	93.29	-205.66	38	93.54	-207.17	38	93.54	-207.17
41	68.68	-55.00	41	93.26	-205.45	41	93.53	-207.07	41	93.53	-207.07
41	69.35	-59.11	41	93.29	-205.66	41	93.59	-207.48	41	93.59	-207.48

TABLE 4.1-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.62	57.75	0	36.62	57.75	0	93.67	-207.98	0	93.77	-208.59
0	36.60	57.77	0	36.63	57.74	0	93.49	-206.87	0	93.76	-208.49
1	36.65	57.71	1	36.63	57.74	1	93.36	-206.06	1	93.64	-207.78
3	36.74	57.59	3	36.73	57.60	3	93.36	-206.06	3	93.69	-208.08
3	36.73	57.60	3	36.75	57.57	3	93.36	-206.06	3	93.69	-208.08
4	36.74	57.59	4	36.74	57.58	4	93.36	-206.06	4	93.66	-207.88
4	36.71	57.62	4	36.74	57.59	4	93.33	-205.86	4	93.62	-207.68
4	36.73	57.60	4	36.75	57.57	4	93.36	-206.06	4	93.62	-207.68
5	36.74	57.58	5	36.76	57.56	5	93.33	-205.86	5	93.61	-207.58
5	36.80	57.51	5	36.80	57.50	5	93.36	-206.06	5	93.62	-207.68
5	36.80	57.51	5	36.79	57.52	5	93.36	-206.06	5	93.66	-207.88
6	36.79	57.52	6	36.83	57.47	6	93.36	-206.06	6	93.64	-207.78
6	36.84	57.45	6	36.87	57.41	6	93.36	-206.06	6	93.67	-207.98
6	36.90	57.38	6	36.88	57.40	6	93.36	-206.06	6	93.67	-207.98
6	36.89	57.39	6	36.93	57.33	6	93.36	-206.06	6	93.66	-207.88
7	36.88	57.40	7	36.89	57.39	7	93.36	-206.06	7	93.64	-207.78
7	36.92	57.35	7	36.95	57.31	7	93.36	-206.06	7	36.95	57.31
7	36.91	57.36	7	36.91	57.36	7	93.36	-206.06	7	93.62	-207.68
8	36.95	57.31	8	36.95	57.31	8	93.36	-206.06	8	93.62	-207.68
8	36.97	57.28	8	36.99	57.26	8	93.33	-205.86	8	93.61	-207.58
8	36.99	57.26	8	37.02	57.22	8	93.33	-205.86	8	93.61	-207.58
9	37.01	57.23	9	37.05	57.17	9	93.33	-205.86	9	93.62	-207.68
9	37.03	57.20	9	37.04	57.19	9	93.29	-205.66	9	93.57	-207.38
9	37.03	57.20	9	37.05	57.18	9	93.36	-206.06	9	93.62	-207.68
10	37.05	57.17	10	37.06	57.16	10	93.36	-206.06	10	93.62	-207.68
10	37.11	57.09	10	37.13	57.06	10	93.36	-206.06	10	93.66	-207.88
10	37.08	57.13	10	37.08	57.13	10	93.36	-206.06	10	93.62	-207.68
10	37.10	57.11	10	37.13	57.07	10	93.36	-206.06	10	93.66	-207.88
11	37.18	57.00	11	37.18	57.00	11	93.36	-206.06	11	93.69	-208.08
11	37.16	57.02	11	37.20	56.97	11	93.36	-206.06	11	93.67	-207.98
11	37.16	57.02	11	37.22	56.95	11	93.36	-206.06	11	93.67	-207.98
12	37.22	56.95	12	37.24	56.91	12	93.36	-206.06	12	93.69	-208.08
12	37.20	56.97	12	37.22	56.94	12	93.36	-206.06	12	93.62	-207.68
15	37.39	56.70	15	37.41	56.67	15	93.20	-205.05	15	93.54	-207.17
15	37.43	56.64	15	37.42	56.66	15	93.33	-205.86	15	93.54	-207.17
15	37.46	56.60	15	37.47	56.59	15	93.36	-206.06	15	93.64	-207.78
16	37.47	56.59	16	37.45	56.61	16	93.36	-206.06	16	93.59	-207.48
16	37.47	56.58	16	37.49	56.56	16	93.36	-206.06	16	93.59	-207.48
16	37.47	56.59	16	37.52	56.52	16	93.34	-205.96	16	93.61	-207.58
17	37.50	56.54	17	37.52	56.52	17	93.29	-205.66	17	93.54	-207.17
17	37.53	56.50	17	37.54	56.49	17	93.29	-205.66	17	93.53	-207.07
17	37.56	56.45	17	37.59	56.41	17	93.29	-205.66	17	93.51	-206.97
17	37.59	56.42	18	37.61	56.38	18	92.70	-202.02	18	93.46	-206.67
18	37.64	56.34	18	37.63	56.35	18	92.70	-202.02	18	93.48	-206.77

TABLE 4.1-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	37.68	56.29	18	37.66	56.31	18	92.70	-202.02	18	93.46	-206.67
18	37.67	56.30	18	37.70	56.25	18	93.20	-205.05	18	93.46	-206.67
19	37.68	56.29	19	37.70	56.25	19	92.70	-202.02	19	93.44	-206.57
19	37.75	56.18	19	37.75	56.18	19	92.70	-202.02	19	93.46	-206.67
19	37.77	56.16	19	37.77	56.15	19	93.20	-205.05	19	93.48	-206.77
20	37.81	56.10	20	37.82	56.08	20	93.20	-205.05	20	93.48	-206.77
20	37.82	56.08	20	37.85	56.04	20	93.20	-205.05	20	93.48	-206.77
20	37.87	56.01	20	37.89	55.98	20	93.29	-205.66	20	93.53	-207.07
21	37.88	56.00	21	37.89	55.98	21	93.23	-205.25	21	93.54	-207.17
21	37.89	55.98	21	37.88	55.99	21	93.20	-205.05	21	93.44	-206.57
21	37.90	55.97	21	37.92	55.94	21	93.29	-205.66	21	93.57	-207.38
22	37.91	55.95	22	37.91	55.95	22	93.29	-205.66	22	93.57	-207.38
22	38.05	55.74	22	38.07	55.71	22	93.29	-205.66	22	93.61	-207.58
22	38.00	55.82	22	38.03	55.76	22	93.28	-205.56	22	93.56	-207.27
22	38.22	55.48	22	38.18	55.54	22	93.29	-205.66	22	93.54	-207.17
23	38.24	55.45	23	38.61	54.92	23	93.20	-205.05	23	93.53	-207.07
23	41.06	51.17	23	41.13	51.05	23	93.29	-205.66	23	93.53	-207.07
23	45.77	41.76	23	46.20	40.42	23	93.20	-205.05	23	93.51	-206.97
24	49.97	31.66	24	50.35	30.65	24	93.20	-205.05	24	93.48	-206.77
24	53.28	22.46	24	45.74	41.85	24	92.70	-202.02	24	93.44	-206.57
24	55.99	13.14	24	56.27	12.15	24	92.70	-202.02	24	93.48	-206.77
25	58.46	4.37	25	58.76	3.30	25	93.23	-205.25	25	93.54	-207.17
25	59.69	-0.	25	60.59	-5.50	25	93.29	-205.66	25	93.56	-207.27
25	59.69	-0.	25	62.05	-14.46	25	93.29	-205.66	25	93.53	-207.07
26	59.69	-0.	26	63.48	-23.19	26	93.20	-205.05	26	93.48	-206.77
26	59.69	-0.	26	64.90	-31.88	26	93.28	-205.56	26	93.51	-206.97
26	59.69	-0.	26	66.30	-40.47	26	93.28	-205.56	26	93.53	-207.07
26	59.69	-0.	26	67.73	-49.22	26	93.20	-205.05	26	93.51	-206.97
27	59.69	-0.	27	69.15	-57.87	27	93.20	-205.05	27	93.49	-206.87
27	59.69	-0.	27	70.51	-66.19	27	93.23	-205.25	27	93.49	-206.87
27	59.69	-0.	27	71.89	-74.69	27	93.20	-205.05	27	93.51	-206.97
28	59.69	-0.	28	73.27	-83.10	28	93.20	-205.05	28	93.46	-206.67
28	59.69	-0.	28	74.62	-91.40	28	93.20	-205.05	28	93.49	-206.87
28	59.69	-0.	28	76.02	-99.94	28	93.20	-205.05	28	93.48	-206.77
29	59.69	-0.	29	77.39	-108.34	29	93.20	-205.05	29	93.44	-206.57
29	59.69	-0.	29	78.78	-116.83	29	93.20	-205.05	29	93.46	-206.67
29	59.69	-0.	29	80.08	-124.81	29	93.26	-205.45	29	93.48	-206.77
30	59.69	-0.	30	81.45	-133.20	30	93.20	-205.05	30	93.49	-206.87
30	59.69	-0.	30	82.79	-141.38	30	93.29	-205.66	30	93.56	-207.27
30	76.20	-101.05	30	84.23	-150.18	30	93.29	-205.66	30	93.48	-206.77
30	76.20	-101.05	30	85.65	-158.87	30	93.31	-205.76	30	93.56	-207.27
31	76.20	-101.05	31	86.95	-166.85	31	93.36	-206.06	31	93.56	-207.27
31	87.88	-172.51	31	88.03	-173.42	31	93.34	-205.96	31	93.59	-207.48
31	88.95	-179.08	31	89.10	-179.99	31	93.39	-206.26	31	93.66	-207.88

TABLE 4.1-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	90.04	-185.75	32	90.17	-186.56	32	93.36	-206.06	32	93.64	-207.78
32	91.13	-192.42	32	91.30	-193.43	32	93.36	-206.06	32	93.61	-207.58
32	92.22	-199.09	32	92.39	-200.10	32	93.46	-206.67	32	93.64	-207.78
33	93.24	-205.35	33	93.38	-206.16	33	93.61	-207.58	33	93.64	-207.78
33	93.36	-206.06	33	93.59	-207.48	33	93.62	-207.68	33	93.61	-207.58
33	93.36	-206.06	33	93.59	-207.48	33	93.61	-207.58	33	93.61	-207.58
34	93.36	-206.06	34	93.59	-207.48	34	93.59	-207.48	34	93.61	-207.58
34	93.36	-206.06	34	93.59	-207.48	34	93.61	-207.58	34	93.61	-207.58
34	93.36	-206.06	34	93.59	-207.48	34	93.61	-207.58	34	93.62	-207.68
34	93.36	-206.06	34	93.57	-207.38	34	93.56	-207.27	34	93.59	-207.48
35	93.20	-205.05	35	93.43	-206.47	35	93.46	-206.67	35	93.48	-206.77
35	93.26	-205.45	35	93.44	-206.57	35	93.44	-206.57	35	93.48	-206.77
35	93.29	-205.66	35	93.43	-206.47	35	93.46	-206.67	35	93.48	-206.77
36	93.26	-205.45	36	93.46	-206.67	36	93.51	-206.97	36	93.48	-206.77
36	93.29	-205.66	36	93.46	-206.67	36	93.53	-207.07	36	93.51	-206.97
36	93.26	-205.45	36	93.48	-206.77	36	93.53	-207.07	36	93.53	-207.07
37	93.20	-205.05	37	93.43	-206.47	37	93.49	-206.87	37	93.44	-206.57
37	93.23	-205.25	37	93.43	-206.47	37	93.44	-206.57	37	93.43	-206.47
37	93.23	-205.25	37	93.46	-206.67	37	93.44	-206.57	37	93.51	-206.97
38	93.31	-205.76	38	93.43	-206.47	38	93.51	-206.97	38	93.54	-207.17
38	93.36	-206.06	38	93.53	-207.07	38	93.51	-206.97	38	93.56	-207.27
38	93.34	-205.96	38	93.51	-206.97	38	93.56	-207.27	38	93.54	-207.17
41	93.34	-205.96	41	93.56	-207.27	41	93.54	-207.17	41	93.56	-207.27
41	93.36	-206.06	41	93.46	-206.67	41	93.57	-207.38	41	93.57	-207.38

4.2 Run 15

Run 15 was a low-flow-rate, high-pressure, medium-heating-rate test made with Configuration 1. The run was repeated once.

Reactor Run 98

Parametric conditions and test results are summarized in Table 4.2-1. Pressure and flow data are shown in Figure 4.2-1; strip-chart data are given in Figures 4.2-2 through Figure 4.2-11.

The tank was filled 65 minutes before the timer was turned on for the run. Other timing information is given in Table 4.0-1.

The PGH_2 valve was closed inadvertently for a short time at about the time of flow start (Fig. 4.2-1). With this exception, system pressure was fairly constant. The flow rate, although excessive, was fairly constant. The tank was emptied in approximately 22 minutes instead of 30 minutes.

The run was repeated during reactor run 110 in an attempt to obtain a more satisfactory flow rate.

Reactor Run 110

This repeat of Run 15 was more successful than the original run with respect to the flow time and mean flow rate. A constant flow rate was difficult to maintain and it was necessary to readjust the flow control valve on several occasions during the run. The pressurization gas supply was exhausted near the end of the run, so that at approximately two minutes before the tank was emptied the pressure started to drop (Fig. 4.2-12). The temperature of the liquid dropped approximately one degree, as indicated by the submerged thermometers (Figs. 4.2-19 and 4.2-20).

The tank was filled 40 minutes before the timer was turned on for this run. Other pertinent timing data for this run are given in Table 4.0-1. Parametric conditions and test results are summarized in Table 4.2-3.

The gas used for pressurization on this run was a mixture of 10% by weight of hydrogen and 90% by weight of helium. The use of a mixture was necessitated by exhaustion of the hydrogen supply.

Table 4.2-1

Parametric Conditions and Test Results Summary
for Run 15-98

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	118.5	10.2
Pressure (psia)	60	59.6	
Temperature [b] (^{o}R)		37.4	
Weight[c] (lb)	66 - 74	69.86	
Final Conditions[d]			
Pressure (psia)	60	59.8	31.5
Temperature (^{o}R)	$\leq$ 47	42.5	
Saturation Temp[e] (^{o}R)	47	$\sim$47	
Run Data			
Temperature Rise (^{o}R)	8	5.1	10.2 $\rightarrow$ 31.5
Run Time[f] (min)	27 - 33	24.9	7.6 - 32.5
Flow Time (min)	27 - 33	22.3	10.2 - 32.5
Flow Rate[g]: (gpm)	4.08	5.31	
(lb/sec)	0.04	0.052	
Power Level (Mw)	1.0	0.985	
Integrated Power (Mw-hr)	0.5	0.409	

[a] Immediately after pressurization at indicated time
[b] At bottom of tank.
[c] Temp = 37.4^{o}R, Vol.=118.5 gal, ρ = 4.409 lbs/ft^3 = 0.5895 lbs/gal.
[d] At 1 min before tank was emptied and/or at indicated time.
[e] H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f] Time from Reactor at level power to tank empty.
[g] Initial volume (or weight) divided by flow time.

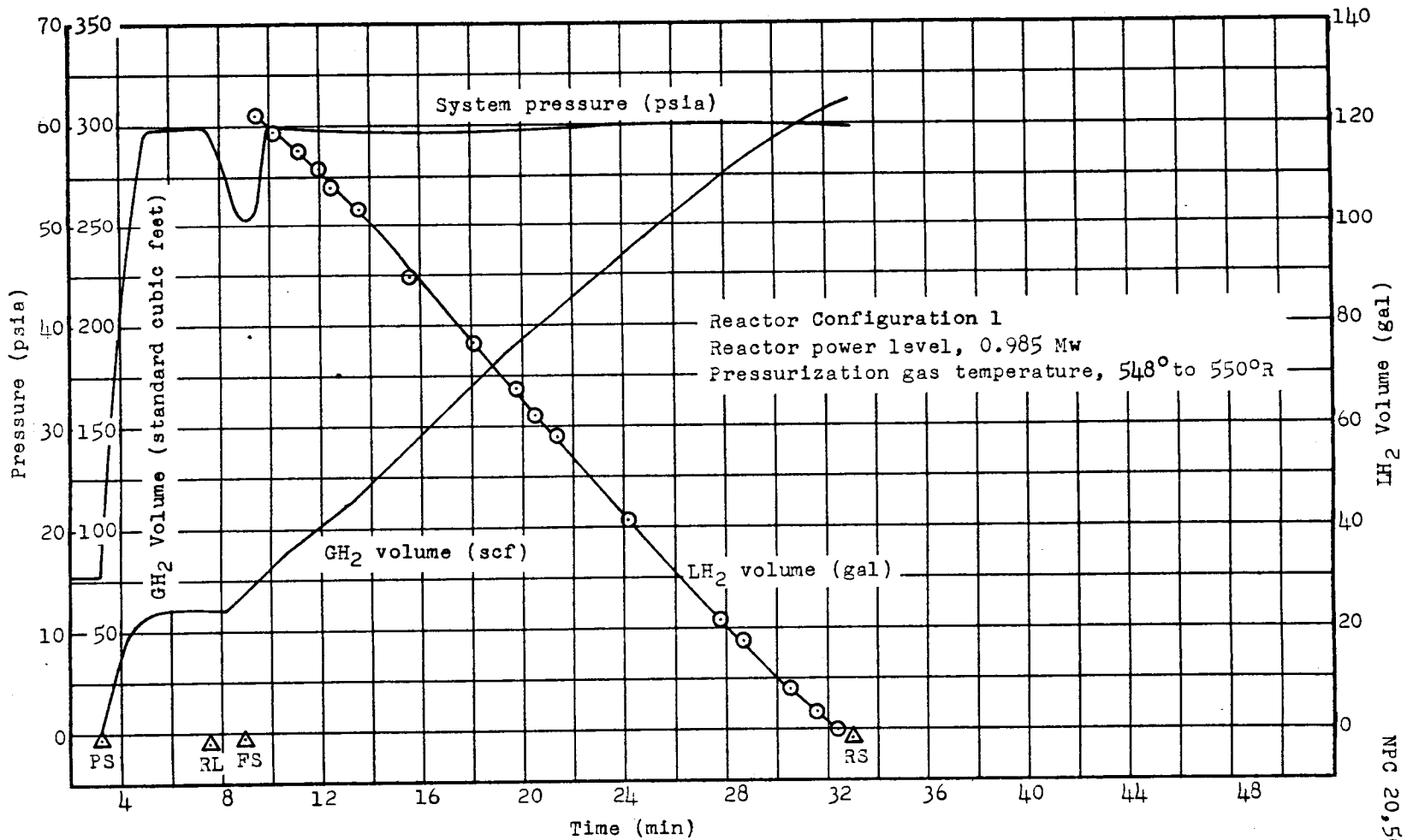

Figure 4.2-1 Pressure and Flow Data: Run 15-98

NPC 20,500

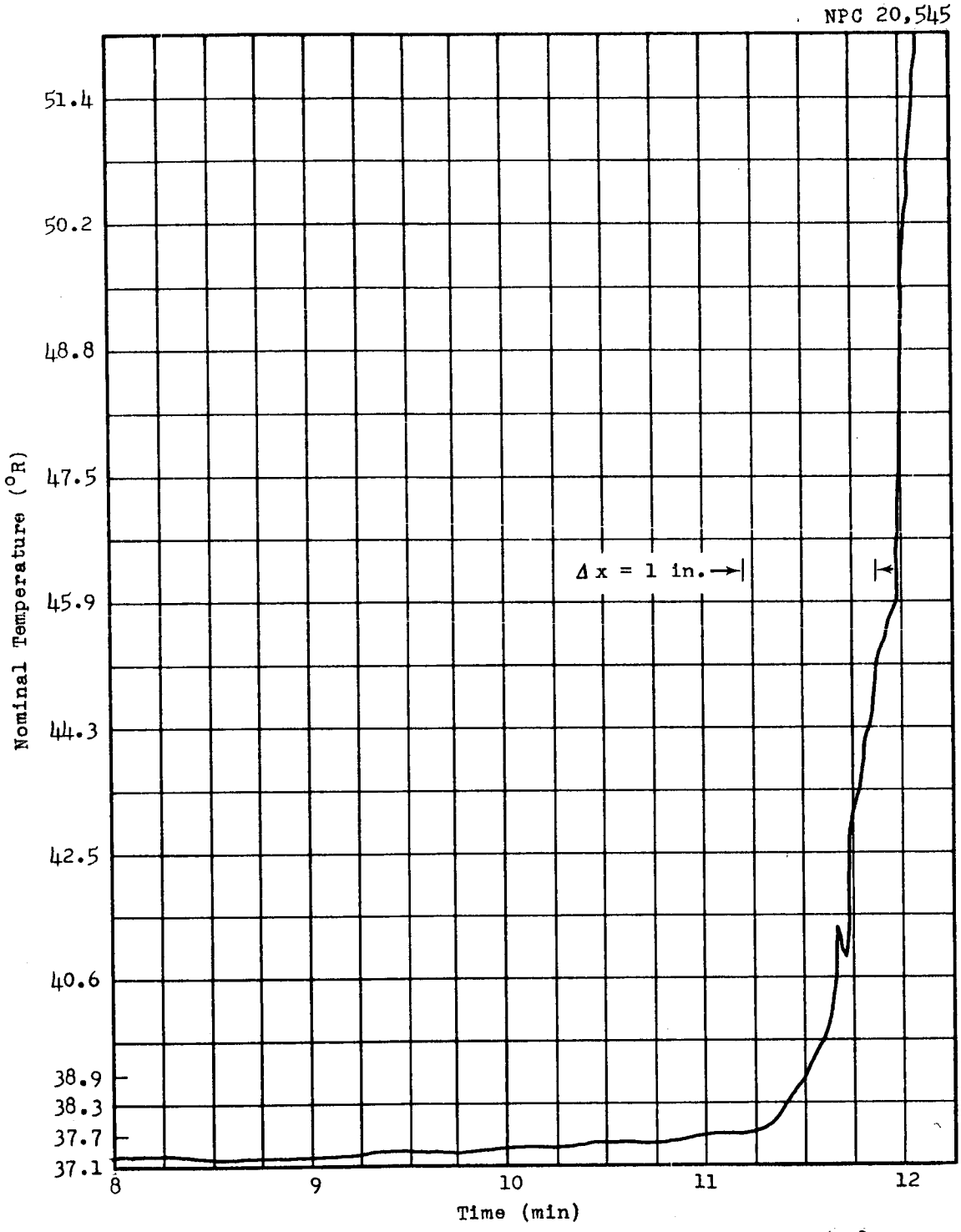

Figure 4.2-2 Strip-Chart Temperature Data: Run 15-98, Thermometer 14

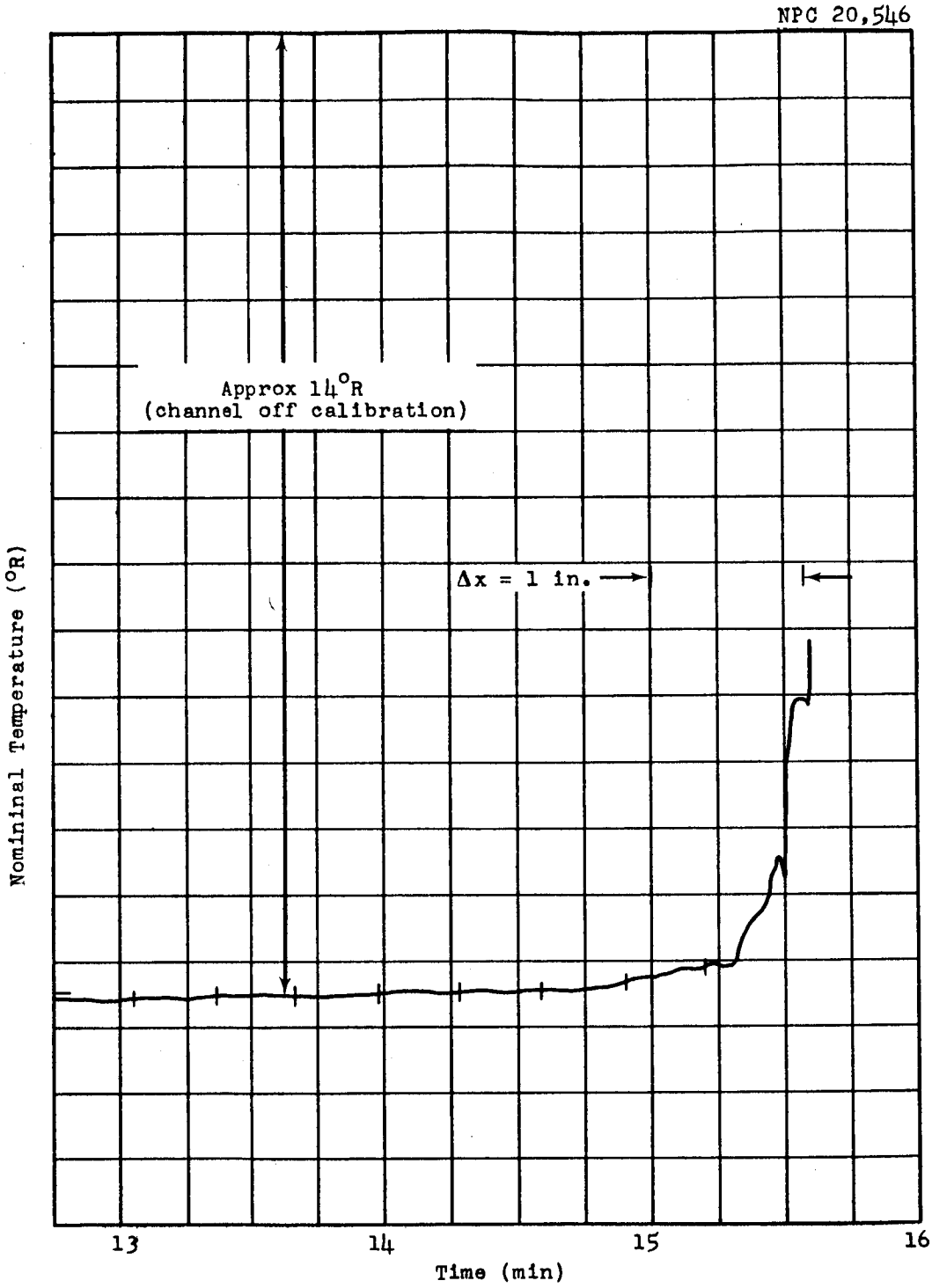

Figure 4.2-3 Strip-Chart Temperature Data: Run 15-98, Thermometer 11

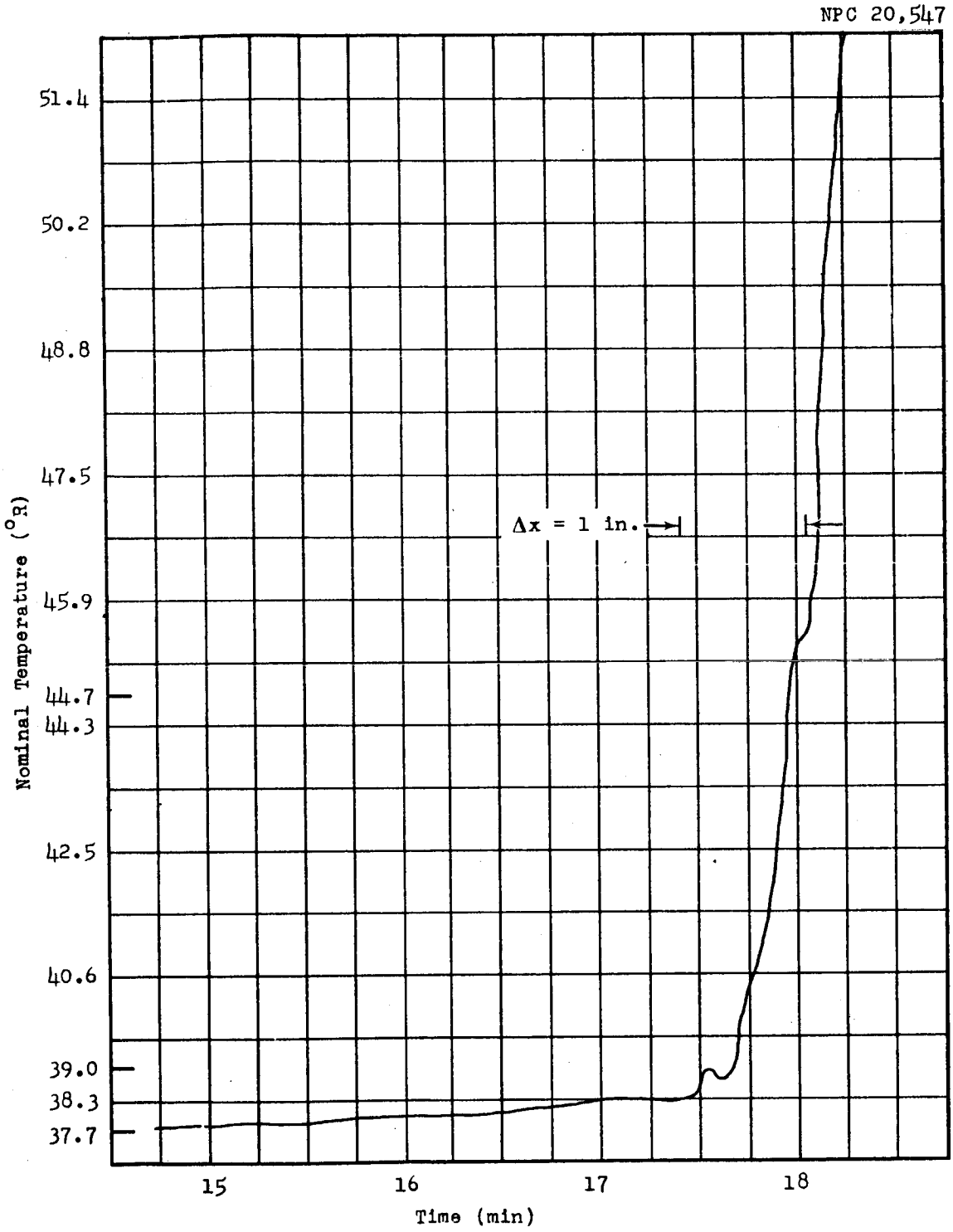

Figure 4.2-4 Strip-Chart Temperature Data: Run 15-98, Thermometer 10

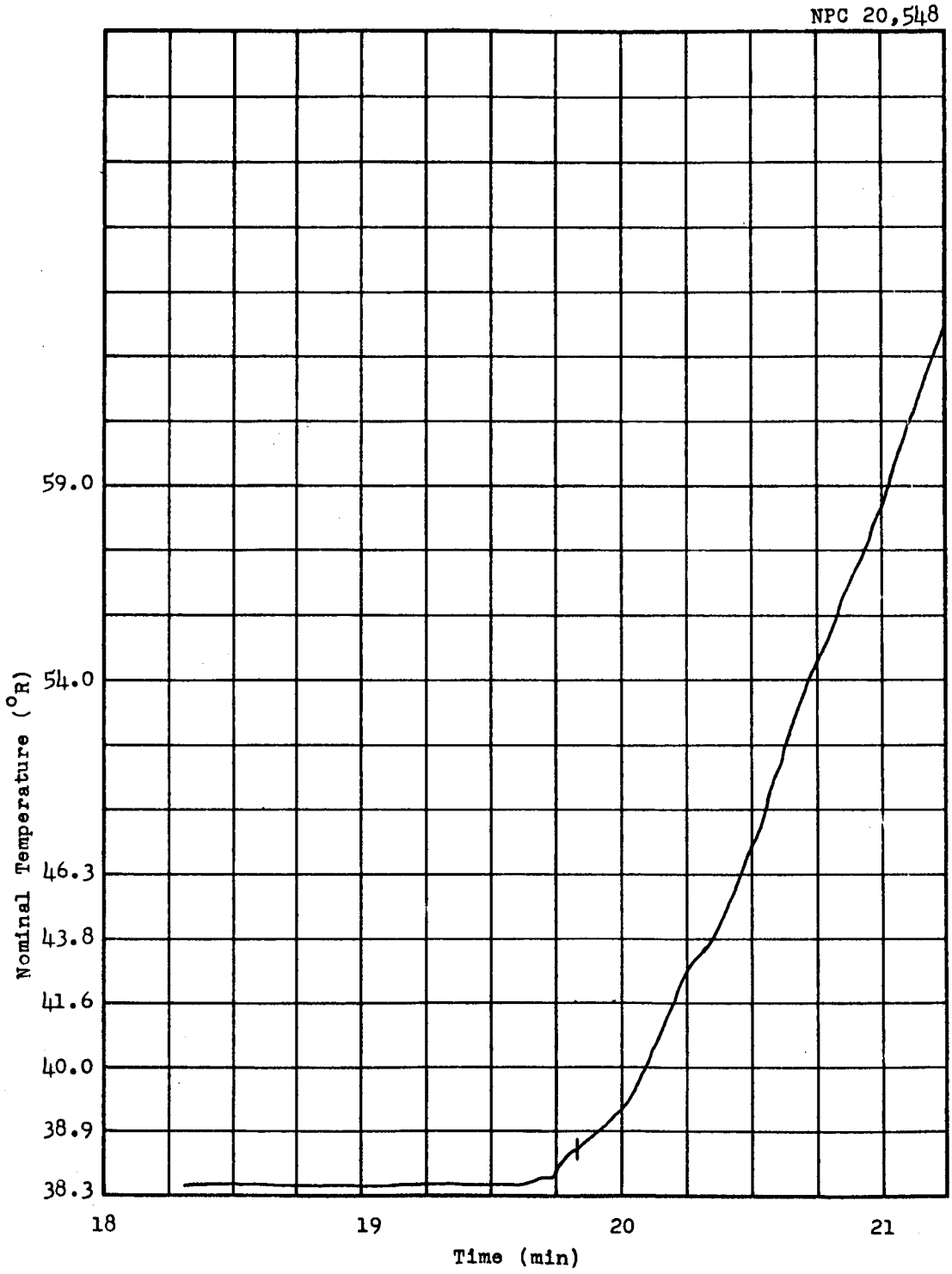

Figure 4.2-5 Strip-Chart Temperature Data: Run 15-98, Thermometer 9

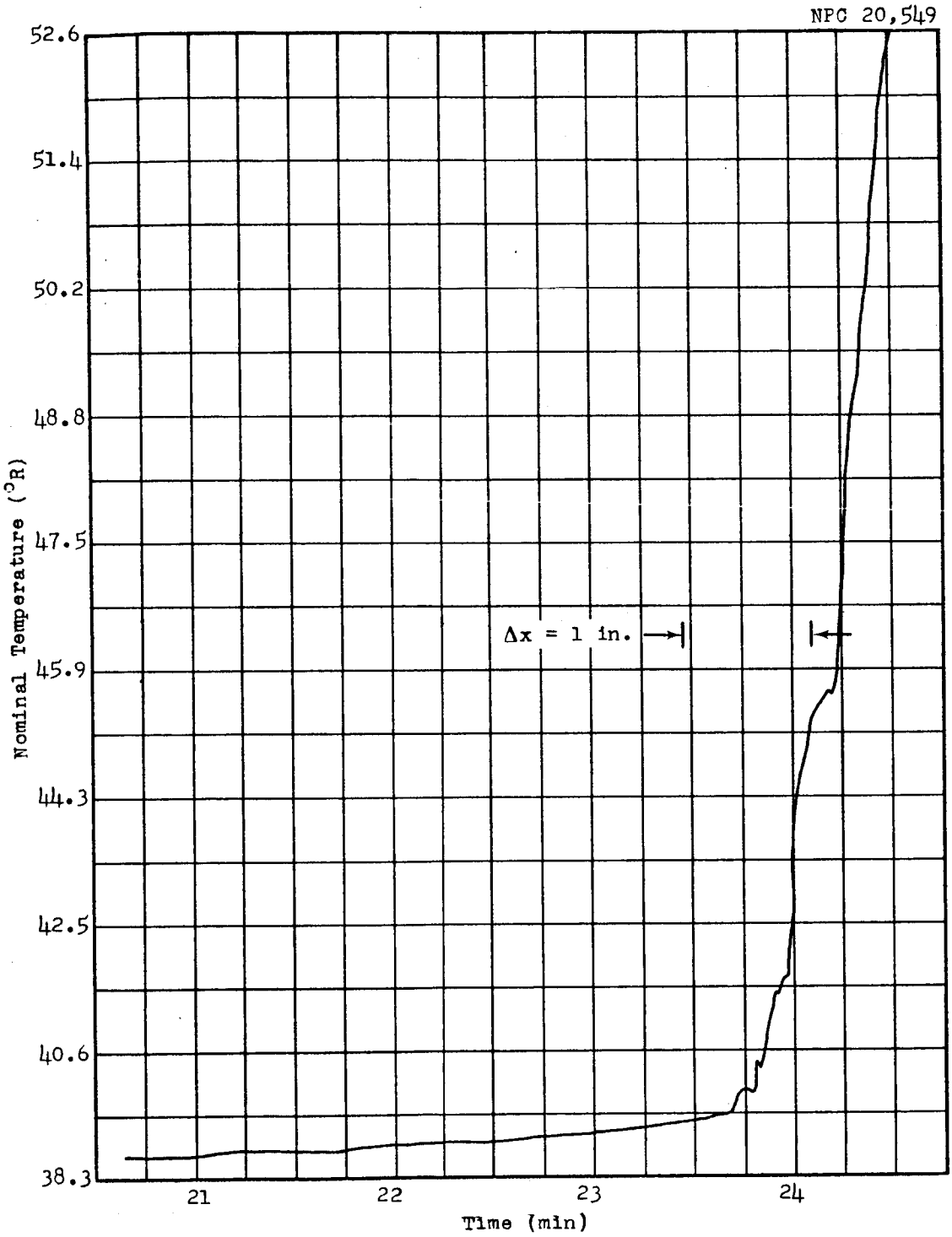

Figure 4.2-6 Strip-Chart Temperature Data: Run 15-98, Thermometer 8

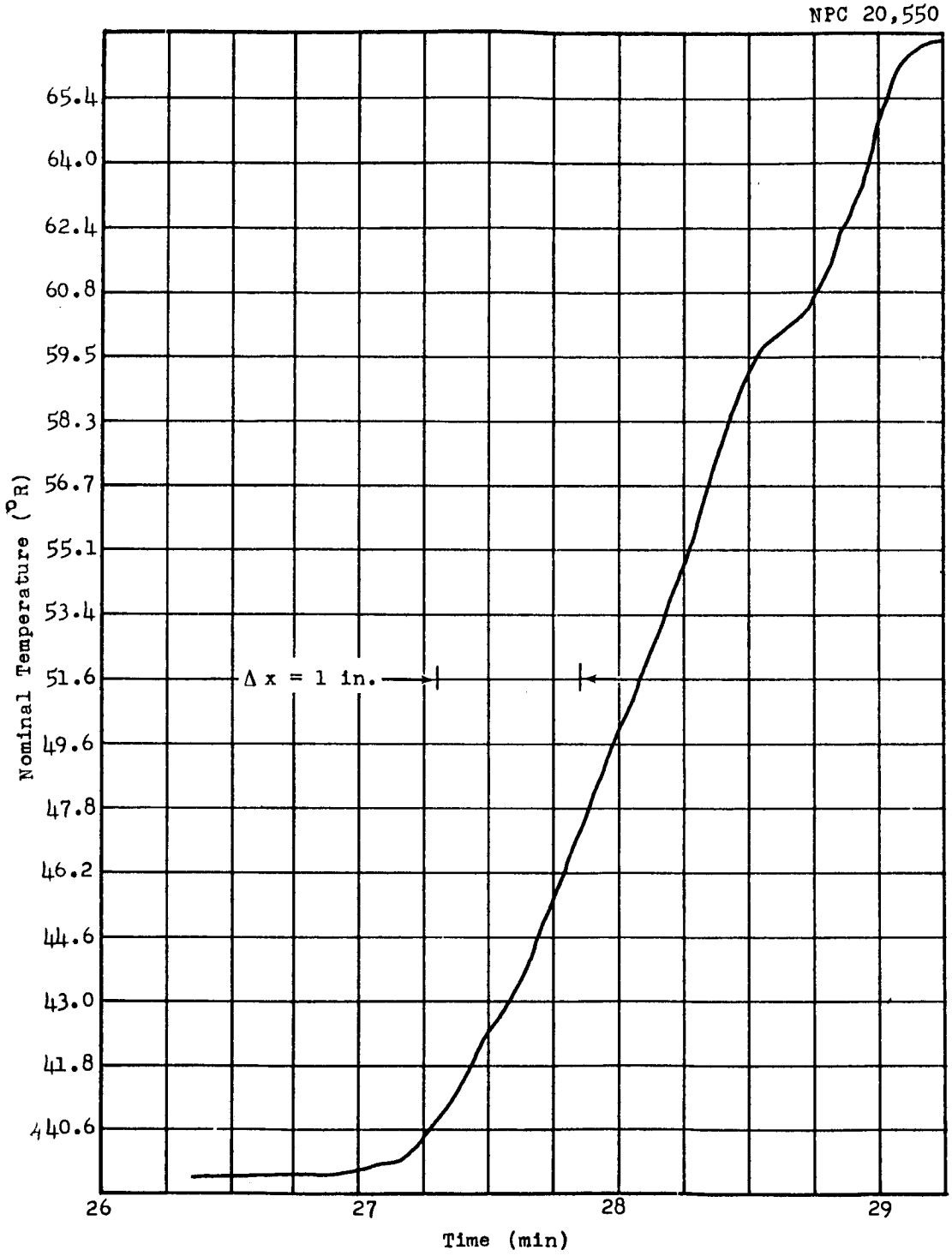

Figure 4.2-7 Strip-Chart Temperature Data: Run 15-98, Thermometer 7

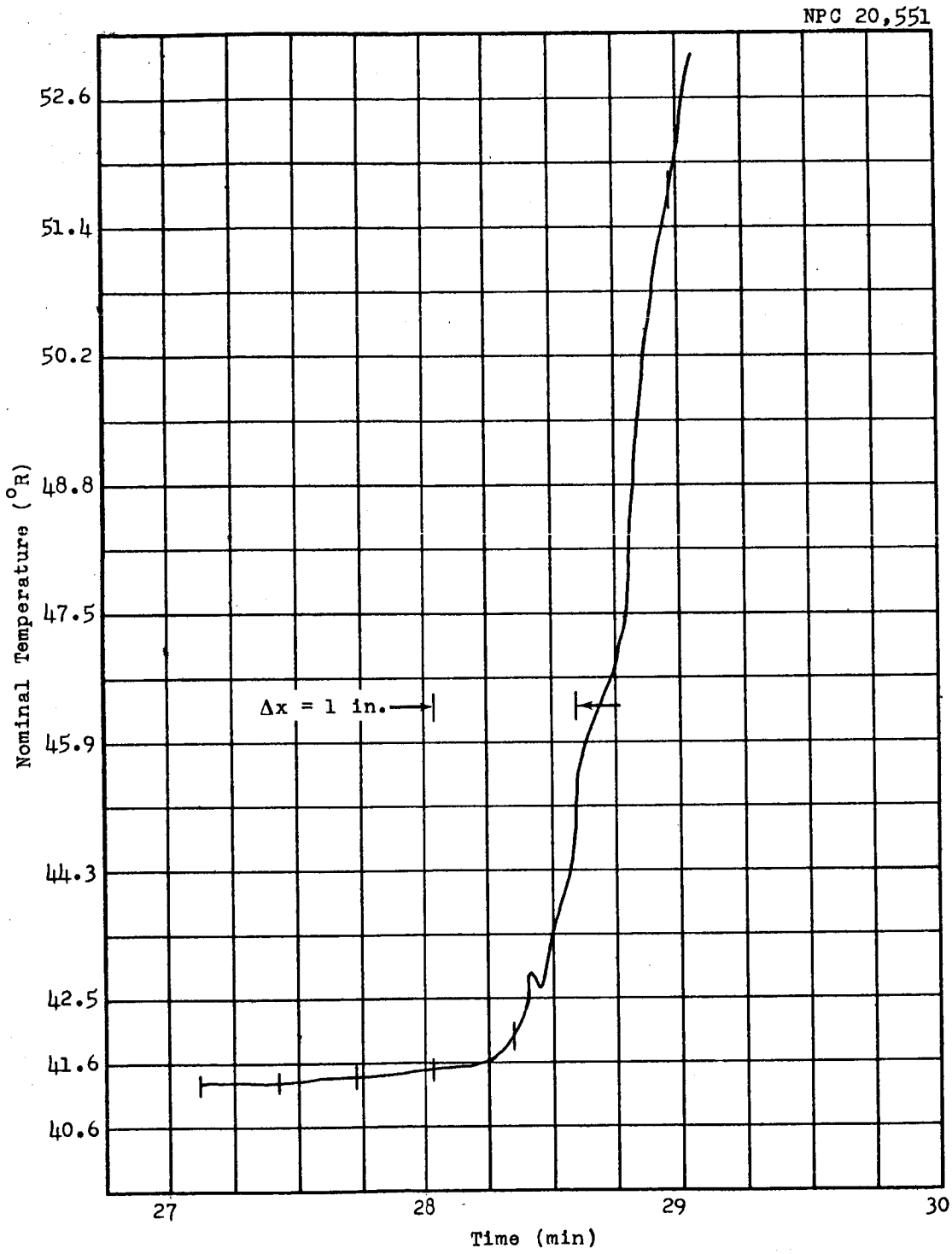

Figure 4.2-8 Strip-Chart Temperature Data: Run 15-98, Thermometer 25

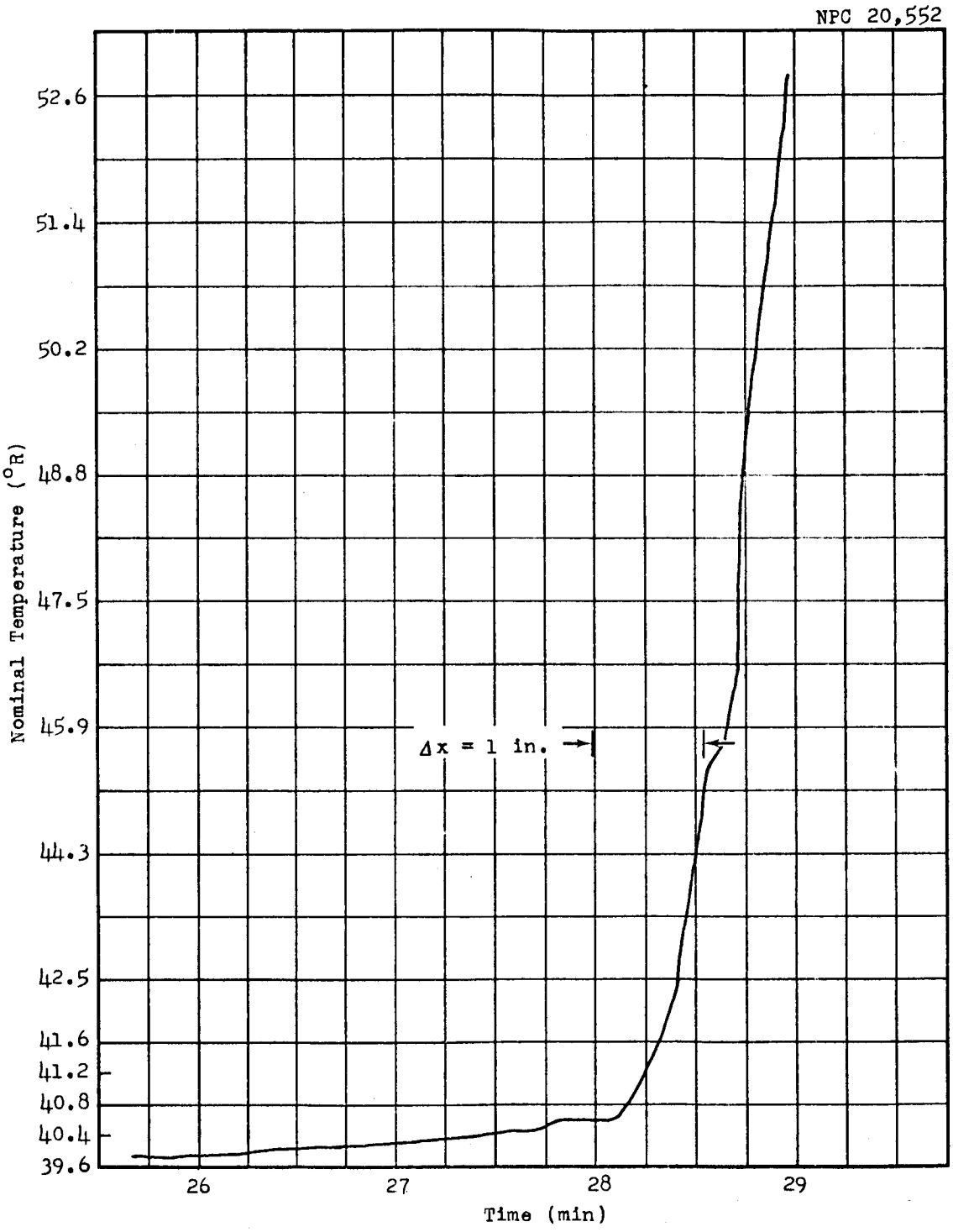

Figure 4.2-9 Strip-Chart Temperature Data: Run 15-98, Thermometer 22

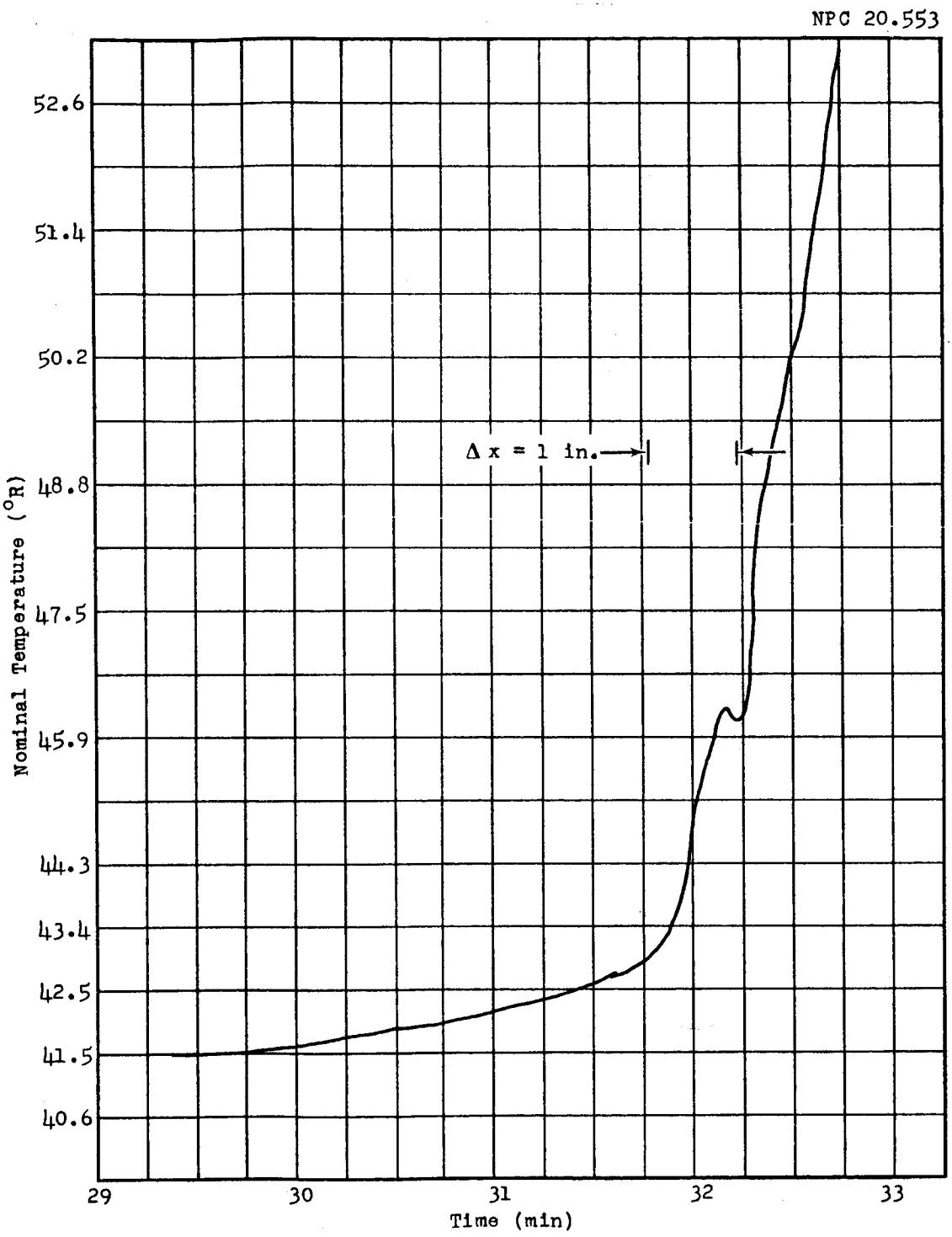

Figure 4.2-10 Strip-Chart Temperature Data: Run 15-98, Thermometer 4

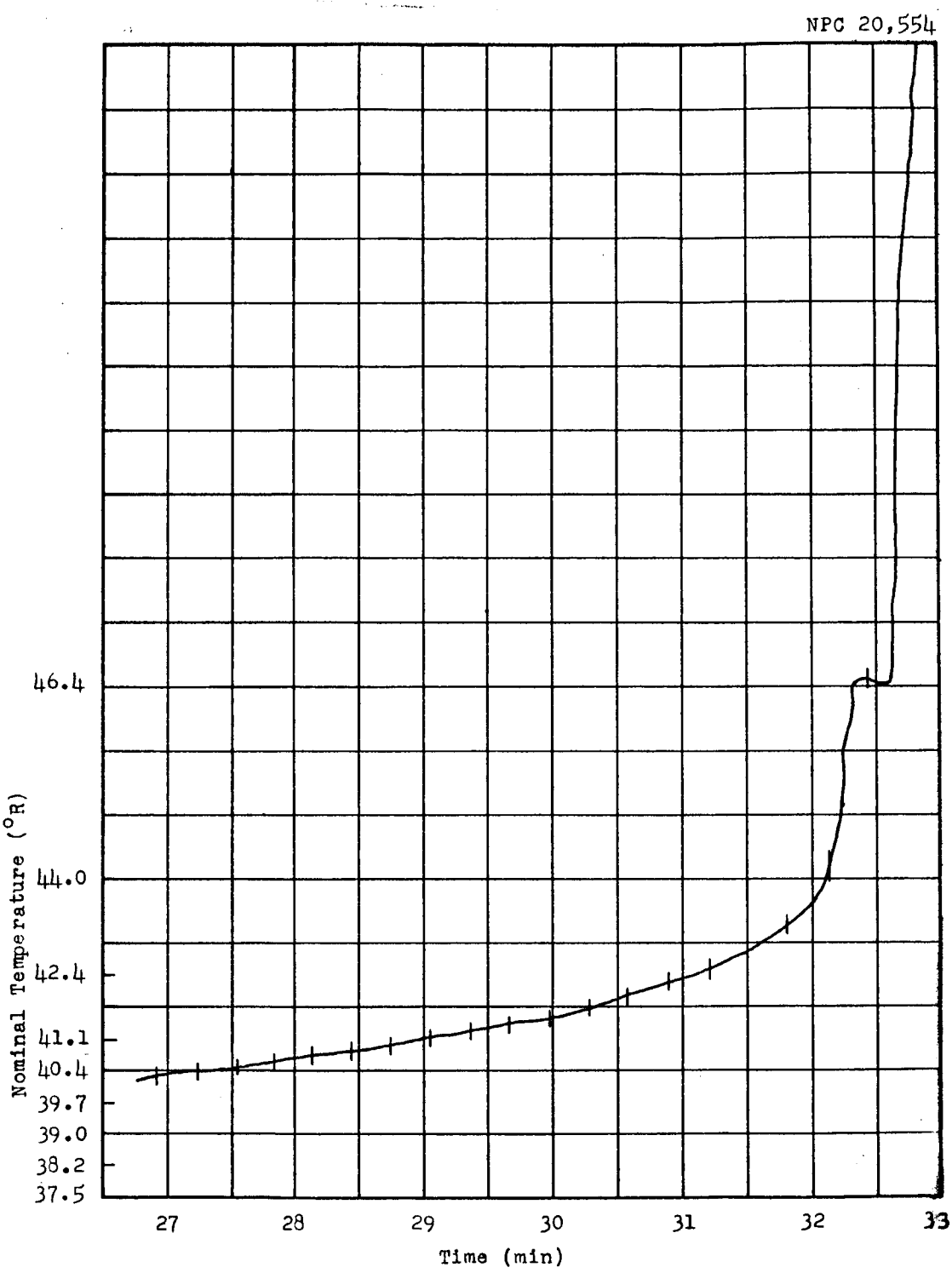

Figure 4.2-11 Strip-Chart Temperature Data: Run 15-98, Thermometer 1

TABLE 4.2-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 15-98

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.81	57.49	0	36.83	57.47	0	36.74	57.58	0	36.80	57.51
0	36.75	57.57	0	36.77	57.55	0	36.77	57.55	0	36.78	57.53
4	37.05	57.17	4	37.00	57.24	4	37.04	57.19	4	37.01	57.23
4	37.33	56.79	4	37.03	57.20	4	37.42	56.66	4	37.06	57.16
9	37.29	56.85	9	37.23	56.93	9	37.75	56.18	9	37.88	55.99
9	37.25	56.90	9	37.32	56.81	9	37.29	56.85	9	37.27	56.87
9	37.27	56.88	9	37.27	56.87	9	37.29	56.85	9	37.28	56.86
10	37.45	56.61	10	37.39	56.69	10	37.42	56.66	10	37.37	56.74
10	37.45	56.61	10	37.39	56.69	10	37.34	56.77	10	37.37	56.74
10	37.47	56.58	10	37.47	56.58	10	37.45	56.61	10	37.51	56.53
11	37.54	56.48	11	37.47	56.59	11	37.49	56.56	11	37.47	56.58
11	37.48	56.57	11	37.53	56.50	11	37.51	56.53	11	37.49	56.55
11	37.57	56.44	11	37.61	56.38	11	37.51	56.53	11	37.51	56.53
12	37.68	56.28	12	37.62	56.37	12	37.57	56.44	12	37.59	56.41
12	37.60	56.40	12	37.56	56.45	12	37.61	56.39	12	37.61	56.38
12	37.67	56.30	12	37.64	56.34	12	37.66	56.32	12	37.68	56.28
12	37.70	56.26	12	37.73	56.21	12	37.71	56.24	12	37.70	56.26
13	37.75	56.19	13	37.78	56.14	13	37.74	56.20	13	37.69	56.27
13	37.82	56.08	13	37.78	56.14	13	37.78	56.14	13	37.78	56.14
13	37.77	56.15	13	37.81	56.09	13	37.79	56.13	13	37.75	56.19
14	37.82	56.08	14	37.91	55.95	14	37.88	55.99	14	37.81	56.09
14	37.82	56.08	14	37.84	56.05	14	37.85	56.04	14	37.81	56.10
14	38.01	55.80	14	38.03	55.78	14	37.93	55.92	14	37.88	55.99
15	37.98	55.85	15	37.91	55.95	15	37.98	55.85	15	37.97	55.87
15	37.97	55.86	15	38.05	55.73	15	38.00	55.82	15	38.01	55.81
15	38.01	55.80	15	38.05	55.73	15	38.04	55.75	15	38.04	55.75
16	38.07	55.71	16	38.13	55.62	16	38.09	55.68	16	38.07	55.70
16	38.15	55.59	16	38.16	55.58	16	38.16	55.57	16	38.12	55.63
16	38.06	55.72	16	38.19	55.53	16	38.12	55.64	16	38.12	55.63
16	38.18	55.55	16	38.18	55.55	16	38.18	55.55	17	38.18	55.55
17	38.19	55.53	17	38.22	55.48	17	38.22	55.49	17	38.29	55.38
17	38.26	55.43	17	38.34	55.31	17	38.25	55.44	17	38.25	55.44
17	38.35	55.29	17	38.32	55.34	17	38.37	55.27	17	38.35	55.29
18	38.36	55.28	18	38.42	55.19	18	38.40	55.22	18	38.42	55.19
18	38.44	55.17	18	38.46	55.13	18	38.40	55.22	18	38.46	55.13
18	38.43	55.18	18	38.46	55.14	18	38.46	55.14	18	38.55	55.00
19	38.47	55.12	19	38.57	54.98	19	38.57	54.97	19	38.59	54.94
19	38.57	54.98	19	38.61	54.92	19	38.63	54.88	19	38.83	54.59
19	38.57	54.98	19	38.59	54.95	19	38.71	54.76	19	38.84	54.57
20	38.70	54.78	20	38.66	54.85	20	38.68	54.80	20	38.92	54.46
20	38.70	54.77	20	38.77	54.68	20	38.73	54.73	20	38.94	54.43
20	38.77	54.67	20	38.83	54.58	20	38.79	54.65	20	39.07	54.25
21	38.85	54.56	21	38.86	54.54	21	38.86	54.55	21	39.13	54.16
21	38.86	54.54	21	38.93	54.45	21	38.92	54.46	21	39.25	54.00

* Timing interval = 0.312 minute.

TABLE 4.2-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
21	38.90	54.49	21	39.05	54.28	21	38.99	54.36	21	39.38	53.81
21	39.06	54.26	21	39.00	54.34	21	39.02	54.32	21	39.35	53.85
22	39.08	54.23	22	39.13	54.16	22	39.05	54.27	22	39.53	53.61
22	39.10	54.21	22	39.16	54.12	22	39.14	54.15	22	39.56	53.57
22	39.17	54.10	22	39.26	53.98	22	39.20	54.07	22	39.69	53.39
23	39.25	53.99	23	39.27	53.97	23	39.28	53.95	23	39.71	53.26
23	39.41	53.77	23	39.42	53.75	23	39.33	53.88	23	39.78	53.17
23	39.50	53.65	23	39.44	53.73	23	39.47	53.69	23	39.88	53.04
24	39.59	53.52	24	39.54	53.59	24	39.50	53.64	24	39.89	53.02
24	39.55	53.58	24	39.63	53.47	24	39.59	53.53	24	40.07	52.75
24	59.69	-0.	24	39.72	53.35	24	39.71	53.37	24	40.05	52.78
25	59.69	-0.	25	39.73	53.24	25	39.71	53.26	25	40.09	52.73
25	39.76	53.20	25	39.87	53.05	25	39.80	53.15	25	40.14	52.65
25	59.69	-0.	25	39.93	52.96	25	39.88	53.04	25	40.30	52.41
25	59.69	-0.	25	40.01	52.84	25	39.93	52.96	25	40.45	52.19
26	59.69	-0.	26	40.10	52.71	26	40.07	52.76	26	40.51	52.09
26	59.69	-0.	26	40.25	52.49	26	40.14	52.65	26	40.49	52.12
26	59.69	-0.	26	40.28	52.45	26	40.28	52.45	26	40.64	51.88
27	40.34	52.35	27	40.42	52.23	27	40.36	52.32	27	40.66	51.84
27	59.69	-0.	27	40.51	52.09	27	40.47	52.16	27	40.85	51.54
27	59.69	-0.	27	40.58	51.99	27	40.60	51.94	27	40.97	51.34
28	59.69	-0.	28	40.73	51.74	28	40.67	51.83	28	40.95	51.37
28	59.69	-0.	28	40.86	51.52	28	40.79	51.63	28	40.99	51.30
28	59.69	-0.	28	40.89	51.46	28	40.91	51.44	28	41.13	51.05
29	59.69	-0.	29	41.14	51.04	29	41.02	51.24	29	41.20	50.93
29	41.13	51.05	29	41.22	50.88	29	41.16	51.00	29	41.40	50.57
29	41.31	50.73	29	41.35	50.66	29	41.27	50.79	29	41.48	50.42
29	59.69	-0.	29	41.47	50.43	29	41.45	50.48	29	41.63	50.13
30	41.59	50.21	30	41.68	50.04	30	41.61	50.18	30	41.80	49.81
30	41.75	49.91	30	41.83	49.75	30	41.80	49.81	30	41.96	49.50
30	41.95	49.51	30	41.99	49.44	30	42.00	49.42	30	42.17	49.09
31	59.69	-0.	31	42.22	48.98	31	42.25	48.93	31	42.41	48.61
31	59.69	-0.	31	42.53	48.38	31	42.54	48.36	31	42.71	48.02
31	59.69	-0.	31	42.95	47.56	31	43.04	47.39	31	43.43	46.68
32	44.04	45.62	32	44.03	45.63	32	44.70	44.53	32	41.82	49.77
32	46.38	39.94	32	46.38	39.93	32	46.33	40.06	32	51.12	28.31
32	59.69	-0.	32	46.72	39.13	32	51.60	26.35	32	54.80	15.14
33	58.73	3.43	33	59.12	2.02	33	59.41	1.01	33	60.47	-4.76
33	63.18	-21.35	33	61.82	-13.03	33	68.62	-54.63	33	64.05	-26.67
33	65.01	-32.53	33	64.04	-26.63	33	72.25	-76.90	33	66.28	-40.34
33	68.61	-54.57	34	65.88	-37.90	34	77.19	-107.12	34	66.46	-41.43
34	73.89	-86.91	34	71.45	-71.94	34	71.58	-72.75	34	68.89	-56.32
35	74.88	-92.98	35	70.88	-68.50	35	73.06	-81.85	35	69.95	-62.77
39	72.12	-76.06	39	75.76	-98.35	39	72.44	-78.02	39	71.08	-69.72

TABLE 4.2-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.66	57.69	0	93.69	-208.08	0	36.66	57.69	0	36.73	57.60
0	36.66	57.69	0	93.69	-208.08	0	36.69	57.65	1	36.74	57.59
4	36.92	57.35	4	93.62	-207.68	4	36.92	57.35	4	36.94	57.32
4	36.98	57.27	4	93.69	-208.08	4	36.96	57.29	5	36.97	57.28
9	37.52	56.52	9	93.62	-207.68	9	37.05	57.18	9	37.13	57.06
9	37.27	56.87	9	93.62	-207.68	9	37.13	57.07	9	37.14	57.05
9	37.17	57.01	9	93.69	-208.08	9	37.16	57.02	9	37.11	57.09
10	37.19	56.99	10	93.62	-207.68	10	37.17	57.01	10	37.16	57.02
10	37.26	56.89	10	93.62	-207.68	10	37.28	56.86	10	37.25	56.90
10	37.30	56.83	10	93.69	-208.08	10	37.28	56.86	10	37.27	56.87
11	37.37	56.74	11	93.62	-207.68	11	37.32	56.80	11	37.33	56.79
11	37.37	56.74	11	93.62	-207.68	11	37.34	56.78	11	37.39	56.70
11	37.47	56.58	11	93.62	-207.68	11	37.41	56.67	11	37.37	56.74
12	37.46	56.60	12	93.46	-206.67	12	37.44	56.63	12	37.40	56.68
12	37.47	56.59	12	93.66	-207.88	12	37.44	56.62	12	37.45	56.61
12	37.54	56.49	12	93.69	-208.08	12	37.54	56.48	12	37.47	56.59
12	37.59	56.41	12	93.66	-207.88	12	37.68	56.29	13	37.56	56.45
13	37.59	56.41	13	93.53	-207.07	13	37.59	56.42	13	37.59	56.42
13	37.70	56.26	13	93.69	-208.08	13	37.63	56.35	13	37.59	56.41
13	37.63	56.35	13	93.69	-208.08	13	37.63	56.35	13	37.68	56.29
14	37.75	56.19	14	93.62	-207.68	14	37.67	56.30	14	37.66	56.31
14	37.72	56.23	14	93.66	-207.88	14	37.70	56.25	14	37.70	56.25
14	37.77	56.15	14	93.66	-207.88	14	37.75	56.19	14	37.82	56.08
15	37.81	56.09	15	93.69	-208.08	15	37.81	56.10	15	37.81	56.10
15	37.89	55.98	15	93.62	-207.68	15	37.84	56.05	15	37.84	56.05
15	37.91	55.95	15	93.66	-207.88	15	37.97	55.86	15	37.88	55.99
16	37.99	55.84	16	93.66	-207.88	16	37.95	55.89	16	37.91	55.95
16	38.03	55.78	16	93.69	-208.08	16	38.00	55.82	16	37.99	55.84
16	37.99	55.83	16	93.69	-208.08	16	38.00	55.82	16	38.00	55.82
17	38.05	55.73	17	93.69	-208.08	17	38.10	55.67	17	38.07	55.70
17	38.10	55.67	17	93.69	-208.08	17	38.10	55.66	17	38.09	55.68
17	38.12	55.64	17	93.69	-208.08	17	38.16	55.57	17	38.16	55.57
17	38.20	55.52	17	93.66	-207.88	17	38.22	55.48	17	38.22	55.49
18	38.24	55.45	18	93.62	-207.68	18	38.22	55.48	18	38.23	55.47
18	38.31	55.35	18	93.66	-207.88	18	38.30	55.37	18	38.35	55.30
18	38.34	55.31	18	93.69	-208.08	18	38.37	55.26	18	38.36	55.28
19	38.39	55.23	19	93.66	-207.88	19	38.39	55.23	19	38.39	55.24
19	38.50	55.07	19	93.62	-207.68	19	38.43	55.18	19	38.45	55.15
19	38.54	55.02	19	93.69	-208.08	19	38.51	55.06	19	38.50	55.08
20	38.56	54.99	20	93.69	-208.08	20	38.60	54.93	20	38.52	55.04
20	38.57	54.97	20	93.66	-207.88	20	38.64	54.87	20	38.62	54.90
20	38.64	54.87	20	93.69	-208.08	20	38.71	54.76	20	38.77	54.68
21	38.72	54.75	21	93.67	-207.98	21	38.77	54.67	21	38.77	54.68
21	38.75	54.70	21	93.69	-208.08	21	38.76	54.69	21	38.92	54.46

TABLE 4.2-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
21	38.82	54.60	21	93.66	-207.88	21	38.86	54.54	21	38.87	54.53
21	38.86	54.54	21	93.69	-208.08	21	38.93	54.45	21	38.93	54.45
22	38.99	54.36	22	93.69	-208.08	22	39.13	54.16	22	39.03	54.30
22	39.03	54.30	22	93.69	-208.08	22	39.07	54.25	22	39.12	54.18
22	39.07	54.24	22	93.69	-208.08	22	39.13	54.16	22	39.19	54.08
23	39.17	54.11	23	93.69	-208.08	23	39.21	54.05	23	39.40	53.78
23	39.22	54.03	23	93.69	-208.08	23	39.25	53.99	23	39.48	53.67
23	39.34	53.86	23	93.69	-208.08	23	39.34	53.86	23	41.22	50.88
24	39.36	53.83	24	93.66	-207.88	24	39.38	53.81	24	46.38	39.94
24	39.46	53.70	24	93.69	-208.08	24	39.52	53.62	24	54.38	19.50
24	39.55	53.58	24	93.66	-207.88	24	39.62	53.48	24	59.38	1.11
25	39.71	53.37	25	93.61	-207.58	25	39.69	53.39	25	62.73	-18.62
25	39.71	53.36	25	93.66	-207.88	25	39.72	53.25	25	65.89	-37.95
25	39.73	53.24	25	93.69	-208.08	25	39.94	52.95	25	69.15	-57.90
25	39.83	53.10	25	93.69	-208.08	26	39.92	52.98	26	71.97	-75.18
26	39.94	52.95	26	93.62	-207.68	26	40.07	52.76	26	74.73	-92.02
26	40.09	52.73	26	93.67	-207.98	26	40.20	52.57	26	77.39	-108.34
26	40.14	52.66	26	93.69	-208.08	26	40.36	52.32	26	79.98	-124.20
27	40.24	52.50	27	93.66	-207.88	27	40.61	51.93	27	82.36	-138.76
27	40.35	52.34	27	93.72	-208.28	27	43.64	46.30	27	84.61	-152.50
27	40.47	52.15	27	93.69	-208.08	27	48.37	35.33	27	87.00	-167.15
28	40.61	51.93	28	93.69	-208.08	28	54.27	16.99	28	89.40	-181.81
28	40.70	51.78	28	93.69	-208.08	28	59.95	-1.62	28	91.63	-195.45
28	40.79	51.64	28	93.69	-208.08	28	62.81	-19.11	28	93.69	-208.08
29	40.93	51.40	29	93.69	-208.08	29	65.43	-35.14	29	93.69	-208.08
29	41.15	51.02	29	93.69	-208.08	29	66.40	-41.04	29	93.69	-208.08
29	41.23	50.87	29	93.69	-208.08	29	70.25	-64.63	29	93.62	-207.68
30	41.45	50.47	30	93.69	-208.08	30	72.49	-78.32	30	93.69	-208.08
30	41.60	50.19	30	93.69	-208.08	30	74.61	-91.32	30	93.69	-208.08
30	41.80	49.81	30	93.69	-208.08	30	76.55	-103.18	30	93.69	-208.08
30	42.05	49.33	30	93.66	-207.88	30	78.53	-115.31	30	93.69	-208.08
31	42.96	47.54	31	93.66	-207.88	31	80.30	-126.12	31	93.62	-207.68
31	46.40	39.88	31	93.69	-208.08	31	81.93	-136.13	31	93.69	-208.08
31	53.21	22.57	31	93.69	-208.08	31	83.42	-145.22	31	93.69	-208.08
32	57.76	6.87	32	93.69	-208.08	32	84.44	-151.49	32	93.69	-208.08
32	59.69	-0.	32	93.69	-208.08	32	85.37	-157.15	32	93.69	-208.08
32	59.69	-0.	32	93.66	-207.88	32	85.50	-157.96	32	93.53	-207.07
33	64.54	-29.68	33	93.53	-207.07	33	87.15	-168.06	33	93.62	-207.68
33	64.08	-26.86	33	93.53	-207.07	33	86.62	-164.83	33	93.62	-207.68
33	65.60	-36.18	33	93.53	-207.07	33	86.33	-163.01	33	93.53	-207.07
34	66.45	-41.38	34	93.62	-207.68	34	86.19	-162.20	34	93.69	-208.08
34	69.32	-58.91	34	93.69	-208.08	34	86.29	-162.81	34	93.66	-207.88
35	70.45	-65.84	35	93.69	-208.08	35	86.95	-166.85	35	93.69	-208.08
39	71.51	-72.35	39	93.62	-207.68	39	71.13	-70.01	39	78.27	-113.69

TABLE 4.2-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.66	57.69	0	36.64	57.72	0	41.85	49.71	0	62.17	-15.16
1	36.67	57.67	1	36.63	57.73	1	41.80	49.80	1	62.18	-15.22
4	36.96	57.30	4	36.89	57.39	4	42.11	49.21	4	62.99	-20.21
5	36.96	57.30	5	36.89	57.39	5	42.10	49.23	5	62.51	-17.28
9	37.10	57.11	9	37.04	57.19	9	42.15	49.13	9	62.51	-17.28
9	37.13	57.07	9	37.07	57.15	9	42.18	49.07	9	61.36	-10.20
9	37.13	57.06	9	37.07	57.15	9	42.21	49.01	9	62.51	-17.28
10	37.18	57.00	10	37.12	57.08	10	42.27	48.89	10	62.44	-16.81
10	37.27	56.88	10	37.16	57.02	10	42.29	48.84	10	62.50	-17.18
10	37.24	56.91	10	37.24	56.91	10	42.31	48.81	10	62.17	-15.16
11	37.32	56.81	11	37.26	56.89	11	42.33	48.76	11	62.17	-15.17
11	37.34	56.77	11	37.34	56.78	11	42.41	48.62	11	62.38	-16.48
11	37.42	56.66	11	37.37	56.74	11	42.39	48.66	11	62.18	-15.26
12	37.44	56.62	12	37.39	56.69	12	41.94	49.53	12	63.00	-20.23
12	37.47	56.58	12	37.41	56.67	12	42.46	48.52	12	62.20	-15.33
12	37.49	56.55	12	37.49	56.56	12	35.97	58.53	12	61.47	-10.90
13	37.55	56.47	13	37.49	56.55	13	42.51	48.42	13	64.64	-30.32
13	37.57	56.44	13	37.51	56.53	13	42.55	48.34	13	66.79	-43.47
13	37.61	56.38	13	37.60	56.40	13	42.58	48.28	13	72.24	-76.84
13	37.63	56.35	13	37.61	56.38	13	42.63	48.19	13	77.85	-111.17
14	37.69	56.27	14	37.66	56.31	14	42.67	48.09	14	83.30	-144.52
14	37.73	56.21	14	37.68	56.29	14	42.80	47.84	14	87.58	-170.69
14	37.75	56.19	14	37.74	56.20	14	42.88	47.69	14	92.80	-202.63
15	37.83	56.07	15	37.80	56.11	15	43.04	47.39	15	93.69	-208.08
15	37.86	56.02	15	37.86	56.02	15	46.10	40.73	15	93.67	-207.98
15	37.93	55.92	15	37.92	55.94	15	51.41	27.37	15	93.62	-207.68
16	37.95	55.89	16	37.91	55.95	16	59.95	-1.62	16	93.66	-207.88
16	38.03	55.78	16	38.01	55.80	16	64.78	-31.15	16	93.69	-208.08
16	38.00	55.82	16	38.22	55.48	16	69.89	-62.40	16	93.66	-207.88
17	38.05	55.74	17	38.21	55.50	17	74.20	-88.80	17	93.66	-207.88
17	38.18	55.55	17	38.27	55.41	17	95.06	-216.47	17	93.49	-206.87
17	38.23	55.47	17	38.98	54.37	17	82.59	-140.17	17	93.62	-207.68
17	38.29	55.39	17	44.77	44.40	17	86.46	-163.82	18	93.64	-207.78
18	38.29	55.38	18	53.30	22.44	18	90.37	-187.77	18	93.66	-207.88
18	38.44	55.17	18	60.29	-3.70	18	93.67	-207.98	18	93.89	-209.30
18	38.43	55.18	18	64.76	-31.02	18	93.69	-208.08	18	93.94	-209.60
19	38.57	54.98	19	68.90	-56.36	19	93.62	-207.68	19	93.86	-209.09
19	38.59	54.94	19	72.76	-80.01	19	93.66	-207.88	19	93.94	-209.60
19	38.75	54.70	19	76.47	-102.68	19	93.67	-207.98	19	93.91	-209.40
20	40.52	52.08	20	80.12	-125.01	20	93.66	-207.88	20	93.94	-209.60
20	46.25	40.28	20	83.45	-145.43	20	93.67	-207.98	20	93.92	-209.50
20	54.28	17.20	20	86.87	-166.34	20	93.66	-207.88	20	93.94	-209.60
21	59.69	-0.	21	90.27	-187.16	21	93.69	-208.08	21	93.94	-209.60
21	59.69	-0.	21	93.69	-208.08	21	93.91	-209.40	21	93.94	-209.60

TABLE 4.2-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
21	59.69	-0.	21	93.69	-208.08	21	93.94	-209.60	21	93.94	-209.60
22	59.69	-0.	22	93.69	-208.08	22	93.92	-209.50	22	93.94	-209.60
22	59.69	-0.	22	93.69	-208.08	22	93.94	-209.60	22	93.94	-209.60
22	59.69	-0.	22	93.69	-208.08	22	93.94	-209.60	22	93.94	-209.60
22	59.69	-0.	22	93.66	-207.88	22	93.91	-209.40	22	93.91	-209.40
23	59.69	-0.	23	93.67	-207.98	23	93.94	-209.60	23	93.91	-209.40
23	87.50	-170.19	23	93.69	-208.08	23	93.91	-209.40	24	93.87	-209.19
23	90.55	-188.88	23	93.66	-207.88	23	93.89	-209.30	23	93.92	-209.50
24	93.39	-206.26	24	93.84	-208.99	24	93.92	-209.50	24	93.94	-209.60
24	93.59	-207.48	24	93.87	-209.19	24	93.94	-209.60	24	93.94	-209.60
24	93.62	-207.68	24	93.82	-208.89	24	93.91	-209.40	24	93.95	-209.70
25	93.53	-207.07	25	93.89	-209.30	25	93.87	-209.19	25	93.89	-209.30
25	93.53	-207.07	25	93.87	-209.19	25	93.89	-209.30	25	93.87	-209.19
25	93.62	-207.68	25	93.91	-209.40	25	93.95	-209.70	25	93.94	-209.60
26	93.56	-207.27	26	93.91	-209.40	26	93.94	-209.60	26	93.95	-209.70
26	93.53	-207.07	26	93.91	-209.40	26	93.92	-209.50	26	93.95	-209.70
26	93.53	-207.07	26	93.89	-209.30	26	93.94	-209.60	26	93.94	-209.60
26	93.66	-207.88	26	93.92	-209.50	26	93.94	-209.60	26	93.91	-209.40
27	93.53	-207.07	27	93.91	-209.40	27	93.95	-209.70	27	93.91	-209.40
27	93.69	-208.08	27	94.00	-210.00	27	94.02	-210.10	27	93.99	-209.90
27	93.69	-208.08	27	94.00	-210.00	27	94.04	-210.20	27	94.05	-210.31
28	93.69	-208.08	28	93.97	-209.80	28	94.02	-210.10	28	94.00	-210.00
28	93.67	-207.98	28	93.99	-209.90	28	93.97	-209.80	28	94.00	-210.00
28	93.82	-208.89	28	93.99	-209.90	28	93.99	-209.90	28	94.00	-210.00
29	93.79	-208.69	29	93.95	-209.70	29	93.99	-209.90	29	94.00	-210.00
29	93.79	-208.69	29	93.94	-209.60	29	93.95	-209.70	29	93.97	-209.80
29	93.79	-208.69	29	93.94	-209.60	29	93.92	-209.50	29	93.94	-209.60
30	93.81	-208.79	30	93.97	-209.80	30	93.95	-209.70	30	93.95	-209.70
30	93.81	-208.79	30	93.95	-209.70	30	93.97	-209.80	30	93.95	-209.70
30	93.76	-208.49	30	93.94	-209.60	30	93.97	-209.80	30	93.86	-209.09
30	93.79	-208.69	30	93.92	-209.50	30	93.92	-209.50	31	93.94	-209.60
31	93.77	-208.59	31	93.92	-209.50	31	93.92	-209.50	31	93.91	-209.40
31	93.82	-208.89	31	93.97	-209.80	31	93.97	-209.80	31	93.92	-209.50
31	93.69	-208.08	31	93.95	-209.70	31	93.97	-209.80	31	93.95	-209.70
32	93.79	-208.69	32	93.92	-209.50	32	93.94	-209.60	32	93.94	-209.60
32	93.69	-208.08	32	93.87	-209.19	32	93.99	-209.90	32	93.97	-209.80
32	93.69	-208.08	32	93.89	-209.30	32	93.89	-209.30	32	93.89	-209.30
33	93.69	-208.08	33	93.84	-208.99	33	93.86	-209.09	33	93.89	-209.30
33	93.69	-208.08	33	93.82	-208.89	33	93.84	-208.99	33	93.82	-208.89
33	93.69	-208.08	33	93.81	-208.79	33	93.84	-208.99	33	93.87	-209.19
34	93.69	-208.08	34	93.89	-209.30	34	93.84	-208.99	34	93.86	-209.09
34	93.76	-208.49	34	93.89	-209.30	34	93.94	-209.60	34	93.99	-209.90
35	93.76	-208.49	35	93.94	-209.60	35	93.94	-209.60	35	93.94	-209.60
39	93.53	-207.07	39	93.89	-209.30	39	93.91	-209.40	39	93.87	-209.19

TABLE 4.2-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.66	57.69	0	36.63	57.74	0	36.64	57.72	0	36.65	57.71
1	36.63	57.73	1	36.61	57.76	1	36.63	57.73	1	36.66	57.69
4	36.93	57.34	4	36.95	57.31	4	36.97	57.28	4	37.03	57.20
5	36.93	57.34	5	36.93	57.34	5	36.96	57.30	5	37.04	57.19
9	37.11	57.10	9	37.19	56.99	9	37.40	56.68	9	38.12	55.63
9	37.18	57.00	9	37.16	57.02	9	37.29	56.85	9	38.48	55.11
9	37.11	57.10	9	37.31	56.82	9	37.63	56.36	9	41.91	49.60
10	37.23	56.93	10	37.22	56.94	10	38.02	55.79	10	43.64	46.14
10	37.32	56.80	10	37.37	56.74	10	36.90	57.37	10	52.49	23.64
10	37.39	56.70	10	37.50	56.54	10	40.90	51.45	10	60.10	-2.53
11	37.49	56.56	11	37.61	56.38	11	46.00	41.03	11	65.16	-33.46
11	37.61	56.38	11	38.59	54.95	11	57.12	9.12	11	71.09	-69.78
11	37.83	56.07	11	45.19	43.45	11	64.16	-27.34	11	76.58	-103.38
12	37.94	55.91	12	54.60	15.46	12	70.32	-65.03	12	81.73	-134.92
12	43.66	46.11	12	62.85	-19.35	12	76.02	-99.94	12	86.56	-164.42
12	53.76	21.63	12	68.80	-55.78	12	81.01	-130.47	12	91.58	-195.15
13	61.23	-9.40	13	74.28	-89.28	13	85.86	-160.18	13	93.69	-208.08
13	67.28	-46.48	13	79.72	-122.59	13	91.08	-192.12	13	93.67	-207.98
13	59.69	-0.	13	84.69	-153.00	13	93.69	-208.08	13	93.94	-209.60
13	78.17	-113.09	13	91.31	-193.53	14	93.69	-208.08	14	93.92	-209.50
14	59.69	-0.	14	93.66	-207.88	14	93.91	-209.40	14	93.95	-209.70
14	89.28	-181.10	14	93.66	-207.88	14	93.94	-209.60	14	93.92	-209.50
14	92.42	-200.30	14	93.69	-208.08	14	93.91	-209.40	14	93.92	-209.50
15	93.84	-208.99	15	93.92	-209.50	15	93.94	-209.60	15	93.97	-209.80
15	93.86	-209.09	15	93.92	-209.50	15	93.94	-209.60	15	93.95	-209.70
15	93.81	-208.79	15	93.89	-209.30	15	93.91	-209.40	15	93.89	-209.30
16	93.84	-208.99	16	93.89	-209.30	16	93.95	-209.70	16	93.92	-209.50
16	94.02	-210.10	16	93.95	-209.70	16	93.97	-209.80	16	93.97	-209.80
16	93.79	-208.69	16	93.91	-209.40	16	93.95	-209.70	16	93.94	-209.60
17	93.84	-208.99	17	93.92	-209.50	17	93.92	-209.50	17	93.94	-209.60
17	93.81	-208.79	17	93.91	-209.40	17	93.91	-209.40	17	93.94	-209.60
17	94.00	-210.00	17	93.92	-209.50	17	93.94	-209.60	17	93.94	-209.60
18	93.82	-208.89	18	93.94	-209.60	18	93.95	-209.70	18	93.94	-209.60
18	93.79	-208.69	18	93.87	-209.19	18	93.91	-209.40	18	93.89	-209.30
18	93.87	-209.19	18	93.94	-209.60	18	93.94	-209.60	18	93.89	-209.30
18	93.86	-209.09	18	93.94	-209.60	18	93.94	-209.60	18	93.89	-209.30
19	93.82	-208.89	19	93.91	-209.40	19	93.92	-209.50	19	93.92	-209.50
19	93.86	-209.09	19	93.94	-209.60	19	93.92	-209.50	19	93.94	-209.60
19	93.86	-209.09	19	93.94	-209.60	19	93.97	-209.80	19	93.94	-209.60
20	93.87	-209.19	20	93.97	-209.80	20	93.92	-209.50	20	93.94	-209.60
20	93.86	-209.09	20	93.89	-209.30	20	93.94	-209.60	20	93.95	-209.70
20	93.87	-209.19	20	93.92	-209.50	20	93.94	-209.60	20	93.91	-209.40
21	93.89	-209.30	21	93.97	-209.80	21	93.95	-209.70	21	93.95	-209.70
21	93.89	-209.30	21	93.95	-209.70	21	93.95	-209.70	21	93.97	-209.80

TABLE 4.2-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
21	93.86	-209.09	21	93.94	-209.60	21	93.92	-209.50	21	93.94	-209.60
22	93.99	-209.90	22	93.97	-209.80	22	93.99	-209.90	22	93.95	-209.70
22	93.94	-209.60	22	93.97	-209.80	22	93.94	-209.60	22	93.97	-209.80
22	93.97	-209.80	22	93.95	-209.70	22	93.95	-209.70	22	93.94	-209.60
22	93.95	-209.70	22	93.94	-209.60	22	93.94	-209.60	22	93.94	-209.60
23	93.92	-209.50	23	93.94	-209.60	23	93.92	-209.50	23	93.99	-209.90
23	93.86	-209.09	23	93.91	-209.40	23	93.87	-209.19	23	93.87	-209.19
23	93.91	-209.40	23	93.89	-209.30	23	93.92	-209.50	23	93.94	-209.60
24	93.91	-209.40	24	93.95	-209.70	24	93.91	-209.40	24	93.94	-209.60
24	93.94	-209.60	24	93.92	-209.50	24	93.95	-209.70	24	93.94	-209.60
24	93.94	-209.60	24	93.94	-209.60	24	93.94	-209.60	24	93.91	-209.40
25	93.92	-209.50	25	93.92	-209.50	25	93.86	-209.09	25	93.94	-209.60
25	93.92	-209.50	25	93.94	-209.60	25	93.92	-209.50	25	93.86	-209.09
25	93.92	-209.50	25	93.97	-209.80	25	93.91	-209.40	25	93.92	-209.50
26	93.97	-209.80	26	93.94	-209.60	26	93.95	-209.70	26	93.92	-209.50
26	93.91	-209.40	26	93.89	-209.30	26	93.91	-209.40	26	93.91	-209.40
26	93.94	-209.60	26	93.94	-209.60	26	93.95	-209.70	26	93.95	-209.70
26	93.92	-209.50	26	93.97	-209.80	27	93.92	-209.50	27	93.91	-209.40
27	93.94	-209.60	27	93.91	-209.40	27	93.94	-209.60	27	93.97	-209.80
27	93.99	-209.90	27	93.99	-209.90	27	94.00	-210.00	27	94.02	-210.10
27	94.02	-210.10	27	94.00	-210.00	27	93.99	-209.90	27	94.00	-210.00
28	93.97	-209.80	28	94.00	-210.00	28	94.02	-210.10	28	94.00	-210.00
28	93.99	-209.90	28	94.00	-210.00	28	94.02	-210.10	28	94.02	-210.10
28	93.99	-209.90	28	94.00	-210.00	28	93.97	-209.80	28	93.99	-209.90
29	93.99	-209.90	29	93.95	-209.70	29	93.99	-209.90	29	93.99	-209.90
29	93.95	-209.70	29	93.97	-209.80	29	93.95	-209.70	29	93.92	-209.50
29	93.95	-209.70	29	93.95	-209.70	29	93.92	-209.50	29	93.95	-209.70
30	93.95	-209.70	30	93.95	-209.70	30	93.97	-209.80	30	93.95	-209.70
30	93.97	-209.80	30	93.94	-209.60	30	93.97	-209.80	30	93.99	-209.90
30	93.87	-209.19	30	93.94	-209.60	30	93.95	-209.70	30	93.97	-209.80
31	93.94	-209.60	31	93.92	-209.50	31	93.91	-209.40	31	93.91	-209.40
31	93.94	-209.60	31	93.92	-209.50	31	93.94	-209.60	31	93.94	-209.60
31	93.94	-209.60	31	93.95	-209.70	31	93.99	-209.90	31	93.95	-209.70
31	93.97	-209.80	31	93.97	-209.80	31	93.99	-209.90	31	93.95	-209.70
32	93.95	-209.70	32	93.95	-209.70	32	93.95	-209.70	32	93.97	-209.80
32	93.94	-209.60	32	93.87	-209.19	32	93.94	-209.60	32	93.92	-209.50
32	93.91	-209.40	32	93.84	-208.99	32	93.86	-209.09	32	93.87	-209.19
33	93.86	-209.09	33	93.87	-209.19	33	93.89	-209.30	33	93.86	-209.09
33	93.86	-209.09	33	93.86	-209.09	33	93.89	-209.30	33	93.86	-209.09
33	93.82	-208.89	33	93.79	-208.69	33	93.79	-208.69	33	93.81	-208.79
34	94.00	-210.00	34	93.82	-208.89	34	93.84	-208.99	34	93.84	-208.99
34	93.91	-209.40	34	93.94	-209.60	34	93.92	-209.50	34	93.94	-209.60
35	93.95	-209.70	35	93.95	-209.70	35	93.91	-209.40	35	93.92	-209.50
39	93.89	-209.30	39	93.89	-209.30	39	93.87	-209.19	39	93.87	-209.19

TABLE 4.2-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.04	57.19	0	36.69	57.65	0	40.73	51.73	0	81.55	-133.80
1	37.02	57.21	1	36.68	57.66	1	40.70	51.78	1	81.27	-132.09
4	39.47	53.68	4	75.00	-93.69	4	93.69	-208.08	4	93.94	-209.60
5	40.08	52.74	5	61.12	-8.75	5	93.69	-208.08	5	93.99	-209.90
9	44.70	44.54	9	65.03	-32.65	9	93.69	-208.08	9	93.95	-209.70
9	54.38	19.42	9	69.48	-59.92	9	93.66	-207.88	9	93.91	-209.40
9	59.69	-0.	10	72.60	-78.99	10	93.66	-207.88	10	93.92	-209.50
10	59.69	-0.	10	75.54	-97.01	10	93.61	-207.58	10	93.91	-209.40
10	59.69	-0.	10	82.71	-140.88	10	93.62	-207.68	10	93.86	-209.09
10	59.69	-0.	10	87.25	-168.67	10	93.66	-207.88	10	93.91	-209.40
11	59.69	-0.	11	91.97	-197.57	11	93.69	-208.08	11	93.91	-209.40
11	59.69	-0.	11	93.62	-207.68	11	93.89	-209.30	11	93.92	-209.50
11	89.20	-180.59	11	93.69	-208.08	11	93.91	-209.40	11	93.94	-209.60
12	92.70	-202.02	12	93.94	-209.60	12	93.95	-209.70	12	93.99	-209.90
12	93.53	-207.07	12	93.91	-209.40	12	93.91	-209.40	12	93.95	-209.70
12	93.61	-207.58	12	93.95	-209.70	12	93.95	-209.70	12	93.95	-209.70
13	93.79	-208.69	13	93.97	-209.80	13	93.95	-209.70	13	93.97	-209.80
13	93.69	-208.08	13	93.92	-209.50	13	93.94	-209.60	13	93.95	-209.70
13	93.79	-208.69	13	93.94	-209.60	13	93.95	-209.70	13	93.95	-209.70
14	93.92	-209.50	14	93.95	-209.70	14	93.94	-209.60	14	93.95	-209.70
14	93.92	-209.50	14	93.95	-209.70	14	93.92	-209.50	14	93.94	-209.60
14	93.92	-209.50	14	93.92	-209.50	14	93.92	-209.50	14	93.95	-209.70
14	93.97	-209.80	14	93.95	-209.70	14	93.95	-209.70	14	93.95	-209.70
15	93.99	-209.90	15	93.92	-209.50	15	93.97	-209.80	15	93.99	-209.90
15	93.95	-209.70	15	93.95	-209.70	15	93.92	-209.50	15	93.95	-209.70
15	93.86	-209.09	15	93.91	-209.40	15	93.91	-209.40	15	93.94	-209.60
16	93.97	-209.80	16	93.99	-209.90	16	93.99	-209.90	16	93.97	-209.80
16	93.92	-209.50	16	93.95	-209.70	16	93.95	-209.70	16	93.95	-209.70
16	93.95	-209.70	16	93.94	-209.60	16	93.91	-209.40	16	93.94	-209.60
17	93.91	-209.40	17	93.92	-209.50	17	93.94	-209.60	17	93.97	-209.80
17	93.97	-209.80	17	93.94	-209.60	17	93.94	-209.60	17	93.92	-209.50
17	93.94	-209.60	17	93.94	-209.60	17	93.91	-209.40	17	93.92	-209.50
18	93.89	-209.30	18	93.94	-209.60	18	93.94	-209.60	18	93.94	-209.60
18	93.91	-209.40	18	93.92	-209.50	18	93.89	-209.30	18	93.89	-209.30
18	93.89	-209.30	18	93.92	-209.50	18	93.94	-209.60	18	93.94	-209.60
18	93.89	-209.30	18	93.94	-209.60	19	93.94	-209.60	19	93.94	-209.60
19	93.91	-209.40	19	93.92	-209.50	19	93.94	-209.60	19	93.94	-209.60
19	93.92	-209.50	19	93.95	-209.70	10	93.94	-209.60	19	93.95	-209.70
19	93.95	-209.70	19	93.97	-209.80	19	93.99	-209.90	19	93.94	-209.60
20	93.94	-209.60	20	93.86	-209.09	20	93.86	-209.09	20	93.89	-209.30
20	93.97	-209.80	20	93.94	-209.60	20	93.97	-209.80	20	93.94	-209.60
20	93.94	-209.60	20	93.94	-209.60	20	93.94	-209.60	20	93.95	-209.70
21	93.97	-209.80	21	93.95	-209.70	21	93.97	-209.80	21	93.95	-209.70
21	93.95	-209.70	21	93.95	-209.70	21	93.95	-209.70	21	93.99	-209.90

TABLE 4.2-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
21	93.92	-209.50	21	93.97	-209.80	21	93.94	-209.60	21	93.95	-209.70
22	93.95	-209.70	22	93.97	-209.80	22	93.95	-209.70	22	94.00	-210.00
22	93.94	-209.60	22	93.97	-209.80	22	93.97	-209.80	22	93.95	-209.70
22	93.92	-209.50	22	93.92	-209.50	22	93.91	-209.40	22	93.97	-209.80
23	93.92	-209.50	23	93.92	-209.50	23	93.95	-209.70	23	93.97	-209.80
23	93.97	-209.80	23	93.91	-209.40	23	93.89	-209.30	23	93.95	-209.70
23	93.86	-209.09	23	93.87	-209.19	23	93.86	-209.09	23	93.89	-209.30
23	93.89	-209.30	23	93.89	-209.30	23	93.91	-209.40	23	93.92	-209.50
24	93.92	-209.50	24	93.94	-209.60	24	93.91	-209.40	24	93.95	-209.70
24	93.92	-209.50	24	93.92	-209.50	24	93.94	-209.60	24	93.91	-209.40
24	93.95	-209.70	24	93.94	-209.60	24	93.89	-209.30	24	93.92	-209.50
25	93.89	-209.30	25	93.94	-209.60	25	93.89	-209.30	25	93.94	-209.60
25	93.92	-209.50	25	93.94	-209.60	25	93.89	-209.30	25	93.92	-209.50
25	93.92	-209.50	25	93.94	-209.60	25	93.92	-209.50	25	93.94	-209.60
26	93.94	-209.60	26	93.92	-209.50	26	93.91	-209.40	26	93.91	-209.40
26	93.89	-209.30	26	93.91	-209.40	26	93.91	-209.40	26	93.91	-209.40
26	93.95	-209.70	26	93.91	-209.40	26	94.00	-210.00	26	93.99	-209.90
27	93.94	-209.60	27	93.95	-209.70	27	93.91	-209.40	27	93.92	-209.50
27	93.94	-209.60	27	93.95	-209.70	27	93.97	-209.80	27	93.92	-209.50
27	94.04	-210.20	27	94.05	-210.31	27	94.02	-210.10	27	93.99	-209.90
27	94.22	-211.32	27	94.04	-210.20	27	94.04	-210.20	27	94.04	-210.20
28	93.99	-209.90	28	93.99	-209.90	28	94.02	-210.10	28	93.99	-209.90
28	94.00	-210.00	28	94.04	-210.20	28	94.05	-210.31	28	94.04	-210.20
28	93.99	-209.90	28	93.99	-209.90	28	94.02	-210.10	28	94.04	-210.20
29	93.97	-209.80	29	93.99	-209.90	29	93.99	-209.90	29	94.00	-210.00
29	93.92	-209.50	29	93.97	-209.80	29	93.95	-209.70	29	93.95	-209.70
29	93.95	-209.70	29	93.97	-209.80	29	93.94	-209.60	29	93.95	-209.70
30	93.95	-209.70	30	93.97	-209.80	30	93.99	-209.90	30	93.95	-209.70
30	93.99	-209.90	30	93.97	-209.80	30	93.97	-209.80	30	93.95	-209.70
30	93.94	-209.60	30	93.94	-209.60	30	93.94	-209.60	30	93.95	-209.70
31	93.92	-209.50	31	93.92	-209.50	31	93.94	-209.60	31	93.91	-209.40
31	93.94	-209.60	31	93.92	-209.50	31	93.94	-209.60	31	93.91	-209.40
31	93.97	-209.80	31	93.97	-209.80	31	93.99	-209.90	31	93.97	-209.80
31	93.94	-209.60	31	93.94	-209.60	31	93.99	-209.90	32	93.97	-209.80
32	93.95	-209.70	32	93.94	-209.60	32	93.95	-209.70	32	93.95	-209.70
32	93.87	-209.19	32	93.87	-209.19	32	93.89	-209.30	32	93.92	-209.50
32	93.86	-209.09	32	93.87	-209.19	32	93.94	-209.60	32	93.91	-209.40
33	93.87	-209.19	33	93.91	-209.40	33	93.84	-208.99	33	93.89	-209.30
33	93.86	-209.09	33	93.86	-209.09	33	93.86	-209.09	33	93.82	-208.89
33	93.79	-208.69	33	93.84	-208.99	33	93.86	-209.09	33	93.87	-209.19
34	93.86	-209.09	34	93.84	-208.99	34	93.86	-209.09	34	93.87	-209.19
34	93.95	-209.70	35	93.95	-209.70	35	93.91	-209.40	35	93.94	-209.60
35	93.91	-209.40	35	93.91	-209.40	35	93.91	-209.40	35	93.86	-209.09
39	93.89	-209.30	39	93.87	-209.19	39	93.89	-209.30	39	93.87	-209.19

TABLE 4.2-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.68	57.66	0	36.72	57.61	0	36.79	57.52	0	36.80	57.50
1	36.70	57.63	1	36.70	57.64	1	36.80	57.50	1	36.80	57.50
4	36.96	57.29	4	36.98	57.27	4	37.04	57.19	4	37.08	57.14
5	36.98	57.27	5	36.96	57.29	5	37.05	57.17	5	37.05	57.17
9	37.11	57.09	9	37.11	57.10	9	37.21	56.96	9	37.25	56.90
9	37.19	56.99	9	37.17	57.01	9	37.29	56.84	9	37.32	56.80
10	37.20	56.97	10	37.22	56.94	10	37.28	56.86	10	37.34	56.78
10	37.25	56.90	10	37.22	56.94	10	37.28	56.86	10	37.32	56.81
10	37.25	56.90	10	37.29	56.84	10	37.39	56.69	10	37.38	56.71
10	37.32	56.80	10	37.31	56.82	10	37.40	56.68	10	37.43	56.64
11	37.35	56.76	11	37.36	56.75	11	37.41	56.67	11	37.47	56.58
11	37.39	56.69	11	37.41	56.67	11	37.50	56.54	11	37.49	56.55
11	59.69	-0.	11	37.50	56.54	11	37.52	56.52	11	37.63	56.35
12	59.69	-0.	12	37.47	56.58	12	37.56	56.46	12	37.61	56.39
12	59.69	-0.	12	37.48	56.57	12	37.56	56.46	12	37.61	56.38
12	59.69	-0.	12	37.55	56.47	12	37.63	56.35	12	37.69	56.27
13	59.69	-0.	13	37.58	56.43	13	37.69	56.27	13	37.75	56.19
13	59.69	-0.	13	37.61	56.39	13	37.72	56.23	13	37.74	56.20
13	59.69	-0.	13	37.66	56.31	13	37.72	56.22	13	37.73	56.21
14	59.69	-0.	14	37.66	56.31	14	37.75	56.19	14	37.83	56.07
14	59.69	-0.	14	37.77	56.16	14	37.82	56.08	14	37.88	55.99
14	59.69	-0.	14	37.79	56.13	14	37.86	56.03	14	37.95	55.89
14	59.69	-0.	15	37.81	56.09	15	37.96	55.88	15	37.95	55.89
15	59.69	-0.	15	37.83	56.07	15	37.90	55.96	15	37.96	55.88
15	59.69	-0.	15	37.88	55.99	15	37.97	55.87	15	38.10	55.66
15	59.69	-0.	15	37.92	55.94	15	37.98	55.85	15	38.02	55.79
16	59.69	-0.	16	37.97	55.87	16	38.07	55.71	16	38.12	55.63
16	59.69	-0.	16	38.05	55.73	16	38.15	55.59	16	38.22	55.49
16	59.69	-0.	16	38.03	55.76	16	38.10	55.66	16	38.14	55.60
17	59.69	-0.	17	38.12	55.63	17	38.23	55.47	17	38.24	55.45
17	59.69	-0.	17	38.13	55.62	17	38.22	55.48	17	38.25	55.44
17	59.69	-0.	17	38.20	55.52	17	38.29	55.38	17	38.37	55.26
18	59.69	-0.	18	38.25	55.44	18	38.35	55.30	18	38.44	55.17
18	59.69	-0.	18	38.29	55.39	18	38.37	55.27	18	38.43	55.18
18	59.69	-0.	18	38.33	55.32	18	38.44	55.17	18	38.42	55.19
19	59.69	-0.	19	38.36	55.28	19	38.46	55.14	19	38.51	55.06
19	59.69	-0.	19	38.44	55.17	19	38.50	55.07	19	38.52	55.04
19	59.69	-0.	19	38.50	55.07	19	38.57	54.98	19	38.63	54.89
19	59.69	-0.	19	38.56	54.99	19	38.61	54.91	19	38.66	54.84
20	59.69	-0.	20	38.62	54.90	20	38.70	54.77	20	38.74	54.72
20	59.69	-0.	20	38.64	54.87	20	38.70	54.78	20	38.74	54.72
20	59.69	-0.	20	38.68	54.81	20	38.78	54.66	20	38.81	54.61
21	59.69	-0.	21	38.73	54.73	21	38.88	54.52	21	38.95	54.42
21	59.69	-0.	21	38.86	54.54	21	38.88	54.52	21	38.91	54.47

TABLE 4.2-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
21	59.69	-0.	21	38.89	54.50	21	38.99	54.36	21	39.03	54.30
22	59.69	-0.	22	38.93	54.44	22	38.99	54.36	22	39.05	54.27
22	59.69	-0.	22	39.01	54.33	22	39.09	54.22	22	39.15	54.14
22	59.69	-0.	22	39.09	54.22	22	39.14	54.15	22	39.18	54.09
23	59.69	-0.	23	39.16	54.12	23	39.22	54.03	23	39.30	53.93
23	59.69	-0.	23	39.20	54.07	23	39.30	53.92	23	39.33	53.88
23	59.69	-0.	23	39.30	53.92	23	39.36	53.84	23	39.43	53.74
23	59.69	-0.	23	39.36	53.84	23	39.46	53.70	24	39.49	53.66
24	59.69	-0.	24	39.47	53.68	24	39.56	53.56	24	39.56	53.56
24	59.69	-0.	24	39.50	53.64	24	39.61	53.50	24	39.62	53.49
24	59.69	-0.	24	39.65	53.45	24	39.71	53.36	24	39.67	53.32
25	59.69	-0.	25	39.71	53.36	25	39.72	53.25	25	39.77	53.18
25	59.69	-0.	25	39.76	53.20	25	39.86	53.06	25	39.90	53.00
25	59.69	-0.	25	39.87	53.05	25	39.89	53.02	25	40.00	52.85
26	59.69	-0.	26	40.01	52.84	26	40.01	52.84	26	40.08	52.74
26	59.69	-0.	26	40.03	52.81	26	40.12	52.68	26	40.16	52.62
26	59.69	-0.	26	40.15	52.64	26	40.20	52.57	26	40.27	52.46
27	59.69	-0.	27	40.23	52.52	27	40.31	52.40	27	40.40	52.26
27	59.69	-0.	27	40.38	52.30	27	40.45	52.19	27	40.48	52.14
27	59.69	-0.	27	40.41	52.25	27	40.53	52.06	27	40.53	52.06
27	59.69	-0.	28	40.68	51.82	28	40.74	51.72	28	40.80	51.62
28	59.69	-0.	28	41.46	50.45	28	41.83	49.74	28	41.03	51.23
28	59.69	-0.	28	45.81	41.64	28	46.20	40.42	28	45.02	43.86
28	59.69	-0.	28	51.53	25.69	28	52.66	23.39	28	50.90	29.00
29	59.69	-0.	29	57.41	8.08	29	57.98	6.06	29	56.28	12.13
29	61.46	-10.84	29	61.19	-9.18	29	61.46	-10.80	29	60.55	-5.25
29	64.05	-26.71	29	63.81	-25.21	29	64.04	-26.64	29	63.13	-21.03
30	66.54	-41.93	30	66.29	-40.41	30	66.51	-41.75	30	65.68	-36.65
30	68.91	-56.40	30	68.64	-54.76	30	68.86	-56.10	30	68.04	-51.10
30	71.18	-70.35	30	70.92	-68.71	30	71.13	-70.00	30	70.30	-64.96
31	73.33	-83.46	31	73.06	-81.85	31	73.28	-83.18	31	72.49	-78.31
31	75.39	-96.10	31	75.06	-94.07	31	75.28	-95.41	31	74.50	-90.66
31	77.21	-107.22	31	77.06	-106.32	31	77.24	-107.43	31	76.48	-102.78
32	79.11	-118.85	32	78.85	-117.23	32	78.86	-117.33	32	78.23	-113.49
32	80.36	-126.53	32	80.12	-125.01	32	80.28	-126.02	32	79.56	-121.58
32	80.94	-130.06	32	80.68	-128.45	32	80.83	-129.36	32	80.10	-124.91
32	82.13	-137.34	32	82.00	-136.53	32	82.20	-137.74	32	81.47	-133.30
33	82.79	-141.38	33	82.56	-139.97	33	82.73	-140.98	33	80.41	-126.83
33	82.31	-138.45	33	82.28	-138.25	33	82.33	-138.55	33	81.78	-135.22
33	82.33	-138.55	33	82.25	-138.05	33	82.49	-139.56	33	81.78	-135.22
34	82.51	-139.66	34	82.31	-138.45	34	82.49	-139.56	34	81.85	-135.62
35	82.81	-141.48	35	82.56	-139.97	35	82.79	-141.38	35	82.07	-136.94
35	82.94	-142.29	35	82.73	-140.98	35	82.76	-141.18	35	81.90	-135.93
39	71.93	-74.92	39	71.86	-74.45	39	71.96	-75.12	39	71.92	-74.87

TABLE 4.2-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.68	56.28	0	36.66	57.70	0	36.65	57.71	0	36.64	57.72
1	37.75	56.18	1	36.68	57.66	1	36.64	57.72	1	36.66	57.70
4	37.81	56.09	4	36.95	57.31	4	36.93	57.34	4	36.95	57.31
5	37.88	55.99	5	36.93	57.34	5	36.90	57.37	5	36.91	57.36
9	38.01	55.80	9	37.11	57.10	9	37.11	57.10	9	37.06	57.16
9	38.16	55.57	9	37.06	57.16	9	37.08	57.14	9	37.11	57.09
10	38.18	55.55	10	37.12	57.08	10	37.10	57.11	10	37.09	57.12
10	38.02	55.79	10	37.22	56.95	10	37.16	57.02	10	37.18	57.00
10	38.13	55.62	10	37.25	56.90	10	37.20	56.97	10	37.22	56.94
11	38.18	55.54	11	37.27	56.88	11	37.22	56.94	11	37.28	56.86
11	38.26	55.43	11	37.33	56.79	11	37.28	56.86	11	37.34	56.78
11	38.32	55.34	11	37.34	56.78	11	37.34	56.78	11	37.35	56.76
11	38.36	55.28	11	37.39	56.69	11	37.37	56.74	11	37.41	56.67
12	38.50	55.07	12	37.46	56.60	12	37.40	56.68	12	37.42	56.66
12	38.45	55.15	12	37.45	56.61	12	37.44	56.63	12	37.45	56.61
12	38.43	55.18	12	37.45	56.61	12	37.45	56.61	12	37.50	56.54
13	38.47	55.12	13	37.54	56.49	13	37.54	56.48	13	37.54	56.49
13	38.48	55.10	13	37.58	56.43	13	37.55	56.47	13	37.56	56.46
13	38.50	55.08	13	37.61	56.39	13	37.58	56.43	13	37.56	56.45
14	38.59	54.95	14	37.63	56.35	14	37.75	56.19	14	37.83	56.07
14	38.63	54.89	14	37.68	56.29	14	37.68	56.28	14	37.67	56.30
14	38.75	54.70	14	37.75	56.19	14	37.69	56.27	14	37.66	56.31
15	38.72	54.74	15	37.75	56.19	15	37.73	56.21	15	37.74	56.20
15	38.72	54.75	15	37.77	56.15	15	37.81	56.10	15	37.81	56.10
15	38.96	54.40	15	37.89	55.98	15	37.90	55.96	15	37.81	56.09
15	38.95	54.42	15	37.91	55.95	15	37.86	56.03	15	37.88	56.00
16	39.05	54.27	16	37.92	55.94	16	37.90	55.96	16	37.93	55.92
16	39.11	54.19	16	38.02	55.79	16	37.99	55.84	16	37.99	55.84
16	39.12	54.17	16	38.01	55.80	16	37.99	55.83	16	38.01	55.80
17	39.23	54.02	17	38.09	55.68	17	38.05	55.73	17	38.02	55.79
17	39.50	53.64	17	38.09	55.68	17	38.08	55.69	17	38.12	55.64
17	39.43	53.74	17	38.80	54.63	17	38.20	55.52	17	38.20	55.52
18	39.42	53.75	18	38.24	55.46	18	38.20	55.51	18	38.23	55.47
18	39.46	53.70	18	38.27	55.41	18	38.24	55.46	18	38.25	55.44
18	39.41	53.76	18	38.29	55.39	18	38.29	55.38	18	38.30	55.37
19	39.59	53.53	19	38.44	55.17	19	38.44	55.17	19	38.39	55.24
19	39.61	53.50	19	38.50	55.08	19	38.44	55.17	19	38.40	55.22
19	39.65	53.34	19	38.52	55.05	19	38.45	55.15	19	38.46	55.13
19	39.71	53.26	20	38.63	54.89	20	38.57	54.97	20	38.57	54.98
20	39.79	53.16	20	38.70	54.77	20	38.66	54.85	20	38.61	54.92
20	39.80	53.14	20	38.84	54.57	20	38.83	54.58	20	38.79	54.64
20	39.84	53.09	20	39.77	53.18	20	40.00	52.85	20	39.40	53.78
21	40.03	52.82	21	39.07	54.25	21	46.00	41.03	21	43.00	47.47
21	40.07	52.76	21	53.95	21.22	21	54.37	18.39	21	51.06	28.50

TABLE 4.2-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
21	40.14	52.65	21	59.83	-0.87	21	60.39	-4.30	21	58.75	3.33
22	40.25	52.49	22	63.39	-22.63	22	63.95	-26.06	22	62.72	-18.54
22	40.26	52.47	22	66.86	-43.89	22	67.43	-47.37	22	66.29	-40.41
22	40.28	52.45	22	70.21	-64.39	22	70.72	-67.50	22	69.59	-60.61
23	40.47	52.16	23	73.45	-84.21	23	73.99	-87.51	23	72.90	-80.82
23	40.53	52.07	23	76.57	-103.28	23	77.01	-106.01	23	76.03	-100.03
23	40.54	52.05	23	81.22	-131.78	23	80.18	-125.42	23	79.06	-118.54
24	40.75	51.70	24	82.33	-138.55	24	83.22	-144.01	24	82.07	-136.94
24	40.94	51.39	24	85.02	-155.03	24	86.06	-161.39	24	84.97	-154.72
24	41.04	51.21	24	87.78	-171.90	24	88.70	-177.56	24	87.78	-171.90
24	41.11	51.09	24	90.70	-189.79	24	91.44	-194.34	24	90.44	-188.17
25	41.08	51.14	25	93.39	-206.26	25	93.79	-208.69	25	93.05	-204.14
25	41.24	50.85	25	93.69	-208.08	25	93.92	-209.50	25	93.91	-209.40
25	41.31	50.73	25	93.62	-207.68	25	93.87	-209.19	25	93.92	-209.50
26	41.36	50.64	26	93.67	-207.98	26	93.89	-209.30	26	93.92	-209.50
26	41.53	50.32	26	93.69	-208.08	26	93.87	-209.19	26	93.94	-209.60
26	41.51	50.36	26	93.69	-208.08	26	93.92	-209.50	26	93.92	-209.50
27	41.35	50.65	27	93.66	-207.88	27	93.89	-209.30	27	93.91	-209.40
27	41.54	50.31	27	93.66	-207.88	27	93.95	-209.70	27	94.02	-210.10
27	41.52	50.34	27	93.69	-208.08	27	93.99	-209.90	27	94.00	-210.00
28	41.68	50.03	28	93.69	-208.08	28	94.00	-210.00	28	94.04	-210.20
28	41.95	49.51	28	93.69	-208.08	28	93.99	-209.90	28	94.00	-210.00
28	46.42	39.84	28	93.69	-208.08	28	94.00	-210.00	28	93.99	-209.90
28	51.97	24.46	28	93.69	-208.08	28	93.97	-209.80	28	93.99	-209.90
29	57.63	7.33	29	93.69	-208.08	29	93.92	-209.50	29	93.97	-209.80
29	61.20	-9.27	29	93.69	-208.08	29	93.95	-209.70	29	93.94	-209.60
29	63.70	-24.55	29	93.69	-208.08	29	93.97	-209.80	29	93.97	-209.80
30	66.20	-39.82	30	93.69	-208.08	30	93.94	-209.60	30	93.94	-209.60
30	68.46	-53.66	30	93.69	-208.08	30	93.94	-209.60	30	93.97	-209.80
30	70.64	-67.01	30	93.67	-207.98	30	93.89	-209.30	30	93.92	-209.50
31	72.72	-79.75	31	93.69	-208.08	31	93.87	-209.19	31	93.89	-209.30
31	61.26	-9.61	31	93.69	-208.08	31	93.89	-209.30	31	93.97	-209.80
31	76.50	-102.88	31	93.69	-208.08	31	93.92	-209.50	31	93.95	-209.70
32	78.17	-113.09	32	93.69	-208.08	32	93.89	-209.30	32	93.94	-209.60
32	79.44	-120.87	32	93.69	-208.08	32	93.91	-209.40	32	93.94	-209.60
32	79.84	-123.29	32	93.66	-207.88	32	93.87	-209.19	32	93.89	-209.30
32	81.37	-132.69	32	93.62	-207.68	33	93.79	-208.69	33	93.91	-209.40
33	81.80	-135.32	33	93.62	-207.68	33	93.86	-209.09	33	93.91	-209.40
33	81.50	-133.50	33	93.59	-207.48	33	93.82	-208.89	33	93.84	-208.99
33	81.45	-133.20	33	93.62	-207.68	33	93.81	-208.79	33	93.86	-209.09
34	81.54	-133.70	34	93.62	-207.68	34	93.87	-209.19	34	93.86	-209.09
35	81.75	-135.02	35	93.66	-207.88	35	93.91	-209.40	35	93.91	-209.40
35	81.95	-136.23	35	93.62	-207.68	35	93.87	-209.19	35	93.92	-209.50
39	71.70	-73.47	39	93.66	-207.88	39	93.84	-208.99	39	93.86	-209.09

TABLE 4.2-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.67	57.67	0	36.67	57.67	0	93.66	-207.88	0	93.92	-209.50
1	36.66	57.70	1	36.68	57.66	1	93.69	-208.08	1	93.95	-209.70
4	36.94	57.32	4	36.95	57.31	4	93.62	-207.68	4	93.97	-209.80
5	36.93	57.33	5	36.93	57.34	5	93.69	-208.08	5	93.99	-209.90
9	37.09	57.12	9	37.13	57.07	9	93.69	-208.08	9	93.95	-209.70
9	37.11	57.09	9	37.13	57.07	9	93.66	-207.88	9	93.92	-209.50
10	37.13	57.06	10	37.19	56.99	10	93.67	-207.98	10	93.94	-209.60
10	37.25	56.90	10	37.26	56.89	10	93.62	-207.68	10	93.89	-209.30
10	37.23	56.93	10	37.24	56.92	10	93.62	-207.68	10	93.89	-209.30
11	37.28	56.86	11	37.32	56.80	11	93.66	-207.88	11	93.87	-209.19
11	37.34	56.78	11	37.40	56.68	11	93.59	-207.48	11	93.89	-209.30
11	37.35	56.76	11	37.40	56.68	11	93.62	-207.68	11	93.87	-209.19
11	37.42	56.65	11	37.42	56.66	11	93.67	-207.98	12	93.91	-209.40
12	37.50	56.54	12	37.49	56.56	12	93.69	-208.08	12	93.91	-209.40
12	37.47	56.58	12	37.48	56.57	12	93.69	-208.08	12	93.92	-209.50
12	37.48	56.57	12	37.54	56.49	12	93.69	-208.08	12	93.95	-209.70
13	37.55	56.47	13	37.56	56.45	13	93.69	-208.08	13	93.92	-209.50
13	37.59	56.42	13	37.61	56.39	13	93.69	-208.08	13	93.94	-209.60
13	37.60	56.40	13	37.61	56.39	13	93.69	-208.08	13	93.94	-209.60
14	37.67	56.30	14	37.74	56.20	14	93.69	-208.08	14	93.91	-209.40
14	37.75	56.18	14	37.77	56.16	14	93.66	-207.88	14	93.91	-209.40
14	37.74	56.20	14	37.72	56.23	14	93.69	-208.08	14	93.95	-209.70
15	37.76	56.17	15	37.82	56.08	15	93.66	-207.88	15	93.89	-209.30
15	37.81	56.09	15	37.88	55.99	15	93.62	-207.68	15	93.92	-209.50
15	37.88	56.00	15	37.90	55.97	15	93.66	-207.88	15	93.91	-209.40
16	37.88	55.99	16	37.95	55.89	16	93.66	-207.88	16	93.92	-209.50
16	37.94	55.90	16	37.99	55.83	16	93.69	-208.08	16	93.91	-209.40
16	38.01	55.80	16	38.05	55.73	16	93.69	-208.08	16	93.95	-209.70
16	37.99	55.83	16	38.01	55.81	16	93.69	-208.08	16	93.94	-209.60
17	38.07	55.70	17	38.15	55.59	17	93.66	-207.88	17	93.89	-209.30
17	38.14	55.60	17	38.18	55.55	17	93.69	-208.08	17	93.91	-209.40
17	38.20	55.51	17	38.22	55.48	17	93.67	-207.98	17	93.87	-209.19
18	38.24	55.45	18	38.27	55.41	18	93.66	-207.88	18	93.91	-209.40
18	38.31	55.36	18	38.31	55.35	18	93.69	-208.08	18	93.95	-209.70
18	38.33	55.33	18	38.37	55.27	18	93.62	-207.68	18	93.89	-209.30
19	38.44	55.17	19	38.48	55.11	19	93.67	-207.98	19	93.89	-209.30
19	38.39	55.24	19	38.44	55.16	19	93.66	-207.88	19	93.89	-209.30
19	38.49	55.09	19	38.49	55.09	19	93.69	-208.08	19	93.94	-209.60
20	38.57	54.98	20	38.58	54.96	20	93.69	-208.08	20	93.95	-209.70
20	38.63	54.88	20	38.65	54.86	20	93.62	-207.68	20	93.91	-209.40
20	38.81	54.62	20	38.84	54.57	20	93.69	-208.08	20	93.92	-209.50
20	39.40	53.78	20	39.38	53.81	20	93.69	-208.08	20	93.94	-209.60
21	42.85	47.76	21	43.45	46.64	21	93.69	-208.08	21	93.92	-209.50
21	50.85	29.19	21	51.10	28.36	21	93.69	-208.08	21	93.94	-209.60

TABLE 4.2-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
21	58.60	3.89	21	59.02	2.36	21	93.69	-208.08	21	93.95	-209.70
22	59.69	-0.	22	62.99	-20.20	22	93.69	-208.08	22	93.97	-209.80
22	59.69	-0.	22	66.46	-41.42	22	93.69	-208.08	22	93.95	-209.70
22	59.69	-0.	22	69.79	-61.83	22	93.69	-208.08	22	95.57	-219.60
23	59.69	-0.	23	73.10	-82.05	23	93.69	-208.08	23	93.94	-209.60
23	59.69	-0.	23	76.20	-101.04	23	93.69	-208.08	23	93.92	-209.50
23	59.69	-0.	23	79.24	-119.66	23	93.69	-208.08	23	93.89	-209.30
24	59.69	-0.	24	82.21	-137.85	24	93.62	-207.68	24	93.91	-209.40
24	76.20	-101.05	24	85.24	-156.34	24	93.69	-208.08	24	93.92	-209.50
24	76.20	-101.05	24	88.18	-174.33	24	93.62	-207.68	24	94.02	-210.10
24	76.20	-101.05	24	90.55	-188.88	24	93.62	-207.68	25	93.89	-209.30
25	76.20	-101.05	25	93.03	-204.04	25	93.79	-208.69	25	93.91	-209.40
25	93.69	-208.08	25	93.94	-209.60	25	93.92	-209.50	25	93.92	-209.50
25	93.69	-208.08	25	93.87	-209.19	25	93.92	-209.50	25	93.92	-209.50
26	93.69	-208.08	26	93.89	-209.30	26	93.79	-208.69	26	93.91	-209.40
26	93.69	-208.08	26	93.89	-209.30	26	93.91	-209.40	26	93.92	-209.50
26	93.69	-208.08	26	93.94	-209.60	26	93.95	-209.70	26	93.99	-209.90
27	93.69	-208.08	27	93.91	-209.40	27	93.92	-209.50	27	93.97	-209.80
27	93.77	-208.59	27	93.97	-209.80	27	93.97	-209.80	27	93.99	-209.90
27	93.79	-208.69	27	94.00	-210.00	27	94.04	-210.20	27	94.05	-210.31
28	93.82	-208.89	28	93.99	-209.90	28	94.04	-210.20	28	94.04	-210.20
28	93.79	-208.69	28	94.00	-210.00	28	93.99	-209.90	28	93.99	-209.90
28	93.79	-208.69	28	94.00	-210.00	28	94.02	-210.10	28	93.99	-209.90
28	93.79	-208.69	29	93.95	-209.70	29	94.00	-210.00	29	93.99	-209.90
29	93.69	-208.08	29	93.91	-209.40	29	93.94	-209.60	29	93.95	-209.70
29	93.69	-208.08	29	93.95	-209.70	29	93.95	-209.70	29	93.99	-209.90
29	93.69	-208.08	29	93.94	-209.60	29	93.95	-209.70	29	93.97	-209.80
30	93.69	-208.08	30	93.92	-209.50	30	93.97	-209.80	30	93.95	-209.70
30	93.76	-208.49	30	93.94	-209.60	30	93.91	-209.40	30	93.99	-209.90
30	93.69	-208.08	30	93.87	-209.19	30	93.91	-209.40	30	93.94	-209.60
31	93.69	-208.08	31	93.92	-209.50	31	93.89	-209.30	31	93.89	-209.30
31	93.77	-208.59	31	93.99	-209.90	31	93.99	-209.90	31	94.00	-210.00
31	93.95	-209.70	31	93.95	-209.70	31	93.97	-209.80	31	93.86	-209.09
32	93.89	-209.30	32	93.95	-209.70	32	93.94	-209.60	32	93.94	-209.60
32	93.92	-209.50	32	93.95	-209.70	32	93.92	-209.50	32	93.97	-209.80
32	93.87	-209.19	32	93.86	-209.09	32	93.87	-209.19	32	94.09	-210.51
33	93.84	-208.99	33	93.86	-209.09	33	93.91	-209.40	33	93.94	-209.60
33	93.82	-208.89	33	93.87	-209.19	33	93.66	-207.88	33	93.69	-208.08
33	93.84	-208.99	33	93.87	-209.19	33	93.87	-209.19	33	93.87	-209.19
33	93.86	-209.09	33	93.86	-209.09	33	93.84	-208.99	33	93.82	-208.89
34	93.87	-209.19	34	93.86	-209.09	34	93.84	-208.99	34	93.89	-209.30
35	93.89	-209.30	35	93.94	-209.60	35	93.94	-209.60	35	93.94	-209.60
35	93.91	-209.40	35	93.92	-209.50	35	93.92	-209.50	35	93.92	-209.50
39	93.69	-208.08	39	93.89	-209.30	39	93.87	-209.19	39	93.89	-209.30

Table 4.2-3

Parametric Conditions and Test Results Summary
for Run 15-110

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	115	15.6
Pressure (psia)	60	60.4	
Temperature[b] (°R)		37.1	
Weight[c] (lb)	66 - 74	67.97	
Final Conditions[d]			
Pressure (psia)	60	60.4	44.0
Temperature (°R)	≤ 47	44.8	
Saturation Temp[e] (°R)	47	47.1	
Run Data			
Temperature Rise (°R)	8	7.7	15.6 - 44.0
Run Time[f] (min)	27 - 33	30.3	14.9 - 45.2
Flow Time (min)	27 - 33	29.6	15.6 - 45.2
Flow Rate[g]: (gpm)	4.08	3.89	
(lb/sec)	0.04	0.038	
Power Level (Mw)	1.00	1.043	
Integrated Power (Mw-hr)	0.5	0.515	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank
[c]Temp = 37.1°R, Vol. = 115 gal, ρ = 4.417 lb/ft3 = 0.591 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

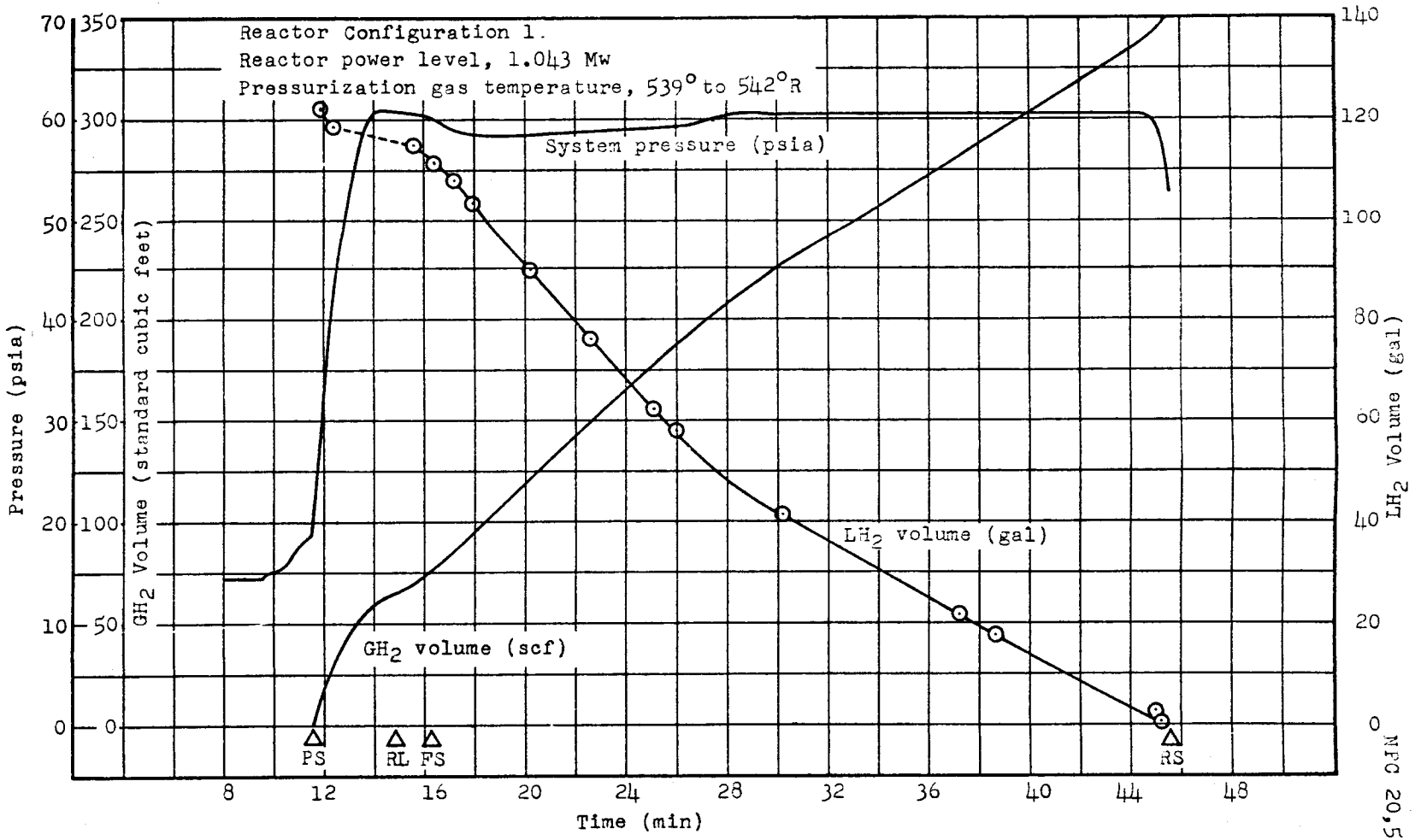

Figure 4.2-12 Pressure and Flow Data: Run 15-110

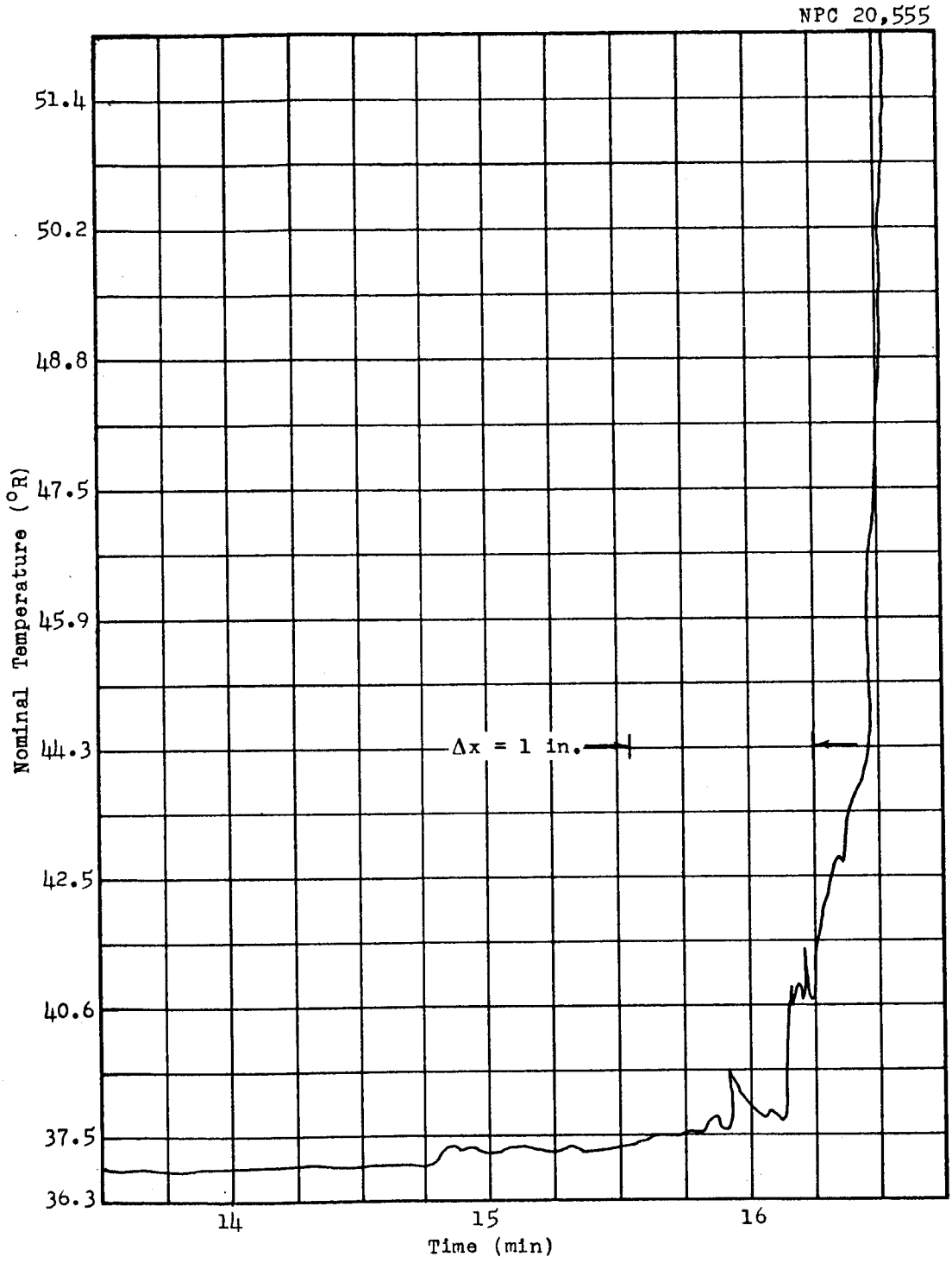

Figure 4.2-13 Strip-Chart Temperature Data: Run 15-110, Thermometer 14

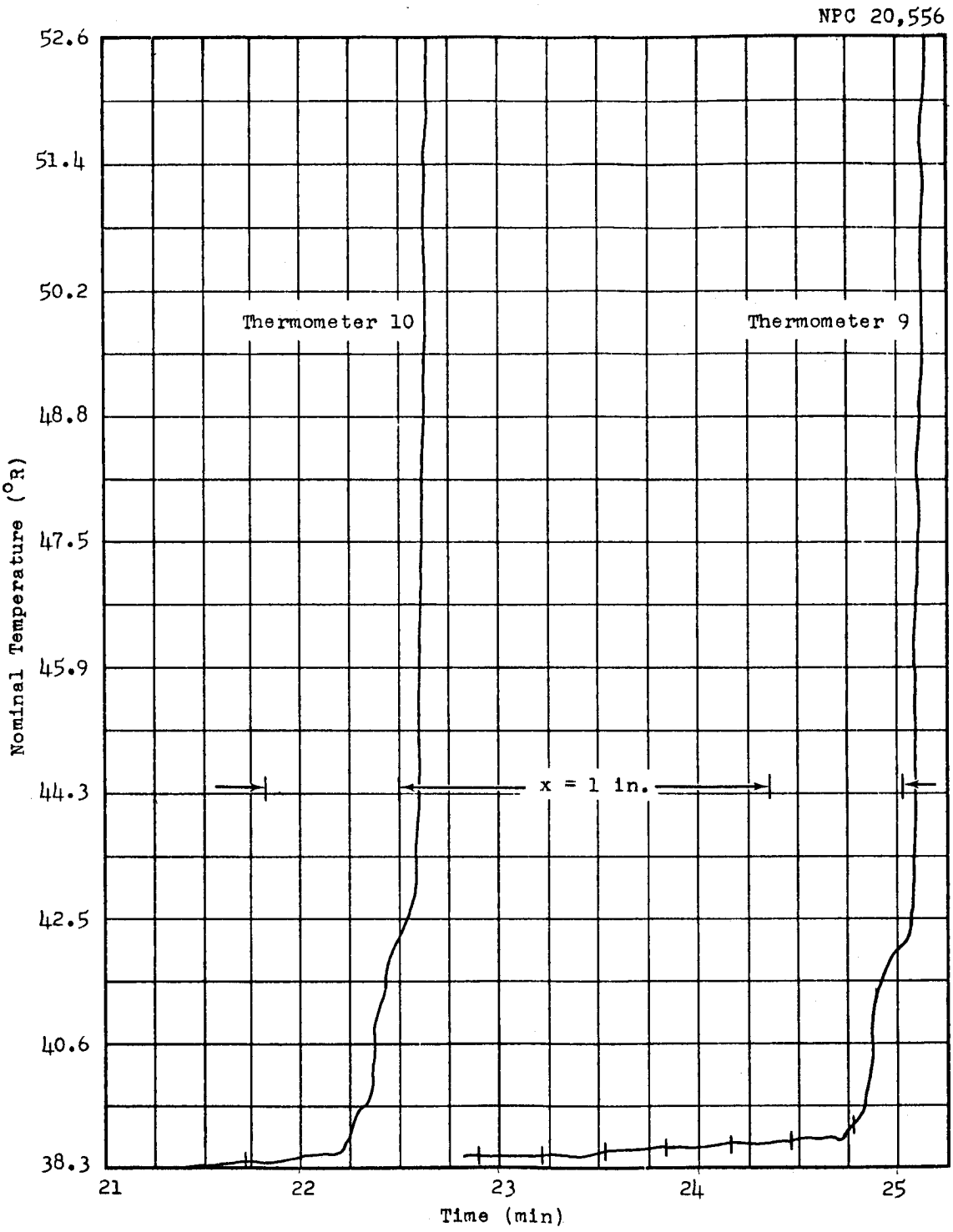

Figure 4.2-14 Strip-Chart Temperature Data: Run 15-110, Thermometers 9 and 10

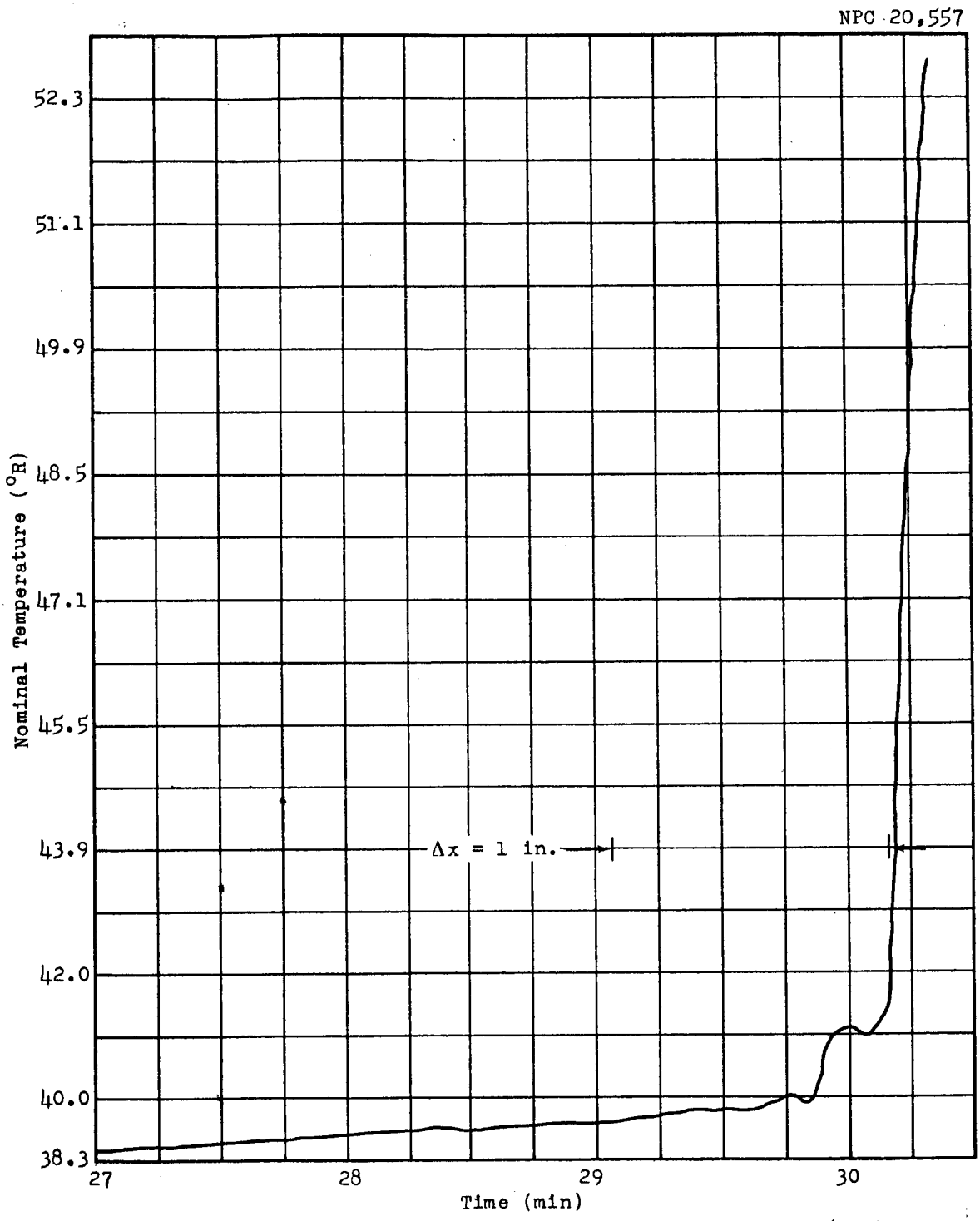

Figure 4.2-15 Strip-Chart Temperature Data: Run 15-110, Thermometer 8

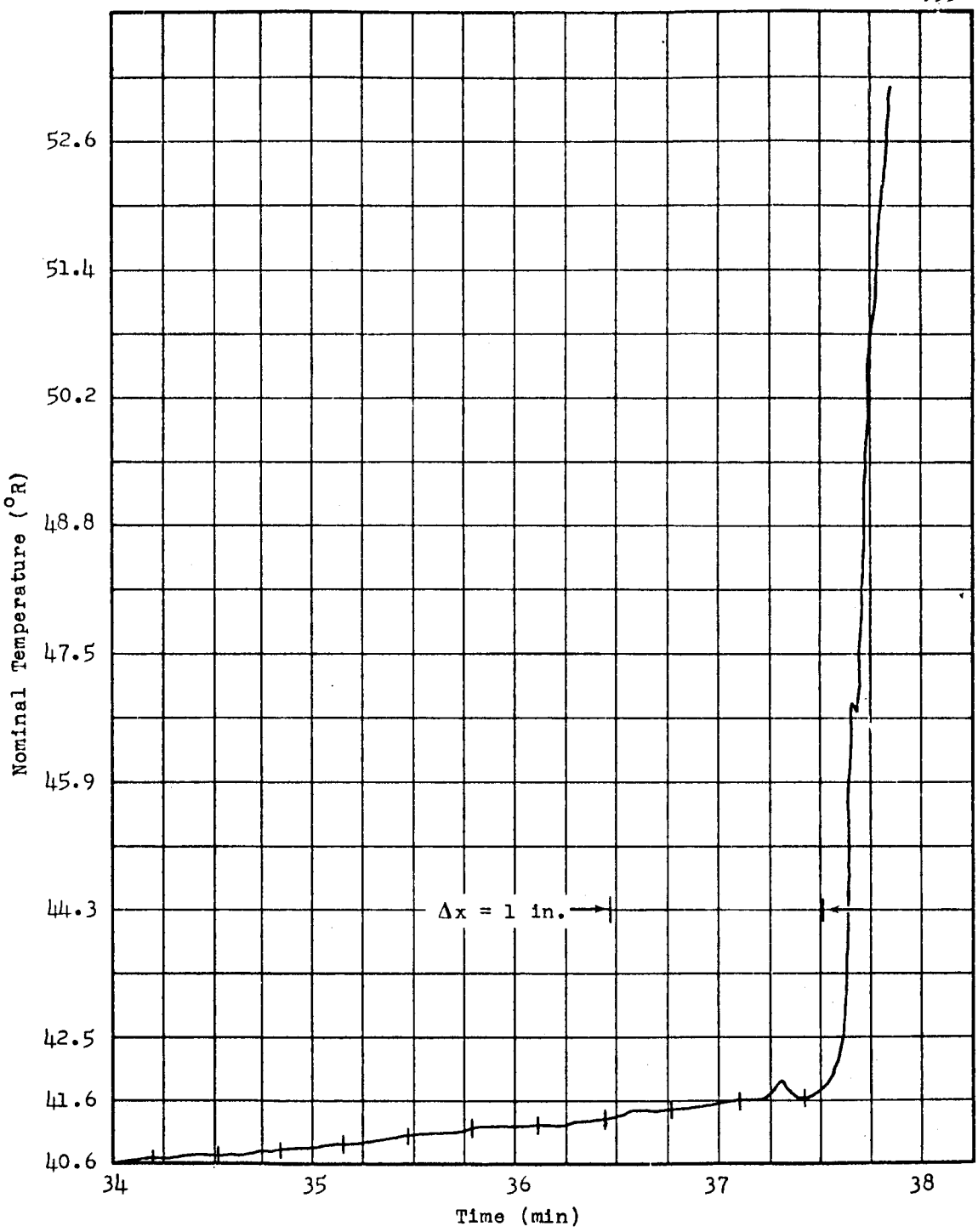

Figure 4.2-16 Strip-Chart Temperature Data: Run 15-110, Thermometer 7

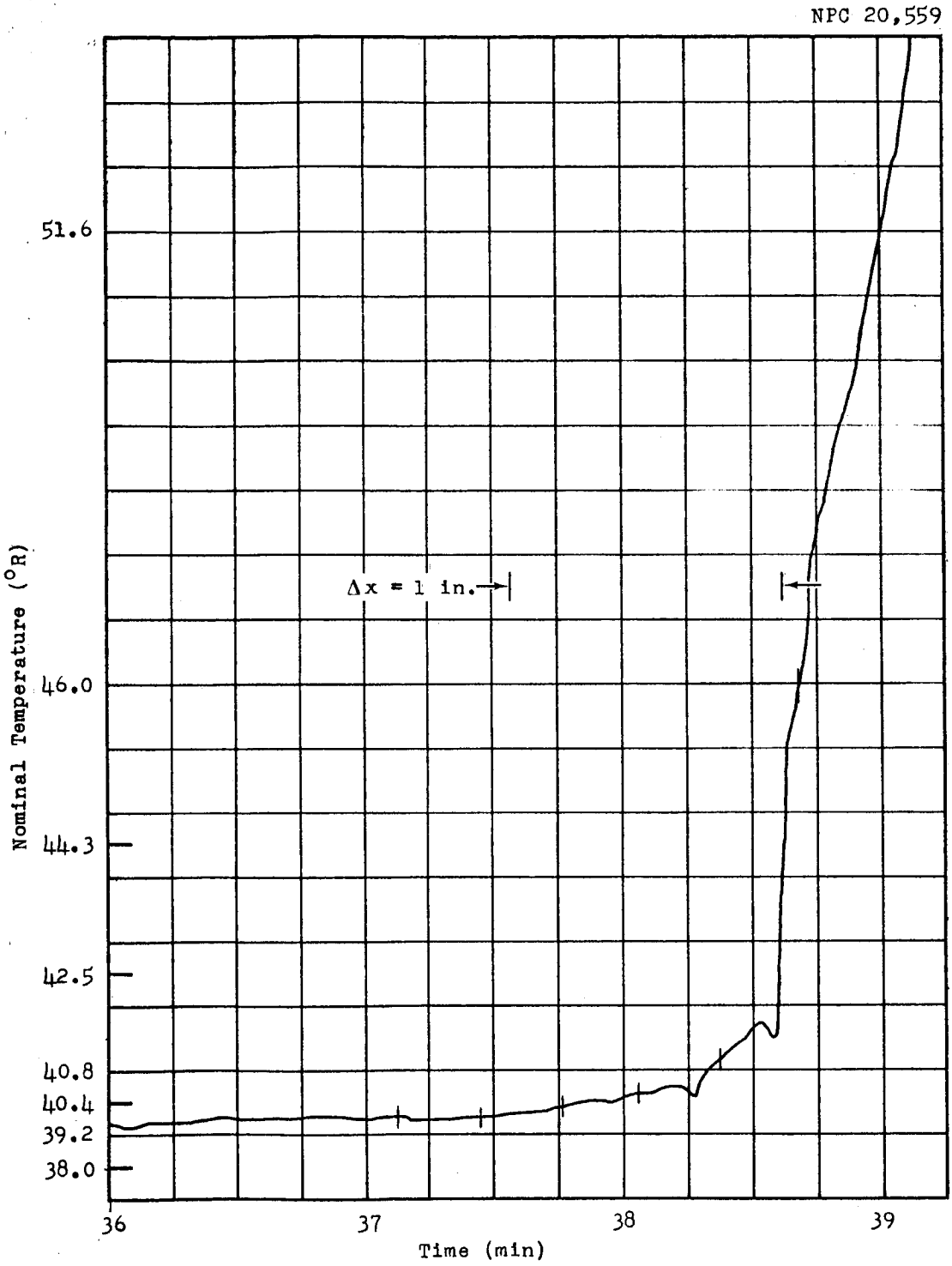

Figure 4.2-17 Strip-Chart Temperature Data: Run 15-110, Thermometer 25

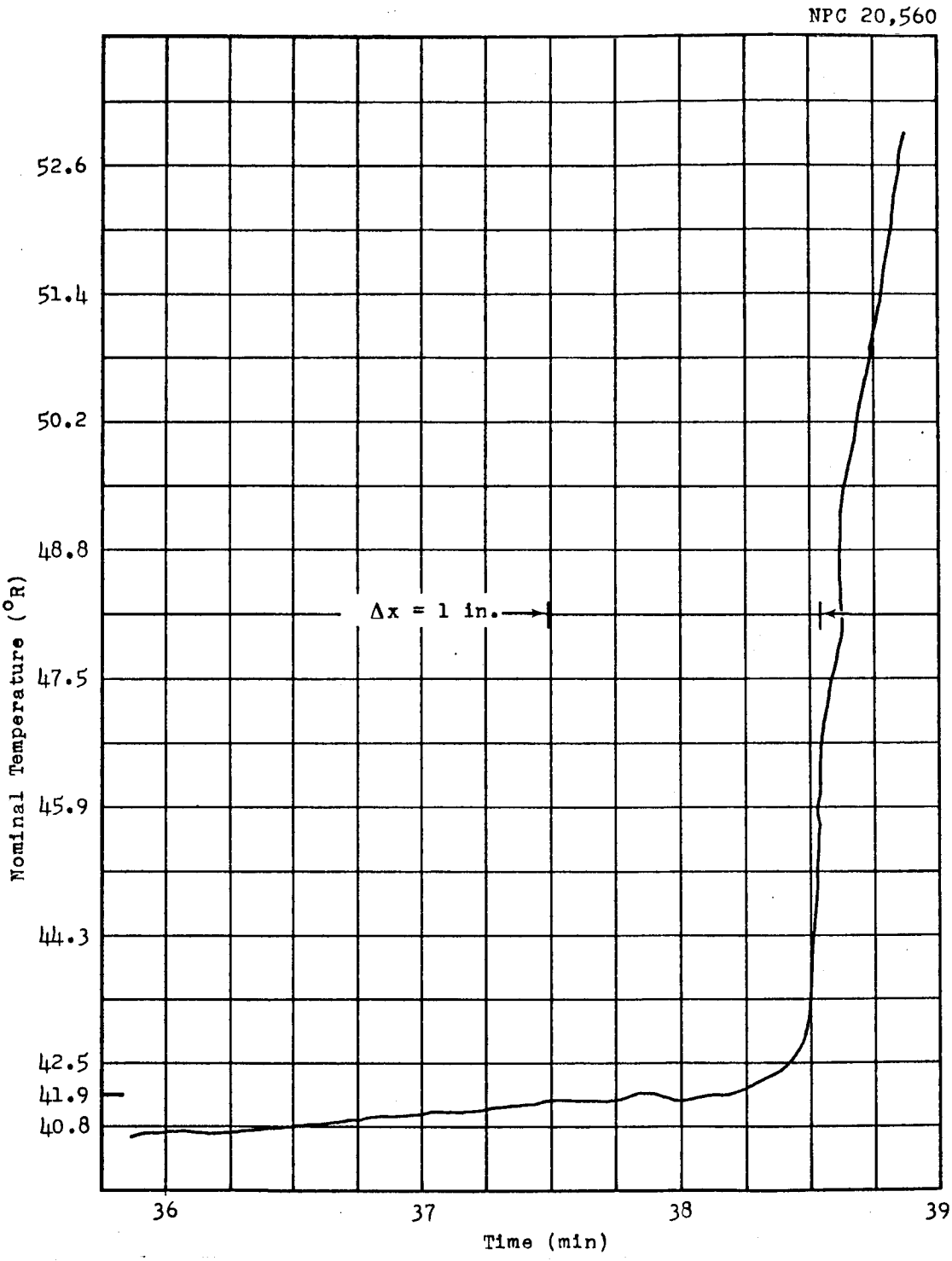

Figure 4.2-18 Strip-Chart Temperature Data: Run 15-110, Thermometer 22

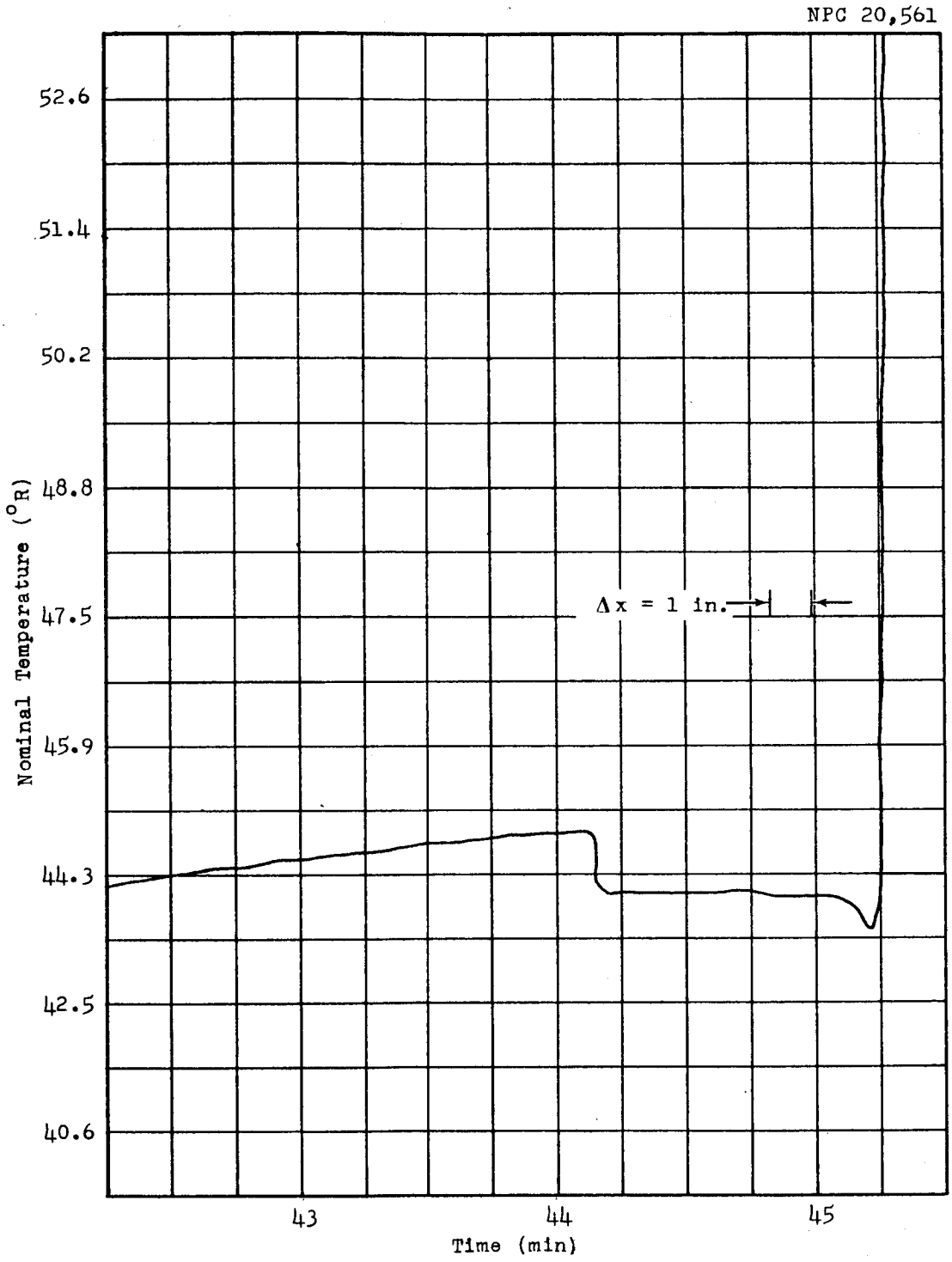

Figure 4.2-19 Strip-Chart Temperature Data: Run 15-110, Thermometer 4

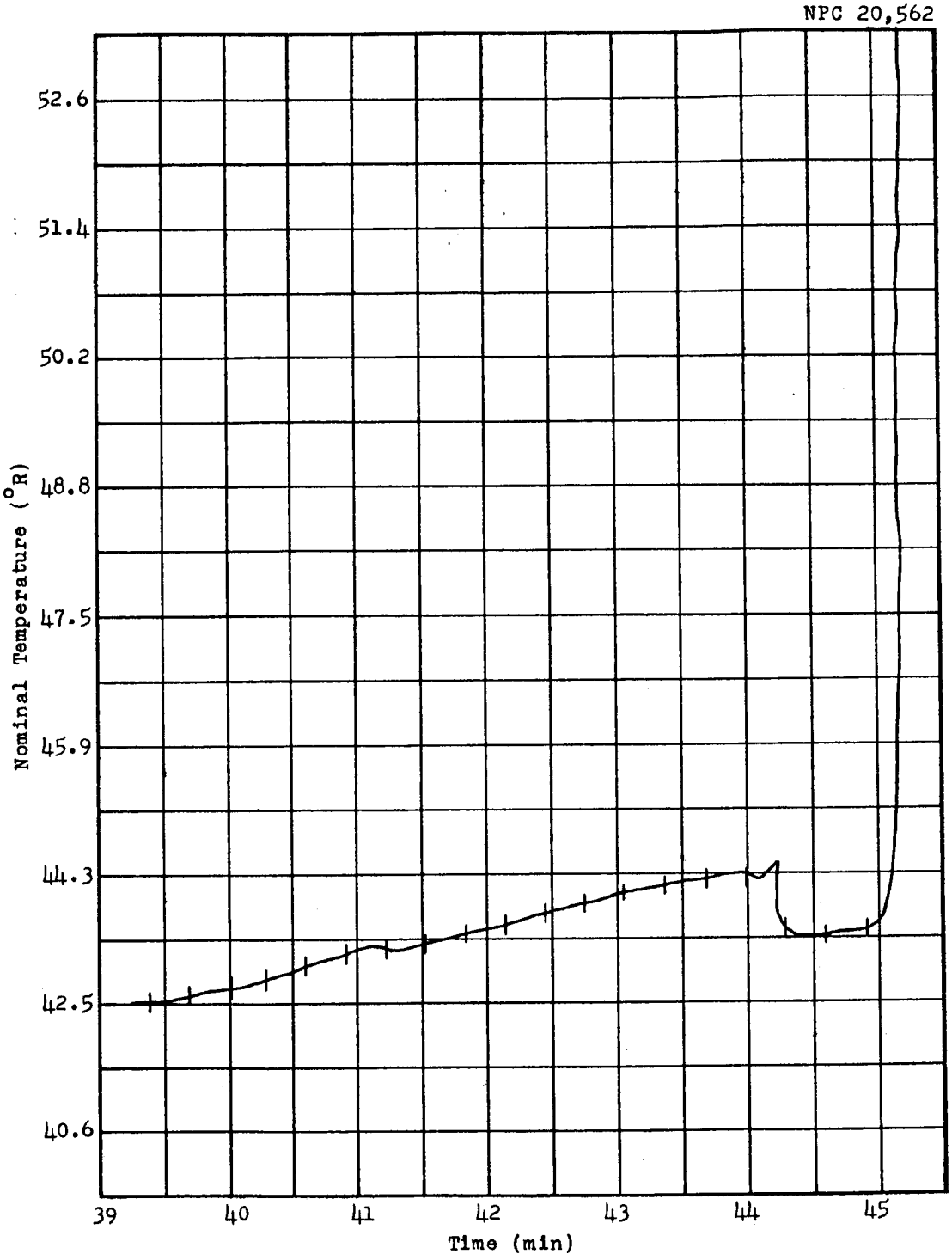

Figure 4.2-20 Strip-Chart Temperature Data: Run 15-110, Thermometer 1

TABLE 4.2-4 THERMOMETER DATA FOR EXPERIMENTAL RUN 15-110

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.33	58.10	0	36.34	58.09	0	36.51	57.88	0	38.32	55.34
0	36.36	58.07	0	36.33	58.11	0	36.53	57.86	0	38.33	55.33
0	36.33	58.11	0	36.33	58.10	0	36.52	57.87	0	38.35	55.29
9	36.42	58.00	9	36.36	58.07	9	36.55	57.83	9	37.76	56.16
9	36.42	58.00	9	36.40	58.02	9	36.55	57.83	9	37.79	56.12
10	36.38	58.04	10	36.38	58.04	10	36.57	57.81	10	37.80	56.10
10	36.40	58.02	10	36.38	58.04	10	36.62	57.75	10	37.80	56.11
10	36.45	57.96	10	36.40	58.02	10	36.58	57.79	10	37.83	56.07
11	36.49	57.91	11	36.39	58.03	11	36.76	57.56	11	37.83	56.07
11	36.44	57.97	11	36.40	58.02	11	36.65	57.70	11	37.80	56.10
11	36.44	57.97	11	36.41	58.01	11	36.75	57.58	11	37.80	56.10
11	36.49	57.91	11	36.47	57.93	12	36.69	57.66	12	37.87	56.01
12	36.54	57.85	12	36.52	57.87	12	36.72	57.61	12	37.87	56.00
12	36.58	57.80	12	36.58	57.80	12	36.79	57.52	12	37.93	55.91
12	36.62	57.74	12	36.65	57.71	12	36.85	57.45	12	37.97	55.85
13	36.66	57.69	13	36.70	57.64	13	36.94	57.32	13	38.01	55.80
13	36.72	57.62	13	36.72	57.62	13	36.96	57.30	13	38.03	55.77
13	36.88	57.40	13	36.75	57.57	13	36.98	57.27	13	38.06	55.72
14	37.32	56.81	14	36.84	57.46	14	37.06	57.16	14	38.09	55.68
14	36.88	57.40	14	36.91	57.36	14	37.11	57.10	14	38.20	55.52
14	37.03	57.20	14	37.01	57.23	14	37.09	57.13	14	38.21	55.50
15	37.08	57.14	15	37.10	57.11	15	37.17	57.02	15	38.23	55.47
15	36.99	57.26	15	37.14	57.06	15	37.17	57.01	15	38.27	55.42
15	37.02	57.22	15	37.11	57.10	15	37.18	57.00	15	38.23	55.47
16	37.02	57.22	16	37.15	57.04	16	37.27	56.87	16	38.41	55.20
16	37.17	57.01	16	37.27	56.88	16	37.34	56.77	16	38.45	55.15
16	37.13	57.07	16	37.17	57.01	16	37.32	56.80	16	38.44	55.17
16	37.13	57.07	16	37.27	56.87	16	37.35	56.76	16	38.51	55.06
17	37.32	56.80	17	37.25	56.90	17	37.39	56.70	17	38.51	55.06
17	37.24	56.91	17	37.30	56.84	17	37.46	56.60	17	38.62	54.90
17	37.31	56.82	17	37.37	56.74	17	37.49	56.56	17	38.69	54.79
18	37.35	56.76	18	37.52	56.51	18	37.58	56.43	18	38.77	54.68
18	37.45	56.61	18	37.54	56.49	18	37.59	56.41	18	38.77	54.68
18	37.42	56.65	18	37.55	56.47	18	37.62	56.37	18	38.78	54.67
19	37.49	56.56	19	37.60	56.39	19	37.68	56.28	19	38.86	54.55
19	37.51	56.53	19	37.62	56.37	19	37.75	56.18	19	38.93	54.45
19	37.61	56.38	19	37.71	56.24	19	37.80	56.10	19	38.98	54.37
20	37.73	56.21	20	37.72	56.23	20	37.85	56.03	20	38.96	54.40
20	37.67	56.30	20	37.78	56.14	20	37.91	55.94	20	39.00	54.35
20	37.80	56.11	20	37.83	56.07	20	37.96	55.87	20	39.00	54.35
20	37.80	56.10	20	37.83	56.07	20	38.00	55.81	21	38.96	54.41
21	37.88	55.99	21	37.88	55.99	21	38.07	55.71	21	38.96	54.41
21	37.91	55.94	21	37.97	55.85	21	38.08	55.69	21	38.99	54.36
21	37.93	55.92	21	38.00	55.82	21	38.14	55.61	21	38.96	54.40

