

Schlumberger

COMPENSATED
NEUTRON LOG

PROVINCE YUKON TERRITORY
FIELD WILDCAT
WELL COLUMBIA GAS ET AL
KOTANEELEE YT H-38
COMPANY COLUMBIA GAS DEVELOPMENT
OF CANADA LTD.

COMPANY COLUMBIA GAS DEVELOPMENT OF CANADA LTD.
WELL COLUMBIA GAS ET AL KOTANEELEE YT
FIELD WILDCAT
PROVINCE YUKON TERRITORY
LOCATION 61° 07' 16" N LAT
124° 06' 13" W LONG
Permanent Datum GL Elev. 2225
Log Measured From KB 25 Ft. Above Perm. Datum
Other Services: ELEV. KB 2225
GL 2225
GRF

Date	23 OCT 77	Run No.	FOUR
First Reading	12677	Feet Measured	1177
Last Reading	11500	Depth Reached	12681
Bottom Driller		Csg. SOC	TD
Csg. Driller		Csg. Driller	TD
Mud Nature	WATER	Dens. Visc.	
Water Loss		Res.	@
Rimf	@	Rimf @ BHT	@
Sync	@	Sync	@
Oper. Rig Time	3 HRS	Track No.	OSU-C 339 FRONT
Recorded By	WOLFGRAM	Witnesses	DORTCH

14 NOVEMBER 77 CAL CP

EQUIPMENT DATA							
Run No.	CNP	CNC	CNB	NSR	SGC	CAL	Decent Spg. Used
FOUR	AB 170	A 569	A 162	T 112	J 1143	-	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
							<input type="checkbox"/> Yes <input type="checkbox"/> No
							<input type="checkbox"/> Yes <input type="checkbox"/> No

CALIBRATION DATA							
Run No.	Gamma Ray			CNL - Before Log - CPS		CNL - After Log - CPS	
	API Scale	Background CPS	Total CPS	Long Spacing	Short Spacing	Long Spacing	Short Spacing
FOUR	165	45	400	59	129	59	129

LOGGING DATA									
Run No.	General		Speed Ft./Min.	Tc	Gamma Ray		Matrix	CNL Selectors	
	From	To			API Scale			Auto Hole Size Corr.	Hole Size Setting (If not auto)
FOUR	12677	11500	30	2	15	LIMESTONE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6"	45-15-15

LOG TAPED.
CASING COLLARS ARE RECORDED 12" DEEP.
CORRECTED BY LABELLING.

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 7 of our General Terms and Conditions as set out in our current Price Schedule.

GAMMA RAY
API UNITS

NEUTRON POROSITY INDEX %
LIMESTONE MATRIX

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**GAMMA RAY
API UNITS**

Speed in FPM
Sens. 150 T.C. 2
Zero div. to left 150
150 300

NEUTRON POROSITY INDEX %

L I M E S T O N E M A T R I X

11400

6 Calibration after Survey

5

4

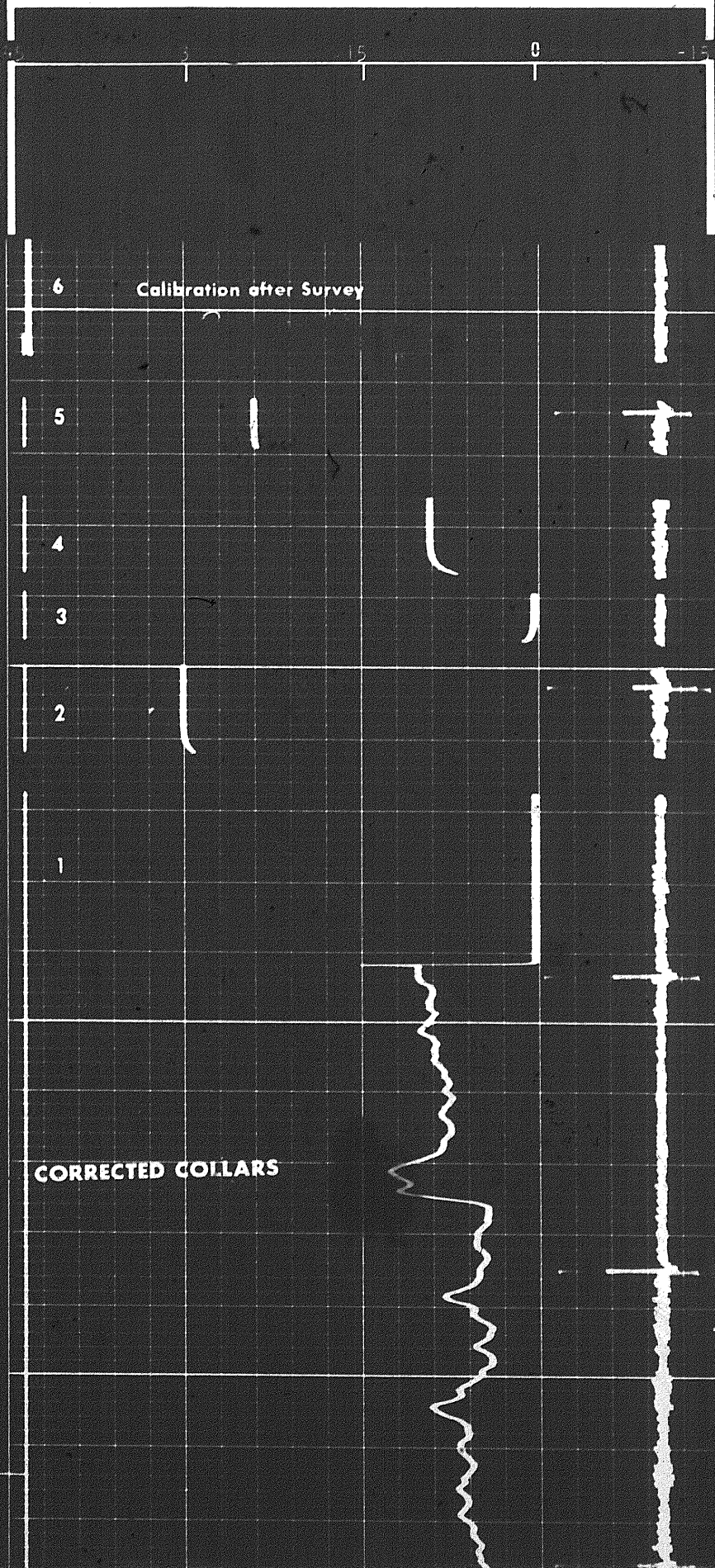
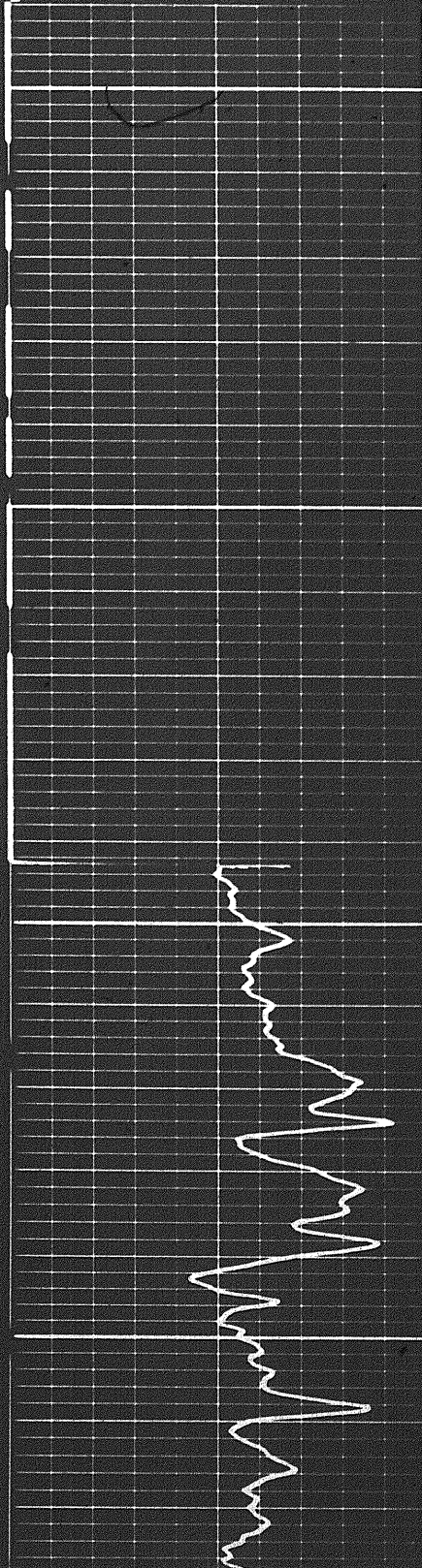
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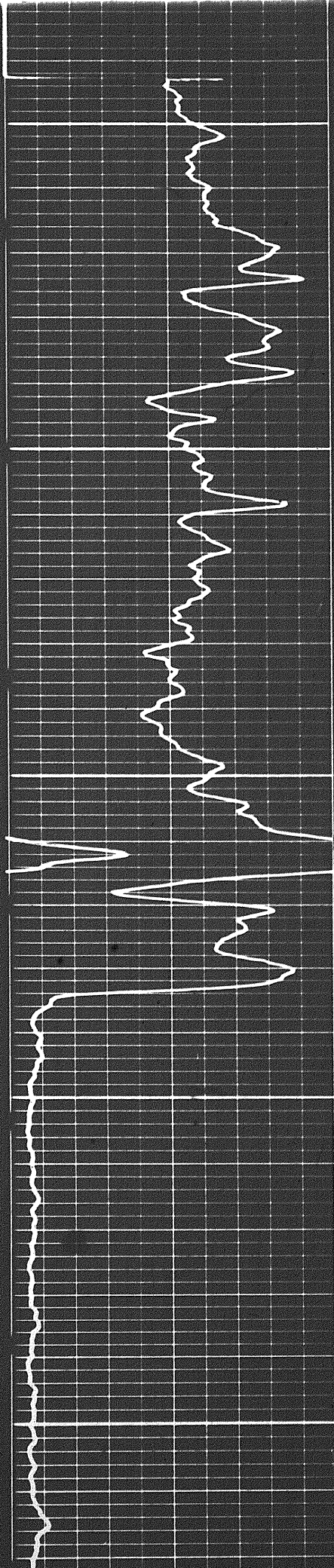
2

