

Tucker

WIRELINE SERVICES

PHASED INDUCTION

SHALLOW FOCUS SP LOG

File No : TUL-56958
Company : MCGOWAN OIL COMPANY
Well : FULSOM #1-2
Field :
Country : COWLEY
State : KANSAS
Country : USA
API No : 15-035-24475

Company MCGOWAN OIL COMPANY
Well FULSOM #1-2
Field
Country COWLEY
State KANSAS
Country USA
API No. 15-035-24475

Location :
 1320 FNL & 2145' FEL
 E2 W2 W2 NE

LSD : **Sect** : 2 **Twp** : 35S **Rge** : 7E

Permanent Datum: GL **Elevations:** KB 1247.00 Ft **Services:** CNT PIT
Drilling Measured From: KB **DF** 1246.00 Ft **LDT**
Log Measured From: KB **GL** 1242.00 Ft **MLT**
Above Permanent Datum: 5.00 Ft

Date	05-25-2012	
Run Number	1	
Depth--Driller	3260.0	Ft
Depth--Logger	3262.0	Ft
First Reading	3261.0	Ft
Last Reading	332.0	Ft
Casing--Driller	332.0	Ft
Casing--Logger	332.0	Ft
Bit Size	7.875	In
Casing Size	8.625	In
Hole Fluid Type	WBM	
Density	9.4 LBS/GAL	
Fluid Loss	8.6	CC
PH/Viscosity	11.0	38.0 SEC
Sample Source	MEASURED	
RM@Measured Temp.	2.750	@ 80 F
RMF@Measured Temp	2.330	@ 80 F
RM@Measured Temp.	3.160	@ 80 F
Source RMF/RMC	CALCULATED/CALCULATED	
RM@BHT	1.850	@ 122 F
Time Circulation Stopped		
Max Recorded Temp.	122	F
Equipment/Base	123	TULSA
Recorded By	S. DAVIS	
Witnessed By	G. FRIEDEL	

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	3262.00	8.625	30.00	332.00

Run Number	1	
Date	05-25-2012	
Date/Time On Bottom	05-25-2012 15:15	
Depth to Fluid	0.0	Ft
Salinity	0.000	PPM
RMF@BHT	1.570	@ 122 F
RMC@BHT	2.120	@ 122 F

Run Number 1

Comments

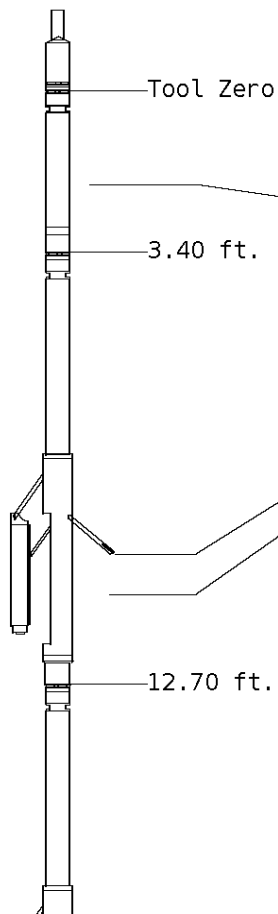
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
 GRT, CNT, LDT, MLT, AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 4.50" PRODUCTION CASING.

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

OPERATORS:
 M. BURKE
 B. COLWILL

Tool String Schematic

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



Tool: GRT-B **Length:** 3.40 ft. **O.D.** 3.60 in.
 Gamma Ray Controller

Sonde ID :GRT-BC-41

Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.57

Tool: CNT-AA **Length:** 9.30 ft. **O.D.** 4.36 in.
 Compensated Neutron A Pad on NDT-A

Sonde ID :NDT-BB-129

Source ID :N-1046

Pad ID :CNP-AA-112

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	44.17
PHIN	6.80	10.20	43.37

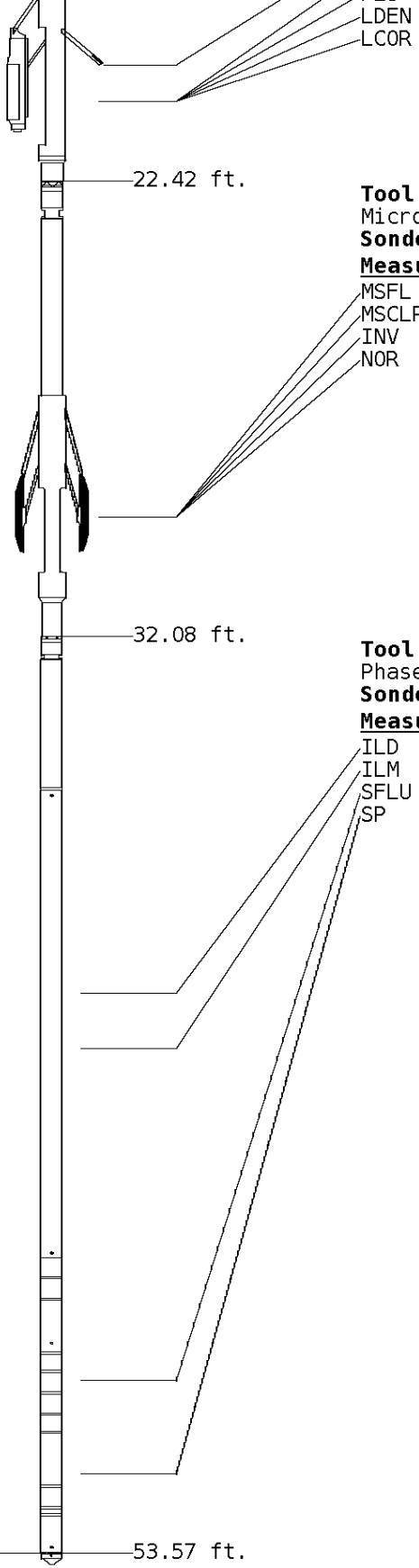
Tool: LDT-DF **Length:** 9.72 ft. **O.D.** 4.80 in.
 Litho Density D Pad on NDT-F

Sonde ID :PDT-GA-464

Source ID :2991GW

Pad ID :LDP-DA-067

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	19.12	34.45
PEL	7.42	20.12	33.45
PES	7.82	20.52	33.05



7.62	20.32	33.25
7.62	20.32	33.25

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	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-022

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-ful-1-2-mstk-may25 **Scale:** 1:600
Segment: V1.D1.S5 MN **Acquired:** 2012-05/25 15:21 3.2.0-10367
Reference: 0 **Processed:** 2012-05/25 16:32 3.2.0-10367

TENSION	
LBS	
10000	0

SHALLOW FOCUSED RESISTIVITY	
OHMM	
0.0	500.0
0.0	50.0

SPONTANEOUS POTENTIAL	
mV	

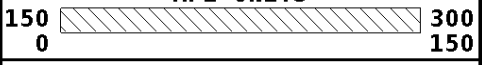
DEEP INDUCTION	
OHMM	
0.0	500.0

→ ← 20

0.0 500.0
0.0 50.0

GAMMA RAY
API UNITS

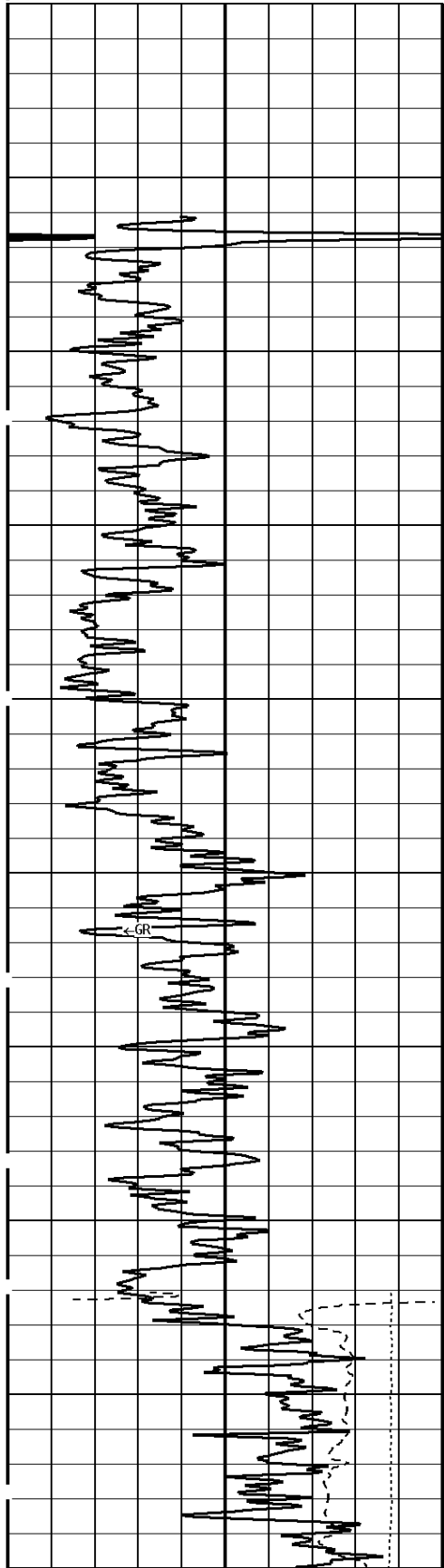
DEEP CONDUCTIVITY
MMHO



2000
1000

1000
0

1:600 SECTION



File #1.1.5

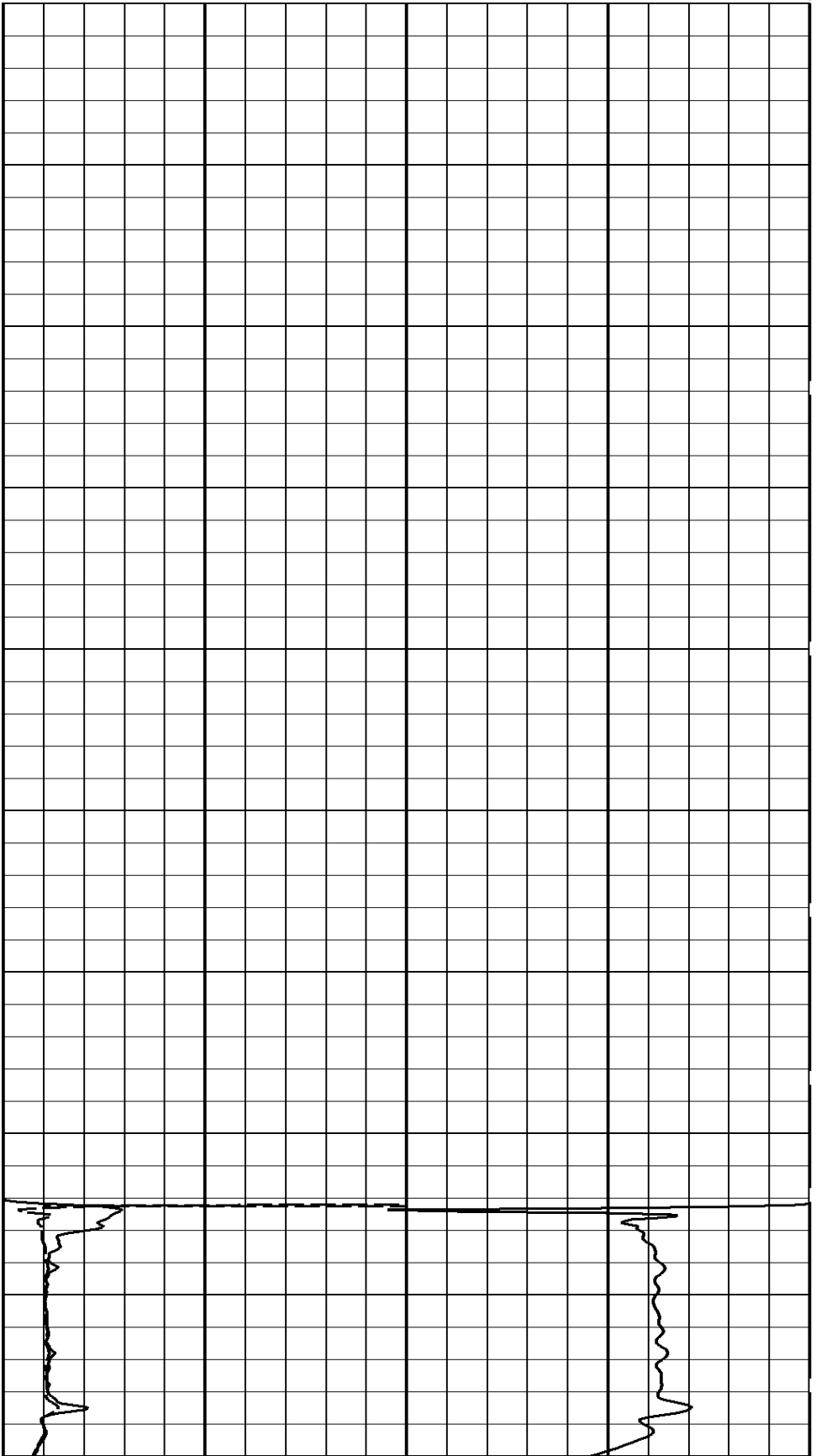
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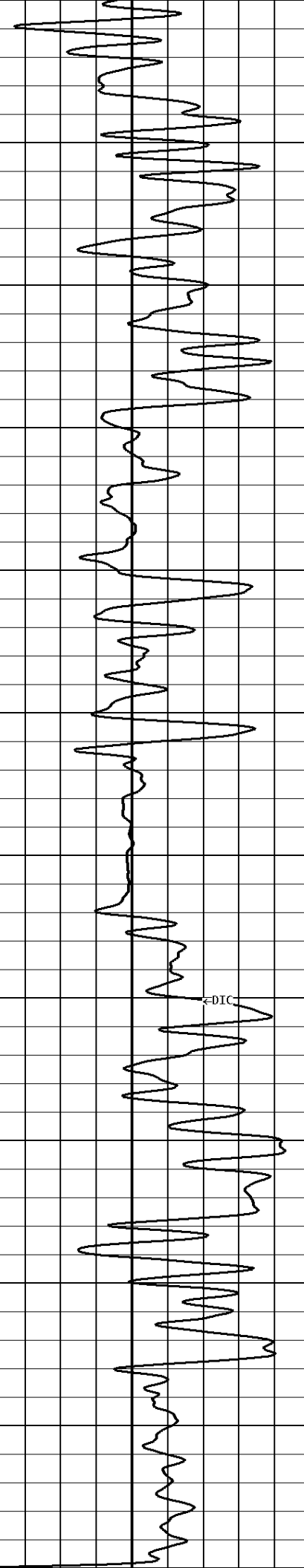
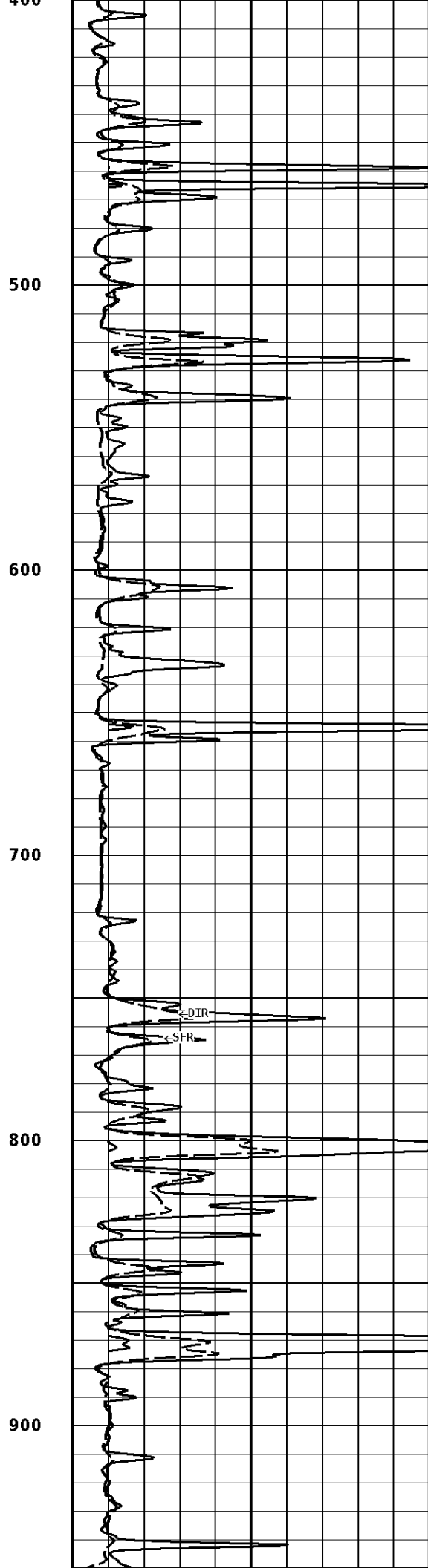
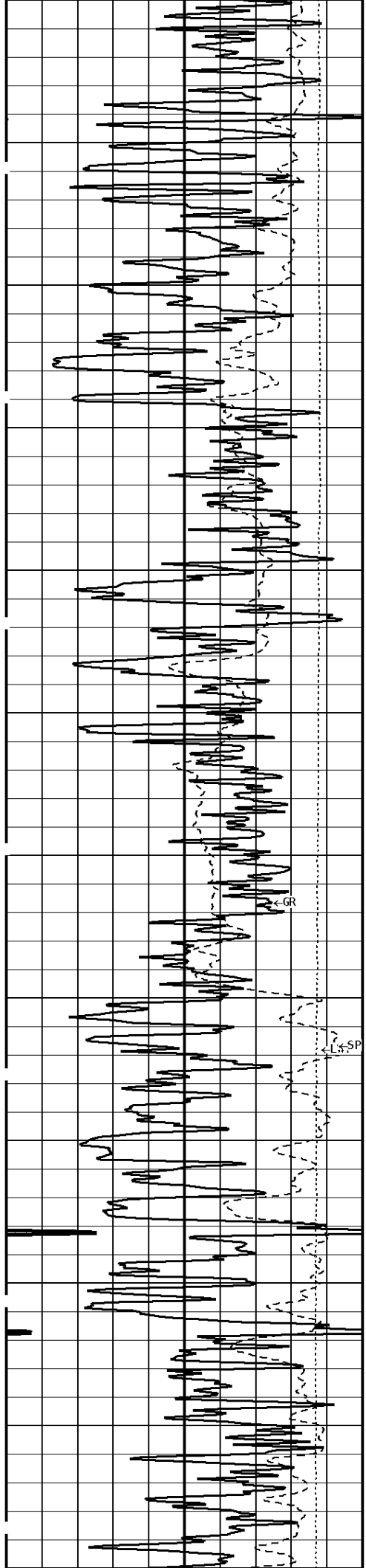
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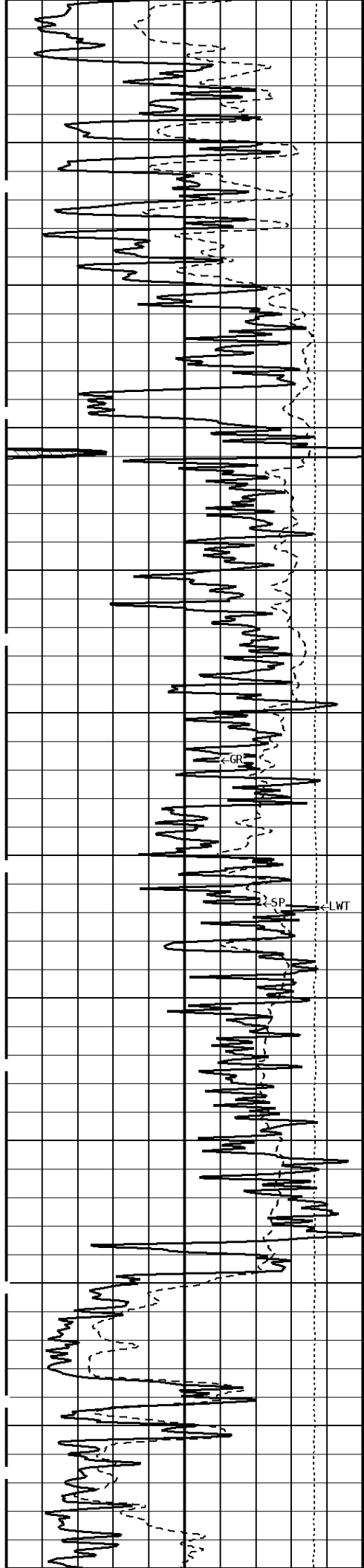
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300

