



**Consumers
Power
Company**

J A Mooney
Executive Manager
Midland Project Office

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-0774

July 15, 1983

50-329

50-330

Mr J J Harrison
Midland Project Section
US Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

PRINCIPAL STAFF			
RA		ENF	
D/RA		SOS	
A/RA		PAO	
DFRP		SLO	
ORMA		RC	
DRASH			
OE			
ML			
OL		FILE	

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MIDLAND ENERGY CENTER PROJECT GWO 7020
MIDLAND SOILS TELECON OF JUNE 30, 1983
File: 0485.16 UFI: 42*05*22*04 Serial: 23706
12*32

A telecon was arranged between the participants listed below on June 6, 1983 to discuss Consumers Power Company's request for NRC authorization to use the Utility Access Tunnel (UAT) as a means of constructing Piers CT1 and 12. Utilizing the UAT allows loading of CT1 and CT12 prior to removing the soil from KC-4 to KC-5 and from KC-9 to KC-8. This approach was earlier presented to the Case Load Forecast Panel, NRC Region III and NRR. The purpose of this telephone conversation was to review the details with the staff.

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R Landsman, NRC
S Poulos, NRC (Consultant)

*J Darby, Bechtel
*M Lewis, Bechtel
V Verma, Bechtel

K Razdan, CP Co
R Wieland, CP Co

(*Part Time)

As noted below, the subjects covered not only the UAT but also other items related to the underpinning of the auxiliary building.

The following is a summary of the discussions and agreements during the telecon. The responses to various items are a follow-up to the staff's request for further information.

Item 1 - Building Movement

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JUL 19 1983

IED
11

at the west EPA, that the phase III alert level could be reached sometime in the beginning of September, 1983 (assuming the grillage at Pier 8 is not jacked). However, based on the present progress, it is expected that the grillage at Pier 8 would be jacked near the end of August, 1983. The Δ_1 , at the east end of the EPA is much smaller. The NRC was informed that the strain readings in the critical areas were consistent with the order of magnitude of the Δ_1 readings. Also, no change in crack widths has been detected since drifting under the EPA. The movement under the west EPA started in early May, 1983.

CPCo agreed to send the following information to the NRC:

- A. Updated absolute settlement plots;
- B. Updated plots of Δ_1 including explanations of any local variations and conclusions about the trend;
- C. Plots of strain in critical building areas since the beginning of May, 1983. (CPCo also committed to maintain these plots in future in addition to the present tabulation);
- D. Plot showing the construction events on the same scale as the settlement plots of A & B;
- E. The RGE's daily report giving the sketches of a void encountered under the west EPA and the details relative to the actions taken.

Response 1

Enclosures 1-5 cover the various plots and data requested.

Item 2 - Crack Monitoring

A discussion on crack monitoring took place with the NRC observing that there were alternative methods for measuring crack width.

Response 2

The present measuring technique has produced data with a high degree of reliability, as demonstrated by the consistency of data from reading to reading. CPCo proposes no changes in the system at this time.

Item 3 - Load Test Report

The NRC indicated that the load test report for Pier W11 delineated in Spec C-195, Appendix D should be submitted to them. The NRC indicated that it is not necessary that this report be submitted prior to approval of the Pier CT-1/CT-12 work package.

Response 3

The report will be submitted under separate cover.

Item 4 - Load Test Letter

The NRC indicated that they had not reviewed the CPCo letter dated June 9, 1983 regarding the options adopted after the pier load test. It was indicated that after their review, conference call would be held between CPCo and NRC (R Landsman, J Kane, S Poulous and F Rinaldi) to discuss this letter. R Landsman indicated that the NRC would like to discuss an audit of the calculations which form the basis of the June 9, 1983 letter.

Response 4

The calculations and all data are available for review by the NRC upon request.

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S Poulos commented that the Tie Back System submitted with telecon notes of March 7 and 8, 1983 seems to be large and has extensive trusses. He remarked that maybe it could be made more economical by providing diagonal ties between the top of the piers and the Turbine Mat. It was decided that a conference call would be held between CPCo and NRC (F Rinaldi and R Landsman) to discuss NRC's comments on the tie back scheme.

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CPCo will participate in a conference call as requested.

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A discussion was held regarding the access through the UAT. The sketches of this scheme were included with the telecon notes of March 7 and 8, 1983. It was indicated to the NRC that Pier CT-1 would not be approached until the grillage at Pier W8 was jacked.

At this stage, Pier KC3 may (as noted on this schedule) be completed. Pier W5 and excavation for grillage at Pier W5 would not be initiated until CT-1 is jacked. However, the long drift to KC-4 and Pier KC-4 may be completed before jacking Pier CT-1. The long drift from KC-4 to KC-5 will not be started until CT1 is loaded. The NRC commented that when the grillage at W5 is jacked, after jacking CT-1, there will be a hard spot, at the CT-1 pier, which may attract more load. CPCo indicated that provisions have been made in the design for this condition as follows:

- A. Reserve capacity of approximately 60% for the CT-1 pier (the anticipated load on this pier, based on contributory load, is 750 tons. However, the pier and its bell footing have been designed for a load of 1125 tons).
- B. The provision in the specification that during jacking of the grillage at W5, CT-1 may be kept on active jacks to limit load.

- C. The provision in the specification that during jacking of the grillage at Pier W5, corrective action be taken on reaching a small settlement (approximately 10 mils) at Pier CT-1.

Note: The above discussion is applicable to equivalent piers on east side of building.

Response 6

The sequence of W8 followed by CT-1 followed by W5 is the same as originally planned and approved by the NRR as shown in SSER-2 Page I-15, Items 3.1, 3.2, 3.3 and 3.4. The UAT concept changes only the construction, not the design, and, as discussed, the construction access change actually enhances the design by not having the KC-4 to KC-5 drift in place until CT-1 is loaded.

Item 7 - Grouting

The NRC questioned whether provisions for emergency grouting in the control tower area are in place.

Response 7

The present equipment is available and adequate for emergency use.

Item 8 - Wedges

The present system of rejackings was discussed. It was pointed out that rejackings requirements are determined by using data from the monitoring system. The NRC questioned whether this was adequate criteria relative to individual wedge loosening.

Response 8

CPCo feels present method is adequate and conformance with industry practices and further notes that the wedges have performed well to date without any problem. However, CPCo will participate in a future discussion on this issue if requested.

Item 9 - May 12 and 13, 1983 Site Visit

NRC indicated that D Hood would be issuing an action item list from their May 12 and 13 site visit and CPCo should pursue this with D Hood.

Response 9

CPCo will respond to the NRC action item list when it is issued.

Item 10 -CT1/12 Approval

R Landsman pointed out that before approving Pier CT-1/12 package, he would like Items 4, 7 and 8 to be resolved.

Response 10

No response required.

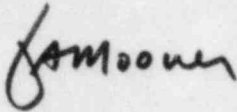
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CPCo indicated that the following changes had been made in the Carlson Stress Meters as a result of the pier load test:

- A. The rebar, at the top of the Carlson Stress Meters, to support the Carlsons had been removed.
- B. The Carlson Meters are being calibrated after encasement in the protective concrete.

Response 11

No response required.

A handwritten signature in black ink, appearing to read "JAMoonen". The signature is stylized with a large, looped initial "J" and a cursive "Moonen".

JAM/RHW/klm

	<u>ACTION</u>	<u>INFORMATION</u>
J W Cook, P26-336B	_____	_____
R A Wells, MPQAD	_____	_____
A J Boos, Bechtel Ann Arbor	_____	_____
J A Mooney, P14-115A	_____	_____
J E Brunner, M-1079	_____	_____
J R Schaub, P14-305	_____	_____
R C Bauman, P14-314B	_____	_____
W R Bird, P14-418A	_____	_____
J K Meisenheimer, Midland	_____	_____
A R Mollenkopf, P14-408A	_____	_____
D B Miller, Midland	_____	_____
J Simpson, FSO	_____	_____
F W Buckman, P24-624A	_____	_____
D B Budzik, P24-517A	_____	_____
N J Saari, Midland	_____	_____
D F Lewis, Bechtel Ann Arbor	_____	_____
R W Huston, Consumers Power Company 7910 Woodmont Avenue Suite #220 Bethesda, Maryland 20014	_____	_____
R L Tueteberg, P24-505	_____	_____
NRC Correspondence File, P24-517	_____	_____
Mr. Mike Miller Isham, Lincoln & Beale 3 First National Plaza, Suite #5100 Chicago, IL 60602	_____	_____
Isham, Lincoln & Beale 1120 Connecticut Avenue N.W. Washington, D.C. 20036	_____	_____
R M Wheeler, Midland	_____	_____
A E Blocher, Midland	_____	_____
T R Thiruvengadam, P14-400	_____	_____
Neil Swanberg, Bechtel Ann Arbor	_____	_____
Mr. Ron Callen Michigan Public Service Commission 6545 Mercantile Way Lansing, MI 48909	_____	_____



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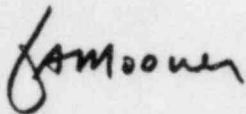
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JAM/RHW/klm

MIDLAND UNITS 1 AND 2 - JCS 7210
RESIDENT GEOTECHNICAL ENGINEER REPORT

Date 6-22-83
Shift DAY
A3

Page 1 of 2

Description	Remarks
PIERS W9 W11, W12 ALSO EQ E11, E12	
① W12 CONTINUED BARS DIA1 GAUGE SETTING RDGS. OF TOPP. TIP OF THE PIERS. TESTING OF WEDGES CONTINUED PIER PIT W-8 (ACCESS DRIET)	NOTE REG. ITEM #3.
② THE PIER PIT HAS BEEN COVERED WITH ^{TEMPORARY} PLUMWOOD.	RGE NOTED THAT A SMALL
③ MERTENTIME EXTENDED EXCAVATION NORTH OF PIER PIT. THE TIE WAS EXTENDED TO WITHIN THE DISTANCE OF 3' FROM NORTH EDGE OF THE BRACE TIE. 2'-0" ± BERM WAS PROVIDED WITH A NEARLY VERT. CLAY FACE ABOVE THE DRIET FLOOR AND 1:1 ± SLOPE IN CLAYEY FILL WAS EXCAVATED DUE NORTH. IT WAS NOTED THAT 18" ± THICK LAYER OF SAND WAS LOCATED UNDER THE MUD MAT & FILL CONCRETE PART OF THE MUD MAT WAS ALSO REMOVED.	VOID 1/4" TO 1/2", 2' TO 1 1/2' WIDE WAS LOCATED DIRECTLY UNDER MUD MAT AND ABOVE 18" ± THICK LAYER OF SAND. THE EXTENT OF THESE VOIDS HAS NOT BEEN DETERMINED YET AND IT IS EXPECTED THAT THIS INSPECTION SHOULD BE COMPLETED ON 6/23/83.
EXCAVATION FOR THE (N-S) BULKHEAD (WEST SIDE)	
④ STATED CHIPPING GROUT AT THE (N-E) SECTION OF THE EXCAVATION, EAST OF THE EASTERN DRIET SET LAGGING. (THIS GROUT WAS POURED IN THE SLOPE LAYBACK AT THE ^{EAST} END OF THE DRIET) PIER PIT W-8 ACCESS DRIET. (CONTINUED)	
⑤ NOTE: EXPOSED DSB-2W AT THE (N-E) SECTION. SOME SATURATED CLAYEY MATERIAL WAS NOTED AT THE DSB-2W CASING. THERE WAS NO INDICATION THAT CHIPPING OF THE ADJACENT GROUT DAMAGED THIS DSB.	
⑥ RGE ADVISED THAT AN EXCESSIVE MVMT. (SETTLE.) OF THE STRUCTURE HAS BEEN RECORDED AT DSB-2W, AND THAT ROUTINE REJACKING ON PIER W-9, DUE TO THE MVMT OF THE STRUCTURE, WOULD BE REQUIRED.	
PIER W-9	
⑦ COMPLETED ROUTINE REJACKING ^{DUE} TO THE MVMT. OF STRUCTURE ON NTR SHIRT TODAY. APPLIED 110% OF SPEC LOAD AND HELD IT FOR 80 MINS. ALL WEDGES WERE FOUND TIGHT (COULD NOT BE MADE LOOSE WITH A CLAW HAMMER). TOTAL SETTLE. OF TOP OF PIER W/ STRUCTURE TO DATE WAS 0.480". IT WAS DECIDED TO DRIVE WEDGES	

FS-033D3

FOR INFORMATION ONLY

7210

SIGNED

REVIEWED BY

Richard P. Casby
W. W. Warrick

DATE

DATE

6-22-83

6-30-83

DISTRIBUTION

FAST - E. C. C. C.
FOR - J. J. J. J.

MIDLAND UNITS 1 AND 2 - JCS 7220
RESIDENT GEOTECHNICAL ENGINEER REPORT

Date 6-22-83
Shift Day
AB

Page 2 of 2

No.	Description	Remarks
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- (7) AND DETRESSURIZE THE JACKS AFTER "0.002"
(CONTIN) SETTING IN A PERIOD OF 60 MINS. MINIM WAS RECORDED
RSE ADVISED RGE TO TERMINATE THE RETACKING.
THE PRESSURE DROP DURING DRIVING OF THE JACKS WAS
6.75 PSI. FINAL PRESSURE OF 25 PSI WAS REACHED
BY 18:45 HRS.
PIER-W-10
- (8) NO ACTIVITY NOTED AT THE PIER TODAY
PIER KC-2
- (9) CURING OF PIER CONCRETE CONTINUED
- (10) UPPER TELL-TALE P. HAS BEEN DRYPACKED
PIER E-8
- (11) THE UPPER PIT SECTION WAS COVERED WITH PLYWOOD
PIER E-8 (ACCESS DRIET), AREA NORTH OF PIER E-8
- (12) NOTE: RGE AGREED TO REVISE THE PROPOSED
NORTH SLOPE FROM 1:1 TO 1 HORIZ: 3 VERT.
AND THUS LIMIT THE EXCAVATIONS MINIM
UNDER AUX BLDG. THE TWITTER DISCUSSED
THIS REVISION WITH MESSRS L. WILLIAMS &
KILGORE THIS MORNING.
EXCAVATION FOR (N-S) BULKHEAD (EAST SIDE)
(13) STARTED BREAKING OUT A SECTION OF "KAYBACK
GROUT" AT THE (N-W) SECTION.
- (14) LAID OUT LOCATION OF FULTI BOLTS AT P'S (WEST
SIDE)
PIER E-10
- (15) COMPLETED LOAD TRANSFER, 110% OF SPEC. LOAD
AT 3:30 PM TODAY AFTER "0.002" SETTING
CRITERIA IN 24 HRS WERE REACHED AND SATISFIED
TOTAL SETTING OF TOP OF TIER WRT. STRUCTURE WAS .172"
RSE ADVISED THAT THE JACKS WOULD BE ACTIVE
FOR A LONGER PERIOD OF TIME (WEDGES WILL NOT
BE DRIVEN) AND NTR WOULD READ GAUGES
EVERY 8 HRS. RGE WILL NOT PARTICIPATE IN THE
READING OF THE GAUGES.
PIER KC-11
- (16) UPPER TELL-TALE: DRYPACKING, HAS BEEN REPAIRED

RS-03-03

FOR INFORMATION ONLY

7220

Signed

Richard F. Corle

Date

6-23-83

Reviewed by

J. W. Lannell

Date

6-30-83

Distribution

200-1-1-1
200-1-1-1

MIDLAND UNITS 1 AND 2 - JCE T220
RESIDENT GEOTECHNICAL ENGINEER REPORT

Date 6-23-83
Shift DAY
AE

Page 1 of 2

6 Description Remarks

- PIERS W9, W11, W12 ALSO EQ E11 & E12
- (1) WTE CONTINUED BHP DIAL GAUGE SETTING PDS. AT TOP & TIP OF THE PIERS.
- (2) NOTE: RSE ADVISED RGE THAT "ROUTINE RETACKING" DUE TO THE MOVMT. OF THE STRUCTURE "WOULD BE ACTIVATED TO 110% OF SPEC. LOADS ON PIERS W9, W11 & W12. RETACKING OF W9, W11 & W12 STARTED AT 11:07AM, 2:35PM & 5:11PM RESPECTIVELY.

- (3) THE FOLLOWING RESULTS WERE NOTED ON DAY & NTR. SHIFTS.

PIER NO	TOTAL SETT. TO DATE (DAY SHIFT)	TOTAL SETT. TO DATE (NTR. SHIFT)	NUMBER OF WEDGES SET	110% 125%*
W9	.488"/110%	.513/125%*	0	(2)
W11	.697"/110%	.708/125%	0	0
W12	.344"/110%	.366/125%	0	(2)

- (4) $\Delta 4$: -0.002" (DAY SHIFT) (* RSE DECIDED TO INCREASE THE LOAD FROM 110% TO 125% OF SPEC. LOAD AT APPROX 8PM)
- 0.005" (NTR. SHIFT)

NOTE: 4 HR. READINGS WERE TAKEN ON ALL THREE PIERS BY END OF THE NTR. SHIFT. DUE TO EXCESSIVE MOVMT. OF STRUCT. THE "ROUTINE RETACKING" STATUS WAS CHANGED TO "NON-ROUTINE".

- PIER PIT W-8
- (5) CONTINUED WORK ON SHAFT REBARS AND CLEAN UP OF THE PITS. PLACING OF THE CONCRETE HAS AGAIN BEEN DELAYED DUE TO PROBLEMS WITH INSTALL. OF REMAINING RE-BARS.

- PIER W-10
- (6) NO ACTIVITY NOTED AT THE PIER TODAY
- PIER KC-2

- (7) NO ACTIVITY NOTED AT THE PIER TODAY
- ACCESS DRIFT TO PIER PIT W-8

- (8) NO ACTIVITY AT NORTH OR SOUTH SIDES OF THE PIT EXCAVATION FOR (N-S) BULKHEAD (N-E SECTION OF ACCESS DRIFT PIT W-8)

NOTE: REG. NORTH SIDE OF ACCESS DRIFT (PIER PIT W-8) RSGFE CHECKED EXTENT OF THE 1/4" TO 1/2" GAPS UNDER THE MUD MAT ALONG NORTH LIMIT OF LAYBACK EXCAV. WITH 1/4" x 1" LATH PROBE 4'-6" MAX DEPTH OF THE GAPS WAS NOTED. STEEL TAPE (12' PENETRATED UP TO 12' INTO THE GAPS IN PROX. OF EXTEN (N-S) OF THE PIT W-8.

Signed Richard L. Casby Date 6-24-83

Reviewed by J. Wanyuel Date 6-30-83

PAGE - 1. OF 2
PAGE - 2. OF 2

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Date 6-23-83
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AB

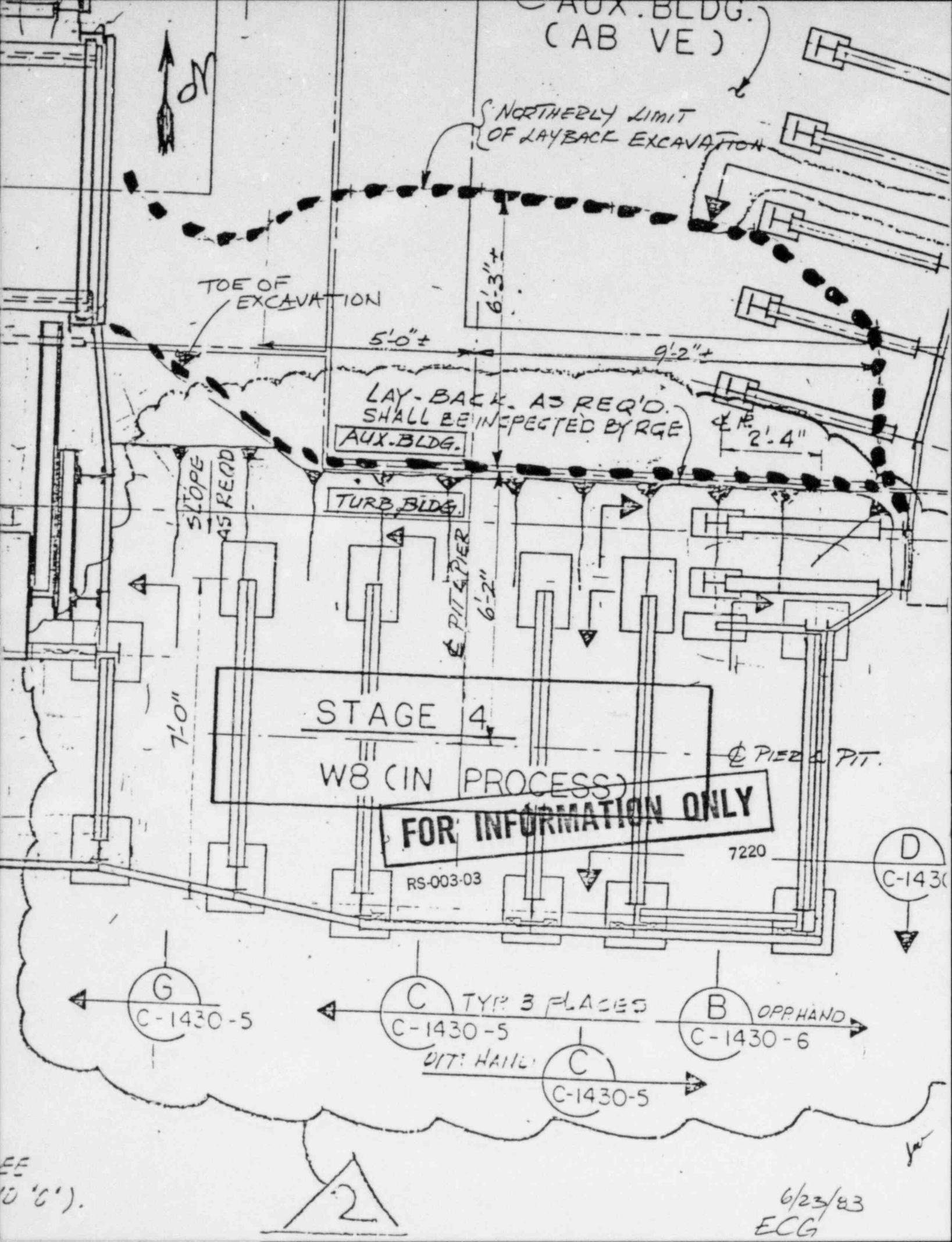
Page 2 of 2

No.	Description	Remarks
9	MERGENTIME HAS BEEN DRILLING HOLES FOR HULTI BOLTS AT 1 ST & 2 ND POST #2 (N-E CORNER WITH DRIFT)	
10	NO ADDITIONAL EXCAVATION FOR THE (N-S) BULKHEAD IN PROGRESS TODAY	
	PIER E-8	
11	HAMMERHEAD SECTION OF PIT - HAS BEEN COVERED WITH PLYWOOD	
	ACCESS DRIFT TO PIER E-B & EXCAVATION FOR (N-S) - BULKHEAD	
12	NOTE: RGE DISCUSSED THE STATUS OF BULKHEAD EXCAVATION WITH RSGFEL MERGENTIME. IT WAS AGREED TO PERMIT AN ADDITIONAL EXCAV. AT (N-W) SECTION OF THE ACCESS DRIFT INCL. BREAKING OUT OF 18" ± THICK FILL CONCRETE & MUD MAT IN (E-W) DIRECTION. THIS SPACE WAS REQUIRED TO INSTALL BULKHEAD #2 & POSTS (ROOM TO TORQUE THE BOLTS.)	FOR INFORMATION ONLY! 1220
	PIER E-10	
13	STRUCTURE SUPPORTED ON "ACTIVE JACKS" AT 110% OF SPEC LOAD. READINGS HAVE BEEN TAKEN AT 1 HR. TIME INTERVALS	
	PIER KC-11	
14	CURING OF THE UPPER TELL-TALE TO DRY SPACE CONTINUED	
15	RGE (R. COSBY & E. GRAY) COMPLETED PREPARATION OF "AS BUILT" EXTENT OF EXCAVATIONS UNDER AUX BLDG. ALONG THE NORTH SIDE OF ACCESS DRIFTS TO PIERS E-8 & W-9. TODAY SKETCHES WERE PREPARED	
		(3) SHEETS OF SKETCHES ATTACHED TO THIS REPORT.

SPRINT Richard L. Cosby Date 6-24-83
Reviewed by Jer Wanyell Date 6-30-83

Distribution

DATE - 1. 07/11/83
PAGE - 1. 07/11/83



AUX. BLDG.
(AB VE)

NORTHERLY LIMIT
OF LAYBACK EXCAVATION

TOE OF
EXCAVATION

LAY-BACK AS REQ'D.
SHALL BE INSPECTED BY RGE

AUX. BLDG.

TURB. BLDG.

SLOPE
AS REQ'D

STAGE 4

W8 (IN PROCESS)

FOR INFORMATION ONLY

PIER & PIT.

RS-003-03

7220

G
C-1430-5

C TYP 3 PLACES
C-1430-5

B OPP. HAND
C-1430-6

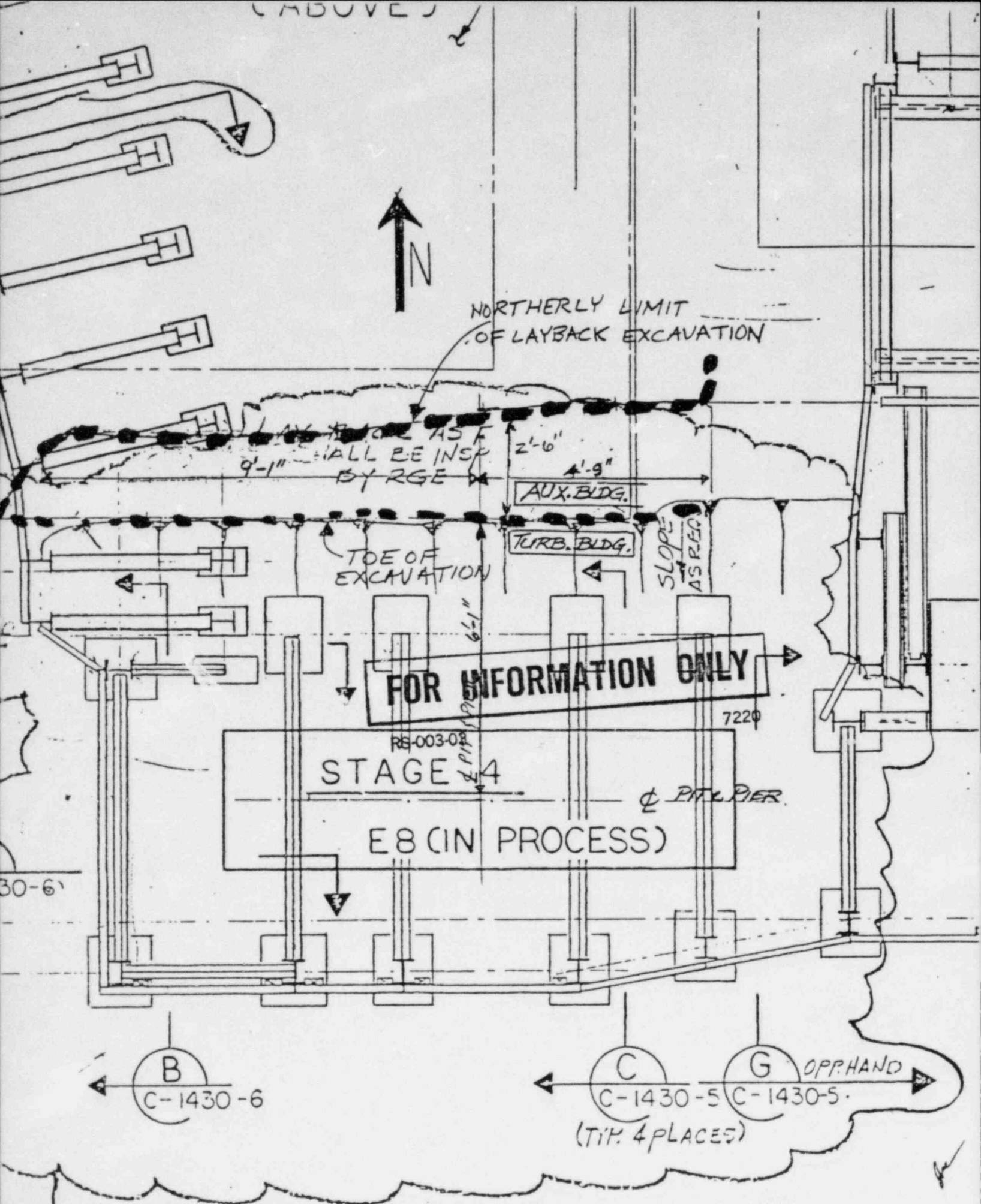
C
C-1430-5

D
C-1430

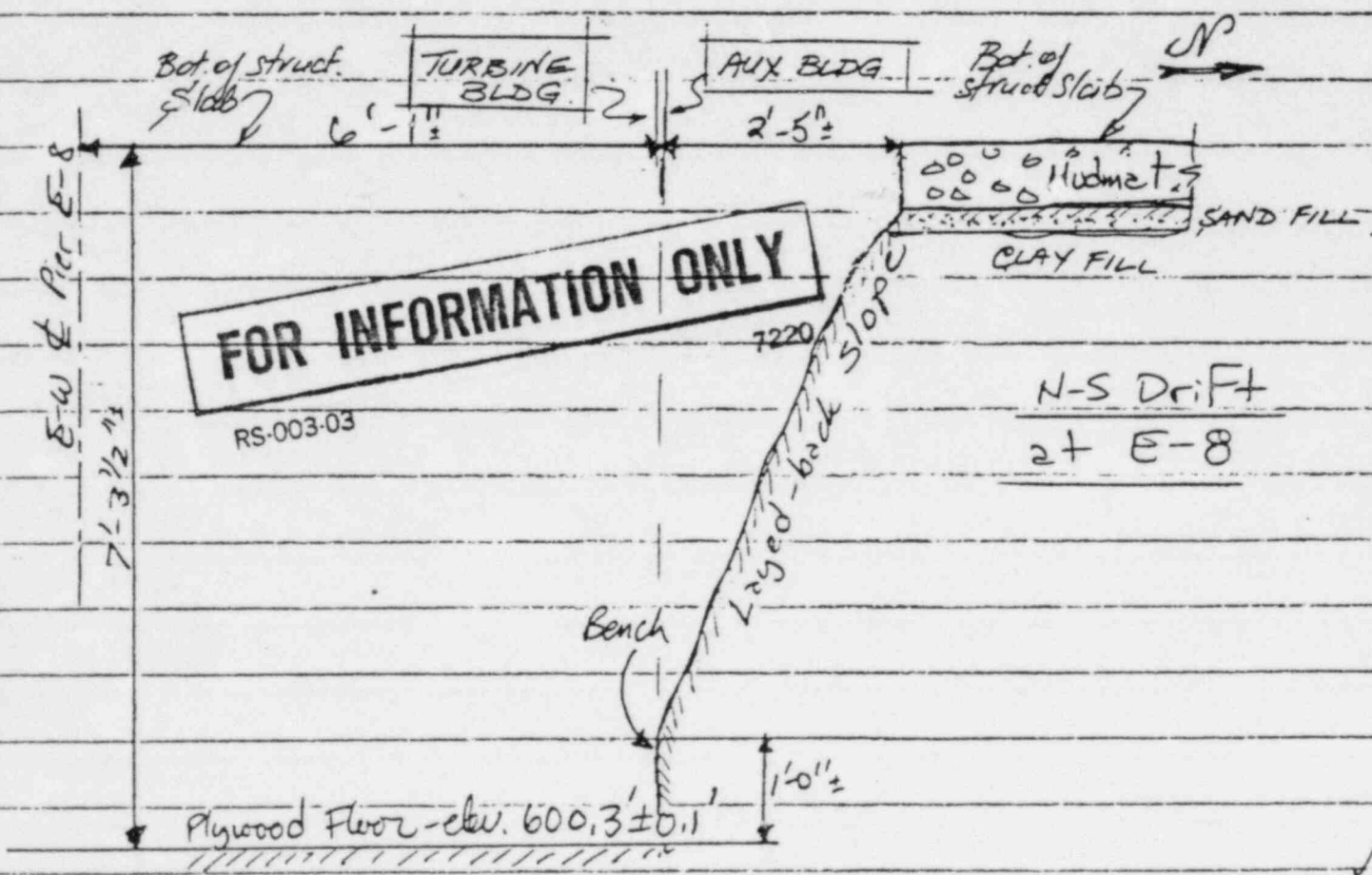
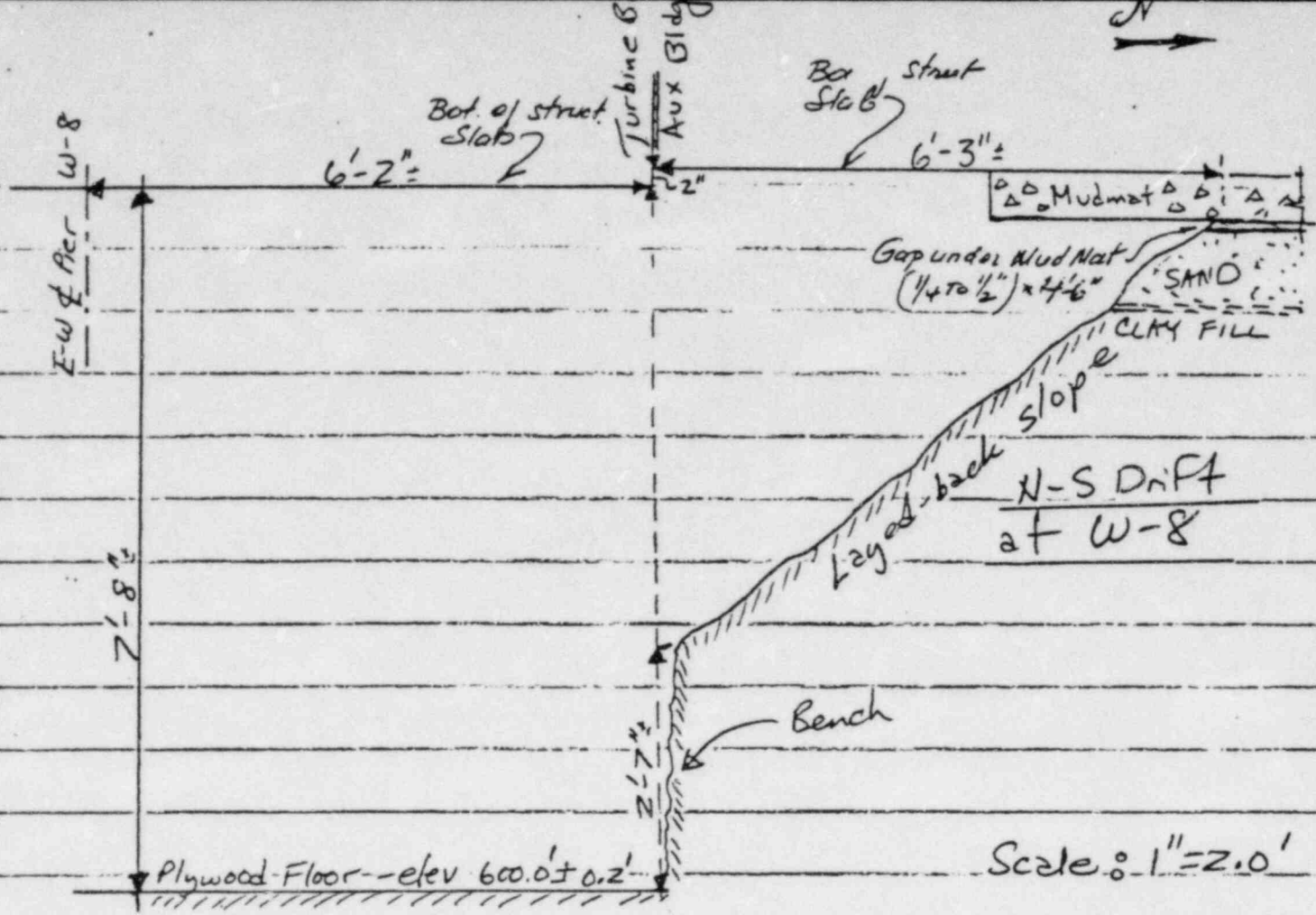
EE
10'0'")

2

6/23/83
ECG



6/23/03
ECC
NOTES:



6/24/83

MIDLAND UNITS 1 AND 2 - JOB 7220
RESIDENT GEOTECHNICAL ENGINEER REPORT

Date 6/26/83
Shift NIGHT - E
AB

Page 1 of 1

No.	Description	Remarks
	West Shaft	
	Pier KC-2	FOR INFORMATION ONLY
1.	No activity	
	Pier W8	
1.	No activity	
	Pier W9	
1.	"Non-routine" repacking at 125% S.L. Continued. As of 12:56 a.m. pier top movement was 13 mil in last 48 hours. 4 hour readings continued.	
1.	Pier W10, started placing jacks. N-S Bulkhead North of W8	
1.	Filled void north of layback area. 180 gals of neat cement grout ($\frac{3}{4}$ water : 1) were used. grout pressures ranged from approx. 20 to 80 psi. Signed QC IR and stated that RGE concurred with F.E. grouting operation was acceptable. QC hold on bearing PL on knee brace* of 2 nd set.	* See sketch attached. * PL improperly shimmed sk on QC tag.
	East Shaft	
	Pier KC-11	
1.	Started placing jacks on top of pier.	
	Pier E8	
1.	No activity	
	Pier E10	
1.	110% S.L. maintained. 8 hour readings Continued. As of 12:35 a.m. movement was 3 mils in last 24 hours.	
	N-S Bulkhead North of E8	
1.	QC hold on bearing PL on 2 nd post due to gap between PL & str. Conc. wider than 1/16".	

Signed

Alan Tang

Date

6/27/83

Date

Distribution

RAPE - E. CYRIL
PGE - J. ANDERSON

ATTACHMENT C
TO MCP 15.000

FOR
INFORMATION ONLY.

GROUT PLACEMENT PLAN

Prepared By: W. Roeder (MFE)
Approved By: T. J. Ellis (RSG FE)
W. D. (EGE)

Location: 11' NORTH OF WEST 8

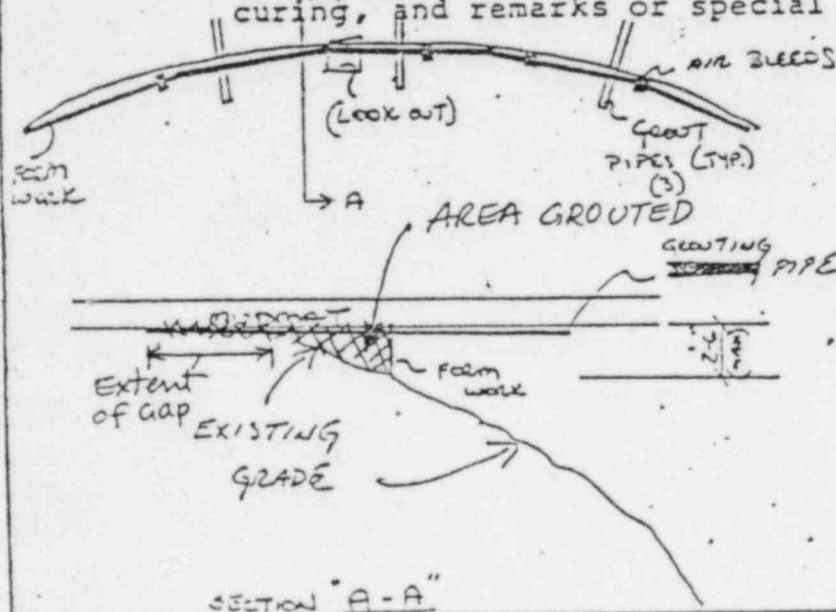
Plate Orientation: N/A

Type of Grout: CEMENT

Method of Grout Placement: ☐ Gravity
☐ Pressure - Hand Pump
☒ Pressure - Mechanically Driven Pump

Maximum Grout Pressure: 150 (For pressure grout placement with a mechanically driven pump only.)

