

Tucker

ENERGY SERVICES

PHASED INDUCTION

SHALLOW FOCUS SP LOG

Company McGOWAN OIL COMPANY Well CHRISTENSON #2-4		File No : TUL-57170 Company : MCGOWAN OIL COMPANY Field : CHRISTENSON #2-4 Country : USA State : KANSAS County : KANSAS API No : 35-035-24485	
Location : 1260' FNL & 1100' FEL SW SW NE NE		LSD : Sect : Twp : Rge :	
Permanent Datum:	GL	Elevations:	Services:
Drilling Measured From:	KB	KB 1202.00	CNT
Log Measured From:	KB	DF 1201.00	PIT
Above Permanent Datum:	5.00 Ft	GL 1197.00	MLT
Date	2012-10-06		
Run Number	1		
Depth--Driller	3250.0	Ft	
Depth--Logger	3250.0	Ft	
First Reading	3249.0	Ft	
Last Reading	220.0	Ft	
Casing--Driller	220.0	Ft	
Casing--Logger	220.0	Ft	
Bit Size	7.875	In	
Casing Size	8.625	In	
Hole Fluid Type	WBM		
Density	9.3	LBS/GAL	
Fluid Loss	10.6	CC	
PH/Viscosity	9.0	47.0 SEC	
Sample Source	MEASURED		
RM@Measured Temp.	1.400 @ 55 F		
RMF@Measured Temp	1.190 @ 55 F		
RMC@Measured Temp.	1.610 @ 55 F		
Source RMF/RMC	CALCULATED/CALCULATED		
RM@BHT	0.680 @ 120 F		
Time Circulation Stopped			
Max Recorded Temp.	120	F	
Equipment/Base	TRUCK 119	TULSA	
Recorded By	S. DAVIS		
Witnessed By	D. MCGOWAN		

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)
7.875	3250.00	8.625	20.00	220.00

Run Number	1	
Date	2012-10-06	
Date/Time On Bottom	2012-10-06 03:00	
Depth to Fluid	0.0 Ft	
Salinity	1400.000 PPM	
RMF@BHT	0.580 @ 120 F	
RMC@BHT	0.780 @ 120 F	

Run Number 1

Comments

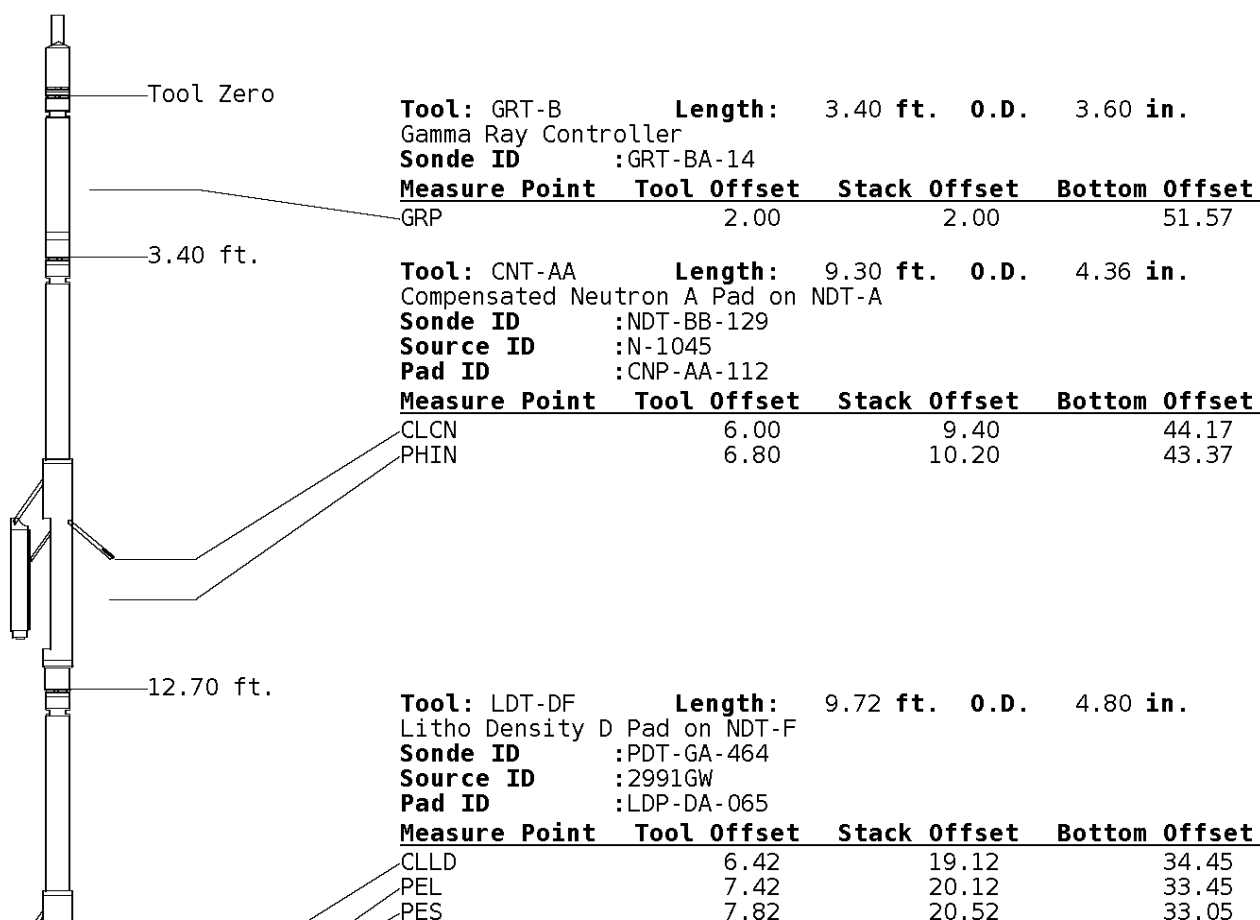
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 5.50" PRODUCTION CASING.
 PHIN IS CALIPER CORRECTED.

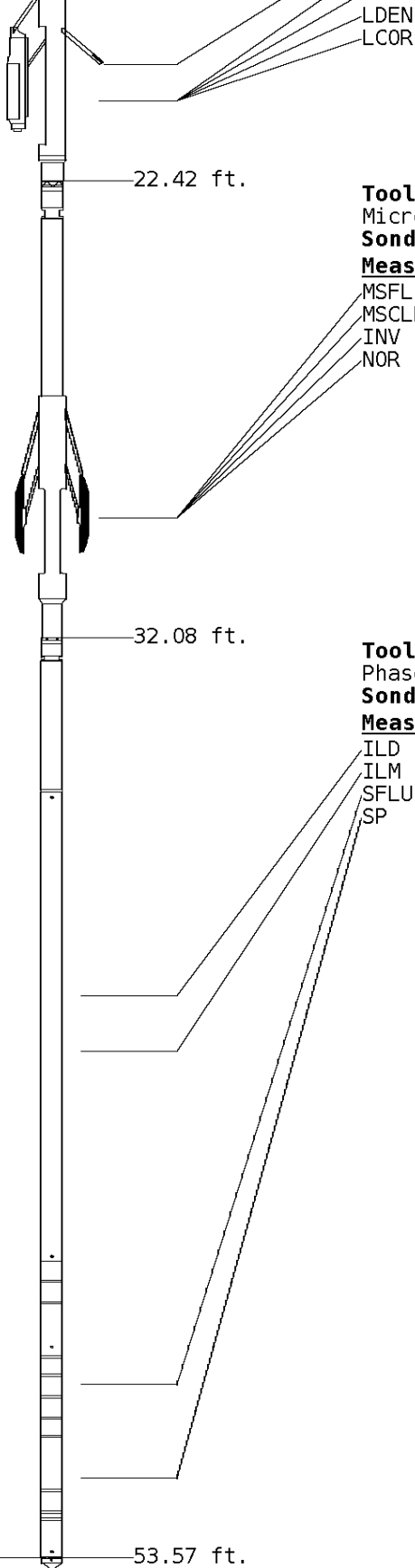
GRT: GRP.
 CNT: PHINLS, CLCNIN.
 LDT: PORLLS, LCORN, PECLN, LDENN, CLLDIN.
 MLT: NOR_RF, INV_RF, MSCLPIN.
 PIT: ILD, ILM, SPU, CIRD, SFLAEC.

OPERATORS:
 B. COLWILL
 M. RUBY

Tool String Schematic

Total Tool Length - 53.57 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 943.00 lbs.





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	30.02	23.55
MSCLP	7.60	30.02	23.55
INV	7.60	30.02	23.55
NOR	7.60	30.02	23.55

Tool: PIT-CA Length: 21.49 ft. O.D. 3.62 in.
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AC-22

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	41.00	12.56
ILM	10.10	42.18	11.39
SFLU	17.49	49.57	4.00
SP	20.60	52.68	0.88

Well File: mcgow-chri-2-4-mtk-oct-6

Scale: 1:600

Segment: V1.D1.S5 MN

Acquired: 2012-10/06 03:16 3.2.0-11172

Reference: 0

Processed: 2012-10/06 04:34 3.2.0-11172

TENSION
LBS

10000

0

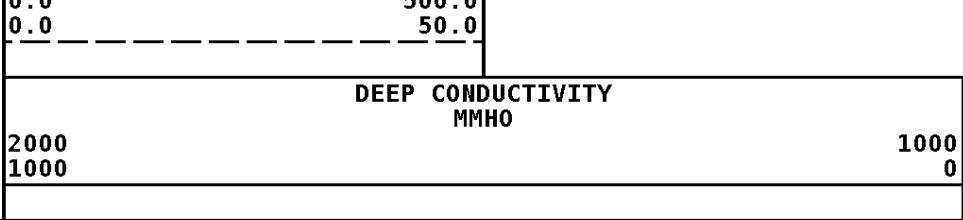
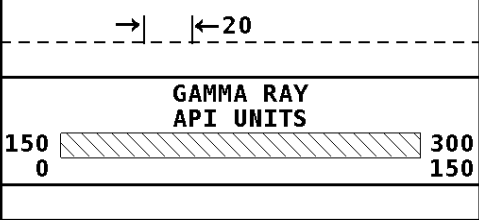
SHALLOW FOCUSED RESISTIVITY
OHMM

0.0 500.0
0.0 50.0

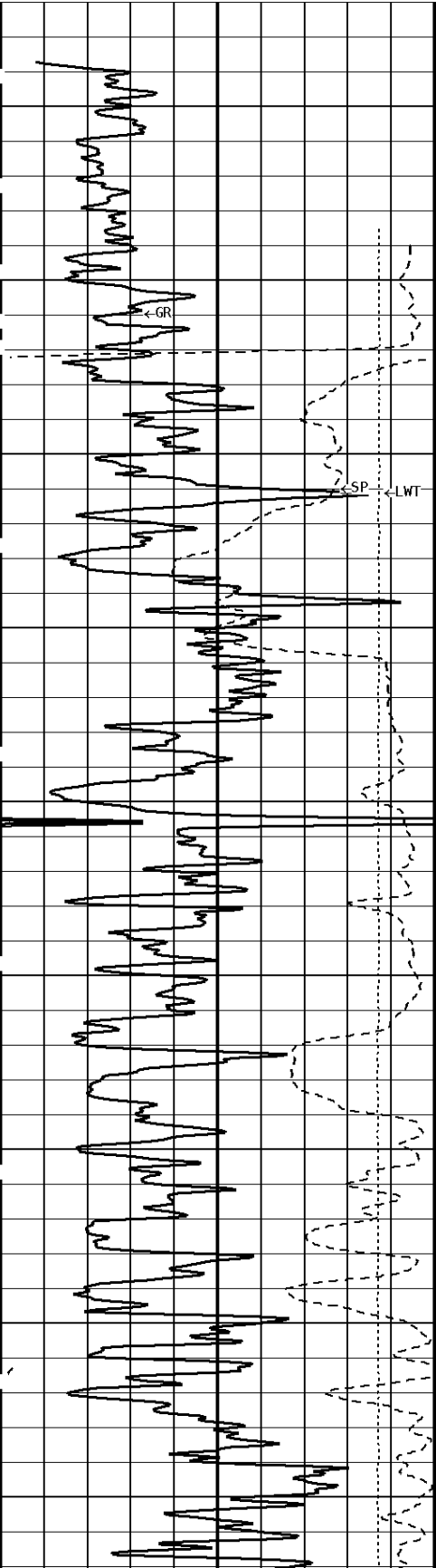
SPONTANEOUS POTENTIAL
mV

DEEP INDUCTION
OHMM

0.0 500.0



1:600 SECTION

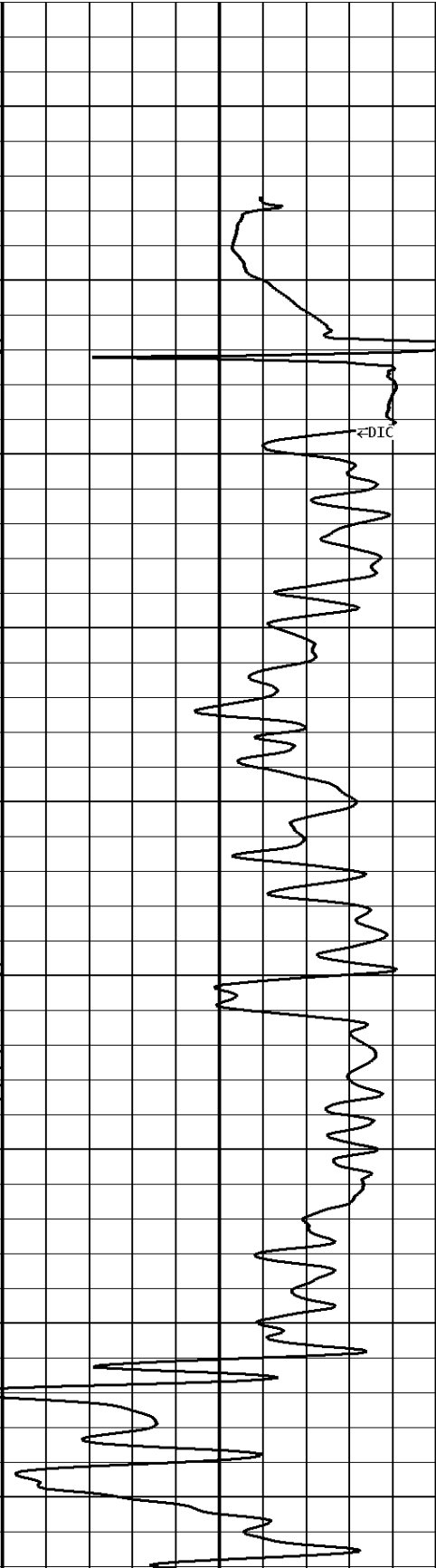
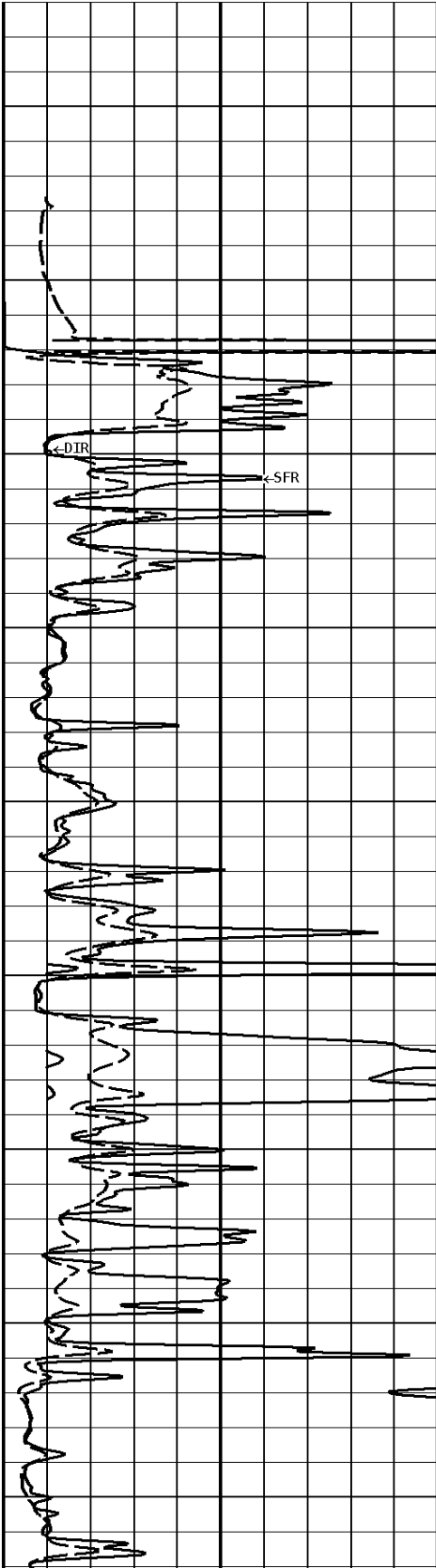


