

Tucker
ENERGY SERVICES

PHASED INDUCTION

SHALLOW FOCUS SP LOG

Company RUNNING FOXES PETROLEUM		File No : TUL-61201	
Well HERRMANN #9-4B-2		Company : RUNNING FOXES PETROLEUM INC.	
Field LIVINGOOD		Well : HERRMANN #9-4B-2	
County BROWN		Field : LIVINGOOD	
State KANSAS		County : BROWN	
Country USA		State : KANSAS	
API No. 15-013-20052-0000		Country : USA	
API No : 15-013-20052-0000		Location : 2315' FSL & 1292' FEL NW NW NE SE	
LSD :		Sect : 4 Twp : 1S Rge : 15E	
Permanent Datum:		Elevations:	
Drilling Measured From:		KB 1146.00 Ft	
Log Measured From:		KB 1145.00 Ft	
Above Permanent Datum:		GL 1140.00 Ft	
Date 09-18-2016		Services:	
Run Number 1		CNT MLT	
Depth--Driller		LDT PIT	
Depth--Logger		CST	
First Reading			
Last Reading			
Casing--Driller			
Casing--Logger			
Bit Size			
Casing Size			
Hole Fluid Type			
Density			
Fluid Loss			
PH/Viscosity			
Sample Source			
RMF@Measured Temp.			
RMF@Measured Temp			
RMF@Measured Temp.			
Source RMF/RMC			
RM@BHT			
Time Circulation Stopped			
Max Recorded Temp.			
Equipment/Base			
Recorded By			
Witnessed By			

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	3435.00	8.625	32.00	215.00	0.00

Run Number	1	
Date	09-18-2016	
Date/Time On Bottom	09-18-2016 15:00	
Depth to Fluid	0.0 Ft	
Salinity	800.000	
RMF@BHT	1.120 @ 110 F	
RMC@BHT	1.680 @ 110 F	

Run Number 1

Comments

ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT, CST, MLT AND PIT RUN IN COMBINATION
CALIPERS ORIENTED ON X-Y AXIS
2.71 G/CC USED TO CALCULATE POROSITY
ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING
PHIN IS CALIPER CORRECTED

PERMIT #201512001

GRT: GRP, GRX
CST: PORS, CDTF, TTIPF, TT2PF, TT3PF, TT4PF, ITT
CNT: PHIN, CLCNIN, PHXN
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX
MLT: NOR_RF, INV_RF, MSCLPIN
PIT: ILD, ILM, SPU, SFLAEC, CIRD

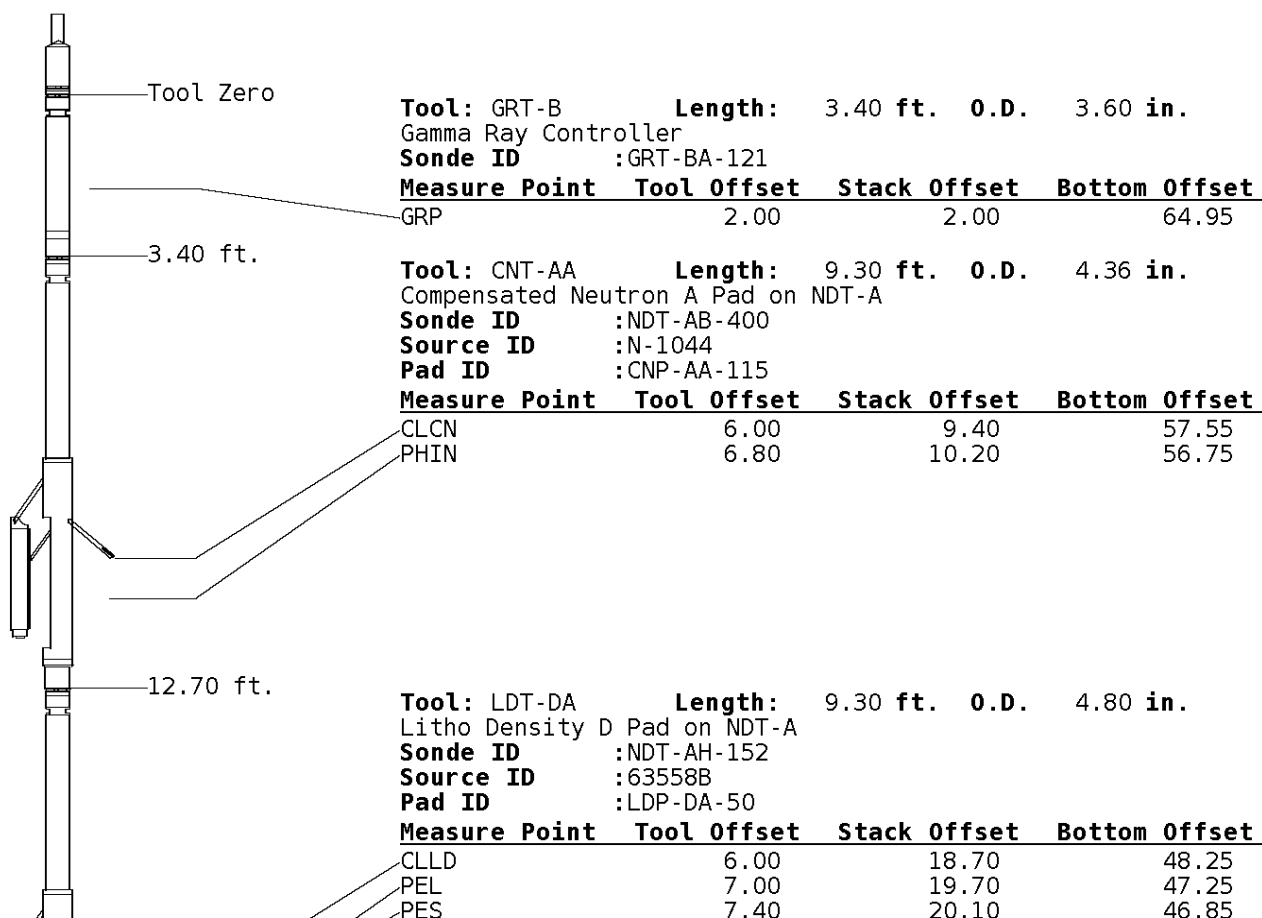
OPERATORS:

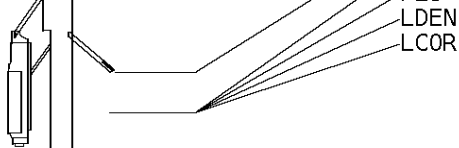
R.FRANKLIN

B.BAILEY

Tool String Schematic

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



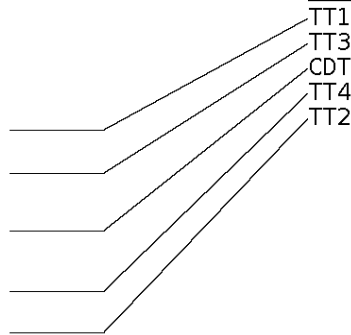


7.20	19.90	47.05
7.20	19.90	47.05

22.00 ft.

Tool: CST-AD **Length:** 13.80 ft. **O.D.** 3.60 in.
Open Hole Sonic
Sonde ID : CST-AD-078

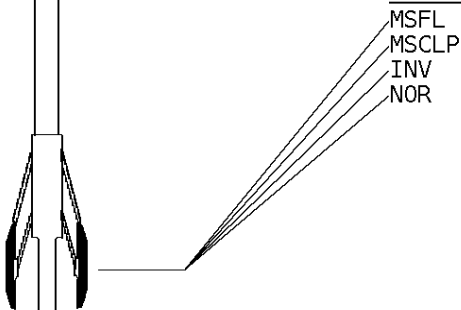
Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	26.80	40.15
TT3	5.80	27.80	39.15
CDT	7.30	29.30	37.65
TT4	8.80	30.80	36.15
TT2	9.80	31.80	35.15



35.80 ft.

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
Micro Spherically Focused (IC)
Sonde ID : MST-DA-021

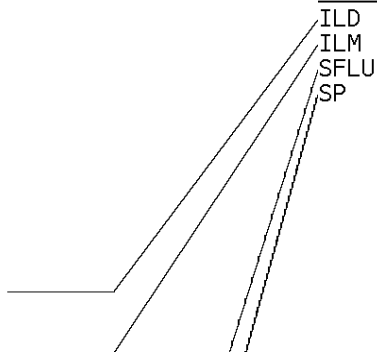
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	43.40	23.55
MSCLP	7.60	43.40	23.55
INV	7.60	43.40	23.55
NOR	7.60	43.40	23.55



45.46 ft.

Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
Phased Dual Induction w/ RM & D
Sonde ID : PIT-CA-069

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: RFP_HERRMANN 9-4B-2 SEPT18_QUINT

