

NEDO-24549
79NED77
CLASS I
JUNE 1979

**MARK I CONTAINMENT PROGRAM
FINAL REPORT
1/4 SCALE T-QUENCHER TEST**

TASK NUMBER 6.2.1

POOR ORIGINAL

C. T. SAWYER
J. E. LOEHRLEIN
W. T. HSAIO

1324 002

GENERAL  ELECTRIC

7911130

050

NEDO-24549
79NED77
Class I
June 1979

MARK I CONTAINMENT PROGRAM
FINAL REPORT
1/4 SCALE T-QUENCHER
TEST

TASK NUMBER 6.2.1

C. T. Sawyer

J. E. Loehrlein

W. T. Hsaio

Approved by:

M. E. Tanner
M. E. Tanner, Manager
SRV Programs

H. E. Townsend
H. E. Townsend, Manager
Containment Methods

E. Kiss
E. Kiss, Manager
Applied Mechanics

P. W. Ianni
P. W. Ianni, Manager
Containment Design

A. E. Rogers
A. E. Rogers, Manager
Containment Technology

NUCLEAR ENERGY ENGINEERING DIVISION • GENERAL ELECTRIC COMPANY
SAN JOSE, CALIFORNIA 95125

GENERAL  ELECTRIC

1324 003

DISCLAIMER OF RESPONSIBILITY

Neither the General Electric Company nor any of the contributors to this document makes any warranty or representation (express or implied) with respect to the accuracy, completeness, or usefulness of the information contained in this document or that the use of such information may not infringe privately owned rights; nor do they assume any responsibility for liability or damage of any kind which may result from the use of any of the information contained in this document.

1324 004

TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT	xi
1. INTRODUCTION	1-1
2. SUMMARY OF PRINCIPAL OBSERVATIONS	2-1
3. FACILITY DESCRIPTION	3-1
3.1 Steam Supply System	3-1
3.2 Steam Flow Control System	3-2
3.3 Discharge Piping	3-3
3.4 Suppression Tank	3-4
3.5 T-Quencher	3-4
4. INSTRUMENTATION	4-1
4.1 Sensor Types and Locations	4-1
4.1.1 Discharge Piping and Suppression Tank Temperature Sensors	4-1
4.1.2 Discharge Piping and T-Quencher Pressure Sensors	4-2
4.1.3 Discharge Pipe Humidity Sensor	4-3
4.1.4 Suppression Tank Wall and Pool Pressure Sensors	4-3
4.1.5 Suppression Tank Gas Space Pressure and Water Level Sensors	4-4
4.1.6 Steam Supply Pressure and Temperature Sensors	4-4
4.1.7 Quick Opening Valve Timing Sensor	4-4
4.2 Data Recording	4-4
4.3 Motion Pictures	4-5
4.4 Failed or Modified Sensors	4-5
5. PROCEDURES	5-1
5.1 Test Procedure	5-1
5.2 Data Acceptance Criteria	5-2
5.3 Data Reduction	5-3

1324 005

TABLE OF CONTENTS (Continued)

	<u>Page</u>
6. QUALITY ASSURANCE	6-1
7. TEST RESULTS	7-1
7.1 Description of Test Phenomena	7-1
7.2 Test Data	7-2
8. DATA ACCURACY EVALUATION	8-1
8.1 Temperature Measurements	8-1
8.2 Pressure Measurements	8-1
8.3 Flow Measurements	8-2
8.4 Data Validity	8-3
9. REFERENCES	9-1

APPENDICES

A. SENSOR CALIBRATION PROCEDURES AND RESULTS	A-1
B. PRE-TEST CHECK LIST	B-1
C. INITIAL CONDITION DATA SHEETS FOR ALL TESTS	C-1
D. PEAK DISCHARGE LINE, AIR BUBBLE, AND TANK WALL PRESSURE FOR ALL TESTS	D-1

1324 006

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Title</u>	<u>Page</u>
1-1	Principal Components of Test Facility	1-3
3-1	Schematic of Test Facility	3-7
3-2	Elevation of Site Layout	3-8
3-3	Photograph of Test Facility	3-9
3-4	Photograph of Surge Tank, Pressure Controller and Recorder	3-10
3-5	Photograph of the 108-ft SRV Discharge Line	3-11
3-6	Test Facility Piping (SRVDL) Arrangements	3-12
3-7	Suppression Tank with Stiffening	3-13
3-8	Photograph of the Suppression Tank (in concrete)	3-14
3-9	Photograph of T-quencher	3-15
3-10	Details of T-quencher	3-16
3-11	Photograph of T-quencher Support and Pressure Transducers	3-17
3-12	Photograph of T-quencher as Installed in the Tank	3-18
3-13	T-quencher Support Details	3-19
4-1	Photograph of the Temperature and Pressure Recorders	4-9
4-2	Thermocouple Locations for a Typical Piping Arrangement	4-10
4-3	Test Facility Pressure Transducer Locations	4-11
4-4	Photographs of Movie Cameras in Position for Test	4-12
4-5	Discharge Pipe and Air Bubble Pressure Histories (Test A, Run 4)	4-13
4-6	Tank Wall Pressure Histories (Test A, Run 4)	4-14
5-1	Discharge Pipe and Air Bubble Pressure Histories (Test B, Run 1)	5-5
5-2	Tank Wall Pressure Histories (Test B, Run 1)	5-6
5-3	Discharge Pipe and Air Bubble Pressure Histories (Test C, Run 1)	5-7
5-4	Tank Wall Pressure Histories (Test C, Run 1)	5-8
5-5	Discharge Pipe and Air Bubble Pressure Histories (Test 1, Run 1)	5-9
5-6	Tank Wall Pressure Histories (Test 1, Run 1)	5-10
5-7	Discharge Pipe and Air Bubble Pressure Histories (Test 2, Run 4)	5-11
5-8	Tank Wall Pressure Histories (Test 2, Run 4)	5-12
5-9	Discharge Pipe and Air Bubble Pressure Histories (Test 3, Run 2)	

1324 007-13

LIST OF ILLUSTRATIONS (Continued)

<u>Figure</u>	<u>Title</u>	<u>Page</u>
5-10	Tank Wall Pressure Histories (Test 3, Run 2)	5-14
5-11	Discharge Pipe and Air Bubble Pressure Histories (Test 4, Run 1)	5-15
5-12	Tank Wall Pressure Histories (Test 4, Run 1)	5-16
5-13	Discharge Pipe and Air Bubble Pressure Histories (Test 4A, Run 2)	5-17
5-14	Tank Wall Pressure Histories (Test 4A, Run 2)	5-18
5-15	Discharge Pipe and Air Bubble Pressure Histories (Test 5, Run 1)	5-19
5-16	Tank Wall Pressure Histories (Test 5, Run 1)	5-20
5-17	Discharge Pipe and Air Bubble Pressure Histories (Test 6, Run 3)	5-21
5-18	Tank Wall Pressure Histories (Test 6, Run 3)	5-22
5-19	Discharge Pipe and Air Bubble Pressure Histories (Test 7, Run 3)	5-23
5-20	Tank Wall Pressure Histories (Test 7, Run 5)	5-24
5-21	Discharge Pipe and Air Bubble Pressure Histories (Test 8, Run 1)	5-25
5-22	Tank Wall Pressure Histories (Test 8, Run 1)	5-26
5-23	Discharge Pipe and Air Bubble Pressure Histories (Test 9, Run 1)	5-27
5-24	Tank Wall Pressure Histories (Test 9, Run 1)	5-28
5-25	Discharge Pipe and Air Bubble Pressure Histories (Test 10, Run 1)	5-29
5-26	Tank Wall Pressure Histories (Test 10, Run 1)	5-30
5-27	Discharge Pipe and Air Bubble Pressure Histories (Test 11, Run 1)	5-31
5-28	Tank Wall Pressure Histories (Test 11, Run 1)	5-32
5-29	Discharge Pipe and Air Bubble Pressure Histories (Test 12, Run 1)	5-33
5-30	Tank Wall Pressure Histories (Test 12, Run 1)	5-34
5-31	Discharge Pipe and Air Bubble Pressure Histories (Test 13, Run 1)	5-35
5-32	Tank Wall Pressure Histories (Test 13, Run 1)	5-36
5-33	Discharge Pipe and Air Bubble Pressure Histories (Test 14, Run 1)	5-37

1324 008

LIST OF ILLUSTRATIONS (Continued)

<u>Figure</u>	<u>Title</u>	<u>Page</u>
5-34	Tank Wall Pressure Histories (Test 14, Run 1)	5-38
5-35	Discharge Pipe and Air Bubble Pressure Histories (Test 15, Run 1)	5-39
5-36	Tank Wall Pressure Histories (Test 15, Run 1)	5-40
5-37	Discharge Pipe and Air Bubble Pressure Histories (Test 16, Run 1)	5-41
5-38	Tank Wall Pressure Histories (Test 16, Run 1)	5-42
5-39	Discharge Pipe and Air Bubble Pressure Histories (Test 17, Run 1)	5-43
5-40	Tank Wall Pressure Histories (Test 17, Run 1)	5-44
5-41	Discharge Pipe and Air Bubble Pressure Histories (Test 18, Run 1)	5-45
5-42	Tank Wall Pressure Histories (Test 18, Run 1)	5-46
5-43	Discharge Pipe and Air Bubble Pressure Histories (Test 19, Run 1)	5-47
5-44	Tank Wall Pressure Histories (Test 19, Run 1)	5-48
5-45	Discharge Pipe and Air Bubble Pressure Histories (Test 20, Run 1)	5-49
5-46	Tank Wall Pressure Histories (Test 20, Run 1)	5-50
7-1	Movie Sequence of the Air Clearing Phenomena (Top View)	7-8
7-2	Movie Sequence of the Air Clearing Phenomena (End View)	7-9
7-3	Longitudinal Distribution of Tank Wall Pressures	7-10
7-4	Circumferential Distribution of Tank Wall Pressures	7-11

1324 009

LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Page</u>
1-1	Test Parameters	1-3
3-1	List of Major Equipment	3-5
3-2	Comparison of the Two T-quenchers Tested	3-6
4-1	List of Instrumentation	4-7
4-2	Sensor Outputs Recorded on Visicorders	4-8
5-1	1/4-Scale T-quencher Test Matrix	5-4
7-1	Summary of Test Results for Peak Pressure	7-5
8-1	Experimental Error Determination for Pressure Data	8-5
A-1	Summary of Monthly Calibration Results	A-2

1324-010

ABSTRACT

This document presents the results of a 1/4-Scale Safety/Relief Valve (SRV) discharge T-quencher test program performed June through October 1978.

The primary objective of this test program was to investigate the effect of varying SRV discharge line and plant operating parameters on the air clearing performance of a Mark I Containment T-quencher. The results of this test are to support the verification of an analytical model that calculates T-quencher air clearing design loads for Mark I plants.

1324 011

I. INTRODUCTION

This report documents the results of a series of scaled safety/relief valve (SRV) discharge tests conducted by the NUS Corporation (NUS) for the General Electric Company (GE).

Safety/relief valves are installed on Boiling Water Reactor (BWR) main steam lines to protect against over-pressurization and to provide a means of depressurizing primary coolant system. After the SRV is opened, steam enters the SRV discharge line (SRVDL), compressing the air in the line and causing a pressure buildup. This increased pressure accelerates the water slug initially occupying the submerged portion of the discharge line and water is expelled into the pressure suppression pool. The air initially contained in the discharge line follows the water into the pool. Expelled air forms oscillatory bubbles in the suppression pool. Pool hydrodynamics and inertia effects cause the bubbles to expand and contract as they rise to the pool surface, imposing oscillatory loads on the torus and associated structures.

The T-quencher allows the injection of the compressed air into the suppression pool and minimizes pressure pulses or forces on pool boundaries.

The objective of this test program was to determine the effects of varying operating and discharge line parameters on the air clearing performance of a reduced scale model of the Mark I T-quencher. Table 1-1 presents the test parameters and the test matrix is shown in Table 5-1.

Twenty-four test conditions were investigated and each test was repeated a minimum of four (4) times. Testing was conducted at 1/4 scale. Scaling was performed by GE in accordance with Reference 1. Two scaled versions of the Mark I T-quencher were tested: a choked flow and a geometrically scaled quencher. Three of the twenty-four tests were conducted with the choked flow device. The balance of testing was performed with the geometrically scaled quencher; for justification see Reference 2. Both T-quencher reduced scale models are described in detail in section 3.5 of this report. Motion photography at approximately 500 frames/second was used to document the effects of key parameters on air clearing performance.

1324 012

This report contains detailed descriptions of the test equipment, the instrumentation and the test procedures. The raw test data are only partly shown here as examples. The reduced data are presented and results discussed relative to trends for the parameters studied.

1324 013

Table 1-1

TEST PARAMETERS

<u>PARAMETER</u>	<u>UNITS</u>	<u>RANGE</u> <u>($\frac{1}{2}$ SCALE)</u>	<u>CORRESPONDING</u> <u>FULL SCALE RANGE</u>
Steam Flow Rate	lbm/sec	0.8 - 2.5	102.4 - 320.0
Initial Pipe Pressure	psia	2.45 - 11.25	9.8 - 45.0
Initial Wetwell Pressure	psia	3.7 - 11.25	14.8 - 45.0
Discharge Pipe X-Section Area	ft ²	.014 - .029	0.53 - 1.10
Discharge Pipe Air Length	ft	26 - 108	44.5 - 185.0
Water Leg Length	ft	1.65 - 6.25	6.6 - 25.0
Submergence	ft	1.0 - 3.38	4.0 - 13.5
Distance From Floor	ft	0.7 - 1.2	2.8 - 4.8

1324 014

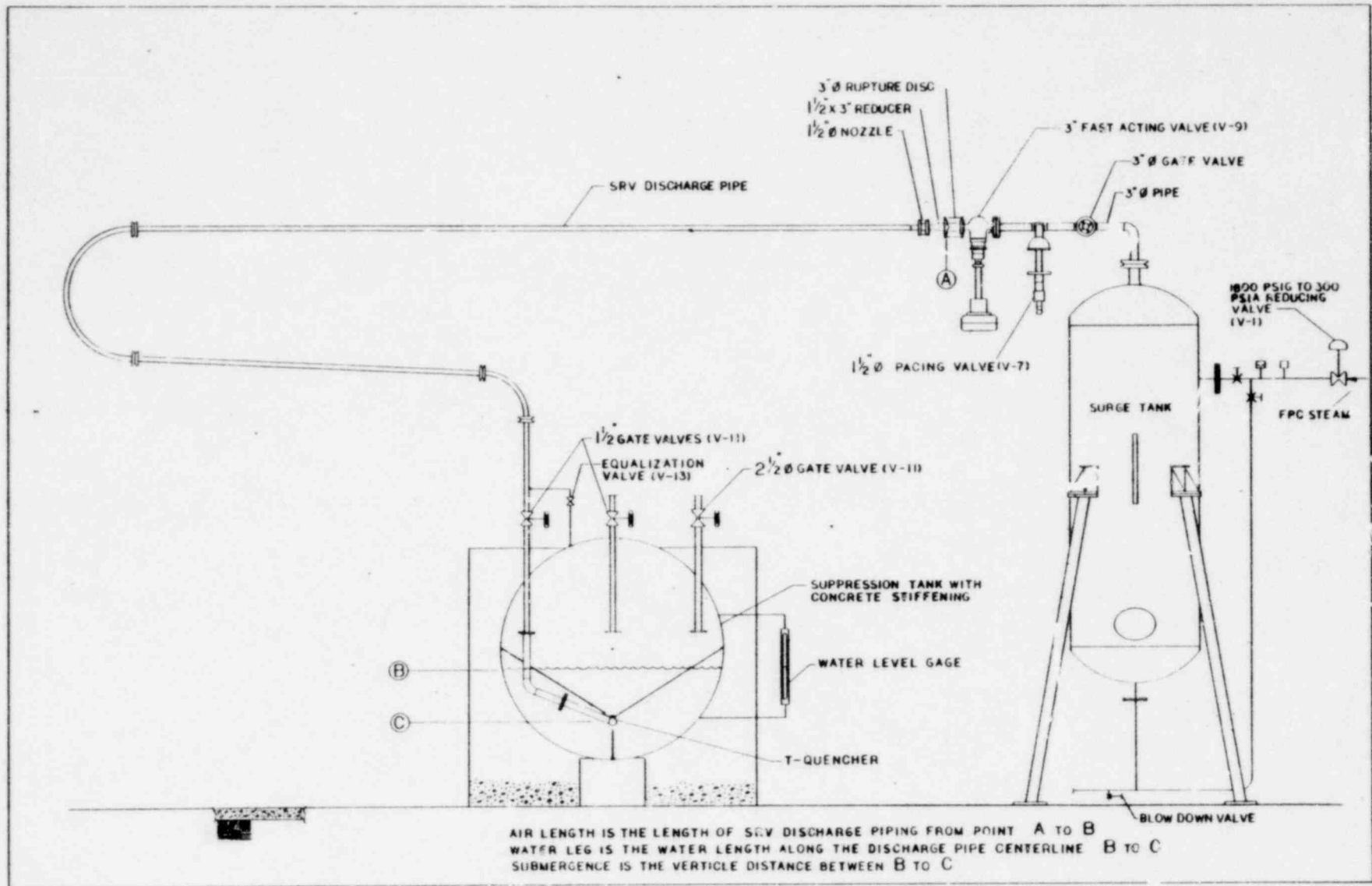


Figure 1-1. Principal Components of Test Facility

I-4

1324 015

NEED-24549

2. SUMMARY OF PRINCIPAL OBSERVATIONS

- Highest measured test tank wall pressures were +2.47 and -2.41 psid resulting from Test 8 which represented the longest discharge pipe air leg length (108 ft) and the greatest initial tank and discharge pipe gas space pressure (11.25 psia). The corresponding peak air bubble pressures measured for Test 8 were +3.4 psid and 3.1 psid.
- Frequency of measured tank wall and air bubble pressures ranged from 12.8 Hz (for Test 7 in which a 108-ft long discharge pipe was initially pressurized to 3.7 psia) to 31.2 Hz for Test 6 (in which a 26-ft long discharge pipe was initially pressurized to 11.25 psia.)
- Maximum/minimum discharge line pressures downstream of the flow nozzle and at the location of the initial air/water interface were 131.7/56.6 and 91.4/38.2 psia, respectively.
- Air bubbles formed by the T-quencher were approximately in phase during all tests. In general, the bubbles that formed on the discharge pipe side of the T-quencher (for the inclined water leg tests) were significantly higher in pressure than those formed on the other side of the quencher arms. For the vertically oriented water leg, no significant difference in air bubble pressures was observed.
- Discharge line, air bubble and tank wall pressures increased with increasing steam flow rate.
- Tank wall pressures were not significantly affected by changing the vertical distance of the T-quencher to the bottom of the tank.

These observations and the underlying phenomena are discussed in Reference 2.

1324 016

3. FACILITY DESCRIPTION

The test facility simulated a typical BWP Mark I SRV piping system from the safety/relief valve to the torus. The facility included a steam supply, a steam flow control system, and a discharge line terminating with a T-quencher in a pressure suppression tank. A schematic of the test facility was shown in Figure 1-1. Figure 3-1 is a detailed system schematic layout in which all valves and instrumentation are represented, and Figures 3-2 shows the general piping layout. Figure 3-3 is a photograph of the overall test facility. Major valves and hardware are listed in Table 3-1.

3.1 STEAM SUPPLY SYSTEM

As shown schematically, the steam supply system consisted of power plant steam, a pressure-reducing system, and a surge tank. The power plant supplied 1800 psig saturated steam. This pressure was reduced to that required for the tests (approximately 300 psia) by pressure-reducing valve V-1. The steam entered the bottom of the surge tank and bubbled upward through saturated water. The 135.5 ft³, ASME Section VIII, 450 psia surge tank contained about 500 gallons of water (approximately half full) to ensure a constant pressure source of saturated steam. A photograph of the surge tank is shown by Figure 3-4. This vessel had a 3 gpm makeup pump, a sightglass for observing the water level and a 450 psia rupture disc for protection. A circular chart recorder (R-1) was used to document the tank pressure. This steam system was capable of delivering 4 lb/sec of saturated steam for a minimum of 20 seconds without the surge vessel pressure dropping below 300 ±10 psia.

Because of the slow response of pressure-reducing valve V-1, and in order to assist in maintaining a constant-pressure steam supply, a downstream pacing valve (V-7) was also used to obtain the required steam flow prior to test initiation.

The pacing valve was closed just before actuation of the fast-acting valve. By starting each test with an established steam flow through the pressure-reducing valve, this valve was not required to respond to the quick action of the SRV mockup.

3.2 STEAM FLOW CONTROL SYSTEM

The steam flow control system, which simulated an SRV, consisted of the fast-acting valve (V-9) and rupture disc combination in series with a flow control nozzle.

Fast-acting valve V-9 is a four-in. Fisher Type 657-ET (flow coefficient of 245) with a Type 657 (Size 40) actuator. A 3-in. rupture disc assembly was located downstream of this valve. The disc was designed to rupture at approximately 200 psig (at 70°F); it was pre-scored, reverse-buckling, non-fragmenting and made of nickel. The space between the rupture disc and the quick-opening valve was purged and pressurized to 100-150 psig with saturated steam before each test. The rupture disc assembly resulted in a pressurization pulse rise time upstream of the flow nozzle of 25 milliseconds. Also, the rupture disc ensured zero steam leakage into the discharge pipe.

The steam flow was metered using a venturi (choking-type) nozzle sized for each of the three required flows (0.8, 1.55 and 2.5 lbs/sec), based on a steam supply pressure of 300 psia. Fox Development Company, 1-1/2-in., slug insert, venturi nozzles were used. The flow of saturated steam at critical conditions through the nozzle was calculated from the following equation(2)

$$W = 0.3044 C_d A \left(\frac{P_1}{V_1} \right)^{1/2}$$

where

W = Steam flow rate, lb/sec

P₁ = Inlet pressure, psia

\bar{V}_1 = Specific volume of steam, ft³/lb

A = Throat area, in²

C_d = Coefficient of discharge

= 0.97

The nozzle throat areas for the three required flows were 0.195, 0.376 and 0.605 in². The upstream pressure was measured using a pressure transducer (see PT-1 of Table 4-1 in Section 4.0) and recorded on Visicorder, VR-1. The accuracy of the flow measurement is discussed in Section 8.3.

3.3. DISCHARGE PIPING

All discharge piping was Series 300 stainless steel. There were two sizes of discharge pipe: 1-1/2 in. Schedule 40 and 2-1/2 in. Schedule 80. Figures 3-4 and 3-5 are photographs of two of eleven piping arrangements. The various piping arrangements used are illustrated in Figure 3-6. The discharge piping was insulated with 1-1/2-in. thick magnesia and/or fiberglass.

Electrical heating tape was installed on the initially air-filled portion of the discharge pipe to maintain the piping at 325°F for each test. A 1/8-in. thick Teflon gasket was used between the discharge pipe flanges near the water surface to reduce heat losses to the water. The heat tape (1 in. wide by 15 ft long, 470 watts) sections were spiral wound at three turns per foot and each tape was controlled manually with a Powerstat,

The discharge pipe was purged with dry air prior to each test. The purge system consisted of an oilless compressor, a Drierite bed and a 5-ft³ storage vessel. Valve V-11 is a full-port gate valve used to hold the suppression tank at subatmospheric pressure while purging the discharge line and to prevent moisture from diffusing from the suppression tank into the line.

The bends in the piping air lengths had radii of 16 in. for the 1-1/2 in. pipe and 24 in. for the 2-1/2-in. pipe to minimize unrecovered pressure losses. Because of space limitations inside the suppression tank, standard long-radius elbows were used at this location. The discharge piping was fabricated with a minimum continuous downward slope of 0.125 in. per foot to avoid condensation pockets.

3.4 SUPPRESSION TANK

The 82-13/16 in. (inside diameter) by 10-ft long suppression tank is shown in Figure 3-7. The shell was designed for an internal pressure range of 3.5-30 psia. External concrete and steel was used to achieve a tank wall natural frequency of 200 Hz. Figure 3-8 shows the tank in the concrete. Tank ports for venting and photography were sealed by 1-1/4 in.-thick Lexguard plates. The interior of the tank was painted blue-white to facilitate lighting for photographic purposes. The suppression tank water was periodically filtered to maintain clarity. City water was used in the tank, with ice added as needed for temperature adjustment. A manually-controlled vacuum pump, capable of removing 5.60 scfm, was used to establish the tank pressure.

3.5 T-QUENCHER

The T-quencher consisted of two perforated pipe "arms" welded to two short-radius elbows, which were in turn welded back-to-back to form a ramshead, as shown in Figure 3-9. Each arm contained 794 holes centered about the horizontal plane. Two scaled versions of the Mark I T-quencher were tested: a "choked-flow" scaled device and a geometrically scaled device. Figure 3-10 presents the details of the geometrically scaled T-quencher. The differences between the two quencher are shown in Table 3-2. As shown in the table, the SRVDL water leg pipe size was 2-1/2-in. Schedule 80 when the geometrically scaled quencher was used. For this case the SRVDL pipe diameter was increased from 1-1/2-in. Schedule 40 to 2-1/2-in. Schedule 80 just upstream of the discharge pipe initial water level. For the choked flow quencher the SRVDL was 1-1/2-inch Schedule 40 down to the quencher inlet. Figures 3-11 and 3-12 are photographs of the geometrically scaled T-quencher as installed in the tank. Figure 3-13 shows the T-quencher as supported in a test position. The T-quencher support system was designed to have a base natural frequency greater than 100 Hz. This rigid support minimized interferences with the hydrodynamic performance of the T-quencher and measurement of the pressure pulses caused by the quencher discharge.

Table 3-1
LIST OF MAJOR EQUIPMENT

<u>I.D.*</u>	<u>Part Number</u>	<u>Supplier</u>	<u>Description</u>
V-1	667-DBQ	Fisher	Pressure Control Valve, 1 in. Body, 3/4 in. Microform Plug, Size 45 Actuator, Air to Open, Class 1500 WCB Steel, 6-30 psi control
V-19	V53LB2050	Skinner	Solenoid Valve, Three-Way, N.C.
PS-1	BIT-A1255	Barksdale	Pressure Switch, Opens on Overpressure
C-1	4160R	Fisher	Controller for Control Valve V-1, Wizard II, 0-600 psi, 6-30 psi control
V-7	667-ET	Fisher	Pacing Valve, 1-1/2 in. Body, ET Style, C1-300, Equal Percentage Cage, 1-7/8 in. Port, Size 34 Actuator, 3-15 psi control
V-9	657-ET	Fisher	Quick-Opening Trim Valve, 3 in. Body, ET Style, Actuator 657 Size 40, Modified by NUS to take 3/4 in. Skinner (LR4XX5180) pilot operated actuator
V-21	33 U-F	Crane	Gate Valve, 3 in., (Safety Shut-off)
V-24	SR B7-RS	BS&B Co.	Rupture Disc, Reverse Buckling, Pre-scored, Pressure Rating of 190-205 psia.
P-1	1P740	Dayton	Feed Water Pump for Surge Tank, Teel, 2 gpm, 500 psi.
N-1 N-2 N-3	611253	Fox Valve Development Company	Insert Sonic Choke Venturies (Sized for 0.8, 1.55 and 2.5 lb mass/sec saturated steam at 300 psia)
PS-2	DIH-H18	Barksdale	Vacuum Switch, SPDT, 0.4 to 15 psia
P-3	1402	Welch	Vacuum Pump, 1/2 HP, 5.6 scfm
P-2	MB-10	Metal Bellows Company	Stainless Steel Bellows Pump

*See Figure 3-1.

1324 021

Table 3-2
COMPARISON OF THE TWO T-QUENCHERS TESTED

<u>Parameter</u>	<u>Choked-Flow T-Quencher</u>	<u>Geometrically Scaled T-Quencher</u>
Quencher Arm Pipe Size, in.	2 (Schedule 40)	3 (Schedule 80)
Hole Diameter, in.*		
Inlet (Water Leg) Pipe Size, in.	1-1/2 (Schedule 40)	2-1/2 (Schedule 80)
Inlet Pipe Reducer, in.	1-1/2 x 2 (Schedule 40)	2-1/2 x 3 (Schedule 80)
Overall Length, in.** of T-quencher	56.35	57.35

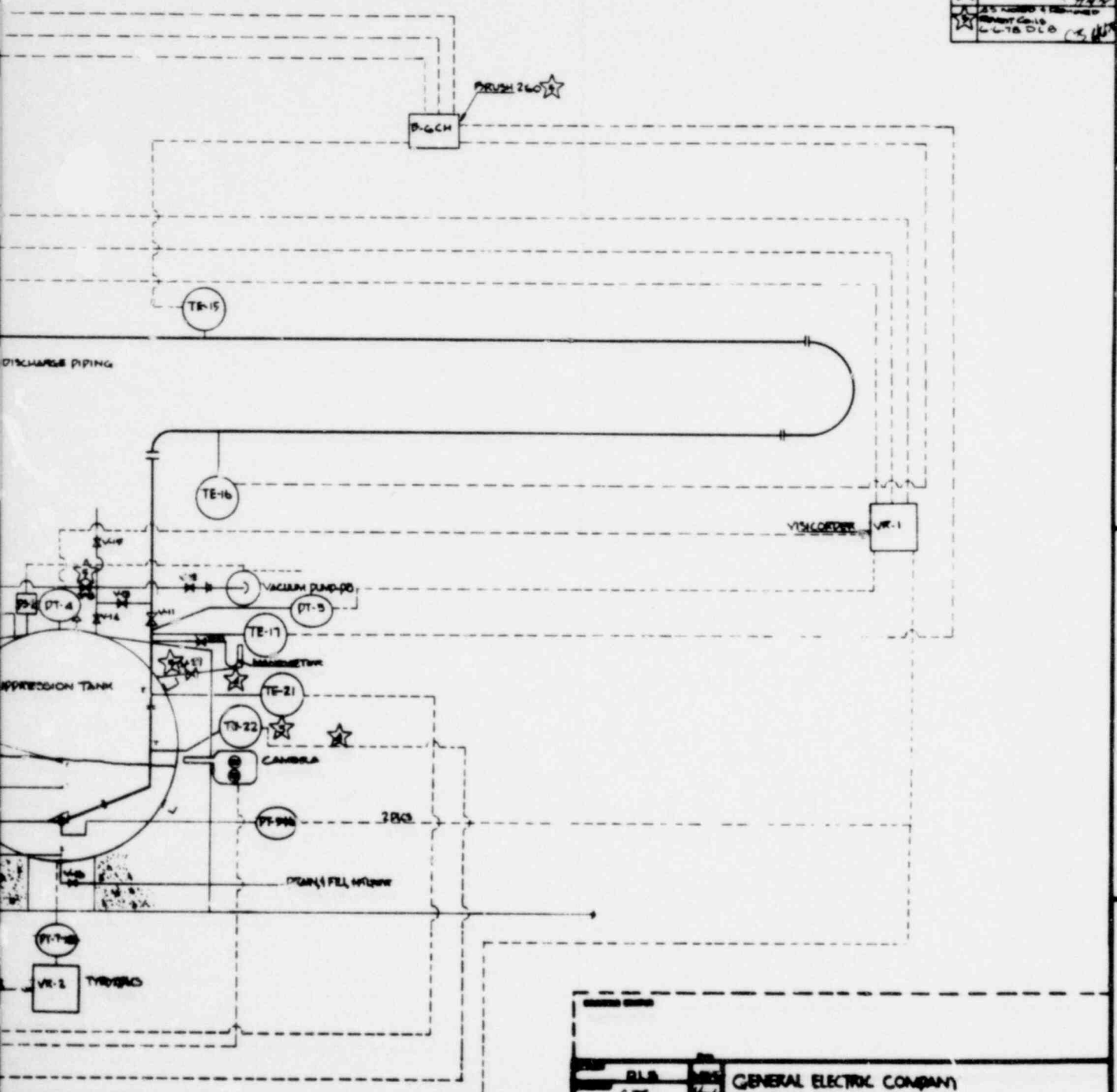
* The hole pattern was the same for both quenchers; only the hole size was changed. There were 1588 holes in each type.

** The differences in lengths were due to the 3 in. end caps being 2 in. long, while the 2 in. end caps were 1-1/2 in. long.

***Proprietary information deleted

1324 022

PARTS LIST		REV	DESCRIPTION	DATE
NO	QTY			
			GENERAL PART NO. OR SPECIFICATION	
			CORN. DEFORMATION REVISIONS 2-9-78 DLS	CTS 2/1/78
			AS NOTED 9-8-78 DLS	CTS 8/17/78
			AS NOTED 4-8-78 DLS	CTS 2/10/78
			AS NOTED 4-16-78 DLS	CTS 4/16/78
			AS NOTED 4-16-78 DLS	CTS 4/16/78
			AS NOTED 4-16-78 DLS	CTS 4/16/78



<table border="1"> <tr><td>REV</td><td>DATE</td></tr> <tr><td>1</td><td>3-7/8-8</td></tr> </table>	REV	DATE	1	3-7/8-8	GENERAL ELECTRIC COMPANY T-QUENCH PROJECT PIPING, TEMPERATURE & PRESSURE INSTRUMENTATION SCHEMATIC
REV	DATE				
1	3-7/8-8				

1324 023 POOR ORIGINAL

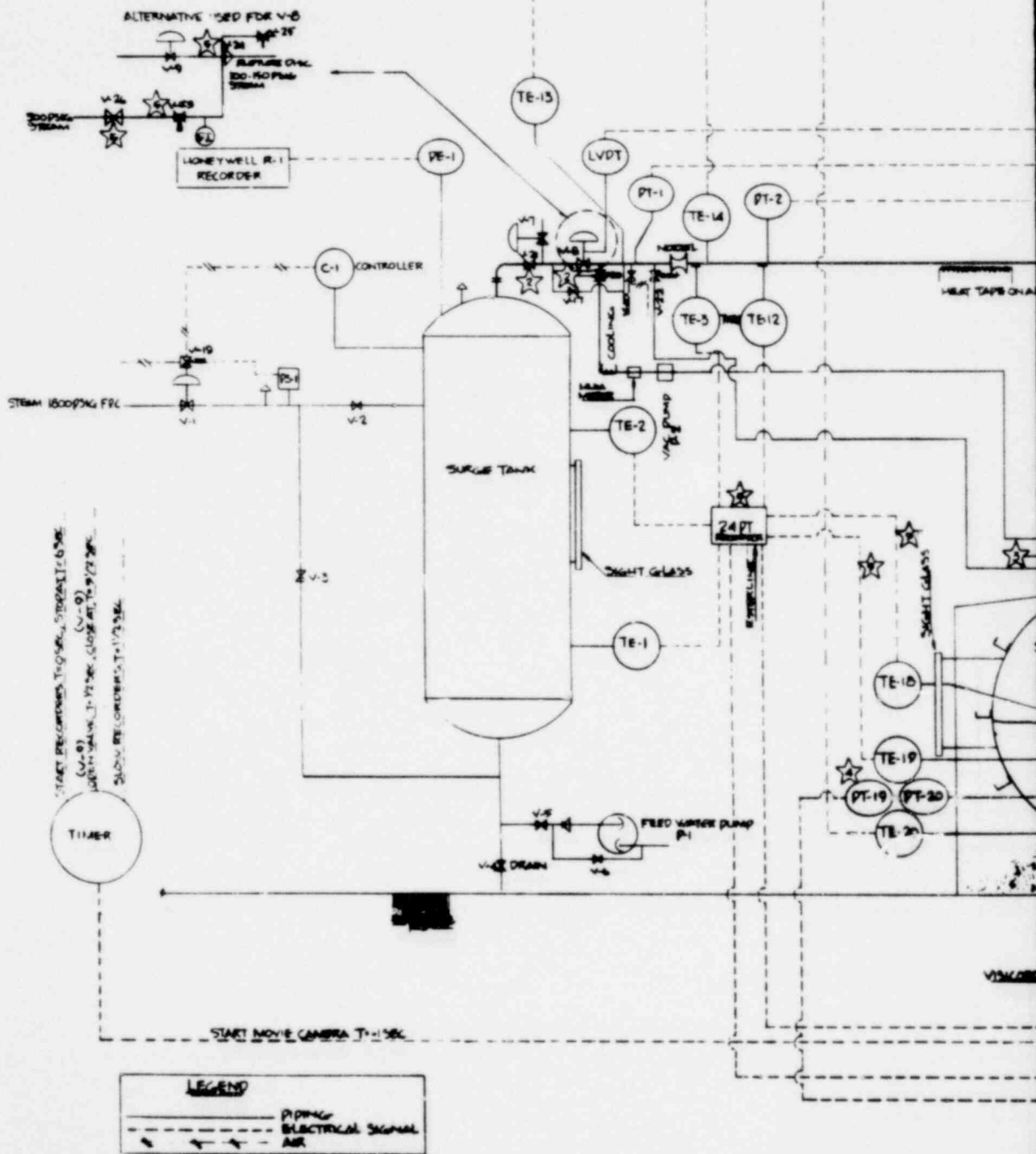
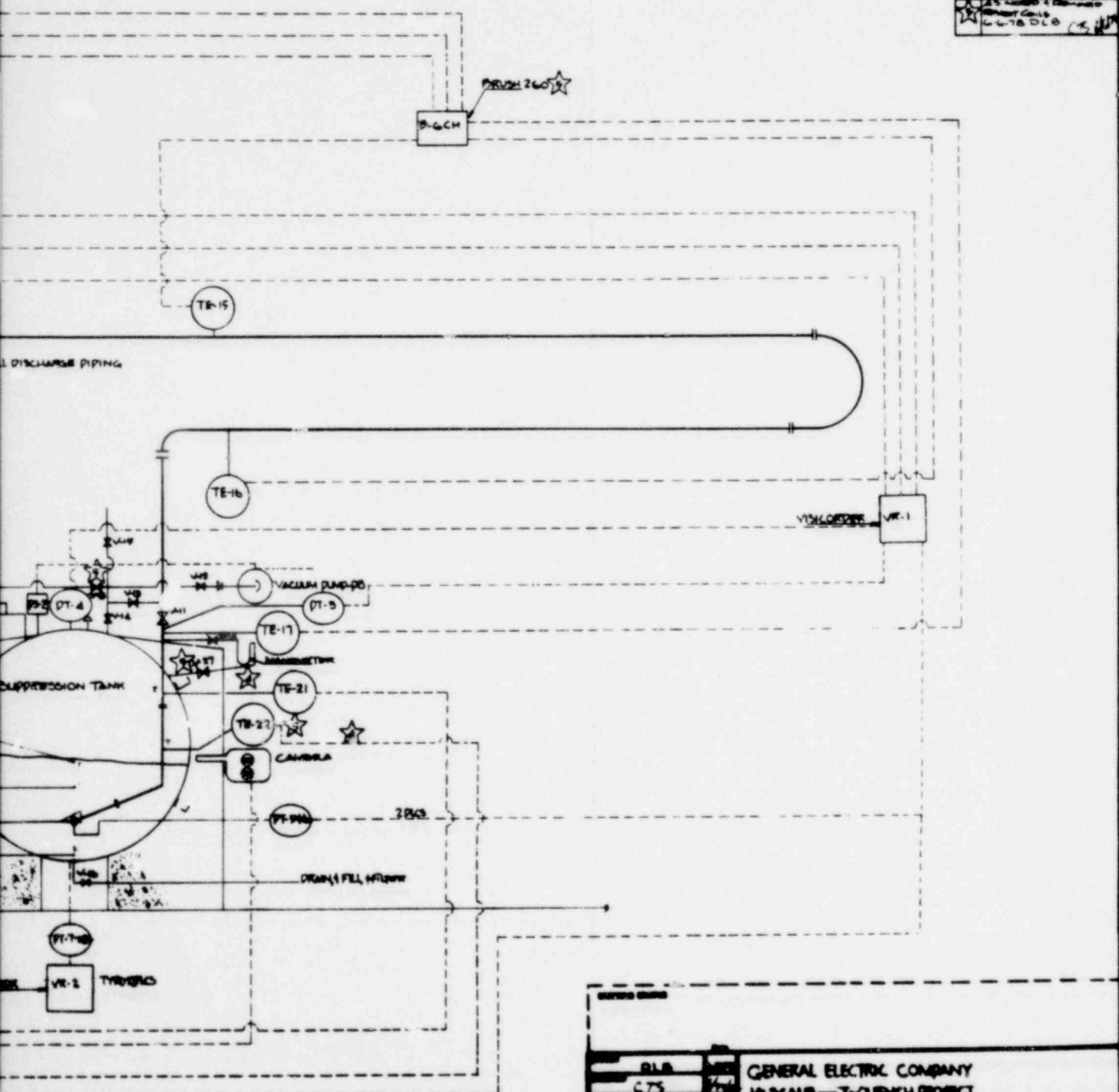


Figure 3-1 Schematic of Test Facility

POOR ORIGINAL

1324 024

PARTS LIST				REVISION
REV	DATE	DESCRIPTION	BY	DESCRIPTION
1				GEN. DESCRIPTION REVISIONS 2-9-78 PLS
2				C75 2/1/78
3				AS NOTED 5-9-78 DLS C75 8/1/78
4				AS NOTED 4-27-78 C75 2/1/78
5				AS NOTED 4-14-78 DLS C75 4/1/78
6				AS NOTED 4-14-78 DLS C75 4/1/78



