

Tucker

WIRELINE SERVICES

DUAL INDUCTION RESISTIVITY LOG

File No : TUL-56026
Company : LB EXPLORATION, INC.
Well : STRONG #1
Field : MEDICINE LODGE-BOGGS
County : BARBER
State : KANSAS
Country : USA
API No : 15-007-23826-0000

Location :
2310' FSL & 540' FWL
E/2 NW NW SW

LSD : **Sect** : 35 **Twp** : 32S **Rge** : 13W

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Country : USA
API No. : 15-007-23826-0000

Permanent Datum :
Drilling Measured From : GL
Log Measured From : KB
Above Permanent Datum : 13.00 Ft
Elevations :
KB 1692.00 Ft
DF 1691.00 Ft
GL 1679.00 Ft
Services :
CNT
LDT
MLT
SGT

Date	2012-01-17		
Run Number	1		
Depth--Driller	4944.0	Ft	
Depth--Logger	4942.0	Ft	
First Reading	4942.0	Ft	
Last Reading	344.0	Ft	
Casing--Driller	334.0	Ft	
Casing--Logger	344.0	Ft	
Bit Size	7.875	In	
Casing Size	8.625	In	
Hole Fluid Type	WBM		
Density	9.4	LBS/GAL	
Fluid Loss	8.8	CC	
PH/Viscosity	10.0	52.0 SEC	
Sample Source	MEASURED		
RM@Measured Temp.	10.00 @ 55 F		
RMF@Measured Temp	8.000 @ 55 F		
RMG@Measured Temp.	12.000 @ 55 F		
Source RMF/RMG	CALCULATED/CALCULATED		
RM@BHT	4.500 @ 130 F		
Time Circulation Stopped	2012-01-17 09:26		
Max Recorded Temp.	130	F	
Equipment/Base	TRK 127 TULSA		
Recorded By	S. TYLER B. BAILEY		
Witnessed By	S. PETERMANN		

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	4944.00	8.625	32.00	334.00

Run Number	1	
Date	2012-01-17	
Date/Time On Bottom	2012-01-17 11:26	
Depth to Fluid	0.0 Ft	
Salinity	0.000 PPM	
RMF@BHT	3.600 @ 130 F	
RMC@BHT	5.400 @ 130 F	

Run Number 1

Comments

ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, MLT, CST AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED UISING 5.500" PRODUCTION CASING.

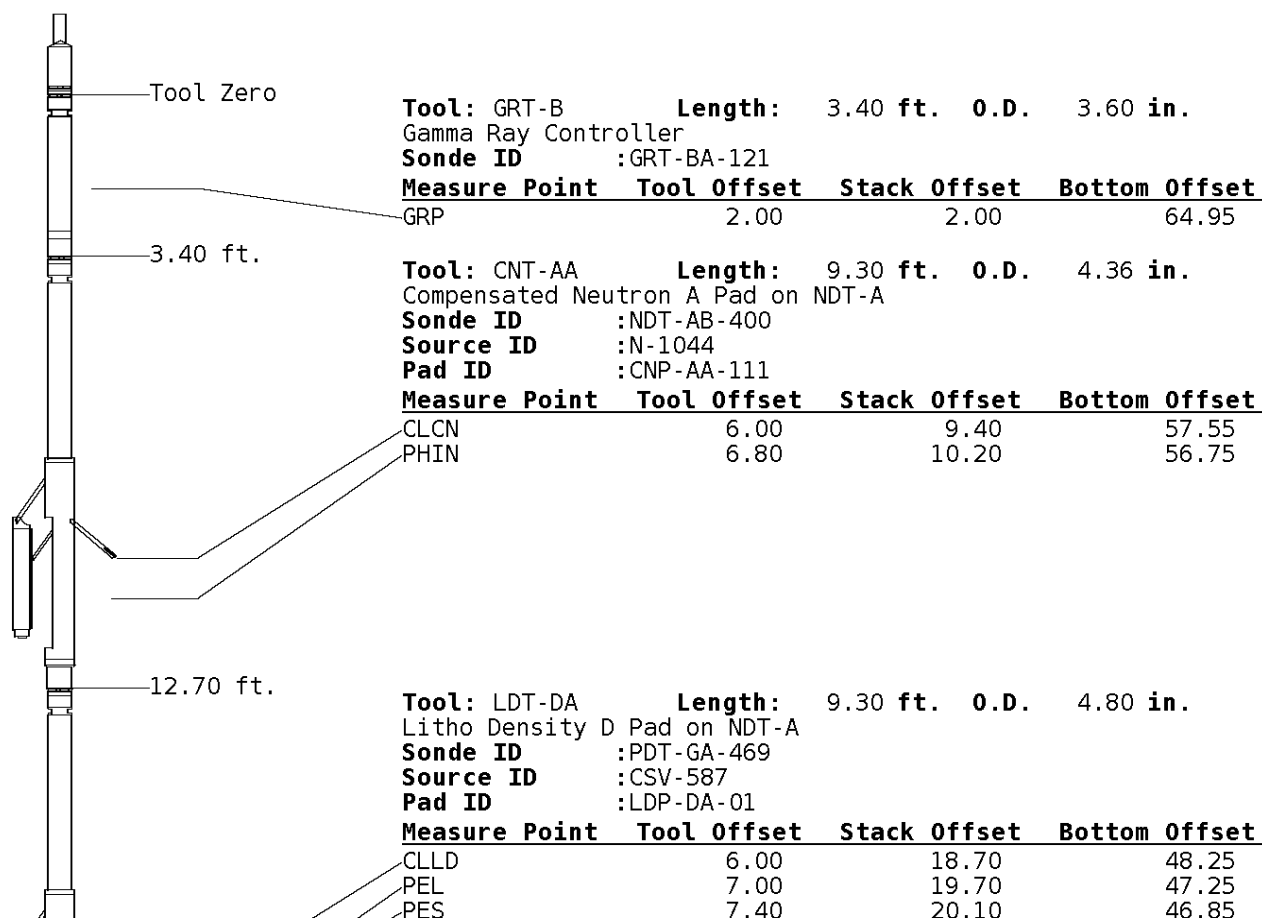
GRT: GRP.
 CNT: PHIN, CLCNIN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
 MLT: NOR_RF, INV_RF, MSCLPIN.
 CST: PORS, DDCDTE, TT1PF, TT3PF, ITT.
 PIT: ILD, ILM, SPU, SFLAEC

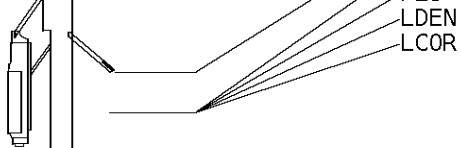
OPERATORS:

J.T.
 M.BURKE

Tool String Schematic

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



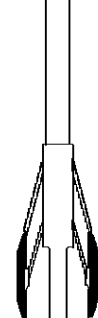


7.20 19.90 47.05
7.20 19.90 47.05

22.00 ft.

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
Micro Spherically Focused (IC)
Sonde ID :MST-DA-36

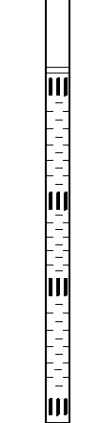
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	37.35
MSCLP	7.60	29.60	37.35
INV	7.60	29.60	37.35
NOR	7.60	29.60	37.35



31.66 ft.

Tool: CST-AD **Length:** 13.80 ft. **O.D.** 3.60 in.
Open Hole Sonic
Sonde ID :CST-AB-38

Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	36.46	30.49
TT3	5.80	37.46	29.49
CDT	7.30	38.96	27.99
TT4	8.80	40.46	26.49
TT2	9.80	41.46	25.49



45.46 ft.

Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AB-18

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



LWT 66.95 ft.

Well File: LB EXPOR STRONG 1 JAN17 QST-SGT

Scale: 1:600

Segment: V4.D1.S6 DS MN

Acquired: 2012-01/17 15:45 3.2.0-10367

Reference: 0

Processed: 2012-01/17 18:19 3.2.0-10367

RXO/RT

-160 40

TENSION
LBS

10000 0

SPONTANEOUS POTENTIAL
mV

→ ← 20

GAMMA RAY
API UNITS

150 0 300 150

SHALLOW FOCUSED RESISTIVITY
OHMM

0.0 500.0
0.0 50.0

DEEP INDUCTION
OHMM

0.0 500.0
0.0 50.0

DEEP CONDUCTIVITY
MMHO

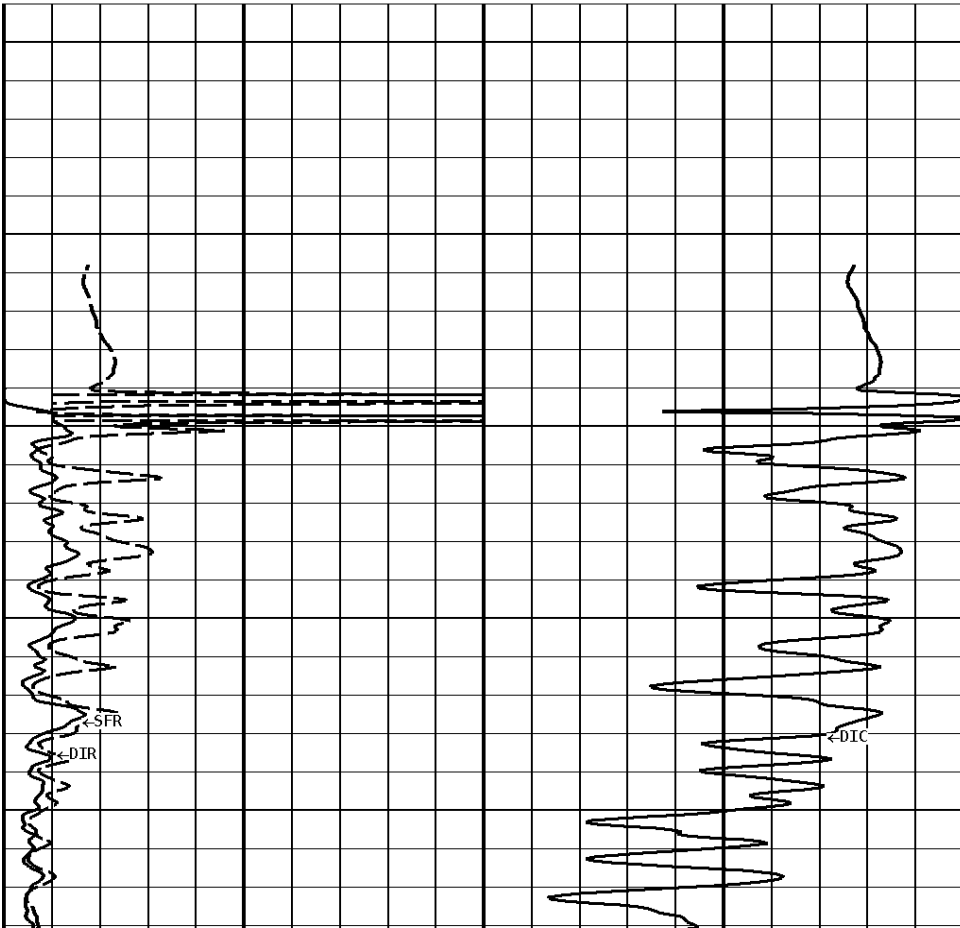
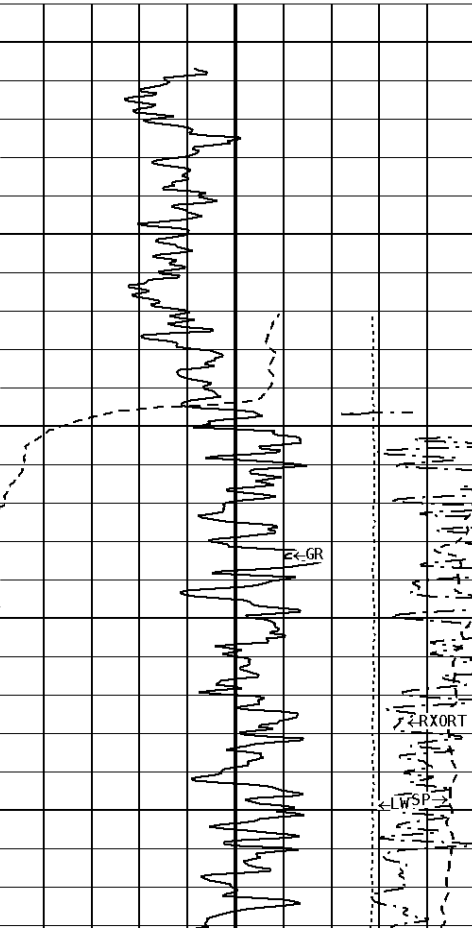
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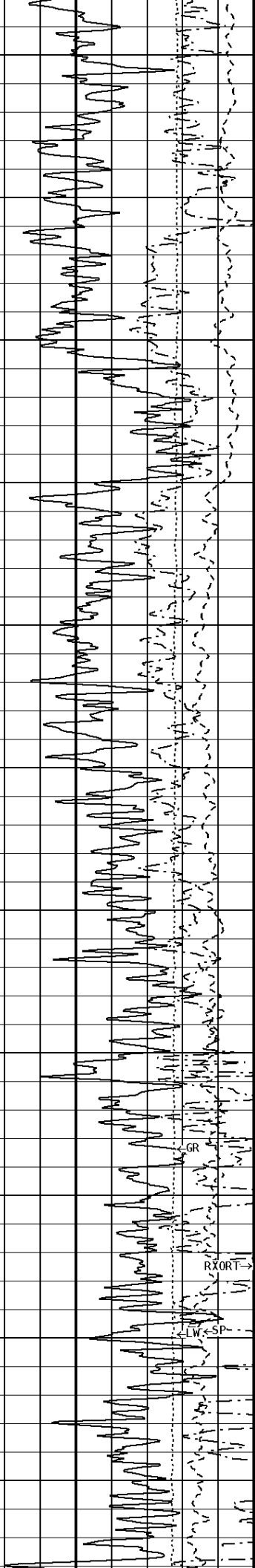
1:600 SECTION
2 INCH

File #4.1.6

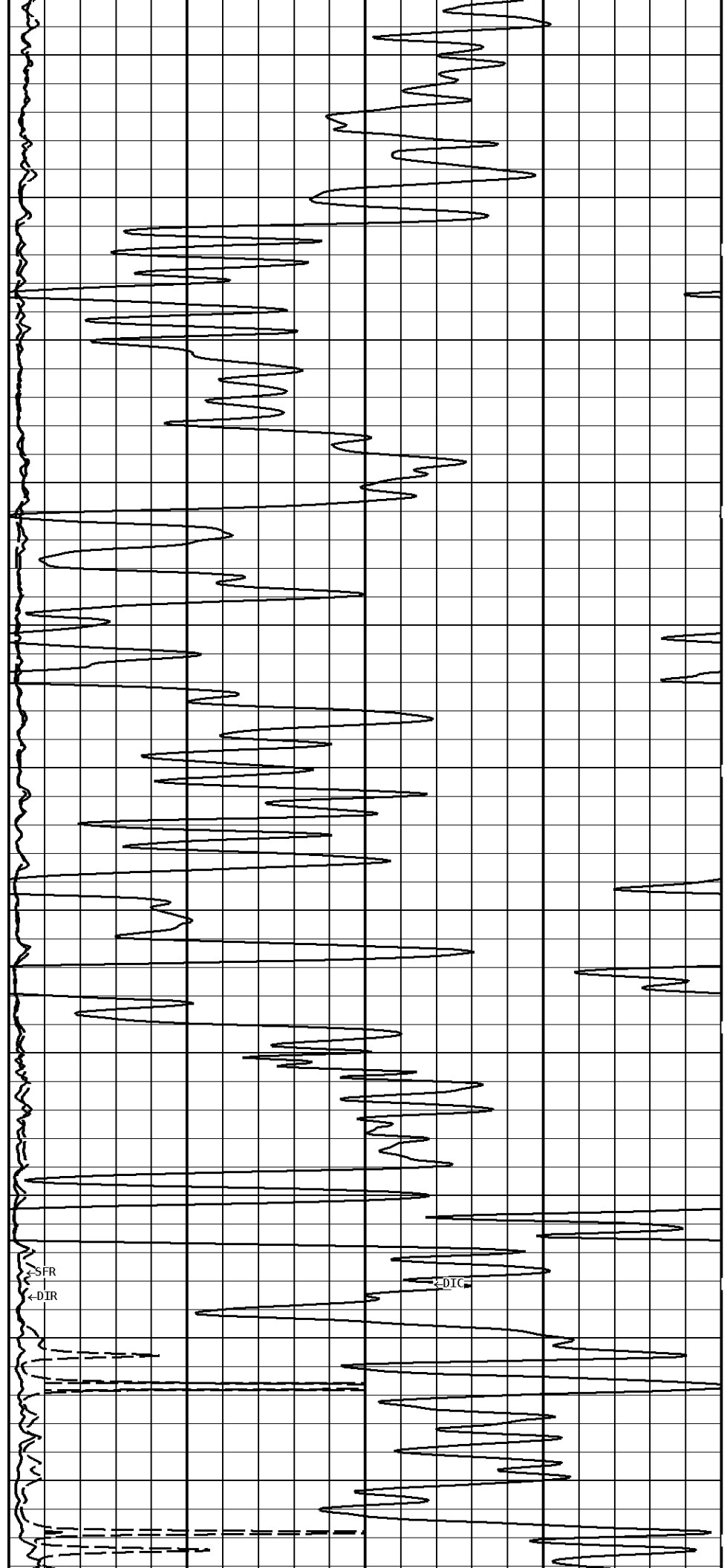
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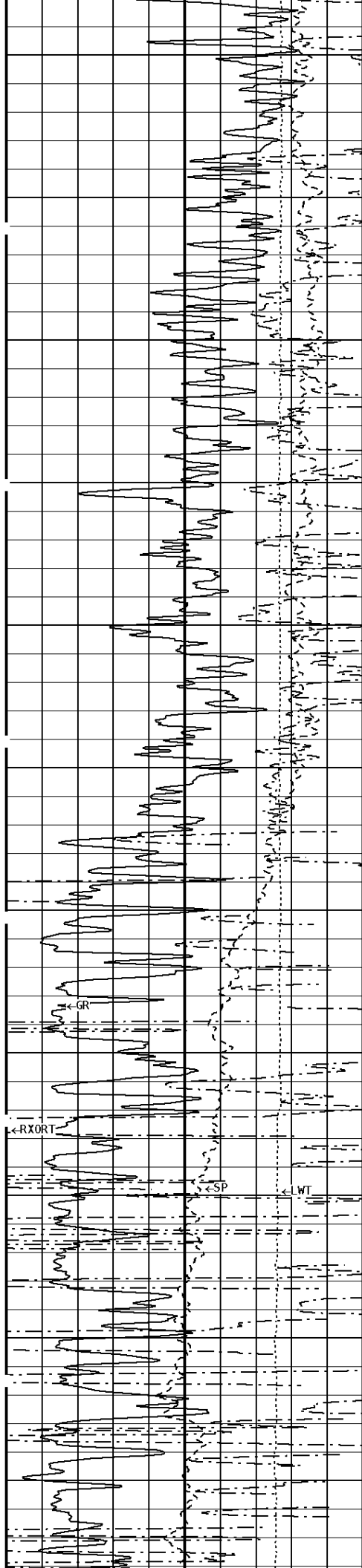
400





500
600
700
800
900
1000





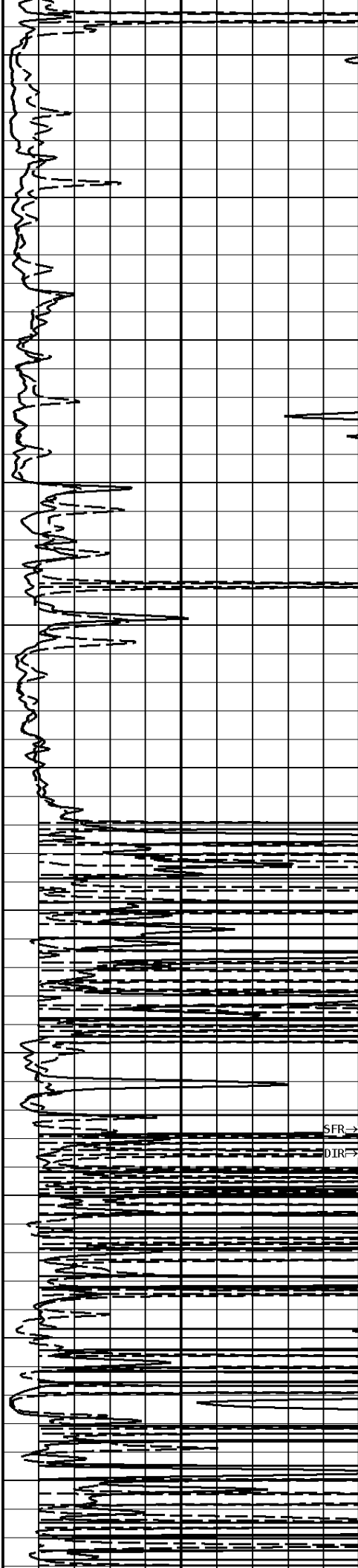
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1200

1300

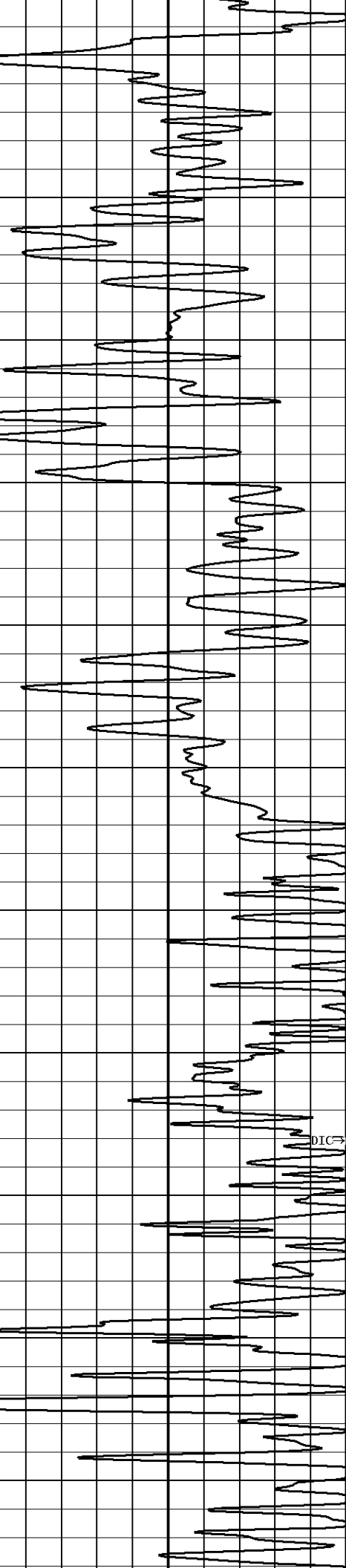
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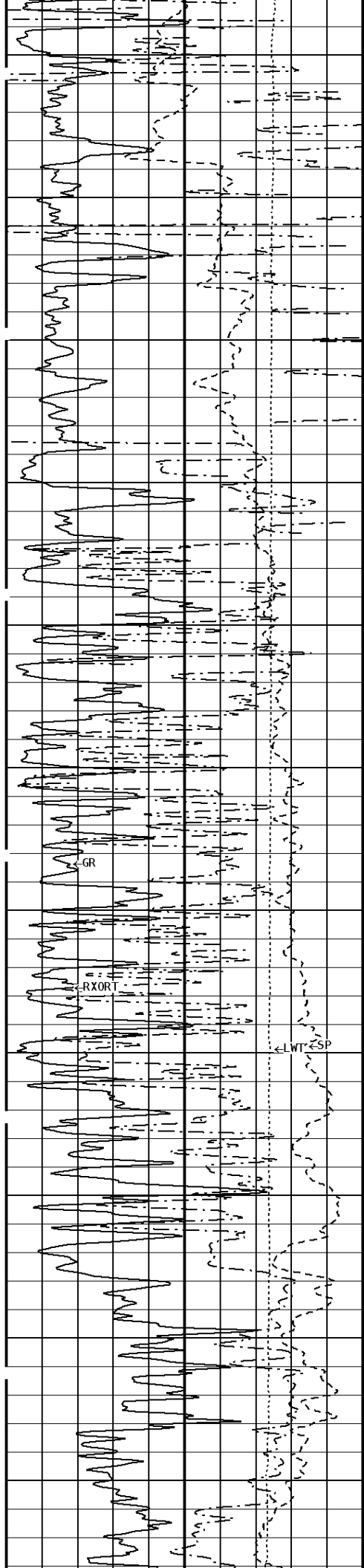