* Timing interval = 0.31

TABLE 4.2-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	37.97	55.86	22	38.10	55.66	22	38.18	55.55	22	38.99	54.36
22	38.00	55.82	22	38.14	55.61	22	38.21	55.50	22	39.03	54.30
22	38.07	55.71	22	38.14	55.61	22	38.28	55.40	22	39.05	54.28
23	38.11	55.65	23	38.23	55.47	23	38.32	55.34	23	39.15	54.14
23	38.29	55.39	23	38.31	55.36	23	38.37	55.26	23	39.15	54.14
23	38.29	55.38	23	38.35	55.30	23	38.47	55.12	23	39.20	54.07
24	38.25	55.44	24	38.45	55.15	24	38.46	55.13	24	39.24	54.01
24	38.35	55.30	24	38.50	55.07	24	38.61	54.91	24	39.24	54.01
24	38.45	55.15	24	38.55	55.00	24	38.65	54.85	24	39.33	53.88
25	38.56	54.98	25	38.63	54.88	25	38.71	54.77	25	39.45	53.71
25	38.60	54.93	25	38.62	54.90	25	38.77	54.68	25	39.55	53.58
25	38.68	54.81	25	38.68	54.81	25	38.85	54.57	25	39.61	53.49
25	38.69	54.80	25	38.80	54.63	25	38.94	54.43	25	39.64	53.46
26	38.71	54.76	26	38.83	54.59	26	38.94	54.43	26	39.70	53.37
26	38.80	54.64	26	38.89	54.50	26	39.08	54.23	26	39.69	53.29
26	38.86	54.55	26	39.03	54.30	26	39.08	54.23	26	39.72	53.25
27	39.01	54.33	27	39.13	54.16	27	39.20	54.06	27	39.81	53.12
27	59.69	-0.	27	39.21	54.05	27	39.27	53.97	27	39.86	53.06
27	59.69	-0.	27	39.25	54.00	27	39.37	53.82	27	39.95	52.93
28	59.69	-0.	28	39.32	53.89	28	39.39	53.79	28	39.91	52.99
28	39.28	53.95	28	39.32	53.89	28	39.39	53.79	28	39.93	52.96
28	39.43	53.74	28	39.47	53.68	28	39.61	53.50	28	39.99	52.87
29	59.69	-0.	29	39.56	53.56	29	39.70	53.37	29	40.09	52.73
29	39.47	53.68	29	39.62	53.48	29	39.69	53.39	29	40.18	52.59
29	39.69	53.39	29	39.65	53.44	29	39.77	53.18	29	40.18	52.59
29	39.63	53.47	29	39.69	53.29	29	39.80	53.14	30	40.25	52.49
30	39.70	53.28	30	39.82	53.11	30	39.91	52.99	30	40.29	52.43
30	59.69	-0.	30	39.91	52.98	30	40.05	52.79	30	40.42	52.24
30	39.84	53.08	30	39.99	52.88	30	40.12	52.68	30	40.49	52.13
31	59.69	-0.	31	40.08	52.75	31	40.13	52.67	31	40.57	51.99
31	59.69	-0.	31	40.24	52.51	31	40.29	52.43	31	40.63	51.90
31	40.12	52.69	31	40.27	52.46	31	40.35	52.34	31	40.70	51.79
32	59.69	-0.	32	40.31	52.41	32	40.34	52.35	32	40.64	51.89
32	59.69	-0.	32	40.47	52.15	32	40.54	52.04	32	40.76	51.69
32	59.69	-0.	32	40.50	52.11	32	40.57	52.00	32	40.84	51.56
33	59.69	-0.	33	40.55	52.03	33	40.66	51.86	33	40.97	51.34
33	59.69	-0.	33	40.71	51.77	33	40.74	51.73	33	41.00	51.29
33	59.69	-0.	33	40.78	51.65	33	40.81	51.61	33	41.08	51.13
34	59.69	-0.	34	40.84	51.56	34	40.88	51.49	34	41.17	50.98
34	40.78	51.65	34	40.88	51.49	34	40.99	51.30	34	41.17	50.98
34	59.69	-0.	34	41.04	51.21	34	41.05	51.19	34	41.29	50.77
34	59.69	-0.	34	41.16	50.99	34	41.22	50.88	34	41.39	50.58
35	59.69	-0.	35	41.20	50.93	35	41.26	50.81	35	41.49	50.39
36	59.69	-0.	36	41.59	50.21	36	41.71	49.98	36	41.88	49.65

TABLE 4.2-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
37	41.66	50.07	37	41.70	49.99	37	41.79	49.82	37	42.01	49.41
37	59.69	-0.	37	41.83	49.75	37	41.83	49.75	37	42.07	49.28
37	41.87	49.68	37	41.89	49.64	37	42.00	49.42	37	42.16	49.11
38	41.96	49.49	38	42.05	49.33	38	42.13	49.17	38	42.33	48.78
38	59.69	-0.	38	42.18	49.07	38	42.16	49.11	38	42.40	48.64
38	59.69	-0.	38	42.28	48.88	38	42.33	48.77	38	42.51	48.42
39	42.22	48.98	39	42.40	48.64	39	42.45	48.53	39	42.66	48.11
39	42.40	48.63	39	42.61	48.22	39	42.58	48.27	39	42.83	47.78
39	59.69	-0.	39	42.63	48.17	39	42.68	48.07	39	42.94	47.58
39	59.69	-0.	40	42.83	47.79	40	42.83	47.78	40	43.00	47.47
40	42.81	47.83	40	42.94	47.57	40	42.98	47.50	40	43.16	47.17
40	59.69	-0.	40	43.12	47.23	40	43.12	47.23	40	43.43	46.68
40	59.69	-0.	40	43.25	46.99	40	43.31	46.89	40	43.48	46.58
41	43.38	46.76	41	43.49	46.56	41	43.40	46.73	41	43.64	46.14
41	59.69	-0.	41	43.68	46.24	41	43.65	46.29	41	43.83	45.90
41	59.69	-0.	41	43.82	45.92	41	43.76	45.99	41	44.10	45.53
42	43.82	45.92	42	44.08	45.56	42	44.01	45.66	42	44.35	45.15
42	59.69	-0.	42	44.32	45.19	42	44.24	45.32	42	44.52	44.86
42	59.69	-0.	42	44.44	45.00	42	44.35	45.15	42	44.71	44.52
43	59.69	-0.	43	44.57	44.78	43	44.56	44.80	43	44.89	44.15
43	59.69	-0.	43	44.79	44.36	43	44.69	44.55	43	44.98	43.96
43	59.69	-0.	43	44.95	44.02	43	44.91	44.11	43	45.07	43.75
44	44.79	44.35	44	44.81	44.32	44	44.89	44.14	44	45.16	43.53
44	59.69	-0.	44	44.09	45.54	44	43.68	46.10	44	44.16	45.44
44	43.63	46.16	44	43.72	46.04	44	43.59	46.20	44	44.21	45.37
44	59.69	-0.	44	43.60	46.37	44	43.57	46.43	44	44.11	45.51
45	60.02	-2.01	45	58.00	6.02	45	64.28	-28.09	45	71.00	-69.24

TABLE 4.2-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.33	58.10	0	94.31	-211.87	0	36.28	58.17	0	36.58	57.79
0	36.29	58.15	0	94.37	-212.27	0	36.30	58.14	0	36.61	57.76
0	36.32	58.12	0	94.28	-211.67	0	36.33	58.11	0	36.58	57.79
9	36.33	58.11	9	94.26	-211.57	9	36.36	58.07	9	36.64	57.72
9	36.35	58.08	9	94.11	-210.66	9	36.35	58.08	9	36.65	57.70
10	36.37	58.06	10	94.11	-210.66	10	36.32	58.12	10	36.62	57.74
10	36.37	58.05	10	94.11	-210.66	10	36.41	58.01	10	36.65	57.71
10	36.40	58.02	10	94.28	-211.67	10	36.37	58.05	10	36.65	57.71
11	36.40	58.02	11	94.11	-210.66	11	36.35	58.08	11	36.65	57.71
11	36.40	58.02	11	94.11	-210.66	11	36.39	58.03	11	36.69	57.66
11	36.42	57.99	11	94.28	-211.67	11	36.41	58.01	11	36.69	57.66
12	36.48	57.92	12	94.31	-211.87	12	36.44	57.97	12	36.74	57.59
12	36.54	57.85	12	94.11	-210.66	12	36.51	57.88	12	36.81	57.50
12	36.62	57.74	12	94.11	-210.66	12	36.56	57.82	12	36.85	57.45
12	36.59	57.78	12	94.11	-210.66	12	36.61	57.76	12	36.88	57.40
13	36.66	57.69	13	94.11	-210.66	13	36.69	57.66	13	36.87	57.42
13	36.69	57.65	13	94.11	-210.66	13	36.65	57.70	13	36.91	57.37
13	36.72	57.61	13	94.11	-210.66	13	36.70	57.64	13	36.97	57.29
14	36.80	57.51	14	94.11	-210.66	14	36.82	57.49	14	37.09	57.12
14	36.80	57.51	14	94.11	-210.66	14	36.81	57.50	14	37.05	57.18
14	36.87	57.42	14	94.28	-211.67	14	36.83	57.47	14	37.05	57.18
15	36.88	57.41	15	94.26	-211.57	15	36.85	57.45	15	37.09	57.12
15	36.95	57.31	15	94.28	-211.67	15	36.90	57.38	15	37.10	57.11
15	36.96	57.30	15	94.28	-211.67	15	36.95	57.31	15	37.17	57.01
16	37.05	57.18	16	94.28	-211.67	16	36.97	57.29	16	37.24	56.91
16	37.07	57.15	16	94.11	-210.66	16	37.04	57.19	16	37.25	56.90
16	37.15	57.04	16	94.11	-210.66	16	37.04	57.19	16	37.30	56.83
16	37.17	57.01	16	94.11	-210.66	16	37.14	57.06	17	37.34	56.78
17	37.18	57.00	17	94.11	-210.66	17	37.17	57.02	17	37.38	56.72
17	37.26	56.89	17	94.11	-210.66	17	37.18	57.00	17	37.44	56.63
17	37.24	56.92	17	94.28	-211.67	17	37.20	56.97	17	37.48	56.57
18	37.31	56.82	18	94.28	-211.67	18	37.24	56.92	18	37.50	56.54
18	37.40	56.69	18	94.36	-212.17	18	37.32	56.80	18	37.52	56.51
18	37.39	56.70	18	94.28	-211.67	18	37.37	56.73	18	37.57	56.44
19	37.47	56.59	19	94.28	-211.67	19	37.42	56.66	19	37.67	56.29
19	37.52	56.51	19	94.28	-211.67	19	37.51	56.53	19	37.67	56.30
19	37.60	56.39	19	94.28	-211.67	19	37.53	56.50	19	37.74	56.19
20	37.64	56.34	20	94.37	-212.27	20	37.53	56.50	20	37.79	56.12
20	37.66	56.31	20	94.28	-211.67	20	37.59	56.41	20	37.85	56.04
20	37.71	56.24	20	94.28	-211.67	20	37.68	56.28	20	37.86	56.02
21	37.76	56.17	21	94.28	-211.67	21	37.69	56.27	21	37.90	55.96
21	37.78	56.14	21	94.28	-211.67	21	37.77	56.15	21	38.00	55.81
21	37.84	56.05	21	94.11	-210.66	21	37.83	56.06	21	38.06	55.73
21	37.89	55.97	21	94.11	-210.66	21	37.89	55.97	21	38.08	55.69

TABLE 4.2-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	37.96	55.87	22	94.28	-211.67	22	37.90	55.96	22	38.10	55.66
22	38.02	55.79	22	94.11	-210.66	22	37.95	55.89	22	38.14	55.60
22	38.07	55.71	22	94.28	-211.67	22	38.04	55.75	22	38.25	55.44
23	38.08	55.70	23	94.28	-211.67	23	38.12	55.63	23	38.35	55.30
23	38.16	55.58	23	94.11	-210.66	23	38.18	55.55	23	38.35	55.29
23	38.23	55.48	23	94.28	-211.67	23	38.19	55.53	23	38.46	55.14
24	38.29	55.38	24	94.11	-210.66	24	38.21	55.50	24	38.47	55.12
24	38.32	55.34	24	94.11	-210.66	24	38.33	55.33	24	38.54	55.02
24	38.41	55.21	24	94.28	-211.67	24	38.37	55.27	24	38.61	54.91
25	38.47	55.12	25	94.28	-211.67	25	38.41	55.20	25	38.65	54.85
25	38.52	55.04	25	94.28	-211.67	25	38.48	55.10	25	38.71	54.76
25	38.59	54.94	25	94.11	-210.66	25	38.55	55.00	25	38.78	54.67
25	38.61	54.91	25	94.28	-211.67	26	38.58	54.95	26	38.82	54.61
26	38.69	54.80	26	94.28	-211.67	26	38.69	54.79	26	38.94	54.44
26	38.77	54.68	26	94.28	-211.67	26	38.75	54.71	26	38.97	54.39
26	38.82	54.61	26	94.28	-211.67	26	38.83	54.59	26	39.04	54.29
27	38.94	54.44	27	94.28	-211.67	27	38.87	54.53	27	39.14	54.15
27	38.98	54.38	27	94.28	-211.67	27	38.97	54.39	27	39.16	54.12
27	39.10	54.21	27	94.28	-211.67	27	38.98	54.38	27	39.24	54.01
28	39.08	54.24	28	94.11	-210.66	28	39.08	54.23	28	39.40	53.78
28	39.22	54.04	28	94.28	-211.67	28	39.15	54.14	28	39.39	53.79
28	39.23	54.02	28	94.28	-211.67	28	39.30	53.93	28	39.46	53.70
29	39.32	53.89	29	94.11	-210.66	29	39.33	53.87	29	39.62	53.48
29	39.44	53.73	29	94.31	-211.87	29	39.37	53.82	29	39.76	53.19
29	39.49	53.65	29	94.11	-210.66	29	39.47	53.68	29	40.00	52.86
30	39.55	53.57	30	94.28	-211.67	30	39.55	53.58	30	41.40	50.56
30	39.66	53.43	30	94.28	-211.67	30	39.59	53.52	30	53.88	21.38
30	39.69	53.29	30	94.11	-210.66	30	39.72	53.35	30	60.28	-3.61
30	39.71	53.26	30	94.28	-211.67	30	39.77	53.18	30	64.74	-30.89
31	39.85	53.07	31	94.11	-210.66	31	39.91	52.98	31	69.82	-62.01
31	39.94	52.94	31	94.28	-211.67	31	39.88	53.03	31	72.99	-81.40
31	40.00	52.86	31	94.28	-211.67	31	39.97	52.90	31	77.06	-106.28
32	40.12	52.69	32	94.28	-211.67	32	40.02	52.83	32	81.94	-136.19
32	40.21	52.56	32	94.28	-211.67	32	40.16	52.63	32	88.09	-173.83
32	40.29	52.44	32	94.11	-210.66	32	40.33	52.37	32	91.60	-195.31
33	40.38	52.30	33	94.11	-210.66	33	40.37	52.31	33	94.05	-210.26
33	40.45	52.19	33	94.11	-210.66	33	40.46	52.17	33	94.11	-210.66
33	40.55	52.03	33	94.21	-211.26	33	40.58	51.98	33	94.11	-210.66
34	40.64	51.88	34	94.28	-211.67	34	40.64	51.88	34	94.11	-210.66
34	40.70	51.79	34	94.11	-210.66	34	40.67	51.84	34	94.11	-210.66
34	40.81	51.60	34	94.28	-211.67	34	40.86	51.53	34	94.11	-210.66
34	40.90	51.46	34	94.26	-211.57	34	40.96	51.36	34	94.11	-210.66
35	41.01	51.26	35	94.28	-211.67	35	41.06	51.18	35	94.11	-210.66
36	41.46	50.45	36	94.11	-210.66	36	41.52	50.34	36	94.11	-210.66

TABLE 4.2-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
37	41.58	50.22	37	94.11	-210.66	37	51.55	26.15	37	94.11	-210.66
37	41.68	50.03	37	94.11	-210.66	37	60.11	-2.57	37	94.11	-210.66
37	41.76	49.88	37	94.21	-211.26	37	65.15	-33.43	37	94.11	-210.66
38	41.92	49.57	38	94.11	-210.66	38	70.60	-66.79	38	94.11	-210.66
38	42.00	49.42	38	94.26	-211.57	38	76.14	-100.66	38	94.24	-211.46
38	42.07	49.28	38	94.28	-211.67	38	81.91	-135.99	38	94.11	-210.66
39	42.17	49.09	39	94.28	-211.67	39	87.37	-169.41	39	94.11	-210.66
39	42.32	48.79	39	94.28	-211.67	39	92.05	-198.02	39	94.28	-211.67
39	42.43	48.58	39	94.11	-210.66	39	94.34	-212.07	39	94.51	-213.07
40	42.59	48.26	40	94.11	-210.66	40	94.52	-213.17	40	94.54	-213.27
40	42.73	47.98	40	94.28	-211.67	40	94.55	-213.37	40	94.54	-213.27
40	42.88	47.70	40	94.28	-211.67	40	94.54	-213.27	40	94.55	-213.37
40	43.05	47.37	40	94.11	-210.66	40	94.49	-212.97	40	94.52	-213.17
41	43.18	47.12	41	94.28	-211.67	41	94.54	-213.27	41	94.57	-213.47
41	43.38	46.76	41	94.28	-211.67	41	94.52	-213.17	41	94.54	-213.27
41	43.54	46.47	41	94.26	-211.57	41	94.49	-212.97	41	94.54	-213.27
42	43.62	46.17	42	94.28	-211.67	42	94.54	-213.27	42	94.52	-213.17
42	43.83	45.91	42	94.24	-211.46	42	94.49	-212.97	42	94.54	-213.27
42	43.94	45.76	42	94.28	-211.67	42	94.52	-213.17	42	94.54	-213.27
43	43.32	46.87	43	94.28	-211.67	43	94.51	-213.07	43	94.54	-213.27
43	43.32	46.87	43	94.24	-211.46	43	94.51	-213.07	43	94.54	-213.27
43	43.52	46.51	43	94.11	-210.66	43	94.51	-213.07	43	94.51	-213.07
44	43.49	46.57	44	94.28	-211.67	44	94.51	-213.07	44	94.51	-213.07
44	43.63	46.33	44	94.28	-211.67	44	94.52	-213.17	44	94.52	-213.17
44	43.63	46.32	44	94.11	-210.66	44	94.44	-212.67	44	94.47	-212.87
44	43.46	46.62	44	94.11	-210.66	45	94.44	-212.67	45	94.49	-212.97
45	90.60	-189.18	45	94.28	-211.67	45	94.55	-213.37	45	94.55	-213.37

TABLE 4.2-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.29	58.15	0	36.29	58.15	0	45.41	42.86	0	62.35	-16.26
0	36.29	58.15	0	36.31	58.13	0	45.40	42.88	0	61.92	-13.63
0	36.29	58.15	0	36.33	58.11	0	45.43	42.80	0	62.04	-14.40
9	36.33	58.11	9	36.42	58.00	9	45.42	42.82	9	61.33	-10.07
9	36.33	58.10	9	36.37	58.06	9	45.43	42.80	9	61.45	-10.76
10	36.33	58.11	10	36.40	58.02	10	45.44	42.75	10	61.94	-13.75
10	36.33	58.11	10	36.41	58.01	10	45.44	42.76	10	61.82	-13.05
10	36.37	58.06	10	36.36	58.07	10	45.44	42.77	10	61.89	-13.45
11	36.37	58.05	11	36.42	58.00	11	45.44	42.77	11	62.36	-16.37
11	36.43	57.98	11	36.37	58.05	11	45.45	42.74	11	61.89	-13.45
11	36.43	57.98	11	36.46	57.94	11	45.47	42.68	11	61.66	-12.03
12	36.48	57.92	12	36.51	57.88	12	45.47	42.66	12	62.97	-20.07
12	36.50	57.89	12	36.52	57.87	12	45.53	42.50	12	61.90	-13.55
12	36.56	57.82	12	36.58	57.79	12	45.55	42.44	12	62.35	-16.28
12	36.62	57.74	12	36.64	57.72	13	45.55	42.43	13	61.66	-12.03
13	36.62	57.74	13	36.65	57.71	13	45.55	42.42	13	61.43	-10.67
13	36.65	57.71	13	36.64	57.72	13	45.56	42.41	13	61.84	-13.16
13	36.67	57.68	13	36.67	57.68	13	45.58	42.34	13	61.99	-14.08
14	36.71	57.63	14	36.73	57.60	14	40.34	52.36	14	62.31	-16.06
14	36.79	57.52	14	36.80	57.51	14	45.62	42.21	14	62.32	-16.09
14	36.77	57.55	14	36.79	57.52	14	45.61	42.25	14	61.99	-14.06
15	36.82	57.49	15	36.88	57.40	15	45.64	42.15	15	61.90	-13.55
15	36.88	57.40	15	36.86	57.43	15	45.66	42.10	15	61.97	-13.98
15	36.95	57.31	15	37.00	57.25	15	45.69	41.99	15	61.99	-14.08
16	36.97	57.28	16	37.02	57.22	16	45.69	41.99	16	62.00	-14.12
16	36.97	57.29	16	37.05	57.18	16	45.73	41.86	16	62.15	-15.06
16	37.05	57.18	16	37.09	57.13	16	45.75	41.82	16	62.35	-16.28
17	37.07	57.15	17	37.10	57.11	17	45.74	41.83	17	62.15	-15.05
17	37.14	57.05	17	37.18	57.00	17	45.77	41.76	17	62.37	-16.39
17	37.19	56.98	17	37.17	57.01	17	45.77	41.74	17	63.07	-20.70
17	37.26	56.89	17	37.24	56.92	17	45.80	41.65	17	74.61	-91.33
18	37.22	56.94	18	37.31	56.82	18	45.87	41.44	18	93.06	-204.24
18	37.34	56.77	18	37.39	56.71	18	45.89	41.36	18	94.28	-211.67
18	37.37	56.74	18	37.47	56.59	18	45.94	41.20	18	94.31	-211.87
19	37.43	56.64	19	37.47	56.59	19	45.99	41.05	19	94.34	-212.07
19	37.43	56.64	19	37.49	56.56	19	46.08	40.77	19	94.28	-211.67
19	37.49	56.56	19	37.49	56.55	19	46.16	40.55	19	94.28	-211.67
20	37.54	56.49	20	37.56	56.45	20	49.62	32.49	20	94.28	-211.67
20	37.60	56.40	20	37.71	56.24	20	63.46	-23.07	20	94.28	-211.67
20	37.63	56.36	20	37.78	56.13	20	78.01	-112.11	20	94.28	-211.67
21	37.72	56.23	21	37.87	56.00	21	90.67	-189.59	21	94.28	-211.67
21	37.81	56.09	21	37.88	55.99	21	94.28	-211.67	21	94.59	-213.57
21	37.85	56.04	21	37.87	56.01	21	94.28	-211.67	21	94.52	-213.17
21	37.87	56.00	21	38.03	55.77	22	94.11	-210.66	22	94.52	-213.17

TABLE 4.2-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	37.91	55.94	22	38.33	55.32	22	94.24	-211.46	22	94.54	-213.27
22	38.01	55.80	22	42.81	47.82	22	94.11	-210.66	22	94.57	-213.47
22	38.06	55.72	22	62.79	-18.98	22	94.28	-211.67	22	94.52	-213.17
23	38.09	55.68	23	76.94	-105.58	23	94.11	-210.66	23	94.52	-213.17
23	38.19	55.53	23	87.75	-171.72	23	94.24	-211.46	23	94.52	-213.17
23	38.28	55.40	23	94.11	-210.66	23	94.75	-214.58	23	94.54	-213.27
24	38.33	55.33	24	94.11	-210.66	24	94.51	-213.07	24	94.51	-213.07
24	38.41	55.20	24	94.28	-211.67	24	94.51	-213.07	24	94.54	-213.27
24	38.63	54.89	24	94.28	-211.67	24	94.52	-213.17	24	94.55	-213.37
25	42.23	48.97	25	94.11	-210.66	25	94.52	-213.17	25	94.52	-213.17
25	59.69	-0.	25	94.28	-211.67	25	94.54	-213.27	25	94.59	-213.57
25	59.69	-0.	25	94.28	-211.67	25	94.52	-213.17	25	94.60	-213.67
26	59.69	-0.	26	94.11	-210.66	26	94.57	-213.47	26	94.55	-213.37
26	90.93	-191.19	26	94.28	-211.67	26	94.59	-213.57	26	94.55	-213.37
26	94.11	-210.66	26	94.57	-213.47	26	94.52	-213.17	26	94.55	-213.37
26	94.11	-210.66	26	94.49	-212.97	26	94.52	-213.17	26	94.57	-213.47
27	94.11	-210.66	27	94.59	-213.57	27	94.57	-213.47	27	94.59	-213.57
27	94.11	-210.66	27	94.57	-213.47	27	94.57	-213.47	27	94.60	-213.67
27	94.11	-210.66	27	94.57	-213.47	27	94.54	-213.27	27	94.59	-213.57
28	94.11	-210.66	28	94.55	-213.37	28	94.59	-213.57	28	94.57	-213.47
28	94.11	-210.66	28	94.51	-213.07	28	94.54	-213.27	28	94.59	-213.57
28	94.11	-210.66	28	94.54	-213.27	28	94.59	-213.57	28	94.55	-213.37
29	94.11	-210.66	29	94.57	-213.47	29	94.59	-213.57	29	94.59	-213.57
29	94.11	-210.66	29	94.54	-213.27	29	94.54	-213.27	29	94.54	-213.27
29	94.11	-210.66	29	94.54	-213.27	29	94.52	-213.17	29	94.51	-213.07
30	94.11	-210.66	30	94.52	-213.17	30	94.55	-213.37	30	94.59	-213.57
30	94.11	-210.66	30	94.51	-213.07	30	94.60	-213.67	30	94.52	-213.17
30	94.11	-210.66	30	94.47	-212.87	30	94.51	-213.07	30	94.52	-213.17
30	94.11	-210.66	30	94.52	-213.17	31	94.51	-213.07	31	94.51	-213.07
31	94.11	-210.66	31	94.54	-213.27	31	94.55	-213.37	31	94.57	-213.47
31	94.11	-210.66	31	94.52	-213.17	31	94.52	-213.17	31	94.57	-213.47
31	94.11	-210.66	31	94.55	-213.37	31	94.57	-213.47	31	94.55	-213.37
32	94.11	-210.66	32	94.49	-212.97	32	94.51	-213.07	32	94.52	-213.17
32	94.11	-210.66	32	94.46	-212.77	32	94.54	-213.27	32	94.52	-213.17
32	94.11	-210.66	32	94.36	-212.17	32	94.46	-212.77	32	94.49	-212.97
33	94.28	-211.67	33	94.49	-212.97	33	94.52	-213.17	33	94.47	-212.87
33	94.41	-212.47	33	94.52	-213.17	33	94.52	-213.17	33	94.54	-213.27
33	94.37	-212.27	33	94.54	-213.27	33	94.55	-213.37	33	94.54	-213.27
34	94.37	-212.27	34	94.54	-213.27	34	94.55	-213.37	34	94.52	-213.17
34	94.37	-212.27	34	94.52	-213.17	34	94.51	-213.07	34	94.57	-213.47
34	94.41	-212.47	34	94.52	-213.17	34	94.54	-213.27	34	94.55	-213.37
35	94.36	-212.17	35	94.49	-212.97	35	94.49	-212.97	35	94.54	-213.27
35	94.37	-212.27	35	94.54	-213.27	35	94.57	-213.47	35	94.55	-213.37
36	94.31	-211.87	36	94.49	-212.97	36	94.49	-212.97	36	94.49	-212.97

TABLE 4.2-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
37	94.34	-212.07	37	94.52	-213.17	37	94.52	-213.17	37	94.52	-213.17
37	94.28	-211.67	37	94.47	-212.87	37	94.51	-213.07	37	94.52	-213.17
37	94.31	-211.87	37	94.49	-212.97	37	94.54	-213.27	37	94.52	-213.17
38	94.36	-212.17	38	94.51	-213.07	38	94.49	-212.97	38	94.49	-212.97
38	94.34	-212.07	38	94.51	-213.07	38	94.54	-213.27	38	94.57	-213.47
38	94.41	-212.47	38	94.51	-213.07	38	94.55	-213.37	38	94.52	-213.17
39	94.37	-212.27	39	94.52	-213.17	39	94.54	-213.27	39	94.54	-213.27
39	94.37	-212.27	39	94.52	-213.17	39	94.57	-213.47	39	94.54	-213.27
39	94.42	-212.57	39	94.55	-213.37	39	94.54	-213.27	39	94.55	-213.37
40	94.42	-212.57	40	94.57	-213.47	40	94.55	-213.37	40	94.54	-213.27
40	94.44	-212.67	40	94.54	-213.27	40	94.54	-213.27	40	94.54	-213.27
40	94.44	-212.67	40	94.55	-213.37	40	94.55	-213.37	40	94.57	-213.47
41	94.41	-212.47	41	94.52	-213.17	41	94.54	-213.27	41	94.55	-213.37
41	94.44	-212.67	41	94.55	-213.37	41	94.52	-213.17	41	94.54	-213.27
41	94.41	-212.47	41	94.52	-213.17	41	94.52	-213.17	41	94.52	-213.17
41	94.37	-212.27	41	94.57	-213.47	41	94.54	-213.27	41	94.52	-213.17
42	94.41	-212.47	42	94.52	-213.17	42	94.54	-213.27	42	94.59	-213.57
42	94.37	-212.27	42	94.54	-213.27	42	94.55	-213.37	42	94.55	-213.37
42	94.44	-212.67	42	94.57	-213.47	42	94.60	-213.67	42	94.57	-213.47
43	94.44	-212.67	43	94.52	-213.17	43	94.55	-213.37	43	94.55	-213.37
43	94.39	-212.37	43	94.52	-213.17	43	94.49	-212.97	43	94.51	-213.07
43	94.39	-212.37	43	94.51	-213.07	43	94.55	-213.37	43	94.49	-212.97
44	94.41	-212.47	44	94.55	-213.37	44	94.57	-213.47	44	94.54	-213.27
44	94.39	-212.37	44	94.51	-213.07	44	94.54	-213.27	44	94.52	-213.17
44	94.36	-212.17	44	94.49	-212.97	44	94.49	-212.97	44	94.49	-212.97
45	94.34	-212.07	45	94.47	-212.87	45	94.51	-213.07	45	94.52	-213.17
45	94.59	-213.57	45	94.55	-213.37	45	94.52	-213.17	45	94.55	-213.37

TABLE 4.2-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.33	58.11	0	36.31	58.13	0	36.33	58.11	0	35.90	58.61
0	36.33	58.11	0	36.32	58.12	0	36.34	58.09	0	35.93	58.57
0	36.32	58.12	0	36.33	58.10	0	36.33	58.10	0	35.94	58.56
9	36.34	58.09	9	36.34	58.09	9	36.36	58.07	9	36.11	58.37
9	36.36	58.07	9	36.33	58.11	9	36.37	58.05	9	36.12	58.35
10	36.37	58.06	10	36.33	58.11	10	36.43	57.98	10	36.37	58.06
10	36.40	58.02	10	36.35	58.08	10	36.42	58.00	10	36.79	57.53
10	36.39	58.03	10	36.40	58.02	10	36.42	58.00	10	37.21	56.96
11	36.42	58.00	11	36.42	58.00	11	36.41	58.01	11	37.39	56.70
11	36.41	58.01	11	36.41	58.01	11	36.50	57.89	11	37.56	56.45
11	36.45	57.96	11	36.43	57.98	11	36.50	57.89	11	40.51	52.10
12	36.50	57.90	12	36.48	57.92	12	36.58	57.80	12	43.38	46.76
12	36.64	57.72	12	36.65	57.70	12	36.85	57.44	12	49.10	33.68
12	36.65	57.71	12	36.72	57.62	12	36.79	57.52	12	51.53	25.69
13	36.64	57.72	13	36.68	57.67	13	36.80	57.51	13	54.28	16.66
13	36.67	57.68	13	36.65	57.70	13	36.75	57.57	13	55.86	13.62
13	36.67	57.68	13	36.68	57.67	13	36.88	57.40	13	88.80	94.94
13	36.68	57.67	13	36.71	57.63	13	36.79	57.53	13	57.15	9.02
14	36.73	57.60	14	36.73	57.60	14	36.76	57.56	14	57.59	7.45
14	36.80	57.51	14	36.79	57.53	14	36.93	57.34	14	61.90	-13.54
14	36.98	57.27	14	37.17	57.01	14	38.08	55.70	14	63.10	-20.90
15	36.92	57.35	15	37.03	57.21	15	39.61	53.49	15	70.02	-63.22
15	36.97	57.29	15	37.19	56.99	15	44.43	45.02	15	79.25	-119.73
15	37.31	56.82	15	37.77	56.15	15	57.03	9.43	15	85.11	-155.56
16	37.21	56.96	16	39.96	52.92	16	68.08	-51.38	16	91.54	-194.90
16	37.21	56.96	16	44.76	44.42	16	81.32	-132.38	16	92.69	-201.93
16	39.25	54.00	16	64.71	-30.70	16	87.91	-172.72	16	92.18	-198.82
17	43.60	46.38	17	83.52	-145.83	17	93.92	-209.46	17	94.42	-212.57
17	63.76	-24.88	17	92.55	-201.13	17	94.28	-211.67	17	94.51	-213.07
17	83.12	-143.42	17	94.28	-211.67	17	94.49	-212.97	17	94.54	-213.27
17	92.29	-199.52	17	94.34	-212.07	18	94.59	-213.57	18	94.64	-213.87
18	94.42	-212.57	18	94.64	-213.87	18	94.65	-213.97	18	94.62	-213.77
18	94.54	-213.27	18	94.64	-213.87	18	94.64	-213.87	18	94.62	-213.77
18	94.52	-213.17	18	94.62	-213.77	18	94.62	-213.77	18	94.62	-213.77
19	94.52	-213.17	19	94.62	-213.77	19	94.62	-213.77	19	94.64	-213.87
19	94.52	-213.17	19	94.60	-213.67	19	94.60	-213.67	19	94.60	-213.67
19	94.54	-213.27	19	94.64	-213.87	19	94.64	-213.87	19	94.64	-213.87
20	94.52	-213.17	20	94.60	-213.67	20	94.62	-213.77	20	94.64	-213.87
20	94.51	-213.07	20	94.62	-213.77	20	94.62	-213.77	20	94.62	-213.77
20	94.47	-212.87	20	94.60	-213.67	20	94.59	-213.57	20	94.59	-213.57
21	94.44	-212.67	21	94.57	-213.47	21	94.59	-213.57	21	94.57	-213.47
21	94.51	-213.07	21	94.55	-213.37	21	94.57	-213.47	21	94.55	-213.37
21	94.49	-212.97	21	94.52	-213.17	21	94.54	-213.27	21	94.55	-213.37
22	94.44	-212.67	22	94.52	-213.17	22	94.54	-213.27	22	94.57	-213.47

TABLE 4.2-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	94.47	-212.87	22	94.57	-213.47	22	94.60	-213.67	22	94.59	-213.57
22	94.47	-212.87	22	94.57	-213.47	22	94.62	-213.77	22	94.60	-213.67
22	94.44	-212.67	22	94.55	-213.37	22	94.57	-213.47	22	94.55	-213.37
23	94.44	-212.67	23	94.55	-213.37	23	94.51	-213.07	23	94.57	-213.47
23	94.46	-212.77	23	94.51	-213.07	23	94.59	-213.57	23	94.55	-213.37
23	94.44	-212.67	23	94.59	-213.57	23	94.54	-213.27	23	94.59	-213.57
24	94.44	-212.67	24	94.51	-213.07	24	94.55	-213.37	24	94.52	-213.17
24	94.44	-212.67	24	94.55	-213.37	24	94.55	-213.37	24	94.62	-213.77
24	94.44	-212.67	24	94.55	-213.37	24	94.52	-213.17	24	94.60	-213.67
25	94.44	-212.67	25	94.52	-213.17	25	94.62	-213.77	25	94.54	-213.27
25	94.47	-212.87	25	94.60	-213.67	25	94.54	-213.27	25	94.65	-213.97
25	94.52	-213.17	25	94.59	-213.57	25	94.59	-213.57	25	94.55	-213.37
26	94.62	-213.77	26	94.60	-213.67	26	94.55	-213.37	26	94.54	-213.27
26	94.54	-213.27	26	94.54	-213.27	26	94.54	-213.27	26	94.60	-213.67
26	94.60	-213.67	26	94.60	-213.67	26	94.60	-213.67	26	94.62	-213.77
26	94.55	-213.37	27	94.57	-213.47	27	94.60	-213.67	27	94.60	-213.67
27	94.59	-213.57	27	94.55	-213.37	27	94.55	-213.37	27	94.54	-213.27
27	94.64	-213.87	27	94.62	-213.77	27	94.60	-213.67	27	94.59	-213.57
27	94.55	-213.37	27	94.60	-213.67	27	94.59	-213.57	27	94.65	-213.97
28	94.57	-213.47	28	94.59	-213.57	28	94.60	-213.67	28	94.59	-213.57
28	94.55	-213.37	28	94.55	-213.37	28	94.54	-213.27	28	94.52	-213.17
28	94.59	-213.57	28	94.57	-213.47	28	94.57	-213.47	28	94.60	-213.67
29	94.59	-213.57	29	94.60	-213.67	29	94.59	-213.57	29	94.59	-213.57
29	94.54	-213.27	29	94.54	-213.27	29	94.57	-213.47	29	94.55	-213.37
29	94.52	-213.17	29	94.52	-213.17	29	94.51	-213.07	29	94.51	-213.07
30	94.54	-213.27	30	94.54	-213.27	30	94.60	-213.67	30	94.59	-213.57
30	94.54	-213.27	30	94.52	-213.17	30	94.52	-213.17	30	94.52	-213.17
30	94.55	-213.37	30	94.52	-213.17	30	94.55	-213.37	30	94.55	-213.37
31	94.54	-213.27	31	94.55	-213.37	31	94.55	-213.37	31	94.55	-213.37
31	94.60	-213.67	31	94.64	-213.87	31	94.59	-213.57	31	94.55	-213.37
31	94.57	-213.47	31	94.52	-213.17	31	94.52	-213.17	31	94.59	-213.57
31	94.54	-213.27	31	94.54	-213.27	31	94.54	-213.27	31	94.60	-213.67
32	94.51	-213.07	32	94.51	-213.07	32	94.51	-213.07	32	94.51	-213.07
32	94.52	-213.17	32	94.52	-213.17	32	94.52	-213.17	32	94.39	-212.37
32	94.47	-212.87	32	94.51	-213.07	32	94.47	-212.87	32	94.51	-213.07
33	94.51	-213.07	33	94.47	-212.87	33	94.49	-212.97	33	94.47	-212.87
33	94.55	-213.37	33	94.55	-213.37	33	94.52	-213.17	33	94.47	-212.87
33	94.55	-213.37	33	94.57	-213.47	33	94.55	-213.37	33	94.52	-213.17
34	94.52	-213.17	34	94.52	-213.17	34	94.54	-213.27	34	94.51	-213.07
34	94.52	-213.17	34	94.52	-213.17	34	94.52	-213.17	34	94.52	-213.17
34	94.57	-213.47	34	94.59	-213.57	34	94.57	-213.47	34	94.55	-213.37
35	94.57	-213.47	35	94.52	-213.17	35	94.52	-213.17	35	94.52	-213.17
35	94.52	-213.17	35	94.54	-213.27	35	94.55	-213.37	35	94.54	-213.27
36	94.54	-213.27	36	94.52	-213.17	36	94.52	-213.17	37	94.52	-213.17

TABLE 4.2-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
37	94.54	-213.27	37	94.49	-212.97	37	94.49	-212.97	37	94.51	-213.07
37	94.47	-212.87	37	94.49	-212.97	37	94.51	-213.07	37	94.49	-212.97
37	94.51	-213.07	37	94.52	-213.17	37	94.55	-213.37	37	94.55	-213.37
38	94.51	-213.07	38	94.54	-213.27	38	94.47	-212.87	38	94.51	-213.07
38	94.55	-213.37	38	94.54	-213.27	38	94.55	-213.37	38	94.55	-213.37
38	94.52	-213.17	38	94.52	-213.17	38	94.54	-213.27	38	94.54	-213.27
39	94.52	-213.17	39	94.54	-213.27	39	94.52	-213.17	39	94.54	-213.27
39	94.54	-213.27	39	94.57	-213.47	39	94.54	-213.27	39	94.57	-213.47
39	94.54	-213.27	39	94.54	-213.27	39	94.57	-213.47	39	94.57	-213.47
40	94.55	-213.37	40	94.55	-213.37	40	94.59	-213.57	40	94.52	-213.17
40	94.57	-213.47	40	94.57	-213.47	40	94.55	-213.37	40	94.60	-213.67
40	94.54	-213.27	40	94.52	-213.17	40	94.54	-213.27	40	94.55	-213.37
41	94.51	-213.07	41	94.54	-213.27	41	94.54	-213.27	41	94.51	-213.07
41	94.54	-213.27	41	94.54	-213.27	41	94.55	-213.37	41	94.52	-213.17
41	94.52	-213.17	41	94.54	-213.27	41	94.52	-213.17	41	94.52	-213.17
41	94.52	-213.17	41	94.54	-213.27	41	94.54	-213.27	41	94.55	-213.37
42	94.57	-213.47	42	94.54	-213.27	42	94.54	-213.27	42	94.54	-213.27
42	94.55	-213.37	42	94.59	-213.57	42	94.55	-213.37	42	94.55	-213.37
42	94.55	-213.37	42	94.54	-213.27	42	94.57	-213.47	42	94.54	-213.27
43	94.52	-213.17	43	94.52	-213.17	43	94.52	-213.17	43	94.54	-213.27
43	94.52	-213.17	43	94.52	-213.17	43	94.51	-213.07	43	94.51	-213.07
43	94.52	-213.17	43	94.52	-213.17	43	94.51	-213.07	43	94.54	-213.27
44	94.54	-213.27	44	94.54	-213.27	44	94.55	-213.37	44	94.54	-213.27
44	94.57	-213.47	44	94.42	-212.57	44	94.52	-213.17	44	94.52	-213.17
44	94.51	-213.07	44	94.55	-213.37	44	94.51	-213.07	44	94.47	-212.87
45	94.51	-213.07	45	94.52	-213.17	45	94.52	-213.17	45	94.54	-213.27
45	94.55	-213.37	45	94.37	-212.27	45	94.39	-212.37	45	94.47	-212.87

TABLE 4.2-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.55	57.83	0	37.60	56.40	0	40.23	52.53	0	67.90	-50.25
0	36.49	57.91	0	37.60	56.39	0	40.23	52.53	0	68.35	-53.00
0	36.51	57.88	0	37.71	56.24	0	40.29	52.44	0	68.42	-53.40
9	36.78	57.54	9	38.37	55.26	9	41.45	50.46	9	79.76	-122.84
9	36.82	57.49	9	38.51	55.06	9	41.54	50.30	9	81.11	-131.07
10	37.27	56.88	10	39.15	54.14	10	42.41	48.62	10	94.11	-210.66
10	38.02	55.79	10	40.11	52.70	10	43.50	46.55	10	94.11	-210.66
10	38.50	55.08	10	40.67	51.83	10	44.19	45.39	10	94.11	-210.66
11	38.96	54.41	11	41.25	50.83	11	38.21	55.50	11	94.28	-211.67
11	39.54	53.59	11	41.69	50.02	11	45.12	43.63	11	94.28	-211.67
11	44.32	45.19	11	46.42	39.84	11	57.37	8.23	11	94.28	-211.67
12	49.85	31.96	12	51.63	26.72	12	87.19	-168.31	12	94.21	-211.26
12	54.39	19.27	12	56.12	12.69	12	79.47	-121.04	12	94.28	-211.67
12	59.69	-0.	12	66.08	-39.11	12	88.63	-177.14	12	94.11	-210.66
13	59.69	-0.	13	85.68	-159.08	13	94.11	-210.66	13	94.52	-213.17
13	59.69	-0.	13	91.82	-196.61	13	94.11	-210.66	13	94.47	-212.87
13	59.69	-0.	13	94.11	-210.66	13	94.52	-213.17	13	94.51	-213.07
13	59.69	-0.	14	94.11	-210.66	14	94.49	-212.97	14	94.51	-213.07
14	92.46	-200.53	14	94.28	-211.67	14	94.47	-212.87	14	94.54	-213.27
14	93.69	-208.05	14	94.31	-211.87	14	94.54	-213.27	14	94.54	-213.27
14	59.69	-0.	14	93.29	-205.64	14	94.41	-212.47	14	94.52	-213.17
15	59.69	-0.	15	94.11	-210.66	15	94.44	-212.67	15	94.51	-213.07
15	92.77	-202.43	15	94.21	-211.26	15	94.54	-213.27	15	94.77	-214.68
15	93.29	-205.64	15	93.87	-209.16	15	94.44	-212.67	15	94.60	-213.67
16	91.64	-195.51	16	93.23	-205.24	16	94.34	-212.07	16	94.64	-213.87
16	93.39	-206.25	16	93.64	-207.75	16	94.41	-212.47	16	94.55	-213.37
16	94.11	-210.66	16	93.85	-209.06	16	94.44	-212.67	16	94.57	-213.47
17	94.31	-211.87	17	94.26	-211.57	17	94.55	-213.37	17	94.52	-213.17
17	94.08	-210.46	17	94.44	-212.67	17	94.55	-213.37	17	94.55	-213.37
17	94.42	-212.57	17	94.55	-213.37	17	94.55	-213.37	17	94.52	-213.17
18	94.44	-212.67	18	94.59	-213.57	18	94.62	-213.77	18	94.62	-213.77
18	94.62	-213.77	18	94.62	-213.77	18	94.64	-213.87	18	94.64	-213.87
18	94.64	-213.87	18	94.64	-213.87	18	94.65	-213.97	18	94.65	-213.97
18	94.64	-213.87	18	94.64	-213.87	18	94.64	-213.87	18	94.64	-213.87
19	94.64	-213.87	19	94.62	-213.77	19	94.62	-213.77	19	94.65	-213.97
19	94.62	-213.77	19	94.65	-213.97	19	94.64	-213.87	19	94.67	-214.07
19	94.65	-213.97	19	94.65	-213.97	19	94.64	-213.87	19	94.69	-214.17
20	94.62	-213.77	20	94.62	-213.77	20	94.62	-213.77	20	94.64	-213.87
20	94.62	-213.77	20	94.62	-213.77	20	94.60	-213.67	20	94.64	-213.87
20	94.62	-213.77	20	94.62	-213.77	20	94.62	-213.77	20	94.59	-213.57
21	94.64	-213.87	21	94.59	-213.57	21	94.59	-213.57	21	94.59	-213.57
21	94.55	-213.37	21	94.57	-213.47	21	94.59	-213.57	21	94.59	-213.57
21	94.57	-213.47	21	94.57	-213.47	21	94.55	-213.37	21	94.59	-213.57
22	94.54	-213.27	22	94.57	-213.47	22	94.55	-213.37	22	94.57	-213.47

TABLE 4.2-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	94.57	-213.47	22	94.54	-213.27	22	94.55	-213.37	22	94.54	-213.27
22	94.62	-213.77	22	94.57	-213.47	22	94.52	-213.17	22	94.60	-213.67
22	94.57	-213.47	23	94.54	-213.27	23	94.60	-213.67	23	94.60	-213.67
23	94.57	-213.47	23	94.55	-213.37	23	94.55	-213.37	23	94.57	-213.47
23	94.59	-213.57	23	94.57	-213.47	23	94.57	-213.47	23	94.57	-213.47
23	94.57	-213.47	23	94.55	-213.37	23	94.62	-213.77	23	94.60	-213.67
24	94.54	-213.27	24	94.49	-212.97	24	94.51	-213.07	24	94.59	-213.57
24	94.52	-213.17	24	94.57	-213.47	24	94.49	-212.97	24	94.55	-213.37
24	94.60	-213.67	24	94.55	-213.37	24	94.57	-213.47	24	94.57	-213.47
25	94.60	-213.67	25	94.55	-213.37	25	94.55	-213.37	25	94.55	-213.37
25	94.55	-213.37	25	94.51	-213.07	25	94.55	-213.37	25	94.60	-213.67
25	94.62	-213.77	25	94.59	-213.57	25	94.55	-213.37	25	94.60	-213.67
26	94.55	-213.37	26	94.59	-213.57	26	94.55	-213.37	26	94.57	-213.47
26	94.54	-213.27	26	94.57	-213.47	26	94.62	-213.77	26	94.62	-213.77
26	94.60	-213.67	26	94.62	-213.77	26	94.59	-213.57	26	94.57	-213.47
27	94.59	-213.57	27	94.57	-213.47	27	94.57	-213.47	27	94.62	-213.77
27	94.55	-213.37	27	94.60	-213.67	27	94.65	-213.97	27	94.64	-213.87
27	94.60	-213.67	27	94.55	-213.37	27	94.55	-213.37	27	94.59	-213.57
27	94.65	-213.97	27	94.65	-213.97	27	94.64	-213.87	27	94.60	-213.67
28	94.60	-213.67	28	94.65	-213.97	28	94.62	-213.77	28	94.59	-213.57
28	94.52	-213.17	28	94.57	-213.47	28	94.57	-213.47	28	94.60	-213.67
28	94.60	-213.67	28	94.57	-213.47	28	94.57	-213.47	28	94.54	-213.27
29	94.55	-213.37	29	94.59	-213.57	29	94.57	-213.47	29	94.60	-213.67
29	94.60	-213.67	29	94.55	-213.37	29	94.49	-212.97	29	94.55	-213.37
29	94.57	-213.47	29	94.57	-213.47	29	94.52	-213.17	29	94.54	-213.27
30	94.57	-213.47	30	94.60	-213.67	30	94.57	-213.47	30	94.57	-213.47
30	94.54	-213.27	30	94.54	-213.27	30	94.55	-213.37	30	94.54	-213.27
30	94.55	-213.37	30	94.57	-213.47	30	94.57	-213.47	30	94.59	-213.57
31	94.52	-213.17	31	94.52	-213.17	31	94.51	-213.07	31	94.57	-213.47
31	94.62	-213.77	31	94.57	-213.47	31	94.54	-213.27	31	94.59	-213.57
31	94.59	-213.57	31	94.54	-213.27	31	94.55	-213.37	31	94.55	-213.37
31	94.55	-213.37	32	94.54	-213.27	32	94.59	-213.57	32	94.54	-213.27
32	94.57	-213.47	32	94.55	-213.37	32	94.55	-213.37	32	94.55	-213.37
32	94.46	-212.77	32	94.49	-212.97	32	94.52	-213.17	32	94.52	-213.17
32	94.52	-213.17	32	94.52	-213.17	32	94.49	-212.97	32	94.55	-213.37
33	94.52	-213.17	33	94.49	-212.97	33	94.49	-212.97	33	94.49	-212.97
33	94.51	-213.07	33	94.52	-213.17	33	94.55	-213.37	33	94.54	-213.27
33	94.51	-213.07	33	94.55	-213.37	33	94.52	-213.17	33	94.49	-212.97
34	94.57	-213.47	34	94.55	-213.37	34	94.54	-213.27	34	94.54	-213.27
34	94.54	-213.27	34	94.55	-213.37	34	94.52	-213.17	34	94.51	-213.07
34	94.54	-213.27	34	94.54	-213.27	34	94.57	-213.47	34	94.57	-213.47
35	94.52	-213.17	35	94.52	-213.17	35	94.51	-213.07	35	94.57	-213.47
35	94.54	-213.27	35	94.54	-213.27	35	94.55	-213.37	35	94.51	-213.07
37	94.51	-213.07	37	94.47	-212.87	37	94.49	-212.97	37	94.52	-213.17

TABLE 4.2-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
37	94.52	-213.17	37	94.51	-213.07	37	94.54	-213.27	37	94.54	-213.27
37	94.49	-212.97	37	94.49	-212.97	37	94.49	-212.97	37	94.49	-212.97
37	94.52	-213.17	38	94.52	-213.17	38	94.51	-213.07	38	94.59	-213.57
38	94.49	-212.97	38	94.51	-213.07	38	94.51	-213.07	38	94.51	-213.07
38	94.55	-213.37	38	94.54	-213.27	38	94.54	-213.27	38	94.59	-213.57
38	94.55	-213.37	38	94.55	-213.37	38	94.54	-213.27	38	94.44	-212.67
39	94.51	-213.07	39	94.54	-213.27	39	94.54	-213.27	39	94.55	-213.37
39	94.55	-213.37	39	94.55	-213.37	39	94.54	-213.27	39	94.54	-213.27
39	94.52	-213.17	39	94.54	-213.27	39	94.54	-213.27	39	94.55	-213.37
40	94.54	-213.27	40	94.55	-213.37	40	94.55	-213.37	40	94.59	-213.57
40	94.59	-213.57	40	94.57	-213.47	40	94.57	-213.47	40	94.59	-213.57
40	94.55	-213.37	40	94.55	-213.37	40	94.49	-212.97	40	94.51	-213.07
41	94.51	-213.07	41	94.54	-213.27	41	94.54	-213.27	41	94.54	-213.27
41	94.54	-213.27	41	94.55	-213.37	41	94.54	-213.27	41	94.54	-213.27
41	94.52	-213.17	41	94.54	-213.27	41	94.55	-213.37	41	94.55	-213.37
42	94.54	-213.27	42	94.55	-213.37	42	94.55	-213.37	42	94.54	-213.27
42	94.54	-213.27	42	94.54	-213.27	42	94.55	-213.37	42	94.55	-213.37
42	94.57	-213.47	42	94.55	-213.37	42	94.55	-213.37	42	94.55	-213.37
42	94.54	-213.27	42	94.60	-213.67	42	94.59	-213.57	42	94.55	-213.37
43	94.52	-213.17	43	94.55	-213.37	43	94.54	-213.27	43	94.54	-213.27
43	94.49	-212.97	43	94.52	-213.17	43	94.52	-213.17	43	94.52	-213.17
43	94.52	-213.17	43	94.51	-213.07	43	94.51	-213.07	43	94.51	-213.07
44	94.54	-213.27	44	94.55	-213.37	44	94.54	-213.27	44	94.55	-213.37
44	94.42	-212.57	44	94.46	-212.77	44	94.49	-212.97	44	94.51	-213.07
44	94.49	-212.97	44	94.46	-212.77	44	94.46	-212.77	44	94.49	-212.97
45	94.47	-212.87	45	94.47	-212.87	45	94.47	-212.87	45	94.44	-212.67
45	94.47	-212.87	45	94.55	-213.37	45	94.54	-213.27	45	94.55	-213.37

TABLE 4.2-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.30	58.14	0	36.29	58.15	0	36.30	58.14	0	36.31	58.13
0	36.33	58.11	0	36.31	58.13	0	36.28	58.17	0	36.32	58.12
0	36.33	58.10	0	36.32	58.12	0	36.33	58.11	0	36.33	58.10
9	36.35	58.08	9	36.33	58.10	9	36.32	58.12	9	36.32	58.12
10	36.35	58.08	10	36.35	58.08	10	36.33	58.11	10	36.35	58.08
10	36.36	58.07	10	36.34	58.09	10	36.32	58.12	10	36.35	58.08
10	36.41	58.01	10	36.33	58.11	10	36.34	58.09	10	36.35	58.08
10	36.40	58.02	10	36.37	58.05	10	36.37	58.06	10	36.37	58.06
11	36.42	58.00	11	36.37	58.06	11	36.36	58.07	11	36.37	58.05
11	36.41	58.01	11	36.40	58.02	11	36.35	58.08	11	36.37	58.05
11	36.41	58.01	11	36.42	58.00	11	36.41	58.01	11	36.43	57.98
12	36.50	57.89	12	36.46	57.95	12	36.46	57.95	12	36.46	57.95
12	36.54	57.84	12	36.51	57.88	12	36.53	57.86	12	36.53	57.86
12	36.58	57.79	12	36.58	57.80	12	36.58	57.79	12	36.59	57.78
13	36.65	57.71	13	36.62	57.74	13	36.62	57.74	13	36.61	57.76
13	36.68	57.67	13	36.66	57.69	13	36.67	57.68	13	36.68	57.67
13	36.69	57.66	13	36.66	57.69	13	36.69	57.66	13	36.67	57.68
14	36.72	57.62	14	36.68	57.67	14	36.68	57.67	14	36.72	57.62
14	59.69	-0.	14	36.72	57.61	14	36.75	57.58	14	36.78	57.54
14	59.69	-0.	14	36.76	57.56	14	36.79	57.52	14	36.79	57.52
14	36.83	57.47	14	36.82	57.49	14	36.82	57.49	14	36.88	57.40
15	59.69	-0.	15	36.92	57.35	15	36.94	57.32	15	36.88	57.41
15	59.69	-0.	15	36.94	57.32	15	36.92	57.35	15	36.91	57.37
15	59.69	-0.	15	36.95	57.31	15	36.97	57.28	15	37.00	57.24
16	59.69	-0.	16	37.03	57.21	16	37.05	57.18	16	37.03	57.21
16	59.69	-0.	16	37.06	57.17	16	37.06	57.16	16	37.07	57.15
16	59.69	-0.	16	37.00	57.24	16	37.06	57.16	16	37.05	57.18
17	59.69	-0.	17	37.13	57.07	17	37.14	57.05	17	37.14	57.05
17	59.69	-0.	17	37.17	57.01	17	37.12	57.08	17	37.11	57.09
17	59.69	-0.	17	37.17	57.01	17	37.17	57.01	17	37.17	57.01
18	59.69	-0.	18	37.22	56.95	18	37.20	56.97	18	37.23	56.93
18	59.69	-0.	18	37.27	56.87	18	37.27	56.88	18	37.27	56.88
18	59.69	-0.	18	37.31	56.82	18	37.30	56.84	18	37.32	56.81
18	59.69	-0.	19	37.35	56.76	19	37.38	56.72	19	37.39	56.71
19	59.69	-0.	19	37.43	56.64	19	37.43	56.64	19	37.47	56.59
19	59.69	-0.	19	37.49	56.56	19	37.50	56.54	19	37.49	56.55
19	59.69	-0.	19	37.52	56.51	19	37.56	56.45	19	37.52	56.51
20	59.69	-0.	20	37.51	56.52	20	37.53	56.50	20	37.56	56.45
20	59.69	-0.	20	37.60	56.40	20	37.61	56.38	20	37.59	56.41
20	59.69	-0.	20	37.67	56.30	20	37.68	56.28	20	37.78	56.14
21	59.69	-0.	21	37.72	56.23	21	37.68	56.28	21	37.71	56.24
21	59.69	-0.	21	37.77	56.15	21	37.76	56.17	21	37.74	56.20
21	59.69	-0.	21	37.83	56.06	21	37.84	56.05	21	37.91	55.95
22	59.69	-0.	22	37.84	56.05	22	37.89	55.97	22	37.89	55.98

TABLE 4.2-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	59.69	-0.	22	37.90	55.96	22	37.89	55.97	22	37.87	56.00
22	59.69	-0.	22	37.94	55.90	22	37.97	55.86	22	38.01	55.80
23	59.69	-0.	23	38.02	55.78	23	38.00	55.82	23	38.00	55.82
23	59.69	-0.	23	38.07	55.71	23	38.08	55.69	23	38.08	55.69
23	59.69	-0.	23	38.10	55.66	23	38.12	55.64	23	38.16	55.58
23	59.69	-0.	23	38.18	55.55	23	38.19	55.53	23	38.17	55.56
24	59.69	-0.	24	38.26	55.43	24	38.23	55.48	24	38.25	55.44
24	59.69	-0.	24	38.28	55.40	24	38.28	55.40	24	38.32	55.34
24	59.69	-0.	24	38.35	55.29	24	38.35	55.29	24	38.41	55.21
25	59.69	-0.	25	38.43	55.18	25	38.40	55.22	25	38.41	55.20
25	59.69	-0.	25	38.50	55.07	25	38.52	55.04	25	38.52	55.04
25	59.69	-0.	25	38.51	55.06	25	38.50	55.07	25	38.56	54.99
26	59.69	-0.	26	38.59	54.94	26	38.61	54.92	26	38.61	54.91
26	59.69	-0.	26	38.65	54.86	26	38.69	54.79	26	38.69	54.79
26	59.69	-0.	26	38.70	54.78	26	38.67	54.82	26	38.69	54.80
27	59.69	-0.	27	38.80	54.63	27	38.82	54.61	27	38.83	54.59
27	59.69	-0.	27	38.85	54.56	27	38.85	54.57	27	38.85	54.57
27	59.69	-0.	27	38.91	54.48	27	38.92	54.46	27	38.96	54.40
28	59.69	-0.	28	38.98	54.37	28	38.98	54.38	28	39.01	54.34
28	59.69	-0.	28	39.06	54.26	28	39.08	54.24	28	39.10	54.21
28	59.69	-0.	28	39.13	54.16	28	39.15	54.14	28	39.15	54.14
28	59.69	-0.	28	39.18	54.09	28	39.25	54.00	28	39.25	53.99
29	59.69	-0.	29	39.28	53.96	29	39.28	53.96	29	39.30	53.93
29	59.69	-0.	29	39.32	53.89	29	39.31	53.90	29	39.34	53.86
29	59.69	-0.	29	39.42	53.75	20	39.38	53.81	29	39.39	53.79
30	59.69	-0.	30	39.54	53.59	30	39.55	53.58	30	39.56	53.56
30	59.69	-0.	30	39.62	53.48	30	39.65	53.44	30	39.67	53.41
30	59.69	-0.	30	39.68	53.30	30	39.70	53.37	30	39.66	53.33
31	59.69	-0.	31	39.69	53.29	31	39.73	53.24	31	39.71	53.26
31	59.69	-0.	31	39.82	53.11	31	39.82	53.11	31	39.84	53.09
31	59.69	-0.	31	39.89	53.01	31	39.87	53.04	31	39.90	53.00
32	59.69	-0.	32	39.95	52.93	32	39.98	52.89	32	40.03	52.81
32	59.69	-0.	32	40.06	52.77	32	40.07	52.76	32	40.11	52.70
32	59.69	-0.	32	40.18	52.60	32	40.16	52.63	32	40.16	52.63
32	59.69	-0.	32	40.23	52.52	32	40.27	52.47	32	40.26	52.48
33	59.69	-0.	33	40.32	52.39	33	40.36	52.32	33	40.38	52.30
33	59.69	-0.	33	40.40	52.27	33	40.38	52.29	33	40.42	52.23
33	59.69	-0.	33	40.51	52.09	33	40.56	52.01	33	40.57	51.99
34	59.69	-0.	34	40.57	51.99	34	40.60	51.95	34	40.62	51.91
34	59.69	-0.	34	40.70	51.78	34	40.67	51.84	34	40.70	51.78
34	59.69	-0.	34	40.80	51.62	34	40.79	51.64	34	40.80	51.63
35	59.69	-0.	35	40.88	51.49	35	40.86	51.52	35	40.88	51.49
35	59.69	-0.	35	40.98	51.31	35	40.97	51.34	35	40.98	51.32
37	59.69	-0.	37	41.50	50.37	37	41.46	50.45	37	41.45	50.47

TABLE 4.2-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
37	59.69	-0.	37	41.63	50.14	37	41.58	50.22	37	41.58	50.22
37	59.69	-0.	37	41.73	49.95	37	41.74	49.93	37	41.71	49.98
38	59.69	-0.	38	41.67	50.06	38	41.83	49.75	38	41.95	49.51
38	59.69	-0.	38	42.03	49.37	38	42.28	48.87	38	42.44	48.56
38	59.69	-0.	38	47.99	36.36	38	48.15	35.89	38	47.79	37.05
38	59.69	-0.	38	54.39	19.07	38	54.38	18.61	38	51.53	27.00
39	60.26	-3.49	39	59.43	0.92	39	59.69	-0.	39	55.76	13.97
39	63.64	-24.16	39	63.06	-20.64	39	63.39	-22.63	39	60.44	-4.62
39	68.38	-53.17	39	67.49	-47.76	39	68.25	-52.40	39	64.07	-26.79
40	73.04	-81.68	40	72.00	-75.36	40	72.89	-80.78	40	68.58	-54.39
40	77.75	-110.50	40	76.60	-103.47	40	77.78	-110.70	40	73.18	-82.59
40	82.04	-136.79	40	81.06	-130.77	40	82.17	-137.60	40	77.89	-111.40
41	85.68	-159.08	41	84.60	-152.45	41	86.08	-161.48	41	82.32	-138.50
41	88.49	-176.24	41	87.63	-171.02	41	88.67	-177.34	41	85.58	-158.47
41	90.27	-187.18	41	89.50	-182.46	41	90.34	-187.58	41	88.22	-174.63
42	91.36	-193.80	42	90.60	-189.18	42	91.50	-194.70	42	89.44	-182.06
42	92.29	-199.52	42	91.36	-193.80	42	92.16	-198.72	42	90.64	-189.38
42	92.95	-203.54	42	92.34	-199.82	42	92.98	-203.74	42	91.47	-194.50
42	93.64	-207.75	42	93.10	-204.44	42	93.65	-207.85	43	92.09	-198.32
43	94.46	-212.77	43	93.87	-209.16	43	94.18	-211.06	43	92.64	-201.63
43	94.51	-213.07	43	94.37	-212.27	43	94.51	-213.07	43	93.16	-204.84
43	94.52	-213.17	43	94.55	-213.37	43	94.52	-213.17	43	93.73	-208.35
44	94.64	-213.87	44	94.57	-213.47	44	94.55	-213.37	44	94.55	-213.37
44	94.51	-213.07	44	94.51	-213.07	44	94.51	-213.07	44	94.55	-213.37
44	94.49	-212.97	44	94.54	-213.27	44	94.52	-213.17	44	94.47	-212.87
45	94.49	-212.97	45	94.52	-213.17	45	94.46	-212.77	45	94.46	-212.77
45	94.54	-213.27	45	94.60	-213.67	45	94.55	-213.37	45	94.62	-213.77

TABLE 4.2-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.18	57.00	0	36.31	58.13	0	36.32	58.12	0	36.28	58.17
0	37.14	57.05	0	36.29	58.15	0	36.29	58.15	0	36.28	58.17
0	37.12	57.08	0	36.30	58.14	0	36.33	58.10	0	36.29	58.15
9	37.17	57.01	9	36.34	58.09	9	36.33	58.11	9	36.33	58.10
10	37.32	56.80	10	36.33	58.11	10	36.33	58.11	10	36.32	58.12
10	37.16	57.03	10	36.33	58.10	10	36.33	58.11	10	36.33	58.11
10	37.32	56.80	10	36.34	58.09	10	36.37	58.06	10	36.34	58.09
10	37.17	57.01	10	36.36	58.07	10	36.37	58.06	11	36.37	58.06
11	37.24	56.91	11	36.36	58.07	11	36.37	58.05	11	36.37	58.06
11	37.26	56.89	11	36.38	58.04	11	36.40	58.02	11	36.36	58.07
11	37.32	56.81	11	36.42	57.99	11	36.45	57.96	11	36.41	58.01
12	37.46	56.60	12	36.50	57.89	12	36.49	57.91	12	36.49	57.91
12	37.60	56.40	12	36.54	57.85	12	36.52	57.87	12	36.53	57.86
12	37.67	56.29	12	36.58	57.80	12	36.58	57.79	12	36.58	57.79
13	37.81	56.09	13	36.65	57.71	13	36.65	57.71	13	36.62	57.75
13	37.74	56.19	13	36.65	57.70	13	36.67	57.68	13	36.64	57.72
13	37.78	56.14	13	36.66	57.69	13	36.68	57.67	13	36.65	57.71
14	37.80	56.10	14	36.71	57.63	14	36.71	57.63	14	36.70	57.64
14	37.53	56.50	14	36.73	57.60	14	36.74	57.59	14	36.72	57.61
14	37.67	56.30	14	36.78	57.54	14	36.85	57.45	14	36.82	57.48
15	37.68	56.28	15	36.82	57.48	15	36.84	57.46	15	36.85	57.44
15	37.76	56.17	15	36.85	57.44	15	36.88	57.41	15	36.88	57.41
15	38.03	55.77	15	36.90	57.38	15	36.90	57.38	15	36.90	57.38
15	38.03	55.77	15	36.95	57.31	15	36.97	57.29	15	36.94	57.33
16	38.05	55.74	16	36.98	57.27	16	36.98	57.27	16	36.95	57.31
16	38.05	55.74	16	37.00	57.24	16	37.02	57.22	16	37.03	57.20
16	38.01	55.80	15	28.11	66.22	16	37.07	57.15	16	37.06	57.16
17	38.13	55.62	17	37.06	57.16	17	37.06	57.17	17	37.06	57.17
17	38.01	55.80	17	37.12	57.08	17	37.14	57.06	17	37.10	57.11
17	38.07	55.71	17	37.18	57.00	17	37.21	56.96	17	37.16	57.03
18	38.22	55.49	18	37.23	56.93	18	37.24	56.91	18	37.22	56.95
18	38.30	55.37	18	37.26	56.89	18	37.27	56.88	18	37.24	56.91
18	38.44	55.17	18	37.30	56.83	18	37.34	56.78	18	37.32	56.81
19	38.41	55.20	19	37.38	56.72	19	37.39	56.71	19	37.35	56.76
19	38.56	54.99	19	37.45	56.61	19	37.44	56.63	19	37.40	56.69
19	38.55	55.00	19	37.46	56.60	19	37.48	56.57	19	37.47	56.59
19	38.71	54.77	19	37.50	56.54	19	37.49	56.55	19	37.47	56.58
20	38.73	54.74	20	37.54	56.48	20	37.52	56.51	20	37.52	56.51
20	38.71	54.76	20	37.60	56.39	20	37.60	56.39	20	37.57	56.44
20	38.87	54.54	20	37.67	56.30	20	37.66	56.31	20	37.67	56.30
21	38.80	54.64	21	37.67	56.29	21	37.69	56.27	21	37.67	56.30
21	38.81	54.62	21	37.73	56.21	21	37.74	56.19	21	37.76	56.16
21	38.96	54.41	21	37.77	56.15	21	37.80	56.10	21	37.75	56.18
22	39.10	54.20	22	37.83	56.07	22	37.85	56.03	22	37.83	56.07

TABLE 4.2-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	38.98	54.37	22	37.84	56.05	22	37.89	55.98	22	37.86	56.02
22	38.84	54.58	22	37.98	55.84	22	37.96	55.87	22	37.93	55.91
23	38.54	55.02	23	38.04	55.76	23	38.01	55.80	23	38.01	55.80
23	38.53	55.03	23	38.13	55.62	23	38.08	55.70	23	38.08	55.70
23	38.41	55.20	23	38.19	55.53	23	38.12	55.63	23	38.14	55.60
24	38.48	55.10	24	38.25	55.44	24	38.21	55.51	24	38.16	55.57
24	38.49	55.09	24	38.31	55.35	24	38.29	55.38	24	38.25	55.44
24	38.48	55.10	24	38.38	55.25	24	38.32	55.34	24	38.32	55.34
24	38.41	55.20	24	38.44	55.17	24	38.44	55.16	24	38.41	55.21
25	38.56	54.99	25	38.50	55.08	25	38.54	55.01	25	38.54	55.01
25	38.52	55.04	25	38.75	54.71	25	38.73	54.74	25	38.66	54.84
25	38.39	55.24	25	40.01	52.85	25	41.07	51.16	25	39.29	53.94
26	38.44	55.17	26	56.92	9.86	26	58.67	3.63	26	51.54	26.09
26	38.49	55.09	26	65.56	-35.91	26	68.02	-50.97	26	64.21	-27.69
26	38.36	55.28	26	72.79	-80.18	26	76.01	-99.85	26	72.40	-77.79
27	38.36	55.28	27	80.17	-125.35	27	83.26	-144.22	27	79.50	-121.24
27	38.35	55.30	27	87.34	-169.21	27	89.93	-185.07	27	86.14	-161.89
27	38.54	55.01	27	92.87	-203.03	27	94.37	-212.27	27	92.96	-203.64
28	38.39	55.24	28	94.31	-211.87	28	94.59	-213.57	28	94.62	-213.77
28	38.48	55.11	28	94.11	-210.66	28	94.54	-213.27	28	94.57	-213.47
28	38.52	55.04	28	94.28	-211.67	28	94.54	-213.27	28	94.57	-213.47
28	38.61	54.91	28	94.28	-211.67	28	94.57	-213.47	28	94.60	-213.67
29	40.06	52.78	29	94.28	-211.67	29	94.52	-213.17	29	94.55	-213.37
29	38.89	54.50	29	94.11	-210.66	29	94.52	-213.17	29	94.54	-213.27
29	38.56	54.98	29	94.28	-211.67	29	94.55	-213.37	29	94.55	-213.37
30	38.62	54.90	30	94.28	-211.67	30	94.49	-212.97	30	94.51	-213.07
30	38.67	54.82	30	94.11	-210.66	30	94.51	-213.07	30	94.57	-213.47
30	38.73	54.74	30	94.28	-211.67	30	94.55	-213.37	30	94.52	-213.17
31	38.73	54.74	31	94.11	-210.66	31	94.51	-213.07	31	94.55	-213.37
31	39.12	54.18	31	94.11	-210.66	31	94.55	-213.37	31	94.59	-213.57
31	38.98	54.37	31	94.11	-210.66	31	94.44	-212.67	31	94.49	-212.97
32	39.08	54.24	32	94.28	-211.67	32	94.57	-213.47	32	94.55	-213.37
32	39.18	54.10	32	94.11	-210.66	32	94.51	-213.07	32	94.54	-213.27
32	39.15	54.14	32	94.11	-210.66	32	94.51	-213.07	32	94.49	-212.97
32	39.10	54.20	33	94.11	-210.66	33	94.44	-212.67	33	94.52	-213.17
33	39.28	53.96	33	94.11	-210.66	33	94.49	-212.97	33	94.49	-212.97
33	39.36	53.83	33	94.28	-211.67	33	94.52	-213.17	33	94.54	-213.27
33	39.55	53.57	33	94.11	-210.66	33	94.54	-213.27	33	94.54	-213.27
34	39.55	53.58	34	94.28	-211.67	34	94.47	-212.87	34	94.52	-213.17
34	39.68	53.40	34	94.11	-210.66	34	94.47	-212.87	34	94.47	-212.87
34	39.70	53.37	34	94.11	-210.66	34	94.55	-213.37	34	94.52	-213.17
35	39.66	53.33	35	94.28	-211.67	35	94.52	-213.17	35	94.49	-212.97
35	39.79	53.15	35	94.28	-211.67	35	94.54	-213.27	35	94.55	-213.37
37	40.15	52.64	37	94.28	-211.67	37	94.51	-213.07	37	94.47	-212.87

TABLE 4.2-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
37	40.13	52.67	37	94.11	-210.66	37	94.47	-212.87	37	94.47	-212.87
37	40.31	52.40	37	94.21	-211.26	37	94.51	-213.07	37	94.54	-213.27
38	40.45	52.19	38	94.11	-210.66	38	94.49	-212.97	38	94.52	-213.17
38	40.94	51.39	38	94.11	-210.66	38	94.46	-212.77	38	94.52	-213.17
38	45.96	41.15	38	94.28	-211.67	38	94.54	-213.27	38	94.57	-213.47
38	51.44	27.28	39	94.11	-210.66	39	94.49	-212.97	39	94.51	-213.07
39	56.23	12.29	39	94.28	-211.67	39	94.47	-212.87	39	94.55	-213.37
39	60.84	-7.02	39	94.28	-211.67	39	94.55	-213.37	39	94.57	-213.47
39	64.96	-32.23	39	94.28	-211.67	39	94.51	-213.07	39	94.52	-213.17
40	69.58	-60.51	40	94.11	-210.66	40	94.52	-213.17	40	94.54	-213.27
40	74.35	-89.71	40	94.28	-211.67	40	94.54	-213.27	40	94.57	-213.47
40	78.66	-117.32	40	94.28	-211.67	40	94.52	-213.17	40	94.52	-213.17
41	83.22	-144.02	41	94.28	-211.67	41	94.54	-213.27	41	94.51	-213.07
41	86.44	-163.69	41	94.28	-211.67	41	94.51	-213.07	41	94.54	-213.27
41	88.78	-178.04	41	94.11	-210.66	41	94.52	-213.17	41	94.55	-213.37
42	89.82	-184.37	42	94.28	-211.67	42	94.54	-213.27	42	94.57	-213.47
42	90.59	-189.08	42	94.28	-211.67	42	94.49	-212.97	42	94.54	-213.27
42	91.24	-193.10	42	94.28	-211.67	42	94.54	-213.27	42	94.54	-213.27
43	91.32	-193.60	43	94.28	-211.67	43	94.54	-213.27	43	94.52	-213.17
43	92.16	-198.82	43	94.28	-211.67	43	94.52	-213.17	43	94.49	-212.97
43	92.78	-202.53	43	94.28	-211.67	43	94.52	-213.17	43	94.54	-213.27
43	93.42	-206.45	43	94.37	-212.27	43	94.54	-213.27	43	94.55	-213.37
44	94.52	-213.17	44	94.54	-213.27	44	94.54	-213.27	44	94.55	-213.37
44	94.52	-213.17	44	94.54	-213.27	44	94.52	-213.17	44	94.52	-213.17
44	94.49	-212.97	44	94.49	-212.97	44	94.49	-212.97	44	94.46	-212.77
45	94.47	-212.87	45	94.47	-212.87	45	94.54	-213.27	45	94.54	-213.27
45	94.55	-213.37	45	94.59	-213.57	45	94.59	-213.57	45	94.62	-213.77

TABLE 4.2-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.33	58.11	0	36.30	58.14	0	59.72	-0.19	0	94.44	-212.67
0	36.30	58.14	0	42.67	48.10	0	59.63	0.20	0	94.39	-212.37
0	36.29	58.15	0	36.29	58.15	0	59.52	0.61	0	94.37	-212.27
9	36.35	58.08	9	36.32	58.12	9	59.61	0.30	9	94.11	-210.66
10	36.32	58.12	10	36.35	58.08	10	59.35	1.20	10	94.11	-210.66
10	36.33	58.11	10	36.33	58.10	10	59.04	2.32	10	94.28	-211.67
10	36.37	58.06	10	36.36	58.07	10	59.01	2.42	10	94.28	-211.67
11	36.37	58.05	11	36.36	58.07	11	58.76	3.30	11	94.11	-210.66
11	36.37	58.05	11	36.37	58.06	11	58.28	5.02	11	94.11	-210.66
11	36.37	58.05	11	36.40	58.02	11	57.71	7.03	11	94.28	-211.67
11	36.45	57.96	11	36.43	57.98	11	54.55	15.56	11	94.28	-211.67
12	36.49	57.91	12	36.51	57.88	12	52.76	23.24	12	94.11	-210.66
12	36.54	57.85	12	36.58	57.80	12	50.74	29.51	12	94.11	-210.66
12	36.60	57.77	12	36.59	57.78	12	48.11	36.00	12	94.11	-210.66
13	36.65	57.71	13	36.62	57.74	13	41.33	50.69	13	94.11	-210.66
13	36.67	57.68	13	36.68	57.67	13	44.84	44.25	13	94.11	-210.66
13	36.69	57.66	13	36.69	57.66	13	43.48	46.58	13	94.11	-210.66
14	36.71	57.63	14	36.71	57.63	14	42.79	47.87	14	94.11	-210.66
14	36.76	57.56	14	36.81	57.50	14	42.83	47.79	14	94.11	-210.66
14	36.83	57.47	14	36.88	57.41	14	42.73	47.98	14	94.11	-210.66
15	36.88	57.41	15	36.88	57.40	15	42.82	47.80	15	94.11	-210.66
15	36.90	57.38	15	36.95	57.31	15	42.97	47.53	15	94.28	-211.67
15	36.91	57.36	15	36.93	57.34	15	42.79	47.87	15	94.28	-211.67
15	36.96	57.30	15	36.97	57.29	15	42.98	47.51	15	94.28	-211.67
16	36.97	57.29	16	37.03	57.20	16	43.33	46.86	16	94.11	-210.66
16	37.00	57.24	16	37.03	57.21	16	43.54	46.47	16	94.28	-211.67
16	37.08	57.14	16	37.06	57.17	16	43.60	46.19	16	94.11	-210.66
17	37.07	57.15	17	37.12	57.08	17	43.86	45.87	17	94.11	-210.66
17	37.12	57.08	17	37.11	57.09	17	43.98	45.70	17	94.28	-211.67
17	37.17	57.01	17	37.23	56.93	17	44.20	45.38	17	94.31	-211.87
18	37.23	56.93	18	37.24	56.91	18	44.21	45.36	18	94.28	-211.67
18	37.27	56.87	18	37.32	56.81	18	44.28	45.26	18	94.28	-211.67
18	37.32	56.81	18	37.35	56.76	18	44.21	45.36	18	94.28	-211.67
19	37.35	56.76	19	37.39	56.70	19	44.28	45.26	19	94.31	-211.87
19	37.42	56.65	19	37.44	56.62	19	44.34	45.16	19	94.28	-211.67
19	37.47	56.59	19	37.51	56.52	19	44.26	45.29	19	94.34	-212.07
20	37.46	56.60	20	37.51	56.53	20	44.12	45.50	20	94.31	-211.87
20	37.54	56.48	20	37.57	56.44	20	44.08	45.56	20	94.28	-211.67
20	37.61	56.38	20	37.65	56.33	20	43.92	45.79	20	94.28	-211.67
20	37.67	56.30	20	37.67	56.30	20	44.01	45.67	20	94.28	-211.67
21	37.67	56.30	21	37.67	56.30	21	43.93	45.77	21	94.28	-211.67
21	37.77	56.15	21	37.76	56.17	21	43.93	45.77	21	94.11	-210.66
21	37.78	56.14	21	37.82	56.08	21	44.21	45.36	21	94.11	-210.66
22	37.85	56.04	22	37.85	56.04	22	44.15	45.46	22	94.28	-211.67

TABLE 4.2-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
22	37.88	55.99	22	37.92	55.93	22	44.03	45.64	22	94.28	-211.67
22	37.94	55.90	22	37.97	55.86	22	43.96	45.73	22	94.31	-211.87
23	38.01	55.80	23	38.00	55.82	23	43.93	45.77	23	94.28	-211.67
23	38.09	55.68	23	38.09	55.68	23	43.93	45.77	23	94.11	-210.66
23	38.14	55.60	23	38.16	55.57	23	43.93	45.77	23	94.11	-210.66
24	38.17	55.56	24	38.21	55.50	24	44.01	45.67	24	94.11	-210.66
24	38.25	55.44	24	38.25	55.44	24	44.01	45.67	24	94.28	-211.67
24	38.33	55.32	24	38.38	55.25	24	43.78	45.97	24	94.28	-211.67
24	38.39	55.24	24	38.42	55.19	24	43.93	45.77	25	94.11	-210.66
25	38.52	55.05	25	38.53	55.03	25	43.72	46.04	25	94.28	-211.67
25	38.60	54.93	25	38.62	54.90	25	43.60	46.19	25	94.28	-211.67
25	39.23	54.03	25	39.47	53.69	25	43.62	46.17	25	94.28	-211.67
26	48.07	36.13	26	54.37	18.37	26	44.21	45.36	26	94.28	-211.67
26	59.69	-0.	26	65.49	-35.52	26	43.70	46.07	26	94.28	-211.67
26	59.69	-0.	26	73.27	-83.09	26	43.49	46.57	26	94.11	-210.66
27	59.69	-0.	27	80.32	-126.26	27	43.60	46.38	27	94.28	-211.67
27	76.09	-100.35	27	87.42	-169.71	27	43.63	46.16	27	94.28	-211.67
27	76.09	-100.35	27	94.41	-212.47	27	43.67	46.26	27	94.28	-211.67
28	76.09	-100.35	28	94.57	-213.47	28	43.44	46.65	28	94.28	-211.67
28	94.37	-212.27	28	94.57	-213.47	28	43.49	46.56	28	94.28	-211.67
28	94.37	-212.27	28	94.57	-213.47	28	43.27	46.96	28	94.28	-211.67
29	94.41	-212.47	29	94.62	-213.77	29	43.44	46.66	29	94.28	-211.67
29	94.28	-211.67	29	94.51	-213.07	29	43.18	47.12	29	94.24	-211.46
29	94.28	-211.67	29	94.51	-213.07	29	44.06	45.58	29	94.11	-210.66
29	94.36	-212.17	29	94.55	-213.37	29	44.15	45.45	29	94.28	-211.67
30	94.31	-211.87	30	94.52	-213.17	30	43.61	46.36	30	94.28	-211.67
30	94.37	-212.27	30	94.51	-213.07	30	43.42	46.69	30	94.28	-211.67
30	94.28	-211.67	30	94.51	-213.07	30	43.44	46.65	30	94.28	-211.67
31	94.31	-211.87	31	94.49	-212.97	31	44.01	45.66	31	94.28	-211.67
31	94.36	-212.17	31	94.55	-213.37	31	43.38	46.76	31	94.28	-211.67
31	94.31	-211.87	31	94.52	-213.17	31	43.06	47.36	31	94.28	-211.67
32	94.31	-211.87	32	94.49	-212.97	32	43.16	47.17	32	94.28	-211.67
32	94.28	-211.67	32	94.47	-212.87	32	43.16	47.17	32	94.11	-210.66
32	94.28	-211.67	32	94.51	-213.07	32	43.29	46.93	32	94.11	-210.66
33	94.28	-211.67	33	94.46	-212.77	33	43.05	47.37	33	94.11	-210.66
33	94.28	-211.67	33	94.51	-213.07	33	43.01	47.44	33	94.11	-210.66
33	94.28	-211.67	33	94.49	-212.97	33	43.61	46.36	33	94.26	-211.57
33	94.31	-211.87	33	94.54	-213.27	33	43.00	47.47	33	94.11	-210.66
34	94.28	-211.67	34	94.52	-213.17	34	43.61	46.18	34	94.26	-211.57
34	94.28	-211.67	34	94.54	-213.27	34	43.21	47.08	34	94.28	-211.67
34	94.28	-211.67	34	94.51	-213.07	34	43.64	46.14	34	94.28	-211.67
35	94.28	-211.67	35	94.54	-213.27	35	44.89	44.15	35	94.24	-211.46
35	94.28	-211.67	35	94.49	-212.97	35	43.63	46.16	35	94.28	-211.67
37	94.28	-211.67	37	94.47	-212.87	37	43.36	46.79	37	94.28	-211.67

TABLE 4.2-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
37	94.28	-211.67	37	94.49	-212.97	37	43.38	46.76	37	94.11	-210.66
37	94.28	-211.67	37	94.47	-212.87	37	43.88	45.84	37	94.11	-210.66
38	94.28	-211.67	38	94.51	-213.07	38	43.61	46.36	38	94.28	-211.67
38	94.28	-211.67	38	94.52	-213.17	38	43.87	45.86	38	94.28	-211.67
38	94.34	-212.07	38	94.52	-213.17	38	43.36	46.79	38	94.28	-211.67
39	94.28	-211.67	39	94.49	-212.97	39	43.38	46.76	39	94.11	-210.66
39	94.28	-211.67	39	94.54	-213.27	39	43.94	45.76	39	94.28	-211.67
39	94.21	-211.26	39	94.51	-213.07	39	43.60	46.38	39	94.28	-211.67
39	94.31	-211.87	39	94.54	-213.27	39	43.85	45.88	39	94.28	-211.67
40	94.31	-211.87	40	94.54	-213.27	40	43.87	45.86	40	94.28	-211.67
40	94.37	-212.27	40	94.55	-213.37	40	43.63	46.32	40	94.28	-211.67
40	94.52	-213.17	40	94.54	-213.27	40	43.63	46.16	40	94.21	-211.26
41	94.54	-213.27	41	94.54	-213.27	41	43.32	46.87	41	94.28	-211.67
41	94.52	-213.17	41	94.51	-213.07	41	43.21	47.08	41	94.28	-211.67
41	94.51	-213.07	41	94.52	-213.17	41	45.07	43.75	41	94.28	-211.67
42	94.57	-213.47	42	94.55	-213.37	42	43.71	46.06	42	94.28	-211.67
42	94.52	-213.17	42	94.51	-213.07	42	43.71	46.06	42	94.28	-211.67
42	94.55	-213.37	42	94.55	-213.37	42	43.61	46.36	42	94.11	-210.66
43	94.52	-213.17	43	94.55	-213.37	43	43.63	46.16	43	94.28	-211.67
43	94.51	-213.07	43	94.54	-213.27	43	44.79	44.35	43	94.11	-210.66
43	94.52	-213.17	43	94.51	-213.07	43	44.94	44.05	43	94.28	-211.67
43	94.55	-213.37	43	94.55	-213.37	43	44.47	44.95	44	94.28	-211.67
44	94.55	-213.37	44	94.54	-213.27	44	43.49	46.56	44	94.11	-210.66
44	94.52	-213.17	44	94.52	-213.17	44	45.11	43.65	44	94.11	-210.66
44	94.44	-212.67	44	94.44	-212.67	44	44.41	45.05	44	94.11	-210.66
45	94.49	-212.97	45	94.54	-213.27	45	45.30	43.17	45	94.11	-210.66
45	94.64	-213.87	45	94.57	-213.47	45	47.12	38.36	45	94.28	-211.67

4.3 Run 16

Run 16 was a high-flow-rate, high-pressure, medium-heating-rate test made with Configuration 1. The test was repeated once.

Reactor Run 101

Parametric conditions and test results are summarized in Table 4.3-1. The test data are presented in Figures 4.3-1 through 4.3-10.

The tank was filled 20 minutes before the timer was turned on for the run. Other timing information is given in Table 4.0-1.

The flow rate and pressure stability were satisfactory; however, the flow rate was slightly higher than desired, 0.135 lb/sec instead of 0.12 lb/sec. The temperature rise during the run was lower than desired, 1.1°F instead of 2°F.

The run was repeated during reactor run 110 in an attempt to obtain a more satisfactory flow rate and greater temperature rise.

Reactor Run 110

Parametric conditions and test results are summarized in Table 4.3-3. Pressure and flow data are given in Figure 4.3-11; strip-chart data are reproduced in Figures 4.3-12 through 4.3-19. The heating rate, or reactor power, was increased 30% to obtain a greater temperature rise.

The tank was filled 39 minutes before the timer was turned on for the run. Other timing information is given in Table 4.0-1.

System pressure stabilized at approximately 54 psia. The pressure and flow rate were satisfactory after being stabilized,

and the flow rate obtained was essentially the same as that for the first trial, 0.134 lb/sec (Fig. 4.3-11).

Pressurization gas used for this run was a mixture of 66% by weight of helium and 34% by weight of hydrogen. The use of a mixture was necessitated by near exhaustion of the hydrogen supply.

Table 4.3-1

Parametric Conditions and Test Results Summary
for Run 16-101

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	115	7.5
Pressure (psia)	60	60	
Temperature[b] (^{o}R)		37.2	
Weight[c] (lb)	66 - 74	67.97	
Final Conditions[d]			
Pressure (psia)	60	59.1	14.9
Temperature (^{o}R)	$\leq$ 47	38.3	
Saturation Temp[e] (^{o}R)	47	46.85	
Run Data			
Temperature Rise (^{o}R)	2	1.1	7.5 - 14.9
Run Time[f] (min)	9 - 11	9.3	6.6 - 15.9
Flow Time (min)	9 - 11	8.4	7.5 - 15.9
Flow Rate[g]: (gpm)	12.25	13.7	
(lb/sec)	0.12	0.135	
Power Level (Mw)	0.75	0.715	
Integrated Power (Mw-hr)	0.125	0.111	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank.
[c]Temp = 37.2^{o}R, Vol. = 115 gal, ρ = 4.417 lbs/ft^3 = 0.591 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

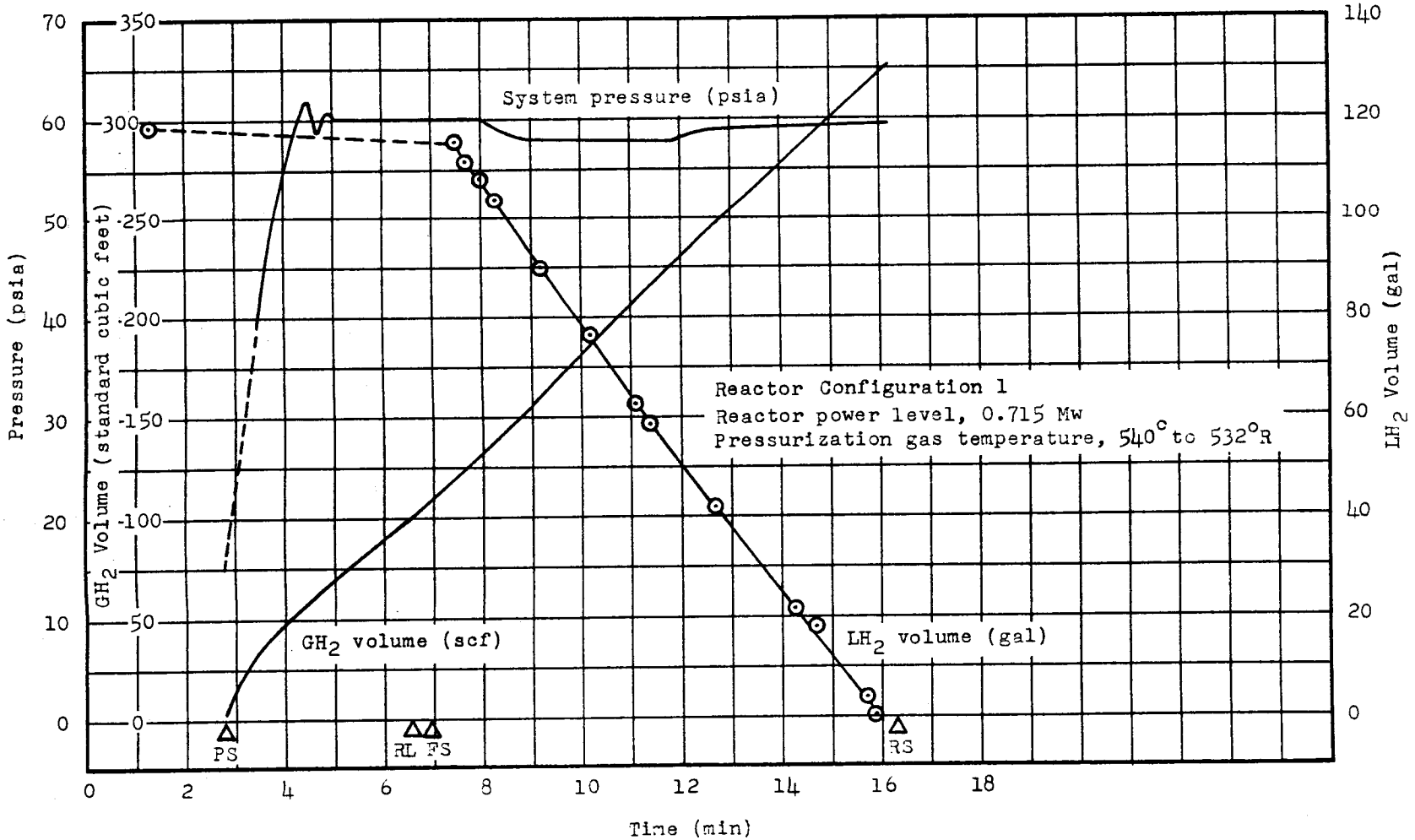

Figure 4.3-1 Pressure and Flow Data: Run 16-101

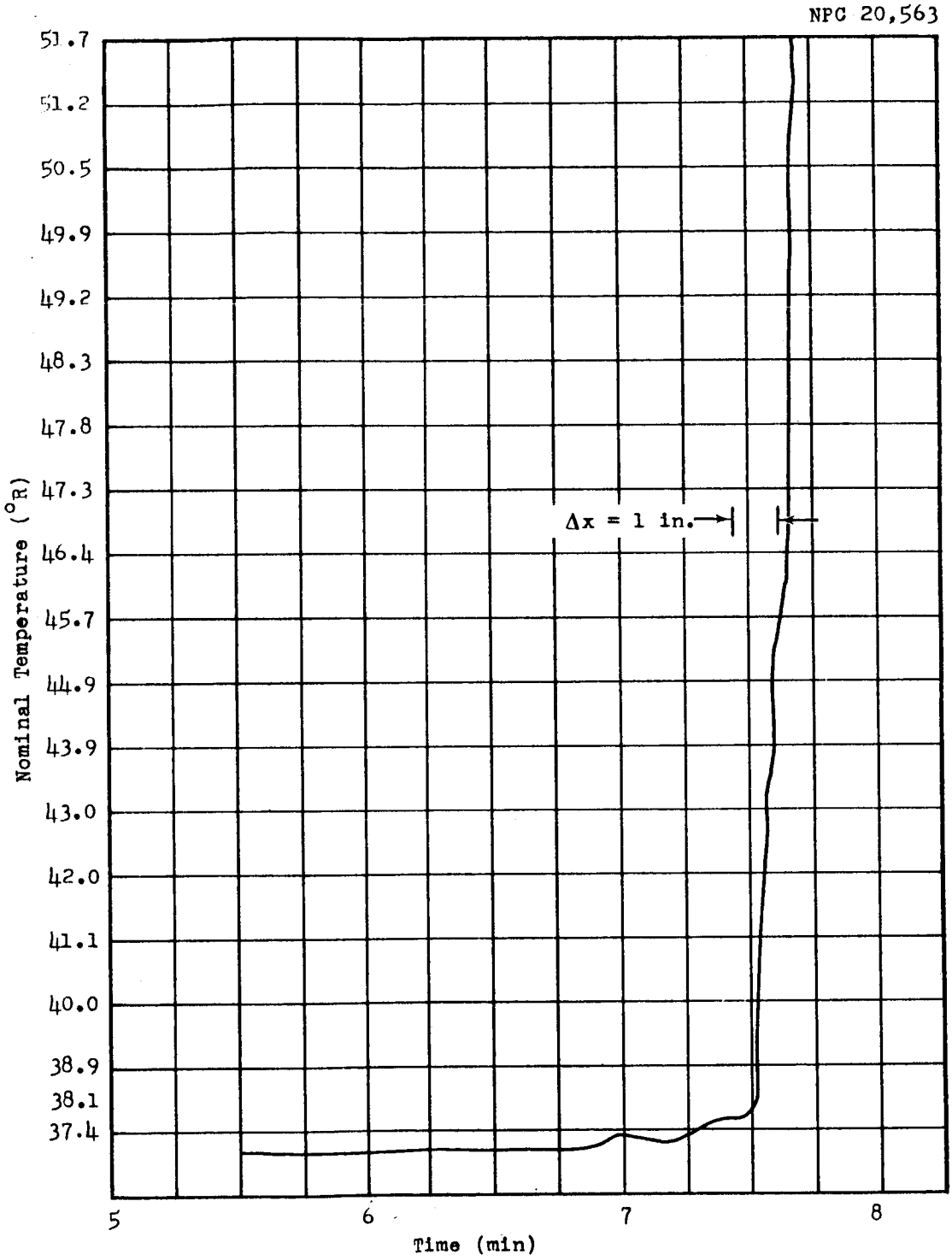

Figure 4.3-2 Strip-Chart Temperature Data: Run 16-101, Thermometer 14

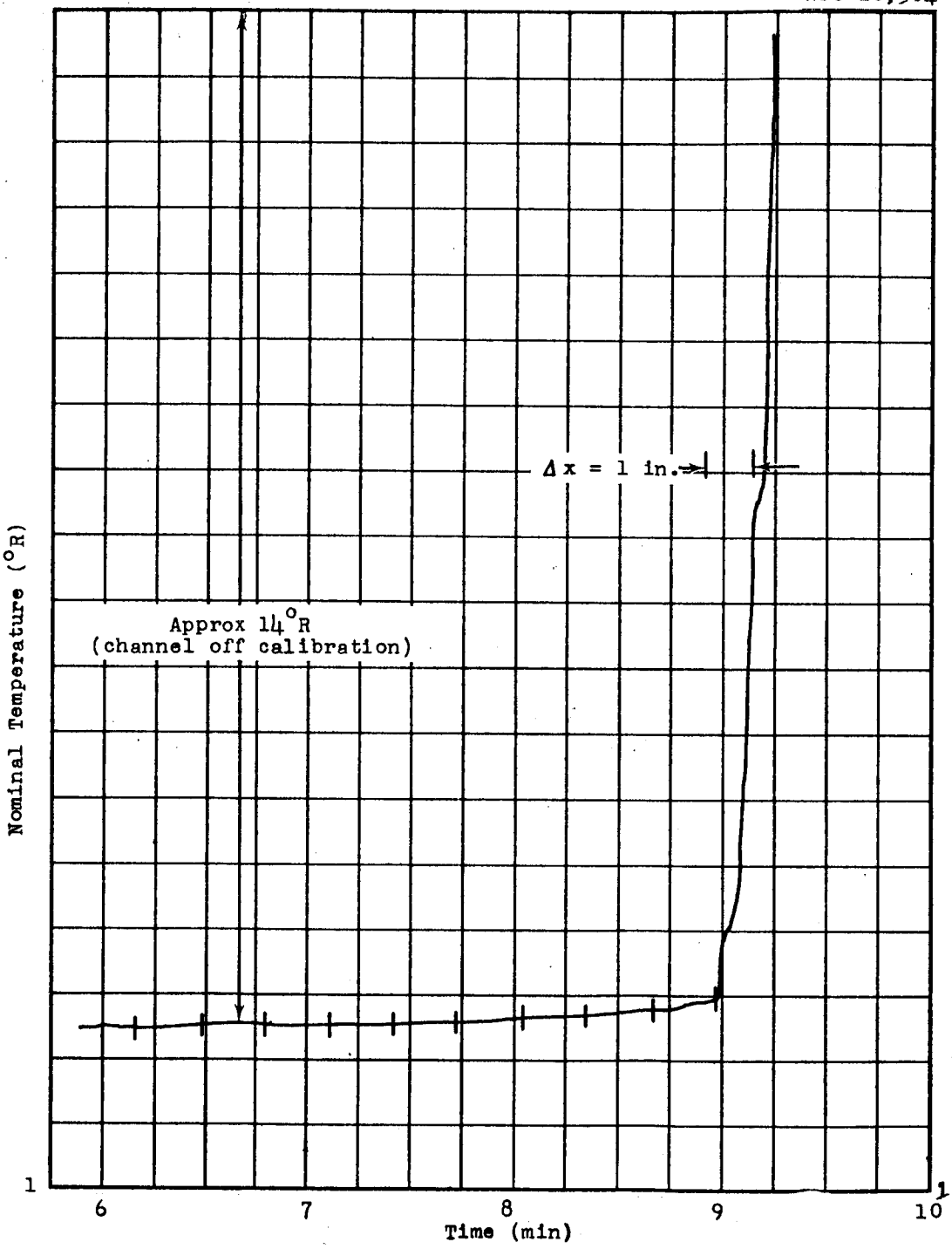

Figure 4.3-3 Strip-Chart Temperature Data: Run 16-101, Thermometer 11

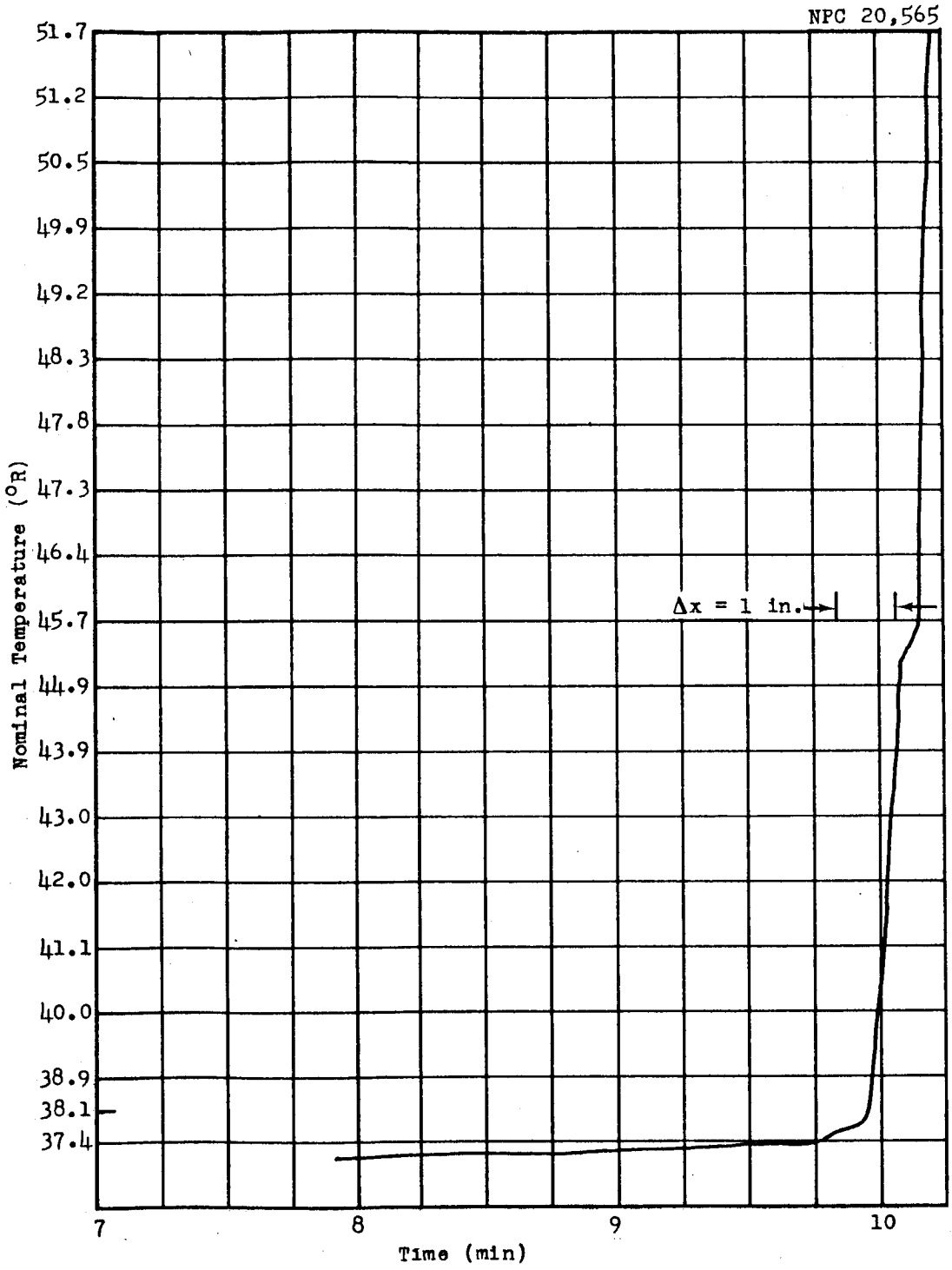

Figure 4.3-4 Strip-Chart Temperature Data: Run 16-101, Thermometer 10

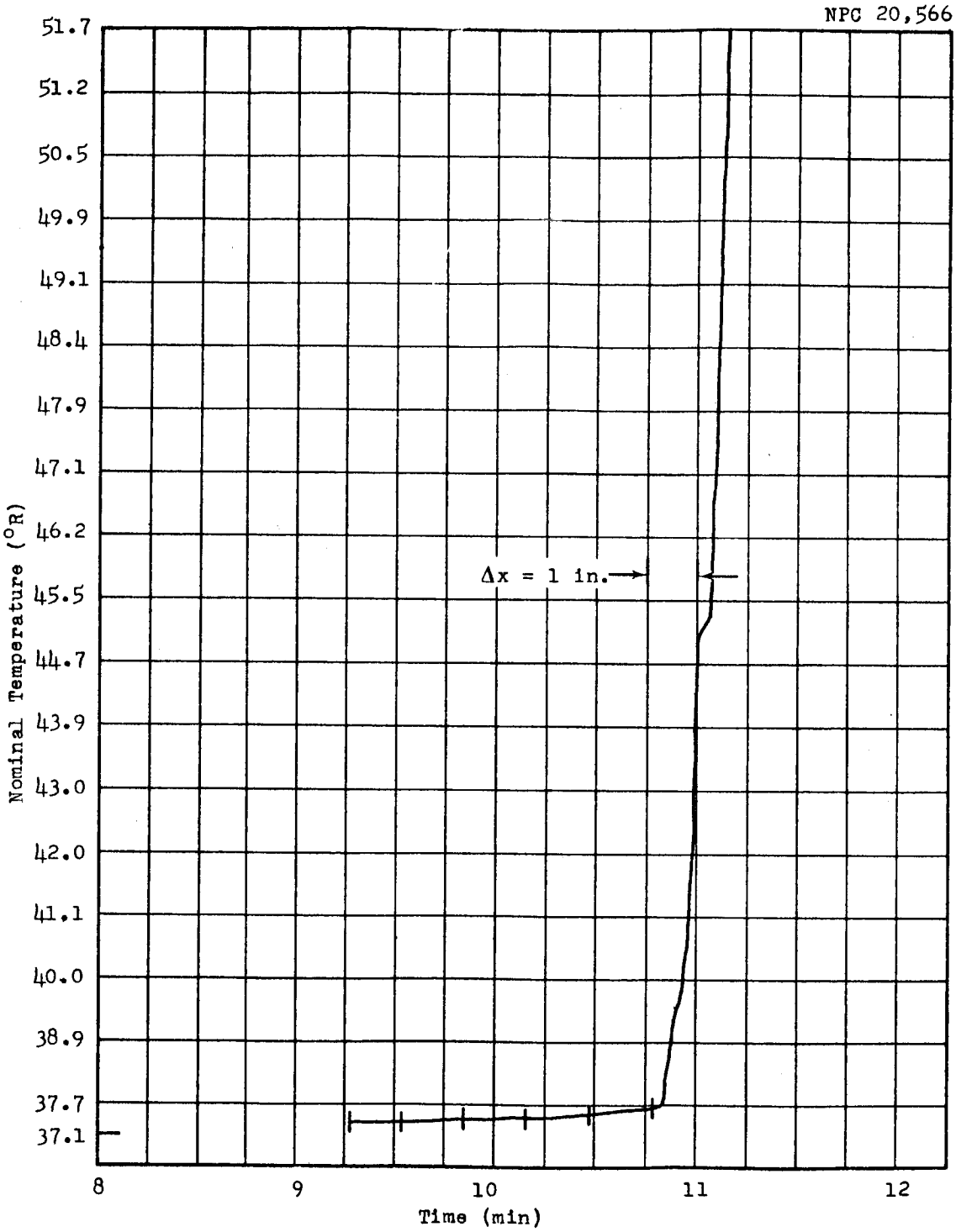

Figure 4.3-5 Strip-Chart Temperature Data: Run 16-101, Thermometer 9

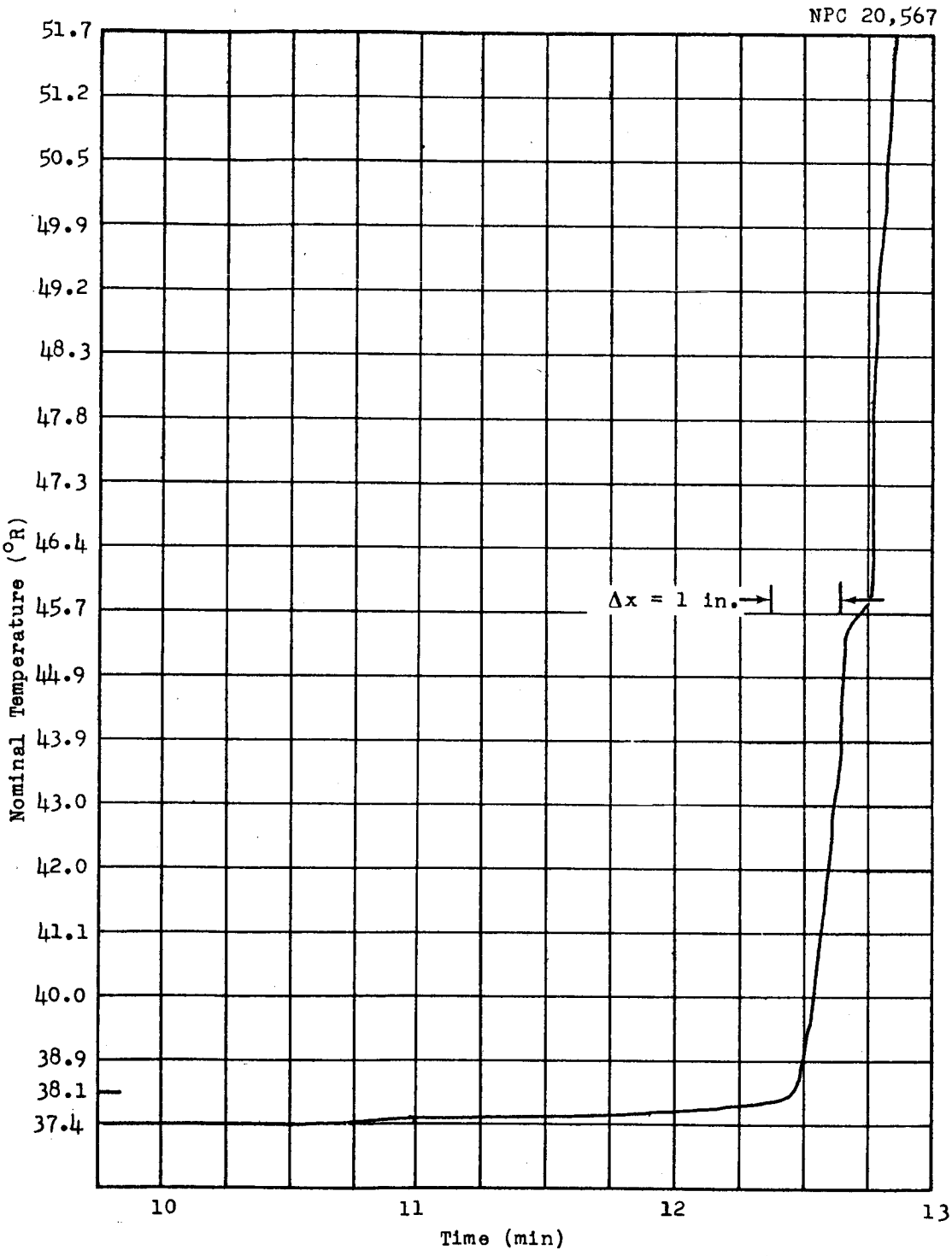

Figure 4.3-6 Strip-Chart Temperature Data: Run 16-101, Thermometer 8

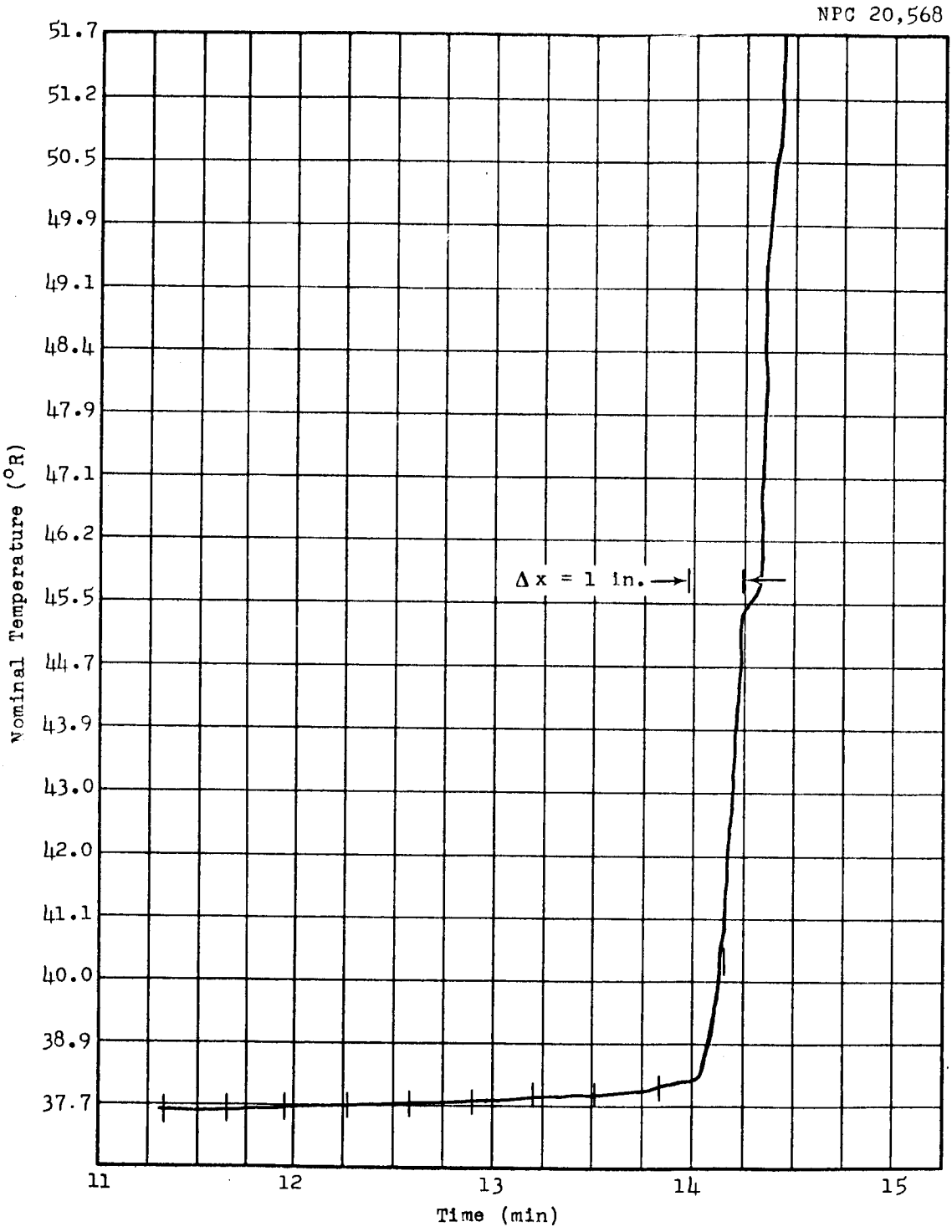

Figure 4.3-7 Strip-Chart Temperature Data: Run 16-101, Thermometer 7

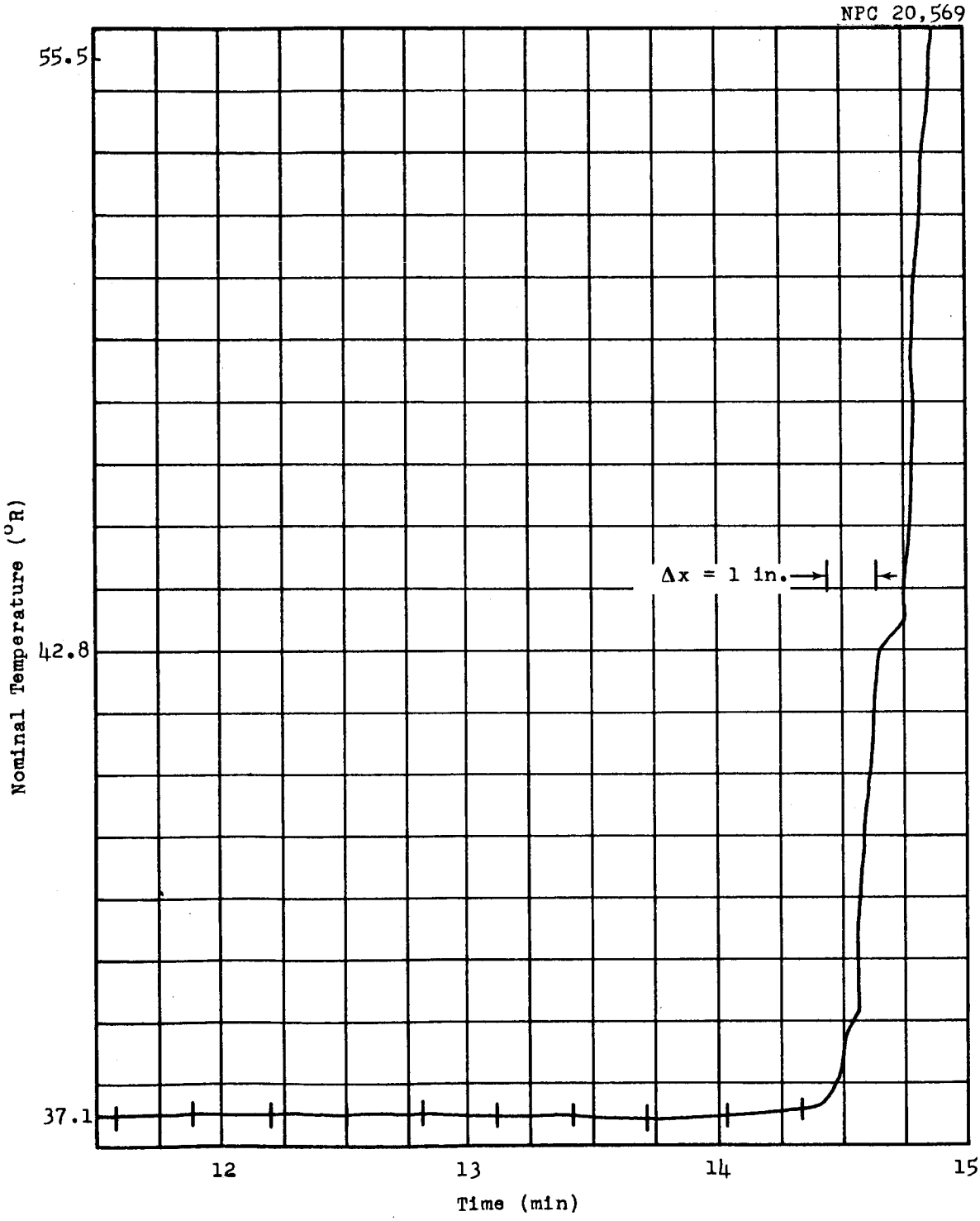

Figure 4.3-8 Strip-Chart Temperature Data: Run 16-101, Thermometer 25

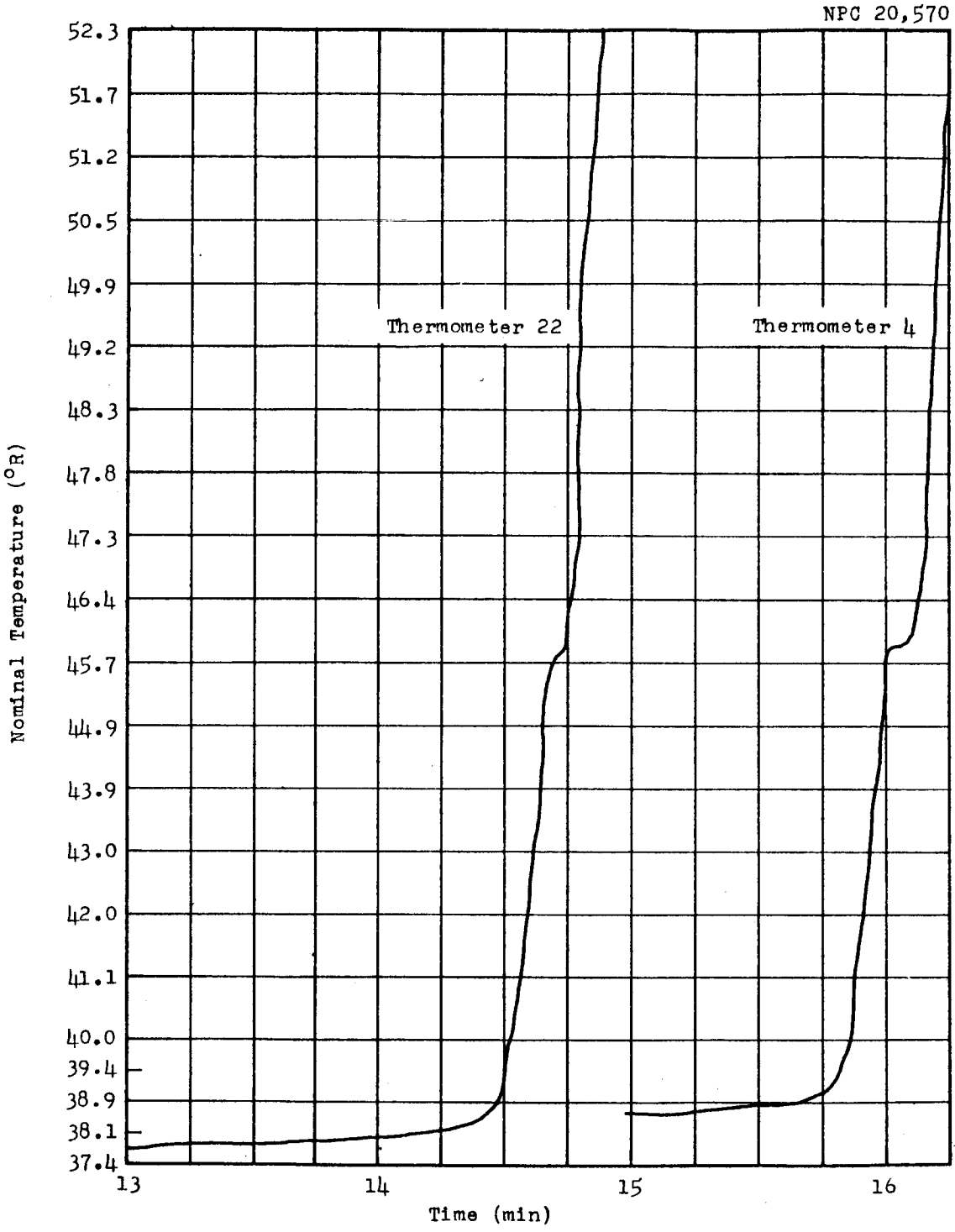

Figure 4.3-9 Strip-Chart Temperature Data: Run 16-101, Thermometers 4 and 22

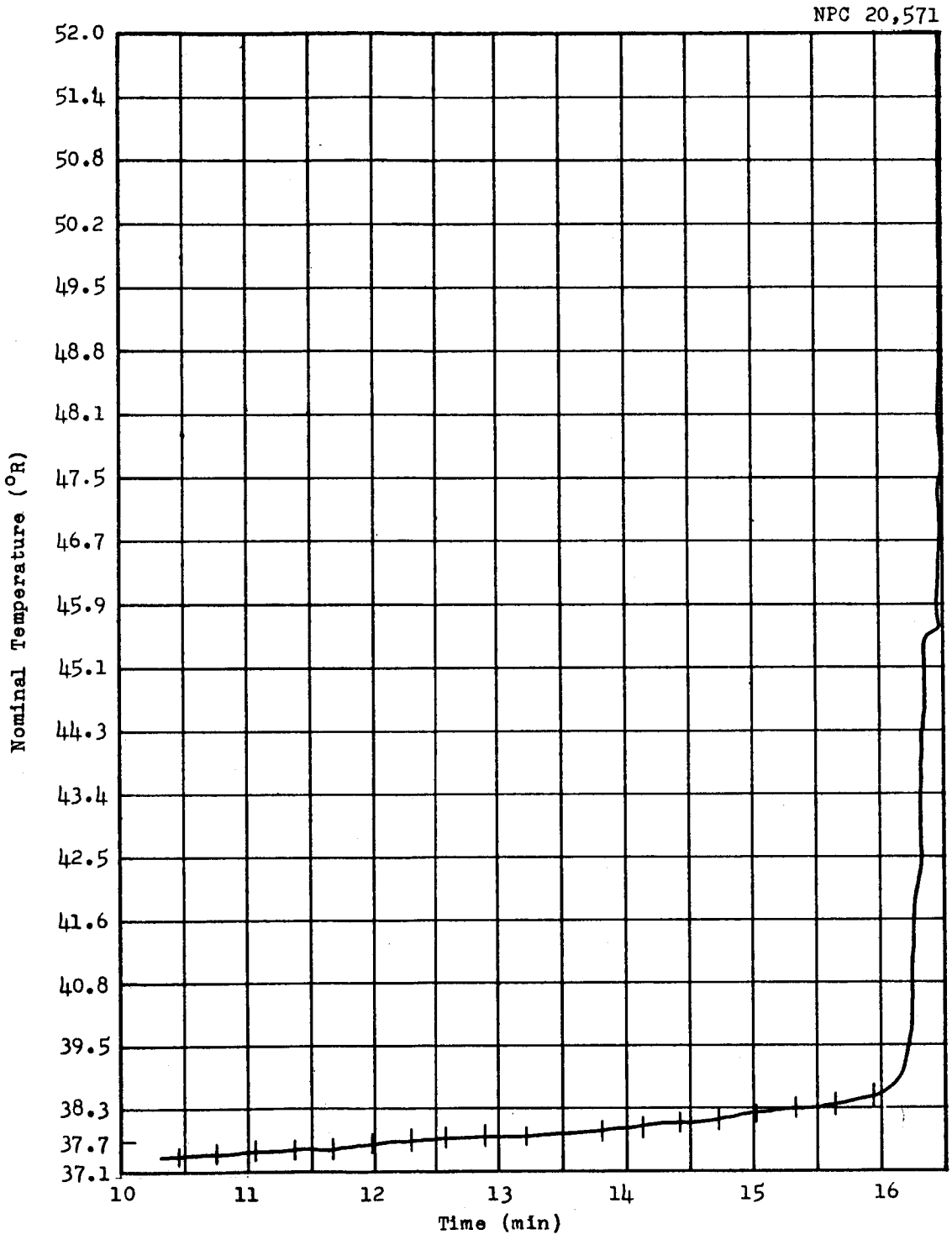

Figure 4.3-10 Strip-Chart Temperature Data: Run 16-101, Thermometer 1

TABLE 4.3-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 16-101

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME *	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.72	57.61	0	36.67	57.67	0	36.70	57.63	0	36.92	57.35
1	36.71	57.62	1	36.73	57.60	1	36.70	57.63	1	36.92	57.35
5	37.13	57.07	5	37.33	56.79	5	37.26	56.89	5	37.21	56.96
5	37.22	56.94	5	37.03	57.20	5	37.47	56.58	5	37.25	56.90
6	37.27	56.88	6	37.02	57.22	6	37.18	57.00	6	37.36	56.75
6	37.03	57.20	6	37.10	57.11	6	37.11	57.09	6	37.29	56.84
6	37.17	57.01	6	37.15	57.04	6	37.20	56.97	6	37.39	56.69
7	37.22	56.95	7	37.25	56.90	7	37.47	56.59	7	37.37	56.72
7	37.19	56.99	7	37.18	57.00	7	37.19	56.98	7	37.37	56.74
7	37.19	56.99	7	37.19	56.98	7	37.20	56.97	7	37.44	56.63
7	37.22	56.94	7	37.29	56.84	7	37.26	56.89	7	37.45	56.61
8	37.32	56.80	8	37.22	56.95	8	37.27	56.88	8	37.50	56.54
8	37.28	56.86	8	37.29	56.84	8	37.32	56.81	8	37.52	56.52
8	37.30	56.83	8	37.30	56.83	8	37.32	56.80	8	37.56	56.46
9	37.37	56.74	9	37.34	56.78	9	37.31	56.82	9	37.56	56.45
9	37.37	56.72	9	37.47	56.58	9	37.40	56.68	9	37.65	56.33
9	37.38	56.71	9	37.47	56.58	9	37.44	56.63	9	37.68	56.29
10	37.42	56.65	10	37.47	56.58	10	37.47	56.59	10	37.68	56.28
10	37.53	56.50	10	37.52	56.52	10	37.47	56.59	10	37.69	56.27
10	37.52	56.51	10	37.54	56.49	10	37.53	56.50	10	37.75	56.19
11	37.68	56.28	11	37.57	56.44	11	37.56	56.46	11	37.80	56.11
11	37.61	56.39	11	37.62	56.37	11	37.62	56.37	11	37.90	55.97
11	37.65	56.33	11	37.75	56.19	11	37.68	56.28	11	37.99	55.84
11	37.70	56.25	11	37.71	56.24	11	37.74	56.20	11	38.01	55.80
12	37.75	56.19	12	37.81	56.10	12	37.75	56.19	12	38.10	55.67
12	37.80	56.11	12	37.90	55.96	12	37.81	56.10	12	38.09	55.68
12	37.86	56.03	12	37.89	55.98	12	37.87	56.01	12	38.16	55.58
13	37.97	55.87	13	37.93	55.92	13	37.94	55.90	13	38.25	55.44
13	38.00	55.82	13	38.00	55.82	13	38.01	55.80	13	38.30	55.37
13	38.01	55.81	13	38.06	55.72	13	38.09	55.68	13	38.31	55.35
14	59.69	-0.	14	38.16	55.57	14	38.14	55.60	14	38.43	55.18
14	38.25	55.44	14	38.26	55.43	14	38.23	55.47	14	38.44	55.16
14	59.69	-0.	14	38.34	55.31	14	38.30	55.37	14	38.51	55.06
15	59.69	-0.	15	38.50	55.07	15	38.45	55.15	15	38.66	54.84
15	59.69	-0.	15	38.61	54.91	15	38.57	54.98	15	38.78	54.66
15	38.75	54.70	15	38.81	54.61	15	38.80	54.63	15	38.98	54.37
15	40.88	51.49	15	40.93	51.40	15	42.09	49.24	15	45.33	43.07

* Timing interval = 0.308 minute.