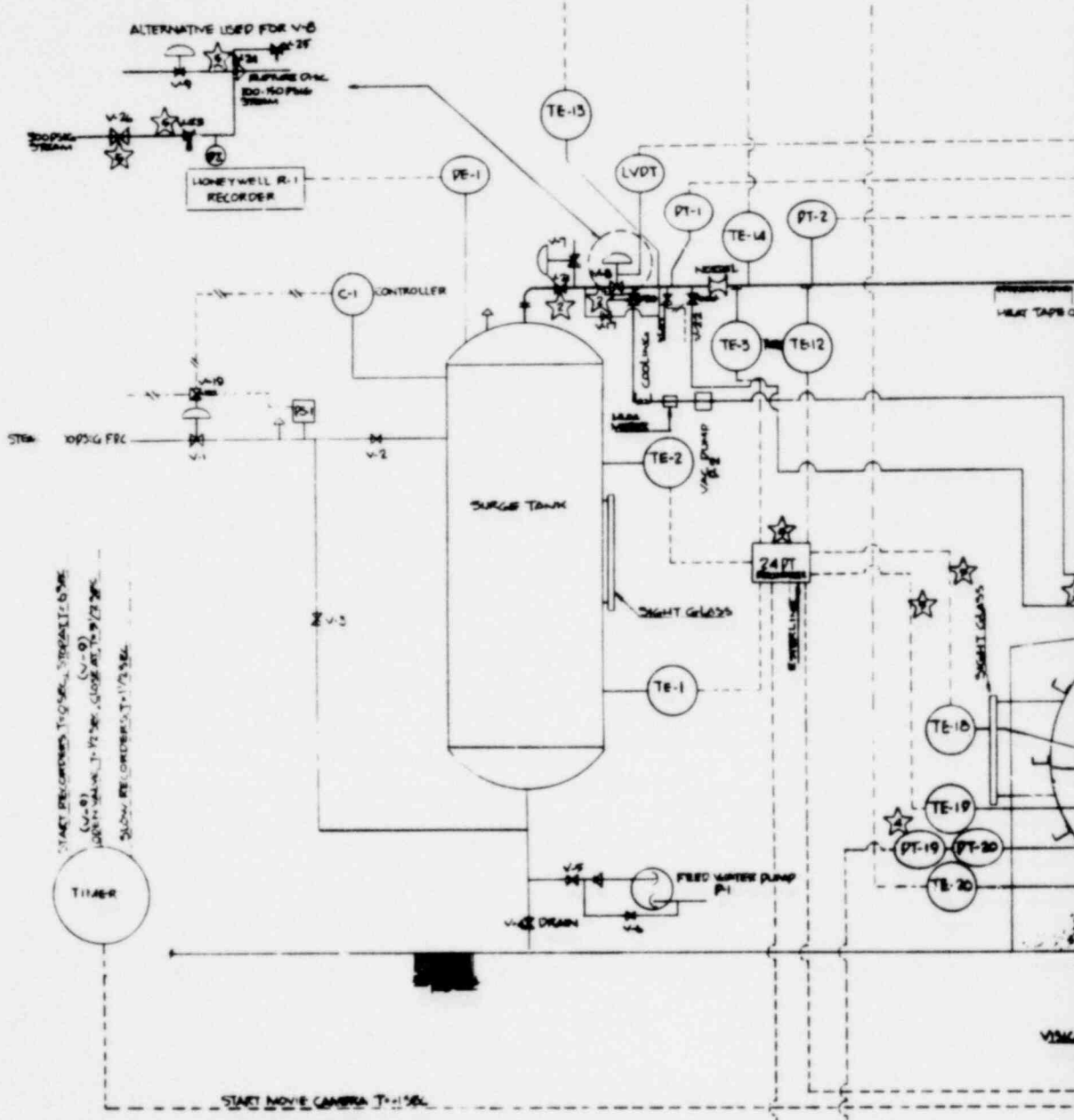
POOR ORIGINAL

REV	DATE	DESCRIPTION
1		GENERAL ELECTRIC COMPANY
2		NO SCALP - T-QUENCH PROJECT
PIPING, TEMPERATURE & PRESSURE INSTRUMENTATION SCHEMATIC		
NEDO-011		

3-7/8-8

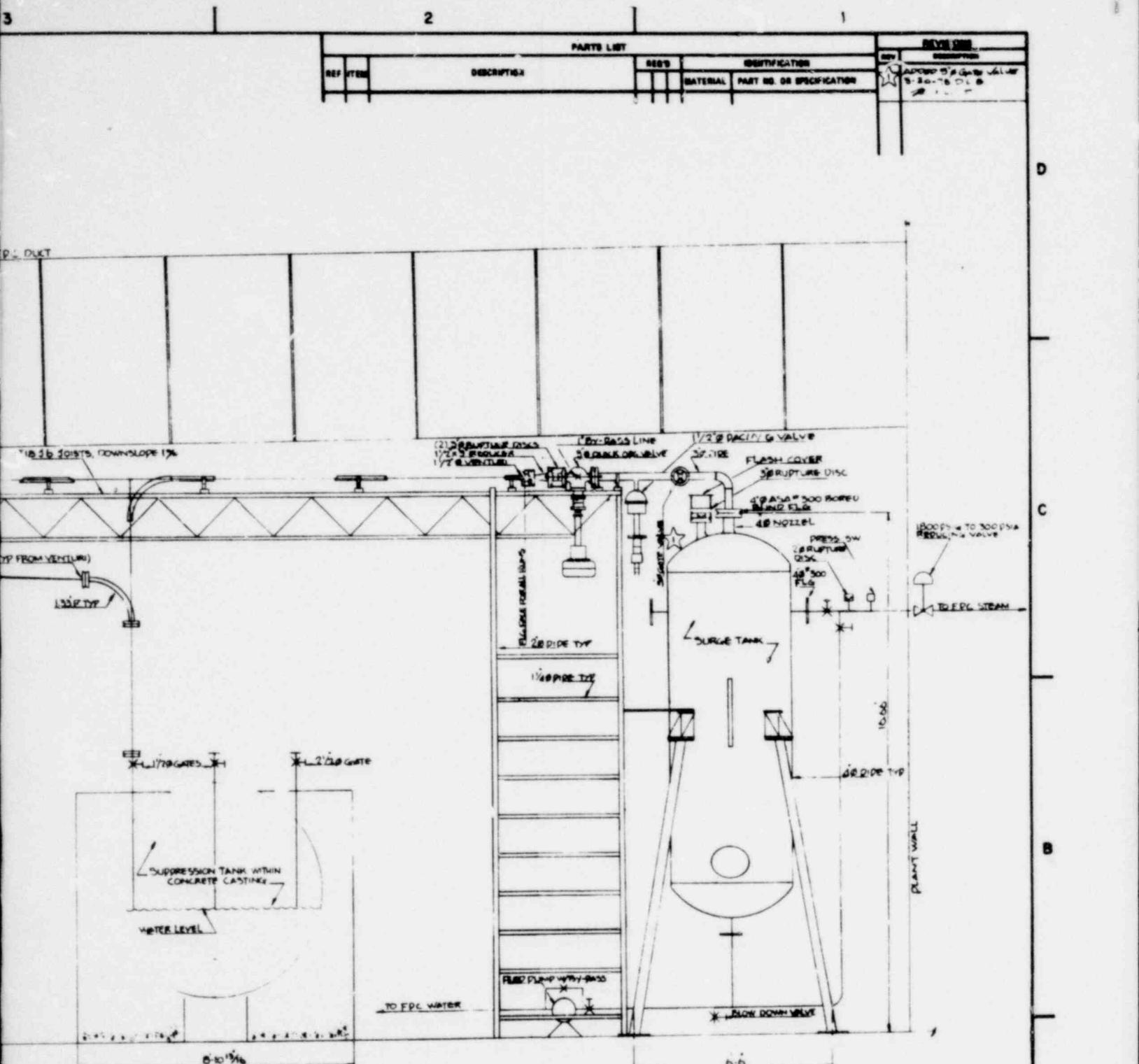
1324 025

D
C
B
A



POOR ORIGINAL

Figure 3-1 Schematic of Test Facility



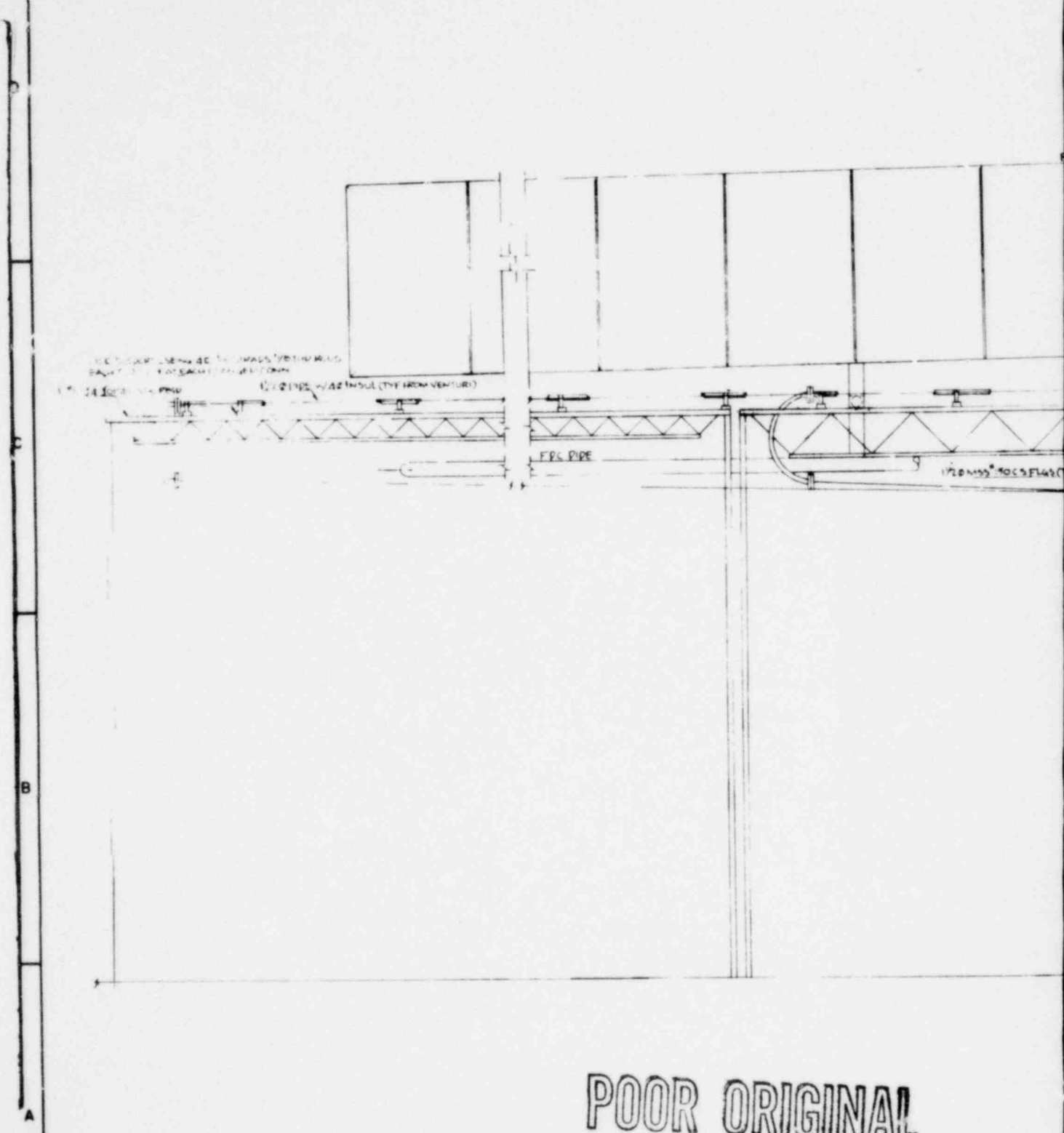
POOR ORIGINAL

DLB	11/11	GENERAL ELECTRIC COMPANY
JE 13	11/11	1/4 SCALE — T-QUENCH PROJECT
		GENERAL PIPING LAYOUT
107-D-009		

3-9/3-10

1324 027

5 4
1907-D-009



POOR ORIGINAL

Figure 3-2 Elevation of Site Layout 1324 028

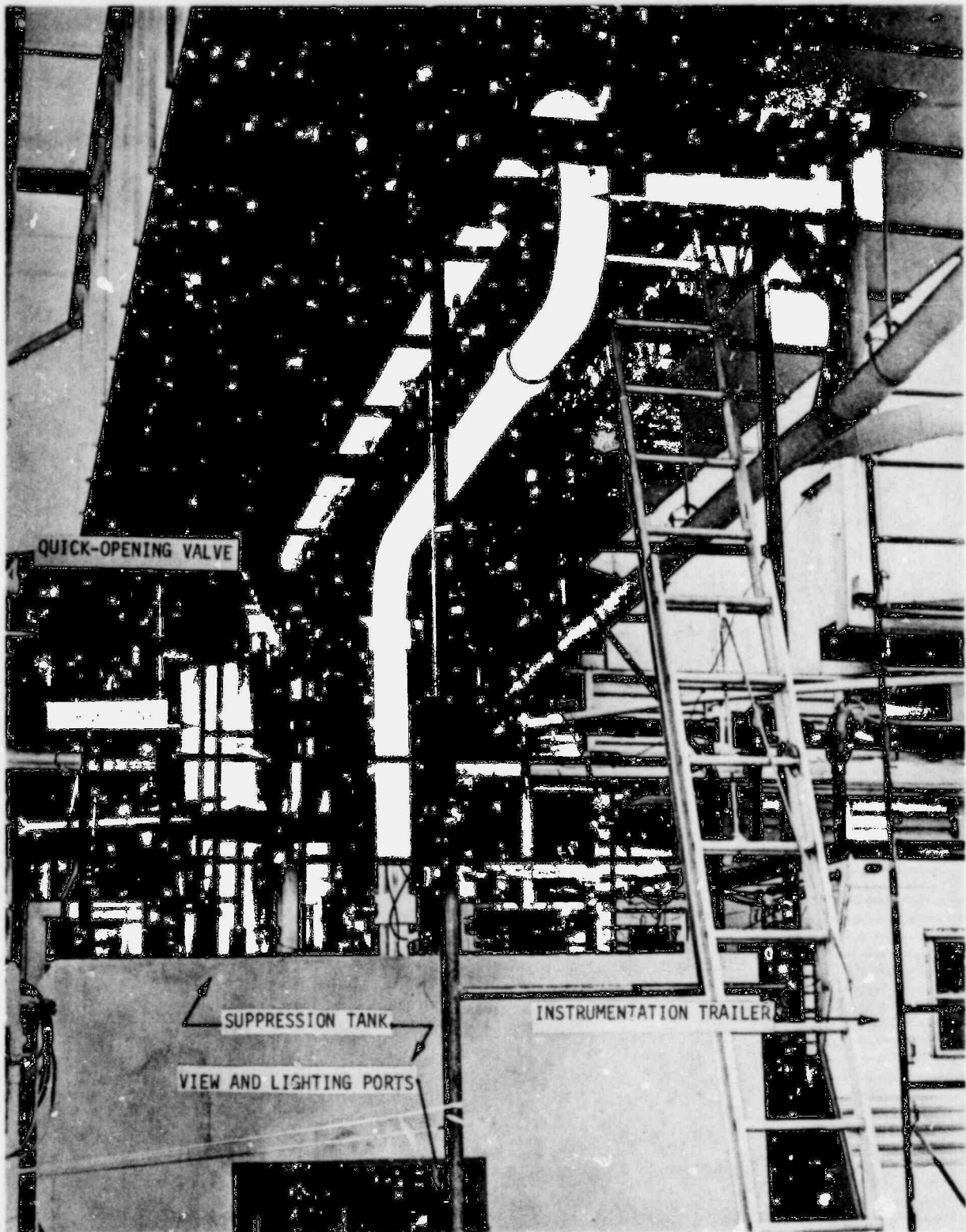


Figure 3-3. Photograph of Test Facility

1324 029

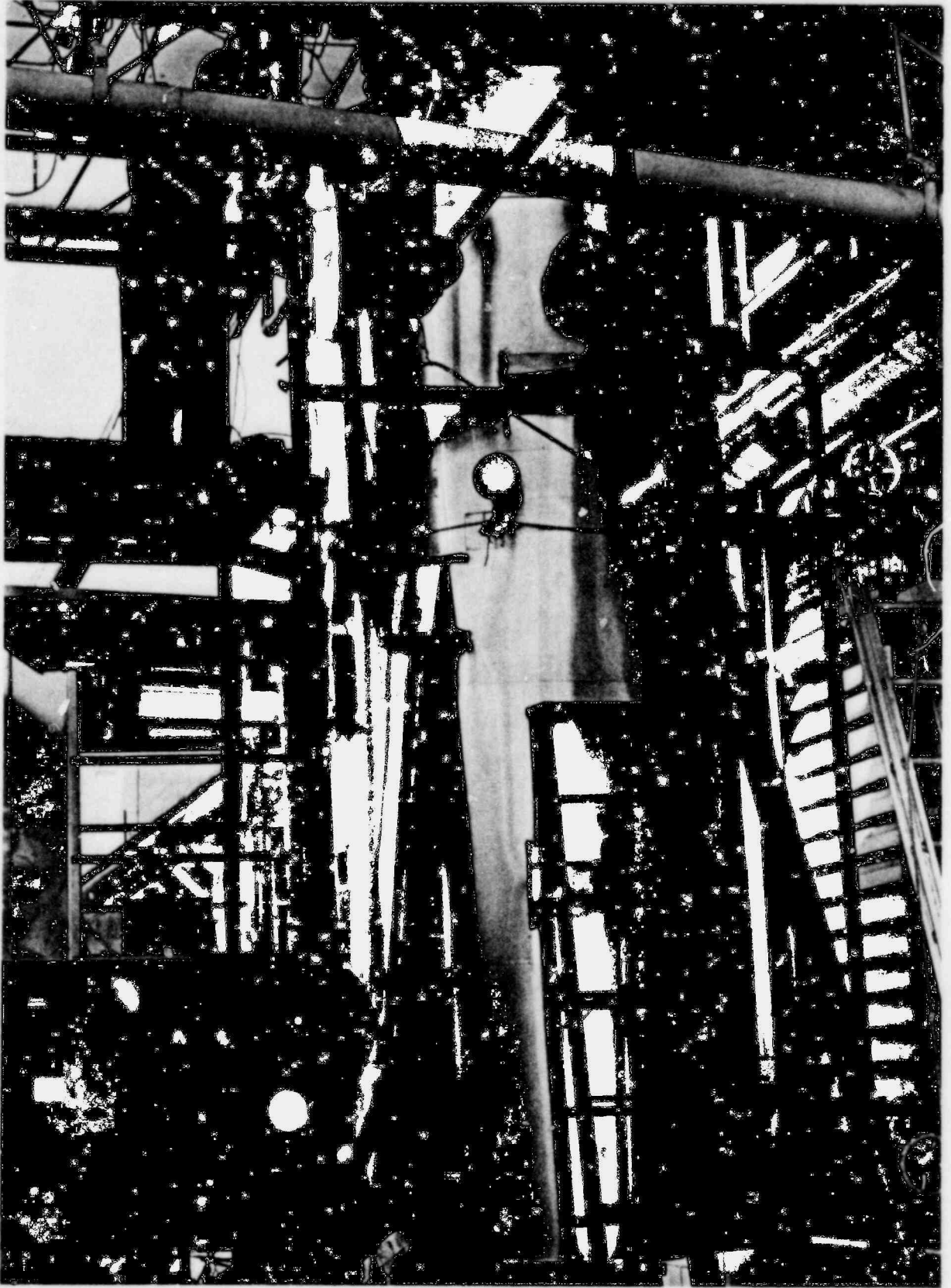


Figure 3-4. Photograph of Surge Tank, Pressure Controller and Recorder

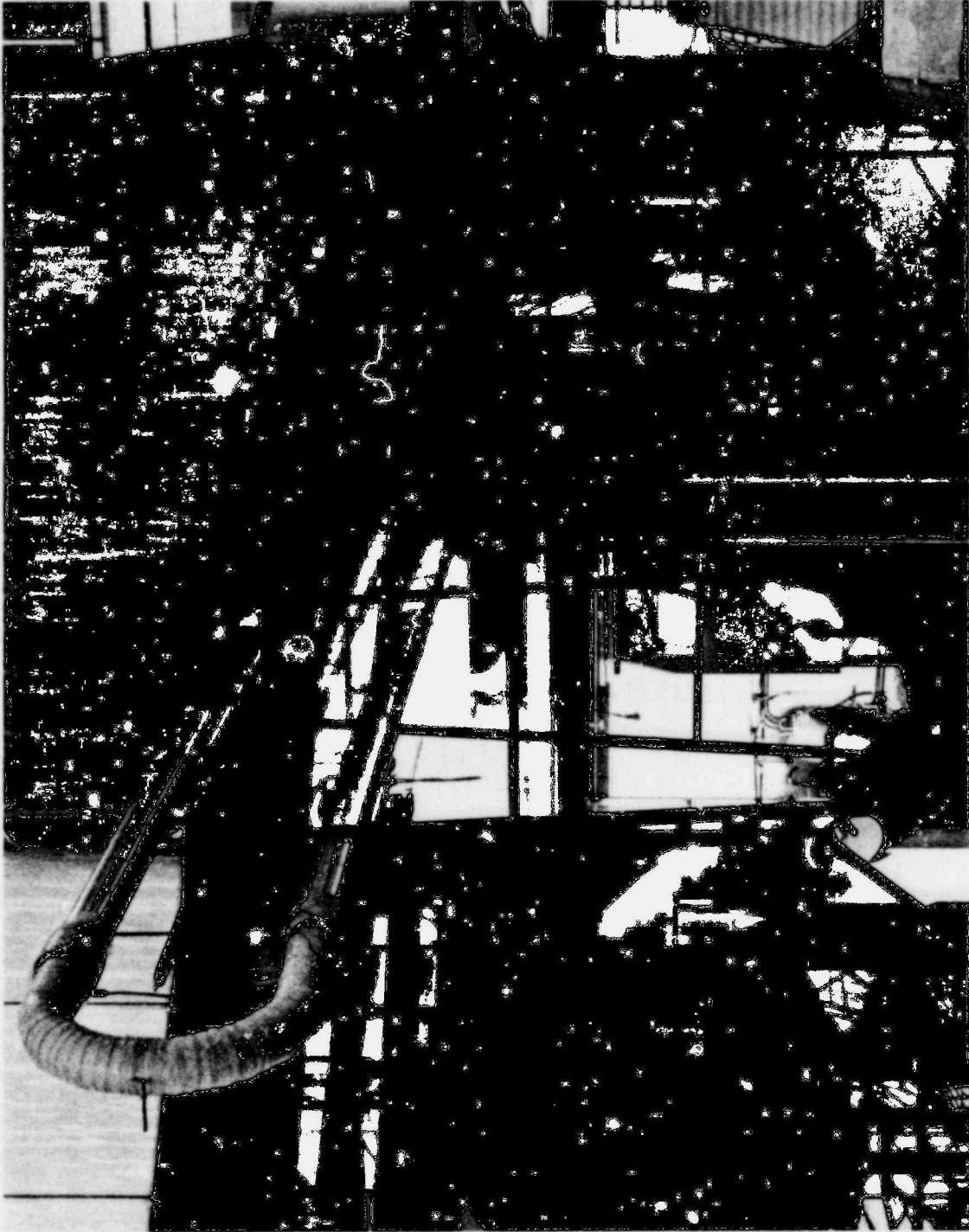


Figure 3-5. Photograph of the 108-Ft SRV Discharge Line

1324 031

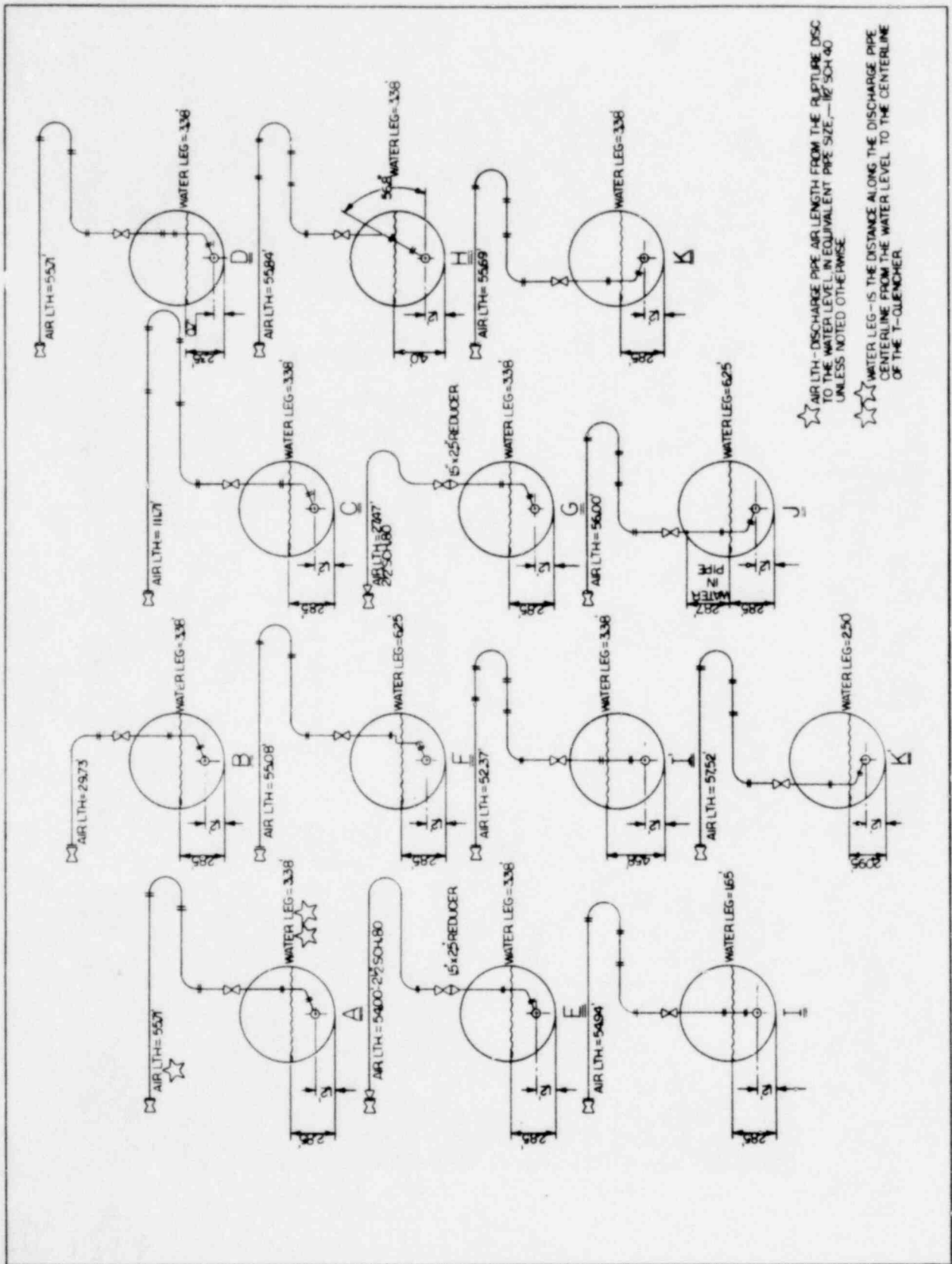


Figure 3-6. Test Facility Piping Arrangements

3

2

1

D

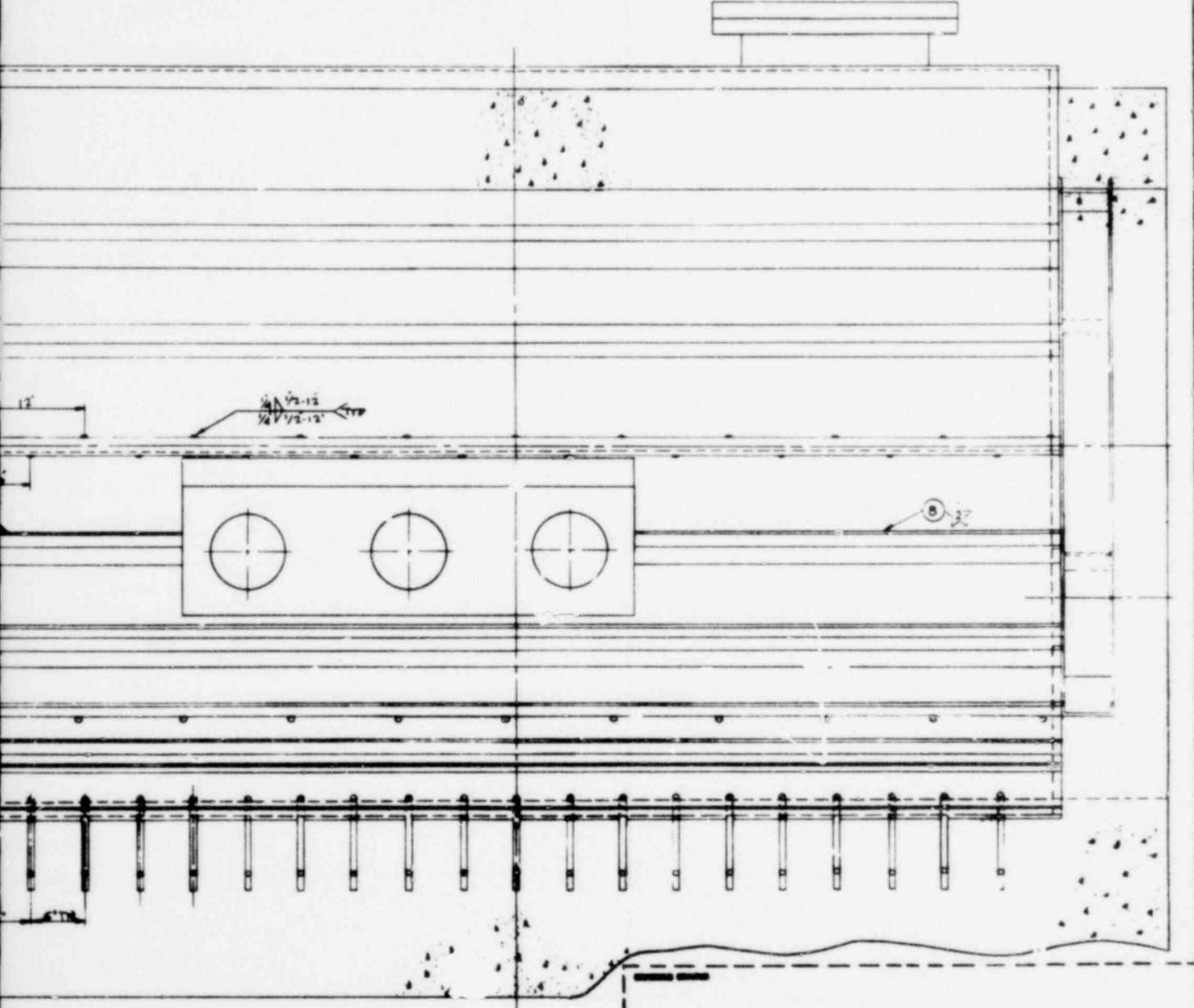
C

A

4	C-6	6" x 8.2" 4'-8" LONG
4	C-6	6" x 8.2" 2'-5" LONG

PARTS LIST			DESCRIPTION		QTY	UNIT
NO.	ITEM	DESCRIPTION	QTY	UNIT	MATERIAL	SIZE OR SPECIFICATION
1		SUPPRESSION TANK STIFFENING DETAILS	1			PER DWG
2		STIFFENER CHANNEL	15		C-6	6" x 8.2" 10'-2" LONG
3		STIFFENER CHANNEL	1			6" x 8.2" 6'-9 1/2" LONG
4		STIFFENER CHANNEL	1			6" x 8.2" 6'-4 1/2" LONG
5		STIFFENER CHANNEL	2			6" x 8.2" 6'-8" LONG
6		WELDER	56			1/8"
7		STIFFENER CHANNEL	1			6" x 8.2" 2' LONG
8		STIFFENER CHANNEL	1			6" x 8.2" 4' LONG
9		STIFFENER CHANNEL	2			6" x 8.2" 6'-10" LONG
10		STIFFENER CHANNEL	2			6" x 8.2" 4'-8" LONG
11		STIFFENER CHANNEL	1			6" x 8.2" 6'-11" LONG

REV. 1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100



POOD ORIGINAL

DESIGNED BY	GENERAL ELECTRIC COMPANY
CHECKED BY	1/4 SCALE - TOUCH PROJECT
TITLE	SUPPRESSION TANK STIFFENING DETAILS
PROJECT NO.	107-D-015

3-15/3-16

1324 033

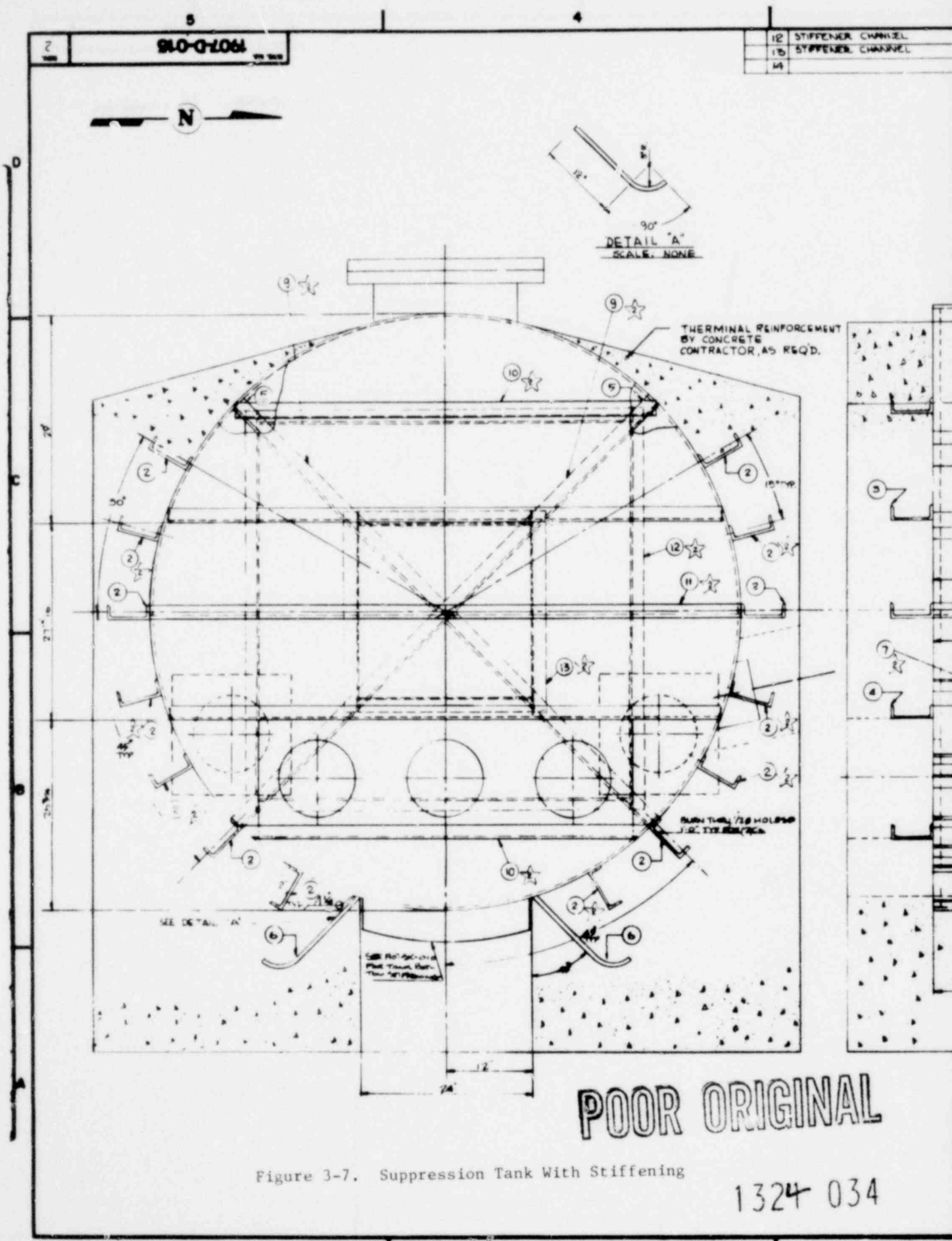


Figure 3-7. Suppression Tank With Stiffening

1324 034

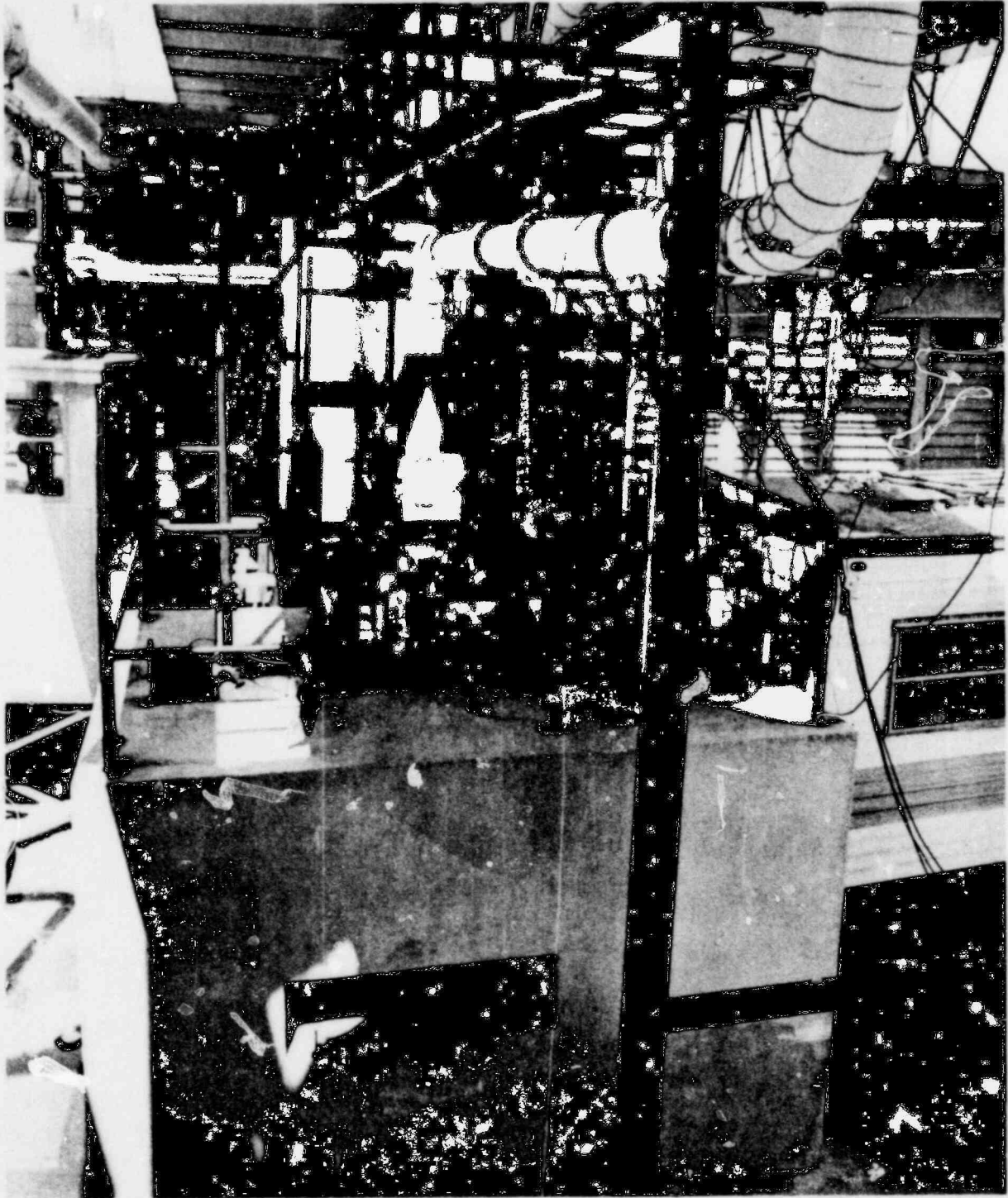


Figure 3-8. Photograph of the Suppression Tank (in concrete)

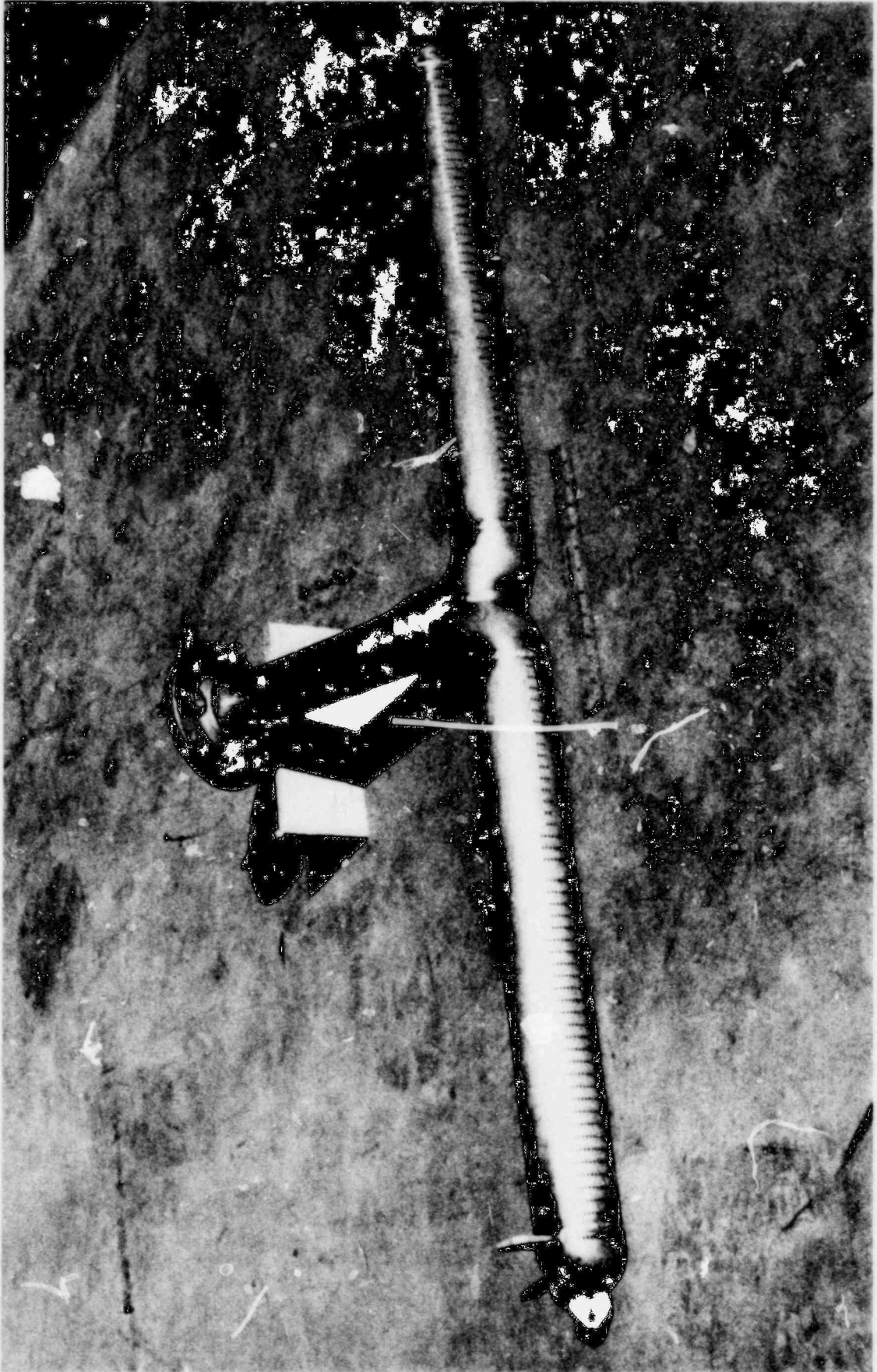


Figure 3-9. Photograph of T-quencher

2

1

PARTS LIST				QUANTITY		DESCRIPTION		REMARKS	
NO.	ITEM	DESCRIPTION	QTY	UNIT	MATERIAL	PART NO. OR SPECIFICATION	QTY	UNIT	REMARKS
1	★	1" T-QUENCH ASSY.	1			PER DRWG			★ RELOCATED BY LAWR. COOPER IN 11/23/78 O.L.B.
2	★	PIPE	1		300# SS	2 1/4" SCH 80			★ 11/23/78 (17)
3	★	REDUCER	1			3" 2 1/4" CONC. B.W. SCH 80			★ AS NOTED & ADD'D 1/8" HP TAPPED HOLES TO REPLACE #7 O.L.B. 6-78
4		MODIFIED ELBOW	2			3" SCH 80 90° BUTT WELD			
5		QUENCHER ARM	2			3" SCH 80			
6	★	CAP	2			3" SCH 80			★ AS NOTED O.L.B. 6-9-78
7									
8	★	FLANGE SLIP ON	1		C.S.	2 1/2" MSS 150#			
9		PASTENING CLIP	2		300# S.S.	2" x 2" x 1/4"			
10		PASTENING CLIP	2			2" x 2" x 1/4"			

