

Tucker
ENERGY SERVICES

BOREHOLE COMPENSATED

SONIC LOG

Company MIDWESTERN EXPLORATION CO
Well TONY NIX #3-6
Field GOOCH
County STEVENS
State KANSAS
Country USA
API No. 15-189-22854-0000

File No : TUL-62064
Company : MIDWESTERN EXPLORATION COMPANY
Well : TONY NIX #3-6
Field : GOOCH
County : STEVENS
State : KANSAS
Country : USA
API No : 15-189-22854-0000

Location :
330' FWL & 1740' FSL
N/2 SW NW SW

LSD : Sect : 6 Twp : 35S Rge : 35W

Permanent Datum: GL
Drilling Measured From: KB
Log Measured From: KB
Above Permanent Datum: 1200 Ft
Date: 07-04-2018

Elevations:
KB 3026.00
DF 3023.00
GL 3014.00

Services:
CNT
LDT
PIT
CST

Run Number	1			
Depth--Driller	6800.0	Ft		
Depth--Logger	6800.0	Ft		
First Reading	6768.0	Ft		
Last Reading	1700.0	Ft		
Casing--Driller	1700.0	Ft		
Casing--Logger	1700.0	Ft		
Bit Size	7.875	In		
Casing Size	8.625	In		
Hole Fluid Type	WBM			
Density	9.0			
Fluid Loss	6.6			
PH/Viscosity	10.5	60.0		
Sample Source	MEASURED			
RM@Measured Temp.	3.000	@ 75 F		
RMF@Measured Temp	2.400	@ 75 F		
RMC@Measured Temp.	3.600	@ 75 F		
Source RMF/RMC	CALCULATED	CALCULATED		
RM@BHT	1.590	@ 147 F		
Time Circulation Stopped	07-04-2018 06:00			
Max Recorded Temp.	147	F		
Equipment/Base	1022	TULSA, OK		
Recorded By	SHELDON TYLER			
Witnessed By	BILLY DAUGHERTY			

The customer is hereby warned that by providing the log data herein, T. E. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. E. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. E. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. E. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings			
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
7.875	6800.00	8.625	32.00	1700.00	0.00

Run Number	1	
Date	07-04-2018	
Date/Time On Bottom	07-04-2018 10:00	
Depth to Fluid	0.0 Ft	
Salinity	2700.000	
RMF@BHT	1.270 @ 147 F	
RMC@BHT	1.910 @ 147 F	

Run Number 1

Comments

ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, CST, MLT AND PIT RUN IN COMBINATION
 CALIPERS ORIENTED ON X-Y AXIS
 2.71 G/CC USED TO CALCULATE POROSITY
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING
 PHIN IS CALIPER CORRECTED

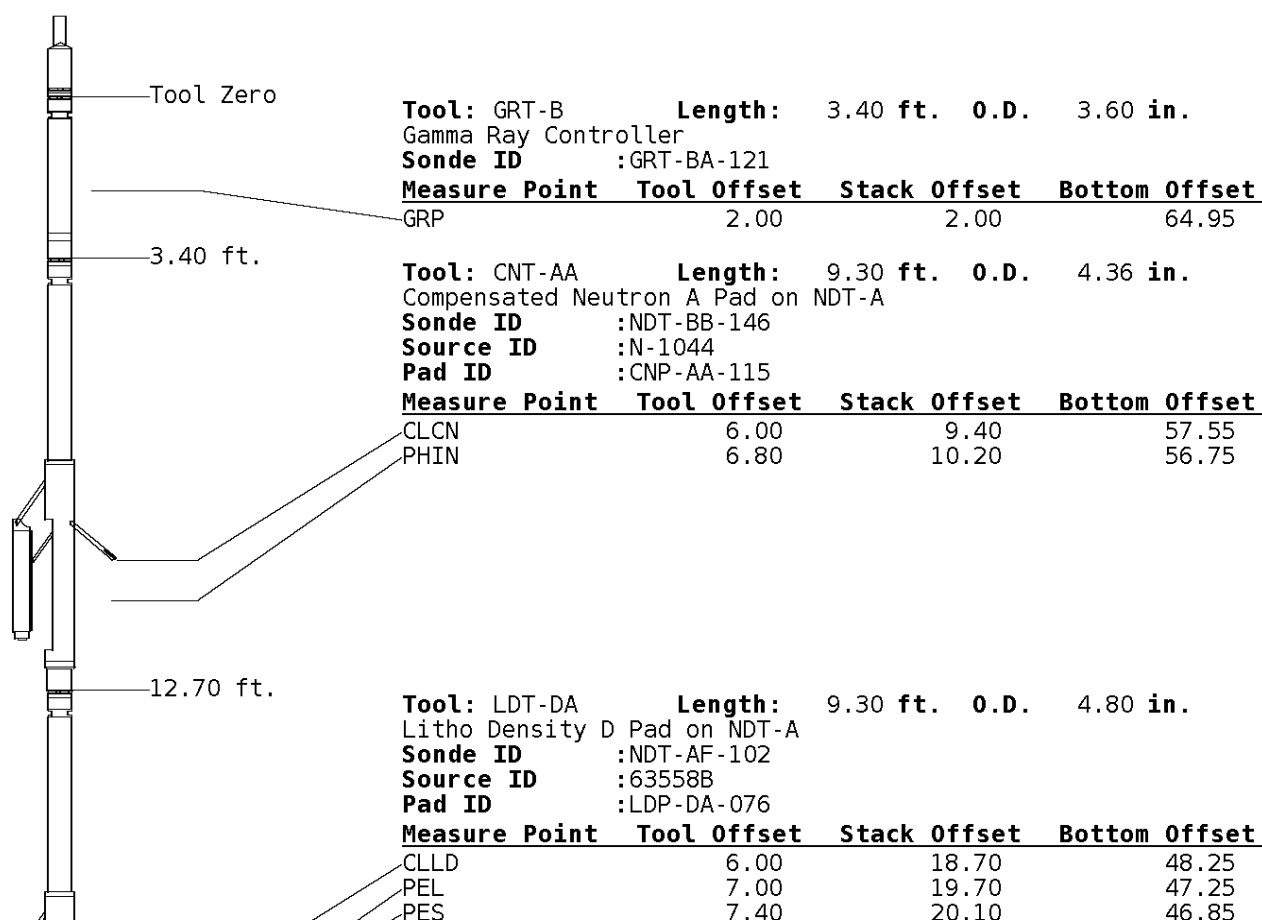
CUSTOMER REQUESTED DETAIL PULLED TO 3400

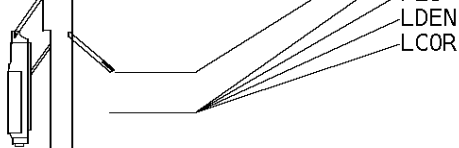
GRT: GRP, GRX
 CST: PORS, CDTF, TTIPF, TT2PF, TT3PF, TT4PF, ITT
 CNT: PHIN, CLCNIN, PHXN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX
 MLT: NOR_RF, INV_RF, MSCLPIN
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:
 R.FRANKLIN
 K.WARREN

Tool String Schematic

Total Tool Length - 66.95 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 1171.00 lbs.



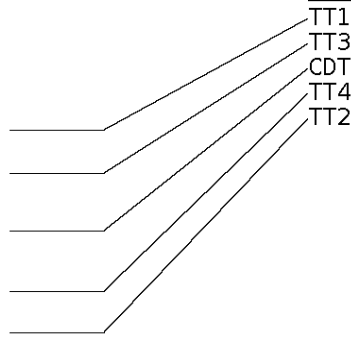


LDEN	7.20	19.90	47.05
LCOR	7.20	19.90	47.05

22.00 ft.

Tool: CST-AD **Length:** 13.80 ft. **O.D.** 3.60 in.
Open Hole Sonic
Sonde ID : CST-AD-043

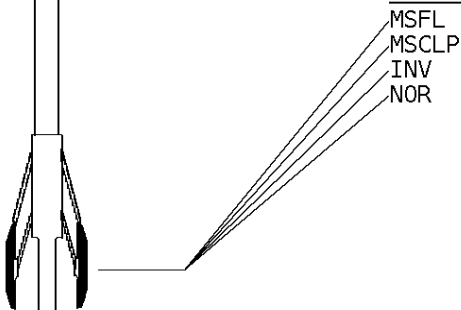
Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	26.80	40.15
TT3	5.80	27.80	39.15
CDT	7.30	29.30	37.65
TT4	8.80	30.80	36.15
TT2	9.80	31.80	35.15



35.80 ft.

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
Micro Spherically Focused (IC)
Sonde ID : MST-DA-021

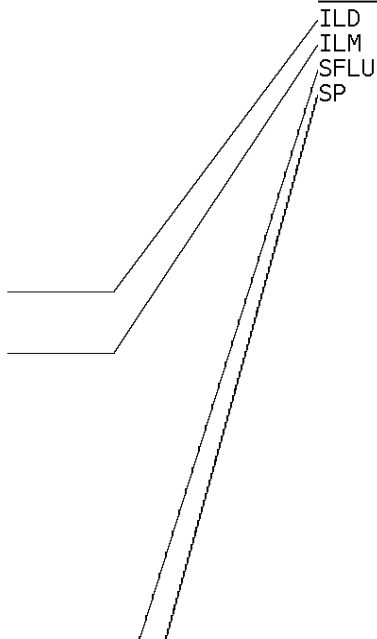
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	43.40	23.55
MSCLP	7.60	43.40	23.55
INV	7.60	43.40	23.55
NOR	7.60	43.40	23.55

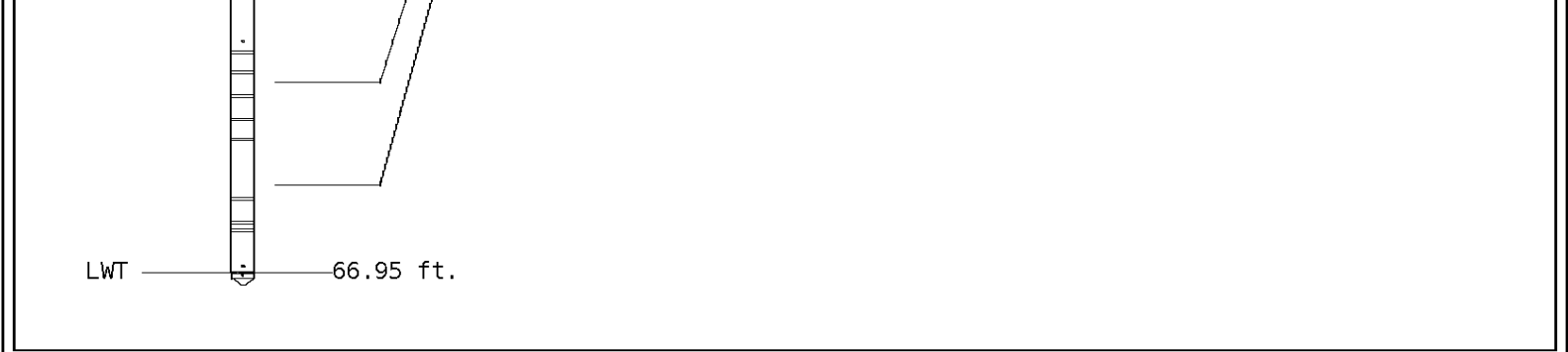


45.46 ft.

Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
Phased Dual Induction w/ RM & D
Sonde ID : PIT-CA-069

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	54.38	12.56
ILM	10.10	55.56	11.39
SFLU	17.49	62.95	4.00
SP	20.60	66.06	0.88

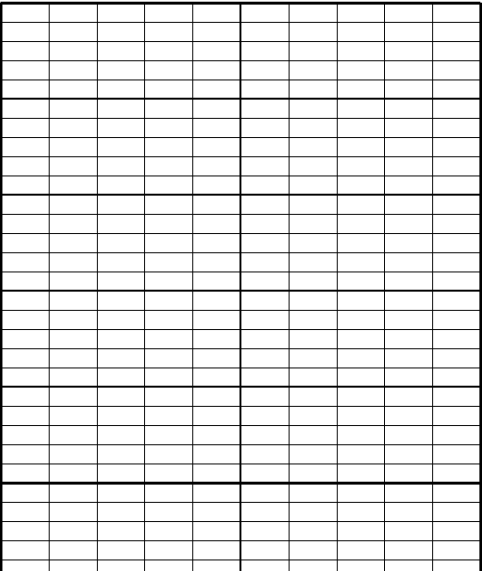




Well File: MIDWESTERN TONY NIX 3-6 JULY4 QUINT Scale: 1:240 Format: CST-240
Segment: V1.D1.S7 AS MAIN Acquired: 2018-07/04 10:14 3.4.0-13756
Reference: 0 Processed: 2018-07/04 11:48 3.4.0-13756

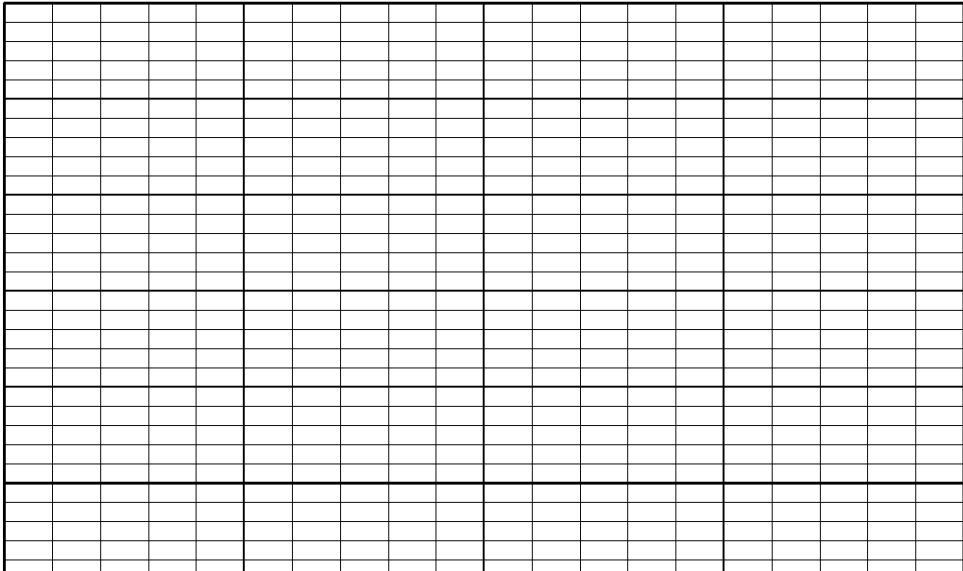
NEUTRON (Y) CALIPER INCHES (IN)		TT4 uSEC	
16	26	950	50
6	16		
DENSITY (X) CALIPER INCHES (IN)		TT3 uSEC	
16	26	950	50
6	16		
BIT SIZE INCHES (IN)		TT2 uSEC	
6	16	950	50
TENSION LBS		TT1 uSEC	
10000	0	950	50
GAMMA RAY API UNITS		COMPENSATED SONIC TRAVEL TIME uSEC/FT	
150	300	240	140
0	150	140	40
		SONIC POROSITY PERCENT	
		30	-10

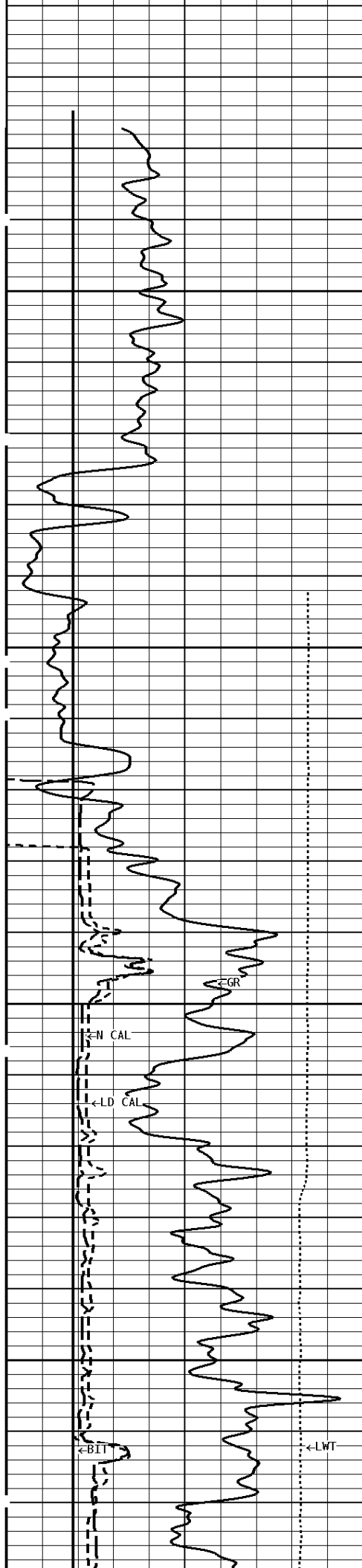
1:240 MAIN SECTION



File #1.1.7

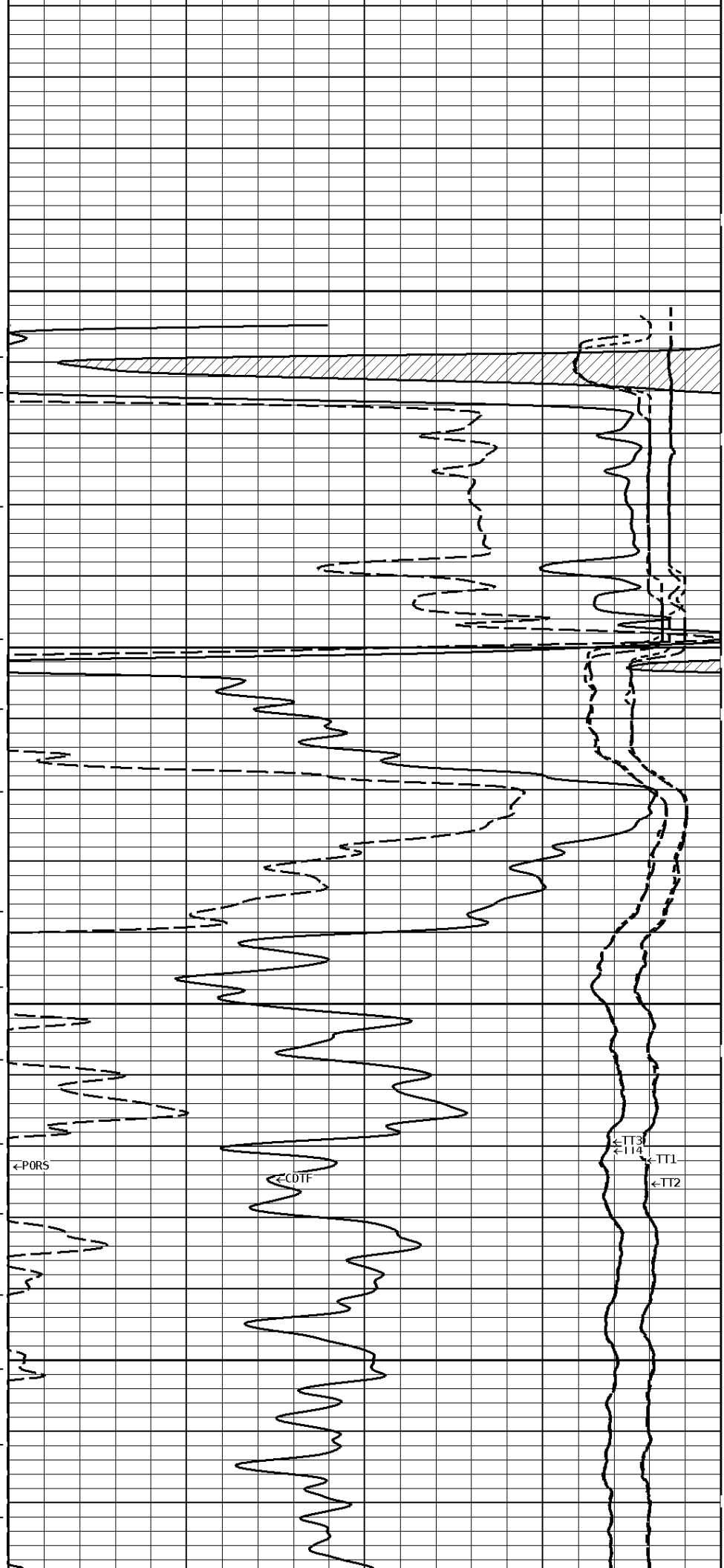
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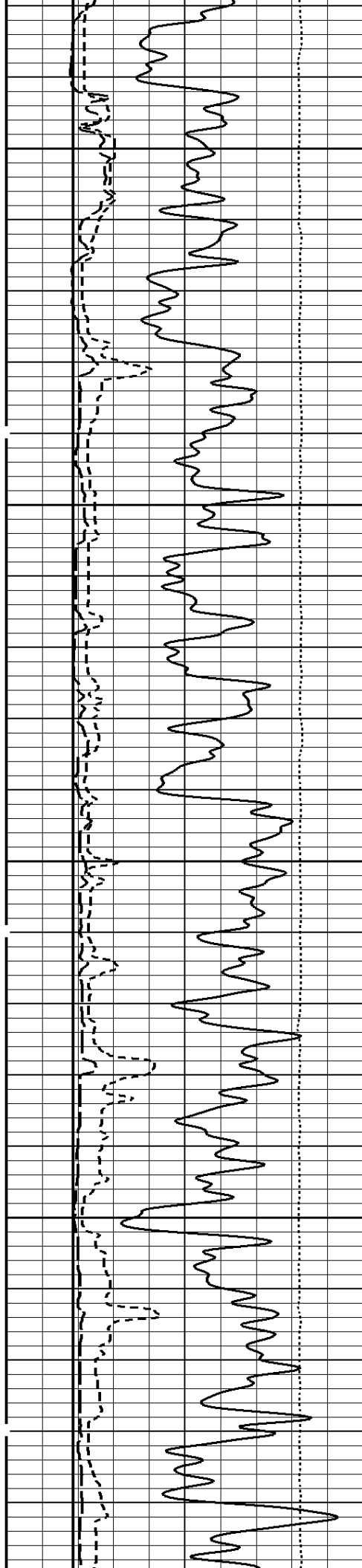