1

11500

CORRECTED COLLARS



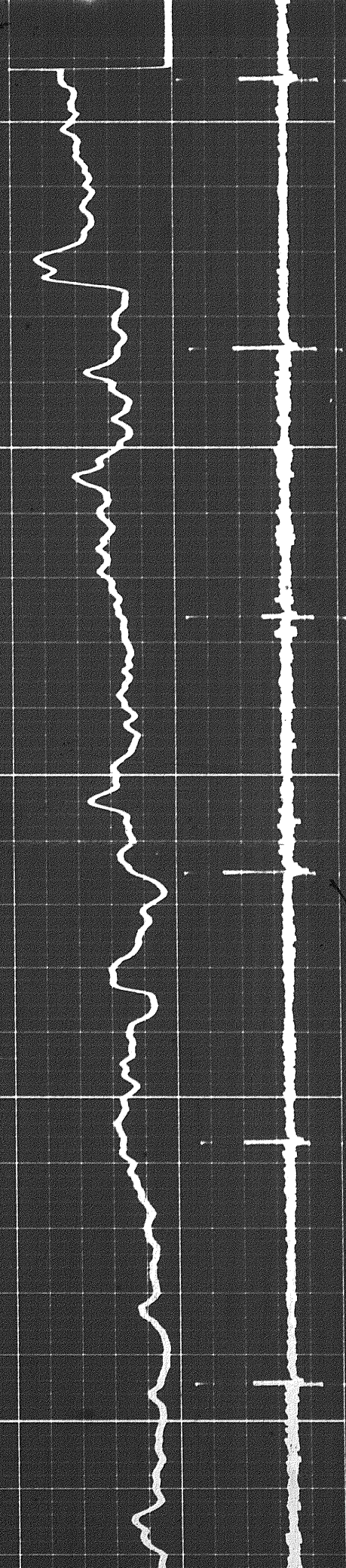


11500

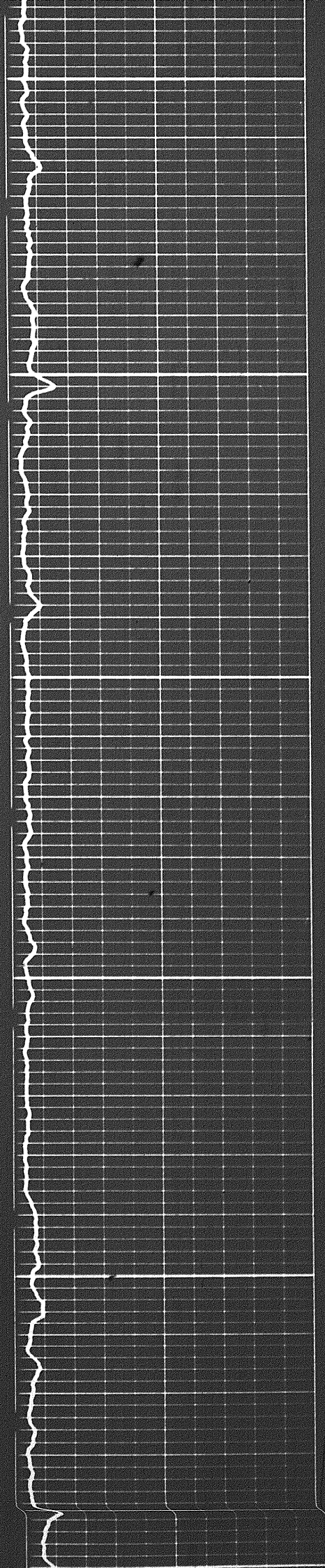
CORRECTED COLLARS

11600

11700



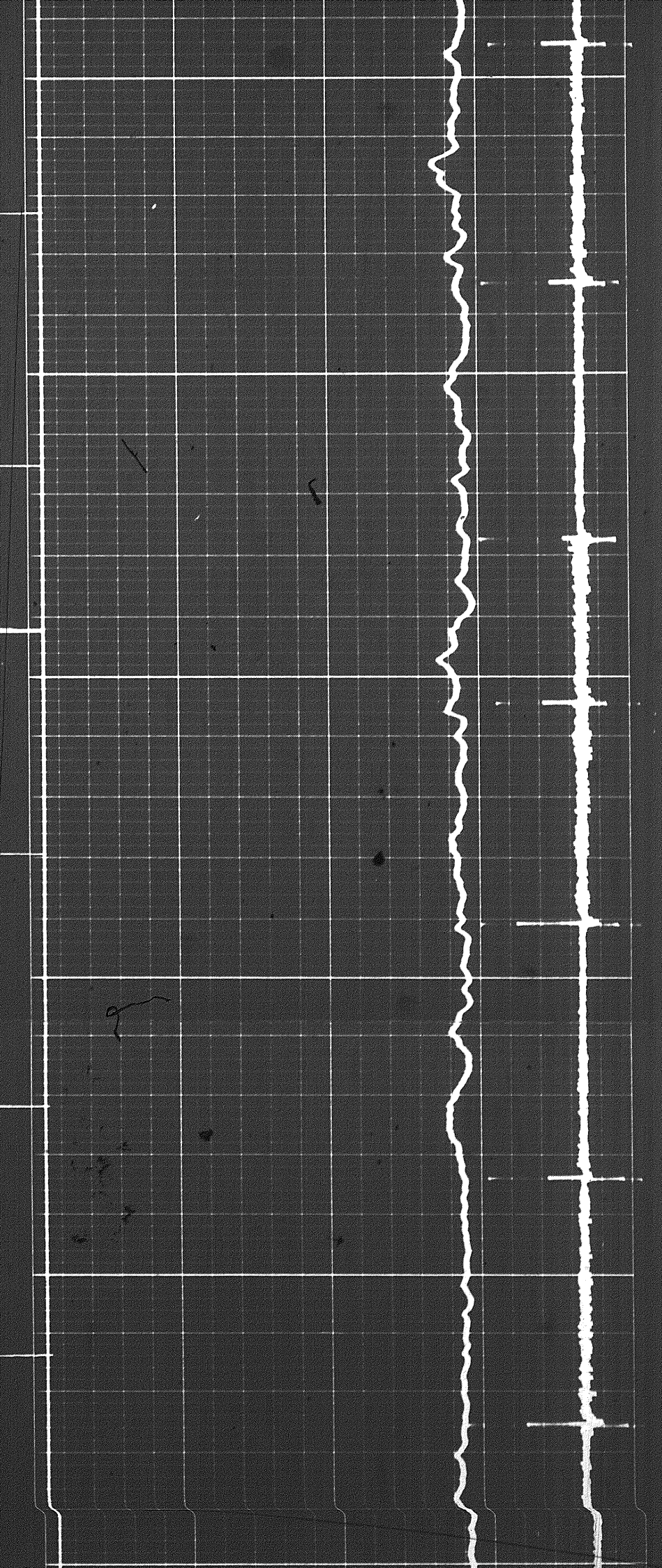
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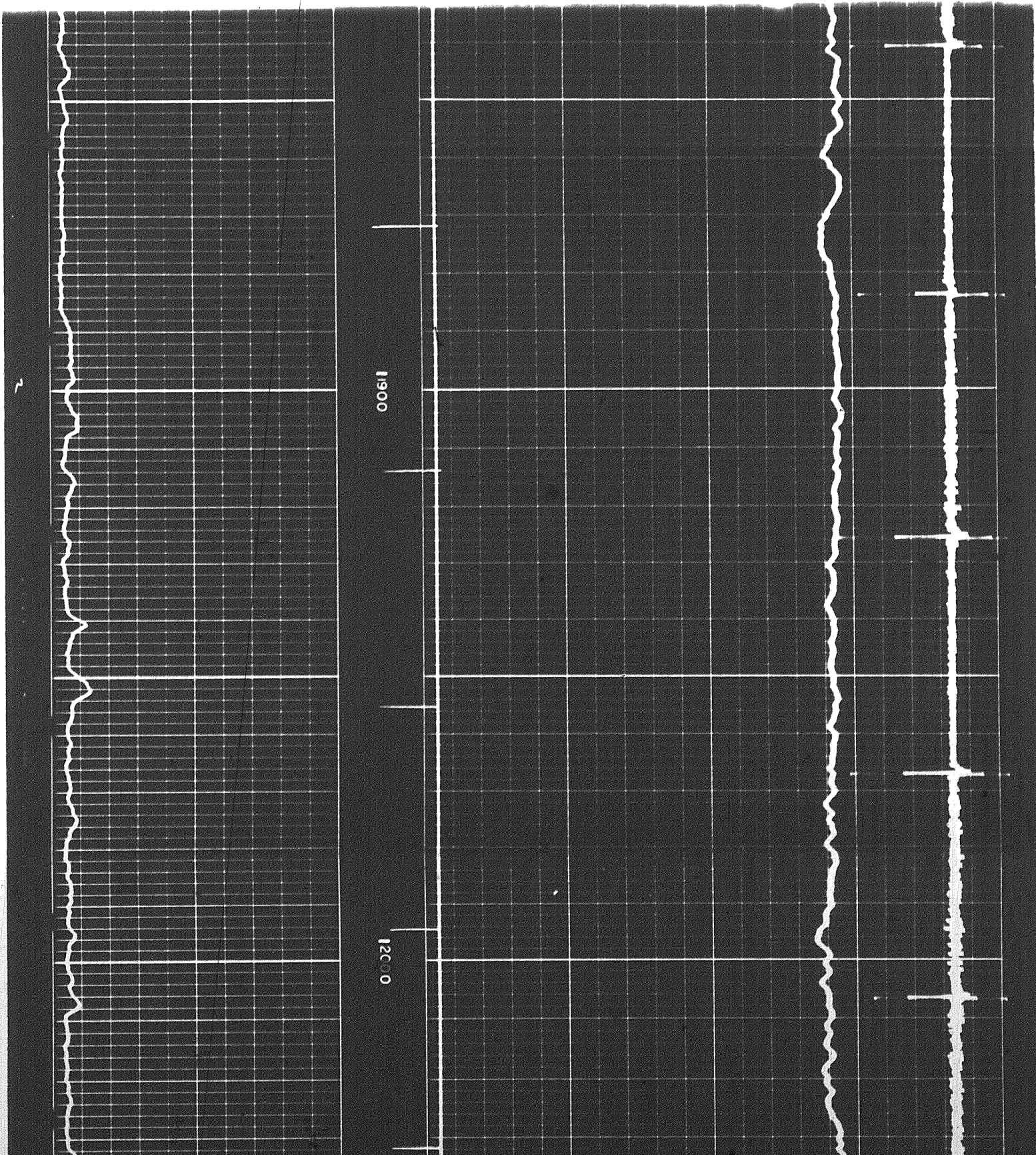
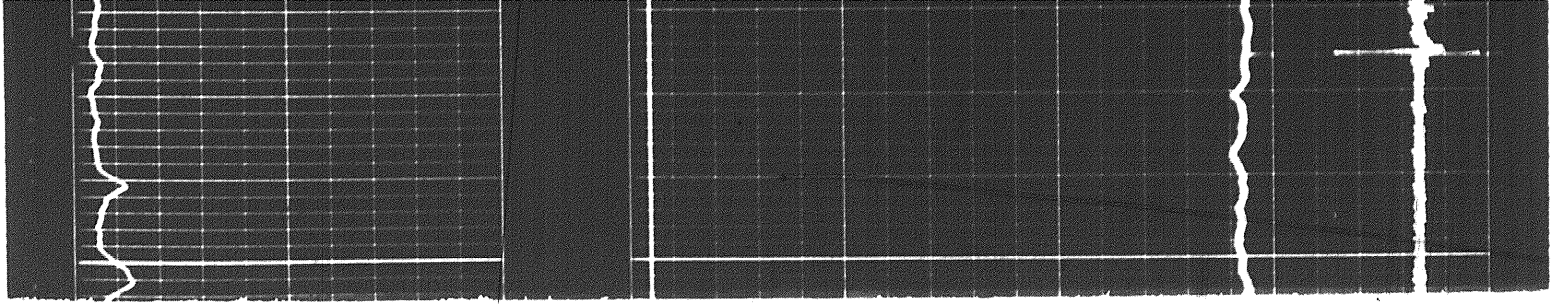