400







1000

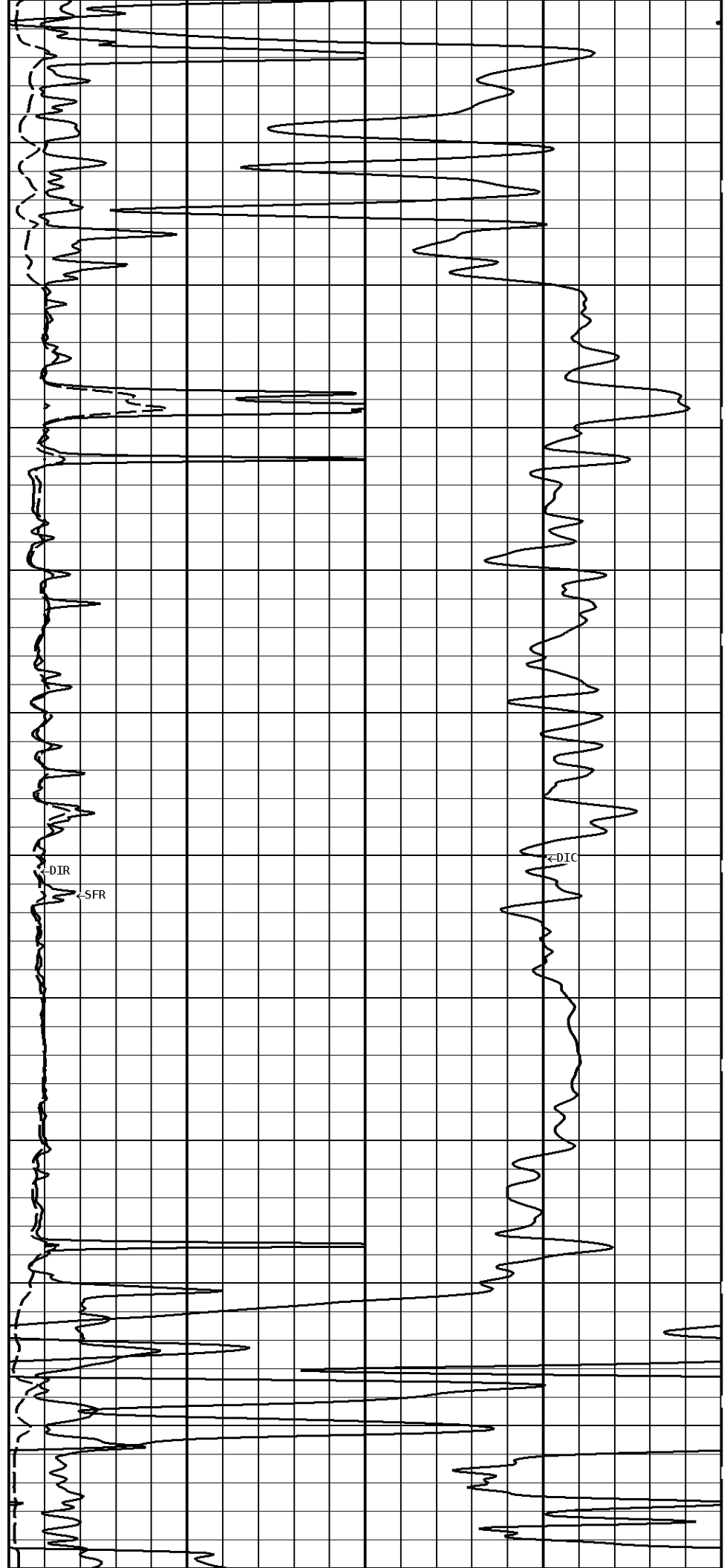
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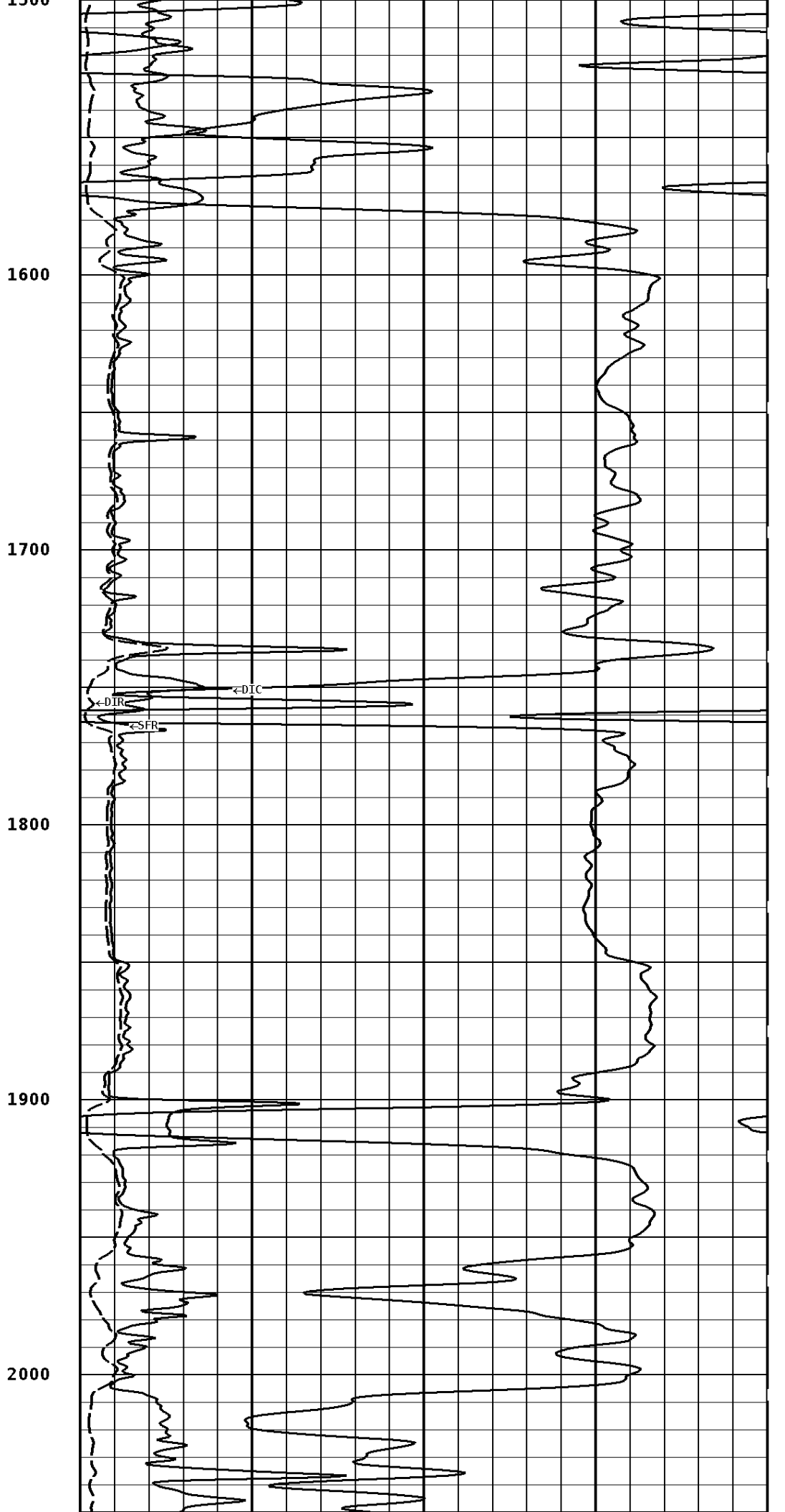
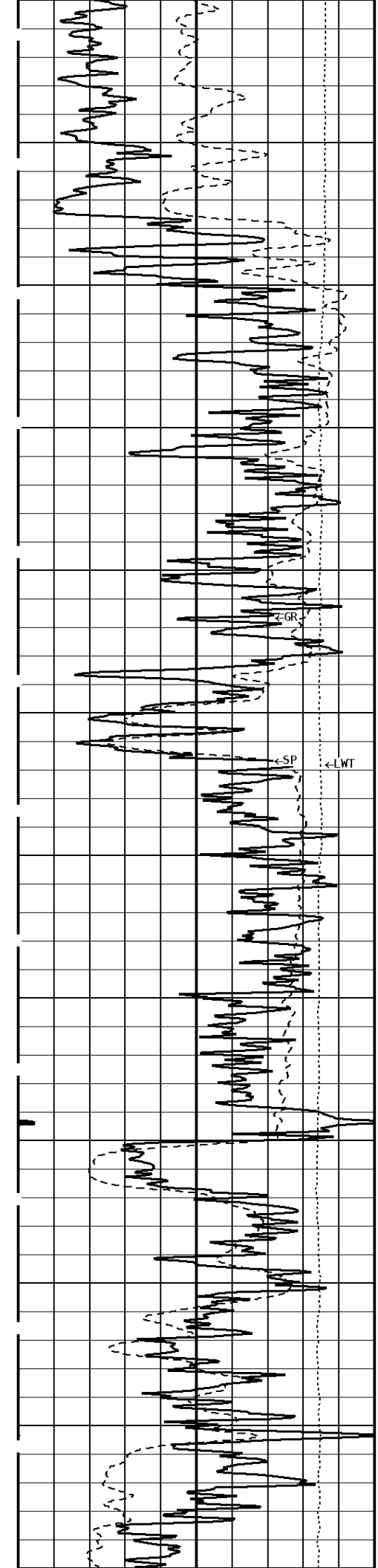
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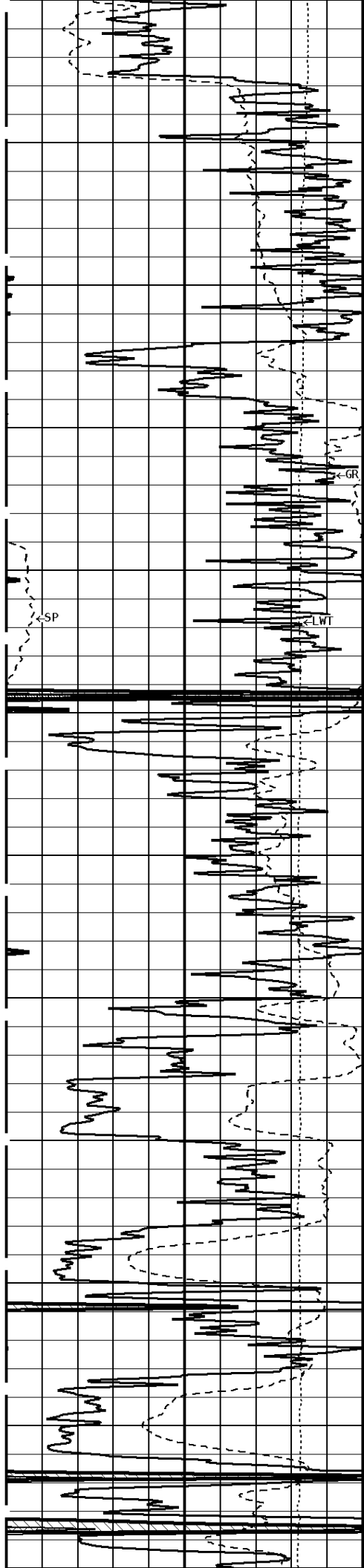
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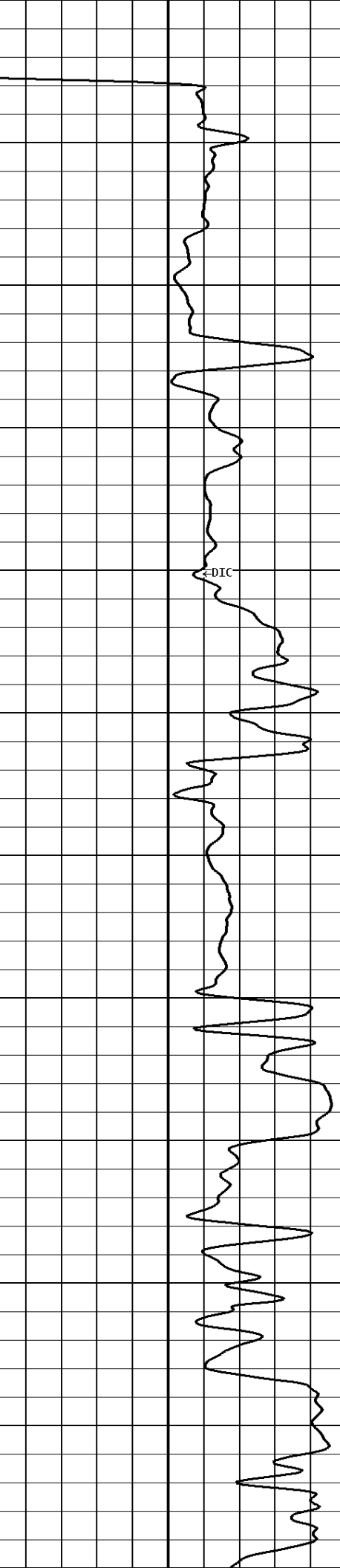
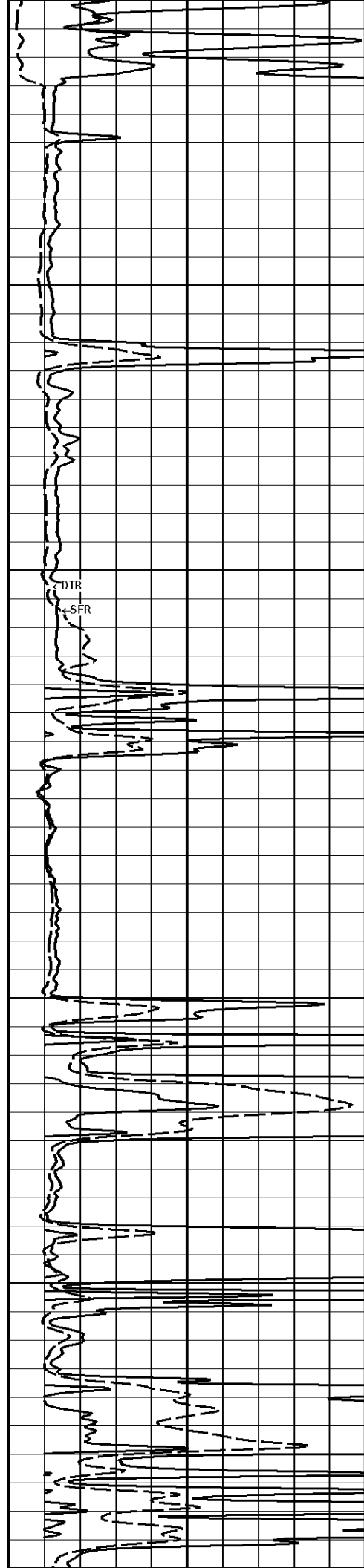
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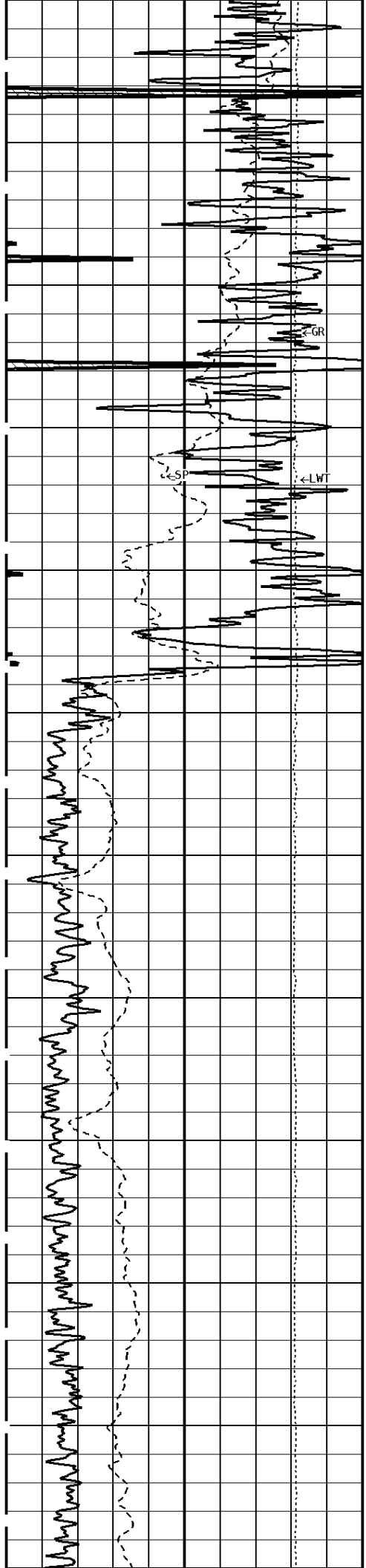




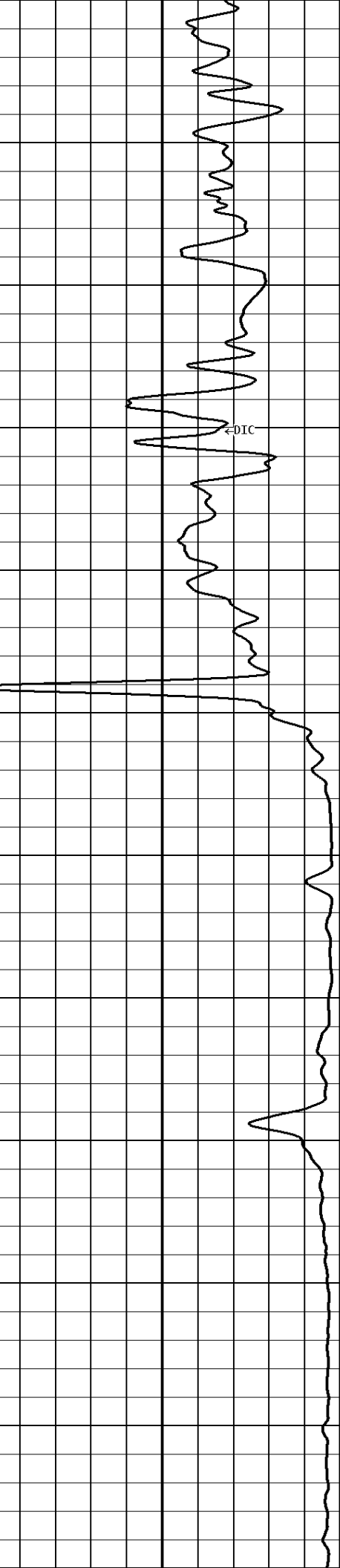
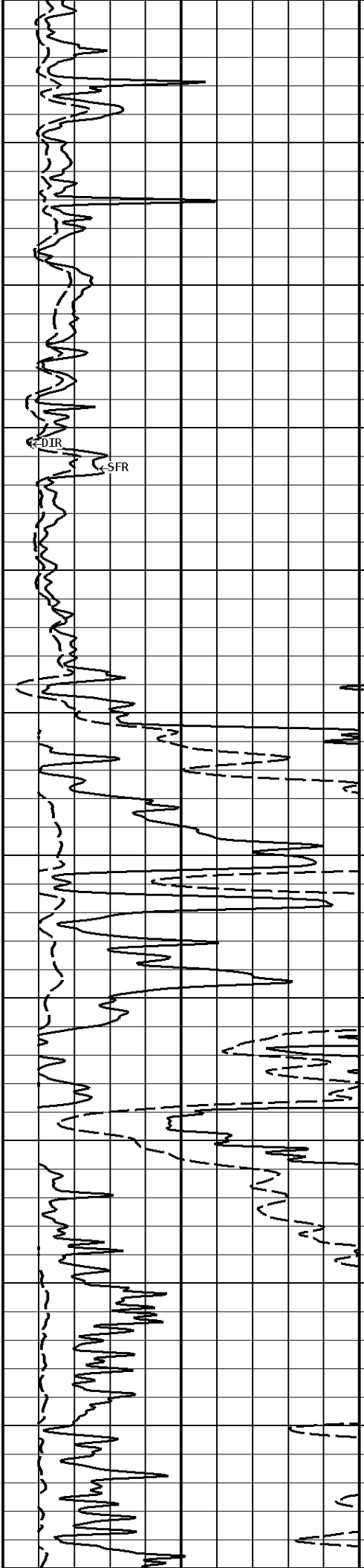


