

HALLIBURTON

ACOUSTIC CEMENT
BOND LOG

9'5 7/8"

Company BLACK HILLS PLATEAU PROD.
Well HOMER DEEP UNIT 15-23
Field SOUTH SHALE RIDGE
County MESA State COLORADO

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API No. 0507709438 Serv # 6289284 Other Services
Location: SURFACE HOLE:
1593' FSL & 1404' FWL

NONE

Sec: 15 Twp: 09S Rge: 98W

GROUND LEVEL Elevation 5890'

Permanent Datum
Log Measured From K.B. 17.5 Ft. above perm. datum Elevation 5907.5'
Drilling Measured From K.B. 5906.5'
GL 5890'

Date @ Time Logged 11-03-08 @ 16:00 HRS Type Fluid in Hole WATER

Run No ONE Density of Fluid 8.34#

Depth - Driller 3715' Fluid Level FULL

Depth - Logger 3674' Cement Top Est. Logged LOGGED

Bottom - Logged Interval 3674' Equipment / Location 10389647 / G.J.

Top - Log Interval SURFACE Recorded by JAMES ZLOMKE

Max. Recorded Temp. 134 DEG F Witnessed by DON WAGNER

CEMENTING DATA Surface Protection Production

String String

Date / Time Cemented N/A String N/A

Primary / Squeeze N/A

Expected

Compressive Strength ps@ hrs ps@ hrs ps@ hrs ps@ hrs

Cement Volume / Weight /

Cement Type / Weight /

Formulation /

Mud Type / Mud Vgt /

Borehole Record

Run Number Bit From To Size Weight Casing & Tubing Record

ONE 14.75" SURFACE 3715' 9.625" 36# SURFACE 3710'

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO OTHER ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

H.E.S. ACOUSTIC CEMENT BOND LOG DATED NOVEMBER 3, 2008 IS THE PRIMARY LOG FOR THIS WELL.

YOUR CREW TODAY: JIM JOSEPH, DAVE KNOB

*** THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES ***

Service Ticket No. 6269284

API No. 0507709438

PGM Ver WARRIOR 7.0

Well Name Location Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

GR/CCL		CBT		TEMP			
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	
Serial No.	080924	Serial No.	080529	Serial No.	070606	Serial No.	
Model No.	GR-PROBE	Model No.	CBL-PROBE	Model No.	TEMP-1.375	Model No.	
Diameter	2.75"	Diameter	2.75"	Diameter	1.38"	Diameter	

LOGGING DATA

General Data

Pass	Depths		Well Head	Speed	Logging Run Comments
No.	From	To	Pressure	Ft/Min	
ONE	3647'	3447'	0	65	REPEAT LOG SECTION
TWO	3674'	SURFACE	0	65	MAIN LOG SECTION

Pass	GR Scale		CCL Scale		AMPLITUDE Scale		MSG Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	-9	1	0	100	200	120

DIRECTIONAL INFORMATION

Maximum Deviation	N/A	deg. @	N/A	KOP	N/A
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Log Variables

Database C:\Warrior\Data\h_d_unit_15_23_cbl.db
Dataset SOUTH_SHA/H_D_UNIT/CBL/pass6

Top - Bottom

PPT usec 0	MAXAMPL mV 2	MINAMPL mV 52	MINATTN db/ft 0.8	CASEOD in 9.625	PERFS 0	TDEPTH ft 3647	BOTTEMP degF 134
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BOREID
in
14.75

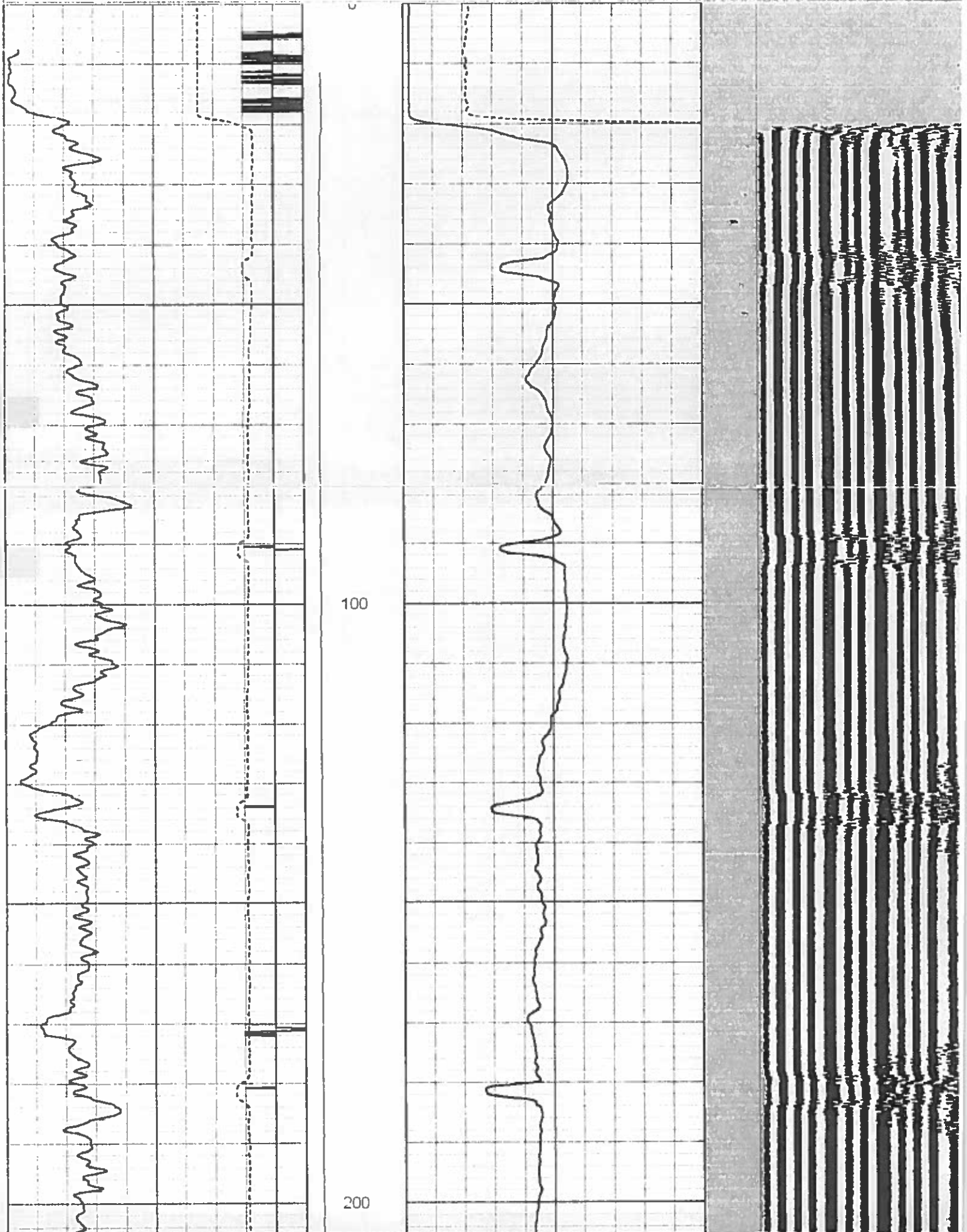
ACOUSTIC CEMENT BOND LOG

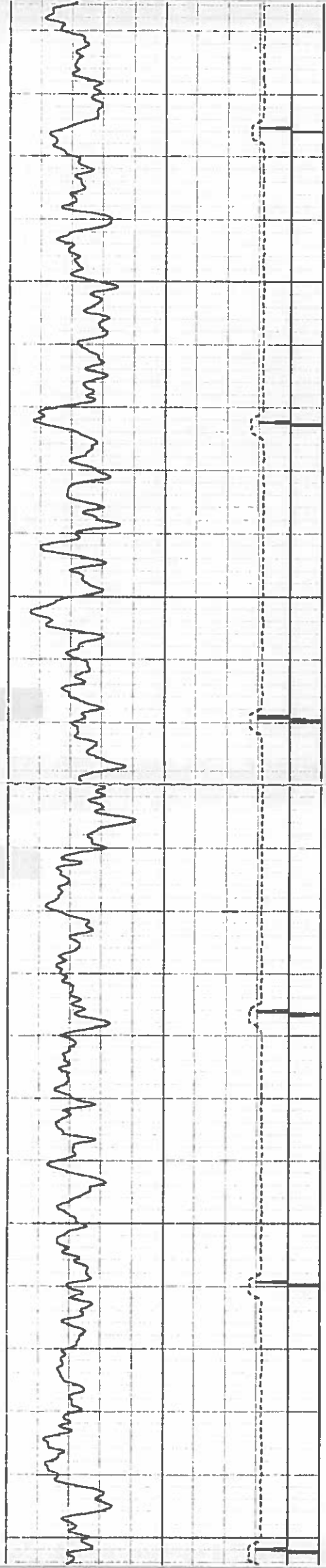
HALLIBURTON

MAIN LOG SECTION

Database File h_d_unit_15_23_cbl.db
 Dataset Pathname SOUTH_SHA/H_D_UNIT_/CBL/pass6
 Presentation Format cbl_main
 Dataset Creation Mon Nov 03 17:17:00 2008 by Log Halliburton Casedho
 Charted by Depth in Feet scaled 1:240

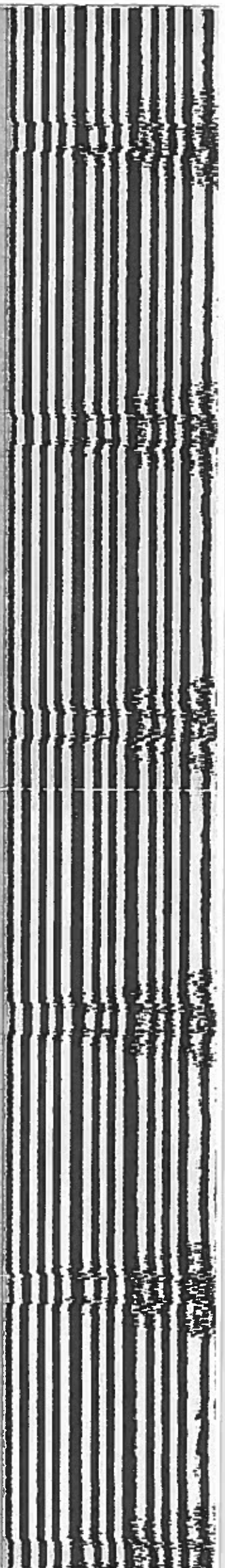
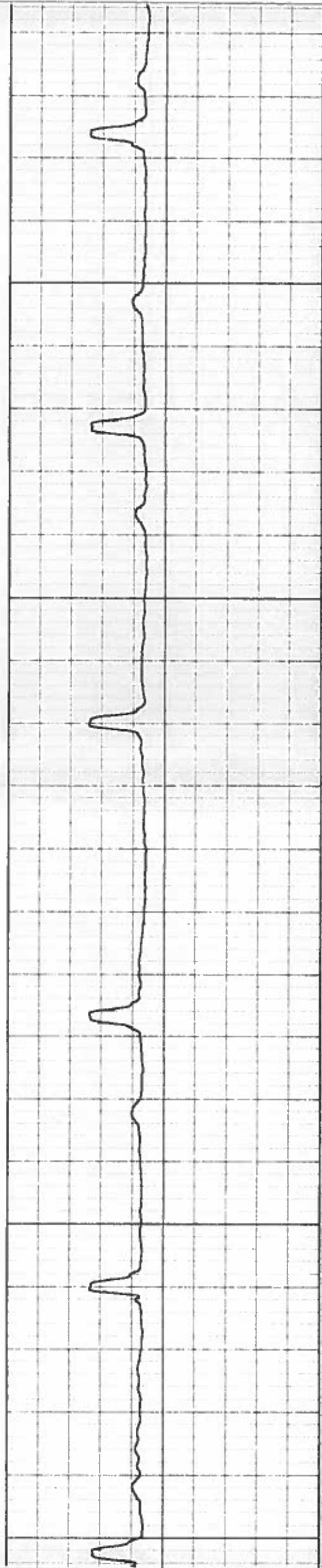
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9	Collar Locator	1	(lb)1500	0	PIPE AMP AMPLITUDE (mV)	100		
0	Gamma Ray (GAPI)	200						