SFR→

DIR→



DIC→



1600

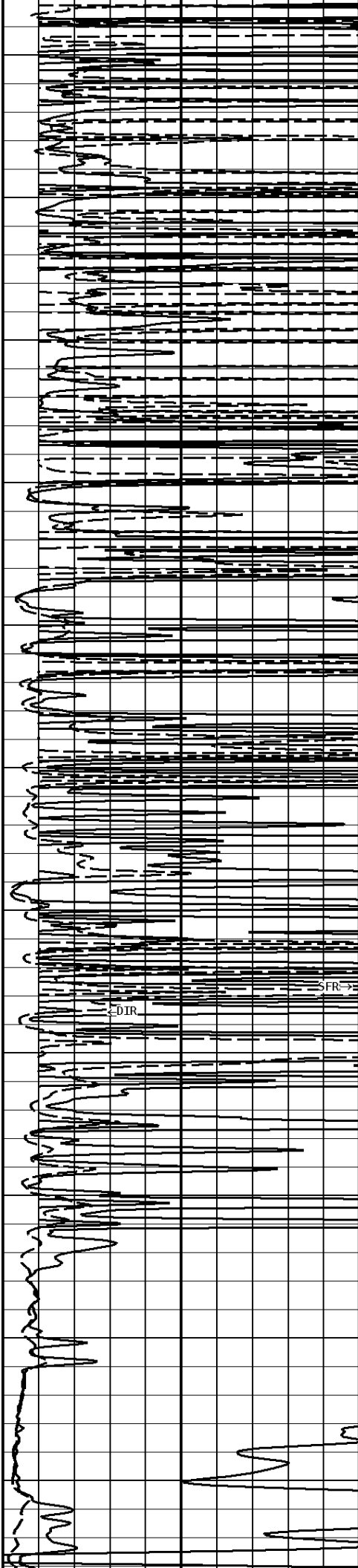
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1800

1900

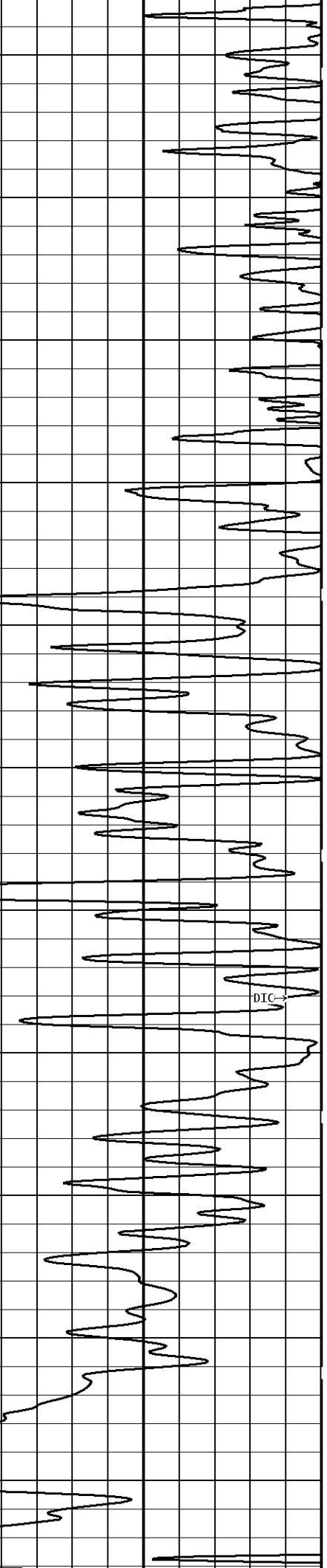
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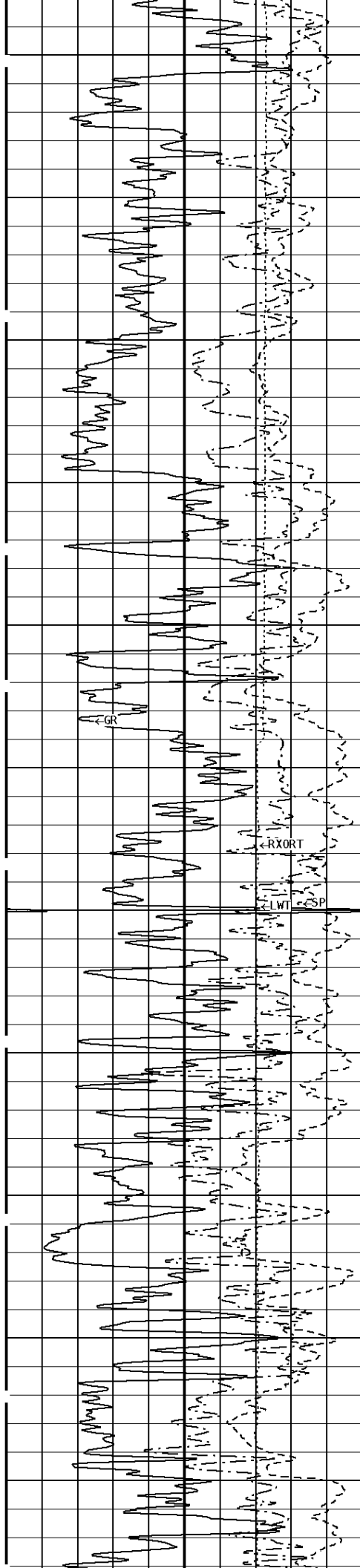


DIR

SFR



DIC



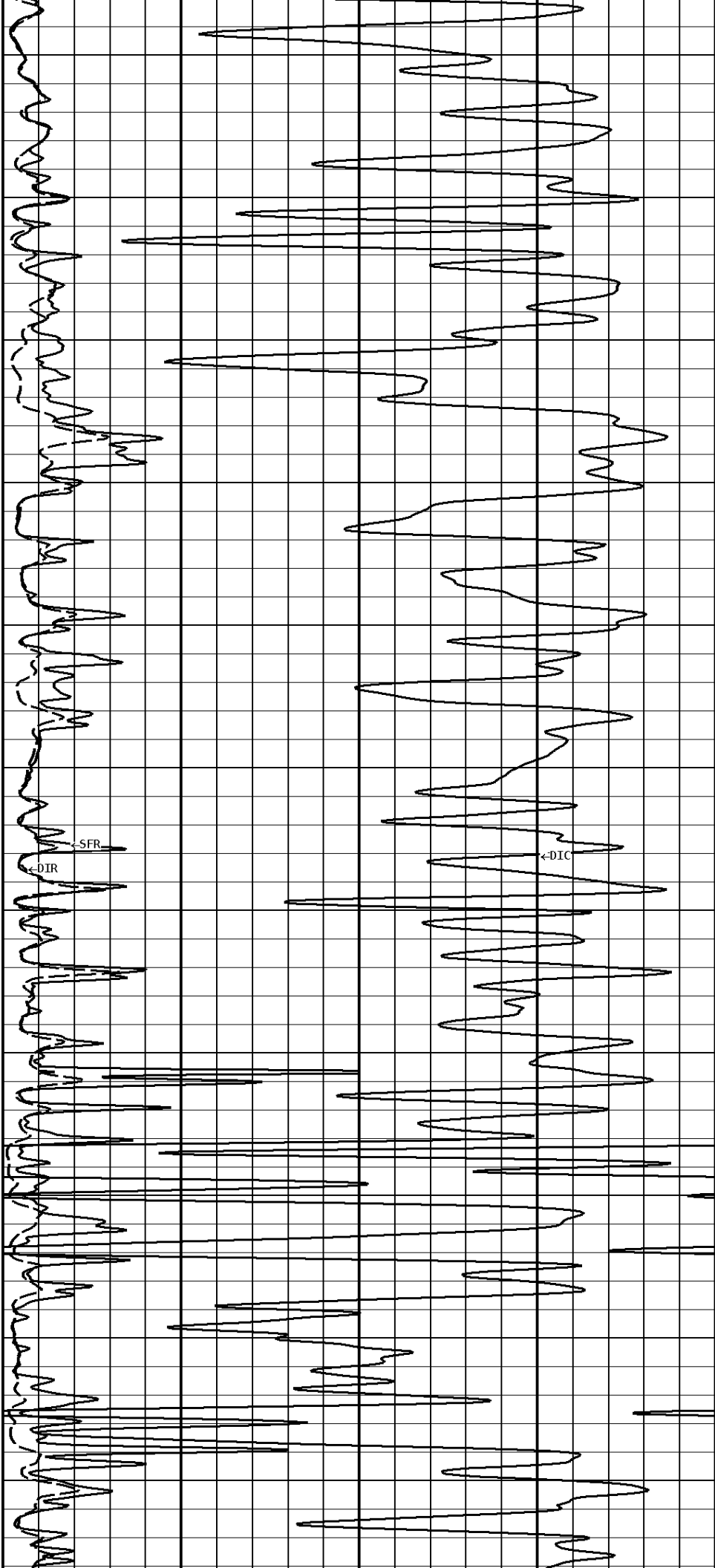
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2300

2400

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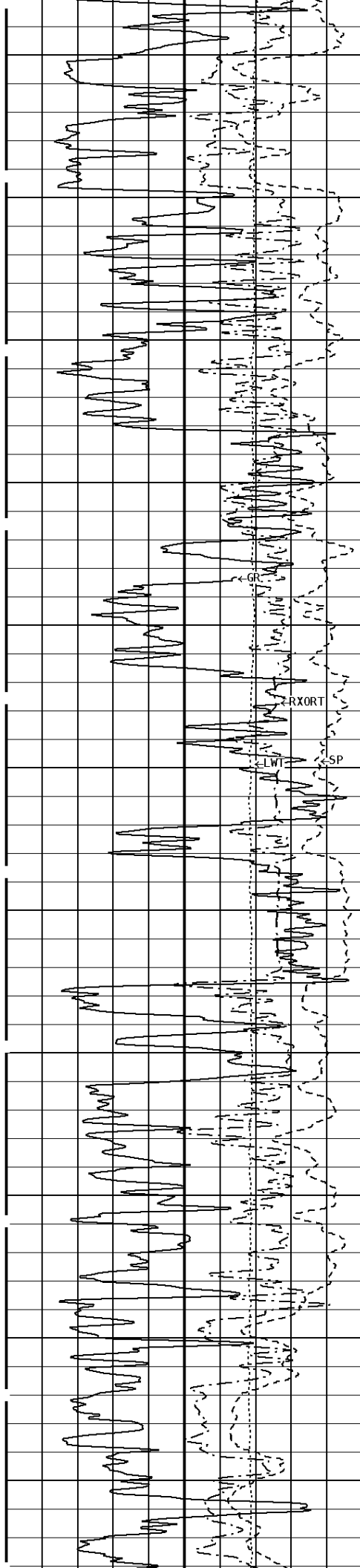
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SFR

DIR

DIC



2700

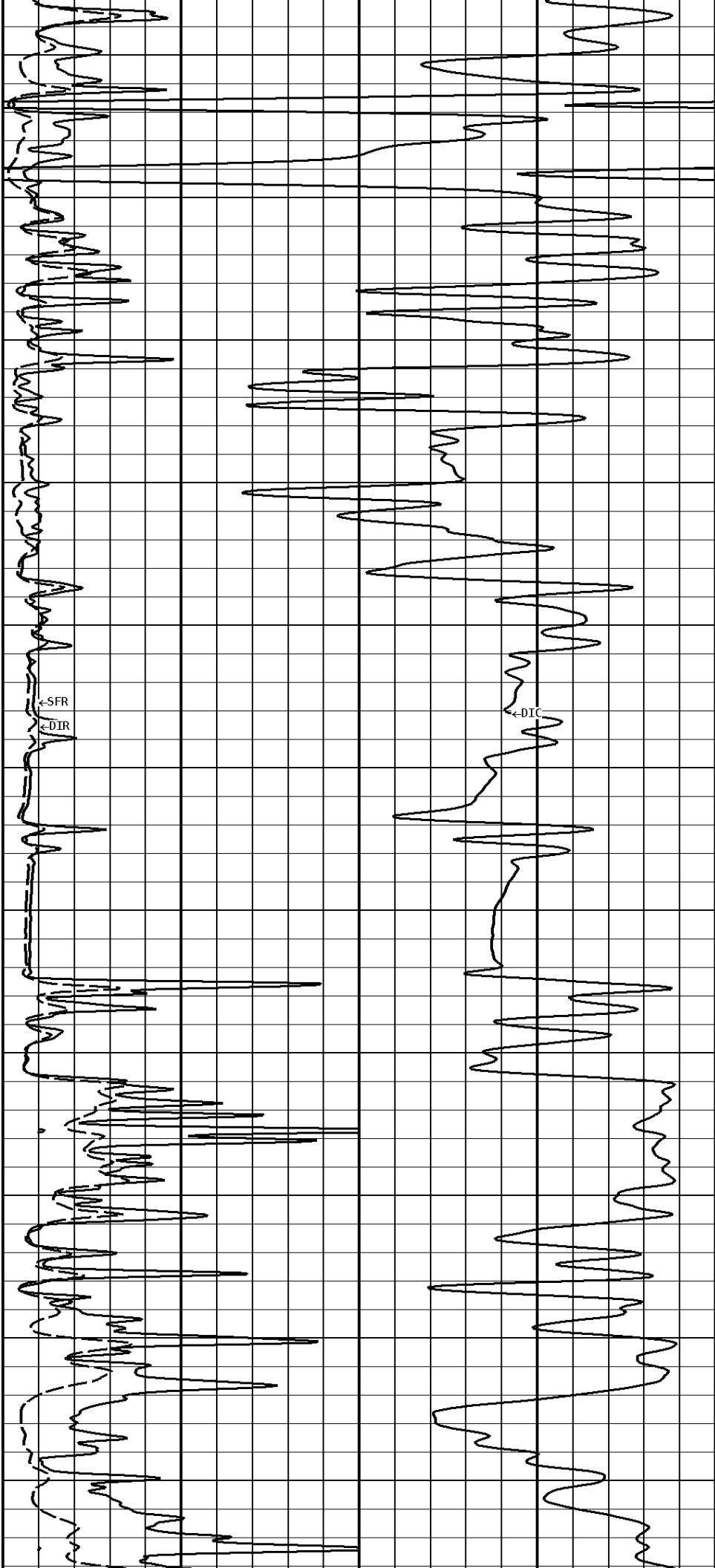
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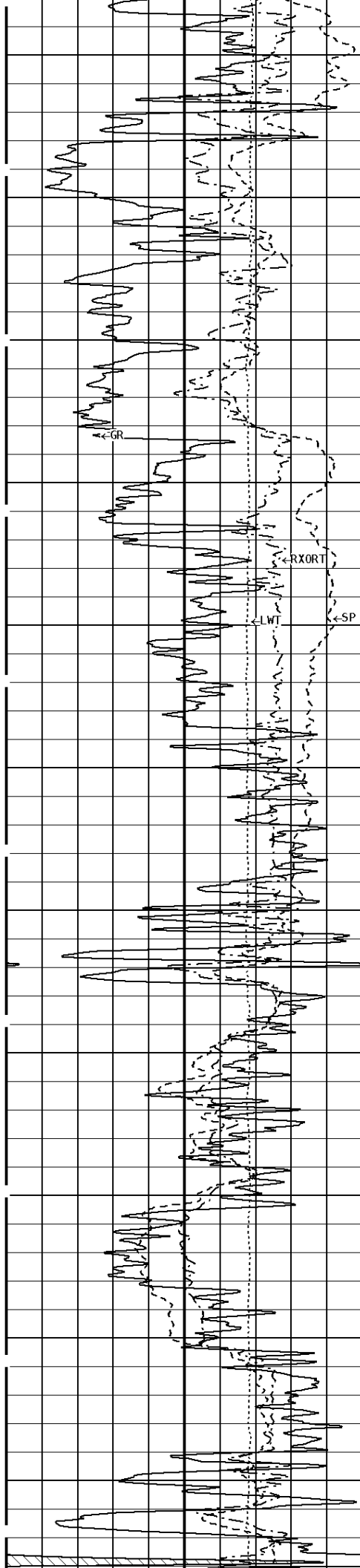
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3000

3100

3200





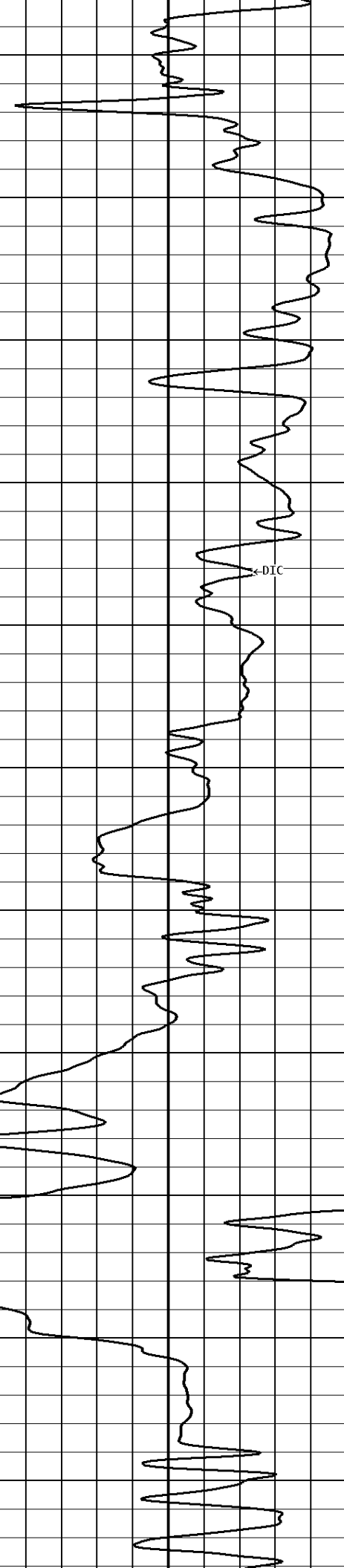
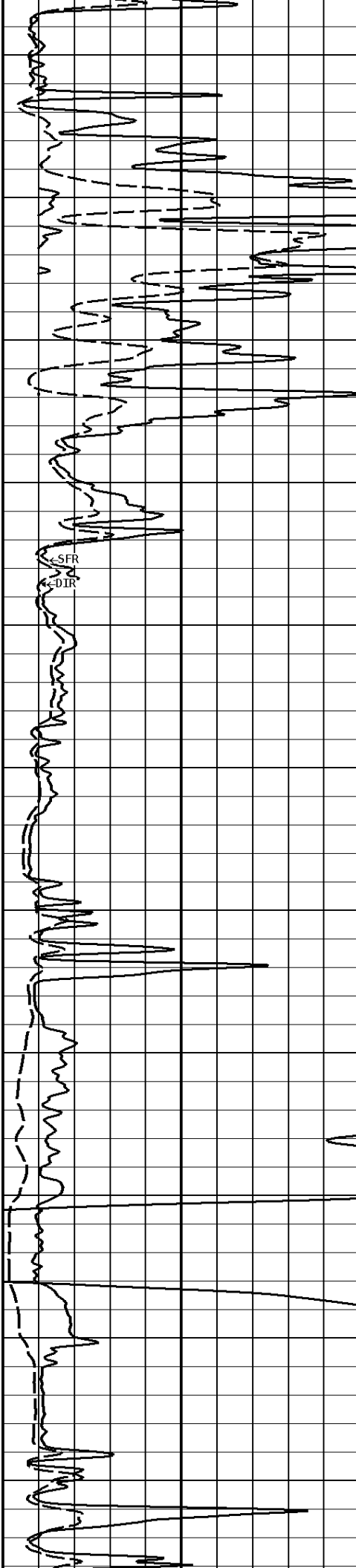
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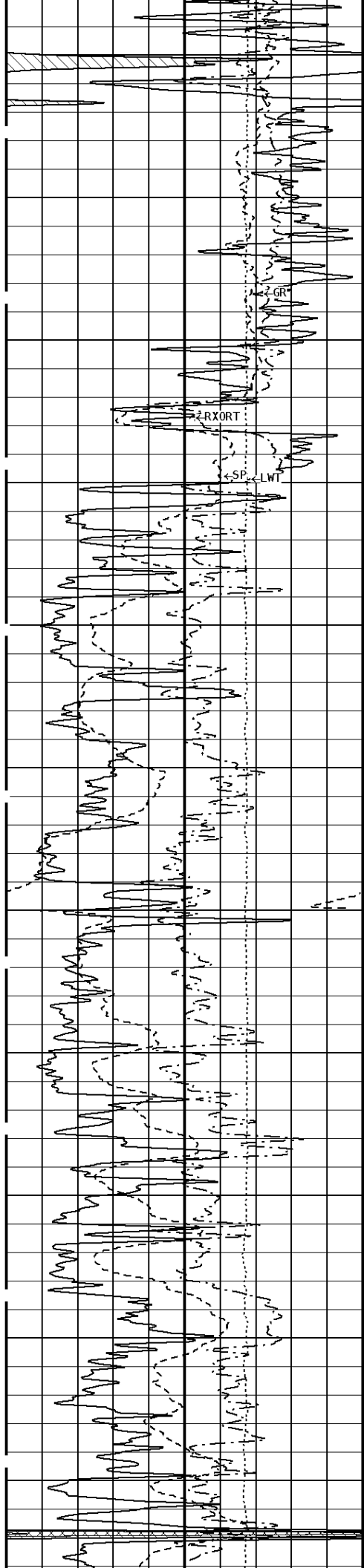
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3600

3700



DIC



3800

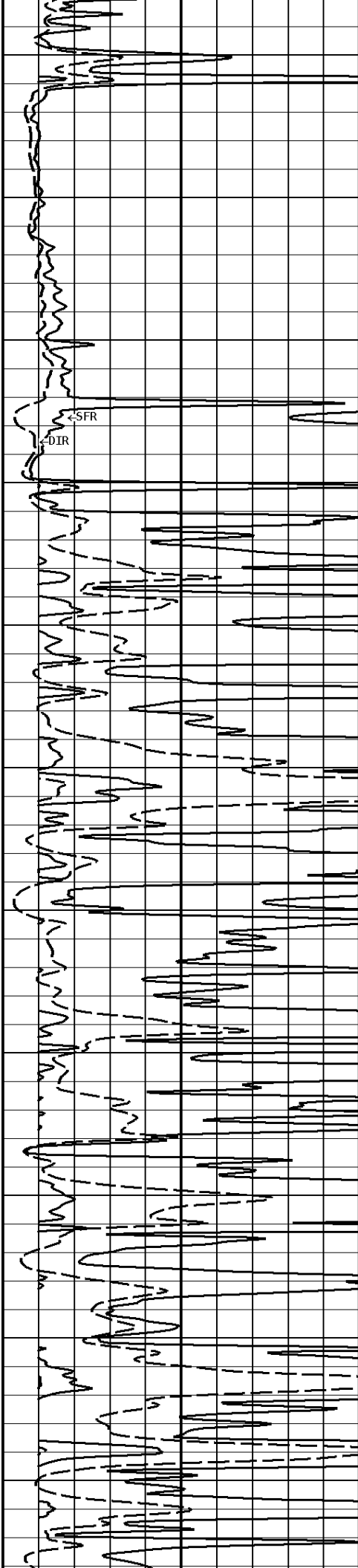
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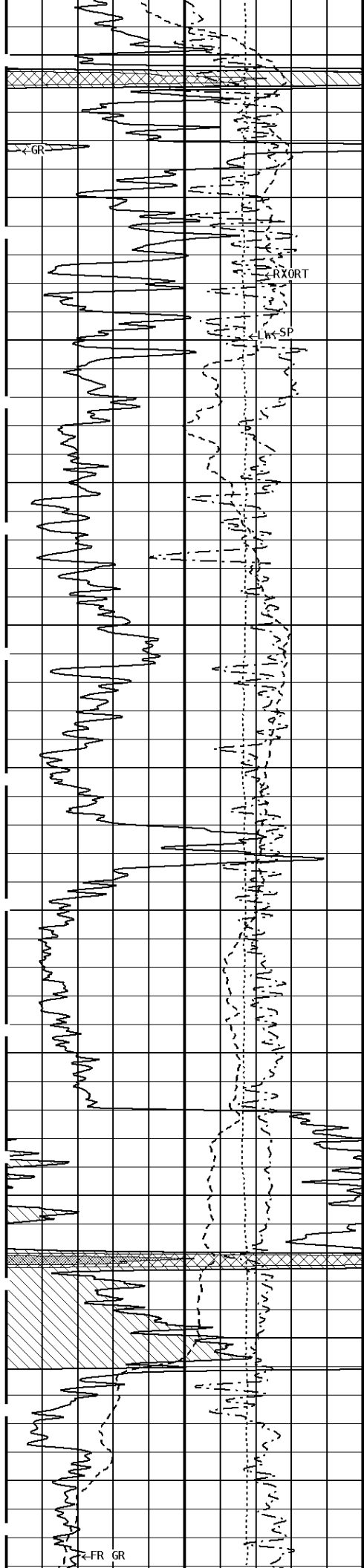
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4200