TABLE 4.3-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.55	57.83	0	93.39	-206.26	0	36.55	57.83	0	36.63	57.73
1	36.61	57.76	1	93.36	-206.06	1	36.60	57.77	1	36.63	57.74
5	36.90	57.37	5	93.29	-205.66	5	36.88	57.40	5	36.94	57.32
5	36.92	57.35	5	93.33	-205.86	5	36.91	57.36	5	36.96	57.30
6	36.95	57.31	6	93.36	-206.06	6	36.93	57.34	6	36.98	57.27
6	36.99	57.25	6	93.36	-206.06	6	36.97	57.28	6	37.01	57.23
6	37.02	57.21	6	93.36	-206.06	6	36.99	57.26	6	37.02	57.22
7	37.03	57.20	7	93.33	-205.86	7	36.98	57.27	7	37.01	57.23
7	37.05	57.17	7	93.36	-206.06	7	37.01	57.23	7	37.05	57.18
7	37.05	57.17	7	93.36	-206.06	7	37.11	57.09	7	37.11	57.10
7	37.19	56.99	7	93.36	-206.06	7	37.08	57.13	8	37.12	57.08
8	37.13	57.07	8	93.36	-206.06	8	37.12	57.08	8	37.13	57.06
8	37.26	56.89	8	93.36	-206.06	8	37.18	57.00	8	37.22	56.95
8	37.20	56.97	8	93.36	-206.06	8	37.22	56.95	8	37.24	56.91
9	37.26	56.89	9	93.36	-206.06	9	37.27	56.88	9	37.25	56.90
9	37.25	56.90	9	93.36	-206.06	9	37.29	56.85	9	37.28	56.86
9	37.37	56.74	9	93.36	-206.06	9	37.34	56.78	9	37.37	56.72
10	37.34	56.77	10	93.36	-206.06	10	37.37	56.74	10	37.42	56.66
10	37.40	56.68	10	93.36	-206.06	10	37.38	56.71	10	37.43	56.64
10	37.47	56.58	10	93.46	-206.67	10	37.46	56.60	10	37.45	56.61
11	37.54	56.49	11	93.46	-206.67	11	37.47	56.58	11	37.57	56.44
11	37.59	56.41	11	93.46	-206.67	11	37.61	56.38	11	37.61	56.38
11	37.58	56.43	11	93.46	-206.67	11	37.64	56.34	11	37.70	56.26
11	37.63	56.35	12	93.49	-206.87	12	37.67	56.30	12	37.75	56.19
12	37.68	56.29	12	93.46	-206.67	12	37.68	56.29	12	37.97	55.86
12	37.78	56.14	12	93.53	-207.07	12	37.79	56.12	12	43.41	46.71
12	37.89	55.98	12	93.59	-207.48	12	37.80	56.11	12	56.11	12.73
13	37.91	55.95	13	93.53	-207.07	13	37.88	56.00	13	64.58	-29.90
13	37.95	55.89	13	93.62	-207.68	13	38.01	55.80	13	71.57	-72.69
13	38.04	55.75	13	93.62	-207.68	13	38.18	55.54	13	78.00	-112.08
14	38.13	55.62	14	93.66	-207.88	14	41.02	51.25	14	83.88	-148.05
14	38.18	55.55	14	93.69	-208.08	14	53.42	22.23	14	89.79	-184.23
14	38.27	55.42	14	93.69	-208.08	14	62.76	-18.79	14	93.69	-208.08
15	38.42	55.19	15	93.69	-208.08	15	69.03	-57.19	15	93.69	-208.08
15	38.63	54.89	15	93.69	-208.08	15	59.97	-1.69	15	93.66	-207.88
15	41.79	49.82	15	93.69	-208.08	15	80.41	-126.83	15	93.69	-208.08
16	52.03	24.36	16	93.69	-208.08	16	85.60	-158.56	16	93.69	-208.08

TABLE 4.3-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.57	57.81	0	36.53	57.86	0	41.83	49.74	0	61.51	-11.16
1	36.56	57.82	1	36.51	57.88	1	41.85	49.71	1	61.91	-13.58
5	36.93	57.34	5	36.88	57.40	5	42.07	49.29	5	62.09	-14.66
5	36.88	57.40	5	36.87	57.41	5	42.07	49.29	5	61.51	-11.16
6	36.93	57.34	6	36.85	57.44	6	42.08	49.26	6	62.41	-16.62
6	36.96	57.30	6	36.90	57.38	6	42.10	49.22	6	61.51	-11.14
6	36.99	57.26	6	36.92	57.35	6	42.10	49.22	6	61.51	-11.16
7	36.99	57.26	7	36.94	57.32	7	42.13	49.16	7	63.32	-22.23
7	36.99	57.26	7	37.00	57.24	7	42.15	49.13	7	63.00	-20.24
7	37.11	57.10	7	37.01	57.23	7	42.15	49.12	7	61.51	-11.16
8	37.08	57.13	8	37.10	57.11	8	42.23	48.96	8	63.32	-22.23
8	37.12	57.08	8	37.11	57.10	8	42.31	48.80	8	71.42	-71.79
8	37.18	57.00	8	37.12	57.08	8	42.28	48.86	8	86.99	-167.05
8	37.26	56.89	8	37.22	56.95	8	42.48	48.47	8	93.36	-206.06
9	37.25	56.90	9	37.27	56.88	9	55.36	14.55	9	93.36	-206.06
9	37.34	56.78	9	37.34	56.77	9	69.02	-57.09	9	93.36	-206.06
9	37.39	56.70	9	37.75	56.18	9	80.81	-129.26	9	93.36	-206.06
10	37.43	56.64	10	48.19	35.80	10	90.92	-191.10	10	93.43	-206.47
10	37.61	56.38	10	64.71	-30.71	10	93.48	-206.77	10	93.69	-208.08
10	37.64	56.34	10	75.28	-95.39	10	93.46	-206.67	10	93.71	-208.18
11	46.03	40.93	11	84.26	-150.38	11	93.46	-206.67	11	93.69	-208.08
11	59.69	-0.	11	93.44	-206.57	11	93.71	-208.18	11	93.72	-208.28
11	59.69	-0.	11	93.49	-206.87	11	93.71	-208.18	11	93.72	-208.28
12	59.69	-0.	12	93.53	-207.07	12	93.74	-208.39	12	93.76	-208.49
12	59.69	-0.	12	93.53	-207.07	12	93.74	-208.39	12	93.77	-208.59
12	92.86	-203.03	12	93.69	-208.08	12	93.82	-208.89	12	93.86	-209.09
12	93.53	-207.07	12	93.77	-208.59	12	93.81	-208.79	12	93.82	-208.89
13	93.53	-207.07	13	93.81	-208.79	13	93.86	-209.09	13	93.86	-209.09
13	93.53	-207.07	13	93.87	-209.19	13	93.87	-209.19	13	93.89	-209.30
13	93.53	-207.07	13	93.87	-209.19	13	93.91	-209.40	13	93.91	-209.40
14	93.53	-207.07	14	93.86	-209.09	14	93.91	-209.40	14	93.87	-209.19
14	93.62	-207.68	14	93.92	-209.50	14	93.99	-209.90	14	93.99	-209.90
14	93.79	-208.69	14	93.92	-209.50	14	93.95	-209.70	14	93.95	-209.70
15	93.79	-208.69	15	93.94	-209.60	15	93.97	-209.80	15	93.95	-209.70
15	93.79	-208.69	15	93.92	-209.50	15	93.92	-209.50	15	93.92	-209.50
15	93.82	-208.89	15	93.97	-209.80	15	93.97	-209.80	15	93.99	-209.90
16	93.86	-209.09	16	93.97	-209.80	16	93.99	-209.90	16	94.02	-210.10

TABLE 4.3-2 (Cont'd)

THERMOMETER 13

TIME	TEMP	VOLTAGE
0	36.54	57.85
1	36.55	57.83
5	36.96	57.30
5	36.93	57.34
6	36.95	57.31
6	36.99	57.26
6	36.95	57.31
7	37.01	57.23
7	37.13	57.06
7	38.70	54.77
8	59.06	2.22
8	75.30	-95.51
8	59.69	-0.
8	93.56	-207.27
9	93.57	-207.38
9	93.56	-207.27
9	93.56	-207.27
10	93.56	-207.27
10	93.67	-207.98
10	93.64	-207.78
11	93.62	-207.68
11	93.67	-207.98
11	93.74	-208.39
12	93.77	-208.59
12	93.79	-208.69
12	93.86	-209.09
12	93.86	-209.09
13	93.87	-209.19
13	93.91	-209.40
13	93.89	-209.30
14	93.87	-209.19
14	93.97	-209.80
14	93.95	-209.70
15	93.95	-209.70
15	93.92	-209.50
15	94.00	-210.00
16	94.02	-210.10

THERMOMETER 14

TIME	TEMP	VOLTAGE
0	36.55	57.83
1	36.56	57.82
5	36.96	57.30
5	36.94	57.32
6	36.96	57.29
6	36.95	57.31
6	36.94	57.32
7	37.16	57.02
7	36.80	57.50
7	56.61	10.93
8	74.55	-90.94
8	88.24	-174.73
8	93.36	-206.06
8	93.67	-207.98
9	93.67	-207.98
9	93.64	-207.78
9	93.67	-207.98
10	93.67	-207.98
10	93.71	-208.18
10	93.72	-208.28
11	93.71	-208.18
11	93.74	-208.39
11	93.74	-208.39
12	93.77	-208.59
12	93.77	-208.59
12	93.86	-209.09
13	93.84	-208.99
13	93.84	-208.99
13	93.91	-209.40
13	93.89	-209.30
14	93.87	-209.19
14	93.97	-209.80
14	93.94	-209.60
15	93.95	-209.70
15	93.94	-209.60
15	93.97	-209.80
16	93.97	-209.80

THERMOMETER 15

TIME	TEMP	VOLTAGE
0	36.56	57.82
1	36.57	57.81
5	37.38	56.71
5	37.50	56.54
6	37.64	56.34
6	38.02	55.79
6	38.86	54.54
7	39.82	53.12
7	46.68	39.23
7	73.12	-82.17
8	88.22	-174.63
8	93.36	-206.06
8	93.62	-207.68
9	93.67	-207.98
9	93.67	-207.98
9	93.64	-207.78
9	93.67	-207.98
10	93.71	-208.18
10	93.71	-208.18
10	93.74	-208.39
11	93.72	-208.28
11	93.72	-208.28
11	93.74	-208.39
12	93.76	-208.49
12	93.77	-208.59
12	93.86	-209.09
13	93.82	-208.89
13	93.86	-209.09
13	93.89	-209.30
13	93.91	-209.40
14	93.91	-209.40
14	93.99	-209.90
14	93.95	-209.70
15	93.95	-209.70
15	93.94	-209.60
15	94.00	-210.00
16	93.99	-209.90

THERMOMETER 16

TIME	TEMP	VOLTAGE
0	36.59	57.78
1	36.58	57.80
5	54.20	20.51
5	53.97	21.17
6	53.55	22.02
6	56.08	12.83
6	58.03	5.88
7	60.93	-7.58
7	68.94	-56.58
7	87.17	-168.16
8	93.36	-206.06
8	93.67	-207.98
8	93.61	-207.58
9	93.71	-208.18
9	93.67	-207.98
9	93.67	-207.98
9	93.67	-207.98
10	93.69	-208.08
10	93.72	-208.28
10	93.74	-208.39
11	93.72	-208.28
11	93.74	-208.39
11	93.76	-208.49
12	93.76	-208.49
12	93.79	-208.69
12	93.86	-209.09
13	93.82	-208.89
13	93.86	-209.09
13	93.86	-209.09
13	93.87	-209.19
14	93.87	-209.19
14	93.97	-209.80
14	93.94	-209.60
15	93.95	-209.70
15	93.92	-209.50
15	94.00	-210.00
16	94.00	-210.00

TABLE 4.3-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	38.07	55.71	0	39.88	53.04	0	45.23	43.35	1	91.21	-192.92
1	38.01	55.81	1	39.93	52.96	1	45.34	43.06	1	91.30	-193.43
5	59.69	-0.	5	86.33	-163.01	5	93.33	-205.86	5	93.57	-207.38
5	59.69	-0.	5	86.67	-165.13	5	93.36	-206.06	5	93.59	-207.48
6	59.69	-0.	6	86.95	-166.85	6	93.36	-206.06	6	93.61	-207.58
6	59.69	-0.	6	88.75	-177.87	6	93.36	-206.06	6	93.62	-207.68
6	59.69	-0.	6	89.86	-184.64	6	93.36	-206.06	6	93.62	-207.68
7	59.69	-0.	7	91.49	-194.64	7	93.36	-206.06	7	93.64	-207.78
7	59.69	-0.	7	93.36	-206.06	7	93.64	-207.78	7	93.67	-207.98
7	92.70	-202.02	7	93.69	-208.08	7	93.71	-208.18	7	93.72	-208.28
8	93.46	-206.67	8	93.66	-207.88	8	93.66	-207.88	8	93.69	-208.08
8	93.67	-207.98	8	93.67	-207.98	8	93.66	-207.88	8	93.69	-208.08
8	93.62	-207.68	8	93.66	-207.88	8	93.66	-207.88	8	93.64	-207.78
9	93.67	-207.98	9	93.67	-207.98	9	93.67	-207.98	9	93.67	-207.98
9	93.69	-208.08	9	93.69	-208.08	9	93.66	-207.88	9	93.67	-207.98
9	93.67	-207.98	9	93.67	-207.98	9	93.66	-207.88	9	93.69	-208.08
9	93.71	-208.18	9	93.69	-208.08	9	93.66	-207.88	9	93.71	-208.18
10	93.69	-208.08	10	93.69	-208.08	10	93.69	-208.08	10	93.69	-208.08
10	93.72	-208.28	10	93.74	-208.39	10	93.71	-208.18	10	93.71	-208.18
10	93.72	-208.28	10	93.74	-208.39	10	93.74	-208.39	10	93.74	-208.39
11	93.74	-208.39	11	93.74	-208.39	11	93.72	-208.28	11	93.72	-208.28
11	93.74	-208.39	11	93.74	-208.39	11	93.72	-208.28	11	93.72	-208.28
11	93.74	-208.39	11	93.76	-208.49	11	93.74	-208.39	11	93.77	-208.59
12	93.76	-208.49	12	93.77	-208.59	12	93.77	-208.59	12	93.77	-208.59
12	93.76	-208.49	12	93.76	-208.49	12	93.79	-208.69	12	93.81	-208.79
12	93.86	-209.09	12	93.86	-209.09	12	93.89	-209.30	12	93.87	-209.19
13	93.86	-209.09	13	93.84	-208.99	13	93.82	-208.89	13	93.84	-208.99
13	93.86	-209.09	13	93.86	-209.09	13	93.86	-209.09	13	93.84	-208.99
13	93.91	-209.40	13	93.87	-209.19	13	93.89	-209.30	13	93.86	-209.09
13	93.89	-209.30	13	93.91	-209.40	13	93.87	-209.19	13	93.91	-209.40
14	93.89	-209.30	14	93.89	-209.30	14	93.91	-209.40	14	93.89	-209.30
14	93.97	-209.80	4	93.97	-209.80	14	93.99	-209.90	14	94.00	-210.00
14	93.94	-209.60	14	93.94	-209.60	14	93.95	-209.70	14	93.97	-209.80
15	93.95	-209.70	15	93.95	-209.70	15	93.99	-209.90	15	93.97	-209.80
15	93.92	-209.50	15	93.94	-209.60	15	93.94	-209.60	15	93.94	-209.60
15	94.02	-210.10	15	94.02	-210.10	15	94.00	-210.00	15	94.02	-210.10
16	93.99	-209.90	16	94.00	-210.00	16	93.99	-209.90	16	94.02	-210.10

TABLE 4.3-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	36.61	57.76	1	36.61	57.76	1	36.68	57.66	1	36.70	57.64
1	36.60	57.77	1	36.60	57.77	1	36.70	57.63	1	36.74	57.59
5	36.93	57.34	5	36.94	57.32	5	37.03	57.20	5	37.07	57.15
5	36.96	57.30	5	36.97	57.28	5	37.02	57.21	6	37.05	57.18
6	36.96	57.29	6	36.96	57.29	6	37.03	57.20	6	37.07	57.15
6	37.00	57.24	6	36.99	57.25	6	37.11	57.09	6	37.19	56.99
6	37.07	57.15	6	37.11	57.10	6	37.16	57.02	6	37.18	57.00
7	37.06	57.16	7	37.09	57.12	7	37.16	57.03	7	37.20	56.97
7	37.05	57.18	7	37.06	57.16	7	37.17	57.01	7	37.25	56.90
7	59.69	-0.	7	37.11	57.09	7	37.19	56.99	7	37.21	56.96
8	59.69	-0.	8	37.13	57.07	8	37.23	56.93	8	37.25	56.90
8	59.69	-0.	8	37.18	57.00	8	37.32	56.81	8	37.34	56.78
8	59.69	-0.	8	37.20	56.97	8	37.28	56.86	8	37.32	56.81
9	59.69	-0.	9	37.24	56.92	9	37.30	56.83	9	37.32	56.80
9	59.69	-0.	9	37.28	56.86	9	37.35	56.76	9	37.44	56.62
9	59.69	-0.	9	37.32	56.80	9	37.40	56.68	9	37.41	56.67
9	59.69	-0.	9	37.37	56.72	10	37.44	56.62	10	37.45	56.61
10	59.69	-0.	10	37.37	56.72	10	37.45	56.61	10	37.49	56.55
10	59.69	-0.	10	37.46	56.60	10	38.12	55.63	10	37.54	56.49
10	59.69	-0.	10	37.48	56.57	10	37.58	56.43	10	37.60	56.40
11	59.69	-0.	11	37.54	56.49	11	37.59	56.42	11	37.63	56.35
11	59.69	-0.	11	37.57	56.44	11	37.66	56.32	11	37.68	56.29
11	59.69	-0.	11	37.61	56.38	11	37.68	56.29	11	37.72	56.22
12	59.69	-0.	12	37.66	56.31	12	37.75	56.19	12	37.79	56.12
12	59.69	-0.	12	37.74	56.20	12	37.77	56.15	12	37.81	56.10
12	59.69	-0.	12	37.81	56.10	12	37.88	55.99	12	37.92	55.94
13	59.69	-0.	13	37.84	56.06	13	37.90	55.96	13	37.97	55.87
13	59.69	-0.	13	37.91	55.95	13	37.97	55.87	13	38.03	55.78
13	59.69	-0.	13	38.03	55.78	13	38.05	55.74	13	38.09	55.68
13	59.69	-0.	14	38.14	55.61	14	38.16	55.58	14	38.22	55.49
14	59.69	-0.	14	38.29	55.38	14	38.32	55.34	14	38.31	55.35
14	59.69	-0.	14	43.40	46.72	14	43.91	45.80	14	42.51	48.41
14	59.69	-0.	14	55.14	14.75	14	56.10	12.75	14	54.64	15.38
15	63.75	-24.85	15	63.64	-24.16	15	63.98	-26.27	15	63.31	-22.18
15	69.67	-61.09	15	69.58	-60.55	15	69.95	-62.81	15	69.20	-58.20
15	60.43	-4.53	15	75.16	-94.70	15	75.47	-96.60	15	74.76	-92.23
16	80.56	-127.74	16	80.55	-127.64	16	80.78	-129.05	16	79.92	-123.80

TABLE 4.3-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	37.60	56.40	1	36.57	57.81	1	36.54	57.85	1	36.55	57.83
1	37.58	56.43	1	36.57	57.81	1	36.58	57.80	1	36.57	57.81
5	37.84	56.06	5	36.92	57.35	5	36.87	57.42	5	36.90	57.38
6	37.81	56.10	6	36.91	57.36	6	36.92	57.35	6	36.90	57.38
6	37.83	56.07	6	36.91	57.36	6	36.90	57.37	6	36.91	57.36
6	37.88	56.00	6	36.96	57.30	6	36.95	57.31	6	36.97	57.28
6	37.94	55.90	6	36.99	57.25	6	37.02	57.21	6	37.02	57.21
7	37.94	55.90	7	37.00	57.24	7	37.03	57.20	7	37.03	57.20
7	37.75	56.19	7	37.03	57.20	7	37.01	57.23	7	36.98	57.27
7	37.67	56.30	7	37.04	57.19	7	37.04	57.19	7	37.06	57.16
8	37.54	56.49	8	37.08	57.14	8	37.08	57.14	8	37.12	57.08
8	37.53	56.50	8	37.14	57.05	8	37.11	57.10	8	37.10	57.11
8	37.41	56.67	8	37.14	57.05	8	37.14	57.05	8	37.18	57.00
9	37.47	56.59	9	37.20	56.97	9	37.17	57.01	9	37.18	57.00
9	37.05	57.17	9	37.24	56.92	9	37.19	56.98	9	37.22	56.95
9	36.90	57.37	9	37.30	56.83	9	37.29	56.84	9	37.27	56.87
10	36.83	57.47	10	37.36	56.75	10	37.29	56.84	10	37.34	56.78
10	36.89	57.39	10	37.40	56.68	10	37.34	56.78	10	37.32	56.81
10	36.98	57.27	10	37.47	56.58	10	37.44	56.63	10	37.42	56.65
10	37.03	57.20	10	37.54	56.49	10	37.52	56.52	10	37.52	56.51
11	37.11	57.09	11	38.63	54.88	11	38.79	54.64	11	38.42	55.20
11	37.15	57.04	11	53.95	21.22	11	54.39	18.90	11	51.52	25.87
11	37.17	57.01	11	64.21	-27.68	11	65.01	-32.53	11	63.98	-26.27
12	37.18	57.00	12	72.07	-75.78	12	72.98	-81.35	12	71.81	-74.17
12	37.17	57.01	12	79.36	-120.36	12	80.28	-126.02	12	79.08	-118.64
12	37.17	57.01	12	86.00	-160.99	12	87.18	-168.26	12	86.13	-161.80
13	37.17	57.01	13	93.23	-205.25	13	93.72	-208.28	13	92.70	-202.02
13	37.09	57.12	13	93.62	-207.68	13	93.86	-209.09	13	93.86	-209.09
13	37.10	57.11	13	93.56	-207.27	13	93.84	-208.99	13	93.86	-209.09
14	37.15	57.04	14	93.66	-207.88	14	93.89	-209.30	14	93.91	-209.40
14	37.16	57.02	14	93.66	-207.88	14	93.89	-209.30	14	93.94	-209.60
14	42.82	47.80	14	93.69	-208.08	14	93.97	-209.80	14	93.95	-209.70
14	55.49	14.45	14	93.69	-208.08	14	93.94	-209.60	14	93.94	-209.60
15	63.38	-22.57	15	93.69	-208.08	15	93.95	-209.70	15	93.97	-209.80
15	69.34	-59.03	15	93.69	-208.08	15	93.95	-209.70	15	93.97	-209.80
15	74.87	-92.87	15	93.69	-208.08	15	94.00	-210.00	15	94.00	-210.00
16	79.98	-124.20	16	93.69	-208.08	16	93.97	-209.80	16	93.97	-209.80

TABLE 4.3-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
1	36.59	57.78	1	36.59	57.78	1	93.36	-206.06	1	93.64	-207.78
1	36.59	57.79	1	36.59	57.79	1	93.39	-206.26	1	93.66	-207.88
5	36.90	57.37	5	36.92	57.35	5	93.33	-205.86	5	93.57	-207.38
6	36.93	57.33	6	36.92	57.35	6	93.36	-206.06	6	93.61	-207.58
6	36.95	57.31	6	36.96	57.29	6	93.36	-206.06	6	93.64	-207.78
6	36.97	57.28	6	37.03	57.20	6	93.36	-206.06	6	93.59	-207.48
6	37.04	57.19	6	37.06	57.16	6	93.36	-206.06	7	93.57	-207.38
7	37.06	57.16	7	37.05	57.18	7	93.36	-206.06	7	93.67	-207.98
7	37.01	57.23	7	37.08	57.13	7	93.36	-206.06	7	93.69	-208.08
7	37.11	57.10	7	37.13	57.06	7	93.46	-206.67	7	93.72	-208.28
8	37.11	57.09	8	37.13	57.06	8	93.36	-206.06	8	93.69	-208.08
8	37.18	57.00	8	37.18	57.00	8	93.36	-206.06	8	93.61	-207.58
8	37.17	57.01	8	37.19	56.99	8	93.36	-206.06	8	93.64	-207.78
9	37.18	57.00	9	37.22	56.94	9	93.36	-206.06	9	93.66	-207.88
9	37.26	56.89	9	37.24	56.91	9	93.36	-206.06	9	93.66	-207.88
9	37.30	56.83	9	37.32	56.81	9	93.36	-206.06	9	93.64	-207.78
10	37.34	56.77	10	37.36	56.75	10	93.36	-206.06	10	93.66	-207.88
10	37.39	56.70	10	37.39	56.70	10	93.46	-206.67	10	93.66	-207.88
10	37.42	56.65	10	37.45	56.61	10	93.66	-207.88	10	93.69	-208.08
10	37.53	56.50	11	37.56	56.45	11	93.43	-206.47	11	93.69	-208.08
11	38.42	55.20	11	38.67	54.83	11	93.46	-206.67	11	93.71	-208.18
11	51.53	26.01	11	51.91	24.58	11	93.49	-206.87	11	93.71	-208.18
11	59.69	-0.	11	64.43	-29.01	11	93.51	-206.97	11	93.74	-208.39
12	59.69	-0.	12	72.16	-76.29	12	93.53	-207.07	12	93.76	-208.49
12	59.69	-0.	12	79.46	-120.97	12	93.53	-207.07	12	93.77	-208.59
12	59.69	-0.	12	86.46	-163.82	12	93.59	-207.48	12	93.86	-209.09
13	76.20	-101.05	13	92.77	-202.42	13	93.69	-208.08	13	93.84	-208.99
13	76.20	-101.05	13	93.86	-209.09	13	93.86	-209.09	13	93.86	-209.09
13	93.66	-207.88	13	93.86	-209.09	13	93.91	-209.40	13	93.87	-209.19
14	93.69	-208.08	14	93.87	-209.19	14	93.92	-209.50	14	93.91	-209.40
14	93.69	-208.08	14	93.91	-209.40	14	93.91	-209.40	14	93.92	-209.50
14	93.69	-208.08	14	93.97	-209.80	14	93.97	-209.80	14	93.99	-209.90
15	93.69	-208.08	15	93.97	-209.80	15	93.95	-209.70	15	93.95	-209.70
15	93.79	-208.69	15	93.95	-209.70	15	93.97	-209.80	15	94.00	-210.00
15	93.79	-208.69	15	93.94	-209.60	15	93.99	-209.90	15	94.00	-210.00
15	93.97	-209.80	15	93.99	-209.90	15	94.02	-210.10	15	94.02	-210.10
16	93.99	-209.90	16	94.00	-210.00	16	93.99	-209.90	16	93.99	-209.90

Table 4.3-3

Parametric Conditions and Test Results Summary
for Run 16-110

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	115	20.6
Pressure (psia)	60	60	
Temperature[b] (°R)		37.1	
Weight[c] (lb)	66 - 74	68.0	
Final Conditions[d]			
Pressure (psia)	60	54.0	28.1
Temperature (°R)	≤ 47	38.7	
Saturation Temp[e] (°R)	47	46.1	
Run Data			
Temperature Rise (°R)	2	1.6	20.6 - 28.1
Run Time[f] (min)	9 - 11	10.3	18.8 - 29.1
Flow Time (min)	9 - 11	8.5	20.6 - 29.1
Flow Rate[g]: (gpm)	12.25	13.5	
(lb/sec)	0.12	0.134	
Power Level (Mw)	1.00	1.065	
Integrated Power (Mw-hr)	0.167	0.183	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank
[c]Temp = 37.1°R, Vol. = 115 gal, ρ = 4.422 lbs/ft^3 = 0.591 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

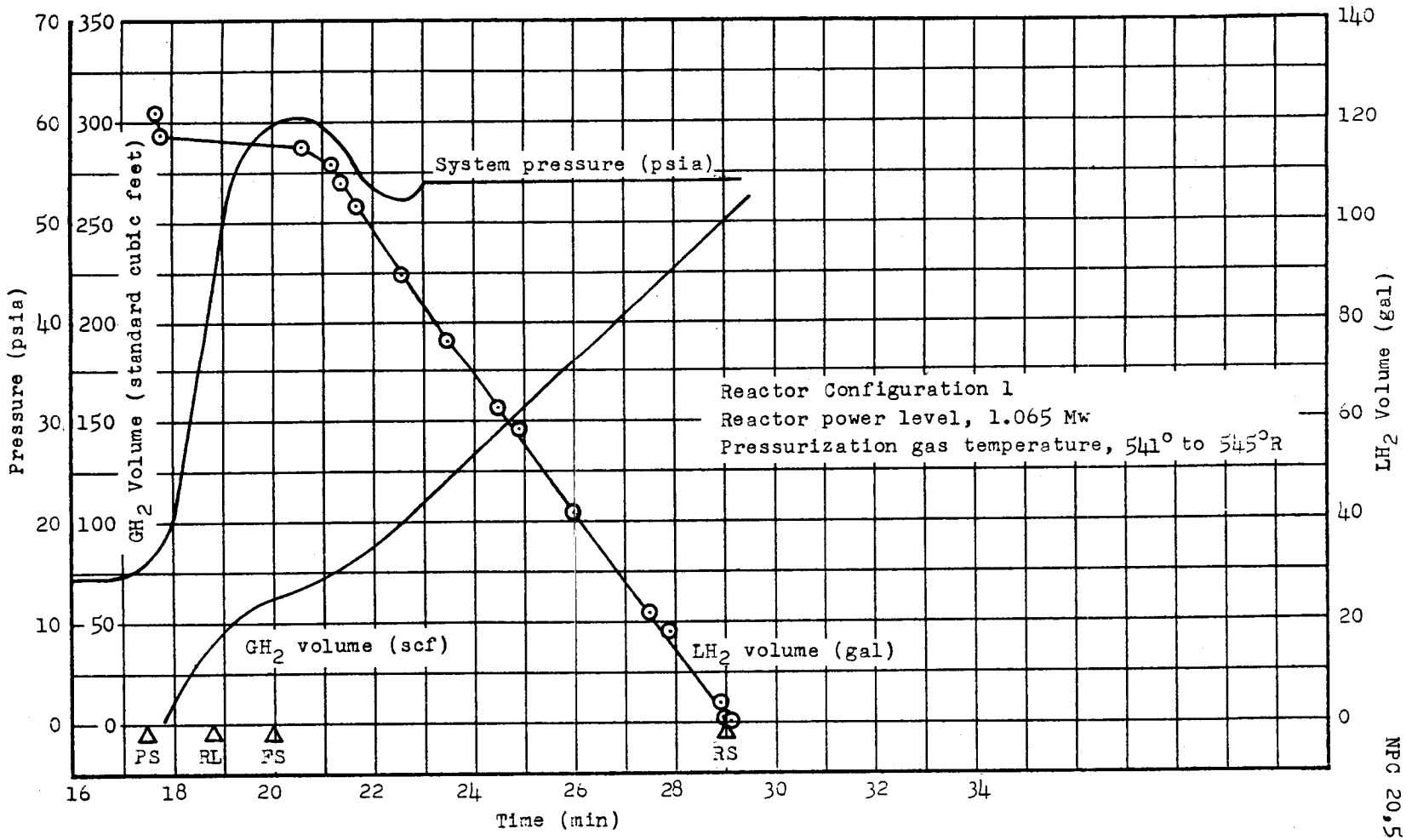

Figure 4.3-11 Pressure and Flow Data: Run 16 - 110

NPC 20,503

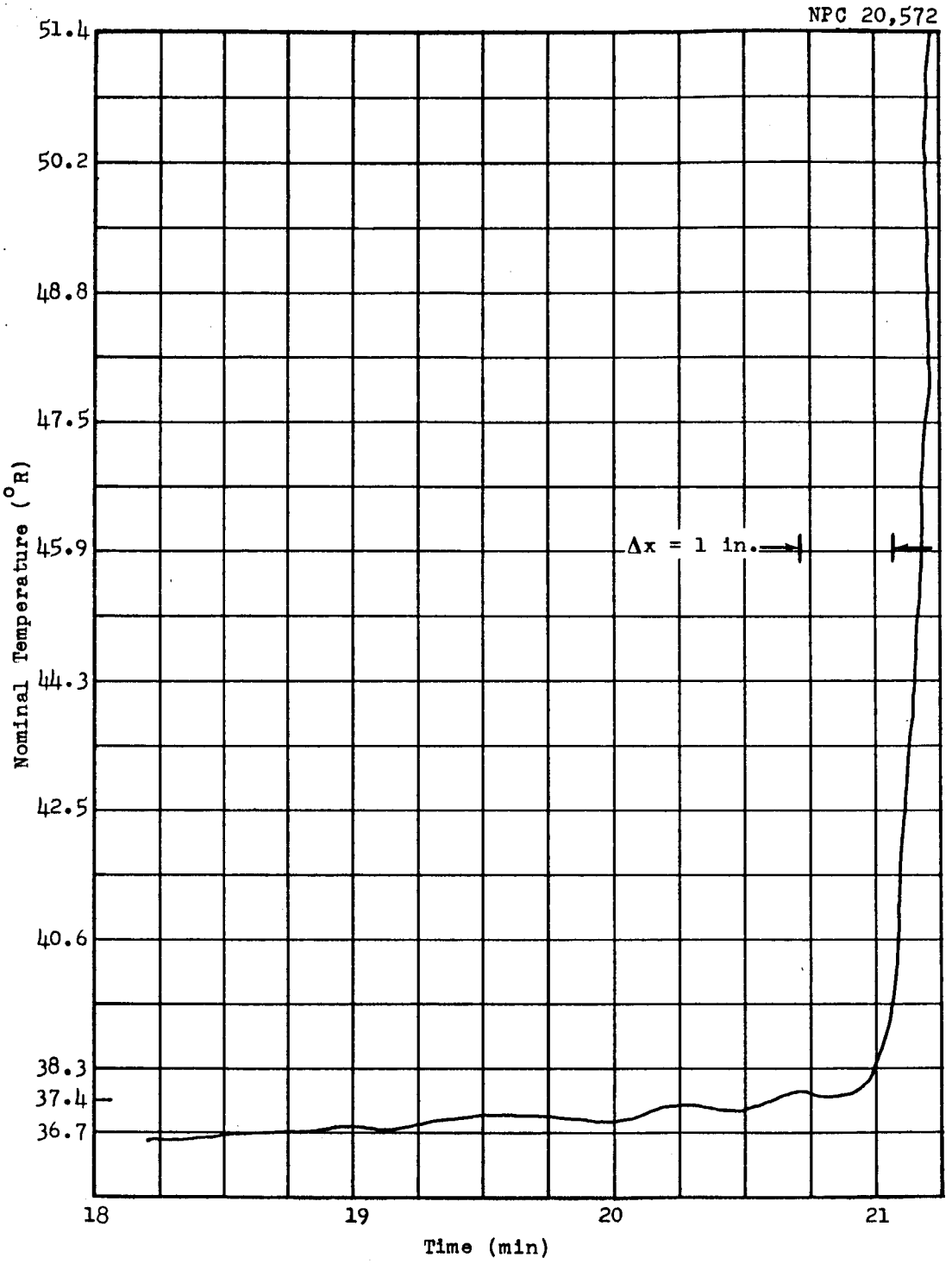

Figure 4.3-12 Strip-Chart Temperature Data: Run 16-110, Thermometer 14

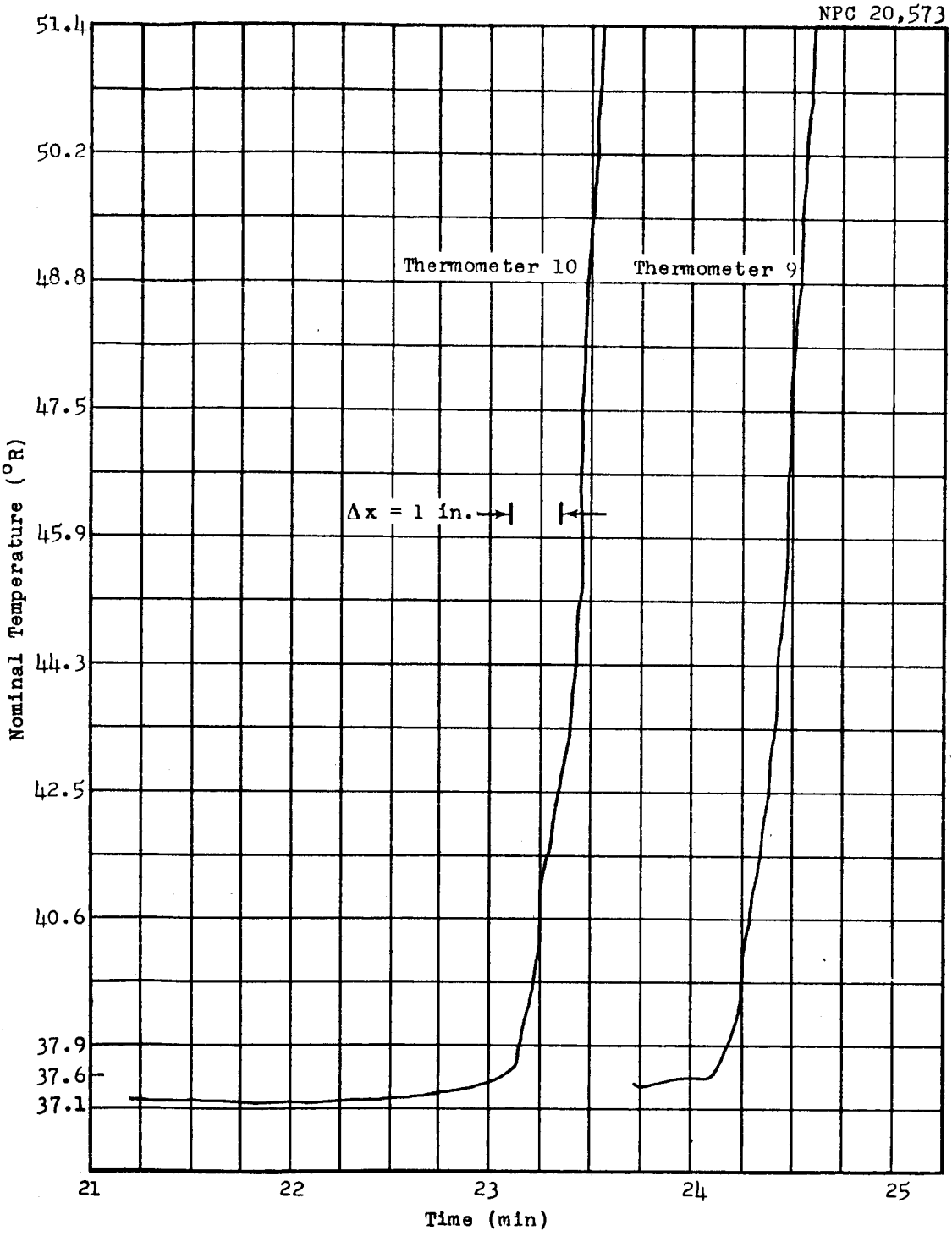

Figure 4.3-13 Strip-Chart Temperature Data: Run 16-110, Thermometers 9 and 10

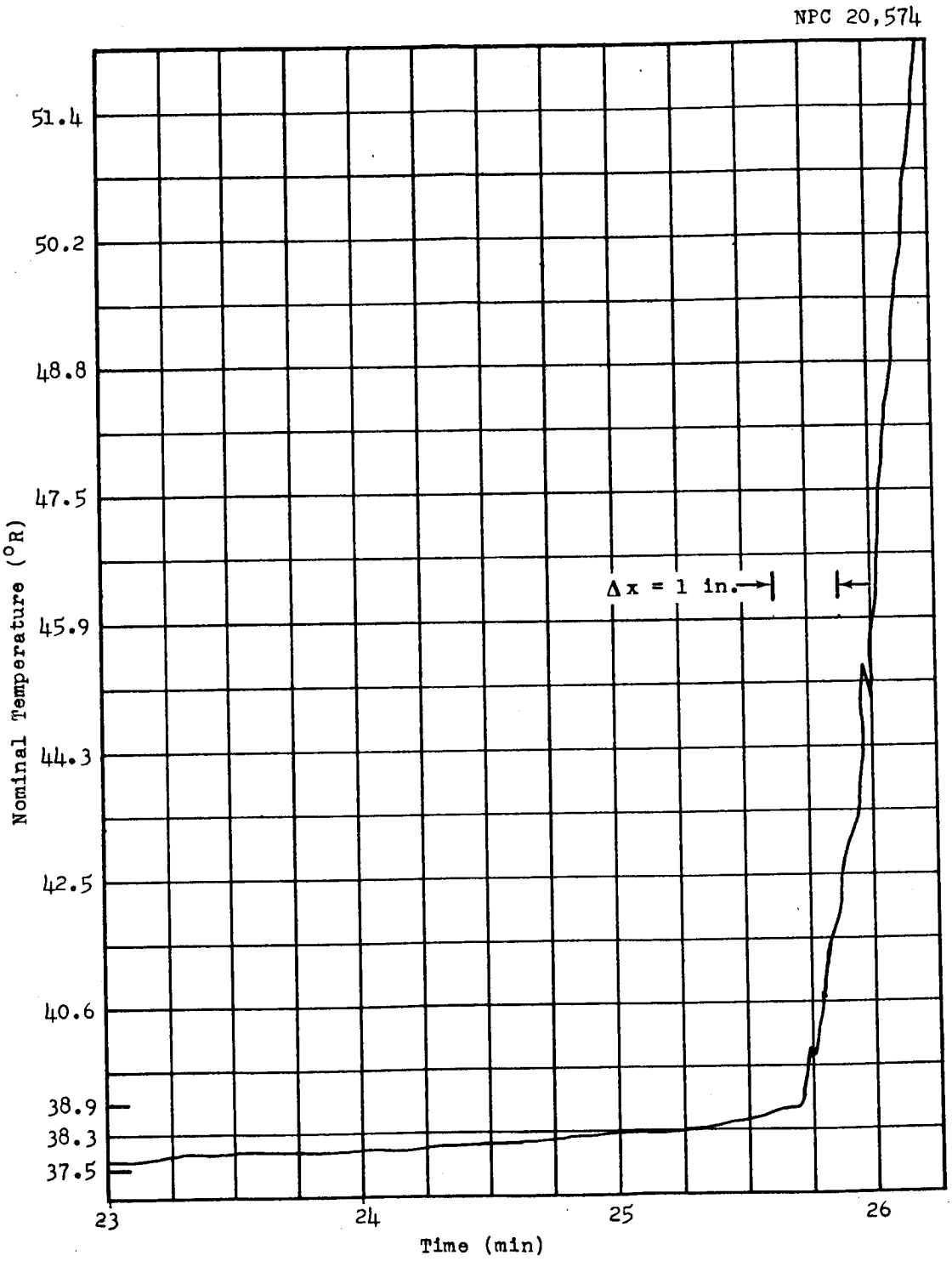

Figure 4.3-14 Strip-Chart Temperature Data: Run 16-110, Thermometer 8

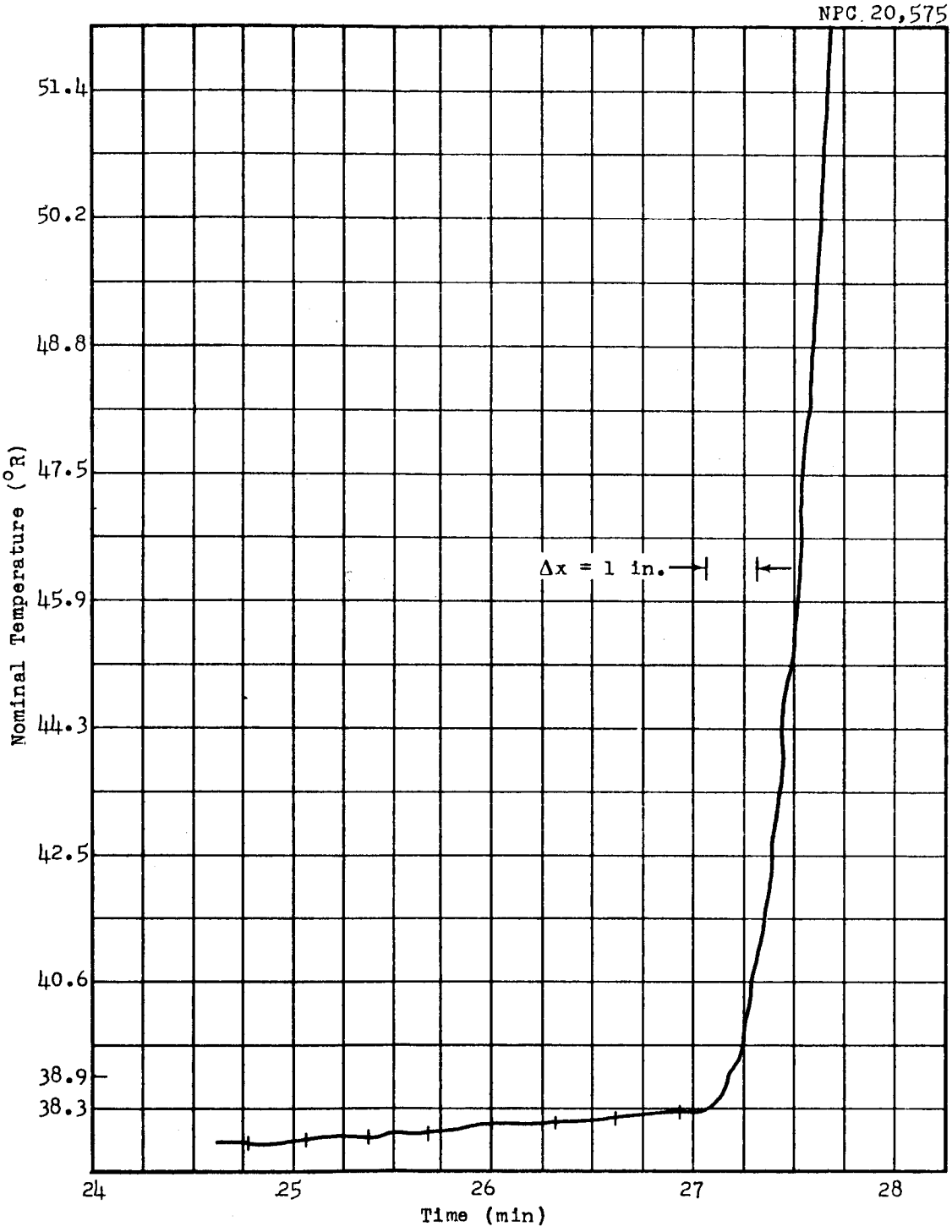

Figure 4.3-15 Strip-Chart Temperature Data: Run 16-110, Thermometer 7

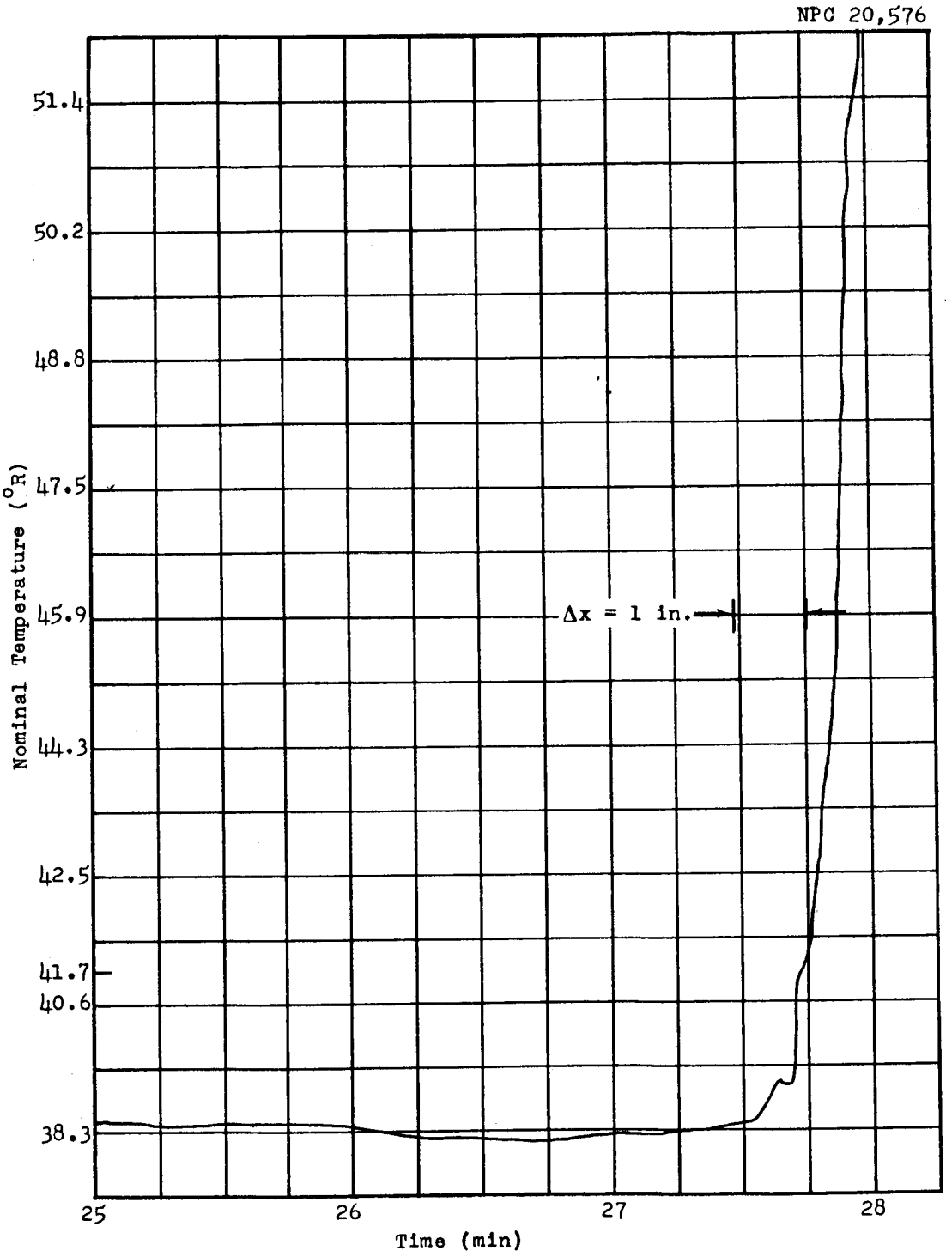

Figure 4.3-16 Strip-Chart Temperature Data: Run 16-110, Thermometer 25

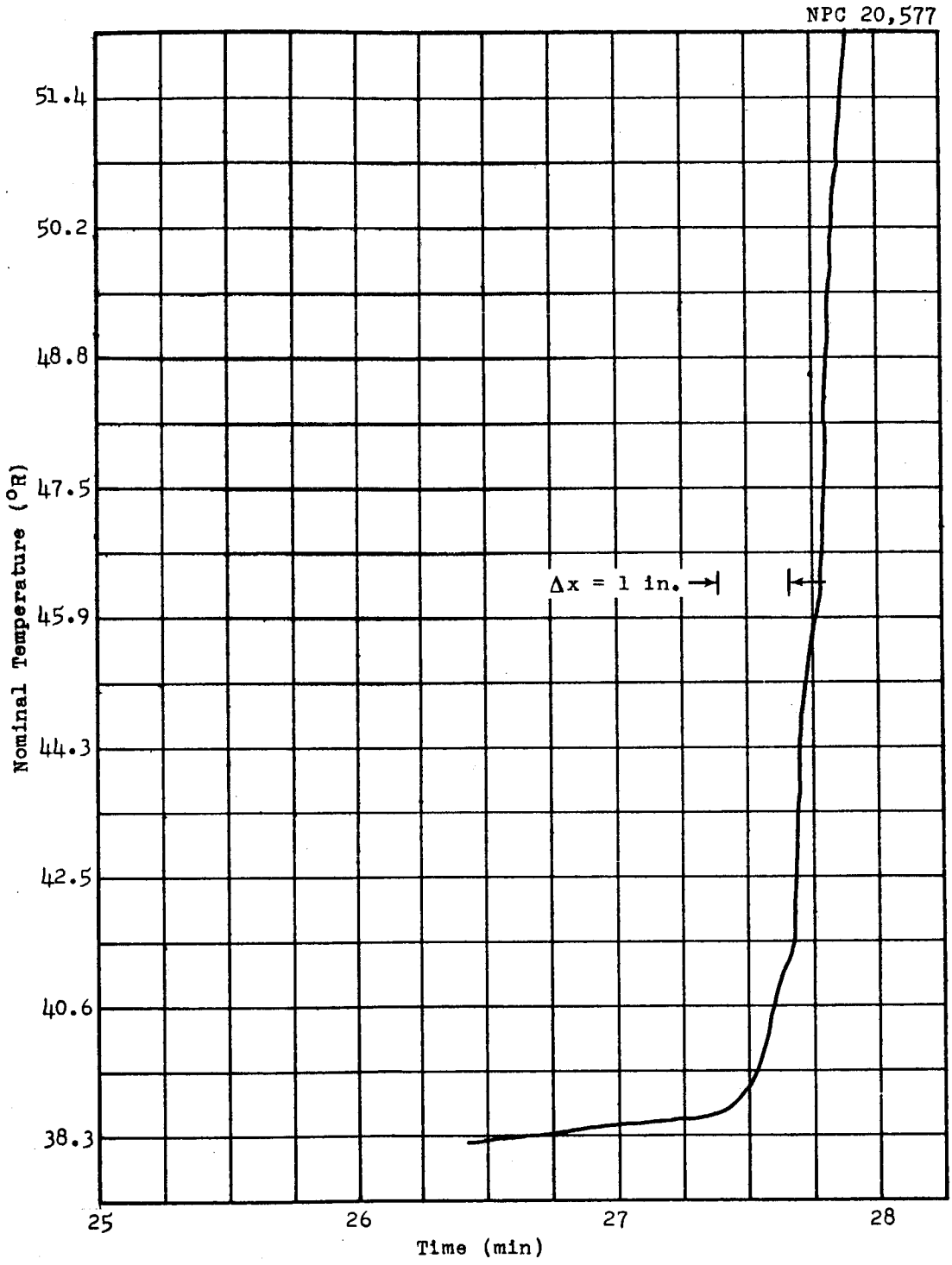

Figure 4.3-17 Strip-Chart Temperature Data: Run 16-110, Thermometer 22

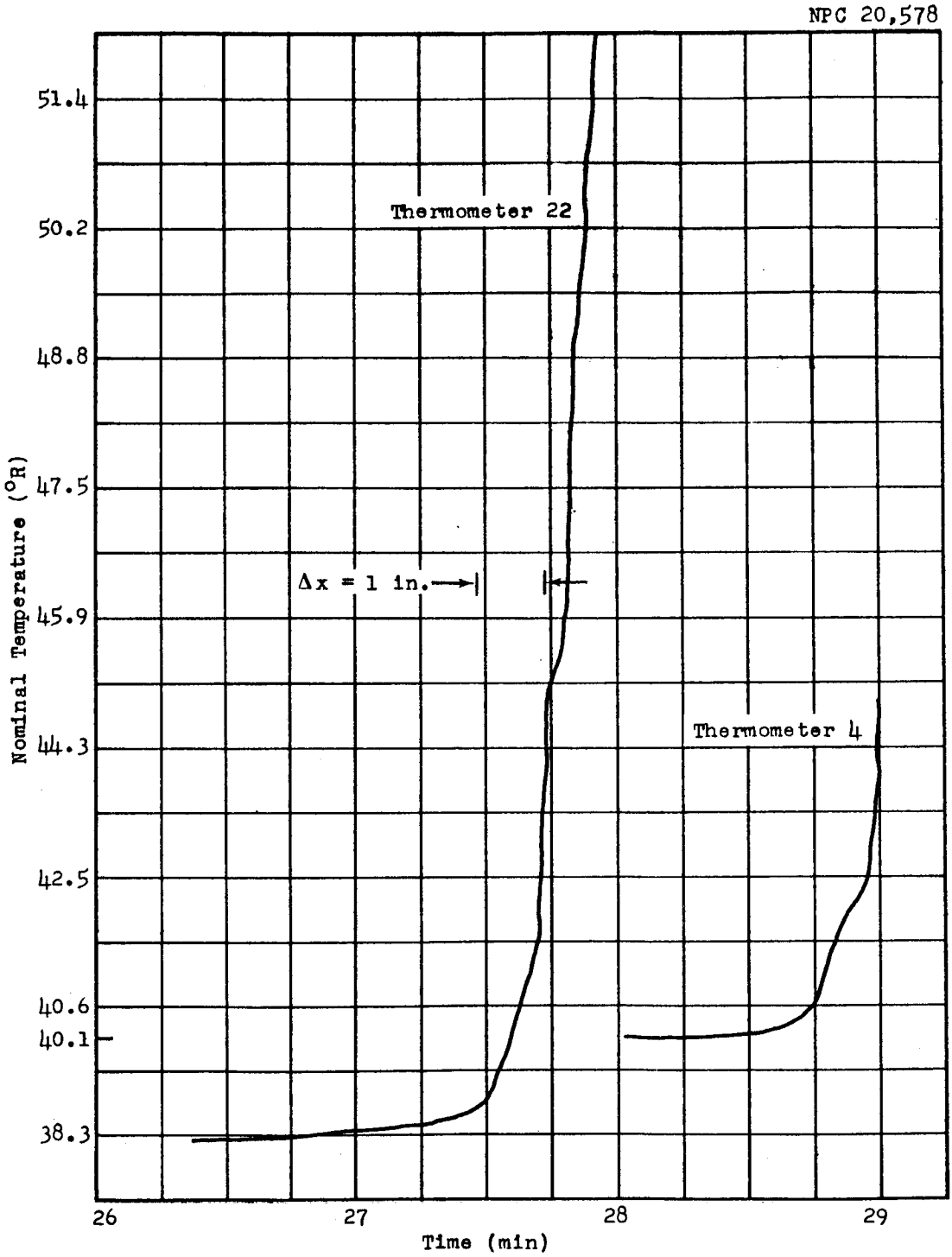

Figure 4.3-18 Strip-Chart Temperature Data: Run 16-110, Thermometers 4 and 22

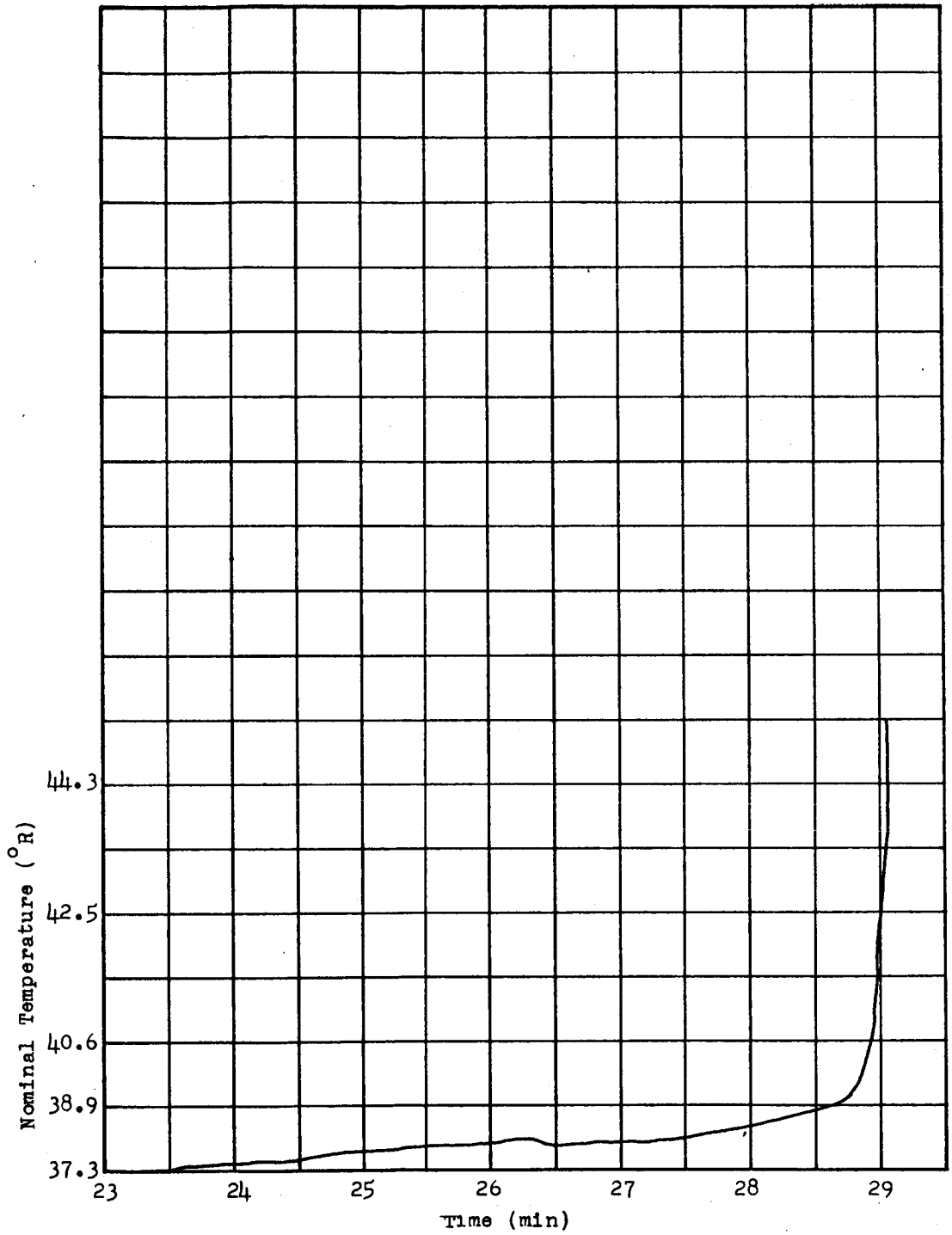

Figure 4.3-19 Strip-Chart Temperature Data: Run 16-110, Thermometer 1

TABLE 4.3-4 THERMOMETER DATA FOR EXPERIMENTAL RUN 16-110

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.50	57.90	0	36.50	57.90	0	36.48	57.92	0	40.66	51.86
0	36.33	58.11	0	36.34	58.09	0	36.46	57.94	0	40.64	51.89
0	36.33	58.11	0	36.36	58.07	0	36.47	57.93	0	40.64	51.89
0	36.33	58.11	0	36.34	58.09	0	36.49	57.91	0	38.95	54.42
0	36.40	58.02	0	36.37	58.06	0	36.49	57.91	0	38.96	54.41
1	36.36	58.07	1	36.34	58.09	1	36.49	57.91	1	38.94	54.43
13	36.33	58.11	13	36.33	58.11	13	36.47	57.93	13	38.76	54.70
13	36.36	58.07	13	36.37	58.05	13	36.49	57.91	13	38.79	54.65
13	36.40	58.02	13	36.37	58.06	13	36.49	57.91	13	38.83	54.59
14	36.37	58.05	14	36.37	58.05	14	36.47	57.93	14	38.81	54.62
14	36.39	56.03	14	36.39	58.03	14	36.53	57.86	14	38.82	54.60
14	36.36	58.07	14	36.33	58.11	14	36.51	57.88	14	38.83	54.59
14	36.38	58.04	14	36.37	58.05	14	36.50	57.89	14	38.85	54.57
15	36.41	58.01	15	36.41	58.01	15	36.50	57.89	15	38.89	54.50
15	36.40	58.02	15	36.38	58.04	15	36.51	57.88	15	38.89	54.51
15	36.41	58.01	15	36.38	58.04	15	36.52	57.87	15	38.89	54.50
16	36.45	57.96	16	36.39	58.03	16	36.58	57.79	16	38.99	54.36
17	36.54	57.84	17	36.41	58.01	17	36.60	57.77	17	39.05	54.28
17	36.48	57.92	17	36.49	57.91	17	36.65	57.70	17	39.08	54.23
17	36.57	57.81	17	36.53	57.86	17	36.64	57.72	17	39.10	54.21
18	36.69	57.65	18	36.62	57.75	18	37.03	57.20	18	39.18	54.10
18	37.21	56.96	18	36.97	57.28	18	37.63	56.35	18	39.31	53.90
18	36.87	57.42	18	36.99	57.26	18	37.31	56.82	18	39.39	53.79
19	37.17	57.01	19	37.00	57.24	19	37.60	56.39	19	39.37	53.82
19	36.99	57.26	19	37.05	57.18	19	37.19	56.99	19	39.41	53.77
19	37.03	57.21	19	37.04	57.19	19	37.22	56.95	19	39.32	53.89
20	37.00	57.25	20	37.12	57.08	20	37.39	56.70	20	39.44	53.72
20	37.13	57.07	20	37.24	56.92	20	37.34	56.77	20	39.45	53.71
20	37.11	57.10	20	37.05	57.18	20	37.24	56.92	20	39.52	53.62
20	37.21	56.96	20	37.17	57.01	21	37.26	56.89	21	39.59	53.52
21	37.06	57.16	21	37.17	57.01	21	37.29	56.85	21	39.64	53.46
21	37.14	57.05	21	37.30	56.84	21	37.33	56.79	21	39.61	53.49
21	37.20	56.97	21	37.26	56.89	21	37.39	56.71	21	39.72	53.35
22	37.19	56.99	22	37.35	56.76	22	37.42	56.65	22	39.67	53.42
22	37.33	56.79	22	37.38	56.72	22	37.46	56.60	22	39.71	53.36
22	37.35	56.76	22	37.36	56.75	22	37.56	56.45	22	39.66	53.43
23	37.39	56.71	23	37.44	56.63	23	37.60	56.40	23	39.37	53.82
23	37.42	56.65	23	37.50	56.54	23	37.60	56.40	23	39.21	54.05
23	37.51	56.53	23	37.58	56.43	23	37.67	56.30	23	39.24	54.01
24	37.58	56.43	24	37.60	56.40	24	37.76	56.17	24	39.36	53.84
24	37.60	56.40	24	37.67	56.30	24	37.80	56.10	24	39.36	53.84
24	37.73	56.21	24	37.67	56.30	24	37.85	56.03	24	39.34	53.86
25	37.78	56.14	25	37.79	56.12	25	37.90	55.96	25	39.51	53.63
25	37.76	56.16	25	37.77	56.15	25	37.94	55.90	25	39.84	53.09

* Timing interval = 0.309 minute

TABLE 4.3-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	37.90	55.96	25	37.89	55.98	25	38.04	55.76	25	40.25	52.49
25	37.92	55.93	25	38.04	55.76	25	38.10	55.66	25	40.36	52.32
26	38.00	55.81	26	38.07	55.71	26	38.20	55.52	26	40.83	51.57
26	59.69	-0.	27	38.12	55.63	26	38.29	55.39	26	41.06	51.18
26	38.23	55.48	26	38.22	55.49	26	38.35	55.30	26	40.76	51.69
27	38.25	55.45	27	38.29	55.38	27	38.43	55.18	27	40.24	52.51
27	59.69	-0.	27	38.44	55.16	27	38.54	55.02	27	40.36	52.32
27	38.51	55.06	27	38.58	54.95	27	38.69	54.79	27	40.29	52.44
28	38.69	54.80	28	38.74	54.72	28	38.89	54.51	28	40.12	52.68
28	38.90	54.49	28	38.93	54.45	28	39.10	54.20	28	40.12	52.69
28	59.69	-0.	28	39.28	53.96	28	39.55	53.58	28	40.60	51.95
29	44.41	45.05	29	42.63	48.17	29	43.01	47.44	29	46.21	40.40

TABLE 4.3-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.32	58.12	0	94.36	-212.17	0	36.32	58.12	0	36.58	57.80
0	37.09	57.12	0	94.28	-211.67	0	36.32	58.12	0	36.61	57.76
0	36.32	58.12	0	94.28	-211.67	0	36.32	58.12	0	36.59	57.78
0	36.33	58.10	0	94.28	-211.67	0	36.31	58.13	0	36.60	57.77
0	36.32	58.12	0	94.28	-211.67	0	36.35	58.08	0	36.57	57.81
1	36.33	58.11	1	94.28	-211.67	1	36.33	58.11	1	36.62	57.75
13	36.33	58.10	13	94.11	-210.66	13	36.33	58.10	13	36.60	57.77
13	36.33	58.11	13	94.11	-210.66	13	36.31	58.13	13	36.59	57.78
13	36.32	58.12	13	94.11	-210.66	13	36.33	58.11	13	36.59	57.78
14	36.35	58.08	14	94.11	-210.66	14	36.33	58.11	14	36.64	57.72
14	36.34	58.09	14	94.11	-210.66	14	36.32	58.12	14	36.61	57.76
14	36.34	58.09	14	94.11	-210.66	14	36.32	58.12	14	36.59	57.78
15	36.35	58.08	15	94.11	-210.66	15	36.32	58.12	15	36.62	57.75
15	36.37	58.06	15	94.11	-210.66	15	36.33	58.10	15	36.62	57.75
15	36.35	58.08	15	94.11	-210.66	15	36.33	58.11	15	36.61	57.76
15	36.35	58.08	15	94.11	-210.66	15	36.33	58.11	15	36.62	57.75
17	36.42	58.00	17	94.08	-210.46	17	36.36	58.07	17	36.63	57.73
17	36.37	58.05	17	94.11	-210.66	17	36.38	58.04	17	36.67	57.68
17	36.43	57.98	17	94.11	-210.66	17	36.42	58.00	17	36.70	57.64
17	36.49	57.91	17	94.05	-210.26	17	36.33	58.10	17	36.75	57.57
18	36.57	57.81	18	94.11	-210.66	18	36.54	57.85	18	36.82	57.48
18	36.69	57.65	18	94.11	-210.66	18	36.68	57.67	18	36.97	57.29
18	36.79	57.52	18	94.11	-210.66	18	36.73	57.60	18	36.95	57.31
19	36.91	57.36	19	94.11	-210.66	19	36.75	57.57	19	37.03	57.20
19	36.88	57.41	19	94.11	-210.66	19	36.93	57.34	19	37.07	57.15
19	36.96	57.30	19	94.11	-210.66	19	36.97	57.29	19	37.19	56.98
20	36.96	57.30	20	94.11	-210.66	20	36.95	57.31	20	37.19	56.98
20	37.03	57.20	20	94.28	-211.67	20	36.92	57.35	20	37.20	56.97
20	37.11	57.10	20	94.11	-210.66	20	36.98	57.27	20	37.23	56.93
21	37.07	57.15	21	94.11	-210.66	21	37.06	57.17	21	37.26	56.89
21	37.09	57.12	21	94.11	-210.66	21	37.05	57.18	21	37.32	56.80
21	37.10	57.11	21	94.28	-211.67	21	37.08	57.14	21	37.39	56.70
21	37.17	57.01	21	94.11	-210.66	21	37.18	57.00	21	37.40	56.69
22	37.26	56.89	22	94.11	-210.66	22	37.20	56.97	22	37.52	56.51
22	37.25	56.90	22	94.11	-210.66	22	37.24	56.91	22	37.54	56.49
22	37.31	56.82	22	94.11	-210.66	22	37.30	56.84	22	37.53	56.50
23	37.36	56.75	23	94.11	-210.66	23	37.39	56.70	23	37.62	56.37
23	37.40	56.69	23	94.11	-210.66	23	37.38	56.72	23	37.74	56.19
23	37.46	56.60	23	94.11	-210.66	23	37.46	56.60	23	37.67	56.30
24	37.53	56.50	24	94.11	-210.66	24	37.52	56.51	24	37.81	56.09
24	37.59	56.41	24	94.11	-210.66	24	37.60	56.40	24	37.80	56.10
24	37.69	56.27	24	94.11	-210.66	24	37.61	56.38	24	37.89	55.97
25	37.69	56.27	25	94.11	-210.66	25	37.69	56.26	25	38.02	55.79
25	37.79	56.12	25	94.11	-210.66	25	37.80	56.11	25	38.07	55.71

TABLE 4.3-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	37.83	56.07	25	94.11	-210.66	25	37.87	56.00	25	38.54	55.01
25	37.91	55.94	25	94.11	-210.66	25	38.00	55.81	26	45.30	43.16
26	38.00	55.81	26	94.11	-210.66	26	38.02	55.78	26	54.31	17.66
26	38.05	55.74	26	94.11	-210.66	26	38.08	55.70	26	71.66	-73.28
26	38.13	55.62	26	94.11	-210.66	26	38.26	55.43	26	65.35	-34.64
27	38.30	55.37	27	94.11	-210.66	27	39.50	53.64	27	70.89	-68.54
27	38.37	55.27	27	94.11	-210.66	27	47.25	38.14	27	78.04	-112.31
27	38.56	54.99	27	94.11	-210.66	27	56.68	10.70	27	84.70	-153.05
28	38.71	54.77	28	94.11	-210.66	28	61.82	-13.02	28	90.64	-189.38
28	39.05	54.28	28	94.11	-210.66	28	65.45	-35.24	28	94.11	-210.66
28	42.42	48.59	28	94.11	-210.66	28	70.87	-68.42	28	94.11	-210.66
29	51.65	26.49	29	94.28	-211.67	29	74.91	-93.15	29	94.28	-211.67

TABLE 4.3-4 (Cont'd)

THERMOMETER 9

TIME	TEMP	VOLTAGE
0	36.33	58.11
0	36.33	58.11
0	36.37	58.06
0	36.31	58.13
0	36.32	58.12
1	36.32	58.12
13	36.31	58.13
13	36.33	58.10
13	36.33	58.11
14	36.33	58.11
14	36.33	58.11
14	36.35	58.08
15	36.32	58.12
15	36.33	58.10
15	36.33	58.11
15	36.33	58.10
17	36.36	58.07
17	36.37	58.05
17	36.44	57.97
17	36.51	57.88
18	36.58	57.80
18	36.67	57.68
18	36.69	57.66
19	36.77	57.55
19	36.79	57.52
19	36.88	57.41
20	36.88	57.41
20	36.96	57.30
20	37.00	57.24
21	37.03	57.20
21	37.09	57.12
21	37.12	57.08
21	37.12	57.08
22	37.22	56.94
22	37.27	56.88
22	37.34	56.78
23	37.39	56.70
23	37.45	56.61
23	37.51	56.52
24	37.85	56.03
24	45.50	42.59
24	56.29	12.08
25	59.69	-0.
25	59.69	-0.

THERMOMETER 10

TIME	TEMP	VOLTAGE
0	36.33	58.11
0	36.33	58.11
0	36.30	58.14
0	36.31	58.13
0	36.34	58.09
1	36.33	58.10
13	36.33	58.11
13	36.42	58.00
13	36.33	58.11
14	36.31	58.13
14	36.33	58.11
14	36.31	58.13
15	36.34	58.09
15	36.37	58.06
15	36.36	58.07
15	36.37	58.05
17	36.41	58.01
17	36.41	58.01
17	36.46	57.94
17	36.49	57.91
18	36.58	57.80
18	36.66	57.69
18	36.72	57.61
19	36.80	57.40
19	36.82	57.49
19	36.89	57.39
20	36.91	57.36
20	37.03	57.20
20	36.99	57.26
21	37.11	57.10
21	37.11	57.09
21	37.09	57.12
22	37.14	57.05
22	37.28	56.86
22	37.30	56.84
22	37.44	56.62
23	38.96	54.40
23	49.61	32.52
23	59.87	-1.09
24	64.94	-32.11
24	71.10	-69.84
24	80.04	-124.55
25	90.95	-191.29
25	94.11	-210.66

THERMOMETER 11

TIME	TEMP	VOLTAGE
0	45.37	42.96
0	39.98	52.89
0	45.37	42.96
0	45.43	42.80
0	45.42	42.82
1	45.43	42.80
13	45.43	42.80
13	45.43	42.80
13	40.02	52.83
14	45.42	42.82
14	45.41	42.86
14	45.42	42.82
15	45.42	42.81
15	45.43	42.79
15	45.42	42.82
15	45.43	42.78
17	45.44	42.75
17	45.45	42.72
17	45.47	42.66
17	45.50	42.59
18	45.52	42.51
18	45.56	42.40
18	45.60	42.29
19	45.61	42.24
19	45.65	42.14
19	45.66	42.10
20	45.68	42.04
20	45.71	41.93
20	45.72	41.92
21	45.75	41.80
21	45.75	41.80
21	45.84	41.53
22	45.87	41.42
22	47.65	37.54
22	57.84	6.56
22	64.37	-28.61
23	71.12	-69.92
23	80.17	-125.35
23	90.37	-187.78
24	94.11	-210.66
24	94.10	-210.56
24	94.11	-210.66
25	94.11	-210.66
25	94.51	-213.07

THERMOMETER 12

TIME	TEMP	VOLTAGE
0	61.18	-9.14
0	61.40	-10.49
0	63.04	-20.50
0	61.75	-12.64
0	61.33	-10.07
1	61.90	-13.55
13	61.82	-13.05
13	61.90	-13.55
13	61.72	-12.39
14	62.00	-14.15
14	61.87	-13.36
14	61.87	-13.35
15	61.66	-12.03
15	61.49	-11.03
15	62.15	-15.05
16	62.31	-16.06
17	61.49	-11.03
17	61.75	-12.60
17	61.90	-13.55
18	61.99	-14.08
18	62.01	-14.19
18	61.99	-14.05
18	62.00	-14.12
19	62.00	-14.15
19	62.00	-14.11
19	62.00	-14.11
20	62.35	-16.27
20	62.32	-16.08
20	62.33	-16.16
21	61.91	-13.56
21	64.77	-31.11
21	71.99	-75.27
22	77.38	-108.29
22	87.40	-169.61
22	94.11	-210.66
22	94.11	-210.66
23	94.11	-210.66
23	94.11	-210.66
23	94.11	-210.66
24	94.44	-212.67
24	94.37	-212.27
24	94.44	-212.67
25	94.47	-212.87
25	94.52	-213.17

TABLE 4.3-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	59.69	-0.	25	94.11	-210.66	25	94.47	-212.87	25	94.47	-212.87
26	59.69	-0.	26	94.11	-210.66	26	94.44	-212.67	26	94.49	-212.97
26	91.57	-195.11	26	94.11	-210.66	26	94.47	-212.87	26	94.52	-213.17
26	94.11	-210.66	26	94.54	-213.27	25	94.54	-213.27	26	94.54	-213.27
26	94.11	-210.66	26	94.44	-212.67	26	94.51	-213.07	26	94.47	-212.87
27	94.11	-210.66	27	94.44	-212.67	27	94.55	-213.37	27	94.49	-212.97
27	94.11	-210.66	27	94.49	-212.97	27	94.49	-212.97	27	94.52	-213.17
27	94.11	-210.66	27	94.44	-212.67	27	94.44	-212.67	27	94.47	-212.87
28	94.11	-210.66	28	94.49	-212.97	28	94.49	-212.97	28	94.46	-212.77
28	94.28	-211.67	28	94.47	-212.87	28	94.49	-212.97	28	94.46	-212.77
28	94.34	-212.07	28	94.51	-213.07	28	94.49	-212.97	28	94.47	-212.87
29	94.21	-211.26	29	94.34	-212.07	29	94.42	-212.57	29	94.46	-212.77

TABLE 4.3-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.29	58.15	0	36.28	58.17	0	36.33	58.11	0	35.96	58.54
0	36.30	58.14	0	36.31	58.13	0	36.35	58.08	0	35.95	58.55
0	36.31	58.13	0	36.30	58.14	0	36.37	58.05	0	35.90	58.61
0	36.35	58.08	0	36.32	58.12	0	36.34	58.09	0	35.96	58.54
0	36.33	58.11	0	36.31	58.13	1	36.36	58.07	1	35.99	58.51
1	36.31	58.13	1	36.33	58.11	1	36.36	58.07	1	35.96	58.54
13	36.33	58.10	13	36.33	58.11	13	36.34	58.09	13	36.00	58.50
13	36.33	58.10	13	36.33	58.11	13	36.34	58.09	13	35.97	58.53
13	36.33	58.11	13	36.33	58.10	13	36.34	58.09	13	35.98	58.52
14	36.34	58.09	14	36.36	58.07	14	36.37	58.05	14	35.99	58.51
14	36.33	58.11	14	36.32	58.12	14	36.37	58.06	14	36.00	58.49
14	36.36	58.07	14	36.36	58.07	14	36.37	58.05	14	35.99	58.51
15	36.36	58.07	15	36.37	58.06	15	36.37	58.05	15	36.06	58.42
15	36.37	58.06	15	36.33	58.10	15	36.40	58.02	15	36.06	58.42
15	36.37	58.06	15	36.42	58.00	15	36.37	58.05	15	36.05	58.44
16	36.37	58.06	16	36.40	58.02	16	36.41	58.01	16	36.45	57.96
17	36.40	58.02	17	36.40	58.02	17	36.44	57.97	17	37.66	56.31
17	36.41	58.01	17	36.40	58.02	17	36.46	57.94	17	38.18	55.54
17	36.48	57.92	17	36.50	57.90	17	36.63	57.73	17	45.44	42.75
18	36.53	57.86	18	36.53	57.86	18	37.38	56.72	18	50.49	30.27
18	36.58	57.80	18	36.65	57.70	18	37.25	56.90	18	54.39	18.93
18	36.69	57.66	18	36.71	57.63	18	37.65	56.33	18	56.92	9.84
18	36.76	57.56	18	36.94	57.33	18	37.49	56.55	18	58.24	5.17
19	36.97	57.28	19	37.17	57.01	19	38.82	54.60	19	59.91	-1.35
19	37.00	57.25	19	37.09	57.13	19	38.97	54.39	19	60.72	-6.29
19	36.91	57.37	19	37.49	56.55	19	38.92	54.46	19	62.19	-15.30
20	37.00	57.25	20	37.17	57.02	20	42.85	47.75	20	62.30	-15.95
20	37.19	56.99	20	37.45	56.61	20	46.95	38.67	20	63.44	-22.97
20	37.41	56.67	20	41.97	49.48	20	60.74	-6.42	20	66.85	-43.85
21	43.62	46.17	21	60.54	-5.18	21	66.83	-43.67	21	75.46	-96.54
21	60.27	-3.53	21	67.35	-46.88	21	75.66	-97.74	21	87.39	-169.51
21	59.69	-0.	21	75.96	-99.55	21	88.24	-174.73	21	94.28	-211.67
22	59.69	-0.	22	88.96	-179.15	22	94.11	-210.66	22	94.51	-213.07
22	88.04	-173.53	22	94.11	-210.66	22	94.55	-213.37	22	94.57	-213.47
22	94.41	-212.47	22	94.52	-213.17	22	94.51	-213.07	22	94.51	-213.07
22	94.41	-212.47	22	94.47	-212.87	22	94.46	-212.77	22	94.52	-213.17
23	94.37	-212.27	23	94.47	-212.87	23	94.47	-212.87	23	94.47	-212.87
23	94.34	-212.07	23	94.47	-212.87	23	94.47	-212.87	23	94.51	-213.07
23	94.34	-212.07	23	94.47	-212.87	23	94.46	-212.77	23	94.49	-212.97
24	94.36	-212.17	24	94.42	-212.57	24	94.46	-212.77	24	94.44	-212.67
24	94.36	-212.17	24	94.47	-212.87	24	94.44	-212.67	24	94.44	-212.67
24	94.41	-212.47	24	94.47	-212.87	24	94.47	-212.87	24	94.46	-212.77
25	94.42	-212.57	25	94.49	-212.97	25	94.51	-213.07	25	94.47	-212.87
25	94.44	-212.67	25	94.47	-212.87	25	94.49	-212.97	25	94.46	-212.77

TABLE 4.3-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	94.49	-212.97	25	94.51	-213.07	25	94.49	-212.97	25	94.44	-212.67
26	94.49	-212.97	26	94.41	-212.47	26	94.46	-212.77	26	94.49	-212.97
26	94.49	-212.97	26	94.49	-212.97	26	94.41	-212.47	26	94.44	-212.67
26	94.54	-213.27	26	94.52	-213.17	26	94.46	-212.77	26	94.54	-213.27
26	94.44	-212.67	26	94.46	-212.77	27	94.49	-212.97	27	94.51	-213.07
27	94.47	-212.87	27	94.49	-212.97	27	94.51	-213.07	27	94.46	-212.77
27	94.51	-213.07	27	94.51	-213.07	27	94.49	-212.97	27	94.51	-213.07
27	94.52	-213.17	27	94.52	-213.17	27	94.44	-212.67	27	94.49	-212.97
28	94.47	-212.87	28	94.54	-213.27	28	94.47	-212.87	28	94.47	-212.87
28	94.49	-212.97	28	94.47	-212.87	28	94.49	-212.97	28	94.46	-212.77
28	94.52	-213.17	28	94.49	-212.97	28	94.52	-213.17	28	94.51	-213.07
29	94.57	-213.47	29	94.52	-213.17	29	94.47	-212.87	29	94.54	-213.27

TABLE 4.3-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.51	57.88	0	37.67	56.30	0	39.70	53.37	0	63.24	-21.72
0	36.48	57.92	0	37.67	56.29	0	39.71	53.26	0	63.45	-22.98
0	36.50	57.89	0	37.67	56.30	0	39.70	53.27	0	63.54	-23.54
0	36.50	57.89	0	36.08	55.69	0	40.52	52.07	0	68.08	-51.38
1	36.51	57.88	1	38.01	55.80	1	40.59	51.97	1	68.37	-53.14
1	36.53	57.86	1	38.01	55.80	1	40.55	52.03	1	68.30	-52.70
13	36.66	57.69	13	38.26	55.43	13	40.94	51.39	13	71.33	-71.23
13	36.65	57.71	13	38.24	55.46	13	40.92	51.42	13	71.34	-71.27
13	36.74	57.59	13	38.23	55.48	13	40.91	51.43	13	71.34	-71.32
14	36.74	57.59	14	38.37	55.26	14	41.12	51.07	15	74.69	-91.80
14	36.74	57.59	14	38.31	55.35	14	41.11	51.09	14	73.88	-86.81
14	36.73	57.60	14	38.41	55.20	14	41.14	51.03	14	74.28	-89.31
15	36.89	57.39	15	38.58	54.95	15	41.41	50.54	15	79.45	-120.94
15	36.94	57.32	15	38.68	54.81	15	41.48	50.42	15	78.45	-114.82
15	37.00	57.25	15	38.64	54.87	15	41.51	50.35	15	78.39	-114.41
16	37.41	56.67	16	39.34	53.86	16	42.34	48.76	16	94.05	-210.26
17	39.14	54.15	17	41.17	50.97	17	44.52	44.86	17	94.11	-210.66
17	39.91	52.98	17	41.80	49.81	17	45.23	43.36	17	94.11	-210.66
17	47.76	37.17	17	50.34	30.68	17	80.50	-127.36	17	94.11	-210.66
18	53.57	21.99	18	55.96	13.27	18	94.11	-210.66	18	94.49	-212.97
18	57.97	6.12	18	60.69	-6.12	18	94.06	-210.36	18	94.39	-212.37
18	59.69	-0.	18	64.33	-28.41	18	94.11	-210.66	18	94.42	-212.57
18	59.69	-0.	18	67.33	-46.76	18	94.11	-210.66	19	94.49	-212.97
19	59.69	-0.	19	69.63	-60.81	19	94.11	-210.66	19	94.52	-213.17
19	59.69	-0.	19	71.53	-72.43	19	94.23	-211.36	19	94.51	-213.07
19	59.69	-0.	19	73.59	-85.10	19	94.11	-210.66	19	94.51	-213.07
20	59.69	-0.	20	74.19	-88.72	20	94.11	-210.66	20	94.54	-213.27
20	59.69	-0.	20	78.07	-112.51	20	94.11	-210.66	20	94.49	-212.97
20	59.69	-0.	20	89.29	-181.16	20	94.11	-210.66	20	94.49	-212.97
21	88.83	-178.35	21	94.11	-210.66	21	94.51	-213.07	21	94.52	-213.17
21	94.11	-210.66	21	94.52	-213.17	21	94.55	-213.37	21	94.57	-213.47
21	94.31	-211.87	21	94.54	-213.27	21	94.52	-213.17	21	94.57	-213.47
22	94.52	-213.17	22	94.54	-213.27	22	94.52	-213.17	22	94.57	-213.47
22	94.47	-212.87	22	94.55	-213.37	22	94.51	-213.07	22	94.54	-213.27
22	94.51	-213.07	22	94.49	-212.97	22	94.51	-213.07	22	94.49	-212.97
22	94.52	-213.17	23	94.49	-212.97	23	94.49	-212.97	23	94.49	-212.97
23	94.49	-212.97	23	94.47	-212.87	23	94.46	-212.77	23	94.42	-212.57
23	94.49	-212.97	23	94.49	-212.97	23	94.51	-213.07	23	94.51	-213.07
23	94.44	-212.67	23	94.52	-213.17	23	94.52	-213.17	23	94.49	-212.97
24	94.46	-212.77	24	94.44	-212.67	24	94.44	-212.67	24	94.44	-212.67
24	94.44	-212.67	24	94.44	-212.67	24	94.49	-212.97	24	94.52	-213.17
24	94.46	-212.77	24	94.44	-212.67	24	94.44	-212.67	24	94.42	-212.57
25	94.44	-212.67	25	94.49	-212.97	25	94.52	-213.17	25	94.51	-213.07
25	94.47	-212.87	25	94.47	-212.87	25	94.49	-212.97	25	94.49	-212.97

TABLE 4.3-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	94.49	-212.97	25	94.46	-212.77	25	94.47	-212.87	25	94.52	-213.17
26	94.46	-212.77	26	94.46	-212.77	26	94.47	-212.87	26	94.49	-212.97
26	94.44	-212.67	26	94.49	-212.97	26	94.49	-212.97	26	94.49	-212.97
26	94.51	-213.07	26	94.49	-212.97	26	94.55	-213.37	26	94.59	-213.57
27	94.47	-212.87	27	94.47	-212.87	27	94.55	-213.37	27	94.51	-213.07
27	94.42	-212.57	27	94.46	-212.77	27	94.51	-213.07	27	94.52	-213.17
27	94.51	-213.07	27	94.47	-212.87	27	94.44	-212.67	27	94.47	-212.87
27	94.46	-212.77	27	94.46	-212.77	27	94.47	-212.87	27	94.41	-212.47
28	94.46	-212.77	28	94.51	-213.07	28	94.46	-212.77	28	94.47	-212.87
28	94.46	-212.77	28	94.47	-212.87	28	94.47	-212.87	28	94.51	-213.07
28	94.51	-213.07	28	94.52	-213.17	28	94.52	-213.17	28	94.52	-213.17
29	94.55	-213.37	29	94.51	-213.07	29	94.52	-213.17	29	94.54	-213.27

TABLE 4.3-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.33	58.11	0	36.23	58.22	0	36.30	58.14	0	36.29	58.15
0	36.32	58.12	0	36.23	58.22	0	36.28	58.16	0	36.29	58.15
0	36.33	58.11	0	36.23	58.22	0	36.29	58.15	0	36.29	58.15
0	36.33	58.10	0	36.33	58.11	0	36.33	58.11	0	36.33	58.10
1	36.34	58.09	1	36.30	58.14	1	36.32	58.12	1	36.32	58.12
1	36.33	58.10	1	36.29	58.15	1	36.31	58.13	1	36.31	58.13
13	36.33	58.11	13	36.33	58.10	13	36.31	58.13	13	36.33	58.11
13	36.37	58.06	13	36.32	58.12	13	36.32	58.12	13	36.33	58.11
13	36.33	58.10	13	36.31	58.13	13	36.31	58.13	13	36.33	58.11
14	36.34	58.09	14	36.33	58.11	14	36.32	58.12	14	36.33	58.11
14	36.34	58.09	14	36.31	58.13	14	36.31	58.13	14	36.32	58.12
14	36.34	58.09	14	36.31	58.13	14	36.31	58.13	14	36.33	58.11
15	36.38	58.04	15	36.33	58.11	15	36.30	58.14	15	36.34	58.09
15	36.34	58.09	15	36.32	58.12	15	36.33	58.10	15	36.33	58.10
15	26.03	68.13	15	36.33	58.11	15	36.33	58.11	15	36.34	58.09
16	36.38	58.04	16	36.35	58.08	16	36.33	58.11	16	36.35	58.08
17	36.43	57.98	17	36.38	58.04	17	36.36	58.07	17	36.37	58.05
17	36.42	58.00	17	36.36	58.07	17	36.36	58.07	17	36.38	58.04
17	36.47	57.93	17	36.44	57.97	17	36.45	57.96	17	36.46	57.94
18	36.53	57.86	18	36.52	57.87	18	36.53	57.86	18	36.50	57.89
18	36.65	57.70	18	36.59	57.78	18	36.59	57.78	18	36.62	57.75
18	36.73	57.60	18	36.73	57.60	18	36.81	57.50	18	36.75	57.58
19	36.82	57.48	19	36.78	57.54	19	36.74	57.59	19	36.72	57.61
19	36.82	57.48	19	36.86	57.43	19	36.91	57.36	19	36.94	57.32
19	36.91	57.37	19	36.85	57.45	19	36.85	57.45	19	36.85	57.45
19	36.96	57.30	19	36.91	57.36	19	36.90	57.38	19	37.02	57.22
20	36.97	57.28	20	36.97	57.28	20	36.97	57.28	20	37.00	57.25
20	37.03	57.21	20	36.96	57.30	20	36.95	57.31	20	37.00	57.25
20	37.03	57.20	20	36.99	57.26	20	37.00	57.25	20	37.00	57.25
21	37.09	57.13	21	37.06	57.17	21	37.06	57.17	21	37.07	57.15
21	59.69	-0.	21	37.06	57.16	21	37.10	57.11	21	37.10	57.11
21	59.69	-0.	21	37.13	57.07	21	37.17	57.01	21	37.24	56.91
22	59.69	-0.	22	37.17	57.01	22	37.17	57.01	22	37.21	56.96
22	59.69	-0.	22	37.19	56.99	22	37.19	56.99	22	37.19	56.99
22	59.69	-0.	22	37.22	56.95	22	37.24	56.91	22	37.29	56.85
23	59.69	-0.	23	37.33	56.79	23	37.32	56.80	23	37.36	56.75
23	59.69	-0.	23	37.34	56.77	23	37.37	56.74	23	37.38	56.72
23	59.69	-0.	23	37.39	56.71	23	37.43	56.64	23	37.45	56.61
23	59.69	-0.	23	37.44	56.62	23	37.51	56.53	23	37.54	56.49
24	59.69	-0.	24	37.51	56.53	24	37.51	56.52	24	37.56	56.45
24	59.69	-0.	24	37.53	56.50	24	37.60	56.39	24	37.60	56.39
24	59.69	-0.	24	37.62	56.37	24	37.61	56.38	24	37.62	56.37
25	59.69	-0.	25	37.72	56.23	25	37.72	56.22	25	37.74	56.19
25	59.69	-0.	25	37.78	56.14	25	37.78	56.13	25	37.76	56.17

TABLE 4.3-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	59.69	-0.	25	37.85	56.03	25	37.85	56.04	25	37.86	56.02
26	59.69	-0.	26	37.94	55.90	26	37.91	55.94	26	37.95	55.88
26	59.69	-0.	26	37.97	55.86	26	38.00	55.82	26	38.01	55.80
26	59.69	-0.	26	38.09	55.68	26	38.08	55.69	26	38.08	55.69
27	59.69	-0.	27	38.25	55.44	27	38.08	55.69	27	38.08	55.69
27	59.69	-0.	27	38.41	55.20	27	38.35	55.30	27	38.38	55.25
27	59.69	-0.	27	41.43	50.51	27	41.67	50.06	27	41.50	50.38
27	59.69	-0.	28	54.33	17.86	28	55.74	14.05	28	54.41	15.92
28	62.82	-19.16	28	63.58	-23.80	28	64.03	-26.59	28	63.53	-23.47
28	67.29	-46.54	28	68.61	-54.59	28	70.10	-63.72	28	69.53	-60.21
28	71.58	-72.75	28	73.65	-85.42	28	75.37	-95.94	28	74.87	-92.93
29	72.84	-80.48	29	73.71	-85.80	29	75.90	-99.19	29	75.29	-95.45

TABLE 4.3-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.32	56.80	0	36.31	58.13	0	36.32	58.12	0	36.27	58.18
0	37.32	56.80	0	36.31	58.13	0	36.32	58.12	0	36.27	58.18
0	37.34	56.78	0	36.31	58.13	0	36.32	58.12	0	36.33	58.11
0	37.31	56.82	0	36.34	58.09	0	36.33	58.11	0	36.31	58.13
1	37.25	56.90	1	36.35	58.08	1	36.32	58.12	1	36.29	58.15
1	37.22	56.95	1	36.33	58.10	1	36.33	58.10	1	36.28	58.17
13	37.22	56.95	13	36.33	58.11	13	36.33	58.11	13	36.29	58.15
13	37.24	56.92	13	36.32	58.12	13	36.33	58.11	13	36.29	58.15
13	37.26	56.89	13	36.34	58.09	13	36.33	58.11	13	36.31	58.13
14	37.22	56.95	14	36.33	58.11	14	36.32	58.12	14	36.29	58.15
14	37.25	56.90	14	36.33	58.10	14	36.33	58.10	14	36.29	58.15
14	37.32	56.80	14	36.33	58.10	14	36.33	58.11	14	36.29	58.15
15	37.24	56.91	15	36.34	58.09	15	36.32	58.12	15	36.32	58.12
15	37.24	56.91	15	36.36	58.07	15	36.33	58.11	15	36.34	58.09
15	37.26	56.89	15	36.33	58.10	15	36.33	58.10	15	36.32	58.12
16	37.26	56.89	16	36.34	58.09	16	36.34	58.09	16	36.32	58.12
17	37.24	56.91	17	36.38	58.04	17	36.37	58.05	17	36.37	58.05
17	36.90	57.38	17	36.41	58.01	17	36.42	57.99	17	36.38	58.04
17	37.61	56.38	17	36.47	57.93	17	36.46	57.94	17	36.46	57.95
18	37.59	56.41	18	36.52	57.87	18	36.53	57.86	18	36.51	57.88
18	37.71	56.24	18	36.58	57.79	18	36.62	57.75	18	36.58	57.79
18	37.93	55.91	18	36.72	57.62	18	36.69	57.65	18	36.72	57.61
19	37.80	56.10	19	36.72	57.61	19	36.76	57.56	19	36.72	57.62
19	38.00	55.82	19	36.82	57.49	19	36.80	57.51	19	36.77	57.55
19	37.86	56.02	19	36.83	57.47	19	36.88	57.41	19	36.85	57.45
19	37.94	55.90	19	36.88	57.40	19	36.91	57.37	20	36.91	57.37
20	38.12	55.64	20	36.95	57.31	20	36.94	57.32	20	36.94	57.32
20	38.11	55.65	20	36.95	57.31	20	36.97	57.29	20	36.97	57.28
20	38.12	55.64	20	36.94	57.33	20	37.00	57.25	20	36.99	57.26
21	38.09	55.68	21	36.98	57.27	21	37.00	57.25	21	37.00	57.25
21	38.21	55.51	21	37.06	57.17	21	37.06	57.16	21	37.05	57.18
21	38.34	55.31	21	37.13	57.07	21	37.10	57.11	21	37.10	57.11
22	38.14	55.60	22	37.16	57.03	22	37.19	56.98	22	37.18	57.00
22	38.29	55.39	22	37.19	56.98	22	37.17	57.01	22	37.19	56.98
22	38.32	55.34	22	37.23	56.93	22	37.24	56.92	22	37.24	56.92
23	37.14	57.06	23	37.31	56.82	23	37.31	56.82	23	37.29	56.85
23	38.48	55.10	23	37.33	56.79	23	37.36	56.75	23	37.35	56.76
23	38.57	54.97	23	37.42	56.66	23	37.40	56.69	23	37.42	56.65
24	38.69	54.79	24	37.56	56.45	24	37.46	56.60	24	37.46	56.60
24	38.69	54.79	24	37.67	56.29	24	37.57	56.44	24	37.57	56.44
24	38.54	55.02	24	38.83	54.59	24	39.02	54.32	24	38.46	55.14
24	38.63	54.88	24	54.34	18.07	24	55.23	14.67	24	54.39	19.27
25	38.69	54.79	25	64.41	-28.89	25	65.95	-38.33	25	64.99	-32.41
25	38.59	54.94	25	71.40	-71.65	25	73.40	-83.89	25	72.46	-78.17

TABLE 4.3-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	38.63	54.88	25	77.22	-107.29	25	80.30	-126.16	25	79.35	-120.34
26	38.46	55.14	26	80.22	-125.65	26	86.77	-165.70	26	85.91	-160.48
26	38.29	55.39	26	83.29	-144.42	26	93.10	-204.44	26	92.47	-200.63
26	38.14	55.60	26	94.11	-210.66	26	94.46	-212.77	26	94.51	-213.07
27	38.14	55.60	27	94.11	-210.66	27	94.47	-212.87	27	94.47	-212.87
27	38.41	55.20	27	94.11	-210.66	27	94.42	-212.57	27	94.46	-212.77
27	41.66	50.07	27	94.11	-210.66	27	94.41	-212.47	27	94.47	-212.87
28	55.78	13.89	28	94.11	-210.66	25	94.44	-212.67	28	94.47	-212.87
28	63.39	-22.67	28	94.11	-210.66	28	94.44	-212.67	28	94.49	-212.97
28	69.22	-58.31	28	94.11	-210.66	28	94.42	-212.57	28	94.47	-212.87
28	74.46	-90.42	28	94.28	-211.67	28	94.47	-212.87	28	94.51	-213.07
29	74.52	-90.78	29	94.11	-210.66	29	94.49	-212.97	29	94.49	-212.97

TABLE 4.3-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.29	58.15	0	36.31	58.13	0	59.71	-0.12	0	94.28	-211.67
0	36.28	58.17	0	36.32	58.12	0	59.69	-0.02	0	94.28	-211.67
0	36.28	58.17	0	36.33	58.11	0	59.63	0.21	0	94.31	-211.87
0	36.33	58.10	0	36.32	58.12	0	59.76	-0.41	0	94.28	-211.67
1	36.30	58.14	1	36.30	58.14	1	59.73	-0.22	1	94.28	-211.67
1	36.30	58.14	1	36.31	58.13	1	59.61	0.30	1	94.31	-211.87
13	36.31	58.13	13	36.33	58.11	13	59.63	0.20	14	94.11	-210.66
13	36.34	58.09	13	36.31	58.13	13	59.52	0.60	13	94.11	-210.66
14	36.32	58.12	14	36.31	58.13	14	59.63	0.20	14	94.11	-210.66
14	36.31	58.13	14	36.34	58.09	14	59.52	0.60	14	94.11	-210.66
14	36.33	58.10	14	36.33	58.11	14	59.63	0.21	14	94.11	-210.66
14	36.33	58.10	14	36.33	58.11	14	59.63	0.21	14	94.11	-210.66
15	36.34	58.09	15	36.37	58.06	15	59.60	0.31	15	94.11	-210.66
15	36.34	58.09	15	36.32	58.12	15	59.61	0.29	15	94.11	-210.66
15	36.33	58.11	15	36.34	58.09	15	59.52	0.61	15	94.11	-210.66
16	36.33	58.10	16	36.32	58.12	16	59.51	0.65	16	94.11	-210.66
17	36.38	58.04	17	36.40	58.02	17	58.66	3.66	17	94.11	-210.66
17	36.40	58.02	17	36.41	58.01	17	57.01	9.52	17	94.11	-210.66
17	36.46	57.94	17	36.47	57.93	17	54.38	19.47	17	94.11	-210.66
18	36.53	57.86	18	36.52	57.87	18	51.24	27.90	18	94.11	-210.66
18	36.60	57.77	18	36.62	57.74	18	48.69	34.59	18	94.11	-210.66
18	36.71	57.63	18	36.75	57.58	18	46.33	40.06	18	94.11	-210.66
19	36.75	57.58	19	36.75	57.57	19	44.98	43.96	19	94.11	-210.66
19	36.85	57.45	19	36.90	57.38	19	43.42	46.69	19	94.11	-210.66
19	36.88	57.41	19	36.85	57.44	19	42.48	48.48	19	94.11	-210.66
20	36.93	57.34	20	36.97	57.29	20	43.00	47.47	30	4807.55	312.03
20	36.95	57.31	20	36.96	57.30	20	42.74	47.97	20	94.11	-210.66
20	36.99	57.26	20	36.97	57.28	20	42.93	47.59	20	94.11	-210.66
20	36.98	57.27	20	36.98	57.27	20	44.44	45.00	20	94.11	-210.66
21	37.00	57.25	21	37.02	57.22	21	45.57	42.37	21	94.28	-211.67
21	37.07	57.15	21	37.06	57.16	21	45.92	41.26	21	94.11	-210.66
21	37.10	57.11	21	37.18	57.00	21	46.05	40.86	21	94.11	-210.66
22	37.17	57.01	22	37.18	57.00	22	46.30	40.15	22	94.11	-210.66
22	37.20	56.97	22	37.17	57.01	22	46.38	39.94	22	94.11	-210.66
22	37.24	56.91	22	37.24	56.91	22	46.50	39.64	22	94.11	-210.66
23	37.29	56.85	23	37.35	56.76	23	46.63	39.34	23	94.11	-210.66
23	37.37	56.74	23	37.39	56.71	23	46.46	39.74	23	94.11	-210.66
23	37.44	56.63	23	37.46	56.60	23	46.64	39.31	23	94.11	-210.66
24	37.53	56.50	24	37.52	56.51	24	46.63	39.34	24	94.11	-210.66
24	37.54	56.48	24	37.58	56.42	24	46.75	39.08	24	94.11	-210.66
24	38.66	54.84	24	38.88	54.52	24	46.80	38.96	24	94.11	-210.66
24	54.37	19.59	24	54.28	17.26	24	46.81	38.95	25	94.11	-210.66
25	59.69	-0.	25	65.35	-34.62	25	46.81	38.94	25	94.11	-210.66
25	59.69	-0.	25	72.74	-79.88	25	47.15	38.31	25	94.11	-210.66

TABLE 4.3-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	59.69	-0.	25	79.78	-122.94	25	47.66	37.53	25	94.11	-210.66
26	59.69	-0.	26	86.40	-163.49	26	47.52	37.73	26	94.11	-210.66
26	76.09	-100.35	26	92.64	-201.63	26	47.32	38.03	26	94.11	-210.66
26	76.09	-100.35	26	94.47	-212.87	26	47.71	37.45	26	94.11	-210.66
27	94.11	-210.66	27	94.49	-212.97	27	47.32	38.03	27	94.11	-210.66
27	94.11	-210.66	27	94.42	-212.57	27	48.14	35.92	27	94.11	-210.66
27	94.28	-211.67	27	94.42	-212.57	27	47.26	38.12	27	94.11	-210.66
28	94.24	-211.46	28	94.44	-212.67	28	47.03	38.53	28	94.11	-210.66
28	94.26	-211.57	28	94.49	-212.97	28	47.75	37.24	28	94.11	-210.66
28	94.28	-211.67	28	94.47	-212.87	28	48.07	36.12	28	94.11	-210.66
28	94.41	-212.47	29	94.46	-212.77	29	48.10	36.04	29	94.11	-210.66
29	94.31	-211.87	29	94.47	-212.87	29	48.71	34.53	29	94.28	-211.67

4.4 Run 17

Run 17 (reactor run 108) was a high-flow-rate, high-pressure, high-heating-rate test made with Configuration 1. Parametric conditions and test results are summarized in Table 4.4-1. Pressure, flow, and strip-chart data are presented in Figures 4.4-1 through 4.4-7.

The tank was filled 3 hours 45 minutes before the timer was turned on for this run. Other timing information is given in Table 4.0-1.

System pressure stabilized at approximately 55 psia. The flow rate was somewhat erratic at the beginning, but stabilized for the last half of the run. The mean flow rate was satisfactory.

Table 4.4-1

Parametric Conditions and Test Results Summary
for Run 17-108

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	109	9.0
Pressure (psia)	60	56.7	
Temperature[b] (°R)		37.8	
Weight[c] (lb)	66 - 74	63.8	
Final Conditions[d]			
Pressure (psia)	60	55.0	16.3
Temperature (°R)	≤ 47	41.8	
Saturation Temp[e] (°R)	47	46.2	
Run Data			
Temperature Rise (°R)	8	4.0	9.0 - 16.3
Run Time[f] (min)	9 - 11	9.6	8.9 - 17.5
Flow Time (min)	9 - 11	8.5	9.0 - 17.5
Flow Rate[g]: (gpm)	12.25	12.8	
(lb/sec)	0.12	0.125	
Power Level (Mw)	3.0	3.0	
Integrated Power (Mw-hr)	0.5	0.475	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank.
[c]Temp = 37.9°R, Vol. = 109 gal, ρ = 4.38 lbs/ft^3 = 0.586 lbs/gal
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

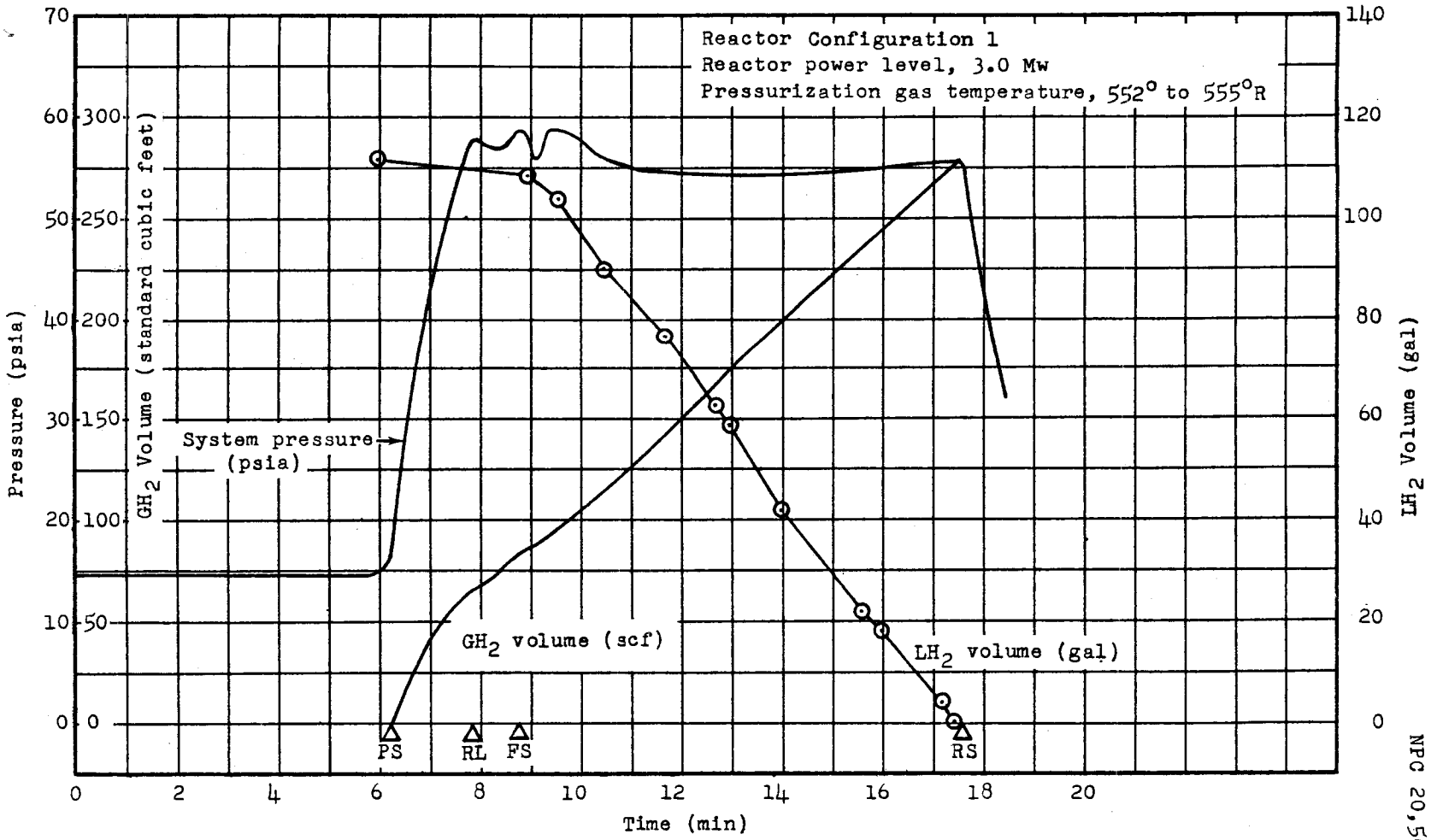

Figure 4.4-1 Pressure and Flow Data: Run 17-108

NPC 20,504

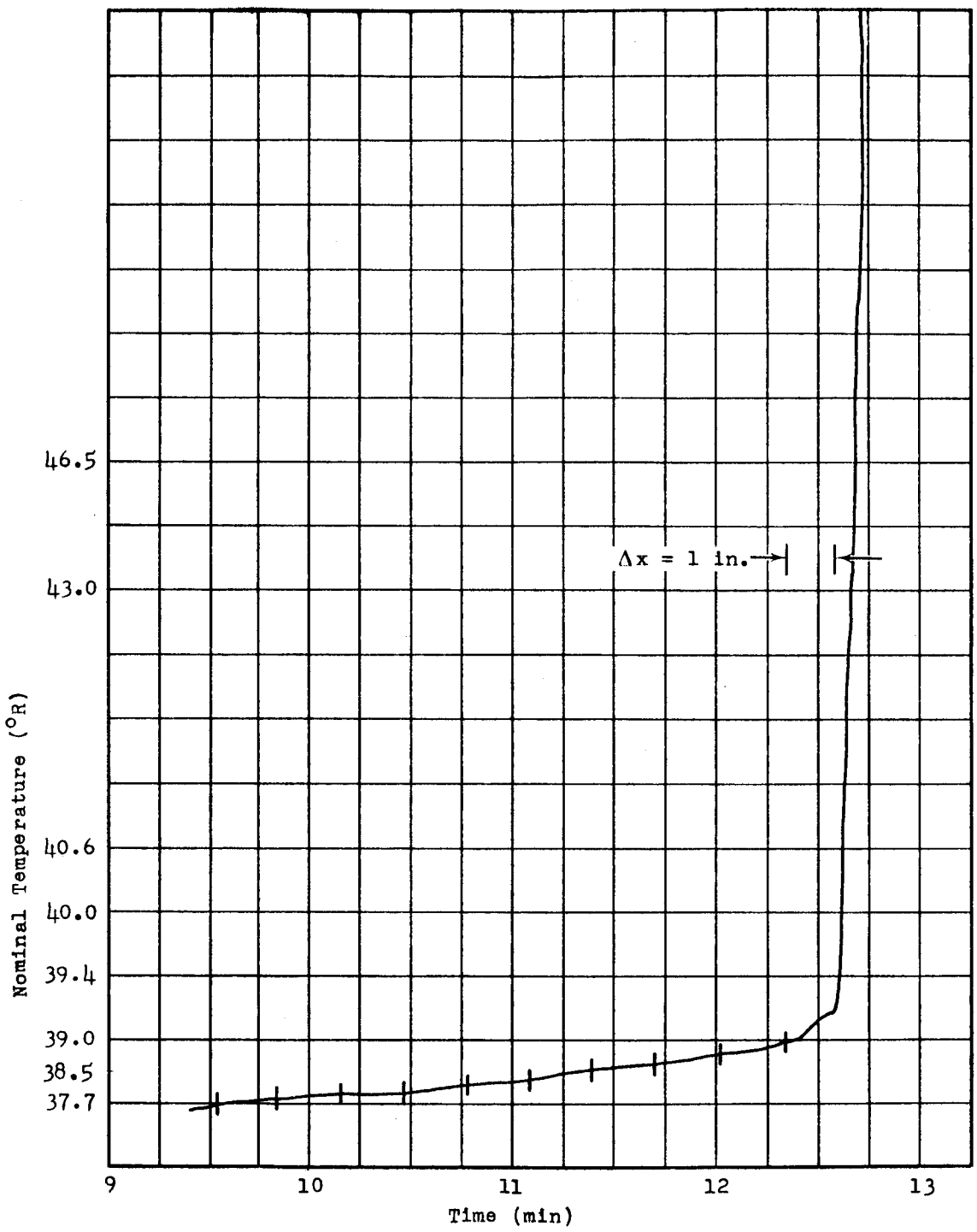

Figure 4.4-2 Strip-Chart Temperature Data: Run 17-108, Thermometer 9

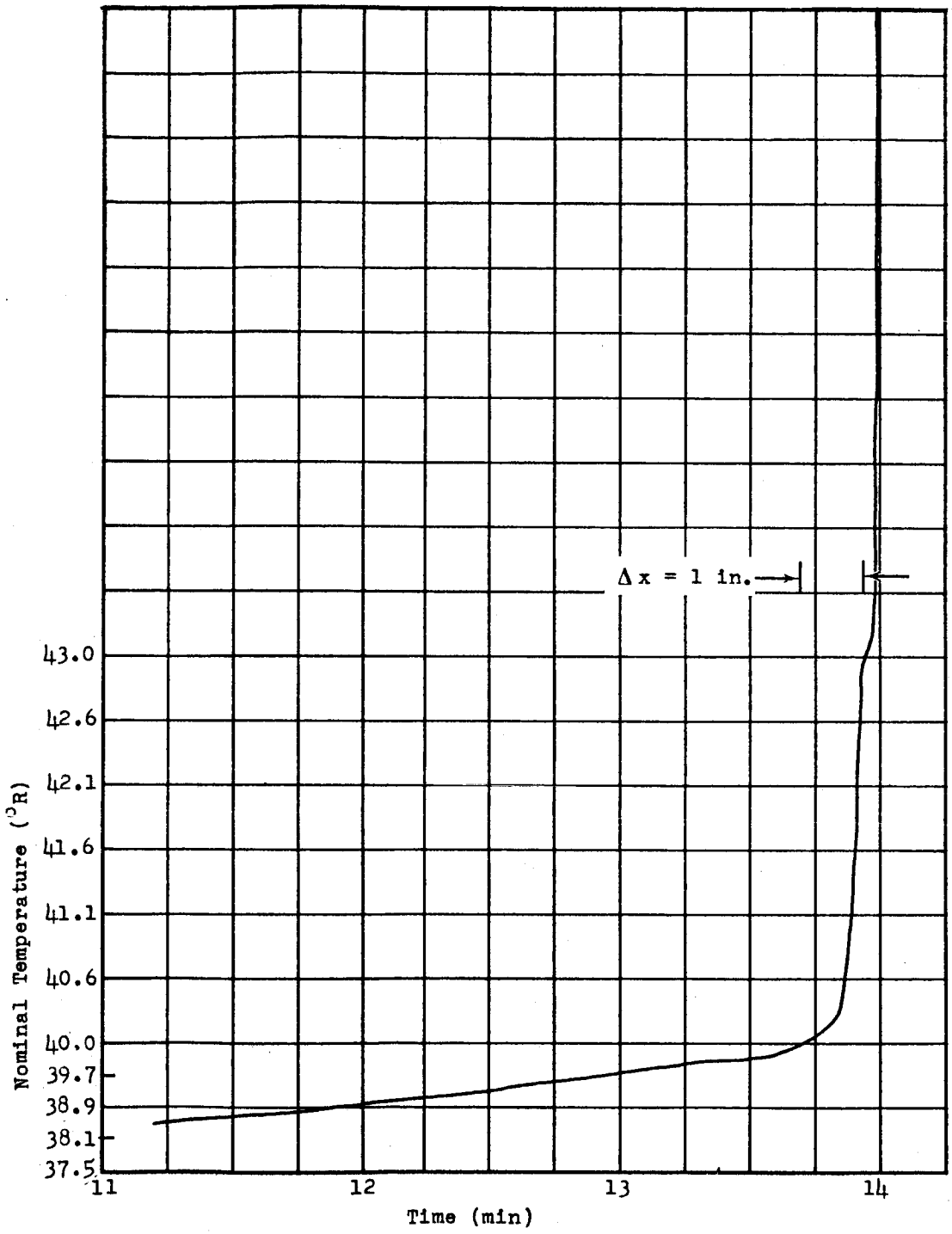

Figure 4.4-3 Strip-Chart Temperature Data: Run 17-108, Thermometer 8

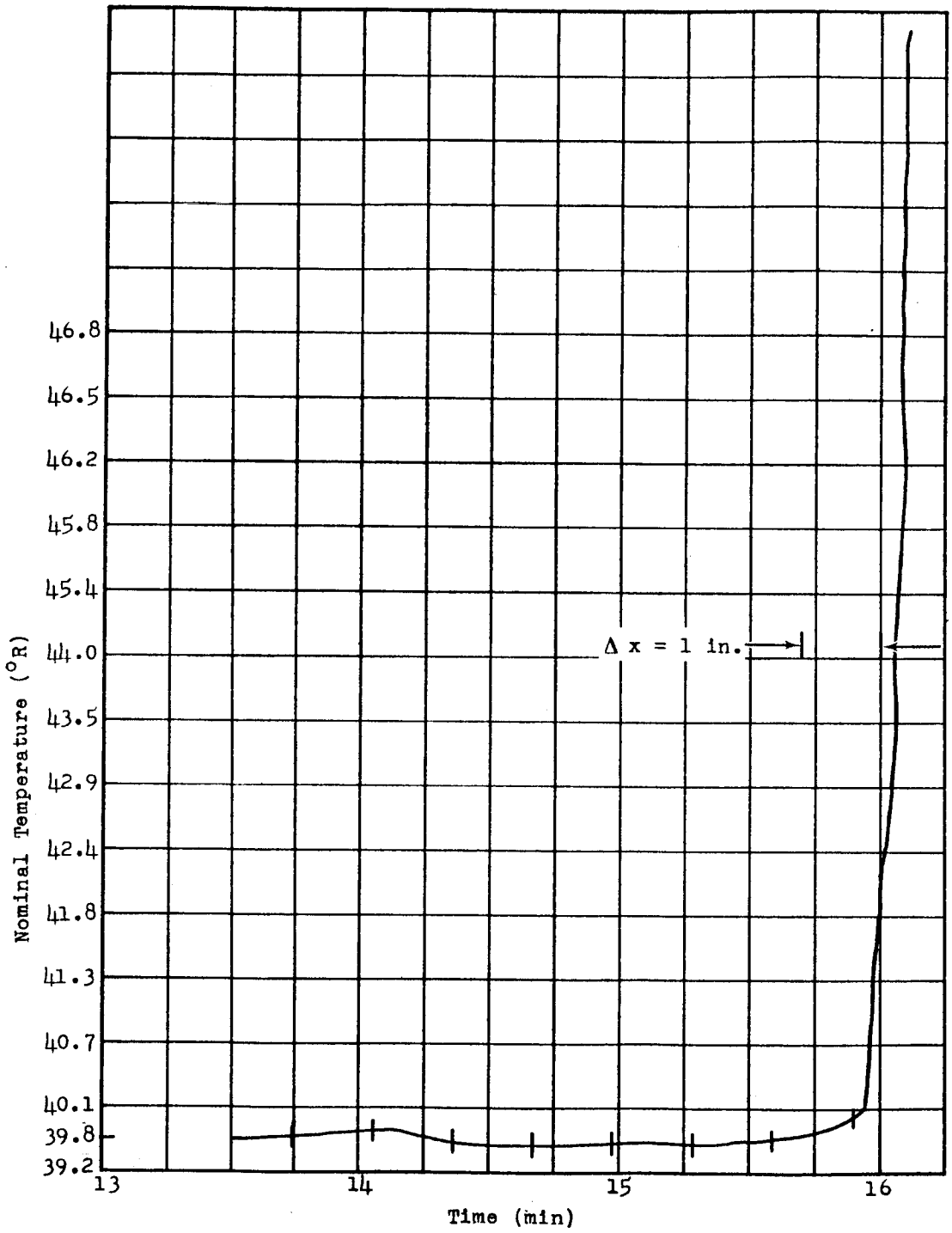

Figure 4.4-4 Strip-Chart Temperature Data: Run 17-108, Thermometer 25

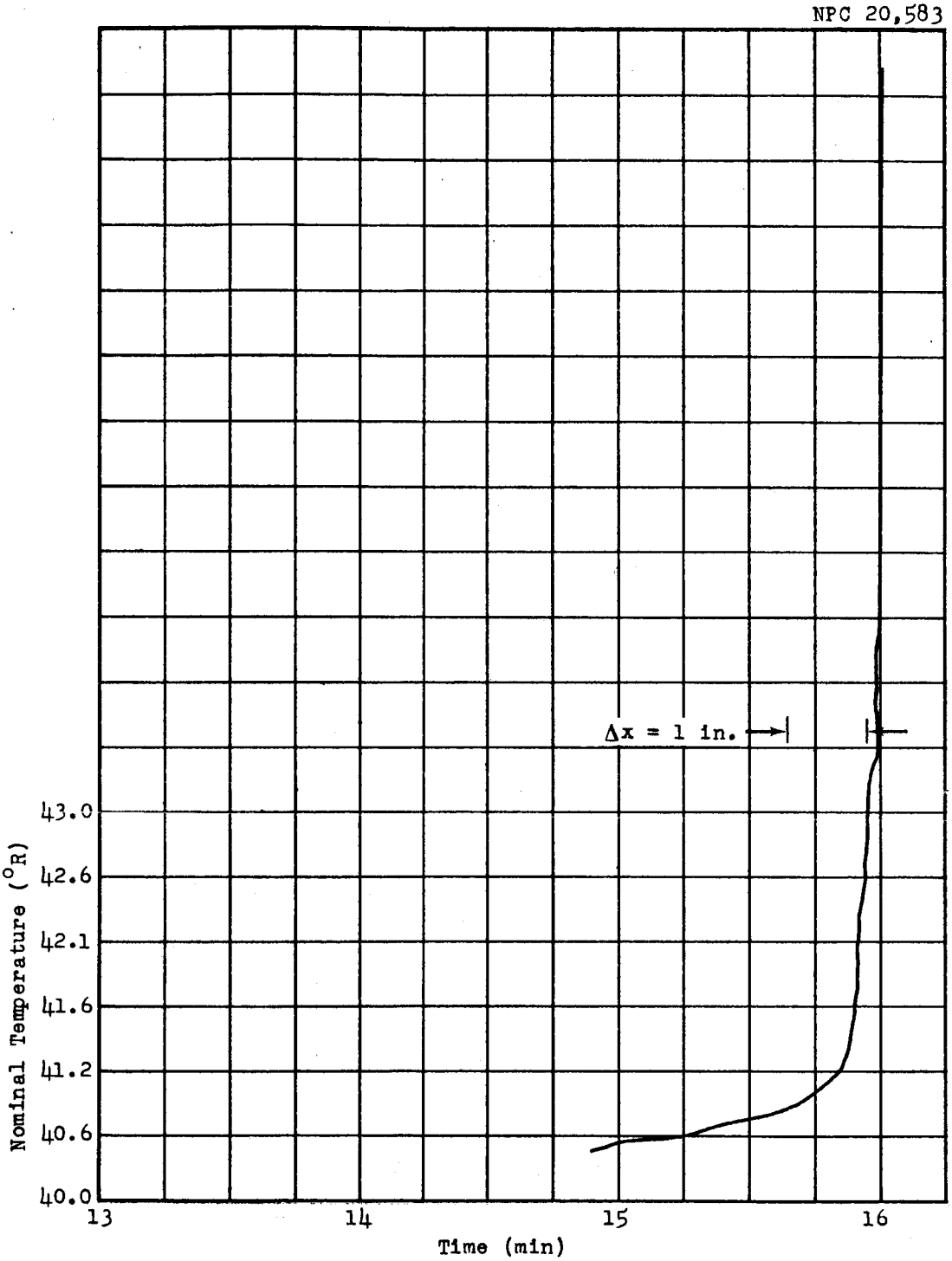

Figure 4.4-5 Strip-Chart Temperature Data: Run 17-108, Thermometer 22

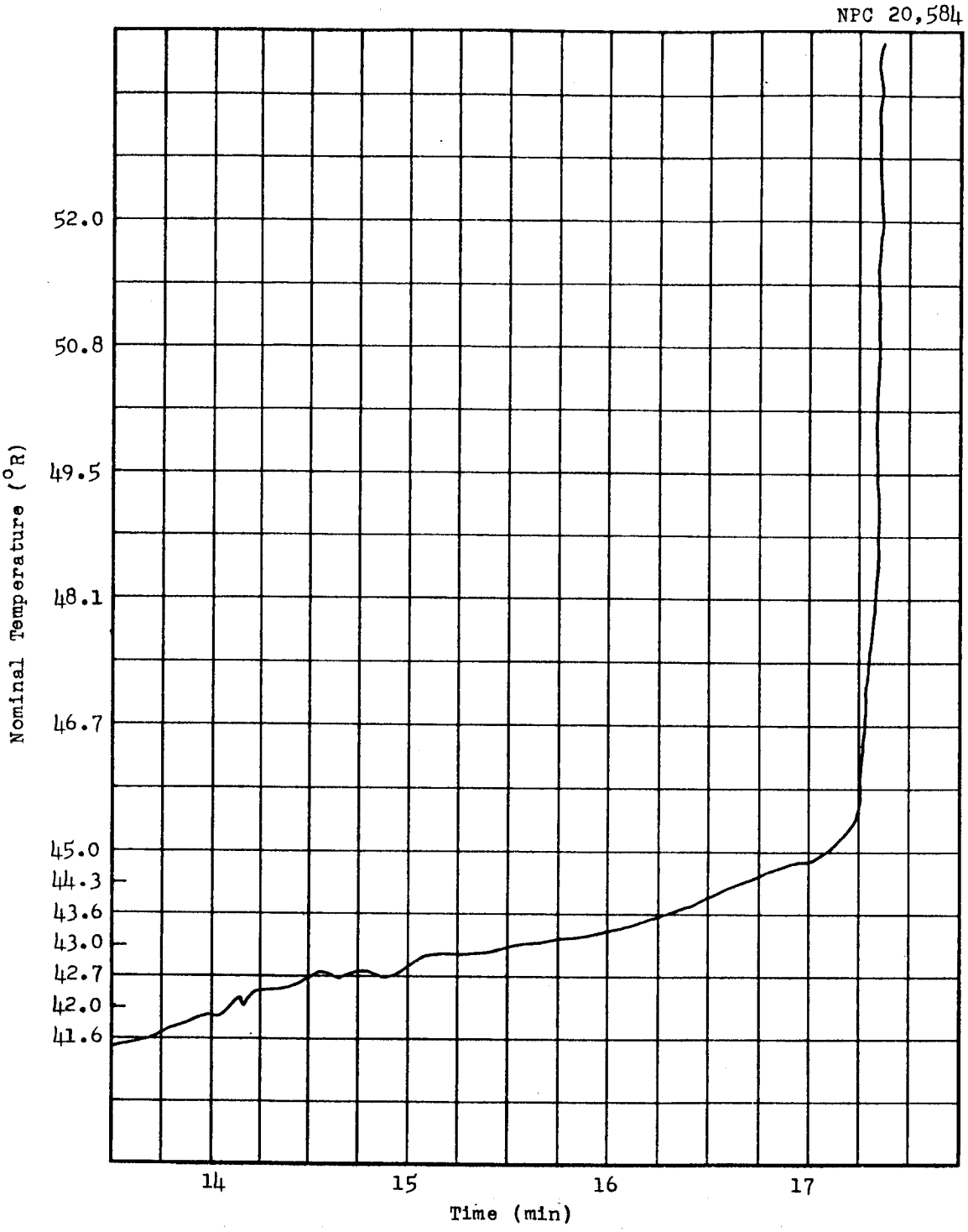

Figure 4.4-6 Strip-Chart Temperature Data: Run 17-108, Thermometer 4

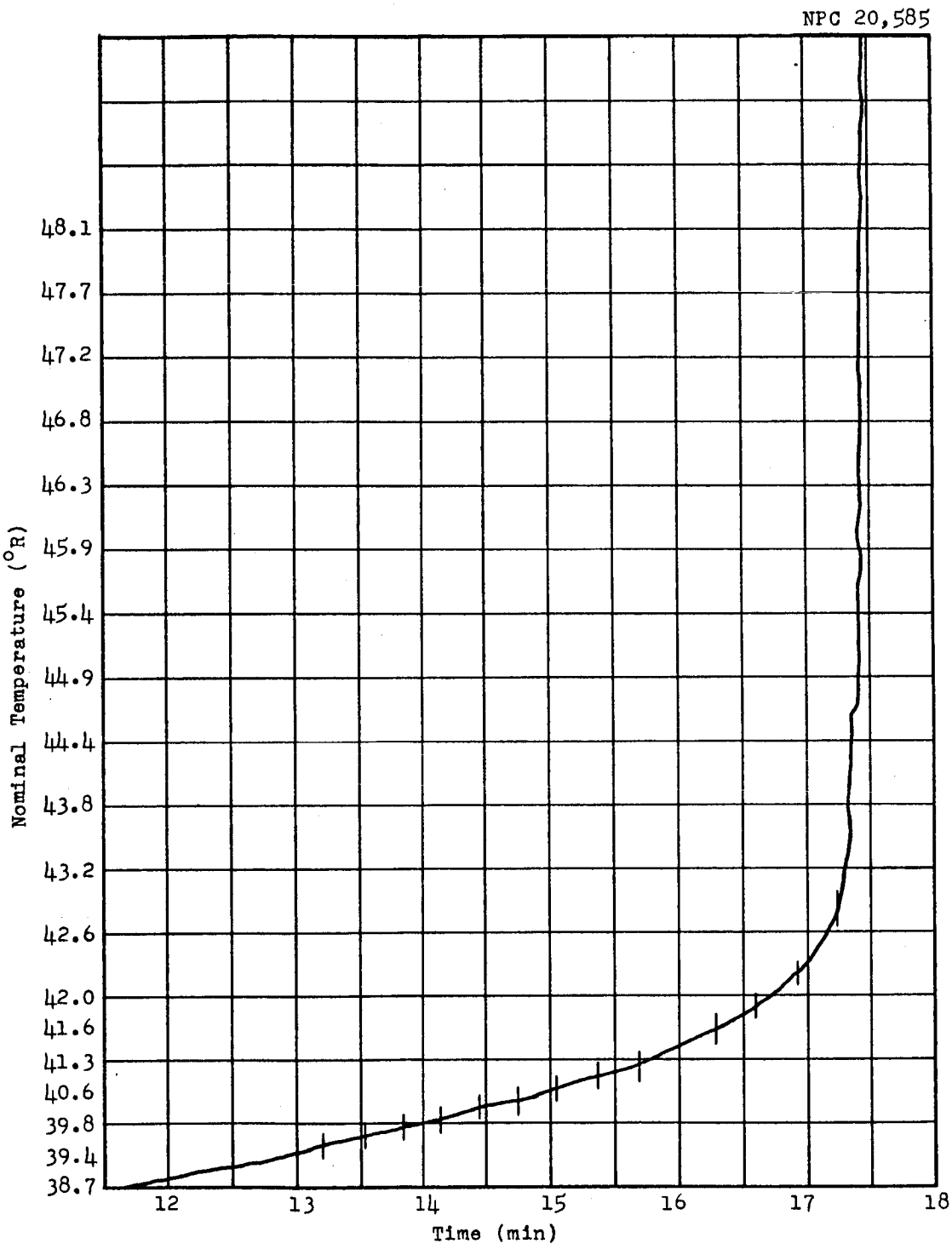

Figure 4.4-7 Strip-Chart Temperature Data: Run 17-108, Thermometer 1

TABLE 4.4-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 17-108

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME *	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.39	58.03	0	36.37	58.05	0	36.42	58.00	0	38.83	54.59
0	36.41	58.01	0	36.38	58.04	0	36.42	57.99	0	38.83	54.59
6	36.50	57.90	6	36.48	57.92	6	36.55	57.83	6	38.92	54.46
6	36.56	57.82	6	36.56	57.82	6	36.61	57.76	6	38.96	54.40
7	36.72	57.62	7	36.63	57.73	7	36.71	57.63	7	39.02	54.32
7	36.81	57.50	7	36.82	57.48	7	36.88	57.41	7	39.15	54.13
7	37.74	56.19	7	37.27	56.88	7	37.26	56.89	7	39.35	53.85
7	37.74	56.19	7	37.60	56.40	7	37.74	56.20	7	39.49	53.65
8	37.30	56.83	8	37.35	56.76	8	37.87	56.00	8	39.78	53.17
8	37.51	56.53	8	37.67	56.30	8	37.67	56.30	8	39.71	53.36
8	37.79	56.12	8	37.79	56.12	8	37.90	55.96	8	39.84	53.09
9	37.87	56.00	9	38.13	55.62	9	38.28	55.40	9	40.01	52.85
9	37.92	55.93	9	38.17	55.56	9	37.96	55.87	9	39.96	52.92
9	37.89	55.98	9	37.98	55.84	9	38.01	55.80	9	39.95	52.93
10	38.11	55.65	10	38.04	55.75	10	38.26	55.43	10	40.27	52.46
10	38.29	55.39	10	38.39	55.24	10	38.34	55.31	10	40.35	52.34
10	38.24	55.46	10	38.41	55.21	10	38.34	55.31	10	40.31	52.40
11	38.48	55.11	11	38.48	55.10	11	38.55	55.00	11	40.69	51.81
11	38.46	55.13	11	38.54	55.02	11	38.58	54.96	11	40.69	51.81
11	38.73	54.74	11	38.78	54.66	11	38.74	54.72	11	40.86	51.52
11	38.81	54.62	11	38.82	54.60	11	38.91	54.48	11	41.09	51.12
12	39.06	54.26	12	39.09	54.22	12	39.11	54.19	12	41.08	51.13
12	39.01	54.34	12	39.13	54.16	12	39.13	54.16	12	41.17	50.98
12	39.18	54.10	12	39.39	53.79	12	39.39	53.79	12	41.28	50.78
13	39.41	53.76	13	39.63	53.47	13	39.61	53.49	13	41.44	50.48
13	39.70	53.28	13	39.69	53.39	13	39.71	53.26	13	41.48	50.41
13	39.73	53.34	13	39.90	53.00	13	39.93	52.96	13	41.79	49.83
14	39.88	53.03	14	40.06	52.78	14	40.14	52.65	14	42.27	48.90
14	40.10	52.72	14	40.24	52.51	14	40.25	52.49	14	42.46	48.52
14	40.54	52.04	14	40.40	52.26	14	40.50	52.11	14	42.75	47.94
15	40.64	51.89	15	40.77	51.67	15	40.67	51.83	15	42.87	47.71
15	59.69	-0.	15	40.94	51.39	15	40.94	51.38	15	42.99	47.49
15	59.69	-0.	15	41.11	51.08	15	41.18	50.96	15	43.16	47.17
15	41.37	50.61	15	41.42	50.52	16	41.48	50.42	16	43.32	46.87
16	41.61	50.17	16	41.81	49.79	16	41.79	49.83	16	43.64	46.30
16	59.69	-0.	16	42.18	49.07	16	42.18	49.07	16	44.25	45.30
16	42.54	48.35	16	42.65	48.13	16	42.67	48.10	16	44.62	44.68
17	43.49	46.56	17	43.58	46.40	17	43.64	46.14	17	45.64	42.15
17	64.28	-28.09	17	65.43	-35.12	17	66.25	-40.14	17	70.18	-64.22
17	86.90	-166.50	17	88.36	-175.43	17	90.09	-186.07	17	90.44	-188.18

* Timing interval = 0.31 minute.

TABLE 4.4-2 (Cont'd)

THERMOMETER 5

TIME	TEMP	VOLTAGE
0	36.38	58.04
0	36.40	58.02
6	36.50	57.90
6	36.53	57.86
7	36.61	57.76
7	36.69	57.65
7	36.95	57.31
7	37.07	57.15
8	37.74	56.19
8	37.40	56.69
8	37.56	56.46
9	37.70	56.25
9	37.81	56.09
9	37.83	56.07
10	38.07	55.71
10	38.21	55.51
10	38.20	55.52
11	38.27	55.42
11	38.40	55.22
11	38.63	54.89
12	38.73	54.74
12	38.82	54.60
12	39.01	54.34
12	39.10	54.21
13	39.36	53.84
13	39.55	53.57
13	39.77	53.18
14	39.79	53.15
14	40.08	52.74
14	40.35	52.34
15	40.51	52.10
15	40.82	51.59
15	41.03	51.24
16	41.33	50.68
16	41.64	50.12
16	42.17	49.09
16	42.89	47.67
17	59.69	-0.
17	76.99	-105.88
17	93.93	-209.56

THERMOMETER 6

TIME	TEMP	VOLTAGE
0	65.86	-37.75
0	65.82	-37.51
6	67.56	-48.16
6	73.20	-82.67
7	76.78	-104.58
7	75.73	-98.17
7	78.52	-115.22
7	76.96	-105.68
8	93.72	-208.25
8	93.72	-208.25
8	93.78	-208.65
9	93.77	-208.55
9	93.78	-208.65
9	93.75	-208.45
10	93.78	-208.65
10	93.77	-208.55
10	93.78	-208.65
11	93.78	-208.65
11	93.78	-208.65
11	93.78	-208.65
12	93.72	-208.25
12	93.78	-208.65
12	93.78	-208.65
12	93.78	-208.65
13	93.88	-209.26
13	93.78	-208.65
13	93.78	-208.65
14	93.78	-208.65
14	93.77	-208.55
14	93.78	-208.65
15	93.78	-208.65
15	93.78	-208.65
15	93.78	-208.65
16	93.78	-208.65
16	93.78	-208.65
16	93.78	-208.65
16	93.88	-209.26
17	93.88	-209.26
17	93.95	-209.66
17	94.21	-211.26

THERMOMETER 7

TIME	TEMP	VOLTAGE
0	36.33	58.11
0	36.37	58.05
6	36.43	57.98
6	36.50	57.89
7	36.58	57.80
7	36.72	57.61
7	36.77	57.55
7	36.85	57.44
8	37.40	56.69
8	37.30	56.84
8	58.10	5.65
9	37.61	56.38
9	37.73	56.21
9	37.74	56.20
10	37.90	55.96
10	38.01	55.80
10	38.12	55.63
11	38.26	55.43
11	38.36	55.28
11	38.44	55.17
12	38.63	54.89
12	38.76	54.70
12	38.91	54.48
12	39.18	54.10
13	39.34	53.86
13	39.49	53.66
13	39.72	53.35
14	39.78	53.16
14	40.03	52.81
14	40.42	52.24
15	40.65	51.87
15	41.07	51.16
15	50.48	30.31
16	69.04	-57.20
16	79.43	-120.84
16	87.57	-170.62
16	94.16	-210.96
17	94.18	-211.06
17	94.18	-211.06
17	94.23	-211.36

THERMOMETER 8

TIME	TEMP	VOLTAGE
0	36.36	58.07
0	36.37	58.05
6	36.50	57.89
6	36.57	57.81
7	36.62	57.75
7	36.72	57.62
7	36.79	57.53
8	36.91	57.37
8	37.14	57.06
8	37.30	56.84
8	37.47	56.59
9	37.56	56.46
9	37.64	56.34
9	37.74	56.20
10	37.91	55.94
10	38.08	55.69
10	38.08	55.70
11	38.31	55.36
11	38.39	55.23
11	38.50	55.08
12	38.67	54.83
12	38.84	54.58
12	39.05	54.28
12	39.25	53.99
13	39.40	53.78
13	39.69	53.39
13	39.82	53.11
14	43.06	47.36
14	66.25	-40.14
14	78.83	-117.12
15	88.49	-176.24
15	93.78	-208.65
15	93.88	-209.26
16	93.78	-208.65
16	93.78	-208.65
16	93.78	-208.65
16	94.16	-210.96
17	94.14	-210.86
17	94.23	-211.36
17	94.24	-211.46

TABLE 4.4-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.37	58.05	0	36.37	58.06	0	45.45	42.74	0	62.00	-14.11
0	36.40	58.02	0	36.37	58.05	0	45.43	42.79	0	61.37	-10.28
6	36.50	57.90	6	36.50	57.90	6	45.47	42.66	6	61.82	-13.06
6	36.54	57.85	6	36.56	57.82	6	45.51	42.54	6	61.74	-12.56
7	36.59	57.78	7	36.59	57.78	7	45.54	42.46	7	62.00	-14.12
7	36.72	57.62	7	36.69	57.66	7	45.54	42.45	7	62.00	-14.16
7	36.75	57.57	7	36.77	57.55	7	45.62	42.21	7	61.90	-13.55
8	36.85	57.45	8	36.87	57.42	8	45.67	42.05	8	61.90	-13.55
8	37.05	57.18	8	37.02	57.22	8	45.74	41.85	8	62.15	-15.05
8	37.34	56.78	8	37.39	56.70	8	45.89	41.38	8	62.40	-16.57
8	37.43	56.64	8	37.45	56.61	8	45.92	41.26	8	62.97	-20.07
9	37.56	56.46	9	37.58	56.43	9	46.00	41.01	9	62.16	-15.11
9	37.71	56.24	9	37.75	56.18	9	46.11	40.69	9	62.12	-14.84
9	37.88	55.99	9	37.84	56.05	9	46.08	40.79	9	92.57	-201.23
10	37.98	55.84	10	38.01	55.80	10	46.19	40.45	10	93.78	-208.65
10	38.07	55.71	10	38.07	55.71	10	46.47	39.71	10	93.72	-208.25
10	38.19	55.53	10	38.25	55.44	10	63.59	-23.89	10	93.75	-208.45
11	38.28	55.40	11	38.58	54.96	11	88.19	-174.43	11	93.78	-208.65
11	38.48	55.10	11	38.64	54.87	11	93.78	-208.65	11	94.06	-210.36
11	38.62	54.90	11	47.80	37.34	11	93.78	-208.65	11	94.06	-210.36
12	38.81	54.62	12	76.89	-105.28	12	93.78	-208.65	12	94.08	-210.46
12	39.00	54.35	12	91.65	-195.61	12	93.78	-208.65	12	94.06	-210.36
12	42.95	47.56	12	93.78	-208.65	12	94.03	-210.16	12	94.05	-210.26
12	59.69	-0.	12	93.78	-208.65	12	94.14	-210.86	12	94.16	-210.96
13	59.69	-0.	13	93.78	-208.65	13	94.11	-210.66	13	94.13	-210.76
13	93.62	-207.65	13	94.01	-210.06	13	94.01	-210.06	13	94.19	-211.16
13	93.72	-208.25	13	94.10	-210.56	13	94.11	-210.66	13	94.14	-210.86
14	93.72	-208.25	14	94.11	-210.66	14	94.13	-210.76	14	94.14	-210.86
14	93.78	-208.65	14	94.13	-210.76	14	94.13	-210.76	14	94.08	-210.46
14	93.62	-207.65	14	94.03	-210.16	14	94.05	-210.26	14	94.10	-210.56
15	93.70	-208.15	15	94.03	-210.16	15	94.05	-210.26	15	94.06	-210.36
15	93.92	-209.46	15	94.11	-210.66	15	94.11	-210.66	15	94.10	-210.56
15	93.95	-209.66	15	94.10	-210.56	15	94.11	-210.66	15	94.11	-210.66
16	93.93	-209.56	16	94.06	-210.36	16	94.06	-210.36	16	94.10	-210.56
16	93.92	-209.46	16	94.11	-210.66	16	94.10	-210.56	16	94.06	-210.36
16	93.95	-209.66	16	94.13	-210.76	16	94.13	-210.76	16	94.10	-210.56
16	94.03	-210.16	17	94.18	-211.06	17	94.26	-211.57	17	94.26	-211.57
17	94.03	-210.16	17	94.16	-210.96	17	94.21	-211.26	17	94.21	-211.26
17	94.23	-211.36	17	94.28	-211.67	17	94.23	-211.36	17	94.23	-211.36
17	94.23	-211.36	17	94.29	-211.77	17	94.23	-211.36	17	94.23	-211.36

TABLE 4.4-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.40	58.02	0	36.50	57.89	0	37.67	56.30	0	39.91	52.99
0	36.39	58.03	0	36.47	57.93	0	37.75	56.18	0	40.13	52.67
6	36.55	57.83	6	47.97	36.42	6	58.50	4.22	6	68.31	-52.78
6	38.51	55.06	6	56.33	11.95	6	67.77	-49.48	6	83.12	-143.42
7	40.58	51.98	7	62.62	-17.95	7	77.09	-106.49	7	93.78	-208.65
7	42.64	48.16	7	66.90	-44.15	7	84.21	-150.04	7	93.72	-208.25
7	41.31	50.72	7	70.15	-64.03	7	89.45	-182.16	7	93.72	-208.25
8	40.94	51.38	8	73.59	-85.10	8	93.78	-208.65	8	94.06	-210.36
8	37.21	56.96	8	84.93	-154.46	8	93.78	-208.65	8	94.10	-210.56
8	42.13	49.17	8	93.72	-208.25	8	94.03	-210.16	8	94.10	-210.56
8	45.96	41.15	8	93.78	-208.65	9	94.10	-210.56	8	94.14	-210.86
9	54.30	20.07	9	93.78	-208.65	9	94.06	-210.36	9	94.06	-210.36
9	83.44	-145.33	9	93.75	-208.45	9	94.03	-210.16	9	94.06	-210.36
9	93.88	-209.26	9	94.11	-210.66	9	94.11	-210.66	9	94.11	-210.66
10	94.00	-209.96	10	94.10	-210.56	10	94.10	-210.56	10	94.11	-210.66
10	93.95	-209.66	10	94.10	-210.56	10	94.10	-210.56	10	94.11	-210.66
10	93.98	-209.86	10	94.08	-210.46	10	94.10	-210.56	10	94.10	-210.56
11	93.92	-209.46	11	94.00	-209.96	11	94.06	-210.36	11	94.11	-210.66
11	94.05	-210.26	11	94.10	-210.56	11	94.06	-210.36	11	94.05	-210.26
11	93.98	-209.86	11	94.08	-210.46	11	94.10	-210.56	11	94.10	-210.56
12	93.95	-209.66	12	94.00	-209.96	12	94.00	-209.96	12	93.98	-209.86
12	93.98	-209.86	12	94.08	-210.46	12	94.16	-210.96	12	94.10	-210.56
12	93.95	-209.66	12	94.03	-210.16	12	94.05	-210.26	12	94.10	-210.56
13	94.13	-210.76	13	94.05	-210.26	13	94.08	-210.46	13	94.10	-210.56
13	94.21	-211.26	13	94.14	-210.86	13	94.13	-210.76	13	94.10	-210.56
13	94.16	-210.96	13	94.16	-210.96	13	94.16	-210.96	13	94.16	-210.96
13	94.16	-210.96	13	94.14	-210.86	13	94.14	-210.86	13	94.14	-210.86
14	94.11	-210.66	14	94.13	-210.76	14	94.14	-210.86	14	94.14	-210.86
14	94.10	-210.56	14	94.08	-210.46	14	94.08	-210.46	14	94.10	-210.56
14	94.11	-210.66	14	94.06	-210.36	14	94.06	-210.36	14	94.06	-210.36
15	94.06	-210.36	15	94.00	-209.96	15	94.01	-210.06	15	94.05	-210.26
15	94.10	-210.56	15	94.10	-210.56	15	94.08	-210.46	15	94.08	-210.46
15	94.11	-210.66	15	94.11	-210.66	15	94.10	-210.56	15	94.11	-210.66
16	94.13	-210.76	16	94.10	-210.56	16	94.10	-210.56	16	94.13	-210.76
16	94.03	-210.16	16	94.10	-210.56	16	94.10	-210.56	16	94.10	-210.56
16	94.14	-210.86	16	94.13	-210.76	16	94.10	-210.56	16	94.10	-210.56
17	94.19	-211.16	17	94.18	-211.06	17	94.18	-211.06	17	94.21	-211.26
17	94.21	-211.26	17	94.21	-211.26	17	94.21	-211.26	17	94.21	-211.26
17	94.19	-211.16	17	94.19	-211.16	17	94.18	-211.06	17	94.21	-211.26
17	94.23	-211.36	17	94.24	-211.46	17	94.23	-211.36	17	94.23	-211.36

TABLE 4.4-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	46.25	40.28	0	56.45	11.50	0	75.60	-97.34	0	93.78	-208.65
0	46.49	39.65	0	56.66	10.77	0	75.41	-96.19	0	93.78	-208.65
6	59.69	-0.	6	93.72	-208.25	6	93.98	-209.86	6	94.00	-209.96
6	93.75	-208.45	6	94.06	-210.36	6	94.08	-210.46	6	94.11	-210.66
7	93.88	-209.26	7	94.01	-210.06	7	94.08	-210.46	7	94.13	-210.76
7	93.78	-208.65	7	93.96	-209.76	7	94.06	-210.36	7	94.10	-210.56
7	93.85	-209.06	7	94.05	-210.26	7	93.98	-209.86	7	94.05	-210.26
8	93.82	-208.86	8	94.00	-209.96	8	94.03	-210.16	8	94.05	-210.26
8	93.95	-209.66	8	94.10	-210.56	8	94.10	-210.56	8	94.13	-210.76
8	93.92	-209.46	8	94.05	-210.26	8	94.08	-210.46	8	94.10	-210.56
9	93.95	-209.66	9	94.11	-210.66	9	94.24	-211.46	9	94.21	-211.26
9	93.88	-209.26	9	94.08	-210.46	9	94.13	-210.76	9	94.11	-210.66
9	94.06	-210.36	9	94.11	-210.66	9	94.06	-210.36	9	94.06	-210.36
9	94.08	-210.46	9	94.10	-210.56	9	94.11	-210.66	9	94.19	-211.16
10	94.11	-210.66	10	94.10	-210.56	10	94.11	-210.66	10	94.10	-210.56
10	94.08	-210.46	10	93.87	-209.16	10	94.03	-210.16	10	94.06	-210.36
10	93.92	-209.46	10	94.06	-210.36	10	94.08	-210.46	10	94.10	-210.56
11	94.10	-210.56	11	94.08	-210.46	11	94.06	-210.36	11	94.05	-210.26
11	94.06	-210.36	11	94.01	-210.06	11	94.01	-210.06	11	94.05	-210.26
11	94.08	-210.46	11	94.06	-210.36	11	94.06	-210.36	11	94.13	-210.76
12	94.00	-209.96	12	94.05	-210.26	12	94.08	-210.46	12	94.06	-210.36
12	94.06	-210.36	12	94.06	-210.36	12	94.08	-210.46	12	94.08	-210.46
12	94.05	-210.26	12	94.05	-210.26	12	94.05	-210.26	12	94.11	-210.66
13	94.08	-210.46	13	94.11	-210.66	13	94.14	-210.86	13	94.18	-211.06
13	94.11	-210.66	13	94.10	-210.56	13	94.11	-210.66	13	94.13	-210.76
13	94.14	-210.86	13	94.16	-210.96	13	94.16	-210.96	13	94.16	-210.96
13	94.16	-210.96	13	94.18	-211.06	13	94.18	-211.06	15	94.21	-211.26
14	93.98	-209.86	14	94.10	-210.56	14	94.11	-210.66	14	94.11	-210.66
14	94.16	-210.96	14	94.14	-210.86	14	94.11	-210.66	14	94.11	-210.66
14	94.06	-210.36	14	94.06	-210.36	14	94.06	-210.36	14	94.13	-210.76
15	94.03	-210.16	15	94.03	-210.16	15	94.06	-210.36	15	94.11	-210.66
15	94.11	-210.66	15	94.11	-210.66	15	94.10	-210.56	15	94.10	-210.56
15	94.18	-211.06	15	94.14	-210.86	15	94.11	-210.66	15	94.11	-210.66
16	94.13	-210.76	16	94.13	-210.76	16	94.16	-210.96	16	94.19	-211.16
16	94.11	-210.66	16	94.11	-210.66	16	94.10	-210.56	16	94.10	-210.56
16	94.13	-210.76	16	94.19	-211.16	16	94.13	-210.76	16	94.13	-210.76
17	94.19	-211.16	17	94.19	-211.16	17	94.21	-211.26	17	94.24	-211.46
17	94.21	-211.26	17	94.21	-211.26	17	94.21	-211.26	17	94.21	-211.26
17	94.19	-211.16	17	94.21	-211.26	17	94.21	-211.26	17	94.23	-211.36
18	94.23	-211.36	18	94.23	-211.36	18	94.23	-211.36	18	94.21	-211.26

TABLE 4.4-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.37	58.06	0	36.36	58.07	0	36.36	58.07	0	36.37	58.05
0	36.37	58.06	0	36.35	58.08	0	36.37	58.05	0	36.37	58.05
6	36.49	57.91	6	36.46	57.95	6	36.48	57.92	6	36.50	57.90
6	59.69	-0.	6	36.54	57.85	6	36.54	57.85	6	36.57	57.81
7	59.69	-0.	7	36.62	57.75	7	36.62	57.74	7	36.65	57.70
7	59.69	-0.	7	36.78	57.54	7	36.75	57.57	7	36.82	57.49
7	59.69	-0.	7	36.91	57.36	7	36.97	57.28	7	36.91	57.36
8	59.69	-0.	8	36.97	57.28	8	36.95	57.31	8	36.98	57.27
8	59.69	-0.	8	37.17	57.01	8	37.17	57.02	8	37.14	57.06
8	59.69	-0.	8	37.46	56.60	8	37.49	56.55	8	38.85	54.56
9	59.69	-0.	9	37.59	56.41	9	37.61	56.38	9	37.61	56.38
9	59.69	-0.	9	37.67	56.30	9	37.67	56.30	9	37.74	56.20
9	59.69	-0.	9	37.74	56.20	9	37.75	56.18	9	37.74	56.19
9	59.69	-0.	9	37.79	56.12	10	37.81	56.09	10	37.80	56.11
10	59.69	-0.	10	38.00	55.82	10	38.03	55.77	10	38.07	55.71
10	59.69	-0.	10	38.04	55.75	10	38.03	55.77	10	38.03	55.77
10	59.69	-0.	10	38.14	55.60	10	38.14	55.61	10	38.18	55.54
11	59.69	-0.	11	38.24	55.46	11	38.25	55.44	11	38.26	55.43
11	59.69	-0.	11	38.44	55.17	11	38.44	55.16	11	38.42	55.19
11	59.69	-0.	11	38.54	55.02	11	38.56	54.98	11	38.56	54.98
12	59.69	-0.	12	38.76	54.69	12	38.77	54.68	12	38.78	54.67
12	59.69	-0.	12	38.83	54.59	12	38.83	54.59	12	38.89	54.50
12	59.69	-0.	12	39.13	54.17	12	39.06	54.26	12	39.11	54.19
13	59.69	-0.	13	39.15	54.13	13	39.18	54.10	13	39.19	54.08
13	59.69	-0.	13	39.35	53.85	13	39.41	53.76	13	39.42	53.75
13	59.69	-0.	13	39.60	53.51	13	39.58	53.54	13	39.56	53.56
14	59.69	-0.	14	39.67	53.31	14	39.72	53.35	14	39.70	53.28
14	59.69	-0.	14	39.90	53.00	14	39.89	53.01	14	39.88	53.03
14	59.69	-0.	14	40.11	52.70	14	40.20	52.57	14	40.20	52.57
14	59.69	-0.	14	40.38	52.29	14	40.42	52.24	14	40.40	52.26
15	59.69	-0.	15	40.56	52.01	15	40.58	51.98	15	40.59	51.96
15	59.69	-0.	15	40.94	51.39	15	40.96	51.36	15	40.95	51.37
15	59.69	-0.	15	41.52	50.33	15	41.42	50.53	15	41.41	50.55
16	59.69	-0.	16	59.27	1.50	16	60.25	-3.41	16	58.73	3.41
16	71.96	-75.10	16	71.69	-73.46	16	72.24	-76.83	16	71.00	-69.24
15	81.16	-131.38	16	80.99	-130.37	16	81.48	-133.38	16	80.39	-126.66
17	88.54	-176.54	17	88.65	-177.24	17	89.09	-179.95	17	88.18	-174.33
17	94.24	-211.46	17	94.28	-211.67	17	94.28	-211.67	17	94.21	-211.26
17	94.18	-211.06	17	94.21	-211.26	17	94.21	-211.26	17	94.18	-211.06
18	94.24	-211.46	18	94.24	-211.46	18	94.23	-211.36	18	94.23	-211.36

TABLE 4.4-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.07	57.15	0	36.37	58.06	0	36.38	58.04	0	36.37	58.06
0	37.18	57.00	0	36.41	58.01	0	36.37	58.06	0	36.35	58.08
6	44.15	45.46	6	36.48	57.92	6	36.53	57.86	6	36.50	57.89
6	37.64	56.34	6	36.57	57.81	6	36.58	57.80	6	36.58	57.80
7	37.60	56.40	7	36.62	57.75	7	36.64	57.72	7	36.59	57.78
7	37.84	56.05	7	36.71	57.63	7	36.69	57.65	7	36.75	57.58
7	37.93	55.91	7	36.80	57.51	7	36.84	57.46	7	36.86	57.43
8	38.01	55.80	8	36.91	57.37	8	36.96	57.30	8	36.92	57.35
8	38.22	55.49	8	37.17	57.01	8	37.19	56.99	8	37.21	56.96
8	38.41	55.20	8	37.39	56.71	8	37.44	56.62	8	37.41	56.67
9	38.59	54.94	9	37.51	56.53	9	37.55	56.47	9	37.52	56.51
9	38.66	54.84	9	37.61	56.38	9	37.67	56.29	9	37.63	56.36
9	38.61	54.91	9	37.74	56.20	9	37.74	56.20	9	37.71	56.24
10	38.69	54.80	10	37.88	55.99	10	37.86	56.02	10	37.83	56.07
10	39.03	54.30	10	37.92	55.93	10	37.95	55.89	10	37.91	55.94
10	39.03	54.31	10	38.04	55.76	10	38.05	55.74	10	38.00	55.82
10	39.22	54.04	10	38.15	55.59	10	38.15	55.59	10	38.16	55.58
11	39.24	54.01	11	38.30	55.37	11	38.29	55.38	11	38.32	55.34
11	39.38	53.80	11	38.50	55.08	11	38.43	55.18	11	38.46	55.14
11	39.51	53.63	11	38.60	54.93	11	38.58	54.95	11	38.54	55.02
12	39.49	53.66	12	38.68	54.81	12	38.68	54.81	12	38.65	54.85
12	39.61	53.49	12	39.05	54.28	12	38.91	54.48	12	38.87	54.54
12	39.68	53.30	12	39.16	54.12	12	39.03	54.30	12	39.06	54.26
13	39.54	53.59	13	54.26	20.26	13	56.87	10.04	13	46.12	40.66
13	39.76	53.19	13	74.12	-88.31	13	75.27	-95.32	13	73.40	-83.89
13	39.75	53.21	13	86.47	-163.89	13	87.52	-170.32	13	85.91	-160.48
14	39.89	53.02	14	93.88	-209.26	14	94.14	-210.86	14	94.16	-210.96
14	39.76	53.19	14	93.78	-208.65	14	94.11	-210.66	14	94.14	-210.86
14	39.66	53.33	14	93.78	-208.65	14	94.08	-210.46	14	94.06	-210.36
14	39.58	53.53	14	93.78	-208.65	15	94.03	-210.16	15	94.10	-210.56
15	39.61	53.49	15	93.77	-208.55	15	94.03	-210.16	15	94.05	-210.26
15	39.81	53.13	15	93.78	-208.65	15	94.06	-210.36	15	94.08	-210.46
15	40.23	52.53	15	93.78	-208.65	15	94.05	-210.26	15	94.06	-210.36
16	59.69	-0.	16	93.78	-208.65	16	94.11	-210.66	16	94.10	-210.56
16	70.98	-69.10	16	93.78	-208.65	16	94.11	-210.66	16	94.11	-210.66
16	80.01	-124.35	16	93.88	-209.26	16	94.13	-210.76	16	94.16	-210.96
17	87.42	-169.71	17	93.95	-209.66	17	94.21	-211.26	17	94.19	-211.16
17	93.62	-207.65	17	94.14	-210.86	17	94.18	-211.06	17	94.24	-211.46
17	94.21	-211.26	17	94.28	-211.67	17	94.28	-211.67	17	94.26	-211.57
18	94.23	-211.36	18	94.23	-211.36	18	94.24	-211.46	18	94.29	-211.77

TABLE 4.4-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.38	58.04	0	36.38	58.04	0	59.73	-0.22	0	93.78	-208.65
0	36.37	58.06	0	36.37	58.06	0	59.71	-0.11	0	93.88	-209.26
6	36.51	57.88	6	36.49	57.91	6	54.39	19.28	6	93.72	-208.25
6	36.57	57.81	6	36.57	57.81	6	51.03	28.58	6	93.78	-208.65
7	36.62	57.75	7	36.62	57.74	7	48.13	35.94	7	93.77	-208.55
7	36.75	57.58	7	36.79	57.53	7	46.05	40.86	7	93.65	-207.85
7	36.91	57.36	7	36.93	57.34	7	44.73	44.48	7	93.75	-208.45
8	36.95	57.31	8	37.03	57.20	8	45.06	43.76	8	93.75	-208.45
8	37.20	56.97	8	37.27	56.88	8	45.06	43.76	8	93.78	-208.65
8	37.46	56.60	8	37.57	56.44	8	43.84	45.89	8	93.78	-208.65
9	37.59	56.41	9	37.60	56.40	9	45.37	42.98	9	93.78	-208.65
9	37.66	56.31	9	37.74	56.20	9	43.62	46.17	9	93.78	-208.65
9	37.75	56.18	9	37.76	56.16	9	44.52	44.86	9	93.92	-209.46
10	37.80	56.11	10	37.91	55.95	10	45.02	43.86	10	93.88	-209.26
10	37.97	55.85	10	38.09	55.68	10	45.37	42.96	10	93.77	-208.55
10	38.14	55.61	10	38.16	55.58	10	45.60	42.27	10	93.75	-208.45
10	38.15	55.59	11	38.21	55.50	11	45.74	41.85	11	93.78	-208.65
11	38.32	55.34	11	38.35	55.29	11	45.83	41.55	11	93.72	-208.25
11	38.47	55.12	11	38.47	55.12	11	45.86	41.47	11	93.78	-208.65
11	38.59	54.94	11	38.66	54.84	11	45.90	41.35	11	93.77	-208.55
12	38.76	54.70	12	38.76	54.69	12	45.90	41.35	12	93.72	-208.25
12	38.87	54.54	12	38.93	54.45	12	45.90	41.35	12	93.78	-208.65
12	39.03	54.31	12	39.08	54.23	12	45.90	41.35	12	93.88	-209.26
13	46.30	40.15	13	47.87	36.73	13	45.94	41.20	13	93.78	-208.65
13	59.69	-0.	13	74.05	-87.91	13	45.99	41.06	13	93.78	-208.65
13	76.09	-100.35	13	86.54	-164.29	13	46.22	40.37	13	93.78	-208.65
14	76.09	-100.35	14	94.10	-210.56	14	46.20	40.42	14	93.82	-208.86
14	93.95	-209.66	14	94.14	-210.86	14	45.77	41.75	14	93.78	-208.65
14	93.78	-208.65	14	94.06	-210.36	14	46.01	40.99	14	93.78	-208.65
15	93.88	-209.26	15	94.06	-210.36	15	45.94	41.22	15	93.78	-208.65
15	93.78	-208.65	15	94.10	-210.56	15	45.93	41.25	15	93.78	-208.65
15	93.85	-209.06	15	94.06	-210.36	15	47.52	37.73	15	93.78	-208.65
15	93.82	-208.86	15	94.03	-210.16	15	45.92	41.26	15	93.78	-208.65
16	93.87	-209.16	16	94.06	-210.36	16	46.20	40.44	16	93.78	-208.65
16	93.88	-209.26	16	94.10	-210.56	16	46.03	40.94	16	93.78	-208.65
16	94.14	-210.86	16	94.19	-211.16	16	46.01	41.00	16	93.88	-209.26
17	94.19	-211.16	17	94.19	-211.16	17	46.05	40.86	17	93.95	-209.66
17	94.24	-211.46	17	94.24	-211.46	17	46.06	40.84	17	93.95	-209.66
17	94.24	-211.46	17	94.26	-211.57	17	49.91	31.81	17	94.10	-210.56
18	94.26	-211.57	18	94.23	-211.36	18	52.14	24.18	18	93.95	-209.66

4.5 Run 18

Run 18 (reactor run 100) was a low-flow-rate, low-pressure, low-heating-rate test with Configuration 1. The objectives of this test were the same as those of Run 14; thus, it was actually a planned repeat. Parametric conditions and test results are summarized in Table 4.5-1. Timing information is given in Table 4.0-1. Test data are presented in graphical form in Figures 4.5-1 through 4.5-10.

