

Tucker
WIRELINE SERVICES

**MICRO
LOG**

File No : TUL-57618
 Company : LAYNE ENERGY OPERATING, LLC.
 Well : FUQUA #9-36
 Field :
 Country : ELK
 State : KANSAS
 Country : USA
 API No : 15-049-22559

Company LAYNE ENERGY OPERATING, L
 Well FUQUA #9-36
 Field ELK
 Country KANSAS
 State USA
 Country USA
 API No. 15-049-22559

Location :
 1852' FSL & 1320' FEL
 N2 S2 N2 SE

LSD : Sect : 36 Twp : 28 Rge : 9E

Permanent Datum: GL Elevations: KB 1212.00 Ft SGT
 Drilling Measured From: KB 1212.00 Ft CNT
 Log Measured From: GL DF 1211.00 Ft PIT
 Above Permanent Datum: 0.00 Ft GL 1201.00 Ft LDT

Date	02-24-2012	
Run Number	1	
Depth--Driller	2636.0	Ft
Depth--Logger	2631.0	Ft
First Reading	2629.0	Ft
Last Reading	40.0	Ft
Casing--Driller	40.0	Ft
Casing--Logger	40.0	Ft
Bit Size	7.875	In
Casing Size	8.625	In
Hole Fluid Type	WBM	
Density	9.0 LBS/GAL	
Fluid Loss	0.0	CC
PH/Viscosity	0.0	60.0 SEC
Sample Source	MEASURED	
RM@Measured Temp.	2.800	@ 60 F
RMF@Measured Temp	2.380	@ 60 F
RMC@Measured Temp.	3.220	@ 60 F
Source RMF/RMC	CALCULATED/CALCULATED	
RM@BHT	1.470	@ 120 F
Time Circulation Stopped		
Max Recorded Temp.	120	F
Equipment/Base	123	TULSA
Recorded By	S. DAVIS	
Witnessed By	M. MURPHY / J. MCCLAIN / J. BURRIS	

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. 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. W. 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. W. 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)
7.875	2642.00	8.625	20.00	40.00

Run Number	1	
Date	02-24-2012	
Date/Time On Bottom	02-24-2012 12:00	
Depth to Fluid	0.0	Ft
Salinity	0.000	PPM
RMF@BHT	1.250	@ 120 F
RMC@BHT	1.690	@ 120 F

Run Number 1

Comments

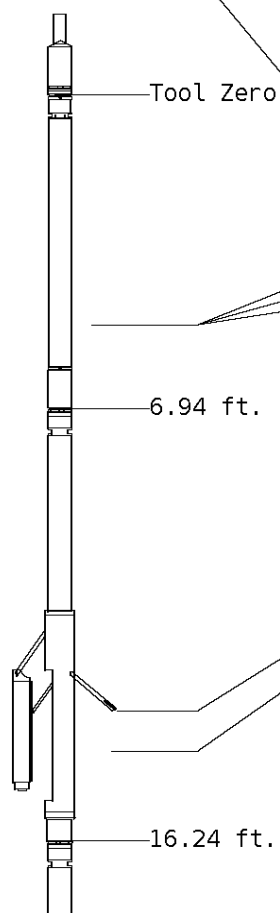
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
 SGT, CNT, LDT, MLT, AND PIT RUN IN SPLIT RUNS
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 & 2.68 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING.
 HIRES & SGT PRESENTED FROM TD TO 2200'
 MISS. RW 0.12

SGT: GRP, UFGRP, S-KK, S-UK, S-TK,
 CNT: PHIN, CLCNIN.
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
 MLT: NOR_RF, INV_RF, MSCLPIN.
 PIT: ILD, ILM, SPU, SFLAEC.

OPERATORS:
 A. WARREN
 N. LOYD
 B. STEVENS

Tool String Schematic

Total Tool Length - 35.62 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 744.00 lbs.



Tool: GRT-FA **Length:** 6.94 ft. **O.D.** 3.62 in.
 Spectral Gamma Controller
Sonde ID :GRT-FA-074

Measure Point	Tool Offset	Stack Offset	Bottom Offset
SP	-4.42	-4.42	40.04
K	5.17	5.17	30.45
U	5.17	5.17	30.45
T	5.17	5.17	30.45

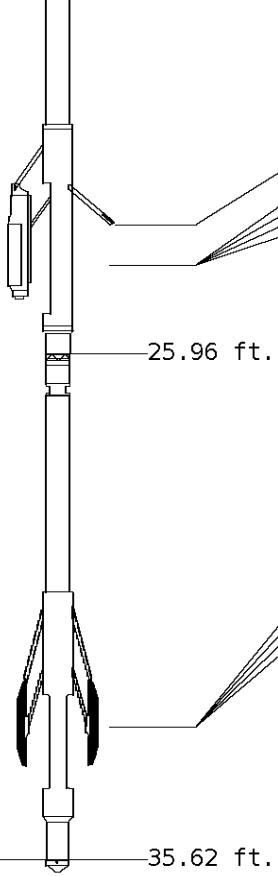
Tool: CNT-AA **Length:** 9.30 ft. **O.D.** 4.36 in.
 Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BD-123
Source ID :N-1046
Pad ID :CNP-AA-024

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	12.94	22.68
PHIN	6.80	13.74	21.88

Tool: LDT-DF **Length:** 9.72 ft. **O.D.** 4.80 in.
 Litho Density D Pad on NDT-F
Sonde ID :PDT-GA-466

Source ID : 2991GW
 Pad ID : LDP-DA-067

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	22.66	12.96
PEL	7.42	23.66	11.96
PES	7.82	24.06	11.56
LDEN	7.62	23.86	11.76
LCOR	7.62	23.86	11.76



Tool: MST-DA Length: 9.66 ft. O.D. 6.00 in.
 Micro Spherically Focused (IC)
 Sonde ID : MLT-DA-21

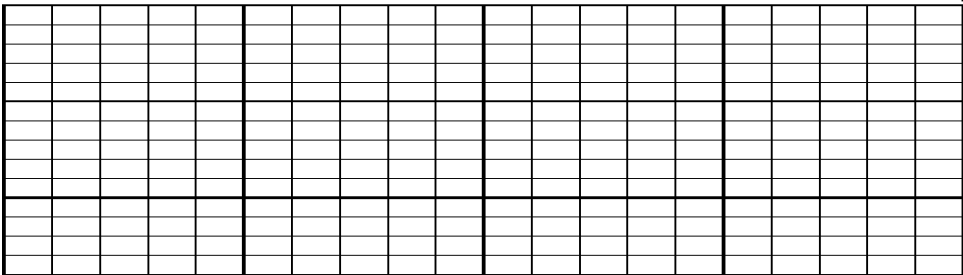
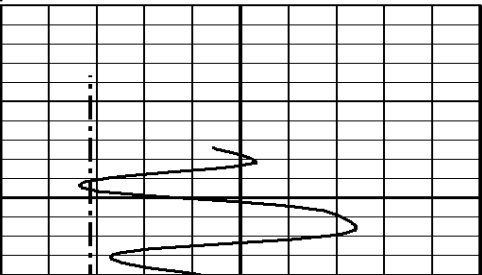
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	33.56	2.06
MSCLP	7.60	33.56	2.06
INV	7.60	33.56	2.06
NOR	7.60	33.56	2.06

Well File: lan fuq 9-36 feb 24 mstk Scale: 1:240
 Segment: V1.D5.S1 MAIN Acquired: Not Available
 Reference: 0 Processed: Not Available