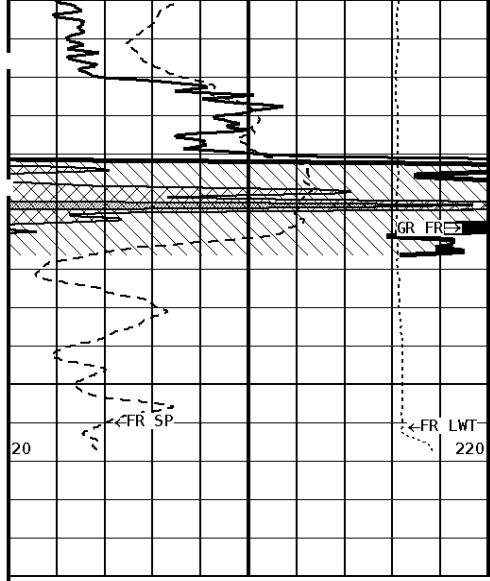
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2200
2300
2400
2500
2600





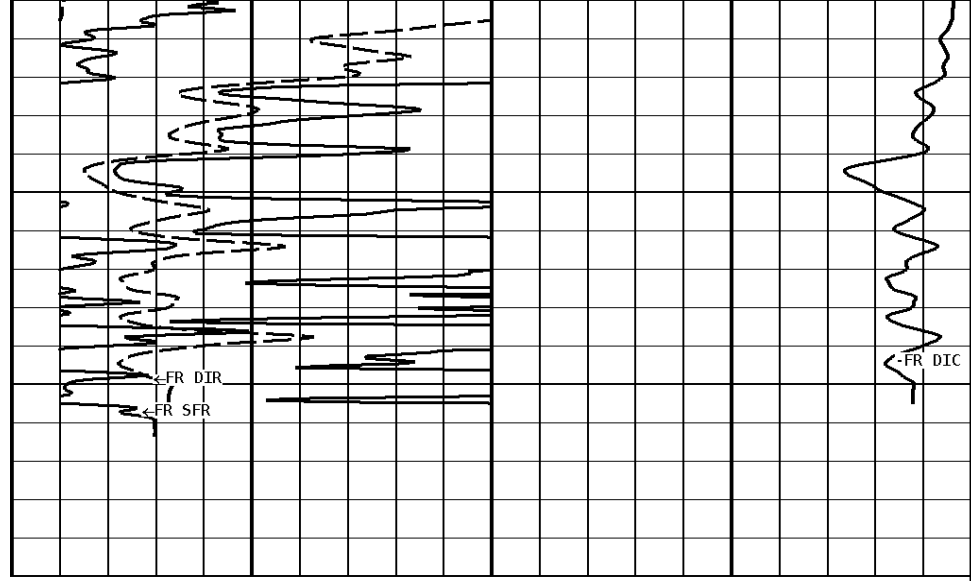
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2700
2800
2900
3000
3100



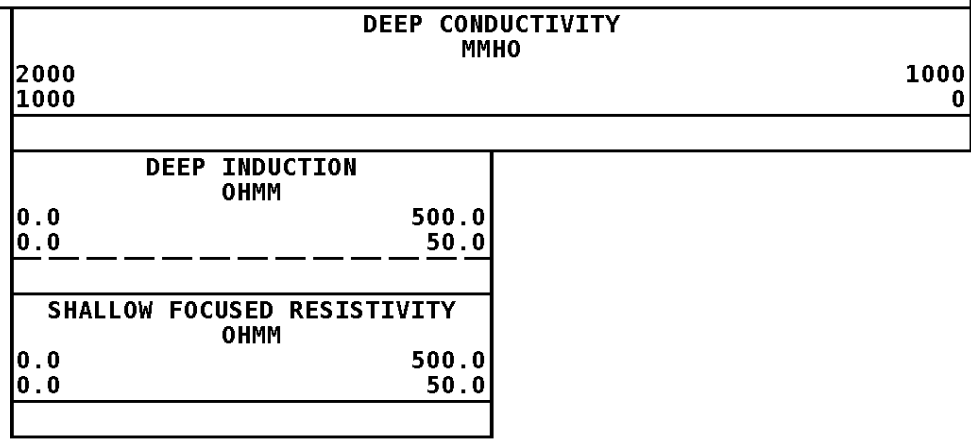
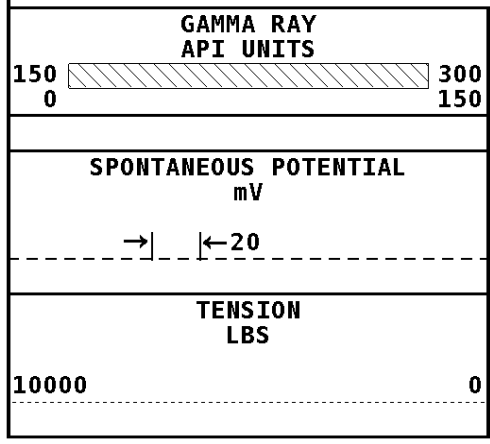


3200
3262

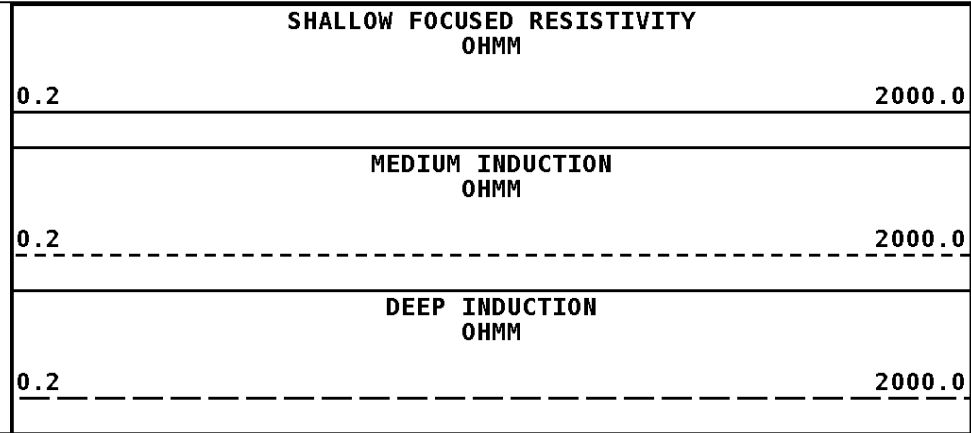
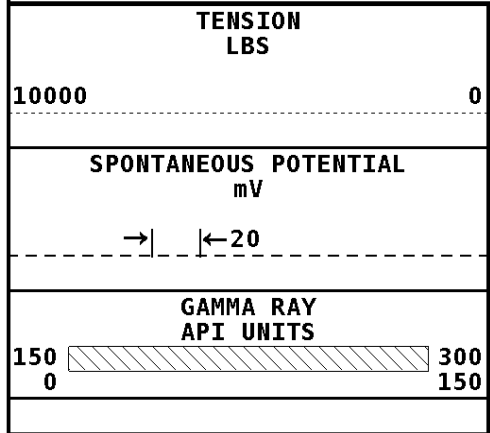
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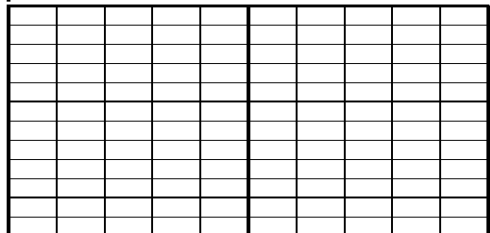
1:600 SECTION



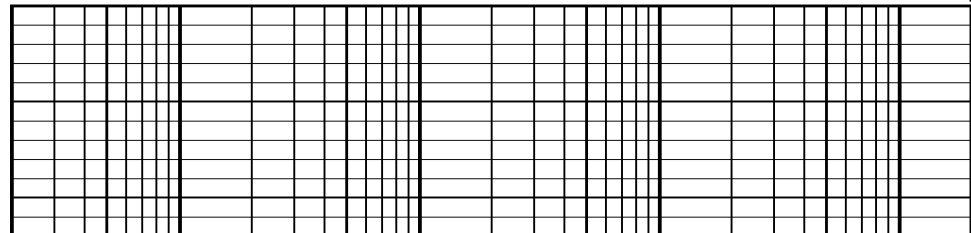
Well File: Mcgow-ful-1-2-mstk-may25 Scale: 1:240
 Segment: V1.D1.S5 MN Acquired: 2012-05/25 15:21 3.2.0-10367
 Reference: 0 Processed: 2012-05/25 16:32 3.2.0-10367

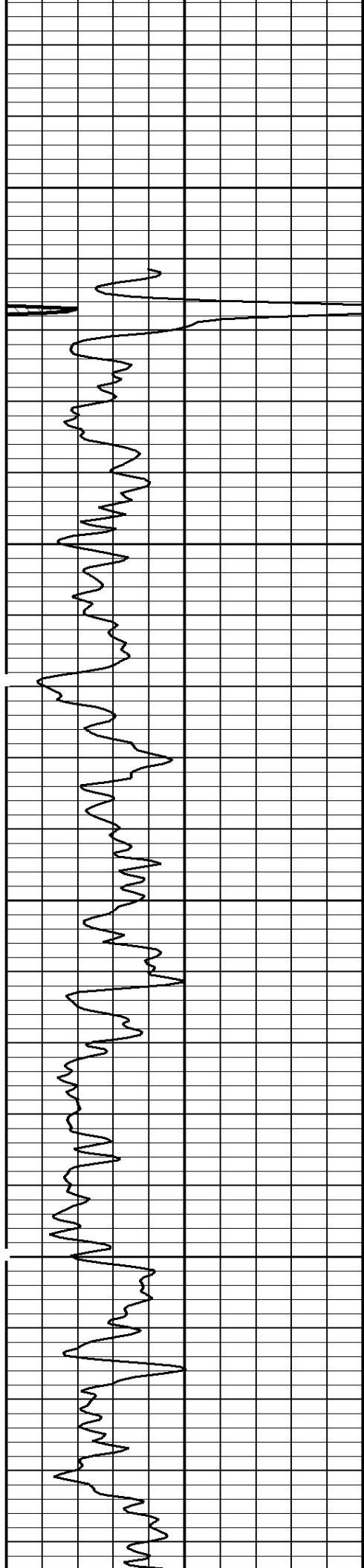


1:240 MAIN SECTION



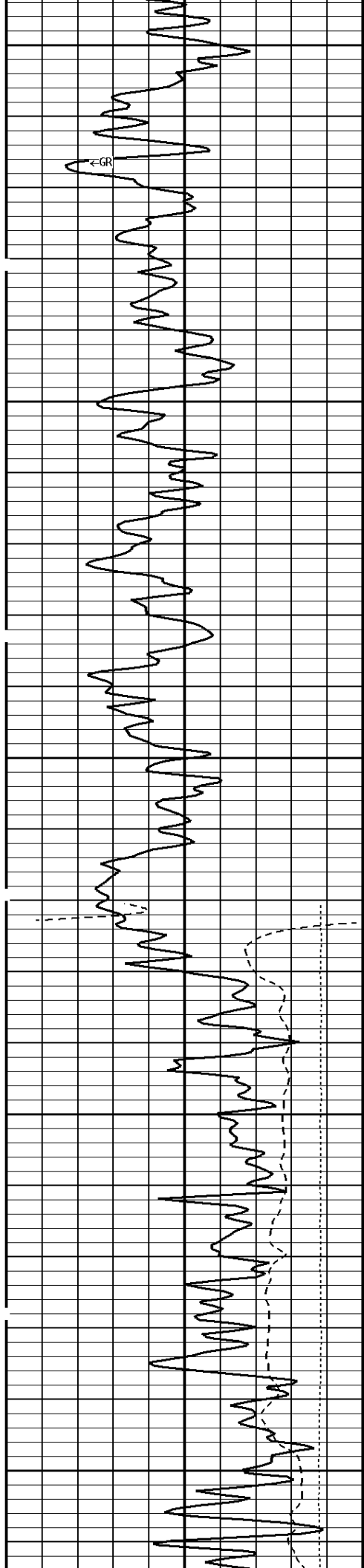
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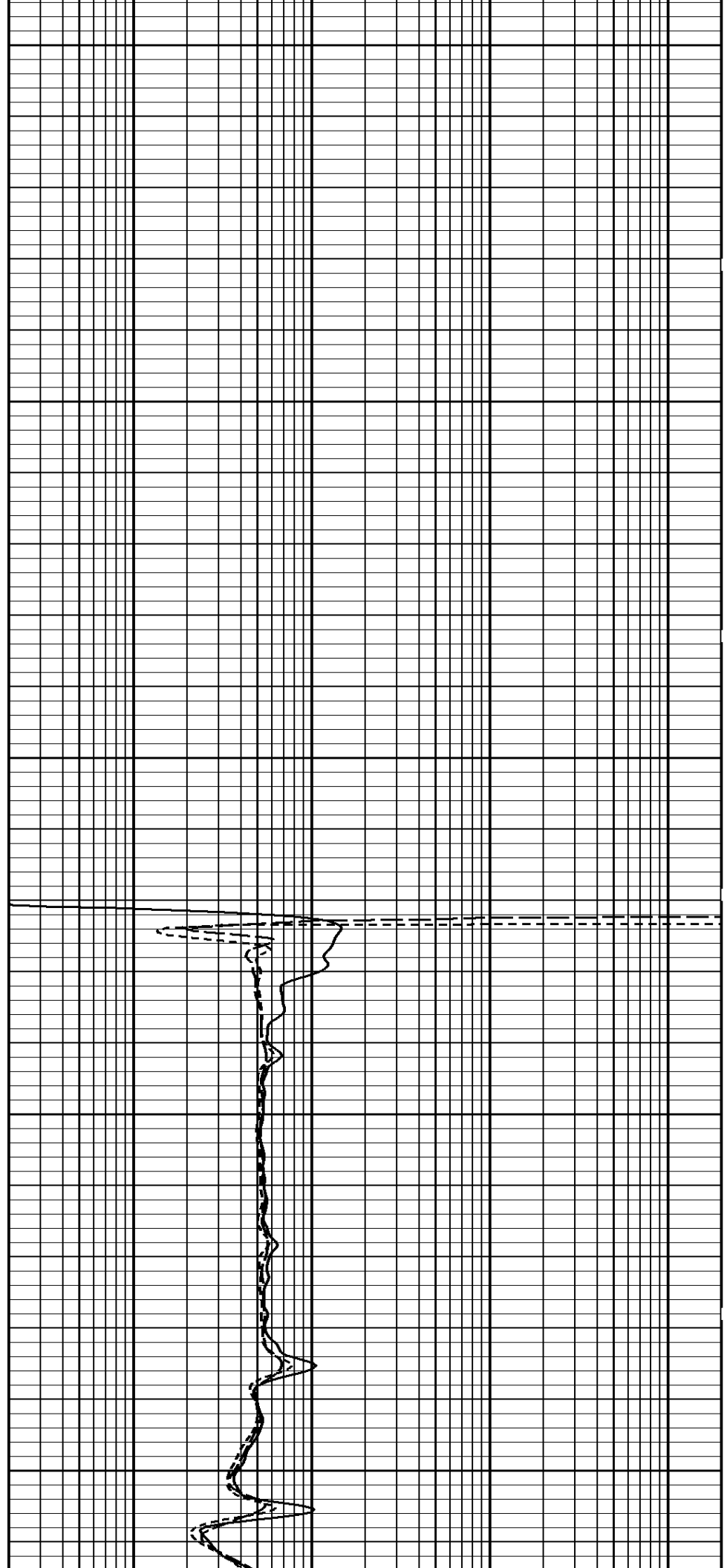
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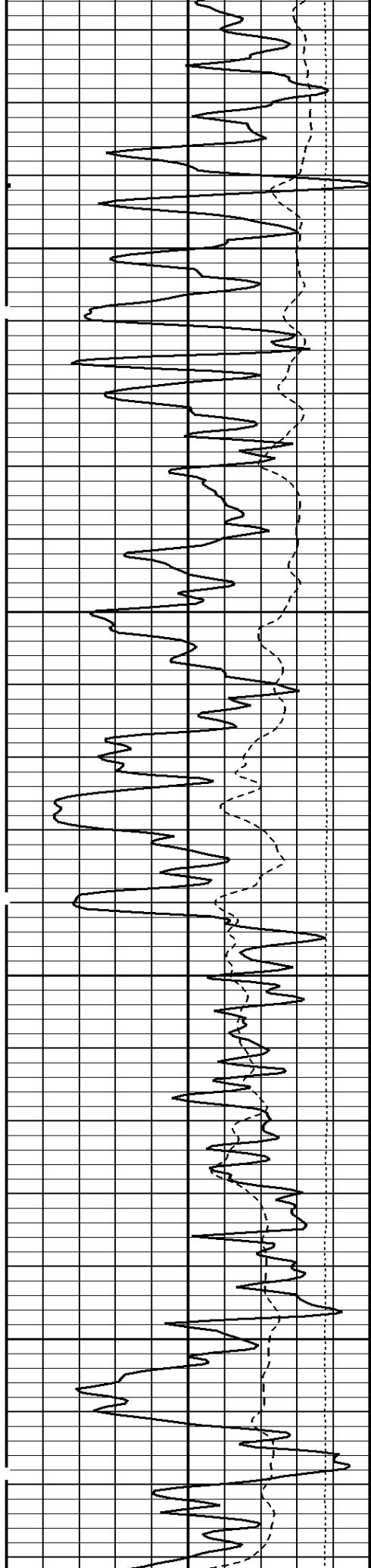