11700

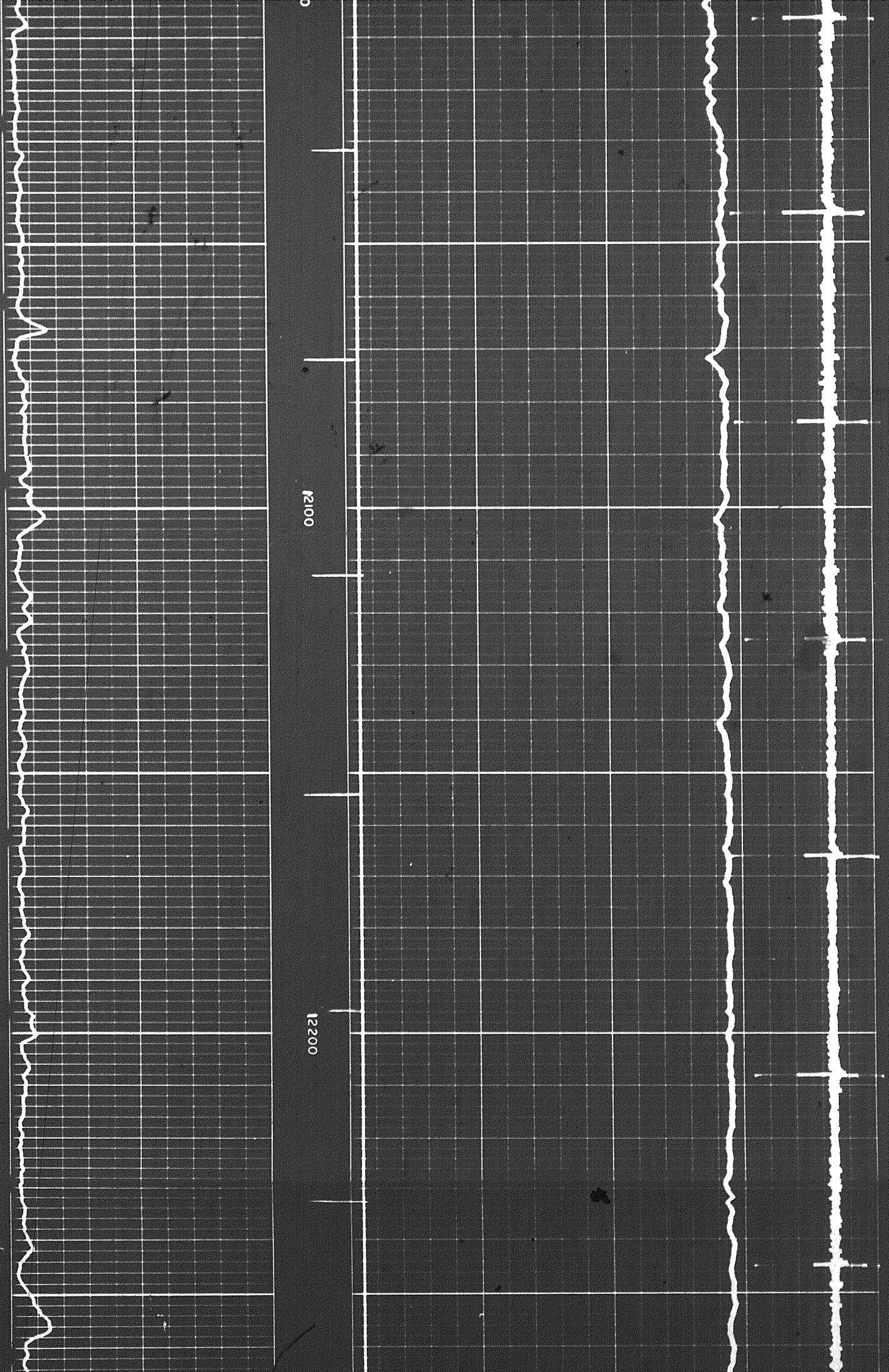
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11900