Scale: 1:600

Format: DIL-600

Segment: V1.D1.S7 DS FINAL MAIN

Acquired: 2016-09/18 15:08 3.4.0-13711

Reference: 0

Processed: 2016-09/18 15:08 3.4.0-13711

TENSION
LBS

10000

0

DEEP INDUCTION
OHMM

0.0

500.0

0.0

50.0

SPONTANEOUS POTENTIAL
mV

→

←20

SHALLOW FOCUSED RESISTIVITY
OHMM

0.0

500.0

0.0

50.0

GAMMA RAY
API UNITS

200
0

2000
1000

DEEP CONDUCTIVITY
MMHO

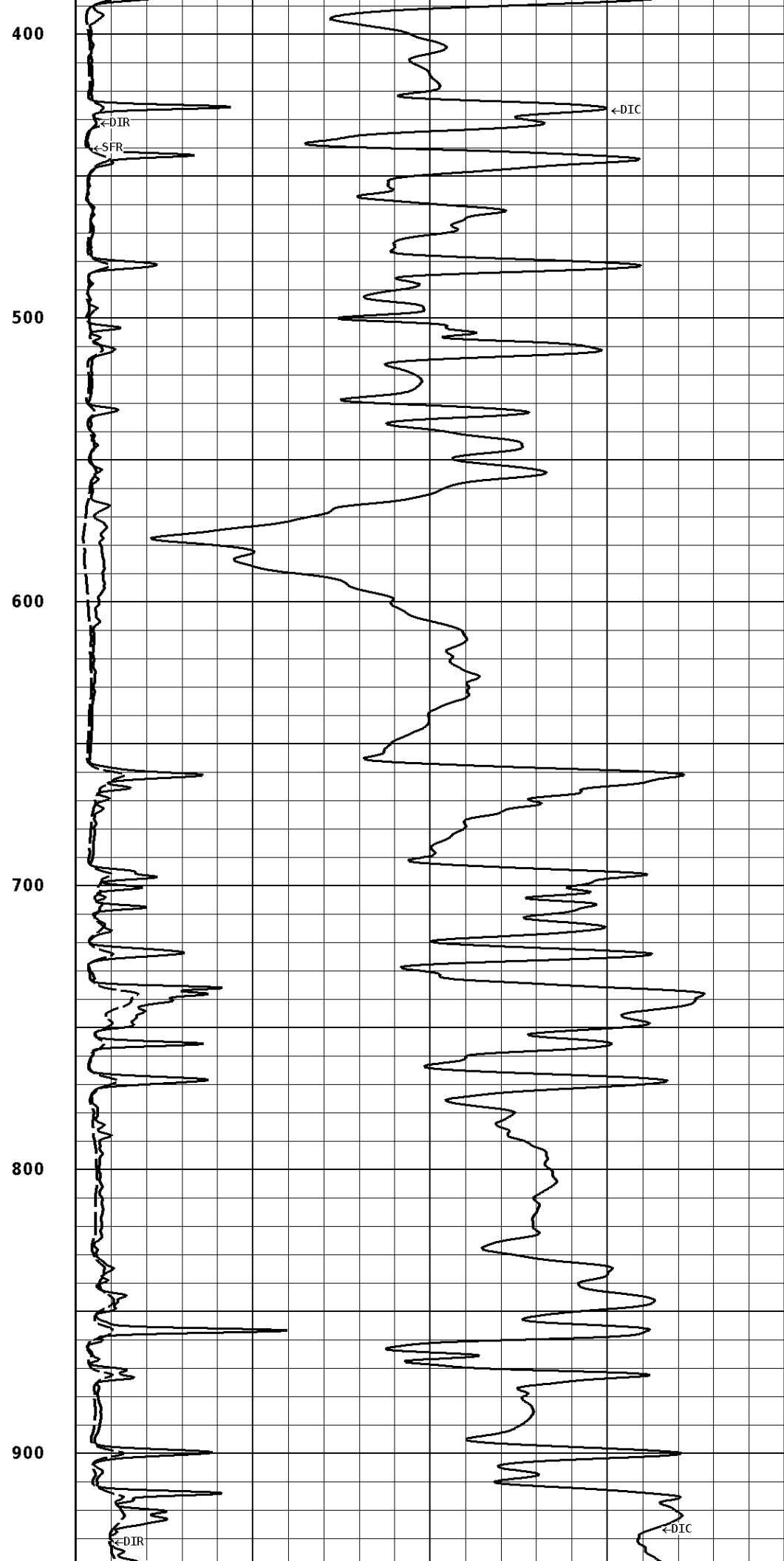
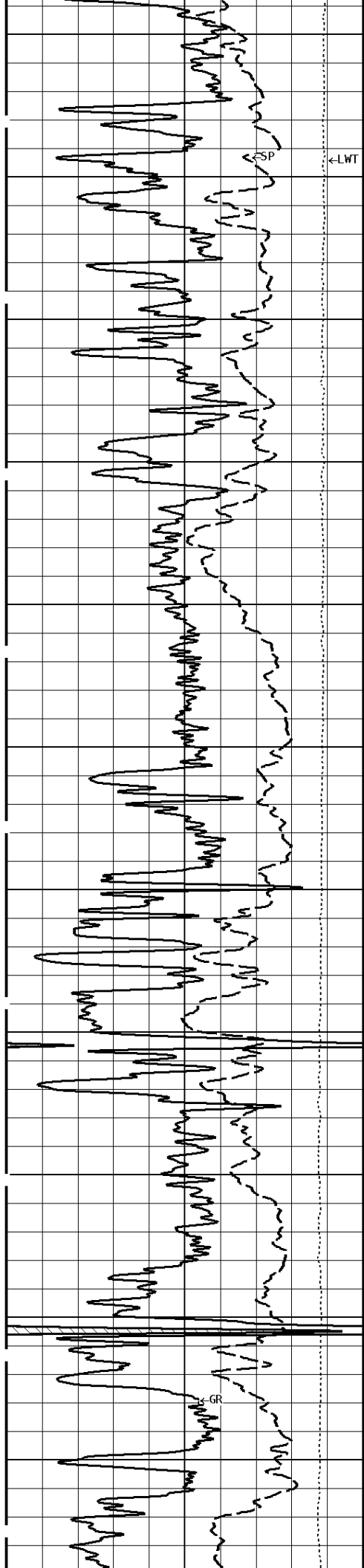
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0

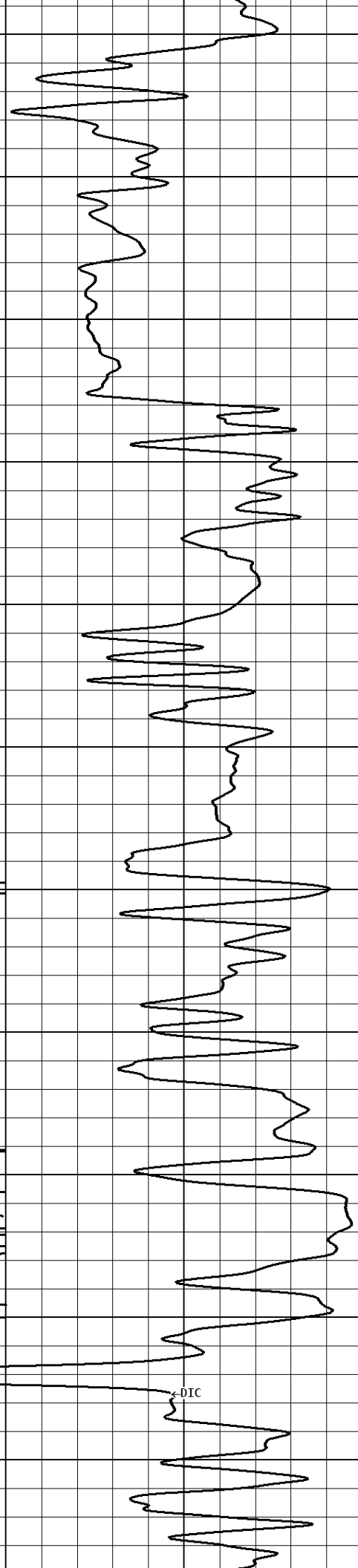
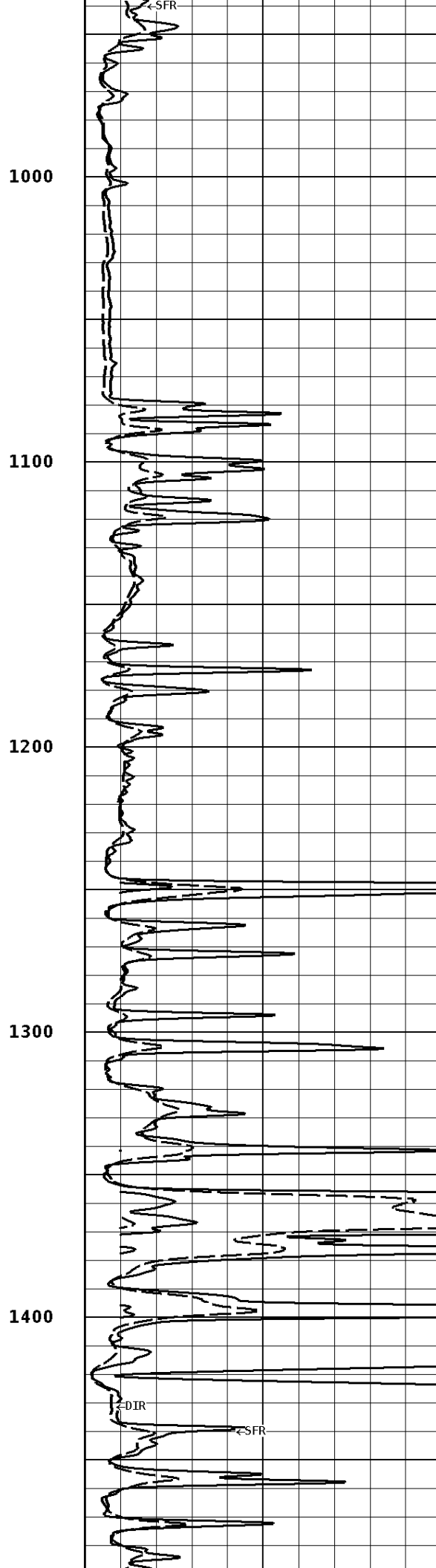
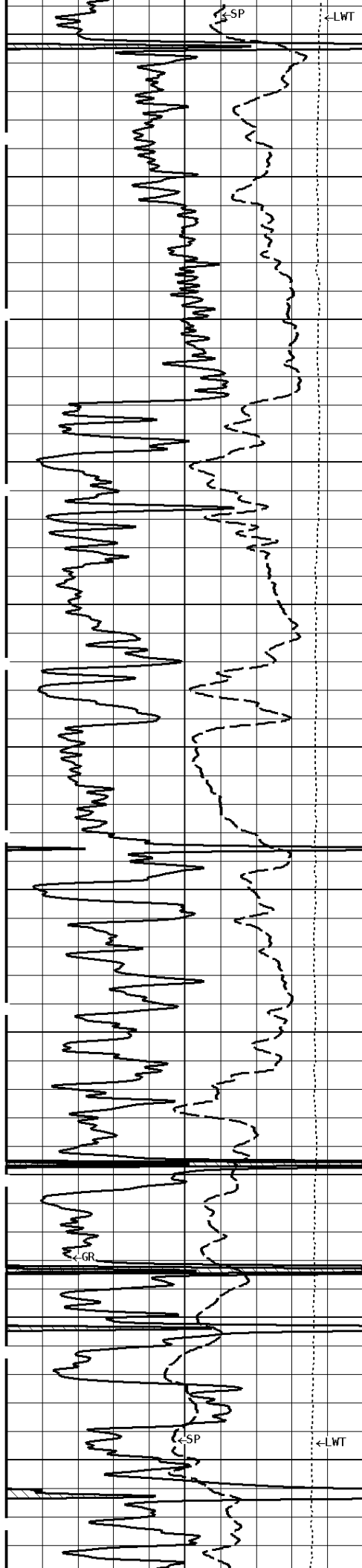
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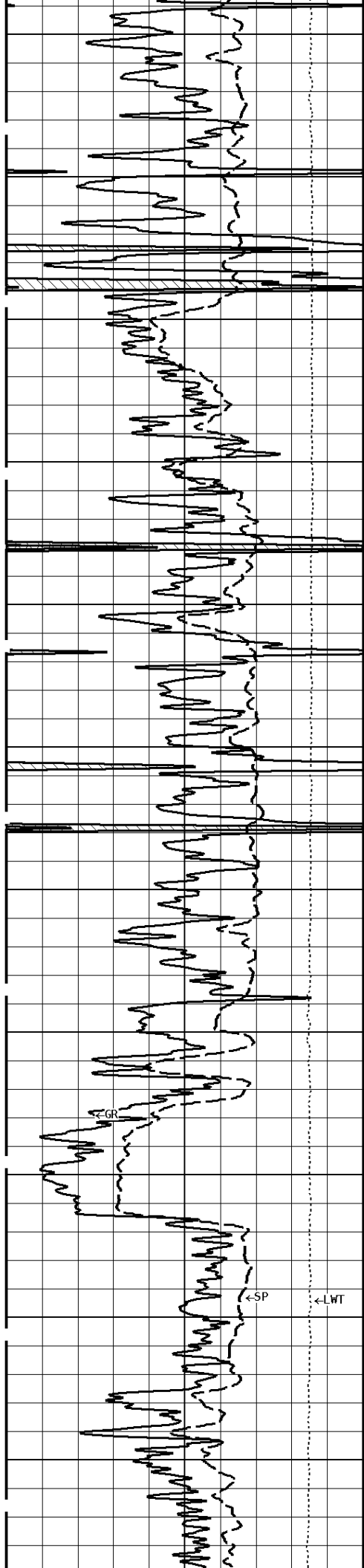
File #1.1.7