POOR ORIGINAL

POOR ORIGINAL

E.C.		GENERAL ELECTRIC COMPANY	
		1/4 SCALE - T-QUENCH PROJECT	
		T-QUENCH & PIPE DETAIL	
		NEDO-24549-D-019	

D

C

B

A

POOR ORIGINAL

1324 038

Figure 3-10. Details of T-Quencher

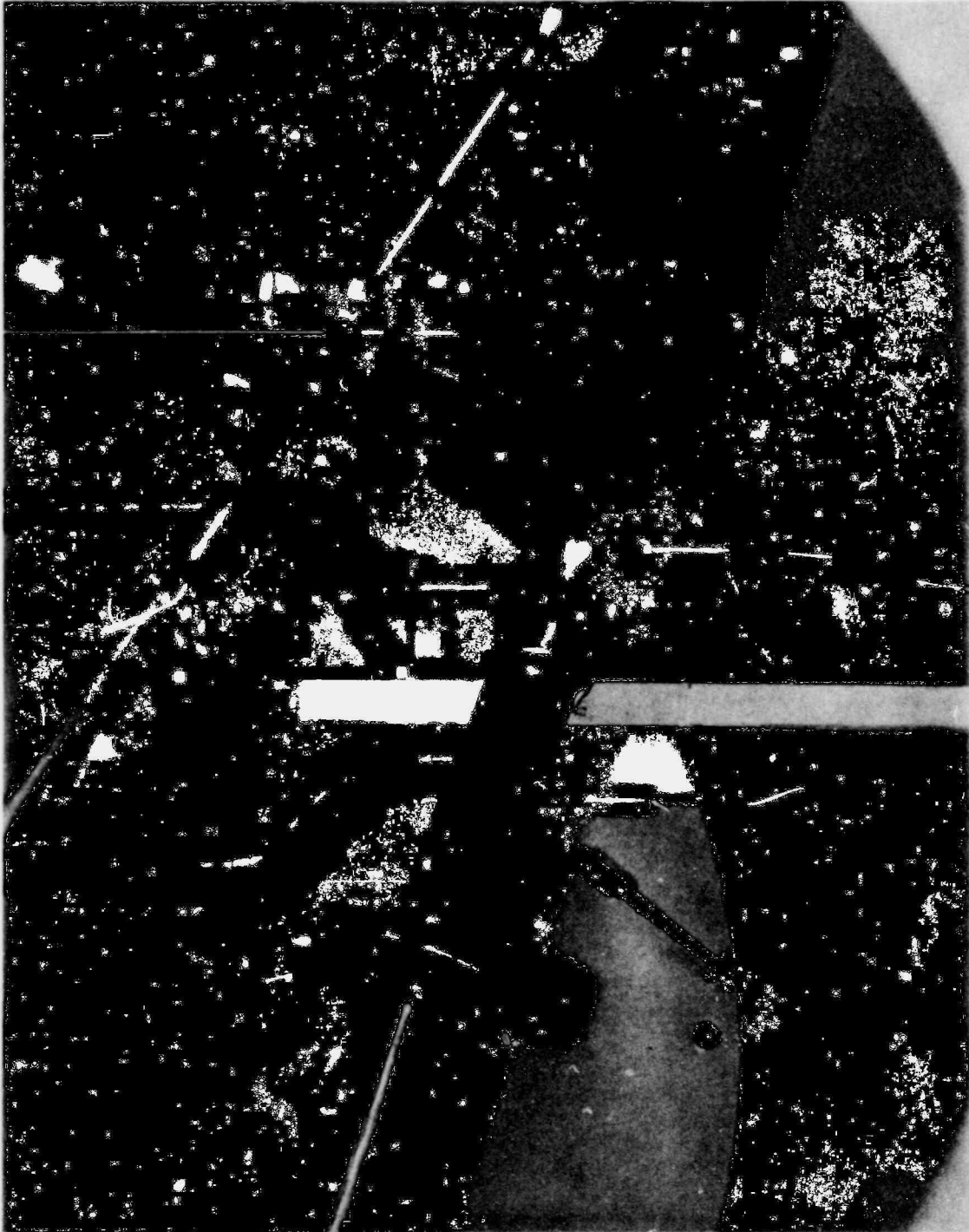


Figure 3-11. Photograph of T-quencher Support and Pressure Transducers

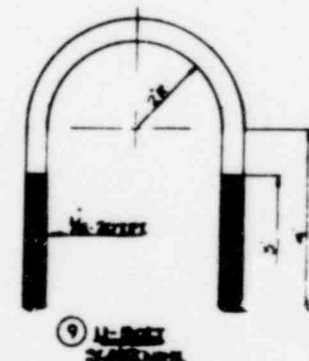
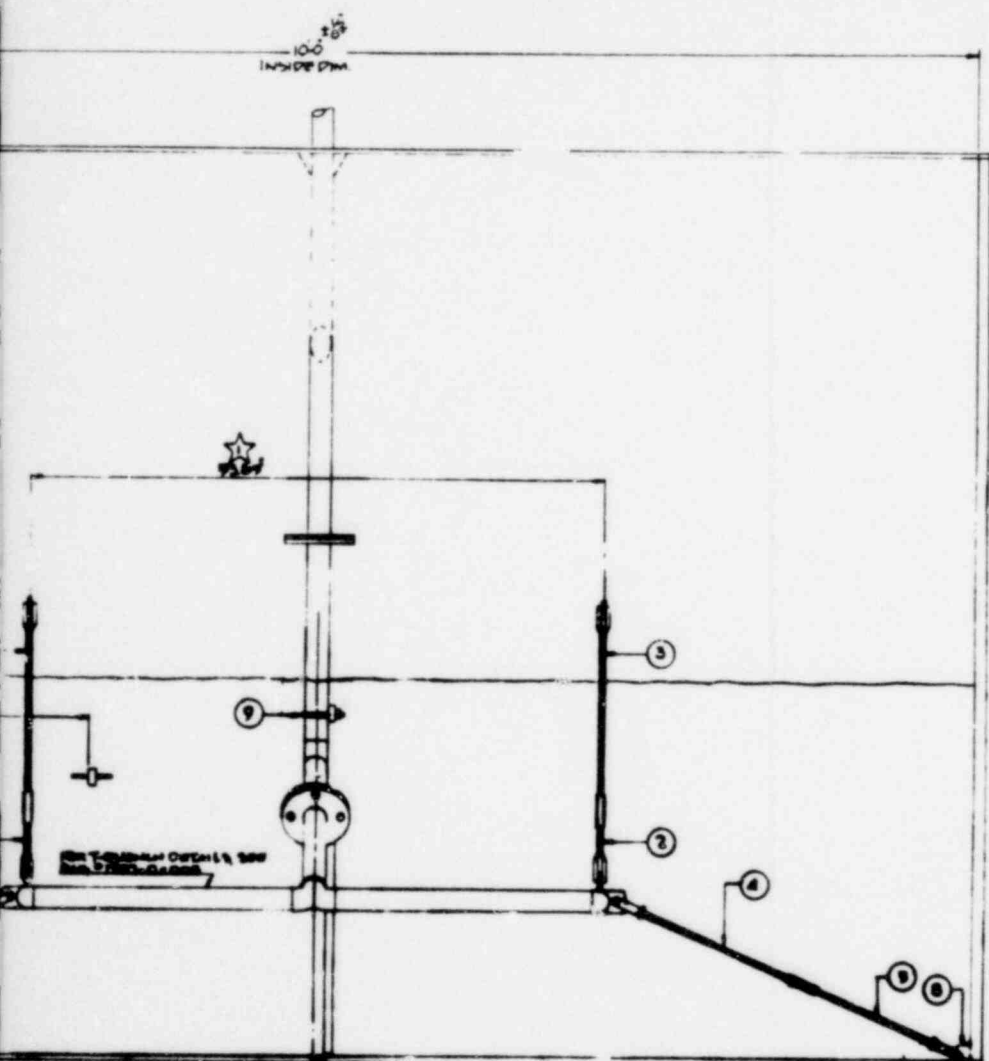
1324 039



Figure 3-12. Photograph of T-quencher as Installed in the Tank

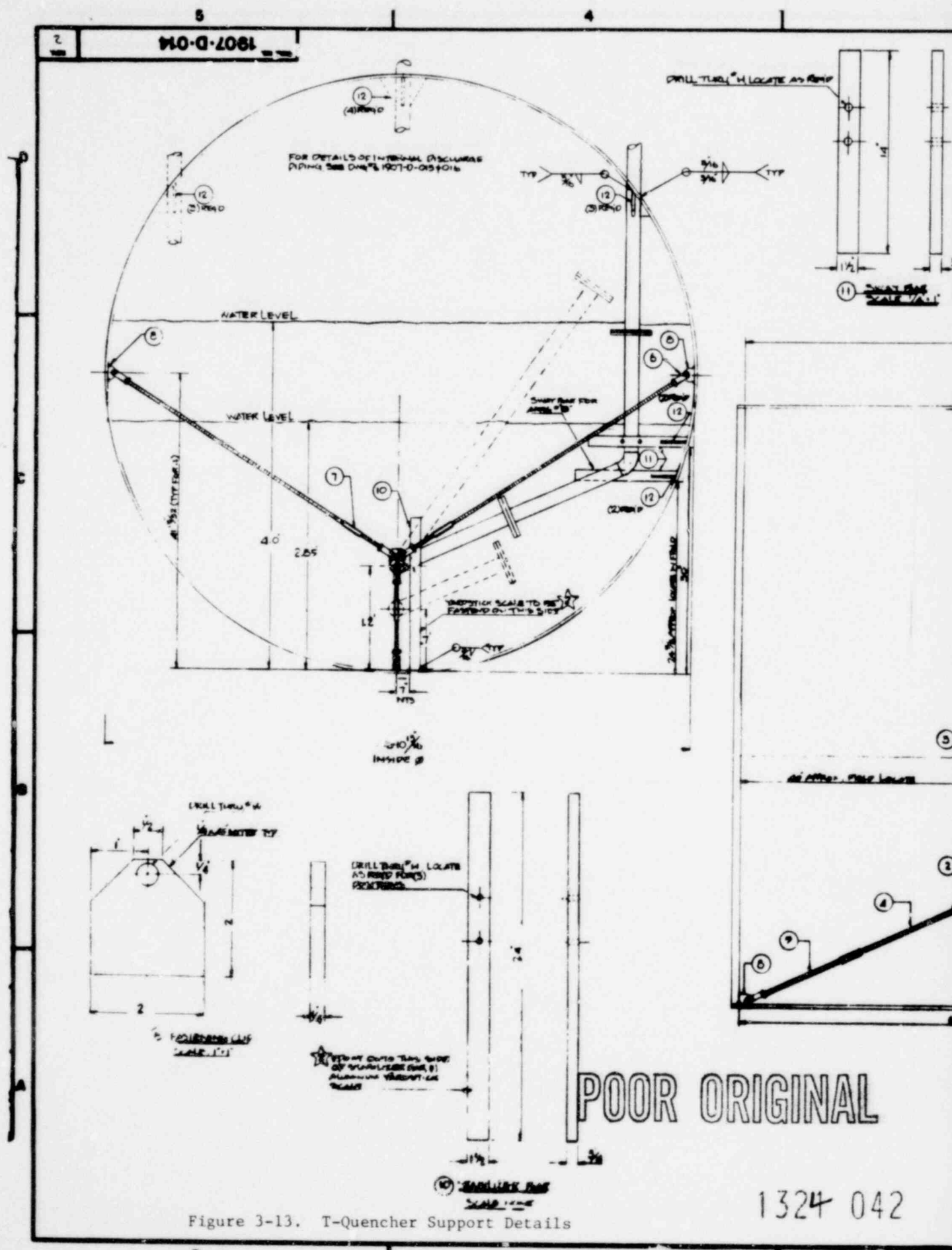
PARTS LIST					
QTY	ITEM	DESCRIPTION	MATERIAL	DIMENSIONS	
				UNIT	PART NO. OR SPECIFICATION
1		T-QUENCH SUPPORT SYSTEM		-	PER DWG
2		1/2"-24 THREAD ROD	A307	12'	LONG
3		1/4"-24 THREAD ROD	A307	5'	LONG
4		1/4"-24 THREAD ROD	A307	20'	LONG
5		1/4"-24 THREAD ROD	A307	12'	LONG
6		3/8"-24 CLEVIS END WELD ON TO 1/2" TAPER ROD	A307		AN 605-BOR
7		3/8" STUR-BUCKLE BODY	A307		6 TAKE-UP
8		FASTENING CLIP	A307		2x2x1/4
9		U-BOLT	A307		2" R
10		STABILIZER BAR	A307		1 1/2" x 3/4" BAR
11		SWAY BAR	A307		1 1/2" x 3/4" BAR
12		GUSSET	A307		3/8" E. CUT AS REQ'D

14. CLIP LOCATION & REGULATED STABILIZER BAR CLIP
 14. ACCORD TO DRAWING SCALE NOTE D-C
 14. 8-17-75 L.T.S. 9/7/75



POOR ORIGINAL

DLS CTS [Other illegible text]	GENERAL ELECTRIC COMPANY 1/8" SCALE - T-QUENCH PROJECT T-QUENCH SUPPORT LOCATION DETAIL NEDO-014
--------------------------------------	---



1907-D-014

FOR DETAILS OF INTERNAL DISCHARGE PIPING SEE DWG'S 1907-D-015 & 016

DRILL THRU 1/4" LOCATE AS SHOWN

WATER LEVEL

WATER LEVEL

TYP 3/8"

9/16"

TYP 3/8"

DRILL THRU 1/4" LOCATE AS SHOWN

4 3/8" (STIFFENED)

4'0"

2'05"

1'2"

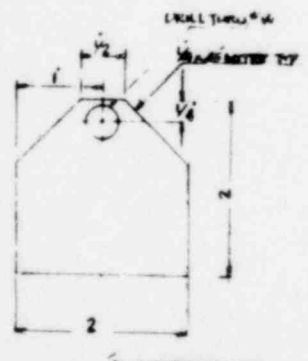
7"

7"

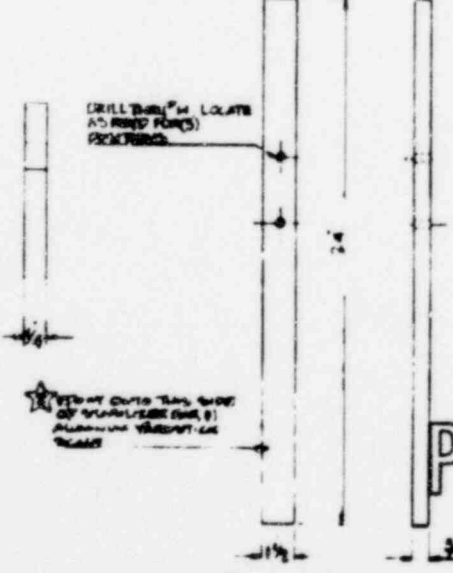
1/4" X 3/8" INSIDE

POSITION SCALE TO BE FASTENED ON THIS SIDE

DRILL THRU 1/4" LOCATE AS SHOWN (SEE DWG'S 1907-D-015 & 016)

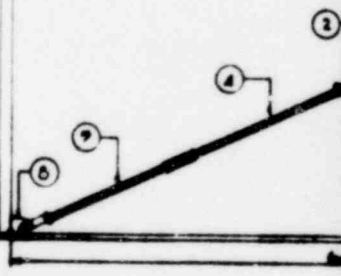


FOUR CORNERS W/ SCALE 1:1



DRILL THRU 1/4" LOCATE AS SHOWN (SEE DWG'S 1907-D-015 & 016)

DRILL THRU 1/4" LOCATE AS SHOWN (SEE DWG'S 1907-D-015 & 016)



POOR ORIGINAL

ENCLOSURE FOR SCALE 1:1

Figure 3-13. T-Quencher Support Details

1324 042

4. INSTRUMENTATION

The primary measurements required in these tests were the pressure transients on the submerged portion of the suppression tank wall, in the suppression pool near the quencher discharge, and in the discharge pipe. These are the dependent variables whose measurements determined the effects of varying discharge pipe and simulated SRV operating parameters.

Additionally, to control test conditions, it was necessary to measure discharge line and suppression tank temperatures and pressures, pool water level, steam flow rate, discharge pipe pressurization rate, and the dew-point temperature of the air in the discharge pipe.

The locations and recording details of some of the instrumentation are shown schematically in Figure 3-1. A photograph of recorders is given in Figure 4-1. Table 4-1 lists the manufacturers' specifications for the various instruments. Figure 4-2 shows the thermocouple locations for a typical piping arrangement. Figure 4-3 shows locations of the pressure transducers. Additional instrumentation details are given below. Sensor characteristics are tabulated in Table 4-1. The camera arrangement for high speed photography of the simulated SRV discharge is shown in Figure 4-4. All sensors, sensor leads, signal conditioner channels and data acquisition channels were marked, logged and recorded during calibration to maintain identifications throughout the tests. All pressure sensors were calibrated using the procedure described in Appendix A. Sensor calibrations were performed before testing started and within every 30 days thereafter. Signal conditioner and Visicorder calibrations were performed at the start and end of each test day. Traceable standards (National Bureau of Standards) were used.

4.1 SENSOR TYPES AND LOCATIONS

1324 043

4.1.1 Discharge Piping and Suppression Tank Temperature Sensors

The discharge pipe temperature was measured with thermocouples mounted on the outside diameter of the piping at a maximum of ten-ft intervals extending

from just downstream of the rupture disc to one in. above the water surface in the suppression tank. See Figure 4-1 for locations and mounting details. TE-22, located one in. above the suppression tank water surface, was monitored to ensure that the temperature did not exceed 130°F prior to the initiation of a test run. This low temperature indicated that water vapor did not diffuse into the discharge pipe airspace.

For the portion of the discharge pipe initially filled with air, thermocouples were positioned under each section of the spiral wound heat tape used to maintain a uniform temperature over this section of piping.

The initial air temperature in the discharge pipe was monitored at five locations approximately evenly spaced over the pipe air length. These temperatures were measured by thermocouple TE-13, TE-14, TE-15, TE-16, and TE-17 as shown in Figures 3-1 and 4-2. These thermocouples were mounted to the discharge pipe using standard swage-type fittings.

The temperature of the suppression tank pool was monitored at three (3) locations: near the water surface, at an intermediate location, and near the bottom of the pool. These temperatures were measured by thermocouples TE-18, TE-19, and TE-20, respectively, as shown in Figures 3-1 and 4-2.

4.1.2 Discharge Piping and T-quencher Pressure Sensors

Discharge piping and T-quencher pressure sensors are represented in Figures 3-1 and 4-3 as PT-1 through PT-6. PT-1 is located upstream of the flow control nozzle and was used for measurement of the steam flow rate. (See Section 3.2). PT-2 and PT-3 are located in the air length of discharge pipe just downstream of the flow control nozzle and just upstream of where the pipe enters the suppression tank, respectively. PT-3 is used to measure the discharge pipe air/water interface pressure during the simulated SRV transient. PT-5 and PT-6, mounted on one arm of the T-quencher, are located just upstream of the first row of holes and just downstream of the last row of holes, respectively.

The discharge piping and T-quencher pressure sensors required thermal isolation. To accomplish this, the sensors were mounted vertically upwards and the discharge piping sensor cavities were filled with vacuum grease and the T-quencher sensor cavities were filled with water.

4.1.3 Discharge Pipe Humidity Sensor

The humidity of the air in the discharge pipe was determined just before start of a test by measuring the air dew-point temperature. To measure the dew-point temperature, air just downstream of the rupture disc was drawn through valve V-20, (see Figure 3-1) by the vacuum pump P-2. The air was cooled to approximately 85°F to be within the operating range of the dew-point condensation hygrometer. The humidity measurement sample was then returned to the discharge pipe through valve, V-13, just upstream of the pipe isolation valve, V-11. A minimum of 5% of the volume of the discharge piping air was sampled. It was not necessary to reheat the humidity measurement sample prior to returning it to the discharge line because of its relatively small heat capacity relative to that of the discharge pipe metal and the balance of the contained air.

4.1.4 Suppression Tank Wall and Pool Pressure Sensors

The suppression tank wall pressure was measured at twelve (12) locations. See Figure 4-3 for details. The sensors mounted on the tank wall, designated PT-7 through PT-18, were flush-mounted differential pressure transducers. The reference sides of these transducers were connected to the air space of the suppression tank. PT-7, PT-8, PT-9, PT-12, PT-15 and PT-18 were located in a line below the T-quencher with PT-15 being at the center of the T-quencher and PT-7 and PT-8 extending beyond the quencher arm. PT-10 through PT-14 were located in a line perpendicular to the quencher arms at a lateral position near the expected center of air clearing from one arm of the T-quencher. PT-16 and PT-17 were located in a line perpendicular to the center of discharge of the other quencher arm. Thus, the wall pressure attenuation was measured both parallel and perpendicular to the T-quencher arms.

1324 045

The T-quencher discharge air bubble pressures on each side of one quencher arm were measured using transducers PT-19 and PT-20, located near the center of the quencher arm. The bubble pressure sensors were the flush-mounted type mounted vertically downward with the transducer face level with the center of the quencher. These sensors are shown schematically in Figure 4-3.

4.1.5 Suppression Tank Gas Space Pressure and Water Level Sensors

The static pressure in the suppression tank gas space was measured prior to each test-run using sensor PT-4. The initial pool water level was measured visually by use of a sightglass. The initial discharge pipe water level was determined using a differential pressure manometer connected between the suppression tank and the air-filled portion of discharge pipe (See Figure 3-1).

4.1.6 Steam Supply Pressure and Temperature Sensors

The temperature and pressure of the steam/water in the steam supply surge tank was monitored before each test. The tank steam pressure was measured by pressure sensor PE-1 and the supply tank temperature was measured by thermocouples TE-1 and TE-2. The steam supply pressure and temperature for test results were taken from PT-1 and TE-13 because of the greater accuracy of these measurements.

4.1.7 Quick-Opening Valve Timing Sensor

Since rupture discs were used to effect a rapid pressurization of the discharge line, valve opening time was not of primary importance. However, a LVDT (linear variable differential transformer) was used to monitor opening (plug position) of the fast-acting valve, V-9. The output of the LVDT was recorded on visicorder chart, VR-1.

4.2 DATA RECORDING

1324 046

Two Honeywell 1858 visicorders (VR-1 and VR-2) were used to record pressure sensor outputs and the position of the quick-opening valve plug, see Table 4-2

and Figures 4-5 and 4-6. The recorders operated at 28 in./sec (716 mm/sec) for the first half second of a run, then at 7.5 in./sec for the remainder of the run. Vertical timing lines were automatically printed in the chart by the recorder at 10-msec intervals. The charts were microfilmed for permanent record.

Five thermocouple outputs from the discharge pipe and one from the suppression tank were recorded on a brush 260, 6-channel, strip-chart recorder at one in./sec (25 mm/sec). All other thermocouple outputs were recorded on an Esterline-Angus 24-point, strip chart recorder.

The visicorders and the Brush recorder added event marks to the charts; the event marker relay also started the time marker generator on the movie cameras when photography was used. All recorders were kept in a controlled temperature environment to reduce instrument drift (see Figure 4-1).

4.3 MOTION PICTURES

Two Milliken Model DBM5B cameras (500 frames per second) were used to record the air clearing phenomena under several test conditions. Sixteen millimeter color movies were taken. Event marks were placed at 0.010 second intervals on the film to allow for synchronization of the motion pictures with the sensor measurements recorded on visicorders and brush recorders. The cameras were positioned to photograph the quencher discharge from an end view of the quencher arm and from the top view approximately centered over the same quencher arm.

1324 047

4.4 FAILED OR MODIFIED SENSORS

Only one pressure transducer failed. This was PT-10 located on the suppression tank wall. PT-10 was determined to be inoperable after the completion of Test C and before Test 1. It is believed that the transducer was damaged during a facility modification. Starting with Test 5 and continuing through the rest of the test program, this transducer was replaced by a 0-15 psia, flush-mounted type made by Senso-Metrics, Inc., (Model SP-65B). See Table 4-1.

The only other failure was a humidity meter sensor. This was caused by a premature burst of a rupture disc, allowing steam to reach the sensor. The humidity monitor was out of service for Test 2 through 8.

Transducers PT-3 and -6 were relocated during some latter tests to determine if the 1-1/2-in. reducer and valve affected the pressure reading. Transducer PT-3 was relocated to approximately 6 in. upstream of valve V-11 for Tests 16 through 20. The prior location of PT-3 was approximately 6 in. downstream of Valve V-11. Transducer PT-6 was relocated for Tests 16 through 19 from the end of the T-quencher arm to just upstream of the location of the initial air/water interface in the discharge pipe. This relocation of transducers showed that the reducer and valve had no effect on the PT-3 pressure readings.

1324 048

Table 4-1
LIST OF INSTRUMENTATION

I.D. No.*	Function	TRANSMITTER				RECEIVER			
		Description	Manufacturer	Model No.	Accuracy	Description	Manufacturer	Model No.	Accuracy
PE-1	Pressure	Bourdon Tube (bronze)	---	---	---	Circular Chart Recorder (R-1) 200-400 psi	Honeywell	702XIP3 -II-III-272	±1%FS
TE-1 and 2	Temperature	1/16 in. O.D., Type J Thermocouple, 12 in. long	Thermo-Electric	J116G-300-0-12"-0L	+2°F	24 point Recorder	Esterline Angus	E1124E	.25%FS
TE-3 thru 12	Temperature	1/16 in. O.D., Type J Thermocouple for pipe O.D.	Thermo-Electric	J116G-300-BAY-90-298-0 ¹	+2°F	24 point Recorder	Esterline Angus	E1124E	.25%FS
TE-13 thru 17	Temperature	1/16 in. O.D., Type J Thermocouple, 6 in. long	Thermo-Electric	J116G-300-0-6"-0L	+2°F	Brush 6-channel Strip Chart Recorder (B-6CH)	Gould	260	.5%FS
TE-18 and 19	Temperature	1/16 in. O.D., Type J Thermocouple, 72 in. long	Thermo-Electric	J116G-304-0-72"-0L	+2°F	with Tc amp 13-4615-40 24 point Recorder	Esterline Angus	E1124E	.25%FS
TE-20	Temperature	1/16 in. O.D., Type J Thermocouple, 12 in. long	Thermo-Electric	J116G-300-0-12"-0L	+2°F	Brush 6 Channel Strip Chart Recorder(B-6CH)	Gould	260	.5%FS
LVDT	Distance	2 in. Linear Displacement Transformer for measuring opening time of V-8	System Measurements	S-1500	.5%FS	Visicorder (No.1) with Model 1884 Signal Conditioner	Honeywell	1858	.5%FS
PT-1	Pressure	0-500 psia Pressure Transducer 250-400°F temp. compensation be used for flow measurement	Sensotec	A5 Series	.5%FS	Visicorder No. 1 with Model 1885 Signal Conditioner	Honeywell	1858	.5%FS
PT-2 and 3	Pressure	0-300 psia Pressure Transducer, 250-400°F temp. compensation	Sensotec	A5 Series	.5%FS	Visicorder No. 1 with Model 1885 Signal Conditioner	Honeywell	1858	.5%FS
PT-4	Pressure	0-15 psia Pressure Transducer, 60-160°F temp. compensation	Sensotec	A5 Series	.5%FS	Visicorder No. 1 with Model 1885 Signal Conditioner	Honeywell	1858	.5%FS
PT-5 and 6	Pressure	0-200 psia Pressure Transducer, 60-400°F temp. compensation for submersion	Sensotec	A5 Series	.5%FS	Visicorder No. 1 with Model 1885 Signal Conditioner	Honeywell	1858	.5%FS
PT-19 & 20	Pressure	0-15 psia Pressure Transducer, flush mount- 60-300°F temperature	Sensotec	M-530 **	.5-1%FS	Visicorder No. 1 with Model 1883 Signal Conditioner	Honeywell	1858	.5%FS
PT-7 thru 18***	Pressure	0-10 psid Pressure Transducer, flush mount-wet-to-wet, differential pressure	Sensotec	LL Series	.25%FS	Visicorder No. 2 with Model 1883 Signal Conditioner	Honeywell	1858	.5%FS
H-1	Humidity	Sensor	General Eastman	---	---	Dew Point Condensation Hygrometer, Range -40 to 120°F	General Eastman	System 1100	±1°F

* See Figure 3-1.

** Requires a Model SA-B signal conditioner for a 0-5 Vdc output.

*** 3 spares - 0-15 psia from Senso-Metrics Model SP-65 with K-20 Signal Conditioner.

NEDO-24549

4-7

1324 049

Table 4-2
SENSOR OUTPUTS RECORDED ON VISICORDERS

<u>Sensor</u>	<u>Visicorders</u>
LVDT	VR-1
PT-1	VR-1
PT-2	VR-1
PT-3	VR-1
PT-5	VR-1
PT-6	VR-1
PT-7	VR-2
PT-8	VR-2
PT-9	VR-2
PT-10	VR-2
PT-11	VR-2
PT-12	VR-2
PT-13	VR-2
PT-14	VR-2
PT-15	VR-2
PT-16	VR-2
PT-17	VR-2
PT-18	VR-2
PT-19	VR-1
PT-20	VR-1

1324 050

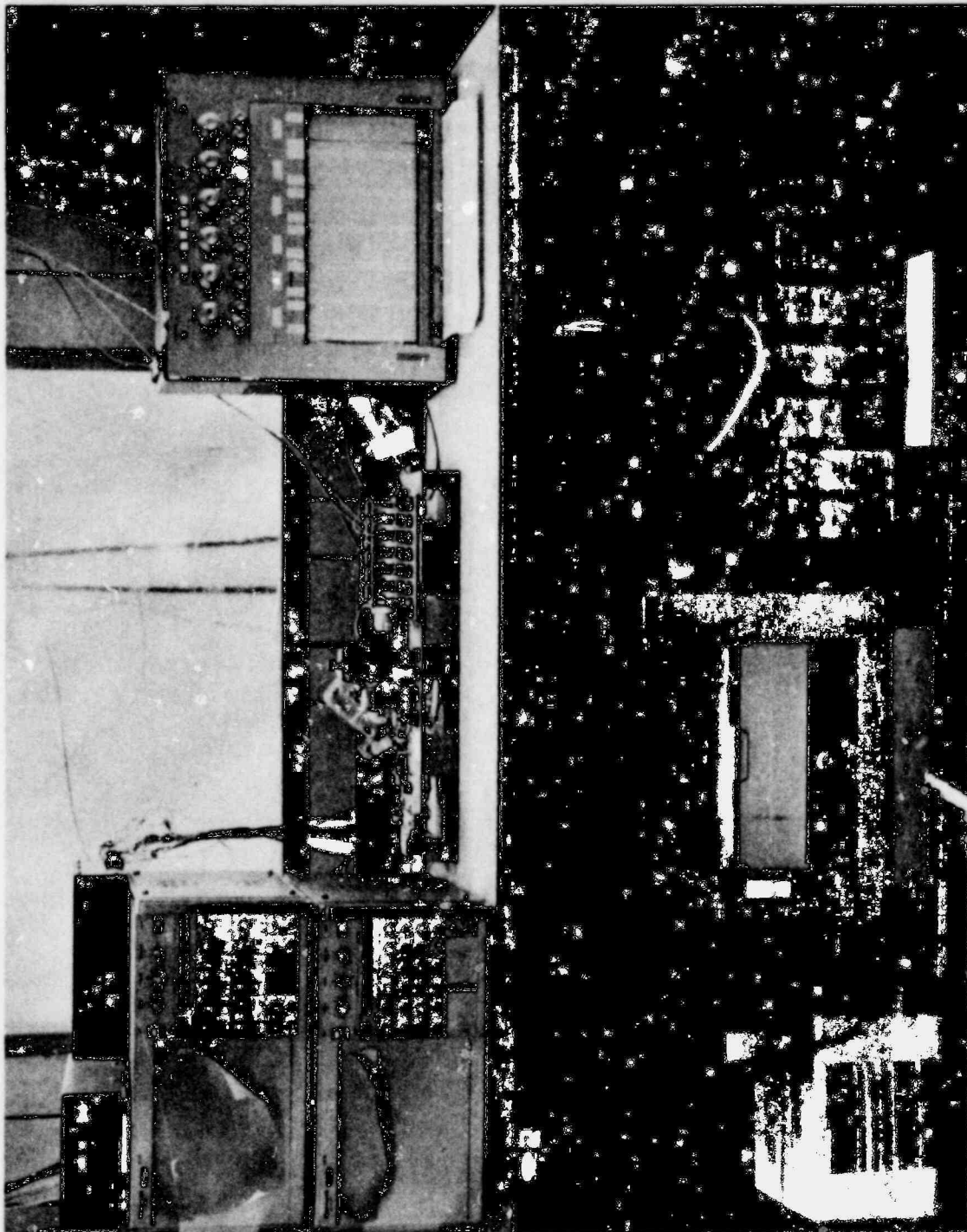
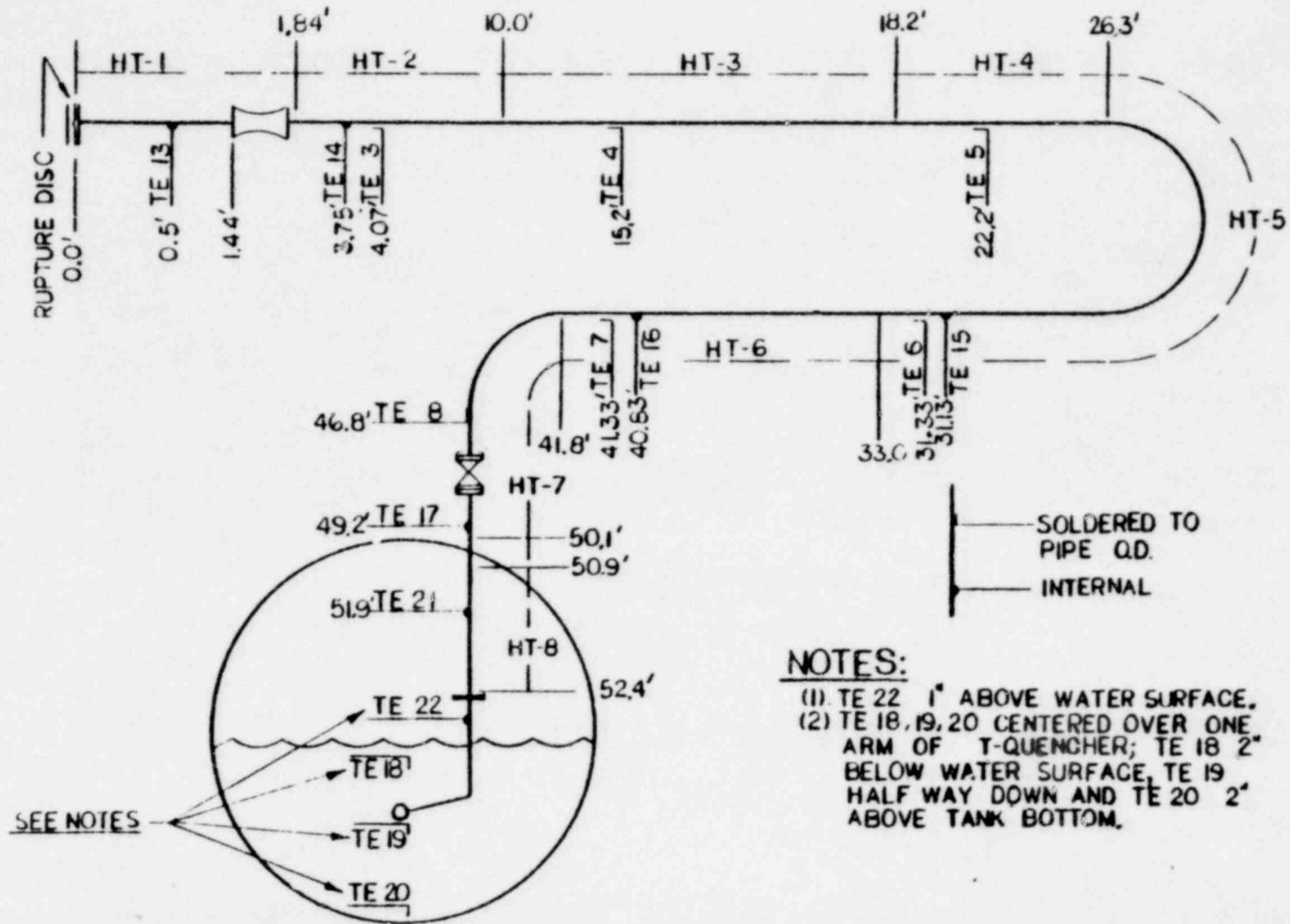


Figure 4-1. Photograph of the Temperature and Pressure Recorders



- NOTES:**
- (1) TE 22 1" ABOVE WATER SURFACE.
 - (2) TE 18, 19, 20 CENTERED OVER ONE ARM OF T-QUENCHER; TE 18 2" BELOW WATER SURFACE, TE 19 HALF WAY DOWN AND TE 20 2" ABOVE TANK BOTTOM.

SEE NOTES

1324 052

Figure 4-2. Thermocouple Locations for a Typical Piping Arrangement

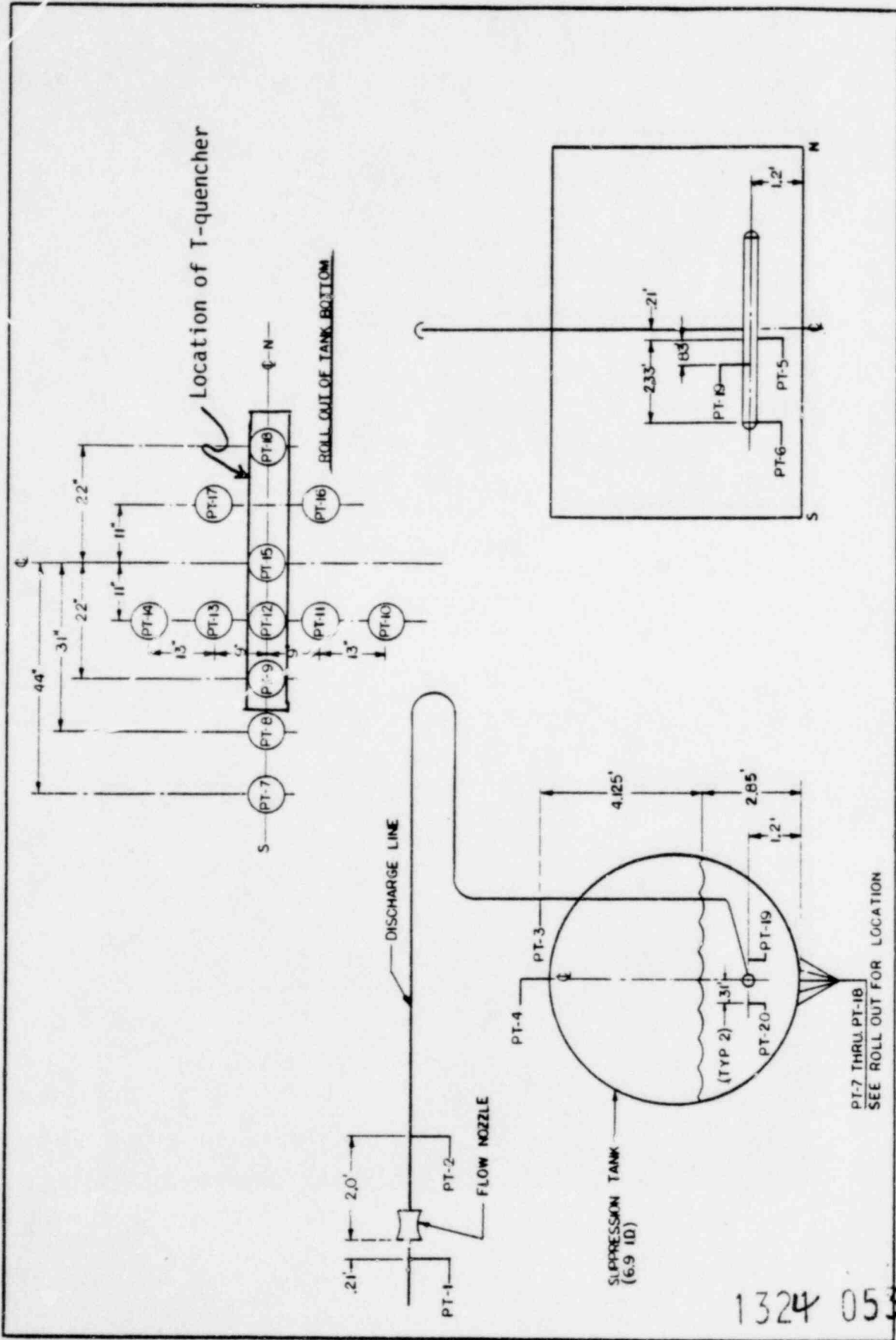
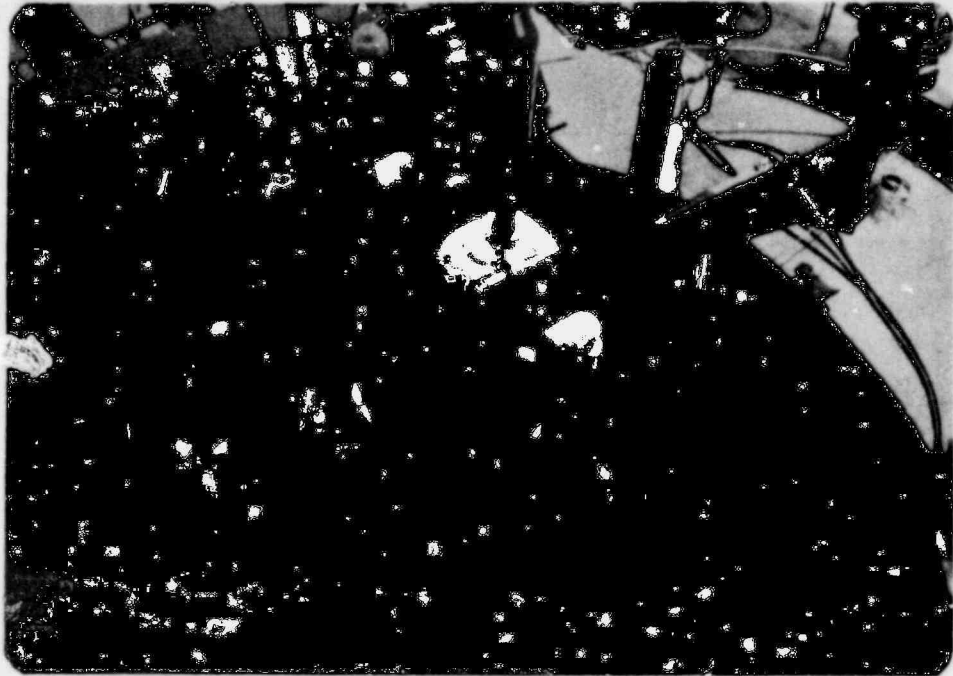
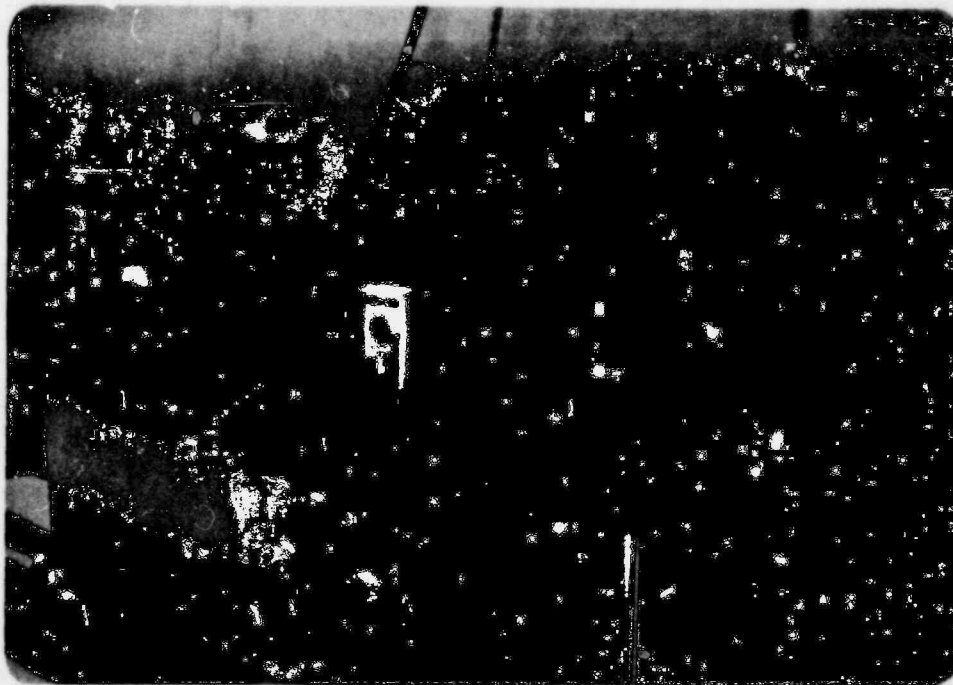


Figure 4-3. Test Facility Pressure Transducer Locations

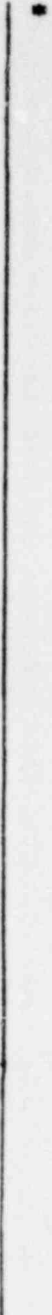


TOP VIEW CAMERA



END VIEW CAMERA

Figure 4-4. Photographs of Movie Cameras in Position for Test



1324 055

Figure 4-5. Discharge Pipe and Air Bubble Pressure Histories (Test A, Run 4)

*Proprietary information deleted

4-14

1324 056

NEJO-24549

Figure 4-6. Tank Wall Pressure Histories (Test A, Run 4)

*Proprietary information deleted

5. PROCEDURES

The test matrix is shown in Table 5-1. There were twenty-four (24) tests, each of which was performed a minimum of four (4) times. Thirteen piping configurations were tested as shown in Figure 3-6. The tests were performed in the sequence given in Table 5-1 to minimize piping changes. The tests were performed in accordance with a detailed GE-approved test plan, operating procedure and quality assurance plan.