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

MICRO-INVERSE OHMM	
0	40
MICRO-NORMAL OHMM	
0	40

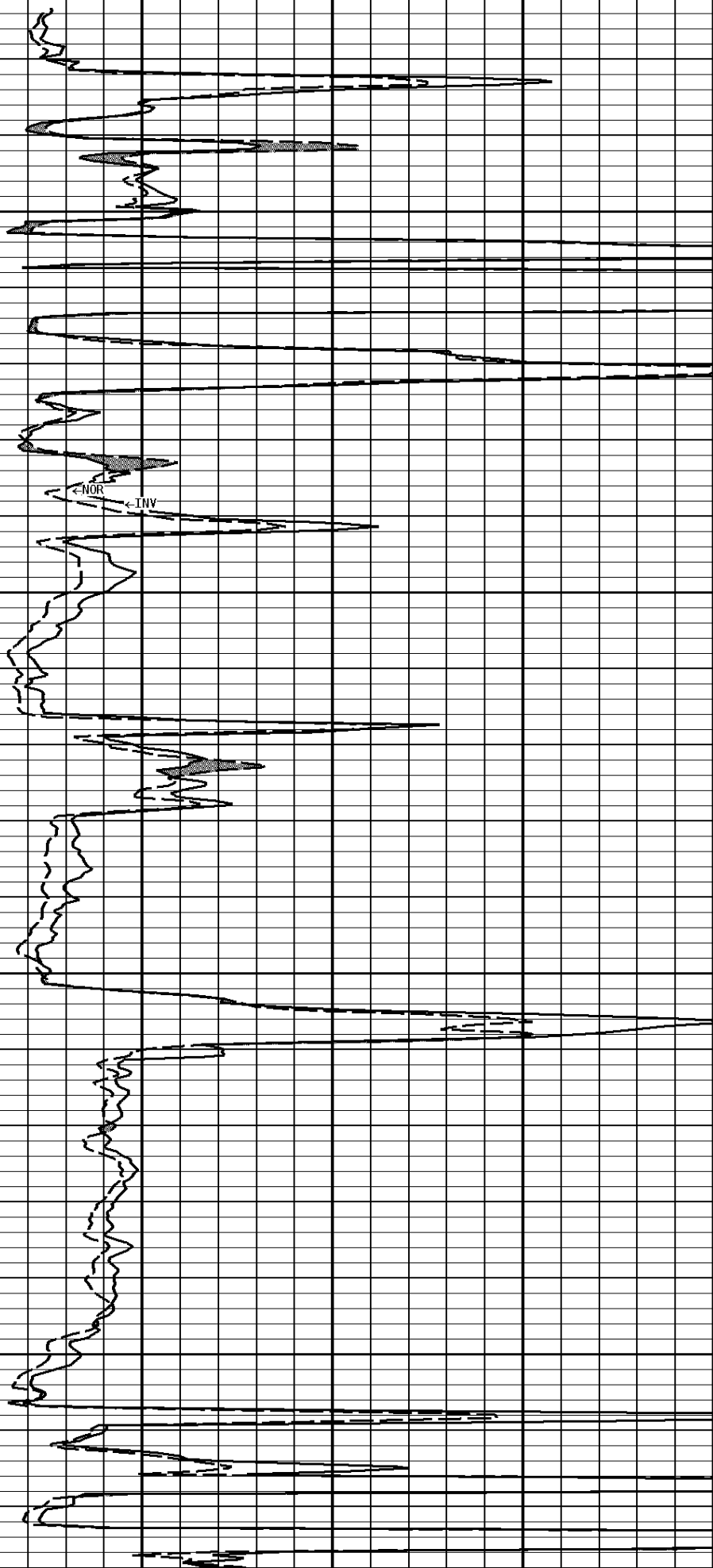
1:240 MAIN SECTION

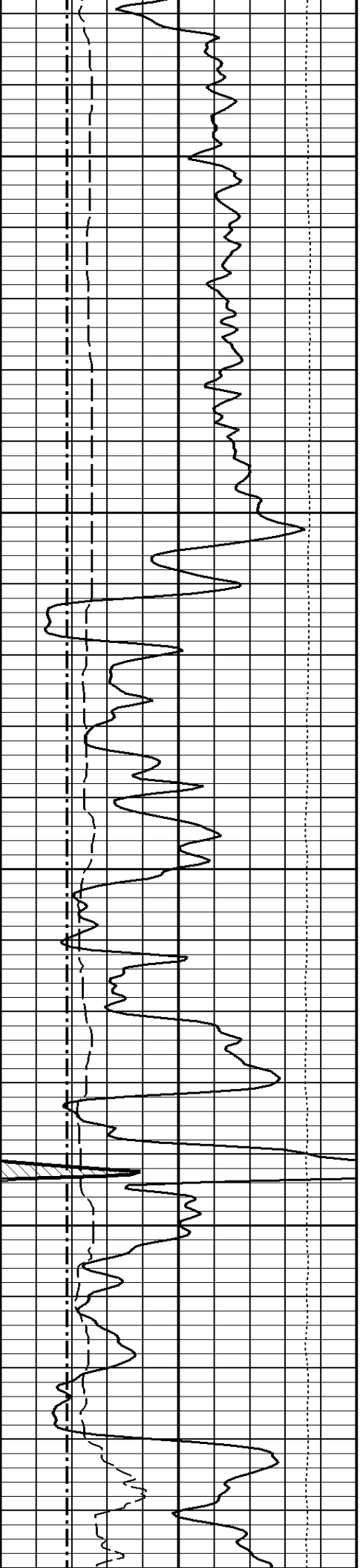




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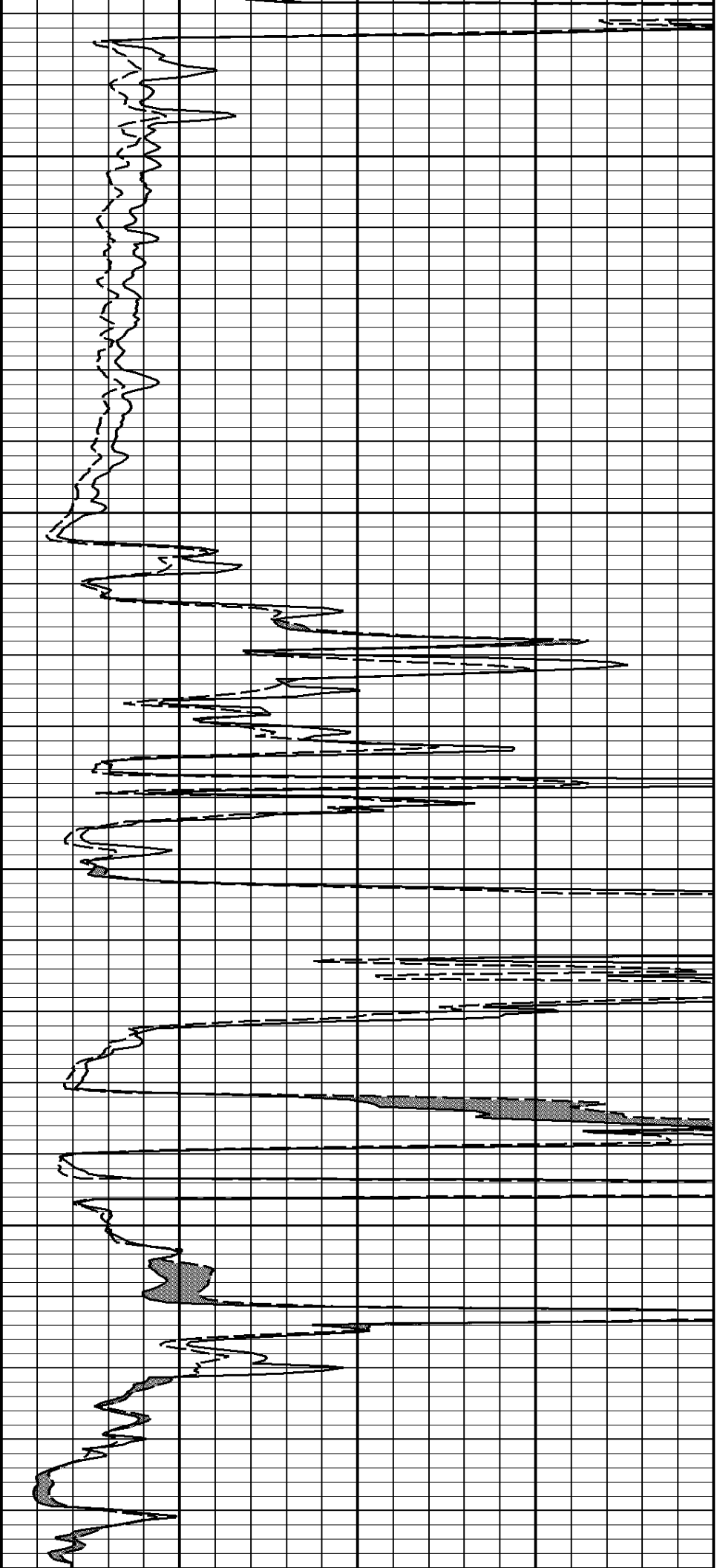
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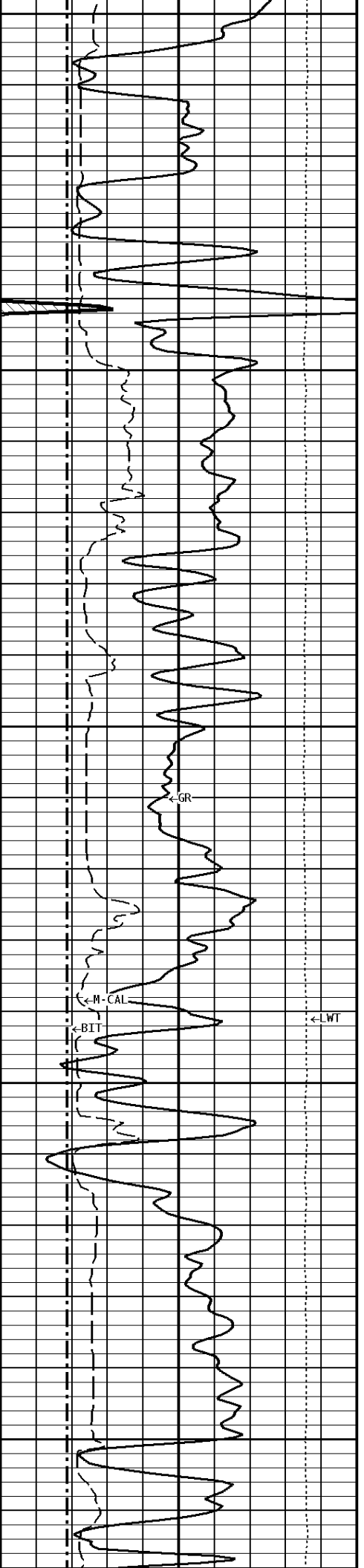




