

**EXCELL 57**

# ACOUSTIC CEMENT BOND LOG

COMPANY		TOM BROWN INC.	
WELL		BENTLEY 11-13D	
FIELD		RULISON	
COUNTY		GARFIELD	STATE COLO.

Sect 11 Twp 07S Rge 9SW	API No.	N/A	Other Services CBL	
	Location	N/A		
		N/A		
	COUNTY	GARFIELD	STATE	COLO.
	FIELD	RULISON		
	WELL	BENTLEY 11-13D		
	COMPANY	TOM BROWN INC.		

Permanent Datum	GROUND LEVEL	Elev	N/A	Elev. :	K.B.	N/A	
Log measured from	K.B.	15	ft. above perm. datum	D.F.	N/A		
Drilling measured from	K.B.			G.L.	N/A		
Date @ Time Logged	09/17/03	@ 2030	Type fluid in hole	WATER			
Run No.	ONE		Density of Fluid	8.33#			
Depth - Driller	8000'		Fluid Level	FULL			
Depth - Logger	7930'		Cement Top Est. Logged	LOGGED			
Bottom - Logged Interval	7924'		Equipment / Location	RED / FM1N			
Top - Logged Interval	SURF.		Recorded by	D.ORD			
Max. rec. temp., deg F.	N/A		Witnessed by	M.R. FAIRCHILD			
CEMENTING DATA	Surface	Protection	Production	Liner			
	String	String	String				
Date/Time Cemented							
Primary/Squeeze							
Expected							
Compressive Strength	psi@	hrs	psi@	hrs	psi@	hrs	
Cement Volume							
Cement Type / Weight	/	/	/	/	/	/	
Formulation							
MUD Type / MUD Wgt.	/	/	/	/	/	/	
RUN	BOREHOLE RECORD		CASING & TUBING RECORD				
No.	Bit	From	To	Size	Wgt.	From	To
CNR	N/A	SURFACE	1508'	9.625"	32.3#	SURFACE	1508'
TWO	7.875"	1508'	8000'	5.5"	17#	SURFACE	8000'

Service Ticket No.: 2669676		API Serial No.: N/A		PGM Version: XL v5.0	
The Well Name, Location, Cementing Data & Borehole Description Furnished By Client					
CEMENTING DATA					
Cement Pumped		bbl/min @	psi		
Preceding Fluid		Volume	bbl		
Returns (Full,Partial,None)?				Centralizers	/Joint From To
Pipe Rotated / Reciprocated					/Joint From To
During Pumping (Yes,No)?					/Joint From To
After Plug Down (Yes,No)?					/Joint From To
Plug Pumped (Yes,No)?				Scratchers	/Joint From To
Plug Landing Pressure		Psi			/Joint From To
Pressure Held		Psi	Hrs After Pumping		
EQUIPMENT DATA					
GAMMA		NEUTRON		ACOUSTIC	
Run No.	ONE	Run No.		Run No.	ONE
Serial No.	614_GR	Serial No.		Serial No	573_HA
Model No.	UGR_HA	Model No.		Model No.	CBT
Diameter	3.25"	Diameter		Diameter	3.25"
Detector Model No.	UGR	Log Type		No of Cent	THREE
Type	SCINT.	Source Type		Spacing	3' & 5'
Length	4"	Serial No.			
Distance to Source	N/A	Strength			
LOGGING DATA					
GENERAL				GAMMA	
Run	Depth		Well Head	Scale	
No.	From	to	Pressure	L	R
ONE	7924'	7720'	"0" PSI	0	200
ONE	7924'	SURF.	"0" PSI	0	200
DIRECTIONAL INFORMATION					
Maximum Deviation		deg. @	KOP		
Remarks:					
CBL WAS CORRELATED TO CASED HOLE TMDL RECORDED ON 09/17/03.					
COMPLETE DATA FOR WELL WAS UNAVAILABLE FOR LOG HEADING.					
YOUR CREW: C.FRED AND J.SALAZAR.					



HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL 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.

HALLIBURTON

# CBL PRESENTATION MAIN PASS 5"=100'

Version No: 5.0 | hc:3.0

Data File: ben\_11\_13d\_cbl.5.cls

Format File: plot\_01\_1.spc

Plot Time: 2003-09-17 23:09:51

Log Time: 2003-09-17 20:47:43

Top Depth: 4.00

Bottom Depth: 7937.00

**HALLIBURTON**

**EXCELL**  
**Service**

GAMMA

GAMMA API

200

TENSION

0 2500

POUNDS

1:240

FT.

PIPE AMPL

100

MSG

4-μSEC

TT

US

202

AMP PIPE AMP

10

CCL ( 17.90)

3400

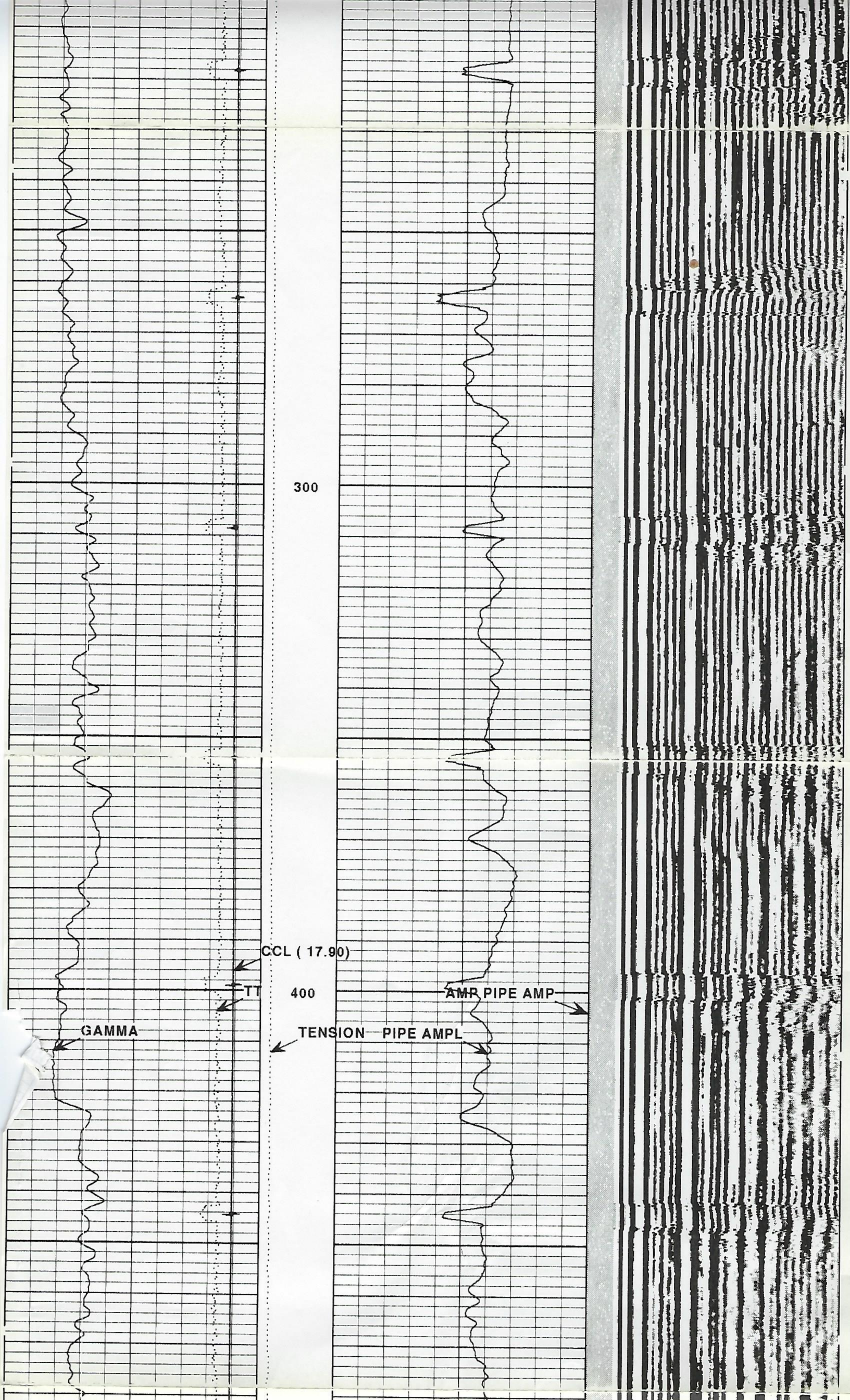
0

-50

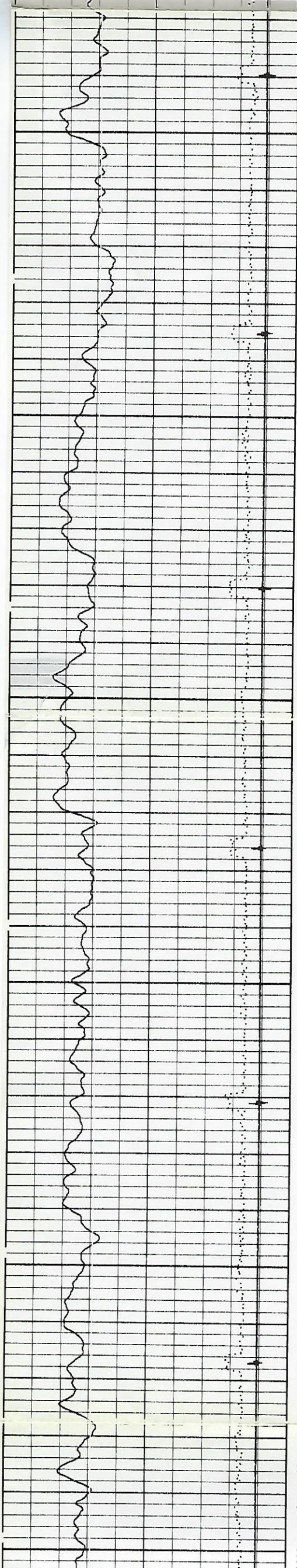
300

100





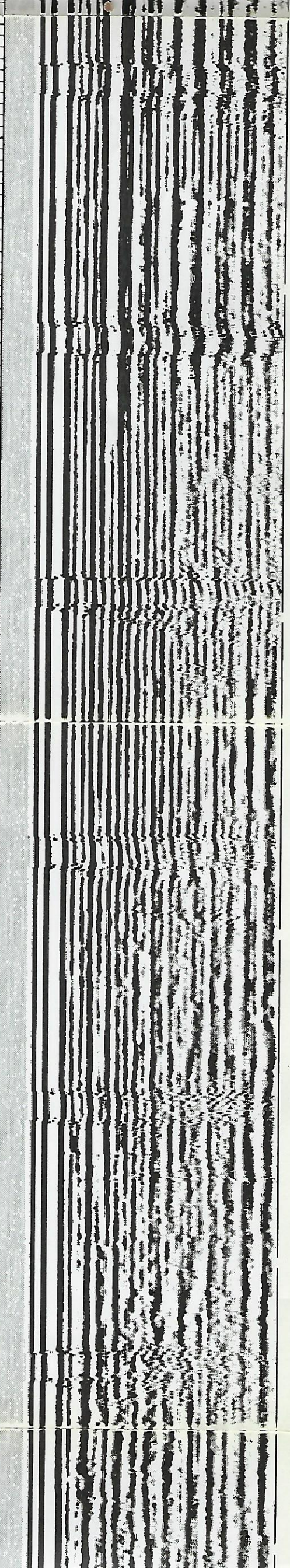
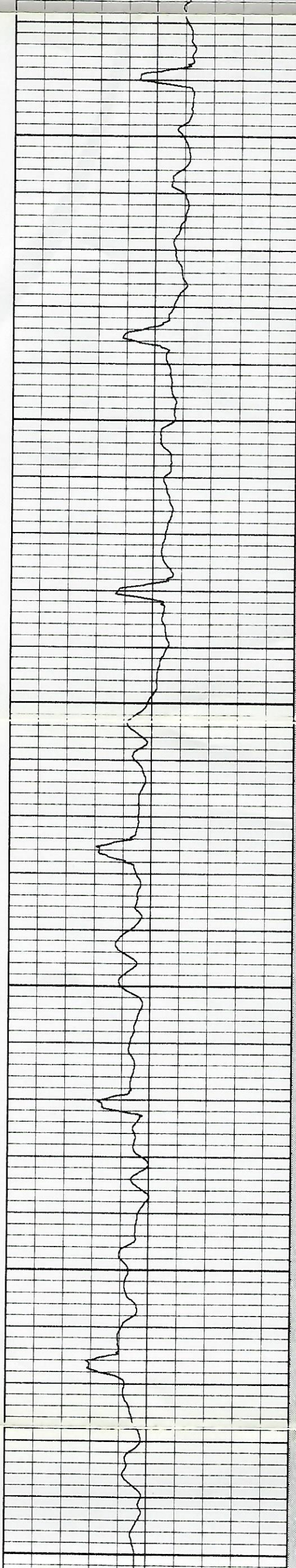




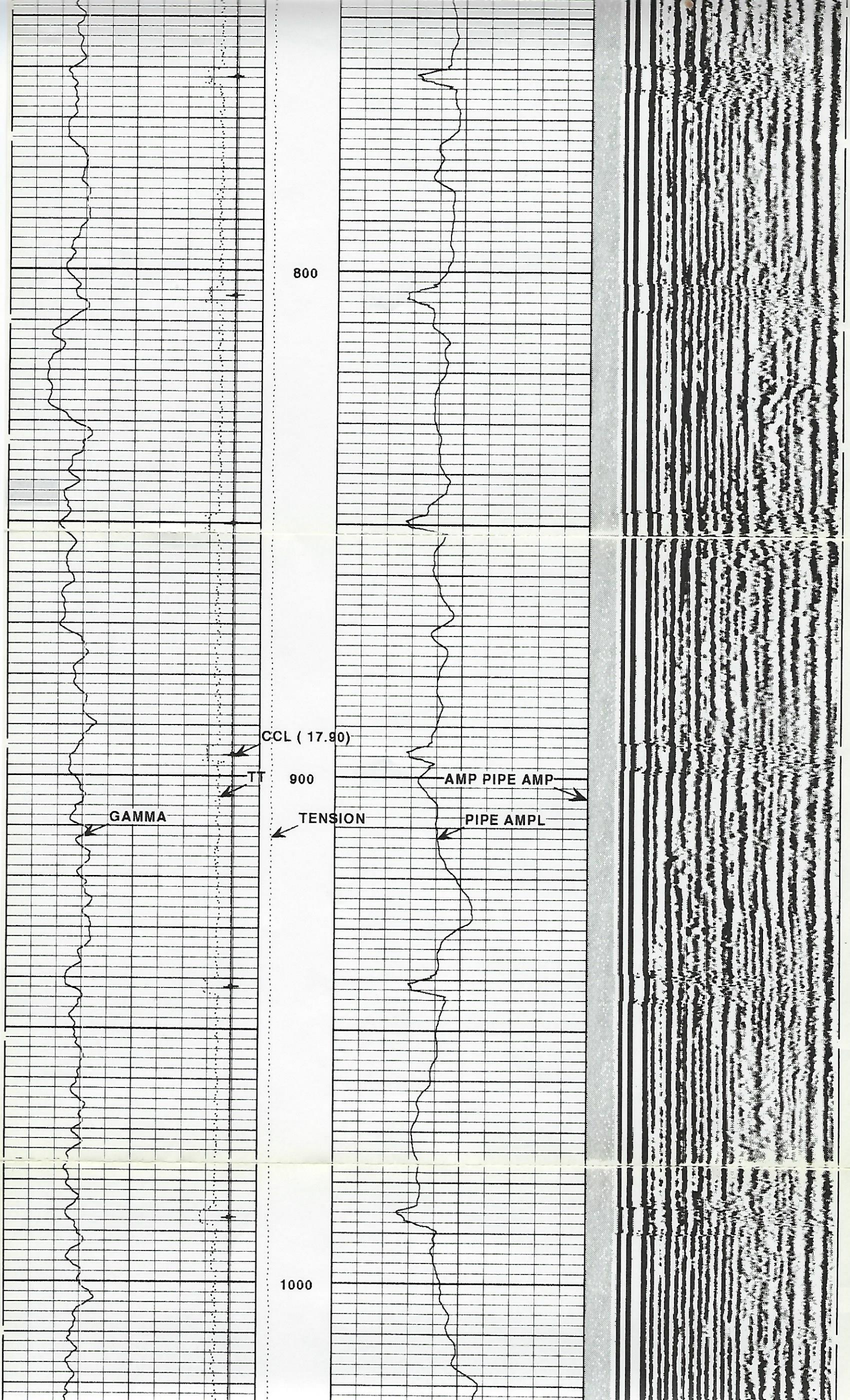
500

600

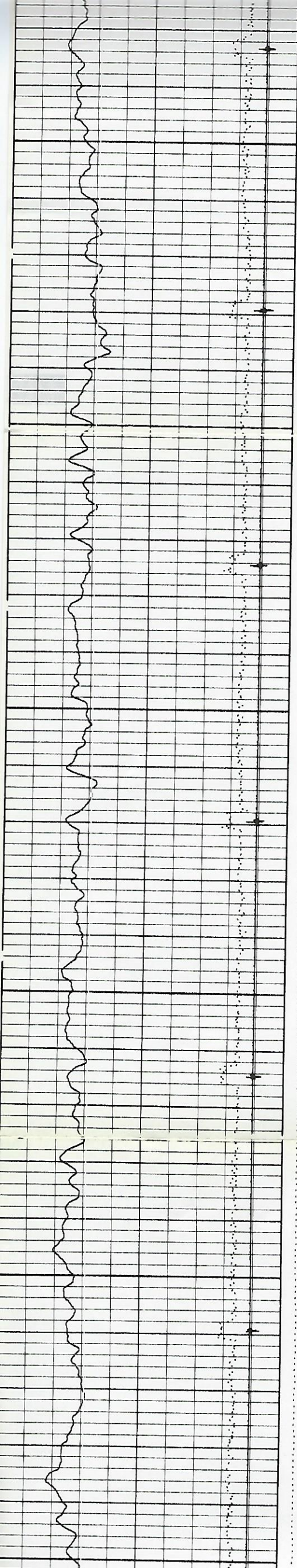
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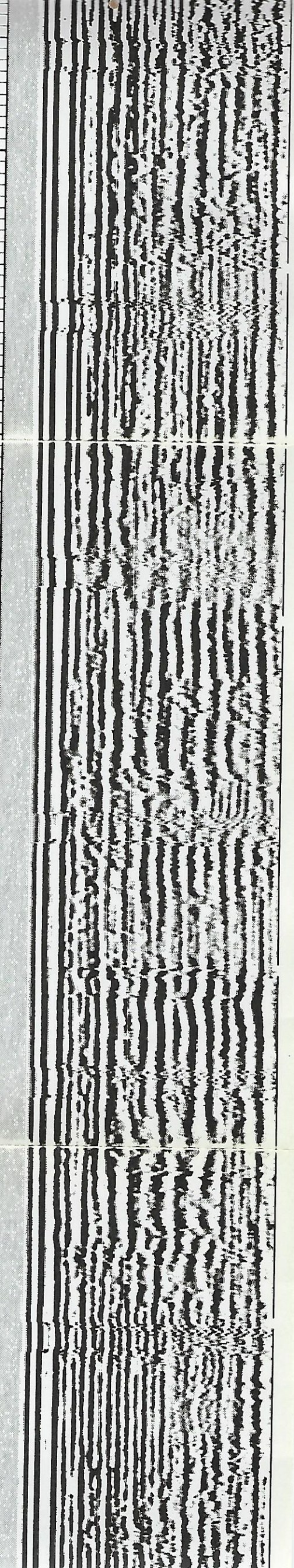
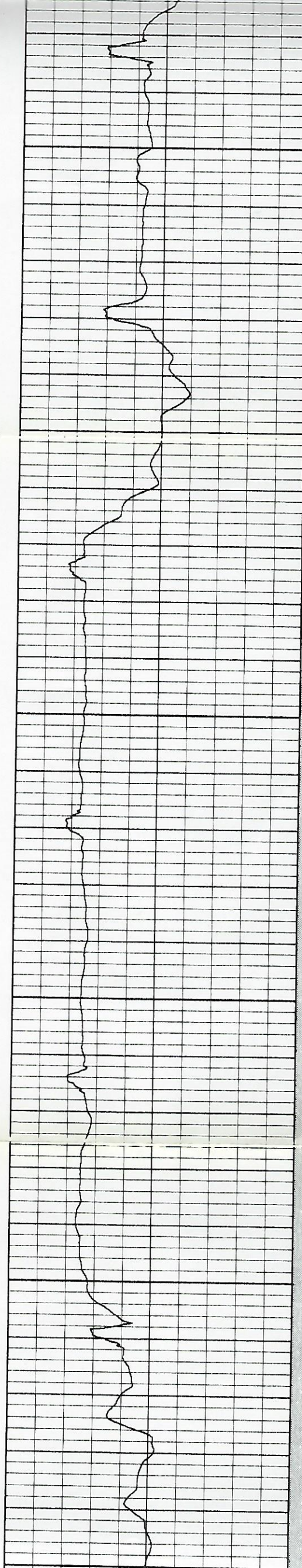