Sketch: (Indicate plate orientation, location of forms, location of vent holes and/or vent pipes, grouting sequence to avoid air entrapment, location of grout pipes, edge treatment for curing, and remarks or special notes.)



FORM CORE

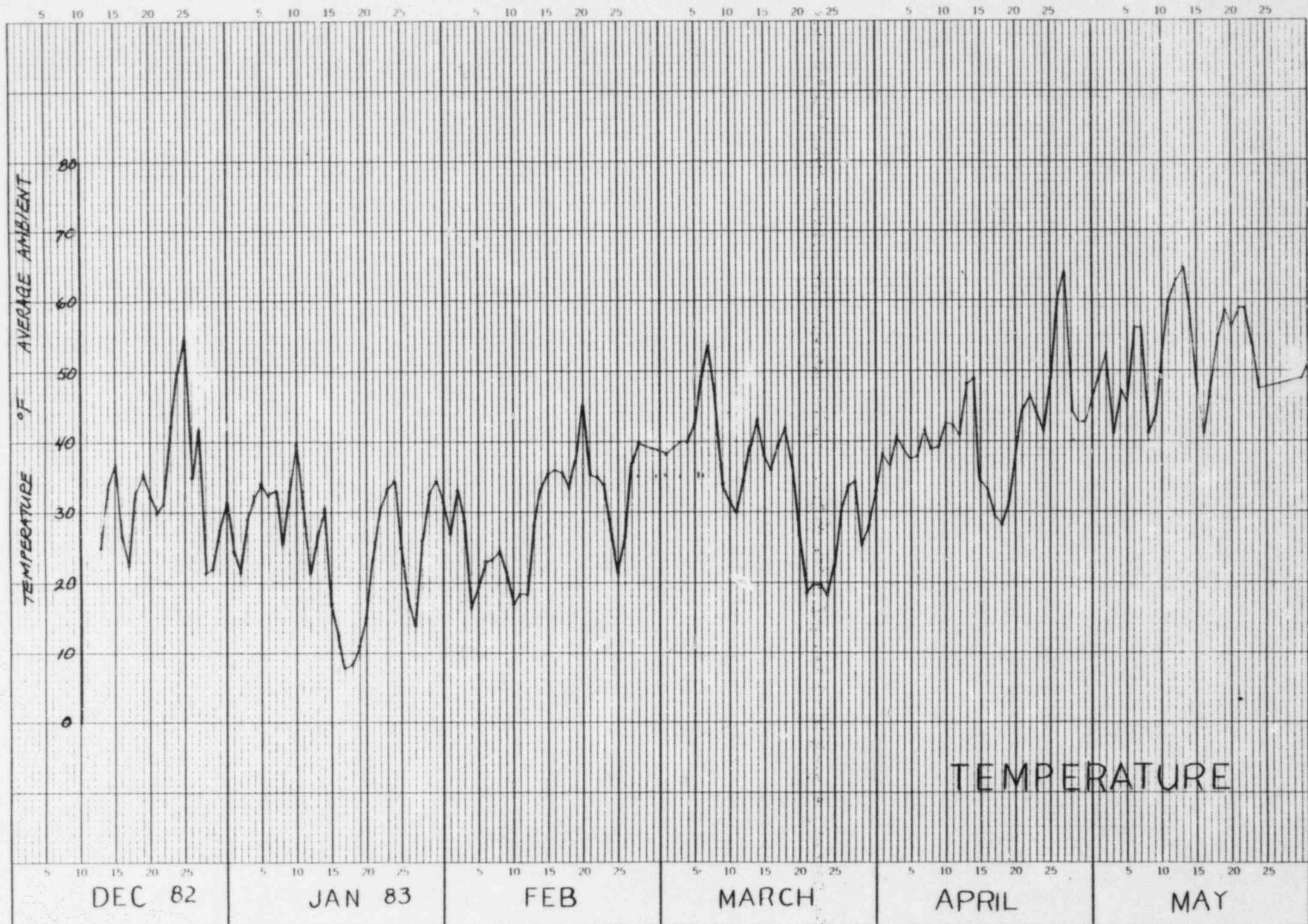
NOTE:

- ① PIPE LOCATIONS MAY VARY DUE TO RESISTANCE WHILE BEING PLACED.
- ② AIR BLEEDS AS NECESSARY
- ③ OBSERVATION PORTS AS REQUIRED.
- ④ FORMWORK MAY VARY DEPENDING ON SOIL CONDITIONS (ACTUAL).
- ⑤ MAX. SPACING OF GROUT TIES 10'.

 AREA GROUTED.

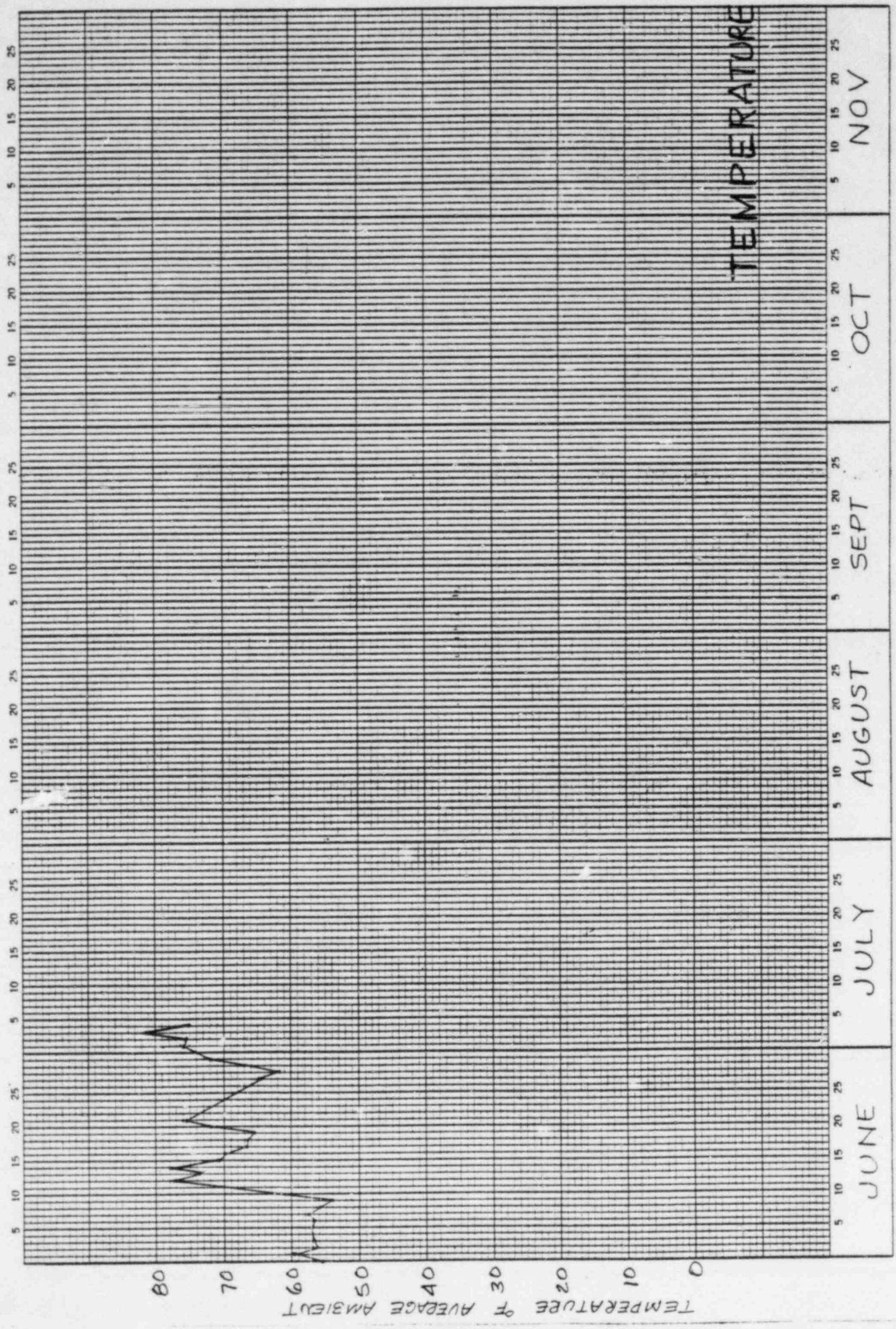
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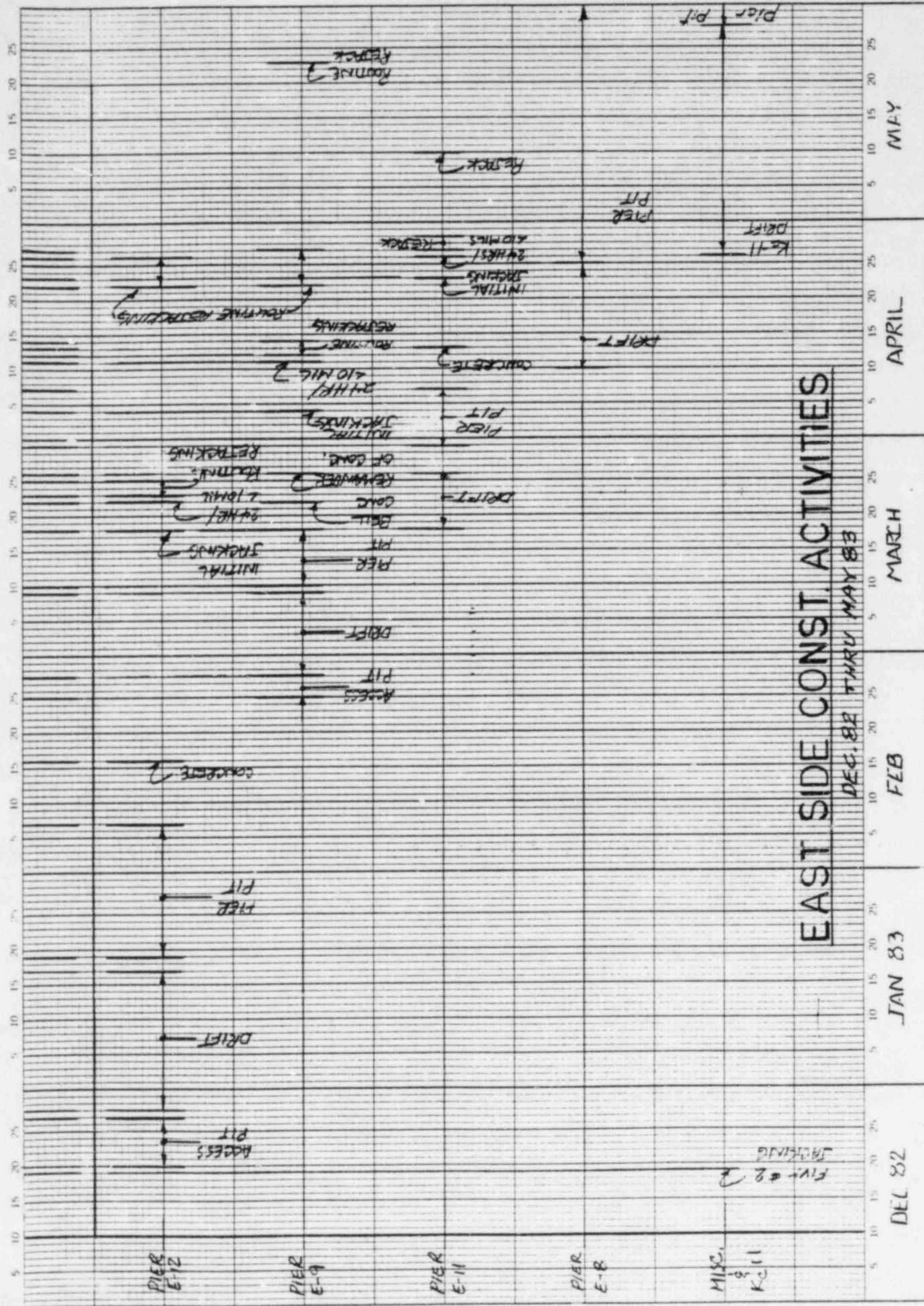
ATTACHMENT FOR DAILY REPORT 6/26/83
NIGHT SHIFT (E.)



K-E 6 MONTHS BY DAYS X 120 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

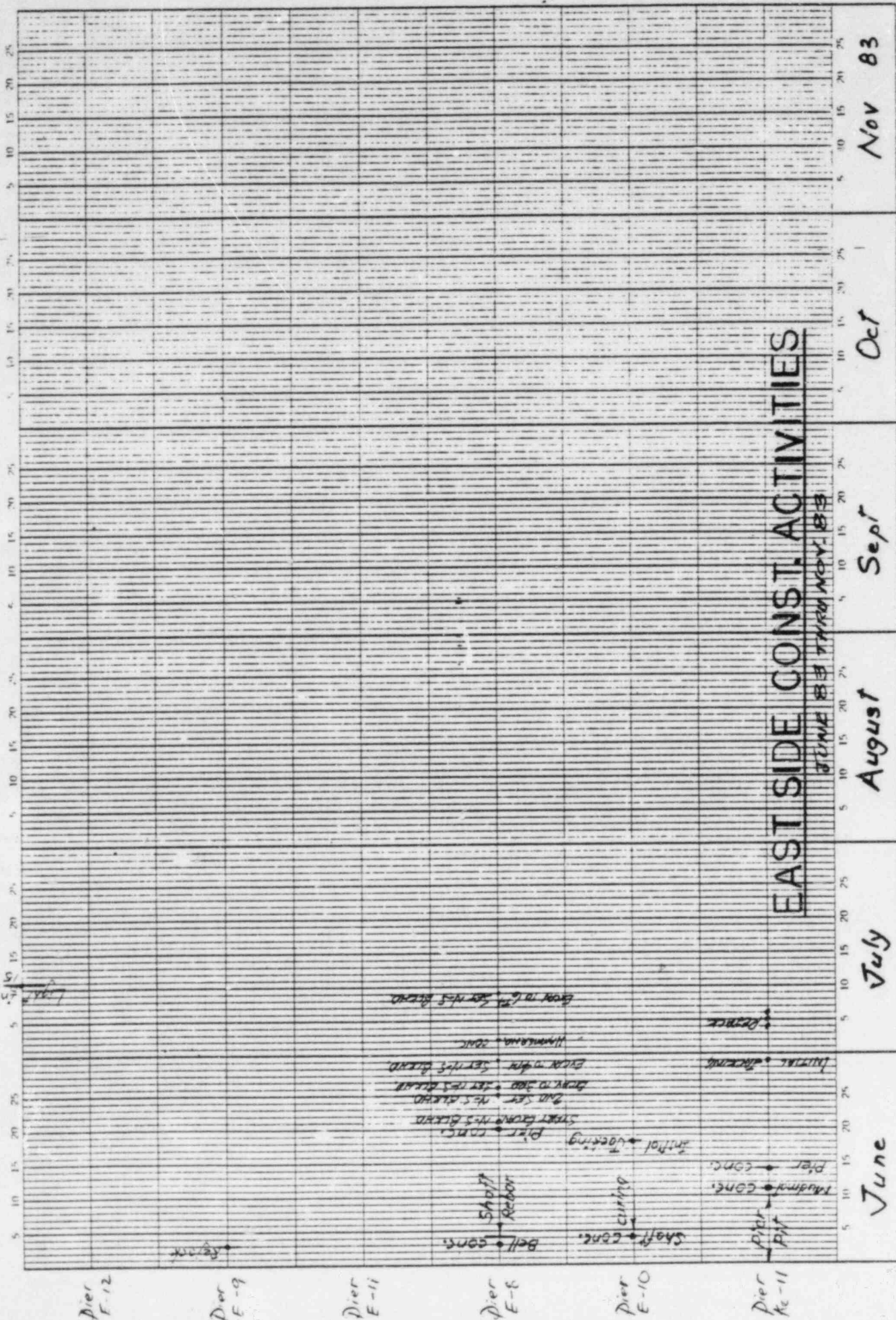
46 2610

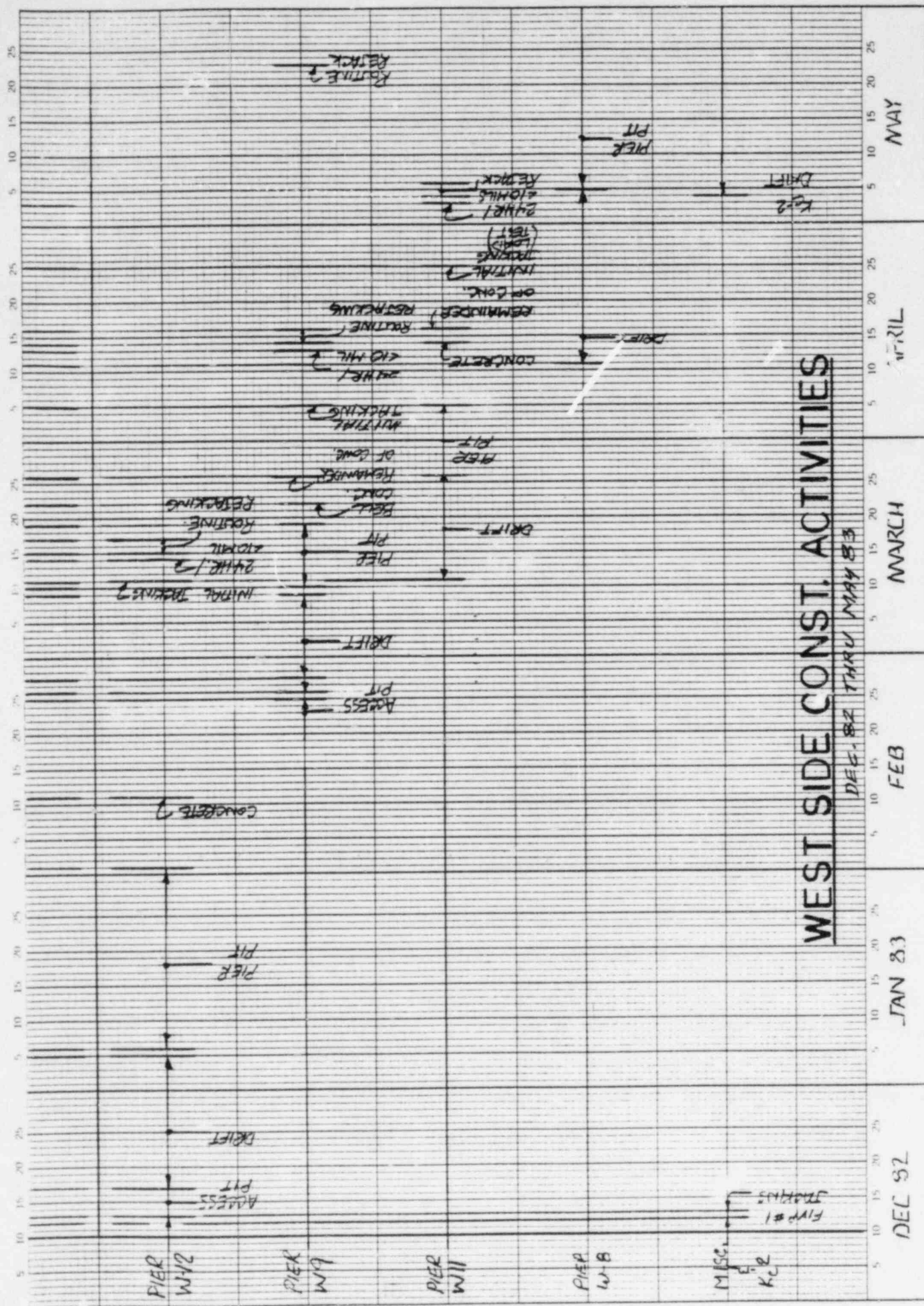


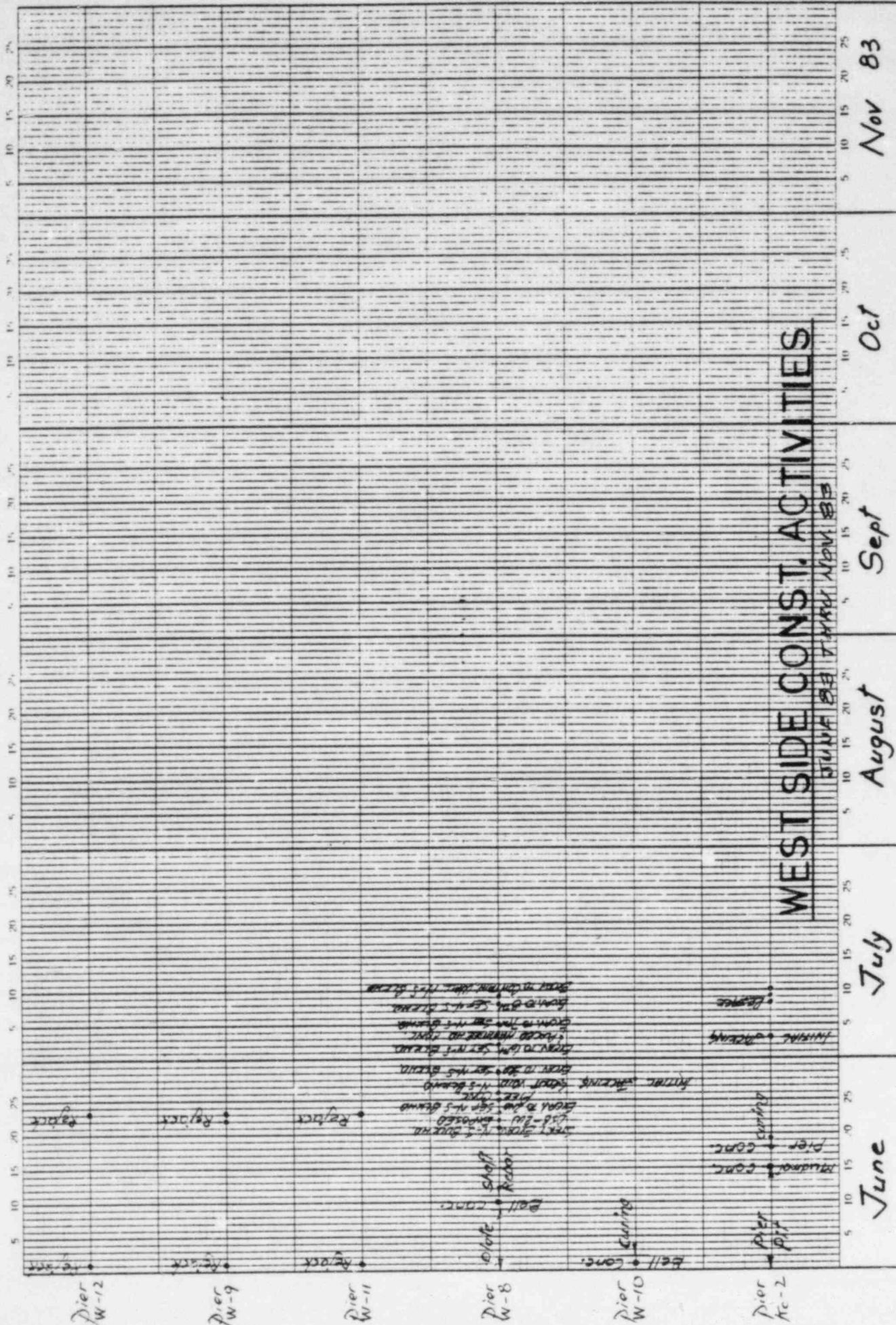


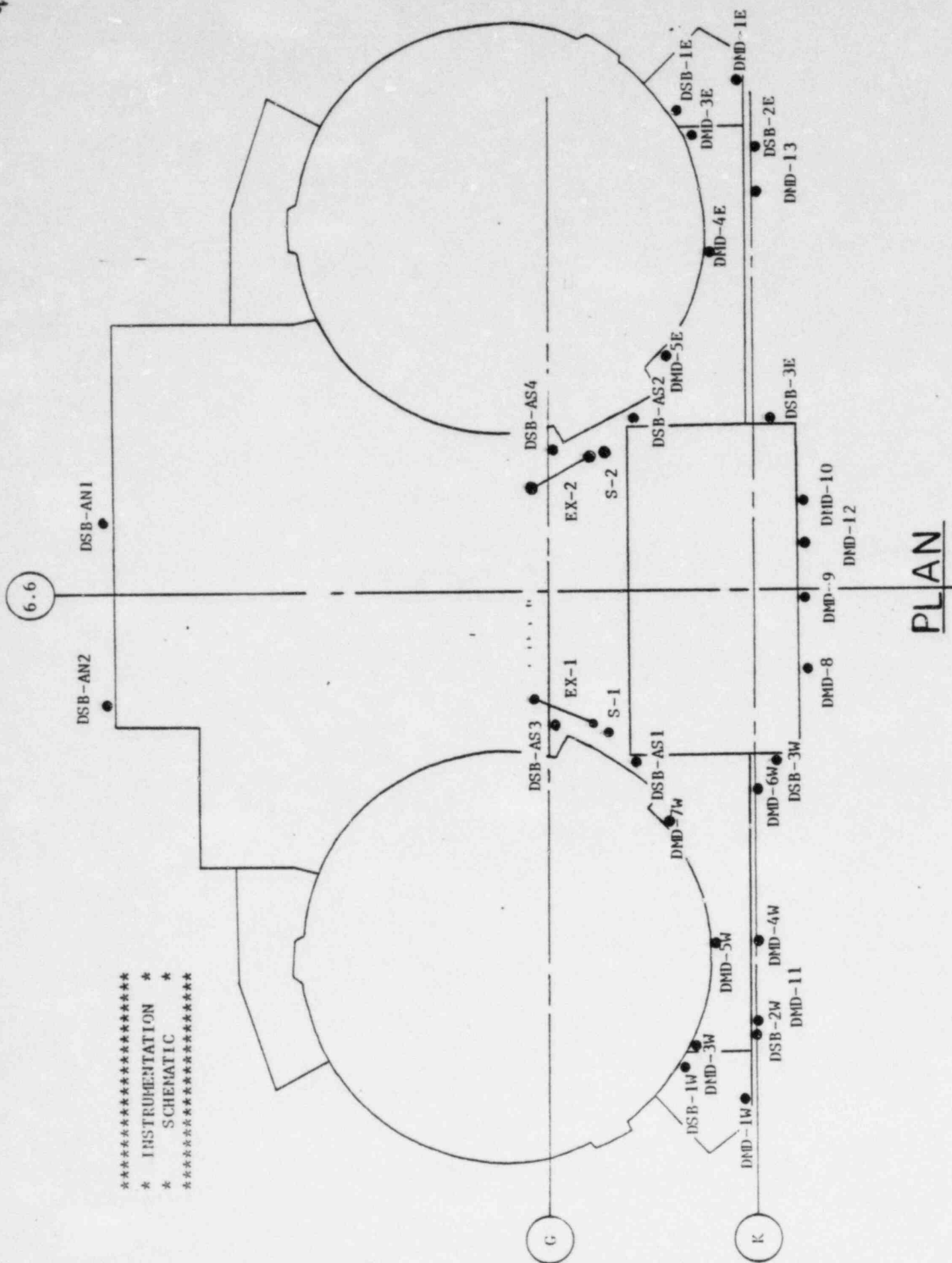
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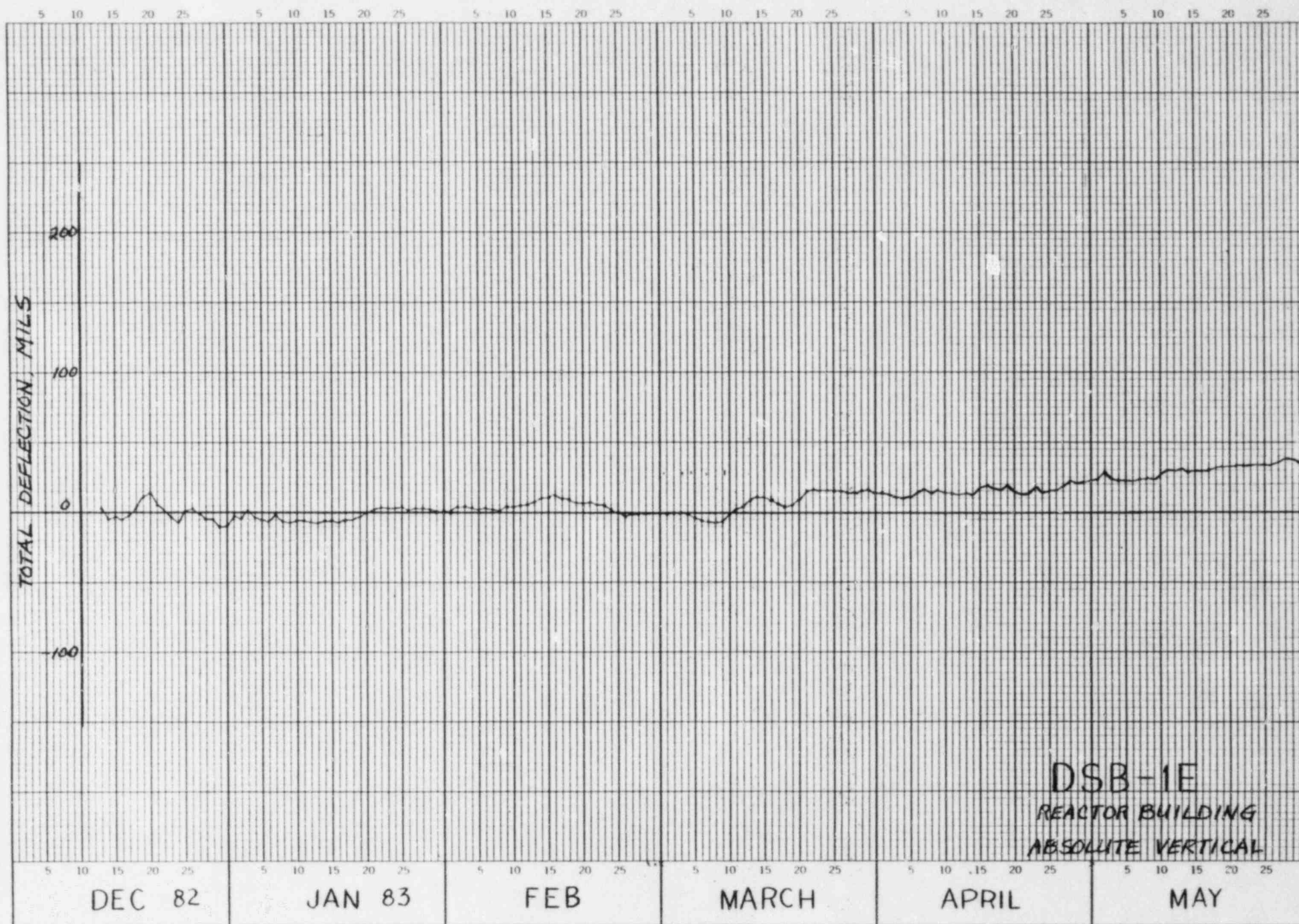
in LAT - East