200

300

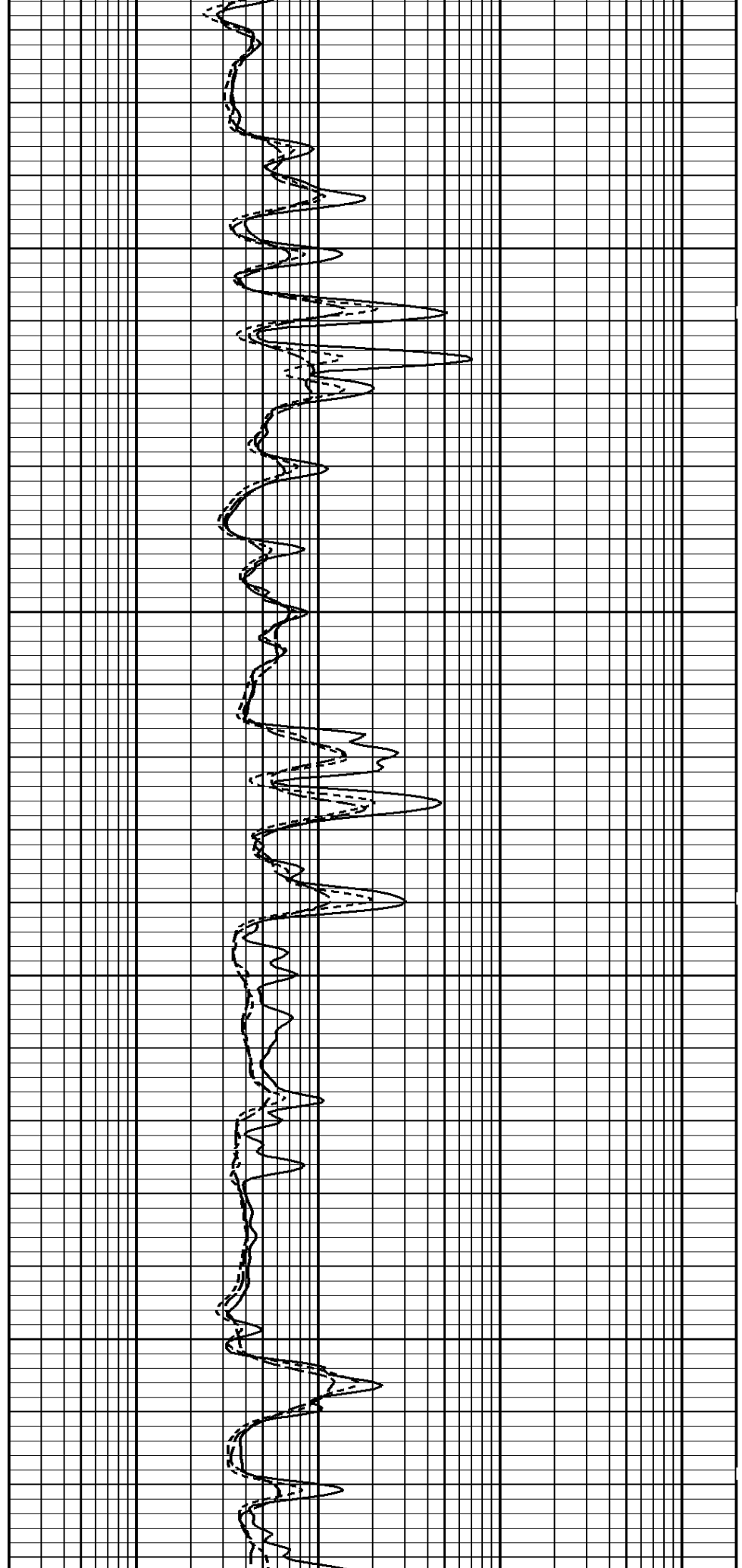
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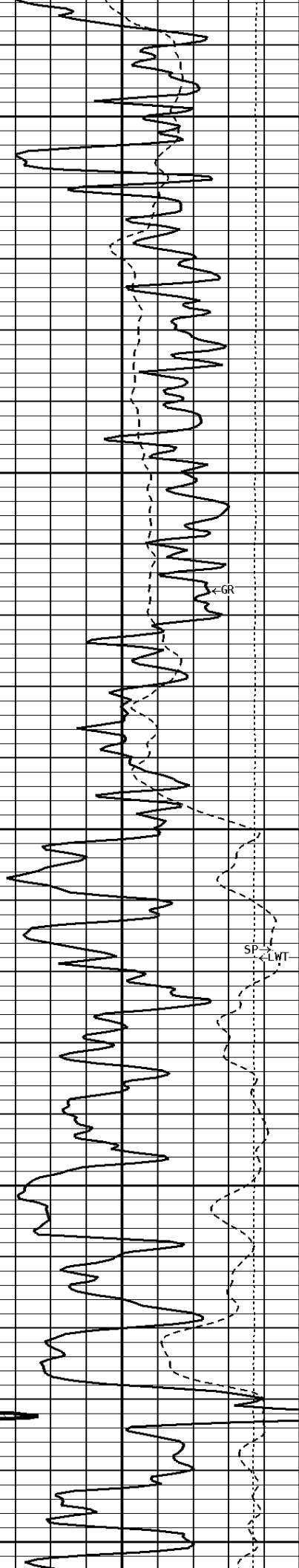




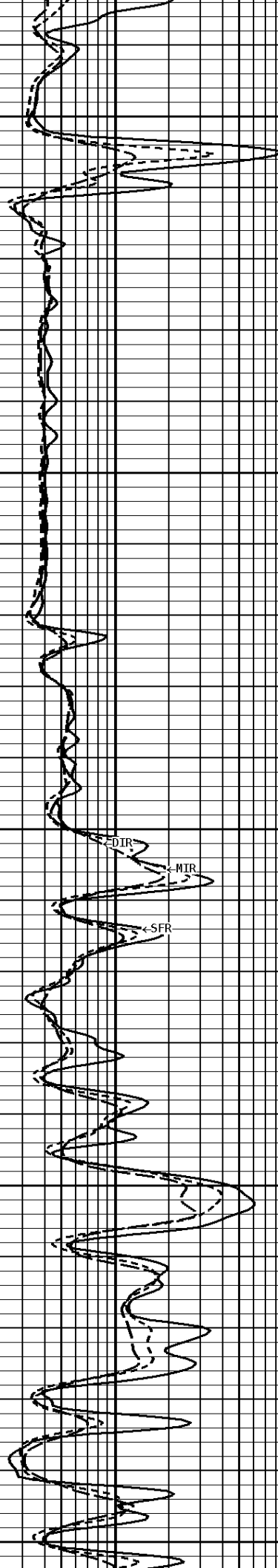
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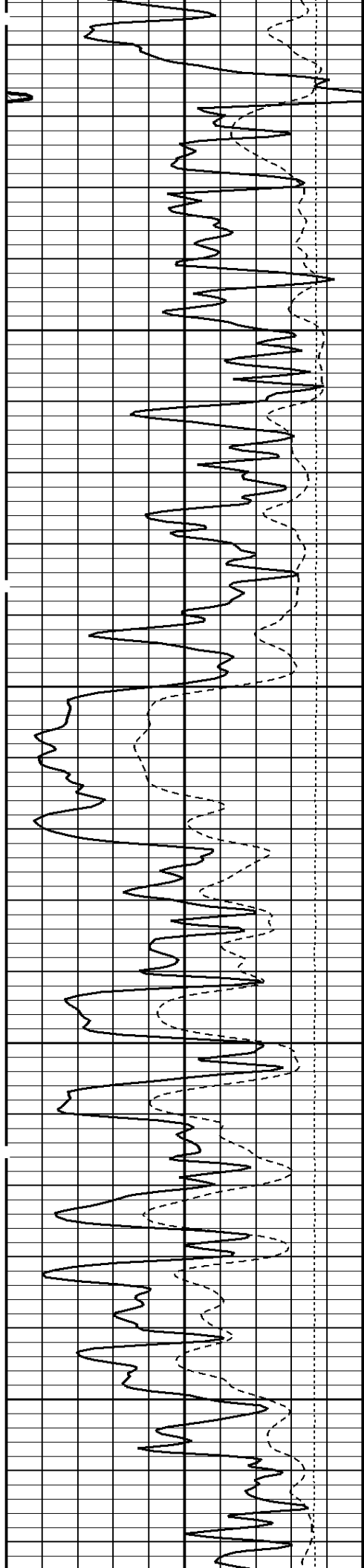




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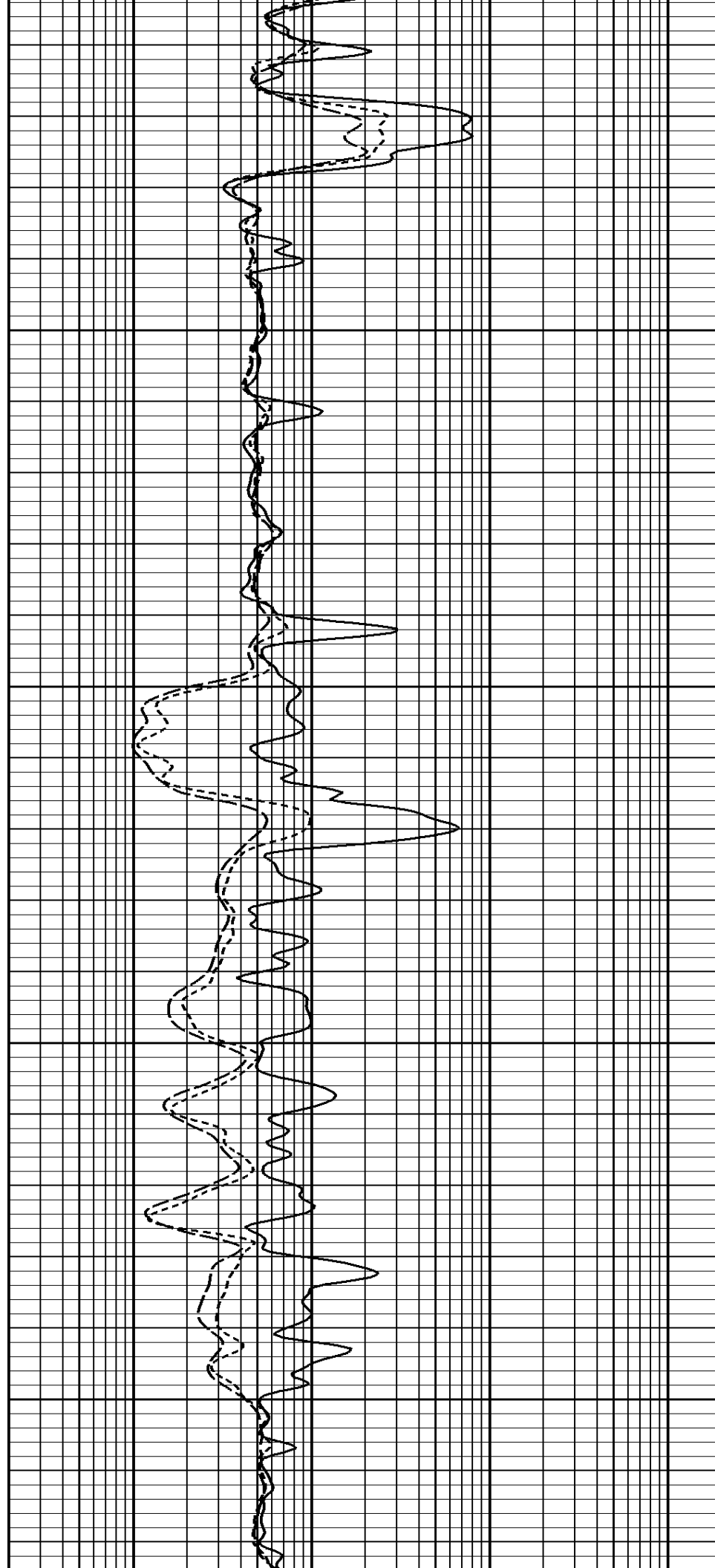


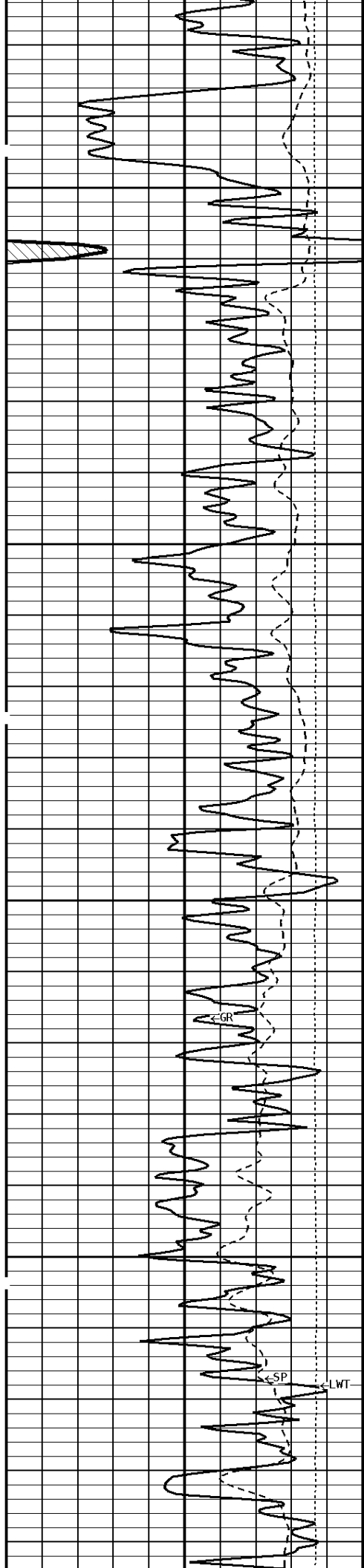
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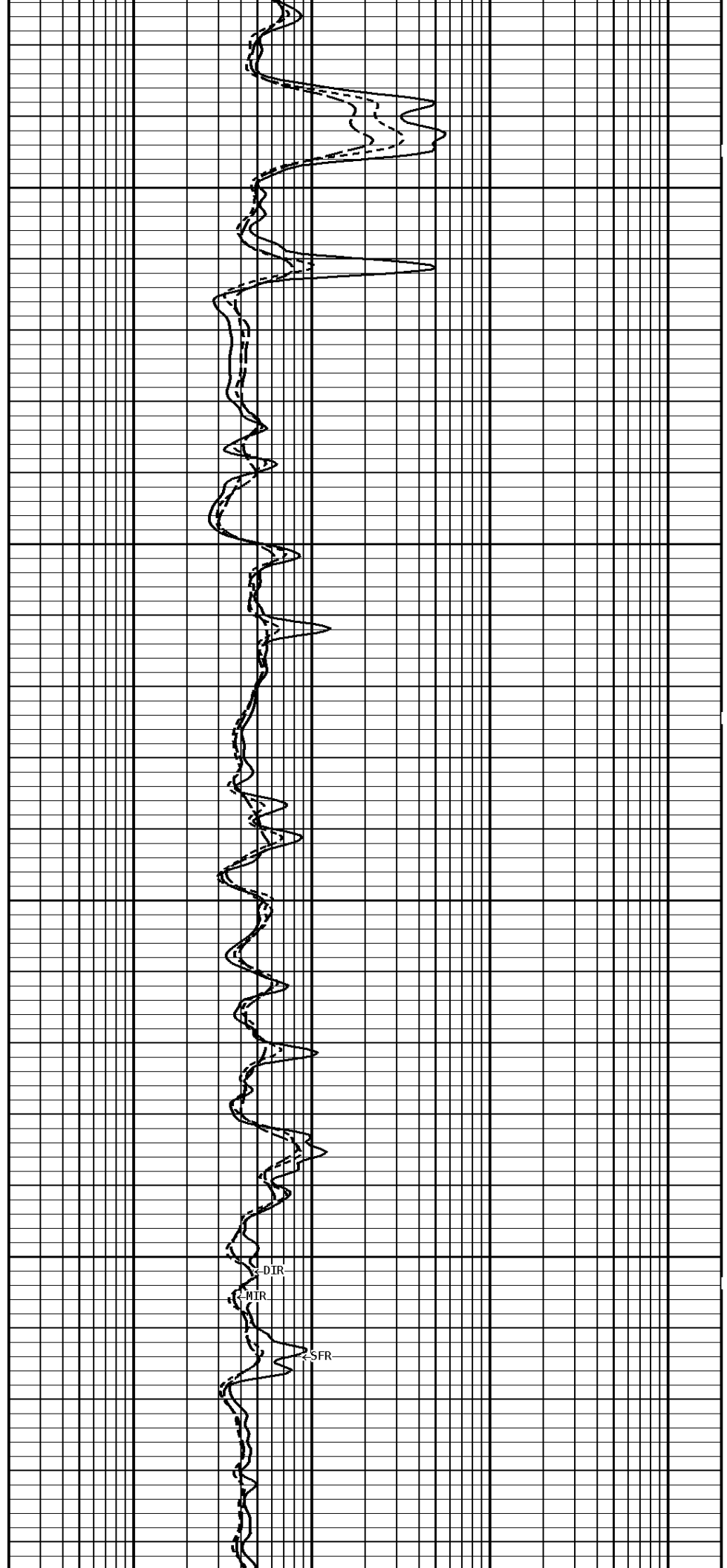
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1100

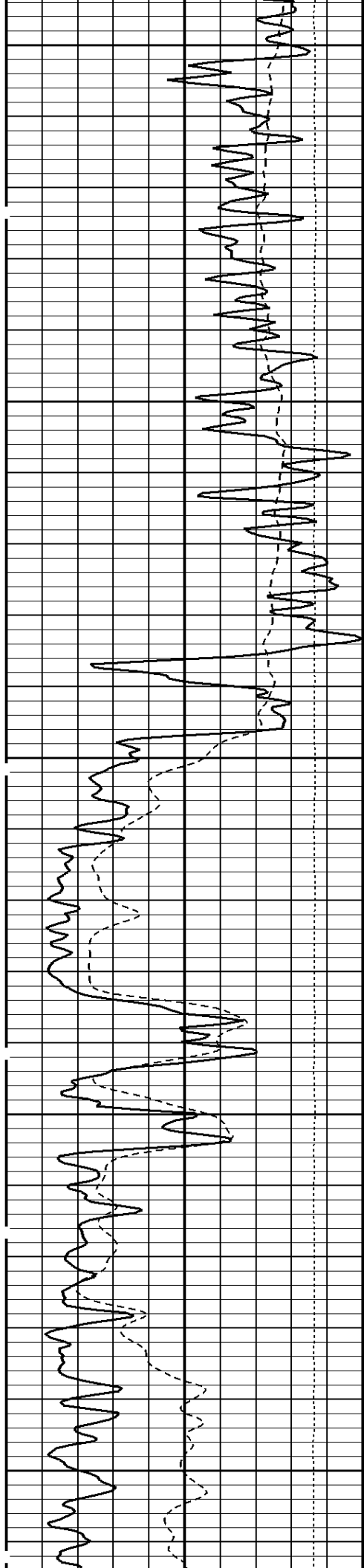
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DIR