5.1 TEST PROCEDURE

Before initiating a test, the surge tank steam pressure was brought up to the test value of 300 psia. The discharge pipe thermocouples and their associated heaters were continuously monitored to maintain the required pipe temperature of 325°F. The discharge pipe was purged with dry air and the pipe air humidity was checked. Pressurized dry air was pulsed into the suppression tank through the discharge pipe to loosen any attached bubbles from the tank wall, the T-quencher, or other submerged structures. Visual examinations for leaks and air bubbles were then made.

Final adjustments were made to ensure that the suppression tank airspace pressure was at the test value (usually 3.7 psia) and the water columns inside and outside the submerged discharge pipe were at the correct levels (usually equal).

The required steam flow rate was started through the pacing valve, V-7; just prior to test initiation, the equalization valve, V-13, located between the suppression tank and the discharge pipe was closed. (Note: valve, V-13, was kept closed for Tests 15, 18 and 19 for which an initial pressure differential between the suppression tank and the discharge pipe was required.) Just before test initiation the discharge pipe isolation valve, V-11, was fully opened.

For Test 16, 2.87 ft of discharge piping was wetted just prior to testing. This was accomplished by pressurizing the test tank, thus pushing the water

surface up into the discharge pipe. Just before valve actuation, the tank pressure was reduced to the discharge line pressure of 3.7 psia.

The detail pretest procedure is presented in the "Pre-Test Checklist" contained in Appendix B. Initial conditions for each test are contained in Appendix C.

The test was initiated by actuating a six-drum cam timer, which controlled the entire test sequence. The sequence of operations was:

<u>Event</u>	<u>Time, seconds</u>
• Start cameras (when used)	-1.63
• Start visicorders at 28 inch/second	-0.26
• Initiate event marker	0.00
• Actuate quick-opening valve, V-9	0.13
• Reduce visicorder speed to 7.5 inch/second	0.61
• Deactuate valve, V-9	5.00
• Stop event marker	7.40
• Stop visicorders	8.50

Post-test data were recorded at the conclusion of each test. The pressure and temperature traces were checked for legibility and consistency with previous runs of the same test. Each test was performed a minimum of four (4) times to ensure that the results were repeatable.

5.2 DATA ACCEPTANCE CRITERIA

After each test was performed four (4) times, a check on the data repeatability was made. The criterion, used as a guideline to determine if additional testing at a given condition was required, was that the standard deviation of the suppression tank wall pressure, as measured by PT-18, could not exceed 20% of its mean measured value. If this criterion was not met, additional runs were made and the data further evaluated. Standard deviations for each test are presented in Table 7-1.

1324 058

5.3 DATA REDUCTION

The pressures, recorded on visicorder charts, were read and tabulated for input to a computer program, which applied the appropriate calibration correction factors. Typical visicorder records for each test condition are presented in Figures 5-1 through 5-46. (Records for Test A are shown in Figures 4-5 and 4-6.) These figures present only the more pertinent time interval (the first 200-400 milliseconds after actuation of the quick-opening valve) on the charts for a typical run from each test. Data reduction sheets are presented in Appendix D.

The Visicorder deflections were multiplied by the appropriate calibration coefficients to obtain pressure values. The calibration coefficients were obtained by application of a linear least squares regression analysis to the monthly calibration data adjusted for daily shifts in the recording and signal conditioning equipment. These adjustments were made by multiplying the calibration coefficients obtained from the monthly system calibrations by the ratio of the monthly to daily signal conditioners and recorder calibrations.

The calibration coefficients for the monthly calibrations and the method used to perform the monthly calibration and daily electronic calibration checks are presented in Appendix A.

The computer printout of the reduced data for all tests is presented in Appendix D.

1324 059

Table 5-1
1/4-SCALE T-QUENCHER TEST MATRIX

Test Number(1)	Test Description	Test Configuration(2)	Suppression Tank Pressure (psia \pm 0.1)	SRVDL Air Pressure (psia \pm 0.01)	SRVDL Air/Water Length(3) (ft \pm 0.05)	T- quencher Submergence (ft \pm 0.05)	T- quencher Distance To Tank Bottom (ft \pm 0.05)	Steam Flow (lb/sec \pm 0.04)
A	Baseline Case	A	3.7	3.7	52/3.38	1.65	1.2	1.55
B	P _{tank} = 7.7 psia	A	7.7	7.7	52/3.38	1.65	1.2	1.55
C	P _{tank} = 11.25 psia	A	11.25	11.25	52/3.38	1.65	1.2	1.55
1(4)	Baseline Case	A	3.7	3.7	52/3.38	1.65	1.2	1.55
2	Low Steam Flow	A	3.7	3.7	52/3.38	1.65	1.2	0.80
3(4)	High Steam Flow	A	3.7	3.7	52/3.38	1.65	1.2	2.50
4	P _{tank} = 11.25 psia	A	11.25	11.25	52/3.38	1.65	1.2	1.55
4A	P _{tank} = 7.7 psia	A	7.7	7.7	52/3.38	1.65	1.2	1.55
5	Air length = 26 ft	B	3.7	3.7	26/3.38	1.65	1.2	1.55
6	Air Length = 26 ft P _{tank} = 11.25 psia	B	11.25	11.25	26/3.38	1.65	1.2	1.55
7(4)	Air Length = 108 ft	C	3.7	3.7	108/3.38	1.65	1.2	1.55
8	Air Length = 108 ft P _{tank} = 11.25 psia	C	11.25	11.25	108/3.38	1.65	1.2	1.55
9	T-q Dist. to bottom	D	3.7	3.7	52/3.38	1.65	0.7	1.55
10	Large Pipe (52 ft)	E	3.7	3.7	52/3.38(3)	1.65	1.2	1.55
11(4)	Water Leg = 6.25 ft	F	3.7	3.7	52/6.25	1.65	1.2	1.55
12	Large Pipe (26 ft)	G	3.7	3.7	26/3.38(3)	1.65	1.2	1.55
13	Submergence = 2.8 ft	H	3.7	3.7	52/3.38	2.8	1.2	1.55
14	Water Leg = 1.65 ft	I	3.7	3.7	52/1.65	1.65	1.2	1.55
15	$\Delta P_{\text{tank/pipe}}$ = 1.24 psia	J	3.7	2.46	52/6.25	1.65	1.2	1.55
16	Wetted Pipe = 2.87 ft	K	3.7	3.7	52/3.38	1.65	1.2	1.55
17	Water Leg = 2.5 ft Min. Submergence	K'	3.7	3.7	52/2.5	0.895	1.2	1.55
18	$\Delta P_{\text{tank/pipe}}$ = 1.24 psia P _{tank} = 4.94 psia	J	4.94	3.7	52/6.25	1.65	1.2	1.55
19	$\Delta P_{\text{tank/pipe}}$ = 0.32 psia	K'	4.02	3.7	52/3.38	0.895	1.2	1.55
20	Water Leg and Submergence 3.38 ft	I'	3.7	3.7	52/3.38	3.38	1.2	1.55

- (1) Tests A, B and C used "choked flow" T-quencher; all others used a "geometrically-scaled" T-quencher.
 (2) See Figure 3-6.
 (3) SRVDL Air Length (2-1/2 in. dia. Sch. 80 pipe; all others - 1-1/2 in. dia. Sch. 40 pipe; all 2-1/2 in. pipe below water)
 (4) Movies taken at 500 FPS.

5-4

1324 060

NEDO-24549

1324 061

Figure 5-1. Discharge Pipe and Air Bubble Pressure Histories (Test B, Run 1)

*Proprietary information deleted

1324 062

Figure 5-2. Tank Wall Pressure Histories (Test B, Run 1)

*Proprietary information deleted

1324 063

Figure 5-4. Discharge Pipe and Air Bubble Pressure Histories (Test C, Run 1)

*Proprietary information deleted

1324 064

Figure 5-3 Tank Wall Pressure Histories (Test C, Run 1)

*Proprietary information deleted

1324 065

Figure 5-5. Discharge Pipe and Air Bubble Pressure Histories (Test 1, Run 1)

*Proprietary information deleted

1324 066

Figure 5-6. Tank Wall Pressure Histories (Test 1, Run 1)

*Proprietary information deleted

1324 067

Figure 5-7. Discharge Pipe and Air Bubble Pressure Histories (Test 2, Run 4)

*Proprietary information deleted

1324 068

Figure 5-8. Tank Wall Pressure Histories (Test 2, Run 4)

*Proprietary information deleted

1324 069

Figure 5-9. Discharge Pipe and Air Bubble Pressure Histories (Test 3, Run 2)

*Proprietary information deleted

1324 070

Figure 5-10. Tank Wall Pressure Histories (Test 3, Run 2)

*Proprietary information deleted

1324 071

Figure 5-11. Discharge Pipe and Air Bubble Pressure Histories (Test 4, Run 1)

*Proprietary information deleted

1324 072

Figure 5-12. Tank Wall Pressure Histories (Test 4, Run 1)

*Proprietary information deleted

1324 073

Figure 5-13. Discharge Pipe and Air Bubble Pressure Histories (Test 4A, Run 2)

*Proprietary information deleted

1324 074

Figure 5-14. Tank Wall Pressure Histories (Test 4A, Run 2)

*Proprietary information deleted

1324 075

Figure 5-15. Discharge Pipe and Air Bubble Pressure Histories (Test 5, Run 1)

*Proprietary information deleted

1324 076

Figure 5-16. Tank Wall Pressure Histories (Test 5, Run 1)

*Proprietary information deleted

1324 077

Figure 5-17. Discharge Pipe and Air Bubble Pressure Histories (Test 6, Run 3)

*Proprietary information deleted

1324 078

Figure 5-18. Tank Wall Pressure Histories (Test 6, Run 3)

*Proprietary information deleted

1324 079

Figure 5-19. Discharge Pipe and Air Bubble Pressure Histories (Test 7, Run 5)

*Proprietary information deleted

1324 080

Figure 5-20. Tank Wall Pressure Histories (Test 7, Run 5)

*Proprietary information deleted

1324 081

Figure 5-21. Discharge Pipe and Air Bubble Pressure Histories (Test 8, Run 1)

*Proprietary information deleted

1324 082

Figure 5-22. Tank Wall Pressure Histories (Test 8, Run 1)

*Proprietary information deleted

1324 083

Figure 5-23. Discharge Pipe and Air Bubble Pressure Histories (Test 9, Run 1)

*Proprietary information deleted

1324 084

Figure 5-24. Tank Wall Pressure Histories (Test 9, Run 1)

*Proprietary information deleted

1324 085

Figure 5-25. Discharge Pipe and Air Bubble Pressure Histories (Test 10, Run 1)

*Proprietary information deleted

1324 086

Figure 5-26. Tank Wall Pressure Histories (Test 10, Run 1)

*Proprietary information deleted

1324 087

Figure 5-27. Discharge Pipe and Air Bubble Pressure Histories (Test 11, Run 1)
*Proprietary information deleted

1324 088

Figure 5-28. Tank Wall Pressure Histories (Test 11, Run 1)

*Proprietary information deleted

1324 089

Figure 5-29. Discharge Pipe and Air Bubble Pressure Histories (Test 12, Run 1)

•Proprietary information deleted

1324 090

Figure 5-30. Tank Wall Pressure Histories (Test 12, Run 1)

*Proprietary information deleted

1324 091

Figure 5-31. Discharge Pipe and Air Bubble Pressure Histories (Test 13, Run 1)

*Proprietary information deleted

1324 092

Figure 5-32. Tank Wall Pressure Histories (Test 13, Run 1)

*Proprietary information deleted

1324 093

Figure 5-33. Discharge Pipe and Air Bubble Pressure Histories (Test 14, Run 1)

*Proprietary information deleted

1324 09A

Figure 5-34. Tank Wall Pressure Histories (Test 14, Run 1)

•Proprietary information deleted

1324 095

Figure 5-35. Discharge Pipe and Air Eubble Pressure Histories (Test 15, Run 1)

*Proprietary information deleted

1324 096

Figure 5-36. Tank Wall Pressure Histories (Test 15, Run 1)

*Proprietary information deleted

1324 097

5-41

Figure 5-37. Discharge Pipe and Air Bubble Pressure Histories (Test 16, Run 1)

■Proprietary information deleted

1324 098

Figure 5-38. Tank Wall Pressure Histories (Test 16, Run 1)

*Proprietary information deleted

1324 099

Figure 5-39. Discharge Pipe and Air Bubble Pressure Histories (Test 17, Run 1)

•Proprietary information deleted

1324 100

Figure 5-40. Tank Wall Pressure Histories (Test 17, Run 1)
*Proprietary information deleted

1324 101

Figure 5-41. Discharge Pipe and Air Bubble Pressure Histories (Test 18, Run 1)

*Proprietary information deleted

1324 102

Figure 5-42. Tank Wall Pressure Histories (Test 18, Run 1)

■Proprietary information deleted

1324 103

Figure 5-43. Discharge Pipe and Air Bubble Pressure Histories (Test 19, Run 1)

*Proprietary information deleted

1324 104

Figure 5-44. Tank Wall Pressure Histories (Test 19, Run 1)

*Proprietary information deleted

1324.105

Figure 5-45. Discharge Pipe and Air Bubble Pressure Histories (Test 20, Run 1)

■Proprietary information deleted

5-50

1324 106

NEED-24549

Figure 5-46. Tank Wall Pressure Histories (Test 20, Run 1)

*Proprietary information deleted

6. QUALITY ASSURANCE

The NUS-Clearwater Operations Quality Assurance staff performed several quality-related functions to ensure reliability and credibility of the test data. These functions are listed below:

Prior to Testing

- Evaluation, qualification and certification of the surge tank fabricator.
- Inspection and acceptance of the suppression tank at the supplier's plant prior to shipment to NUS
- Verification of T-quencher location in the suppression tank
- Verification of T-quencher configuration, including hole size and spacing
- Inspection and acceptance by checklist of the piping configuration and thermocouple locations
- Inspection of stiffeners on the bottom of the suppression tank near the pressure transducer locations.
- Calibration of all instrumentation prior to testing
- Verification of water level

During Testing

- Witness and signoff on at least one run of each test
- Dimensional checks of all changes to piping and thermocouple locations

- Dimensional checks of each change in heating tapes
- Witness the performance of each instruments calibration and recalibration
- Verification of sample data reduction input and output

After Testing

- Accumulation and management of quality assurance records
- Audit of project record files
- Internal QA audit of project performance.

1324 108

7. TEST RESULTS

A total of twenty four (24) test series were performed (see Table 5-1). A minimum of four (4) runs were made for each test condition to demonstrate data repeatability. In addition, two high speed color movies were made of Tests 1, 3, 7 and 11. Three test series were performed using the "choked flow" scaled T-quencher. These tests were designated, Tests A, B and C. The remaining twenty one (21) tests were performed with the geometrically scaled quencher. Typical visicorder data traces for one (1) run of each of the test series are presented in Figures 5-1 through 5-46. Representative sequential still pictures obtained from the high speed movies for Test 7 are presented in Figures 7-1 and 7-2. Test results are summarized in Table 7-1.

7.1 DESCRIPTION OF TEST PHENOMENA

Tests were initiated by releasing steam via the quick-opening valve, V-9, from the steam supply surge tank. The 300 psia steam burst the 200 psig (design pressure) rupture disc, thus affecting a rapid pressurization of the discharge pipe. The high pressure steam compressed the air initially contained in the discharge pipe. The increased pressure accelerated the water mass initially occupying the submerged portion of the discharge pipe and T-quencher and expelled the water into the suppression pool. As the water completely cleared the first row of T-quencher arm holes, air clearing was initiated. See Frame 1 of Figures 7-1 and 7-2 taken at 142 milliseconds after the rupture disc was burst. Air was sequentially cleared from the consecutive rows of quencher arm holes as the air/water interface moved toward the end of the quencher arms. Sequential air clearing is depicted in frame three of Figure 7-1 taken at 180 milliseconds. The compressed air expanded as it was expelled into the pool and coalesced into large bubbles (see frames 4 and 5 of Figures 7-1 and 7-2 taken at 264-670 milliseconds). As the air bubbles rose to the surface, they expanded and contracted, thereby exerting oscillatory pressures on the suppression tank wall. The wall pressure distribution was measured by pressure sensors PT-7 through PT-18. The air bubble pressures near one quencher arm were measured by PT-19 and PT-20. For Test 7, the air bubbles finally broke through the pool water surface at 286 milliseconds. This is depicted in Frame 6 of Figure 7-1.

7.2 TEST DATA

A complete set of data for each test run is presented in Appendix D. Tabulated in Appendix D are the following:

- Pressure Pulse Rise Time - Discharge pipe inlet pressurization rate as measured by PT-1
- Steam Flow Rate - Final steam flow rate through the discharge pipe as measured by PT-1 and calculated by the flow equation in Section 3.2.
- Steam Inlet Pressure - Pressure measured by PT-1 and used in steam flow calculation
- Peak Pipe Pressure - Peak discharge pipe pressure downstream of flow control nozzle and at air/water interface as measured by PT-2 and PT-3, respectively
- Inlet Steam Temperature - Steam supply temperature as measured by TE-13 in the discharge pipe upstream of the flow nozzle.
- Pipe Pressure at 5 Seconds - Discharge pipe pressures five seconds after initial pressurization of discharge pipe as measured by PT-2 and PT-3
- Peak Pressure - Peak transient pressures in the suppression tank gas space, the T-quencher upstream and downstream of the hole pattern as measured by PT-4, PT-5 and PT-6, respectively.
- Pressure at Five Seconds - T-quencher pipe pressures, five seconds after initial pressurization of discharge pipe, as measured by PT-5 and PT-6.
- Peak Positive Pressure - Peak positive suppression pool pressure during the air clearing phase of T-quencher discharge as measured by PT-19 and PT-20.

1324 910

- Peak Negative Pressure - Peak negative suppression pool pressure during the air clearing phase of T-quencher discharge as measured by PT-19 and PT-20.
- Average Positive Pressure - The average of the peak positive pressure measured by PT-19 and PT-20.
- Average Negative Pressure - The average of the peak negative pressures measured by PT-19 and PT-20.
- Frequency - Air bubble oscillation frequency as measured by suppression tank wall pressure sensor, PT-18.
- Peak Over Pressure - Peak positive pressure on suppression tank wall during air clearing phase of T-quencher discharge as measured by each of the wall pressure sensors, Pt-7 through PT-18.
- Peak Under Pressure - Peak negative pressure on suppression tank wall during air clearing phase of T-quencher discharge as measured by each of the wall pressure sensors, PT-7 through PT-18.

The results are summarized in Table 7-1, which presents the highest value, the mean value, the standard deviation and the ratio of the standard deviation to the mean for all test conditions.

In general, the pressures measured in the discharge pipe are similar from run to run. The ratios of standard deviation to the mean for these values are generally only a few percent. The same ratio for the wall and bubble pressure values are generally in the 20-40% range. The suppression tank wall pressure sensor readings demonstrate better repeatability than the bubble pressure sensors and are considered, therefore, to give a better indication of sensitivity of air bubble pressures to variations between the test conditions.

1324 111

Sample suppression tank wall pressure distribution, both longitudinal and circumferential, are presented in Figures 7-3 and 7-4. Presented in these figures are distributions for tests resulting in the greatest measured pressures (Test 8), the smallest measured pressures (Test 11), and average pressures measured for the remainder of the tests. The variability of test data is indicated on the average wall pressure distribution curve. The bars represent plus and minus one standard deviation. Both positive and negative pressures are represented. As shown in the figures, the peak longitudinal wall pressure occurred directly under the center of the T-quencher. However, the circumferential wall pressure distribution indicates pressure peaks to each side of the T-quencher arm. This observation is consistent with expectations because the T-quencher holes are centered about the horizontal plane on each side of the arm.

For principal observations of the test refer to Section 2.0 of this report.

1324 112

Table 7-1 (Page 1 of 3)
 SUMMARY OF TEST RESULTS FOR PEAK PRESSURE

Test Identification *	Pressure Pulse Frequency(Hz)	Discharge Line Pressure (psia)			T-quencher Pressure (psia)		Bubble Pressures** (psid)		Tank Wall Pressures** (psid)	
		PT 1	PT 2	PT 3	PT 5	PT 6	PT 19	PT 20	Pressure	***PT Numbers
Test A Runs 1-4 Baseline Case (Choked T-q) Piping Arr. A	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test B Runs 1-5 PTank = 7.7 psia (Choked T-q) Piping Arr. A	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test C Runs 1-4 PTank = 11.25 psia (Choked T-q) Piping Arr. A	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test 1, Runs 1-4 Baseline Case Piping Arr. A	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test 2 Runs 1-4 Low Steam Flow Piping Arr. A	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test 3 Runs 1-4 High Steam Flow Piping Arr. A	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test 4 Runs 1-5 PTank = 11.25 psia Piping Arr. A	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test 4A Runs 1-4 PTank = 7.7 psia Piping Arr. A	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test 5 Runs 1-6 Air Length = 26' Piping Arr. B	Highest Value Mean Std. Dev. Std. Dev./Mean									
Test 6 Runs 1-5 Air Length = 26' PTank = 11.25 psia Piping Arr. B	Highest Value Mean Std. Dev. Std. Dev./Mean									

1324
113

7-5

NEDO-24549

* Test A,B, and C are for the "choked flow" others are for the "geometrically scaled" T-quencher.
 ** Maximum positive/maximum negative pressures not necessarily at the same sensor.
 *** For sensors with highest positive and negative values.

*Proprietary information deleted

Table 7-1 (Page 2 of 3)
 SUMMARY OF TEST RESULTS FOR PEAK PRESSURES

Test Identification *

Test 7 Run 1, 3-5
 Air Length = 108'
 Piping Arr. C
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 8 Runs 1-4
 Air Length = 108'
 P_{Tank} = 11.25 psia
 Piping Arr. C
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 9 Runs 1-7
 T-quencher Dist. to
 Tank Bottom = 0.7'
 Piping Arr. D
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 10 Runs 1-4
 Large Pipe (52')
 Piping Arr. E
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 11 Runs 3-6
 Waterleg = 6.25'
 Piping Arr. F
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 12 Runs 1-4
 Large Pipe (26')
 Piping Arr. G
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 13 Runs 1-4
 Submergence = 2.8'
 Piping Arr. H
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 14, Runs 1-4
 Waterleg = 1.65'
 Piping Arr. I
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 15 Runs 2-5
 $\Delta P_{\text{Tank/Pipe}} = 2.87' \text{ H}_2\text{O}$
 Piping Arr. I
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Test 16 Runs 1-5
 Wetted Pipe = 2.87'
 Piping Arr. K
 Highest Value
 Mean
 Std. Dev.
 Std. Dev./Mean

Pressure Pulse
 Frequency(Hz)

Discharge Line Pressure
 (psia)
 PT 1 PT 2 PT 3

T-quencher Pressure
 (psia)
 PT 5 PT 6

Bubble Pressures***
 (psid)
 PT 19 PT 20

Tank Wall Pressures**
 (psid)
 Pressure PT Numbers

1324
 114

* Test A,B, and C are for the "choked flow" others are for the "geometrically scaled" T-quencher
 ** Maximum positive/maximum negative pressures, not necessarily at the same sensor pulse
 *** PT-6 location changed to air/water interface @ 2.85' tank water level

Proprietary information deleted

7-6

NEDO-24549

Table 7-1 (Page 3 of 3)
 SUMMARY OF TEST RESULTS FOR PEAK PRESSURES

Test Identification *	Pressure Pulse Frequency(Hz)	SRVDL Pressure (psia)			T-quencher Pressure (psia)		Bubble Pressures*** (psid)		Tank Wall Pressures** (psid)	
		PT 1	PT 2	PT 3	PT 5	PT 6	PT 19	PT 20	Pressure	PT Numbers
Test 17 Runs 1-5 Waterleg = 2.5' Minimum submergence Piping Arr. K										
Test 18 Runs 1-4 ▲PTank = 4.9 + psia Piping Arr. J										
Test 19 Runs 1-4 ▲PTank/Pipe = 0.75' H ₂ O Piping Arr. K										
Test 20 Runs 1-5 Waterleg and Submergence = 3.38' Piping Arr. I										

1324 115

7-7

NECO-24549

* Test A, B, and C are for the "choked flow" others are for the "geometrically scaled" T-quencher
 ** Maximum positive/maximum negative pressures, not necessarily at the same sensor
 *** PT-6 location changed to air/water interface @ 2.85' tank water level

*Proprietary information deleted

1324 116

Figure 7-1. Movie Sequence of the Air Clearing Phenomena (Top View)

•Proprietary information deleted

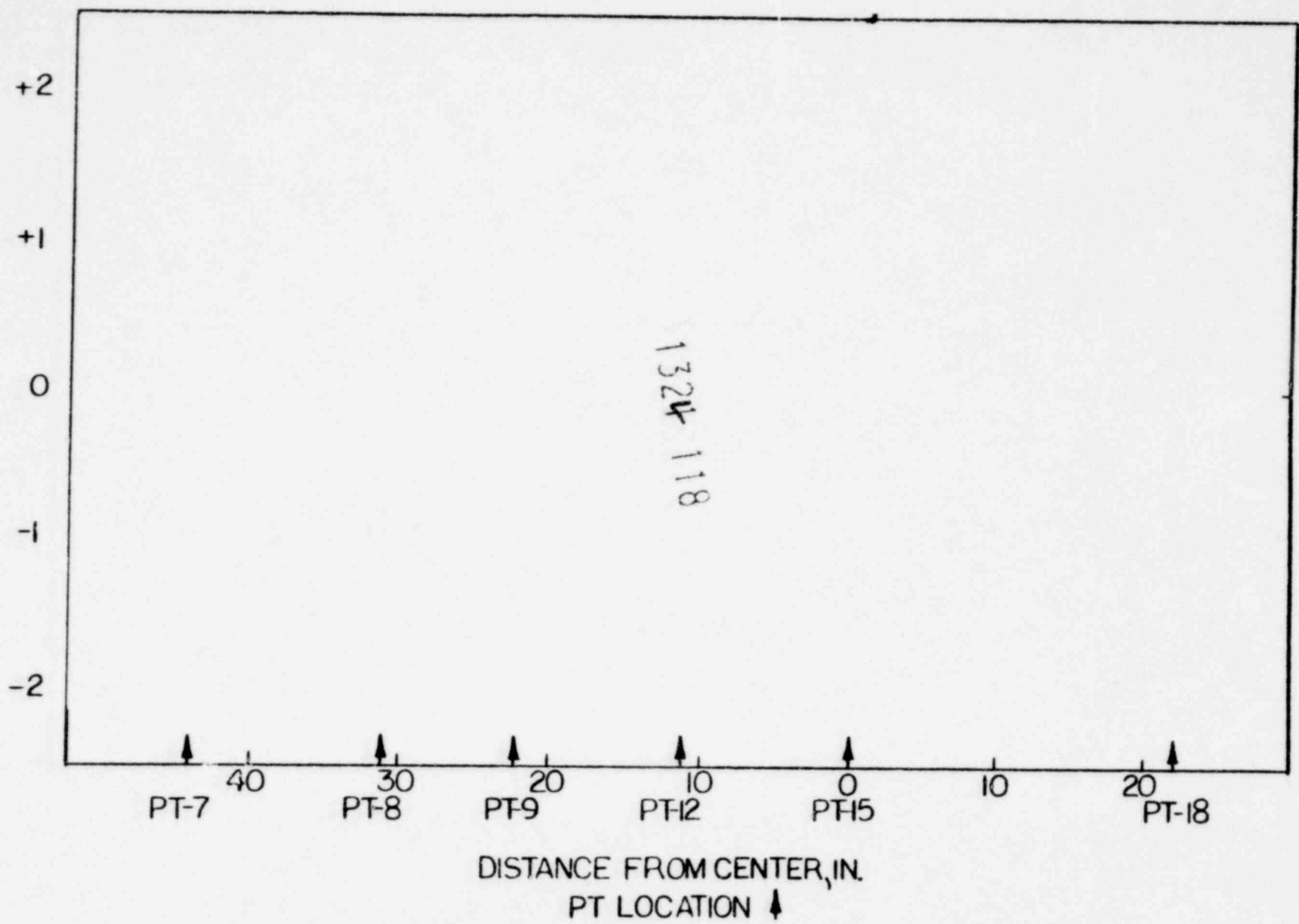
1324 117

Figure 7-2. Movie Sequence of the Air in Clearing Phenomena (End View)

■Proprietary information deleted

7-10

PRESSURE, PSID

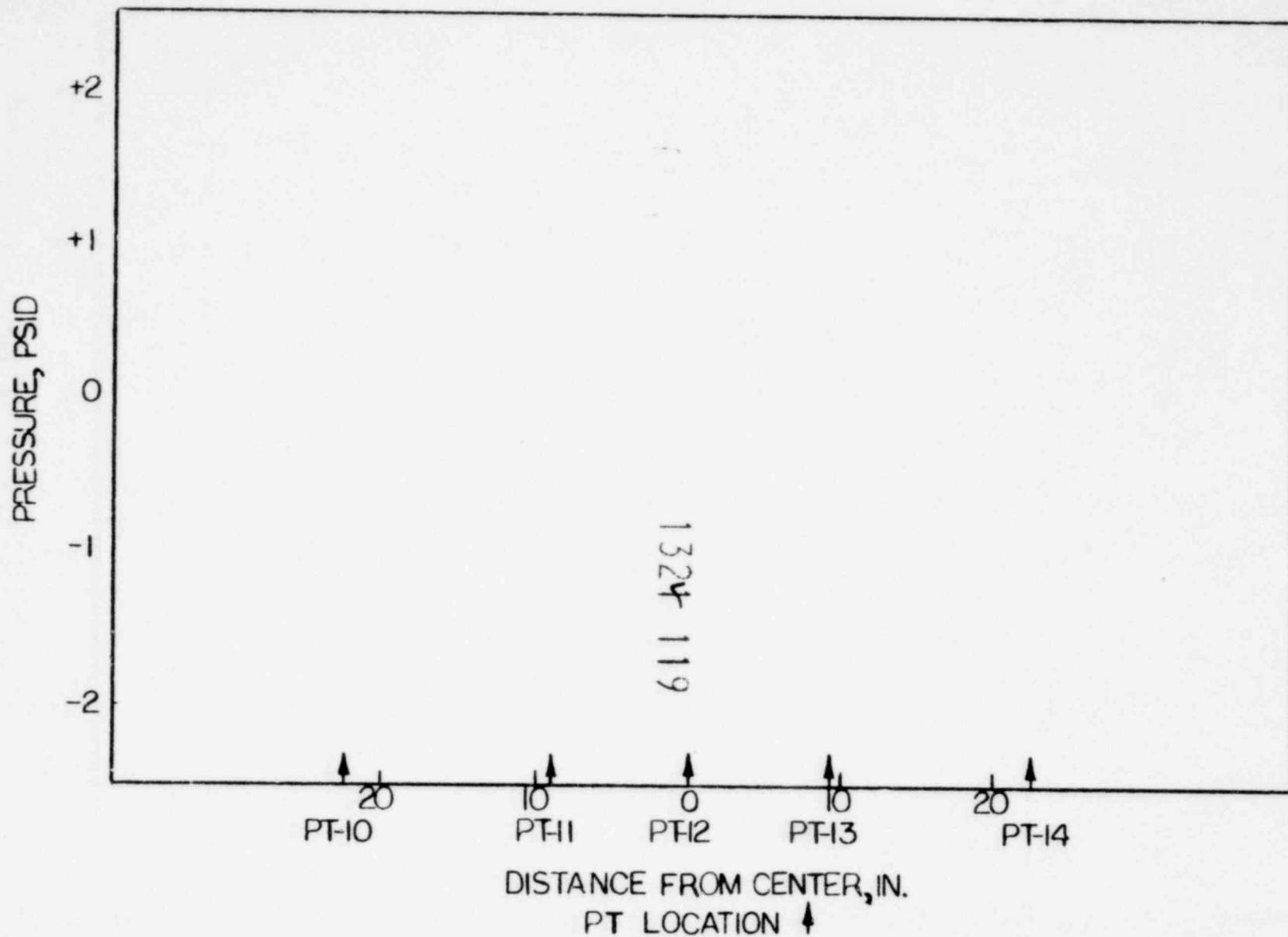


NEDO-24549

Figure 7-3. Longitudinal Distribution of Tank Wall Pressures

*Proprietary information deleted

7-11/7-12



NEDO-24549

Figure 7-4. Circumferential Distribution of Tank Wall Pressures

*Proprietary information deleted

8. DATA ACCURACY EVALUATION

The principal contributors to error and uncertainty in the final test data could arise in errors from sensors, signal processing instrumentation, recorders, and reading of the chart records. Each of these potential sources of errors is discussed in the following subsections.

8.1 TEMPERATURE MEASUREMENTS

Estimates of error band for temperature sensors are based on calibration checks using a stirred oil bath with a certified thermometer ($\pm 0.05^{\circ}\text{F}$) as a standard for the bath temperature. As indicated in Table 4-1, all sensors were purchased to a manufacturer's specification of $\pm 2^{\circ}\text{F}$ accuracy. As shown by the calibration procedure in Appendix A, the thermocouples were calibrated over the expected range of use.

All thermocouples were calibrated using the proper leads, amplifiers and recorders. Therefore, the error determined by calibration includes all sources of errors except drifts between calibrations. The temperature instrumentation was calibrated completely only once. To check for instrument drifts, two sensors were checked after five months showing no evidence of any change. An estimate of the possible error for the discharge pipe outside temperature measurements is $\pm 4^{\circ}\text{F}$. The possible errors in the temperature measurement for the internal air/steam temperatures is $\pm 1^{\circ}\text{F}$, and for temperature measurement of the tank water is $\pm 2^{\circ}\text{F}$.

8.2 PRESSURE MEASUREMENTS

Sources of errors in the pressure measurements are non-linearity, hysteresis, chart reading errors and shifts from thermal efforts and aging effects. The inherent errors such as non-linearity, hysteresis, thermal shifts, etc. were accounted for by calibration. The pressure sensors were calibrated over the ranges of use with the procedure in Appendix A. Examination of these calibration data show that, in general, the error in the recorded value is much less than 1% of the actual value.

1324 120

A reading error is a function of how precisely data can be extracted from the visicorder charts. The potential reading error was determined experimentally by operating the sensor at a known pressure in its normally-used range and adding a known small increment of pressure until a readable difference was seen on the visicorder chart. The same standards were used for this experiment as were used for calibration (see Appendix A); i.e., a dead-weight tester for the discharge line pressures, and a water column for the other sensors. Table 8-1 presents the results of this experiment.

Another source of error for the pressure data could be from drifts between calibrations, due to aging, etc. in the sensors. Daily calibration checks of the electronics accounted for drifts in amplifiers and recorders. An examination of the monthly calibrations for both pressures and electronics show that the monthly shifts in calibration results are probably due to changes in the electronics and were, therefore, corrected on a daily basis.

8.3 FLOW MEASUREMENTS

The error in the steam flow was based on the following equation⁽³⁾

$$\sigma_F = \left[\left(\frac{\partial W}{\partial A} \sigma_A \right)^2 + \left(\frac{\partial W}{\partial P} \sigma_P \right)^2 \right]^{1/2}$$

where

W = Flow nozzle equation in Section 2.3

$\sigma_A = 0.002 \text{ in.}^2$ (error in measurement of nozzle area)

$\sigma_P = 0.5 \text{ psi}$ (from Table 8-1)

The probable error in steam flow rates was $\pm 0.02 \text{ lb/sec}$ for the 0.8 lb/sec nozzle, $\pm 0.03 \text{ lb/sec}$ for the 1.55 lb/sec nozzle, and $\pm 0.04 \text{ lb/sec}$ for the 2.5 lb/sec nozzle.

1324 121

8.4 DATA VALIDITY

Several test situations or conditions were identified that could affect the test data. Although each equipment-procedure combination was engineered to preclude a contribution to error, each is discussed below to enable the reader to assess such possibilities.

One concern is that of condensation of steam on the discharge piping walls. The pipe was heated to 325°F for each test. To determine if steam condensation occurred in the discharge pipe, the saturation pressure corresponding to the wall temperature must be compared to the discharge pipe steam inlet pressure as measured by transducer PT-2. Thus, for tests where PT-2 measured greater than 95 psia, condensation may have occurred. From Table 7-1, it can be seen that PT-2 marginally exceeded 95 psia for several tests.

Air bubbles on suppression tank walls or internal structures could alter the pressure waves by modifying the boundary impedance represented by the structures. Therefore, before the first run of each test series, pressurized dry air was rapidly admitted through the discharge pipe into the suppression tank to remove bubbles from submerged surfaces. Also, a visual check was made to ensure that no clinging air bubbles remained.

An unknown relative humidity in the discharge pipe air could have resulted in an undefinable air mass. Therefore, before tests during which the air humidity meter was working, not only was the humidity monitored, but the piping was purged a minimum of four times (20 volume changes) with pre-dried air as well. For the tests during which the humidity monitor was not working, the piping was purged eight to ten times (40 volume changes). Also, after purging but only within 60 seconds of a test run, the block valve just above the water was opened. The short open time (before testing) was used to prevent water vapor from diffusing into the piping.

The T-quencher supports, the T-quencher and the suppression tank itself were calculated to have frequencies high enough to avoid local wave interference or generation. Also, the pressure transducer signal chart paper was examined

for spurious signals and none was noted that could have affected that data. Waves in the 300 Hz range were seen but these caused only minor perturbations in the traces (see Figures 5-1 through 5-46).

Any temperature stratification in the suppression water would have been seen by thermocouple records before a test and the differences seen were always much less than the change from run to run (about 2°F). Therefore, no unseen temperature effect on bubble or wave behavior was believed to have occurred.