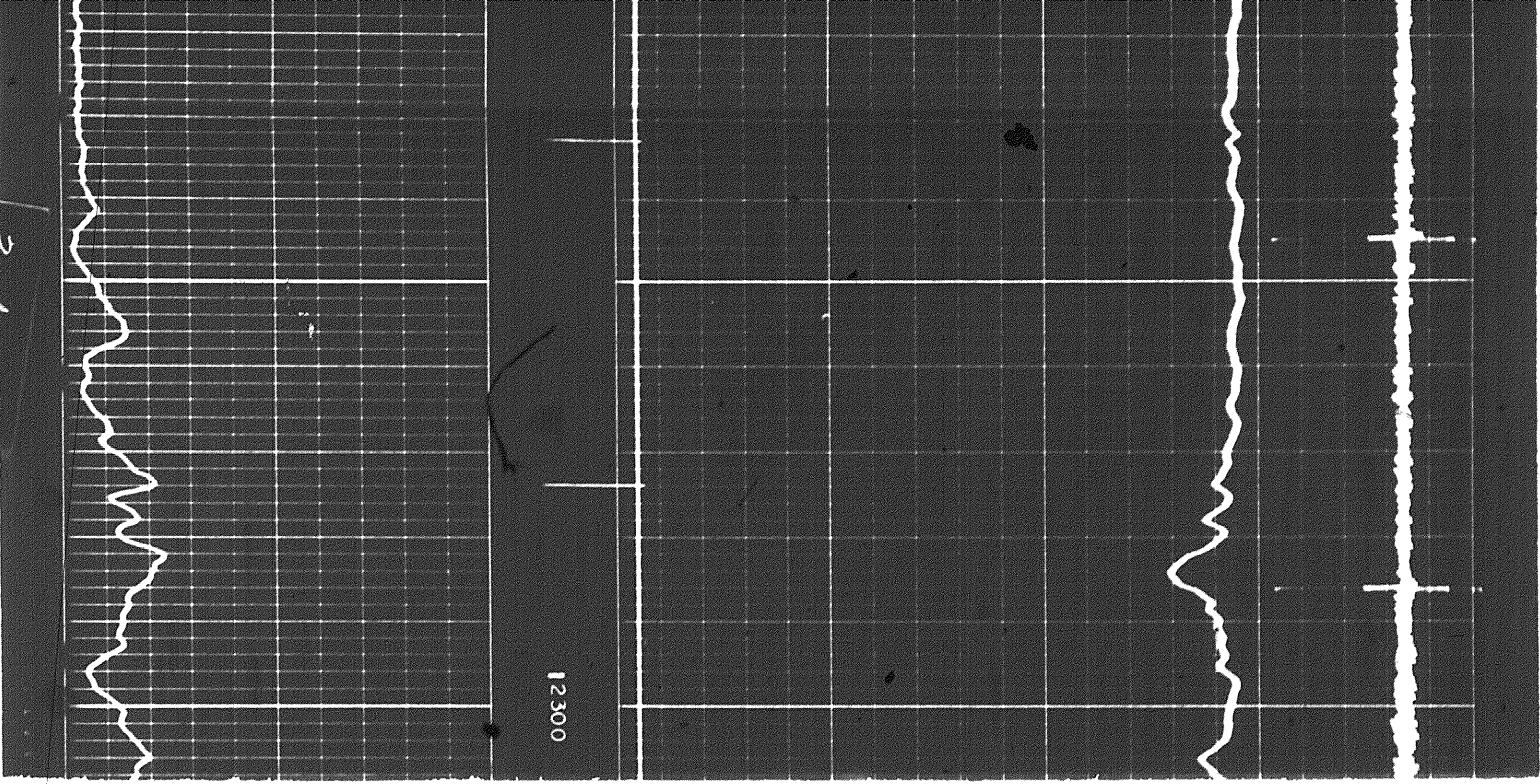




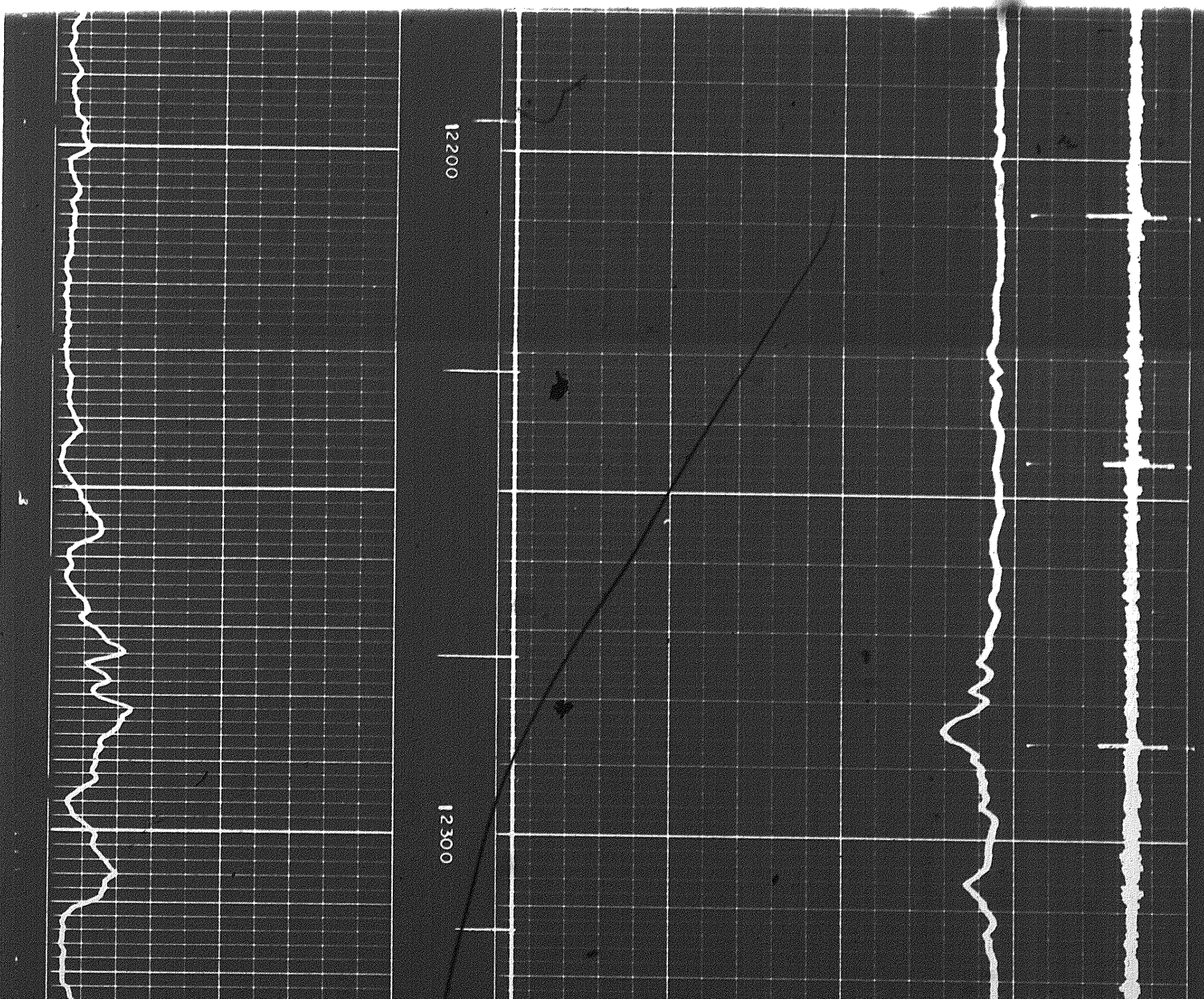
301



3rd

