

UNCLASSIFIED

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW	
1 st Review Date: <u>8/20/98</u>	Desired class (Circle Number): 1. Classification Retained: <u>U</u> 2. Classification Changed to: <u>U</u> 3. Contains (No) TOE Classified Information 4. Coordinate With: 5. Contains UCAIT: <u>NO</u> 6. Comments: <u>OK for Openact</u>
Authority: <u>WCLayne</u>	
2 nd Review Date: <u>9/10/98</u>	
Authority: <u>ADD</u>	
Name: <u>W Layne</u>	

JAN 9 1962

TX-28-X3, 3-2
T-18146

Completed: 11-16-61

MR. C. L. CARPENTER, 7115

ATTN: MR. W. J. LENZ

Re: Environmental Test of Two TX-28-X3 Assemblies

Object of Test

The object of this test was to assist Division 7115 in determining the effects of various climatic conditions on Sandia components in the final WR assembly of the TX-28-X3.

Authorization for Test

This test was requested by Division 7115 in a Work Order Authorization received 9-22-61. Mr. W. J. Lenz was the consultant. The material for test was received 10-16-61.

Summary

The two TX-28-X3 Assemblies (Unit 1 and 2) were tested in accordance with a Work Order Authorization from Division 7115 and SC-4451(M).

Sequence of the environments for Unit No. 1 was Humidity, Low Temperature, High Temperature, and Temperature Shock. The sequence of environments for Unit No. 2 was Temperature Shock, High Temperature, Low Temperature, and Humidity. **RECEIVED**

The continuity tests performed initially and following each environment by Division 7115 personnel were satisfactory. **JAN 10 1962**

CENTRAL RECORD FILE

Functional Measurements and Methods

The equipment and instrumentation used in this test are listed in Tables I and II.

Continuity tests and temperature monitoring of Sandia components in the two TX-28-X3 Units were performed in accordance with a Work Order Authorization from Division 7115 using a 7115 continuity tester (T-304) and 7300 chromel-alumel thermocouple wire.

All environments were conducted in accordance with SC-4452(M).

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW	
DOWNGRADING OR DECLASSIFICATION STAMP	
CLASSIFICATION CHANGED TO: <u>U</u>	AUTHORITY: <u>WCLayne</u>
PERSON CHANGING MARKING & DATE: <u>Emilda Sajah 9/28/98</u>	RECORD ID: <u>985N3923</u>
PERSON VERIFYING MARKING & DATE: <u>Carroll M. Kelly 9/28</u>	DATED: <u>9/10/98</u>

CENTRAL RECORD FILE	
ACCOUNTABILITY CARD	<u>612</u>
FILE No. <u>TX28X3</u>	<u>3-2</u>

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Continuity Test - Continuity tests were performed by Division 7115 using a T-304 continuity tester.

Temperature Monitoring - Seven chromel-alumel thermocouples were installed in each of the two TX-28-X3 Assemblies. The thermocouples were placed within the weapons open to the internal air on the following Scandia components: NC-820, NC-909, NC-1120, NC-1262, NC-1367, NC-1454, and CP-1650. One chromel-alumel thermocouple was located at approximately the center of the outside case open to the chamber air on each of the two assemblies. All thermocouples were monitored by the Dater Recorder (No. 2) during all environments.

Procedure and Results

The two TX-28-X3 Assemblies (Units 1 and 2) were tested in accordance with a Work Order Authorization from Division 7115 and SC-4451(M).

Continuity tests performed initially and following each environment by Division 7115 personnel were satisfactory.

Sequence of environments for Unit No. 1 was Humidity, Low Temperature, High Temperature, and Temperature Shock. The sequence of environments for Unit No. 2 was Temperature Shock, High Temperature, Low Temperature and Humidity.

Humidity (Heatt No. 3) - This environment consisted of 10 consecutive 48-hour cycles as specified in SC-4451(M), Para. B1. Continuity tests made following this environment were satisfactory.

Figures 1 through 24 show the dry bulb temperatures experienced by the two units during humidity.

Low Temperature (Dual Conrad) - This environment consisted of subjecting the units to 4 hours at -65°F after stabilization as specified in SC-4451(M), Para. A3. Continuity tests made following this environment were satisfactory.

Figures 25 through 28 show the temperatures experienced by the units during low temperature.

High Temperature (Dual Conrad) - This environment consisted of subjecting the two TX-28-X3 assemblies to 50 hours at $+160^{\circ}\text{F}$ after stabilization as specified in SC-4451(M), Para. A1. Continuity tests performed following this environment were satisfactory.

Figures 29 through 32 show the temperatures experienced by the units during high temperature.

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Temperature Shock (Dual Conrad) - The units were subjected to three 8-hour cycles of temperature shock as specified in SC-4451(M), Para. A5. Each cycle consisted of 4 hours at +160°F and 4 hours at -65°F with a maximum 5 minutes elapsed time between temperature changes. Continuity tests made after this environment were satisfactory.

Figures 33 through 36 show the temperatures experienced by the two TX-26-X3 Assemblies during temperature shock.

J. M. Carmichael
J. M. CARMICHAEL - 7321-3

R. G. Hamilton

TEST PROJECT ENGINEER: R. G. HAMILTON - 7321-5

JMC:7321-3:mep

Enc. Figs. 1-36
Tables I-II

Copy to:

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C. L. Johnson, 7523
R. K. Seltzer, 3421-3

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T-18166 0363
FIG. 1

HUMIDITY TEST OF TX2RX3 UNIT NO. 1



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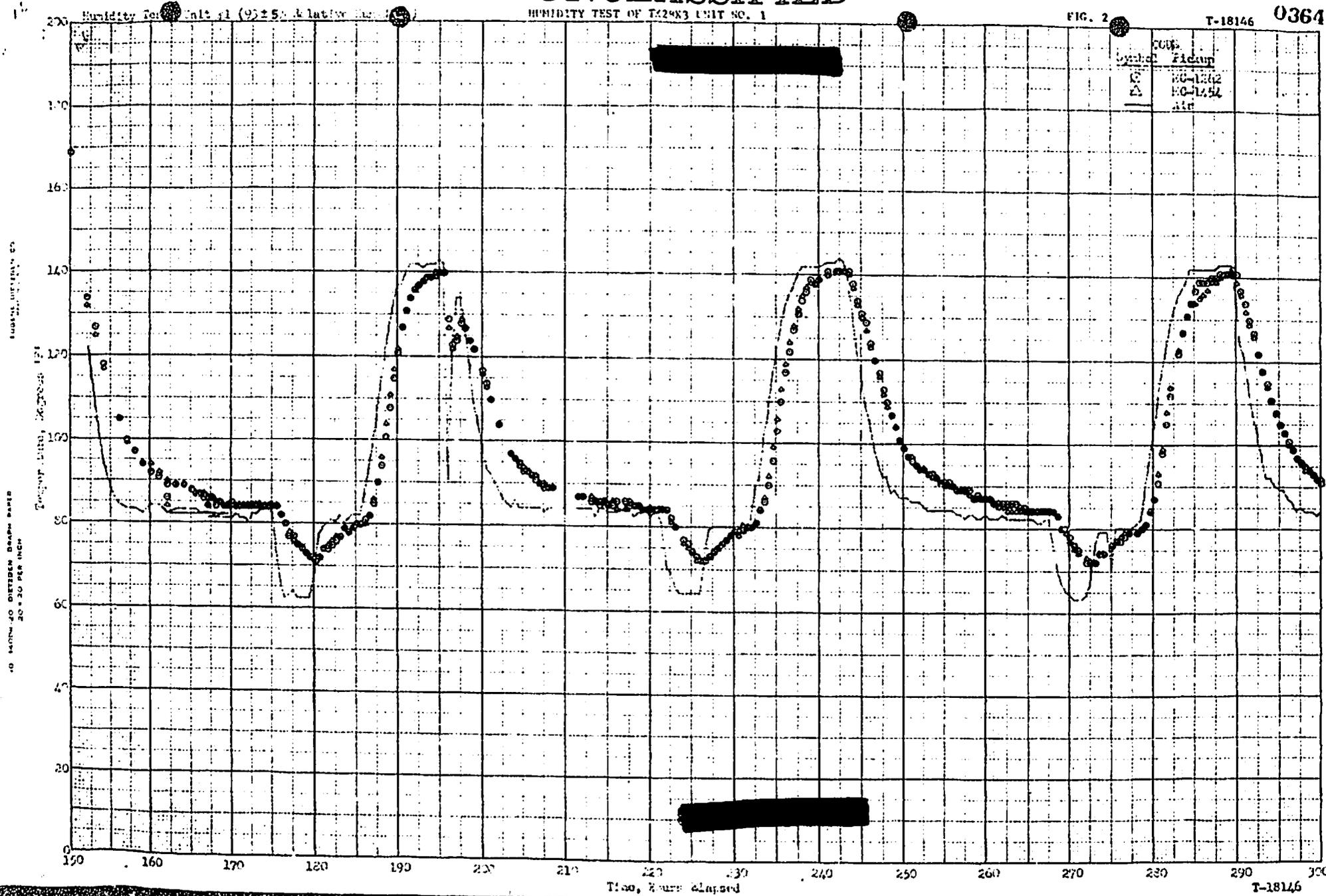
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HUMIDITY TEST OF T-2883 UNIT NO. 1

FIG. 2

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HUMIDITY TEST OF TR2FX3 OUT. 1

FIG. 3

T-18146-0365



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HUMIDITY TEST OF TX29X3 UNIT #1

FIG. 4

T-1710366



Time, hours elapsed

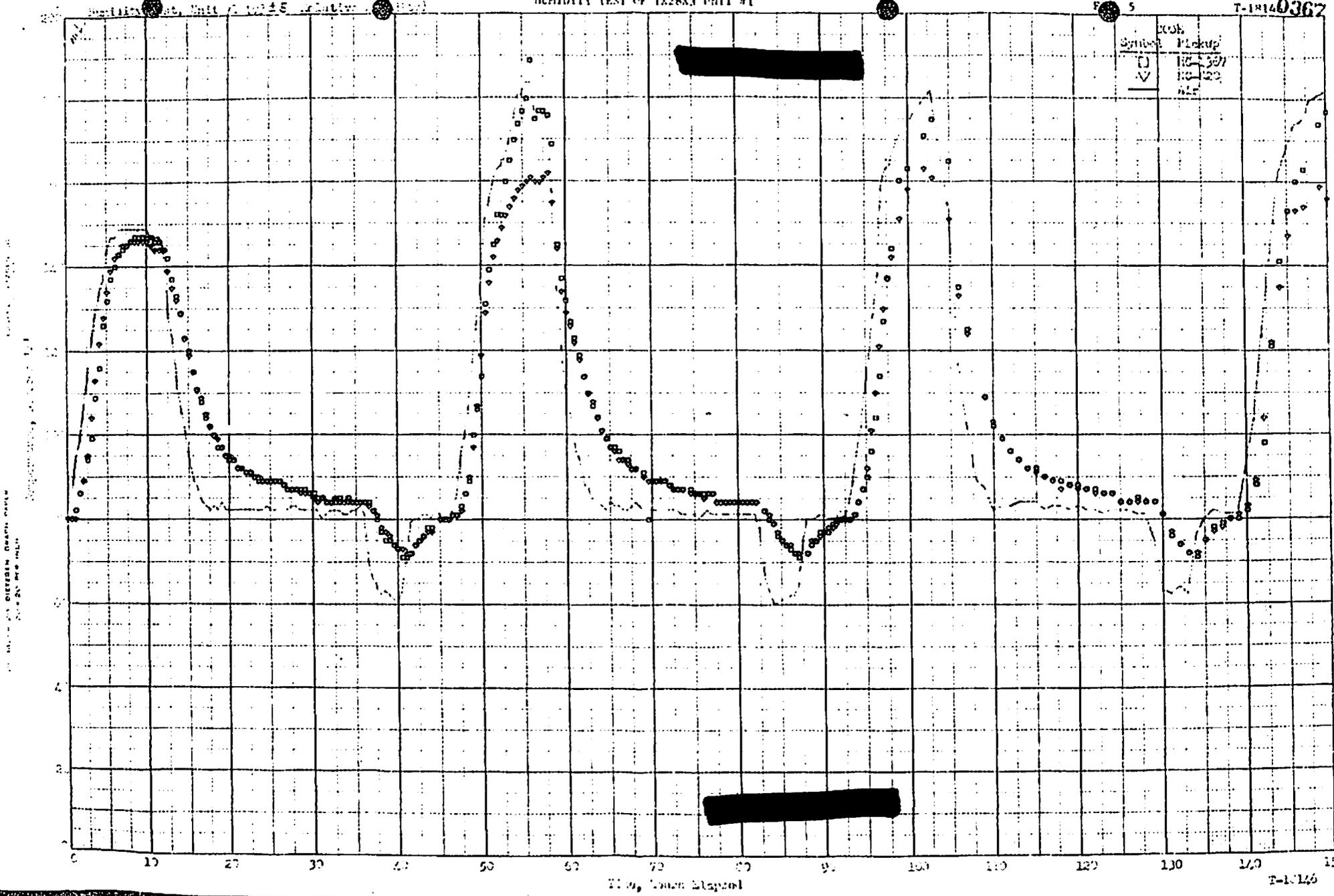
1-1 1/3

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MOISTURE TEST OF TX2883 UNIT #1