4300



←DIC



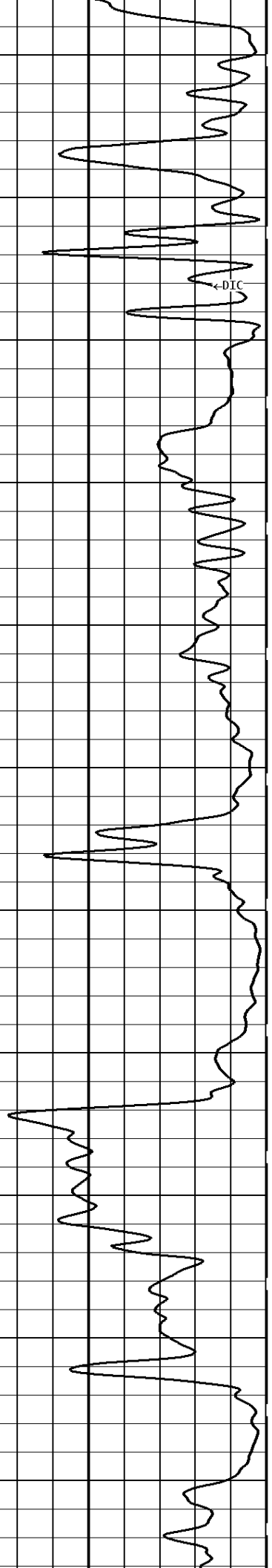
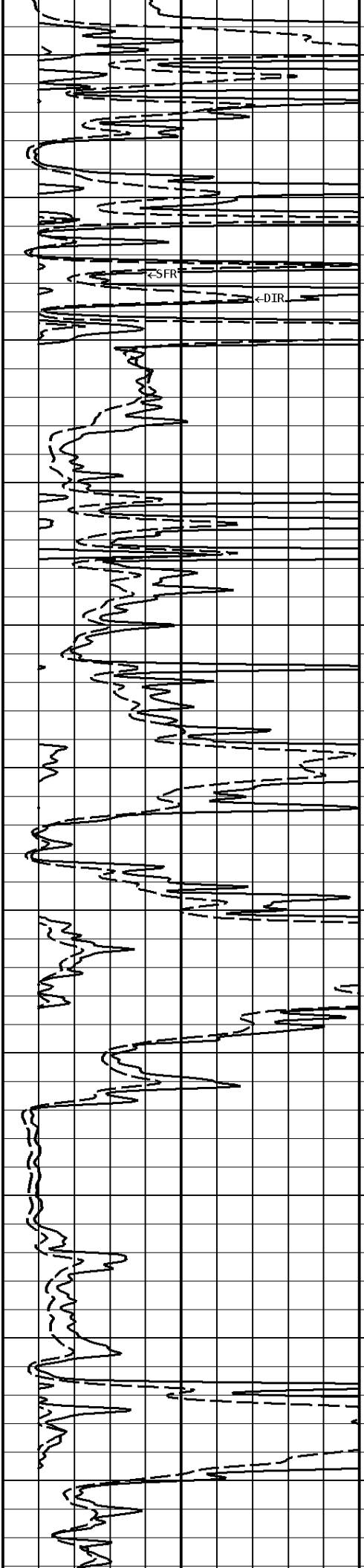
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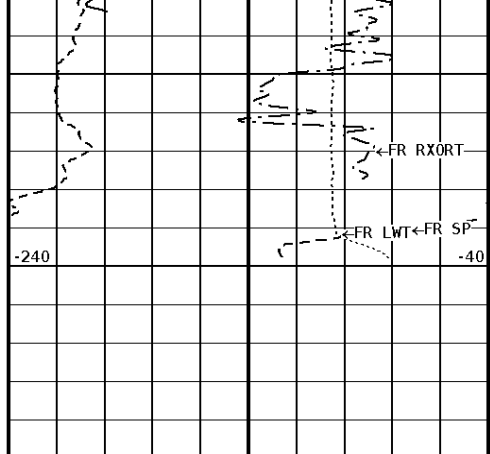
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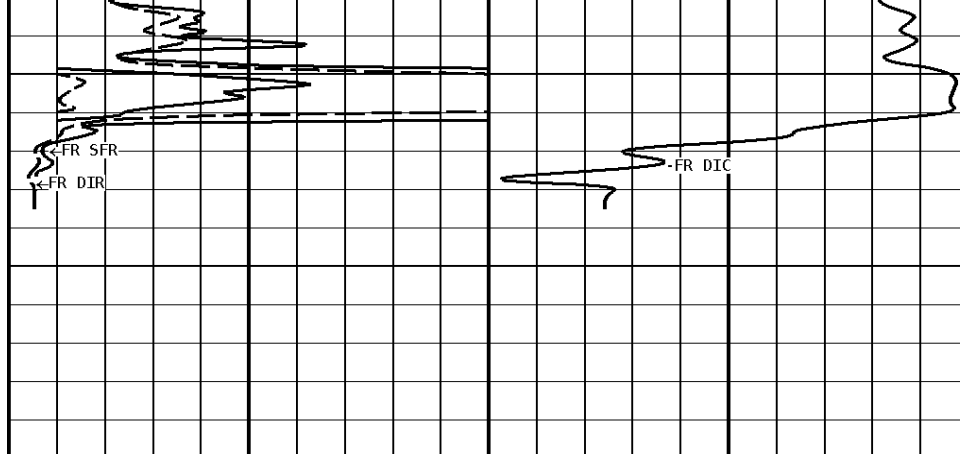
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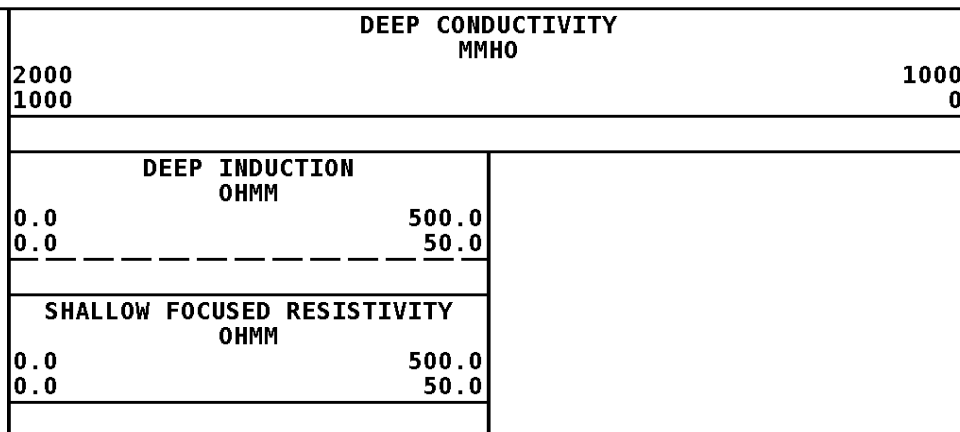
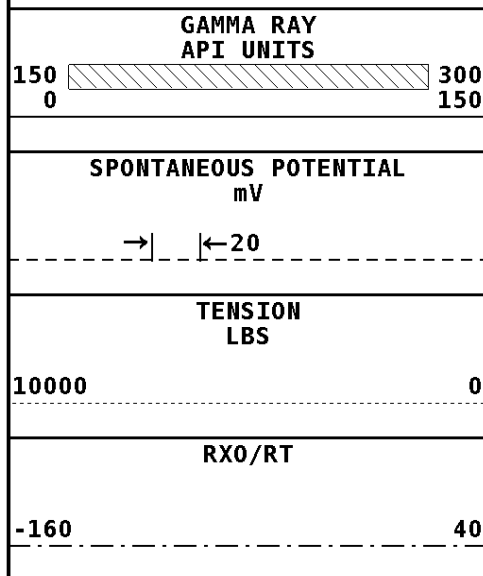
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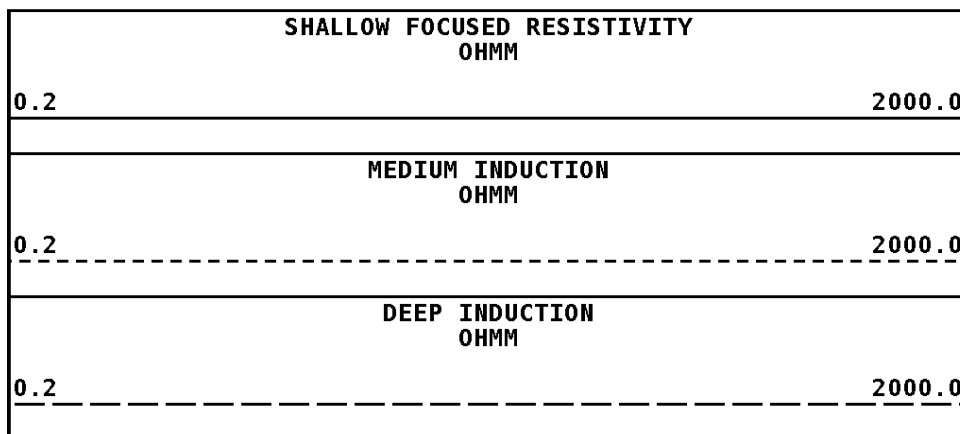
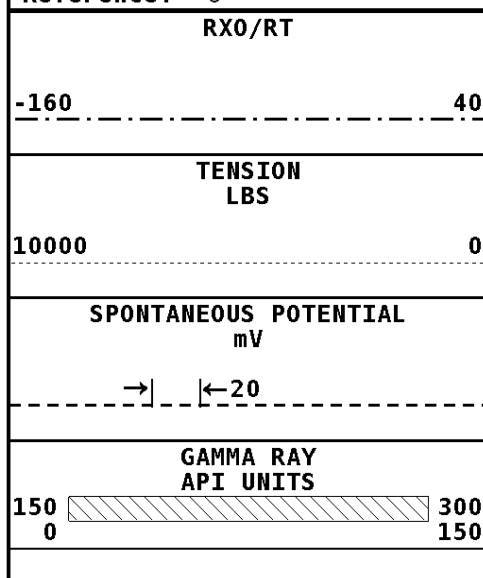


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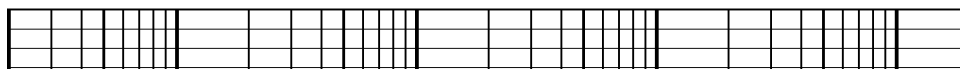
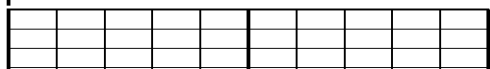
2 INCH



Well File: LB_EXPOR_STRONG_1_JAN17_QST-SGT Segment: V4.D1.S6_DS_MN Reference: 0	Scale: 1:240 Acquired: 2012-01/17 15:45 3.2.0-10367 Processed: 2012-01/17 18:19 3.2.0-10367
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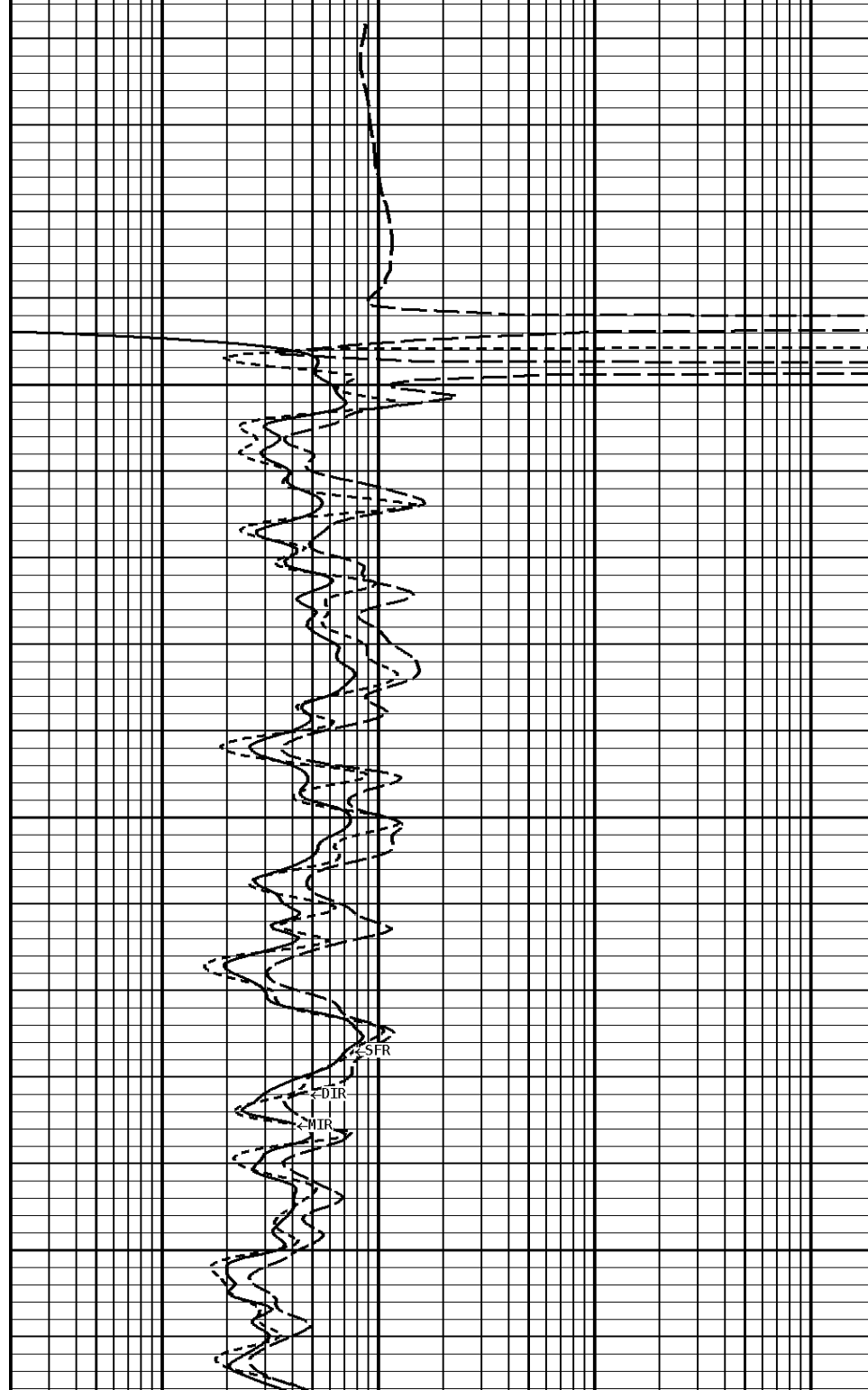
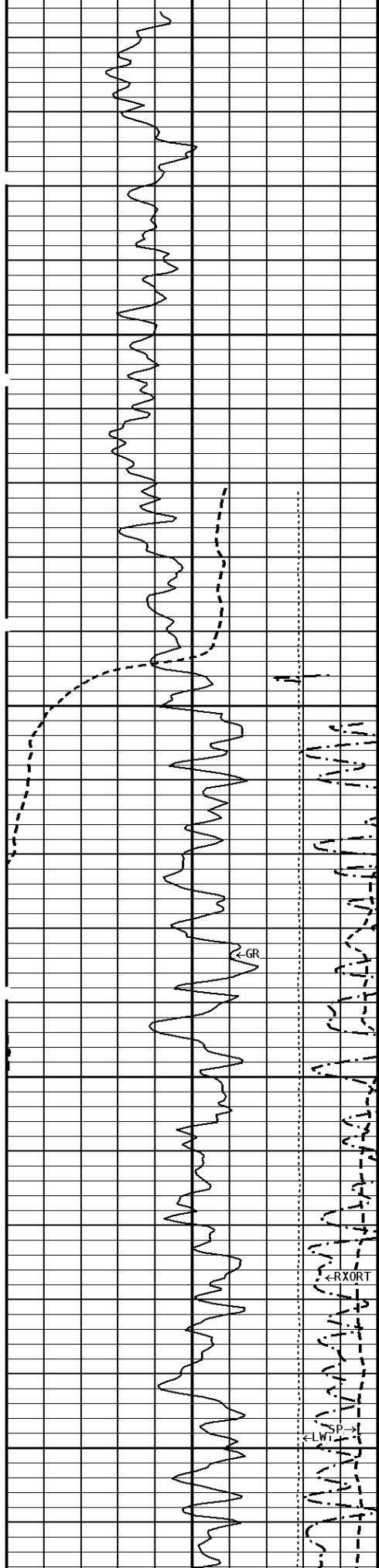


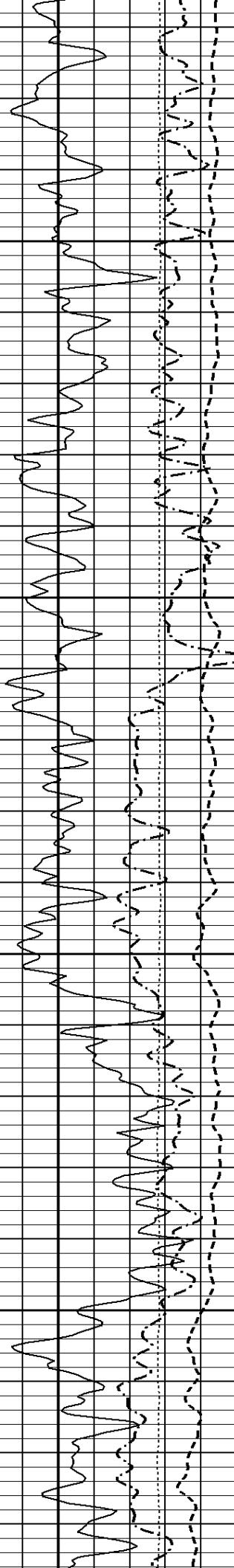
1:240 MAIN SECTION



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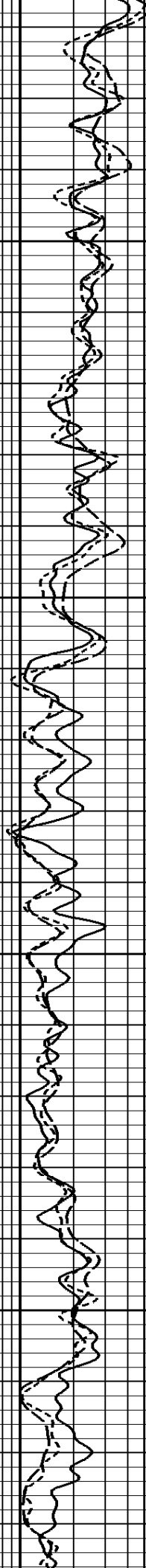
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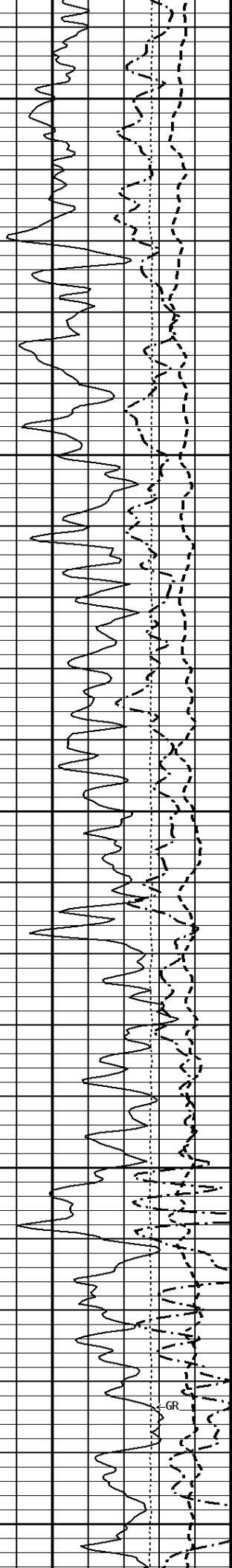




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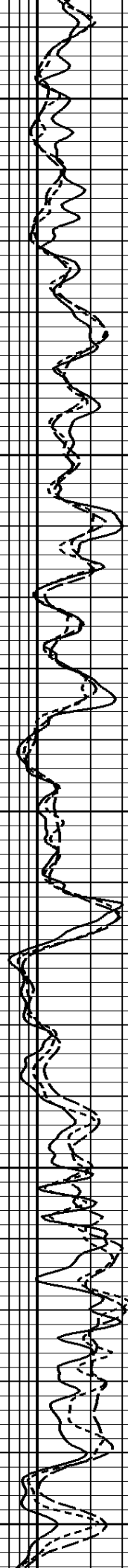


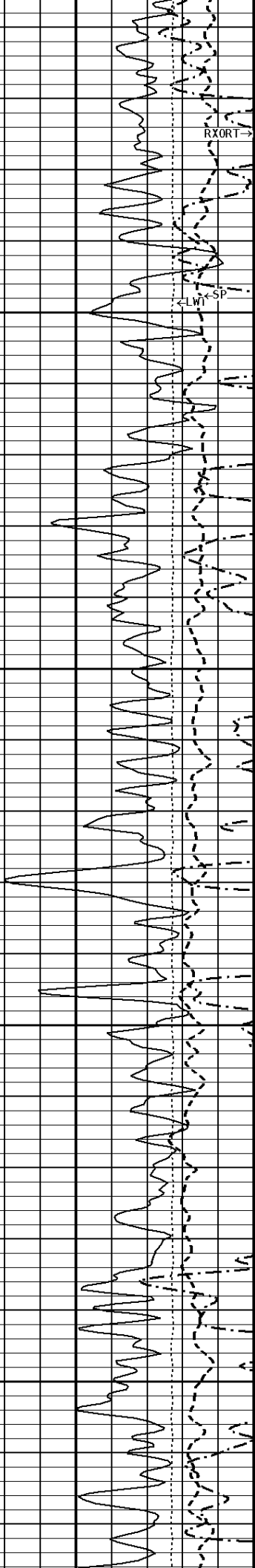


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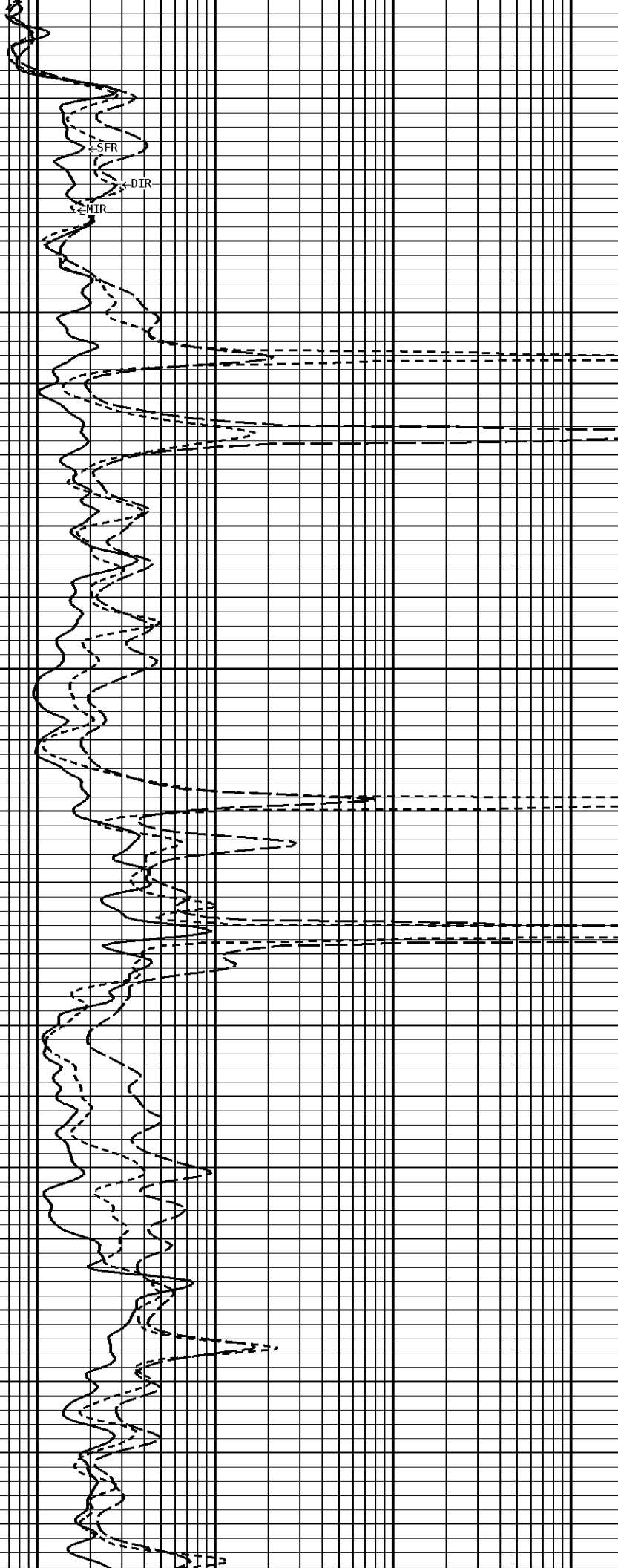
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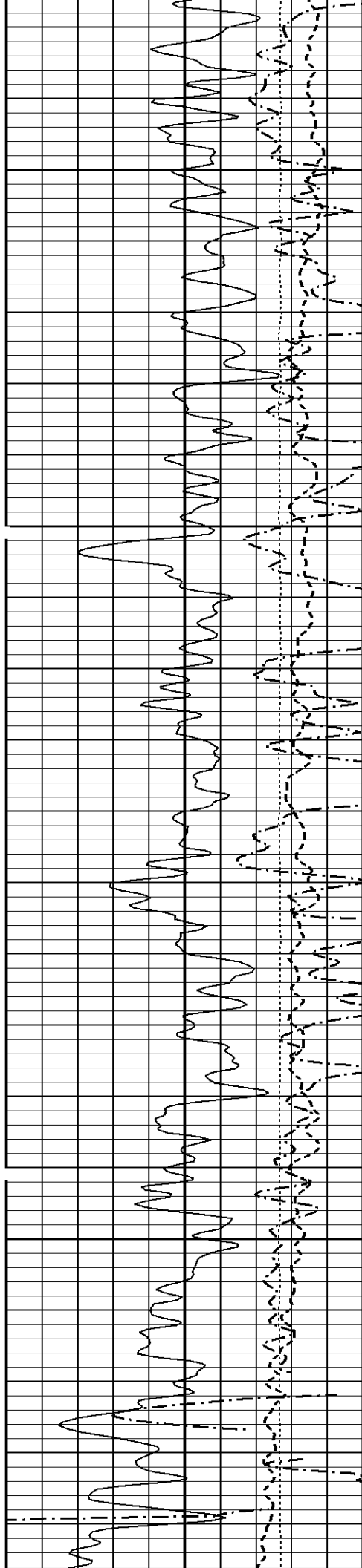