300

400

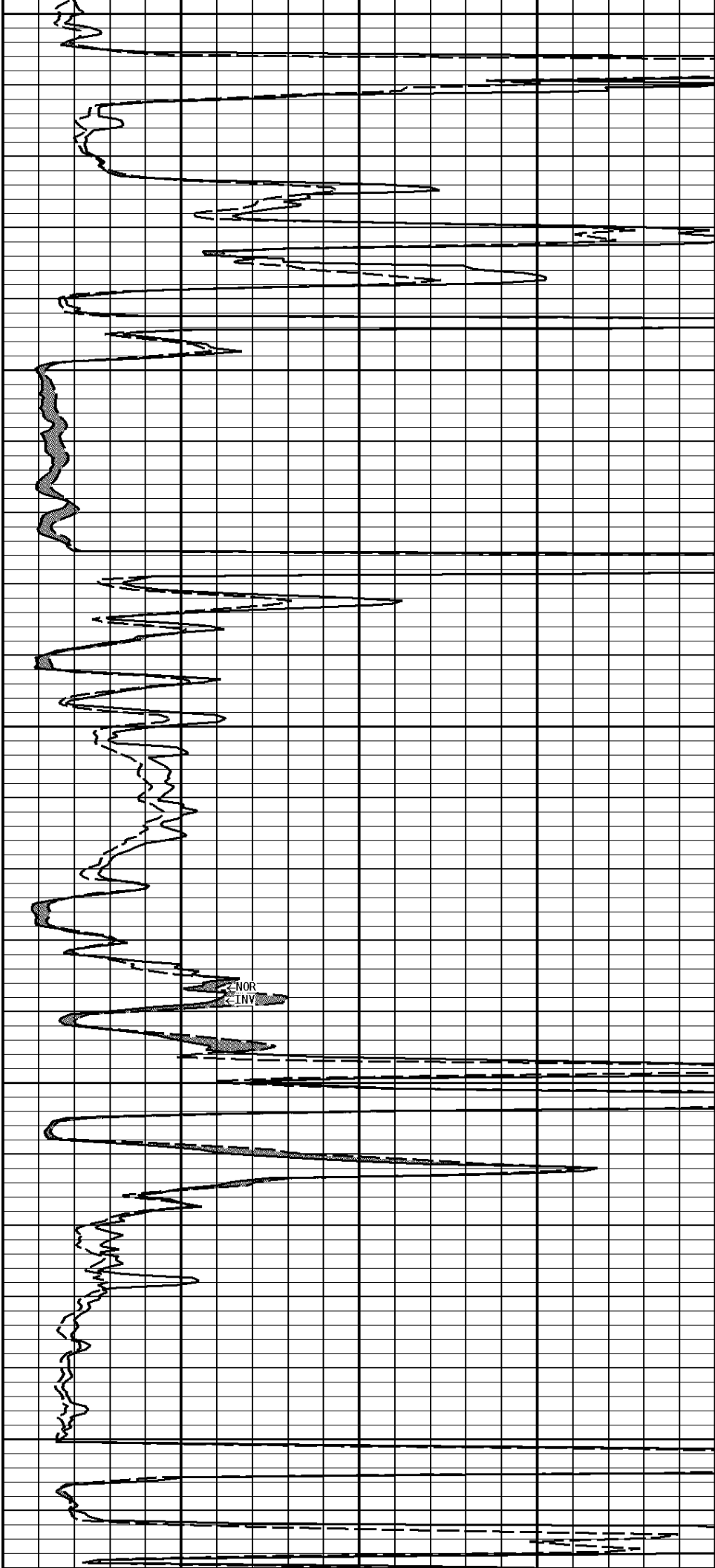


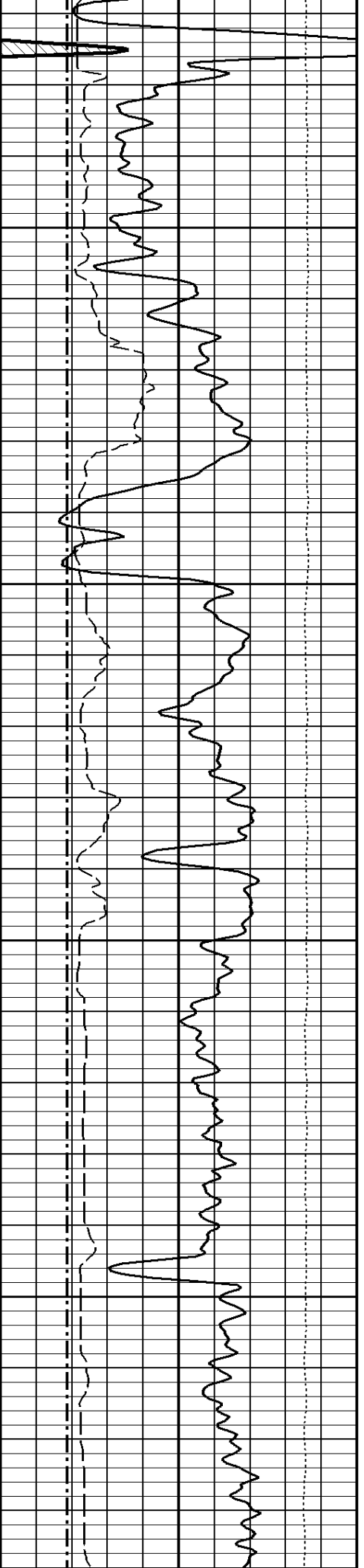


500

600

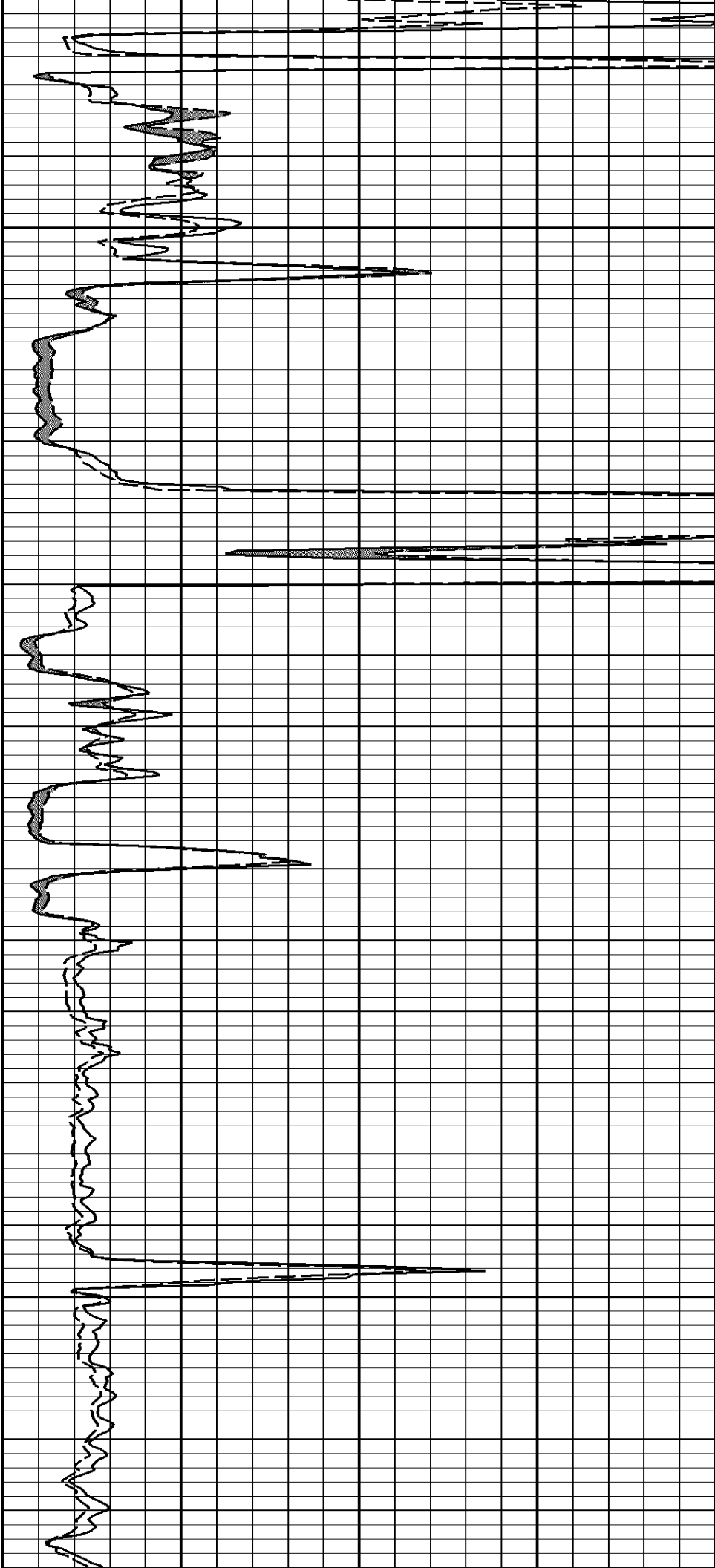
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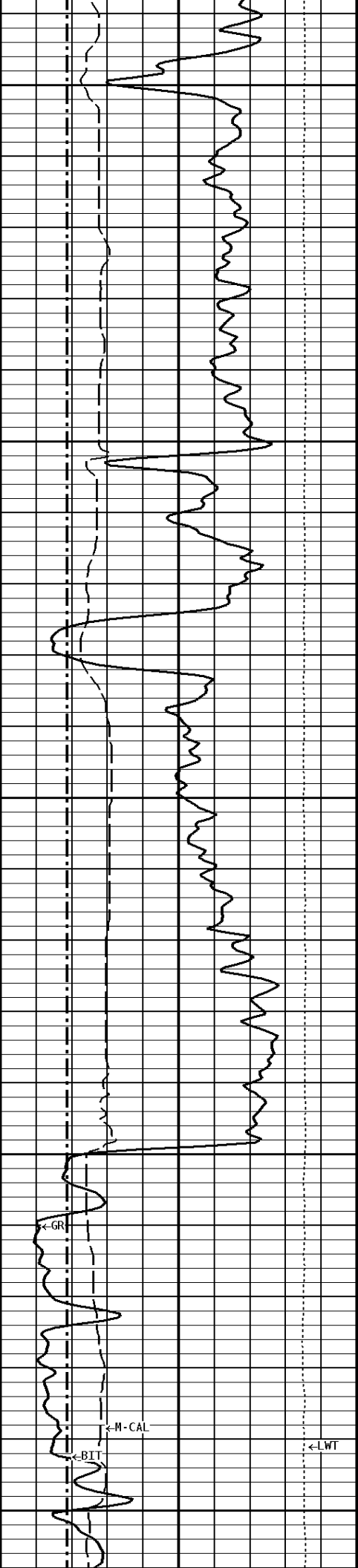




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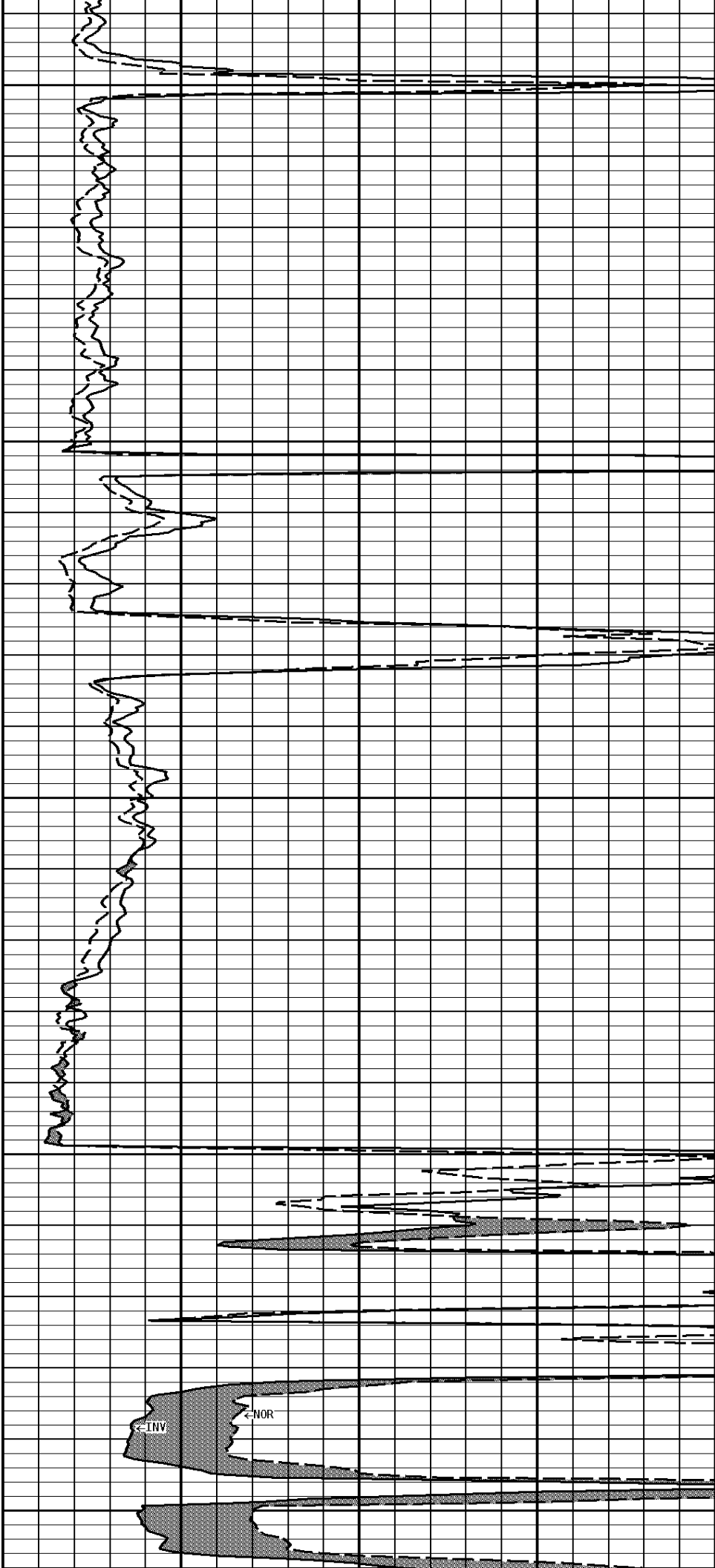
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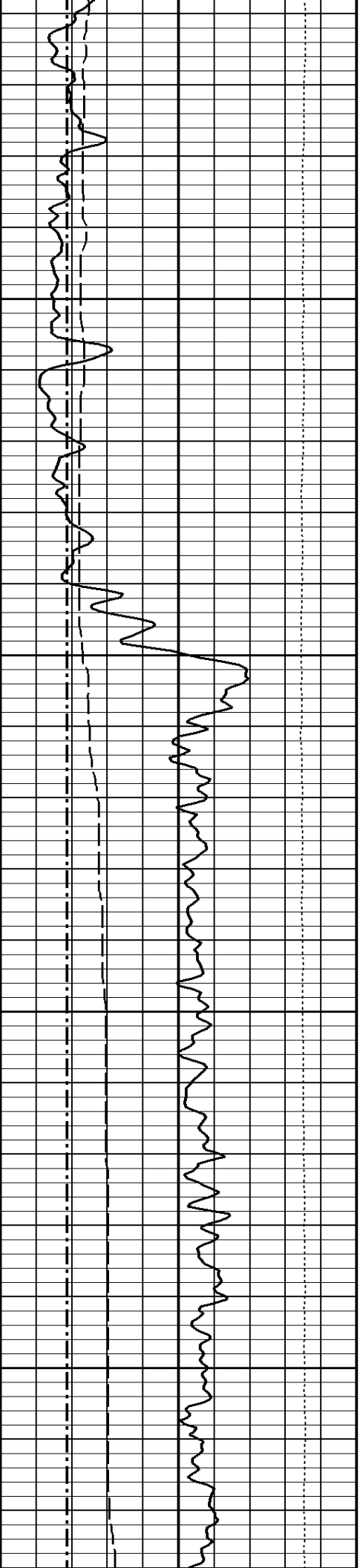