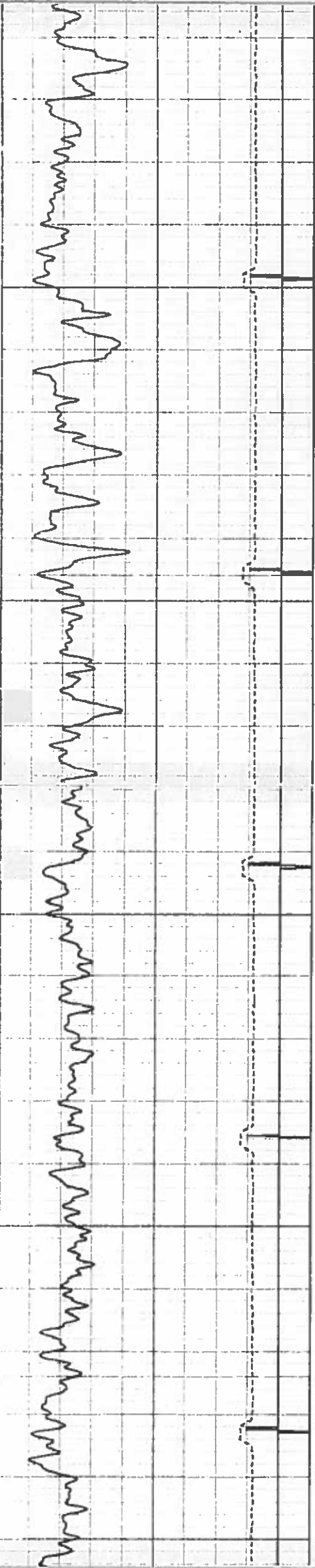




300

400

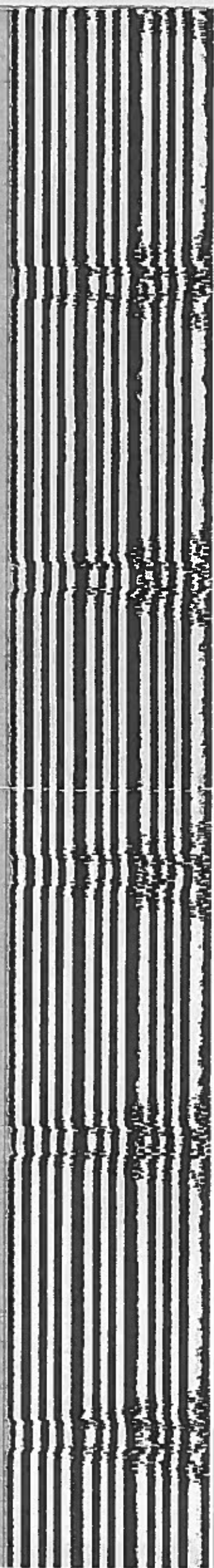
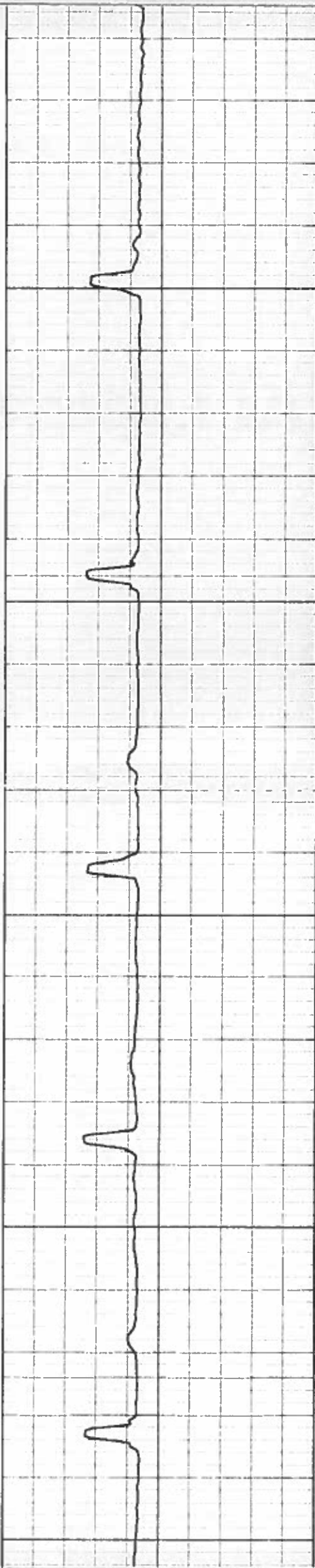


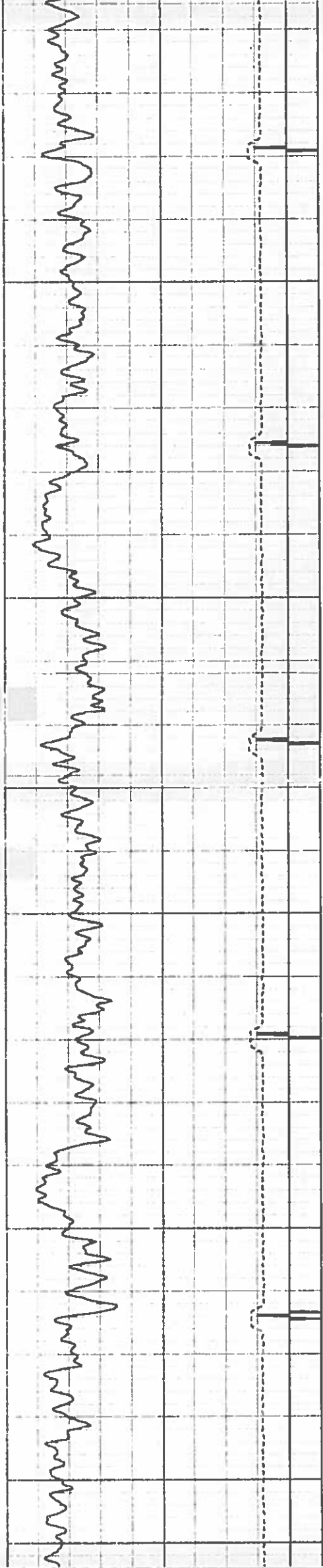


500

600

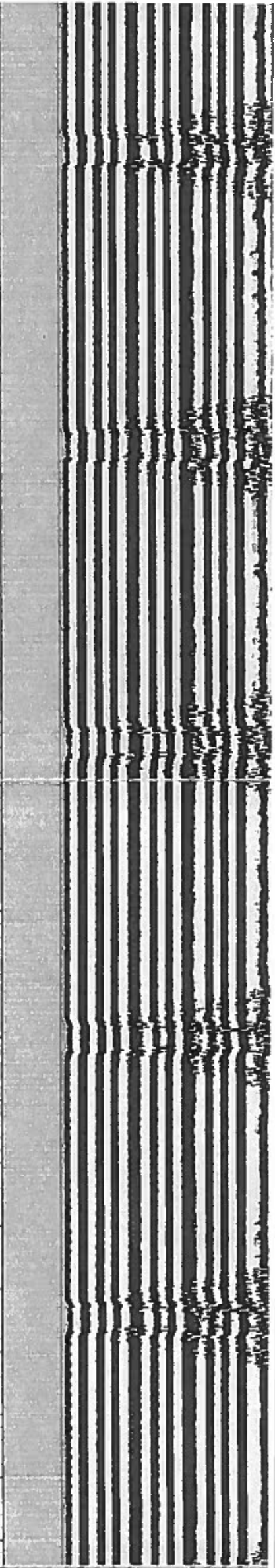
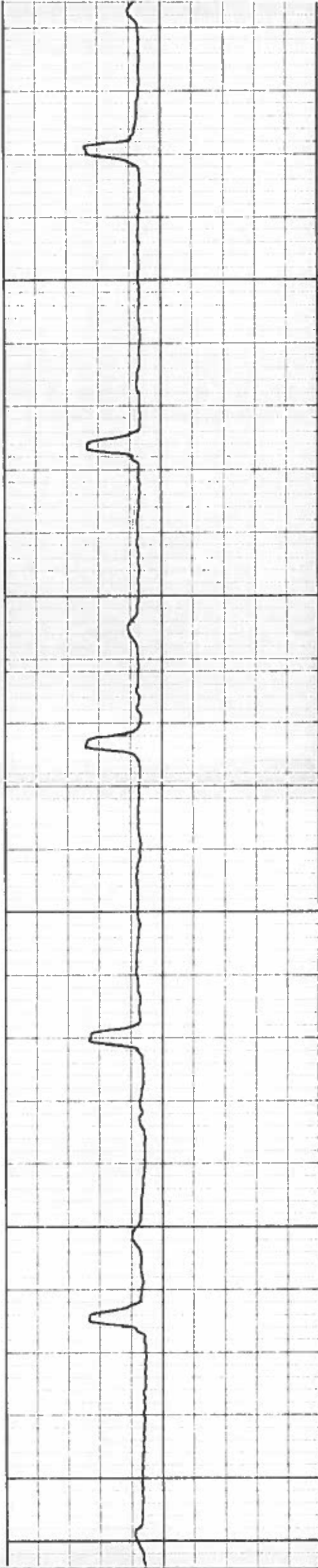
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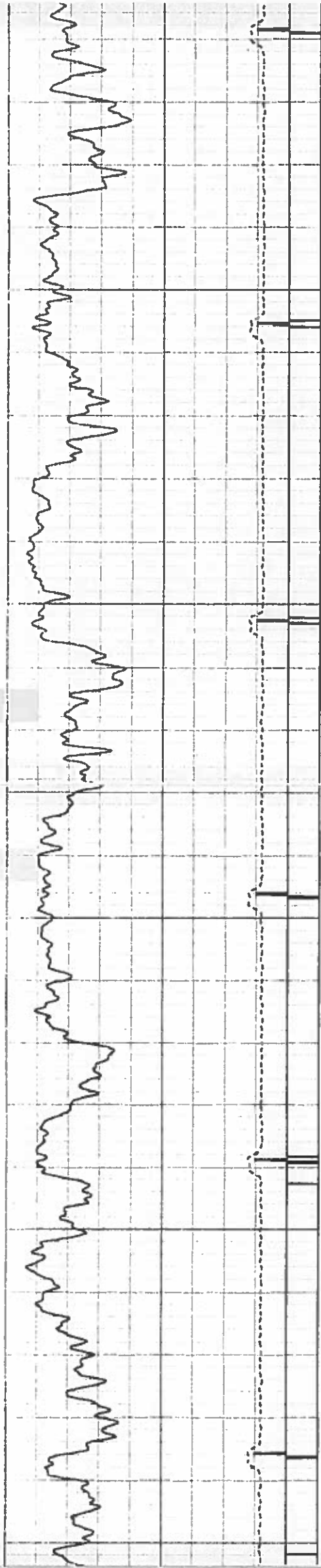




