

EBASCO

Interoffice Correspondence

DATE July 8, 1981 FILE REF.

TO G. Hofer

OFFICE LOCATION 80/2WTC

FROM L. A. Gunther

LA Gunther

OFFICE LOCATION 88/2WTC

50-382

SUBJECT LOUISIANA POWER & LIGHT COMPANY
WATERFORD UNIT 3
TRANSMITTAL OF DATA REQUESTED BY
NRC TO SUPPORT EBASCO RESPONSE
TO NRC QUESTIONS CONCERNING GDC-51

Enclosed are Mill Test Reports and heat treatment data obtained from the Dravo Corporation. This data verifies that SA106 Gr B pipe from Heat No. X1186 was normalized to improve the toughness properties of the material.

This information is to be submitted to Mr. J. Halaptz of the NRC. The data provides verification of information provided to the NRC by telephone communication during the NRC review of the Waterford 3 Containment System for compliance with General Design Criteria 51.

LAG:jl
Enclosures

cc: J. Padalino
J. Hart
File

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1/1

8107140403 810708
PDR ADOCK 05000382
A PDR

Mill Test Reports Transmittal

RECEIVED

JUN 15 1981

SERIAL NO. 1075

CONTRACT NO. E2803

P. O. NO. E2813-357

DATE 6-8-81

Corrected Copy

DISTRIBUTION: PURCHASING (ORIGINAL) QUALITY ASSURANCE

LOCATION: MARIETTA (15) CHARLOTTE () FIELD ()

PMI OR M-BILL M150-22 Rev. 1

CLASS ASME III Class 2

HEAT NO. X1156

ITEM NO. 1

QUANTITY 7'-3"

TALLY SHEET SERIAL NO. 1-198

PMI OR M-BILL

CLASS

HEAT NO.

ITEM NO.

QUANTITY

TALLY SHEET SERIAL NO.

NOTES:

The Material And Material Procurement
Are in Conformance With the Requirements
Of The Material Specification And ASME III
1971, 1972, Addenda
DRAVO Corporation
Pipe Fabrication Division
NPI, N1320, Expires March 1, 1982
Quality Assurance Department
[Signature] Date 6-8-81

Attached Impact Test
& Heat Treat Chart

QUALITY ASSURANCE

PURCHASING FILE

Purchasing Department

BOM 396-4

THE BABCOCK & WILCOX COMPANY - BARBERTON WORKS

CERTIFICATE OF TEST

DATE November 16, 1978CUSTOMER Odeco Pipe ServiceCUSTOMER ORDER NO. 229SPECIFICATION SA 106 GR. C WALL THICKNESS 2 1/4" min.JOB NO. 766-1756-45TYPE OF MATERIAL Carbon SteelOUTSIDE DIAMETER 40 3/4" HYDROSTATIC TEST PSI

PATT. NO.

MK NO.

PAGE NO.

SIZE

HARDNESS

LADLE ANALYSIS	HEAT NO.	C	MN	P	S	SI	CR	NI	MO	CU Ni	CU TA	AI V	SN	FE
	X 1186	.30	.76	.006	.014	.27								

LAB. NO. PIPE CODE NO.	HEAT NO.	CHECK ANALYSIS												
		C	MN	P	S	SI	CR	NI	MO	CU Ni	CU TA	AI V	SN	FE

PIPE CODE NO.	HEAT NO.	TENSILE STRENGTH P.S.I.	YIELD POINT P.S.I.	% ELONGATION IN 2 INCHES	REDUCTION OF AREA %	ULTRASONIC TEST	BEND TEST	MACRO ETCH TEST	GRAIN SIZE
42285	X 1186	75500	41500	32.0		1004-116 OK	2-180° OK		
		TRANSVERSE TENSILE TEST							

HEAT TREATMENT: NORMALIZE

STRESS RELIEVE

I HEREBY CERTIFY THAT THE ABOVE RESULTS ARE CORRECT
AND CONTAINED IN THE RECORDS OF THE COMPANY

Paul E Campbell
TEST ENGINEER

S
H
I
O
P Marietta, Ohio

Phila. Plant

TUBE TURNS 880069
ORDER NO.

