



Tucker

ENERGY SERVICES

PHASED INDUCTION

SHALLOW FOCUS SP LOG

Company CHIEFTAIN OIL COMPANY INC. Well DIEL #6 Field ROUNDUP SOUTH County BARBER State KANSAS Country USA API No. 15-00724245		File No : TUL-58479 Company : CHIEFTAIN OIL COMPANY INC. Well : DIEL #6 Field : ROUNDUP SOUTH County : BARBER State : KANSAS Country : USA API No : 15-00724245	
Location : 3058 FSL & 2996 FEL NW SE SE NW		LSD : Sect : 3 Twp : 34S Rge : 11W	
Permanent Datum:	GL	Elevations:	Services:
Drilling Measured From:	KB	KB 1362.00	CNT
Log Measured From:	KB	DF 1361.00	PIT
Above Permanent Datum:	10.00 Ft	GL 1352.00	MLT
Date	10-21-2014		
Run Number	1		
Depth--Driller	5165.0	Ft	
Depth--Logger	5166.0	Ft	
First Reading	5166.0	Ft	
Last Reading	333.0	Ft	
Casing--Driller	329.0	Ft	
Casing--Logger	333.0	Ft	
Bit Size	7.875	In	
Casing Size	13.375	In	
Hole Fluid Type	WBM		
Density	9.3		
Fluid Loss	8.0		
PH/Viscosity	10.0	59.0	
Sample Source	MEASURED		
RM@Measured Temp.	0.900	@ 70 F	
RMF@Measured Temp	0.770	@ 70 F	
RMG@Measured Temp.	1.090	@ 70 F	
Source RMF/RMC	CALCULATED	CALCULATED	
RM@BHT	0.510	@ 130 F	
Time Circulation Stopped	10-21-2014 7:30 pm		
Max Recorded Temp.	133	F	
Equipment/Base	T-126	TULSA	
Recorded By	S.K. DAVIS		
Witnessed By	D. BARKER		

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	5166.00	13.375	24.00	333.00	0.00

Run Number	1	
Date	10-21-2014	
Date/Time On Bottom	10-22-2014 12:45 am	
Depth to Fluid	0.0 Ft	
Salinity	6000.000	
RMF@BHT	0.430 @ 130 F	
RMC@BHT	0.580 @ 130 F	

Run Number 1

Comments

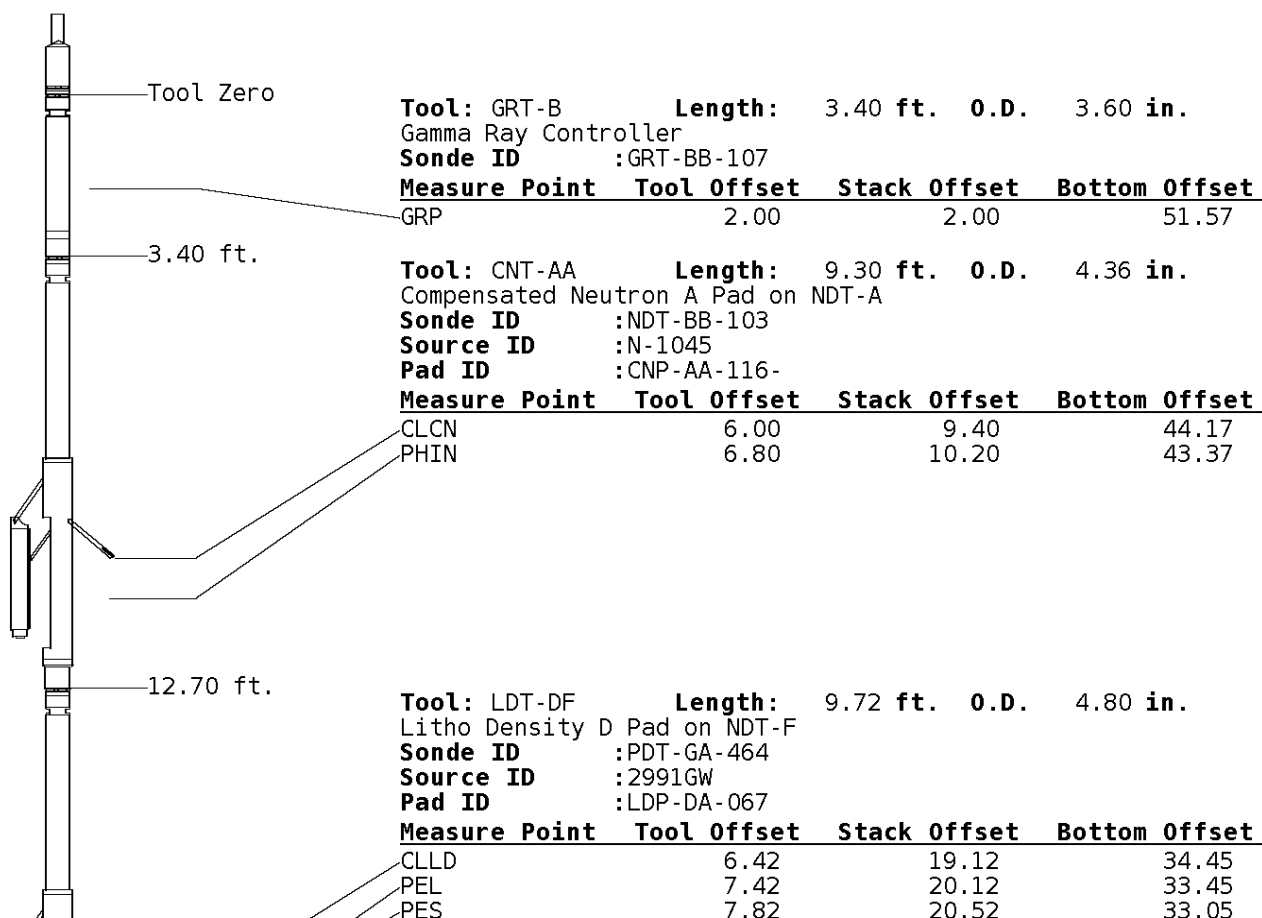
ALL PRESENTATION PER CUSTOMER REQUEST
 GRT,CNT,LDT,PIT RUN IN COMBINATION
 CALIPERS ORIENTED ON X-Y AXIS
 2.71 G/CC USED TO CALCULATE POROSITY
 ANNULAR & BOREHOLE VOLUME CALCULATED USING 5.5 PRODUCTION CASING
 PHIN IS CALIPER CORRECTED
 DETAIL IS PRESENTED FROM TD TO 3400'
 SALT/ANHYDRITE SECTION 1750' TO 1050' & 650' TO 530'
 MLT CUT OFF AT 4418. NO REPEAT PER CUSTOMER REQUEST

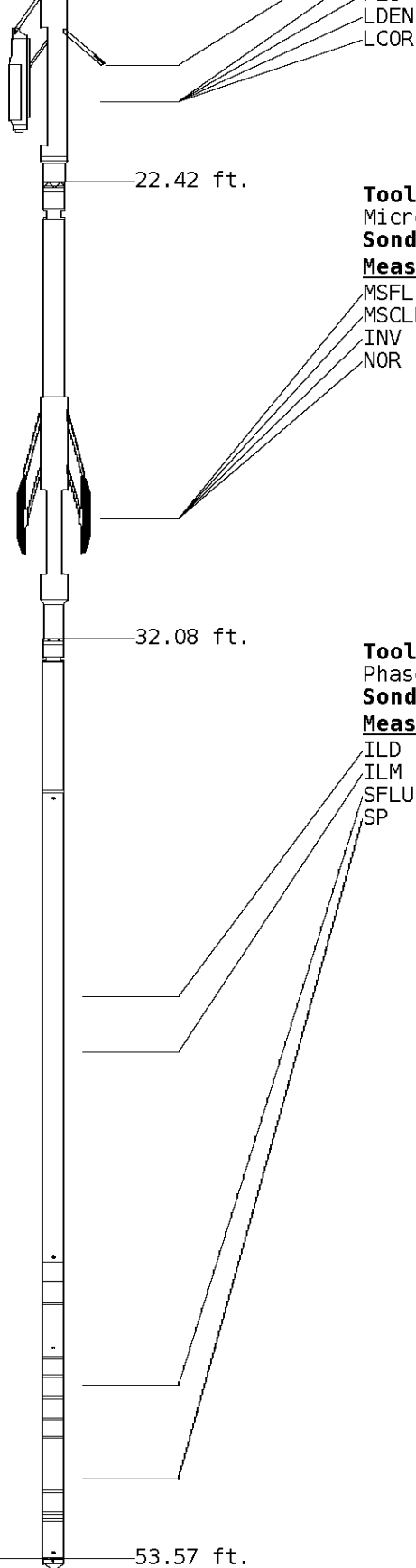
GRT; GRP,
 CNT; PHIN, CLCNIN
 LDT; PORL, LCORN, PECLN, LDENN, CLLDIN
 MLT; NOR.RF, INV.RF, MSCLPIN.
 PIT; ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS;
 M. DRUEPPEL
 C. GONZALES

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-26

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-CA-075

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: chief-die-6-mstk-oct-21

Scale: 1:600 Format: DIL-600

Segment: V1.D1.S3 MN

Acquired: 2014-10/22 00:32 3.3.0-12702

Reference: 0

Processed: 2014-10/22 01:55 3.3.0-12702

TENSION
LBS

10000

0

DEEP INDUCTION
OHMM

0.0

500.0

0.0

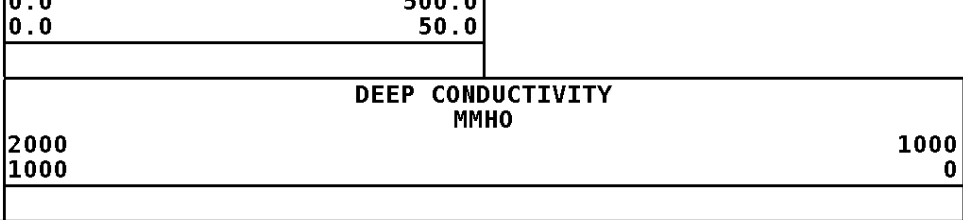
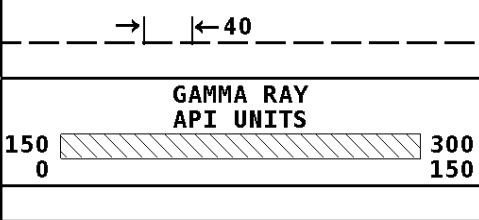
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SPONTANEOUS POTENTIAL
mV

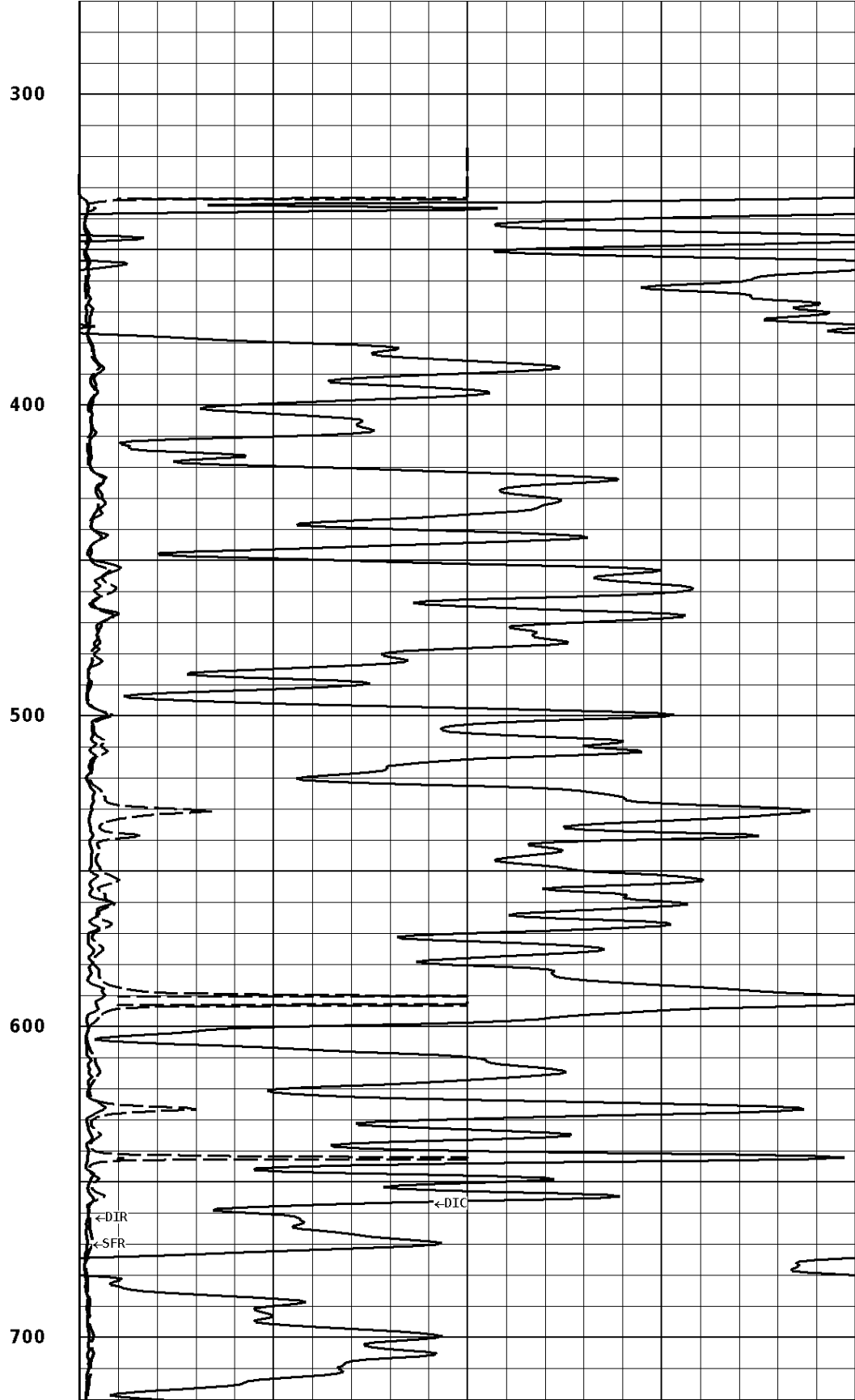
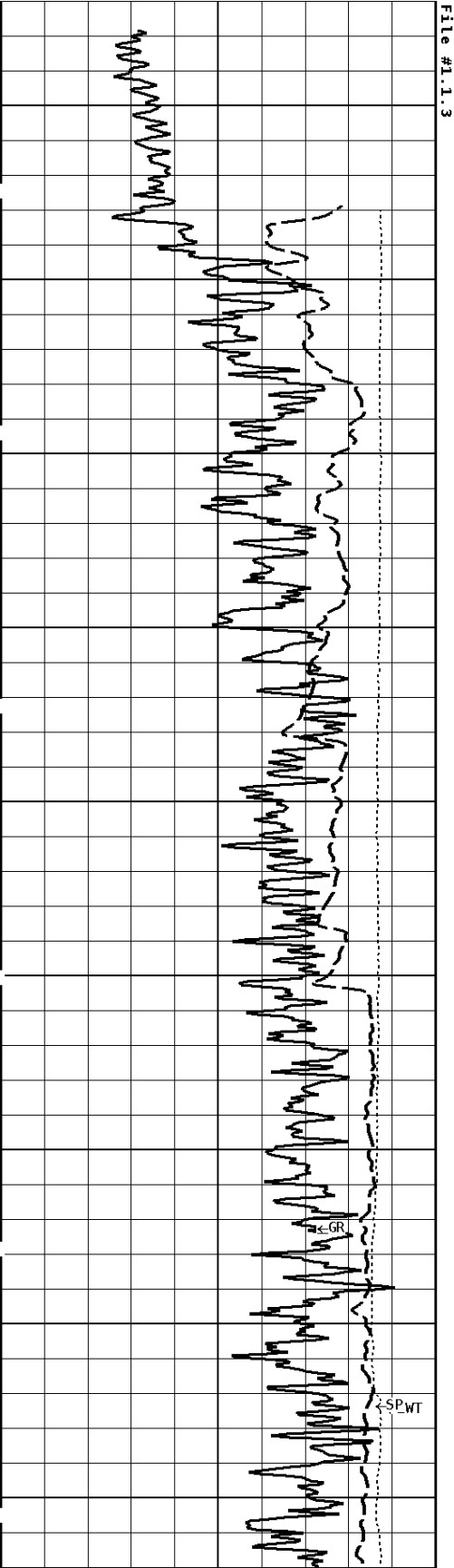
SHALLOW FOCUSED RESISTIVITY
OHMM

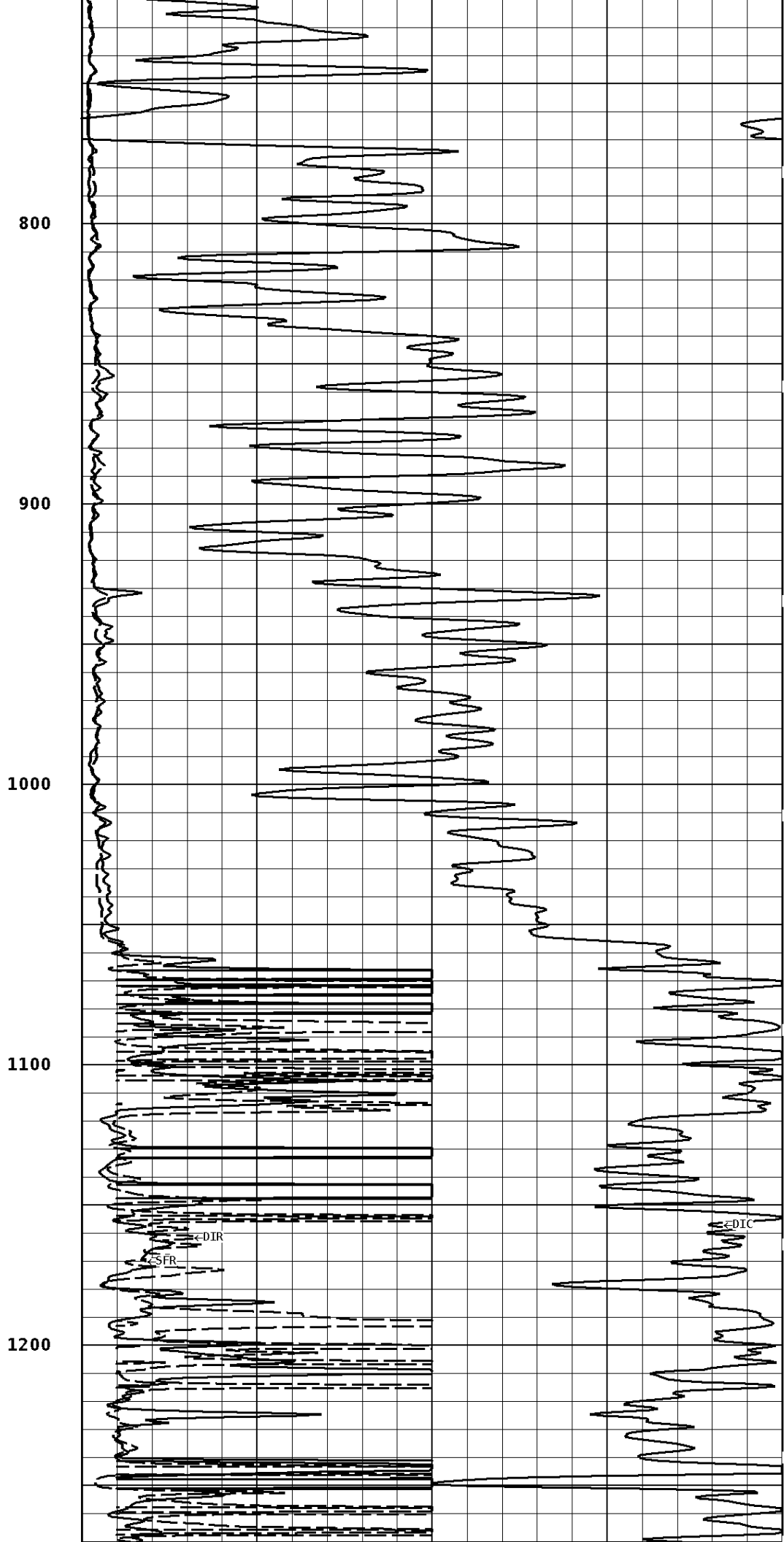
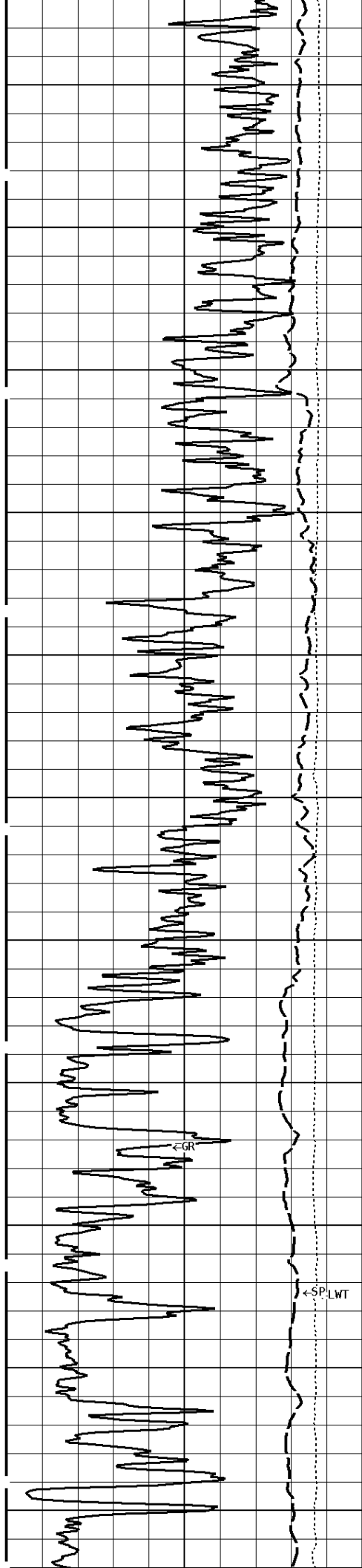
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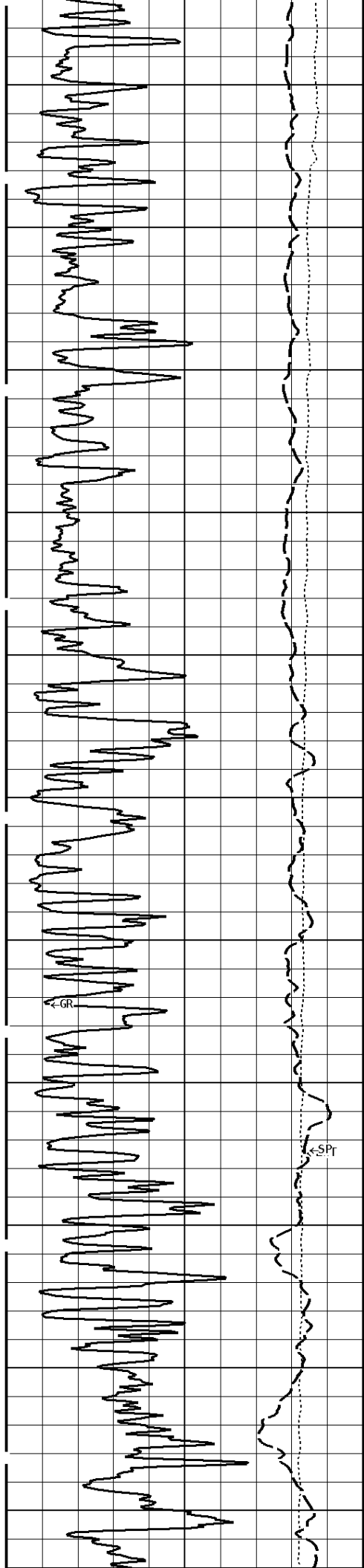
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1:600 MAIN SECTION