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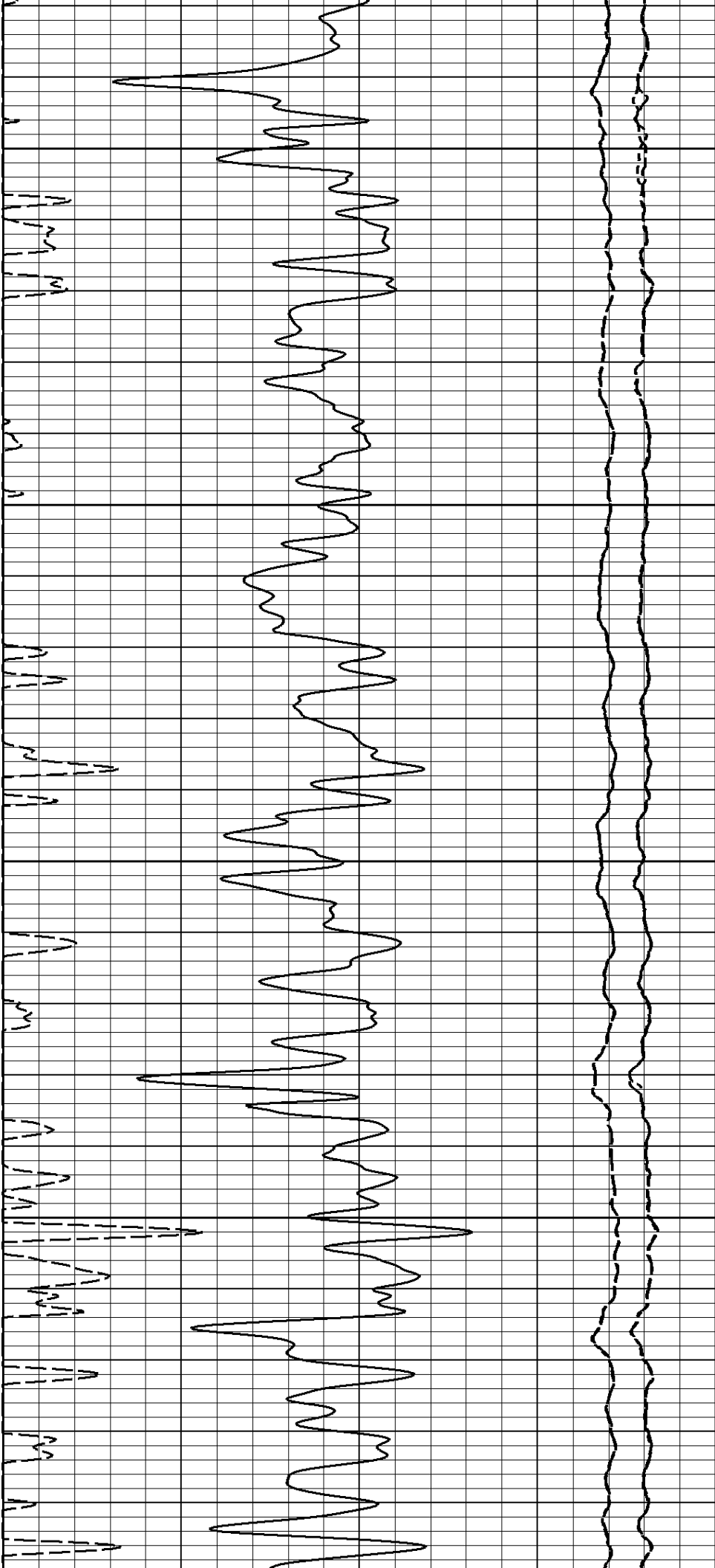
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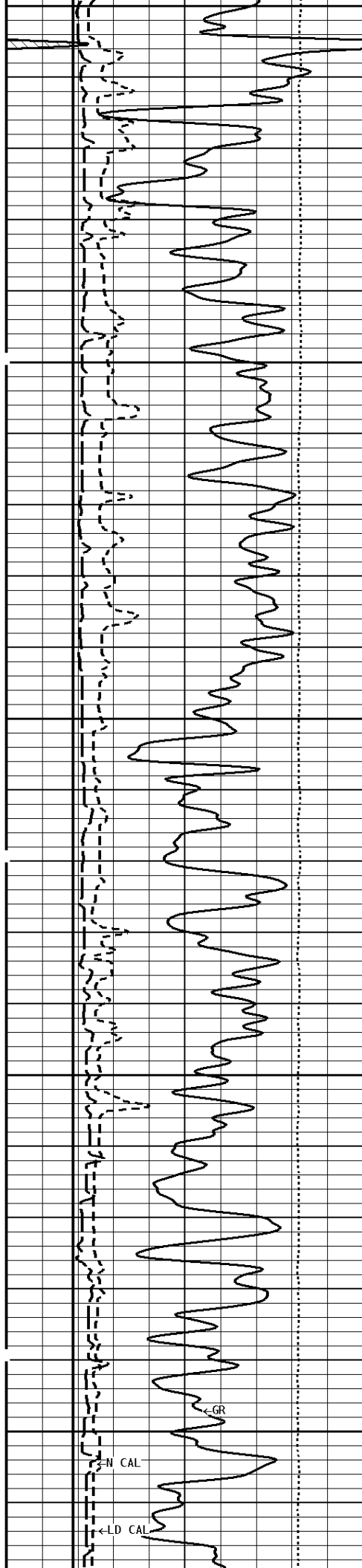




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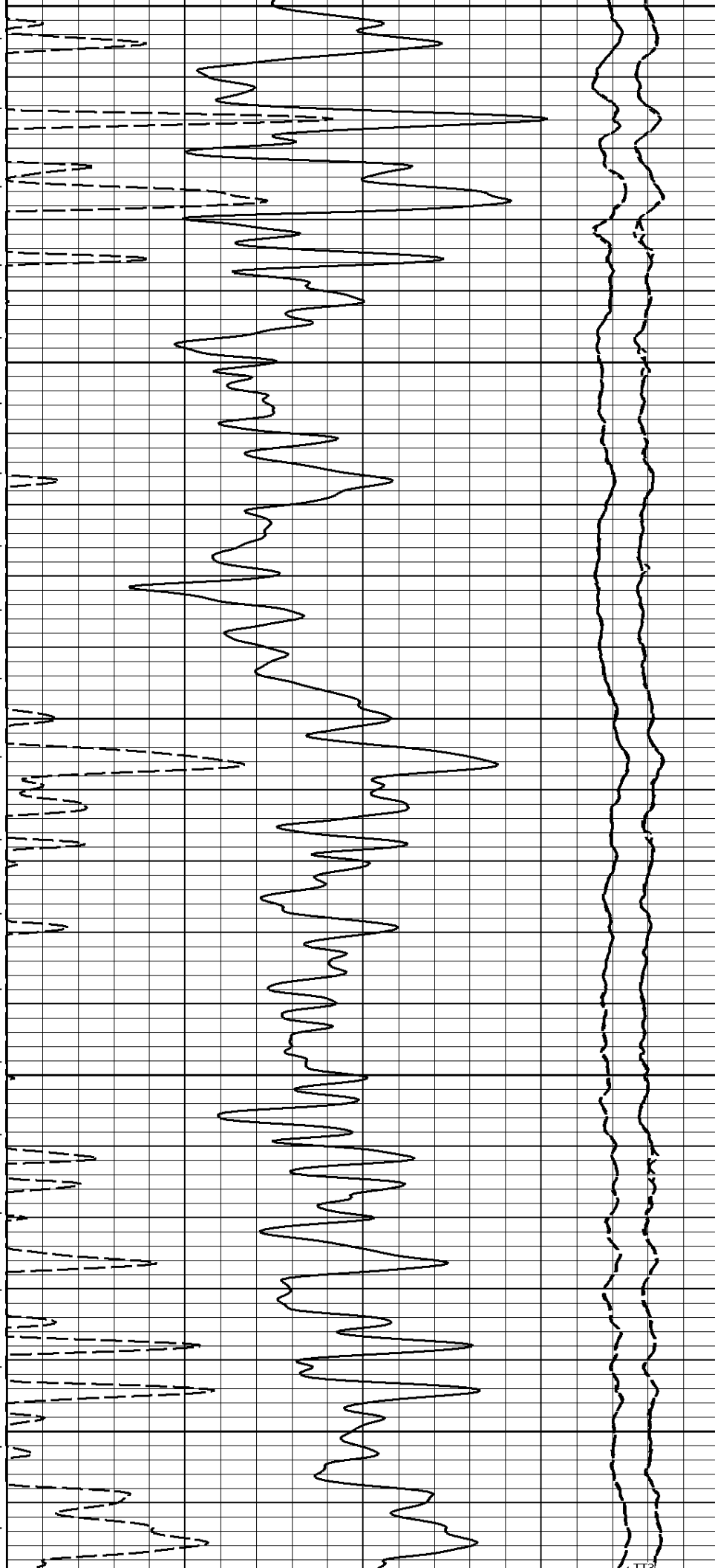
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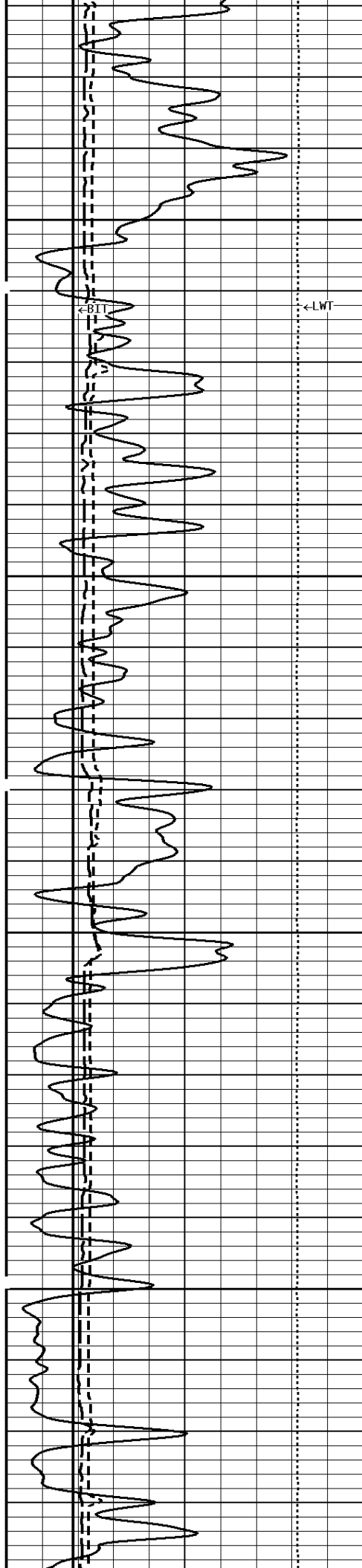




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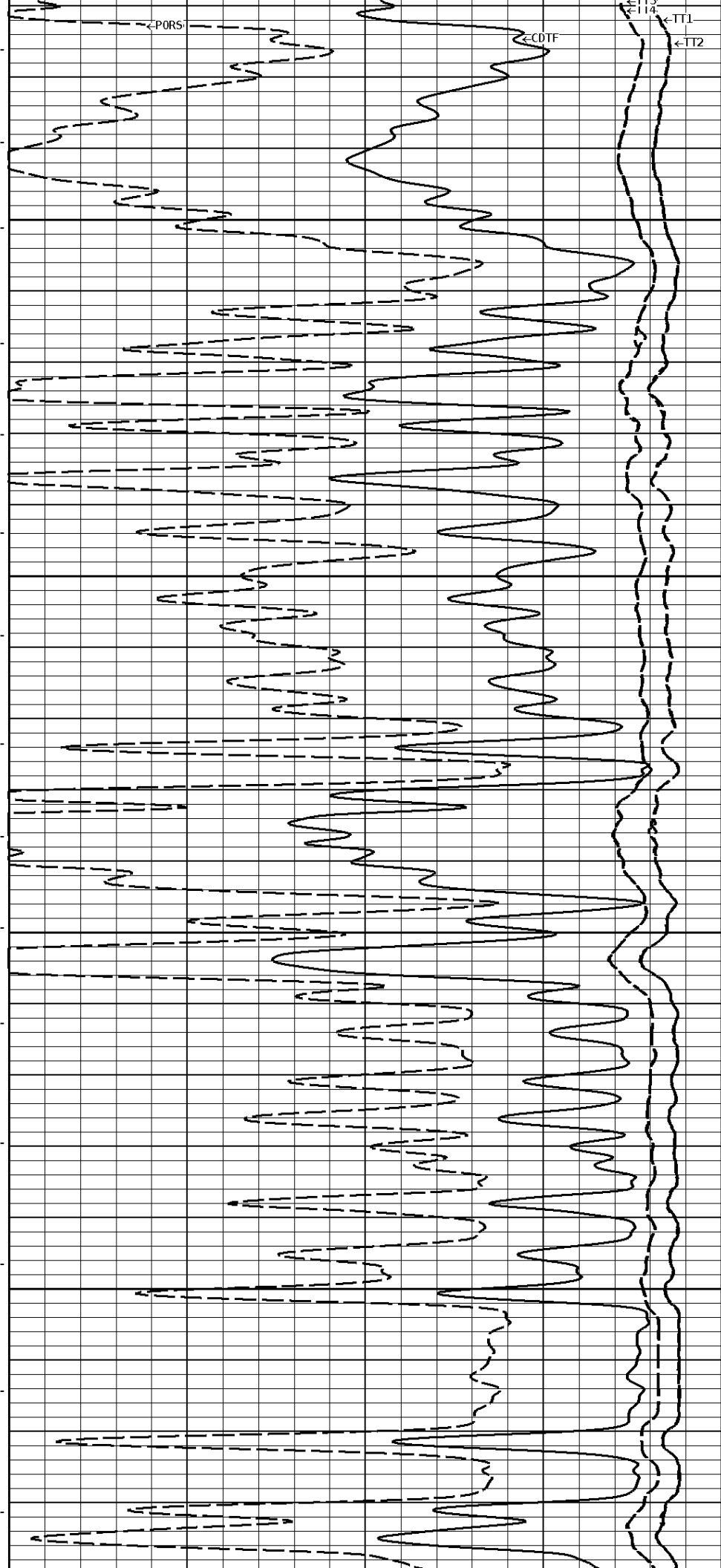
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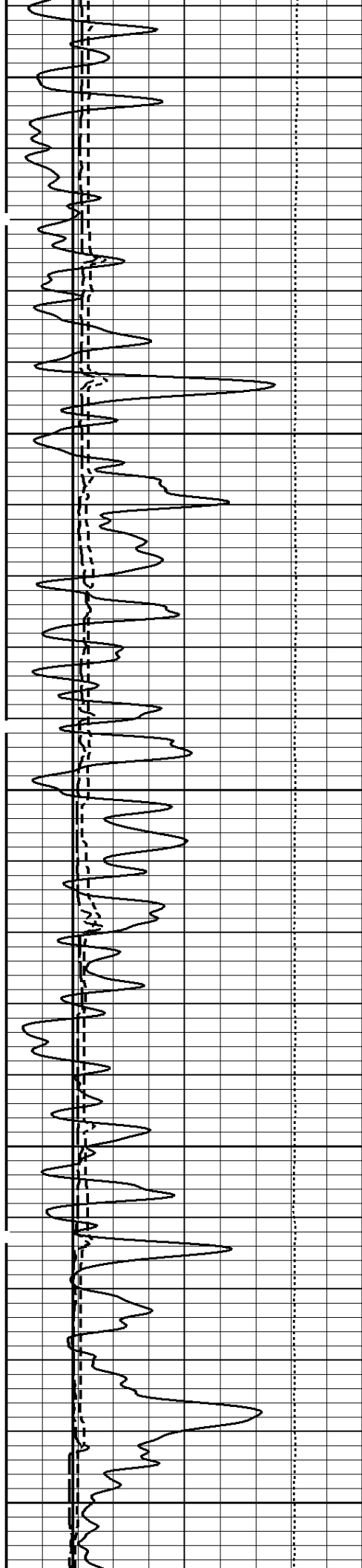