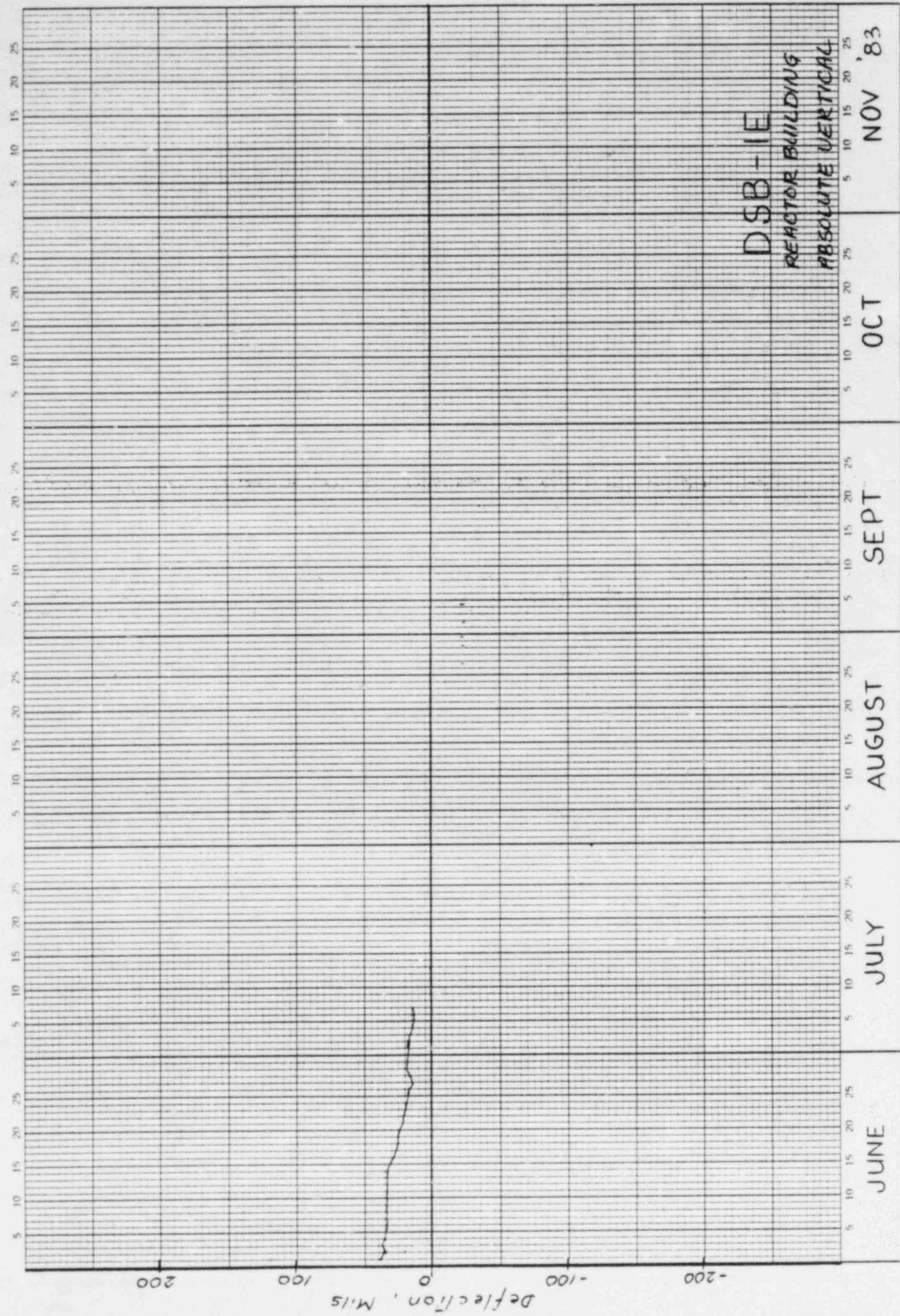








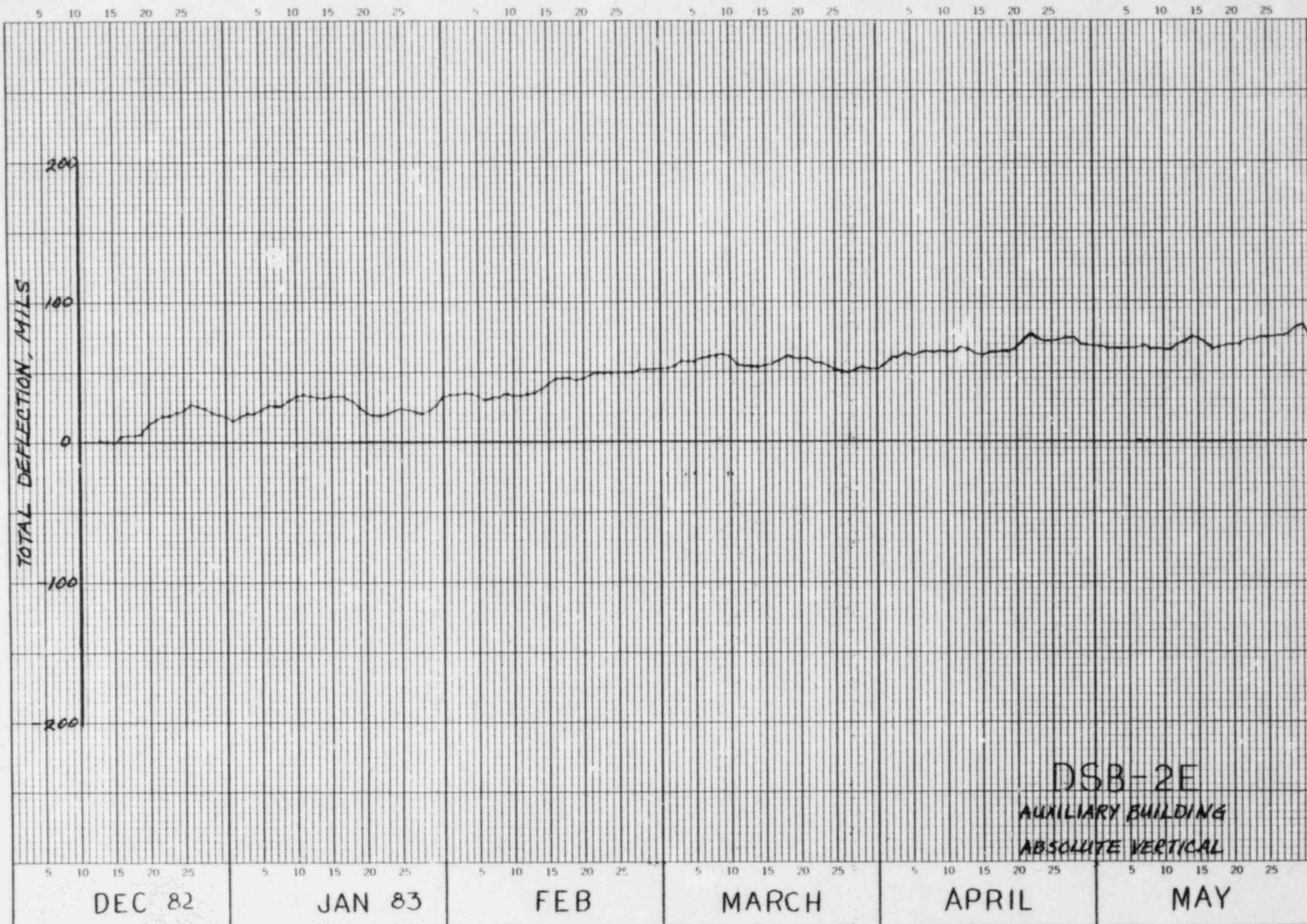


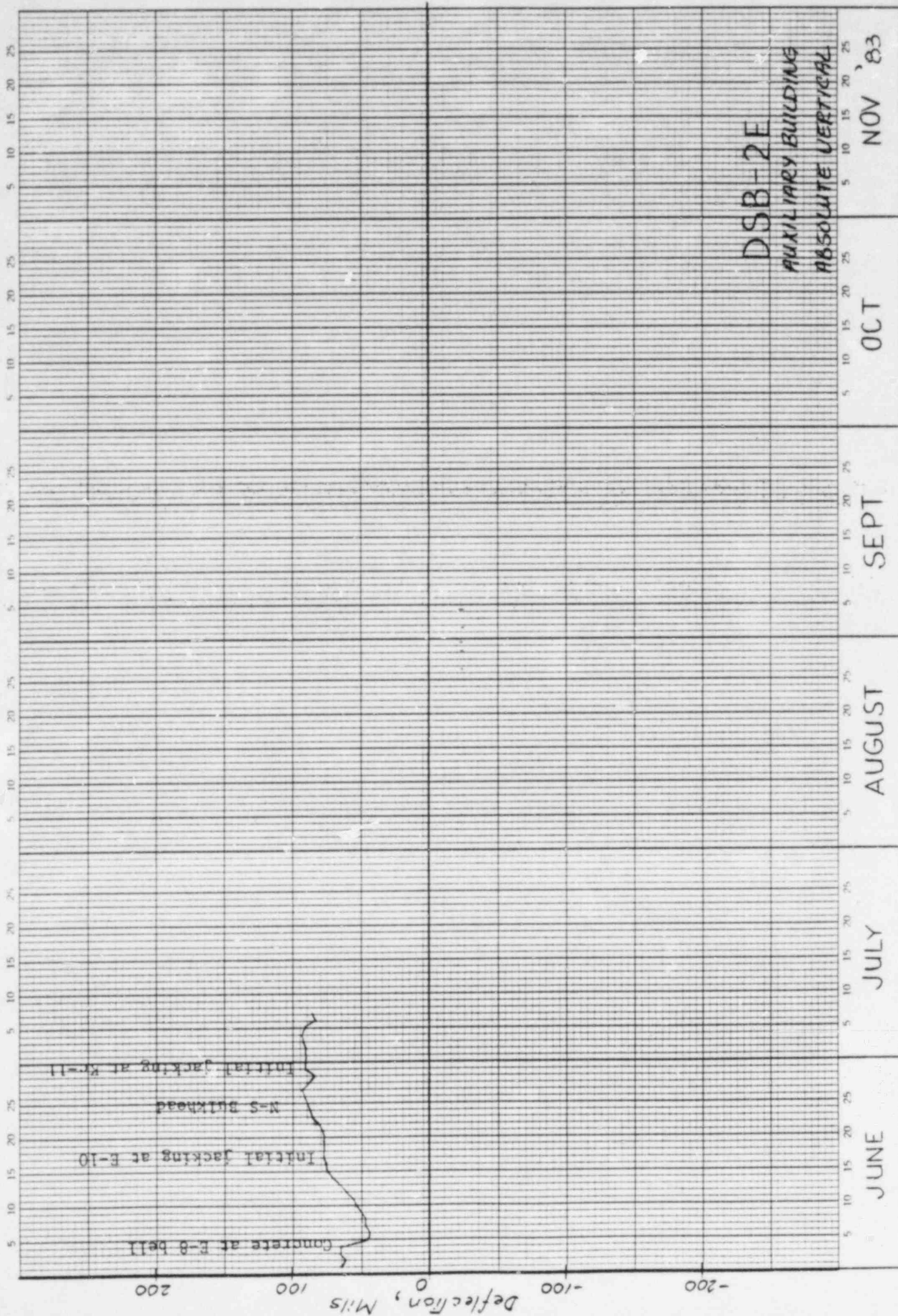


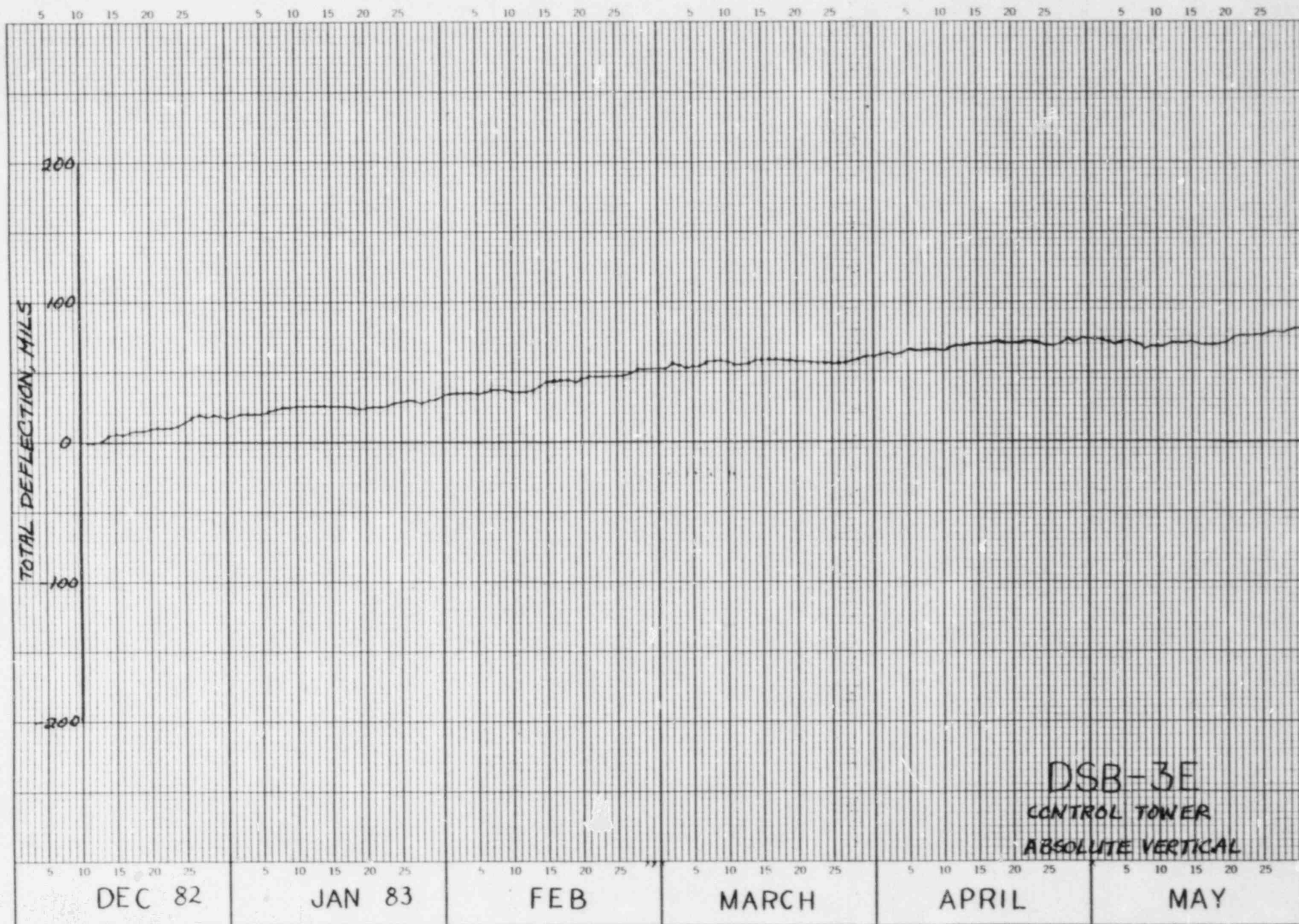
DSB-IE

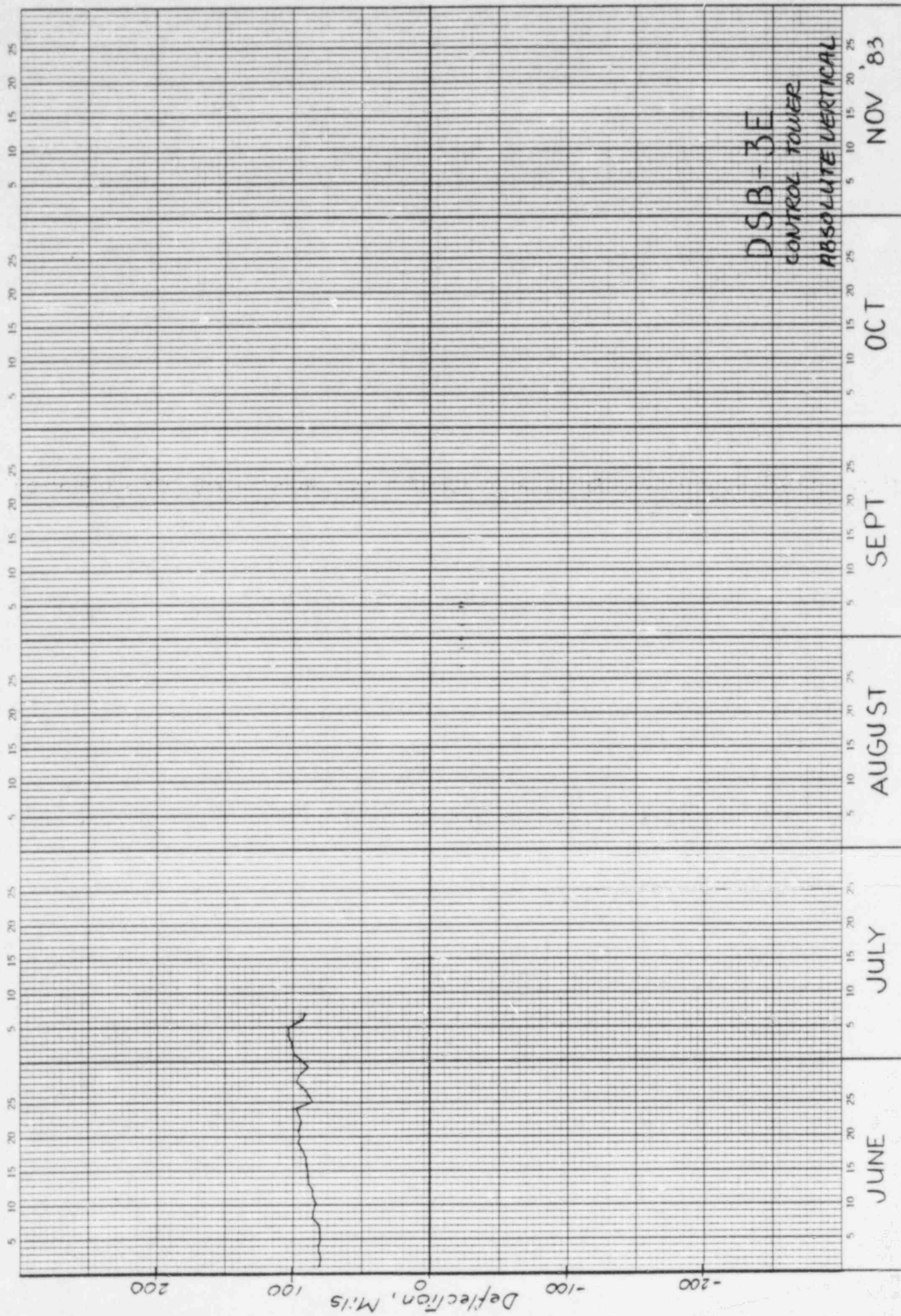
REACTOR BUILDING

ABSOLUTE VERTICAL

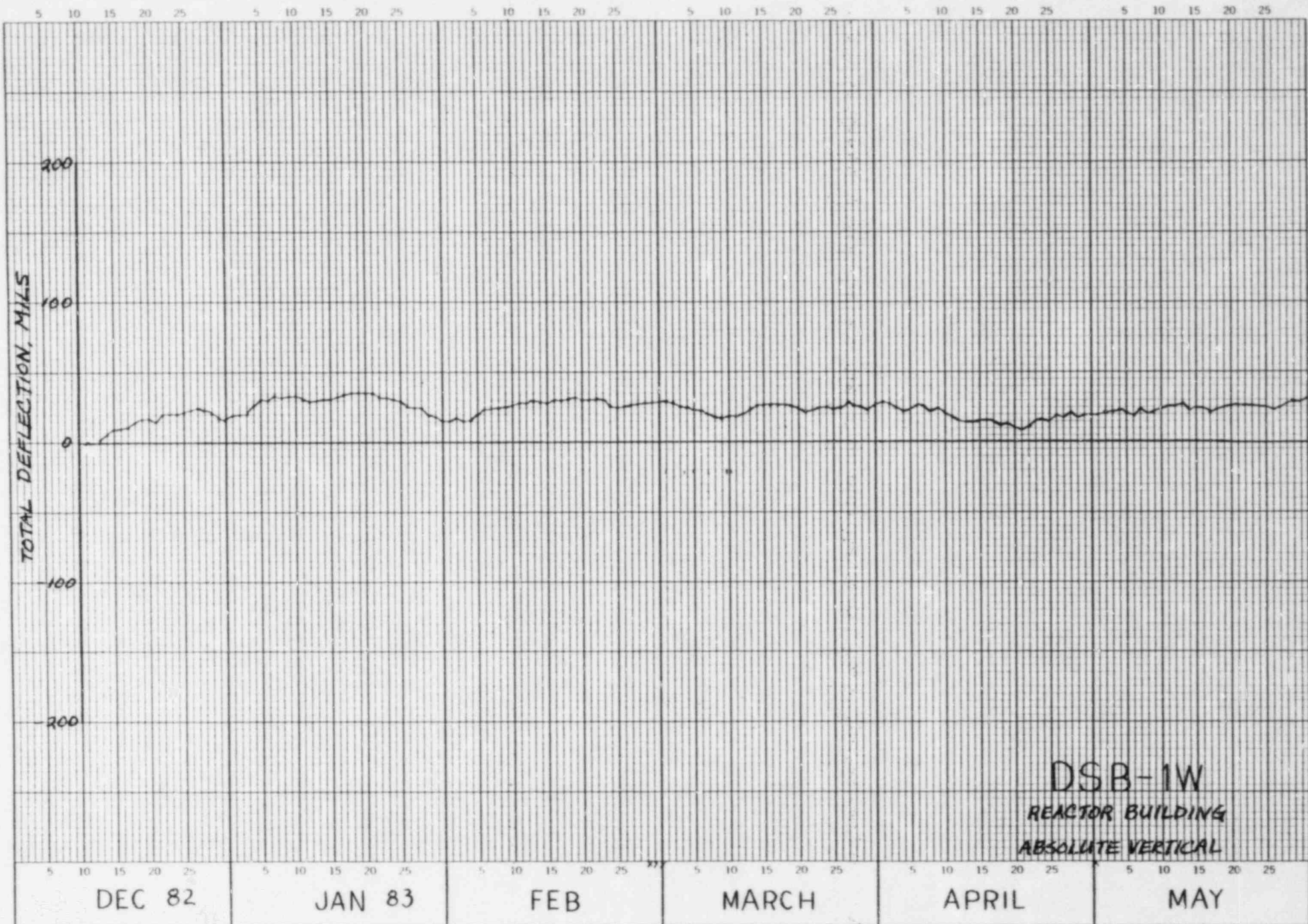




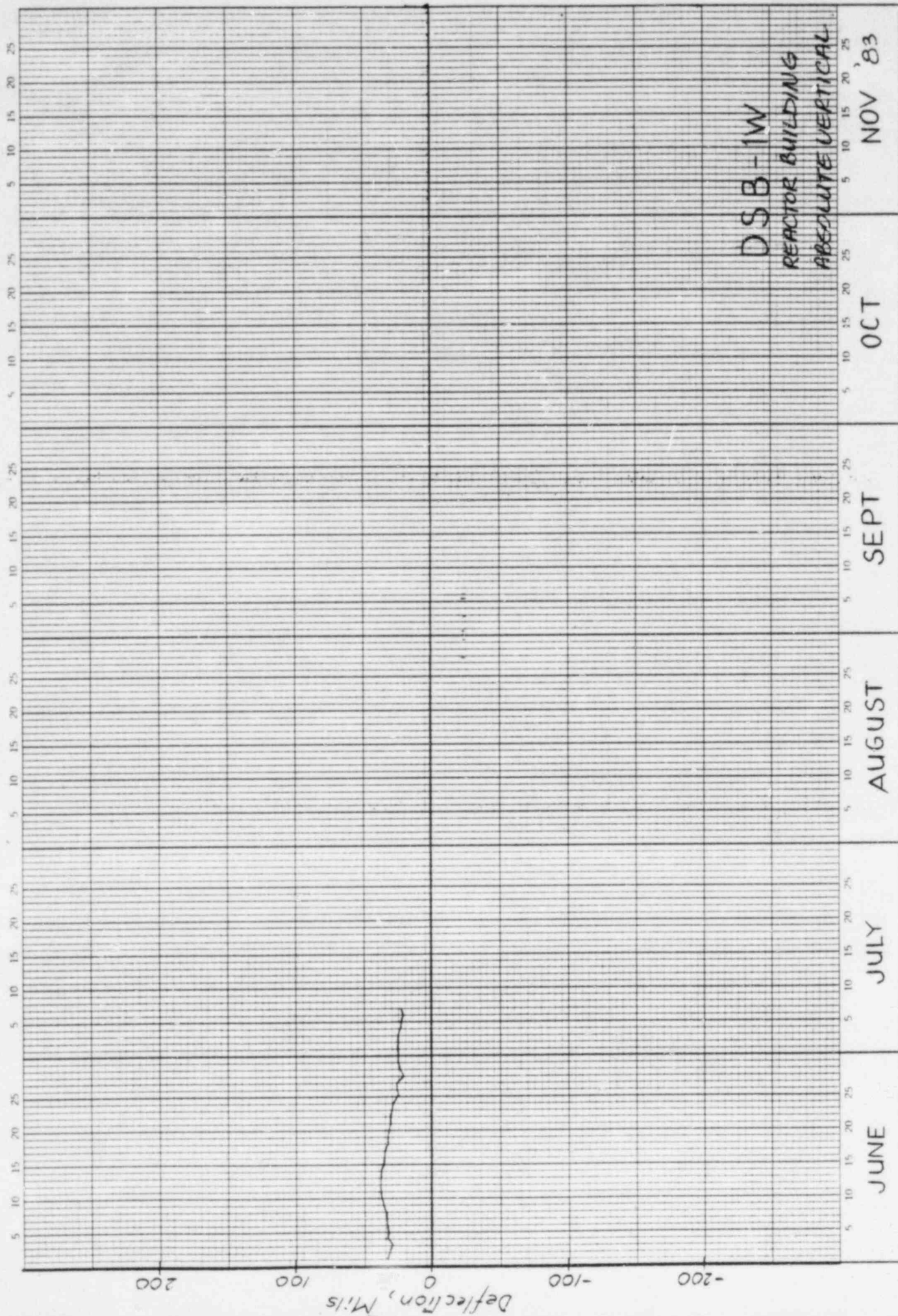


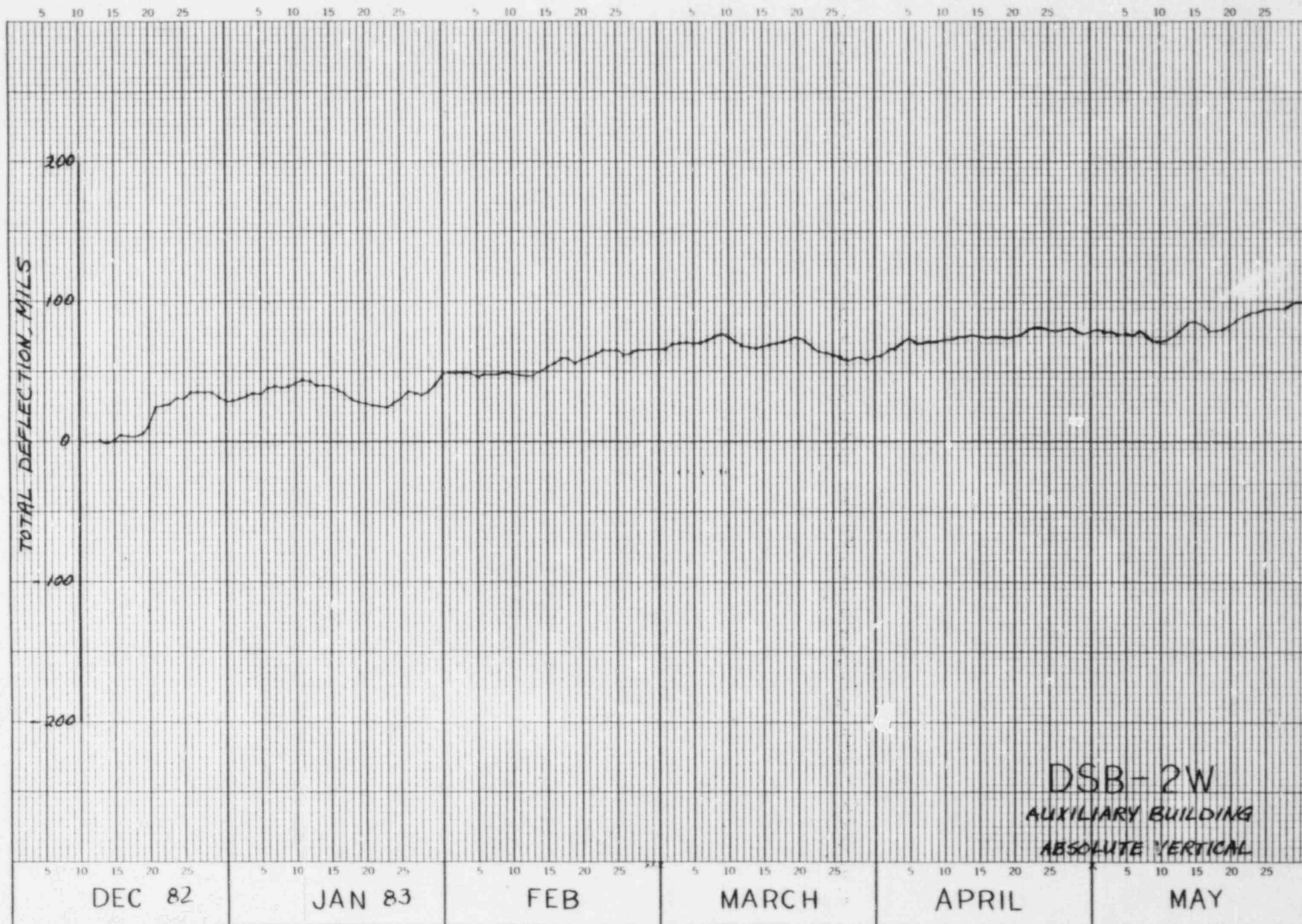


DSB-3E
CONTROL TOWER
ABSOLUTE VERTICAL



1

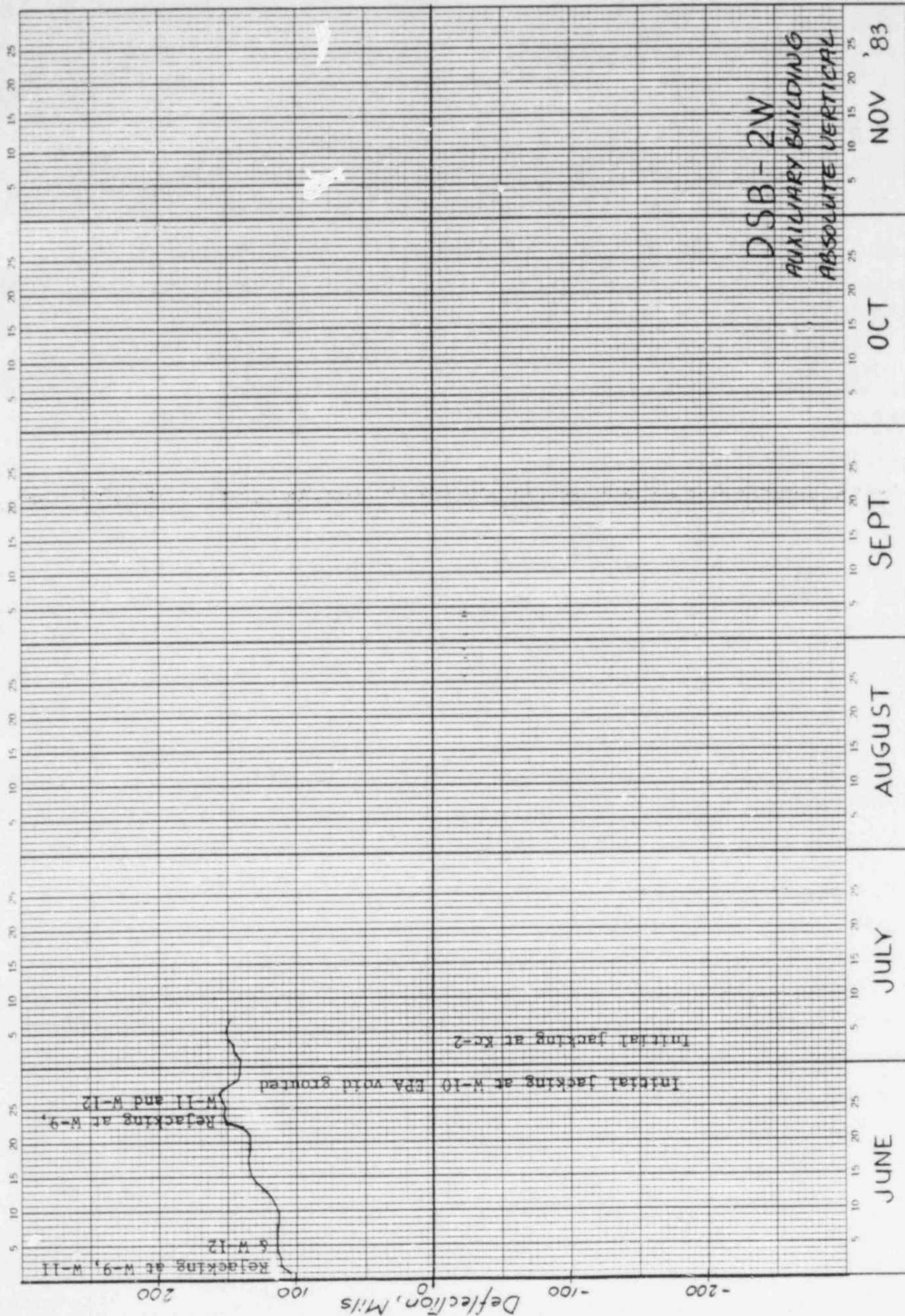


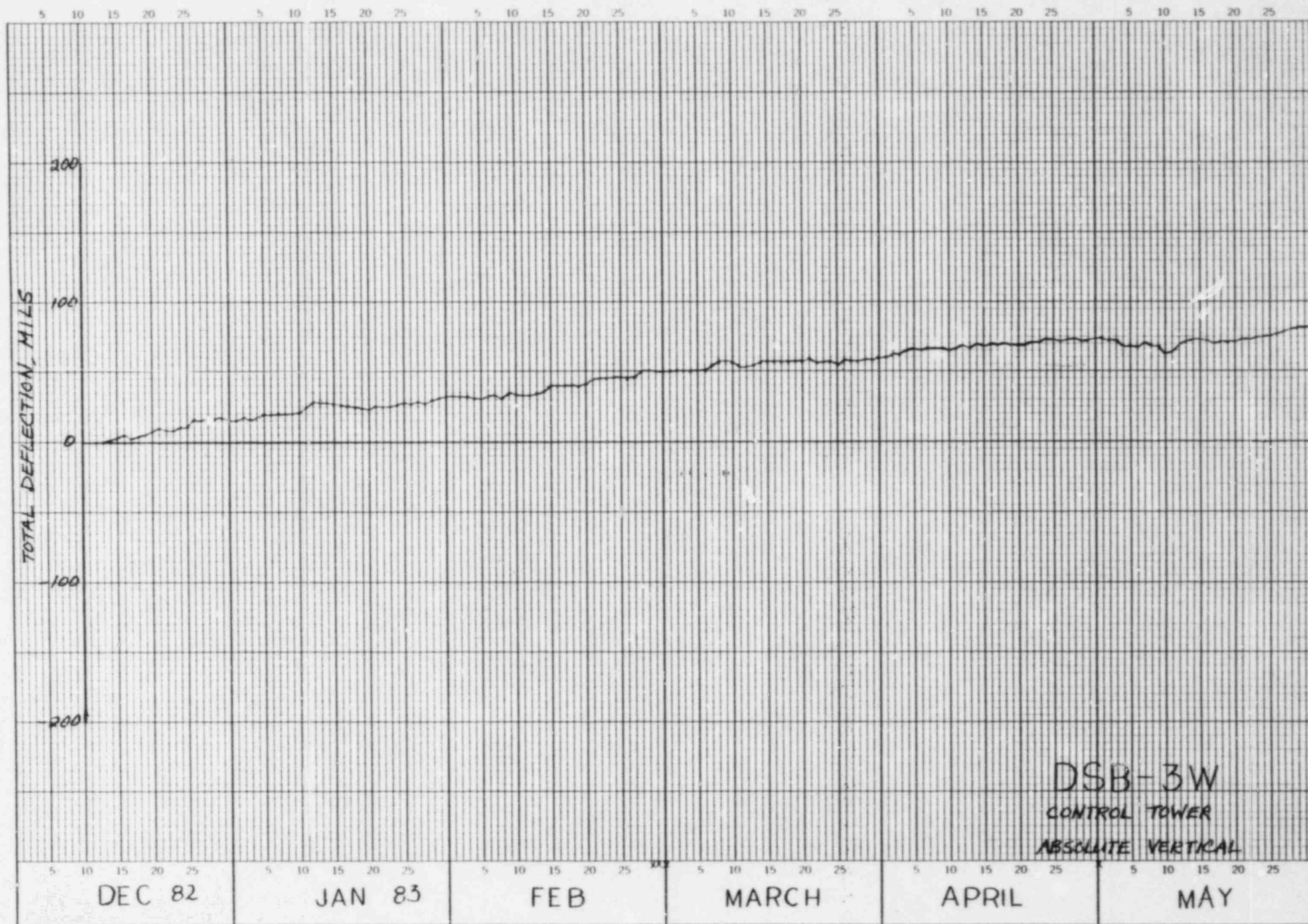


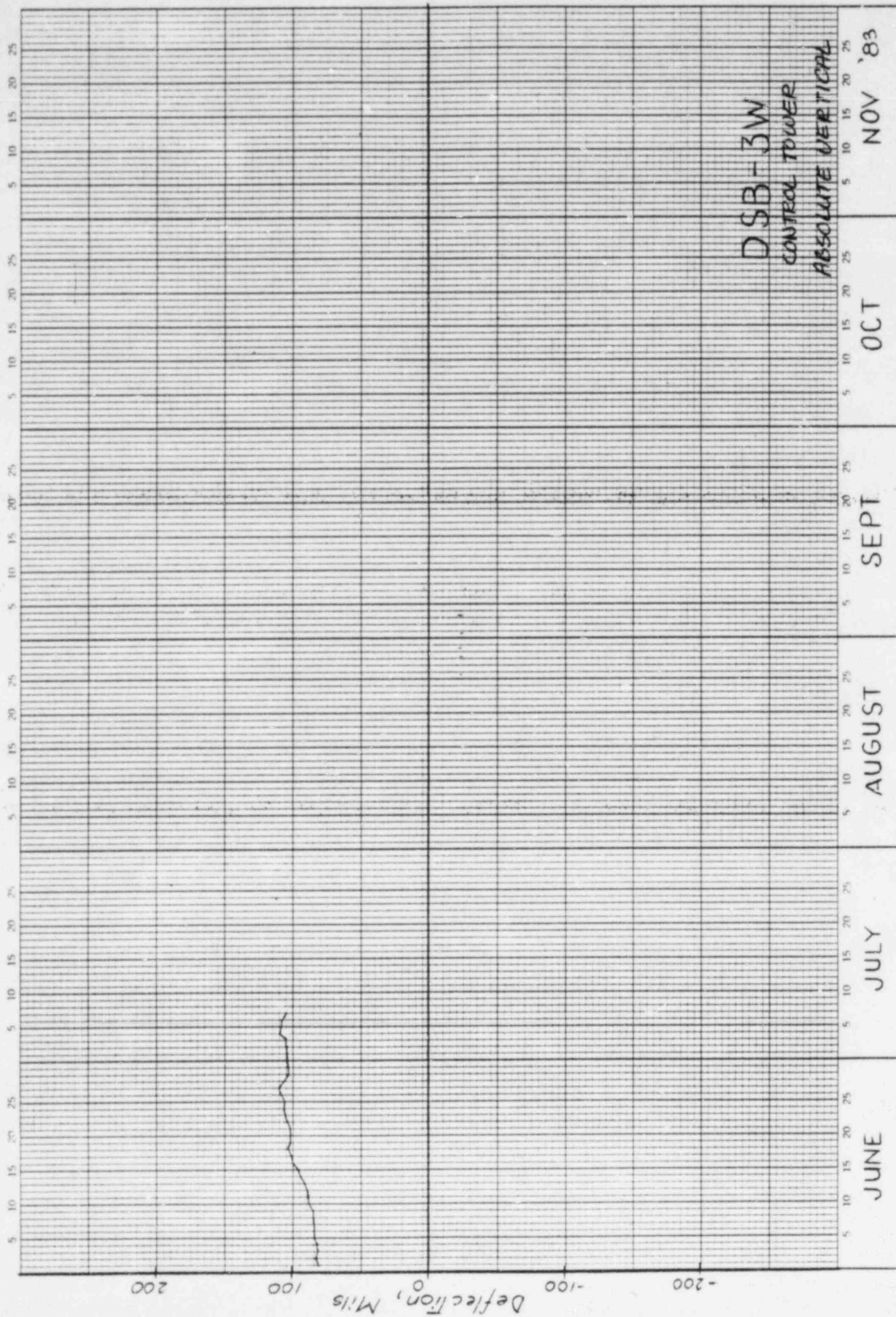
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46 2610