The tank was filled approximately five minutes prior to turning on the timer for this run. Stable flow rate and system pressure were achieved shortly after start of flow (Fig. 4.5-1). Saturation conditions were reached approximately one minute before reactor shutdown and approximately two minutes before the tank was emptied. An excursion in the temperature was observed with Thermometer 4 (Fig. 4.5-9) at about the time of the reactor shutdown. Break-overs in the temperature curves for most of the other thermometers indicate the presence of a stratified layer of liquid approximately 1 inch thick.

Table 4.5-1

Parametric Conditions and Test Results Summary
for Run 18-100

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	116.5	8.9
Pressure (psia)	30	28.5	
Temperature[b] (^{o}R)		36.8	
Weight[c] (lb)	66 -74	68.6	
Final Conditions[d]			
Pressure (psia)	30	29.0	38.9
Temperature (^{o}R)	≤ 41.3	41.0	
Saturation Temp[e] (^{o}R)	41.3	41.0	
Run Data			
Temperature Rise (^{o}R)	4.0	4.2	8.9 - 38.9
Run Time[f] (min)	27 - 33	29.9	8.9 - 38.8
Flow Time (min)	27 - 33	29.4	10.4 - 39.8
Flow Rate[g]: (gpm)	4.08	3.97	
(lb/sec)	0.04	0.039	
Power Level (Mw)	0.50	0.555	
Integrated Power (Mw-hr)	0.25	0.277	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank.
[c]Temp = 36.8^{o}R, Vol. = 116.5 gal, ρ = 4.41 lbs/ft^3 = 0.589 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

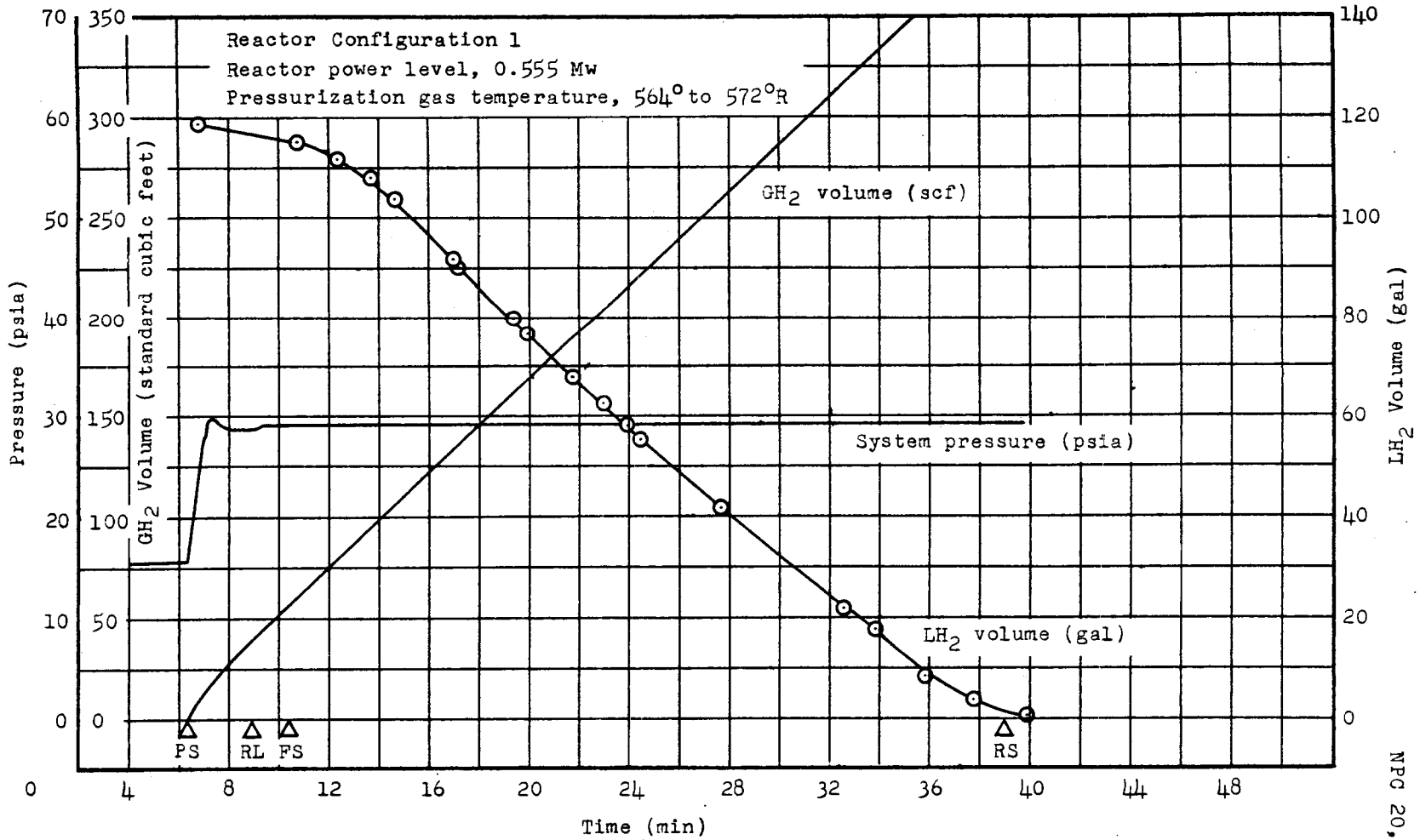

Figure 4.5-1 Pressure and Flow Data: Run 18-100

NPC 20,505

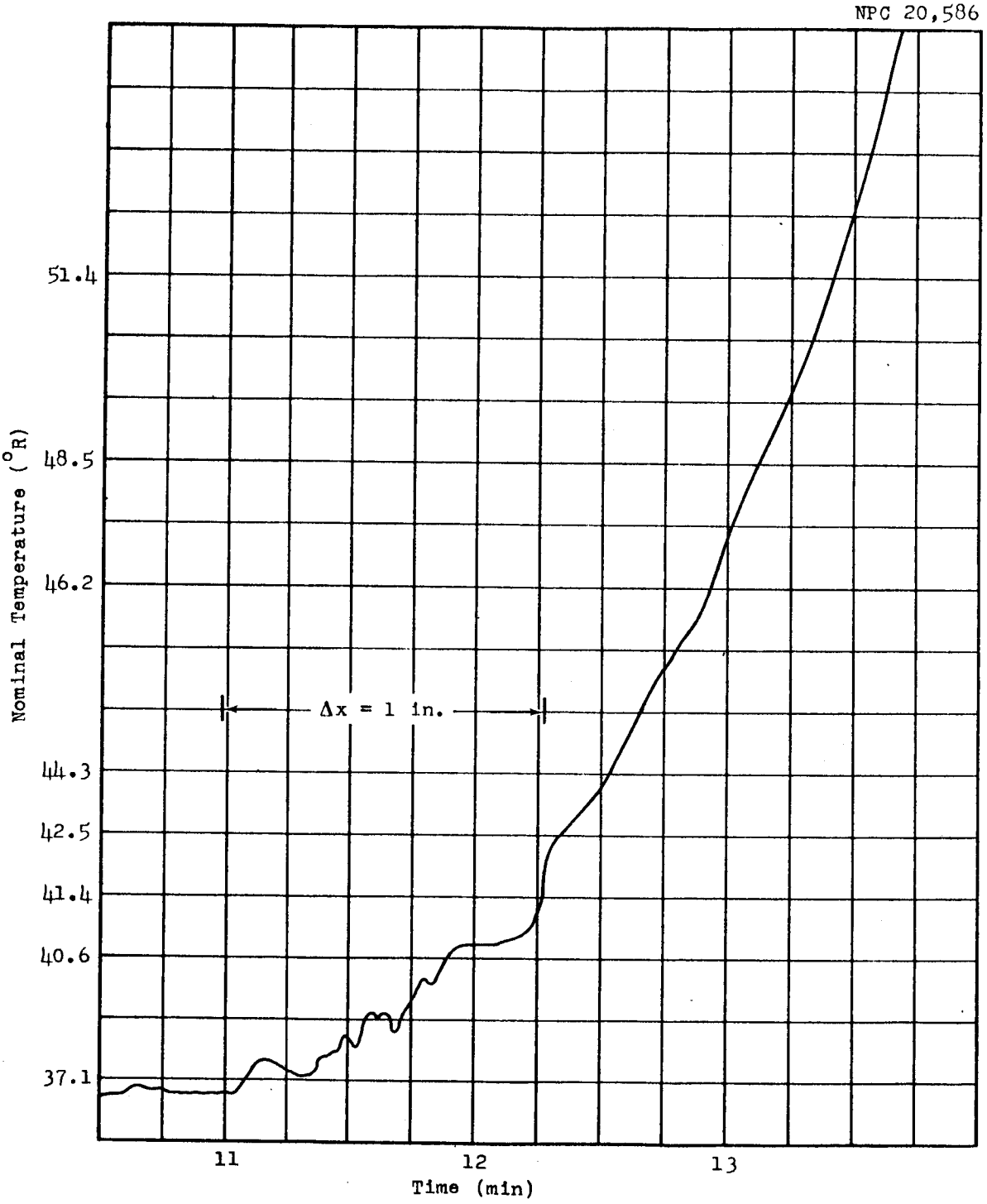

Figure 4.5-2 Strip-Chart Temperature Data: Run 18-100, Thermometer 14

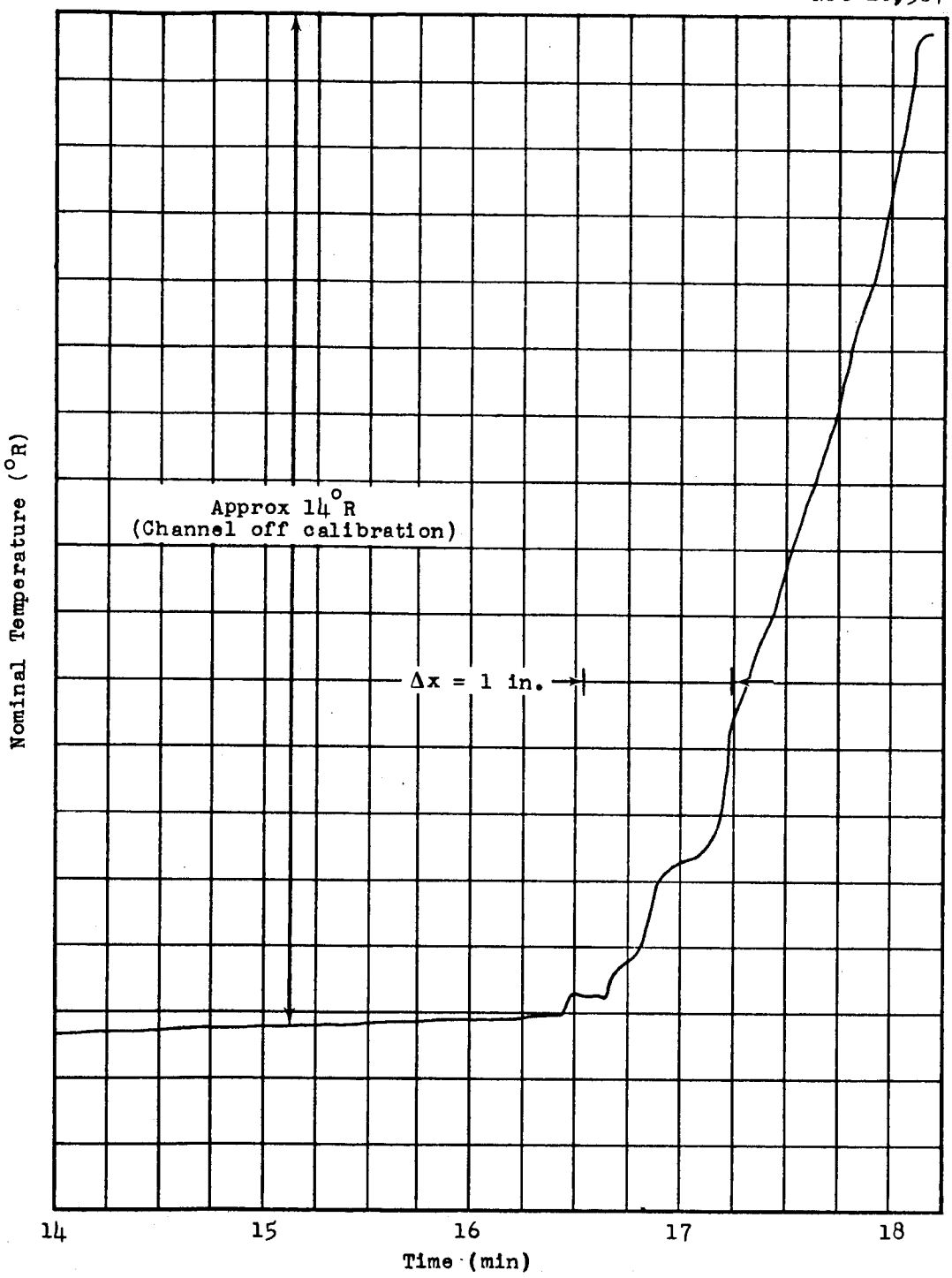

Figure 4.5-3 Strip-Chart Temperature Data: Run 18-100, Thermometer 11

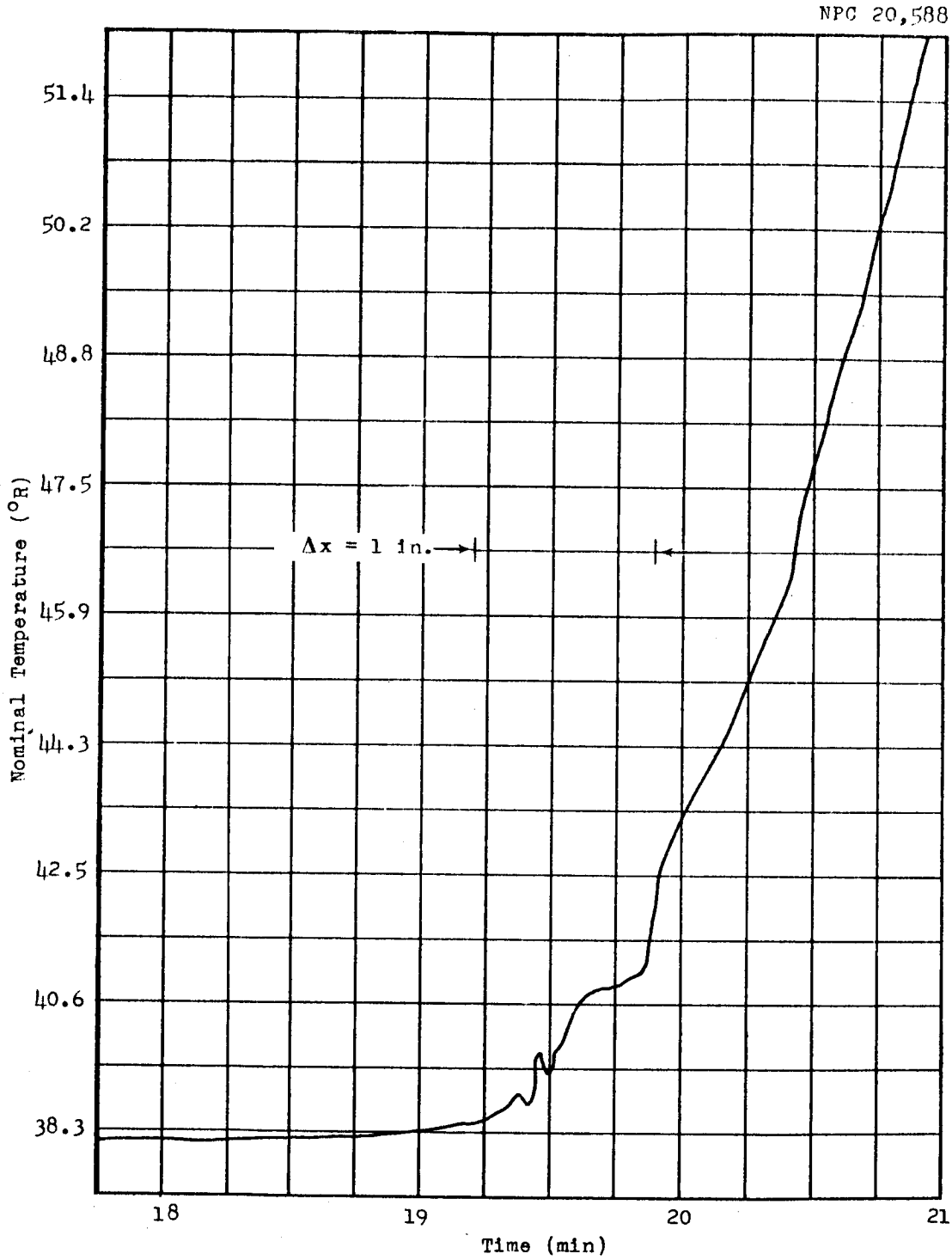

Figure 4.5-4 Strip-Chart Temperature Data: Run 18-100, Thermometer 10

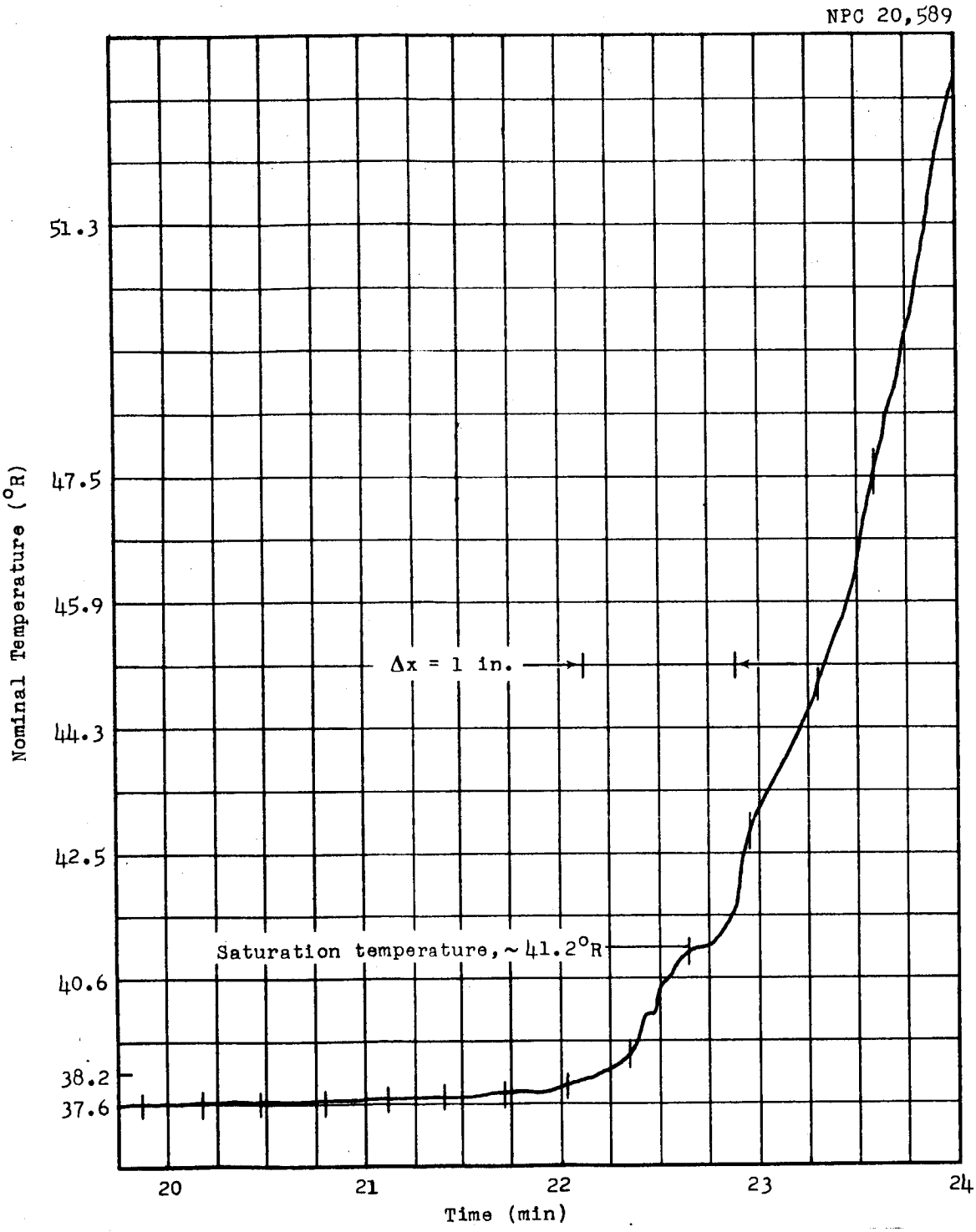

Figure 4.5-5 Strip-Chart Temperature Data: Run 18-100, Thermometer 9

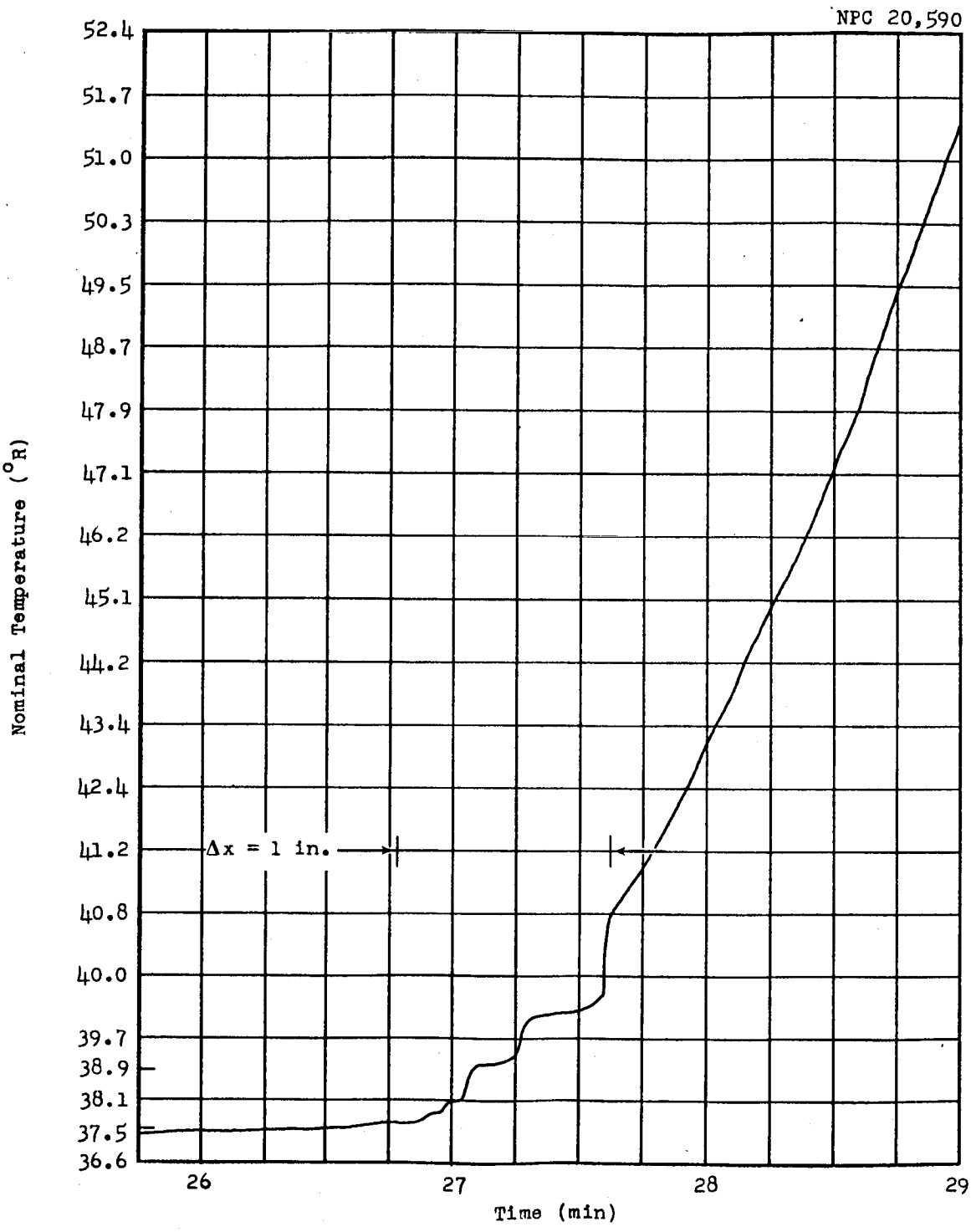

Figure 4.5-6 Strip-Chart Temperature Data: Run 18-100, Thermometer 8

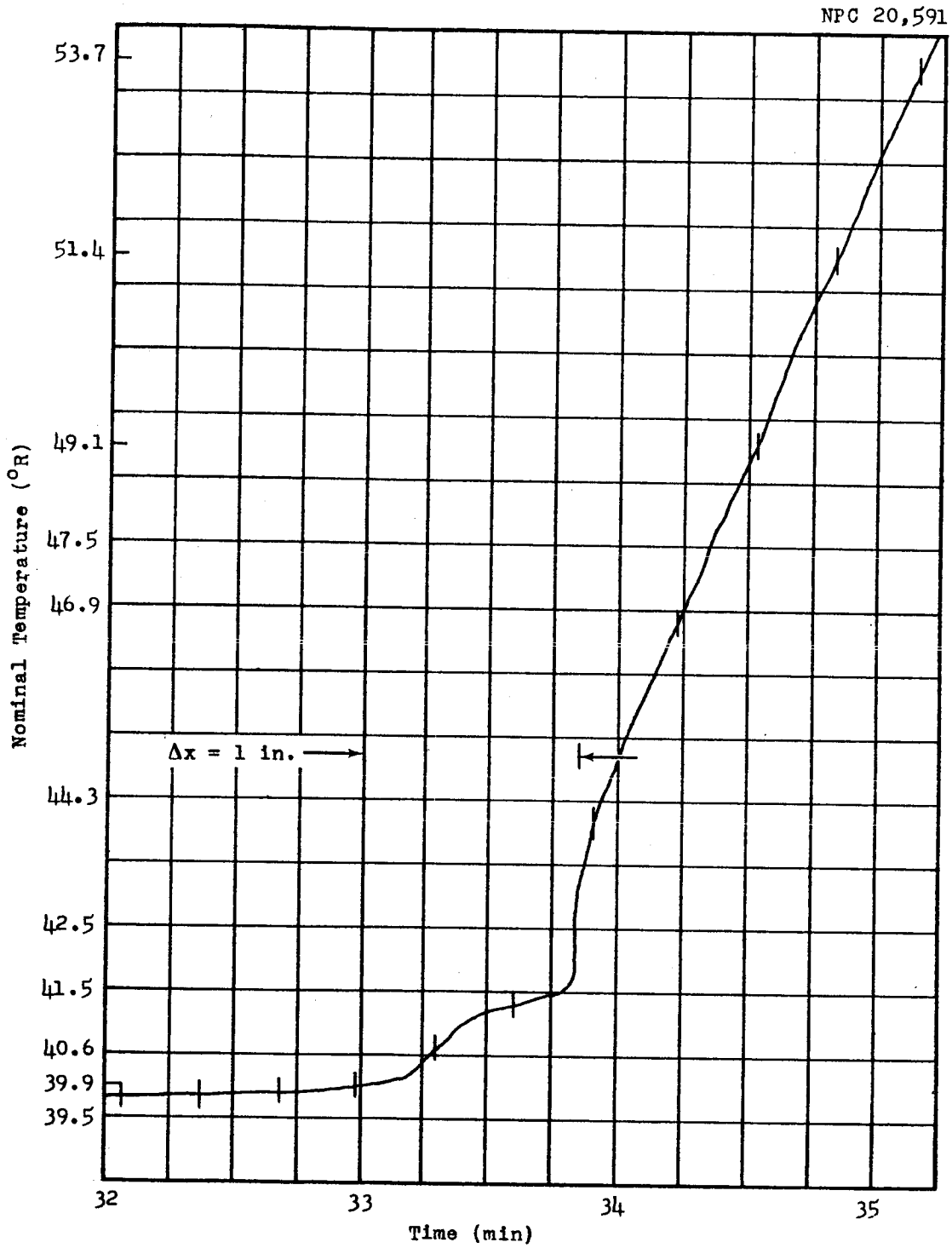

Figure 4.5-7 Strip-Chart Temperature Data: Run 18-100, Thermometer 25

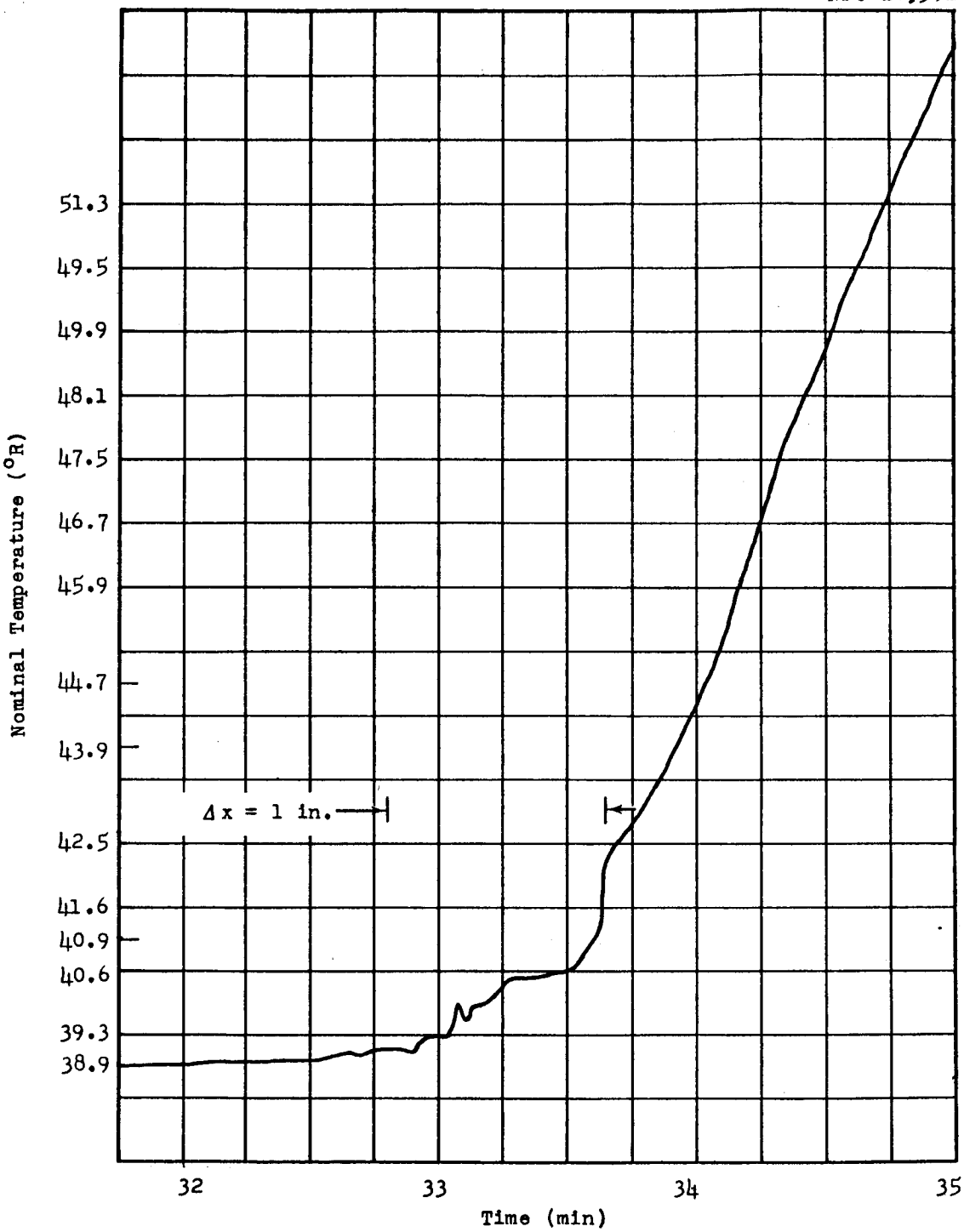

Figure 4.5-8 Strip-Chart Temperature Data: Run 18-100, Thermometer 22

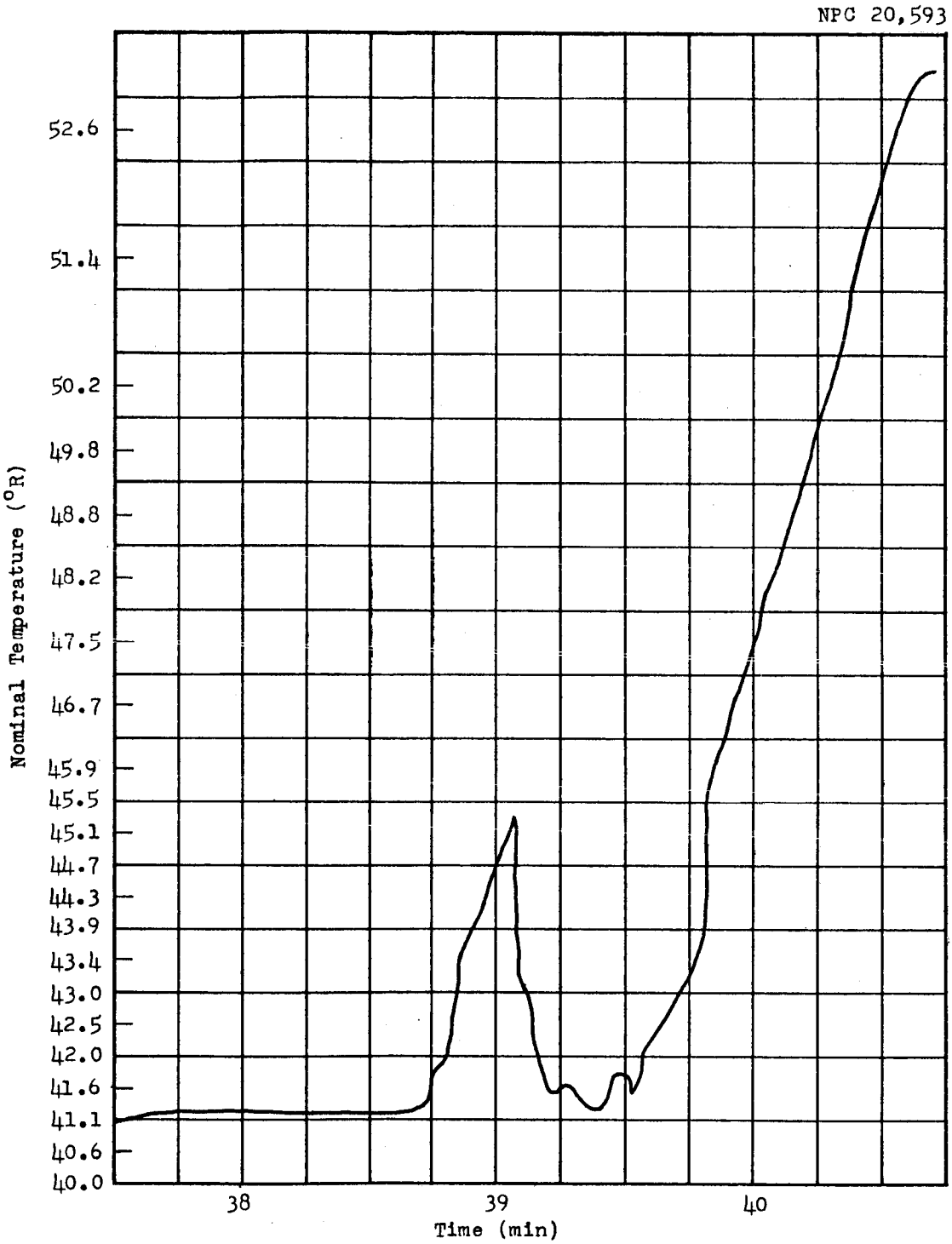

Figure 4.5-9 Strip-Chart Temperature Data: Run 18-100, Thermometer 4

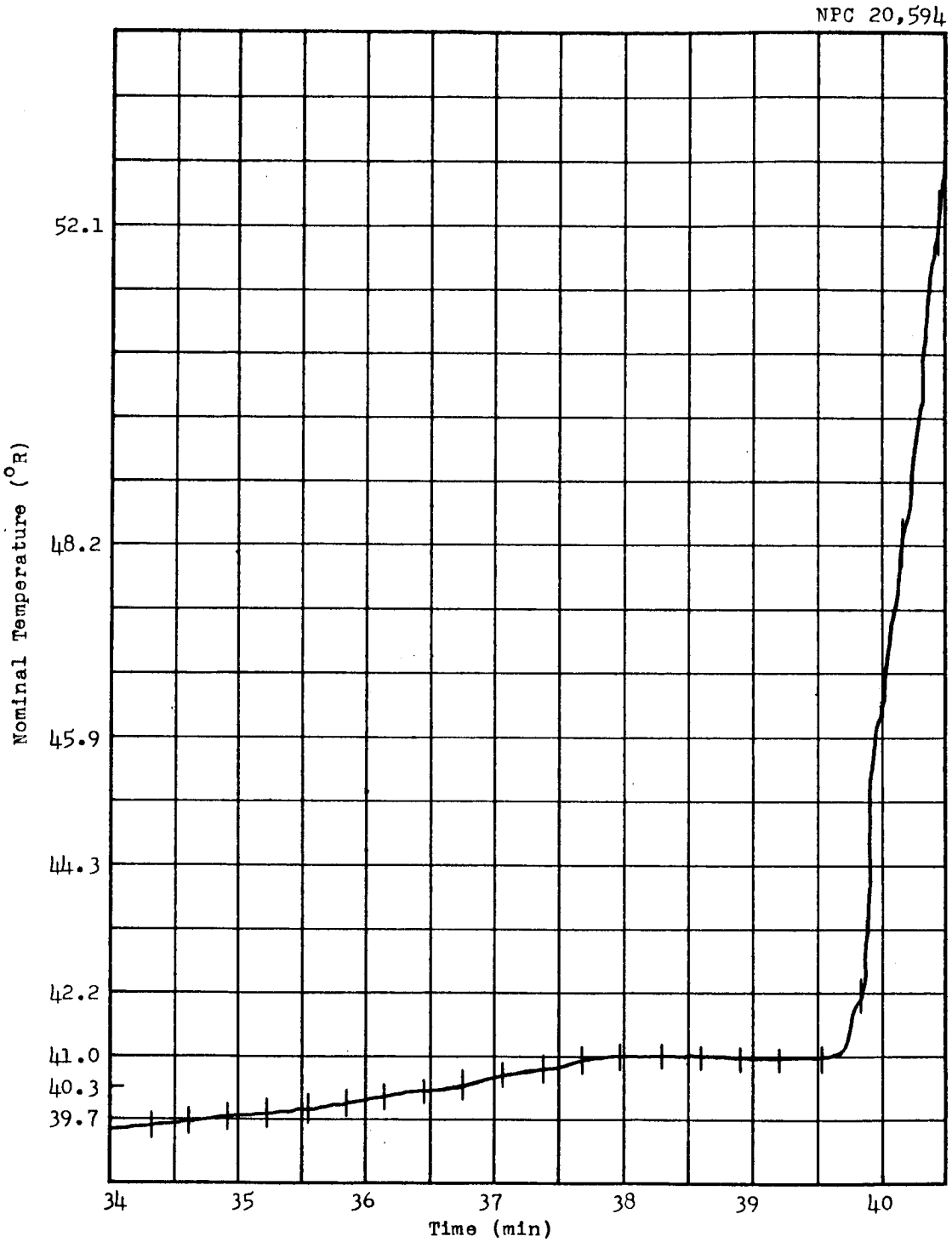

Figure 4.5-10 Strip-Chart Temperature Data: Run 18-100, Thermometer 1

TABLE 4.5-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 18-100

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.66	57.70	0	36.64	57.72	0	36.64	57.72	0	36.74	57.59
0	36.66	57.70	0	36.64	57.72	0	36.65	57.71	0	36.74	57.59
0	36.63	57.73	0	36.63	57.73	0	36.69	57.65	0	36.74	57.59
1	36.65	57.71	1	36.64	57.72	1	36.66	57.70	1	36.75	57.57
6	36.81	57.49	6	36.77	57.55	6	36.76	57.56	6	36.87	57.41
6	36.87	57.41	6	36.75	57.57	6	36.88	57.40	6	36.93	57.34
7	36.81	57.49	7	36.78	57.53	7	36.95	57.31	7	36.93	57.33
7	36.89	57.39	7	36.79	57.52	7	36.96	57.30	7	37.01	57.23
7	36.82	57.48	7	36.83	57.47	7	37.03	57.20	7	37.13	57.07
8	36.89	57.39	8	36.81	57.49	8	36.84	57.46	8	36.96	57.30
8	37.16	57.02	8	36.80	57.50	8	36.96	57.30	8	37.04	57.19
8	36.94	57.32	8	36.84	57.45	8	36.98	57.27	8	37.05	57.17
9	36.93	57.33	9	36.99	57.25	9	39.57	53.55	9	37.40	56.68
9	36.88	57.40	9	36.88	57.40	9	36.92	57.35	9	37.02	57.22
9	36.96	57.29	9	36.94	57.32	9	36.90	57.37	9	37.06	57.16
10	36.96	57.29	10	36.99	57.26	10	37.05	57.17	10	37.06	57.16
10	37.02	57.22	10	36.99	57.26	10	37.02	57.21	10	37.11	57.10
10	37.03	57.20	10	37.03	57.20	10	37.03	57.20	10	37.11	57.10
10	37.07	57.15	10	37.01	57.23	10	36.99	57.26	10	37.16	57.03
11	37.08	57.13	11	37.15	57.04	11	37.11	57.09	11	37.11	57.10
11	37.06	57.16	11	37.06	57.16	11	37.05	57.17	11	37.18	57.00
11	37.08	57.13	11	37.11	57.10	11	37.14	57.05	11	37.25	56.90
12	37.19	56.99	12	37.08	57.13	12	37.15	57.04	12	37.26	56.89
12	37.17	57.01	12	37.20	56.97	12	37.18	57.00	12	37.26	56.89
12	37.17	57.01	12	37.11	57.10	12	37.19	56.99	12	37.29	56.85
13	37.17	57.01	13	37.20	56.97	13	37.14	57.05	13	37.34	56.78
13	37.11	57.10	13	37.19	56.99	13	37.16	57.03	13	37.32	56.80
13	37.22	56.94	13	37.20	56.97	13	37.19	56.98	13	37.34	56.77
13	37.20	56.97	13	37.19	56.99	13	37.20	56.97	14	37.30	56.83
14	37.25	56.90	14	37.27	56.88	14	37.20	56.97	14	37.34	56.77
14	37.29	56.85	14	37.29	56.85	14	37.26	56.89	14	37.44	56.63
14	37.27	56.88	14	37.28	56.86	14	37.25	56.90	14	37.39	56.69
15	37.32	56.80	15	37.29	56.85	15	37.33	56.79	15	37.41	56.67
15	37.34	56.78	15	37.31	56.82	15	37.31	56.82	15	37.45	56.61
15	37.31	56.82	15	37.34	56.78	15	37.36	56.75	15	37.46	56.60
16	37.34	56.77	16	37.37	56.72	16	37.40	56.68	16	37.49	56.56
16	37.40	56.68	16	37.40	56.68	16	37.39	56.70	16	37.47	56.59
16	37.42	56.66	16	37.37	56.72	16	37.41	56.67	16	37.51	56.53
17	37.47	56.58	17	37.42	56.65	17	37.43	56.64	17	37.56	56.45
17	37.44	56.63	17	37.47	56.59	17	37.46	56.60	17	37.61	56.38
17	37.43	56.64	17	37.46	56.60	17	37.47	56.58	17	37.59	56.41
17	37.49	56.56	17	37.49	56.55	17	37.48	56.57	18	37.64	56.34
18	37.47	56.58	18	37.54	56.49	18	37.50	56.54	18	37.70	56.26
18	37.60	56.40	18	37.61	56.38	18	37.55	56.47	18	37.68	56.29

* Time interval = 0.308 minute.

TABLE 4.5-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	37.57	56.44	18	37.55	56.47	18	37.56	56.46	18	37.77	56.16
19	37.56	56.46	19	37.63	56.35	19	37.61	56.39	19	37.72	56.23
19	37.64	56.34	19	37.59	56.41	19	37.64	56.34	19	37.75	56.19
19	37.68	56.28	19	37.70	56.26	19	37.66	56.32	19	37.85	56.04
20	37.70	56.26	20	37.71	56.24	40	37.68	56.29	20	37.86	56.02
20	37.75	56.18	20	37.73	56.21	20	37.68	56.29	20	37.85	56.04
20	37.73	56.21	20	37.74	56.20	20	37.74	56.20	20	37.91	55.95
21	37.75	56.18	21	37.75	56.18	21	37.79	56.13	21	37.95	55.89
21	37.77	56.15	21	37.83	56.07	21	37.81	56.09	21	37.95	55.89
21	37.79	56.13	21	37.81	56.09	21	37.81	56.09	21	37.97	55.87
21	37.80	56.11	21	37.81	56.09	21	37.81	56.09	22	37.97	55.87
22	37.88	56.00	22	37.97	55.87	22	37.88	55.99	22	38.09	55.68
22	37.95	55.89	22	37.88	55.99	22	37.95	55.89	22	38.05	55.73
22	37.88	55.99	22	37.88	55.99	22	37.90	55.96	22	38.12	55.64
23	37.96	55.88	23	37.92	55.94	23	37.95	55.89	23	38.14	55.61
23	37.94	55.90	23	37.95	55.89	23	37.99	55.84	23	38.24	55.45
23	38.05	55.73	23	38.05	55.74	23	38.02	55.79	23	38.24	55.45
24	38.03	55.78	24	38.04	55.75	24	38.00	55.82	24	38.26	55.43
24	38.03	55.78	24	38.11	55.65	24	38.09	55.68	24	38.27	55.41
24	38.16	55.57	24	38.08	55.69	24	38.10	55.67	24	38.22	55.48
25	38.08	55.69	25	38.12	55.63	25	38.12	55.64	25	38.34	55.31
25	38.16	55.58	25	38.19	55.53	25	38.13	55.62	25	38.34	55.31
25	38.18	55.54	25	38.22	55.48	25	38.22	55.49	25	38.43	55.18
25	38.22	55.48	26	38.21	55.50	26	38.22	55.48	26	38.43	55.18
26	38.22	55.49	26	38.26	55.43	26	38.24	55.45	26	38.48	55.11
26	38.31	55.35	26	38.35	55.29	26	38.29	55.38	26	38.54	55.02
26	38.33	55.33	26	38.33	55.33	26	38.31	55.36	26	38.52	55.04
27	38.37	55.26	27	38.32	55.34	27	38.37	55.27	27	38.56	54.99
27	38.38	55.25	27	38.41	55.21	27	38.43	55.18	27	38.65	54.86
27	38.43	55.18	27	38.48	55.10	27	38.43	55.18	27	38.66	54.85
28	38.50	55.08	28	38.50	55.08	28	38.50	55.07	28	38.71	54.76
28	38.55	55.01	28	38.53	55.03	28	38.52	55.04	28	38.74	54.72
28	38.63	54.89	28	38.58	54.96	28	38.57	54.98	28	38.86	54.54
29	38.57	54.98	29	38.59	54.94	29	38.65	54.86	29	38.92	54.46
29	38.60	54.93	29	38.63	54.88	29	38.64	54.87	29	38.90	54.48
29	38.65	54.86	29	38.66	54.84	29	38.70	54.78	29	39.02	54.31
30	38.77	54.67	30	38.74	54.72	30	38.73	54.73	30	38.96	54.40
30	38.75	54.70	30	38.78	54.66	30	38.78	54.66	30	38.98	54.37
30	38.85	54.56	30	38.81	54.61	30	38.80	54.63	30	39.08	54.23
30	38.85	54.56	30	38.92	54.46	30	38.87	54.53	30	39.12	54.17
31	38.99	54.36	31	38.93	54.44	31	38.93	54.45	31	39.21	54.05
31	38.99	54.36	31	38.94	54.43	31	38.98	54.37	31	39.26	53.98
31	38.98	54.37	31	39.02	54.31	31	39.02	54.31	31	39.30	53.92
32	39.13	54.16	32	39.10	54.20	32	39.09	54.22	32	39.35	53.85

TABLE 4.5-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	39.12	54.17	32	39.16	54.12	32	39.15	54.14	32	39.37	53.82
32	39.19	54.08	32	39.22	54.03	32	39.22	54.04	32	39.47	53.69
33	39.38	53.80	33	39.30	53.92	33	39.28	53.95	33	39.47	53.68
33	39.38	53.81	33	39.39	53.79	33	39.34	53.86	33	39.60	53.51
33	39.48	53.67	33	39.42	53.75	33	39.43	53.74	33	39.67	53.42
34	59.69	-0.	34	39.50	53.64	34	39.56	53.57	34	39.71	53.37
34	59.69	-0.	34	39.68	53.41	34	39.63	53.47	34	39.71	53.26
34	39.70	53.38	34	39.69	53.29	34	39.71	53.37	34	39.83	53.11
34	39.69	53.29	34	39.74	53.23	34	39.72	53.25	34	39.95	52.93
35	59.69	-0.	35	39.85	53.08	35	39.85	53.07	35	40.03	52.82
35	59.69	-0.	35	39.94	52.95	35	39.90	53.00	35	40.09	52.73
35	59.69	-0.	35	40.06	52.77	35	40.04	52.80	35	40.21	52.55
36	40.16	52.63	36	40.17	52.61	36	40.16	52.63	36	40.34	52.36
36	40.26	52.48	36	40.31	52.40	36	40.29	52.43	36	40.46	52.18
36	59.69	-0.	36	40.44	52.21	36	40.45	52.19	36	40.61	51.93
37	59.69	-0.	37	40.60	51.95	37	40.59	51.97	37	40.72	51.75
37	59.69	-0.	37	40.76	51.68	37	40.76	51.69	37	40.91	51.44
37	59.69	-0.	37	40.97	51.34	37	40.96	51.35	37	41.09	51.12
38	59.69	-0.	38	41.02	51.25	38	41.04	51.22	38	41.12	51.07
38	59.69	-0.	38	41.02	51.24	38	41.04	51.22	38	41.09	51.12
38	59.69	-0.	38	41.02	51.24	38	41.03	51.23	38	41.13	51.05
38	40.94	51.39	38	40.98	51.31	38	41.56	50.27	38	44.63	44.67
39	40.94	51.39	39	40.94	51.39	39	40.93	51.40	39	41.40	50.56
39	59.69	-0.	39	40.97	51.34	39	40.98	51.32	39	41.47	50.44
39	42.15	49.12	39	41.23	50.87	39	46.98	38.62	39	46.39	39.92
40	48.31	35.47	40	41.53	50.33	40	52.63	23.44	40	49.90	31.83
40	52.07	24.28	40	48.68	34.61	40	59.35	1.21	40	53.43	22.22
40	59.69	-0.	40	51.42	27.34	40	65.17	-33.55	40	56.84	10.12
41	60.20	-3.13	41	54.39	19.29	41	68.09	-51.43	41	59.12	2.04
41	59.69	-0.	41	55.82	13.74	41	61.84	-13.14	41	57.30	8.48
41	59.69	-0.	41	58.15	5.48	41	61.34	-10.11	41	57.02	9.50
42	63.01	-20.30	42	59.69	-0.	42	58.21	5.25	42	57.87	6.48
42	60.55	-5.25	42	60.02	-2.02	42	59.87	-1.11	42	58.36	4.74
42	64.81	-31.33	42	60.02	-2.02	42	59.89	-1.21	42	59.09	2.13
42	61.80	-12.93	42	60.61	-5.66	42	61.97	-13.95	42	59.81	-0.73

TABLE 4.5-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.55	57.84	0	93.53	-207.07	0	36.56	57.82	0	36.58	57.80
0	36.52	57.87	0	93.53	-207.07	0	36.54	57.85	0	36.57	57.81
0	36.55	57.83	0	93.49	-206.87	0	36.55	57.84	0	36.59	57.78
1	36.55	57.83	1	93.46	-206.67	1	36.56	57.82	1	36.56	57.82
6	36.64	57.72	6	93.62	-207.68	6	36.69	57.65	6	36.69	57.65
6	36.72	57.61	7	93.59	-207.48	7	36.73	57.60	7	36.74	57.59
7	36.73	57.60	7	93.56	-207.27	7	36.68	57.66	7	36.74	57.59
7	36.77	57.55	7	93.56	-207.27	7	36.75	57.57	7	36.72	57.61
7	36.70	57.64	7	93.53	-207.07	7	36.74	57.59	7	36.73	57.60
8	36.70	57.64	8	93.61	-207.58	8	36.70	57.64	8	36.73	57.60
8	36.75	57.57	8	93.62	-207.68	8	36.68	57.66	8	36.74	57.59
8	36.80	57.50	8	93.66	-207.88	8	36.75	57.57	8	36.80	57.51
9	37.01	57.23	9	93.69	-208.08	9	36.82	57.48	9	36.78	57.53
9	36.77	57.54	9	93.69	-208.08	9	36.80	57.50	9	36.79	57.52
9	36.81	57.49	9	93.66	-207.88	9	36.81	57.49	9	36.81	57.49
10	36.87	57.41	10	93.67	-207.98	10	36.82	57.48	10	36.86	57.43
10	36.89	57.39	10	93.62	-207.68	10	36.86	57.43	10	36.85	57.44
10	36.89	57.39	10	93.62	-207.68	10	36.89	57.39	10	36.87	57.41
10	36.88	57.40	10	93.82	-208.89	10	36.96	57.30	10	36.90	57.37
11	36.90	57.38	11	93.66	-207.88	11	36.91	57.36	11	36.92	57.35
11	36.91	57.36	11	93.62	-207.68	11	36.92	57.35	11	36.91	57.36
11	36.93	57.34	11	93.53	-207.07	11	36.96	57.29	11	36.96	57.29
12	36.98	57.27	12	93.51	-206.97	12	36.97	57.28	12	36.99	57.25
12	36.99	57.25	12	93.56	-207.27	12	37.02	57.21	12	37.01	57.23
12	37.05	57.17	12	93.53	-207.07	12	37.00	57.24	12	37.03	57.20
13	37.02	57.21	13	93.59	-207.48	13	37.02	57.22	13	37.05	57.17
13	37.09	57.12	13	93.62	-207.68	13	37.05	57.17	13	37.07	57.15
13	37.09	57.12	13	93.69	-208.08	13	37.06	57.16	13	37.10	57.11
14	37.07	57.15	14	93.66	-207.88	14	37.11	57.10	14	37.13	57.07
14	37.11	57.10	14	93.69	-208.08	14	37.08	57.13	14	37.11	57.10
14	37.15	57.04	14	93.66	-207.88	14	37.13	57.07	14	37.13	57.06
14	37.19	56.99	14	93.69	-208.08	14	37.19	56.99	14	37.17	57.01
15	37.16	57.03	15	93.69	-208.08	15	37.18	57.00	15	37.18	57.00
15	37.16	57.02	15	93.69	-208.08	15	37.19	56.98	15	37.21	56.96
15	37.24	56.91	15	93.69	-208.08	15	37.22	56.94	15	37.26	56.89
16	37.26	56.89	16	93.69	-208.08	16	37.25	56.90	16	37.24	56.91
16	37.24	56.91	16	93.69	-208.08	16	37.25	56.90	16	37.27	56.87
16	37.25	56.90	16	93.69	-208.08	16	37.28	56.86	16	37.29	56.85
17	37.32	56.81	17	93.67	-207.98	17	37.32	56.81	17	37.32	56.80
17	37.34	56.78	17	93.62	-207.68	17	37.32	56.80	17	37.35	56.76
17	37.33	56.79	17	93.66	-207.88	17	37.35	56.76	17	37.40	56.68
18	37.35	56.76	18	93.69	-208.08	18	37.40	56.68	18	37.39	56.69
18	37.43	56.64	18	93.62	-207.68	18	37.39	56.70	18	37.40	56.68
18	37.47	56.58	18	93.66	-207.88	18	37.42	56.65	18	37.46	56.60

TABLE 4.5-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	37.47	56.59	18	93.62	-207.68	18	37.44	56.62	18	37.53	56.50
19	37.44	56.63	19	93.56	-207.27	19	37.45	56.61	19	37.49	56.55
19	37.53	56.50	19	93.66	-207.88	19	37.52	56.51	19	37.55	56.47
19	37.57	56.44	19	93.66	-207.88	19	37.56	56.45	19	37.56	56.46
20	37.60	56.40	20	93.69	-208.08	20	37.55	56.47	20	37.60	56.40
20	37.53	56.50	20	93.69	-208.08	20	37.60	56.40	20	37.61	56.39
20	37.67	56.30	20	93.66	-207.88	20	37.59	56.42	20	37.60	56.40
21	37.65	56.33	21	93.62	-207.68	21	37.61	56.39	21	37.67	56.30
21	37.65	56.33	21	93.62	-207.68	21	37.68	56.28	21	37.66	56.31
21	37.66	56.31	21	93.53	-207.07	21	37.68	56.29	21	37.73	56.21
22	37.68	56.29	22	93.53	-207.07	22	37.70	56.25	22	37.74	56.20
22	37.81	56.10	22	93.62	-207.68	22	37.73	56.21	22	37.75	56.19
22	37.77	56.15	22	93.56	-207.27	22	37.76	56.17	22	37.81	56.10
22	37.79	56.13	22	93.62	-207.68	22	37.82	56.08	22	37.86	56.02
23	37.81	56.10	23	93.62	-207.68	23	37.84	56.05	23	37.84	56.06
23	37.84	56.05	23	93.62	-207.68	23	37.89	55.98	23	37.90	55.97
23	37.88	55.99	23	93.62	-207.68	23	37.88	55.99	23	37.90	55.97
24	37.91	55.95	24	93.66	-207.88	24	37.96	55.88	24	37.94	55.91
24	37.95	55.89	24	93.69	-208.08	24	37.94	55.91	24	38.01	55.80
24	37.95	55.89	24	93.69	-208.08	24	38.03	55.76	24	38.01	55.80
25	38.01	55.80	25	93.69	-208.08	25	38.00	55.82	25	38.11	55.65
25	38.03	55.78	25	93.69	-208.08	25	38.05	55.73	25	38.09	55.68
25	38.08	55.69	25	93.67	-207.98	25	38.07	55.70	25	38.16	55.58
26	38.08	55.69	26	93.69	-208.08	26	38.14	55.61	26	38.23	55.47
26	38.14	55.61	26	93.69	-208.08	26	38.15	55.59	26	38.23	55.47
26	38.17	55.56	26	93.69	-208.08	26	38.24	55.46	26	38.32	55.34
26	38.22	55.49	26	93.69	-208.08	26	38.26	55.43	26	38.49	55.09
27	38.24	55.46	27	93.69	-208.08	27	38.29	55.39	27	39.70	53.38
27	38.28	55.40	27	93.69	-208.08	27	38.31	55.35	27	40.85	51.54
27	38.32	55.34	27	93.67	-207.98	27	38.35	55.29	27	42.92	47.61
28	38.36	55.28	28	93.69	-208.08	28	38.36	55.28	28	45.38	42.95
28	38.40	55.22	28	93.69	-208.08	28	38.43	55.18	28	47.64	37.55
28	38.46	55.13	28	93.69	-208.08	28	38.50	55.07	28	50.03	31.50
29	38.51	55.06	29	93.69	-208.08	29	38.57	54.97	29	52.03	24.36
29	38.50	55.08	29	93.69	-208.08	29	38.57	54.98	29	54.37	16.06
29	38.57	54.97	29	93.77	-208.59	29	38.64	54.87	29	57.07	9.30
30	38.60	54.93	30	93.69	-208.08	30	38.68	54.80	30	58.88	2.87
30	38.63	54.88	30	93.69	-208.08	30	38.68	54.80	30	60.26	-3.52
30	38.70	54.78	30	93.69	-208.08	30	38.77	54.67	30	61.32	-9.98
30	38.77	54.68	30	93.69	-208.08	30	38.84	54.57	30	62.36	-16.32
31	38.81	54.62	31	93.69	-208.08	31	38.96	54.40	31	63.42	-22.84
31	38.87	54.53	31	93.62	-207.68	31	39.13	54.16	31	64.46	-29.21
31	38.92	54.46	31	93.62	-207.68	31	39.40	53.78	31	65.47	-35.36
32	38.99	54.36	32	93.69	-208.08	32	40.91	51.43	32	66.49	-41.63

TABLE 4.5-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	39.05	54.28	32	93.69	-208.08	32	41.36	50.64	32	67.50	-47.81
32	39.12	54.17	32	93.62	-207.68	32	44.21	45.38	32	68.49	-53.85
33	39.19	54.08	33	93.61	-207.58	33	46.82	38.93	33	69.47	-59.84
33	39.28	53.96	33	93.62	-207.68	33	49.85	31.95	33	70.44	-65.82
33	39.35	53.85	33	93.66	-207.88	33	52.22	24.05	33	71.40	-71.65
34	39.43	53.74	34	93.69	-208.08	34	54.32	17.76	34	72.32	-77.28
34	39.49	53.66	34	93.62	-207.68	34	56.33	11.93	34	73.23	-82.88
34	39.59	53.52	34	93.69	-208.08	34	57.89	6.38	34	74.08	-88.05
34	39.68	53.40	34	93.69	-208.08	34	59.45	0.87	34	74.92	-93.22
35	39.73	53.24	35	93.69	-208.08	35	60.38	-4.22	35	75.73	-98.14
35	39.87	53.05	35	93.69	-208.08	35	61.20	-9.25	35	76.50	-102.88
35	39.97	52.90	35	93.69	-208.08	35	61.98	-14.04	35	77.21	-107.22
36	40.14	52.65	36	93.69	-208.08	36	62.76	-18.77	36	77.95	-111.77
36	40.28	52.45	36	93.69	-208.08	36	63.51	-23.35	36	78.61	-115.81
36	40.48	52.14	36	93.69	-208.08	36	64.26	-27.95	36	79.26	-119.76
37	40.72	51.75	37	93.66	-207.88	37	64.98	-32.36	37	79.90	-123.70
37	40.95	51.37	37	93.66	-207.88	37	65.65	-36.49	37	80.55	-127.64
37	41.12	51.08	37	93.69	-208.08	37	66.31	-40.54	37	81.07	-130.87
38	44.68	44.58	38	93.66	-207.88	38	66.89	-44.07	38	81.59	-134.01
38	46.68	39.23	38	93.69	-208.08	38	67.45	-47.51	38	82.08	-137.04
38	49.81	32.06	38	93.69	-208.08	38	67.95	-50.54	38	82.63	-140.37
38	51.25	27.89	38	93.69	-208.08	38	68.22	-52.23	38	82.63	-140.37
39	51.20	28.04	39	93.62	-207.68	39	68.18	-51.94	39	82.59	-140.17
39	49.26	33.32	39	93.69	-208.08	39	67.59	-48.36	39	82.00	-136.53
39	46.50	39.65	39	93.69	-208.08	39	67.19	-45.87	39	81.64	-134.31
40	49.01	33.87	40	93.69	-208.08	40	66.89	-44.04	40	81.17	-131.48
40	51.57	26.27	40	93.69	-208.08	40	66.48	-41.57	40	80.93	-129.96
40	54.30	17.57	40	93.69	-208.08	40	66.15	-39.51	40	80.35	-126.43
41	56.40	11.67	41	93.69	-208.08	41	65.67	-36.58	41	80.00	-124.30
41	56.51	11.31	41	93.69	-208.08	41	65.45	-35.28	41	79.85	-123.39
41	59.69	-0.	41	93.86	-209.09	41	65.43	-35.13	41	79.97	-124.10
42	59.69	-0.	42	93.69	-208.08	42	65.29	-34.26	42	79.85	-123.39
42	59.69	-0.	42	93.69	-208.08	42	65.41	-34.99	42	79.90	-123.70
42	59.69	-0.	42	93.77	-208.59	42	65.12	-33.24	42	79.82	-123.19
42	59.81	-0.74	42	93.82	-208.89	42	65.20	-33.73	43	79.69	-122.38

TABLE 4.5-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.54	57.85	0	36.50	57.90	0	41.85	49.71	0	62.18	-15.26
0	36.53	57.86	0	36.47	57.93	0	41.84	49.73	0	61.85	-13.24
0	36.57	57.81	0	36.50	57.90	0	41.85	49.71	0	61.92	-13.64
1	36.58	57.80	1	36.50	57.90	1	41.85	49.71	1	61.45	-10.76
6	36.63	57.74	6	36.62	57.75	6	41.90	49.62	6	62.39	-16.52
7	36.68	57.66	7	36.62	57.75	7	41.91	49.60	7	62.66	-18.19
7	36.73	57.60	7	36.66	57.70	7	41.91	49.60	7	62.39	-16.50
7	36.75	57.57	7	36.65	57.71	7	41.91	49.59	7	61.85	-13.24
7	36.70	57.64	7	36.65	57.71	7	41.92	49.57	7	62.38	-16.48
8	36.72	57.61	8	36.65	57.71	8	41.94	49.53	8	62.12	-14.89
8	36.71	57.62	8	36.65	57.71	8	41.93	49.55	8	62.17	-15.16
8	36.72	57.61	8	36.72	57.61	8	41.94	49.53	8	62.18	-15.23
9	36.74	57.58	9	36.68	57.66	9	41.94	49.53	9	61.43	-10.62
9	36.81	57.49	9	36.72	57.61	9	42.01	49.41	9	62.01	-14.22
9	36.84	57.46	9	36.77	57.55	9	42.01	49.41	9	61.35	-10.18
10	36.82	57.48	10	36.77	57.55	10	42.00	49.43	10	62.33	-16.17
10	36.80	57.50	10	36.79	57.52	10	42.02	49.39	10	62.17	-15.19
10	36.87	57.41	10	36.83	57.47	10	42.04	49.35	10	62.22	-15.49
10	36.90	57.37	11	36.80	57.50	11	42.05	49.32	11	62.50	-17.18
11	36.88	57.40	11	36.84	57.46	11	42.05	49.33	11	62.50	-17.18
11	36.92	57.35	11	36.89	57.39	11	42.08	49.26	11	62.38	-16.48
11	36.97	57.28	11	36.85	57.44	11	35.22	59.39	11	62.99	-20.21
12	36.97	57.28	12	36.90	57.37	12	42.05	49.32	12	62.34	-16.23
12	36.97	57.28	13	36.88	57.40	12	42.10	49.22	12	61.34	-10.10
12	37.01	57.23	12	36.97	57.28	12	42.13	49.17	12	63.00	-20.24
13	37.03	57.20	13	37.00	57.24	13	42.14	49.15	13	62.00	-14.16
13	37.03	57.20	13	37.03	57.20	13	42.20	49.02	13	62.50	-17.18
13	37.07	57.15	13	37.03	57.20	13	42.17	49.09	13	62.56	-17.53
14	37.11	57.10	14	37.11	57.09	14	42.19	49.04	14	62.84	-19.25
14	37.10	57.11	14	37.03	57.20	14	42.26	48.90	14	63.84	-25.38
14	37.13	57.07	14	37.08	57.14	14	42.24	48.95	14	64.67	-30.49
14	37.13	57.06	14	37.11	57.09	14	42.26	48.91	15	66.66	-42.67
15	37.16	57.02	15	37.14	57.05	15	42.29	48.84	15	67.95	-50.54
15	37.18	57.00	15	37.16	57.03	15	42.36	48.71	15	69.43	-59.63
15	37.22	56.95	15	37.16	57.02	15	42.00	49.42	15	72.09	-75.91
16	37.26	56.89	16	37.24	56.92	16	35.83	58.69	16	73.95	-87.26
16	37.28	56.86	16	37.24	56.91	16	51.25	27.88	16	75.39	-96.11
16	37.33	56.79	16	37.28	56.86	16	44.86	44.21	16	77.54	-109.25
17	37.32	56.81	17	37.28	56.86	17	45.68	42.04	17	79.67	-122.28
17	37.34	56.78	17	37.32	56.81	17	48.59	34.83	17	81.54	-133.70
17	37.41	56.67	17	37.37	56.72	17	51.09	28.39	17	82.81	-141.48
18	37.42	56.66	18	37.36	56.75	18	54.38	19.42	18	84.44	-151.49
18	37.46	56.60	18	37.40	56.68	18	57.64	7.28	18	86.77	-165.74
18	37.47	56.58	18	37.42	56.65	18	60.02	-2.01	18	88.67	-177.36

TABLE 4.5-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
18	37.45	56.61	18	37.59	56.41	18	61.56	-11.47	18	90.75	-190.09
19	37.54	56.48	19	37.79	56.13	19	63.08	-20.73	19	92.93	-203.43
19	37.49	56.55	19	39.33	53.88	19	64.70	-30.64	19	93.62	-207.68
19	37.56	56.45	19	41.04	51.22	19	66.28	-40.31	19	93.62	-207.68
20	37.61	56.39	20	44.88	44.17	20	67.82	-49.78	20	93.69	-208.08
20	37.61	56.39	20	47.45	37.83	20	69.47	-59.86	20	93.69	-208.08
20	37.67	56.30	20	51.27	27.80	20	71.08	-69.68	20	93.66	-207.88
21	37.72	56.22	21	54.33	17.88	21	72.69	-79.53	21	93.62	-207.68
21	37.78	56.14	21	56.96	9.70	21	74.29	-89.35	21	93.62	-207.68
21	37.89	55.98	21	59.41	1.01	21	75.90	-99.19	21	93.53	-207.07
22	38.03	55.78	22	60.92	-7.53	22	77.51	-109.04	22	93.59	-207.48
22	38.47	55.12	22	62.20	-15.34	22	78.94	-117.84	22	93.59	-207.48
22	40.85	51.54	22	63.45	-23.04	22	80.31	-126.22	22	93.62	-207.68
22	42.89	47.68	22	64.76	-31.04	23	81.73	-134.92	23	93.69	-208.08
23	45.09	43.70	23	66.05	-38.91	23	83.16	-143.61	23	93.66	-207.88
23	47.91	36.61	23	67.34	-46.83	23	84.58	-152.30	23	93.66	-207.88
23	51.56	26.93	23	68.66	-54.88	23	86.08	-161.49	23	93.62	-207.68
24	54.39	18.86	24	69.93	-62.67	24	87.58	-170.69	24	93.67	-207.98
24	56.42	11.63	24	71.23	-70.63	24	89.13	-180.19	24	93.67	-207.98
24	58.14	5.52	24	72.54	-78.61	24	90.67	-189.59	24	93.69	-208.08
25	59.69	-0.	25	73.83	-86.56	25	92.20	-198.99	25	93.69	-208.08
25	59.69	-0.	25	75.10	-94.29	25	93.66	-207.88	25	93.89	-209.30
25	59.69	-0.	25	76.38	-102.17	25	93.69	-208.08	25	93.92	-209.50
26	59.69	-0.	26	77.64	-109.85	26	93.69	-208.08	26	93.94	-209.60
26	59.69	-0.	26	78.83	-117.13	26	93.69	-208.08	26	93.95	-209.70
26	59.69	-0.	26	80.03	-124.51	26	93.69	-208.08	26	93.94	-209.60
26	59.69	-0.	27	81.26	-131.98	27	93.69	-208.08	27	93.92	-209.50
27	59.69	-0.	27	82.48	-139.46	27	93.69	-208.08	27	93.92	-209.50
27	59.69	-0.	27	83.70	-146.94	27	93.62	-207.68	27	93.92	-209.50
27	59.69	-0.	27	84.97	-154.72	27	93.66	-207.88	27	93.91	-209.40
28	59.69	-0.	28	86.28	-162.71	28	93.69	-208.08	28	93.95	-209.70
28	59.69	-0.	28	87.55	-170.49	28	93.69	-208.08	28	93.99	-209.90
28	59.69	-0.	28	88.80	-178.17	28	93.69	-208.08	28	93.99	-209.90
29	59.69	-0.	29	90.11	-186.15	29	93.69	-208.08	29	93.95	-209.70
29	59.69	-0.	29	91.33	-193.63	29	93.69	-208.08	29	93.99	-209.90
29	59.69	-0.	29	92.52	-200.91	29	93.82	-208.89	29	93.97	-209.80
30	59.69	-0.	30	93.69	-208.08	30	93.94	-209.60	30	93.97	-209.80
30	59.69	-0.	30	93.69	-208.08	30	93.95	-209.70	30	93.99	-209.90
30	59.69	-0.	30	93.69	-208.08	30	93.97	-209.80	30	93.95	-209.70
30	59.69	-0.	31	93.69	-208.08	31	94.02	-210.10	31	94.07	-210.41
31	59.69	-0.	31	93.62	-207.68	31	93.87	-209.19	31	93.91	-209.40
31	59.69	-0.	31	93.67	-207.98	31	93.89	-209.30	31	93.86	-209.09
31	59.69	-0.	31	93.69	-208.08	31	93.91	-209.40	31	93.95	-209.70
32	59.69	-0.	32	93.69	-208.08	32	93.94	-209.60	32	93.94	-209.60

TABLE 4.5-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	86.97	-166.95	32	93.62	-207.68	32	93.87	-209.19	32	93.91	-209.40
32	88.06	-173.62	32	93.62	-207.68	32	93.86	-209.09	32	93.87	-209.19
33	89.13	-180.19	33	93.62	-207.68	33	93.84	-208.99	33	93.84	-208.99
33	90.12	-186.25	33	93.62	-207.68	33	93.92	-209.50	33	93.95	-209.70
33	91.05	-191.91	33	93.66	-207.88	33	93.89	-209.30	33	93.91	-209.40
34	92.12	-198.48	34	93.69	-208.08	34	93.92	-209.50	34	93.94	-209.60
34	93.08	-204.34	34	93.82	-208.89	34	93.91	-209.40	34	93.92	-209.50
34	93.53	-207.07	34	93.92	-209.50	34	93.94	-209.60	34	93.97	-209.80
35	93.53	-207.07	35	93.92	-209.50	35	93.94	-209.60	35	93.94	-209.60
35	93.62	-207.68	35	93.95	-209.70	35	93.97	-209.80	35	93.99	-209.90
35	93.69	-208.08	35	93.94	-209.60	35	93.99	-209.90	35	94.00	-210.00
35	93.56	-207.27	35	93.95	-209.70	35	93.94	-209.60	35	93.97	-209.80
36	93.59	-207.48	36	93.94	-209.60	36	93.97	-209.80	36	93.95	-209.70
36	93.69	-208.08	36	93.95	-209.70	36	93.95	-209.70	36	94.00	-210.00
36	93.62	-207.68	36	93.99	-209.90	36	94.00	-210.00	36	93.97	-209.80
37	93.56	-207.27	37	93.86	-209.09	37	93.91	-209.40	37	93.94	-209.60
37	93.53	-207.07	37	93.87	-209.19	37	93.92	-209.50	37	94.00	-210.00
37	93.53	-207.07	37	93.86	-209.09	37	93.87	-209.19	37	93.89	-209.30
38	93.56	-207.27	38	93.95	-209.70	38	93.87	-209.19	38	93.91	-209.40
38	93.56	-207.27	38	93.92	-209.50	38	93.95	-209.70	38	93.94	-209.60
38	93.53	-207.07	38	93.84	-208.99	38	93.95	-209.70	38	93.91	-209.40
39	93.59	-207.48	39	93.95	-209.70	39	93.94	-209.60	39	93.95	-209.70
39	93.53	-207.07	39	93.89	-209.30	39	93.91	-209.40	39	93.89	-209.30
39	93.69	-208.08	39	94.00	-210.00	39	94.04	-210.20	39	94.02	-210.10
39	93.67	-207.98	39	94.02	-210.10	39	94.02	-210.10	39	94.00	-210.00
40	93.62	-207.68	40	93.94	-209.60	40	94.02	-210.10	40	93.97	-209.80
40	93.66	-207.88	40	94.00	-210.00	40	94.02	-210.10	40	94.04	-210.20
40	93.69	-208.08	40	94.07	-210.41	40	94.10	-210.61	40	94.07	-210.41
41	93.69	-208.08	41	94.10	-210.61	41	94.07	-210.41	41	94.05	-210.31
41	93.66	-207.88	41	93.99	-209.90	41	94.00	-210.00	41	94.00	-210.00
41	93.69	-208.08	41	94.09	-210.51	41	94.12	-210.71	41	94.14	-210.81
42	93.69	-208.08	42	94.05	-210.31	42	94.07	-210.41	42	94.05	-210.31
42	93.69	-208.08	42	94.00	-210.00	42	94.04	-210.20	42	94.02	-210.10
42	93.69	-208.08	42	94.04	-210.20	42	94.04	-210.20	42	94.05	-210.31
43	93.67	-207.98	43	93.97	-209.80	43	94.02	-210.10	43	94.04	-210.20

TABLE 4.5-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.52	57.87	0	36.50	57.90	0	36.51	57.89	0	36.56	57.82
0	36.51	57.89	0	36.51	57.89	0	36.52	57.87	0	36.53	57.86
0	36.53	57.86	0	36.51	57.88	1	36.54	57.85	1	36.54	57.85
1	36.54	57.85	1	36.51	57.89	1	36.53	57.86	1	36.55	57.83
6	36.65	57.71	6	36.64	57.72	6	36.66	57.70	6	41.53	50.33
7	36.69	57.65	7	36.74	57.59	7	36.93	57.34	7	44.58	44.75
7	36.73	57.60	7	36.74	57.59	7	36.73	57.60	7	44.14	45.47
7	36.68	57.66	7	36.72	57.61	7	37.32	56.81	7	39.51	53.63
7	36.66	57.69	7	36.70	57.64	8	37.21	56.96	8	44.39	45.08
8	36.68	57.66	8	36.72	57.61	8	37.52	56.52	8	44.02	45.65
8	36.68	57.66	8	36.66	57.69	8	37.18	57.00	8	44.35	45.14
8	36.68	57.66	8	36.70	57.63	8	37.63	56.36	8	44.48	44.93
9	36.76	57.56	9	36.78	57.53	9	37.26	56.89	9	44.43	45.02
9	37.20	56.97	9	37.44	56.62	9	37.81	56.10	9	45.77	41.75
9	36.93	57.33	9	36.93	57.33	9	38.40	55.22	9	46.05	40.88
10	36.96	57.30	10	37.02	57.21	10	37.77	56.15	10	46.61	39.37
10	36.96	57.29	10	37.12	57.08	10	40.47	52.15	10	47.81	36.99
10	36.99	57.26	10	37.34	56.77	10	41.64	50.12	10	48.77	34.41
11	37.03	57.20	11	37.42	56.66	11	43.78	45.97	11	51.00	28.70
11	37.01	57.23	11	37.69	56.27	11	44.78	44.39	11	51.90	24.59
11	37.12	57.08	11	38.95	54.42	11	46.51	39.62	11	54.35	18.19
11	37.18	57.00	11	40.60	51.94	11	48.02	36.27	11	56.11	12.71
12	37.23	56.93	12	41.42	50.53	12	50.12	31.28	12	57.89	6.39
12	38.22	55.49	12	44.16	45.45	12	51.97	24.46	12	59.89	-1.21
12	39.16	54.12	12	45.93	41.23	12	55.19	14.70	12	61.52	-11.20
13	40.71	51.76	13	48.49	35.06	13	57.74	6.93	13	62.92	-19.76
13	42.98	47.50	13	51.44	27.29	13	59.90	-1.27	13	64.46	-29.20
13	45.46	42.71	13	54.35	18.15	13	61.50	-11.10	13	66.15	-39.54
14	48.24	35.66	14	57.67	7.18	14	63.20	-21.50	14	68.06	-51.20
14	51.50	27.08	14	60.31	-3.82	14	65.20	-33.74	14	70.21	-64.37
14	54.92	14.99	14	62.25	-15.69	14	67.32	-46.68	14	72.54	-78.63
15	58.98	2.53	15	64.26	-27.97	15	69.54	-60.29	15	74.83	-92.66
15	59.69	-0.	15	66.31	-40.53	15	71.75	-73.78	15	77.18	-107.02
15	63.17	-21.32	15	68.49	-53.88	15	74.08	-88.06	15	79.59	-121.78
15	59.69	-0.	15	70.65	-67.09	15	76.37	-102.07	15	81.90	-135.93
16	59.69	-0.	16	72.85	-80.53	16	78.63	-115.92	16	84.38	-151.08
16	59.69	-0.	16	75.08	-94.16	16	80.86	-129.56	16	87.02	-167.25
16	71.31	-71.12	16	77.28	-107.63	16	83.24	-144.11	16	89.76	-184.03
17	59.69	-0.	17	79.36	-120.36	17	85.70	-159.17	17	92.44	-200.40
17	75.38	-96.00	17	81.49	-133.40	17	87.94	-172.91	17	93.69	-208.08
17	59.69	-0.	17	83.58	-146.23	17	90.47	-188.38	17	93.67	-207.98
18	79.24	-119.66	18	85.70	-159.17	18	92.83	-202.83	18	93.82	-208.89
18	81.02	-130.57	18	87.91	-172.71	18	93.69	-208.08	18	93.91	-209.40
18	59.69	-0.	18	90.09	-186.05	18	93.69	-208.08	18	93.92	-209.50

TABLE 4.5-2 (Cont'd)

THERMOMETER 13

TIME	TEMP	VOLTAGE
19	59.69	-0.
19	87.27	-168.77
19	91.16	-192.62
19	91.54	-194.94
20	93.84	-208.99
20	93.86	-209.09
20	93.86	-209.09
21	93.81	-208.79
21	93.81	-208.79
21	93.69	-208.08
22	93.77	-208.59
22	93.79	-208.69
22	93.77	-208.59
23	93.84	-208.99
23	93.84	-208.99
23	93.82	-208.89
23	93.82	-208.89
24	93.84	-208.99
24	93.86	-209.09
24	94.02	-210.10
25	93.86	-209.09
25	93.86	-209.09
25	93.89	-209.30
26	93.86	-209.09
26	93.89	-209.30
26	93.89	-209.30
27	93.91	-209.40
27	93.89	-209.30
27	93.87	-209.19
27	93.87	-209.19
28	93.92	-209.50
28	93.97	-209.80
28	93.95	-209.70
29	93.99	-209.90
29	93.99	-209.90
29	94.00	-210.00
30	94.02	-210.10
30	93.99	-209.90
30	93.99	-209.90
31	94.02	-210.10
31	93.94	-209.60
31	93.91	-209.40
31	93.94	-209.60
32	93.95	-209.70

THERMOMETER 14

TIME	TEMP	VOLTAGE
19	92.37	-200.00
19	93.62	-207.68
19	93.67	-207.98
19	93.69	-208.08
20	93.97	-209.80
20	93.94	-209.60
20	93.94	-209.60
21	93.91	-209.40
21	93.94	-209.60
21	93.79	-208.69
22	93.94	-209.60
22	93.95	-209.70
22	93.87	-209.19
23	93.92	-209.50
23	93.92	-209.50
23	93.89	-209.30
23	93.91	-209.40
24	93.92	-209.50
24	93.94	-209.60
24	93.97	-209.80
25	93.95	-209.70
25	93.94	-209.60
25	93.97	-209.80
26	93.94	-209.60
26	93.95	-209.70
26	93.95	-209.70
27	93.94	-209.60
27	93.95	-209.70
27	93.95	-209.70
27	93.95	-209.70
28	94.05	-210.31
28	94.04	-210.20
28	93.99	-209.90
29	93.99	-209.90
29	94.00	-210.00
29	94.00	-210.00
30	94.02	-210.10
30	94.00	-210.00
30	93.97	-209.80
31	94.00	-210.00
31	93.91	-209.40
31	93.92	-209.50
31	93.94	-209.60
32	93.95	-209.70

THERMOMETER 15

TIME	TEMP	VOLTAGE
19	93.69	-208.08
19	93.89	-209.30
19	93.91	-209.40
19	93.91	-209.40
20	93.97	-209.80
20	93.95	-209.70
20	93.92	-209.50
21	93.92	-209.50
21	93.99	-209.90
21	93.81	-208.79
22	93.92	-209.50
22	93.99	-209.90
22	93.89	-209.30
23	93.95	-209.70
23	93.92	-209.50
23	93.92	-209.50
23	93.94	-209.60
24	93.94	-209.60
24	93.95	-209.70
24	93.97	-209.80
25	93.97	-209.80
25	93.95	-209.70
25	93.97	-209.80
26	93.95	-209.70
26	93.95	-209.70
26	93.97	-209.80
27	93.95	-209.70
27	93.97	-209.80
27	93.94	-209.60
27	93.97	-209.80
28	94.07	-210.41
28	94.02	-210.10
28	93.99	-209.90
29	94.00	-210.00
29	94.00	-210.00
29	94.02	-210.10
30	94.00	-210.00
30	93.99	-209.90
30	93.97	-209.80
31	93.92	-209.50
31	93.92	-209.50
31	93.92	-209.50
31	93.94	-209.60
32	93.95	-209.70

THERMOMETER 16

TIME	TEMP	VOLTAGE
19	93.84	-208.99
19	93.92	-209.50
19	93.92	-209.50
19	93.89	-209.30
20	93.95	-209.70
20	93.97	-209.80
20	93.95	-209.70
21	93.87	-209.19
21	93.97	-209.80
21	93.82	-208.89
22	93.91	-209.40
22	93.95	-209.70
22	93.87	-209.19
23	93.95	-209.70
23	93.94	-209.60
23	93.91	-209.40
23	93.92	-209.50
24	93.92	-209.50
24	93.99	-209.90
24	93.99	-209.90
25	93.95	-209.70
25	93.95	-209.70
25	94.00	-210.00
26	93.97	-209.80
26	93.97	-209.80
26	93.95	-209.70
27	93.97	-209.80
27	93.94	-209.60
27	93.94	-209.60
27	93.97	-209.80
28	94.00	-210.00
28	94.02	-210.10
28	94.00	-210.00
29	94.00	-210.00
29	94.02	-210.10
29	94.00	-210.00
30	94.02	-210.10
30	93.99	-209.90
30	94.00	-210.00
31	93.95	-209.70
31	93.92	-209.50
31	93.91	-209.40
31	93.94	-209.60
32	93.97	-209.80

TABLE 4.5-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	93.86	-209.09	32	93.89	-209.30	32	93.86	-209.09	32	93.86	-209.09
32	93.89	-209.30	32	93.86	-209.09	32	93.87	-209.19	32	93.89	-209.30
33	93.84	-208.99	33	93.82	-208.89	33	93.87	-209.19	33	93.92	-209.50
33	93.99	-209.90	33	93.97	-209.80	33	93.95	-209.70	33	93.94	-209.60
33	93.94	-209.60	33	93.92	-209.50	33	93.91	-209.40	33	93.89	-209.30
34	93.95	-209.70	34	93.94	-209.60	34	93.97	-209.80	34	93.92	-209.50
34	93.92	-209.50	34	93.91	-209.40	34	93.94	-209.60	34	93.92	-209.50
34	93.94	-209.60	34	93.89	-209.30	34	93.94	-209.60	34	93.92	-209.50
35	93.95	-209.70	35	93.92	-209.50	35	93.94	-209.60	35	93.92	-209.50
35	93.99	-209.90	35	93.99	-209.90	35	94.00	-210.00	35	93.99	-209.90
35	93.99	-209.90	35	93.99	-209.90	35	94.02	-210.10	35	93.95	-209.70
35	93.95	-209.70	35	93.95	-209.70	35	93.97	-209.80	35	93.95	-209.70
36	93.94	-209.60	36	93.95	-209.70	36	94.00	-210.00	36	93.91	-209.40
36	93.97	-209.80	36	93.99	-209.90	36	93.99	-209.90	36	93.99	-209.90
36	93.99	-209.90	36	94.00	-210.00	36	94.05	-210.31	36	94.07	-210.41
37	93.92	-209.50	37	93.91	-209.40	37	93.91	-209.40	37	93.94	-209.60
37	93.91	-209.40	37	93.92	-209.50	37	93.91	-209.40	37	93.87	-209.19
37	93.91	-209.40	37	93.89	-209.30	37	93.91	-209.40	37	93.91	-209.40
38	93.95	-209.70	38	93.94	-209.60	38	93.92	-209.50	38	93.94	-209.60
38	93.95	-209.70	38	93.97	-209.80	38	93.95	-209.70	38	93.99	-209.90
38	93.95	-209.70	38	93.94	-209.60	38	93.91	-209.40	38	93.86	-209.09
39	93.95	-209.70	39	93.94	-209.60	39	93.97	-209.80	39	93.81	-208.79
39	93.89	-209.30	39	93.94	-209.60	39	93.92	-209.50	39	93.94	-209.60
39	94.02	-210.10	39	94.02	-210.10	39	94.02	-210.10	39	94.05	-210.31
39	94.00	-210.00	39	94.00	-210.00	39	94.02	-210.10	40	94.00	-210.00
40	93.99	-209.90	40	93.99	-209.90	40	93.95	-209.70	40	93.95	-209.70
40	94.02	-210.10	40	93.95	-209.70	40	93.95	-209.70	40	93.99	-209.90
40	94.05	-210.31	40	94.09	-210.51	40	94.10	-210.61	40	94.14	-210.81
41	94.02	-210.10	41	94.04	-210.20	41	94.02	-210.10	41	94.02	-210.10
41	94.02	-210.10	41	94.04	-210.20	41	94.02	-210.10	41	94.09	-210.51
41	94.12	-210.71	41	94.10	-210.61	41	94.07	-210.41	41	94.12	-210.71
42	94.07	-210.41	42	94.05	-210.31	42	94.04	-210.20	42	94.04	-210.20
42	94.02	-210.10	42	94.04	-210.20	42	94.04	-210.20	42	94.02	-210.10
42	94.02	-210.10	42	94.00	-210.00	42	94.05	-210.31	42	94.02	-210.10
43	94.05	-210.31	43	94.00	-210.00	43	94.00	-210.00	43	94.05	-210.31

TABLE 4.5-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.56	56.45	0	38.59	54.94	0	41.57	50.25	0	77.77	-110.66
0	37.64	56.34	0	38.68	54.80	0	41.70	50.00	0	78.30	-113.89
1	37.68	56.28	1	38.86	54.54	1	42.10	49.23	1	79.84	-123.29
1	37.69	56.27	1	38.93	54.44	1	42.20	49.03	1	80.18	-125.42
6	45.16	43.54	6	47.81	36.99	6	60.88	-7.28	6	93.62	-207.68
7	47.92	36.58	7	50.82	29.27	7	70.42	-65.68	7	93.62	-207.68
7	48.20	35.78	7	50.97	28.80	7	68.61	-54.57	7	93.61	-207.58
7	49.67	32.37	7	52.39	23.79	7	71.74	-73.72	7	93.56	-207.27
8	49.11	33.65	8	51.79	24.80	8	69.08	-57.44	8	93.53	-207.07
8	49.15	33.56	8	52.75	23.25	8	68.77	-55.58	8	93.56	-207.27
8	49.87	31.89	8	54.35	19.76	8	70.11	-63.80	8	93.62	-207.68
8	50.45	30.39	8	54.27	17.03	8	70.46	-65.90	8	93.62	-207.68
9	50.66	29.76	9	55.28	14.62	9	70.48	-66.02	9	93.67	-207.98
9	51.86	24.67	9	57.94	6.21	9	73.68	-85.63	9	93.69	-208.08
9	53.51	22.08	9	59.11	2.05	9	74.39	-89.98	9	93.69	-208.08
10	54.37	19.61	10	60.11	-2.60	10	75.05	-94.00	10	93.69	-208.08
10	55.04	14.86	10	61.31	-9.94	10	76.78	-104.60	10	93.66	-207.88
10	56.87	10.02	10	62.08	-14.63	10	77.39	-108.34	10	93.69	-208.08
11	59.16	1.87	11	63.81	-25.20	11	80.66	-128.35	11	93.69	-208.08
11	59.69	-0.	11	64.55	-29.76	11	80.61	-128.04	11	93.69	-208.08
11	59.69	-0.	11	66.23	-40.01	11	83.09	-143.20	11	93.62	-207.68
11	59.69	-0.	11	67.47	-47.61	12	84.58	-152.30	12	93.53	-207.07
13	59.69	-0.	12	69.07	-57.41	12	86.42	-163.62	12	93.56	-207.27
12	59.69	-0.	12	70.72	-67.48	12	89.38	-181.71	12	93.59	-207.48
12	59.69	-0.	12	72.74	-79.84	12	92.29	-199.49	12	93.69	-208.08
13	59.69	-0.	13	74.52	-90.74	13	93.53	-207.07	13	93.84	-208.99
13	59.69	-0.	13	76.60	-103.49	13	93.62	-207.68	13	93.94	-209.60
13	59.69	-0.	13	78.61	-115.81	13	93.69	-208.08	13	93.94	-209.60
14	74.58	-91.13	14	80.51	-127.44	14	93.67	-207.98	14	93.91	-209.40
14	76.96	-105.71	14	83.25	-144.21	14	93.53	-207.07	14	93.86	-209.09
14	79.46	-120.97	14	87.78	-171.90	14	93.66	-207.88	14	93.91	-209.40
15	81.93	-136.13	15	89.22	-180.70	15	93.69	-208.08	15	93.94	-209.60
15	84.36	-150.98	15	92.73	-202.22	15	93.79	-208.69	15	93.92	-209.50
15	87.38	-169.48	15	93.69	-208.08	15	94.04	-210.20	15	94.05	-210.31
15	90.35	-187.67	15	93.69	-208.08	15	93.91	-209.40	16	93.94	-209.60
16	93.33	-205.86	16	93.84	-208.99	16	93.92	-209.50	16	93.97	-209.80
16	93.56	-207.27	16	93.91	-209.40	16	93.94	-209.60	16	93.94	-209.60
16	93.59	-207.48	16	93.91	-209.40	16	93.95	-209.70	16	93.95	-209.70
17	93.69	-208.08	17	93.94	-209.60	17	93.95	-209.70	17	93.97	-209.80
17	93.76	-208.49	17	93.95	-209.70	17	93.95	-209.70	17	93.97	-209.80
17	93.69	-208.08	17	93.94	-209.60	17	93.95	-209.70	17	93.97	-209.80
18	93.86	-209.09	18	94.00	-210.00	18	93.97	-209.80	18	93.95	-209.70
18	93.79	-208.69	18	93.91	-209.40	18	93.94	-209.60	18	93.95	-209.70
18	93.95	-209.70	18	93.97	-209.80	18	93.97	-209.80	18	94.00	-210.00

TABLE 4.5-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
19	93.91	-209.40	19	93.91	-209.40	19	93.91	-209.40	19	93.92	-209.50
19	93.91	-209.40	19	93.94	-209.60	19	93.92	-209.50	19	93.94	-209.60
19	93.91	-209.40	19	93.91	-209.40	19	93.94	-209.60	19	93.94	-209.60
19	93.94	-209.60	19	93.94	-209.60	19	93.95	-209.70	20	93.94	-209.60
20	93.99	-209.90	20	93.97	-209.80	20	93.95	-209.70	20	94.00	-210.00
20	93.97	-209.80	20	94.02	-210.10	20	94.04	-210.20	20	94.00	-210.00
20	93.97	-209.80	20	93.94	-209.60	20	93.95	-209.70	20	93.97	-209.80
21	93.92	-209.50	21	93.92	-209.50	21	93.94	-209.60	21	93.94	-209.60
21	93.91	-209.40	21	93.92	-209.50	21	93.91	-209.40	21	93.91	-209.40
21	93.82	-208.89	21	93.81	-208.79	21	93.84	-208.99	21	93.79	-208.69
22	93.89	-209.30	22	93.91	-209.40	22	93.87	-209.19	22	93.91	-209.40
22	93.91	-209.40	22	93.91	-209.40	22	93.89	-209.30	22	93.91	-209.40
22	93.87	-209.19	22	93.89	-209.30	22	93.87	-209.19	22	93.87	-209.19
23	93.95	-209.70	23	93.95	-209.70	23	93.94	-209.60	23	93.92	-209.50
23	93.92	-209.50	23	93.81	-208.79	23	93.84	-208.99	23	93.89	-209.30
23	93.92	-209.50	23	93.92	-209.50	23	93.92	-209.50	23	93.92	-209.50
23	93.97	-209.80	23	94.00	-210.00	24	93.95	-209.70	24	93.95	-209.70
24	93.92	-209.50	24	93.92	-209.50	24	93.94	-209.60	24	93.95	-209.70
24	93.97	-209.80	24	93.99	-209.90	24	93.97	-209.80	24	93.99	-209.90
24	93.97	-209.80	24	93.97	-209.80	24	94.00	-210.00	24	93.99	-209.90
25	93.95	-209.70	25	93.97	-209.80	25	93.95	-209.70	25	93.99	-209.90
25	93.95	-209.70	25	93.97	-209.80	25	93.94	-209.60	25	93.92	-209.50
25	93.97	-209.80	25	93.97	-209.80	25	93.95	-209.70	25	93.97	-209.80
26	93.97	-209.80	26	93.97	-209.80	26	93.95	-209.70	26	93.99	-209.90
26	93.94	-209.60	26	93.95	-209.70	26	93.95	-209.70	26	93.94	-209.60
26	93.94	-209.60	26	93.94	-209.60	26	93.95	-209.70	26	93.97	-209.80
27	94.04	-210.20	27	94.05	-210.31	27	93.99	-209.90	27	93.97	-209.80
27	93.95	-209.70	27	93.97	-209.80	27	93.97	-209.80	27	93.99	-209.90
27	93.92	-209.50	27	93.97	-209.80	27	93.95	-209.70	27	94.02	-210.10
27	93.97	-209.80	28	93.95	-209.70	28	93.95	-209.70	28	93.97	-209.80
28	93.99	-209.90	28	93.99	-209.90	28	93.97	-209.80	28	94.00	-210.00
28	94.00	-210.00	28	94.02	-210.10	28	94.00	-210.00	28	94.04	-210.20
28	93.99	-209.90	28	94.00	-210.00	28	94.00	-210.00	28	94.00	-210.00
29	93.99	-209.90	29	94.00	-210.00	29	93.99	-209.90	29	94.00	-210.00
29	94.04	-210.20	29	94.00	-210.00	29	94.02	-210.10	29	94.00	-210.00
29	93.99	-209.90	29	94.00	-210.00	29	94.00	-210.00	29	94.00	-210.00
30	94.02	-210.10	30	94.05	-210.31	30	94.10	-210.61	30	94.07	-210.41
30	94.02	-210.10	30	94.00	-210.00	30	94.00	-210.00	30	93.99	-209.90
30	93.99	-209.90	30	93.99	-209.90	30	94.00	-210.00	30	94.00	-210.00
31	93.97	-209.80	31	93.92	-209.50	31	93.95	-209.70	31	93.95	-209.70
31	93.92	-209.50	31	93.92	-209.50	31	93.91	-209.40	31	93.91	-209.40
31	93.89	-209.30	31	93.91	-209.40	31	93.91	-209.40	31	93.92	-209.50
32	93.92	-209.50	32	93.94	-209.60	32	93.89	-209.30	32	93.95	-209.70
32	93.95	-209.70	32	93.97	-209.80	32	93.95	-209.70	32	93.99	-209.90

TABLE 4.5-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	93.86	-209.09	32	93.87	-209.19	32	93.89	-209.30	32	93.87	-209.19
32	93.89	-209.30	32	93.91	-209.40	32	93.89	-209.30	32	93.89	-209.30
33	93.95	-209.70	33	93.91	-209.40	33	93.87	-209.19	33	93.87	-209.19
33	93.92	-209.50	33	93.92	-209.50	33	93.94	-209.60	33	93.91	-209.40
33	93.94	-209.60	33	93.91	-209.40	33	93.94	-209.60	33	93.91	-209.40
34	93.94	-209.60	34	93.94	-209.60	34	93.91	-209.40	34	93.94	-209.60
34	93.94	-209.60	34	93.94	-209.60	34	93.91	-209.40	34	93.92	-209.50
34	93.89	-209.30	34	93.94	-209.60	34	93.95	-209.70	34	94.02	-210.10
35	93.92	-209.50	35	93.95	-209.70	35	93.95	-209.70	35	93.87	-209.19
35	93.97	-209.80	35	94.00	-210.00	35	93.99	-209.90	35	94.04	-210.20
35	93.99	-209.90	35	93.94	-209.60	35	94.00	-210.00	35	93.99	-209.90
36	93.95	-209.70	36	93.97	-209.80	36	93.94	-209.60	36	94.00	-210.00
36	93.95	-209.70	36	93.97	-209.80	36	93.97	-209.80	36	93.95	-209.70
36	93.99	-209.90	36	93.99	-209.90	36	93.99	-209.90	36	94.00	-210.00
36	94.07	-210.41	36	94.05	-210.31	36	94.00	-210.00	36	93.99	-209.90
37	93.89	-209.30	37	93.94	-209.60	37	93.87	-209.19	37	93.95	-209.70
37	93.95	-209.70	37	93.87	-209.19	37	93.87	-209.19	37	93.94	-209.60
37	93.92	-209.50	37	93.91	-209.40	37	93.92	-209.50	37	93.91	-209.40
38	93.95	-209.70	38	93.94	-209.60	38	93.91	-209.40	38	93.99	-209.90
38	93.97	-209.80	38	93.97	-209.80	38	93.94	-209.60	38	93.99	-209.90
38	93.91	-209.40	38	93.94	-209.60	38	93.92	-209.50	38	93.91	-209.40
39	93.92	-209.50	39	93.94	-209.60	39	93.91	-209.40	39	93.92	-209.50
39	93.97	-209.80	39	93.89	-209.30	39	93.91	-209.40	39	93.95	-209.70
39	94.02	-210.10	39	94.04	-210.20	39	94.05	-210.31	39	94.02	-210.10
40	94.00	-210.00	40	94.02	-210.10	40	94.00	-210.00	40	94.05	-210.31
40	93.97	-209.80	40	93.95	-209.70	40	94.02	-210.10	40	94.09	-210.51
40	94.02	-210.10	40	94.04	-210.20	40	93.99	-209.90	40	94.02	-210.10
40	94.14	-210.81	40	94.12	-210.71	40	94.09	-210.51	40	94.10	-210.61
41	94.04	-210.20	41	94.05	-210.31	41	94.04	-210.20	41	94.04	-210.20
41	94.12	-210.71	41	94.09	-210.51	41	94.07	-210.41	41	94.12	-210.71
41	94.10	-210.61	41	94.07	-210.41	41	94.10	-210.61	41	94.14	-210.81
42	94.04	-210.20	42	94.05	-210.31	42	94.04	-210.20	42	94.05	-210.31
42	94.04	-210.20	42	94.05	-210.31	42	94.02	-210.10	42	94.04	-210.20
42	94.04	-210.20	42	94.02	-210.10	42	94.02	-210.10	42	94.05	-210.31
43	94.02	-210.10	43	94.05	-210.31	43	94.07	-210.41	43	94.04	-210.20

TABLE 4.5-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.56	57.82	0	36.55	57.83	0	36.65	57.71	0	36.69	57.65
0	36.56	57.82	0	36.56	57.82	0	36.64	57.72	0	36.69	57.65
1	36.59	57.79	1	36.59	57.79	1	36.65	57.71	1	36.68	57.66
1	36.59	57.78	1	36.58	57.80	1	36.69	57.65	1	36.74	57.59
6	36.68	57.66	6	36.69	57.65	6	36.76	57.56	6	36.80	57.51
7	36.71	57.62	7	36.73	57.60	7	36.78	57.53	7	36.83	57.47
7	36.68	57.66	7	36.71	57.62	7	36.81	57.49	7	36.80	57.50
7	36.72	57.61	7	36.73	57.60	7	36.80	57.50	7	36.82	57.48
8	36.73	57.60	8	36.72	57.61	8	36.79	57.52	8	36.85	57.44
8	36.73	57.60	8	36.72	57.61	8	36.81	57.49	8	36.84	57.45
8	36.73	57.60	8	36.74	57.59	8	36.81	57.49	8	36.84	57.46
8	36.80	57.50	8	36.76	57.56	8	36.85	57.44	9	36.88	57.40
9	36.77	57.55	9	36.83	57.47	9	36.87	57.41	9	36.96	57.29
9	36.78	57.53	9	36.80	57.50	9	36.90	57.37	9	36.97	57.28
9	36.80	57.50	9	36.84	57.46	9	36.92	57.35	9	36.97	57.28
10	36.84	57.46	10	36.85	57.44	10	36.91	57.36	10	37.00	57.24
10	36.86	57.43	10	36.89	57.39	10	36.96	57.30	10	37.04	57.19
10	36.88	57.40	10	36.91	57.36	10	36.97	57.28	10	37.03	57.20
11	36.92	57.35	11	36.91	57.36	11	36.99	57.26	11	37.02	57.21
11	36.95	57.31	11	36.92	57.35	11	37.00	57.24	11	37.07	57.15
11	43.15	47.18	11	36.97	57.28	11	37.03	57.20	11	37.03	57.20
12	36.98	57.27	12	36.99	57.26	12	37.07	57.15	12	37.19	56.99
12	36.99	57.26	12	37.01	57.23	12	37.08	57.14	12	37.13	57.07
12	37.05	57.18	12	37.03	57.20	12	37.12	57.08	12	37.11	57.10
12	37.04	57.19	12	37.02	57.22	12	37.13	57.07	12	58.09	5.68
13	37.06	57.16	13	37.07	57.15	13	37.15	57.04	13	37.18	57.00
13	37.08	57.13	13	37.08	57.13	13	37.14	57.05	13	37.19	56.99
13	37.08	57.13	13	37.10	57.11	13	37.19	56.99	13	37.25	56.90
14	37.13	57.07	14	37.11	57.09	14	37.18	57.00	14	37.27	56.87
14	37.13	57.06	14	37.13	57.06	14	37.21	56.96	14	37.27	56.88
14	37.14	57.05	14	37.17	57.01	14	37.28	56.86	14	37.29	56.84
15	37.18	57.00	15	37.17	57.01	15	37.29	56.85	15	37.32	56.81
15	37.22	56.95	15	37.22	56.95	15	37.25	56.90	15	37.34	56.78
15	59.69	-0.	15	37.23	56.93	15	37.28	56.86	15	37.31	56.82
16	59.69	-0.	16	37.26	56.89	16	37.32	56.81	16	37.32	56.80
16	59.69	-0.	16	37.29	56.85	16	37.32	56.80	16	37.37	56.72
16	59.69	-0.	16	37.32	56.80	16	37.41	56.67	16	37.47	56.59
16	59.69	-0.	16	37.32	56.81	16	37.40	56.68	16	37.43	56.64
17	59.69	-0.	17	37.36	56.75	17	37.43	56.64	17	37.47	56.58
17	59.69	-0.	17	37.35	56.76	17	37.42	56.65	17	37.50	56.54
17	59.69	-0.	17	37.39	56.69	17	37.47	56.58	17	37.45	56.61
18	59.69	-0.	18	37.42	56.65	18	37.52	56.52	18	37.56	56.46
18	59.69	-0.	18	37.42	56.65	18	37.5[illegible]	56.53	18	37.56	56.45
18	59.69	-0.	18	37.47	56.59	18	37.54	56.48	18	37.53	56.50

TABLE 4.5-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
19	59.69	-0.	19	37.47	56.58	19	37.54	56.48	19	37.60	56.40
19	59.69	-0.	19	37.50	56.54	19	37.56	56.45	19	37.60	56.40
19	59.69	-0.	19	37.54	56.49	19	37.61	56.39	19	37.62	56.37
20	59.69	-0.	20	37.54	56.49	20	37.64	56.34	20	37.69	56.27
20	59.69	-0.	20	37.59	56.42	20	37.66	56.32	20	37.67	56.30
20	59.69	-0.	20	37.65	56.33	20	37.73	56.21	20	37.75	56.19
20	59.69	-0.	20	37.68	56.29	20	37.75	56.18	20	37.80	56.11
21	59.69	-0.	21	37.70	56.25	21	37.78	56.14	21	37.82	56.08
21	59.69	-0.	21	37.68	56.28	21	37.77	56.16	21	37.84	56.06
21	59.69	-0.	21	37.72	56.23	21	37.81	56.09	21	37.84	56.06
22	59.69	-0.	22	37.78	56.14	22	37.84	56.06	22	37.86	56.02
22	59.69	-0.	22	37.81	56.10	22	37.89	55.98	22	37.97	55.87
22	59.69	-0.	22	37.80	56.11	22	37.86	56.03	22	37.91	55.95
23	59.69	-0.	23	37.84	56.05	23	37.88	55.99	23	37.94	55.90
23	59.69	-0.	23	37.88	55.99	23	37.97	55.86	23	38.03	55.76
23	59.69	-0.	23	37.88	55.99	23	37.95	55.89	23	38.02	55.79
24	59.69	-0.	24	37.92	55.94	24	37.99	55.83	24	38.05	55.73
24	59.69	-0.	24	37.94	55.91	24	38.00	55.82	24	38.02	55.79
24	59.69	-0.	24	37.99	55.84	24	38.04	55.75	24	38.12	55.64
24	59.69	-0.	24	38.02	55.79	24	38.10	55.67	24	38.12	55.64
25	59.69	-0.	25	38.05	55.73	25	38.12	55.63	25	38.20	55.52
25	59.69	-0.	25	38.10	55.67	25	38.14	55.60	25	38.16	55.58
25	59.69	-0.	25	38.12	55.64	25	38.16	55.58	25	38.20	55.51
26	59.69	-0.	26	38.15	55.59	26	38.20	55.51	26	38.15	55.59
26	59.69	-0.	26	38.19	55.53	26	38.25	55.44	26	38.29	55.38
26	59.69	-0.	26	38.24	55.46	26	38.29	55.38	26	38.37	55.27
27	59.69	-0.	27	38.27	55.41	27	38.33	55.32	27	38.41	55.21
27	59.69	-0.	27	38.31	55.36	27	38.37	55.27	27	38.44	55.17
27	59.69	-0.	27	38.32	55.34	27	38.41	55.21	27	38.49	55.09
28	59.69	-0.	28	38.35	55.30	28	38.44	55.16	28	38.48	55.11
28	59.69	-0.	28	38.39	55.24	28	38.50	55.07	28	38.50	55.07
28	59.69	-0.	28	38.44	55.16	28	38.51	55.06	28	38.59	54.95
28	59.69	-0.	28	38.50	55.07	28	38.55	55.00	28	38.59	54.95
29	59.69	-0.	29	38.52	55.04	29	38.60	54.93	29	38.65	54.86
29	59.69	-0.	29	38.64	54.87	29	38.65	54.86	29	38.69	54.79
29	59.69	-0.	29	38.61	54.91	29	38.72	54.74	29	38.69	54.79
30	59.69	-0.	30	38.70	54.78	30	38.74	54.72	30	38.79	54.65
30	59.69	-0.	30	38.72	54.75	30	38.79	54.64	30	38.85	54.56
30	59.69	-0.	30	38.81	54.62	30	38.82	54.60	30	38.88	54.52
31	59.69	-0.	31	38.87	54.53	31	38.92	54.46	31	38.91	54.47
31	59.69	-0.	31	38.90	54.49	31	39.01	54.33	31	39.07	54.24
31	59.69	-0.	31	38.97	54.39	31	39.02	54.31	31	39.05	54.28
32	59.69	-0.	32	38.98	54.37	32	39.09	54.22	32	39.12	54.17
32	59.69	-0.	32	39.05	54.27	32	39.18	54.09	32	39.19	54.08

TABLE 4.5-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	59.69	-0.	32	39.19	54.08	32	39.28	53.96	32	39.27	53.97
32	59.69	-0.	32	39.34	53.86	32	39.38	53.81	32	39.33	53.88
33	59.69	-0.	33	40.21	52.55	33	40.75	51.70	33	40.14	52.65
33	59.69	-0.	33	40.94	51.38	33	41.05	51.19	33	41.04	51.22
33	59.69	-0.	33	43.66	46.28	33	43.78	45.97	33	43.57	46.43
34	59.69	-0.	34	45.88	41.38	34	46.69	39.20	34	46.10	40.71
34	59.69	-0.	34	49.04	33.79	34	49.44	32.91	34	48.44	35.17
34	59.69	-0.	34	51.33	27.61	34	51.57	26.89	34	50.81	29.31
35	59.69	-0.	35	53.60	21.93	35	53.99	21.12	35	52.61	23.46
35	59.69	-0.	35	54.29	16.52	35	54.44	15.83	35	54.35	18.10
35	59.69	-0.	35	56.51	11.31	35	56.70	10.63	35	56.06	12.90
36	59.69	-0.	36	57.94	6.22	36	58.12	5.58	36	57.49	7.81
36	59.69	-0.	36	59.35	1.20	36	59.53	0.57	36	58.91	2.78
36	60.46	-4.71	36	60.27	-3.54	36	60.37	-4.18	36	60.00	-1.90
36	61.23	-9.41	36	61.04	-8.25	36	61.13	-8.81	36	60.78	-6.67
37	61.97	-13.95	37	61.77	-12.70	37	61.87	-13.33	37	61.51	-11.16
37	62.69	-18.36	37	62.50	-17.19	37	62.59	-17.76	37	62.24	-15.60
37	63.38	-22.59	37	63.18	-21.38	37	63.27	-21.90	37	62.92	-19.74
38	63.97	-26.21	38	63.77	-24.96	38	63.85	-25.48	38	63.49	-23.28
38	64.58	-29.91	38	64.36	-28.59	38	64.46	-29.17	38	64.10	-26.96
38	65.14	-33.35	38	64.88	-31.74	38	64.93	-32.05	38	64.55	-29.76
39	65.43	-35.16	39	65.20	-33.70	39	65.29	-34.26	39	64.92	-32.03
39	64.88	-31.78	39	64.62	-30.15	39	64.66	-30.40	39	64.25	-27.89
39	64.26	-27.99	39	64.02	-26.48	39	64.15	-27.28	39	63.80	-25.13
40	64.03	-26.57	40	63.73	-24.72	40	63.85	-25.45	40	63.53	-23.48
40	63.71	-24.63	40	63.42	-22.80	40	63.50	-23.34	40	63.14	-21.12
40	63.26	-21.83	40	63.08	-20.73	40	63.19	-21.44	40	62.74	-18.70
40	62.71	-18.48	40	62.38	-16.43	40	62.40	-16.61	41	61.76	-12.67
41	61.41	-10.50	41	61.07	-8.47	41	61.05	-8.31	41	60.62	-5.70
41	61.42	-10.61	41	61.14	-8.90	41	61.23	-9.44	41	60.74	-6.45
41	61.47	-10.91	41	61.24	-9.48	41	61.34	-10.10	41	60.91	-7.44
42	61.28	-9.70	42	61.08	-8.52	42	61.23	-9.40	42	60.68	-6.06
42	61.29	-9.76	42	61.11	-8.71	42	61.30	-9.84	42	60.60	-5.56
42	61.16	-8.97	42	60.60	-5.58	42	60.68	-6.06	42	60.40	-4.35
43	60.68	-6.06	43	60.59	-5.48	43	60.70	-6.17	43	60.52	-5.06

TABLE 4.5-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.47	56.59	0	36.55	57.84	0	36.51	57.88	0	36.51	57.89
0	37.47	56.59	0	36.54	57.85	0	36.53	57.86	0	36.48	57.92
1	37.49	56.55	1	36.58	57.80	1	36.52	57.87	1	36.51	57.88
1	37.53	56.50	1	36.57	57.81	1	36.54	57.85	1	36.53	57.86
6	37.54	56.48	6	36.69	57.65	6	36.62	57.75	6	36.64	57.72
7	37.63	56.36	7	36.68	57.66	7	36.65	57.71	7	36.64	57.72
7	37.54	56.49	7	36.65	57.71	7	36.65	57.71	7	36.69	57.65
7	37.59	56.42	7	36.70	57.63	7	36.64	57.72	7	36.65	57.71
8	37.67	56.30	8	36.70	57.64	8	36.66	57.69	8	36.68	57.66
8	37.67	56.30	8	36.70	57.64	8	36.69	57.65	8	36.68	57.66
8	37.59	56.41	8	36.70	57.64	8	36.69	57.65	8	36.70	57.64
9	37.61	56.39	9	36.75	57.57	9	36.70	57.64	9	36.72	57.61
9	37.75	56.18	9	36.72	57.61	9	36.73	57.60	9	36.72	57.61
9	37.70	56.25	9	36.81	57.49	9	36.74	57.59	9	36.76	57.56
9	37.69	56.27	9	36.80	57.50	9	36.78	57.53	9	36.78	57.53
10	37.77	56.16	10	36.80	57.51	10	36.78	57.53	10	36.81	57.49
10	37.78	56.14	10	36.83	57.47	10	36.80	57.50	10	36.85	57.44
10	37.82	56.08	10	36.88	57.40	10	36.84	57.46	10	36.85	57.44
11	37.82	56.08	11	36.88	57.40	11	36.85	57.44	11	36.87	57.41
11	37.81	56.10	11	36.80	57.50	11	36.85	57.44	11	36.90	57.38
11	37.75	56.19	11	36.91	57.36	11	36.89	57.39	11	36.92	57.35
12	37.90	55.96	12	36.93	57.33	12	36.90	57.37	12	36.93	57.34
12	37.80	56.11	12	36.94	57.32	12	36.93	57.34	12	36.93	57.33
12	37.81	56.10	12	36.96	57.30	12	36.96	57.29	12	36.97	57.28
12	37.82	56.08	12	36.99	57.25	12	36.96	57.30	13	36.97	57.28
13	37.81	56.09	13	37.04	57.19	13	37.03	57.20	13	37.04	57.19
13	37.82	56.08	13	37.04	57.19	13	37.01	57.23	13	37.01	57.23
13	37.81	56.09	13	37.04	57.19	13	37.04	57.19	13	37.03	57.20
14	37.75	56.19	14	37.06	57.16	14	37.03	57.20	14	37.05	57.17
14	37.81	56.09	14	37.11	57.09	14	37.11	57.09	14	37.10	57.11
14	37.75	56.19	14	37.13	57.06	14	37.13	57.07	14	37.12	57.08
15	37.82	56.08	15	37.17	57.01	15	37.11	57.10	15	37.14	57.05
15	37.85	56.04	15	37.17	57.01	15	37.15	57.04	15	37.17	57.01
15	37.85	56.04	15	37.23	56.93	15	37.19	56.99	15	37.19	56.99
16	37.88	56.00	16	37.22	56.94	16	37.19	56.98	16	37.18	57.00
16	37.96	55.88	16	37.26	56.89	16	37.21	56.96	16	37.23	56.93
16	38.02	55.79	16	37.27	56.88	16	37.22	56.94	16	37.24	56.92
16	37.95	55.89	16	37.28	56.86	16	37.27	56.87	17	37.28	56.86
17	38.02	55.79	17	37.32	56.81	17	37.29	56.85	17	37.27	56.88
17	38.07	55.70	17	37.34	56.77	17	37.29	56.84	17	37.30	56.83
17	38.15	55.59	17	37.36	56.75	17	37.31	56.82	17	37.34	56.78
18	38.24	55.46	18	37.37	56.72	18	37.36	56.75	18	37.35	56.76
18	38.16	55.58	18	37.41	56.67	18	37.39	56.69	18	37.40	56.68
18	38.16	55.58	18	37.41	56.67	18	37.39	56.69	18	37.41	56.67

TABLE 4.5-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
19	38.22	55.49	19	37.49	56.55	19	37.44	56.62	19	37.45	56.61
19	38.27	55.41	19	37.49	56.56	19	37.45	56.61	19	37.48	56.57
19	38.31	55.35	19	37.54	56.48	19	37.52	56.52	19	37.49	56.55
20	36.91	57.36	20	37.56	56.45	20	37.54	56.49	20	37.54	56.48
20	38.44	55.17	20	37.53	56.50	20	37.54	56.49	20	37.54	56.48
20	38.29	55.38	20	37.61	56.39	20	37.56	56.46	20	37.59	56.42
20	38.48	55.10	20	37.64	56.34	20	37.60	56.40	21	37.60	56.40
21	38.47	55.12	21	37.61	56.39	21	37.59	56.41	21	37.61	56.38
21	38.43	55.18	21	37.66	56.32	21	37.63	56.36	21	37.68	56.29
21	38.50	55.07	21	37.70	56.26	21	37.68	56.29	21	37.69	56.27
22	38.48	55.11	22	37.71	56.24	22	37.68	56.28	22	37.70	56.25
22	38.57	54.98	22	37.76	56.17	22	37.72	56.23	22	37.73	56.21
22	38.57	54.98	22	37.75	56.19	22	37.76	56.17	22	37.79	56.12
23	38.63	54.89	23	38.31	55.36	23	38.12	55.64	23	37.90	55.97
23	38.66	54.84	23	38.50	55.07	23	38.47	55.12	23	38.23	55.47
23	38.57	54.98	23	40.53	52.06	23	40.68	51.81	23	39.31	53.91
24	38.70	54.78	24	41.79	49.82	24	43.23	47.03	24	40.88	51.48
24	38.70	54.78	24	45.67	42.07	24	45.90	41.34	24	45.51	42.55
24	38.86	54.55	24	48.81	34.31	24	49.14	33.59	24	48.22	35.71
24	38.77	54.67	24	51.38	27.47	25	51.55	26.16	25	50.92	28.94
25	38.88	54.51	25	54.23	20.39	25	54.39	19.11	25	53.67	21.80
25	38.83	54.58	25	55.88	13.54	25	56.24	12.27	25	54.95	14.96
25	38.88	54.51	25	57.83	6.61	25	58.23	5.20	25	57.47	7.88
26	38.86	54.55	26	59.71	-0.12	26	59.93	-1.45	26	59.35	1.22
26	38.90	54.48	26	60.83	-6.97	26	61.06	-8.36	26	60.62	-5.71
26	39.06	54.26	26	61.99	-14.05	26	62.18	-15.26	26	61.75	-12.59
27	39.05	54.28	27	63.10	-20.87	27	63.32	-22.20	27	62.87	-19.45
27	39.05	54.28	27	64.21	-27.66	27	64.43	-29.00	27	63.98	-26.28
27	38.98	54.37	27	65.33	-34.52	27	65.55	-35.89	27	65.10	-33.10
28	39.15	54.14	28	66.46	-41.41	28	66.68	-42.75	28	66.23	-40.01
28	39.13	54.16	28	67.57	-48.22	28	67.79	-49.56	28	67.34	-46.80
28	39.20	54.06	28	68.68	-55.05	28	68.90	-56.34	28	68.61	-54.56
28	39.28	53.96	29	69.78	-61.73	29	69.93	-62.70	29	69.53	-60.23
29	39.22	54.04	29	70.89	-68.55	29	71.09	-69.74	29	70.63	-66.93
29	39.28	53.95	29	71.97	-75.18	29	72.18	-76.41	29	71.72	-73.63
29	39.38	53.80	29	73.07	-81.87	29	73.29	-83.21	29	72.81	-80.29
30	39.34	53.86	30	74.13	-88.40	30	74.36	-89.79	30	73.89	-86.92
30	39.36	53.83	30	89.22	94.99	30	75.46	-96.50	30	74.97	-93.53
30	39.46	53.70	30	76.27	-101.46	30	76.52	-102.98	30	76.03	-100.02
31	39.57	53.55	31	77.31	-107.83	31	77.57	-109.45	31	77.11	-106.62
31	39.63	53.47	31	78.37	-114.30	31	78.68	-116.22	31	78.17	-113.09
31	39.53	53.61	31	79.39	-120.56	31	79.75	-122.79	31	79.24	-119.66
32	39.71	53.27	32	80.41	-126.83	32	80.81	-129.26	32	80.25	-125.82
32	39.71	53.27	32	81.31	-132.29	32	81.83	-135.52	32	81.31	-132.29

TABLE 4.5-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	39.74	53.23	32	82.40	-138.96	32	82.89	-141.99	32	82.35	-138.65
32	39.87	53.05	33	83.39	-145.02	33	84.00	-148.76	33	83.40	-145.12
33	40.84	51.55	33	84.39	-151.19	33	84.97	-154.72	33	84.41	-151.29
33	41.39	50.59	33	85.42	-157.45	33	85.96	-160.79	33	85.43	-157.55
33	44.00	45.68	33	86.41	-163.52	33	86.90	-166.55	33	86.36	-163.21
34	46.73	39.11	34	87.40	-169.58	34	87.81	-172.11	34	87.32	-169.07
34	49.23	33.39	34	88.27	-174.93	34	88.65	-177.26	34	88.16	-174.23
34	51.37	27.50	34	89.10	-179.99	34	89.48	-182.31	34	89.00	-179.38
35	53.73	21.68	35	89.93	-185.04	35	90.32	-187.47	35	89.84	-184.54
35	54.30	16.47	35	90.82	-190.50	35	91.10	-192.22	35	90.62	-189.29
35	56.54	11.20	35	91.41	-194.14	35	91.82	-196.66	35	91.35	-193.73
36	57.92	6.29	36	92.32	-199.69	36	92.57	-201.21	36	92.12	-198.48
36	59.29	1.44	36	93.08	-204.34	36	93.33	-205.86	36	92.85	-202.93
36	60.20	-3.12	36	93.69	-208.08	36	93.94	-209.60	36	93.53	-207.07
37	60.96	-7.79	37	93.69	-208.08	37	93.97	-209.80	37	93.95	-209.70
37	61.66	-12.08	37	93.66	-207.88	37	93.87	-209.19	37	93.89	-209.30
37	62.38	-16.47	37	93.53	-207.07	37	93.87	-209.19	37	93.92	-209.50
37	63.04	-20.49	37	93.66	-207.88	37	93.89	-209.30	37	93.91	-209.40
38	63.60	-23.95	38	93.69	-208.08	38	93.91	-209.40	38	93.91	-209.40
38	64.17	-27.40	38	93.69	-208.08	38	93.87	-209.19	38	93.94	-209.60
38	64.63	-30.22	38	93.69	-208.08	38	93.91	-209.40	38	93.94	-209.60
39	64.96	-32.25	39	93.67	-207.98	39	93.81	-208.79	39	93.69	-208.08
39	64.32	-28.36	39	93.69	-208.08	39	93.95	-209.70	39	93.92	-209.50
39	63.90	-25.75	39	93.69	-208.08	39	93.99	-209.90	39	94.00	-210.00
40	63.63	-24.11	40	93.69	-208.08	40	94.00	-210.00	40	94.02	-210.10
40	63.32	-22.21	40	93.69	-208.08	40	93.95	-209.70	40	94.00	-210.00
40	62.91	-19.72	40	93.69	-208.08	40	93.99	-209.90	40	94.02	-210.10
41	61.87	-13.33	41	93.86	-209.09	41	94.07	-210.41	41	93.84	-208.99
41	60.87	-7.22	41	93.79	-208.69	41	94.02	-210.10	41	93.66	-207.88
41	60.97	-7.86	41	93.84	-208.99	41	94.02	-210.10	41	93.61	-207.58
41	61.23	-9.45	41	93.82	-208.89	41	94.02	-210.10	41	93.59	-207.48
42	60.82	-6.89	42	93.69	-208.08	42	93.95	-209.70	42	93.62	-207.68
42	60.85	-7.08	42	93.69	-208.08	42	93.99	-209.90	42	93.66	-207.88
42	60.43	-4.55	42	93.69	-208.08	42	94.00	-210.00	42	93.67	-207.98
43	60.52	-5.10	43	93.69	-208.08	43	94.00	-210.00	43	93.53	-207.07

TABLE 4.5-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.56	57.82	0	36.53	57.86	0	93.53	-207.07	0	93.79	-208.69
0	36.53	57.86	0	36.56	57.82	0	93.53	-207.07	0	93.81	-208.79
1	36.54	57.85	1	36.55	57.84	1	93.53	-207.07	1	93.74	-208.39
1	36.56	57.82	1	36.56	57.82	1	93.46	-206.67	1	93.72	-208.28
6	36.67	57.67	6	36.69	57.65	6	93.62	-207.68	6	93.86	-209.09
7	36.69	57.65	7	36.72	57.61	7	93.61	-207.58	7	93.86	-209.09
7	36.70	57.63	7	36.70	57.64	7	93.53	-207.07	7	93.82	-208.89
7	36.69	57.65	7	36.71	57.62	7	93.53	-207.07	7	93.84	-208.99
8	36.72	57.61	8	36.70	57.63	8	93.59	-207.48	8	93.86	-209.09
8	36.69	57.65	8	36.71	57.62	8	93.62	-207.68	8	93.87	-209.19
8	36.73	57.60	8	36.73	57.60	8	93.66	-207.88	8	93.94	-209.60
9	36.74	57.58	9	36.78	57.53	9	93.66	-207.88	9	93.94	-209.60
9	36.74	57.58	9	36.78	57.53	9	93.69	-208.08	9	93.94	-209.60
9	36.76	57.56	9	36.81	57.49	9	93.67	-207.98	9	93.91	-209.40
9	36.82	57.48	9	36.84	57.45	9	93.67	-207.98	9	93.92	-209.50
10	36.83	57.47	10	36.88	57.40	10	93.66	-207.88	10	93.92	-209.50
10	36.89	57.39	10	36.87	57.41	10	93.69	-208.08	10	93.91	-209.40
10	36.89	57.39	10	36.91	57.36	10	93.69	-208.08	10	93.91	-209.40
11	36.90	57.38	11	36.93	57.33	11	93.62	-207.68	11	93.89	-209.30
11	36.90	57.38	11	36.92	57.35	11	93.62	-207.68	11	93.89	-209.30
11	36.93	57.33	11	36.96	57.30	11	93.53	-207.07	11	93.79	-208.69
12	36.96	57.30	12	36.98	57.27	12	93.53	-207.07	12	93.82	-208.89
12	36.97	57.28	12	36.96	57.30	12	93.53	-207.07	12	93.82	-208.89
12	37.00	57.24	12	37.03	57.20	12	93.53	-207.07	12	93.84	-208.99
13	36.99	57.25	13	37.04	57.19	13	93.56	-207.27	13	93.82	-208.89
13	37.03	57.20	13	37.03	57.20	13	93.56	-207.27	13	93.84	-208.99
13	37.03	57.20	13	37.07	57.15	13	93.69	-208.08	13	93.92	-209.50
13	37.07	57.15	13	37.06	57.16	13	93.66	-207.88	13	93.89	-209.30
14	37.06	57.16	14	37.11	57.10	14	93.62	-207.68	14	93.92	-209.50
14	37.14	57.05	14	37.16	57.03	14	93.69	-208.08	14	93.92	-209.50
14	37.16	57.03	14	37.12	57.08	14	93.66	-207.88	14	93.89	-209.30
15	37.16	57.02	15	37.18	57.00	15	93.66	-207.88	15	93.91	-209.40
15	37.17	57.01	15	37.21	56.96	15	93.62	-207.68	15	93.91	-209.40
15	37.21	56.96	15	37.22	56.94	15	93.69	-208.08	15	93.94	-209.60
16	37.23	56.93	16	37.26	56.89	16	93.66	-207.88	16	93.94	-209.60
16	37.21	56.96	16	37.27	56.88	16	93.69	-208.08	16	93.87	-209.19
16	37.25	56.90	16	37.27	56.87	16	93.69	-208.08	16	93.92	-209.50
17	37.29	56.85	17	37.32	56.81	17	93.69	-208.08	17	93.95	-209.70
17	37.30	56.83	17	37.32	56.80	17	93.66	-207.88	17	93.91	-209.40
17	37.30	56.83	17	37.35	56.76	17	93.69	-208.08	17	93.92	-209.50
17	37.36	56.75	17	37.42	56.65	17	93.69	-208.08	17	93.94	-209.60
18	37.41	56.67	18	37.42	56.66	18	93.69	-208.08	18	93.91	-209.40
18	37.41	56.67	18	37.43	56.64	18	93.66	-207.88	18	93.91	-209.40
18	37.43	56.64	18	37.44	56.62	18	93.66	-207.88	18	93.92	-209.50

TABLE 4.5-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
19	37.47	56.58	19	37.47	56.59	19	93.61	-207.58	19	93.86	-209.09
19	37.50	56.54	19	37.54	56.49	19	93.66	-207.88	19	93.91	-209.40
19	37.54	56.49	19	37.56	56.45	19	93.62	-207.68	19	93.89	-209.30
20	37.54	56.49	20	37.59	56.42	20	93.69	-208.08	20	93.94	-209.60
20	37.56	56.45	20	37.60	56.40	20	93.69	-208.08	20	93.94	-209.60
20	37.59	56.42	20	37.69	56.27	20	93.69	-208.08	20	93.94	-209.60
21	37.63	56.35	21	37.64	56.34	21	93.62	-207.68	21	93.92	-209.50
21	37.61	56.39	21	37.68	56.28	21	93.62	-207.68	21	93.89	-209.30
21	37.71	56.24	21	37.75	56.19	21	93.62	-207.68	21	93.86	-209.09
21	37.72	56.22	21	37.75	56.18	21	93.53	-207.07	21	93.79	-208.69
22	37.75	56.18	22	37.77	56.16	22	93.59	-207.48	22	93.86	-209.09
22	37.76	56.17	22	37.79	56.12	22	93.62	-207.68	22	93.86	-209.09
22	37.79	56.12	22	37.82	56.08	22	93.62	-207.68	22	93.87	-209.19
23	37.92	55.93	23	37.94	55.90	23	93.66	-207.88	23	93.91	-209.40
23	38.29	55.39	23	38.31	55.35	23	93.66	-207.88	23	93.92	-209.50
23	39.65	53.44	23	39.98	52.88	23	93.62	-207.68	23	93.89	-209.30
24	40.90	51.45	24	40.99	51.30	24	93.62	-207.68	24	93.86	-209.09
24	45.12	43.62	24	45.58	42.34	24	93.66	-207.88	24	93.95	-209.70
24	48.09	36.06	24	48.48	35.08	24	93.69	-208.08	24	93.97	-209.80
25	50.81	29.29	25	51.14	28.23	25	93.69	-208.08	25	93.95	-209.70
25	53.53	22.05	25	54.03	21.03	25	93.69	-208.08	25	93.94	-209.60
25	54.77	15.18	25	55.69	14.20	25	93.69	-208.08	25	93.94	-209.60
25	57.37	8.25	25	57.66	7.21	25	93.69	-208.08	25	93.95	-209.70
26	59.30	1.37	26	59.60	0.33	26	93.69	-208.08	26	93.95	-209.70
26	59.69	-0.	26	60.77	-6.58	26	93.69	-208.08	26	93.95	-209.70
26	59.69	-0.	26	61.90	-13.54	26	93.69	-208.08	26	93.94	-209.60
27	59.69	-0.	27	63.04	-20.53	27	93.69	-208.08	27	93.92	-209.50
27	59.69	-0.	27	64.17	-27.39	27	93.69	-208.08	27	93.95	-209.70
27	59.69	-0.	27	65.28	-34.23	27	93.69	-208.08	27	93.91	-209.40
28	59.69	-0.	28	66.42	-41.20	28	93.69	-208.08	28	93.97	-209.80
28	59.69	-0.	28	67.54	-48.05	28	93.69	-208.08	28	93.92	-209.50
28	59.69	-0.	28	68.65	-54.80	28	93.69	-208.08	28	93.97	-209.80
29	59.69	-0.	29	69.74	-61.50	29	93.79	-208.69	29	94.02	-210.10
29	59.69	-0.	29	70.83	-68.21	29	93.69	-208.08	29	94.00	-210.00
29	59.69	-0.	29	71.95	-75.02	29	93.69	-208.08	29	93.95	-209.70
29	59.69	-0.	29	73.03	-81.65	29	93.69	-208.08	29	93.97	-209.80
30	59.69	-0.	30	74.11	-88.27	30	93.69	-208.08	30	93.97	-209.80
30	59.69	-0.	30	75.18	-94.78	30	93.69	-208.08	30	93.95	-209.70
30	59.69	-0.	30	76.25	-101.36	30	93.69	-208.08	30	94.02	-210.10
31	59.69	-0.	31	77.34	-108.03	31	93.67	-207.98	31	93.89	-209.30
31	59.69	-0.	31	78.38	-114.40	31	93.66	-207.88	31	93.91	-209.40
31	59.69	-0.	31	79.42	-120.77	31	93.62	-207.68	31	93.92	-209.50
32	59.69	-0.	32	80.45	-127.03	32	93.69	-208.08	32	93.89	-209.30
32	59.69	-0.	32	81.47	-133.30	32	93.66	-207.88	32	93.94	-209.60

TABLE 4.5-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
32	59.69	-0.	32	82.53	-139.77	32	93.66	-207.88	32	93.84	-208.99
33	59.69	-0.	33	83.55	-146.03	33	93.66	-207.88	33	93.87	-209.19
33	76.20	-101.05	33	84.59	-152.40	33	93.62	-207.68	33	93.86	-209.09
33	76.20	-101.05	33	85.62	-158.66	33	93.66	-207.88	33	93.87	-209.19
33	86.29	-162.81	33	86.49	-164.02	33	93.67	-207.98	33	93.89	-209.30
34	87.22	-168.47	34	87.35	-169.28	34	93.69	-208.08	34	93.92	-209.50
34	87.91	-172.71	34	88.22	-174.63	34	93.69	-208.08	34	93.94	-209.60
34	88.77	-177.97	34	89.07	-179.79	34	93.66	-207.88	34	93.91	-209.40
35	89.74	-183.93	35	89.88	-184.74	35	93.69	-208.08	35	93.97	-209.80
35	90.42	-188.07	35	90.65	-189.49	35	93.69	-208.08	35	93.95	-209.70
35	91.26	-193.23	35	91.40	-194.04	35	93.69	-208.08	35	93.97	-209.80
36	91.99	-197.67	36	92.15	-198.68	36	93.72	-208.28	36	94.02	-210.10
36	92.73	-202.22	36	92.86	-203.03	36	93.79	-208.69	36	93.94	-209.60
36	93.43	-206.47	36	93.54	-207.17	36	93.95	-209.70	36	93.99	-209.90
37	93.69	-208.08	37	93.95	-209.70	37	93.94	-209.60	37	93.92	-209.50
37	93.69	-208.08	37	93.87	-209.19	37	93.95	-209.70	37	93.91	-209.40
37	93.69	-208.08	37	93.89	-209.30	37	93.94	-209.60	37	93.91	-209.40
37	93.69	-208.08	37	93.89	-209.30	37	93.91	-209.40	37	93.94	-209.60
38	93.69	-208.08	38	93.92	-209.50	38	93.92	-209.50	38	93.94	-209.60
38	93.69	-208.08	38	93.89	-209.30	38	93.89	-209.30	38	93.92	-209.50
38	93.69	-208.08	38	93.89	-209.30	38	93.94	-209.60	38	93.91	-209.40
39	93.56	-207.27	39	93.82	-208.89	39	93.86	-209.09	39	93.87	-209.19
39	93.69	-208.08	39	93.94	-209.60	39	93.95	-209.70	39	93.95	-209.70
39	93.82	-208.89	39	94.00	-210.00	39	93.99	-209.90	39	94.00	-210.00
40	93.69	-208.08	40	93.97	-209.80	40	94.02	-210.10	40	93.97	-209.80
40	93.86	-209.09	40	94.07	-210.41	40	94.05	-210.31	40	94.04	-210.20
40	93.81	-208.79	40	93.99	-209.90	40	94.04	-210.20	40	94.04	-210.20
41	93.69	-208.08	41	93.56	-207.27	41	93.99	-209.90	41	94.04	-210.20
41	93.51	-206.97	41	93.44	-206.57	41	93.99	-209.90	41	94.05	-210.31
41	93.49	-206.87	41	93.39	-206.26	41	94.00	-210.00	41	94.10	-210.61
41	93.43	-206.47	41	93.41	-206.36	42	93.94	-209.60	42	94.04	-210.20
42	93.49	-206.87	42	93.51	-206.97	42	93.99	-209.90	42	94.00	-210.00
42	93.46	-206.67	42	93.48	-206.77	42	93.94	-209.60	42	94.05	-210.31
42	93.49	-206.87	42	93.43	-206.47	42	93.95	-209.70	42	94.05	-210.31
43	93.36	-206.06	43	93.33	-205.86	43	94.00	-210.00	43	94.10	-210.61

4.6 Run 19

Run 19 was a low-flow-rate, low-pressure, low-heating-rate run made with Configuration 2. The run was repeated once.

Reactor Run 101

Parametric conditions and test results are summarized in Table 4.6-1. Timing information is given in Table 4.0-1. Pressure and flow data are presented in Figure 4.6-1 and strip-chart data are given in Figures 4.6-2 through 4.6-5.

The tank was filled approximately 30 minutes before the timer was turned on for this run. The liquid flow rate on this run was slightly higher than desired - 0.055 lb/sec instead of 0.04 lb/sec - and the system stabilized at a slightly lower pressure than desired (about 29 psia). The run was repeated during reactor run 110 in an attempt to obtain a more satisfactory flow rate.

Reactor Run 110

Parametric conditions and test results are summarized in Table 4.6-3. Timing information is given in Table 4.0-1. Pressure and flow data are plotted in Figure 4.6-6 and strip-chart data in Figures 4.6-7 through 4.6-15.

The tank was filled 21 minutes before the timer was turned on for this run. A more satisfactory flow rate was obtained during this second trial of the test; however, the system pressure stabilized approximately 14 % high, and the supply of pressurization gas was depleted before the end of the run. Approximately 1.5 minutes before the reactor shutdown, the pressure started falling (Fig. 4.6-6) and the LH_2 temperatures, as seen with Thermometers 1 and 4, dropped

correspondingly (Figs. 4.6-14 and 4.6-15).

Pressurization gas used for this run consisted of a mixture of 10% by weight of hydrogen and 90% by weight of helium. The use of a mixture was necessitated by near exhaustion of the supply of hydrogen gas.

Table 4.6-1

Parametric Conditions and Test Results Summary
for Run 19-101

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	111.5	10.9
Pressure (psia)	30	29.8	
Temperature[b] (°R)		37.5	
Weight[c] (lb)	66 - 74	65.6	
Final Conditions[d]			
Pressure (psia)	30	29.4	29.9
Temperature (°R)	≤ 41.3	40.05	
Saturation Temp[e] (°R)	41.3	41.14	
Run Data			
Temperature Rise (°R)	4.0	2.6	10.9 - 29.9
Run Time[f] (min)	27 - 33	27.0	3.9 - 30.9
Flow Time (min)	27 - 33	19.9	11.0 - 30.9
Flow Rate[g]: (gpm)	4.08	5.6	
(lb/sec)	0.04	0.055	
Power Level (Mw)	1.0	0.985	
Integrated Power (Mw-hr)	0.5	0.444	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank.
[c] Temp = 37.5°R, Vol. = 111.5 gal, ρ = 4.399 lbs/ft^3 = 0.588 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

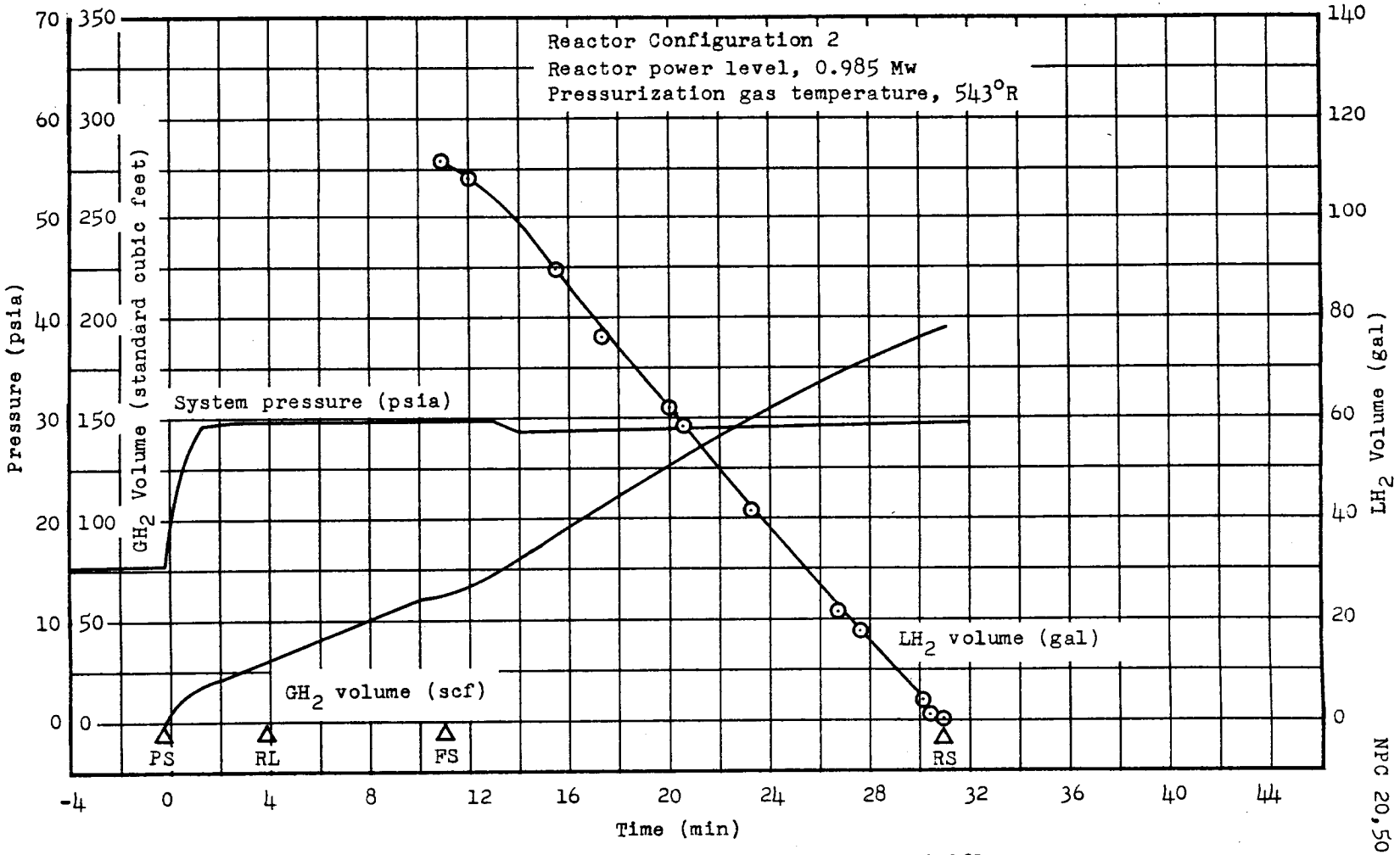

Figure 4.6-1 Pressure and Flow Data: Run 19-101

NPC 20,506

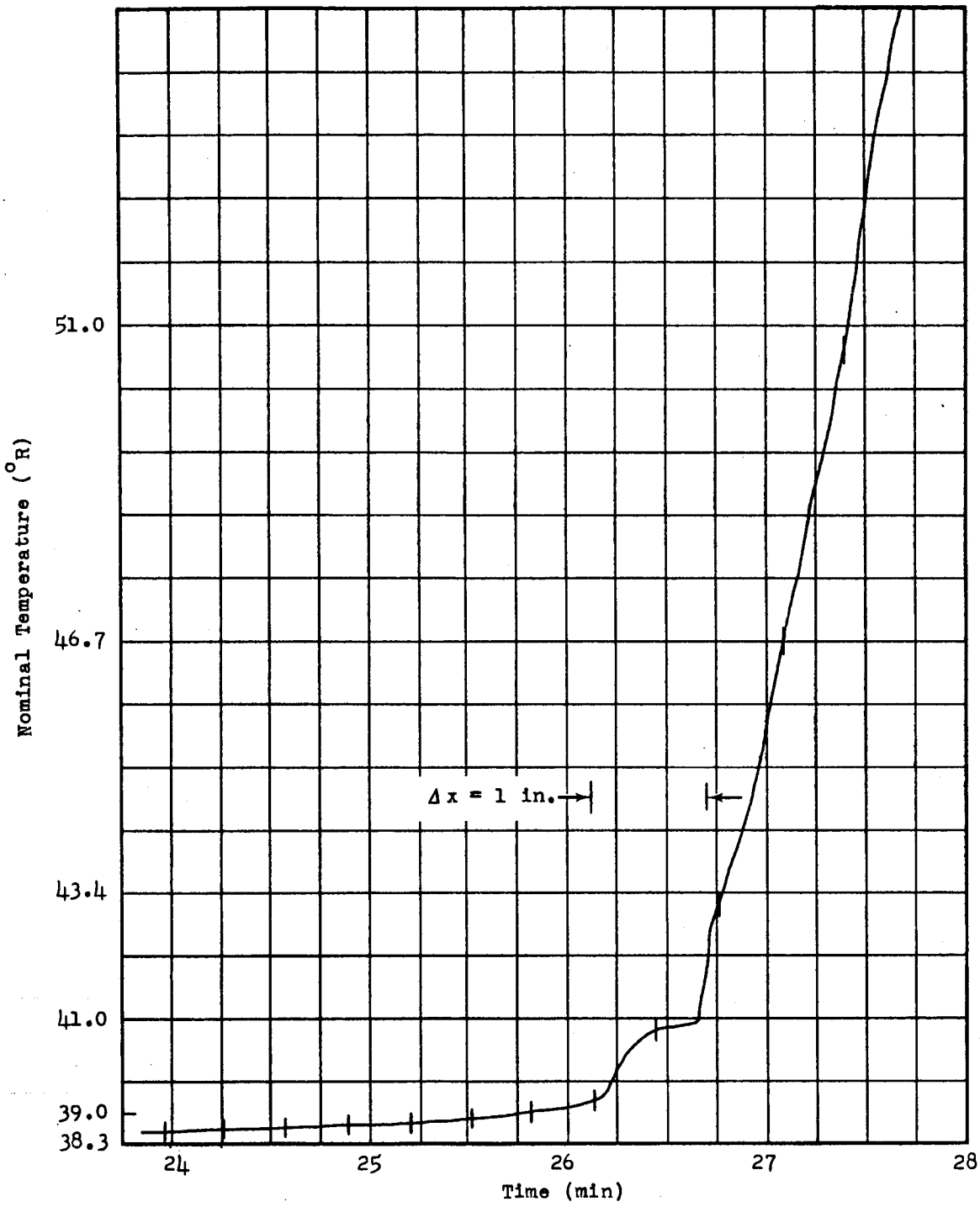

Figure 4.6-2 Strip-Chart Temperature Data: Run 19-101, Thermometer 7

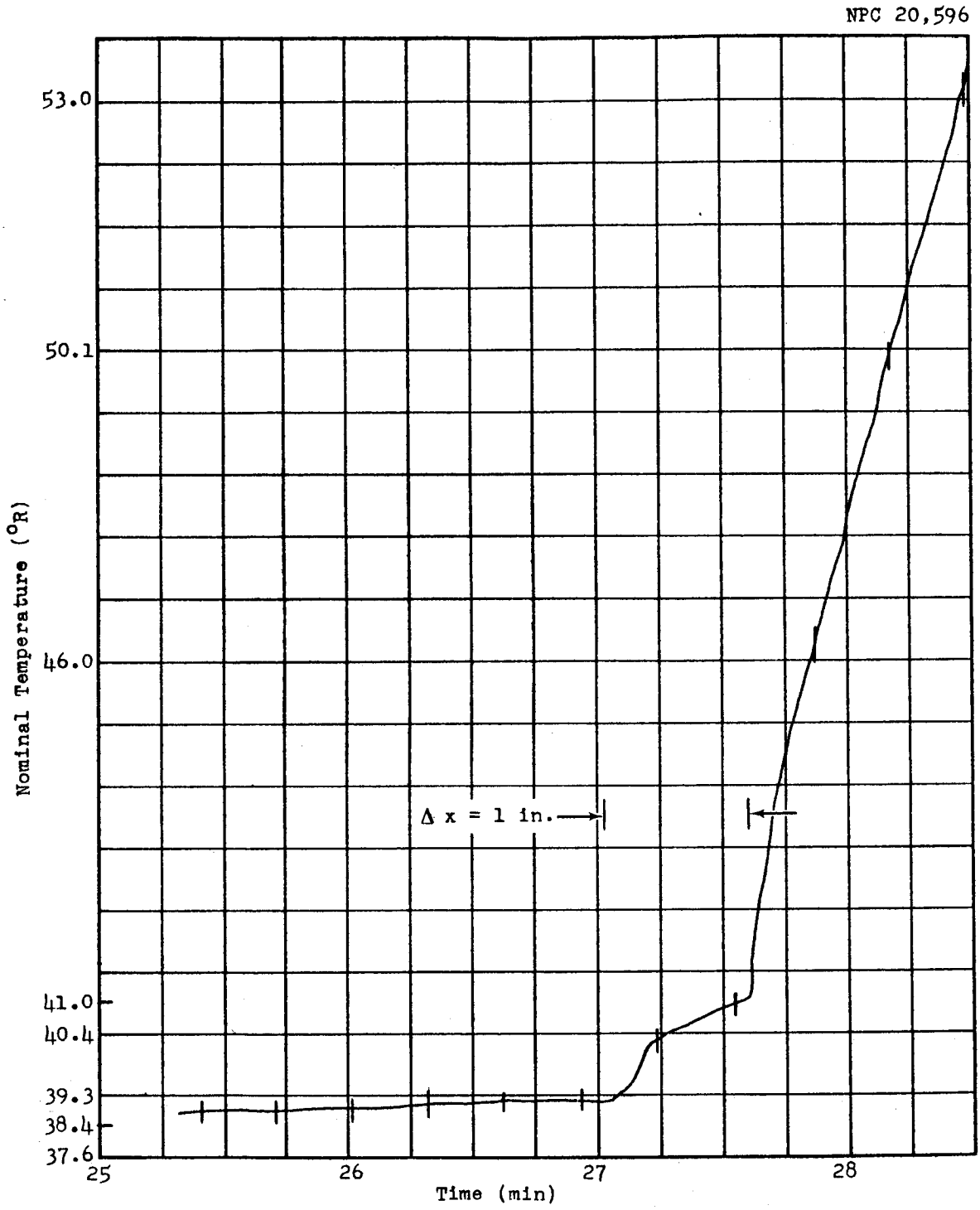

Figure 4.6-3 Strip-Chart Temperature Data: Run 19-101, Thermometer 25

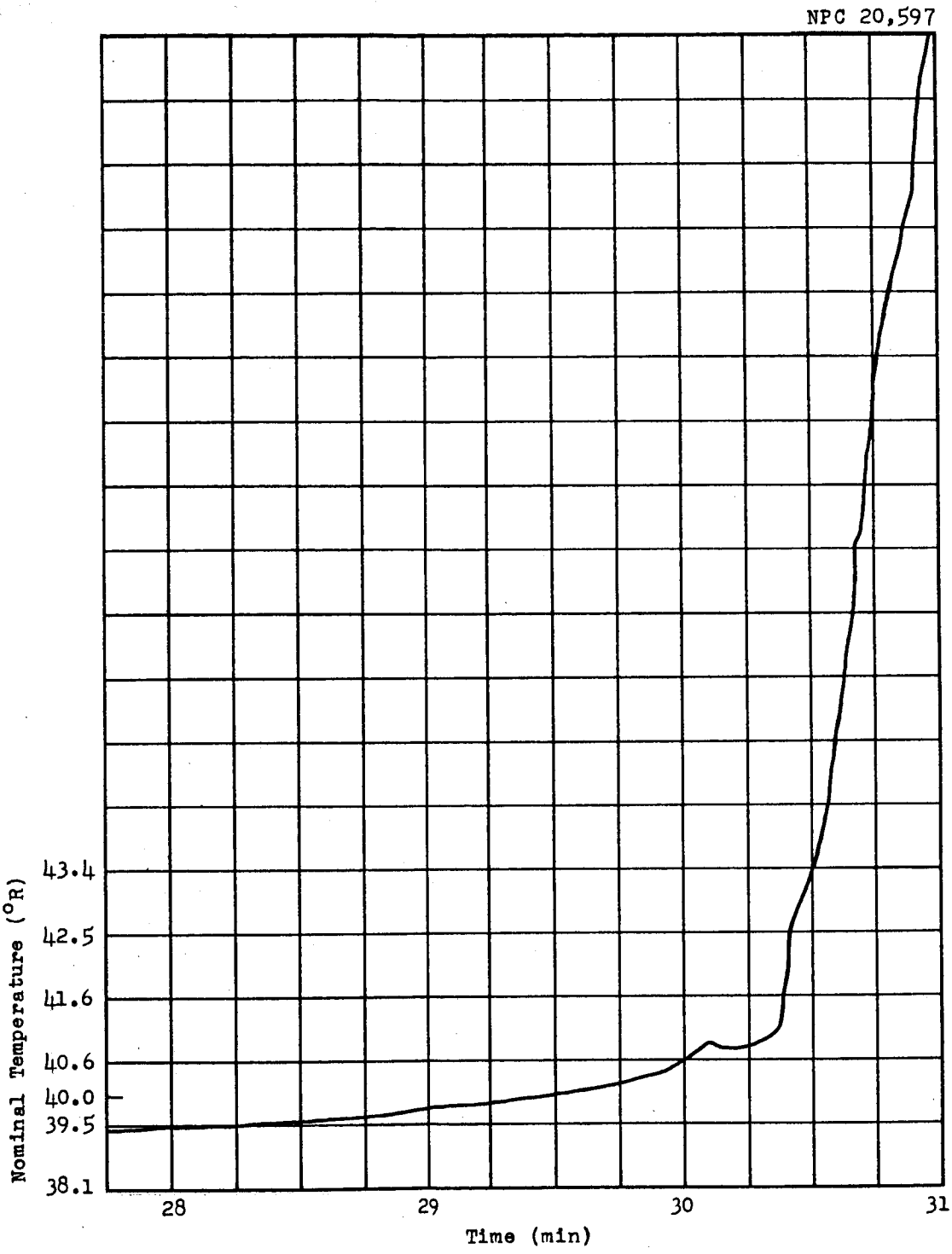

Figure 4.6-4 Strip-Chart Temperature Data: Run 19-101, Thermometer 4

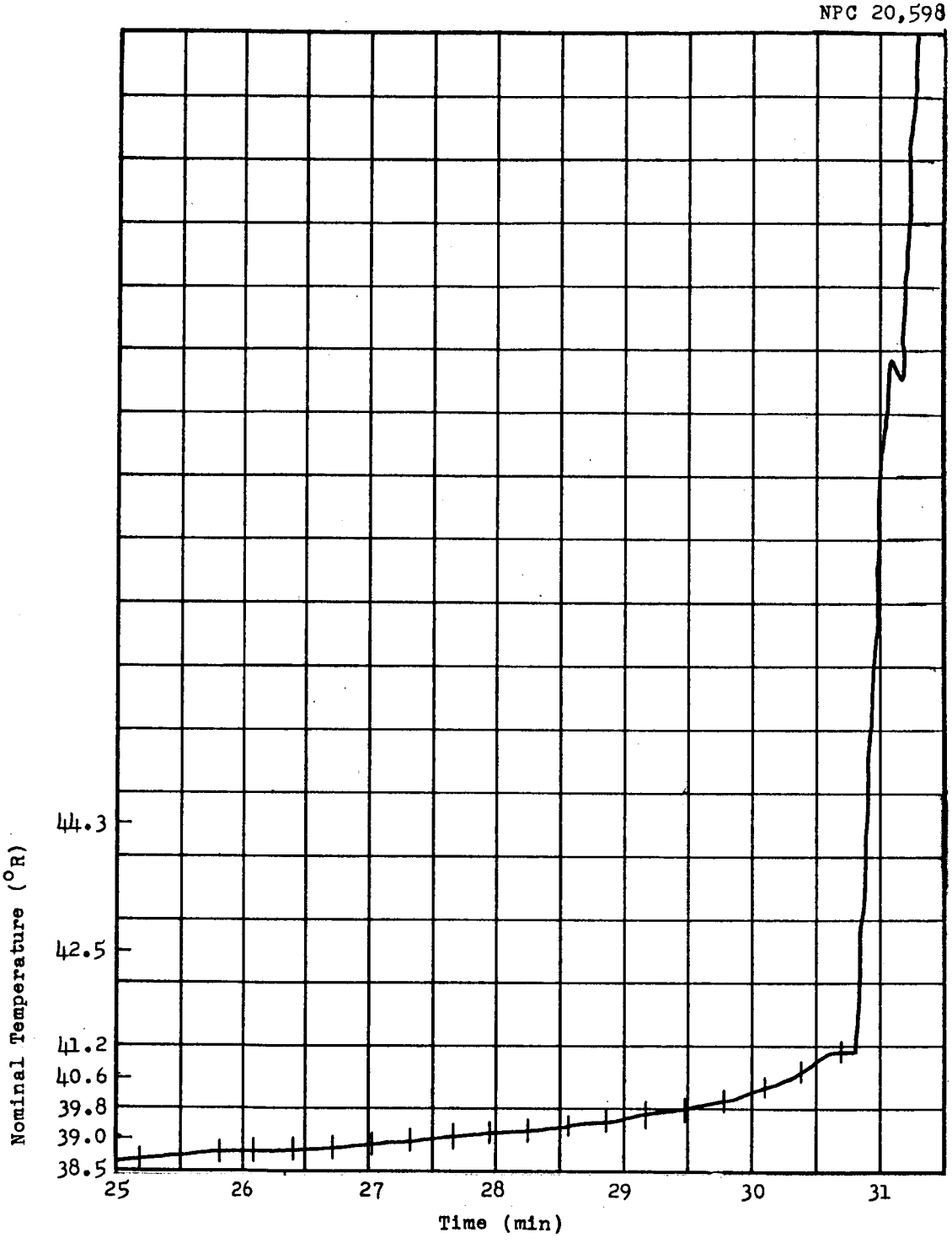

Figure 4.6-5 Strip-Chart Temperature Data: Run 19-101, Thermometer 1

TABLE 4.6-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 19-101

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.73	57.60	0	36.69	57.65	0	36.71	57.62	0	36.82	57.48
0	36.71	57.62	0	36.73	57.60	0	36.73	57.60	0	36.80	57.50
0	36.80	57.50	0	36.86	57.43	0	36.86	57.43	0	36.95	57.31
0	36.85	57.44	0	36.79	57.52	0	36.85	57.44	0	36.99	57.25
0	36.92	57.35	0	36.88	57.40	0	36.96	57.29	0	37.06	57.16
0	36.92	57.35	0	36.90	57.38	0	36.97	57.28	0	37.10	57.11
0	37.02	57.22	0	36.89	57.39	0	36.95	57.31	0	37.10	57.11
0	36.99	57.26	0	36.91	57.36	0	37.02	57.22	0	37.19	56.99
1	37.32	56.80	1	36.96	57.29	1	37.14	57.05	1	37.13	57.07
1	37.12	57.08	1	36.98	57.27	1	37.47	56.58	1	37.15	57.04
1	37.40	56.68	1	36.96	57.30	1	37.22	56.94	1	37.25	56.90
2	37.19	56.99	2	36.95	57.31	2	37.19	56.98	2	37.30	56.83
2	37.39	56.70	2	36.97	57.28	2	37.33	56.79	2	37.15	57.04
2	37.27	56.88	2	36.96	57.29	2	37.26	56.89	2	37.18	57.00
3	37.13	57.07	3	36.97	57.28	3	37.11	57.10	3	37.19	56.99
3	37.10	57.11	3	36.98	57.27	3	37.39	56.70	3	37.19	56.98
3	36.99	57.25	3	37.05	57.18	3	37.02	57.21	3	37.18	57.00
3	37.10	57.11	4	37.10	57.11	4	37.10	57.11	4	37.25	56.90
4	37.08	57.13	4	37.11	57.10	4	37.10	57.11	4	37.33	56.79
4	37.18	57.00	4	37.08	57.13	4	37.33	56.79	4	58.09	5.68
4	37.17	57.01	4	37.11	57.10	4	37.18	57.00	4	37.29	56.84
5	37.13	57.06	5	37.11	57.10	5	37.15	57.04	5	37.25	56.90
5	37.24	56.92	5	37.25	56.90	5	37.24	56.92	5	37.47	56.58
5	37.18	57.00	5	37.23	56.93	5	37.26	56.89	5	37.39	56.69
6	37.24	56.92	6	37.29	56.84	6	37.25	56.90	6	37.40	56.68
6	37.31	56.82	6	37.33	56.79	6	37.42	56.66	6	37.44	56.62
6	37.42	56.65	6	37.39	56.70	6	37.47	56.58	6	37.48	56.57
7	37.50	56.54	7	37.38	56.71	7	37.48	56.57	7	37.53	56.50
7	37.52	56.52	7	37.38	56.71	7	38.01	55.80	7	37.83	56.07
7	37.32	56.81	7	37.37	56.72	7	37.33	56.79	7	37.45	56.61
7	37.39	56.70	7	37.40	56.68	7	37.59	56.41	7	37.53	56.50
8	37.40	56.68	8	37.41	56.67	8	37.41	56.67	8	37.50	56.54
8	37.54	56.49	8	37.43	56.64	8	37.65	56.33	8	37.72	56.22
8	37.47	56.59	8	37.47	56.58	8	37.47	56.58	8	37.63	56.36
9	37.44	56.62	9	37.47	56.58	9	37.50	56.54	9	37.59	56.41
9	37.47	56.58	9	37.45	56.61	9	37.49	56.55	9	37.62	56.37
9	37.52	56.52	9	37.52	56.52	9	37.51	56.53	9	37.61	56.39
10	37.70	56.26	10	37.60	56.40	10	37.67	56.30	10	37.70	56.25
10	37.72	56.23	10	37.56	56.46	10	37.60	56.40	10	37.67	56.30
10	37.54	56.48	10	37.56	56.46	10	37.53	56.50	10	37.64	56.34
11	37.76	56.17	11	37.65	56.33	11	38.14	55.60	11	37.79	56.13
11	37.63	56.35	11	37.64	56.34	11	37.61	56.39	11	37.71	56.24
11	37.61	56.39	11	37.64	56.34	11	37.62	56.37	11	37.72	56.22
11	37.69	56.27	11	37.67	56.30	11	37.67	56.30	11	37.76	56.17

* Time interval = 0.310 minute.

