



Acoustic Cement Bond Log Signature

FILE NO. R-357 COMPANY AERO SET NUCLEAR
 WELL RRGE #3
 FIELD RAFT RIVER GEOTHERMAL
 COUNTY CASSIA STATE IDAHO
 LOCATION: SE/NW Other Services NONE
 SEC 25 TWP 15S RGE 20E
 Permanent Datum GROUND LEVEL Elev. 4860 KB 4878
 Log Measured from GROUND LEVEL, Ft. Above Permanent Datum DF 4876
 Drilling Measured from R.K.B. GL 4860

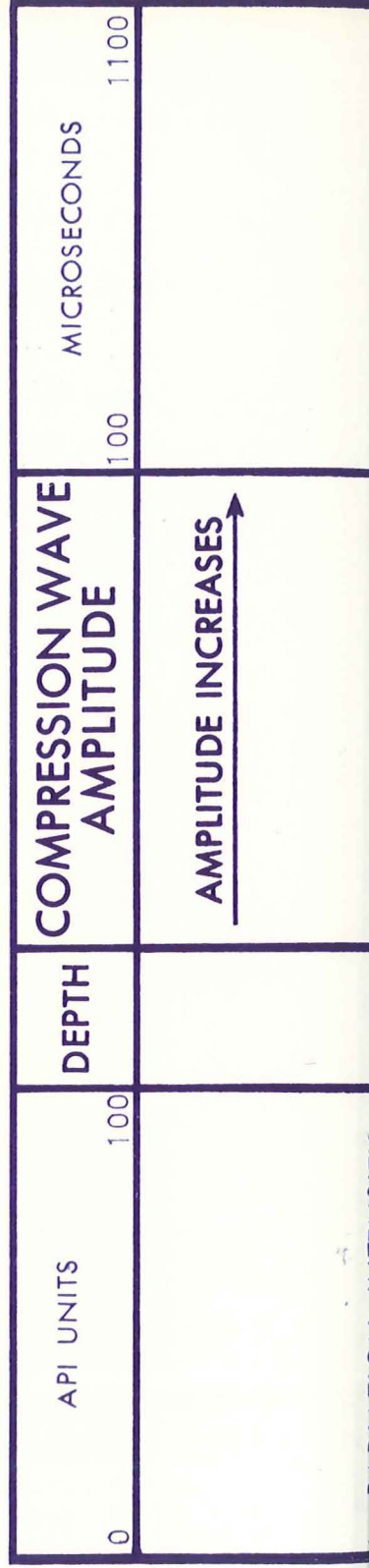
Date	CSG. RECORD	Surface	Protection	Production	Liner
<u>4/23/76</u>					
Run No.	<u>TWO</u>	Size		<u>13 3/8</u>	<u>9 5/8</u>
Depth-Driller	<u>4245</u>	Wt./Ft.		<u>68</u>	<u>36</u>
Depth-Logger	<u>4232</u>	Grade			<u>K53</u>
Bottom Logged Int.	<u>4226</u>	Type Joint			
Top Logged Int.	<u>1150</u>	Top		<u>SURFACE</u>	<u>1188</u>
Ft. Measured	<u>3076</u>	Bottom		<u>1385</u>	<u>4237</u>
Type Fluid in Csg.	<u>WATER</u>	PRIMARY CEMENTING DATA			
Density of Fluid		Type Cement			<u>G</u>
Fluid Level	<u>32</u>	Vol. of Cement			<u>1290</u>
Max. Temp. Deg. F.	<u>139</u>	Additive			<u>GEL</u>
Tool Series No.	<u>1408</u>	% Additive			<u>2</u>
Tool Diam.	<u>3 5/8</u>	Retarder			
Standoff Size	<u>CENT</u>	% Retarder			
Logging Speed	<u>30</u>	Slurry Wt.			
R/A Log Type	<u>2403</u>	Water Loss			
T.C.	<u>2</u>	Drig. Mud Type			
Sens. Setting	<u>370</u>	Drig. Mud Wt.			
API Units/Div.	<u>10</u>	PRIMARY CEMENTING PROCEDURE			
Truck or Unit No.	<u>6102</u>	Started Pumping	HR. DATE	Preceding Fluid	<u>GEL H 20</u>
Location	<u>RSVLT</u>	Plug on Bottom		Vol. <u>50</u>	Bbls.
Opr. Rig Time	<u>7 HOURS</u>	Pres. Released		Returns: Full Partial None	
Recorded by	<u>PIKE</u>	Started Bond Log	<u>1200 4-23</u>	Pipe Rot. During Pumping: Yes No	
Witnessed by	<u>SUCKLING</u>	Finished Bond Log	<u>1900 4-23</u>	Pipe Rot. After Plugdown: Yes No	

FOLD HERE

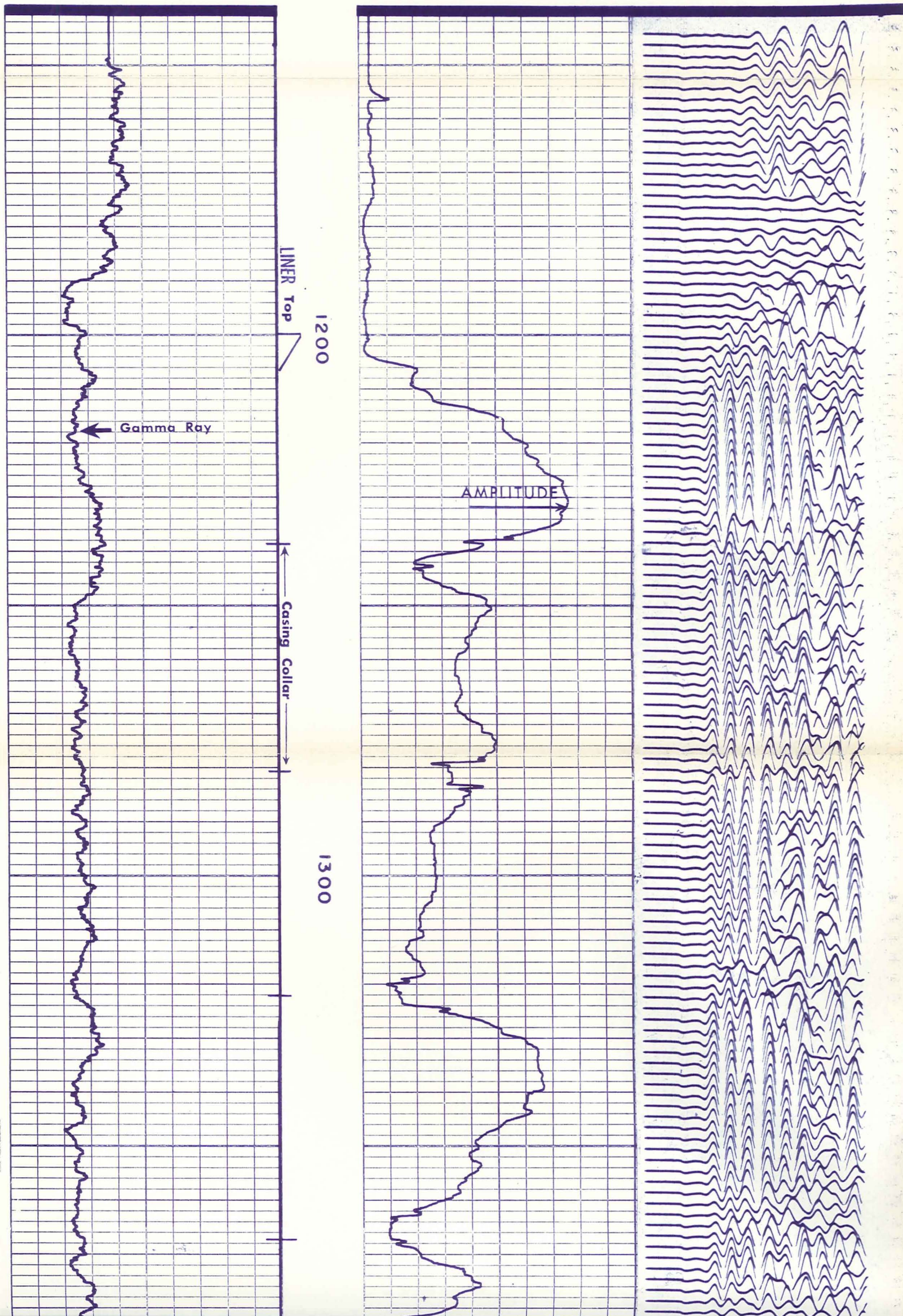
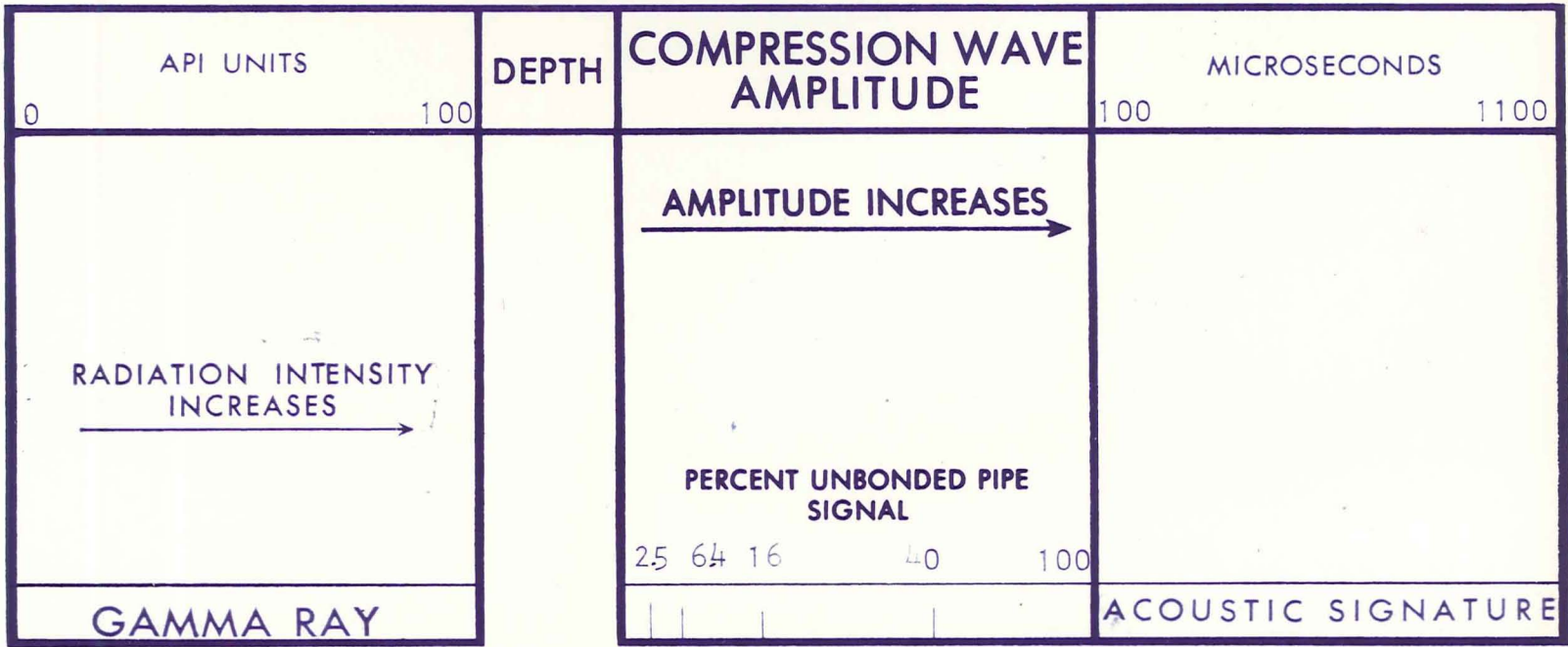
REMARKS: SQUEEZE 1: LEAD CEMENT 400 SKS G CNT, 1-1 PERLITE, 35 SILICA FLOUR(SSA-1), 2 GEL, 2 CAL. LEAD CEMENT FOLLOWED BY 180 SKS CLASS G, 35 SILICA VOL. OF CEMENT 1315 CU. FT. LOG ABOVE LINER TOP INVALID DUE TO CHANGE IN PIPE SIZE.