200

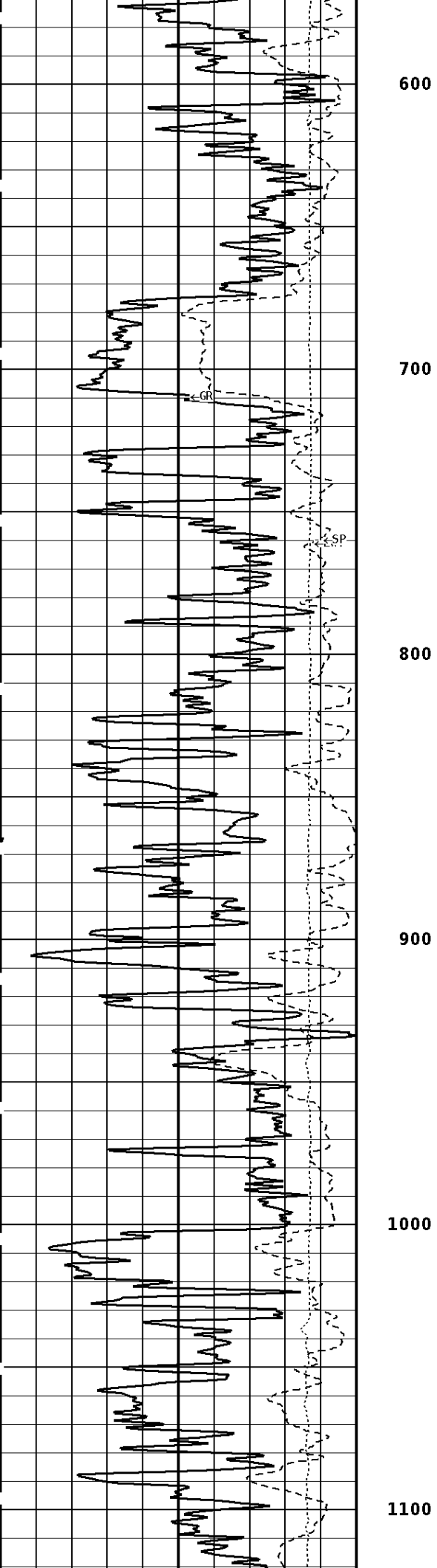
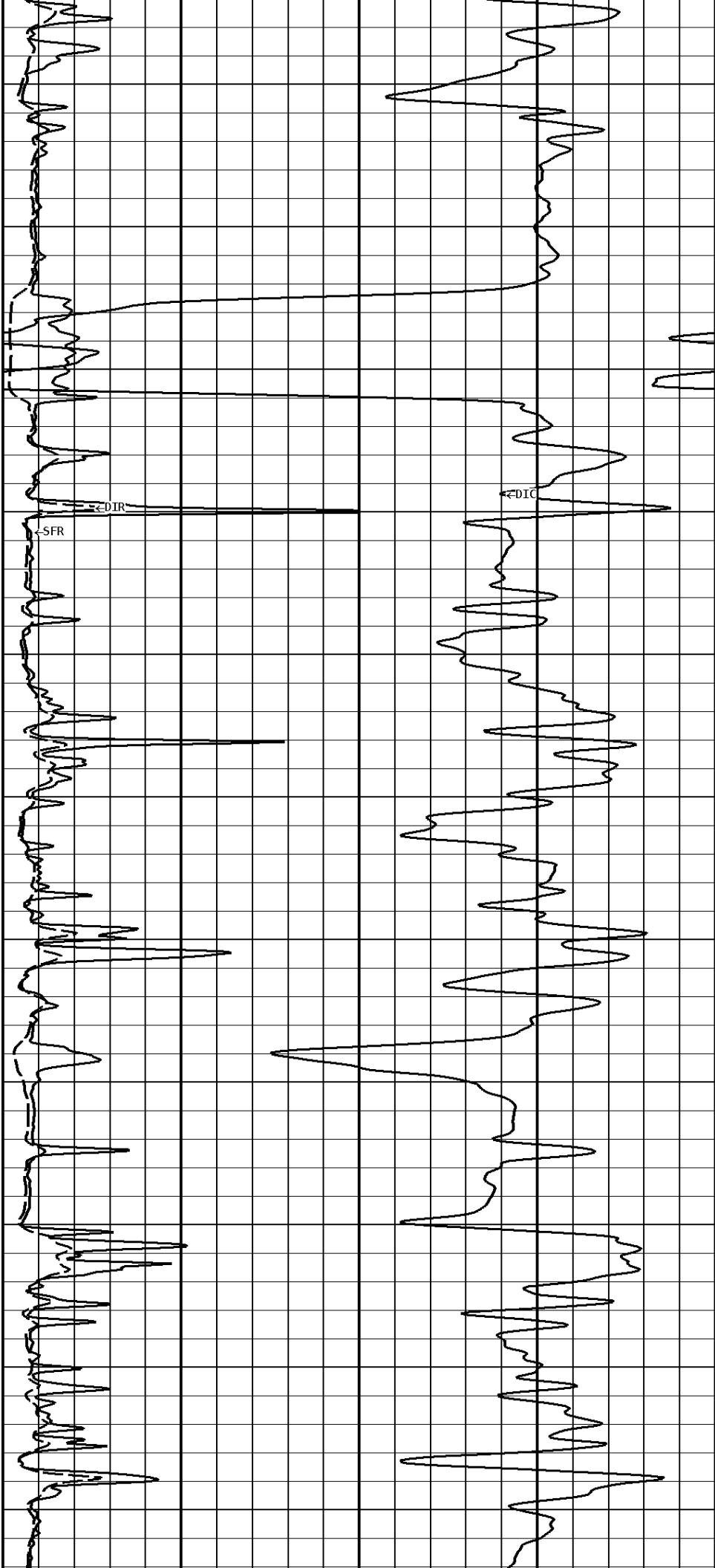
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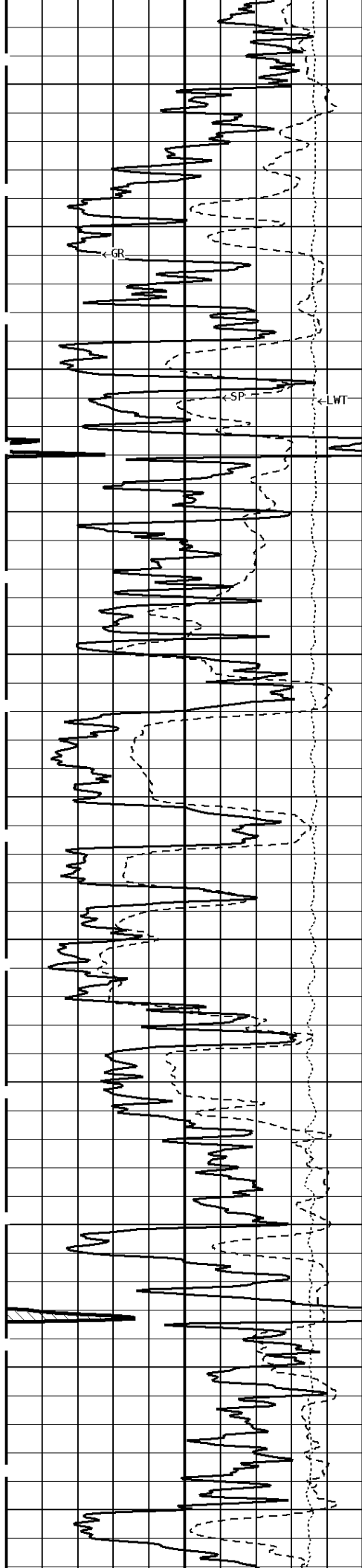
400

500



DIC





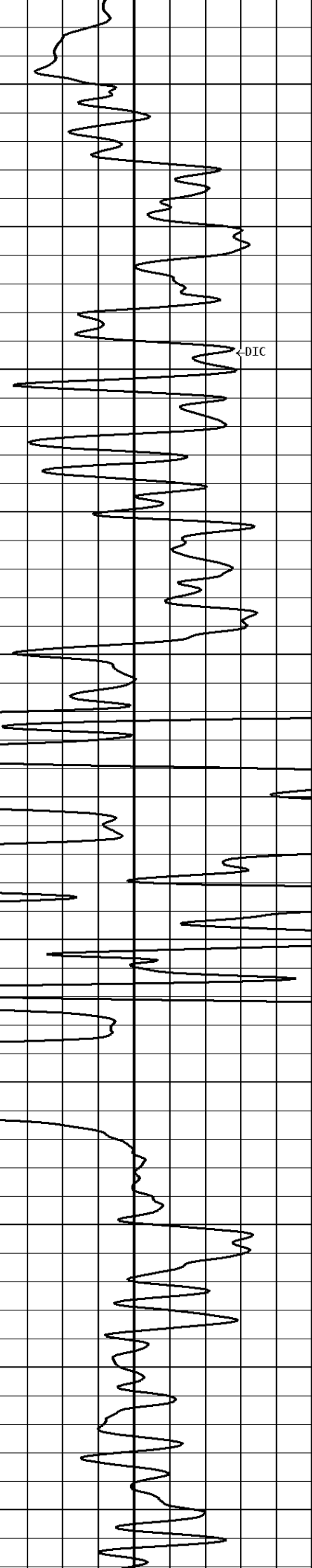
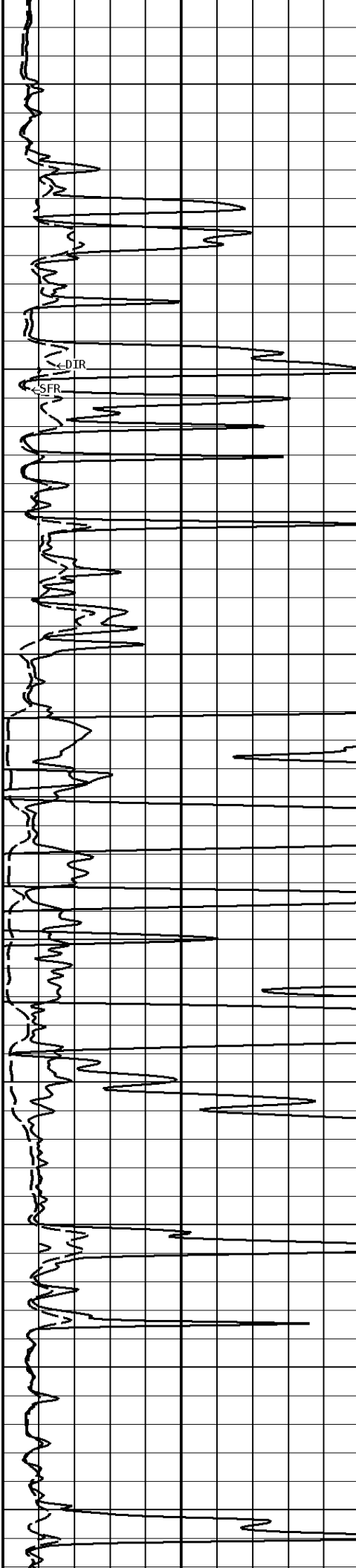
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1300