T-18140367



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Humidity Test, Unit #1 (93±5. relative humidity)

HUMIDITY TEST OF T62983 UNIT #1

Fig. 6

T-18146 0368

Serial	Case
1	6-1387
2	6-1388
3	6-1389



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Sanlitt test, Unit #1 (2) = 5 (km) (10)

HUMIDITY TEST OF TA2843 UNIT #1

Fig. 7

T-18146 0369



Symbol	Field
□	HC-134
△	HC-120

Mo. Water in Brezden Grain, inches
NO. 20 200 400 600 800 1000 1200

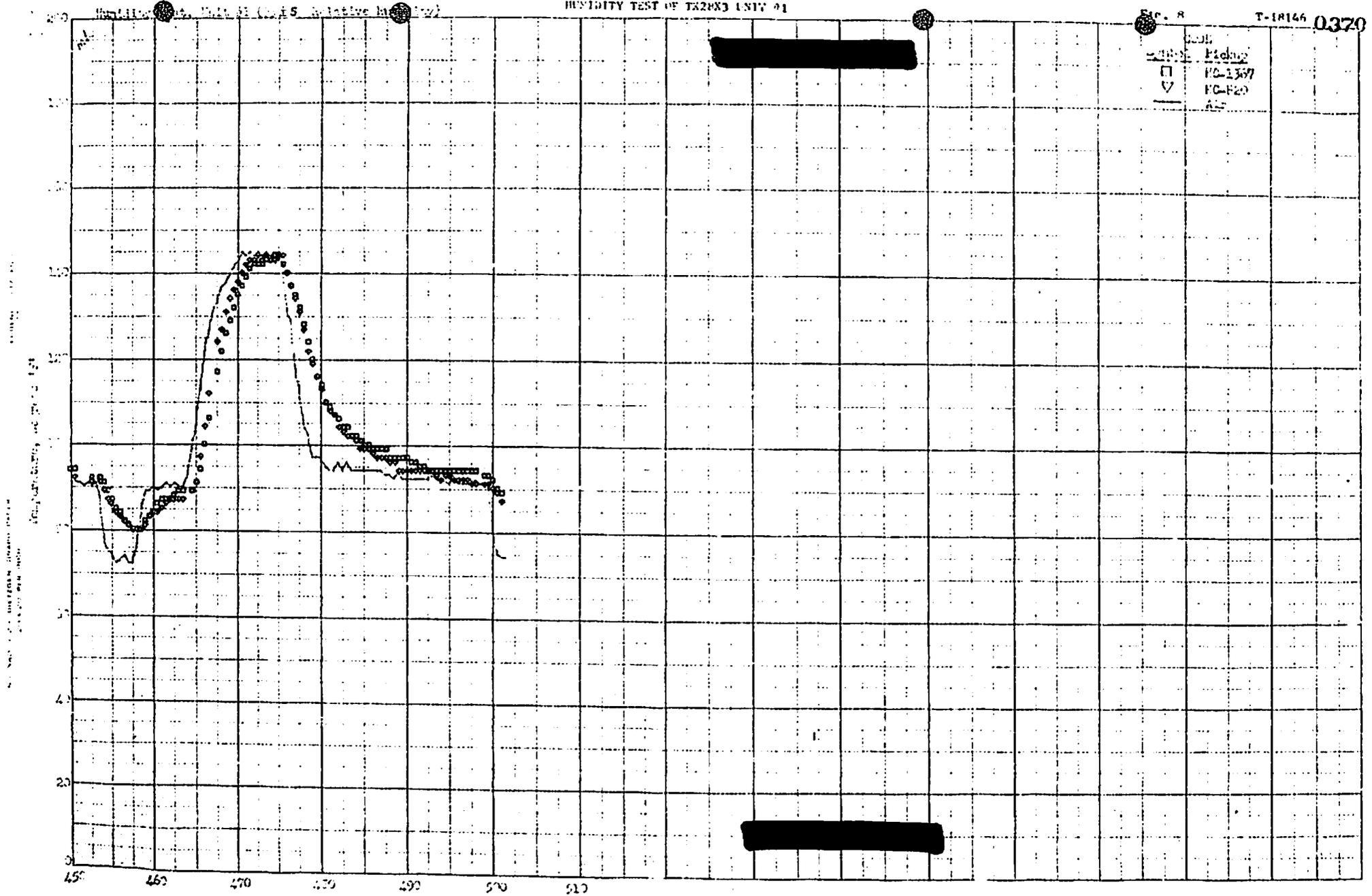
Time, hours elapsed

T-18146

HUMIDITY TEST OF T2283 UNIT #1

T-18146 0370

DATE	1/14/62
TIME	10-1357
TEST	FC-120
BY	AS



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HUMIDITY TEST OF IASXXI UNIT #1

T-19140371

Date	Phase
12-2-59	(Symbol)
12-1-59	(Symbol)
12-1-59	(Symbol)



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INCIDENCY TEST OF TAZSXI UNIT #1