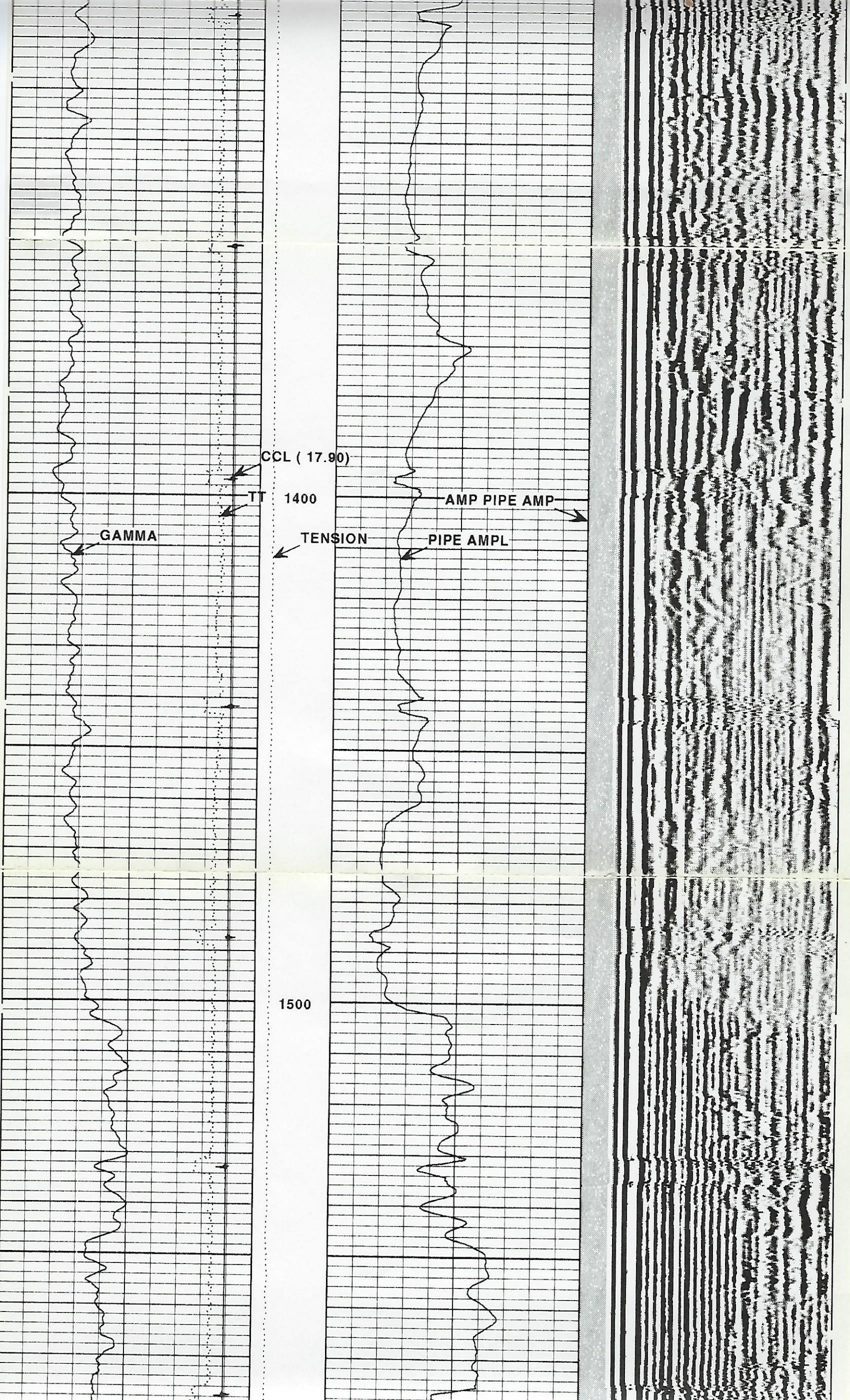
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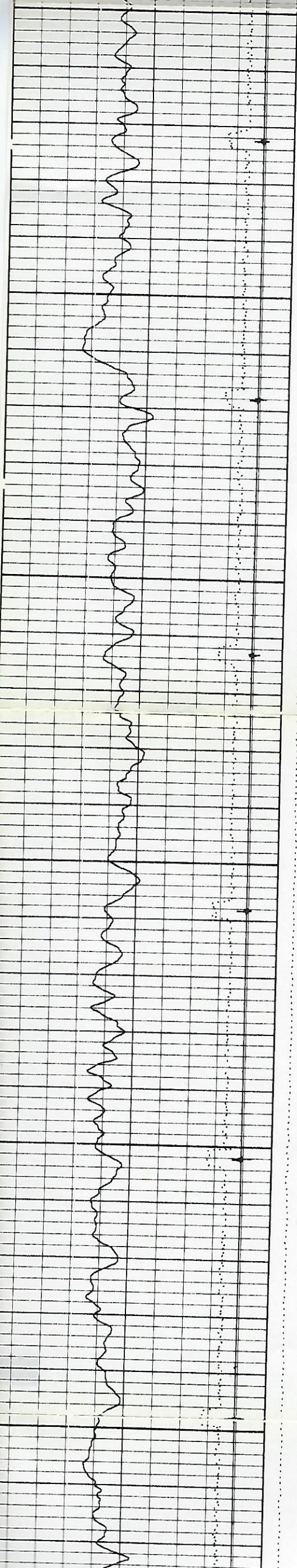
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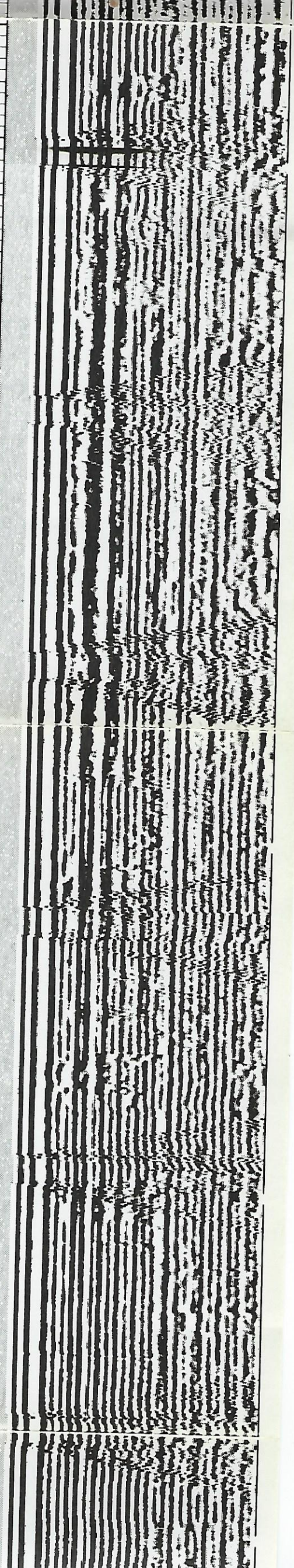
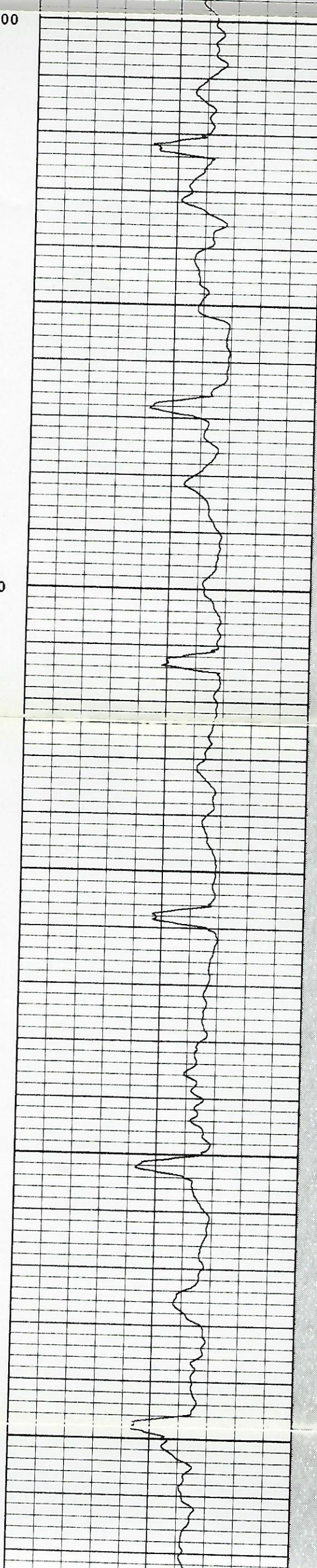




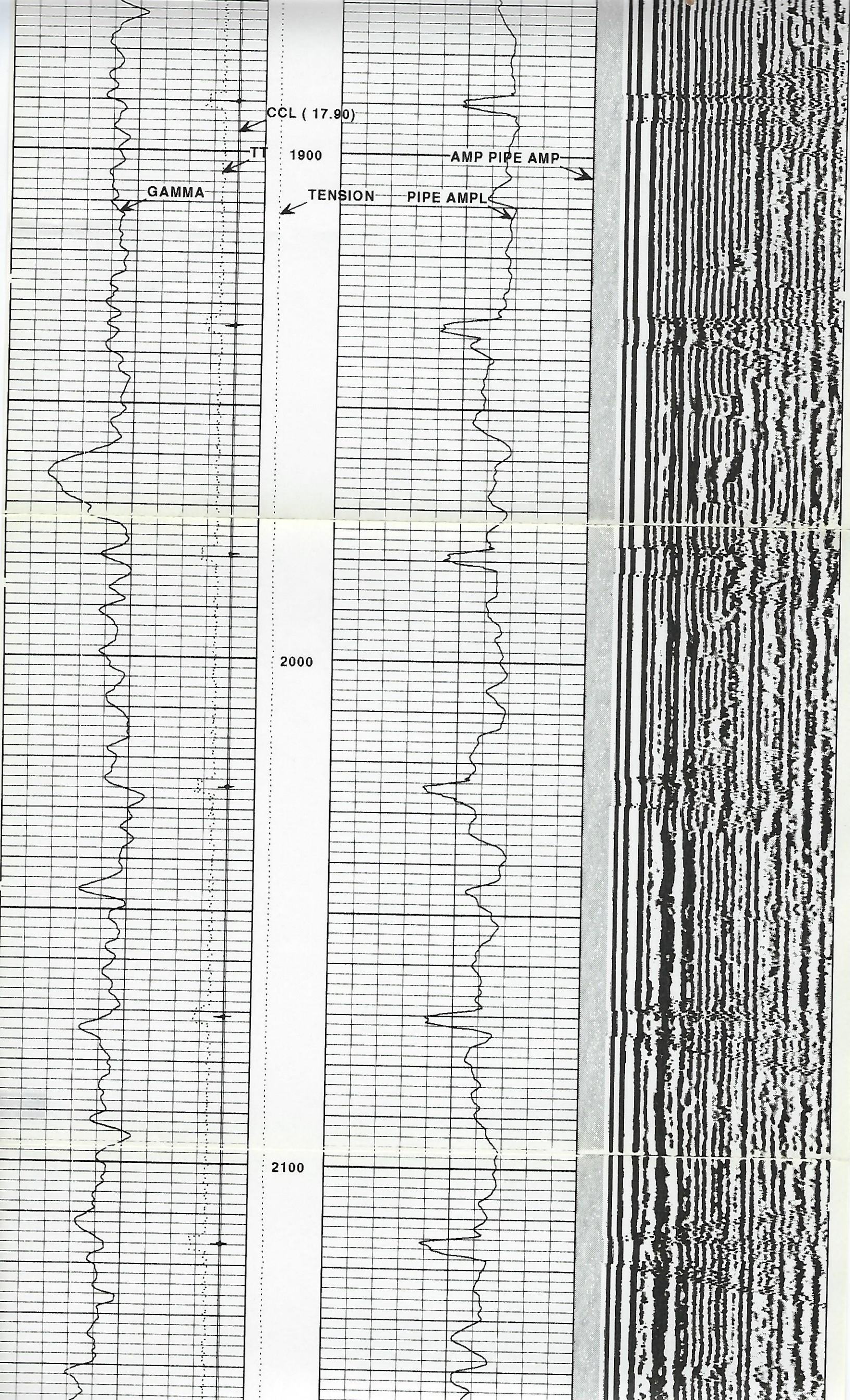
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1700

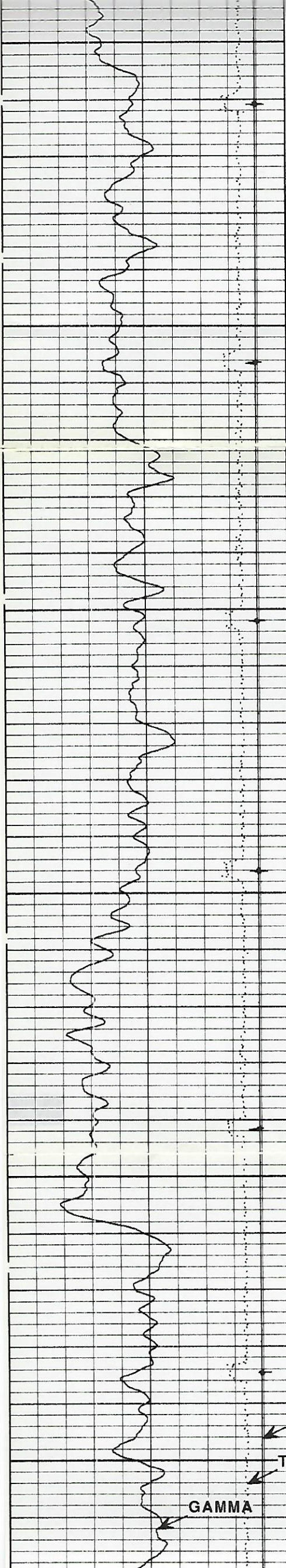
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2200

2300

CCL ( 17.90)

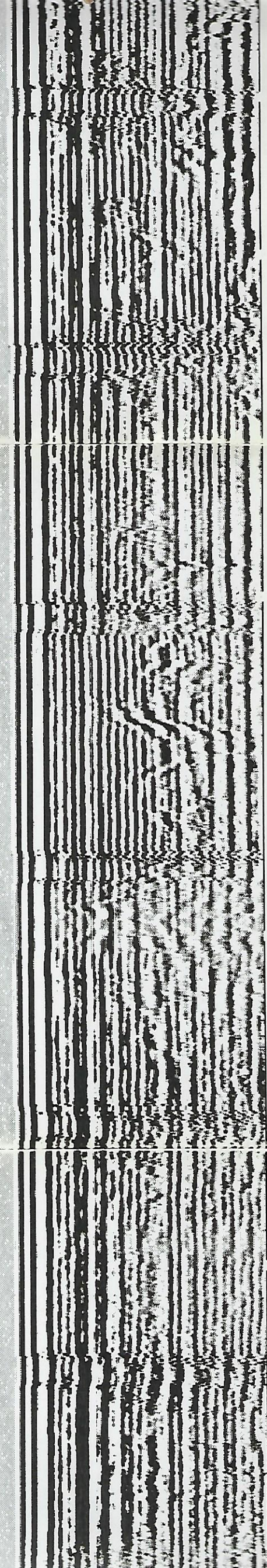
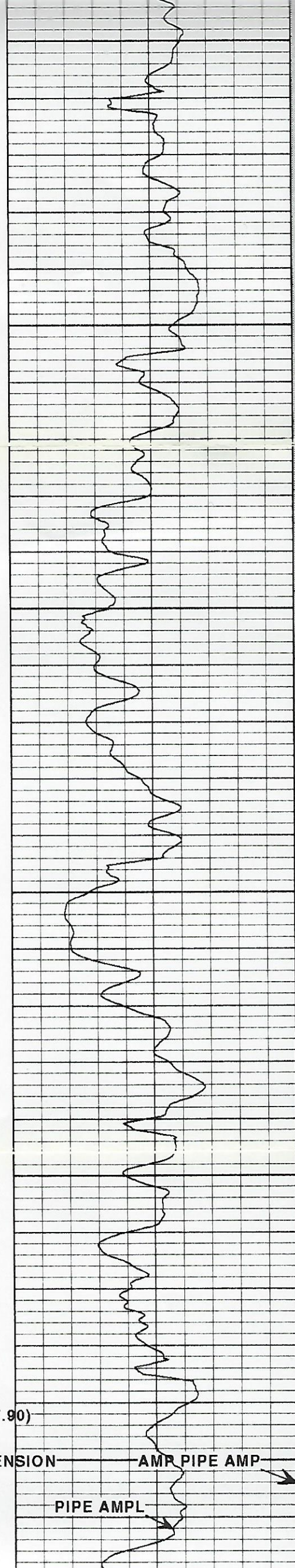
TT