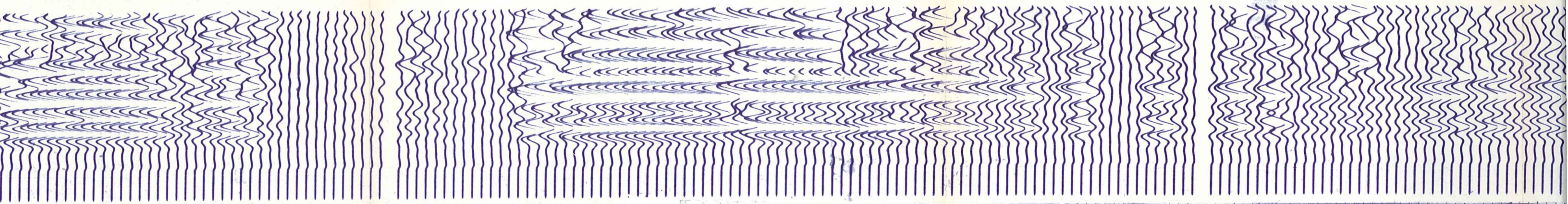
SQUEEZE JOB DETAIL		Scratcher Depths	Centralizer Depths
Squeeze No.	Depth Interval		
1			
2			
3			
4			

Pressure read at: Surface	Bottom Hole
SEQUENCE OF CEMENT BOND LOGS	
Log run following:	AVERAGE WELL DRIFT
Surface Casing Cement	° from _____ to _____
Protection Casing Cement	° from _____ to _____
Production Casing Cement	° from _____ to _____
Liner Cement	° from _____ to _____



Log run following:		CBL Run	CBL Run	_____ ° from _____ to _____
Surface Casing Cement		Squeeze No. 1		_____ ° from _____ to _____
Protection Casing Cement		Squeeze No. 2		_____ ° from _____ to _____
Production Casing Cement		Squeeze No. 3		_____ ° from _____ to _____
Liner Cement		Squeeze No. 4		

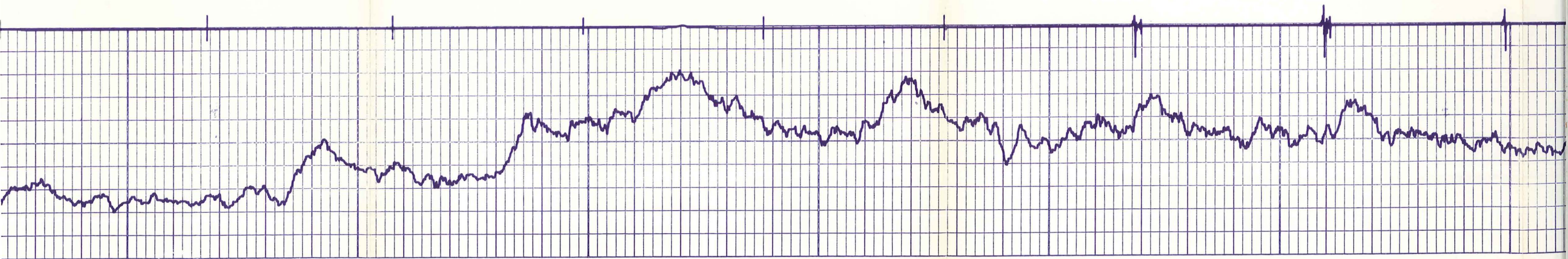


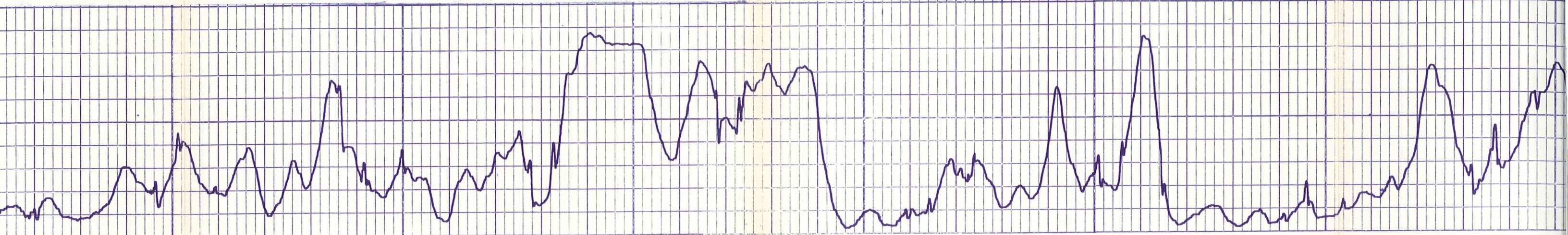
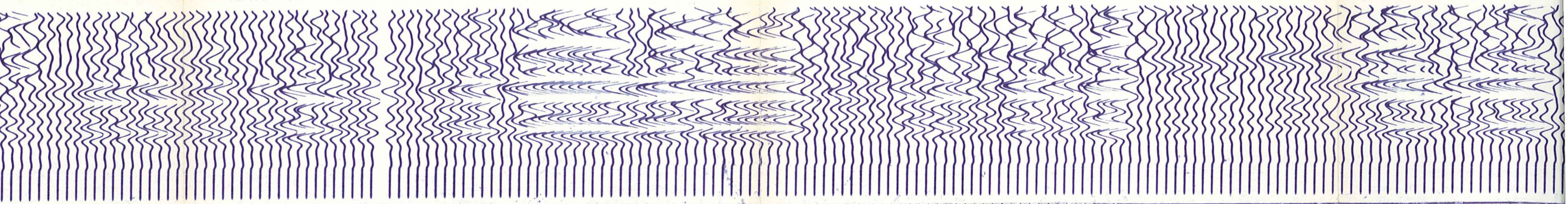