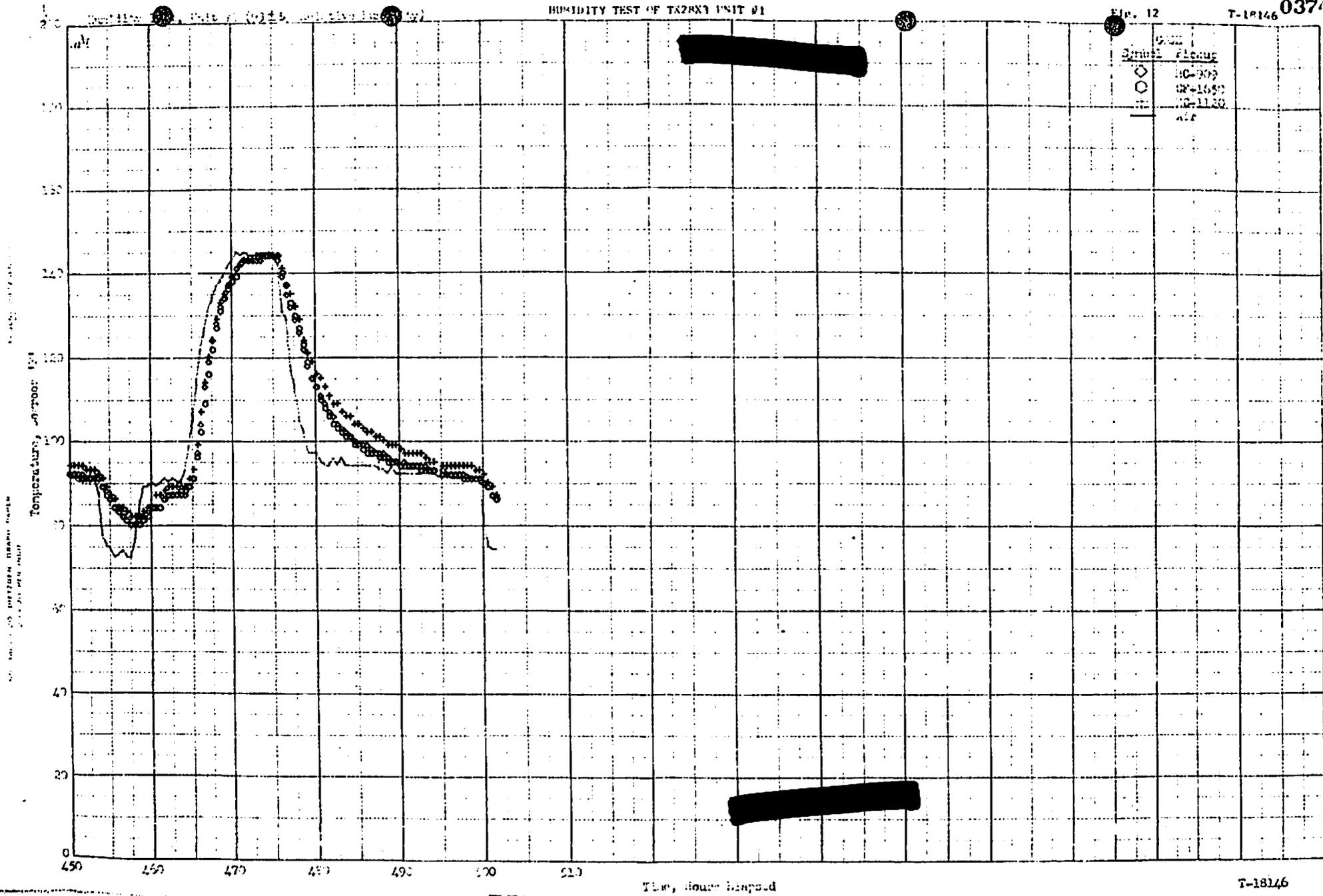


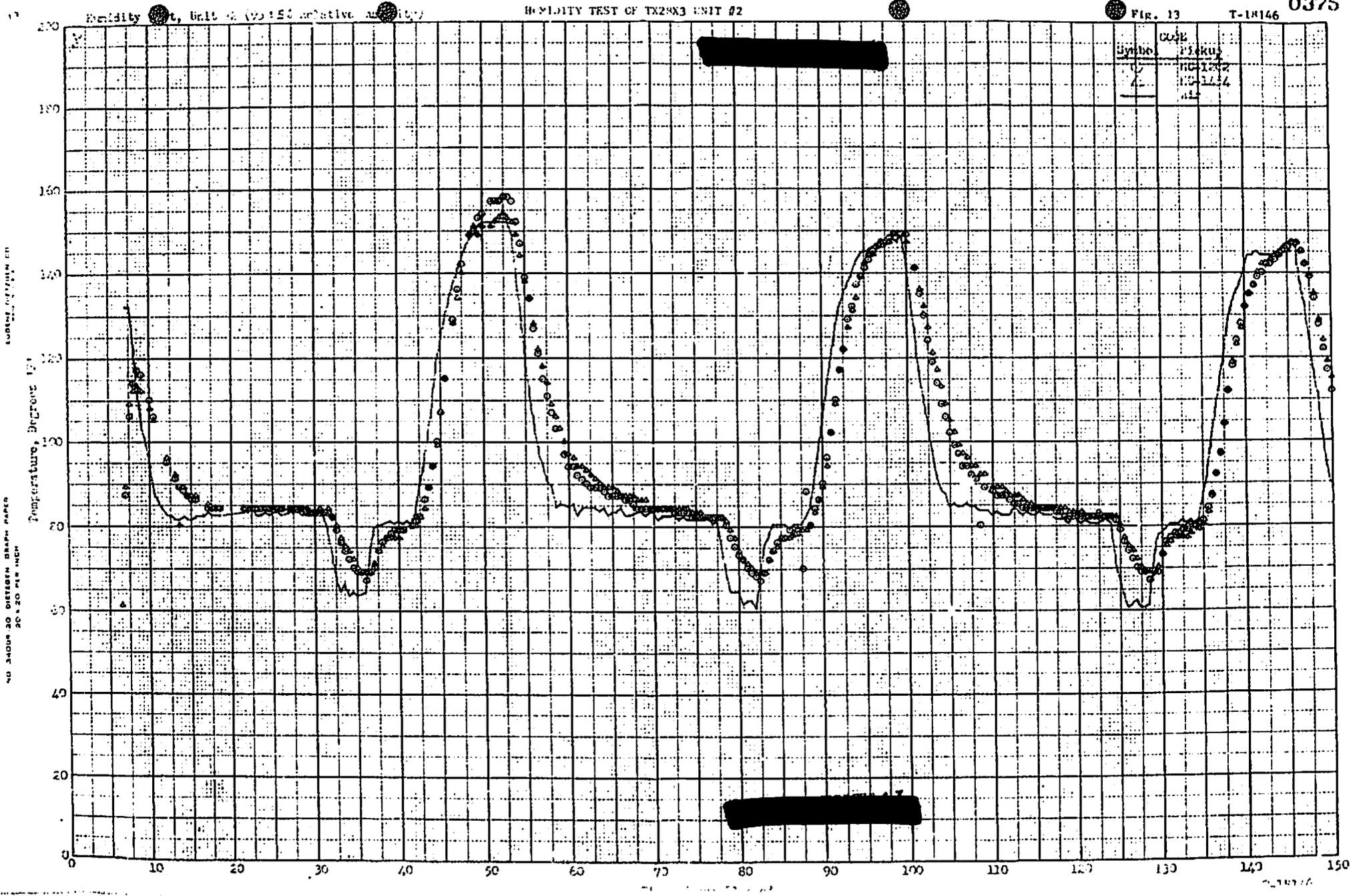


HUMIDITY TEST OF TX28X1 UNIT #1

Fig. 12

T-18146 0374

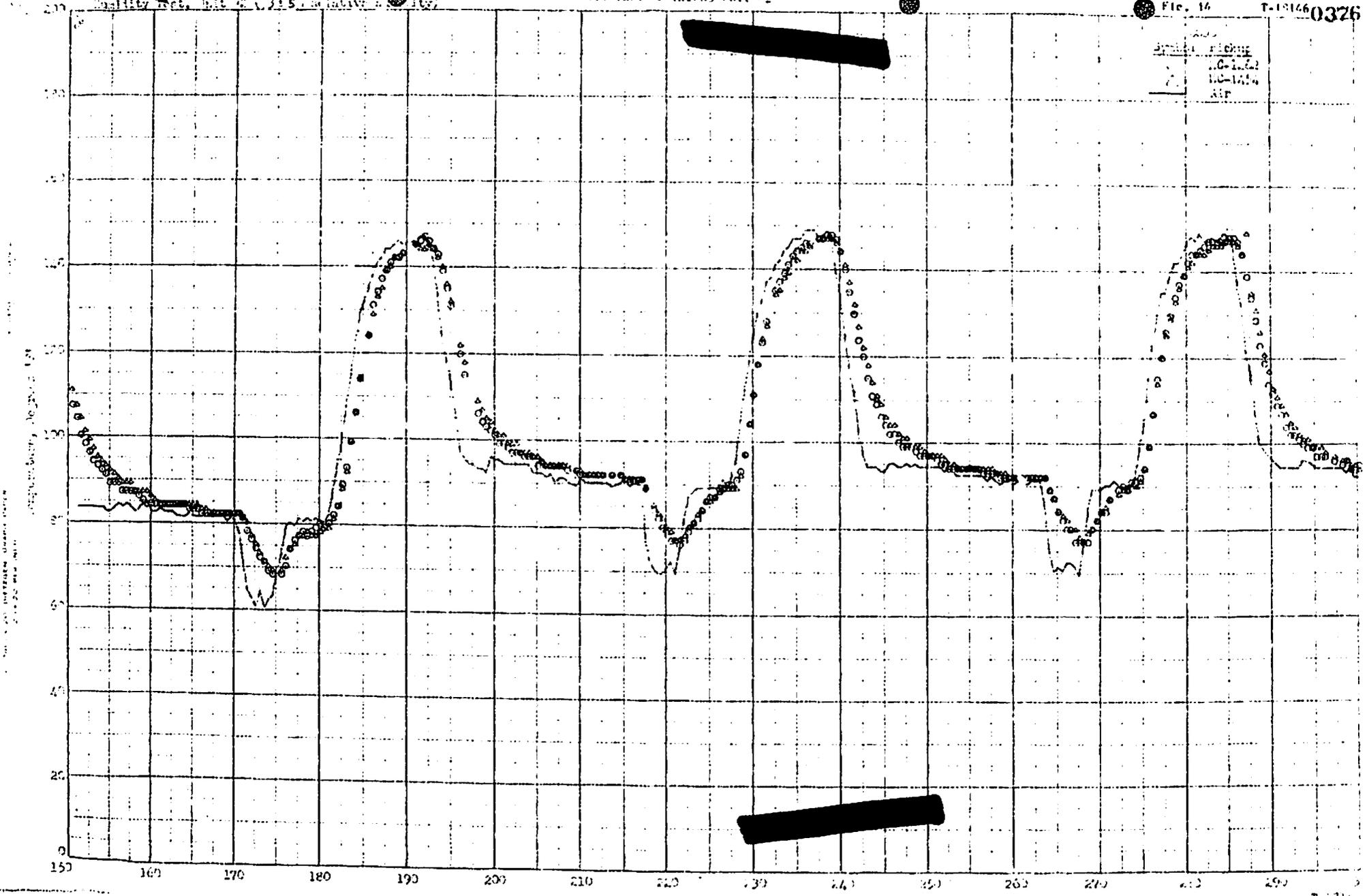




HUMIDITY TEST OF T28X3 UNIT #2

Fig. 16

T-18146 0326



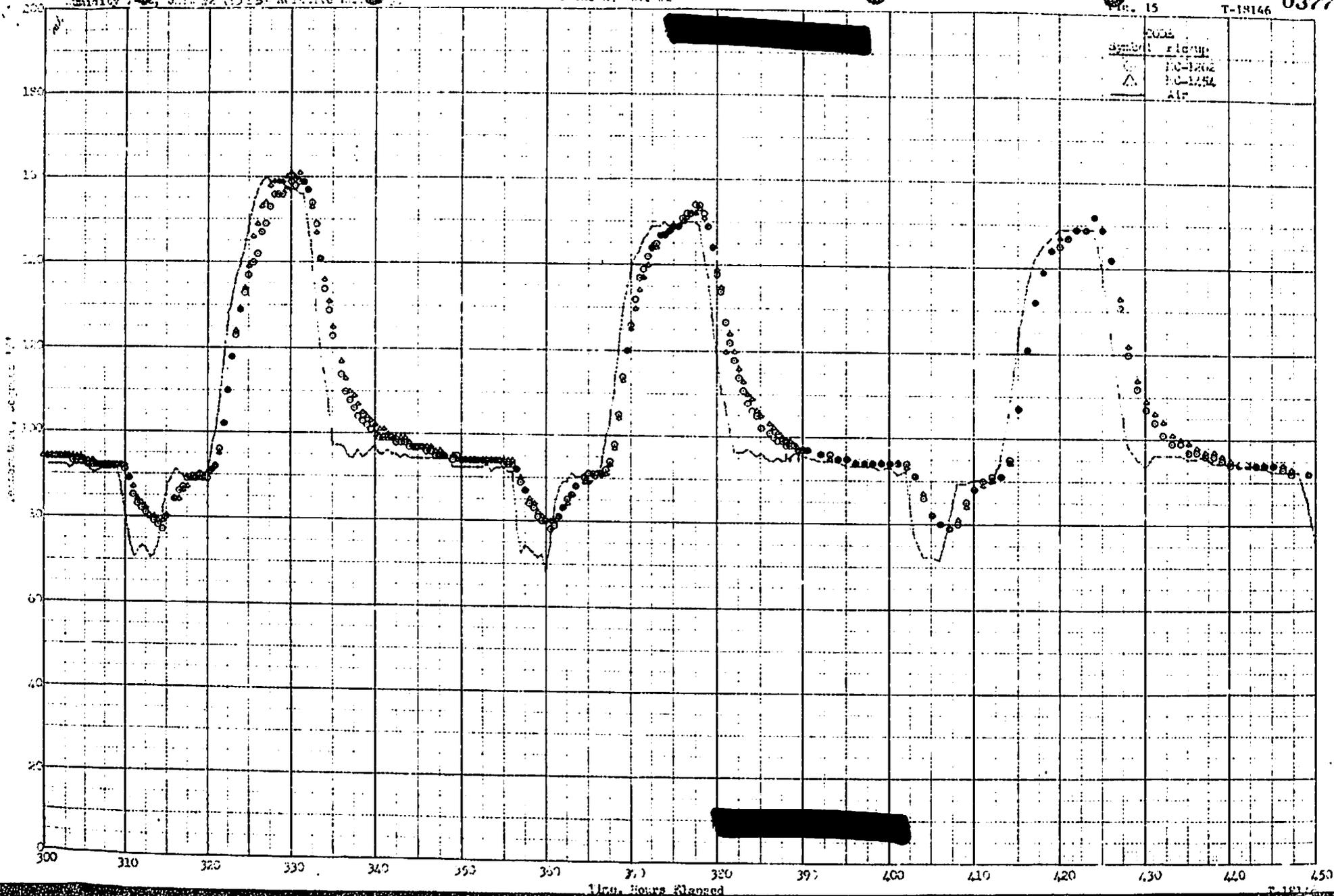
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Sample 7, July 22 (3) 15: Relative H₂O