CUSTOMERS ORDER NO. E-2803-357

* STANDARD ROUND TEST SPECIMEN

1	ANNEALED
2	NORMALIZED
3	NORMALIZED AND STRESS RELIEVED
4	STRESS RELIEVED
5	QUENCHED AND TEMPERED
6	HOT FORMED
7	HEAT TREAT PER ORDER SPECIFICATION

SUBSCRIBED AND SWORN TO BEFORE ME THIS

DAY OF _____ 19____

NOTARY PUBLIC

I HEREBY CERTIFY THIS REPORT TO BE TRUE AND CORRECT ACCORDING
RECORDS IN THE POSSESSION OF THIS CORPORATION.

Stanley Chris Creek

Dravo

MATERIAL MACHINED BY TUBE TURNS
ON PURCHASE ORDER E2803-381 TO
40-1/2" O.D. x 37-3/4" I.D.
HEAT NUMBER X1186

10.50
37.75
2.75
1.38

KAY MCKENZIE
QUALITY ASSURANCE DEPARTMENT
DRAVO CORPORATION



PITTSBURGH TESTING LABORATORY

ESTABLISHED 1881

850 POPLAR STREET, PITTSBURGH, PA. 15220

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FORM 407 REV. - PG

PLEASE REPLY TO:
P. O. BOX 1646
PITTSBURGH, PA. 15230

AREA CODE 412 TELEPHONE 922-4000

LABORATORY No. 794669

CLIENT'S No. 79-136

ORDER No. PG 10130

March 23, 1979

REPORT

REPORT OF: Charpy Impact Test

REPORT TO: Dravo Corporation
1115 Gilman Avenue
Marietta, Ohio 45750

We received one (1) sample of pipe identified as SA 106 GR B No. R51A for Charpy Impact test in accordance with ASME Section III. Following are the results:

Charpy Impact Test in as received condition.

Specimen No.	Test Temperature +20°F		Specimen Size 10mm x 10mm	
	Shear %	Cleavage %	Lateral Expansion Mils	Impact Foot-Pounds
1	10	90	19	21
2	15	85	13	14
3	15	85	16	28

Above tested samples do not meet the 40 mils lateral expansion requirements of your P.O.

Sample was normalized @ 1750°F \pm 50°F held for two (2) hours removed from furnace and cooled. Sample was reheated at 1150°F \pm 25°F held for two (2) hours with heat and cool rate above 800 F, did not exceed 400°F per hour.

Additional set of charpy impacts were machined and tested from the heat treated material. Following are the results.

Specimen No.	Test Temperature +20°F		Specimen Size 10 mm x 10 mm	
	Shear %	Cleavage %	Lateral Expansion Mils	Impact Foot-Pounds
4	0	100	32	38
5	10	90	34	39
6	10	90	33	39



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AREA CODE 412 TELEPHONE 922-4000

LABORATORY No. 794669

ORDER No. PG 10130

March 23, 1979

CLIENT'S No. 79-136

REPORT

REPORT OF: Charpy Impact Test

Charpy Impact Test Data:

Location	-	NB2322-1
Orientation	-	NB2322.2 (a) (2) Axial
Temperature	-	+20 Degrees F
Retest	-	NB2350

Sample submitted by client for preparation and testing.

PITTSBURGH TESTING LABORATORY

Earl Gallagher, Manager
Physical Testing Department

cc: 3- Larry Dean
cc: 3- M. A. Piatt
cc: 1- John Baker

mak

FURNACE SCHEDULE

8174

☐ STRESS

☐ BENC

FURNACE

DATE _____

PROCEDURE

QTY

CONTRACT
&
SKETCH

PIECE MARK

PIPE
THICKNESS

CL

PIPE
SPEC.