1400

1500

1600

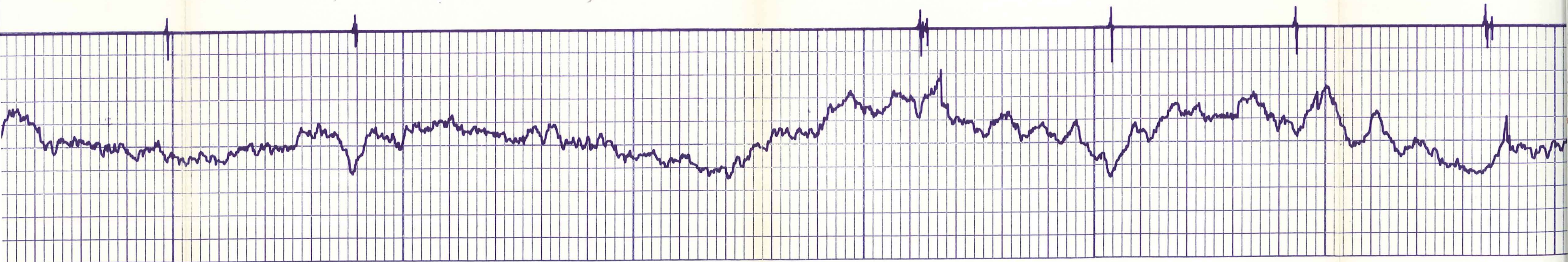


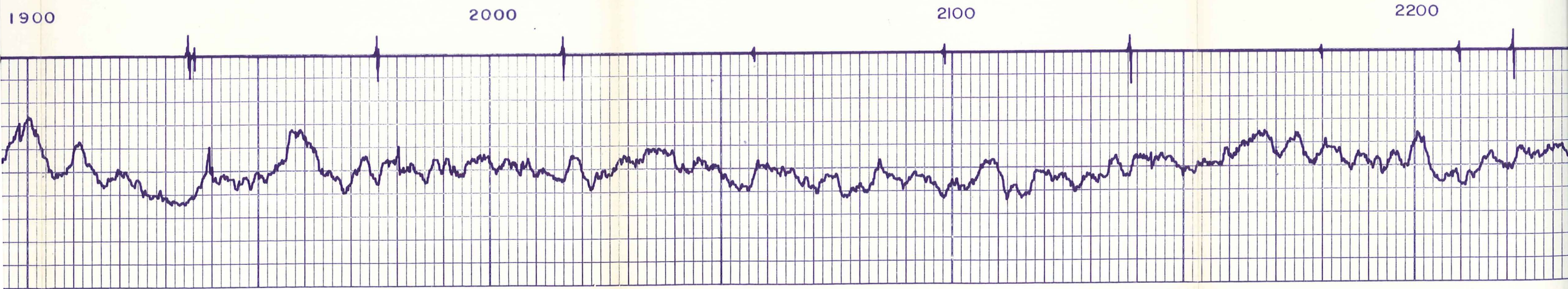
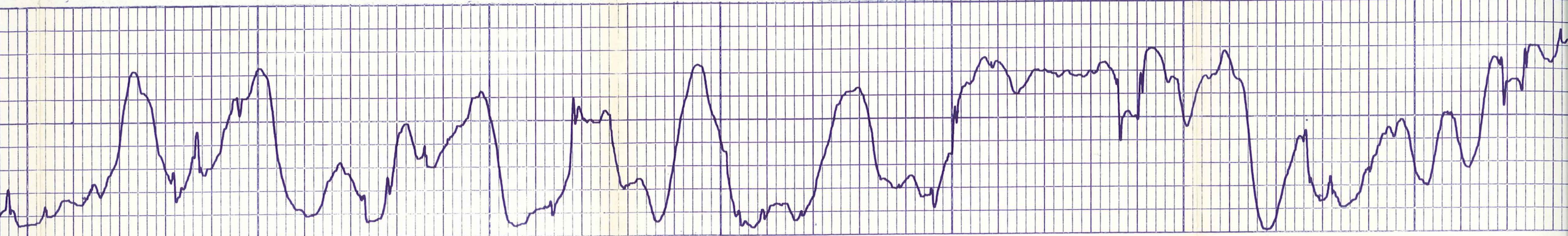
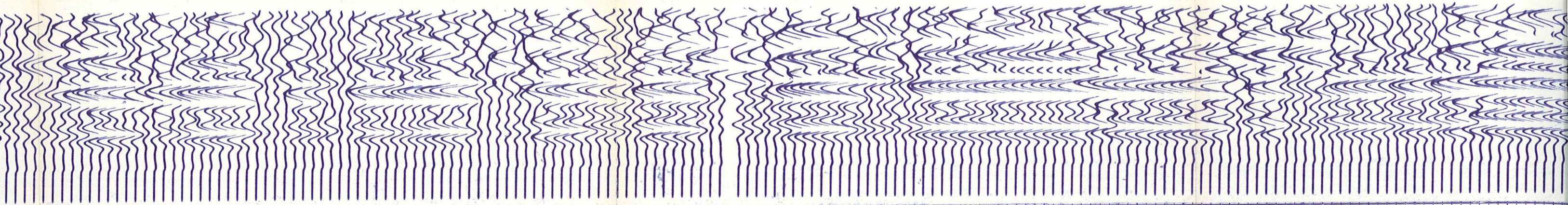


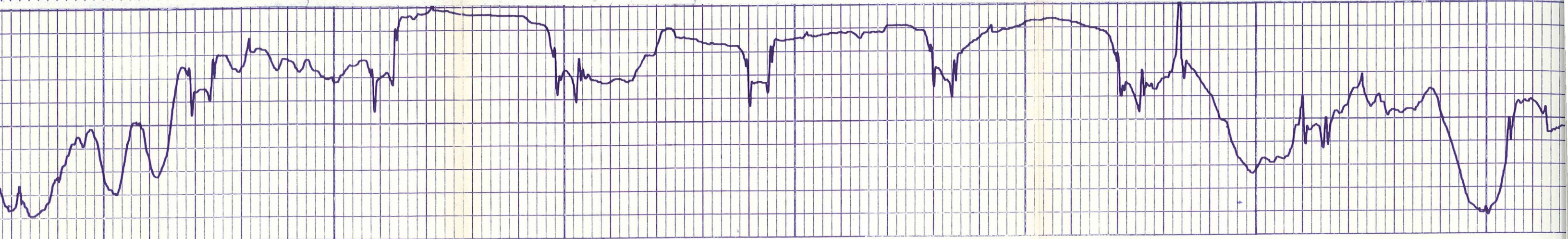
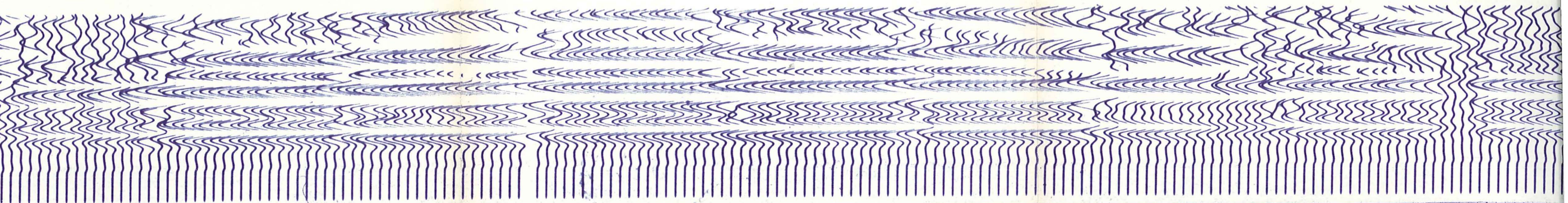
1700

1800

1900





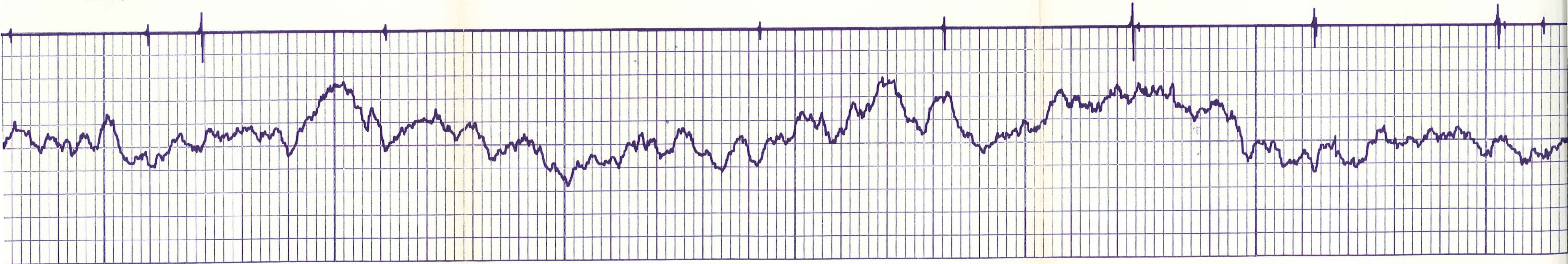


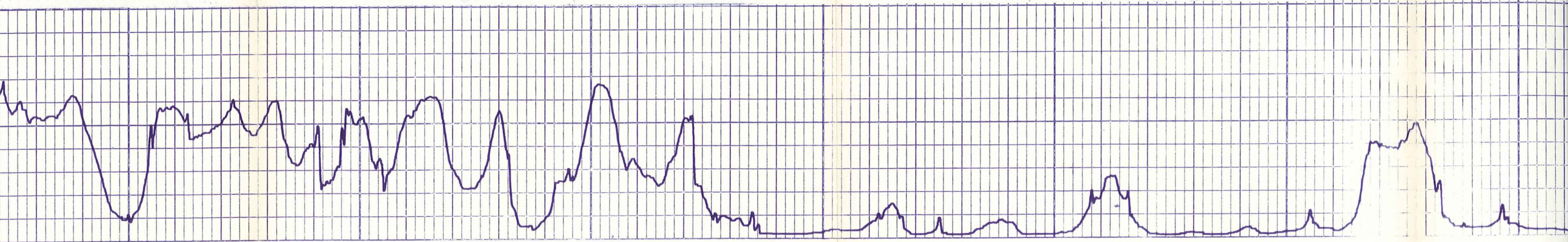
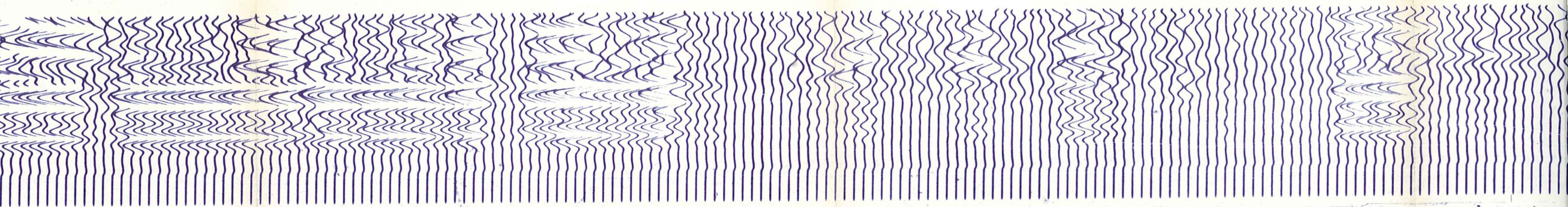
2200