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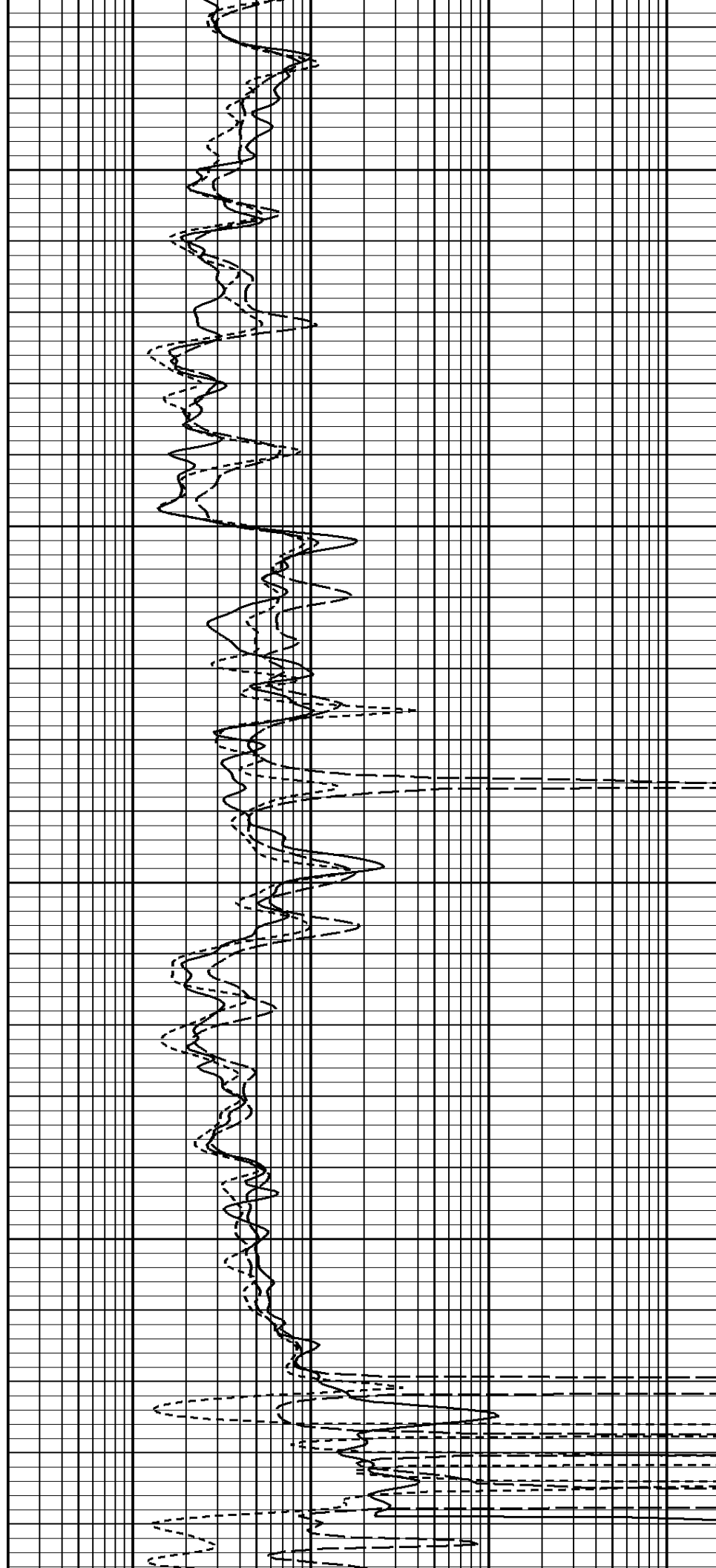
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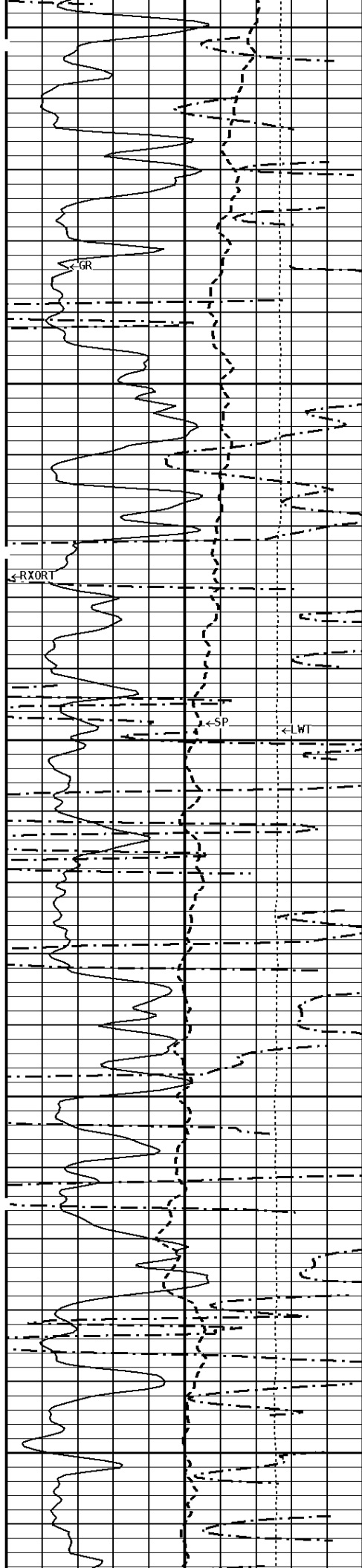




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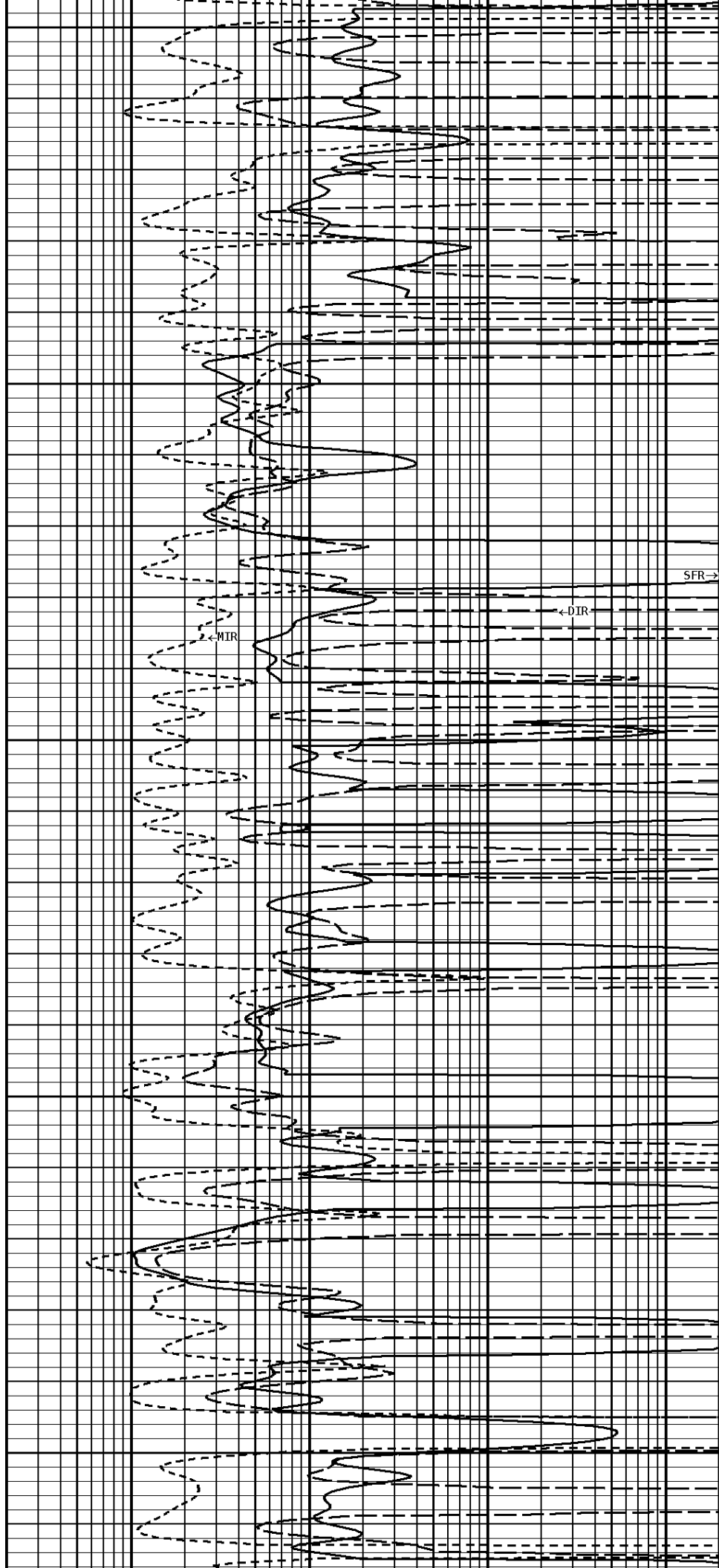
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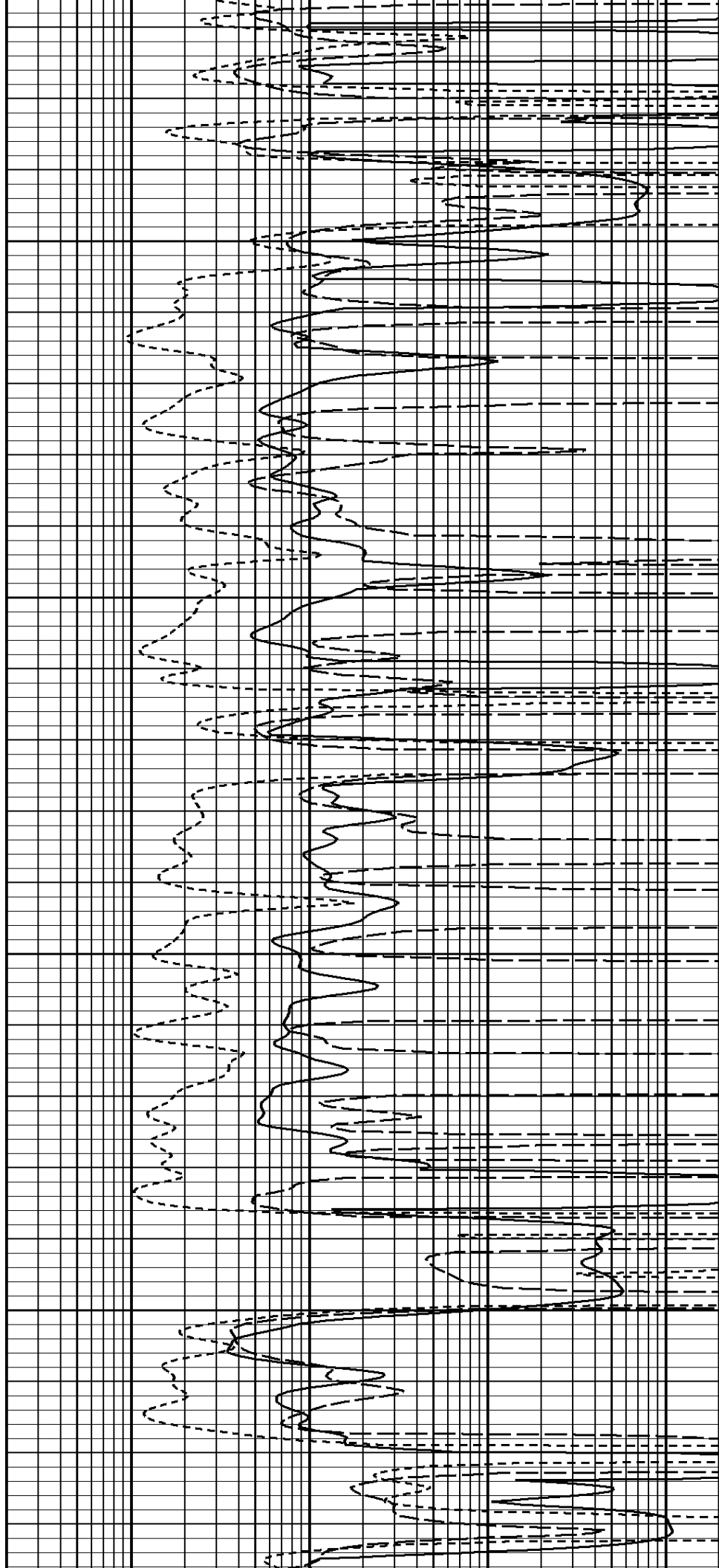
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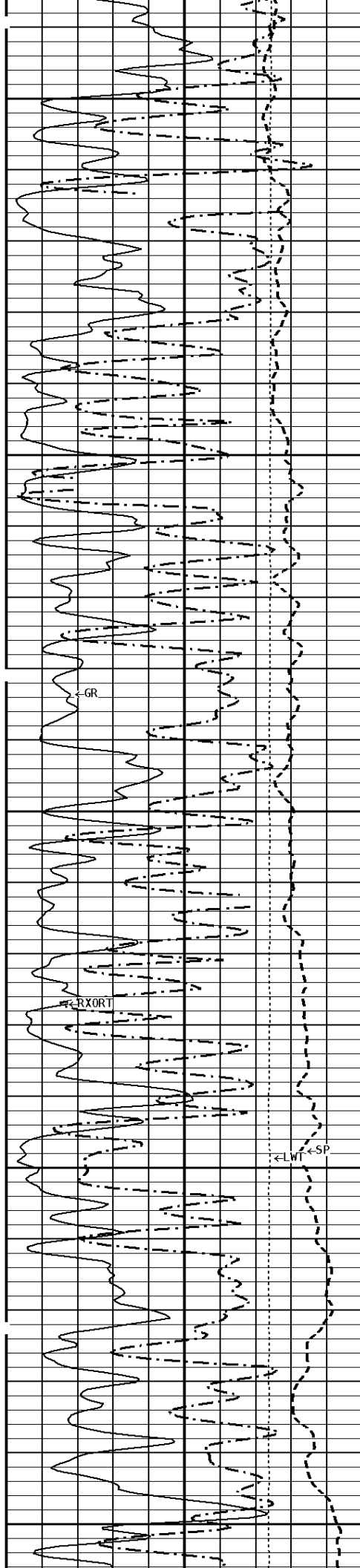




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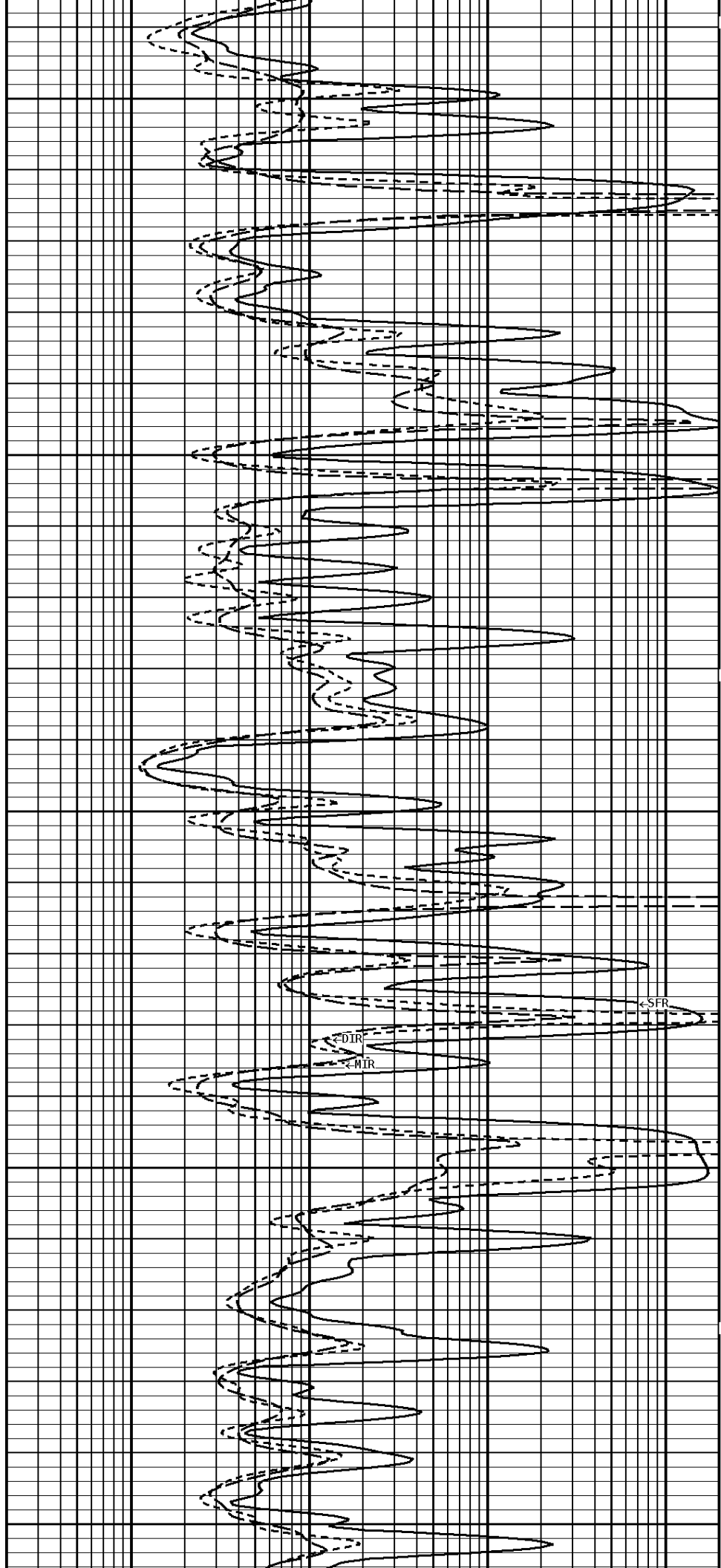


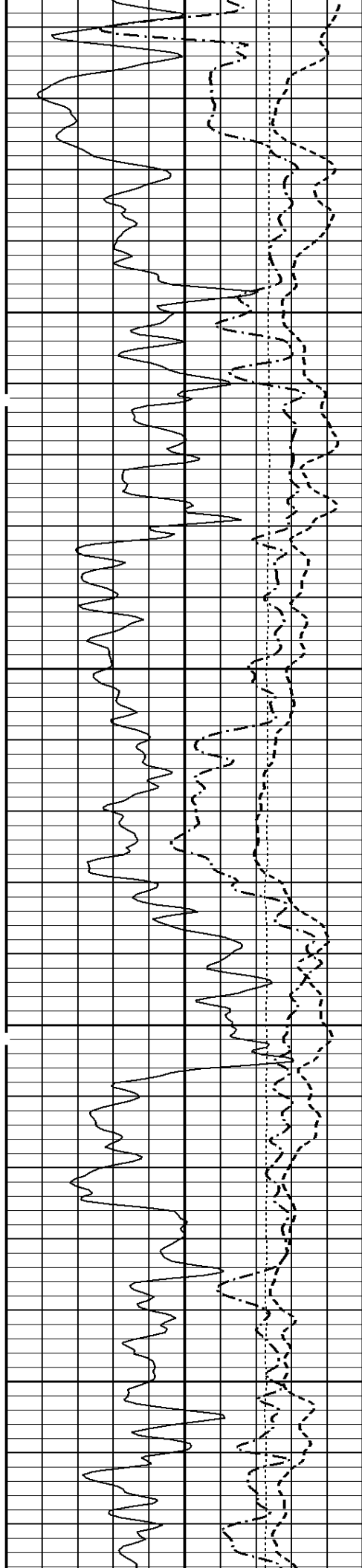


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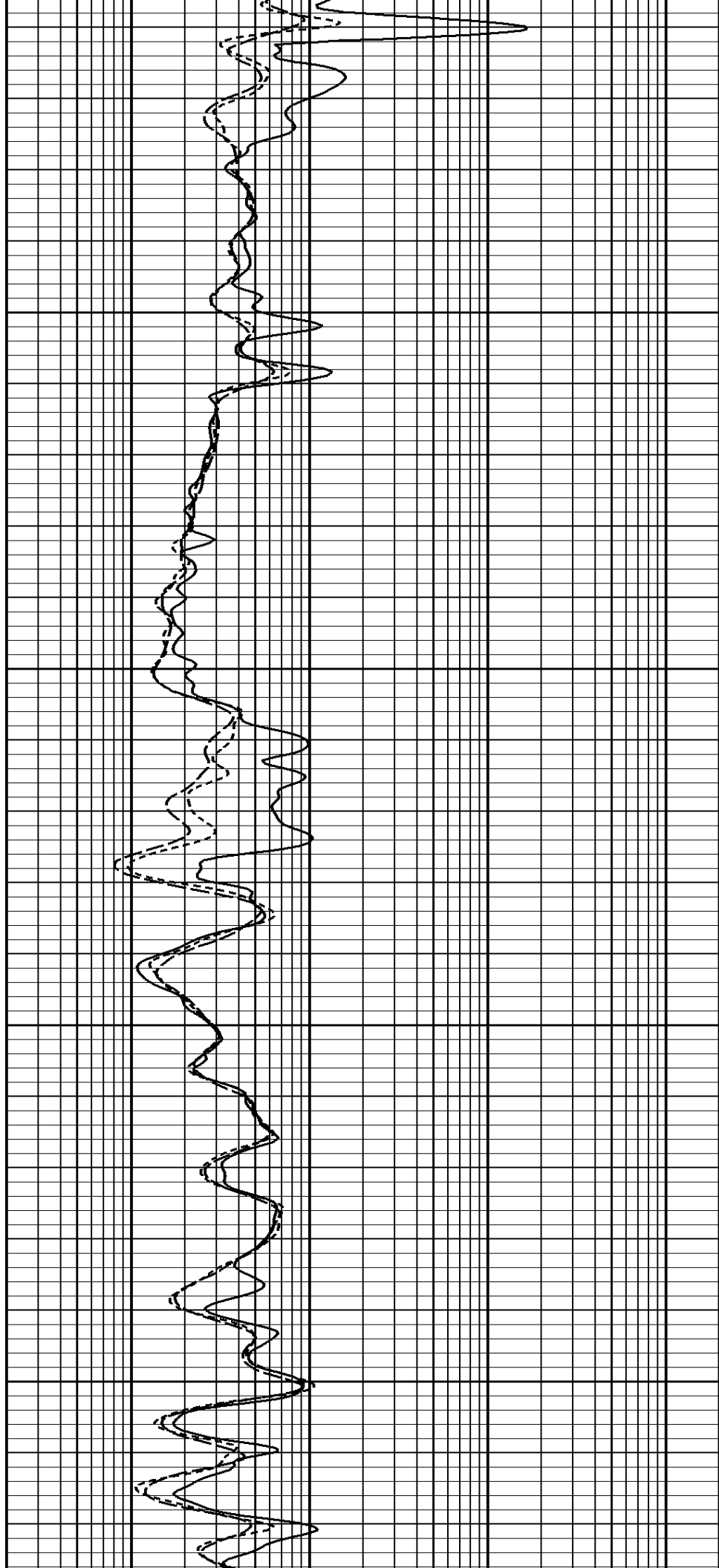
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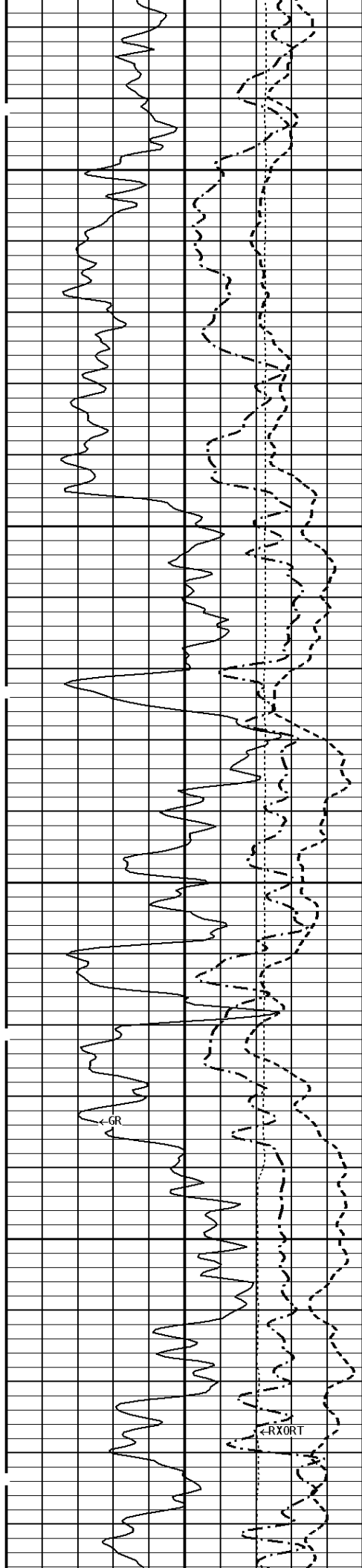