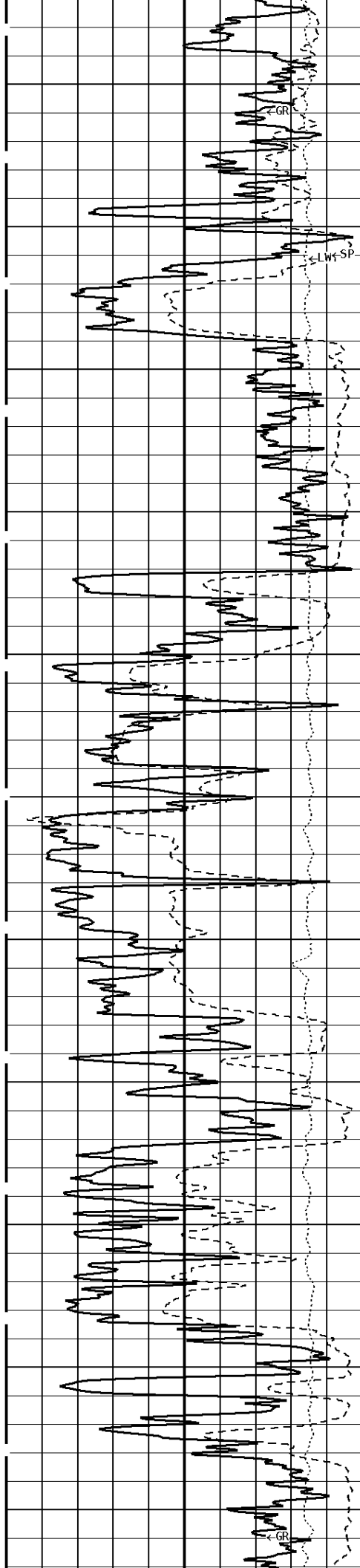
1400

1500

1600



DIC



1700

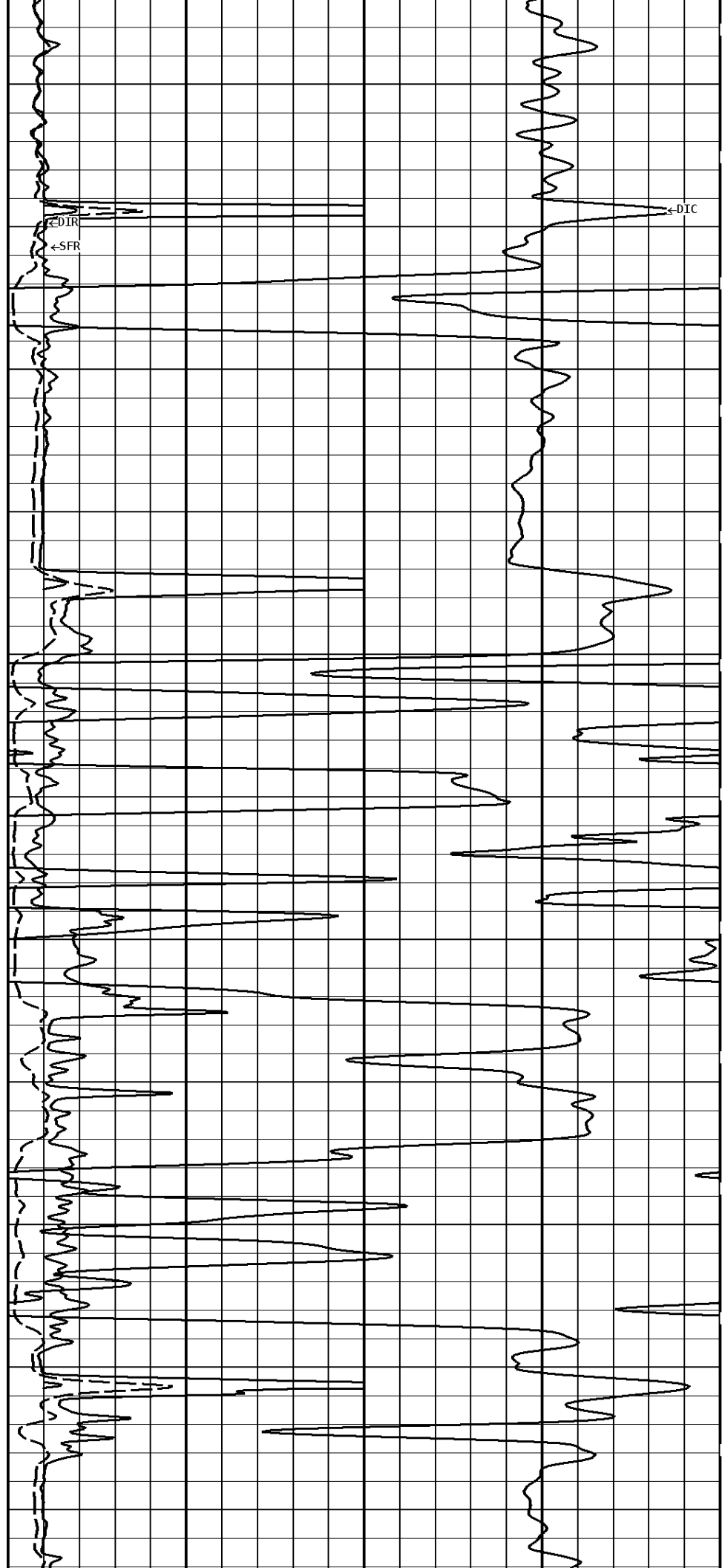
1800

1900

2000

2100

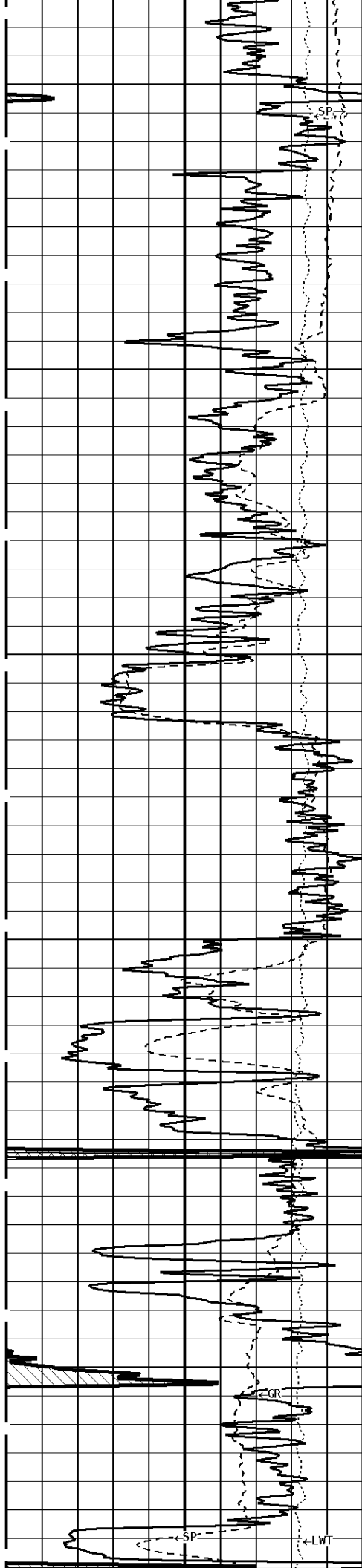
2200



←DIC

←DIR

←SFR



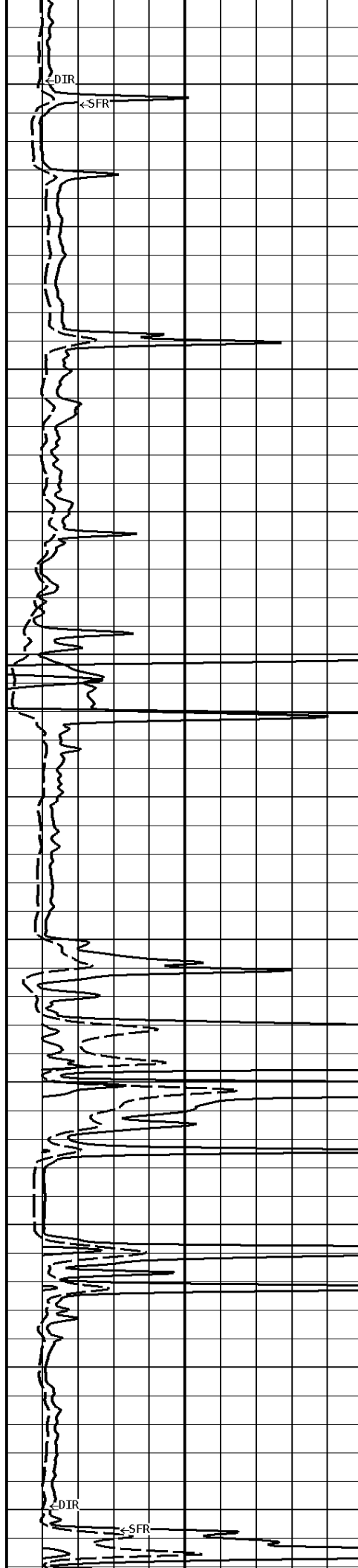
2300

2400

2500

2600

2700

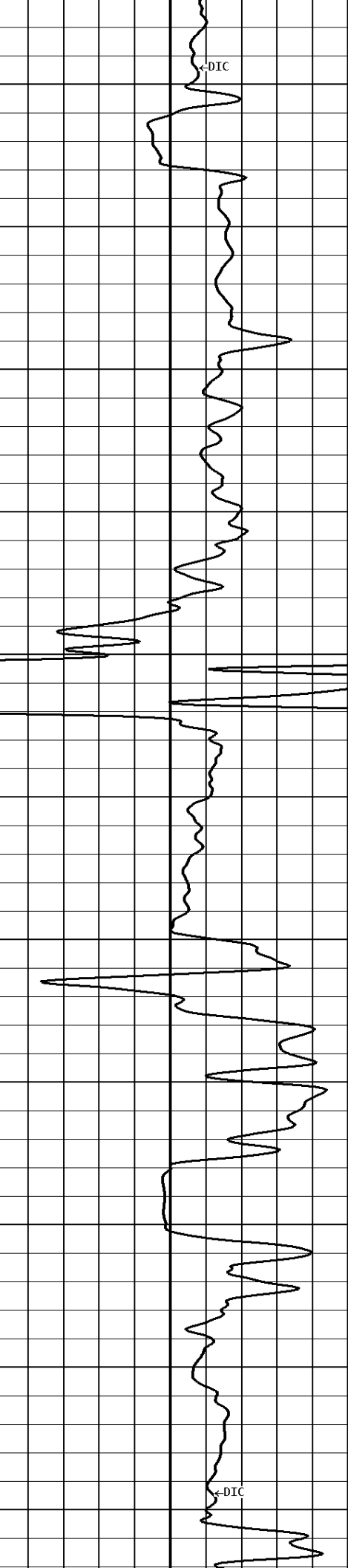


←DIR

←SFR

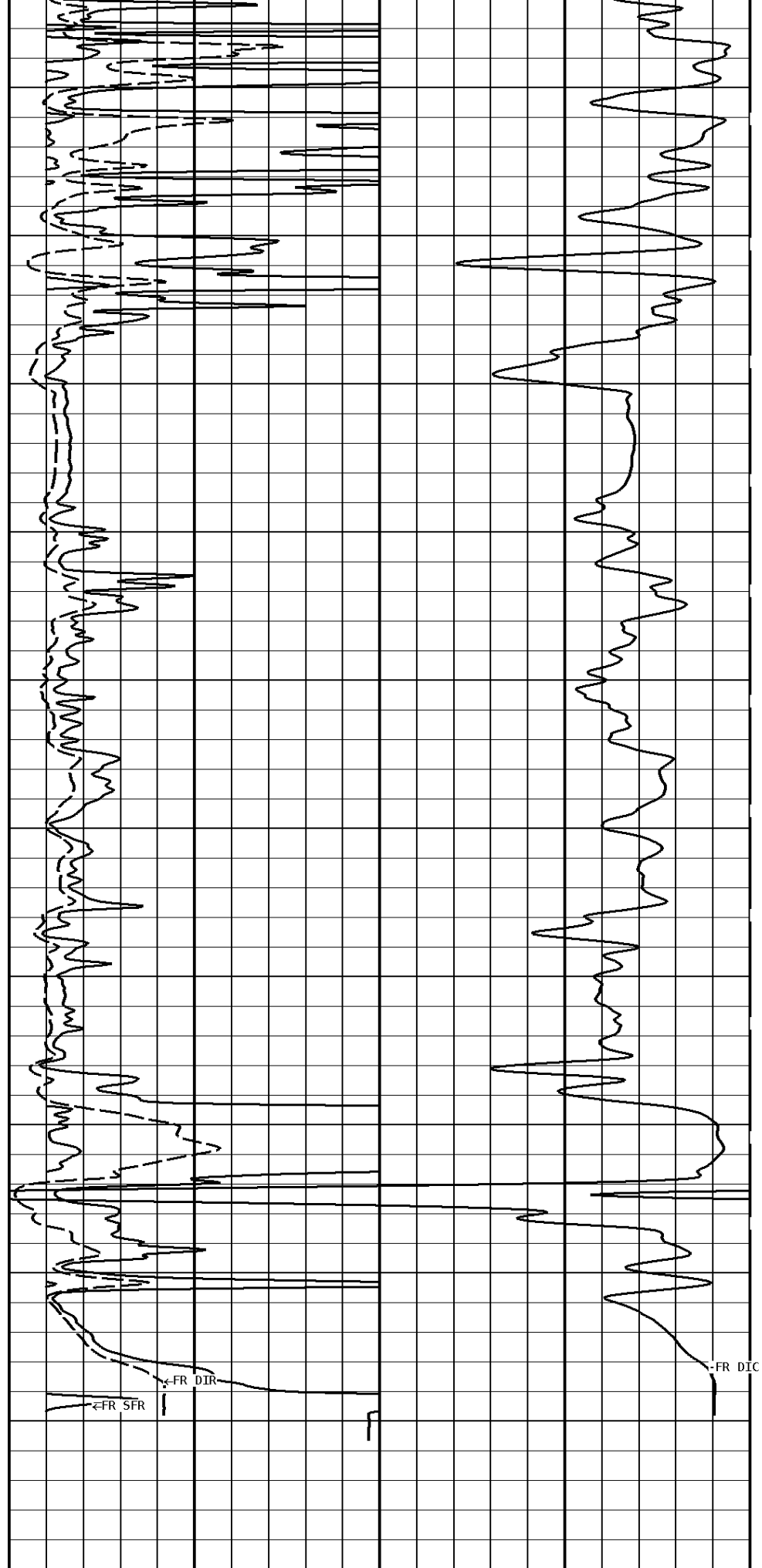
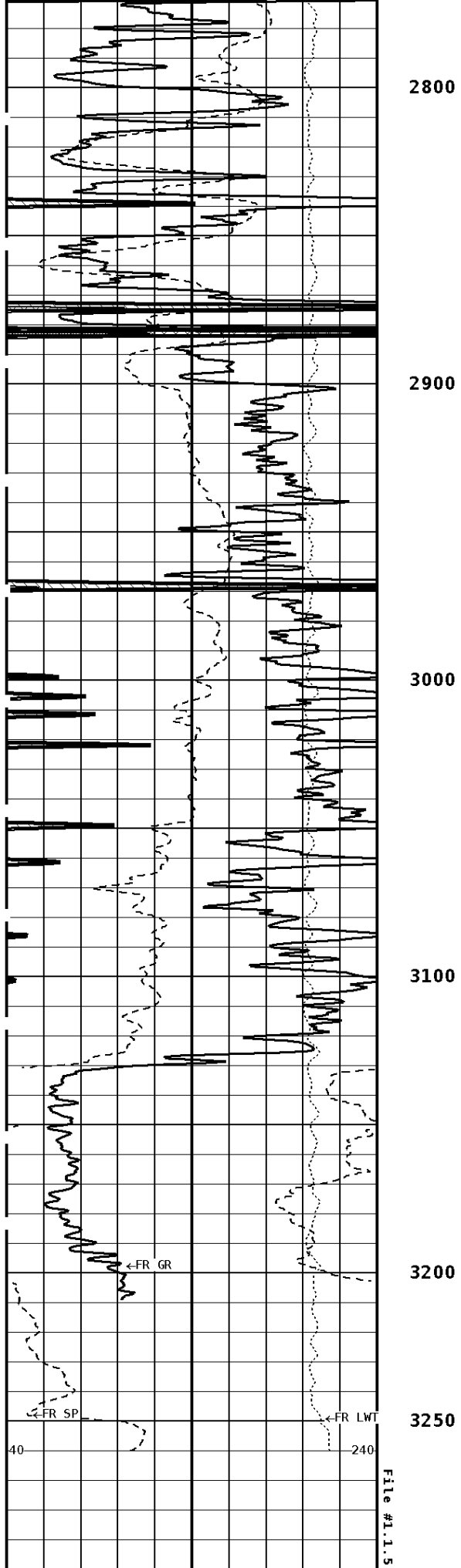
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←SFR

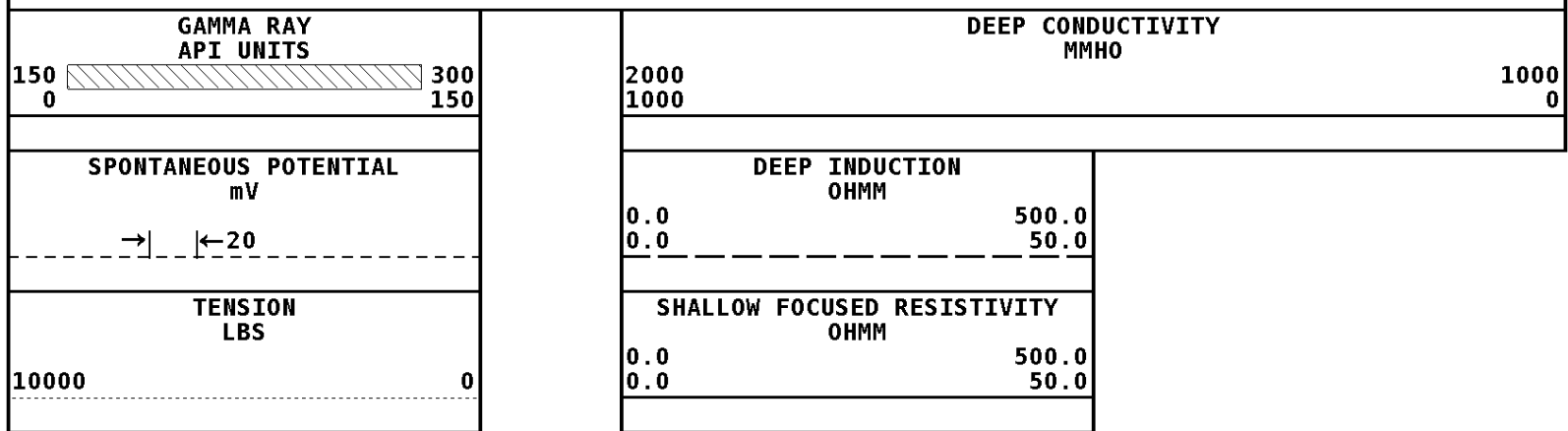


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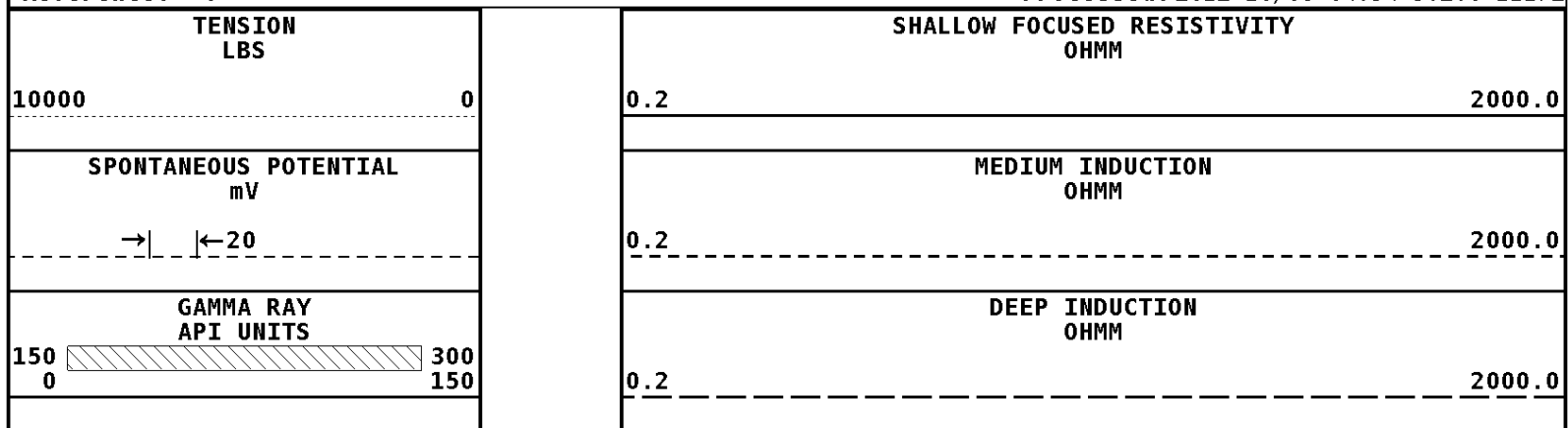
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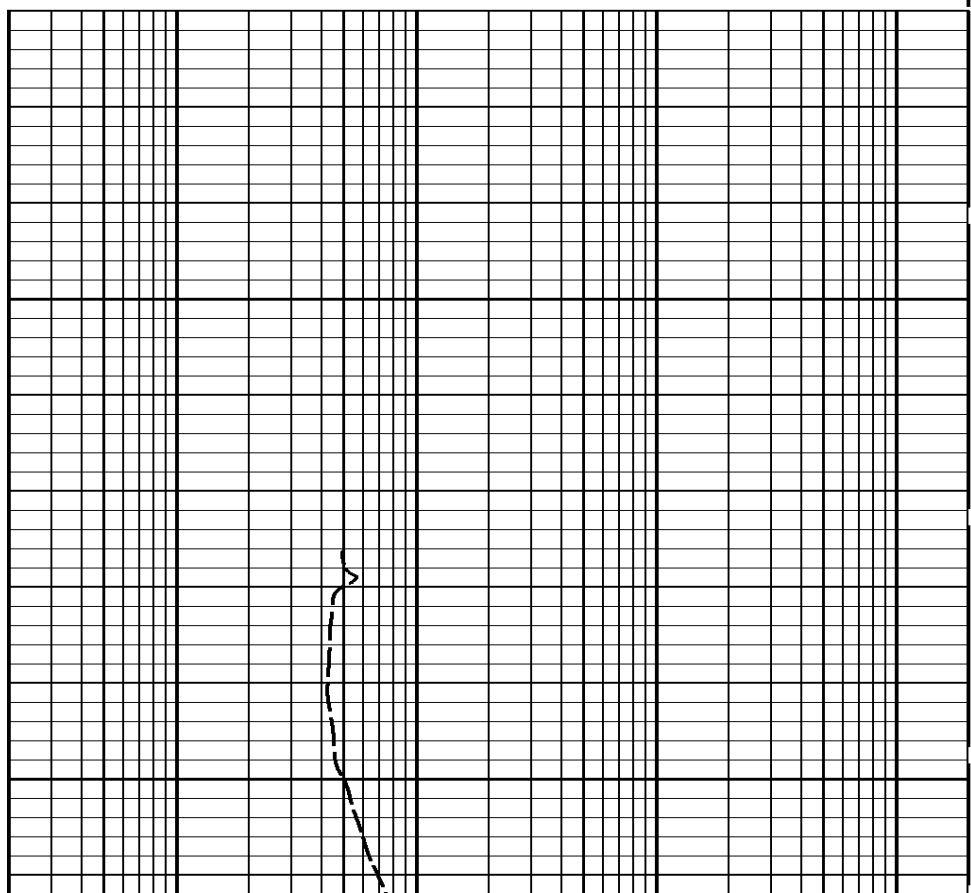
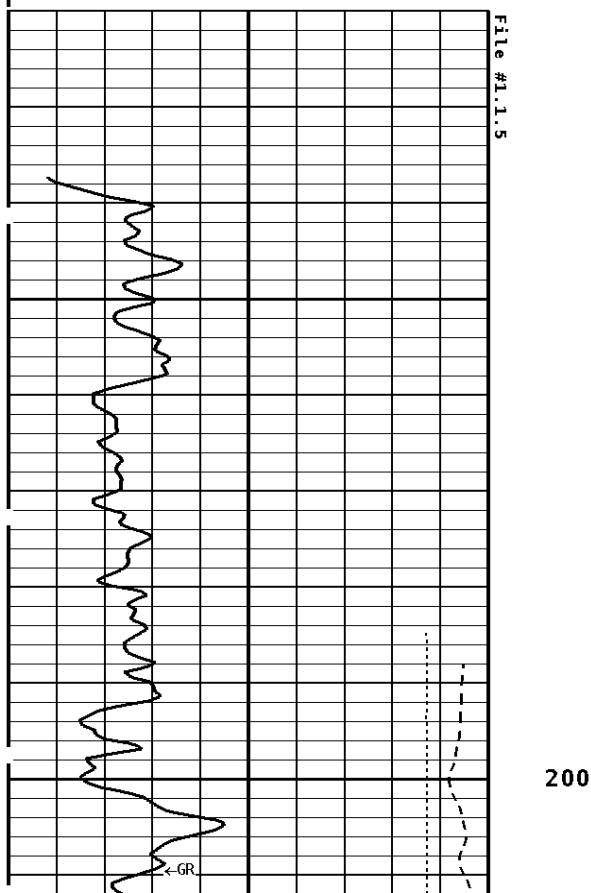
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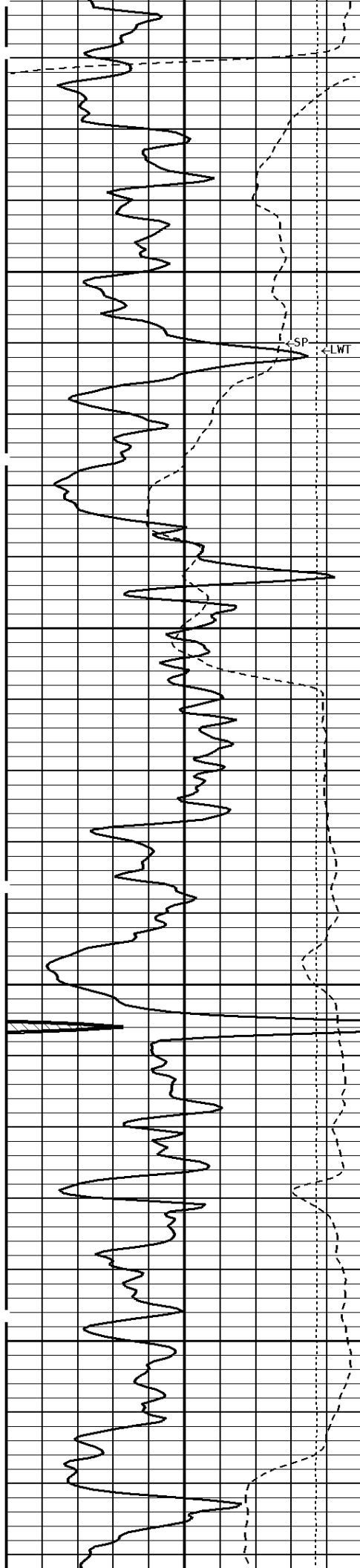


Well File: mcgow-chri-2-4-mtk-oct-6 Segment: V1.D1.S5 MN Reference: 0	Scale: 1:240 Acquired: 2012-10/06 03:16 3.2.0-11172 Processed: 2012-10/06 04:34 3.2.0-11172
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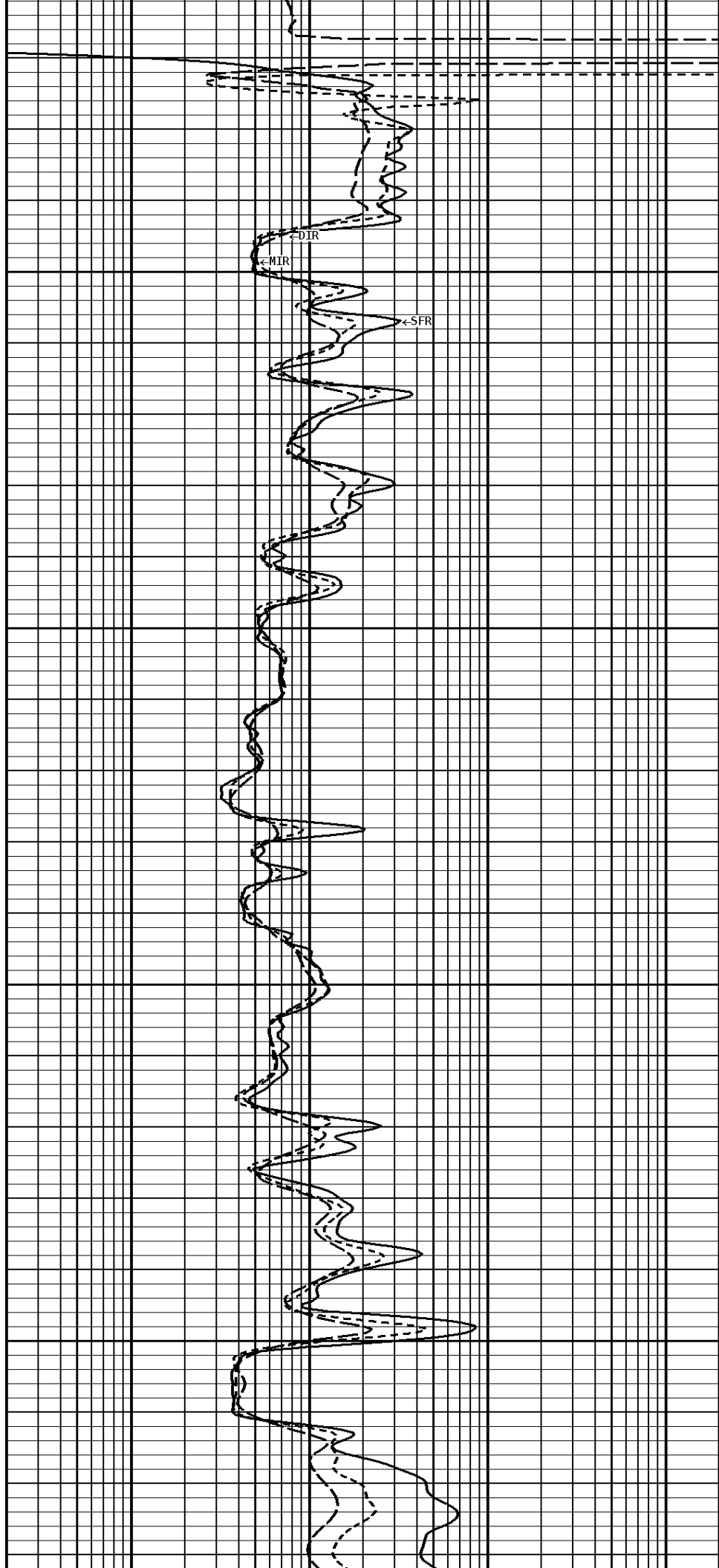
1:240 MAIN SECTION