200

300







1500

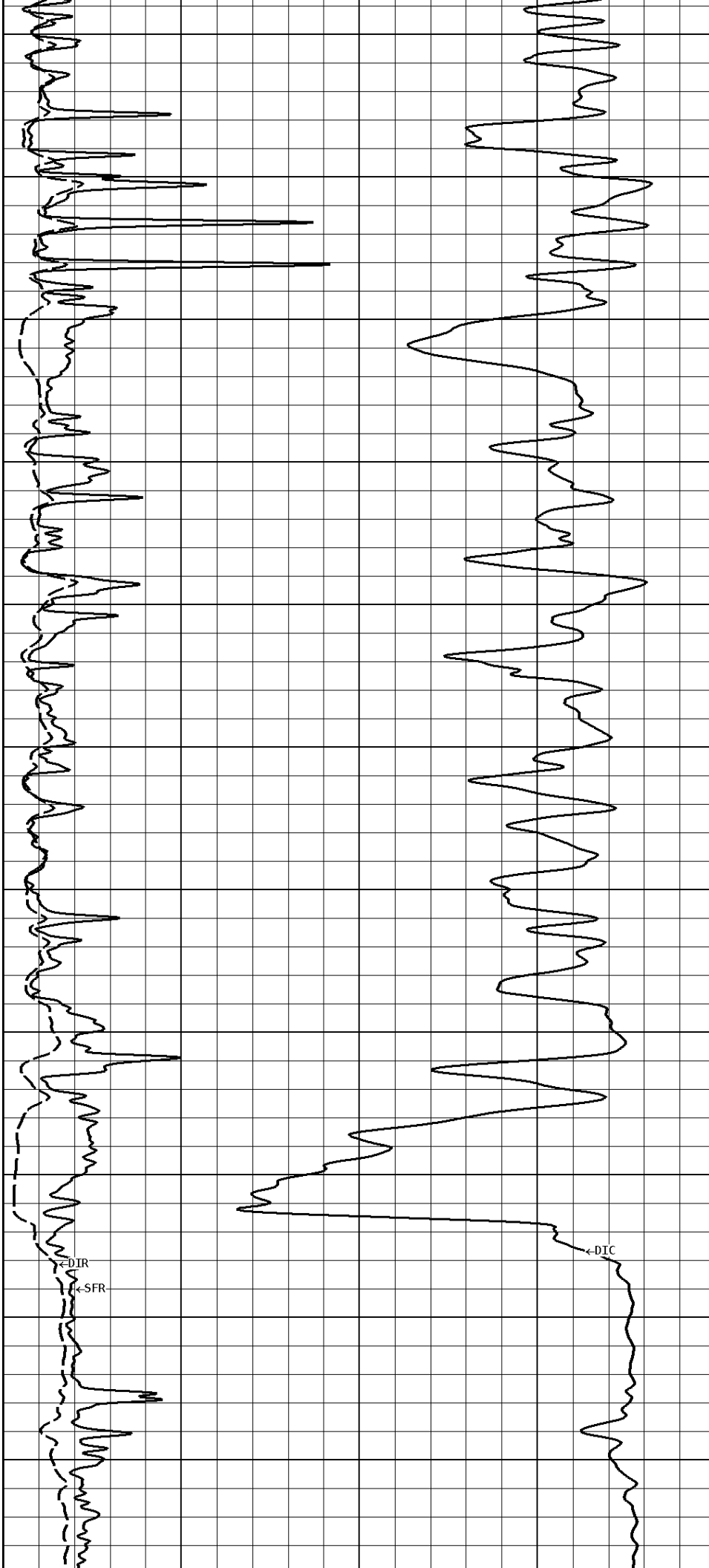
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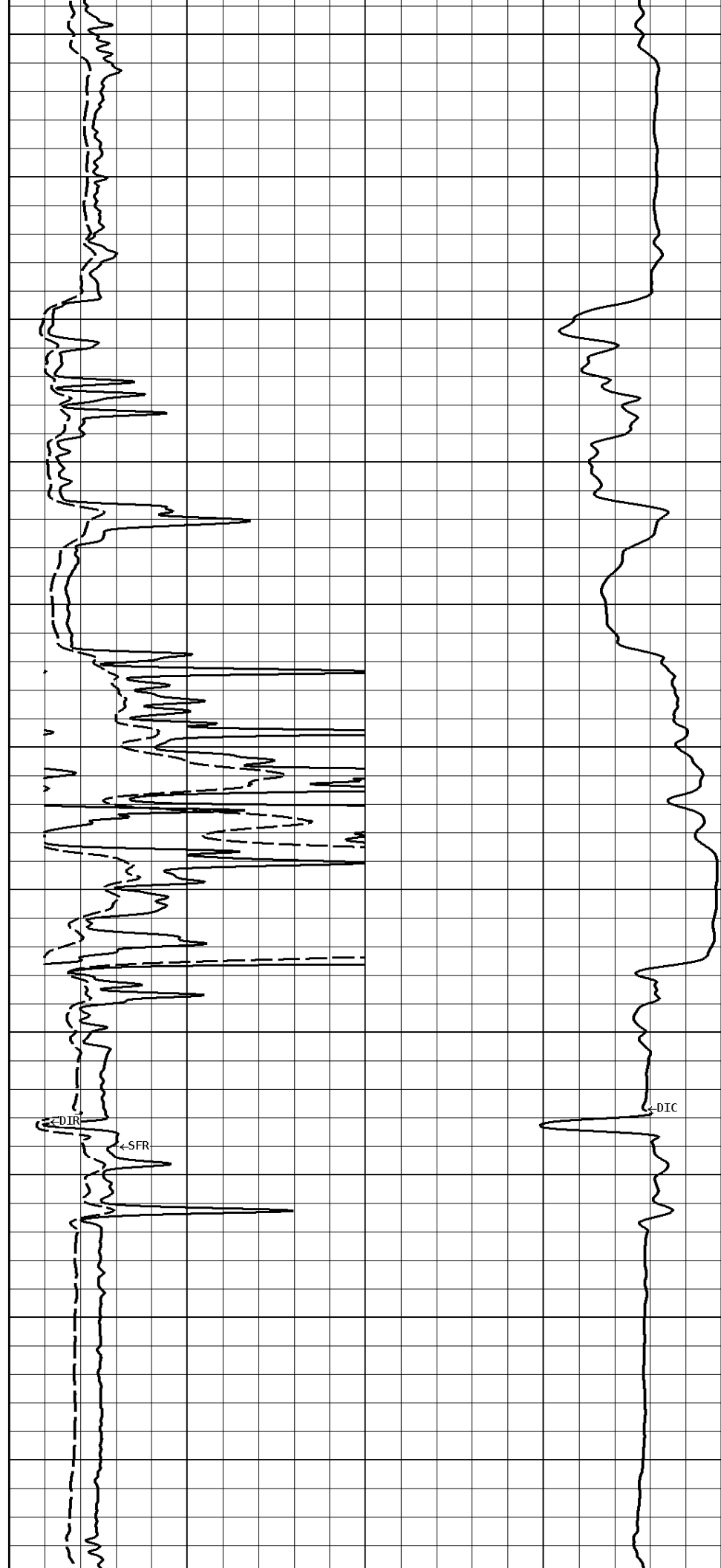
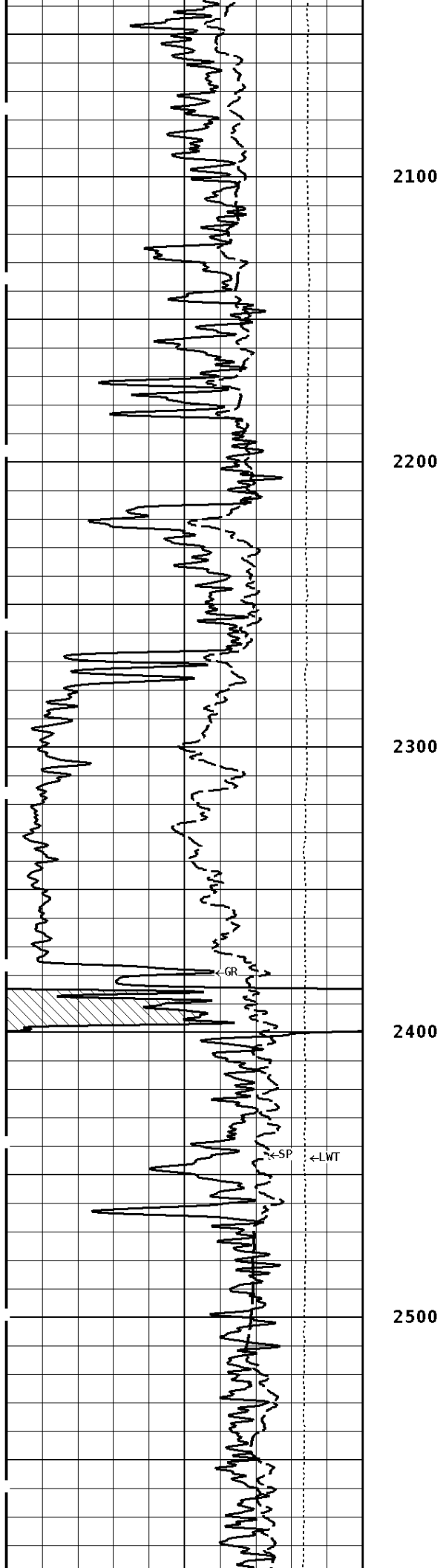