TABLE 4.6-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
12	37.68	56.28	12	37.63	56.35	12	37.68	56.28	12	37.79	56.13
12	37.66	56.32	12	37.68	56.28	12	37.68	56.28	12	37.76	56.17
12	37.66	56.32	12	37.70	56.26	12	37.68	56.29	12	37.79	56.13
13	37.71	56.24	13	37.73	56.21	13	37.72	56.22	13	37.83	56.07
13	37.72	56.22	13	37.74	56.20	13	37.72	56.22	13	37.91	55.95
13	37.73	56.21	13	37.77	56.15	13	37.75	56.19	13	37.84	56.06
14	37.77	56.15	14	37.75	56.19	14	37.75	56.18	14	37.81	56.09
14	37.82	56.08	14	37.77	56.16	14	37.79	56.13	14	37.94	55.90
14	37.82	56.08	14	37.79	56.13	14	37.80	56.11	14	37.92	55.93
15	37.80	56.11	15	37.85	56.04	15	37.84	56.05	15	38.03	55.78
15	37.90	55.96	15	37.87	56.01	15	37.85	56.04	15	37.97	55.87
15	37.81	56.09	15	37.85	56.04	15	37.84	56.05	15	38.00	55.82
15	37.97	55.86	15	37.92	55.94	15	37.95	55.89	15	38.16	55.57
16	37.94	55.90	16	37.91	55.95	16	37.94	55.90	16	38.02	55.79
16	37.93	55.92	16	37.94	55.91	16	37.95	55.89	16	38.03	55.78
16	37.92	55.93	16	37.95	55.89	16	37.96	55.88	16	38.10	55.66
17	37.99	55.84	17	37.94	55.90	17	37.99	55.83	17	38.09	55.68
17	38.02	55.79	17	38.03	55.78	17	38.01	55.81	17	38.11	55.65
17	38.07	55.70	17	38.09	55.68	17	38.08	55.69	17	38.12	55.63
18	38.03	55.76	18	38.05	55.74	18	38.07	55.71	18	38.18	55.55
18	38.10	55.67	18	38.12	55.64	18	38.12	55.63	18	38.23	55.47
18	38.14	55.61	18	38.10	55.66	18	38.09	55.68	18	38.22	55.48
19	38.13	55.62	19	38.14	55.61	19	38.13	55.62	19	38.24	55.45
19	38.16	55.58	19	38.19	55.53	19	38.19	55.53	19	38.25	55.44
19	38.23	55.47	19	38.24	55.46	19	38.22	55.48	19	38.35	55.29
19	38.20	55.52	19	38.27	55.42	19	38.22	55.48	19	38.33	55.33
20	38.26	55.43	20	38.23	55.47	20	38.24	55.46	20	38.36	55.28
20	38.28	55.40	20	38.29	55.38	20	38.25	55.44	20	38.41	55.21
20	38.35	55.29	20	38.33	55.33	20	38.34	55.31	20	38.50	55.08
21	38.33	55.32	21	38.33	55.32	21	38.33	55.32	21	38.50	55.08
21	38.44	55.17	21	38.37	55.26	21	38.35	55.30	21	38.50	55.08
21	38.42	55.20	21	38.46	55.13	21	38.43	55.18	21	38.64	54.87
22	38.40	55.22	22	38.42	55.20	22	38.41	55.21	22	38.59	54.94
22	38.43	55.18	22	38.50	55.07	22	38.47	55.12	22	38.61	54.92
22	38.50	55.08	22	38.49	55.09	22	38.52	55.04	22	38.68	54.80
23	38.52	55.05	23	38.57	54.97	23	38.55	55.01	23	38.70	54.77
23	38.55	55.00	23	38.59	54.94	23	38.57	54.97	23	38.70	54.77
23	38.60	54.93	23	38.63	54.88	23	38.63	54.88	23	38.83	54.58
23	38.66	54.84	23	38.68	54.80	23	38.68	54.80	23	38.80	54.63
24	38.69	54.79	24	38.70	54.77	24	38.70	54.78	24	38.81	54.61
24	38.70	54.77	24	38.75	54.70	24	38.72	54.74	24	38.91	54.47
24	38.81	54.62	24	38.77	54.67	24	38.77	54.67	24	38.93	54.44
25	38.85	54.56	25	38.83	54.58	25	38.83	54.58	25	38.97	54.38
25	38.84	54.57	25	38.89	54.50	25	38.86	54.55	25	39.03	54.30

TABLE 4.6-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	38.90	54.48	25	38.95	54.42	25	38.91	54.47	25	39.12	54.18
26	38.94	54.43	26	38.99	54.36	26	38.95	54.41	26	39.10	54.21
26	39.00	54.34	26	39.01	54.33	26	39.05	54.27	26	39.17	54.11
26	39.05	54.27	26	39.08	54.23	26	39.07	54.25	26	39.56	53.56
27	59.69	-0.	27	39.12	54.17	27	39.12	54.17	27	39.28	53.95
27	39.17	54.10	27	39.20	54.07	27	39.20	54.07	27	39.36	53.83
27	39.28	53.96	27	39.28	53.95	27	39.29	53.94	27	39.50	53.65
27	39.35	53.85	27	39.39	53.79	27	39.36	53.84	27	39.54	53.59
28	39.41	53.76	28	39.43	53.74	28	39.46	53.70	28	38.88	54.51
28	59.69	-0.	28	39.57	53.55	28	39.57	53.55	28	39.71	53.36
28	39.66	53.43	28	39.65	53.44	28	39.64	53.46	28	39.74	53.23
29	59.69	-0.	29	39.72	53.25	29	39.75	53.21	29	39.88	53.03
29	59.69	-0.	29	39.87	53.05	29	39.87	53.05	29	40.00	52.85
29	40.03	52.81	29	40.05	52.79	29	40.07	52.76	29	40.22	52.54
30	59.69	-0.	30	40.31	52.40	30	40.32	52.38	30	40.56	52.02
30	40.68	51.81	30	40.67	51.83	30	40.80	51.62	30	41.14	51.03
30	41.02	51.24	30	41.00	51.28	30	41.04	51.22	30	43.39	46.75

TABLE 4.6-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.62	57.75	0	93.69	-208.08	0	36.66	57.70	0	36.64	57.72
0	36.66	57.70	0	93.53	-207.07	0	36.67	57.67	0	36.65	57.71
0	36.73	57.60	0	93.69	-208.08	0	36.73	57.60	0	36.74	57.58
0	36.70	57.64	0	93.69	-208.08	0	36.80	57.51	0	36.73	57.60
0	36.81	57.49	0	93.62	-207.68	0	36.80	57.51	0	36.81	57.49
0	36.80	57.51	0	93.66	-207.88	0	36.80	57.51	0	36.84	57.45
0	36.85	57.44	0	93.66	-207.88	0	36.84	57.46	0	36.87	57.41
0	36.89	57.39	0	93.66	-207.88	0	36.89	57.39	1	36.90	57.38
1	36.85	57.44	1	93.69	-208.08	1	36.88	57.40	1	36.91	57.36
1	36.85	57.44	1	93.69	-208.08	1	36.88	57.40	1	36.90	57.38
1	36.87	57.41	1	93.69	-208.08	1	36.87	57.41	1	36.90	57.37
2	36.87	57.41	2	93.69	-208.08	2	36.88	57.40	2	36.90	57.37
2	36.93	57.34	2	93.66	-207.88	2	36.90	57.37	2	36.93	57.33
2	36.95	57.31	2	93.67	-207.98	2	36.88	57.40	2	36.93	57.34
3	36.90	57.38	3	93.66	-207.88	3	36.90	57.37	3	36.95	57.31
3	36.87	57.42	3	93.66	-207.88	3	36.90	57.37	3	36.92	57.35
3	36.95	57.31	3	93.66	-207.88	3	36.90	57.37	3	36.91	57.36
4	36.98	57.27	4	93.56	-207.27	4	36.95	57.31	4	36.94	57.32
4	36.96	57.30	4	93.56	-207.27	4	36.95	57.31	4	36.99	57.25
4	37.05	57.17	4	93.66	-207.88	4	36.99	57.26	4	37.02	57.21
4	37.02	57.21	4	93.62	-207.68	4	37.02	57.21	4	37.02	57.21
5	37.00	57.24	5	93.61	-207.58	5	37.05	57.17	5	37.05	57.18
5	37.11	57.09	5	93.56	-207.27	5	37.11	57.09	5	37.10	57.11
5	37.15	57.04	5	93.61	-207.58	5	37.12	57.08	5	37.11	57.09
6	37.13	57.07	6	93.66	-207.88	6	37.12	57.08	6	37.17	57.01
6	37.15	57.04	6	93.62	-207.68	6	37.18	57.00	6	37.18	57.00
6	37.16	57.02	6	93.69	-208.08	6	37.18	57.00	6	37.23	56.93
7	37.24	56.91	7	93.61	-207.58	7	37.25	56.90	7	37.21	56.96
7	37.47	56.58	7	93.59	-207.48	7	37.26	56.89	7	37.26	56.89
7	37.24	56.91	7	93.59	-207.48	7	40.22	52.54	7	37.27	56.87
7	37.29	56.84	8	93.56	-207.27	8	37.25	56.90	8	37.28	56.86
8	37.33	56.79	8	93.53	-207.07	8	37.33	56.79	8	37.31	56.82
8	37.56	56.46	8	93.53	-207.07	8	37.35	56.76	8	37.51	56.53
8	37.37	56.74	8	93.36	-206.06	8	37.31	56.82	8	37.34	56.78
9	37.37	56.74	9	93.36	-206.06	9	37.38	56.71	9	37.34	56.77
9	37.39	56.70	9	93.46	-206.67	9	37.32	56.80	9	37.38	56.71
9	37.43	56.64	9	93.36	-206.06	9	37.37	56.72	9	37.39	56.69
10	37.51	56.53	10	93.36	-206.06	10	37.39	56.69	10	37.46	56.60
10	37.44	56.63	10	93.39	-206.26	10	37.50	56.54	10	37.47	56.58
10	37.44	56.62	10	93.36	-206.06	10	37.47	56.58	10	37.50	56.54
11	37.53	56.50	11	93.36	-206.06	11	37.53	56.50	11	37.49	56.55
11	37.54	56.49	11	93.36	-206.06	11	37.54	56.49	11	37.52	56.51
11	37.53	56.50	11	93.36	-206.06	11	37.52	56.52	11	37.53	56.50
11	37.53	56.50	11	93.36	-206.06	11	37.61	56.38	12	37.54	56.48

TABLE 4.6-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
12	37.61	56.38	12	93.36	-206.06	12	37.60	56.40	12	37.58	56.43
12	37.61	56.38	12	93.36	-206.06	13	37.61	56.38	12	37.59	56.41
12	37.59	56.42	12	93.51	-206.97	12	37.64	56.34	12	37.64	56.34
13	37.58	56.43	13	93.39	-206.26	13	37.60	56.40	13	37.64	56.34
13	37.65	56.33	13	93.36	-206.06	13	37.66	56.32	13	37.68	56.28
13	37.68	56.29	13	93.36	-206.06	13	37.68	56.29	13	37.66	56.31
14	37.65	56.33	14	93.53	-207.07	14	37.68	56.29	14	37.74	56.20
14	37.72	56.23	14	93.49	-206.87	14	37.75	56.18	14	37.71	56.24
14	37.75	56.18	14	93.46	-206.67	14	37.72	56.23	14	37.75	56.19
15	37.75	56.19	15	93.46	-206.67	15	37.76	56.17	15	37.75	56.19
15	37.78	56.14	15	93.46	-206.67	15	37.79	56.13	15	37.79	56.13
15	37.82	56.08	15	93.49	-206.87	15	37.81	56.09	15	37.81	56.10
15	37.81	56.09	15	93.53	-207.07	15	37.83	56.07	16	37.85	56.04
16	37.88	56.00	16	93.46	-206.67	16	37.75	56.19	16	37.86	56.02
16	37.81	56.09	16	93.53	-207.07	16	37.86	56.02	16	37.88	55.99
16	37.86	56.03	16	93.48	-206.77	16	37.88	55.99	16	37.95	55.89
17	37.96	55.88	17	93.46	-206.67	17	37.95	55.89	17	37.91	55.95
17	37.94	55.90	17	93.46	-206.67	17	37.96	55.88	17	37.92	55.93
17	37.93	55.92	17	93.46	-206.67	17	37.91	55.95	17	38.01	55.80
18	37.94	55.90	18	93.39	-206.26	18	37.97	55.86	18	38.03	55.78
18	38.03	55.76	18	93.48	-206.77	18	38.03	55.76	18	38.05	55.73
18	38.07	55.70	18	93.36	-206.06	18	58.12	5.59	18	38.07	55.70
19	38.07	55.71	19	93.36	-206.06	19	38.05	55.73	19	38.07	55.70
19	38.11	55.65	19	93.46	-206.67	19	38.12	55.64	19	38.16	55.58
19	38.09	55.68	19	93.36	-206.06	19	38.15	55.59	19	38.14	55.60
19	38.09	55.68	19	93.39	-206.26	19	38.16	55.58	19	38.18	55.54
20	38.18	55.55	20	93.46	-206.67	20	38.22	55.49	20	38.23	55.47
20	38.22	55.49	20	93.49	-206.87	20	38.21	55.50	20	38.30	55.37
20	38.22	55.49	20	93.46	-206.67	20	38.29	55.39	20	38.30	55.37
21	38.29	55.39	21	93.51	-206.97	21	38.28	55.40	21	38.37	55.27
21	38.30	55.37	21	93.46	-206.67	21	38.29	55.39	21	38.37	55.27
21	38.28	55.40	21	93.46	-206.67	21	38.33	55.33	21	38.43	55.18
22	38.37	55.27	22	93.53	-207.07	22	38.36	55.28	22	38.46	55.14
22	38.35	55.29	22	93.46	-206.67	22	38.42	55.19	22	38.57	54.97
22	38.40	55.22	22	93.49	-206.87	22	38.48	55.11	22	39.00	54.35
23	38.46	55.13	23	93.46	-206.67	23	38.52	55.05	23	38.03	55.78
23	38.47	55.12	23	93.53	-207.07	23	38.48	55.10	23	43.94	45.76
23	38.50	55.08	23	93.53	-207.07	23	38.55	55.00	23	47.26	38.12
23	38.56	54.99	23	93.49	-206.87	23	38.57	54.98	23	50.81	29.32
24	38.61	54.91	24	93.46	-206.67	24	38.63	54.88	24	54.38	18.55
24	38.68	54.81	24	93.49	-206.87	24	38.77	54.67	24	57.89	6.41
24	38.74	54.72	24	93.44	-206.57	24	38.77	54.68	24	60.27	-3.57
25	38.74	54.71	25	93.49	-206.87	25	38.85	54.56	25	61.90	-13.51
25	38.81	54.62	25	93.49	-206.87	25	38.90	54.48	25	63.48	-23.19

TABLE 4.6-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	38.83	54.58	25	93.51	-206.97	25	39.06	54.26	25	65.09	-33.05
26	38.92	54.46	26	93.46	-206.67	26	39.34	53.86	26	68.33	-52.86
26	38.95	54.42	26	93.46	-206.67	26	40.79	51.64	26	68.04	-51.13
26	39.06	54.26	26	93.49	-206.87	26	43.15	47.18	26	63.13	-21.03
27	39.10	54.21	27	93.53	-207.07	27	46.60	39.39	27	71.20	-70.45
27	39.12	54.17	27	93.46	-206.67	27	50.68	29.71	27	72.67	-79.41
27	39.26	53.98	27	93.46	-206.67	27	54.37	18.40	27	74.11	-88.26
27	39.34	53.86	27	93.51	-206.97	27	57.22	8.78	21	111.20	97.04
28	39.42	53.75	28	93.46	-206.67	28	59.75	-0.36	28	76.95	-105.61
28	39.53	53.61	28	93.46	-206.67	28	61.21	-9.33	28	78.18	-113.19
28	39.64	53.46	28	93.46	-206.67	28	62.61	-17.89	28	79.49	-121.17
29	39.75	53.21	29	93.46	-206.67	29	64.01	-26.43	29	80.61	-128.04
29	40.00	52.85	29	93.48	-206.77	29	65.37	-34.73	29	81.67	-134.51
29	40.86	51.51	29	93.46	-206.67	29	66.42	-41.20	29	82.79	-141.38
30	42.98	47.50	30	93.36	-206.06	30	67.62	-48.56	30	83.82	-147.65
30	45.90	41.32	30	93.43	-206.47	30	68.77	-55.58	30	84.89	-154.22
30	49.14	33.59	30	93.49	-206.87	30	69.68	-61.14	30	85.75	-159.47

TABLE 4.6-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.62	57.75	0	36.56	57.82	0	41.87	49.68	0	62.40	-16.60
0	36.63	57.74	0	36.56	57.82	0	41.87	49.68	0	62.70	-18.42
0	36.73	57.60	0	36.66	57.70	0	41.94	49.54	0	62.51	-17.28
0	36.75	57.57	0	36.67	57.67	0	41.92	49.58	0	61.48	-10.97
0	36.83	57.47	0	36.80	57.50	0	41.52	50.34	0	61.42	-10.56
0	36.84	57.46	0	36.81	57.49	0	42.02	49.38	0	62.42	-16.69
0	36.84	57.45	0	36.81	57.49	0	42.02	49.38	0	62.50	-17.18
1	36.86	57.43	1	36.82	57.48	1	42.08	49.27	1	62.52	-17.32
1	36.88	57.40	1	36.85	57.44	1	42.06	49.31	1	62.02	-14.26
1	36.91	57.36	1	36.87	57.41	1	42.06	49.30	1	62.03	-14.32
1	36.93	57.33	1	36.87	57.41	1	42.04	49.34	1	61.34	-10.10
2	36.90	57.38	2	36.87	57.42	2	42.06	49.31	2	62.73	-18.60
2	36.92	57.35	2	36.85	57.44	2	35.23	59.37	2	61.51	-11.16
2	36.91	57.36	2	36.87	57.42	2	42.08	49.27	2	62.02	-14.26
3	36.90	57.37	3	36.84	57.45	3	42.07	49.29	3	62.50	-17.20
3	36.90	57.37	3	36.86	57.43	3	42.07	49.29	3	62.50	-17.20
3	36.88	57.40	3	36.87	57.41	3	42.05	49.32	3	61.53	-11.26
4	36.95	57.31	4	36.90	57.38	4	42.08	49.27	4	61.52	-11.20
4	36.95	57.31	4	36.88	57.40	4	42.08	49.27	4	62.19	-15.27
4	36.99	57.25	4	36.94	57.32	4	35.32	59.27	4	61.31	-9.89
4	37.01	57.23	4	36.95	57.31	4	42.12	49.19	5	61.86	-13.30
5	37.04	57.19	5	36.97	57.28	5	42.16	49.11	5	62.18	-15.26
5	37.13	57.07	5	37.08	57.14	5	35.41	59.18	5	63.03	-20.44
5	37.09	57.12	5	37.08	57.14	5	35.53	59.04	5	61.48	-10.99
6	37.14	57.05	6	37.07	57.15	6	42.21	49.01	6	62.58	-17.69
6	37.17	57.01	6	37.11	57.09	6	42.24	48.95	6	62.09	-14.66
6	37.22	56.95	6	37.13	57.06	6	42.28	48.86	6	61.33	-10.02
7	37.20	56.97	7	37.17	57.01	7	42.28	48.87	7	63.03	-20.44
7	37.23	56.93	7	37.17	57.01	7	42.28	48.86	7	63.32	-22.23
7	37.24	56.92	7	37.20	56.97	7	42.29	48.84	7	61.85	-13.24
8	37.25	56.90	8	37.18	57.00	8	42.29	48.85	8	62.39	-16.50
8	37.27	56.88	8	37.24	56.92	8	42.34	48.75	8	61.34	-10.10
8	37.29	56.84	8	37.27	56.87	8	42.36	48.71	8	62.77	-18.83
8	37.32	56.81	8	37.27	56.87	8	42.33	48.76	8	62.70	-18.41
9	37.34	56.77	9	37.29	56.84	9	42.35	48.72	9	62.42	-16.69
9	37.39	56.70	9	37.33	56.79	9	42.40	48.64	9	61.51	-11.16
9	37.41	56.67	9	37.36	56.75	9	35.80	58.73	9	63.32	-22.23
10	37.40	56.68	10	37.44	56.62	10	42.43	48.57	10	62.51	-17.24
10	37.47	56.59	10	37.38	56.71	10	42.46	48.51	10	62.41	-16.62
10	37.47	56.59	10	37.42	56.66	10	42.47	48.49	10	61.34	-10.10
11	37.49	56.55	11	37.39	56.70	11	42.50	48.43	11	63.34	-22.33
11	37.49	56.56	11	37.44	56.63	11	42.50	48.44	11	62.51	-17.23
11	37.49	56.55	11	37.50	56.54	11	42.51	48.41	11	62.42	-16.73
12	37.56	56.45	12	37.49	56.56	12	42.53	48.37	12	62.51	-17.28

TABLE 4.6-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
12	37.57	56.44	12	37.51	56.53	12	42.56	48.32	12	61.61	-11.76
12	37.56	56.45	12	37.53	56.50	12	42.53	48.37	12	62.61	-17.90
12	37.61	56.39	12	37.54	56.49	12	42.58	48.28	12	63.99	-26.30
13	37.64	56.34	13	37.60	56.40	13	42.60	48.25	13	66.03	-38.82
13	37.68	56.29	13	37.61	56.38	13	36.17	58.30	13	68.18	-51.94
13	37.67	56.30	13	37.63	56.36	13	42.62	48.21	13	71.42	-71.79
14	37.67	56.30	14	37.68	56.29	14	42.75	47.95	14	74.54	-90.85
14	37.69	56.27	14	37.67	56.30	14	36.33	58.11	14	77.51	-109.04
14	37.75	56.19	14	37.71	56.24	14	43.06	47.36	14	80.94	-130.06
15	37.78	56.14	15	37.75	56.18	15	44.93	44.07	15	83.65	-146.64
15	37.79	56.12	15	37.78	56.14	15	47.78	37.09	15	86.82	-166.04
15	37.81	56.09	15	37.79	56.13	15	51.64	26.47	15	88.67	-177.36
16	37.86	56.03	16	37.83	56.07	16	56.56	11.12	16	89.40	-181.81
16	37.88	55.99	16	37.88	56.00	16	61.26	-9.61	16	93.39	-206.26
16	37.88	55.99	16	37.87	56.01	16	63.89	-25.73	16	93.46	-206.67
16	37.90	55.97	16	38.41	55.21	16	59.84	-0.92	16	93.49	-206.87
17	37.97	55.86	17	40.43	52.22	17	68.91	-56.40	17	93.36	-206.06
17	37.95	55.89	17	37.96	55.88	17	71.33	-71.24	17	93.46	-206.67
17	38.01	55.80	17	47.84	36.85	17	73.68	-85.62	17	93.46	-206.67
18	38.00	55.82	18	54.08	20.89	18	75.93	-99.41	18	93.36	-206.06
18	38.09	55.68	18	58.27	5.05	18	78.02	-112.18	18	93.49	-206.87
18	38.22	55.48	18	57.22	8.77	18	80.30	-126.12	18	93.46	-206.67
19	38.63	54.89	19	63.34	-22.36	19	82.26	-138.15	19	93.46	-206.67
19	39.97	52.90	19	65.55	-35.89	19	84.23	-150.18	19	93.46	-206.67
19	36.51	57.89	19	67.66	-48.75	19	86.21	-162.30	19	93.46	-206.67
20	46.05	40.86	20	69.66	-61.00	20	88.27	-174.93	20	93.49	-206.87
20	51.04	28.55	20	71.64	-73.15	20	90.44	-188.17	20	93.46	-206.67
20	55.96	13.24	20	73.58	-84.99	20	92.55	-201.11	20	93.53	-207.07
20	59.22	1.68	20	75.51	-96.82	20	93.51	-206.97	20	93.72	-208.28
21	59.69	-0.	21	93.82	-208.89	21	93.49	-206.87	21	93.72	-208.28
21	59.69	-0.	21	79.08	-118.64	21	93.49	-206.87	21	93.72	-208.28
21	59.69	-0.	21	80.65	-128.25	21	93.49	-206.87	21	93.72	-208.28
22	59.69	-0.	22	82.35	-138.65	22	93.49	-206.87	22	93.72	-208.28
22	59.69	-0.	22	83.95	-148.46	22	93.53	-207.07	22	93.77	-208.59
22	59.69	-0.	22	85.78	-159.67	22	93.53	-207.07	22	93.74	-208.39
23	59.69	-0.	23	87.60	-170.79	23	93.53	-207.07	23	93.77	-208.59
23	59.69	-0.	23	89.45	-182.11	23	93.53	-207.07	23	93.74	-208.39
23	59.69	-0.	23	91.25	-193.13	23	93.53	-207.07	23	93.79	-208.69
24	59.69	-0.	24	93.00	-203.84	24	93.62	-207.68	24	93.76	-208.49
24	59.69	-0.	24	93.46	-206.67	24	93.74	-208.39	24	93.77	-208.59
24	59.69	-0.	24	93.46	-206.67	24	93.72	-208.28	24	93.74	-208.39
24	59.69	-0.	24	93.51	-206.97	24	93.74	-208.39	24	93.76	-208.49
25	59.69	-0.	25	93.46	-206.67	25	93.72	-208.28	25	93.76	-208.49
25	59.69	-0.	25	93.49	-206.87	25	93.72	-208.28	25	93.74	-208.39

TABLE 4.6-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	86.09	-161.59	25	93.46	-206.67	25	93.67	-207.98	25	93.71	-208.18
26	87.81	-172.11	26	93.49	-206.87	26	93.71	-208.18	26	93.72	-208.28
26	89.23	-180.80	26	93.46	-206.67	26	93.71	-208.18	26	93.69	-208.08
26	90.92	-191.10	26	93.53	-207.07	26	93.72	-208.28	26	93.77	-208.59
27	92.37	-200.00	27	93.56	-207.27	27	93.72	-208.28	27	93.77	-208.59
27	93.36	-206.06	27	93.72	-208.28	27	93.72	-208.28	27	93.76	-208.49
27	93.36	-206.06	27	93.72	-208.28	27	93.74	-208.39	27	93.72	-208.28
28	93.36	-206.06	28	93.74	-208.39	28	93.74	-208.39	28	93.74	-208.39
28	92.70	-202.02	28	93.69	-208.08	28	93.71	-208.18	28	93.71	-208.18
28	92.70	-202.02	28	93.66	-207.88	28	93.69	-208.08	28	93.69	-208.08
28	93.36	-206.06	28	93.69	-208.08	28	93.72	-208.28	28	93.72	-208.28
29	93.36	-206.06	29	93.66	-207.88	29	93.71	-208.18	29	93.71	-208.18
29	92.70	-202.02	29	93.69	-208.08	29	93.72	-208.28	29	93.71	-208.18
29	92.70	-202.02	29	95.34	-218.19	29	93.71	-208.18	29	93.72	-208.28
30	92.70	-202.02	30	93.62	-207.68	30	93.69	-208.08	30	93.69	-208.08
30	92.70	-202.02	30	93.69	-208.08	30	93.67	-207.98	30	93.71	-208.18
30	92.70	-202.02	30	93.69	-208.08	30	93.69	-208.08	30	93.71	-208.18

TABLE 4.6-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.66	57.70	0	36.62	57.75	0	37.62	56.37	0	39.64	53.46
0	36.64	57.72	0	36.65	57.71	0	37.70	56.26	0	39.89	53.02
0	36.74	57.59	0	36.72	57.61	0	38.38	55.25	0	41.87	49.68
0	36.72	57.61	0	36.71	57.62	0	38.35	55.29	0	42.02	49.38
0	36.89	57.39	0	37.02	57.22	0	41.74	49.92	0	46.85	38.87
0	37.04	57.19	0	36.63	57.73	0	44.92	44.08	0	50.75	29.50
0	37.05	57.18	0	37.39	56.69	0	41.56	50.27	0	53.03	22.84
1	37.04	57.19	1	37.61	56.39	1	47.48	37.78	1	54.37	18.42
1	37.11	57.09	1	38.26	55.43	1	43.09	47.30	1	54.50	15.66
1	37.03	57.20	1	37.92	55.93	1	47.89	36.68	1	54.43	15.86
1	37.05	57.18	1	38.37	55.27	1	43.17	47.15	1	54.50	15.66
2	37.04	57.19	2	38.18	55.54	2	42.92	47.61	2	54.47	15.75
2	37.10	57.11	2	38.82	54.60	2	47.97	36.41	2	55.93	13.35
2	37.11	57.09	2	38.58	54.96	2	47.86	36.79	2	55.95	13.30
3	37.10	57.11	3	38.90	54.49	3	47.78	37.12	3	55.97	13.22
3	37.10	57.11	3	39.00	54.34	3	51.43	27.33	3	55.99	13.14
3	36.99	57.26	3	38.97	54.38	3	47.76	37.17	3	56.28	12.12
4	37.15	57.04	4	39.39	53.79	4	43.40	46.73	4	56.50	11.33
4	37.07	57.15	4	39.72	53.35	4	49.42	32.95	4	57.64	7.28
4	37.24	56.91	4	38.71	54.76	4	49.05	33.77	4	57.92	6.30
5	37.36	56.75	5	37.70	56.25	5	50.48	30.31	5	59.23	1.62
5	37.07	57.15	5	37.13	57.06	5	51.41	27.37	5	60.07	-2.30
5	37.44	56.62	5	38.04	55.75	5	51.80	24.78	5	60.90	-7.42
5	37.63	56.35	5	38.48	55.10	5	53.92	21.29	5	61.52	-11.23
6	37.24	56.91	6	39.82	53.12	6	54.13	20.76	6	62.07	-14.57
6	37.44	56.63	6	38.22	55.49	6	54.38	19.46	6	62.35	-16.29
6	37.32	56.80	6	39.68	53.41	6	54.28	20.18	6	62.62	-17.95
7	37.49	56.56	7	40.23	52.52	7	54.14	20.71	7	62.67	-18.25
7	37.31	56.82	7	39.27	53.97	7	53.60	21.92	7	62.71	-18.48
7	37.33	56.79	7	39.07	54.24	7	54.28	20.21	7	63.12	-20.97
8	37.75	56.18	8	38.57	54.97	8	53.80	21.55	8	63.02	-20.37
8	37.39	56.70	8	40.34	52.35	8	54.37	19.64	8	63.51	-23.35
8	37.77	56.15	8	38.35	55.30	8	53.37	22.31	8	63.19	-21.41
8	37.40	56.68	8	40.69	51.80	9	54.25	20.33	9	63.68	-24.42
9	37.53	56.50	9	38.59	54.94	9	53.84	21.48	9	63.47	-23.16
9	37.44	56.62	9	39.87	53.05	9	54.17	20.64	9	63.88	-25.65
9	37.54	56.49	9	40.66	51.85	9	54.39	18.91	9	64.23	-27.78
10	37.68	56.29	10	40.79	51.63	10	54.41	15.92	10	64.64	-30.32
10	37.49	56.56	10	40.37	52.31	10	54.32	17.80	10	64.41	-28.90
10	37.77	56.15	10	34.59	60.07	10	57.75	6.88	10	66.40	-41.09
11	37.54	56.49	11	43.84	45.89	11	58.72	3.44	11	66.79	-43.45
11	38.48	55.10	11	48.46	35.12	11	62.11	-14.84	11	69.52	-60.16
11	40.51	52.10	11	53.02	22.86	11	64.49	-29.40	11	71.73	-73.68
12	41.71	49.98	12	56.90	9.92	12	66.57	-42.09	12	73.51	-84.61

TABLE 4.6-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
12	46.70	39.17	12	60.78	-6.67	12	68.79	-55.67	12	75.44	-96.40
12	51.77	24.85	12	63.92	-25.86	12	71.31	-71.11	12	77.61	-109.65
12	56.79	10.31	12	66.48	-41.54	12	73.61	-85.19	13	79.52	-121.37
13	61.47	-10.86	13	69.07	-57.39	13	75.92	-99.33	13	81.73	-134.92
13	59.69	-0.	13	72.01	-75.42	13	78.47	-114.91	13	84.20	-149.97
13	59.69	-0.	13	74.80	-92.48	13	82.63	-140.37	13	86.82	-166.04
14	59.69	-0.	14	77.36	-108.13	14	83.45	-145.43	14	89.45	-182.11
14	73.45	-84.19	14	79.89	-123.60	14	86.04	-161.29	14	92.20	-198.99
14	59.69	-0.	14	82.26	-138.15	14	88.79	-178.07	14	93.46	-206.67
15	78.53	-115.31	15	84.82	-153.81	15	91.49	-194.64	15	93.46	-206.67
15	80.91	-129.86	15	87.38	-169.48	15	93.49	-206.87	15	93.72	-208.28
15	83.34	-144.72	15	90.06	-185.85	15	93.53	-207.07	15	93.77	-208.59
16	59.69	-0.	16	92.80	-202.63	16	93.61	-207.58	16	93.69	-208.08
16	88.46	-176.05	16	93.51	-206.97	16	93.72	-208.28	16	93.74	-208.39
16	91.08	-192.12	16	93.51	-206.97	16	93.72	-208.28	16	93.72	-208.28
16	93.66	-207.88	16	93.76	-208.49	16	93.76	-208.49	17	93.72	-208.28
17	93.64	-207.78	17	93.71	-208.18	17	93.72	-208.28	17	93.74	-208.39
17	93.66	-207.88	17	93.71	-208.18	17	93.72	-208.28	17	93.74	-208.39
17	93.59	-207.48	17	93.71	-208.18	17	93.74	-208.39	17	93.71	-208.18
18	93.62	-207.68	18	93.71	-208.18	18	93.69	-208.08	18	93.69	-208.08
18	93.61	-207.58	18	93.72	-208.28	18	93.74	-208.39	18	93.74	-208.39
18	93.59	-207.48	18	93.69	-208.08	18	93.69	-208.08	18	93.69	-208.08
19	93.62	-207.68	19	93.67	-207.98	19	93.77	-208.59	19	93.74	-208.39
19	93.59	-207.48	19	93.69	-208.08	19	93.71	-208.18	19	93.72	-208.28
19	93.62	-207.68	19	93.67	-207.98	19	93.69	-208.08	19	93.71	-208.18
20	93.66	-207.88	20	93.71	-208.18	20	93.74	-208.39	20	93.71	-208.18
20	93.62	-207.68	20	93.69	-208.08	20	93.74	-208.39	20	93.72	-208.28
20	93.62	-207.68	20	93.74	-208.39	20	93.71	-208.18	20	93.77	-208.59
20	93.69	-208.08	20	93.77	-208.59	20	93.79	-208.69	20	93.76	-208.49
21	93.66	-207.88	21	93.72	-208.28	21	93.74	-208.39	21	93.72	-208.28
21	93.67	-207.98	21	93.74	-208.39	21	93.72	-208.28	21	93.76	-208.49
21	93.69	-208.08	21	93.76	-208.49	21	93.77	-208.59	21	93.76	-208.49
22	93.69	-208.08	22	93.77	-208.59	22	93.79	-208.69	22	93.79	-208.69
22	93.76	-208.49	22	93.79	-208.69	22	93.79	-208.69	22	93.81	-208.79
22	93.69	-208.08	22	93.77	-208.59	22	93.79	-208.69	22	93.79	-208.69
23	93.72	-208.28	23	93.77	-208.59	23	93.79	-208.69	23	93.81	-208.79
23	93.76	-208.49	23	93.79	-208.69	23	93.76	-208.49	23	93.77	-208.59
23	93.77	-208.59	23	93.79	-208.69	23	93.81	-208.79	23	93.79	-208.69
24	93.77	-208.59	24	93.77	-208.59	24	93.77	-208.59	24	93.77	-208.59
24	93.76	-208.49	24	93.74	-208.39	24	93.76	-208.49	24	93.77	-208.59
24	93.72	-208.28	24	93.77	-208.59	24	93.74	-208.39	24	93.76	-208.49
24	93.74	-208.39	24	93.71	-208.18	24	93.77	-208.59	24	93.74	-208.39
25	93.76	-208.49	25	93.76	-208.49	25	93.77	-208.59	25	93.77	-208.59
25	93.74	-208.39	25	93.76	-208.49	25	93.74	-208.39	25	93.72	-208.28

TABLE 4.6-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	93.72	-208.28	25	93.71	-208.18	25	93.72	-208.28	25	93.69	-208.08
26	93.72	-208.28	26	93.72	-208.28	26	93.72	-208.28	26	93.71	-208.18
26	93.74	-208.39	26	93.72	-208.28	26	93.74	-208.39	26	93.71	-208.18
26	93.76	-208.49	26	93.74	-208.39	26	93.77	-208.59	26	93.77	-208.59
27	93.76	-208.49	27	93.77	-208.59	27	93.76	-208.49	27	93.77	-208.59
27	93.76	-208.49	27	93.74	-208.39	27	93.72	-208.28	27	93.74	-208.39
27	93.76	-208.49	27	93.76	-208.49	27	93.74	-208.39	27	93.74	-208.39
28	93.76	-208.49	28	93.76	-208.49	28	93.77	-208.59	28	93.76	-208.49
28	93.74	-208.39	28	93.74	-208.39	28	93.72	-208.28	28	93.74	-208.39
28	93.72	-208.28	28	93.74	-208.39	28	93.71	-208.18	28	93.72	-208.28
28	93.71	-208.18	28	93.72	-208.28	28	93.74	-208.39	29	93.72	-208.28
29	93.71	-208.18	29	93.71	-208.18	29	93.69	-208.08	29	93.72	-208.28
29	93.72	-208.28	29	93.74	-208.39	29	93.74	-208.39	29	93.77	-208.59
29	93.69	-208.08	29	93.71	-208.18	29	93.72	-208.28	29	93.74	-208.39
30	93.69	-208.08	30	93.69	-208.08	30	93.67	-207.98	30	93.67	-207.98
30	93.71	-208.18	30	93.69	-208.08	30	93.71	-208.18	30	93.72	-208.28
30	93.71	-208.18	30	93.69	-208.08	30	93.71	-208.18	30	93.72	-208.28

TABLE 4.6-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	41.93	49.56	0	43.28	46.94	0	49.55	32.66	0	93.64	-207.78
0	42.36	48.71	0	43.94	45.75	0	50.60	29.94	0	93.53	-207.07
0	45.48	42.66	0	47.89	36.66	0	55.87	13.58	0	93.69	-208.08
0	45.67	42.05	0	48.12	35.97	0	56.19	12.45	0	93.69	-208.08
0	51.77	24.86	0	56.15	12.56	0	65.34	-34.55	0	93.69	-208.08
0	55.93	13.36	0	60.11	-2.60	0	73.53	-84.69	0	93.62	-207.68
0	58.15	5.49	0	61.73	-12.50	0	79.56	-121.58	0	93.66	-207.88
1	59.67	0.07	1	62.93	-19.84	1	81.73	-134.92	1	93.66	-207.88
1	59.69	-0.	1	63.73	-24.72	1	81.88	-135.82	1	93.69	-208.08
1	59.69	-0.	1	63.78	-25.01	1	79.95	-124.00	1	93.67	-207.98
2	59.69	-0.	2	64.07	-26.81	2	79.21	-119.45	2	93.66	-207.88
2	59.69	-0.	2	64.34	-28.44	2	78.76	-116.72	2	93.69	-208.08
2	59.69	-0.	2	65.36	-34.70	2	80.33	-126.32	2	93.64	-207.78
2	59.69	-0.	2	65.67	-36.57	2	80.13	-125.11	2	93.62	-207.68
3	59.69	-0.	3	65.95	-38.31	3	80.08	-124.81	3	93.61	-207.58
3	59.69	-0.	3	66.26	-40.22	3	80.15	-125.21	3	93.62	-207.68
3	59.69	-0.	3	66.72	-43.01	3	80.50	-127.34	3	93.62	-207.68
4	59.69	-0.	4	67.16	-45.70	4	80.83	-129.36	4	93.62	-207.68
4	59.69	-0.	4	68.23	-52.24	4	82.48	-139.46	4	93.53	-207.07
4	59.69	-0.	4	68.56	-54.27	4	82.79	-141.38	4	93.62	-207.68
5	59.69	-0.	5	69.69	-61.19	5	84.53	-151.99	5	93.56	-207.27
5	59.69	-0.	5	70.66	-67.16	5	85.96	-160.79	5	93.56	-207.27
5	59.69	-0.	5	71.55	-72.56	5	87.18	-168.26	5	93.62	-207.68
5	59.69	-0.	5	72.47	-78.22	5	88.41	-175.74	5	93.67	-207.98
6	59.69	-0.	6	73.14	-82.30	6	89.05	-179.68	6	93.66	-207.88
6	59.69	-0.	6	73.65	-85.41	6	89.07	-179.79	6	93.62	-207.68
6	59.69	-0.	6	74.06	-87.95	6	89.45	-182.11	6	93.62	-207.68
7	59.69	-0.	7	74.45	-90.32	7	89.55	-182.72	7	93.62	-207.68
7	59.69	-0.	7	74.67	-91.70	7	89.38	-181.71	7	93.62	-207.68
7	59.69	-0.	7	75.38	-96.00	7	90.45	-188.27	7	93.53	-207.07
8	59.69	-0.	8	75.57	-97.21	8	90.37	-187.77	8	93.56	-207.27
8	59.69	-0.	8	76.29	-101.57	8	91.44	-194.34	8	93.62	-207.68
8	59.69	-0.	8	76.29	-101.57	8	91.02	-191.71	8	93.53	-207.07
9	59.69	-0.	9	76.95	-105.61	9	92.06	-198.08	9	93.49	-206.87
9	59.69	-0.	9	77.09	-106.52	9	91.87	-196.97	9	93.46	-206.67
9	59.69	-0.	9	77.64	-109.85	9	92.53	-201.01	9	93.49	-206.87
9	59.69	-0.	9	78.17	-113.09	9	93.36	-206.06	9	93.67	-207.98
10	59.69	-0.	10	78.70	-116.32	10	93.46	-206.67	10	93.66	-207.88
10	59.69	-0.	10	78.70	-116.32	10	93.36	-206.06	10	93.66	-207.88
10	59.69	-0.	10	80.55	-127.64	10	93.36	-206.06	10	93.64	-207.78
11	59.69	-0.	11	81.01	-130.47	11	93.36	-206.06	11	93.64	-207.78
11	59.69	-0.	11	83.35	-144.82	11	93.49	-206.87	11	93.67	-207.98
11	59.69	-0.	11	85.27	-156.54	11	93.36	-206.06	11	93.61	-207.58
12	80.73	-128.75	12	87.17	-168.16	12	93.36	-206.06	12	93.66	-207.88

TABLE 4.6-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
12	82.48	-139.46	12	89.15	-180.29	12	93.36	-206.06	12	93.66	-207.88
12	84.58	-152.30	12	91.38	-193.93	12	93.46	-206.67	12	93.74	-208.39
13	86.66	-165.03	13	93.44	-206.57	13	93.69	-208.08	13	93.74	-208.39
13	88.93	-178.98	13	93.44	-206.57	13	93.67	-207.98	13	93.69	-208.08
13	91.59	-195.25	13	93.46	-206.67	13	93.74	-208.39	13	93.71	-208.18
13	92.70	-202.02	13	93.66	-207.88	13	93.71	-208.18	13	93.72	-208.28
14	92.70	-202.02	14	93.69	-208.08	14	93.72	-208.28	14	93.74	-208.39
14	93.36	-206.06	14	93.71	-208.18	14	93.76	-208.49	14	93.77	-208.59
14	93.53	-207.07	14	93.71	-208.18	14	93.74	-208.39	14	93.72	-208.28
15	93.56	-207.27	15	93.72	-208.28	15	93.77	-208.59	15	93.74	-208.39
15	93.56	-207.27	15	93.74	-208.39	15	93.76	-208.49	15	93.76	-208.49
15	93.77	-208.59	15	93.81	-208.79	5	93.79	-208.69	15	93.79	-208.69
16	93.71	-208.18	16	93.77	-208.59	16	93.77	-208.59	16	93.79	-208.69
16	93.77	-208.59	16	93.72	-208.28	16	93.72	-208.28	16	93.77	-208.59
16	93.74	-208.39	16	93.76	-208.49	16	93.72	-208.28	16	93.77	-208.59
17	93.72	-208.28	17	93.71	-208.18	17	93.72	-208.28	17	93.72	-208.28
17	93.71	-208.18	17	93.72	-208.28	17	93.71	-208.18	17	93.72	-208.28
17	93.72	-208.28	17	93.72	-208.28	17	93.72	-208.28	17	93.72	-208.28
17	93.69	-208.08	17	93.71	-208.18	17	93.72	-208.28	17	93.74	-208.39
18	93.71	-208.18	18	93.72	-208.28	18	93.74	-208.39	18	93.71	-208.18
18	93.72	-208.28	18	93.74	-208.39	18	93.71	-208.18	18	93.71	-208.18
18	93.71	-208.18	18	93.74	-208.39	18	93.69	-208.08	18	93.72	-208.28
19	93.72	-208.28	19	93.74	-208.39	19	93.74	-208.39	19	93.69	-208.08
19	93.71	-208.18	19	93.74	-208.39	19	93.72	-208.28	19	93.71	-208.18
19	93.72	-208.28	19	93.71	-208.18	19	93.71	-208.18	19	93.72	-208.28
20	93.74	-208.39	20	93.72	-208.28	20	93.72	-208.28	20	93.74	-208.39
20	93.74	-208.39	20	93.72	-208.28	20	93.74	-208.39	20	93.74	-208.39
20	93.74	-208.39	20	93.72	-208.28	20	93.72	-208.28	20	93.74	-208.39
21	93.74	-208.39	21	93.72	-208.28	21	93.74	-208.39	21	93.74	-208.39
21	93.72	-208.28	21	93.71	-208.18	21	93.74	-208.39	21	93.74	-208.39
21	93.76	-208.49	21	93.77	-208.59	21	93.74	-208.39	21	93.77	-208.59
21	93.76	-208.49	21	93.71	-208.18	21	93.74	-208.39	21	93.77	-208.59
22	93.81	-208.79	22	93.77	-208.59	22	93.77	-208.59	22	93.77	-208.59
22	93.79	-208.69	22	93.81	-208.79	22	93.79	-208.69	22	93.81	-208.79
22	93.74	-208.39	22	93.77	-208.59	22	93.77	-208.59	22	93.79	-208.69
23	93.77	-208.59	23	93.79	-208.69	23	93.77	-208.59	23	93.79	-208.69
23	93.77	-208.59	23	93.77	-208.59	23	93.79	-208.69	23	93.79	-208.69
23	93.77	-208.59	23	93.77	-208.59	23	93.81	-208.79	23	93.79	-208.69
24	93.79	-208.69	24	93.77	-208.59	24	93.76	-208.49	24	93.77	-208.59
24	93.74	-208.39	24	93.76	-208.49	24	93.74	-208.39	24	93.74	-208.39
24	93.76	-208.49	24	93.74	-208.39	24	93.76	-208.49	24	93.74	-208.39
25	93.72	-208.28	25	93.74	-208.39	25	93.74	-208.39	25	93.77	-208.59
25	93.77	-208.59	25	93.76	-208.49	25	93.77	-208.59	25	93.79	-208.69
25	93.74	-208.39	25	93.76	-208.49	25	93.74	-208.39	25	93.71	-208.18

TABLE 4.6-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	93.71	-208.18	25	93.76	-208.49	25	93.74	-208.39	25	96.12	-222.94
26	93.72	-208.28	26	93.76	-208.49	26	93.72	-208.28	26	93.72	-208.28
26	93.72	-208.28	26	93.74	-208.39	26	93.74	-208.39	26	93.79	-208.69
26	93.77	-208.59	26	93.76	-208.49	26	93.77	-208.59	26	93.77	-208.59
27	93.76	-208.49	27	93.77	-208.59	27	93.77	-208.59	27	93.76	-208.49
27	93.76	-208.49	27	93.74	-208.39	27	93.74	-208.39	27	93.74	-208.39
27	93.76	-208.49	27	93.76	-208.49	27	93.76	-208.49	27	93.74	-208.39
28	93.74	-208.39	28	93.77	-208.59	28	93.77	-208.59	28	93.77	-208.59
28	93.72	-208.28	28	93.72	-208.28	28	93.74	-208.39	27	93.72	-208.28
28	93.74	-208.39	28	93.72	-208.28	28	93.76	-208.49	28	93.74	-208.39
29	93.72	-208.28	29	93.74	-208.39	29	93.76	-208.49	29	93.74	-208.39
39	6539.95	309.65	29	93.74	-208.39	29	93.71	-208.18	29	93.69	-208.08
29	93.76	-208.49	29	93.74	-208.39	29	93.74	-208.39	29	93.76	-208.49
29	93.67	-207.98	29	93.69	-208.08	29	93.71	-208.18	29	93.72	-208.28
30	93.69	-208.08	30	93.67	-207.98	30	93.69	-208.08	30	93.67	-207.98
30	93.74	-208.39	30	93.71	-208.18	30	93.69	-208.08	30	93.71	-208.18
30	93.74	-208.39	30	93.72	-208.28	30	93.74	-208.39	30	93.71	-208.18

TABLE 4.6-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.74	57.59	0	36.64	57.72	0	36.71	57.62	0	36.73	57.60
0	36.66	57.70	0	36.65	57.71	0	36.71	57.62	0	36.75	57.57
0	36.75	57.57	0	36.72	57.61	0	36.80	57.51	0	36.84	57.45
0	36.74	57.58	0	36.74	57.58	0	36.80	57.50	0	36.80	57.50
0	36.82	57.48	0	36.84	57.46	0	36.88	57.40	0	36.96	57.30
0	36.89	57.39	0	36.86	57.43	0	36.96	57.30	0	36.98	57.27
0	36.86	57.43	0	36.87	57.42	0	36.96	57.29	0	36.97	57.28
1	36.90	57.37	1	36.88	57.40	1	36.96	57.29	1	37.01	57.23
1	36.88	57.40	1	36.90	57.37	1	36.99	57.25	1	37.03	57.20
1	36.92	57.35	1	36.92	57.35	1	36.99	57.26	1	37.03	57.20
2	36.91	57.36	2	36.90	57.38	2	36.99	57.26	2	37.03	57.20
2	36.88	57.40	2	36.88	57.40	2	36.96	57.30	2	37.05	57.17
2	36.96	57.30	2	36.91	57.36	2	36.99	57.26	2	37.02	57.21
2	36.92	57.35	2	36.93	57.34	2	36.99	57.26	2	37.04	57.19
3	36.95	57.31	3	36.93	57.34	3	37.01	57.23	3	37.07	57.15
3	36.96	57.29	3	36.91	57.36	3	37.00	57.24	3	37.03	57.20
3	36.96	57.30	3	36.95	57.31	2	37.05	57.18	2	37.03	57.20
4	36.97	57.28	4	36.99	57.25	4	37.08	57.14	4	37.13	57.07
4	37.04	57.19	4	36.99	57.26	4	37.11	57.10	4	37.11	57.10
4	37.01	57.23	4	37.03	57.20	4	37.12	57.08	4	37.22	56.95
5	37.04	57.19	5	37.07	57.15	5	37.11	57.10	5	37.18	57.00
5	37.07	57.15	5	37.09	57.12	5	37.16	57.03	5	37.22	56.95
5	37.11	57.09	5	37.13	57.06	5	37.20	56.97	5	37.18	57.00
6	37.16	57.02	6	37.18	57.00	6	37.24	56.91	6	37.29	56.84
6	37.16	57.03	6	37.19	56.99	6	37.28	56.86	6	37.32	56.80
6	37.21	56.96	6	37.24	56.91	6	37.29	56.84	6	37.31	56.82
6	37.22	56.94	6	37.26	56.89	6	37.33	56.79	6	37.36	56.75
7	37.23	56.93	7	37.24	56.92	7	37.34	56.77	7	37.40	56.68
7	37.25	56.90	7	37.29	56.85	7	37.34	56.78	7	37.40	56.68
7	37.29	56.85	7	37.29	56.84	7	37.34	56.77	7	37.38	56.71
8	37.30	56.83	8	37.30	56.83	8	37.38	56.71	8	37.42	56.66
8	37.32	56.81	8	37.33	56.79	8	37.41	56.67	8	37.46	56.60
8	37.35	56.76	8	37.36	56.75	8	37.47	56.59	8	37.47	56.59
9	37.35	56.76	9	37.34	56.78	9	37.45	56.61	9	37.47	56.58
9	37.39	56.70	9	37.39	56.69	9	37.47	56.59	9	37.53	56.50
9	37.39	56.69	9	37.42	56.66	9	37.47	56.59	9	37.54	56.49
9	37.45	56.61	9	37.47	56.59	10	37.56	56.46	10	37.60	56.40
10	37.44	56.62	10	37.44	56.62	10	37.52	56.51	10	37.56	56.45
10	37.47	56.58	10	37.47	56.58	10	37.54	56.49	10	37.60	56.40
10	37.49	56.56	10	37.51	56.53	10	37.60	56.40	10	37.69	56.27
11	37.56	56.45	11	37.56	56.46	11	37.61	56.38	11	37.68	56.29
11	37.52	56.51	11	37.54	56.48	11	37.61	56.38	11	37.61	56.39
11	37.54	56.49	11	37.55	56.47	11	37.60	56.40	11	37.65	56.33
12	37.56	56.46	12	37.56	56.45	12	37.66	56.32	12	37.69	56.27

TABLE 4.6-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
12	37.59	56.42	12	37.59	56.42	12	37.70	56.25	12	37.70	56.25
12	37.61	56.39	12	37.61	56.39	12	37.74	56.20	12	37.73	56.21
13	37.65	56.33	13	37.64	56.34	13	37.70	56.25	13	37.77	56.16
13	59.69	-0.	13	37.65	56.33	13	37.71	56.24	13	37.72	56.22
13	59.69	-0.	13	37.70	56.26	13	37.72	56.23	13	37.81	56.09
13	59.69	-0.	13	37.70	56.25	13	37.78	56.14	14	37.81	56.09
14	59.69	-0.	14	37.72	56.22	14	37.79	56.13	14	37.81	56.09
14	59.69	-0.	14	37.74	56.20	14	37.82	56.08	14	37.80	56.11
14	59.69	-0.	14	37.75	56.18	14	37.83	56.07	14	37.88	55.99
15	59.69	-0.	15	37.78	56.14	15	37.85	56.04	15	37.90	55.96
15	59.69	-0.	15	37.81	56.09	15	37.88	56.00	15	37.91	55.95
15	59.69	-0.	15	37.85	56.04	15	37.91	55.95	15	37.95	55.89
16	59.69	-0.	16	37.83	56.07	16	37.92	55.94	16	37.94	55.90
16	59.69	-0.	16	37.87	56.01	16	37.95	55.89	16	37.98	55.85
16	59.69	-0.	16	37.87	56.01	16	37.97	55.86	16	37.98	55.85
17	59.69	-0.	17	37.93	55.92	17	37.99	55.83	17	38.01	55.81
17	59.69	-0.	17	37.94	55.90	17	37.99	55.83	17	38.05	55.74
17	59.69	-0.	17	37.96	55.88	17	38.04	55.75	17	38.01	55.80
17	59.69	-0.	17	38.00	55.82	17	38.04	55.75	17	38.10	55.67
18	59.69	-0.	18	38.02	55.79	18	38.08	55.69	18	38.12	55.63
18	59.69	-0.	18	38.03	55.76	18	38.11	55.65	18	38.15	55.59
18	59.69	-0.	18	38.08	55.69	18	38.14	55.60	18	38.19	55.53
19	59.69	-0.	19	38.12	55.63	19	38.18	55.55	19	38.20	55.52
19	59.69	-0.	19	38.12	55.64	19	38.18	55.55	19	38.23	55.47
19	59.69	-0.	19	38.13	55.62	19	38.20	55.51	19	38.26	55.43
20	59.69	-0.	20	38.18	55.54	20	38.23	55.47	20	38.29	55.38
20	59.69	-0.	20	38.20	55.52	20	38.30	55.37	20	38.34	55.31
20	59.69	-0.	20	38.22	55.48	20	38.31	55.35	20	38.38	55.25
21	59.69	-0.	21	38.26	55.43	21	38.33	55.32	21	38.38	55.25
21	59.69	-0.	21	38.29	55.39	21	36.93	57.33	21	38.39	55.23
21	59.69	-0.	21	38.33	55.32	21	38.41	55.21	21	38.46	55.13
21	59.69	-0.	21	38.35	55.30	21	38.43	55.18	21	38.50	55.08
22	59.69	-0.	22	38.43	55.18	22	38.46	55.13	22	38.48	55.10
22	59.69	-0.	22	38.46	55.13	22	38.57	54.98	22	38.63	54.89
22	59.69	-0.	22	38.47	55.12	22	38.51	55.06	22	38.57	54.97
23	59.69	-0.	23	38.52	55.05	23	38.59	54.94	23	38.66	54.85
23	59.69	-0.	23	38.55	55.00	23	38.63	54.89	23	38.66	54.84
23	59.69	-0.	23	38.59	54.95	23	38.67	54.83	23	38.71	54.76
24	59.69	-0.	24	38.63	54.88	24	38.68	54.81	24	38.72	54.75
24	59.69	-0.	24	38.65	54.86	24	38.70	54.77	24	38.79	54.65
24	59.69	-0.	24	38.72	54.75	24	38.83	54.58	24	38.92	54.46
25	59.69	-0.	25	38.74	54.72	25	38.82	54.60	25	38.88	54.52
25	59.69	-0.	25	38.79	54.64	25	38.88	54.52	25	38.91	54.47
25	59.69	-0.	25	38.85	54.56	25	38.93	54.45	25	38.96	54.40

TABLE 4.6-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
25	59.69	-0.	25	38.91	54.47	25	38.97	54.39	25	38.98	54.37
26	59.69	-0.	26	38.96	54.40	26	39.04	54.29	26	39.03	54.30
26	59.69	-0.	26	39.10	54.21	26	39.22	54.04	26	39.23	54.02
26	59.69	-0.	26	39.18	54.09	26	39.30	53.93	26	39.30	53.93
27	59.69	-0.	27	40.67	51.83	27	40.83	51.57	27	40.46	52.17
27	59.69	-0.	27	41.40	50.57	27	41.05	51.20	27	41.02	51.24
27	59.69	-0.	27	45.54	42.46	27	45.85	41.49	27	46.01	40.98
28	59.69	-0.	28	49.69	32.34	28	50.47	30.32	28	49.73	32.24
28	93.72	-208.28	28	53.74	21.67	28	54.11	20.82	28	52.76	23.24
28	59.69	-0.	28	56.15	12.59	28	56.39	11.74	28	55.71	14.15
29	59.69	-0.	29	58.63	3.77	29	58.83	3.07	29	58.15	5.46
39	60.65	-5.88	29	60.45	-4.65	29	60.58	-5.46	29	60.21	-3.16
29	62.02	-14.24	29	61.82	-13.05	29	61.93	-13.71	29	61.54	-11.33
29	63.29	-22.03	29	63.10	-20.89	29	63.21	-21.53	30	62.84	-19.30
30	64.51	-29.47	30	64.30	-28.19	30	64.41	-28.89	30	64.03	-26.55
30	65.60	-36.18	30	65.40	-34.96	30	65.50	-35.56	30	65.11	-33.18
30	66.69	-42.84	30	66.55	-41.99	30	66.75	-43.20	30	66.39	-41.02

TABLE 4.6-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.59	56.41	0	36.64	57.72	0	36.62	57.75	0	36.62	57.75
0	37.63	56.36	0	36.63	57.73	0	36.64	57.72	0	36.62	57.75
0	37.61	56.39	0	36.75	57.57	0	36.70	57.64	0	36.73	57.60
0	37.63	56.35	0	36.73	57.60	0	36.70	57.64	0	36.73	57.60
0	37.79	56.12	0	36.83	57.47	0	36.77	57.54	0	36.76	57.56
0	37.75	56.18	0	36.89	57.39	0	36.80	57.50	0	36.87	57.41
0	37.78	56.14	0	36.84	57.46	0	36.83	57.47	0	36.84	57.45
1	37.75	56.19	1	36.85	57.44	1	36.85	57.44	1	36.86	57.43
1	37.81	56.10	1	36.89	57.39	1	36.85	57.44	1	36.84	57.46
1	37.81	56.10	1	36.86	57.43	1	36.84	57.46	1	36.87	57.41
2	37.85	56.04	2	36.86	57.43	2	36.84	57.45	2	36.88	57.40
2	37.81	56.09	2	36.90	57.38	2	36.85	57.44	2	36.88	57.40
2	37.84	56.06	2	36.88	57.40	2	36.86	57.43	2	36.86	57.43
2	37.77	56.15	3	36.88	57.40	3	36.87	57.41	3	36.85	57.44
3	37.81	56.10	3	36.90	57.38	3	36.87	57.41	3	36.89	57.39
3	37.88	56.00	3	36.89	57.39	3	36.90	57.38	3	36.88	57.40
3	37.88	56.00	3	36.96	57.30	3	36.87	57.42	3	36.91	57.36
4	37.81	56.09	4	36.94	57.32	4	36.95	57.31	4	36.96	57.30
4	37.90	55.96	4	36.99	57.26	4	36.98	57.27	4	36.99	57.26
4	37.95	55.89	4	37.03	57.20	4	36.99	57.25	4	36.99	57.26
5	37.88	55.99	5	37.07	57.15	5	37.02	57.21	5	37.00	57.24
5	37.94	55.90	5	37.03	57.20	5	37.03	57.20	5	37.07	57.15
5	38.03	55.76	5	37.06	57.16	5	37.10	57.11	5	37.11	57.10
6	38.05	55.74	6	37.15	57.04	6	37.10	57.11	6	37.09	57.12
6	38.10	55.67	6	37.17	57.01	6	37.11	57.10	6	37.14	57.05
6	38.10	55.66	6	37.15	57.04	6	37.15	57.04	6	37.19	56.99
6	38.07	55.70	6	37.20	56.97	6	37.15	57.04	6	37.18	57.00
7	38.10	55.66	7	37.19	56.98	7	37.17	57.01	7	37.19	56.98
7	38.16	55.58	7	37.25	56.90	7	37.18	57.00	7	37.22	56.95
7	38.17	55.56	7	37.26	56.89	7	37.24	56.91	7	37.24	56.91
8	38.23	55.47	8	37.25	56.90	8	37.26	56.89	8	37.24	56.91
8	38.78	54.66	8	37.28	56.86	8	37.25	56.90	8	37.28	56.86
8	38.27	55.42	8	37.29	56.85	8	37.29	56.85	8	37.30	56.83
9	38.30	55.37	9	37.32	56.80	9	37.34	56.78	9	37.32	56.81
9	38.30	55.37	9	37.35	56.76	9	37.32	56.81	9	37.34	56.77
9	38.22	55.48	9	37.36	56.75	9	37.32	56.81	9	37.34	56.78
10	38.35	55.29	10	37.39	56.69	10	37.37	56.74	10	37.35	56.76
10	38.31	55.35	10	37.39	56.70	10	37.40	56.68	10	37.42	56.65
10	38.34	55.31	10	36.70	57.64	10	36.65	57.71	10	37.42	56.65
10	38.37	55.26	10	37.47	56.59	10	37.44	56.63	10	37.43	56.64
11	38.36	55.28	11	37.45	56.61	11	37.49	56.56	11	37.48	56.57
11	38.29	55.38	11	37.50	56.54	11	37.49	56.56	11	37.49	56.56
11	38.33	55.33	11	37.50	56.54	11	37.45	56.61	11	37.49	56.56
12	38.35	55.29	12	37.51	56.53	12	37.52	56.52	12	37.53	56.50

TABLE 4.6-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
12	38.29	55.38	12	37.54	56.49	12	37.54	56.48	12	37.56	56.46
12	38.36	55.28	12	37.58	56.43	12	37.56	56.46	12	37.57	56.44
13	38.40	55.22	13	37.60	56.40	13	37.58	56.43	13	37.59	56.41
13	38.30	55.37	13	37.61	56.39	13	37.61	56.38	13	37.63	56.36
13	38.36	55.28	13	37.61	56.39	13	37.60	56.40	13	37.59	56.41
14	38.43	55.18	14	37.64	56.34	14	37.64	56.34	14	37.65	56.33
14	38.44	55.16	14	37.67	56.30	14	37.65	56.33	14	37.66	56.31
14	38.36	55.28	14	37.69	56.27	14	37.71	56.24	14	37.68	56.28
14	38.43	55.18	14	37.72	56.22	14	37.70	56.26	14	37.71	56.24
15	38.45	55.15	15	37.75	56.19	15	37.75	56.19	15	37.74	56.20
15	38.49	55.09	15	37.78	56.14	15	37.75	56.18	15	37.73	56.21
15	38.43	55.18	15	37.80	56.11	15	37.77	56.16	15	37.75	56.19
16	38.43	55.18	16	37.82	56.08	16	37.77	56.15	16	37.80	56.11
16	38.45	55.15	16	37.84	56.05	16	37.79	56.13	16	37.81	56.09
16	38.44	55.16	16	37.86	56.03	16	37.81	56.09	16	37.81	56.09
17	38.42	55.19	17	37.91	55.95	17	37.87	56.01	17	37.89	55.98
17	38.36	55.28	17	37.91	55.95	17	37.88	56.00	17	37.88	55.99
17	38.37	55.27	17	37.95	55.89	17	37.90	55.96	17	37.92	55.93
18	38.28	55.40	18	37.95	55.89	18	37.94	55.90	18	37.94	55.90
18	38.29	55.38	18	37.97	55.86	18	37.99	55.83	18	37.95	55.89
18	38.36	55.28	18	38.09	55.68	18	38.03	55.78	18	38.00	55.82
18	38.32	55.34	18	38.11	55.65	18	38.06	55.72	18	38.09	55.68
19	38.31	55.36	19	38.18	55.55	19	38.09	55.68	19	38.09	55.68
19	38.29	55.39	19	38.22	55.49	19	38.10	55.66	19	38.10	55.66
19	38.30	55.37	19	38.39	55.24	19	38.44	55.17	19	38.36	55.28
20	38.36	55.28	20	39.18	54.09	20	39.59	53.53	20	38.94	54.43
20	38.28	55.40	20	41.49	50.39	20	43.15	47.17	20	40.72	51.75
20	38.37	55.26	20	46.29	40.18	20	46.73	39.11	20	46.46	39.73
21	38.42	55.20	21	51.23	27.95	21	51.64	26.68	21	50.87	29.12
21	38.46	55.13	21	54.28	16.67	21	54.92	15.00	21	54.35	18.19
21	38.45	55.15	21	58.08	5.72	21	58.55	4.04	21	57.76	6.87
22	38.57	54.98	22	60.58	-5.42	22	60.86	-7.19	22	60.37	-4.14
22	38.59	54.94	22	62.39	-16.51	22	62.65	-18.10	22	62.18	-15.25
22	38.63	54.89	22	64.18	-27.50	22	64.44	-29.10	22	63.94	-26.03
22	38.57	54.98	22	65.92	-38.15	22	66.21	-39.89	22	65.73	-36.94
23	38.57	54.98	23	69.32	-58.93	23	67.91	-50.32	23	67.40	-47.18
23	38.63	54.88	23	69.34	-59.03	23	69.62	-60.75	23	69.13	-57.75
23	38.71	54.76	23	71.02	-69.36	23	71.32	-71.18	23	70.80	-67.99
24	38.72	54.75	24	72.67	-79.42	24	73.00	-81.44	24	72.42	-77.93
24	38.74	54.71	24	74.29	-89.33	24	74.60	-91.27	24	74.05	-87.91
24	38.86	54.55	24	61.21	-9.29	24	76.29	-101.57	24	75.68	-97.89
25	38.85	54.56	25	77.52	-109.14	25	77.87	-111.27	25	77.24	-107.43
25	38.77	54.67	25	79.09	-118.75	25	79.49	-121.17	25	78.86	-117.33
25	38.87	54.53	25	80.61	-128.04	25	81.01	-130.47	25	80.41	-126.83

TABLE 4.6-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
26	38.90	54.48	26	82.07	-136.94	26	82.31	-138.45	26	81.95	-136.23
26	38.99	54.36	26	83.32	-144.62	26	84.26	-150.38	26	83.45	-145.43
26	39.13	54.16	26	84.84	-153.91	26	85.68	-159.07	26	84.97	-154.72
26	39.15	54.13	26	86.29	-162.81	26	87.07	-167.56	26	86.54	-164.32
27	40.41	52.25	27	87.83	-172.21	27	88.41	-175.74	27	87.96	-173.01
27	40.91	51.44	27	89.30	-181.20	27	89.79	-184.23	27	89.28	-181.10
27	41.44	50.49	27	90.73	-189.99	27	91.13	-192.42	27	92.06	-198.08
28	50.08	31.37	28	92.15	-198.68	28	92.52	-200.91	28	91.87	-196.97
28	53.48	22.13	28	93.43	-206.47	28	93.64	-207.78	28	93.28	-205.56
28	55.96	13.25	28	93.46	-206.67	28	93.72	-208.28	28	93.71	-208.18
29	58.32	4.87	29	93.46	-206.67	29	93.69	-208.08	29	93.74	-208.39
29	60.25	-3.43	29	93.46	-206.67	29	93.69	-208.08	29	93.72	-208.28
29	61.59	-11.60	29	93.46	-206.67	29	93.72	-208.28	29	93.69	-208.08
30	62.82	-19.13	30	93.36	-206.06	30	102.15	-259.83	30	93.71	-208.18
30	63.95	-26.06	30	93.46	-206.67	30	102.48	-261.85	30	93.67	-207.98
30	65.01	-32.55	30	93.46	-206.67	30	93.71	-208.18	30	93.72	-208.28
30	66.32	-40.56	30	93.46	-206.67	30	93.69	-208.08	30	93.69	-208.08

TABLE 4.6-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.64	57.72	0	36.63	57.74	0	93.53	-207.07	0	93.86	-209.09
0	36.66	57.70	0	36.63	57.73	0	93.53	-207.07	0	93.82	-208.89
0	36.75	57.57	0	36.73	57.60	0	93.69	-208.08	0	93.95	-209.70
0	36.75	57.57	0	36.73	57.60	0	93.69	-208.08	0	93.97	-209.80
0	36.84	57.45	0	36.84	57.45	0	93.62	-207.68	0	93.92	-209.50
0	36.85	57.44	0	36.88	57.40	0	93.66	-207.88	0	93.95	-209.70
0	36.07	58.41	0	36.87	57.42	0	93.66	-207.88	0	93.92	-209.50
1	36.86	57.43	1	36.88	57.40	1	93.69	-208.08	1	93.91	-209.40
1	36.90	57.38	1	36.89	57.39	1	93.67	-207.98	1	93.94	-209.60
1	36.88	57.40	1	36.88	57.40	1	93.67	-207.98	1	93.92	-209.50
2	36.86	57.43	2	36.92	57.35	2	93.66	-207.88	2	93.92	-209.50
2	36.87	57.42	2	36.89	57.39	2	93.67	-207.98	2	93.87	-209.19
2	36.88	57.40	2	36.90	57.37	2	93.66	-207.88	2	93.89	-209.30
3	36.90	57.37	3	36.90	57.38	3	93.66	-207.88	3	93.91	-209.40
3	36.87	57.41	3	36.89	57.39	3	93.66	-207.88	3	93.94	-209.60
3	36.90	57.38	3	36.90	57.38	3	93.62	-207.68	3	93.89	-209.30
3	36.96	57.29	3	36.94	57.32	3	93.53	-207.07	3	93.82	-208.89
4	36.99	57.25	4	37.00	57.24	4	93.62	-207.68	4	93.86	-209.09
4	36.99	57.26	4	37.33	56.79	4	93.62	-207.68	4	93.89	-209.30
4	37.04	57.19	4	37.08	57.14	4	93.66	-207.88	4	93.87	-209.19
5	37.03	57.20	5	37.08	57.13	5	93.53	-207.07	5	93.81	-208.79
5	37.13	57.06	5	37.19	56.99	5	93.62	-207.68	5	93.86	-209.09
5	37.14	57.05	5	37.14	57.05	5	93.62	-207.68	5	93.86	-209.09
6	37.14	57.05	6	37.12	57.08	6	93.56	-207.27	6	93.91	-209.40
6	37.19	56.99	6	37.17	57.01	6	93.62	-207.68	6	93.91	-209.40
6	37.21	56.96	6	37.24	56.91	6	93.62	-207.68	6	93.86	-209.09
7	37.21	56.96	7	37.23	56.93	7	93.62	-207.68	7	93.87	-209.19
7	37.17	57.01	7	37.26	56.89	7	93.56	-207.27	7	93.86	-209.09
7	37.23	56.93	7	37.25	56.90	7	93.56	-207.27	7	93.89	-209.30
7	37.25	56.90	7	37.28	56.86	7	93.62	-207.68	7	93.84	-208.99
8	37.25	56.90	8	37.29	56.85	8	93.62	-207.68	8	93.82	-208.89
8	37.33	56.79	8	37.32	56.80	8	93.51	-206.97	8	93.74	-208.39
8	37.32	56.81	8	37.32	56.81	8	93.36	-206.06	8	93.67	-207.98
9	37.33	56.79	9	37.34	56.78	9	93.36	-206.06	9	93.66	-207.88
9	37.37	56.74	9	37.41	56.67	9	93.46	-206.67	9	93.69	-208.08
9	37.35	56.76	9	37.39	56.70	9	93.36	-206.06	9	93.67	-207.98
10	37.41	56.67	10	37.42	56.66	10	93.46	-206.67	10	93.69	-208.08
10	37.46	56.60	10	37.49	56.56	10	93.36	-206.06	10	93.71	-208.18
10	37.44	56.62	10	37.44	56.63	10	93.36	-206.06	10	93.66	-207.88
10	37.47	56.58	10	37.47	56.59	10	93.36	-206.06	11	93.67	-207.98
11	37.49	56.56	11	37.53	56.50	11	93.36	-206.06	11	93.67	-207.98
11	37.52	56.52	11	37.53	56.50	11	93.36	-206.06	11	93.69	-208.08
11	37.50	56.54	11	37.54	56.49	11	93.36	-206.06	11	93.66	-207.88
12	37.53	56.50	12	37.56	56.45	12	93.36	-206.06	12	93.69	-208.08

TABLE 4.6-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
12	37.54	56.49	12	37.56	56.45	12	93.36	-206.06	12	93.62	-207.68
12	37.60	56.40	12	37.61	56.38	12	93.36	-206.06	12	93.69	-208.08
13	37.61	56.39	13	37.63	56.35	13	93.36	-206.06	13	93.67	-207.98
13	37.64	56.34	13	37.69	56.27	13	93.36	-206.06	13	93.62	-207.68
13	37.63	56.36	13	37.63	56.35	13	93.39	-206.26	13	93.67	-207.98
14	37.68	56.28	14	37.68	56.29	14	93.36	-206.06	14	93.71	-208.18
14	37.70	56.26	14	37.68	56.29	14	93.53	-207.07	14	93.74	-208.39
14	37.67	56.30	14	37.71	56.24	14	93.46	-206.67	14	93.72	-208.28
14	37.75	56.19	14	37.75	56.18	14	93.39	-206.26	15	93.74	-208.39
15	37.76	56.17	15	37.78	56.14	15	93.46	-206.67	15	93.72	-208.28
15	37.77	56.16	15	37.79	56.12	15	93.53	-207.07	15	93.76	-208.49
15	37.78	56.14	15	37.81	56.09	15	93.53	-207.07	15	93.77	-208.59
16	37.81	56.10	16	37.83	56.07	16	93.49	-206.87	16	93.74	-208.39
16	37.84	56.06	16	37.86	56.02	16	93.46	-206.67	16	93.72	-208.28
16	37.88	55.99	16	37.90	55.96	16	93.49	-206.87	16	93.74	-208.39
17	37.90	55.97	17	37.92	55.94	17	93.46	-206.67	17	93.72	-208.28
17	37.92	55.93	17	37.95	55.89	17	93.46	-206.67	17	93.71	-208.18
17	37.94	55.90	17	37.97	55.87	17	93.46	-206.67	17	93.74	-208.39
18	37.99	55.84	18	37.99	55.84	18	93.36	-206.06	18	93.69	-208.08
18	37.99	55.83	18	38.00	55.82	18	93.39	-206.26	18	93.71	-208.18
18	38.03	55.78	18	38.05	55.74	18	93.46	-206.67	18	93.72	-208.28
18	38.05	55.73	18	38.07	55.71	18	93.36	-206.06	18	93.69	-208.08
19	38.10	55.67	19	38.12	55.63	19	93.44	-206.57	19	93.71	-208.18
19	38.11	55.65	19	38.16	55.58	19	93.36	-206.06	19	93.67	-207.98
19	38.31	55.35	19	38.27	55.41	19	93.46	-206.67	19	93.72	-208.28
20	38.90	54.49	20	39.05	54.28	20	0039.40	307.73	20	93.71	-208.18
20	40.75	51.70	20	40.83	51.57	20	93.46	-206.67	20	93.71	-208.18
20	46.27	40.22	20	46.65	39.29	20	93.53	-207.07	20	93.72	-208.28
21	50.76	29.47	21	51.11	28.35	21	93.53	-207.07	21	93.74	-208.39
21	54.37	18.42	21	54.28	17.23	21	93.49	-206.87	21	93.72	-208.28
21	57.72	7.00	21	58.06	5.79	21	93.46	-206.67	21	93.72	-208.28
22	59.69	-0.	22	60.57	-5.39	22	93.43	-206.47	22	93.72	-208.28
22	59.69	-0.	22	62.36	-16.36	22	93.53	-207.07	22	93.76	-208.49
22	59.69	-0.	22	64.18	-27.47	22	93.53	-207.07	22	93.76	-208.49
22	59.69	-0.	22	65.94	-38.25	22	93.53	-207.07	22	93.76	-208.49
23	59.69	-0.	23	67.66	-48.79	23	93.53	-207.07	23	93.76	-208.49
23	59.69	-0.	23	69.38	-59.31	23	93.53	-207.07	23	93.76	-208.49
23	59.69	-0.	23	71.05	-69.52	23	93.53	-207.07	23	93.74	-208.39
24	59.69	-0.	24	72.70	-79.63	24	93.46	-206.67	24	93.72	-208.28
24	59.69	-0.	24	74.32	-89.53	24	93.51	-206.97	24	93.74	-208.39
24	59.69	-0.	24	75.95	-99.51	24	93.46	-206.67	24	93.71	-208.18
25	59.69	-0.	25	77.56	-109.35	25	93.49	-206.87	25	93.77	-208.59
25	59.69	-0.	25	79.06	-118.54	25	93.53	-207.07	25	93.74	-208.39
25	59.69	-0.	25	80.58	-127.84	25	93.51	-206.97	25	93.72	-208.28

TABLE 4.6-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
26	59.69	-0.	26	82.21	-137.85	26	93.46	-206.67	26	93.69	-208.08
26	59.69	-0.	26	83.80	-147.55	26	93.49	-206.87	26	93.72	-208.28
26	76.20	-101.05	26	85.32	-156.85	26	93.53	-207.07	26	93.76	-208.49
26	76.20	-101.05	26	86.69	-165.23	26	93.51	-206.97	26	93.71	-208.18
27	76.20	-101.05	27	87.91	-172.71	27	93.46	-206.67	27	93.72	-208.28
27	76.20	-101.05	27	89.23	-180.80	27	93.51	-206.97	27	93.72	-208.28
27	90.54	-188.78	27	90.70	-189.79	27	93.51	-206.97	27	93.74	-208.39
28	91.86	-196.86	28	92.06	-198.08	28	93.53	-207.07	28	93.71	-208.18
28	93.18	-204.95	28	93.39	-206.26	28	93.66	-207.88	28	93.69	-208.08
28	93.49	-206.87	28	93.69	-208.08	28	93.72	-208.28	28	93.74	-208.39
29	93.49	-206.87	29	93.72	-208.28	29	93.74	-208.39	29	93.81	-208.79
29	93.53	-207.07	29	93.72	-208.28	29	93.71	-208.18	29	93.71	-208.18
20	93.53	-207.07	29	93.69	-208.08	29	93.74	-208.39	29	93.76	-208.49
30	93.51	-206.97	30	93.67	-207.98	30	93.71	-208.18	30	93.74	-208.39
30	93.46	-206.67	30	93.69	-208.08	30	93.67	-207.98	30	93.67	-207.98
30	93.53	-207.07	30	93.71	-208.18	30	93.69	-208.08	30	93.69	-208.08
30	93.51	-206.97	30	93.48	-206.77	31	93.51	-206.97	31	93.66	-207.88

Table 4.6-3

Parametric Conditions and Test Results Summary
for Run 19-110

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	111.5	22.2
Pressure (psia)	30	34.4	
Temperature[b] (°R)		36.8	
Weight[c] (lb)	66 - 74	65.6	
Final Conditions[d]			
Pressure (psia)	30	34.3	47.0
Temperature (°R)	≤ 41.3	40.0	
Saturation Temp[e] (°R)	41.3	42.3	
Run Data			
Temperature Rise (°R)	4.0	3.2	22.2 - 47.0
Run Time[f] (min)	27 - 33	27.5	21.1 - 48.6
Flow Time (min)	27 - 33	26.4	22.2 - 48.6
Flow Rate[g]: (gpm)	4.08	4.22	
(lb/sec)	0.04	0.041	
Power Level (Mw)	1.0	1.092	
Integrated Power (Mw-hr)	0.5	0.5	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank
[c]Temp = 36.8°R, Vol. = 111.5 gal, ρ = 4.4 lbs/ft^3 = 0.588 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

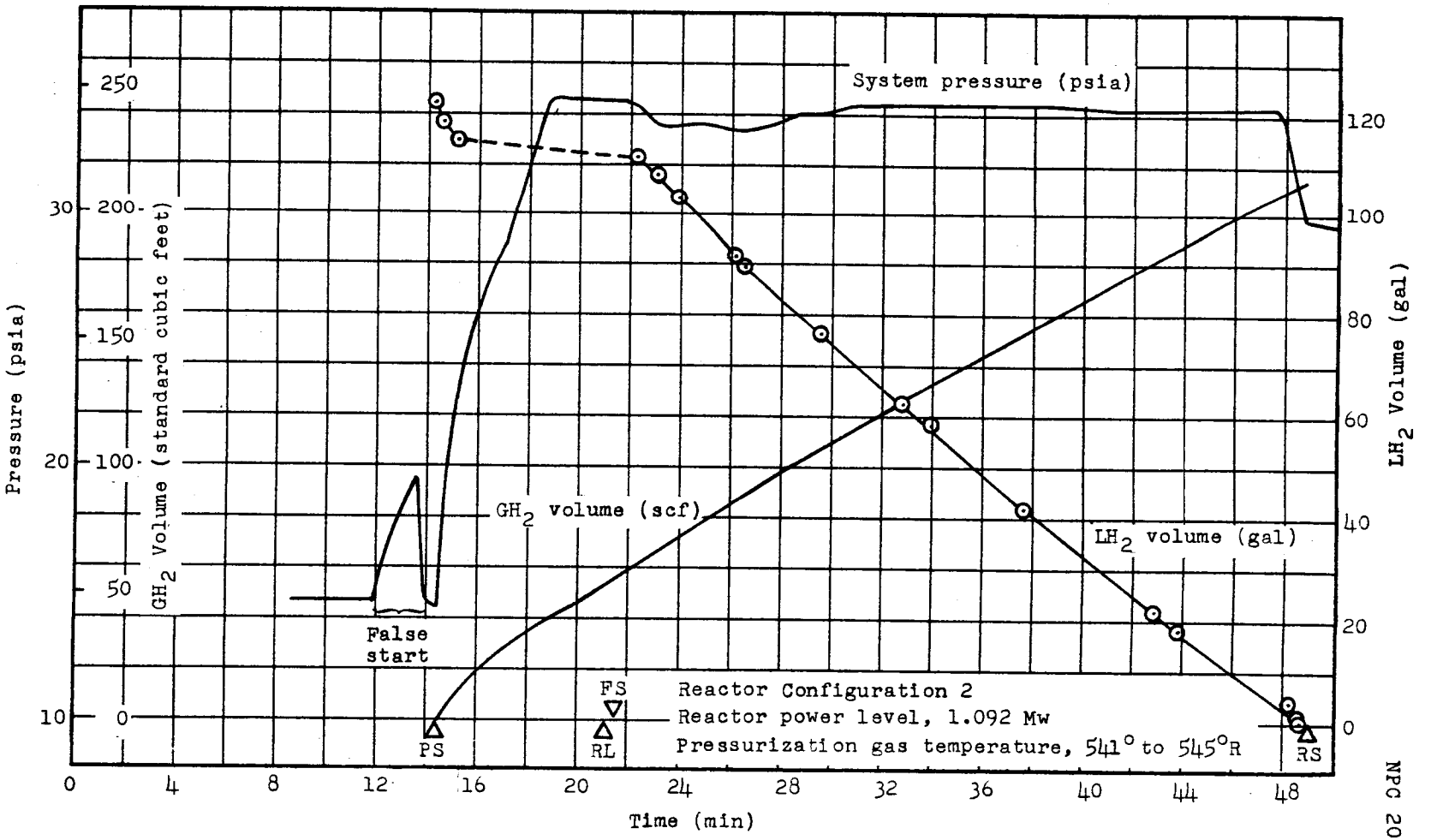

Figure 4.6-6 Pressure and Flow Data: Run 19-110

NPC 20,507

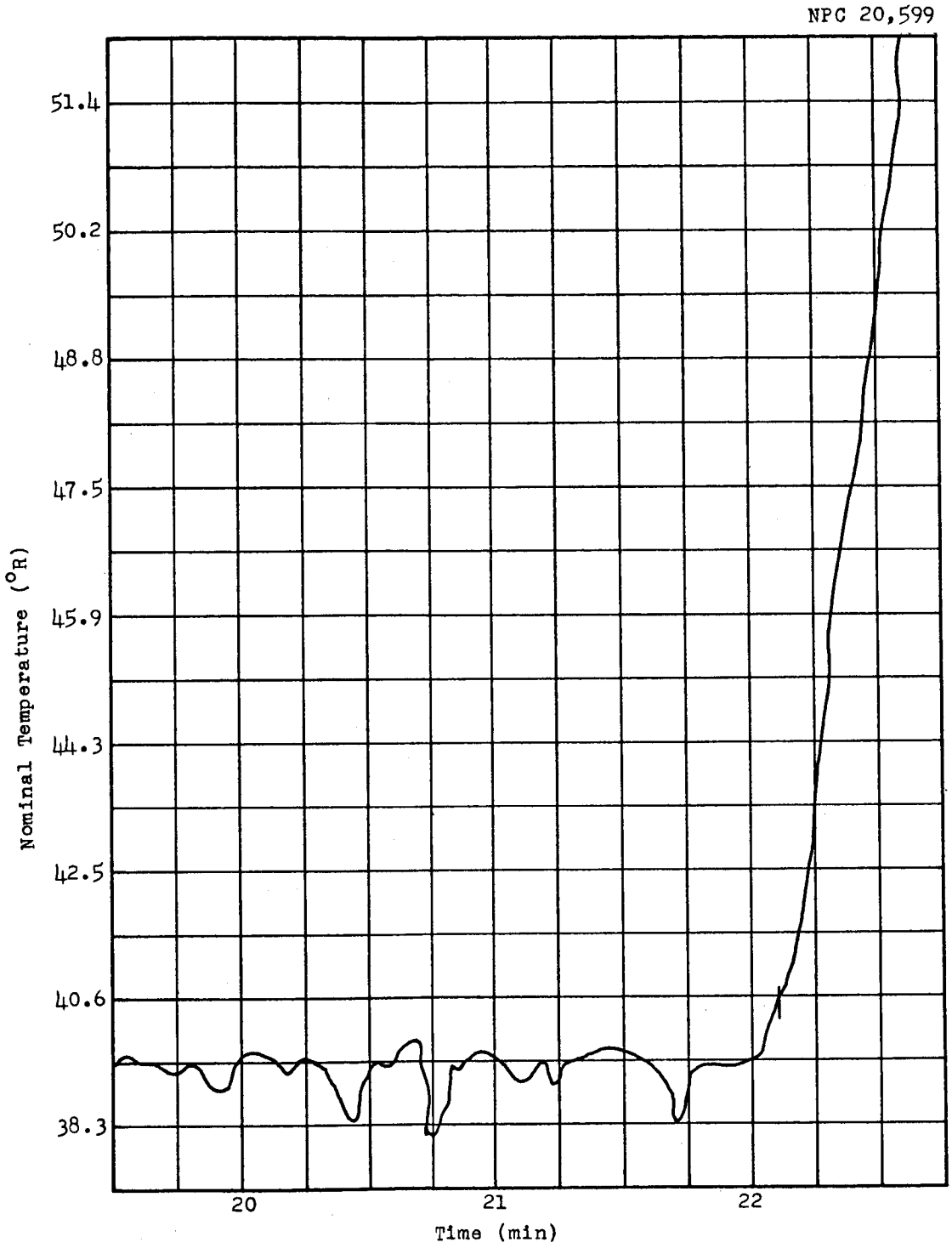

Figure 4.6-7 Strip-Chart Temperature Data: Run 19-110, Thermometer 14

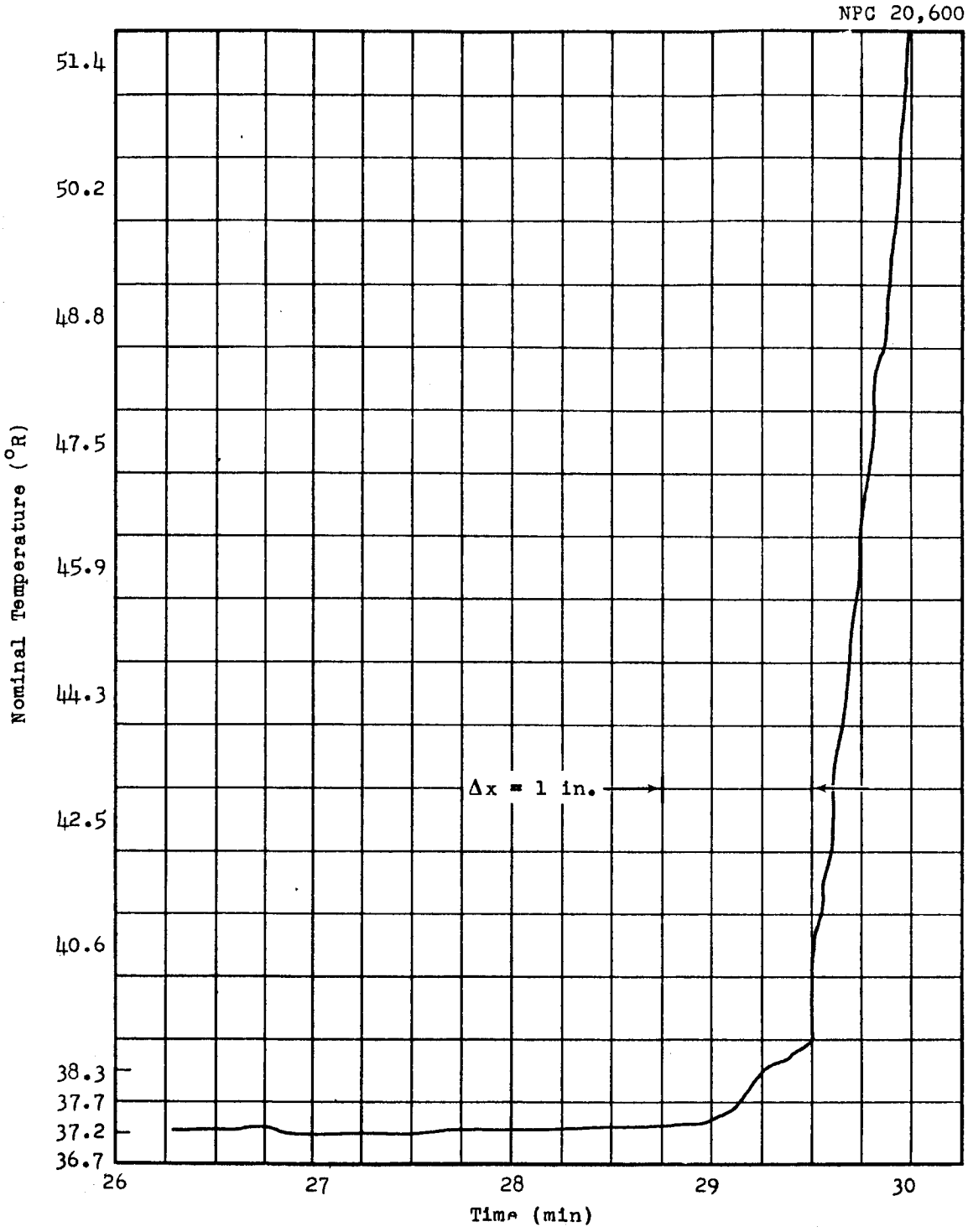

Figure 4.6-8 Strip-Chart Temperature Data: Run 19-110, Thermometer 10

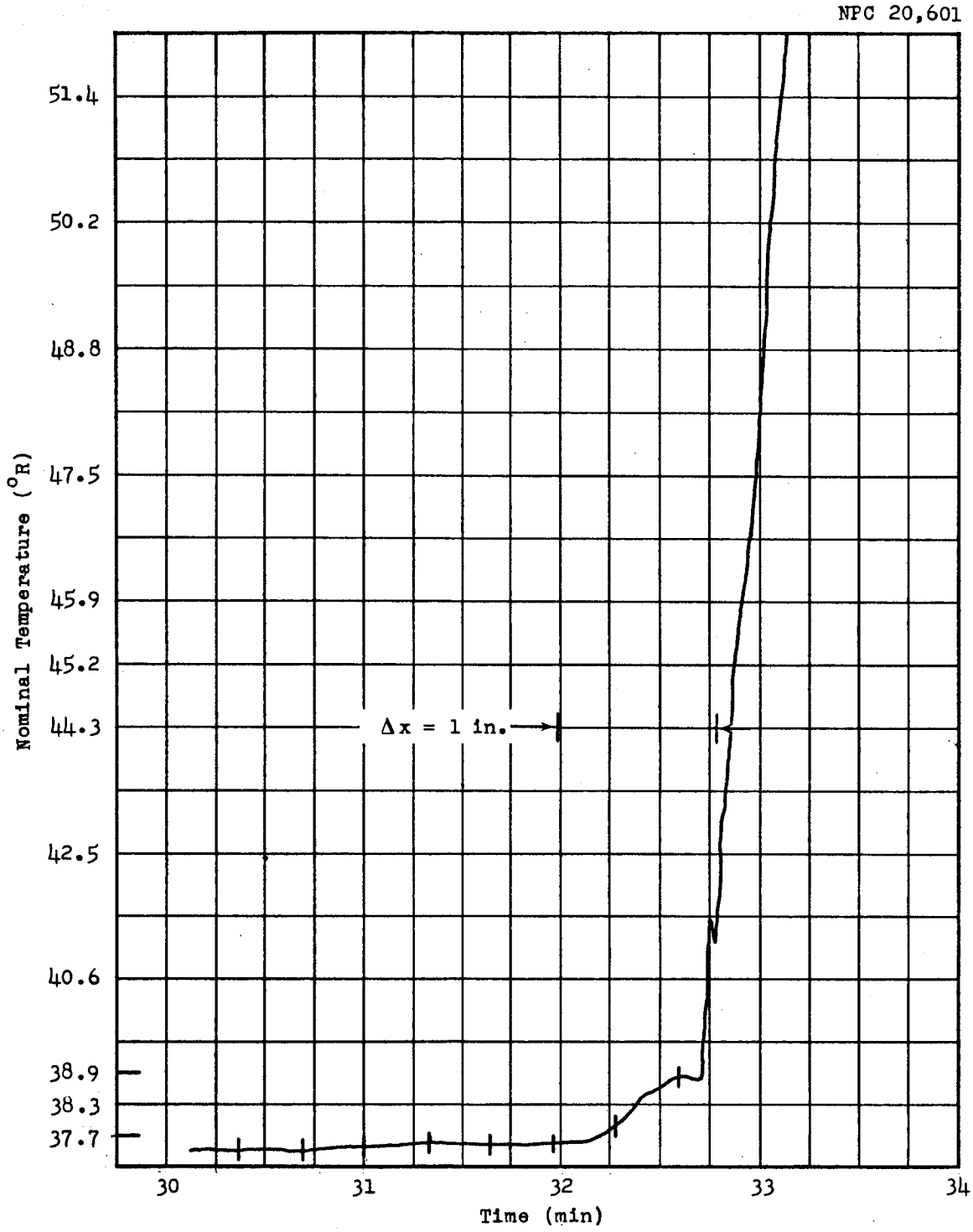

Figure 4.6-9 Strip-Chart Temperature Data: Run 19-110, Thermometer 9

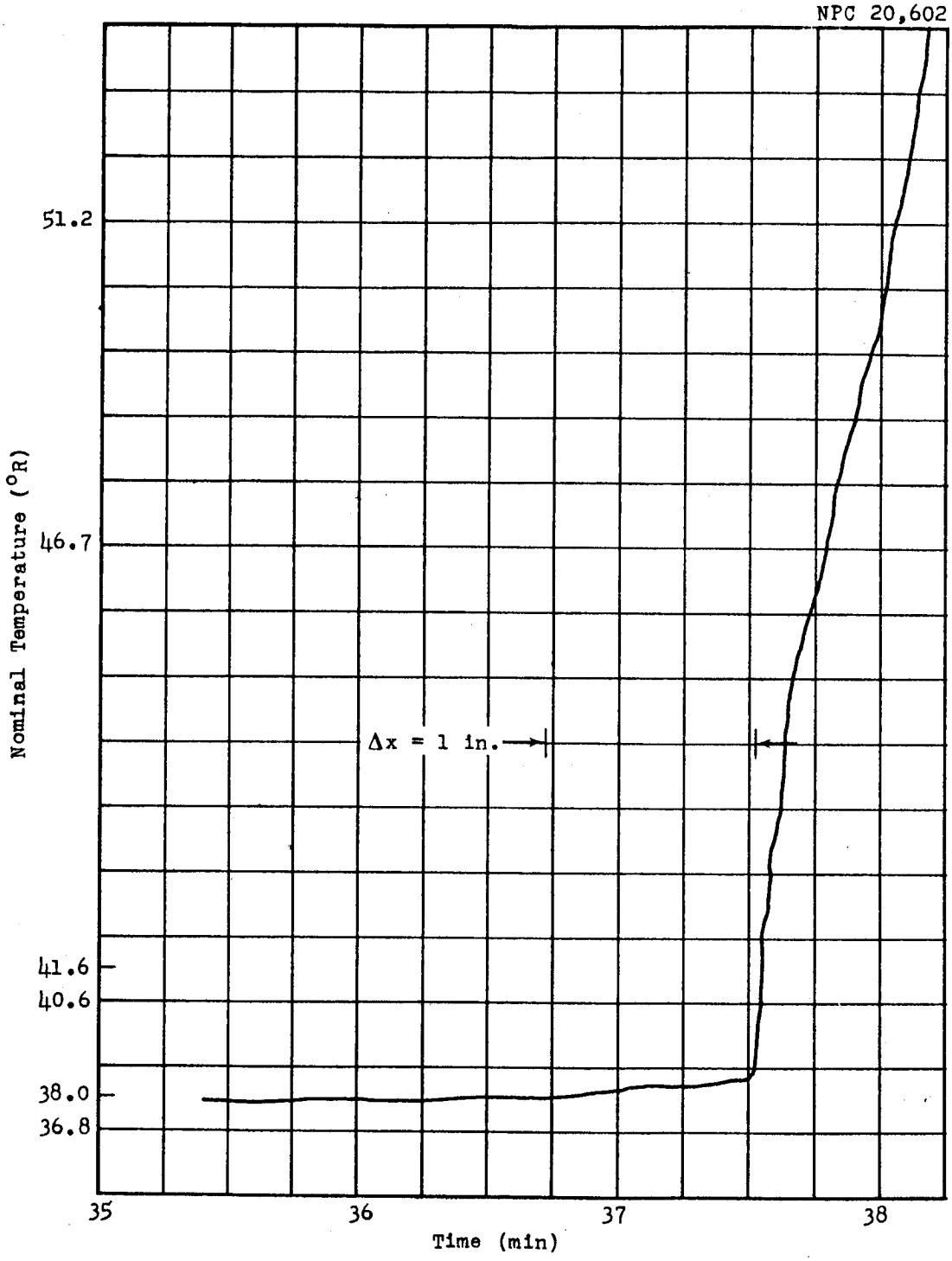

Figure 4.6-10 Strip-Chart Temperature Data: Run 19-110, Thermometer 8

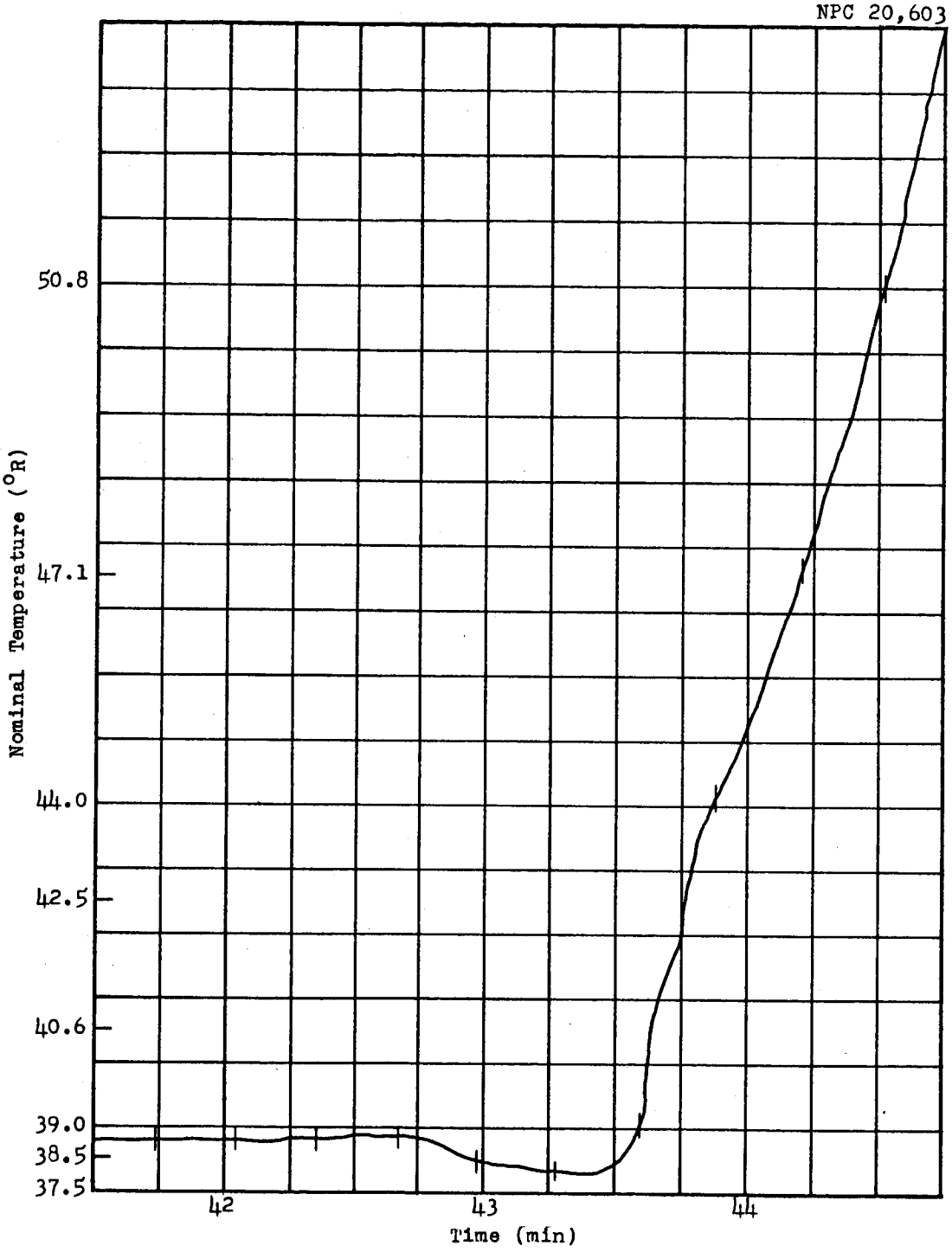

Figure 4.6-11 Strip-Chart Temperature Data: Run 19-110, Thermometer 25

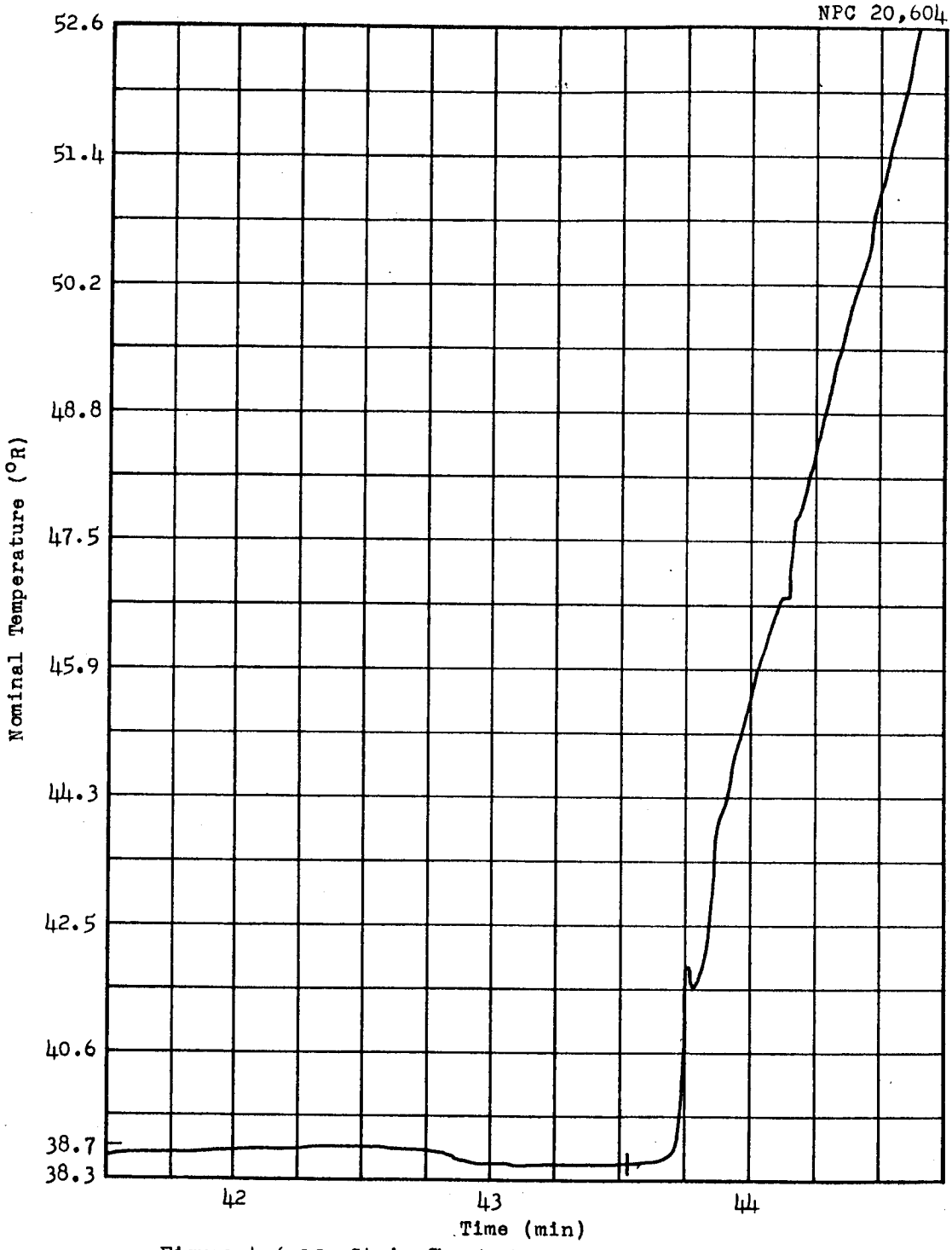

Figure 4.6-12 Strip-Chart Temperature Data: Run 19-110, Thermometer 22

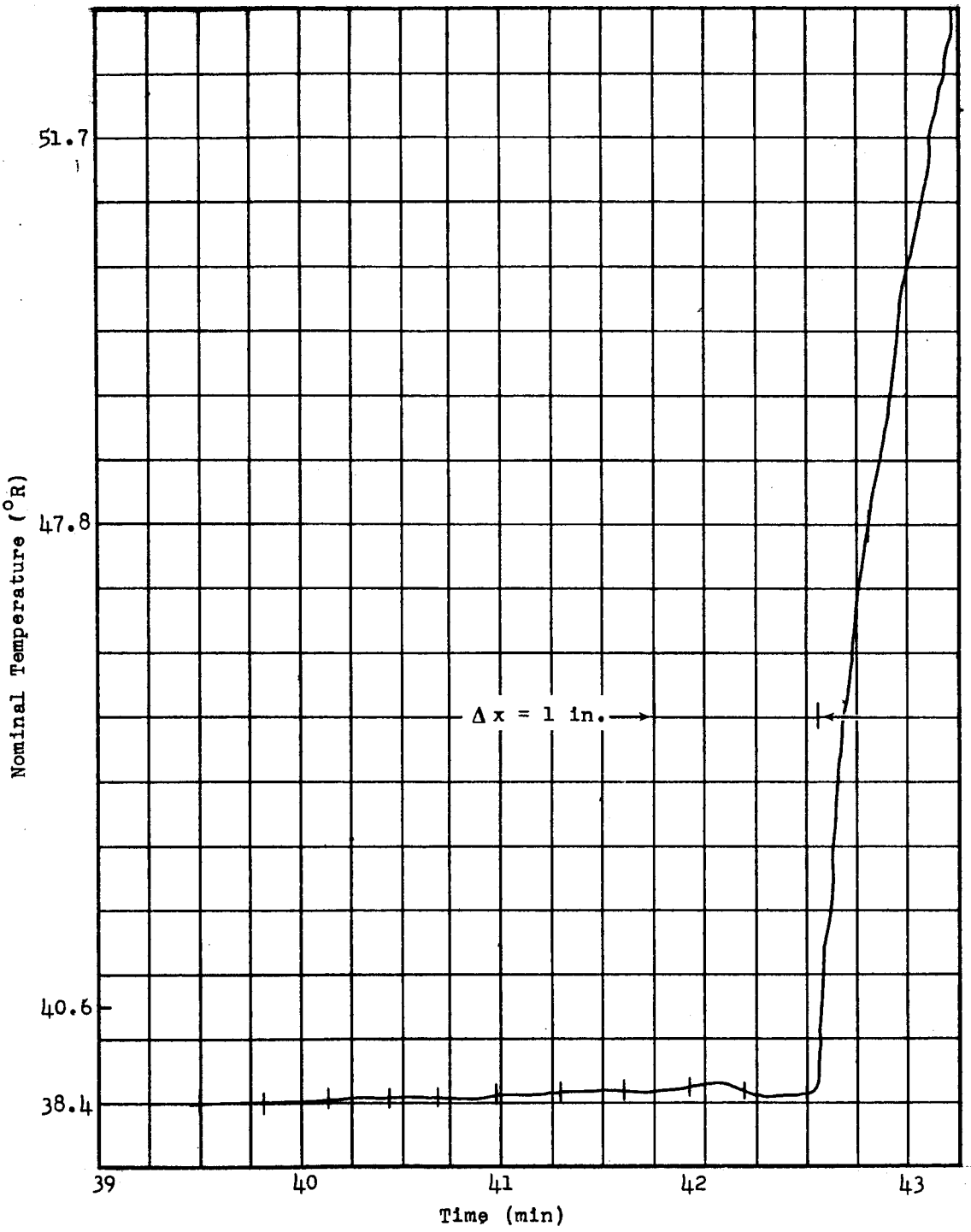

Figure 4.6-13 Strip-Chart Temperature Data: Run 19-110, Thermometer 7

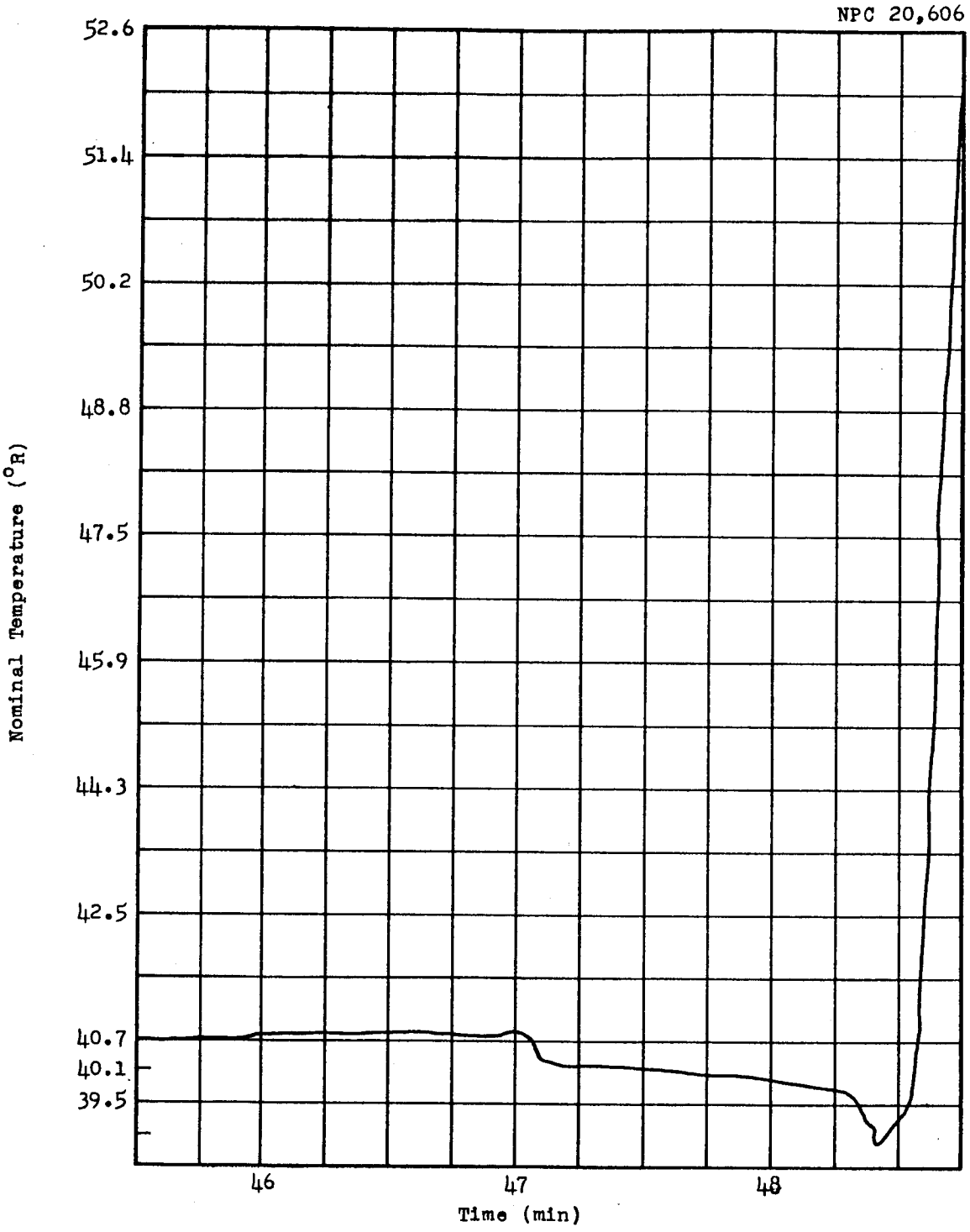

Figure 4.6-14 Strip-Chart Temperature Data: Run 19-110, Thermometer 4

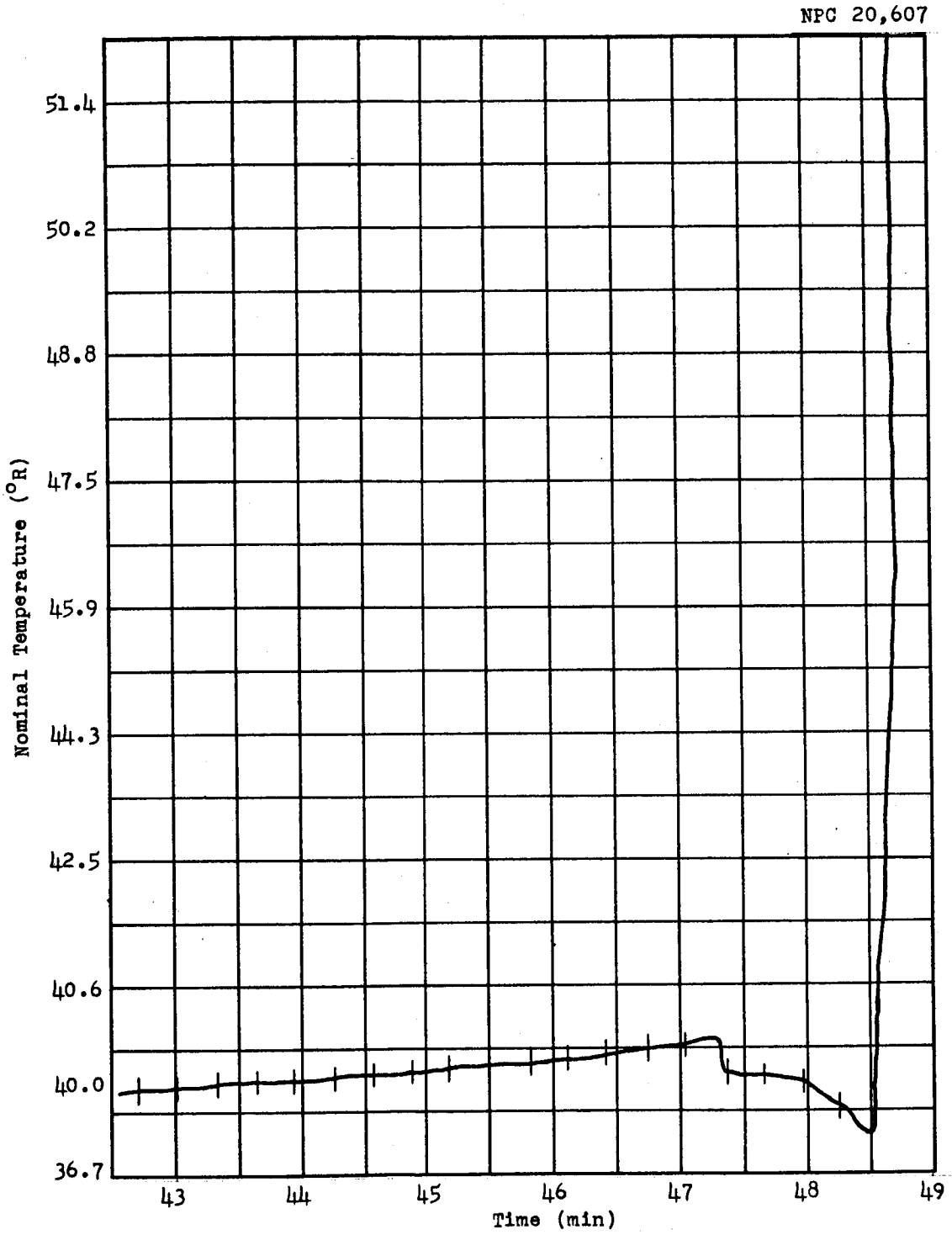

Figure 4.6-15 Strip-Chart Temperature Data: Run 19-110, Thermometer 1

TABLE 4.6-4 THERMOMETER DATA FOR EXPERIMENTAL RUN 19-110

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.33	58.11	0	36.35	58.08	0	36.60	57.77	0	43.54	46.48
0	36.33	58.10	0	36.33	58.11	0	36.61	57.76	0	43.54	46.47
0	36.35	58.08	0	36.33	58.10	0	36.58	57.79	0	43.55	46.46
0	36.33	58.11	0	36.34	58.09	0	36.61	57.76	0	45.36	43.01
1	36.36	58.07	1	36.37	58.05	1	36.60	57.77	1	45.26	43.27
1	36.42	58.00	1	36.36	58.07	1	36.64	57.72	1	45.27	43.25
1	36.36	58.07	1	36.36	58.07	1	36.63	57.73	1	45.24	43.31
1	36.34	58.09	2	36.33	58.10	2	36.62	57.75	2	45.22	43.37
2	36.40	58.02	2	36.33	58.11	2	36.65	57.71	2	45.26	43.28
2	36.37	58.06	2	36.37	58.05	2	36.63	57.73	2	45.35	43.03
2	36.35	58.08	2	36.37	58.06	2	36.62	57.75	2	45.41	42.84
3	36.37	58.05	3	36.38	58.04	3	36.67	57.68	3	45.48	42.65
3	36.37	58.05	3	36.38	58.04	3	36.65	57.71	3	45.54	42.46
3	36.42	58.00	3	36.37	58.06	3	36.65	57.70	3	45.61	42.26
4	36.39	58.03	4	36.39	58.03	5	36.65	57.71	4	45.66	42.09
4	36.39	58.03	4	36.39	58.03	4	36.65	57.71	4	45.77	41.75
4	36.40	58.02	4	36.41	58.01	4	36.88	57.41	4	45.93	41.24
5	36.47	57.93	5	36.47	57.93	5	36.75	57.57	5	45.96	41.15
5	36.60	57.77	5	36.62	57.75	5	36.85	57.44	5	45.90	41.35
5	36.73	57.60	5	36.67	57.68	5	36.96	57.30	5	45.91	41.30
5	36.75	57.58	6	36.67	57.68	6	37.10	57.11	6	45.81	41.61
6	36.89	57.39	6	36.75	57.57	6	37.13	57.07	6	45.78	41.72
6	36.79	57.53	6	36.89	57.39	6	37.09	57.13	6	45.75	41.81
6	36.88	57.40	6	36.85	57.45	6	37.16	57.03	6	45.69	41.99
7	36.96	57.30	7	36.88	57.40	7	37.06	57.16	7	45.74	41.83
7	37.03	57.20	7	36.82	57.49	7	36.94	57.33	7	45.60	42.27
7	37.11	57.09	7	36.75	57.57	7	37.76	56.16	7	45.58	42.34
8	36.72	57.62	8	36.62	57.74	8	37.10	57.11	8	44.40	45.06
8	36.58	57.79	8	36.60	57.77	8	36.87	57.42	8	44.32	45.20
8	36.58	57.79	8	36.59	57.78	8	36.82	57.49	8	44.51	44.88
9	36.57	57.81	9	36.56	57.82	9	36.82	57.48	9	44.77	44.40
9	36.53	57.86	9	36.54	57.85	9	36.81	57.50	9	45.13	43.61
9	36.51	57.88	9	36.49	57.91	9	36.76	57.56	9	45.44	42.75
10	36.50	57.89	10	36.50	57.90	10	36.74	57.59	10	45.59	42.31
10	36.49	57.91	10	36.49	57.91	10	36.76	57.56	10	45.51	42.55
10	36.47	57.93	10	36.47	57.93	10	36.75	57.58	10	45.41	42.87
10	36.48	57.92	10	36.48	57.92	10	36.72	57.61	10	45.34	43.05
11	36.44	57.97	11	36.45	57.96	11	36.73	57.60	11	45.28	43.21
11	36.46	57.95	11	36.44	57.97	11	36.73	57.60	11	45.25	43.29
11	36.49	57.91	11	36.44	57.97	11	36.72	57.61	11	45.24	43.33
12	36.47	57.93	12	36.46	57.94	12	36.83	57.47	12	45.24	43.31
12	36.50	57.90	12	36.50	57.89	12	36.88	57.40	12	45.23	43.35
12	36.49	57.91	12	36.49	57.91	12	36.85	57.45	12	45.24	43.32
13	36.55	57.83	13	36.47	57.93	13	36.82	57.48	13	45.19	43.46

* Time interval = 0.310 minute

TABLE 4.6-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	36.54	57.85	13	36.52	57.87	13	36.91	57.37	13	45.20	43.42
13	36.58	57.80	13	36.48	57.92	13	36.93	57.34	13	45.10	43.68
14	36.46	57.94	14	36.46	57.94	14	36.72	57.61	14	45.06	43.76
14	36.50	57.90	14	36.50	57.90	14	36.73	57.60	14	45.08	43.71
14	36.49	57.91	14	36.47	57.93	14	36.75	57.57	14	45.02	43.86
14	36.54	57.85	14	36.52	57.87	14	36.81	57.50	14	44.93	44.06
19	36.64	57.72	19	36.65	57.70	19	37.11	57.09	19	43.92	45.79
19	36.82	57.49	19	36.65	57.70	19	36.96	57.30	19	43.66	46.27
20	36.81	57.50	20	36.75	57.57	20	37.28	56.86	20	43.49	46.56
30	36.75	57.57	20	36.79	57.53	20	37.00	57.24	20	43.20	47.09
20	36.80	57.51	20	36.75	57.57	20	37.06	57.17	20	43.11	47.25
21	36.79	57.53	21	36.82	57.48	21	37.03	57.21	21	43.15	47.18
21	36.87	57.42	21	36.87	57.42	21	37.09	57.12	21	43.16	47.16
21	36.81	57.50	21	36.82	57.49	21	37.06	57.16	21	43.26	46.98
21	36.85	57.44	21	36.97	57.29	21	37.03	57.21	22	43.18	47.12
22	36.86	57.43	22	36.90	57.38	22	37.06	57.16	22	43.00	47.47
22	36.96	57.30	22	36.96	57.30	22	37.11	57.10	22	42.71	48.02
22	36.96	57.30	22	37.00	57.25	22	37.14	57.05	22	42.56	48.32
23	36.95	57.31	23	37.02	57.22	23	37.18	57.00	23	42.53	48.37
23	36.95	57.31	23	37.03	57.20	23	37.18	57.00	23	42.39	48.66
23	37.02	57.22	23	37.03	57.21	23	37.21	56.96	23	42.49	48.45
24	37.02	57.22	24	37.03	57.21	24	37.22	56.95	24	42.64	48.15
24	37.04	57.19	24	37.10	57.11	24	37.24	56.91	24	42.77	47.90
24	37.11	57.10	24	37.12	57.08	24	37.27	56.88	24	42.91	47.64
25	37.17	57.01	25	37.17	57.01	25	37.31	56.82	25	36.95	57.31
25	37.10	57.11	25	37.14	57.06	25	37.32	56.81	25	43.27	46.96
25	37.11	57.09	25	37.18	57.00	25	37.32	56.81	25	43.34	46.83
26	68.99	-56.93	26	37.23	56.93	26	37.39	56.71	26	43.49	46.57
26	37.19	56.98	26	37.30	56.83	26	37.39	56.71	26	43.54	46.47
26	37.24	56.92	26	37.25	56.90	26	37.41	56.67	26	43.58	46.41
26	37.27	56.87	26	37.36	56.75	26	37.47	56.59	26	43.64	46.30
27	37.30	56.83	27	37.35	56.76	27	37.51	56.52	27	43.64	46.14
27	37.31	56.82	27	37.35	56.76	27	37.51	56.53	27	43.68	46.23
27	37.39	56.70	27	37.35	56.76	27	37.49	56.55	27	43.64	46.14
28	37.36	56.75	28	37.39	56.71	28	37.51	56.52	28	43.63	46.15
28	37.37	56.73	28	37.46	56.60	28	37.53	56.50	28	43.68	46.24
28	37.40	56.69	28	37.40	56.69	28	37.59	56.41	28	43.53	46.49
29	37.40	56.69	29	37.49	56.55	29	37.60	56.40	29	43.22	47.06
29	37.46	56.60	29	37.49	56.56	29	37.65	56.32	29	43.12	47.24
29	37.46	56.60	29	37.53	56.50	29	37.65	56.32	29	42.99	47.48
30	37.52	56.51	30	37.56	56.46	30	37.69	56.26	30	42.71	48.02
30	37.54	56.48	30	37.55	56.47	30	37.72	56.23	30	42.33	48.77
30	37.56	56.46	30	37.60	56.39	30	37.73	56.21	30	42.03	49.36
30	37.63	56.36	30	37.63	56.36	30	37.80	56.11	30	41.84	49.73

TABLE 4.6-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	37.67	56.29	31	37.66	56.31	31	37.80	56.11	31	41.78	49.84
31	37.67	56.29	31	37.72	56.23	31	37.82	56.08	31	41.79	49.82
31	37.65	56.32	31	37.74	56.19	31	37.86	56.02	31	42.10	49.22
32	37.78	56.14	32	37.74	56.19	32	37.92	55.93	32	42.40	48.63
32	37.74	56.19	32	37.78	56.13	32	37.95	55.89	32	42.72	48.01
32	37.06	57.16	32	37.78	56.13	32	37.97	55.85	32	36.53	57.86
33	37.72	56.23	33	37.81	56.09	33	37.94	55.90	33	42.74	47.96
33	37.82	56.08	33	37.85	56.04	33	37.99	55.83	33	42.75	47.94
33	37.85	56.03	33	37.86	56.02	33	38.00	55.82	33	42.63	48.17
34	37.87	56.01	34	37.93	55.92	34	38.02	55.78	34	42.87	47.72
34	37.90	55.96	34	37.98	55.84	34	38.08	55.70	34	43.54	46.47
34	37.89	55.98	34	38.01	55.80	34	38.09	55.68	34	43.67	46.11
34	38.00	55.81	35	37.99	55.83	35	38.11	55.65	35	43.62	46.34
35	38.00	55.81	35	38.01	55.80	35	38.16	55.57	35	43.62	46.34
35	38.00	55.81	35	38.02	55.78	35	38.21	55.50	35	43.79	45.96
35	38.06	55.72	35	38.16	55.57	35	38.29	55.39	35	44.37	45.11
36	38.08	55.69	36	38.18	55.55	36	38.26	55.43	36	44.59	44.73
36	38.14	55.61	36	38.21	55.51	36	38.33	55.32	36	44.63	44.66
36	38.15	55.59	36	38.17	55.56	36	38.30	55.37	36	43.94	45.76
37	38.22	55.49	37	38.25	55.45	37	38.37	55.27	37	43.14	47.21
37	59.69	-0.	37	38.28	55.40	37	38.37	55.26	37	42.82	47.80
37	38.25	55.45	37	38.35	55.30	37	38.41	55.20	37	42.69	48.06
38	59.69	-0.	38	38.35	55.30	38	38.44	55.16	38	42.48	48.48
38	38.30	55.37	38	38.44	55.16	38	38.48	55.11	38	42.23	48.97
38	59.69	-0.	38	38.45	55.15	38	38.50	55.07	38	42.07	49.28
39	59.69	-0.	39	38.54	55.01	39	38.58	54.95	39	41.88	49.66
39	59.69	-0.	39	38.62	54.90	39	38.63	54.89	39	41.57	50.24
39	59.69	-0.	39	38.68	54.81	39	38.62	54.90	39	41.18	50.95
39	38.46	55.14	39	38.69	54.79	39	38.66	54.84	39	40.90	51.45
40	59.69	-0.	40	38.74	54.73	40	38.70	54.78	40	40.75	51.70
40	38.58	54.95	40	38.84	54.58	40	38.77	54.68	40	40.60	51.95
40	59.69	-0.	40	38.86	54.55	40	38.82	54.61	40	40.49	52.12
41	38.74	54.73	41	38.91	54.47	41	38.90	54.49	41	40.49	52.12
41	59.69	-0.	41	38.97	54.39	41	38.87	54.54	41	40.48	52.14
41	38.72	54.75	41	38.97	54.39	41	38.92	54.46	41	40.52	52.07
42	38.79	54.65	42	39.03	54.30	42	38.96	54.41	42	40.59	51.96
42	38.90	54.49	42	39.13	54.16	42	39.10	54.21	42	40.70	51.78
42	38.92	54.46	42	39.13	54.16	42	39.06	54.26	42	40.82	51.59
43	38.92	54.46	43	39.18	54.10	43	39.13	54.17	43	40.90	51.45
43	59.69	-0.	43	39.25	53.99	43	39.20	54.07	43	40.87	51.51
43	39.09	54.22	43	39.30	53.92	43	39.28	53.96	43	40.84	51.55
43	59.69	-0.	43	39.36	53.84	43	39.32	53.89	44	40.86	51.53
44	59.69	-0.	44	39.42	53.75	44	39.32	53.89	44	41.36	50.64
44	39.18	54.10	44	39.43	53.74	44	39.38	53.81	44	40.78	51.65

TABLE 4.6-4 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
44	39.25	54.00	44	39.48	53.67	44	39.47	53.69	44	40.69	51.81
45	59.69	-0.	45	39.56	53.56	45	39.48	53.67	45	40.70	51.78
45	39.38	53.81	45	39.70	53.38	45	39.58	53.53	45	40.77	51.68
45	39.46	53.70	45	39.71	53.36	45	39.61	53.50	45	40.70	51.79
46	39.61	53.49	46	39.74	53.22	46	39.68	53.40	46	40.77	51.68
46	39.65	53.44	46	39.83	53.10	46	39.77	53.18	46	40.83	51.58
46	59.69	-0.	46	39.90	53.00	46	39.83	53.10	46	40.81	51.60
47	59.69	-0.	47	40.01	52.85	47	39.98	52.89	47	40.45	52.18
47	39.20	54.06	47	39.68	53.40	47	39.27	53.97	47	40.13	52.67
47	39.12	54.18	47	39.34	53.86	47	39.24	54.01	47	40.10	52.71
47	38.99	54.36	48	39.02	54.32	48	39.06	54.26	48	39.94	52.94
48	59.69	-0.	48	38.25	55.45	48	38.82	54.60	48	39.70	53.38

TABLE 4.6-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.29	58.15	0	93.46	-206.65	0	36.28	58.16	0	36.58	57.80
0	36.30	58.14	0	93.46	-206.65	0	36.28	58.17	0	36.58	57.80
0	36.30	58.14	0	93.62	-207.65	0	36.28	58.17	0	36.57	57.81
0	36.33	58.10	0	93.46	-206.65	0	36.33	58.10	0	36.64	57.72
1	36.33	58.11	1	93.46	-206.65	1	36.32	58.12	1	36.62	57.75
1	36.32	58.12	1	93.46	-206.65	1	36.33	58.10	1	36.57	57.81
1	36.33	58.11	1	93.46	-206.65	1	36.35	58.08	1	36.62	57.75
2	36.32	58.12	2	93.46	-206.65	2	36.30	58.14	2	36.59	57.78
2	36.33	58.10	2	93.42	-206.45	2	36.31	58.13	2	36.59	57.78
2	36.33	58.11	2	93.46	-206.65	2	36.35	58.08	2	36.62	57.74
2	36.33	58.10	2	93.37	-206.15	2	36.30	58.14	2	36.59	57.78
3	36.34	58.09	3	93.29	-205.64	3	36.32	58.12	3	36.62	57.75
3	36.33	58.11	3	93.39	-206.25	3	36.33	58.11	3	36.62	57.75
3	36.37	58.06	3	93.42	-206.45	3	36.33	58.11	3	36.65	57.71
4	36.37	58.06	4	93.36	-206.05	4	36.36	58.07	4	36.65	57.71
4	36.33	58.11	4	93.46	-206.65	4	36.33	58.11	4	36.64	57.72
4	36.43	57.98	4	93.42	-206.45	4	36.37	58.06	4	36.67	57.68
5	36.46	57.94	5	93.39	-206.25	5	36.39	58.03	5	36.70	57.64
5	36.52	57.87	5	93.32	-205.84	5	36.51	57.88	5	36.77	57.55
5	36.58	57.79	5	93.32	-205.84	5	36.52	57.87	5	36.82	57.49
6	36.72	57.61	6	93.46	-206.65	6	36.58	57.79	6	36.88	57.40
6	36.69	57.66	6	93.39	-206.25	6	36.65	57.71	6	36.91	57.37
6	36.78	57.54	6	93.42	-206.45	6	36.65	57.71	6	36.94	57.33
6	36.80	57.51	6	93.39	-206.25	6	36.72	57.61	6	36.95	57.31
7	36.76	57.56	7	93.32	-205.84	7	36.77	57.55	7	36.98	57.27
7	36.77	57.55	7	93.29	-205.64	7	36.74	57.59	7	37.03	57.20
7	37.25	56.90	7	93.32	-205.84	7	36.78	57.54	7	36.97	57.28
8	36.64	57.72	8	93.29	-205.64	8	36.59	57.78	8	36.88	57.41
8	36.57	57.81	8	93.29	-205.64	8	36.54	57.84	8	36.82	57.49
8	36.54	57.84	8	93.29	-205.64	8	36.51	57.88	8	36.78	57.54
9	36.50	57.90	9	93.29	-205.64	9	36.48	57.92	9	36.76	57.56
9	36.50	57.89	9	93.29	-205.64	9	36.46	57.95	9	36.73	57.60
9	36.49	57.91	9	93.29	-205.64	9	36.46	57.94	9	36.72	57.61
10	36.46	57.95	10	93.29	-205.64	10	36.45	57.96	10	36.71	57.63
10	36.45	57.96	10	93.29	-205.64	10	36.42	58.00	10	36.69	57.65
10	36.45	57.96	10	93.29	-205.64	10	36.41	58.01	10	36.72	57.62
10	36.43	57.98	10	93.29	-205.64	10	36.40	58.02	10	36.67	57.68
11	36.42	58.00	11	93.28	-205.54	11	36.39	58.03	11	36.69	57.65
11	36.39	58.03	11	93.29	-205.64	11	36.39	58.03	11	36.69	57.66
11	36.44	57.97	11	93.29	-205.64	11	36.44	57.97	11	36.70	57.64
12	36.47	57.93	12	93.29	-205.64	12	36.46	57.95	12	36.72	57.61
12	36.52	57.87	12	93.29	-205.64	12	36.48	57.92	12	36.72	57.61
12	36.56	57.82	12	94.28	-211.67	12	36.49	57.91	12	36.75	57.58
13	36.65	57.70	13	94.28	-211.67	13	36.46	57.94	13	36.74	57.59

TABLE 4.6-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	36.50	57.89	13	94.28	-211.67	13	36.52	57.87	13	36.75	57.58
13	36.52	57.87	13	94.28	-211.67	13	36.51	57.88	13	36.77	57.55
14	36.42	57.99	14	94.28	-211.67	14	36.41	58.01	14	36.67	57.68
14	36.48	57.92	14	94.28	-211.67	14	36.42	57.99	14	36.73	57.60
14	36.44	57.97	14	94.28	-211.67	14	36.45	57.96	14	36.69	57.65
14	36.46	57.94	14	94.28	-211.67	15	36.50	57.89	15	36.74	57.59
19	36.72	57.62	19	94.28	-211.67	19	36.62	57.75	19	36.90	57.38
19	36.75	57.58	19	94.11	-210.66	19	36.58	57.79	19	36.89	57.39
20	36.67	57.42	20	94.11	-210.66	20	36.65	57.71	20	36.91	57.37
20	36.71	57.63	20	94.11	-210.66	20	36.66	57.69	20	36.96	57.30
30	36.70	57.64	20	94.11	-210.66	20	36.65	57.71	20	36.94	57.32
21	36.75	57.58	21	94.21	-211.26	21	36.69	57.66	21	36.94	57.32
21	36.74	57.59	21	94.11	-210.66	21	36.72	57.61	21	36.97	57.29
21	37.35	56.76	21	94.11	-210.66	21	36.85	57.45	21	37.08	57.14
22	36.81	57.50	22	94.11	-210.66	22	36.78	57.54	22	37.07	57.15
22	36.88	57.41	22	94.11	-210.66	22	36.85	57.44	22	37.14	57.06
22	36.88	57.40	22	94.11	-210.66	22	36.88	57.40	22	37.14	57.06
22	36.94	57.32	22	92.78	-202.53	22	36.87	57.42	22	37.13	57.07
23	36.92	57.35	23	94.11	-210.66	23	36.92	57.35	23	37.15	57.04
23	36.98	57.27	23	94.11	-210.66	23	36.95	57.31	23	37.22	56.94
23	36.96	57.30	23	94.11	-210.66	23	36.93	57.34	23	37.19	56.98
24	37.00	57.25	24	94.11	-210.66	24	36.96	57.30	24	37.25	56.90
24	37.05	57.18	24	94.11	-210.66	24	37.03	57.21	24	37.24	56.92
24	37.05	57.18	24	94.11	-210.66	24	37.04	57.19	24	37.32	56.80
25	37.10	57.11	25	94.05	-210.26	25	37.03	57.21	25	37.31	56.82
25	37.10	57.11	25	94.11	-210.66	25	37.06	57.17	25	37.32	56.81
25	37.14	57.06	25	94.11	-210.66	25	37.10	57.11	25	37.38	56.72
26	37.14	57.05	26	94.11	-210.66	26	37.10	57.11	26	37.33	56.79
26	37.17	57.01	26	94.11	-210.66	26	37.14	57.06	26	37.38	56.72
26	37.19	56.98	26	94.11	-210.66	26	37.18	57.00	26	37.42	56.66
26	37.22	56.94	26	94.11	-210.66	26	37.22	56.94	27	37.45	56.61
27	37.30	56.84	27	94.11	-210.66	27	37.21	56.96	27	37.47	56.59
27	37.28	56.86	27	94.08	-210.46	27	37.24	56.91	27	37.50	56.54
27	37.27	56.88	27	94.08	-210.46	27	37.27	56.87	27	37.52	56.51
28	37.31	56.82	28	94.05	-210.26	28	37.32	56.81	28	37.56	56.45
28	37.32	56.81	28	94.10	-210.56	28	37.32	56.80	28	37.56	56.45
28	37.34	56.77	28	94.05	-210.26	28	37.34	56.78	28	37.58	56.42
29	37.38	56.72	29	94.08	-210.46	29	37.37	56.74	29	37.60	56.40
29	37.41	56.67	29	94.11	-210.66	29	37.41	56.67	29	37.67	56.29
39	37.42	56.65	29	94.05	-210.26	29	37.42	56.66	29	37.73	56.21
30	37.52	56.51	30	94.05	-210.26	30	37.45	56.61	30	37.70	56.25
30	37.48	56.57	30	94.11	-210.66	30	37.46	56.60	30	37.72	56.22
30	37.54	56.49	30	94.05	-210.26	30	37.49	56.56	30	37.76	56.17
31	37.57	56.44	31	94.05	-210.26	31	37.56	56.45	31	37.74	56.20