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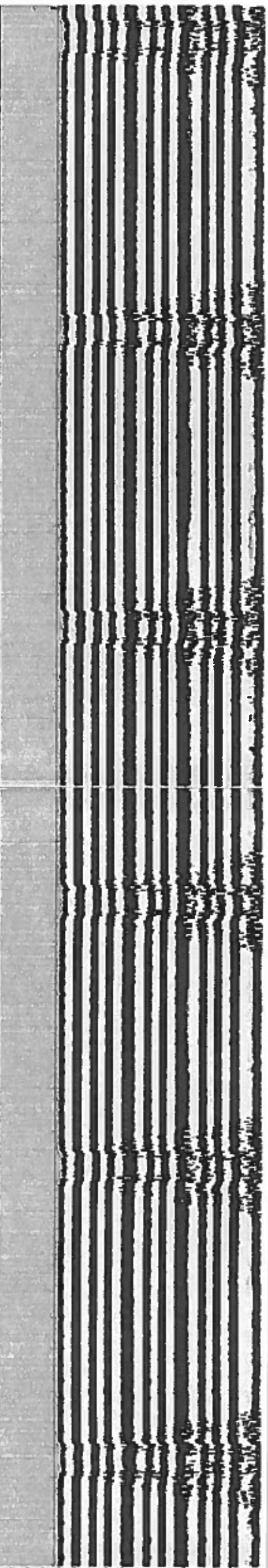
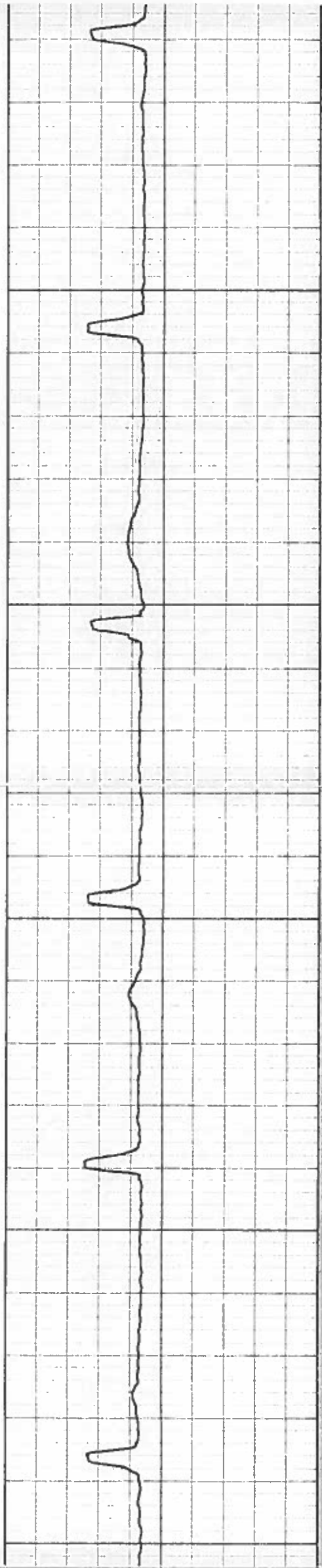


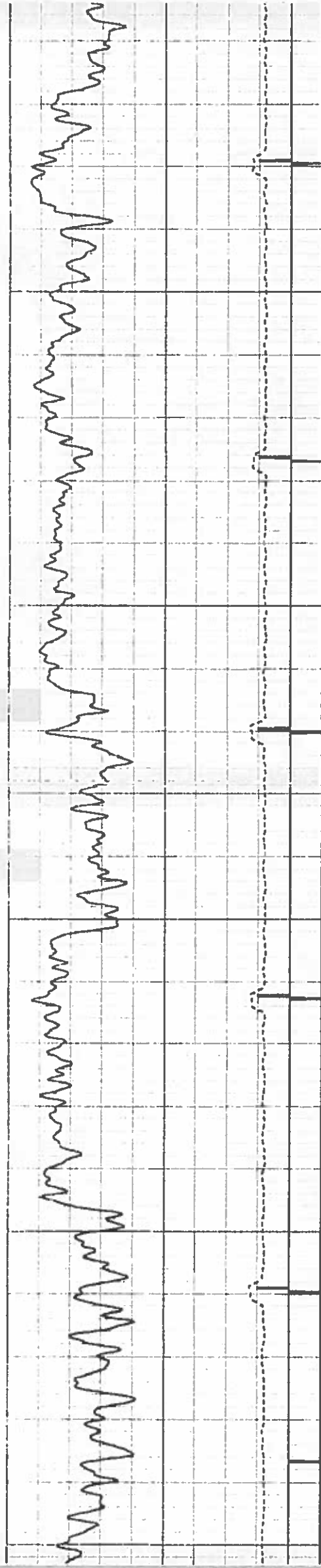


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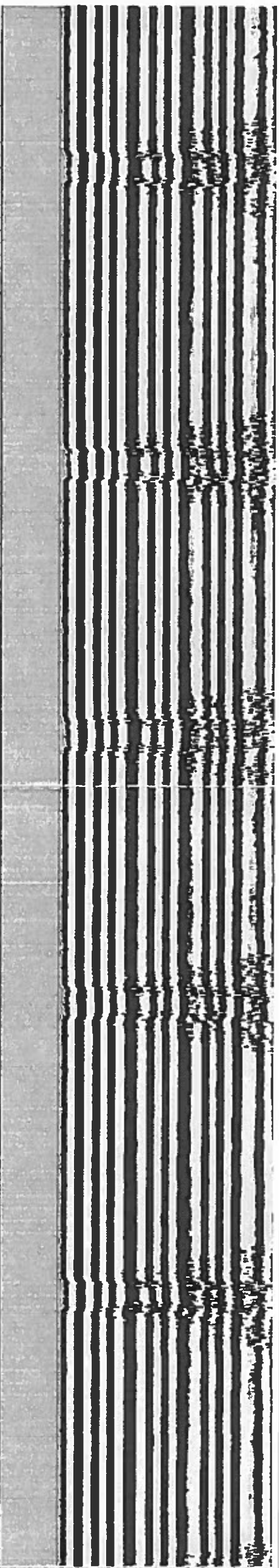
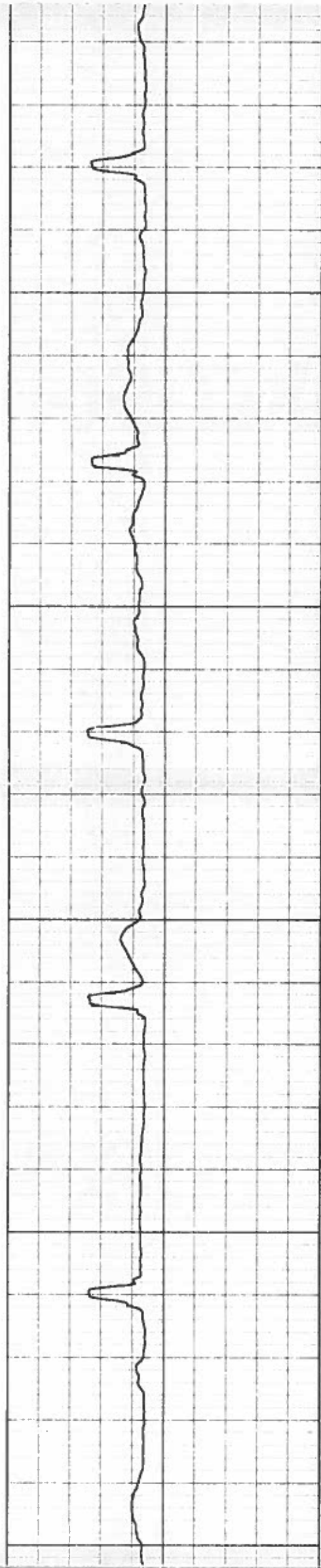
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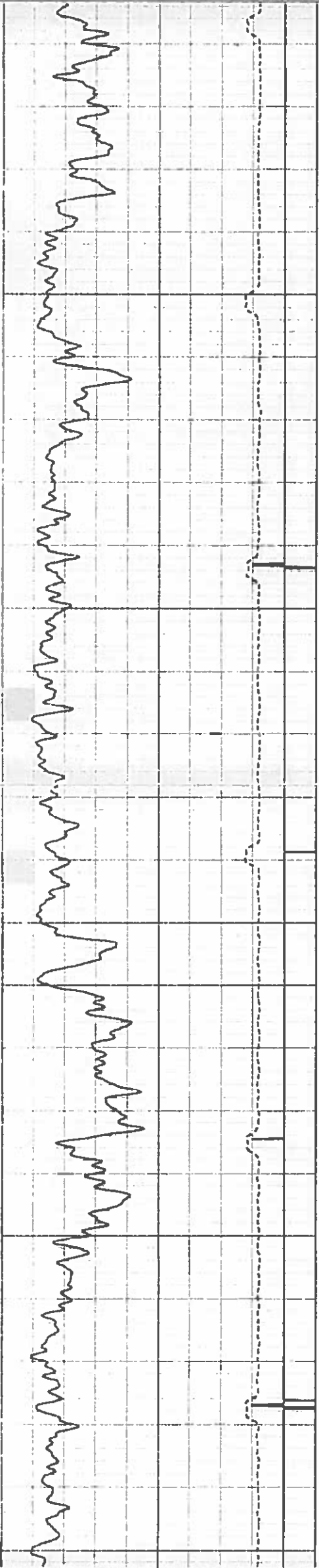




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1400

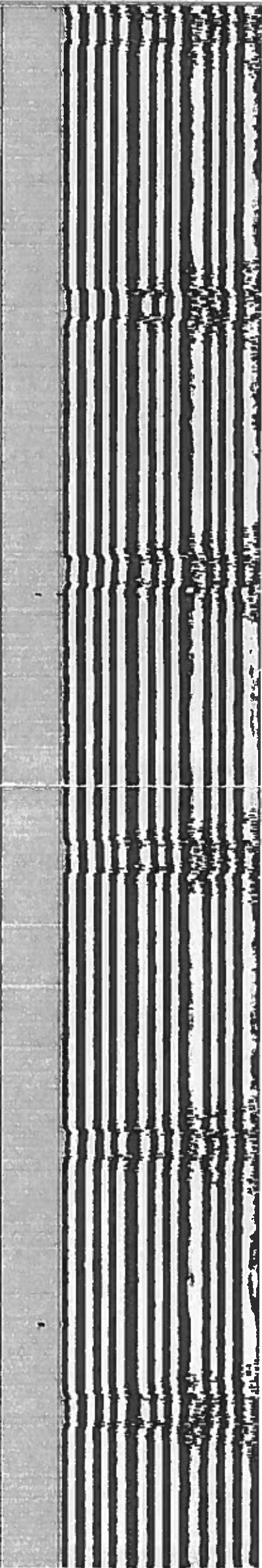
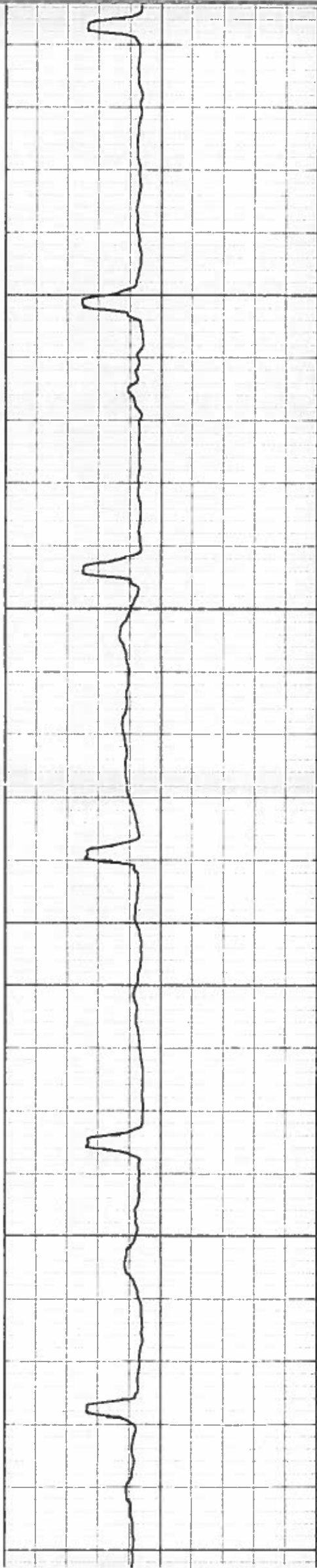