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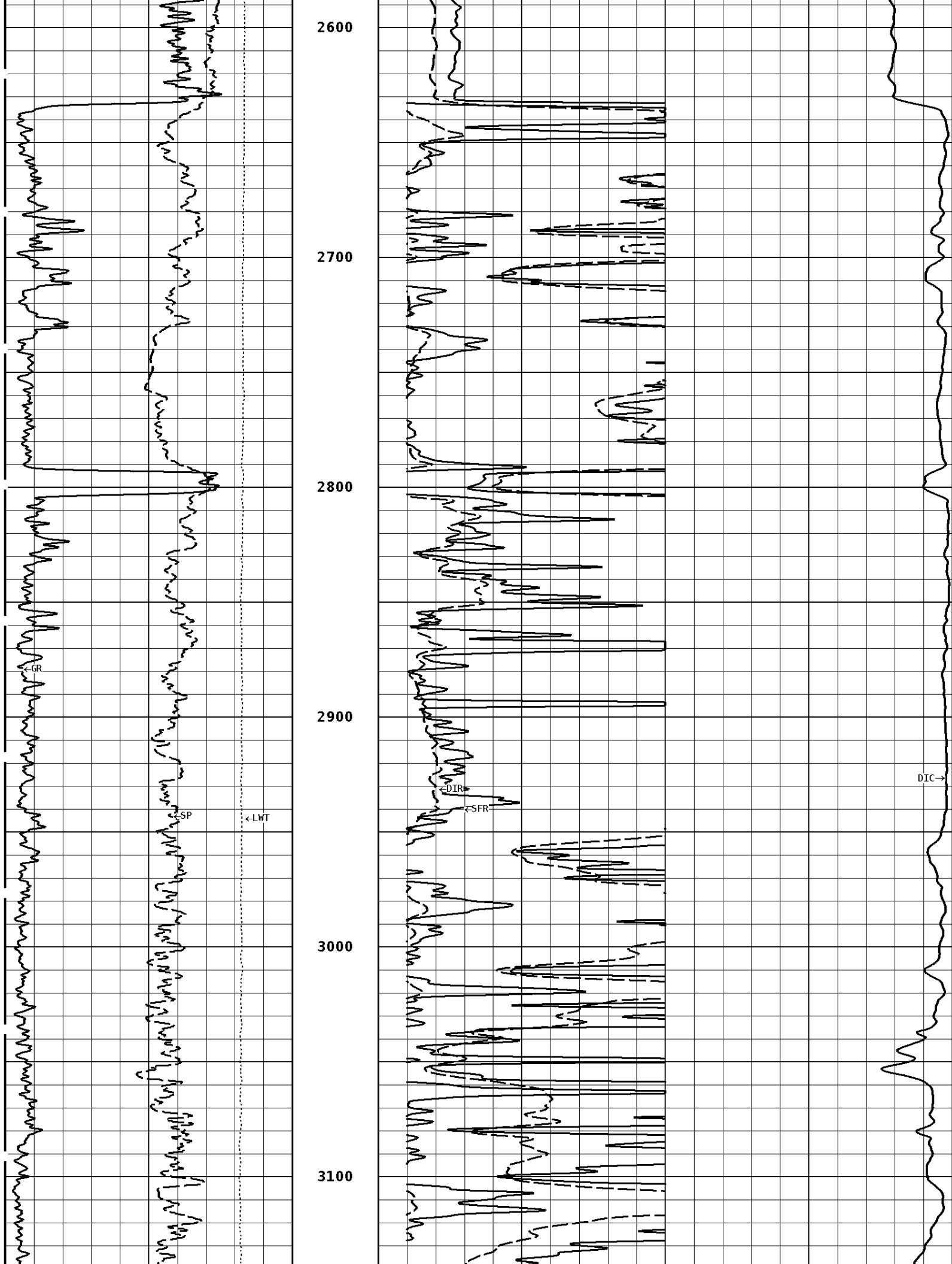
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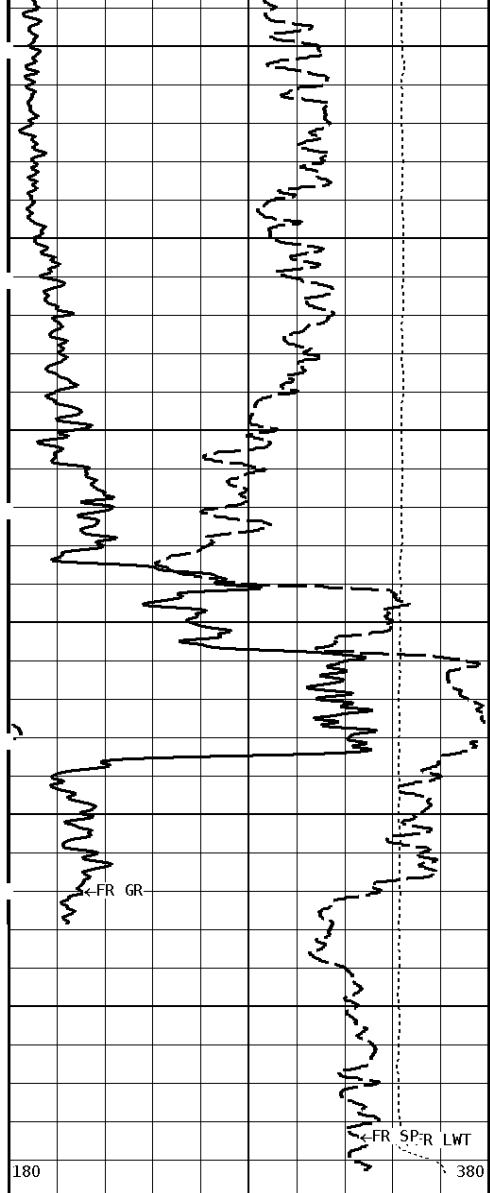
1900