HTR

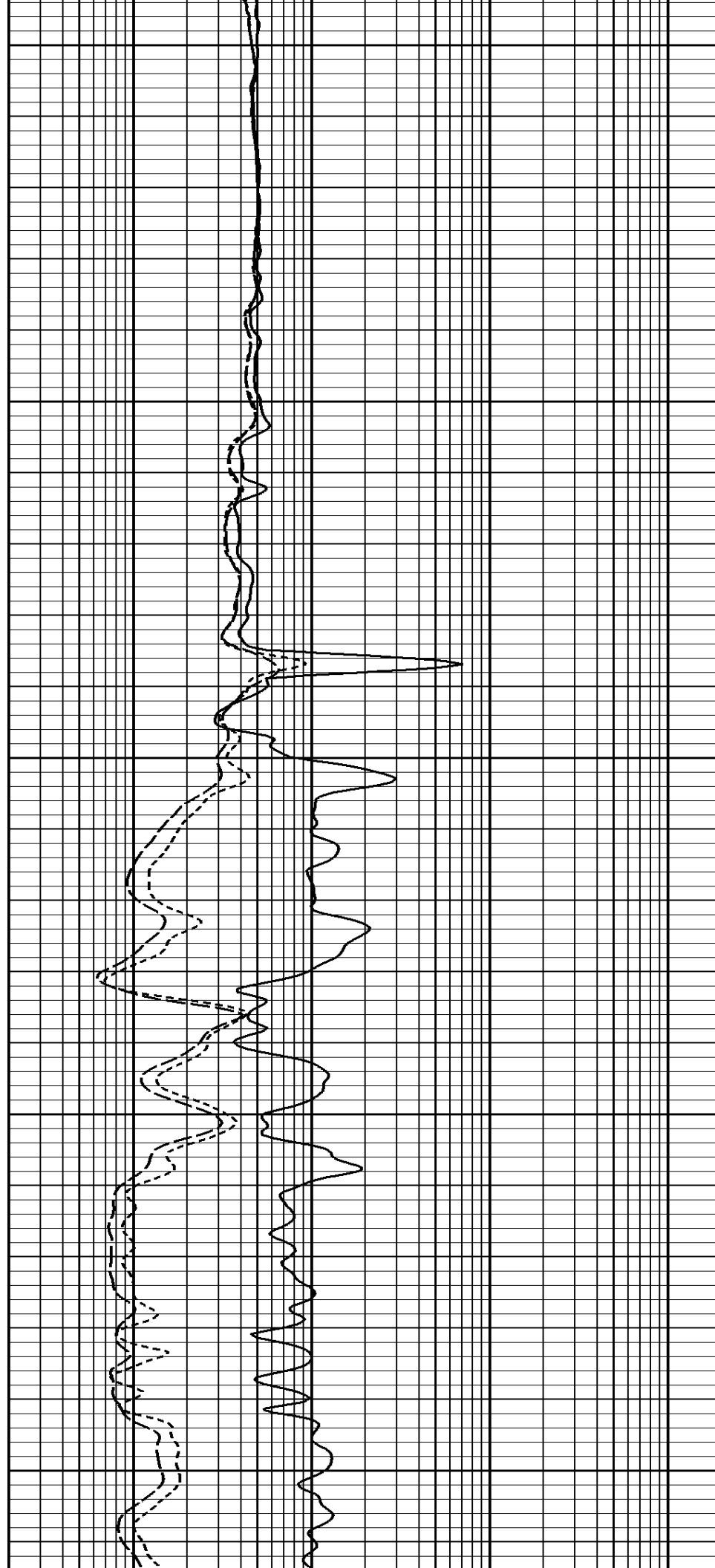
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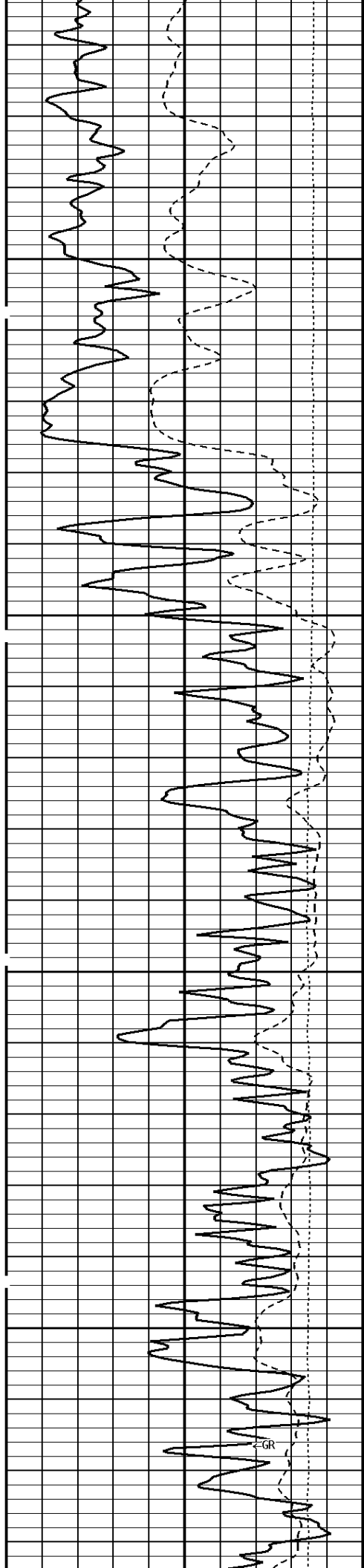


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1400

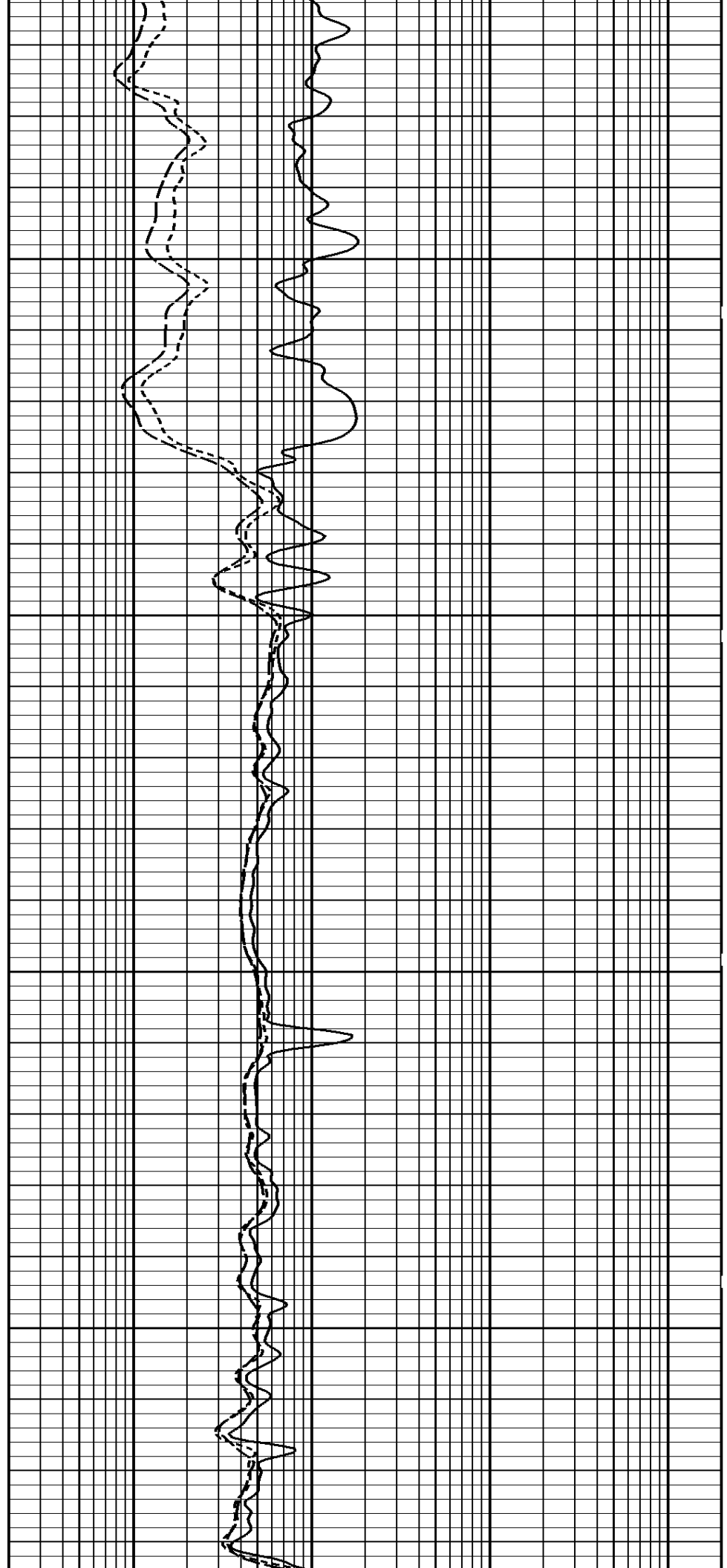
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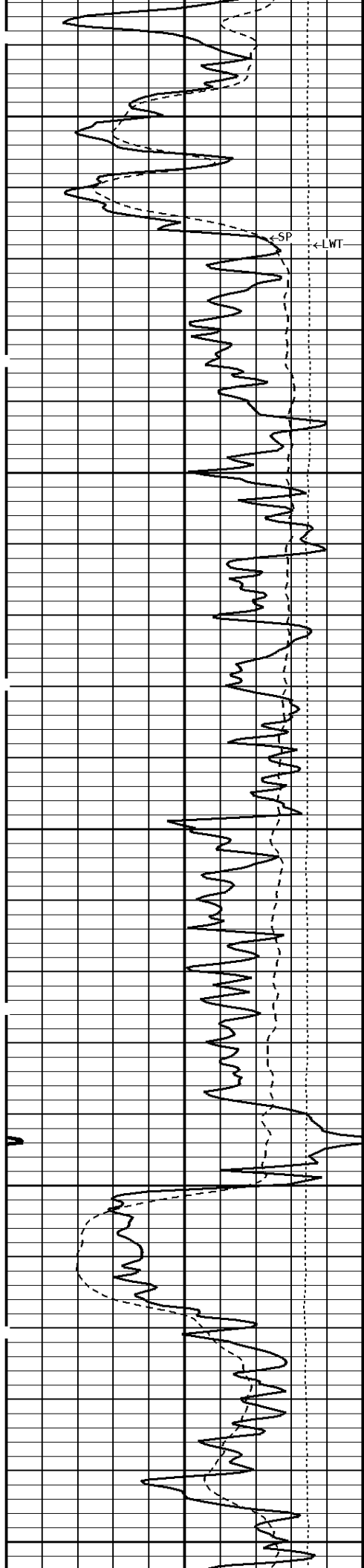




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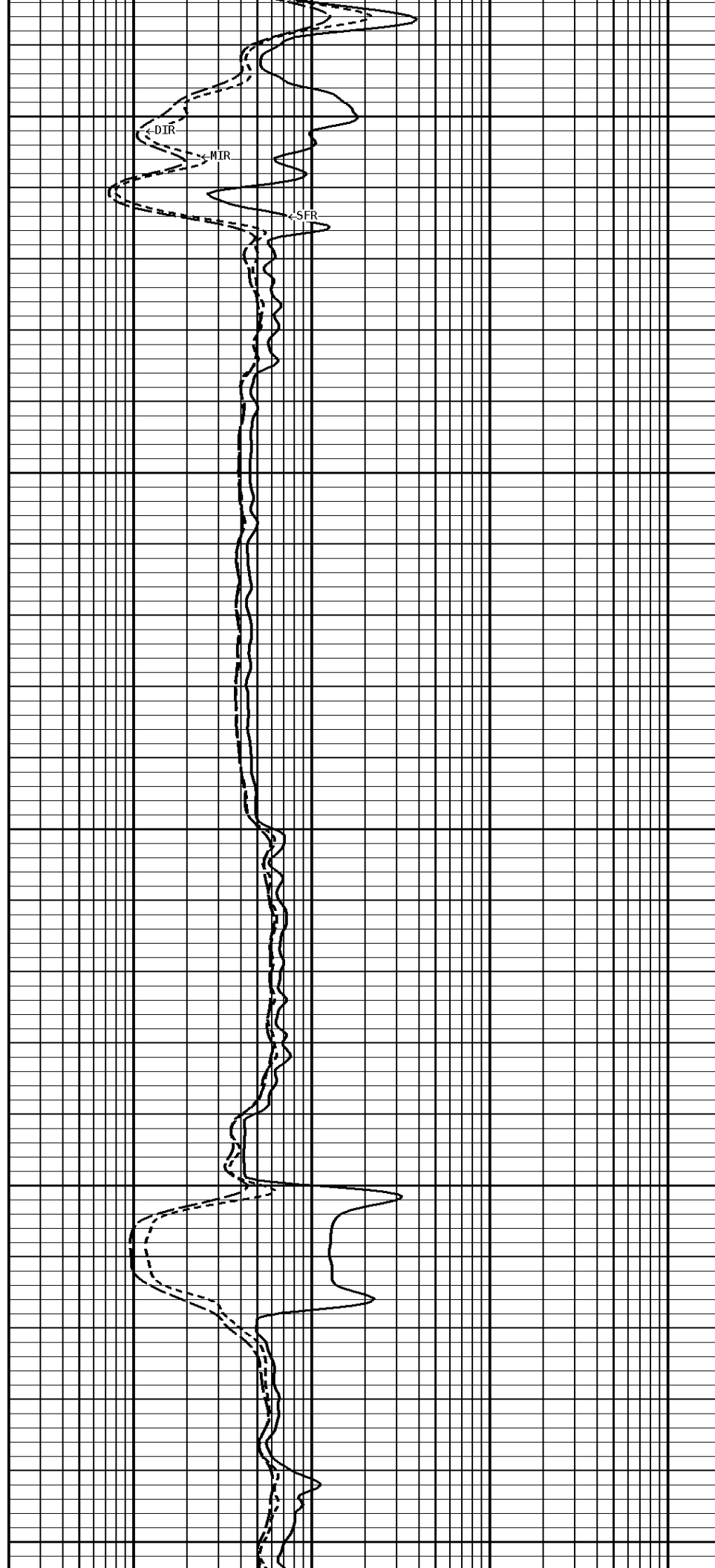
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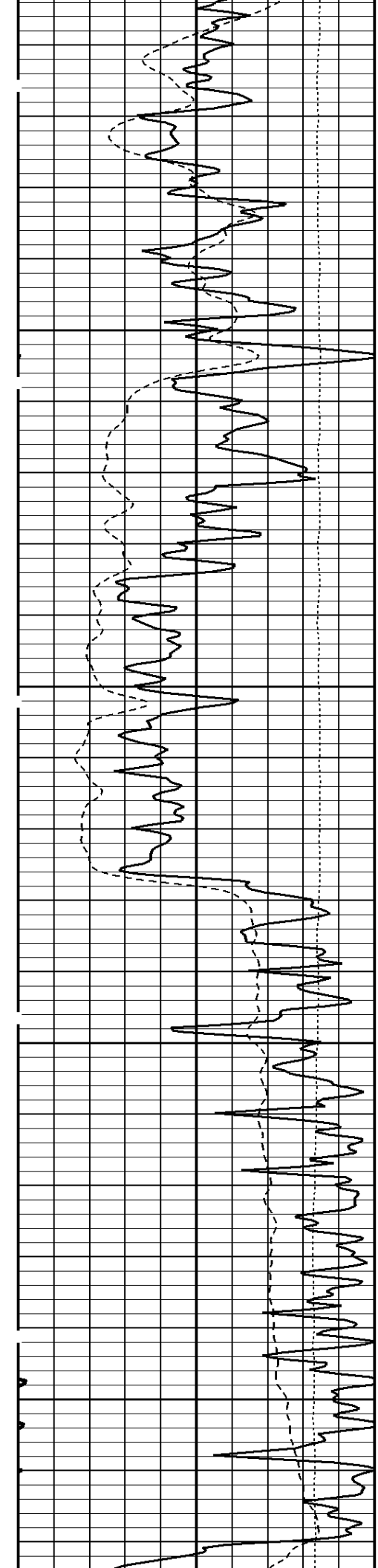




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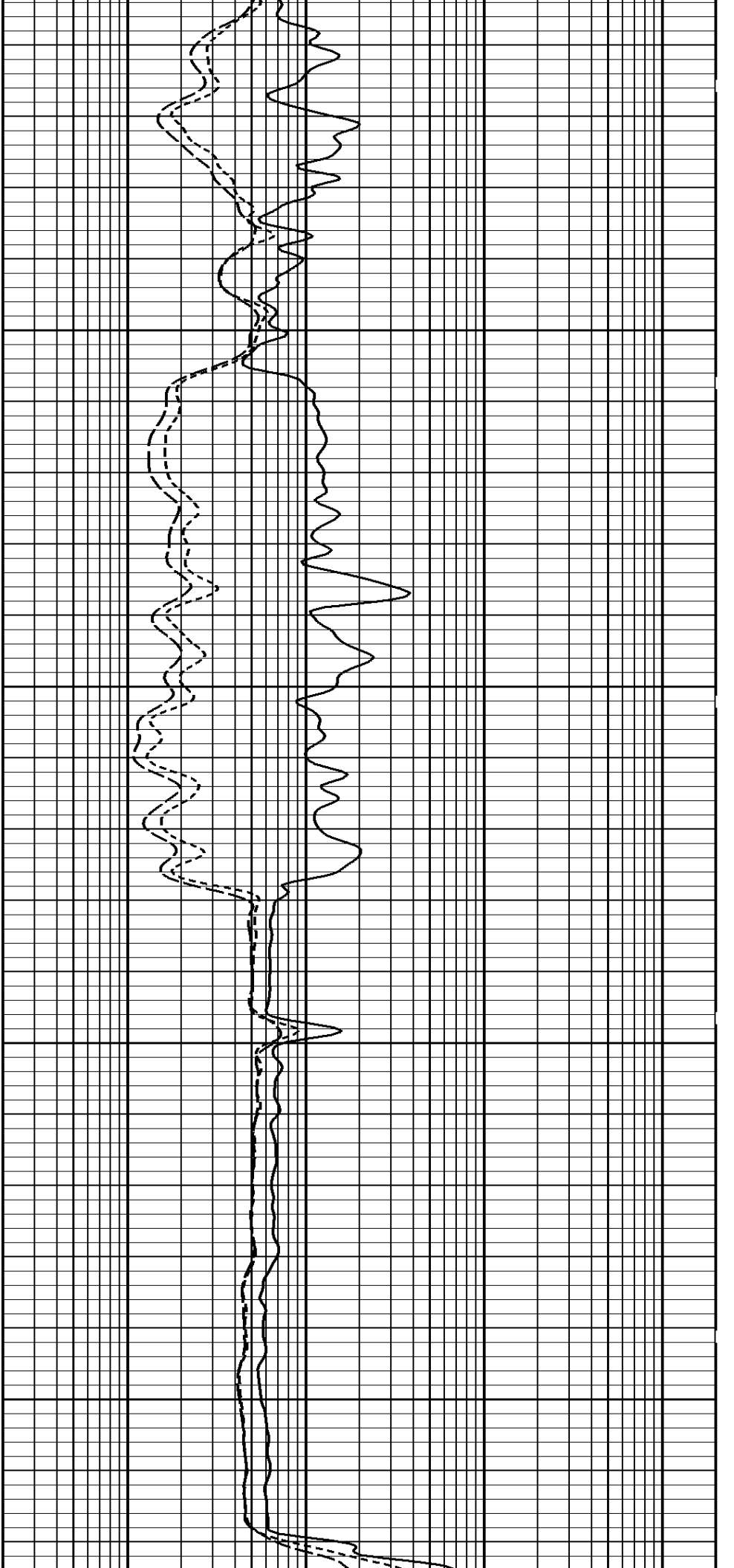
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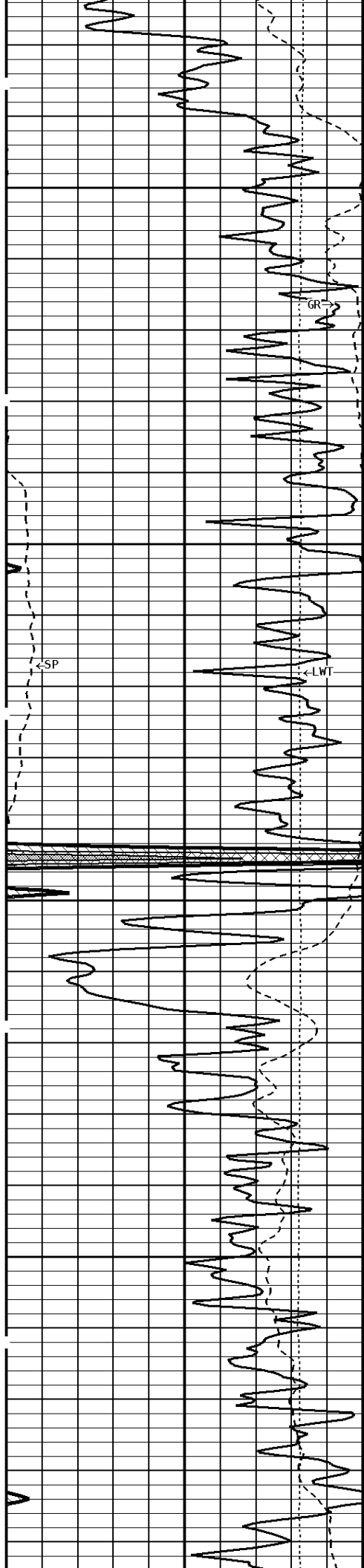