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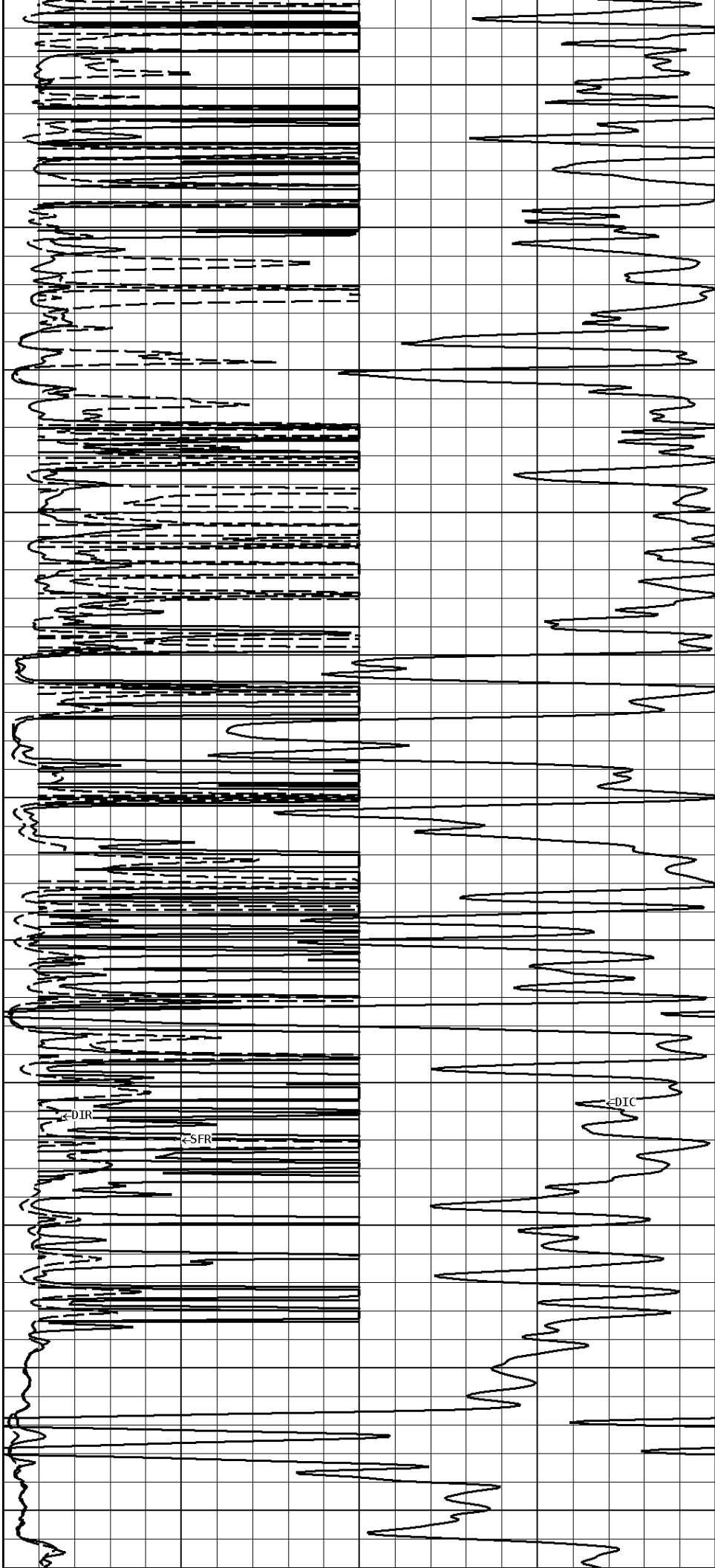
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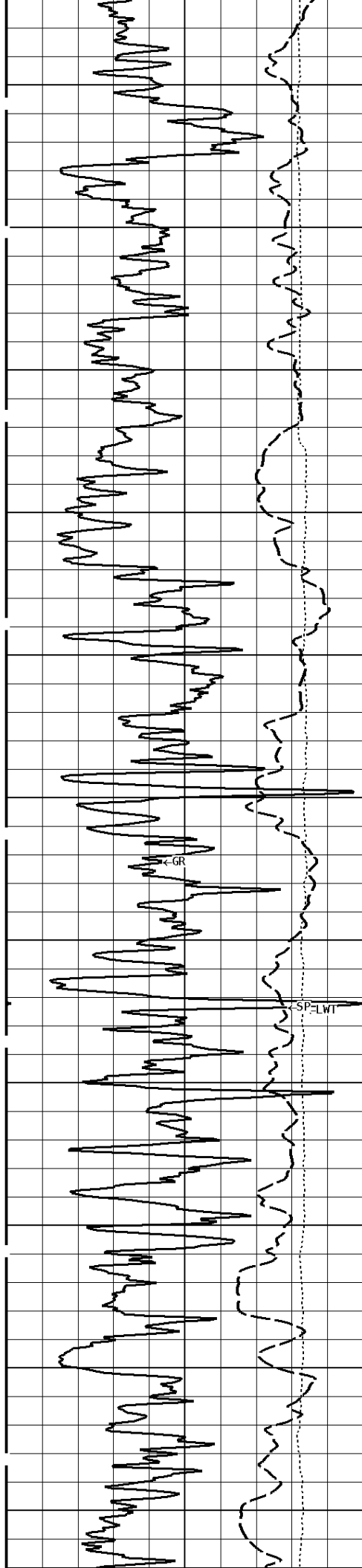
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1600

1700

1800





1900

2000

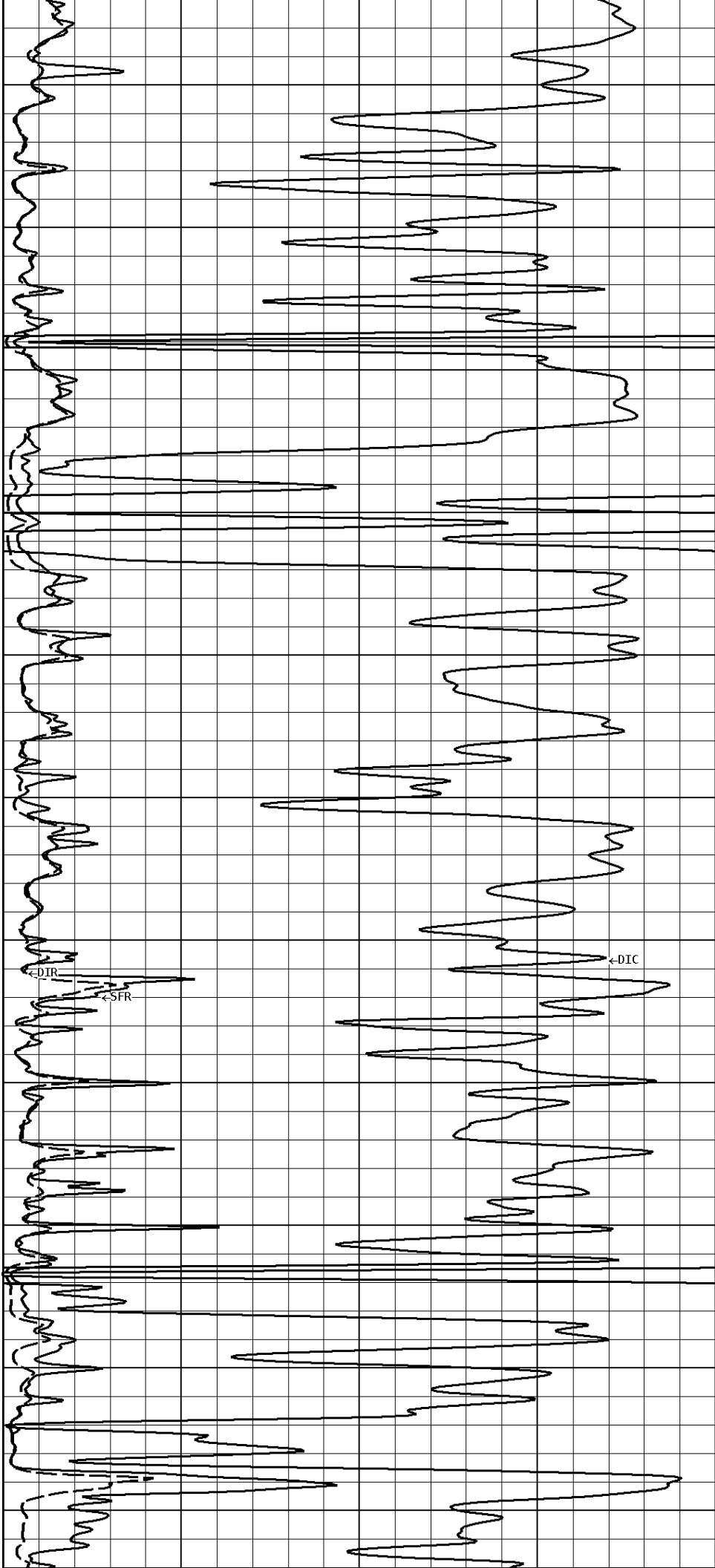
2100

2200

2300

←GR

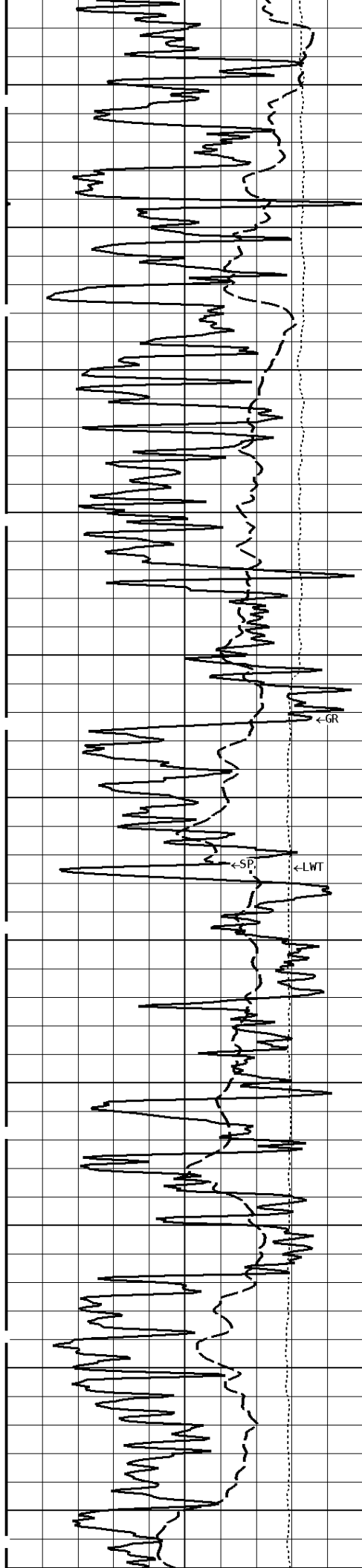
SP-LWT



←DIR

←SFR

←DIC



2400

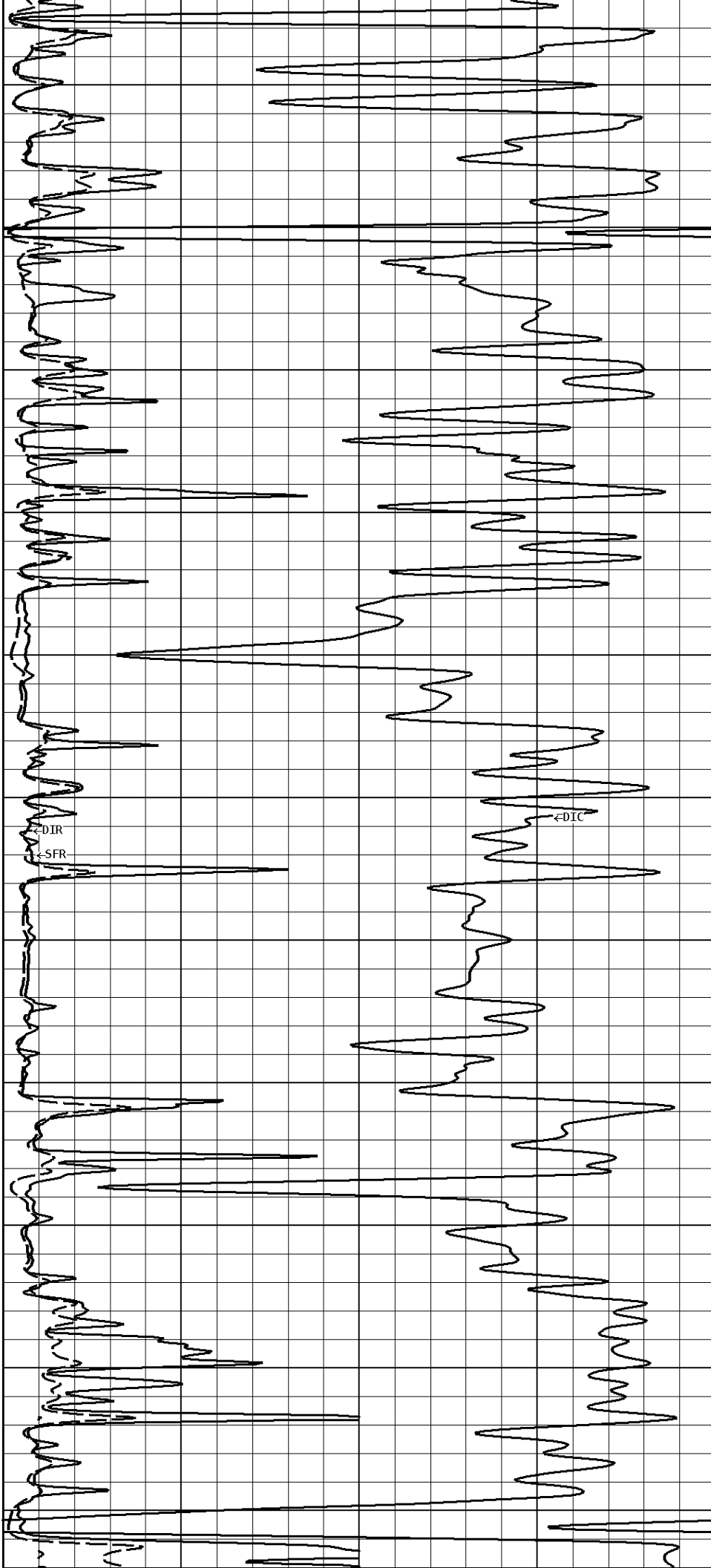
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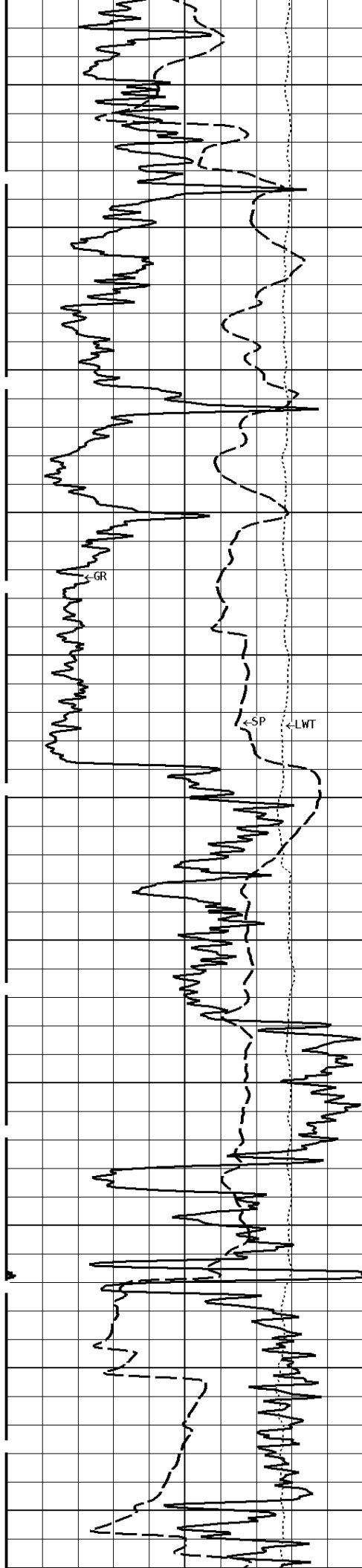
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2700

2800

2900





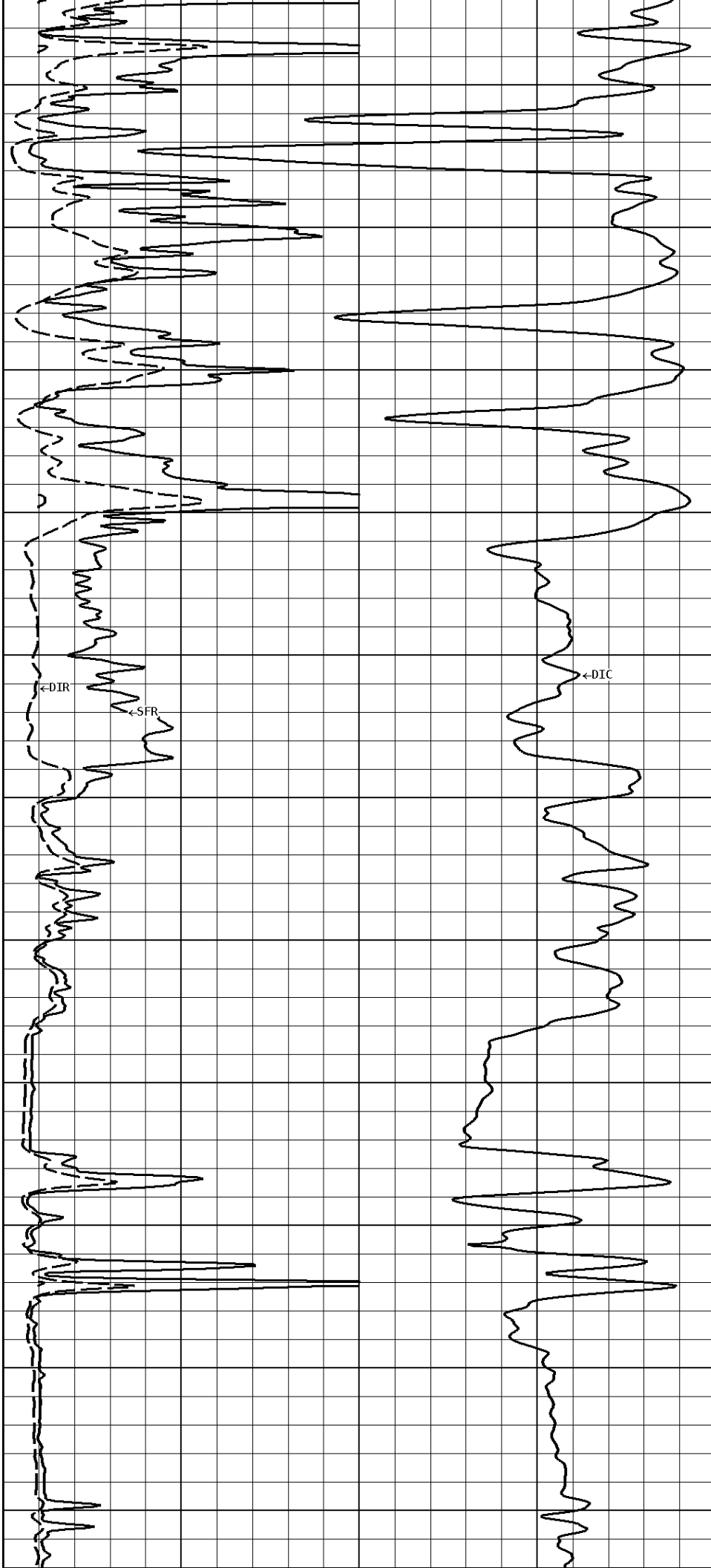
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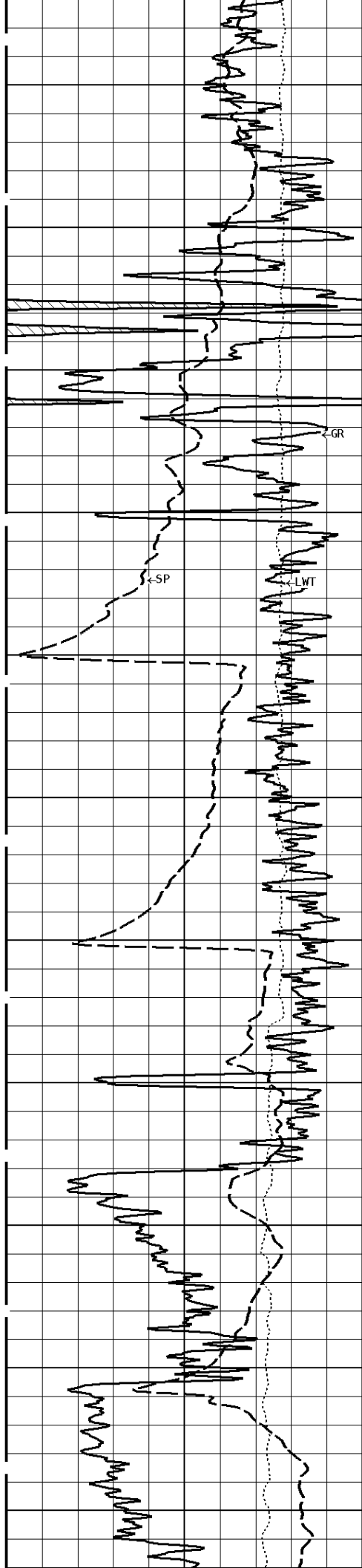
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3300

3400





3500

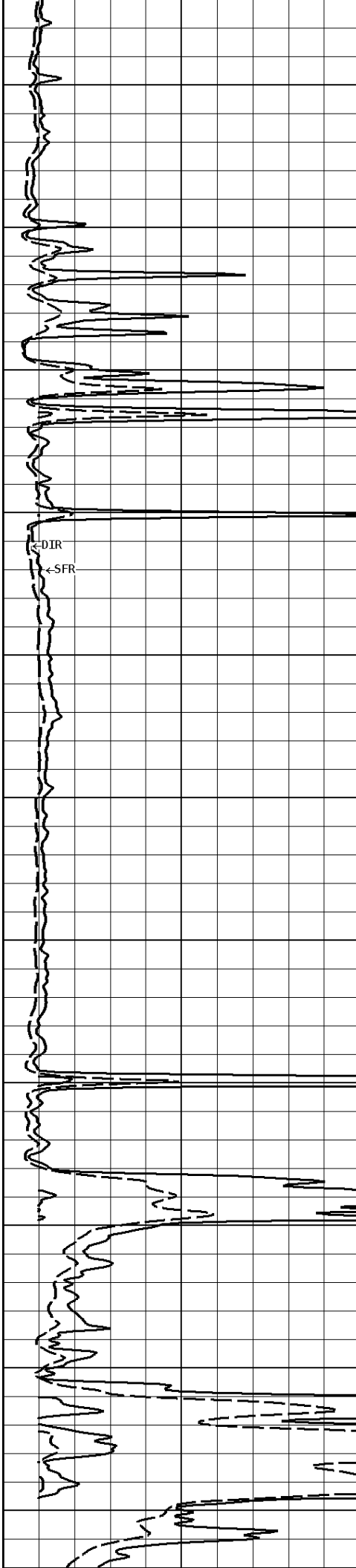
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3700

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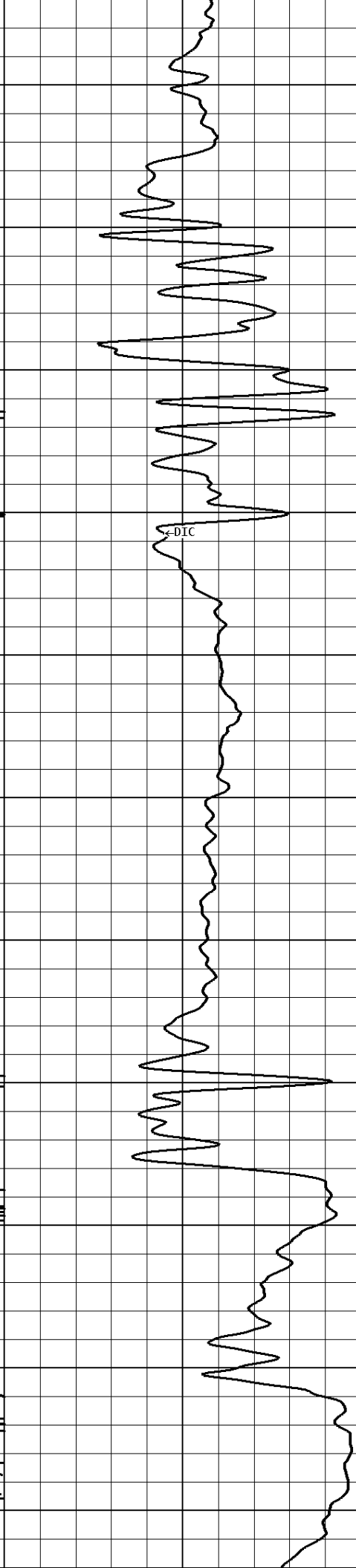
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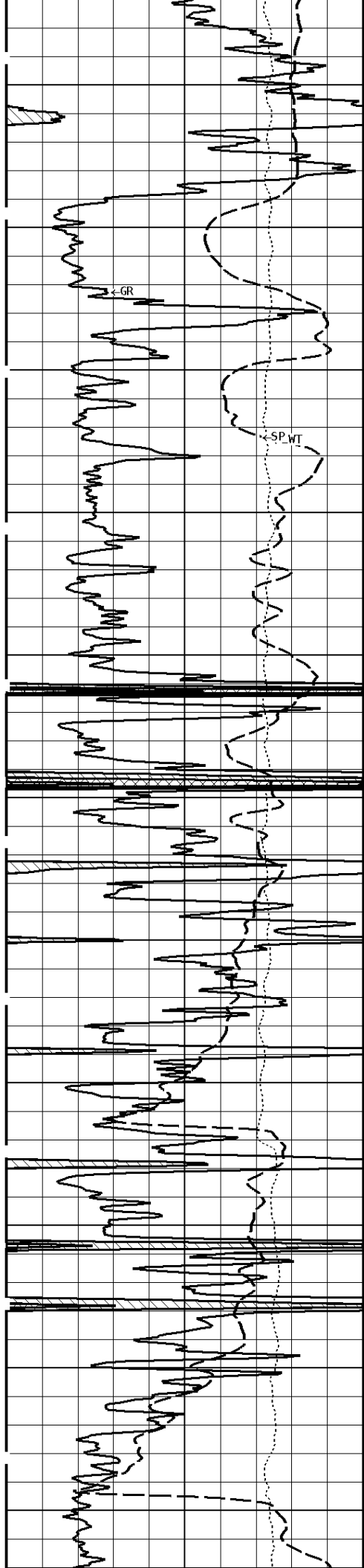