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2400

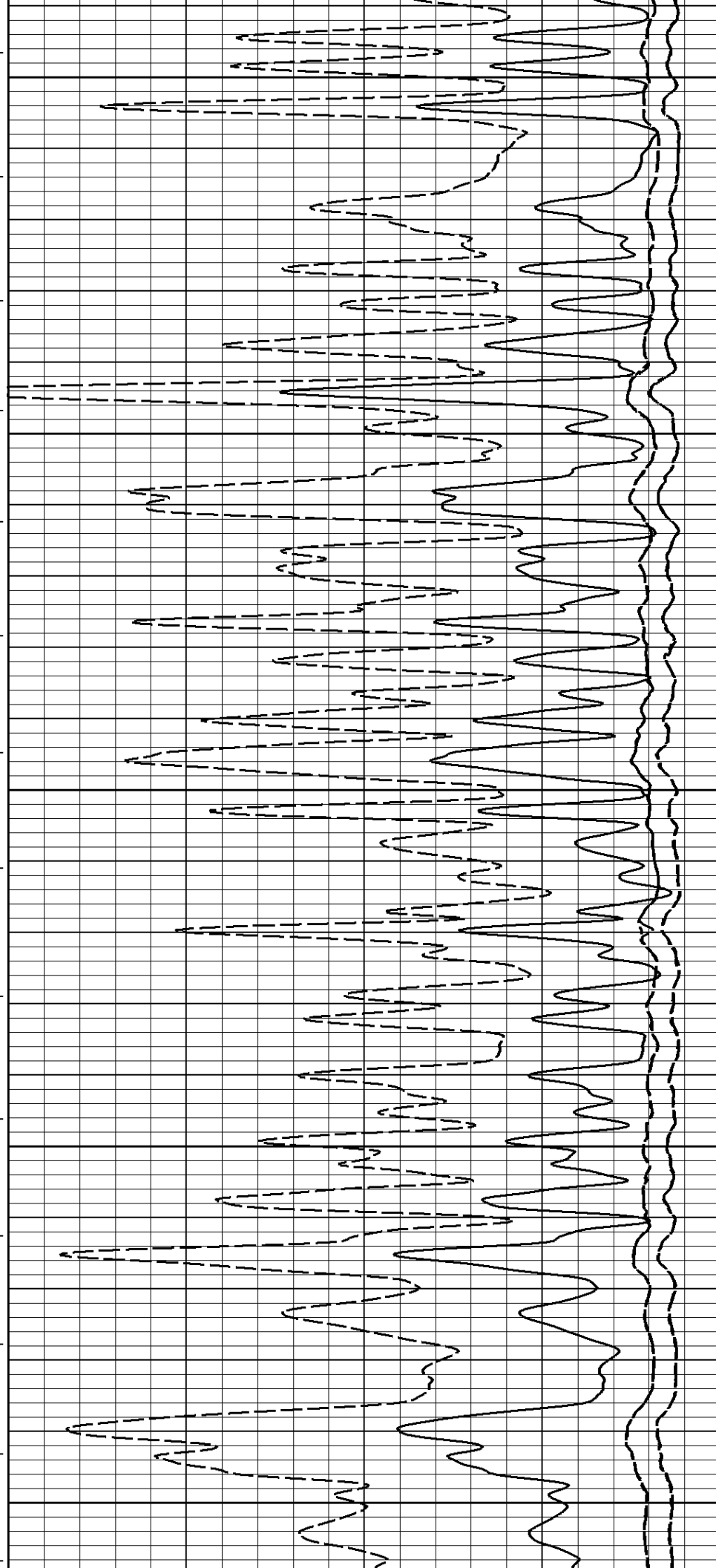


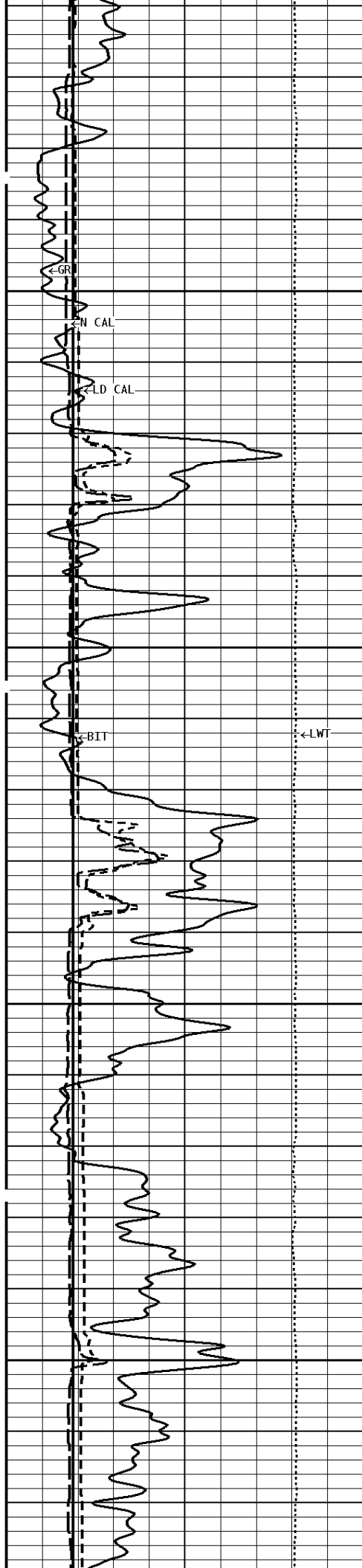


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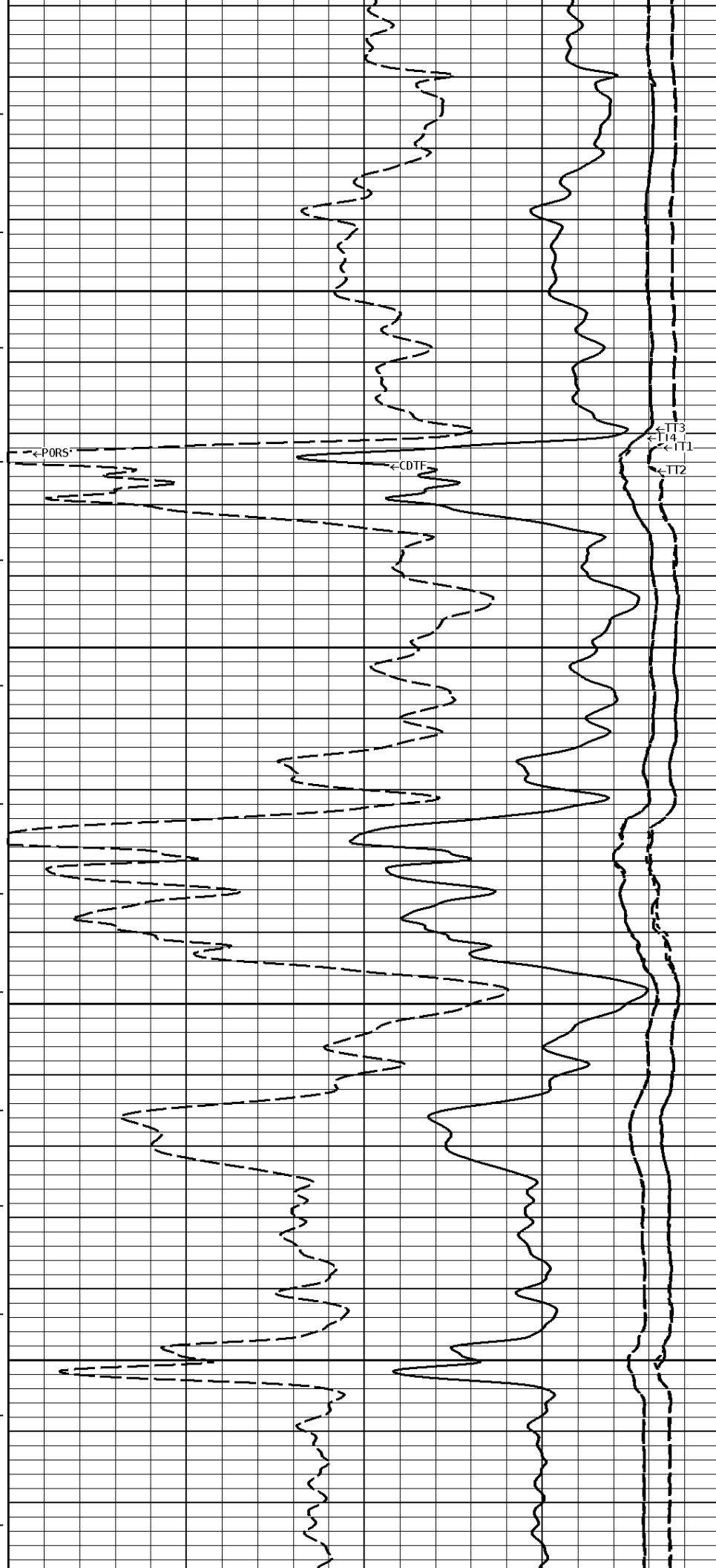
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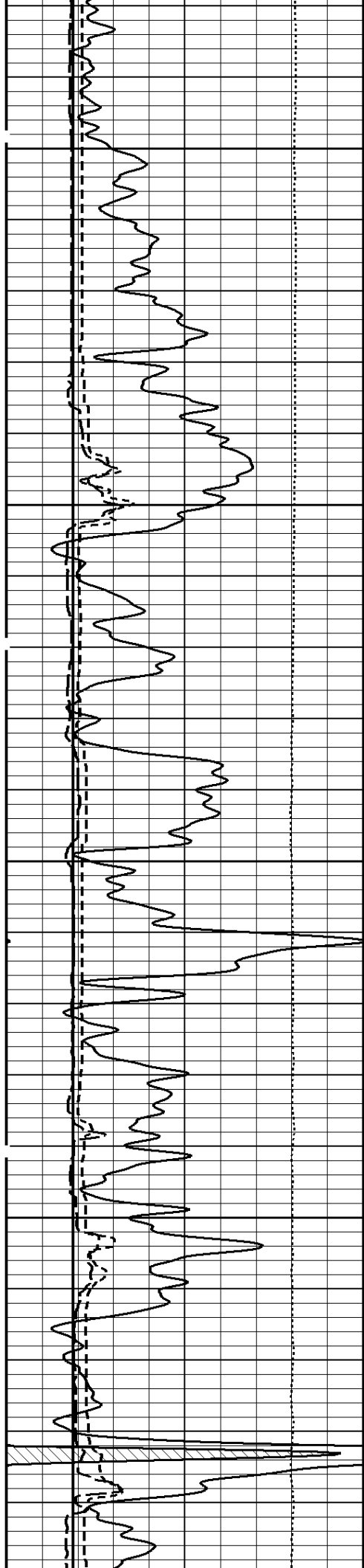




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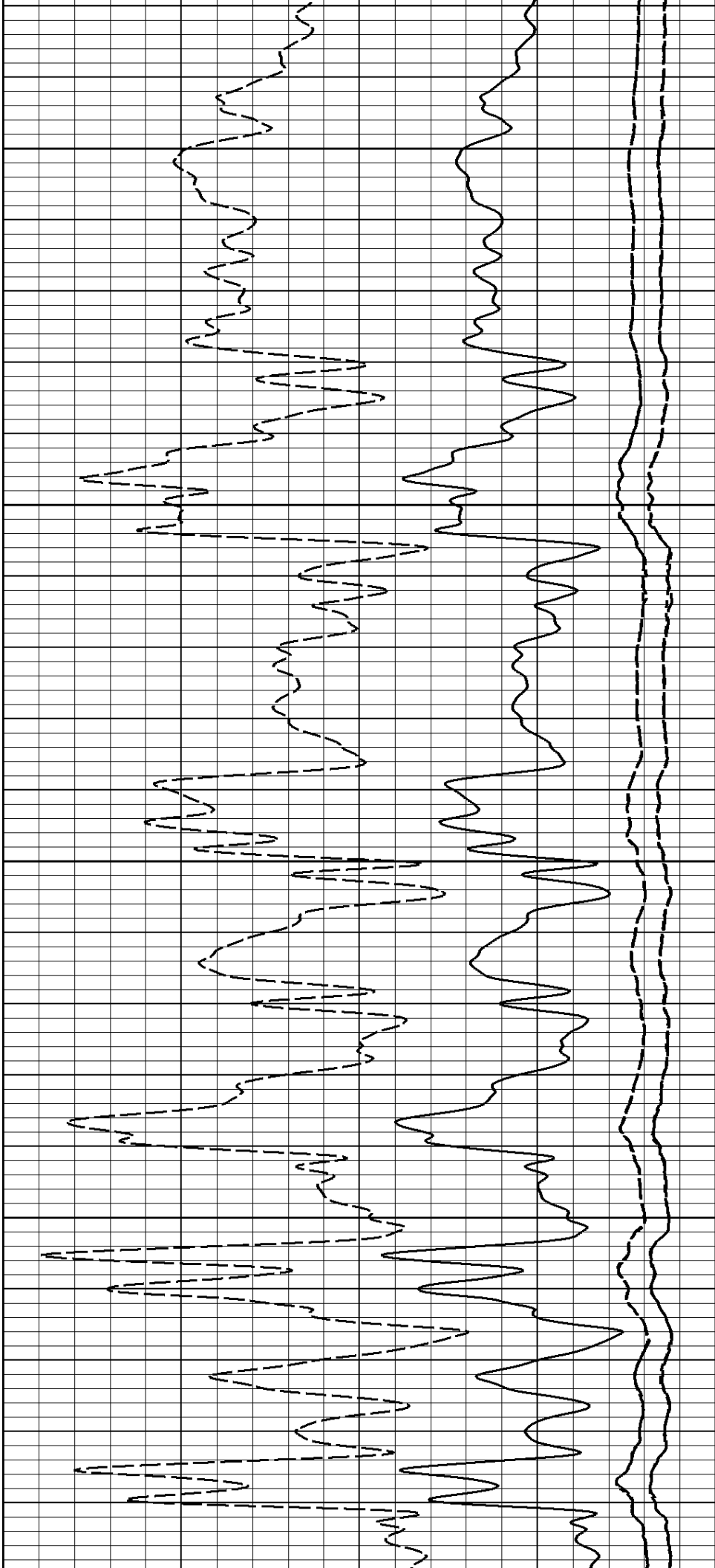
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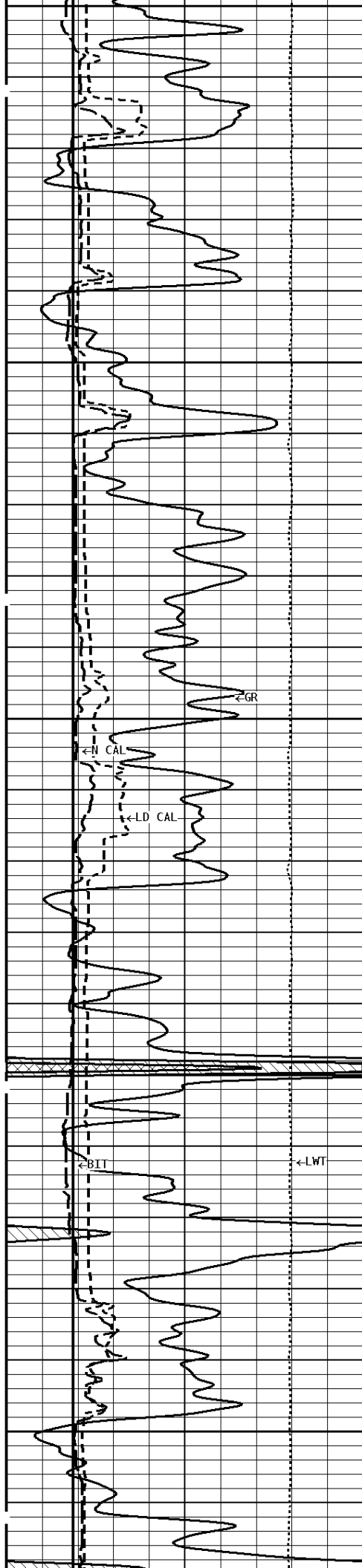




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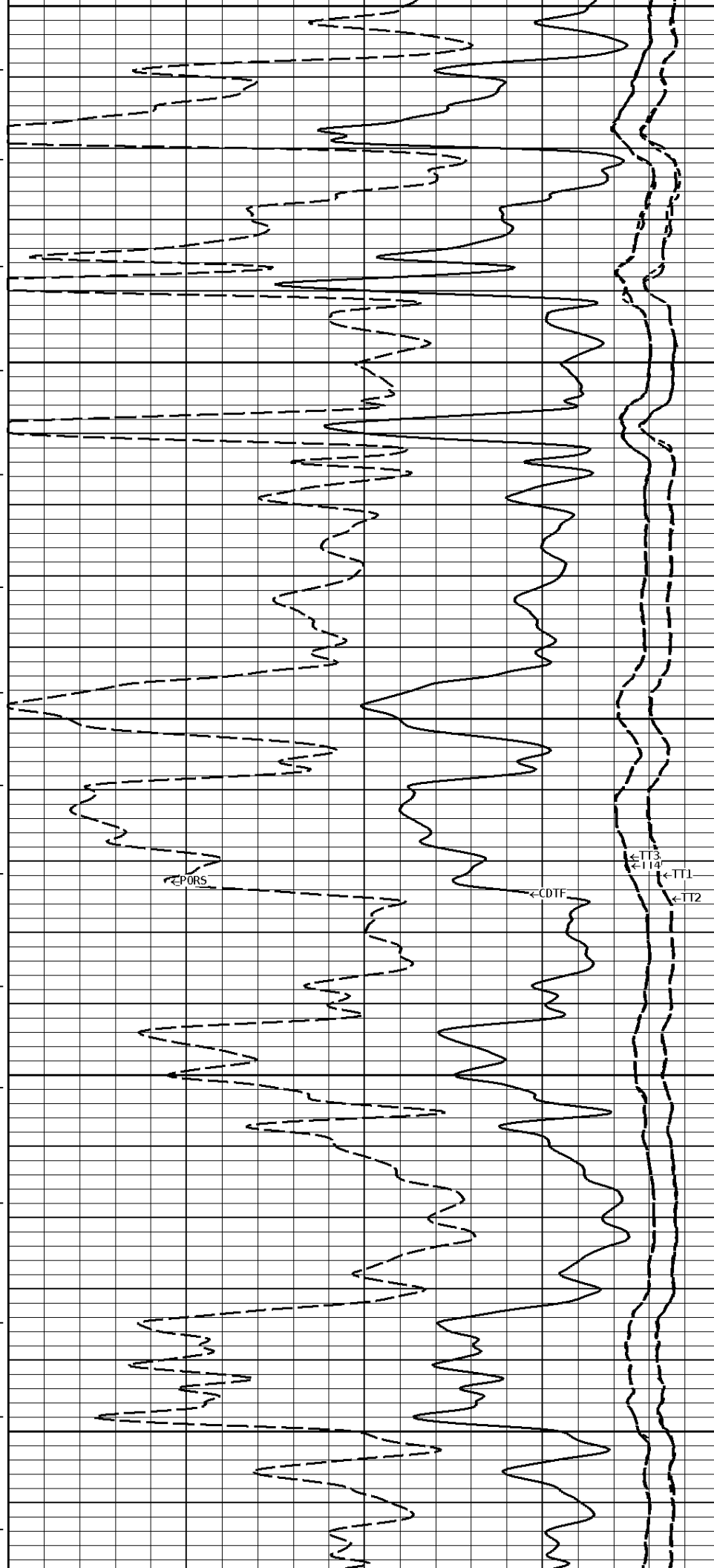
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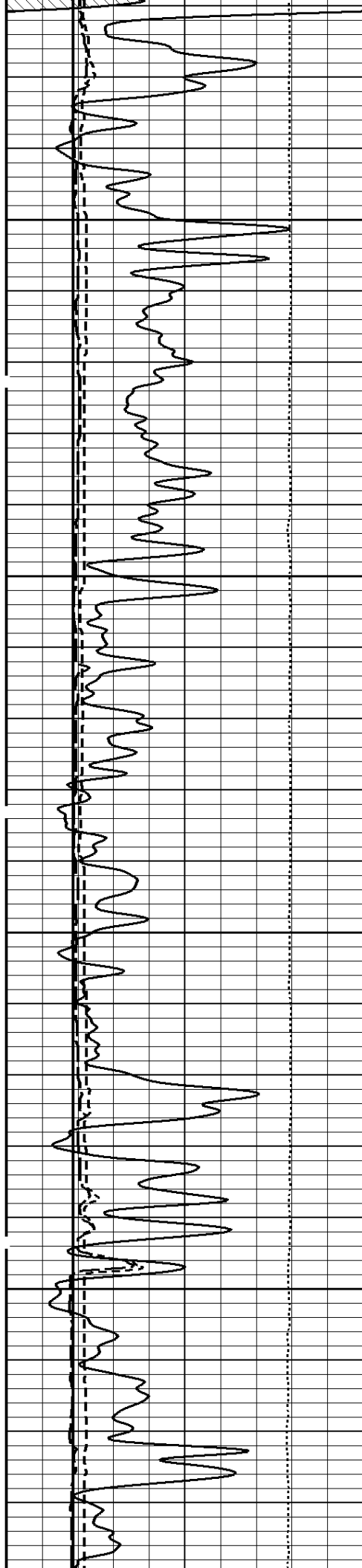