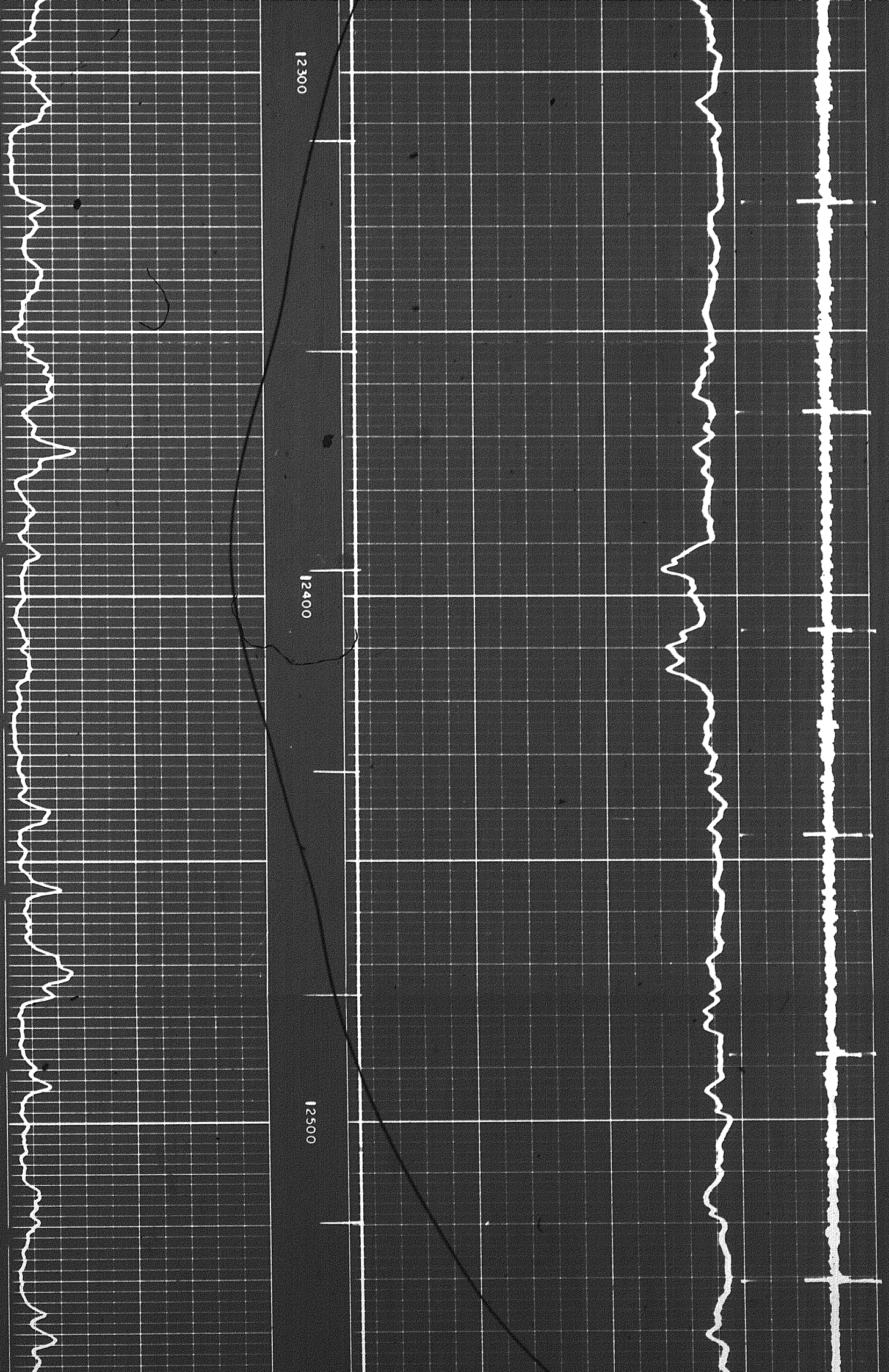


12300

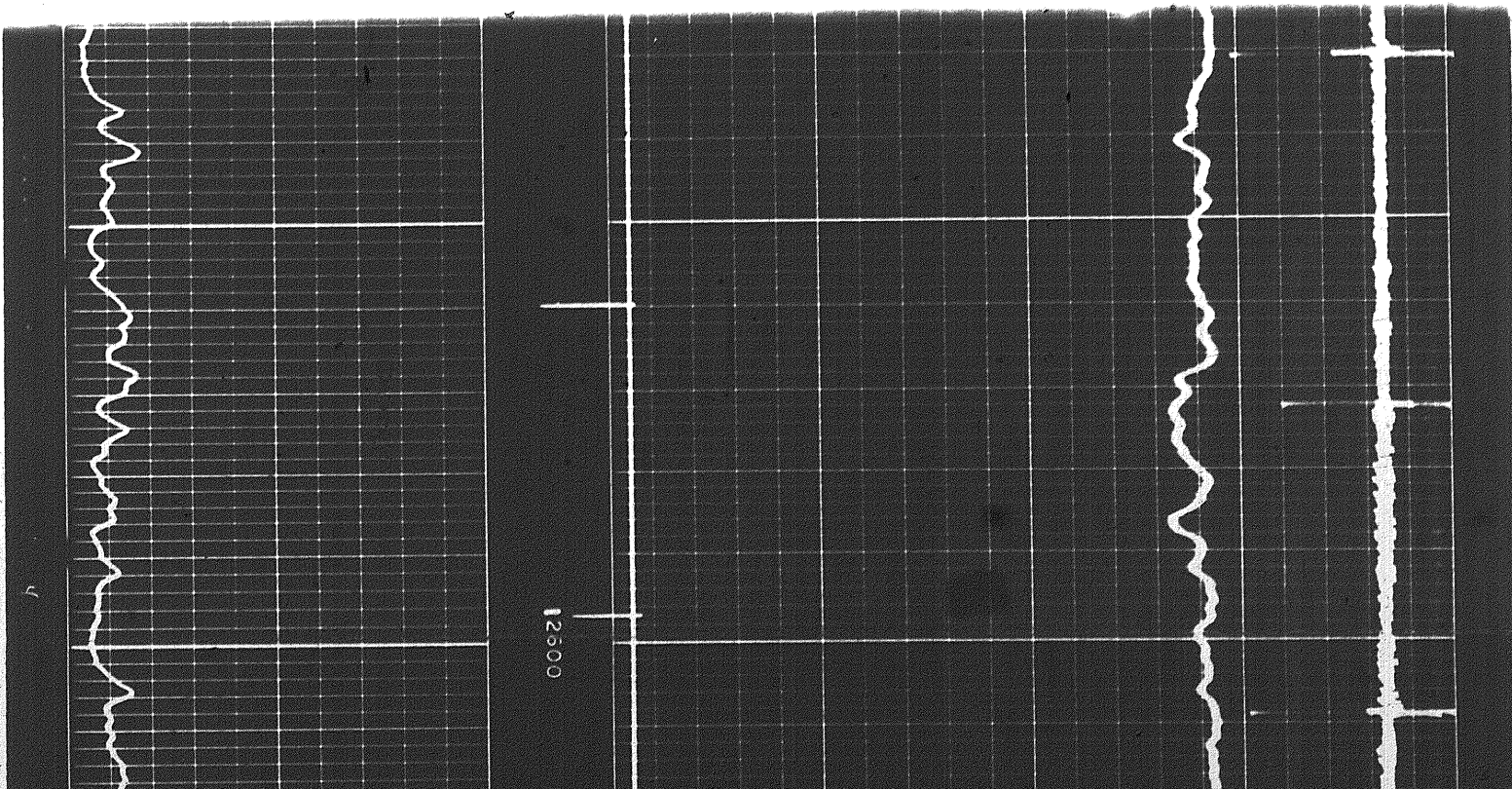
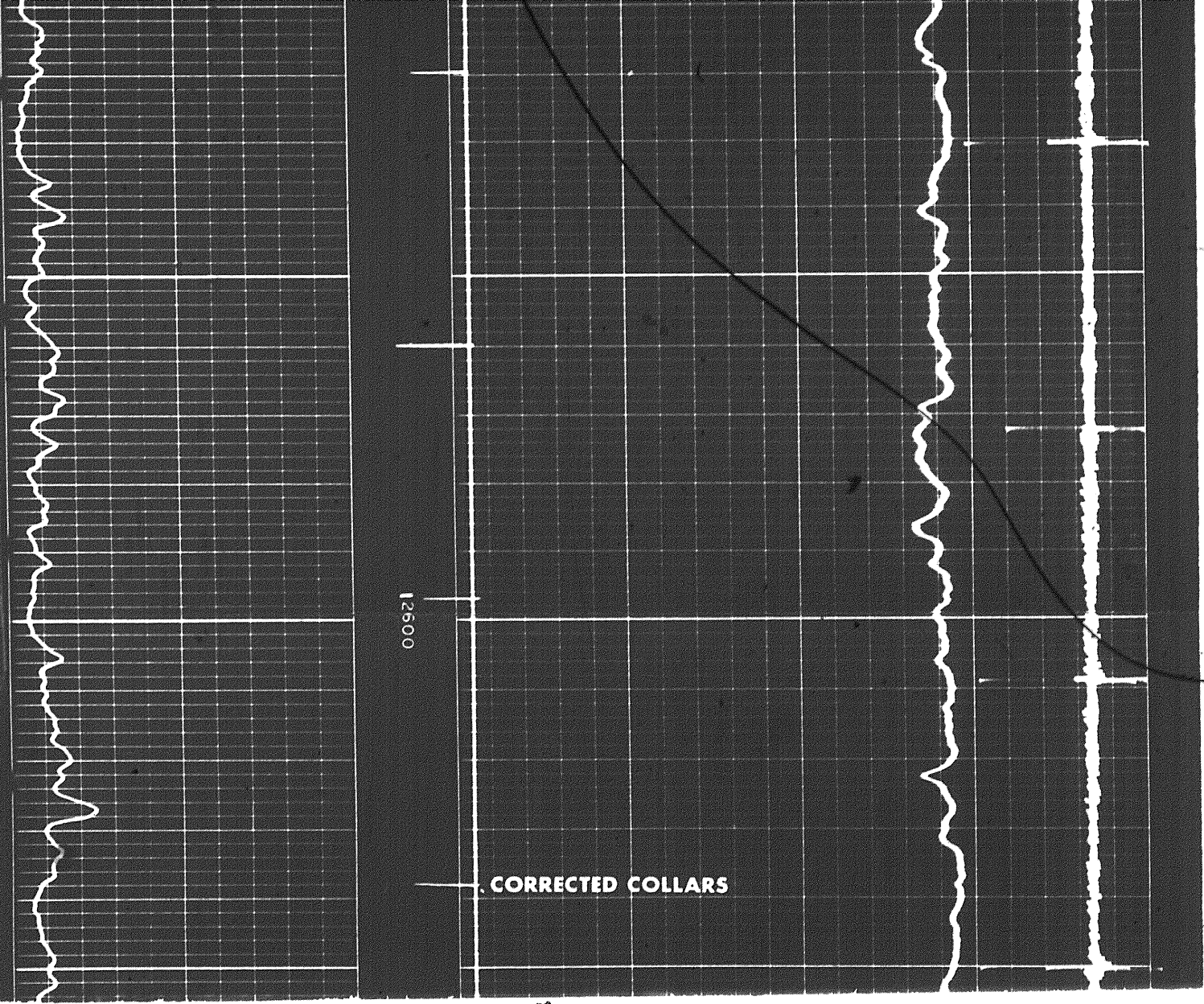