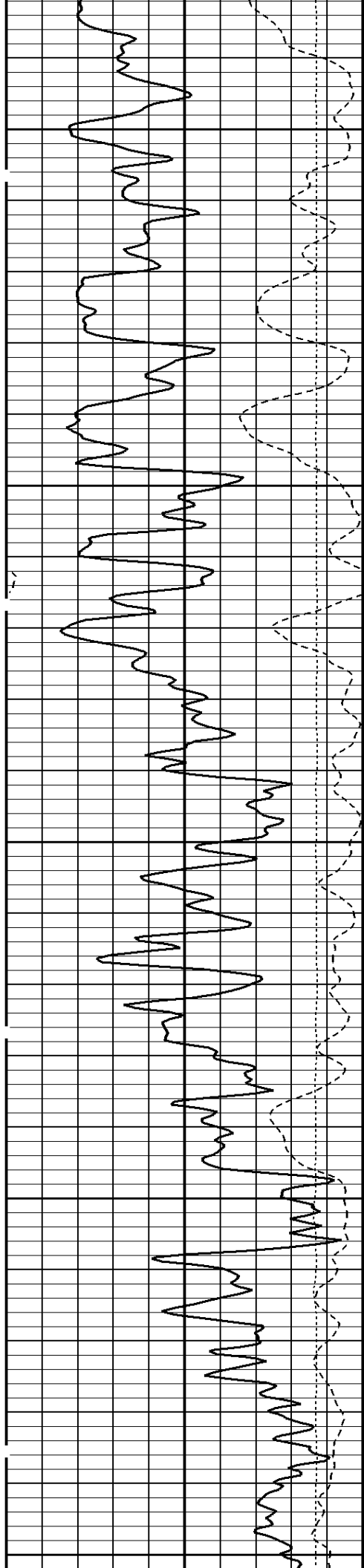




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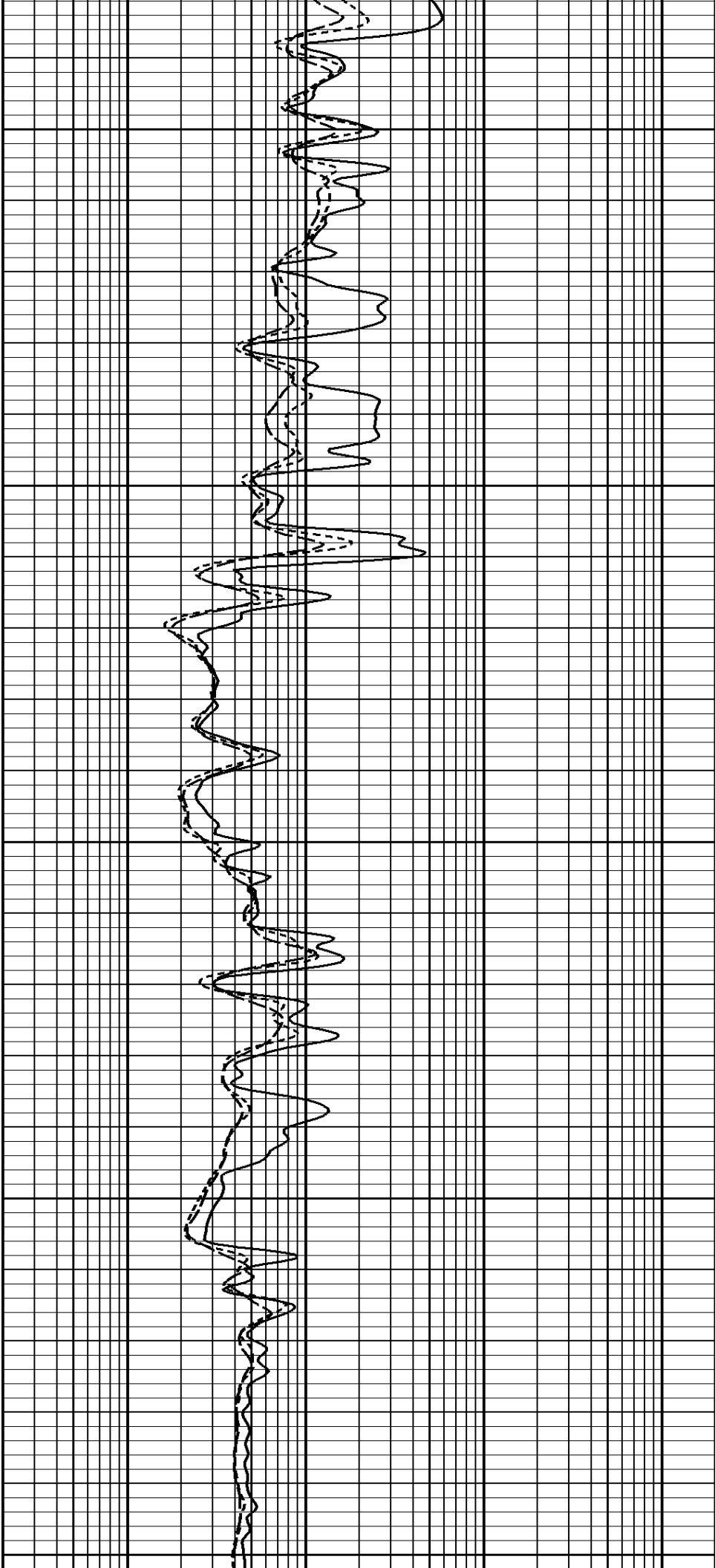
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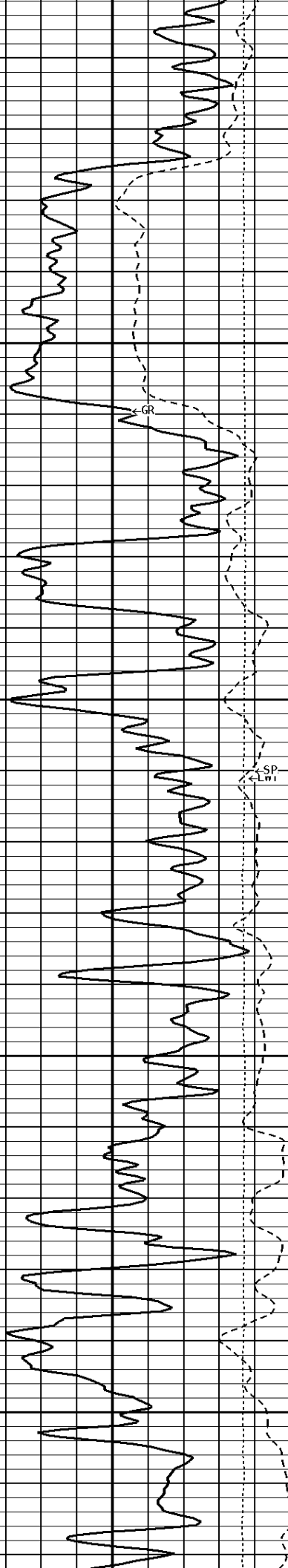




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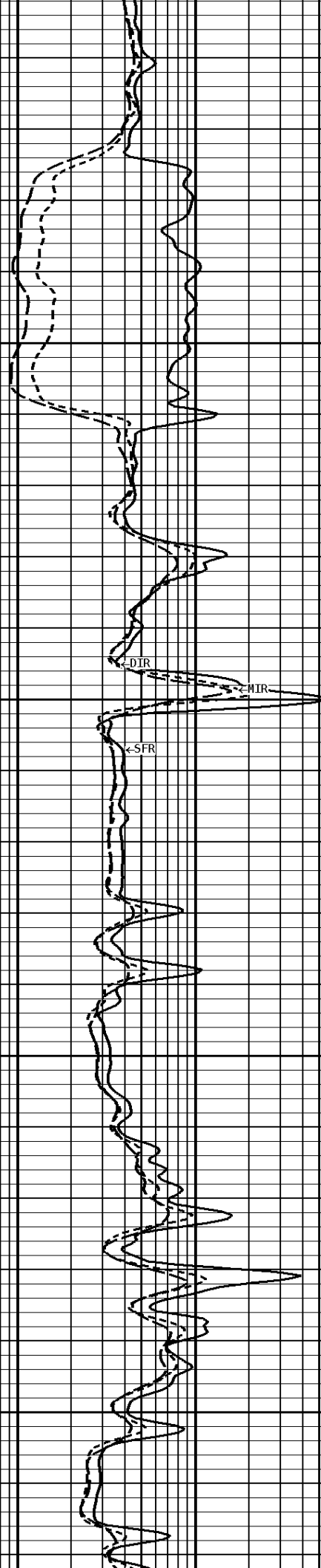
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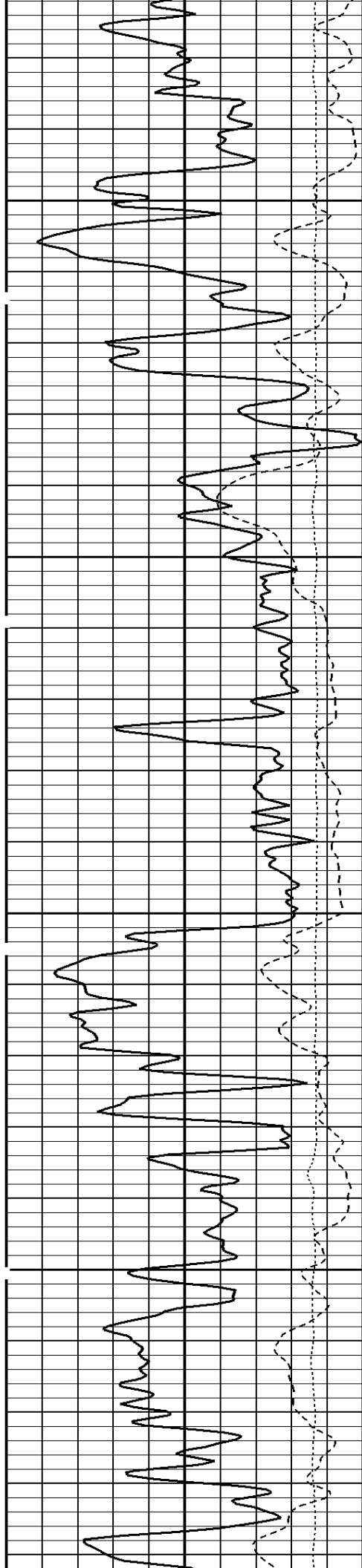




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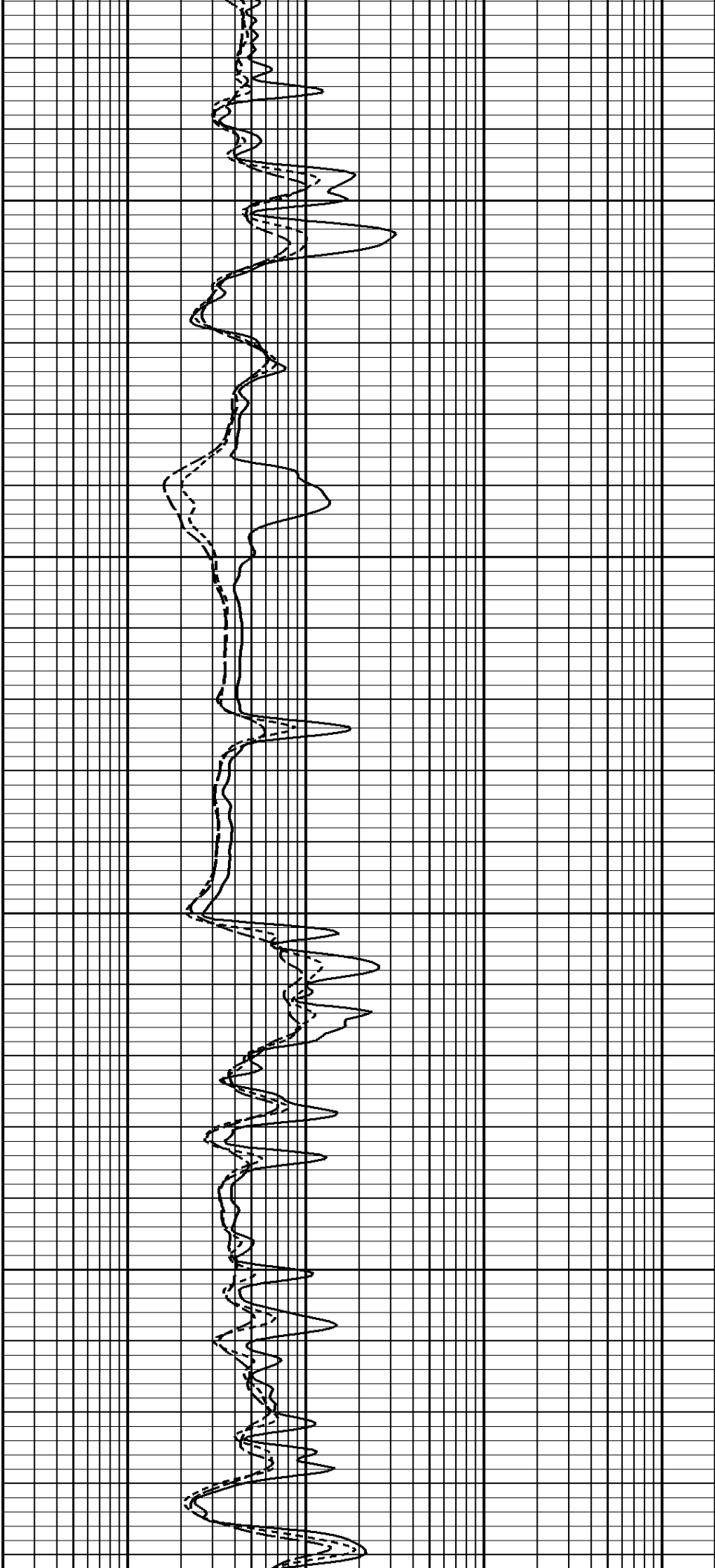
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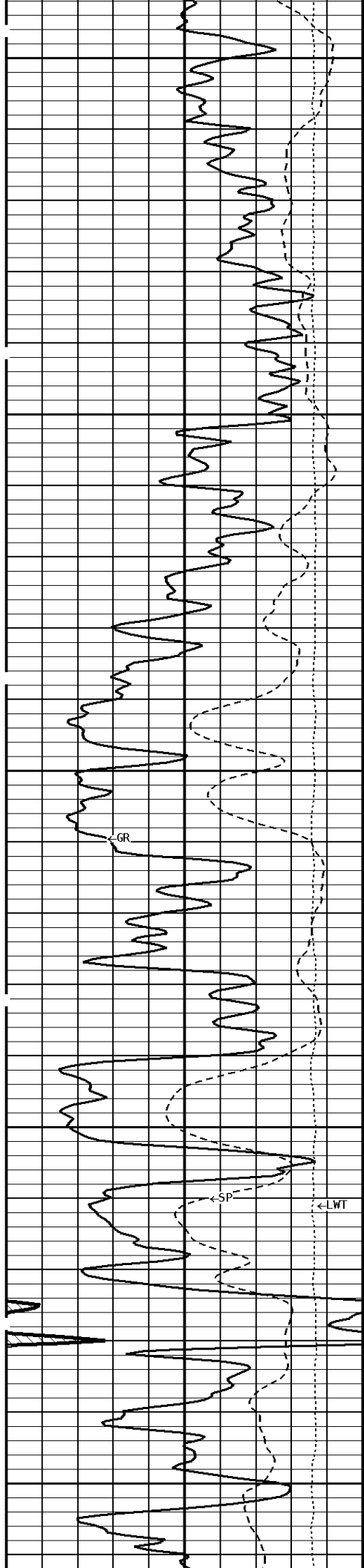




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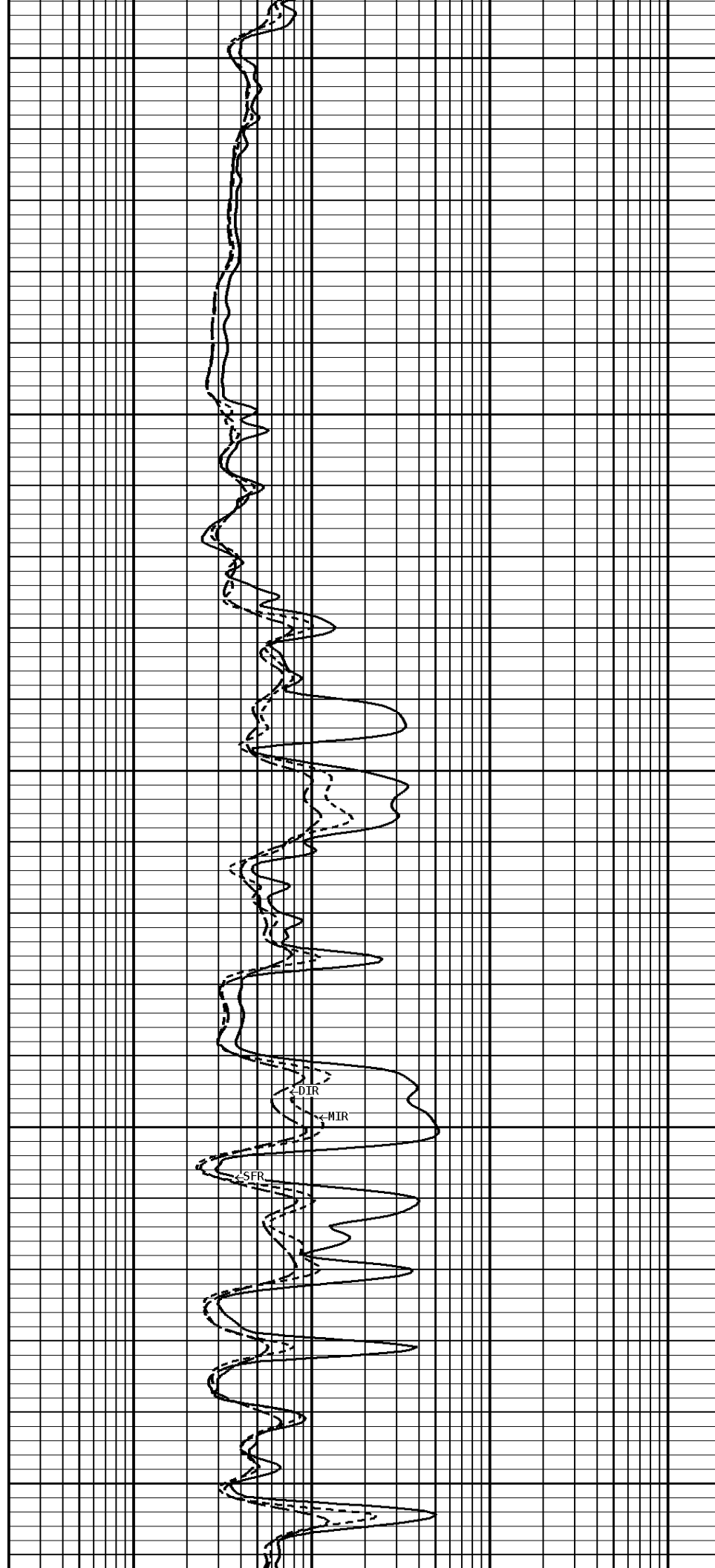