←DIR

←SFR



←DTC



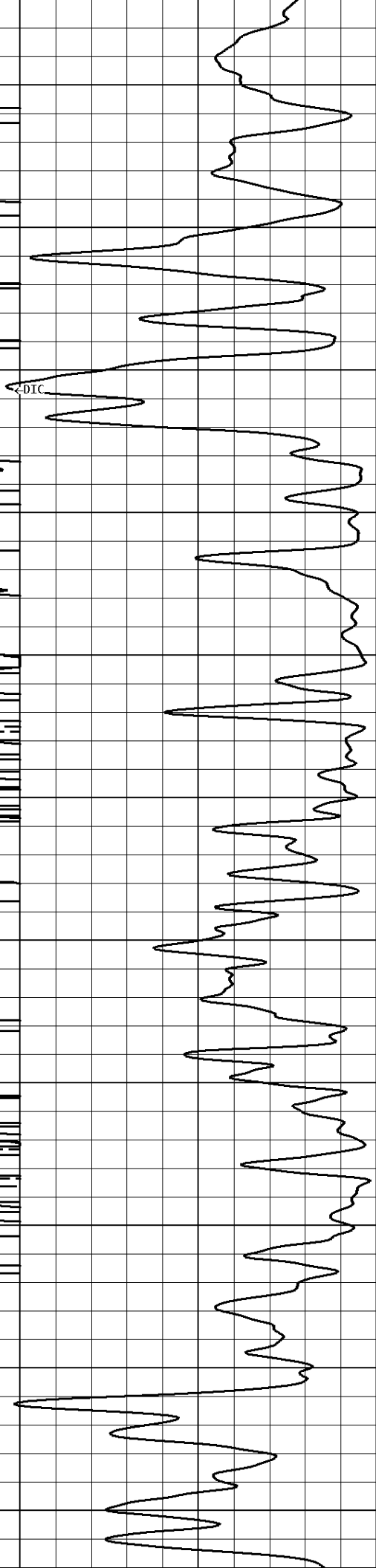
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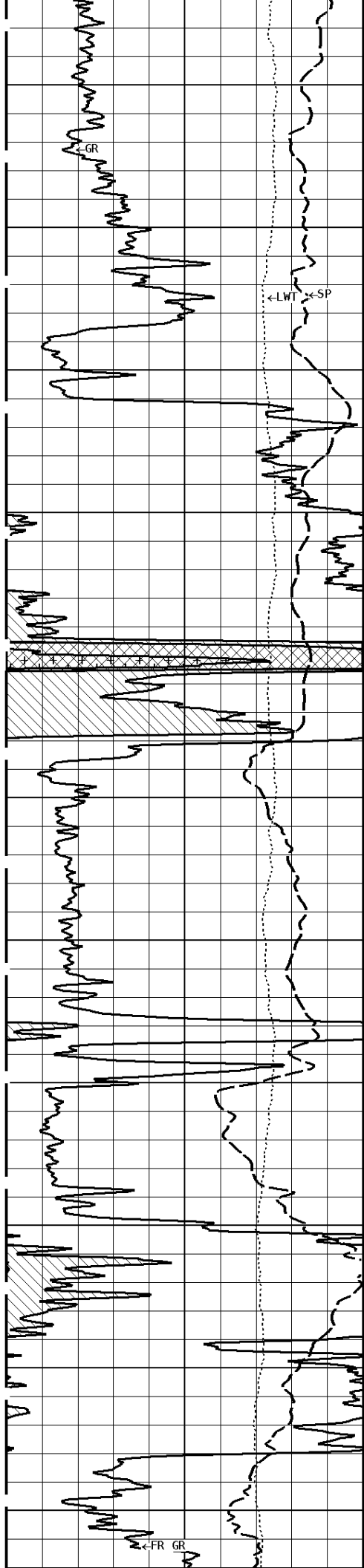
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4400

4500





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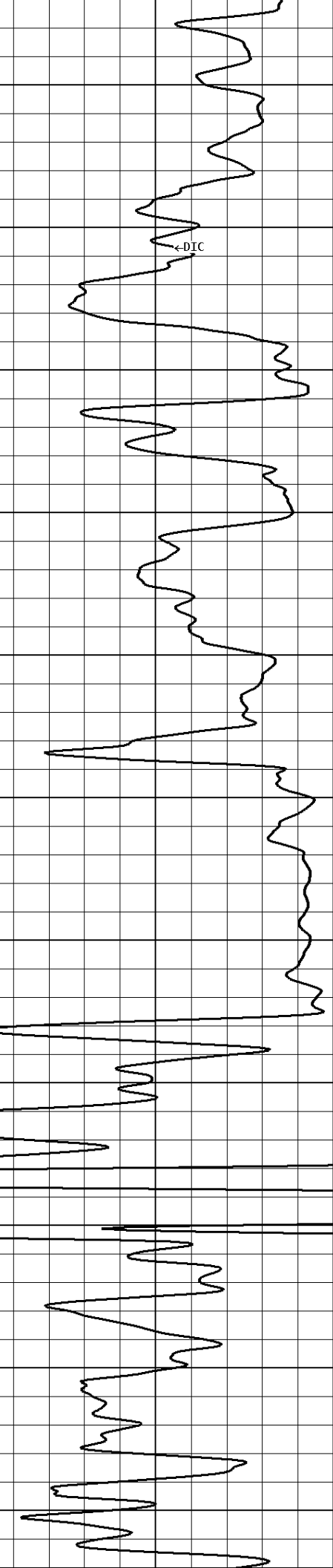
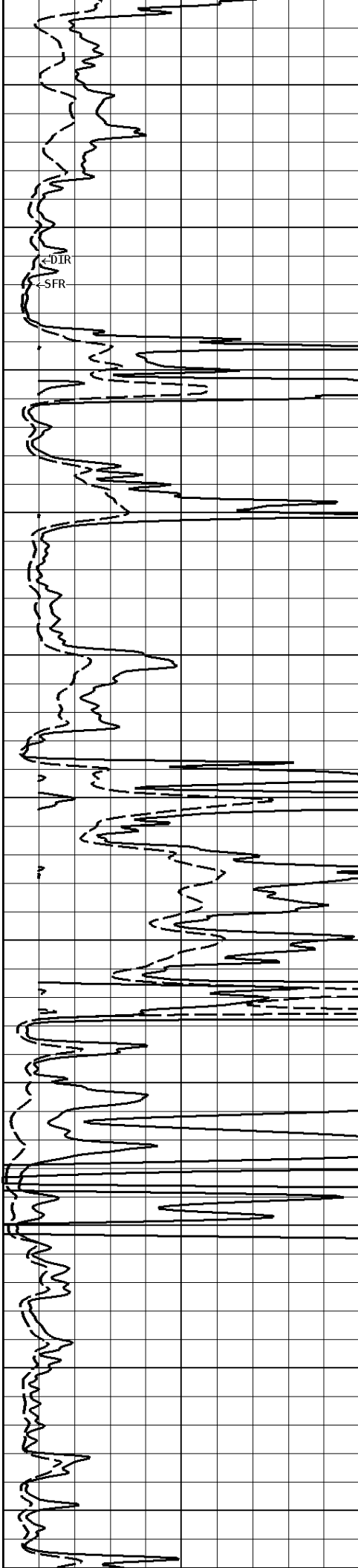
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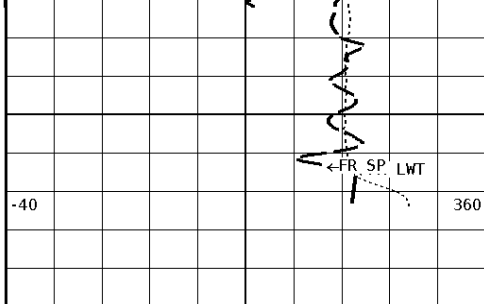
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4900

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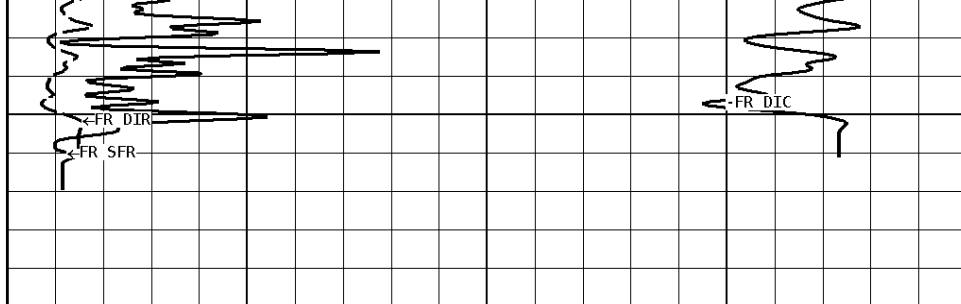
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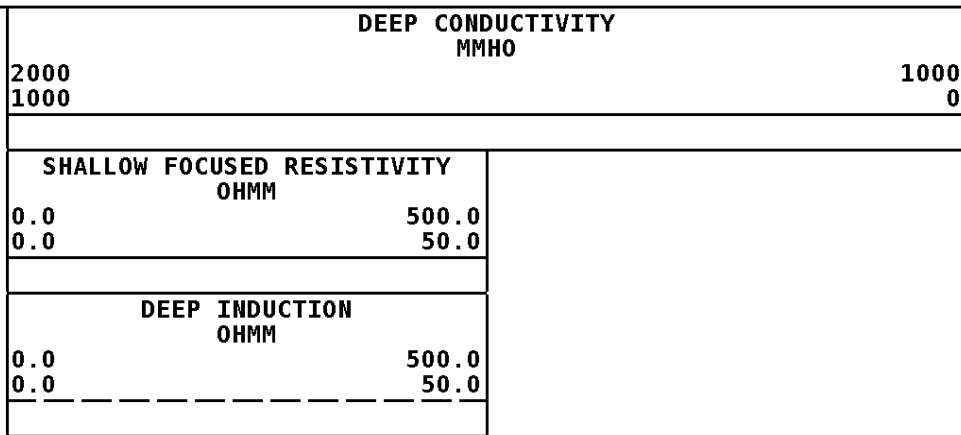
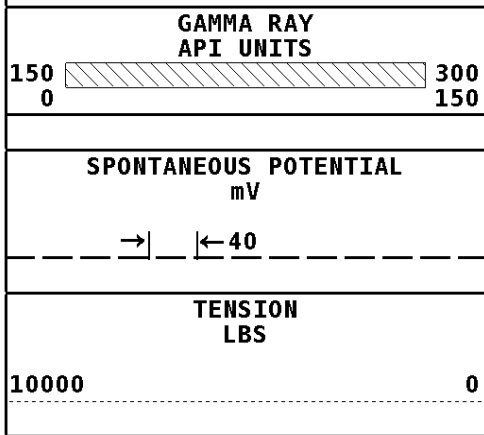


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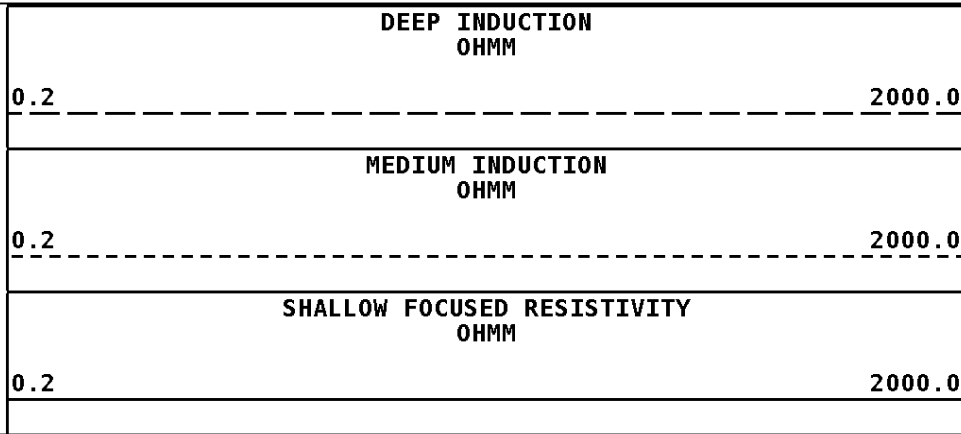
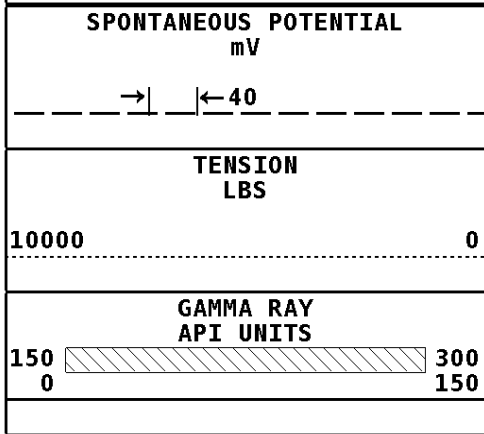
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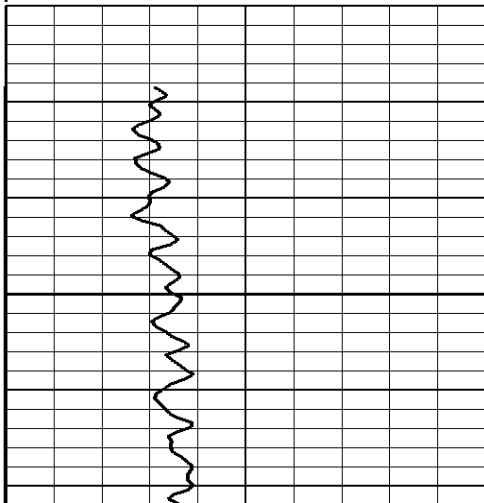
1:600 MAIN SECTION



Well File: chief-die-6-mstk-oct-21 Scale: 1:240 Format: DIL-240
 Segment: V1.D1.S3 MN Acquired: 2014-10/22 00:32 3.3.0-12702
 Reference: 0 Processed: 2014-10/22 01:55 3.3.0-12702

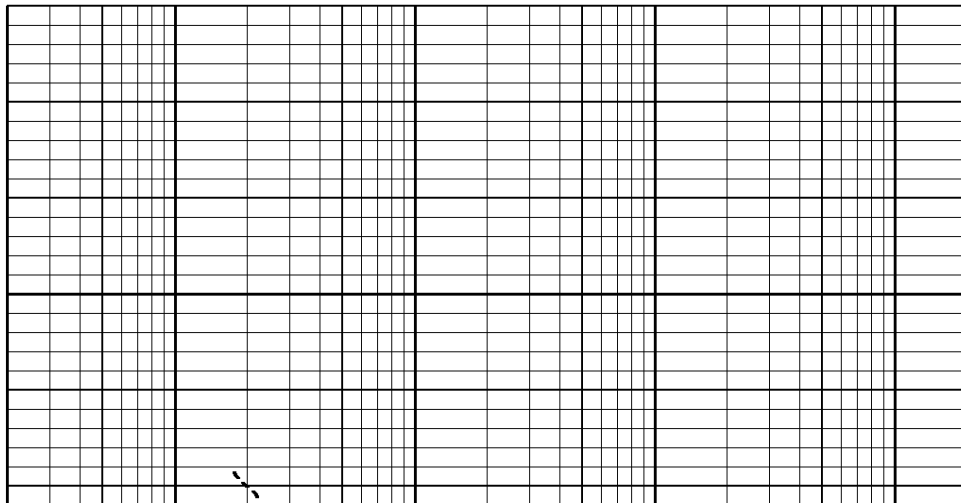


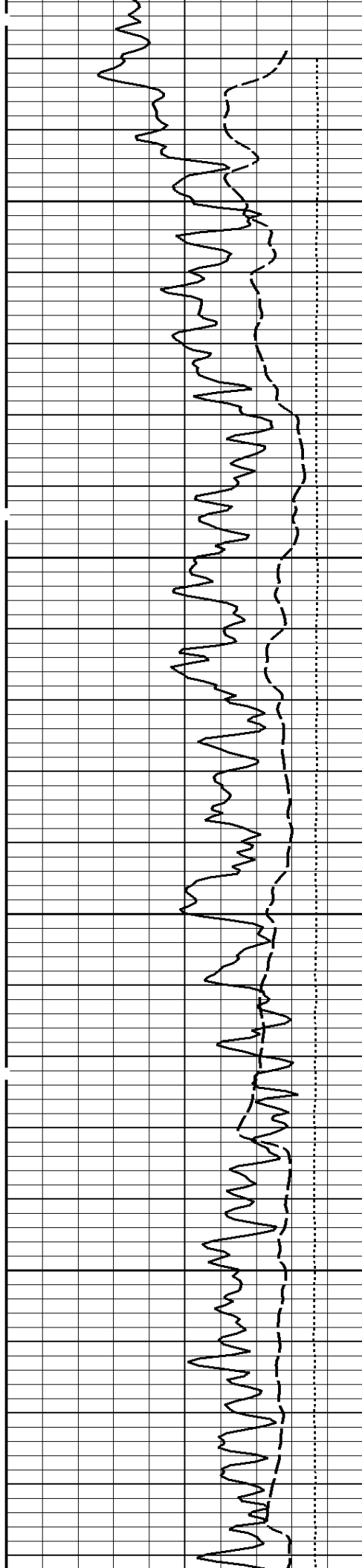
1:240 MAIN SECTION



File #1.1.3

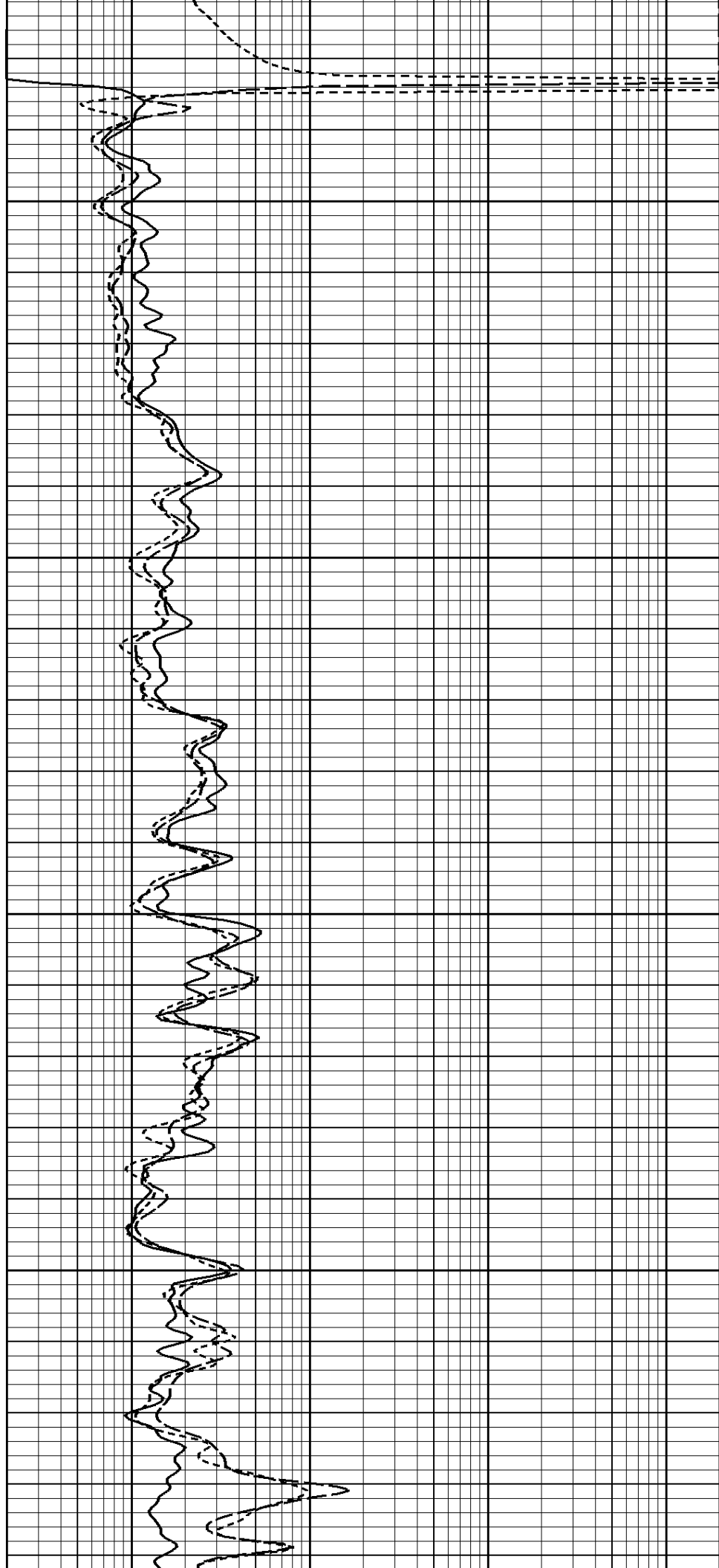
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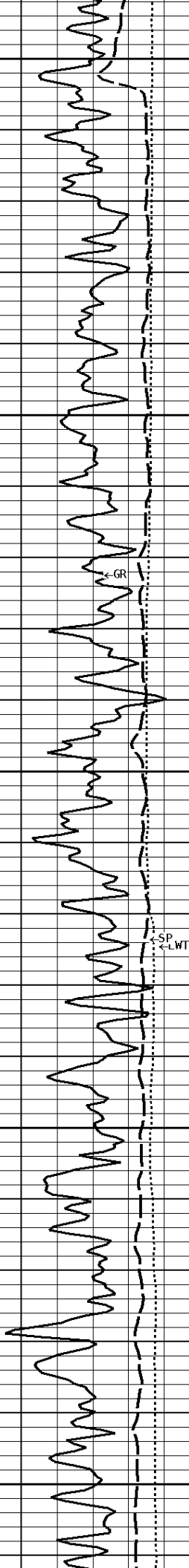