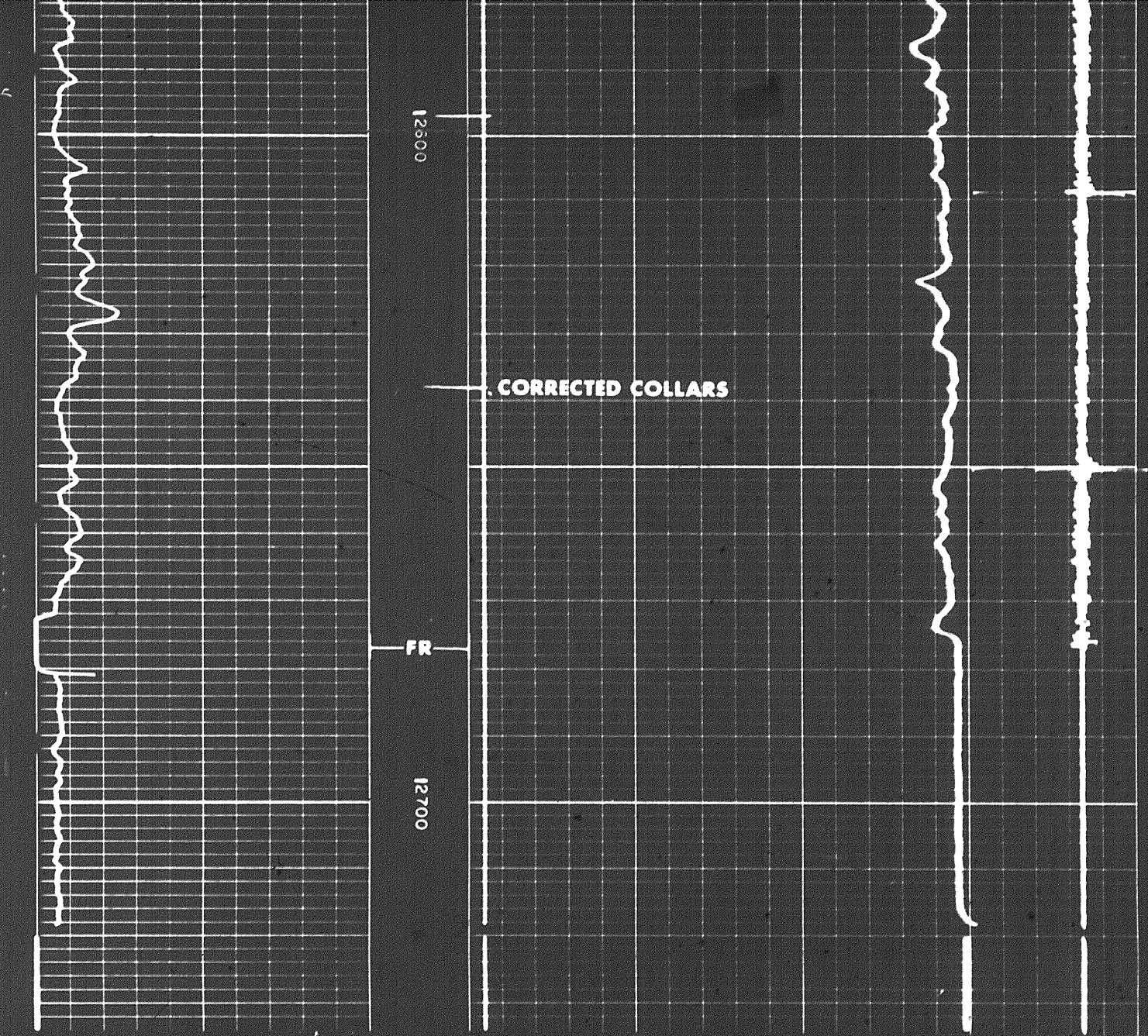
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12300

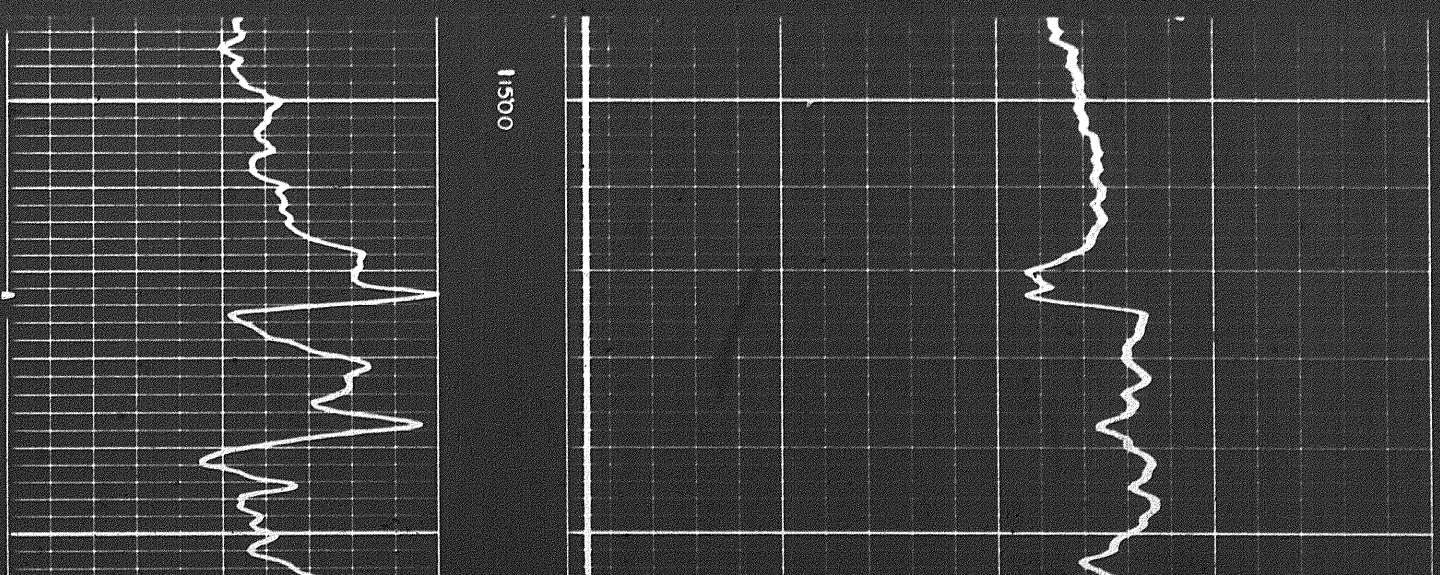


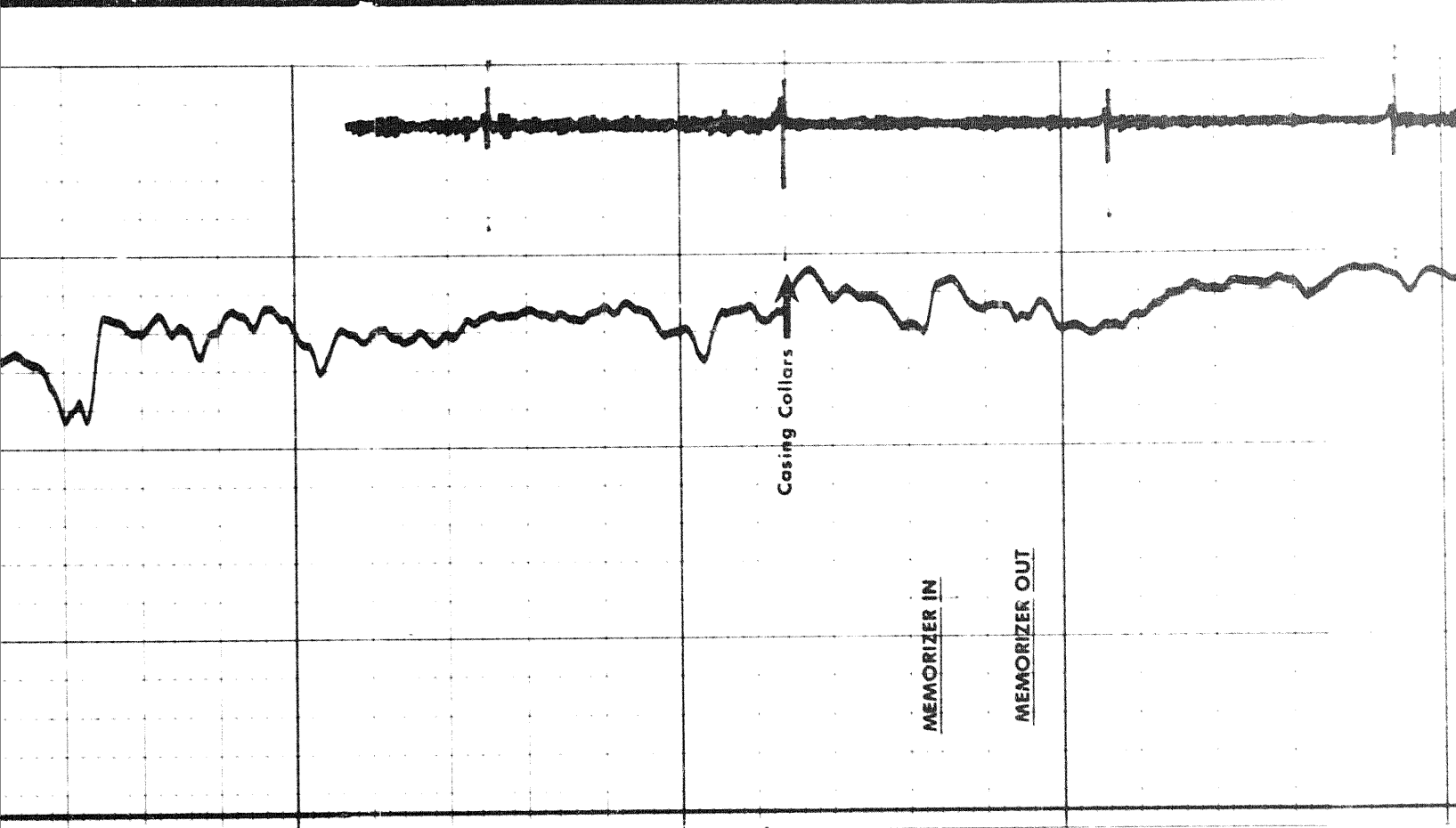
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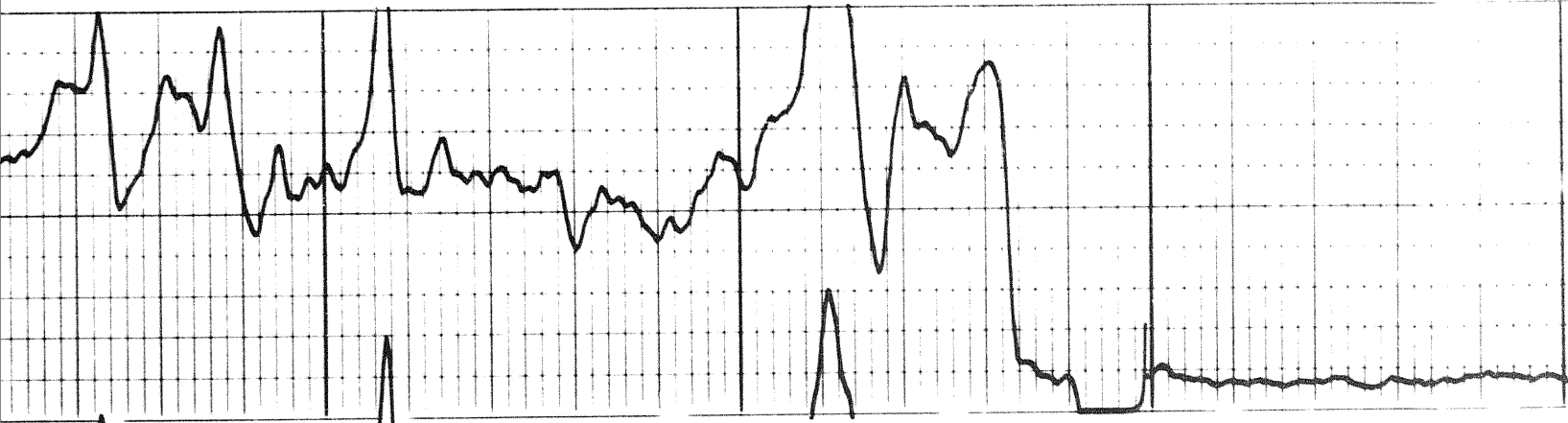
REPEAT SECTION