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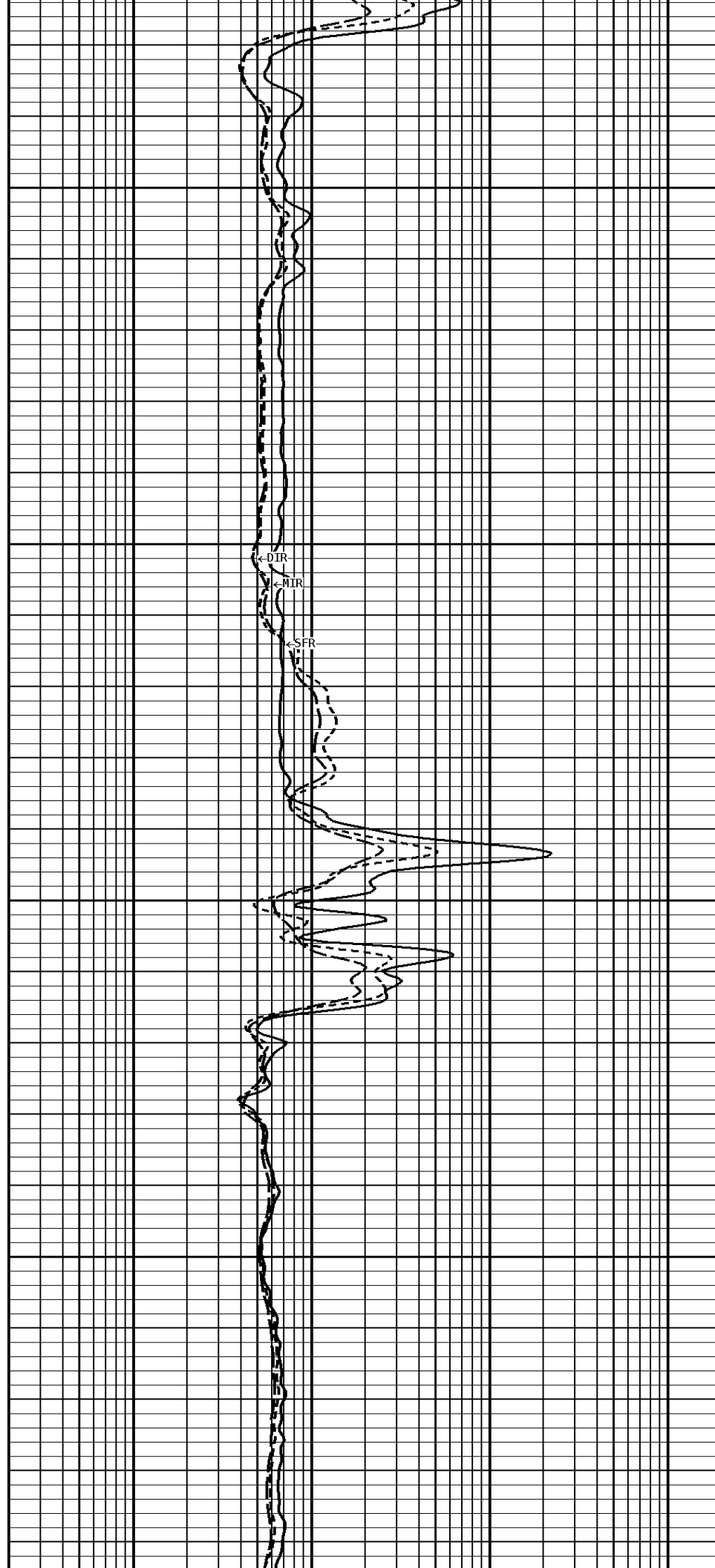
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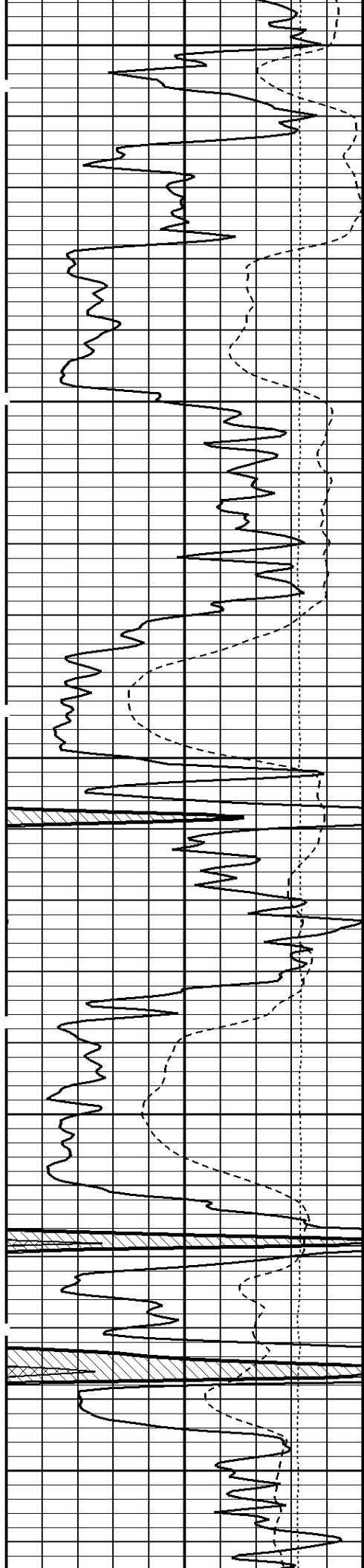




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2300

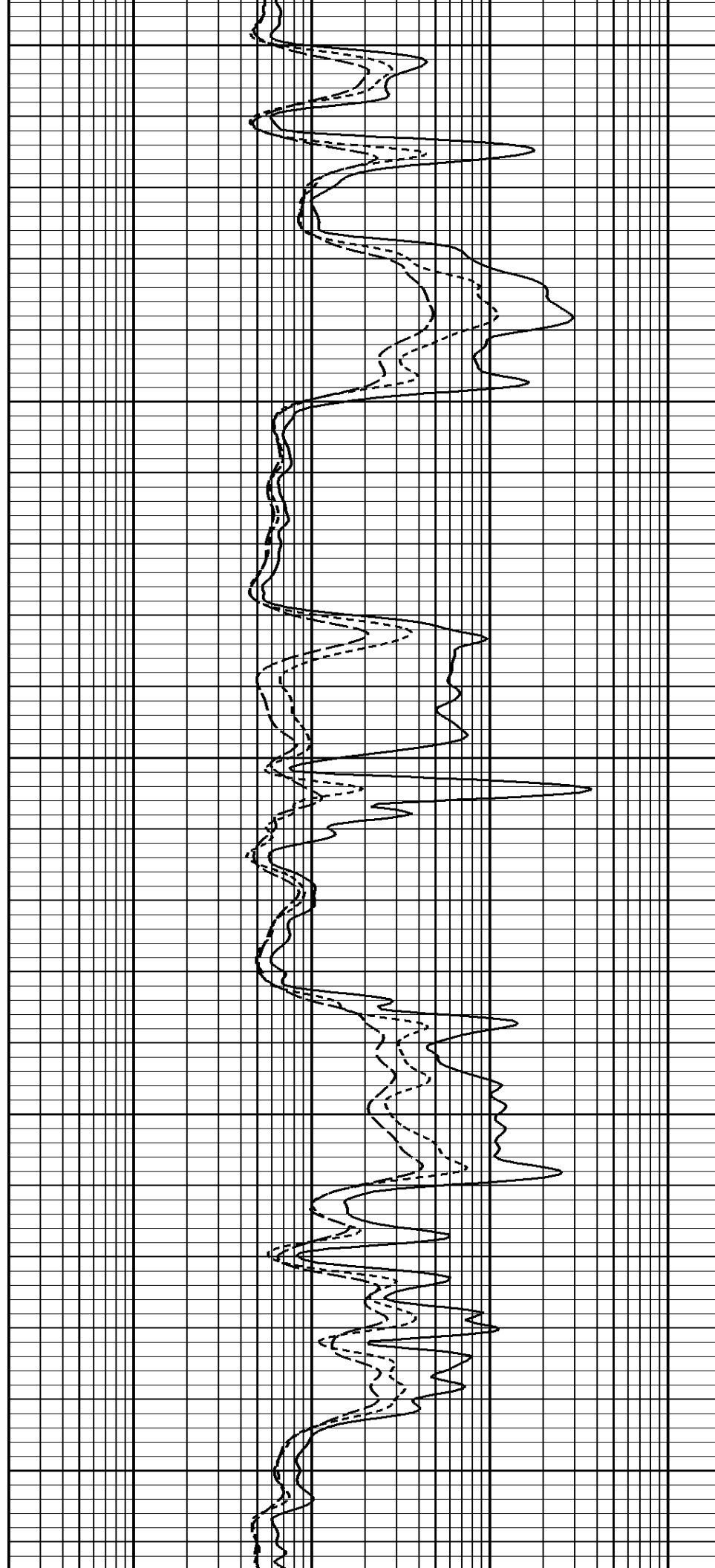


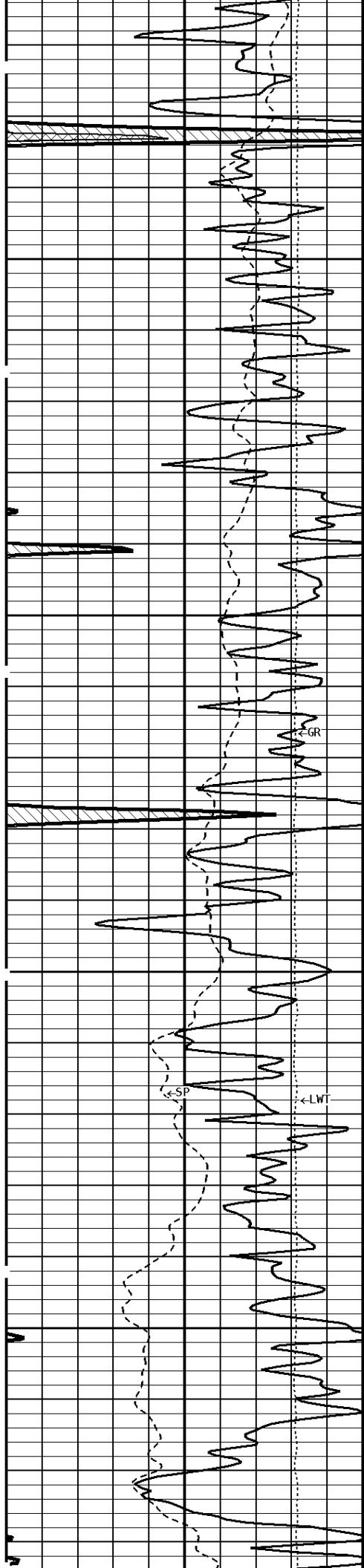


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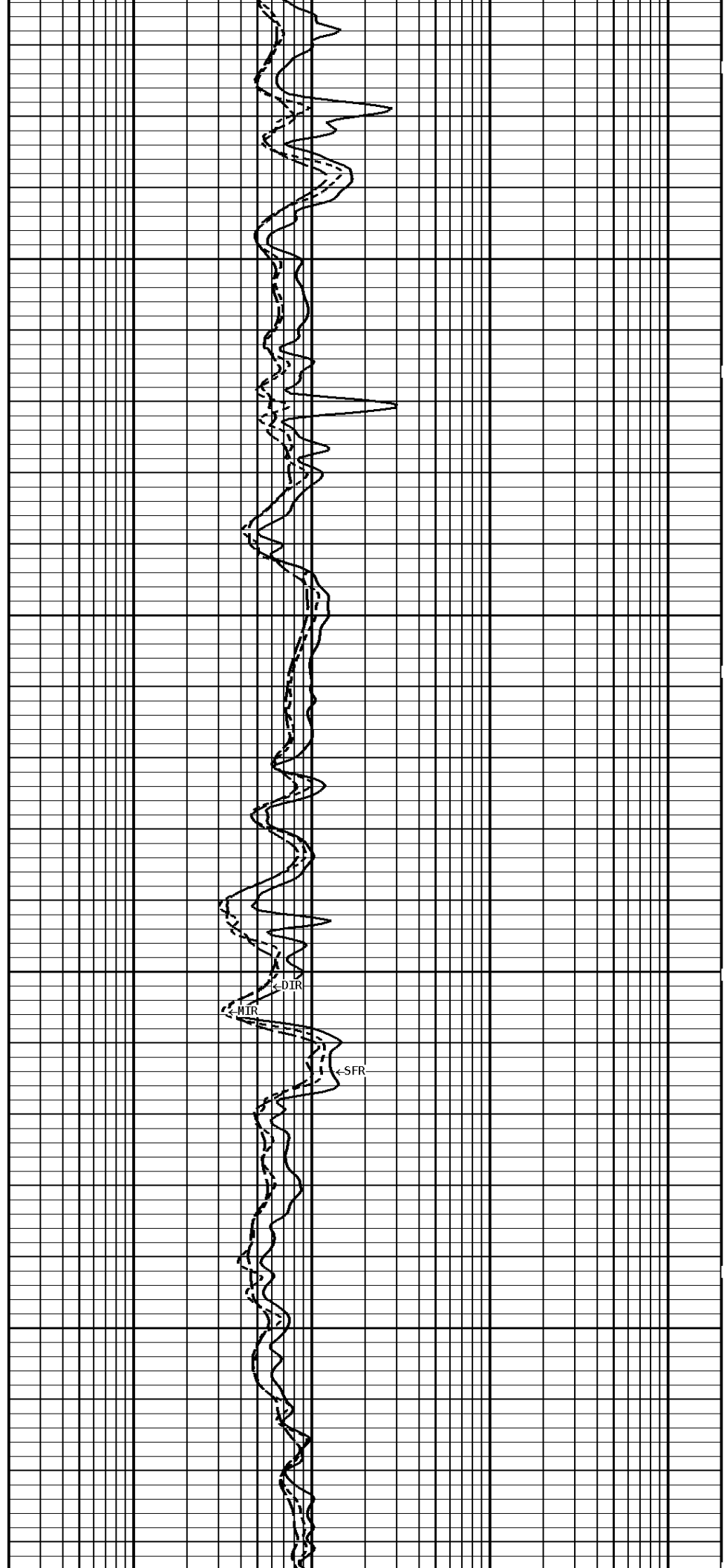
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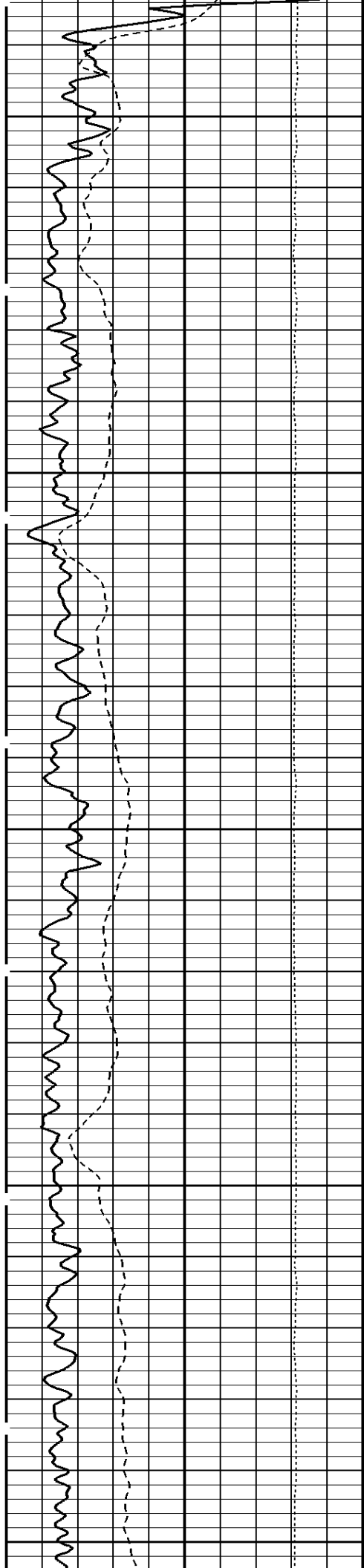
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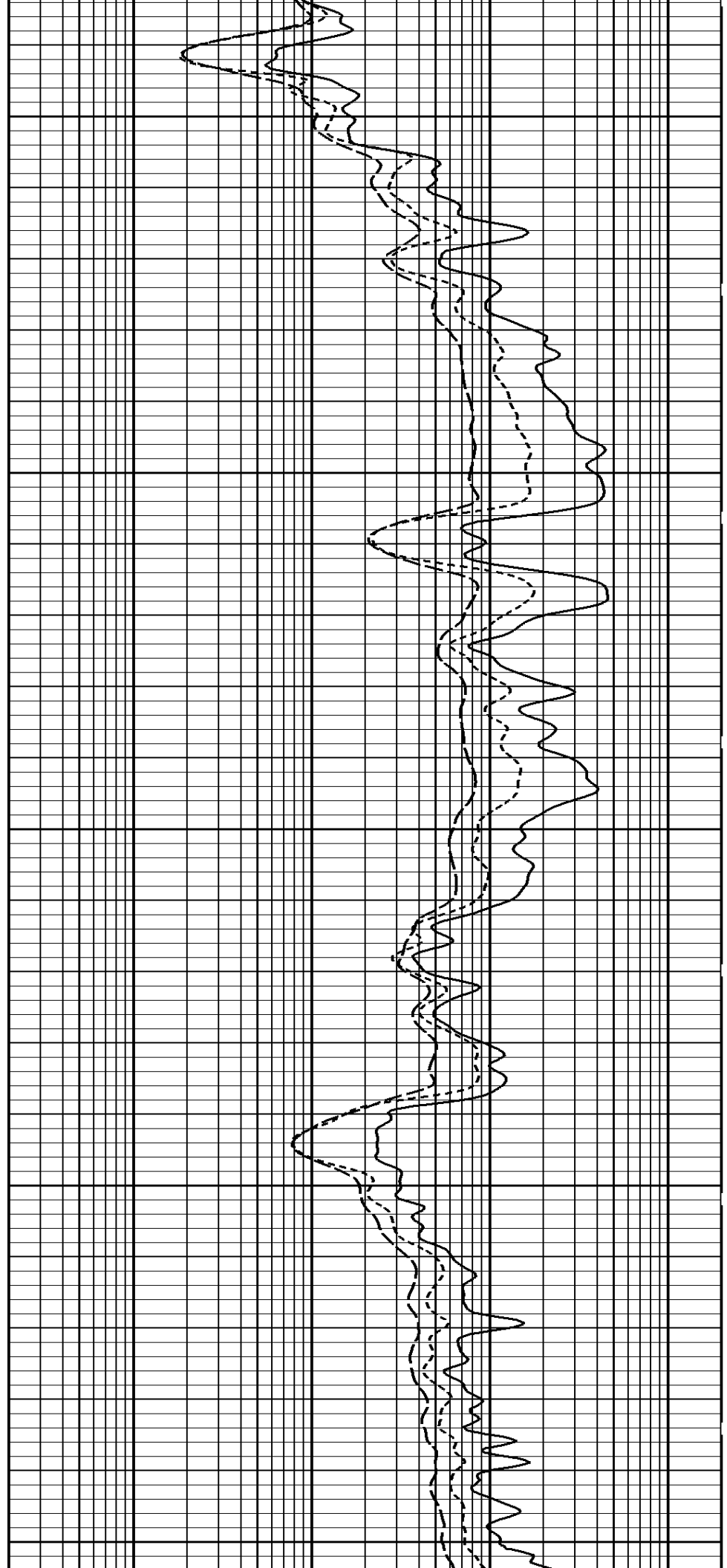
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DIR