2000







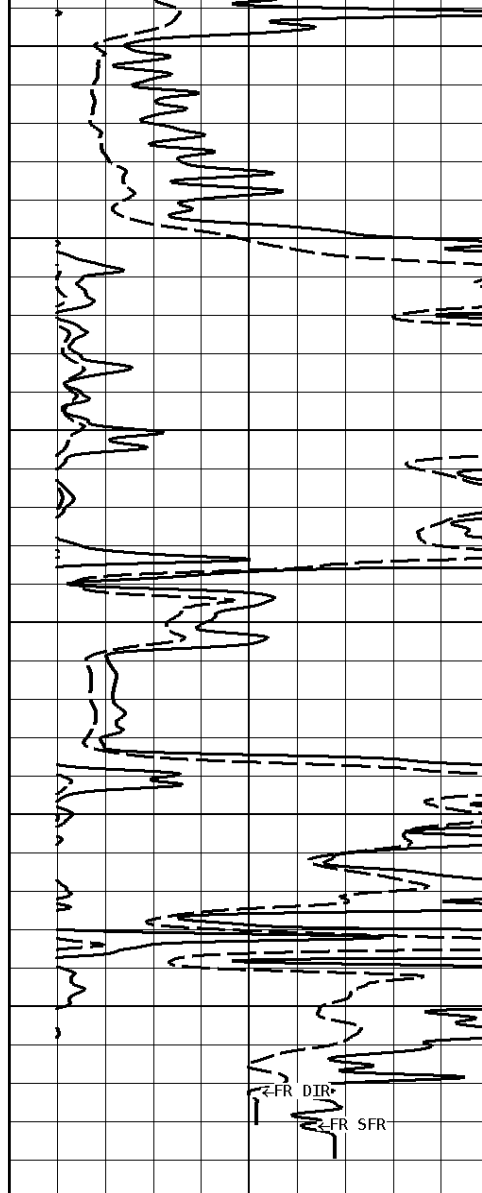


3200

3300

3400

3436



DIC FR

1:600 MAIN SECTION

GAMMA RAY
API UNITS

200 0 400 200

SPONTANEOUS POTENTIAL
mV

→ | ← 20

TENSION
LBS

10000 0

DEEP CONDUCTIVITY
MMHO

2000 1000 0

SHALLOW FOCUSED RESISTIVITY
OHMM

0.0 500.0
0.0 50.0

DEEP INDUCTION
OHMM

0.0 500.0
0.0 50.0

Well File: RFP_HERRMANN_9-4B-2_SEPT18_QUINT

Scale: 1:240 Format: DIL-240

Segment: V1.D1.S7_DS_FINAL_MAIN

Acquired: 2016-09/18 15:08 3.4.0-13711

Reference: 0

Processed: 2016-09/18 15:08 3.4.0-13711

SPONTANEOUS POTENTIAL
mV

→ | ← 20

TENSION
LBS

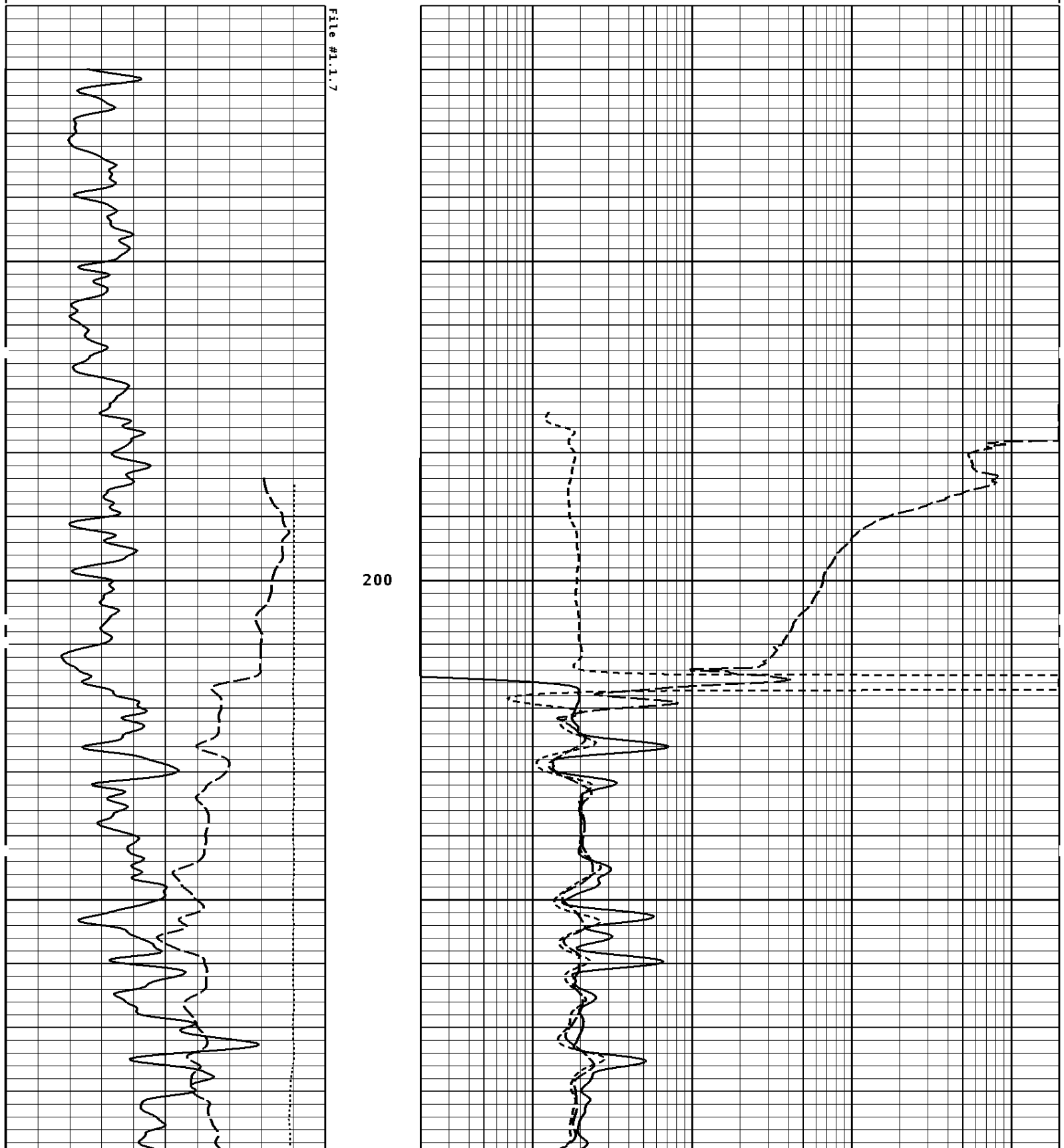
DEEP INDUCTION
OHMM

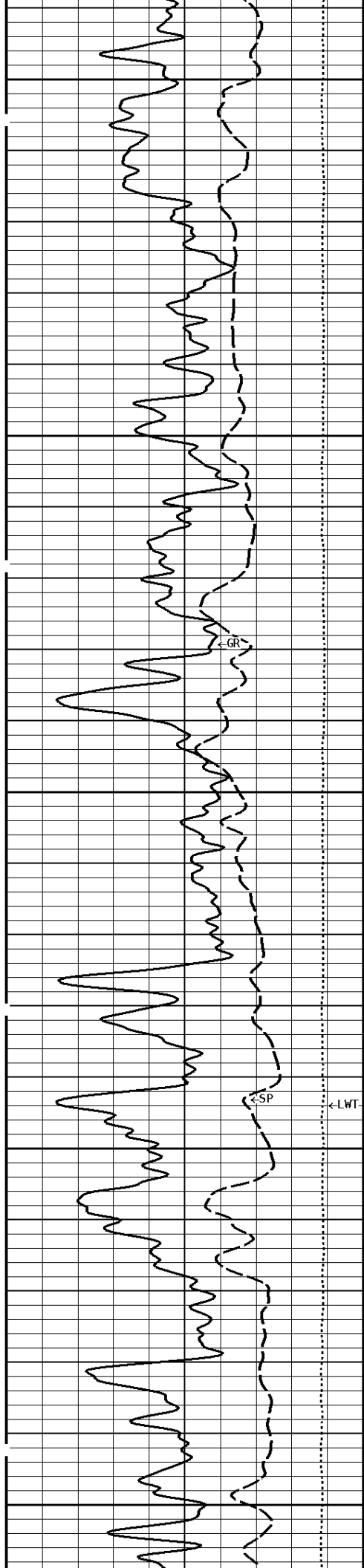
0.2 2000.0

MEDIUM INDUCTION
OHMM

10000	0	0.2	2000.0
GAMMA RAY API UNITS		SHALLOW FOCUSED RESISTIVITY OHMM	
200	400	0.2	2000.0
0	200		

1:240 MAIN SECTION

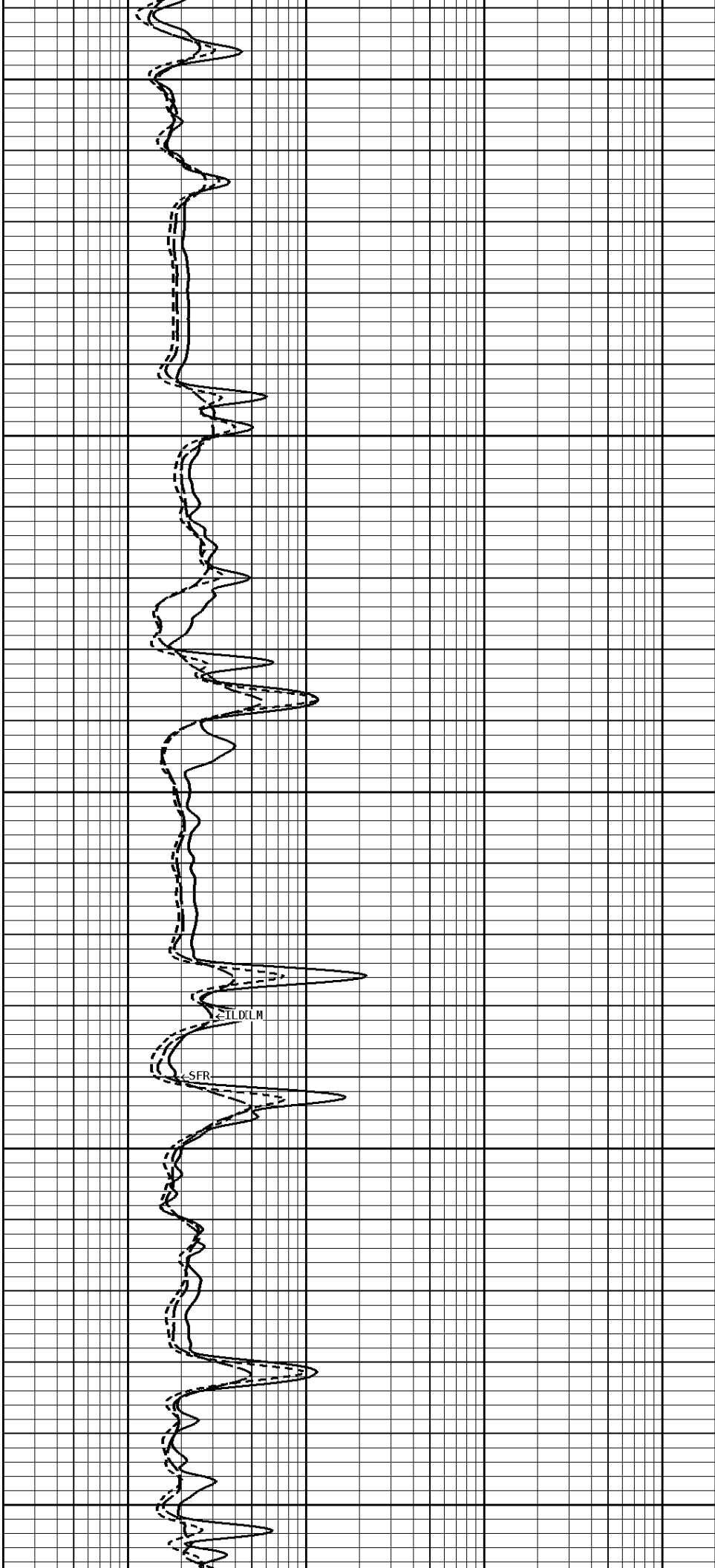




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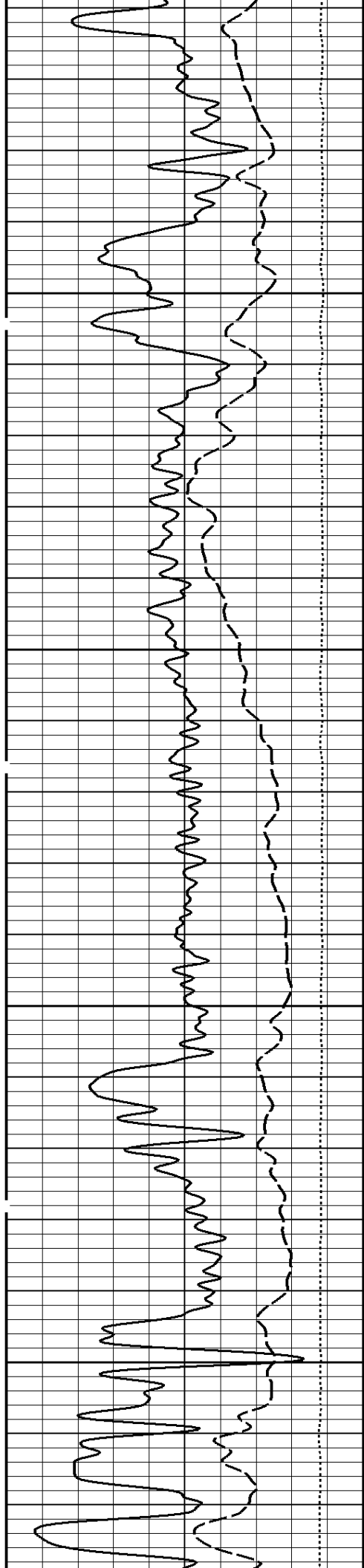
400