1324 123

Table 8-1
 EXPERIMENTAL ERROR DETERMINATION FOR PRESSURE DATA

<u>Function</u>	<u>Pressure Transducer*</u>	<u>Pressure Tested (psia)</u>	<u>Readable Difference (psia)</u>
Steam Pressure	PT-1	300	+ 0.50
SRV Line Pressure	PT-2 & 3	75	+ 0.25
Tank Air Pressure	PT-4	3.7	+ 0.036
		11	+ 0.036
T-Quencher Pressure	PT-5 & 6	75	+ 0.2
		10	+ 0.2
Bubble Pressure	PT-19 & 20	3.7	+ 0.02
		11	+ 0.02
Wall Pressures	PT-7 through -18 PT-10A	2**	+ 0.011**
		2	+ 0.02

* See Figure 3-1

** psid

1324
 124

8-5/8-6

NEEDO-24549

9. REFERENCES

1. "Mark I Containment Program: Scaling Analysis for Modeling Initial Air Clearing Caused by Reactor Safety/Relief Valve Discharge," NEDC-23713, January 1978.
2. "Mark I Containment Program: Analytical Model for Computing T-Quencher Air-Clearing Loads on the Torus Shell," NEDO-21878, September 1979.
3. "Steam and Gas Turbine," Church, Second Edition, 1935, p. 72.
4. S. J. Kline, and F. A. McClintock, "Describing Uncertainties in Single-Sample Experiments," Mechanical Engineering, January 1953.

1324 125

APPENDIX A

SENSOR CALIBRATION PROCEDURES AND RESULTS

1324 126

CALIBRATION RESULTS

The calibrations for pressure and temperature sensors were done in accordance with the procedure which follows. The results for the monthly calibrations are presented in Table A-1. The slope values in psia/minor division of Visicorder deflection were obtained by a linear least squares regression analysis of the calibration data. The correlation coefficients for these values are generally greater than 0.999. The slope values in volts/division of Visicorder deflection were an average value since the relation of volts to deflections was essentially linear.

1324 127

Table A-1
SUMMARY OF MONTHLY CALIBRATION RESULTS

PRESSURE TRANSDUCER	CHANNEL NUMBER	MAY CALIBRATIONS		JUNE CALIBRATIONS		JULY CALIBRATIONS		SEPTEMBER CALIBRATIONS		
		SLOPE (PSIA/DIV)	SLOPE (VOLTS/DIV)	SLOPE (PSIA/DIV)	SLOPE (VOLTS/DIV)	SLOPE (PSIA/DIV)	SLOPE (VOLTS/DIV)	SLOPE (PSIA/DIV)	SLOPE (VOLTS/DIV)	
1	VISICORDER 1	12.1158	.7166**	12.5422	.7512**	12.5464	.7513**	12.4826	0.7525 **	
2		6.1145	.6950**	6.5070	.6483**	6.5430	.6474**	6.5267	0.6516 **	
3		6.1640	.6080**	6.5859	.6524**	6.5963	.6518**	6.5731	0.6513 **	
4		.4902	.9808**	.4938	.9819**	.4942	.9843**	0.4925	0.9792 **	
5		4.0949	.6063**	4.0087	.5929**	3.9871	.5945**	3.9959	0.5916 **	
6		4.0871	.6015**	4.0216	.5943**	3.8898	.5952**	3.9244	0.6042 **	
7		1	.2048*	.1004	.2139*	.1010	.2166*	.1012	0.2190 *	0.1008
8	2	.1868*	.1001	.1979*	.0991	.1992*	.1006	0.2004 *	0.1000	
9	3	.2016*	.1012	.2009*	.1014	.2032*	.1013	0.2037 *	0.1013	
10 & 10A	4	.1992*	.1001	.4452*	.6955	.4485*	.6935	0.4527 *	0.6942	
11	VISICORDER 2	5	.1951*	.1004	.1980*	.1000	.1996*	.0993	0.1989 *	0.1001
12		6	.1982*	.1002	.1927*	.1000	.1930*	.1004	0.1960 *	0.1005
13		7	.1969*	.1000	.2020*	.1005	.2030*	.1009	0.2046 *	0.1004
14		8	.1975*	.1000	.1920*	.1000	.1934*	.1005	0.1937 *	0.1000
15		9	.1976*	.0993	.1961*	.1004	.2022*	.1004	0.2075 *	0.1009
16		10	.1989*	.1011	.1973*	.1006	.1985*	.1004	0.1976 *	0.1005
17		11	.1985*	.1005	.1868*	.1010	.1906*	.1015	0.1921 *	0.1005
18		12	.2006*	.1002	.2031*	.1000	.2044*	.1007	0.2061 *	0.1006
19		13	1.0406	.1067**	.5235	.0534**	.5186	.0542**	0.5439	0.0516 **
20		14	1.0223	.1337**	.4966	.0684**	.5044	.0681**	0.4987	0.0667 **

*psid/div

**mv/div

A-2

1324 128

NEBO-24549

CALIBRATION PROCEDURE
PROJECT NO. 1907

REVISION STATUS SHEET

REVISIONS

NUMBER	DESCRIPTION	DATE	SIGNATURE	APPROVAL SIGNATURE
1	P. 2 line 5 from bottom change to ^{as} marked CTS	5/23	CT Saury	AA Kudrinski
2	p 4 change to ^{as} marked	5/23	CT Saury	AA Kudrinski
3	p 5 change to ^{as} marked	5/23	CT Saury	AA Kudrinski
4	p 4 change to ^{as} marked	5/25	CT Saury	AA Kudrinski
5	p. 2 line 4 to ^{as} marked	5/25	CT Saury	AA Kudrinski
6	p 3, Section 4.1.2, line 4 to ^{as} marked	5/25	CT Saury	AA Kudrinski
7	p 5, line 3 to ^{as} marked	5/25	CT Saury	AA Kudrinski
8	p 5, line 12, 13, 14 to ^{as} marked	6/12	CT Saury	Verbal JEL

1324 129

CALIBRATION PROCEDURES
1/4 SCALE T-QUENCHER TESTS
PROJECT NO. 1907

Prepared by: C. T. Sawyer Date: 5/15/78

APPROVED BY: W. A. Maxwell Date: 5/15/78
W. A. Maxwell, Manager
Engineering Department

APPROVED BY: G. M. Brown Date: 5/15/78
G. M. Brown, Manager
Clearwater Operations
NUS Consulting Division

GE APPROVAL: AA Kudatun for J.E. (signature) Date: 5/31/78

1324 130

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page No.</u>
1.0	OBJECTIVE	1
2.0	DEFINITIONS	1
3.0	WORKING STANDARDS	1
3.1	Ashcroft Type 1305 Dual Range Dead Weight Tester	1
3.2	Taylor Certified Precision Thermometer	1
3.3	Column of Water	1
3.4	Transmation, Inc. Model 1040 PPS Digital Calibrator	1
4.0	CALIBRATION METHODS	2
4.1	Pressure Transducers Calibrations	2
4.2	Thermocouple Calibrations	5
	Instrument Calibration Form 001	8
	Instrument Calibration Form 002	9

1324 131

1.0 OBJECTIVE

- 1.1 To assure the calibrations are carried out in a uniform and approved manner.
- 1.2 To avoid operator error and to assure documenting calibration results in a uniform manner.

2.0 DEFINITIONS

NONE

3.0 WORKING STANDARDS

- 3.1 Ashcroft Type 1305 Dual Range Dead Weight Tester
 - Serial Number: 2BH-40I9I
 - Range: 5 to 10,000 psi
 - High Range Interval: 25 psi
 - Low Range Interval: 5 psi
 - Accuracy: 0.1% of value
 - Calibrated: May 4, 1978
 - Recalibration Required: May 4, 1979
 - Certification of Accuracy: in Instrument QA File

- 3.2 Taylor Certified Precision Thermometer
 - Scales: 70-400°F.
 - Subdivision: 0.2°F.

Report of Calibrations: attached to cases

- 3.3 Column of water at known temperature and height, measured with calibrated tape (record in 1884 file)
The tube is a 1/2" ID sight glass.

- 3.4 Transmation, Inc. Model 1040 PPS Digital Calibrator
 - Serial Number: 1040.2232
 - Accuracy: 0-11 volts, $\pm 0.04\%$ of range $\pm 0.03\%$ of reading max.
0-110 millivolts, $\pm 0.6\%$ of range, $\pm 0.6\%$ of reading, max.

Calibration: April 28, 1978 (in QA File)

1324 132

4.0 CALIBRATION METHODS

4.1 Pressure Transducers Calibrations

4.1.1 PT-1, 2, 3, 5 and 6 will be calibrated using the dead weight tester and pages 3-4 through 3-8 of the Honeywell Technical Manual (HTM) for Model 1885-SGC, Strain Gage Control Unit *with 12.5KHz low pass filter.* The same cables will be used during calibrations that will be used for testing. The Model 1885 is set up for 10 vdc excitation according to the same manual.

CTS
5/25/78

The procedure is:

- 1) Complete top portion of Calibration Form (001)
- 2) Assure correct cable, signal conditioner, sensor and visicorder channel.
- 3) Set calibration signal on the 1885 as follows (HTM, pp. 3-7h):

PT-1 - 18.02 mv = 300 psia = 5 in. deflection

PT-2 - 15.03 mv = 150 psia = 5 in. deflection

PT-3 - 15.02 mv = 150 psia = 5 in. deflection

PT-5 - 14.985 mv = 100 psia = 5 in. deflection

PT-6 - 14.988 mv = 100 psia = 5 in. deflection

The 1885 signal conditioner and Visicorder will be checked with a standard voltage source (Working standard 3.4) at the following points:

PT-1 - 0, 6, 12, 18, 24 mv.

PT-2, ~~through~~ ³ 6 - 0, 5, 10, 15, 20 mv

CTS
5/23/78

Daily electronic calibration checks will be made before and after testing with the standard voltage source at 0 and 18 mv for PT-1 and 0 and 15 mv for PT-2, PT-3, PT-5, and PT-6.

1324 133

4.1.1 (cont'd)

- 4) Adjust balance and zero (HTM, pp.3-7i) with vacuum of 0.1 micron (0.0001 mmHg) on the transducer by the vacuum pump and record on Visicorder chart.
- 5) Check and record on Calibration Form deflection at atmospheric pressure.
- 6) Check and record on Calibration Form the deflection at 25 psi intervals using the dead weight tester up to the following:
 - PT-1.....350 psig
 - PT-2.....175 psig
 - PT-3.....175 psig
 - PT-5.....125 psig
 - PT-6.....125 psig

Also, three or four points will be checked with pressure decreasing.

4.1.2 PT-4, 19 and 20 will be calibrated using a vacuum pump and a column of water at known temperature.

PT-4 uses the 1885-SGC while PT-19 and 20 use a 1883 preamplifier ^{no filter} for the Visicorder.

4.1.2.1 The procedure for PT-4 is the same as 4.1.1 except the following:

- 3) Set the calibration signal on the 1885 to 30.05 mv = 15 psia = 6 in. deflection.

Check and record the deflection with 0, 7.5, 15, 22.5 and 30 mv input to the 1885 with the voltage standard. The daily electronic calibration check will be at 0 and 30 mv.

1324 134

4.1.2.1 (cont'd)

6) Check and record on the Calibration

Form the deflection at:

- 14.7 psia
- 10.0 psia
- 7.5 psia
- 5.0 psia
- 2.5 psia
- 0.0 psia

Also, 3 or 4 points will be checked with the pressure increasing.

4.1.2.2 The procedure for PT-19 and 20 is:

- 1) Complete top portion of Calibration Form 001.
- 2) Assure correct cable, signal conditioner, sensor, and visicorder channel.
- 3) Apply power and allow unit to warm up 30 minutes.
- 4) With vacuum of 0.1 micron on the transducer, adjust zero and record on visicorder chart.
- 5) With atmospheric pressure, adjust gain for 5" deflection on the Visicorder chart.
- 6) Check and record on the Calibration Form the deflection at:
 - 14.7 psia
 - 10.0 psia
 - 7.5 psia
 - 5.0 psia
 - 2.5 psia
 - 0.0 psia
- 7) Check and record with the standard voltage source input to the signal conditioner the deflection at the following points: 0, ^{0.4}0.4, 0.8, 1.6 mv.

CTS
5/23/78

The daily electronic calibration check will be at 0 and ^{0.8}1.6 mv.

CTS
5/25/78

1324 135

4.1.3 PT-7 through 18 will be calibrated using a column of known temperature water.

The 1883 Honeywell preamplifier, ^{with no filter} is used with these transducers. The procedure is:

CF
5/23/78

- 1) Complete the top portion of the Calibration Form 001.
- 2) Assure correct cable, signal conditioner, sensor, and visicorder channel.
- 3) With no load adjust zero and record on visicorder chart.
- 4) Check and record on the Calibration Form the deflection at 0, +1, ^{1.5}+2, ^{2.5}+3, +~~4~~, and +~~4~~ psi (increasing pressures) and at +~~4~~, ^{3.5}+3, ^{2.5}and +2 psi (decreasing pressures).

CTS
6/2/78

The standard voltage source will be used to check the deflection by 0, 5, 1.0, 1.5, 2.0, 2.5 and 3 volts input to the 1883 and recording the results on the Visicorder. Daily electronic calibrations will be at 0 and ~~1.5~~ ^{1.5} volts.

CTS
5/23/78

4.2 Thermocouple Calibrations

The thermocouples will be calibrated using a stirred oil bath with the proper range of Taylor Certified Precision Thermometer as a standard.

4.2.1 Thermocouples TE-1-12, 21 and 22 read directly in °F. on the Leeds and Northrup recorder with a 0-500°F. range.

The following ranges and calibration checkpoints are applicable:

- TE-1 and 2 - Range 375-400°F. - check:
- 375
 - 400
 - 425
 - 450

1324 136

4.2.1 (cont'd)

TE-3-12, 21 - Range 200-400°F. - check: 200
 300
 325
 350
 400

TE 22 - Range 100-150°F. - check: 100
 130
 150

The procedure is:

- 1) Complete top portion of Calibration Form 002
- 2) Assure correct cable, signal conditioner, sensor, and recorder channel.
- 3) Allow proper warmup for recorder.
- 4) Apply calibration standard and record results on Calibration Form 002.

4.2.2 Thermocouples TE-13 through 20 are connected through thermocouple amplifiers (Gould Md1.13-4615-40) to the Brush 220 and 260 which read in °F./division of deflection. The following ranges and calibration points are applicable:

TE-13 - Range 375-450°F. - check: 375
 400
 425
 450

TE-14 through 17 - Range 250-400°F. - check: 250
 300
 350
 400

TE-18 through 20 - Range 70-150°F. - check: 70
 80
 100
 150

1324 137

4.2.2 (cont'd)

The procedure is:

- 1) Complete top portion of Calibration Form 002.
- 2) Assure correct cable, signal conditioner, sensor and recorder channel.
- 3) Allow proper warmup (15 minutes) for recorder and thermocouple amplifiers.
- 4) Set recorder sensitivity to OFF position.
- 5) Adjust recorder position control to position pen at exact chart center and lock knob.
- 6) Check that recorder vernier Sensitivity XI control is in the detent position, and lock knob.
- 7) Set recorder sensitivity to 100 MV/DIV.
- 8) Connect thermocouple amplifier outputs to recorder in such a way that turning the pre-amplifier position control clockwise will move the pen to the right. The recorder ground strap may have to be disconnected, depending on the output polarity of the thermocouple amplifier.
- 9) On thermocouple amplifiers set degrees full scale switch to range or span of temperature to be monitored.
10. Adjust thermocouple preamplifiers' ZERO SUPPRESSION controls to allow the reference point on the recorder to be set at some temperature other than zero desired for each channel.
11. Apply calibration standard and record results on Form 002.

1324 138

PROJECT 1907
INSTRUMENT CALIBRATION SHEET

Instrument PT-1 Sensotec
 Serial No. 35374
 Room Temperature _____
 Range 0 - 500 psia
 Span 0 - 300 psia
 Unit of Measure psia
 Slope 12.1158 psia / minor div
 Gain 18 mv / 5 in

Date 5/12/78
 Calib by C.T. Sawyer
J.E. Brown
R.J. Downs
 Calib Standard Dead Wt. Test
 Serial No. 2B4-40191
 Receiver ID VR-1
 Channel #1
 Signal Conditioner 1885

(psia)	PRESSURE	VOLTS
	0.0	0.0
	39.7	0.0
	64.7	6
	89.7	6
	114.7	12
	139.7	12
	164.7	18
	189.7	18
	214.7	24
	264.7	24
	289.7	
	314.7	
	339.7	
	364.7	
	314.7	
	214.7	
	114.7	

VISICORDER DEFLECTION
(minor divisions)

PRESSURE	VOLTS
0.0	0.0
3.1	0.0
5.15	8.46
7.25	
9.25	16.75
11.25	
13.25	25.00
15.5	
17.6	33.25
21.7	
23.8	
25.85	
27.85	
29.9	
25.9	
17.75	
9.4	

1324 139

PROJECT 1907
INSTRUMENT CALIBRATION SHEET

Instrument TE-13

Date 9/26/78

Thermocouple Type J (E/C)

Calib. by CTS, TEB, RJD

Room Temperature _____

Calib. Standard Thermistor
± 1/2 °F

Range 200 - 450 °F

Serial No. H 21016

Span 400 - 425

Unit of Measure °F

Receiver ID Brush 260

Channel 4

Slope NA

Gain NA

THERMOMETER READING

READOUT/DEFLECTION

(minor divisions)

330 °F

330 °F

386 °F

387 °F

397 °F

398 °F

1324 140

APPENDIX B
PRE-TEST CHECKLIST

1324.141

PRE-TEST CHECKLIST

DATE 6/2/78
 TEST DESIGNATION Test A
Run 4

RESPONSIBLE OPERATOR WTW
 RESPONSIBLE ENGINEER JEB
 QUALITY ASSURANCE 124

TASK

COMPLETION CHECK-OFF

TASK	RECORD	TIME	INITIAL
1. Test Facility arrangement requirements satisfied.			CTS
2. Turn on power to heaters and recorders and record time.		6:40 AM	CTS
3. Establish exclusive perimeter.			CTS
4. Obtain correct water level. (For movie test, check clarity)	2.85'		CTS
5. Start establishing correct pressure in suppression tank.			CTS
6. Perform electric calibration check of all pressure sensors. (NOTE: Power to PT-7 through 18 must be turned off before check and on after check)			CTS
7. Establish required discharge pipe temperature and record time and temperature range.	315-335°F	5:00 PM	CTS
8. Record air temperature in discharge line.	325-358°F		CTS
9. Establish required steam supply pressure and record time and pressure.	300 psia	4:45 PM	CTS
10. Record suppression tank water temperature.	85°F		CTS
11. Establish and record pressure in suppression tank. Record time.	3.7 psia	4:50 PM	CTS
12. Check, record and verify conformance to specification for all initial conditions on Data Sheet.			CTS

1324 142

PRE-TEST CHECKLIST

	RECORD	TIME	INITIAL																																																
13. Mark all test charts per Section 4.3.1 of Procedure No. 1902-002.			CTS																																																
14. Verify and record that TE-22 is less than 130°F.	85°F		CTS																																																
15. Record pressure of space between V-9 and rupture disc.	150psig		CTS																																																
16. Check that valve positions are as follow:			CTS																																																
<table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;"><u>OPEN</u></th> <th style="text-align: left;"><u>CLOSED</u></th> <th style="text-align: left;"><u>NOT USED</u></th> </tr> </thead> <tbody> <tr> <td>V-12</td> <td>V-13</td> <td>V-5</td> </tr> <tr> <td>V-14</td> <td>V-11</td> <td>V-6</td> </tr> <tr> <td>V-1</td> <td>V-15</td> <td>V-26</td> </tr> <tr> <td>V-3</td> <td>V-8</td> <td></td> </tr> <tr> <td>V-7</td> <td>V-18</td> <td></td> </tr> <tr> <td>V-21</td> <td>V-27</td> <td></td> </tr> <tr> <td>V-23</td> <td>V-20</td> <td></td> </tr> <tr> <td>V-25</td> <td>V-10</td> <td></td> </tr> <tr> <td></td> <td>V-22</td> <td></td> </tr> <tr> <td></td> <td>V-17</td> <td></td> </tr> <tr> <td></td> <td>V-2</td> <td></td> </tr> <tr> <td></td> <td>V-4</td> <td></td> </tr> <tr> <td></td> <td>V-9</td> <td></td> </tr> <tr> <td></td> <td>V-24 (rupture disc)</td> <td></td> </tr> <tr> <td></td> <td>V-16</td> <td></td> </tr> </tbody> </table>	<u>OPEN</u>	<u>CLOSED</u>	<u>NOT USED</u>	V-12	V-13	V-5	V-14	V-11	V-6	V-1	V-15	V-26	V-3	V-8		V-7	V-18		V-21	V-27		V-23	V-20		V-25	V-10			V-22			V-17			V-2			V-4			V-9			V-24 (rupture disc)			V-16				
<u>OPEN</u>	<u>CLOSED</u>	<u>NOT USED</u>																																																	
V-12	V-13	V-5																																																	
V-14	V-11	V-6																																																	
V-1	V-15	V-26																																																	
V-3	V-8																																																		
V-7	V-18																																																		
V-21	V-27																																																		
V-23	V-20																																																		
V-25	V-10																																																		
	V-22																																																		
	V-17																																																		
	V-2																																																		
	V-4																																																		
	V-9																																																		
	V-24 (rupture disc)																																																		
	V-16																																																		
17. Isolate vacuum pump, close V-12 and V-14			CTS																																																
18. a. Purge discharge line and record time (Open V-10-approximately 1 turn; V-13 and V-15)		5:00 PM	CTS																																																
b. Purge until no moisture																																																			
c. Return to vacuum																																																			
d. Purge again. If no moisture, continue purge for 1/2 minute																																																			
e. Close V-10 and V-15																																																			
f. Allow temperatures to stabilize, then wait 3 minutes.																																																			

PRE-TEST CHECKLIST

	<u>RECORD</u>	<u>TIME</u>	<u>INITIAL</u>
19. a. Check humidity of discharge pipe air and record time and flow rate (Open V-20 and V-8)	88.9°F / 0°F DP	5:02 PM	CTS
b. Start humidity pump			
c. Open V-14			
d. Crack open V-11. Allow 2 minutes for tank and pipe to equalize			
e. Run for 2 minutes - check and record on Data Sheet temperature and dew point			
f. Stop pump			
g. Close V-20 and V-8			
20. Check tank and discharge pipe pressure and record time.		5:02 PM	CTS
a. Open V-13			
b. Allow 1/2 minute for pressure to equalize			
c. Open V-18 and V-27 to manometer			
d. Check and record pressure (must be ± 1/2 in. of equal)			
e. Close V-18 and V-27			
21. Open Valve V-11.			CTS
22. Set up required steam flow through packing valve.			CTS
23. Close V-13 just before Step 24 (no more than 5 seconds).			CTS
24. Push start button and record time.		5:04 PM	CTS

1324 144

APPENDIX C
INITIAL CONDITION DATA SHEETS FOR ALL TESTS

1324 145

DATA SHEET FOR INITIAL CONDITIONS

DATE 6/2/78
 TIME OF TEST INITIATION 5:04 PM
 TEST DESIGNATION: Test A
Run 4

	<u>Required +Tolerance</u>	<u>Actual</u>	<u>Time Recorded</u>
A. <u>Temperature</u> (°F)			
1) tank water	<u>80±5</u>	<u>85</u>	<u>5:04 PM</u>
2) supply tank steam	<u>417±2.5</u>	<u>415</u>	↓ ↓ ↓
3) discharge line air	<u>325±10</u>	<u>315-335</u>	
4) discharge pipe	<u>325±10</u>	<u>325-358</u>	
B. <u>Pressure</u> (psia)			
1) suppression tank	<u>3.7±0.1</u>	<u>3.72</u>	<u>5:04 PM</u>
2) discharge line	<u>3.7±0.1</u>	<u>3.72</u>	↓ ↓
3) steam supply	<u>300±10</u>	<u>303</u>	
C. <u>Relative Air Humidity Dew Point</u> (°F)	<u>±10%</u>	<u>88.9/0.0</u>	<u>5:02</u>
D. <u>TE-22 (temperature)</u> (°F)	<u><130°F</u>	<u>84</u>	<u>5:02</u>
E. <u>Tank Water Level</u> (ft)	<u>2.85±.05'</u>	<u>2.85</u>	—
F. <u>Discharge Line Water Level</u> (ft)	<u>2.85±.05'</u>	<u>2.85</u>	—

ATTACHMENTS TO COMPLETE DATA PACKAGE

- 1) Visicorder 1 Chart (VR-1)
- 2) Visicorder 2 Chart (VR-2)
- 3) Brush Temperature Chart (B-8CH)
- 4) L&N Temperature Chart (L&N-12PT)
- 5) Honeywell Pressure Chart (R-1)

TEST PERSONNEL WJW, PKB
JEB, CTS
JMH

TEST SUPERVISOR JEB
 Approved C.T. Sawyer
 Project Manager

QUALITY ASSURANCE [Signature]
 COMMENTS:

DATE 6/2/78
 DATE 6-2-78

C-1

1324 146

DATA SHEET FOR INITIAL CONDITIONS (continued)

External Pipe Temperatures

<u>TE Nos</u>	<u>Reading at t = 0</u> (°F)
TE-3	358
TE-4	335
TE-5	325
TE-6	325
TE-7	333
TE-8	325
TE-9	} Not used
TE-10	
TE-11	
TE-12	
TE-16	
TE-21	325

Internal Temperatures

<u>TE Nos</u>	<u>Reading at t = 0</u> (°F)
<u>Surge Tank</u>	
TE-1	415
TE-2	415
<u>Pipe</u>	
TE-13	320
TE-14	315
TE-15	315
TE-16	335
TE-17	190
<u>Suppression Tank</u>	
TE-18	85
TE-19	85
TE-20	85

1324 147

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. A

DATE RUN 6/2/78

PIPING ARRANGEMENT A

AIR LENGTH 55.71'

PARAMETER

RUN NUMBER

- A. Temperature (^oF)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) ^oF
- D. TE-22 (^oF)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	81°	82°	84°	85°			
	416°	416°	416°	416°			
	315-345	315-330	303-225	315-335			
	332-365	315-368	320-360	325-328			
	3.6	3.6	3.9	3.7			
	3.6	3.6	3.9	3.7			
	297.1	291.7	301.5	295.3			
	<u>1.9°</u>	<u>-0.3°</u>	<u>1.1°</u>	<u>0.0°</u>			
	84.8°	87.4°	89.5°	88.9°			
	78°	78°	82°	84°			
	2.85	2.85	2.85	2.87			
	2.85	2.85	2.85	2.87			

NEDO-24549

C-3

1324 148

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. B

DATE RUN 6/3/78

PIPING ARRANGEMENT A

AIR LENGTH 55.71'

PARAMETER

RUN NUMBER

A. Temperature (°F)

- 1. Tank water
- 2. Steam supply
- 3. Discharge pipe air (range)
- 4. Discharge pipe (range)

B. Pressure (PSIA)

- 1. Suppression tank
- 2. Discharge pipe
- 3. Steam supply

C. Humidity Reading
(Dew point/air temp.) °F

D. TE-22 (°F)

E. Tank water level (ft)

F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
1. Tank water	85°	86°	87°	88°	82°	83°	
2. Steam supply	415.5°	414°	416.5°	416.5°	414°	417°	
3. Discharge pipe air (range)	285-334	265-325	317-325	315-334	307-335	318-330	
4. Discharge pipe (range)	322-365	325-360	317-360	320-350	317-343	312-350	
1. Suppression tank	7.1	7.6	7.6	7.7	7.6	7.7	
2. Discharge pipe	7.1	7.6	7.6	7.7	7.6	7.7	
3. Steam supply	298.1	292.5	298.5	296.8	294.1	294.4	
Humidity Reading	-5.0	-4.5	4.5°	-5.2°	-5.1	2.2°	
(Dew point/air temp.) °F	90.5	93.4	93.2°	92.5°	86.5	91.6°	
TE-22 (°F)	83°	83°	85°	87°	80°	84°	
Tank water level (ft)	2.87'	2.87'	2.87'	2.87'	2.87'	2.86'	
Discharge pipe water level (ft)	2.87'	2.87'	2.87'	2.87'	2.87'	2.86'	

C-4

132V
149

NEDO-24549

TEST NO. C

DATE RUN 6/5/78

PIPING ARRANGEMENT A

AIR LENGTH 55.71'

PARAMETER

RUN NUMBER

A. Temperature (°F)

1. Tank water
2. Steam supply
3. Discharge pipe air (range)
4. Discharge pipe (range)

B. Pressure (PSIA)

1. Suppression tank
2. Discharge pipe
3. Steam supply

C. Humidity Reading
(Dew point/air temp.) °F

D. TE-22 (°F)

E. Tank water level (ft)

F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
1. Tank water	79°	81°	82°	83°			
2. Steam supply	417°	415°	416°				
3. Discharge pipe air (range)	315-320	315-322	325-352	315-325			
4. Discharge pipe (range)	323-362	317-351	323-358	322-352			
1. Suppression tank	11.2	11.2	11.1	11.2			
2. Discharge pipe	11.2	11.2	11.1	11.2			
3. Steam supply	298.5	292.1	296.6	295.5			
Dew point	-3.7°	-2.6	2.3	-0.6			
Air temp.	91.5°	92.2	89.2	92.8			
TE-22	78°	85°	83°	82°			
Tank water level	2.85'	2.85'	2.85'	2.85'			
Discharge pipe water level	2.85'	2.85'	2.85'	2.85'			

C-5

1324 150

NEDO-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 2

DATE RUN 6/13/78

PIPING ARRANGEMENT A

AIR LENGTH 55.71'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
1. Tank water
 2. Steam supply
 3. Discharge pipe air (range)
 4. Discharge pipe (range)
- B. Pressure (PSIA)
1. Suppression tank
 2. Discharge pipe
 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	78°	80°	81°	83°	78°		
	417°	416°	414°	413°	417°		
	300-342	320-335	320-345	317-335	325-335		
	310-330	325-350	325-365	325-353	328-380		
	3.7	3.6	3.7	3.7	3.7		
	3.7	3.6	3.7	3.7	3.7		
	303.2	297.9	295.3	297.7	287.9		
	<u>2.0°</u> 81.0	<u>2.7°</u> 83.7	<u>14.5°</u> 86.2	<u>7.0°</u> 88.2	Out of Order		
	83°	87°	87°	92°	83°		
	2.83'	2.84'	2.84'	2.85'	2.83'		
	2.83'	2.84'	2.84'	2.85'	2.83'		

C-6

1324
151

NEBO-24549

TEST NO. 2

DATE RUN 6/13/28

PIPING ARRANGEMENT A

AIR LENGTH 55.71'

PARAMETER

RUN NUMBER

A. Temperature (°F)

- 1. Tank water
- 2. Steam supply
- 3. Discharge pipe air (range)
- 4. Discharge pipe (range)

B. Pressure (PSIA)

- 1. Suppression tank
- 2. Discharge pipe
- 3. Steam supply

C. Humidity Reading
(Dew point/air temp.) °F

D. TE-22 (°F)

E. Tank water level (ft)

F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
84°	83°	85°	87°				
414°	418°	417°	424°				
317-345	320-325	330-340	320-335				
322-360	323-352	320-365	325-357				
3.7	3.6	3.7	3.7				
3.7	3.6	3.7	3.7				
298.9	296.4	297.7	301.3				
90 88.8°	OUT OF ORDER		→				
87°	86°	92°	93°				
2.85'	2.85'	2.85'	2.85'				
2.85'	2.85'	2.85'	2.85'				

C-7

1324 152

NEDO-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 3

DATE RUN 6/14/78

PIPING ARRANGEMENT A

AIR LENGTH 55.71'

PARAMETER

RUN NUMBER

- A. Temperature (^oF)
1. Tank water
 2. Steam supply
 3. Discharge pipe air (range)
 4. Discharge pipe (range)
- B. Pressure (PSIA)
1. Suppression tank
 2. Discharge pipe
 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) ^oF
- D. TE-22 (^oF)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	88°	89°	90°	93°			
	420'	420'	418'	424'			
	320-335	325-335	317-333	315-337			
	324-356	325-358	320-353	313-353			
	3.7	3.7	3.7	3.6			
	3.7	3.7	3.7	3.6			
	298.3	298.9	302.0	298.2			
	OUT OF RANGE	→					
	88°	100°	98°	100°			
	2.86'	2.86'	2.86'	2.87'			
	2.86'	2.86'	2.86'	2.87'			

C-8

1324 153

NEDO-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 4

DATE RUN 6/15/78

PIPING ARRANGEMENT A

AIR LENGTH 55.71'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
A. 1. Tank water	81°	83°	85°	86°	76°		
A. 2. Steam supply	420°	419°	419°	424°	416°		
A. 3. Discharge pipe air (range)	330-337	320-335	325-332	330-340	315-327		
A. 4. Discharge pipe (range)	327-365	319-354	320-358	325-358	315-365		
B. 1. Suppression tank	11.5	11.2	11.1	11.1	10.7		
B. 2. Discharge pipe	11.5	11.2	11.1	11.1	10.7		
B. 3. Steam supply	295.8	292.4	286.3	300.8	289.9		
C. Humidity Reading	0.5				0		
(Dew point/air temp.) °F	0.5				0		
D. TE-22 (°F)	85°	105°	104°	102°	78°		
E. Tank water level (ft)	2.82'	2.82'	2.83'	2.83'	2.82'		
F. Discharge pipe water level (ft)	2.82'	2.82'	2.83'	2.83'	2.82'		

C-9

1324 154

NEBO-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 4A

DATE RUN 6/19/78

PIPING ARRANGEMENT A

AIR LENGTH 55.71'

PARAMETER

RUN NUMBER

A. Temperature (°F)

1. Tank water
2. Steam supply
3. Discharge pipe air (range)
4. Discharge pipe (range)

B. Pressure (PSIA)

1. Suppression tank
2. Discharge pipe
3. Steam supply

C. Humidity Reading
(Dew point/air temp.) °F

D. TE-22 (°F)

E. Tank water level (ft)

F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	82°	83°	84°	85°			
	421°	421°	423°	421°			
	325'	322-340	320-340	320-330			
	310-353	324-353	325-365	315-345			
	7.8	7.6	7.6	7.6			
	7.8	7.6	7.6	7.6			
	298.3	305.7	306.3	305.0			
	out of range	←—————→					
	80°	90°	95°	95°			
	2.84'	2.84'	2.84'	2.84'			
	2.845'	2.84'	2.84'	2.84'			

C-10

1324
155

NEDO-24545

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 5

DATE RUN 6/21/78

PIPING ARRANGEMENT B

AIR LENGTH 29.73'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
1. Tank water	82°	83°	85°	87°	88°	89°	
2. Steam supply	424°	424°	424°	424°	422°	422°	
3. Discharge pipe air (range)	315-325	320-330	320-330	315-337	315-358	317-347	
4. Discharge pipe (range)	330-370	322-376	312-355	324-373	315-355	314-350	
1. Suppression tank	3.6	3.6	3.7	3.6	3.7	3.7	
2. Discharge pipe	3.6	3.6	3.7	3.6	3.7	3.7	
3. Steam supply	299.1	294.1	298.6	299.2	299.8	303.6	
C. Humidity Reading (Dew point/air temp.) °F	OUT OF RANGE →						
D. TE-22 (°F)	90°	88°	94°	91°	92°	99°	
E. Tank water level (ft)	2.85'	2.86'	2.86'	2.86'	2.83'	2.83'	
F. Discharge pipe water level (ft)	2.85'	2.86'	2.86'	2.86'	2.83'	2.83'	

C-11

NEBC-24519

1324 156

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 6

DATE RUN 6/21/78

PIPING ARRANGEMENT B

AIR LENGTH 29.73'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	83°	77°	79°	80°	87°		
	421°	423°	422°	422°	420°		
	310-380	313-352	320-332	325-330	317-365		
	300-386	317-330	322-360	333-356	320-355		
	11.1	11.2	11.3	11.7	11.2		
	11.1	11.2	11.3	11.7	11.2		
	302.3	299.2	303.0	301.0	302.4		
	0.5 OF 0.106R				→		
	82°	82°	92°	93°	93°		
	2.82'	2.84'	2.85'	2.85'	2.84'		
	2.82'	2.84'	2.85'	2.85'	2.84'		

C-12

1324 157

64549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 7

DATE RUN 6/28/78

PIPING ARRANGEMENT C

AIR LENGTH 111.71'

PARAMETER

RUN NUMBER

	1	2	3	4	5	6	7	
A. <u>Temperature</u> (°F)								
1. Tank water	83°		84°	86°	87°			
2. Steam supply	420°		420°	420°	420°			
3. Discharge pipe air (range)	325-340		330-335	327-342	323-332			
4. Discharge pipe (range)	312-338		315-334	315-340	320-329			
B. <u>Pressure</u> (PSIA)								
1. Suppression tank	3.7		3.7	3.7	3.8			
2. Discharge pipe	3.7		3.7	3.7	3.8			
3. Steam supply	299.3		301.7	303.0	301.8			
C. <u>Humidity Reading</u> (Dew point/air temp.) °F	0.5 UP 0.005A		—————					
D. <u>TE-22</u> (°F)	84°		90°	94°	95°			
E. <u>Tank water level</u> (ft)	2.83'		2.83'	2.84'	2.84'			
F. <u>Discharge pipe water level</u> (ft)	2.83'		2.83'	2.84'	2.84'			

C-13

NEBO-24549

1524
158

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 8

DATE RUN 6/28/72

PIPING ARRANGEMENT C

AIR LENGTH 111.71'

PARAMETER

RUN NUMBER

A. Temperature (°F)

1. Tank water
2. Steam supply
3. Discharge pipe air (range)
4. Discharge pipe (range)

B. Pressure (PSIA)

1. Suppression tank
2. Discharge pipe
3. Steam supply

C. Humidity Reading
(Dew point/air temp.) °F

D. TE-22 (°F)

E. Tank water level (ft)

F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
1. Tank water	77°	79°	80°	81°			
2. Steam supply	420°	419°	419°	419°			
3. Discharge pipe air (range)	315-345	317-333	330-335	327-333			
4. Discharge pipe (range)	315-340	317-335	316-335	323-335			
1. Suppression tank	11.2	11.1	11.1	11.2			
2. Discharge pipe	11.2	11.1	11.1	11.2			
3. Steam supply	301.1	299.2	302.3	299.2			
Humidity Reading	OUT OF ORDER						
TE-22 (°F)	77°	80°	86°	84°			
Tank water level (ft)	2.81'	2.82'	2.82'	2.85'			
Discharge pipe water level (ft)	2.81'	2.82'	2.82'	2.83'			

C-14

1324
159

NEBO-24549

TEST NO. 9

DATE RUN 7/5/78

PIPING ARRANGEMENT D

AIR LENGTH 55.71

PARAMETER

RUN NUMBER

	1	2	3	4	5	6	7
A. <u>Temperature</u> (°F)							
1. Tank water	79°	80°	83°	84°	79°	81°	83°
2. Steam supply	416°	415°	415°	415°	415°	415°	415°
3. Discharge pipe air (range)	283-352	275-343	298-333	283-346	280-327	298-333	268-335
4. Discharge pipe (range)	316-333	315-324	314-324	316-325	315-333	315-327	320-330
B. <u>Pressure</u> (PSIA)							
1. Suppression tank	3.7	3.7	3.7	3.7	3.7	3.7	3.7
2. Discharge pipe	3.7	3.7	3.7	3.7	3.7	3.7	3.7
3. Steam supply	295.3	292.4	298.6	298.0	303.6	299.2	298.0
C. <u>Humidity Reading</u> (Dew point/air temp.) °F	$\frac{-3.1^{\circ}}{92.2}$	$\frac{3.6^{\circ}}{91.7}$	0-5	0-5	$\frac{-11.3^{\circ}}{83.7^{\circ}}$	$\frac{-12.1^{\circ}}{85.9^{\circ}}$	$\frac{0.1^{\circ}}{86.1^{\circ}}$
D. <u>TE-22</u> (°F)	74°	78°	85°	92°	76°	85°	88°
E. <u>Tank water level</u> (ft)	2.32	2.32	2.32	2.33	2.33	2.33	2.34
F. <u>Discharge pipe water level</u> (ft)	2.32	2.32	2.32	2.33	2.33	2.33	2.34

C-15

1324 160

NEED-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 10

DATE RUN 7/14/78

PIPING ARRANGEMENT E

AIR LENGTH 54.00'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	78°	79°	80°	82°			
	421°	419°	420°	421°			
	260-330	252-323	250-330	294-328			
	313-333	317-322	317-332	315-338			
	3.7	3.7	3.8	3.7			
	3.7	3.7	3.8	3.7			
	299.3	296.1	303.1	299.3			
	-0.7	<u>-10.7</u> 88.8°	<u>-15.0</u> 90°	<u>-14.3</u> 90.9°			
	80°	83°	88°	88°			
	2.83'	2.83'	2.84'	2.84'			
	2.83'	2.83'	2.84'	2.84'			

C-16

NEDO-24549

1324 161

TEST NO. 11

DATE RUN 7/10/78

PIPING ARRANGEMENT F

AIR LENGTH 55.08

PARAMETER

RUN NUMBER

A. Temperature (^oF)

1. Tank water
2. Steam supply
3. Discharge pipe air (range)
4. Discharge pipe (range)

B. Pressure (PSIA)

1. Suppression tank
2. Discharge pipe
3. Steam supply

C. Humidity Reading
(Dew point/air temp.) ^oF

D. TE-22 (^oF)

E. Tank water level (ft)

F. Discharge pipe water level (ft)

1	2	3	4	5	6	7
		81°	83°	84°	85°	85°
		415'	418'	418'	415'	417'
		322-350	318-338	325-360	325-370	317-329
		318-334	315-326	315-325	313-328	310-360
		3.7	3.7	3.7	3.7	3.7
		3.7	3.7	3.7	3.7	3.7
		298.6	302.3	303.0	301.1	299.0
		-6.1° 91.1°	-0-	-0-	-0-	-0
		91°	93°	92°	92°	95°
		2.83'	2.83'	2.83'	2.74'	2.80'
		2.83'	2.83'	2.83'	2.84'	2.80'

C-17

1324 162

NEDO-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 12

DATE RUN 7/18/78

PIPING ARRANGEMENT G

AIR LENGTH 27.47'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
1. Tank water	78°	79°	81°	82°			
2. Steam supply	420°	422°	420°	423°			
3. Discharge pipe air (range)	325-375	325-365	333-342	325-340			
4. Discharge pipe (range)	313-328	325-335	320-333	319-326			
1. Suppression tank	3.7	3.6	3.7	3.7			
2. Discharge pipe	3.7	3.6	3.7	3.7			
3. Steam supply	301.2	299.8	298.0	302.4			
Humidity Reading	-005-	005-	-005-	-005-			
TE-22 (°F)	77°	87°	87°	92°			
Tank water level (ft)	2.80'	2.81'	2.81'	2.81'			
Discharge pipe water level (ft)	2.80'	2.81'	2.81'	2.81'			