HUMIDITY TEST OF TX25X3 BIT #2

Fig. 15

T-18146 0377



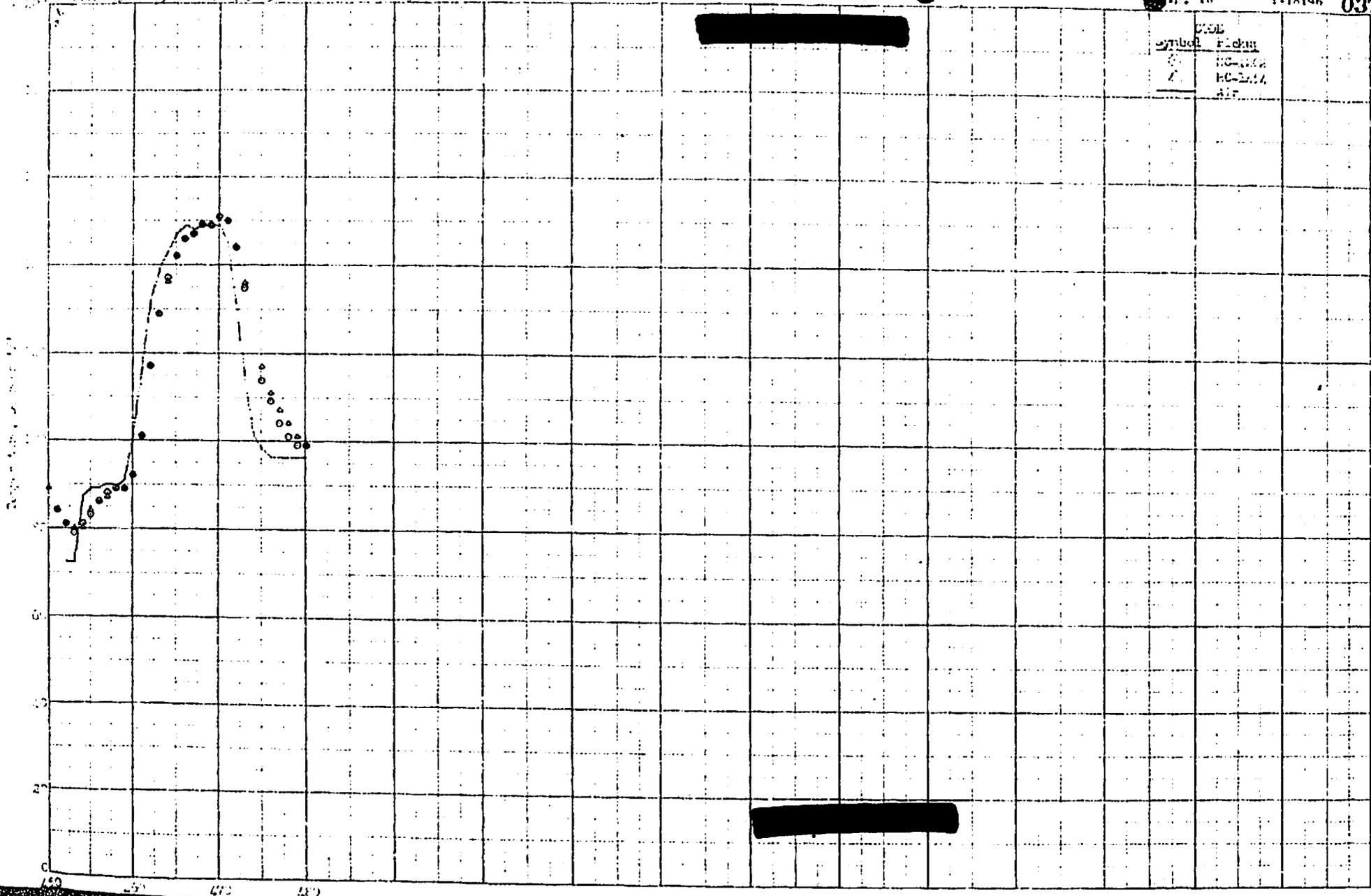
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HUMIDITY TEST OF T2883 UNIT #2

Pr. 16

T-14146 0378



Symbol	Point
○	HC-1000
●	HC-1000
○	AIR

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HUMIDITY TEST OF TX29X3 UNIT 02

Fig. 17

0052	
01-200	01-200
01	01-200
01	01-200



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HUMIDITY TEST OF TX2AK3 UNIT #2

Fig. 16



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MOISTURE TEST OF TX2AK3 UNIT

0381

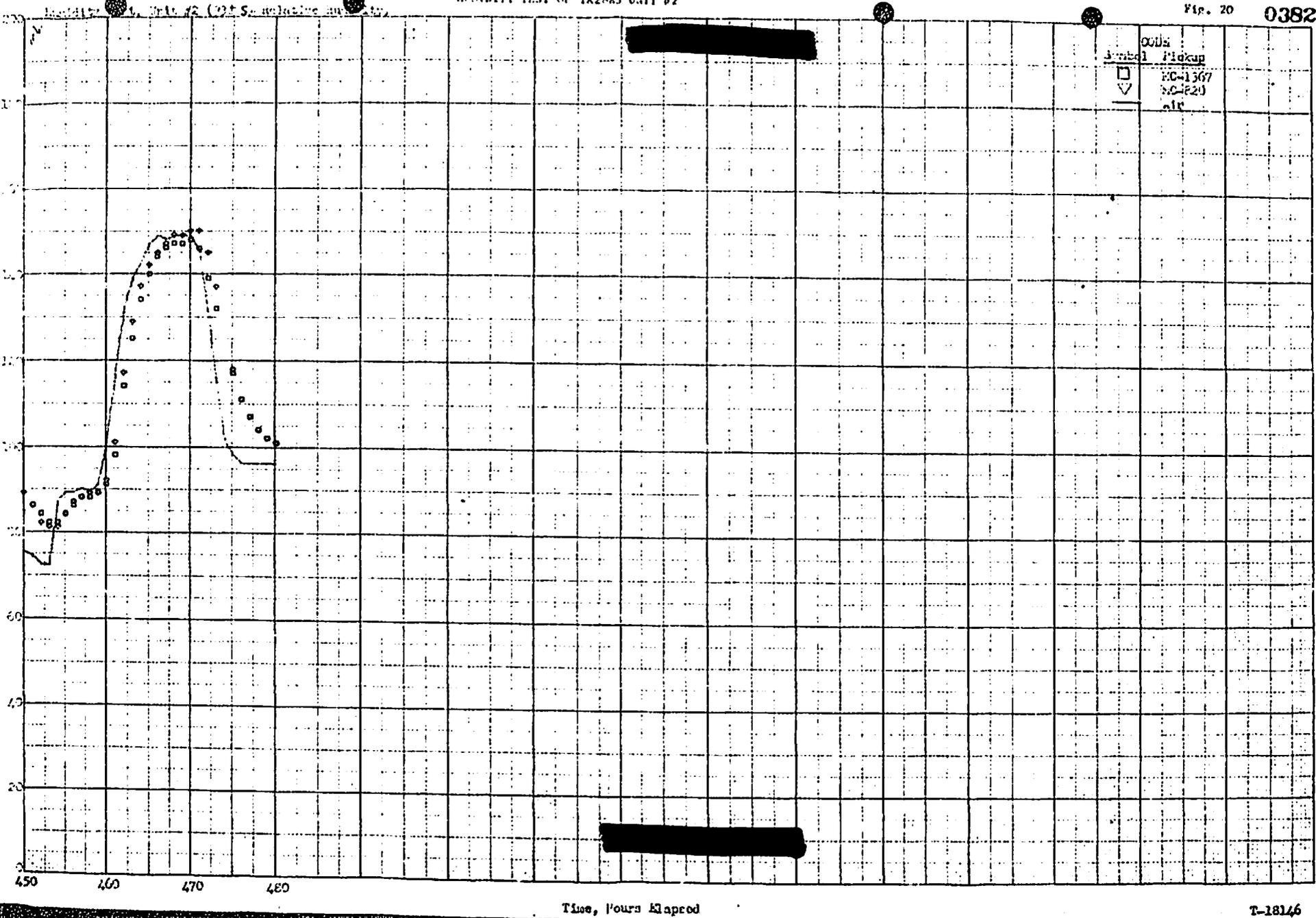
Fig. 12



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MOISTURE TEST OF TX28X3 UNIT #2



Time, Hours Elapsed

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IDENTITY TEST OF T428N3 UNIT #2

Fig. 21 0383

40 34509-30 DISTANCE GRAPH PAPER

20 x 30 PER INCH



Symbol	Picture
○	IC-2001
—	IC-2002
—	IC-2003
—	IC-2004

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STABILITY TEST OF IN2SX3 UNIT 02

Humidity: 70%, Unit 02 (95% Relative Air)

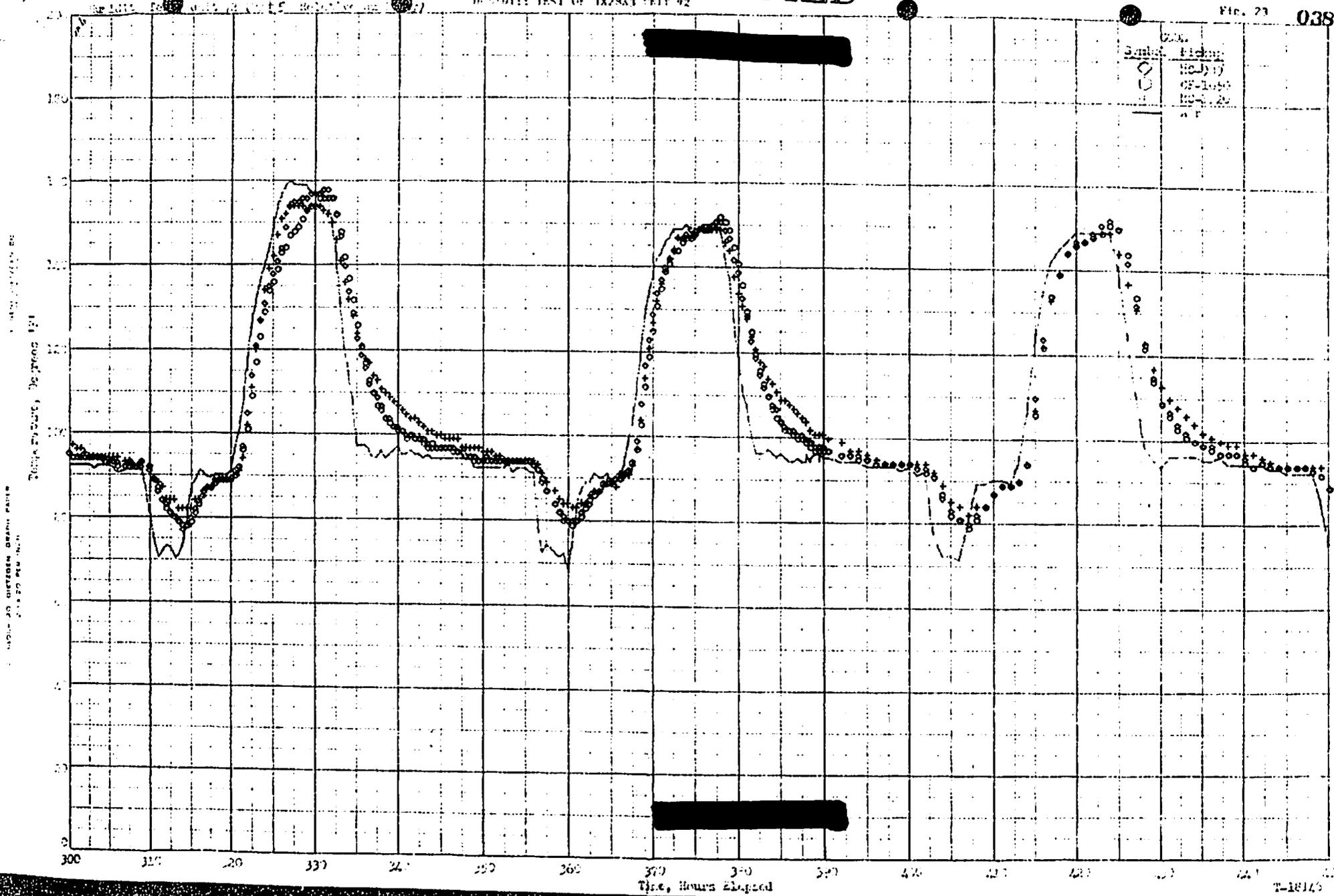


10 11/10/60 20 DIETZGEN GRAPH PAPER

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DENSITY TEST OF TX28X1 UNIT 42