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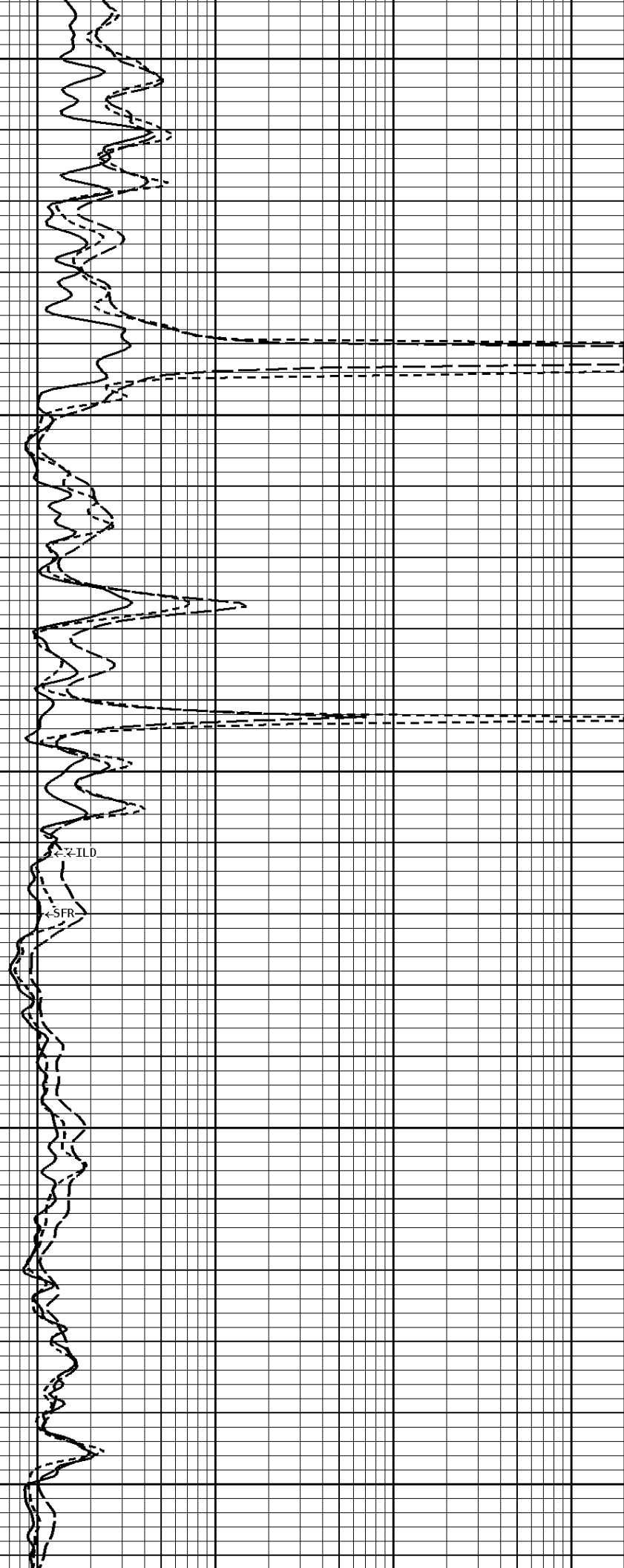
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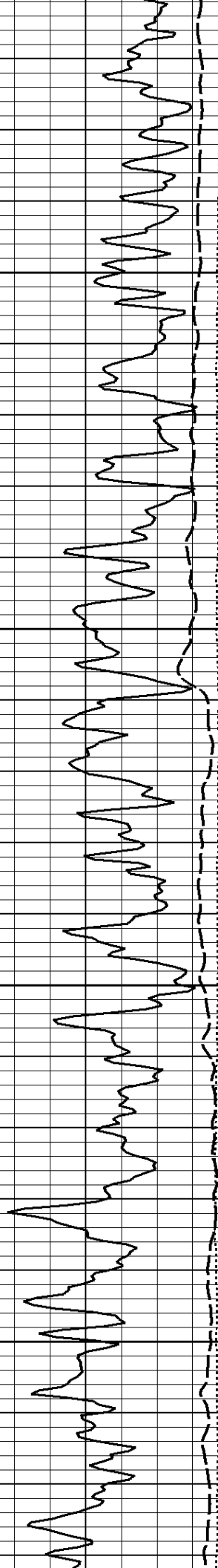




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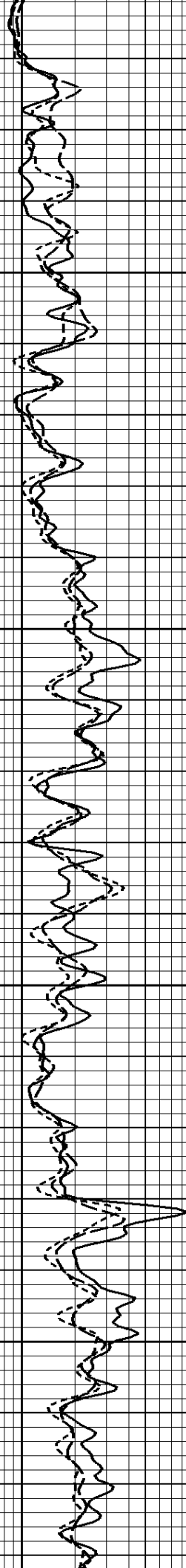
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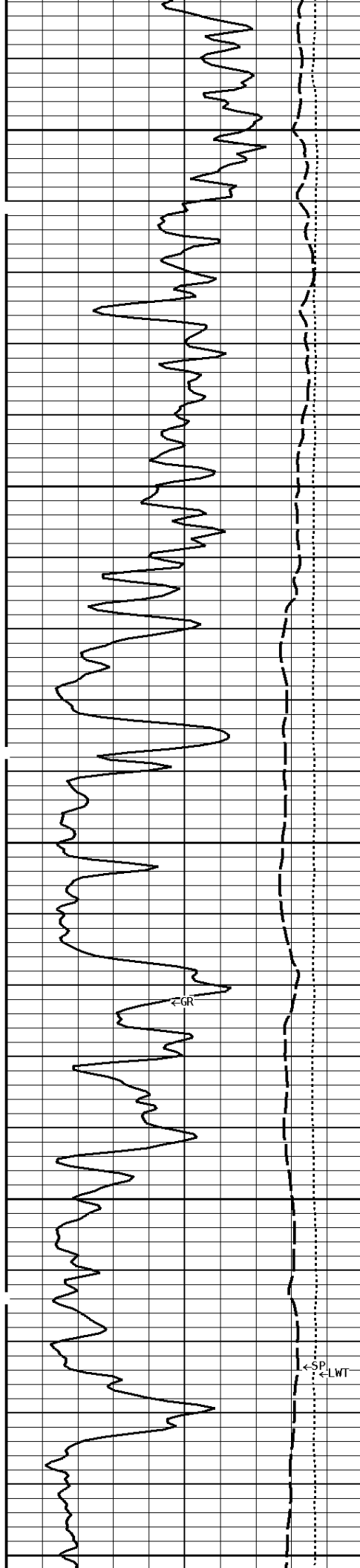




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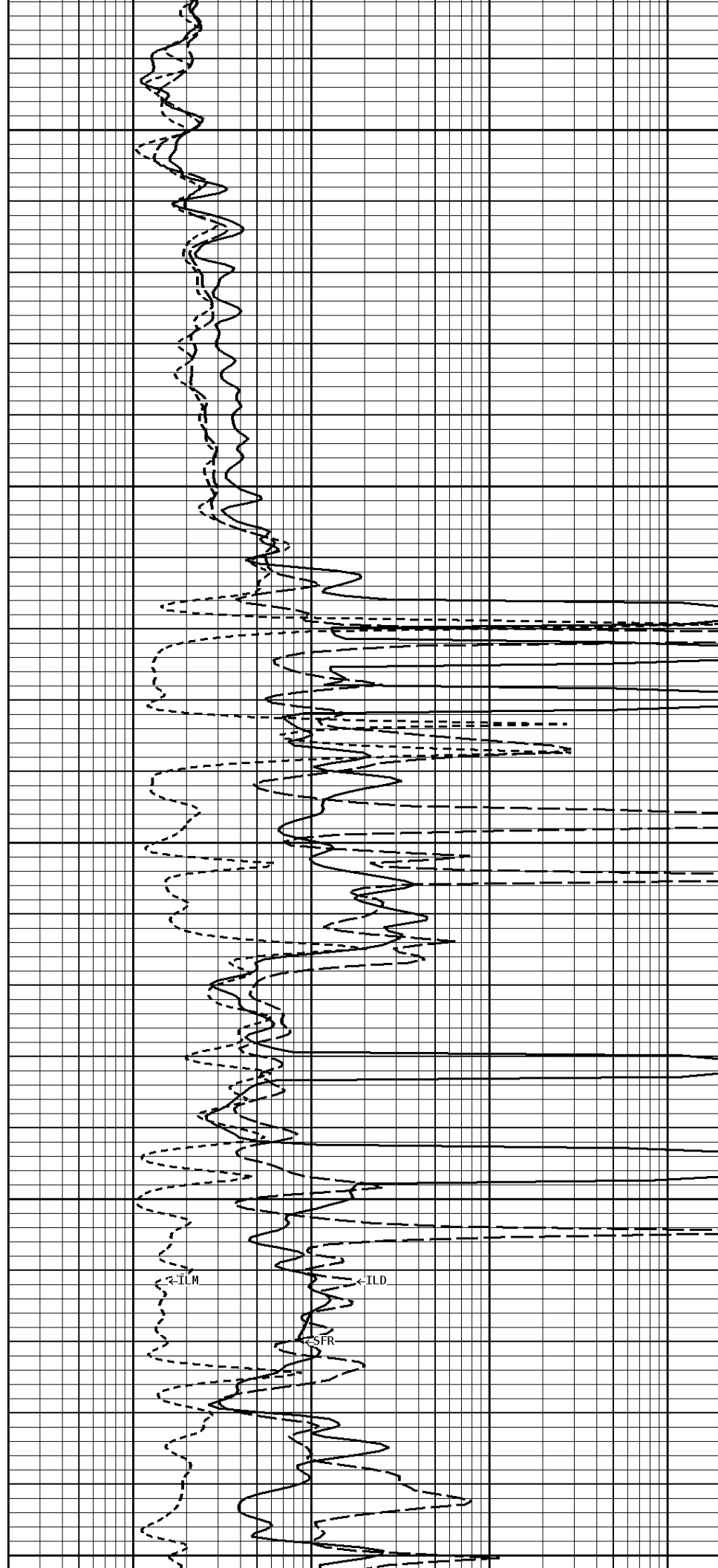


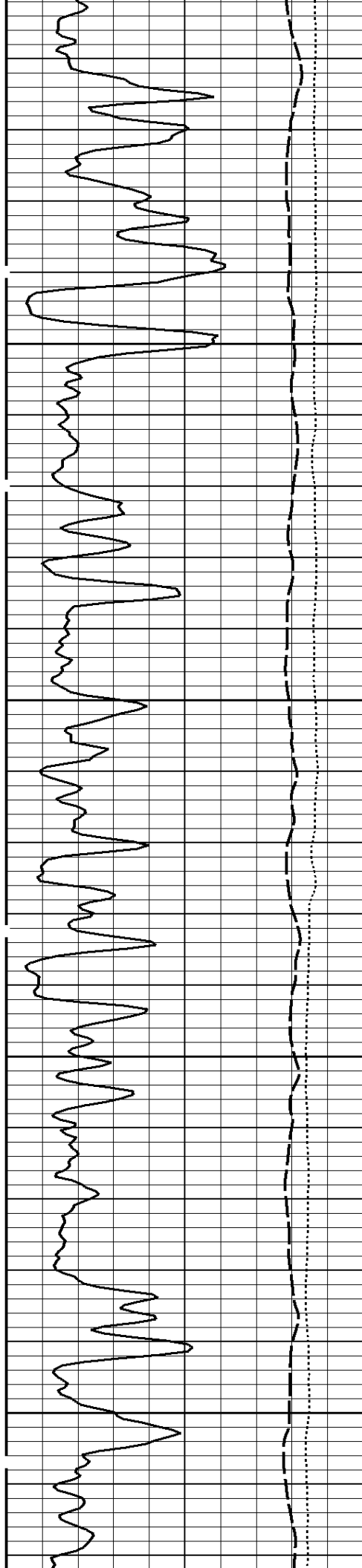


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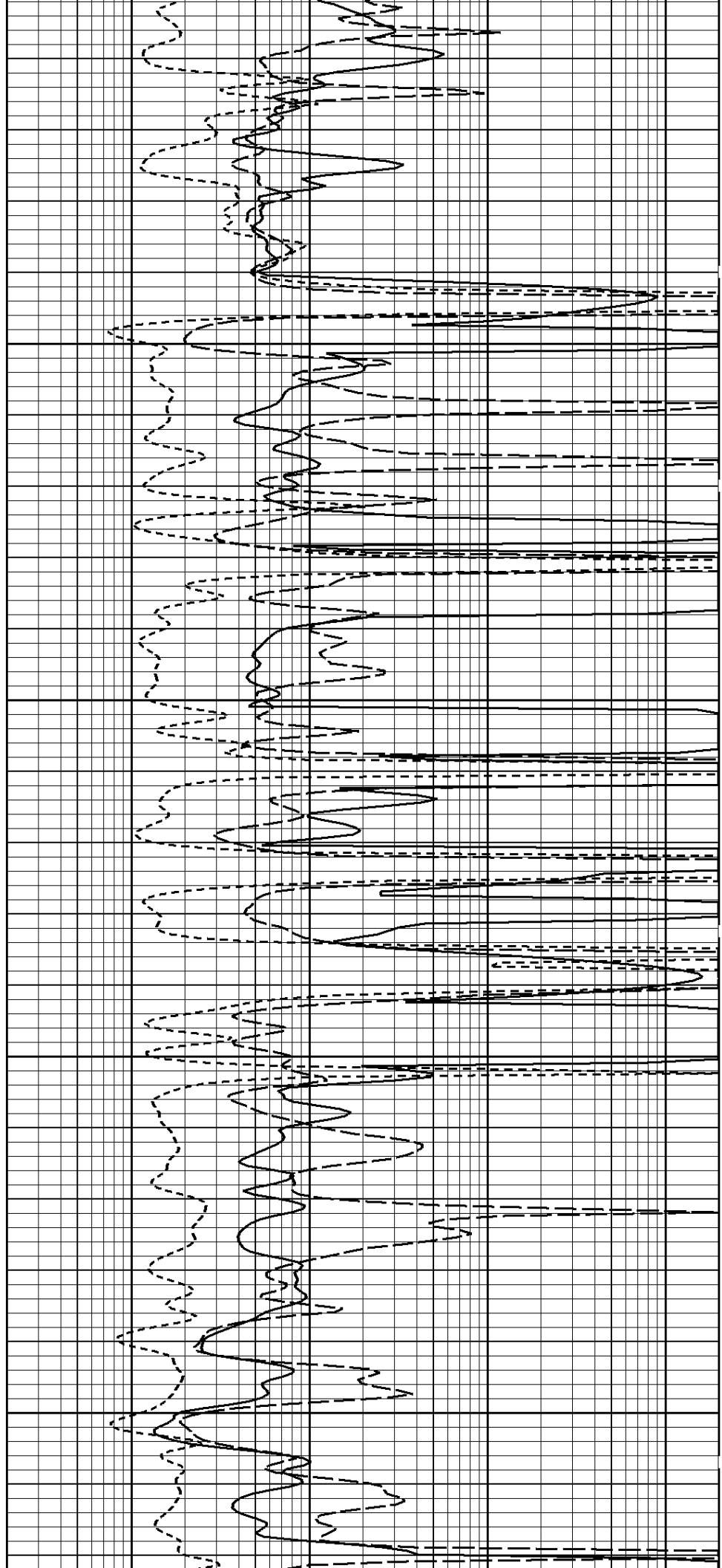
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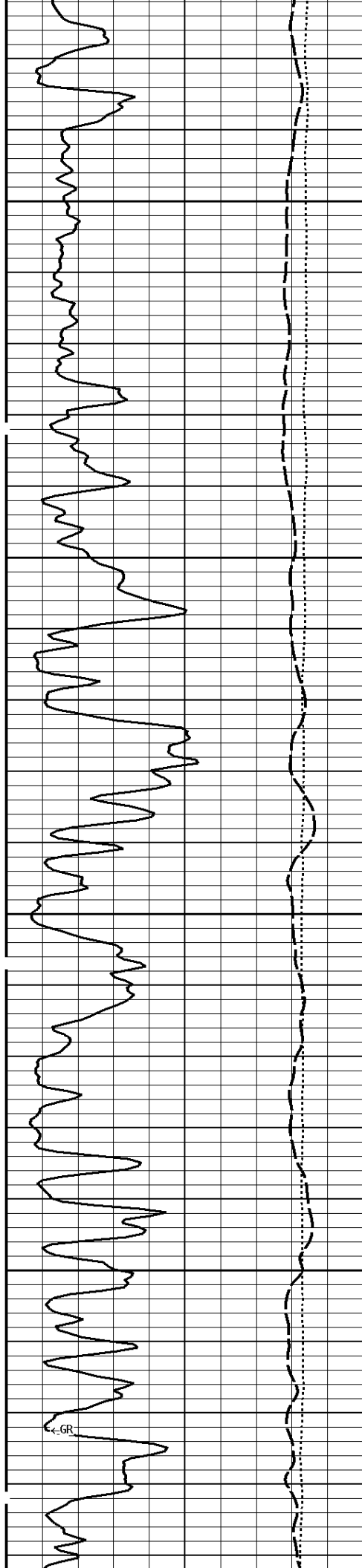




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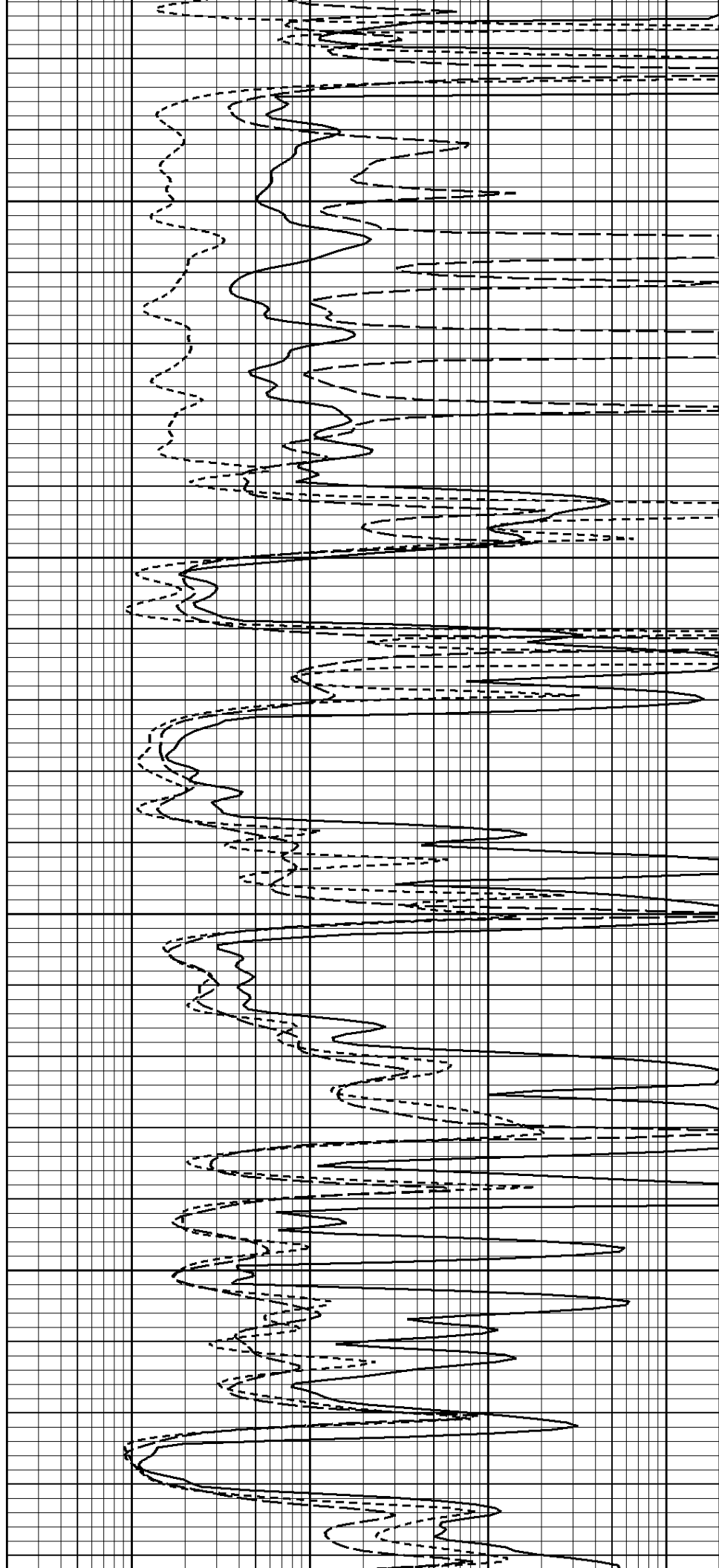
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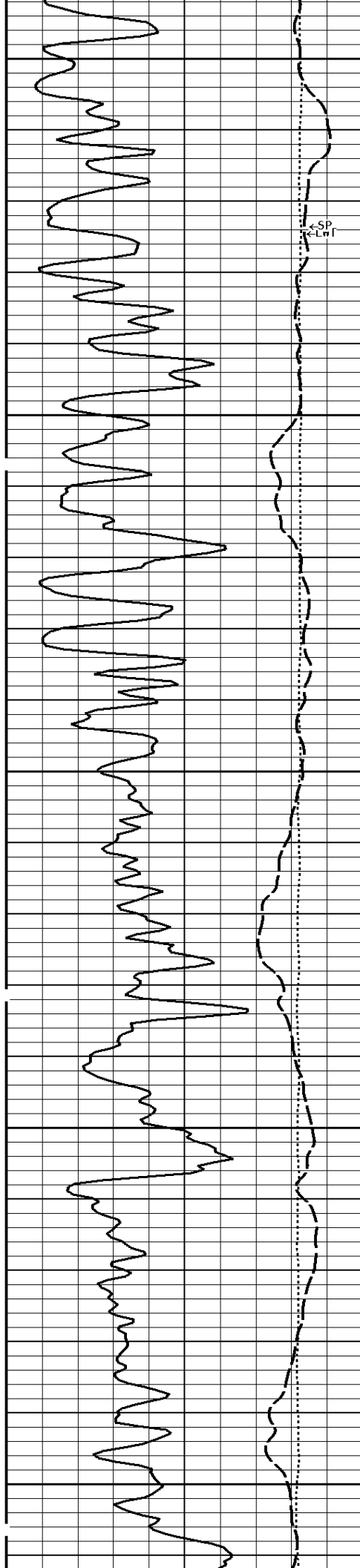