K-E 6 MONTHS BY DAYS X 120 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

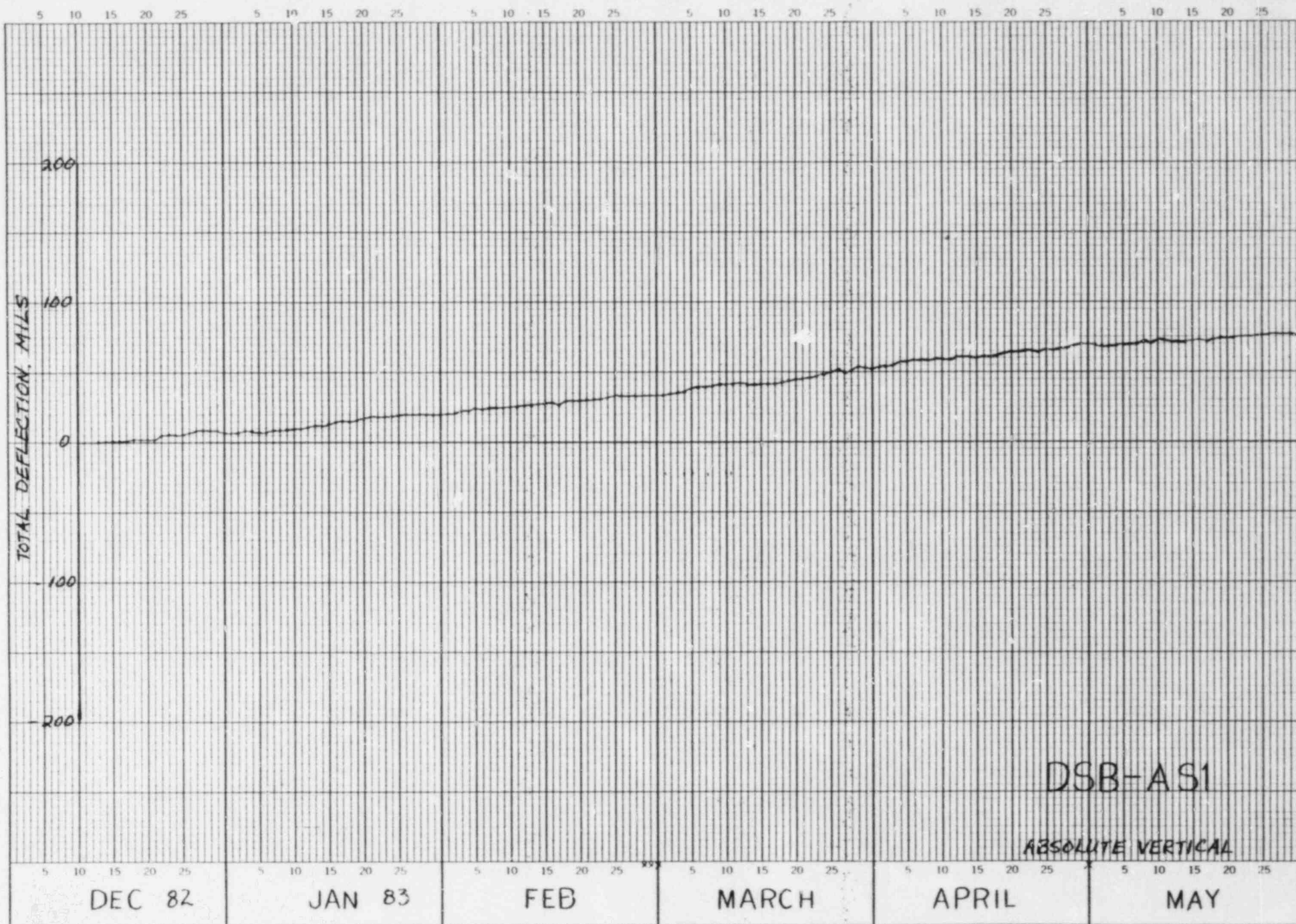


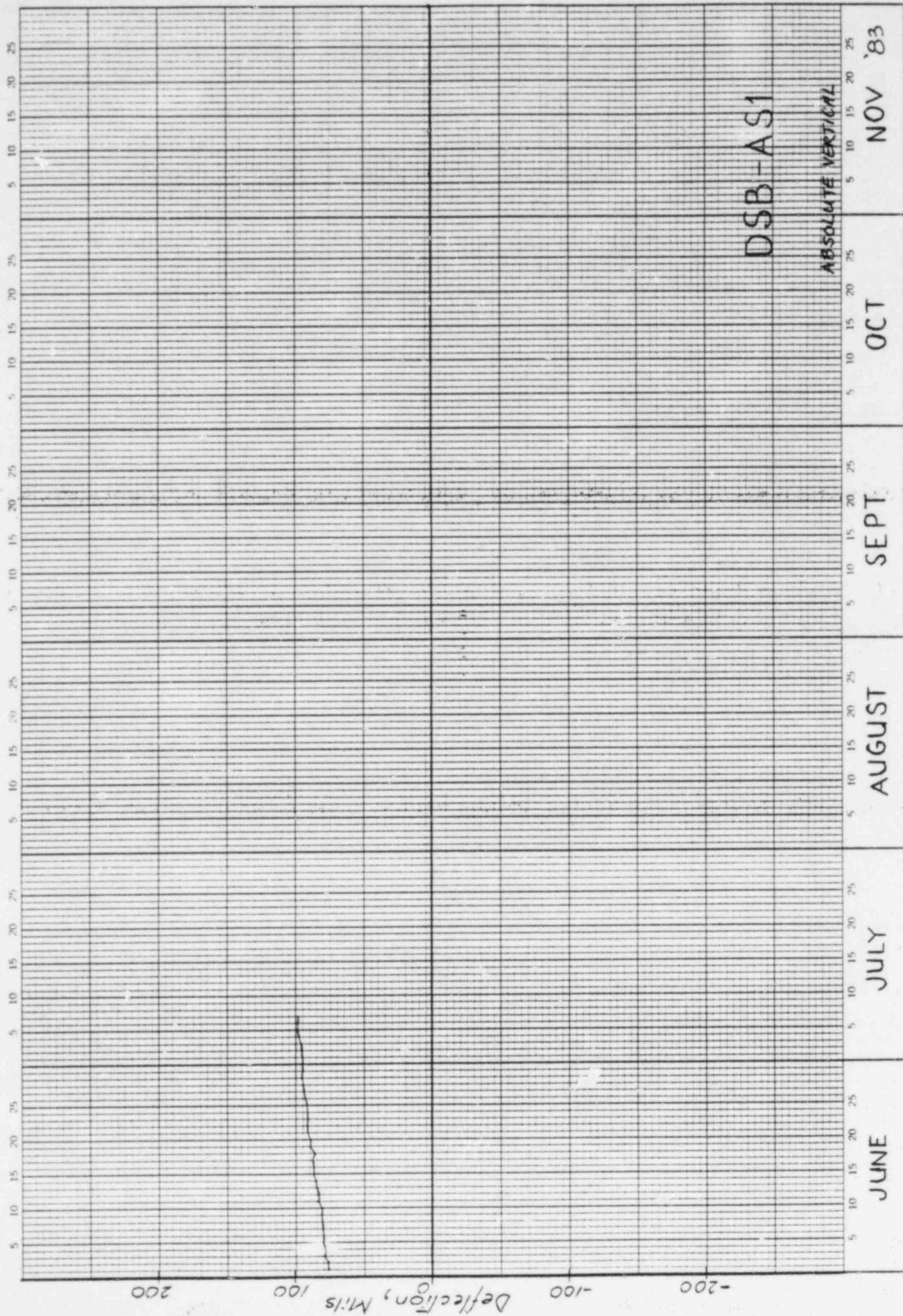


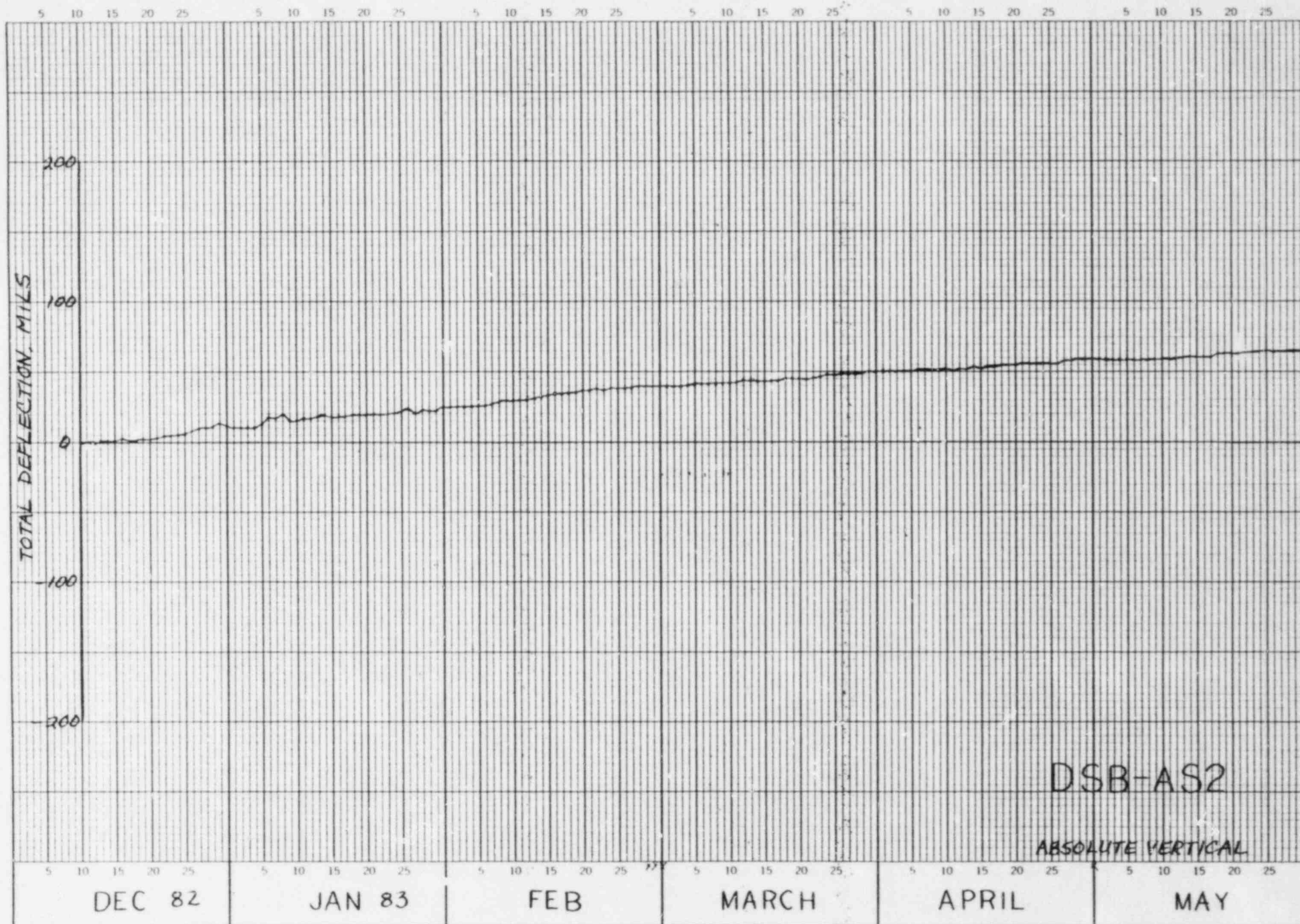


DSB-3W
CONTROL TOWER
ABSOLUTE VERTICAL

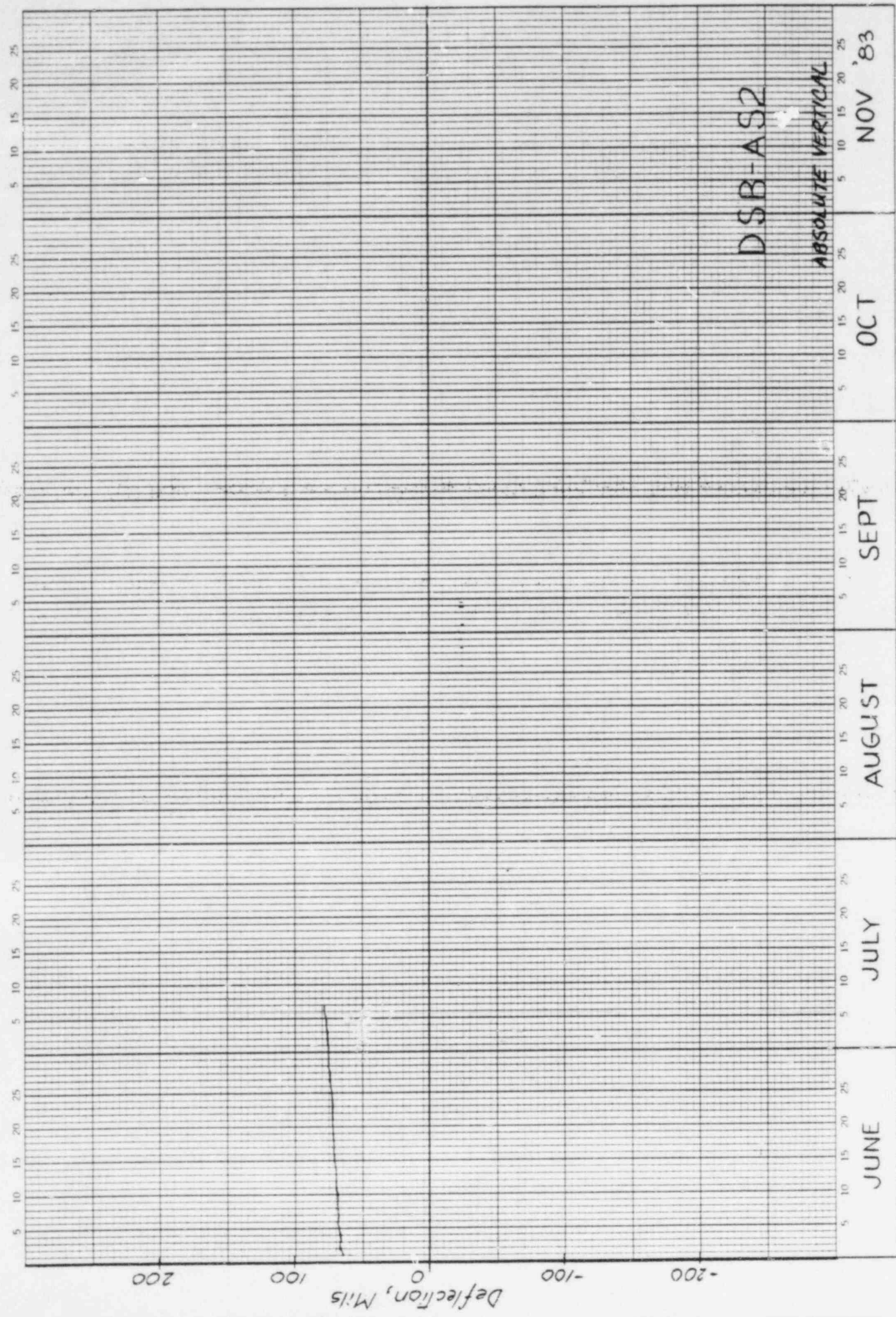
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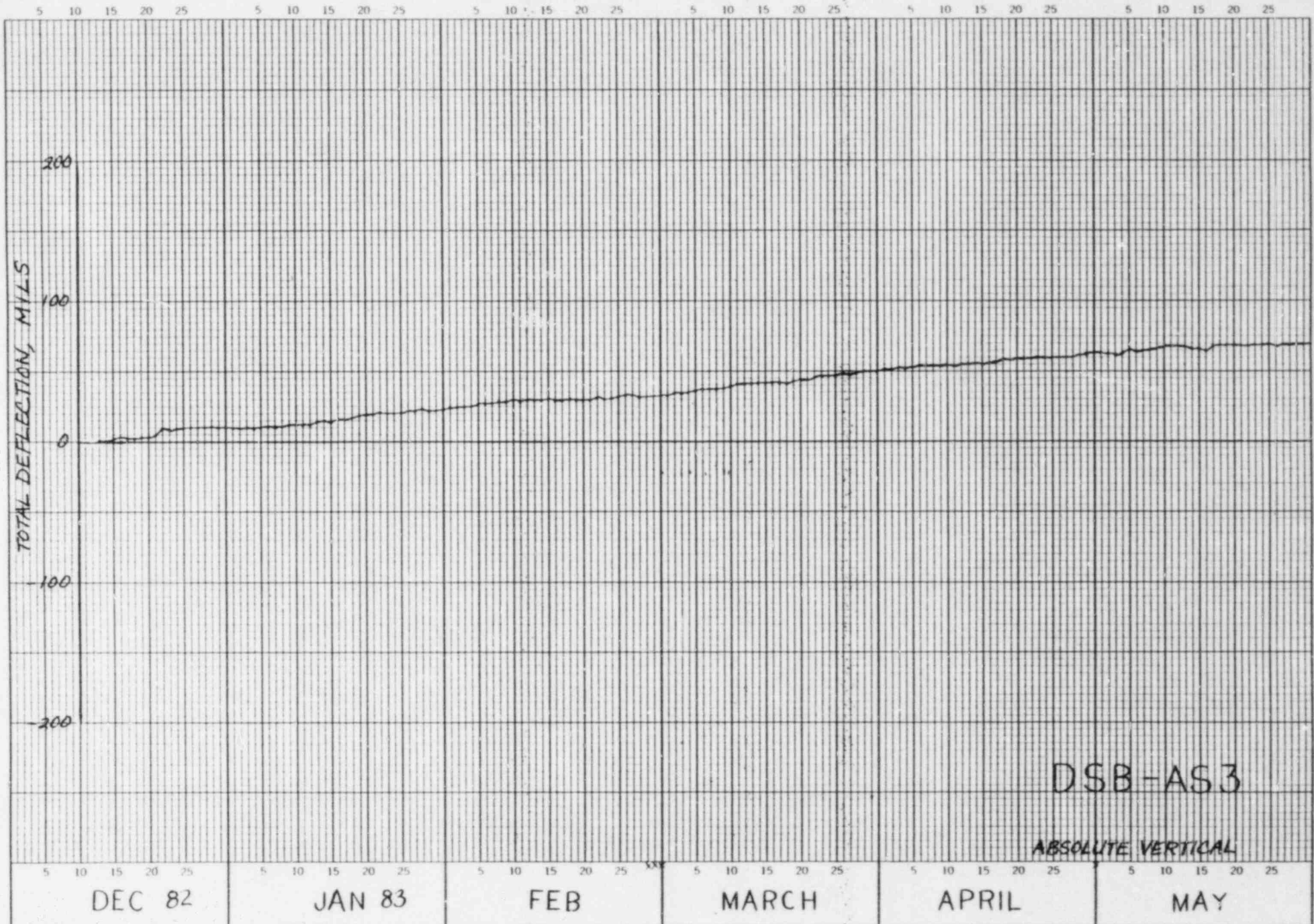


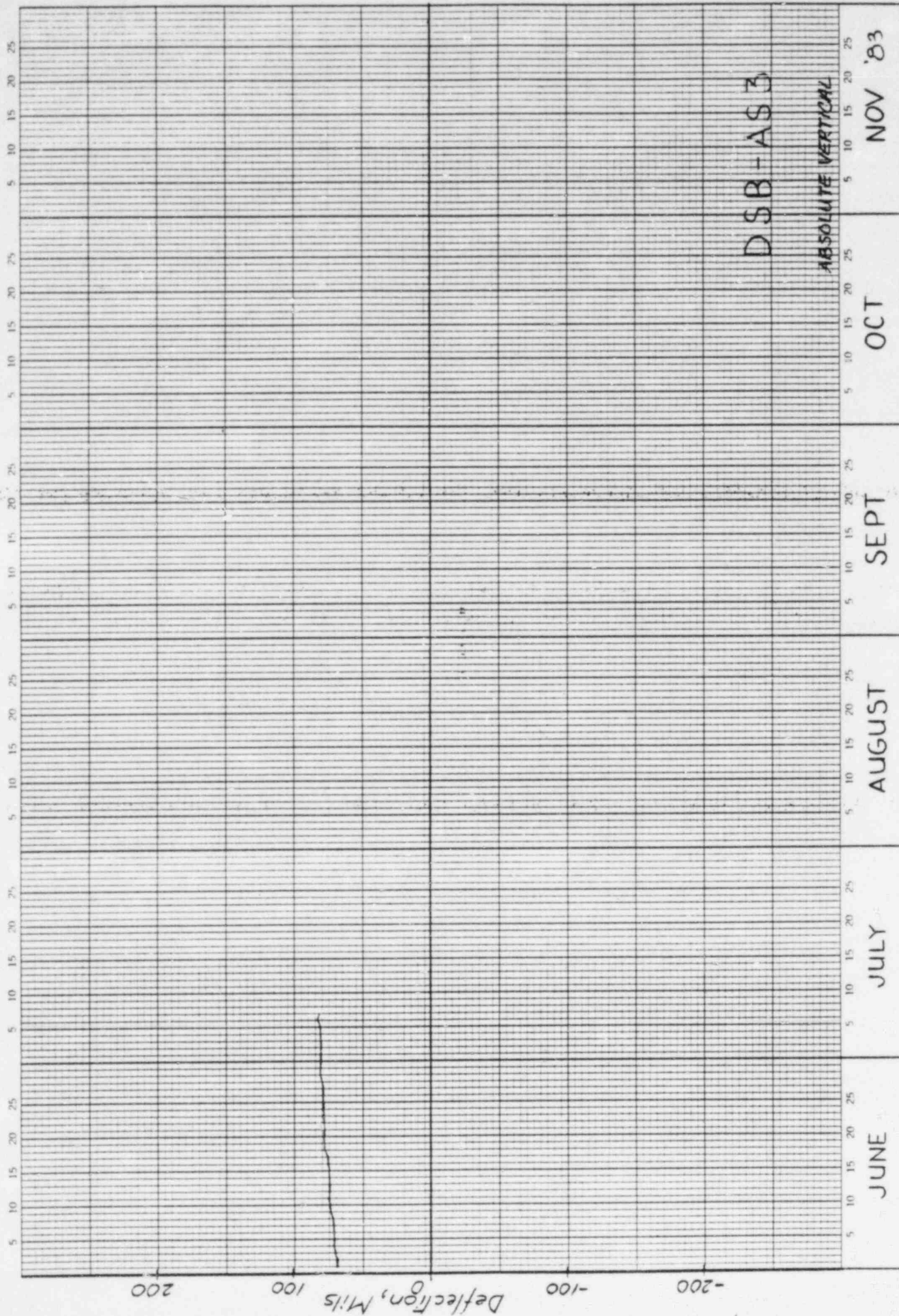




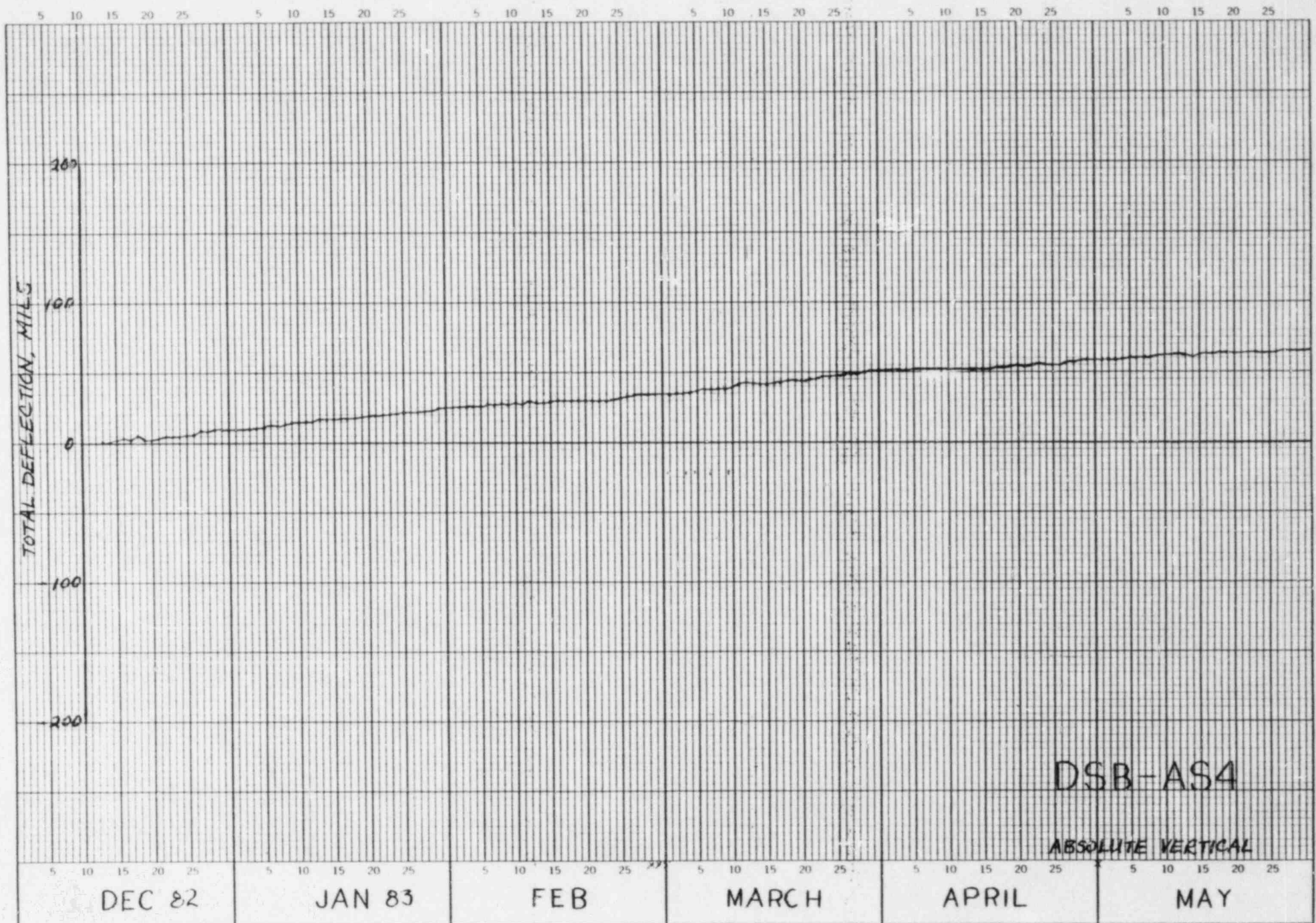
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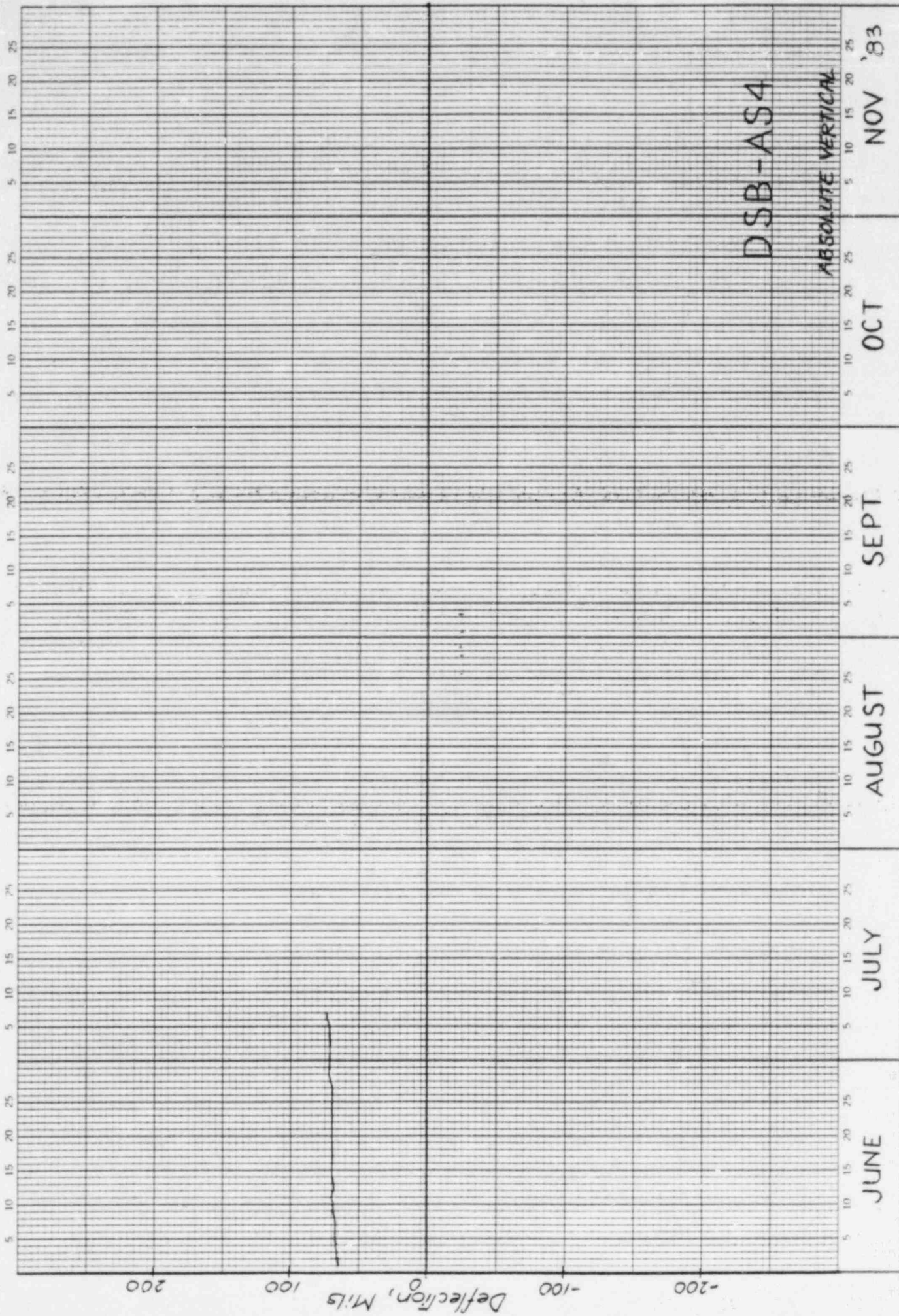


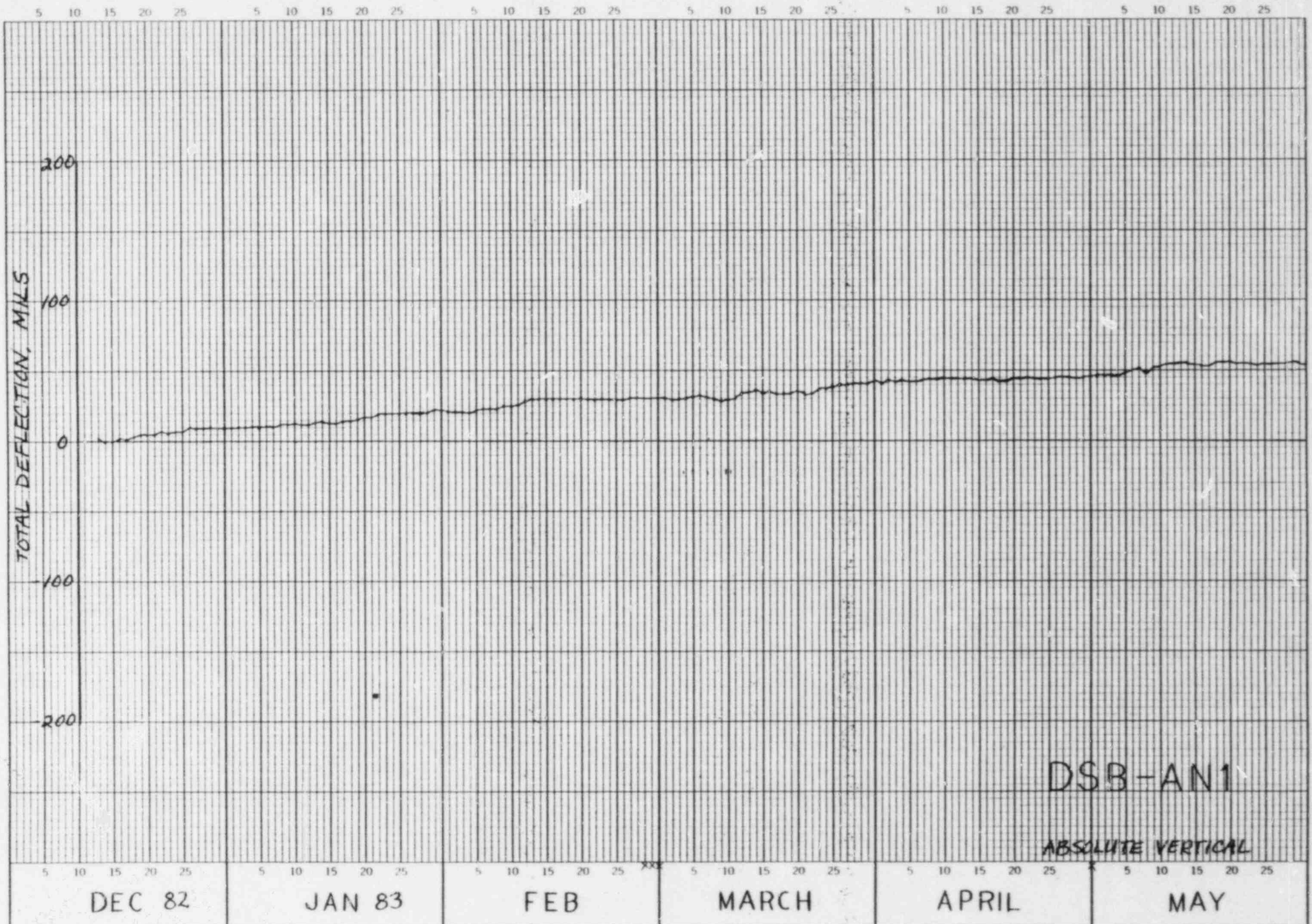


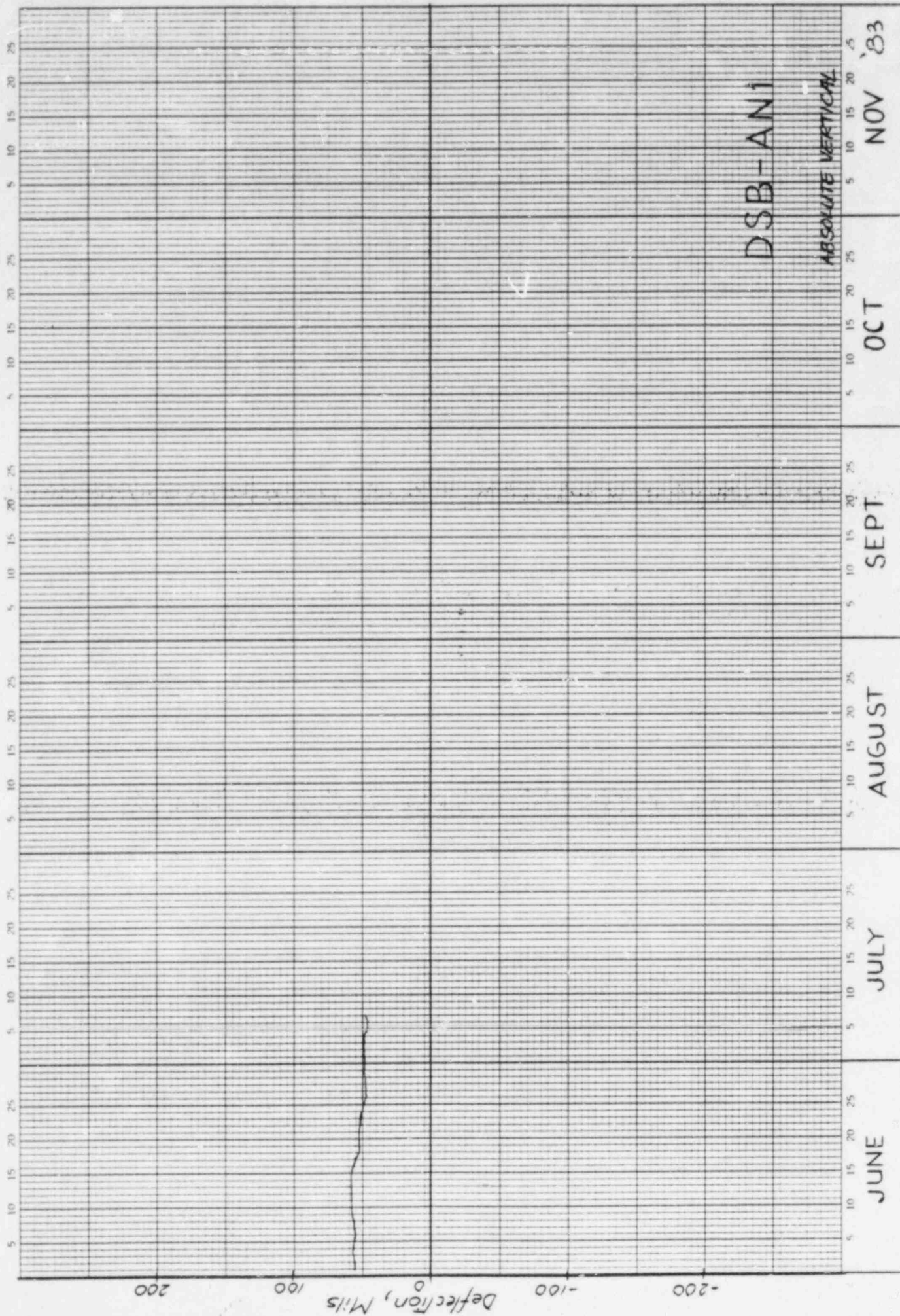


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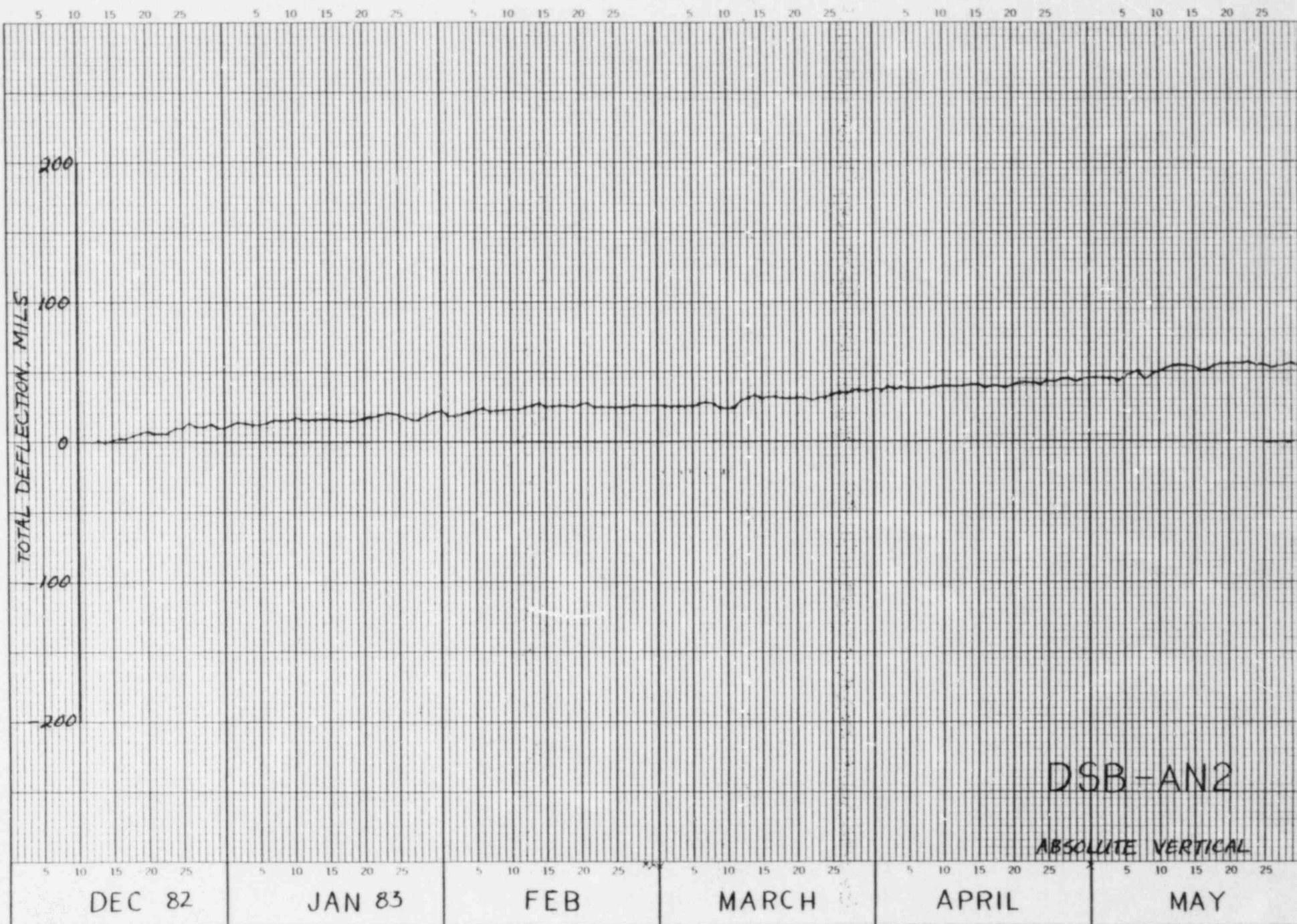




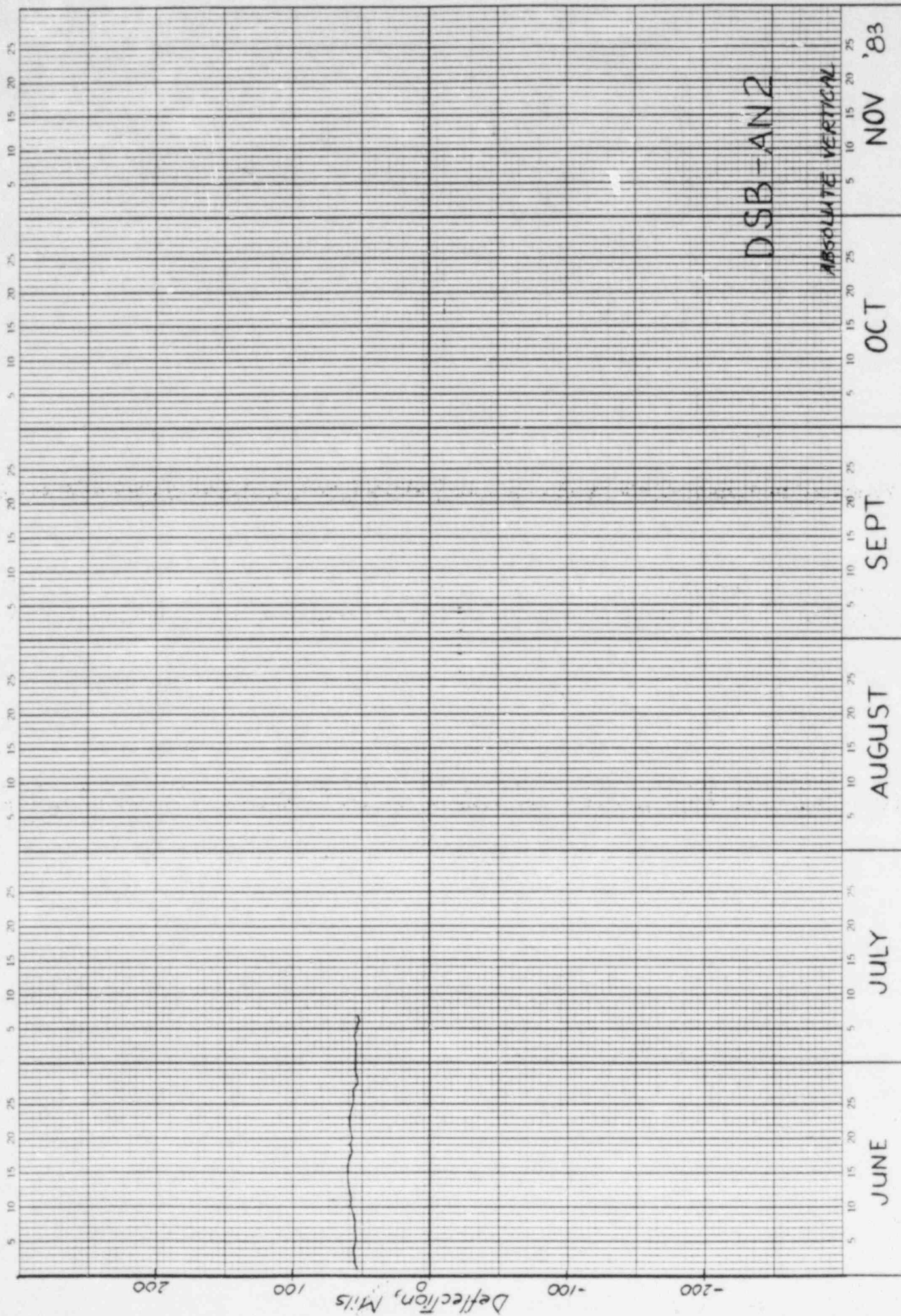




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33



DSB-AN2

ABSOLUTE VERTICAL

NOV '83

OCT

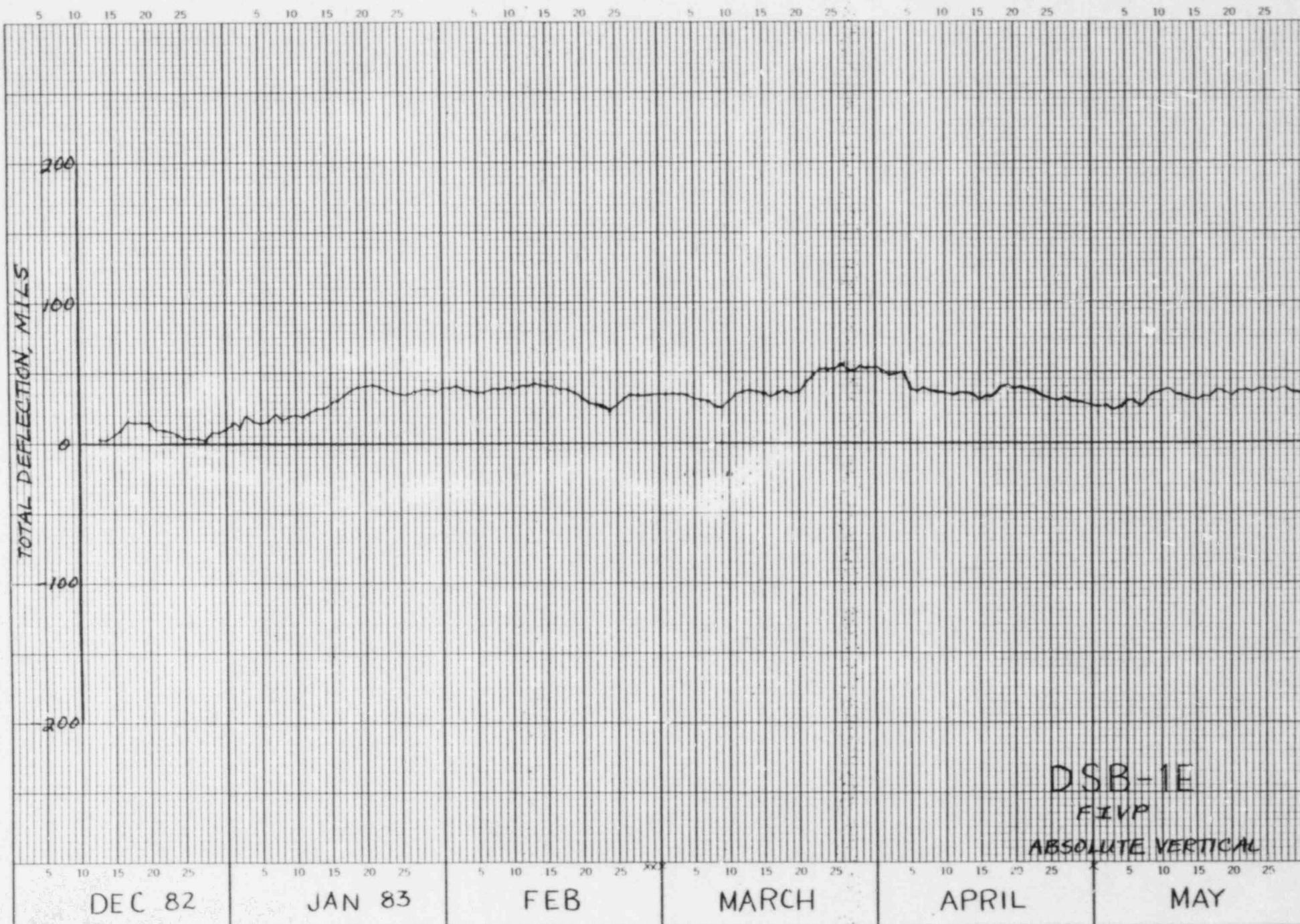
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AUGUST