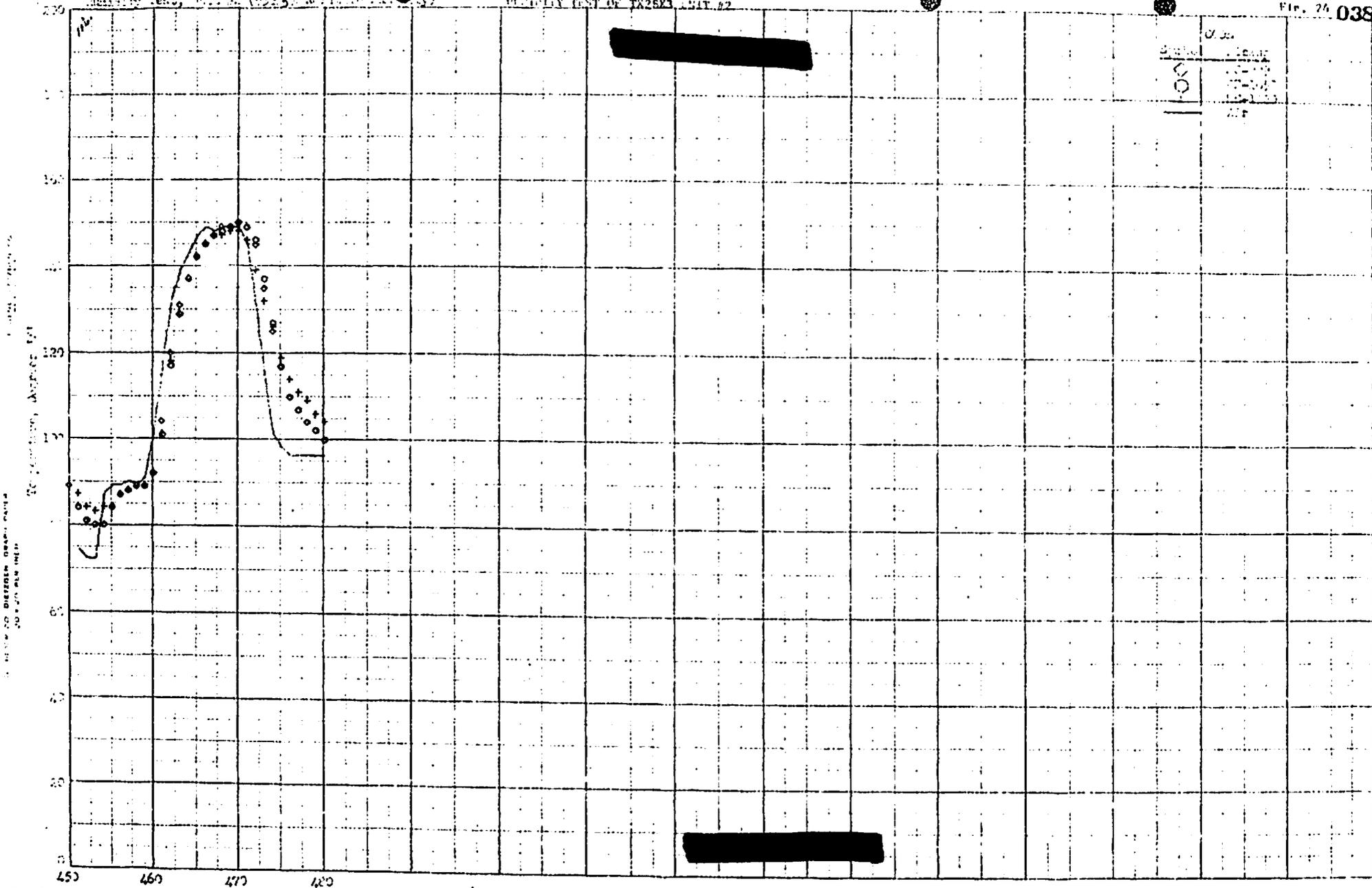
Fig. 23 0385



Model 110, 2000, 1000 (9245) Resolution 1000

PERIPHERY TEST OF TX2623 UNIT 02

Fig. 26 0386



Symbol	Meaning
○	100-100
×	100-100
○	100-100
○	100-100

1000, 1000, 1000

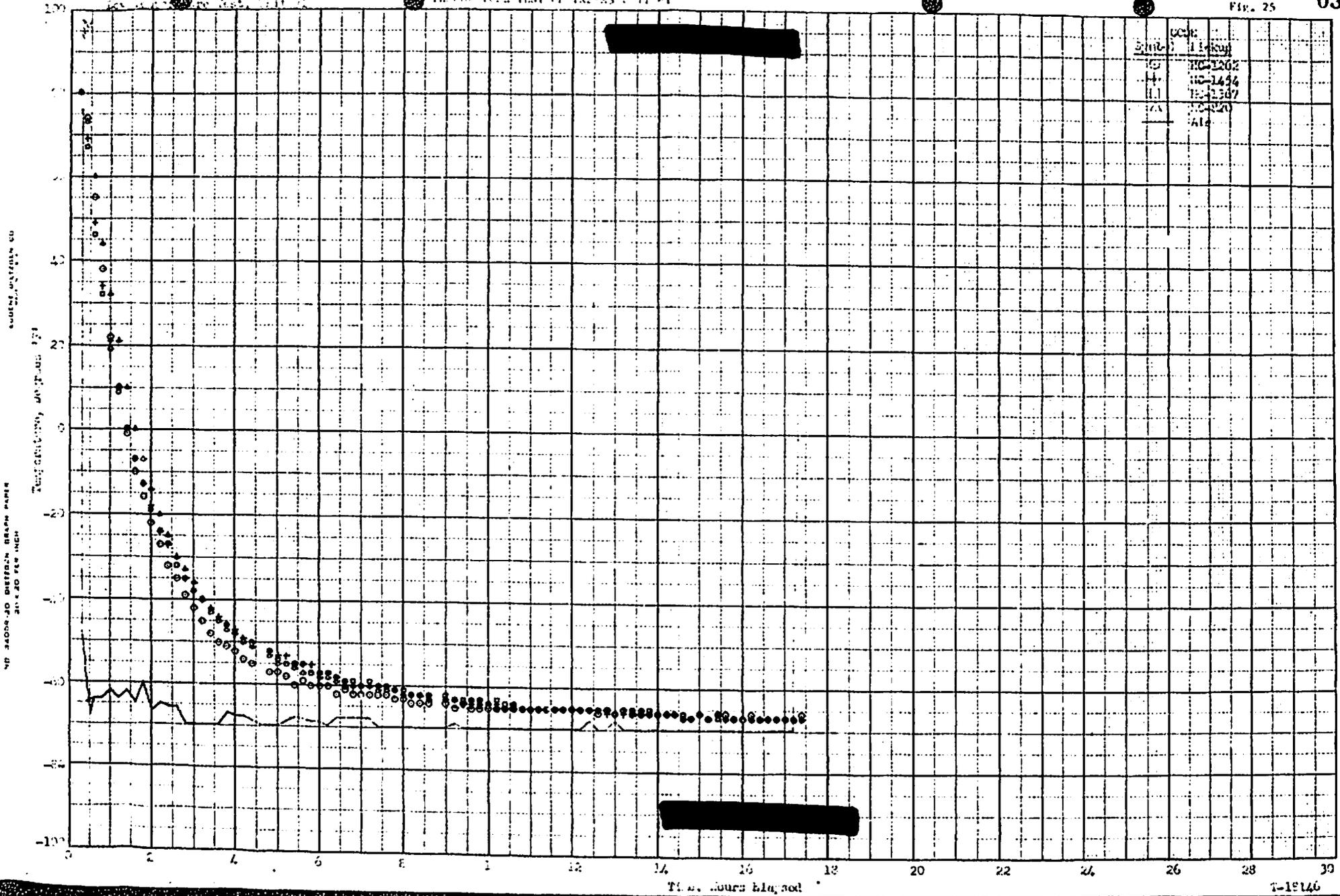
T-10140

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TIME-TEMPERATURE TEST OF TAPX3 UNIT 01

FIG. 25

0387

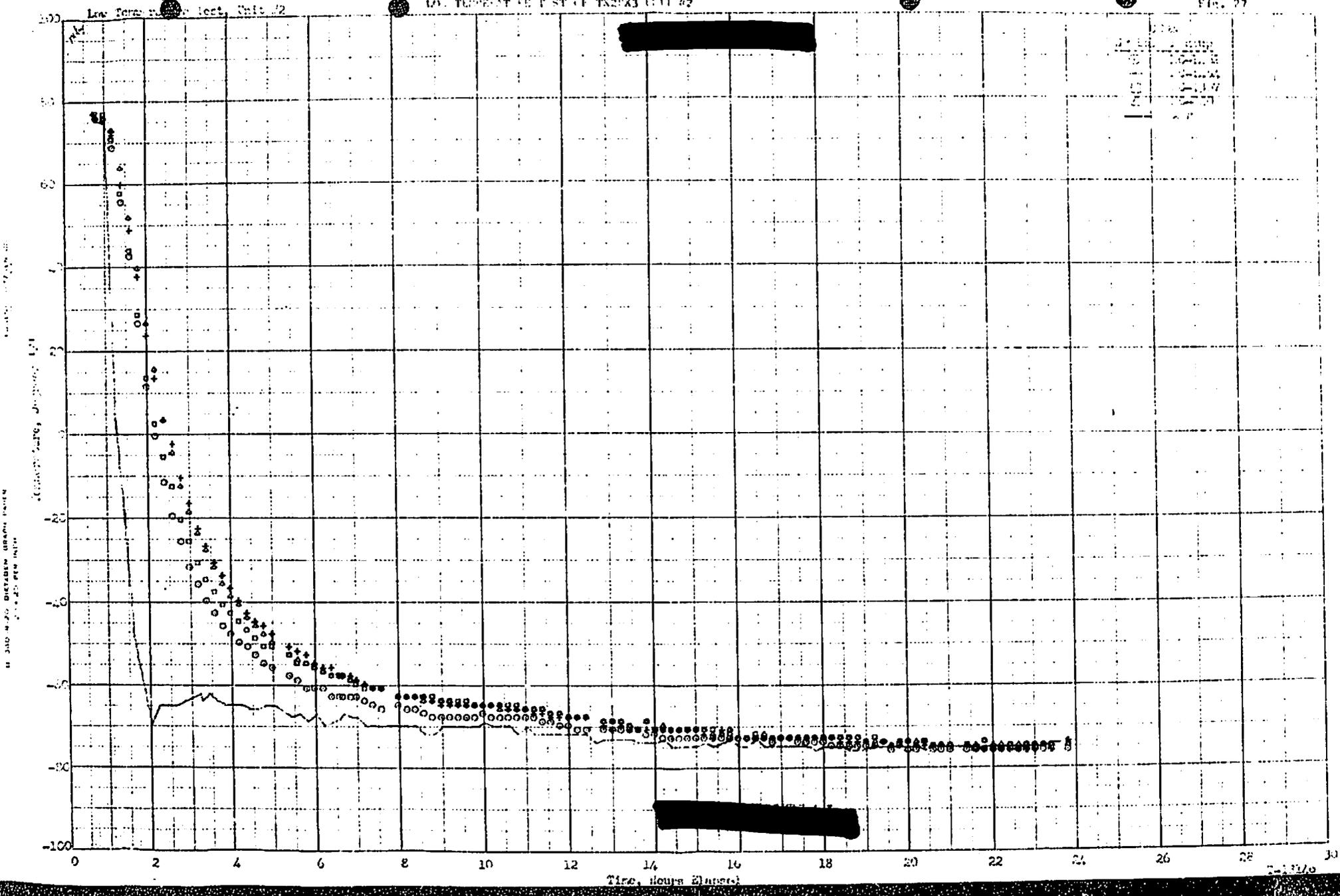


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LOW TEMPERATURE TEST OF TAPAC 611 42