TABLE 4.6-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	37.56	56.46	31	94.05	-210.26	31	37.53	56.50	31	37.79	56.12
31	37.59	56.41	31	94.08	-210.46	31	37.58	56.42	31	37.83	56.07
31	37.65	56.33	31	94.05	-210.26	31	37.63	56.35	31	37.86	56.02
32	37.66	56.31	32	93.98	-209.86	32	37.67	56.30	32	37.89	55.98
32	37.71	56.24	32	94.05	-210.26	32	37.67	56.29	32	37.90	55.96
32	37.72	56.23	32	94.05	-210.26	32	37.67	56.29	32	37.95	55.89
33	37.74	56.19	33	94.01	-210.06	33	37.67	56.30	33	37.94	55.90
33	37.77	56.15	33	94.05	-210.26	33	37.73	56.21	33	37.95	55.89
33	37.79	56.12	33	94.08	-210.46	33	37.80	56.11	33	38.07	55.71
34	37.84	56.05	34	94.11	-210.66	34	37.82	56.08	34	38.06	55.73
34	37.87	56.01	34	94.11	-210.66	34	37.83	56.07	34	38.08	55.69
34	37.90	55.96	34	94.10	-210.56	34	37.85	56.03	34	38.03	55.77
35	37.91	55.95	35	94.08	-210.46	35	37.88	55.99	35	38.04	55.76
35	37.96	55.87	35	0596.18	310.82	35	38.02	55.79	35	38.02	55.79
35	38.00	55.81	35	94.10	-210.56	35	37.94	55.90	35	38.04	55.76
35	38.01	55.80	35	94.11	-210.66	35	38.00	55.81	35	38.02	55.78
36	38.03	55.77	36	94.05	-210.26	36	38.02	55.78	36	38.02	55.78
36	38.08	55.69	36	94.05	-210.26	36	38.15	55.59	36	38.09	55.68
36	38.10	55.67	36	94.05	-210.26	36	38.08	55.70	36	38.16	55.57
37	38.15	55.59	37	9900.05	310.62	37	38.12	55.64	37	38.40	55.22
37	38.17	55.56	37	94.05	-210.26	37	38.18	55.55	37	38.50	55.07
37	38.16	55.57	37	94.05	-210.26	37	38.16	55.58	37	46.69	39.20
38	38.23	55.47	38	94.05	-210.26	38	38.22	55.49	38	51.24	27.90
38	38.29	55.39	38	93.98	-209.86	38	38.27	55.42	38	56.24	12.25
38	38.30	55.37	38	93.98	-209.86	38	38.29	55.38	38	58.33	4.82
39	38.34	55.31	39	93.98	-209.86	39	38.35	55.29	39	62.04	-14.41
39	38.37	55.26	39	93.95	-209.66	39	38.38	55.25	39	64.66	-30.40
39	38.44	55.17	39	93.95	-209.66	39	38.41	55.20	39	68.09	-51.44
39	38.47	55.12	39	93.92	-209.46	40	38.46	55.13	40	71.81	-74.18
40	38.52	55.04	40	93.95	-209.66	40	38.56	54.99	40	76.38	-102.17
40	38.56	54.99	40	93.95	-209.66	40	38.54	55.01	40	80.42	-126.86
40	38.58	54.95	40	93.95	-209.66	40	38.57	54.97	40	85.09	-155.46
41	38.63	54.89	41	93.95	-209.66	41	38.59	54.94	41	88.96	-179.15
41	38.69	54.80	41	93.95	-209.66	41	38.76	54.69	41	90.06	-185.87
41	38.73	54.74	41	94.05	-210.26	41	38.76	54.70	41	90.55	-188.88
42	38.76	54.69	42	94.08	-210.46	42	38.75	54.71	42	91.16	-192.60
42	38.81	54.62	42	94.05	-210.26	42	38.76	54.70	42	91.83	-196.71
42	38.87	54.54	42	94.05	-210.26	42	47.77	37.14	42	92.26	-199.32
43	38.89	54.50	43	94.11	-210.66	43	51.55	25.50	43	92.49	-200.73
43	38.96	54.40	43	94.11	-210.66	43	55.88	13.55	43	92.41	-200.22
43	39.01	54.33	43	94.05	-210.26	43	59.09	2.14	43	92.50	-200.83
44	39.05	54.27	44	94.08	-210.46	44	61.24	-9.49	44	92.80	-202.63
44	39.15	54.13	44	94.05	-210.26	44	63.19	-21.43	44	93.11	-204.54
44	39.20	54.07	44	94.05	-210.26	44	66.19	-39.79	44	92.83	-202.83

TABLE 4.6-4 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
44	39.23	54.02	44	94.05	-210.26	44	69.12	-57.72	44	92.93	-203.44
45	39.31	53.90	45	94.05	-210.26	45	72.53	-78.57	45	92.96	-203.64
45	39.38	53.81	45	93.98	-209.86	45	76.14	-100.66	45	93.44	-206.55
45	39.46	53.70	45	94.11	-210.66	45	80.40	-126.76	45	93.59	-207.45
46	39.51	53.63	46	94.11	-210.66	46	83.96	-148.54	46	93.59	-207.45
46	39.00	54.35	46	94.11	-210.66	46	70.10	-63.73	46	93.47	-206.75
46	39.00	54.35	46	94.08	-210.46	46	88.63	-177.14	46	93.49	-206.85
47	39.02	54.32	47	94.05	-210.26	47	90.21	-186.78	47	93.11	-204.54
47	39.03	54.30	47	94.08	-210.46	47	91.42	-194.20	47	93.21	-205.14
47	39.03	54.30	47	94.05	-210.26	47	92.01	-197.82	47	93.26	-205.44
48	38.98	54.38	48	94.05	-210.26	48	92.16	-198.72	48	93.23	-205.24
48	50.47	30.33	48	94.05	-210.26	48	91.77	-196.31	48	91.87	-196.91

TABLE 4.6-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.58	57.60	0	36.29	58.15	0	45.42	42.83	0	62.15	-15.07
0	36.24	58.21	0	36.28	58.17	0	45.43	42.80	0	61.85	-13.23
0	36.28	58.16	0	36.28	58.17	0	45.43	42.80	0	61.85	-13.21
0	36.30	58.14	0	36.40	58.02	0	45.43	42.79	0	62.97	-20.07
1	36.28	58.17	1	36.34	58.09	1	45.42	42.82	1	61.96	-13.89
1	36.33	58.11	1	36.33	58.10	1	45.43	42.79	1	62.00	-14.11
1	36.32	58.12	1	36.33	58.11	1	45.41	42.86	1	62.00	-14.11
2	36.29	58.15	2	36.34	58.09	2	45.42	42.81	2	61.99	-14.05
2	36.33	58.10	2	36.35	58.08	2	45.43	42.79	2	62.01	-14.18
2	36.33	58.11	2	36.33	58.10	2	45.41	42.86	2	61.84	-13.13
2	36.31	58.13	3	36.33	58.11	3	40.01	52.85	3	61.91	-13.60
3	36.32	58.12	3	36.33	58.11	3	45.43	42.80	3	61.84	-13.15
3	36.33	58.11	3	36.33	58.11	3	45.42	42.81	3	61.93	-13.70
3	36.34	58.09	3	36.33	58.11	3	40.06	52.78	3	62.17	-15.15
4	36.33	58.11	4	36.37	58.06	4	45.43	42.78	4	62.31	-16.06
4	36.35	58.08	4	36.37	58.06	4	45.44	42.77	4	61.94	-13.80
4	36.37	58.06	4	36.36	58.07	4	45.45	42.73	4	61.82	-13.05
5	36.42	58.00	5	36.50	57.90	5	45.47	42.66	5	61.92	-13.63
5	36.49	57.91	5	36.49	57.91	5	45.49	42.62	5	61.99	-14.05
5	36.52	57.87	5	36.54	57.84	5	45.53	42.49	5	61.64	-11.93
6	36.58	57.79	6	36.60	57.77	6	45.52	42.51	6	61.87	-13.36
6	36.65	57.71	6	36.66	57.69	6	45.56	42.39	6	62.00	-14.11
6	36.66	57.69	6	36.72	57.61	6	45.61	42.26	6	62.35	-16.26
6	36.73	57.60	7	36.72	57.61	7	45.61	42.26	7	61.92	-13.64
7	36.74	57.59	7	36.76	57.56	7	45.62	42.22	7	62.16	-15.11
7	36.75	57.57	7	36.79	57.53	7	45.60	42.27	7	62.06	-14.51
7	36.70	57.64	7	36.63	57.73	7	45.54	42.45	7	62.01	-14.18
8	36.56	57.82	8	36.59	57.78	8	45.50	42.57	8	62.02	-14.28
8	36.54	57.85	8	36.58	57.80	8	45.53	42.50	8	62.36	-16.36
8	36.51	57.88	8	36.52	57.87	8	45.51	42.56	8	62.15	-15.05
9	36.49	57.91	9	36.49	57.91	9	45.50	42.59	9	62.04	-14.35
9	36.49	57.91	9	36.49	57.91	9	45.49	42.61	9	61.34	-10.08
9	36.46	57.95	9	36.46	57.95	9	45.49	42.60	9	62.06	-14.48
10	36.41	58.01	10	36.48	57.92	10	45.47	42.66	10	61.85	-13.23
10	36.43	57.98	10	36.43	57.98	10	45.48	42.64	10	61.85	-13.23
10	36.41	58.01	10	36.42	57.99	10	45.43	42.78	10	62.05	-14.46
11	36.42	58.00	11	36.42	58.00	11	45.46	42.71	11	62.04	-14.38
11	36.39	58.03	11	36.40	58.02	11	45.47	42.68	11	61.92	-13.64
11	36.40	58.02	11	36.50	57.90	11	45.48	42.64	11	62.15	-15.05
11	36.42	58.00	11	36.40	58.02	11	45.48	42.64	11	61.85	-13.24
12	36.42	57.99	12	36.41	58.01	12	45.48	42.65	12	61.75	-12.64
12	36.43	57.98	12	36.46	57.95	12	45.48	42.64	12	62.00	-14.15
12	36.46	57.94	12	36.45	57.96	12	45.48	42.65	12	61.35	-10.18
13	36.46	57.94	13	36.49	57.91	13	45.48	42.65	13	61.84	-13.15

TABLE 4.6-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	36.45	57.96	13	36.46	57.94	13	45.48	42.63	13	62.35	-16.26
13	36.50	57.90	12	36.50	57.90	13	45.49	42.60	13	62.04	-14.38
14	36.41	58.01	14	36.39	58.03	14	45.46	42.71	14	62.10	-14.75
14	36.43	57.98	14	36.45	57.96	14	45.48	42.65	14	62.32	-16.09
14	36.45	57.96	14	36.44	57.97	14	45.48	42.65	14	61.87	-13.35
15	36.46	57.95	15	36.47	57.93	15	45.49	42.62	15	61.96	-13.90
19	36.57	57.81	19	36.58	57.79	19	45.55	42.43	19	61.85	-13.21
19	36.61	57.76	19	36.63	57.73	19	45.55	42.43	19	61.92	-13.64
20	36.65	57.71	20	36.65	57.71	20	45.56	42.41	20	62.32	-16.08
20	36.65	57.70	20	36.67	57.68	20	45.58	42.35	20	62.06	-14.52
20	36.65	57.71	20	36.73	57.60	20	45.58	42.34	20	61.84	-13.15
21	36.69	57.65	21	36.68	57.67	21	45.57	42.36	21	62.17	-15.15
22	36.70	57.64	21	36.69	57.65	21	45.61	42.25	21	61.43	-10.68
21	36.81	57.50	21	36.80	57.51	21	45.64	42.15	21	62.09	-14.68
22	36.78	57.54	22	36.85	57.44	22	45.63	42.19	22	62.04	-14.36
22	36.87	57.42	22	36.88	57.40	22	45.65	42.14	22	62.36	-16.36
22	36.85	57.44	22	36.90	57.38	22	45.69	42.00	22	62.97	-20.07
22	36.89	57.39	22	36.88	57.41	23	45.68	42.02	23	61.99	-14.08
23	36.94	57.32	23	36.92	57.35	23	45.71	41.95	23	62.36	-16.36
23	36.94	57.32	23	36.96	57.30	23	45.72	41.92	23	62.48	-17.06
23	36.94	57.33	23	37.00	57.24	23	45.71	41.94	23	63.01	-20.32
24	37.03	57.21	24	37.04	57.19	24	45.75	41.80	24	67.89	-50.18
24	36.98	57.27	25	26.97	67.25	24	45.75	41.82	24	72.81	-80.29
24	37.69	56.27	24	37.10	57.11	24	45.77	41.74	24	81.50	-133.48
25	37.09	57.12	25	37.11	57.10	25	45.73	41.89	25	89.82	-184.37
25	37.07	57.15	25	37.09	57.13	25	45.76	41.77	25	94.11	-210.66
25	37.06	57.17	25	37.10	57.11	35	45.77	41.75	25	94.11	-210.66
26	37.09	57.12	26	37.18	57.00	26	45.86	41.46	26	94.11	-210.66
26	37.17	57.01	26	37.25	56.90	26	46.32	40.08	26	94.11	-210.66
26	37.16	57.03	26	37.22	56.95	26	50.48	30.31	26	94.11	-210.66
27	37.19	56.99	27	37.18	57.00	27	56.92	9.86	27	94.11	-210.66
27	37.22	56.95	27	37.19	56.98	27	62.78	-18.94	27	94.11	-210.66
27	37.24	56.92	27	37.23	56.93	27	68.14	-51.73	27	94.08	-210.46
27	37.24	56.91	27	37.30	56.83	27	75.25	-95.25	27	94.11	-210.66
28	37.30	56.84	28	37.29	56.85	28	83.06	-143.02	28	94.08	-210.46
28	37.31	56.82	28	37.32	56.80	28	88.04	-173.53	28	94.10	-210.56
28	37.35	56.76	28	37.45	56.61	28	89.36	-181.56	28	94.05	-210.26
29	37.37	56.73	29	37.73	56.21	29	91.32	-193.60	29	94.10	-210.56
29	37.42	56.66	29	38.97	54.39	29	91.95	-197.41	29	94.11	-210.66
29	37.41	56.67	29	46.51	39.60	29	92.36	-199.92	29	94.11	-210.66
30	37.44	56.62	30	50.54	30.11	30	92.60	-201.43	30	94.11	-210.66
30	37.49	56.55	30	59.80	-0.66	30	93.34	-205.94	30	94.21	-211.26
30	37.51	56.53	30	63.81	-25.24	30	93.47	-206.75	30	94.21	-211.26
31	37.52	56.51	31	69.02	-57.10	31	93.49	-206.85	31	94.21	-211.26

TABLE 4.6-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	37.58	56.43	31	75.48	-96.66	31	93.51	-206.95	31	94.21	-211.26
31	37.55	56.47	31	81.14	-131.27	31	93.60	-207.55	31	94.23	-211.36
31	37.59	56.41	31	85.32	-156.87	31	93.82	-208.86	32	94.23	-211.36
32	37.88	55.99	32	88.80	-178.14	32	94.05	-210.26	32	94.28	-211.67
32	38.92	54.46	32	90.41	-187.98	32	94.05	-210.26	32	94.28	-211.67
32	45.23	43.36	32	90.50	-188.58	32	94.05	-210.26	32	94.31	-211.87
33	52.72	23.29	33	91.19	-192.80	33	94.05	-210.26	33	94.31	-211.87
33	58.39	4.62	33	91.49	-194.60	33	94.05	-210.26	33	94.29	-211.77
33	59.69	-0.	33	91.18	-192.70	33	94.05	-210.26	33	94.31	-211.87
34	59.69	-0.	34	90.95	-191.29	34	94.11	-210.66	34	94.34	-212.07
34	59.69	-0.	34	91.23	-193.00	34	94.11	-210.66	34	94.33	-211.97
34	59.69	-0.	34	91.70	-195.91	34	94.11	-210.66	34	94.21	-211.26
35	59.69	-0.	35	91.82	-196.61	35	94.08	-210.46	35	94.33	-211.97
35	59.69	-0.	35	91.64	-195.51	35	94.05	-210.26	35	94.33	-211.97
35	59.69	-0.	35	91.41	-194.10	35	94.08	-210.46	35	94.33	-211.97
36	90.27	-187.18	36	91.88	-197.01	36	94.10	-210.56	36	94.31	-211.87
36	91.90	-197.11	36	92.09	-198.32	36	94.08	-210.46	36	94.33	-211.97
36	92.19	-198.92	36	92.01	-197.82	36	94.05	-210.26	36	94.29	-211.77
36	92.57	-201.23	36	92.06	-198.12	36	94.05	-210.26	36	94.31	-211.87
37	92.60	-201.43	37	92.62	-201.53	37	94.08	-210.46	37	94.29	-211.77
37	92.16	-198.72	37	92.70	-202.03	37	94.10	-210.56	37	94.31	-211.87
37	92.75	-202.33	37	92.80	-202.63	37	94.11	-210.66	37	94.29	-211.77
38	92.64	-201.63	38	92.73	-202.23	38	94.11	-210.66	38	94.31	-211.87
38	93.54	-207.15	38	93.06	-204.24	38	94.11	-210.66	38	94.28	-211.67
38	93.26	-205.44	38	93.59	-207.45	38	92.70	-202.03	38	94.29	-211.77
39	93.29	-205.64	39	94.01	-210.06	39	94.21	-211.26	39	94.23	-211.36
39	92.82	-202.73	39	93.87	-209.16	39	94.14	-210.86	39	94.21	-211.26
39	92.67	-201.83	39	94.05	-210.26	39	94.19	-211.16	39	94.19	-211.16
40	92.73	-202.23	40	94.01	-210.06	40	94.21	-211.26	40	94.21	-211.26
40	92.80	-202.63	40	0247.90	310.72	40	94.23	-211.36	40	94.24	-211.46
40	92.96	-203.64	40	0596.18	310.82	40	94.23	-211.36	40	94.24	-211.46
40	93.08	-204.34	40	94.05	-210.26	40	94.21	-211.26	40	94.24	-211.46
41	93.23	-205.24	41	94.10	-210.56	41	94.21	-211.26	41	94.26	-211.57
41	92.96	-203.64	41	94.10	-210.56	41	94.26	-211.57	41	94.26	-211.57
41	92.96	-203.64	41	94.11	-210.66	41	94.28	-211.67	41	94.28	-211.67
42	93.23	-205.24	42	94.11	-210.66	42	94.31	-211.87	42	94.36	-212.17
42	93.32	-205.84	42	94.21	-211.26	42	94.31	-211.87	42	94.36	-212.17
42	93.59	-207.45	42	94.24	-211.46	42	94.33	-211.97	42	94.33	-211.97
43	93.83	-208.96	43	94.26	-211.57	43	94.36	-212.17	43	94.36	-212.17
43	94.05	-210.26	43	94.37	-212.27	43	94.44	-212.67	43	94.44	-212.67
43	93.98	-209.86	43	94.31	-211.87	43	94.36	-212.17	43	94.37	-212.27
44	94.05	-210.26	44	94.33	-211.97	44	94.34	-212.07	44	94.33	-211.97
44	94.05	-210.26	44	94.31	-211.87	44	94.31	-211.87	44	94.31	-211.87
44	94.05	-210.26	44	94.31	-211.87	44	94.33	-211.97	44	94.34	-212.07

TABLE 4.6-4 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
44	94.10	-210.56	44	94.36	-212.17	44	94.37	-212.27	45	94.37	-212.27
45	93.98	-209.86	45	94.29	-211.77	45	94.31	-211.87	45	94.33	-211.97
45	94.11	-210.66	45	94.31	-211.87	45	94.34	-212.07	45	94.37	-212.27
45	94.11	-210.66	45	94.42	-212.57	45	94.42	-212.57	45	94.44	-212.67
46	94.11	-210.66	46	94.41	-212.47	46	94.44	-212.67	46	94.44	-212.67
46	94.11	-210.66	46	94.39	-212.37	46	94.41	-212.47	46	94.44	-212.67
46	94.10	-210.56	46	94.31	-211.87	46	94.33	-211.97	46	94.33	-211.97
47	94.05	-210.26	47	94.36	-212.17	47	94.37	-212.27	47	94.36	-212.17
47	94.05	-210.26	47	94.36	-212.17	47	94.36	-212.17	47	94.36	-212.17
47	94.05	-210.26	47	94.33	-211.97	47	94.34	-212.07	47	94.34	-212.07
48	94.05	-210.26	48	94.28	-211.67	48	94.34	-212.07	48	94.16	-210.96
48	93.95	-209.66	48	94.29	-211.77	48	94.33	-211.97	48	94.31	-211.87

TABLE 4.6-4 (Cont'd)

THERMOMETER 13

TIME	TEMP	VOLTAGE
0	36.31	58.13
0	36.32	58.12
0	36.33	58.10
0	36.33	58.11
1	36.31	58.13
1	36.33	58.10
1	36.31	58.13
2	36.31	58.13
2	36.32	58.12
2	36.35	58.08
3	36.33	58.11
3	36.33	58.10
3	36.31	58.13
3	36.37	58.06
4	36.37	58.06
4	36.40	58.02
4	36.42	58.00
5	36.45	57.96
5	36.51	57.88
5	36.57	57.81
6	36.79	57.53
6	36.72	57.62
6	36.79	57.52
7	36.74	57.59
7	36.86	57.43
7	36.88	57.41
7	36.65	57.70
8	36.58	57.80
8	36.53	57.86
8	36.49	57.91
9	36.49	57.91
9	36.47	57.93
9	36.45	57.96
10	36.43	57.98
10	36.42	57.99
10	36.42	57.99
11	36.42	58.00
11	36.42	58.00
11	36.42	58.00
11	36.42	58.00
12	36.45	57.96
12	36.47	57.93
12	36.46	57.95
13	36.44	57.97

THERMOMETER 14

TIME	TEMP	VOLTAGE
0	36.29	58.15
0	36.28	58.17
0	36.33	58.11
0	36.32	58.12
1	36.33	58.11
1	36.33	58.10
1	36.33	58.11
2	36.34	58.09
2	36.33	58.11
2	36.33	58.11
3	36.32	58.12
3	36.34	58.09
3	36.36	58.07
3	36.33	58.11
4	36.33	58.10
4	36.40	58.02
4	36.39	58.03
5	36.50	57.90
5	38.08	55.69
5	37.76	56.16
6	38.20	55.52
6	39.99	52.88
6	40.26	52.48
7	39.49	53.65
7	39.89	53.01
7	41.34	50.67
7	37.88	55.99
8	37.24	56.91
8	36.54	57.85
8	36.49	57.91
9	36.46	57.94
9	36.47	57.93
9	36.44	57.97
10	36.42	58.00
10	36.41	58.01
10	36.41	58.01
11	36.42	58.00
11	36.40	58.02
11	36.42	58.00
11	36.49	57.91
12	36.58	57.80
12	36.88	57.41
12	36.63	57.73
13	36.57	57.81

THERMOMETER 15

TIME	TEMP	VOLTAGE
0	36.31	58.13
0	36.33	58.10
0	36.32	58.12
0	36.45	57.96
1	36.44	57.97
1	36.46	57.95
1	36.47	57.93
2	36.44	57.97
2	36.46	57.94
2	36.53	57.86
3	36.54	57.84
3	36.52	57.87
3	36.55	57.83
3	36.56	57.82
4	36.55	57.83
4	36.85	57.44
4	41.44	50.48
5	45.94	41.22
5	50.14	31.21
5	53.98	21.16
6	56.10	12.75
6	58.22	5.22
6	60.00	-1.90
7	60.93	-7.59
7	61.26	-9.59
7	62.42	-16.69
7	44.64	44.65
8	36.08	58.40
8	35.84	58.67
8	35.99	58.51
9	35.99	58.51
9	36.12	58.35
9	36.11	58.37
10	36.17	58.30
10	36.21	58.25
10	36.25	58.20
11	36.28	58.16
11	36.27	58.18
11	36.28	58.16
11	37.29	56.85
12	37.77	56.15
12	38.21	55.50
12	38.62	54.90
13	38.78	54.66

THERMOMETER 16

TIME	TEMP	VOLTAGE
0	36.22	58.24
0	36.27	58.18
0	36.28	58.16
0	36.40	58.02
1	36.43	57.98
1	36.44	57.97
1	36.40	58.02
2	36.39	58.03
2	36.48	57.92
2	36.57	57.81
3	36.62	57.75
3	36.63	57.73
3	36.68	57.67
3	36.69	57.66
4	36.73	57.60
4	36.32	58.12
4	42.79	47.87
5	47.76	37.21
5	51.65	26.50
5	55.49	14.45
6	57.58	7.49
6	60.51	-5.00
6	62.76	-18.76
7	68.56	-54.29
7	82.71	-140.91
7	85.47	-157.77
7	55.74	14.04
8	38.29	55.39
8	36.55	57.83
8	36.76	57.56
9	36.79	57.52
9	36.50	57.90
9	36.46	57.95
10	36.44	57.97
10	36.51	57.88
10	36.43	57.98
11	36.50	57.90
11	36.60	57.77
11	36.60	57.77
11	37.91	55.95
12	39.01	54.33
12	39.76	53.20
12	40.72	51.75
13	41.51	50.36

TABLE 4.6-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	36.50	57.90	13	37.11	57.10	13	39.08	54.23	13	42.74	47.97
13	36.48	57.92	13	36.50	57.90	13	36.37	58.06	13	38.10	55.66
14	36.41	58.01	14	36.40	58.02	14	36.19	58.27	14	37.11	57.10
14	36.48	57.92	14	36.50	57.90	14	37.03	57.21	14	38.89	54.50
14	36.47	57.93	14	36.62	57.74	14	38.69	54.80	14	42.01	49.40
15	36.49	57.91	15	37.10	57.11	15	40.61	51.93	15	44.43	45.02
19	36.62	57.74	19	39.40	53.78	19	52.56	23.54	19	59.70	-0.06
19	36.64	57.72	19	38.76	54.69	19	53.22	22.55	19	68.28	-52.59
20	36.65	57.70	20	39.62	53.48	20	53.77	21.61	20	68.86	-56.09
20	36.81	57.50	20	39.25	53.99	20	54.31	20.04	20	68.82	-55.90
20	36.66	57.69	20	39.25	53.99	20	55.59	14.37	20	69.14	-57.81
21	36.98	57.27	21	39.28	53.96	21	56.71	10.60	21	69.19	-58.16
21	36.95	57.31	21	39.80	53.14	21	56.47	11.44	21	69.18	-58.05
21	36.79	57.53	21	40.12	52.69	21	56.87	10.04	21	72.64	-79.28
22	36.92	57.35	22	40.18	52.59	22	62.15	-15.05	22	74.73	-92.02
22	36.98	57.27	22	47.77	37.13	22	65.72	-36.90	22	77.78	-110.70
22	37.23	56.93	22	54.48	15.73	22	71.43	-71.83	22	81.85	-135.59
23	41.24	50.86	23	62.17	-15.18	23	77.65	-109.90	23	84.04	-149.04
23	50.68	29.71	23	69.53	-60.21	23	64.76	-31.01	23	85.62	-158.67
23	57.35	8.33	23	59.75	-0.35	23	83.57	-146.13	23	85.67	-158.97
23	65.05	-32.81	23	82.06	-136.90	23	84.57	-152.25	23	85.85	-160.08
24	74.32	-89.51	24	83.50	-145.73	24	85.73	-159.38	24	86.19	-162.19
24	80.02	-124.45	24	69.25	-58.51	24	87.50	-170.22	24	87.03	-167.31
24	84.11	-149.44	24	88.68	-177.44	24	89.18	-180.45	24	88.04	-173.53
25	86.17	-162.09	25	89.45	-182.16	25	89.44	-182.06	25	89.19	-180.55
25	59.69	-0.	25	89.13	-180.15	25	89.59	-182.96	25	90.24	-186.98
25	88.04	-173.53	25	89.78	-184.17	25	90.08	-185.97	25	90.90	-190.99
26	59.69	-0.	26	89.65	-183.36	26	90.18	-186.57	26	91.41	-194.10
26	88.49	-176.24	26	90.11	-186.17	26	90.83	-190.59	26	92.16	-198.72
26	89.13	-180.15	26	90.70	-189.79	26	91.83	-196.71	26	93.19	-205.04
27	89.60	-183.06	27	91.11	-192.30	27	92.54	-201.03	27	94.11	-210.66
27	91.27	-193.30	27	91.80	-196.51	27	93.00	-203.84	27	94.21	-211.26
27	91.13	-192.40	27	93.00	-203.84	27	94.18	-211.06	27	94.34	-212.07
27	91.05	-191.89	27	93.51	-206.95	28	94.21	-211.26	28	94.33	-211.97
28	76.34	-101.87	28	94.08	-210.46	28	94.33	-211.97	28	94.36	-212.17
28	91.68	-195.81	28	94.05	-210.26	28	94.33	-211.97	28	94.36	-212.17
28	77.37	-108.19	28	94.10	-210.56	28	94.31	-211.87	28	94.34	-212.07
29	93.14	-204.74	29	94.11	-210.66	29	94.36	-212.17	29	94.36	-212.17
29	93.70	-208.15	29	94.24	-211.46	29	94.34	-212.07	20	94.34	-212.07
29	94.05	-210.26	29	94.31	-211.87	29	94.36	-212.17	29	94.37	-212.27
30	93.95	-209.66	30	94.31	-211.87	30	94.36	-212.17	30	94.36	-212.17
30	94.11	-210.66	30	94.31	-211.87	30	94.37	-212.27	30	94.37	-212.27
30	94.28	-211.67	30	94.36	-212.17	30	94.36	-212.17	30	94.36	-212.17
31	94.24	-211.46	31	94.33	-211.97	31	94.33	-211.97	31	94.33	-211.97

TABLE 4.6-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	94.24	-211.46	31	94.33	-211.97	31	94.36	-212.17	31	94.36	-212.17
31	94.28	-211.67	31	94.36	-212.17	31	94.36	-212.17	31	94.34	-212.07
32	94.21	-211.26	32	94.29	-211.77	32	94.31	-211.87	32	94.31	-211.87
32	94.24	-211.46	32	94.33	-211.97	32	94.34	-212.07	32	94.34	-212.07
32	94.24	-211.46	32	94.33	-211.97	32	94.34	-212.07	32	94.33	-211.97
32	94.24	-211.46	32	94.33	-211.97	32	94.34	-212.07	32	94.34	-212.07
33	94.24	-211.46	33	94.31	-211.87	33	94.33	-211.97	33	94.34	-212.07
33	94.24	-211.46	33	94.33	-211.97	33	94.34	-212.07	33	94.33	-211.97
33	94.28	-211.67	33	94.39	-212.37	33	94.36	-212.17	33	94.36	-212.17
34	94.26	-211.57	34	94.36	-212.17	34	94.37	-212.27	34	94.34	-212.07
34	94.28	-211.67	34	94.36	-212.17	34	94.36	-212.17	34	94.36	-212.17
34	94.28	-211.67	34	94.37	-212.27	34	94.39	-212.37	34	94.37	-212.27
35	94.29	-211.77	35	94.33	-211.97	35	94.33	-211.97	35	94.37	-212.27
35	94.33	-211.97	35	94.36	-212.17	35	94.29	-211.77	35	94.29	-211.77
35	94.34	-212.07	35	94.37	-212.27	35	94.37	-212.27	35	94.39	-212.37
36	94.34	-212.07	36	94.34	-212.07	36	94.36	-212.17	36	94.34	-212.07
36	94.34	-212.07	36	94.34	-212.07	36	94.34	-212.07	36	94.36	-212.17
36	94.29	-211.77	36	94.31	-211.87	36	94.31	-211.87	36	94.31	-211.87
36	94.31	-211.87	36	94.34	-212.07	36	94.33	-211.97	36	94.33	-211.97
37	94.29	-211.77	37	94.33	-211.97	37	94.33	-211.97	37	94.31	-211.87
37	94.31	-211.87	37	94.31	-211.87	37	94.31	-211.87	37	94.33	-211.97
37	94.29	-211.77	37	94.33	-211.97	37	94.34	-212.07	37	94.31	-211.87
38	94.33	-211.97	38	94.37	-212.27	38	94.33	-211.97	38	94.31	-211.87
38	94.28	-211.67	38	94.28	-211.67	38	94.31	-211.87	38	94.31	-211.87
38	94.29	-211.77	38	94.29	-211.77	38	94.29	-211.77	38	94.29	-211.77
39	94.26	-211.57	39	94.28	-211.67	39	94.28	-211.67	39	94.26	-211.57
39	94.21	-211.26	39	94.24	-211.46	39	94.26	-211.57	39	94.26	-211.57
39	94.23	-211.36	39	94.24	-211.46	39	94.26	-211.57	39	94.24	-211.46
40	94.24	-211.46	40	94.26	-211.57	40	94.23	-211.36	40	94.21	-211.26
40	94.24	-211.46	40	94.26	-211.57	40	94.26	-211.57	40	94.26	-211.57
40	94.24	-211.46	40	94.24	-211.46	40	94.24	-211.46	40	94.24	-211.46
40	94.24	-211.46	41	94.24	-211.46	41	94.23	-211.36	41	94.28	-211.67
41	94.24	-211.46	41	94.24	-211.46	41	94.26	-211.57	41	94.26	-211.57
41	94.26	-211.57	41	94.26	-211.57	41	94.26	-211.57	41	94.28	-211.67
41	94.33	-211.97	41	94.33	-211.97	41	94.33	-211.97	41	94.33	-211.97
42	94.33	-211.97	42	94.36	-212.17	42	94.36	-212.17	42	94.34	-212.07
42	94.31	-211.87	42	94.34	-212.07	42	94.36	-212.17	42	94.34	-212.07
42	94.33	-211.97	42	94.36	-212.17	42	94.33	-211.97	42	94.33	-211.97
43	94.34	-212.07	43	391.12	2011.27	43	94.36	-212.17	43	94.36	-212.17
43	94.44	-212.67	43	94.44	-212.67	43	94.42	-212.57	43	94.42	-212.57
43	94.36	-212.17	43	94.36	-212.17	43	94.36	-212.17	43	94.36	-212.17
44	94.33	-211.97	44	94.34	-212.07	44	94.34	-212.07	44	94.29	-211.77
44	94.36	-212.17	44	94.33	-211.97	44	94.33	-211.97	44	94.33	-211.97
44	94.36	-212.17	44	94.33	-211.97	44	94.34	-212.07	44	94.34	-212.07

TABLE 4.6-4 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
45	94.37	-212.27	45	94.37	-212.27	45	94.37	-212.27	45	94.37	-212.27
45	94.33	-211.97	45	94.33	-211.97	45	94.34	-212.07	45	94.34	-212.07
45	94.36	-212.17	45	94.36	-212.17	45	94.36	-212.17	45	94.37	-212.27
45	94.44	-212.67	45	94.44	-212.67	45	94.44	-212.67	45	94.44	-212.67
46	94.42	-212.57	46	94.42	-212.57	46	94.42	-212.57	46	94.42	-212.57
46	94.44	-212.67	46	94.42	-212.57	46	94.41	-212.47	46	94.39	-212.37
46	94.34	-212.07	46	94.34	-212.07	46	94.34	-212.07	46	94.33	-211.97
47	94.34	-212.07	47	94.37	-212.27	47	94.37	-212.27	47	94.37	-212.27
47	94.36	-212.17	47	94.34	-212.07	47	94.34	-212.07	47	94.36	-212.17
47	94.34	-212.07	47	94.34	-212.07	47	94.34	-212.07	47	94.33	-211.97
48	94.19	-211.16	48	94.24	-211.46	48	94.28	-211.67	48	94.34	-212.07
48	94.34	-212.07	48	94.31	-211.87	48	94.31	-211.87	48	94.33	-211.97

TABLE 4.6-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.33	56.79	0	38.07	55.71	0	39.20	54.06	0	57.19	8.88
0	37.34	56.78	0	38.04	55.76	0	39.29	53.94	0	57.59	7.46
0	37.36	56.75	0	38.06	55.72	0	39.35	53.85	0	57.84	6.58
0	37.67	56.29	0	38.58	54.96	0	40.40	52.27	0	63.74	-24.77
1	37.69	56.27	1	38.57	54.97	1	40.48	52.14	1	63.95	-26.09
1	37.67	56.29	1	38.56	54.99	1	40.51	52.09	1	64.18	-27.47
1	37.74	56.19	1	38.61	54.91	1	40.52	52.07	1	64.28	-28.10
2	37.74	56.20	2	38.61	54.92	2	40.61	51.94	2	64.48	-29.30
2	37.74	56.20	2	38.67	54.83	2	40.65	51.87	2	65.97	-38.44
2	37.93	55.91	2	38.85	54.57	2	40.83	51.58	2	68.44	-53.56
3	37.94	55.90	3	38.82	54.60	3	40.90	51.45	3	68.96	-56.76
3	37.97	55.86	3	38.93	54.45	3	40.97	51.33	3	69.53	-60.22
3	38.08	55.70	3	38.94	54.43	3	41.04	51.22	3	70.22	-64.43
3	38.11	55.65	4	39.00	54.35	4	41.08	51.14	4	70.77	-67.84
4	38.15	55.59	4	39.03	54.31	4	41.18	50.96	4	71.25	-70.76
4	38.63	54.88	4	39.69	53.39	4	41.84	49.73	4	93.42	-206.45
4	63.30	-22.10	4	46.00	41.01	4	67.43	-47.36	4	93.39	-206.25
5	49.38	33.04	5	51.47	27.20	5	93.39	-206.25	5	93.64	-207.75
5	53.08	22.76	5	59.89	-1.20	5	93.39	-206.25	5	93.65	-207.85
5	56.75	10.44	5	68.99	-56.92	5	92.88	-203.13	5	93.46	-206.65
6	59.69	-0.	6	83.75	-147.23	6	93.39	-206.25	6	93.64	-207.75
6	59.69	-0.	6	86.21	-162.29	6	93.39	-206.25	6	93.65	-207.85
6	59.69	-0.	6	89.88	-184.77	6	93.42	-206.45	6	93.64	-207.75
7	91.98	-197.61	7	92.31	-199.62	7	93.46	-206.65	7	93.62	-207.65
7	59.69	-0.	7	92.49	-200.73	7	93.42	-206.45	7	93.64	-207.75
7	92.47	-200.63	7	92.23	-199.12	7	93.39	-206.25	7	93.59	-207.45
7	59.69	-0.	8	70.91	-68.64	8	73.51	-84.61	8	91.21	-192.90
8	45.90	41.34	8	57.43	8.03	8	62.87	-19.49	8	88.42	-175.84
8	42.58	48.28	8	54.32	16.31	8	66.05	-38.95	8	93.29	-205.64
8	39.68	53.40	8	51.74	26.66	8	68.70	-55.15	8	93.29	-205.64
9	38.80	54.64	9	50.33	30.72	9	69.94	-62.72	9	93.32	-205.84
9	38.25	55.45	9	48.04	36.20	9	70.01	-63.18	9	93.29	-205.64
9	37.99	55.83	9	47.41	37.89	9	69.70	-61.27	9	93.29	-205.64
10	38.21	55.50	10	45.67	42.05	10	68.10	-51.49	10	93.29	-205.64
10	38.04	55.76	10	45.15	43.56	10	66.71	-42.99	10	93.29	-205.64
10	37.94	55.90	10	44.52	44.86	10	65.44	-35.17	10	93.29	-205.64
11	37.97	55.85	11	44.83	44.28	11	65.11	-33.16	11	93.32	-205.84
11	38.32	55.34	11	45.18	43.47	11	64.38	-28.69	11	93.29	-205.64
11	38.57	54.97	11	45.37	42.97	11	64.67	-30.50	11	93.29	-205.64
12	40.90	51.46	12	48.61	34.77	12	72.22	-76.67	12	93.29	-205.64
12	42.40	48.64	12	50.83	29.25	12	71.58	-72.76	12	93.29	-205.64
12	44.15	45.46	12	52.52	23.60	12	71.01	-69.25	12	93.29	-205.64
12	45.98	41.09	12	52.53	23.59	12	71.00	-69.21	12	94.24	-211.46
13	47.73	37.43	13	54.34	18.07	13	71.58	-72.75	13	94.26	-211.57

TABLE 4.6-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	49.32	33.19	13	57.21	8.80	13	75.63	-97.53	13	94.31	-211.87
13	42.86	47.73	13	49.69	32.33	13	63.07	-20.67	13	94.28	-211.67
14	41.42	50.52	14	48.08	36.08	14	62.82	-19.15	14	94.28	-211.67
14	45.03	43.84	14	54.37	18.46	14	78.58	-115.62	14	94.28	-211.67
14	49.27	33.29	14	58.37	4.68	14	82.37	-138.80	14	94.28	-211.67
15	51.19	28.07	15	59.59	0.34	15	77.02	-106.08	15	94.28	-211.67
19	59.69	-0.	19	83.88	-148.04	19	91.95	-197.41	19	94.28	-211.67
19	59.69	-0.	10	85.58	-158.47	19	93.05	-204.14	19	94.28	-211.67
20	59.69	-0.	20	87.06	-167.51	20	94.28	-211.67	20	94.51	-213.07
20	59.69	-0.	20	87.83	-172.22	20	94.11	-210.66	20	94.49	-212.97
20	59.69	-0.	20	87.96	-173.03	20	94.11	-210.66	20	94.54	-213.27
21	59.69	-0.	21	87.98	-173.13	21	94.24	-211.46	21	94.51	-213.07
21	59.69	-0.	21	87.62	-170.92	21	94.26	-211.57	21	94.47	-212.87
21	59.69	-0.	21	86.50	-164.09	21	94.11	-210.66	21	95.62	-219.90
22	59.69	-0.	22	85.42	-157.47	22	94.11	-210.66	22	94.44	-212.67
22	59.69	-0.	22	84.75	-153.35	22	94.11	-210.66	22	94.47	-212.87
22	59.69	-0.	22	85.57	-158.37	22	94.11	-210.66	22	94.47	-212.87
23	86.39	-163.39	23	86.37	-163.29	23	94.24	-211.46	23	94.47	-212.87
23	87.39	-169.51	23	87.72	-171.52	23	94.11	-210.66	23	94.49	-212.97
23	86.49	-163.99	23	88.27	-174.93	23	94.11	-210.66	23	94.51	-213.07
23	87.26	-168.71	24	89.21	-180.65	24	94.11	-210.66	24	94.47	-212.87
24	87.31	-169.01	24	89.62	-183.16	24	94.11	-210.66	24	94.41	-212.47
24	87.98	-173.13	24	90.54	-188.78	24	94.11	-210.66	24	94.44	-212.67
24	89.62	-183.16	24	91.65	-195.61	24	94.11	-210.66	24	94.41	-212.47
25	91.46	-194.40	25	92.80	-202.63	25	94.11	-210.66	25	94.33	-211.97
25	92.67	-201.83	25	94.11	-210.66	25	94.36	-212.17	25	94.37	-212.27
25	93.46	-206.65	25	94.28	-211.67	25	94.39	-212.37	25	94.41	-212.47
26	93.62	-207.65	26	94.36	-212.17	26	94.49	-212.97	26	94.51	-213.07
26	94.05	-210.26	26	94.41	-212.47	26	94.44	-212.67	26	94.44	-212.67
26	94.11	-210.66	26	94.39	-212.37	26	94.41	-212.47	26	94.42	-212.57
27	94.28	-211.67	27	94.36	-212.17	27	94.39	-212.37	27	94.39	-212.37
27	94.37	-212.27	27	94.39	-212.37	27	94.29	-211.77	27	94.34	-212.07
27	94.37	-212.27	27	94.39	-212.37	27	94.39	-212.37	27	94.39	-212.37
28	94.36	-212.17	28	94.34	-212.07	28	94.36	-212.17	28	94.36	-212.17
28	94.37	-212.27	28	94.36	-212.17	28	94.37	-212.27	28	94.37	-212.27
28	94.37	-212.27	28	94.36	-212.17	28	94.37	-212.27	28	94.37	-212.27
28	94.37	-212.27	28	94.34	-212.07	28	94.34	-212.07	28	94.34	-212.07
29	94.34	-212.07	20	94.34	-212.07	29	94.37	-212.27	29	94.37	-212.27
29	94.33	-211.97	29	94.33	-211.97	29	94.37	-212.27	29	94.36	-212.17
29	94.33	-211.97	29	94.37	-212.27	29	94.37	-212.27	29	94.37	-212.27
30	94.37	-212.27	30	94.37	-212.27	30	94.36	-212.17	30	94.39	-212.37
30	94.37	-212.27	30	94.39	-212.37	30	94.39	-212.37	30	94.39	-212.37
30	94.36	-212.17	30	94.36	-212.17	30	94.36	-212.17	30	94.37	-212.27
31	94.36	-212.17	31	94.36	-212.17	31	94.36	-212.17	31	94.39	-212.37

TABLE 4.6-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	94.36	-212.17	31	94.36	-212.17	31	94.36	-212.17	31	94.37	-212.27
31	94.33	-211.97	31	94.36	-212.17	31	94.34	-212.07	31	94.36	-212.17
32	94.29	-211.77	32	94.29	-211.77	32	94.29	-211.77	32	94.36	-212.17
32	94.31	-211.87	32	94.34	-212.07	32	94.29	-211.77	32	94.29	-211.77
32	94.34	-212.07	32	94.31	-211.87	32	94.34	-212.07	32	94.29	-211.77
32	94.34	-212.07	32	94.33	-211.97	33	94.34	-212.07	33	94.34	-212.07
33	94.33	-211.97	33	94.33	-211.97	33	94.33	-211.97	33	94.36	-212.17
33	94.33	-211.97	33	94.34	-212.07	33	94.37	-212.27	33	94.37	-212.27
33	94.37	-212.27	33	94.36	-212.17	33	94.39	-212.37	33	94.39	-212.37
34	94.37	-212.27	34	94.37	-212.27	34	94.37	-212.27	34	94.39	-212.37
34	94.36	-212.17	34	94.37	-212.27	34	94.36	-212.17	34	94.36	-212.17
34	94.36	-212.17	34	94.36	-212.17	34	94.34	-212.07	34	94.36	-212.17
35	94.37	-212.27	35	94.34	-212.07	35	94.39	-212.37	35	94.41	-212.47
35	94.34	-212.07	35	94.34	-212.07	35	94.34	-212.07	35	94.34	-212.07
35	94.41	-212.47	35	94.39	-212.37	35	94.36	-212.17	35	94.36	-212.17
36	94.36	-212.17	36	94.34	-212.07	36	94.34	-212.07	36	94.34	-212.07
36	94.34	-212.07	36	94.34	-212.07	36	94.33	-211.97	36	94.34	-212.07
36	94.33	-211.97	36	94.33	-211.97	36	94.33	-211.97	36	94.33	-211.97
37	94.34	-212.07	37	94.33	-211.97	37	94.33	-211.97	37	94.33	-211.97
37	94.31	-211.87	37	94.33	-211.97	37	94.33	-211.97	37	94.34	-212.07
37	94.33	-211.97	37	94.33	-211.97	37	94.33	-211.97	37	94.34	-212.07
37	94.31	-211.87	37	94.36	-212.17	37	94.36	-212.17	37	94.33	-211.97
38	94.33	-211.97	38	94.31	-211.87	38	94.33	-211.97	38	94.33	-211.97
38	94.29	-211.77	38	94.29	-211.77	38	94.29	-211.77	38	390.56	2008.26
38	94.29	-211.77	38	94.29	-211.77	38	94.29	-211.77	38	94.31	-211.87
39	94.28	-211.67	39	94.24	-211.46	39	94.26	-211.57	39	94.26	-211.57
39	94.23	-211.36	39	94.23	-211.36	39	92.78	-202.53	39	94.26	-211.57
39	94.24	-211.46	39	94.24	-211.46	39	94.24	-211.46	39	94.24	-211.46
40	94.11	-210.66	40	94.23	-211.36	40	94.24	-211.46	40	94.26	-211.57
40	94.28	-211.67	40	94.24	-211.46	40	94.26	-211.57	40	94.28	-211.67
40	94.23	-211.36	40	94.24	-211.46	40	94.26	-211.57	40	94.24	-211.46
41	94.24	-211.46	41	94.26	-211.57	41	94.26	-211.57	41	94.28	-211.67
41	94.26	-211.57	41	94.24	-211.46	41	94.26	-211.57	41	94.26	-211.57
41	94.28	-211.67	41	94.28	-211.67	41	94.28	-211.67	41	94.28	-211.67
41	94.34	-212.07	41	94.34	-212.07	41	94.34	-212.07	41	94.36	-212.17
42	94.36	-212.17	42	94.36	-212.17	42	94.34	-212.07	42	94.36	-212.17
42	94.33	-211.97	42	94.33	-211.97	42	94.33	-211.97	42	94.36	-212.17
42	94.33	-211.97	42	94.34	-212.07	42	94.33	-211.97	42	94.33	-211.97
43	94.37	-212.27	43	94.34	-212.07	43	94.37	-212.27	43	94.41	-212.47
43	94.41	-212.47	43	94.41	-212.47	43	94.41	-212.47	43	94.41	-212.47
43	94.34	-212.07	43	94.36	-212.17	43	94.34	-212.07	43	94.36	-212.17
44	94.36	-212.17	44	94.34	-212.07	44	94.34	-212.07	44	94.34	-212.07
44	94.34	-212.07	44	94.34	-212.07	44	94.33	-211.97	44	94.34	-212.07
44	94.34	-212.07	44	94.34	-212.07	44	94.37	-212.27	44	94.37	-212.27

TABLE 4.6-4 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
45	94.36	-212.17	45	94.34	-212.07	45	94.34	-212.07	45	94.37	-212.27
45	94.34	-212.07	45	94.37	-212.27	45	94.36	-212.17	45	94.37	-212.27
45	94.36	-212.17	45	94.36	-212.17	45	94.37	-212.27	45	94.37	-212.27
45	94.44	-212.67	45	94.44	-212.67	46	94.42	-212.57	46	94.42	-212.57
46	94.42	-212.57	46	94.42	-212.57	46	94.44	-212.67	46	94.44	-212.67
46	94.39	-212.37	46	94.41	-212.47	46	94.39	-212.37	46	94.41	-212.47
46	94.34	-212.07	46	94.33	-211.97	46	94.34	-212.07	46	94.37	-212.27
47	94.34	-212.07	47	94.36	-212.17	47	94.37	-212.27	47	94.39	-212.37
47	94.36	-212.17	47	94.34	-212.07	47	94.34	-212.07	47	94.36	-212.17
47	94.36	-212.17	47	94.34	-212.07	47	94.29	-211.77	47	94.31	-211.87
48	94.34	-212.07	48	94.33	-211.97	48	94.34	-212.07	48	94.37	-212.27
48	94.34	-212.07	48	94.34	-212.07	48	94.34	-212.07	48	94.36	-212.17

TABLE 4.6-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.32	58.12	0	36.30	58.14	0	36.29	58.15	0	36.30	58.14
0	36.28	58.17	0	36.29	58.15	0	36.28	58.17	0	36.32	58.12
0	36.31	58.13	0	36.26	58.19	0	36.28	58.16	0	36.32	58.12
0	36.35	58.08	0	36.33	58.11	0	36.29	58.15	0	36.32	58.12
1	36.33	58.11	1	36.30	58.14	1	36.32	58.12	1	36.33	58.11
1	36.32	58.12	1	36.33	58.10	1	36.30	58.14	1	36.34	58.09
1	36.33	58.10	1	36.33	58.10	1	36.30	58.14	1	36.32	58.12
2	36.34	58.09	2	36.31	58.13	2	36.31	58.13	2	36.32	58.12
2	36.33	58.10	2	36.29	58.15	2	36.33	58.11	2	36.29	58.15
2	36.35	58.08	2	36.31	58.13	2	36.33	58.11	2	36.29	58.15
3	36.34	58.09	3	36.32	58.12	3	36.32	58.12	3	36.34	58.09
3	36.33	58.11	3	36.31	58.13	3	36.30	58.14	2	36.33	58.11
3	36.33	58.11	3	36.31	58.13	3	36.32	58.12	3	36.30	58.14
4	36.35	58.08	4	36.33	58.10	4	36.33	58.11	4	36.33	58.10
4	36.37	58.06	4	36.32	58.12	4	36.33	58.11	4	36.34	58.09
4	36.33	58.10	4	36.33	58.11	4	36.33	58.11	4	36.37	58.06
4	36.39	58.03	4	36.38	58.04	4	36.37	58.05	4	36.38	58.04
5	36.45	57.96	5	36.41	58.01	5	36.43	57.98	5	36.46	57.95
5	36.53	57.86	5	36.53	57.86	5	36.38	58.04	5	36.57	57.81
5	36.56	57.82	5	36.54	57.85	5	36.54	57.84	5	36.54	57.85
6	36.62	57.75	6	36.61	57.76	6	36.58	57.79	6	36.59	57.78
6	36.69	57.66	6	36.69	57.66	6	36.69	57.65	6	36.67	57.68
6	36.72	57.62	6	36.69	57.65	6	36.69	57.65	6	36.73	57.60
7	59.69	-0.	7	36.76	57.56	7	36.76	57.56	7	36.77	57.55
7	59.69	-0.	7	36.75	57.58	7	36.75	57.58	7	36.77	57.55
7	59.69	-0.	7	36.75	57.57	7	36.76	57.56	7	36.75	57.58
8	36.61	57.76	8	36.58	57.80	8	36.58	57.80	8	36.58	57.79
8	36.55	57.83	8	36.52	57.87	8	36.55	57.83	8	36.55	57.83
8	36.58	57.79	8	36.57	57.81	8	36.56	57.82	8	36.54	57.85
8	36.53	57.86	8	36.50	57.90	8	36.50	57.90	8	36.49	57.91
9	36.51	57.88	9	36.57	57.81	9	36.51	57.88	9	36.53	57.86
9	36.49	57.91	9	36.48	57.92	9	36.46	57.95	9	36.49	57.91
9	36.48	57.92	9	36.46	57.94	9	36.46	57.95	9	36.46	57.95
10	36.46	57.95	10	36.41	58.01	10	36.42	57.99	10	36.46	57.95
10	36.45	57.96	10	36.43	57.98	10	36.41	58.01	10	36.43	57.98
10	36.45	57.96	10	36.41	58.01	10	36.42	57.99	10	36.43	57.98
11	36.42	58.00	11	36.38	58.04	11	36.41	58.01	11	36.41	58.01
11	36.41	58.01	11	36.37	58.05	11	36.39	58.03	11	36.42	57.99
11	36.42	57.99	11	36.39	58.03	11	36.36	58.07	11	36.39	58.03
12	36.43	57.98	12	36.42	58.00	12	36.40	58.02	12	36.37	58.05
12	36.45	57.96	12	36.41	58.01	12	36.42	58.00	12	36.40	58.02
12	36.44	57.97	12	36.41	58.01	12	36.41	58.01	12	36.42	57.99
12	36.45	57.96	12	36.41	58.01	12	36.41	58.01	12	36.43	57.98
13	36.45	57.96	13	36.41	58.01	13	36.45	57.96	13	36.43	57.98

TABLE 4.6-4 (Cont'd)

THERMOMETER 21

TIME	TEMP	VOLTAGE
13	36.44	57.97
13	36.43	57.98
14	36.42	57.99
14	36.46	57.94
14	36.46	57.94
15	36.47	57.93
19	36.58	57.79
20	36.62	57.74
20	36.69	57.66
20	36.70	57.64
20	36.71	57.63
21	36.75	57.58
21	36.75	57.58
21	36.75	57.57
22	36.84	57.46
22	36.88	57.41
22	36.87	57.42
23	36.91	57.37
23	36.96	57.30
23	36.97	57.29
24	36.98	57.27
24	36.98	57.27
24	37.02	57.22
24	37.03	57.20
25	59.69	-0.
25	59.69	-0.
25	59.69	-0.
26	59.69	-0.
26	59.69	-0.
26	59.69	-0.
27	59.69	-0.
27	59.69	-0.
27	59.69	-0.
28	59.69	-0.
28	59.69	-0.
28	59.69	-0.
28	59.69	-0.
29	59.69	-0.
29	59.69	-0.
29	59.69	-0.
30	59.69	-0.
30	59.69	-0.
30	59.69	-0.
31	59.69	-0.

THERMOMETER 22

TIME	TEMP	VOLTAGE
13	36.45	57.96
13	36.42	58.00
14	36.42	57.99
14	36.45	57.96
14	36.45	57.96
15	36.46	57.94
19	36.58	57.80
20	36.61	57.76
20	36.64	57.72
20	36.69	57.66
20	36.68	57.67
21	36.70	57.64
21	36.72	57.61
21	36.75	57.58
22	36.78	57.54
22	36.85	57.45
22	36.89	57.39
23	36.90	57.38
23	36.94	57.33
23	37.00	57.25
24	36.96	57.30
24	36.98	57.27
24	36.99	57.26
24	37.01	57.23
25	37.05	57.18
25	37.08	57.14
25	37.09	57.12
26	37.13	57.07
26	37.13	57.07
26	37.15	57.04
27	37.21	56.96
27	37.22	56.94
27	37.24	56.92
28	37.29	56.85
28	37.29	56.85
28	37.30	56.83
29	37.35	56.76
29	37.36	56.75
29	37.37	56.74
29	37.42	56.65
30	37.47	56.59
30	37.45	56.61
30	37.47	56.58
31	37.50	56.54

THERMOMETER 23

TIME	TEMP	VOLTAGE
13	36.44	57.97
13	36.40	58.02
14	36.42	58.00
14	36.43	57.98
14	36.45	57.96
15	36.45	57.96
19	36.58	57.80
20	36.61	57.76
20	36.65	57.70
20	36.67	57.68
20	36.69	57.66
21	36.69	57.65
21	36.74	57.59
21	36.75	57.58
22	36.79	57.52
22	36.88	57.41
22	36.88	57.41
23	36.87	57.42
23	36.94	57.32
23	36.97	57.29
24	36.97	57.28
24	36.95	57.31
24	37.00	57.25
24	37.03	57.21
25	37.03	57.20
25	37.09	57.12
25	37.11	57.10
26	37.13	57.07
26	37.13	57.07
26	37.18	57.00
27	37.19	56.98
27	37.25	56.90
27	37.25	56.90
28	37.30	56.83
28	37.30	56.83
28	37.33	56.79
29	37.33	56.79
29	37.37	56.74
29	37.39	56.70
29	37.40	56.69
30	37.47	56.59
30	37.46	56.60
30	37.46	56.60
31	37.53	56.50

THERMOMETER 24

TIME	TEMP	VOLTAGE
12	36.46	57.95
13	36.41	58.01
14	36.42	57.99
14	36.43	57.98
14	36.46	57.95
15	36.46	57.94
19	36.58	57.79
20	36.61	57.76
20	36.65	57.71
20	36.69	57.65
20	36.69	57.65
21	36.74	57.59
21	36.76	57.56
21	36.77	57.55
22	36.79	57.52
22	36.85	57.45
22	36.89	57.39
23	36.87	57.42
23	36.95	57.31
23	37.00	57.25
24	36.97	57.28
24	36.99	57.26
24	37.00	57.25
24	37.05	57.18
25	37.06	57.17
25	37.12	57.08
25	37.12	57.08
26	37.16	57.03
26	37.17	57.02
26	37.24	56.92
27	37.22	56.95
27	37.24	56.92
27	37.27	56.88
28	37.30	56.83
28	37.32	56.81
28	37.34	56.77
29	37.36	56.75
29	37.38	56.72
29	37.40	56.69
20	37.43	56.64
30	37.47	56.59
30	37.47	56.59
30	37.49	56.55
31	37.55	56.47

TABLE 4.6-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	59.69	-0.	31	37.47	56.59	31	37.55	56.47	31	37.58	56.43
31	59.69	-0.	31	37.56	56.46	31	37.59	56.41	31	37.58	56.43
32	59.69	-0.	32	37.60	56.39	32	37.62	56.37	32	37.62	56.37
32	59.69	-0.	32	37.63	56.35	32	37.63	56.35	32	37.67	56.29
32	59.69	-0.	32	37.65	56.33	32	37.66	56.31	32	37.64	56.34
33	59.69	-0.	33	37.68	56.28	33	37.67	56.30	33	37.71	56.24
33	59.69	-0.	33	37.69	56.26	33	37.68	56.28	33	37.70	56.25
33	59.69	-0.	33	37.72	56.22	33	37.72	56.23	33	37.72	56.23
33	59.69	-0.	33	37.78	56.13	33	37.78	56.14	33	37.83	56.06
34	59.69	-0.	34	37.81	56.09	34	37.83	56.07	34	37.80	56.10
34	59.69	-0.	34	37.80	56.10	34	37.82	56.08	34	37.85	56.04
34	59.69	-0.	34	37.84	56.05	34	37.87	56.01	34	37.88	55.99
35	59.69	-0.	35	37.90	55.96	35	37.90	55.96	35	37.91	55.94
35	59.69	-0.	35	37.94	55.90	35	37.94	55.90	35	37.92	55.93
35	59.69	-0.	35	37.92	55.93	35	37.94	55.90	35	37.97	55.86
36	59.69	-0.	36	37.94	55.90	36	37.97	55.85	36	37.98	55.84
36	59.69	-0.	36	37.98	55.84	36	37.98	55.84	36	38.02	55.78
36	59.69	-0.	36	38.04	55.76	36	38.08	55.70	36	38.06	55.73
37	59.69	-0.	37	38.05	55.74	37	38.05	55.74	37	38.14	55.60
37	59.69	-0.	37	38.10	55.66	37	38.11	55.65	37	38.11	55.65
37	59.69	-0.	37	38.15	55.59	37	38.21	55.50	37	38.21	55.50
37	59.69	-0.	37	38.16	55.57	37	38.16	55.58	38	38.21	55.51
38	59.69	-0.	38	38.20	55.52	38	38.21	55.50	38	38.25	55.45
38	59.69	-0.	38	38.25	55.44	38	38.25	55.44	38	38.29	55.39
38	59.69	-0.	38	38.29	55.38	38	38.30	55.37	38	38.33	55.33
39	59.69	-0.	39	38.31	55.36	39	38.31	55.36	39	38.34	55.31
39	59.69	-0.	39	38.37	55.26	39	38.37	55.26	39	38.39	55.24
39	59.69	-0.	39	38.41	55.20	39	38.42	55.19	39	38.44	55.17
40	59.69	-0.	40	38.45	55.15	40	38.44	55.16	40	38.44	55.17
40	59.69	-0.	40	38.49	55.09	40	38.49	55.09	40	38.50	55.07
40	59.69	-0.	40	38.48	55.10	40	38.52	55.04	40	38.53	55.03
41	59.69	-0.	41	38.56	54.99	41	38.58	54.96	41	38.59	54.94
41	59.69	-0.	41	38.60	54.93	41	38.63	54.89	41	38.63	54.88
41	59.69	-0.	41	38.67	54.83	41	38.67	54.83	41	38.69	54.79
41	59.69	-0.	42	38.72	54.75	42	38.69	54.80	42	38.71	54.77
42	59.69	-0.	42	38.76	54.70	42	38.78	54.66	42	38.82	54.61
42	59.69	-0.	42	38.80	54.64	42	38.80	54.63	42	38.84	54.58
42	59.69	-0.	42	38.52	55.05	42	38.41	55.21	42	38.66	54.84
43	59.69	-0.	43	38.41	55.20	43	38.25	55.45	43	38.21	55.50
43	59.69	-0.	43	39.06	54.26	43	38.19	55.53	43	38.41	55.20
43	59.69	-0.	43	42.30	48.84	43	44.74	44.46	43	43.88	45.84
44	59.69	-0.	44	47.80	37.03	44	48.52	34.98	44	46.55	39.51
44	59.69	-0.	44	51.50	27.10	44	51.68	25.06	44	49.87	31.92
44	59.69	-0.	44	54.32	16.32	44	55.73	14.27	44	53.77	21.61

TABLE 4.6-4 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
45	59.69	-0.	45	58.33	4.84	45	59.20	1.74	45	57.01	9.53
45	61.00	-8.03	45	60.92	-7.52	45	61.59	-11.63	45	60.36	-4.10
45	63.10	-20.87	45	63.10	-20.88	45	63.80	-25.18	45	62.87	-19.44
46	65.76	-37.16	46	65.72	-36.90	46	66.75	-43.19	46	65.68	-36.68
46	68.33	-52.87	46	68.17	-51.88	46	69.33	-59.00	46	68.33	-52.86
46	71.22	-70.57	46	71.10	-69.80	46	72.34	-77.39	46	71.41	-71.73
46	74.08	-88.07	46	73.97	-87.37	46	60.58	-5.47	46	74.27	-89.23
47	77.34	-107.99	47	77.12	-106.69	47	78.61	-115.82	47	77.45	-108.69
47	79.91	-123.75	47	79.70	-122.44	47	81.19	-131.58	47	80.04	-124.55
47	88.80	-178.14	47	91.36	-193.80	47	93.55	-207.25	47	93.51	-206.95
48	92.31	-199.62	48	93.55	-207.25	48	94.24	-211.46	48	94.31	-211.87
48	91.52	-194.80	48	92.52	-200.93	48	94.00	-209.96	48	94.11	-210.66

TABLE 4.6-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.24	56.92	0	36.28	58.17	0	36.29	58.15	0	36.27	58.18
0	37.16	57.03	0	36.30	58.14	0	36.30	58.14	0	36.29	58.15
0	37.14	57.05	0	36.28	58.17	0	36.30	58.14	0	36.26	58.19
0	37.19	56.99	1	36.30	58.14	1	36.30	58.14	1	36.29	58.15
1	37.12	57.08	1	36.33	58.11	1	36.32	58.12	1	36.30	58.14
1	37.18	57.00	1	36.33	58.10	1	36.32	58.12	1	36.32	58.12
1	37.16	57.03	1	36.31	58.13	1	36.29	58.15	1	37.00	57.24
2	37.19	56.99	2	36.32	58.12	2	36.32	58.12	2	36.32	58.12
2	37.16	57.03	2	36.33	58.10	2	36.29	58.15	2	36.29	58.15
2	37.10	57.11	2	36.32	58.12	2	36.29	58.15	2	36.32	58.12
3	37.17	57.01	3	36.33	58.11	3	36.33	58.10	3	36.34	58.09
3	37.39	56.71	3	36.32	58.12	3	36.33	58.11	3	36.32	58.12
3	37.19	56.98	3	36.32	58.12	3	36.33	58.11	3	36.30	58.14
4	37.17	57.01	4	36.34	58.09	4	36.32	58.12	4	36.33	58.10
4	37.24	56.92	4	36.31	58.13	4	36.32	58.12	4	36.33	58.11
4	37.24	56.91	4	36.33	58.10	4	36.37	58.06	4	36.34	58.09
4	37.19	56.99	5	36.41	58.01	5	36.41	58.01	5	36.37	58.05
5	37.43	56.64	5	36.44	57.97	5	36.46	57.95	5	36.46	57.95
5	37.53	56.50	5	36.53	57.86	5	36.50	57.89	5	36.51	57.88
5	37.34	56.78	5	36.54	57.85	5	36.56	57.82	5	36.54	57.84
6	37.61	56.38	6	36.61	57.76	6	36.64	57.72	6	36.62	57.75
6	37.00	57.25	6	36.67	57.68	6	36.66	57.69	6	36.69	57.66
6	37.74	56.20	6	36.72	57.61	6	36.73	57.60	6	36.71	57.63
7	37.71	56.24	7	36.75	57.58	7	36.75	57.58	7	36.74	57.59
7	37.73	56.21	7	36.76	57.56	7	36.78	57.54	7	36.75	57.58
7	37.61	56.38	7	36.74	57.59	7	36.74	57.59	7	36.69	57.65
8	37.42	56.65	8	36.58	57.80	8	36.57	57.81	8	36.57	57.81
8	37.39	56.70	8	36.55	57.83	8	36.54	57.84	8	36.54	57.85
8	37.38	56.72	8	36.53	57.86	8	36.51	57.88	8	36.51	57.88
8	37.42	56.65	9	36.49	57.91	9	36.49	57.91	9	36.49	57.91
9	37.34	56.77	9	36.48	57.92	9	36.57	57.81	9	36.46	57.95
9	37.24	56.91	9	36.45	57.96	9	36.46	57.95	9	36.44	57.97
9	37.34	56.78	9	36.45	57.96	9	36.46	57.95	9	36.41	58.01
10	37.24	56.91	10	36.45	57.96	10	36.42	57.99	10	36.37	58.05
10	37.32	56.80	10	36.42	57.99	10	36.42	57.99	10	35.49	59.08
10	37.24	56.91	10	36.42	58.00	10	36.41	58.01	10	36.39	58.03
11	37.31	56.82	11	36.41	58.01	11	36.41	58.01	11	36.39	58.03
11	37.24	56.91	11	36.41	58.01	11	36.40	58.02	11	36.37	58.05
11	37.32	56.80	11	36.41	58.01	11	36.38	58.04	11	36.41	58.01
12	37.24	56.92	12	36.41	58.01	12	36.39	58.03	12	36.38	58.04
12	37.32	56.80	12	36.41	58.01	12	36.42	57.99	12	36.42	57.99
12	37.17	57.01	12	36.43	57.98	12	36.42	57.99	12	36.41	58.01
13	37.32	56.80	13	36.44	57.97	13	36.43	57.98	13	36.42	57.99
13	37.26	56.89	13	36.45	57.96	13	36.43	57.98	13	36.43	57.98

TABLE 4.6-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	37.32	56.80	13	36.46	57.94	13	36.45	57.96	13	36.42	57.99
13	37.17	57.01	13	36.42	57.99	13	36.46	57.95	13	36.41	58.01
14	37.31	56.82	14	36.42	57.99	14	36.41	58.01	14	36.42	57.99
14	37.22	56.95	14	36.44	57.97	14	36.43	57.98	14	36.43	57.98
14	37.29	56.85	14	36.46	57.95	14	36.46	57.95	14	36.46	57.95
15	37.33	56.79	15	36.49	57.91	15	36.46	57.94	15	36.46	57.95
19	37.44	56.63	19	36.61	57.76	19	36.60	57.77	19	36.57	57.81
20	37.44	56.62	20	36.60	57.77	20	36.62	57.75	20	36.61	57.76
20	37.46	56.60	20	36.66	57.69	20	36.64	57.72	20	36.64	57.72
20	37.54	56.49	20	36.65	57.70	20	36.66	57.69	20	36.65	57.70
20	37.54	56.49	20	36.68	57.67	20	36.69	57.66	20	36.67	57.68
21	37.46	56.60	21	36.69	57.65	21	36.72	57.61	21	36.72	57.61
21	37.57	56.44	21	36.71	57.63	21	36.73	57.60	21	36.74	57.59
21	37.64	56.34	21	36.84	57.46	21	36.83	57.47	21	36.80	57.51
22	37.80	56.10	22	36.85	57.45	22	36.85	57.45	22	36.89	57.39
22	37.85	56.04	22	36.88	57.40	22	36.88	57.41	22	36.83	57.47
22	37.86	56.02	22	36.85	57.45	22	36.88	57.41	22	36.88	57.40
23	37.85	56.04	23	36.86	57.43	23	36.88	57.41	23	36.88	57.41
23	37.93	55.91	23	36.90	57.38	23	36.92	57.35	23	36.91	57.37
23	37.91	55.94	23	36.92	57.35	23	36.94	57.32	23	36.90	57.38
24	37.86	56.02	24	36.96	57.30	24	36.95	57.31	24	36.95	57.31
24	38.02	55.79	24	36.96	57.30	24	36.95	57.31	24	36.95	57.31
24	37.87	56.00	24	36.97	57.29	24	36.98	57.27	24	36.95	57.31
25	38.02	55.79	25	37.02	57.22	25	37.01	57.23	25	37.00	57.25
25	37.74	56.20	25	37.08	57.14	25	37.06	57.17	25	37.06	57.16
25	37.80	56.10	25	37.07	57.15	25	37.10	57.11	25	37.07	57.15
25	37.80	56.11	25	37.08	57.14	25	37.10	57.11	25	37.10	57.11
26	37.93	55.91	26	37.11	57.09	26	37.12	57.08	26	37.11	57.10
26	37.93	55.91	26	37.12	57.08	26	37.14	57.05	26	37.14	57.05
26	37.93	55.91	26	37.16	57.03	26	37.16	57.03	26	37.17	57.01
27	37.89	55.98	27	37.17	57.01	27	37.18	57.00	27	37.18	57.00
27	37.80	56.10	27	37.20	56.97	27	37.22	56.95	27	37.22	56.95
27	37.86	56.02	27	37.22	56.95	27	37.24	56.91	27	37.20	56.97
28	38.01	55.80	28	37.26	56.89	28	37.27	56.88	28	37.24	56.92
28	37.91	55.94	28	37.29	56.85	28	37.30	56.84	28	37.27	56.88
28	38.00	55.81	28	37.32	56.81	28	37.32	56.80	28	37.32	56.81
20	38.07	55.71	29	37.32	56.81	29	37.32	56.81	29	37.32	56.81
20	38.04	55.76	29	37.34	56.78	29	37.34	56.78	29	37.33	56.79
29	38.05	55.74	29	37.40	56.69	29	37.38	56.72	29	37.40	56.69
29	38.08	55.70	29	37.41	56.67	29	37.42	56.65	29	37.42	56.65
30	38.11	55.65	30	37.44	56.62	30	37.47	56.59	30	37.43	56.64
30	38.12	55.64	30	37.50	56.54	30	37.48	56.57	30	37.47	56.58
30	38.11	55.65	30	37.49	56.56	30	37.49	56.55	30	37.49	56.55
31	38.14	55.61	31	37.55	56.47	31	37.52	56.51	31	37.50	56.54

TABLE 4.6-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	38.25	55.45	31	37.58	56.42	31	37.56	56.46	31	37.54	56.48
31	38.16	55.58	31	37.59	56.41	31	37.60	56.40	31	37.59	56.41
32	38.29	55.38	32	37.63	56.35	32	37.64	56.34	32	37.61	56.38
32	58.13	5.56	32	37.61	56.38	32	37.65	56.33	32	37.63	56.35
32	38.29	55.38	32	37.67	56.29	32	37.64	56.34	32	37.64	56.34
33	38.29	55.39	33	37.69	56.26	33	37.74	56.19	33	37.74	56.20
33	38.22	55.49	33	38.39	55.23	33	37.74	56.20	33	37.74	56.19
33	38.23	55.47	33	38.35	55.29	33	39.39	53.79	33	37.74	56.20
33	38.27	55.41	34	47.02	38.55	34	49.78	32.12	34	47.13	38.34
32	38.29	55.38	34	51.74	24.91	34	54.28	16.76	34	51.84	24.71
34	38.29	55.38	34	56.78	10.36	34	59.66	0.12	34	57.42	8.07
34	38.34	55.31	34	60.54	-5.22	34	62.58	-17.71	34	75.71	-98.06
35	38.43	55.18	35	63.33	-22.27	35	65.95	-38.31	35	64.48	-29.30
35	38.42	55.19	35	67.10	-45.35	35	69.68	-61.11	35	68.00	-50.87
35	38.27	55.41	35	71.19	-70.40	35	74.22	-88.91	35	72.10	-75.96
36	38.32	55.34	36	75.90	-99.23	36	78.75	-116.62	36	76.52	-102.97
36	38.28	55.40	36	81.06	-130.77	36	83.52	-145.83	36	80.89	-129.77
36	38.42	55.19	36	85.27	-156.57	36	88.37	-175.53	36	85.42	-157.47
37	38.41	55.21	37	89.06	-179.75	37	91.16	-192.60	37	90.54	-188.78
37	38.48	55.11	37	90.96	-191.39	37	92.49	-200.73	37	92.88	-203.13
37	38.52	55.05	37	92.44	-200.42	37	94.08	-210.46	37	94.28	-211.67
38	38.41	55.20	38	95.23	-217.49	38	94.21	-211.26	38	94.31	-211.87
38	38.57	54.97	38	94.05	-210.26	38	94.28	-211.67	38	94.31	-211.87
38	38.65	54.85	38	93.98	-209.86	38	92.78	-202.53	38	94.28	-211.67
38	38.69	54.79	38	93.95	-209.66	38	94.26	-211.57	38	94.28	-211.67
39	38.62	54.90	39	93.98	-209.86	39	94.13	-210.76	39	94.14	-210.86
39	38.70	54.78	39	93.95	-209.66	39	94.19	-211.16	39	94.24	-211.46
39	38.71	54.76	39	93.70	-208.15	39	94.11	-210.66	39	94.24	-211.46
40	38.76	54.69	40	93.51	-206.95	40	93.87	-209.16	40	94.14	-210.86
40	38.76	54.70	40	92.85	-202.93	40	93.21	-205.14	40	93.64	-207.75
40	38.78	54.67	40	92.85	-202.93	40	92.96	-203.64	40	93.37	-206.15
41	38.80	54.64	41	92.80	-202.63	41	93.05	-204.14	41	93.77	-208.55
41	38.96	54.40	41	93.05	-204.14	41	93.11	-204.54	41	93.55	-207.25
41	38.85	54.57	41	93.29	-205.64	41	93.29	-205.64	41	93.72	-208.25
42	38.98	54.38	42	93.13	-204.64	42	93.18	-204.94	42	93.83	-208.96
42	38.96	54.41	42	93.10	-204.44	42	93.13	-204.64	42	93.55	-207.25
42	38.97	54.39	42	93.19	-205.04	42	93.11	-204.54	42	93.39	-206.25
42	38.46	55.14	42	93.39	-206.25	42	93.28	-205.54	42	93.67	-207.95
43	38.29	55.39	43	93.18	-204.94	43	93.62	-207.65	43	93.46	-206.65
43	38.63	54.88	43	93.49	-206.85	43	93.80	-208.76	43	94.08	-210.46
43	49.31	33.21	43	93.80	-208.76	43	93.73	-208.35	43	93.90	-209.36
44	47.36	37.96	44	93.90	-209.36	44	94.16	-210.96	44	94.28	-211.67
44	50.84	29.20	44	94.05	-210.26	44	94.28	-211.67	44	94.33	-211.97
44	54.38	18.54	44	94.11	-210.66	44	94.31	-211.87	44	94.36	-212.17

TABLE 4.6-4 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
45	57.99	6.04	45	94.05	-210.26	45	94.33	-211.97	45	94.34	-212.07
45	60.93	-7.60	45	94.08	-210.46	45	94.31	-211.87	45	94.31	-211.87
45	63.09	-20.79	45	94.08	-210.46	45	94.33	-211.97	45	94.34	-212.07
46	66.12	-39.37	46	94.11	-210.66	46	94.41	-212.47	46	94.29	-211.77
46	68.81	-55.81	46	94.11	-210.66	46	94.39	-212.37	46	94.41	-212.47
46	71.81	-74.17	46	94.08	-210.46	46	94.34	-212.07	46	94.29	-211.77
46	74.71	-91.93	47	94.05	-210.26	47	94.31	-211.87	47	94.36	-212.17
47	77.96	-111.80	47	94.11	-210.66	47	94.36	-212.17	47	94.41	-212.47
47	80.50	-127.36	47	94.08	-210.46	47	94.33	-211.97	47	94.34	-212.07
47	93.16	-204.84	47	94.11	-210.66	47	94.37	-212.27	47	94.39	-212.37
48	93.80	-208.76	48	94.23	-211.36	48	94.31	-211.87	48	94.28	-211.67
48	93.16	-204.84	48	94.11	-210.66	48	94.31	-211.87	48	94.33	-211.97

TABLE 4.6-4 (Cont'd)

THERMOMETER 29

TIME	TEMP	VOLTAGE
0	36.28	58.17
0	36.98	57.27
0	36.28	58.17
1	36.33	58.11
1	36.30	58.14
1	36.32	58.12
1	36.30	58.14
2	36.32	58.12
2	36.30	58.14
2	36.30	58.14
3	36.33	58.11
3	36.32	58.12
3	36.31	58.13
4	36.35	58.08
4	36.33	58.11
4	36.35	58.08
5	36.39	58.03
5	36.46	57.95
5	36.52	57.87
5	36.54	57.84
6	36.65	57.70
6	36.67	57.68
6	36.73	57.60
7	36.74	57.59
7	36.78	57.54
7	36.72	57.61
8	36.58	57.80
8	36.55	57.83
8	36.50	57.89
9	36.48	57.92
9	36.48	57.92
9	36.44	57.97
9	36.42	58.00
10	36.41	58.01
10	36.42	58.00
10	36.41	58.01
11	36.40	58.02
11	36.38	58.04
11	36.38	58.04
12	36.41	58.01
12	36.42	58.00
12	36.43	57.98
13	36.44	57.97
13	36.44	57.97

THERMOMETER 30

TIME	TEMP	VOLTAGE
0	36.27	58.18
0	36.28	58.16
0	36.28	58.17
1	36.30	58.14
1	36.33	58.11
1	36.33	58.10
1	36.33	58.11
2	36.30	58.14
2	36.33	58.10
2	36.33	58.11
3	36.33	58.10
3	36.32	58.12
3	36.33	58.10
4	36.34	58.09
4	36.35	58.08
4	36.34	58.09
5	36.37	58.05
5	36.46	57.95
5	36.57	57.81
5	36.65	57.71
6	36.66	57.69
6	36.69	57.66
6	36.75	57.58
7	36.76	57.56
7	36.78	57.54
7	36.72	57.61
8	36.58	57.80
8	36.54	57.85
8	36.50	57.89
9	36.48	57.92
9	36.47	57.93
9	36.46	57.94
9	36.42	58.00
10	36.41	58.01
10	36.42	57.99
10	36.39	58.03
11	36.39	58.03
11	36.37	58.05
11	36.41	58.01
12	36.42	57.99
12	36.42	57.99
12	36.43	57.98
13	36.45	57.96
13	36.42	57.99

THERMOMETER 31

TIME	TEMP	VOLTAGE
0	59.63	0.20
0	59.69	-0.02
0	59.69	0.01
1	59.72	-0.20
1	59.35	1.20
1	59.63	0.20
1	59.35	1.20
2	59.52	0.60
2	59.41	1.00
2	59.62	0.26
3	59.51	0.63
3	59.41	1.00
3	59.57	0.41
4	59.52	0.61
4	59.63	0.21
4	58.73	3.40
5	56.55	11.14
5	54.34	18.07
5	52.26	23.99
5	51.54	26.10
6	49.65	32.42
6	47.38	37.94
6	46.16	40.55
7	45.23	43.36
7	45.64	42.15
7	50.02	31.53
8	57.54	7.63
8	59.40	1.02
8	59.48	0.75
9	59.35	1.20
9	59.51	0.65
9	59.58	0.39
9	59.56	0.46
10	59.52	0.61
10	59.50	0.66
10	59.13	2.01
11	59.58	0.38
11	59.52	0.60
11	59.29	1.41
12	58.79	3.21
12	58.66	3.64
12	58.56	4.01
13	58.42	4.51
13	58.22	5.22

THERMOMETER 32

TIME	TEMP	VOLTAGE
0	93.46	-206.65
0	93.46	-206.65
0	93.62	-207.65
1	93.46	-206.65
1	93.46	-206.65
1	93.46	-206.65
1	93.46	-206.65
2	93.42	-206.45
2	93.44	-206.55
2	93.26	-205.44
3	93.32	-205.84
3	93.29	-205.64
3	93.29	-205.64
4	93.42	-206.45
4	93.39	-206.25
4	93.39	-206.25
5	93.46	-206.65
5	93.39	-206.25
5	93.46	-206.65
5	93.42	-206.45
6	93.42	-206.45
6	93.42	-206.45
6	93.39	-206.25
7	93.39	-206.25
7	93.36	-206.05
7	93.39	-206.25
8	93.29	-205.64
8	93.29	-205.64
8	93.29	-205.64
9	93.29	-205.64
9	93.29	-205.64
9	93.29	-205.64
9	93.29	-205.64
10	93.29	-205.64
1	93.29	-205.64
1	93.29	-205.64
11	93.29	-205.64
11	93.29	-205.64
11	93.29	-205.64
12	93.29	-205.64
12	93.29	-205.64
12	94.28	-211.67
13	94.28	-211.67
13	94.28	-211.67

TABLE 4.6-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	36.44	57.97	13	36.42	57.99	13	58.66	3.65	13	94.28	-211.67
13	36.44	57.97	13	36.41	58.01	13	59.52	0.62	14	94.26	-211.57
14	36.42	57.99	14	36.42	58.00	14	59.51	0.65	14	94.28	-211.67
14	36.44	57.97	14	36.44	57.97	14	58.50	4.23	14	94.28	-211.67
14	36.46	57.94	14	36.46	57.94	14	57.88	6.43	14	94.28	-211.67
15	36.47	57.93	15	36.46	57.95	15	57.26	8.63	15	94.28	-211.67
19	36.59	57.78	19	36.59	57.78	19	54.39	18.98	19	94.28	-211.67
20	36.61	57.76	20	36.60	57.77	20	54.38	19.47	20	94.28	-211.67
20	36.64	57.72	20	36.67	57.68	20	54.39	19.37	20	94.11	-210.66
20	36.68	57.67	20	36.68	57.67	20	54.39	19.28	20	94.11	-210.66
21	36.68	57.67	21	36.66	57.69	21	54.39	19.27	21	94.11	-210.66
21	36.73	57.60	21	36.72	57.61	21	54.38	19.47	21	94.11	-210.66
21	36.72	57.61	21	36.74	57.59	21	54.38	19.47	21	94.11	-210.66
21	36.83	57.47	21	36.80	57.51	21	54.39	19.17	21	94.11	-210.66
22	36.87	57.42	22	36.86	57.43	22	54.39	19.21	22	94.11	-210.66
22	36.85	57.45	22	36.87	57.42	22	54.39	18.99	22	94.11	-210.66
22	36.89	57.39	22	36.90	57.38	22	54.38	18.57	22	94.11	-210.66
23	36.89	57.39	23	36.92	57.35	23	54.38	18.57	23	94.11	-210.66
23	36.93	57.34	23	36.90	57.38	23	54.38	18.49	23	94.11	-210.66
23	36.93	57.34	23	36.95	57.31	23	54.39	18.67	23	94.11	-210.66
24	36.94	57.32	24	36.95	57.31	24	54.39	18.97	24	94.11	-210.66
24	36.97	57.28	24	36.99	57.26	24	54.39	18.87	24	94.11	-210.66
24	36.99	57.26	24	37.02	57.22	24	54.38	18.59	24	94.11	-210.66
25	37.01	57.23	25	37.07	57.15	25	54.30	20.07	25	94.11	-210.66
25	37.07	57.15	25	37.11	57.10	25	54.38	18.57	25	94.11	-210.66
25	37.07	57.15	25	37.09	57.12	25	54.37	18.47	25	94.11	-210.66
25	37.10	57.11	25	37.13	57.07	25	54.39	18.79	25	94.11	-210.66
26	37.11	57.09	26	37.11	57.09	26	54.35	18.17	26	94.11	-210.66
26	37.14	57.05	26	37.19	56.98	26	54.36	18.27	26	94.11	-210.66
26	37.17	57.01	26	37.19	56.99	26	54.37	18.37	26	94.11	-210.66
27	37.19	56.98	27	37.22	56.94	27	54.37	18.47	27	94.11	-210.66
27	37.23	56.93	27	37.22	56.94	27	54.35	18.19	27	94.08	-210.46
27	37.24	56.92	27	37.24	56.92	27	54.38	18.57	27	94.05	-210.26
28	37.27	56.88	28	37.27	56.88	28	54.39	18.69	28	94.05	-210.26
28	37.30	56.84	28	37.32	56.81	28	54.39	18.70	28	94.05	-210.26
28	37.31	56.82	28	37.32	56.80	28	54.39	18.97	28	94.08	-210.46
20	37.35	56.76	29	37.37	56.74	29	54.39	19.07	29	94.08	-210.46
29	37.34	56.77	29	37.36	56.75	29	54.39	18.87	29	94.10	-210.56
29	37.40	56.69	29	37.43	56.64	29	54.30	20.07	29	94.08	-210.46
30	58.10	5.66	30	37.46	56.60	30	54.39	18.88	30	94.05	-210.26
30	37.45	56.61	30	37.47	56.58	30	54.39	18.99	30	94.11	-210.66
30	37.49	56.56	30	37.50	56.54	30	54.30	20.07	30	94.11	-210.66
30	37.50	56.54	30	37.54	56.49	30	54.39	18.99	30	94.08	-210.46
31	37.50	56.54	31	37.53	56.50	31	54.30	20.07	31	94.10	-210.56

TABLE 4.6-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
31	37.57	56.44	31	37.60	56.40	31	54.30	20.07	31	94.05	-210.26
31	37.61	56.38	31	37.63	56.35	31	54.30	20.07	31	94.05	-210.26
32	37.63	56.36	32	37.64	56.34	32	54.39	19.19	32	94.01	-210.06
32	37.65	56.33	32	37.66	56.31	32	54.39	18.97	32	93.98	-209.86
32	37.68	56.28	32	37.70	56.25	32	54.39	19.19	32	94.05	-210.26
33	37.71	56.24	33	37.73	56.21	33	54.39	18.99	33	94.05	-210.26
33	37.75	56.18	33	37.75	56.18	33	54.30	20.07	33	94.08	-210.46
33	37.67	56.29	33	37.47	56.58	33	54.39	19.17	33	94.08	-210.46
34	47.25	38.14	34	48.24	35.66	34	54.39	18.97	34	94.05	-210.26
34	51.67	25.09	34	54.05	20.98	34	54.39	18.88	34	94.11	-210.66
34	57.47	7.89	34	59.12	2.03	34	54.29	17.45	34	94.11	-210.66
34	59.69	-0.	34	62.42	-16.71	34	54.39	18.97	34	94.05	-210.26
35	59.69	-0.	35	65.63	-36.34	35	54.39	18.97	35	94.05	-210.26
35	59.69	-0.	35	36.48	57.92	35	54.33	17.85	35	94.11	-210.66
35	59.69	-0.	35	26.39	83.48	35	54.37	18.34	35	94.10	-210.56
36	59.69	-0.	36	77.88	-111.30	36	54.32	17.76	36	94.05	-210.26
36	59.69	-0.	36	82.73	-141.01	36	54.32	17.75	36	94.08	-210.46
36	59.69	-0.	36	90.16	-186.47	36	54.39	18.88	36	94.05	-210.26
37	76.09	-100.35	37	92.91	-203.34	37	54.33	17.94	37	93.98	-209.86
37	76.09	-100.35	37	94.08	-210.46	37	54.30	17.57	37	94.05	-210.26
37	59.69	-0.	37	94.28	-211.67	37	54.32	17.75	37	94.01	-210.06
38	76.09	-100.35	38	94.31	-211.87	38	54.38	18.61	38	93.98	-209.86
38	76.09	-100.35	38	94.31	-211.87	38	54.37	18.47	38	94.05	-210.26
38	76.09	-100.35	38	94.28	-211.67	38	54.61	15.45	38	94.05	-210.26
39	76.09	-100.35	39	94.24	-211.46	39	54.39	18.68	39	93.95	-209.66
39	76.09	-100.35	39	94.21	-211.26	39	54.34	18.06	39	93.95	-209.66
39	76.09	-100.35	39	94.23	-211.36	39	54.39	18.68	39	93.95	-209.66
39	76.09	-100.35	39	94.24	-211.46	39	54.29	17.35	39	93.95	-209.66
40	76.09	-100.35	40	94.21	-211.26	40	54.36	18.29	40	93.95	-209.66
40	76.09	-100.35	40	94.21	-211.26	40	54.36	18.27	40	93.95	-209.66
40	76.09	-100.35	40	94.23	-211.36	40	54.36	18.33	40	93.95	-209.66
41	76.09	-100.35	41	94.23	-211.36	41	54.28	17.11	41	93.98	-209.86
41	76.09	-100.35	41	94.21	-211.26	41	54.37	18.43	41	93.95	-209.66
41	76.09	-100.35	41	94.28	-211.67	41	54.30	17.55	41	94.05	-210.26
42	76.09	-100.35	42	94.31	-211.87	42	54.27	17.07	42	94.05	-210.26
42	76.09	-100.35	42	94.31	-211.87	42	54.29	17.47	42	94.10	-210.56
42	76.09	-100.35	42	94.31	-211.87	42	54.27	16.87	42	94.08	-210.46
43	76.09	-100.35	43	94.33	-211.97	43	54.39	18.87	43	94.08	-210.46
43	76.09	-100.35	43	94.39	-212.37	43	54.36	18.28	43	94.11	-210.66
43	76.09	-100.35	43	94.33	-211.97	43	54.34	18.08	43	94.08	-210.46
43	94.05	-210.26	43	94.33	-211.97	43	54.37	16.05	43	94.05	-210.26
44	94.11	-210.66	44	94.31	-211.87	44	54.33	17.85	44	94.05	-210.26
44	94.11	-210.66	44	94.31	-211.87	44	54.39	18.88	44	94.08	-210.46
44	94.11	-210.66	44	94.36	-212.17	44	54.35	18.20	44	94.11	-210.66

TABLE 4.6-4 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
45	94.11	-210.66	45	94.33	-211.97	45	54.28	17.27	45	94.05	-210.26
45	94.11	-210.66	45	94.33	-211.97	45	54.28	17.26	45	94.05	-210.26
45	94.11	-210.66	45	94.33	-211.97	45	54.33	17.94	45	94.08	-210.46
46	94.11	-210.66	46	94.42	-212.57	46	54.28	16.65	46	94.11	-210.66
46	94.11	-210.66	46	94.42	-212.57	46	54.31	17.67	46	94.11	-210.66
46	94.11	-210.66	46	94.34	-212.07	46	54.31	17.65	46	94.10	-210.56
47	93.95	-209.66	47	94.29	-211.77	47	54.28	16.75	47	94.05	-210.26
47	94.11	-210.66	47	94.37	-212.27	47	54.27	17.05	47	94.11	-210.66
47	94.11	-210.66	47	94.33	-211.97	47	54.29	17.35	47	94.08	-210.46
47	94.39	-212.37	47	94.37	-212.27	47	54.28	16.75	47	94.08	-210.46
48	94.33	-211.97	48	94.34	-212.07	48	54.30	16.45	48	94.05	-210.26
48	94.33	-211.97	48	94.31	-211.87	48	55.26	14.64	48	94.05	-210.26

4.7 Run 20

Run 20 (reactor run 102) was a low-flow-rate, high-pressure, medium-heating-rate run made with Configuration 2. Parametric conditions and test results are summarized in Table 4.7-1. Timing information is given in Table 4.0-1. Test results are presented in Figures 4.7-1 through 4.7-11.

The tank was filled 37 minutes before the timer was turned on for this run. Saturation conditions were reached approximately 1 minute before the tank was emptied, as indicated by the decrease in PGH_2 flow and the strip-chart data for Thermometer 1 (Figs. 4.7-1 and 4.7-11).

Table 4.7-1

Parametric Conditions and Test Results Summary
for Run 20-102

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	111.5	3.2
Pressure (psia)	60	56.4	
Temperature[b] (^{o}R)		37.2	
Weight[c] (lb)	66 - 74	65.9	
Final Conditions[d]			
Pressure (psia)	60	58.8	32.3
Temperature (^{o}R)	$\leq$ 47	46.8	
Saturation Temp[e] (^{o}R)	47	46.8	
Run Data			
Temperature Rise (^{o}R)	8	9.6	3.2 - 32.3
Run Time[f] (min)	27 - 33	32.9	0.2 - 33.1
Flow Time (min)	27 - 33	30.1	3.2 - 33.3
Flow Rate[g]: (gpm)	4.08	3.7	
(lb/sec)	0.04	0.037	
Power Level (Mw)	2.0	2.175	
Integrated Power (Mw-hr)	1.0	1.19	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank.
[c]Temp = 37.2^{o}R, Vol. = 111.5 gal, ρ = 4.417 lbs/ft3 = 0.591 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

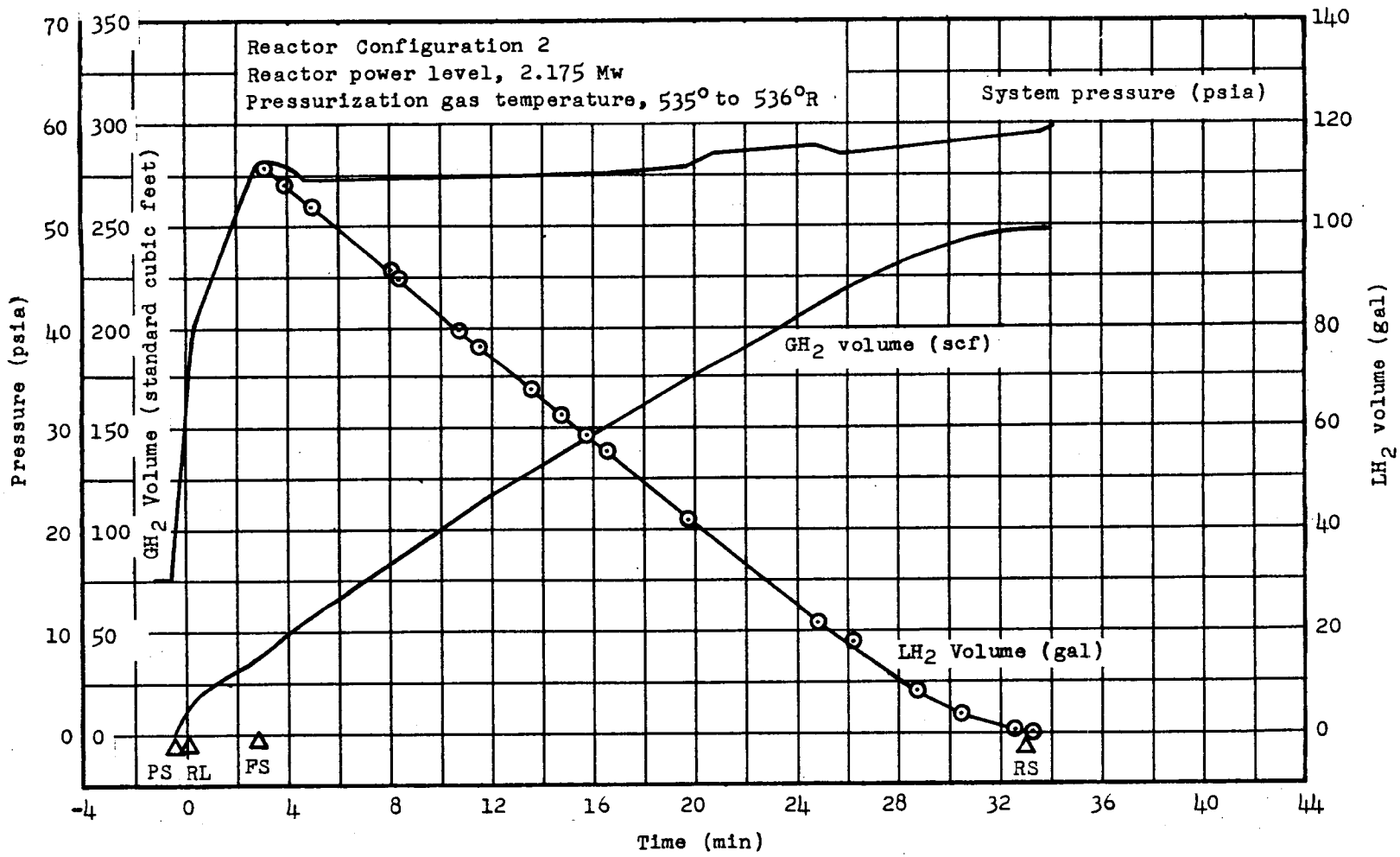

Figure 4.7-1 Pressure and Flow Data: Run 20-102

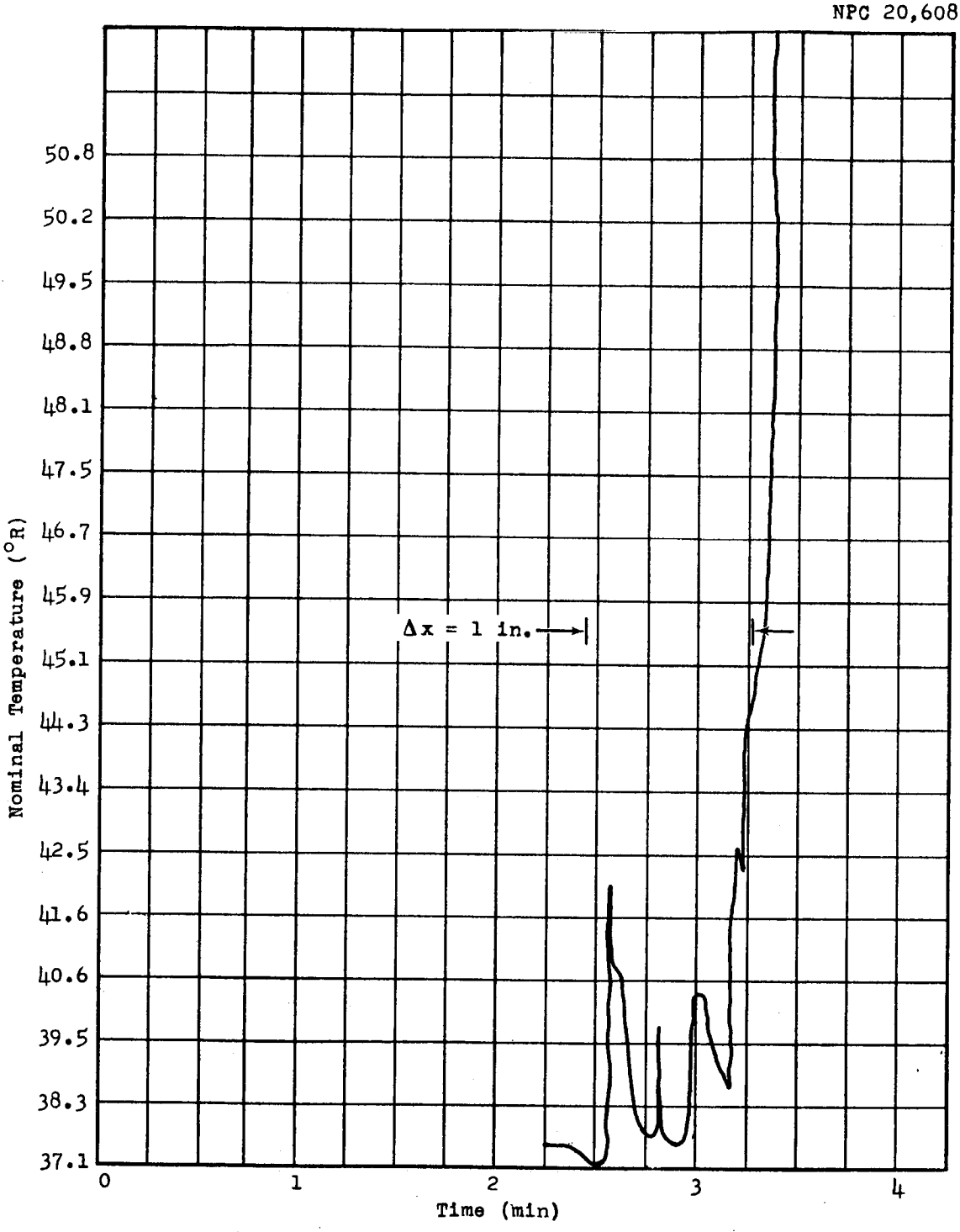

Figure 4.7-2 Strip-Chart Temperature Data: Run 20-102, Thermometer 14

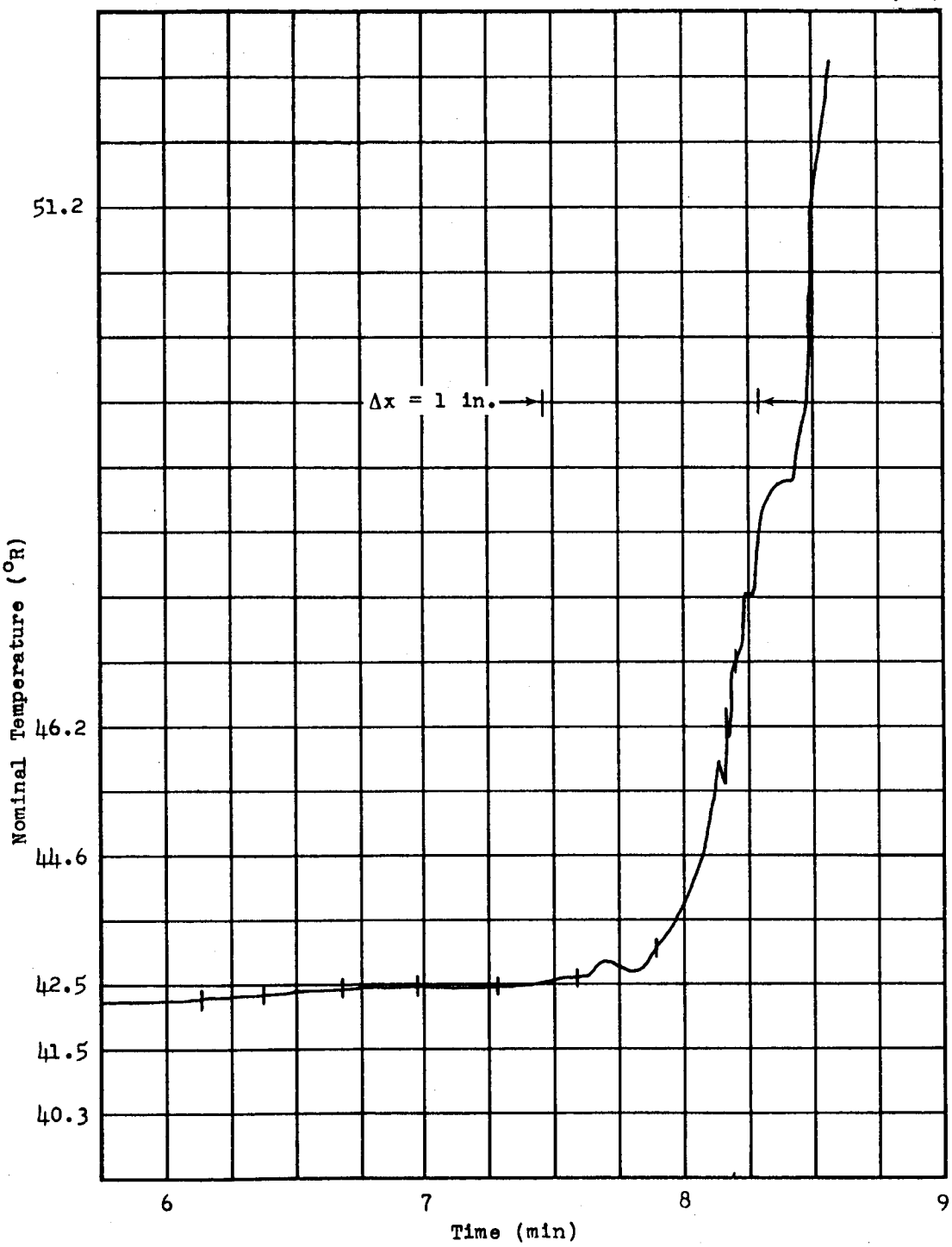

Figure 4.7-3 Strip-Chart Temperature Data: Run 20-102, Thermometer 11

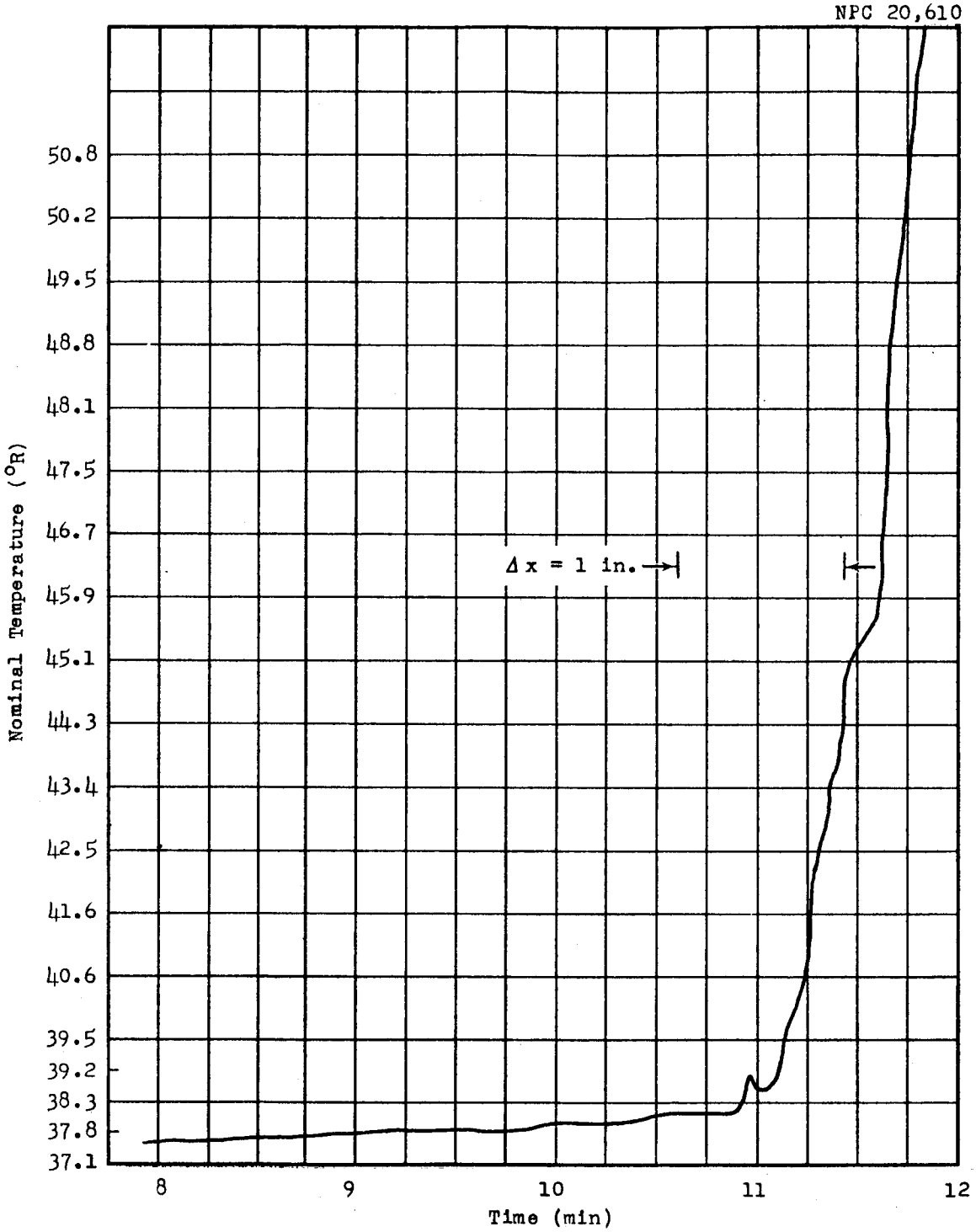

Figure 4.7-4 Strip-Chart Temperature Data: Run 20-102, Thermometer 10

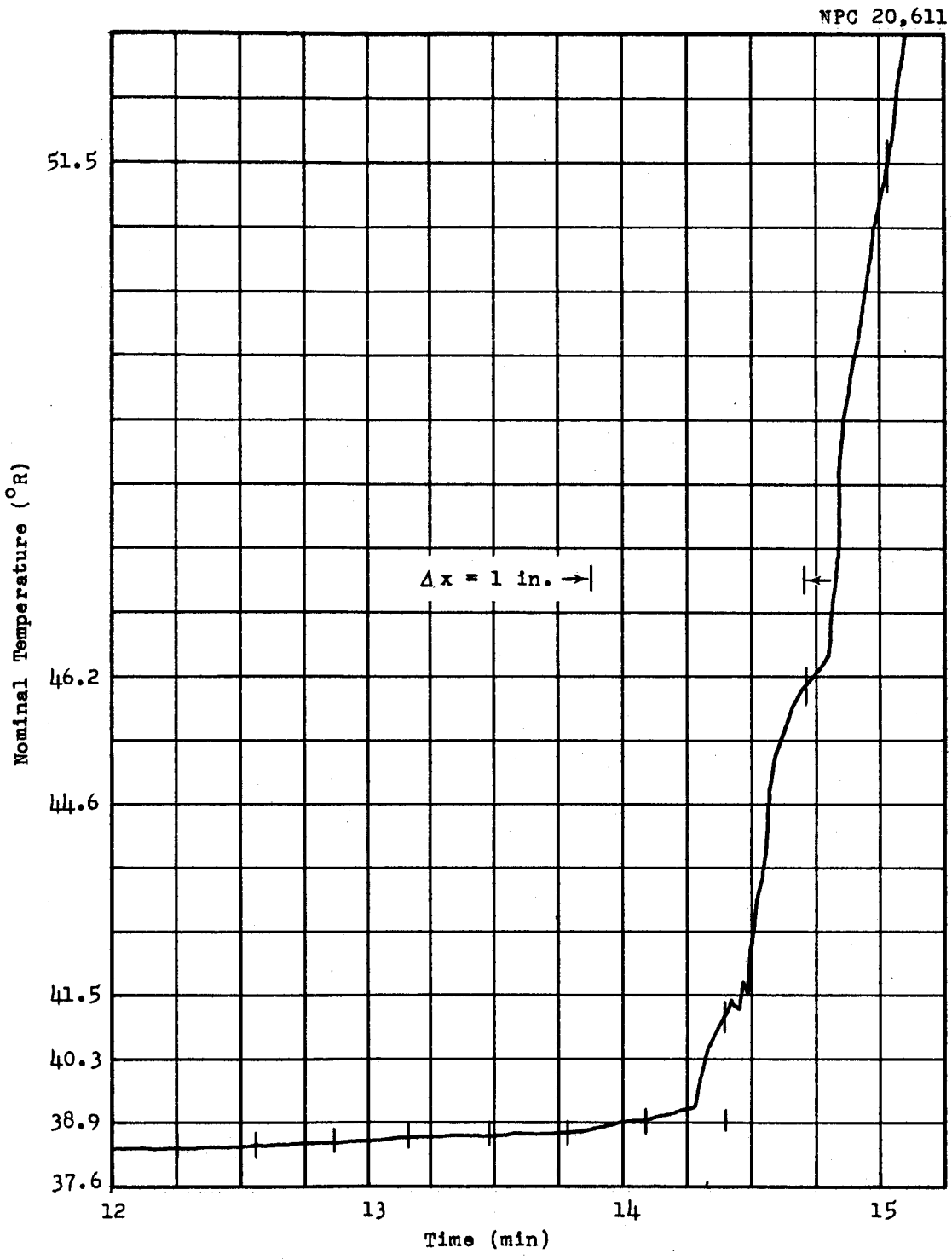

Figure 4.7-5 Strip-Chart Temperature Data: Run 20-102, Thermometer 9

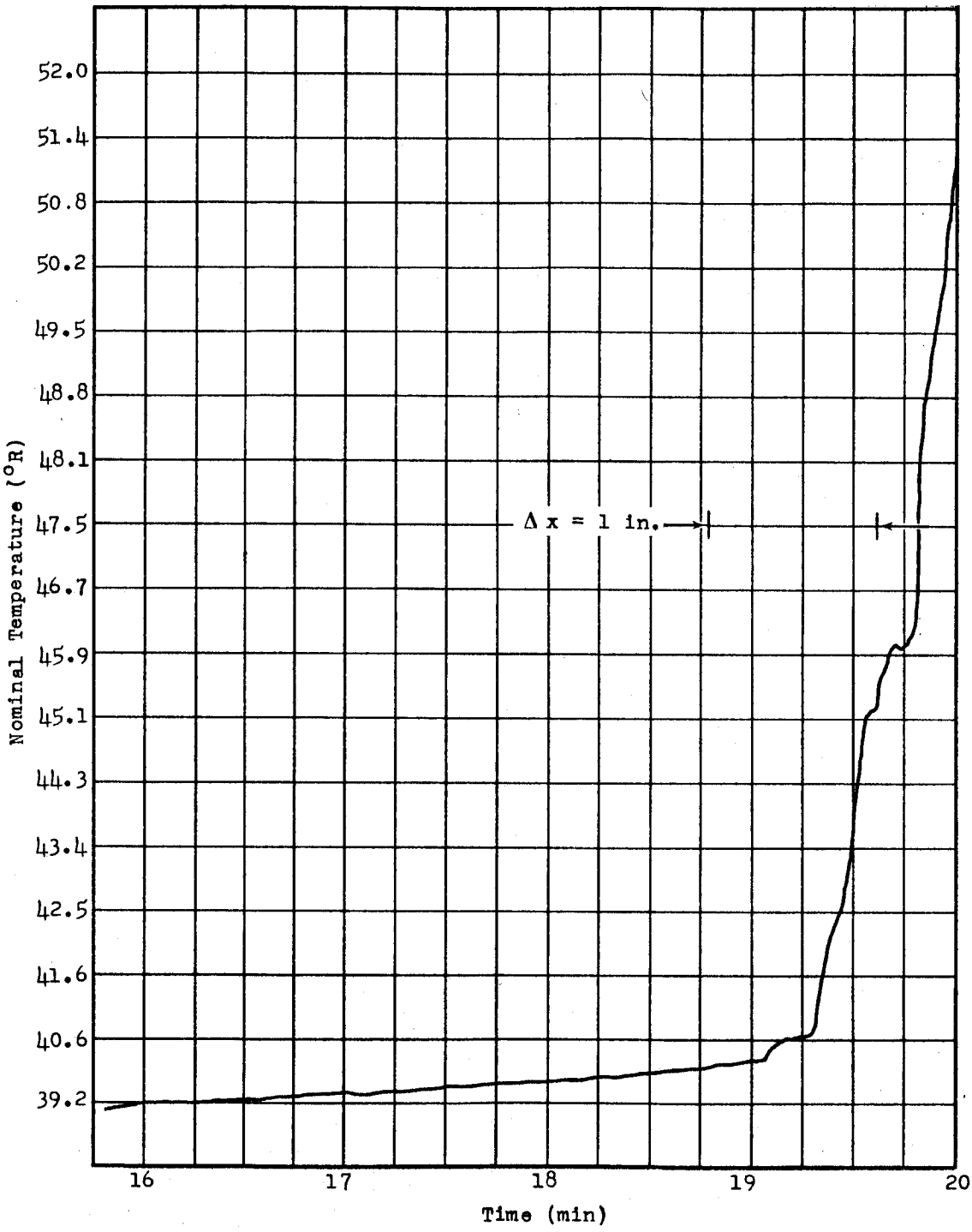

Figure 4.7-6 Strip-Chart Temperature Data: Run 20-102, Thermometer 8

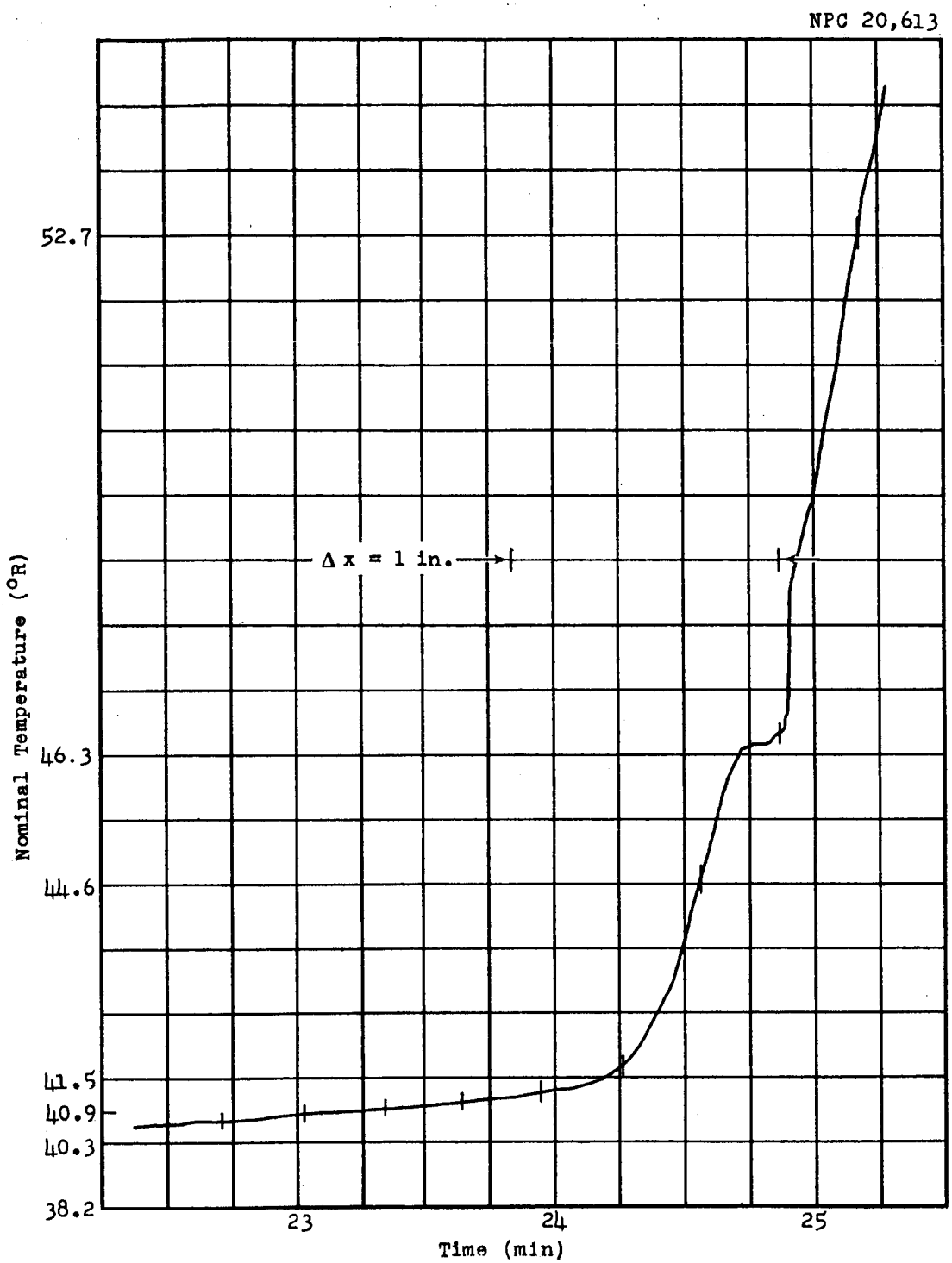

Figure 4.7-7 Strip-Chart Temperature Data: Run 20-102, Thermometer 7

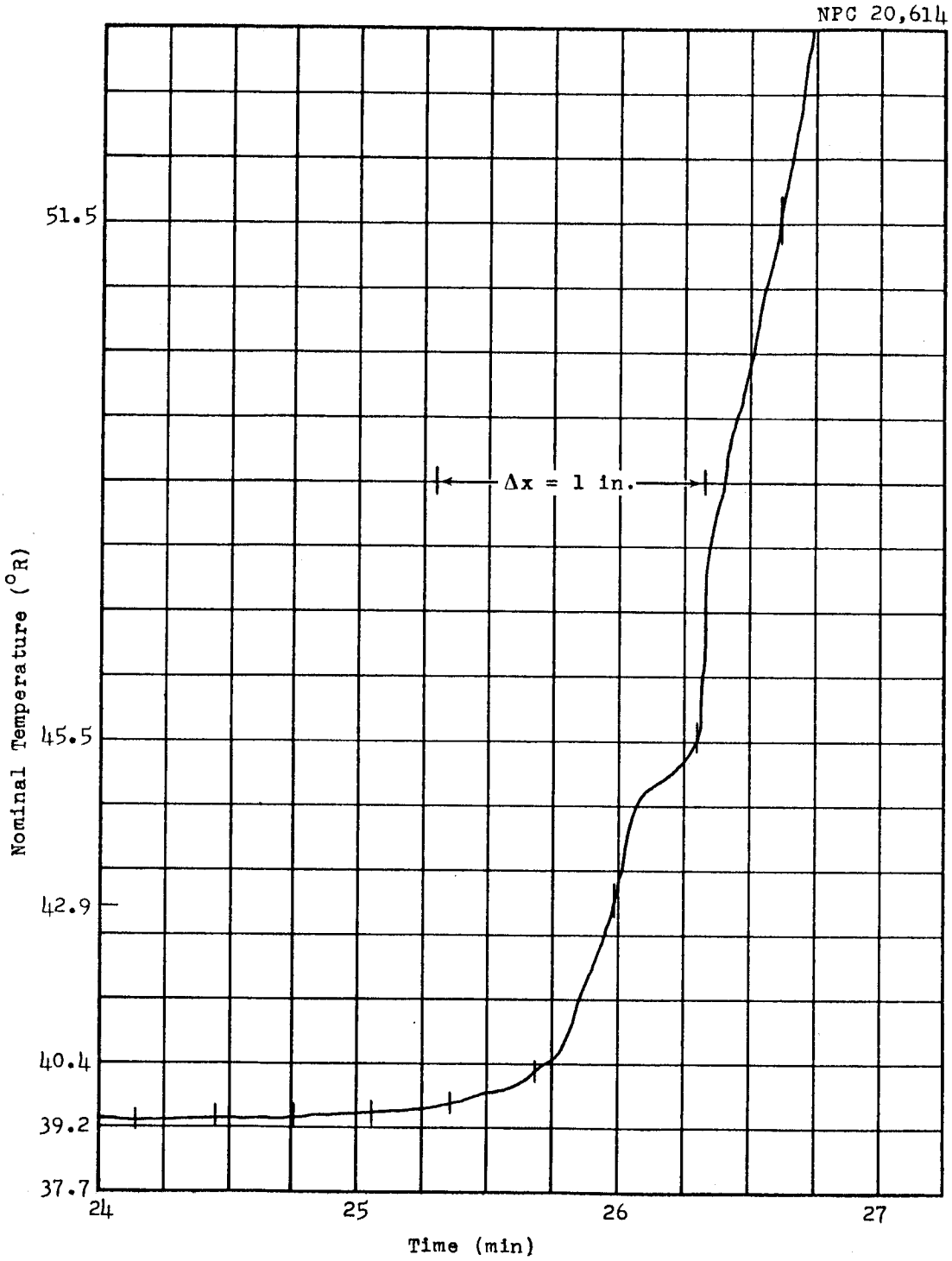

Figure 4.7-8 Strip-Chart Temperature Data: Run 20-102, Thermometer 25

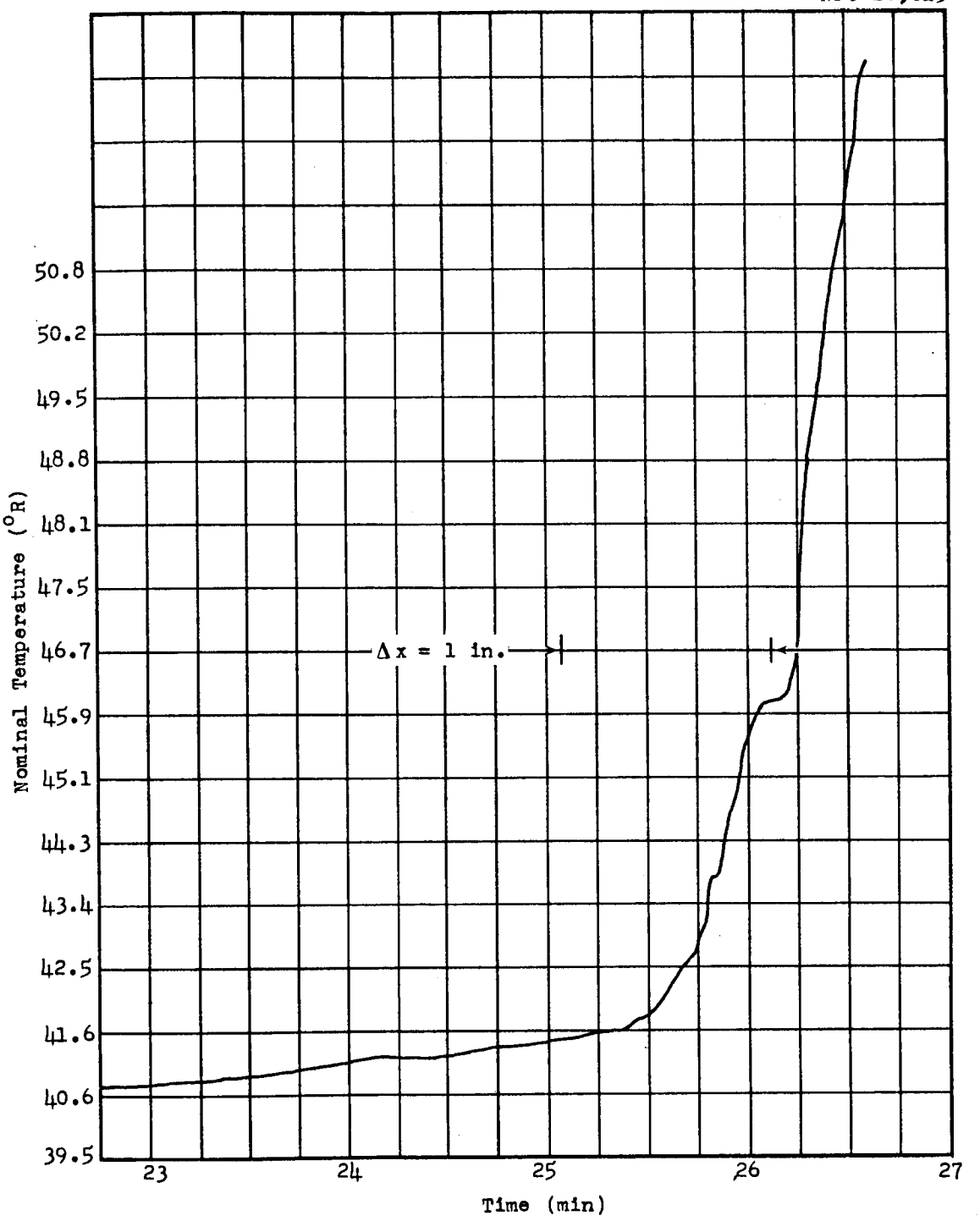

Figure 4.7-9 Strip-Chart Temperature Data: Run 20-102, Thermometer 22

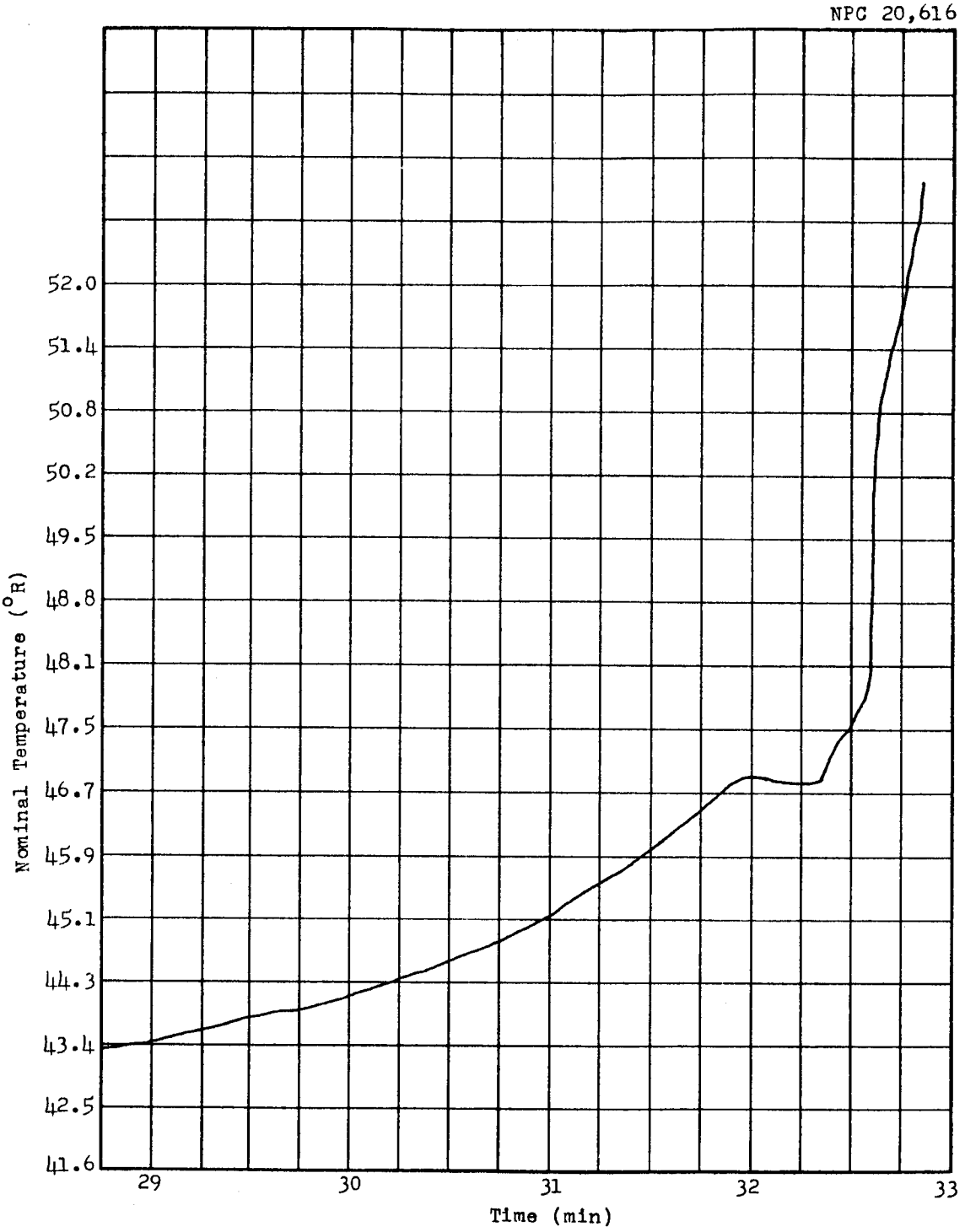

Figure 4.7-10 Strip-Chart Temperature Data: Run 20-102, Thermometer 4

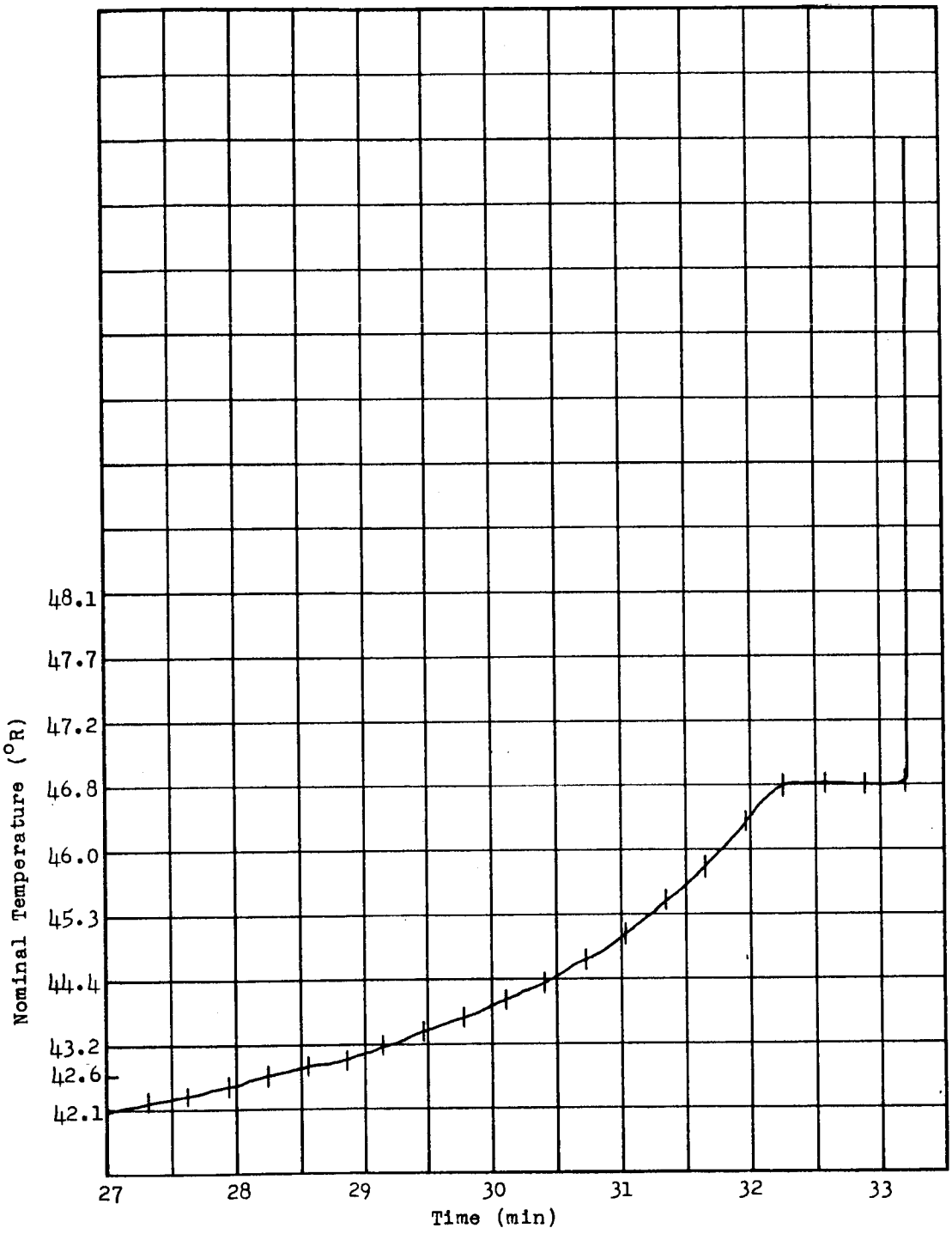

Figure 4.7-11 Strip-Chart Temperature Data: Run 20-102, Thermometer 1

TABLE 4.72 THERMOMETER DATA FOR EXPERIMENTAL RUN 20 -102

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.35	58.08	0	36.33	58.11	0	36.33	58.11	0	36.65	57.71
0	36.32	58.12	0	36.32	58.12	0	36.32	58.12	0	36.66	57.70
0	36.69	57.65	0	36.70	57.63	0	36.69	57.65	0	36.95	57.31
0	36.80	57.50	0	36.74	57.58	0	36.80	57.51	0	37.01	57.23
1	37.03	57.20	1	36.91	57.36	1	37.70	56.25	1	37.12	57.08
1	36.99	57.26	1	36.99	57.26	1	38.14	55.60	1	37.14	57.05
1	37.39	56.70	1	36.91	57.36	1	37.09	57.12	1	37.08	57.14
1	36.99	57.25	1	37.02	57.21	2	37.49	56.55	2	37.42	56.66
2	36.99	57.26	2	37.03	57.20	2	37.04	57.19	2	37.33	56.79
2	37.11	57.09	2	37.11	57.10	2	37.11	57.09	2	37.32	56.81
2	37.21	56.96	2	37.14	57.05	2	37.11	57.09	2	37.32	56.81
3	37.02	57.21	3	37.15	57.04	3	37.10	57.11	3	37.35	56.76
3	37.22	56.95	3	37.13	57.06	3	37.12	57.08	3	37.42	56.65
3	37.18	57.00	3	37.22	56.94	3	37.16	57.02	3	37.47	56.59
4	37.33	56.79	4	37.22	56.95	4	37.26	56.89	4	37.48	56.57
4	37.26	56.89	4	37.32	56.80	4	37.27	56.87	4	37.53	56.50
4	37.31	56.82	4	37.29	56.85	4	37.34	56.78	4	37.55	56.47
5	37.33	56.79	5	37.32	56.80	5	37.37	56.74	5	37.63	56.36
5	37.38	56.71	5	37.36	56.75	5	37.40	56.68	5	37.71	56.24
5	37.47	56.59	5	37.47	56.58	5	37.43	56.64	5	37.68	56.28
5	37.50	56.54	5	37.61	56.38	6	37.49	56.56	6	37.78	56.14
6	37.54	56.48	6	37.54	56.49	6	37.54	56.48	6	37.81	56.09
6	37.56	56.45	6	37.59	56.42	6	37.58	56.43	6	37.84	56.05
6	37.61	56.38	6	37.61	56.38	6	37.59	56.42	6	37.85	56.04
7	37.61	56.38	7	37.66	56.32	7	37.63	56.36	7	37.97	55.86
7	37.68	56.29	7	37.69	56.27	7	37.69	56.27	7	37.92	55.93
7	37.68	56.28	7	37.75	56.19	7	37.75	56.18	7	37.99	55.84
8	37.77	56.16	8	37.78	56.14	8	37.78	56.14	8	38.05	55.73
8	37.89	55.98	8	37.88	55.99	8	37.83	56.07	8	38.09	55.68
8	37.89	55.98	8	37.94	55.90	8	37.90	55.97	8	38.16	55.57
9	37.84	56.05	9	37.90	55.97	9	37.88	55.99	9	38.18	55.54
9	37.88	55.99	9	37.99	55.83	9	37.95	55.89	9	38.26	55.43
9	37.94	55.91	9	38.03	55.78	9	37.99	55.83	9	38.27	55.42
9	38.10	55.67	10	38.05	55.74	10	38.01	55.80	10	38.33	55.33
10	38.05	55.74	10	38.12	55.63	10	38.10	55.66	10	38.39	55.24
10	38.12	55.63	10	38.15	55.59	10	38.14	55.61	10	38.43	55.18
10	38.16	55.58	10	38.20	55.51	10	38.20	55.52	10	38.46	55.14
11	38.18	55.54	11	38.20	55.51	11	38.23	55.47	11	38.57	54.97
11	38.29	55.38	11	38.33	55.33	11	38.30	55.37	11	38.56	54.99
11	38.29	55.38	11	38.34	55.31	11	38.35	55.29	11	38.64	54.87
12	38.38	55.25	12	38.39	55.24	12	38.41	55.21	12	38.62	54.90
12	38.39	55.24	12	38.41	55.21	12	38.44	55.16	12	38.72	54.74
12	38.50	55.07	12	38.49	55.09	12	38.50	55.07	12	38.81	54.62
13	38.50	55.07	13	38.51	55.06	13	38.55	55.01	13	38.92	54.46

* Timing interval = 0.308 minute.