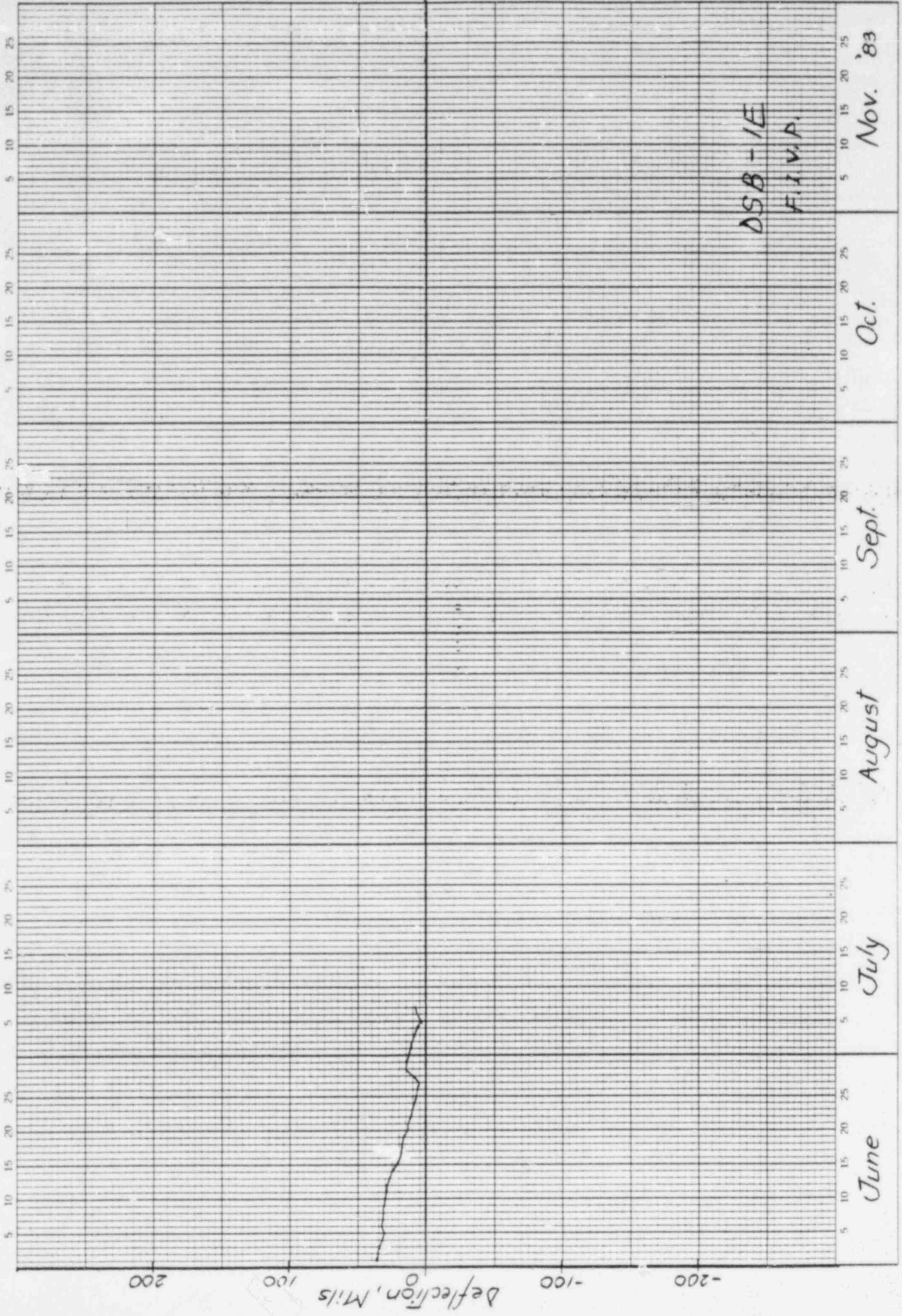
JULY

JUNE

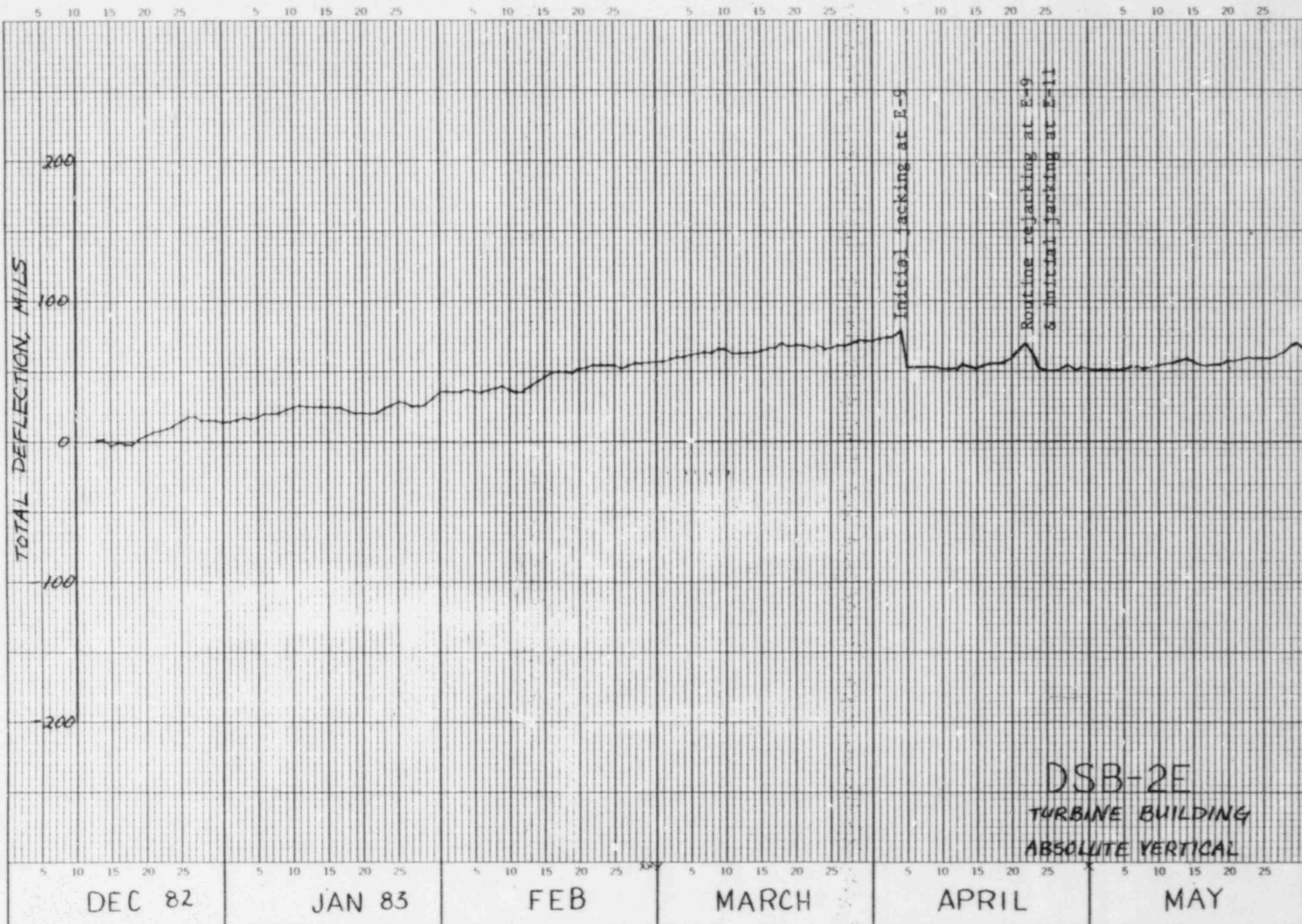
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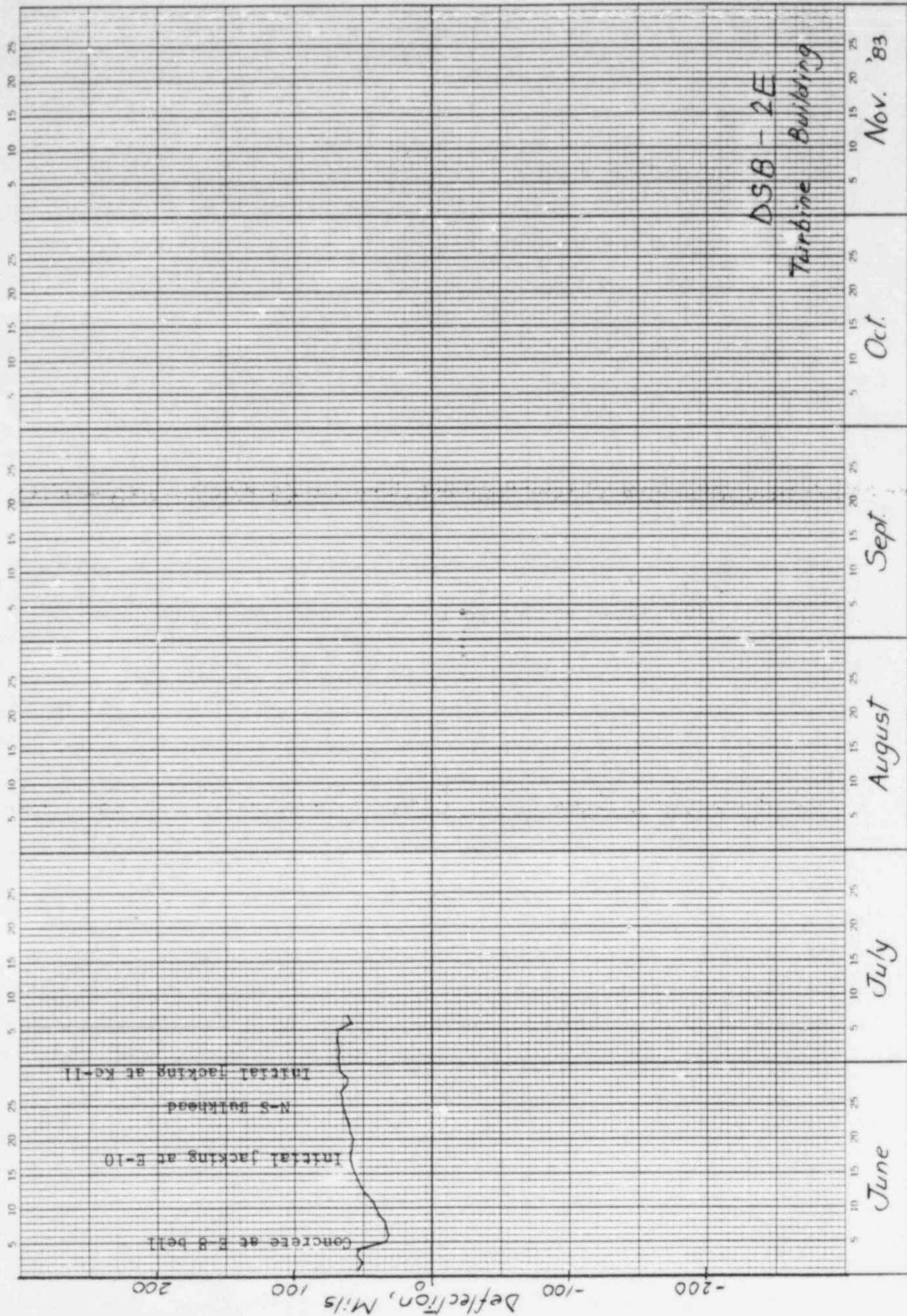


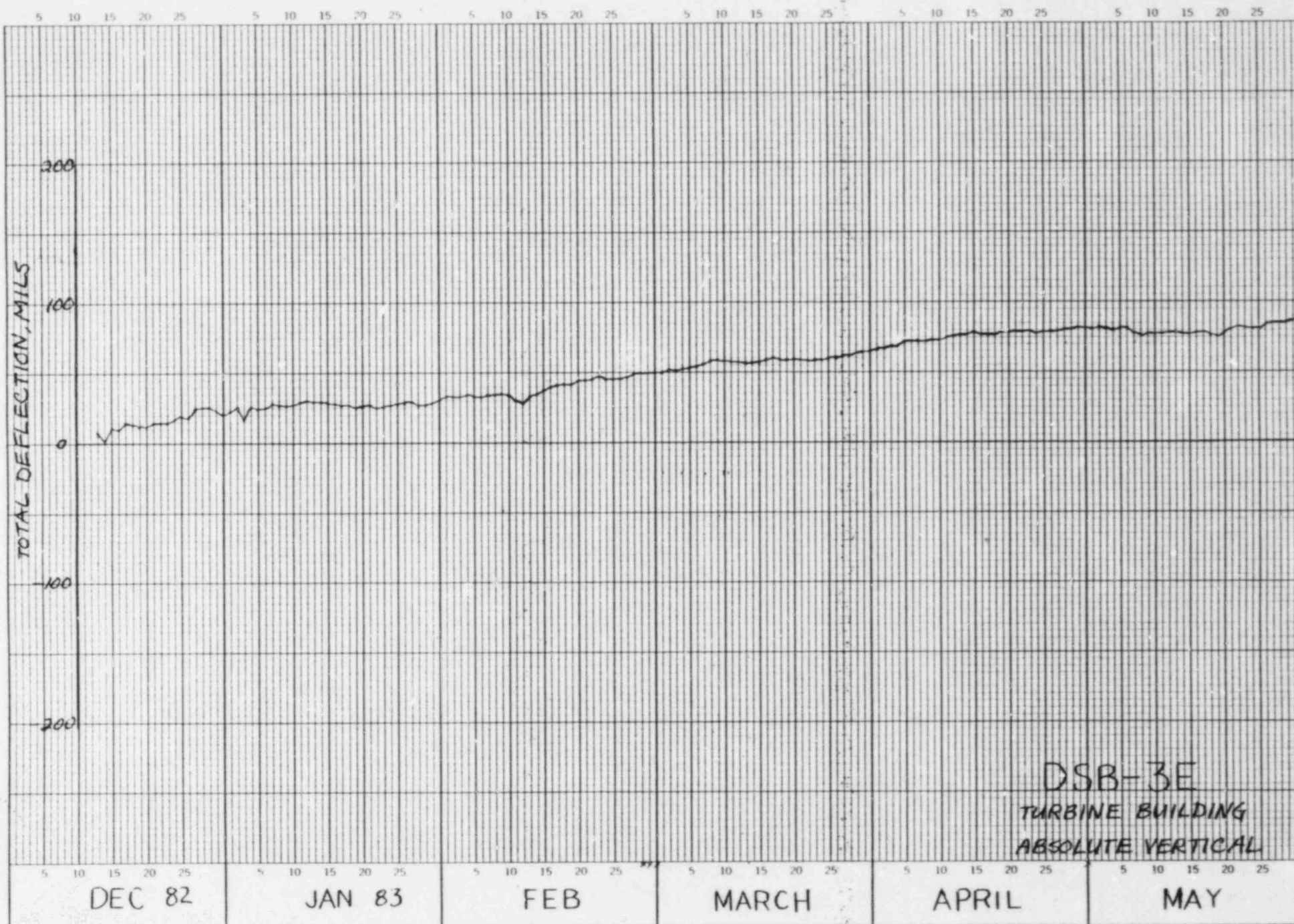
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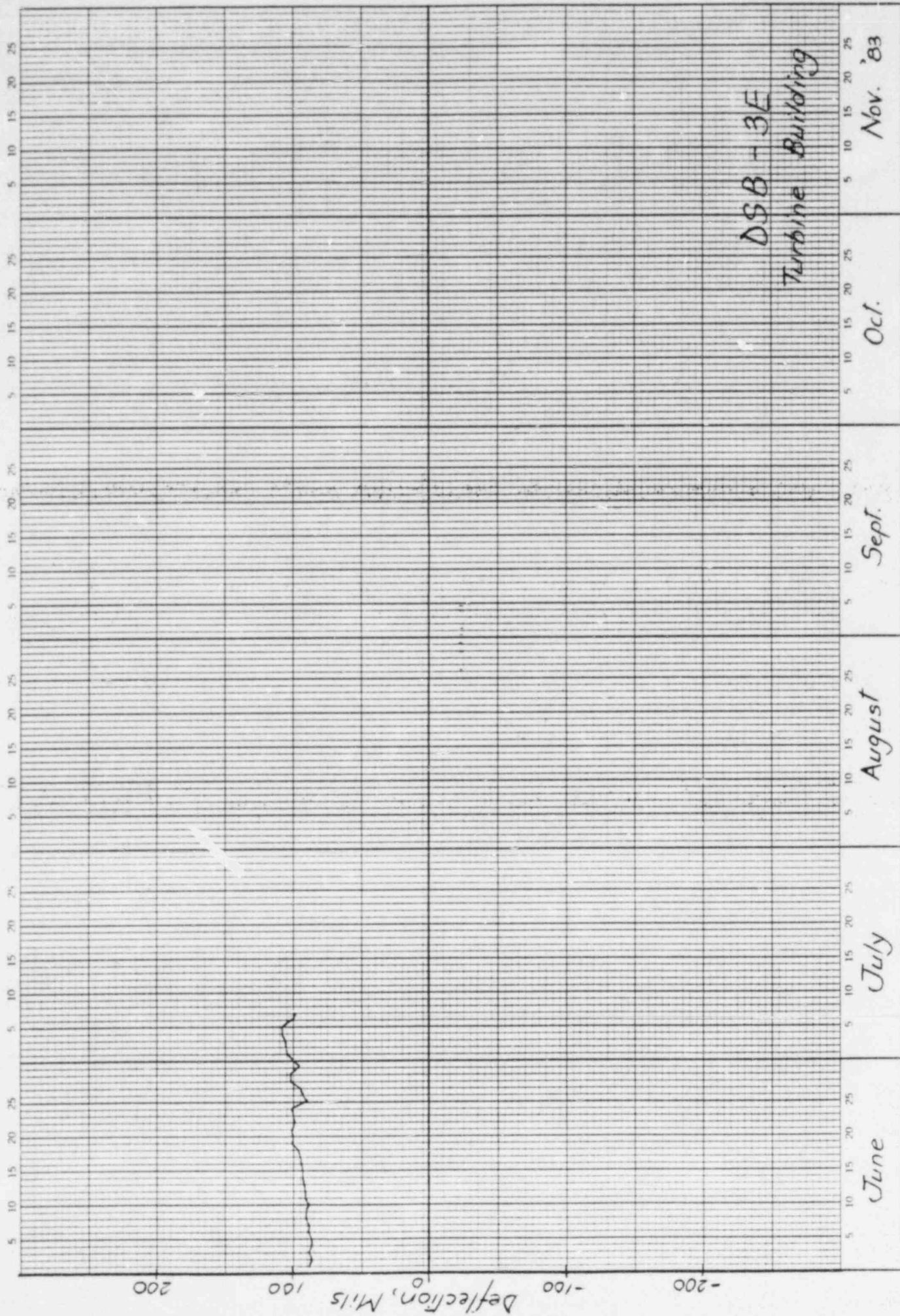


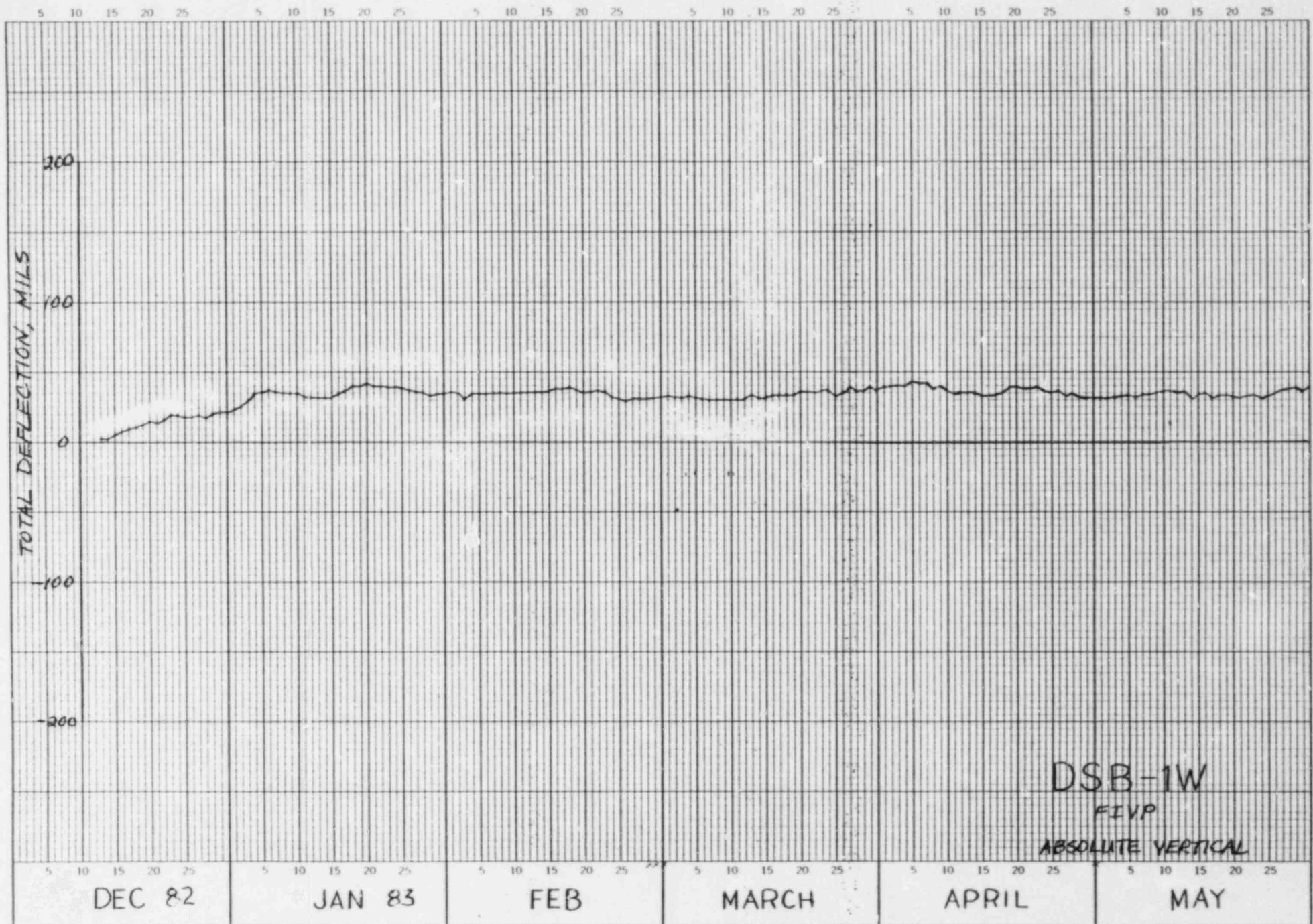
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F.I.V.P.