2803-R-1065

4 1/2" pipe

4,500

A106C

Nest Number: X1156
5/14/81

8m 3-4 (AM)

OK 9/13/79
WVDV

FAST TO 600 °

HOLD 2 HRS 1 MIN.

100 ° PER HR TO 1750-50 °

DOWN 300 ° PER HR TO 600 °

TOP FOREMAN

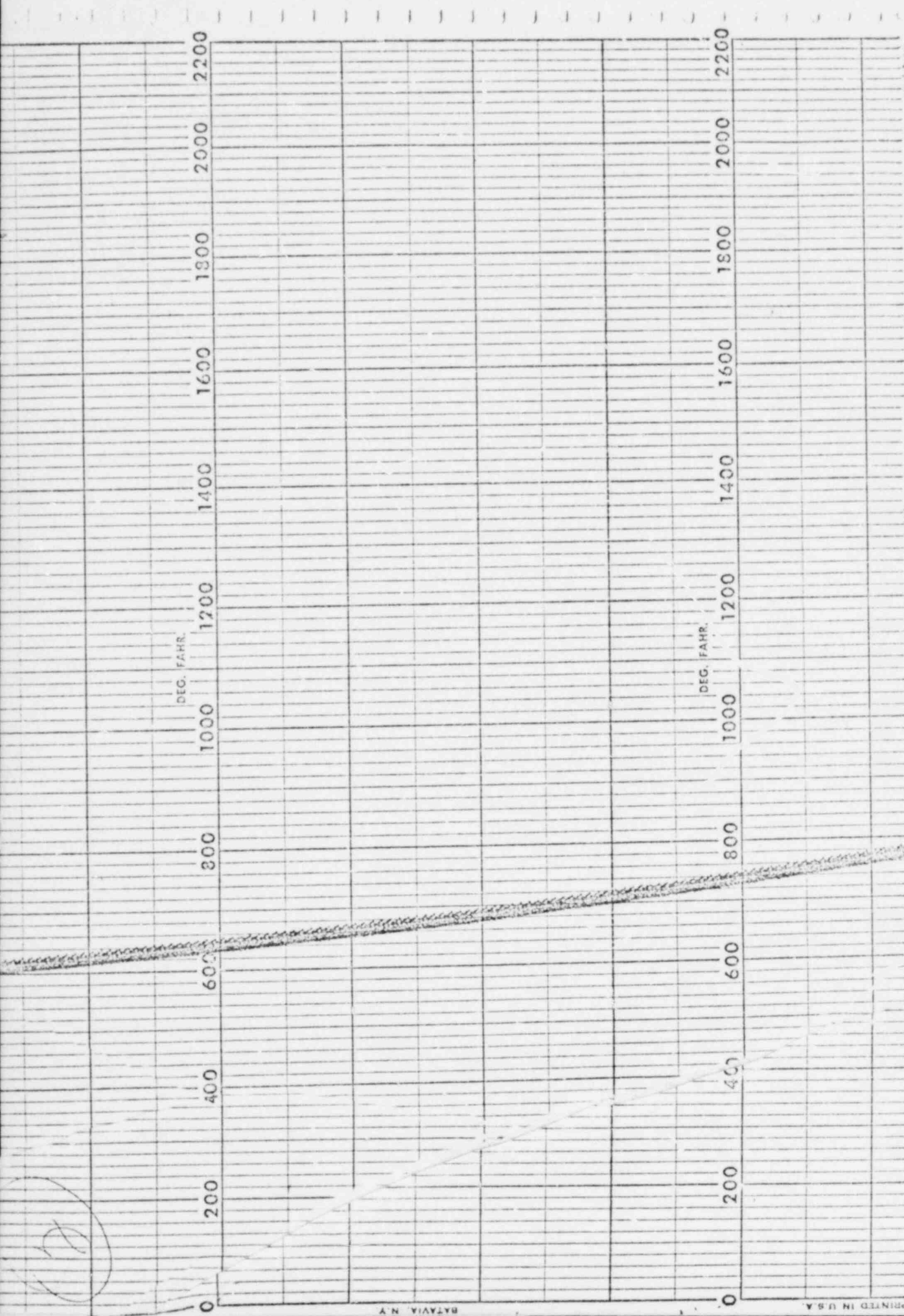