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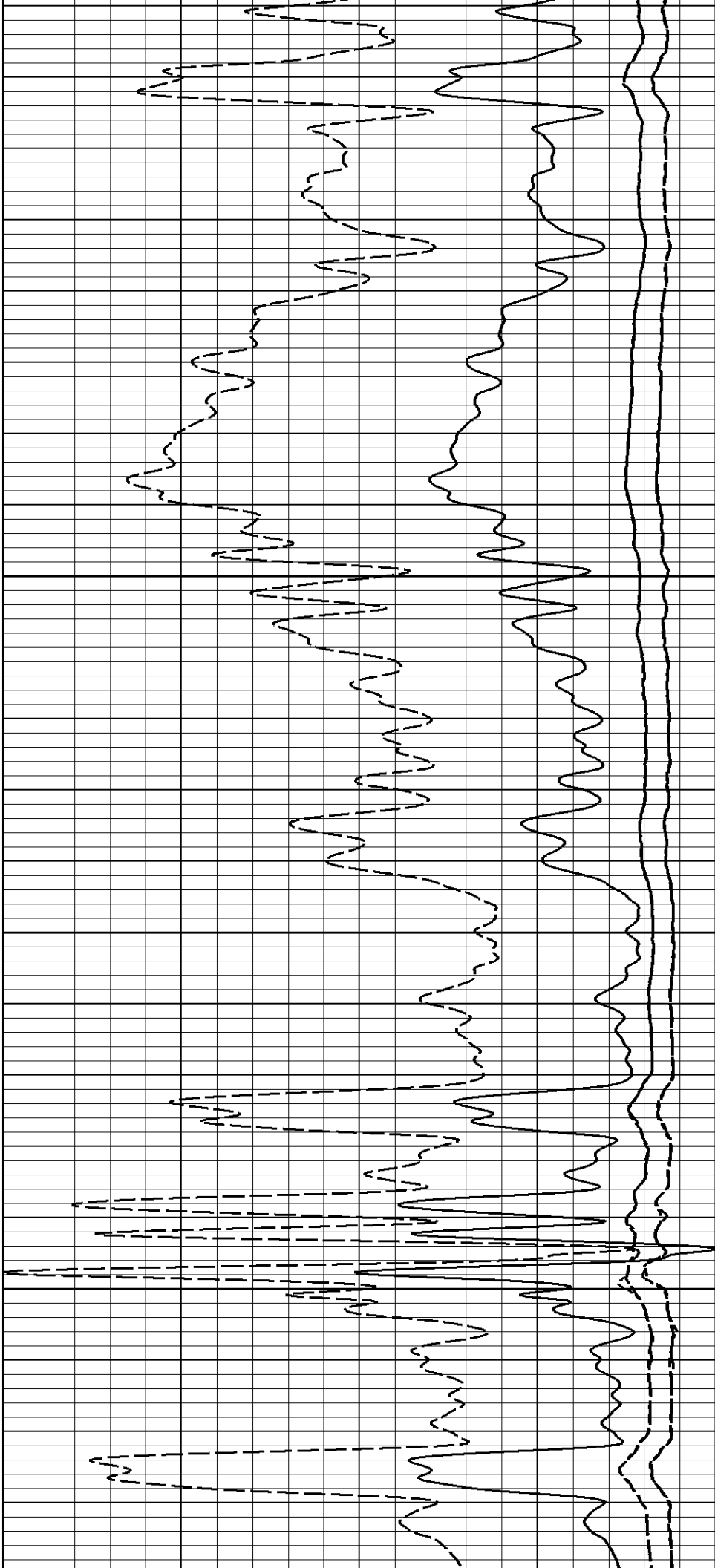
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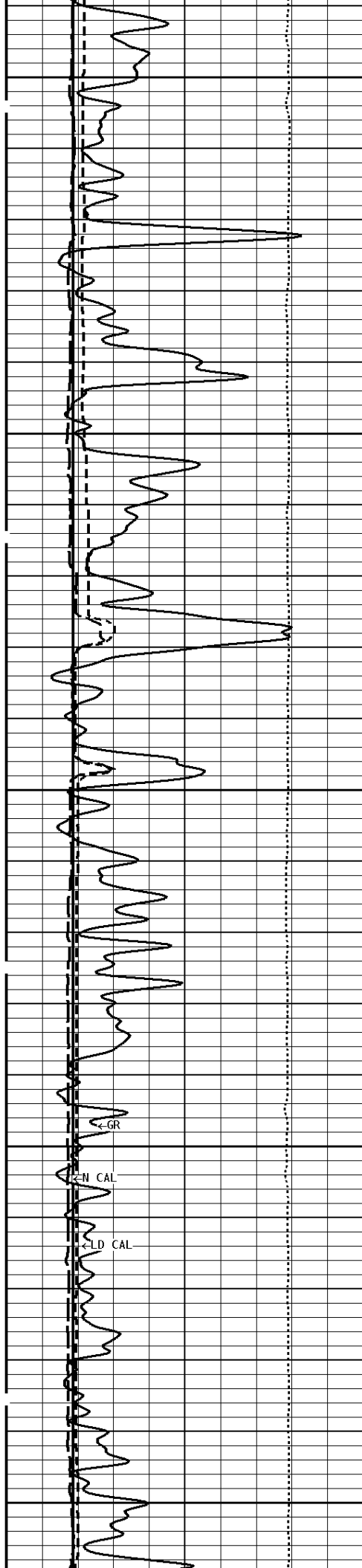




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3500

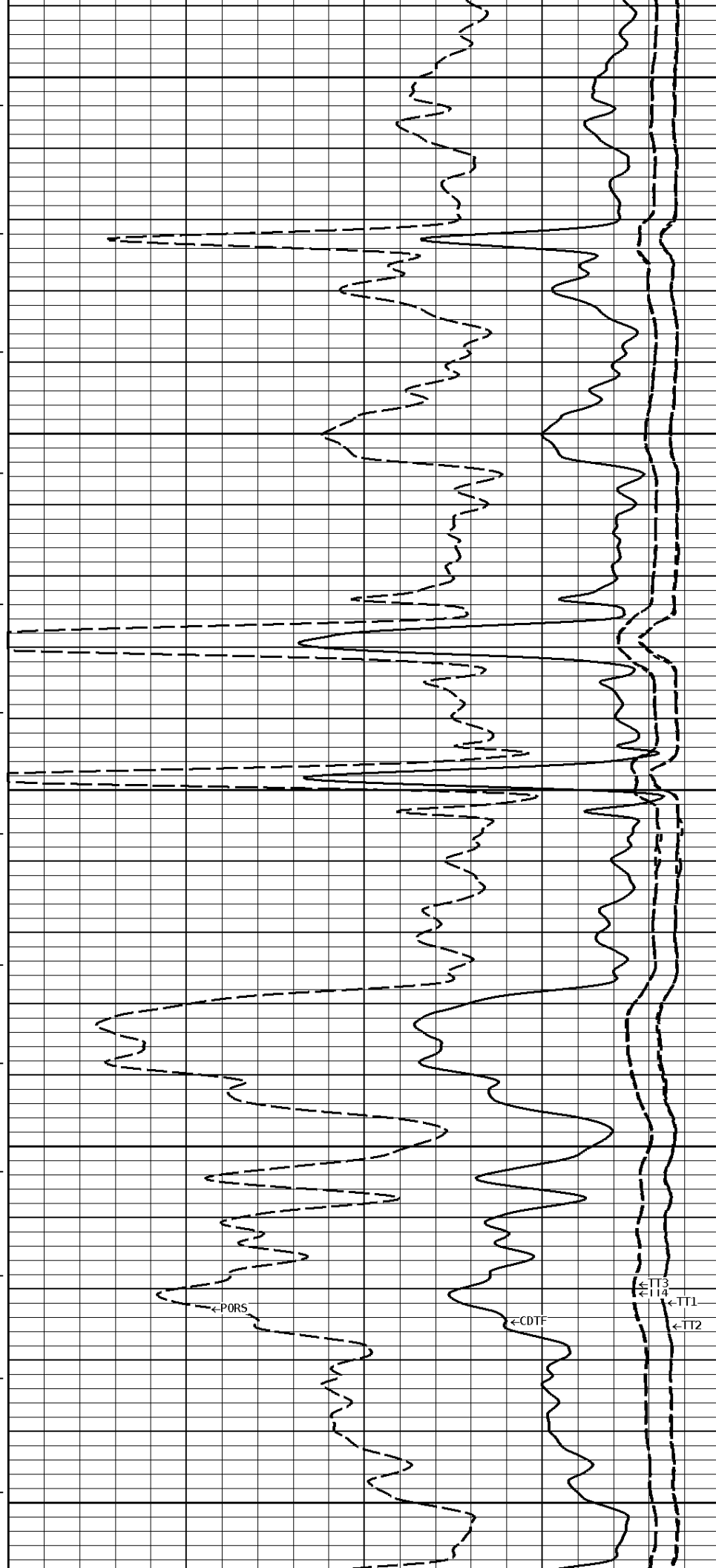


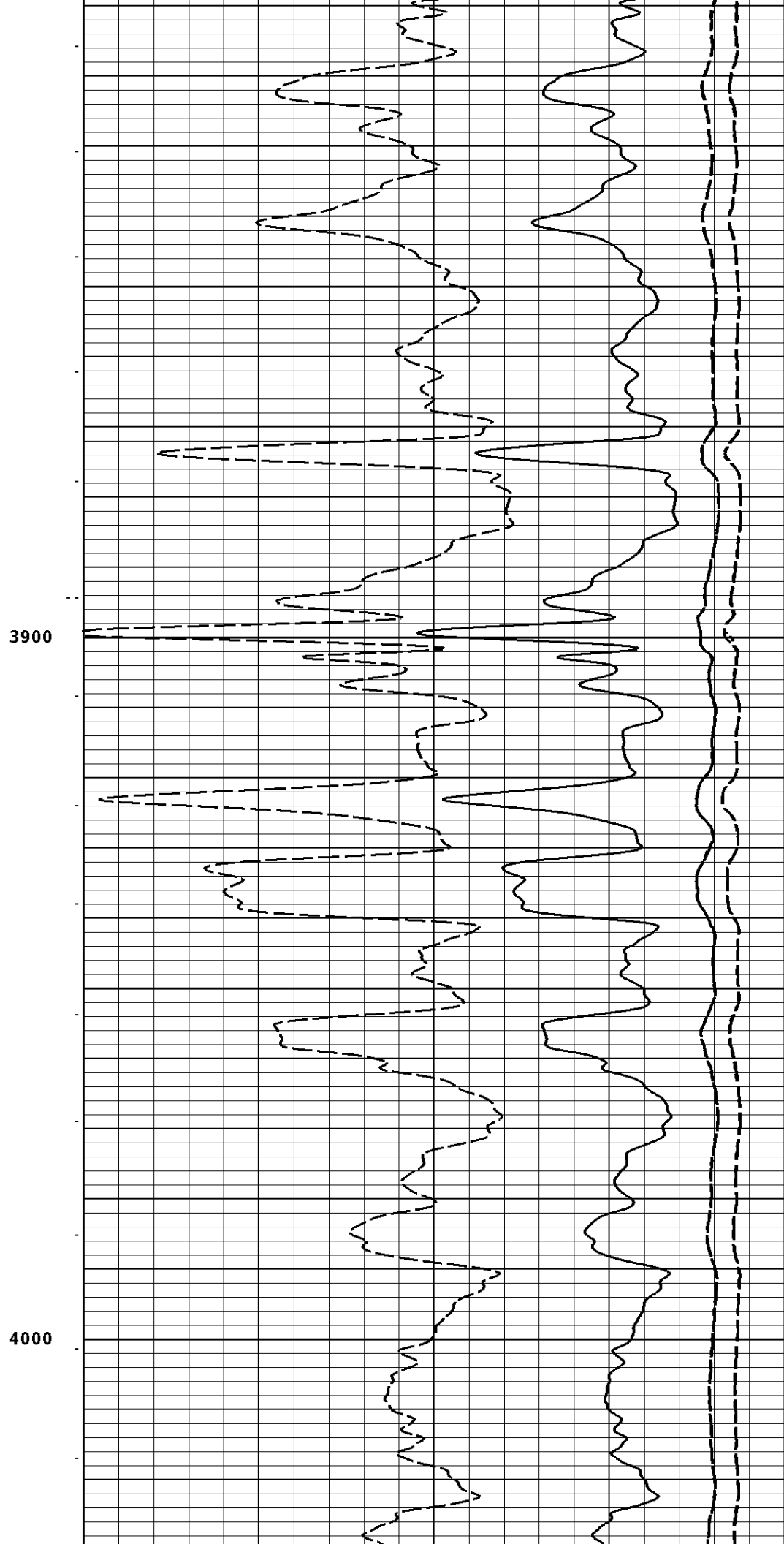
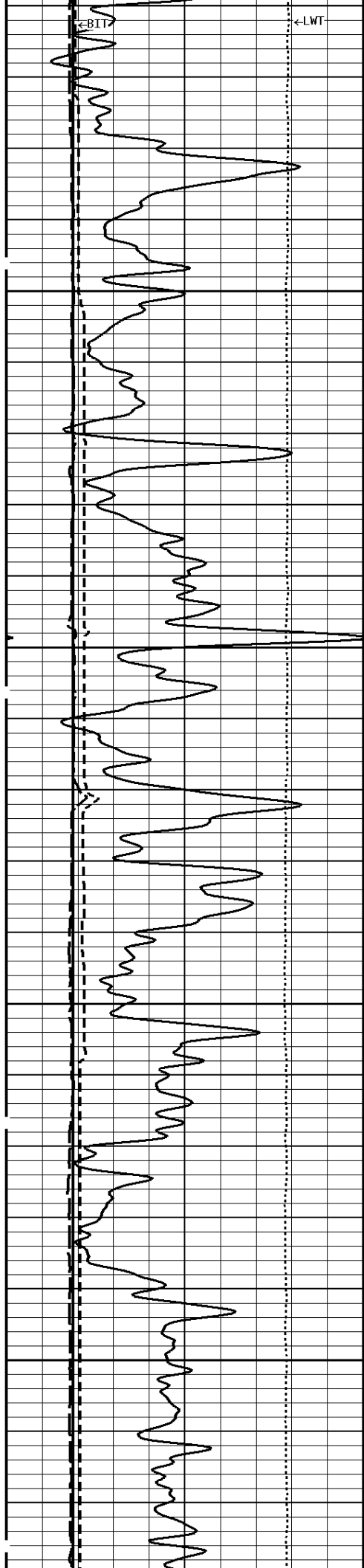


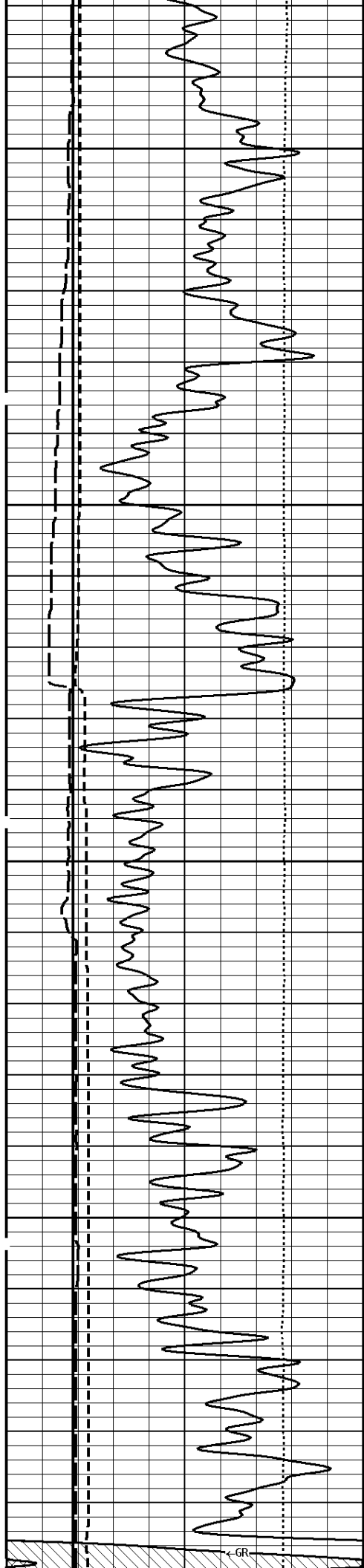
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3700