GAMMA

2400 TENSION

PIPE AMPL

AMP PIPE AMP





GAMMA

PIPE AMPL

2500

2600



2907

290

290

290

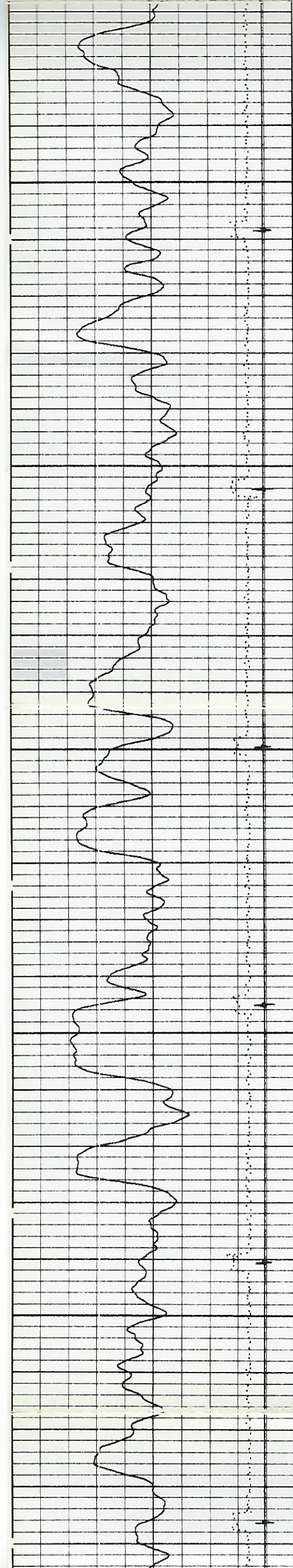
AMP PIPE AMP

PIPE AMPL

**GAMMA**

-77-

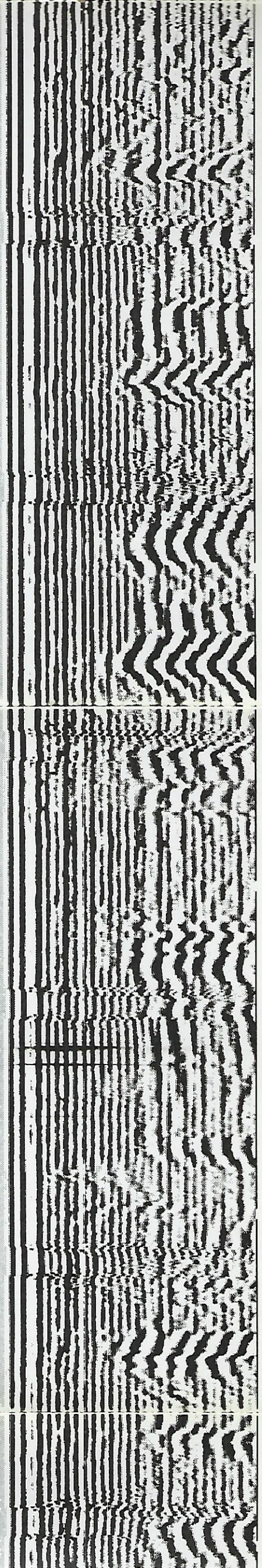
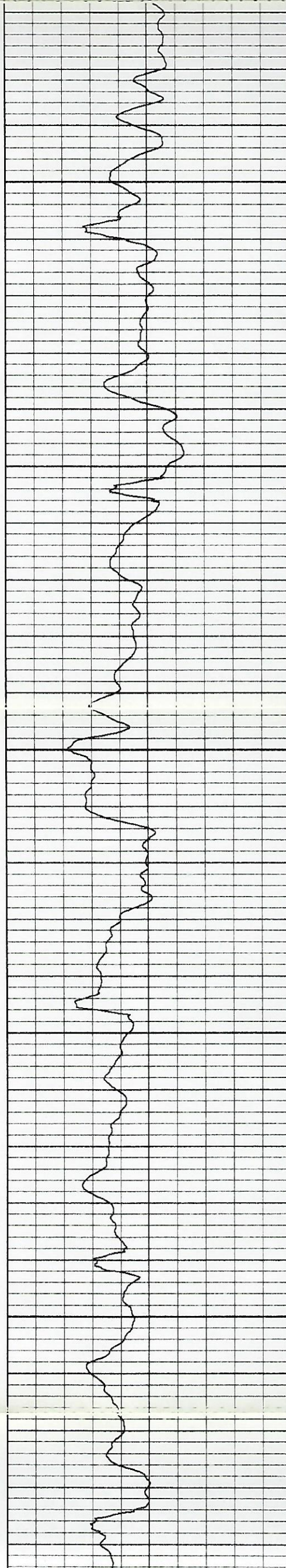




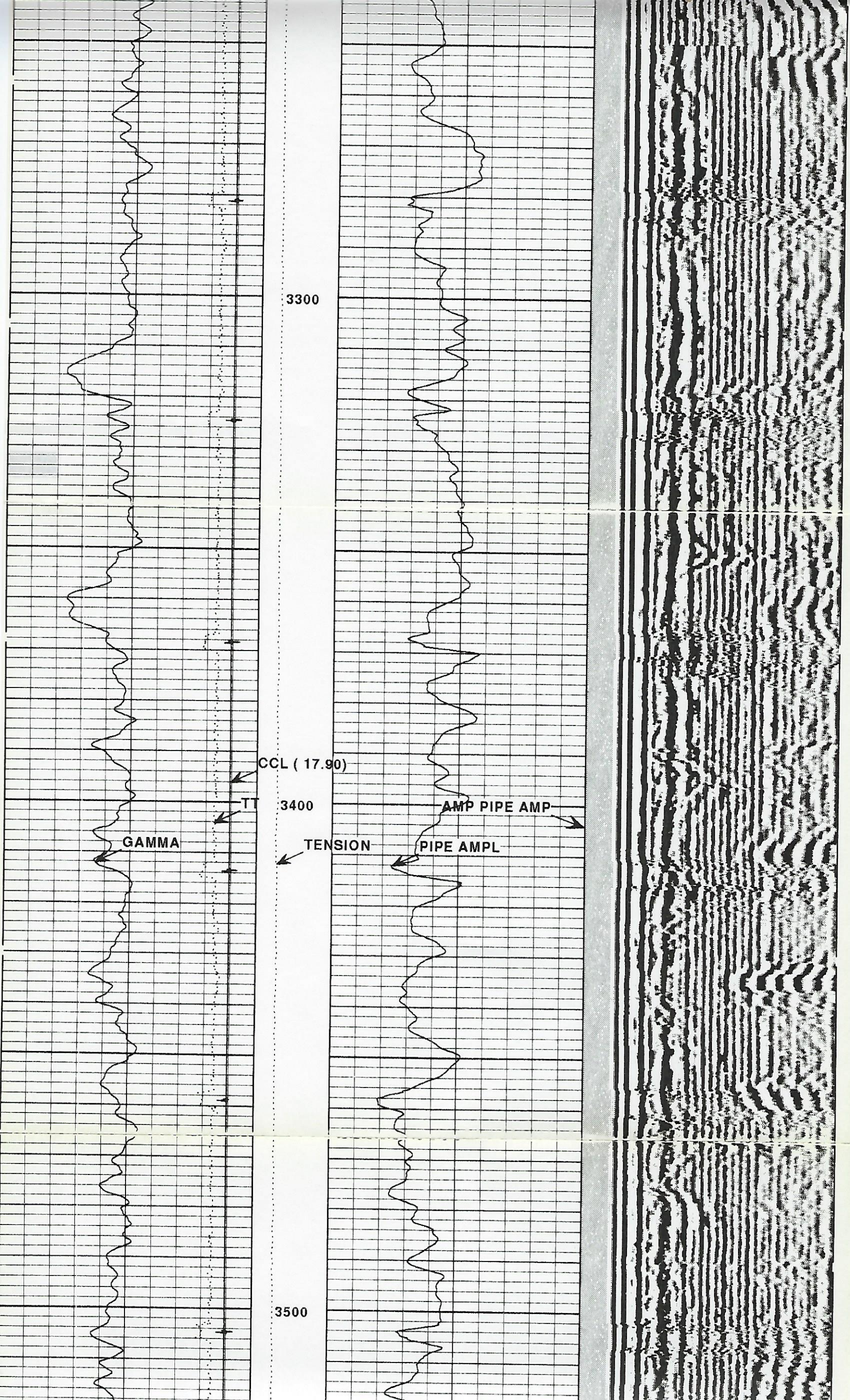
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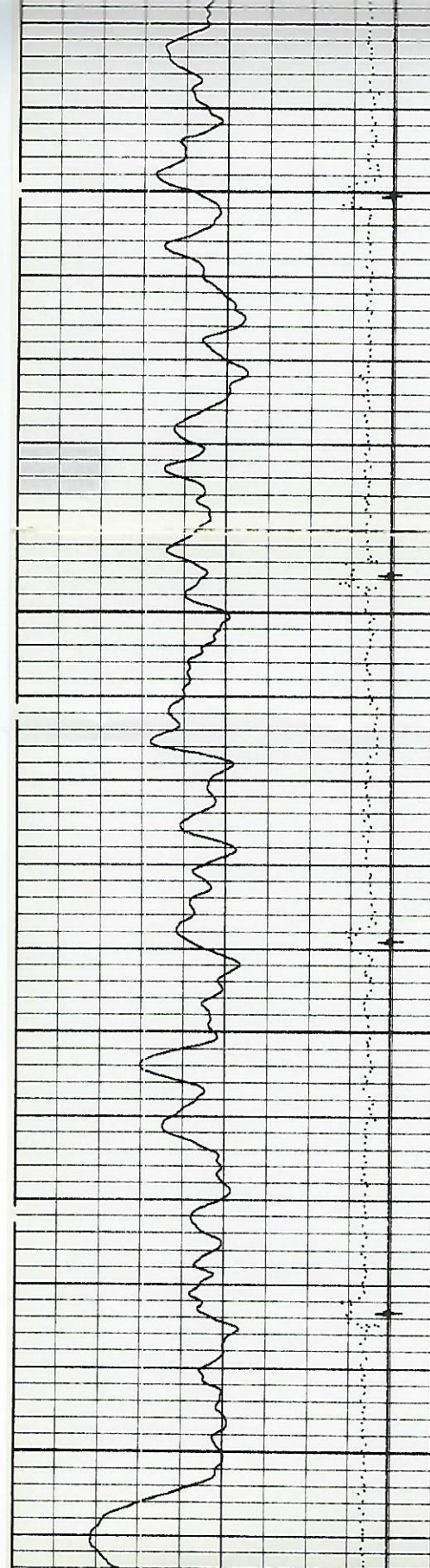
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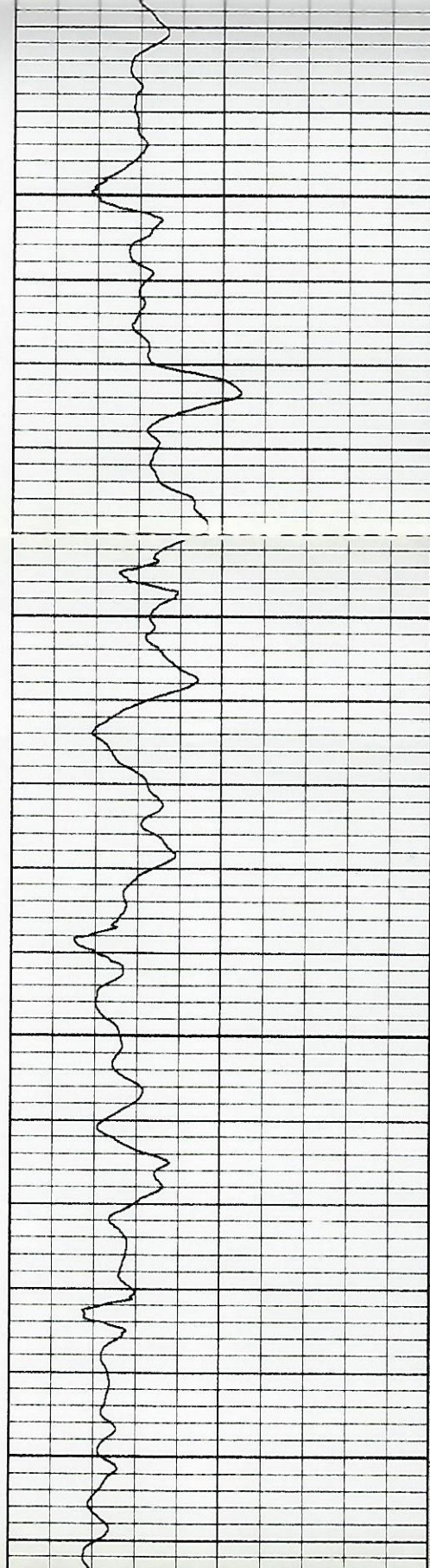




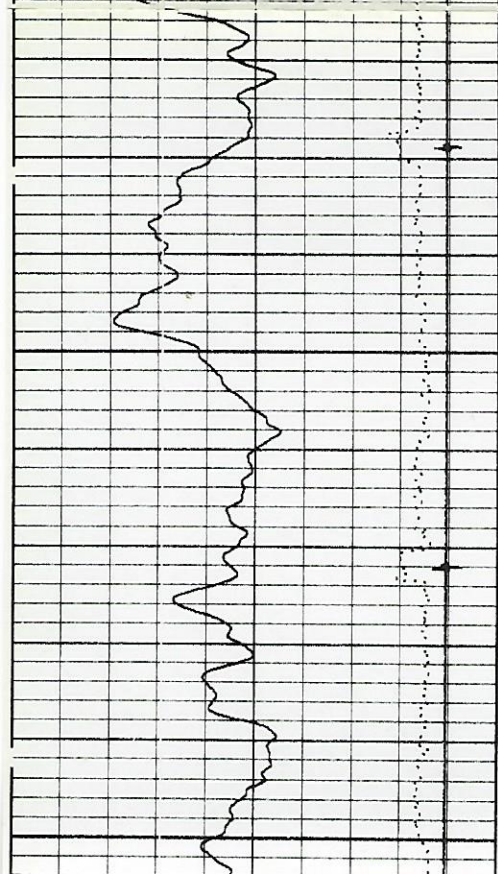




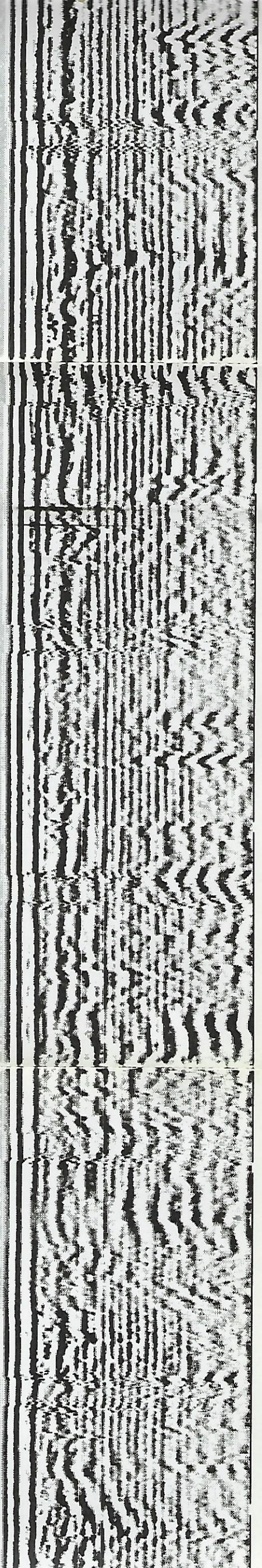
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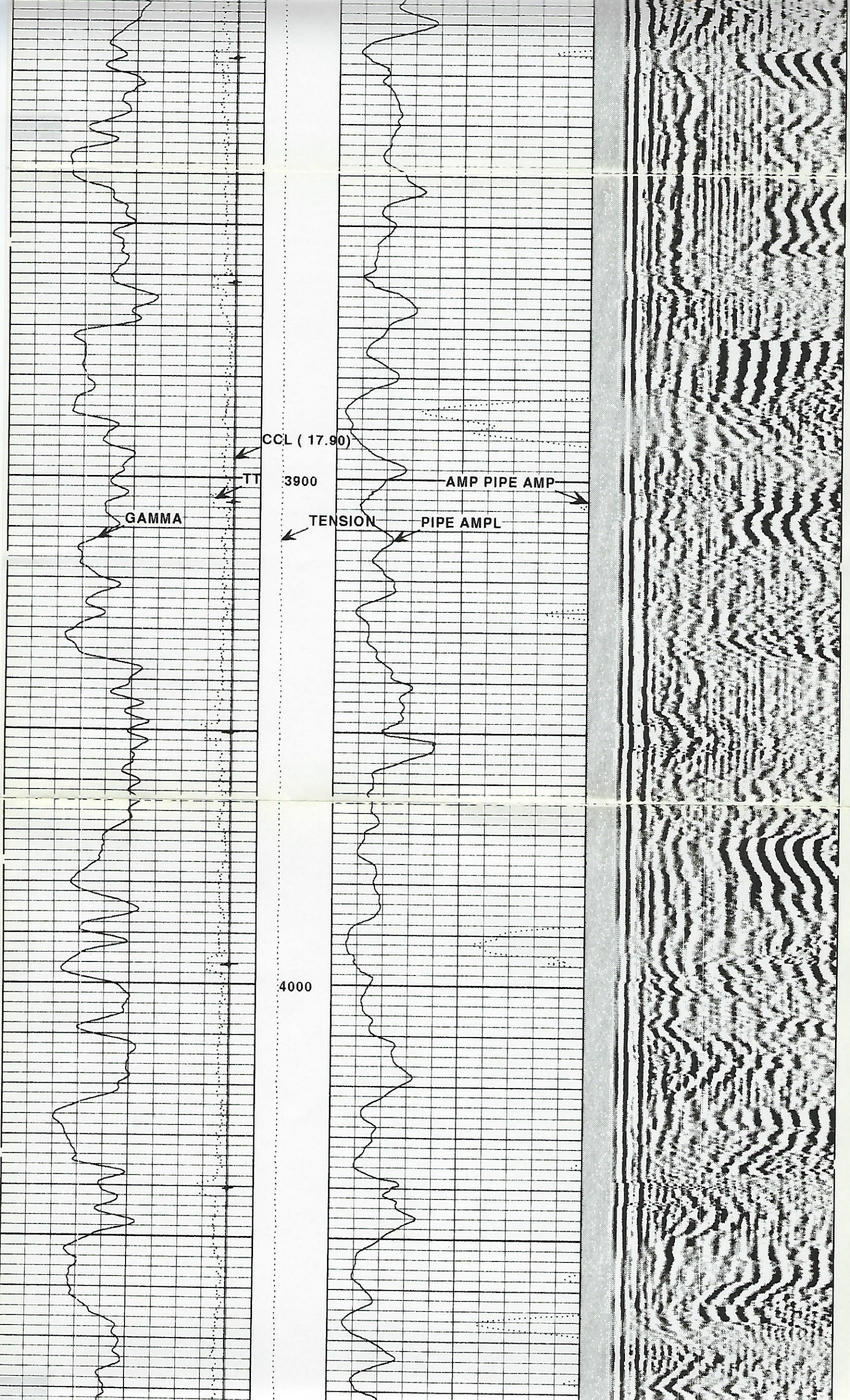
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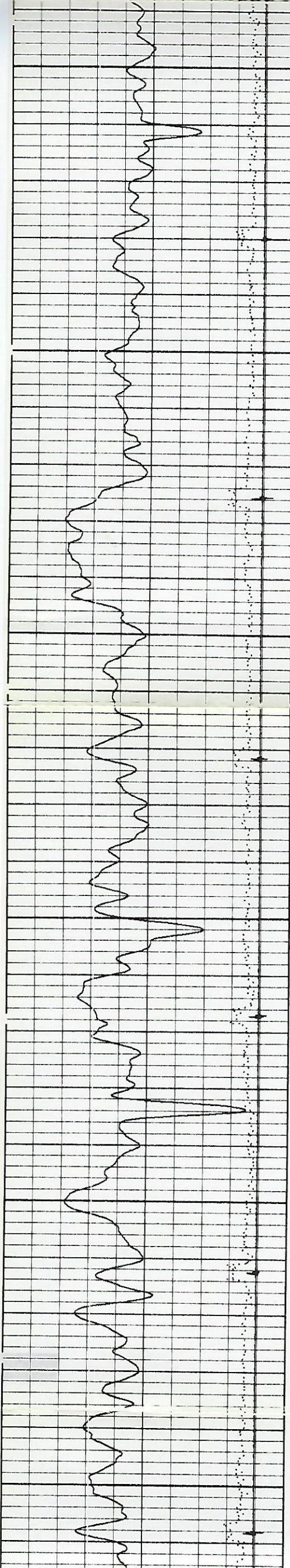
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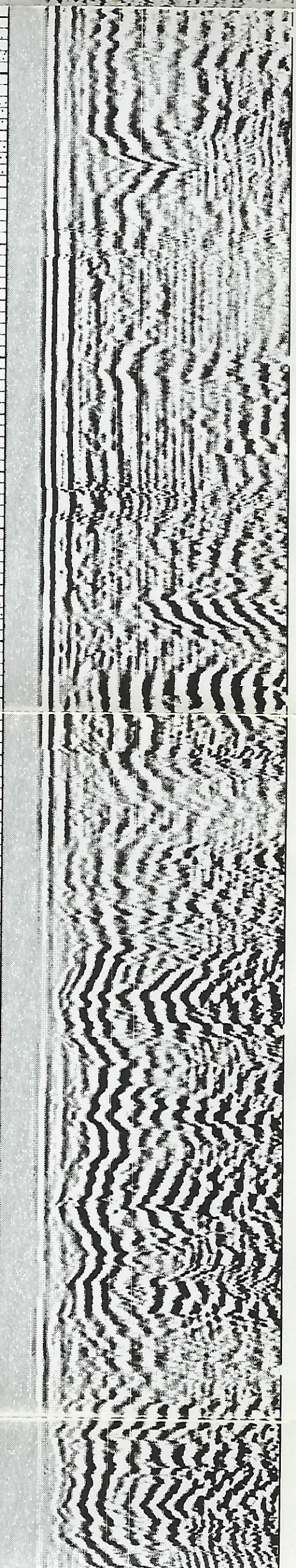
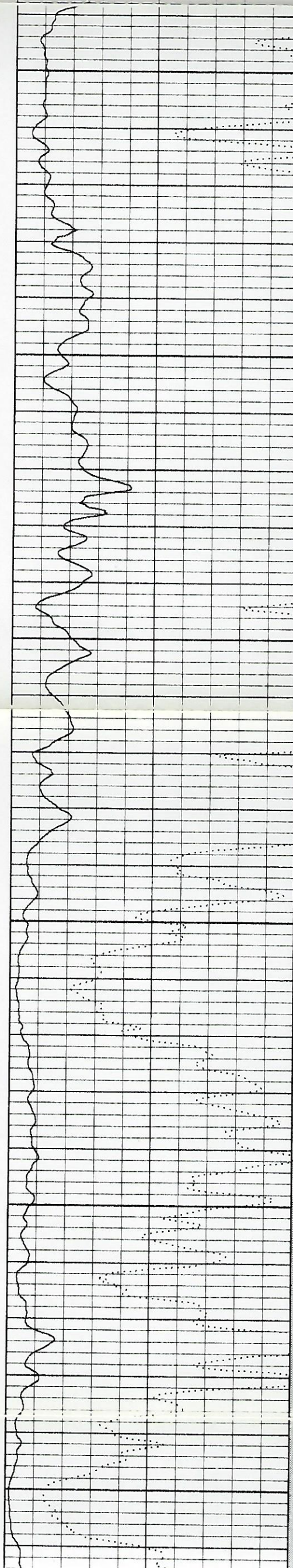