2300

2400

2500



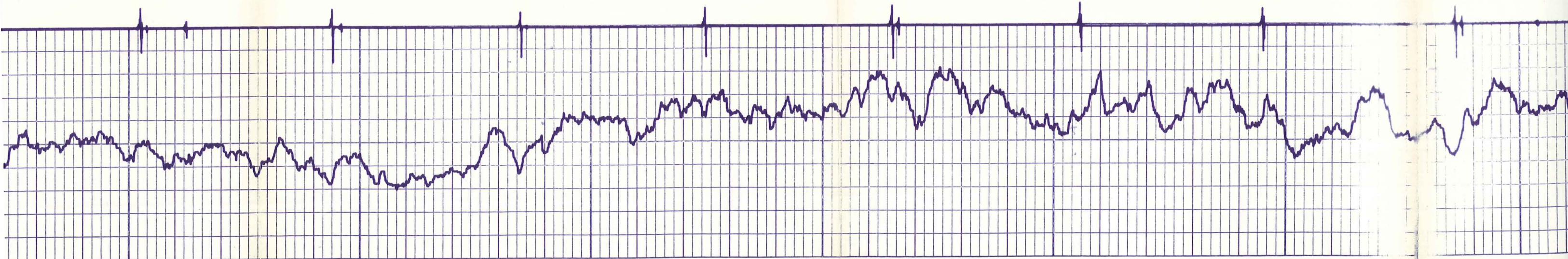


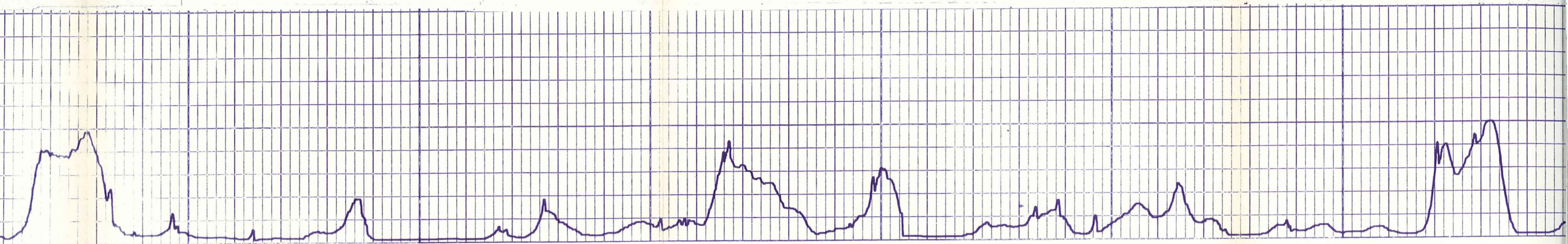
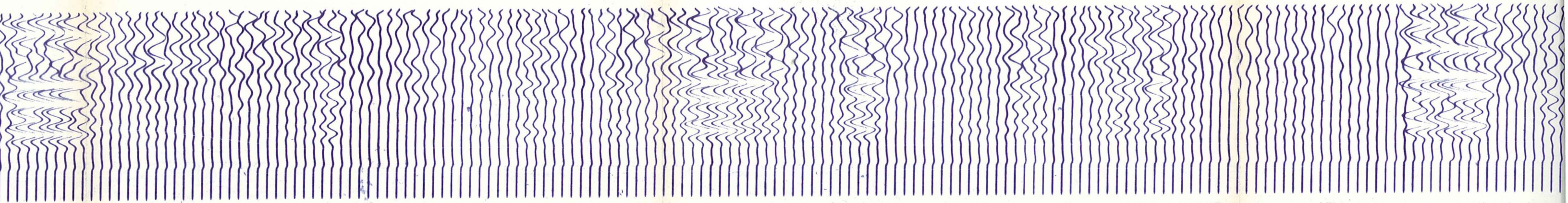
2500

2600

2700

2800



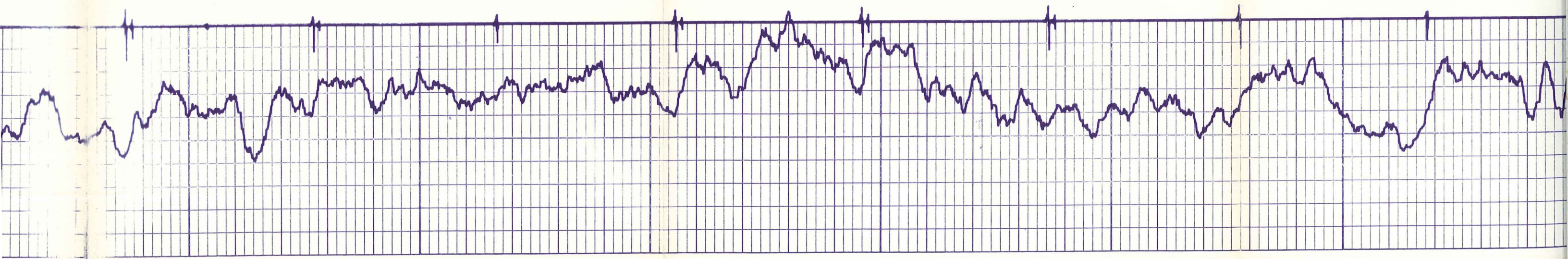


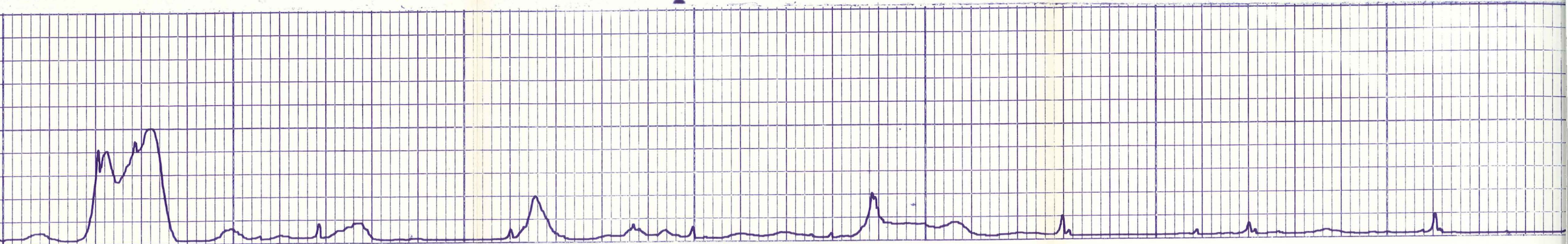
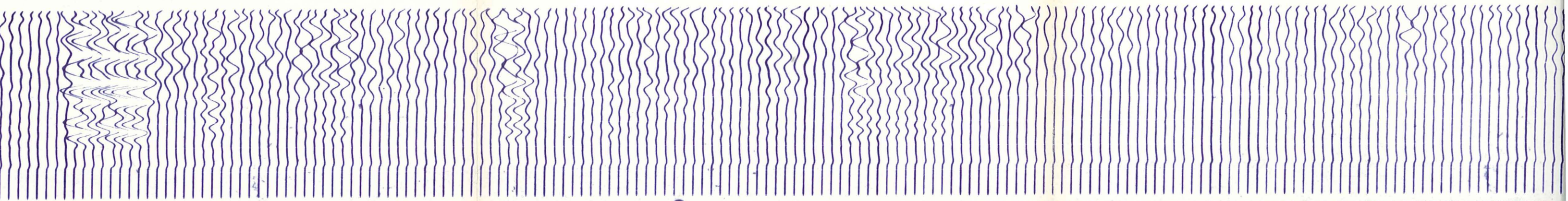
2800