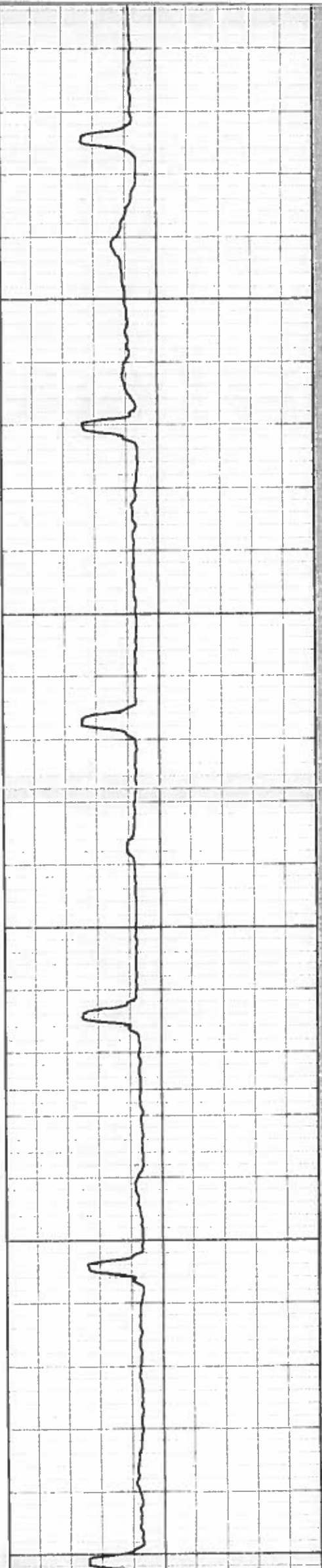
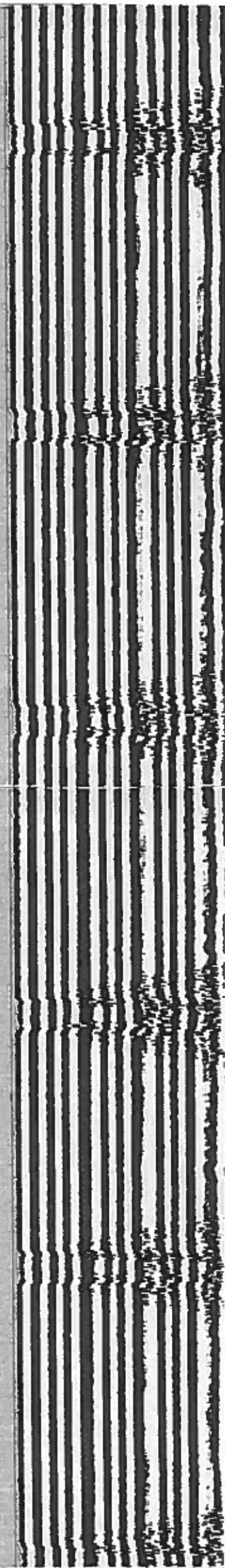


1500

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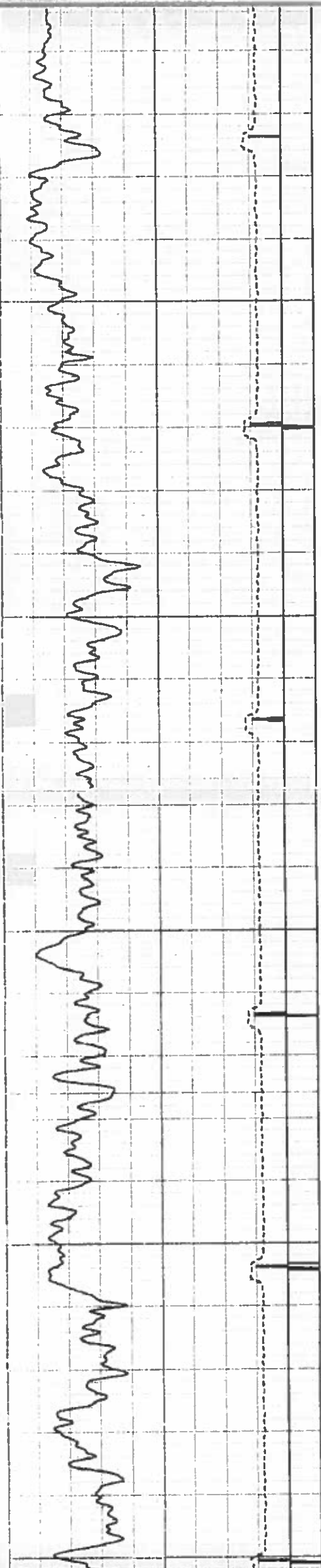
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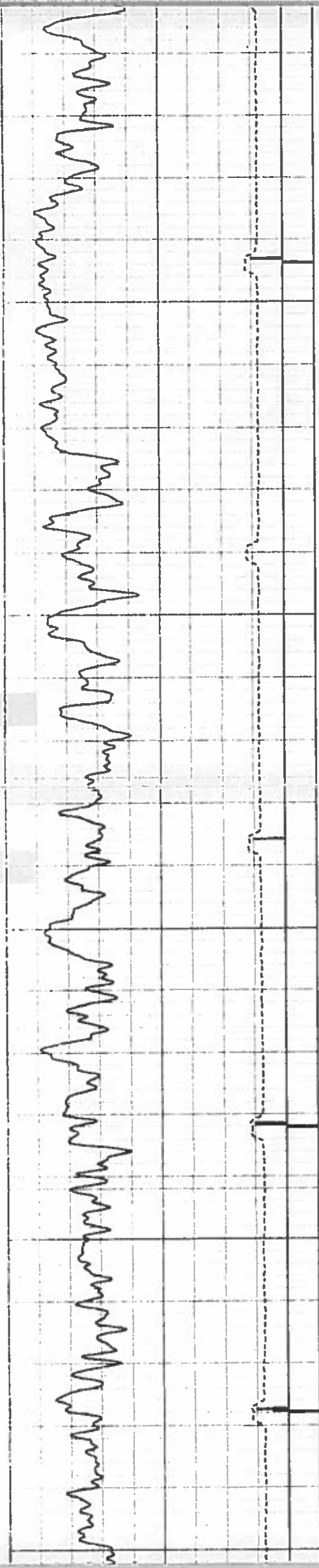




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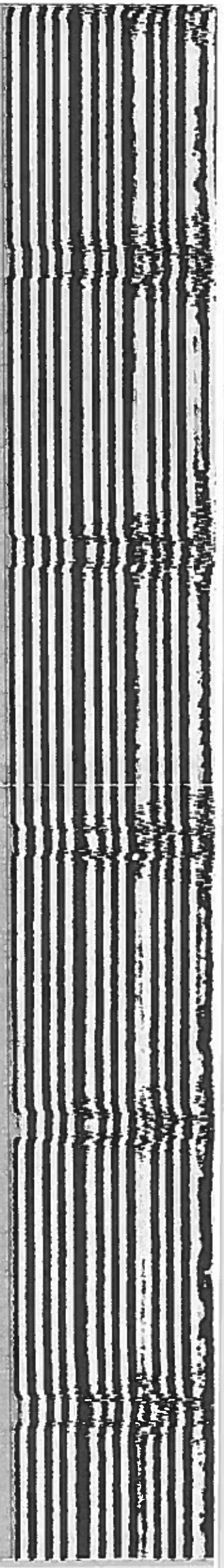
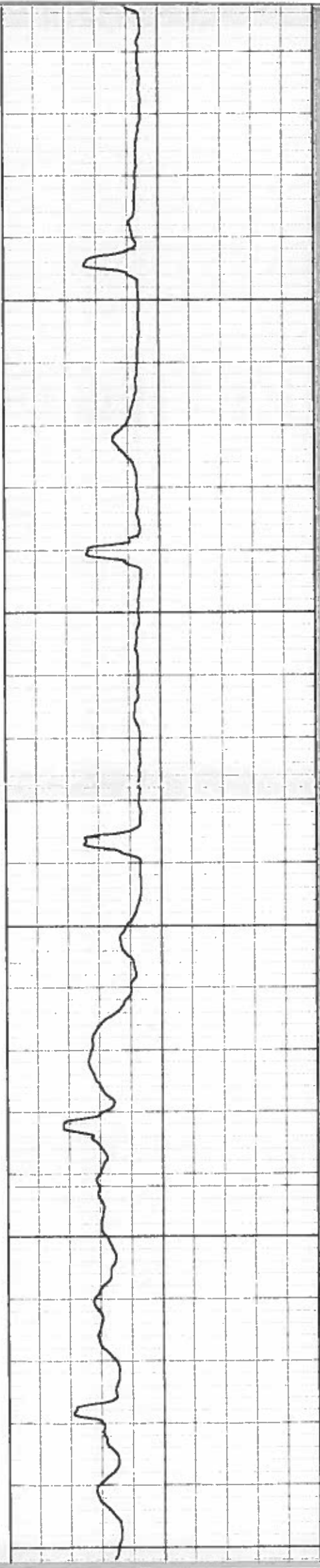