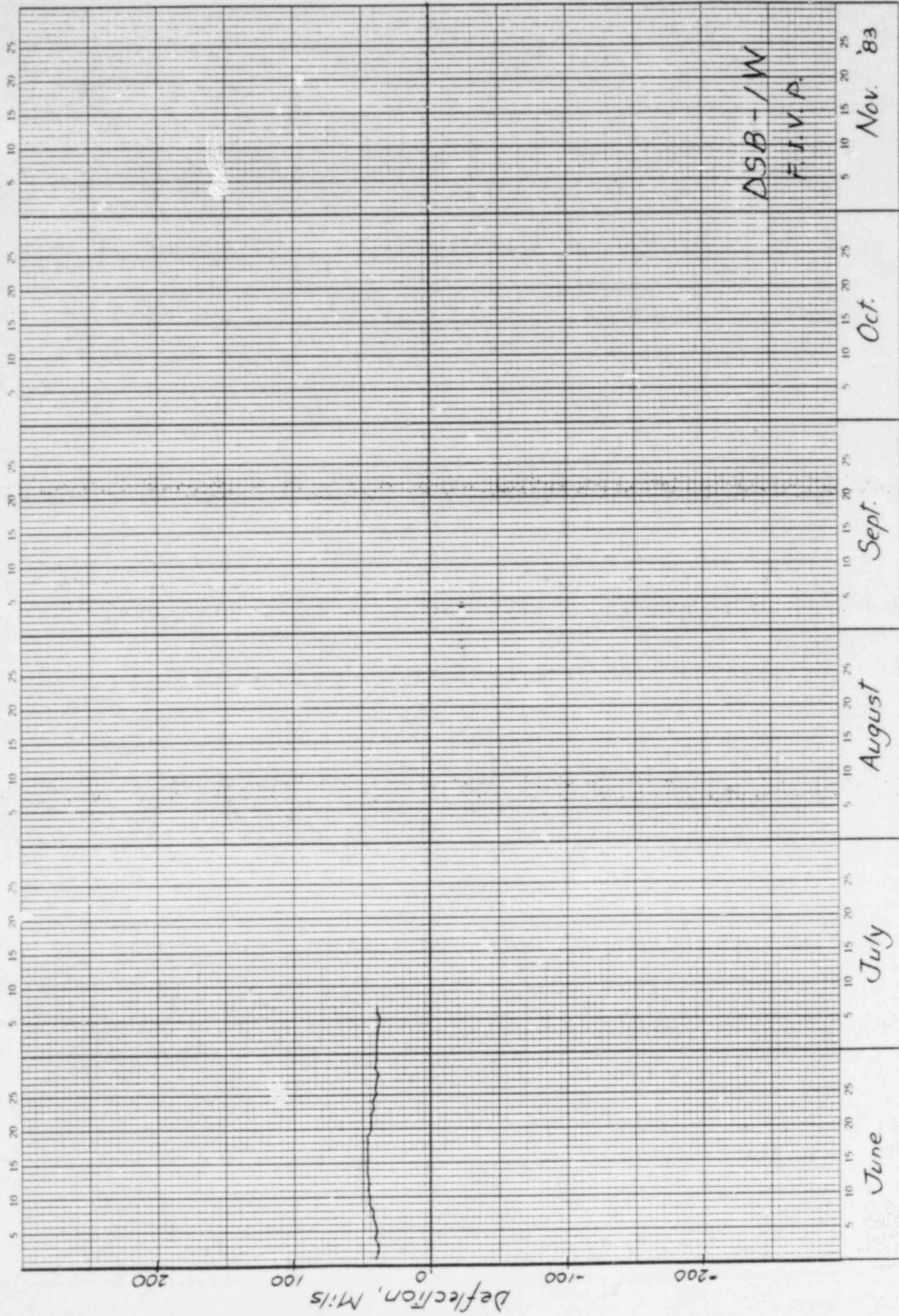


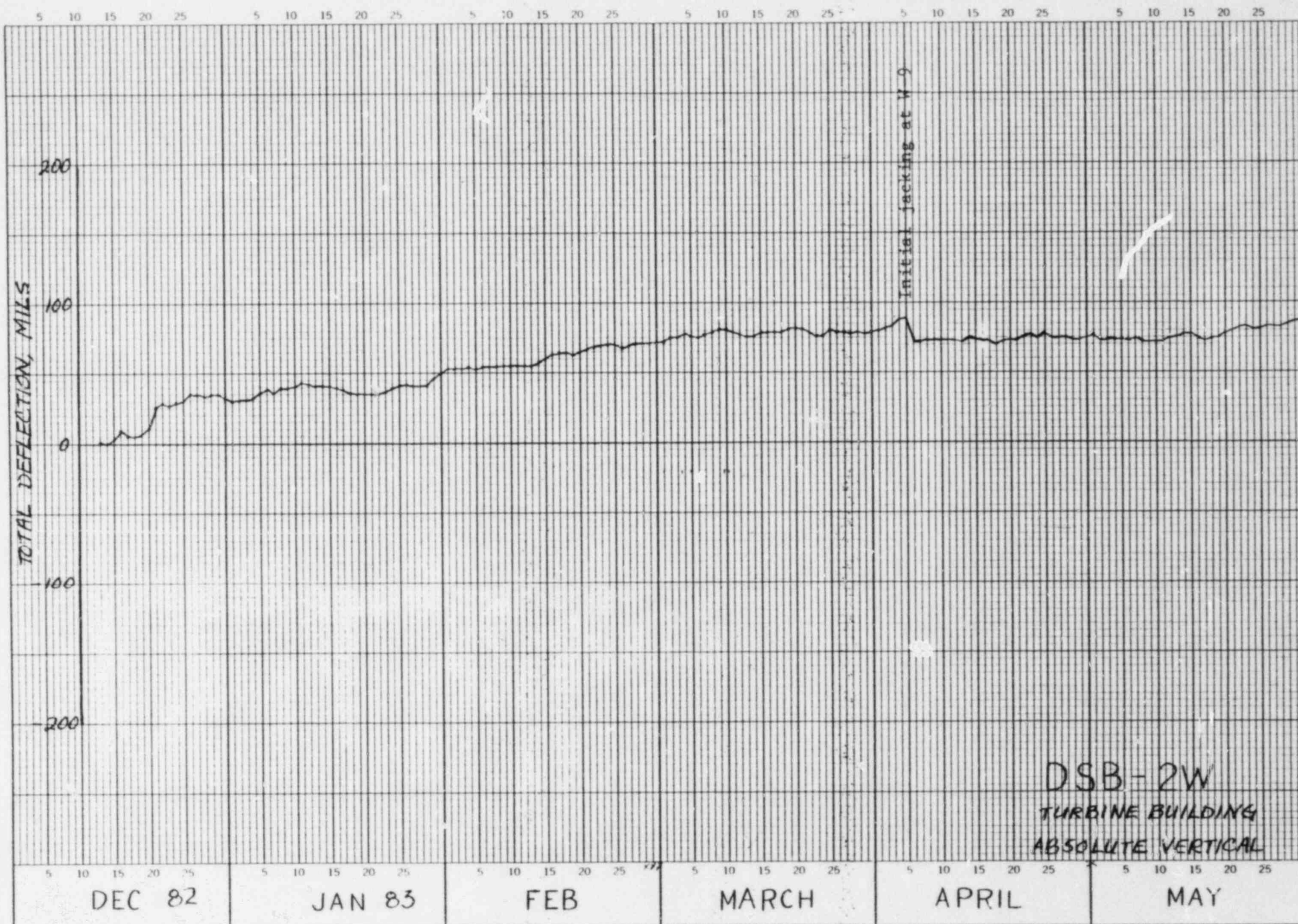


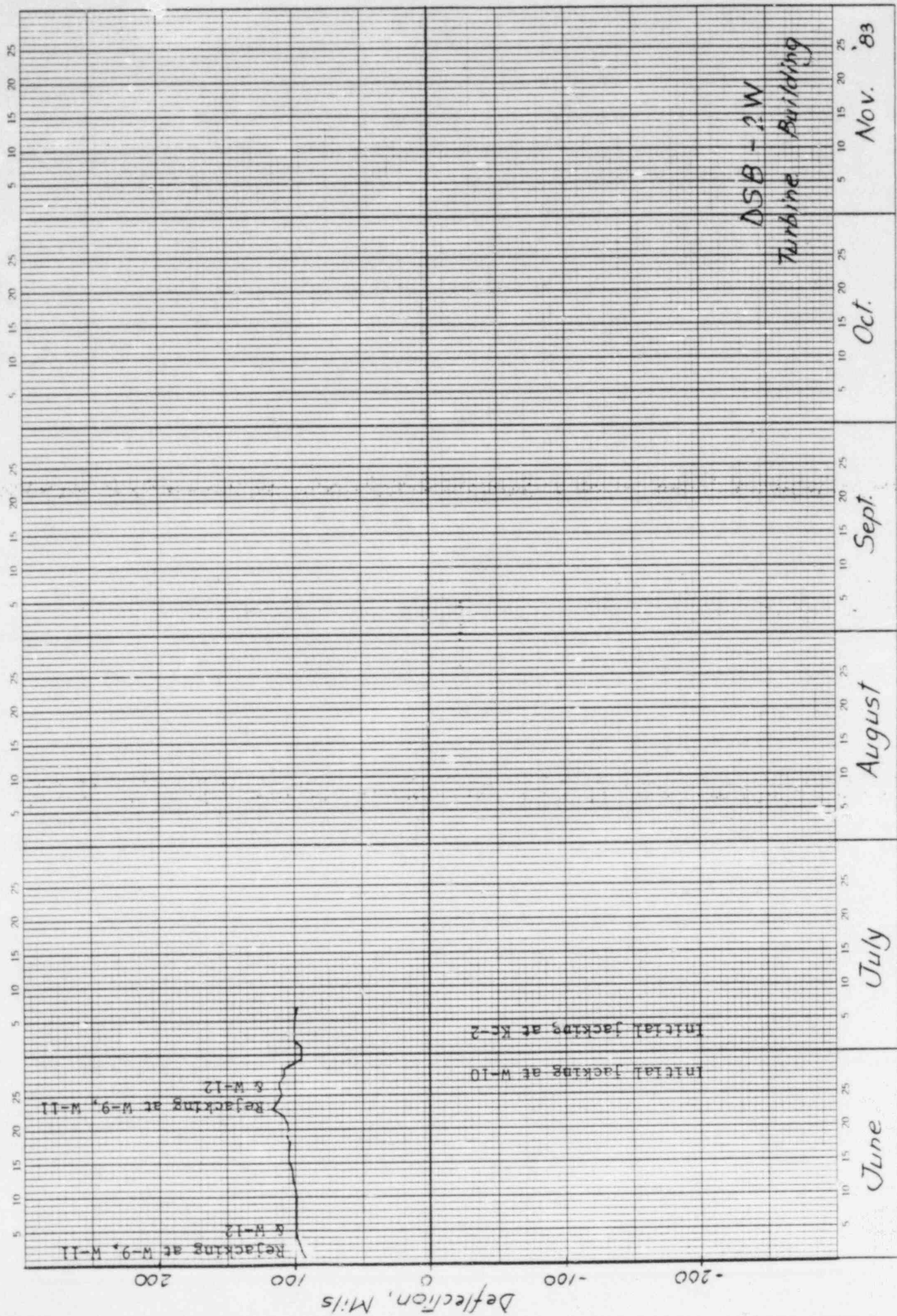


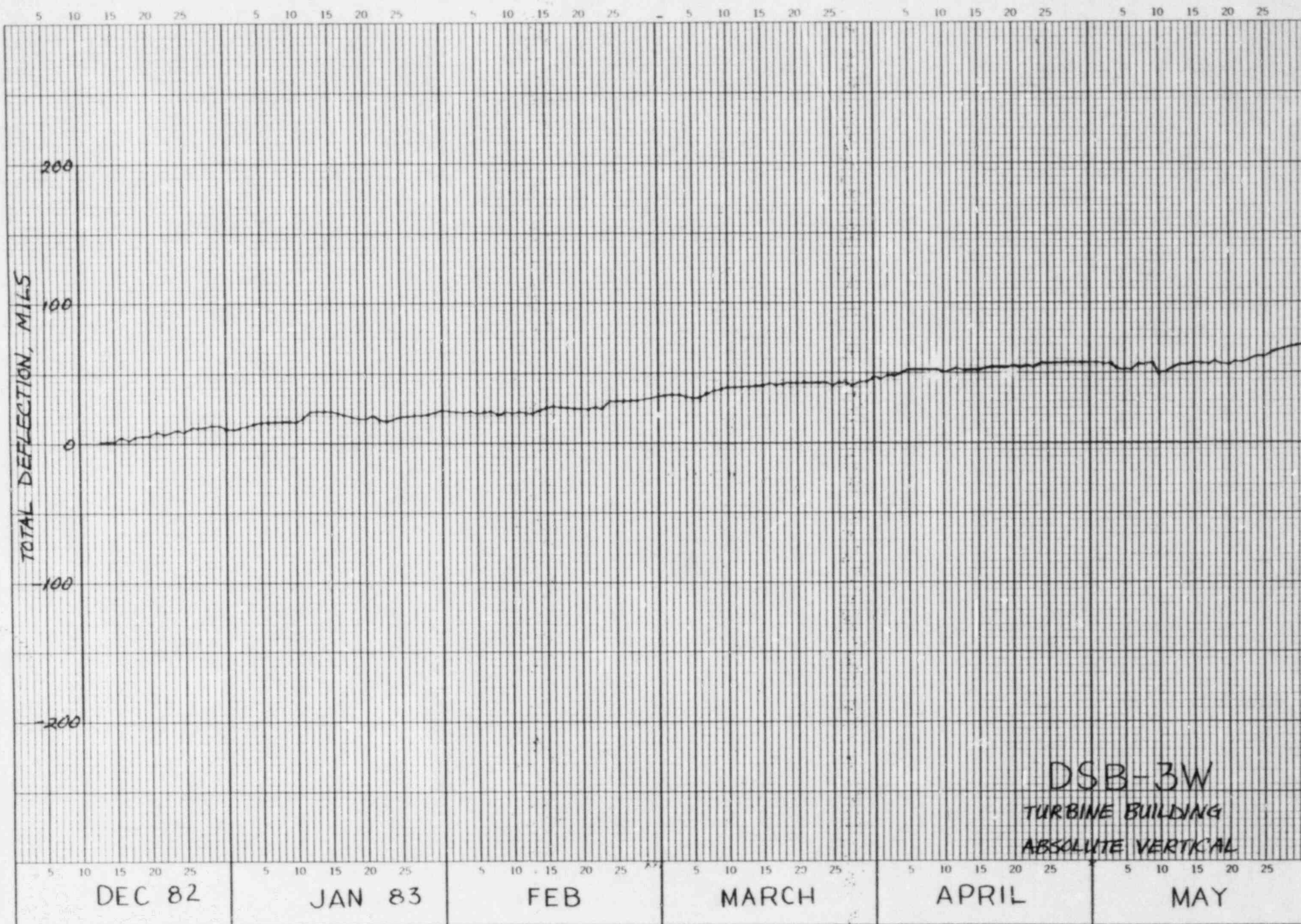


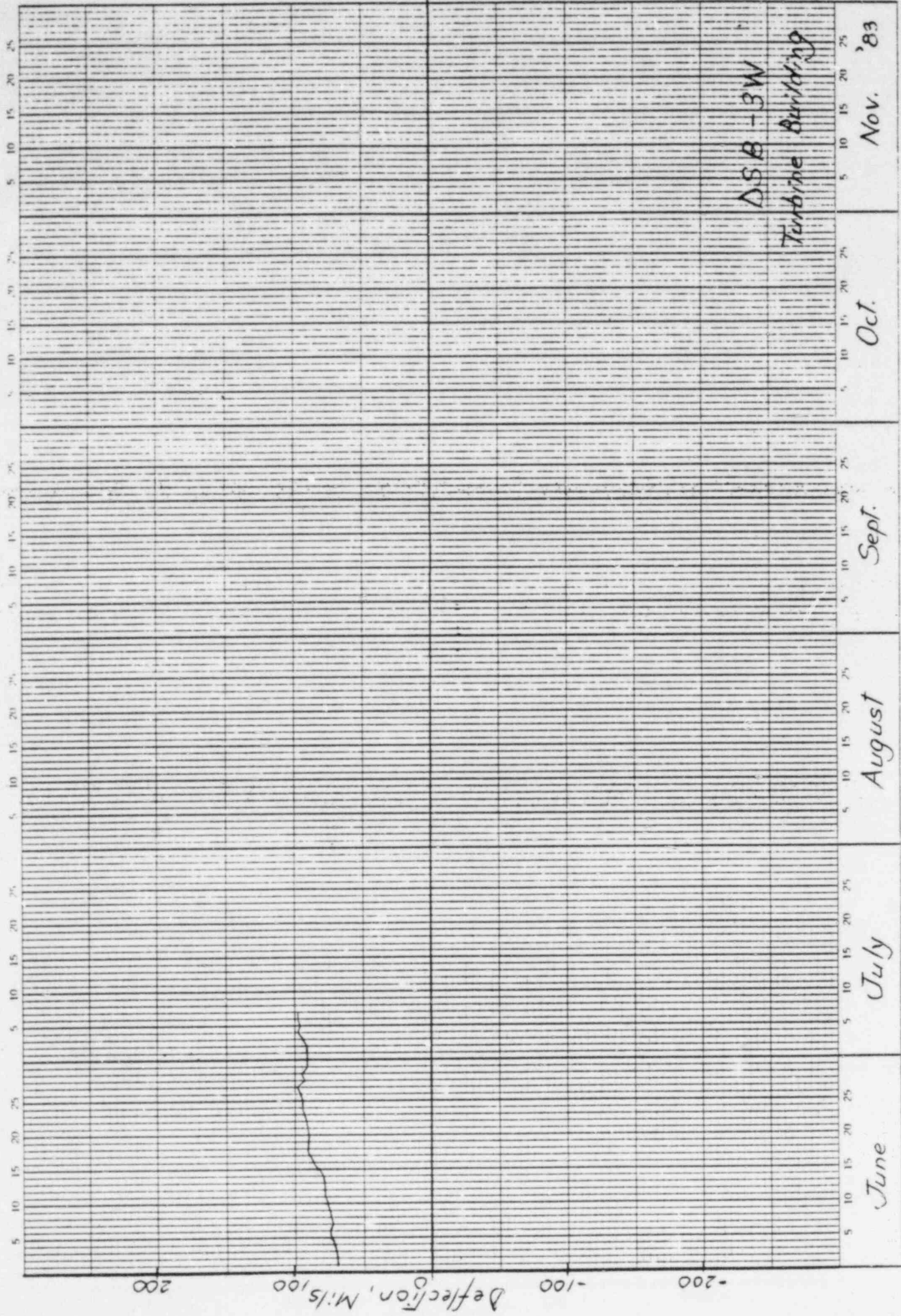


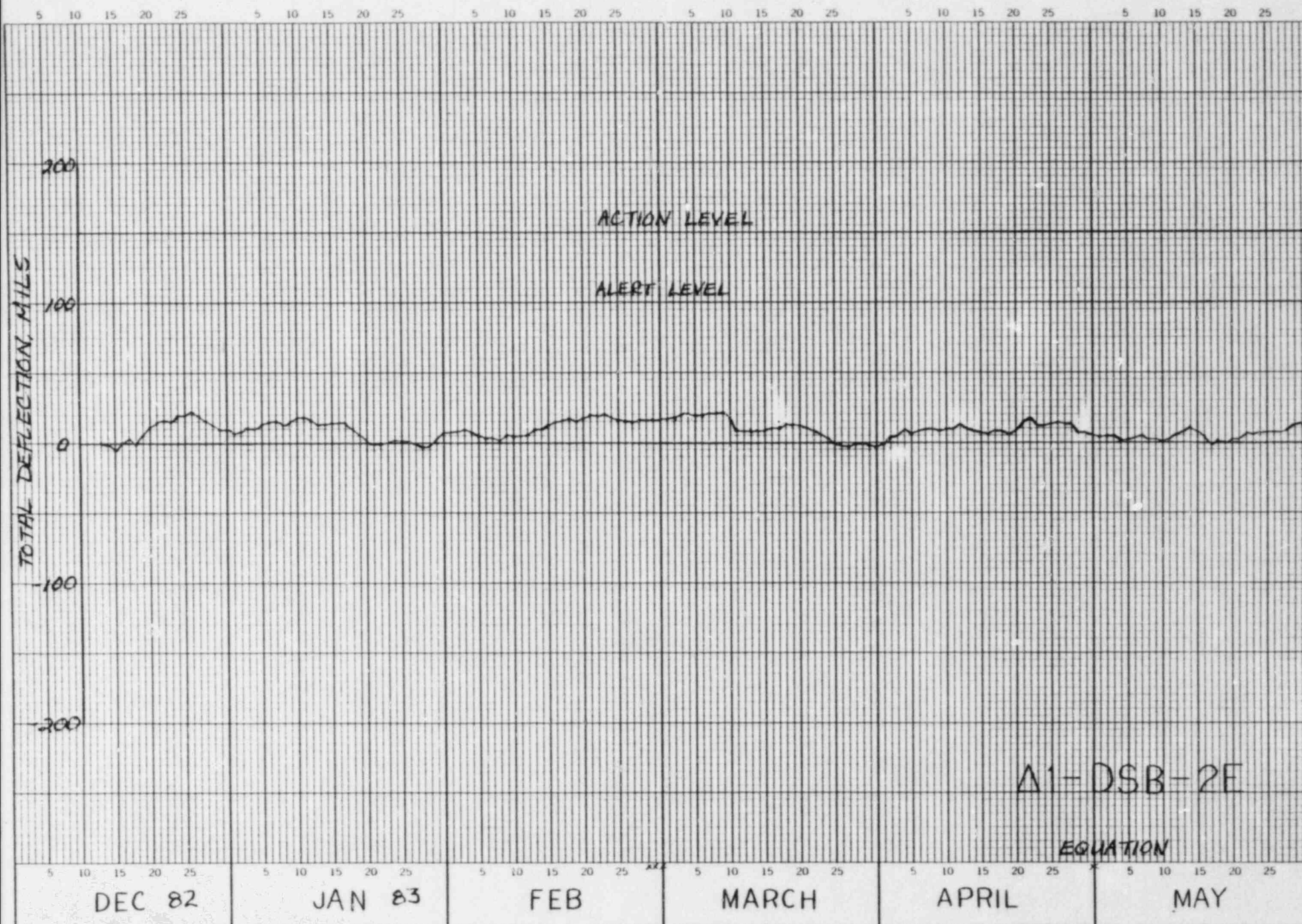


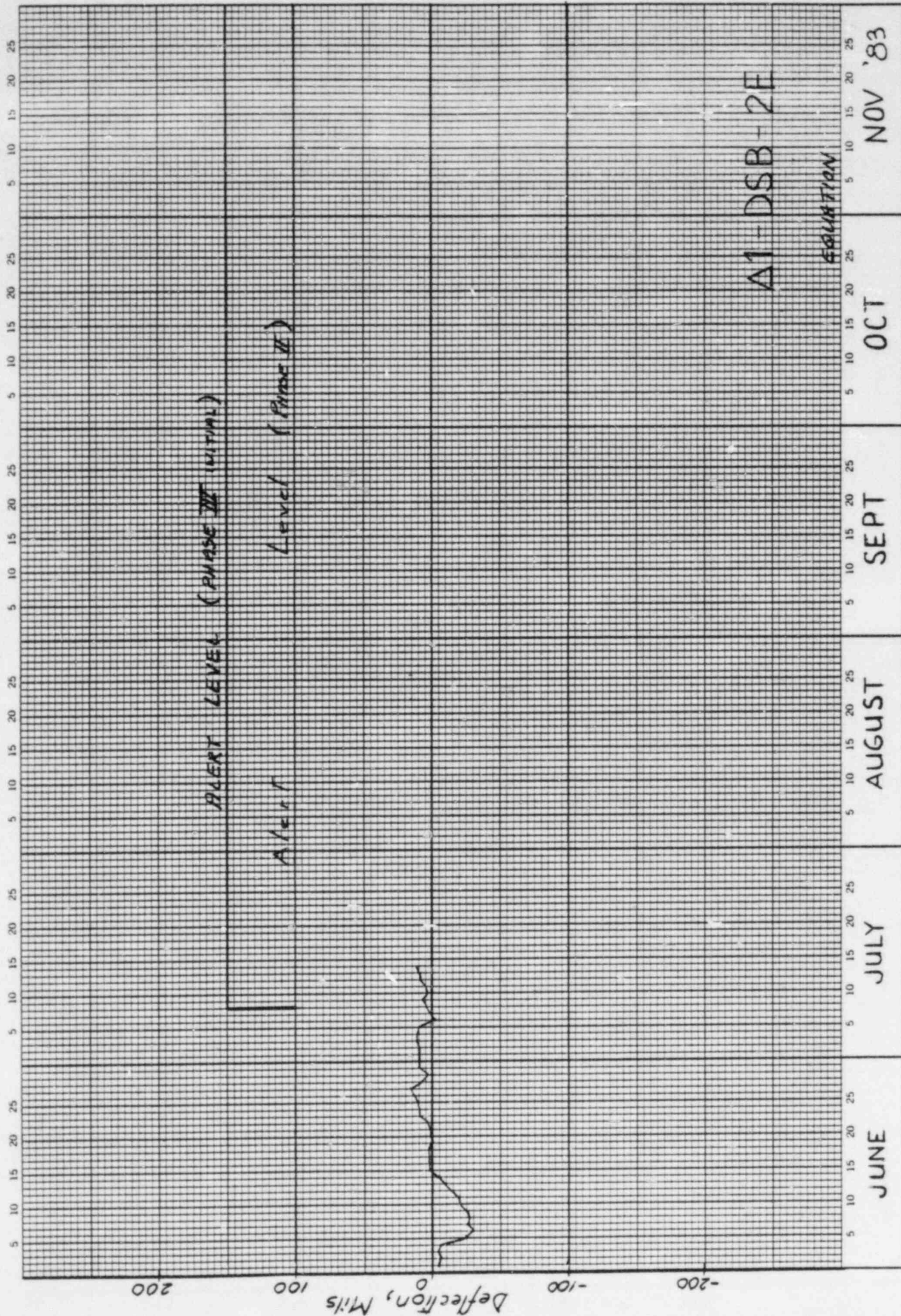












A1-DSB-2E

EQUATION

JUNE

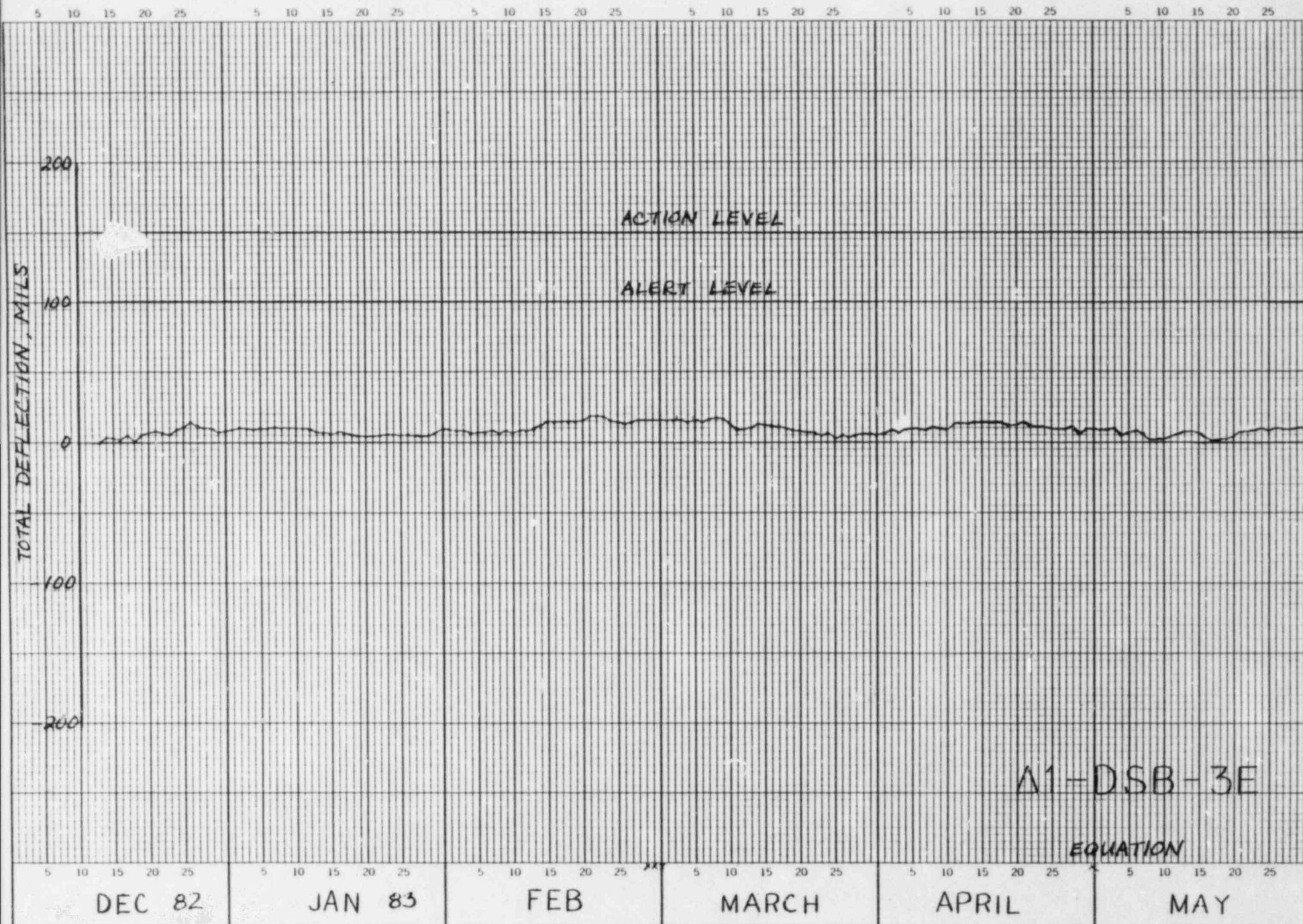
JULY

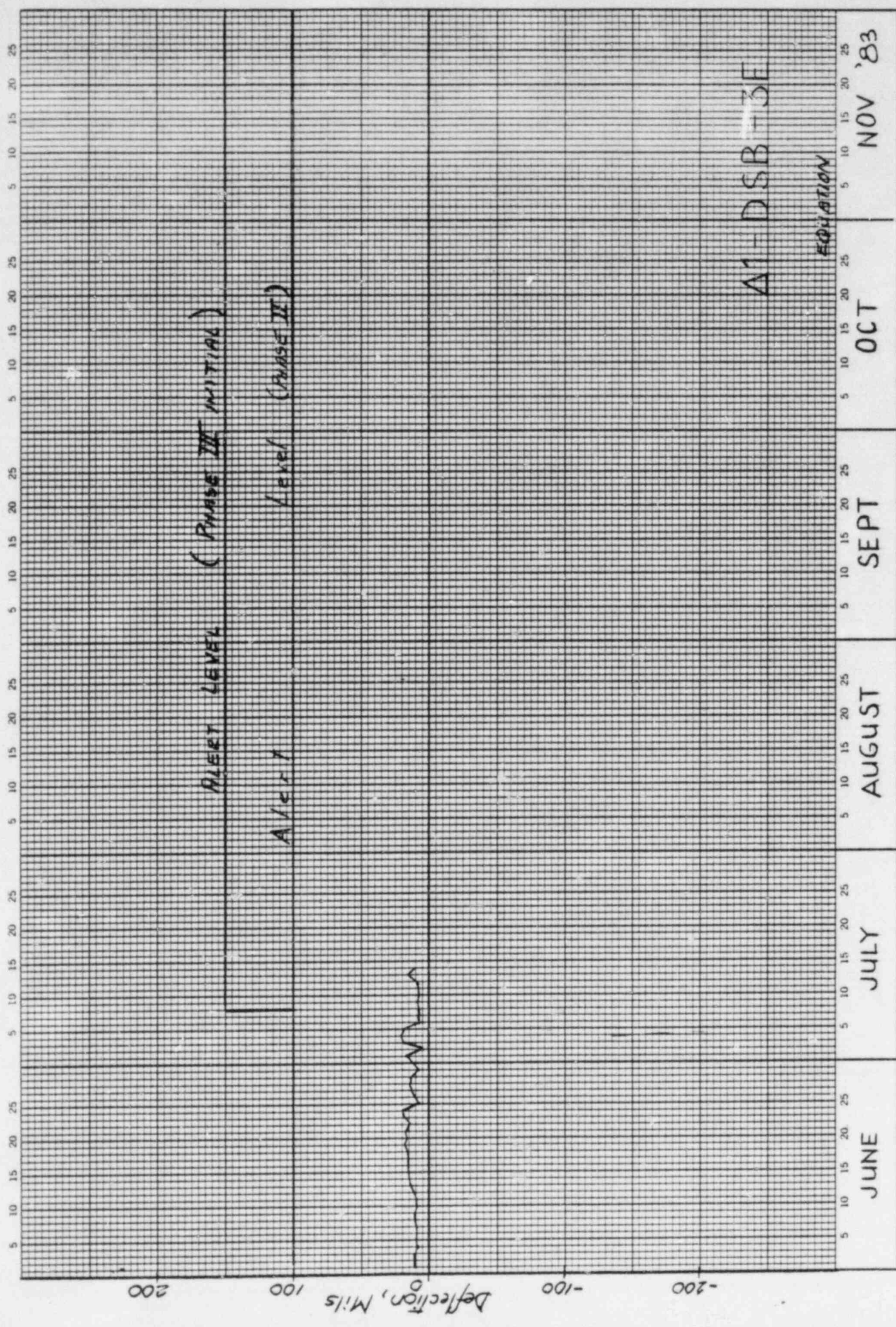
AUGUST

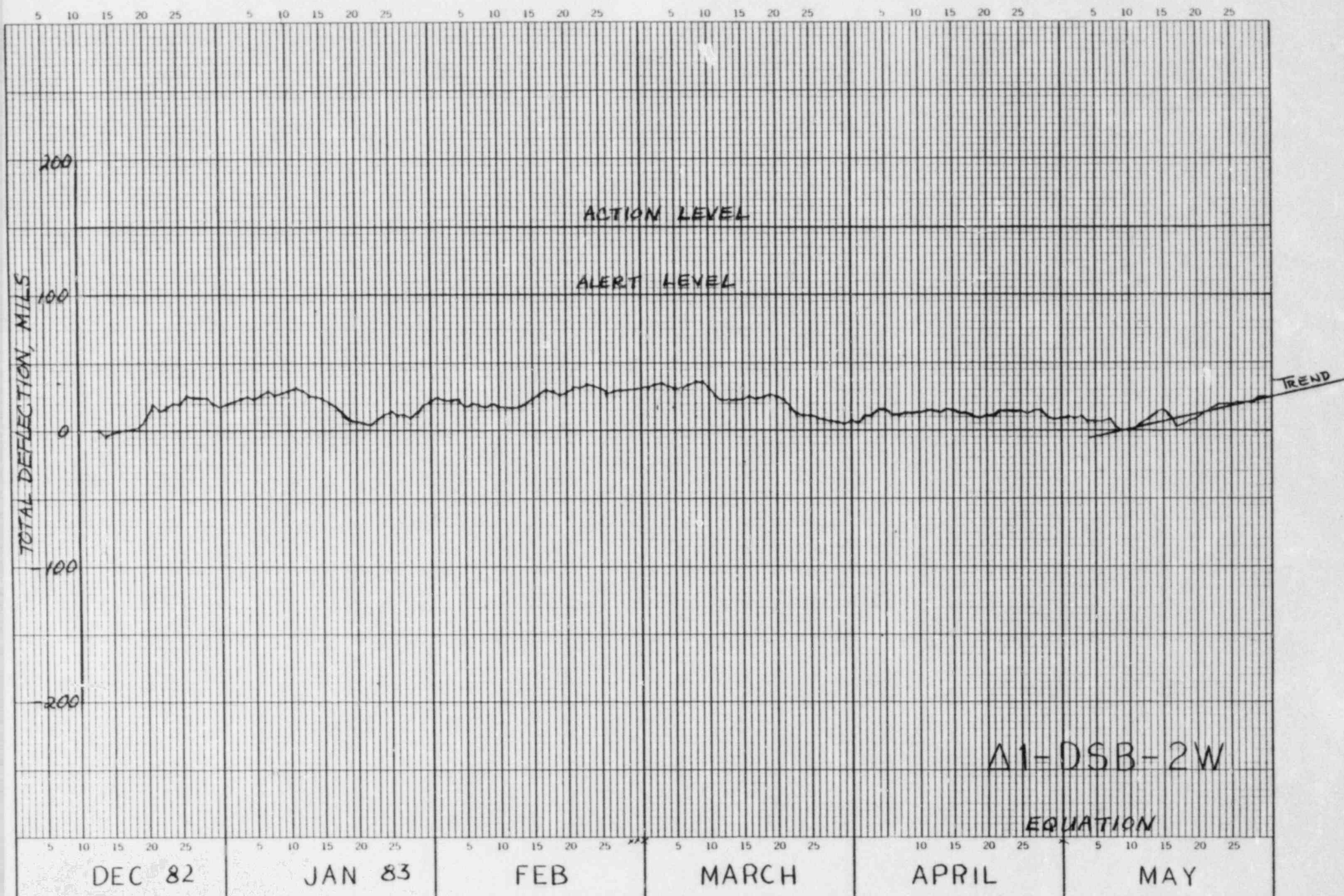
SEPT

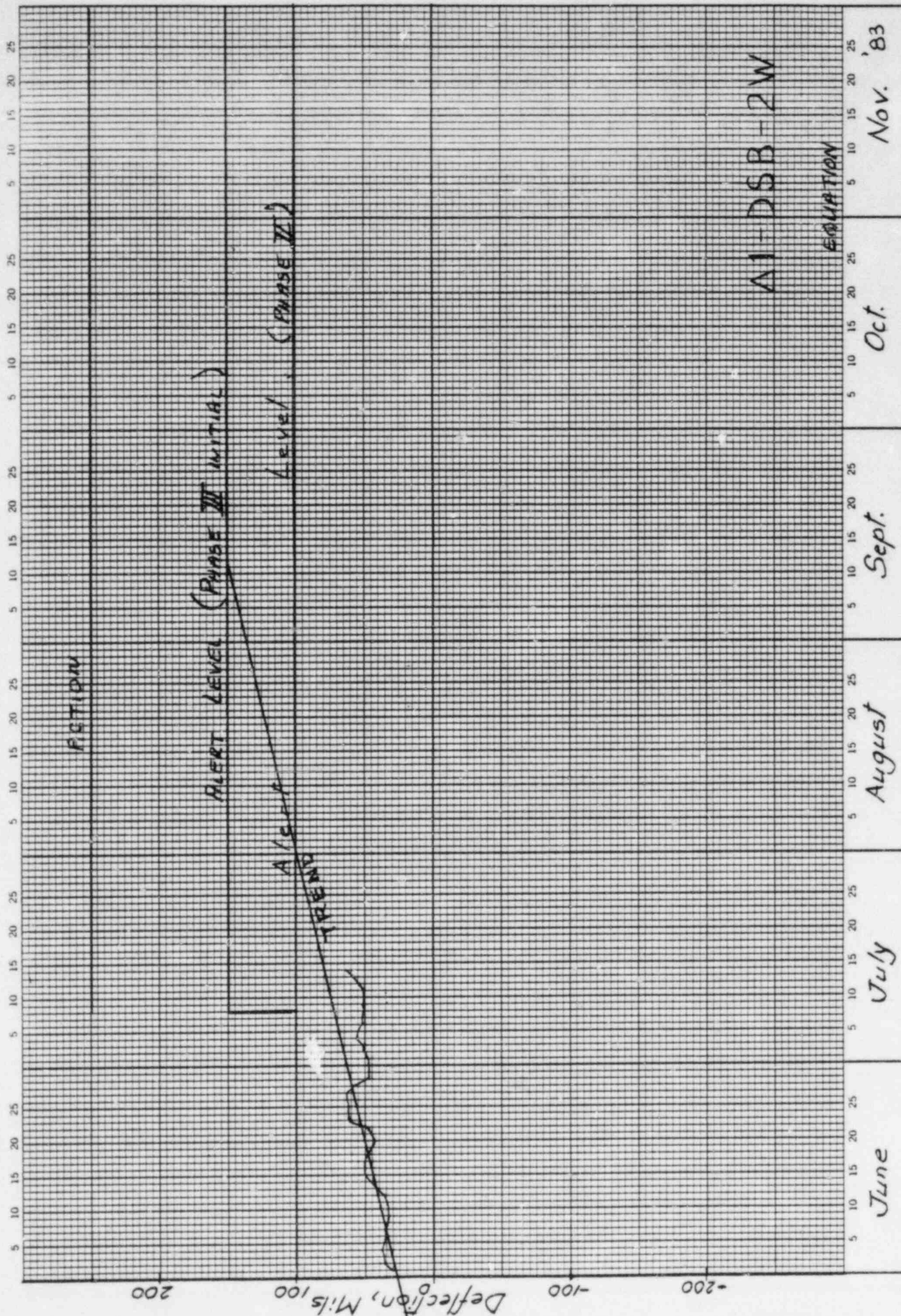
OCT

NOV '83









A1-DSB-2W

EVALUATION

June

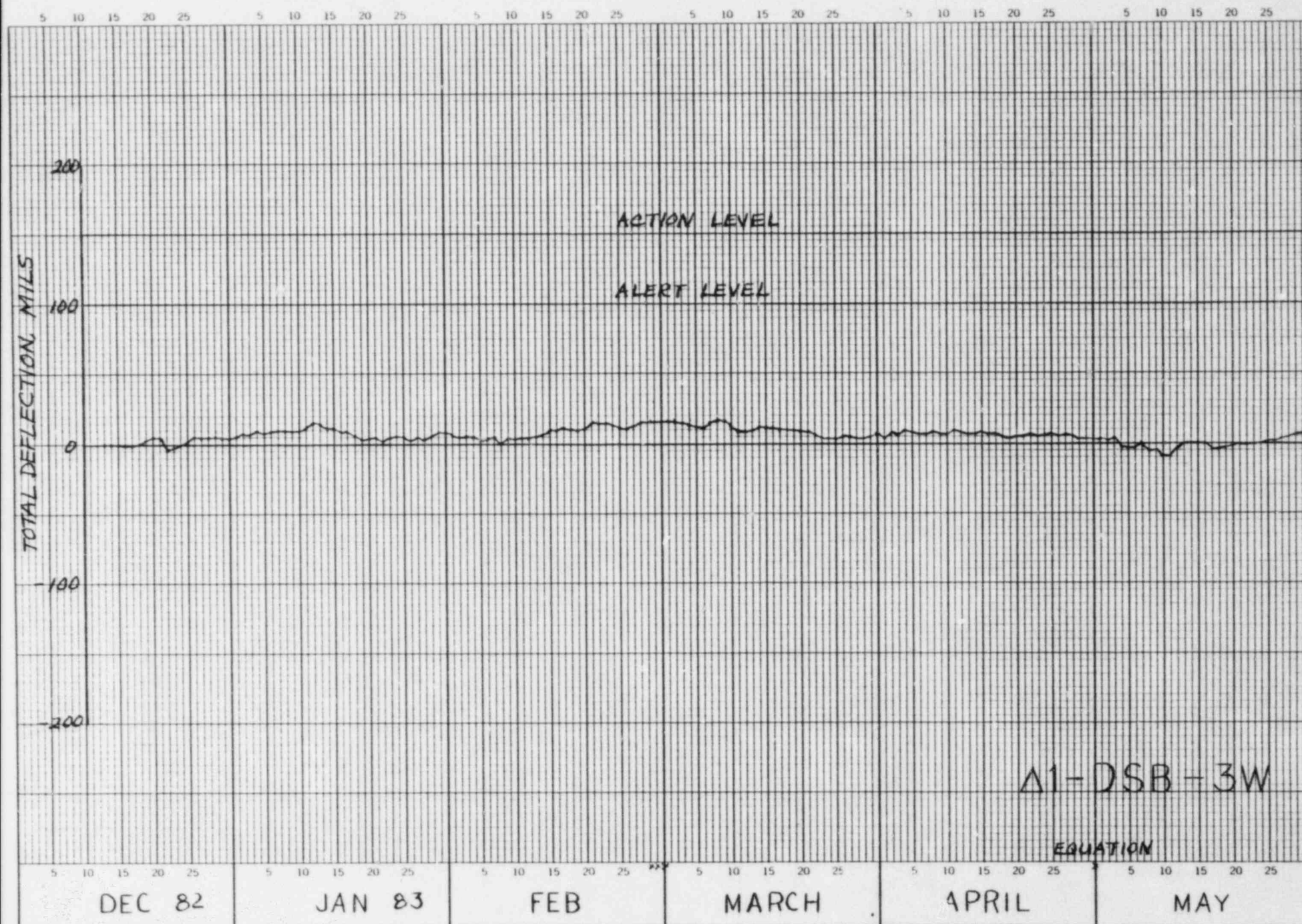
July

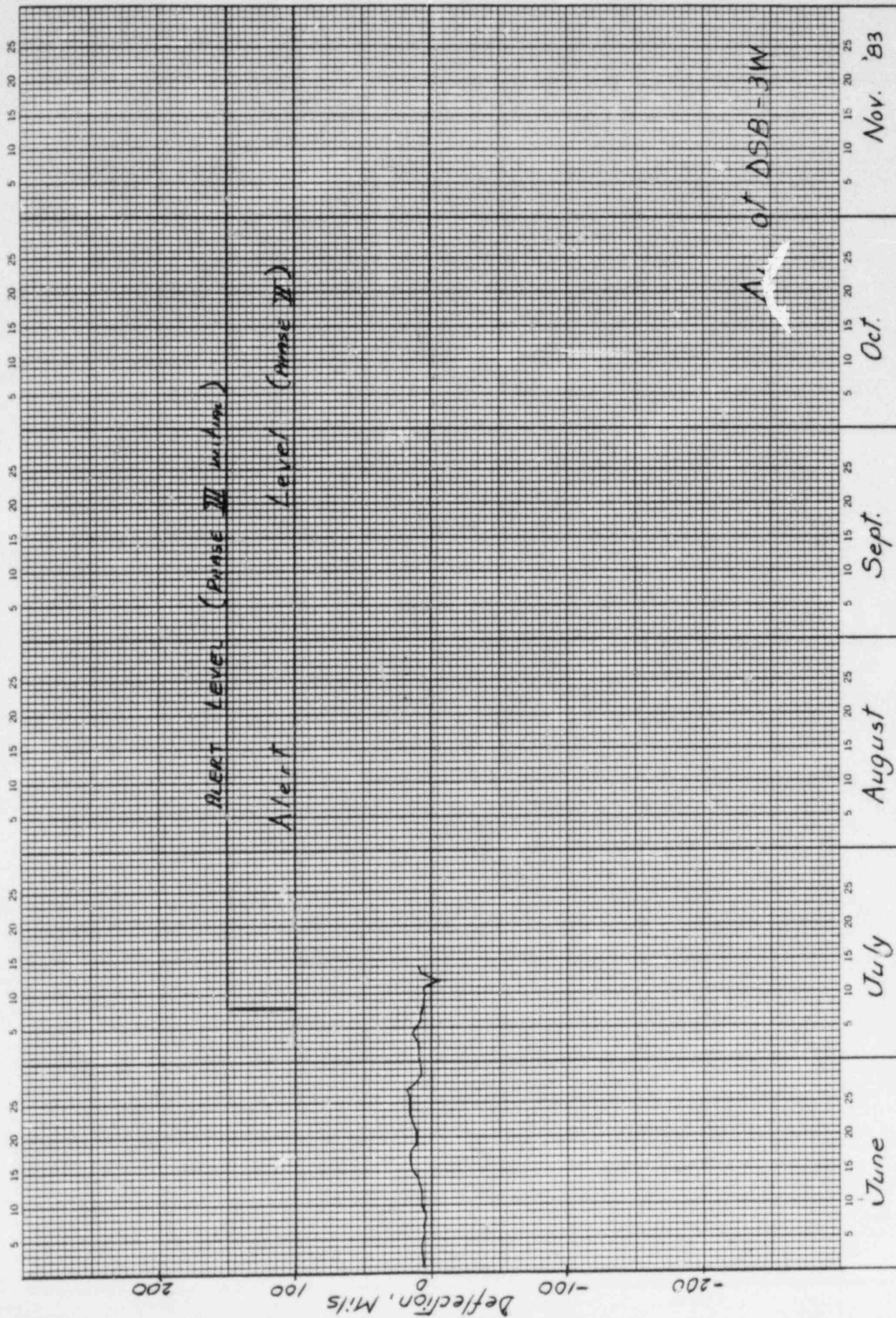
August

Sept.

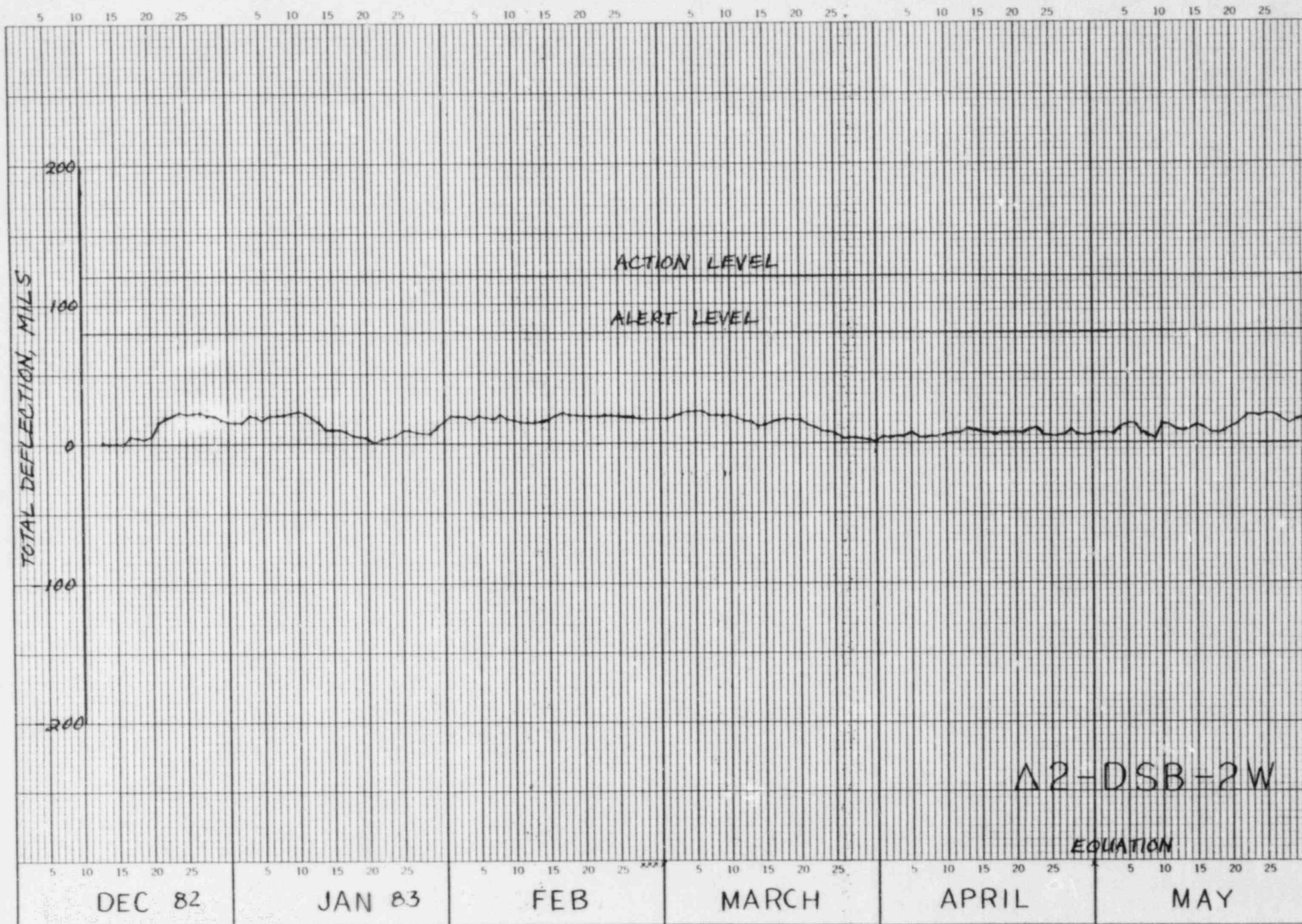
Oct.