2900

3000

3

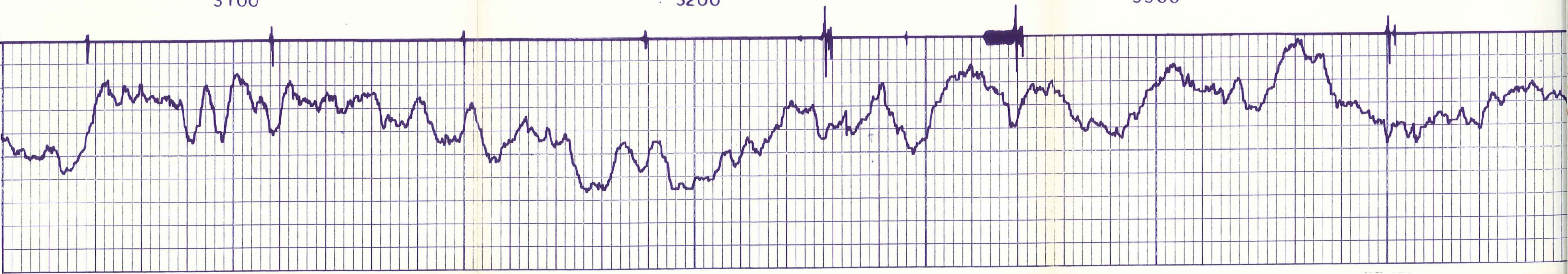


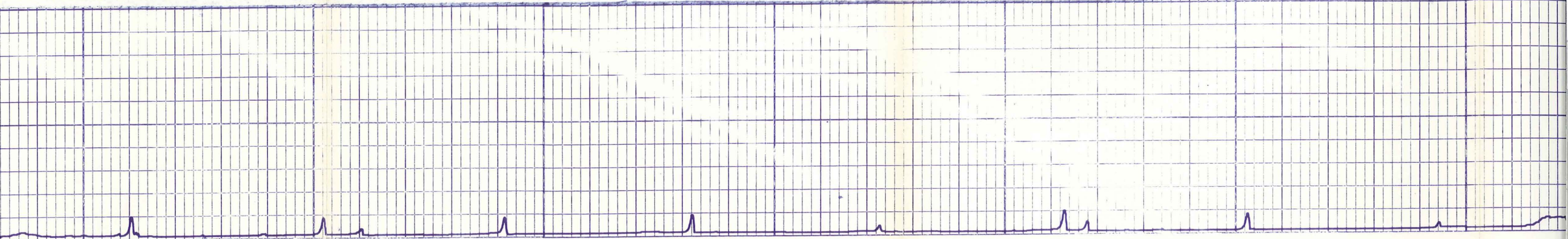
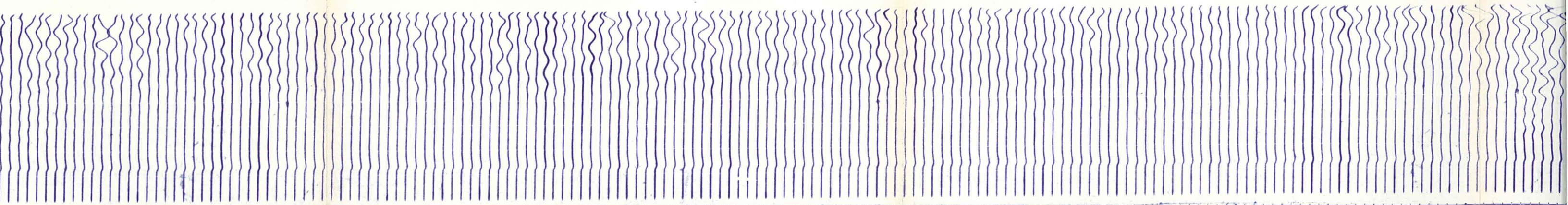


3100

3200

3300

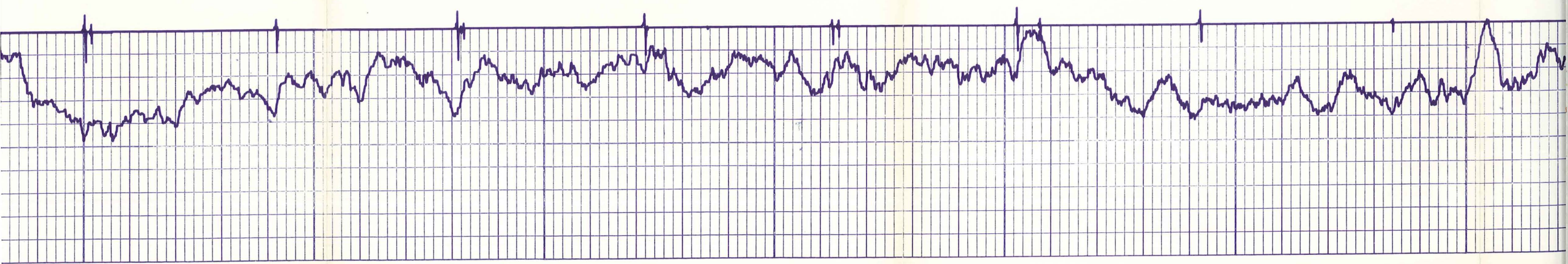


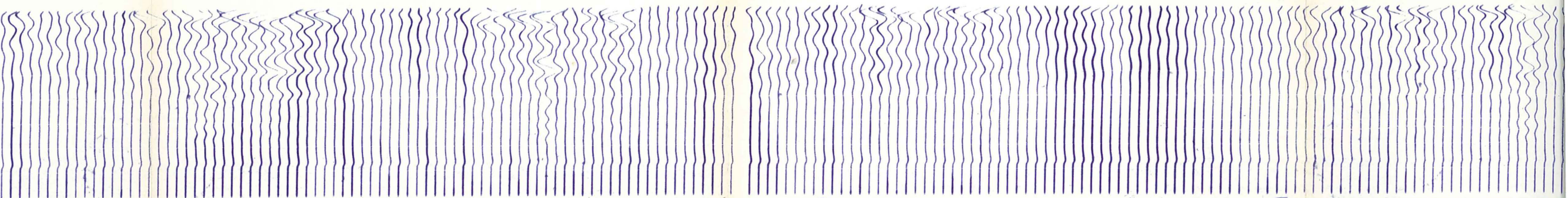


3400

3500

3600

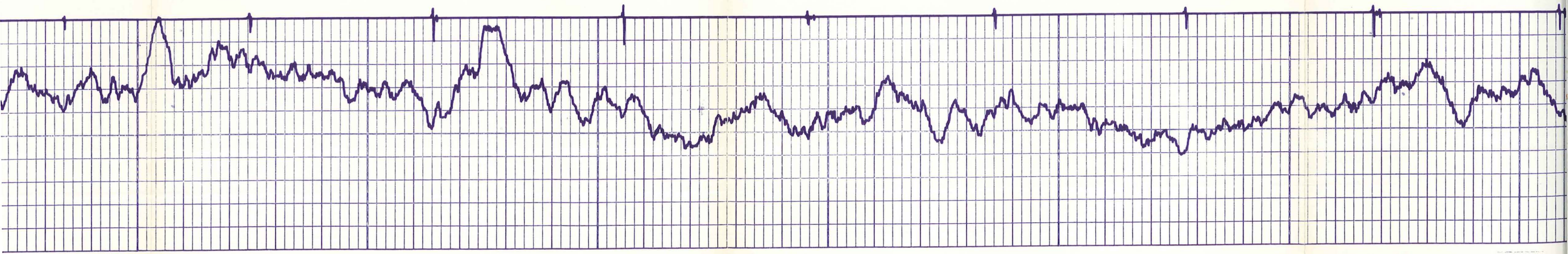


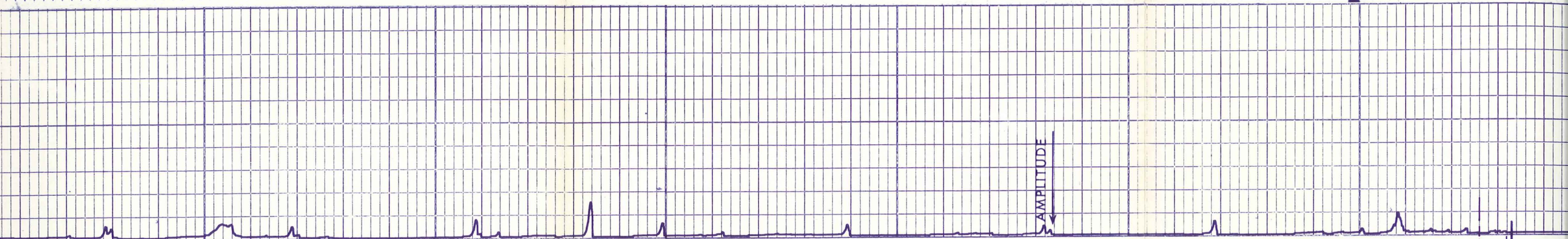
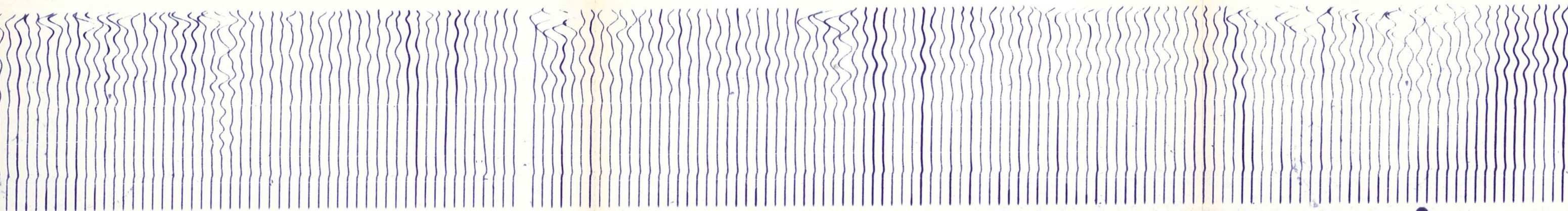