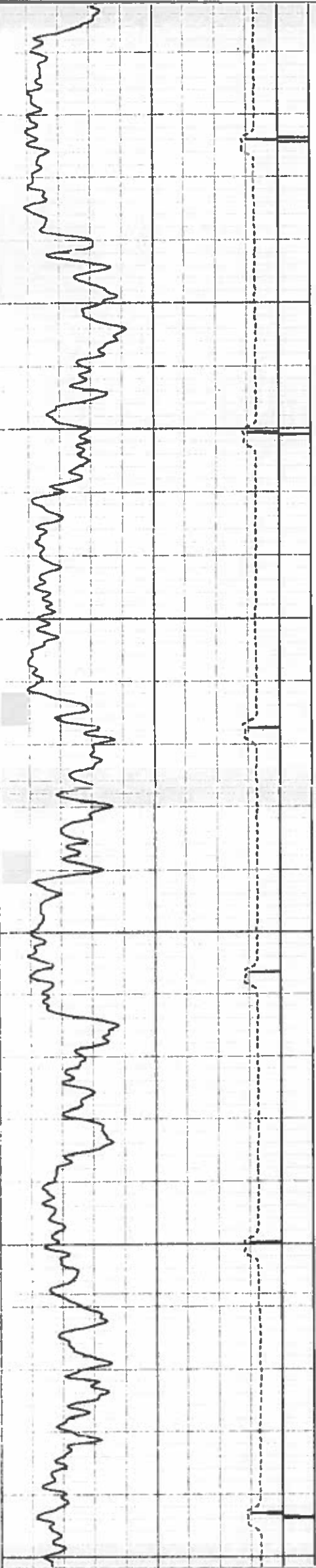


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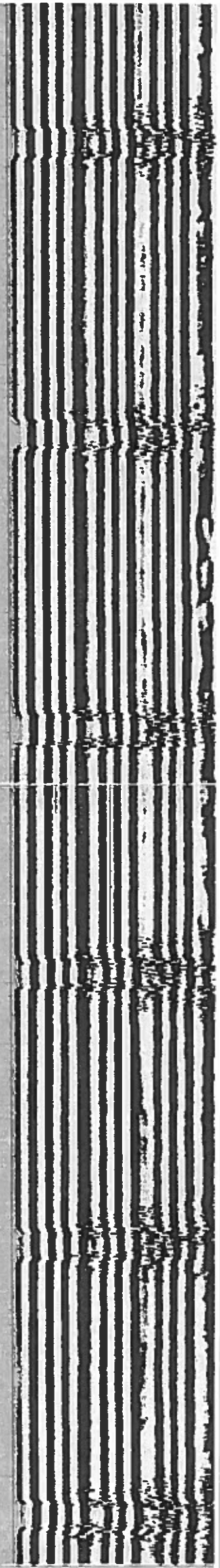
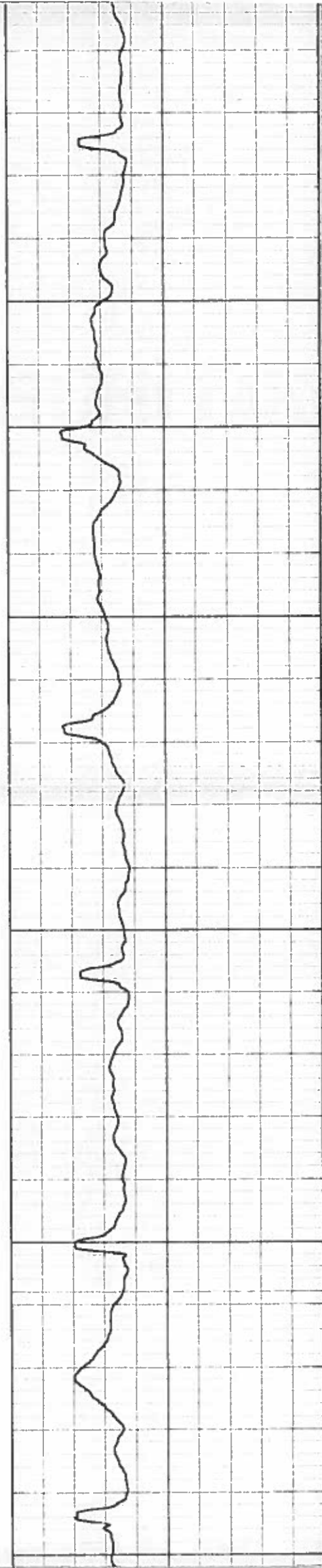
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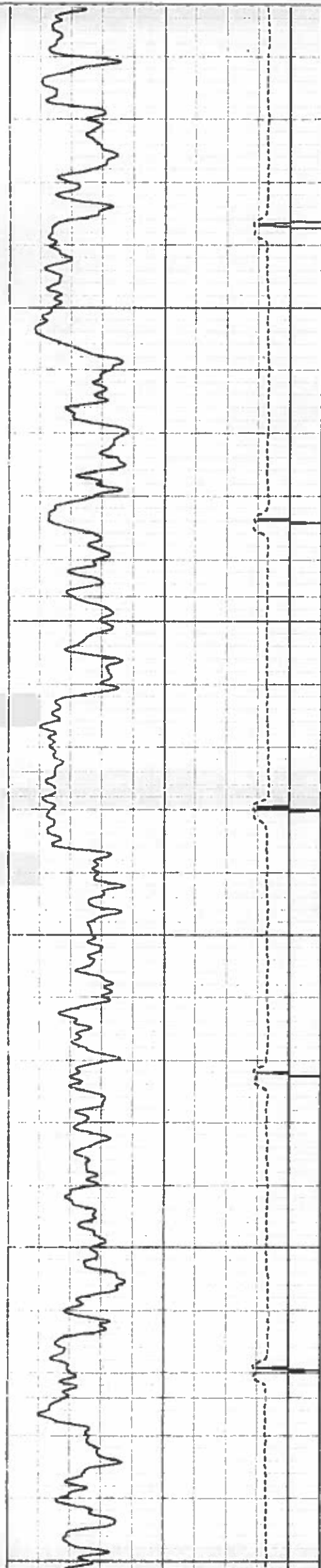




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2400

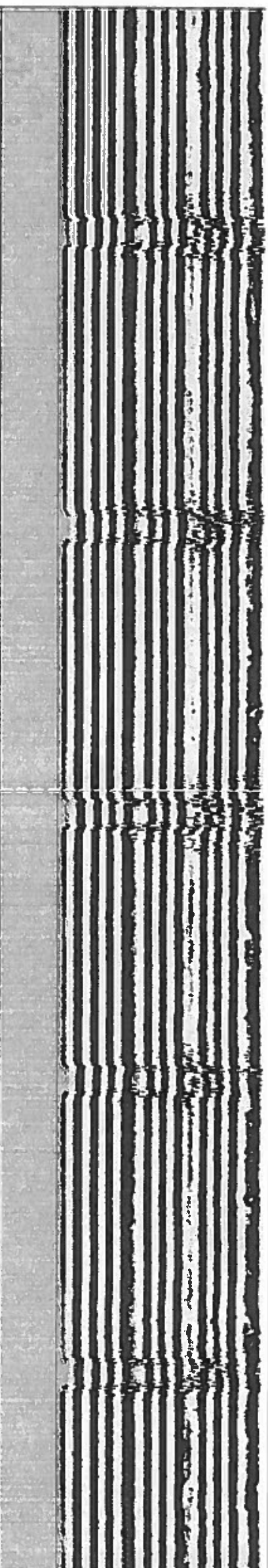
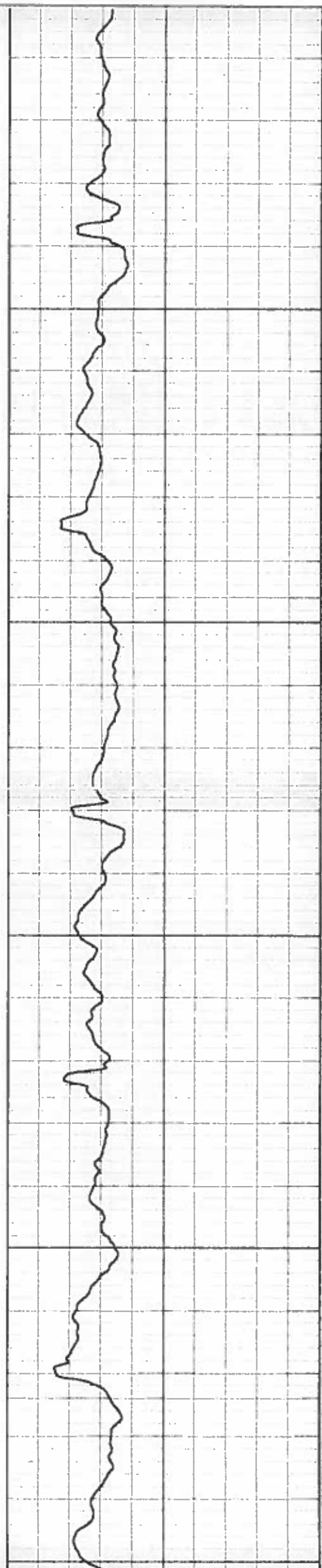


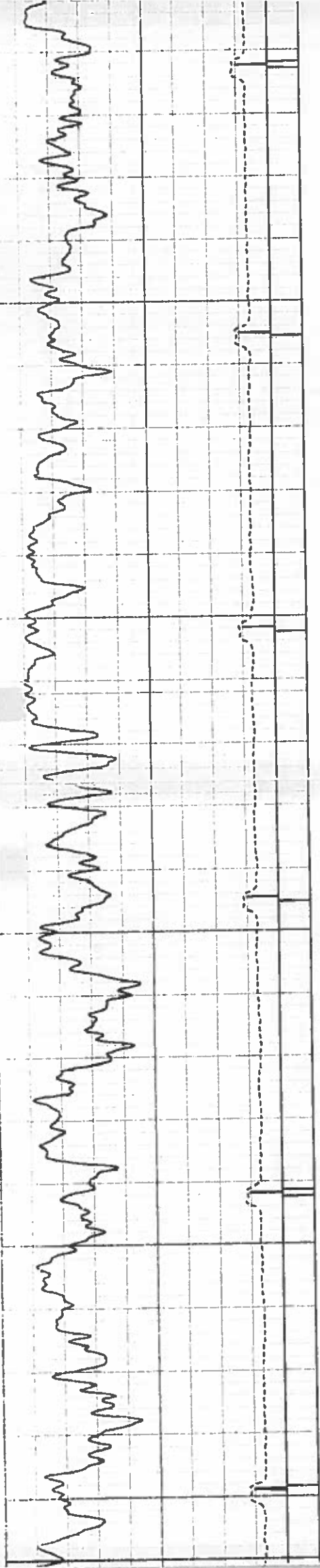


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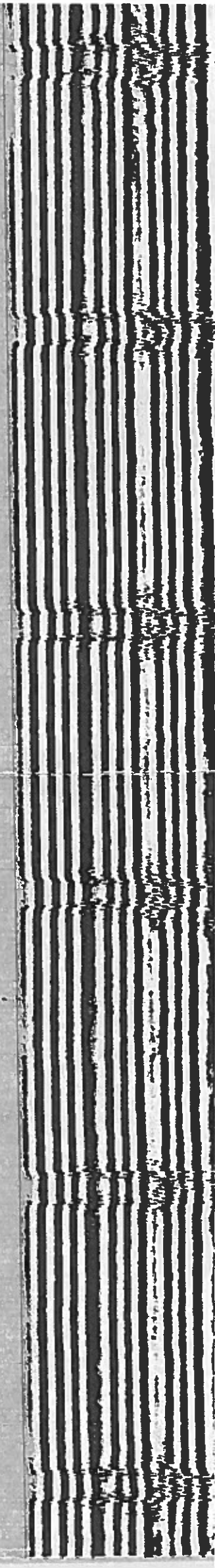
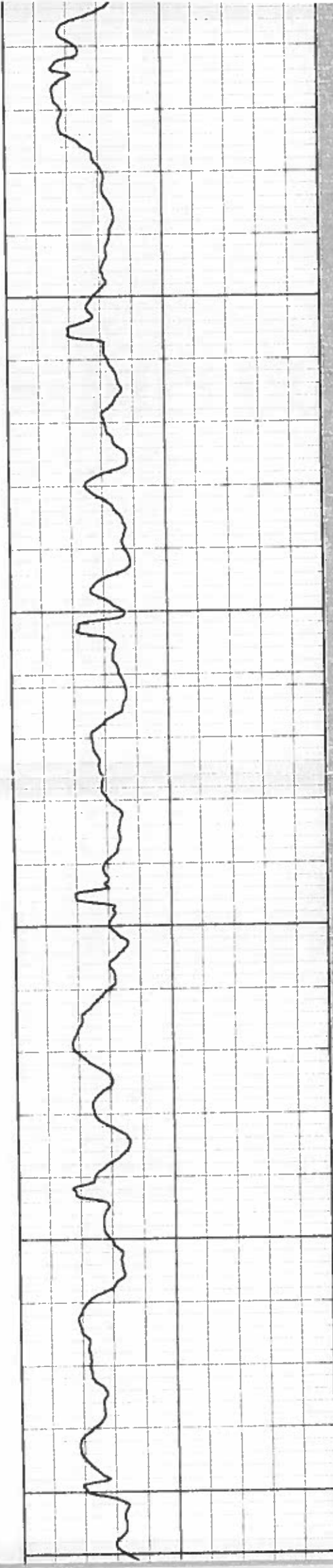
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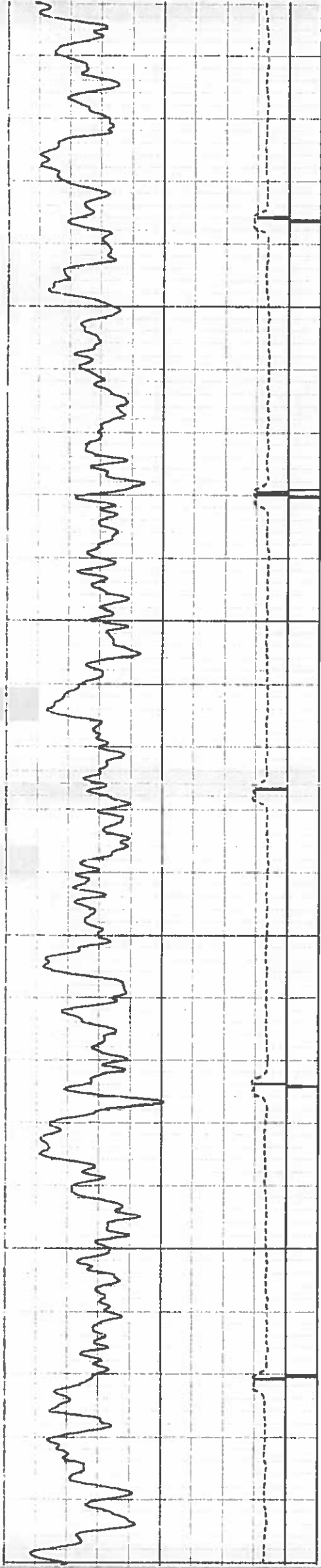