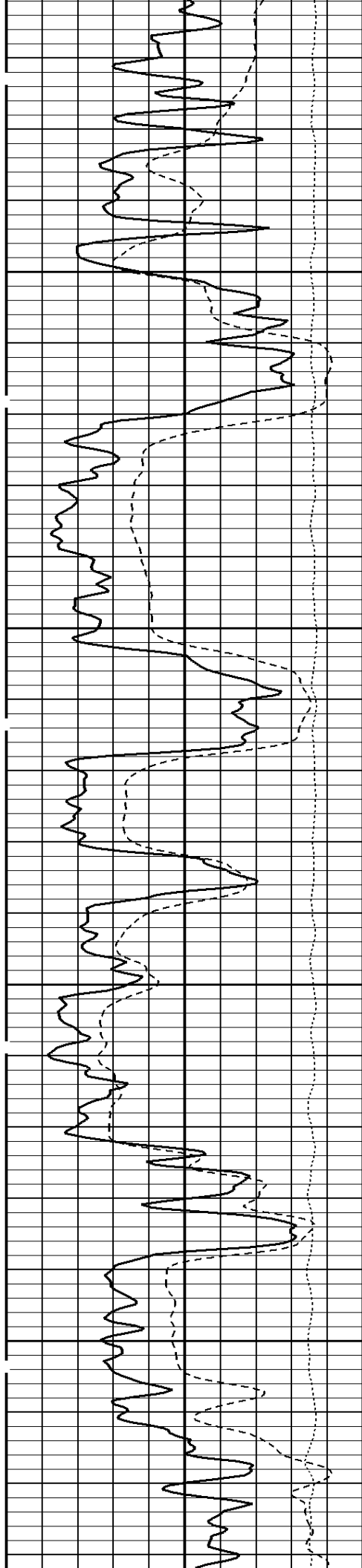


1100

1200

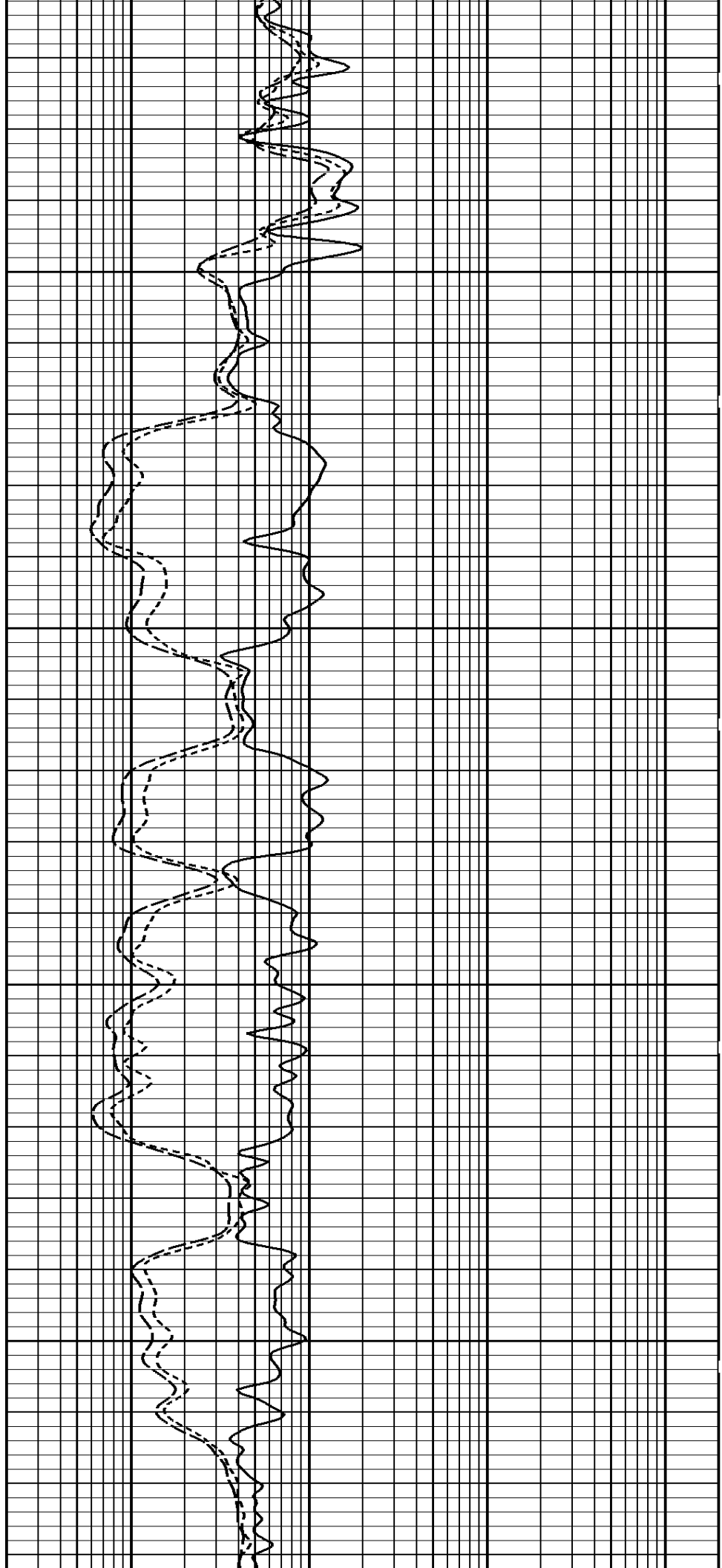
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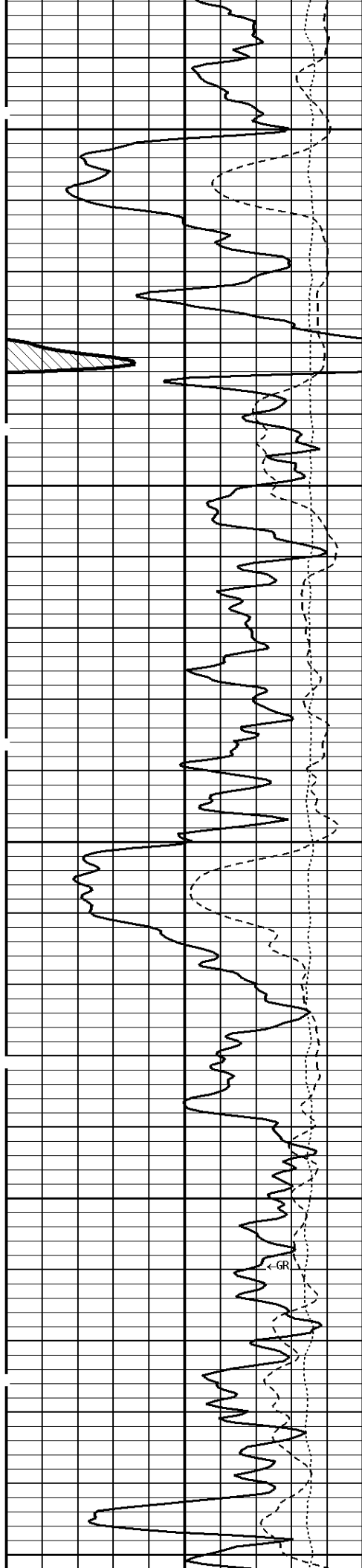




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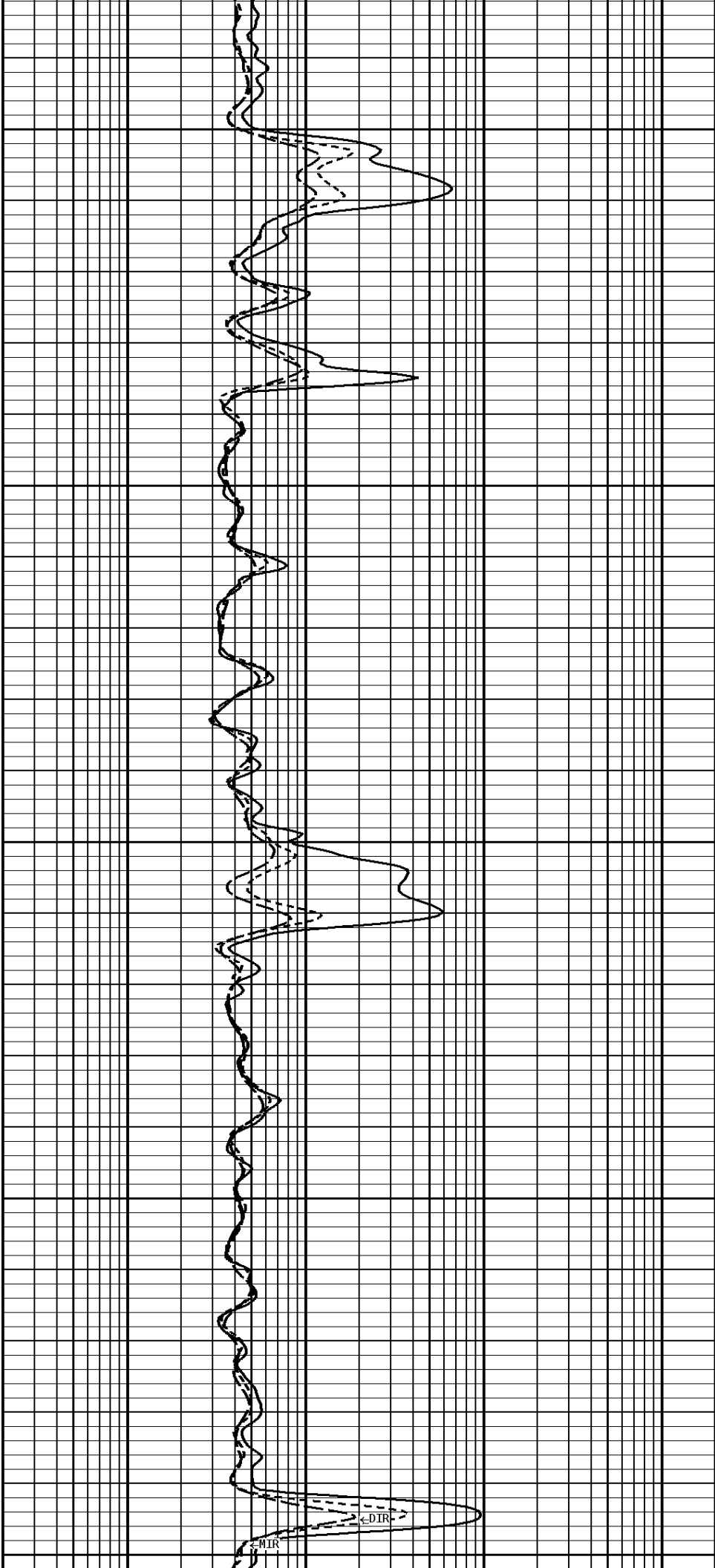
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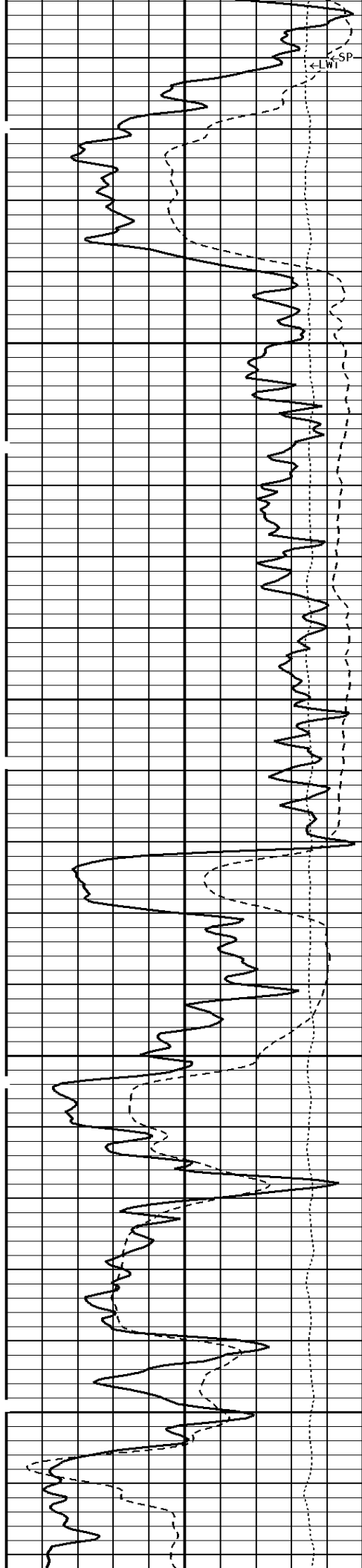




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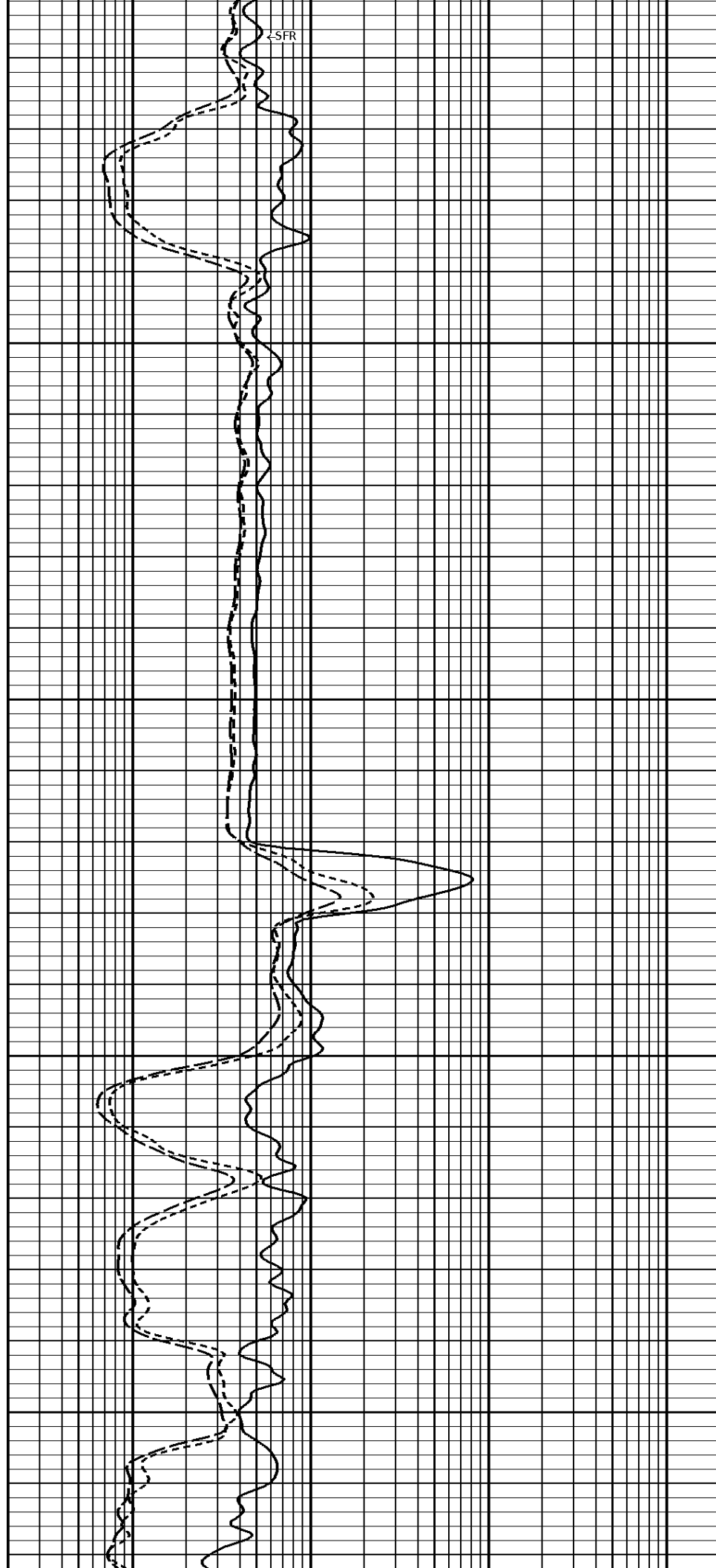
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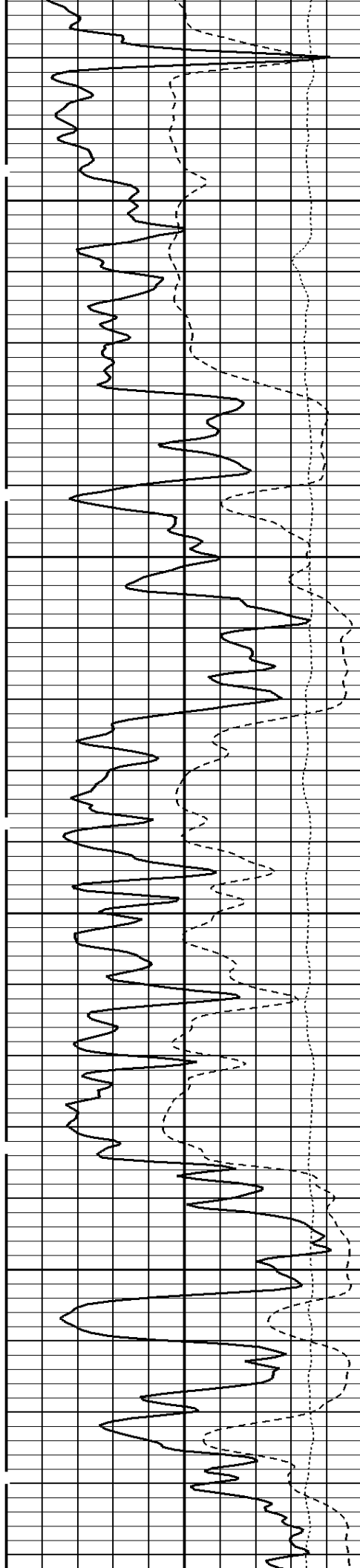




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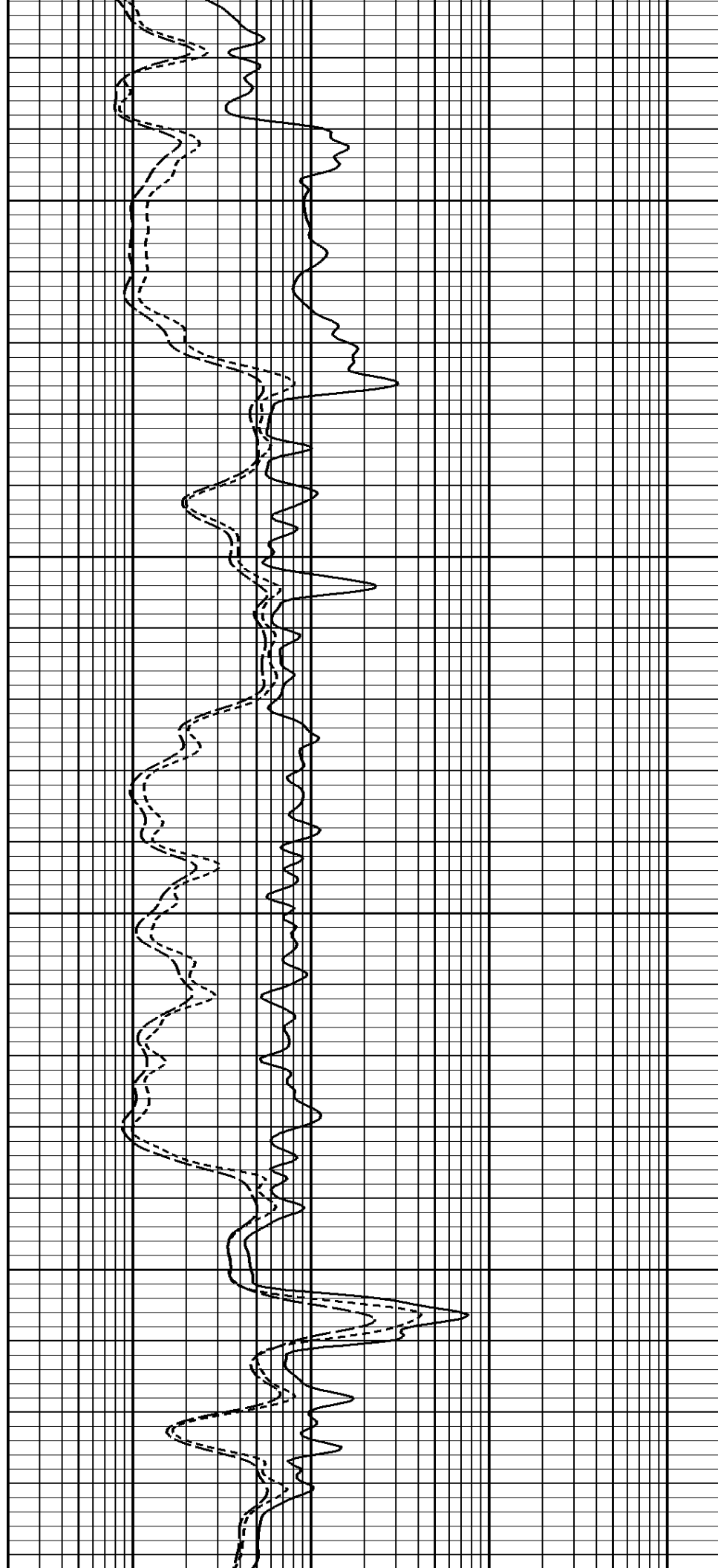
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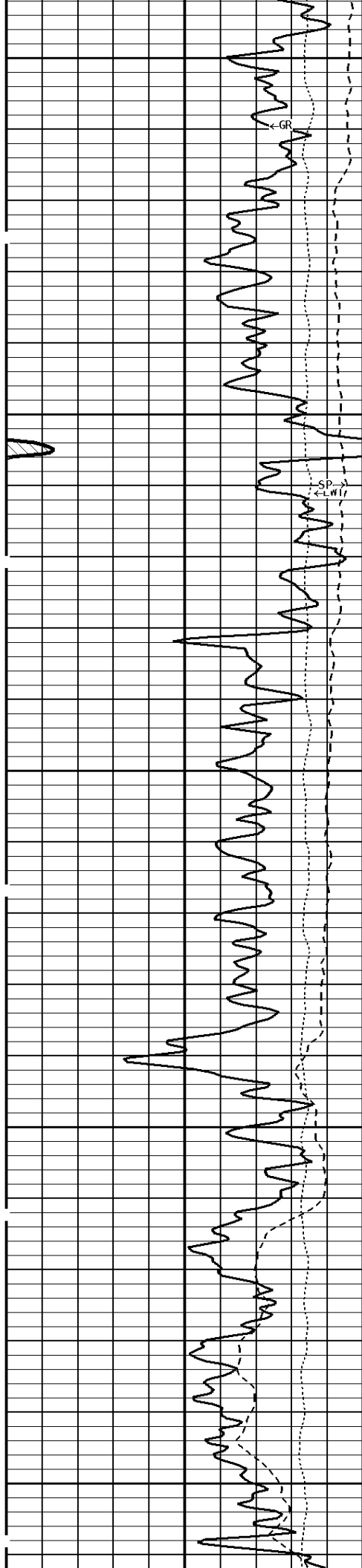