3700

3800

3900



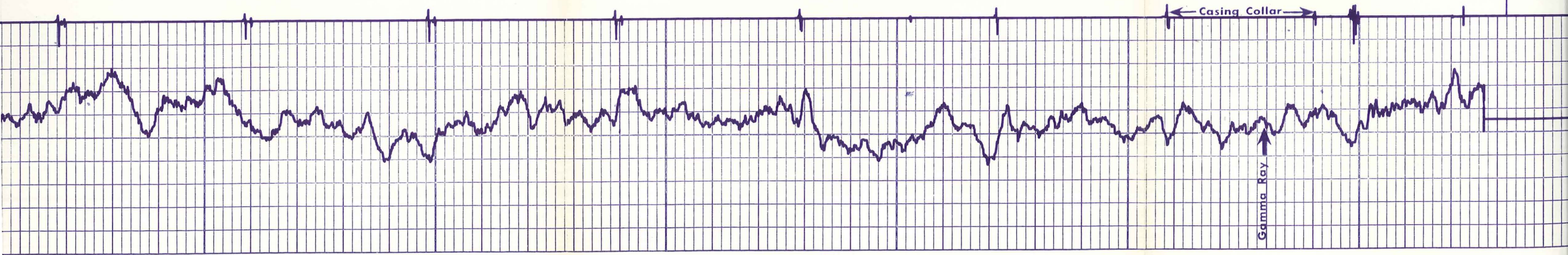


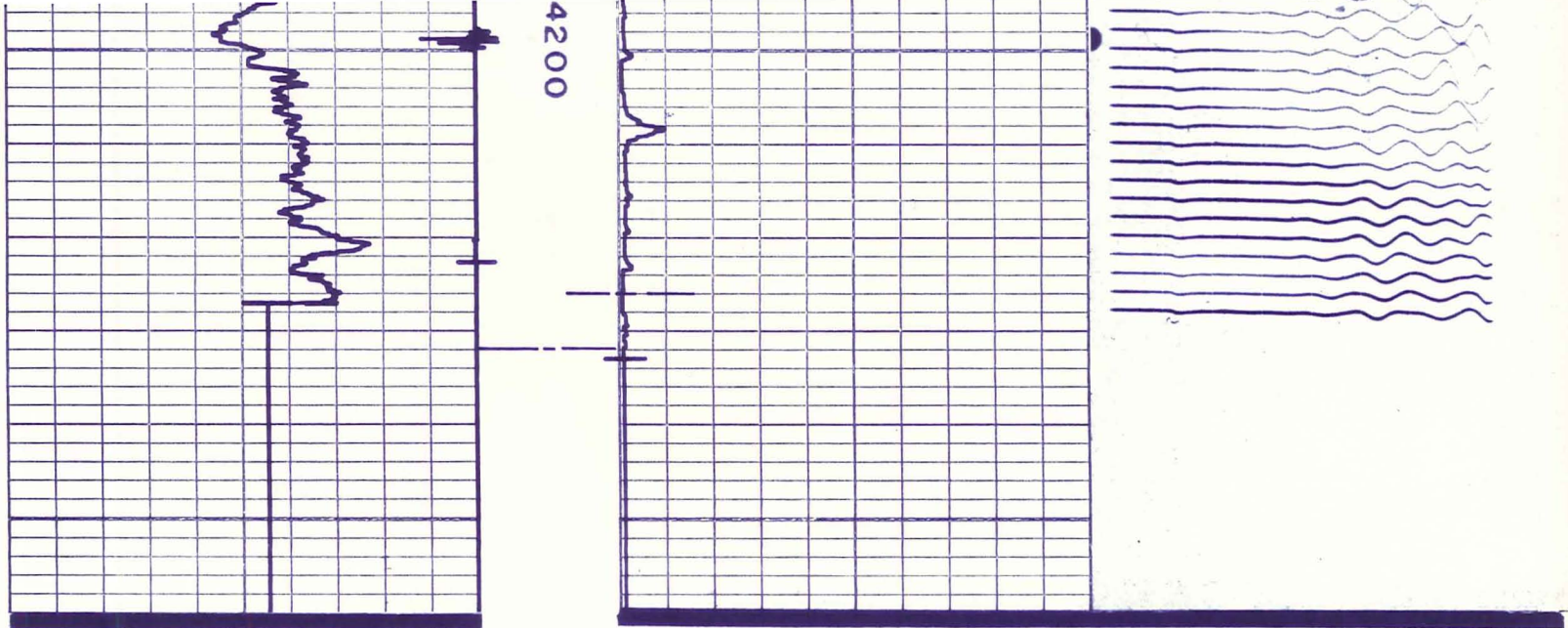
4000

4100

4200

← Casing Collar →



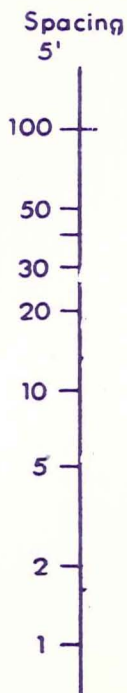


0 API UNITS 100	2.5 6.4 16 40 100	100 MICROSECONDS 1100
RADIATION INTENSITY INCREASES →	PERCENT UNBONDED PIPE SIGNAL	AMPLITUDE INCREASES →
GAMMA RAY	DEPTH	COMPRESSION WAVE AMPLITUDE
		ACOUSTIC SIGNATURE
Company AERO JET NUCLEAR Well RRGE #3 Field RAFT RIVER GEOTHERMAL County CASSIA State IDAHO		Drillers T.D. 4245 Log F.R. 4226 Log T.D. 4232 Elevations: K.B. 4878 D.F. 4876 G.L. 4860

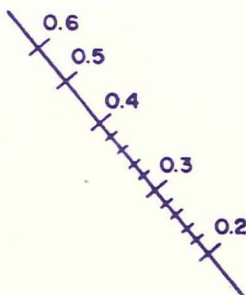
FORM 925192A

CEMENT STRENGTH

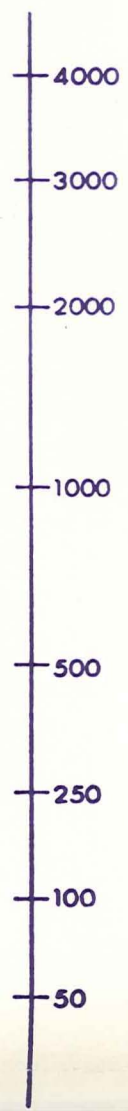
PERCENT OF SIGNAL
IN UNBONDED PIPE

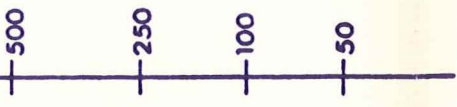


CASING THICKNESS
(inches)

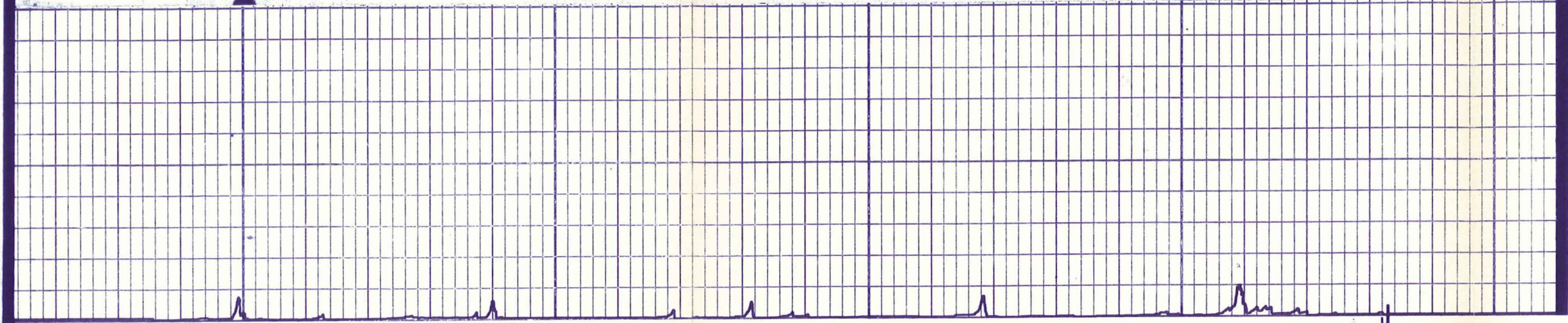
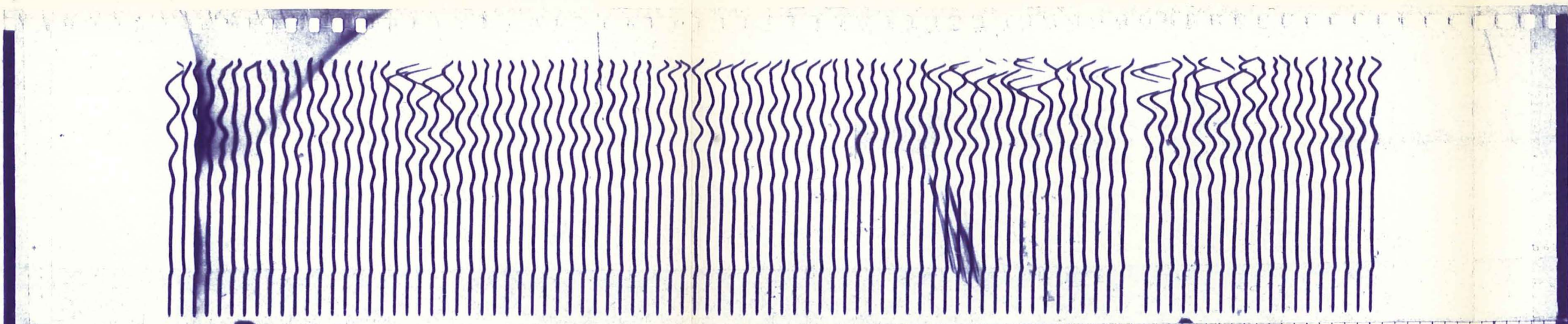


AVERAGE
COMPRESSIVE
STRENGTH (psi)