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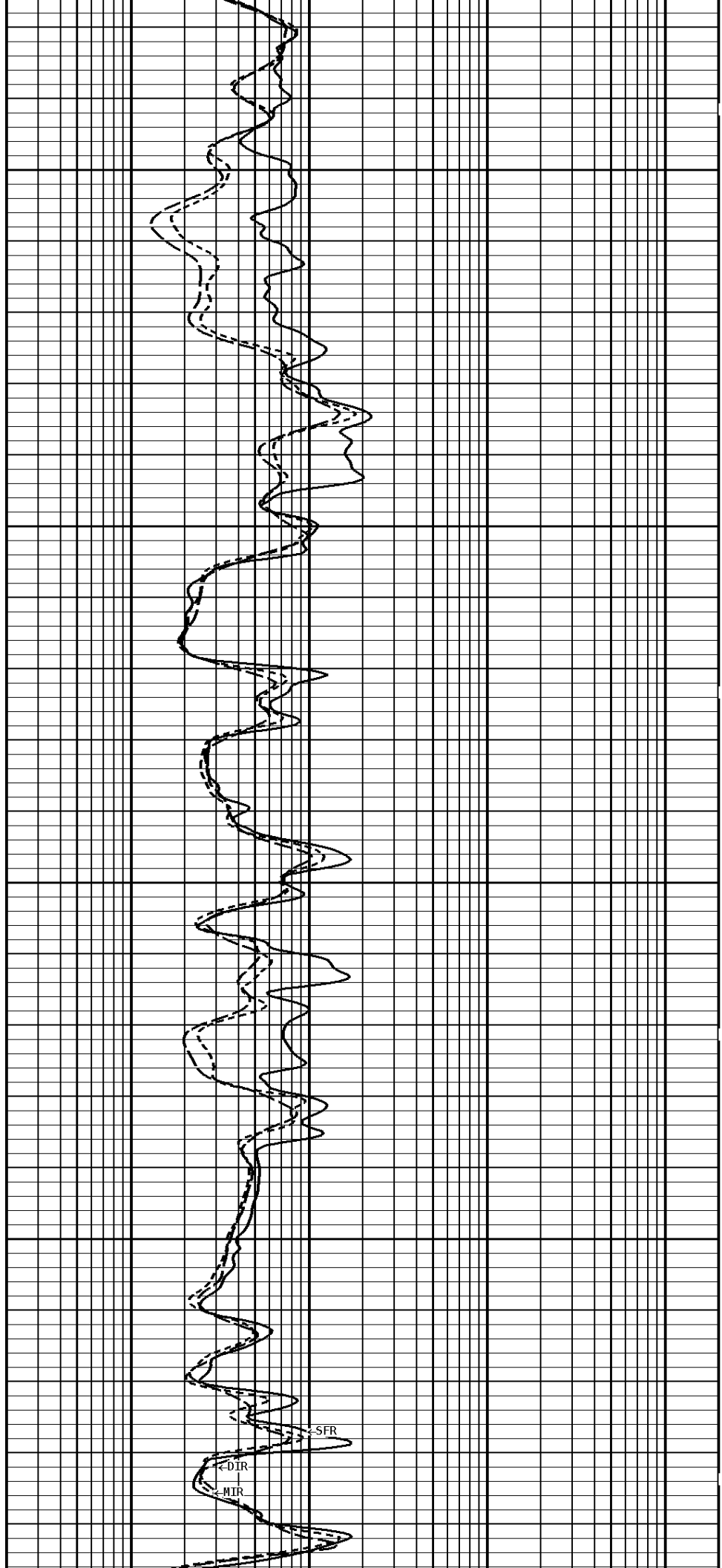
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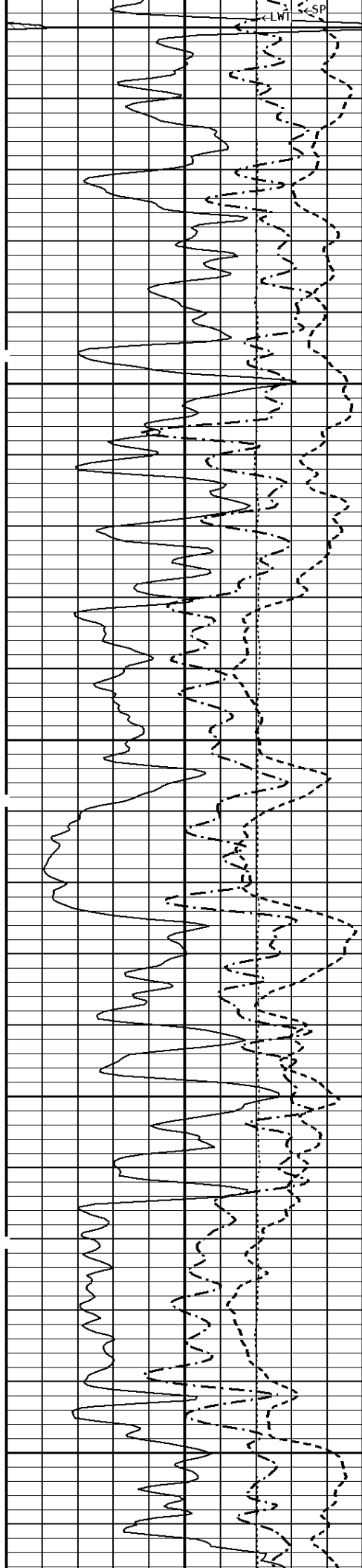




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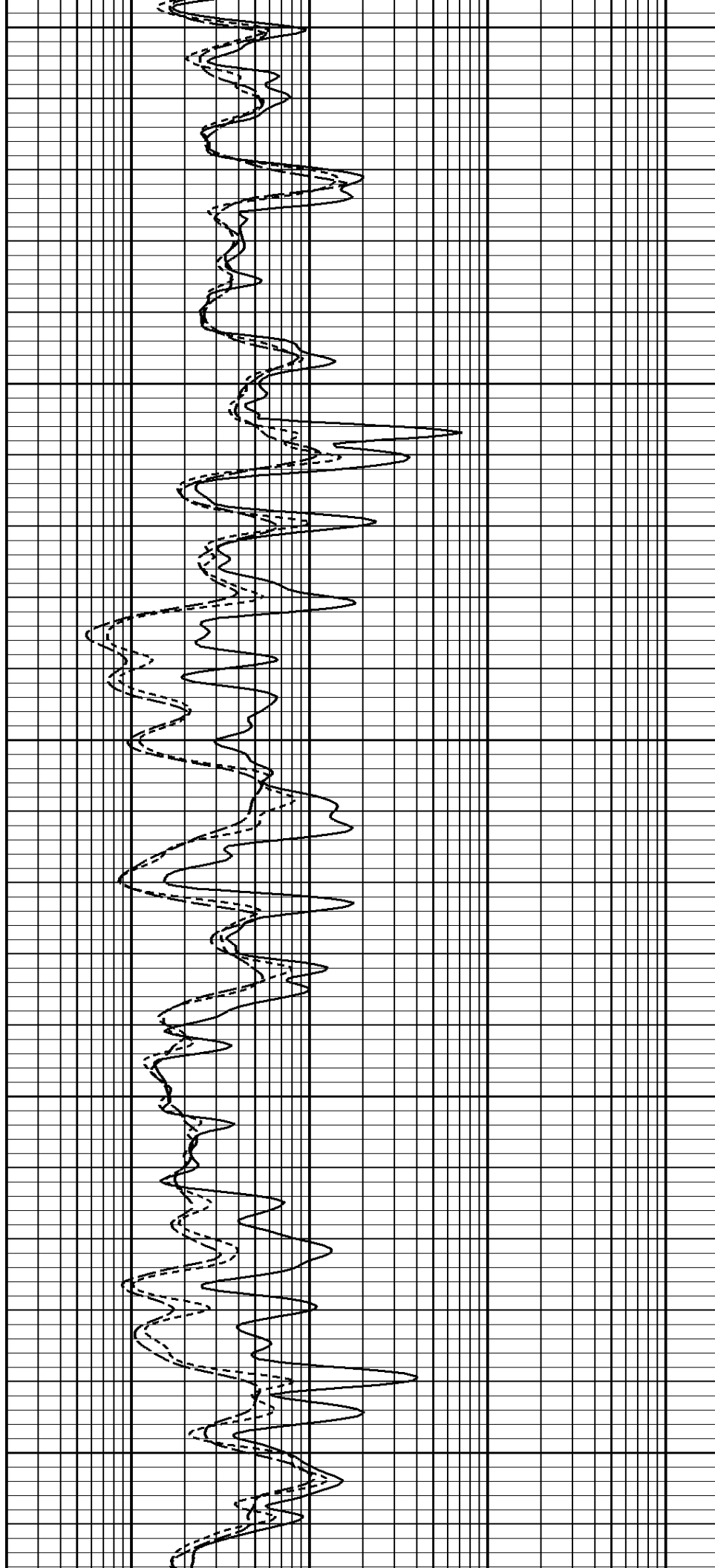
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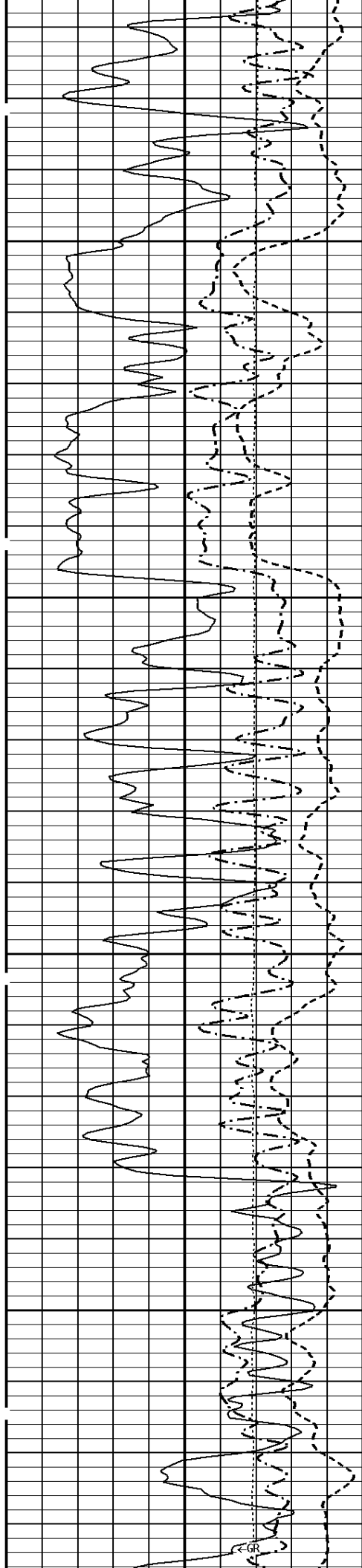




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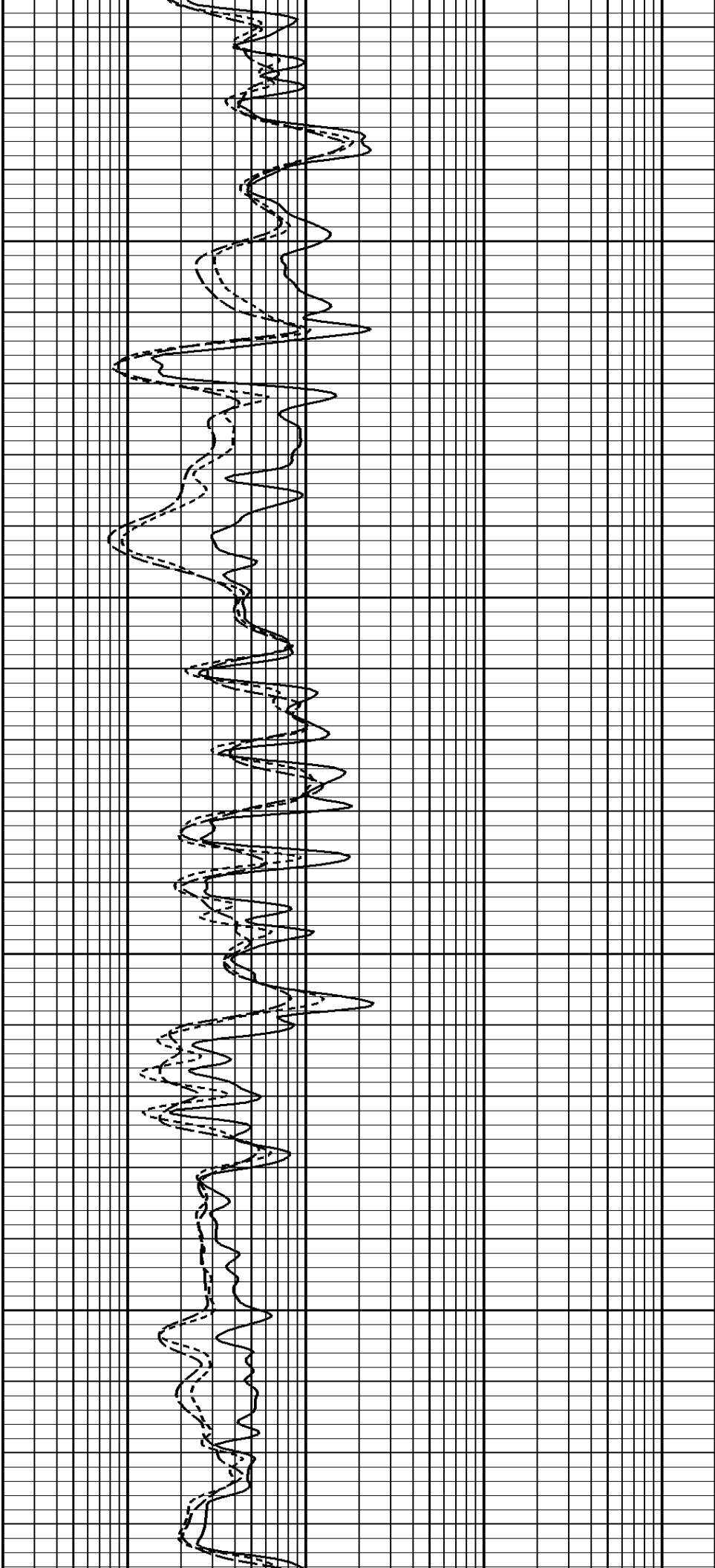
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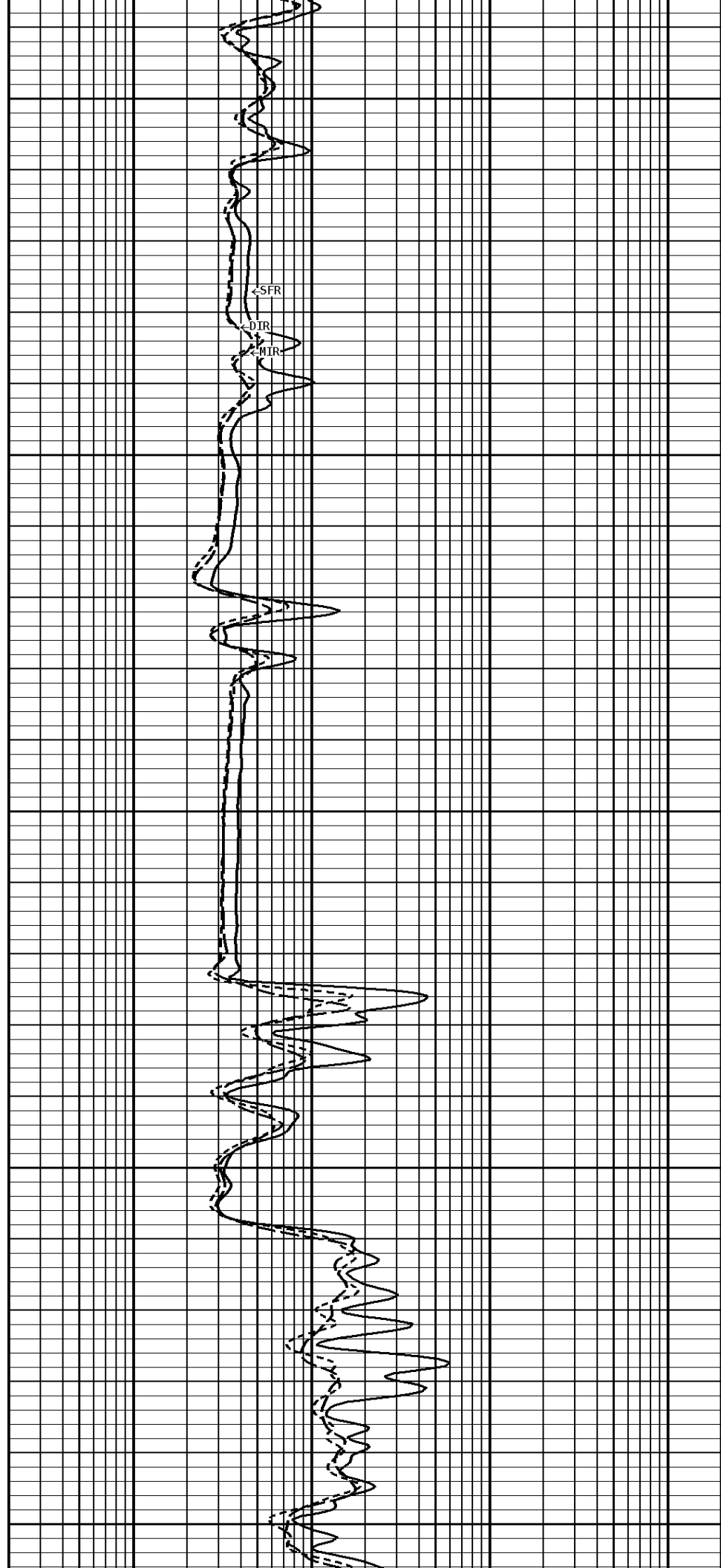
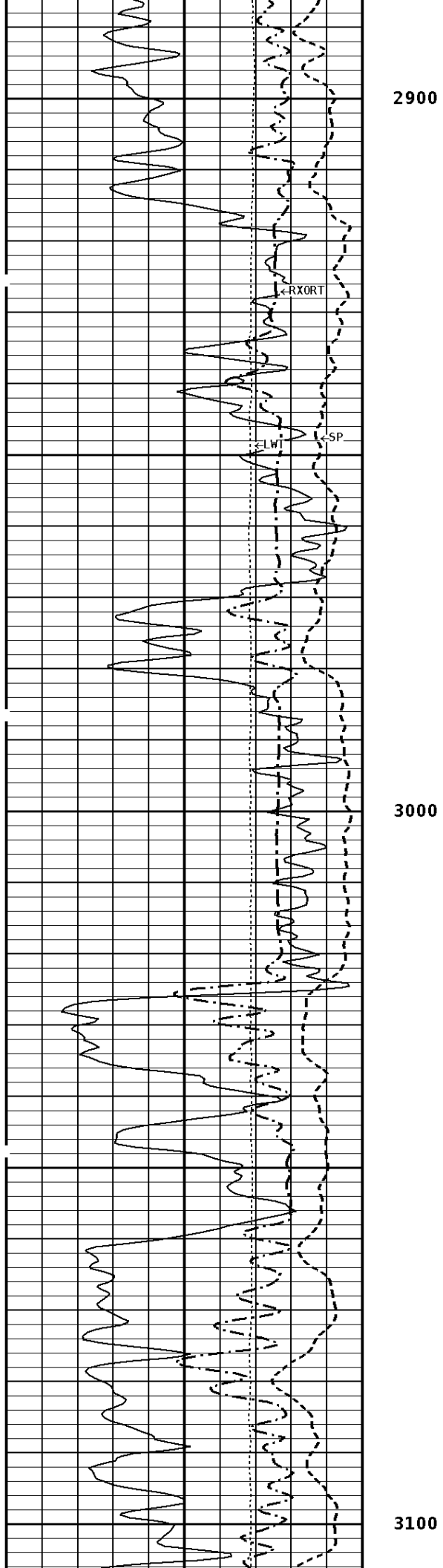


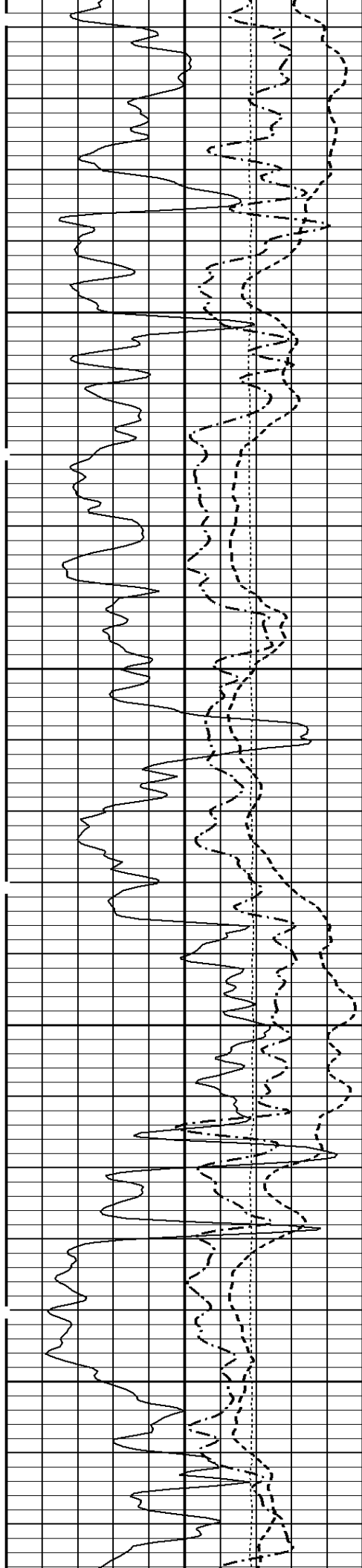


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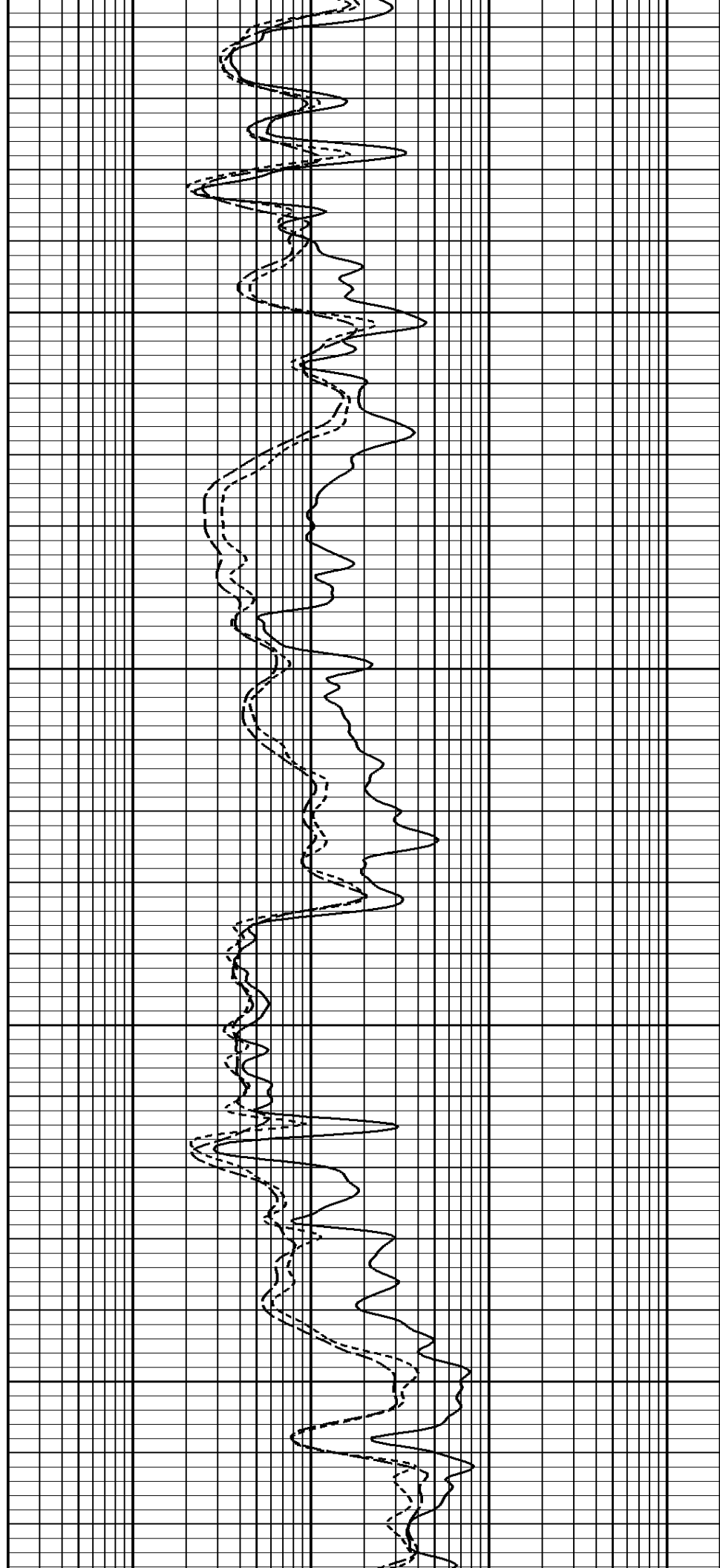