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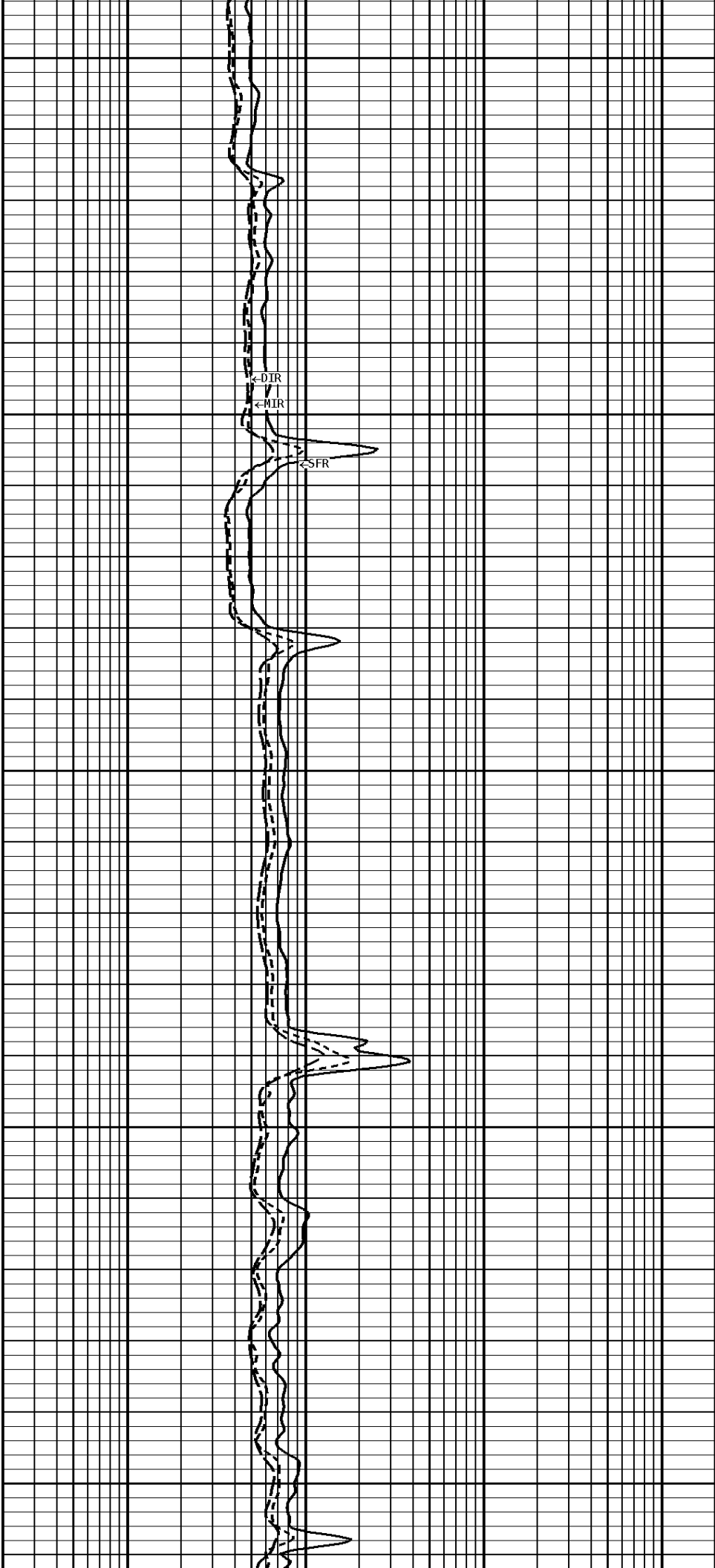


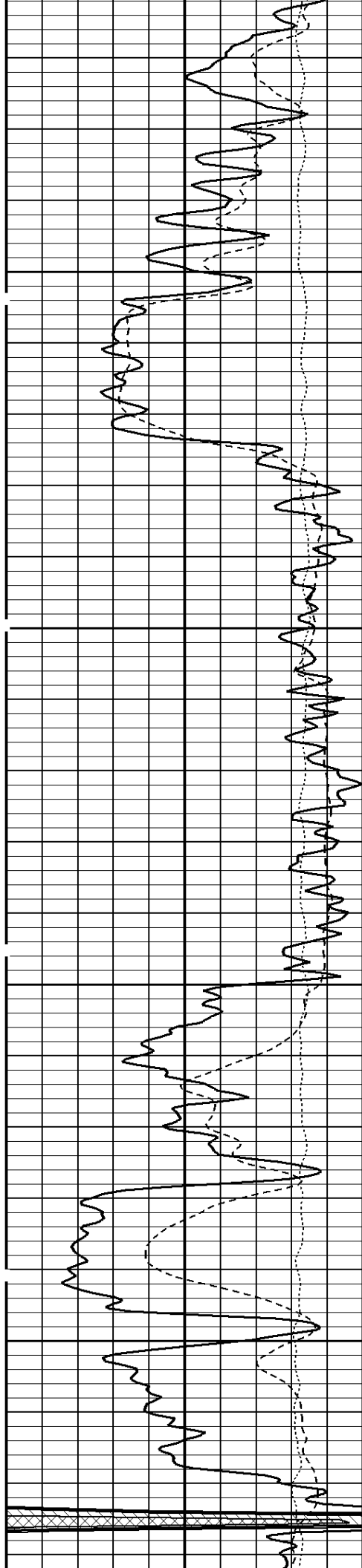


2200

2300

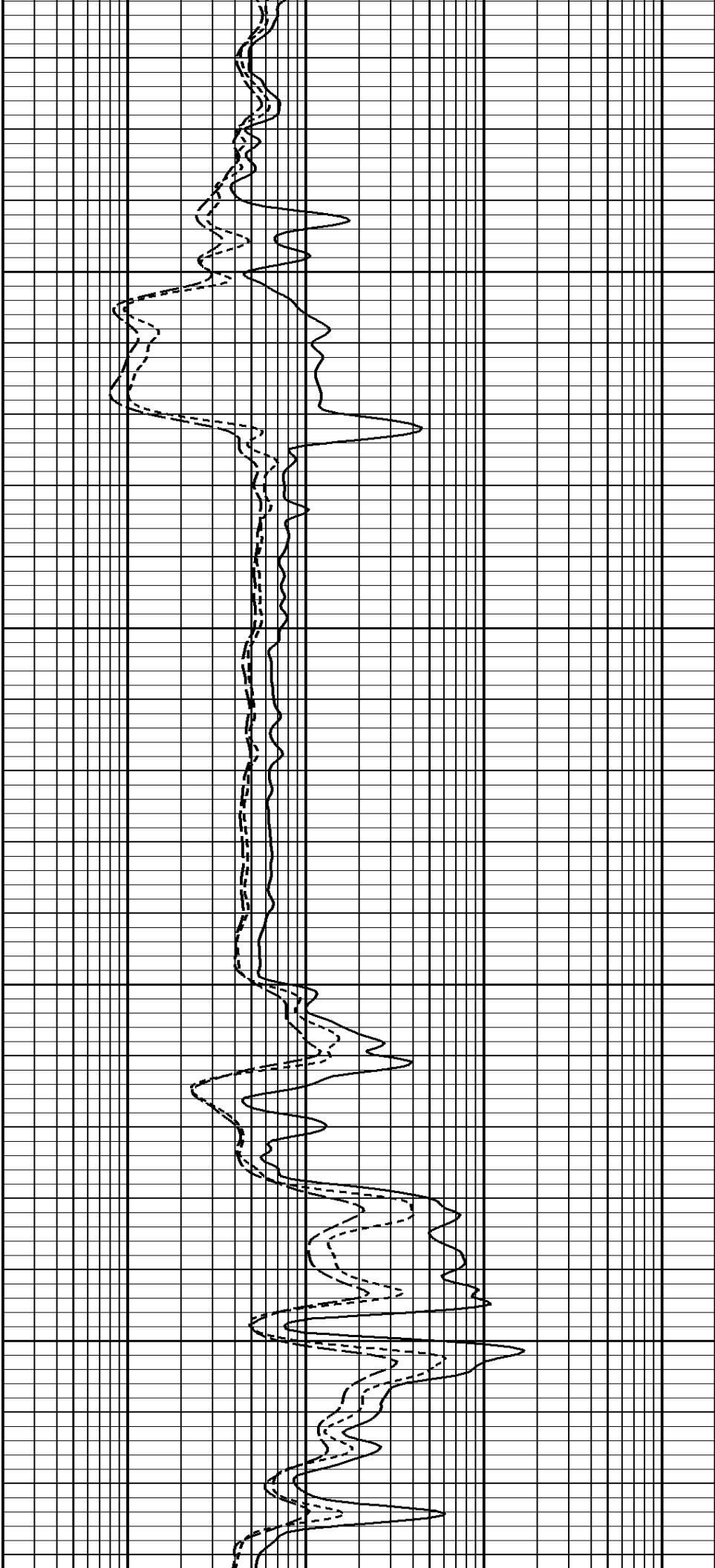
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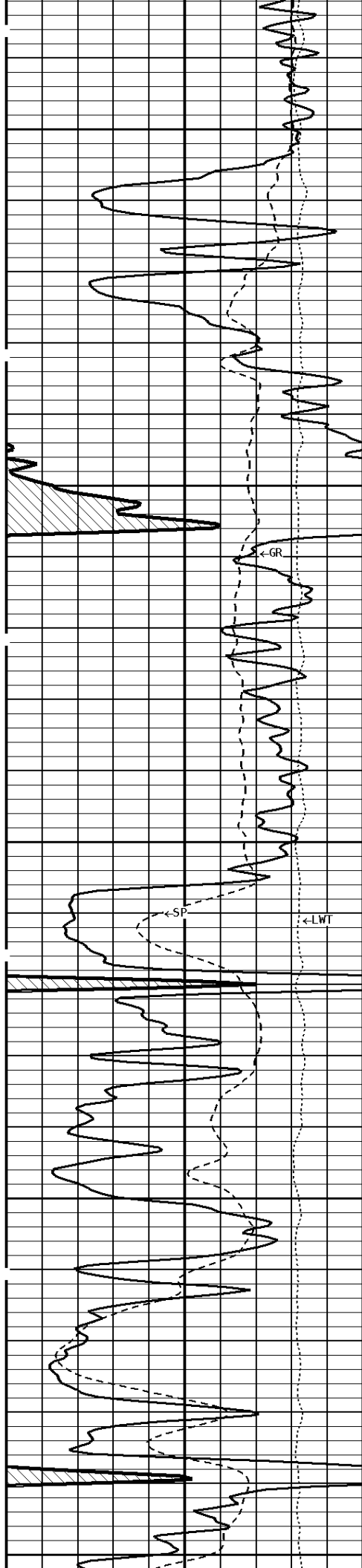




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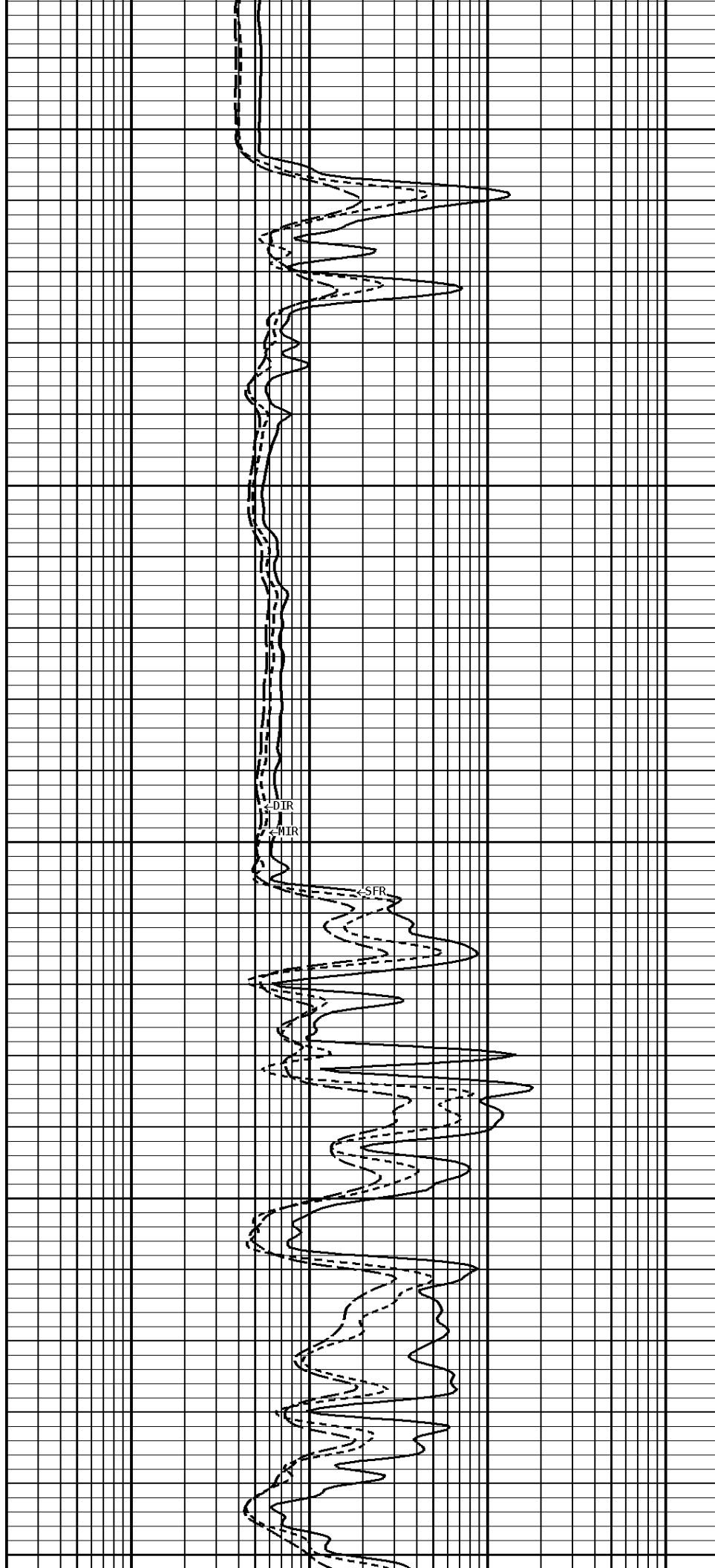
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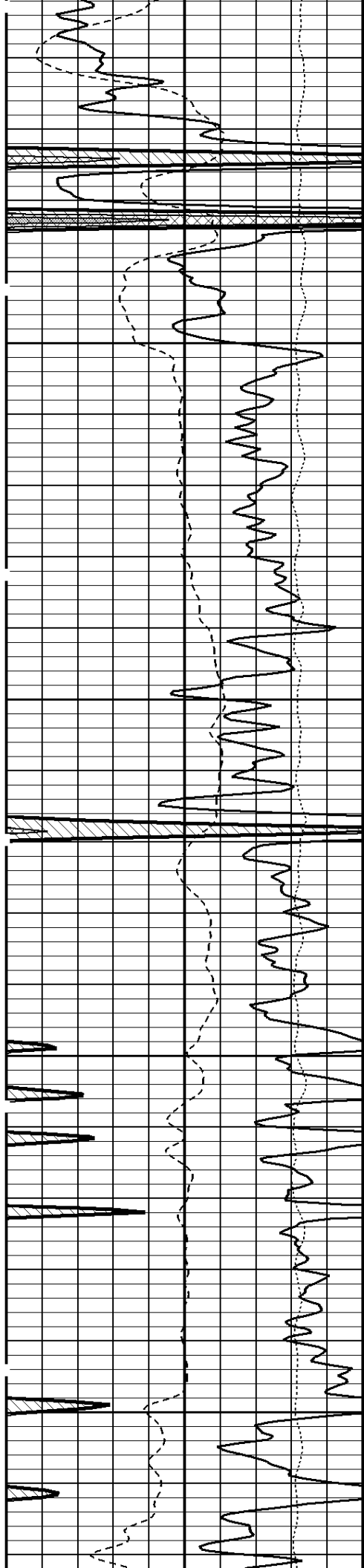