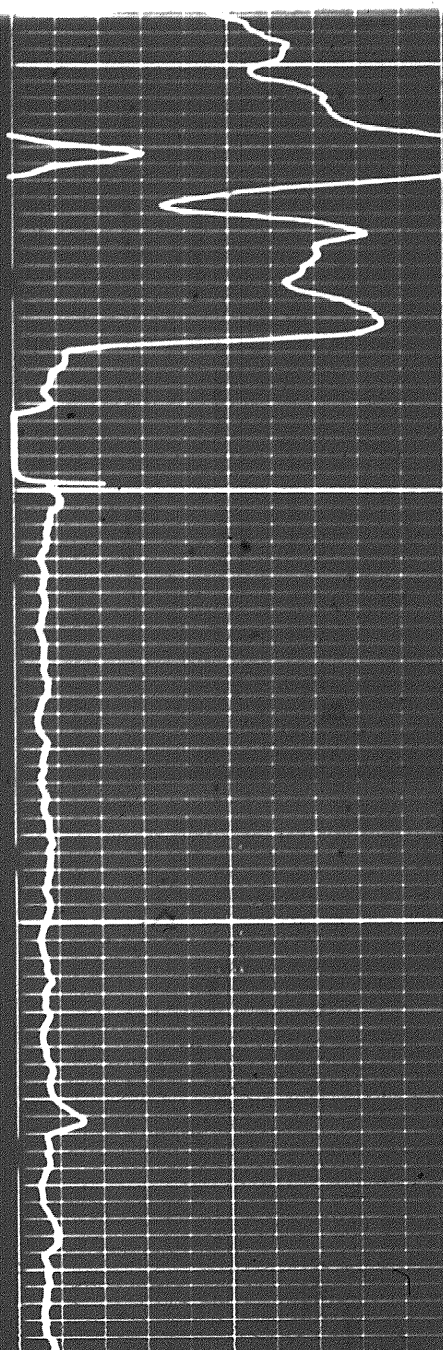


11600

1170

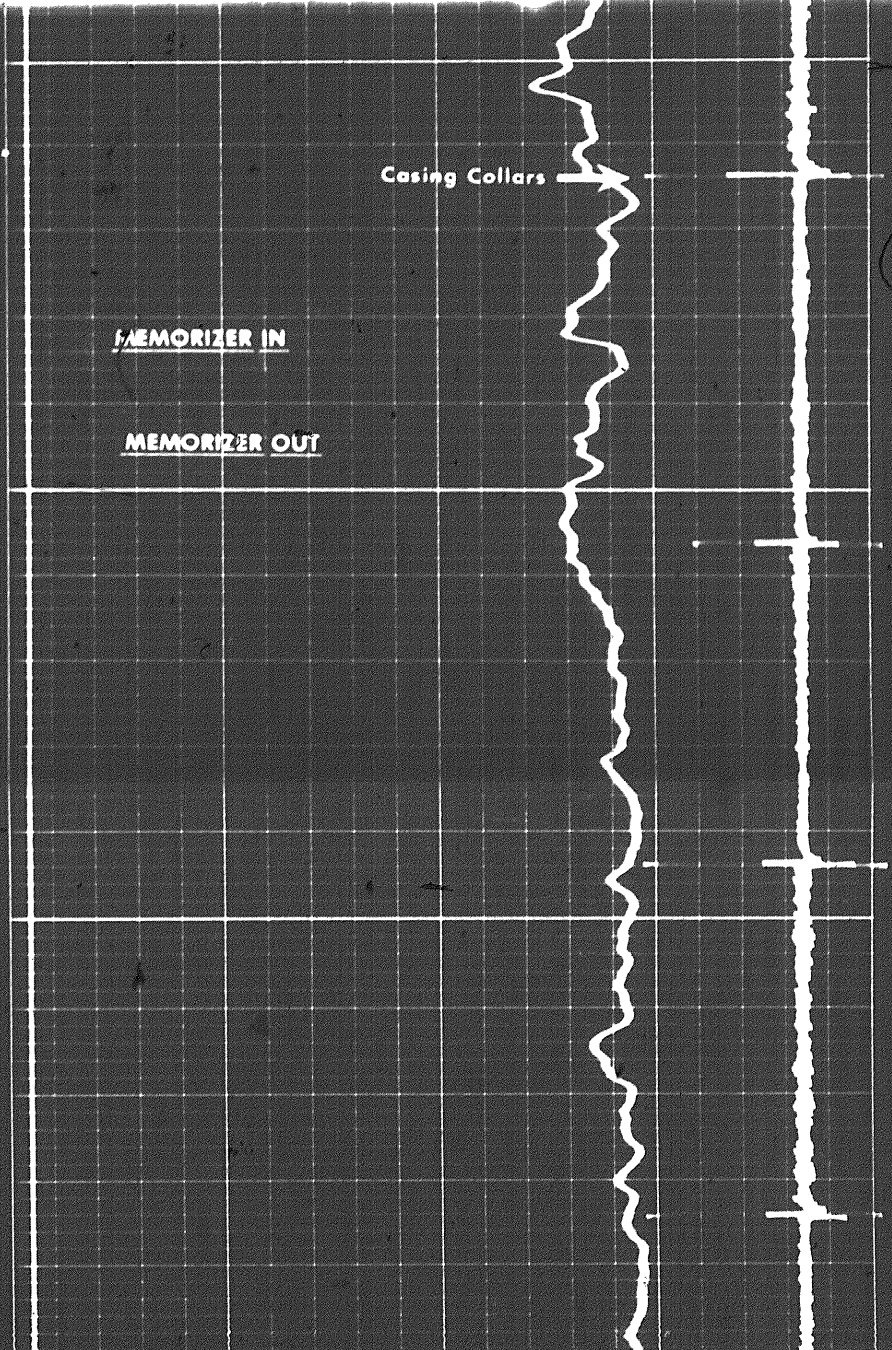


5 of 2



1600

1700



Casing Collars

MEMORIZER IN

MEMORIZER OUT

Sens. 150 T.C. 2
Zero 0 div. to left

150 300

GAMMA RAY
API UNITS

Speed in FPM

45 30 15 0 -15

LIMESTONE NEUTRON

DEPTHS

POROSITY (%)

GAMMA RAY
API UNITS

Speed in FPM

45 30 15 0 -15
L. MESTONE NEUTRON

DEPTH

POROSITY (%)