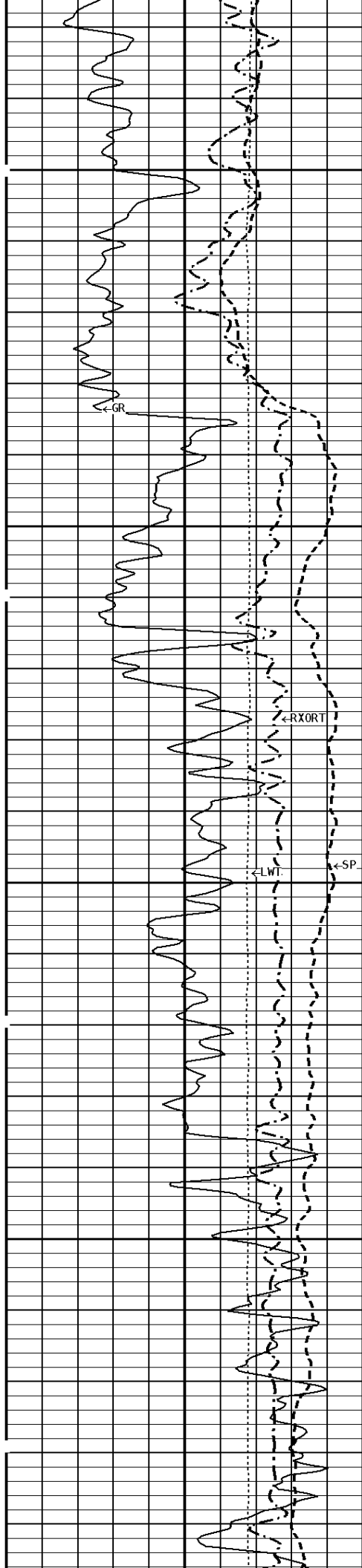




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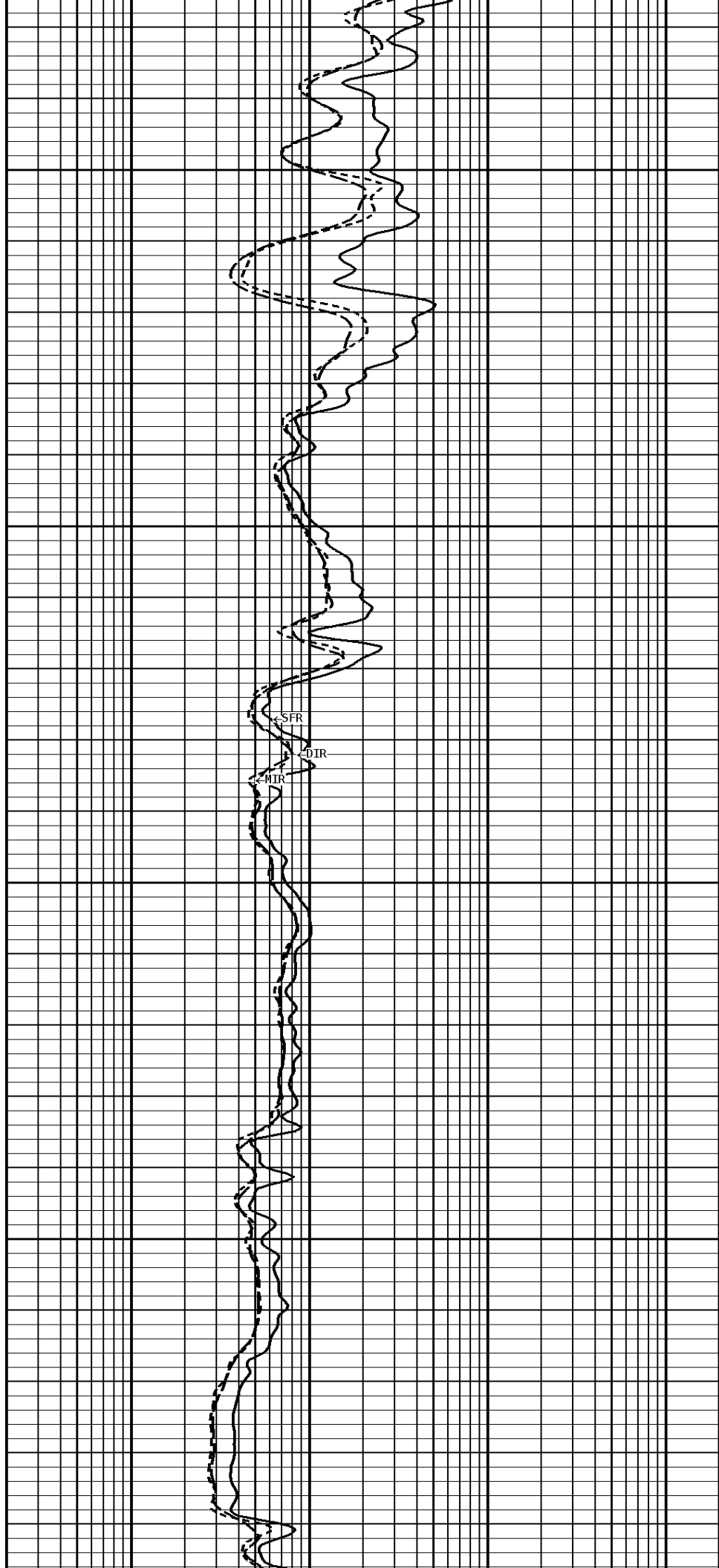
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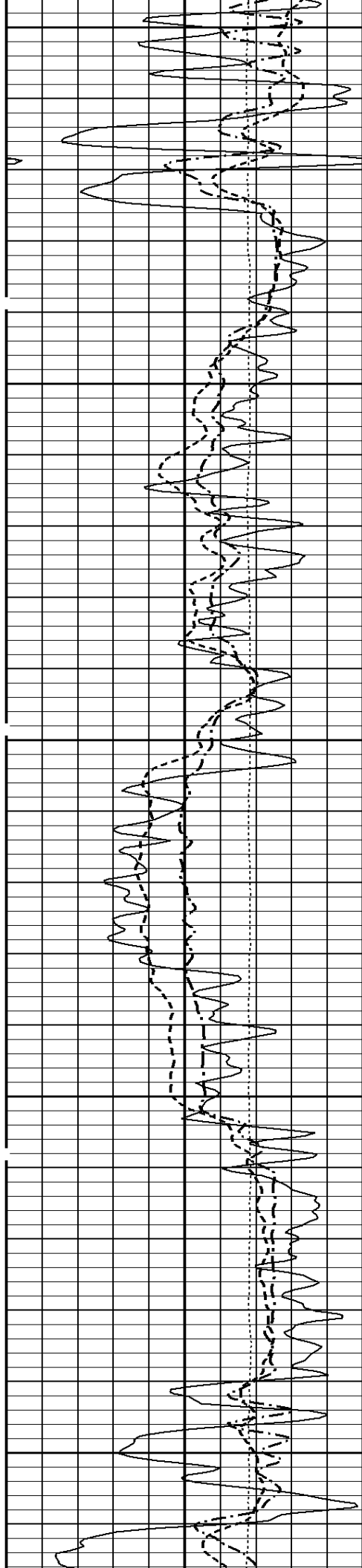




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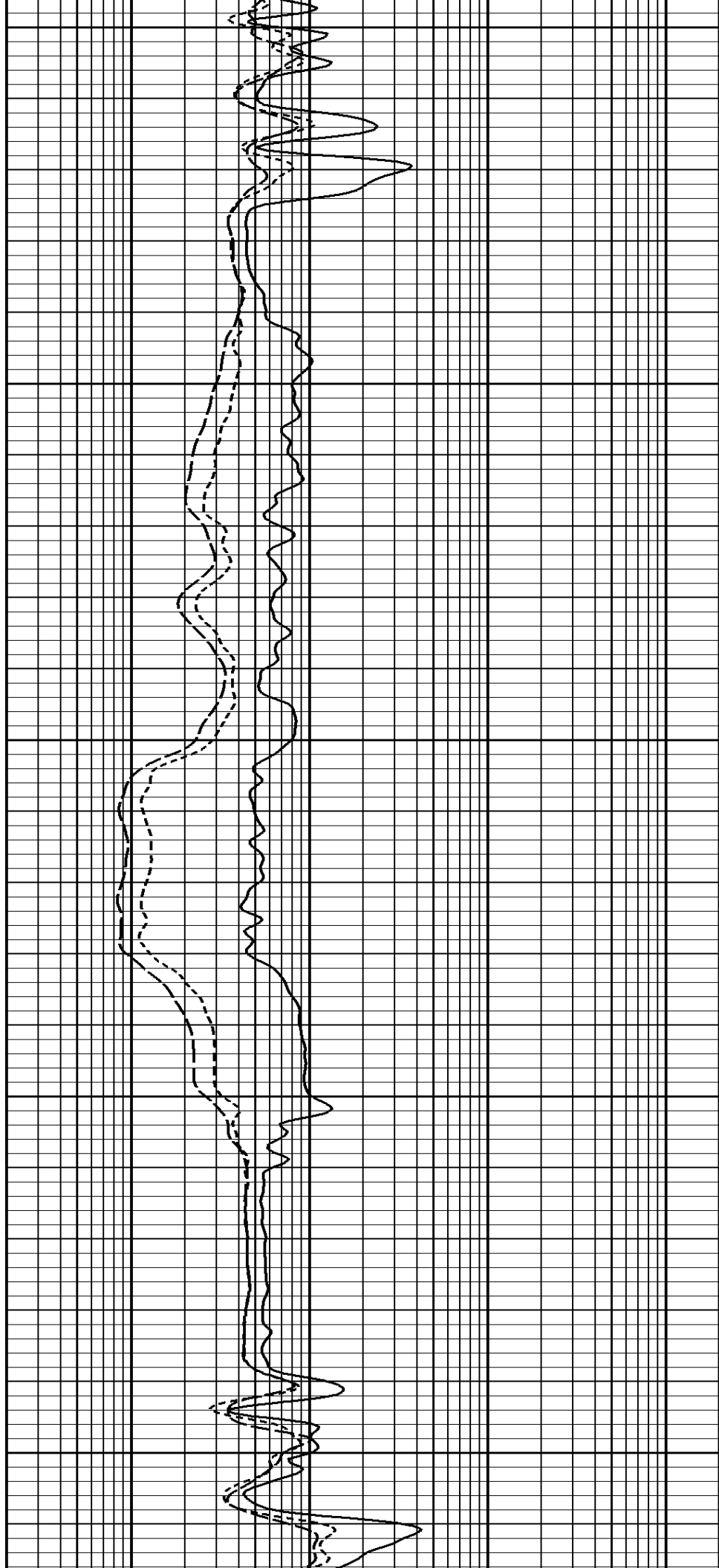
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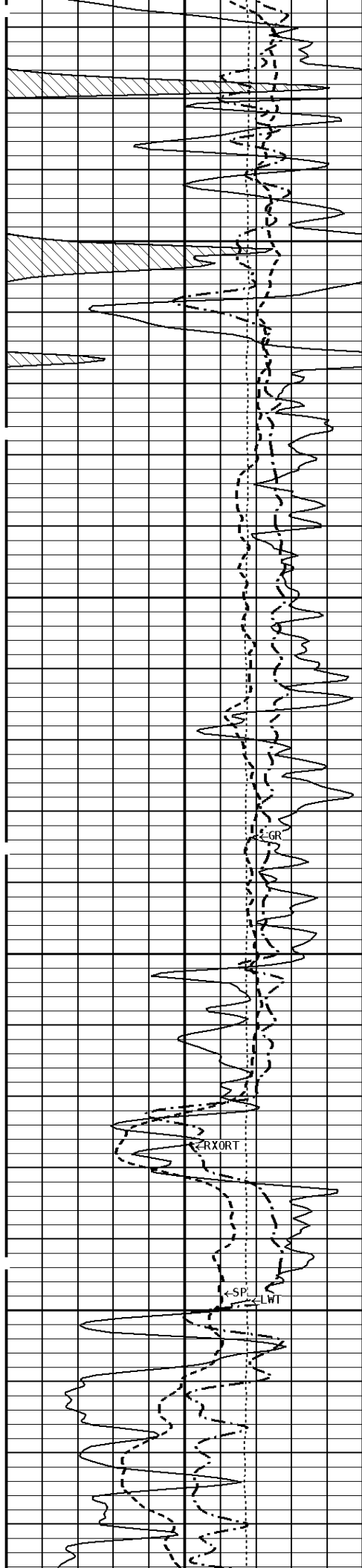




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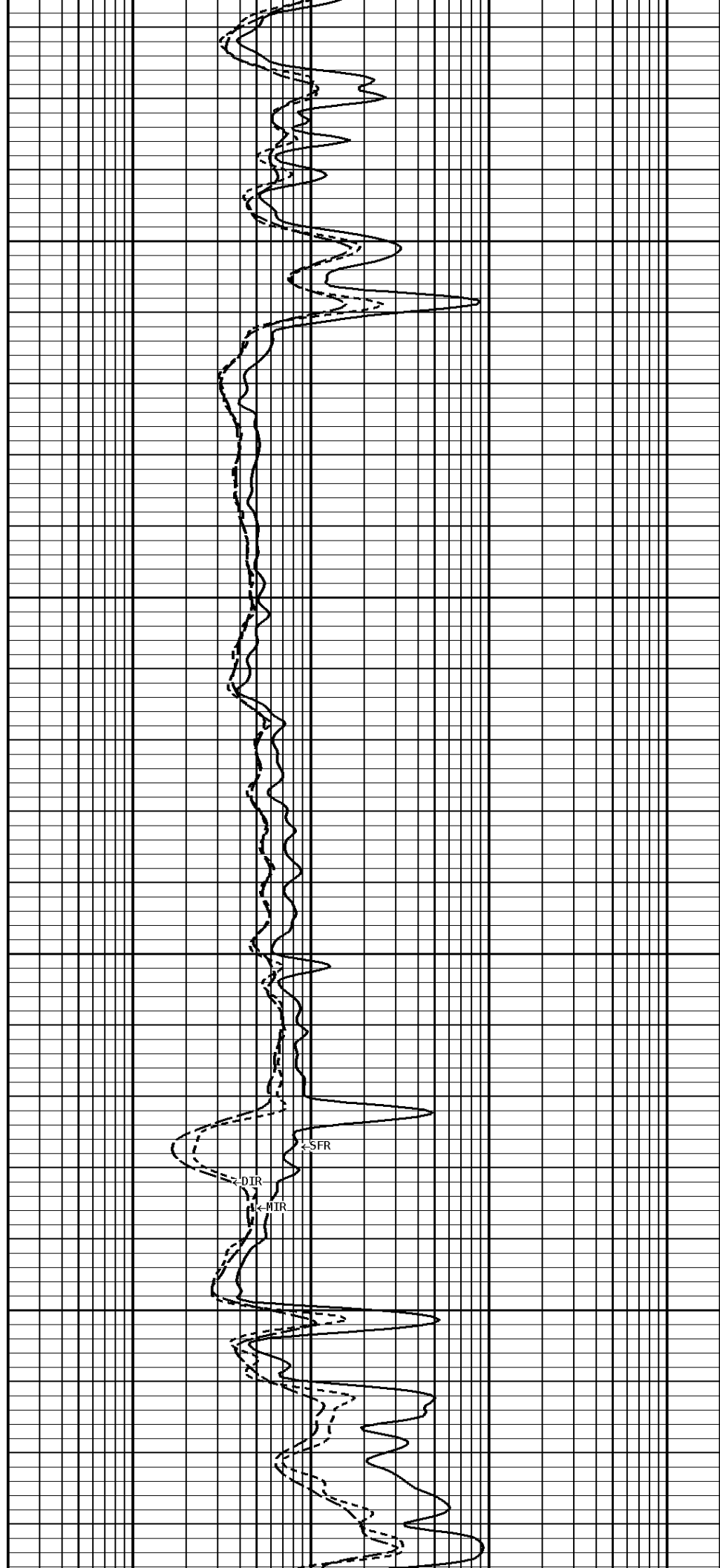
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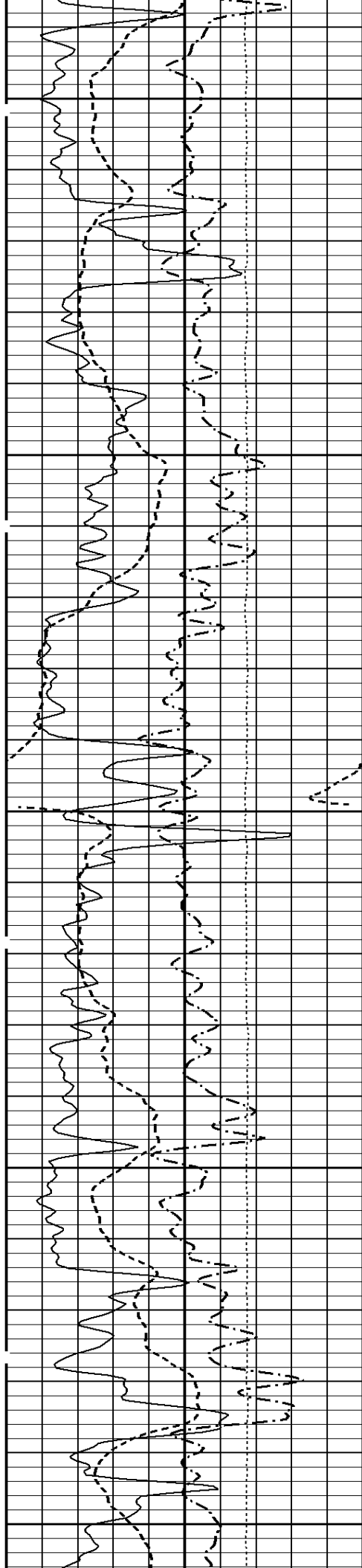