TABLE 4.7-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	38.53	55.03	13	38.70	54.78	13	38.59	54.95	13	38.91	54.47
13	38.63	54.89	13	38.63	54.88	13	38.65	54.86	13	39.05	54.28
13	38.77	54.68	14	38.70	54.77	14	38.70	54.77	14	38.98	54.37
14	38.73	54.73	14	38.76	54.69	14	38.77	54.67	14	39.10	54.21
14	38.74	54.71	14	38.84	54.57	14	38.83	54.59	14	39.16	54.12
14	38.84	54.57	14	38.84	54.57	14	38.86	54.54	14	39.15	54.13
15	38.87	54.53	15	38.99	54.36	15	38.90	54.49	15	39.20	54.07
15	38.97	54.38	15	38.97	54.38	15	38.99	54.36	15	39.22	54.04
15	39.05	54.27	15	39.05	54.27	15	39.06	54.26	15	45.11	43.66
16	39.17	54.11	16	39.15	54.13	16	39.11	54.19	16	39.42	53.75
16	39.12	54.17	16	39.22	54.04	16	39.17	54.10	16	39.48	53.67
16	39.25	53.99	16	39.32	53.90	16	39.24	54.01	16	39.54	53.59
17	39.36	53.84	17	39.33	53.89	17	39.32	53.90	17	39.59	53.53
17	39.35	53.85	17	39.43	53.74	17	39.39	53.79	17	39.65	53.34
17	39.41	53.77	17	39.50	53.65	17	39.46	53.70	17	39.71	53.37
18	39.51	53.63	18	39.53	53.60	18	39.49	53.66	18	39.77	53.19
18	39.62	53.49	18	39.60	53.51	18	39.64	53.46	18	39.87	53.05
18	39.64	53.46	18	39.71	53.36	18	39.68	53.41	18	39.87	53.05
18	39.68	53.30	18	39.79	53.16	18	39.71	53.26	18	39.91	52.99
19	39.71	53.26	19	39.85	53.08	19	39.78	53.17	19	40.00	52.85
19	39.81	53.13	19	39.94	52.95	19	39.87	53.05	19	40.12	52.69
19	59.69	-0.	19	39.96	52.92	19	39.95	52.93	19	40.12	52.69
20	40.00	52.86	20	40.07	52.75	20	40.02	52.83	20	40.18	52.59
20	40.16	52.62	20	40.14	52.66	20	40.07	52.76	20	40.24	52.50
20	40.15	52.64	20	40.26	52.48	20	40.18	52.60	20	40.32	52.38
21	40.35	52.34	21	40.24	52.51	21	40.26	52.48	21	40.44	52.21
21	40.29	52.43	21	40.35	52.34	21	40.33	52.37	21	40.49	52.12
21	40.47	52.15	21	40.47	52.16	21	40.43	52.22	21	40.55	52.04
22	40.46	52.18	22	40.61	51.93	22	40.51	52.09	22	40.66	51.85
22	40.61	51.93	22	40.61	51.92	22	40.58	51.98	22	40.73	51.74
22	40.70	51.79	22	40.76	51.68	22	40.70	51.78	22	40.82	51.59
22	40.78	51.65	22	40.82	51.58	22	40.79	51.63	22	40.87	51.50
23	59.69	-0.	23	40.91	51.44	23	40.91	51.43	23	40.99	51.29
23	40.95	51.36	23	40.97	51.34	23	40.97	51.34	23	41.09	51.13
23	41.00	51.28	23	41.08	51.15	23	41.08	51.14	23	41.16	51.00
24	41.15	51.02	24	41.22	50.89	24	41.14	51.03	24	41.24	50.86
24	59.69	-0.	24	41.24	50.86	24	41.25	50.84	24	41.32	50.70
24	41.33	50.69	24	41.32	50.71	24	41.32	50.71	24	41.46	50.45
25	41.48	50.42	25	41.42	50.53	25	41.45	50.48	25	34.33	60.34
25	41.52	50.34	25	41.60	50.20	25	41.55	50.28	25	41.64	50.12
25	41.62	50.15	25	41.71	49.97	25	41.63	50.13	25	41.73	49.94
26	41.72	49.96	26	41.81	49.79	26	41.73	49.93	26	41.87	49.68
26	41.90	49.61	26	41.84	49.73	26	41.88	49.66	26	42.00	49.42
26	41.95	49.52	26	41.98	49.45	26	42.00	49.42	26	42.28	48.87

TABLE 4.7-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
26	42.08	49.27	27	42.17	49.09	27	42.10	49.22	27	42.25	48.92
27	42.26	48.90	27	42.23	48.96	27	42.20	49.02	27	42.33	48.77
27	42.34	48.74	27	42.39	48.66	27	42.35	48.72	27	42.49	48.45
27	42.46	48.51	27	42.61	48.22	27	42.52	48.40	27	42.62	48.21
28	42.65	48.13	28	42.65	48.13	28	42.67	48.10	28	42.81	47.83
28	42.79	47.86	28	42.81	47.82	28	42.81	47.82	28	42.97	47.53
28	42.98	47.50	28	43.04	47.39	28	42.98	47.50	28	43.20	47.08
29	43.14	47.21	29	43.26	46.97	29	43.18	47.13	29	43.36	46.79
29	43.38	46.77	29	43.51	46.54	29	43.44	46.65	29	43.66	46.28
29	43.65	46.29	29	43.63	46.15	29	43.68	46.22	29	43.85	45.87
30	59.69	-0.	30	44.00	45.67	30	44.00	45.68	30	44.27	45.27
30	44.34	45.17	30	44.43	45.01	30	44.40	45.07	30	44.63	44.66
30	44.68	44.57	30	44.81	44.32	30	44.79	44.37	30	45.05	43.80
31	59.69	-0.	31	45.18	43.47	31	45.19	43.46	31	45.38	42.93
31	45.48	42.64	31	45.54	42.46	31	45.54	42.46	31	45.81	41.64
31	45.86	41.46	31	45.88	41.41	31	45.91	41.29	31	46.26	40.26
31	46.24	40.30	31	46.29	40.19	31	46.42	39.84	31	46.97	38.63
32	46.83	38.91	32	46.78	39.02	32	46.78	39.01	32	46.85	38.87
32	59.69	-0.	32	46.79	38.99	32	46.79	38.99	32	48.14	35.93
32	46.84	38.88	32	46.82	38.92	32	46.79	38.99	32	54.39	18.78
33	46.88	38.81	33	46.78	39.01	33	50.81	29.32	33	56.79	10.31

TABLE 4.7-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.23	58.22	0	41.30	50.75	0	36.24	58.21	0	36.27	58.18
0	36.25	58.20	0	41.29	50.76	0	36.18	58.28	0	36.23	58.23
0	36.51	57.88	0	43.61	46.36	0	36.48	57.92	0	36.53	57.86
0	36.66	57.70	0	45.26	43.26	0	36.51	57.88	0	36.56	57.82
1	36.73	57.60	1	46.61	39.38	1	36.70	57.64	1	36.67	57.67
1	36.74	57.58	1	47.36	37.96	1	36.73	57.60	1	36.73	57.60
1	36.74	57.59	1	47.81	36.96	1	36.77	57.54	1	36.80	57.50
2	36.84	57.45	2	47.93	36.55	2	36.76	57.56	2	36.84	57.46
2	36.90	57.38	2	47.99	36.36	2	36.84	57.46	2	36.87	57.42
2	36.96	57.29	2	48.06	36.16	2	36.92	57.35	2	36.95	57.31
2	36.95	57.31	2	48.12	35.97	2	36.93	57.33	2	36.93	57.33
3	37.00	57.24	3	48.14	35.94	3	37.01	57.23	3	36.99	57.25
3	37.06	57.16	3	48.10	36.04	3	36.96	57.30	3	37.02	57.21
3	37.08	57.13	3	48.15	35.89	3	37.03	57.20	3	37.11	57.09
4	37.09	57.12	4	48.21	35.74	4	37.08	57.13	4	37.17	57.01
4	37.16	57.03	4	48.27	35.57	4	37.11	57.09	4	37.19	56.99
4	37.21	56.96	4	48.41	35.23	4	37.20	56.97	4	37.25	56.90
5	37.24	56.92	5	48.55	34.92	5	37.25	56.90	5	37.25	56.90
5	37.29	56.85	5	48.68	34.61	5	37.24	56.92	5	37.28	56.86
5	37.27	56.87	5	48.83	34.27	5	37.29	56.84	5	37.34	56.77
6	37.39	56.69	6	49.04	33.81	6	37.37	56.72	6	37.37	56.72
6	37.42	56.65	6	49.09	33.69	6	37.41	56.67	6	37.41	56.67
6	37.44	56.62	6	49.29	33.26	6	37.47	56.59	6	37.47	56.59
6	37.47	56.59	6	49.65	32.43	6	37.48	56.57	6	37.52	56.51
7	37.57	56.44	7	49.99	31.61	7	37.49	56.55	7	37.59	56.42
7	37.58	56.43	7	50.19	31.09	7	37.54	56.49	7	37.59	56.41
7	37.65	56.33	7	50.51	30.20	7	37.62	56.37	7	37.65	56.33
8	37.63	56.35	8	50.97	28.80	8	37.66	56.32	8	37.74	56.20
8	37.75	56.18	8	51.52	25.95	8	37.70	56.26	8	37.70	56.25
8	37.70	56.25	8	52.24	24.02	8	37.72	56.22	8	37.79	56.12
9	37.79	56.13	9	53.38	22.29	9	37.81	56.09	9	37.84	56.06
9	37.82	56.08	9	54.27	20.22	9	37.84	56.05	9	37.89	55.98
9	37.88	55.99	9	54.31	17.63	9	37.86	56.02	9	37.93	55.92
10	37.90	55.97	10	55.73	14.09	10	37.90	55.96	10	37.95	55.89
10	37.96	55.88	10	57.01	9.52	10	37.97	55.87	10	37.99	55.84
10	38.04	55.75	10	57.57	7.53	10	38.00	55.82	10	38.03	55.76
10	38.05	55.73	10	58.77	3.25	10	38.12	55.63	10	38.13	55.62
11	38.09	55.68	11	59.93	-1.45	11	38.12	55.63	11	38.14	55.60
11	38.14	55.61	11	93.18	-204.95	11	38.16	55.58	11	38.21	55.50
11	38.22	55.49	11	92.70	-202.02	11	38.23	55.47	11	38.25	55.44
12	38.29	55.39	12	92.70	-202.02	12	38.29	55.39	12	38.31	55.36
12	38.33	55.33	12	93.18	-204.95	12	38.33	55.33	12	38.35	55.29
12	38.37	55.27	12	92.70	-202.02	12	38.36	55.28	12	38.40	55.22
13	38.39	55.23	13	94.81	-214.95	13	38.44	55.17	13	38.47	55.12

TABLE 4.7-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	38.51	55.06	13	93.16	-204.85	13	38.51	55.06	13	38.52	55.04
13	38.52	55.04	13	92.70	-202.02	13	38.54	55.02	13	38.63	54.88
14	38.57	54.97	14	92.70	-202.02	14	38.60	54.93	14	38.65	54.86
14	38.63	54.89	14	47.40	37.91	14	38.65	54.86	14	38.74	54.71
14	38.73	54.73	14	50.76	29.46	14	38.73	54.73	14	38.83	54.58
14	38.75	54.70	14	50.92	28.95	14	38.80	54.63	14	38.84	54.57
15	38.77	54.67	15	51.59	26.33	15	38.81	54.62	15	38.99	54.36
15	38.83	54.58	15	52.15	24.15	15	38.90	54.49	15	38.91	54.47
15	38.93	54.44	15	52.01	24.40	15	38.98	54.37	15	39.01	54.33
16	39.02	54.32	16	52.04	24.35	16	39.13	54.16	16	39.12	54.17
16	39.06	54.26	16	51.46	27.23	16	39.11	54.19	16	39.23	54.02
16	39.15	54.14	16	50.68	29.71	16	39.12	54.17	16	39.35	53.85
17	39.20	54.07	17	50.31	30.77	17	39.19	54.08	17	39.30	53.92
17	39.32	53.90	17	50.40	30.53	17	39.35	53.85	17	39.41	53.77
17	39.34	53.86	17	50.42	30.48	17	39.39	53.79	17	39.54	53.59
18	39.42	53.75	18	49.71	32.28	18	39.45	53.71	18	39.64	53.46
18	39.52	53.62	18	48.89	34.15	18	39.57	53.55	18	39.70	53.28
18	38.86	54.55	18	48.47	35.10	18	39.61	53.50	18	39.79	53.16
18	39.72	53.35	18	48.26	35.60	18	39.68	53.40	19	40.02	52.83
19	39.71	53.27	19	47.87	36.74	19	39.67	53.32	19	40.44	52.21
19	39.76	53.20	19	48.43	35.20	19	39.79	53.16	19	45.68	42.04
19	39.85	53.07	19	48.86	34.21	19	39.87	53.05	19	50.27	30.87
20	39.95	52.94	20	48.86	34.21	20	40.01	52.84	20	55.19	14.70
20	40.05	52.78	20	48.29	35.53	20	40.08	52.74	20	59.88	-1.19
20	40.10	52.71	20	48.00	36.32	20	40.20	52.56	20	62.73	-18.61
21	40.22	52.54	21	47.90	36.63	21	40.20	52.56	21	64.86	-31.64
21	40.28	52.45	21	47.99	36.35	21	40.35	52.34	21	67.70	-49.00
21	40.36	52.33	21	48.29	35.53	21	40.44	52.20	21	70.28	-64.79
22	40.47	52.15	22	48.68	34.60	22	40.53	52.06	22	72.62	-79.13
22	40.60	51.94	22	49.00	33.89	22	40.60	51.94	22	74.88	-92.97
22	40.63	51.89	22	49.38	33.04	22	40.74	51.72	22	77.08	-106.42
23	40.71	51.76	23	49.76	32.17	23	40.81	51.60	23	79.14	-119.05
23	40.80	51.62	23	50.08	31.37	23	40.95	51.37	23	81.01	-130.47
23	40.94	51.39	23	50.29	30.82	23	41.02	51.24	23	82.96	-142.39
23	40.99	51.30	23	50.70	29.65	23	41.23	50.87	23	84.56	-152.20
24	41.10	51.11	24	50.93	28.91	24	41.64	50.12	24	85.55	-158.26
24	41.18	50.96	24	51.54	26.14	24	44.64	44.65	24	87.93	-172.81
24	41.29	50.76	24	53.01	22.87	24	46.53	39.58	24	89.93	-185.04
25	41.39	50.59	25	54.31	20.03	25	52.74	23.27	25	91.76	-196.26
25	41.49	50.39	25	54.29	16.57	25	57.53	7.66	25	93.48	-206.77
25	41.59	50.22	25	56.36	11.82	25	61.21	-9.29	25	94.02	-210.10
26	41.72	49.96	26	57.82	6.64	26	63.72	-24.66	26	94.12	-210.71
26	41.83	49.75	26	59.39	1.07	26	66.05	-38.95	26	94.12	-210.71
26	41.96	49.50	26	60.02	-2.04	26	68.28	-52.54	26	94.02	-210.10

TABLE 4.7-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	42.07	49.28	27	63.75	-24.85	27	70.39	-65.48	27	94.12	-210.71
27	42.20	49.03	27	94.19	-211.11	27	72.39	-77.73	27	94.19	-211.11
27	42.35	48.72	27	94.19	-211.11	27	74.29	-89.36	27	94.12	-210.71
27	42.50	48.44	27	94.19	-211.11	27	76.10	-100.44	27	94.33	-212.02
28	42.69	48.06	28	94.02	-210.10	28	77.85	-111.17	28	94.02	-210.10
28	42.85	47.76	28	94.15	-210.91	28	79.52	-121.37	28	94.19	-211.11
28	43.00	47.46	28	94.15	-210.91	28	80.02	-124.40	28	94.19	-211.11
29	43.34	46.84	29	94.12	-210.71	29	82.07	-136.94	29	94.19	-211.11
29	43.52	46.52	29	94.12	-210.71	29	83.55	-146.03	29	94.12	-210.71
29	43.94	45.75	29	94.19	-211.11	29	84.82	-153.81	29	94.19	-211.11
30	45.04	43.81	30	94.19	-211.11	30	86.01	-161.09	30	94.22	-211.32
30	41.90	49.62	30	94.05	-210.31	30	87.02	-167.25	30	94.17	-211.01
30	47.74	37.31	30	94.19	-211.11	30	88.09	-173.82	30	94.19	-211.11
31	54.19	20.55	31	94.09	-210.51	31	89.17	-180.39	31	94.15	-210.91
31	56.99	9.60	31	94.12	-210.71	31	90.11	-186.15	31	94.12	-210.71
31	59.35	1.22	31	94.02	-210.10	31	90.92	-191.10	31	94.12	-210.71
32	59.69	-0.	32	94.02	-210.10	32	91.68	-195.75	32	94.02	-210.10
32	59.69	-0.	32	94.02	-210.10	32	92.37	-200.00	32	94.12	-210.71
32	59.69	-0.	32	94.02	-210.10	32	92.93	-203.43	32	94.12	-210.71
32	59.69	-0.	32	94.15	-210.91	32	93.49	-206.87	32	94.09	-210.51
33	59.69	-0.	33	94.02	-210.10	33	93.66	-207.88	33	94.28	-211.72

TABLE 4.7-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.22	58.24	0	36.17	58.30	0	41.59	50.22	0	61.45	-10.76
0	36.20	58.26	0	36.14	58.33	0	41.57	50.25	0	62.12	-14.87
0	36.42	57.99	0	36.39	58.03	0	41.76	49.89	0	62.45	-16.90
0	36.57	57.81	0	36.49	57.91	0	41.78	49.84	0	61.51	-11.16
1	36.56	57.82	1	36.57	57.81	1	41.84	49.72	1	62.24	-15.61
1	36.69	57.65	1	36.65	57.71	1	41.90	49.62	1	62.08	-14.62
1	36.78	57.53	1	36.73	57.60	1	41.92	49.58	1	62.99	-20.21
2	36.80	57.50	2	36.73	57.60	2	41.93	49.55	2	62.37	-16.42
2	36.83	57.47	2	36.80	57.51	2	42.00	49.42	2	62.99	-20.21
2	36.84	57.46	2	36.78	57.53	2	42.02	49.38	2	62.18	-15.24
2	36.91	57.36	2	36.92	57.35	2	42.11	49.21	3	62.18	-15.22
3	36.95	57.31	3	36.90	57.37	3	42.06	49.31	3	61.99	-14.05
3	37.01	57.23	3	36.98	57.27	3	42.03	49.37	3	62.15	-15.03
3	37.07	57.15	3	37.00	57.24	3	42.00	49.42	3	62.14	-14.97
4	37.11	57.09	4	37.03	57.20	4	42.08	49.27	4	62.55	-17.48
4	37.13	57.06	4	37.11	57.10	4	42.09	49.25	4	62.46	-16.95
4	37.23	56.93	4	37.19	56.99	4	42.16	49.11	4	63.65	-24.26
5	37.27	56.87	5	37.22	56.95	5	42.17	49.08	5	66.63	-42.46
5	37.28	56.86	5	37.24	56.91	5	42.26	48.90	5	70.37	-65.36
5	37.32	56.81	5	37.31	56.82	5	42.25	48.92	5	74.34	-89.64
6	37.35	56.76	6	37.32	56.80	6	42.28	48.86	6	79.08	-118.64
6	37.38	56.71	6	37.37	56.72	6	42.36	48.71	6	82.81	-141.48
6	37.47	56.58	6	37.39	56.69	6	42.36	48.71	6	87.13	-167.96
6	37.53	56.50	6	37.47	56.59	6	42.43	48.58	7	91.06	-192.01
7	37.54	56.49	7	37.54	56.49	7	42.54	48.36	7	92.70	-202.02
7	37.63	56.36	7	37.60	56.40	7	42.57	48.30	7	92.70	-202.02
7	37.64	56.34	7	37.61	56.38	7	43.12	47.24	7	92.70	-202.02
8	37.70	56.26	8	37.63	56.36	8	51.18	28.11	8	92.70	-202.02
8	37.68	56.29	8	37.68	56.28	8	51.87	24.64	8	92.70	-202.02
8	37.76	56.17	8	37.77	56.16	8	58.67	3.64	8	92.70	-202.02
9	37.81	56.09	9	37.79	56.12	9	62.86	-19.41	9	92.70	-202.02
9	37.88	55.99	9	37.87	56.01	9	67.24	-46.23	9	92.70	-202.02
9	37.88	55.99	9	37.92	55.94	9	70.89	-68.52	9	92.70	-202.02
10	37.98	55.85	10	38.01	55.80	10	74.35	-89.69	10	93.13	-204.65
10	37.98	55.85	10	38.12	55.63	10	77.54	-109.25	10	93.20	-205.05
10	38.05	55.74	10	38.22	55.48	10	80.84	-129.46	10	93.20	-205.05
10	38.11	55.65	11	39.10	54.21	11	83.73	-147.14	11	93.20	-205.05
11	38.23	55.47	11	42.56	48.32	11	86.61	-164.73	11	93.16	-204.85
11	38.20	55.51	11	46.39	39.92	11	89.41	-181.91	11	93.20	-205.05
11	38.29	55.38	11	54.28	16.60	11	92.14	-198.58	11	93.36	-206.06
12	38.33	55.33	12	60.35	-4.01	12	92.70	-202.02	12	93.29	-205.66
12	38.39	55.24	12	64.07	-26.81	12	92.70	-202.02	12	93.36	-206.06
12	38.46	55.14	12	67.43	-47.38	12	92.70	-202.02	12	93.34	-205.96
13	38.57	54.97	13	70.62	-66.91	13	92.70	-202.02	13	93.39	-206.26

TABLE 4.7-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	38.65	54.86	13	73.61	-85.20	13	92.70	-202.02	13	93.39	-206.26
13	38.68	54.80	13	76.57	-103.28	13	93.18	-204.95	13	93.38	-206.16
14	38.93	54.45	14	79.29	-119.96	14	93.16	-204.85	14	93.39	-206.26
14	40.79	51.64	14	81.93	-136.13	14	93.20	-205.05	14	93.44	-206.57
14	46.10	40.72	14	84.41	-151.29	14	93.20	-205.05	14	93.38	-206.16
15	51.53	26.03	15	86.87	-166.34	15	93.20	-205.05	15	93.39	-206.26
15	57.53	7.66	15	89.38	-181.71	15	93.16	-204.85	15	93.41	-206.36
15	59.69	-0.	15	91.86	-196.86	15	93.20	-205.05	15	93.34	-205.96
15	59.69	-0.	15	92.70	-202.02	15	93.38	-206.16	15	93.39	-206.26
16	59.69	-0.	16	92.70	-202.02	16	93.34	-205.96	16	93.36	-206.06
16	59.69	-0.	16	93.03	-204.04	16	93.34	-205.96	16	93.38	-206.16
16	59.69	-0.	16	92.70	-202.02	16	93.29	-205.66	16	93.33	-205.86
17	59.69	-0.	17	92.70	-202.02	17	93.31	-205.76	17	93.33	-205.86
17	59.69	-0.	17	93.03	-204.04	17	93.33	-205.86	17	93.33	-205.86
17	59.69	-0.	17	92.70	-202.02	17	93.28	-205.56	17	93.29	-205.66
18	59.69	-0.	18	92.70	-202.02	18	93.24	-205.35	18	93.26	-205.45
18	85.53	-158.16	18	92.70	-202.02	18	93.28	-205.56	18	93.26	-205.45
18	87.80	-172.00	18	92.70	-202.02	18	93.24	-205.35	18	93.24	-205.35
19	90.06	-185.85	19	94.02	-210.10	19	94.30	-211.82	19	94.30	-211.82
19	92.14	-198.58	19	94.02	-210.10	19	94.27	-211.62	19	94.28	-211.72
19	94.00	-210.00	19	94.27	-211.62	19	94.27	-211.62	19	94.25	-211.52
19	94.02	-210.10	19	94.40	-212.43	19	94.38	-212.33	19	94.40	-212.43
20	94.02	-210.10	20	94.27	-211.62	20	94.38	-212.33	20	94.37	-212.23
20	93.95	-209.70	20	94.30	-211.82	20	94.32	-211.92	20	94.32	-211.92
20	93.89	-209.30	20	94.25	-211.52	20	94.30	-211.82	20	94.30	-211.82
21	93.95	-209.70	21	94.28	-211.72	21	94.33	-212.02	21	94.32	-211.92
21	93.86	-209.09	21	94.20	-211.22	21	94.25	-211.52	21	94.27	-211.62
21	93.79	-208.69	21	94.30	-211.82	21	94.30	-211.82	21	94.32	-211.92
22	94.02	-210.10	22	94.30	-211.82	22	94.33	-212.02	22	94.33	-212.02
22	93.99	-209.90	22	94.28	-211.72	22	94.33	-212.02	22	94.19	-211.11
22	93.95	-209.70	22	94.27	-211.62	22	94.27	-211.62	22	94.28	-211.72
23	93.95	-209.70	23	94.28	-211.72	23	94.28	-211.72	23	94.30	-211.82
23	94.02	-210.10	23	94.30	-211.82	23	94.32	-211.92	23	94.32	-211.92
23	94.02	-210.10	23	94.19	-211.11	23	94.35	-212.12	23	94.33	-212.02
23	94.02	-210.10	23	94.32	-211.92	23	94.33	-212.02	24	94.38	-212.33
24	94.02	-210.10	24	94.38	-212.33	24	94.43	-212.63	24	94.42	-212.53
24	94.09	-210.51	24	94.37	-212.23	24	94.38	-212.33	24	94.37	-212.23
24	94.02	-210.10	24	94.37	-212.23	24	94.40	-212.43	24	94.40	-212.43
25	94.12	-210.71	25	94.42	-212.53	25	94.42	-212.53	25	94.42	-212.53
25	94.12	-210.71	25	94.32	-211.92	25	94.37	-212.23	25	94.37	-212.23
25	94.19	-211.11	25	94.35	-212.12	25	94.35	-212.12	25	94.35	-212.12
26	94.22	-211.32	26	94.38	-212.33	26	94.37	-212.23	26	94.38	-212.33
26	94.19	-211.11	26	94.38	-212.33	26	94.43	-212.63	26	94.42	-212.53
26	94.15	-210.91	26	94.30	-211.82	26	94.35	-212.12	26	94.37	-212.23

TABLE 4.7-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	94.19	-211.11	27	94.38	-212.33	27	94.38	-212.33	27	94.37	-212.23
27	94.28	-211.72	27	94.43	-212.63	27	94.47	-212.83	27	94.47	-212.83
27	94.25	-211.52	27	94.48	-212.93	27	94.45	-212.73	27	94.43	-212.63
28	94.30	-211.82	28	94.42	-212.53	28	94.48	-212.93	28	94.47	-212.83
28	94.19	-211.11	28	94.32	-211.92	28	94.37	-212.23	28	94.38	-212.33
28	94.30	-211.82	28	94.43	-212.63	28	94.42	-212.53	28	94.42	-212.53
28	94.28	-211.72	28	94.43	-212.63	28	94.45	-212.73	28	94.48	-212.93
29	94.22	-211.32	29	94.33	-212.02	29	94.33	-212.02	29	94.40	-212.43
29	94.19	-211.11	29	94.33	-212.02	29	94.35	-212.12	28	94.40	-212.43
29	94.32	-211.92	29	94.42	-212.53	29	94.47	-212.83	29	94.47	-212.83
30	94.35	-212.12	30	94.47	-212.83	30	94.45	-212.73	30	94.48	-212.93
30	94.22	-211.32	30	94.35	-212.12	30	94.38	-212.33	30	94.42	-212.53
30	94.35	-212.12	30	94.42	-212.53	30	94.50	-213.03	30	94.45	-212.73
31	94.19	-211.11	31	94.35	-212.12	31	94.37	-212.23	31	94.38	-212.33
31	94.22	-211.32	31	94.43	-212.63	31	94.47	-212.83	31	94.37	-212.23
31	94.19	-211.11	31	94.35	-212.12	31	94.40	-212.43	31	94.37	-212.23
32	94.15	-210.91	32	94.28	-211.72	32	94.30	-211.82	32	94.32	-211.92
32	94.19	-211.11	32	94.28	-211.72	32	94.32	-211.92	32	94.32	-211.92
32	94.17	-211.01	32	94.30	-211.82	32	94.32	-211.92	32	94.30	-211.82
32	94.19	-211.11	32	94.28	-211.72	32	94.37	-212.23	33	94.40	-212.43
33	94.19	-211.11	33	94.33	-212.02	33	94.35	-212.12	33	94.35	-212.12

TABLE 4.7-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.22	58.24	0	36.16	58.31	0	36.20	58.26	0	36.32	58.12
0	36.23	58.22	0	36.18	58.28	0	36.17	58.30	0	36.28	58.17
0	36.55	57.84	0	37.02	57.21	0	51.53	25.66	0	55.85	13.65
0	36.68	57.66	0	36.84	57.46	0	54.53	15.60	0	59.82	-0.78
1	36.73	57.60	1	36.87	57.41	1	57.18	8.91	1	61.68	-12.20
1	36.80	57.50	1	37.33	56.79	1	58.05	5.84	1	63.31	-22.18
1	37.02	57.22	1	37.18	57.00	1	58.67	3.64	1	60.21	-3.17
2	37.04	57.19	2	37.43	56.64	2	58.89	2.85	2	66.04	-38.84
2	36.96	57.30	2	37.27	56.88	2	59.12	2.02	2	67.68	-48.90
2	37.68	56.29	2	37.91	55.95	2	60.48	-4.85	2	70.23	-64.48
3	37.10	57.11	3	40.73	51.73	3	61.60	-11.69	3	72.14	-76.19
3	37.50	56.54	3	46.21	40.41	3	65.78	-37.28	3	77.84	-111.06
3	41.60	50.19	3	61.28	-9.73	3	73.20	-82.66	3	85.76	-159.57
3	44.56	44.79	3	64.54	-29.70	3	77.11	-106.62	3	89.26	-181.00
4	51.52	25.86	4	68.36	-53.05	4	80.78	-129.05	4	92.47	-200.60
4	58.69	3.54	4	72.49	-78.31	4	84.49	-151.79	4	92.70	-202.02
4	62.99	-20.20	4	76.45	-102.58	4	88.11	-173.92	4	93.20	-205.05
5	67.58	-48.30	5	80.51	-127.44	5	91.86	-196.86	5	93.13	-204.65
5	59.69	-0.	5	84.28	-150.48	5	92.70	-202.02	5	93.34	-205.96
5	75.94	-99.45	5	88.03	-173.42	5	92.70	-202.02	5	93.33	-205.86
6	59.69	-0.	6	91.68	-195.75	6	93.13	-204.65	6	93.33	-205.86
6	59.69	-0.	6	92.70	-202.02	6	93.36	-206.06	6	93.38	-206.16
6	86.85	-166.24	6	93.13	-204.65	6	93.34	-205.96	6	93.29	-205.66
7	90.40	-187.97	7	92.70	-202.02	7	93.29	-205.66	7	93.33	-205.86
7	93.20	-205.05	7	93.33	-205.86	7	93.33	-205.86	7	93.34	-205.96
7	93.23	-205.25	7	93.28	-205.56	7	93.34	-205.96	7	93.39	-206.26
7	93.23	-205.25	7	93.28	-205.56	7	93.33	-205.86	7	93.33	-205.86
8	93.24	-205.35	8	93.34	-205.96	8	93.33	-205.86	8	93.36	-206.06
8	93.26	-205.45	8	93.31	-205.76	8	93.36	-206.06	8	93.34	-205.96
8	93.26	-205.45	8	93.36	-206.06	8	93.53	-207.07	8	93.34	-205.96
9	93.20	-205.05	9	93.29	-205.66	9	93.33	-205.86	9	93.31	-205.76
9	93.26	-205.45	9	93.36	-206.06	9	93.38	-206.16	9	93.34	-205.96
9	93.24	-205.35	9	93.34	-205.96	9	93.36	-206.06	9	93.39	-206.26
10	93.34	-205.96	10	93.41	-206.36	10	93.41	-206.36	10	93.41	-206.36
10	93.29	-205.66	10	93.36	-206.06	10	93.39	-206.26	10	93.41	-206.36
10	93.31	-205.76	10	93.38	-206.16	10	93.43	-206.47	10	93.41	-206.36
11	93.36	-206.06	11	93.44	-206.57	11	93.41	-206.36	11	93.41	-206.36
11	93.33	-205.86	11	93.41	-206.36	11	93.41	-206.36	11	93.38	-206.16
11	93.33	-205.86	11	93.41	-206.36	11	93.46	-206.67	11	93.44	-206.57
11	93.29	-205.66	11	93.36	-206.06	11	93.31	-205.76	11	93.38	-206.16
12	93.29	-205.66	12	93.41	-206.36	12	93.39	-206.26	12	93.38	-206.16
12	93.29	-205.66	12	93.56	-207.27	12	93.34	-205.96	12	93.38	-206.16
12	93.33	-205.86	12	93.41	-206.36	12	93.41	-206.36	12	93.39	-206.26
13	93.36	-206.06	13	93.38	-206.16	13	93.41	-206.36	13	93.39	-206.26

TABLE 4.7-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	93.33	-205.86	13	93.46	-206.67	13	93.44	-206.57	13	93.43	-206.47
13	93.34	-205.96	13	93.43	-206.47	13	93.39	-206.26	13	93.39	-206.26
14	93.36	-206.06	14	93.41	-206.36	14	93.41	-206.36	14	93.38	-206.16
14	93.36	-206.06	14	93.44	-206.57	14	93.44	-206.57	14	93.44	-206.57
14	93.33	-205.86	14	93.41	-206.36	14	93.39	-206.26	14	93.39	-206.26
15	93.36	-206.06	15	93.46	-206.67	15	93.46	-206.67	15	93.43	-206.47
15	93.36	-206.06	15	93.43	-206.47	15	93.43	-206.47	15	93.46	-206.67
15	93.33	-205.86	15	93.38	-206.16	15	93.38	-206.16	15	93.38	-206.16
15	93.36	-206.06	15	93.39	-206.26	15	93.41	-206.36	15	93.41	-206.36
16	93.33	-205.86	16	93.38	-206.16	16	93.38	-206.16	16	93.36	-206.06
16	93.34	-205.96	16	93.33	-205.86	16	93.36	-206.06	16	93.36	-206.06
16	93.49	-206.87	16	93.34	-205.96	16	93.51	-206.97	16	93.36	-206.06
17	93.36	-206.06	17	93.36	-206.06	17	93.36	-206.06	17	93.38	-206.16
17	93.33	-205.86	17	93.36	-206.06	17	93.34	-205.96	17	93.33	-205.86
17	93.28	-205.56	17	93.29	-205.66	17	93.29	-205.66	17	93.31	-205.76
18	93.29	-205.66	18	93.29	-205.66	18	93.46	-206.67	18	93.29	-205.66
18	93.28	-205.56	18	93.28	-205.56	18	93.24	-205.35	18	93.24	-205.35
18	93.24	-205.35	18	93.26	-205.45	18	93.26	-205.45	18	93.26	-205.45
19	94.27	-211.62	19	94.30	-211.82	19	94.32	-211.92	19	94.32	-211.92
19	94.30	-211.82	19	94.28	-211.72	19	94.33	-212.02	19	94.30	-211.82
19	94.32	-211.92	19	94.32	-211.92	19	94.35	-212.12	19	94.30	-211.82
19	94.40	-212.43	19	94.40	-212.43	19	94.40	-212.43	20	94.37	-212.23
20	94.35	-212.12	20	94.40	-212.43	20	94.35	-212.12	20	94.38	-212.33
20	94.32	-211.92	20	94.30	-211.82	20	94.30	-211.82	20	94.28	-211.72
20	94.27	-211.62	20	94.28	-211.72	20	94.27	-211.62	20	94.24	-211.42
21	94.30	-211.82	21	94.32	-211.92	21	94.28	-211.72	21	94.28	-211.72
21	94.28	-211.72	21	94.25	-211.52	21	94.25	-211.52	21	94.27	-211.62
21	94.32	-211.92	21	94.33	-212.02	21	94.35	-212.12	21	94.32	-211.92
22	94.33	-212.02	22	94.32	-211.92	22	94.32	-211.92	22	94.37	-212.23
22	94.33	-212.02	22	94.15	-210.91	22	94.32	-211.92	22	94.32	-211.92
22	94.28	-211.72	22	94.33	-212.02	22	94.24	-211.42	22	94.25	-211.52
23	94.30	-211.82	23	94.30	-211.82	23	94.30	-211.82	23	94.35	-212.12
23	94.33	-212.02	23	94.32	-211.92	23	94.32	-211.92	23	94.30	-211.82
23	94.35	-212.12	23	94.33	-212.02	23	94.35	-212.12	23	94.33	-212.02
24	94.37	-212.23	24	94.33	-212.02	24	94.45	-212.73	24	94.43	-212.63
24	94.40	-212.43	24	94.42	-212.53	24	94.43	-212.63	24	94.40	-212.43
24	94.38	-212.33	24	94.40	-212.43	24	94.37	-212.23	24	94.35	-212.12
24	94.37	-212.23	24	94.40	-212.43	24	94.43	-212.63	24	94.38	-212.33
25	94.40	-212.43	25	94.38	-212.33	25	94.37	-212.23	25	94.37	-212.23
25	94.35	-212.12	25	94.40	-212.43	25	94.35	-212.12	25	94.35	-212.12
25	94.37	-212.23	25	94.37	-212.23	25	94.33	-212.02	25	94.35	-212.12
26	94.38	-212.33	26	94.38	-212.33	26	94.38	-212.33	26	94.37	-212.23
26	94.33	-212.02	26	94.38	-212.33	26	94.35	-212.12	26	94.37	-212.23
26	94.33	-212.02	26	94.33	-212.02	26	94.32	-211.92	26	94.33	-212.02

TABLE 4.7-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	94.40	-212.43	27	94.38	-212.33	27	94.42	-212.53	27	94.42	-212.53
27	94.45	-212.73	27	94.45	-212.73	27	94.47	-212.83	27	94.47	-212.83
27	94.45	-212.73	27	94.42	-212.53	27	94.47	-212.83	27	94.48	-212.93
28	94.47	-212.83	28	94.47	-212.83	28	94.42	-212.53	28	94.45	-212.73
28	94.47	-212.83	28	94.47	-212.83	28	94.45	-212.73	28	94.45	-212.73
28	94.47	-212.83	28	94.43	-212.63	28	94.42	-212.53	28	94.45	-212.73
28	94.48	-212.93	28	94.47	-212.83	28	94.47	-212.83	29	94.48	-212.93
29	94.43	-212.63	29	94.43	-212.63	29	94.42	-212.53	29	94.38	-212.33
29	94.38	-212.33	29	94.42	-212.53	29	94.40	-212.43	29	94.40	-212.43
29	94.45	-212.73	29	94.45	-212.73	29	94.47	-212.83	29	94.47	-212.83
30	94.48	-212.93	30	94.45	-212.73	30	94.48	-212.93	30	94.45	-212.73
30	94.40	-212.43	30	94.40	-212.43	30	94.48	-212.93	30	94.42	-212.53
30	94.47	-212.83	30	94.45	-212.73	30	94.42	-212.53	30	94.45	-212.73
31	94.35	-212.12	31	94.33	-212.02	31	94.37	-212.23	31	94.42	-212.53
31	94.37	-212.23	31	94.40	-212.43	31	94.40	-212.43	31	94.40	-212.43
31	94.37	-212.23	31	94.35	-212.12	31	94.37	-212.23	31	94.33	-212.02
32	94.28	-211.72	32	94.30	-211.82	32	94.32	-211.92	32	94.30	-211.82
32	94.33	-212.02	32	94.30	-211.82	32	94.32	-211.92	32	94.35	-212.12
32	94.28	-211.72	32	94.30	-211.82	32	94.30	-211.82	32	94.32	-211.92
33	94.38	-212.33	33	94.38	-212.33	33	94.43	-212.63	33	94.40	-212.43
33	94.35	-212.12	33	94.35	-212.12	33	94.32	-211.92	33	94.35	-212.12

TABLE 4.7-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	38.12	55.63	0	38.84	54.57	0	42.01	49.41	0	76.45	-102.58
0	38.03	55.76	0	38.80	54.63	0	42.01	49.40	0	76.63	-103.69
0	59.69	-0.	0	75.14	-94.58	0	92.70	-202.02	0	93.41	-206.36
0	59.69	-0.	0	88.11	-173.92	0	93.20	-205.05	0	93.39	-206.26
1	59.69	-0.	1	92.70	-202.02	1	93.39	-206.26	1	93.43	-206.47
1	59.69	-0.	1	93.20	-205.05	1	93.46	-206.67	1	93.48	-206.77
1	59.69	-0.	1	93.20	-205.05	1	93.44	-206.57	1	93.44	-206.57
2	59.69	-0.	2	93.20	-205.05	2	93.46	-206.67	2	93.44	-206.57
2	59.69	-0.	2	93.18	-204.95	2	93.39	-206.26	2	93.39	-206.26
2	59.69	-0.	2	92.70	-202.02	2	93.43	-206.47	2	93.44	-206.57
3	59.69	-0.	3	92.70	-202.02	3	93.39	-206.26	3	93.41	-206.36
3	92.70	-202.02	3	93.39	-206.26	3	93.48	-206.77	3	93.46	-206.67
3	92.70	-202.02	3	93.36	-206.06	3	93.38	-206.16	3	93.41	-206.36
3	92.70	-202.02	3	93.34	-205.96	3	93.41	-206.36	4	93.41	-206.36
4	92.70	-202.02	4	93.34	-205.96	4	93.36	-206.06	4	93.39	-206.26
4	93.16	-204.85	4	93.34	-205.96	4	93.33	-205.86	4	93.36	-206.06
4	93.20	-205.05	4	93.33	-205.86	4	93.38	-206.16	4	93.33	-205.86
5	93.15	-204.75	5	93.31	-205.76	5	93.38	-206.16	5	93.38	-206.16
5	93.20	-205.05	5	93.36	-206.06	5	93.36	-206.06	5	93.36	-206.06
5	93.20	-205.05	5	93.36	-206.06	5	93.38	-206.16	5	93.33	-205.86
6	93.34	-205.96	6	93.33	-205.86	6	93.34	-205.96	6	93.38	-206.16
6	93.38	-206.16	6	93.36	-206.06	6	93.39	-206.26	6	93.36	-206.06
6	93.31	-205.76	6	93.29	-205.66	6	93.38	-206.16	6	93.36	-206.06
7	93.33	-205.86	7	93.34	-205.96	7	93.34	-205.96	7	93.34	-205.96
7	93.33	-205.86	7	93.38	-206.16	7	93.33	-205.86	7	93.33	-205.86
7	93.33	-205.86	7	93.33	-205.86	7	93.33	-205.86	7	93.31	-205.76
7	93.33	-205.86	7	93.34	-205.96	8	93.31	-205.76	8	93.31	-205.76
8	93.34	-205.96	8	93.33	-205.86	8	93.38	-206.16	8	93.33	-205.86
8	93.34	-205.96	8	93.39	-206.26	5	93.41	-206.36	8	93.41	-206.36
8	93.38	-206.16	8	93.39	-206.26	8	93.39	-206.26	8	93.41	-206.36
9	93.51	-206.97	9	93.38	-206.16	9	93.41	-206.36	9	93.36	-206.06
9	93.36	-206.06	9	93.31	-205.76	9	93.29	-205.66	9	93.34	-205.96
9	93.53	-207.07	9	93.38	-206.16	9	93.31	-205.76	9	93.33	-205.86
10	93.38	-206.16	10	93.39	-206.26	10	93.41	-206.36	10	93.41	-206.36
10	93.38	-206.16	10	93.36	-206.06	10	93.36	-206.06	10	93.41	-206.36
10	93.41	-206.36	10	93.41	-206.36	10	93.43	-206.47	10	93.39	-206.26
11	93.39	-206.26	11	93.43	-206.47	11	93.41	-206.36	11	93.41	-206.36
11	93.41	-206.36	11	93.36	-206.06	11	93.39	-206.26	11	93.41	-206.36
11	93.43	-206.47	11	93.46	-206.67	11	93.44	-206.57	11	93.56	-207.27
11	93.36	-206.06	12	93.36	-206.06	12	93.36	-206.06	12	93.39	-206.26
12	93.36	-206.06	12	93.39	-206.26	12	93.38	-206.16	12	93.38	-206.16
12	93.34	-205.96	12	93.39	-206.26	12	93.44	-206.57	12	93.36	-206.06
12	93.43	-206.47	12	93.44	-206.57	12	93.44	-206.57	12	93.46	-206.67
13	93.39	-206.26	13	93.39	-206.26	13	93.41	-206.36	13	93.41	-206.36

TABLE 4.7-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	93.41	-206.36	13	93.41	-206.36	13	93.41	-206.36	13	93.43	-206.47
13	93.41	-206.36	13	93.43	-206.47	13	93.41	-206.36	13	93.41	-206.36
14	93.41	-206.36	14	93.46	-206.67	14	93.38	-206.16	14	93.36	-206.06
14	93.46	-206.67	14	93.51	-206.97	14	93.49	-206.87	14	93.46	-206.67
14	93.43	-206.47	14	93.44	-206.57	14	93.43	-206.47	14	93.43	-206.47
15	93.44	-206.57	15	93.43	-206.47	15	93.43	-206.47	15	93.43	-206.47
15	93.44	-206.57	15	93.44	-206.57	15	93.41	-206.36	15	93.41	-206.36
15	93.41	-206.36	15	93.39	-206.26	15	93.36	-206.06	15	93.41	-206.36
16	93.41	-206.36	16	93.39	-206.26	16	93.39	-206.26	16	93.39	-206.26
16	93.36	-206.06	16	93.44	-206.57	16	93.41	-206.36	16	93.41	-206.36
16	93.34	-205.96	16	93.38	-206.16	16	93.33	-205.86	16	93.39	-206.26
16	93.34	-205.96	16	93.34	-205.96	16	93.36	-206.06	16	93.38	-206.16
17	93.31	-205.76	17	93.34	-205.96	17	93.34	-205.96	17	93.29	-205.66
17	93.33	-205.86	17	93.38	-206.16	17	93.33	-205.86	17	93.34	-205.96
17	93.28	-205.56	17	93.26	-205.45	17	93.26	-205.45	17	93.24	-205.35
18	93.29	-205.66	18	93.28	-205.56	18	93.28	-205.56	18	93.28	-205.56
18	93.26	-205.45	18	93.28	-205.56	18	93.28	-205.56	18	93.28	-205.56
18	93.28	-205.56	18	93.26	-205.45	18	93.26	-205.45	18	93.29	-205.66
19	94.30	-211.82	19	94.30	-211.82	19	94.28	-211.72	19	94.30	-211.82
19	94.33	-212.02	19	94.30	-211.82	19	94.35	-212.12	19	94.38	-212.33
19	94.27	-211.62	19	94.32	-211.92	19	94.33	-212.02	19	94.33	-212.02
20	94.38	-212.33	20	94.38	-212.33	20	94.33	-212.02	20	94.40	-212.43
20	94.37	-212.23	20	94.40	-212.43	20	94.38	-212.33	20	94.38	-212.33
20	94.28	-211.72	20	94.28	-211.72	20	94.28	-211.72	20	94.30	-211.82
20	94.32	-211.92	20	94.28	-211.72	20	94.28	-211.72	20	94.27	-211.62
21	94.30	-211.82	21	94.28	-211.72	21	94.27	-211.62	21	94.32	-211.92
21	94.30	-211.82	21	94.30	-211.82	21	94.30	-211.82	21	94.25	-211.52
21	94.27	-211.62	21	94.32	-211.92	21	94.32	-211.92	21	94.33	-212.02
22	94.35	-212.12	22	94.33	-212.02	22	94.32	-211.92	22	94.35	-212.12
22	94.30	-211.82	22	94.28	-211.72	22	94.28	-211.72	22	94.30	-211.82
22	94.30	-211.82	22	94.32	-211.92	22	94.30	-211.82	22	94.30	-211.82
23	94.33	-212.02	23	94.32	-211.92	23	94.32	-211.92	23	94.33	-212.02
23	94.32	-211.92	23	94.33	-212.02	23	94.32	-211.92	23	94.33	-212.02
23	94.35	-212.12	23	94.35	-212.12	23	94.35	-212.12	23	94.37	-212.23
24	94.42	-212.53	24	94.40	-212.43	24	94.40	-212.43	24	94.42	-212.53
24	94.40	-212.43	24	94.42	-212.53	24	94.43	-212.63	24	94.40	-212.43
24	94.35	-212.12	24	94.35	-212.12	24	94.40	-212.43	24	94.37	-212.23
24	94.40	-212.43	24	94.40	-212.43	25	94.38	-212.33	25	94.37	-212.23
25	94.35	-212.12	25	94.37	-212.23	25	94.37	-212.23	25	94.35	-212.12
25	94.35	-212.12	25	94.35	-212.12	25	94.37	-212.23	25	94.40	-212.43
25	94.42	-212.53	25	94.42	-212.53	25	94.35	-212.12	25	94.37	-212.23
26	94.40	-212.43	26	94.37	-212.23	26	94.35	-212.12	26	94.37	-212.23
26	94.38	-212.33	26	94.38	-212.33	26	94.35	-212.12	26	94.40	-212.43
26	94.30	-211.82	26	94.32	-211.92	26	94.30	-211.82	26	94.32	-211.92

TABLE 4.7-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	94.42	-212.53	27	94.42	-212.53	27	94.42	-212.53	27	94.45	-212.73
27	94.47	-212.83	27	94.45	-212.73	27	94.47	-212.83	27	94.45	-212.73
27	94.48	-212.93	27	94.48	-212.93	27	94.43	-212.63	27	94.43	-212.63
28	94.45	-212.73	28	94.43	-212.63	28	94.43	-212.63	28	94.43	-212.63
28	94.47	-212.83	28	94.47	-212.83	28	94.47	-212.83	28	94.47	-212.83
28	94.42	-212.53	28	94.43	-212.63	28	94.47	-212.83	28	94.53	-213.24
29	94.50	-213.03	29	94.48	-212.93	29	94.48	-212.93	29	94.52	-213.14
29	94.43	-212.63	29	94.40	-212.43	29	94.40	-212.43	29	94.45	-212.73
29	94.42	-212.53	29	94.37	-212.23	29	94.42	-212.53	29	94.40	-212.43
29	94.45	-212.73	29	94.45	-212.73	29	94.47	-212.83	29	94.47	-212.83
30	94.42	-212.53	30	94.47	-212.83	30	94.45	-212.73	30	94.47	-212.83
30	94.40	-212.43	30	94.40	-212.43	30	94.45	-212.73	30	94.43	-212.63
30	94.43	-212.63	30	94.43	-212.63	30	94.42	-212.53	30	94.45	-212.73
31	94.37	-212.23	31	94.35	-212.12	31	94.35	-212.12	31	94.38	-212.33
31	94.37	-212.23	31	94.38	-212.33	31	94.38	-212.33	31	94.40	-212.43
31	94.32	-211.92	31	94.37	-212.23	31	94.43	-212.63	31	94.37	-212.23
32	94.35	-212.12	32	94.33	-212.02	32	94.30	-211.82	32	94.32	-211.92
32	94.33	-212.02	32	94.28	-211.72	32	94.27	-211.62	32	94.32	-211.92
32	94.32	-211.92	32	94.33	-212.02	32	94.35	-212.12	32	94.37	-212.23
33	94.38	-212.33	33	94.42	-212.53	33	94.42	-212.53	33	94.40	-212.43
33	94.35	-212.12	33	94.33	-212.02	33	94.33	-212.02	33	94.35	-212.12

TABLE 4.7-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.25	58.20	0	36.33	58.10	0	36.34	58.09	0	36.36	58.07
0	36.23	58.23	0	36.28	58.16	0	36.33	58.11	0	36.38	58.04
0	36.55	57.83	0	36.57	57.81	0	36.66	57.69	0	36.65	57.71
0	36.57	57.81	0	36.66	57.70	0	36.66	57.69	0	36.73	57.60
1	36.69	57.65	1	36.68	57.66	1	36.75	57.57	1	36.80	57.51
1	36.73	57.60	1	36.75	57.57	1	36.85	57.44	1	36.88	57.40
1	36.77	57.55	1	36.77	57.54	1	36.87	57.42	1	36.91	57.36
2	36.86	57.43	2	36.83	57.47	2	36.95	57.31	2	37.03	57.20
2	36.92	57.35	2	36.93	57.33	2	37.05	57.17	2	37.00	57.24
2	36.93	57.34	2	36.95	57.31	2	37.03	57.20	2	37.13	57.07
3	36.96	57.29	3	36.96	57.29	3	37.06	57.16	3	37.13	57.06
3	59.69	-0.	3	37.00	57.24	3	37.09	57.12	3	37.13	57.07
3	59.69	-0.	3	37.04	57.19	3	37.13	57.06	3	37.20	56.97
4	59.69	-0.	4	37.14	57.05	4	37.24	56.91	4	37.29	56.85
4	59.69	-0.	4	37.14	57.05	4	37.21	56.96	4	37.25	56.90
4	59.69	-0.	4	37.19	56.99	4	37.27	56.87	4	37.33	56.79
4	59.69	-0.	4	37.24	56.92	4	37.32	56.81	4	37.34	56.78
5	59.69	-0.	5	37.25	56.90	5	37.35	56.76	5	37.42	56.66
5	59.69	-0.	5	37.28	56.86	5	37.35	56.76	5	37.39	56.69
5	59.69	-0.	5	37.36	56.75	5	37.43	56.64	5	37.49	56.55
6	59.69	-0.	6	37.39	56.69	6	37.52	56.51	6	37.56	56.45
6	59.69	-0.	6	37.44	56.63	6	37.49	56.55	6	37.55	56.47
6	59.69	-0.	6	37.47	56.58	6	37.54	56.48	6	37.61	56.39
7	59.69	-0.	7	37.52	56.52	7	37.57	56.44	7	37.66	56.31
7	59.69	-0.	7	37.56	56.46	7	37.62	56.37	7	37.70	56.26
7	59.69	-0.	7	37.63	56.36	7	37.66	56.31	7	37.70	56.25
8	59.69	-0.	8	37.65	56.33	8	37.75	56.19	8	37.81	56.10
8	59.69	-0.	8	37.70	56.25	8	37.77	56.15	8	37.82	56.08
8	59.69	-0.	8	37.72	56.23	8	37.78	56.14	8	37.81	56.09
8	59.69	-0.	8	37.76	56.17	8	37.84	56.05	8	37.88	55.99
9	59.69	-0.	9	37.81	56.10	9	37.88	55.99	9	37.93	55.92
9	59.69	-0.	9	37.88	55.99	9	37.96	55.88	9	38.00	55.82
9	59.69	-0.	9	37.93	55.92	9	38.03	55.78	9	38.08	55.69
10	59.69	-0.	10	37.96	55.88	10	38.01	55.80	10	38.10	55.66
10	59.69	-0.	10	38.03	55.78	10	38.10	55.66	10	38.14	55.61
10	59.69	-0.	10	38.07	55.71	10	38.16	55.58	10	38.18	55.55
11	59.69	-0.	11	38.09	55.68	11	38.18	55.54	11	38.20	55.51
11	59.69	-0.	11	38.15	55.59	11	38.21	55.50	11	38.30	55.37
11	59.69	-0.	11	38.22	55.49	11	38.25	55.44	11	38.31	55.35
12	59.69	-0.	12	38.24	55.45	12	38.36	55.28	12	38.37	55.26
12	59.69	-0.	12	38.29	55.39	12	38.39	55.24	12	38.46	55.13
12	59.69	-0.	12	38.35	55.29	12	38.42	55.19	12	38.43	55.18
12	59.69	-0.	12	38.44	55.17	12	38.51	55.06	12	38.50	55.08
13	59.69	-0.	13	38.44	55.17	13	38.52	55.05	13	38.49	55.09

TABLE 4.7-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	59.69	-0.	13	38.52	55.05	13	38.57	54.98	13	38.65	54.86
13	59.69	-0.	13	38.61	54.91	13	38.68	54.81	13	38.73	54.73
14	59.69	-0.	14	38.66	54.85	14	38.72	54.74	14	38.77	54.68
14	59.69	-0.	14	38.64	54.87	14	38.72	54.75	14	38.77	54.67
14	59.69	-0.	14	38.75	54.70	14	38.77	54.67	14	38.88	54.52
15	59.69	-0.	15	38.79	54.64	15	38.88	54.52	15	38.91	54.47
15	59.69	-0.	15	38.85	54.56	15	38.93	54.44	15	38.97	54.39
15	59.69	-0.	15	38.90	54.49	15	38.98	54.37	15	39.00	54.35
16	59.69	-0.	16	38.98	54.37	16	39.05	54.28	16	39.05	54.27
16	59.69	-0.	16	39.05	54.27	16	39.15	54.13	16	39.17	54.10
16	59.69	-0.	16	39.12	54.17	16	39.16	54.12	16	39.19	54.08
16	59.69	-0.	16	39.16	54.12	16	39.22	54.03	16	39.28	53.96
17	59.69	-0.	17	39.27	53.97	17	39.33	53.88	17	39.34	53.86
17	59.69	-0.	17	39.33	53.88	17	39.44	53.73	17	39.47	53.69
17	59.69	-0.	17	39.41	53.76	17	39.52	53.62	17	39.60	53.51
18	59.69	-0.	18	39.44	53.72	18	39.55	53.58	18	39.64	53.46
18	59.69	-0.	18	39.53	53.60	18	39.61	53.50	18	39.64	53.46
18	59.69	-0.	18	39.63	53.47	18	39.67	53.32	18	39.71	53.26
19	59.69	-0.	19	39.65	53.34	19	39.74	53.23	19	39.79	53.16
19	59.69	-0.	19	39.71	53.27	19	39.75	53.21	19	39.81	53.13
19	59.69	-0.	19	39.81	53.13	19	39.93	52.97	19	39.98	52.89
20	59.69	-0.	20	39.86	53.06	20	39.95	52.93	20	40.03	52.82
20	59.69	-0.	20	40.00	52.86	20	40.04	52.80	20	40.07	52.76
20	59.69	-0.	20	40.03	52.82	20	40.12	52.69	20	40.16	52.62
20	59.69	-0.	20	40.14	52.65	21	40.20	52.56	21	40.21	52.55
21	59.69	-0.	21	40.21	52.55	21	40.26	52.48	21	40.34	52.35
21	59.69	-0.	21	40.30	52.42	21	40.32	52.38	21	40.41	52.25
21	59.69	-0.	21	40.40	52.27	21	40.47	52.15	21	40.46	52.17
22	59.69	-0.	22	40.48	52.14	22	40.52	52.08	22	40.60	51.94
22	59.69	-0.	22	40.55	52.03	22	40.63	51.89	22	40.71	51.77
22	59.69	-0.	22	40.65	51.86	22	40.73	51.74	22	40.79	51.64
23	59.69	-0.	23	40.76	51.69	23	40.86	51.51	23	40.85	51.54
23	59.69	-0.	23	40.84	51.56	23	40.94	51.39	23	40.97	51.34
23	59.69	-0.	23	40.95	51.37	23	41.01	51.26	23	41.04	51.21
24	59.69	-0.	24	41.11	51.09	24	41.13	51.05	24	41.16	50.99
24	59.69	-0.	24	41.13	51.06	24	41.13	51.05	24	41.26	50.81
24	59.69	-0.	24	41.26	50.81	24	41.30	50.75	24	41.37	50.62
25	59.69	-0.	25	41.43	50.51	25	41.47	50.43	25	41.53	50.32
25	59.69	-0.	25	41.60	50.19	25	41.63	50.13	25	41.64	50.12
25	59.69	-0.	25	42.35	48.73	25	42.53	48.37	25	42.09	49.25
25	59.69	-0.	25	45.36	43.00	25	45.56	42.40	25	44.07	45.58
26	59.69	-0.	26	46.93	38.71	26	47.95	36.48	26	46.47	39.72
26	59.69	-0.	26	53.76	21.63	26	54.32	19.96	26	51.58	26.31
26	59.69	-0.	26	57.97	6.10	26	58.45	4.40	26	56.31	12.02

TABLE 4.7-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	61.52	-11.23	27	61.16	-9.01	27	61.42	-10.58	27	60.19	-3.03
27	63.88	-25.65	27	63.53	-23.50	27	63.75	-24.87	27	62.60	-17.83
27	66.10	-39.22	27	65.76	-37.12	27	65.97	-38.45	27	64.83	-31.44
28	68.19	-52.03	28	67.85	-49.93	28	68.05	-51.17	28	66.97	-44.58
28	70.17	-64.16	28	69.83	-62.08	28	68.05	-51.17	38	70.01	-63.13
28	72.01	-75.39	28	71.51	-72.36	28	71.48	-72.16	28	70.28	-64.82
29	73.31	-83.36	29	72.96	-81.24	29	73.16	-82.45	29	72.21	-76.60
29	75.24	-95.15	29	74.90	-93.08	29	75.05	-93.98	29	74.09	-88.15
29	76.88	-105.20	29	76.57	-103.28	29	76.62	-103.59	29	75.74	-98.23
29	78.38	-114.40	29	78.05	-112.38	30	78.17	-113.09	30	77.29	-107.73
30	79.75	-122.79	30	79.49	-121.17	30	79.60	-121.88	30	78.71	-116.42
30	81.11	-131.07	30	80.81	-129.26	30	80.84	-129.46	30	80.08	-124.81
30	82.35	-138.65	30	82.07	-136.94	30	82.15	-137.44	30	81.34	-132.49
31	83.45	-145.43	31	83.20	-143.91	31	83.25	-144.21	31	82.48	-139.46
31	84.34	-150.88	31	84.08	-149.27	31	84.15	-149.67	31	83.35	-144.82
31	85.07	-155.33	31	84.87	-154.12	31	84.95	-154.62	31	84.18	-149.87
32	85.86	-160.18	32	85.65	-158.87	32	85.73	-159.37	32	84.94	-154.52
32	86.47	-163.92	32	86.31	-162.91	32	86.34	-163.11	32	85.57	-158.36
32	86.95	-166.85	32	86.75	-165.64	32	86.95	-166.85	32	86.06	-161.39
33	87.65	-171.09	33	87.43	-169.78	33	87.42	-169.68	33	86.72	-165.44
33	87.88	-172.51	33	87.70	-171.40	33	87.83	-172.21	33	86.94	-166.75

TABLE 4.7-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.86	57.43	0	36.19	58.27	0	36.19	58.27	0	36.22	58.24
0	36.83	57.47	0	36.24	58.21	0	36.20	58.26	0	36.22	58.24
0	36.80	57.51	0	36.46	57.95	0	36.51	57.88	0	36.50	57.90
0	36.89	57.39	0	36.55	57.83	1	36.55	57.84	1	36.54	57.85
1	36.95	57.31	1	36.57	57.81	1	36.59	57.78	1	36.65	57.71
1	37.14	57.05	1	36.67	57.67	1	36.67	57.67	1	36.66	57.69
1	37.11	57.09	1	36.75	57.57	1	36.73	57.60	1	36.74	57.58
2	37.22	56.95	2	36.78	57.53	2	36.79	57.52	2	36.78	57.53
2	37.15	57.04	2	36.84	57.46	2	36.80	57.50	2	36.86	57.43
2	37.34	56.78	2	36.90	57.38	2	36.88	57.40	2	36.85	57.44
3	37.26	56.89	3	36.88	57.40	3	36.88	57.40	3	36.95	57.31
3	37.11	57.09	3	36.96	57.29	3	36.90	57.37	3	36.98	57.27
3	37.13	57.07	3	37.03	57.20	3	36.99	57.26	3	36.99	57.26
4	37.20	56.97	4	37.05	57.18	4	37.03	57.20	4	37.05	57.17
4	37.13	57.07	4	37.09	57.12	4	37.06	57.16	4	37.11	57.10
4	37.10	57.11	4	37.13	57.06	4	37.13	57.07	4	37.11	57.10
4	37.09	57.12	4	37.17	57.01	4	37.15	57.04	5	37.19	56.98
5	37.15	57.04	5	37.20	56.97	5	37.20	56.97	5	37.21	56.96
5	37.10	57.11	5	37.24	56.91	5	37.24	56.91	5	37.23	56.93
5	37.19	56.99	5	37.27	56.87	5	37.27	56.87	5	37.27	56.87
6	37.20	56.97	6	37.37	56.74	6	37.34	56.78	6	37.36	56.75
6	37.22	56.95	6	37.41	56.67	6	37.37	56.74	6	37.37	56.72
6	37.11	57.10	6	37.43	56.64	6	37.39	56.69	6	37.39	56.69
7	37.20	56.97	7	37.48	56.57	7	37.47	56.59	7	37.44	56.62
7	37.29	56.84	7	37.54	56.48	7	37.49	56.55	7	37.47	56.59
7	37.18	57.00	7	37.61	56.39	7	37.53	56.50	7	37.56	56.46
8	37.34	56.78	8	37.61	56.38	8	37.57	56.44	8	37.59	56.42
8	37.28	56.86	8	37.62	56.37	8	37.63	56.36	8	37.65	56.33
8	37.23	56.93	8	37.69	56.27	8	37.67	56.30	8	37.70	56.26
8	37.39	56.70	8	37.73	56.21	9	37.72	56.22	9	37.70	56.25
9	37.24	56.91	9	37.75	56.18	9	37.76	56.17	9	37.78	56.14
9	37.30	56.83	9	37.80	56.11	9	37.81	56.10	9	37.79	56.13
9	37.49	56.56	9	37.90	55.97	9	37.84	56.05	9	37.84	56.05
10	37.33	56.79	10	37.91	55.95	10	37.90	55.96	10	37.91	55.95
10	37.37	56.74	10	37.97	55.86	10	37.96	55.88	10	37.94	55.91
10	37.31	56.82	10	38.01	55.81	10	37.99	55.84	10	38.02	55.79
11	37.34	56.78	11	38.09	55.68	11	38.05	55.73	11	38.04	55.75
11	37.32	56.80	11	38.12	55.63	11	38.11	55.65	11	38.09	55.68
11	37.33	56.79	11	38.16	55.57	11	38.14	55.60	11	38.17	55.56
12	37.39	56.70	12	38.23	55.47	12	38.20	55.51	12	38.19	55.53
12	37.44	56.63	12	38.27	55.42	12	38.24	55.45	12	38.25	55.44
12	37.47	56.58	12	38.34	55.31	12	38.31	55.35	12	38.32	55.34
12	37.45	56.61	13	38.37	55.26	13	38.32	55.34	13	38.33	55.32
13	37.42	56.65	13	38.50	55.07	13	38.44	55.17	13	38.41	55.21

TABLE 4.7-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	37.54	56.49	13	38.50	55.08	13	38.50	55.07	13	38.46	55.13
13	37.67	56.30	13	38.63	54.89	13	38.57	54.97	13	38.55	55.00
14	37.59	56.42	14	38.71	54.76	14	38.61	54.91	14	38.61	54.92
14	37.62	56.37	14	38.70	54.77	14	38.64	54.87	14	38.64	54.87
14	37.67	56.30	14	38.86	54.55	14	38.87	54.53	14	38.76	54.69
15	37.67	56.30	15	39.16	54.12	15	39.00	54.35	15	38.95	54.42
15	37.63	56.35	15	39.94	52.95	15	40.49	52.12	15	39.93	52.96
15	37.69	56.27	15	43.81	45.92	15	45.54	42.47	15	42.39	48.66
16	37.73	56.21	16	50.68	29.71	16	51.52	25.97	16	46.35	40.02
16	37.90	55.97	16	56.73	10.51	16	57.67	7.18	16	54.42	15.87
16	37.74	56.20	16	61.01	-8.08	16	61.57	-11.51	16	60.15	-2.83
17	37.96	55.88	17	64.08	-26.86	17	64.63	-30.23	17	63.25	-21.80
17	37.88	55.99	17	66.89	-44.04	17	67.42	-47.34	17	66.10	-39.22
17	38.08	55.69	17	69.63	-60.83	17	70.17	-64.14	17	68.87	-56.18
17	38.06	55.72	17	72.30	-77.16	17	72.79	-80.18	17	71.58	-72.75
18	38.16	55.57	18	74.80	-92.46	18	75.32	-95.66	18	74.15	-88.52
18	38.16	55.57	18	77.33	-107.93	18	77.80	-110.86	18	76.68	-103.99
18	38.26	55.43	18	79.64	-122.08	18	80.12	-125.01	18	79.01	-118.24
19	38.27	55.42	19	81.93	-136.13	19	82.49	-139.56	19	81.36	-132.59
19	38.29	55.39	19	83.95	-148.46	19	84.77	-153.51	19	83.65	-146.64
19	38.42	55.20	19	86.13	-161.80	19	86.94	-166.75	19	85.80	-159.78
20	38.40	55.22	20	88.18	-174.33	20	88.98	-179.28	20	87.93	-172.81
20	38.43	55.18	20	90.27	-187.16	20	91.06	-192.01	20	89.89	-184.84
20	38.59	54.95	20	92.34	-199.80	20	93.01	-203.94	20	91.87	-196.97
21	38.55	55.00	21	94.02	-210.10	21	94.28	-211.72	21	93.86	-209.09
21	38.77	54.68	21	94.02	-210.10	21	94.28	-211.72	21	94.30	-211.82
21	38.68	54.81	21	93.99	-209.90	21	94.25	-211.52	21	94.27	-211.62
21	38.70	54.77	21	94.02	-210.10	21	94.28	-211.72	21	94.32	-211.92
22	38.77	54.67	22	94.05	-210.31	22	94.30	-211.82	22	94.30	-211.82
22	38.83	54.58	22	94.02	-210.10	22	94.12	-210.71	22	94.30	-211.82
22	38.88	54.51	22	94.02	-210.10	22	94.30	-211.82	22	94.32	-211.92
23	39.05	54.28	23	94.02	-210.10	23	94.28	-211.72	23	94.33	-212.02
23	39.17	54.11	23	94.02	-210.10	23	94.28	-211.72	23	94.32	-211.92
23	39.21	54.05	23	94.15	-210.91	23	94.33	-212.02	23	94.37	-212.23
24	39.63	53.47	24	94.15	-210.91	24	94.42	-212.53	24	94.47	-212.83
24	39.41	53.77	24	94.12	-210.71	24	94.42	-212.53	24	94.42	-212.53
24	39.50	53.65	24	94.12	-210.71	24	94.35	-212.12	24	94.35	-212.12
25	39.69	53.39	25	94.19	-211.11	25	94.38	-212.33	25	94.40	-212.43
25	39.76	53.20	25	94.09	-210.51	25	94.33	-212.02	25	94.32	-211.92
25	40.33	52.37	25	94.12	-210.71	25	94.35	-212.12	25	94.37	-212.23
25	42.79	47.87	25	94.12	-210.71	26	94.37	-212.23	26	94.38	-212.33
26	45.47	42.69	26	94.10	-210.61	26	94.33	-212.02	26	94.38	-212.33
26	51.47	27.19	26	94.15	-210.91	26	94.35	-212.12	26	94.30	-211.82
26	56.20	12.40	26	94.02	-210.10	26	94.30	-211.82	26	94.28	-211.72

TABLE 4.7-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	60.02	-2.02	27	94.15	-210.91	27	94.37	-212.23	27	94.38	-212.33
27	62.35	-16.26	27	94.19	-211.11	27	94.38	-212.33	27	94.45	-212.73
27	64.52	-29.56	27	94.19	-211.11	27	94.45	-212.73	27	94.50	-213.03
28	66.58	-42.14	28	94.19	-211.11	28	94.35	-212.12	28	94.37	-212.23
28	68.44	-53.56	28	94.19	-211.11	28	94.43	-212.63	28	94.43	-212.63
28	69.60	-60.64	28	94.19	-211.11	28	94.45	-212.73	28	94.45	-212.73
29	71.61	-72.95	29	94.19	-211.11	29	94.45	-212.73	29	94.50	-213.03
29	73.41	-83.99	29	94.12	-210.71	29	94.35	-212.12	29	94.43	-212.63
29	75.01	-93.75	29	94.02	-210.10	29	94.30	-211.82	29	94.32	-211.92
30	76.52	-102.98	30	94.19	-211.11	30	94.45	-212.73	30	94.47	-212.83
30	77.87	-111.27	30	94.12	-210.71	30	94.37	-212.23	30	94.42	-212.53
30	79.19	-119.35	30	94.12	-210.71	30	94.43	-212.63	30	94.43	-212.63
30	80.31	-126.22	30	94.15	-210.91	30	94.37	-212.23	30	94.42	-212.53
31	81.52	-133.60	31	94.02	-210.10	31	94.35	-212.12	31	94.33	-212.02
31	82.31	-138.45	31	94.12	-210.71	31	94.37	-212.23	31	94.38	-212.33
31	83.11	-143.30	31	94.10	-210.61	31	94.35	-212.12	31	94.35	-212.12
32	83.80	-147.55	32	94.02	-210.10	32	94.28	-211.72	32	94.33	-212.02
32	84.38	-151.08	32	94.02	-210.10	32	94.30	-211.82	32	94.30	-211.82
32	84.95	-154.62	32	94.15	-210.91	32	94.33	-212.02	32	94.37	-212.23
33	85.50	-157.96	33	94.15	-210.91	33	94.38	-212.33	33	94.38	-212.33
33	85.60	-158.56	33	94.10	-210.61	33	94.30	-211.82	33	94.32	-211.92

TABLE 4.7-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.24	58.21	0	36.22	58.24	0	93.36	-206.06	0	93.44	-206.57
0	36.21	58.25	0	36.25	58.20	0	76.20	-101.06	0	93.38	-206.16
0	36.52	57.87	0	36.55	57.84	0	92.70	-202.02	0	93.39	-206.26
1	36.55	57.83	1	36.56	57.82	1	92.70	-202.02	1	93.43	-206.47
1	36.69	57.65	1	36.72	57.61	1	92.70	-202.02	1	93.43	-206.47
1	36.73	57.60	1	36.74	57.59	1	93.36	-206.06	1	93.46	-206.67
1	36.78	57.53	1	36.77	57.54	1	93.20	-205.05	1	93.44	-206.57
2	36.80	57.50	2	36.84	57.45	2	92.70	-202.02	2	93.43	-206.47
2	36.87	57.41	2	36.90	57.38	2	92.70	-202.02	2	93.41	-206.36
2	36.88	57.40	2	36.92	57.35	2	92.70	-202.02	2	93.39	-206.26
3	36.96	57.29	3	36.99	57.25	3	93.20	-205.05	3	93.39	-206.26
3	36.99	57.25	3	37.03	57.20	3	93.20	-205.05	3	93.39	-206.26
3	37.01	57.23	3	37.03	57.20	3	92.70	-202.02	3	93.39	-206.26
4	37.05	57.18	4	37.13	57.07	4	92.70	-202.02	4	93.33	-205.86
4	37.13	57.07	4	37.11	57.10	4	92.70	-202.02	4	93.36	-206.06
4	37.13	57.06	4	37.17	57.01	4	92.70	-202.02	4	93.33	-205.86
5	37.18	57.00	5	37.22	56.95	5	92.70	-202.02	5	93.33	-205.86
5	37.24	56.91	5	37.25	56.90	5	92.70	-202.02	5	93.36	-206.06
5	37.27	56.88	5	37.30	56.83	5	92.70	-202.02	5	93.33	-205.86
5	37.35	56.76	5	37.37	56.74	5	92.70	-202.02	5	93.33	-205.86
6	37.39	56.69	6	37.39	56.69	6	92.70	-202.02	6	93.36	-206.06
6	37.39	56.69	6	37.42	56.65	6	92.70	-202.02	6	93.31	-205.76
6	37.47	56.59	6	37.51	56.53	6	92.70	-202.02	6	93.33	-205.86
7	37.48	56.57	7	37.52	56.52	7	92.70	-202.02	7	93.29	-205.66
7	37.57	56.44	7	37.56	56.45	7	92.70	-202.02	7	93.31	-205.76
7	37.59	56.42	7	37.61	56.39	7	92.70	-202.02	7	93.29	-205.66
8	37.60	56.40	8	37.63	56.36	8	92.70	-202.02	8	93.33	-205.86
8	37.70	56.26	8	37.71	56.24	8	92.70	-202.02	8	93.33	-205.86
8	37.75	56.19	8	37.78	56.14	8	92.70	-202.02	8	93.36	-206.06
9	37.74	56.20	9	37.68	56.28	9	92.70	-202.02	9	93.36	-206.06
9	37.82	56.08	9	37.85	56.04	9	92.70	-202.02	9	93.31	-205.76
9	37.83	56.07	9	37.86	56.02	9	92.70	-202.02	9	93.29	-205.66
9	37.86	56.03	9	37.88	55.99	9	92.70	-202.02	9	93.39	-206.26
10	37.93	55.92	10	37.97	55.87	10	92.70	-202.02	10	93.33	-205.86
10	37.97	55.87	10	38.00	55.82	10	93.16	-204.85	10	93.36	-206.06
10	38.00	55.82	10	38.03	55.78	10	92.70	-202.02	10	93.38	-206.16
11	38.12	55.64	11	38.13	55.62	11	93.16	-204.85	11	93.24	-205.35
11	38.12	55.64	11	38.16	55.58	11	92.70	-202.02	11	93.38	-206.16
11	38.19	55.53	11	38.22	55.48	11	92.70	-202.02	11	93.36	-206.06
12	38.25	55.44	12	38.30	55.37	12	92.70	-202.02	12	93.31	-205.76
12	38.29	55.39	12	38.37	55.27	12	92.70	-202.02	12	93.38	-206.16
12	38.35	55.29	12	38.43	55.18	12	92.70	-202.02	12	93.36	-206.06
13	38.36	55.28	13	38.41	55.21	13	92.70	-202.02	13	93.36	-206.06
13	38.43	55.18	13	38.44	55.16	13	93.20	-205.05	13	93.44	-206.57

TABLE 4.7-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	38.49	55.09	13	38.52	55.04	13	93.36	-206.06	13	93.41	-206.36
13	38.60	54.93	13	38.63	54.88	13	92.70	-202.02	13	93.38	-206.16
14	38.60	54.93	14	38.63	54.88	14	92.70	-202.02	14	93.38	-206.16
14	38.63	54.88	14	38.72	54.75	14	93.20	-205.05	14	93.43	-206.47
14	38.80	54.63	14	38.84	54.57	14	93.20	-205.05	14	93.34	-205.96
15	38.97	54.38	15	39.00	54.34	15	93.20	-205.05	15	93.41	-206.36
15	39.80	53.14	15	39.47	53.69	15	93.13	-204.65	15	93.36	-206.06
15	41.91	49.60	15	42.66	48.12	15	92.70	-202.02	15	93.36	-206.06
16	46.36	39.99	16	46.41	39.86	16	92.70	-202.02	16	93.36	-206.06
16	54.28	16.72	16	55.01	14.89	16	92.70	-202.02	16	93.33	-205.86
16	59.69	-0.	16	60.28	-3.63	16	92.70	-202.02	16	93.26	-205.45
17	59.69	-0.	17	63.40	-22.70	17	92.70	-202.02	17	93.33	-205.86
17	59.69	-0.	17	66.26	-40.22	17	92.70	-202.02	17	93.33	-205.86
17	59.69	-0.	17	69.08	-57.48	17	92.70	-202.02	17	93.33	-205.86
17	59.69	-0.	17	71.74	-73.76	17	92.70	-202.02	17	93.31	-205.76
18	59.69	-0.	18	74.30	-89.42	18	92.70	-202.02	18	93.24	-205.35
18	59.69	-0.	18	76.75	-104.39	18	92.70	-202.02	18	93.26	-205.45
18	59.69	-0.	18	79.14	-119.05	18	94.02	-210.10	18	94.30	-211.82
19	59.69	-0.	19	81.50	-133.50	19	94.02	-210.10	19	94.28	-211.72
19	59.69	-0.	19	83.72	-147.04	19	94.12	-210.71	19	94.38	-212.33
19	76.20	-101.05	19	86.01	-161.09	19	94.12	-210.71	19	94.42	-212.53
20	76.20	-101.05	20	88.22	-174.63	20	94.12	-210.71	20	94.37	-212.23
20	76.20	-101.05	20	90.26	-187.06	20	94.02	-210.10	20	94.28	-211.72
20	76.20	-101.05	20	92.17	-198.79	20	94.02	-210.10	20	94.27	-211.62
21	76.20	-101.05	21	93.79	-208.69	21	94.15	-210.91	21	94.27	-211.62
21	76.20	-101.05	21	94.27	-211.62	21	94.28	-211.72	21	94.28	-211.72
21	76.20	-101.05	21	94.30	-211.82	21	94.33	-212.02	21	94.30	-211.82
21	94.12	-210.71	22	94.32	-211.92	22	94.30	-211.82	22	94.35	-212.12
22	94.05	-210.31	22	94.28	-211.72	22	94.25	-211.52	22	94.30	-211.82
22	94.10	-210.61	22	94.28	-211.72	22	94.30	-211.82	22	94.32	-211.92
22	94.12	-210.71	22	94.30	-211.82	22	94.15	-210.91	22	94.30	-211.82
23	94.12	-210.71	23	94.30	-211.82	23	94.32	-211.92	23	94.32	-211.92
23	94.02	-210.10	23	94.28	-211.72	23	94.19	-211.11	23	94.32	-211.92
23	94.12	-210.71	23	94.32	-211.92	23	94.33	-212.02	23	94.35	-212.12
24	94.22	-211.32	24	94.42	-212.53	24	94.42	-212.53	24	94.47	-212.83
24	94.19	-211.11	24	94.40	-212.43	24	94.43	-212.63	24	94.43	-212.63
24	94.15	-210.91	24	94.37	-212.23	24	94.40	-212.43	24	94.47	-212.83
25	94.19	-211.11	25	94.40	-212.43	25	94.40	-212.43	25	94.43	-212.63
25	94.15	-210.91	25	94.35	-212.12	25	94.40	-212.43	25	94.38	-212.33
25	94.05	-210.31	25	94.32	-211.92	25	94.33	-212.02	25	94.35	-212.12
26	94.19	-211.11	26	94.35	-212.12	26	94.38	-212.33	26	94.38	-212.33
26	94.19	-211.11	26	94.35	-212.12	26	94.40	-212.43	26	94.38	-212.33
26	94.12	-210.71	26	94.33	-212.02	26	94.33	-212.02	26	94.35	-212.12
26	94.12	-210.71	26	94.28	-211.72	26	94.32	-211.92	26	94.30	-211.82

TABLE 4.7-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
27	94.19	-211.11	27	94.40	-212.43	27	94.40	-212.43	27	94.45	-212.73
27	94.22	-211.32	27	94.40	-212.43	27	94.42	-212.53	27	94.38	-212.33
27	94.32	-211.92	27	94.43	-212.63	27	94.43	-212.63	27	94.42	-212.53
28	94.19	-211.11	28	94.42	-212.53	28	94.43	-212.63	28	94.37	-212.23
28	94.22	-211.32	28	94.42	-212.53	28	94.42	-212.53	28	94.45	-212.73
28	94.25	-211.52	28	94.43	-212.63	28	94.43	-212.63	28	94.43	-212.63
29	94.28	-211.72	29	94.47	-212.83	29	94.35	-212.12	29	94.42	-212.53
29	94.19	-211.11	29	94.38	-212.33	29	94.38	-212.33	29	94.42	-212.53
29	94.17	-211.01	29	94.33	-212.02	29	94.35	-212.12	29	94.37	-212.23
30	94.45	-212.73	30	94.45	-212.73	30	94.48	-212.93	30	94.47	-212.83
30	94.37	-212.23	30	94.38	-212.33	30	94.40	-212.43	30	94.40	-212.43
30	94.42	-212.53	30	94.42	-212.53	30	94.45	-212.73	30	94.45	-212.73
30	94.38	-212.33	31	94.37	-212.23	31	94.42	-212.53	31	94.40	-212.43
31	94.35	-212.12	31	94.37	-212.23	31	94.38	-212.33	31	94.38	-212.33
31	94.35	-212.12	31	94.35	-212.12	31	94.40	-212.43	31	94.37	-212.23
31	94.30	-211.82	31	94.35	-212.12	31	94.38	-212.33	31	94.40	-212.43
32	94.35	-212.12	32	94.32	-211.92	32	94.32	-211.92	32	94.30	-211.82
32	94.32	-211.92	32	94.35	-212.12	32	94.32	-211.92	32	94.40	-212.43
32	94.38	-212.33	32	94.40	-212.43	32	94.40	-212.43	32	94.40	-212.43
33	94.38	-212.33	33	94.38	-212.33	33	94.40	-212.43	33	94.40	-212.43
33	94.33	-212.02	33	94.32	-211.92	33	94.30	-211.82	33	94.32	-211.92

4.8 Run 21

Run 21 (reactor run 102) was a high-flow-rate, high-pressure, medium-heating-rate run made with Configuration 2. Parametric conditions and test results are summarized in Table 4.8-1. Timing information is given in Table 4.0-1. Test data are presented in Figures 4.8-1 through 4.8-11.

The tank was filled approximately 2 hours and 20 minutes before the timer was turned on for this run. The stability of the liquid and gaseous flow rates and pressure was satisfactory; however, the flow rate was approximately 20% lower than desired (0.101 lb/sec instead of 0.12 lb/sec).

Table 4.8-1

Parametric Conditions and Test Results Summary
for Run 21-102

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	115	6.5
Pressure (psia)	60	58.9	
Temperature[b] (°R)		37.2	
Weight[c] (lb)	66 - 74	68.0	
Final Conditions[d]			
Pressure (psia)	60	58.8	16.7
Temperature (°R)	≤47	39.0	
Saturation Temp[e] (°R)	47	46.8	
Run Data			
Temperature Rise (°R)	2	1.8	6.5 - 16.7
Run Time[f] (min)	9 - 11	14.9	2.8 - 17.7
Flow Time (min)	9 - 11	11.2	6.5 - 17.7
Flow Rate[g]: (gpm)	12.25	10.3	
(lb/sec)	0.12	0.101	
Power Level (Mw)	1.5	1.56	
Integrated Power (Mw-hr)	0.25	0.387	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank.
[c]Temp = 37.2°R, Vol. = 115 gal, ρ = 4.417 lbs/ft3 = 0.591 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

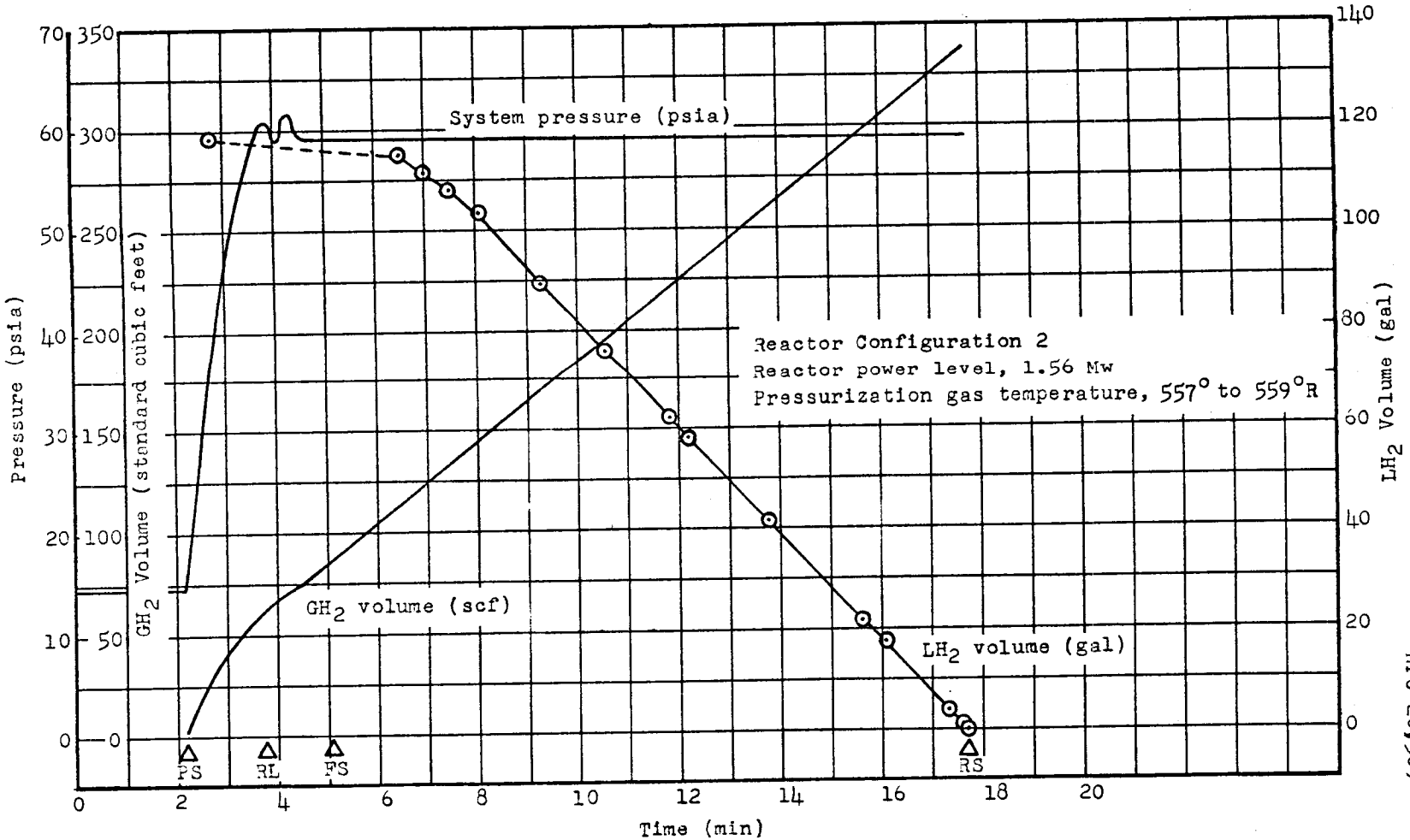

Figure 4.8-1 Pressure and Flow Data: Run 21-102

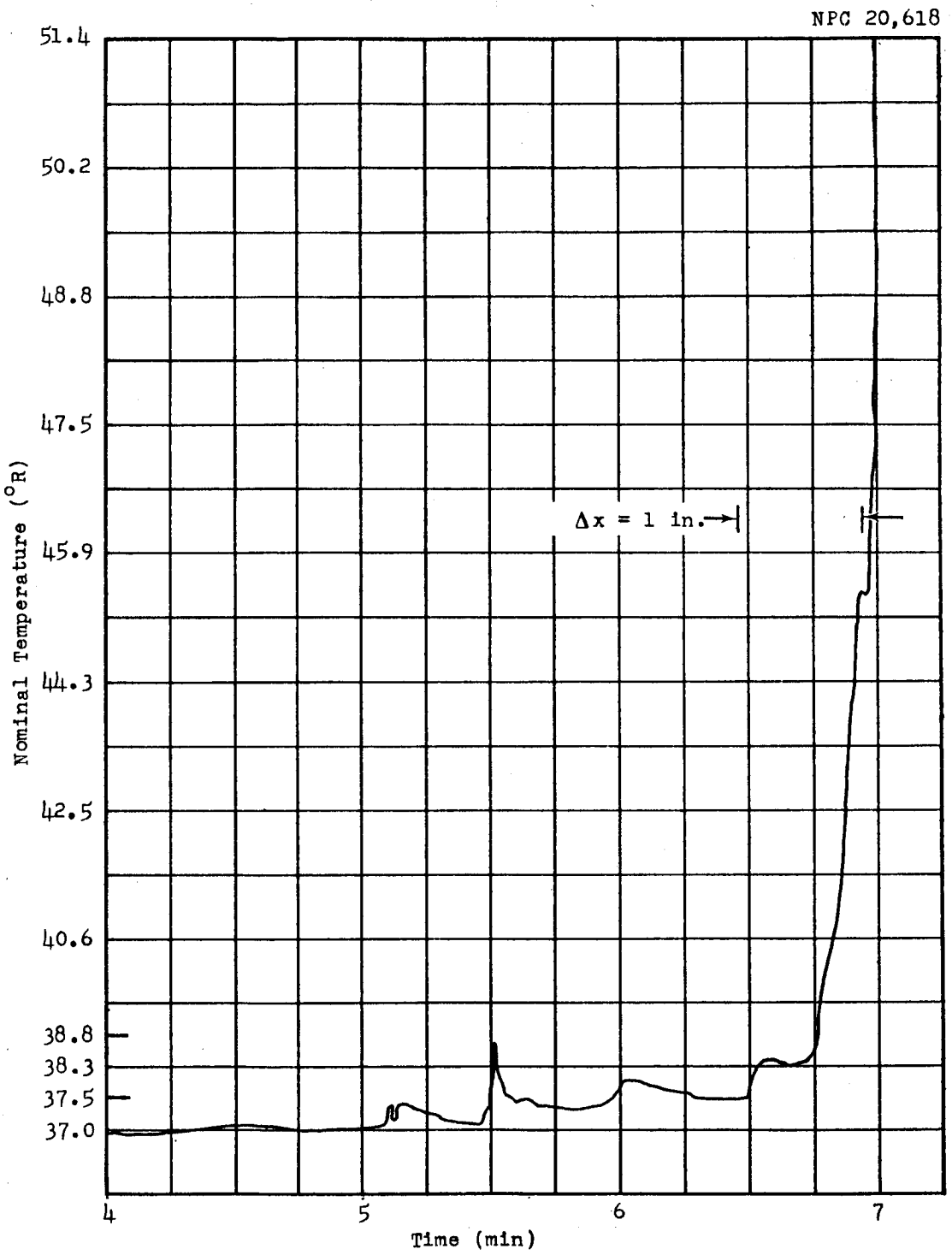

Figure 4.8-2 Strip-Chart Temperature Data: Run 21-102, Thermometer 14

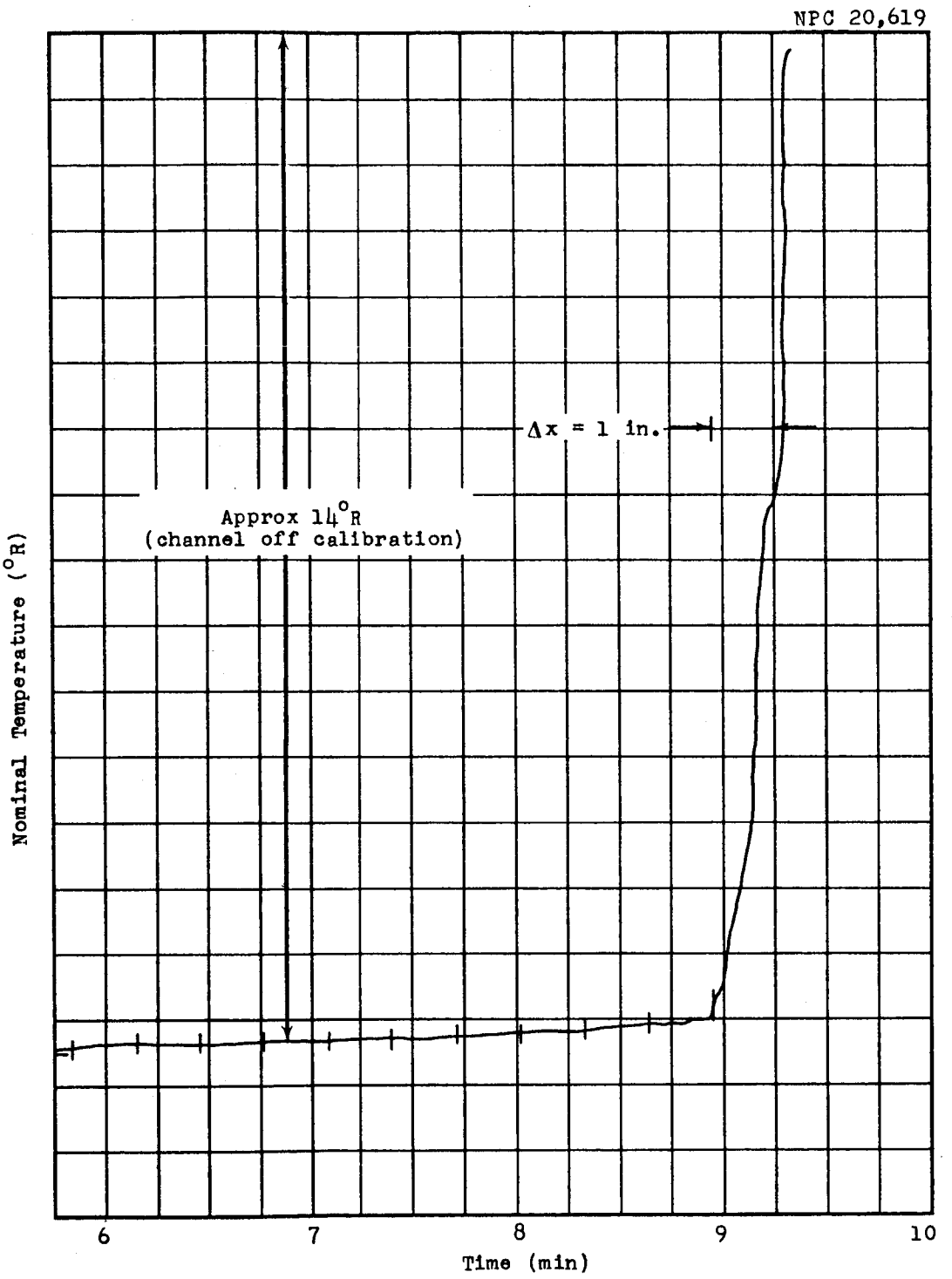

Figure 4.8-3 Strip-Chart Temperature Data: Run 21-102, Thermometer 11

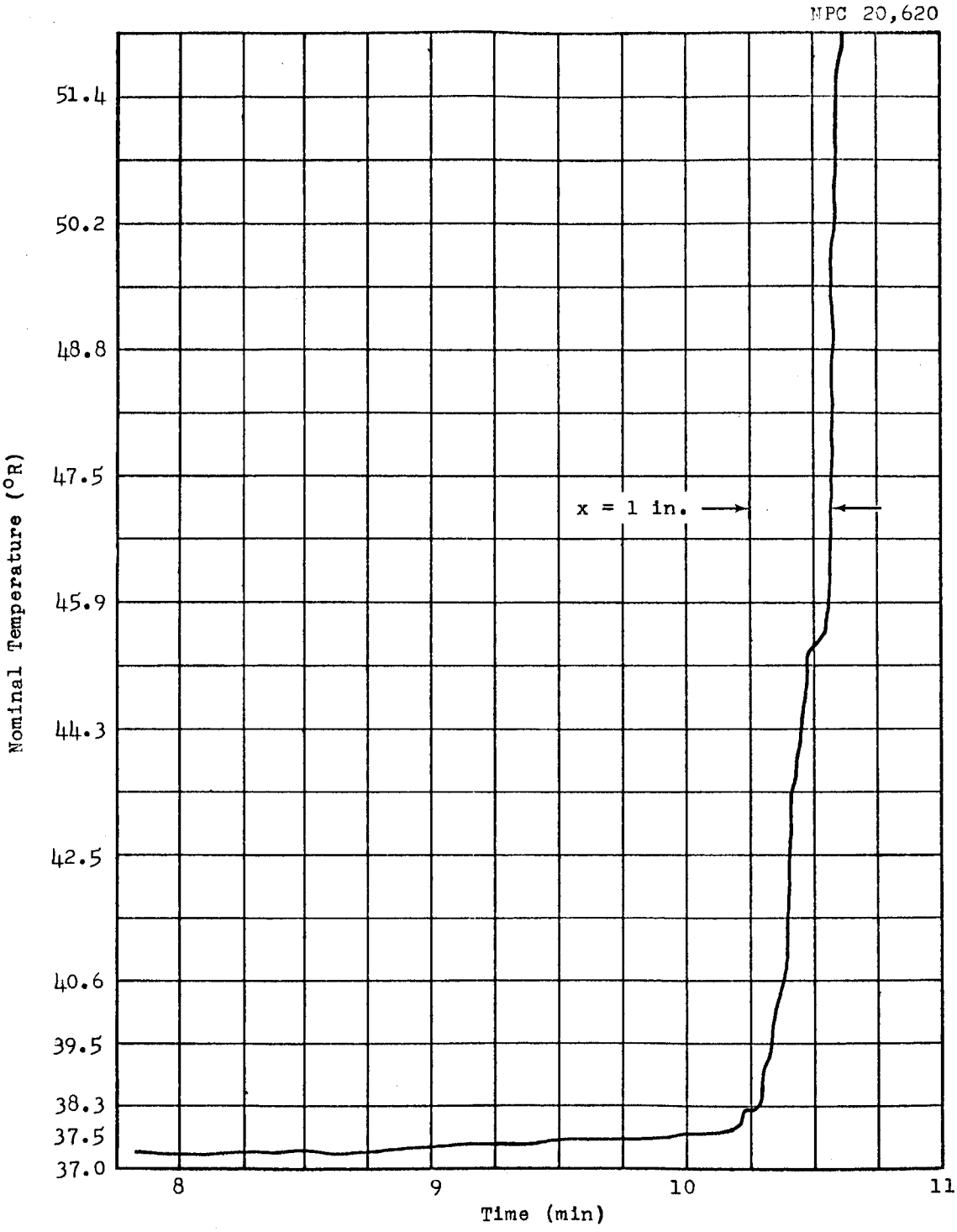

Figure 4.8-4 Strip-Chart Temperature Data: Run 21-102, Thermometer 10

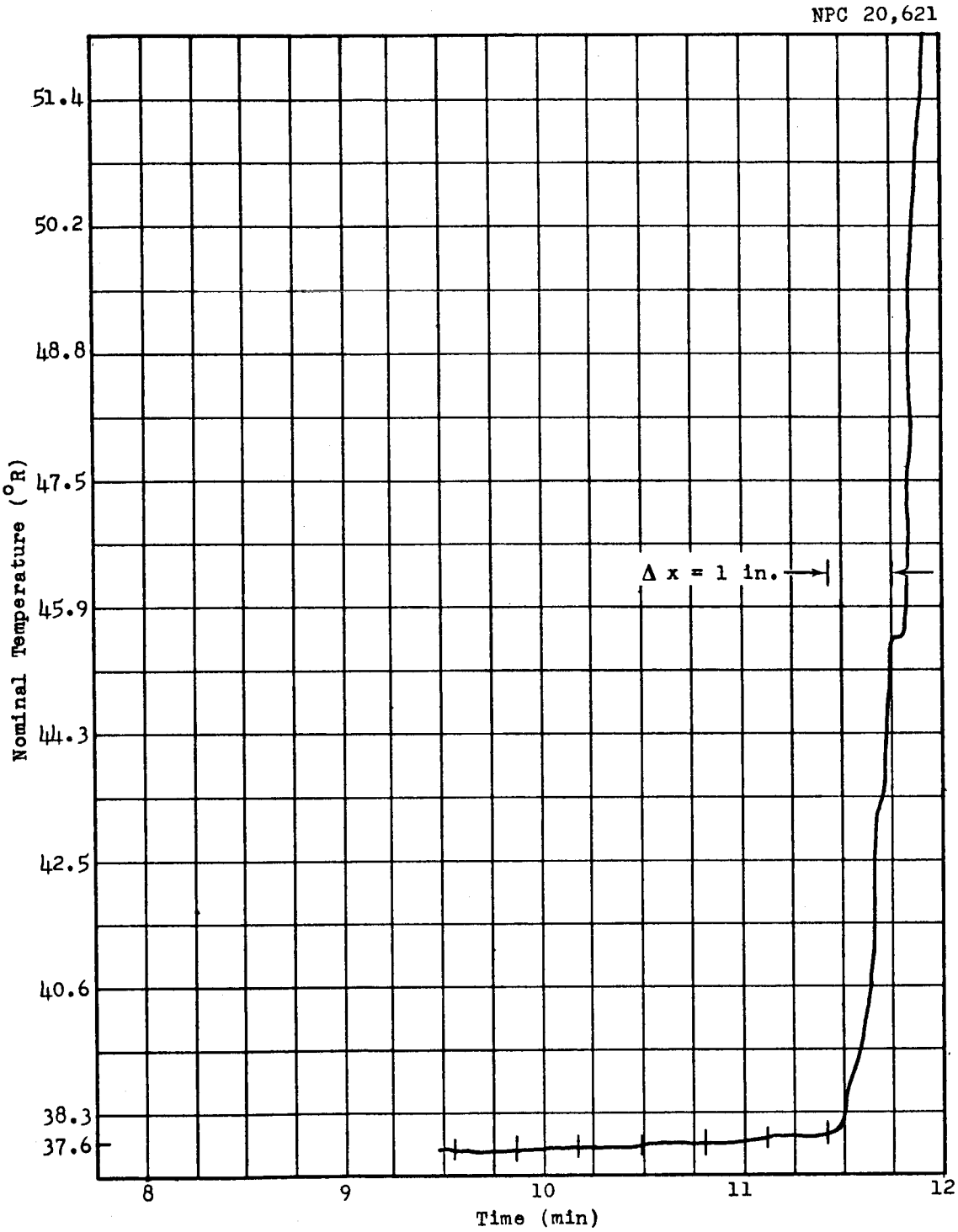

Figure 4.8-5 Strip-Chart Temperature Data: Run 21-102, Thermometer 9

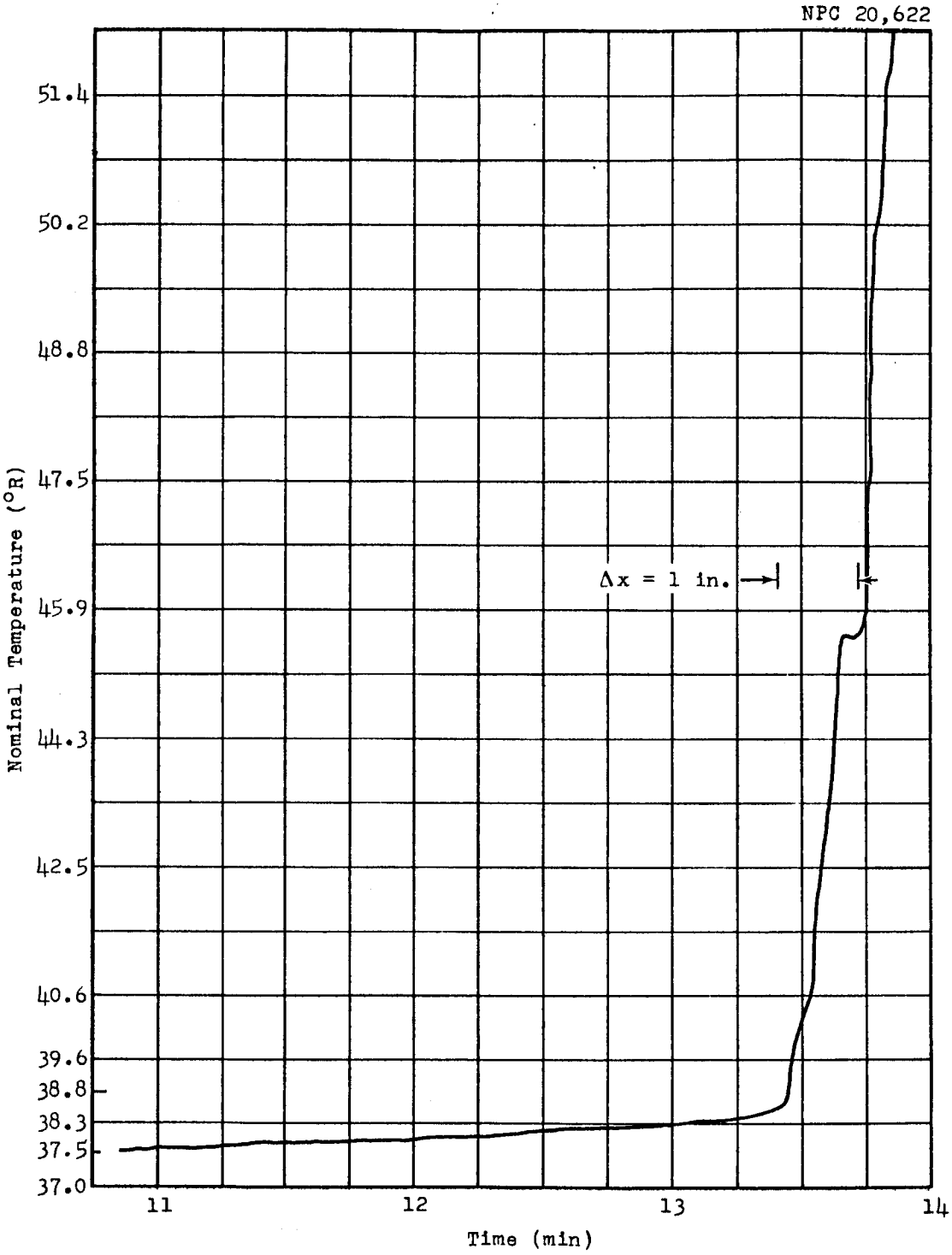

Figure 4.8-6 Strip-Chart Temperature Data: Run 21-102, Thermometer 8

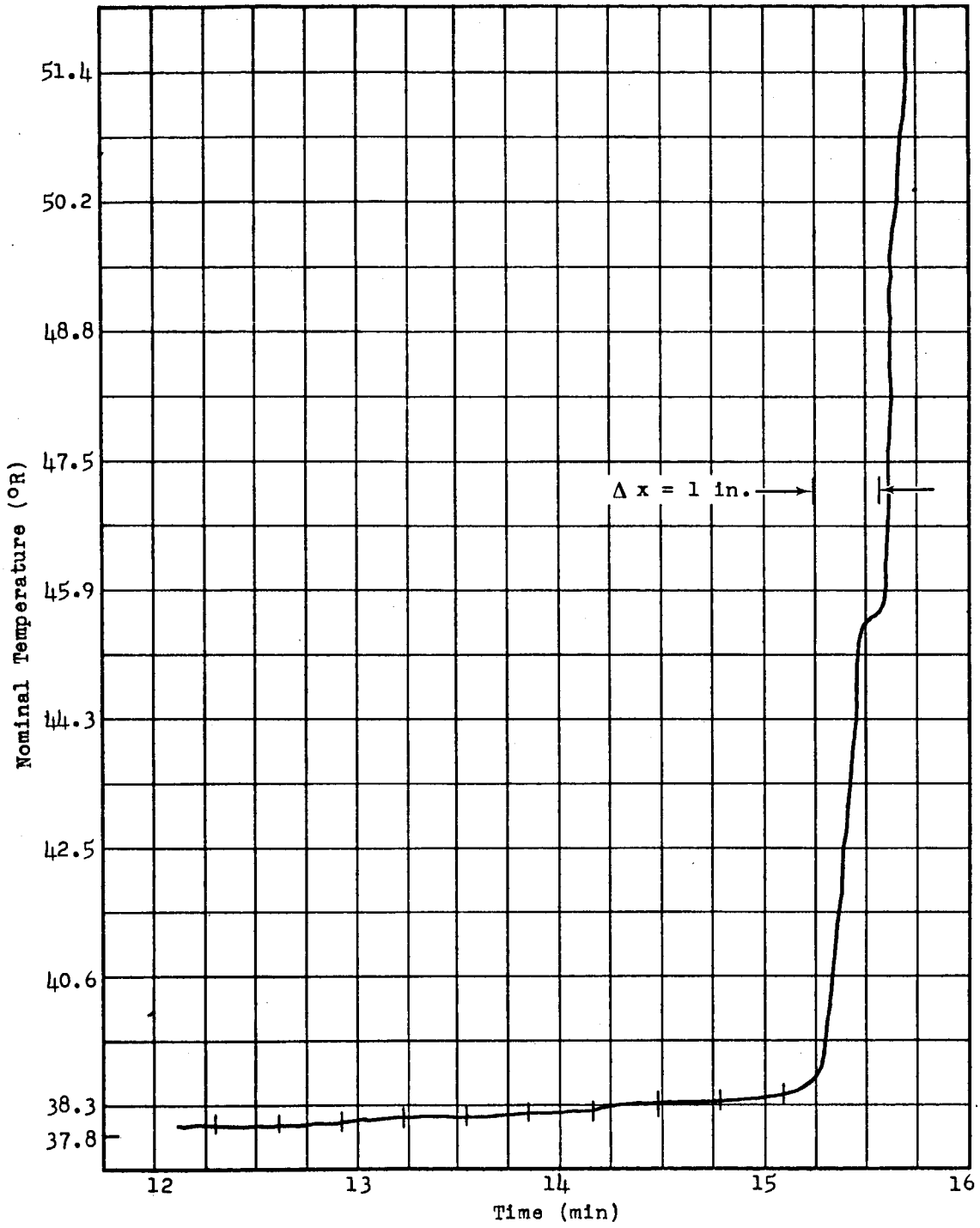

Figure 4.8-7 Strip-Chart Temperature Data: Run 21-102, Thermometer 7

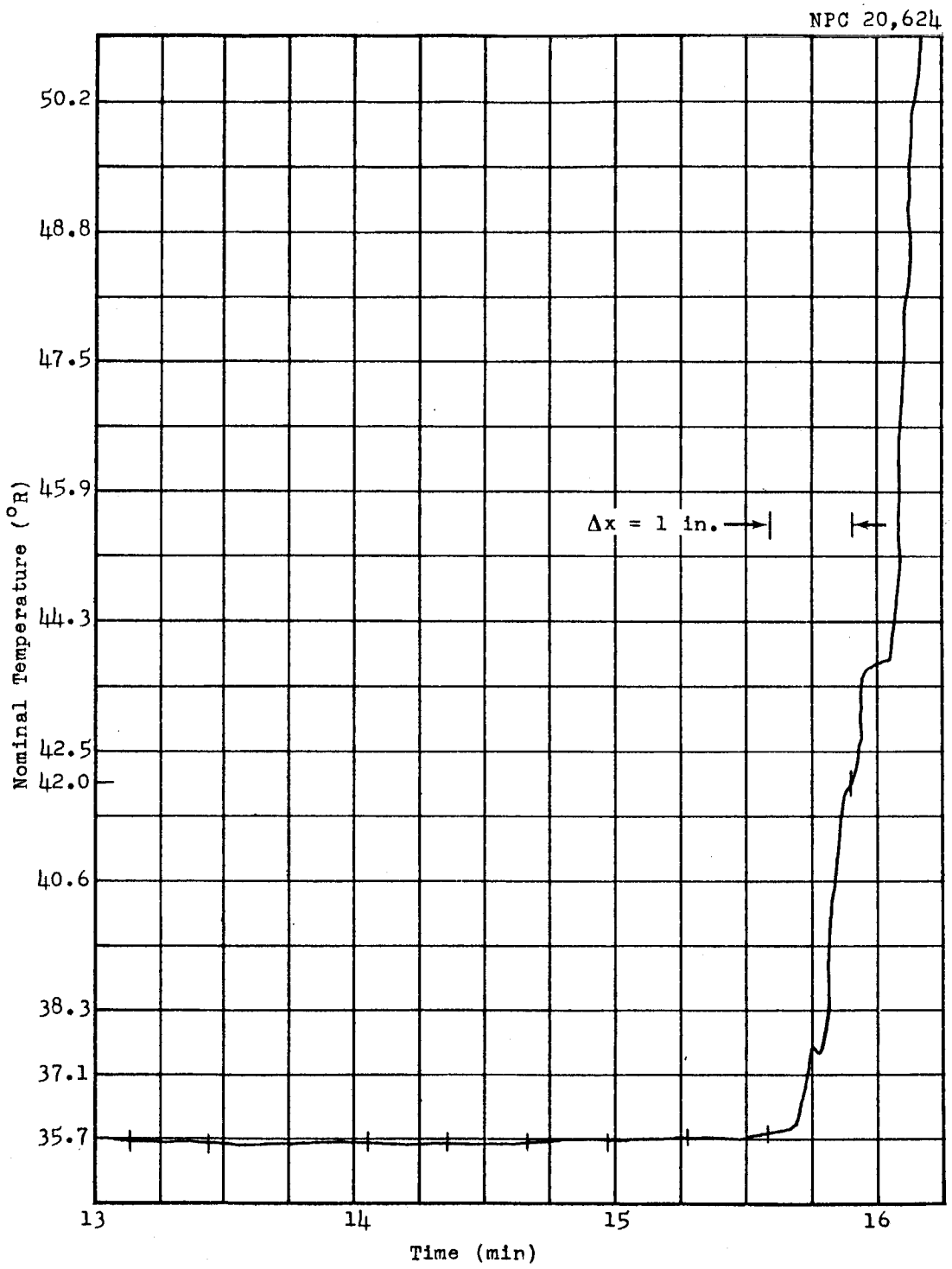

Figure 4.8-8 Strip-Chart Temperature Data: Run 21-102, Thermometer 25

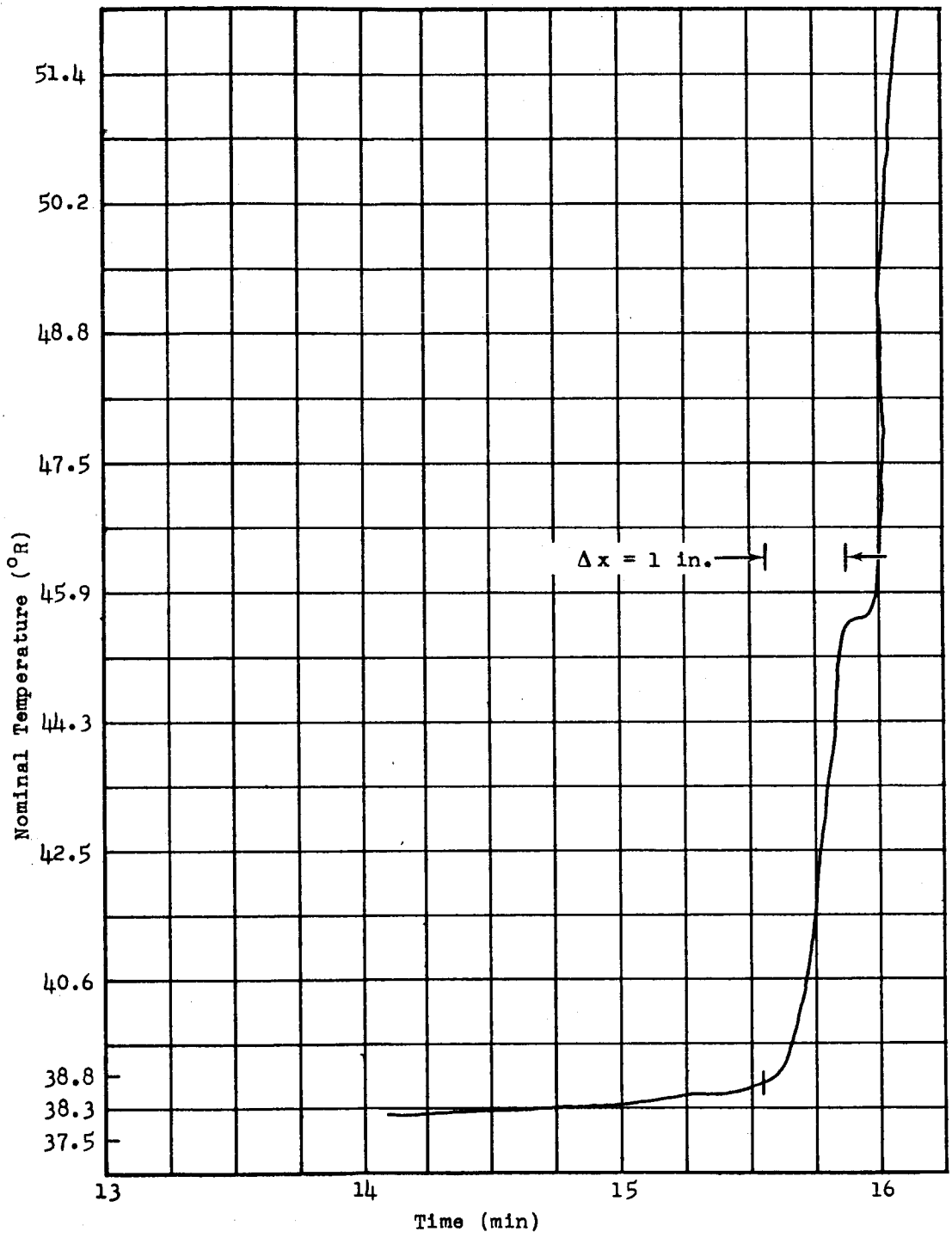

Figure 4.8-9 Strip-Chart Temperature Data: Run 21-102, Thermometer 22

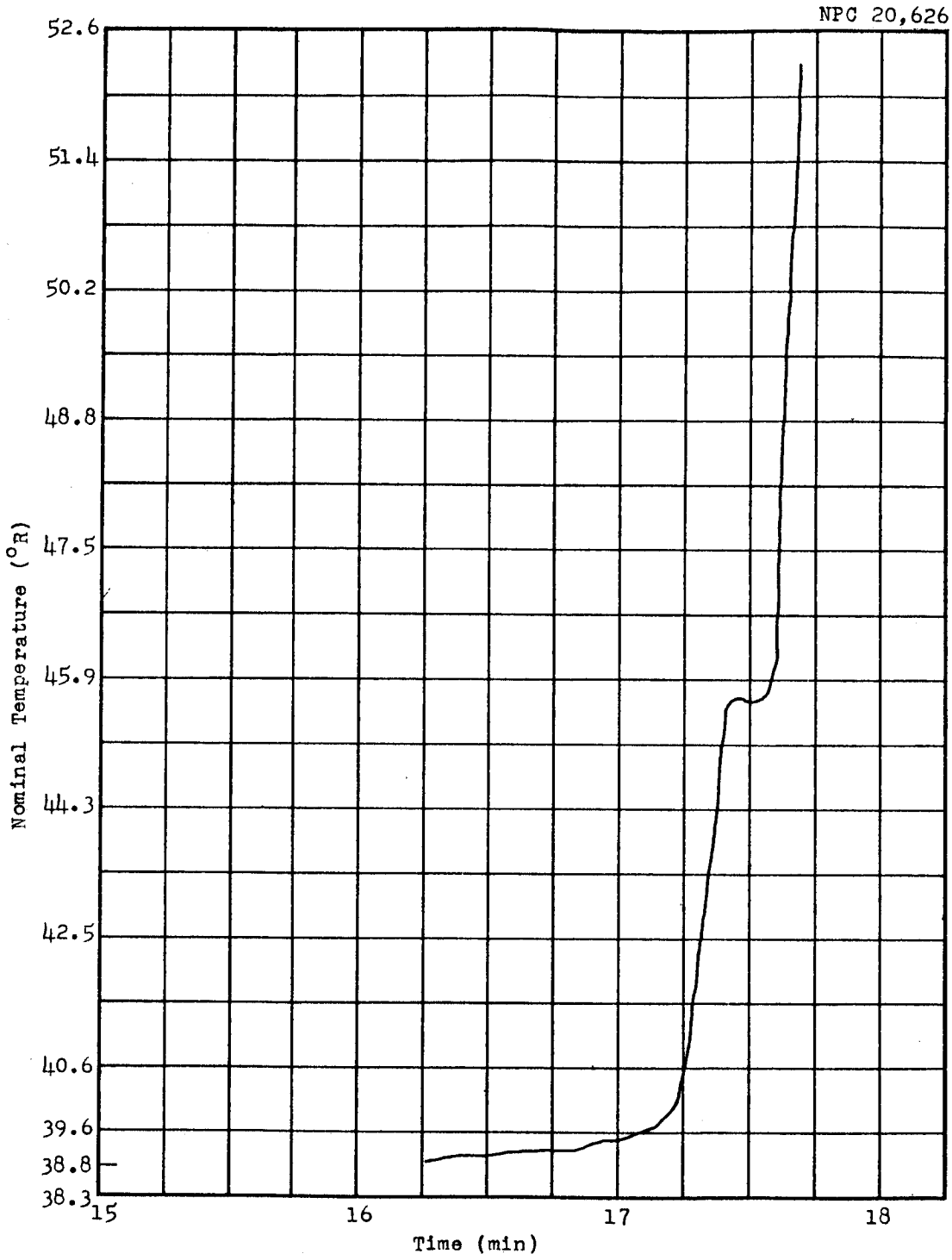

Figure 4.8-10 Strip-Chart Temperature Data: Run 21-102, Thermometer 4

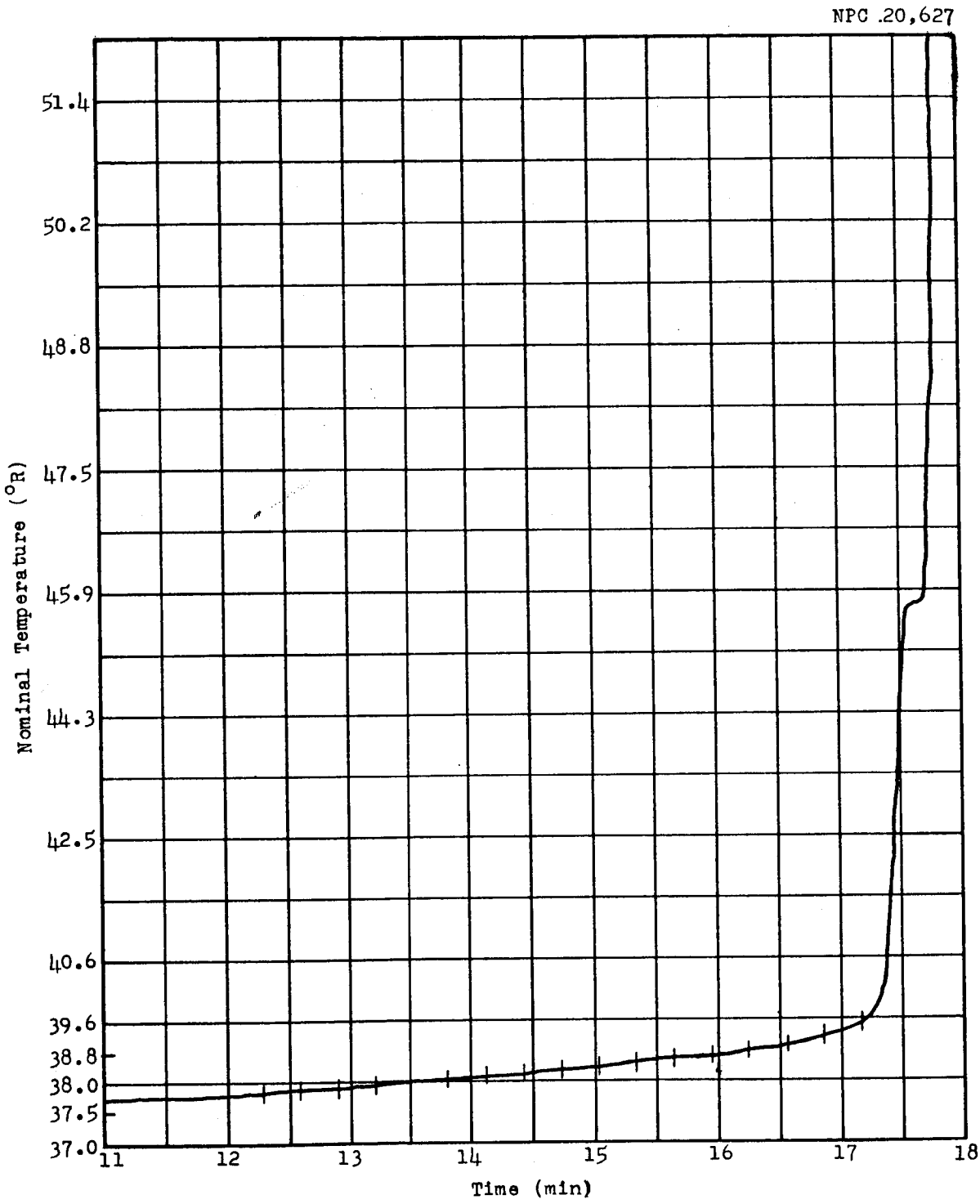

Figure 4.8-11 Strip-Chart Temperature Data: Run 21-102, Thermometer 1

TABLE 4.8-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 21-102

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.34	58.09	0	36.33	58.10	0	36.35	58.08	0	36.49	57.91
0	36.34	58.09	0	36.33	58.10	0	36.33	58.11	0	36.51	57.89
0	36.42	58.00	0	36.35	58.08	0	36.34	58.09	0	36.50	57.90
0	36.35	58.08	0	36.33	58.10	0	36.34	58.09	0	36.48	57.92
1	36.33	58.11	1	36.33	58.10	1	36.34	58.09	1	36.48	57.92
2	36.32	58.12	2	36.33	58.10	2	36.36	58.07	2	36.49	57.91
2	36.46	57.95	2	36.38	58.04	2	36.55	57.84	2	36.57	57.81
2	36.49	57.91	2	36.44	57.97	2	36.52	57.87	2	36.65	57.71
3	36.53	57.86	3	36.52	57.87	3	36.59	57.78	3	36.70	57.64
3	36.60	57.77	3	36.61	57.76	3	36.64	57.72	3	36.74	57.58
3	36.77	57.55	3	36.66	57.69	3	36.96	57.29	3	36.77	57.55
3	37.03	57.20	3	36.83	57.47	3	36.81	57.49	3	36.84	57.46
4	36.87	57.41	4	36.94	57.32	4	37.19	56.98	4	36.99	57.26
4	37.24	56.91	4	36.88	57.40	4	36.88	57.40	4	36.98	57.27
4	37.11	57.09	4	37.05	57.18	4	37.62	56.37	4	36.95	57.31
5	36.87	57.41	5	36.88	57.40	5	37.47	56.58	5	37.03	57.20
5	37.47	56.58	5	36.92	57.35	5	36.93	57.34	5	37.03	57.20
5	37.05	57.18	5	37.03	57.20	5	37.02	57.22	5	37.13	57.07
6	37.13	57.06	6	37.09	57.12	6	37.24	56.92	6	37.20	56.97
6	37.18	57.00	6	37.16	57.02	6	37.20	56.97	6	37.31	56.82
6	37.21	56.96	6	37.21	56.96	6	37.24	56.92	6	37.38	56.71
7	37.16	57.03	7	37.24	56.91	7	37.17	57.01	7	37.33	56.79
7	37.19	56.98	7	37.20	56.97	7	37.22	56.94	7	37.39	56.69
7	37.25	56.90	7	37.34	56.77	7	37.29	56.85	7	37.39	56.69
7	37.35	56.76	7	37.31	56.82	7	37.31	56.82	7	37.42	56.65
8	37.30	56.83	8	37.33	56.79	8	37.33	56.79	8	37.44	56.62
8	37.42	56.66	8	37.37	56.72	8	37.37	56.72	8	37.49	56.56
8	37.39	56.69	8	37.42	56.66	8	37.43	56.64	8	37.61	56.39
9	37.43	56.64	9	37.47	56.59	9	37.47	56.59	9	37.61	56.39
9	37.45	56.61	9	37.52	56.51	9	37.49	56.55	9	37.65	56.33
9	37.48	56.57	9	37.47	56.58	9	37.49	56.55	9	37.61	56.39
10	37.56	56.46	10	37.52	56.51	10	37.55	56.47	10	37.70	56.26
10	37.67	56.30	10	37.68	56.28	10	37.63	56.36	10	37.73	56.21
10	37.68	56.28	10	37.67	56.30	10	37.68	56.28	10	37.82	56.08
11	37.63	56.35	11	37.66	56.31	11	37.66	56.32	11	37.81	56.10
11	37.72	56.22	11	37.72	56.22	11	37.70	56.25	11	37.86	56.02
11	37.74	56.20	11	37.82	56.08	11	37.75	56.18	11	37.91	55.95
11	37.80	56.11	11	37.80	56.11	11	37.81	56.09	11	38.00	55.82
12	37.86	56.02	12	37.94	55.90	12	37.91	55.95	12	38.05	55.74
12	37.97	55.86	12	37.92	55.94	12	37.92	55.93	12	38.07	55.70
12	38.03	55.78	12	37.98	55.85	12	37.95	55.89	12	38.13	55.62
13	38.03	55.78	13	38.07	55.70	13	38.01	55.80	13	38.21	55.50
13	38.09	55.68	13	38.11	55.65	13	38.09	55.68	13	38.26	55.43
13	59.69	-0.	13	38.14	55.60	13	38.09	55.68	13	38.33	55.33

TABLE 4.8-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
14	38.23	55.47	14	38.23	55.47	14	38.17	55.56	14	38.36	55.28
14	38.23	55.47	14	38.30	55.37	14	38.24	55.46	14	38.48	55.11
14	59.69	-0.	14	38.40	55.22	14	38.29	55.38	14	38.53	55.03
15	59.69	-0.	15	38.47	55.12	15	38.43	55.18	15	38.60	54.93
15	59.69	-0.	15	38.50	55.07	15	38.45	55.15	15	38.66	54.84
15	59.69	-0.	15	38.58	54.96	15	38.54	55.02	15	38.75	54.70
15	59.69	-0.	15	38.69	54.79	15	38.68	54.81	15	38.91	54.47
16	59.69	-0.	16	38.79	54.64	16	38.79	54.65	16	38.95	54.42
16	38.89	54.50	16	38.95	54.42	16	38.91	54.47	16	39.10	54.21
16	39.05	54.27	16	39.19	54.08	16	39.10	54.20	16	39.33	53.88
17	59.69	-0.	17	39.47	53.69	17	39.56	53.56	17	39.86	53.06
17	45.22	43.37	17	45.26	43.25	17	46.04	40.89	17	46.46	39.73
17	59.69	-0.	17	55.71	14.15	17	56.28	12.13	17	60.30	-3.76
18	62.61	-17.88	18	62.84	-19.25	18	63.08	-20.77	18	64.00	-26.41
18	64.10	-26.96	18	64.04	-26.63	18	67.81	-49.71	18	65.83	-37.58
18	66.30	-40.42	18	66.06	-38.97	18	70.92	-68.72	18	67.06	-45.08
19	69.51	-60.12	19	67.68	-48.92	19	71.08	-69.72	19	67.30	-46.59
19	70.62	-66.90	19	69.04	-57.24	19	73.76	-86.10	19	68.54	-54.14
19	74.06	-87.92	19	70.09	-63.67	19	74.72	-91.95	19	69.56	-60.42

TABLE 4.8-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.24	58.21	0	93.33	-205.86	0	36.22	58.24	0	36.29	58.15
0	36.26	58.19	0	93.29	-205.66	0	36.24	58.21	0	36.28	58.17
0	36.25	58.20	0	93.33	-205.86	0	36.25	58.20	0	36.26	58.19
0	36.24	58.21	0	92.70	-202.02	0	36.23	58.22	0	36.29	58.15
1	36.24	58.21	1	92.70	-202.02	1	36.24	58.21	1	36.32	58.12
2	36.24	58.21	2	92.70	-202.02	2	36.28	58.16	2	36.29	58.15
2	36.33	58.10	2	92.70	-202.02	2	36.33	58.10	2	36.37	58.06
2	36.38	58.05	2	92.70	-202.02	2	36.37	58.06	2	36.42	57.99
3	36.47	57.94	3	92.70	-202.02	3	36.48	57.92	3	36.50	57.90
3	36.49	57.91	3	92.70	-202.02	3	36.47	57.93	3	36.56	57.82
3	36.58	57.80	3	93.20	-205.05	3	36.55	57.83	3	36.59	57.78
3	36.63	57.74	3	92.70	-202.02	3	36.62	57.75	3	36.63	57.73
4	36.70	57.63	4	93.20	-205.05	4	36.72	57.61	4	36.65	57.71
4	36.66	57.70	4	92.70	-202.02	4	36.66	57.69	4	36.74	57.58
4	36.77	57.55	4	93.20	-205.05	4	36.73	57.60	4	36.73	57.60
5	36.78	57.53	5	92.70	-202.02	5	36.74	57.59	5	36.73	57.60
5	36.80	57.50	5	93.18	-204.95	5	36.90	57.37	5	36.92	57.35
5	36.90	57.38	5	92.70	-202.02	5	36.95	57.31	5	36.95	57.31
6	36.96	57.30	6	92.70	-202.02	6	37.01	57.23	6	37.00	57.24
6	37.00	57.24	6	92.70	-202.02	6	37.04	57.19	6	37.07	57.15
6	37.11	57.10	6	92.70	-202.02	6	37.07	57.15	6	37.10	57.11
7	37.08	57.14	7	92.70	-202.02	7	37.11	57.10	7	37.12	57.08
7	37.14	57.05	7	92.70	-202.02	7	37.13	57.07	7	37.13	57.06
7	37.16	57.03	7	92.70	-202.02	7	37.13	57.06	7	37.21	56.96
7	37.19	56.99	7	92.70	-202.02	8	37.22	56.95	8	37.22	56.94
8	37.23	56.93	8	92.70	-202.02	8	37.24	56.91	8	37.26	56.89
8	37.25	56.90	8	93.20	-205.05	8	37.26	56.89	8	37.29	56.84
8	37.35	56.76	8	92.70	-202.02	8	37.32	56.80	8	37.36	56.75
9	37.37	56.72	9	93.20	-205.05	9	37.35	56.76	9	37.40	56.68
9	37.42	56.65	9	93.26	-205.45	9	37.38	56.71	9	37.43	56.64
9	37.44	56.62	9	93.20	-205.05	9	37.42	56.65	9	37.45	56.61
10	37.50	56.54	10	93.20	-205.05	10	37.49	56.56	10	37.52	56.51
10	37.54	56.49	10	93.20	-205.05	10	37.54	56.48	10	37.57	56.44
10	37.59	56.41	10	92.70	-202.02	10	37.56	56.46	10	37.62	56.37
11	37.59	56.42	11	92.70	-202.02	11	37.61	56.38	11	37.66	56.31
11	37.63	56.36	11	92.70	-202.02	11	37.61	56.39	11	37.75	56.19
11	37.66	56.31	11	92.70	-202.02	11	37.68	56.29	11	37.79	56.13
12	37.75	56.18	12	92.70	-202.02	12	37.74	56.20	12	37.88	56.00
12	37.81	56.09	12	92.70	-202.02	12	37.84	56.06	12	37.95	55.89
12	37.86	56.03	12	92.70	-202.02	12	37.89	55.98	12	38.06	55.72
12	37.88	55.99	12	92.70	-202.02	12	37.92	55.94	12	38.16	55.57
13	38.02	55.79	13	93.16	-204.85	13	38.00	55.82	13	38.29	55.38
13	38.03	55.78	13	92.70	-202.02	13	38.08	55.69	13	41.94	49.53
13	38.08	55.69	13	92.70	-202.02	13	38.16	55.57	13	54.37	19.63

TABLE 4.8-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
14	38.16	55.57	14	93.28	-205.56	14	38.18	55.54	14	63.32	-22.22
14	38.22	55.48	14	93.23	-205.25	14	38.30	55.37	14	70.44	-65.80
14	38.29	55.39	14	93.28	-205.56	14	38.38	55.25	14	76.85	-105.00
15	38.36	55.28	15	93.29	-205.66	15	38.57	54.98	15	82.41	-139.06
15	38.45	55.15	15	93.29	-205.66	15	44.14	45.48	15	87.48	-170.08
15	38.53	55.03	15	93.29	-205.66	15	54.21	20.47	15	92.60	-201.41
16	38.62	54.90	16	93.20	-205.05	16	62.81	-19.09	16	93.20	-205.05
16	38.73	54.73	16	92.70	-202.02	16	68.89	-56.29	16	92.70	-202.02
16	38.97	54.38	16	93.20	-205.05	16	74.32	-89.53	16	92.70	-202.02
16	39.35	53.85	16	92.70	-202.02	16	79.42	-120.77	16	92.70	-202.02
17	46.31	40.13	17	92.70	-202.02	17	83.85	-147.85	17	93.20	-205.05
17	55.25	14.65	17	93.28	-205.56	17	87.75	-171.70	17	93.20	-205.05
17	65.73	-36.94	17	93.26	-205.45	17	92.39	-200.10	17	93.36	-206.06
18	68.58	-54.41	18	93.29	-205.66	18	93.03	-204.04	18	93.49	-206.87
18	66.02	-38.73	18	93.29	-205.66	18	92.06	-198.08	18	93.29	-205.66
18	67.00	-44.76	18	93.33	-205.86	18	91.46	-194.44	18	93.33	-205.86
19	68.09	-51.43	19	93.29	-205.66	19	91.23	-193.02	19	93.29	-205.66
19	69.22	-58.32	19	93.33	-205.86	19	91.08	-192.12	19	93.33	-205.86
19	70.29	-64.87	19	93.36	-206.06	19	91.03	-191.81	19	93.29	-205.66

TABLE 4.8-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.24	58.21	0	36.20	58.26	0	41.63	50.13	0	62.03	-14.32
0	36.23	58.23	0	36.19	58.27	0	41.60	50.20	0	61.89	-13.44
0	36.24	58.21	0	36.17	58.30	0	41.58	50.23	0	62.17	-15.17
0	36.24	58.21	0	36.20	58.26	0	41.63	50.14	0	61.86	-13.30
1	36.24	58.21	1	36.18	58.28	1	41.61	50.18	1	62.50	-17.18
2	36.26	58.19	2	36.17	58.29	2	41.58	50.23	2	62.00	-14.15
2	36.33	58.11	2	36.24	58.21	2	41.63	50.13	2	62.12	-14.86
2	36.41	58.01	2	36.33	58.10	2	41.70	50.00	2	62.25	-15.66
3	36.46	57.95	3	36.42	58.00	3	41.75	49.90	3	62.38	-16.47
3	36.51	57.88	3	36.46	57.95	3	41.78	49.85	3	62.55	-17.48
3	36.55	57.84	3	36.50	57.90	3	41.82	49.77	3	61.85	-13.24
4	36.57	57.81	4	36.56	57.82	4	41.83	49.75	4	62.39	-16.50
4	36.65	57.71	4	36.58	57.80	4	41.88	49.66	4	62.33	-16.17
4	36.63	57.73	4	36.59	57.78	4	41.90	49.61	4	61.87	-13.33
4	36.68	57.66	4	36.61	57.76	4	41.89	49.63	4	61.45	-10.76
5	36.85	57.44	5	36.73	57.60	5	42.06	49.31	5	62.15	-15.06
5	36.88	57.40	5	36.80	57.50	5	42.05	49.32	5	62.17	-15.19
5	36.96	57.29	5	36.91	57.36	5	42.18	49.07	5	62.67	-18.22
6	37.02	57.21	6	36.98	57.27	6	42.17	49.08	6	62.42	-16.69
6	37.05	57.18	6	36.99	57.26	6	42.15	49.12	6	62.99	-20.21
6	37.03	57.20	6	37.03	57.20	6	42.20	49.02	6	61.84	-13.14
7	37.14	57.05	7	37.10	57.11	7	42.19	49.04	7	61.95	-13.85
7	37.11	57.10	7	37.11	57.09	7	42.21	49.01	7	62.15	-15.03
7	37.20	56.97	7	37.18	57.00	7	42.26	48.90	7	63.54	-23.55
8	37.18	57.00	8	37.17	57.01	8	42.31	48.80	8	63.49	-23.24
8	37.21	56.96	8	37.23	56.93	8	42.35	48.72	8	89.18	-180.49
8	37.33	56.79	8	37.29	56.85	8	42.41	48.62	8	92.70	-202.02
8	37.32	56.80	8	37.28	56.86	8	42.62	48.21	8	92.70	-202.02
9	37.32	56.81	9	37.37	56.72	9	49.73	32.25	9	93.20	-205.05
9	37.47	56.59	9	37.46	56.60	9	65.82	-37.50	9	92.70	-202.02
9	37.47	56.58	9	37.52	56.52	9	77.67	-110.05	9	93.26	-205.45
10	37.54	56.48	10	37.74	56.20	10	86.67	-165.13	10	93.23	-205.25
10	37.54	56.49	10	45.90	41.33	10	93.16	-204.85	10	93.39	-206.26
10	37.63	56.36	10	61.30	-9.88	10	92.70	-202.02	10	93.36	-206.06
11	37.72	56.22	11	71.94	-74.98	11	92.70	-202.02	11	93.38	-206.16
11	37.84	56.06	11	80.63	-128.14	11	92.70	-202.02	11	93.38	-206.16
11	44.92	44.08	11	88.01	-173.32	11	92.70	-202.02	11	93.36	-206.06
12	58.21	5.26	12	93.20	-205.05	12	93.41	-206.36	12	93.48	-206.77
12	59.69	-0.	12	92.70	-202.02	12	93.38	-206.16	12	93.39	-206.26
12	59.69	-0.	12	92.70	-202.02	12	93.39	-206.26	12	93.39	-206.26
12	59.69	-0.	12	92.70	-202.02	12	93.44	-206.57	12	93.48	-206.77
13	89.60	-183.02	13	92.70	-202.02	13	93.41	-206.36	13	93.44	-206.57
13	92.70	-202.02	13	93.44	-206.57	13	93.43	-206.47	13	93.46	-206.67
13	92.70	-202.02	13	93.44	-206.57	13	93.48	-206.77	13	93.48	-206.77

TABLE 4.8-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
14	92.70	-202.02	14	93.48	-206.77	14	93.51	-206.97	14	93.49	-206.87
14	92.70	-202.02	14	93.51	-206.97	14	93.53	-207.07	14	93.53	-207.07
14	92.70	-202.02	14	93.51	-206.97	14	93.54	-207.17	14	93.54	-207.17
15	92.70	-202.02	15	93.54	-207.17	15	93.54	-207.17	15	93.54	-207.17
15	92.70	-202.02	15	93.53	-207.07	15	93.56	-207.27	15	93.56	-207.27
15	93.20	-205.05	15	93.44	-206.57	15	93.48	-206.77	15	93.56	-207.27
16	93.34	-205.96	16	93.49	-206.87	16	93.46	-206.67	16	93.46	-206.67
16	93.33	-205.86	16	93.41	-206.36	16	93.48	-206.77	16	93.51	-206.97
16	93.29	-205.66	16	93.43	-206.47	16	93.46	-206.67	16	93.48	-206.77
16	94.95	-215.76	16	93.46	-206.67	16	93.44	-206.57	16	93.46	-206.67
17	93.20	-205.05	17	93.39	-206.26	17	93.44	-206.57	17	93.44	-206.57
17	93.33	-205.86	17	93.49	-206.87	17	93.51	-206.97	17	93.54	-207.17
17	93.36	-206.06	17	93.54	-207.17	17	93.56	-207.27	17	93.59	-207.48
18	93.46	-206.67	18	93.54	-207.17	18	93.54	-207.17	18	93.38	-206.16
18	93.36	-206.06	18	93.53	-207.07	18	93.54	-207.17	18	93.56	-207.27
18	93.43	-206.47	18	93.56	-207.27	18	93.56	-207.27	18	93.59	-207.48
19	93.36	-206.06	19	93.54	-207.17	19	93.56	-207.27	19	93.56	-207.27
19	93.43	-206.47	19	93.59	-207.48	19	93.61	-207.58	19	93.57	-207.38
19	93.39	-206.26	19	93.53	-207.07	19	93.57	-207.38	19	93.57	-207.38

TABLE 4.8-2 (Cont'd)

THERMOMETER 13

TIME	TEMP	VOLTAGE
0	36.20	58.26
0	36.22	58.24
0	36.19	58.27
0	36.25	58.20
1	36.20	58.26
2	36.25	58.20
2	36.34	58.09
2	36.39	58.03
3	36.49	57.91
3	36.52	57.87
3	36.58	57.80
4	36.58	57.80
4	36.68	57.66
4	36.72	57.61
4	36.75	57.57
5	37.03	57.20
5	36.89	57.39
5	37.22	56.95
6	37.33	56.79
6	37.36	56.75
6	37.33	56.79
7	37.61	56.39
7	46.06	40.85
7	68.56	-54.26
8	59.69	-0.
8	92.70	-202.02
8	93.38	-206.16
8	93.36	-206.06
9	93.36	-206.06
9	93.33	-205.86
9	93.43	-206.47
10	93.36	-206.06
10	93.36	-206.06
10	93.34	-205.96
11	93.31	-205.76
11	93.34	-205.96
11	93.34	-205.96
12	93.39	-206.26
12	93.44	-206.57
12	93.43	-206.47
13	93.48	-206.77
13	93.44	-206.57
13	93.49	-206.87
13	93.48	-206.77

THERMOMETER 14

TIME	TEMP	VOLTAGE
0	36.19	58.27
0	36.20	58.26
0	36.19	58.27
0	36.20	58.26
1	36.21	58.25
2	36.19	58.27
2	36.32	58.12
2	36.41	58.01
3	36.57	57.81
3	36.59	57.79
3	36.59	57.79
4	36.61	57.76
4	36.77	57.55
4	36.89	57.39
4	36.80	57.50
5	37.30	56.83
5	36.91	57.36
5	37.32	56.80
6	37.78	56.14
6	37.46	56.60
6	38.35	55.29
7	54.28	16.78
7	74.55	-90.94
7	87.58	-170.69
8	93.20	-205.05
8	93.38	-206.16
8	93.46	-206.67
9	93.46	-206.67
9	93.44	-206.57
9	93.51	-206.97
9	93.51	-206.97
10	93.49	-206.87
10	93.41	-206.36
10	93.41	-206.36
11	93.39	-206.26
11	93.41	-206.36
11	93.41	-206.36
12	93.49	-206.87
12	93.39	-206.26
12	93.44	-206.57
13	93.41	-206.36
13	93.39	-206.26
13	93.46	-206.67
13	93.49	-206.87

THERMOMETER 15

TIME	TEMP	VOLTAGE
0	36.23	58.22
0	36.23	58.22
0	36.23	58.23
0	36.21	58.25
1	36.23	58.23
2	36.23	58.23
2	36.40	58.02
2	36.96	57.29
3	36.81	57.49
3	37.09	57.12
3	37.37	56.72
4	37.34	56.77
4	37.70	56.26
4	37.58	56.43
4	37.97	55.87
5	38.16	55.58
5	40.59	51.97
5	41.59	50.22
6	42.27	48.89
6	46.17	40.50
6	65.27	-34.15
7	80.07	-124.71
7	91.64	-195.55
7	93.16	-204.85
8	93.43	-206.47
8	93.46	-206.67
8	93.49	-206.87
9	93.48	-206.77
9	93.44	-206.57
9	93.48	-206.77
9	93.53	-207.07
10	93.51	-206.97
10	93.43	-206.47
10	93.39	-206.26
11	93.46	-206.67
11	93.39	-206.26
11	93.41	-206.36
12	93.48	-206.77
12	93.36	-206.06
12	93.43	-206.47
13	93.43	-206.47
13	93.46	-206.67
13	93.46	-206.67
13	93.49	-206.87

THERMOMETER 16

TIME	TEMP	VOLTAGE
0	36.19	58.27
0	36.23	58.22
0	36.22	58.24
0	36.21	58.25
1	36.19	58.27
2	36.33	58.11
2	41.14	51.03
2	51.17	28.14
3	55.86	13.60
3	58.55	4.05
3	60.19	-3.03
4	60.05	-2.19
4	58.98	2.53
4	58.45	4.42
5	58.42	4.53
5	68.28	-52.54
5	74.88	-92.98
5	74.50	-90.61
6	76.40	-102.27
6	78.66	-116.12
6	85.70	-159.17
7	92.70	-202.02
7	93.20	-205.05
7	93.36	-206.06
8	93.43	-206.47
8	93.44	-206.57
8	93.51	-206.97
9	93.48	-206.77
9	93.46	-206.67
9	93.49	-206.87
9	93.53	-207.07
10	93.51	-206.97
10	93.43	-206.47
10	93.41	-206.36
11	93.48	-206.77
11	93.43	-206.47
11	93.41	-206.36
12	93.39	-206.26
12	93.41	-206.36
12	93.41	-206.36
13	93.43	-206.47
13	93.46	-206.67
13	93.44	-206.57
13	93.49	-206.87

TABLE 4.8-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
14	93.53	-207.07	14	93.49	-206.87	14	93.49	-206.87	14	93.48	-206.77
14	95.18	-217.18	14	93.54	-207.17	14	93.48	-206.77	14	93.46	-206.67
14	93.54	-207.17	14	93.56	-207.27	14	93.56	-207.27	14	93.56	-207.27
15	93.51	-206.97	15	93.53	-207.07	15	93.51	-206.97	15	93.54	-207.17
15	93.54	-207.17	15	93.54	-207.17	15	93.51	-206.97	15	93.54	-207.17
15	93.54	-207.17	15	93.53	-207.07	15	93.53	-207.07	15	93.53	-207.07
16	93.46	-206.67	16	93.53	-207.07	16	93.48	-206.77	16	93.49	-206.87
16	93.48	-206.77	16	93.48	-206.77	16	93.48	-206.77	16	93.51	-206.97
16	93.44	-206.57	16	93.46	-206.67	16	93.43	-206.47	16	93.46	-206.67
17	93.51	-206.97	17	93.46	-206.67	17	93.46	-206.67	17	93.48	-206.77
17	93.46	-206.67	17	93.46	-206.67	17	93.48	-206.77	17	93.43	-206.47
17	93.54	-207.17	17	93.51	-206.97	17	93.49	-206.87	17	93.48	-206.77
17	93.56	-207.27	17	93.57	-207.38	17	93.59	-207.48	17	93.57	-207.38
18	93.34	-205.96	18	93.43	-206.47	18	93.48	-206.77	18	93.51	-206.97
18	93.57	-207.38	18	93.56	-207.27	18	93.53	-207.07	18	93.57	-207.38
18	93.59	-207.48	18	93.59	-207.48	18	93.59	-207.48	18	93.62	-207.68
19	93.57	-207.38	19	93.54	-207.17	19	93.53	-207.07	19	93.59	-207.48
19	93.57	-207.38	19	93.61	-207.58	19	93.62	-207.68	19	93.64	-207.78
19	93.62	-207.68	19	93.61	-207.58	19	93.62	-207.68	19	93.62	-207.68

TABLE 4.8-2 (Cont'd)

THERMOMETER 17

TIME	TEMP	VOLTAGE
0	36.95	57.31
0	36.95	57.31
0	36.90	57.37
1	36.94	57.32
1	37.01	57.23
2	37.54	56.49
2	48.02	36.26
2	56.85	10.11
3	59.69	-0.
3	59.69	-0.
3	59.69	-0.
4	59.69	-0.
4	59.69	-0.
4	59.69	-0.
5	59.69	-0.
5	59.69	-0.
5	90.14	-186.35
5	91.91	-197.17
6	92.70	-202.02
6	92.70	-202.02
6	92.70	-202.02
7	93.20	-205.05
7	93.20	-205.05
7	93.20	-205.05
8	93.46	-206.67
8	93.44	-206.57
8	93.48	-206.77
9	93.48	-206.77
9	93.48	-206.77
9	93.48	-206.77
9	93.51	-206.97
10	93.49	-206.87
10	93.39	-206.26
10	93.43	-206.47
11	93.43	-206.47
11	93.41	-206.36
11	93.41	-206.36
12	93.38	-206.16
12	93.41	-206.36
12	93.41	-206.36
13	93.46	-206.67
13	93.48	-206.77
13	93.46	-206.67
13	93.46	-206.67

THERMOMETER 18

TIME	TEMP	VOLTAGE
0	38.91	54.47
0	38.90	54.48
0	38.88	54.52
1	38.66	54.85
1	38.70	54.77
2	39.93	52.96
2	53.08	22.77
2	64.73	-30.83
3	79.74	-122.69
3	88.04	-173.52
3	91.49	-194.64
4	90.73	-189.99
4	88.62	-177.06
4	87.51	-170.29
5	88.49	-176.25
5	93.20	-205.05
5	92.70	-202.02
5	93.16	-204.85
6	93.29	-205.66
6	93.38	-206.16
6	93.36	-206.06
7	93.38	-206.16
7	93.39	-206.26
7	93.38	-206.16
8	93.44	-206.57
8	93.44	-206.57
8	93.49	-206.87
9	93.46	-206.67
9	93.48	-206.77
9	93.51	-206.97
9	93.53	-207.07
10	93.49	-206.87
10	93.44	-206.57
10	93.44	-206.57
11	93.36	-206.06
11	93.41	-206.36
11	93.38	-206.16
12	93.41	-206.36
12	93.39	-206.26
12	93.46	-206.67
13	93.43	-206.47
13	93.48	-206.77
13	93.41	-206.36
13	93.46	-206.67

THERMOMETER 19

TIME	TEMP	VOLTAGE
0	43.83	45.90
0	43.85	45.88
0	43.76	45.99
1	43.31	46.89
1	43.37	46.78
2	46.03	40.92
2	92.70	-202.02
2	92.70	-202.02
3	92.70	-202.02
3	93.20	-205.05
3	93.20	-205.05
4	93.20	-205.05
4	93.20	-205.05
4	92.70	-202.02
5	93.20	-205.05
5	93.44	-206.57
5	93.31	-205.76
5	93.36	-206.06
6	93.41	-206.36
6	93.39	-206.26
6	93.41	-206.36
7	93.43	-206.47
7	93.41	-206.36
7	93.43	-206.47
8	93.44	-206.57
8	93.44	-206.57
8	93.51	-206.97
9	93.46	-206.67
9	93.48	-206.77
9	93.49	-206.87
9	93.49	-206.87
10	93.56	-207.27
10	93.41	-206.36
10	93.41	-206.36
11	93.41	-206.36
11	93.43	-206.47
11	93.41	-206.36
12	93.43	-206.47
12	93.39	-206.26
12	93.44	-206.57
13	93.41	-206.36
13	93.41	-206.36
13	93.48	-206.77
13	93.44	-206.57

THERMOMETER 20

TIME	TEMP	VOLTAGE
0	89.07	-179.79
0	89.18	-180.49
0	89.05	-179.68
1	87.99	-173.22
1	87.94	-172.91
2	92.70	-202.02
2	93.43	-206.47
2	93.43	-206.47
3	93.43	-206.47
3	93.48	-206.77
3	93.43	-206.47
4	93.44	-206.57
4	93.48	-206.77
4	93.43	-206.47
5	93.43	-206.47
5	93.51	-206.97
5	93.34	-205.96
5	93.36	-206.06
6	93.41	-206.36
6	93.41	-206.36
6	93.43	-206.47
7	93.44	-206.57
7	93.41	-206.36
7	93.46	-206.67
8	93.44	-206.57
8	93.46	-206.67
8	93.53	-207.07
9	93.51	-206.97
9	93.46	-206.67
9	93.49	-206.87
9	93.53	-207.07
10	93.57	-207.38
10	93.41	-206.36
10	93.43	-206.47
11	93.38	-206.16
11	93.44	-206.57
11	93.41	-206.36
12	93.44	-206.57
12	93.39	-206.26
12	93.44	-206.57
13	93.46	-206.67
13	93.46	-206.67
13	93.48	-206.77
13	93.49	-206.87

TABLE 4.8-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
14	93.48	-206.77	14	93.48	-206.77	14	93.51	-206.97	14	93.54	-207.17
14	95.11	-216.77	14	93.53	-207.07	14	93.53	-207.07	14	93.54	-207.17
14	93.57	-207.38	14	93.56	-207.27	14	93.57	-207.38	14	93.57	-207.38
15	93.54	-207.17	15	93.54	-207.17	15	93.54	-207.17	15	93.56	-207.27
15	93.56	-207.27	15	93.56	-207.27	15	93.56	-207.27	15	93.57	-207.38
15	93.51	-206.97	15	93.51	-206.97	15	93.53	-207.07	15	93.49	-206.87
16	93.48	-206.77	16	93.48	-206.77	16	93.49	-206.87	16	93.51	-206.97
16	93.46	-206.67	16	93.46	-206.67	16	93.51	-206.97	16	93.48	-206.77
16	93.46	-206.67	16	93.49	-206.87	16	93.44	-206.57	16	93.44	-206.57
17	93.44	-206.57	17	93.43	-206.47	17	93.49	-206.87	17	93.49	-206.87
17	93.44	-206.57	17	93.51	-206.97	17	93.49	-206.87	17	93.51	-206.97
17	93.53	-207.07	17	93.53	-207.07	17	93.53	-207.07	17	93.53	-207.07
17	93.56	-207.27	17	93.56	-207.27	17	93.61	-207.58	17	93.59	-207.48
18	93.54	-207.17	18	93.49	-206.87	18	93.54	-207.17	18	93.53	-207.07
18	93.54	-207.17	18	93.54	-207.17	18	93.56	-207.27	18	93.56	-207.27
18	93.61	-207.58	18	93.57	-207.38	18	93.54	-207.17	18	93.61	-207.58
19	93.59	-207.48	19	93.57	-207.38	19	93.57	-207.38	19	93.57	-207.38
19	93.64	-207.78	19	93.61	-207.58	19	93.57	-207.38	19	93.59	-207.48
19	93.62	-207.68	19	93.62	-207.68	19	93.64	-207.78	19	93.64	-207.78

TABLE 4.8-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.28	58.17	0	36.28	58.17	0	36.33	58.11	0	36.39	58.03
0	36.26	58.19	0	36.28	58.17	0	36.37	58.06	0	36.40	58.02
0	36.28	58.17	0	36.28	58.17	0	36.38	58.05	0	36.41	58.01
1	36.28	58.16	1	36.28	58.17	1	36.36	58.07	1	36.38	58.05
1	36.23	58.22	1	36.26	58.19	1	36.36	58.07	1	36.42	58.00
2	36.33	58.10	2	36.33	58.10	2	36.40	58.02	2	36.41	58.01
2	36.38	58.04	2	36.37	58.06	2	36.50	57.90	2	36.51	57.89
2	36.44	57.97	2	36.44	57.97	2	36.52	57.87	2	36.58	57.80
3	36.49	57.91	3	36.51	57.88	3	36.61	57.76	3	36.65	57.71
3	36.58	57.80	3	36.54	57.85	3	36.63	57.73	3	36.65	57.71
3	36.68	57.66	3	36.63	57.73	3	36.70	57.64	3	36.76	57.56
4	36.66	57.69	4	36.68	57.66	4	36.77	57.55	4	36.80	57.50
4	36.63	57.73	4	36.65	57.71	4	36.77	57.55	4	36.81	57.49
4	36.69	57.65	4	36.68	57.66	4	36.77	57.54	4	36.80	57.50
5	36.79	57.52	5	36.70	57.63	5	36.80	57.51	5	36.81	57.49
5	36.78	57.53	5	36.82	57.48	5	36.91	57.36	5	36.92	57.35
5	59.69	-0.	5	36.90	57.38	5	37.01	57.23	5	37.07	57.15
5	59.69	-0.	5	36.97	57.28	5	37.05	57.17	6	37.11	57.10
6	59.69	-0.	6	37.04	57.19	6	37.11	57.10	6	37.18	57.00
6	59.69	-0.	6	37.05	57.18	6	37.13	57.06	6	37.18	57.00
6	59.69	-0.	6	37.08	57.13	6	37.20	56.97	6	37.26	56.89
7	59.69	-0.	7	37.14	57.05	7	37.19	56.98	7	37.28	56.86
7	59.69	-0.	7	37.13	57.06	7	37.25	56.90	7	37.30	56.83
7	59.69	-0.	7	37.23	56.93	7	37.29	56.85	7	37.29	56.85
8	59.69	-0.	8	37.26	56.89	8	37.32	56.81	8	37.39	56.69
8	59.69	-0.	8	37.30	56.83	8	37.35	56.76	8	37.40	56.68
8	59.69	-0.	8	37.32	56.81	8	37.36	56.75	8	37.47	56.59
9	59.69	-0.	9	37.39	56.69	9	37.44	56.62	9	37.46	56.60
9	59.69	-0.	9	37.40	56.68	9	37.46	56.60	9	37.53	56.50
9	59.69	-0.	9	37.42	56.65	9	37.53	56.50	9	37.53	56.50
10	59.69	-0.	10	37.46	56.60	10	37.54	56.49	10	37.54	56.49
10	59.69	-0.	10	37.49	56.55	10	37.59	56.41	10	37.67	56.30
10	59.69	-0.	10	37.55	56.47	10	37.62	56.37	10	37.70	56.26
10	59.69	-0.	10	37.63	56.35	10	37.73	56.21	10	37.79	56.12
11	59.69	-0.	11	37.61	56.38	11	37.76	56.17	11	37.82	56.08
11	59.69	-0.	11	37.71	56.24	11	37.78	56.14	11	37.84	56.05
11	59.69	-0.	11	37.72	56.22	11	37.77	56.15	11	37.84	56.06
12	59.69	-0.	12	37.78	56.14	12	37.85	56.04	12	37.91	55.95
12	59.69	-0.	12	37.85	56.04	12	37.91	55.95	12	37.98	55.85
12	59.69	-0.	12	37.88	56.00	12	37.94	55.91	12	37.98	55.85
13	59.69	-0.	13	37.94	55.91	13	38.02	55.79	13	38.00	55.82
13	59.69	-0.	13	38.00	55.82	13	38.06	55.72	13	38.08	55.69
13	59.69	-0.	13	38.06	55.72	13	38.16	55.58	13	38.18	55.55
14	59.69	-0.	14	38.12	55.64	14	38.18	55.54	14	38.30	55.37

TABLE 4.8-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
14	59.69	-0.	14	38.17	55.56	14	38.21	55.50	14	38.26	55.43
14	59.69	-0.	14	38.25	55.44	14	38.33	55.33	14	38.35	55.29
14	59.69	-0.	14	38.29	55.38	14	38.38	55.25	14	38.43	55.18
15	59.69	-0.	15	38.42	55.19	15	38.48	55.11	15	38.57	54.97
15	59.69	-0.	15	38.57	54.98	15	38.72	54.74	15	38.76	54.69
15	59.69	-0.	15	44.21	45.38	15	44.84	44.26	15	42.67	48.10
16	59.69	-0.	16	54.15	20.68	16	54.36	18.32	16	53.80	21.56
16	62.86	-19.39	16	62.73	-18.57	16	63.10	-20.89	16	62.28	-15.86
16	68.70	-55.17	16	68.56	-54.26	16	68.89	-56.28	16	68.07	-51.31
17	74.20	-88.82	17	74.02	-87.71	17	74.29	-89.35	17	73.51	-84.60
17	79.16	-119.15	17	78.98	-118.04	17	79.26	-119.76	17	78.43	-114.70
17	83.29	-144.41	17	83.27	-144.31	17	83.65	-146.64	17	82.78	-141.28
18	88.26	-174.83	18	87.88	-172.51	18	88.34	-175.34	18	87.63	-170.99
18	87.42	-169.68	18	87.10	-167.76	18	87.53	-170.39	18	86.72	-165.44
18	86.72	-165.44	18	86.33	-163.01	18	86.56	-164.42	18	85.93	-160.58
18	86.36	-163.21	18	86.18	-162.10	18	86.42	-163.62	18	85.81	-159.88
19	86.39	-163.41	19	86.18	-162.10	19	86.41	-163.52	19	85.81	-159.88
19	86.24	-162.50	19	86.29	-162.81	19	86.39	-163.41	19	85.70	-159.17
19	86.41	-163.52	19	86.46	-163.82	19	86.66	-165.03	19	86.03	-161.19

TABLE 4.8-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.87	57.41	0	36.24	58.21	0	36.21	58.25	0	36.24	58.21
0	36.87	57.42	0	36.25	58.20	0	36.19	58.27	0	36.25	58.20
0	36.87	57.42	0	36.25	58.20	0	36.20	58.26	0	36.21	58.25
1	36.95	57.31	1	36.23	58.23	1	36.21	58.25	1	36.24	58.21
1	36.88	57.40	1	36.24	58.21	1	36.21	58.25	1	36.24	58.21
2	36.89	57.39	2	36.28	58.17	2	36.24	58.21	2	36.32	58.12
2	36.70	57.64	2	36.38	58.05	2	36.33	58.10	2	36.37	58.06
2	36.65	57.71	2	36.42	57.99	2	36.42	58.00	2	36.45	57.96
3	36.80	57.50	3	36.47	57.94	3	36.44	57.97	3	36.47	57.93
3	36.81	57.49	3	36.57	57.81	3	36.50	57.90	3	36.51	57.89
3	36.95	57.31	3	36.61	57.76	3	36.55	57.83	3	36.58	57.80
4	36.88	57.40	4	36.64	57.72	4	36.63	57.74	4	36.60	57.77
4	37.02	57.22	4	36.60	57.77	4	36.59	57.79	4	36.59	57.79
4	37.03	57.20	4	36.64	57.72	4	36.63	57.74	4	36.63	57.73
5	36.95	57.31	5	36.65	57.71	5	36.67	57.67	5	36.72	57.61
5	37.00	57.24	5	36.89	57.39	5	36.85	57.44	5	36.85	57.44
5	37.12	57.08	5	37.02	57.22	5	36.98	57.27	5	36.97	57.28
6	37.19	56.98	6	36.96	57.29	6	36.93	57.34	6	36.93	57.33
6	37.18	57.00	6	36.98	57.27	6	36.96	57.29	6	36.98	57.27
6	37.19	56.99	6	36.99	57.26	6	36.99	57.26	6	36.99	57.25
6	36.96	57.30	6	37.05	57.17	6	37.04	57.19	6	37.03	57.20
7	36.90	57.38	7	37.10	57.11	7	37.07	57.15	7	37.08	57.13
7	36.66	57.69	7	37.12	57.08	7	37.08	57.14	7	37.08	57.13
7	36.50	57.90	7	37.20	56.97	7	37.12	57.08	7	37.13	57.07
8	36.37	58.06	8	37.22	56.95	8	37.15	57.04	8	37.16	57.02
8	36.24	58.21	8	37.23	56.93	8	37.20	56.97	8	37.19	56.98
8	36.07	58.41	8	37.25	56.90	8	37.23	56.93	8	37.24	56.91
9	36.08	58.40	9	37.34	56.77	9	37.29	56.85	9	37.29	56.84
9	35.87	58.65	9	37.30	56.83	9	37.32	56.80	9	37.32	56.81
9	35.71	58.83	9	37.39	56.69	9	37.39	56.69	9	37.37	56.74
10	35.73	58.80	10	37.44	56.62	10	37.39	56.69	10	37.41	56.67
10	35.51	59.06	10	37.51	56.53	10	37.47	56.59	10	37.47	56.58
10	35.37	59.22	10	37.56	56.45	10	37.49	56.55	10	37.52	56.52
10	35.49	59.09	10	37.61	56.39	10	37.57	56.44	10	37.56	56.46
11	35.45	59.13	11	37.65	56.33	11	37.59	56.41	11	37.60	56.40
11	35.47	59.11	11	37.64	56.34	11	37.62	56.37	11	37.61	56.39
11	35.46	59.12	11	38.33	55.33	11	37.79	56.13	11	37.75	56.18
12	35.52	59.05	12	45.18	43.48	12	45.92	41.27	12	44.11	45.52
12	35.60	58.96	12	59.89	-1.21	12	60.55	-5.25	12	58.95	2.63
12	35.58	58.99	12	68.01	-50.92	12	68.73	-55.33	12	67.26	-46.36
13	35.53	59.04	13	75.54	-97.01	13	76.43	-102.47	13	74.91	-93.17
13	35.53	59.04	13	82.45	-139.26	13	83.35	-144.82	13	81.97	-136.33
13	35.64	58.92	13	88.54	-176.55	13	89.68	-183.52	13	88.51	-176.35
14	35.68	58.87	14	92.70	-202.02	14	93.39	-206.26	14	93.44	-206.57

TABLE 4.8-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
14	35.54	59.03	14	93.20	-205.05	14	93.51	-206.97	14	93.53	-207.07
14	35.54	59.03	14	93.26	-205.45	14	93.51	-206.97	14	93.53	-207.07
14	35.63	58.93	14	93.29	-205.66	14	93.56	-207.27	15	93.56	-207.27
15	35.72	58.81	15	93.33	-205.86	15	93.54	-207.17	15	93.54	-207.17
15	35.81	58.72	15	93.29	-205.66	15	93.51	-206.97	15	93.54	-207.17
15	42.04	49.34	15	93.26	-205.45	15	93.44	-206.57	15	93.46	-206.67
16	52.48	23.65	16	93.20	-205.05	16	93.48	-206.77	16	93.49	-206.87
16	61.74	-12.54	16	92.70	-202.02	16	93.44	-206.57	16	93.49	-206.87
16	67.24	-46.18	16	92.70	-202.02	16	93.36	-206.06	16	93.44	-206.57
17	72.32	-77.30	17	93.20	-205.05	17	93.41	-206.36	17	93.43	-206.47
17	76.98	-105.81	17	93.20	-205.05	17	93.46	-206.67	17	93.48	-206.77
17	81.11	-131.07	17	93.20	-205.05	17	93.51	-206.97	17	93.51	-206.97
18	85.37	-157.15	18	93.33	-205.86	18	93.57	-207.38	18	93.57	-207.38
18	84.58	-152.30	18	93.23	-205.25	18	93.57	-207.38	18	93.57	-207.38
18	83.90	-148.15	18	93.29	-205.66	18	93.54	-207.17	18	93.54	-207.17
18	83.63	-146.54	18	93.26	-205.45	18	93.53	-207.07	18	93.56	-207.27
19	83.73	-147.14	19	93.29	-205.66	19	93.53	-207.07	19	93.57	-207.38
19	83.62	-146.44	19	93.34	-205.96	19	93.61	-207.58	19	93.62	-207.68
19	83.90	-148.15	19	93.36	-206.06	19	93.62	-207.68	19	93.66	-207.88

TABLE 4.8-2 (Cont'd)

THERMOMETER 29

TIME	TEMP	VOLTAGE
0	36.23	58.23
0	36.23	58.23
0	36.23	58.22
1	36.22	58.24
1	36.23	58.23
2	36.28	58.17
2	36.37	58.06
2	36.42	57.99
3	36.47	57.94
3	36.51	57.89
3	36.60	57.77
4	36.63	57.74
4	36.60	57.77
4	36.65	57.71
5	36.73	57.60
5	36.93	57.33
5	37.03	57.20
6	36.96	57.30
6	36.98	57.27
6	37.03	57.20
6	37.08	57.13
7	37.10	57.11
7	37.13	57.06
7	37.13	57.06
8	37.19	56.99
8	37.21	56.96
8	37.21	56.96
9	37.32	56.80
9	37.34	56.78
9	37.40	56.68
10	37.47	56.59
10	37.48	56.57
10	37.50	56.54
11	37.56	56.45
11	37.64	56.34
11	37.68	56.29
11	37.81	56.09
12	43.59	46.39
12	58.84	3.03
12	59.69	-0.
13	59.69	-0.
13	59.69	-0.
13	59.69	-0.
14	76.20	-101.05

THERMOMETER 30

TIME	TEMP	VOLTAGE
0	36.25	58.20
0	36.24	58.21
0	36.25	58.20
1	36.24	58.21
1	36.25	58.20
2	36.28	58.16
2	36.38	58.05
2	36.43	57.98
3	36.50	57.90
3	36.51	57.89
3	36.63	57.74
4	36.64	57.72
4	36.62	57.75
4	36.68	57.66
5	36.96	57.30
5	36.96	57.29
5	37.00	57.24
6	36.99	57.26
6	37.07	57.15
6	37.07	57.15
6	37.11	57.10
7	37.14	57.05
7	37.14	57.05
7	37.17	57.01
8	37.18	57.00
8	37.23	56.93
8	37.33	56.79
9	37.35	56.76
9	37.36	56.75
9	37.42	56.66
10	37.46	56.60
10	37.49	56.55
10	37.53	56.50
11	37.61	56.39
11	37.67	56.30
11	37.70	56.25
11	37.87	56.01
12	43.92	45.78
12	59.52	0.61
12	67.85	-49.93
13	75.36	-95.92
13	82.26	-138.15
13	88.70	-177.56
14	93.44	-206.57

THERMOMETER 31

TIME	TEMP	VOLTAGE
0	93.36	-206.06
0	93.33	-205.86
0	93.29	-205.66
1	92.70	-202.02
1	92.70	-202.02
2	92.70	-202.02
2	92.70	-202.02
2	92.70	-202.02
3	92.70	-202.02
3	92.70	-202.02
3	92.70	-202.02
4	93.20	-205.05
4	92.70	-202.02
4	93.20	-205.05
5	92.70	-202.02
5	92.70	-202.02
5	92.70	-202.02
6	92.70	-202.02
6	92.70	-202.02
6	93.20	-205.05
7	92.70	-202.02
7	92.70	-202.02
7	92.70	-202.02
7	92.70	-202.02
8	92.70	-202.02
8	93.16	-204.85
8	92.70	-202.02
9	93.20	-205.05
9	93.20	-205.05
9	93.20	-205.05
10	93.20	-205.05
10	92.70	-202.02
10	92.70	-202.02
11	94.81	-214.95
11	92.70	-202.02
11	92.70	-202.02
11	92.70	-202.02
12	92.70	-202.02
12	92.70	-202.02
12	92.70	-202.02
13	92.70	-202.02
13	93.18	-204.95
13	93.20	-205.05
14	93.48	-206.77

THERMOMETER 32

TIME	TEMP	VOLTAGE
0	93.56	-207.27
0	93.59	-207.48
0	93.56	-207.27
1	93.44	-206.57
1	93.41	-206.36
2	93.41	-206.36
2	93.41	-206.36
3	93.43	-206.47
3	93.44	-206.57
3	93.44	-206.57
3	93.43	-206.47
4	93.43	-206.47
4	93.43	-206.47
4	93.44	-206.57
5	93.41	-206.36
5	93.43	-206.47
5	93.36	-206.06
6	93.36	-206.06
6	93.36	-206.06
6	93.43	-206.47
7	93.39	-206.26
7	93.39	-206.26
7	93.38	-206.16
7	93.41	-206.36
8	93.44	-206.57
8	93.44	-206.57
8	93.43	-206.47
9	93.49	-206.87
9	93.48	-206.77
9	93.51	-206.97
10	93.54	-207.17
10	93.46	-206.67
10	93.39	-206.26
11	93.41	-206.36
11	93.41	-206.36
11	93.39	-206.26
11	93.39	-206.26
12	93.36	-206.06
12	93.43	-206.47
12	93.43	-206.47
13	93.41	-206.36
13	93.41	-206.36
13	93.36	-206.06
14	93.44	-206.57

TABLE 4.8-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
14	76.20	-101.05	14	93.51	-206.97	14	93.48	-206.77	14	93.48	-206.77
14	76.20	-101.05	14	93.51	-206.97	14	93.54	-207.17	14	93.54	-207.17
15	93.36	-206.06	15	93.56	-207.27	15	93.57	-207.38	15	93.57	-207.38
15	93.33	-205.86	15	93.54	-207.17	15	93.56	-207.27	15	93.56	-207.27
15	93.29	-205.66	15	93.53	-207.07	15	93.53	-207.07	15	93.54	-207.17
15	93.29	-205.66	15	93.51	-206.97	15	93.48	-206.77	15	93.51	-206.97
16	93.28	-205.56	16	93.44	-206.57	16	93.49	-206.87	16	93.49	-206.87
16	93.23	-205.25	16	93.39	-206.26	16	93.51	-206.97	16	93.48	-206.77
16	93.20	-205.05	16	93.41	-206.36	16	93.48	-206.77	16	93.46	-206.67
17	93.18	-204.95	17	93.38	-206.16	17	93.43	-206.47	17	93.41	-206.36
17	93.51	-206.97	17	93.49	-206.87	17	93.46	-206.67	17	93.48	-206.77
17	93.51	-206.97	17	93.54	-207.17	17	93.53	-207.07	17	93.56	-207.27
18	93.56	-207.27	18	93.61	-207.58	18	93.57	-207.38	18	93.57	-207.38
18	93.46	-206.67	18	93.46	-206.67	18	93.56	-207.27	18	93.53	-207.07
18	93.53	-207.07	18	93.56	-207.27	18	93.57	-207.38	18	93.54	-207.17
19	93.57	-207.38	19	93.57	-207.38	19	93.59	-207.48	19	93.54	-207.17
19	93.54	-207.17	19	93.51	-206.97	19	93.41	-206.36	19	93.56	-207.27
19	93.59	-207.48	19	93.62	-207.68	19	93.62	-207.68	19	93.62	-207.68
19	93.64	-207.78	19	93.62	-207.68	19	93.66	-207.88	19	93.64	-207.78

4.9 Run 22

Run 22 (reactor run 109) was a high-flow-rate, high-pressure, high-heating-rate run made with Configuration 2. Parametric conditions and test results are summarized in Table 4.9-1. Timing information for the run is given in Table 4.0-1.