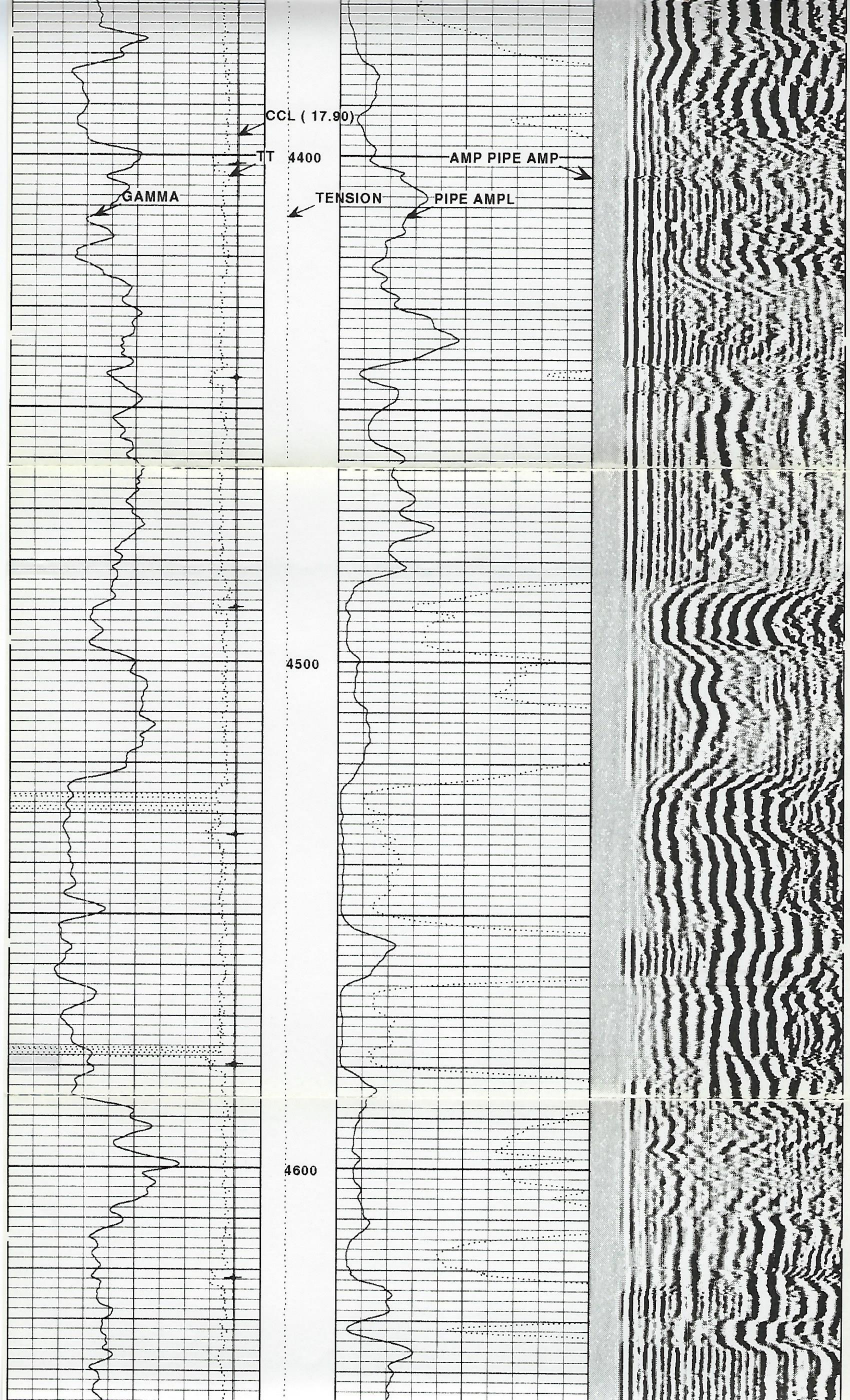
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4200

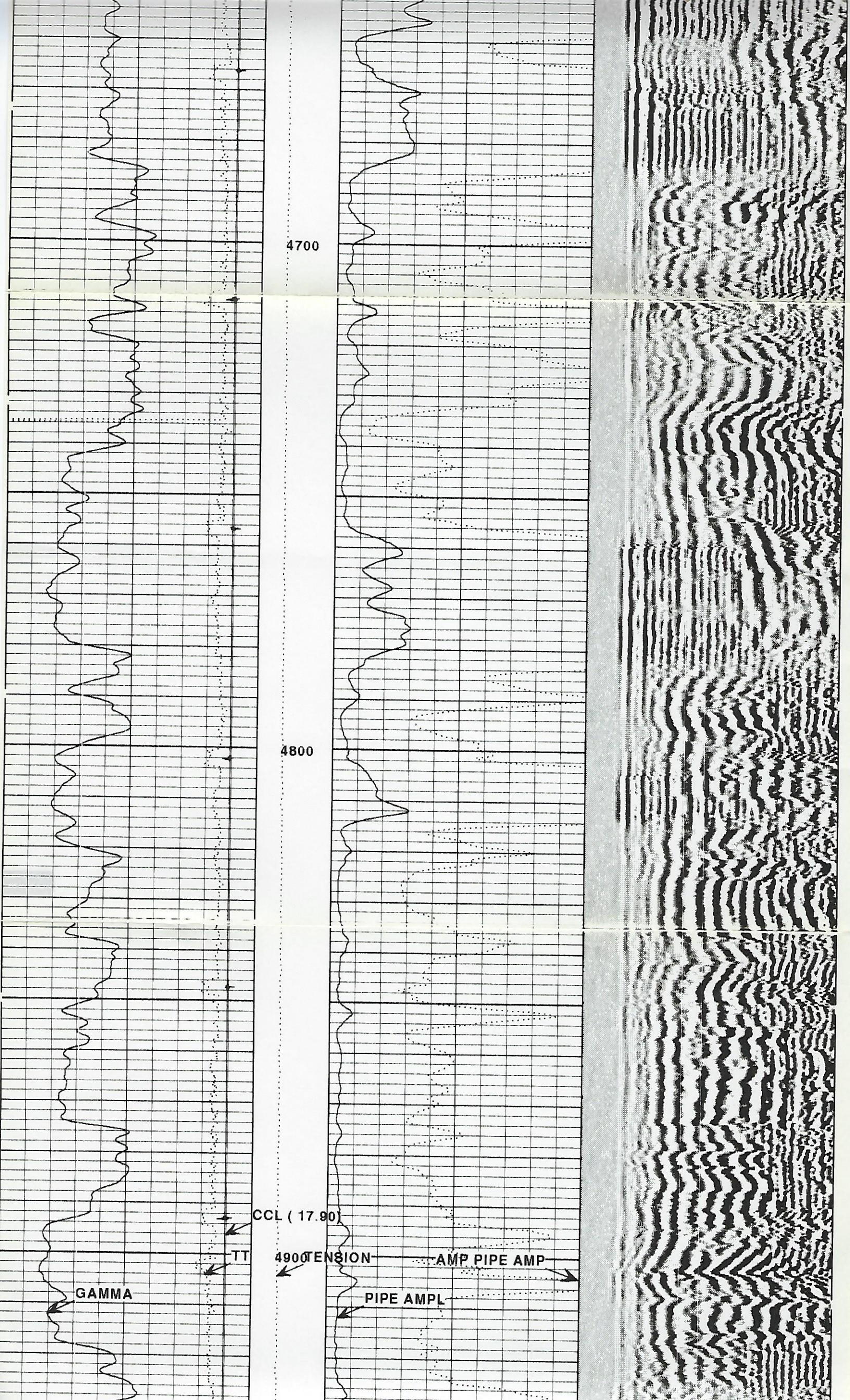
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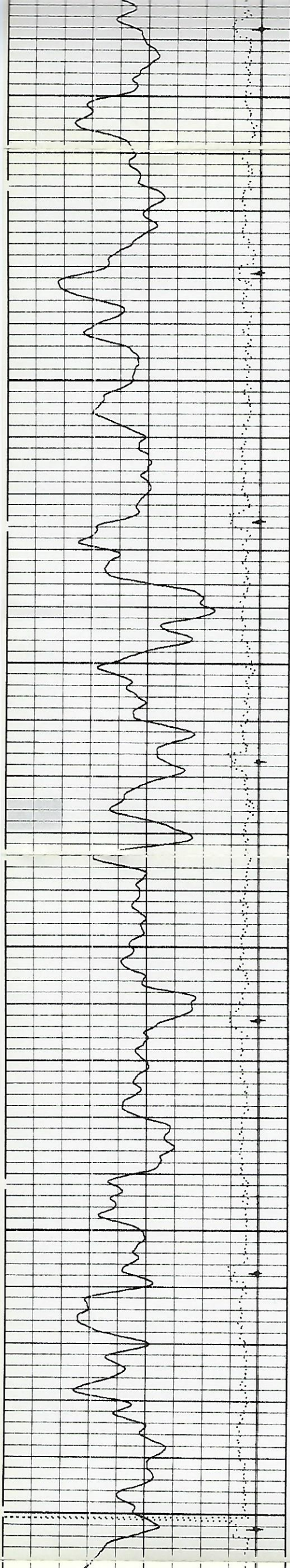








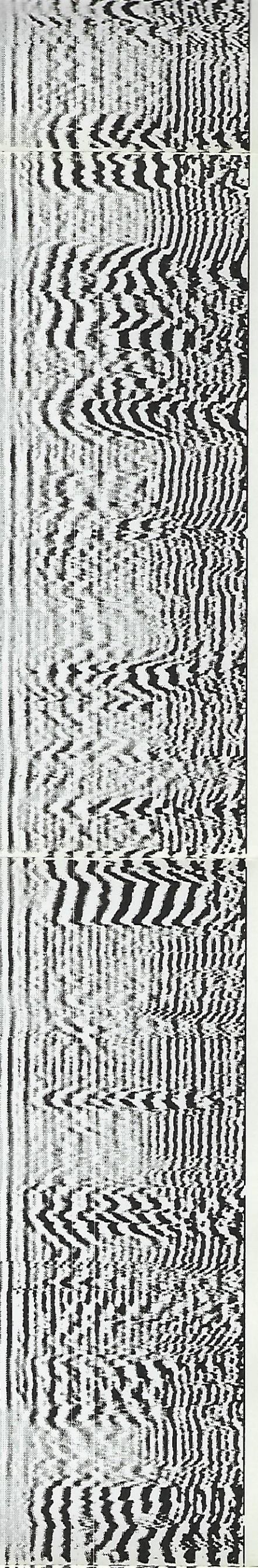
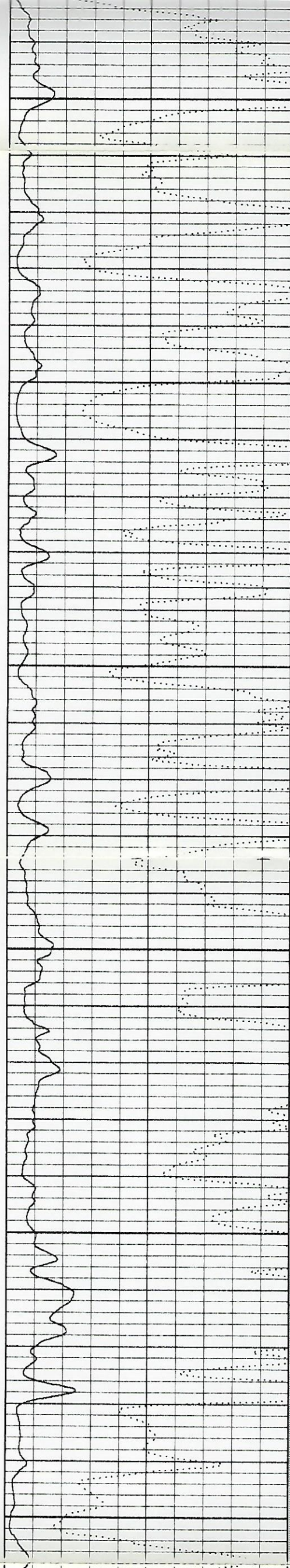