3800

3900

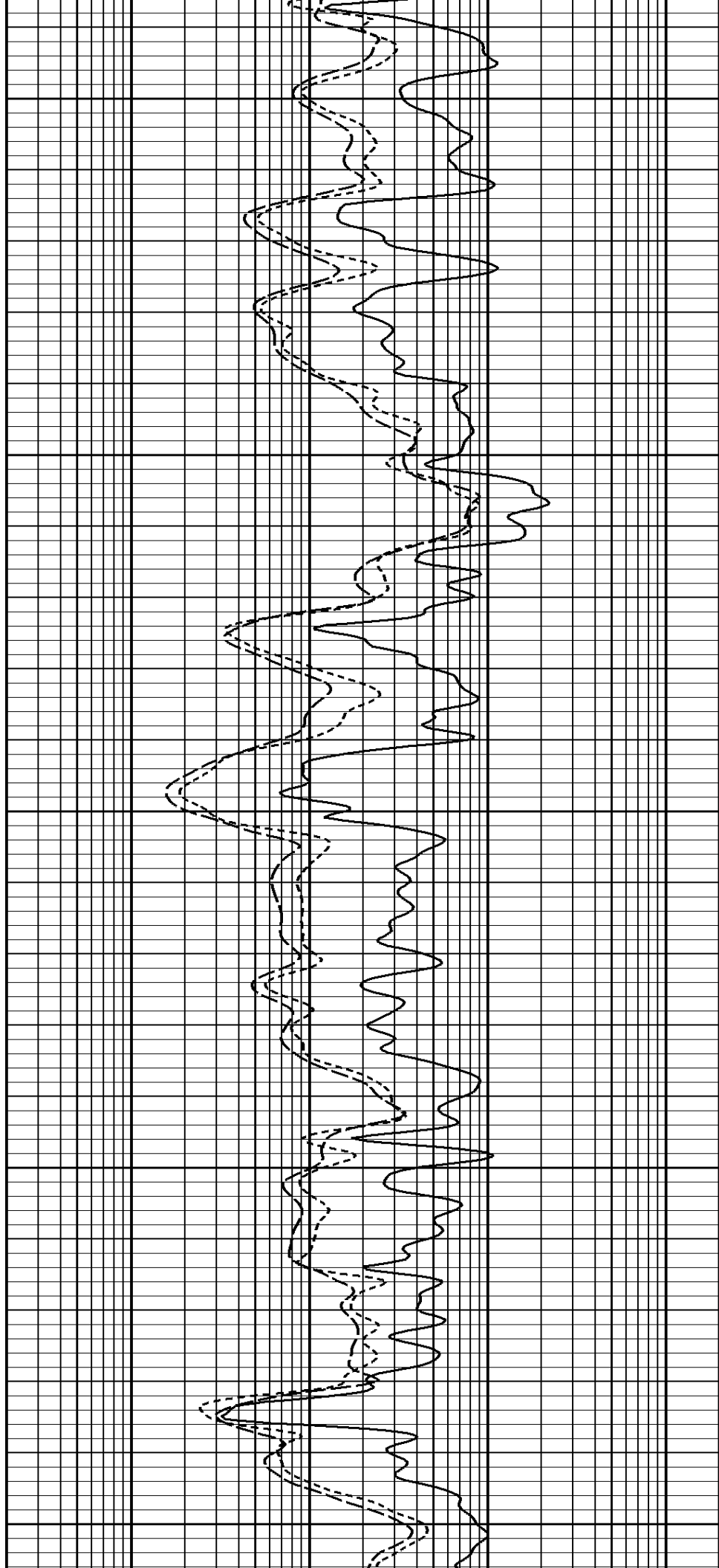


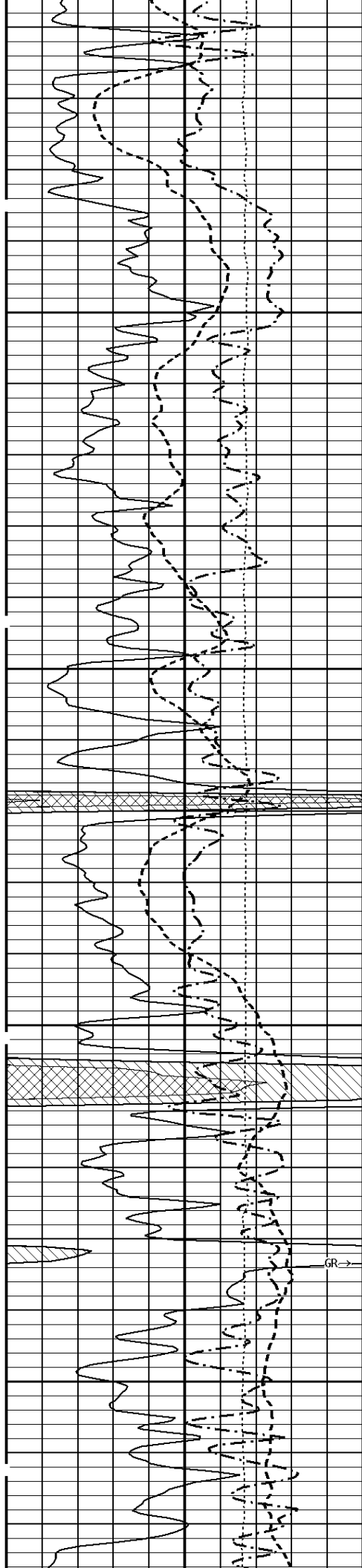


4000

4100

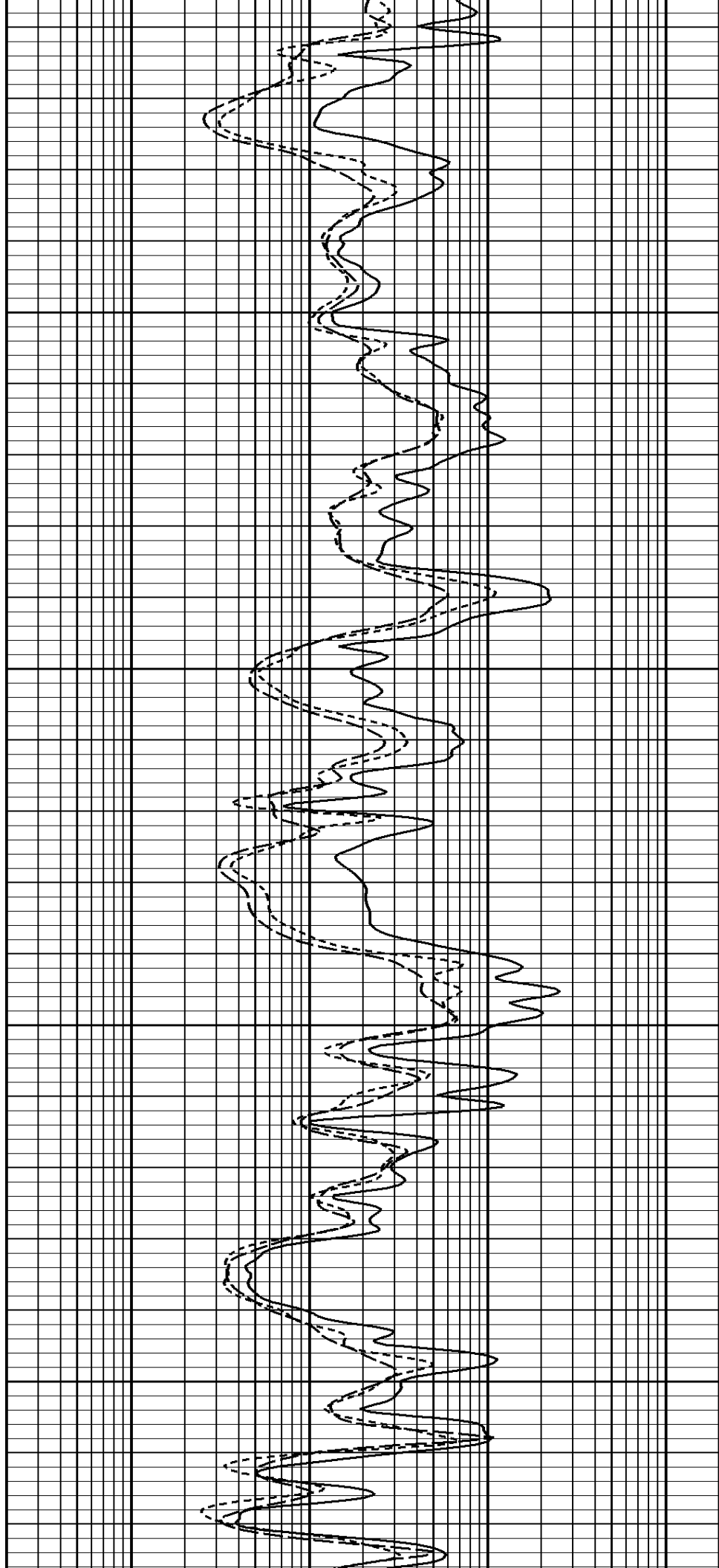
4200

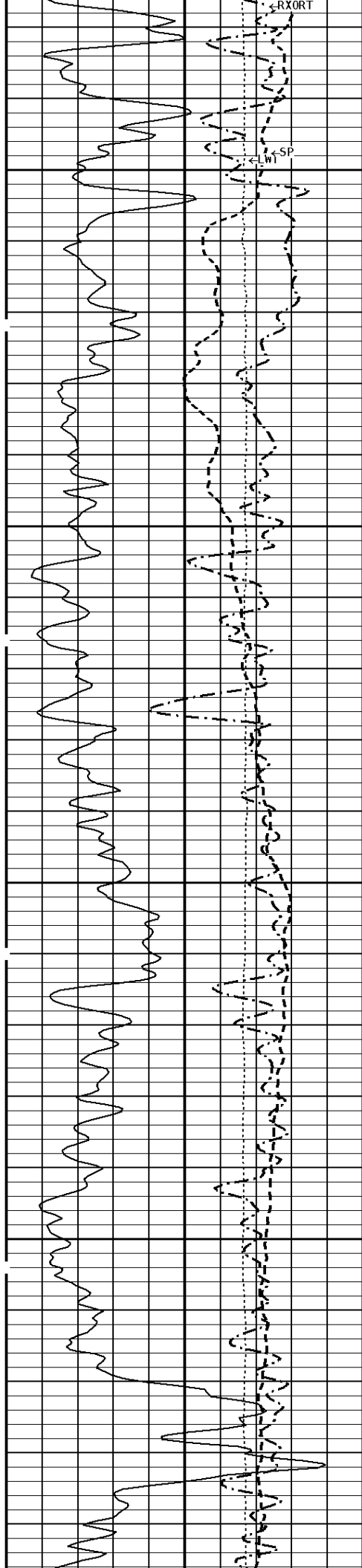




4300

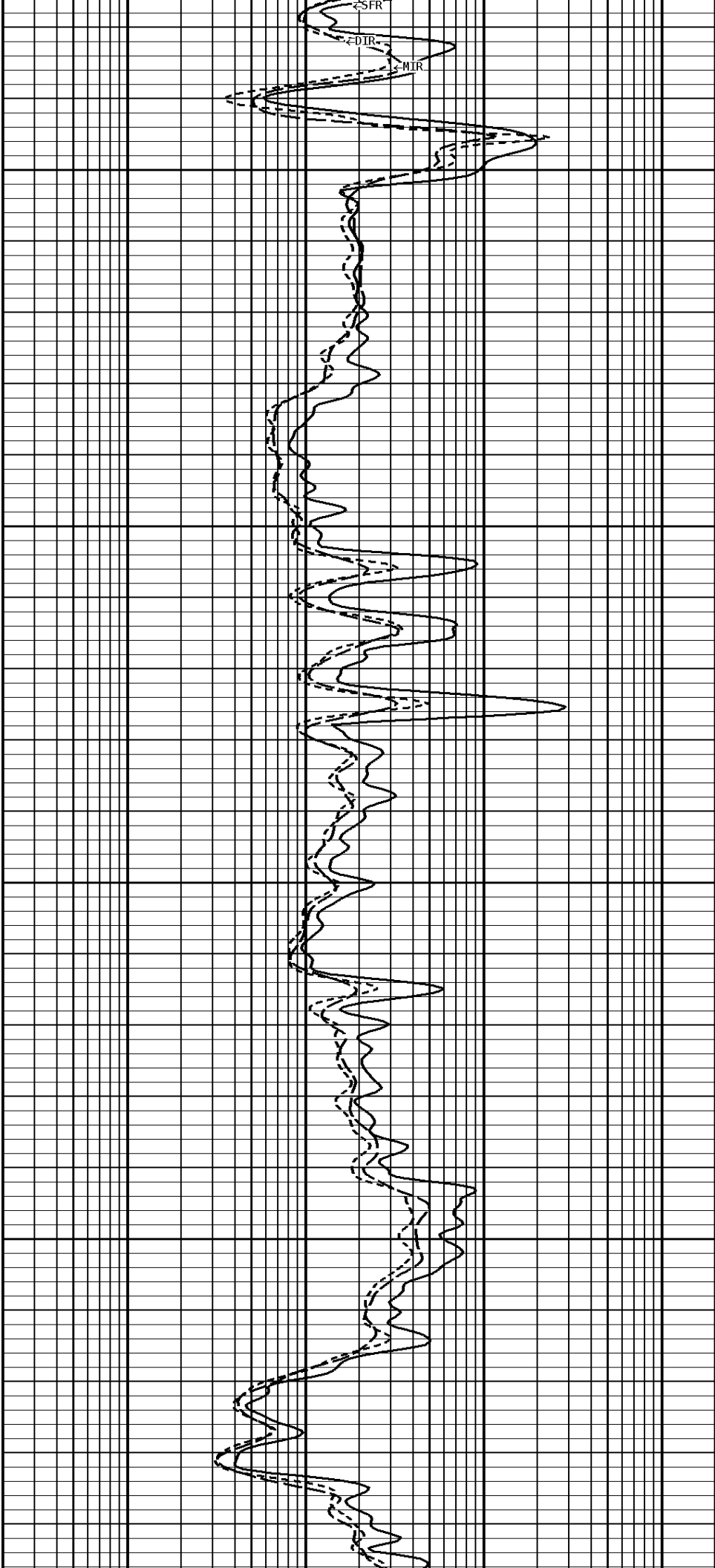
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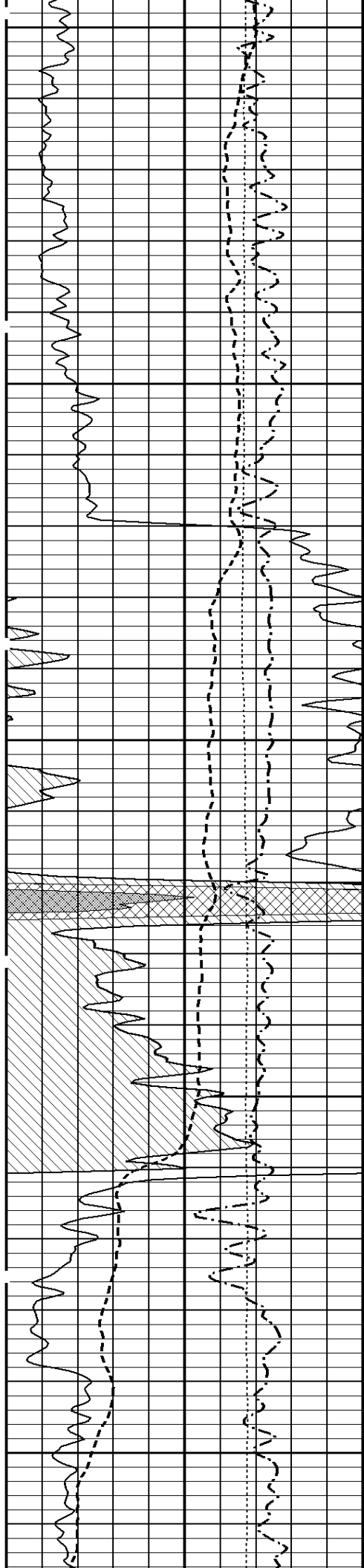




4500

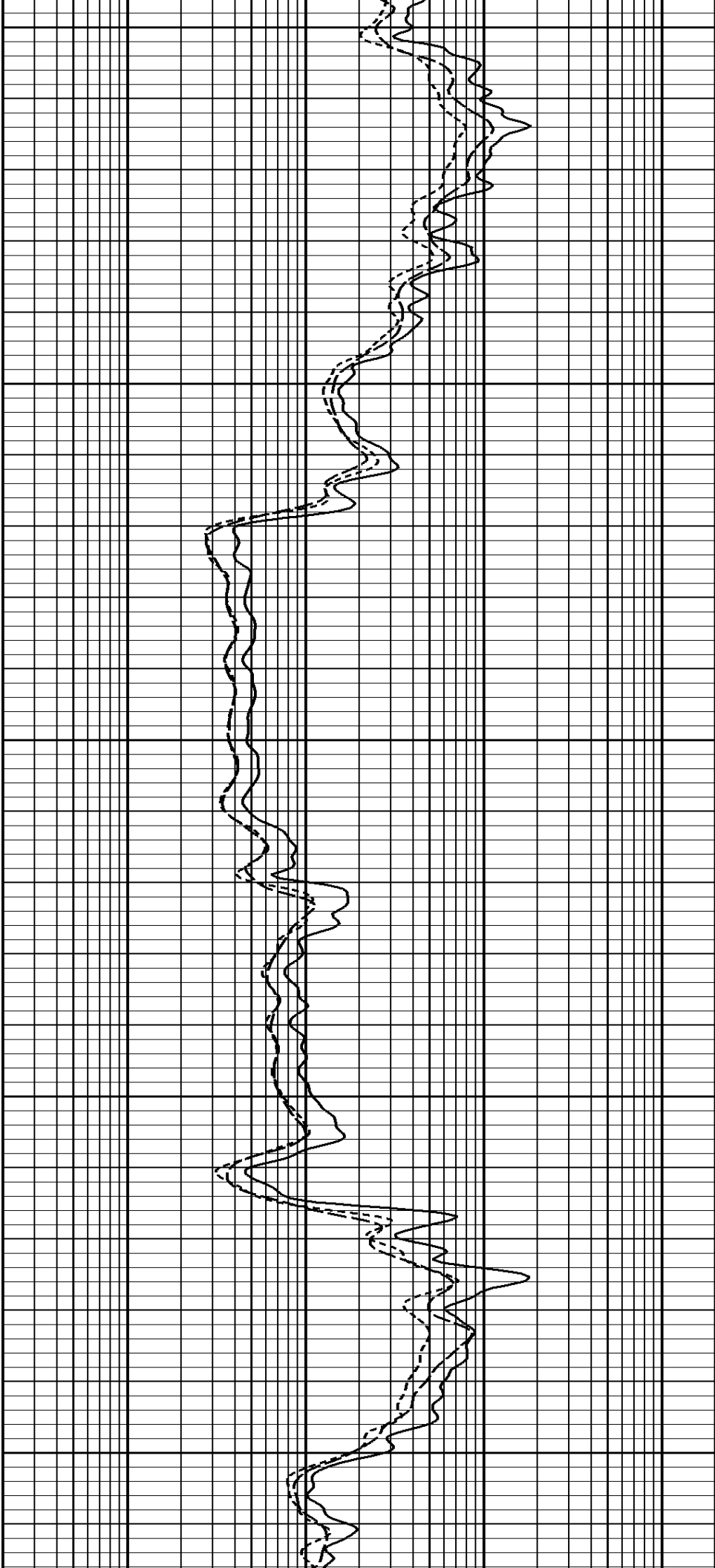
4600

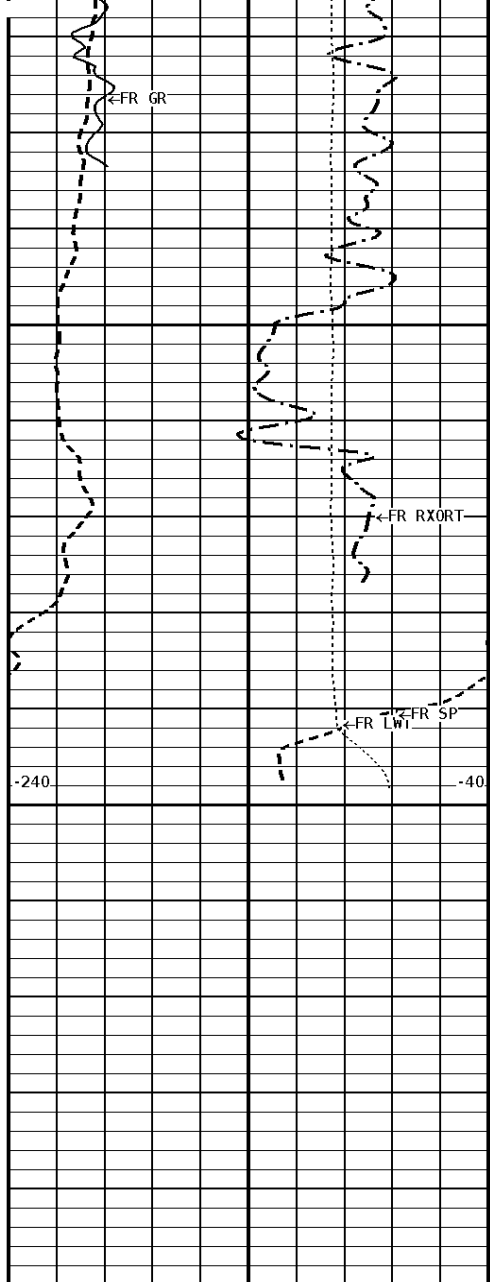




4700

4800



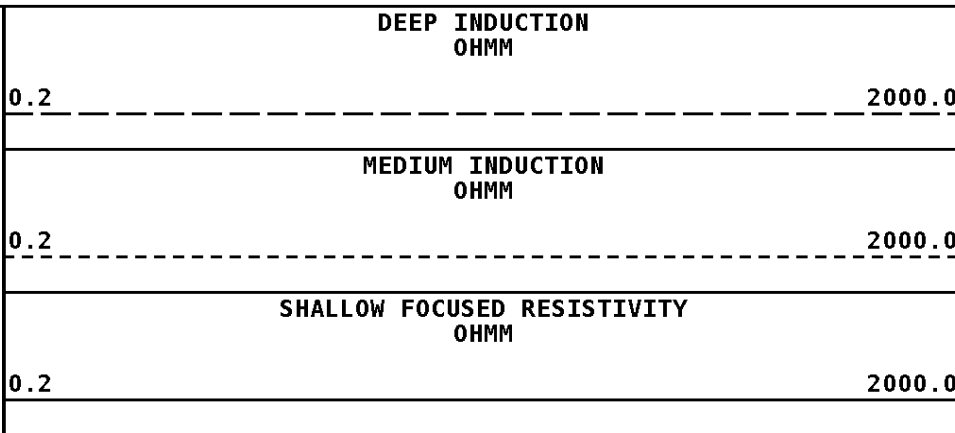
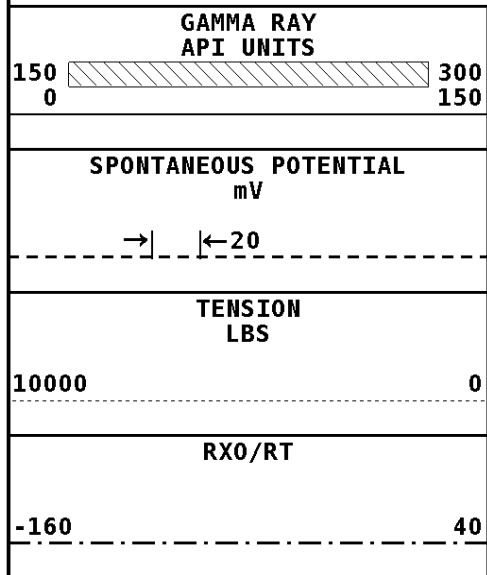
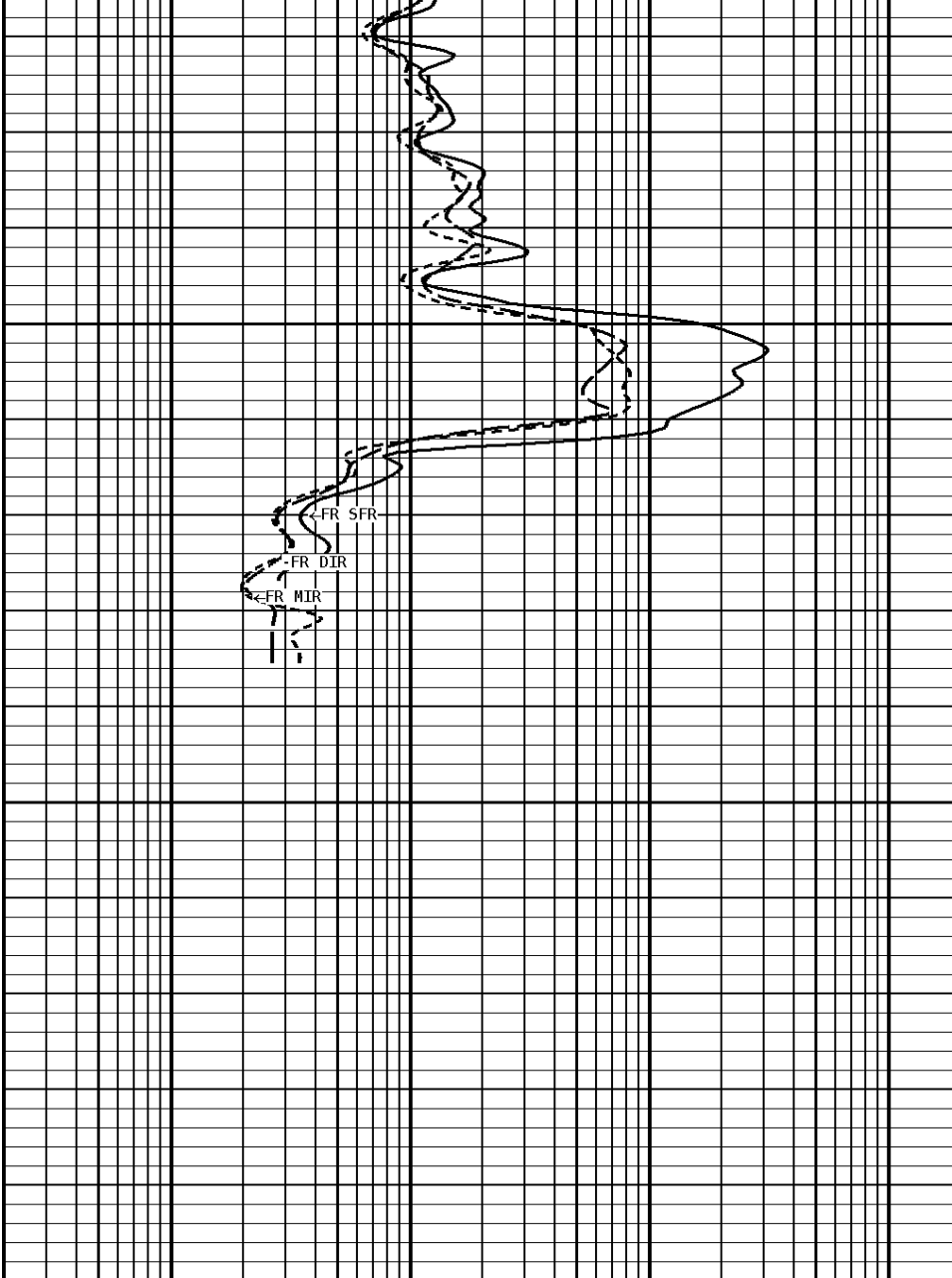


4900

4942

File #4.1.6

1:240 MAIN SECTION



* Borehole Zone Factors *

Zone 1 - 00000.0 to 0.0 Feet

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size _____
 Resistivity Of Mud _____
 Resistivity Of Mud Temperature _____