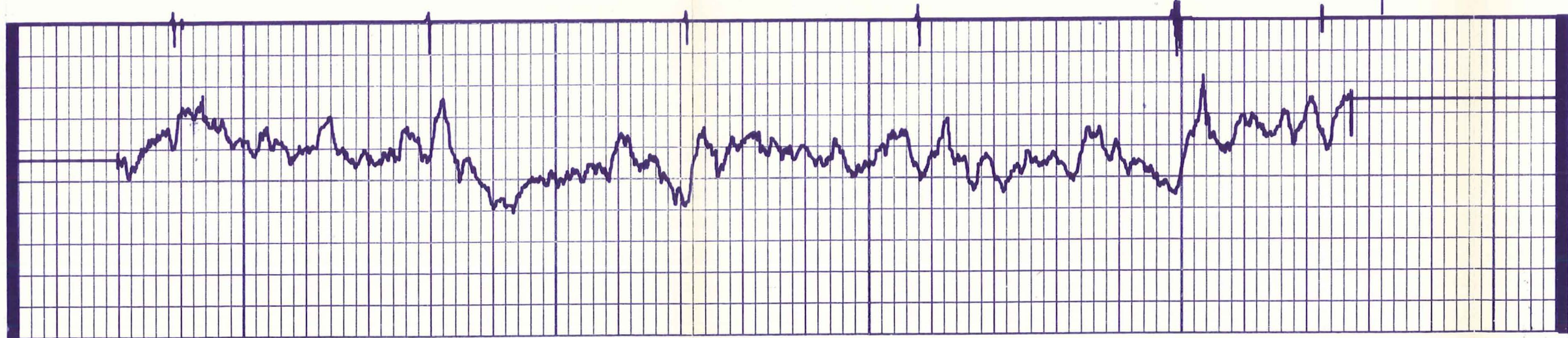


REPEAT SECTION



4100

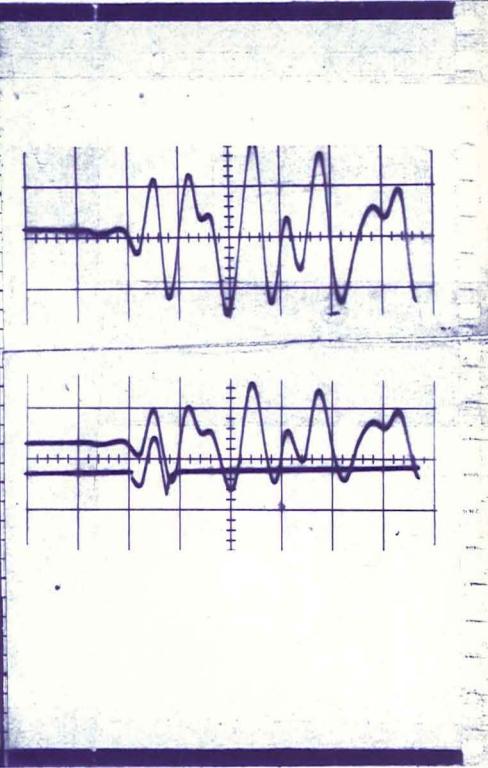
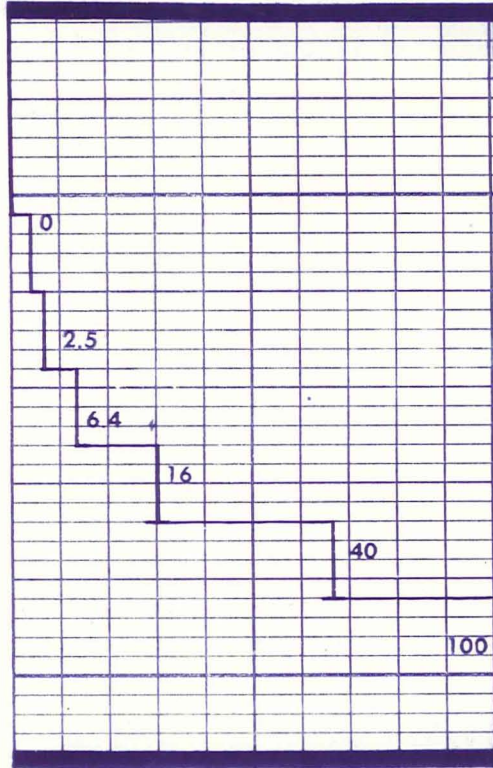
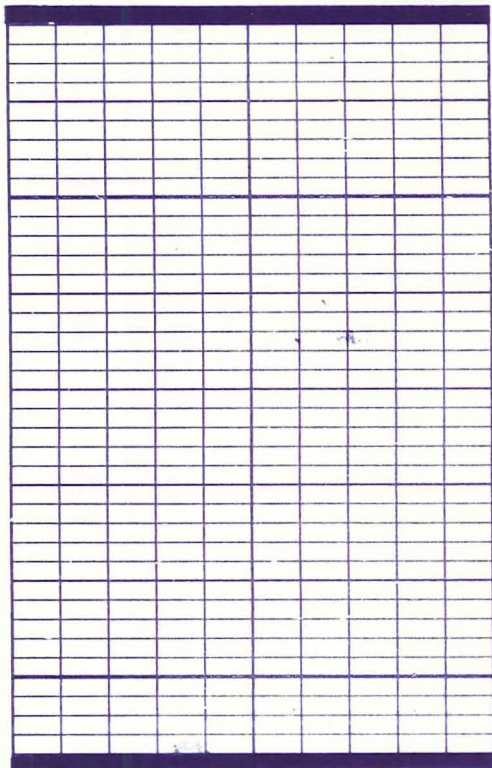
4200



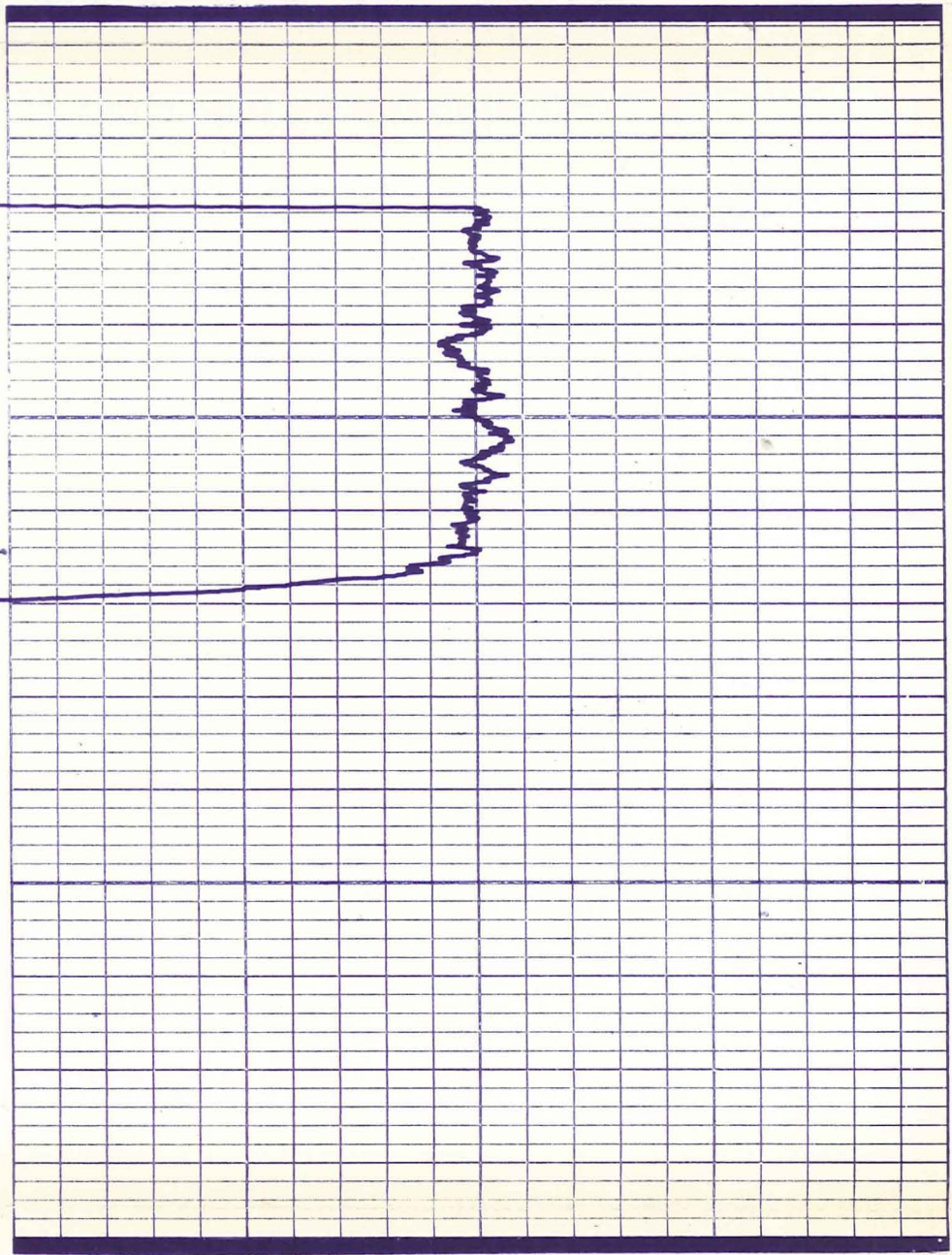
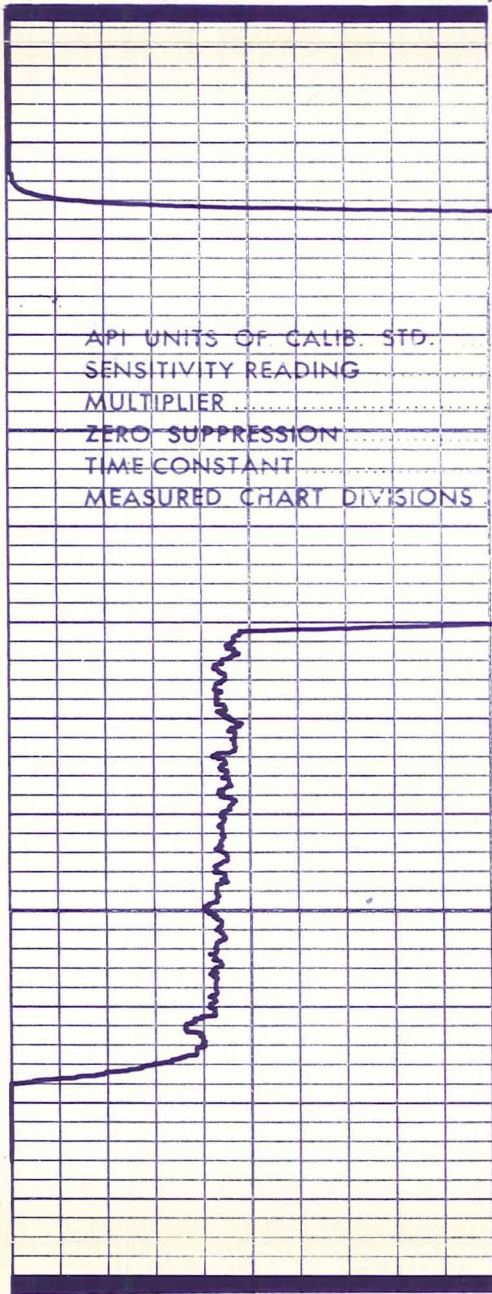
CALIBRATION—AFTER SURVEY