Fig. 27



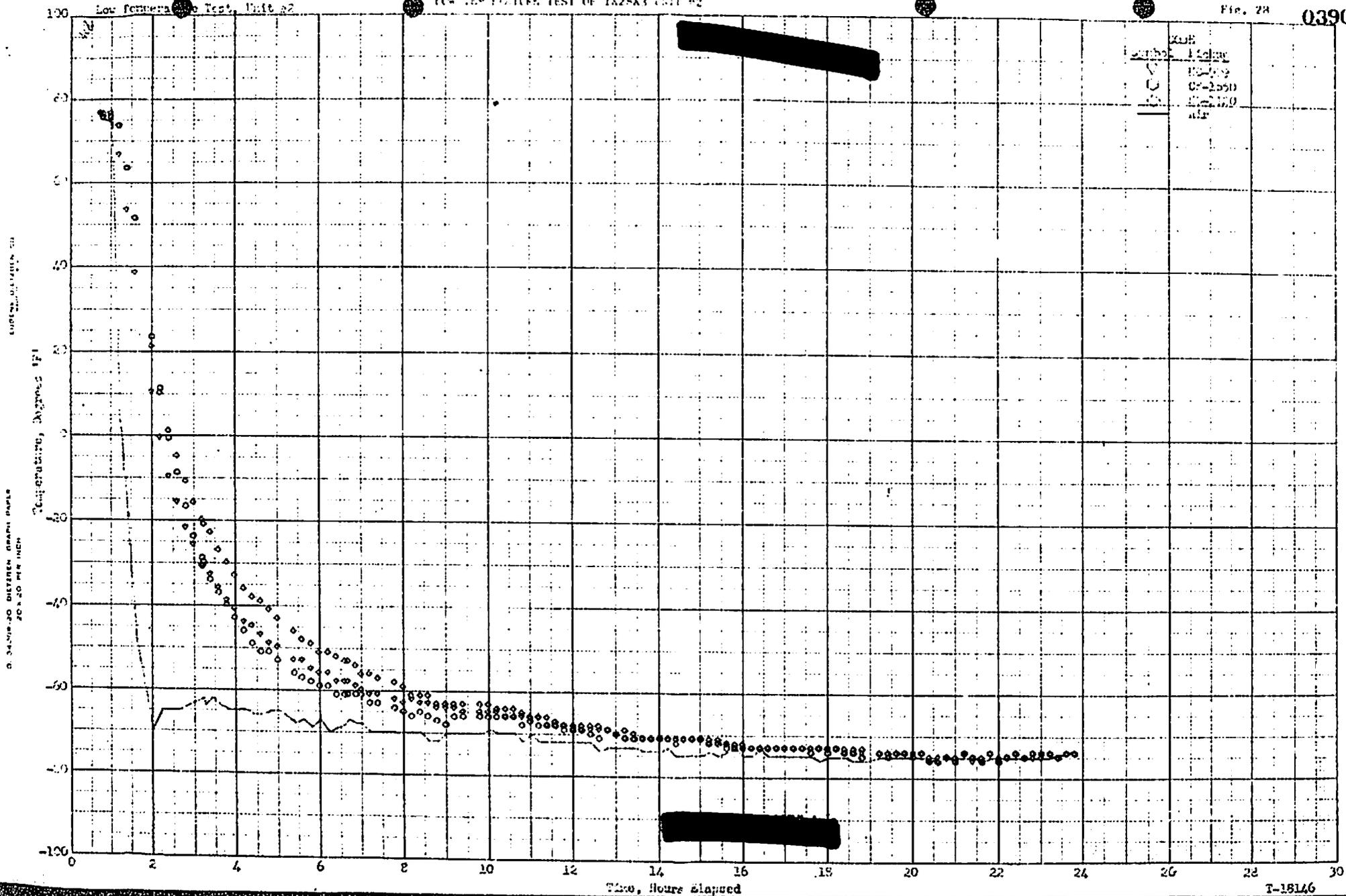
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Low Temperature Test, Unit #2

LOW TEMPERATURE TEST OF TX28X3 UNIT #2

Fig. 28

0390



ENGINEERING CO

34-100-20 DIFFERENTIAL GRAPH PAPER
20 x 20 PER INCH

Symbol	Meaning
○	Hot Air

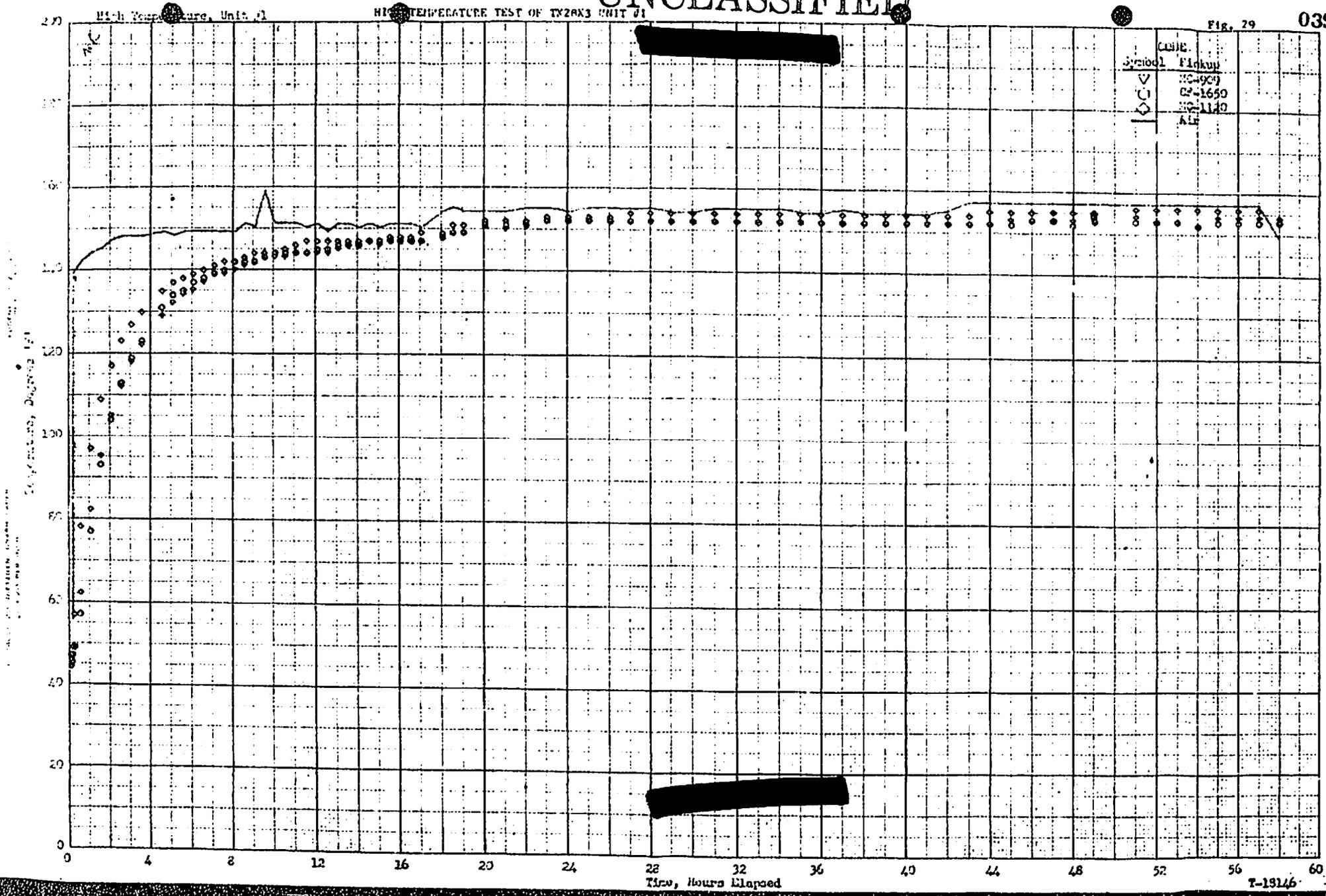
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Fig. 29

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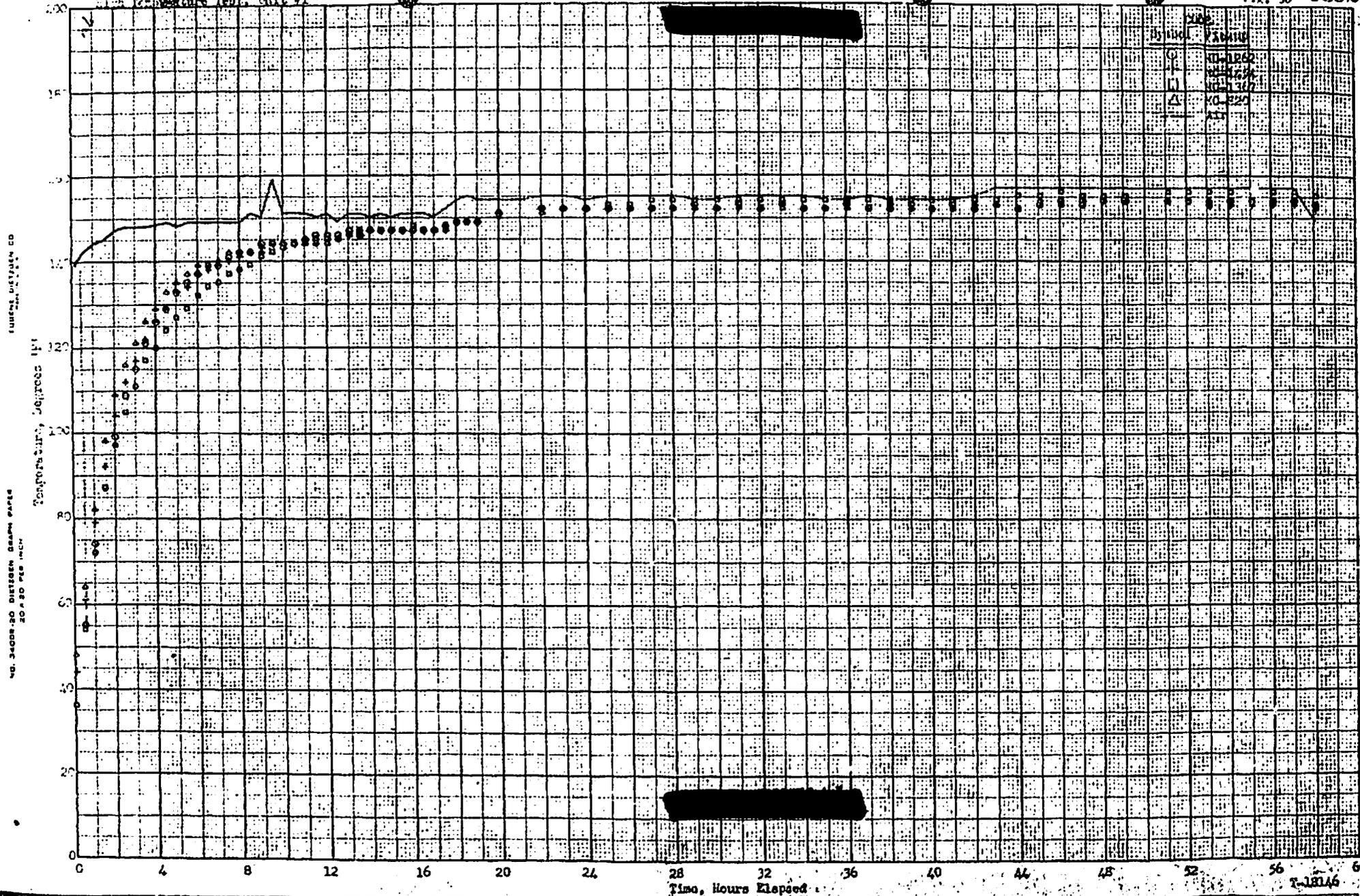
T-18146