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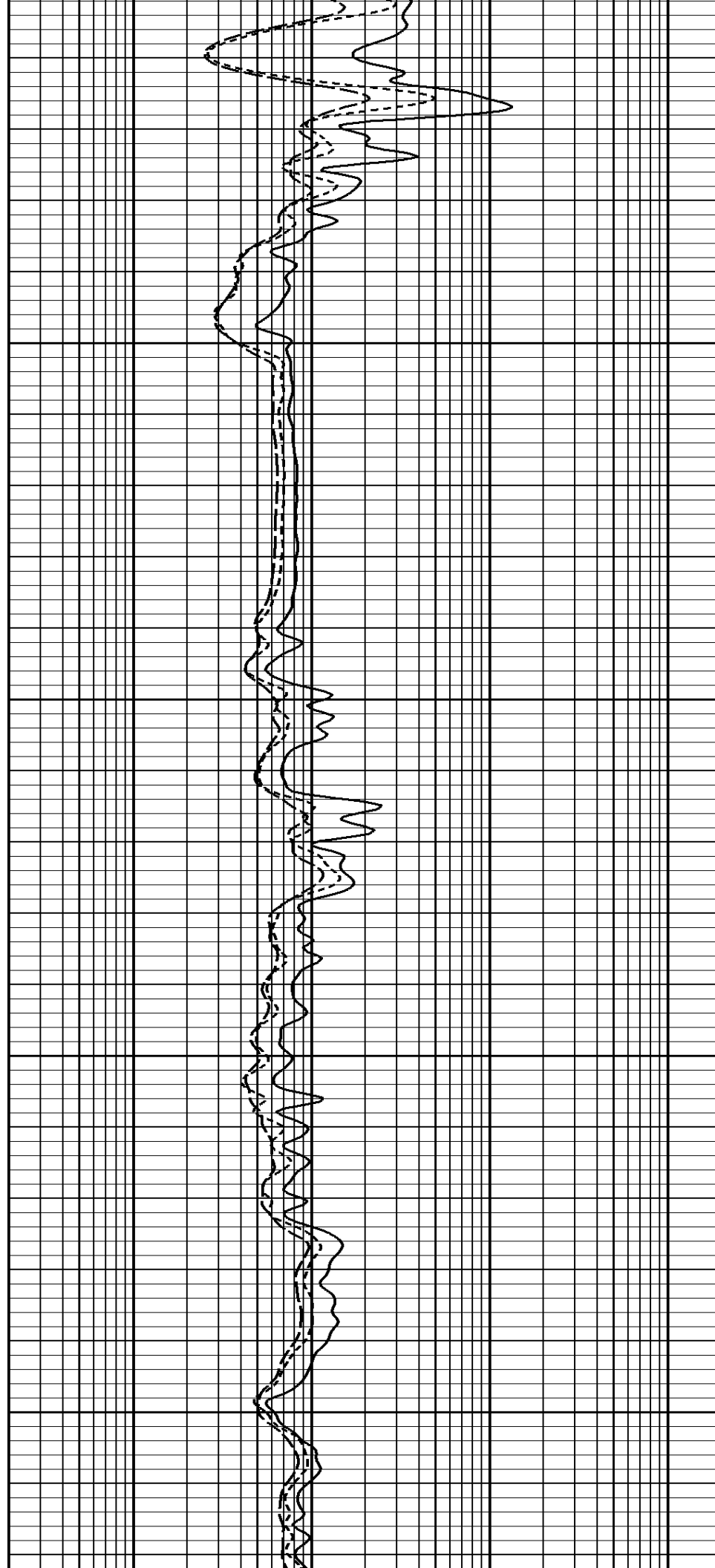
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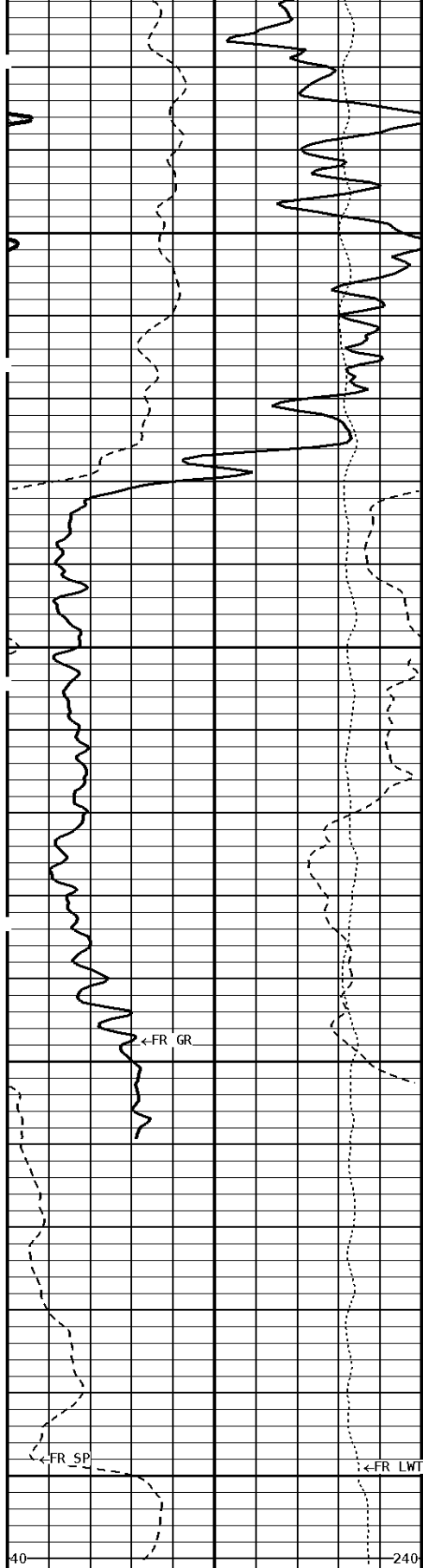




2900

3000





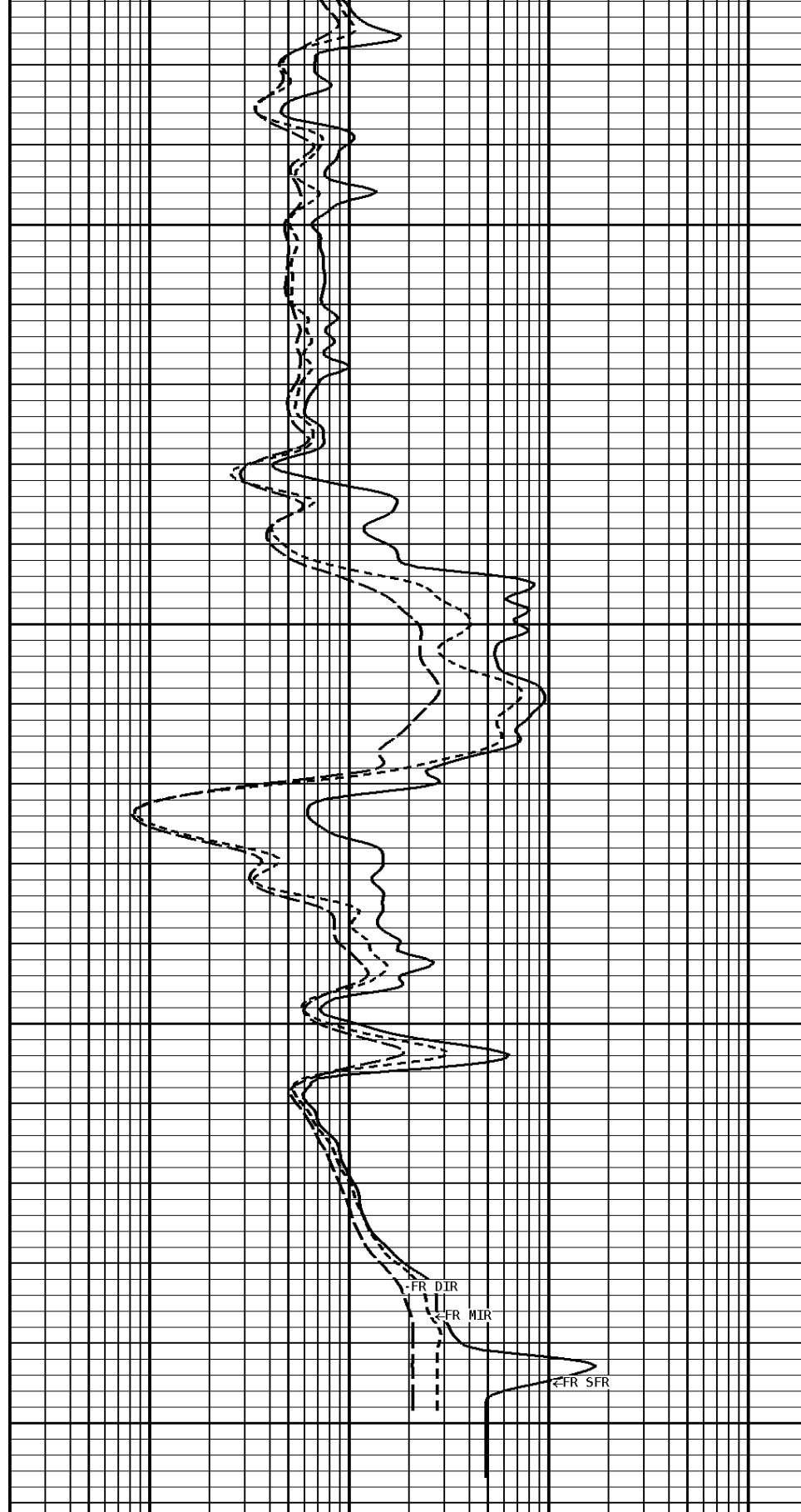
3100

3200

3250

40 240

File

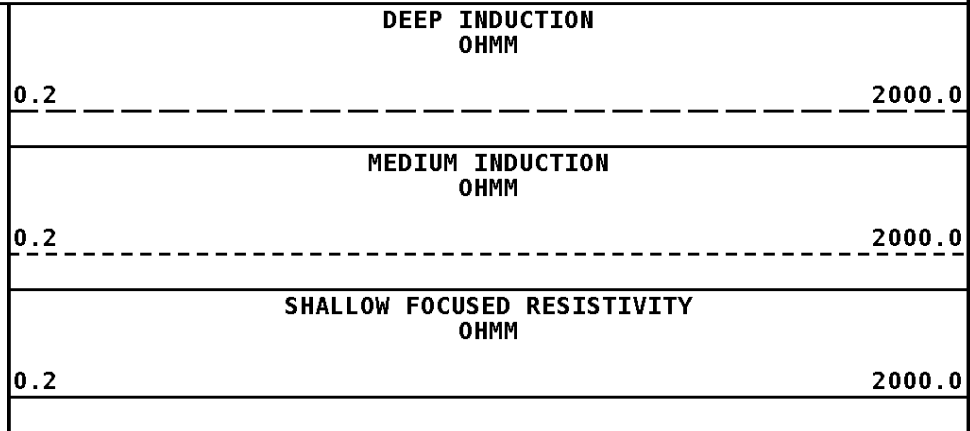
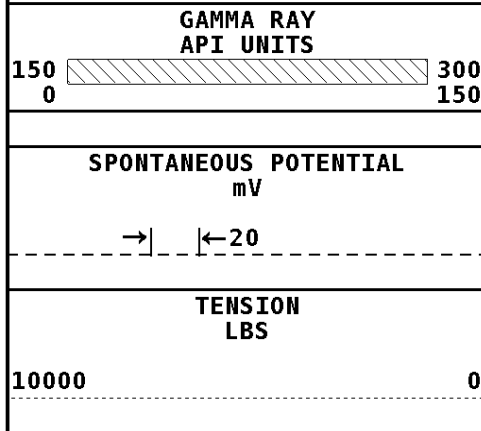


FR DIR

FR MIR

FR SFR

1:240 MAIN SECTION



* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet			
Drill Bit Size		7.875	in
BHT Depth		3250.000	ft
Borehole Temperature		120.0	degF
Temperature Gradient		1.00	DFHF
Resistivity Of Mud		1.400	ohm/m
Resistivity Of Mud Temperature		55.00	degF

Well File: mcgow-chri-2-4-mtk-oct-6

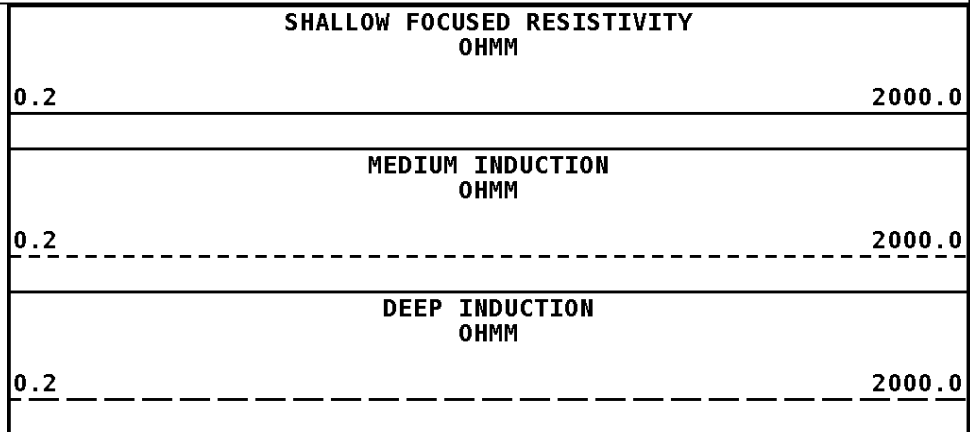
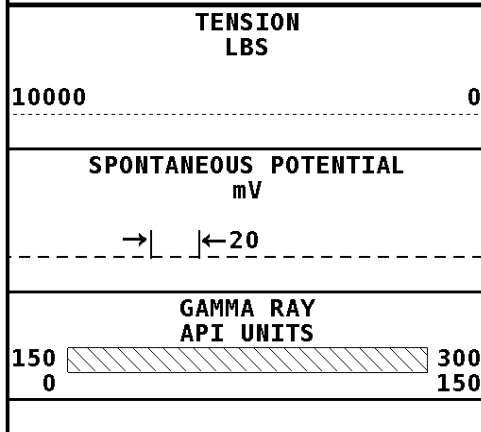
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Segment: V1.D1.S4 RP

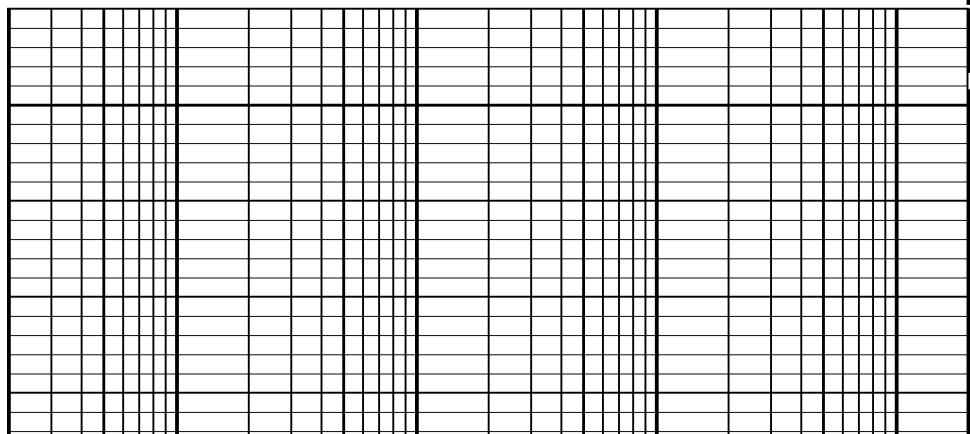
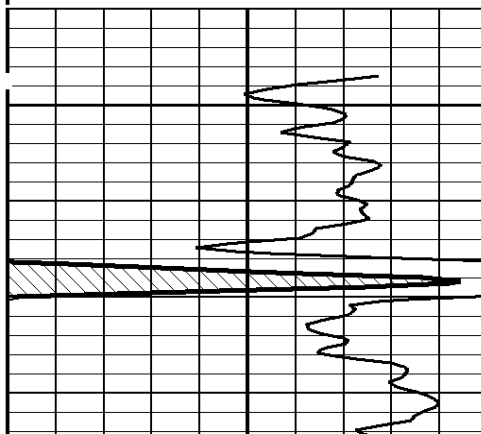
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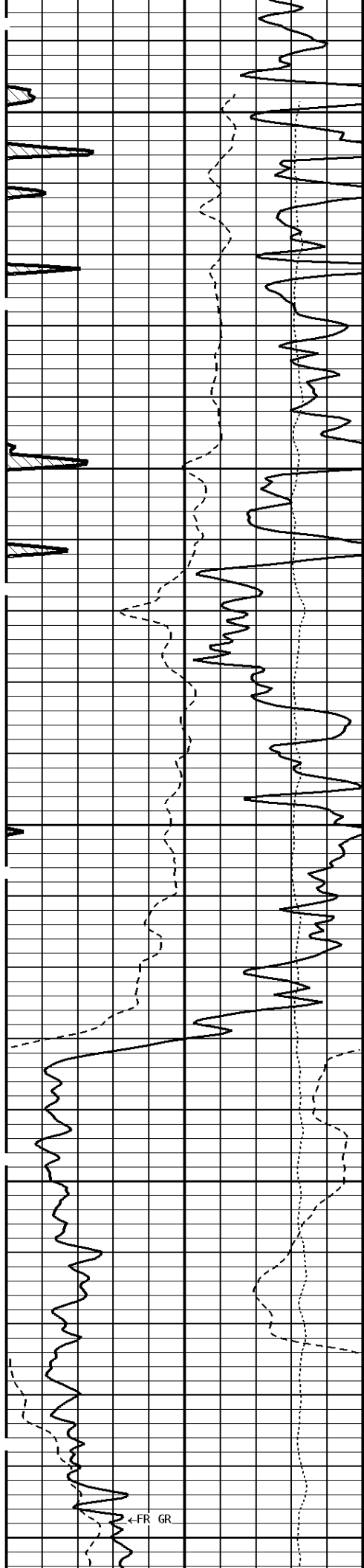
Reference: 0