C-18

1324 163

NEPC-24549

TEST NO. 13

DATE RUN 7/21/78

PIPING ARRANGEMENT H

AIR LENGTH 55.84'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
78°	79°	80°	80°				
423°	421°	420°	421°				
270-340	280-330	280-320	280-330				
317-328	312-330	315-335	322-327				
3.7	3.7	3.7	3.7				
3.7	3.7	3.7	3.7				
295.5	296.1	299.3	298.0				
10°	9.9°	- 0 -	- 0 -				
87.7	87.1						
83°	80°	84°	84°				
3.96'	3.96'	3.96'	3.96'				
3.96'	3.96'	3.96'	3.96'				

C-19

1324
164

NEDO-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 14

DATE RUN 7/25/78

PIPING ARRANGEMENT I

AIR LENGTH 54.94'

PARAMETER

RUN NUMBER

A. Temperature (°F)

1. Tank water
2. Steam supply
3. Discharge pipe air (range)
4. Discharge pipe (range)

B. Pressure (PSIA)

1. Suppression tank
2. Discharge pipe
3. Steam supply

C. Humidity Reading
(Dew point/air temp.) °F

D. TE-22 (°F)

E. Tank water level (ft)

F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
1. Tank water	79°	81°	82°	83°			
2. Steam supply	421°	422°	420°	420°			
3. Discharge pipe air (range)	265-343	270-345	250-365	280-320			
4. Discharge pipe (range)	320-337	317-324	315-325	314-332			
1. Suppression tank	3.7	3.7	3.7	3.7			
2. Discharge pipe	3.7	3.7	3.7	3.7			
3. Steam supply	304.4	304.9	303.0	302.4			
Humidity Reading	-005-	-005-	-005-	-005-			
TE-22 (°F)	75°	79°	80°	82°			
Tank water level (ft)	2.83'	2.84'	2.84'	2.85'			
Discharge pipe water level (ft)	2.83'	2.84'	2.84'	2.85'			

C-20

1324 165

NEDO-24549

TEST NO. 15DATE RUN 7/31/78PIPING ARRANGEMENT JAIR LENGTH 56.00'PARAMETERRUN NUMBER

	1	2	3	4	5	6	7
A. <u>Temperature</u> (^o F)							
1. Tank water	79°	80°	82°	83°	85°		
2. Steam supply	416°	418°	418°	419°	420°		
3. Discharge pipe air (range)	295-362	290-370	270-385	275-390	288-385		
4. Discharge pipe (range)	315-322	322-327	319-320	321-333	322-333		
B. <u>Pressure</u> (PSIA)							
1. Suppression tank	3.2	3.7	3.7	3.7	3.7		
2. Discharge pipe	2.0	2.45	2.46	2.46	2.46		
3. Steam supply	301.3	304.4	294.9	306.1	300.5		
C. <u>Humidity Reading</u> (Dew point/air temp.) ^o F	-OUT-	-OUT-	-OUT-	-OUT-	-OUT-		
D. <u>TE-22</u> (^o F)	75°	77°	80°	82°	88°		
E. <u>Tank water level</u> (ft)	2.84'	2.84'	2.84'	2.85'	2.85'		
F. <u>Discharge pipe water level</u> (ft)	5.70'	5.72'	5.71'	5.72'	5.72'		

C-21

1324 166

NEEO-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 10

DATE RUN 10/5/78

PIPING ARRANGEMENT K

AIR LENGTH 55.69'

PARAMETER

RUN NUMBER

A. Temperature (°F)

1. Tank water
2. Steam supply
3. Discharge pipe air (range)
4. Discharge pipe (range)

B. Pressure (PSIA)

1. Suppression tank
2. Discharge pipe
3. Steam supply

C. Humidity Reading
(Dew point/air temp.) °F

D. TE-22 (°F)

E. Tank water level (ft)

F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
1. Tank water	79°	80°	81°	82°	84°		
2. Steam supply	417°	416°	416°	416°	416°		
3. Discharge pipe air (range)	305-323	305-323	310-327	305-340	305-325		
4. Discharge pipe (range)	324-330	317-328	322-333	318-335	320-335		
1. Suppression tank	3.7	3.7	3.7	3.7	3.7		
2. Discharge pipe	3.7	3.7	3.7	3.7	3.7		
3. Steam supply	305.4	296.7	295.5	296.7	303.6		
Humidity Reading	-7.8° 79.7°	-6.0 82.1°	-4.4 84.7°	-4.1 84.8°	-2.9 86.1°		
TE-22 (°F)	79°	84°	83°	83°	76°		
Tank water level (ft)	2.83'	2.83'	2.84'	2.84'	2.85'		
Discharge pipe water level (ft)	2.87'	2.80'	2.82'	2.84'	2.85'		

C-22

1324
167

NEDO-24549

TEST NO. 17

DATE RUN 10/6/78

PIPING ARRANGEMENT K

AIR LENGTH 57.52'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	81	82	83	84	85		
	422°	421°	421°	422°	422°		
	305-327	296-322	305-330	305-317	310-325		
	320-377	318-329	318-335	322-335	320-339		
	3.7	3.7	3.7	3.7	3.7		
	3.7	3.7	3.7	3.7	3.7		
	304.2	301.7	301.0	302.3	302.9		
	<u>-0.1°</u>	<u>3.3°</u>	<u>14.2°</u>	<u>23.8°</u>	<u>21°</u>		
	81.7°	83.5°	86.7°	83.9°	86.7°		
	93°	102°	97°	103°	102°		
	2.08'	2.08'	2.08'	2.09'	2.09'		
	2.04'	2.04'	2.04'	2.05'	2.05'		

C-23

1324 168

NEEDO-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 18

DATE RUN 10/12/78

PIPING ARRANGEMENT J

AIR LENGTH 56.00'

PARAMETER

RUN NUMBER

A. Temperature (°F)

1. Tank water
2. Steam supply
3. Discharge pipe air (range)
4. Discharge pipe (range)

	1	2	3	4	5	6	7
1. Tank water	78	80	81	82			
2. Steam supply	420°	423°	421.5°	421°			
3. Discharge pipe air (range)	325	300-312	300-320	300-325			
4. Discharge pipe (range)	334	316-330	318-337	290-335			
B. <u>Pressure</u> (PSIA)							
1. Suppression tank	4.9	4.9	4.9	4.9			
2. Discharge pipe	3.8	3.8	3.7	3.7			
3. Steam supply	300.4	309.1	300.4	304.1			
C. <u>Humidity Reading</u> (Dew point/air temp.) °F	<u>-3.2°</u> 74.5°	<u>-1.27</u> 76.2°	<u>-10.0</u> 76.4°	<u>-14.6°</u> 76.3°			
D. <u>TE-22</u> (°F)	80°	85°	90°	90°			
E. <u>Tank water level</u> (ft)	2.83'	2.83'	2.84'	2.85'			
F. <u>Discharge pipe water level</u> (ft)	5.4'	5.45'	5.61'	5.57'			

C-24

NEBC-24549

1324-169

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 19

DATE RUN 10/11/78

PIPING ARRANGEMENT K

AIR LENGTH 55.69'

PARAMETER

RUN NUMBER

- A. Temperature (°F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) °F
- D. TE-22 (°F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	74	75	77	78			
	417°	417°	417°	419°			
	305-326	305-324	308-320	310-338			
	322-331	318-338	317-337	315-335			
	4.0	4.0	4.0	4.0			
	3.7	3.7	3.6	3.6			
	295.8	295.1	300.8	300.1			
	<u>-11.4°</u>	<u>-11.0°</u>	<u>-10.0°</u>	<u>-1.3°</u>			
	74.4°	74.9°	76.8°	78.9°			
	85°	92°	92°	90°			
	2.08'	2.08'	2.08'	2.09'			
	2.55'	2.83'	2.91'	3.04'			

C-25

1324-170

NEED-24549

INITIAL CONDITIONS FOR 1/4-SCALE T-QUENCHER TESTS

TEST NO. 20

DATE RUN 10/19/78

PIPING ARRANGEMENT I

AIR LENGTH 52.37

PARAMETER

RUN NUMBER

- A. Temperature (⁰F)
 - 1. Tank water
 - 2. Steam supply
 - 3. Discharge pipe air (range)
 - 4. Discharge pipe (range)
- B. Pressure (PSIA)
 - 1. Suppression tank
 - 2. Discharge pipe
 - 3. Steam supply
- C. Humidity Reading
(Dew point/air temp.) ⁰F
- D. TE-22 (⁰F)
- E. Tank water level (ft)
- F. Discharge pipe water level (ft)

	1	2	3	4	5	6	7
	69°	69°	70°	71°	72°		
	422°	423°	420°	422°	421°		
	308-227	308-327	305-317	308-320	307-325		
	326-332	320-332	318-330	322-337	318-332		
	3.7	3.7	3.7	3.7	3.7		
	3.7	3.7	3.7	3.7	3.7		
	303.5	306.0	303.5	304.8	299.5		
	$\frac{-9.1°}{77.3°}$	$\frac{-10.2°}{76.4°}$	$\frac{-10.5°}{76.1°}$	$\frac{-10.7°}{75.7°}$	$\frac{-11.4°}{74.6°}$		
	69°	69°	69°	70°	70°		
	4.55'	4.55'	4.55'	4.55'	4.55'		
	4.55'	4.55'	4.55'	4.55'	4.55'		

C-26

NEDO-24549

1324 171

APPENDIX D
PEAK DISCHARGE LINE, AIR BUBBLE
AND TANK WALL PRESSURES
FOR ALL TESTS

1324 172

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/2/78 VISICORNER 1

TEST NO. A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 173

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/2/78 VISICORDER 2

TEST NO. A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 174

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/2/78 VISICORDER 1

TEST NO. A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 175

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/2/78 VISICORDER 2

TEST NO. A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7		1		
PEAK UNDER PRESSURE	7		1		
PEAK OVER PRESSURE	8		2		
PEAK UNDER PRESSURE	8		2		
PEAK OVER PRESSURE	9		3		
PEAK UNDER PRESSURE	9		3		
PEAK OVER PRESSURE	10		4		
PEAK UNDER PRESSURE	10		4		
PEAK OVER PRESSURE	11		5		
PEAK UNDER PRESSURE	11		5		
PEAK OVER PRESSURE	12		6		
PEAK UNDER PRESSURE	12		6		
PEAK OVER PRESSURE	13		7		
PEAK UNDER PRESSURE	13				
PEAK OVER PRESSURE	14		8		
PEAK UNDER PRESSURE	14		8		
PEAK OVER PRESSURE	15		9		
PEAK UNDER PRESSURE	15		9		
PEAK OVER PRESSURE	16		10		
PEAK UNDER PRESSURE	16		10		
PEAK OVER PRESSURE	17		11		
PEAK UNDER PRESSURE	17		11		
PEAK OVER PRESSURE	18		12		
PEAK UNDER PRESSURE	18		12		

*Proprietary information deleted

1324 176

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/2/78 VISICORDER 1

TEST NO. A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	FRESSURE (PSI) OR LABELED	SLOPE FSIA/DIV
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20	#13&14			
#AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 177

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)

TEST DATE 6/2/78

VISICORDER 2

TEST NO. A

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7		1		
PEAK UNDER PRESSURE	7		1		
PEAK OVER PRESSURE	8		2		
PEAK UNDER PRESSURE	8		2		
PEAK OVER PRESSURE	9		3		
PEAK UNDER PRESSURE	9		3		
PEAK OVER PRESSURE	10		4		
PEAK UNDER PRESSURE	10		4		
PEAK OVER PRESSURE	11		5		
PEAK UNDER PRESSURE	11		5		
PEAK OVER PRESSURE	12		6		
PEAK UNDER PRESSURE	12		6		
PEAK OVER PRESSURE	13		7		
PEAK UNDER PRESSURE	13		7		
PEAK OVER PRESSURE	14		8		
PEAK UNDER PRESSURE	14		8		
PEAK OVER PRESSURE	15		9		
PEAK UNDER PRESSURE	15		9		
PEAK OVER PRESSURE	16		10		
PEAK UNDER PRESSURE	16		10		
PEAK OVER PRESSURE	17		11		
PEAK UNDER PRESSURE	17		11		
PEAK OVER PRESSURE	18		12		
PEAK UNDER PRESSURE	18		12		

1324 178

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/2/78 VISICORDER 1

TEST NO. A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 179

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/2/78 VISICORDER 2

TEST NO. A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+PRESSURE+ (PSI) OR + FSIA/DIV+ SLOPE
#					
#	FREQUENCY (CYCLES/SEC)	#	#	#	#
#	PEAK OVER PRESSURE	#	7	#	1
#	PEAK UNDER PRESSURE	#	7	#	1
#	PEAK OVER PRESSURE	#	8	#	2
#	PEAK UNDER PRESSURE	#	8	#	2
#	PEAK OVER PRESSURE	#	9	#	3
#	PEAK UNDER PRESSURE	#	9	#	3
#	PEAK OVER PRESSURE	#	10	#	4
#	PEAK UNDER PRESSURE	#	10	#	4
#	PEAK OVER PRESSURE	#	11	#	5
#	PEAK UNDER PRESSURE	#	11	#	5
#	PEAK OVER PRESSURE	#	12	#	6
#	PEAK UNDER PRESSURE	#	12	#	6
#	PEAK OVER PRESSURE	#	13	#	7
#	PEAK UNDER PRESSURE	#	13	#	7
#	PEAK OVER PRESSURE	#	14	#	8
#	PEAK UNDER PRESSURE	#	14	#	8
#	PEAK OVER PRESSURE	#	15	#	9
#	PEAK UNDER PRESSURE	#	15	#	9
#	PEAK OVER PRESSURE	#	16	#	10
#	PEAK UNDER PRESSURE	#	16	#	10
#	PEAK OVER PRESSURE	#	17	#	11
#	PEAK UNDER PRESSURE	#	17	#	11
#	PEAK OVER PRESSURE	#	18	#	12
#	PEAK UNDER PRESSURE	#	18	#	12

*Proprietary information deleted

1.324 180

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/3/78 VISICORIER 1

TEST NO. B DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC.	2	3	3		
PIPE PRESSURE AT T=5 SEC.	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1324 181

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/3/78 VISICORNER 2

TEST NO. B DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (FSI) OR LABEL	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 182

*Proprietary information deleted

BLANCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/3/78 VISICORDER 1

TEST NO. B DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 183

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/3/78 VISICORDER 2

TEST NO. B DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 184

*Proprietary information deleted

BLENCHER TEST (N U S CORP) (1 / 4 S C A L E)

TEST DATE 6/3/78

VISICORDER 1

TEST NO. B

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 185

Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/3/78 VISICORDER 2

TEST NO. B DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 186

*Proprietary information deleted.

BUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/3/78 VISICORDER 1

TEST NO. B DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 187

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/3/78 VISICORDER 2

TEST NO. 8 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	#	#	#	#	#
FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
#FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#PEAK OVER PRESSURE	# 7	# 1	#	#	#
#PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#PEAK OVER PRESSURE	# 8	# 2	#	#	#
#PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#PEAK OVER PRESSURE	# 9	# 3	#	#	#
#PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#PEAK OVER PRESSURE	# 10	# 4	#	#	#
#PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#PEAK OVER PRESSURE	# 11	# 5	#	#	#
#PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#PEAK OVER PRESSURE	# 12	# 6	#	#	#
#PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#PEAK OVER PRESSURE	# 13	# 7	#	#	#
#PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#PEAK OVER PRESSURE	# 14	# 8	#	#	#
#PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#PEAK OVER PRESSURE	# 15	# 9	#	#	#
#PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#PEAK OVER PRESSURE	# 16	# 10	#	#	#
#PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#PEAK OVER PRESSURE	# 17	# 11	#	#	#
#PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#PEAK OVER PRESSURE	# 18	# 12	#	#	#
#PEAK UNDER PRESSURE	# 18	# 12	#	#	#

1324 188

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 1

TEST NO. B DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 189

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 2

TEST NO. B DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
#FREQUENCY (CYCLES/SEC)					
#PEAK OVER PRESSURE	7	1			
#PEAK UNDER PRESSURE	7	1			
#PEAK OVER PRESSURE	8	2			
#PEAK UNDER PRESSURE	8	2			
#PEAK OVER PRESSURE	9	3			
#PEAK UNDER PRESSURE	9	3			
#PEAK OVER PRESSURE	10	4			
#PEAK UNDER PRESSURE	10	4			
#PEAK OVER PRESSURE	11	5			
#PEAK UNDER PRESSURE	11	5			
#PEAK OVER PRESSURE	12	6			
#PEAK UNDER PRESSURE	12	6			
#PEAK OVER PRESSURE	13	7			
#PEAK UNDER PRESSURE	13	7			
#PEAK OVER PRESSURE	14	8			
#PEAK UNDER PRESSURE	14	8			
#PEAK OVER PRESSURE	15	9			
#PEAK UNDER PRESSURE	15	9			
#PEAK OVER PRESSURE	16	10			
#PEAK UNDER PRESSURE	16	10			
#PEAK OVER PRESSURE	17	11			
#PEAK UNDER PRESSURE	17	11			
#PEAK OVER PRESSURE	18	12			
#PEAK UNDER PRESSURE	18	12			

1324 190

*Proprietary information deleted

JENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 1

TEST NO. C DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (FSIA/DIV)
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20#	#13&14#			
#AVERAGE NEGATIVE PRESS.	#19&20#	#13&14#			

1324 191

proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 2

TEST NO. C DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 192

*Proprietary information deleted

QUENCHER TEST (N U S C O R P) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 1

TEST NO. C DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 193

Proprietary information deleted

TOUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 2

TEST NO. C DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (FSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7		1		
PEAK UNDER PRESSURE	7		1		
PEAK OVER PRESSURE	8		2		
PEAK UNDER PRESSURE	8		2		
PEAK OVER PRESSURE	9		3		
PEAK UNDER PRESSURE	9		3		
PEAK OVER PRESSURE	10		4		
PEAK UNDER PRESSURE	10		4		
PEAK OVER PRESSURE	11		5		
PEAK UNDER PRESSURE	11		5		
PEAK OVER PRESSURE	12		6		
PEAK UNDER PRESSURE	12		6		
PEAK OVER PRESSURE	13		7		
PEAK UNDER PRESSURE	13		7		
PEAK OVER PRESSURE	14		8		
PEAK UNDER PRESSURE	14		8		
PEAK OVER PRESSURE	15		9		
PEAK UNDER PRESSURE	15		9		
PEAK OVER PRESSURE	16		10		
PEAK UNDER PRESSURE	16		10		
PEAK OVER PRESSURE	17		11		
PEAK UNDER PRESSURE	17		11		
PEAK OVER PRESSURE	18		12		
PEAK UNDER PRESSURE	18		12		

1324 194

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 1

TEST NO. C DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

```

+-----+-----+-----+-----+-----+
#          #TEST #CH#.#NO.#OF #PRESSURE# SLOPE #
# FUNCTION # ID- # NO. # DIV. # (PSI)OR # PSIA/DIV#
#          # PT #     #     # + LABELED#
    
```

```

+-----+-----+-----+-----+-----+
#PRESSURE PULSE RISE TIME# 1 # 1 #
#STEAM FLOW                # 1 # 1 #
#STEAM INLET PRESSURE     # 1 # 1 #
#PEAK PIPE PRESSURE       # 2 # 3 #
#PEAK PIPE PRESSURE       # 3 # 5 #
#INLET STEAM TEMPERATURE # NA # NA #
#PIPE PRESSURE AT T=5 SEC# 2 # 3 #
#PIPE PRESSURE AT T=5 SEC# 3 # 5 #
#PEAK PRESSURE            # 4 # 7 #
#PEAK PRESSURE            # 5 # 9 #
#PEAK PRESSURE            # 6 # 11 #
#PRESSURE AT T=5 SEC.     # 5 # 9 #
#PRESSURE AT T=5 SEC.     # 6 # 11 #
#PEAK POSITIVE PRESSURE   # 19 # 13 #
#PEAK NEGATIVE PRESSURE   # 19 # 13 #
#PEAK POSITIVE PRESSURE   # 20 # 14 #
#PEAK NEGATIVE PRESSURE   # 20 # 14 #
#AVERAGE POSITIVE PRESS. #19&20#13&14#
#AVERAGE NEGATIVE PRESS. #19&20#13&14#
#
+-----+-----+-----+-----+-----+
    
```

1324 195

Proprietary information deleted

TQUENCHER TEST (N U S C O R P) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 2

TEST NO. C DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

*Proprietary information deleted

1324 196

LEUCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 1

TEST NO. C DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 197

proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/5/78 VISICORDER 2

TEST NO. C DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 198

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 1

TEST NO. 1 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 199

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/73 VISICORDER 2

TEST NO. 1 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1320 200

Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/13/78 VISICORDER 1

TEST NO. 1 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 201

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/13/78 VISICORIER 2

TEST NO. 1 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

#	#	#	#	#	#	
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+PRESSURE+ (PSI) OR + LABEL#	SLOPE FSIA/DIV
#	#FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#	#PEAK OVER PRESSURE	# 7	# 1	#	#	#
#	#PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#	#PEAK OVER PRESSURE	# 8	# 2	#	#	#
#	#PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#	#PEAK OVER PRESSURE	# 9	# 3	#	#	#
#	#PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#	#PEAK OVER PRESSURE	# 10	# 4	#	#	#
#	#PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#	#PEAK OVER PRESSURE	# 11	# 5	#	#	#
#	#PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#	#PEAK OVER PRESSURE	# 12	# 6	#	#	#
#	#PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#	#PEAK OVER PRESSURE	# 13	# 7	#	#	#
#	#PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#	#PEAK OVER PRESSURE	# 14	# 8	#	#	#
#	#PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#	#PEAK OVER PRESSURE	# 15	# 9	#	#	#
#	#PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#	#PEAK OVER PRESSURE	# 16	# 10	#	#	#
#	#PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#	#PEAK OVER PRESSURE	# 17	# 11	#	#	#
#	#PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#	#PEAK OVER PRESSURE	# 18	# 12	#	#	#
#	#PEAK UNDER PRESSURE	# 18	# 12	#	#	#

*Proprietary information deleted

1324 202

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/13/78 VISICORNER 1

TEST NO. 1 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (FSI) OR LABEL	SLOPE FSIA/DIV
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1324 203

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/13/78 VISICORDER 2

TEST NO. 1 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

		+ + + + +		
#	#	#	#	#
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.
#				
		+ + + + +		
#	FREQUENCY (CYCLES/SEC)	#	#	#
#	PEAK OVER PRESSURE	7	1	
#	PEAK UNDER PRESSURE	7	1	
#	PEAK OVER PRESSURE	8	2	
#	PEAK UNDER PRESSURE	8	2	
#	PEAK OVER PRESSURE	9	3	
#	PEAK UNDER PRESSURE	9	3	
#	PEAK OVER PRESSURE	10	4	
#	PEAK UNDER PRESSURE	10	4	
#	PEAK OVER PRESSURE	11	5	
#	PEAK UNDER PRESSURE	11	5	
#	PEAK OVER PRESSURE	12	6	
#	PEAK UNDER PRESSURE	12	6	
#	PEAK OVER PRESSURE	13	7	
#	PEAK UNDER PRESSURE	13	7	
#	PEAK OVER PRESSURE	14	8	
#	PEAK UNDER PRESSURE	14	8	
#	PEAK OVER PRESSURE	15	9	
#	PEAK UNDER PRESSURE	15	9	
#	PEAK OVER PRESSURE	16	10	
#	PEAK UNDER PRESSURE	16	10	
#	PEAK OVER PRESSURE	17	11	
#	PEAK UNDER PRESSURE	17	11	
#	PEAK OVER PRESSURE	18	12	
#	PEAK UNDER PRESSURE	18	12	
		+ + + + +		

*Proprietary information deleted

1324 204

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/13/78 VISICORDER 1

TEST NO. 1 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20	#13&14			
#AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 205

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/13/78 VISICORDER 2

TEST NO. 1 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	#	#	#	#	#	
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+PRESSURE+ (PSI) OR Labeled	SLOPE PSIA/DIV
#	#	#	#	#	#	#
#	FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#	#

*Proprietary information deleted

1324 206

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/13/78 VISICORNER 1

TEST NO. 2 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 207

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/13/78 VISICORDER 2

TEST NO. 2 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELLED
#		FT			
#					SLOPE PSIA/DIV
#	FREQUENCY (CYCLES/SEC)	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#

*Proprietary information deleted

1324 208

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 1

TEST NO. 2 DATA REDUCTION SHEET ANALYSIS BY

LIN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	#19&20	#13&14			
AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 209

Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 2

TEST NO. 2 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 210

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 1

TEST NO. 2 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 211

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 2

TEST NO. 2 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

*Proprietary information deleted

1324 212

T-QUENCHER TEST (N U S CORP (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 1

TEST NO. 2 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 213

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 2

TEST NO. 2 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 214

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 1

TEST NO. 3 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 215

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 2

TEST NO. 3 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 216

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 1

TEST NO. 3 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 217

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 2

TEST NO. 3 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 218

Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 1

TEST NO. 3 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1	1		
STEAM FLOW	1	1	1	1		
STEAM INLET PRESSURE	1	1	1	1		
PEAK PIPE PRESSURE	2	3	3	3		
PEAK PIPE PRESSURE	3	5	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5	5		
PEAK PRESSURE	4	7	7	7		
PEAK PRESSURE	5	9	9	9		
PEAK PRESSURE	6	11	11	11		
PRESSURE AT T=5 SEC.	5	9	9	9		
PRESSURE AT T=5 SEC.	6	11	11	11		
PEAK POSITIVE PRESSURE	19	13	13	13		
PEAK NEGATIVE PRESSURE	19	13	13	13		
PEAK POSITIVE PRESSURE	20	14	14	14		
PEAK NEGATIVE PRESSURE	20	14	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13	14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13	14		

1324 211

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 2

TEST NO. 3 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+PRESSURE+ (PSI) OR + Labeled +	SLOPE PSIA/DIV

FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

Proprietary information deleted

1324 220

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 1

TEST NO. 3 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID- P1	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 221

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/14/78 VISICORDER 2

TEST NO. 3 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	FUNCTION	#TEST ID- FT	#CHAN. NO.	#NO. OF DIV.	+PRESSURE+ SLOPE	
					+(PSI)OR +	PSIA/DIV#
					+ Labeled+	
#	FREQUENCY (CYCLES/SEC)	#	#	#		#
#	PEAK OVER PRESSURE	# 7	# 1	#		#
#	PEAK UNDER PRESSURE	# 7	# 1	#		#
#	PEAK OVER PRESSURE	# 8	# 2	#		#
#	PEAK UNDER PRESSURE	# 8	# 2	#		#
#	PEAK OVER PRESSURE	# 9	# 3	#		#
#	PEAK UNDER PRESSURE	# 9	# 3	#		#
#	PEAK OVER PRESSURE	# 10	# 4	#		#
#	PEAK UNDER PRESSURE	# 10	# 4	#		#
#	PEAK OVER PRESSURE	# 11	# 5	#		#
#	PEAK UNDER PRESSURE	# 11	# 5	#		#
#	PEAK OVER PRESSURE	# 12	# 6	#		#
#	PEAK UNDER PRESSURE	# 12	# 6	#		#
#	PEAK OVER PRESSURE	# 13	# 7	#		#
#	PEAK UNDER PRESSURE	# 13	# 7	#		#
#	PEAK OVER PRESSURE	# 14	# 8	#		#
#	PEAK UNDER PRESSURE	# 14	# 8	#		#
#	PEAK OVER PRESSURE	# 15	# 9	#		#
#	PEAK UNDER PRESSURE	# 15	# 9	#		#
#	PEAK OVER PRESSURE	# 16	# 10	#		#
#	PEAK UNDER PRESSURE	# 16	# 10	#		#
#	PEAK OVER PRESSURE	# 17	# 11	#		#
#	PEAK UNDER PRESSURE	# 17	# 11	#		#
#	PEAK OVER PRESSURE	# 18	# 12	#		#
#	PEAK UNDER PRESSURE	# 18	# 12	#		#

1324 222

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 SCALE)
 TEST DATE 6/15/78 VISICORIER 1

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324/223

T-QUENCHER TEST (N U S CORP) (1 / 4 SCALE)
 TEST DATE 6/15/78 VISICORDER 2

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7		1		
PEAK UNDER PRESSURE	7		1		
PEAK OVER PRESSURE	8		2		
PEAK UNDER PRESSURE	8		2		
PEAK OVER PRESSURE	9		3		
PEAK UNDER PRESSURE	9		3		
PEAK OVER PRESSURE	10		4		
PEAK UNDER PRESSURE	10		4		
PEAK OVER PRESSURE	11		5		
PEAK UNDER PRESSURE	11		5		
PEAK OVER PRESSURE	12		6		
PEAK UNDER PRESSURE	12		6		
PEAK OVER PRESSURE	13		7		
PEAK UNDER PRESSURE	13		7		
PEAK OVER PRESSURE	14		8		
PEAK UNDER PRESSURE	14		8		
PEAK OVER PRESSURE	15		9		
PEAK UNDER PRESSURE	15		9		
PEAK OVER PRESSURE	16		10		
PEAK UNDER PRESSURE	16		10		
PEAK OVER PRESSURE	17		11		
PEAK UNDER PRESSURE	17		11		
PEAK OVER PRESSURE	18		12		
PEAK UNDER PRESSURE	18		12		

1324 224

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/15/78 VISICORDER 1

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC	2	3			
#PIPE PRESSURE AT T=5 SEC	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20	#13&14			
#AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 225

T-QUENCHER TEST (N U S C O R P) (1 / 4 S C A L E)
 TEST DATE 6/15/78 VISICORDER 2

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/IV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 226

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/15/78 VISICORDER 1

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 227

Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/15/78 VISICORDER 2

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY
 RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

*Proprietary information deleted

1324 228

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/15/78 VISICORDER 1

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	#19&20	#13&14			
AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 229

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/15/78 VISICORDER 2

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-	CHAN. NO.	NO. OF DIV.	+PRESSURE+ SLOPE
#		PT			(PSI)OR + PSIA/DIV
#					+ LABELED+
#	#FREQUENCY (CYCLES/SEC)	#	#	#	#
#	#PEAK OVER PRESSURE	# 7	# 1	#	#
#	#PEAK UNDER PRESSURE	# 7	# 1	#	#
#	#PEAK OVER PRESSURE	# 8	# 2	#	#
#	#PEAK UNDER PRESSURE	# 8	# 2	#	#
#	#PEAK OVER PRESSURE	# 9	# 3	#	#
#	#PEAK UNDER PRESSURE	# 9	# 3	#	#
#	#PEAK OVER PRESSURE	# 10	# 4	#	#
#	#PEAK UNDER PRESSURE	# 10	# 4	#	#
#	#PEAK OVER PRESSURE	# 11	# 5	#	#
#	#PEAK UNDER PRESSURE	# 11	# 5	#	#
#	#PEAK OVER PRESSURE	# 12	# 6	#	#
#	#PEAK UNDER PRESSURE	# 12	# 6	#	#
#	#PEAK OVER PRESSURE	# 13	# 7	#	#
#	#PEAK UNDER PRESSURE	# 13	# 7	#	#
#	#PEAK OVER PRESSURE	# 14	# 8	#	#
#	#PEAK UNDER PRESSURE	# 14	# 8	#	#
#	#PEAK OVER PRESSURE	# 15	# 9	#	#
#	#PEAK UNDER PRESSURE	# 15	# 9	#	#
#	#PEAK OVER PRESSURE	# 16	# 10	#	#
#	#PEAK UNDER PRESSURE	# 16	# 10	#	#
#	#PEAK OVER PRESSURE	# 17	# 11	#	#
#	#PEAK UNDER PRESSURE	# 17	# 11	#	#
#	#PEAK OVER PRESSURE	# 18	# 12	#	#
#	#PEAK UNDER PRESSURE	# 18	# 12	#	#

1324 230

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 1

TEST NO. 4 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 231

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 2

TEST NO. 4

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 5

(CHART ANALYSIS)

#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
#	FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#	#

*Proprietary information deleted

1324 232

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 1

TEST NO. 4A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	FREQUENCY (FSI) OR Labeled	SLOPE PSIA/IV
FREQUENCY PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 233

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 2

TEST NO. 4A

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (FSI) OR LABELED	SLOPE FSI/ DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

*Proprietary information deleted

1324 234

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)

TEST DATE 6/19/78

VISICORIER 1

TEST NO. 4A

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 2

(CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PSI	OR Labeled	SLOPE
	PT					PSIA/DIV
PSI PULSE RISE TIME	1	1				
STEAM FLOW	1	1				
STEAM INLET PRESSURE	1	1				
PEAK PIPE PRESSURE	2	3				
PEAK PIPE PRESSURE	3	5				
INLET STEAM TEMPERATURE	NA	NA				
PIPE PRESSURE AT T=5 SEC	2	3				
PIPE PRESSURE AT T=5 SEC	3	5				
PEAK PRESSURE	4	7				
PEAK PRESSURE	5	9				
PEAK PRESSURE	6	11				
PRESSURE AT T=5 SEC.	5	9				
PRESSURE AT T=5 SEC.	6	11				
PEAK POSITIVE PRESSURE	19	13				
PEAK NEGATIVE PRESSURE	19	13				
PEAK POSITIVE PRESSURE	20	14				
PEAK NEGATIVE PRESSURE	20	14				
AVERAGE POSITIVE PRESS.	19&20	13&14				
AVERAGE NEGATIVE PRESS.	19&20	13&14				

1324 235

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 2

TEST NO. 4A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSI/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	9	2			
PEAK UNDER PRESSURE	9	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 236

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 1

TEST NO. 4A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 237

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 2

TEST NO. 4A

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 238

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 1

TEST NO. 4A DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1324 239

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/19/78 VISICORDER 2

TEST NO. 4A

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 4

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

*Proprietary information deleted

1324 240

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 1

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 241

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 2

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

*Proprietary information deleted

1329 242

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORIER 1

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

#	#TEST	#CHAN.	#NO. OF	#PRESSURE	#SLOPE
#	# ID-	# NO.	# DIV.	+(PSI)OR	+ PSIA/DIV#
#	# PT	#	#	+ LABELED+	#
#				+	+
#PRESSURE PULSE RISE TIME#	1	# 1	#		
#STEAM FLOW	# 1	# 1	#		
#STEAM INLET PRESSURE	# 1	# 1	#		
#PEAK PIPE PRESSURE	# 2	# 3	#		
#PEAK PIPE PRESSURE	# 3	# 5	#		
#INLET STEAM TEMPERATURE	# NA	# NA	#		
#PIPE PRESSURE AT T=5 SEC#	2	# 3	#		
#PIPE PRESSURE AT T=5 SEC#	3	# 5	#		
#PEAK PRESSURE	# 4	# 7	#		
#PEAK PRESSURE	# 5	# 9	#		
#PEAK PRESSURE	# 6	# 11	#		
#PRESSURE AT T=5 SEC.	# 5	# 9	#		
#PRESSURE AT T=5 SEC.	# 6	# 11	#		
#PEAK POSITIVE PRESSURE	# 19	# 13	#		
#PEAK NEGATIVE PRESSURE	# 19	# 13	#		
#PEAK POSITIVE PRESSURE	# 20	# 14	#		
#PEAK NEGATIVE PRESSURE	# 20	# 14	#		
#AVERAGE POSITIVE PRESS.	#19&20#13&14#				
#AVERAGE NEGATIVE PRESS.	#19&20#13&14#				

1324 243

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 2

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

*Proprietary information deleted

1324 244

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)

TEST DATE 6/21/78

VISICORDER 1

TEST NO. 5

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 245

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VILICORIER 2

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 246

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 1

TEST NO. 5

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 4

(CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1324 247

proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 2

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 248

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/30/78 VISICORDER 1

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 249

*Proprietary information deleted

T-QUENCHER TEST (N U S C O R P) (1 / 4 S C A L E)
 TEST DATE 6/30/78 VISICORDER 2

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL
#					SLOPE PSIA/DIV
#	FREQUENCY (CYCLES/SEC)	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#

1324 250

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/30/78 VISICORNER 1

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 6 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324-251

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/30/78 VISICORDER 2

TEST NO. 5 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 6 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
#FREQUENCY (CYCLES/SEC)					
#PEAK OVER PRESSURE	7	1			
#PEAK UNDER PRESSURE	7	1			
#PEAK OVER PRESSURE	8	2			
#PEAK UNDER PRESSURE	8	2			
#PEAK OVER PRESSURE	9	3			
#PEAK UNDER PRESSURE	9	3			
#PEAK OVER PRESSURE	10	4			
#PEAK UNDER PRESSURE	10	4			
#PEAK OVER PRESSURE	11	5			
#PEAK UNDER PRESSURE	11	5			
#PEAK OVER PRESSURE	12	6			
#PEAK UNDER PRESSURE	12	6			
#PEAK OVER PRESSURE	13	7			
#PEAK UNDER PRESSURE	13	7			
#PEAK OVER PRESSURE	14	8			
#PEAK UNDER PRESSURE	14	8			
#PEAK OVER PRESSURE	15	9			
#PEAK UNDER PRESSURE	15	9			
#PEAK OVER PRESSURE	16	10			
#PEAK UNDER PRESSURE	16	10			
#PEAK OVER PRESSURE	17	11			
#PEAK UNDER PRESSURE	17	11			
#PEAK OVER PRESSURE	18	12			
#PEAK UNDER PRESSURE	18	12			

1324/252

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/30/78 VISICORDER 1

TEST NO. 6

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 253

Proprietary information deleted

T-GUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/30/78 VISICORDER 2

TEST NO. 6

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 254

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 1

TEST NO. 6 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 255

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORIER 2

TEST NO. 6

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 2

(CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 256

*Proprietary information deleted

T-QUENCHER TEST (N U S J O R P) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 1

TEST NO. 6 DATA REDUCTION SHEET ANALYSIS BY
 RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 257

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 2

TEST NO. 6

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 258

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORDER 1

TEST NO. 6 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 259

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/21/78 VISICORIER 2

TEST NO. 6 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST II- PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 260

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/30/78 VISICORDER 1

TEST NO. 6 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20#	#13&14#			
#AVERAGE NEGATIVE PRESS.	#19&20#	#13&14#			

1324 261

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/30/78 VISICORDER 2

TEST NO. 6

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 5

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (FSI) OR LABEL	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 262

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 1

TEST NO. 7 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20#	#13&14#			
#AVERAGE NEGATIVE PRESS.	#19&20#	#13&14#			

1324 263

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 2

TEST NO. 7 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
#FREQUENCY (CYCLES/SEC)					
#PEAK OVER PRESSURE	7	1			
#PEAK UNDER PRESSURE	7	1			
#PEAK OVER PRESSURE	8	2			
#PEAK UNDER PRESSURE	8	2			
#PEAK OVER PRESSURE	9	3			
#PEAK UNDER PRESSURE	9	3			
#PEAK OVER PRESSURE	10	4			
#PEAK UNDER PRESSURE	10	4			
#PEAK OVER PRESSURE	11	5			
#PEAK UNDER PRESSURE	11	5			
#PEAK OVER PRESSURE	12	6			
#PEAK UNDER PRESSURE	12	6			
#PEAK OVER PRESSURE	13	7			
#PEAK UNDER PRESSURE	13	7			
#PEAK OVER PRESSURE	14	8			
#PEAK UNDER PRESSURE	14	8			
#PEAK OVER PRESSURE	15	9			
#PEAK UNDER PRESSURE	15	9			
#PEAK OVER PRESSURE	16	10			
#PEAK UNDER PRESSURE	16	10			
#PEAK OVER PRESSURE	17	11			
#PEAK UNDER PRESSURE	17	11			
#PEAK OVER PRESSURE	18	12			
#PEAK UNDER PRESSURE	18	12			

1324 264

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 1

TEST NO. 7 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PT	+	+	+	+	+	+
					PT	NO.	NO.	NO.	NO.	NO.
					+	+	+	+	+	+
					+	+	+	+	+	+
#PRESSURE PULSE RISE TIME#	1	#	1	#						
#STEAM FLOW	#	1	#	1	#					
#STEAM INLET PRESSURE	#	1	#	1	#					
#PEAK PIPE PRESSURE	#	2	#	3	#					
#PEAK PIPE PRESSURE	#	3	#	5	#					
#INLET STEAM TEMPERATURE	#	NA	#	NA	#					
#PIPE PRESSURE AT T=5 SEC#	2	#	3	#						
#PIPE PRESSURE AT T=5 SEC#	3	#	5	#						
#PEAK PRESSURE	#	4	#	7	#					
#PEAK PRESSURE	#	5	#	9	#					
#PEAK PRESSURE	#	6	#	11	#					
#PRESSURE AT T=5 SEC.	#	5	#	9	#					
#PRESSURE AT T=5 SEC.	#	6	#	11	#					
#PEAK POSITIVE PRESSURE	#	19	#	13	#					
#PEAK NEGATIVE PRESSURE	#	19	#	13	#					
#PEAK POSITIVE PRESSURE	#	20	#	14	#					
#PEAK NEGATIVE PRESSURE	#	20	#	14	#					
#AVERAGE POSITIVE PRESS.	#19&20#	#	13&14#	#						
#AVERAGE NEGATIVE PRESS.	#19&20#	#	13&14#	#						

1324 265

*Proprietary information deleted

T-QUENCHER TEST (N U S C ²) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 2

TEST NO. 7 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 266

Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 1

TEST NO. 7 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1324 267

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 2

TEST NO. 7 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 268

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 1

TEST NO. 7 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 269

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 2

TEST NO. 7 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+PRESSURE+ SLOPE (PSI)OR + PSIA/DIV + LABELED+
#	FREQUENCY (CYCLES/SEC)	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#

1324 270

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 SCALE)
 TEST DATE 6/28/78 VISICORDER 1

TEST NO. 8

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

```

+-----+-----+-----+-----+-----+
#          #          #          #          #          #
#  FUNCTION  # TEST # CHAN. # NO. OF # PRESSURE # SLOPE #
#            # ID-  # NO.   # DIV.   # (PSI)OR # PSIA/DIV#
#            # PT   #      #        # Labeled#      #
#            #          #          #          #          #
+-----+-----+-----+-----+-----+
#PRESSURE PULSE RISE TIME# 1 # 1 #
#STEAM FLOW                # 1 # 1 #
#STEAM INLET PRESSURE     # 1 # 1 #
#PEAK PIPE PRESSURE       # 2 # 3 #
#PEAK PIPE PRESSURE       # 3 # 5 #
#INLET STEAM TEMPERATURE # NA # NA #
#PIPE PRESSURE AT T=5 SEC# 2 # 3 #
#PIPE PRESSURE AT T=5 SEC# 3 # 5 #
#PEAK PRESSURE            # 4 # 7 #
#PEAK PRESSURE            # 5 # 9 #
#PEAK PRESSURE            # 6 # 11 #
#PRESSURE AT T=5 SEC.     # 5 # 9 #
#PRESSURE AT T=5 SEC.     # 6 # 11 #
#PEAK POSITIVE PRESSURE   # 19 # 13 #
#PEAK NEGATIVE PRESSURE   # 19 # 13 #
#PEAK POSITIVE PRESSURE   # 20 # 14 #
#PEAK NEGATIVE PRESSURE   # 20 # 14 #
#AVERAGE POSITIVE PRESS. #19&20#13&14#
#AVERAGE NEGATIVE PRESS. #19&20#13&14#
#
+-----+-----+-----+-----+-----+
    
```