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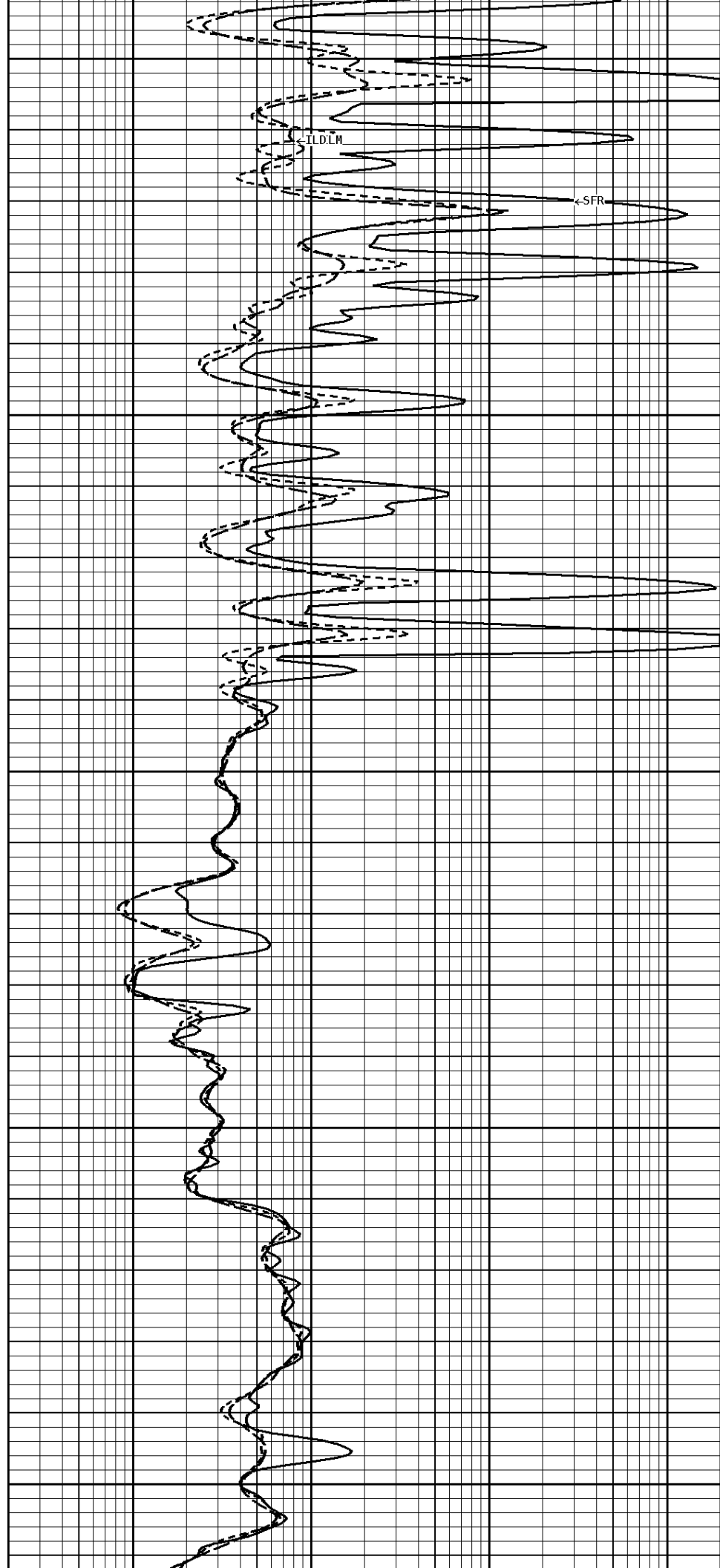
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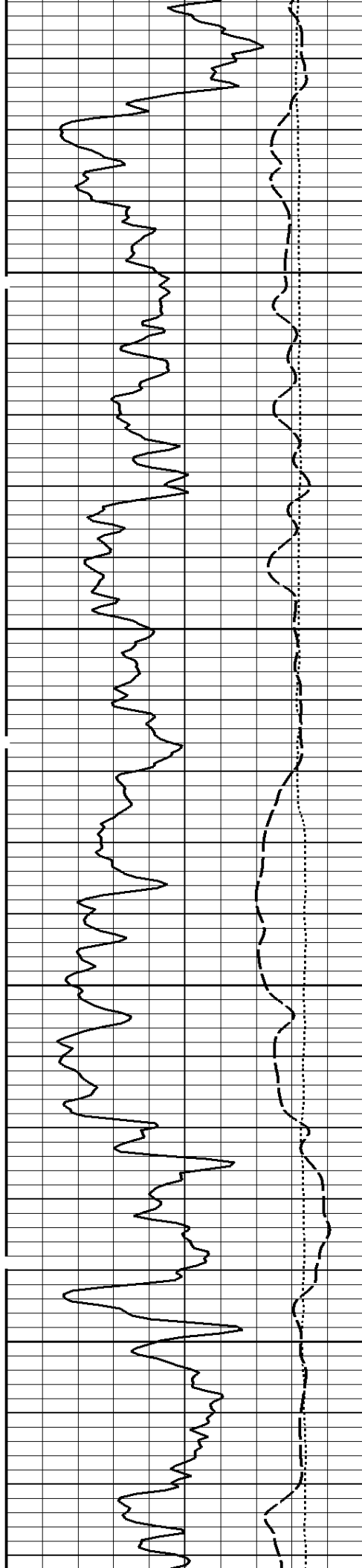




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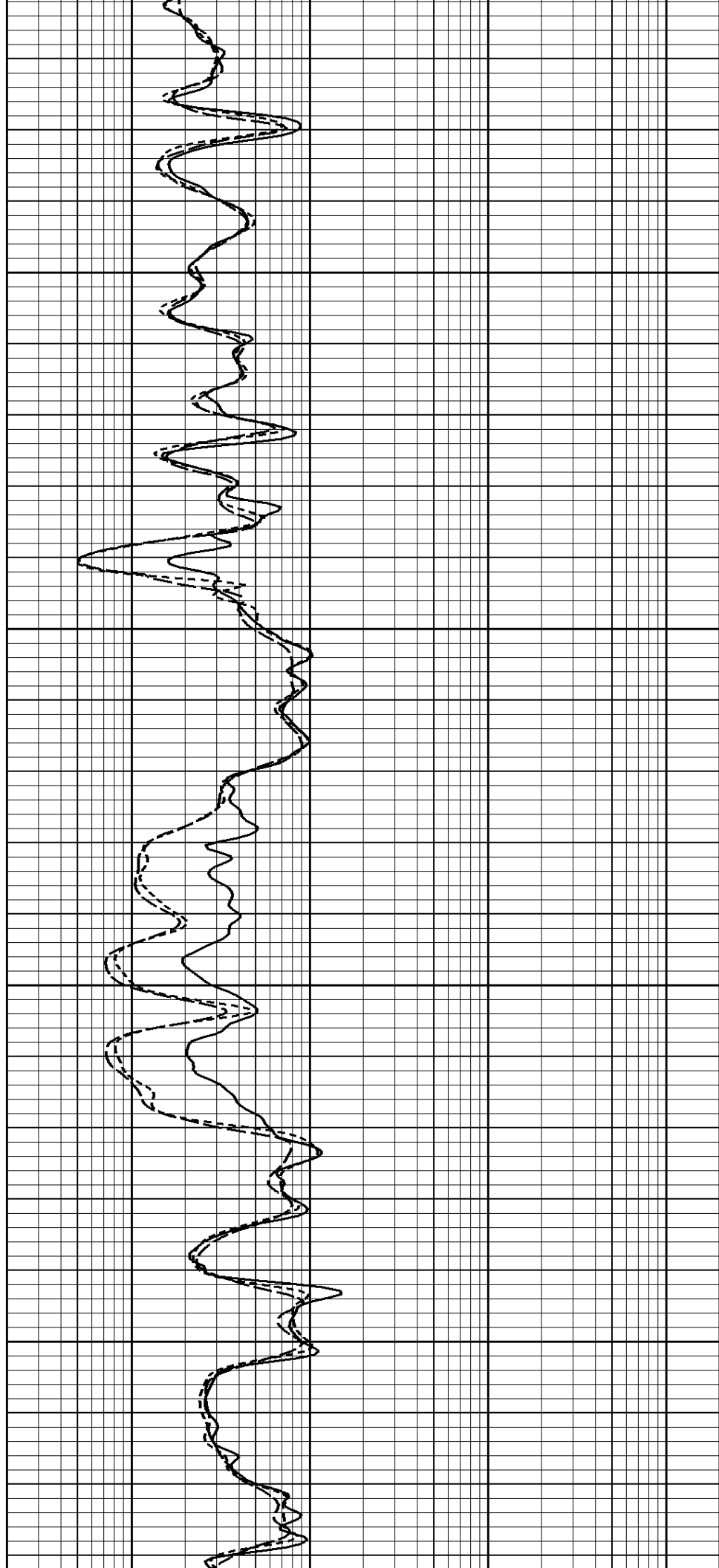
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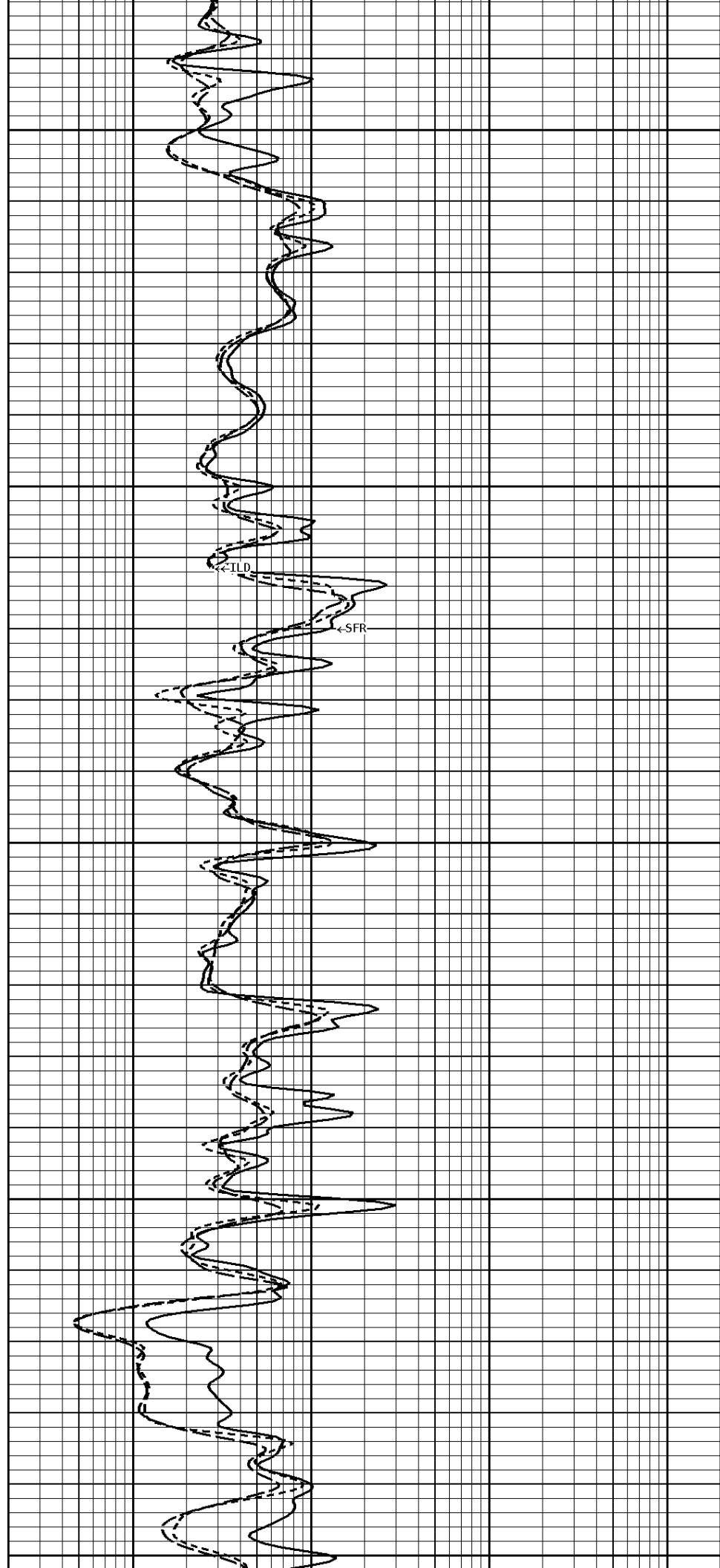
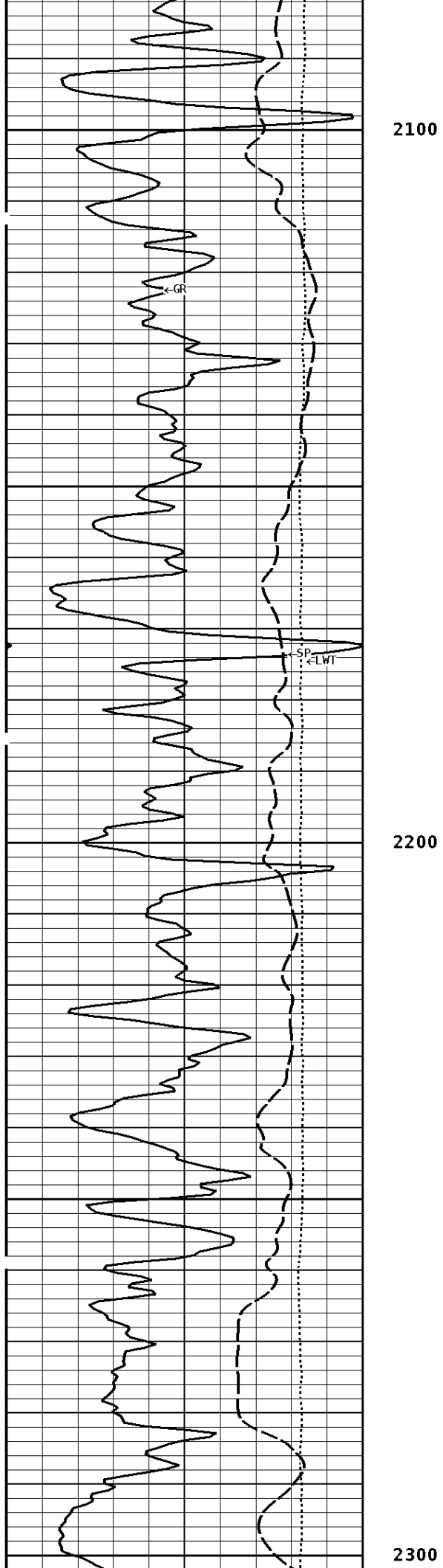


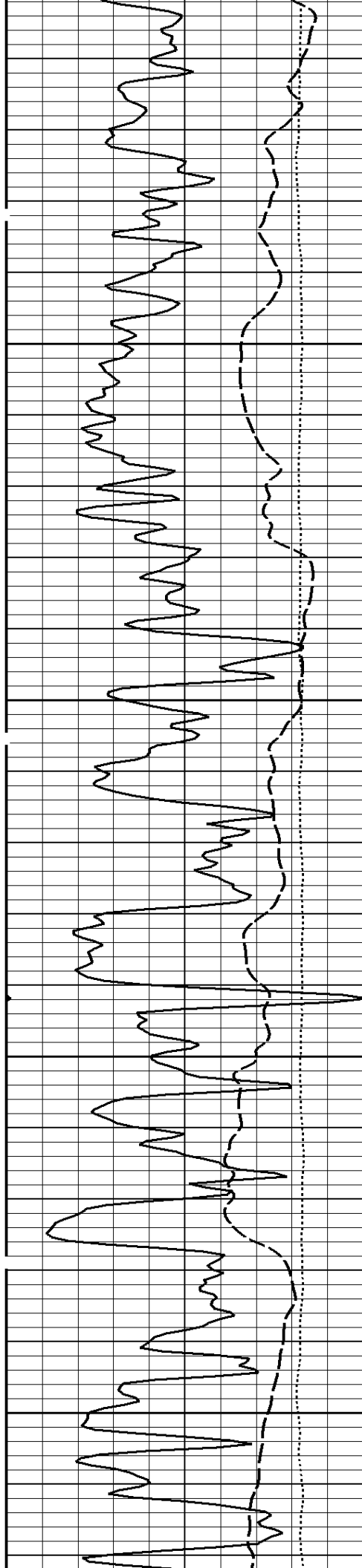


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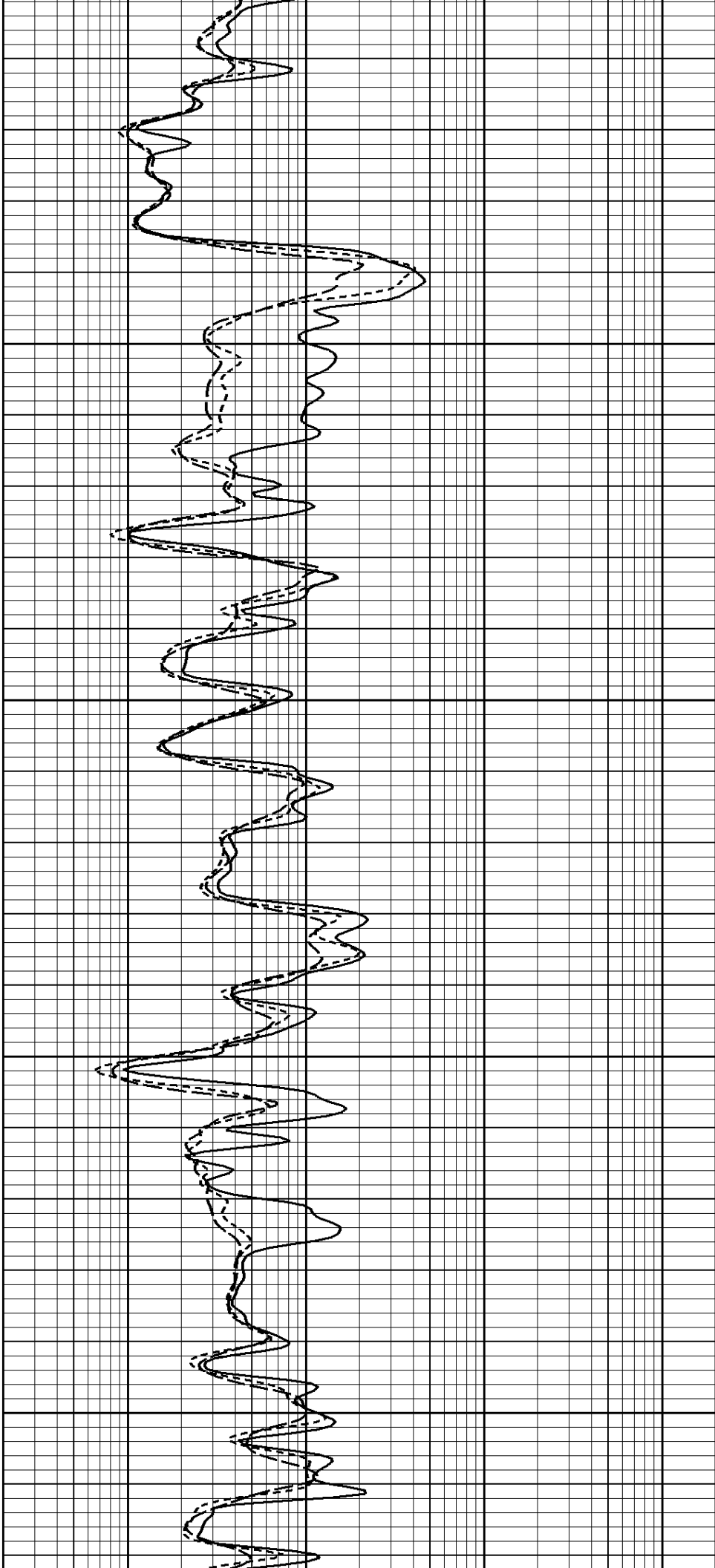


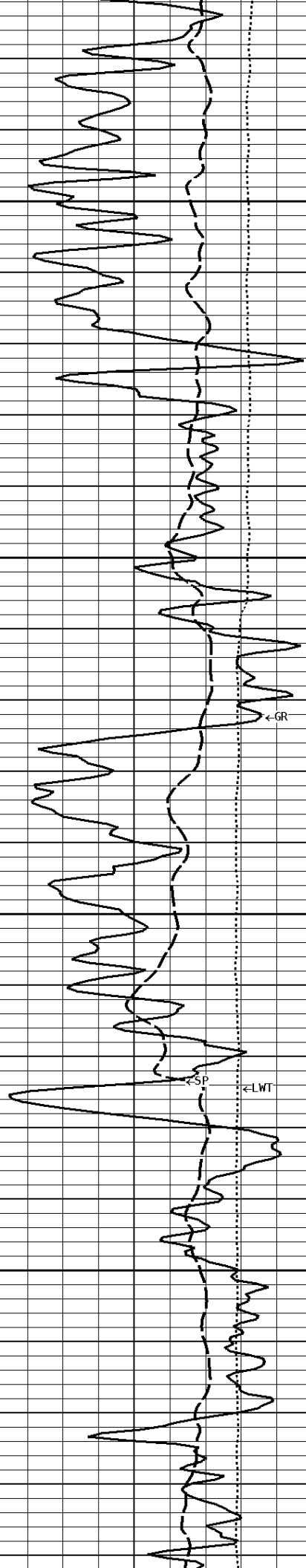




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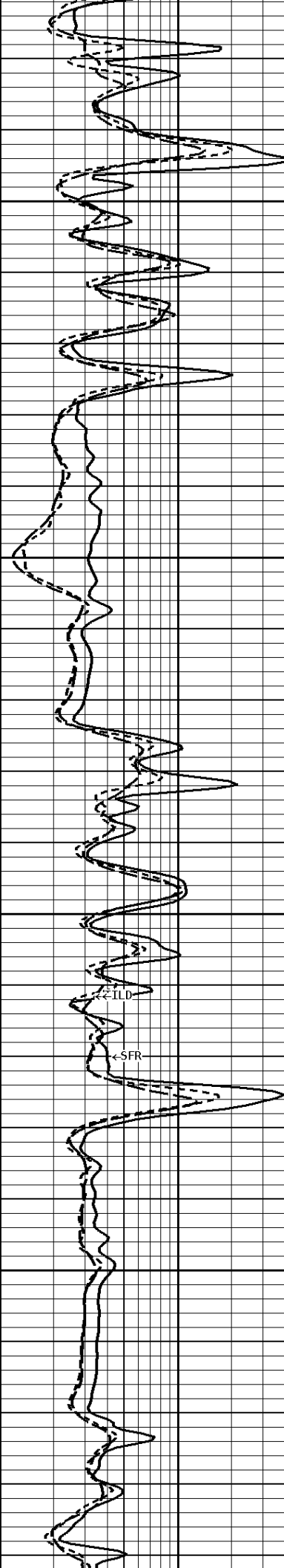
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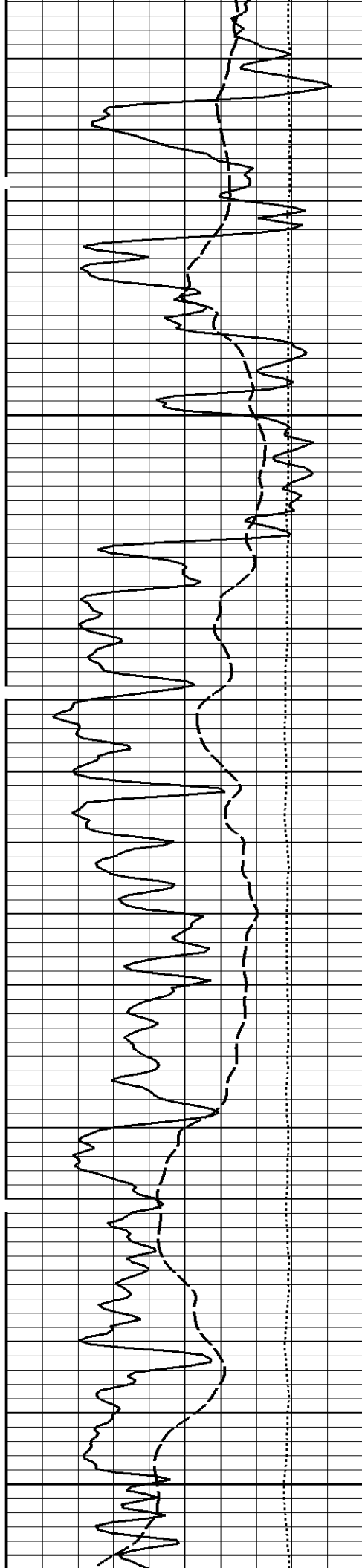