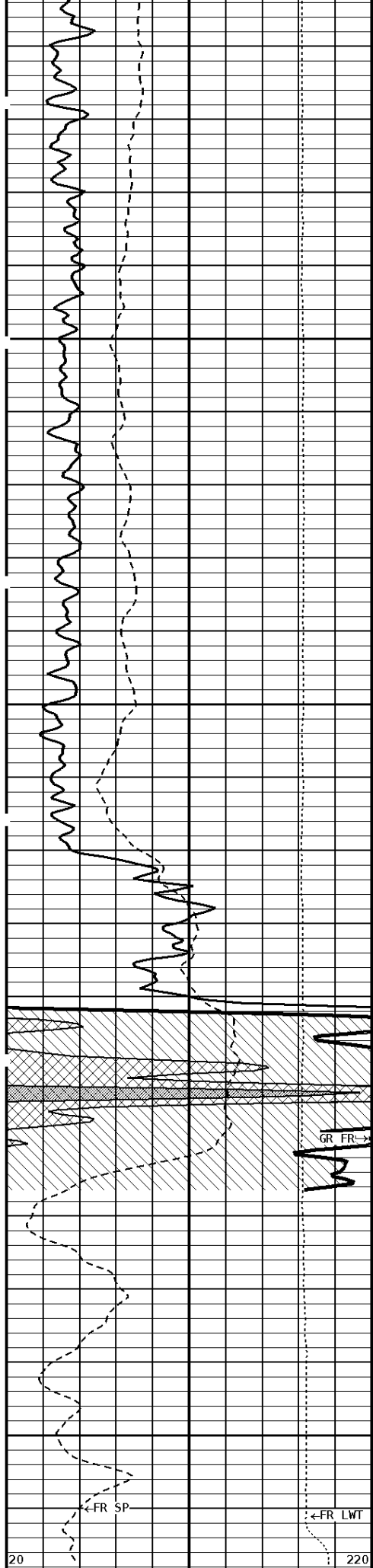
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2900

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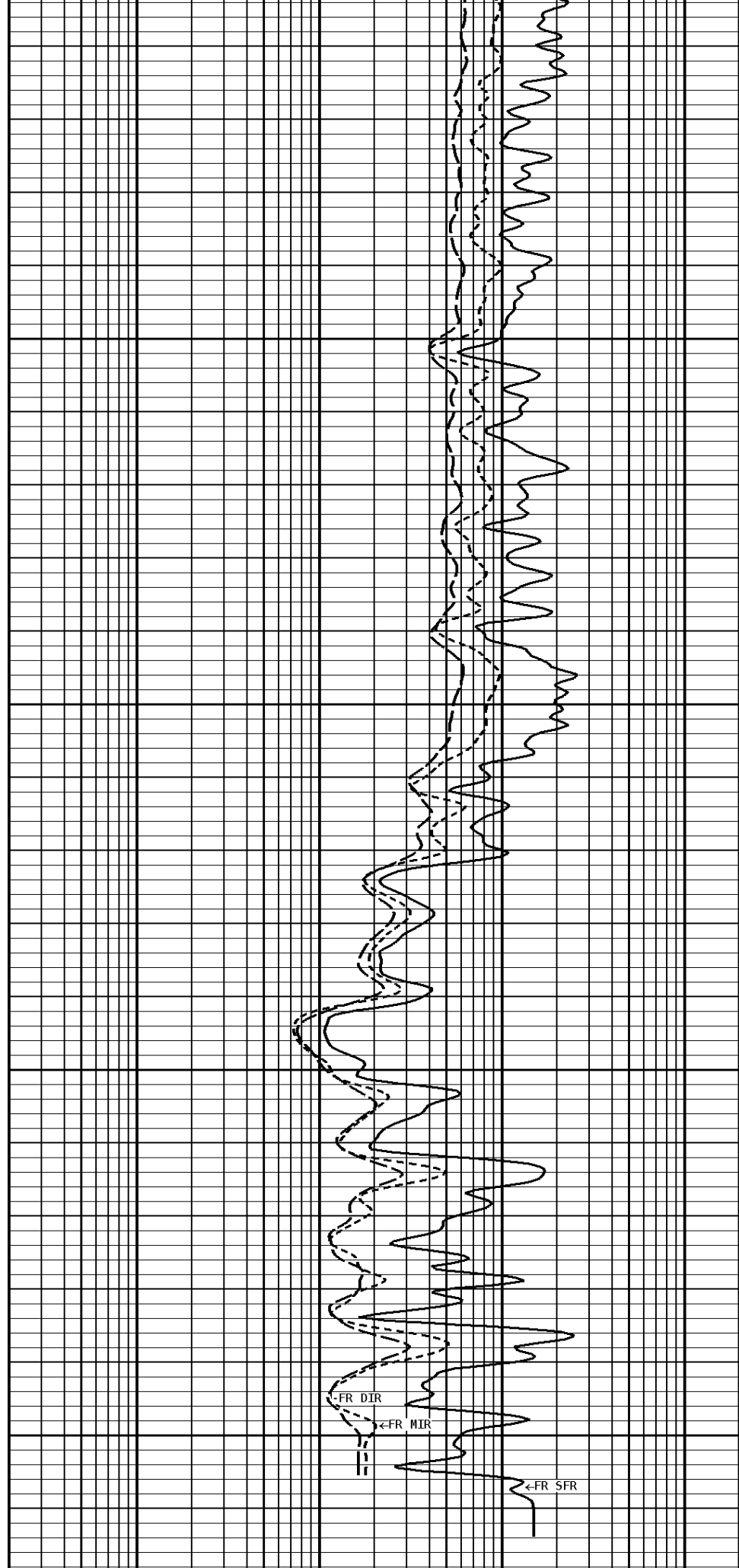




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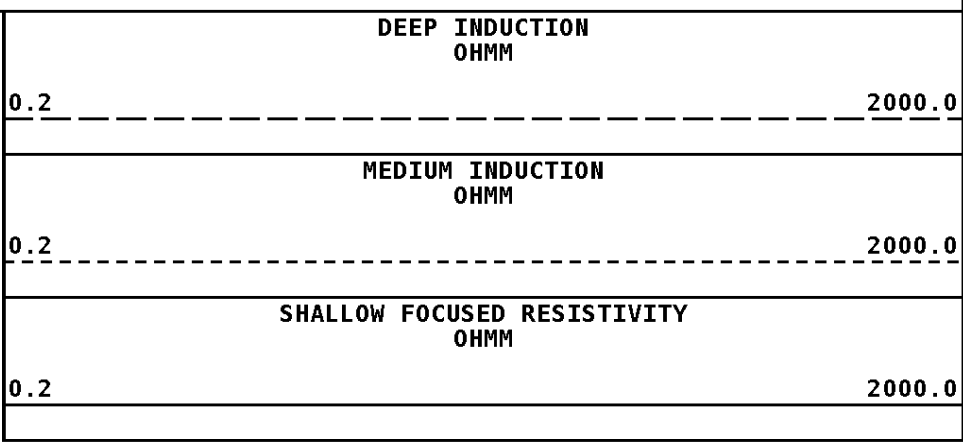
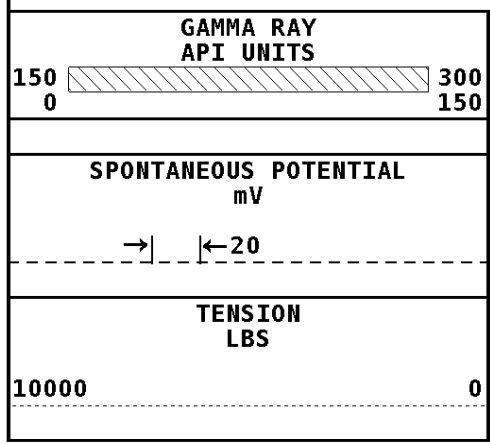
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3262



File #1.1.5

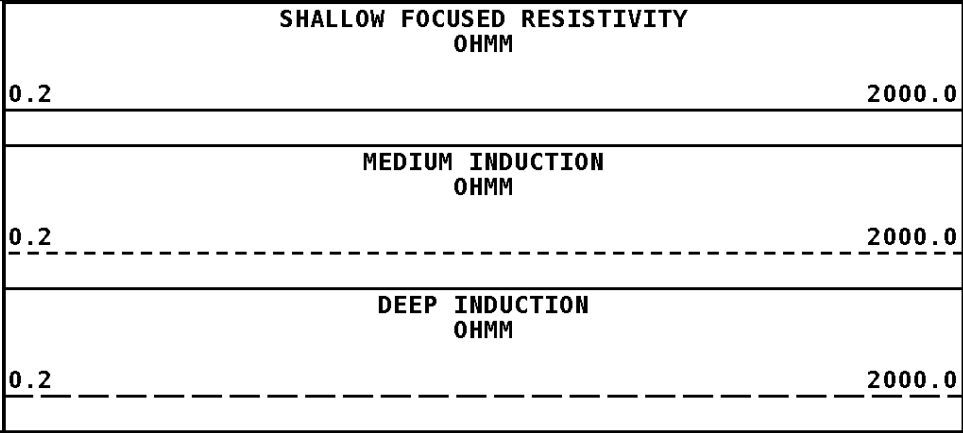
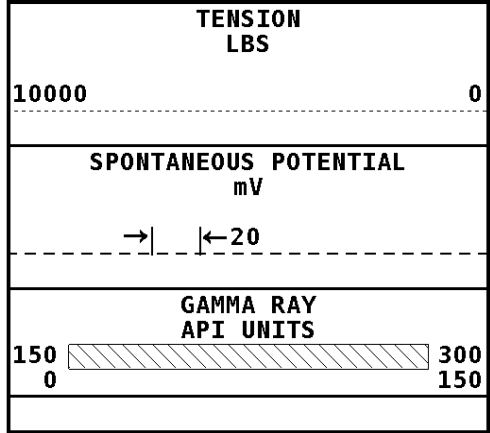
1:240 MAIN SECTION



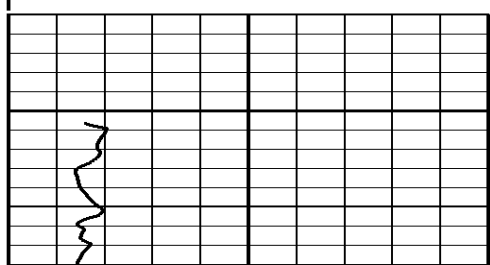
* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet	
Drill Bit Size	7.875 in
BHT Depth	3262.000 ft
Borehole Temperature	73.0 degF
Temperature Gradient	1.00 DFHF
Resistivity Of Mud	2.750 ohm/m
Resistivity Of Mud Temperature	80.00 degF

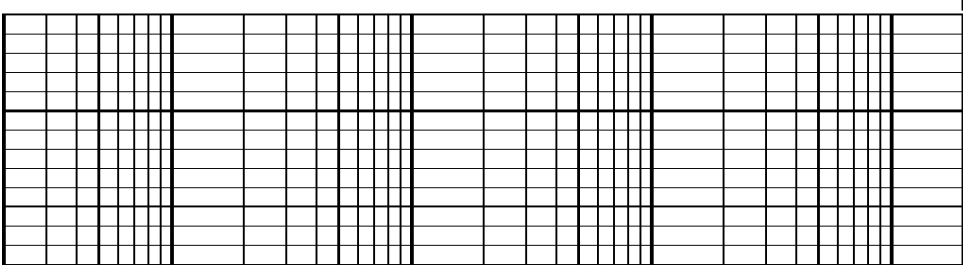
Well File: Mcgow-ful-1-2-mstk-may25 **Scale:** 1:240
Segment: V1.D1.S4 RP **Acquired:** 2012-05/25 15:07 3.2.0-10367
Reference: 0 **Processed:** 2012-05/25 16:32 3.2.0-10367

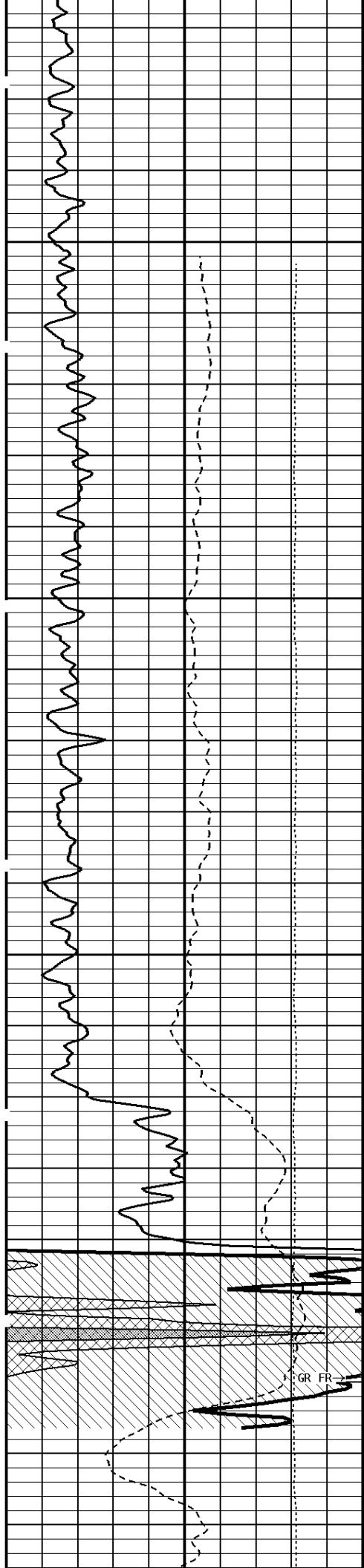


1:240 REPEAT SECTION



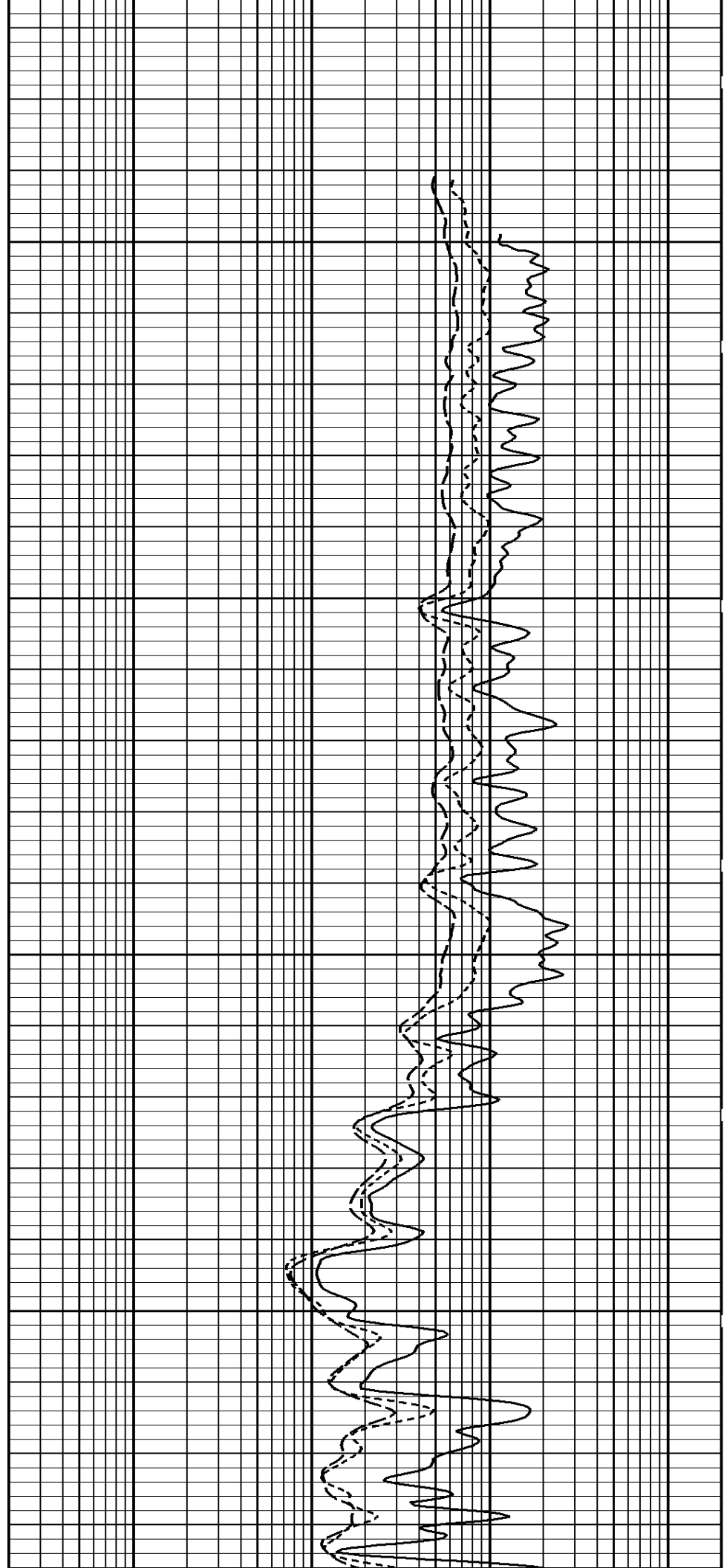
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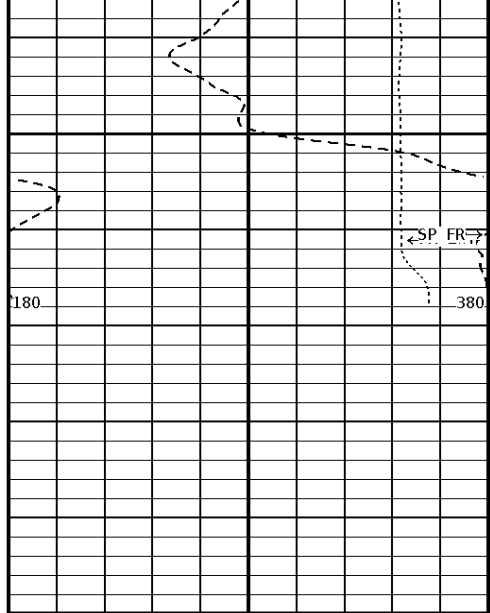