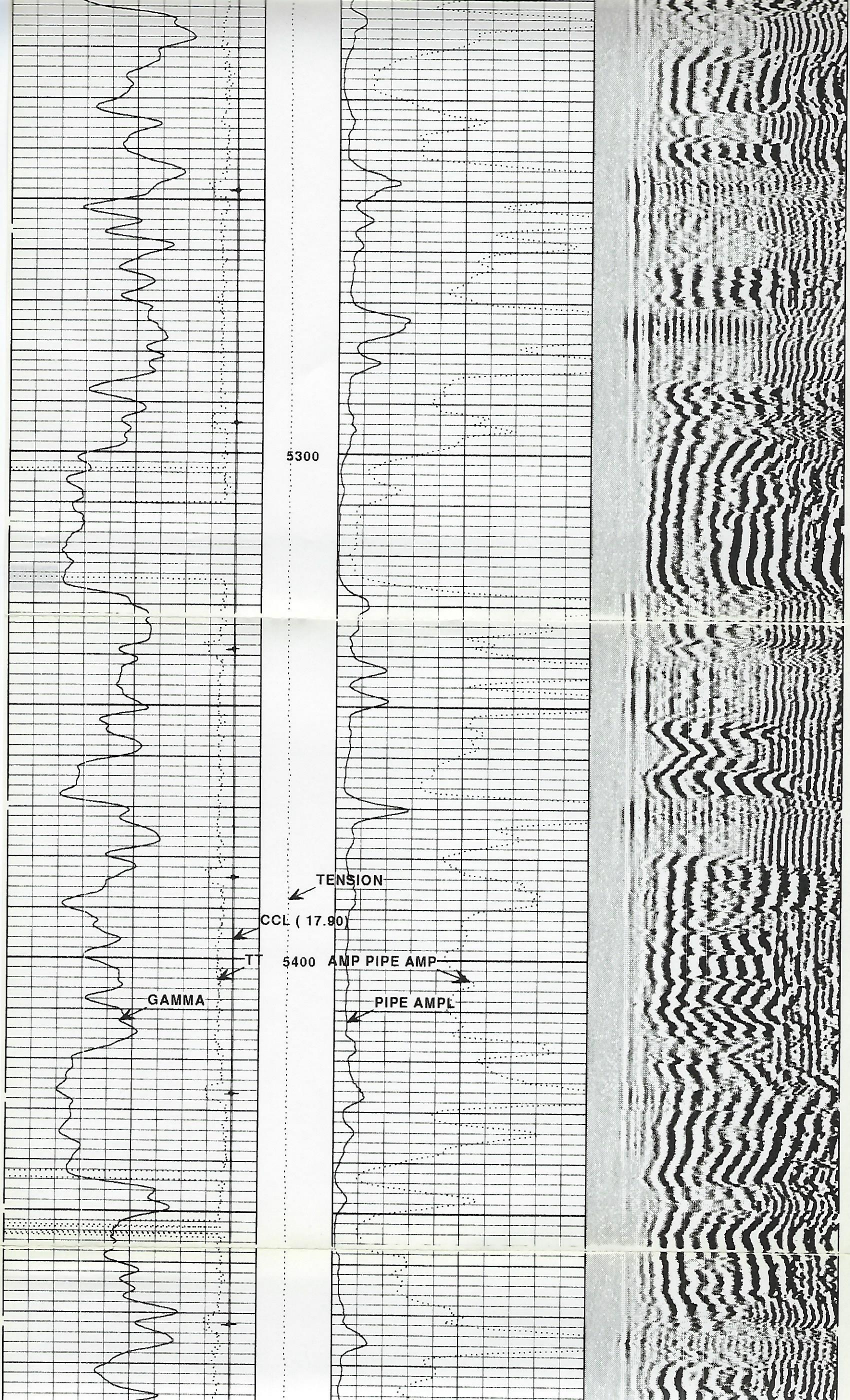
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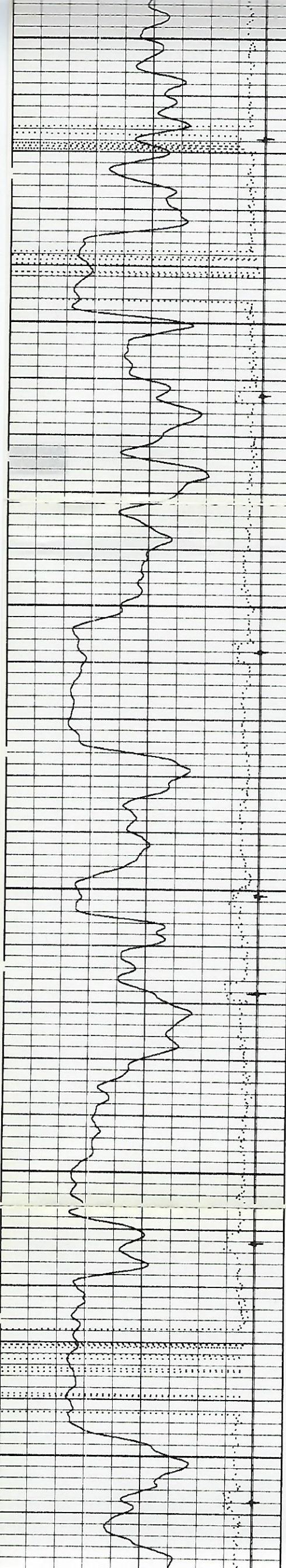
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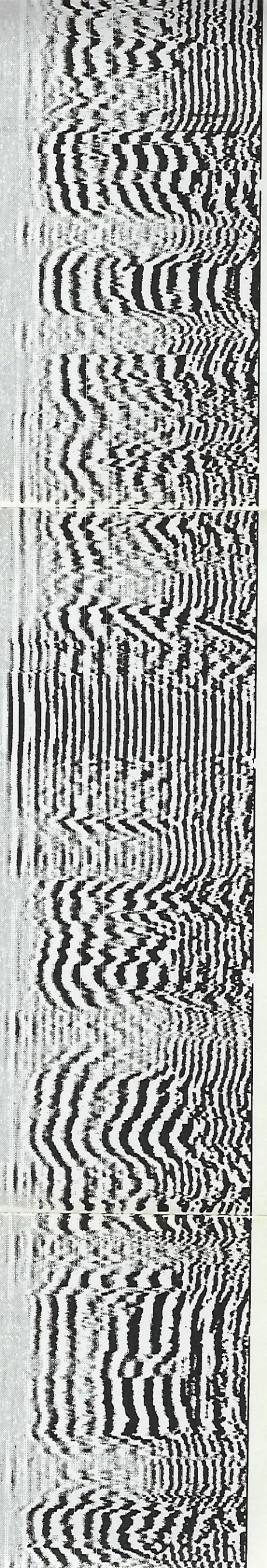
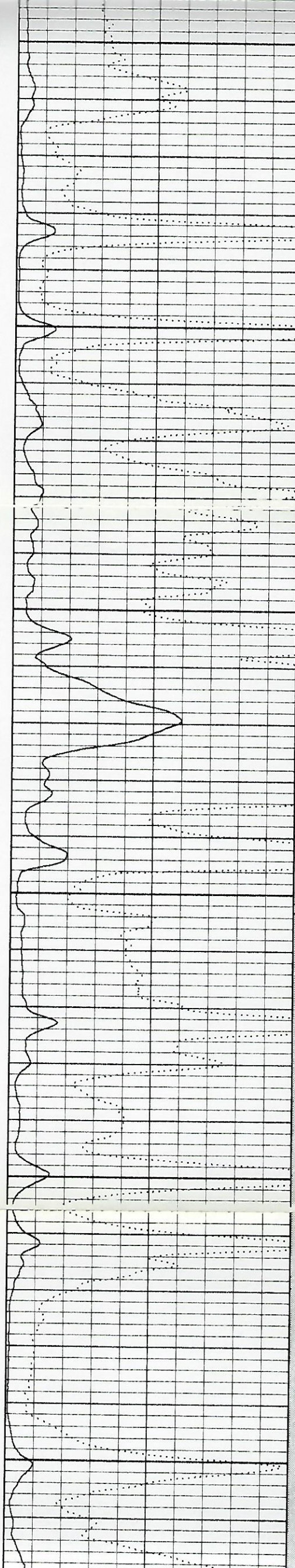




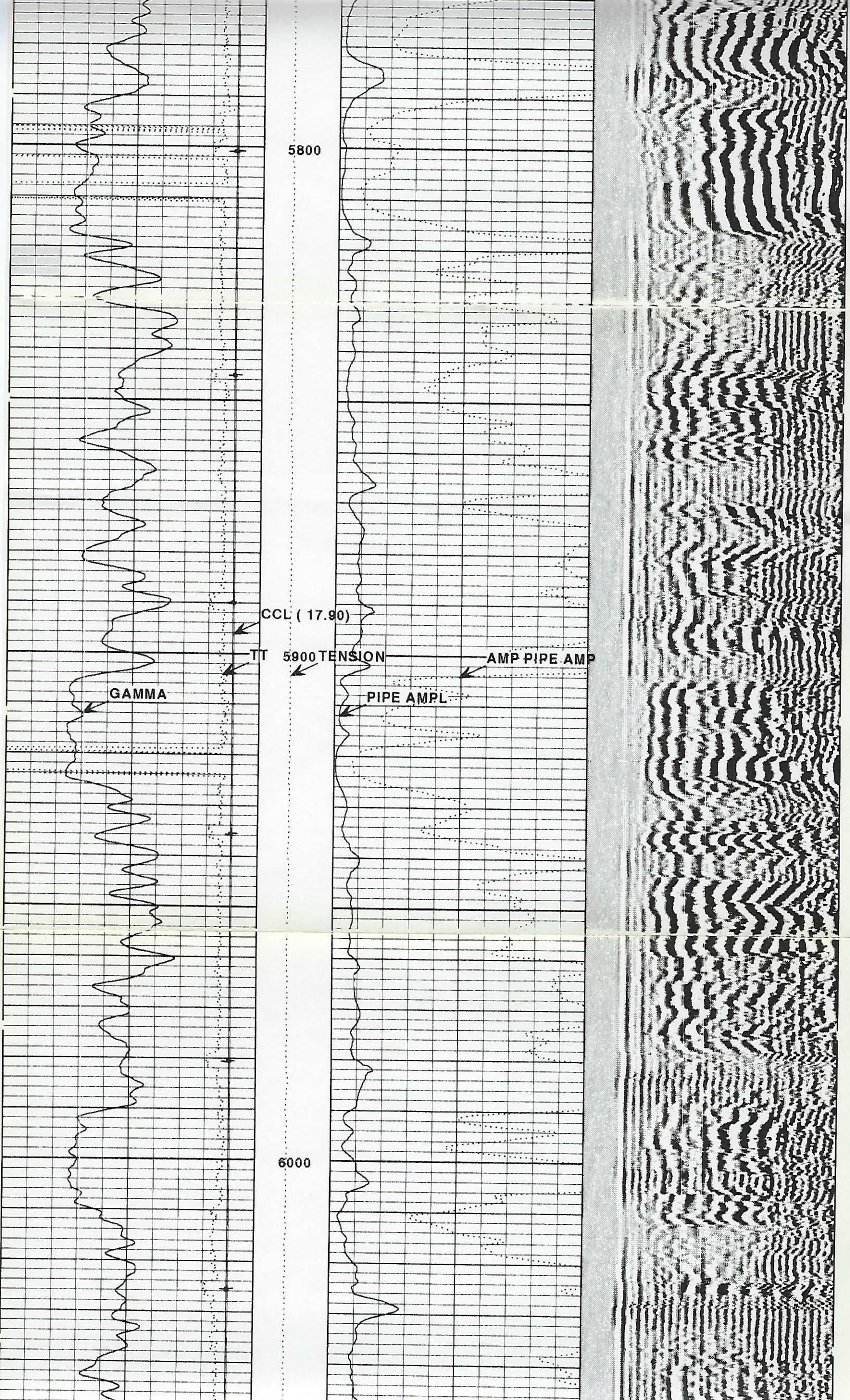
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5600

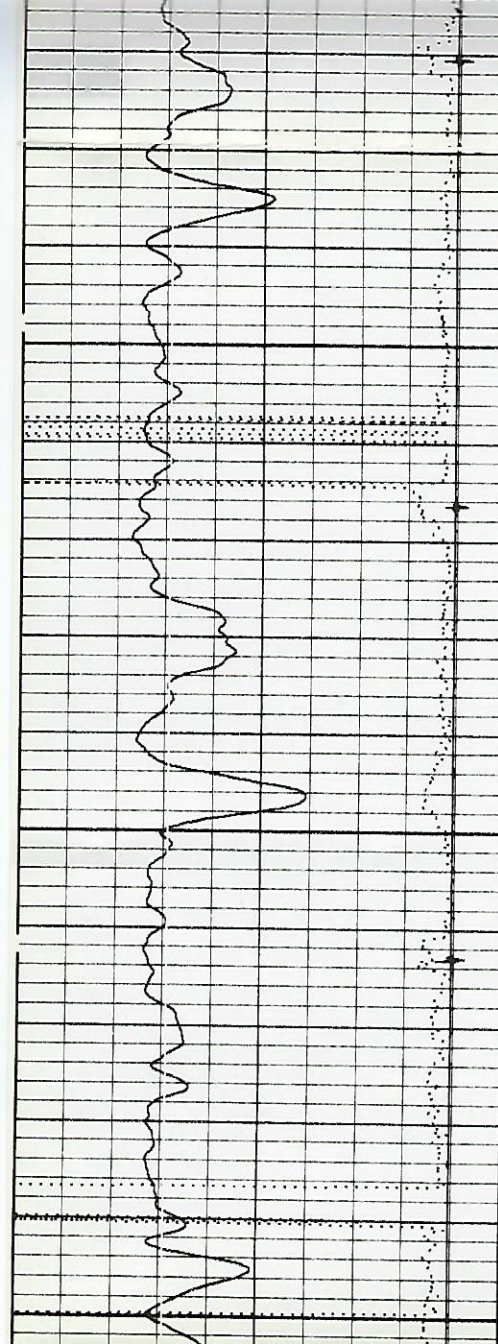
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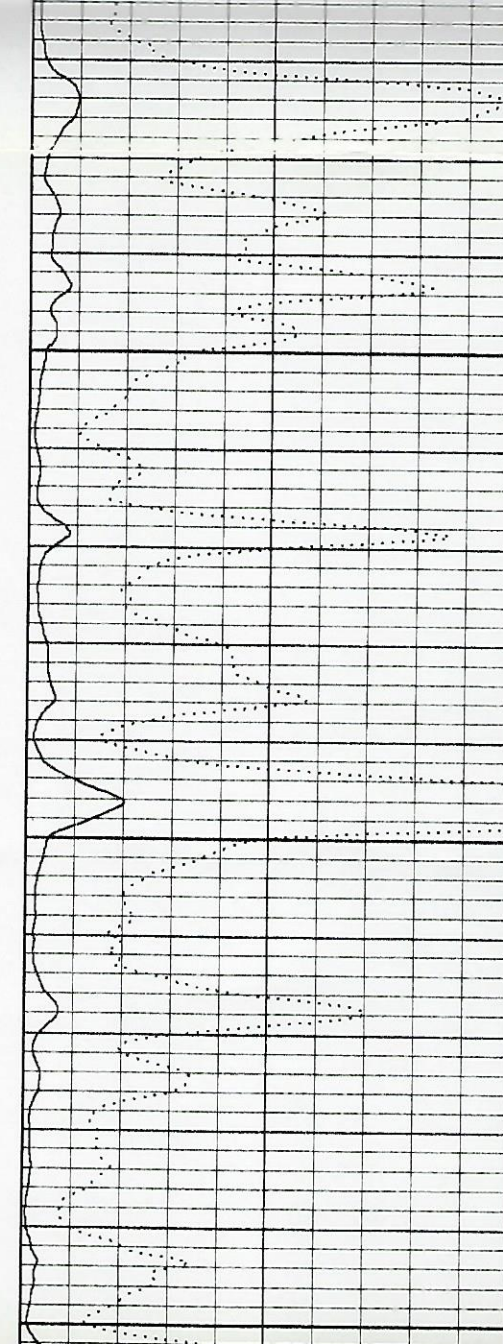