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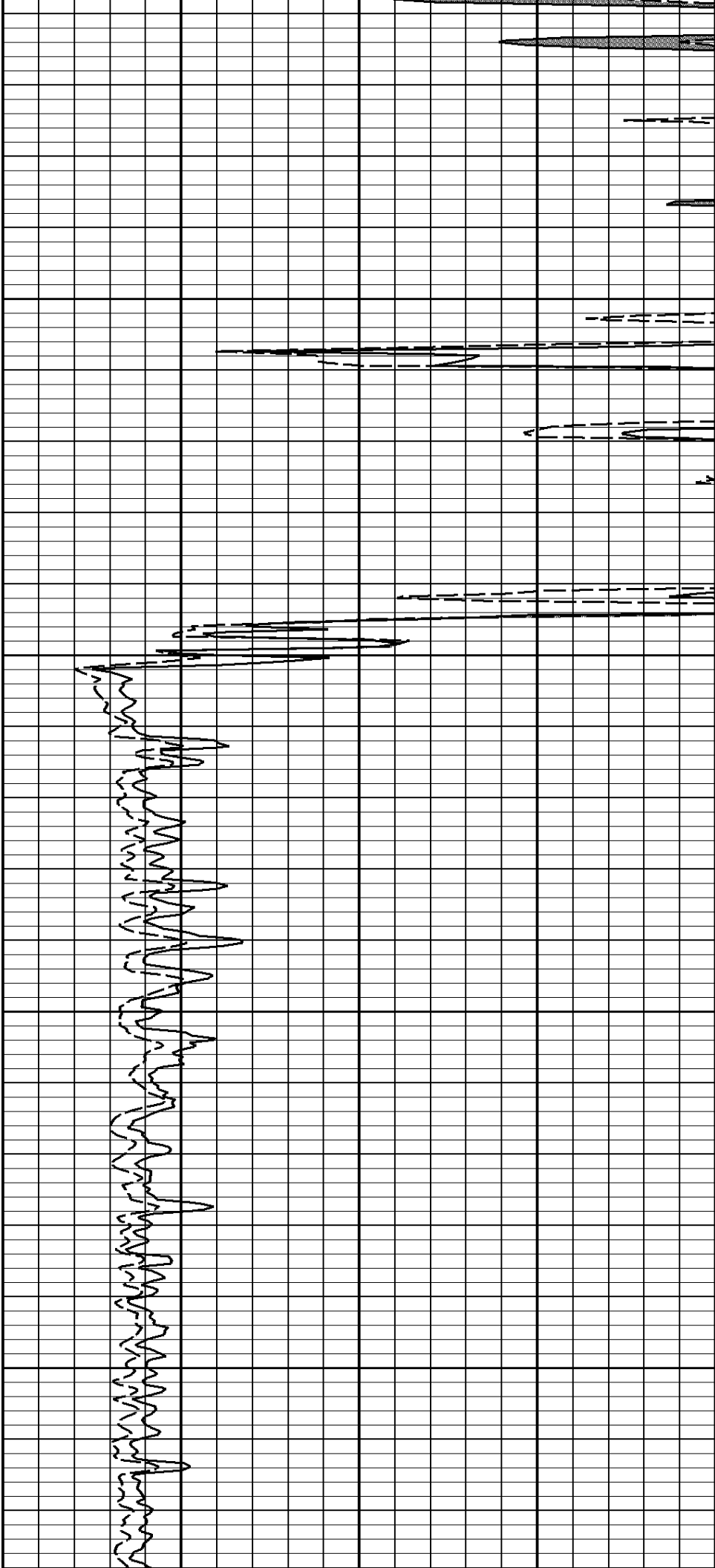
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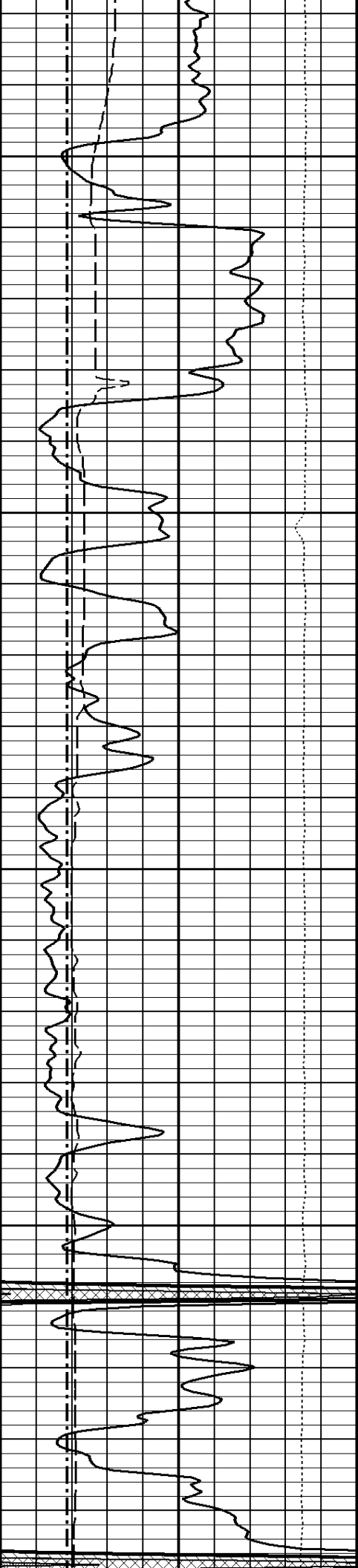