Calibration before Survey

6

5

4

3

2

1

Calibration before Survey

4

3

2

1

Calibration before Survey

4

3

609

4

3

4

3

2

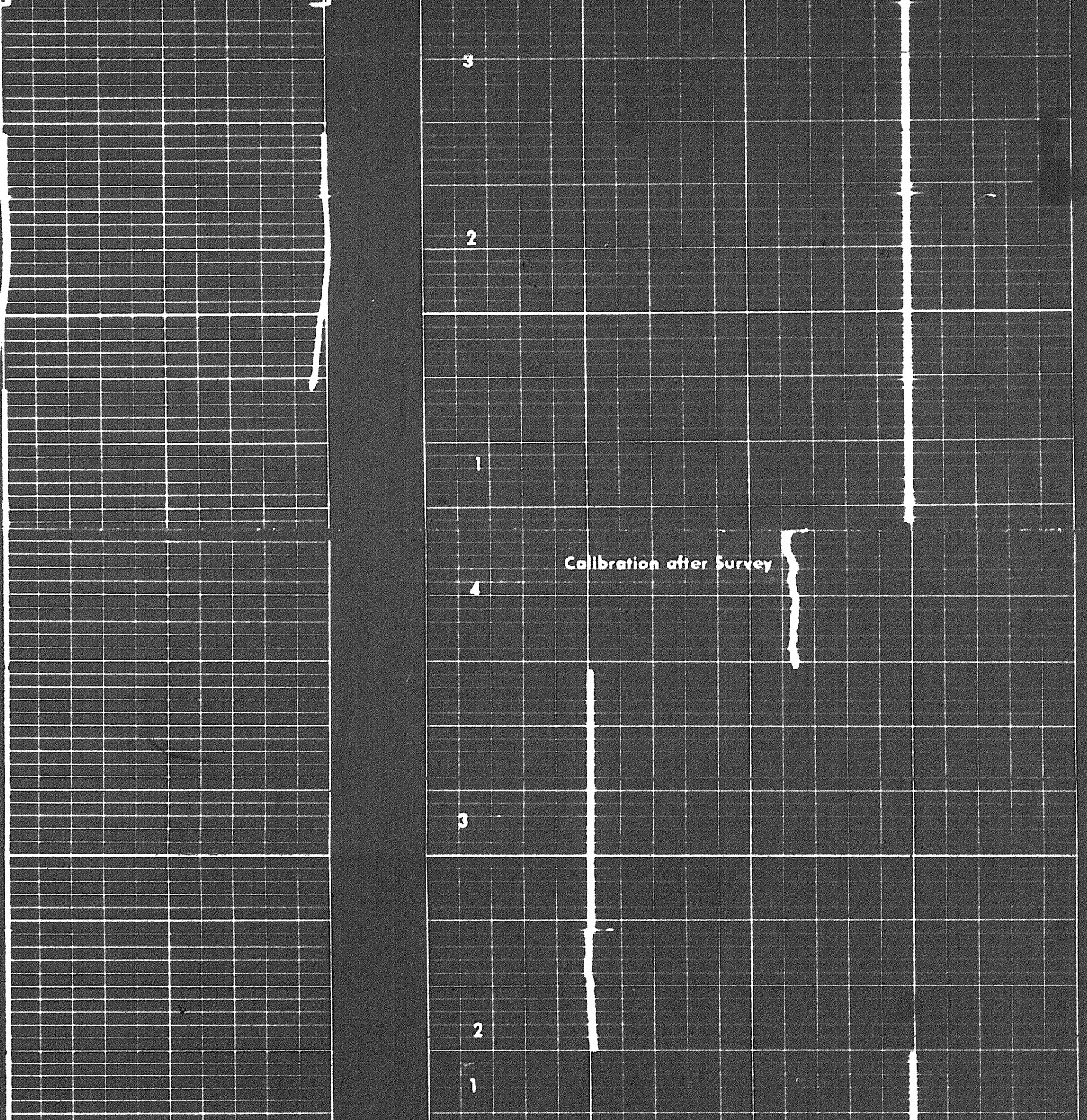
1

Calibration before Survey

4

3

2



COMPENSATED NEUTRON CALIBRATION CODING

- 1. MECHANICAL ZERO
- 2. RECORDED SENSITIVITY (THRU MEMORIZER IF USED)

PANEL TEST

RATIO

POROSITY

		OH			CH	
		LS <input type="checkbox"/>	SS <input type="checkbox"/>	DOL <input type="checkbox"/>	SS <input type="checkbox"/>	LS <input type="checkbox"/>
3.	1	1.6	4.9	-0.2	2.4	0.1
4.	2	15.6	19.7	8.1	13.0	9.0
5.	3	30.5	36.0	25.2	29.1	24.1
6.	4	45.4	53.1	47.5	47.4	43.2

7. POROSITY NORMALIZED WITH CNB-A IN PLACE

7A. TOOL IN NCT-B

8. LOG POSITION WITH CNB-A IN PLACE

8A. LOG POSITION WITH TOOL IN NCT-B

OH			CH		
LS	SS	DOL	SS	LS	
18	22.2	10.4	15.3	11.2	

RATIO (NORMALIZED) = $\frac{2.17}{\text{RATIO (NCT-B)}}$ RATIO (LOG)

h to L

1
Calibration before Survey

4

3

2

1

Calibration before Survey

4

3

4

3

609

4

3

2

1

Calibration before Survey

4

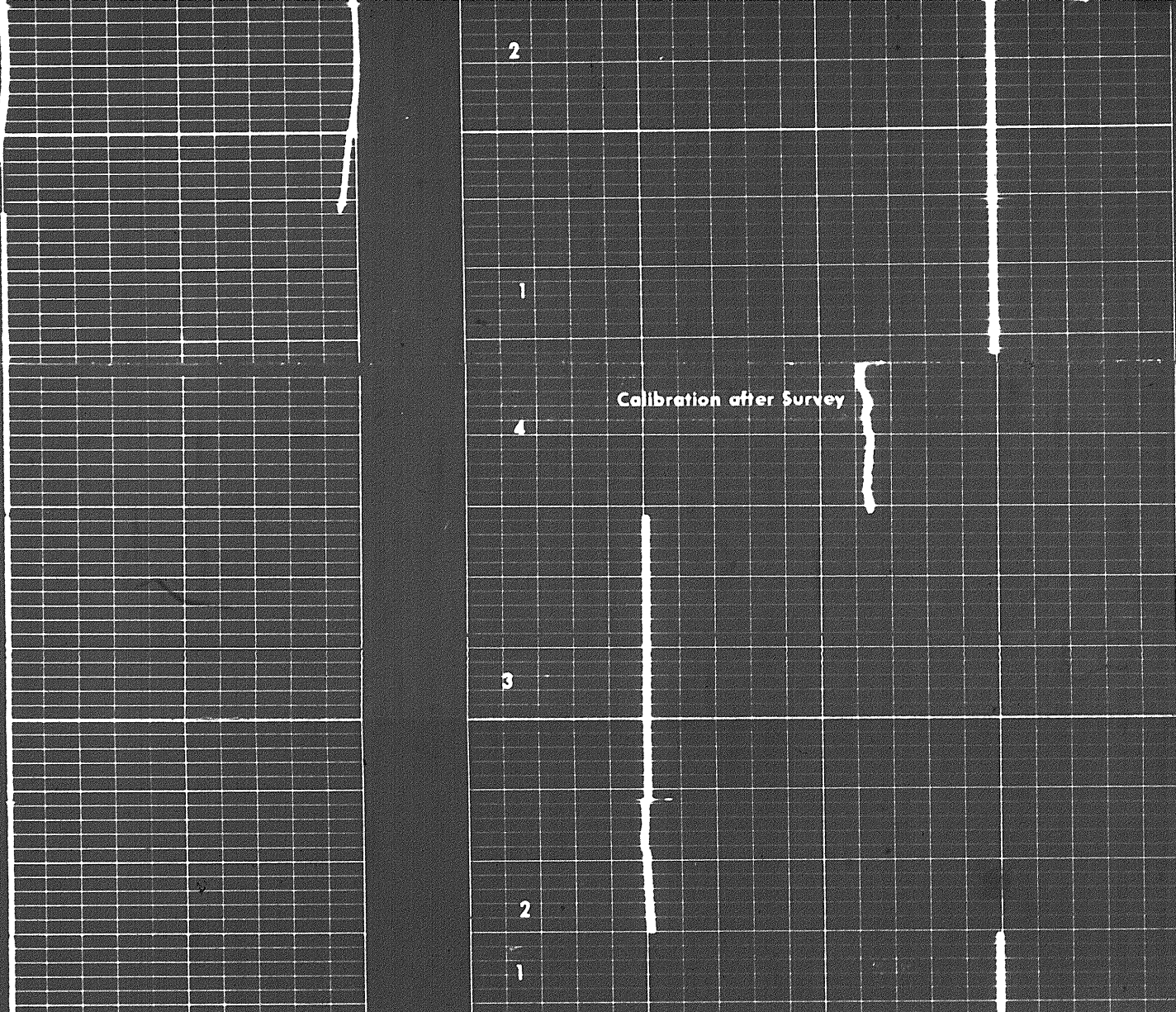
3

2

1

Calibration after Survey

4



COMPENSATED NEUTRON CALIBRATION CODING

- 1. MECHANICAL ZERO
- 2. RECORDED SENSITIVITY (THRU MEMORIZER IF USED)

RATIO	PANEL TEST			POROSITY		
	OH			CH		
	LS <input type="checkbox"/>	SS <input type="checkbox"/>	DOL <input type="checkbox"/>	SS <input type="checkbox"/>	LS <input type="checkbox"/>	
3. 1	1.6	4.9	-0.2	2.4	0.1	
4. 2	15.6	19.7	8.1	13.0	9.0	
5. 3	30.5	36.0	25.2	29.1	24.1	
6. 4	45.4	53.1	47.5	47.4	43.2	

7. POROSITY NORMALIZED WITH CNB-A IN PLACE

7A. TOOL IN NCT-B

8. LOG POSITION WITH CNB-A IN PLACE

8A. LOG POSITION WITH TOOL IN NCT-B

OH			CH		
LS	SS	DOL	SS	LS	
18	22.2	10.4	15.3	11.2	

$$\text{RATIO (NORMALIZED)} = \frac{2.17}{\text{RATIO (NCT-B)}} \text{ RATIO (LOG)}$$

4766

COMPANY COLUMBIA GAS DEVELOPMENT OF CANADA LTD.
 WELL COLUMBIA GAS FIELD WATANKILLER 11-33
 FIELD WILD CAT
 PROVINCE YUKON TERRITORY

SCHL. FR 12677
 SCHL. TD 12681
 DRLR. TD _____
 Elev.: _____
 KB 425
 DF _____
 CL 2225