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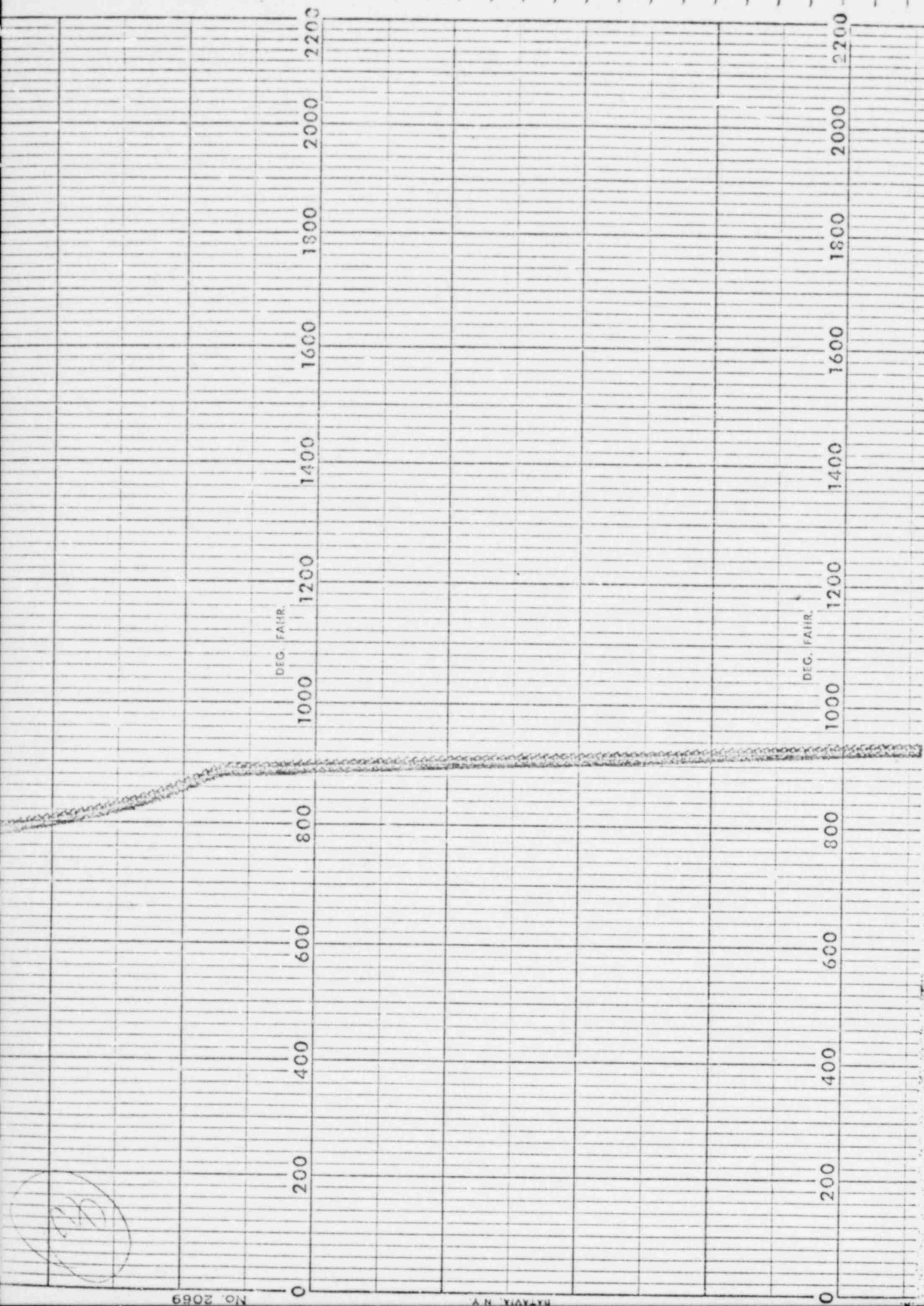
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