7.875 in
 0.200 ohm/m
 55.00 degF

Well File: LB_EXPOR_STRONG_1_JAN17_QST-SGT

Scale: 1:240

Segment: V4.D1.S7 DS RE

Acquired: 2012-01/17 15:16 3.2.0-10367

Reference: 0

Processed: 2012-01/17 15:16 3.2.0-10367

RXO/RT

-160 40

TENSION
LBS

10000 0

SPONTANEOUS POTENTIAL
mV

→ | ← 20

GAMMA RAY
API UNITS

150 0 300 150

SHALLOW FOCUSED RESISTIVITY
OHMM

0.2 2000.0

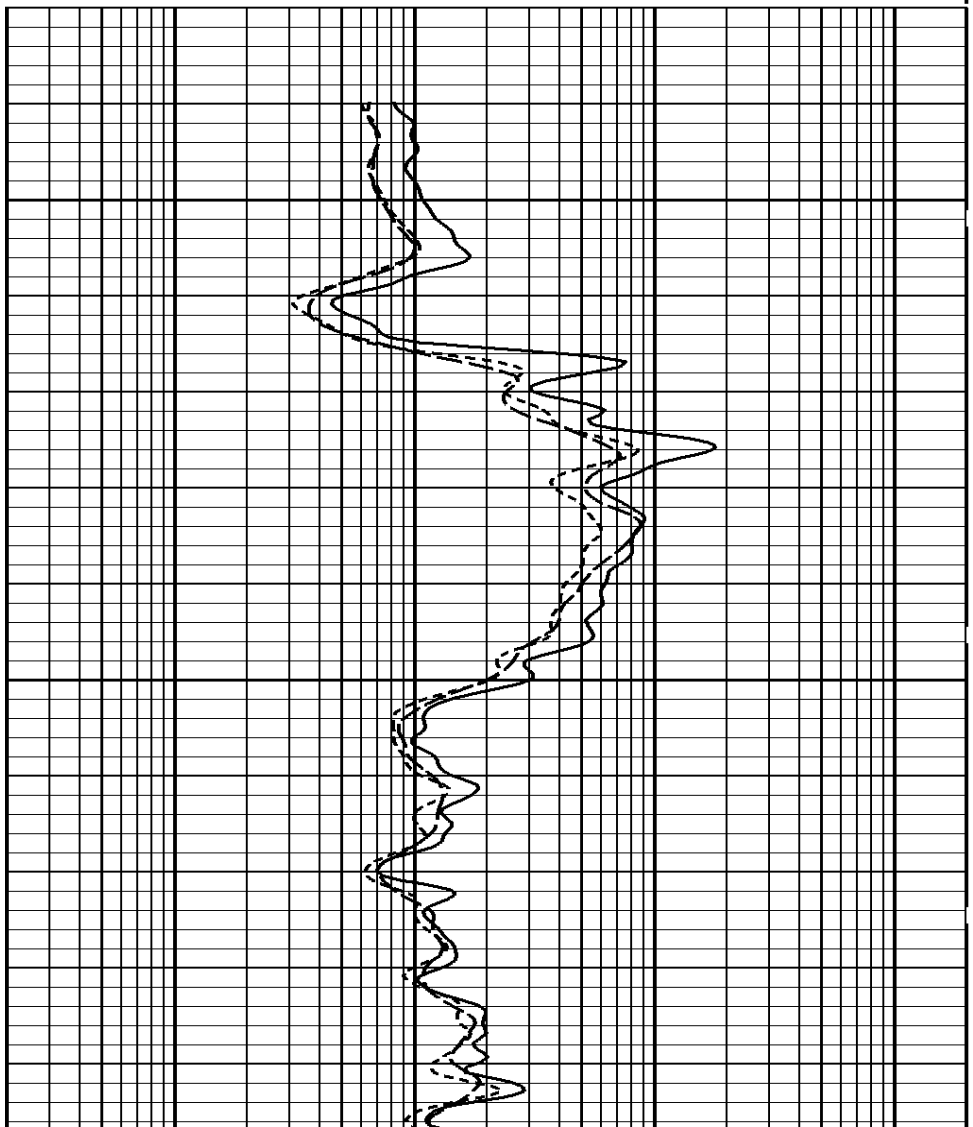
MEDIUM INDUCTION
OHMM

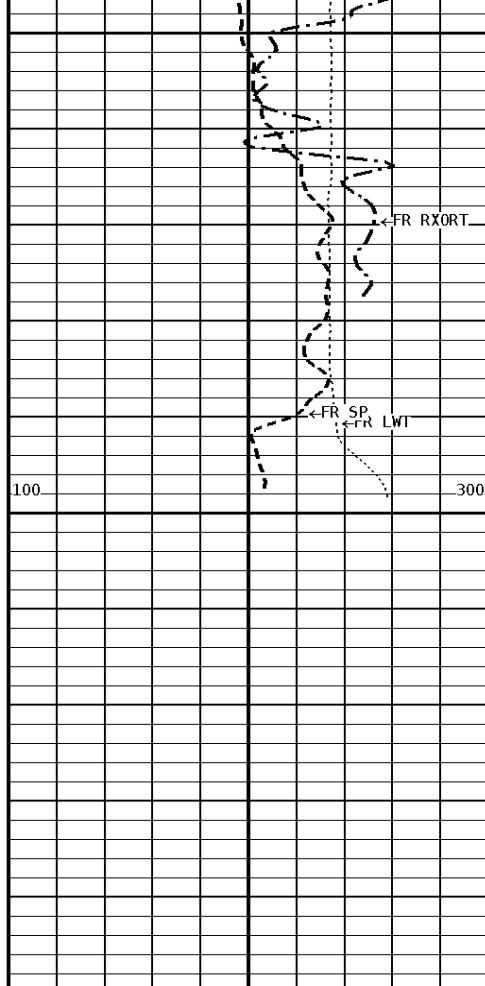
0.2 2000.0

DEEP INDUCTION
OHMM

0.2 2000.0

1:240 REPEAT SECTION

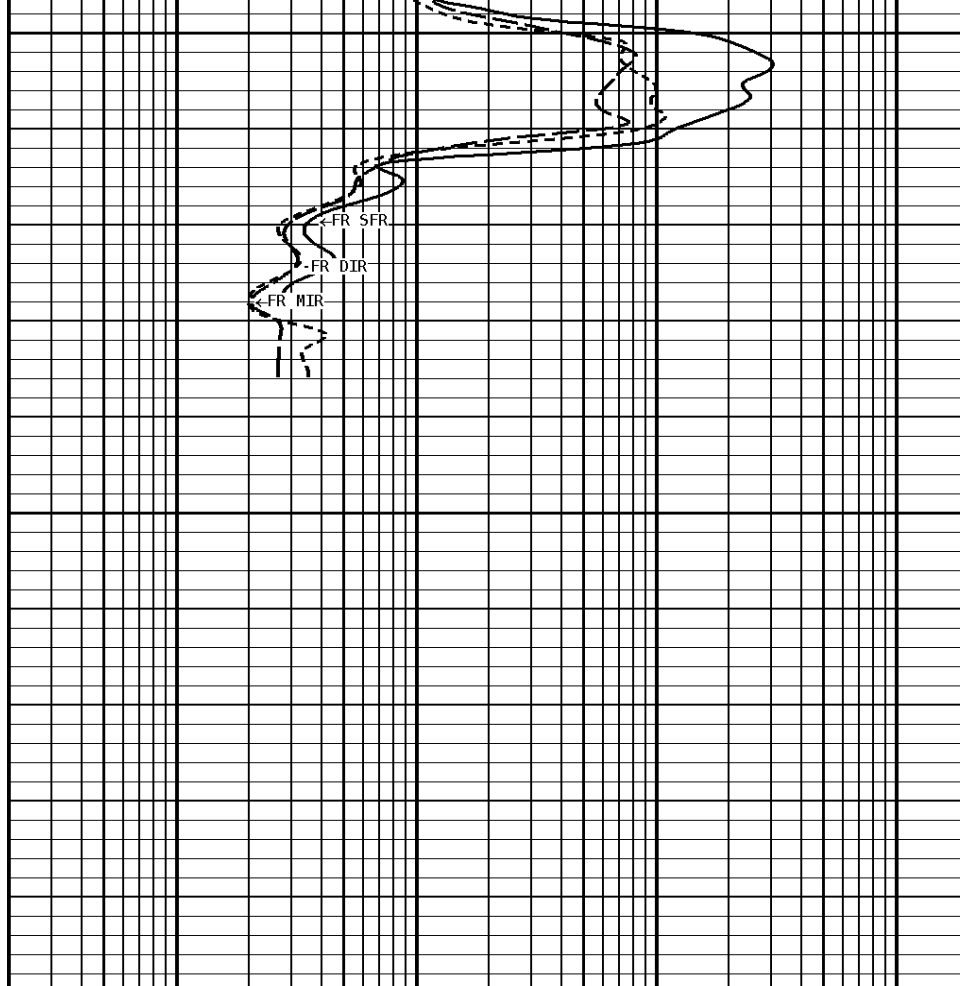




4900

4942

File #4.1.7



1:240 REPEAT SECTION

GAMMA RAY API UNITS	
150	300
0	150
SPONTANEOUS POTENTIAL mV	
→	←20
TENSION LBS	
10000	0
RXO/RT	
-160	40

DEEP INDUCTION OHMM	
0.2	2000.0
MEDIUM INDUCTION OHMM	
0.2	2000.0
SHALLOW FOCUSED RESISTIVITY OHMM	
0.2	2000.0

* Borehole Zone Factors *

Zone 1		99999.0	to	0.0	Feet
Drill Bit Size		7.875 in			
Resistivity Of Mud		0.200 ohm/m			
Resistivity Of Mud Temperature		55.00 degF			

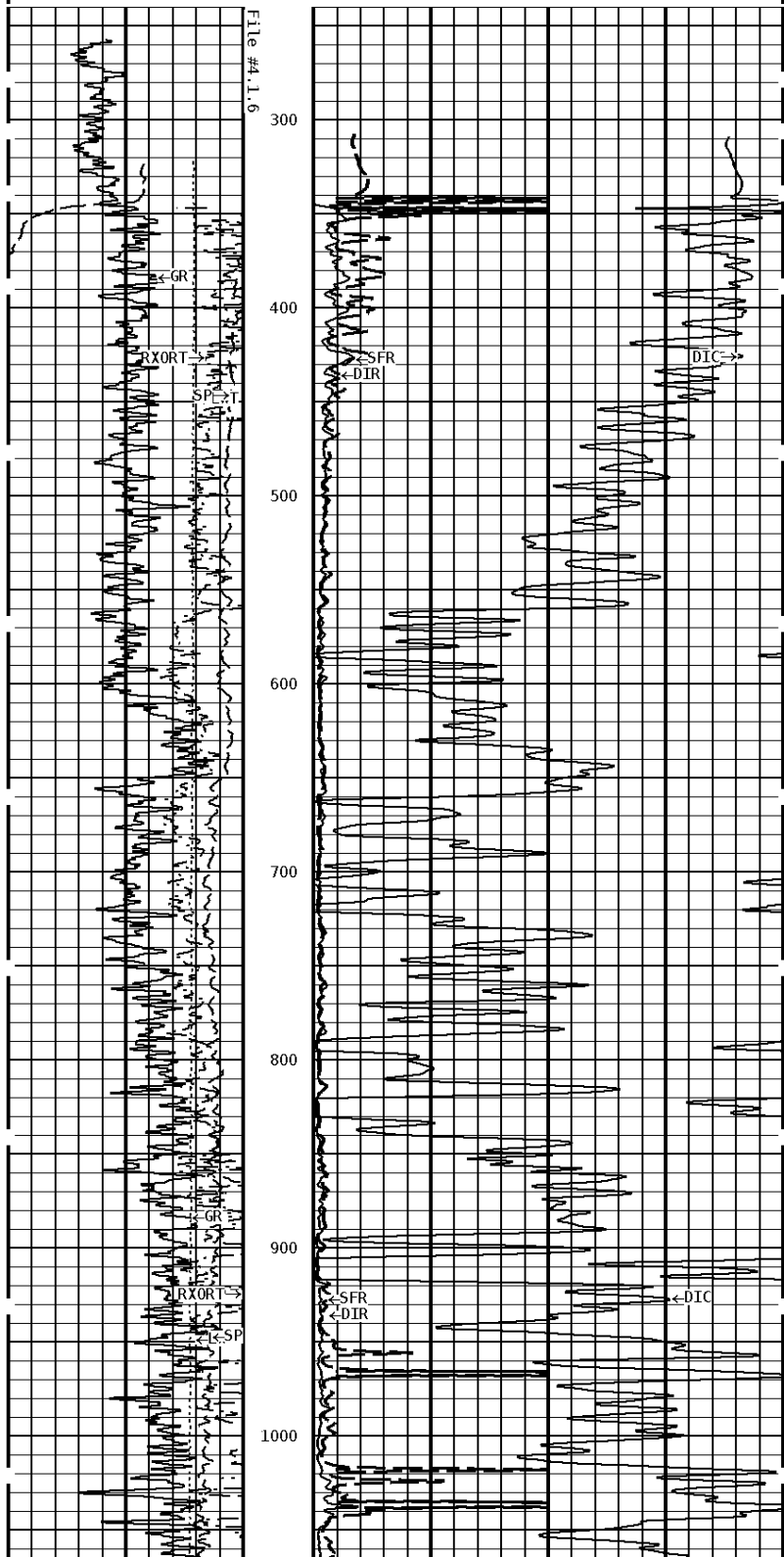
Well File: LB_EXPOR STRONG_1_JAN17_QST-SGT			Scale:	1:1200
Segment: V4.D1.S6 DS MN			Acquired:	2012-01/17 15:45 3.2.0-10367
Reference: 0			Processed:	2012-01/17 18:19 3.2.0-10367

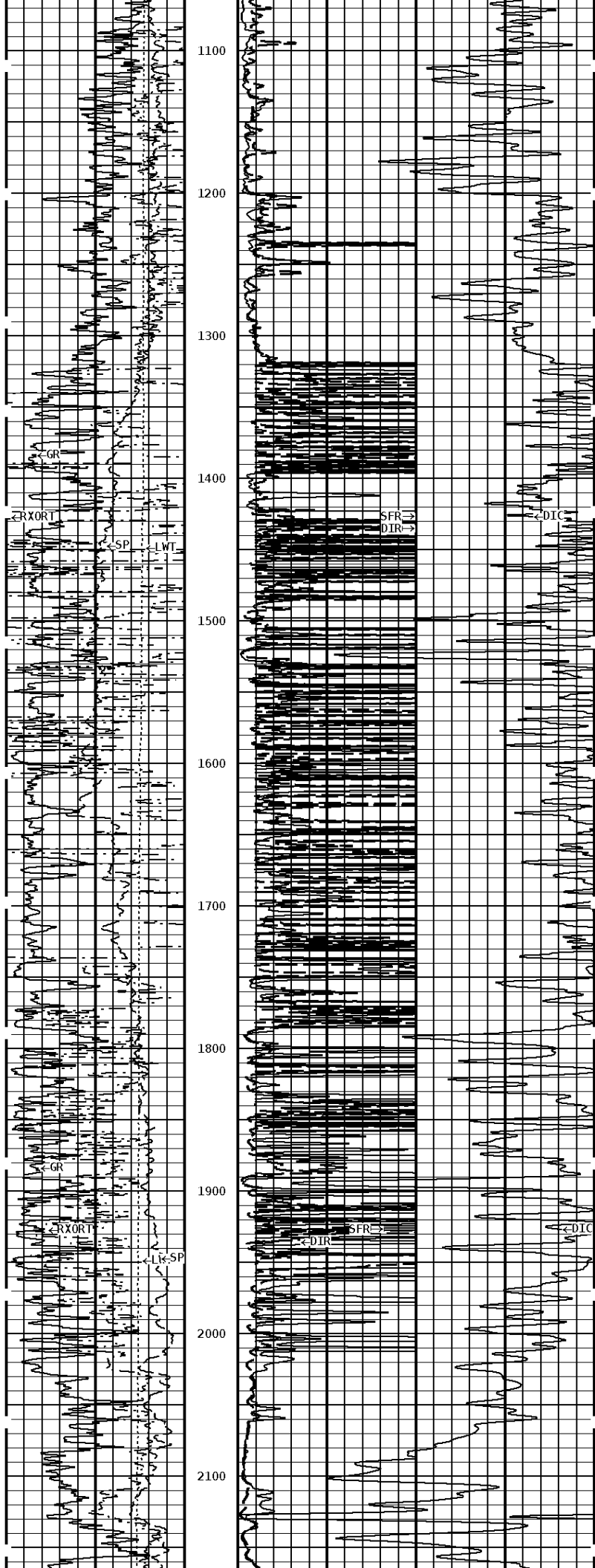
RXO/RT

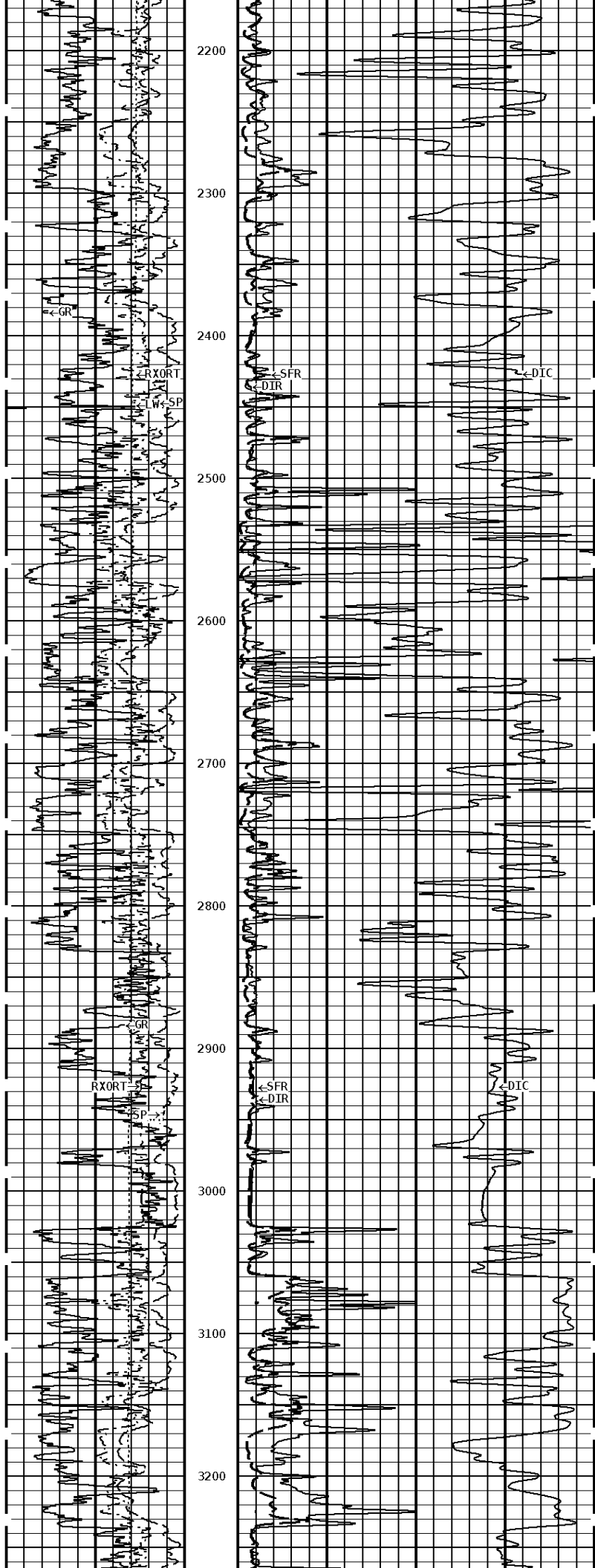
-160		40	
TENSION LBS			
10000		0	
SPONTANEOUS POTENTIAL mV			
→		← 20	
GAMMA RAY API UNITS			
150		300	
0		150	

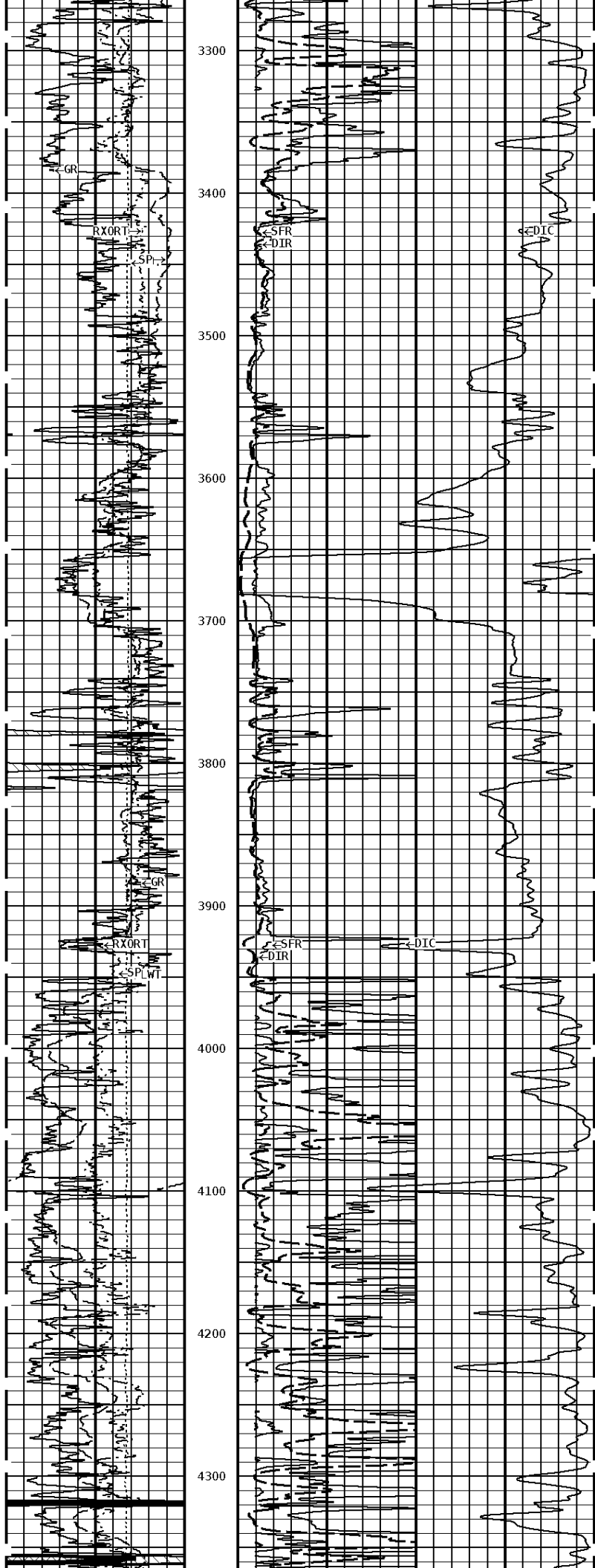
DEEP INDUCTION OHMM			
0.0		500.0	
0.0		50.0	
SHALLOW FOCUSED OHMM			
0.0		500.0	
0.0		50.0	
DEEP CONDUCTIVITY MHMO			
2000		1000	
1000		0	

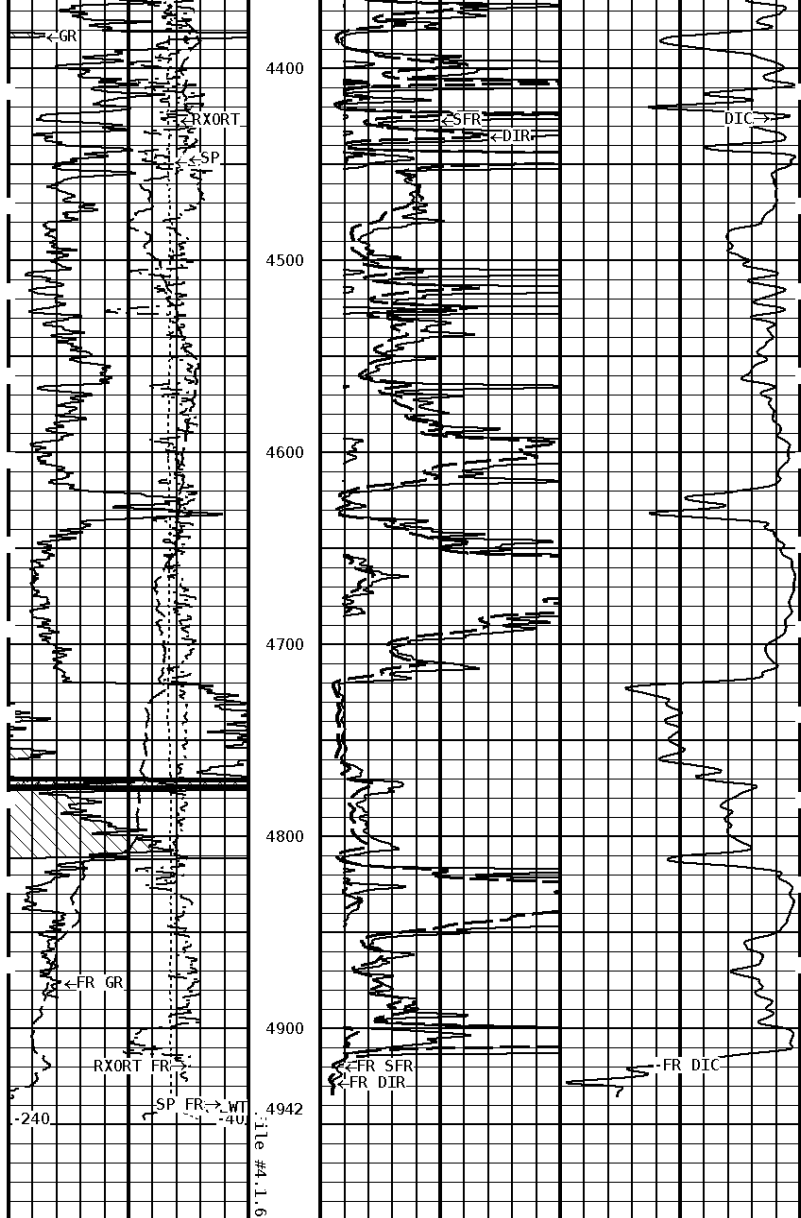
1:1200 MAIN SECTION











1:1200 MAIN SECTION

GAMMA RAY API UNITS 150 0 300 150	
SPONTANEOUS POTENTIAL mV → ← 20	
TENSION LBS 10000 0	
RXO/RT -160 40	

DEEP CONDUCTIVITY HHHO 2000 1000 1000 0	
SHALLOW FOCUSED OHMM 0.0 500.0 0.0 50.0	
DEEP INDUCTION OHMM 0.0 500.0 0.0 50.0	