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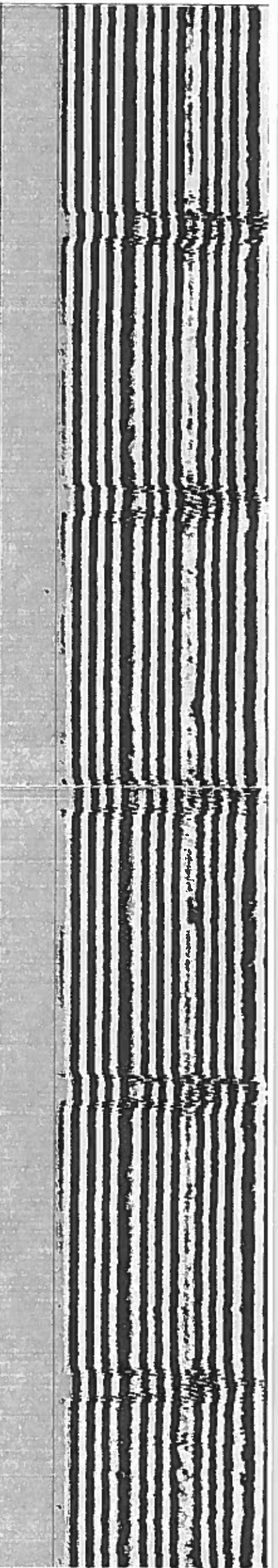
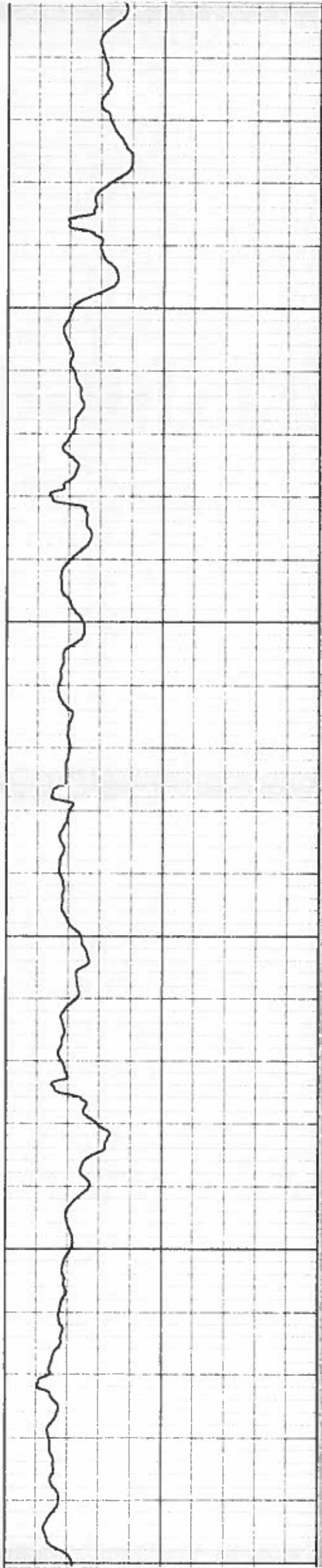


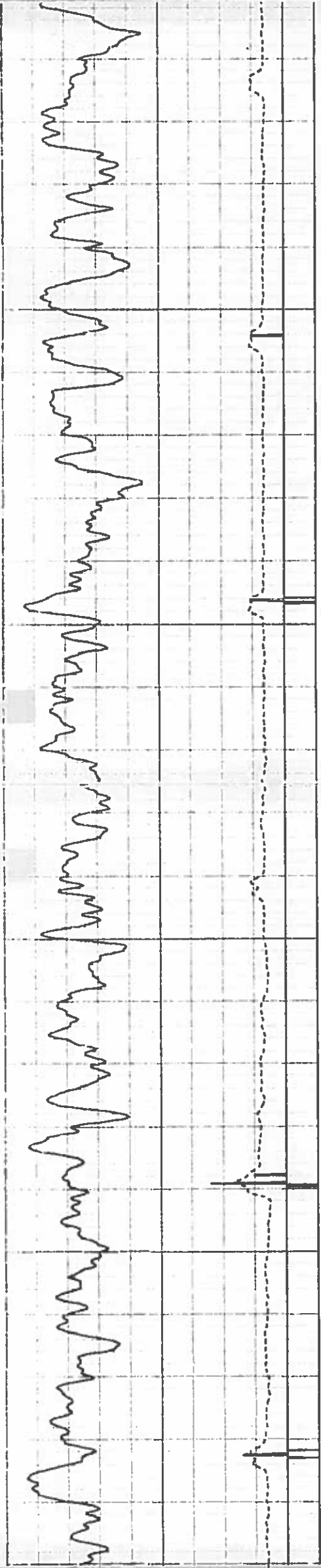


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3100

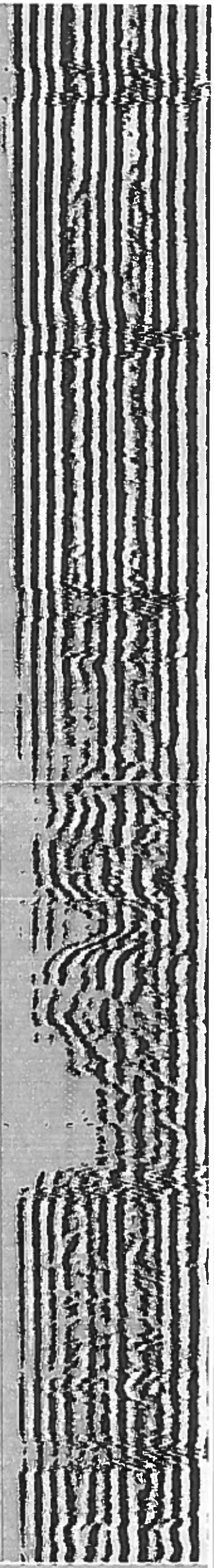
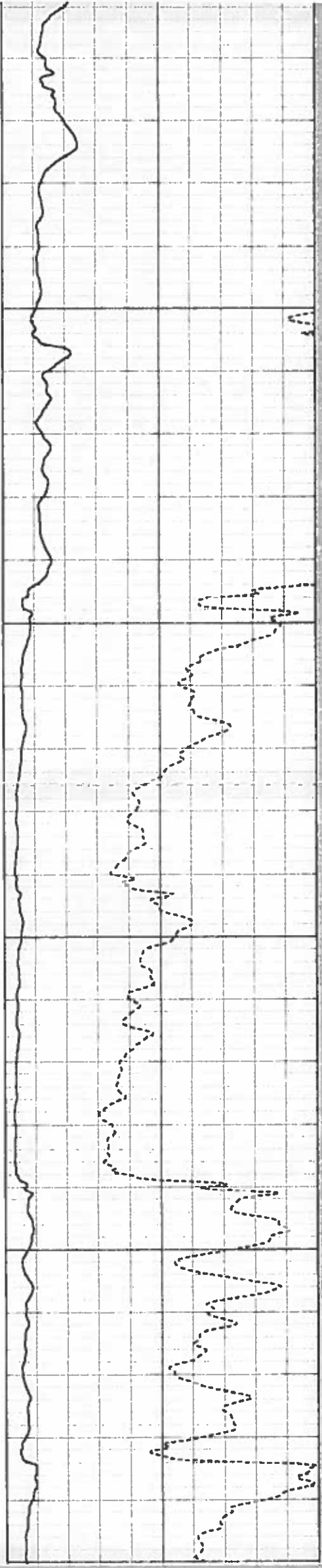
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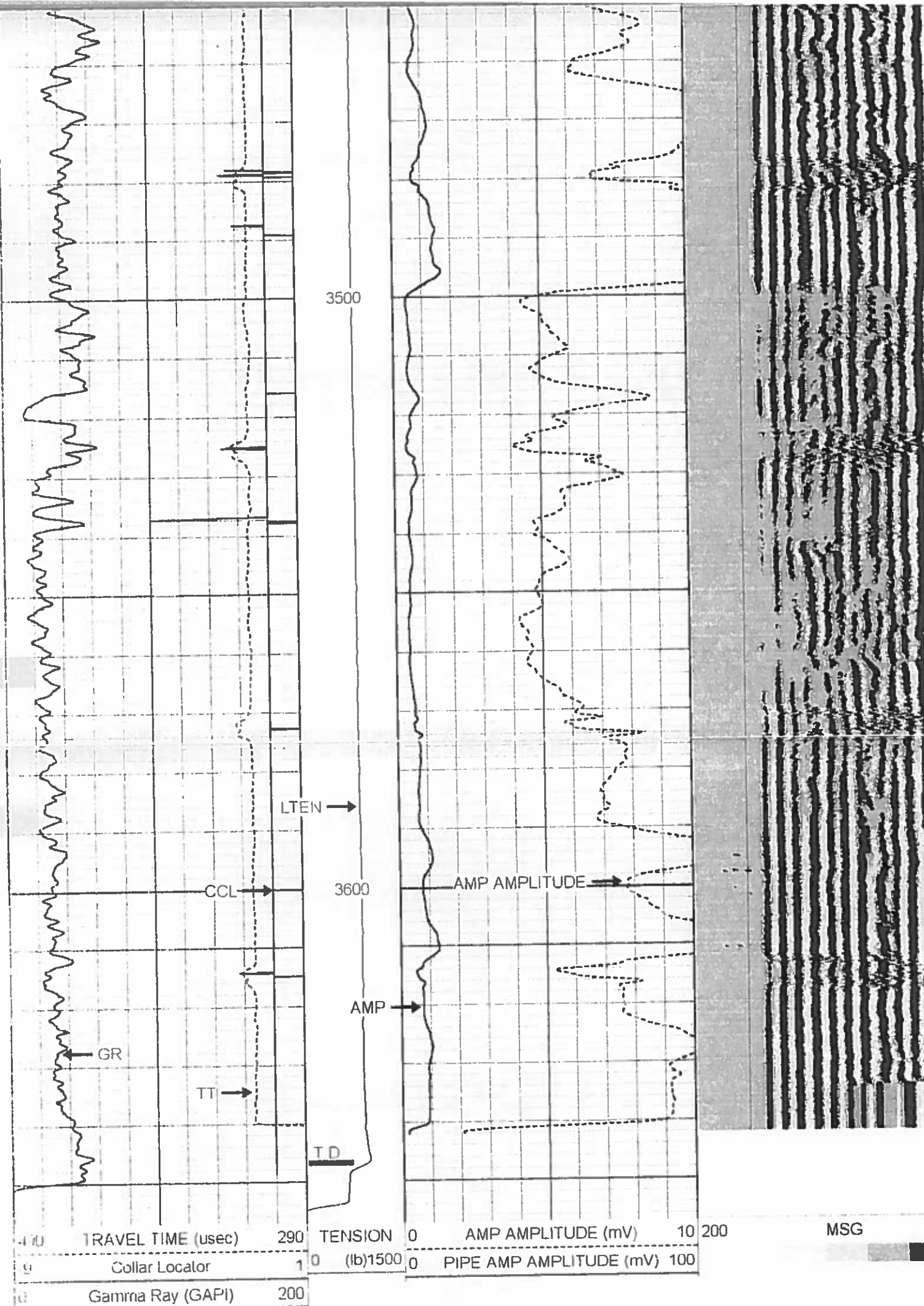