3800

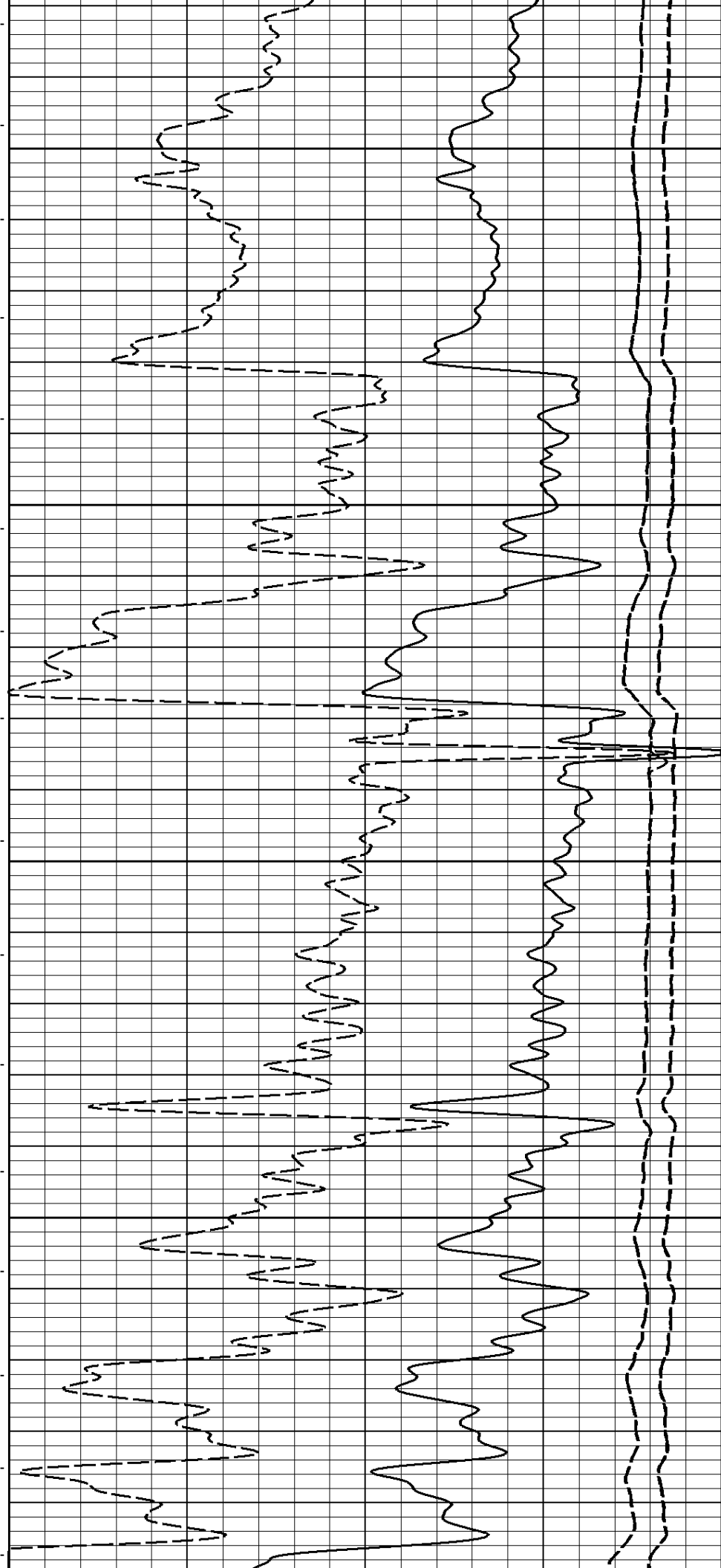


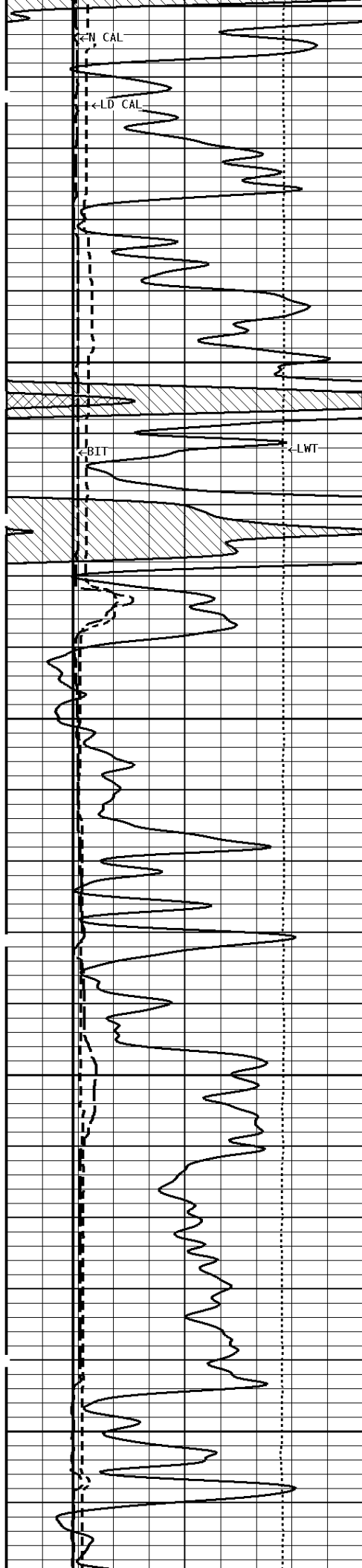




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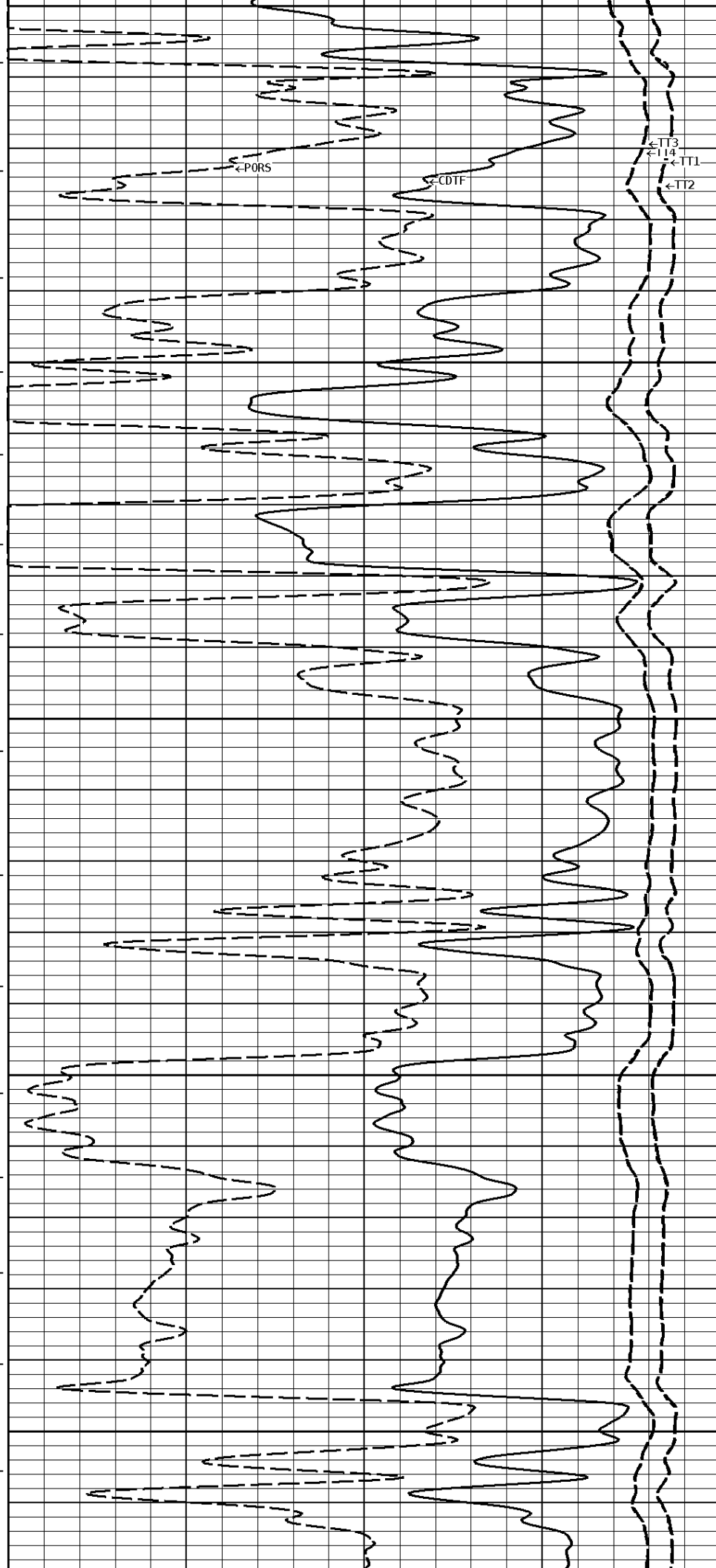
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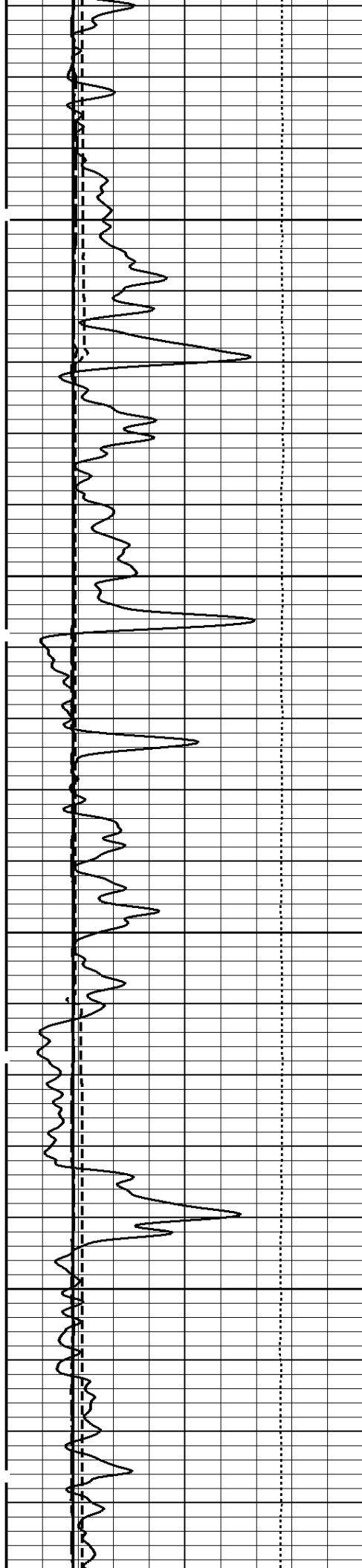




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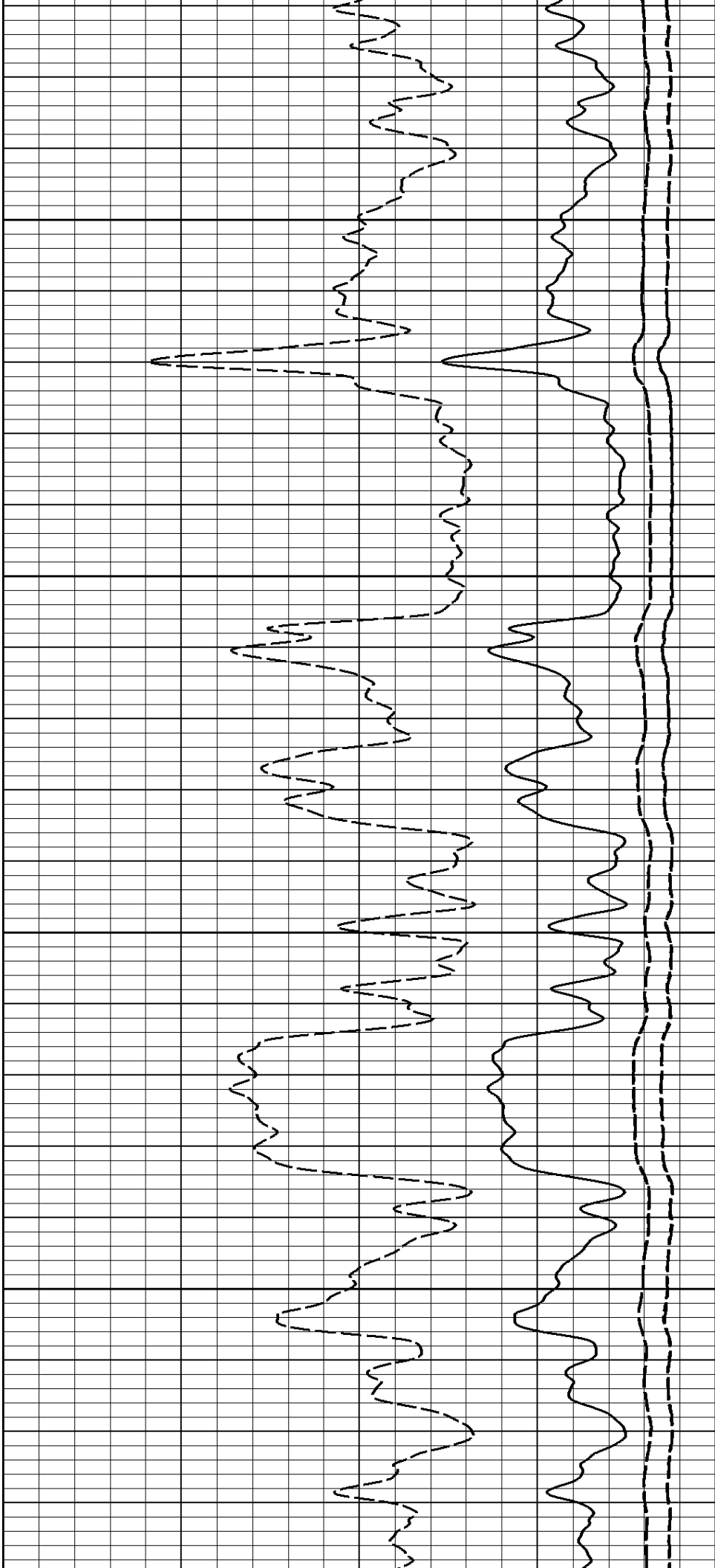
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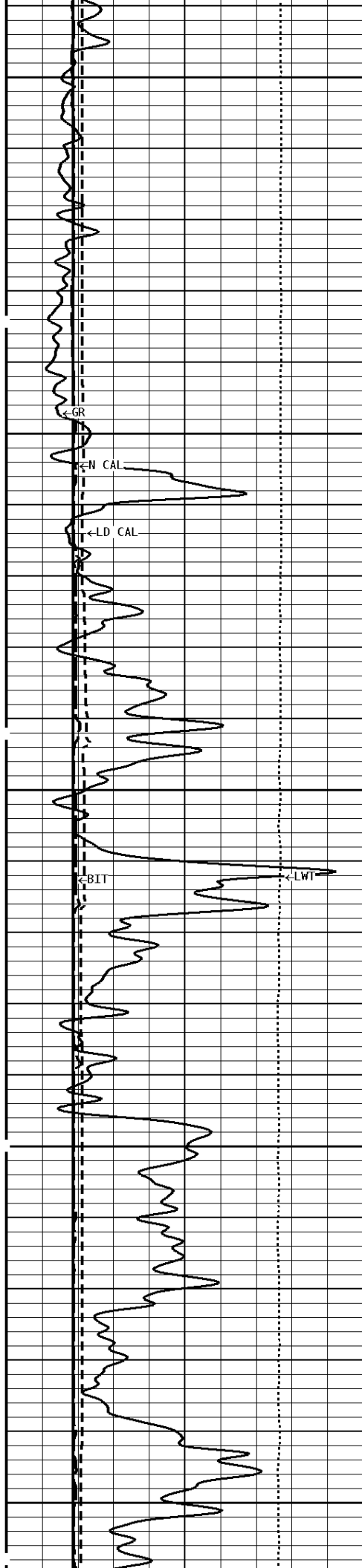




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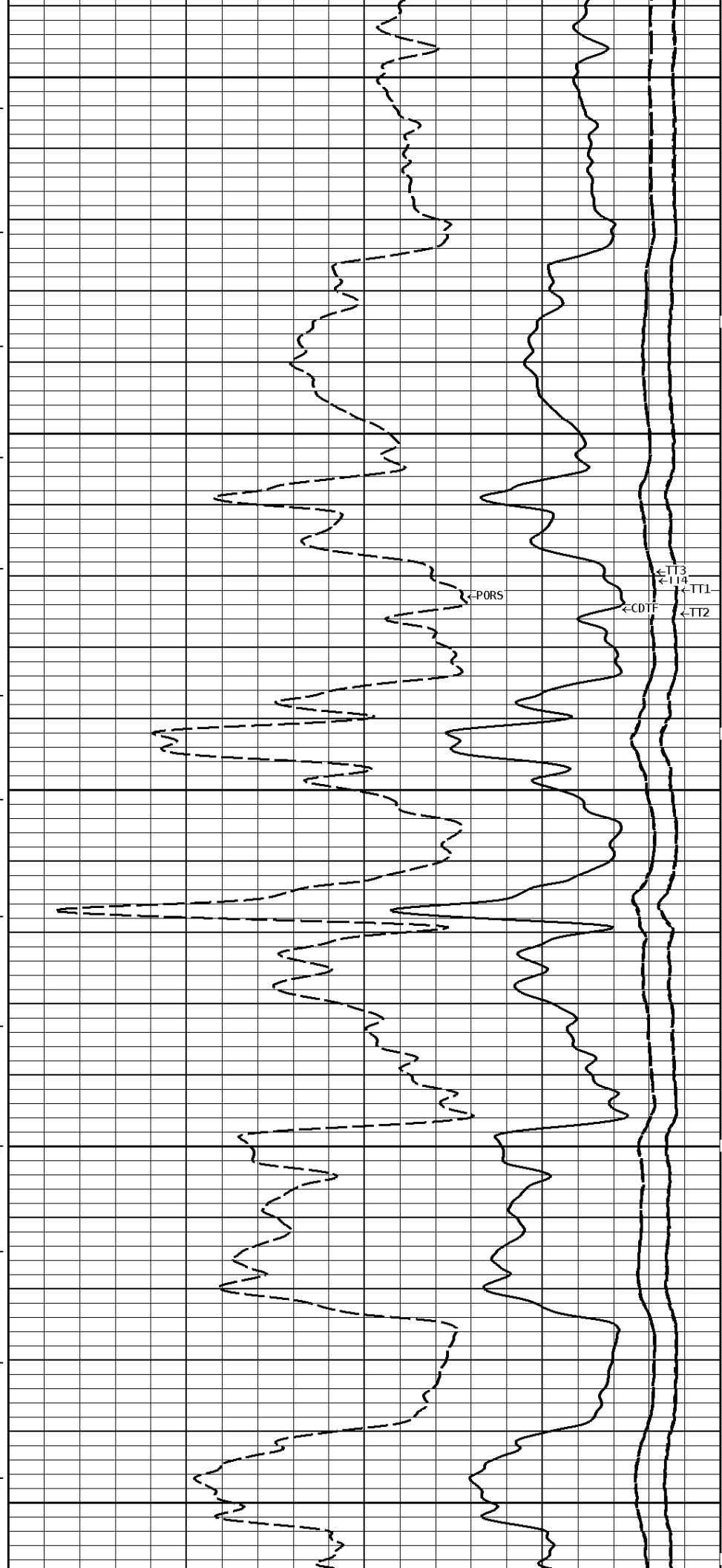


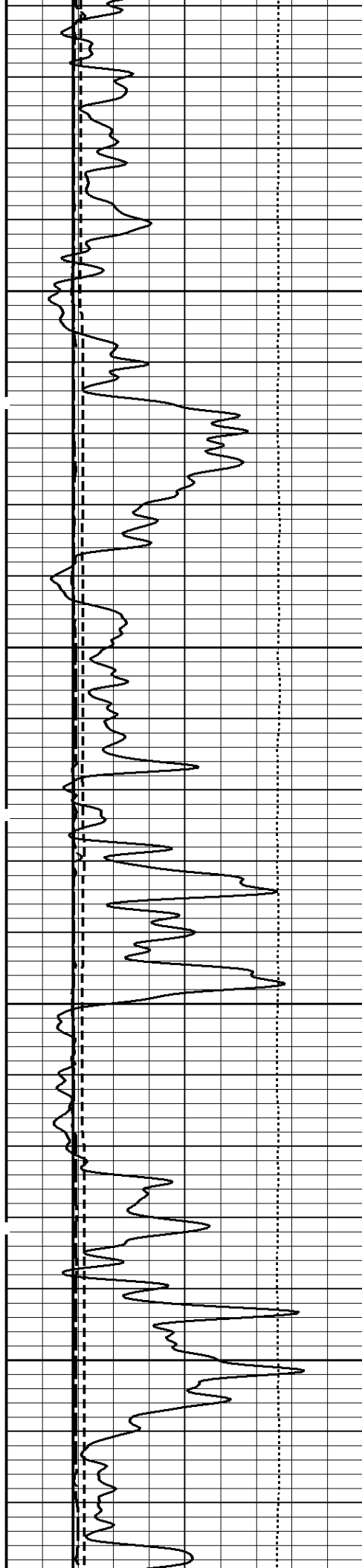


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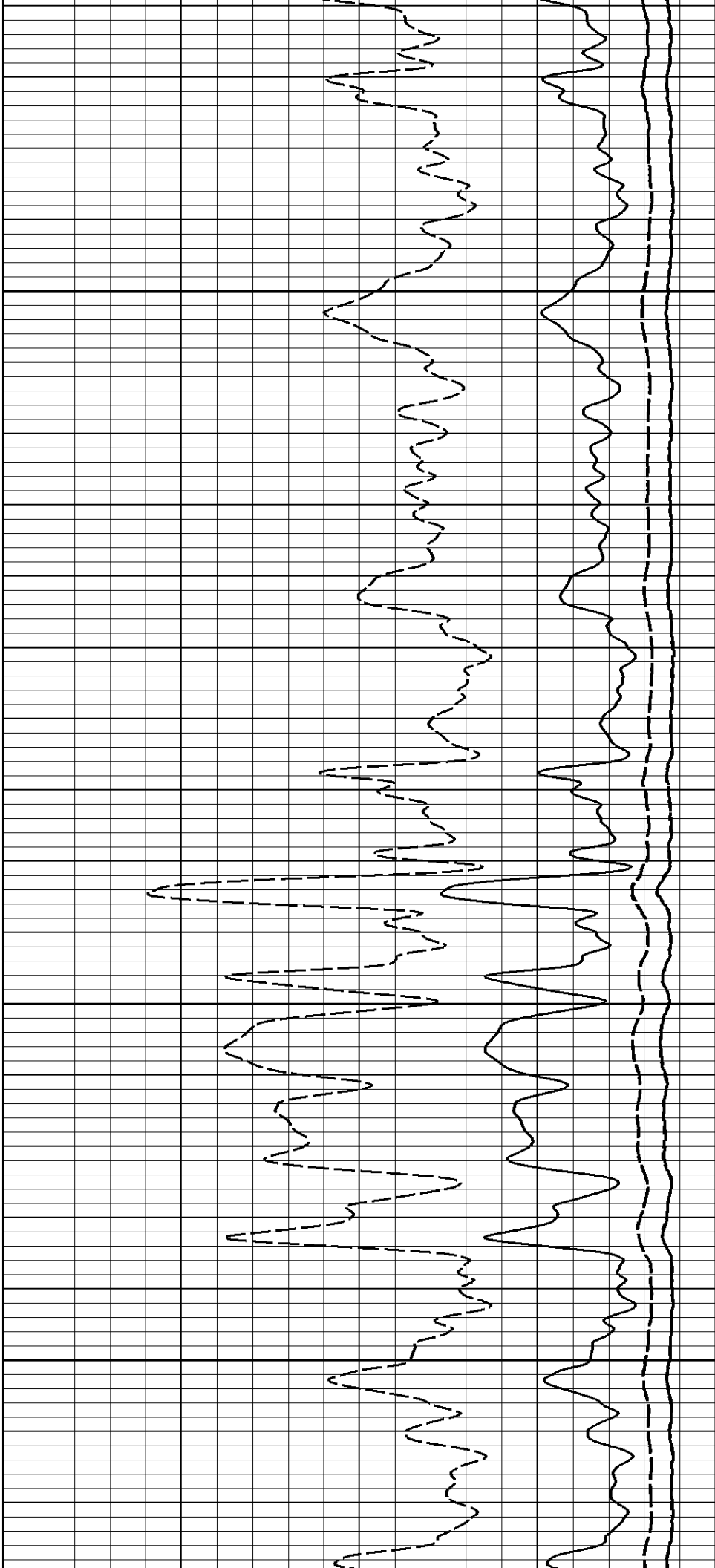
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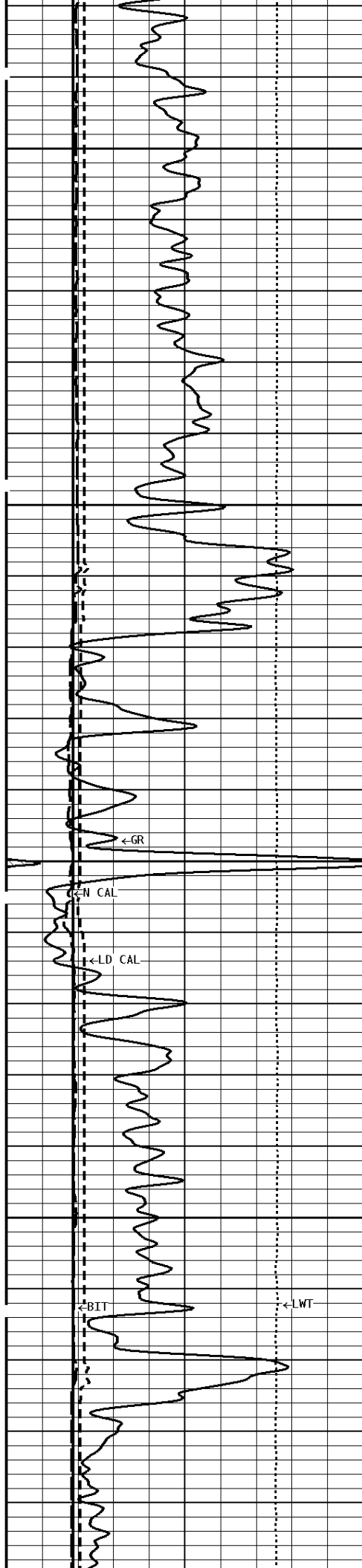