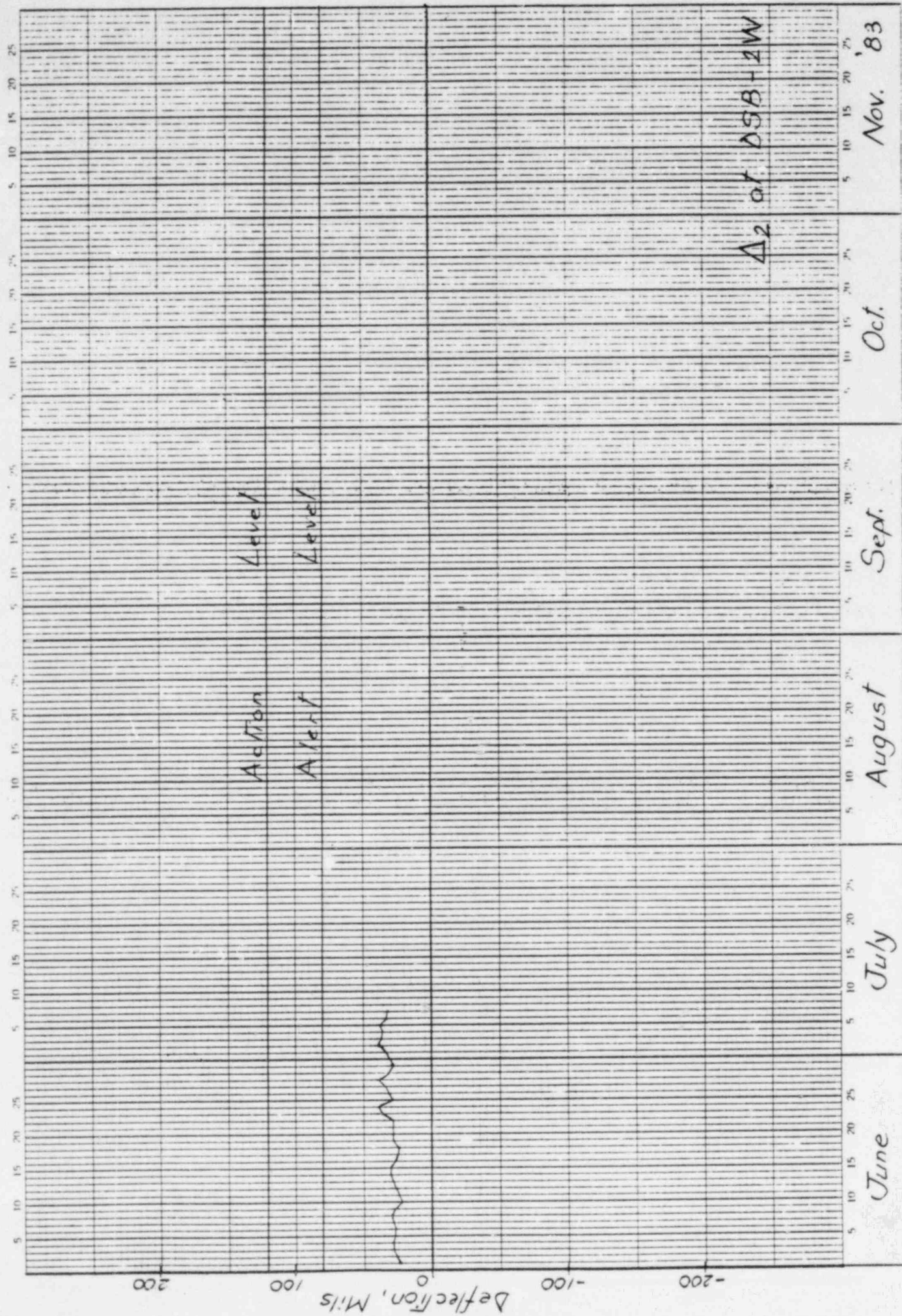
Nov. '83

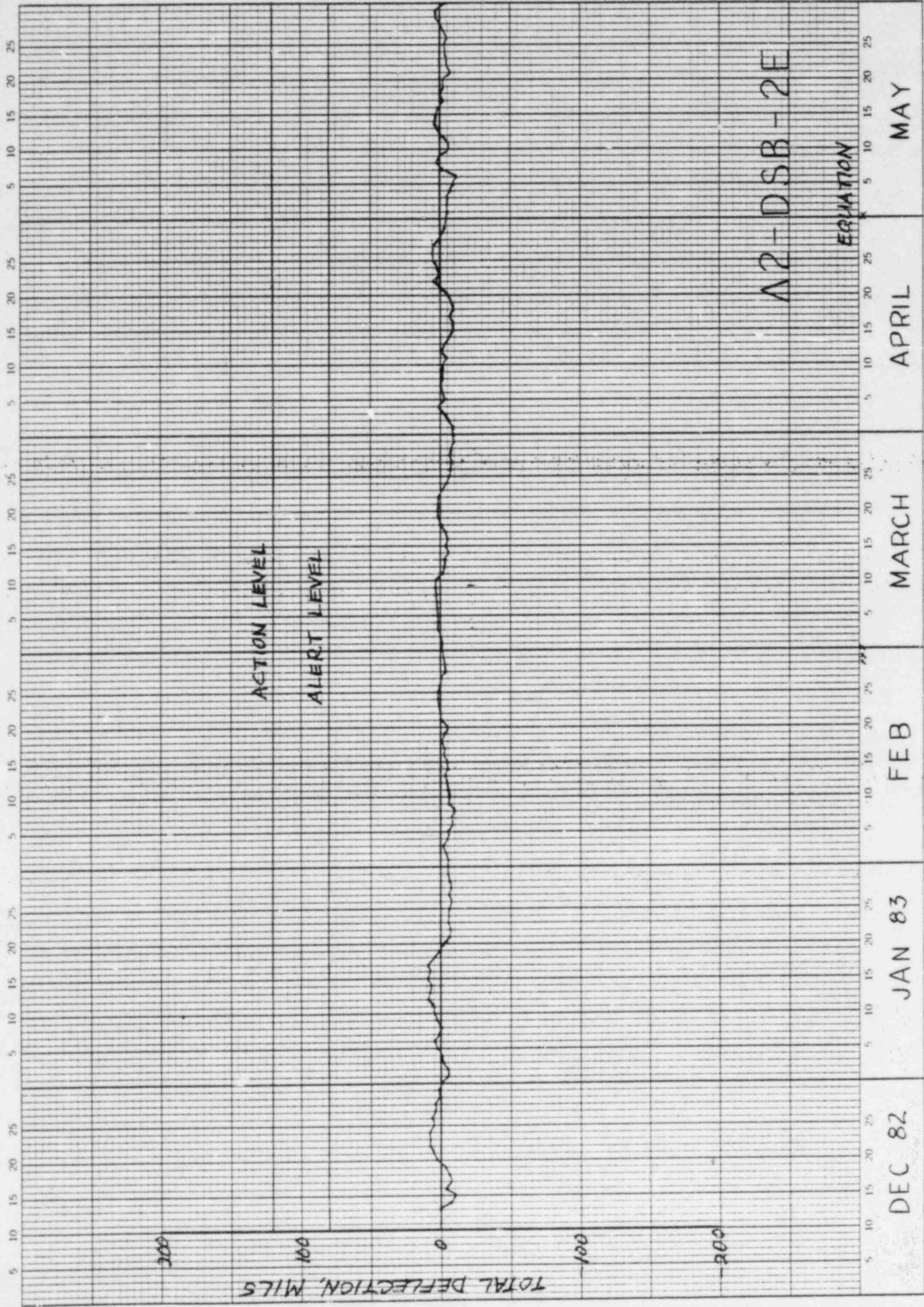




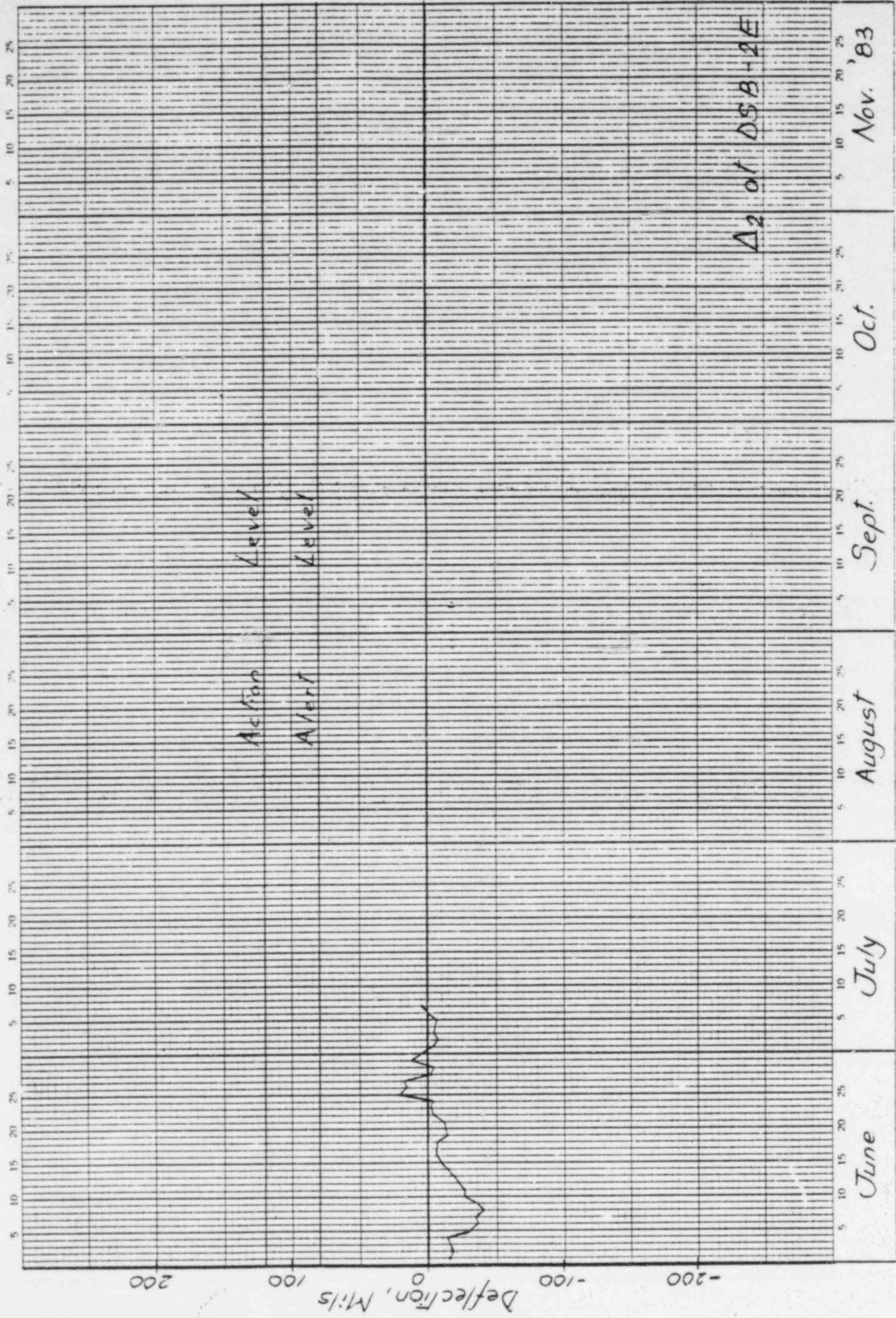
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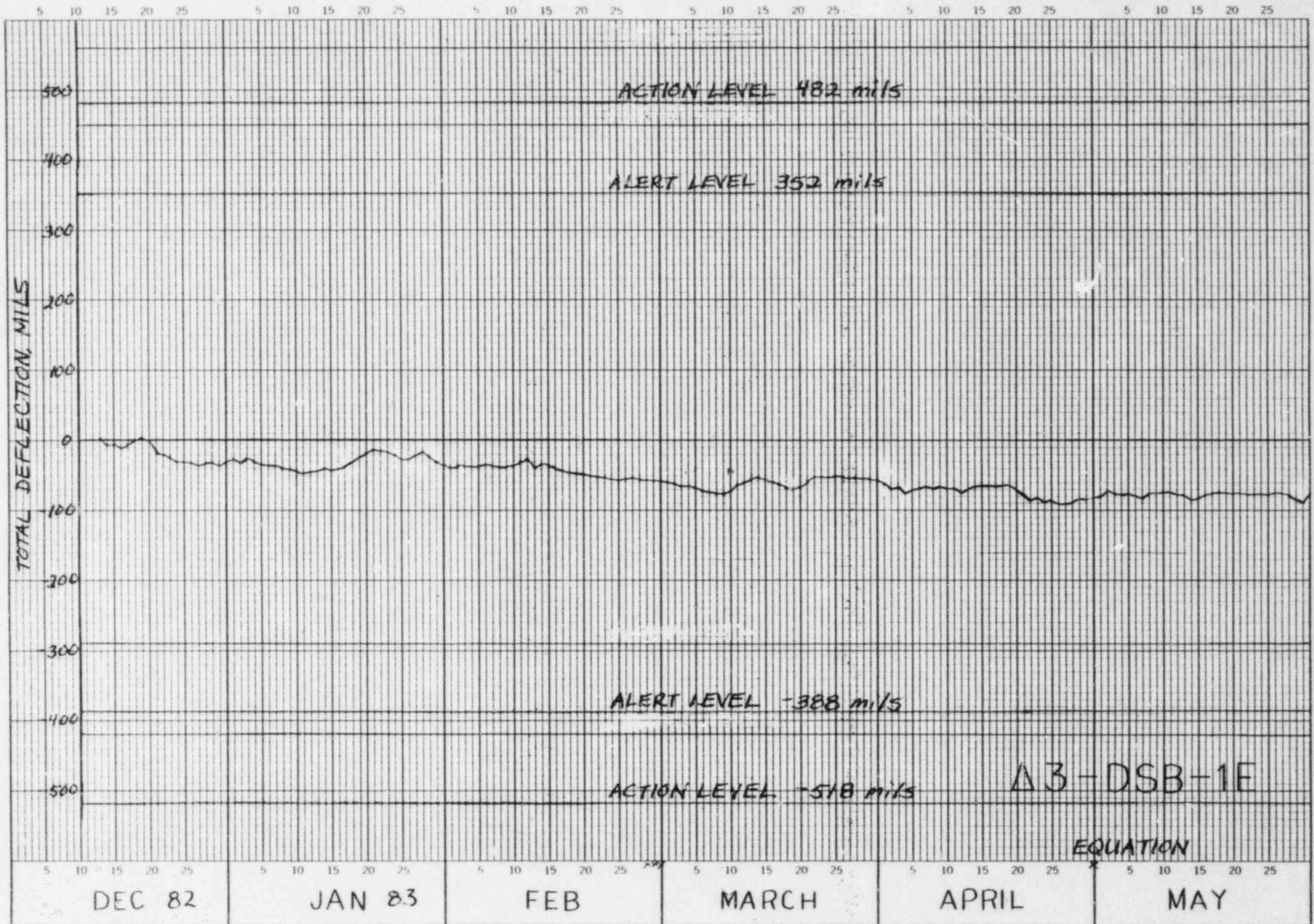


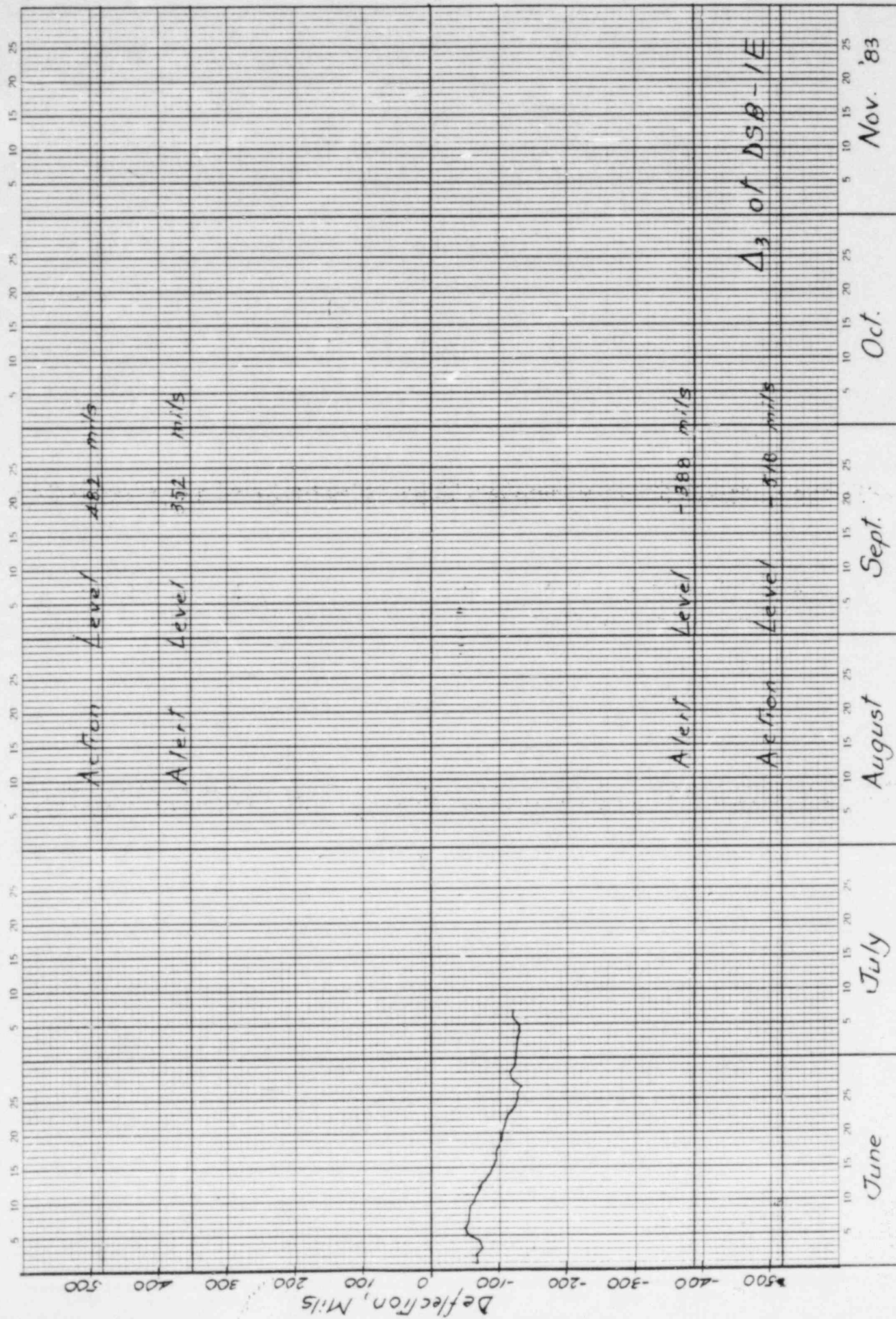


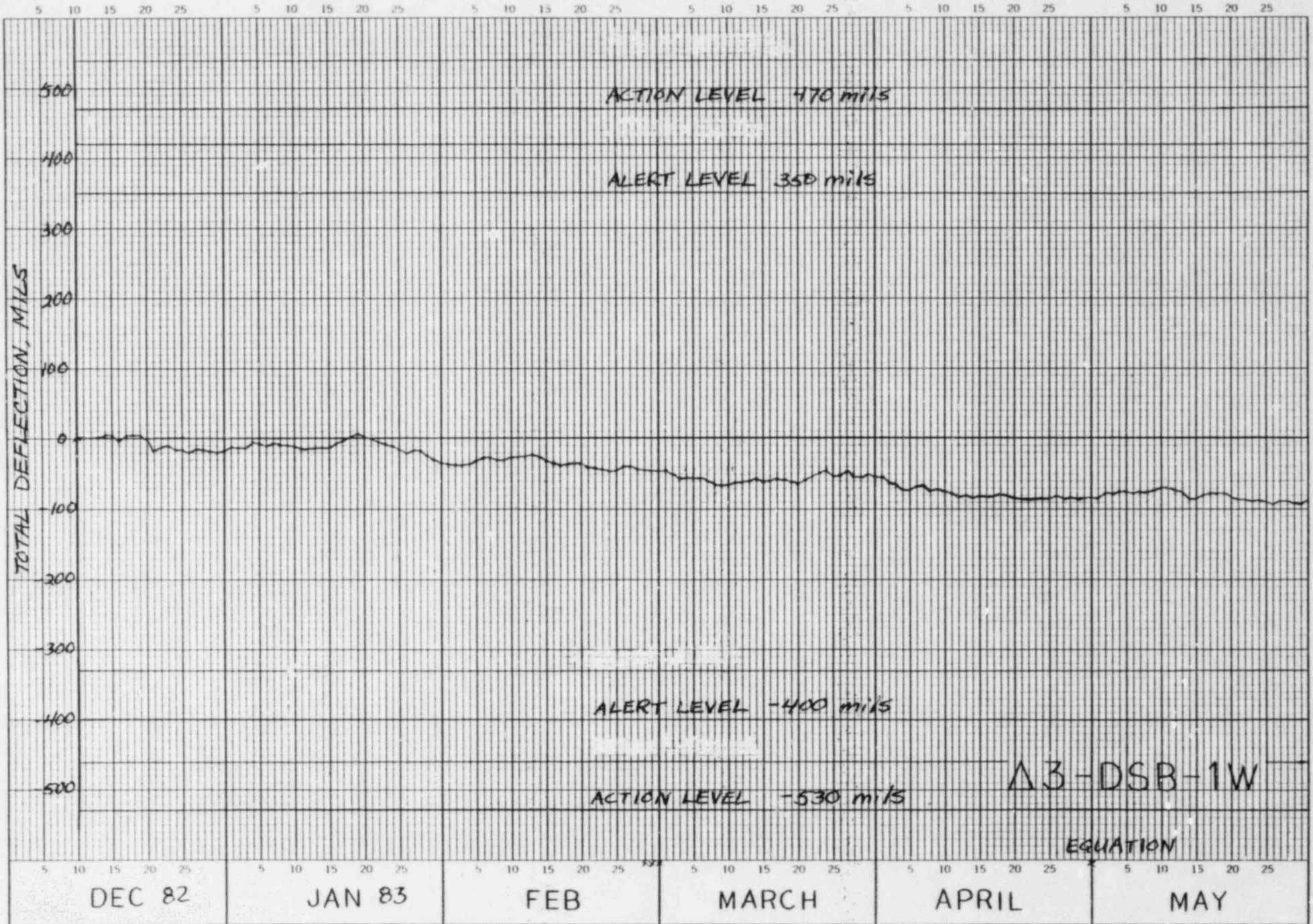


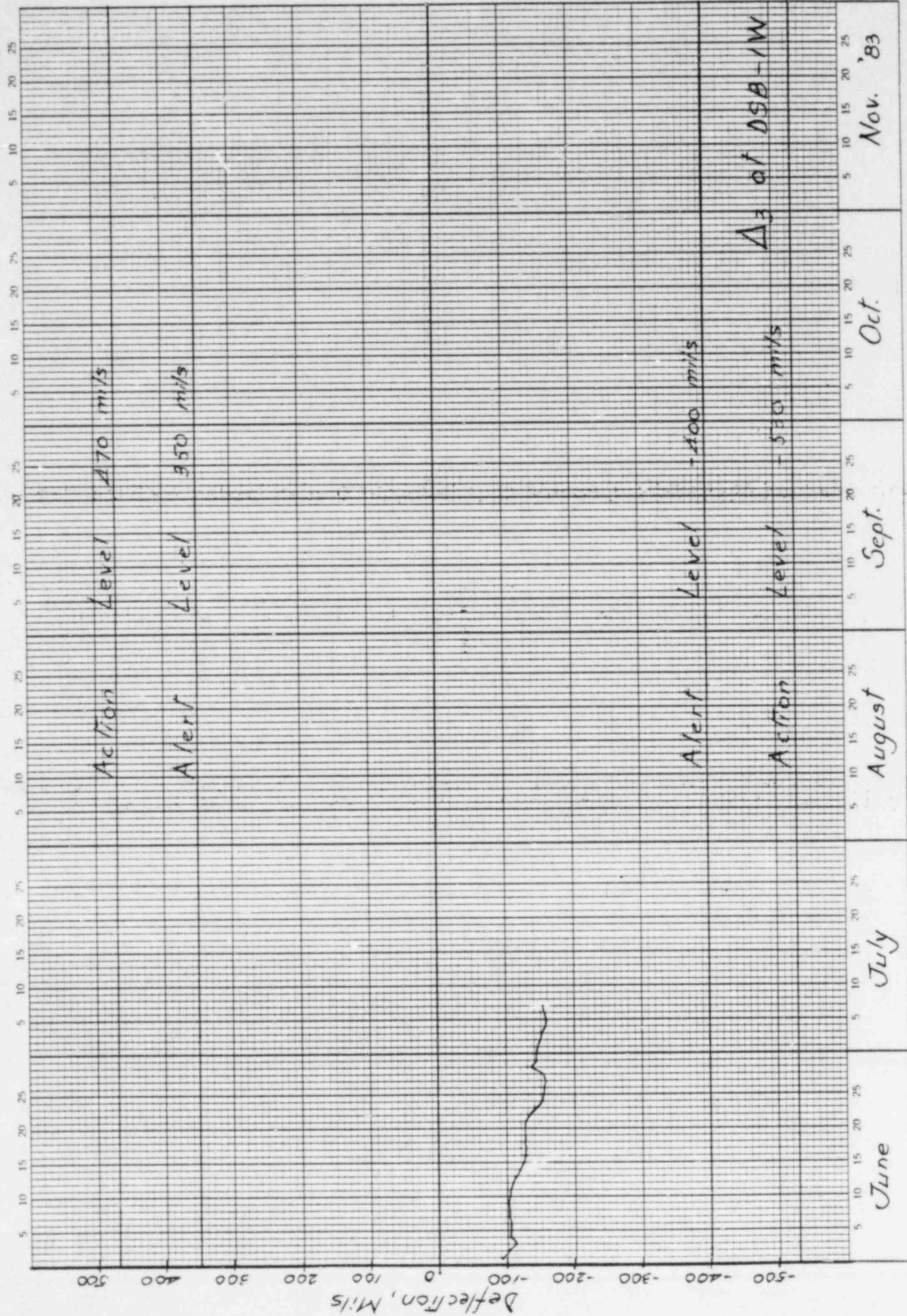
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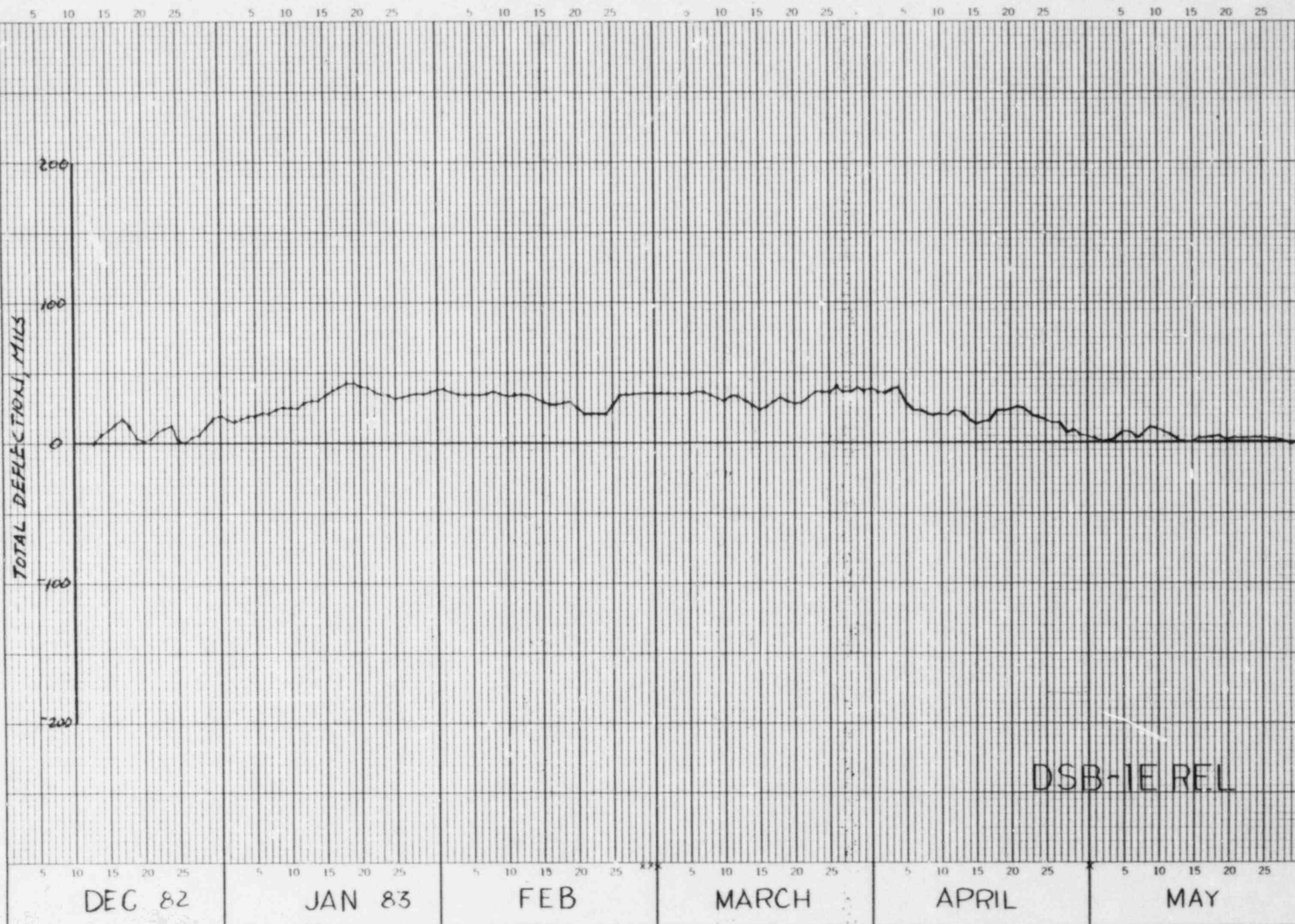


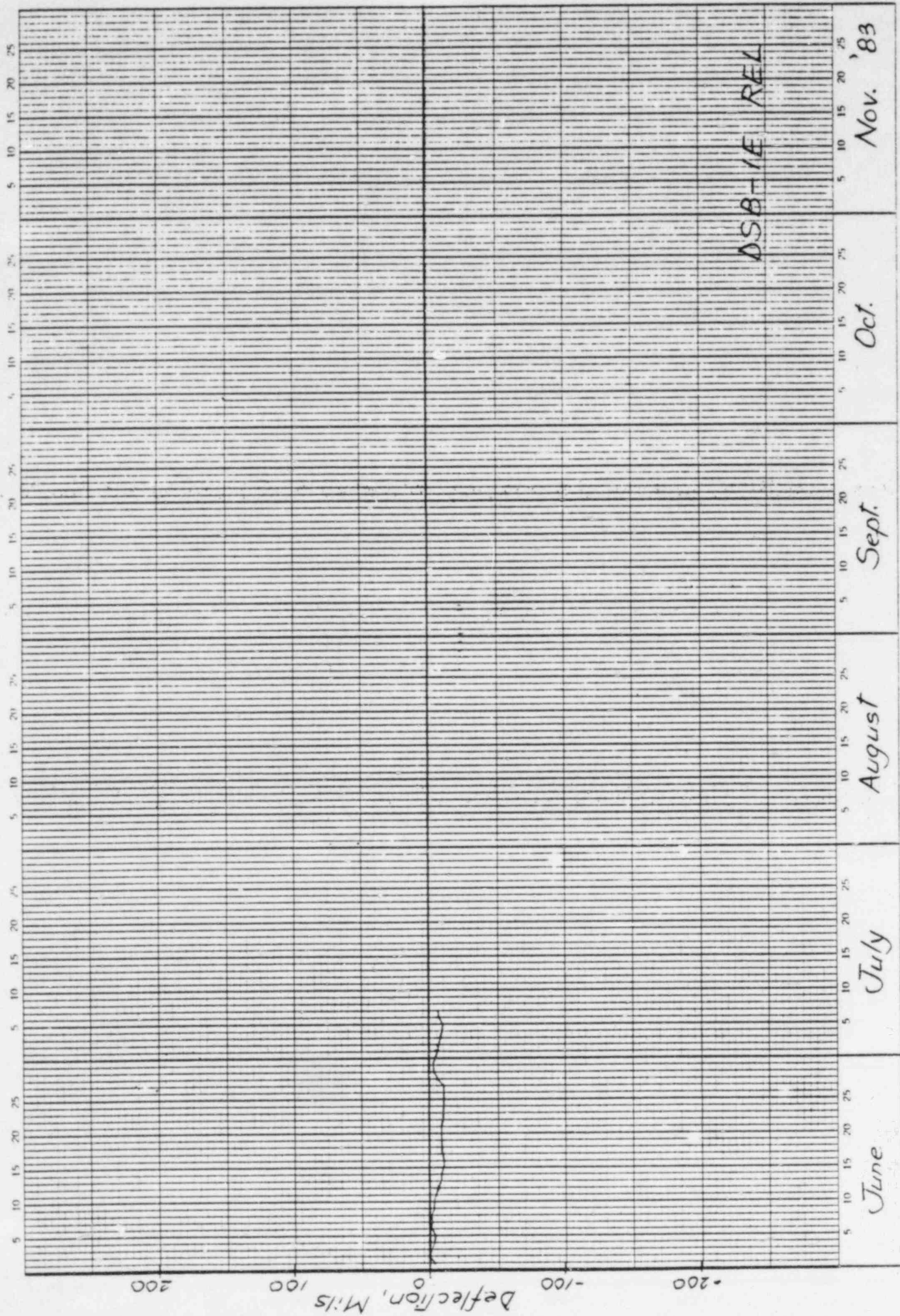




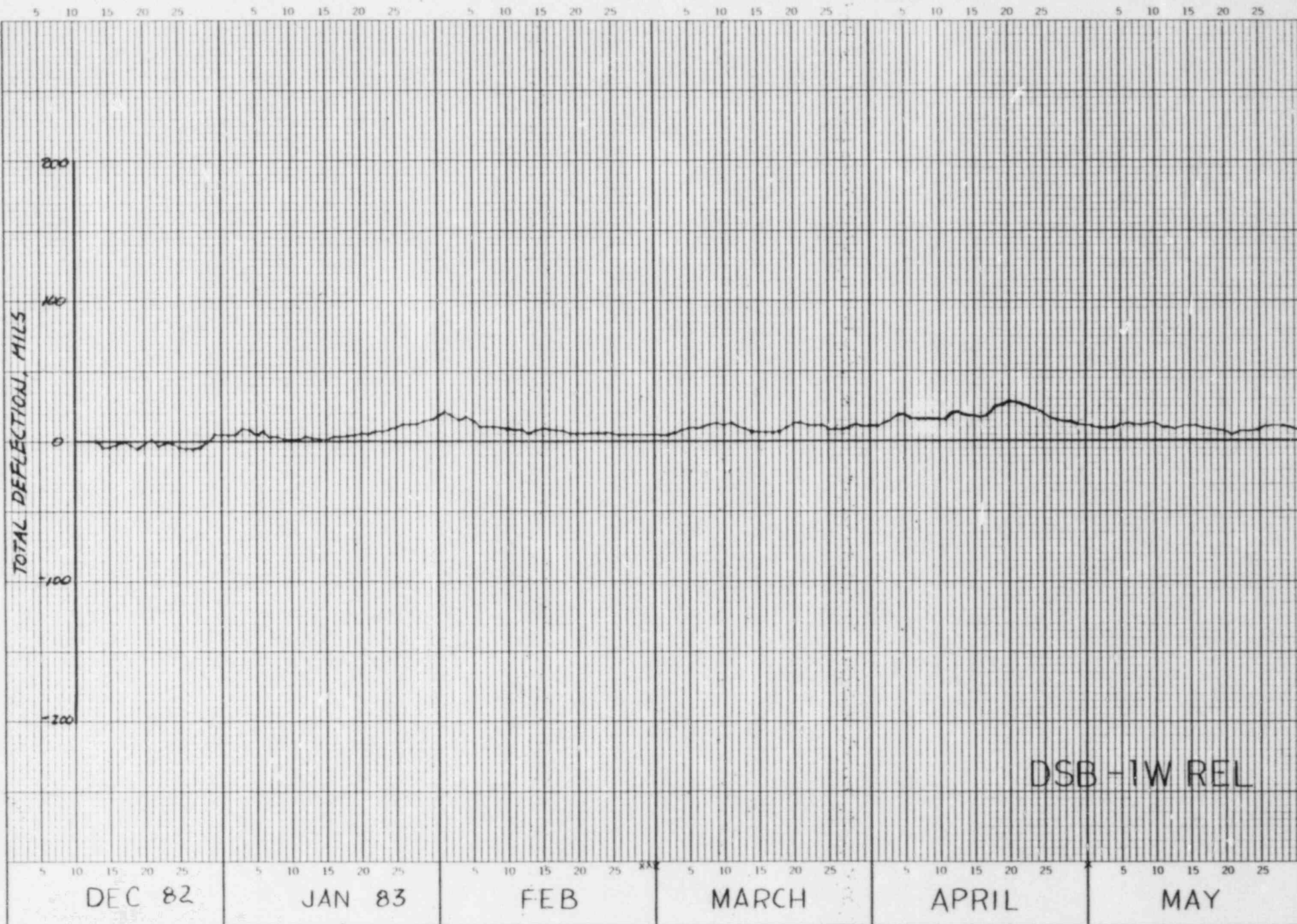


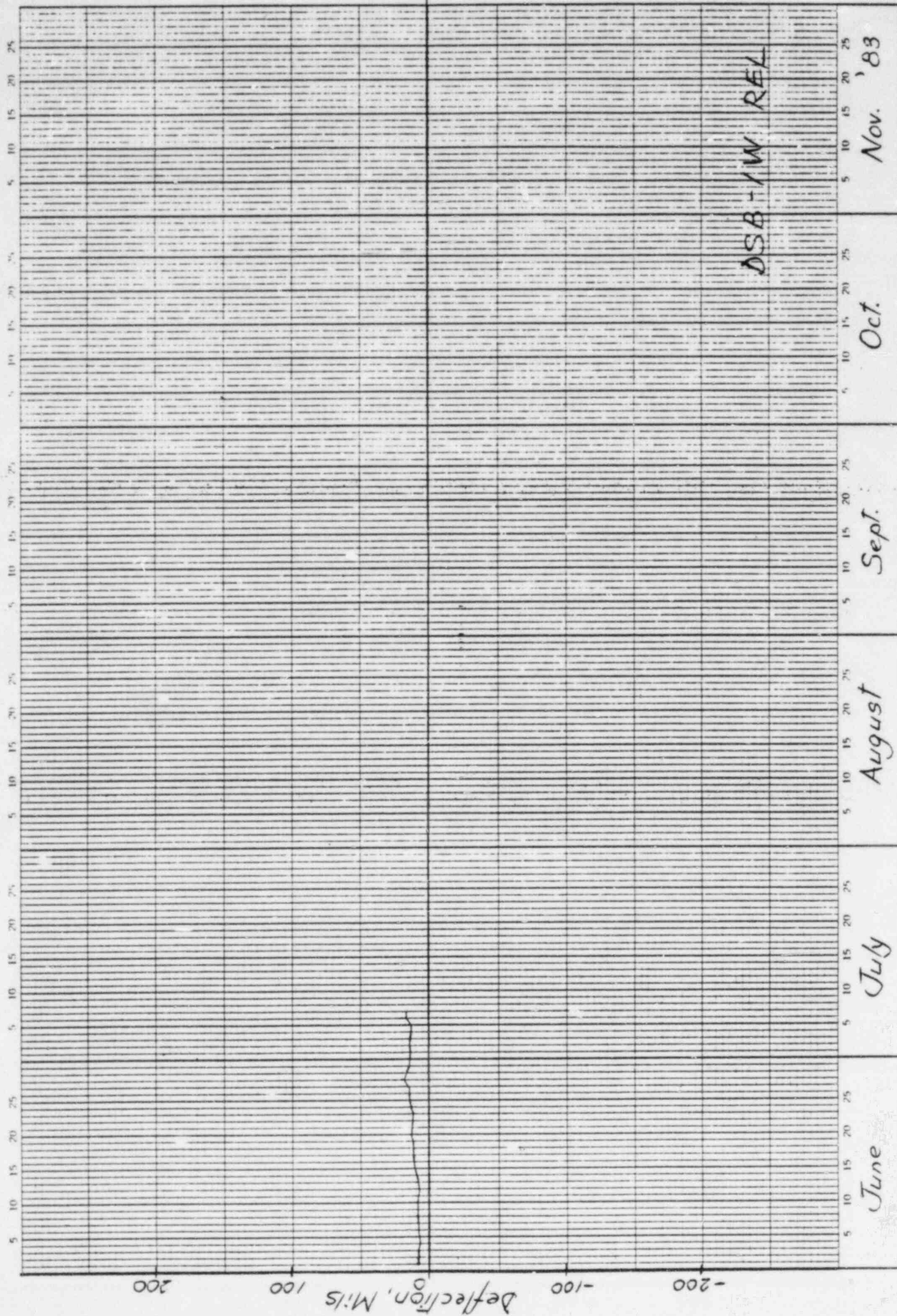
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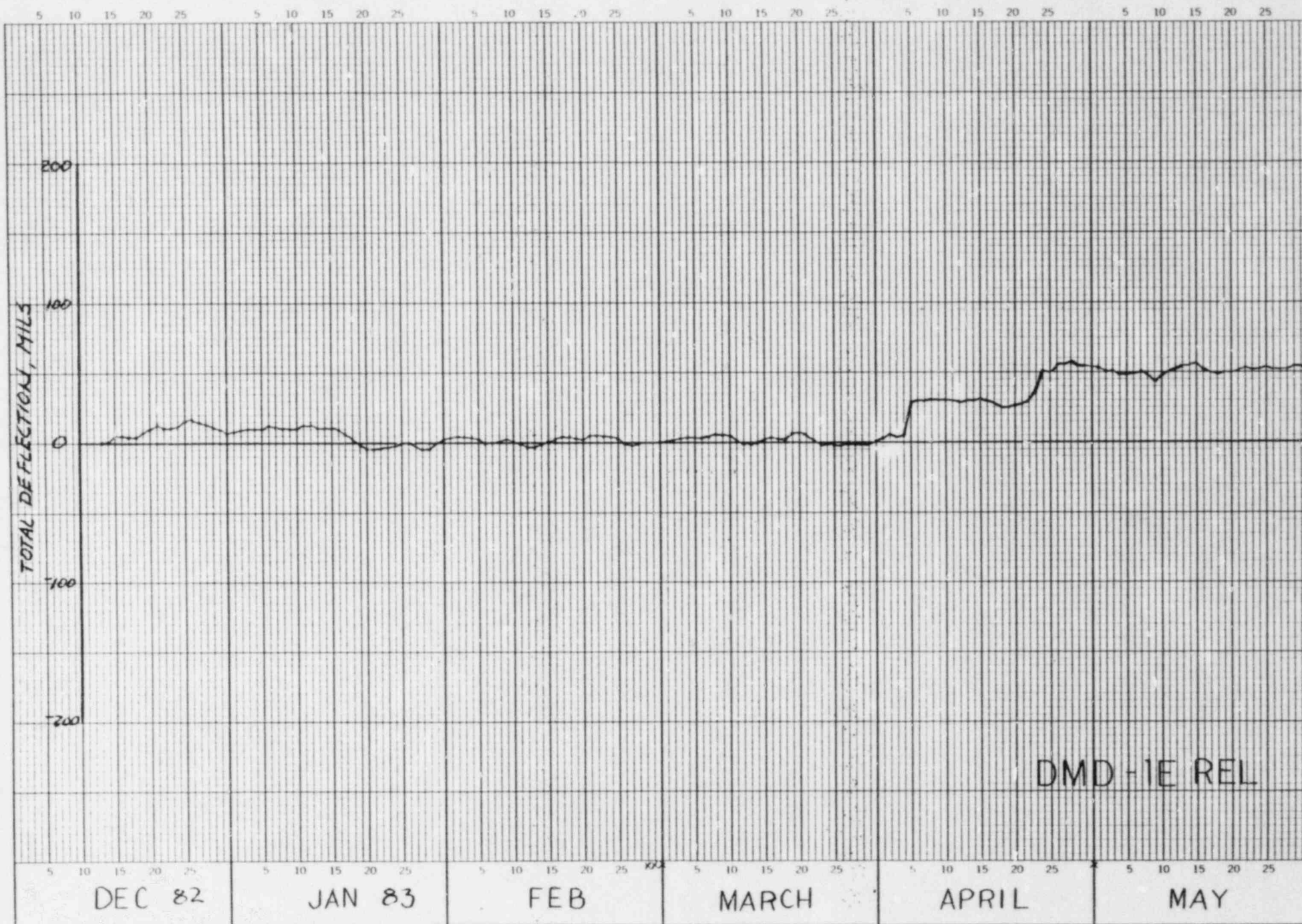