1200

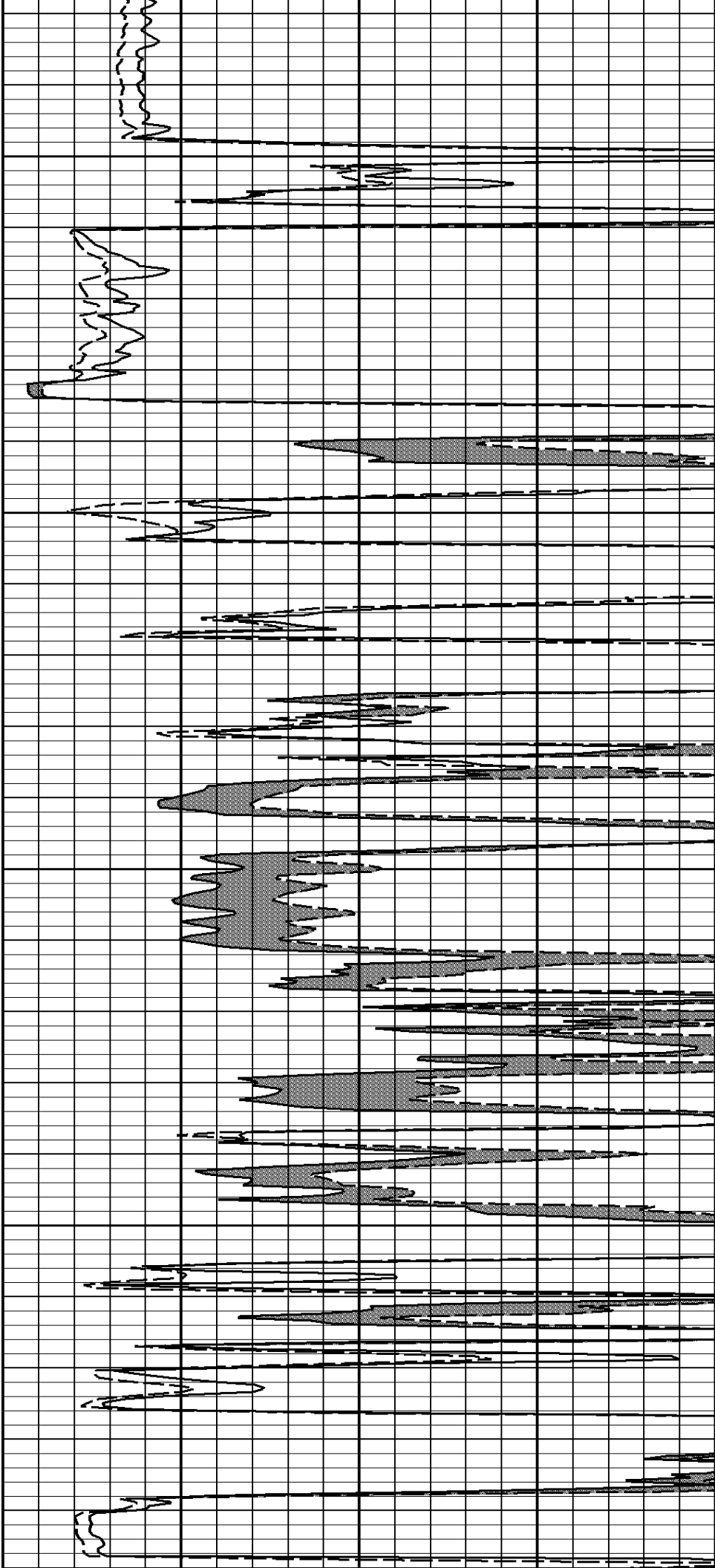
1300



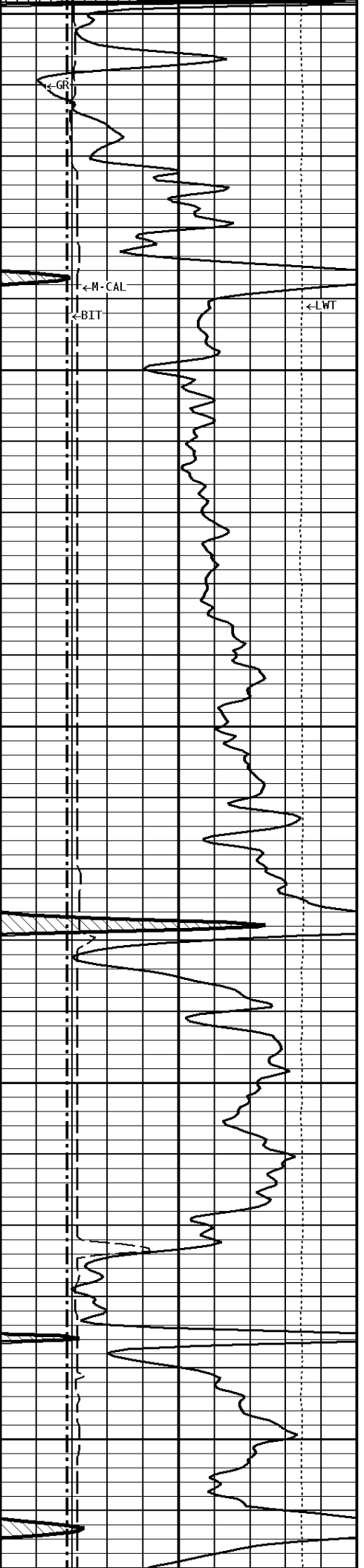


1400

1500

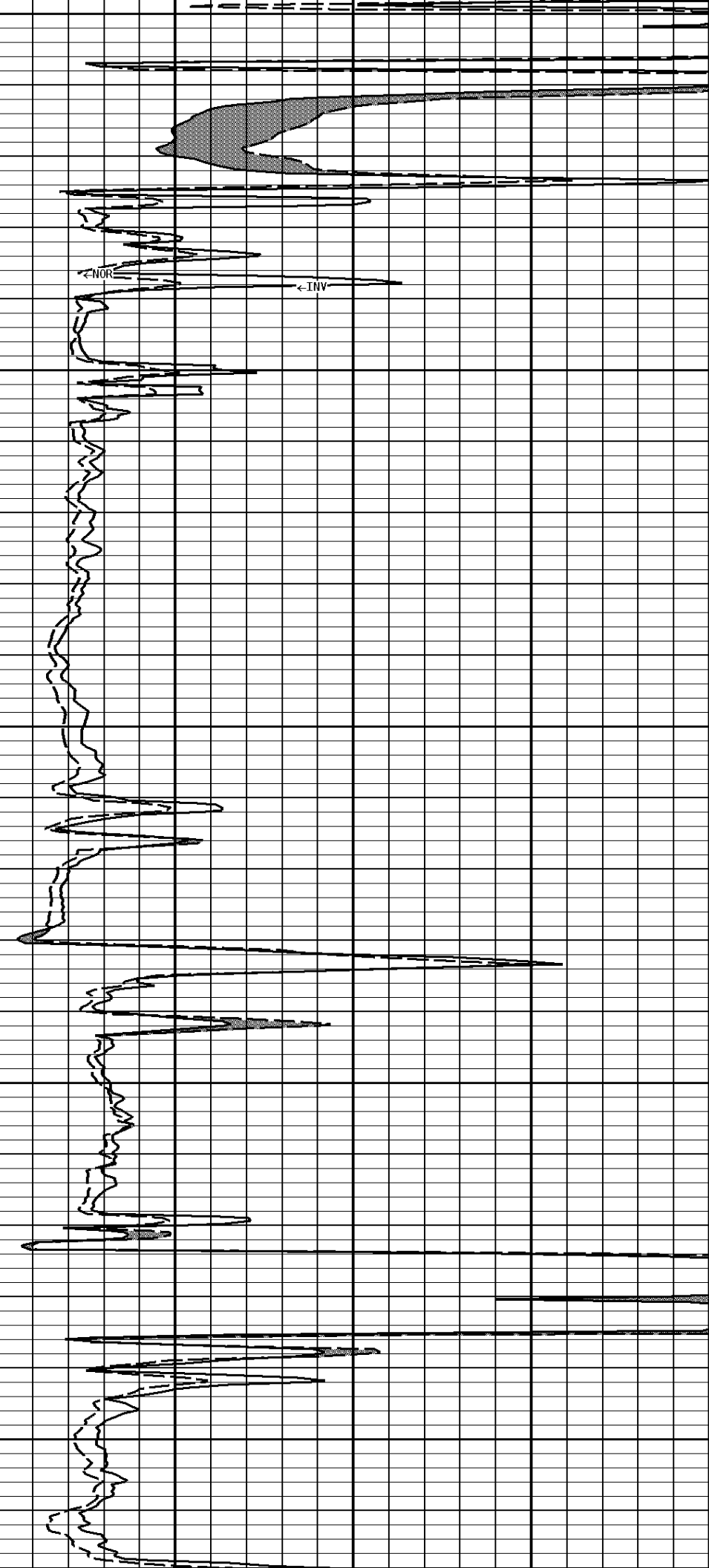


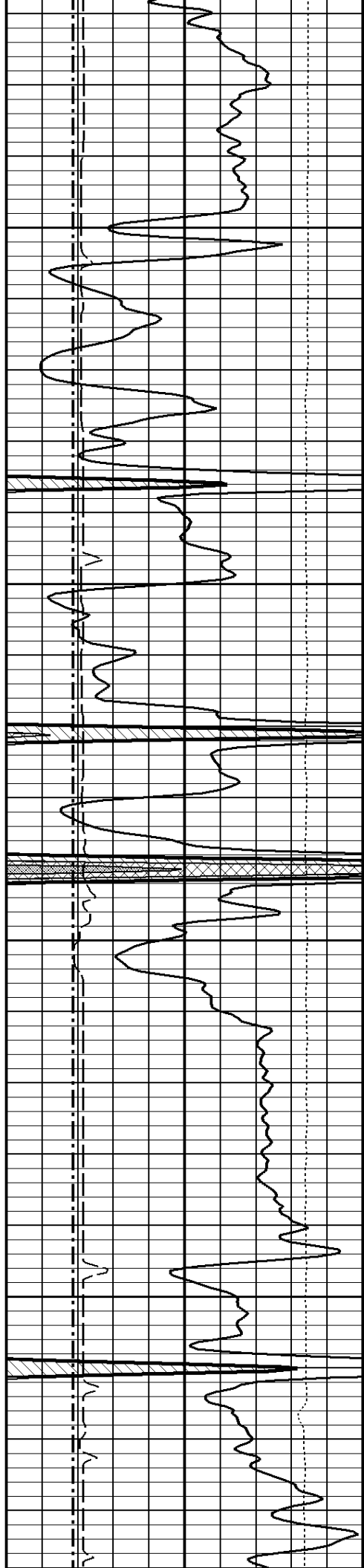
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1700

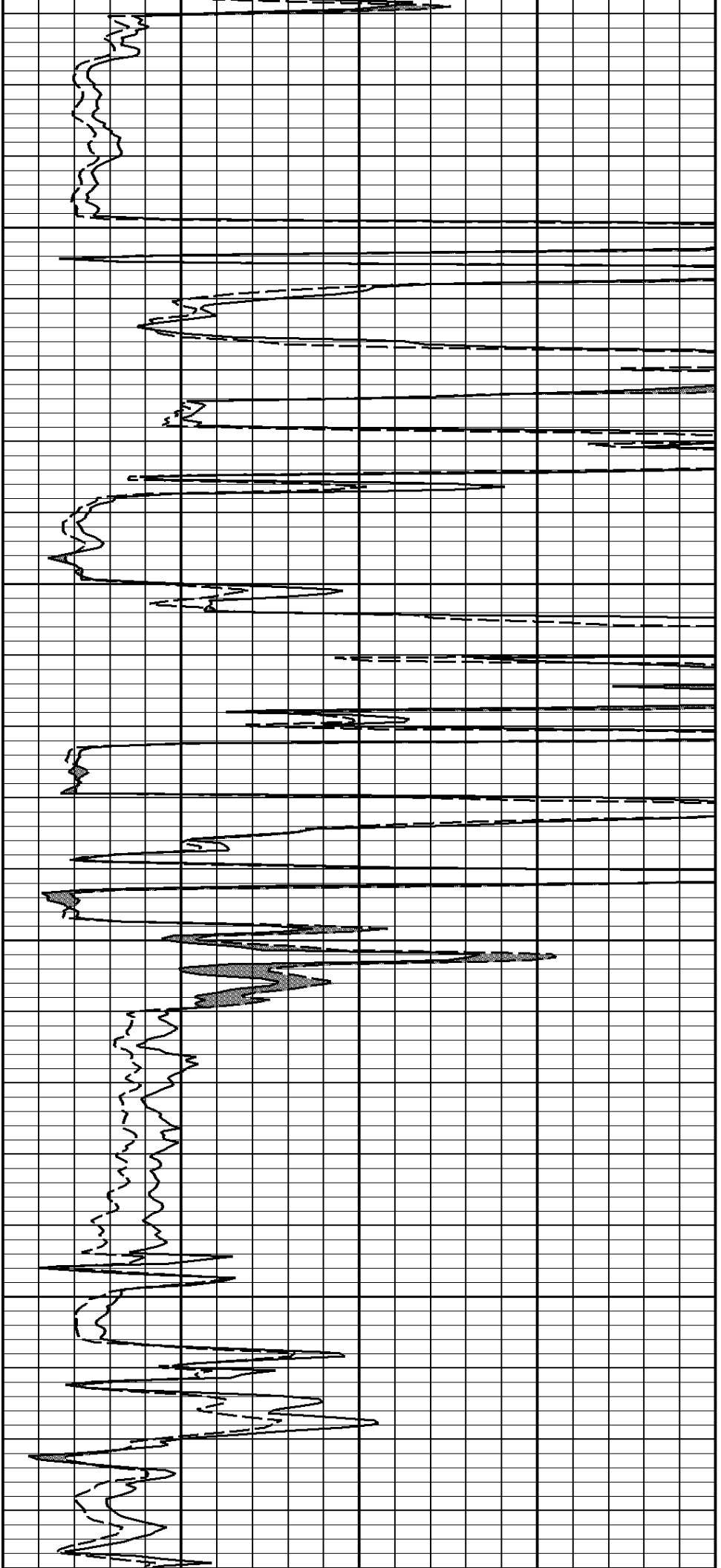
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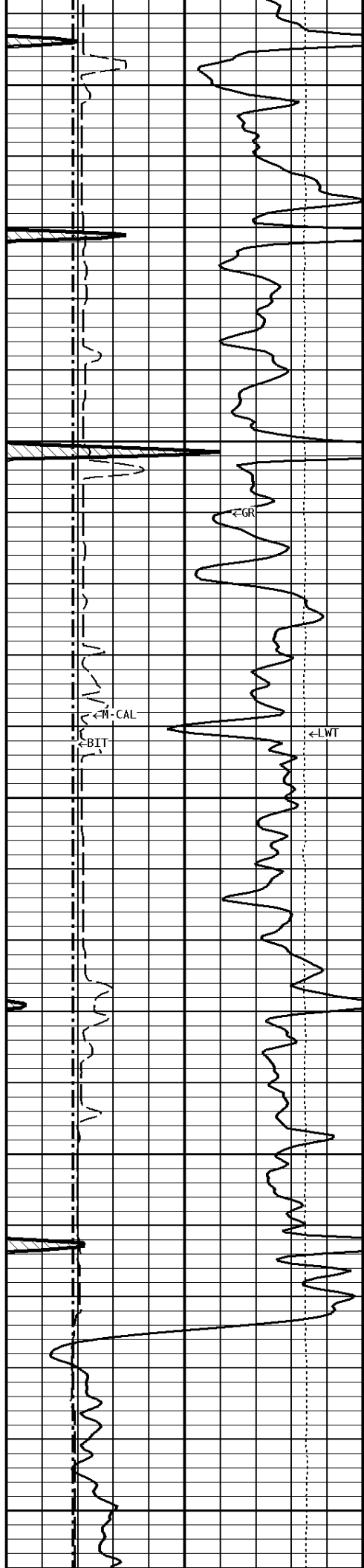