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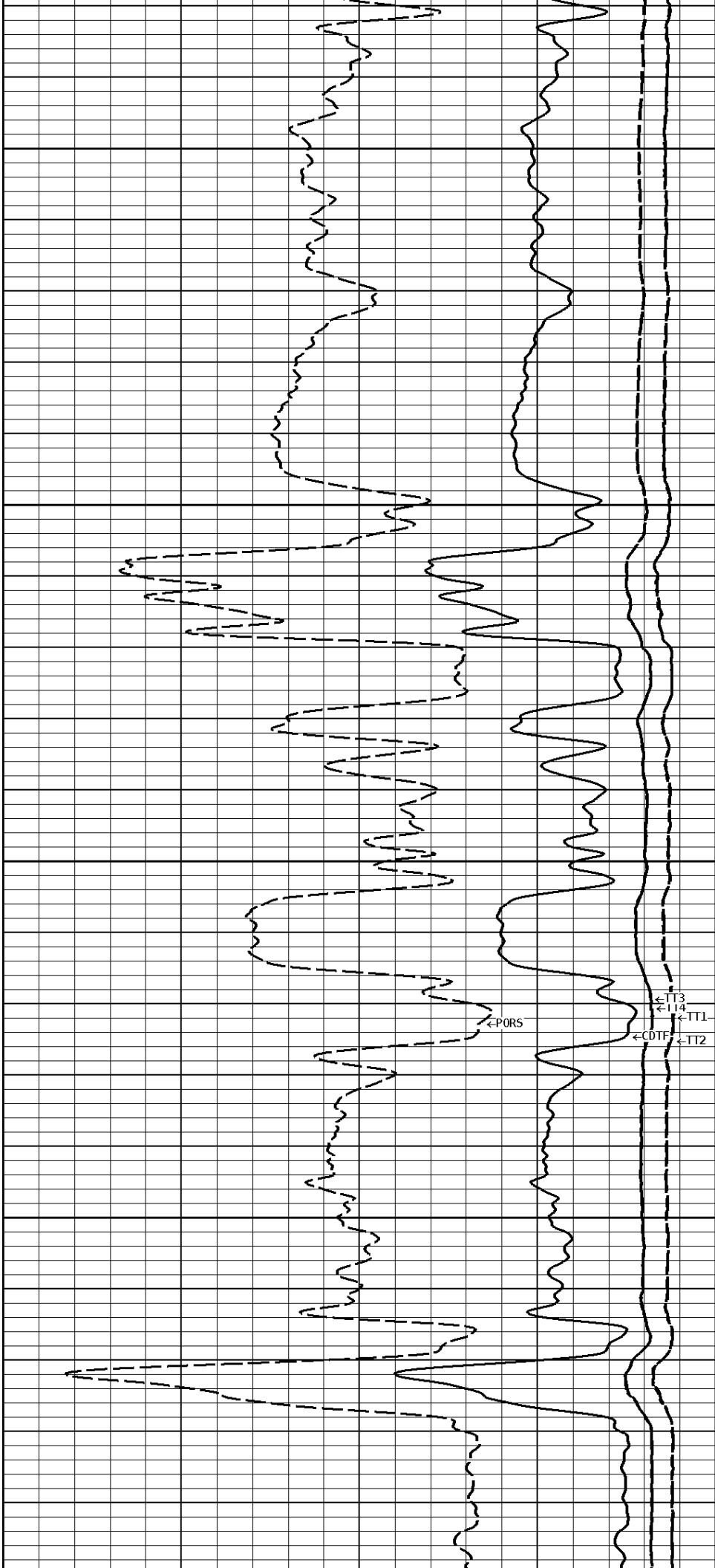
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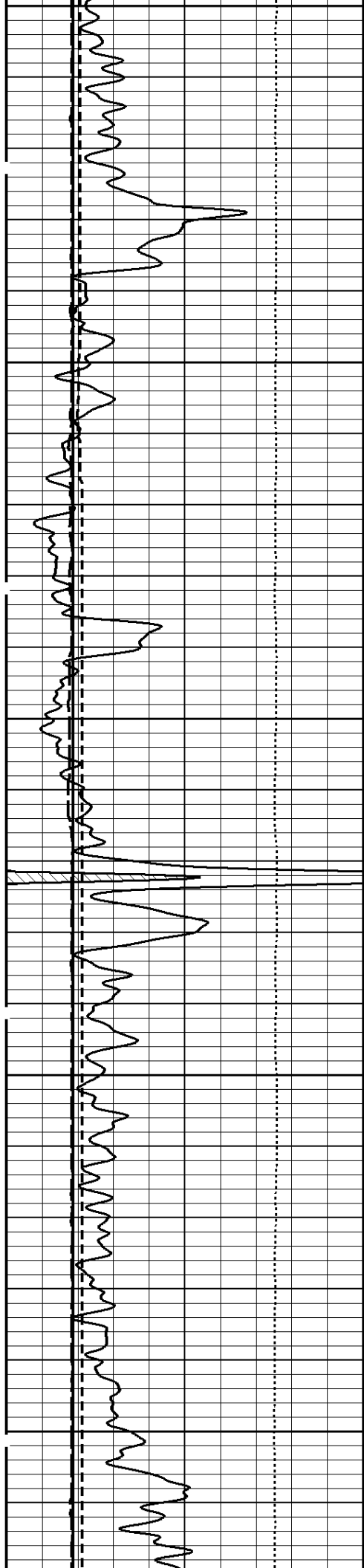




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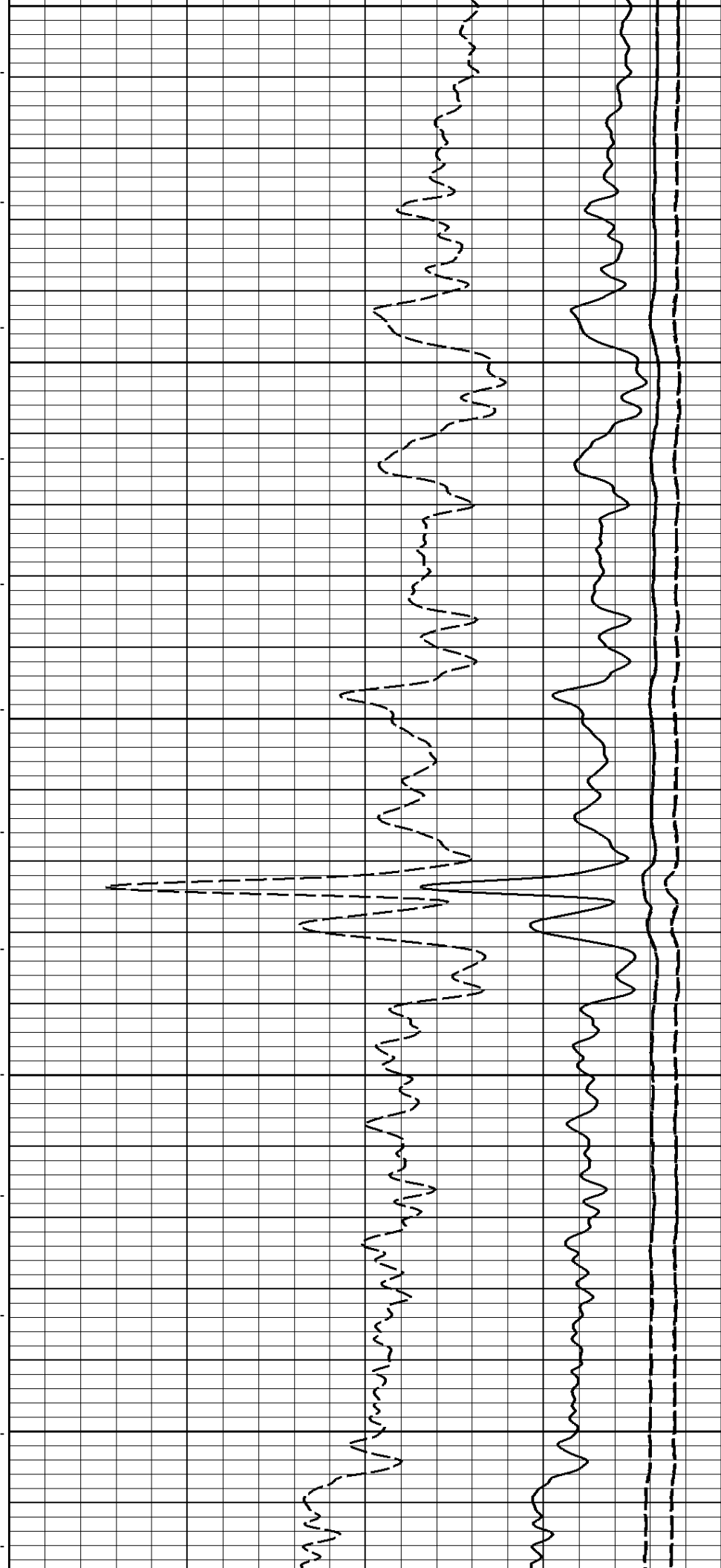
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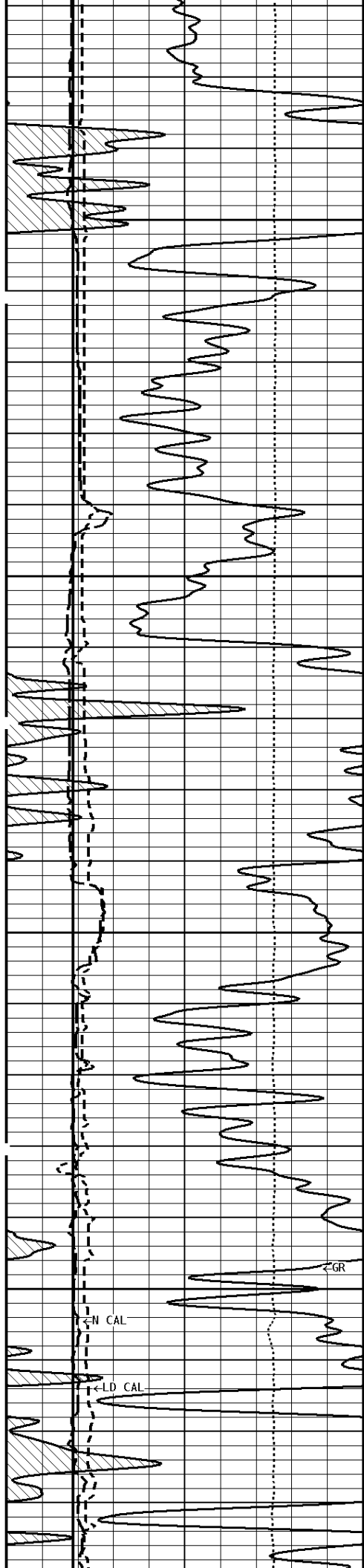




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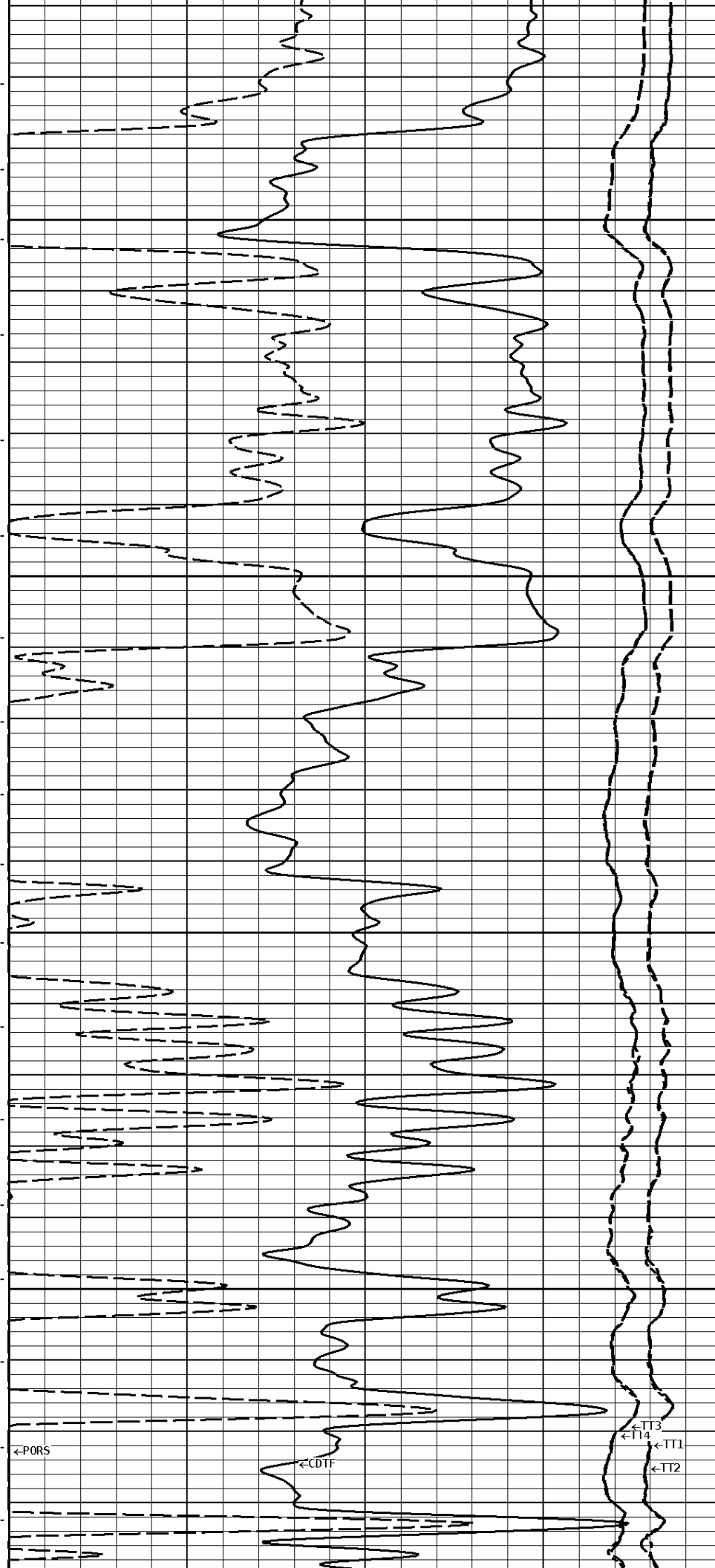
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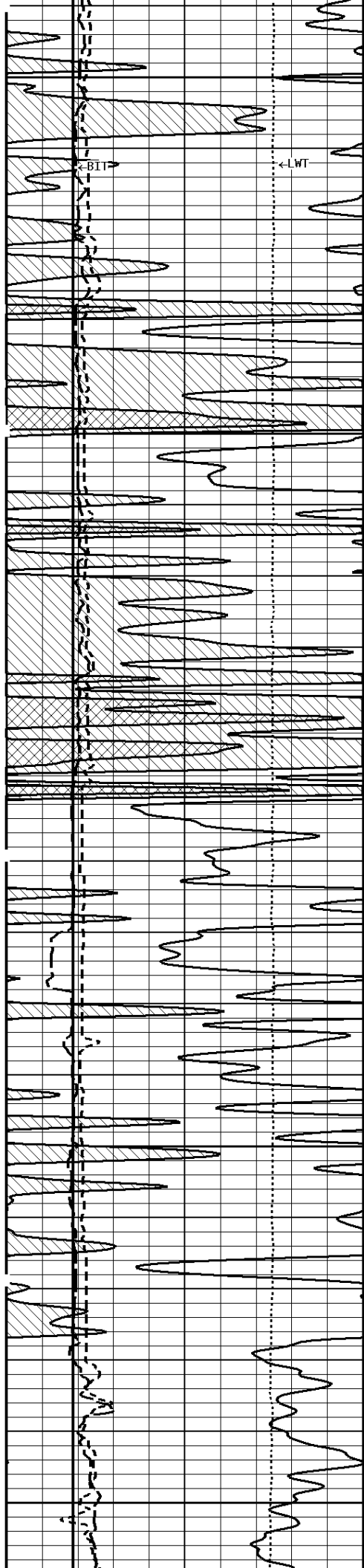