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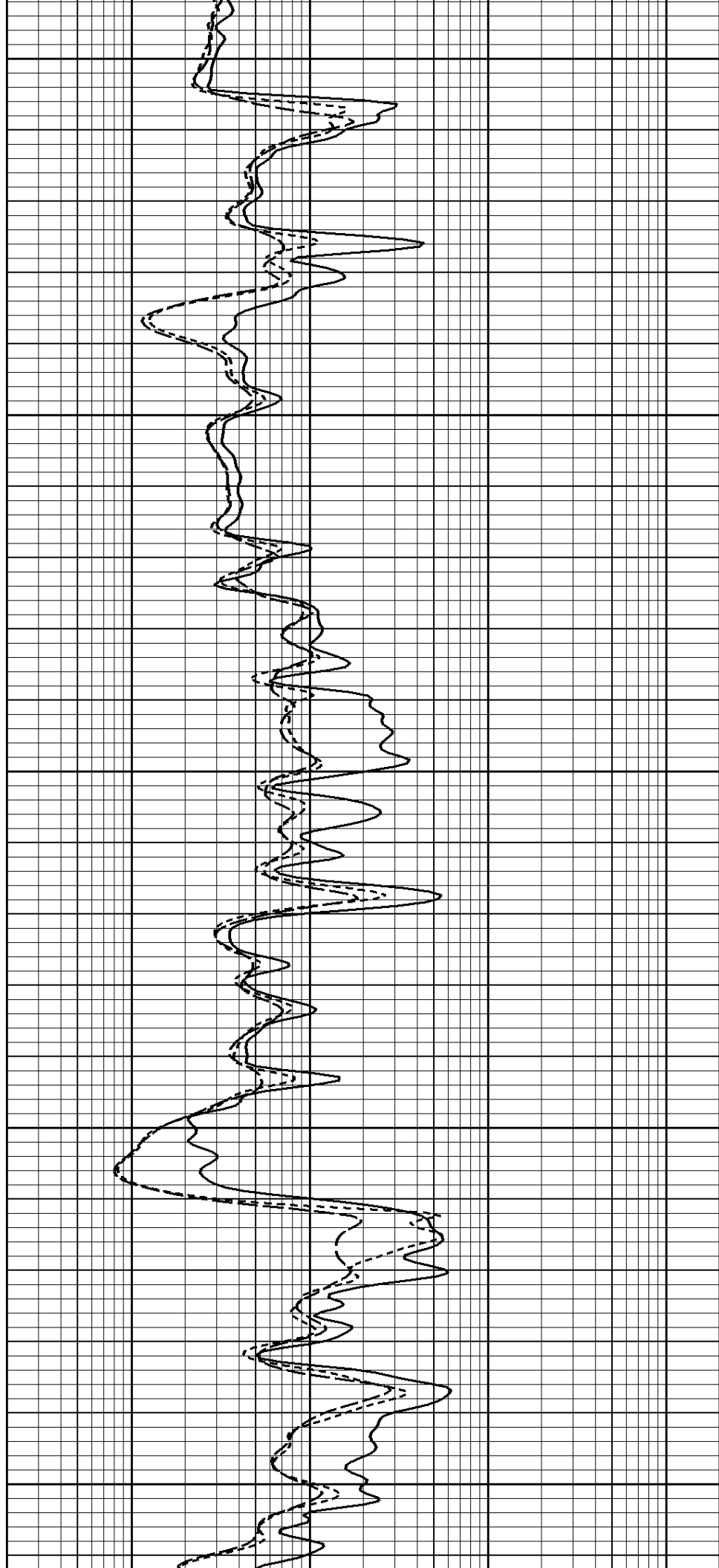
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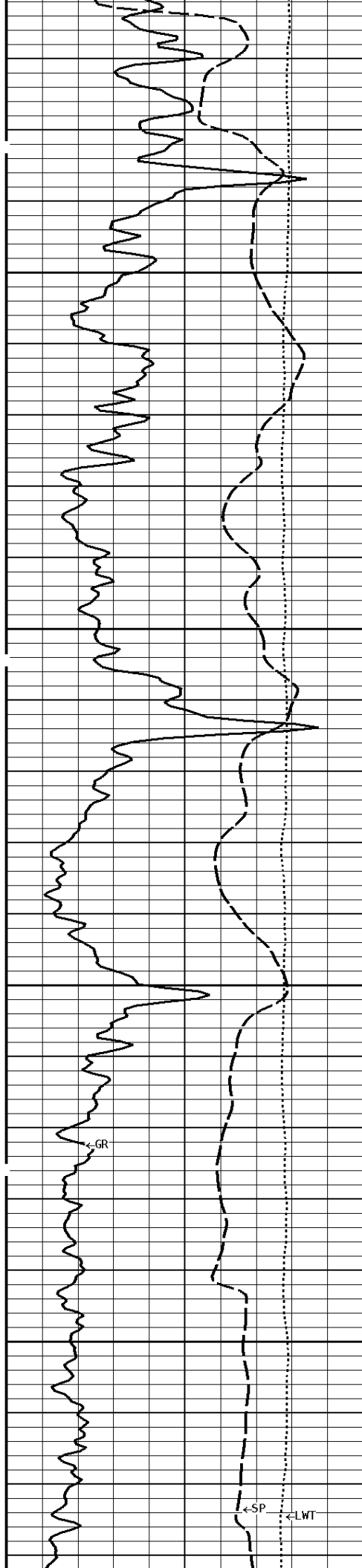




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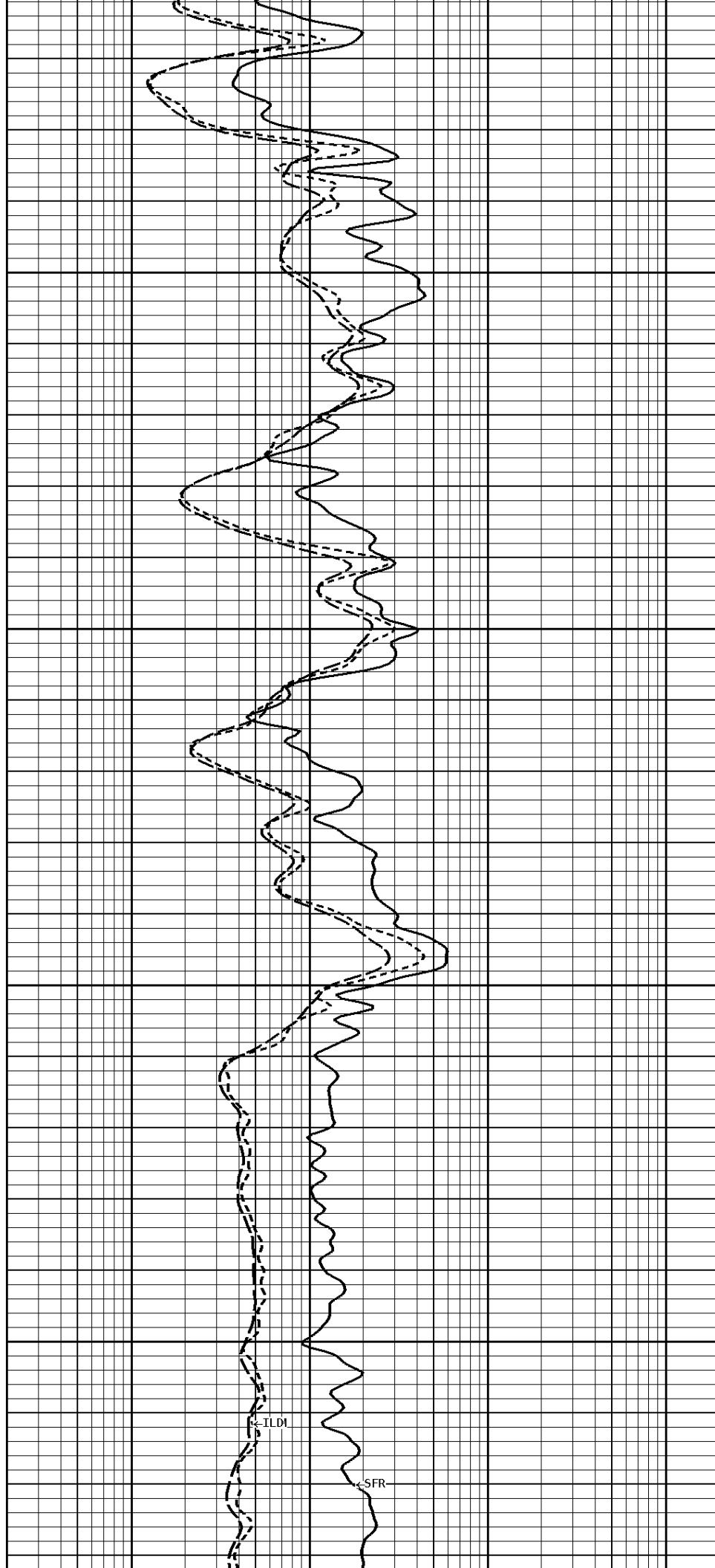
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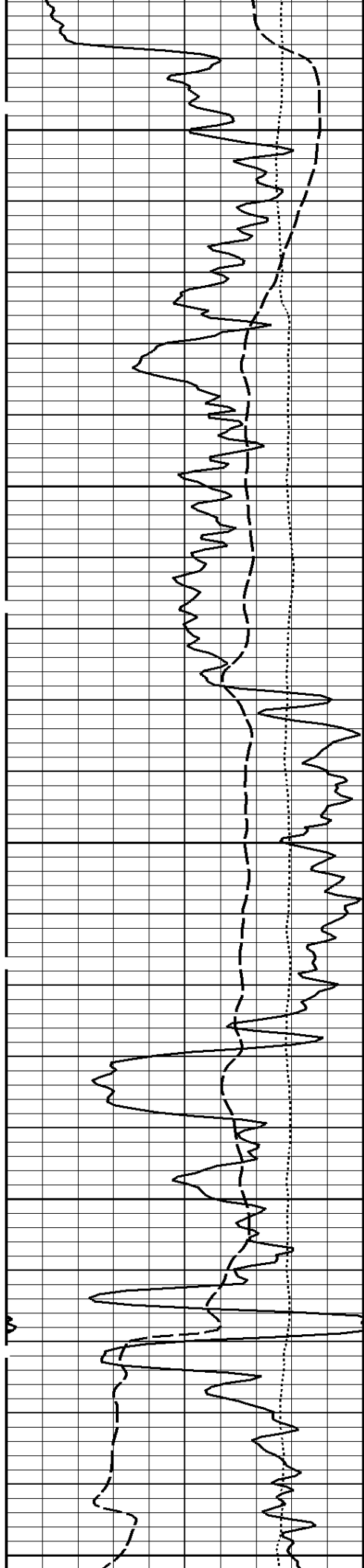




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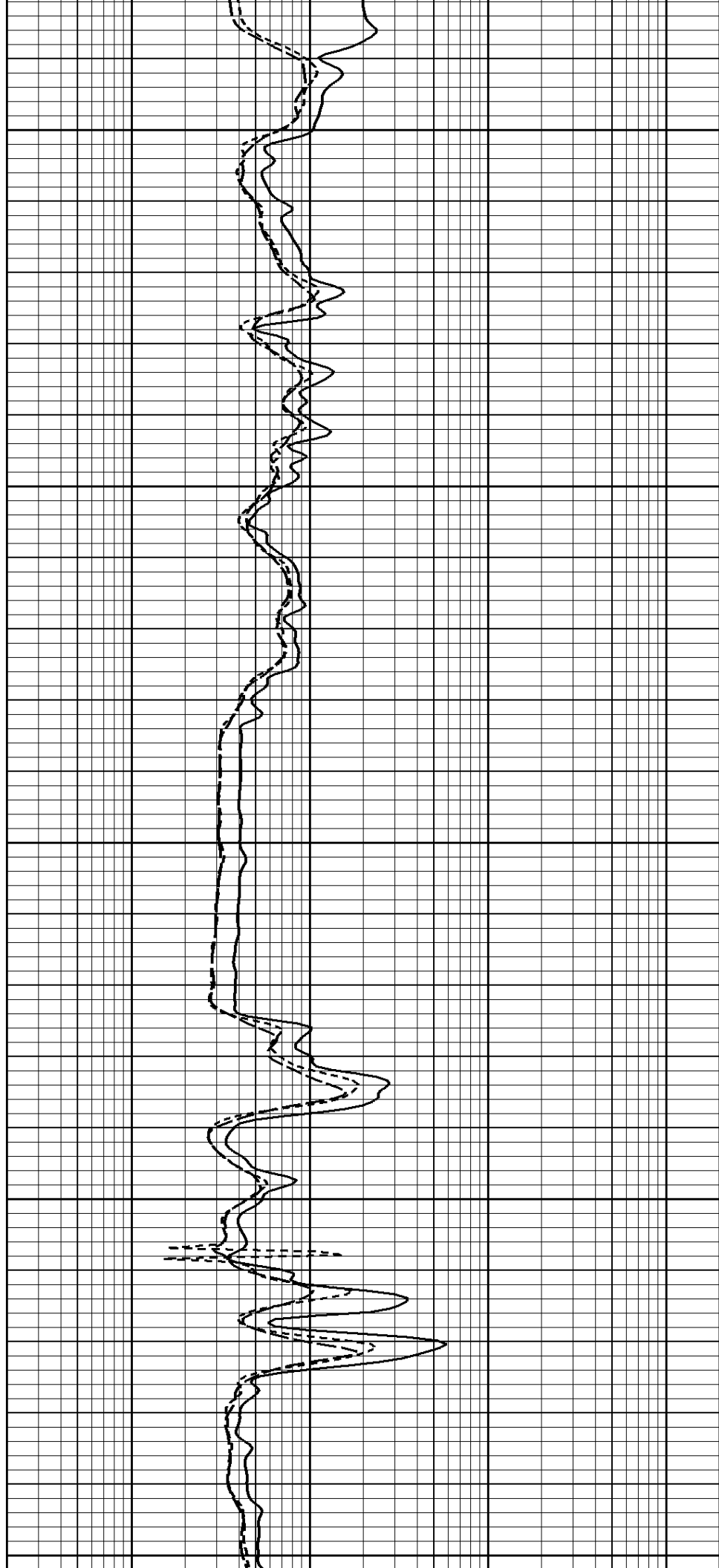


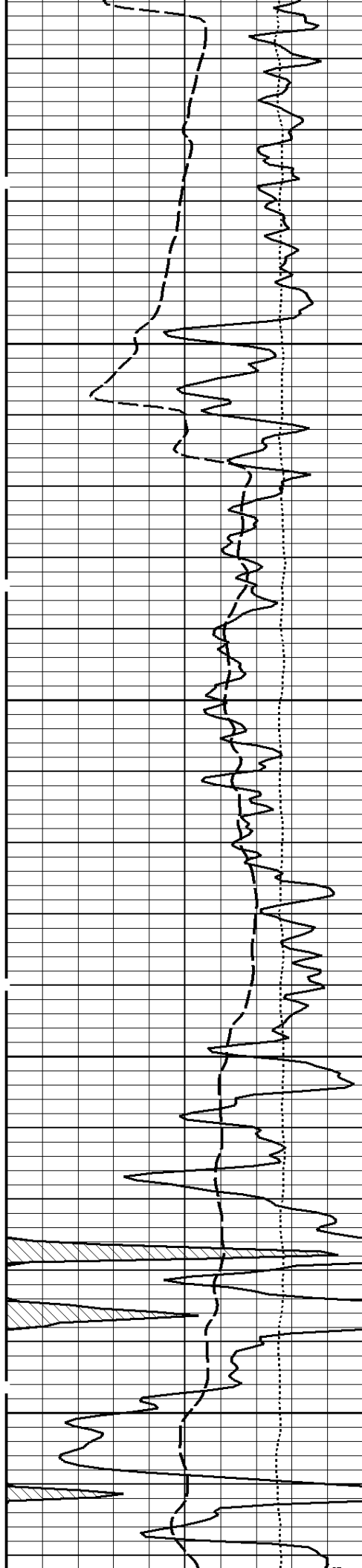


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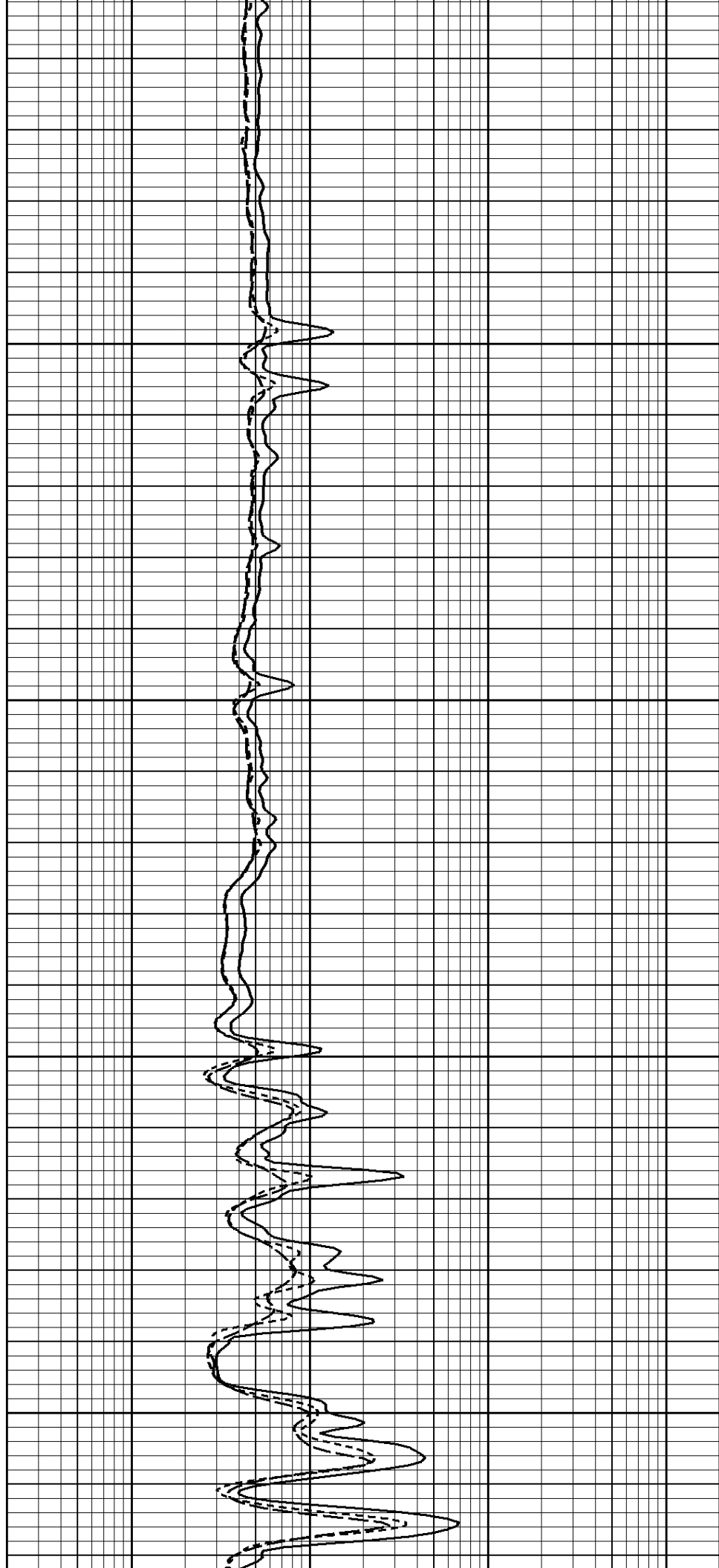
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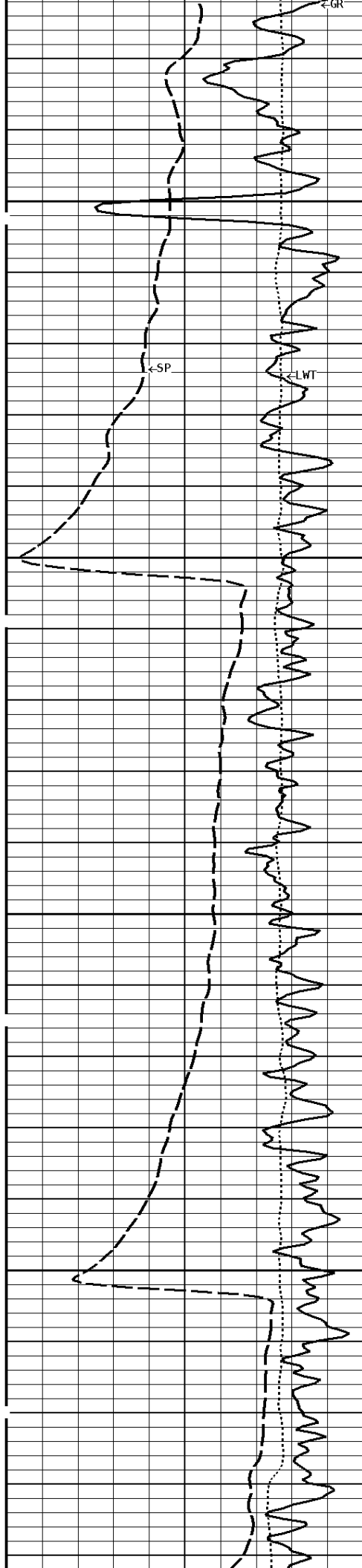




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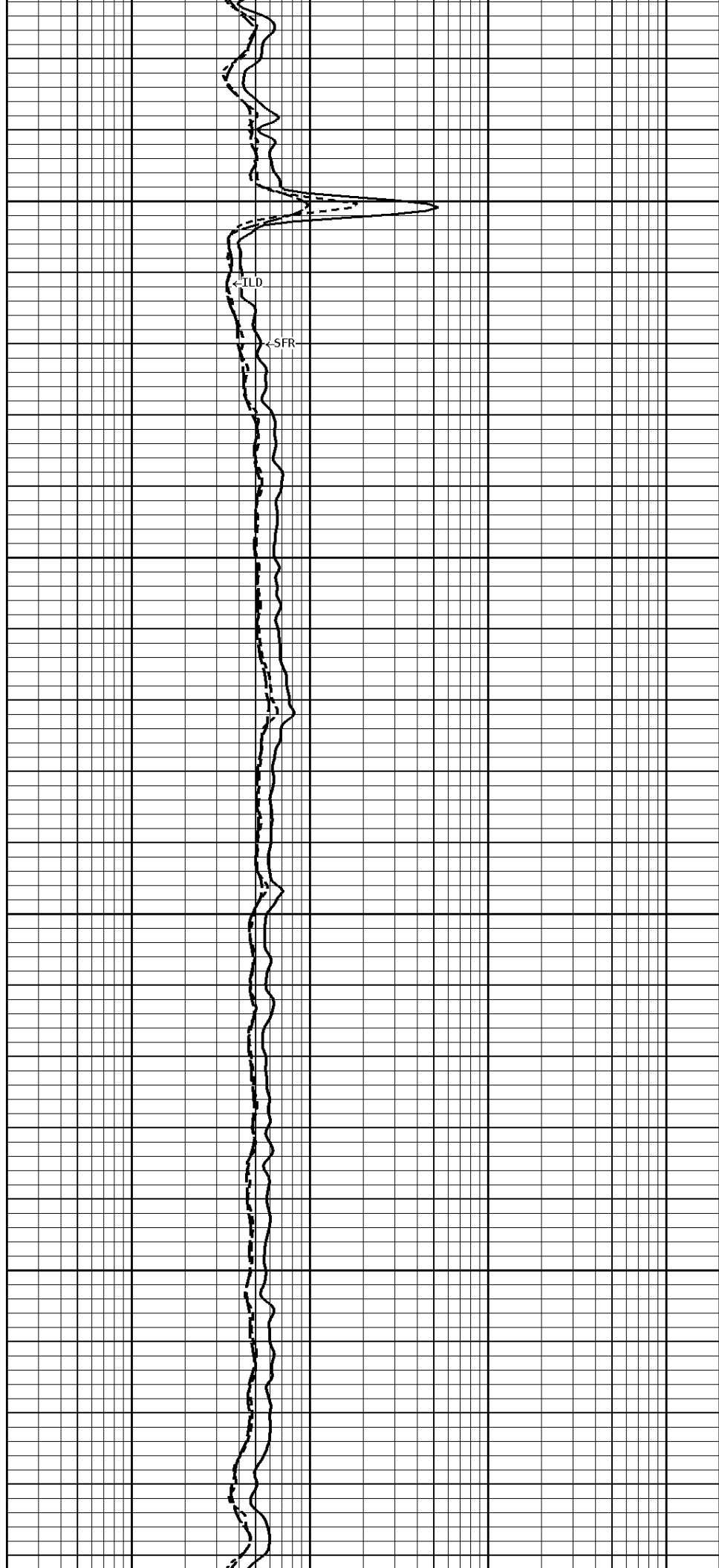
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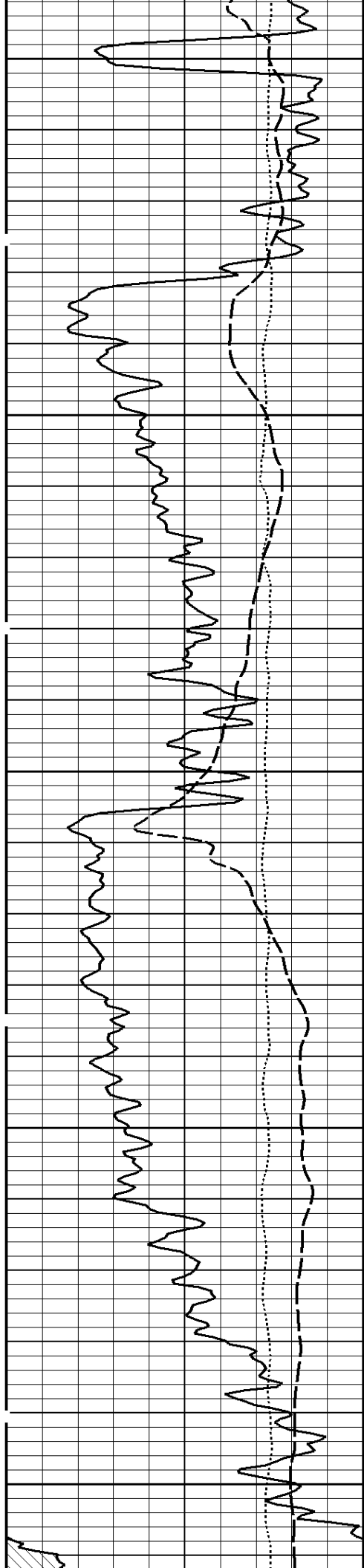