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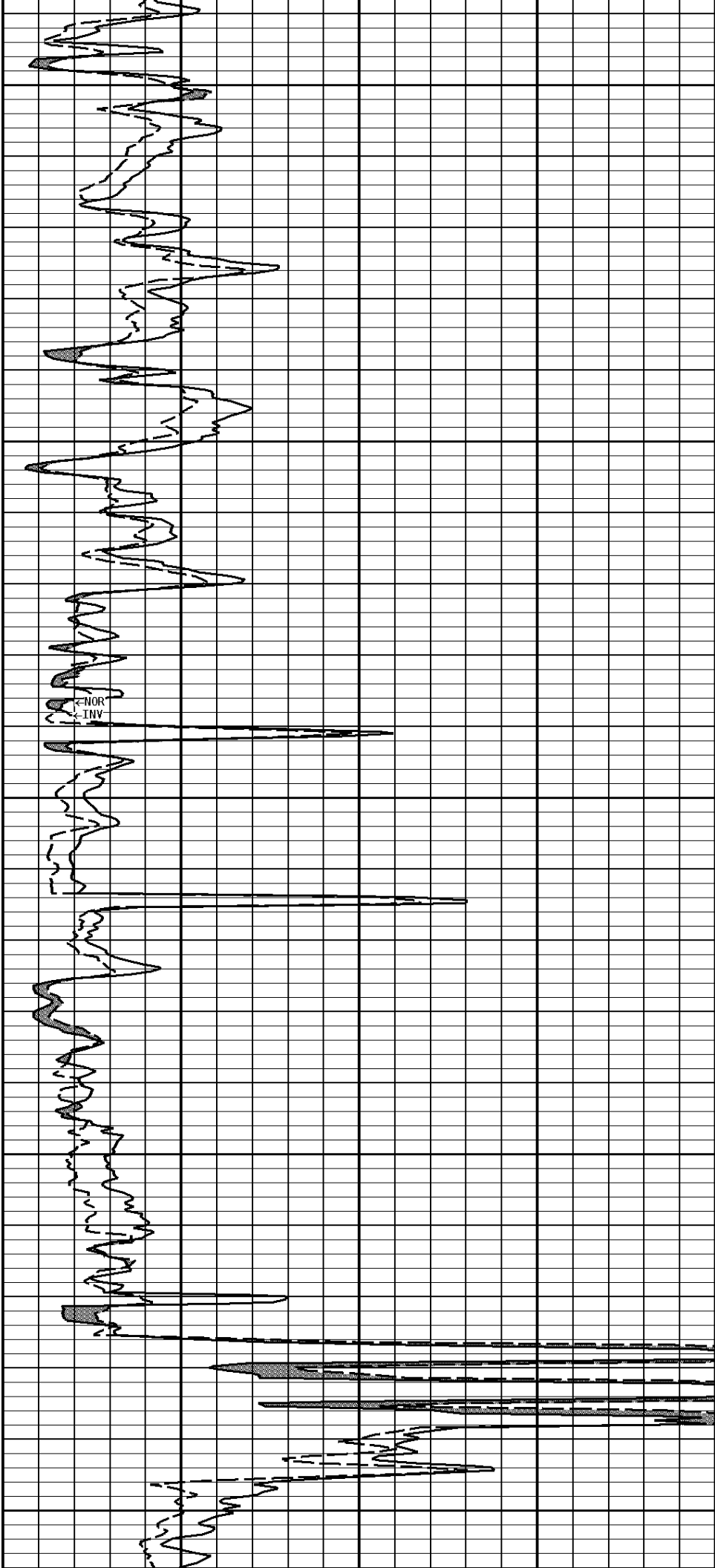
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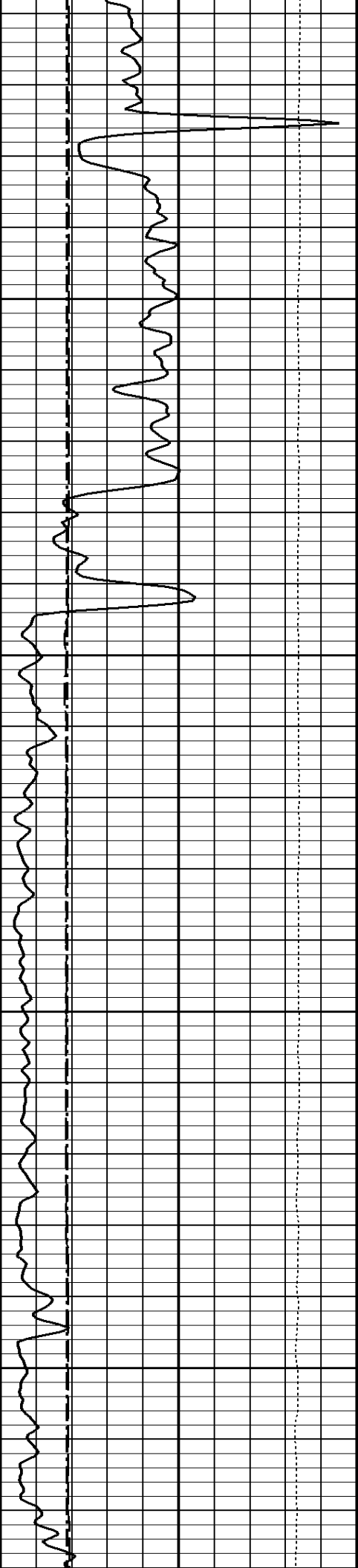




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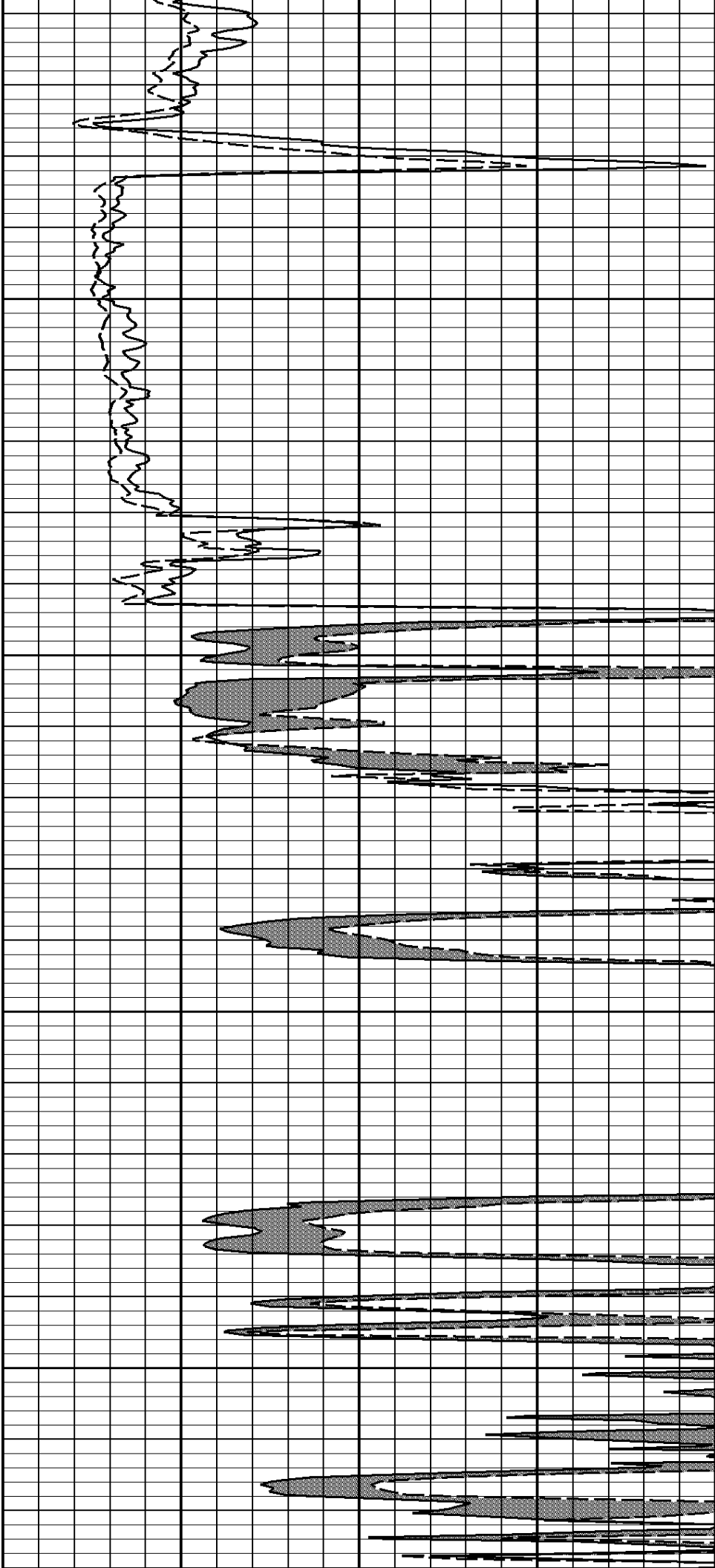
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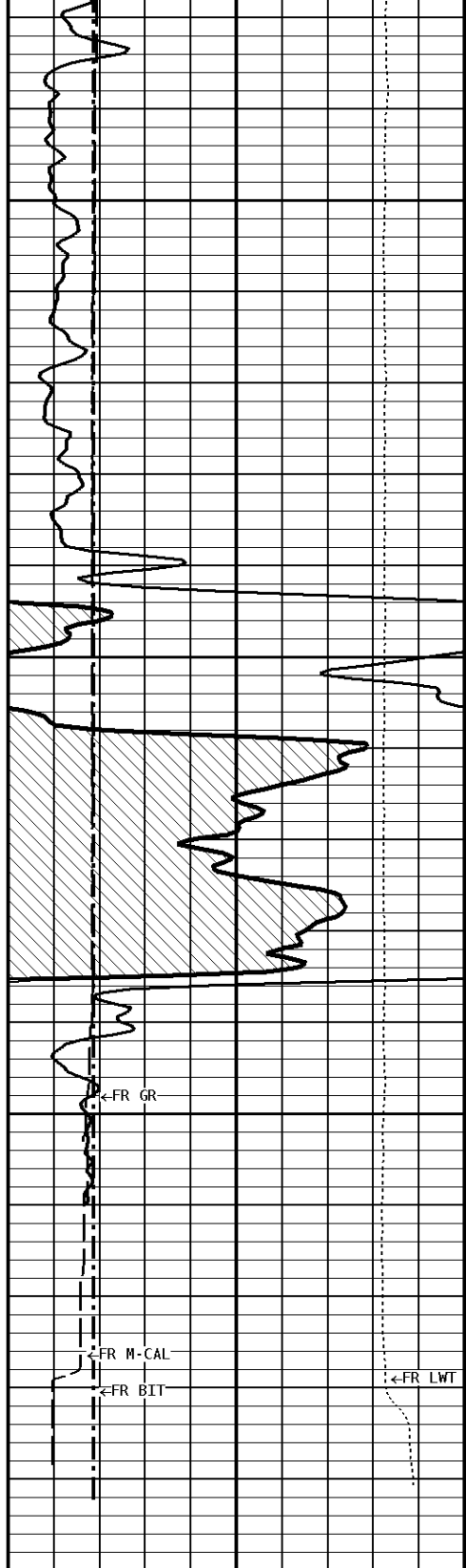