The tank was filled approximately 40 minutes before the timer was turned on for this run. Pressure and flow data are given in Figure 4.9-1 and strip-chart data are presented in Figures 4.9-2 through 4.9-10.

Table 4.9-1

Parametric Conditions and Test Results Summary
for Run 22-109

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	118.5	8.7
Pressure (psia)	60	58.4	
Temperature[b] (°R)		37.6	
Weight[c] (lb)	66 - 74	69.6	
Final Conditions[d]			
Pressure (psia)	60	54.1	16.7
Temperature (°R)	≤ 47	41.6	
Saturation Temp[e] (°R)	47	46.1	
Run Data			
Tempeature Rise (°R)	8	4.0	8.7 - 16.7
Run Time[f] (min)	9 - 11	10.3	7.4 - 17.7
Flow Time (min)	9 - 11	9.0	8.7 - 17.7
Flow Rage[g]: (gpm)	12.25	13.2	
(lb/sec)	0.12	0.13	
Power Level (Mw)	6.0	5.72	
Integrated Power (Mw-hr)	1.0	0.98	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank.
[c]Temp = 37.6°R, Vol. = 118.5 gal, ρ = 4.4 lbs/ft^3 = 0.588 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961).
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

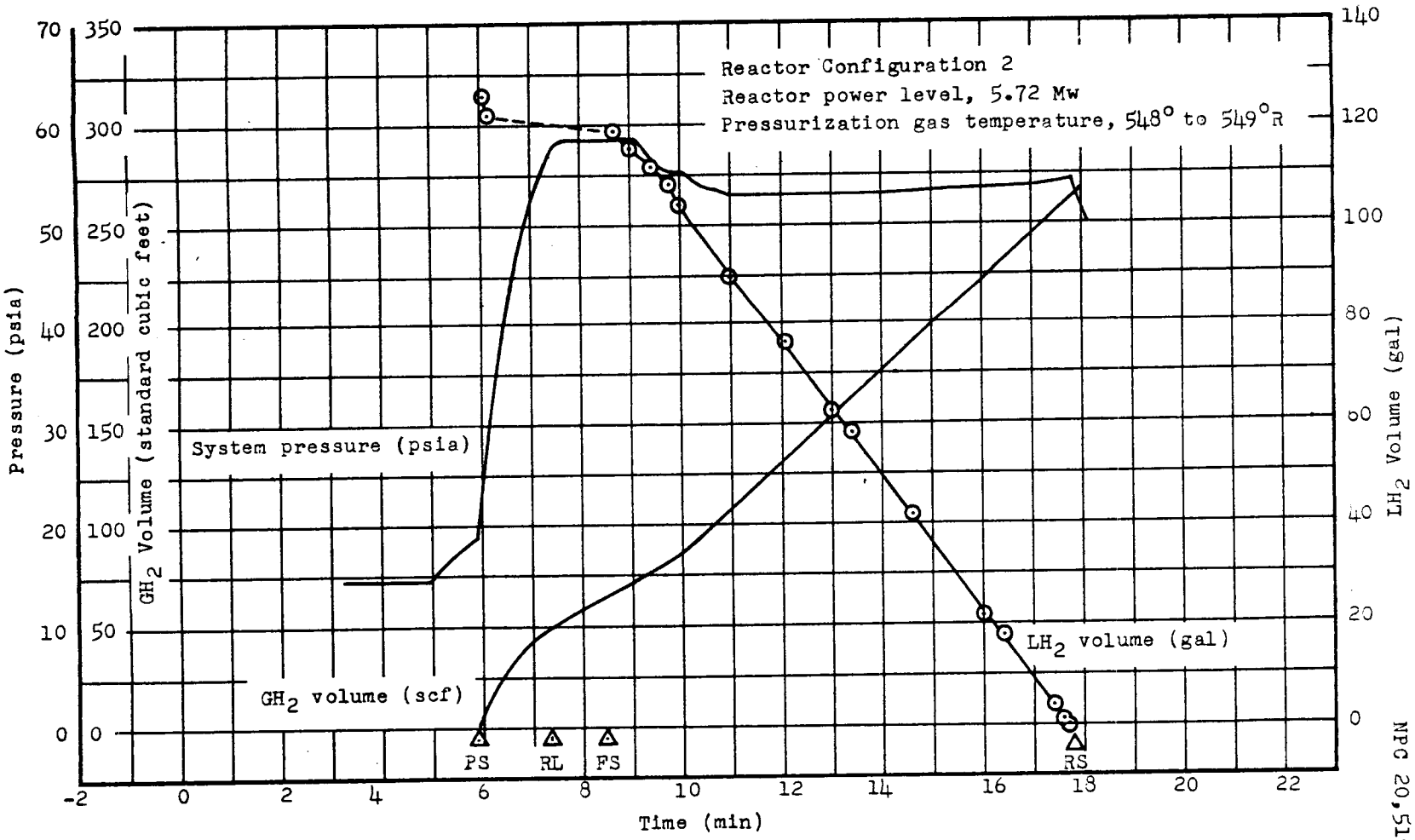

Figure 4.9-1 Pressure and Flow Data: Run 22-109

NPC 20,510

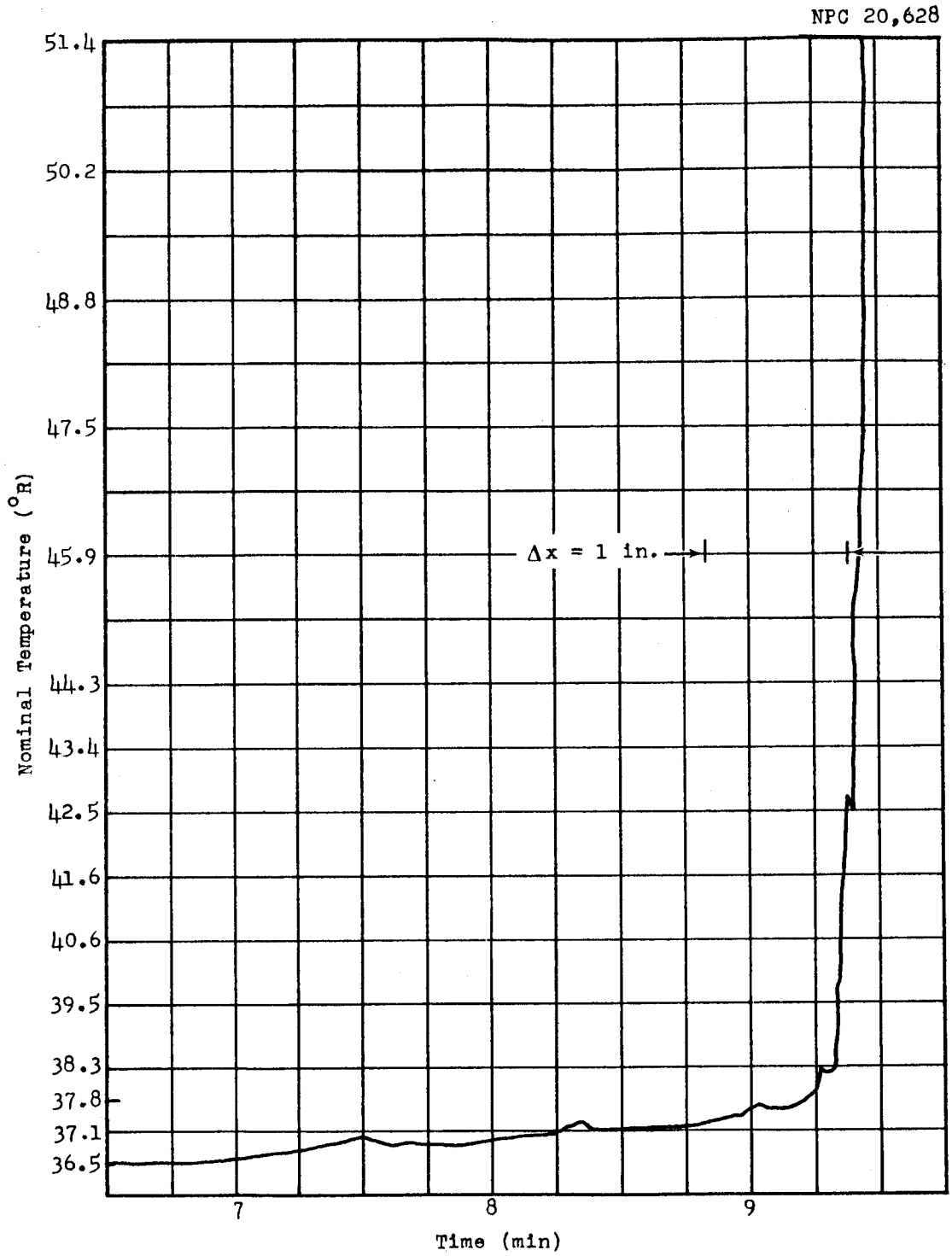

Figure 4.9-2 Strip-Chart Temperature Data: Run 22-109, Thermometer 14

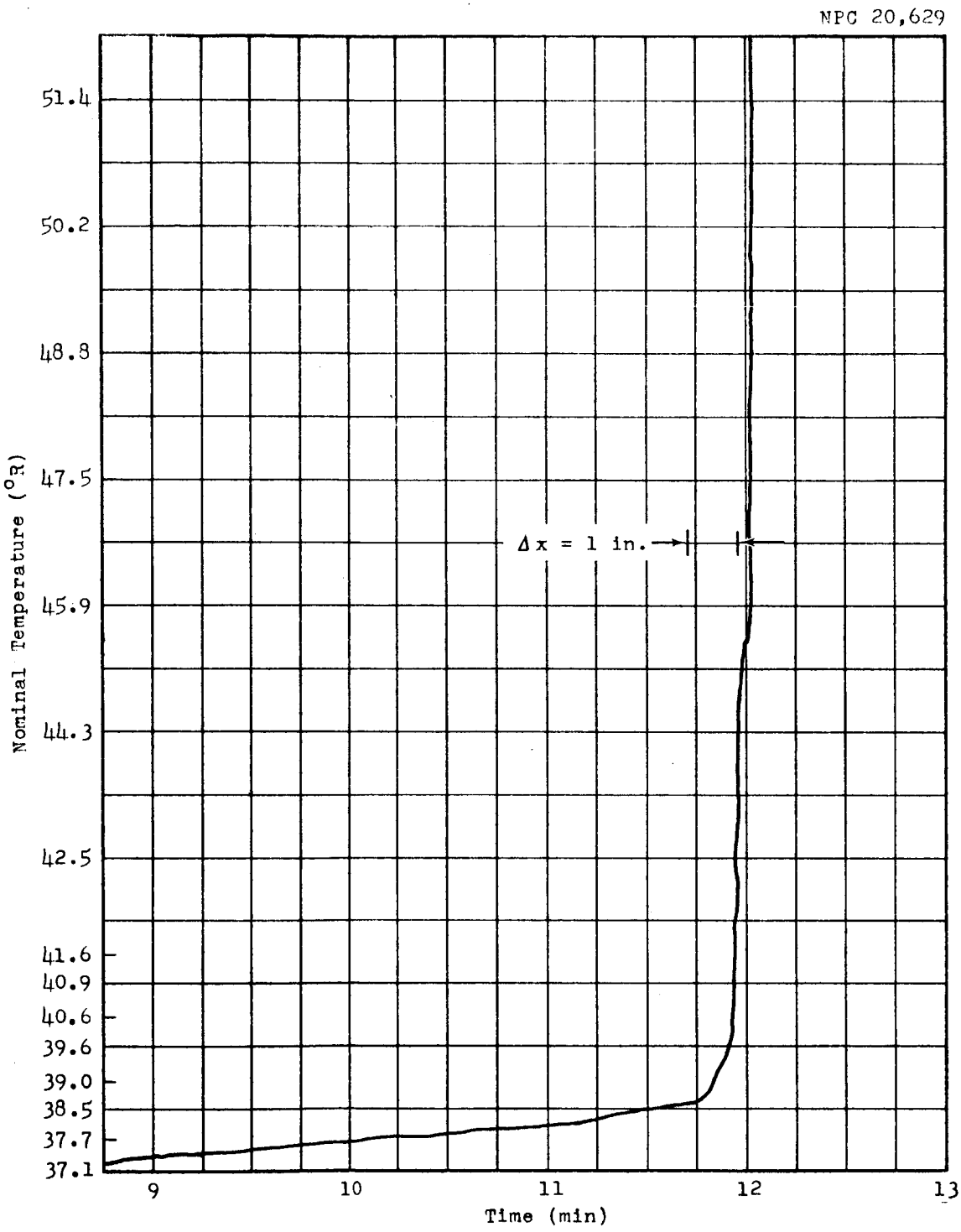

Figure 4.9-3 Strip-Chart Temperature Data: Run 22-109, Thermometer 10

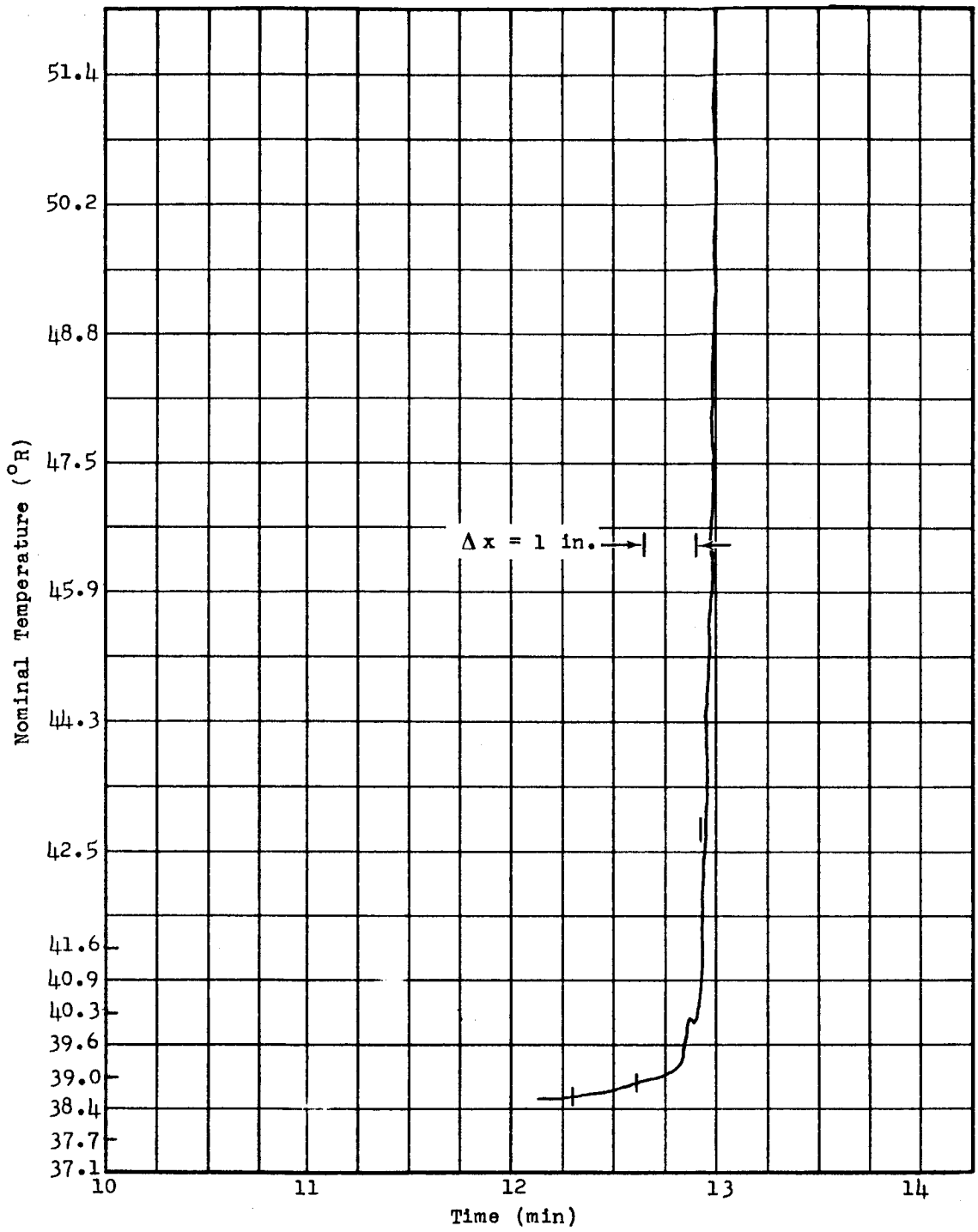

Figure 4.9-4 Strip-Chart Temperature Data: Run 22-109, Thermometer 9

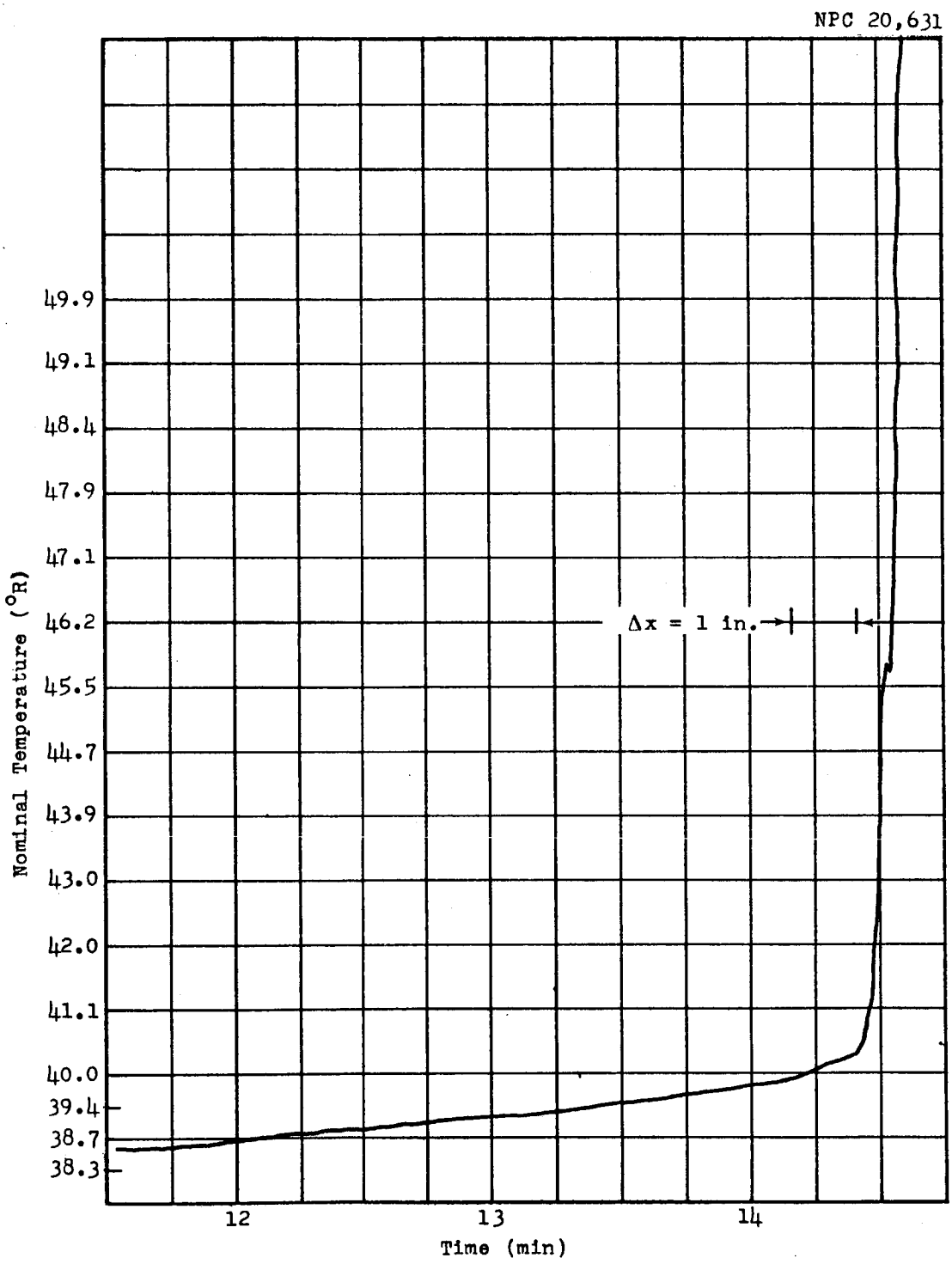

Figure 4.9-5 Strip-Chart Temperature Data: Run 22-109, Thermometer 8

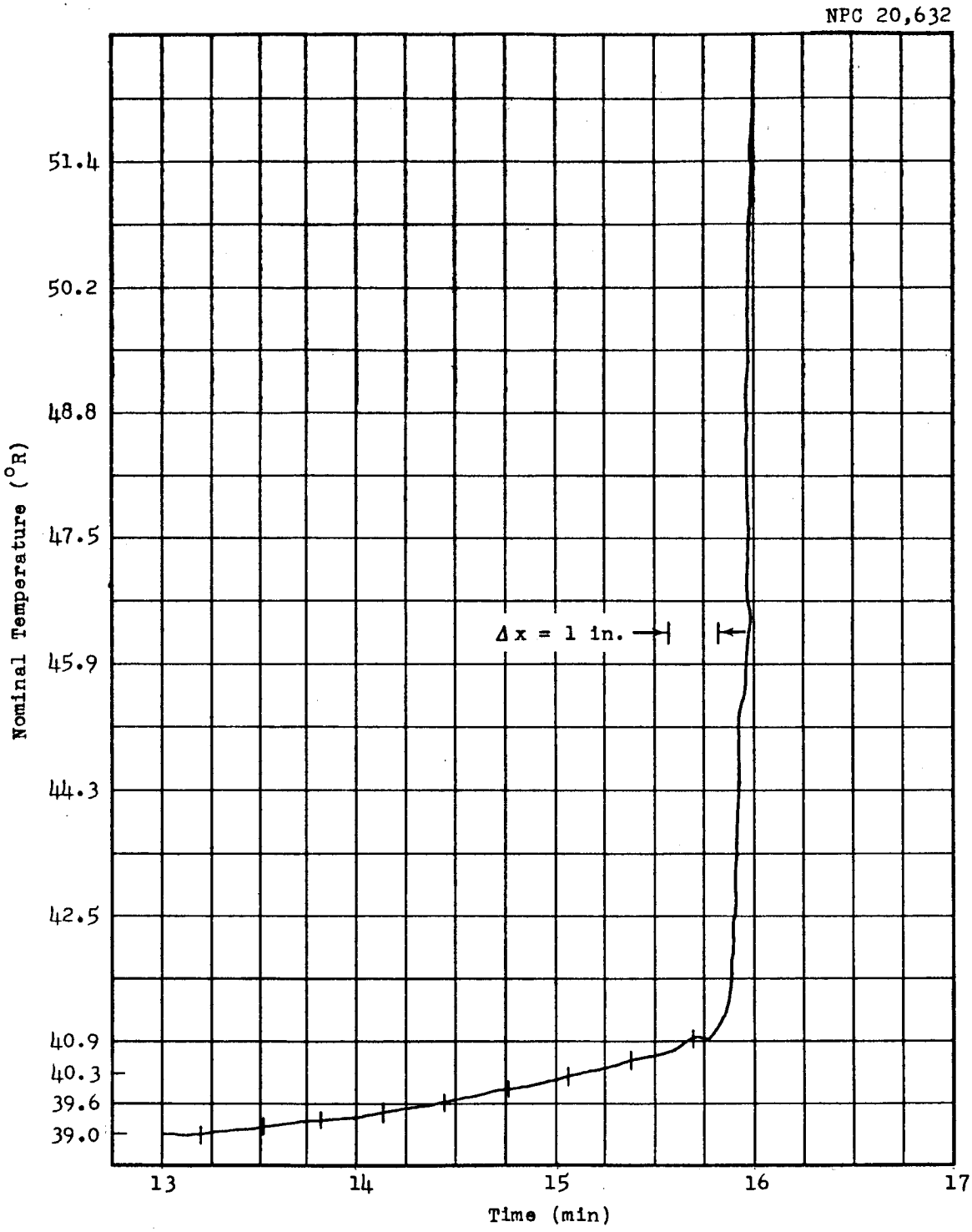

Figure 4.9-6 Strip-Chart Temperature Data: Run 22-109, Thermometer 7

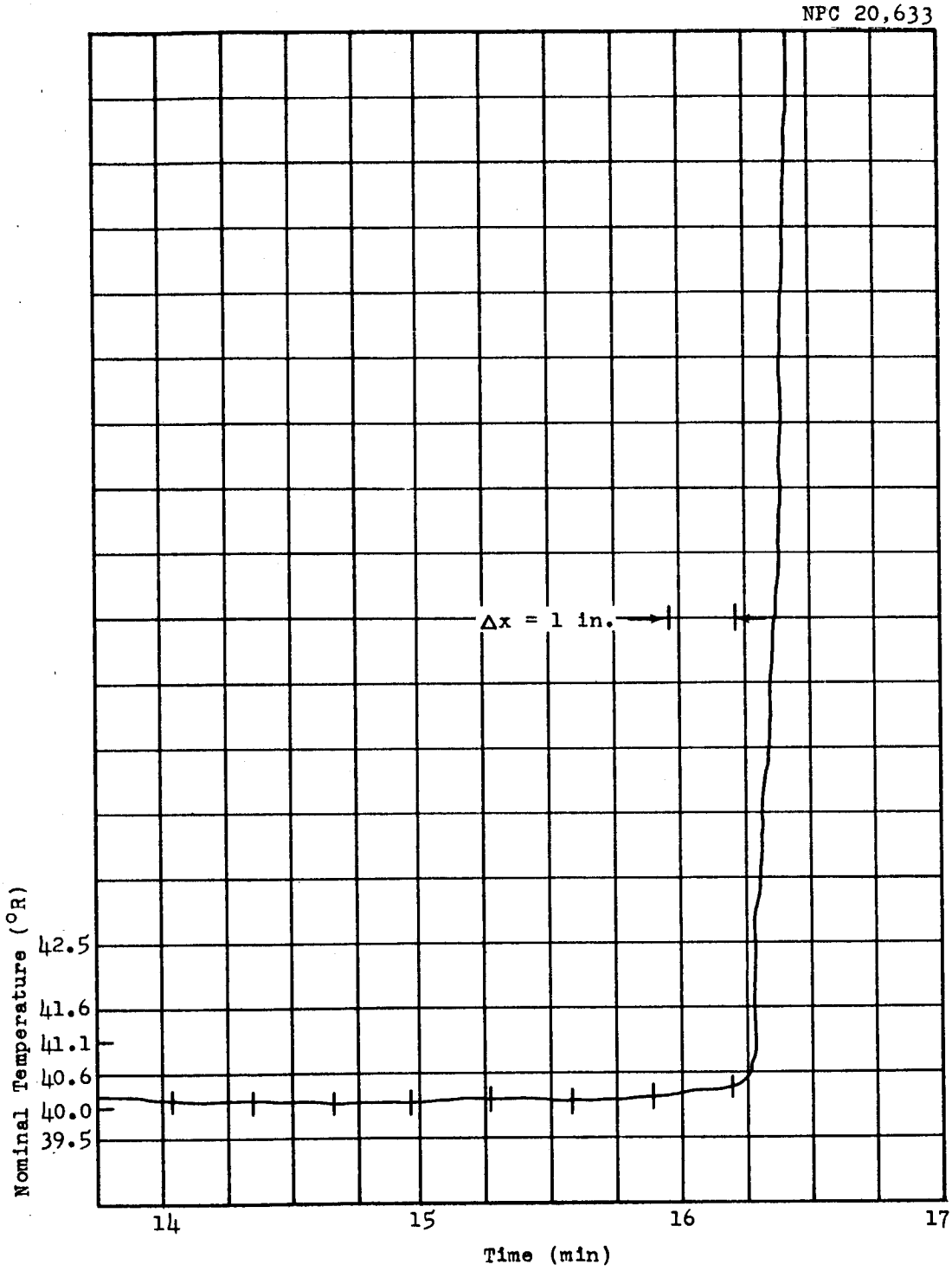

Figure 4.9-7 Strip-Chart Temperature Data: Run 22-109, Thermometer 25

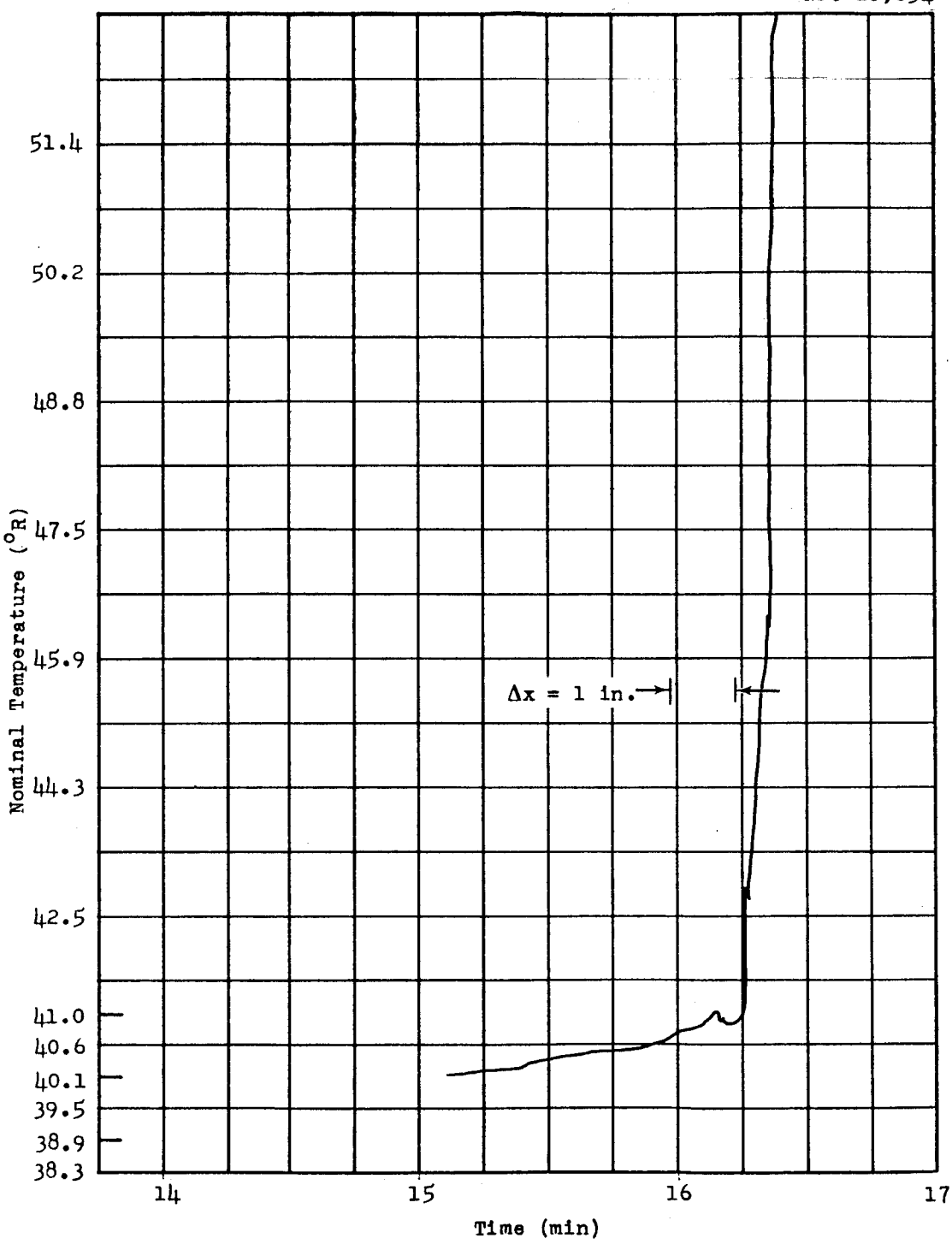

Figure 4.9-8 Strip-Chart Temperature Data: Run 22-109, Thermometer 22

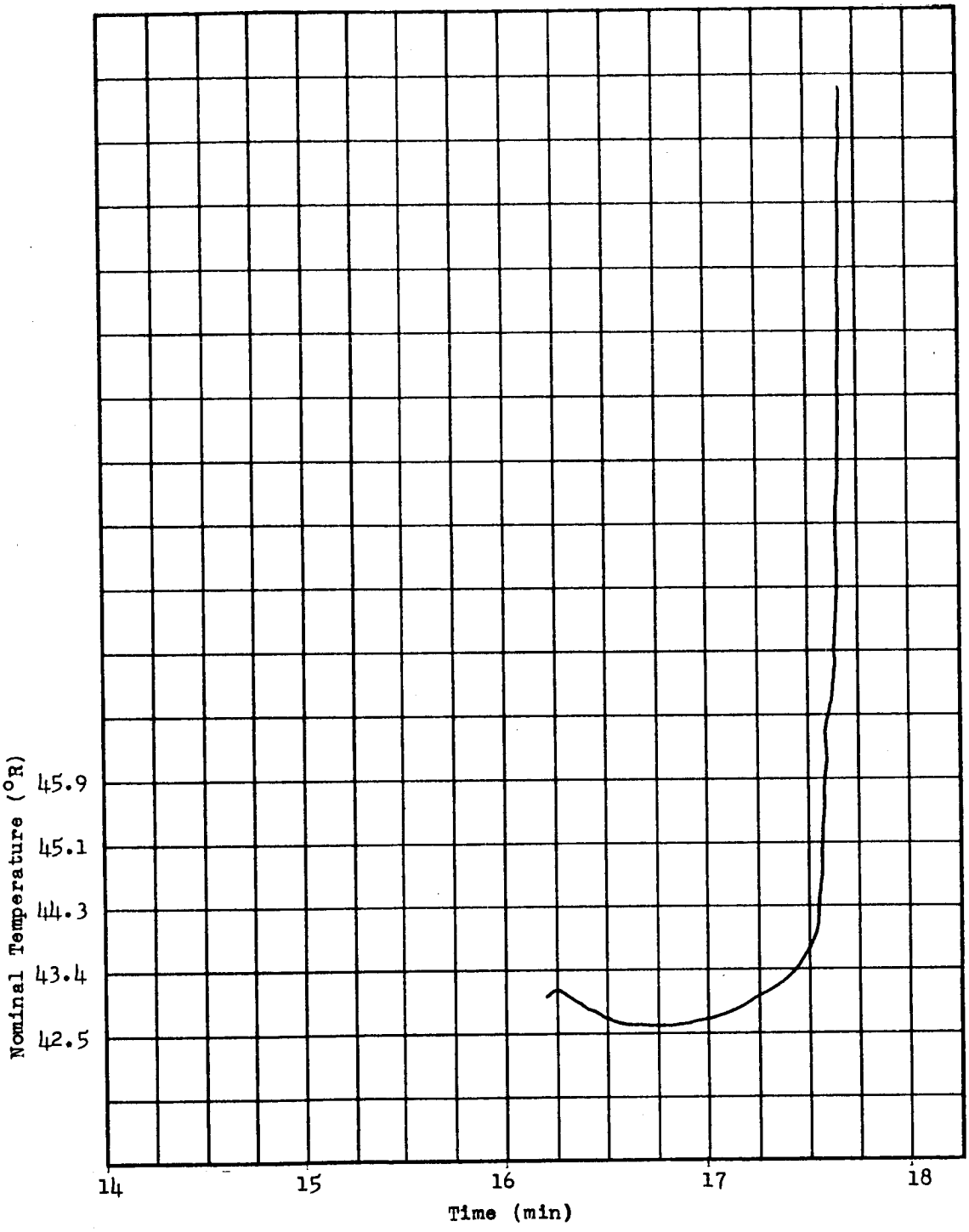

Figure 4.9-9 Strip-Chart Temperature Data: Run 22-109, Thermometer 4

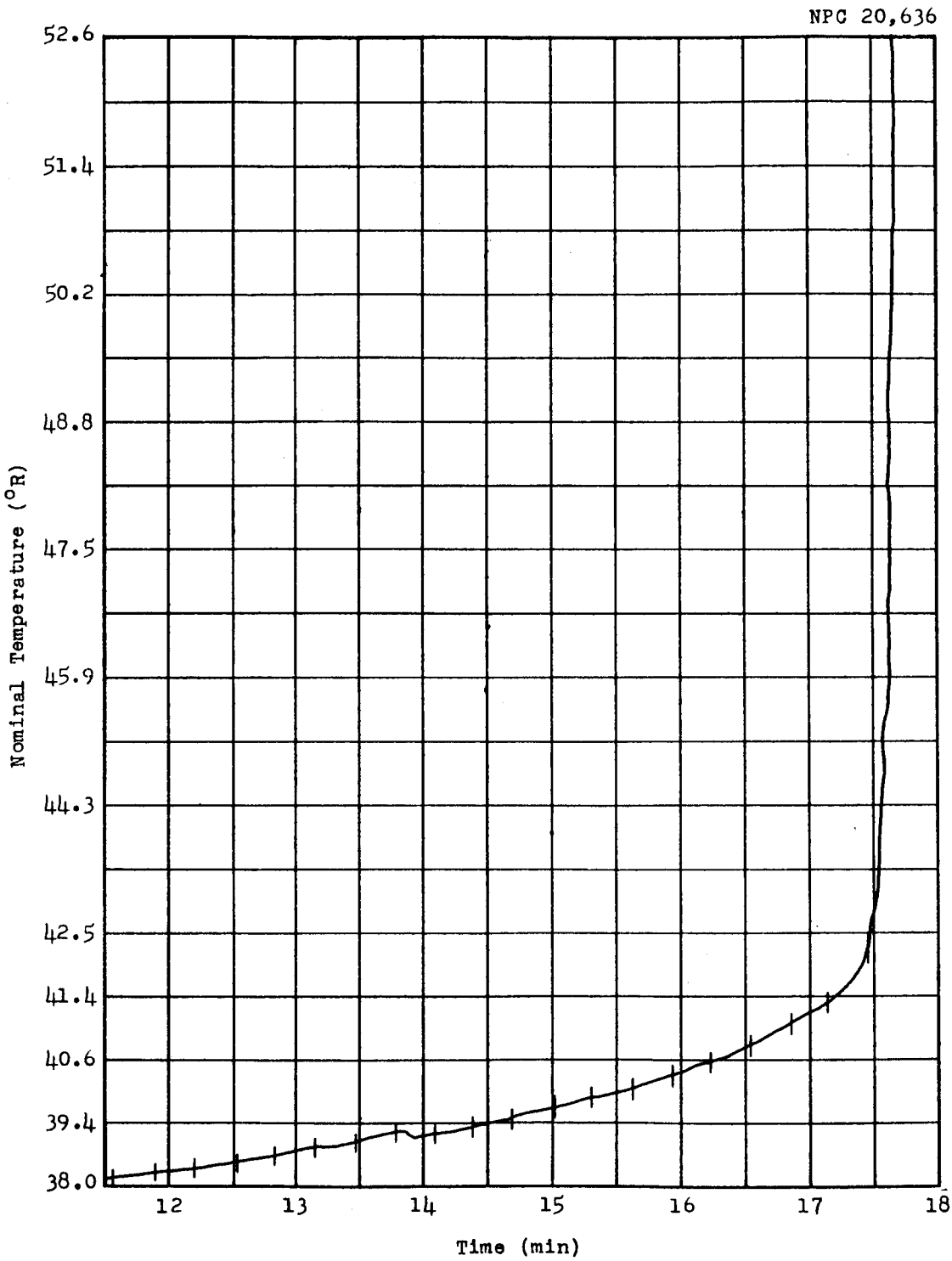

Figure 4.9-10 Strip-Chart Temperature Data: Run 22-109, Thermometer 1

TABLE 4.9-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 22 -109

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.36	58.07	0	36.33	58.11	0	36.47	57.93	0	44.65	44.63
0	36.42	58.00	0	36.33	58.11	0	36.47	57.93	0	44.60	44.72
2	36.34	58.09	2	36.33	58.10	3	36.47	57.93	3	43.18	47.13
3	36.33	58.11	3	36.33	58.11	3	36.47	57.93	3	43.11	47.25
3	36.36	58.07	3	36.36	58.07	3	36.48	57.92	3	43.10	47.28
3	36.33	58.11	3	36.37	58.06	3	36.50	57.90	3	43.06	47.36
4	36.37	58.06	4	36.35	58.08	4	36.50	57.89	4	43.01	47.45
4	36.38	58.04	4	36.38	58.04	4	36.50	57.90	4	42.95	47.56
4	36.40	58.02	4	36.36	58.07	4	36.50	57.90	4	42.90	47.65
5	36.39	58.03	5	36.37	58.05	5	36.54	57.84	5	42.92	47.62
5	36.42	58.00	5	36.37	58.05	5	36.57	57.81	5	42.91	47.64
5	36.42	58.00	5	36.42	57.99	5	36.61	57.76	5	42.91	47.63
6	36.50	57.89	6	36.44	57.97	6	36.65	57.70	6	42.84	47.77
6	36.55	57.83	6	36.53	57.86	6	36.72	57.62	6	42.63	48.17
6	36.63	57.73	6	36.60	57.77	6	36.75	57.58	6	42.60	48.24
6	36.86	57.43	7	36.94	57.32	7	37.03	57.21	7	42.81	47.82
7	37.59	56.41	7	37.35	56.76	7	37.60	56.39	7	43.07	47.33
7	37.33	56.79	7	37.30	56.84	7	37.24	56.91	7	43.21	47.08
7	37.27	56.87	7	37.27	56.87	7	38.02	55.79	7	43.62	46.17
8	37.39	56.70	8	37.63	56.35	8	37.67	56.30	8	43.42	46.69
6	37.45	56.61	8	37.53	56.50	8	37.53	56.50	8	43.44	46.65
8	37.74	56.19	8	37.63	56.35	8	37.77	56.15	8	43.54	46.47
9	37.46	56.60	9	37.67	56.29	9	37.67	56.30	9	43.55	46.46
9	37.62	56.37	9	37.61	56.38	9	37.65	56.32	9	43.37	46.78
9	37.60	56.39	9	37.77	56.15	9	37.80	56.11	9	43.40	46.72
10	37.74	56.20	10	37.81	56.09	10	37.89	55.98	10	43.34	46.83
10	38.02	55.79	10	37.95	55.88	10	38.06	55.72	10	42.94	47.58
10	37.94	55.90	10	37.99	55.83	10	38.09	55.68	10	41.71	49.98
11	38.11	55.65	11	38.12	55.64	11	38.22	55.49	11	41.66	50.08
11	38.26	55.43	11	38.25	55.44	11	38.35	55.29	11	41.69	50.02
11	38.26	55.43	11	38.50	55.07	11	38.44	55.17	11	41.65	50.09
11	38.54	55.01	11	38.57	54.97	11	38.56	54.98	11	41.61	50.17
12	38.54	55.01	12	38.82	54.60	12	38.64	54.87	12	41.55	50.29
12	38.72	54.75	12	38.74	54.72	12	38.82	54.61	12	42.07	49.29
12	38.81	54.62	12	39.01	54.33	12	38.96	54.41	12	42.12	49.19
13	38.97	54.39	13	39.10	54.21	13	39.13	54.16	13	42.11	49.20
13	39.12	54.18	13	39.10	54.21	13	39.25	54.00	13	42.02	49.39
13	39.35	53.85	13	39.35	53.85	13	39.44	53.72	13	43.32	46.87
14	39.43	53.74	14	39.68	53.40	14	39.64	53.46	14	44.55	44.81
14	59.69	-0.	14	39.72	53.25	14	39.72	53.25	14	44.03	45.63
14	59.69	-0.	14	39.97	52.90	14	39.94	52.94	14	43.63	46.15
15	59.69	-0.	15	40.23	52.52	15	40.18	52.59	15	43.33	46.86
15	59.69	-0.	15	40.34	52.36	15	40.39	52.28	15	43.40	46.73
15	59.69	-0.	15	40.58	51.98	15	40.61	51.94	15	42.92	47.61

* Timing interval = 0.309 minute

TABLE 4.9-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
15	59.69	-0.	15	40.83	51.58	15	40.85	51.54	15	43.14	47.21
16	59.69	-0.	16	41.16	50.99	16	41.09	51.12	16	43.08	47.31
16	41.28	50.78	16	41.36	50.64	16	41.44	50.48	16	42.66	48.12
16	59.69	-0.	16	41.66	50.08	16	41.78	49.85	16	42.72	48.01
17	59.69	-0.	17	42.15	49.12	17	42.23	48.97	17	43.16	47.16
17	59.69	-0.	17	43.08	47.32	17	43.28	46.95	17	45.26	43.28
17	65.43	-35.12	17	66.08	-39.13	17	68.22	-52.18	17	69.53	-60.21

TABLE 4.9-2 (Cont'd)

THERMOMETER 5

TIME	TEMP	VOLTAGE
0	36.34	58.09
0	36.33	58.11
3	36.33	58.10
3	36.37	58.06
3	36.33	58.11
3	36.33	58.11
4	36.33	58.10
4	36.33	58.11
4	36.35	58.08
5	36.40	58.02
5	36.40	58.02
5	36.43	57.98
6	36.43	57.98
6	36.49	57.91
6	36.59	57.78
7	36.71	57.63
7	36.97	57.28
7	37.74	56.20
7	37.17	57.01
8	37.17	57.01
8	37.37	56.74
8	37.44	56.63
9	37.45	56.61
9	37.52	56.51
9	37.67	56.29
10	37.76	56.17
10	37.93	55.91
10	37.93	55.91
11	38.01	55.80
11	38.20	55.52
11	38.39	55.24
11	38.41	55.20
12	38.53	55.03
12	38.66	54.84
12	38.89	54.51
13	38.96	54.41
13	39.10	54.21
13	39.33	53.87
14	39.48	53.67
14	39.68	53.30
14	39.84	53.08
15	40.16	52.63
15	40.31	52.41
15	40.51	52.09

THERMOMETER 6

TIME	TEMP	VOLTAGE
0	93.95	-209.66
0	93.95	-209.66
3	93.78	-208.65
3	93.75	-208.45
3	93.72	-208.25
3	93.62	-207.65
4	93.62	-207.65
4	93.72	-208.25
4	93.72	-208.25
5	93.72	-208.25
5	93.70	-208.15
5	93.72	-208.25
6	93.72	-208.25
6	93.72	-208.25
6	93.72	-208.25
7	93.78	-208.65
7	93.72	-208.25
7	93.75	-208.45
7	93.72	-208.25
8	93.78	-208.65
8	93.78	-208.65
8	93.78	-208.65
9	93.78	-208.65
9	93.78	-208.65
9	93.78	-208.65
10	93.78	-208.65
10	93.78	-208.65
10	93.78	-208.65
11	93.78	-208.65
11	93.78	-208.65
11	93.78	-208.65
11	93.78	-208.65
12	93.78	-208.65
12	93.78	-208.65
12	93.78	-208.65
13	93.78	-208.65
13	93.78	-208.65
13	93.78	-208.65
14	93.78	-208.65
14	93.78	-208.65
14	93.78	-208.65
15	93.78	-208.65
15	93.92	-209.46
15	93.78	-208.65

THERMOMETER 7

TIME	TEMP	VOLTAGE
0	36.30	58.14
0	36.31	58.13
3	36.33	58.10
3	36.33	58.11
3	36.32	58.12
3	36.32	58.12
4	36.32	58.12
4	36.32	58.12
4	36.34	58.09
5	36.33	58.11
5	36.33	58.11
5	36.38	58.04
6	36.45	57.96
6	36.51	57.88
6	36.57	57.81
7	36.79	57.52
7	36.85	57.44
7	36.98	57.27
7	37.05	57.18
8	37.09	57.12
8	37.28	56.86
8	37.29	56.85
9	37.44	56.63
9	37.48	56.57
9	37.62	56.37
10	37.74	56.19
10	37.87	56.00
10	38.00	55.81
11	38.07	55.71
11	38.14	55.61
11	38.27	55.41
12	38.41	55.20
12	38.54	55.01
12	38.71	54.76
12	38.85	54.56
13	39.07	54.25
13	39.28	53.95
13	39.23	54.02
14	39.49	53.65
14	39.67	53.31
14	39.91	52.98
15	40.18	52.60
15	40.52	52.07
15	40.93	51.40

THERMOMETER 8

TIME	TEMP	VOLTAGE
0	36.64	57.72
0	36.64	57.72
3	36.61	57.76
3	36.62	57.74
3	36.61	57.76
3	36.61	57.76
4	36.58	57.79
4	36.61	57.76
4	36.62	57.75
5	36.65	57.70
5	36.65	57.70
5	36.66	57.69
6	36.71	57.63
6	36.77	57.55
6	36.88	57.41
7	37.03	57.21
7	37.11	57.09
7	37.29	56.85
7	37.27	56.87
8	37.37	56.73
8	37.47	56.59
8	37.53	56.50
9	37.66	56.31
9	37.69	56.27
9	37.88	55.99
10	38.01	55.80
10	38.07	55.71
10	38.16	55.58
11	38.31	55.35
11	38.41	55.21
11	38.52	55.04
12	38.69	54.79
12	38.85	54.56
12	38.97	54.39
12	39.12	54.18
13	39.28	53.96
13	39.48	53.67
13	39.76	53.20
14	39.86	53.05
14	41.81	49.78
14	62.92	-19.78
15	72.96	-81.18
15	81.32	-132.38
15	89.06	-179.75

TABLE 4.9-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
16	40.82	51.59	16	93.88	-209.26	16	47.85	36.83	16	93.88	-209.26
16	41.07	51.16	16	93.78	-208.65	16	66.31	-40.50	16	93.82	-208.86
16	41.42	50.52	16	93.78	-208.65	16	75.16	-94.69	16	93.78	-208.65
16	41.79	49.82	16	93.78	-208.65	16	82.50	-139.60	16	93.78	-208.65
17	42.51	48.42	17	93.78	-208.65	17	89.34	-181.46	17	93.78	-208.65
17	59.69	-0.	17	93.78	-208.65	17	94.10	-210.56	17	94.11	-210.66
17	74.84	-92.73	17	93.78	-208.65	17	94.11	-210.66	17	94.13	-210.76

TABLE 4.9-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.32	58.12	0	36.31	58.13	0	45.41	42.86	0	61.90	-13.55
0	36.32	58.12	0	36.32	58.12	0	45.42	42.82	0	61.84	-13.15
3	36.33	58.10	3	36.37	58.06	3	45.42	42.83	3	62.31	-16.06
3	36.29	58.15	3	36.36	58.07	3	45.43	42.80	3	61.99	-14.05
3	36.33	58.11	3	36.32	58.12	3	45.41	42.86	3	61.94	-13.78
3	36.33	58.11	3	36.41	58.01	4	45.42	42.82	4	61.83	-13.08
4	36.35	58.08	4	36.33	58.10	4	45.41	42.86	4	61.84	-13.15
4	36.33	58.10	4	36.38	58.04	4	45.42	42.82	4	62.00	-14.11
4	36.33	58.11	4	36.33	58.11	4	45.42	42.82	4	61.83	-13.08
5	36.38	58.04	5	36.36	58.07	5	45.44	42.76	5	62.00	-14.15
5	36.37	58.05	5	36.37	58.06	5	45.42	42.81	5	61.87	-13.35
5	36.37	58.05	5	36.41	58.01	5	45.43	42.78	5	61.87	-13.36
6	36.46	57.94	6	36.46	57.95	6	45.46	42.69	6	61.91	-13.59
6	36.52	57.87	6	36.56	57.82	6	45.49	42.61	6	62.00	-14.12
6	36.59	57.78	6	36.59	57.78	6	45.53	42.49	6	62.35	-16.26
7	36.72	57.61	7	36.72	57.62	7	45.56	42.41	7	61.94	-13.80
7	36.79	57.52	7	36.79	57.52	7	45.61	42.25	7	61.84	-13.13
7	36.96	57.30	7	37.03	57.20	7	45.69	41.99	7	62.00	-14.12
8	37.03	57.21	8	37.06	57.16	8	45.70	41.96	8	62.35	-16.26
8	37.09	57.12	8	37.08	57.14	8	45.75	41.82	8	62.15	-15.06
8	37.16	57.03	8	37.24	56.92	8	45.77	41.75	8	62.15	-15.08
8	37.29	56.85	8	37.30	56.83	8	45.86	41.46	8	62.97	-20.07
9	37.37	56.73	9	37.43	56.64	9	45.90	41.35	9	62.17	-15.15
9	37.48	56.57	9	37.53	56.50	9	45.95	41.17	9	62.97	-20.10
9	37.63	56.35	9	37.67	56.30	9	46.01	40.99	9	62.18	-15.25
10	37.74	56.20	10	37.74	56.20	10	46.06	40.85	10	73.65	-85.46
10	37.83	56.07	10	37.85	56.04	10	46.17	40.52	10	89.39	-181.76
10	37.95	55.88	10	38.00	55.82	10	46.29	40.19	10	93.78	-208.65
11	38.08	55.70	11	38.14	55.61	11	54.55	15.56	11	93.78	-208.65
11	38.21	55.50	11	38.37	55.26	11	72.48	-78.27	11	93.78	-208.65
11	38.30	55.37	11	38.60	54.93	11	85.06	-155.26	11	93.78	-208.65
12	38.52	55.04	12	45.94	41.20	12	93.78	-208.65	12	94.03	-210.16
12	38.62	54.90	12	66.67	-42.74	12	93.78	-208.65	12	94.06	-210.36
12	38.91	54.47	12	78.57	-115.52	12	93.78	-208.65	12	94.06	-210.36
12	40.17	52.61	12	88.50	-176.34	12	93.72	-208.25	12	94.06	-210.36
13	59.69	-0.	13	93.78	-208.65	13	94.05	-210.26	13	94.08	-210.46
13	59.69	-0.	13	93.78	-208.65	13	94.06	-210.36	13	94.05	-210.26
13	59.69	-0.	13	93.78	-208.65	13	94.05	-210.26	13	94.06	-210.36
14	92.47	-200.63	14	93.95	-209.66	14	94.10	-210.56	14	94.10	-210.56
14	93.65	-207.85	14	94.08	-210.46	14	94.10	-210.56	14	94.08	-210.46
14	93.72	-208.25	14	94.05	-210.26	14	94.10	-210.56	14	94.10	-210.56
15	93.72	-208.25	15	94.06	-210.36	15	94.06	-210.36	15	94.05	-210.26
15	93.78	-208.65	15	94.13	-210.76	15	94.14	-210.86	15	94.14	-210.86
15	93.78	-208.65	15	94.08	-210.46	15	94.14	-210.86	15	94.14	-210.86

TABLE 4.9-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
16	93.98	-209.86	16	94.10	-210.56	16	94.16	-210.96	16	94.10	-210.56
16	93.93	-209.56	16	94.08	-210.46	16	94.11	-210.66	16	94.08	-210.46
16	93.96	-209.76	16	94.06	-210.36	16	94.10	-210.56	16	94.11	-210.66
16	93.95	-209.66	16	94.06	-210.36	16	94.03	-210.16	16	94.08	-210.46
17	93.92	-209.46	17	94.03	-210.16	17	94.10	-210.56	17	94.11	-210.66
17	93.95	-209.66	17	94.10	-210.56	17	94.10	-210.56	17	94.11	-210.66
17	94.10	-210.56	17	94.16	-210.96	17	94.00	-209.96	17	93.90	-209.36

TABLE 4.9-2 (Cont'd)

THERMOMETER 13

TIME	TEMP	VOLTAGE
0	36.33	58.10
0	36.33	58.10
3	36.34	58.09
3	36.32	58.12
3	36.34	58.09
4	36.34	58.09
4	36.35	58.08
4	36.36	58.07
4	36.37	58.05
5	36.37	58.06
5	36.42	58.00
5	36.42	58.00
6	36.50	57.90
6	36.58	57.80
6	36.61	57.76
7	36.69	57.65
7	36.93	57.34
7	37.05	57.18
8	37.11	57.10
8	37.26	56.89
8	37.23	56.93
8	37.42	56.66
9	37.56	56.45
9	38.23	55.47
9	59.69	-0.
10	59.69	-0.
10	91.31	-193.50
10	93.98	-209.86
11	93.98	-209.86
11	93.93	-209.56
11	94.00	-209.96
12	93.98	-209.86
12	94.01	-210.06
12	94.03	-210.16
12	93.95	-209.66
13	94.03	-210.16
13	94.08	-210.46
13	94.08	-210.46
14	94.06	-210.36
14	94.08	-210.46
14	94.06	-210.36
15	94.05	-210.26
15	94.16	-210.96
15	94.19	-211.16

THERMOMETER 14

TIME	TEMP	VOLTAGE
0	36.33	58.11
0	36.30	58.14
3	36.33	58.11
3	36.33	58.11
3	36.36	58.07
4	36.37	58.06
4	36.33	58.10
4	36.40	58.02
4	36.33	58.11
5	36.36	58.07
5	36.37	58.05
5	36.39	58.03
6	36.58	57.80
6	36.54	57.85
6	36.60	57.77
7	36.71	57.63
7	36.99	57.26
7	37.14	57.05
8	37.09	57.12
8	37.40	56.69
8	37.39	56.70
8	37.60	56.40
9	37.88	55.99
9	59.13	2.01
9	77.35	-108.09
10	91.73	-196.11
10	93.78	-208.65
10	94.06	-210.36
11	94.11	-210.66
11	94.03	-210.16
11	94.08	-210.46
12	94.08	-210.46
12	94.00	-209.96
12	94.06	-210.36
13	94.05	-210.26
13	94.10	-210.56
13	94.11	-210.66
13	94.11	-210.66
14	94.05	-210.26
14	94.10	-210.56
14	94.05	-210.26
15	94.08	-210.46
15	94.13	-210.76
15	94.14	-210.86

THERMOMETER 15

TIME	TEMP	VOLTAGE
0	36.34	58.09
0	36.33	58.11
3	36.36	58.07
3	36.35	58.08
3	36.35	58.08
4	36.37	58.05
4	36.37	58.06
4	36.36	58.07
4	36.37	58.05
5	36.40	58.02
5	36.41	58.01
5	36.44	57.97
6	36.58	57.80
6	36.60	57.77
6	36.75	57.57
7	36.82	57.48
7	37.21	56.96
7	37.49	56.56
8	37.51	56.52
8	37.42	56.66
8	38.03	55.77
8	38.14	55.60
9	52.07	24.29
9	75.79	-98.55
9	91.39	-194.00
10	93.78	-208.65
10	94.06	-210.36
10	94.08	-210.46
11	94.11	-210.66
11	94.11	-210.66
11	94.06	-210.36
12	94.08	-210.46
12	94.10	-210.56
12	94.05	-210.26
13	94.06	-210.36
13	94.10	-210.56
13	94.06	-210.36
13	94.10	-210.56
14	94.10	-210.56
14	94.10	-210.56
14	94.10	-210.56
15	94.06	-210.36
15	94.13	-210.76
15	94.14	-210.86

THERMOMETER 16

TIME	TEMP	VOLTAGE
0	35.97	58.53
0	35.98	58.52
3	36.00	58.50
3	36.00	58.50
3	35.98	58.52
4	36.00	58.50
4	36.00	58.49
4	36.00	58.49
4	36.01	58.48
5	36.06	58.42
5	36.06	58.42
5	36.62	57.75
6	36.43	57.98
6	40.34	52.36
6	38.56	54.99
7	41.47	50.43
7	38.41	55.20
7	38.49	55.09
8	42.54	48.36
8	45.01	43.89
8	46.64	39.30
8	59.46	0.80
9	74.45	-90.32
9	90.44	-188.18
9	93.78	-208.65
10	94.08	-210.46
10	94.11	-210.66
10	94.05	-210.26
11	94.08	-210.46
11	94.06	-210.36
11	94.13	-210.76
12	94.08	-210.46
12	94.10	-210.56
12	94.03	-210.16
13	94.05	-210.26
13	94.10	-210.56
13	94.06	-210.36
13	94.13	-210.76
14	94.08	-210.46
14	94.10	-210.56
14	94.10	-210.56
15	94.06	-210.36
15	94.14	-210.86
15	94.19	-211.16

TABLE 4.9-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
16	94.13	-210.76	16	94.21	-211.26	16	94.18	-211.06	16	94.13	-210.76
16	94.08	-210.46	16	94.11	-210.66	16	94.10	-210.56	16	94.10	-210.56
16	94.14	-210.86	16	94.18	-211.06	16	94.16	-210.96	16	94.16	-210.96
17	94.10	-210.56	17	94.05	-210.26	17	94.08	-210.46	17	94.06	-210.36
17	94.08	-210.46	17	94.10	-210.56	17	94.10	-210.56	17	94.11	-210.66
17	94.10	-210.56	17	94.10	-210.56	17	94.08	-210.46	17	94.10	-210.56
17	93.98	-209.86	17	94.05	-210.26	17	94.10	-210.56	17	94.11	-210.66

TABLE 4.9-2 (Cont'd)

THERMOMETER 17

TIME	TEMP	VOLTAGE
0	36.50	57.90
0	36.50	57.90
3	36.28	58.17
3	36.28	58.17
3	36.28	58.17
4	36.37	58.05
4	36.42	57.99
4	36.36	58.07
4	36.43	57.98
5	37.19	56.98
5	37.89	55.97
5	39.60	53.51
6	48.88	34.16
6	54.54	15.58
6	59.69	-0.
7	59.69	-0.
7	59.69	-0.
7	59.69	-0.
8	59.69	-0.
8	59.69	-0.
8	59.69	-0.
9	59.69	-0.
9	91.00	-191.59
9	93.72	-208.25
9	93.88	-209.26
10	94.10	-210.56
10	94.14	-210.86
10	94.11	-210.66
11	94.08	-210.46
11	94.05	-210.26
11	94.10	-210.56
12	94.08	-210.46
12	94.11	-210.66
12	94.10	-210.56
13	94.08	-210.46
13	94.08	-210.46
13	94.11	-210.66
13	94.06	-210.36
14	94.08	-210.46
14	94.08	-210.46
14	94.06	-210.36
15	94.08	-210.46
15	94.16	-210.96
15	94.13	-210.76

THERMOMETER 18

TIME	TEMP	VOLTAGE
0	37.55	56.47
0	37.57	56.44
3	37.70	56.25
3	37.65	56.32
3	37.72	56.22
4	37.87	56.00
4	37.97	55.85
4	38.01	55.80
4	38.23	55.48
5	39.97	52.90
5	41.26	50.82
5	42.53	48.39
6	53.07	22.78
6	60.76	-6.52
6	66.97	-44.55
7	72.97	-81.28
7	77.65	-109.90
7	80.73	-128.77
8	84.35	-150.95
8	86.11	-161.68
8	89.11	-180.05
9	93.36	-206.05
9	93.78	-208.65
9	94.06	-210.36
9	94.06	-210.36
10	94.10	-210.56
10	94.13	-210.76
10	94.06	-210.36
11	94.08	-210.46
11	94.03	-210.16
11	94.10	-210.56
12	94.11	-210.66
12	94.10	-210.56
12	94.08	-210.46
13	94.03	-210.16
13	94.05	-210.26
13	94.05	-210.26
13	94.05	-210.26
14	94.08	-210.46
14	94.10	-210.56
14	94.05	-210.26
15	94.10	-210.56
15	94.16	-210.96
15	94.13	-210.76

THERMOMETER 19

TIME	TEMP	VOLTAGE
0	40.52	52.07
0	40.51	52.09
3	40.94	51.39
3	40.89	51.47
3	40.89	51.47
4	41.21	50.91
4	41.26	50.81
4	41.36	50.63
5	41.64	50.11
5	43.87	45.85
5	45.75	41.80
5	47.81	36.97
6	93.62	-207.65
6	93.69	-208.05
6	93.72	-208.25
7	93.65	-207.85
7	93.72	-208.25
7	93.75	-208.45
8	93.78	-208.65
8	93.78	-208.65
8	93.78	-208.65
9	93.96	-209.76
9	94.08	-210.46
9	94.06	-210.36
9	94.06	-210.36
10	94.10	-210.56
10	94.11	-210.66
10	94.08	-210.46
11	94.10	-210.56
11	94.03	-210.16
11	94.08	-210.46
12	94.10	-210.56
12	94.06	-210.36
12	94.11	-210.66
13	94.06	-210.36
13	94.10	-210.56
13	94.10	-210.56
13	94.08	-210.46
14	94.14	-210.86
14	94.10	-210.56
14	94.11	-210.66
15	94.08	-210.46
15	94.19	-211.16
15	94.13	-210.76

THERMOMETER 20

TIME	TEMP	VOLTAGE
0	72.48	-78.27
0	72.42	-77.93
3	74.48	-90.50
3	74.41	-90.08
3	74.65	-91.53
4	79.34	-120.23
4	79.52	-121.34
4	79.91	-123.75
5	89.19	-180.55
5	93.72	-208.25
5	93.72	-208.25
5	93.70	-208.15
6	93.95	-209.66
6	93.95	-209.66
6	93.96	-209.76
7	93.95	-209.66
7	93.96	-209.76
7	94.01	-210.06
8	94.08	-210.46
8	94.08	-210.46
8	94.08	-210.46
9	94.11	-210.66
9	94.13	-210.76
9	94.08	-210.46
9	94.08	-210.46
10	94.08	-210.46
10	94.11	-210.66
10	94.10	-210.56
11	94.06	-210.36
11	94.11	-210.66
11	94.08	-210.46
12	94.13	-210.76
12	94.10	-210.56
12	94.08	-210.46
13	94.10	-210.56
13	94.11	-210.66
13	94.11	-210.66
13	94.08	-210.46
14	94.13	-210.76
14	94.13	-210.76
14	94.11	-210.66
15	94.11	-210.66
15	94.18	-211.06
15	94.16	-210.96

TABLE 4.9-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
16	94.11	-210.66	16	94.11	-210.66	16	94.11	-210.66	16	94.18	-211.06
16	94.10	-210.56	16	94.13	-210.76	16	94.10	-210.56	16	94.08	-210.46
16	94.11	-210.66	16	94.10	-210.56	16	94.11	-210.66	16	94.10	-210.56
17	94.08	-210.46	17	94.06	-210.36	17	94.06	-210.36	17	94.11	-210.66
17	94.10	-210.56	17	94.08	-210.46	17	94.10	-210.56	17	94.13	-210.76
17	94.10	-210.56	17	94.13	-210.76	17	94.10	-210.56	17	94.10	-210.56
17	94.14	-210.86	17	94.10	-210.56	17	94.10	-210.56	17	94.11	-210.66

TABLE 4.9-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.34	58.09	0	36.32	58.12	0	36.30	58.14	0	36.31	58.13
0	36.33	58.10	0	36.31	58.13	0	36.30	58.14	0	36.29	58.15
3	36.33	58.11	3	36.31	58.13	3	36.32	58.12	3	36.34	58.09
3	36.35	58.08	3	36.33	58.11	3	36.32	58.12	3	36.33	58.11
3	36.33	58.11	3	36.30	58.14	3	36.33	58.11	3	36.33	58.11
4	36.34	58.09	4	36.32	58.12	4	36.32	58.12	4	36.33	58.10
4	36.35	58.08	4	36.32	58.12	4	36.33	58.11	4	36.37	58.06
4	36.34	58.09	4	36.33	58.10	4	36.32	58.12	4	36.32	58.12
5	36.35	58.08	5	36.31	58.13	5	36.32	58.12	5	36.34	58.09
5	36.37	58.06	5	36.37	58.06	5	36.35	58.08	5	36.37	58.06
5	36.37	58.06	5	36.34	58.09	5	36.36	58.07	5	36.37	58.05
5	36.38	58.04	5	36.40	58.02	5	36.37	58.06	5	36.39	58.03
6	36.46	57.94	6	36.45	57.96	6	36.46	57.95	6	36.44	57.97
6	36.58	57.80	6	36.51	57.88	6	36.52	57.87	6	36.54	57.85
6	36.65	57.71	6	36.62	57.74	6	36.64	57.72	6	36.65	57.71
7	36.88	57.41	7	36.80	57.51	7	36.81	57.50	7	36.83	57.47
7	36.96	57.30	7	36.86	57.43	7	36.88	57.41	7	36.88	57.41
7	37.05	57.18	7	37.05	57.18	7	37.07	57.15	7	37.12	57.08
8	37.17	57.01	8	37.13	57.07	8	37.11	57.09	8	37.17	57.01
8	37.24	56.92	8	37.17	57.01	8	37.19	56.98	8	37.21	56.96
8	37.30	56.83	8	37.30	56.84	8	37.36	56.75	8	37.41	56.67
9	37.43	56.64	9	37.39	56.71	9	37.39	56.71	9	37.44	56.63
9	59.69	-0.	9	37.49	56.55	9	37.48	56.57	9	37.49	56.56
9	59.69	-0.	9	37.55	56.47	9	37.60	56.40	9	37.58	56.42
9	59.69	-0.	9	37.63	56.36	9	37.64	56.34	10	37.67	56.29
10	59.69	-0.	10	37.73	56.21	10	37.72	56.22	10	37.74	56.19
10	59.69	-0.	10	37.87	56.01	10	37.89	55.97	10	38.00	55.82
10	59.69	-0.	10	37.98	55.84	10	37.90	55.96	10	37.98	55.84
11	59.69	-0.	11	38.05	55.74	11	38.05	55.74	11	38.08	55.69
11	59.69	-0.	11	38.23	55.47	11	38.29	55.38	11	38.28	55.40
11	59.69	-0.	11	38.35	55.29	11	38.35	55.30	11	38.37	55.26
12	59.69	-0.	12	38.45	55.15	12	38.42	55.19	12	38.44	55.17
12	59.69	-0.	12	38.58	54.96	12	38.58	54.95	12	38.61	54.91
12	59.69	-0.	12	38.70	54.78	12	38.69	54.79	12	38.84	54.58
13	59.69	-0.	13	38.86	54.55	13	38.90	54.49	13	38.87	54.54
13	59.69	-0.	13	39.03	54.30	13	39.01	54.34	13	39.03	54.31
13	59.69	-0.	13	39.19	54.08	13	39.21	54.05	13	39.28	53.96
13	59.69	-0.	14	39.38	53.80	14	39.33	53.87	14	39.40	53.78
14	59.69	-0.	14	39.58	53.53	14	39.59	53.52	14	39.54	53.59
14	59.69	-0.	14	39.73	53.34	14	39.70	53.28	14	39.71	53.26
14	59.69	-0.	14	39.93	52.96	14	39.89	53.01	14	40.07	52.76
15	59.69	-0.	15	40.18	52.60	15	40.18	52.59	15	40.22	52.54
15	59.69	-0.	15	40.52	52.08	15	40.45	52.19	15	40.45	52.18
15	59.69	-0.	15	40.64	51.88	15	40.66	51.86	15	40.64	51.88

TABLE 4.9-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
16	59.69	-0.	16	41.28	50.78	16	41.05	51.19	16	41.09	51.11
16	59.69	-0.	16	57.37	8.25	16	58.39	4.62	16	56.98	9.63
16	68.97	-56.80	16	68.85	-56.07	16	69.20	-58.20	16	68.27	-52.54
17	76.94	-105.58	17	76.79	-104.68	17	77.09	-106.49	17	76.24	-101.27
17	83.91	-148.24	17	83.71	-147.03	17	83.94	-148.44	17	82.96	-142.42
17	90.19	-186.68	17	90.03	-185.67	17	90.24	-186.98	17	89.49	-182.36
18	94.13	-210.76	18	94.13	-210.76	18	94.10	-210.56	18	94.10	-210.56

TABLE 4.9-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.11	57.10	0	36.31	58.13	0	36.34	58.09	0	36.32	58.12
0	37.14	57.06	0	36.32	58.12	0	36.33	58.11	0	36.30	58.14
3	37.10	57.11	3	36.31	58.13	3	36.33	58.11	3	36.32	58.12
3	37.03	57.21	3	36.33	58.10	3	36.32	58.12	3	36.33	58.11
3	37.12	57.08	3	36.33	58.10	3	36.32	58.12	3	36.33	58.11
4	37.03	57.21	4	36.33	58.10	4	36.33	58.11	4	36.33	58.11
4	37.15	57.04	4	36.32	58.12	4	36.33	58.11	4	36.32	58.12
4	37.11	57.10	4	36.33	58.10	4	36.34	58.09	4	36.33	58.10
5	37.10	57.11	5	36.33	58.11	5	36.33	58.11	5	36.32	58.12
5	37.12	57.08	5	36.34	58.09	5	36.34	58.09	5	36.35	58.08
5	37.10	57.11	5	36.36	58.07	5	36.36	58.07	5	36.34	58.09
5	37.03	57.20	6	36.39	58.03	6	36.37	58.05	6	36.39	58.03
6	37.43	56.64	6	36.48	57.92	6	36.50	57.90	6	36.48	57.92
6	37.53	56.50	6	36.57	57.81	6	36.57	57.81	6	36.56	57.82
6	37.67	56.29	6	36.64	57.72	6	36.65	57.71	6	36.65	57.71
7	37.83	56.07	7	36.76	57.56	7	36.77	57.55	7	36.78	57.54
7	37.85	56.04	7	36.86	57.43	7	36.85	57.44	7	36.92	57.35
7	38.02	55.78	7	36.92	57.35	7	36.95	57.31	7	36.97	57.29
8	38.16	55.57	8	37.01	57.23	8	37.10	57.11	8	37.05	57.18
8	38.22	55.49	8	37.11	57.09	8	37.17	57.02	8	37.14	57.05
8	38.14	55.60	8	37.22	56.94	8	37.22	56.95	8	37.27	56.88
9	38.44	55.17	9	37.32	56.81	9	37.35	56.76	9	37.34	56.78
9	38.39	55.24	9	37.40	56.69	9	37.48	56.57	9	37.47	56.58
9	38.61	54.91	9	37.55	56.47	9	37.55	56.47	9	37.50	56.54
10	38.56	54.98	10	37.62	56.37	10	37.62	56.37	10	37.62	56.37
10	38.62	54.90	10	37.72	56.23	10	37.76	56.17	10	37.72	56.22
10	38.96	54.41	10	37.80	56.10	10	37.81	56.09	10	37.78	56.14
10	38.89	54.50	10	37.91	55.94	10	37.87	56.00	10	37.89	55.98
11	38.96	54.41	11	38.00	55.81	11	38.07	55.71	11	38.04	55.76
11	39.18	54.10	11	38.23	55.47	11	38.14	55.60	11	38.18	55.55
11	39.36	53.83	11	38.37	55.26	11	38.35	55.29	11	38.33	55.33
12	39.41	53.76	12	38.51	55.06	12	38.42	55.19	12	38.39	55.23
12	39.61	53.49	12	38.69	54.80	12	38.71	54.77	12	38.63	54.89
12	39.76	53.19	12	38.87	54.53	12	38.82	54.61	12	38.74	54.72
13	39.78	53.16	13	39.24	54.01	13	39.05	54.28	13	38.96	54.40
13	39.76	53.19	13	48.07	36.13	13	52.19	24.09	13	46.09	40.75
13	39.98	52.89	13	67.64	-48.65	13	68.44	-53.57	13	66.99	-44.65
14	40.04	52.80	14	77.32	-107.89	14	78.20	-113.31	14	76.93	-105.48
14	39.92	52.97	14	86.01	-161.08	14	86.72	-165.40	14	85.57	-158.37
14	39.97	52.90	14	93.78	-208.65	14	94.10	-210.56	14	93.82	-208.86
14	39.84	53.09	14	93.78	-208.65	14	94.03	-210.16	14	94.08	-210.46
15	39.76	53.19	15	93.88	-209.26	15	94.10	-210.56	15	94.13	-210.76
15	39.99	52.88	15	93.78	-208.65	15	94.10	-210.56	15	94.14	-210.86
15	39.97	52.90	15	93.85	-209.06	15	94.14	-210.86	15	94.13	-210.76

TABLE 4.9-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
16	40.17	52.61	16	93.75	-208.45	16	94.03	-210.16	16	94.10	-210.56
16	57.40	8.13	16	93.78	-208.65	16	94.10	-210.56	16	94.11	-210.66
16	68.02	-50.99	16	93.78	-208.65	16	94.06	-210.36	16	94.06	-210.36
17	75.43	-96.34	17	93.78	-208.65	17	94.01	-210.06	17	94.08	-210.46
17	82.60	-140.21	17	93.78	-208.65	17	94.06	-210.36	17	94.11	-210.66
17	88.72	-177.64	17	93.78	-208.65	17	94.10	-210.56	17	94.06	-210.36
18	93.14	-204.74	18	93.95	-209.66	18	94.11	-210.66	18	94.08	-210.46

TABLE 4.9-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.33	58.10	0	36.31	58.13	0	59.71	-0.14	0	93.95	-209.66
0	36.31	58.13	0	36.33	58.10	0	59.68	0.05	0	94.03	-210.16
3	36.33	58.10	3	36.33	58.10	3	59.71	-0.12	3	93.78	-208.65
3	36.33	58.10	3	36.33	58.10	3	59.71	-0.12	3	93.69	-208.05
3	36.33	58.11	3	36.32	58.12	3	59.63	0.20	3	93.75	-208.45
4	36.33	58.10	4	36.33	58.11	4	59.63	0.20	4	93.62	-207.65
4	36.33	58.11	4	36.33	58.11	4	59.61	0.30	4	93.70	-208.15
4	36.32	58.12	4	36.31	58.13	4	59.63	0.20	4	93.65	-207.85
5	36.33	58.10	5	36.34	58.09	5	59.39	1.05	5	93.72	-208.25
5	36.34	58.09	5	36.33	58.11	5	58.99	2.50	5	93.62	-207.65
5	36.35	58.08	5	36.37	58.06	5	58.59	3.91	5	93.72	-208.25
6	36.42	58.00	6	36.42	58.00	6	56.70	10.64	6	93.65	-207.85
6	36.49	57.91	6	36.49	57.91	6	52.74	23.27	6	93.75	-208.45
6	36.58	57.80	6	36.57	57.81	6	49.57	32.62	6	93.72	-208.25
6	36.65	57.70	6	36.65	57.70	6	46.54	39.55	6	93.70	-208.15
7	36.88	57.40	7	36.86	57.43	7	44.89	44.14	7	93.69	-208.05
7	36.91	57.37	7	36.85	57.44	7	42.94	47.57	7	93.75	-208.45
7	36.95	57.31	7	37.06	57.16	7	43.53	46.49	7	93.72	-208.25
8	37.06	57.16	8	37.23	56.93	8	43.43	46.67	8	93.78	-208.65
8	37.24	56.92	8	37.24	56.91	8	43.41	46.70	8	93.78	-208.65
8	37.35	56.76	8	37.38	56.72	8	43.38	46.77	8	93.78	-208.65
9	37.37	56.74	9	37.42	56.66	9	43.54	46.47	9	93.78	-208.65
9	37.49	56.55	9	37.50	56.54	9	44.58	44.76	9	93.78	-208.65
9	37.51	56.52	9	37.51	56.53	9	45.30	43.16	9	93.78	-208.65
10	37.66	56.31	10	37.75	56.18	10	45.66	42.10	10	93.78	-208.65
10	37.71	56.24	10	37.72	56.22	10	45.91	41.29	10	93.78	-208.65
10	37.82	56.08	10	37.83	56.06	10	45.96	41.15	10	93.78	-208.65
10	37.94	55.90	10	37.95	55.88	10	45.95	41.17	11	93.78	-208.65
11	38.04	55.76	11	38.08	55.70	11	45.96	41.15	11	93.78	-208.65
11	38.22	55.49	11	38.26	55.43	11	46.08	40.77	11	93.78	-208.65
11	38.30	55.37	11	38.31	55.35	11	46.10	40.72	11	93.78	-208.65
12	38.43	55.18	12	38.44	55.16	12	46.05	40.88	12	93.85	-209.06
12	38.66	54.84	12	38.62	54.90	12	46.09	40.75	12	93.78	-208.65
12	38.75	54.71	12	38.79	54.65	12	46.05	40.88	12	93.78	-208.65
13	38.99	54.36	13	38.98	54.38	13	45.96	41.15	13	93.78	-208.65
13	46.13	40.63	13	46.27	40.23	13	46.09	40.74	13	93.78	-208.65
13	59.69	-0.	13	67.43	-47.36	13	46.27	40.25	13	93.78	-208.65
14	59.69	-0.	14	77.27	-107.59	14	46.04	40.89	14	93.78	-208.65
14	76.09	-100.35	14	85.75	-159.48	14	46.08	40.78	14	93.82	-208.86
14	76.09	-100.35	14	94.06	-210.36	14	46.38	39.93	14	93.78	-208.65
15	93.88	-209.26	15	94.11	-210.66	15	46.02	40.96	15	93.78	-208.65
15	93.88	-209.26	15	94.11	-210.66	15	46.09	40.76	15	93.78	-208.65
15	93.92	-209.46	15	94.11	-210.66	15	46.01	40.99	15	93.88	-209.26
15	93.90	-209.36	15	94.11	-210.66	15	46.06	40.85	15	93.93	-209.56

TABLE 4.9-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
16	93.88	-209.26	16	94.10	-210.56	16	46.00	41.04	16	93.78	-208.65
16	93.87	-209.16	16	94.08	-210.46	16	46.12	40.67	16	93.78	-208.65
16	93.78	-208.65	16	94.08	-210.46	16	45.99	41.07	16	93.78	-208.65
17	94.01	-210.06	17	94.01	-210.06	17	46.15	40.59	17	93.78	-208.65
17	94.06	-210.36	17	94.08	-210.46	17	45.99	41.07	17	93.78	-208.65
17	94.11	-210.66	17	94.11	-210.66	17	46.72	39.13	17	93.88	-209.26
18	94.10	-210.56	18	94.13	-210.76	18	48.17	35.84	18	93.78	-208.65

4.10 Run 23

Run 23 (reactor run 101) was a high-flow-rate, low-pressure, medium-heating-rate run made with Configuration 2. Parametric conditions and test results are summarized in Table 4.10-1. Timing information is given in Table 4.0-1.

The tank was filled 90 minutes before the timer was turned on for this run. Pressure and flow rate were essentially constant during the major portions of the run (Fig. 4.10-1). Because of failure of the flowmeter readout, no pressurization gas utilization data were obtained. Strip-chart data are recorded in Figures 4.10-2 through 4.10-5.

Table 4.10-1

Parametric Conditions and Test Results Summary
for Run 23-101

	Conditions		Minutes After Zero Time
	Desired	Obtained	
Starting Conditions[a]			
Volume (gal)	112 - 125	115	4.5
Pressure (psia)	30	28.4	
Temperature[b] (^{o}R)		36.7	
Weight[c] (lb)	66 - 74	67.6	
Final Conditions[d]			
Pressure (psia)	30	27.4	14.3
Temperature (^{o}R)	$\leq$ 41.3	39.4	
Saturation Temp[e] (^{o}R)	41.3	40.6	
Run Data			
Temperature Rise (^{o}R)	2	2.7	4.5 - 14.3
Run Time[f] (min)	9 - 11	13.3	2.0 - 15.3
Flow Time (min)	9 - 11	10.8	4.5 - 15.3
Flow Rate[g]: (gpm)	12.25	10.65	
(lb/sec)	0.12	0.104	
Power Level (Mw)	2.0	2.22	
Integrated Power (Mw-hr)	0.33	0.49	

[a]Immediately after pressurization at indicated time.
[b]At bottom of tank.
[c]Temp = 36.7^{o}R, Vol. = 115 gal, ρ = 4.4 lbs/ft^3 = 0.588 lbs/gal.
[d]At 1 min before tank was emptied and/or at indicated time.
[e]H. M. Roder and R. D. Goodwin, Provisional Thermodynamic Functions for Para-Hydrogen. NBS Tech Note 130 (Dec. 1961)
[f]Time from reactor at level power to tank empty.
[g]Initial volume (or weight) divided by flow time.

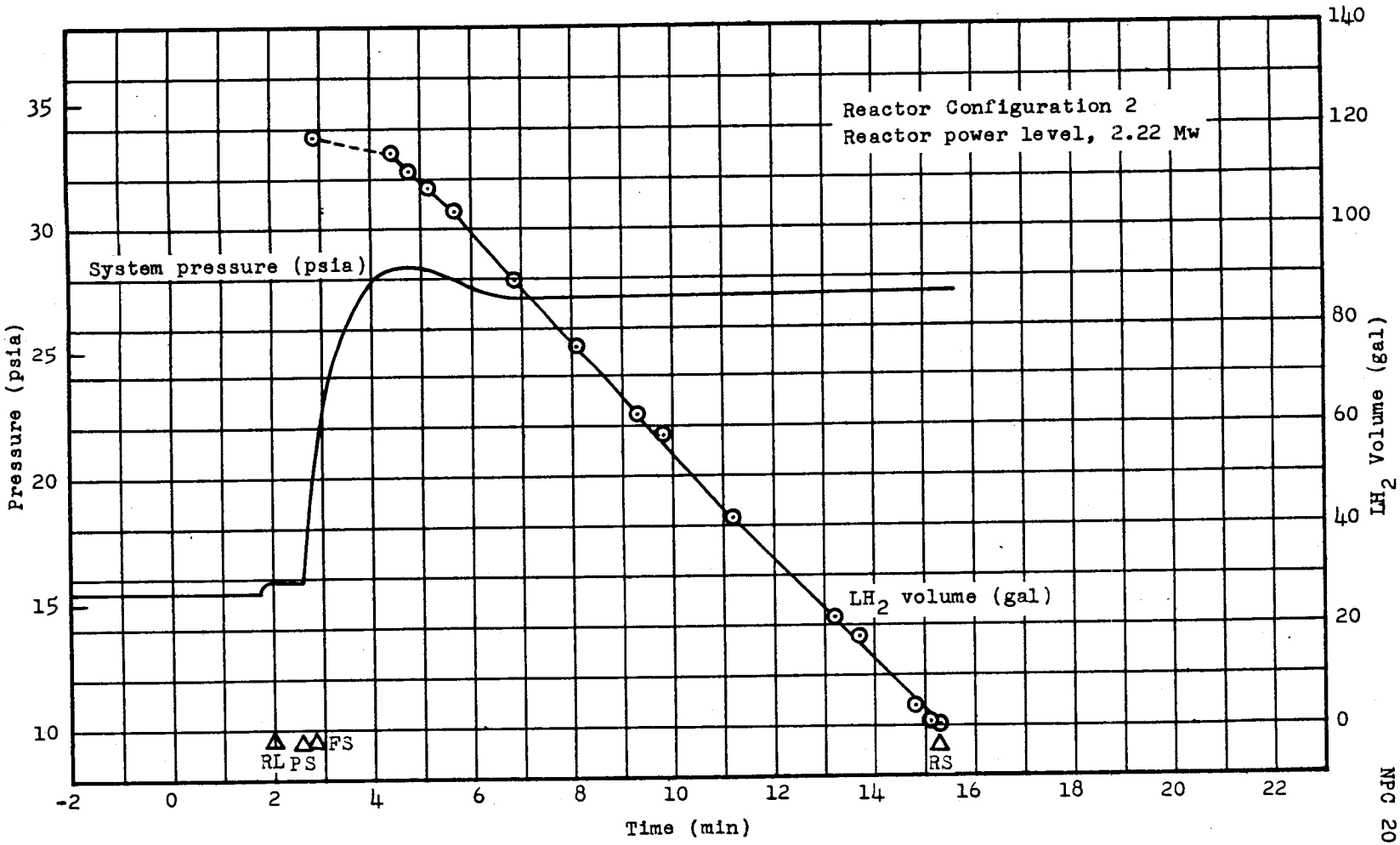

Figure 4.10-1 Pressure and Flow Data: Run 23-101

NPC 20,511

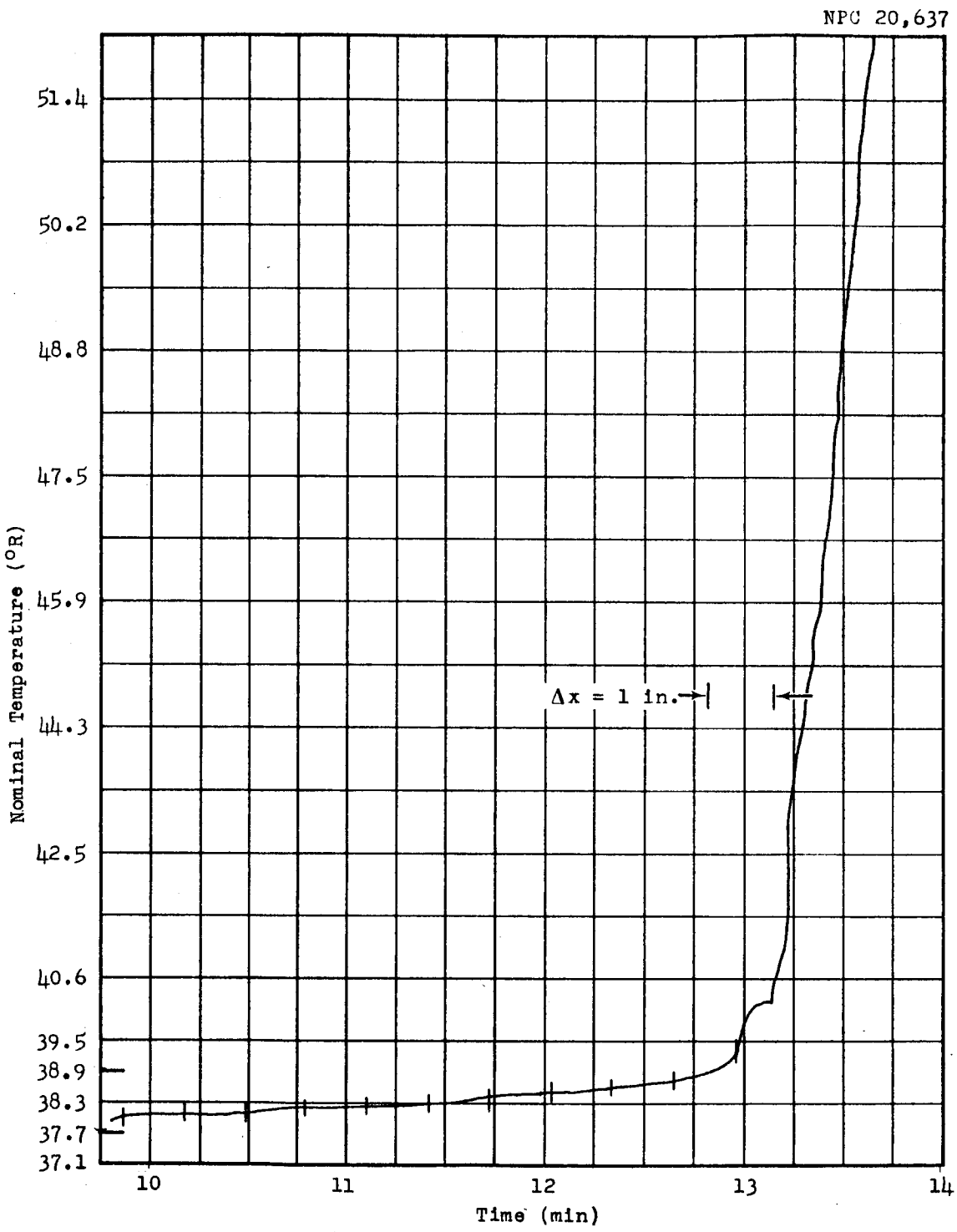

Figure 4.10-2 Strip-Chart Temperature Data: Run 23-101, Thermometer 7

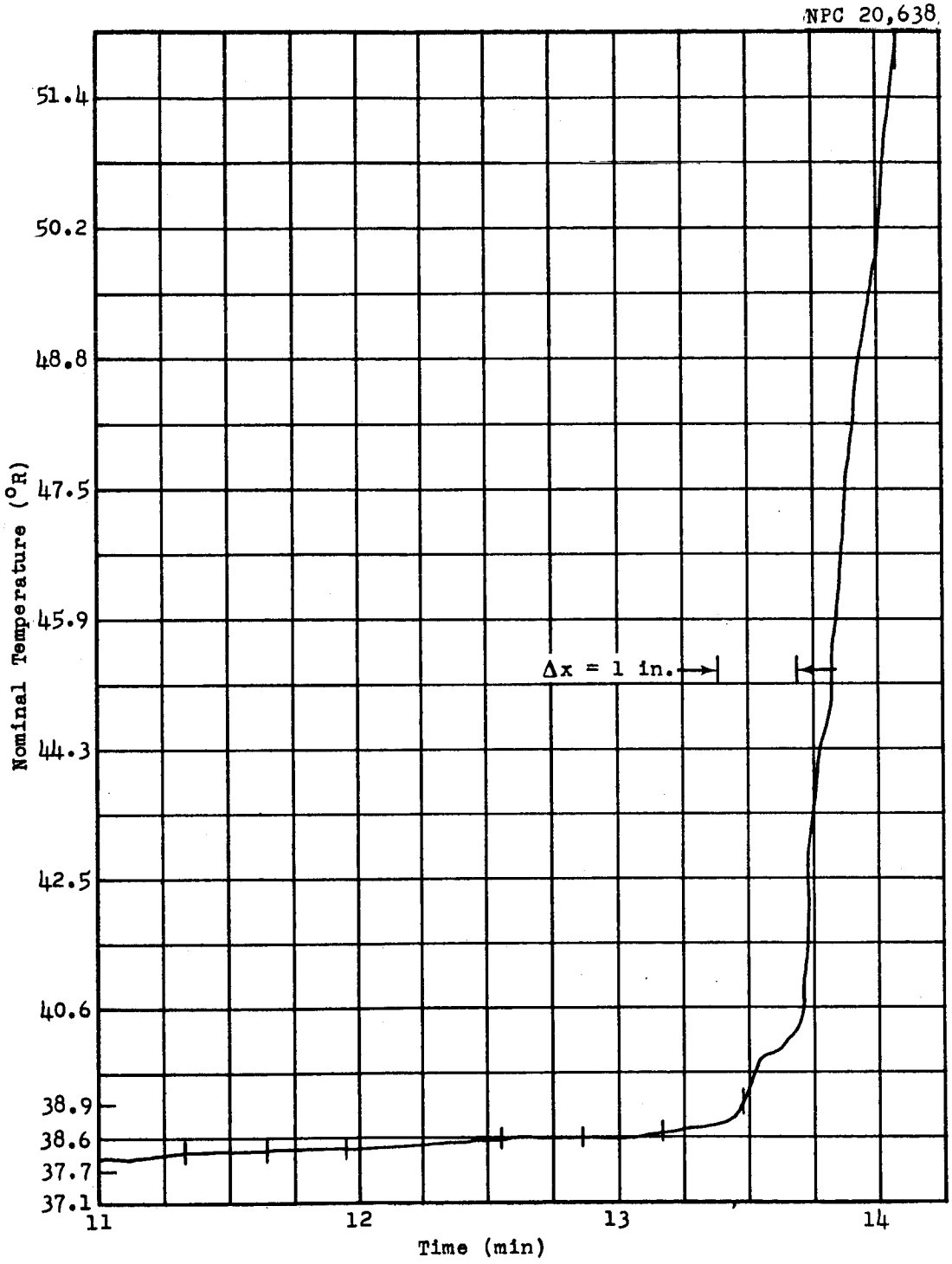

Figure 4.10-3 Strip-Chart Temperature Data: Run 23-101, Thermometer 25

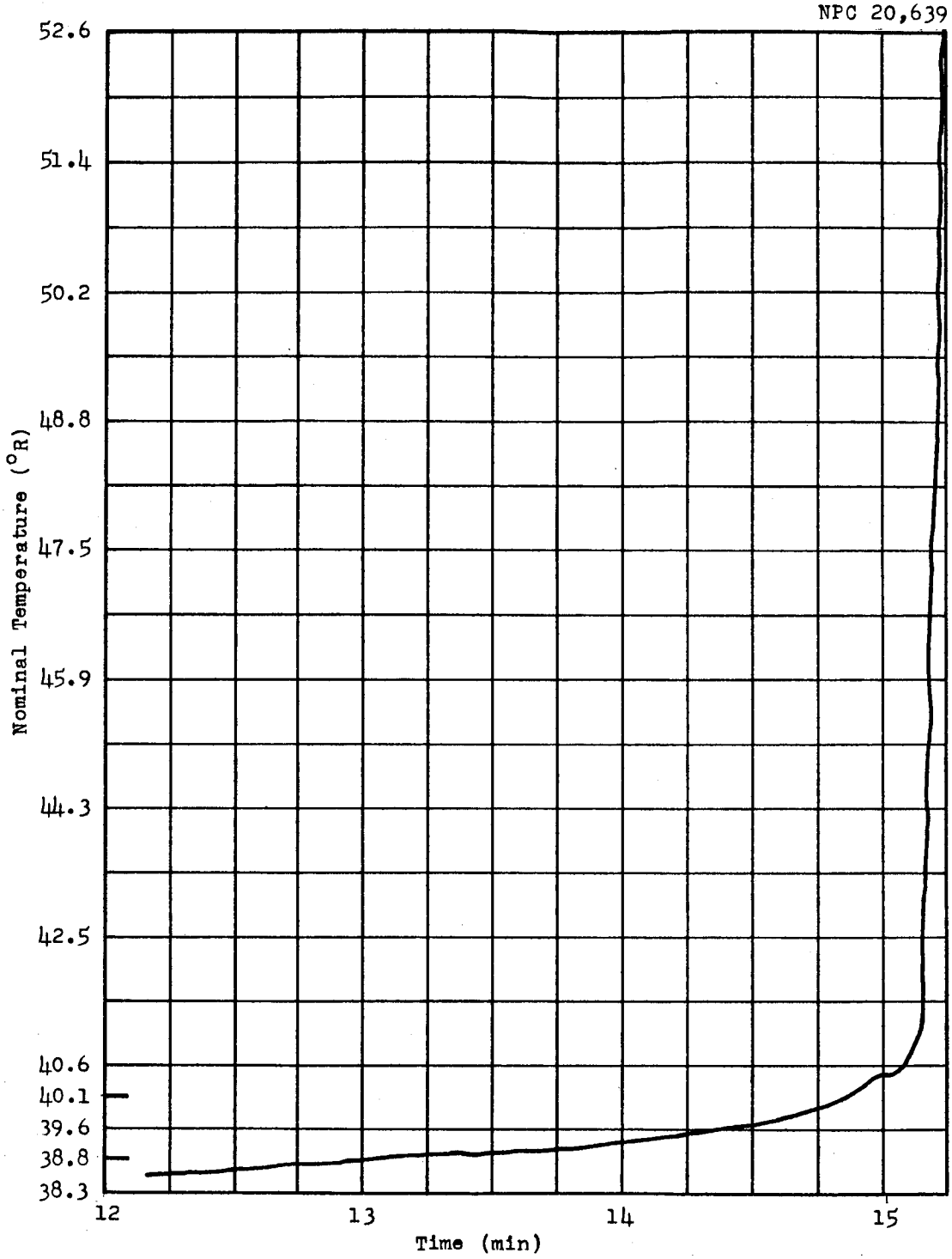

Figure 4.10-4 Strip-Chart Temperature Data: Run 23-101, Thermometer 4

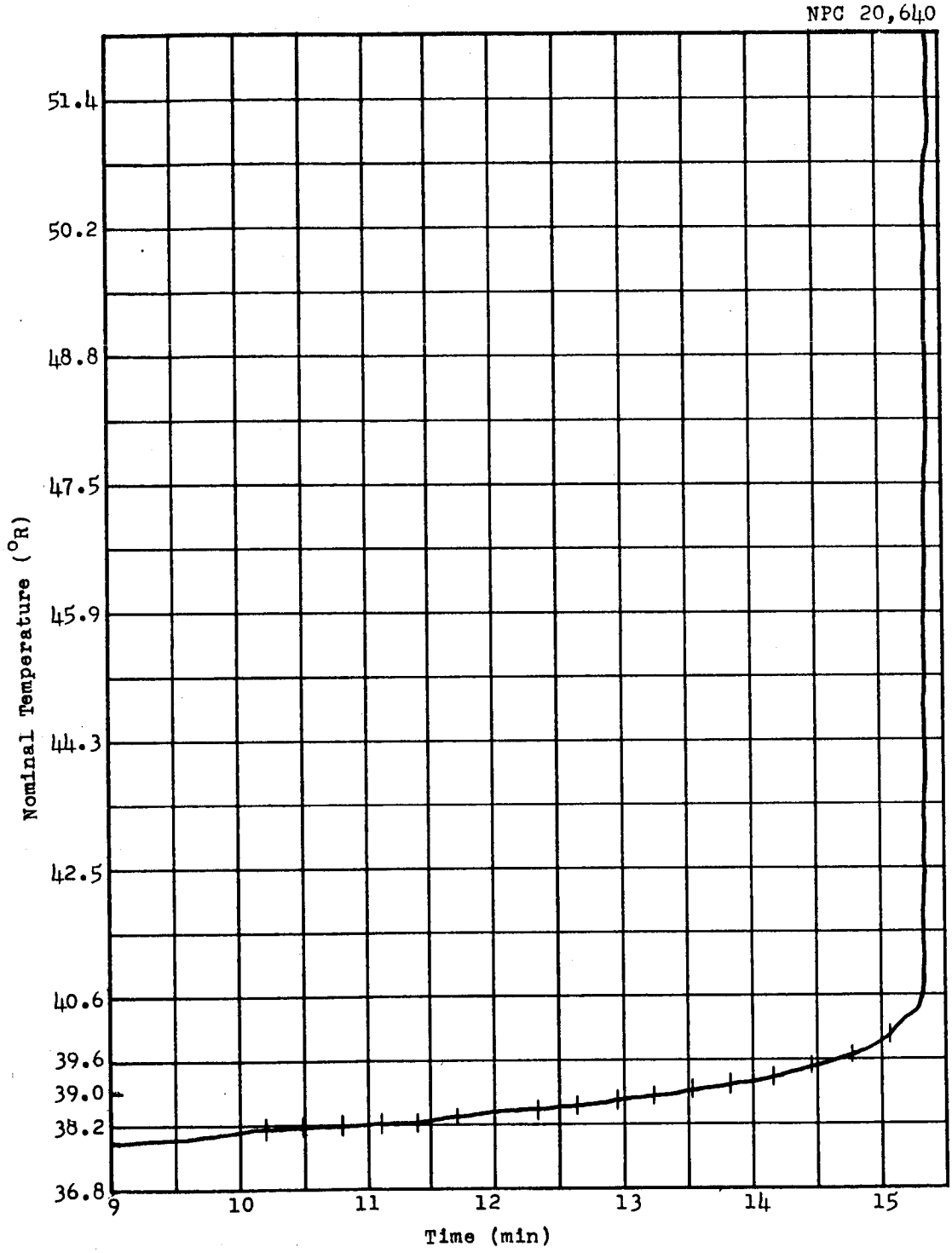

Figure 4.10-5 Strip-Chart Temperature Data: Run 23-101, Thermometer 1

TABLE 4.10-2 THERMOMETER DATA FOR EXPERIMENTAL RUN 23-101

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME*	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.68	57.66	0	36.67	57.67	0	36.70	57.63	0	36.72	57.61
0	36.66	57.69	0	36.66	57.69	0	36.66	57.69	0	36.71	57.62
0	36.68	57.66	0	36.74	57.59	0	36.67	57.67	0	36.70	57.63
0	36.68	57.66	0	36.65	57.71	0	36.70	57.64	0	36.74	57.59
1	36.72	57.61	1	36.66	57.69	1	36.66	57.69	1	36.81	57.49
1	36.72	57.61	1	36.73	57.60	1	36.73	57.60	1	36.73	57.60
1	36.80	57.50	1	36.89	57.39	1	36.80	57.50	1	36.80	57.50
2	36.93	57.34	2	36.87	57.42	2	36.86	57.43	2	36.87	57.41
2	36.93	57.33	2	36.88	57.40	2	36.96	57.29	2	36.88	57.40
2	37.03	57.20	2	37.06	57.16	2	36.99	57.25	2	37.04	57.19
3	37.14	57.05	3	37.10	57.11	3	37.05	57.17	3	37.11	57.09
3	37.26	56.89	3	37.32	56.81	3	37.35	56.76	3	37.39	56.69
3	37.13	57.07	3	37.22	56.95	3	37.12	57.08	3	37.22	56.95
4	37.24	56.91	4	37.24	56.91	4	37.37	56.74	4	37.29	56.84
4	37.28	56.86	4	37.25	56.90	4	37.29	56.85	4	37.33	56.79
4	37.32	56.80	4	37.34	56.78	4	37.32	56.81	4	37.47	56.59
4	37.39	56.70	4	37.34	56.78	4	37.30	56.83	4	37.36	56.75
5	37.39	56.70	5	37.41	56.67	5	37.38	56.71	5	37.50	56.54
5	37.42	56.65	5	37.42	56.65	5	37.47	56.58	5	37.54	56.48
5	37.44	56.62	5	37.53	56.50	5	37.42	56.65	5	37.54	56.48
6	37.47	56.58	6	37.47	56.59	6	37.47	56.58	6	37.54	56.49
6	37.53	56.50	6	37.55	56.47	6	37.53	56.50	6	37.61	56.38
6	37.54	56.48	6	37.66	56.32	6	37.59	56.42	6	37.61	56.39
7	37.61	56.39	7	37.59	56.41	7	37.58	56.43	7	37.68	56.28
7	37.62	56.37	7	37.70	56.26	7	37.64	56.34	7	37.68	56.29
7	37.74	56.20	7	37.74	56.20	7	37.67	56.30	7	37.73	56.21
8	37.71	56.24	8	37.73	56.21	8	37.72	56.23	8	37.78	56.14
8	37.77	56.15	8	37.79	56.12	8	37.79	56.13	8	37.84	56.06
8	37.88	56.00	8	37.90	55.96	8	37.84	56.05	8	37.95	55.89
8	37.86	56.02	8	37.87	56.01	8	37.86	56.03	8	37.92	55.94
9	37.99	55.83	9	37.92	55.94	9	37.92	55.93	9	37.99	55.84
9	37.95	55.89	9	38.08	55.69	9	37.97	55.86	9	38.04	55.75
9	38.08	55.69	9	38.07	55.70	9	38.11	55.65	9	38.17	55.56
10	38.15	55.59	10	38.07	55.71	10	38.10	55.66	10	38.20	55.51
10	38.14	55.61	10	38.18	55.54	10	38.16	55.57	10	38.22	55.48
10	38.29	55.39	10	38.22	55.48	10	38.22	55.49	10	38.27	55.41
11	38.26	55.43	11	38.22	55.48	11	38.30	55.37	11	38.32	55.34
11	38.31	55.35	11	38.40	55.22	11	38.36	55.28	11	38.44	55.17
11	38.50	55.07	11	38.43	55.18	11	38.43	55.18	11	38.48	55.10
12	38.57	54.97	12	38.50	55.07	12	38.49	55.09	12	38.56	54.99
12	38.54	55.02	12	38.63	54.88	12	38.59	54.95	12	38.71	54.76
12	38.69	54.79	12	38.67	54.83	12	38.68	54.80	12	38.72	54.75
12	38.77	54.67	12	38.81	54.62	12	38.78	54.66	12	38.83	54.59
13	38.84	54.57	13	38.97	54.39	13	38.88	54.52	13	38.95	54.41

* Timing interval = 0.306 minutes

TABLE 4.10-2 (Cont'd)

THERMOMETER 1			THERMOMETER 2			THERMOMETER 3			THERMOMETER 4		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	59.69	-0.	13	39.02	54.32	13	39.00	54.34	13	39.08	54.23
13	59.69	-0.	13	39.12	54.18	13	39.13	54.16	13	39.19	54.08
14	59.69	-0.	14	39.29	53.94	14	39.31	53.91	14	39.39	53.79
14	59.69	-0.	14	39.53	53.61	14	39.48	53.67	14	39.59	53.52
14	59.69	-0.	14	39.71	53.26	14	39.75	53.21	14	39.90	53.01
15	40.16	52.63	15	40.22	52.53	15	40.32	52.39	15	40.68	51.81
15	50.10	31.33	15	48.61	34.76	15	49.69	32.34	15	53.95	21.22
15	68.28	-52.54	15	68.49	-53.88	15	69.70	-61.23	15	70.06	-63.44
16	75.30	-95.56	16	74.90	-93.09	16	76.80	-104.70	16	76.52	-102.98
16	75.45	-96.45	16	73.06	-81.82	16	78.17	-113.09	16	73.28	-83.16

TABLE 4.10-2 (Cont'd)

THERMOMETER 5

TIME	TEMP	VOLTAGE
0	36.55	57.83
0	36.55	57.84
0	36.61	57.76
1	36.56	57.82
1	36.56	57.82
1	36.59	57.79
1	36.67	57.67
2	36.70	57.64
2	36.73	57.60
2	36.85	57.44
3	36.92	57.35
3	37.05	57.17
3	37.00	57.24
4	37.19	56.99
4	37.16	57.03
4	37.15	57.04
4	37.25	56.90
5	37.36	56.75
5	37.39	56.70
5	37.36	56.75
6	37.39	56.70
6	37.39	56.69
6	37.53	56.50
7	37.54	56.48
7	37.54	56.49
7	37.58	56.43
8	37.59	56.41
8	37.71	56.24
8	37.74	56.20
8	37.82	56.08
9	37.92	55.94
9	37.88	55.99
9	38.03	55.78
10	37.99	55.83
10	38.10	55.67
10	38.13	55.62
11	38.16	55.58
11	38.27	55.41
11	38.36	55.28
12	38.43	55.18
12	38.50	55.08
12	38.61	54.91
12	38.74	54.71
13	38.83	54.58

THERMOMETER 6

TIME	TEMP	VOLTAGE
0	93.53	-207.07
0	93.53	-207.07
0	93.53	-207.07
1	93.53	-207.07
1	93.53	-207.07
1	93.53	-207.07
1	93.53	-207.07
2	93.53	-207.07
2	93.53	-207.07
2	93.53	-207.07
3	93.53	-207.07
3	93.53	-207.07
3	93.59	-207.48
4	93.56	-207.27
4	93.53	-207.07
4	93.59	-207.48
4	93.62	-207.68
5	93.59	-207.48
5	93.62	-207.68
5	93.56	-207.27
6	93.53	-207.07
6	93.53	-207.07
6	93.53	-207.07
7	93.53	-207.07
7	93.53	-207.07
7	93.46	-206.67
8	93.46	-206.67
8	93.46	-206.67
8	93.51	-206.97
8	93.53	-207.07
9	93.53	-207.07
9	93.53	-207.07
9	93.53	-207.07
10	93.53	-207.07
10	93.46	-206.67
10	93.53	-207.07
11	93.53	-207.07
11	93.53	-207.07
11	93.53	-207.07
12	93.56	-207.27
12	93.53	-207.07
12	93.53	-207.07
12	93.56	-207.27
13	93.56	-207.27

THERMOMETER 7

TIME	TEMP	VOLTAGE
0	36.56	57.82
0	36.55	57.83
0	36.59	57.79
1	36.61	57.76
1	36.56	57.82
1	36.61	57.76
1	36.65	57.71
2	36.72	57.61
2	36.76	57.56
2	36.84	57.46
3	36.96	57.30
3	37.03	57.20
3	37.02	57.21
4	37.13	57.07
4	37.22	56.95
4	37.17	57.01
5	37.21	56.96
5	37.25	56.90
5	37.34	56.78
5	37.36	56.75
6	37.42	56.66
6	37.44	56.62
6	37.54	56.48
7	37.45	56.61
7	37.56	56.46
7	37.67	56.30
8	37.68	56.28
8	37.75	56.18
8	37.78	56.14
8	37.75	56.19
9	37.90	55.96
9	37.94	55.91
9	37.99	55.83
10	37.99	55.83
10	38.12	55.63
10	38.16	55.57
11	38.29	55.39
11	38.29	55.38
11	38.38	55.25
12	38.51	55.06
12	38.57	54.98
12	38.81	54.61
12	39.47	53.68
13	44.77	44.40

THERMOMETER 8

TIME	TEMP	VOLTAGE
0	36.62	57.75
0	36.63	57.74
0	36.63	57.74
1	36.60	57.77
1	36.61	57.76
1	36.63	57.73
1	36.66	57.70
2	36.73	57.60
2	36.81	57.49
2	36.87	57.41
3	36.90	57.37
3	37.09	57.12
3	37.05	57.18
4	37.13	57.06
4	37.13	57.06
4	37.19	56.98
5	37.26	56.89
5	37.33	56.79
5	37.37	56.72
5	37.37	56.74
6	37.40	56.68
6	37.47	56.58
6	37.51	56.53
7	37.56	56.46
7	37.61	56.38
7	37.59	56.41
8	37.71	56.24
8	37.78	56.14
8	37.77	56.15
8	37.86	56.02
9	37.91	55.95
9	37.97	55.87
9	38.03	55.78
10	38.09	55.68
10	38.18	55.54
10	38.32	55.34
11	38.93	54.45
11	45.19	43.45
11	51.40	27.41
12	57.98	6.06
12	62.40	-16.56
12	65.63	-36.36
12	68.79	-55.69
13	71.98	-75.22

TABLE 4.10-2 (Cont'd)

THERMOMETER 5			THERMOMETER 6			THERMOMETER 7			THERMOMETER 8		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	38.95	54.41	13	93.56	-207.27	13	51.53	26.07	13	60.27	-3.55
13	39.05	54.27	13	93.62	-207.68	13	58.60	3.86	13	78.15	-112.99
14	39.29	53.94	14	93.56	-207.27	14	62.09	-14.69	14	80.98	-130.27
14	39.56	53.56	14	93.53	-207.07	14	65.09	-33.04	14	83.49	-145.63
14	40.21	52.55	14	93.62	-207.68	14	67.91	-50.31	14	86.04	-161.29
15	45.59	42.32	15	93.62	-207.68	15	70.55	-66.47	15	88.67	-177.36
15	58.21	5.28	15	93.66	-207.88	15	75.66	-97.74	15	93.62	-207.68
15	72.73	-79.83	15	93.56	-207.27	15	88.01	-173.32	15	93.62	-207.68
16	79.08	-118.64	16	93.53	-207.07	16	93.84	-208.99	16	93.86	-209.09
16	75.62	-97.51	16	93.56	-207.27	16	89.74	-183.93	16	93.61	-207.58

TABLE 4.10-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.56	57.82	0	36.54	57.85	0	41.84	49.72	0	61.35	-10.17
0	36.56	57.82	0	36.51	57.89	0	41.83	49.74	0	61.33	-10.02
0	36.59	57.79	0	36.52	57.87	0	41.84	49.72	0	61.58	-11.56
1	36.61	57.76	1	36.51	57.89	1	41.86	49.70	1	61.33	-10.02
1	36.59	57.78	1	36.55	57.84	1	41.86	49.70	1	62.51	-17.28
1	36.61	57.76	1	36.55	57.83	1	41.84	49.72	1	61.52	-11.20
1	36.65	57.71	1	36.57	57.81	1	41.89	49.63	1	62.70	-18.40
2	36.66	57.70	2	36.61	57.76	2	41.88	49.65	2	63.00	-20.24
2	36.76	57.56	2	36.78	57.53	2	42.01	49.41	2	62.50	-17.18
2	36.84	57.46	2	36.78	57.53	2	35.14	59.47	2	62.02	-14.26
3	36.93	57.34	3	36.84	57.46	3	42.05	49.32	3	62.51	-17.28
3	36.95	57.31	3	36.89	57.39	3	42.07	49.29	3	61.52	-11.20
3	37.03	57.20	3	37.01	57.23	3	42.20	49.03	3	62.99	-20.21
4	37.10	57.11	4	37.05	57.18	4	42.19	49.04	4	61.52	-11.20
4	37.13	57.06	4	37.11	57.09	4	42.24	48.94	4	61.51	-11.16
4	37.18	57.00	4	37.13	57.07	4	42.29	48.84	4	61.53	-11.26
5	37.24	56.92	5	37.19	56.99	5	42.34	48.75	5	61.51	-11.16
5	37.25	56.90	5	37.26	56.89	5	42.35	48.72	5	61.51	-11.16
5	37.33	56.79	5	37.27	56.88	5	42.36	48.71	5	64.44	-29.07
5	37.41	56.67	5	37.33	56.79	5	42.43	48.57	5	67.95	-50.55
6	37.42	56.66	6	37.37	56.74	6	42.50	48.44	6	71.57	-72.71
6	37.39	56.69	6	37.43	56.64	6	42.61	48.22	6	78.88	-117.43
6	38.03	55.78	6	37.49	56.56	6	44.76	44.42	6	86.18	-162.10
7	37.54	56.49	7	37.55	56.47	7	51.65	26.48	7	91.13	-192.42
7	37.60	56.40	7	37.63	56.36	7	59.12	2.02	7	93.49	-206.87
7	37.66	56.32	7	37.76	56.17	7	65.04	-32.73	7	93.49	-206.87
8	37.71	56.24	8	40.18	52.60	8	69.94	-62.75	8	93.46	-206.67
8	37.79	56.12	8	47.90	36.63	8	75.05	-93.98	8	93.49	-206.87
8	37.92	55.94	8	56.39	11.72	8	80.20	-125.52	8	93.53	-207.07
9	38.00	55.82	9	62.43	-16.77	9	85.02	-155.03	9	93.53	-207.07
9	40.24	52.50	9	66.72	-43.04	9	89.89	-184.84	9	93.53	-207.07
9	46.34	40.05	9	71.04	-69.49	9	93.53	-207.07	9	93.79	-208.69
9	54.32	17.79	9	75.49	-96.69	9	93.53	-207.07	9	93.79	-208.69
10	59.69	-0.	10	79.67	-122.28	10	93.53	-207.07	10	93.79	-208.69
10	59.69	-0.	10	83.55	-146.03	10	93.53	-207.07	10	93.81	-208.79
10	59.69	-0.	10	87.58	-170.69	10	93.53	-207.07	10	93.81	-208.79
11	59.69	-0.	11	91.71	-195.96	11	93.56	-207.27	11	93.82	-208.89
11	59.69	-0.	11	93.53	-207.07	11	93.81	-208.79	11	93.82	-208.89
11	59.69	-0.	11	93.53	-207.07	11	93.81	-208.79	11	93.82	-208.89
12	59.69	-0.	12	93.61	-207.58	12	93.84	-208.99	12	93.84	-208.99
12	59.69	-0.	12	93.56	-207.27	12	93.81	-208.79	12	93.82	-208.89
12	73.68	-85.60	12	93.53	-207.07	12	93.86	-209.09	12	93.87	-209.19
13	93.53	-207.07	13	93.82	-208.89	13	93.86	-209.09	13	93.87	-209.19
13	93.46	-206.67	13	93.84	-208.99	13	93.84	-208.99	13	93.84	-208.99

TABLE 4.10-2 (Cont'd)

THERMOMETER 9			THERMOMETER 10			THERMOMETER 11			THERMOMETER 12		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	93.53	-207.07	13	93.84	-208.99	13	93.86	-209.09	13	93.86	-209.09
13	93.53	-207.07	13	93.86	-209.09	13	93.87	-209.19	13	93.86	-209.09
14	93.53	-207.07	14	93.84	-208.99	14	93.86	-209.09	14	93.87	-209.19
14	93.53	-207.07	14	93.86	-209.09	14	93.87	-209.19	14	93.87	-209.19
14	93.53	-207.07	14	93.87	-209.19	14	93.92	-209.50	14	93.91	-209.40
15	93.46	-206.67	15	93.82	-208.89	15	93.87	-209.19	15	93.91	-209.40
15	93.69	-208.08	15	93.86	-209.09	15	93.87	-209.19	15	93.89	-209.30
15	93.67	-207.98	15	93.86	-209.09	15	93.87	-209.19	15	93.89	-209.30
16	93.84	-208.99	16	93.87	-209.19	16	93.86	-209.09	16	93.91	-209.40
16	93.69	-208.08	16	93.84	-208.99	16	93.86	-209.09	16	93.86	-209.09

TABLE 4.10-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.57	57.81	0	36.54	57.85	0	36.56	57.82	0	36.49	57.91
0	36.55	57.84	0	36.52	57.87	0	36.55	57.83	0	36.59	57.79
0	36.56	57.82	0	36.52	57.87	0	36.56	57.82	0	36.57	57.81
1	36.57	57.81	1	36.54	57.85	1	36.55	57.83	1	36.62	57.75
1	36.55	57.83	1	36.55	57.84	1	36.57	57.81	1	36.69	57.65
1	36.56	57.82	1	36.56	57.82	1	36.60	57.77	1	36.70	57.64
2	36.56	57.82	2	36.59	57.78	2	36.59	57.78	2	36.82	57.48
2	36.63	57.73	2	36.65	57.71	2	36.64	57.72	2	36.83	57.47
2	36.74	57.58	2	36.73	57.60	2	36.77	57.55	2	37.75	56.19
2	36.82	57.48	2	36.79	57.52	2	36.88	57.40	2	41.45	50.48
3	36.89	57.39	3	36.87	57.42	3	36.90	57.38	3	43.69	46.21
3	36.88	57.40	3	36.89	57.39	3	36.93	57.34	3	45.23	43.33
3	37.05	57.18	3	37.10	57.11	3	37.21	56.96	3	47.41	37.89
4	37.18	57.00	4	37.14	57.05	4	37.44	56.63	4	48.98	33.95
4	37.32	56.81	4	37.44	56.62	4	40.66	51.84	4	51.78	24.84
4	37.39	56.69	4	38.81	54.61	4	50.45	30.38	4	60.00	-1.92
5	37.84	56.05	5	48.41	35.24	5	58.55	4.04	5	66.95	-44.45
5	47.21	38.20	5	56.68	10.71	5	65.98	-38.51	5	74.50	-90.64
5	54.29	16.52	5	64.54	-29.70	5	73.05	-81.77	5	81.97	-136.33
5	62.93	-19.81	5	71.25	-70.73	6	80.35	-126.43	6	89.60	-183.02
6	69.26	-58.59	6	78.37	-114.30	6	87.61	-170.89	6	93.53	-207.07
6	59.69	-0.	6	85.10	-155.53	6	93.53	-207.07	6	93.77	-208.59
6	82.43	-139.16	6	92.70	-202.02	6	93.66	-207.88	6	93.81	-208.79
7	89.08	-179.89	7	93.53	-207.07	7	93.79	-208.69	7	93.77	-208.59
7	93.62	-207.68	7	93.76	-208.49	7	93.77	-208.59	7	93.76	-208.49
7	93.69	-208.08	7	93.77	-208.59	7	93.77	-208.59	7	93.79	-208.69
8	93.67	-207.98	8	93.76	-208.49	8	93.76	-208.49	8	93.77	-208.59
8	93.69	-208.08	8	93.79	-208.69	8	93.79	-208.69	8	93.81	-208.79
8	93.69	-208.08	8	93.77	-208.59	8	93.79	-208.69	8	93.74	-208.39
9	93.69	-208.08	9	93.81	-208.79	9	93.84	-208.99	9	93.84	-208.99
9	93.69	-208.08	9	93.79	-208.69	9	93.76	-208.49	9	93.81	-208.79
9	93.69	-208.08	9	93.79	-208.69	9	93.82	-208.89	9	93.82	-208.89
9	93.69	-208.08	9	93.79	-208.69	9	93.81	-208.79	9	93.82	-208.89
10	93.76	-208.49	10	93.82	-208.89	10	93.81	-208.79	10	93.81	-208.79
10	93.74	-208.39	10	93.81	-208.79	10	93.81	-208.79	10	93.84	-208.99
10	93.76	-208.49	10	93.84	-208.99	10	93.82	-208.89	10	93.82	-208.89
11	93.82	-208.89	11	93.86	-209.09	11	93.86	-209.09	11	93.86	-209.09
11	93.82	-208.89	11	93.84	-208.99	11	93.84	-208.99	11	93.82	-208.89
11	93.87	-209.19	11	93.86	-209.09	11	93.86	-209.09	11	93.84	-208.99
12	93.86	-209.09	12	93.86	-209.09	12	93.84	-208.99	12	93.81	-208.79
12	93.84	-208.99	12	93.82	-208.89	12	93.84	-208.99	12	93.84	-208.99
12	93.87	-209.19	12	93.86	-209.09	12	93.86	-209.09	12	93.87	-209.19
13	93.84	-208.99	13	93.86	-209.09	13	93.87	-209.19	13	93.87	-209.19
13	93.82	-208.89	13	93.86	-209.09	13	93.86	-209.09	13	93.82	-208.89

TABLE 4.10-2 (Cont'd)

THERMOMETER 13			THERMOMETER 14			THERMOMETER 15			THERMOMETER 16		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	93.87	-209.19	13	93.89	-209.30	13	93.86	-209.09	13	93.84	-208.99
13	93.86	-209.09	13	93.86	-209.09	13	93.87	-209.19	13	93.86	-209.09
14	93.87	-209.19	14	93.89	-209.30	14	93.87	-209.19	14	93.86	-209.09
14	93.86	-209.09	14	93.87	-209.19	14	93.89	-209.30	14	93.87	-209.19
14	93.72	-208.28	14	93.84	-208.99	14	93.89	-209.30	14	93.97	-209.80
15	93.87	-209.19	15	93.86	-209.09	15	93.87	-209.19	15	93.86	-209.09
15	93.91	-209.40	15	93.91	-209.40	15	93.91	-209.40	15	93.91	-209.40
15	93.86	-209.09	15	93.87	-209.19	15	93.84	-208.99	15	93.87	-209.19
16	93.86	-209.09	16	93.87	-209.19	16	93.87	-209.19	16	93.86	-209.09
16	93.86	-209.09	16	93.89	-209.30	16	93.87	-209.19	16	93.86	-209.09

TABLE 4.10-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.31	56.82	0	38.72	54.74	0	42.74	47.97	0	85.27	-156.54
0	37.29	56.84	0	38.70	54.77	0	42.72	48.01	0	85.27	-156.54
0	37.36	56.75	0	38.80	54.63	0	42.92	47.61	0	87.66	-171.20
1	37.49	56.56	1	39.02	54.32	1	43.14	47.21	1	91.40	-194.04
1	37.59	56.41	1	39.25	54.00	1	43.43	46.67	1	93.53	-207.07
1	37.71	56.24	1	39.53	53.61	1	43.77	45.98	1	93.53	-207.07
2	37.94	55.90	2	39.88	53.04	2	44.40	45.07	2	93.53	-207.07
2	38.13	55.62	2	40.28	52.45	2	44.93	44.06	2	93.53	-207.07
2	40.31	52.40	2	43.28	46.95	2	49.98	31.64	2	93.53	-207.07
2	44.21	45.38	2	47.54	37.70	2	63.16	-21.23	2	93.53	-207.07
3	47.09	38.41	3	51.19	28.06	3	76.02	-99.96	3	93.53	-207.07
3	50.02	31.53	3	54.27	17.08	3	81.16	-131.38	3	93.53	-207.07
3	53.49	22.11	3	62.99	-20.20	3	93.62	-207.68	3	93.84	-208.99
4	57.21	8.81	4	65.88	-37.91	4	93.66	-207.88	4	93.87	-209.19
4	59.69	-0.	4	72.11	-75.99	4	93.59	-207.48	4	93.81	-208.79
4	59.69	-0.	4	81.14	-131.28	4	93.62	-207.68	4	93.86	-209.09
5	59.69	-0.	5	90.49	-188.48	5	93.62	-207.68	5	93.87	-209.19
5	69.28	-58.72	5	93.59	-207.48	5	93.86	-209.09	5	93.87	-209.19
5	92.70	-202.02	5	93.87	-209.19	5	93.87	-209.19	5	93.89	-209.30
6	93.53	-207.07	6	93.81	-208.79	6	93.86	-209.09	6	93.87	-209.19
6	93.69	-208.08	6	93.86	-209.09	6	93.77	-208.59	6	93.84	-208.99
6	93.62	-207.68	6	93.84	-208.99	6	93.81	-208.79	6	93.86	-209.09
6	93.82	-208.89	6	93.79	-208.69	6	93.82	-208.89	6	93.82	-208.89
7	93.79	-208.69	7	93.84	-208.99	7	93.91	-209.40	7	93.86	-209.09
7	93.77	-208.59	7	93.79	-208.69	7	93.81	-208.79	7	93.77	-208.59
7	93.79	-208.69	7	93.77	-208.59	7	93.76	-208.49	7	93.82	-208.89
8	93.81	-208.79	8	93.79	-208.69	8	93.81	-208.79	8	93.77	-208.59
8	93.79	-208.69	8	93.81	-208.79	8	93.79	-208.69	8	93.81	-208.79
8	93.77	-208.59	8	93.81	-208.79	8	93.79	-208.69	8	93.81	-208.79
9	93.79	-208.69	9	93.77	-208.59	9	93.79	-208.69	9	93.81	-208.79
9	93.79	-208.69	9	93.82	-208.89	9	93.81	-208.79	9	93.66	-207.88
9	93.81	-208.79	9	93.82	-208.89	9	93.81	-208.79	9	93.81	-208.79
10	93.82	-208.89	10	93.82	-208.89	10	93.84	-208.99	10	93.81	-208.79
10	93.81	-208.79	10	93.81	-208.79	10	93.84	-208.99	10	93.82	-208.89
10	93.81	-208.79	10	93.81	-208.79	10	93.81	-208.79	10	93.82	-208.89
10	93.86	-209.09	10	93.86	-209.09	10	93.84	-208.99	10	93.86	-209.09
11	93.86	-209.09	11	93.82	-208.89	11	93.86	-209.09	11	93.79	-208.69
11	93.86	-209.09	11	93.84	-208.99	11	93.84	-208.99	11	93.79	-208.69
11	93.86	-209.09	11	93.84	-208.99	11	93.86	-209.09	11	93.84	-208.99
12	93.82	-208.89	12	93.82	-208.89	12	93.82	-208.89	12	93.86	-209.09
12	93.86	-209.09	12	93.84	-208.99	12	93.82	-208.89	12	93.84	-208.99
12	93.86	-209.09	12	93.87	-209.19	12	93.86	-209.09	12	93.87	-209.19
13	93.86	-209.09	13	93.87	-209.19	13	93.84	-208.99	13	93.82	-208.89
13	93.86	-209.09	13	93.84	-208.99	13	93.86	-209.09	13	93.86	-209.09

TABLE 4.10-2 (Cont'd)

THERMOMETER 17			THERMOMETER 18			THERMOMETER 19			THERMOMETER 20		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	93.89	-209.30	13	93.86	-209.09	13	93.86	-209.09	13	93.87	-209.19
14	93.86	-209.09	14	93.87	-209.19	14	93.87	-209.19	14	93.86	-209.09
14	93.87	-209.19	14	93.86	-209.09	14	93.87	-209.19	14	93.87	-209.19
14	93.87	-209.19	14	93.89	-209.30	14	93.87	-209.19	14	93.86	-209.09
14	93.91	-209.40	14	93.91	-209.40	14	93.92	-209.50	14	93.94	-209.60
15	93.87	-209.19	15	93.87	-209.19	15	93.91	-209.40	15	93.91	-209.40
15	93.89	-209.30	15	93.91	-209.40	15	93.91	-209.40	15	93.94	-209.60
15	93.86	-209.09	15	93.84	-208.99	15	93.87	-209.19	15	93.86	-209.09
16	93.84	-208.99	16	93.86	-209.09	16	93.87	-209.19	16	93.86	-209.09
16	93.86	-209.09	16	93.87	-209.19	16	93.86	-209.09	16	93.87	-209.19

TABLE 4.10-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.61	57.76	0	36.61	57.76	0	36.70	57.63	0	36.72	57.61
0	36.59	57.79	0	36.62	57.75	0	36.67	57.67	0	36.75	57.57
0	36.61	57.76	0	36.61	57.76	0	36.68	57.66	0	36.74	57.59
1	36.62	57.75	1	36.62	57.75	1	36.70	57.63	1	36.75	57.57
1	36.65	57.71	1	36.63	57.74	1	36.70	57.64	1	36.75	57.57
1	36.65	57.71	1	36.68	57.66	1	36.75	57.57	1	36.80	57.51
2	36.76	57.56	2	36.73	57.60	2	36.80	57.50	2	36.80	57.50
2	36.75	57.57	2	36.75	57.57	2	36.85	57.44	2	36.91	57.36
2	36.84	57.45	2	36.85	57.44	2	36.96	57.29	2	36.99	57.26
2	36.90	57.37	3	36.90	57.37	3	36.96	57.30	3	37.02	57.22
3	36.96	57.29	3	36.95	57.31	3	37.04	57.19	3	37.09	57.12
3	36.97	57.28	3	36.99	57.25	3	37.10	57.11	3	37.21	56.96
3	37.11	57.09	3	37.14	57.05	3	37.24	56.91	3	37.29	56.84
4	37.22	56.95	4	37.22	56.94	4	37.29	56.85	4	37.34	56.78
4	37.18	57.00	4	37.26	56.89	4	37.27	56.87	4	37.30	56.83
4	37.26	56.89	4	37.25	56.90	4	37.39	56.69	4	37.42	56.65
5	37.25	56.90	5	37.25	56.90	5	37.34	56.77	5	37.40	56.68
5	37.30	56.83	5	37.32	56.81	5	37.43	56.64	5	37.47	56.59
5	59.69	-0.	5	37.36	56.75	5	37.46	56.60	5	37.48	56.57
6	59.69	-0.	6	37.40	56.68	6	37.47	56.58	6	37.54	56.49
6	59.69	-0.	6	37.47	56.59	6	37.56	56.46	6	37.59	56.41
6	59.69	-0.	6	37.49	56.55	6	37.60	56.40	6	37.60	56.40
6	59.69	-0.	6	37.49	56.56	6	37.58	56.43	7	37.61	56.39
7	59.69	-0.	7	37.57	56.44	7	37.68	56.28	7	37.71	56.24
7	59.69	-0.	7	37.59	56.42	7	37.68	56.29	7	37.75	56.18
7	59.69	-0.	7	37.66	56.32	7	37.72	56.23	7	37.81	56.09
8	59.69	-0.	8	37.68	56.29	8	37.76	56.17	8	37.84	56.06
8	59.69	-0.	8	37.75	56.19	8	37.81	56.09	8	37.87	56.01
8	59.69	-0.	8	37.81	56.09	8	37.86	56.02	8	37.94	55.91
9	59.69	-0.	9	37.83	56.07	9	37.90	55.97	9	37.94	55.90
9	59.69	-0.	9	37.90	55.96	9	37.97	55.87	9	37.98	55.85
9	59.69	-0.	9	37.96	55.88	9	38.04	55.75	9	38.08	55.69
10	59.69	-0.	10	38.01	55.80	10	38.08	55.69	10	38.18	55.55
10	59.69	-0.	10	38.07	55.71	10	38.12	55.64	10	38.18	55.55
10	59.69	-0.	10	38.12	55.63	10	38.18	55.54	10	38.34	55.31
10	59.69	-0.	10	38.20	55.52	10	38.29	55.38	10	38.32	55.34
11	59.69	-0.	11	38.27	55.41	11	38.34	55.31	11	38.37	55.26
11	59.69	-0.	11	38.36	55.28	11	38.44	55.17	11	38.50	55.08
11	59.69	-0.	11	38.41	55.21	11	38.47	55.12	11	38.52	55.04
12	59.69	-0.	12	38.51	55.06	12	38.56	54.99	12	38.61	54.92
12	59.69	-0.	12	38.66	54.85	12	38.67	54.83	12	38.72	54.75
12	59.69	-0.	12	38.70	54.78	12	38.77	54.67	12	38.84	54.57
13	59.69	-0.	13	38.88	54.51	13	38.93	54.45	13	38.94	54.43
13	59.69	-0.	13	39.50	53.65	13	39.59	53.53	13	39.30	53.92

TABLE 4.10-2 (Cont'd)

THERMOMETER 21			THERMOMETER 22			THERMOMETER 23			THERMOMETER 24		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	59.69	-0.	13	45.18	43.48	13	43.09	47.30	13	44.49	44.91
14	59.69	-0.	14	51.49	27.12	14	52.61	23.47	14	51.90	24.59
14	59.69	-0.	14	58.55	4.04	14	58.90	2.82	14	58.35	4.77
14	62.02	-14.25	14	61.91	-13.60	14	62.04	-14.36	14	61.71	-12.38
14	64.81	-31.32	14	64.63	-30.23	14	64.82	-31.40	14	64.43	-28.98
15	67.35	-46.90	15	67.14	-45.59	15	67.38	-47.04	15	66.99	-44.66
15	76.93	-105.51	15	77.34	-108.03	15	78.15	-112.99	15	77.82	-110.96
15	87.56	-170.59	15	87.94	-172.91	15	88.09	-173.82	15	88.31	-175.14
16	88.37	-175.54	16	88.09	-173.82	16	88.16	-174.23	16	87.93	-172.81
16	84.31	-150.68	16	84.00	-148.76	16	84.18	-149.87	16	83.90	-148.15

TABLE 4.10-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	37.61	56.38	0	36.58	57.80	0	36.55	57.84	0	36.58	57.80
0	37.54	56.49	0	36.55	57.84	0	36.58	57.80	0	36.57	57.81
0	37.61	56.38	0	36.58	57.80	0	36.55	57.83	0	36.57	57.81
1	37.57	56.44	1	36.57	57.81	1	36.54	57.85	1	36.58	57.80
1	37.52	56.51	1	36.59	57.78	1	36.59	57.79	1	36.55	57.84
1	37.63	56.35	1	36.59	57.78	1	36.62	57.75	1	36.60	57.77
2	37.61	56.38	2	36.66	57.69	2	36.66	57.70	2	36.63	57.73
2	37.75	56.18	2	36.66	57.69	2	36.70	57.64	2	36.69	57.65
2	37.77	56.15	2	36.80	57.51	2	36.81	57.49	2	36.79	57.52
3	37.85	56.04	3	36.87	57.42	3	36.85	57.44	3	36.85	57.44
3	37.87	56.01	3	36.90	57.37	3	36.90	57.37	3	36.87	57.41
3	37.88	55.99	3	37.04	57.19	3	37.05	57.18	3	37.08	57.14
3	37.99	55.83	3	37.09	57.12	3	37.05	57.17	3	37.08	57.13
4	37.92	55.93	4	37.13	57.06	4	37.15	57.04	4	37.13	57.06
4	37.88	55.99	4	37.14	57.05	4	37.14	57.05	4	37.13	57.06
4	37.86	56.03	4	37.20	56.97	4	37.15	57.04	4	37.20	56.97
5	37.80	56.11	5	37.20	56.97	5	37.20	56.97	5	37.19	56.98
5	37.92	55.94	5	37.26	56.89	5	37.25	56.90	5	37.27	56.88
5	37.97	55.86	5	37.32	56.81	5	37.29	56.85	5	37.25	56.90
6	38.01	55.80	6	37.34	56.77	6	37.34	56.78	6	37.39	56.69
6	38.09	55.68	6	37.39	56.69	6	37.40	56.68	6	37.38	56.71
6	38.09	55.68	6	37.47	56.59	6	37.43	56.64	6	37.44	56.63
7	38.07	55.71	7	37.47	56.59	7	37.46	56.60	7	37.44	56.62
7	38.07	55.70	7	37.53	56.50	7	38.11	55.65	7	37.52	56.52
7	38.11	55.65	7	37.61	56.39	7	37.59	56.42	7	37.57	56.44
7	38.13	55.62	7	37.66	56.32	7	37.63	56.36	7	37.64	56.34
8	38.10	55.67	8	37.70	56.26	8	37.68	56.28	8	37.68	56.28
8	38.07	55.70	8	37.79	56.13	8	37.74	56.20	8	37.72	56.23
8	38.16	55.58	8	37.81	56.09	8	37.77	56.16	8	37.74	56.20
9	38.02	55.79	9	37.79	56.13	9	37.78	56.14	9	37.81	56.10
9	38.03	55.76	9	38.03	55.76	9	38.08	55.69	9	37.99	55.84
9	38.14	55.61	9	39.92	52.98	9	40.29	52.43	9	39.38	53.81
10	38.15	55.59	10	48.04	36.21	10	48.75	34.46	10	48.79	34.36
10	38.14	55.61	10	56.37	11.78	10	56.79	10.31	10	56.22	12.33
10	38.37	55.27	10	61.34	-10.10	10	61.84	-13.13	10	61.33	-10.01
11	38.22	55.48	11	64.90	-31.91	11	65.45	-35.26	11	64.92	-32.03
11	38.30	55.37	11	68.53	-54.08	11	69.02	-57.11	11	68.51	-53.96
11	38.46	55.13	11	72.10	-75.95	11	72.65	-79.33	11	72.05	-75.62
11	38.36	55.28	11	75.64	-97.62	11	76.20	-101.05	11	75.62	-97.51
12	38.50	55.07	12	79.14	-119.05	12	79.74	-122.69	12	79.03	-118.34
12	38.55	55.00	12	82.40	-138.96	12	83.17	-143.71	12	82.53	-139.77
12	38.57	54.98	12	85.52	-158.06	12	86.26	-162.61	12	85.85	-160.08
13	38.70	54.77	13	88.57	-176.75	13	89.23	-180.80	13	88.57	-176.75
13	38.98	54.37	13	92.14	-198.58	13	92.45	-200.50	13	91.74	-196.16

TABLE 4.10-2 (Cont'd)

THERMOMETER 25			THERMOMETER 26			THERMOMETER 27			THERMOMETER 28		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	44.38	45.10	13	93.62	-207.68	13	93.87	-209.19	13	93.95	-209.70
14	52.56	23.54	14	93.62	-207.68	14	93.84	-208.99	14	93.86	-209.09
14	58.50	4.21	14	93.53	-207.07	14	93.81	-208.79	14	93.86	-209.09
14	61.87	-13.35	14	93.62	-207.68	14	93.86	-209.09	14	93.87	-209.19
15	64.56	-29.82	15	93.62	-207.68	15	93.82	-208.89	15	93.86	-209.09
15	67.15	-45.65	15	93.56	-207.27	15	93.86	-209.09	15	93.87	-209.19
15	78.10	-112.68	15	93.62	-207.68	15	93.91	-209.40	15	93.91	-209.40
15	87.75	-171.70	15	93.59	-207.48	15	93.84	-208.99	15	93.87	-209.19
16	87.45	-169.88	16	93.59	-207.48	16	93.79	-208.69	16	93.84	-208.99
16	84.20	-149.97	16	93.62	-207.68	16	93.84	-208.99	16	93.84	-208.99

TABLE 4.10-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
0	36.57	57.81	0	36.59	57.78	0	93.53	-207.07	0	93.84	-208.99
0	36.55	57.83	0	36.57	57.81	0	93.36	-206.06	0	93.72	-208.28
0	36.57	57.81	0	36.57	57.81	0	93.53	-207.07	0	93.84	-208.99
1	36.58	57.80	1	36.59	57.78	1	93.53	-207.07	1	93.81	-208.79
1	36.55	57.83	1	36.60	57.77	1	93.53	-207.07	1	93.81	-208.79
1	36.66	57.70	1	36.66	57.69	1	93.53	-207.07	1	93.77	-208.59
2	36.67	57.67	2	36.70	57.63	2	93.53	-207.07	2	93.81	-208.79
2	36.72	57.61	2	36.72	57.61	2	93.53	-207.07	2	93.81	-208.79
2	36.84	57.45	2	36.84	57.46	2	93.53	-207.07	2	93.77	-208.59
3	36.89	57.39	3	36.90	57.37	3	93.53	-207.07	3	93.79	-208.69
3	36.88	57.40	3	36.91	57.36	3	93.53	-207.07	3	93.84	-208.99
3	37.05	57.18	3	37.08	57.13	3	93.59	-207.48	3	93.82	-208.89
3	37.10	57.11	4	37.11	57.10	4	93.56	-207.27	4	93.86	-209.09
4	37.18	57.00	4	37.18	57.00	4	93.62	-207.68	4	93.91	-209.40
4	37.18	57.00	4	37.26	56.89	4	93.56	-207.27	4	93.82	-208.89
4	37.22	56.95	4	37.24	56.92	4	93.46	-206.67	4	93.82	-208.89
5	37.26	56.89	5	37.24	56.91	5	93.67	-207.98	5	93.91	-209.40
5	37.28	56.86	5	37.29	56.85	5	93.53	-207.07	5	93.81	-208.79
5	37.30	56.83	5	37.37	56.72	5	93.62	-207.68	5	93.86	-209.09
6	37.37	56.72	6	37.47	56.59	6	93.53	-207.07	6	93.82	-208.89
6	37.42	56.66	6	37.45	56.61	6	93.53	-207.07	6	93.77	-208.59
6	37.44	56.62	6	37.47	56.58	6	93.51	-206.97	6	93.79	-208.69
7	37.45	56.61	7	37.50	56.54	7	93.53	-207.07	7	93.77	-208.59
7	37.51	56.53	7	37.54	56.49	7	93.49	-206.87	7	93.74	-208.39
7	37.58	56.43	7	37.63	56.36	7	93.49	-206.87	7	93.74	-208.39
7	37.64	56.34	7	37.67	56.30	7	93.53	-207.07	8	93.79	-208.69
8	37.66	56.31	8	37.71	56.24	8	93.53	-207.07	8	93.77	-208.59
8	37.78	56.14	8	37.77	56.15	8	93.53	-207.07	8	93.76	-208.49
8	37.77	56.16	8	37.81	56.10	8	93.53	-207.07	8	93.82	-208.89
9	37.81	56.10	9	37.88	56.00	9	93.53	-207.07	9	93.79	-208.69
9	38.02	55.79	9	38.04	55.75	9	93.53	-207.07	9	93.81	-208.79
9	39.30	53.93	9	39.48	53.67	9	93.53	-207.07	9	93.81	-208.79
10	48.54	34.93	10	49.02	33.86	10	93.53	-207.07	10	93.77	-208.59
10	56.28	12.13	10	56.73	10.51	10	93.53	-207.07	10	93.79	-208.69
10	59.69	-0.	10	61.47	-10.86	10	93.53	-207.07	10	93.81	-208.79
11	59.69	-0.	11	65.13	-33.32	11	93.56	-207.27	11	93.84	-208.99
11	59.69	-0.	11	68.79	-55.69	11	93.56	-207.27	11	93.82	-208.89
11	59.69	-0.	11	72.34	-77.40	11	93.53	-207.07	11	93.79	-208.69
11	59.69	-0.	11	75.95	-99.51	11	93.62	-207.68	11	93.82	-208.89
12	59.69	-0.	12	79.39	-120.56	12	93.59	-207.48	12	93.86	-209.09
12	59.69	-0.	12	82.78	-141.28	12	93.53	-207.07	12	93.81	-208.79
12	76.20	-101.05	12	85.91	-160.48	12	93.56	-207.27	12	93.86	-209.09
13	76.20	-101.05	13	88.75	-177.87	13	93.59	-207.48	13	93.84	-208.99
13	76.20	-101.05	13	91.86	-196.86	13	93.62	-207.68	13	93.82	-208.89

TABLE 4.10-2 (Cont'd)

THERMOMETER 29			THERMOMETER 30			THERMOMETER 31			THERMOMETER 32		
TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE	TIME	TEMP	VOLTAGE
13	93.69	-208.08	13	93.92	-209.50	13	93.91	-209.40	13	93.89	-209.30
14	93.66	-207.88	14	93.84	-208.99	14	93.86	-209.09	14	93.86	-209.09
14	93.66	-207.88	14	93.86	-209.09	14	93.87	-209.19	14	93.84	-208.99
14	93.66	-207.88	14	93.86	-209.09	14	93.87	-209.19	14	93.89	-209.30
15	93.62	-207.68	15	93.84	-208.99	15	93.84	-208.99	15	93.89	-209.30
15	93.69	-208.08	15	93.86	-209.09	15	93.86	-209.09	15	93.87	-209.19
15	93.95	-209.70	15	93.91	-209.40	15	93.92	-209.50	15	93.91	-209.40
15	93.86	-209.09	15	93.84	-208.99	15	93.84	-208.99	15	93.89	-209.30
16	93.82	-208.89	16	93.86	-209.09	16	93.77	-208.59	16	93.74	-208.39
16	93.86	-209.09	16	93.87	-209.19	16	93.89	-209.30	16	93.87	-209.19

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