5600

5700

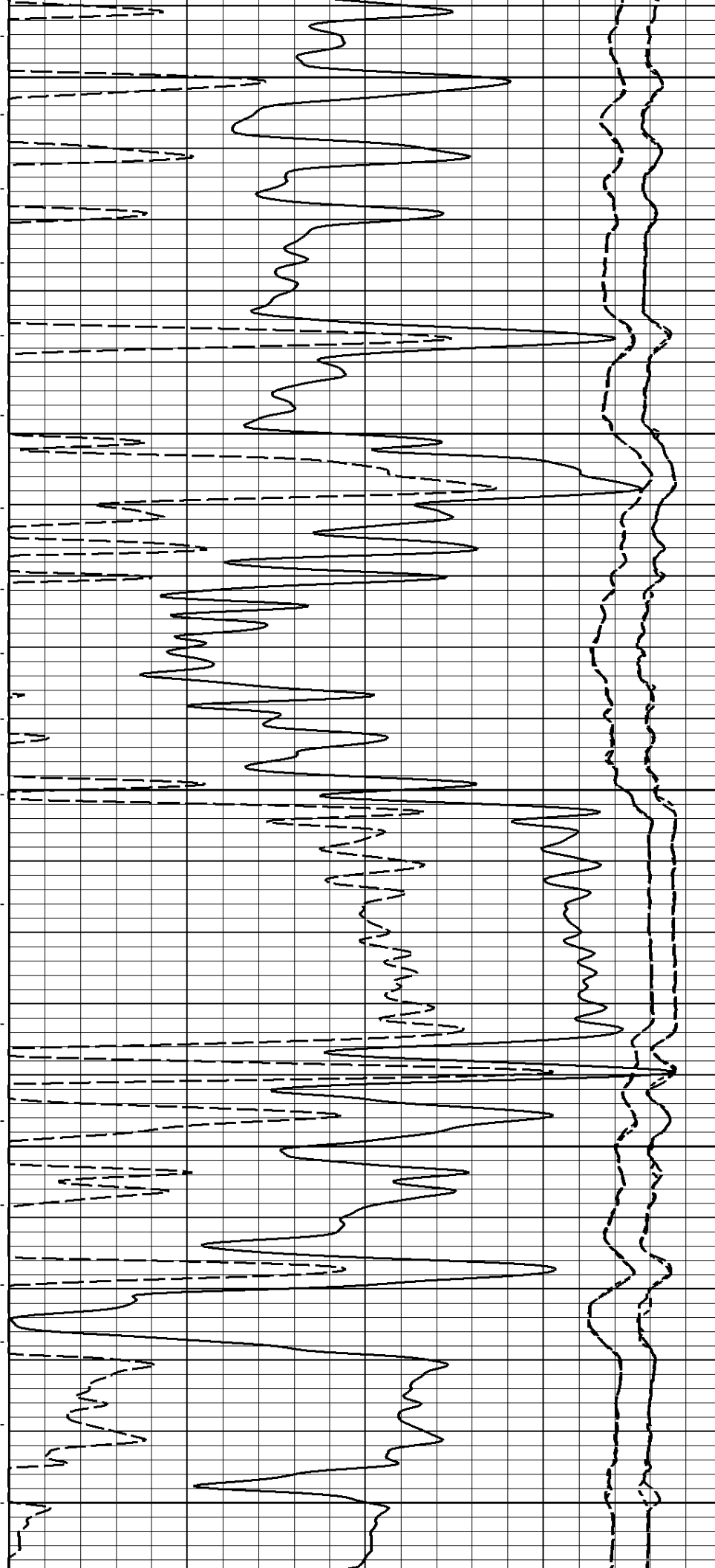


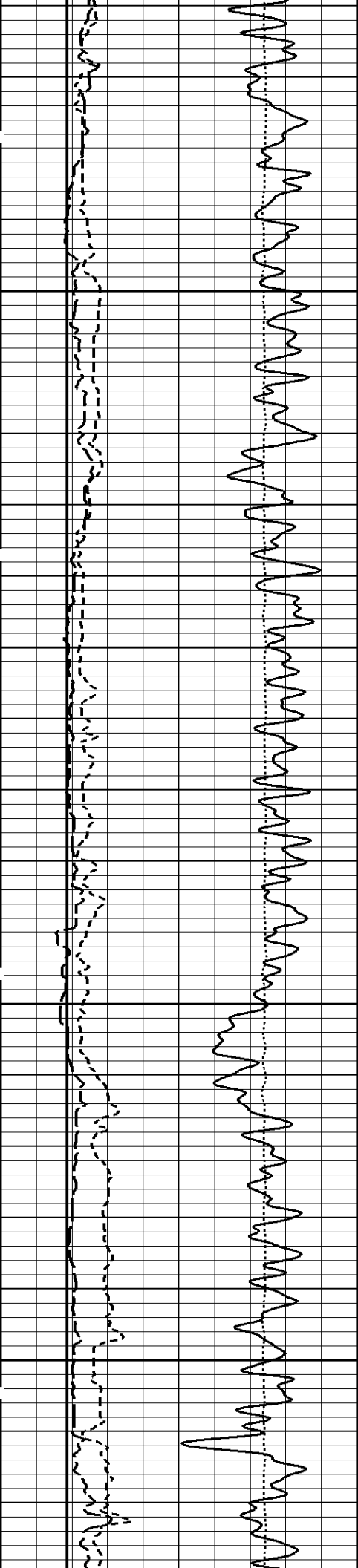


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5900

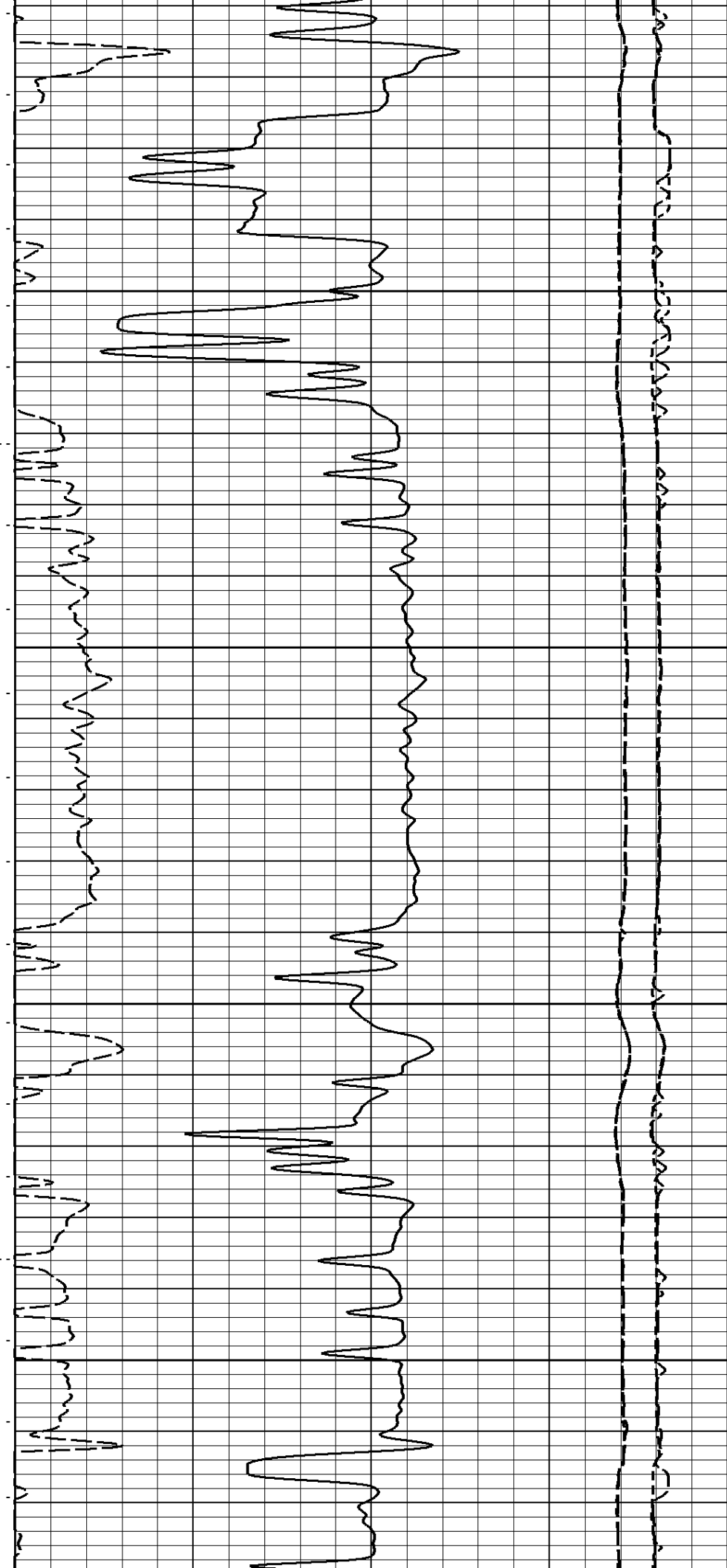
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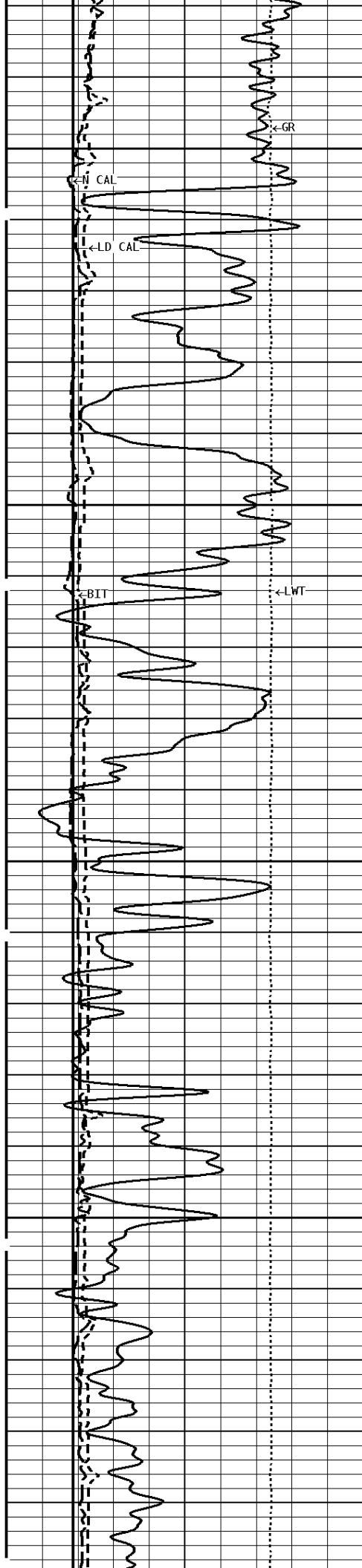




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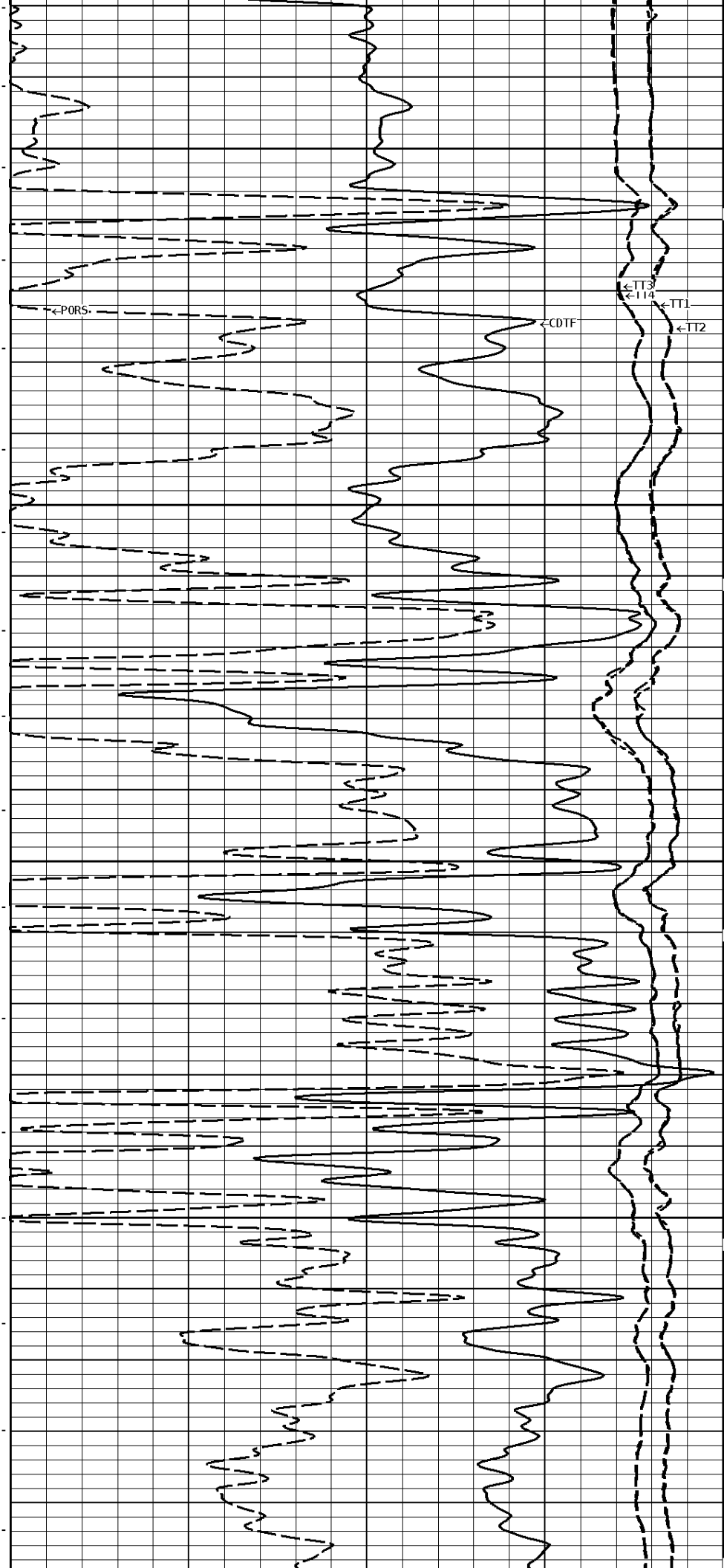
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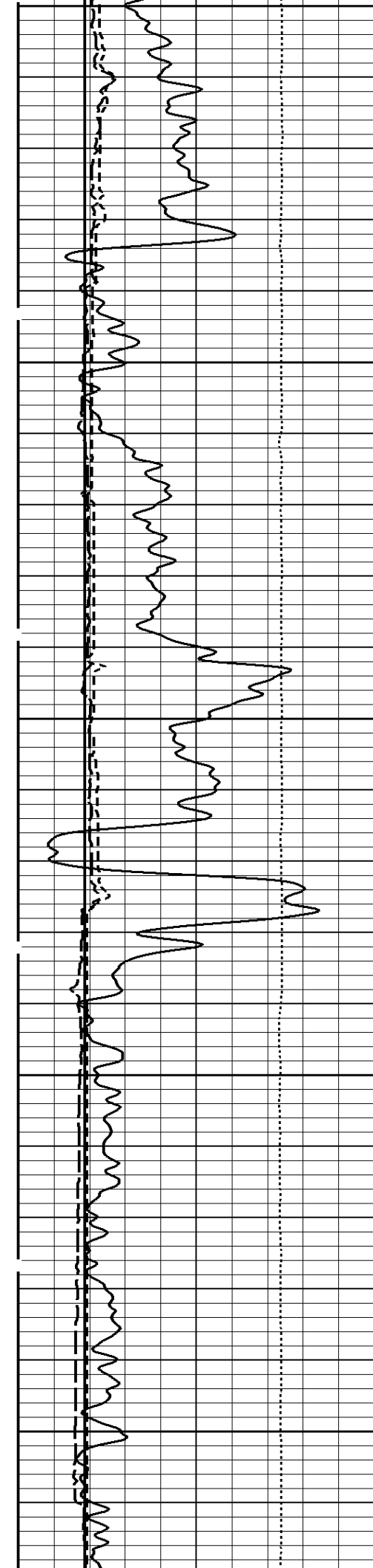




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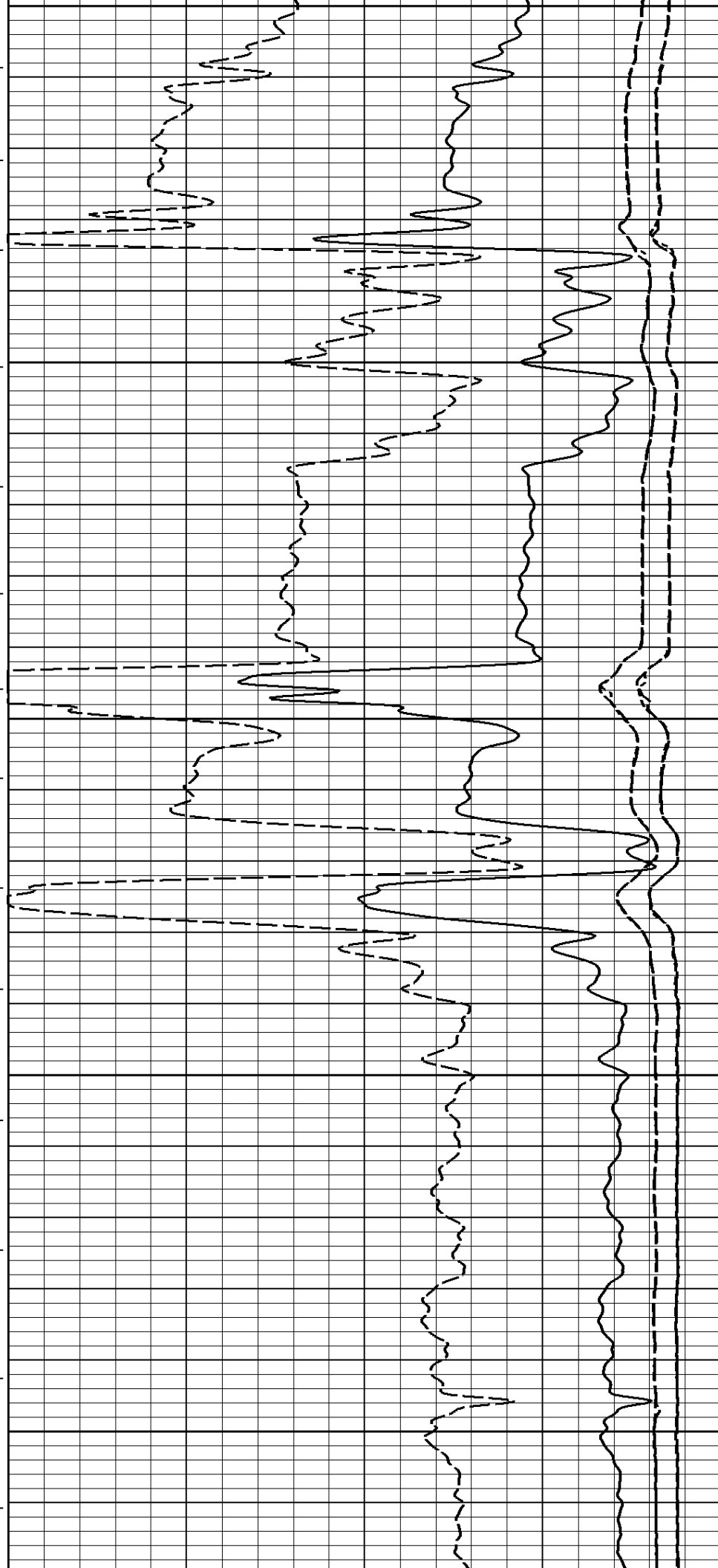
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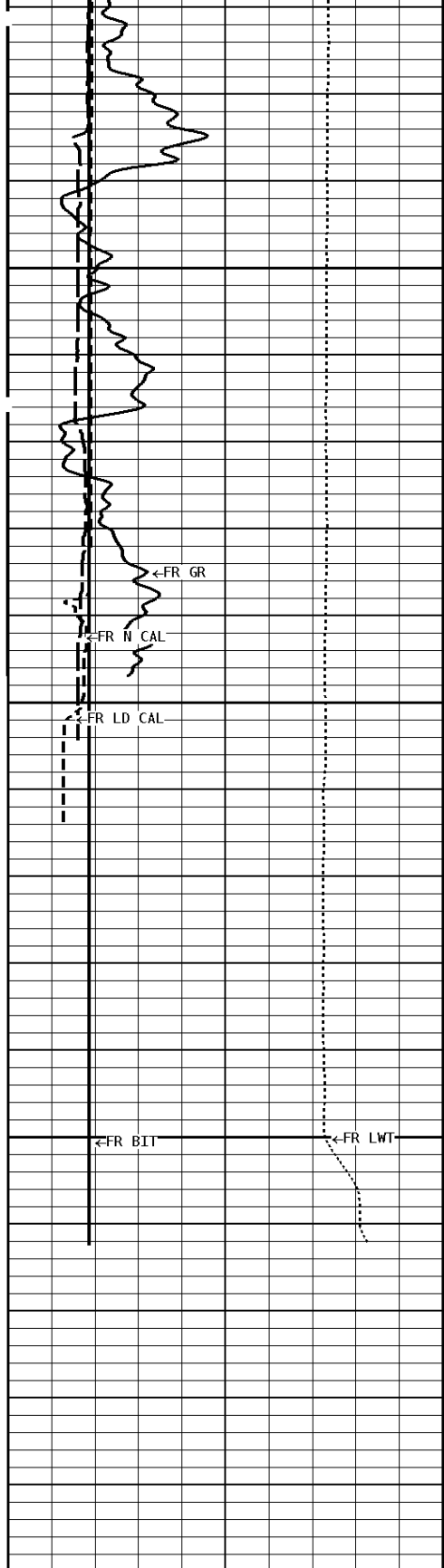