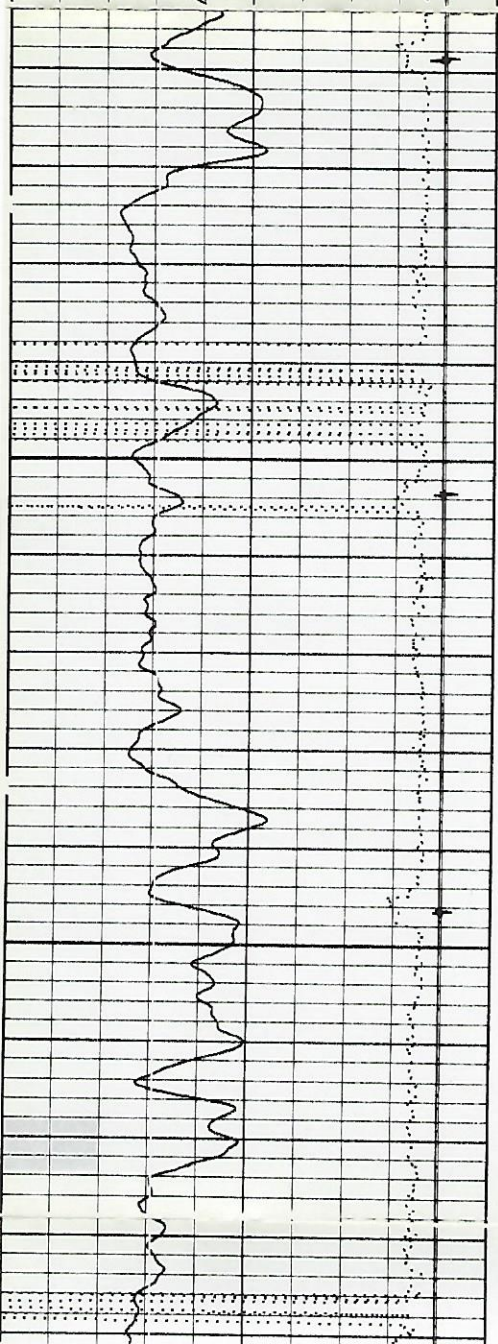




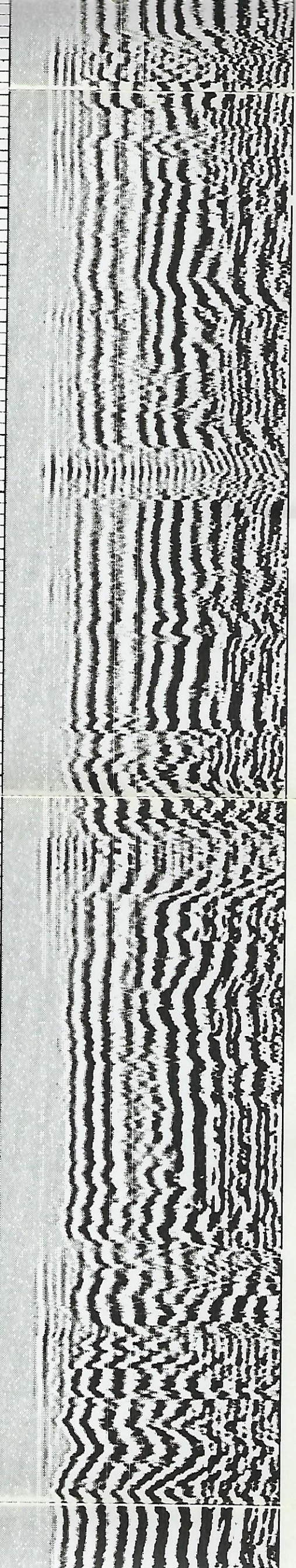
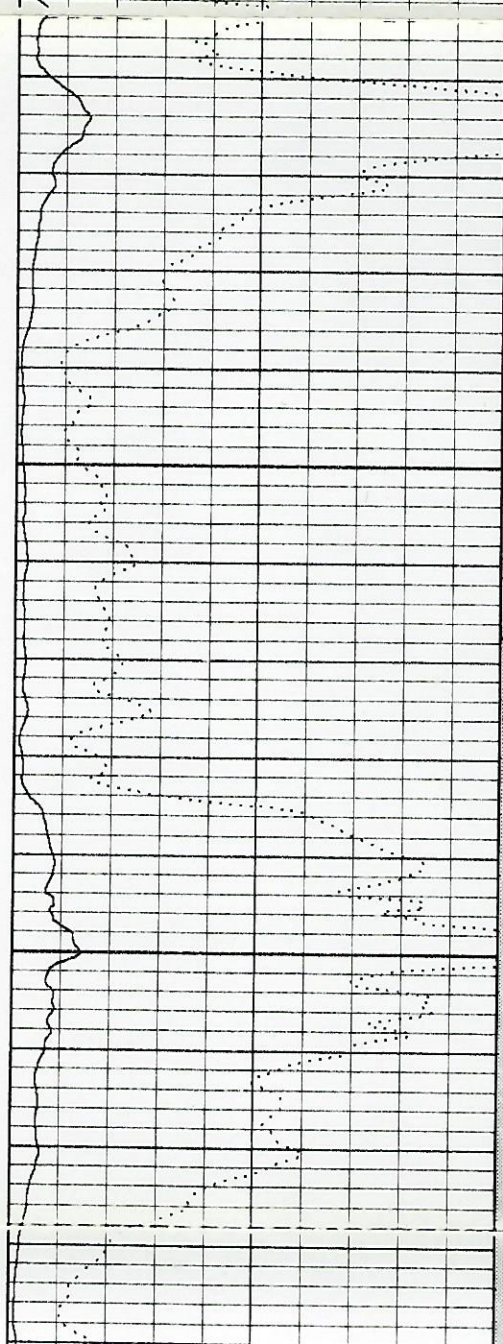
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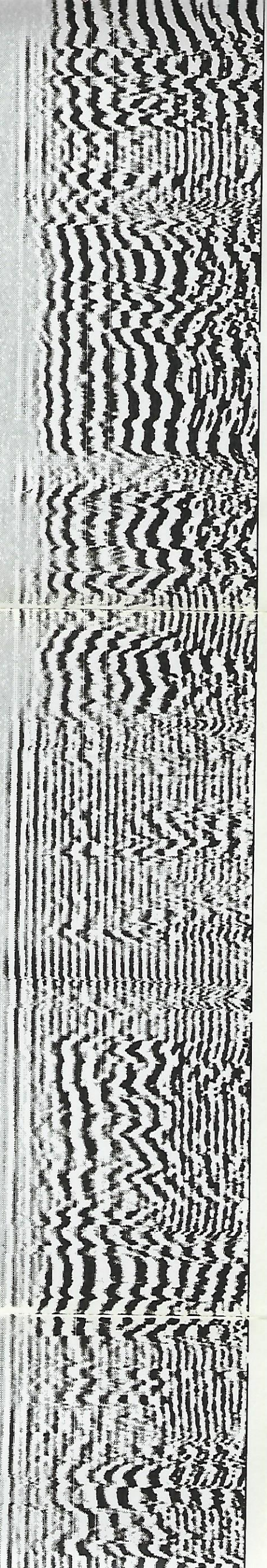
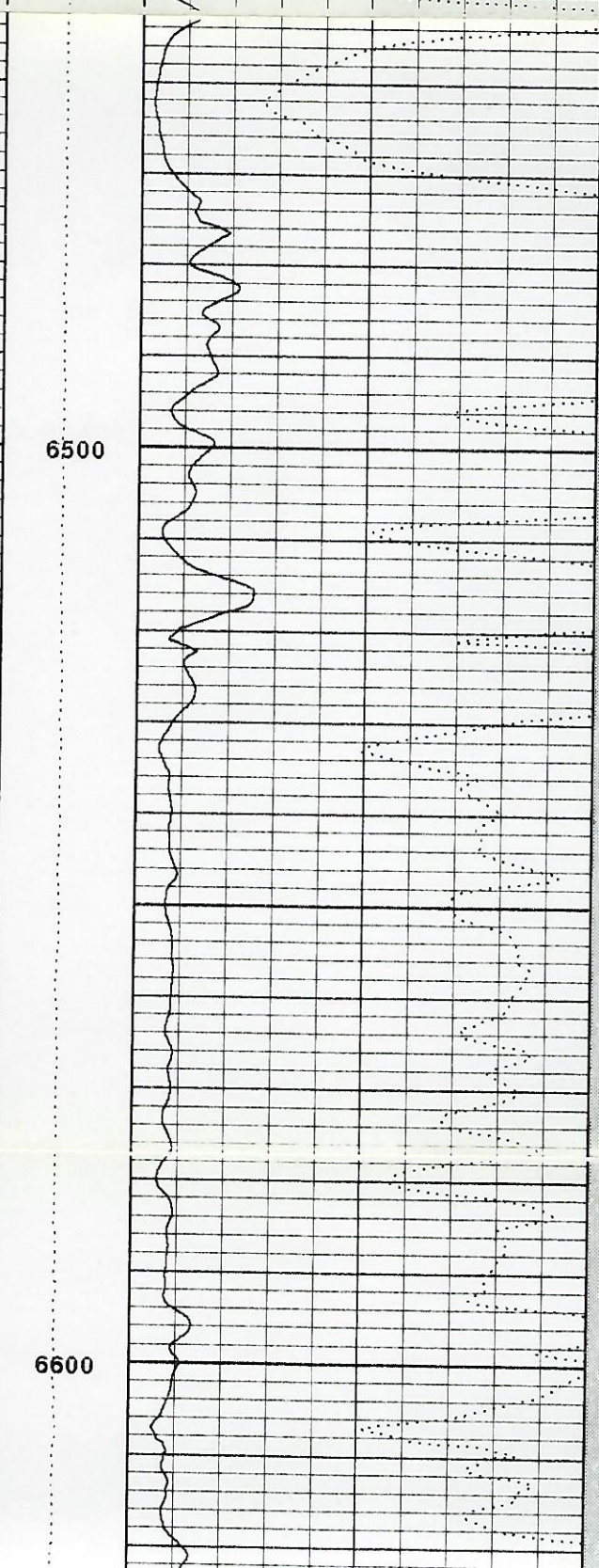
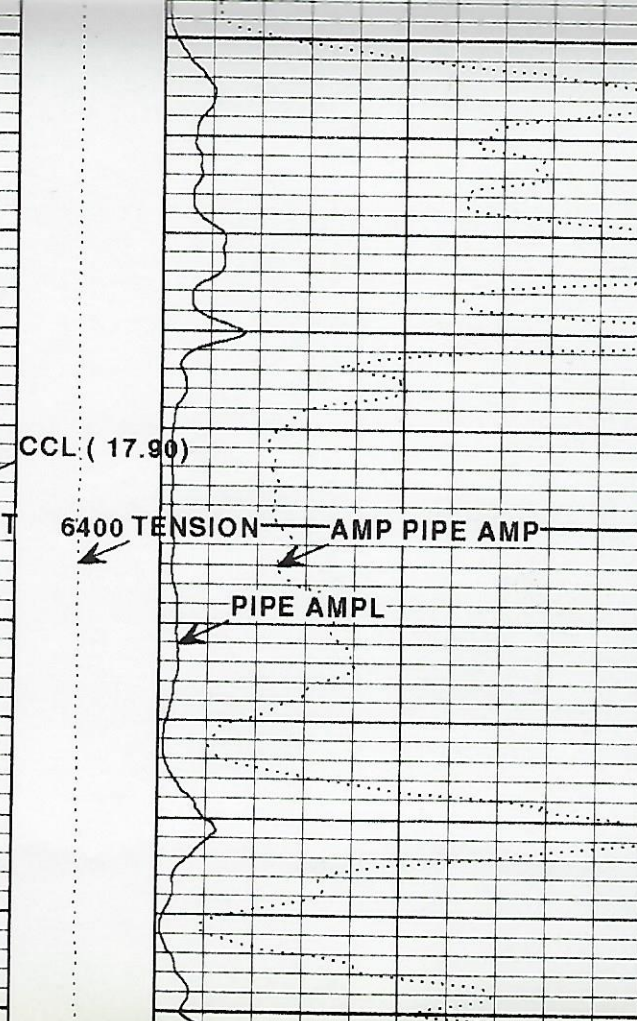
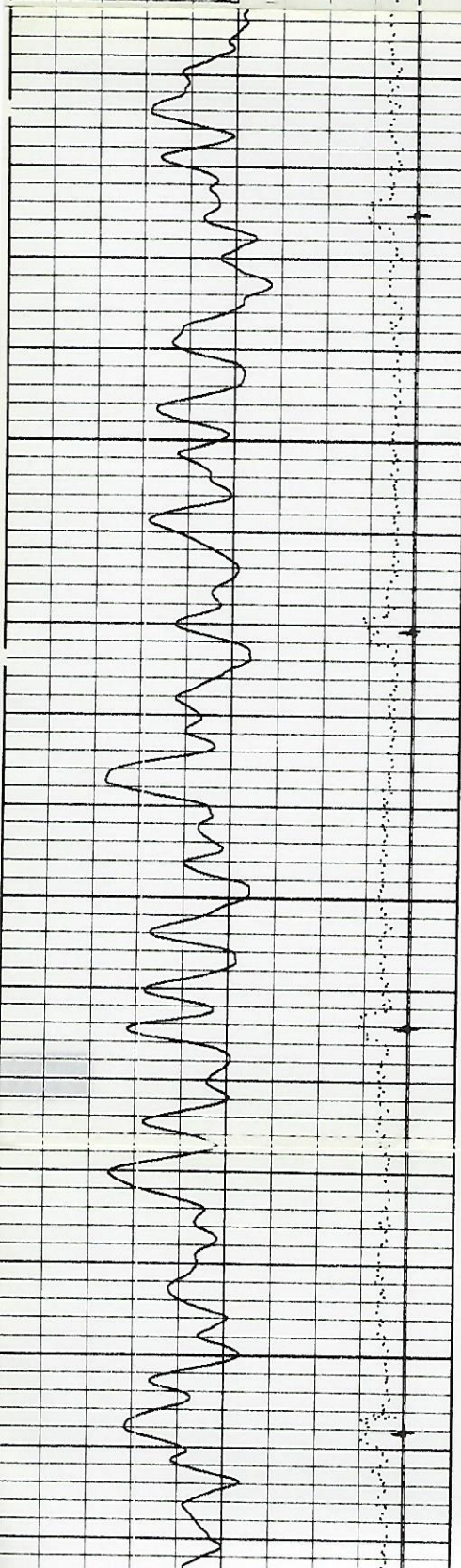
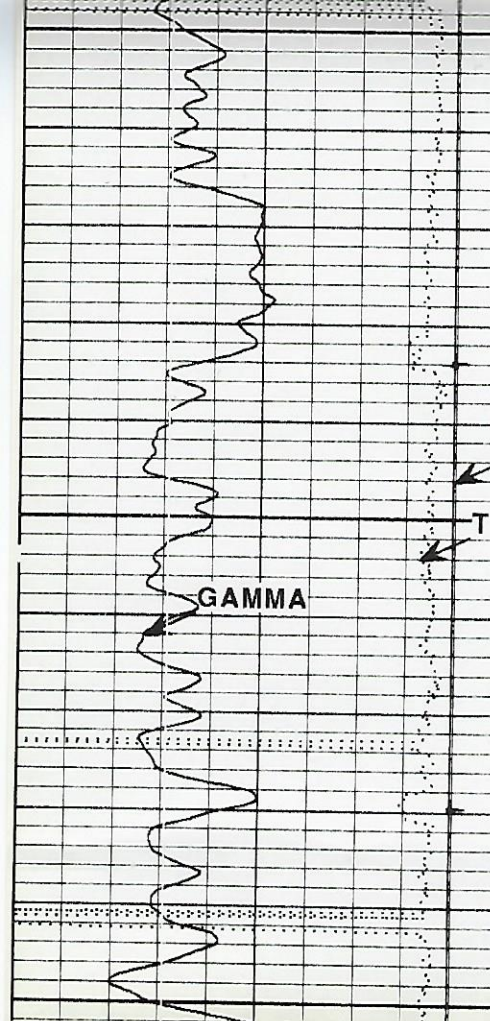
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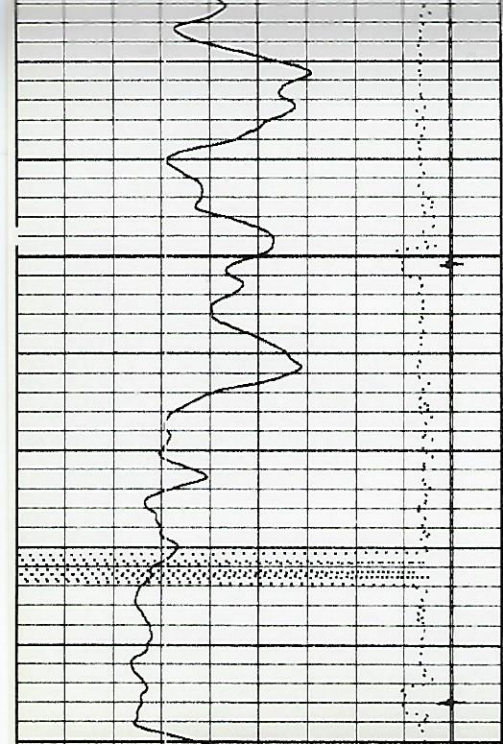
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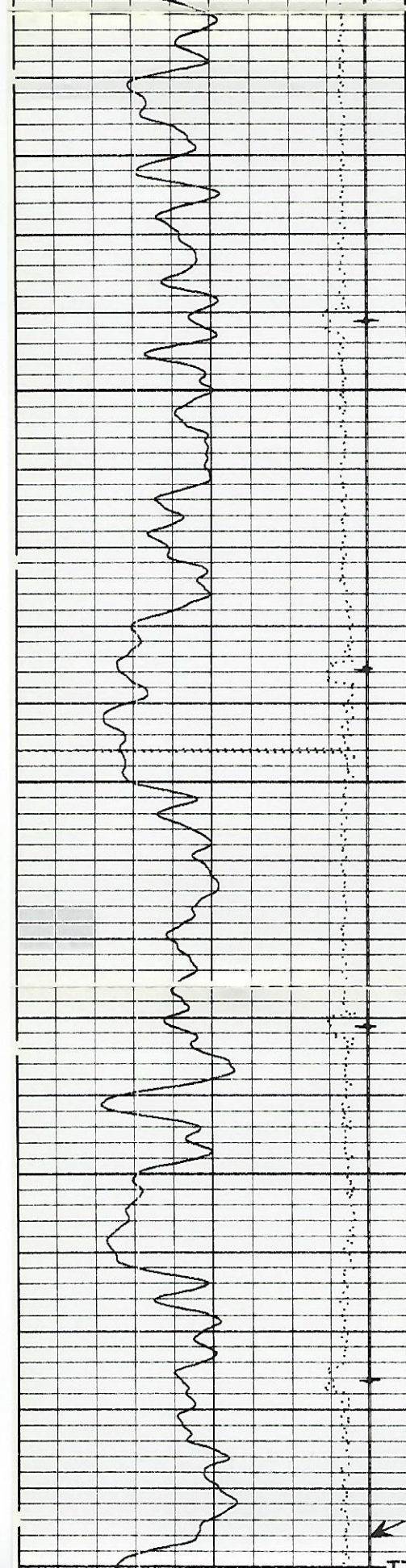
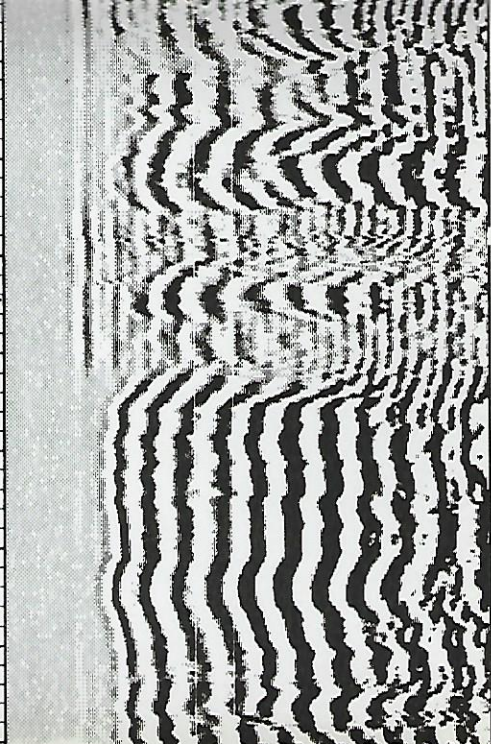
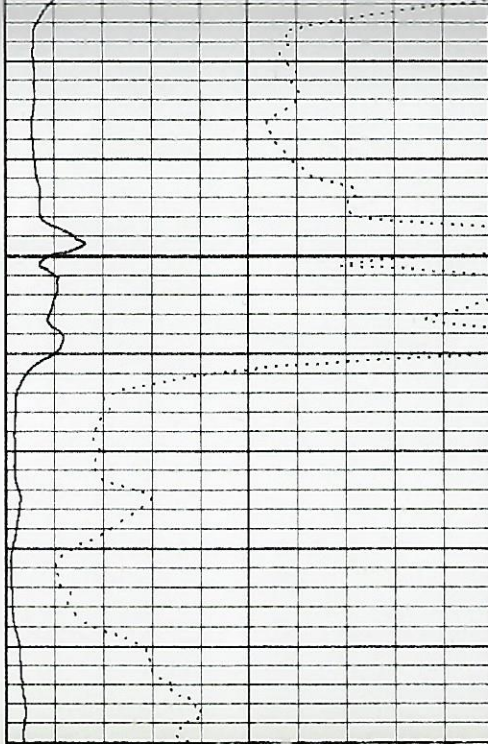




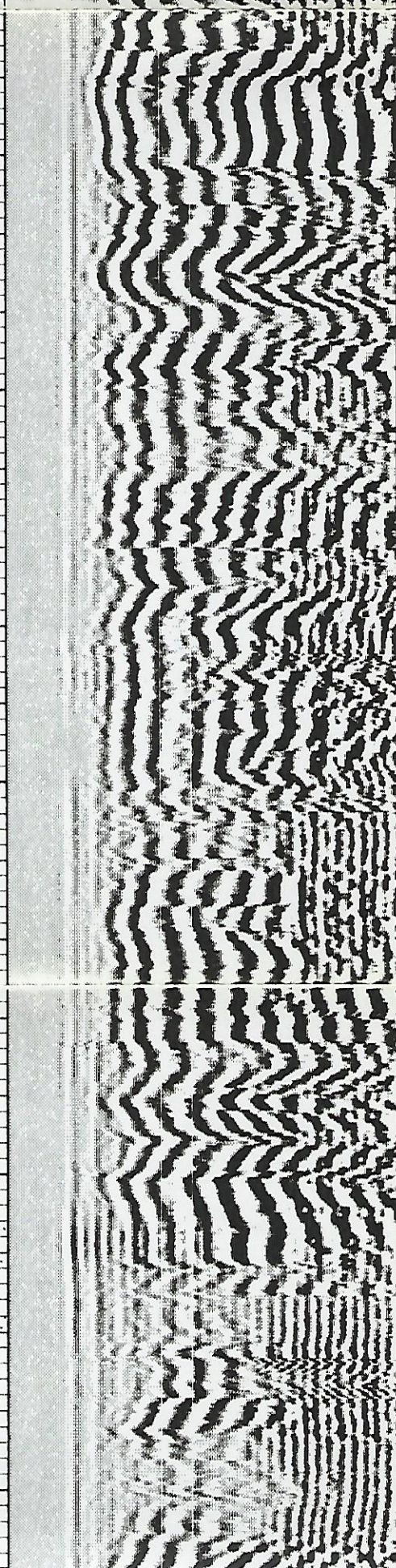
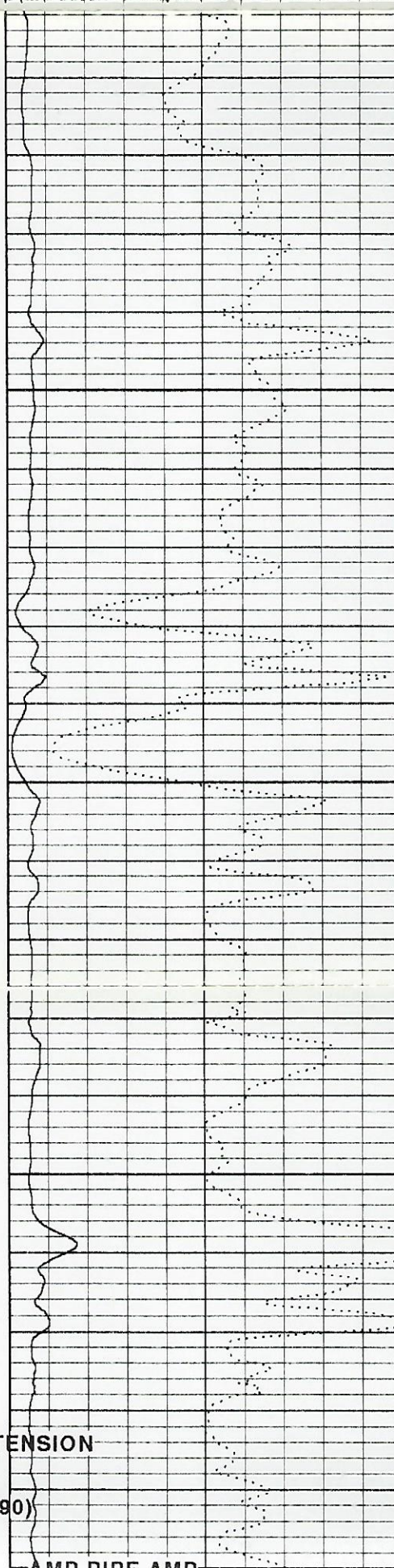