1324 271

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 SCALE)

TEST DATE 6/28/78

VISICORDER 2

TEST NO. 8

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+PRESSURE+ SLOPE + (PSI)OR + PSIA/DIV#
#					+ Labeled+ #
#	FREQUENCY (CYCLES/SEC)	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#

1324 272

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 1

TEST NO. 8 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 273

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 2

TEST NO. 8 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSIA/DIV)
#FREQUENCY (CYCLES/SEC)					
#PEAK OVER PRESSURE	# 7	# 1	#	#	#
#PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#PEAK OVER PRESSURE	# 8	# 2	#	#	#
#PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#PEAK OVER PRESSURE	# 9	# 3	#	#	#
#PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#PEAK OVER PRESSURE	# 10	# 4	#	#	#
#PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#PEAK OVER PRESSURE	# 11	# 5	#	#	#
#PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#PEAK OVER PRESSURE	# 12	# 6	#	#	#
#PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#PEAK OVER PRESSURE	# 13	# 7	#	#	#
#PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#PEAK OVER PRESSURE	# 14	# 8	#	#	#
#PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#PEAK OVER PRESSURE	# 15	# 9	#	#	#
#PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#PEAK OVER PRESSURE	# 16	# 10	#	#	#
#PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#PEAK OVER PRESSURE	# 17	# 11	#	#	#
#PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#PEAK OVER PRESSURE	# 18	# 12	#	#	#
#PEAK UNDER PRESSURE	# 18	# 12	#	#	#

*Proprietary information deleted

1324 274

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 1

TEST NO. 8 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20	#13&14			
#AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 275

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 2

TEST NO. 8 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE (PSIA/DIV)
#FREQUENCY (CYCLES/SEC)					
#PEAK OVER PRESSURE	7	1			
#PEAK UNDER PRESSURE	7	1			
#PEAK OVER PRESSURE	8	2			
#PEAK UNDER PRESSURE	8	2			
#PEAK OVER PRESSURE	9	3			
#PEAK UNDER PRESSURE	9	3			
#PEAK OVER PRESSURE	10	4			
#PEAK UNDER PRESSURE	10	4			
#PEAK OVER PRESSURE	11	5			
#PEAK UNDER PRESSURE	11	5			
#PEAK OVER PRESSURE	12	6			
#PEAK UNDER PRESSURE	12	6			
#PEAK OVER PRESSURE	13	7			
#PEAK UNDER PRESSURE	13	7			
#PEAK OVER PRESSURE	14	8			
#PEAK UNDER PRESSURE	14	8			
#PEAK OVER PRESSURE	15	9			
#PEAK UNDER PRESSURE	15	9			
#PEAK OVER PRESSURE	16	10			
#PEAK UNDER PRESSURE	16	10			
#PEAK OVER PRESSURE	17	11			
#PEAK UNDER PRESSURE	17	11			
#PEAK OVER PRESSURE	18	12			
#PEAK UNDER PRESSURE	18	12			

1324 276

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 1

TEST NO. 8 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
----------	------------	-----------	-------------	-------------------------	----------------

PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 277

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 6/28/78 VISICORDER 2

TEST NO. 8 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

*Proprietary information deleted

1324 278

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/05/78 VISICORDER 1

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 279

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/05/78 VISICORDER 2

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (FSI) OR LABEL	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 280

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/05/78 VISICORDER 1

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1324 281

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/05/78 VISICORDER 2

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 282

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/05/78 VISICORDER 1

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#2M FT STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC	2	3			
#PIPE PRESSURE AT T=5 SEC	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20	#13&14			
#AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 283

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/05/78 VISICORDER 2

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 284

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/05/78 VISICORDER 1

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1324 285

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/05/78 VISICORDER 2

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 286

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/7/78 VISICORDER 1

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	NO. OF DIV.	PSI OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1			
STEAM FLOW	1	1	1			
STEAM INLET PRESSURE	1	1	1			
PEAK PIPE PRESSURE	2	3	3			
PEAK PIPE PRESSURE	3	5	5			
INLET STEAM TEMPERATURE	NA	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3	3			
PIPE PRESSURE AT T=5 SEC	3	5	5			
PEAK PRESSURE	4	7	7			
PEAK PRESSURE	5	9	9			
PEAK PRESSURE	6	11	11			
PRESSURE AT T=5 SEC.	5	9	9			
PRESSURE AT T=5 SEC.	6	11	11			
PEAK POSITIVE PRESSURE	19	13	13			
PEAK NEGATIVE PRESSURE	19	13	13			
PEAK POSITIVE PRESSURE	20	14	14			
PEAK NEGATIVE PRESSURE	20	14	14			
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14			

1324 287

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/7/78 VISICORDER 2

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 288

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/7/78 VISICORDER 1

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 6 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME#	1	1	1		
#STEAM FLOW	1	1	1		
#STEAM INLET PRESSURE	1	1	1		
#PEAK PIPE PRESSURE	2	3	3		
#PEAK PIPE PRESSURE	3	5	5		
#INLET STEAM TEMPERATURE	NA	NA	NA		
#PIPE PRESSURE AT T=5 SEC#	2	3	3		
#PIPE PRESSURE AT T=5 SEC#	3	5	5		
#PEAK PRESSURE	4	7	7		
#PEAK PRESSURE	5	9	9		
#PEAK PRESSURE	6	11	11		
#PRESSURE AT T=5 SEC.	5	9	9		
#PRESSURE AT T=5 SEC.	6	11	11		
#PEAK POSITIVE PRESSURE	19	13	13		
#PEAK NEGATIVE PRESSURE	19	13	13		
#PEAK POSITIVE PRESSURE	20	14	14		
#PEAK NEGATIVE PRESSURE	20	14	14		
#AVERAGE POSITIVE PRESS.	#19&20#	#13&14#	#13&14#		
#AVERAGE NEGATIVE PRESS.	#19&20#	#13&14#	#13&14#		

1324 289

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/7/78 VISICORDER 2

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 6 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+PRESSURE+ (PSI) OR LABEL	+SLOPE+ PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 290

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/7/78 VISICORDER 1

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 7 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 291

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/7/78 VISICORDER 2

TEST NO. 9 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 7 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 292

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/14/78 VISICORDER 1

TEST NO. 10

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	?	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 293

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/14/78 VISICORDER 2

TEST NO. 10

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 294

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/14/78 VISICORIER 1

TEST NO. 10 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 295

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/14/78 VISICORDER 2

TEST NO. 10 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSI/VDIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 296

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/14/78 VISICORDER 1

TEST NO. 10 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSI/DIV)
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20#	#13&14#			
#AVERAGE NEGATIVE PRESS.	#19&20#	#13&14#			

1324 297

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/14/78 VISICORDER 2

TEST NO. 10

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 298

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/14/78 VISICORDER 1

TEST NO. 10 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	#TEST #CHAN.#NO.OF	#PRESSURE+	SLOPE	#
# F U N C T I O N	# ID- # NO. # DIV.	+(PSI)OR +	PSIA/DIV#	#
#	# PT #	+ LABELED+		#
#	#	#	#	#
#PRESSURE PULSE RISE TIME#	1 # 1 #			#
#STEAM FLOW	# 1 # 1 #			#
#STEAM INLET PRESSURE	# 1 # 1 #			#
#PEAK PIPE PRESSURE	# 2 # 3 #			#
#PEAK PIPE PRESSURE	# 3 # 5 #			#
#INLET STEAM TEMPERATURE	# NA # NA #			#
#PIPE PRESSURE AT T=5 SEC#	2 # 3 #			#
#PIPE PRESSURE AT T=5 SEC#	3 # 5 #			#
#PEAK PRESSURE	# 4 # 7 #			#
#PEAK PRESSURE	# 5 # 9 #			#
#PEAK PRESSURE	# 6 # 11 #			#
#PRESSURE AT T=5 SEC.	# 5 # 9 #			#
#PRESSURE AT T=5 SEC.	# 6 # 11 #			#
#PEAK POSITIVE PRESSURE	# 19 # 13 #			#
#PEAK NEGATIVE PRESSURE	# 19 # 13 #			#
#PEAK POSITIVE PRESSURE	# 20 # 14 #			#
#PEAK NEGATIVE PRESSURE	# 20 # 14 #			#
#AVERAGE POSITIVE PRESS.	#19&20#13&14#			#
#AVERAGE NEGATIVE PRESS.	#19&20#13&14#			#
#				#

1324 299

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/14/78 VISICORDER 2

TEST NO. 10 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 300

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/10/78 VISICORDER 1

TEST NO. 11 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE FSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 301

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/10/78 VISICORDER 2

TEST NO. 11

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 302

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)

TEST DATE 7/10/78

VISICORDER 1

TEST NO. 11

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 4

(CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 303

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/10/78 VISICORDER 2

TEST NO. 11 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/IN)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 304

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/10/78 VISICORDER 1

TEST NO. 11 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 305

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/10/78 VISICORDER 2

TEST NO. 11 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 306

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/10/78 VISICORDER 1

TEST NO. 11 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 6 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSIA/DIV)
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20	#13&14			
#AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 307

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/10/78 VISICORDER 2

TEST NO. 11

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 6

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 308

*Proprietary information deleted

ENCHER TEST (N U S CORP) (1 / 4 SCALE)
 TEST DATE 7/18/78 VISICORDER 1

TEST NO. 12 DATA REDUCTION SHEET ANALYSIS BY

CHART NO. 1 (CHART ANALYSIS)

FUNCTION	#TEST # ID- # PT	#CHAN. # NO.	#NO.OF # DIV.	+PRESSURE+ (PSI)OR + LABELED+	+ SLOPE + + PSIA/DIV+
PRESSURE PULSE RISE TIME	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	#19&20	#13&14	#		
AVERAGE NEGATIVE PRESS.	#19&20	#13&14	#		

1324 309

proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 SCALE)
 TEST DATE 7/18/78 VISICORDER 2

TEST NO. 12 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHAR" ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 310

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/18/78 VISICORDER 1

TEST NO. 12 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST # 1- # PT	CHAN. # NO.	NO. OF # DIV.	PRESSURE + (PSI) OR + LABEL#	SLOPE + PSIA/DIV#
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	#19&20	#13&14			
AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 311

Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/18/78 VISICORDER 2

TEST NO. 12 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 312

*Proprietary information deleted

BLANCHER TEST (N U S CORP) (1 / 4 SCALE)
 TEST DATE 7/18/78 VISICORDER 1

TEST NO. 12 DATA REDUCTION SHEET ANALYSIS BY
 RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

*Narrow pike not used in averages.

1324 313

Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 SCALE)
 TEST DATE 7/18/78 VISICORDER 2

TEST NO. 12 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7		1		
PEAK UNDER PRESSURE	7		1		
PEAK OVER PRESSURE	8		2		
PEAK UNDER PRESSURE	8		2		
PEAK OVER PRESSURE	9		3		
PEAK UNDER PRESSURE	9		3		
PEAK OVER PRESSURE	10		4		
PEAK UNDER PRESSURE	10		4		
PEAK OVER PRESSURE	11		5		
PEAK UNDER PRESSURE	11		5		
PEAK OVER PRESSURE	12		6		
PEAK UNDER PRESSURE	12		6		
PEAK OVER PRESSURE	13		7		
PEAK UNDER PRESSURE	13		7		
PEAK OVER PRESSURE	14		8		
PEAK UNDER PRESSURE	14		8		
PEAK OVER PRESSURE	15		9		
PEAK UNDER PRESSURE	15		9		
PEAK OVER PRESSURE	16		10		
PEAK UNDER PRESSURE	16		10		
PEAK OVER PRESSURE	17		11		
PEAK UNDER PRESSURE	17		11		
PEAK OVER PRESSURE	18		12		
PEAK UNDER PRESSURE	18		12		

1324 314

Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/18/78 VISICORDER 1

TEST NO. 12 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	#	#	#	#	#
FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC	2	3			
#PIPE PRESSURE AT T=5 SEC	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20	#13&14			
#AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 315

Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
TEST DATE 7/18/78 VISICORDER 2

TEST NO. 12

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 4

(CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR FSIA/DIV
#		FT			LABEL
#	FREQUENCY (CYCLES/SEC)	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#

1324 316

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/21/78 VISICORDER 1

TEST NO. 13 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6				
PRESSURE AT T=5 SEC.	5				
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 317

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/21/78 VISICORDER 2

TEST NO. 13

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. :

(CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+ PRESSURE + SLOPE + (PSI) OR + PSIA/DIV + Labeled +
#	# FREQUENCY (CYCLES/SEC)	#	#	#	#
#	# PEAK OVER PRESSURE	# 7	# 1	#	#
#	# PEAK UNDER PRESSURE	# 7	# 1	#	#
#	# PEAK OVER PRESSURE	# 8	# 2	#	#
#	# PEAK UNDER PRESSURE	# 8	# 2	#	#
#	# PEAK OVER PRESSURE	# 9	# 3	#	#
#	# PEAK UNDER PRESSURE	# 9	# 3	#	#
#	# PEAK OVER PRESSURE	# 10	# 4	#	#
#	# PEAK UNDER PRESSURE	# 10	# 4	#	#
#	# PEAK OVER PRESSURE	# 11	# 5	#	#
#	# PEAK UNDER PRESSURE	# 11	# 5	#	#
#	# PEAK OVER PRESSURE	# 12	# 6	#	#
#	# PEAK UNDER PRESSURE	# 12	# 6	#	#
#	# PEAK OVER PRESSURE	# 13	# 7	#	#
#	# PEAK UNDER PRESSURE	# 13	# 7	#	#
#	# PEAK OVER PRESSURE	# 14	# 8	#	#
#	# PEAK UNDER PRESSURE	# 14	# 8	#	#
#	# PEAK OVER PRESSURE	# 15	# 9	#	#
#	# PEAK UNDER PRESSURE	# 15	# 9	#	#
#	# PEAK OVER PRESSURE	# 16	# 10	#	#
#	# PEAK UNDER PRESSURE	# 16	# 10	#	#
#	# PEAK OVER PRESSURE	# 17	# 11	#	#
#	# PEAK UNDER PRESSURE	# 17	# 11	#	#
#	# PEAK OVER PRESSURE	# 18	# 12	#	#
#	# PEAK UNDER PRESSURE	# 18	# 12	#	#

1324 318

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/21/78 VISICORDER 2

TEST NO. 13

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 2

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 320

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/21/78 VISICORDER 1

TEST NO. 13 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 321

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/21/78 VISICORDER 2

TEST NO. 13

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

#	#TEST	#CHAN.	#NO.OF	+PRESSURE+	SLOPE	#
#	ID-	# NO.	# DIV.	(PSI)OR	+ PSIA/DIV	#
#	PT	#	#	+ LABELED+		#
#						#
#	F U N C T I O N					
#	FREQUENCY (CYCLES/SEC)	#	#	#		#
#	PEAK OVER PRESSURE	# 7	# 1	#		#
#	PEAK UNDER PRESSURE	# 7	# 1	#		#
#	PEAK OVER PRESSURE	# 8	# 2	#		#
#	PEAK UNDER PRESSURE	# 8	# 2	#		#
#	PEAK OVER PRESSURE	# 9	# 3	#		#
#	PEAK UNDER PRESSURE	# 9	# 3	#		#
#	PEAK OVER PRESSURE	# 10	# 4	#		#
#	PEAK UNDER PRESSURE	# 10	# 4	#		#
#	PEAK OVER PRESSURE	# 11	# 5	#		#
#	PEAK UNDER PRESSURE	# 11	# 5	#		#
#	PEAK OVER PRESSURE	# 12	# 6	#		#
#	PEAK UNDER PRESSURE	# 12	# 6	#		#
#	PEAK OVER PRESSURE	# 13	# 7	#		#
#	PEAK UNDER PRESSURE	# 13	# 7	#		#
#	PEAK OVER PRESSURE	# 14	# 8	#		#
#	PEAK UNDER PRESSURE	# 14	# 8	#		#
#	PEAK OVER PRESSURE	# 15	# 9	#		#
#	PEAK UNDER PRESSURE	# 15	# 9	#		#
#	PEAK OVER PRESSURE	# 16	# 10	#		#
#	PEAK UNDER PRESSURE	# 16	# 10	#		#
#	PEAK OVER PRESSURE	# 17	# 11	#		#
#	PEAK UNDER PRESSURE	# 17	# 11	#		#
#	PEAK OVER PRESSURE	# 18	# 12	#		#
#	PEAK UNDER PRESSURE	# 18	# 12	#		#

1324 322

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/21/78 VISICORDER 1

TEST NO. 13 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

```

+-----+-----+-----+-----+-----+
#          #TEST #CHAN.#NO.OF #PRESSURE+ SLOPE #
#  FUNCTION # ID- # NO. # DIV.  +(PSI)OR + PSIA/DIV#
#          # PT  #   #   #   + LABEL#
#          #   #   #   #   +
+-----+-----+-----+-----+-----+
#PRESSURE PULSE RISE TIME# 1 # 1 #
#STEAM FLOW               # 1 # 1 #
#STEAM INLET PRESSURE    # 1 # 1 #
#PEAK PIPE PRESSURE      # 2 # 3 #
#PEAK PIPE PRESSURE      # 3 # 5 #
#INLET STEAM TEMPERATURE # NA # NA #
#PIPE PRESSURE AT T=5 SEC# 2 # 3 #
#PIPE PRESSURE AT T=5 SEC# 3 # 5 #
#PEAK PRESSURE           # 4 # 7 #
#PEAK PRESSURE           # 5 # 9 #
#PEAK PRESSURE           # 6 # 11 #
#PRESSURE AT T=5 SEC.    # 5 # 9 #
#PRESSURE AT T=5 SEC.    # 6 # 11 #
#PEAK POSITIVE PRESSURE  # 19 # 13 #
#PEAK NEGATIVE PRESSURE  # 19 # 13 #
#PEAK POSITIVE PRESSURE  # 20 # 14 #
#PEAK NEGATIVE PRESSURE  # 20 # 14 #
#AVERAGE POSITIVE PRESS.#19&20#13&14#
#AVERAGE NEGATIVE PRESS.#19&20#13&14#
#
+-----+-----+-----+-----+-----+
    
```

1324 323

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/21/78 VISICORDER 2

TEST NO. 13

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 4

(CHART ANALYSIS)

#	#	#	#	#	#	#	#	#	#
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	NO. OF DIV.	PSI OR Labeled	PSI/DIV	SLOPE	
#	FREQUENCY (CYCLES/SEC)	#	#	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#	#	#	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#	#	#	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#	#	#	#	#

*Proprietary information deleted

1324 324

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/25/78 VISICORDER 1

TEST NO. 14 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PSI OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 325

*Proprietary information deleted

T-QUENCHER TEST (N U S C O R P) (1 / 4 S C A L E)
 TEST DATE 7/25/78 VISICORDER 2

TEST NO. 14

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 326

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/25/78 VISICORDER 1

TEST NO. 14 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 327

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/25/78 VISICORDER 2

TEST NO. 14 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 328

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/25/78 VISICORDER 1

TEST NO. 14 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20	#13&14			
#AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 329

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/25/78 VISICORDER 2

TEST NO. 14 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 330

*Proprietary information deleted

F-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
TEST DATE 7/25/78 VISICORDER 1

TEST NO. 14

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 4

(CHART ANALYSIS)

```

#####
#                                         +           +
# TEST #CHAN.#NO.OF #PRESSURE# SLOPE #
# ID# NO.# DIV.# (PSI)OR # PSIA/DIV#
# PT# # # + LABEL# + #
#                                         +           +
#####
#PRESSURE PULSE RISE TIME# 1 # 1 #
#STEAM FLOW # 1 # 1 #
#STEAM INLET PRESSURE # 1 # 1 #
#PEAK PIPE PRESSURE # 2 # 3 #
#PEAK PIPE PRESSURE # 3 # 5 #
#INLET STEAM TEMPERATURE # NA # NA #
#PIPE PRESSURE AT T=5 SEC# 2 # 3 #
#PIPE PRESSURE AT T=5 SEC# 3 # 5 #
#PEAK PRESSURE # 4 # 7 #
#PEAK PRESSURE # 5 # 9 #
#PEAK PRESSURE # 6 # 11 #
#PRESSURE AT T=5 SEC. # 5 # 9 #
#PRESSURE AT T=5 SEC. # 6 # 11 #
#PEAK POSITIVE PRESSURE # 19 # 13 #
#PEAK NEGATIVE PRESSURE # 19 # 13 #
#PEAK POSITIVE PRESSURE # 20 # 14 #
#PEAK NEGATIVE PRESSURE # 20 # 14 #
#AVERAGE POSITIVE PRESS.#19&20#13&14#
#AVERAGE NEGATIVE PRESS.#19&20#13&14#
#
#####

```

1324 331

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/25/78 VISICORDER 2

TEST NO. 14 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	FREQUENCY (CYCLES/SEC)	PRESSURE (PSI) OR LABELED	SLOPE (PSI/DIV)
PEAK OVER PRESSURE	7	1				
PEAK UNDER PRESSURE	7	1				
PEAK OVER PRESSURE	8	2				
PEAK UNDER PRESSURE	8	2				
PEAK OVER PRESSURE	9	3				
PEAK UNDER PRESSURE	9	3				
PEAK OVER PRESSURE	10	4				
PEAK UNDER PRESSURE	10	4				
PEAK OVER PRESSURE	11	5				
PEAK UNDER PRESSURE	11	5				
PEAK OVER PRESSURE	12	6				
PEAK UNDER PRESSURE	12	6				
PEAK OVER PRESSURE	13	7				
PEAK UNDER PRESSURE	13	7				
PEAK OVER PRESSURE	14	8				
PEAK UNDER PRESSURE	14	8				
PEAK OVER PRESSURE	15	9				
PEAK UNDER PRESSURE	15	9				
PEAK OVER PRESSURE	16	10				
PEAK UNDER PRESSURE	16	10				
PEAK OVER PRESSURE	17	11				
PEAK UNDER PRESSURE	17	11				
PEAK OVER PRESSURE	18	12				
PEAK UNDER PRESSURE	18	12				

*Proprietary information deleted

1324 332

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/31/78 VISICORDER 1

TEST NO. 15 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 333

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/31/78 VISICORDER 2

TEST NO. 15 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324/534

*Proprietary information deleted

-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/31/78 VISICORDER 1

TEST NO. 15 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1324 335

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/31/78 VISICORDER 2

TEST NO. 15 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

#	#	#	#	#	#	#	#
#	FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV	#
#	#	#	#	#	#	#	#
#	FREQUENCY (CYCLES/SEC)	#	#	#	#	#	#
#	PEAK OVER PRESSURE	7	1	#	#	#	#
#	PEAK UNDER PRESSURE	7	1	#	#	#	#
#	PEAK OVER PRESSURE	8	2	#	#	#	#
#	PEAK UNDER PRESSURE	8	2	#	#	#	#
#	PEAK OVER PRESSURE	9	3	#	#	#	#
#	PEAK UNDER PRESSURE	9	3	#	#	#	#
#	PEAK OVER PRESSURE	10	4	#	#	#	#
#	PEAK UNDER PRESSURE	10	4	#	#	#	#
#	PEAK OVER PRESSURE	11	5	#	#	#	#
#	PEAK UNDER PRESSURE	11	5	#	#	#	#
#	PEAK OVER PRESSURE	12	6	#	#	#	#
#	PEAK UNDER PRESSURE	12	6	#	#	#	#
#	PEAK OVER PRESSURE	13	7	#	#	#	#
#	PEAK UNDER PRESSURE	13	7	#	#	#	#
#	PEAK OVER PRESSURE	14	8	#	#	#	#
#	PEAK UNDER PRESSURE	14	8	#	#	#	#
#	PEAK OVER PRESSURE	15	9	#	#	#	#
#	PEAK UNDER PRESSURE	15	9	#	#	#	#
#	PEAK OVER PRESSURE	16	10	#	#	#	#
#	PEAK UNDER PRESSURE	16	10	#	#	#	#
#	PEAK OVER PRESSURE	17	11	#	#	#	#
#	PEAK UNDER PRESSURE	17	11	#	#	#	#
#	PEAK OVER PRESSURE	18	12	#	#	#	#
#	PEAK UNDER PRESSURE	18	12	#	#	#	#

1324 336

*Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/31/78 VISICORDER 1

TEST NO. 15 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20#	#13&14#			
#AVERAGE NEGATIVE PRESS.	#19&20#	#13&14#			

1324 337

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/31/78 VISICORDER 2

TEST NO. 15 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-	CHAN. NO.	NO. OF DIV.	+PRESSURE+ SLOPE
#		FT			+(PSI)OR + PSIA/DIV
#					+ LABELED+
#					
#	FREQUENCY (CYCLES/SEC)	#	#	#	
#	PEAK OVER PRESSURE	# 7	# 1	#	
#	PEAK UNDER PRESSURE	# 7	# 1	#	
#	PEAK OVER PRESSURE	# 8	# 2	#	
#	PEAK UNDER PRESSURE	# 8	# 2	#	
#	PEAK OVER PRESSURE	# 9	# 3	#	
#	PEAK UNDER PRESSURE	# 9	# 3	#	
#	PEAK OVER PRESSURE	# 10	# 4	#	
#	PEAK UNDER PRESSURE	# 10	# 4	#	
#	PEAK OVER PRESSURE	# 11	# 5	#	
#	PEAK UNDER PRESSURE	# 11	# 5	#	
#	PEAK OVER PRESSURE	# 12	# 6	#	
#	PEAK UNDER PRESSURE	# 12	# 6	#	
#	PEAK OVER PRESSURE	# 13	# 7	#	
#	PEAK UNDER PRESSURE	# 13	# 7	#	
#	PEAK OVER PRESSURE	# 14	# 8	#	
#	PEAK UNDER PRESSURE	# 14	# 8	#	
#	PEAK OVER PRESSURE	# 15	# 9	#	
#	PEAK UNDER PRESSURE	# 15	# 9	#	
#	PEAK OVER PRESSURE	# 16	# 10	#	
#	PEAK UNDER PRESSURE	# 16	# 10	#	
#	PEAK OVER PRESSURE	# 17	# 11	#	
#	PEAK UNDER PRESSURE	# 17	# 11	#	
#	PEAK OVER PRESSURE	# 18	# 12	#	
#	PEAK UNDER PRESSURE	# 18	# 12	#	

1324 338

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 7/31/78 VISICORDER 1

TEST NO. 15 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE (PSIA/DIV)
#PRESSURE PULSE RISE TIME#	1	1			
#STEAM FLOW	1	1			
#STEAM INLET PRESSURE	1	1			
#PEAK PIPE PRESSURE	2	3			
#PEAK PIPE PRESSURE	3	5			
#INLET STEAM TEMPERATURE	NA	NA			
#PIPE PRESSURE AT T=5 SEC#	2	3			
#PIPE PRESSURE AT T=5 SEC#	3	5			
#PEAK PRESSURE	4	7			
#PEAK PRESSURE	5	9			
#PEAK PRESSURE	6	11			
#PRESSURE AT T=5 SEC.	5	9			
#PRESSURE AT T=5 SEC.	6	11			
#PEAK POSITIVE PRESSURE	19	13			
#PEAK NEGATIVE PRESSURE	19	13			
#PEAK POSITIVE PRESSURE	20	14			
#PEAK NEGATIVE PRESSURE	20	14			
#AVERAGE POSITIVE PRESS.	#19&20#	#13&14#			
#AVERAGE NEGATIVE PRESS.	#19&20#	#13&14#			

1324.339

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
TEST DATE 7/31/78 VISICORDER 2

TEST NO. 15

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 5

(CHART ANALYSIS)

	#TEST	#CHAN.	#NO.OF	+PRESSURE+	SLOPE	
F U N C T I O N	ID-	# NO.	# DIV.	(PSI)OR +	PSIA/DIV	
	FT			+ LABELED+		
#FREQUENCY (CYCLES/SEC)	#	#	#			
#PEAK OVER PRESSURE	# 7	# 1	#			
#PEAK UNDER PRESSURE	# 7	# 1	#			
#PEAK OVER PRESSURE	# 8	# 2	#			
#PEAK UNDER PRESSURE	# 8	# 2	#			
#PEAK OVER PRESSURE	# 9	# 3	#			
#PEAK UNDER PRESSURE	# 9	# 3	#			
#PEAK OVER PRESSURE	# 10	# 4	#			
#PEAK UNDER PRESSURE	# 10	# 4	#			
#PEAK OVER PRESSURE	# 11	# 5	#			
#PEAK UNDER PRESSURE	# 11	# 5	#			
#PEAK OVER PRESSURE	# 12	# 6	#			
#PEAK UNDER PRESSURE	# 12	# 6	#			
#PEAK OVER PRESSURE	# 13	# 7	#			
#PEAK UNDER PRESSURE	# 13	# 7	#			
#PEAK OVER PRESSURE	# 14	# 8	#			
#PEAK UNDER PRESSURE	# 14	# 8	#			
#PEAK OVER PRESSURE	# 15	# 9	#			
#PEAK UNDER PRESSURE	# 15	# 9	#			
#PEAK OVER PRESSURE	# 16	# 10	#			
#PEAK UNDER PRESSURE	# 16	# 10	#			
#PEAK OVER PRESSURE	# 17	# 11	#			
#PEAK UNDER PRESSURE	# 17	# 11	#			
#PEAK OVER PRESSURE	# 18	# 12	#			
#PEAK UNDER PRESSURE	# 18	# 12	#			

1324 340

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 1

TEST NO. 16 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

#	#FUNCTION	#TEST ID-PT	#CHAN. NO.	#NO. OF DIV.	#PRESSURE (PSI) OR LABEL	#SLOPE (PSIA/DIV)
#	#PRESSURE PULSE RISE TIME	# 1	# 1	#	#	#
#	#STEAM FLOW	# 1	# 1	#	#	#
#	#STEAM INLET PRESSURE	# 1	# 1	#	#	#
#	#PEAK PIPE PRESSURE	# 2	# 3	#	#	#
#	#PEAK PIPE PRESSURE	# 3	# 5	#	#	#
#	#INLET STEAM TEMPERATURE	# NA	# NA	#	#	#
#	#PIPE PRESSURE AT T=5 SEC	# 2	# 3	#	#	#
#	#PIPE PRESSURE AT T=5 SEC	# 3	# 5	#	#	#
#	#PEAK PRESSURE	# 4	# 7	#	#	#
#	#PEAK PRESSURE	# 5	# 9	#	#	#
#	#PEAK PRESSURE	# 6	# 11	#	#	#
#	#PRESSURE AT T=5 SEC.	# 5	# 9	#	#	#
#	#PRESSURE AT T=5 SEC.	# 6	# 11	#	#	#
#	#PEAK POSITIVE PRESSURE	# 19	# 13	#	#	#
#	#PEAK NEGATIVE PRESSURE	# 19	# 13	#	#	#
#	#PEAK POSITIVE PRESSURE	# 20	# 14	#	#	#
#	#PEAK NEGATIVE PRESSURE	# 20	# 14	#	#	#
#	#AVERAGE POSITIVE PRESS.	#19&20	#13&14	#	#	#
#	#AVERAGE NEGATIVE PRESS.	#19&20	#13&14	#	#	#

1324 341

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
TEST DATE 10/5/78 VISICORDER 2

TEST NO. 16

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 1

(CHART ANALYSIS)

#	#TEST	#CHAN.	#NO. OF	+PRESSURE+	SLOPE	#
#	ID-	# NO.	# DIV.	+(PSI)OR +	PSIA/DIV	#
#	PT	#	#	+	LABEL	#
+-----+-----+-----+-----+-----+-----+						
#	F U N C T I O N					
#	#FREQUENCY (CYCLES/SEC)	#	#	#		#
#	#PEAK OVER PRESSURE	# 7	# 1	#		#
#	#PEAK UNDER PRESSURE	# 7	# 1	#		#
#	#PEAK OVER PRESSURE	# 8	# 2	#		#
#	#PEAK UNDER PRESSURE	# 8	# 2	#		#
#	#PEAK OVER PRESSURE	# 9	# 3	#		#
#	#PEAK UNDER PRESSURE	# 9	# 3	#		#
#	#PEAK OVER PRESSURE	# 10	# 4	#		#
#	#PEAK UNDER PRESSURE	# 10	# 4	#		#
#	#PEAK OVER PRESSURE	# 11	# 5	#		#
#	#PEAK UNDER PRESSURE	# 11	# 5	#		#
#	#PEAK OVER PRESSURE	# 12	# 6	#		#
#	#PEAK UNDER PRESSURE	# 12	# 6	#		#
#	#PEAK OVER PRESSURE	# 13	# 7	#		#
#	#PEAK UNDER PRESSURE	# 13	# 7	#		#
#	#PEAK OVER PRESSURE	# 14	# 8	#		#
#	#PEAK UNDER PRESSURE	# 14	# 8	#		#
#	#PEAK OVER PRESSURE	# 15	# 9	#		#
#	#PEAK UNDER PRESSURE	# 15	# 9	#		#
#	#PEAK OVER PRESSURE	# 16	# 10	#		#
#	#PEAK UNDER PRESSURE	# 16	# 10	#		#
#	#PEAK OVER PRESSURE	# 17	# 11	#		#
#	#PEAK UNDER PRESSURE	# 17	# 11	#		#
#	#PEAK OVER PRESSURE	# 18	# 12	#		#
#	#PEAK UNDER PRESSURE	# 18	# 12	#		#
+-----+-----+-----+-----+-----+-----+						

*Proprietary information deleted

1324 342

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 1

TEST NO. 16

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 2

(CHART ANALYSIS)

#	#TEST	#CHAN.	#NO.OF	+PRESSURE+	SLOPE	#
#	FUNCTION	# ID#	# NO.	# DIV.	+(PSI)OR	+ PSIA/DIV#
#		# PT	#	#	+ LABEL#	#
#		#	#	#		#
#	#PRESSURE PULSE RISE TIME#	1	#	1	#	#
#	#STEAM FLOW	#	1	#	1	#
#	#STEAM INLET PRESSURE	#	1	#	1	#
#	#PEAK PIPE PRESSURE	#	2	#	3	#
#	#PEAK PIPE PRESSURE	#	3	#	5	#
#	#INLET STEAM TEMPERATURE	#	NA	#	NA	#
#	#PIPE PRESSURE AT T=5 SEC#	2	#	3	#	#
#	#PIPE PRESSURE AT T=5 SEC#	3	#	5	#	#
#	#PEAK PRESSURE	#	4	#	7	#
#	#PEAK PRESSURE	#	5	#	9	#
#	#PEAK PRESSURE	#	6	#	11	#
#	#PRESSURE AT T=5 SEC.	#	5	#	9	#
#	#PRESSURE AT T=5 SEC.	#	6	#	11	#
#	#PEAK POSITIVE PRESSURE	#	19	#	13	#
#	#PEAK NEGATIVE PRESSURE	#	19	#	13	#
#	#PEAK POSITIVE PRESSURE	#	20	#	14	#
#	#PEAK NEGATIVE PRESSURE	#	20	#	14	#
#	#AVERAGE POSITIVE PRESS.	#	19&20	#	13&14	#
#	#AVERAGE NEGATIVE PRESS.	#	19&20	#	13&14	#
#	#	#	#	#	#	#

1324 343

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 2

TEST NO. 16 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR PSIA/DIV
#		FT			LABEL
#	FREQUENCY (CYCLES/SEC)	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#

1320 344

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 1

TEST NO. 16 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

#	FUNCTION	TEST ID	CH. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
#	#PRESSURE PULSE RISE TIME	1	1	#	#	#
#	#STEAM FLOW	1	1	#	#	#
#	#STEAM INLET PRESSURE	1	1	#	#	#
#	#PEAK PIPE PRESSURE	2	3	#	#	#
#	#PEAK PIPE PRESSURE	3	5	#	#	#
#	#INLET STEAM TEMPERATURE	NA	NA	#	#	#
#	#PIPE PRESSURE AT T=5 SEC	2	3	#	#	#
#	#PIPE PRESSURE AT T=5 SEC	3	5	#	#	#
#	#PEAK PRESSURE	4	7	#	#	#
#	#PEAK PRESSURE	5	9	#	#	#
#	#PEAK PRESSURE	6	11	#	#	#
#	#PRESSURE AT T=5 SEC.	5	9	#	#	#
#	#PRESSURE AT T=5 SEC.	6	11	#	#	#
#	#PEAK POSITIVE PRESSURE	19	13	#	#	#
#	#PEAK NEGATIVE PRESSURE	19	13	#	#	#
#	#PEAK POSITIVE PRESSURE	20	14	#	#	#
#	#PEAK NEGATIVE PRESSURE	20	14	#	#	#
#	#AVERAGE POSITIVE PRESS.	#19&20	#13&14	#	#	#
#	#AVERAGE NEGATIVE PRESS.	#19&20	#13&14	#	#	#

1324 345

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 2

TEST NO. 16

DATA REDUCTION SHEET

ANALYSIS BY

RUN NO. 3

(CHART ANALYSIS)

#	#	#	#	#	#	
#	FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	+PRESSURE+(PSI)OR LABEL#	SLOPE PSIA/DIV
#	#FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#	#PEAK OVER PRESSURE	# 7	# 1	#	#	#
#	#PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#	#PEAK OVER PRESSURE	# 8	# 2	#	#	#
#	#PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#	#PEAK OVER PRESSURE	# 9	# 3	#	#	#
#	#PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#	#PEAK OVER PRESSURE	# 10	# 4	#	#	#
#	#PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#	#PEAK OVER PRESSURE	# 11	# 5	#	#	#
#	#PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#	#PEAK OVER PRESSURE	# 12	# 6	#	#	#
#	#PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#	#PEAK OVER PRESSURE	# 13	# 7	#	#	#
#	#PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#	#PEAK OVER PRESSURE	# 14	# 8	#	#	#
#	#PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#	#PEAK OVER PRESSURE	# 15	# 9	#	#	#
#	#PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#	#PEAK OVER PRESSURE	# 16	# 10	#	#	#
#	#PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#	#PEAK OVER PRESSURE	# 17	# 11	#	#	#
#	#PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#	#PEAK OVER PRESSURE	# 18	# 12	#	#	#
#	#PEAK UNDER PRESSURE	# 18	# 12	#	#	#

1324 346

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 1

TEST NO. 16 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	FUNCTION	#TEST ID-PT	#CHAN. NO.	#NO. OF DIV.	+PRESSURE+ (PSI) OR LABEL	+ SLOPE + PSIA/DIV	#
#	#PRESSURE PULSE RISE TIME	# 1	# 1	#	#	#	#
#	#STEAM FLOW	# 1	# 1	#	#	#	#
#	#STEAM INLET PRESSURE	# 1	# 1	#	#	#	#
#	#PEAK PIPE PRESSURE	# 2	# 3	#	#	#	#
#	#PEAK PIPE PRESSURE	# 3	# 5	#	#	#	#
#	#INLET STEAM TEMPERATURE	# NA	# NA	#	#	#	#
#	#PIPE PRESSURE AT T=5 SEC	# 2	# 3	#	#	#	#
#	#PIPE PRESSURE AT T=5 SEC	# 3	# 5	#	#	#	#
#	#PEAK PRESSURE	# 4	# 7	#	#	#	#
#	#PEAK PRESSURE	# 5	# 9	#	#	#	#
#	#PEAK PRESSURE	# 6	# 11	#	#	#	#
#	#PRESSURE AT T=5 SEC.	# 5	# 9	#	#	#	#
#	#PRESSURE AT T=5 SEC.	# 6	# 11	#	#	#	#
#	#PEAK POSITIVE PRESSURE	# 19	# 13	#	#	#	#
#	#PEAK NEGATIVE PRESSURE	# 19	# 13	#	#	#	#
#	#PEAK POSITIVE PRESSURE	# 20	# 14	#	#	#	#
#	#PEAK NEGATIVE PRESSURE	# 20	# 14	#	#	#	#
#	#AVERAGE POSITIVE PRESS.	# 19&20	# 13&14	#	#	#	#
#	#AVERAGE NEGATIVE PRESS.	# 19&20	# 13&14	#	#	#	#

1324 347

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 2

TEST NO. 16 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	#	#	#	#	#
#	FUNCTION	TEST ID-	CHAN. NO.	NO. OF DIV.	+PRESSURE+ SLOPE + (PSI)OR + PSIA/DIV#
#		PT			+ LABELED+ #
#	#FREQUENCY (CYCLES/SEC)	#	#	#	#
#	#PEAK OVER PRESSURE	# 7	# 1	#	#
#	#PEAK UNDER PRESSURE	# 7	# 1	#	#
#	#PEAK OVER PRESSURE	# 8	# 2	#	#
#	#PEAK UNDER PRESSURE	# 8	# 2	#	#
#	#PEAK OVER PRESSURE	# 9	# 3	#	#
#	#PEAK UNDER PRESSURE	# 9	# 3	#	#
#	#PEAK OVER PRESSURE	# 10	# 4	#	#
#	#PEAK UNDER PRESSURE	# 10	# 4	#	#
#	#PEAK OVER PRESSURE	# 11	# 5	#	#
#	#PEAK UNDER PRESSURE	# 11	# 5	#	#
#	#PEAK OVER PRESSURE	# 12	# 6	#	#
#	#PEAK UNDER PRESSURE	# 12	# 6	#	#
#	#PEAK OVER PRESSURE	# 13	# 7	#	#
#	#PEAK UNDER PRESSURE	# 13	# 7	#	#
#	#PEAK OVER PRESSURE	# 14	# 8	#	#
#	#PEAK UNDER PRESSURE	# 14	# 8	#	#
#	#PEAK OVER PRESSURE	# 15	# 9	#	#
#	#PEAK UNDER PRESSURE	# 15	# 9	#	#
#	#PEAK OVER PRESSURE	# 16	# 10	#	#
#	#PEAK UNDER PRESSURE	# 16	# 10	#	#
#	#PEAK OVER PRESSURE	# 17	# 11	#	#
#	#PEAK UNDER PRESSURE	# 17	# 11	#	#
#	#PEAK OVER PRESSURE	# 18	# 12	#	#
#	#PEAK UNDER PRESSURE	# 18	# 12	#	#