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6600



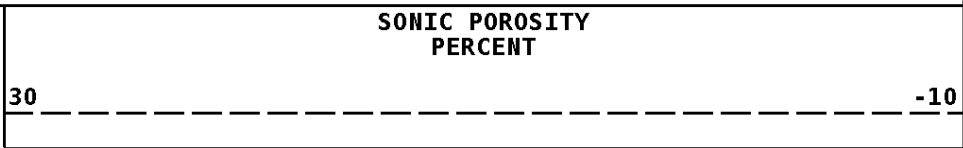
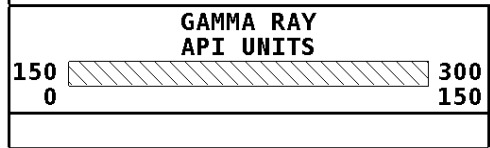
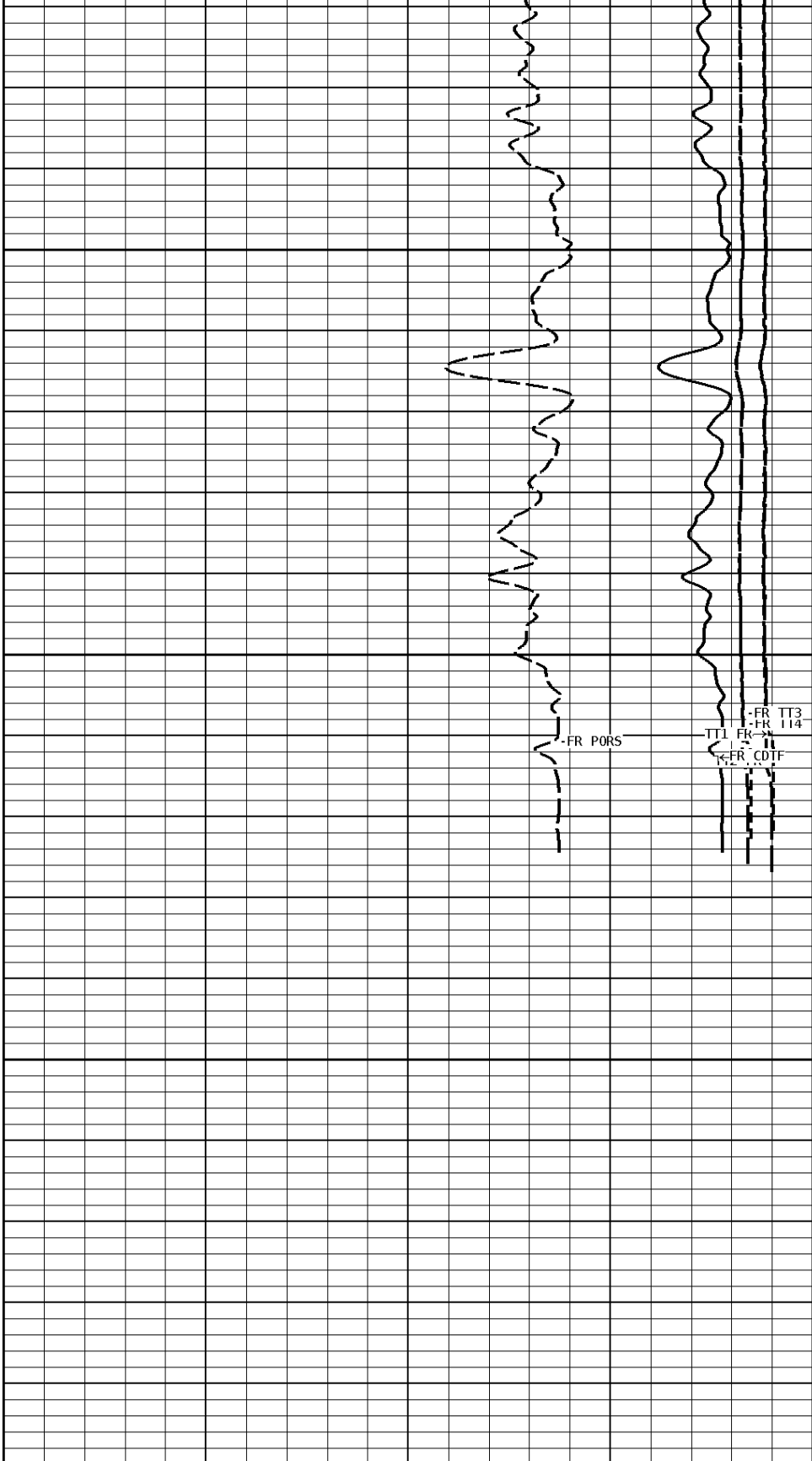


File #1.1.7

6700

6800

1:240 MAIN SECTION



TENSION LBS	
10000	0
BIT SIZE INCHES (IN)	
6	16
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16
NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16

COMPENSATED SONIC TRAVEL TIME uSEC/FT	
240	140
140	40
TT1 uSEC	
950	50
TT2 uSEC	
950	50
TT3 uSEC	
950	50
TT4 uSEC	
950	50

*** Borehole Zone Factors ***

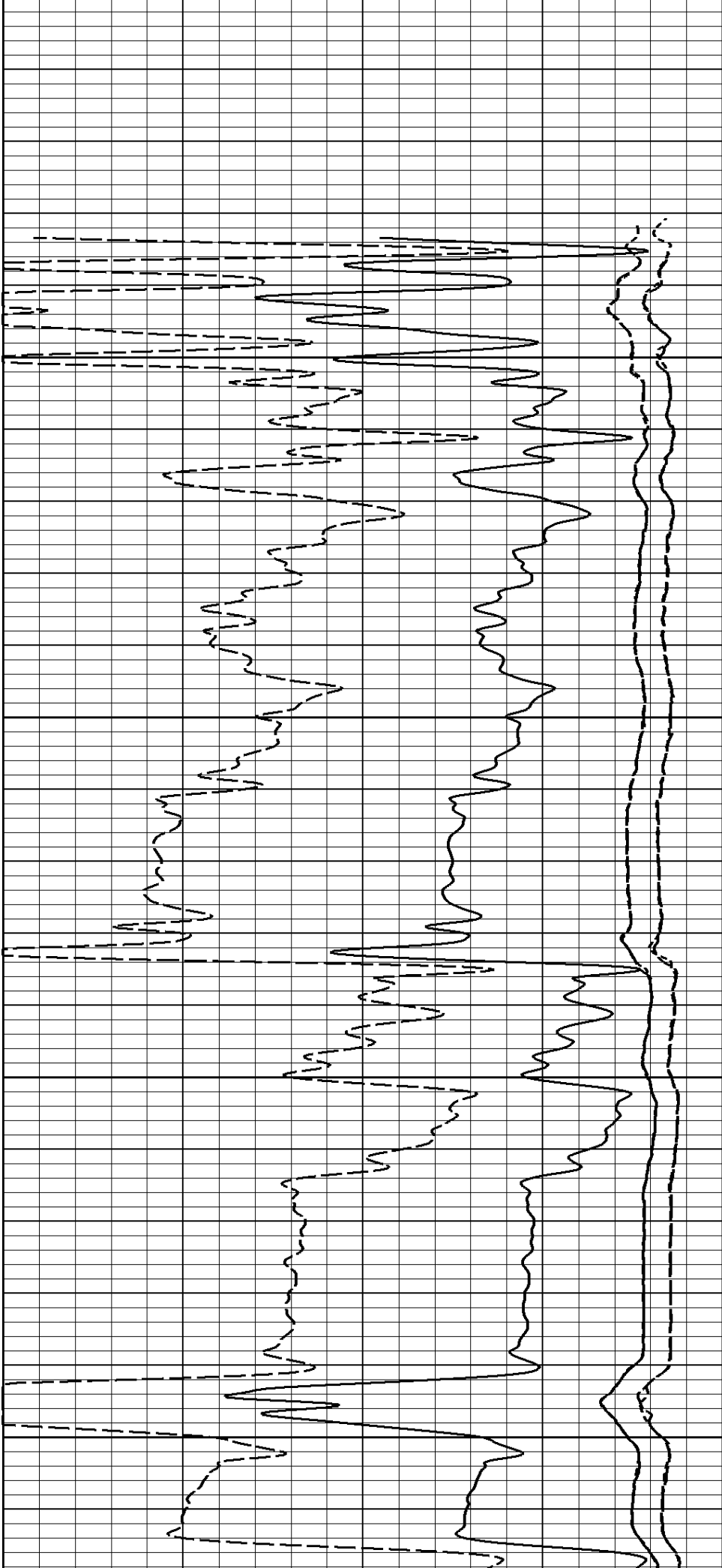
Zone 1 99999.0 to 0.0 Feet			
Matrix Transit Time		47.5	us/ft
Fluid Transit Time		189.0	us/ft

Well File: MIDWESTERN TONY NIX 3-6 JULY4 QUINT	Scale: 1:240	Format: CST-240
Segment: V1.D1.S4 DS REPEAT	Acquired: 2018-07/04 09:55 3.4.0-13756	
Reference: 0	Processed: 2018-07/04 10:11 3.4.0-13756	

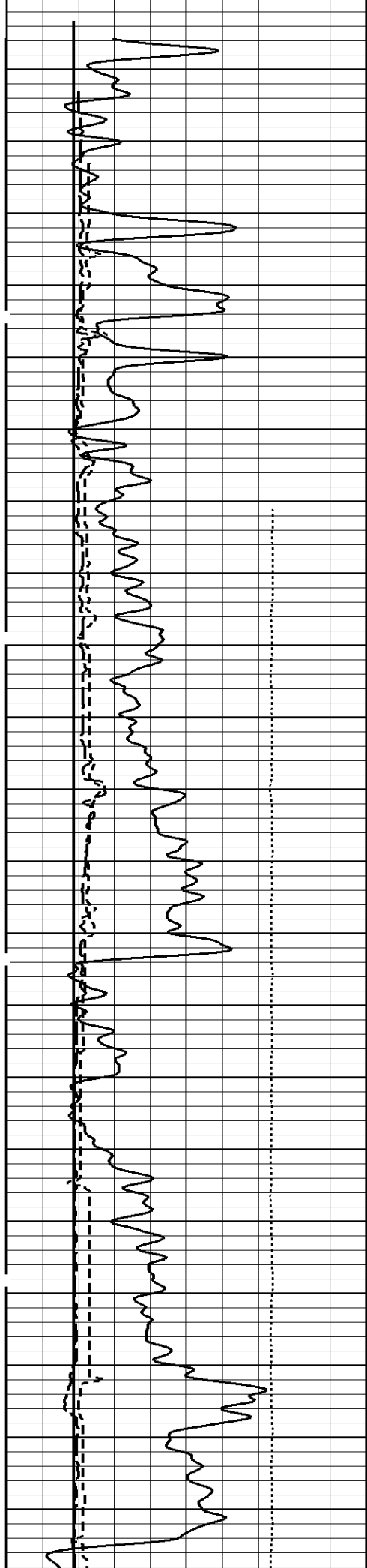
NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16
BIT SIZE INCHES (IN)	
6	16
TENSION LBS	
10000	0
GAMMA RAY API UNITS	
150	300
0	150

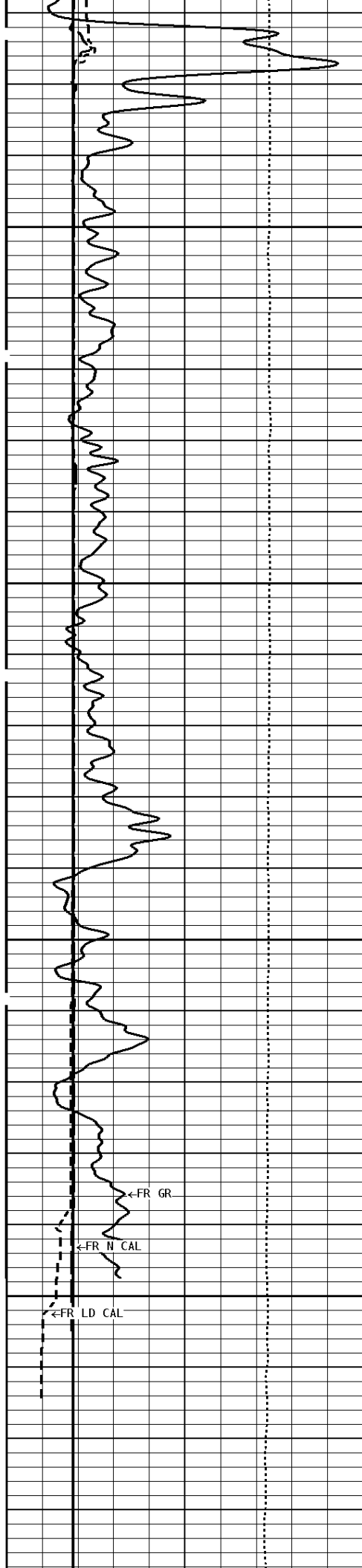
TT4 uSEC	
950	50
TT3 uSEC	
950	50
TT2 uSEC	
950	50
TT1 uSEC	
950	50
COMPENSATED SONIC TRAVEL TIME uSEC/FT	
240	140
140	40
SONIC POROSITY PERCENT	
30	-10

1:240 REPEAT SECTION



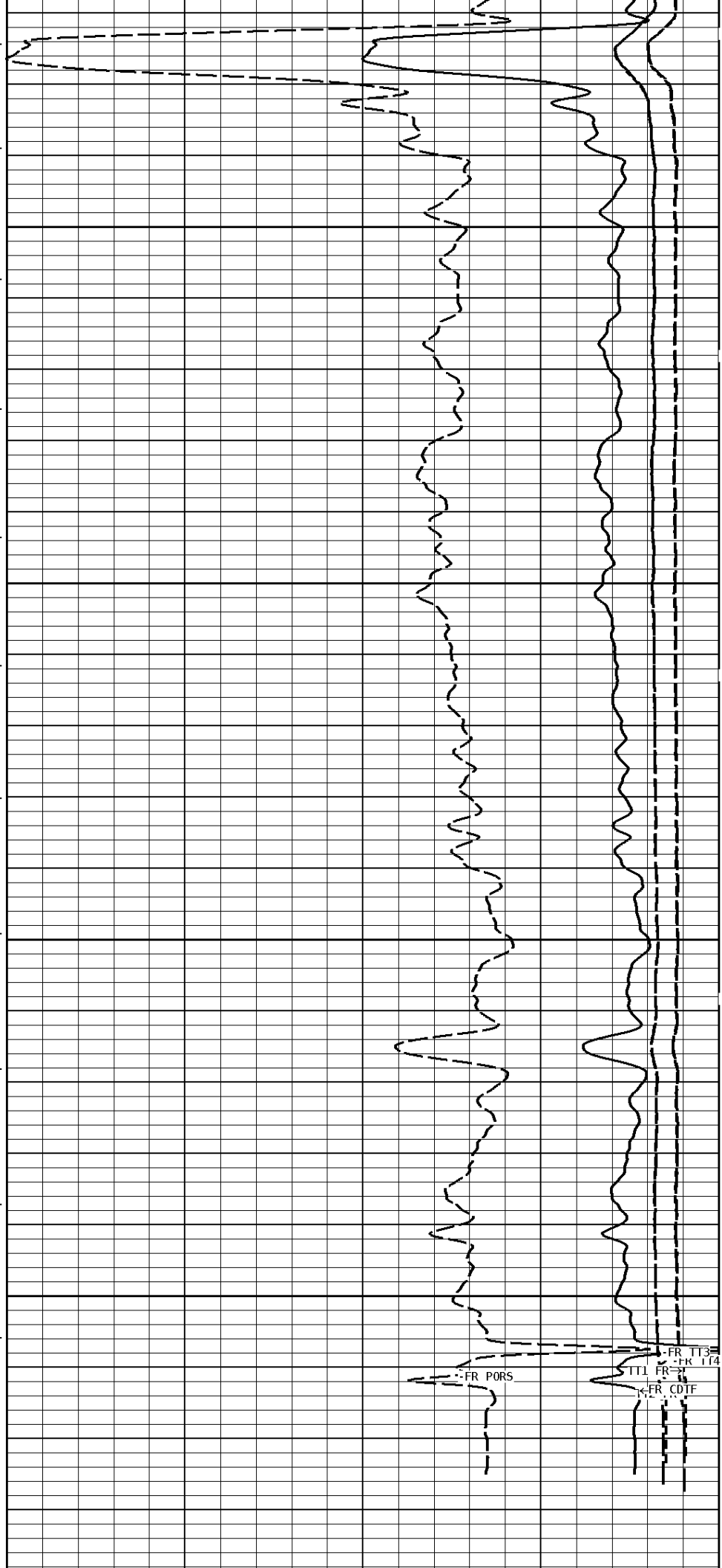
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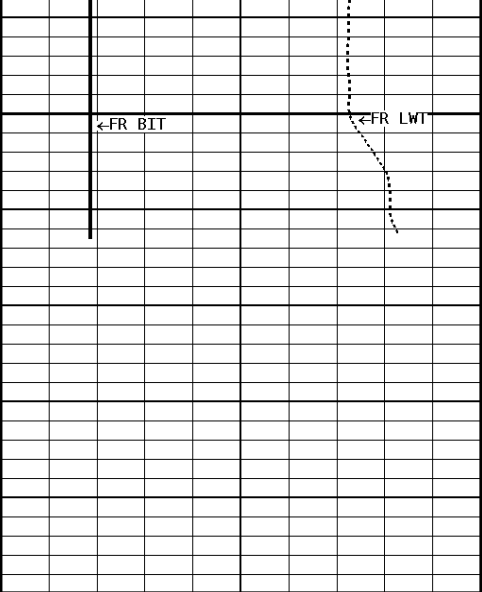




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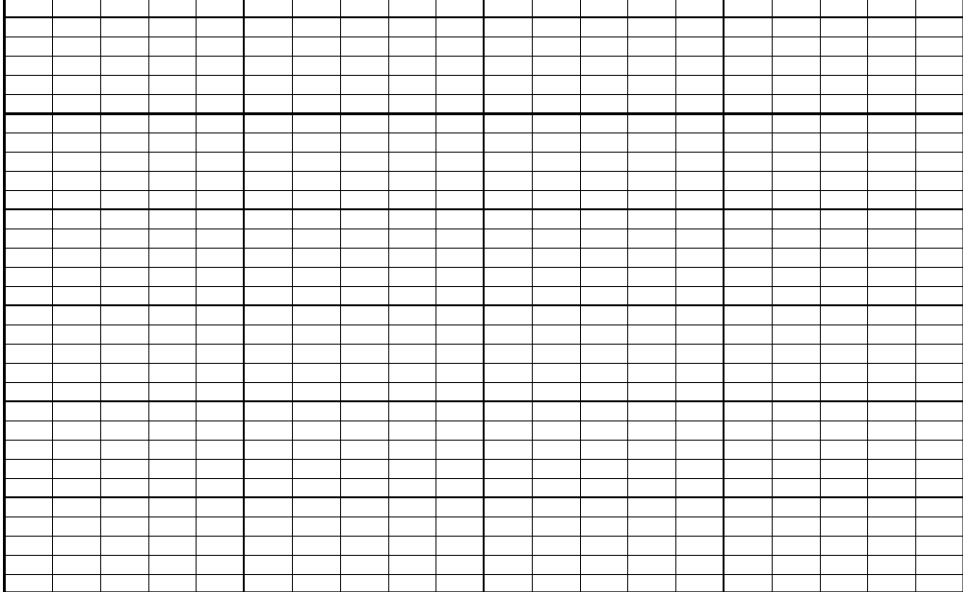
6700





6800

File #1.1.4



1:240 REPEAT SECTION

GAMMA RAY API UNITS	
150	300
0	150
TENSION LBS	
10000	0
BIT SIZE INCHES (IN)	
6	16
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16
NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16

SONIC POROSITY PERCENT	
30	-10
COMPENSATED SONIC TRAVEL TIME uSEC/FT	
240	140
140	40
TT1 uSEC	
950	50
TT2 uSEC	
950	50
TT3 uSEC	
950	50
TT4 uSEC	
950	50

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet			
Matrix Transit Time	_____	47.5	us/ft
Fluid Transit Time	_____	189.0	us/ft

* Calibration Summary *

Shop Calibration GRT-B			
Performed :	12-Feb-2018	Time :	11:30
Sensor Suite :	GR-GR5	ID :	GRT-BA-121

	Measured	Units	Calibrated	Units
	Background	Jig	Jig	
GR	44	309	160	GRAPI
Shop Calibration				
CST-AD				
Performed : 02-FEB-2018		Time : 10:54		
Sensor Suite : SON-ANA		ID : CST-AD-043		
Transit Time				
T/R Pair	Measured		Calibrated	Units
T1R1	208.5		208.5	uS
T2R2	208.5		208.5	uS
T1R2	322.5		322.5	uS
T2R1	322.5		322.5	uS
Amplitude				
T/R Pair	Measured		Calibrated	Units
T1R1	90.00		90.00	mV
T2R2	90.00		90.00	mV
T1R2	78.00		78.00	mV
T2R1	78.00		78.00	mV