500



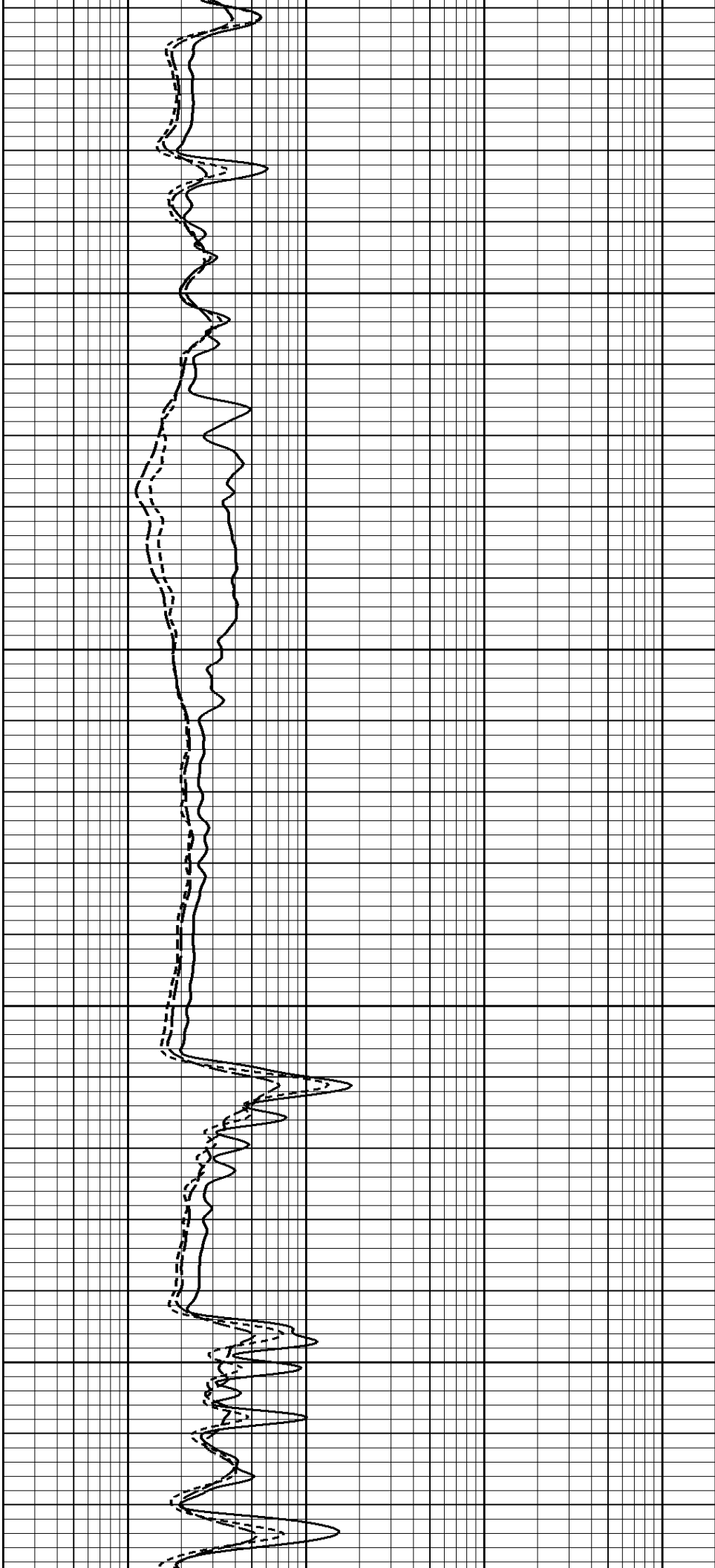
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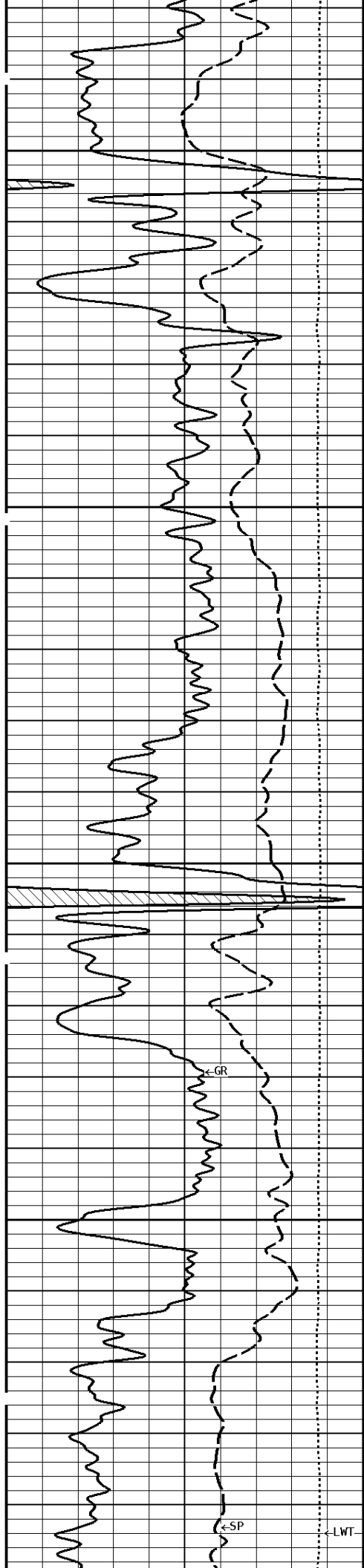
SFR



600

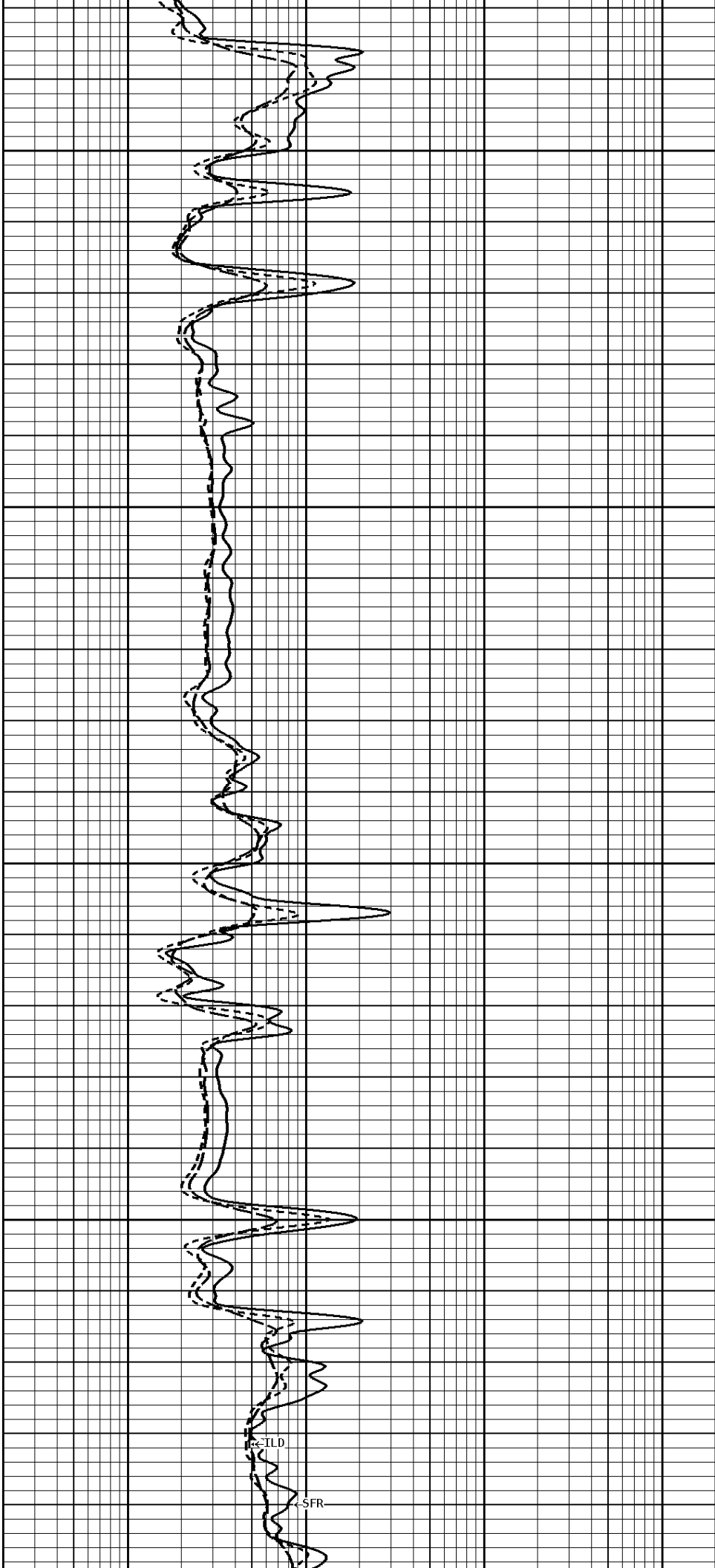
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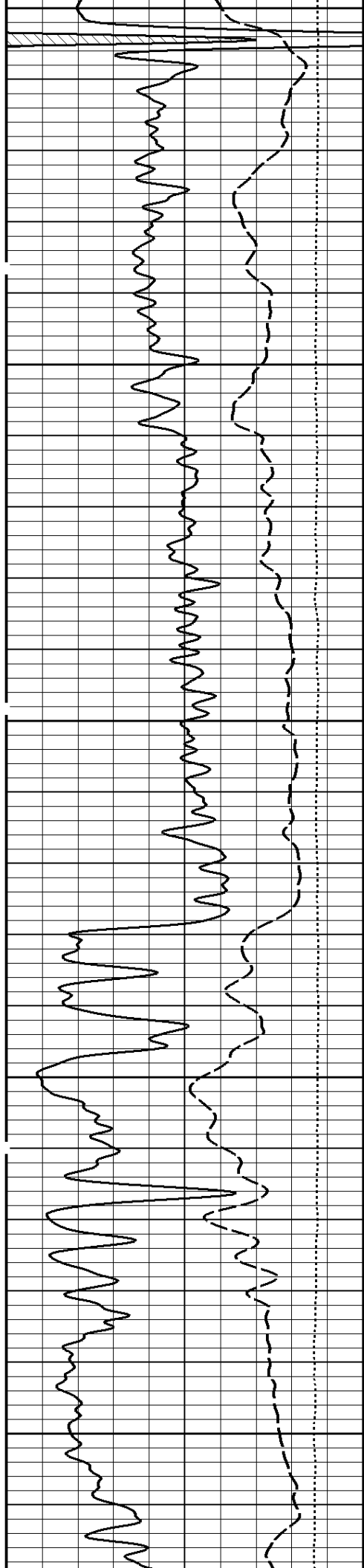