High Temperature Test, Unit #1

HIGH TEMPERATURE TEST OF TX28X3 UNIT #1

FIG. 30 0392

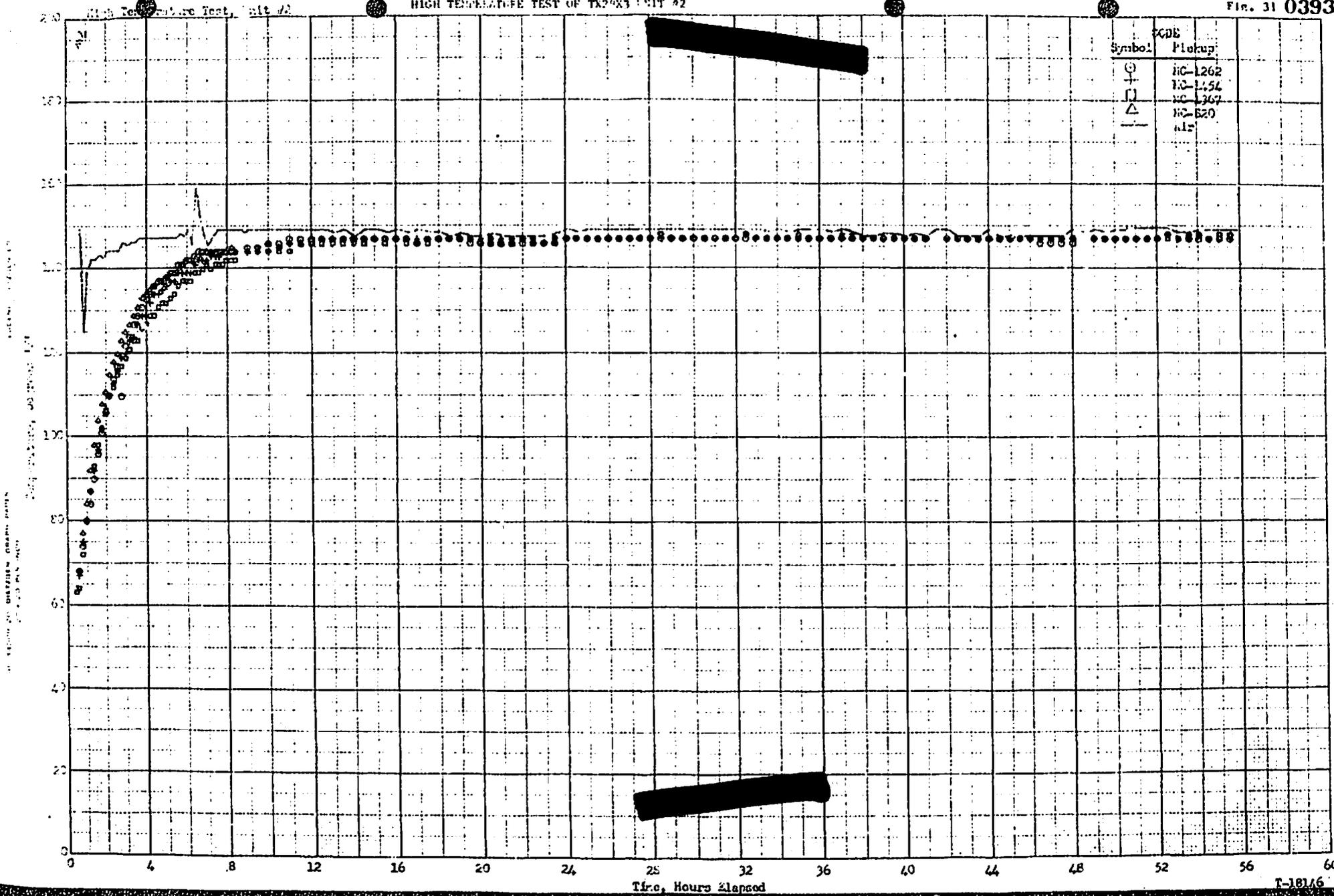
NO. 34008-20 DESIGN GRAPH PAPER
50 X 30 PER INCH



Symbol	Value
○	10-1862
□	10-1862
△	10-1862
×	10-1862

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Fig. 31 0393



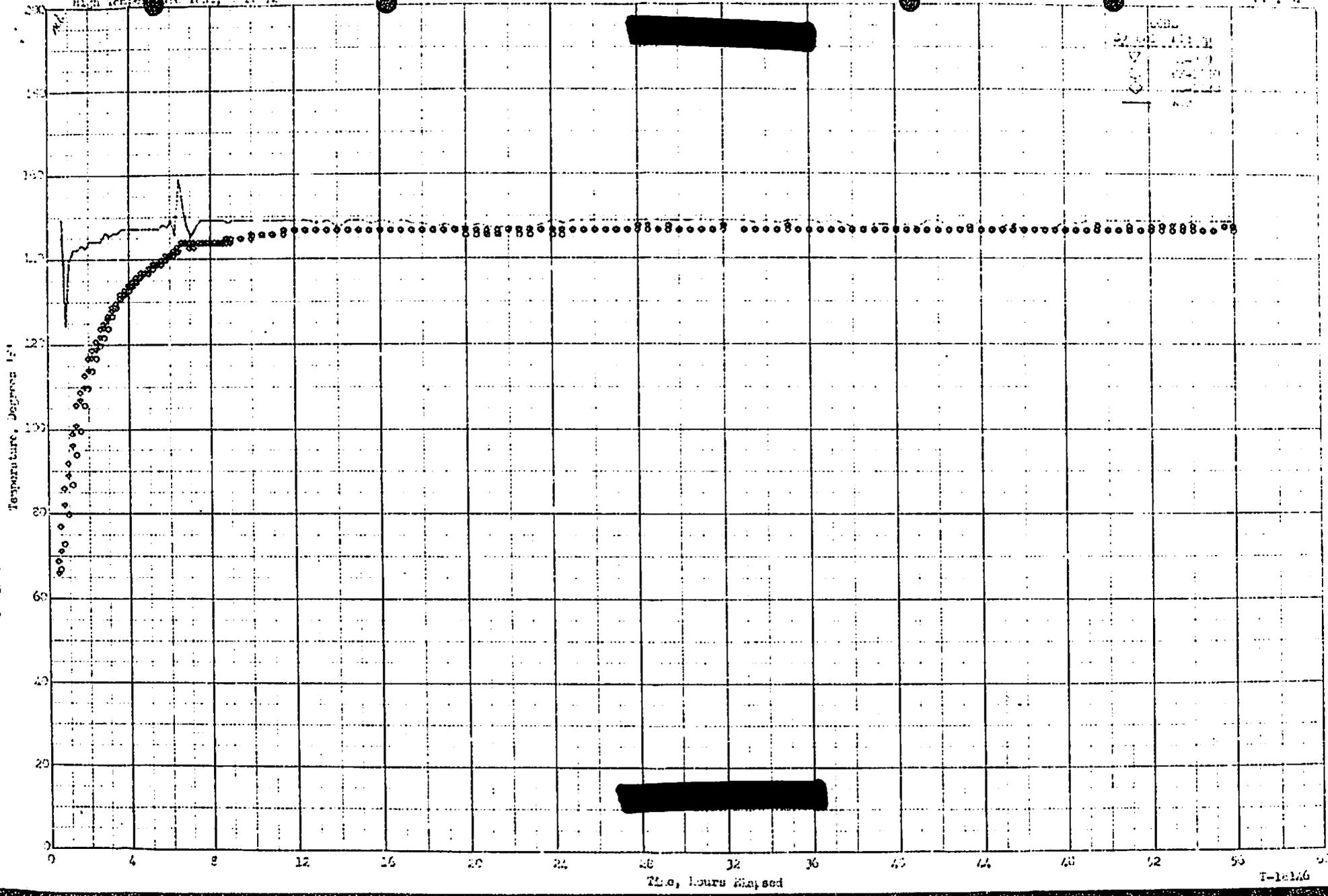
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High Temperature Test, 1000 / 1