Processed: 2012-10/06 04:33 3.2.0-11172



1:240 REPEAT SECTION

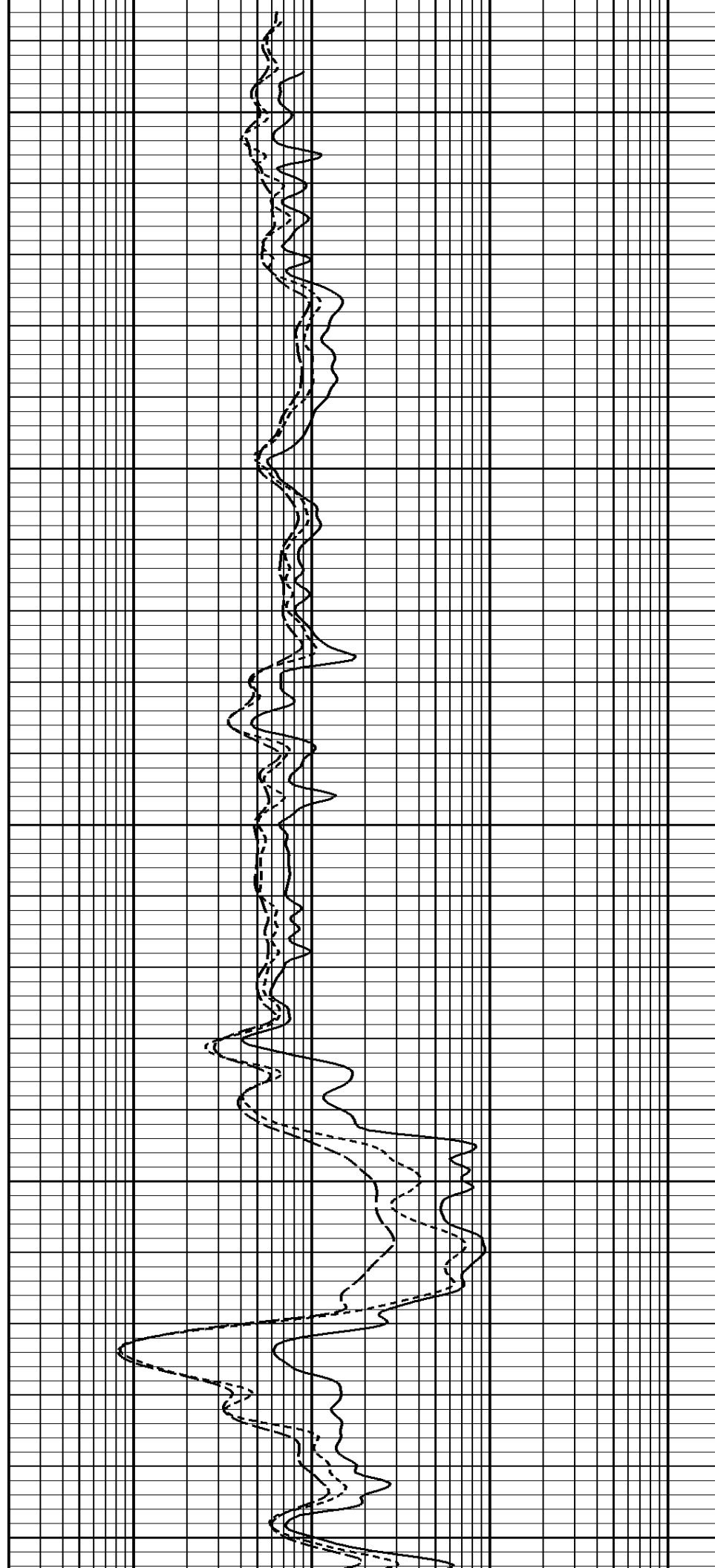


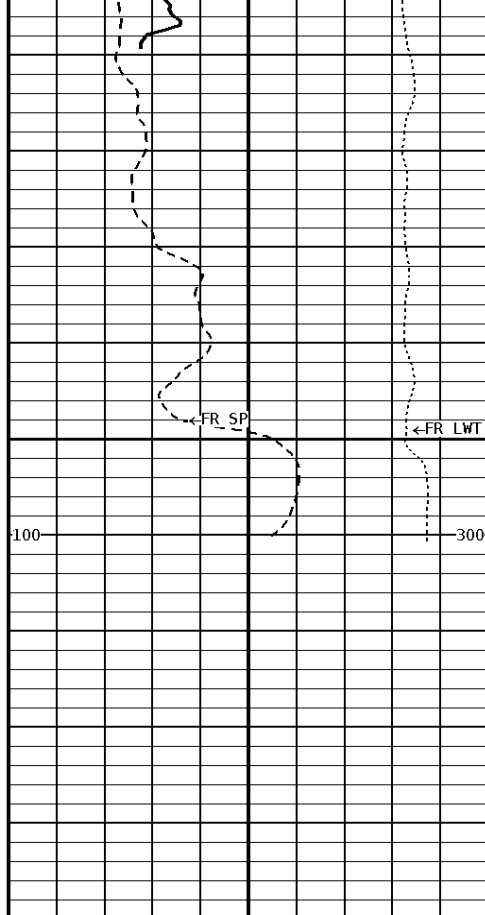


3000

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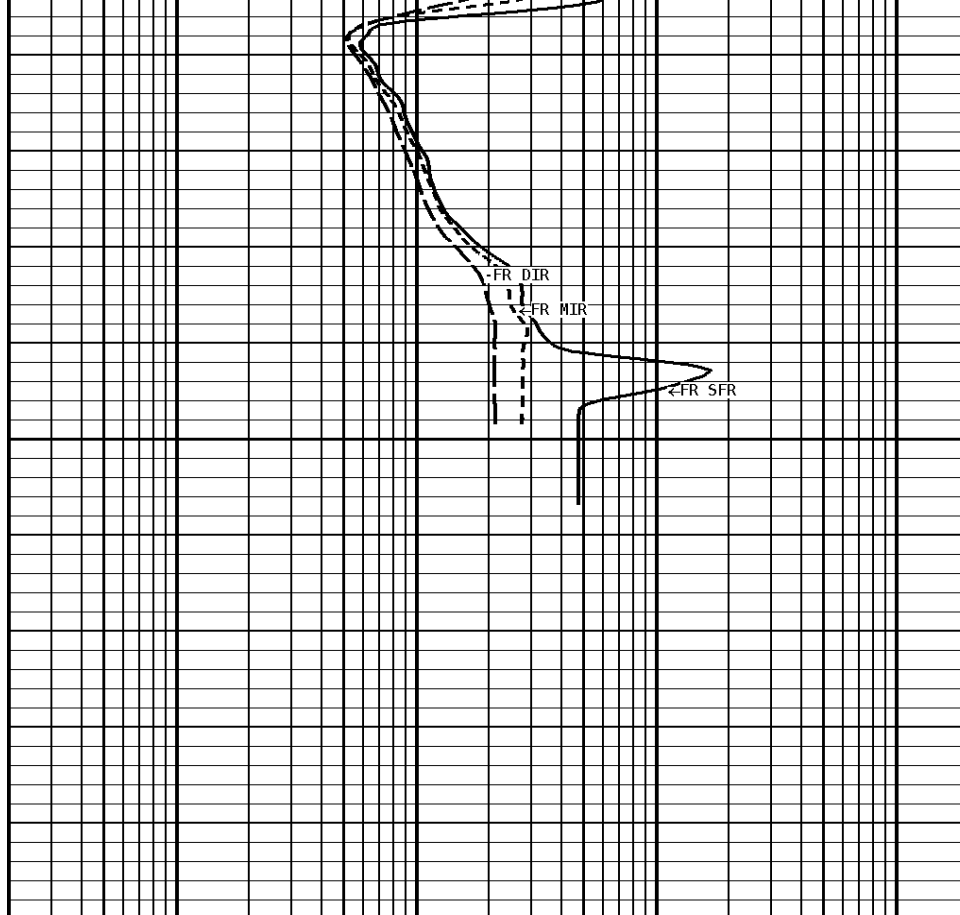
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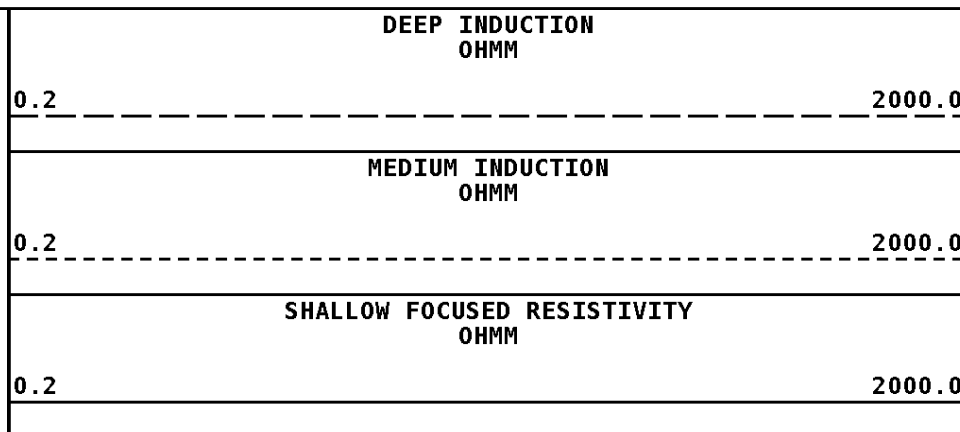
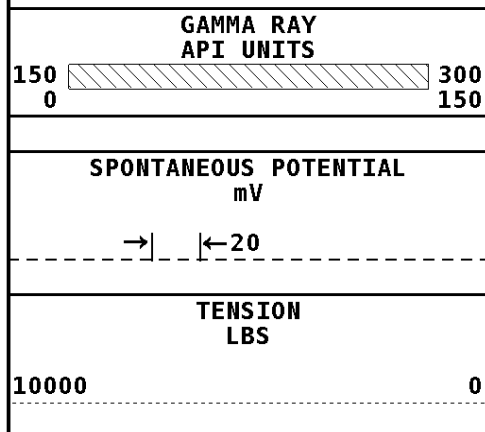


3250

File #1.1.4



1:240 REPEAT SECTION



* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet			
Drill Bit Size	7.875	in	
BHT Depth	3250.000	ft	
Borehole Temperature	120.0	degF	
Temperature Gradient	1.00	DFHF	
Resistivity Of Mud	1.400	ohm/m	
Resistivity Of Mud Temperature	55.00	degF	

* Calibration Summary *

Shop Calibration					
GRT-B					
Performed : 23-Aug-2012			Time : 09:20		
Sensor Suite : GR-GR5			ID : GRT-BA-14		
	Measured	Units	Calibrated	Units	
	Background	Jig	Jig		
GR	52	368	175	GRAPT	
		CPS			

Shop Calibration PIT-CA						
Performed : 17-FEB-2012			Time : 10:55			
Sensor Suite : P-IND-T			ID : PIT-AC-22			
Medium						
	Measured		Calibrated			
	R	X	R	X	Units	
Air	129390	131208	-0.3	-0.3	MMHOS	
Zero	131066	131073	0.0	0.0	MMHOS	
Reference	248788	249307	5000.0	5000.0	MMHOS	
Loop	147423	174670	2603.6	1071.8	MMHOS	
Sonde Error			-2.9	-5.7	MMHOS	
Cond			5000.0	5000.0	MMHOS	
Deep						
	Measured		Calibrated			
	R	X	R	X	Units	
Air	129579	130441	-0.3	0.1	MMHOS	
Zero	131075	131074	0.0	0.0	MMHOS	
Reference	238600	238508	2000.0	2000.0	MMHOS	
Loop	148942	177007	1226.8	506.8	MMHOS	
Sonde Error			-0.7	-9.0	MMHOS	
Cond			2000.0	2000.0	MMHOS	
Temperature						
	Measured		Calibrated			
	Low	High	Low	High	Units	
	16980.0	56920.0	70.0	350.0	DEGF	
Performed : 17-FEB-2012						
Sensor Suite : SFL			Time : 10:45			
			ID : PIT-AC-22			
Internal						
	Measured		Calibrated			
	Zero	Reference	Zero	Reference	Units	
Im	32773.9	50555.3	0.0	7028.0	uA	
Ib	32767.2	50247.8	0.0	1750.0	mA	
MOM1	32800.4	60269.7	0.0	175.0	mV	
Equivalent SFL				43.97	OHMM	
Performed : 17-FEB-2012						
Sensor Suite : P-SP			Time : 10:38			
			ID : PIT-AC-22			
Internal						
	Measured		Calibrated			
	Zero	Reference	Zero	Reference	Units	
	32785.7	58911.1	0.0	1000.0	mV	

Well File: mcgow-chri-2-4-mtk-oct-6

Scale: 1:1200

Segment: V1.D1.S5 MN

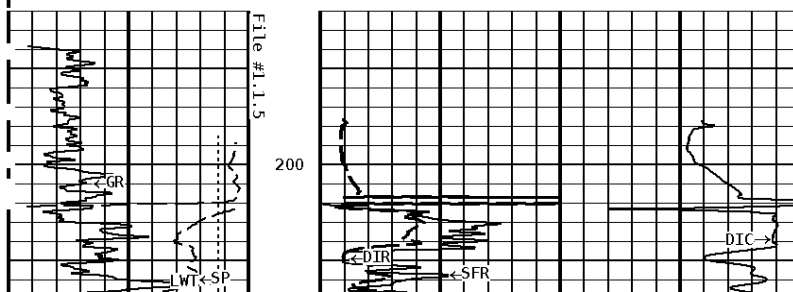
Acquired: 2012-10/06 03:16 3.2.0-11172

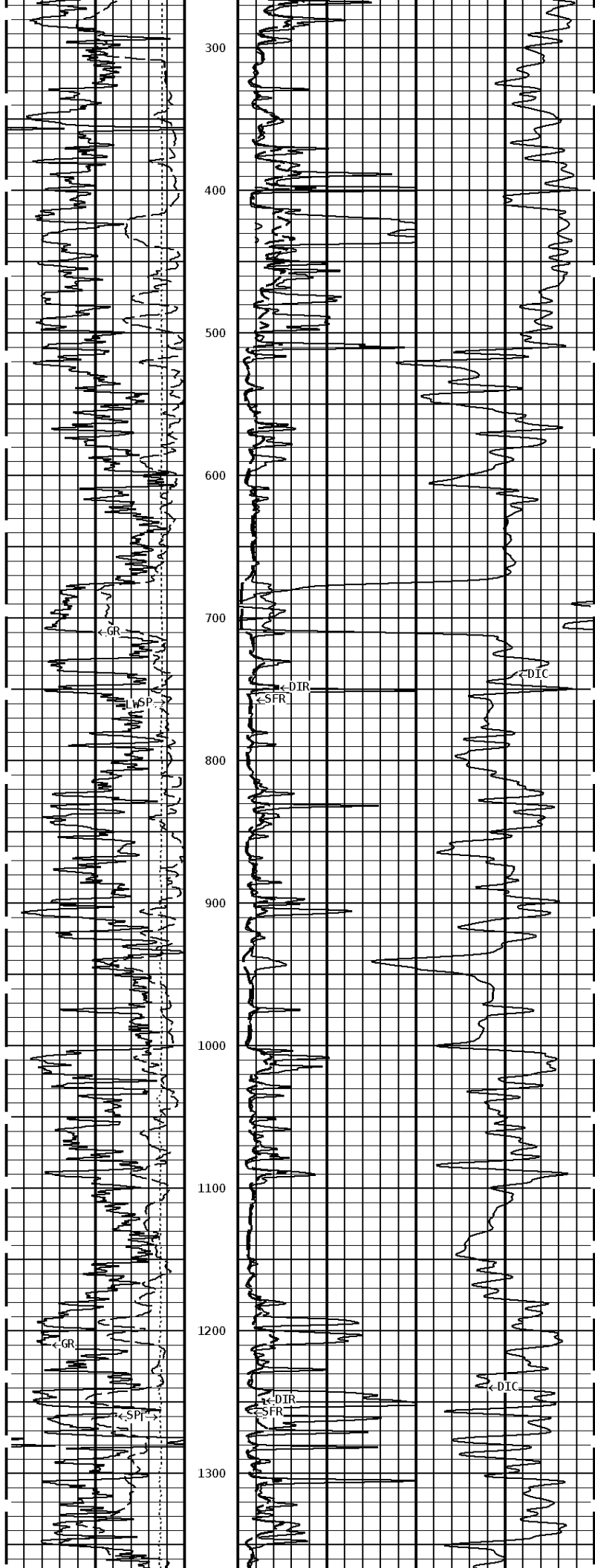
Reference: 0

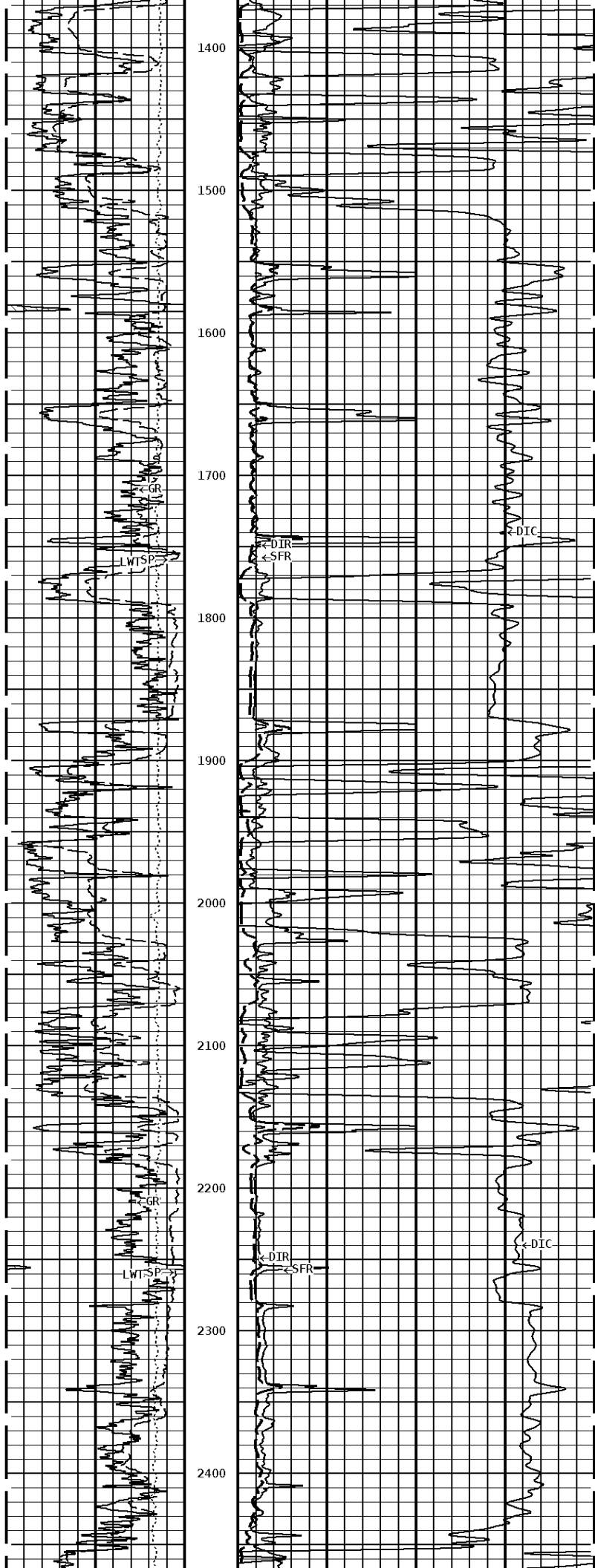
Processed: 2012-10/06 04:34 3.2.0-11172

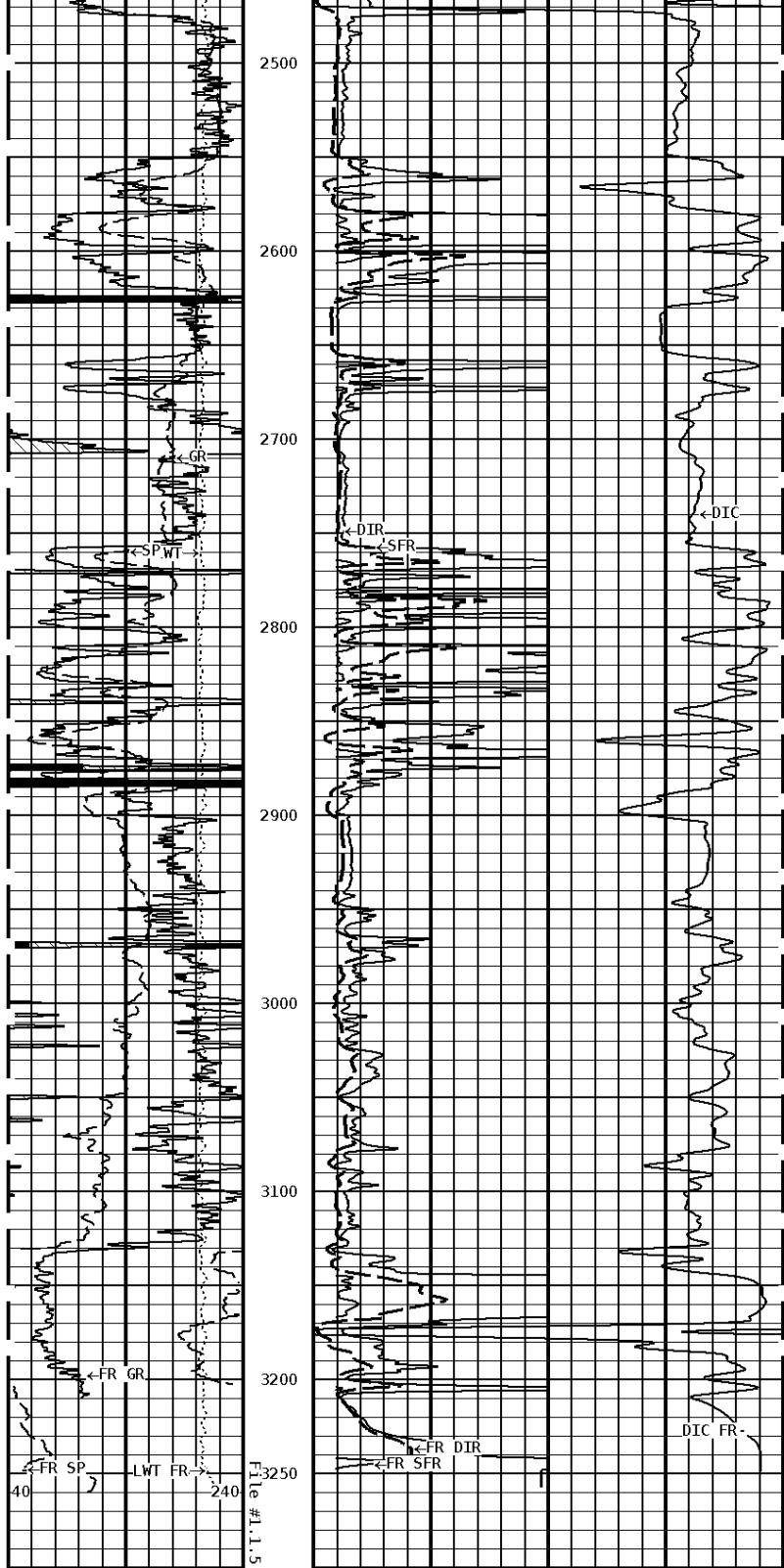
TENSION LBS		DEEP INDUCTION OHMM	
10000	0	0.0	500.0
		0.0	50.0
SPONTANEOUS POTENTIAL mV		SHALLOW FOCUSED OHMM	
→ ← 20		0.0	500.0
		0.0	50.0
GAMMA RAY API UNITS		DEEP CONDUCTIVITY MHMO	
150	300	2000	1000
0	150	1000	0

1:1200 MAIN SECTION









1:1200 MAIN SECTION