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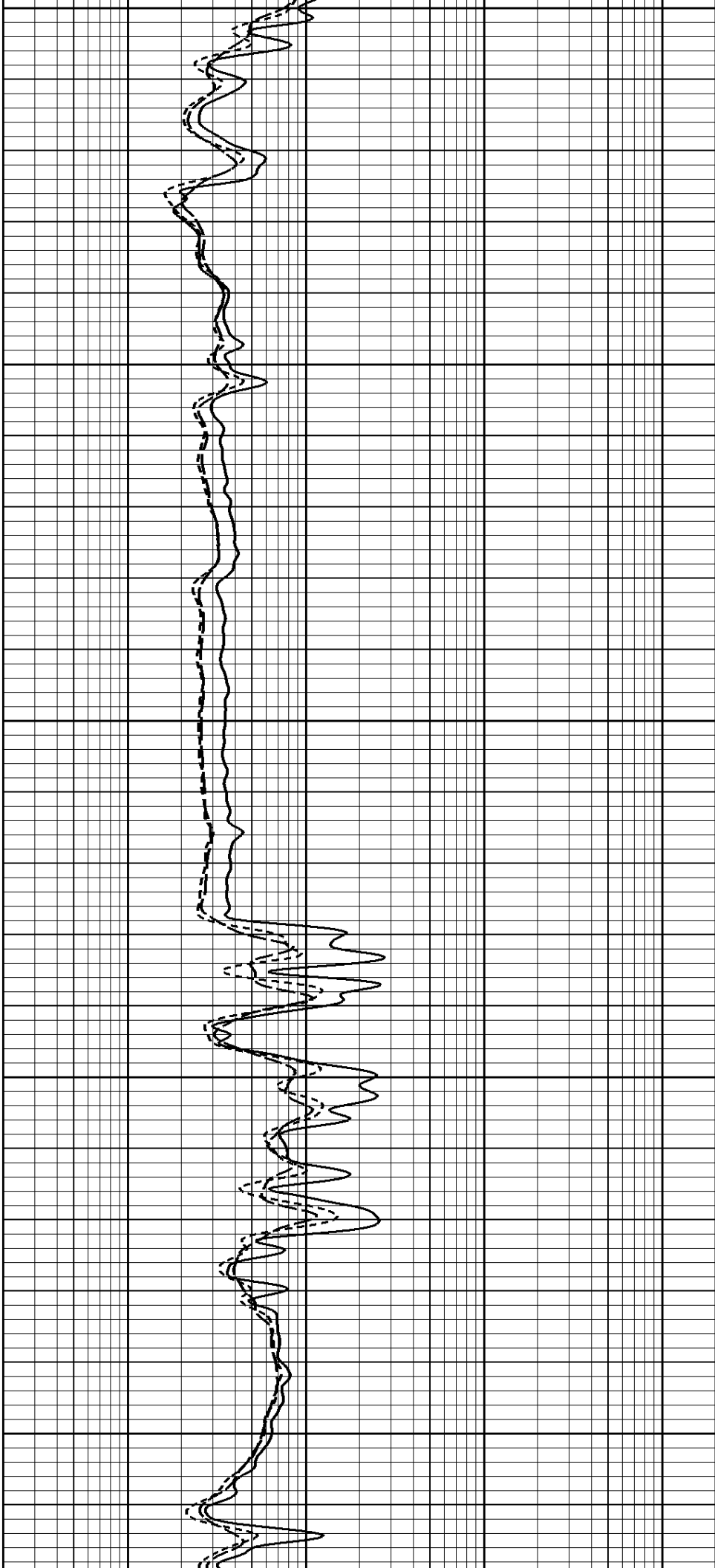
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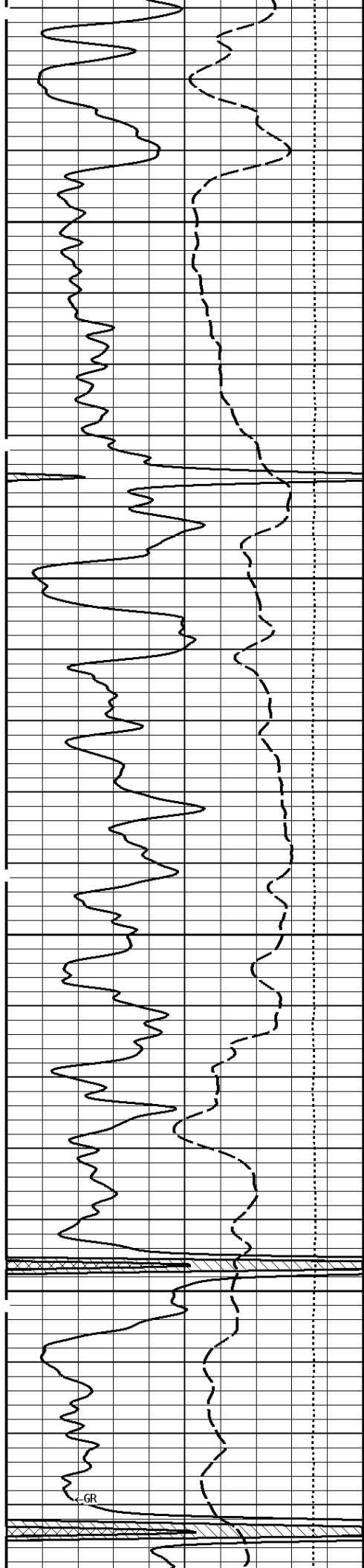




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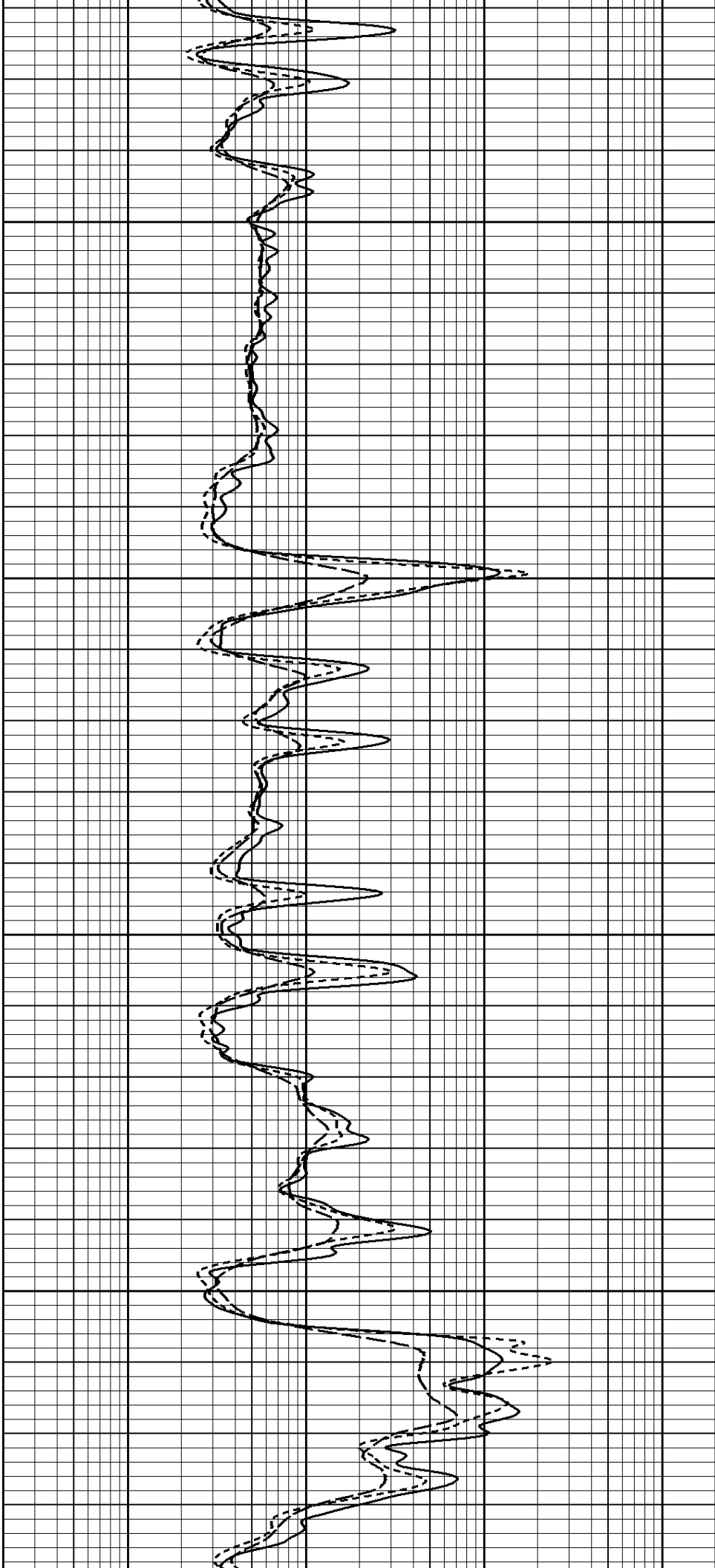
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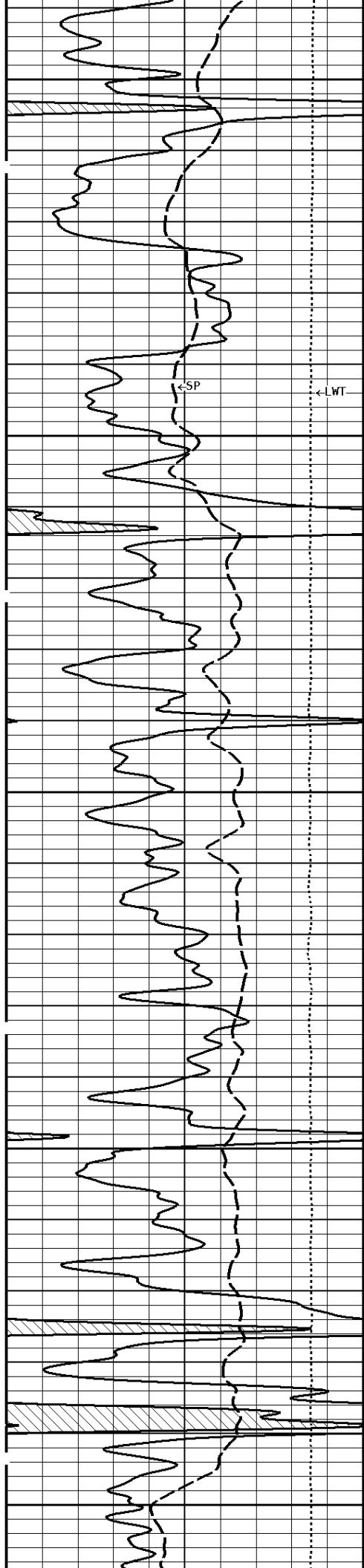