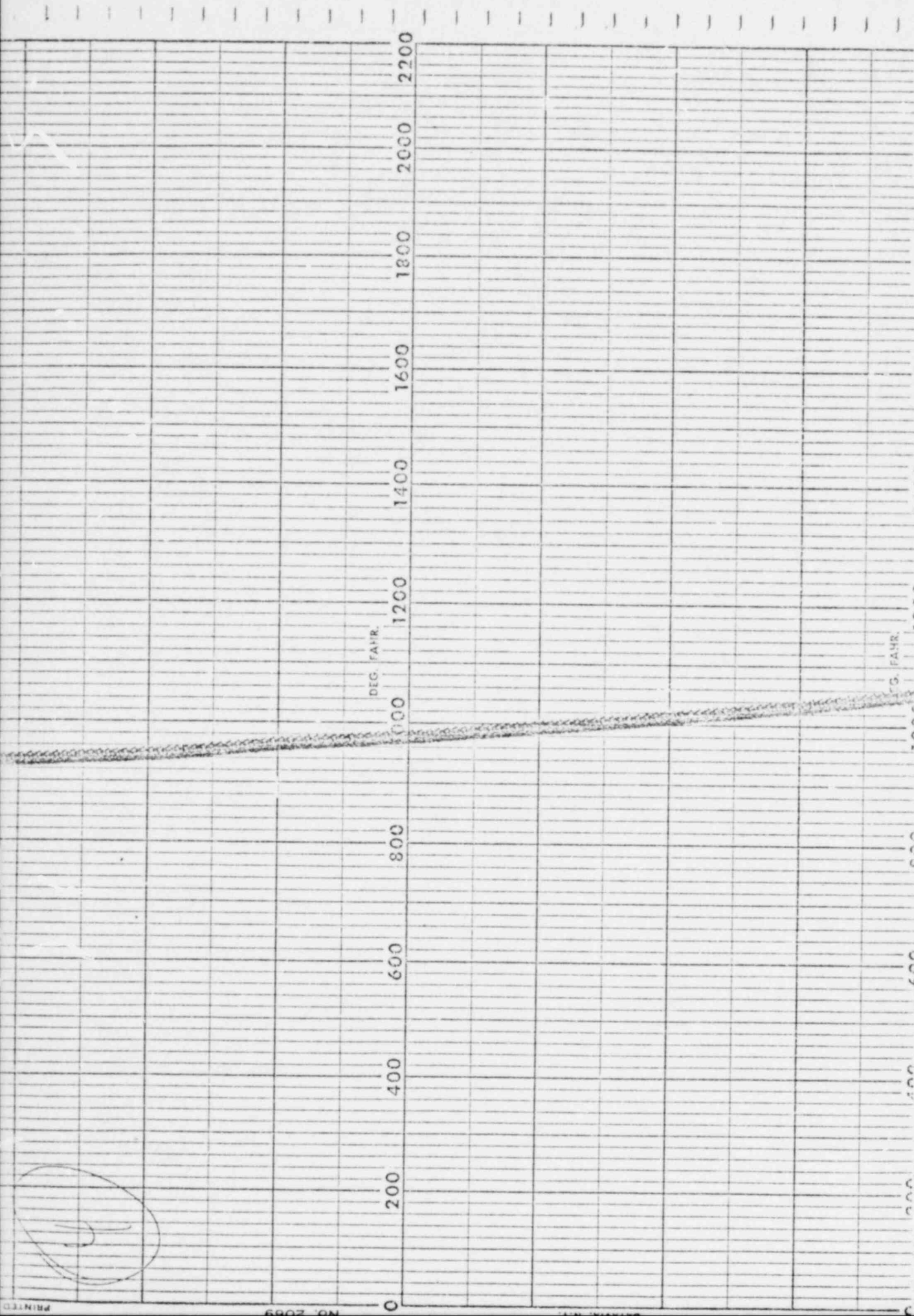
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