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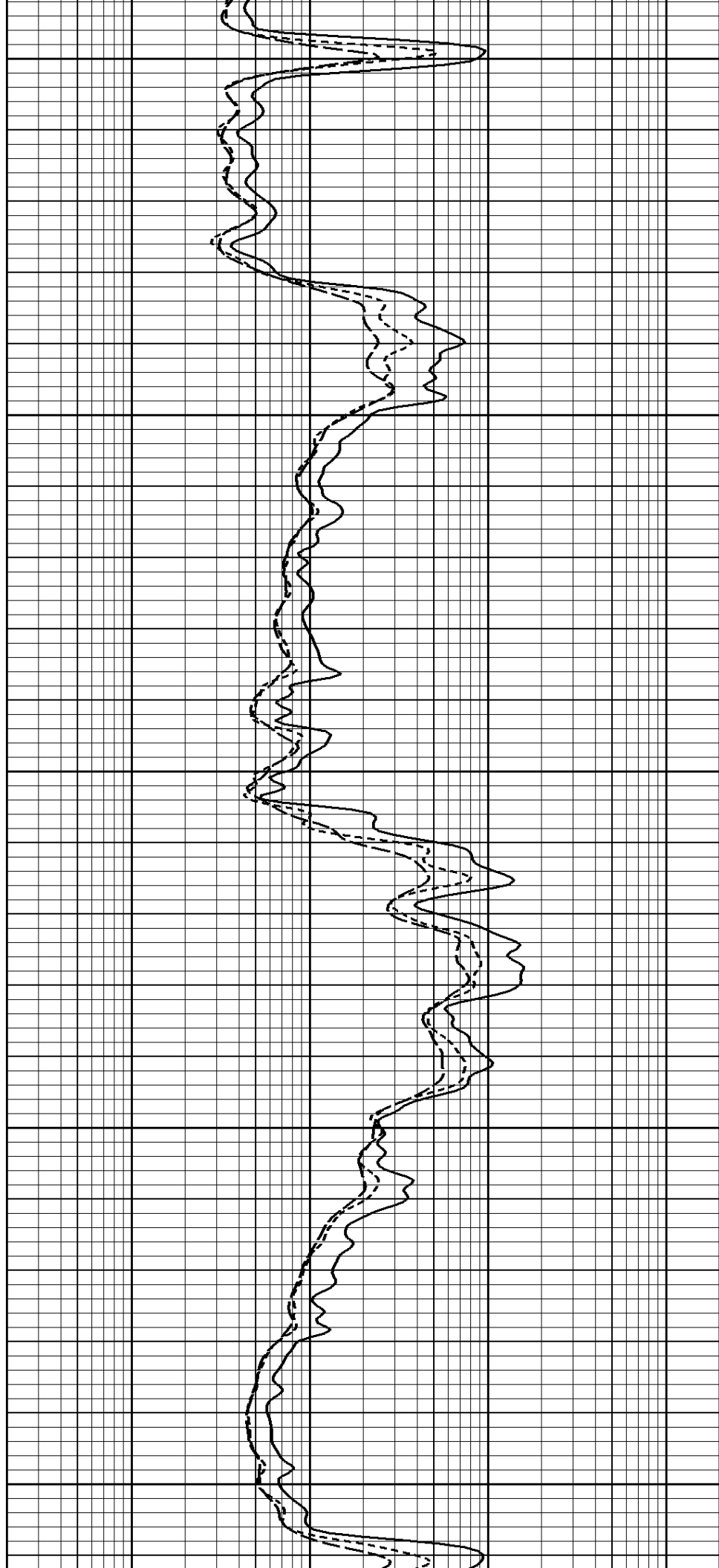
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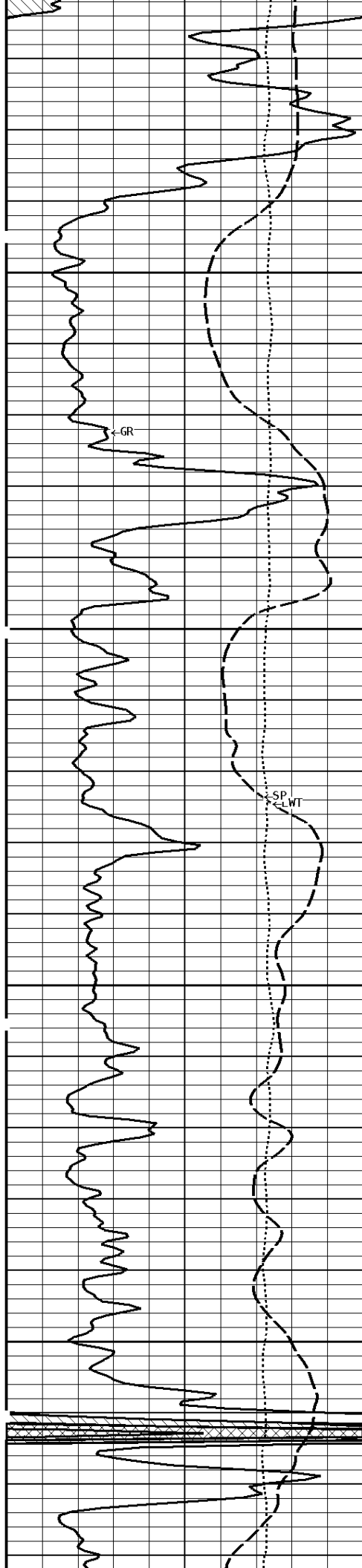




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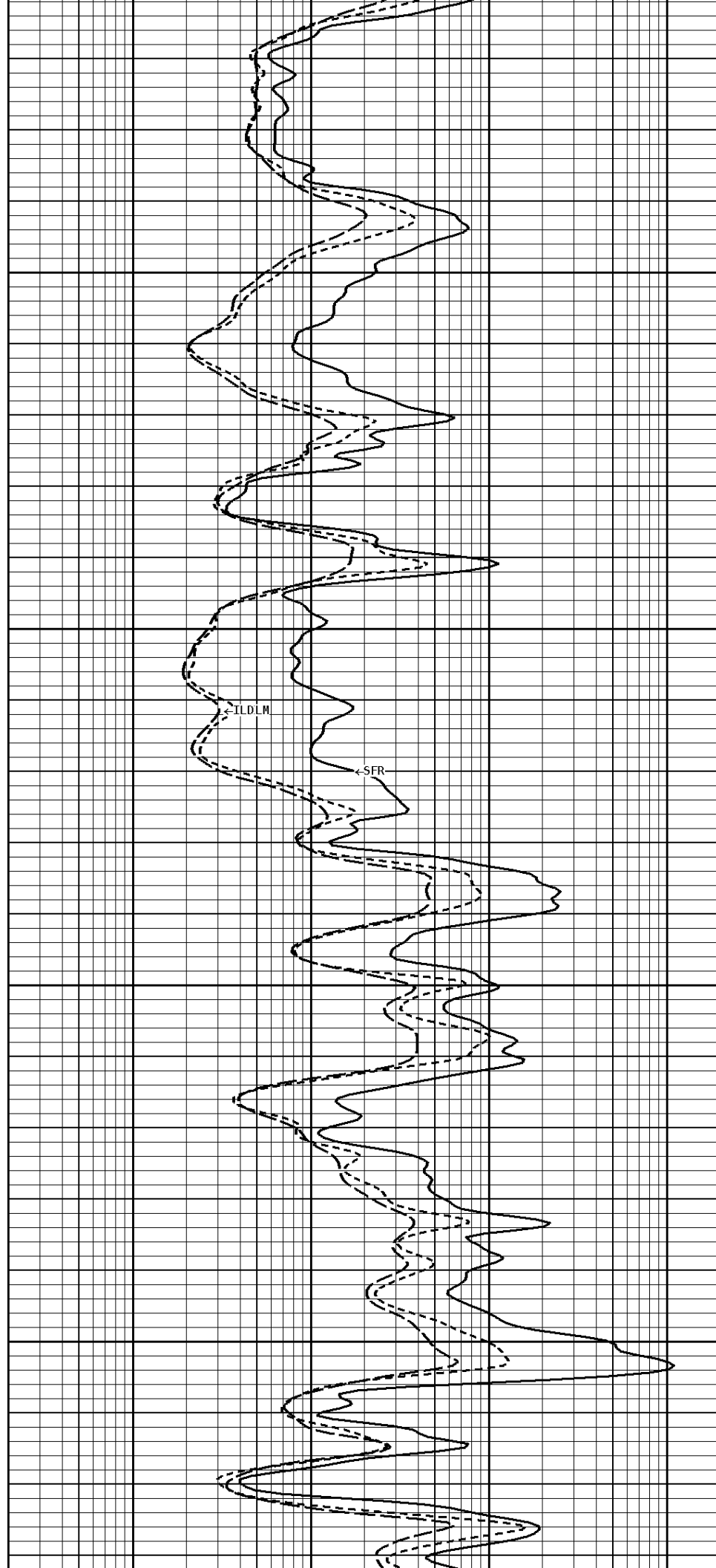
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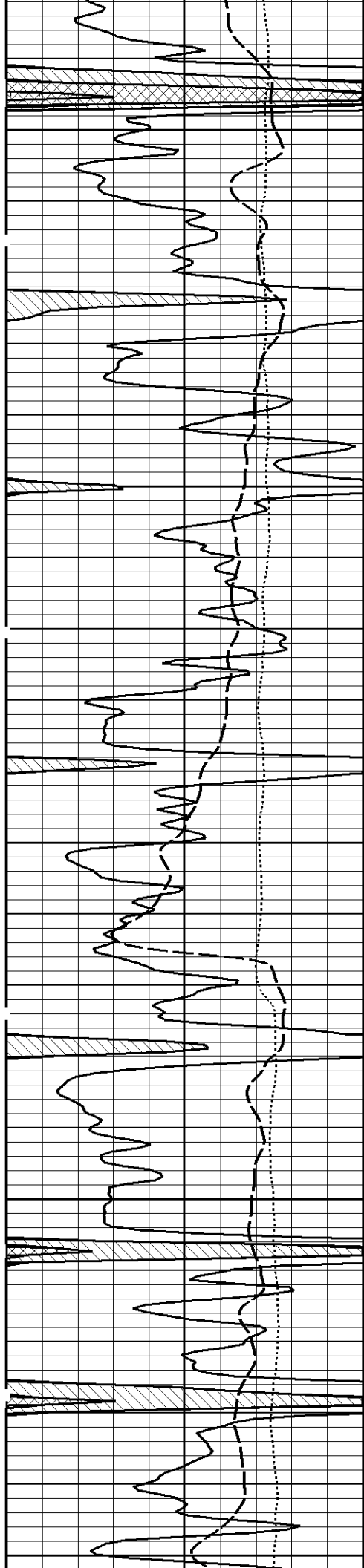




4100

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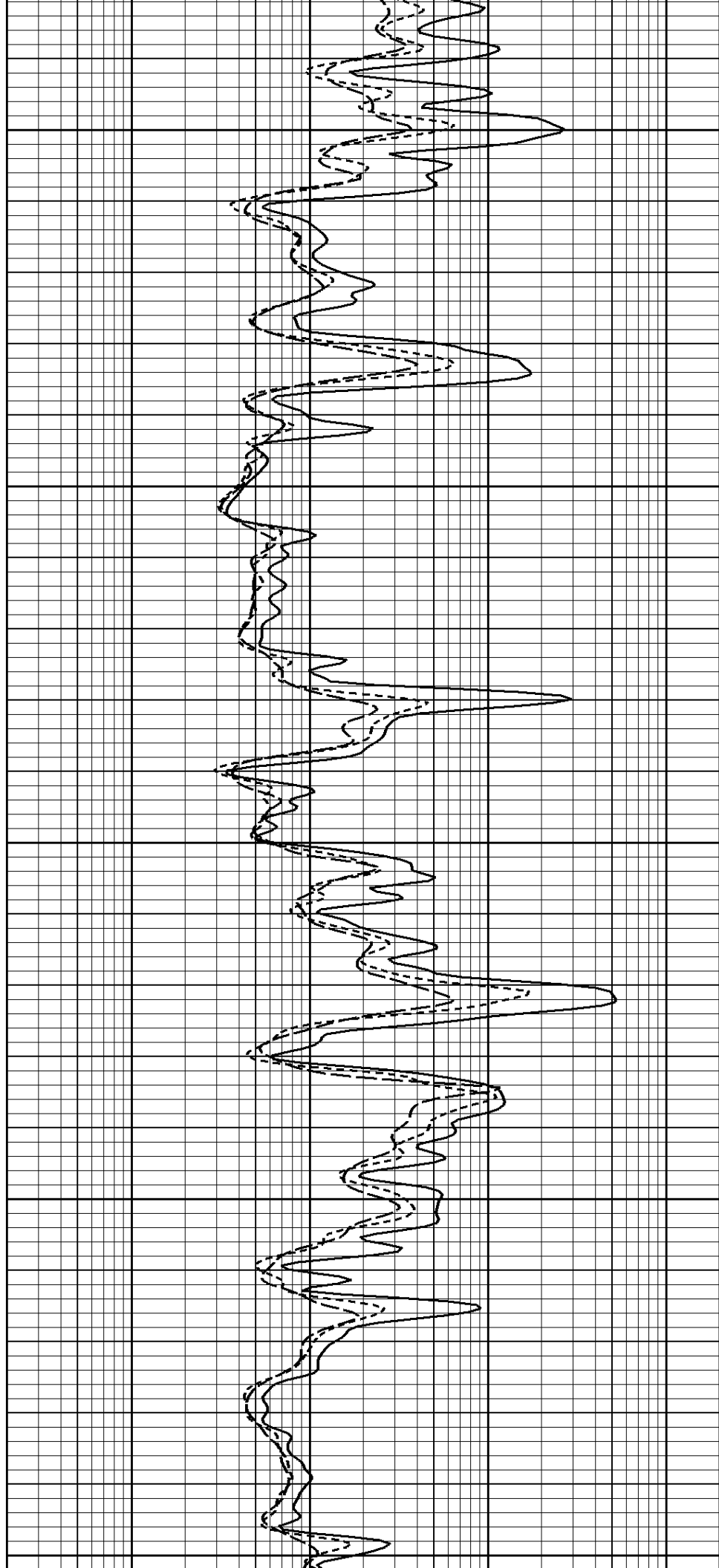