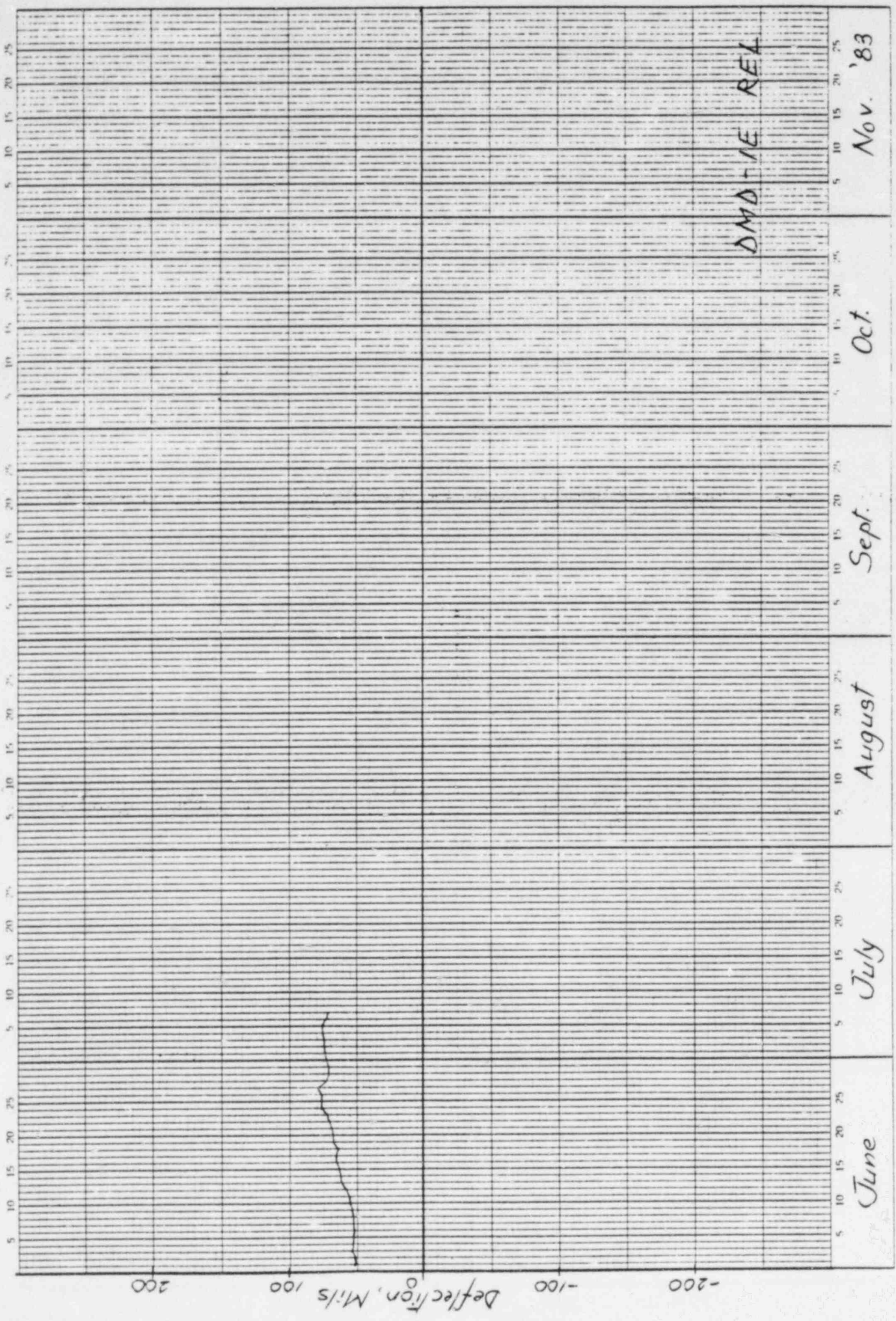


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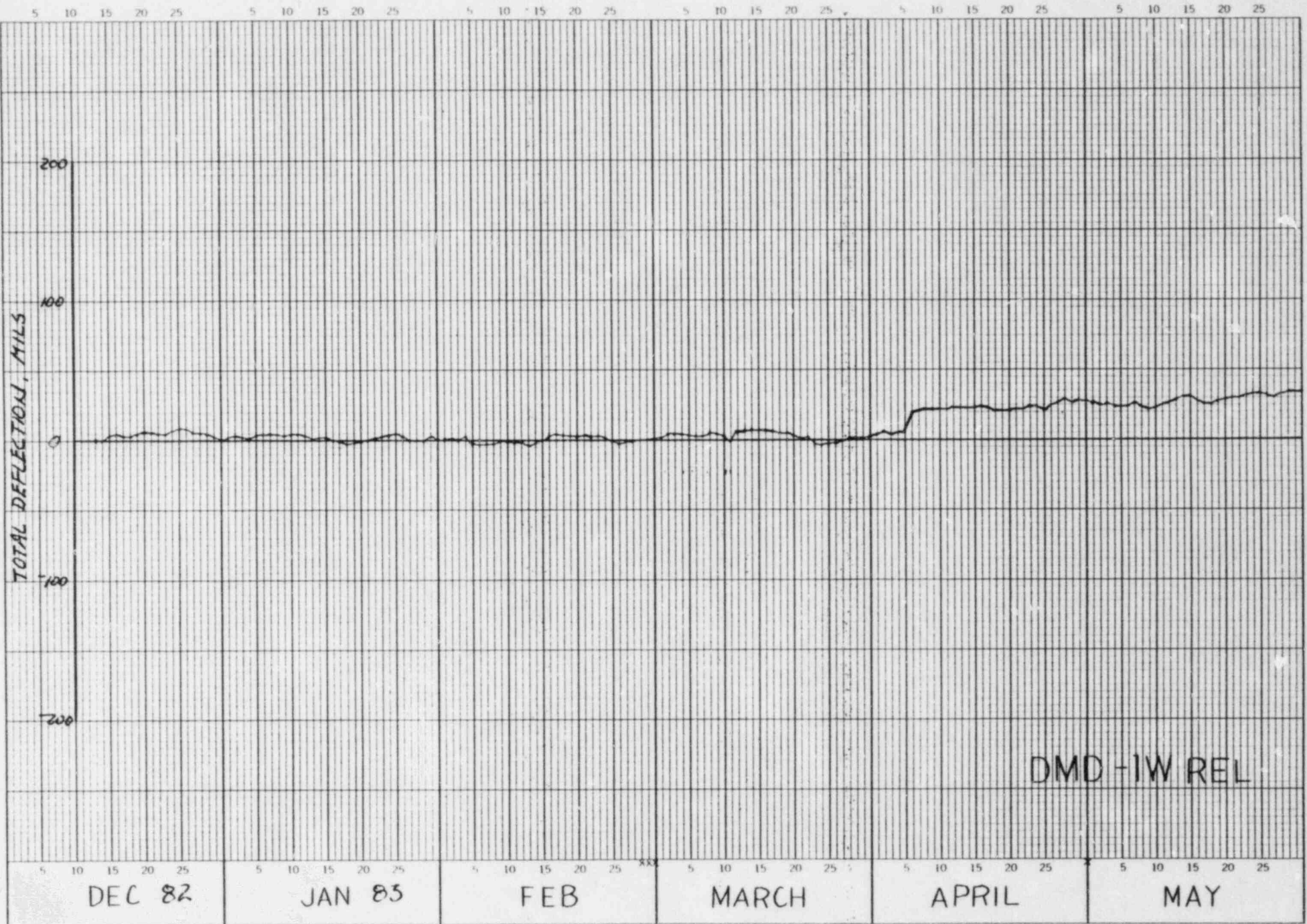


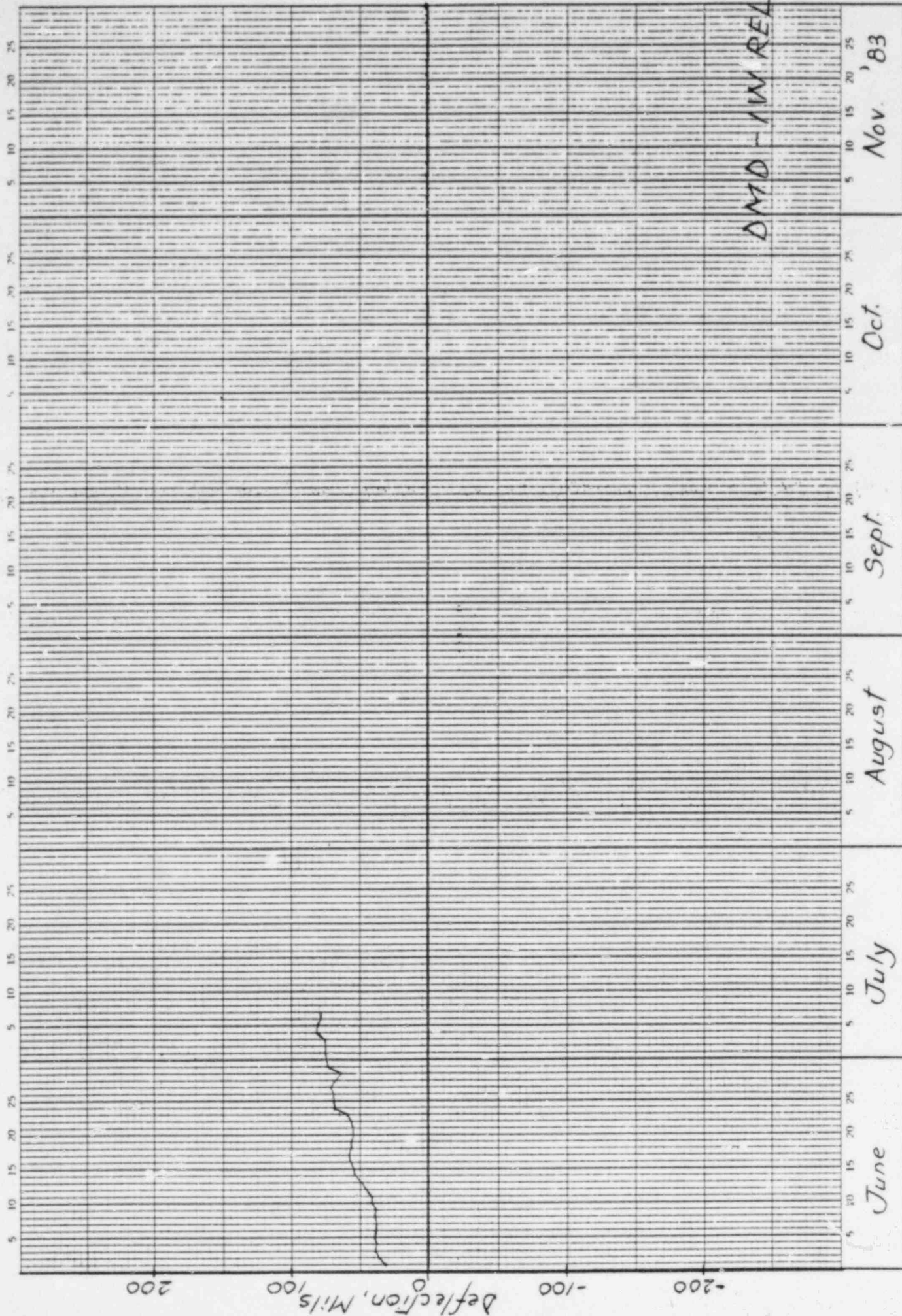




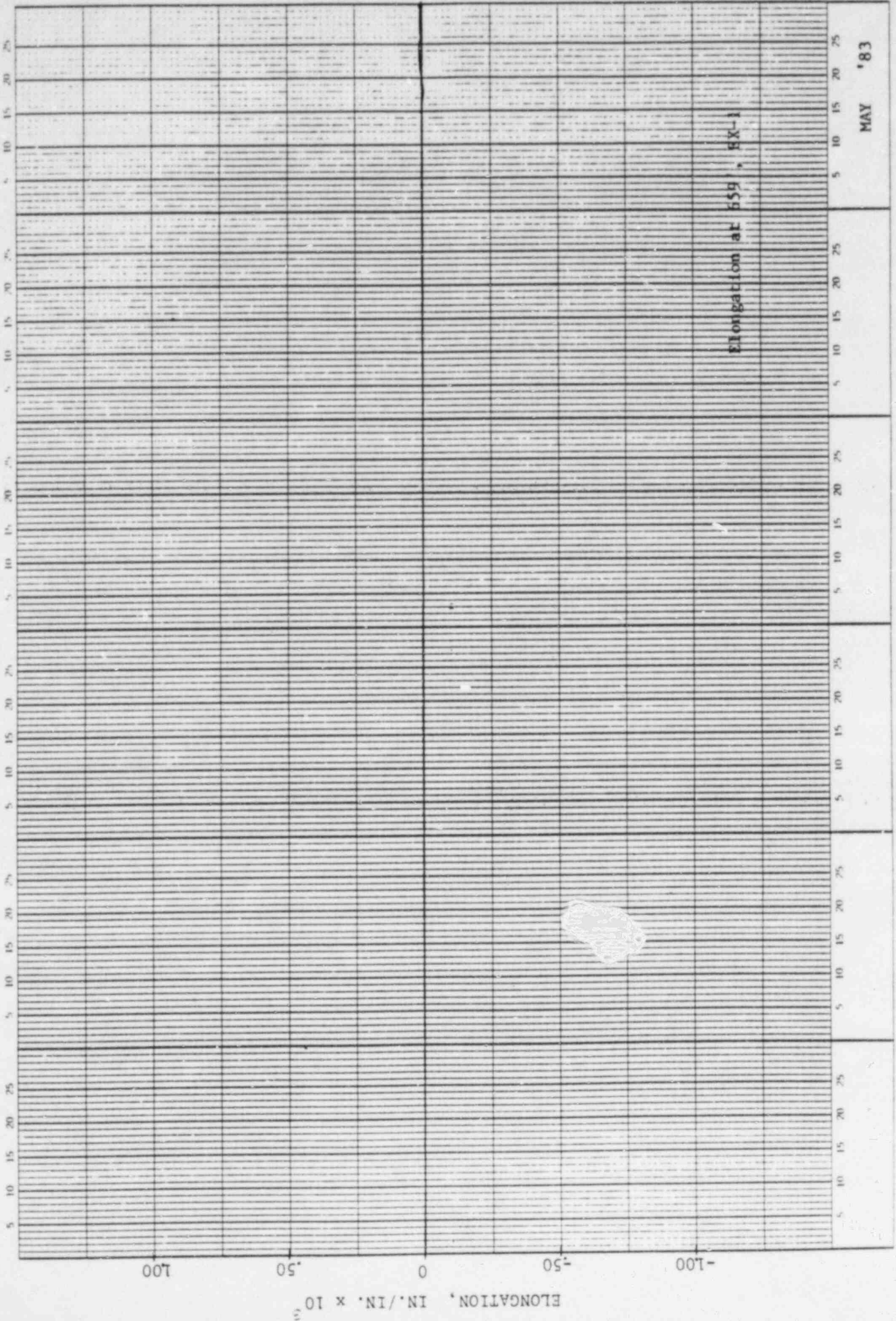


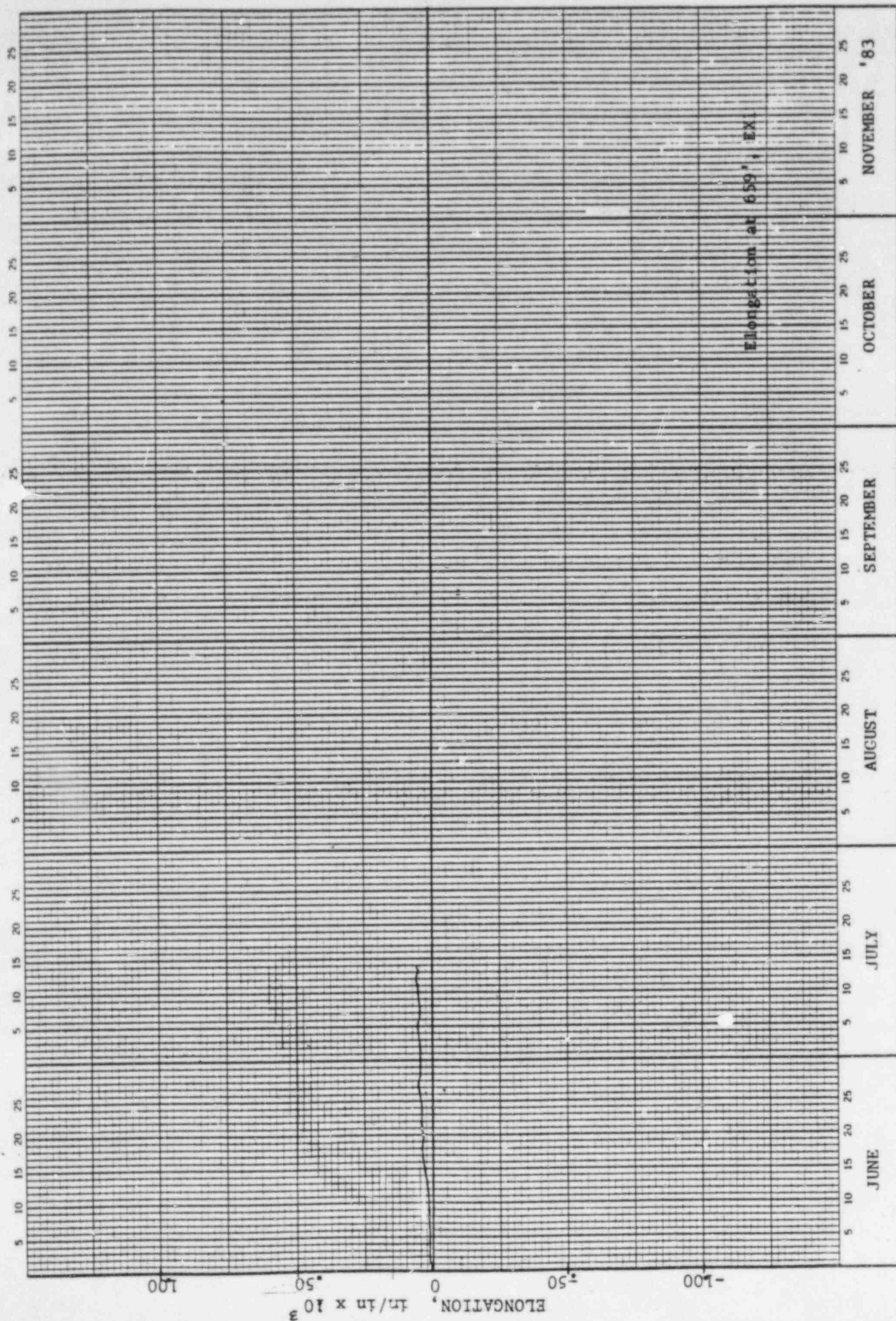
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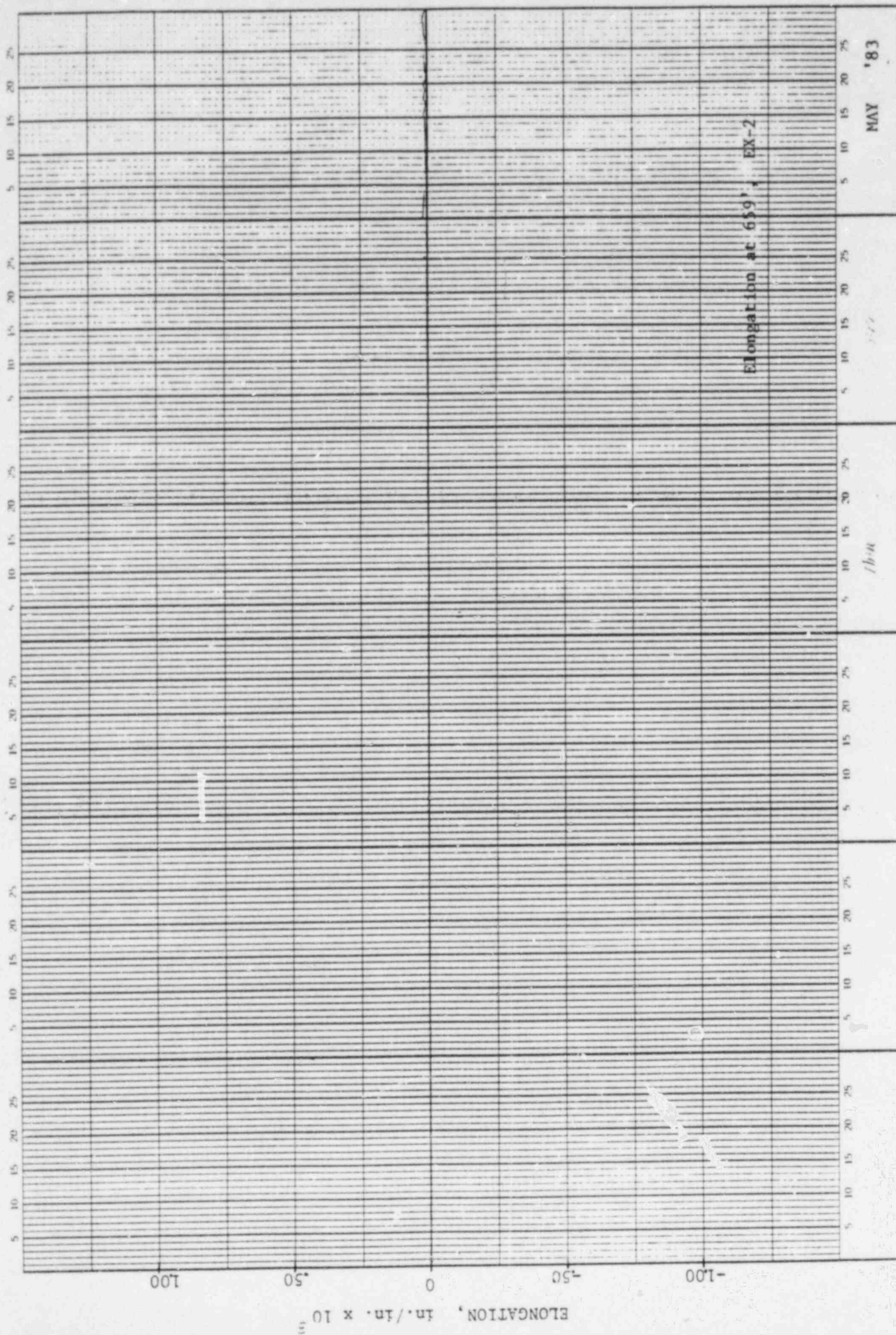


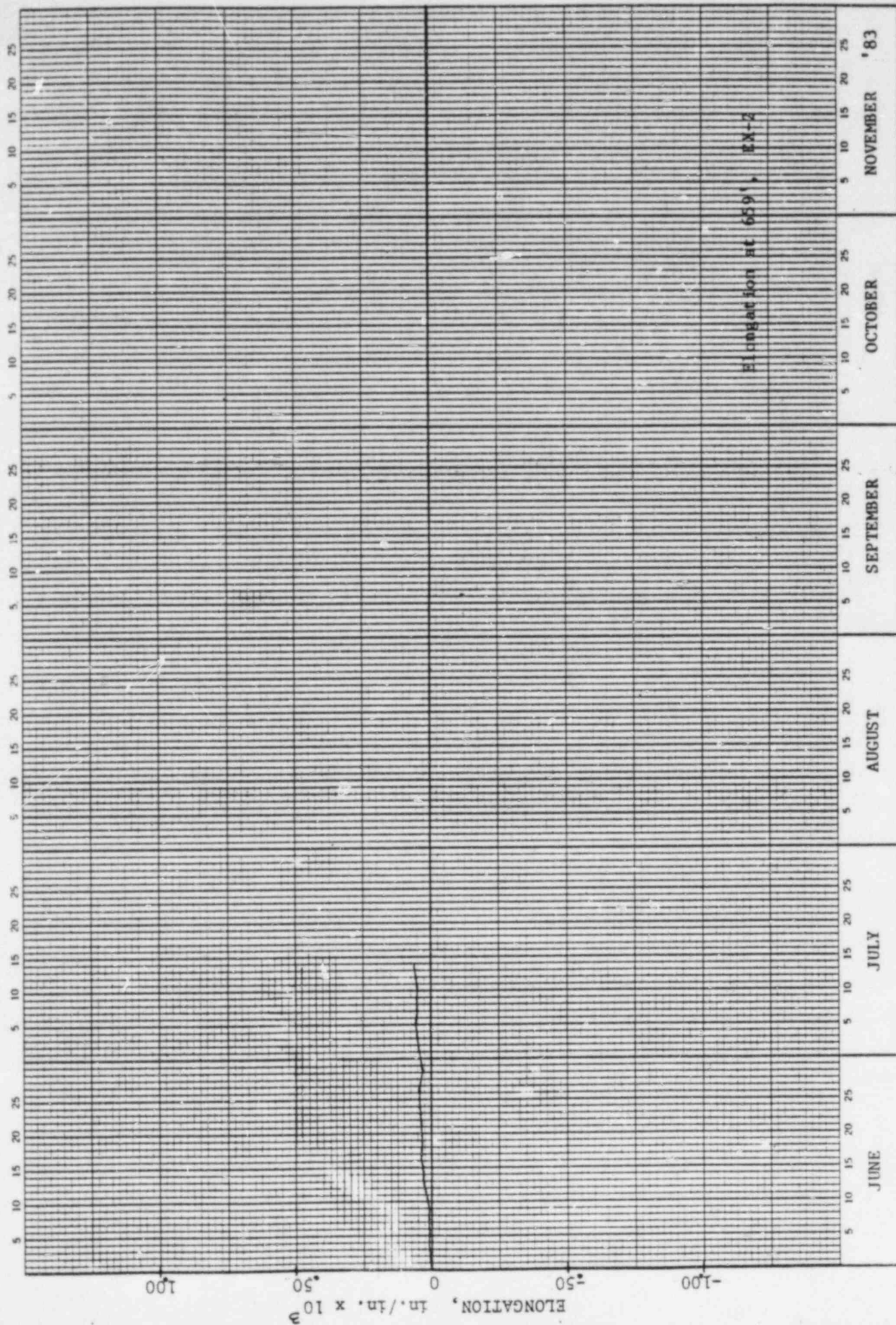
DMD - 1W REA

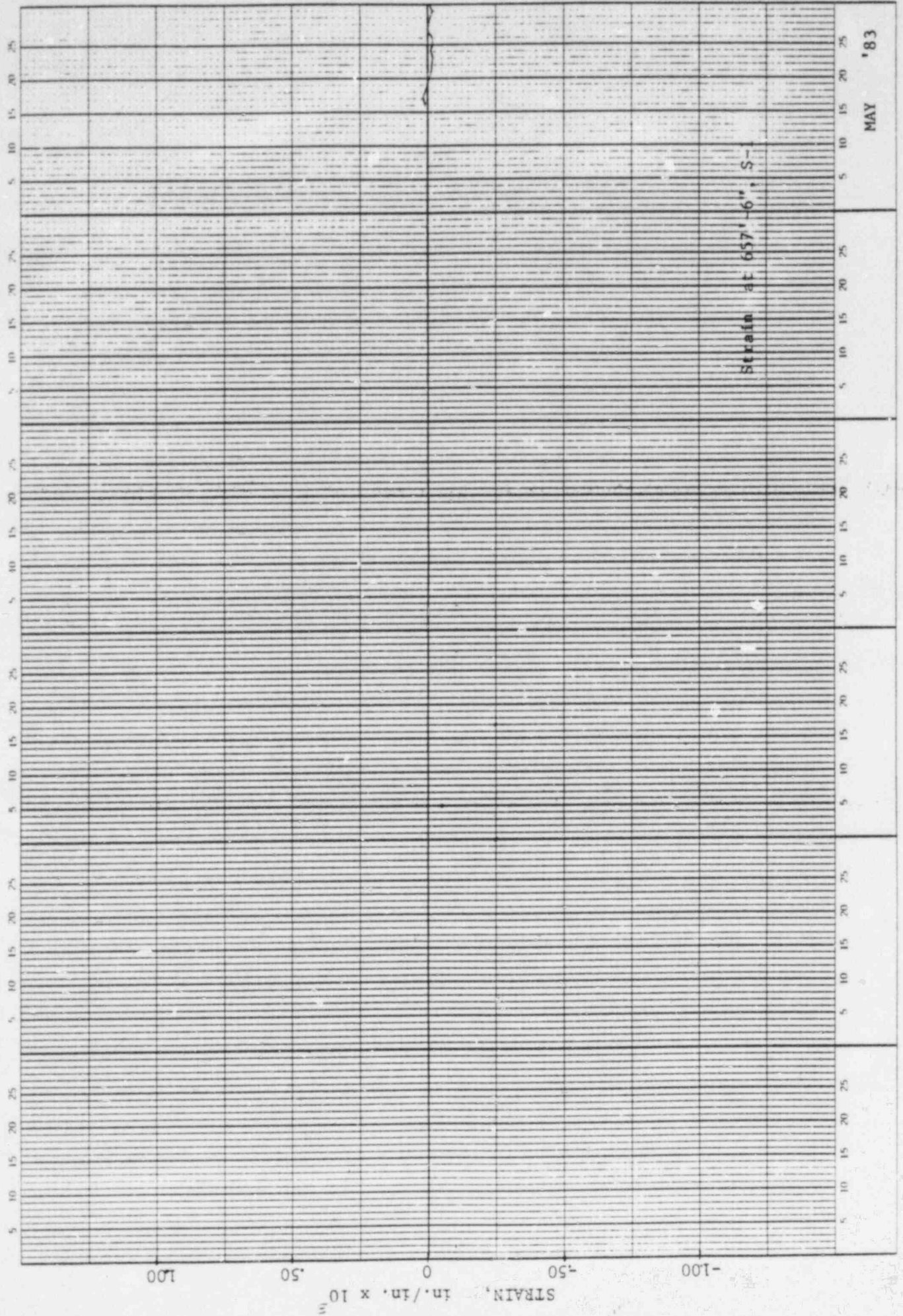


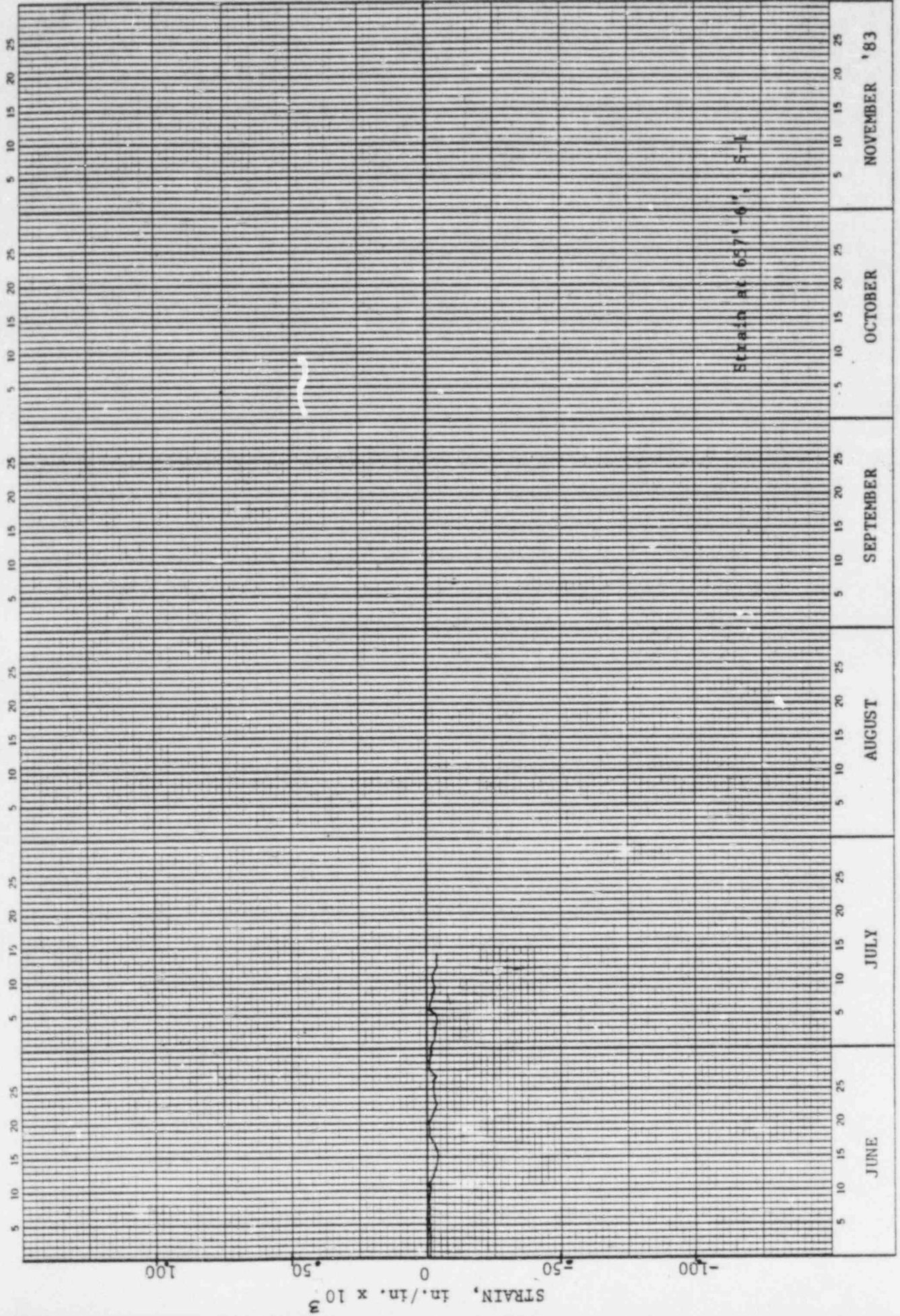


12.









70