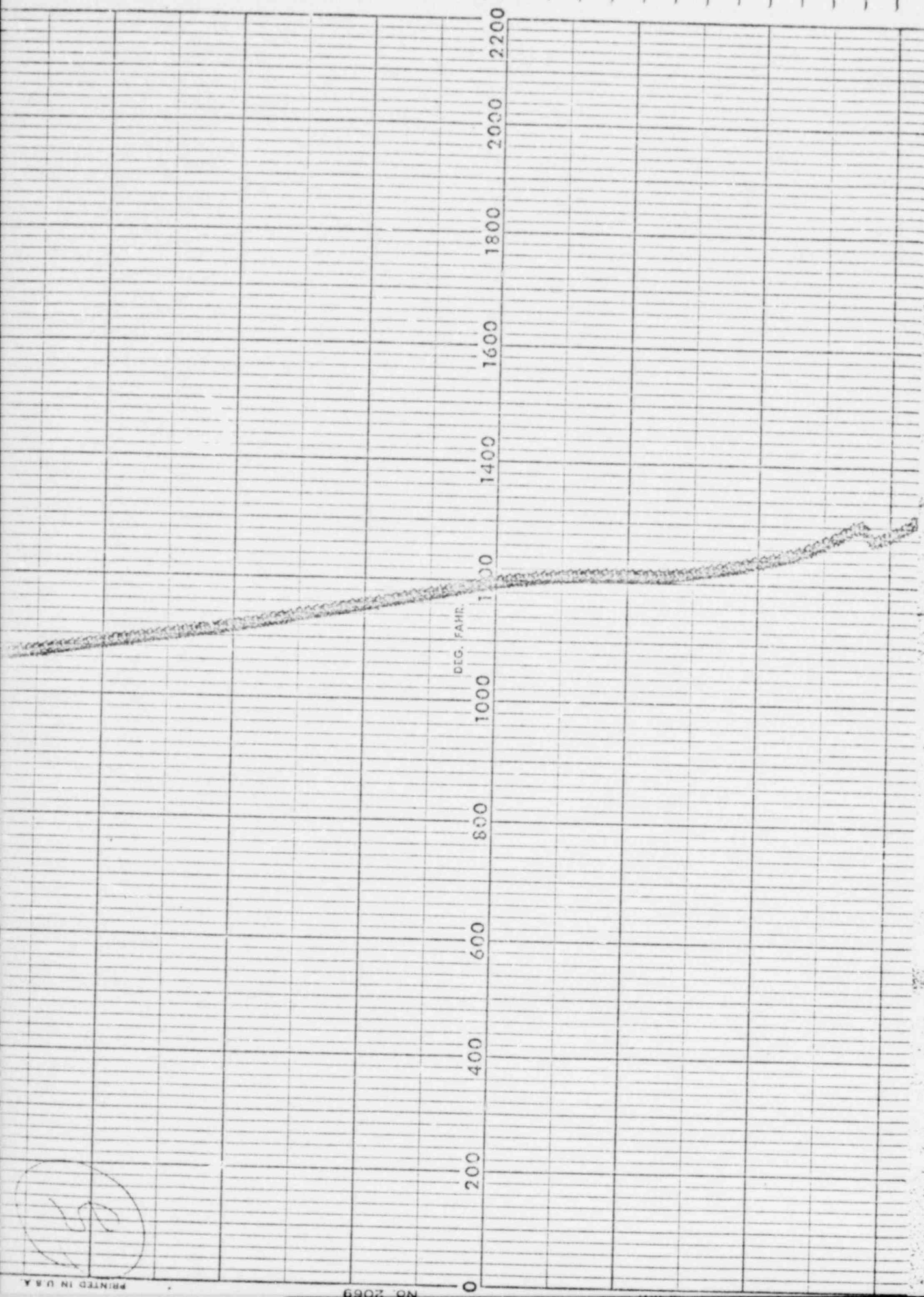
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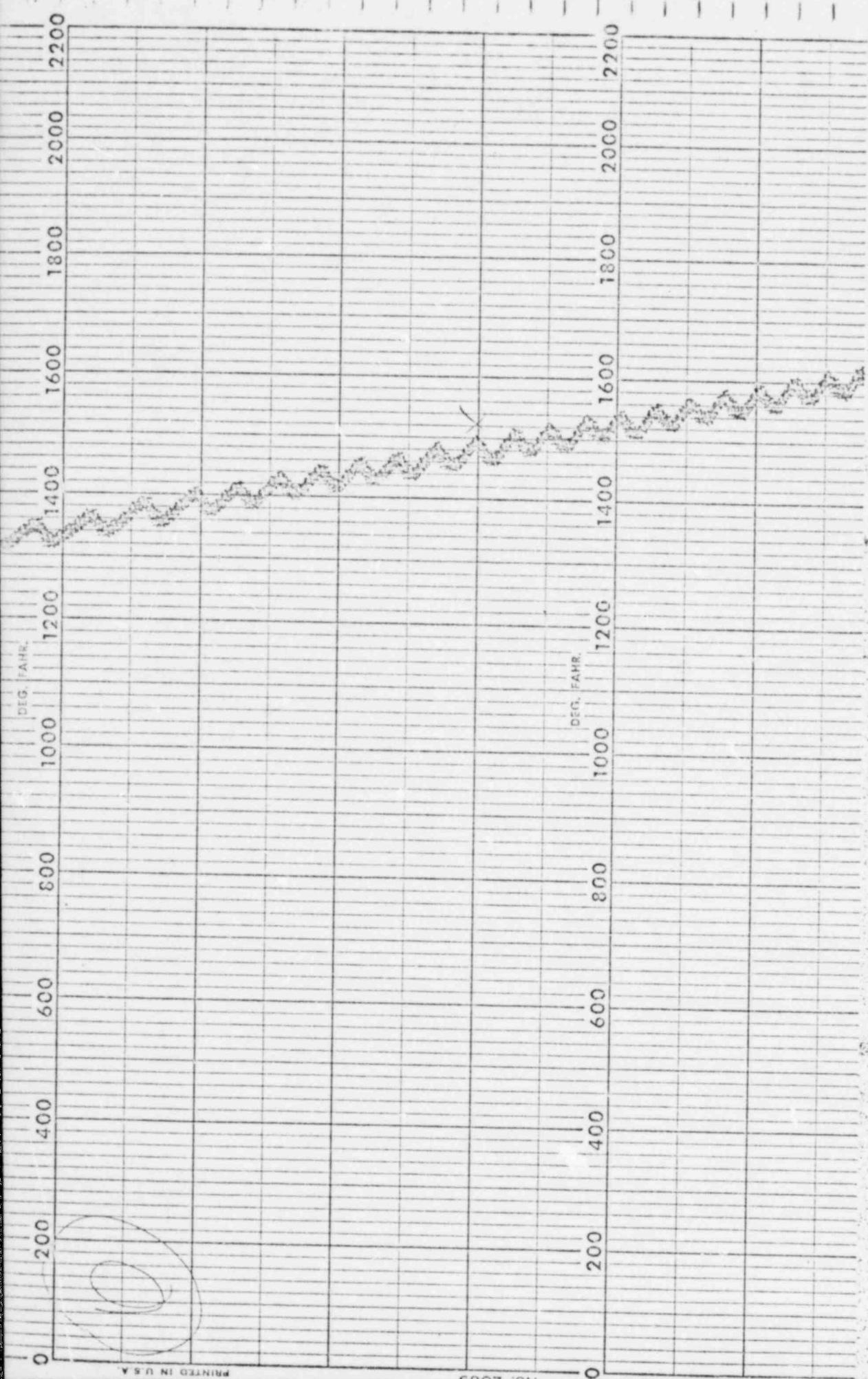