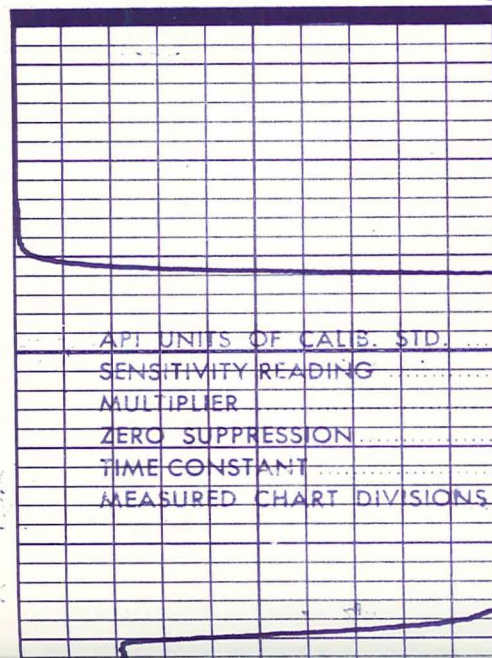
CALIBRATION—AFTER SURVEY



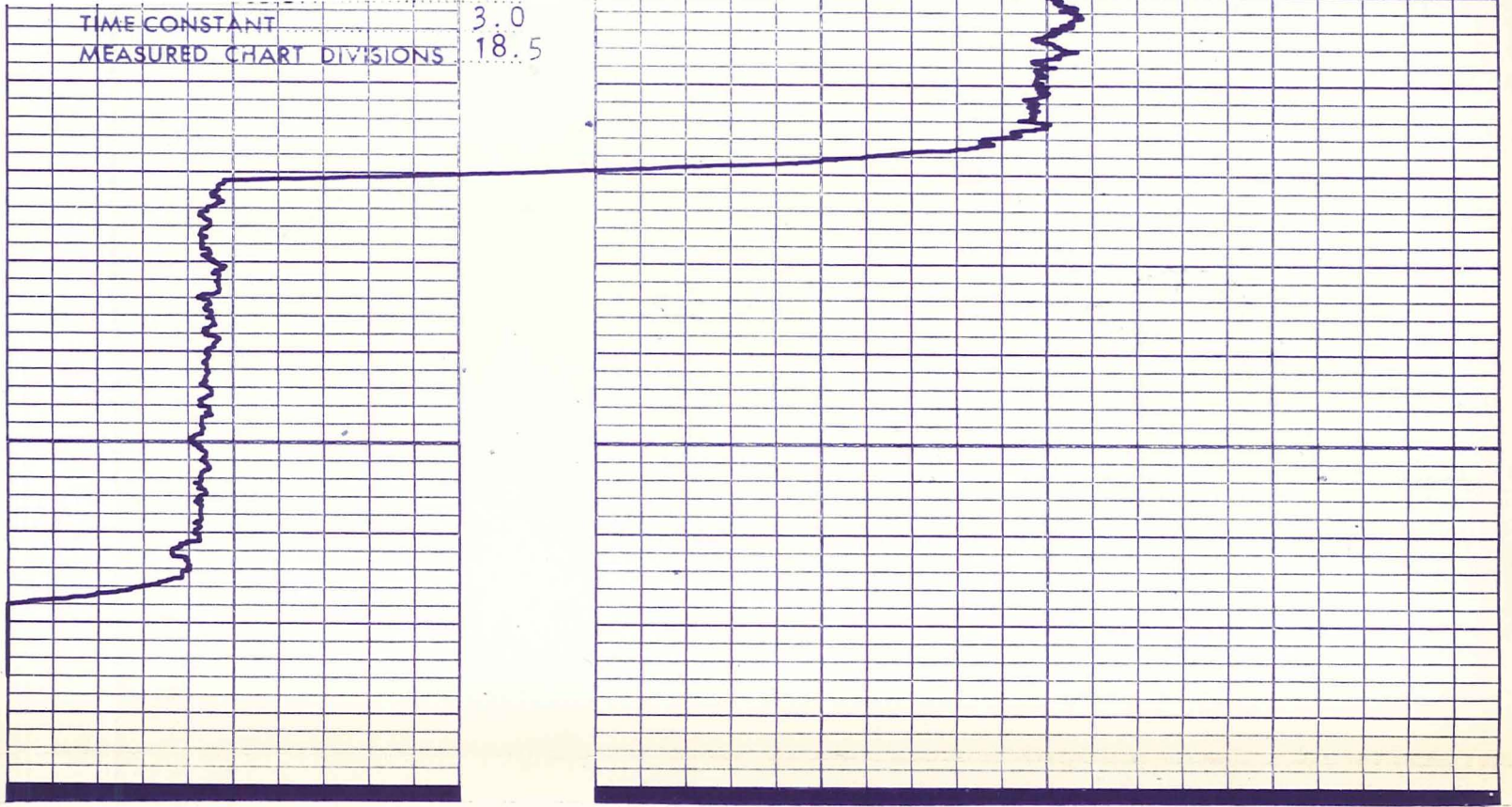
G/R LOG CALIBRATION
AFTER LOG



G/R LOG CALIBRATION
BEFORE LOG

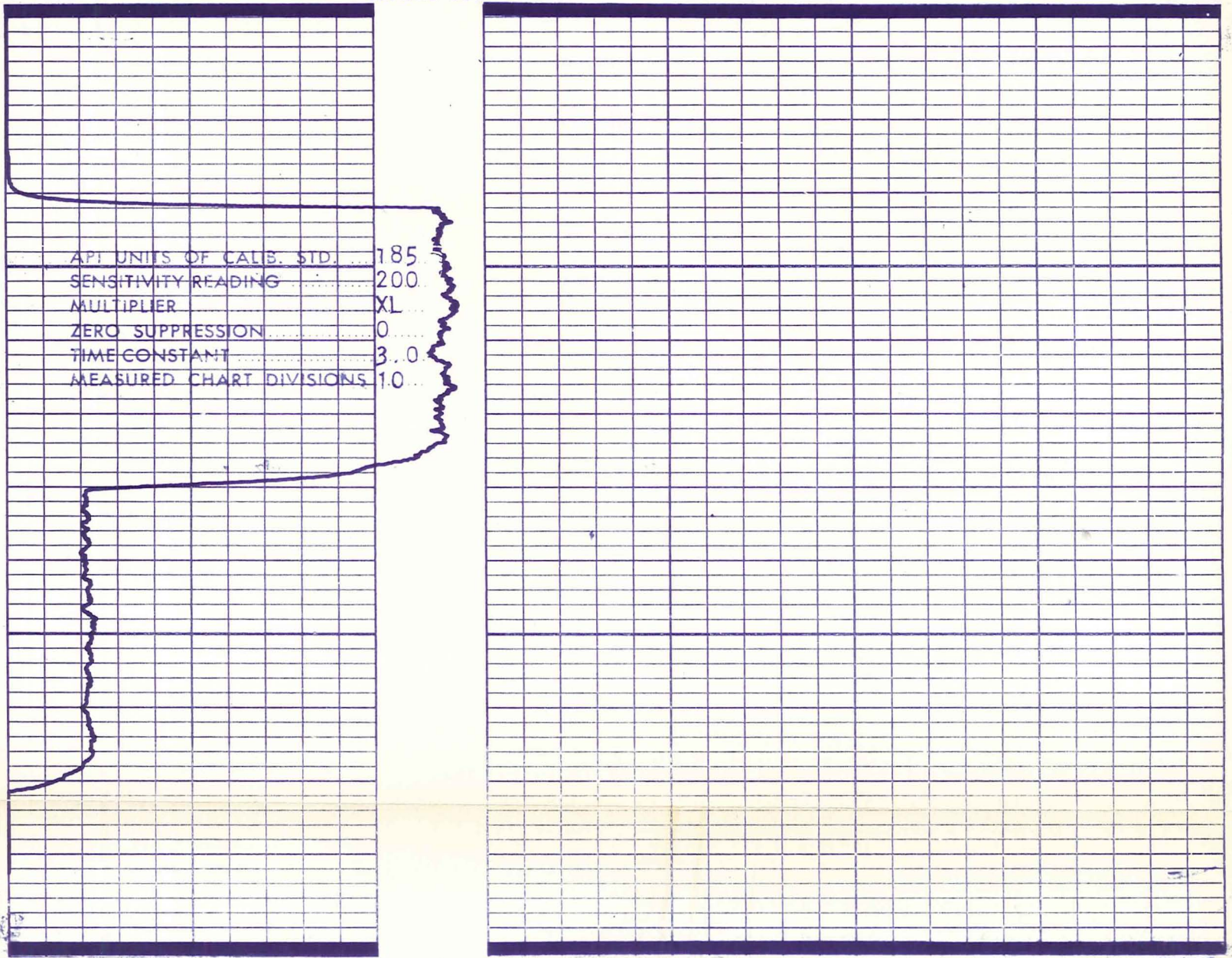


TIME CONSTANT 3.0
MEASURED CHART DIVISIONS 18.5



G/R LOG CALIBRATION
BEFORE LOG

API UNITS OF CALIB. STD. 185
SENSITIVITY READING 200
MULTIPLIER XL
ZERO SUPPRESSION 0
TIME CONSTANT 3.0
MEASURED CHART DIVISIONS 10



FILE_CAB_15_DRAWER_2