2300

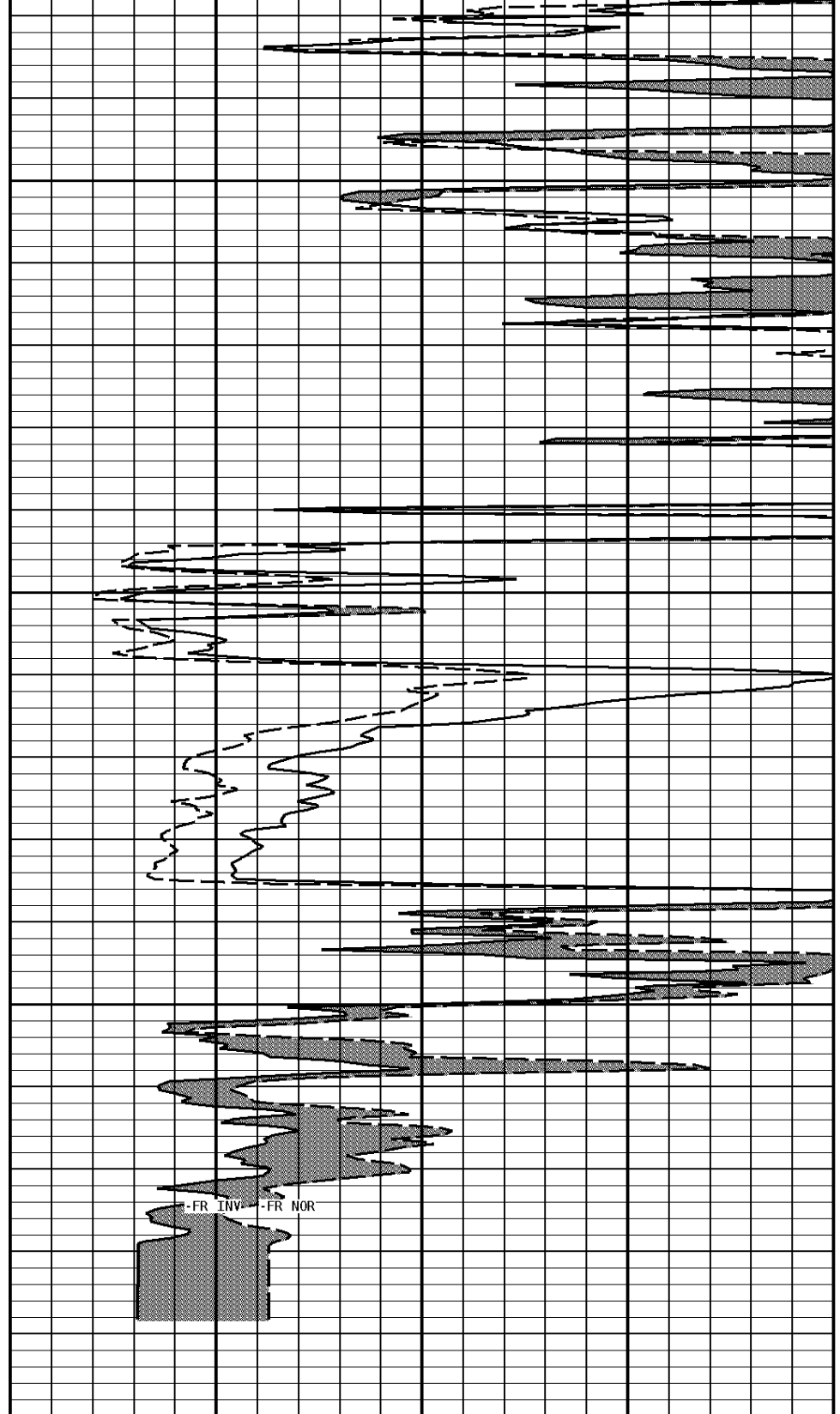
2400



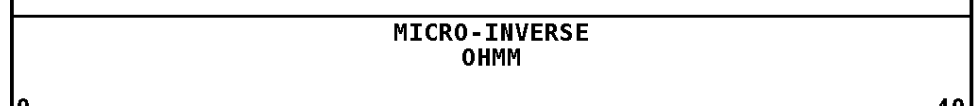
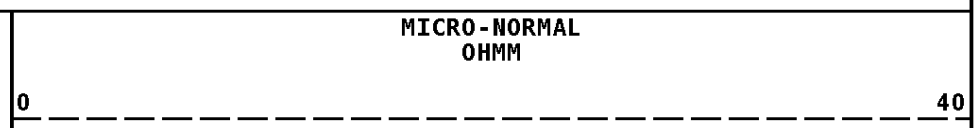
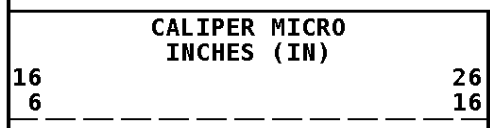


File #1.5.1

2500
2600
2631



1:240 MAIN SECTION



0	150
BIT SIZE INCHES (IN)	
6	16
TENSION LBS	
10000	0

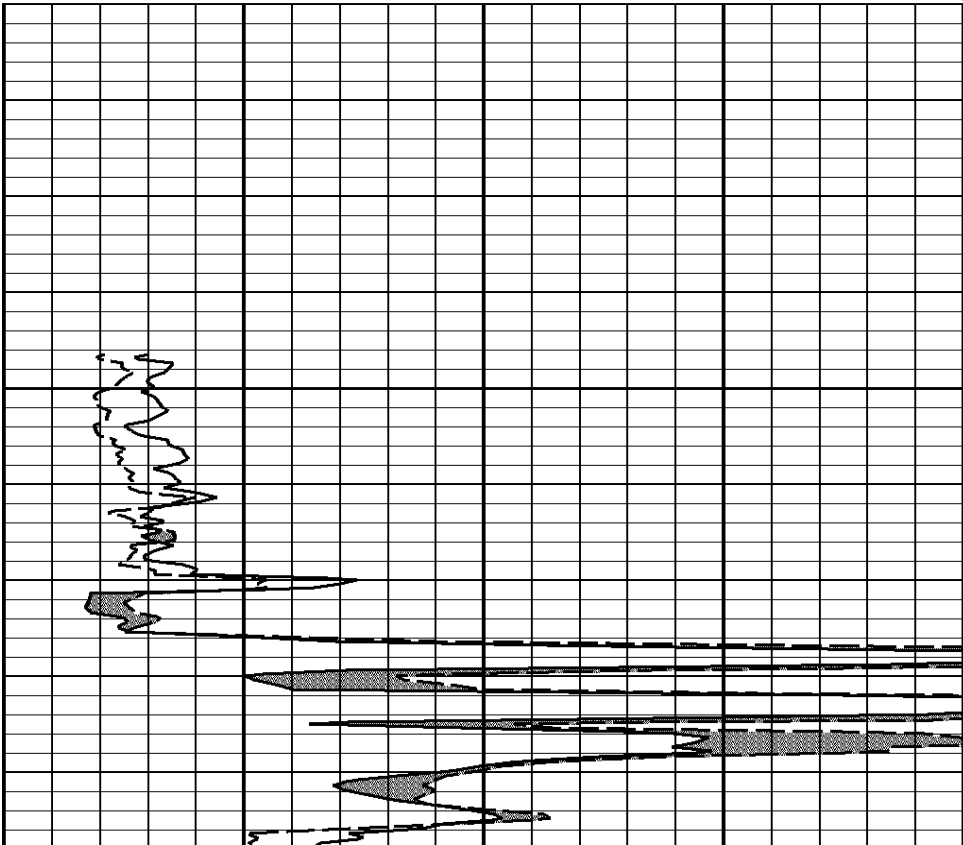
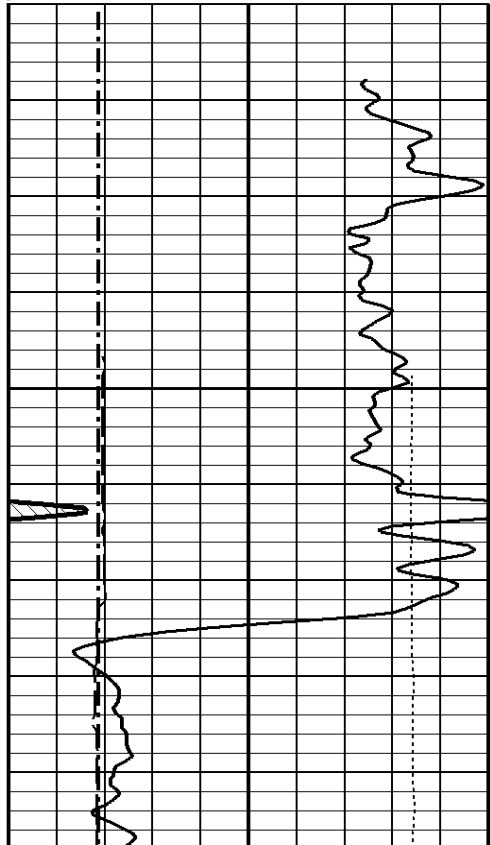
0	40
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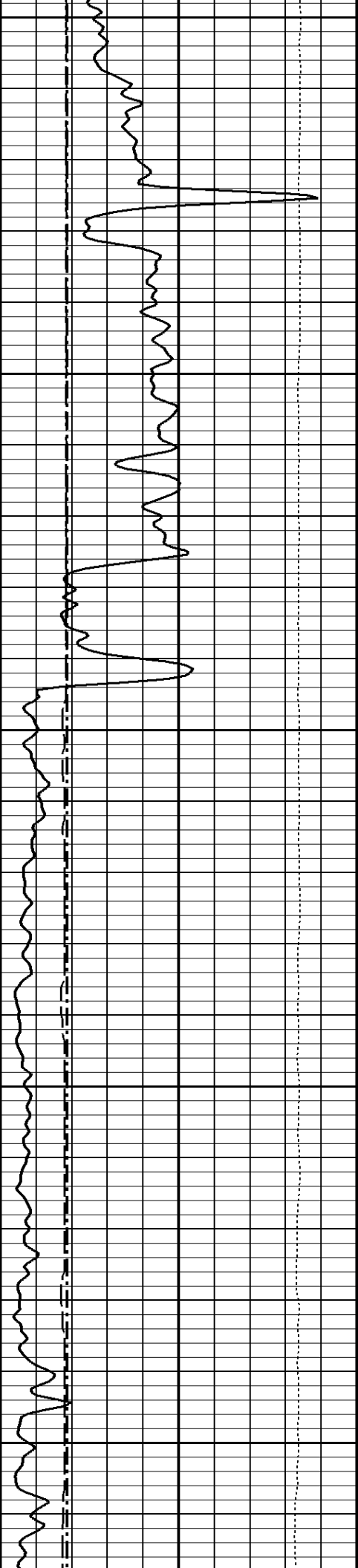
Well File: lan fuq 9-36 feb 24 mstk	Scale: 1:240
Segment: V1.D6.S1 REPEAT	Acquired: Not Available
Reference: 0	Processed: Not Available