*Proprietary information deleted

1324 348

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 1

TEST NO. 16 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

```

+-----+-----+
#          #TEST #CHAN.#NO.OF +PRESSURE+ SLOPE #
# FUNCTION # ID- # NO. # DIV. + (PSI)OR + PSIA/DIV#
#          # PT #     #     + LABELD+     #
+-----+-----+
    
```

```

#PRESSURE PULSE RISE TIME# 1 # 1 #
#STEAM FLOW # 1 # 1 #
#STEAM INLET PRESSURE # 1 # 1 #
#PEAK PIPE PRESSURE # 2 # 3 #
#PEAK PIPE PRESSURE # 3 # 5 #
#INLET STEAM TEMPERATURE # NA # NA #
#PIPE PRESSURE AT T=5 SEC# 2 # 3 #
#PIPE PRESSURE AT T=5 SEC# 3 # 5 #
#PEAK PRESSURE # 4 # 7 #
#PEAK PRESSURE # 5 # 9 #
#PEAK PRESSURE # 6 # 11 #
#PRESSURE AT T=5 SEC. # 5 # 9 #
#PRESSURE AT T=5 SEC. # 6 # 11 #
#PEAK POSITIVE PRESSURE # 19 # 13 #
#PEAK NEGATIVE PRESSURE # 19 # 13 #
#PEAK POSITIVE PRESSURE # 20 # 14 #
#PEAK NEGATIVE PRESSURE # 20 # 14 #
#AVERAGE POSITIVE PRESS. #19&20#13&14#
#AVERAGE NEGATIVE PRESS. #19&20#13&14#
#
    
```

1324 349

*Proprietary information deleted

T-QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/5/78 VISICORDER 2

TEST NO. 16 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

#	#TEST	#CHAN.	#NO. OF	+PRESSURE+	SLOPE	#
#	ID-	# NO.	# DIV.	+(PSI)OR	+ PSIA/DIV	#
#	PT	#	#	+ LABELED+		#
#						
#	F U N C T I O N					
#						
#	FREQUENCY (CYCLES/SEC)	#	#			#
#	PEAK OVER PRESSURE	# 7	# 1			#
#	PEAK UNDER PRESSURE	# 7	# 1			#
#	PEAK OVER PRESSURE	# 8	# 2			#
#	PEAK UNDER PRESSURE	# 8	# 2			#
#	PEAK OVER PRESSURE	# 9	# 3			#
#	PEAK UNDER PRESSURE	# 9	# 3			#
#	PEAK OVER PRESSURE	# 10	# 4			#
#	PEAK UNDER PRESSURE	# 10	# 4			#
#	PEAK OVER PRESSURE	# 11	# 5			#
#	PEAK UNDER PRESSURE	# 11	# 5			#
#	PEAK OVER PRESSURE	# 12	# 6			#
#	PEAK UNDER PRESSURE	# 12	# 6			#
#	PEAK OVER PRESSURE	# 13	# 7			#
#	PEAK UNDER PRESSURE	# 13	# 7			#
#	PEAK OVER PRESSURE	# 14	# 8			#
#	PEAK UNDER PRESSURE	# 14	# 8			#
#	PEAK OVER PRESSURE	# 15	# 9			#
#	PEAK UNDER PRESSURE	# 15	# 9			#
#	PEAK OVER PRESSURE	# 16	# 10			#
#	PEAK UNDER PRESSURE	# 16	# 10			#
#	PEAK OVER PRESSURE	# 17	# 11			#
#	PEAK UNDER PRESSURE	# 17	# 11			#
#	PEAK OVER PRESSURE	# 18	# 12			#
#	PEAK UNDER PRESSURE	# 18	# 12			#

*Proprietary information deleted

1324 350

ANCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 1

TEST NO. 17 DATA REDUCTION SHEET ANALYST'S BY

CHART NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	17			
PEAK NEGATIVE PRESSURE	19				
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 351

proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 2

TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	PRESSURE (FSI) OR LABEL	SLOPE (PSIA/DIV)
#FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#PEAK OVER PRESSURE	# 7	# 1	#	#	#
#PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#PEAK OVER PRESSURE	# 8	# 2	#	#	#
#PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#PEAK OVER PRESSURE	# 9	# 3	#	#	#
#PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#PEAK OVER PRESSURE	# 10	# 4	#	#	#
#PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#PEAK OVER PRESSURE	# 11	# 5	#	#	#
#PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#PEAK OVER PRESSURE	# 12	# 6	#	#	#
#PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#PEAK OVER PRESSURE	# 13	# 7	#	#	#
#PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#PEAK OVER PRESSURE	# 14	# 8	#	#	#
#PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#PEAK OVER PRESSURE	# 15	# 9	#	#	#
#PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#PEAK OVER PRESSURE	# 16	# 10	#	#	#
#PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#PEAK OVER PRESSURE	# 17	# 11	#	#	#
#PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#PEAK OVER PRESSURE	# 18	# 12	#	#	#
#PEAK UNDER PRESSURE	# 18	# 12	#	#	#

1324 352

*Proprietary information deleted

ENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 1

TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY
 RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 353

Proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 2

TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 354

*Proprietary information deleted

ANCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 1

TEST NO. 17

DATA REDUCTION SHEET

ANALYSIS BY

CHART NO. 3

(CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	#19&20	#13&14			
AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1324 355

proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 2

TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (FSI/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1324 356

*Proprietary information deleted

ANCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 1

TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY

CHART NO. 4 (CHART ANALYSIS)

FUNCTION	TEST	CHAN.	NO. OF	PRESSURE	SLOPE
	ID-	NO.	DIV.	(PSI) OR	PSIA/DIV
	FT			LABEL	
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 357

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 2

TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

#	FUNCTION	#TEST ID- FT	#CHAN. NO.	#NO. OF DIV.	+ PRESSURE + SLOPE +	
					(PSI) OR Labeled	PSIA/DIV
#	FREQUENCY (CYCLES/SEC)	#	#	#		
#	PEAK OVER PRESSURE	# 7	# 1	#		
#	PEAK UNDER PRESSURE	# 7	# 1	#		
#	PEAK OVER PRESSURE	# 8	# 2	#		
#	PEAK UNDER PRESSURE	# 8	# 2	#		
#	PEAK OVER PRESSURE	# 9	# 3	#		
#	PEAK UNDER PRESSURE	# 9	# 3	#		
#	PEAK OVER PRESSURE	# 10	# 4	#		
#	PEAK UNDER PRESSURE	# 10	# 4	#		
#	PEAK OVER PRESSURE	# 11	# 5	#		
#	PEAK UNDER PRESSURE	# 11	# 5	#		
#	PEAK OVER PRESSURE	# 12	# 6	#		
#	PEAK UNDER PRESSURE	# 12	# 6	#		
#	PEAK OVER PRESSURE	# 13	# 7	#		
#	PEAK UNDER PRESSURE	# 13	# 7	#		
#	PEAK OVER PRESSURE	# 14	# 8	#		
#	PEAK UNDER PRESSURE	# 14	# 8	#		
#	PEAK OVER PRESSURE	# 15	# 9	#		
#	PEAK UNDER PRESSURE	# 15	# 9	#		
#	PEAK OVER PRESSURE	# 16	# 10	#		
#	PEAK UNDER PRESSURE	# 16	# 10	#		
#	PEAK OVER PRESSURE	# 17	# 11	#		
#	PEAK UNDER PRESSURE	# 17	# 11	#		
#	PEAK OVER PRESSURE	# 18	# 12	#		
#	PEAK UNDER PRESSURE	# 18	# 12	#		

1324 358

Proprietary information deleted

ANCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 1

TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY

CHART NO. 5 (CHART ANALYSIS)

FUNCTION	TEST	CHAN.	NO. OF	PRESSURE	SLOPE
	ID-	NO.	DIV.	(PSI) OR	PSIA/DIV
	PT			LABEL	
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1324 359

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/6/78 VISICORDER 2

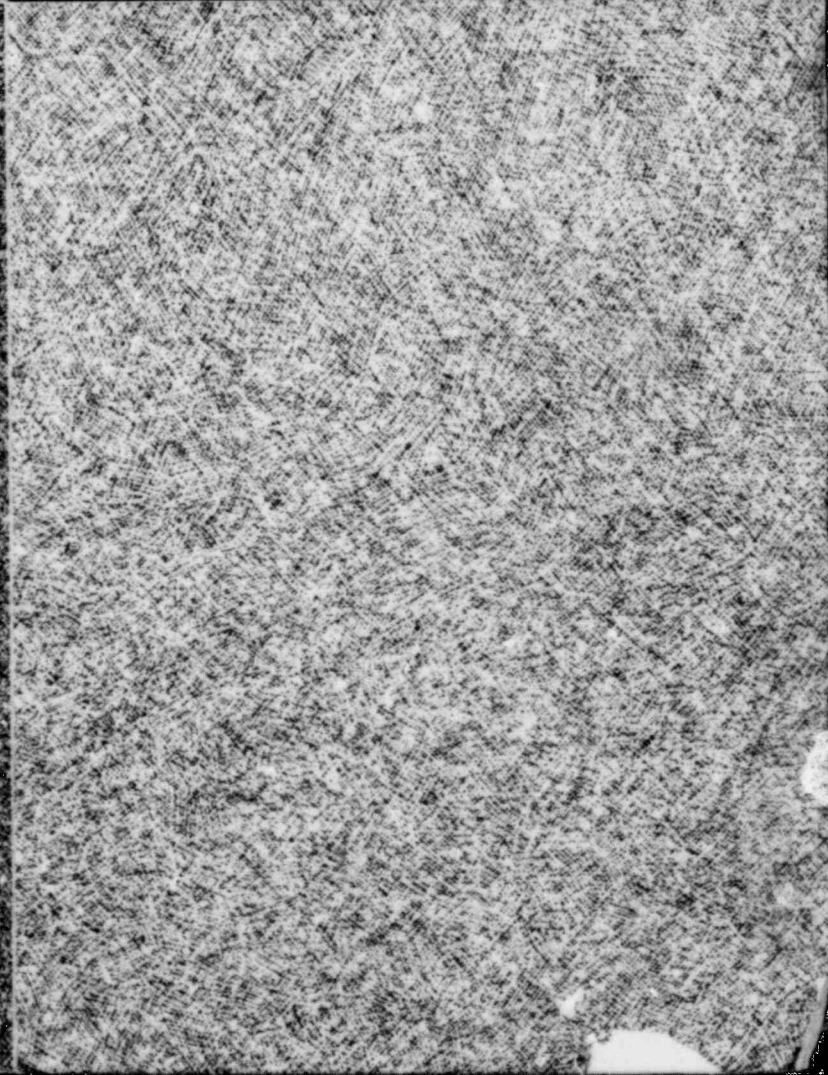
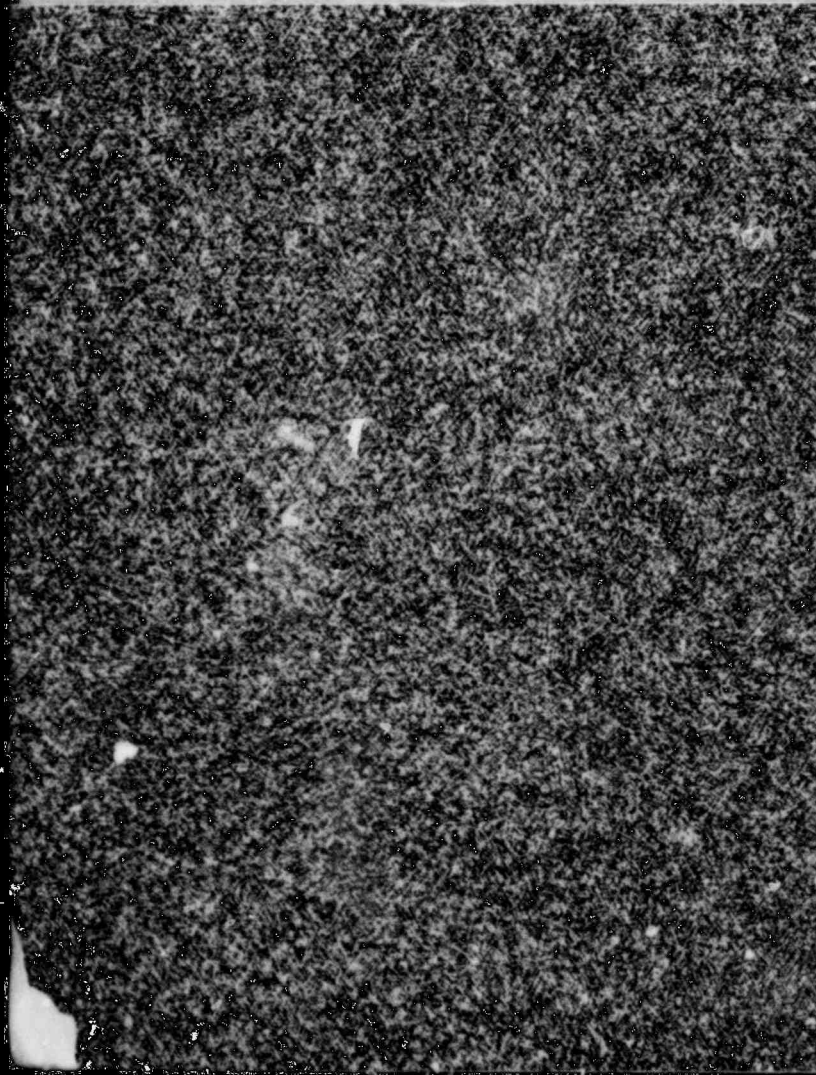
TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY

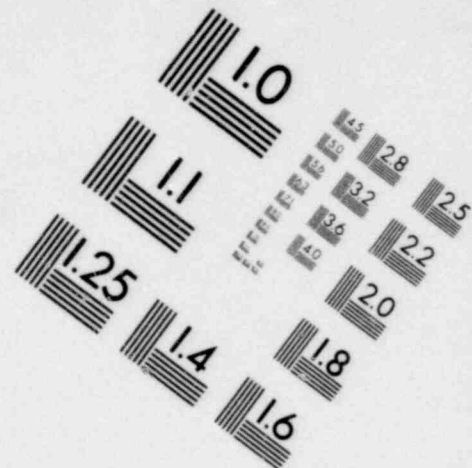
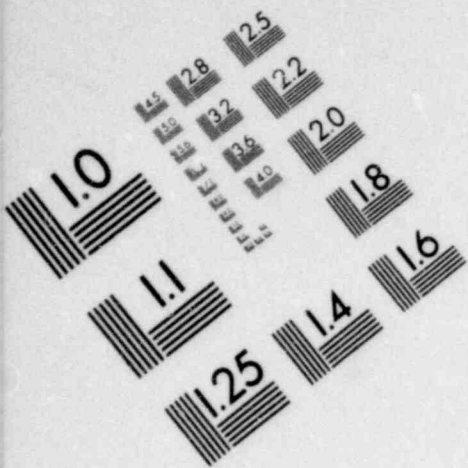
RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

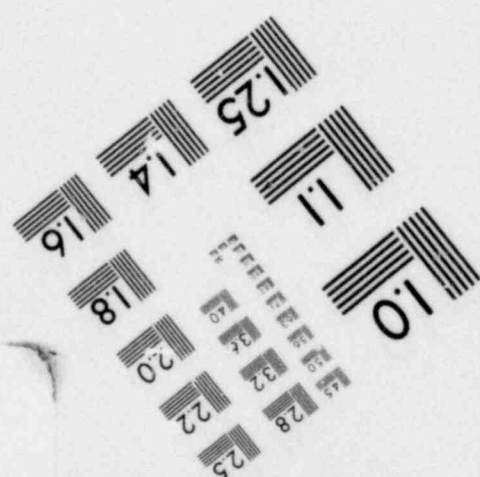
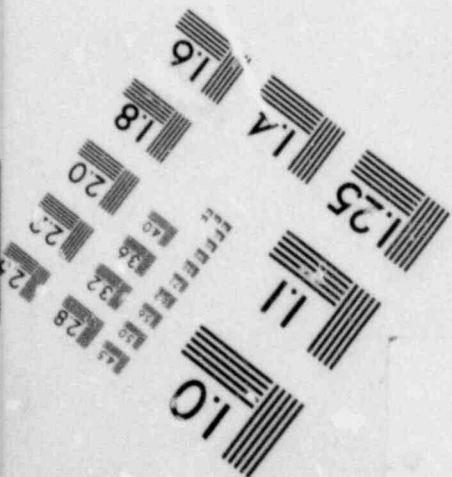
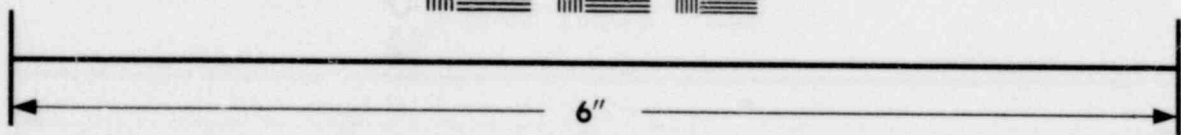
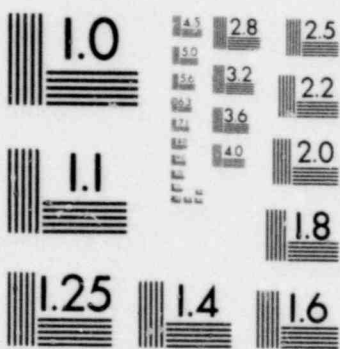
1324 360

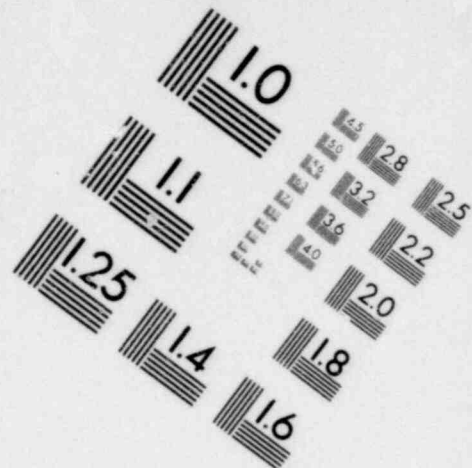
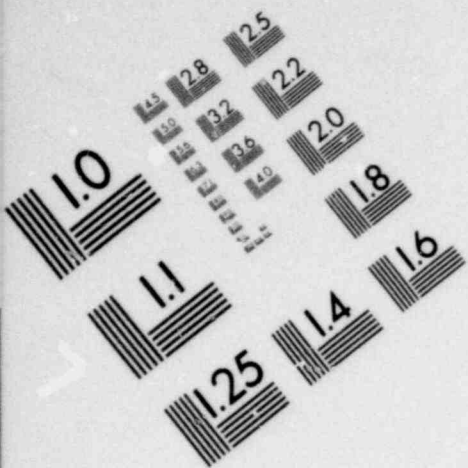
*Proprietary information deleted



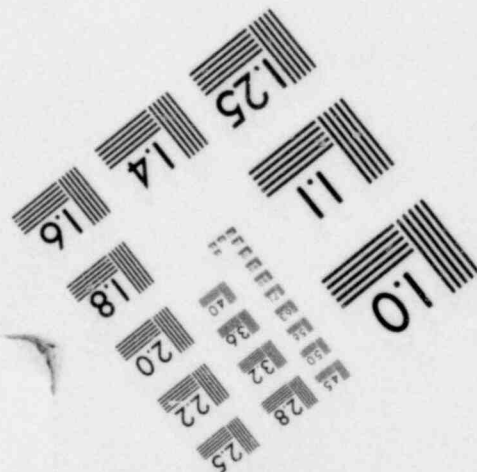
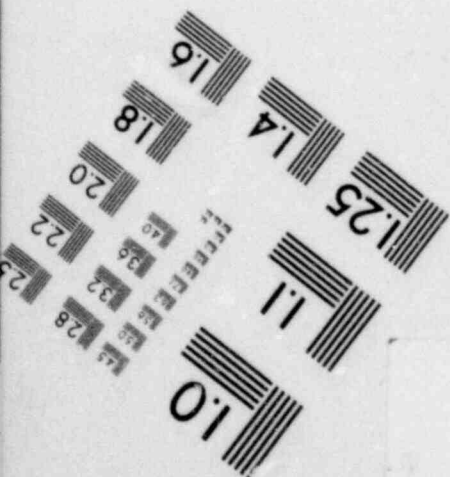
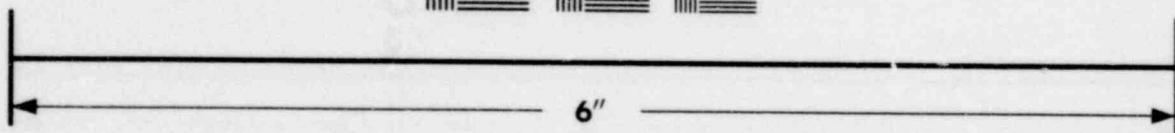
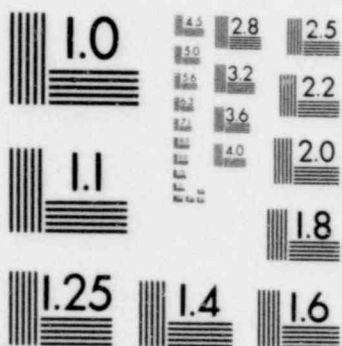


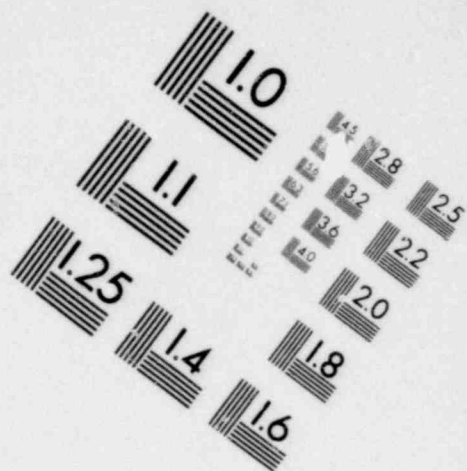
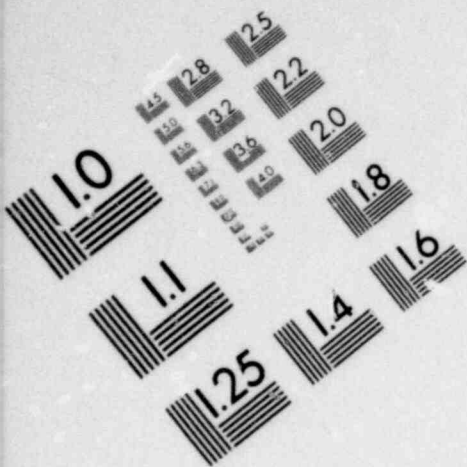
**IMAGE EVALUATION
TEST TARGET (MT-3)**



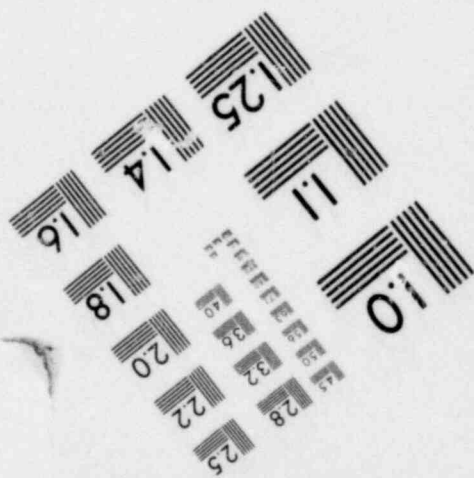
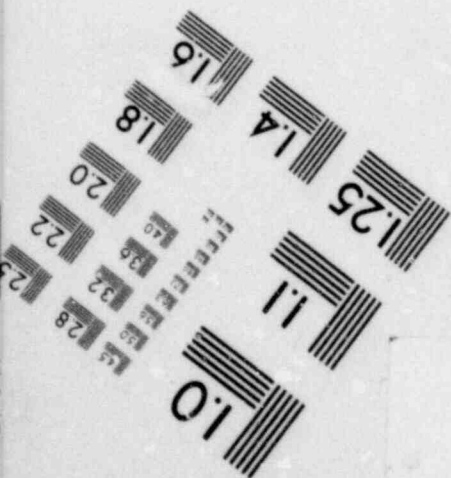
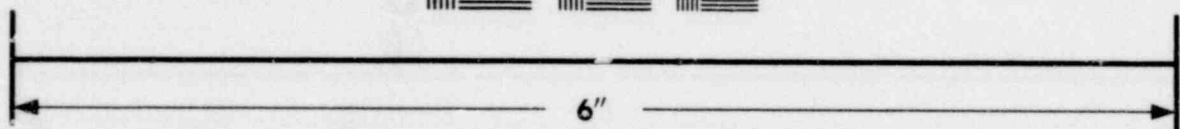
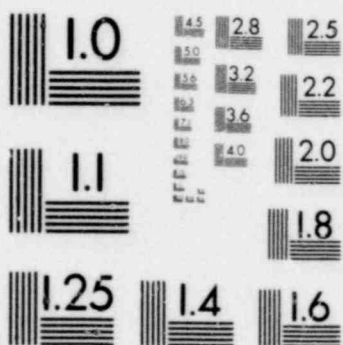


**IMAGE EVALUATION
TEST TARGET (MT-3)**





**IMAGE EVALUATION
TEST TARGET (MT-3)**



TQUENCHER TEST (N U S C O R P) (1 / 4 S C A L E)
 TEST DATE 10/12/78 VISICORDER 1

TEST NO. 18 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

#	FUNCTION	#TEST ID-PT	#CHAN. NO.	#NO. OF DIV.	#	
					+PRESSURE+ (PSI) OR Labeled+	+SLOPE+ PSIA/DIV#
#	#PRESSURE PULSE RISE TIME#	1	#	1	#	
#	#STEAM FLOW	#	1	#	1	#
#	#STEAM INLET PRESSURE	#	1	#	1	#
#	#PEAK PIPE PRESSURE	#	2	#	3	#
#	#PEAK PIPE PRESSURE	#	3	#	5	#
#	#INLET STEAM TEMPERATURE	#	NA	#	NA	#
#	#PIPE PRESSURE AT T=5 SEC#	2	#	3	#	
#	#PIPE PRESSURE AT T=5 SEC#	3	#	5	#	
#	#PEAK PRESSURE	#	4	#	7	#
#	#PEAK PRESSURE	#	5	#	9	#>
#	#PEAK PRESSURE	#	6	#	11	#
#	#PRESSURE AT T=5 SEC.	#	5	#	9	#
#	#PRESSURE AT T=5 SEC.	#	6	#	11	#
#	#PEAK POSITIVE PRESSURE	#	19	#	13	#
#	#PEAK NEGATIVE PRESSURE	#	19	#	13	#
#	#PEAK POSITIVE PRESSURE	#	20	#	14	#
#	#PEAK NEGATIVE PRESSURE	#	20	#	14	#
#	#AVERAGE POSITIVE PRESS.	#19&20#	#	13&14#	#	
#	#AVERAGE NEGATIVE PRESS.	#19&20#	#	13&14#	#	

*Proprietary information deleted

1325 001

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/12/78 VISICORDER 2

TEST NO. 18 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

#	#	#	#	#	#	
#	FUNCTION	TEST ID- FT	CHAN. NO.	NO. OF DIV.	+ PRESSURE+ (FSI) OR + LABEL#	+ SLOPE + FSI/DIV
#	#	#	#	#	#	#
#	FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#	PEAK OVER PRESSURE	# 7	# 1	#	#	#
#	PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#	PEAK OVER PRESSURE	# 8	# 2	#	#	#
#	PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#	PEAK OVER PRESSURE	# 9	# 3	#	#	#
#	PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#	PEAK OVER PRESSURE	# 10	# 4	#	#	#
#	PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#	PEAK OVER PRESSURE	# 11	# 5	#	#	#
#	PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#	PEAK OVER PRESSURE	# 12	# 6	#	#	#
#	PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#	PEAK OVER PRESSURE	# 13	# 7	#	#	#
#	PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#	PEAK OVER PRESSURE	# 14	# 8	#	#	#
#	PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#	PEAK OVER PRESSURE	# 15	# 9	#	#	#
#	PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#	PEAK OVER PRESSURE	# 16	# 10	#	#	#
#	PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#	PEAK OVER PRESSURE	# 17	# 11	#	#	#
#	PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#	PEAK OVER PRESSURE	# 18	# 12	#	#	#
#	PEAK UNDER PRESSURE	# 18	# 12	#	#	#

*Proprietary information deleted

1325 002

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/12/78 VISICORDER 1

TEST NO. 18 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

#	#TEST	#CHAN.	#NO. OF	+	+	#
#	ID-	# NO.	# DIV.	+ (PSI) OR	+ PSIA/DIV	#
#	PT	#	#	+ LABELED	+	#
				+	+	
#PRESSURE PULSE RISE TIME#	1	# 1	#			#
#STEAM FLOW	# 1	# 1	#			#
#STEAM INLET PRESSURE	# 1	# 1	#			#
#PEAK PIPE PRESSURE	# 2	# 3	#			#
#PEAK PIPE PRESSURE	# 3	# 5	#			#
#INLET STEAM TEMPERATURE	# NA	# NA	#			#
#PIPE PRESSURE AT T=5 SEC#	2	# 3	#			#
#PIPE PRESSURE AT T=5 SEC#	3	# 5	#			#
#PEAK PRESSURE	# 4	# 7	#			#
#PEAK PRESSURE	# 5	# 9	#			#
#PEAK PRESSURE	# 6	# 11	#			#
#PRESSURE AT T=5 SEC.	# 5	# 9	#			#
#PRESSURE AT T=5 SEC.	# 6	# 11	#			#
#PEAK POSITIVE PRESSURE	# 19	# 13	#			#
#PEAK NEGATIVE PRESSURE	# 19	# 13	#			#
#PEAK POSITIVE PRESSURE	# 20	# 14	#			#
#PEAK NEGATIVE PRESSURE	# 20	# 14	#			#
#AVERAGE POSITIVE PRESS.	#19&20#13&14#					#
#AVERAGE NEGATIVE PRESS.	#19&20#13&14#					#

1325 003

*Proprietary information deleted

TQUENCHER TEST (N U S C O R P) (1 / 4 S C A L E)
 TEST DATE 10/12/78 VISICORDER 2

TEST NO. 18 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

			+		+	
#	# TEST #	# CHAN. #	# NO. OF #	# PRESSURE #	# SLOPE #	#
#	# ID- #	# NO. #	# DIV. #	# (PSI) OR #	# PSIA/DIV #	#
#	# FT #	# #	# #	# LABEL #	# #	#
			+		+	
#	# FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#	# PEAK OVER PRESSURE	# 7	# 1	#	#	#
#	# PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#	# PEAK OVER PRESSURE	# 8	# 2	#	#	#
#	# PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#	# PEAK OVER PRESSURE	# 9	# 3	#	#	#
#	# PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#	# PEAK OVER PRESSURE	# 10	# 4	#	#	#
#	# PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#	# PEAK OVER PRESSURE	# 11	# 5	#	#	#
#	# PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#	# PEAK OVER PRESSURE	# 12	# 6	#	#	#
#	# PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#	# PEAK OVER PRESSURE	# 13	# 7	#	#	#
#	# PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#	# PEAK OVER PRESSURE	# 14	# 8	#	#	#
#	# PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#	# PEAK OVER PRESSURE	# 15	# 9	#	#	#
#	# PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#	# PEAK OVER PRESSURE	# 16	# 10	#	#	#
#	# PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#	# PEAK OVER PRESSURE	# 17	# 11	#	#	#
#	# PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#	# PEAK OVER PRESSURE	# 18	# 12	#	#	#
#	# PEAK UNDER PRESSURE	# 18	# 12	#	#	#

1325 004

*Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/12/78 VISICORDER 2

TEST NO. 18 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 006

*Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/1/78 VISICORDER 1

TEST NO. 18 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

```

+-----+-----+-----+-----+-----+
#          #TEST #CHAN.#NO.OF #PRESSURE+ SLOPE #
#  FUNCTION # ID- # NO. # DIV. +(PSI)OR + PSIA/DIV#
#          # FT  #     #     + LABELED+ #
+-----+-----+-----+-----+-----+
#PRESSURE PULSE RISE TIME# 1 # 1 #
#STEAM FLOW                # 1 # 1 #
#STEAM INLET PRESSURE     # 1 # 1 #
#PEAK PIPE PRESSURE       # 2 # 3 #
#PEAK PIPE PRESSURE       # 3 # 5 #
#INLET STEAM TEMPERATURE # NA # NA #
#PIPE PRESSURE AT T=5 SEC# 2 # 3 #
#PIPE PRESSURE AT T=5 SEC# 3 # 5 #
#PEAK PRESSURE            # 4 # 7 #
#PEAK PRESSURE            # 5 # 9 #
#PEAK PRESSURE            # 6 # 11 #
#PRESSURE AT T=5 SEC.     # 5 # 9 #
#PRESSURE AT T=5 SEC.     # 6 # 11 #
#PEAK POSITIVE PRESSURE   # 19 # 13 #
#PEAK NEGATIVE PRESSURE   # 19 # 13 #
#PEAK POSITIVE PRESSURE   # 20 # 14 #
#PEAK NEGATIVE PRESSURE   # 20 # 14 #
#AVERAGE POSITIVE PRESS. #19&20#13&14#
#AVERAGE NEGATIVE PRESS. #19&20#13&14#
#
+-----+-----+-----+-----+-----+
    
```

1325 007

*Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/12/78 VISICORIER 2

TEST NO. 18 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 008

*Proprietary information deleted

ANCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/11/78 VISICORDER 1

TEST NO. 19 DATA REDUCTION SHEET ANALYSIS BY

CHART NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE LABEL	SLOPE
	PT			OR	PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
LEAK PIPE PRESSURE	2	3			
LEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
LEAK PRESSURE	4	7			
LEAK PRESSURE	5	9			
LEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
LEAK POSITIVE PRESSURE	19	13			
LEAK NEGATIVE PRESSURE	19	13			
LEAK POSITIVE PRESSURE	20	14			
LEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	#19&20	#13&14			
AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1325 009

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/11/78 VISICORDER 2

TEST NO. 19 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE FSIA/DIV
#FREQUENCY (CYCLES/SEC)	#	#	#	#	#
#PEAK OVER PRESSURE	# 7	# 1	#	#	#
#PEAK UNDER PRESSURE	# 7	# 1	#	#	#
#PEAK OVER PRESSURE	# 8	# 2	#	#	#
#PEAK UNDER PRESSURE	# 8	# 2	#	#	#
#PEAK OVER PRESSURE	# 9	# 3	#	#	#
#PEAK UNDER PRESSURE	# 9	# 3	#	#	#
#PEAK OVER PRESSURE	# 10	# 4	#	#	#
#PEAK UNDER PRESSURE	# 10	# 4	#	#	#
#PEAK OVER PRESSURE	# 11	# 5	#	#	#
#PEAK UNDER PRESSURE	# 11	# 5	#	#	#
#PEAK OVER PRESSURE	# 12	# 6	#	#	#
#PEAK UNDER PRESSURE	# 12	# 6	#	#	#
#PEAK OVER PRESSURE	# 13	# 7	#	#	#
#PEAK UNDER PRESSURE	# 13	# 7	#	#	#
#PEAK OVER PRESSURE	# 14	# 8	#	#	#
#PEAK UNDER PRESSURE	# 14	# 8	#	#	#
#PEAK OVER PRESSURE	# 15	# 9	#	#	#
#PEAK UNDER PRESSURE	# 15	# 9	#	#	#
#PEAK OVER PRESSURE	# 16	# 10	#	#	#
#PEAK UNDER PRESSURE	# 16	# 10	#	#	#
#PEAK OVER PRESSURE	# 17	# 11	#	#	#
#PEAK UNDER PRESSURE	# 17	# 11	#	#	#
#PEAK OVER PRESSURE	# 18	# 12	#	#	#
#PEAK UNDER PRESSURE	# 18	# 12	#	#	#

1325 010

*Proprietary information deleted

ENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/11/78 VISICORDER 1

TEST NO. 19 DATA REDUCTION SHEET ANALYSIS BY
 RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE FSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1325 011

proprietary information deleted

QUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/11/78 VISICORDER 2

TEST NO. 19 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE FSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 012

*Proprietary information deleted

ENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/11/78 VISICORDER 1

TEST NO. 19 DATA REDUCTION SHEET ANALYSIS BY

IN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	#19&20#13&14#				
AVERAGE NEGATIVE PRESS.	#19&20#13&14#				

1325 013

proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/11/73 VISICORDER 2

TEST NO. 19 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 014

*Proprietary information deleted

INCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/11/78 VISICORDER 1

TEST NO. 17 DATA REDUCTION SHEET ANALYSIS BY

CHART NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC.	2	3			
PIPE PRESSURE AT T=5 SEC.	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1325 015

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/11/78 VISICORDER 2

TEST NO. 19 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

2132

1325 016

*Proprietary information deleted

ANCHER TEST (NUS CORP) (1/4 SCALE)
 TEST DATE 10/19/78 VISICORDER 1

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY
 RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST	CHAN.	NO. OF	+	+
	ID-	NO.	DIV.	(PSI) OR	PSIA/DIV
	PT			LABEL	
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1325 017

proprietary information deleted

TOUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICORDER 2

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 1 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRES. (PSI) OR LABEL	SLOPE (PSI/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 018

*Proprietary information deleted

ENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICORDER 1

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY

IN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	#19&20	#13&14			
AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1325 019

proprietary information deleted

TG JENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICORDER 2

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 2 (CHART ANALYSIS)

FUNCTION	TEST I	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 020

Proprietary information deleted

ENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICO DER 1

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY

IN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	19&20	13&14			
AVERAGE NEGATIVE PRESS.	19&20	13&14			

1325 021

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICORDER 2

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 3 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 022

*Proprietary information deleted

ENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICORDER 1

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY
 RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
PRESSURE PULSE	1	1	1		
STEAM FLOW	1	1	1		
STEAM INLET PRESSURE	1	1	1		
PEAK PIPE PRESSURE	2	3	3		
PEAK PIPE PRESSURE	3	5	5		
INLET STEAM TEMPERATURE	NA	NA	NA		
PIPE PRESSURE AT T=5 SEC	2	3	3		
PIPE PRESSURE AT T=5 SEC	3	5	5		
PEAK PRESSURE	4	7	7		
PEAK PRESSURE	5	9	9		
PEAK PRESSURE	6	11	11		
PRESSURE AT T=5 SEC.	5	9	9		
PRESSURE AT T=5 SEC.	6	11	11		
PEAK POSITIVE PRESSURE	19	13	13		
PEAK NEGATIVE PRESSURE	19	13	13		
PEAK POSITIVE PRESSURE	20	14	14		
PEAK NEGATIVE PRESSURE	20	14	14		
AVERAGE POSITIVE PRESS.	19&20	13&14	13&14		
AVERAGE NEGATIVE PRESS.	19&20	13&14	13&14		

1325 023

Proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICORDER 2

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 4 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR Labeled	SLOPE PSIA/DIV
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 024

*Proprietary information deleted

ANCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICORDEF: 1

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY
 RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID-PT	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABELED	SLOPE PSIA/DIV
PRESSURE PULSE RISE TIME	1	1			
STEAM FLOW	1	1			
STEAM INLET PRESSURE	1	1			
PEAK PIPE PRESSURE	2	3			
PEAK PIPE PRESSURE	3	5			
INLET STEAM TEMPERATURE	NA	NA			
PIPE PRESSURE AT T=5 SEC	2	3			
PIPE PRESSURE AT T=5 SEC	3	5			
PEAK PRESSURE	4	7			
PEAK PRESSURE	5	9			
PEAK PRESSURE	6	11			
PRESSURE AT T=5 SEC.	5	9			
PRESSURE AT T=5 SEC.	6	11			
PEAK POSITIVE PRESSURE	19	13			
PEAK NEGATIVE PRESSURE	19	13			
PEAK POSITIVE PRESSURE	20	14			
PEAK NEGATIVE PRESSURE	20	14			
AVERAGE POSITIVE PRESS.	#19&20	#13&14			
AVERAGE NEGATIVE PRESS.	#19&20	#13&14			

1325 025

proprietary information deleted

TQUENCHER TEST (N U S CORP) (1 / 4 S C A L E)
 TEST DATE 10/19/78 VISICORDER 2

TEST NO. 20 DATA REDUCTION SHEET ANALYSIS BY

RUN NO. 5 (CHART ANALYSIS)

FUNCTION	TEST ID	CHAN. NO.	NO. OF DIV.	PRESSURE (PSI) OR LABEL	SLOPE (PSIA/DIV)
FREQUENCY (CYCLES/SEC)					
PEAK OVER PRESSURE	7	1			
PEAK UNDER PRESSURE	7	1			
PEAK OVER PRESSURE	8	2			
PEAK UNDER PRESSURE	8	2			
PEAK OVER PRESSURE	9	3			
PEAK UNDER PRESSURE	9	3			
PEAK OVER PRESSURE	10	4			
PEAK UNDER PRESSURE	10	4			
PEAK OVER PRESSURE	11	5			
PEAK UNDER PRESSURE	11	5			
PEAK OVER PRESSURE	12	6			
PEAK UNDER PRESSURE	12	6			
PEAK OVER PRESSURE	13	7			
PEAK UNDER PRESSURE	13	7			
PEAK OVER PRESSURE	14	8			
PEAK UNDER PRESSURE	14	8			
PEAK OVER PRESSURE	15	9			
PEAK UNDER PRESSURE	15	9			
PEAK OVER PRESSURE	16	10			
PEAK UNDER PRESSURE	16	10			
PEAK OVER PRESSURE	17	11			
PEAK UNDER PRESSURE	17	11			
PEAK OVER PRESSURE	18	12			
PEAK UNDER PRESSURE	18	12			

1325 026

*Proprietary information deleted



TECHNICAL INFORMATION EXCHANGE

TITLE PAGE

AUTHOR C.T. Sawyer, J.E. Loehrlein and W.T. Hsaio	SUBJECT Reactor Technology	TIE NUMBER 79NED77
		DATE June 1979
TITLE 1/4 Scale T-Quencher Test		GE CLASS I
		GOVERNMENT CLASS
REPRODUCIBLE COPY FILED AT TECHNICAL SUPPORT SERVICES, R&UO, SAN JOSE, CALIFORNIA 95125 (Mail Code 211)		NUMBER OF PAGES 378
SUMMARY <p>This document presents the results of a 1/4-Scale Safety/Relief Valve (SRV) discharge T-quencher test program performed June through October 1978.</p> <p>The primary objective of this test program was to investigate the effect of varying SRV discharge line and plant operating parameters on the air clearing performance of a Mark I Containment T-quencher. The results of this test are to support the verification of an analytical model that calculates T-quencher air clearing design loads for Mark I plants.</p>		

By cutting out this rectangle and folding in half, the above information can be fitted into a standard card file.

DOCUMENT NUMBER NEDO-24549

INFORMATION PREPARED FOR Nuclear Energy Projects Division

SECTION Containment Improvement Programs

BUILDING AND ROOM NUMBER PYD 409 MAIL CODE 905

1325 027

POOR ORIGINAL

1325 028

GENERAL  ELECTRIC