6700



6800



TENSION  
CCL ( 17.90)

TT 6000 AMP RIDE AMP

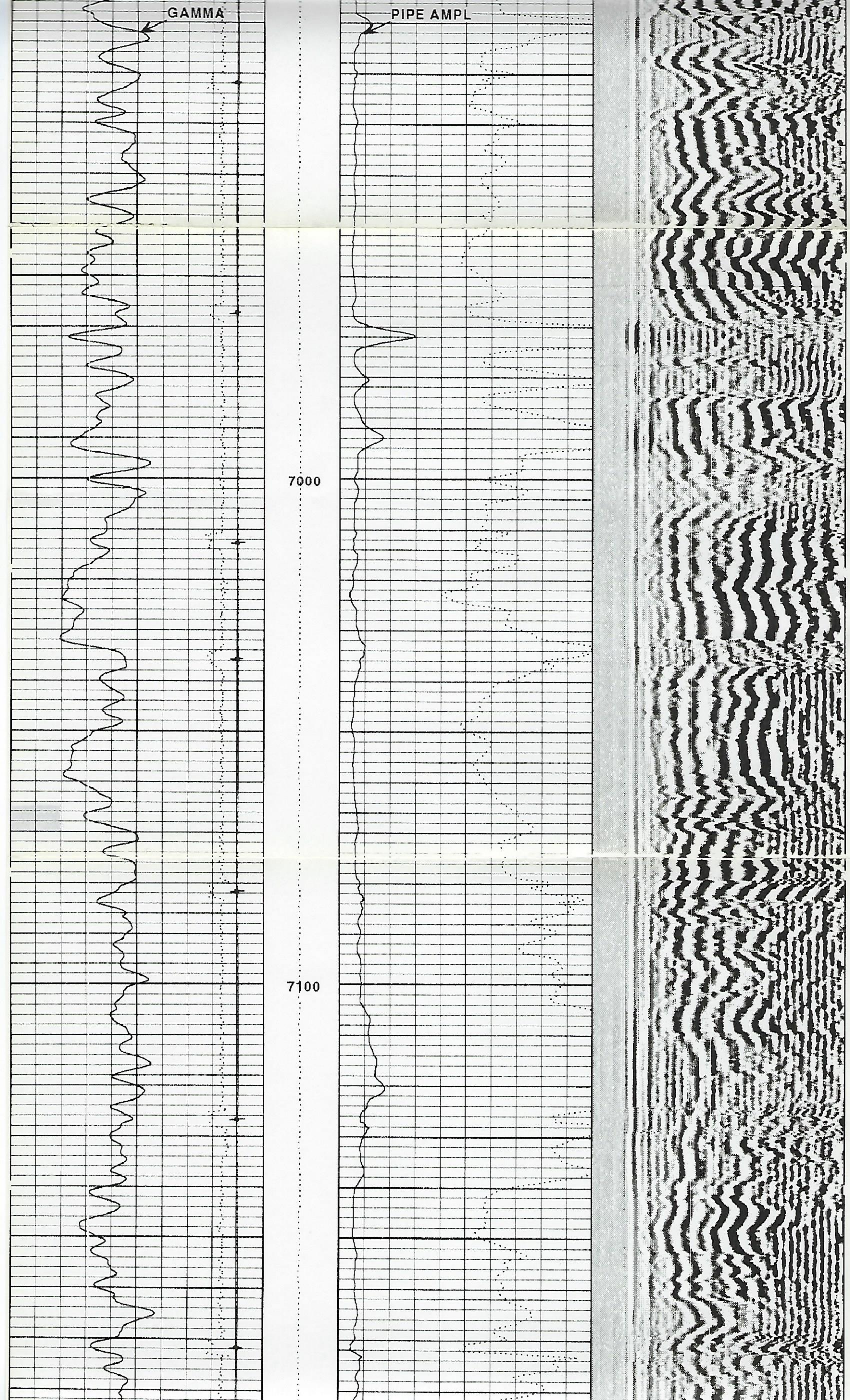


GAMMA

PIPE AMPL

7000

7100





7200

7300

CCL ( 17.90 )

7400

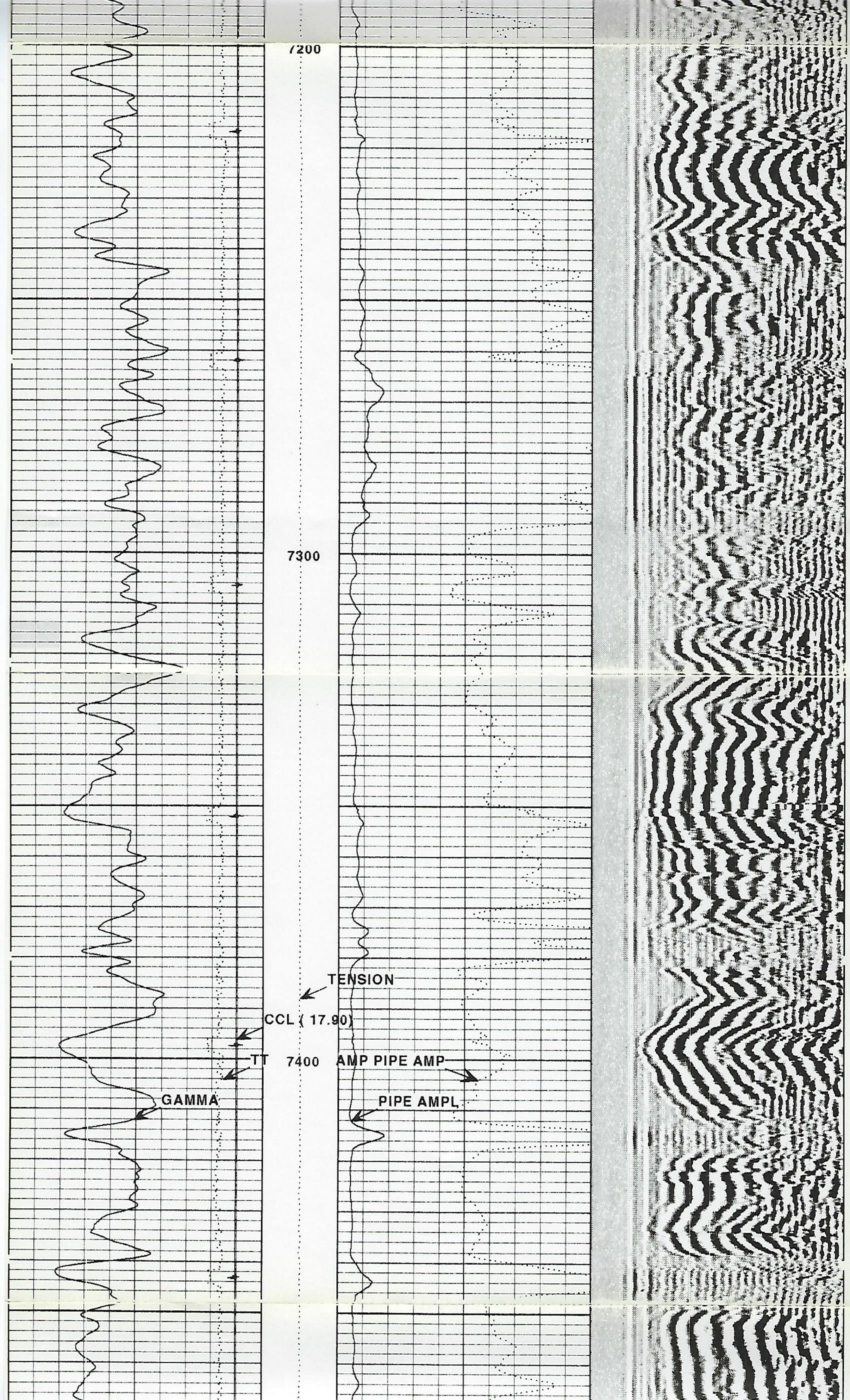
TENSION

AMP PIPE AMP

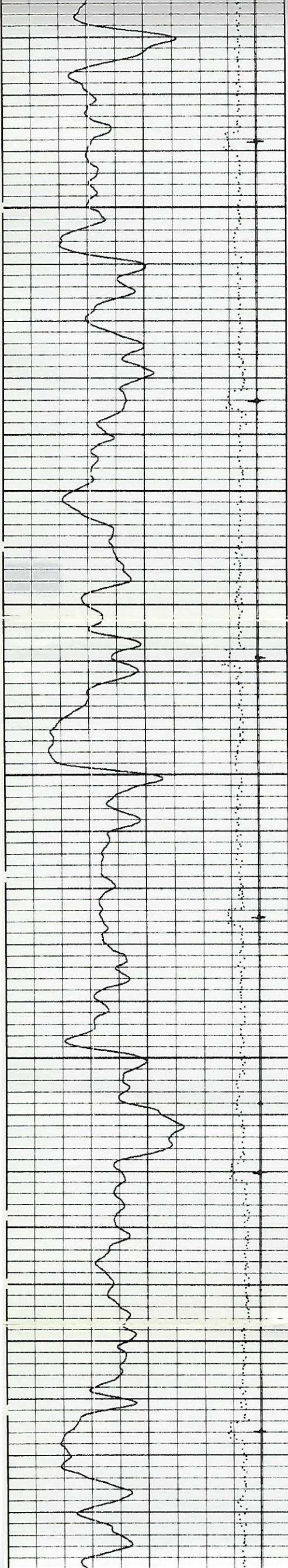
PIPE AMPL

GAMMA

TT



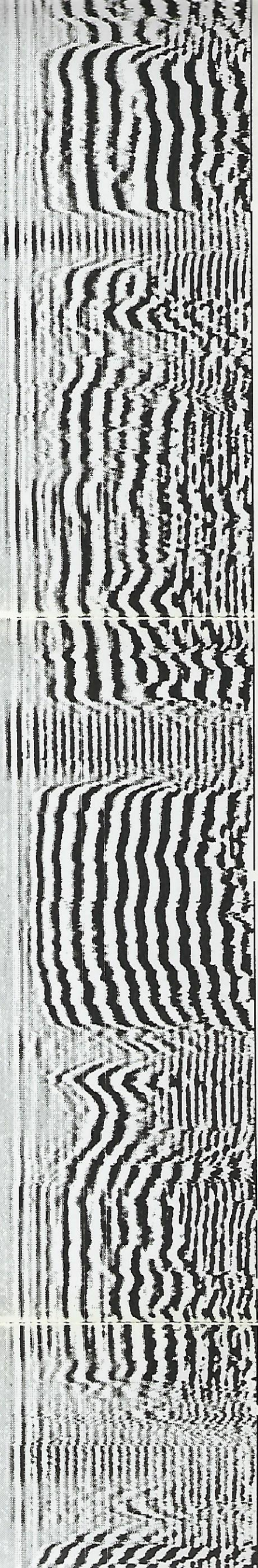
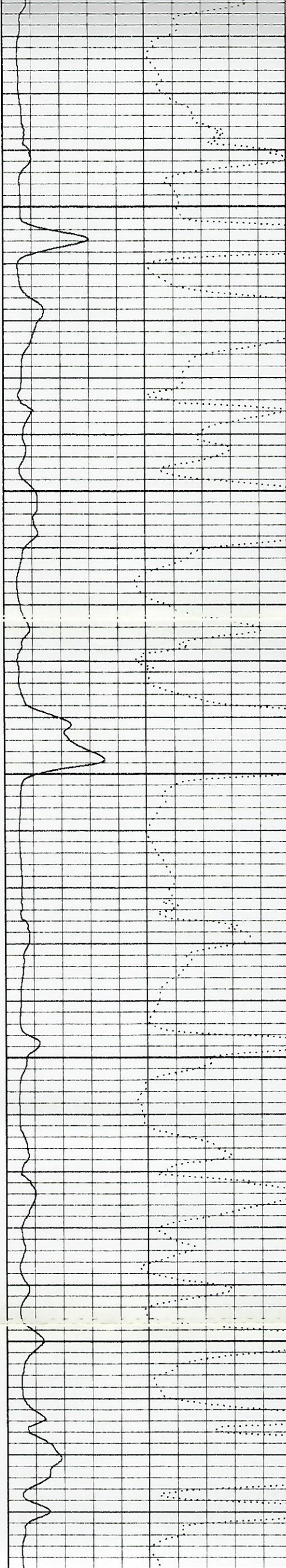




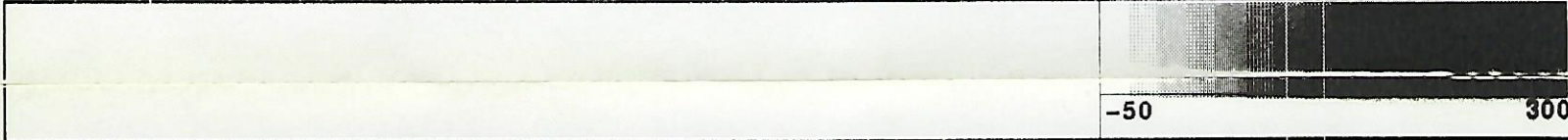
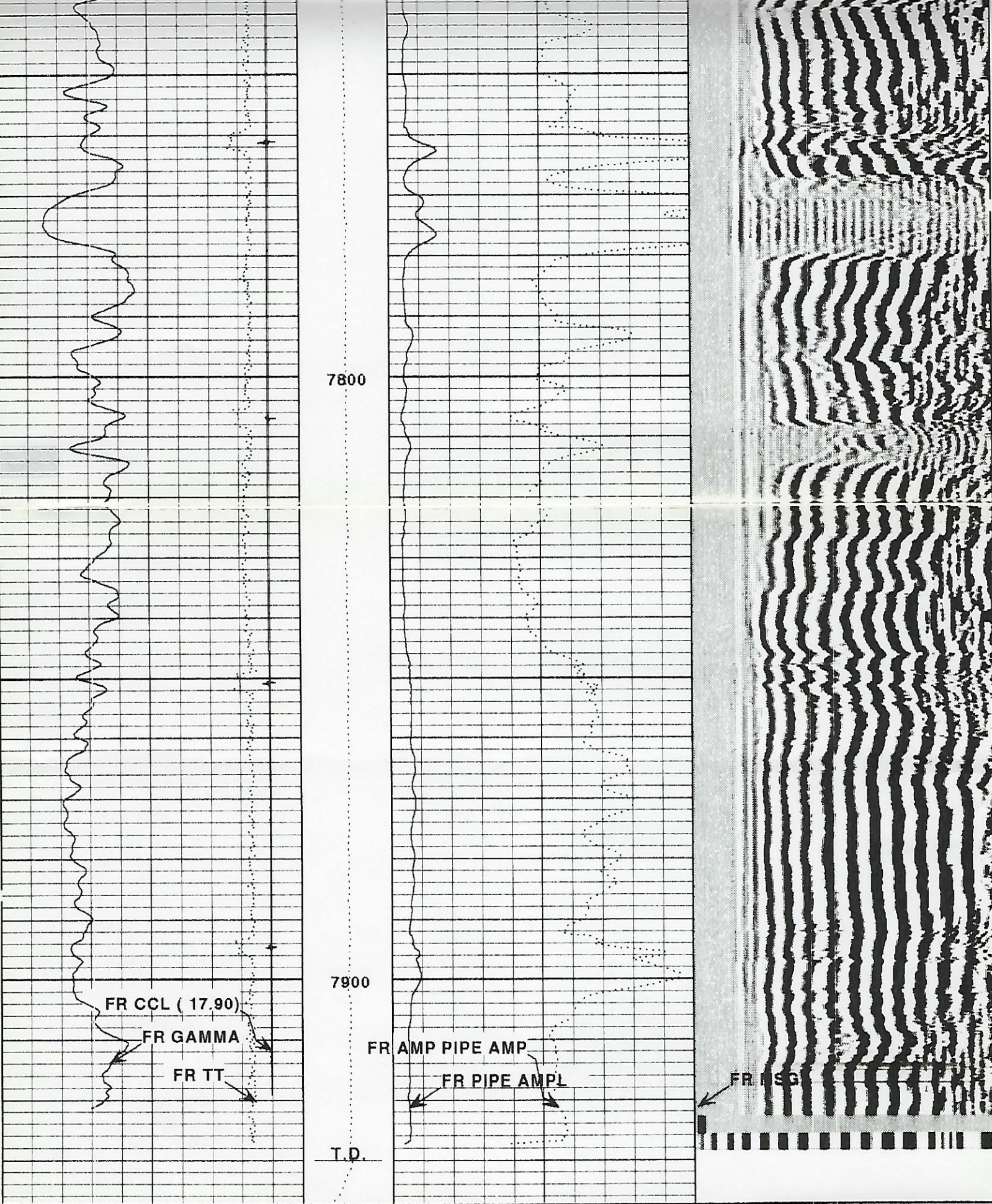
7500

7600

7700







CCL ( 17.90)		1:240 FT. TENSION 0 2500 POUNDS	AMP PIPE AMP		MSG 4-USEC 200 1200
0	3400		0 10		
TT					
305	US 202				
GAMMA		TENSION 0 2500 POUNDS	PIPE AMPL		MSG 4-USEC 200 1200
0	GAMMA API 200		0 100		

Version No: 5.0 | hc:3.0  
Data File: ben\_11\_13d\_cbl.5.cls  
Format File: plot\_01\_1.spc  
Plot Time: 2003-09-17 20:47:51  
Log Time: 2003-09-17 20:47:43