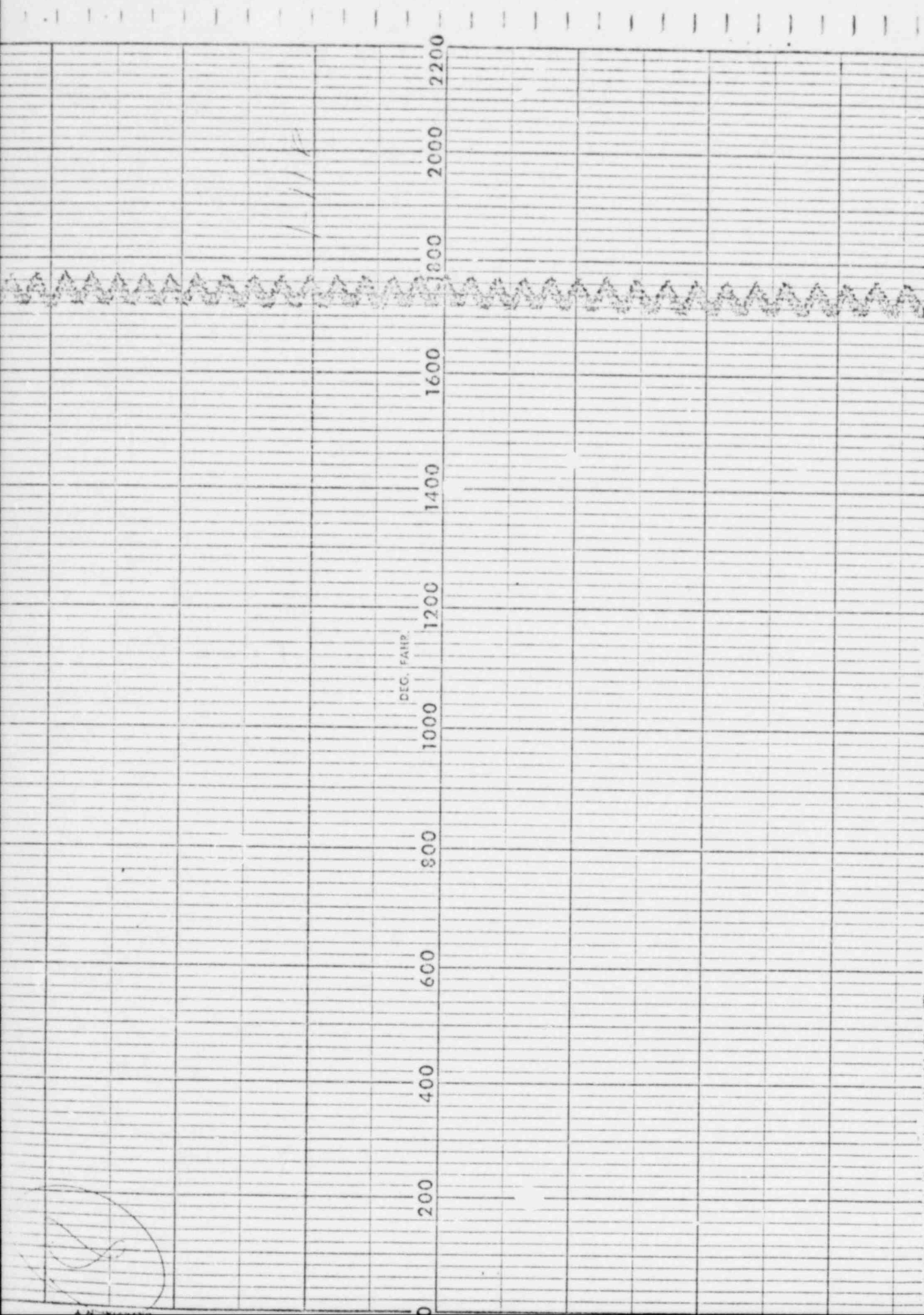


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BATAVIA, N.Y.

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