3300

3400





ACOUSTIC CEMENT BOND LOG

MAIN LOG SECTION
5" = 100'

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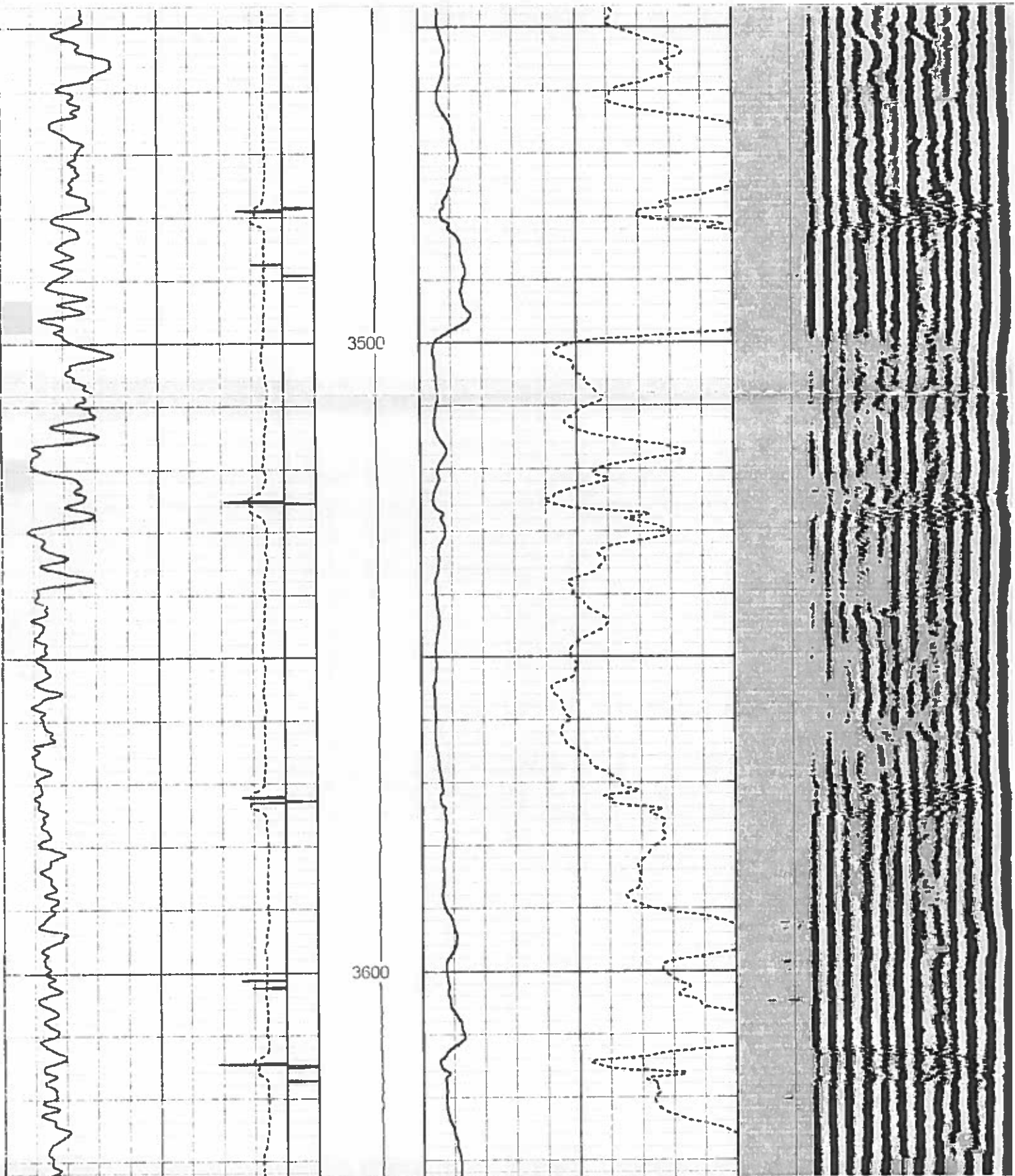
ACOUSTIC CEMENT BOND LOG

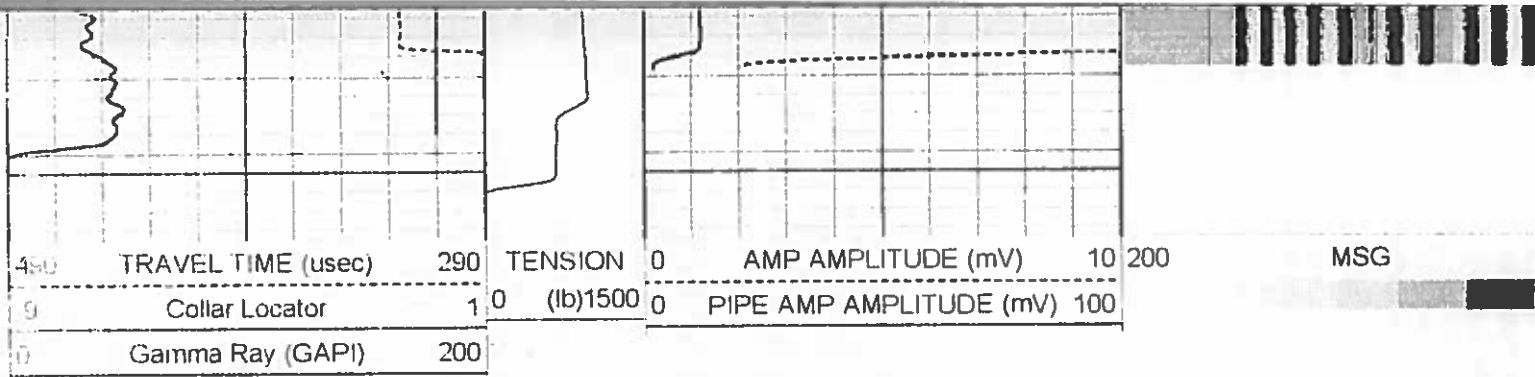
REPEAT LOG SECTION

5" = 100'

Database File h_d_unit_15_23_cbl.db
Dataset Pathname SOUTH_SHA/H_D_UNIT_/CBL/pass5
Presentation Format cbl_main
Dataset Creation Mon Nov 03 17 09 02 2008 by Log Halliburton Casedho
Charted by Depth in Feet scaled 1.240

TRAVEL TIME (usec)	290	TENSION	0	AMP AMPLITUDE (mV)	10	200	MSG	1
Collar Locator	1	(lb)1500	0	PIPE AMP AMPLITUDE (mV)	100			
Gamma Ray (GAPI)	200							





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ACOUSTIC CEMENT BOND LOG

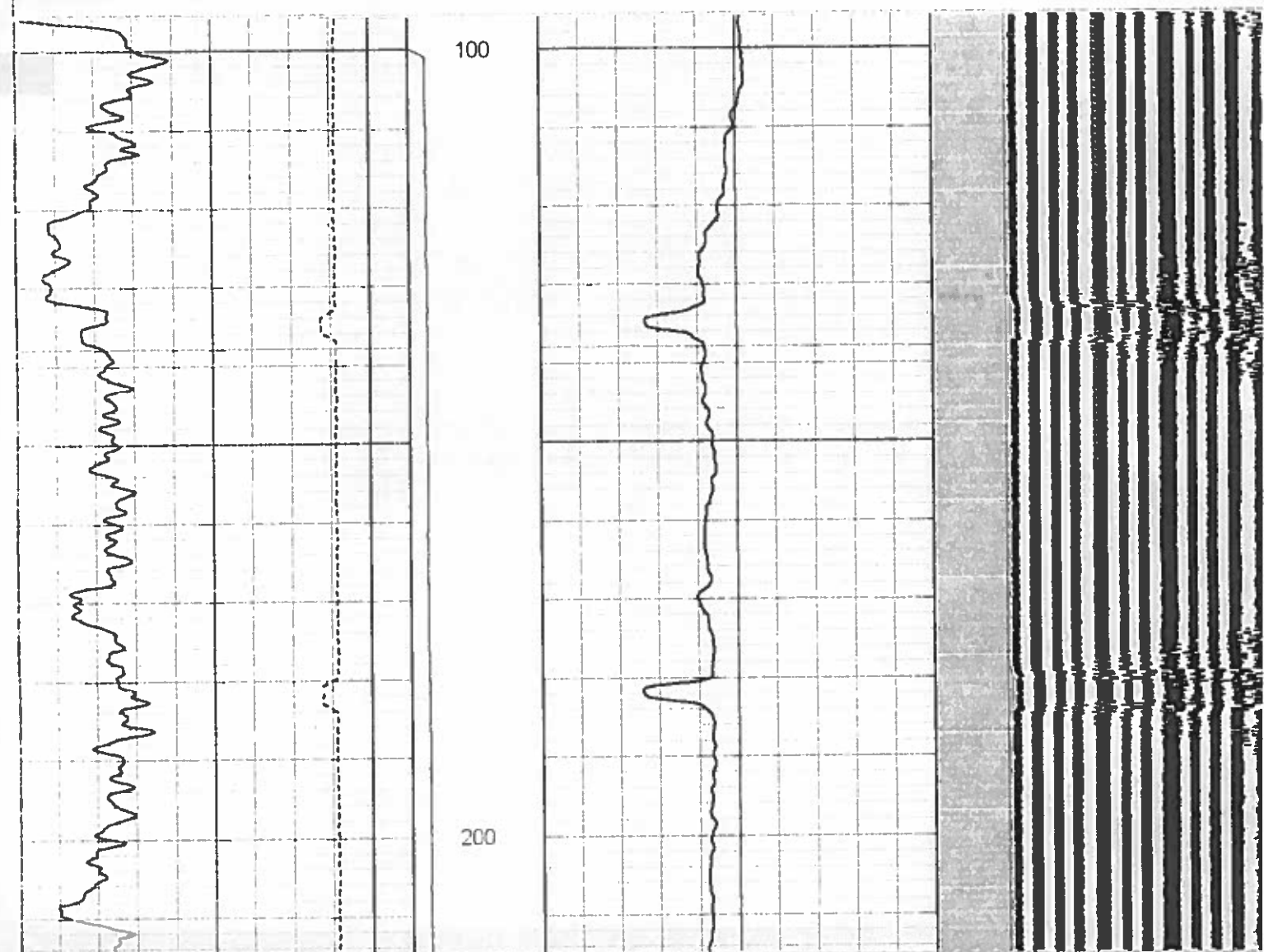
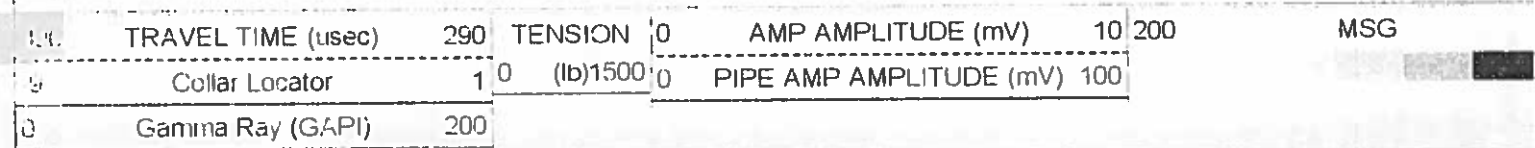
REPEAT LOG SECTION
5" = 100'