HIGH TEMPERATURE TEST OF TRAXES UNIT 2

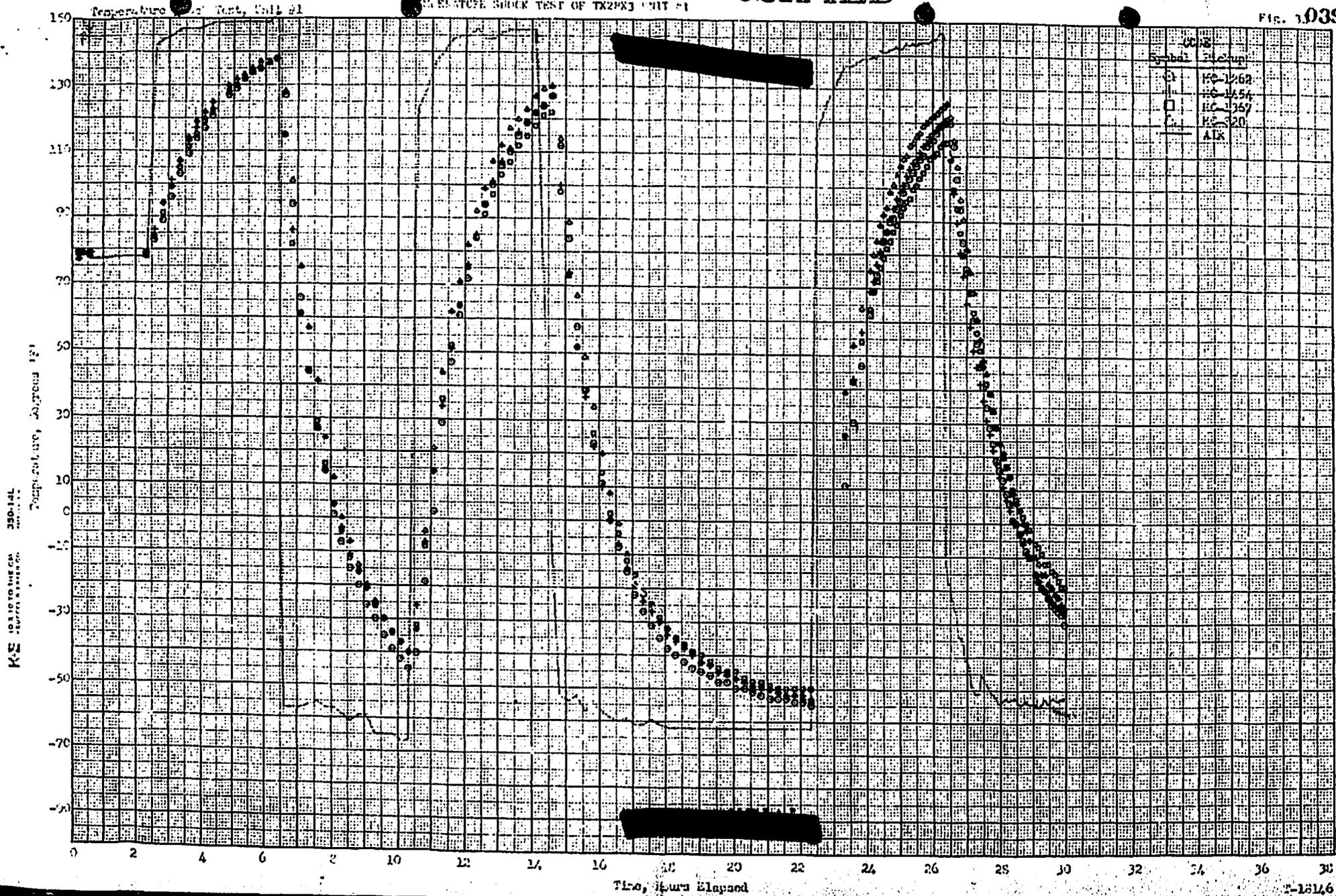
Fig. 12



1000 / 1
 TRAXES UNIT 2
 1000 / 1
 1000 / 1
 1000 / 1

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FIG. 10395

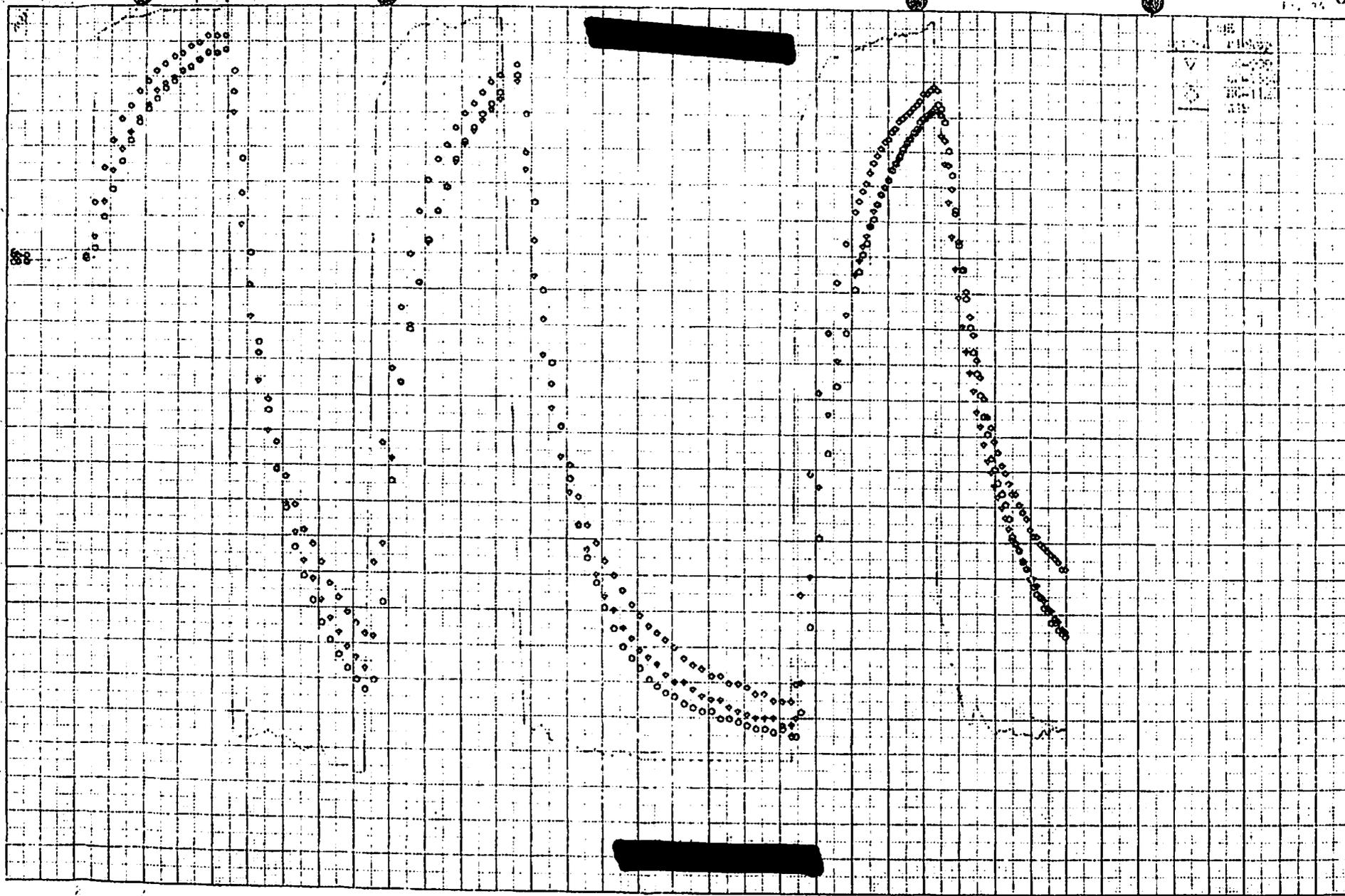


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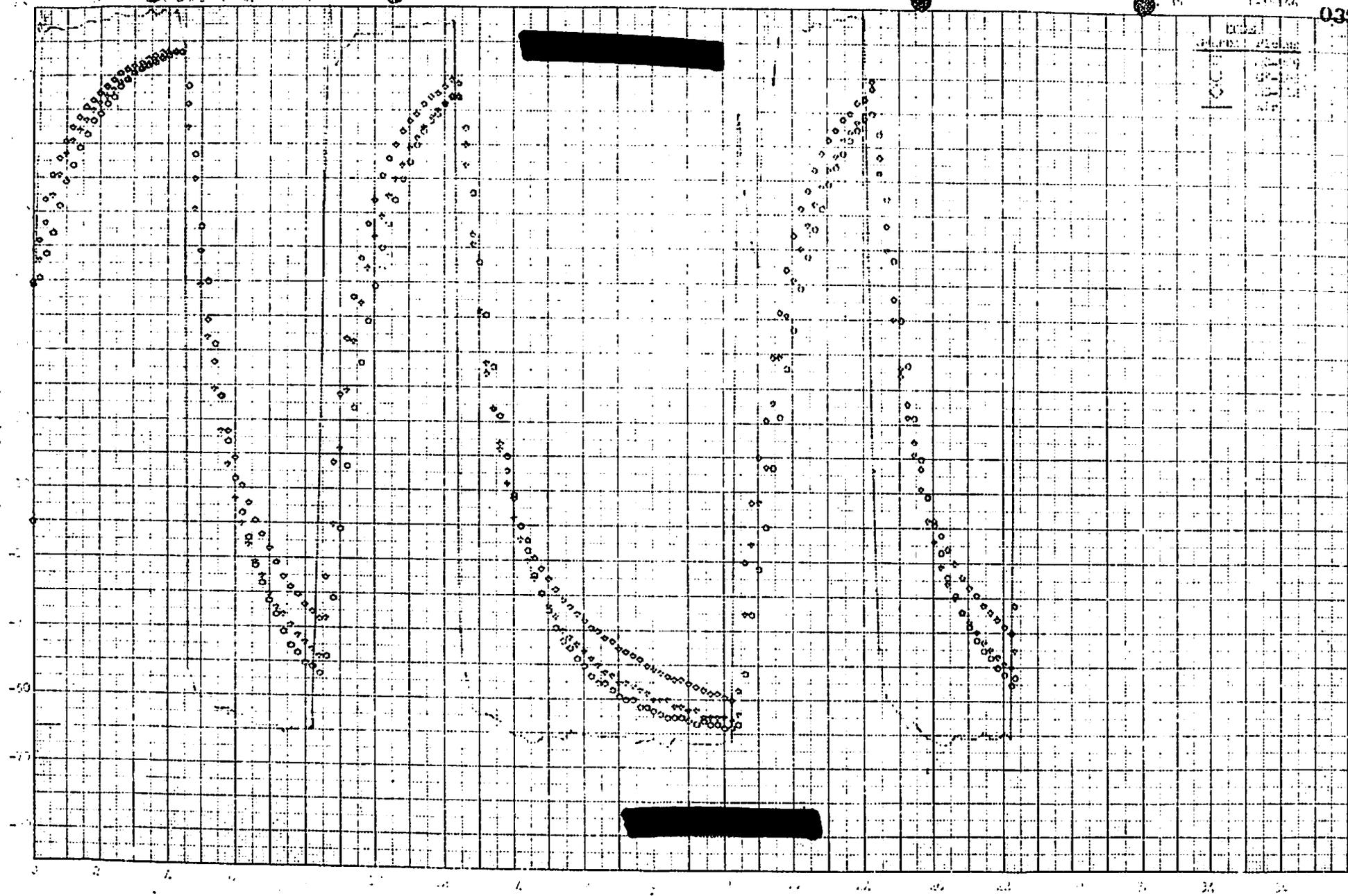
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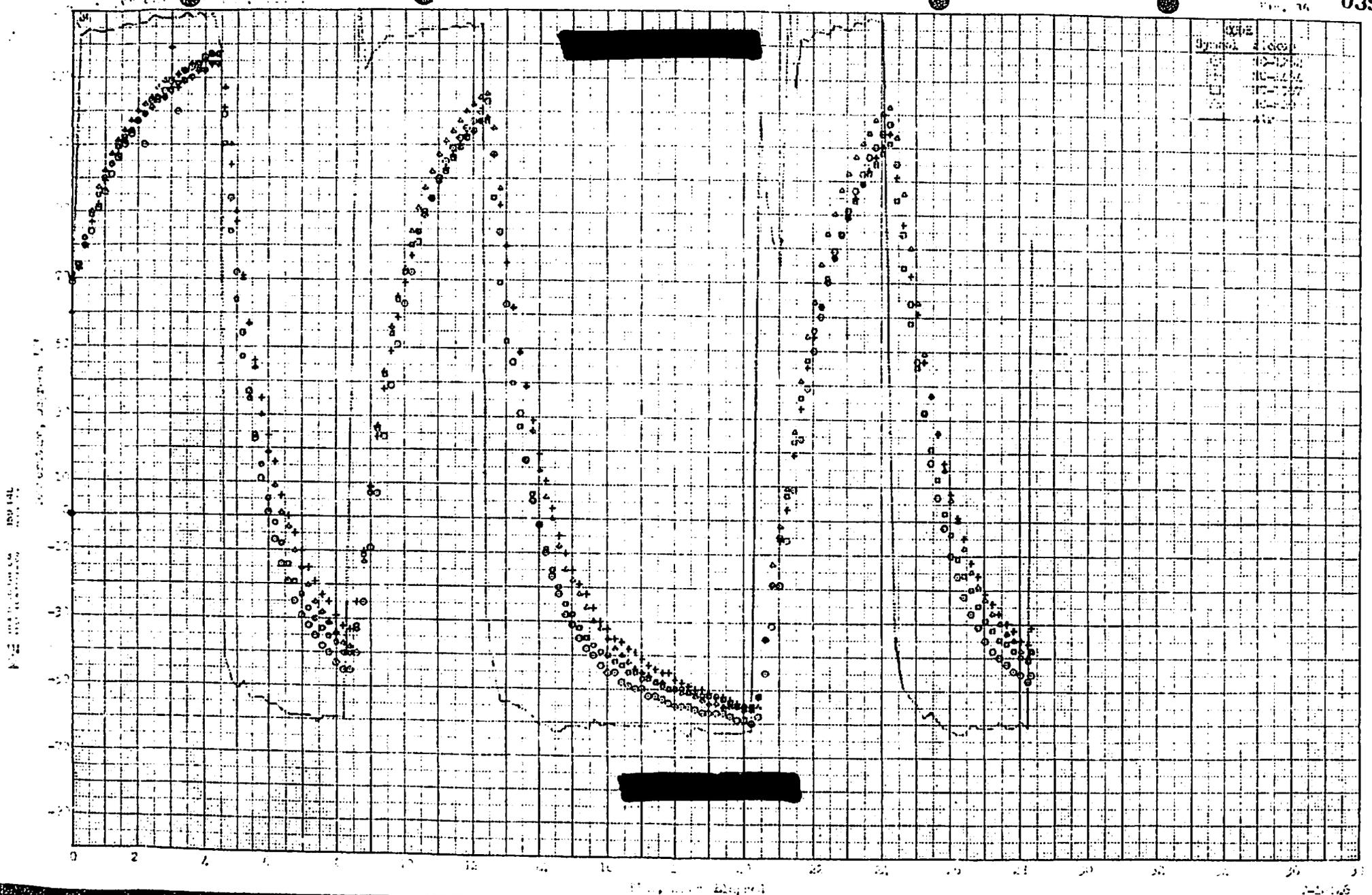
0397

Index	Station	Reading
100	100	100
101	101	101
102	102	102
103	103	103
104	104	104
105	105	105

350-14L



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TABLE I
FUNCTIONAL
EQUIPMENT LIST

T-15146

ITEM NO.	NAME	MFG. & MODEL	S-NO./ SER. NO.	DATE OF LAST CAL.	CAL. PER.	ACCURACY	RANGE	REMARKS
1	Resistance	DATEX	#2	STG.	—	$\pm 2^{\circ}F$	-500 To +500	—
2	Wire	CH. 11- 110601	—	—	—	$\pm 2^{\circ}F$	—	—

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TABLE II
ENVIRONMENTAL
EQUIPMENT LIST

ITEM NO.	NAME	MFG. & MODEL	S-NO./ SER. NO.	DATE OF LAST CAL.	CAL. PER.	ACCURACY	RANGE	REMARKS
1	Chamber	Conrad	Dual	std.				
2	Chamber	Heath	#3	std.				

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