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

MICRO-INVERSE OHMM	
0	40
MICRO-NORMAL OHMM	
0	40

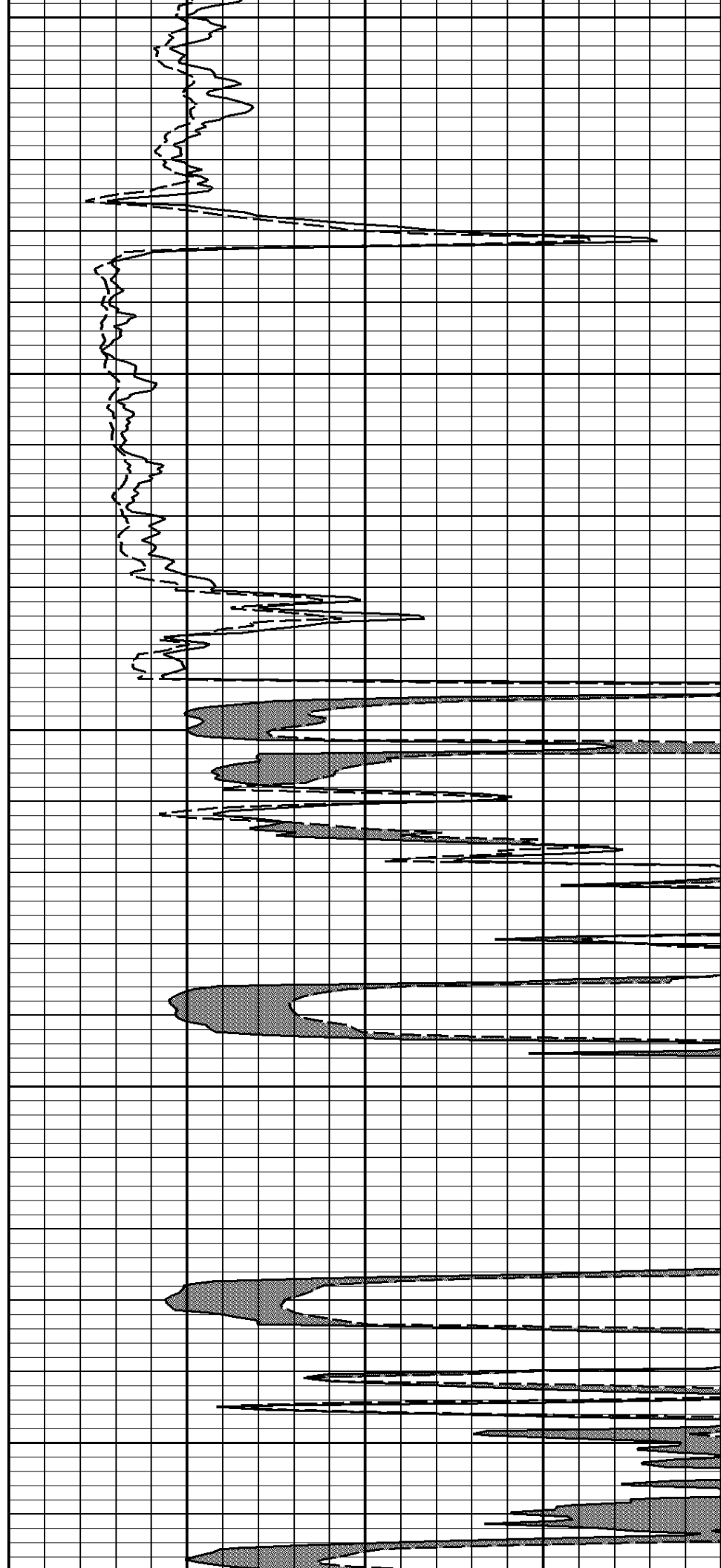
1:240 REPEAT SECTION

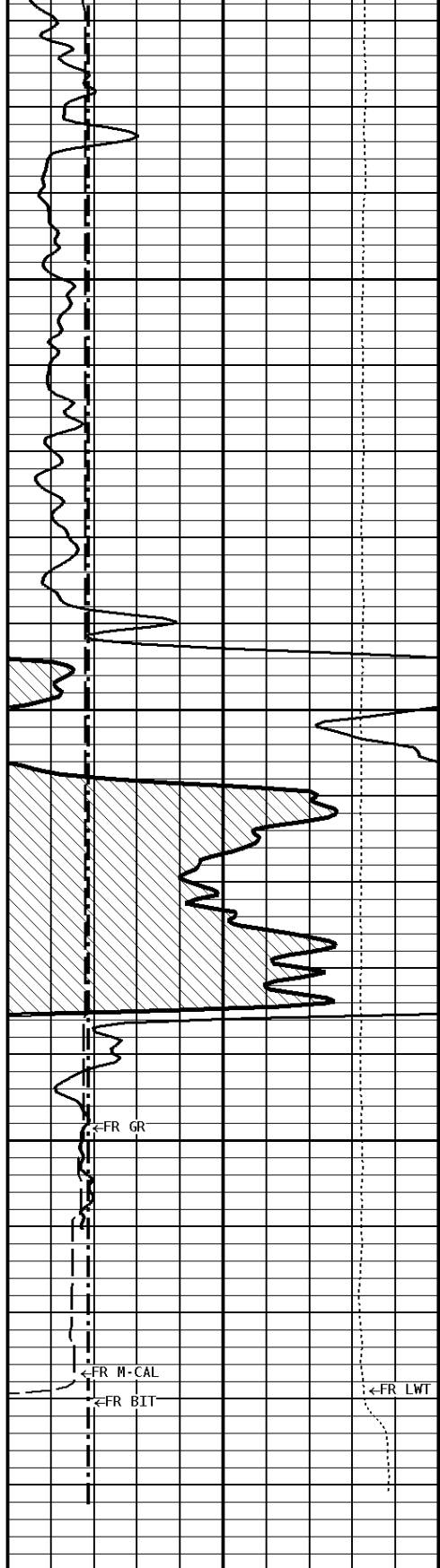




2300

2400



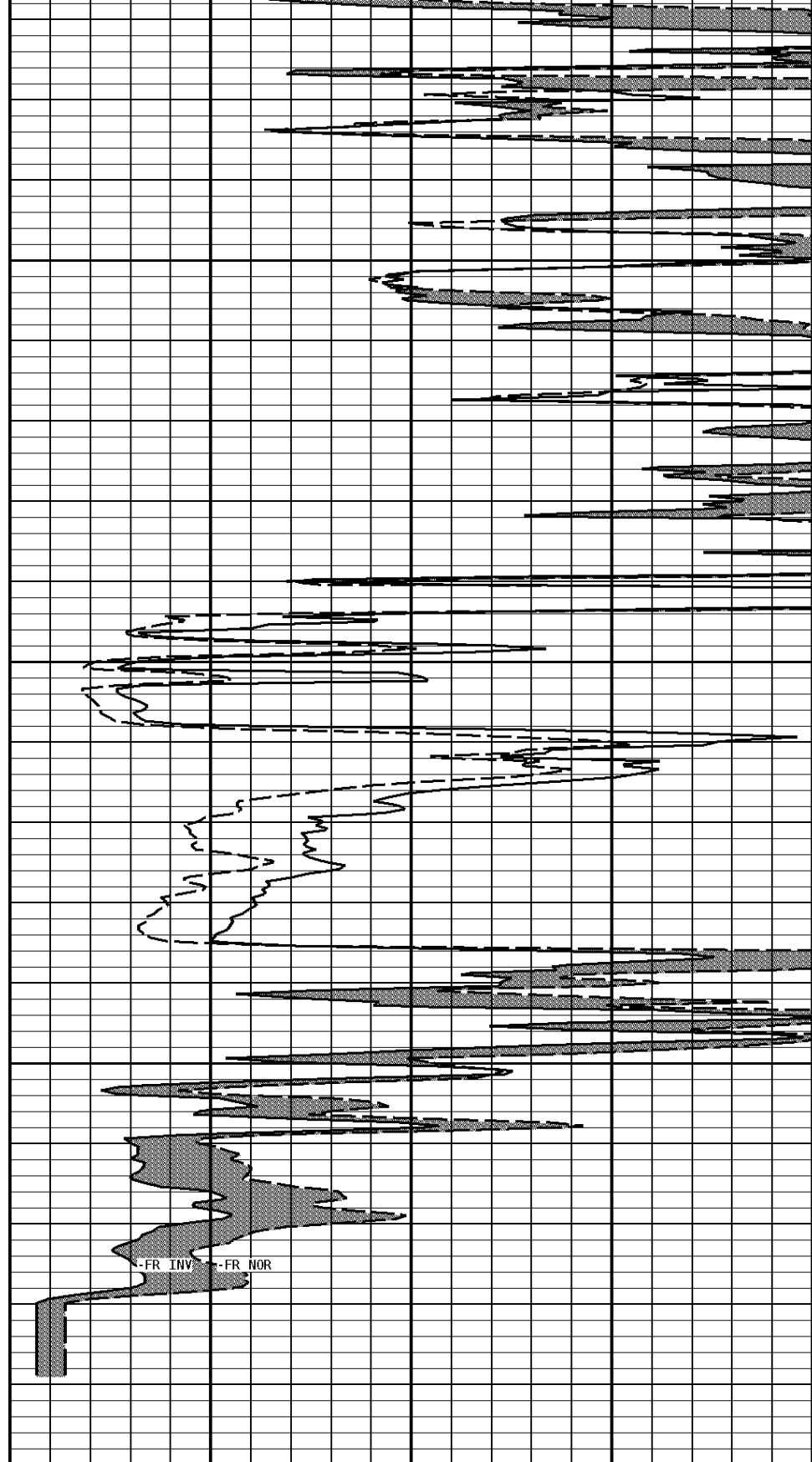


2500

2600

2631

File #1.6.1



1:240 REPEAT SECTION


CALIPER MICRO INCHES (IN)

MICRO-NORMAL OHMM

16 6 26 16

0 40

**GAMMA RAY
API UNITS**

150  300
0 150

**BIT SIZE
INCHES (IN)**

6 ----- 16

**TENSION
LBS**

10000 ----- 0

**MICRO-INVERSE
OHMM**

0 ----- 40

*** Calibration Summary ***

Shop Calibration						
MST-DA						
Performed : 02-NOV-2011			Time : 12:14			
Sensor Suite : CALI-MSN			ID : MLT-DA-21			
	Jig - Measured		Jig - Calibrated		Units	
	Ring#1	Ring#2	Ring#1	Ring#2		
CL # 1	6.5	11.1	6.0	12.0	IN.	
Performed : 27-SEP-2011			Time : 23:19			
Sensor Suite : MSTDA-NI			ID : MLT-DA-21			
	Internal					
	Measured		Calibrated		Units	
	Zero	Reference	Units	Zero	Reference	Units
INV-V	0.0	29798.9		0.00	1546.00	MV
NOR-V	5.3	30095.1		0.00	1546.00	MV
IN-C	0.0	60566.2		0.00	15.46	UA
INV-R					32.34	OHMM
NOR-R					55.11	OHMM
Performed : 27-SEP-2011			Time : 23:19			
Sensor Suite : MSTDAMSF			ID : MLT-DA-21			
	Internal					
	Measured		Calibrated		Units	
	Zero	Reference	Units	Zero	Reference	Units
MSFC	15.0	42144.9		0.00	1522.00	UA
MSFB	29116.0	30973.0		0.00	1522.00	MA
MOM1	0.0	43106.2		0.00	1522.00	MV
MSFRA					43.30	OHMM