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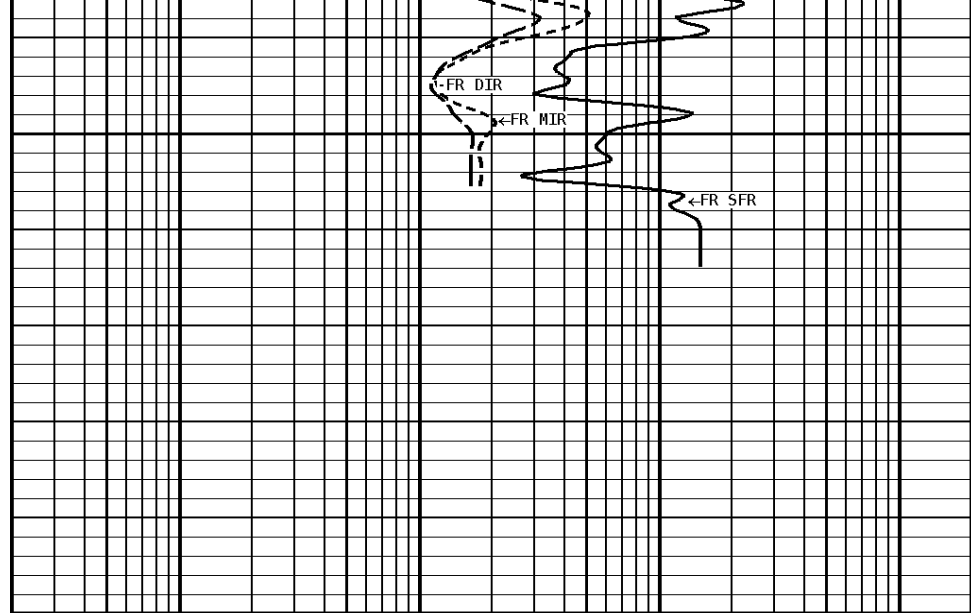
3200



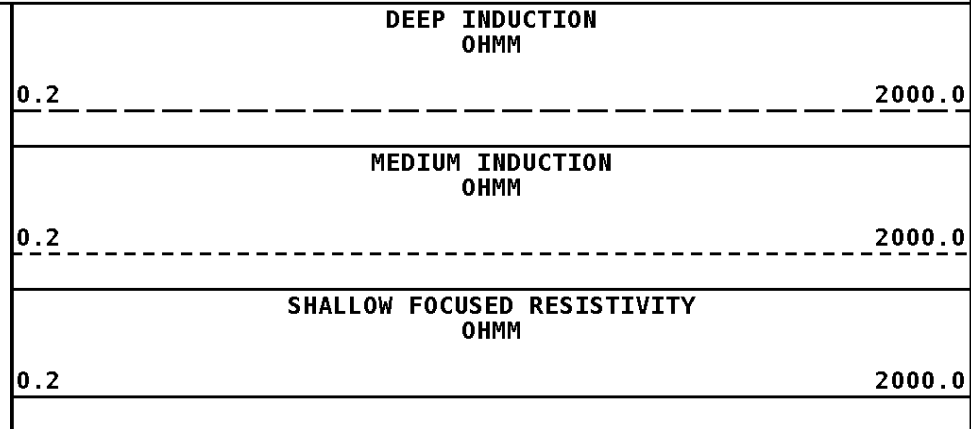
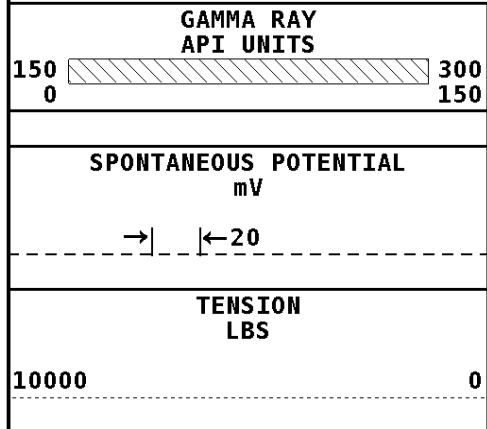


3262

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	3262.000	ft
Borehole Temperature	73.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	2.750	ohm/m
Resistivity Of Mud Temperature	80.00	degF

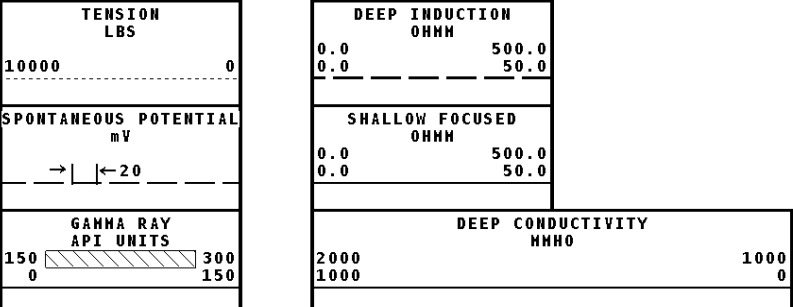
*** Calibration Summary ***

Shop Calibration GRT-B					
Performed : 04-APR-2011		Time : 19:28			
Sensor Suite : GR-GR5		ID : GRT-BC-41			
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig		
	46	346	175	GRAPI	

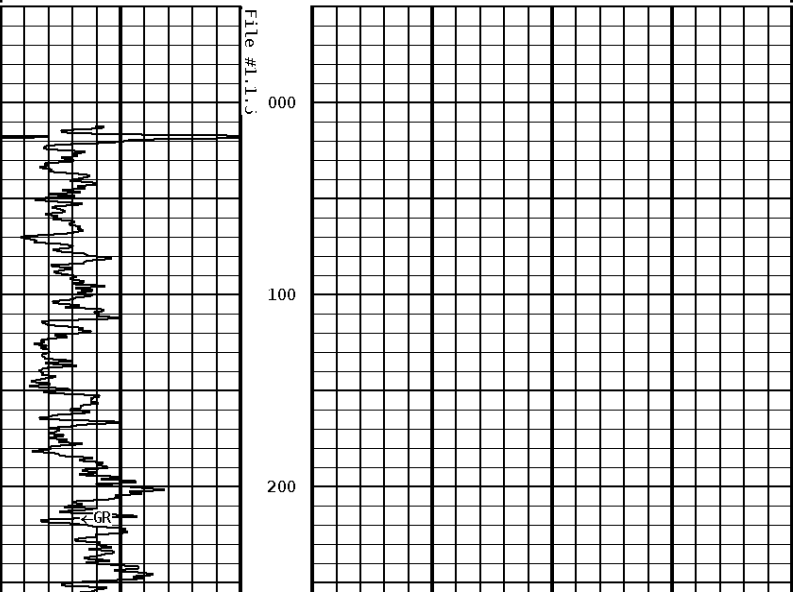
Shop Calibration PIT-CA					
Performed : 09-MAR-2012		Time : 15:54			
Sensor Suite : P-IND-T		ID : PIT-AC-022			
	Measured	Medium	Calibrated	Units	
	R	X	R	X	
Air	129413	131202	-7.0	-7.0	MMHOS
Zero	131066	131071	65.6	-17.0	MMHOS
Reference	248746	249346	5065.6	4983.0	MMHOS

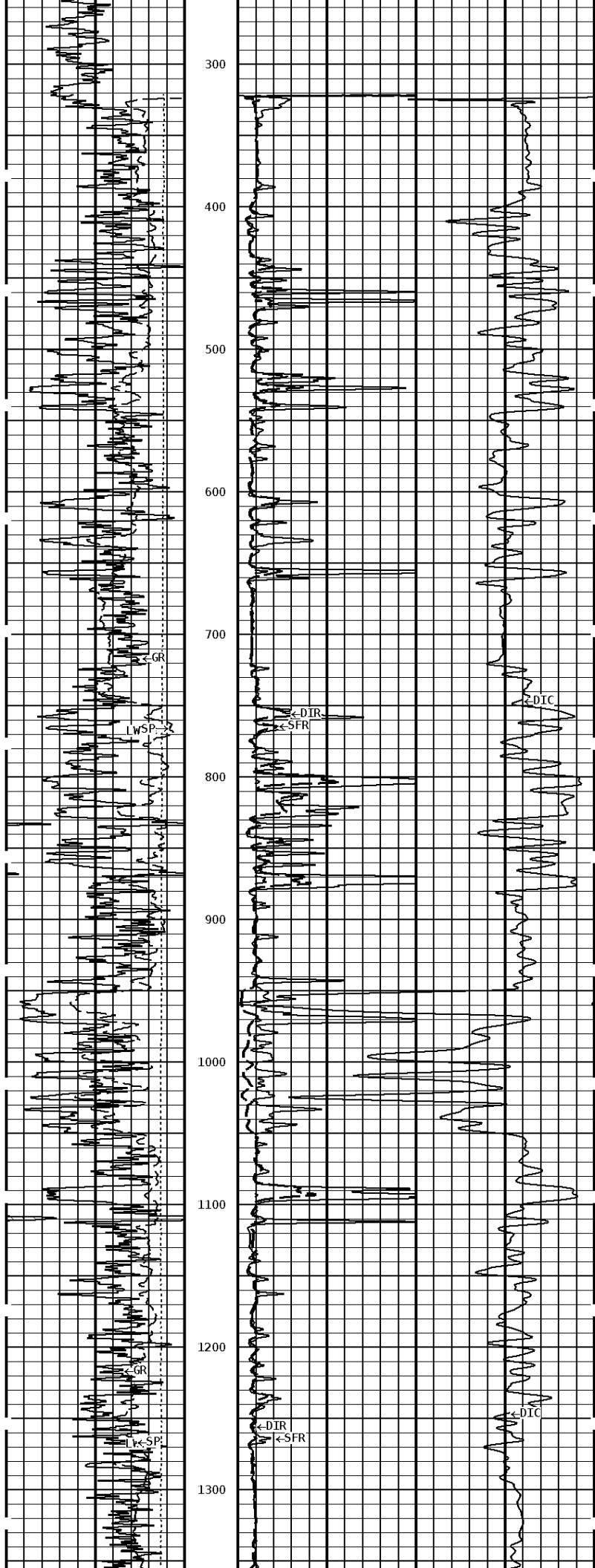
Loop	147468	174966	2610.2	1076.0	MMHOS
Sonde Error			-2.1	-6.8	MMHOS
Cond			5065.6	4983.0	MMHOS
Deep					
	Measured		Calibrated		
	R	X	R	X	Units
Air	129586	130432	0.0	0.0	MMHOS
Zero	131077	131073	31.9	6.9	MMHOS
Reference	238783	239471	2031.9	2006.9	MMHOS
Loop	148920	177248	1222.8	504.8	MMHOS
Sonde Error			-0.8	-9.2	MMHOS
Cond			2031.9	2006.9	MMHOS
Temperature					
	Measured		Calibrated		
	Low	High	Low	High	Units
	16980.0	56920.0	70.0	350.0	DEGF
Performed : 30-Jan-2012			Time : 11:24		
Sensor Suite : SFL			ID : PIT-AC-022		
Internal					
	Measured		Calibrated		
	Zero	Reference	Zero	Reference	Units
Im	32763.2	50516.1	0.0	7028.0	uA
Ib	32769.0	50217.9	0.0	1750.0	mA
MOM1	32796.4	60221.5	0.0	175.0	mV
Equivalent SFL				43.97	OHMM
Performed : 30-Jan-2012			Time : 11:26		
Sensor Suite : P-SP			ID : PIT-AC-022		
Internal					
	Measured		Calibrated		
	Zero	Reference	Zero	Reference	Units
	32785.2	58904.5	0.0	1000.0	mV

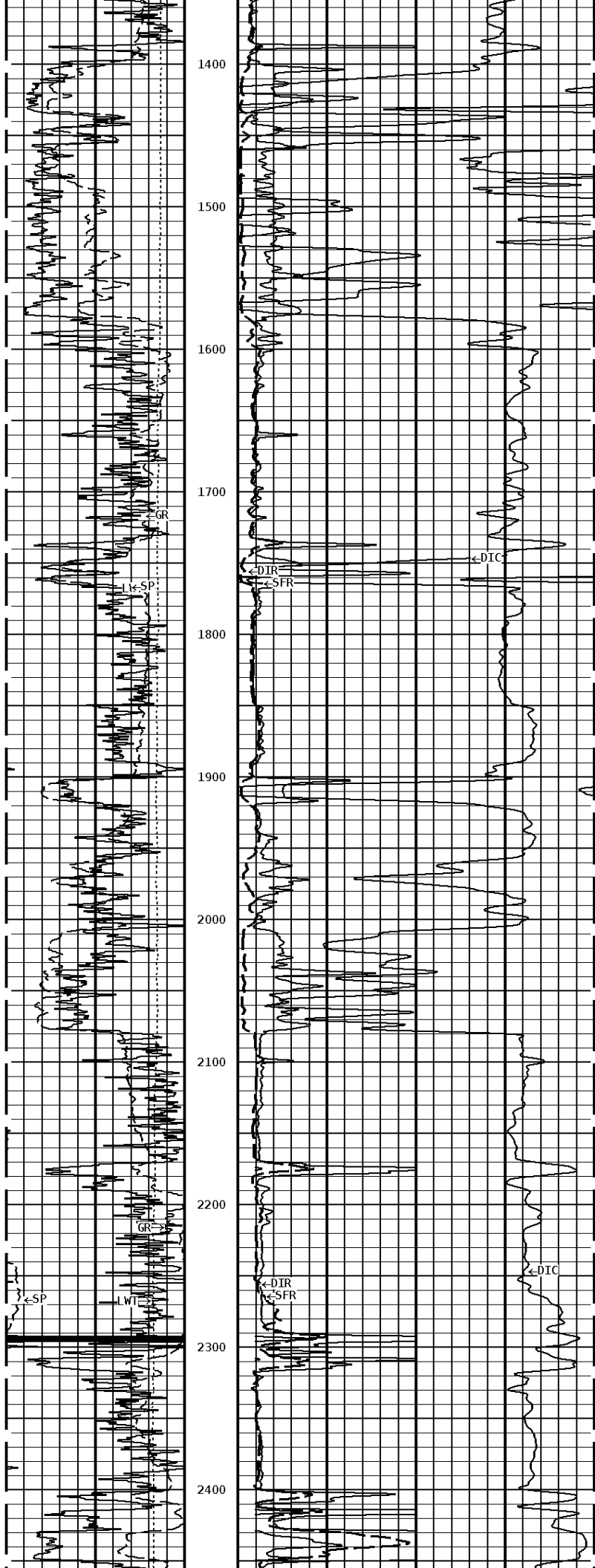
Well File: Mcgow-ful-1-2-mstk-may25 **Scale:** 1:1200
Segment: V1.D1.S5 MN **Acquired:** 2012-05/25 15:21 3.2.0-10367
Reference: 0 **Processed:** 2012-05/25 16:32 3.2.0-10367

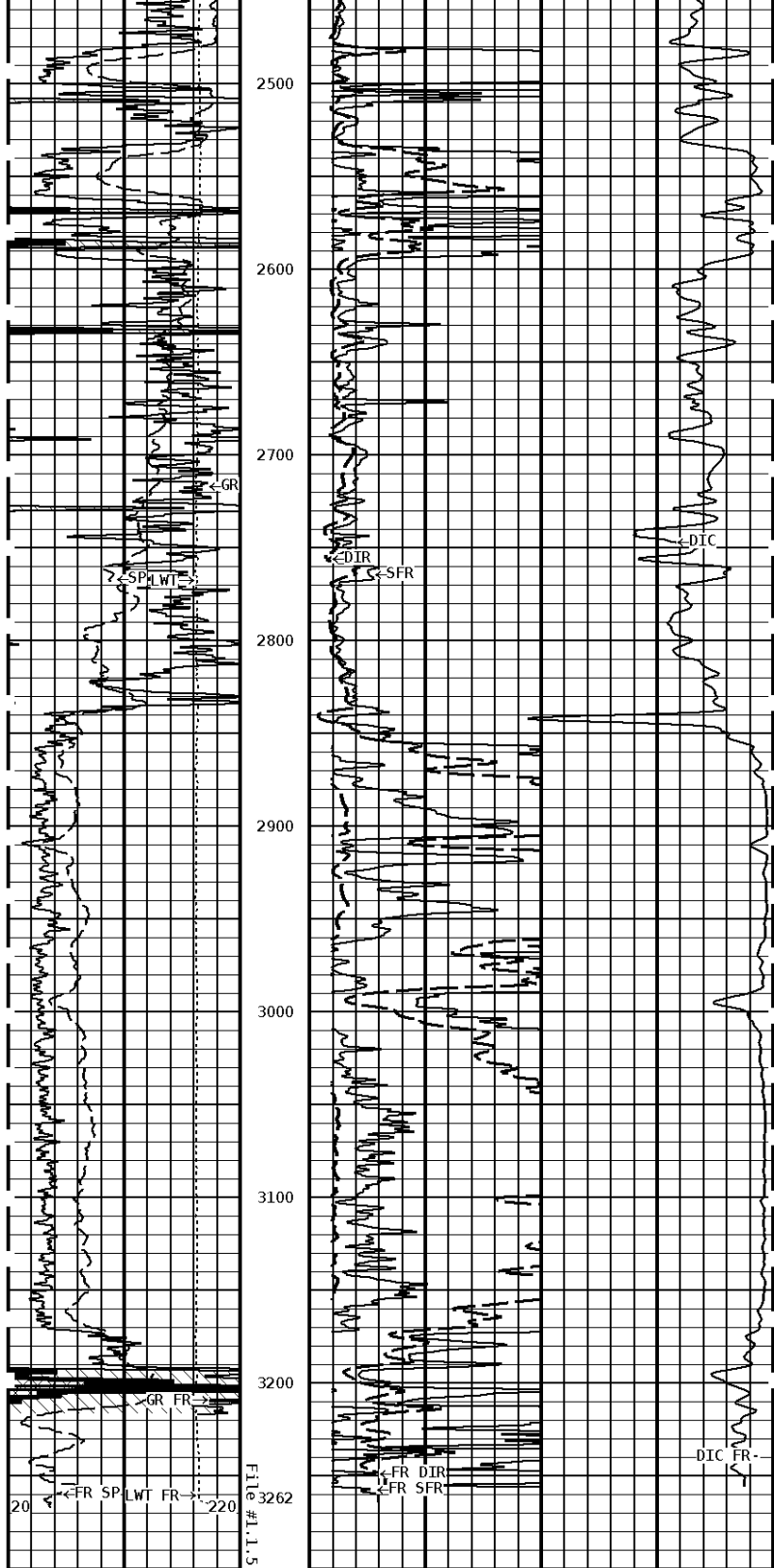


1:1200 MAIN SECTION









1:1200 MAIN SECTION