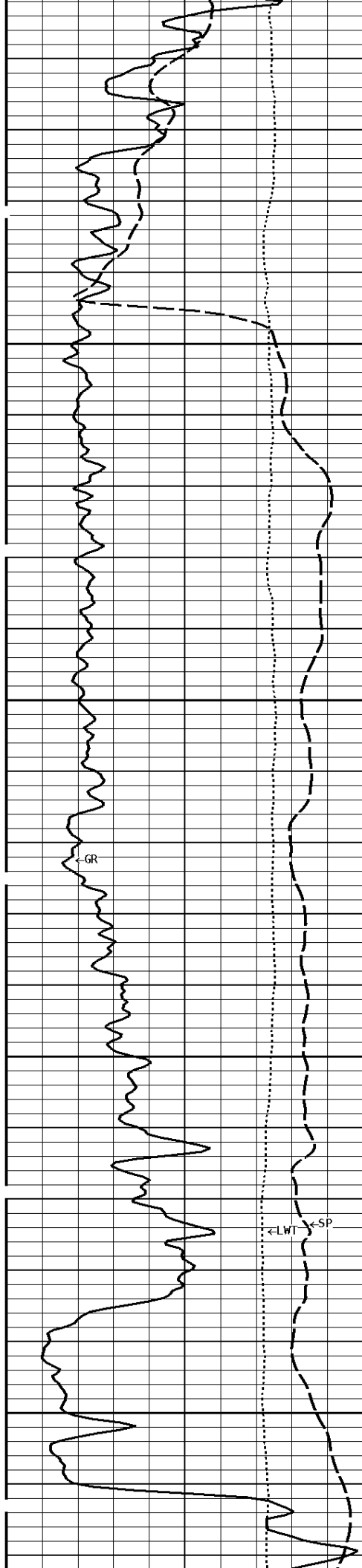


4300

4400

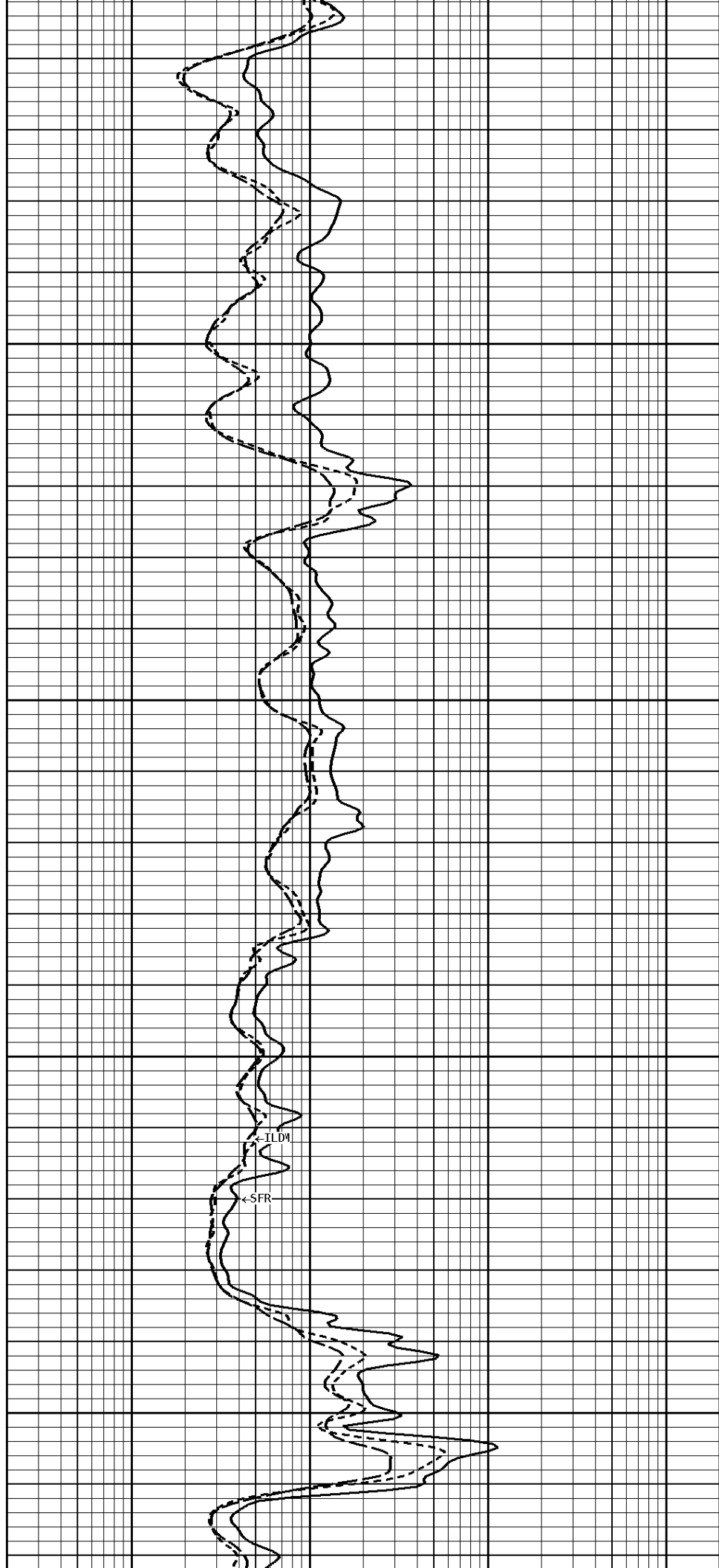
4500

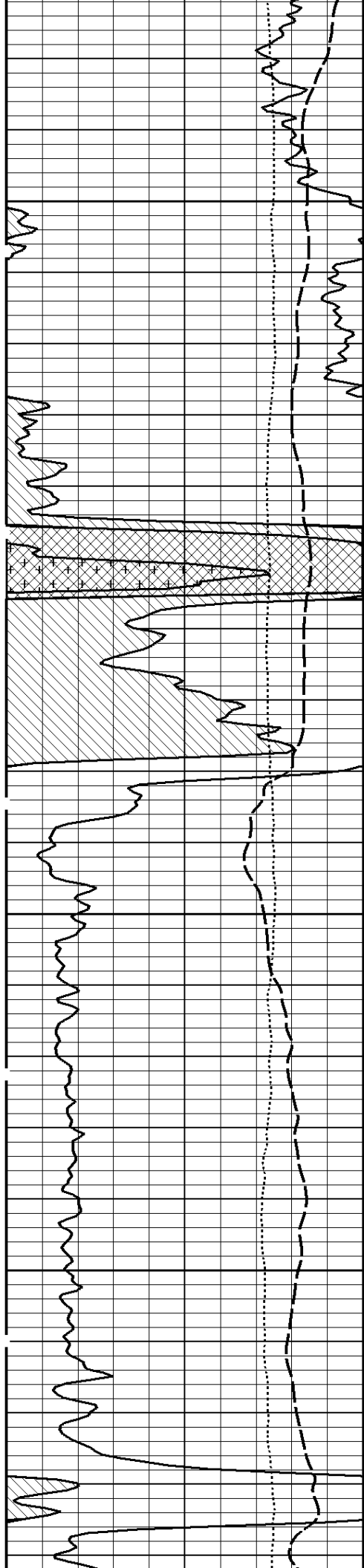




4600

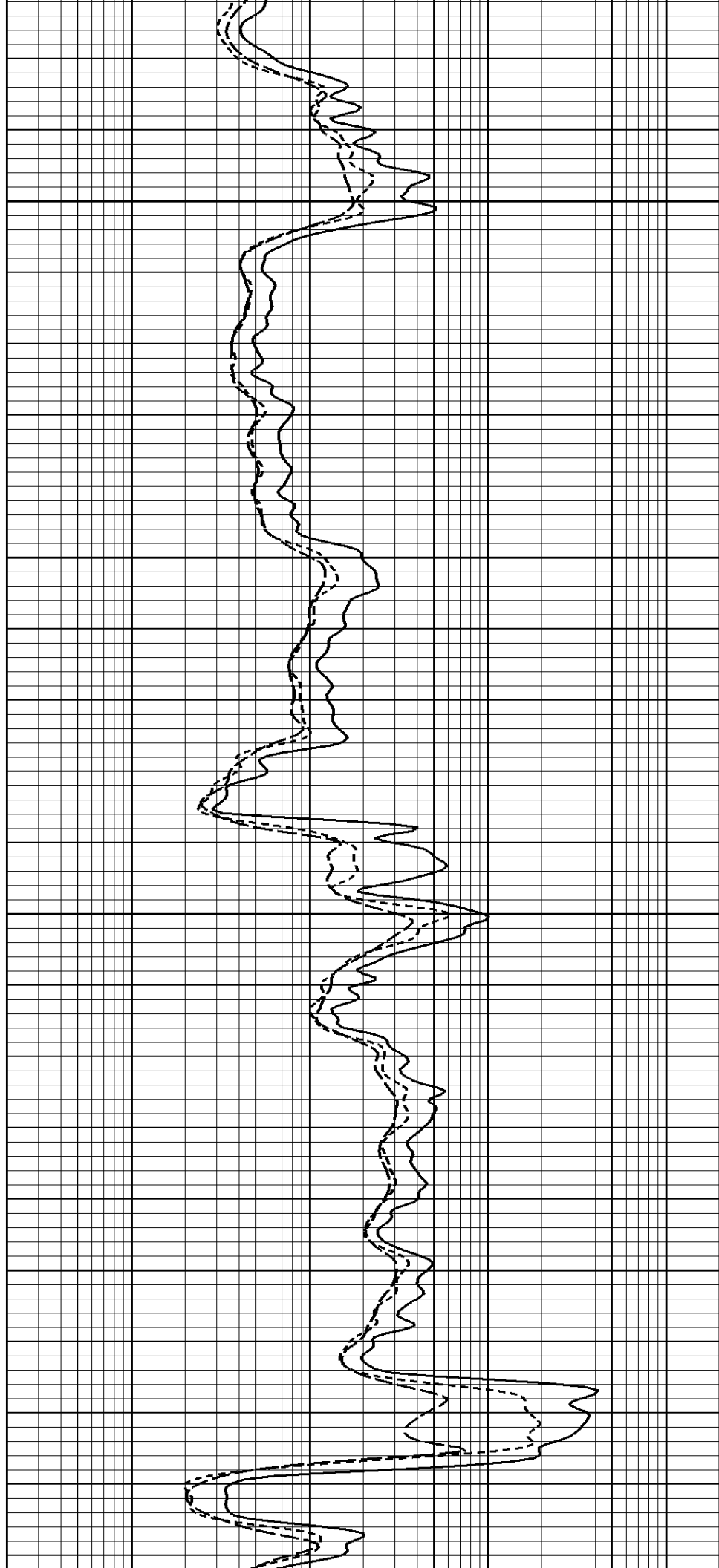
4700

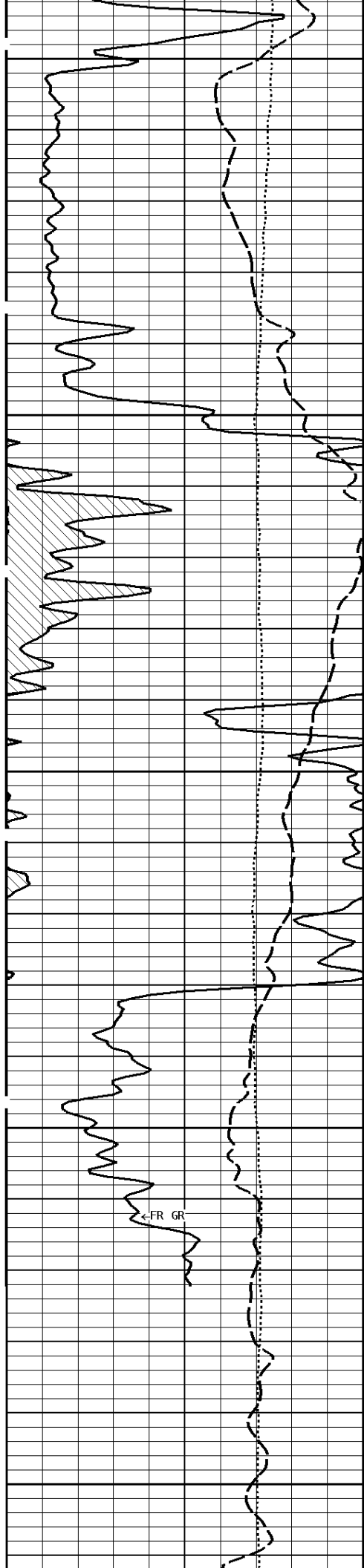




4800

4900

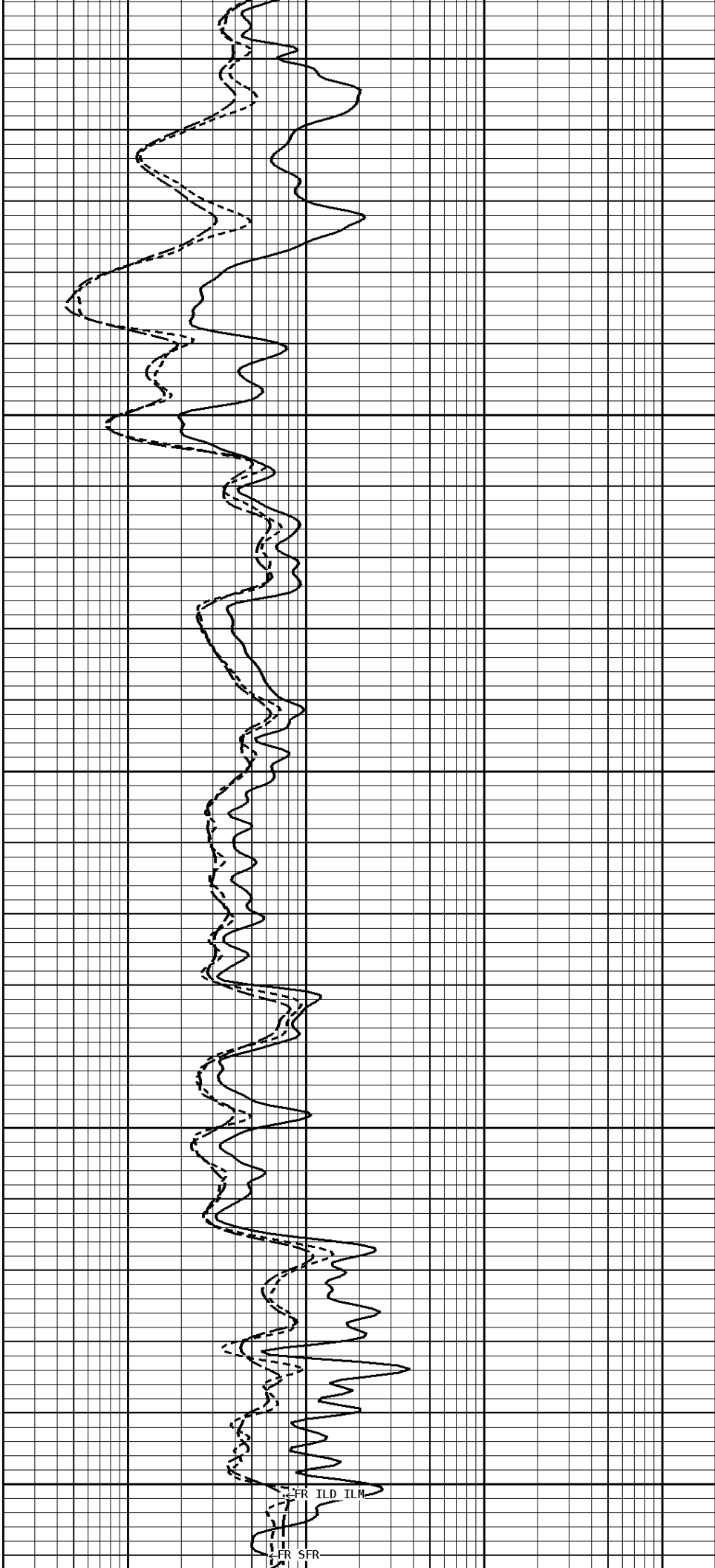




5000

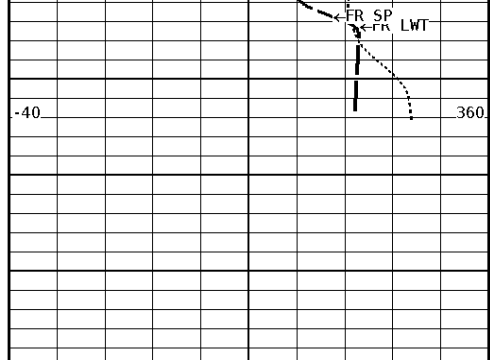
5100

FR GR



FR ILD ILM

FR SFR



5166

1:240 MAIN SECTION

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

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

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet			
Drill Bit Size		7.875	in
Casing Diameter		5.500	in
BHT Depth		5166.000	ft
Borehole Temperature		130.0	degF
Temperature Gradient		1.00	DFHF
Resistivity Of Mud		0.900	ohm/m
Standoff		1.5	
Resistivity Of Mud Temperature		70.00	degF

* Calibration Summary *

Shop Calibration					
GRT-B					
Performed : 21-APR-2014			Time : 11:21		
Sensor Suite : GR-GR5			ID : GRT-BB-107		
	Measured		Units	Calibrated	Units
	Background	Jig		Jig	
GR	75	381	CPS	175	GRAPI

Shop Calibration					
PIT-CA					
Performed : 10-Sep-2014			Time : 11:40		
Sensor Suite : P-IND-T			ID : PIT-CA-075		
Medium					
	Measured		Calibrated		Units
	R	X	R	X	
Air	131419	129931	1.4	0.2	MMHOS
Zero	131070	131067	-10.2	45.4	MMHOS
Reference	250682	249654	4989.8	5045.4	MMHOS
Loop	129961	216623	3595.7	3716.3	MMHOS
Sonde Error			0.5	-7.1	MMHOS
Cond			4989.8	5045.4	MMHOS
Deep					
	Measured		Calibrated		Units
	R	X	R	X	
Air	128119	131856	0.3	-1.2	MMHOS

Zero	131062	131059	52.1	-18.8	MMHOS
Reference	238518	237019	2052.1	1981.2	MMHOS
Loop	126986	223844	1715.5	1756.2	MMHOS
Sonde Error			-6.7	0.1	MMHOS
Cond			2052.1	1981.2	MMHOS
Temperature					
	Measured		Calibrated		
	Low	High	Low	High	Units
	16980.0	56920.0	70.0	350.0	DEGF
Performed : 10-Sep-2014			Time : 11:51		
Sensor Suite : SFL			ID : PIT-CA-075		
Internal					
	Measured		Calibrated		
	Zero	Reference	Zero	Reference	Units
Im	32770.2	49049.9	0.0	7028.0	uA
Ib	32767.1	49093.1	0.0	1750.0	mA
MOM1	32794.6	56675.8	0.0	175.0	mV
Equivalent SFL				43.97	OHMM
Performed : 10-SEP-2014			Time : 11:47		
Sensor Suite : P-SP			ID : PIT-CA-075		
Internal					
	Measured		Calibrated		
	Zero	Reference	Zero	Reference	Units
	32768.0	58944.2	0.0	1000.0	mV

Well File: chief-die-6-mstk-oct-21

Scale: 1:1200 Format: DIL1200

Segment: V1.D1.S3 MN

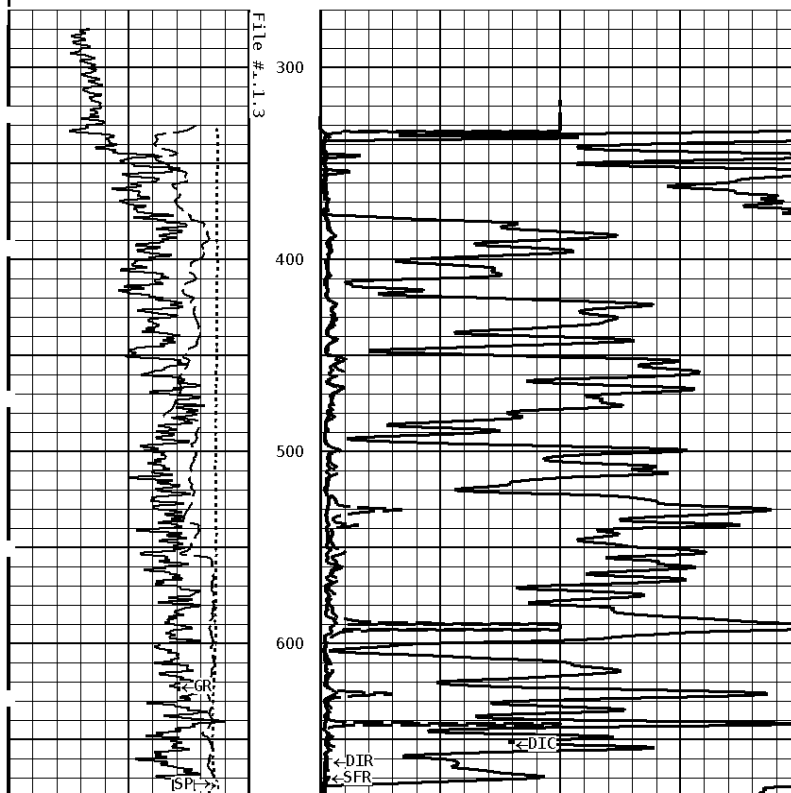
Acquired: 2014-10/22 00:32 3.3.0-12702

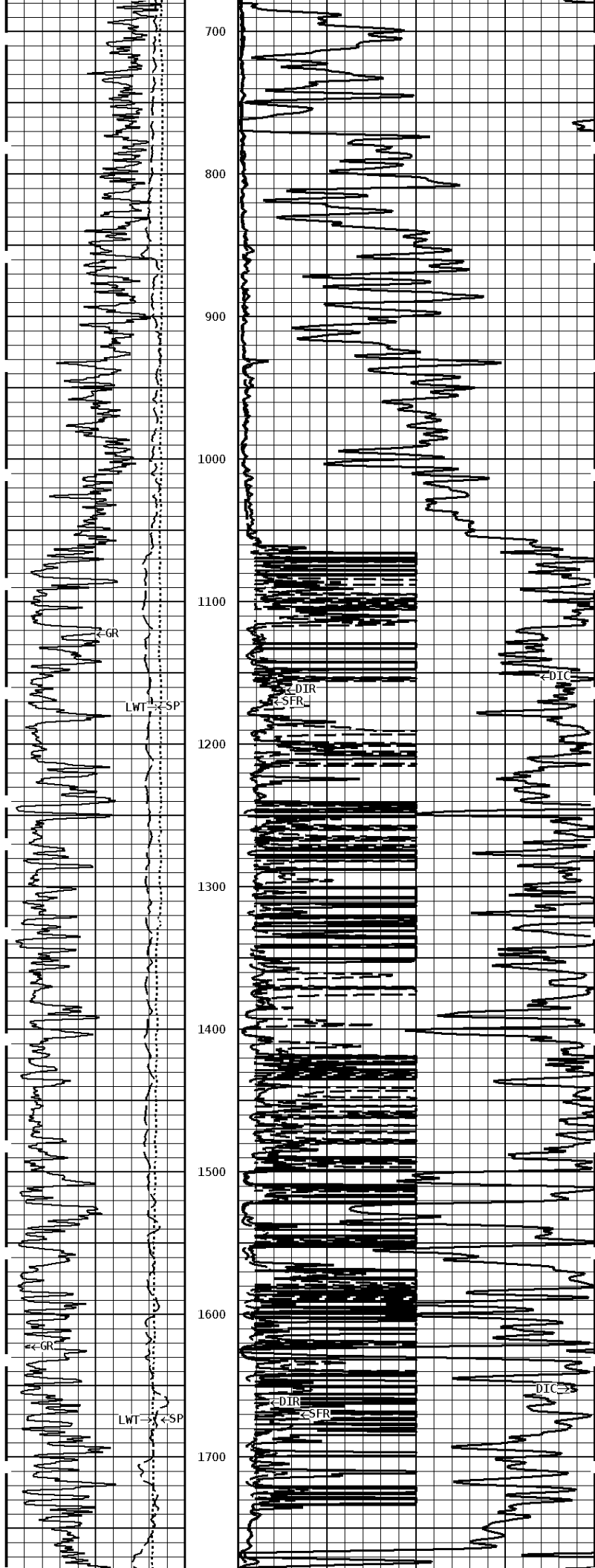
Reference: 0

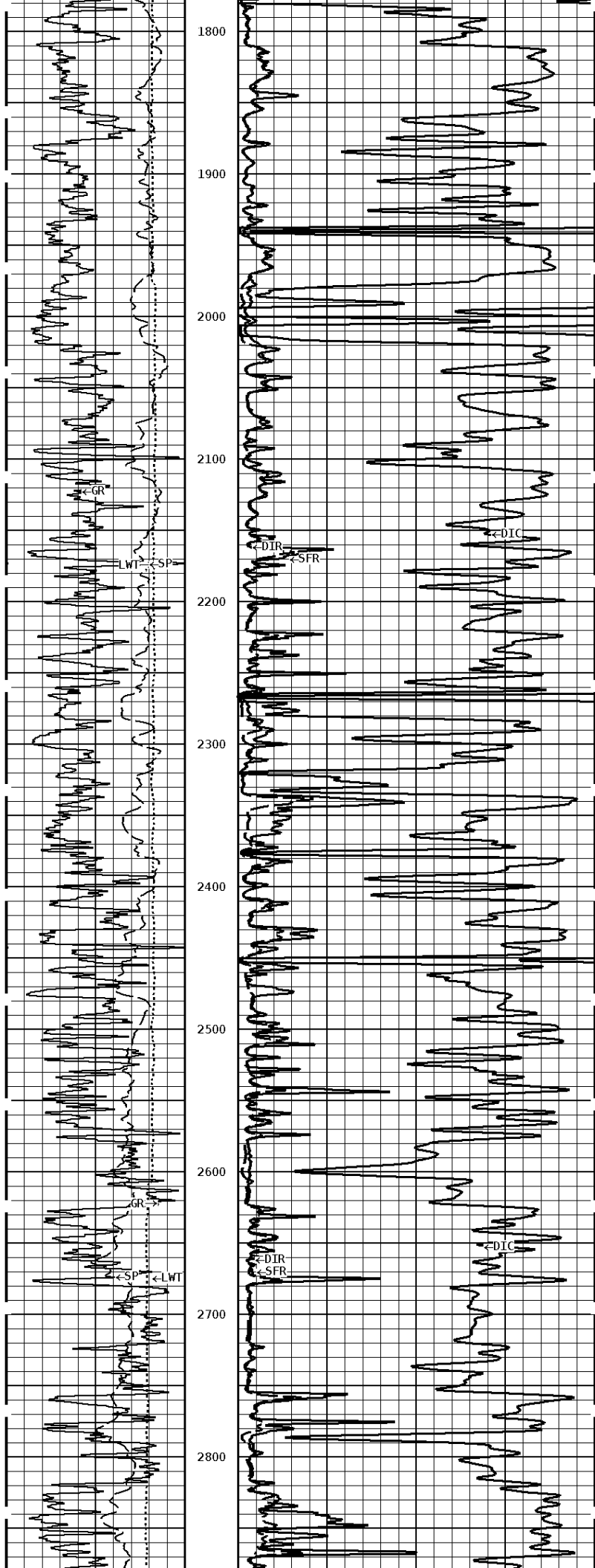
Processed: 2014-10/22 01:55 3.3.0-12702

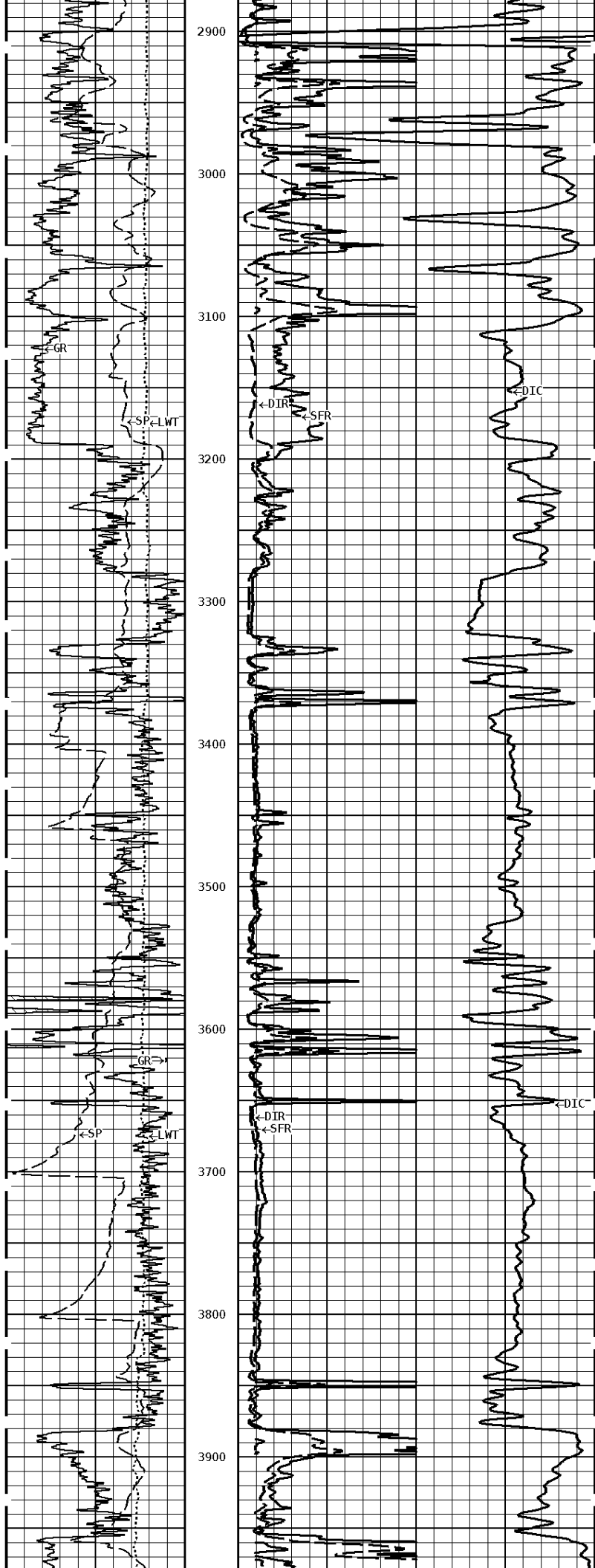
TENSION LBS		DEEP INDUCTION OHMM	
10000	0	0.0	500.0
		0.0	50.0
SPONTANEOUS POTENTIAL mV		SHALLOW FOCUSED OHMM	
→ ← 40		0.0	500.0
		0.0	50.0
GAMMA RAY API UNITS		DEEP CONDUCTIVITY MHMO	
150	300	2000	1000
0	150	1000	0

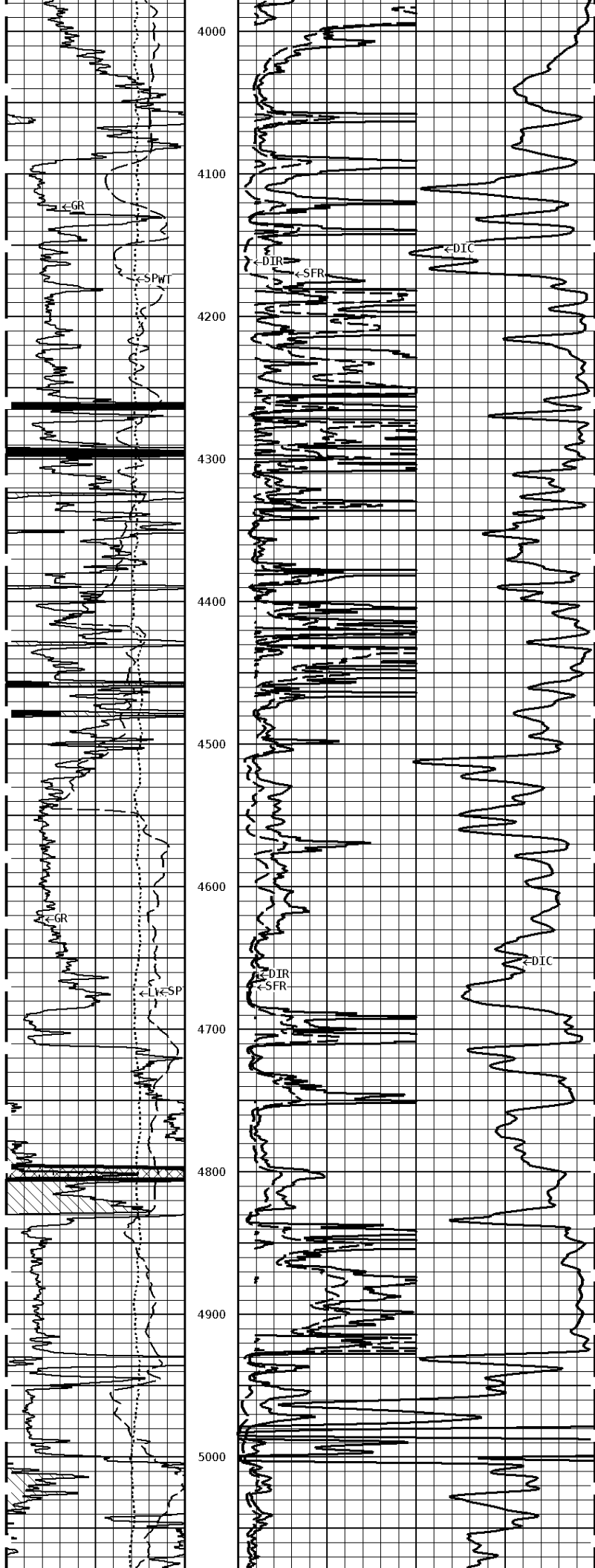
1:1200 MAIN SECTION

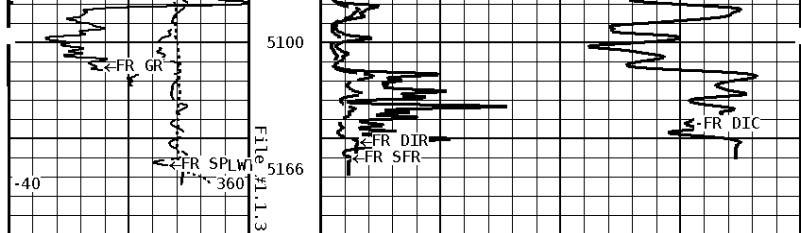












1:1200 MAIN SECTION

GAMMA RAY API UNITS 150 300 0 150	DEEP CONDUCTIVITY MMHO 2000 1000 1000 0
SPONTANEOUS POTENTIAL mV → ← 40	SHALLOW FOCUSED OHMM 0.0 500.0 0.0 50.0
TENSION LBS 10000 0	DEEP INDUCTION OHMM 0.0 500.0 0.0 50.0

 Tucker ENERGY SERVICES	Company: CHIEFTAIN OIL COMPANY INC. Well: DIEL #6 Location: 3058' FSL & 2996' FEL Logged: 10-21-2014 K.B. Elev: 1362.0 Ft
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