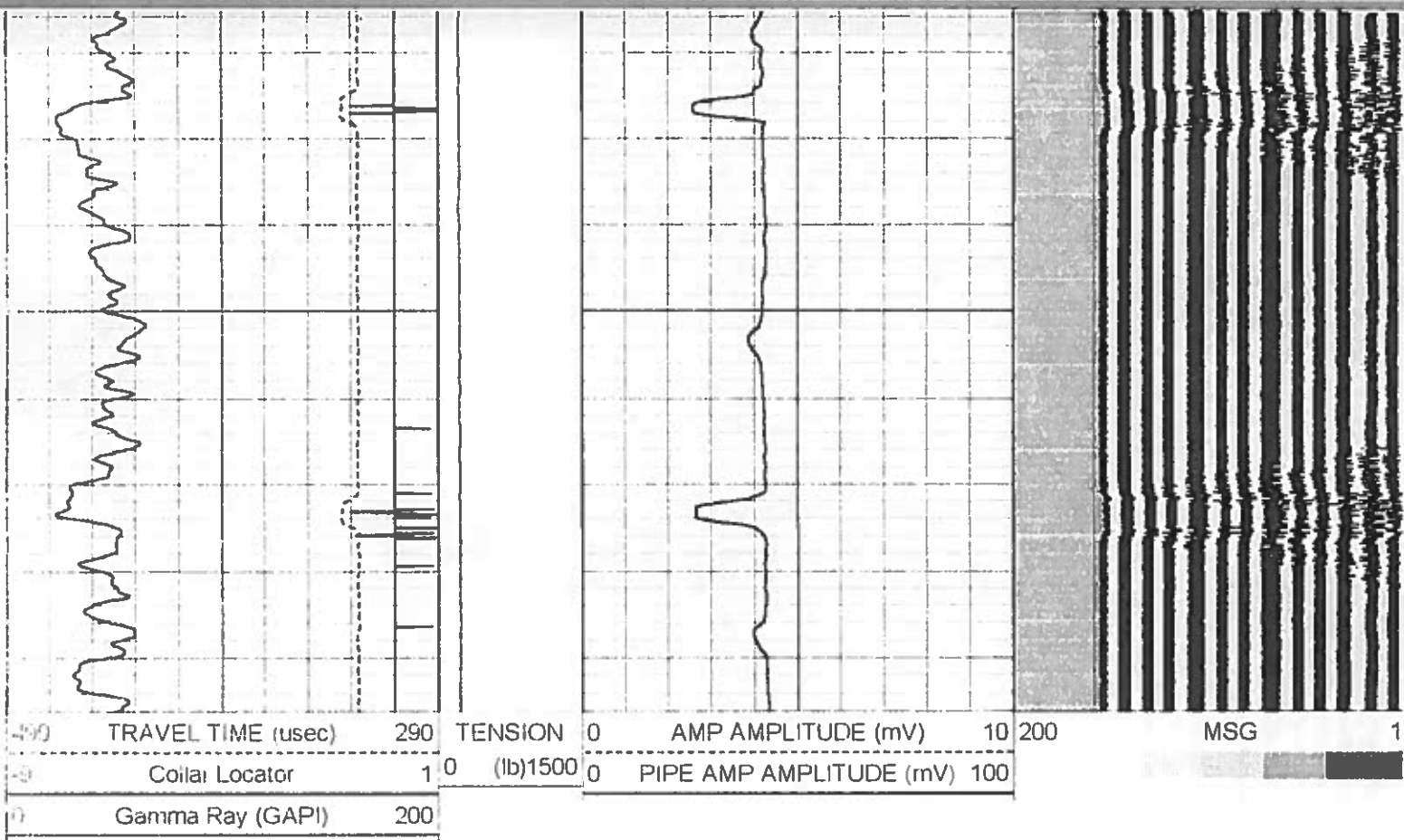
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ACOUSTIC CEMENT BOND LOG

FREE PIPE LOG SECTION
5" = 100'

Database File h_d_unit_15_23_cbl.db
Dataset Pathname SOUTH_SHA/H_D_UNIT_/CBL/pass3
Presentation Format cbl_main
Dataset Creation Mon Nov 03 16 23 45 2008 by Log Halliburton Casedho
Charted by Depth in Feet scaled 1 240





ACOUSTIC CEMENT BOND LOG

HALLIBURTON

FREE PIPE LOG SECTION
5" = 100'

Calibration Report

Database File: h_d_unit_15_23_cbl.db
Dataset Pathname: SOUTH_SHA/H_D_UNIT_/CBL/pass6
Dataset Creation: Mon Nov 03 17 17 00 2008 by Log Halliburton Casedho

Temperature Calibration Report

Serial Number	070606
Tool Model	1 375TEMP
Performed	Fri Jul 05 02 18 21 1996
	Reference Reading
Low Reference	0 00 degF 0 00 cps
High Reference	1 00 degF 1 00 cps
Gain	0 10
Offset	0 00
Delta Spacing	1

Gamma Ray Calibration Report

Type / Serial Probe / 080924

SHOP CALIBRATION

Sun Nov 02 15 54 11 2008

Background	Counts/Sec	Gain	Offset	Jig	Units
Calibrator	59 3				cps
	410 5	0 6719			cps
					GAPI/cps

PRIMARY VERIFICATION

Mon Nov 03 15 57 43 2008

Background	41 7				cps
Calibrator	280 4				cps
Difference				238 7	GAPI

BEFORE SURVEY VERIFICATION

Background0.0

Calibrator0.0

Difference0.0

cps

cps

GAPI

AFTER SURVEY VERIFICATION

Background0.0

Calibrator0.0

Difference0.0

cps

cps

GAPI

Cement Bond Log Calibration Report

Serial Number080529

Tool ModelProbe

PerformedMon Nov 03 16:23:06 2008

Depth116.342ft

Casing Diameter9.625in

3' Spacing5' Spacing

Signal Zero2mV

Calibrated Amplitude52mV

Reading at Signal Zero0.000219727V


Reading in Free Pipe1.4677V

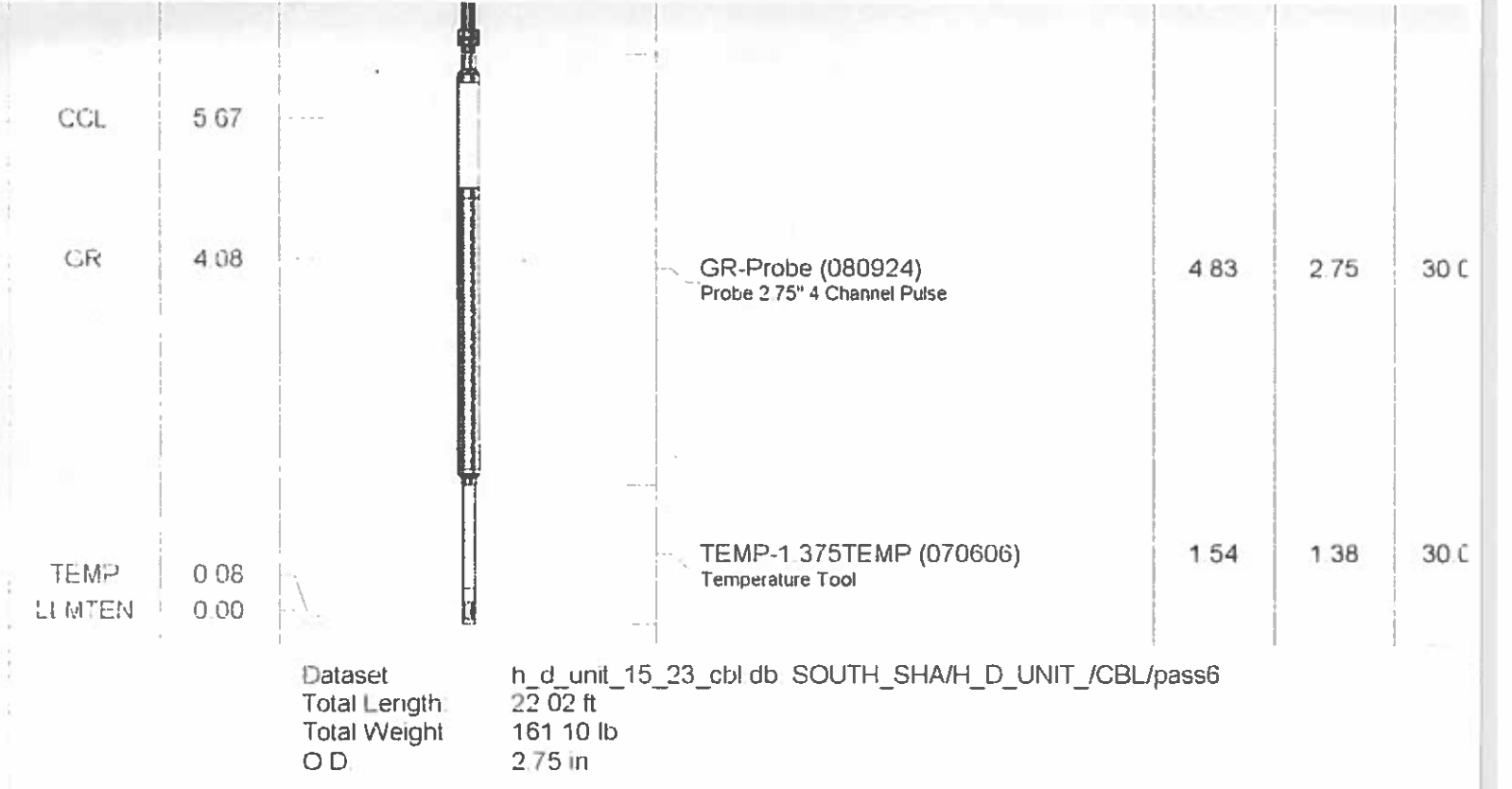
Gain34.072

Offset1.99251

29.6168

1.906

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			STNDRD Standard Cable Head - F.N. 1 3/8"	1.15	1.44	1.10
			Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
WVF3	13.44		CBL-Probe (080529) Probe 2.75" Dual Receiver Bond	8.75	2.75	60.00
WVF5	12.44					
			Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00



Company	BLACK HILLS PLATEAU PROD.		
Well	HOMER DEEP UNIT 15-23		
Field	SOUTH SHALE RIDGE		
County	MESA	State	COLORADO
HALLIBURTON		ACOUSTIC CEMENT BOND LOG	