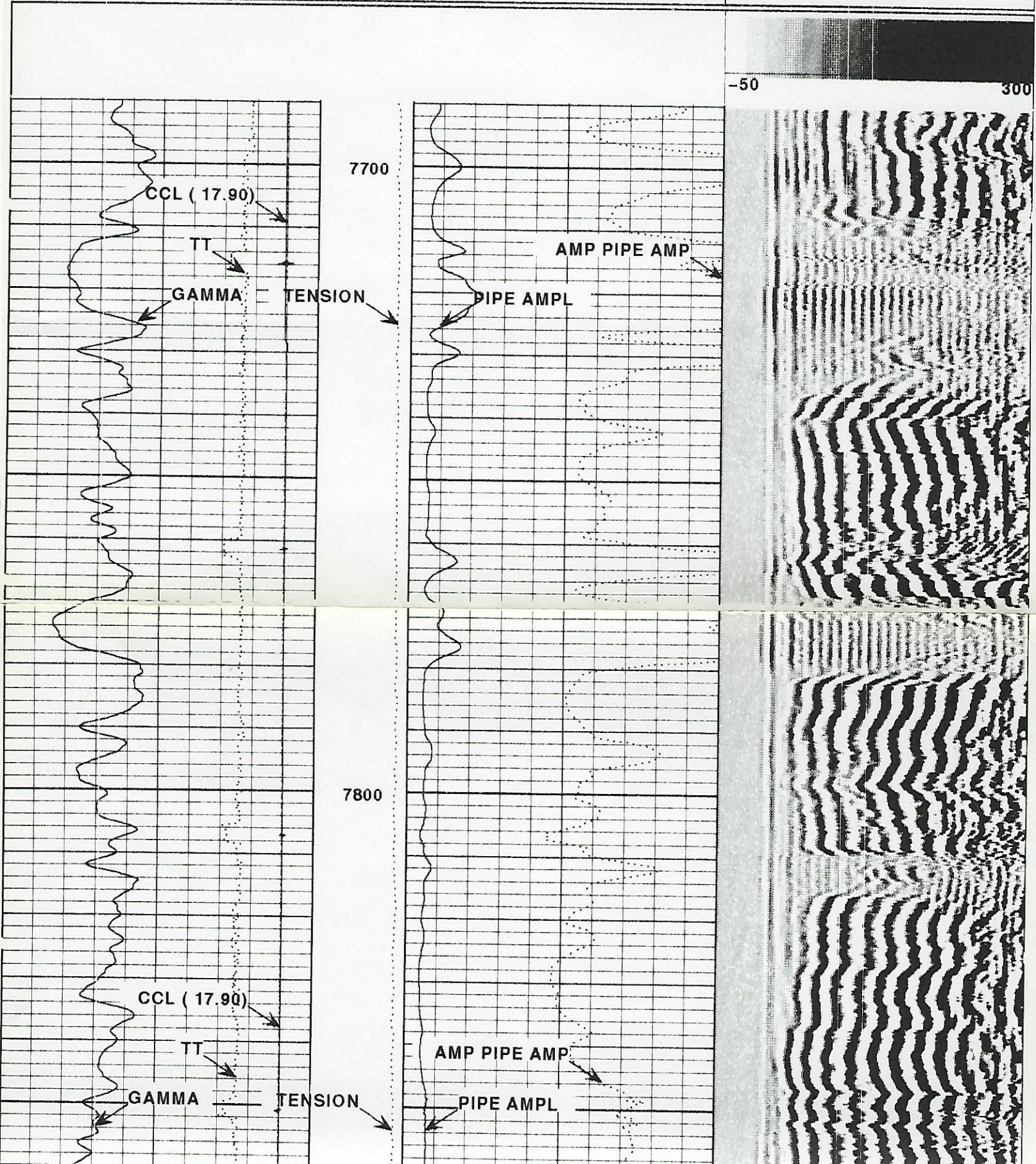
Top Depth: -----  
Bottom Depth: 7937.00



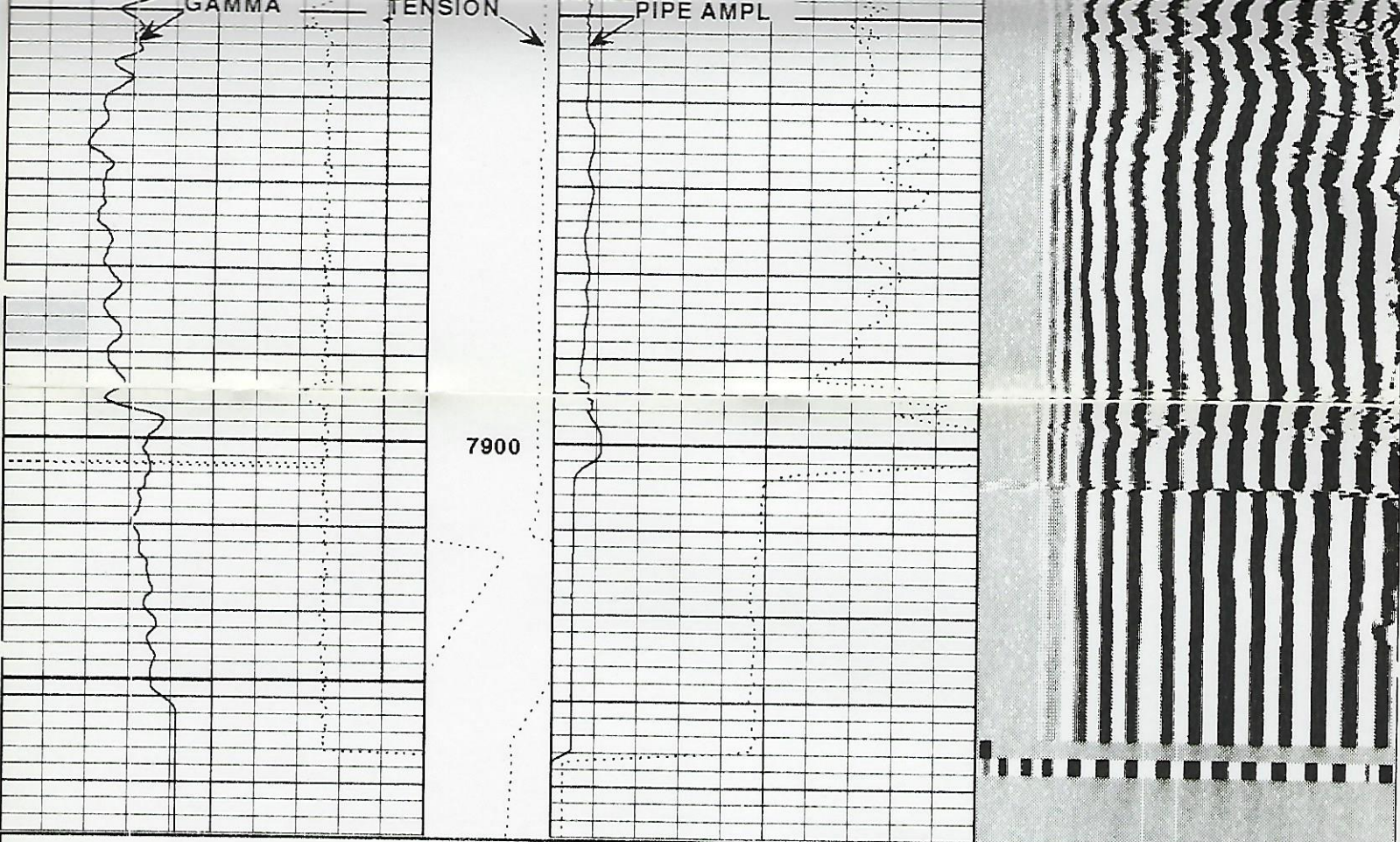
**CBL PRESENTATION  
REPEAT PASS  
5"=100'**

Bottom Depth: 7846.00

**EXCELL**







CCL ( 17.90)		1:240 FT. TENSION 0 1500 POUNDS	AMP PIPE AMP		MSG 4-uSEC 200 1200
0	3400		0	10	
295	195				
GAMMA	GAMMA API		PIPE AMPL		
0	200		0	100	



Version No: 5.0 | hc:3.0  
Data File: ben\_11\_13d\_cbl\_001\_v.cls  
Format File: plot\_1.2.spc  
Plot Time: 2003-09-17 20:32:49  
Log Time: 2003-09-17 20:24:33  
Top Depth: 7689.33  
Bottom Depth: 7946.00

CBL PRESENTATION  
REPEAT PASS  
5"=100'

EXCELL-2000 Calibration Report  
Date: 17-Sep-2003 23:23

CEMENT BOND TOOL -- CBL-DC SHOP CALIBRATION SUMMARY

PERFORMED: 17-Sep-2003 19:26 LAST SHOP CALIBRATION: 18-Aug-2003 15:53  
SERIAL NUMBER: 573\_4 MODEL: CBL-DC  
TRUCK UNIT NUMBER: 10247385 RED PROGRAM VERSION: 5.0  
PERFORMED BY: D.ORD

	MEASURED	CALIBRATED	UNITS
ZERO PIPE AMP NEAR	1.40	1.00	API PU
PIPE REFERENCE AMP NEAR	65.38	71.93	API PU
ZERO PIPE AMP FAR	0.47	0.00	API PU
PIPE REFERENCE AMP FAR	59.85	71.93	API PU
PIPE REFERENCE TT_N		218.19	USECS

COMMENTS:  
CASING OD & RECIEVER/TRANSMITTER SPACING USED  
TO CALCULATE THE E1 TRAVEL TIME DURING  
CALIBRATION.



	TOOL VALUE	MEASURED	CALIBRATED	UNITS
ZERO PIPE AMP NEAR	15	1.40	1.00	API PU
PIPE REFERENCE AMP NEAR	1310	65.38	71.93	API PU
ZERO PIPE AMP FAR	15	0.47	0.00	API PU
PIPE REFERENCE AMP FAR	1044	59.85	71.93	API PU
PIPE REFERENCE TT_N	239		218.19	USECS
CASING OD			5.50	INCHES
CASING WI			17.00	LB/FT
LINE LENGTH			0.00	

	GAIN	OFFSET
PIPE AMP NEAR	0.05	0.17
PIPE AMP FAR	0.07	-1.06
TRAVEL TIME OFFSET PARA		20.31
E1 IN FREE PIPE PARA		71.93
E1 IN BONDED PIPE		1.00

CEMENT BOND TOOL – CBL-DC BEFORE SURVEY FIELD CHECK SUMMARY

PERFORMED: 17-Sep-2003 19:55    LAST SHOP CALIBRATION: 17-Sep-2003 19:26

	FIELD BEFORE MEASURED	FIELD BEFORE CALIBRATED	UNITS
BOND PIPE AMP	0.95	1.00	API PU
FREE PIPE AMP	76.66	71.93	API PU

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COMMENTS: THIS IS A FIELD CALIBRATION FOR AMPLITUDE

TRANSIT TIME IS NOT RE-CALIBRATED.

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	TOOL VALUE	MEASURED	CALIBRATED	UNITS
BOND PIPE AMP	14	0.95	1.00	API PU
FREE PIPE AMP	1397	76.66	71.93	API PU
CASING OD			5.50	INCHES
	GAIN	OFFSET		
PIPE AMPL	0.05	0.27		

DC NATURAL GAMMA SHOT CALIBRATION SUMMARY

PERFORMED: 17-Sep-2003 19:07    LAST SHOP CALIBRATION: 29-May-2003 08:40

SERIAL NUMBER: 614    MODEL:

TRUCK UNIT NUMBER: 10247385    RED PROGRAM VERSION: 5.0

PERFORMED BY: D.ORD

	MEASURED	CALIBRATED	UNITS
BACKGROUND	78	77	API
BACKGROUND+CALIBRATOR	324	323	API
CALIBRATOR	246	246	API
	TOOL VALUE	STD DEVIATION	UNITS
BACKGROUND	172	12.54	CPS
BACKGROUND+CALIBRATOR	717	27.30	CPS
API CONVERSION FACTOR	0.451		

DC NATURAL GAMMA BEFORE SURVEY FIELD CHECK SUMMARY

PERFORMED: 17-Sep-2003 19:09    LAST SHOP CALIBRATION: 17-Sep-2003 19:07

	SHOP	FIELD	UNITS
BACKGROUND	77.49	69.95	API
BACKGROUND+CALIBRATOR	323.49	324.87	API
CALIBRATOR	246.00	254.92	API
	TOOL VALUE	STD DEVIATION	UNITS
BACKGROUND	155	12.49	CPS
BACKGROUND+CALIBRATOR	720	26.24	CPS
API CONVERSION FACTOR	0.451		

EXCELL-2000 Calibration Summary Table

Date: 17-Sep-2003 23:23

Service or Signal	Shop	Before	After	Change	Tolerance
FREE PIPE AMP	71.93	71.93			



# EXCELL-2000 Calibration Summary Table

Date: 17-Sep-2003 23:23

Service or Signal	Shop	Before	After	Change	Tolerance
FREE PIPE AMP	71.926	71.926		4.732	+/- 5
GAMMA	246.00	254.92	0	-8.92	+/- 9.0

# EXCELL-2000 CUSTOMER EVENT LOG

Date: 17-Sep-2003 23:22

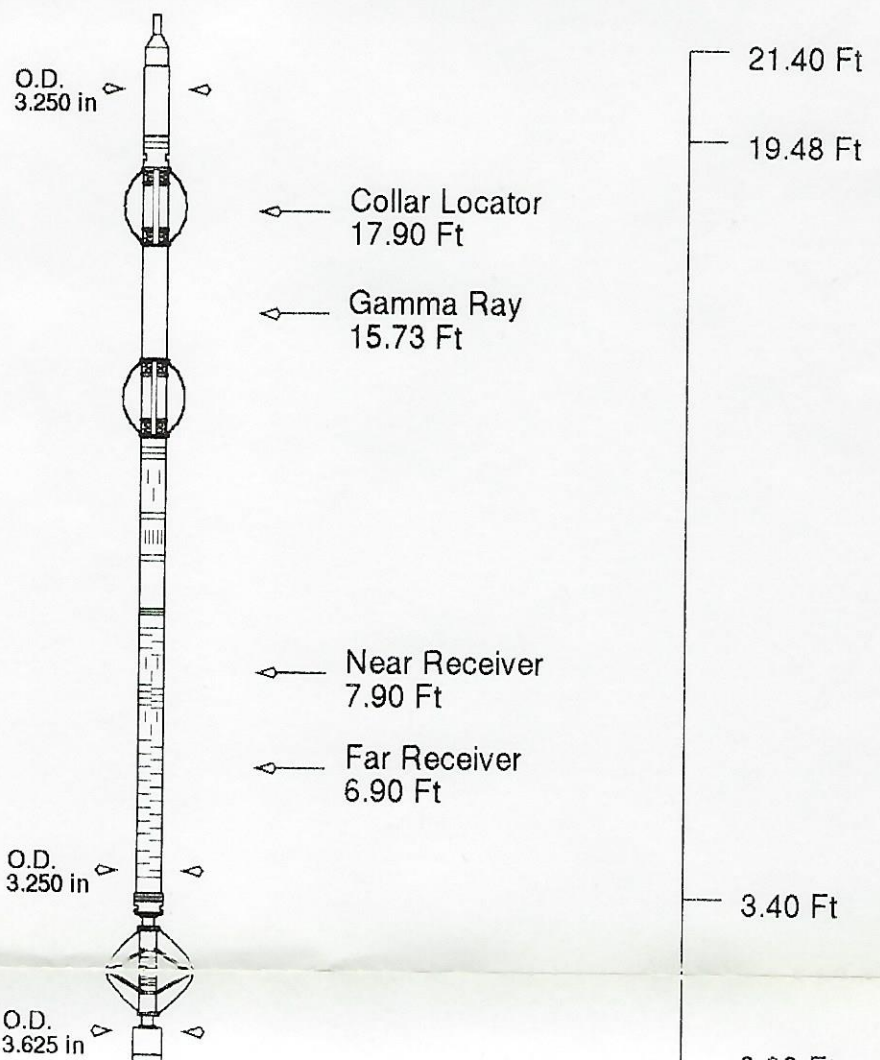
Event	Time	Section	Depth	Event Description	Data	Repeat
0001	07:56:38	0	0.00	Engineer is: D.ORD		
0002	08:05:49	0	0.00	MUDWT PARAM CHANGE 9.5 -->FP	8.3300	
0003	08:43:04	1	7940.00	Begining new Uplog section.	1	
0004	09:05:55	1	7719.33	End logging section	1	
0005	09:07:17	1	7836.75	TD PARAM CHANGE 0. -->FP	7930.0000	
0006	09:09:42	2	7941.25	Begining new Uplog section.	2	
0007	15:15:04	2	4395.75	End logging section	2	
0008	15:23:09	3	4115.91	Begining new Uplog section.	3	
0009	18:28:47	3	2298.75	End logging section	3	
0010	18:59:59	0	0.00	TTLVL PARAM CHANGE 5. -->FP	1.0000	
0011	18:59:59	0	0.00	GWDT PARAM CHANGE 40 -->IP	30	
0012	19:09:47	0	52.41	Exiting EXCELL-2000 tool calibrations.	FIELD	
0013	19:28:01	0	166.58	Exiting EXCELL-2000 tool calibrations.	FIELD	
0014	19:55:26	0	2833.75	Exiting EXCELL-2000 tool calibrations.	FIELD	
0015	20:21:11	1	7946.25	Begining new Uplog section.	1	
0016	20:22:21	1	7945.00	End logging section	1	
0017	20:24:34	2	7946.25	Begining new Uplog section.	2	
0018	20:29:57	2	7688.41	End logging section	2	
0019	20:39:59	3	7691.00	Begining new Uplog section.	3	
0020	20:42:31	3	7909.33	End logging section	3	
0021	20:44:39	3	7940.00	TD PARAM CHANGE 0. -->FP	7910.0000	
0022	20:44:50	4	7941.25	Begining new Uplog section.	4	
0023	20:46:10	4	7866.08	End logging section	4	
0024	20:47:33	4	7937.00	TD PARAM CHANGE 7910. -->FP	7930.0000	
0025	20:47:45	5	7938.25	Begining new Uplog section.	5	
0026	23:09:49	5	3.91	End logging section	5	

# CFMENT BOND LOG

# Excell 2000 Tool String Diagram

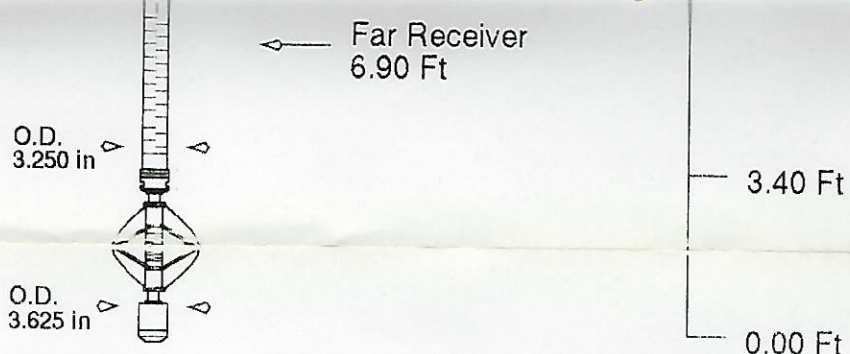
CEMENT BOND TOOL  
(CBL-DC) SN: 573\_4

BOTTOM CENTRALIZER IN FWST  
(CENT)





BOTTOM CENTRALIZER IN FWST  
(CENT)



Tool Mnemonic	Length (Ft)	Weight In Air (lbs)	Logging Speed (Ft/min)
CBL-DC	16.08	215.00	30.00
CENT	3.40	35.00	N/A
Tool String	19.48	250.00	30.00

COMPANY TOM BROWN INC.

WELL BENTLEY 11-13D

FIELD RULISON

COUNTY GARFIELD STATE COLO.

HALLIBURTON

EXCEL

ACOUSTIC CEMENT  
BOND LOG