1200

1300

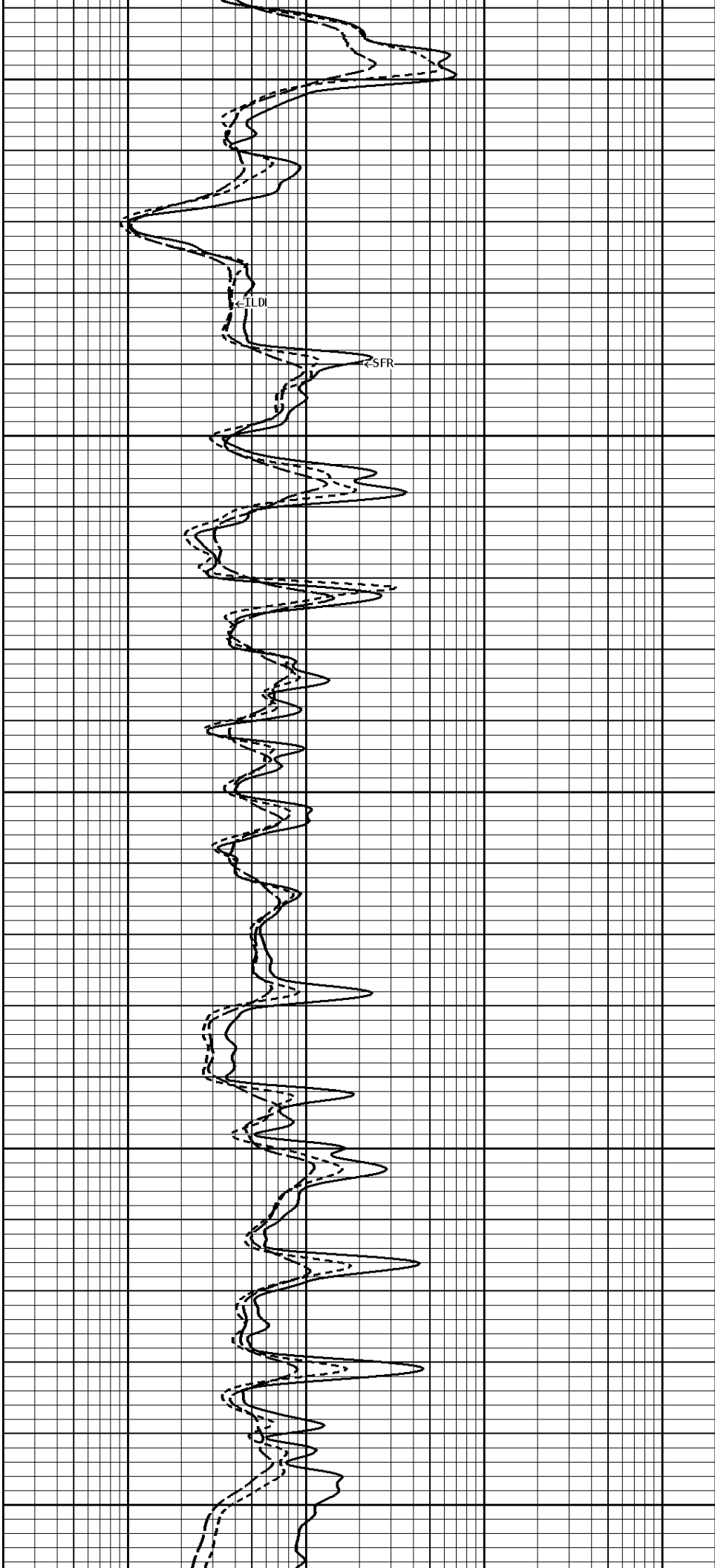


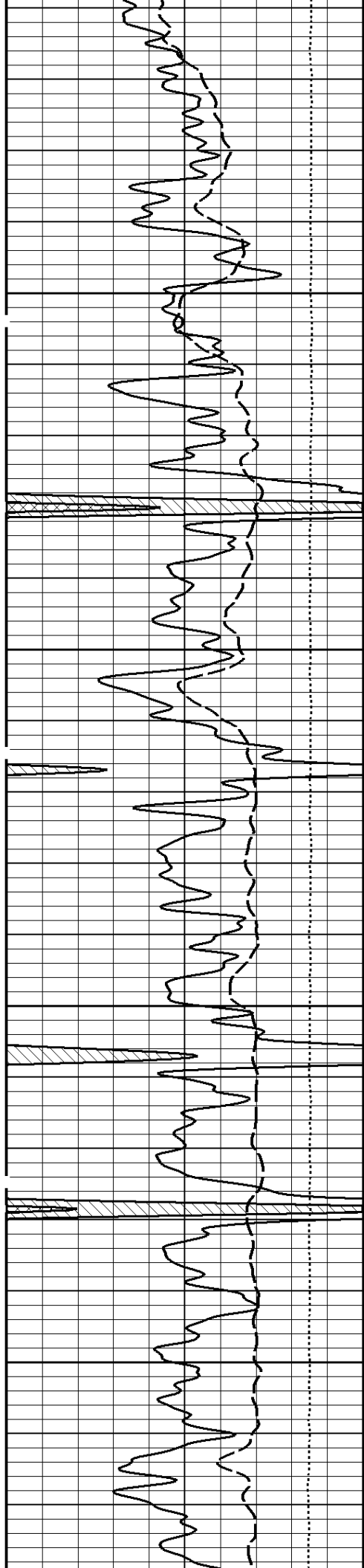


1400

1500

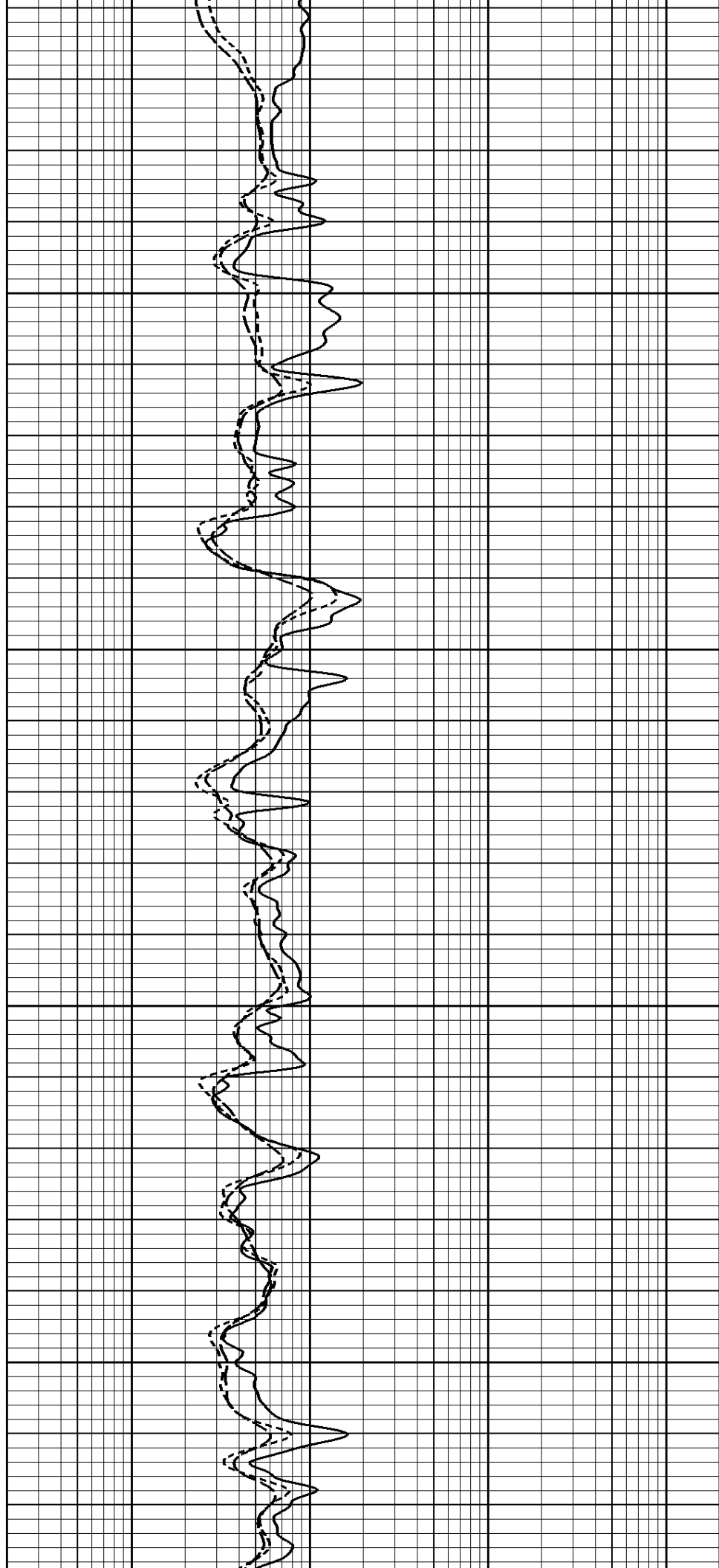
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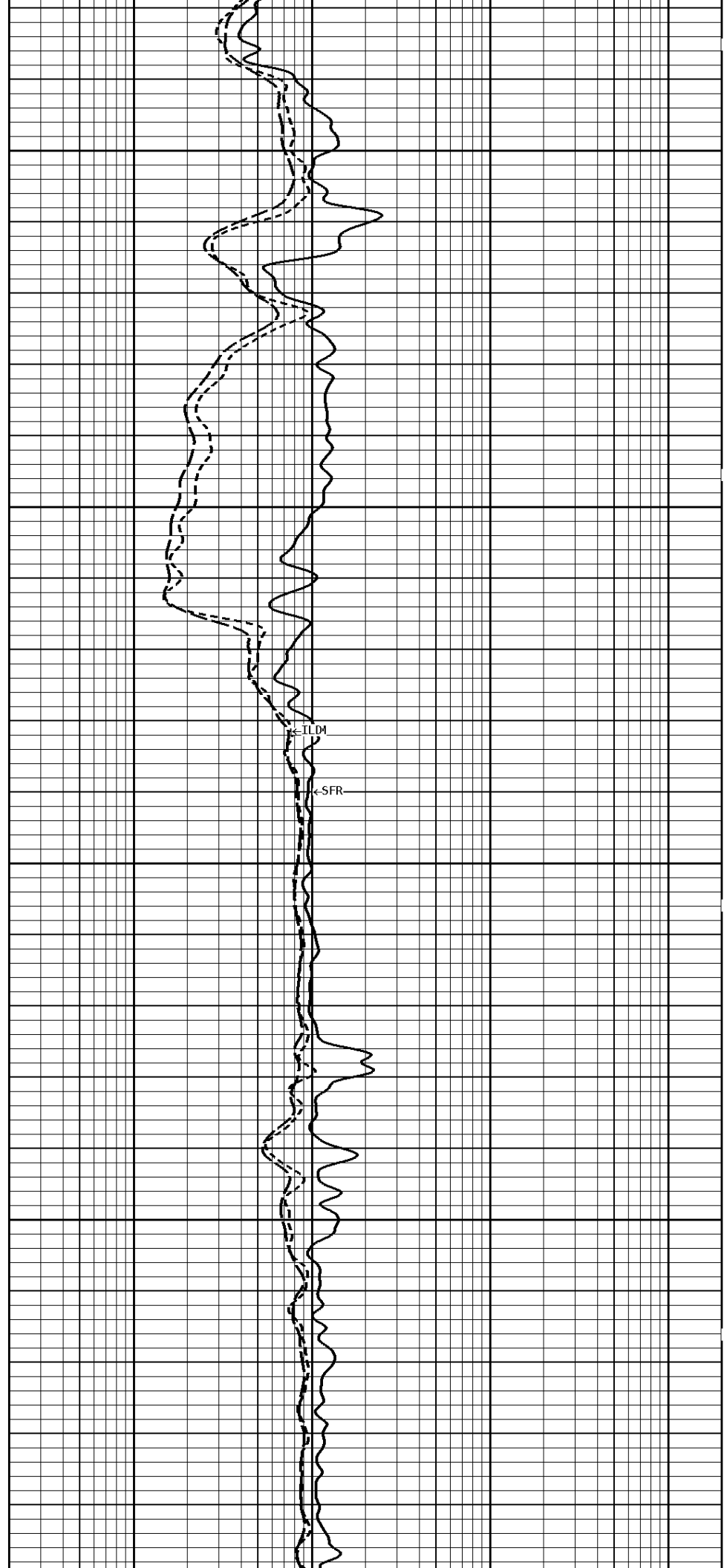
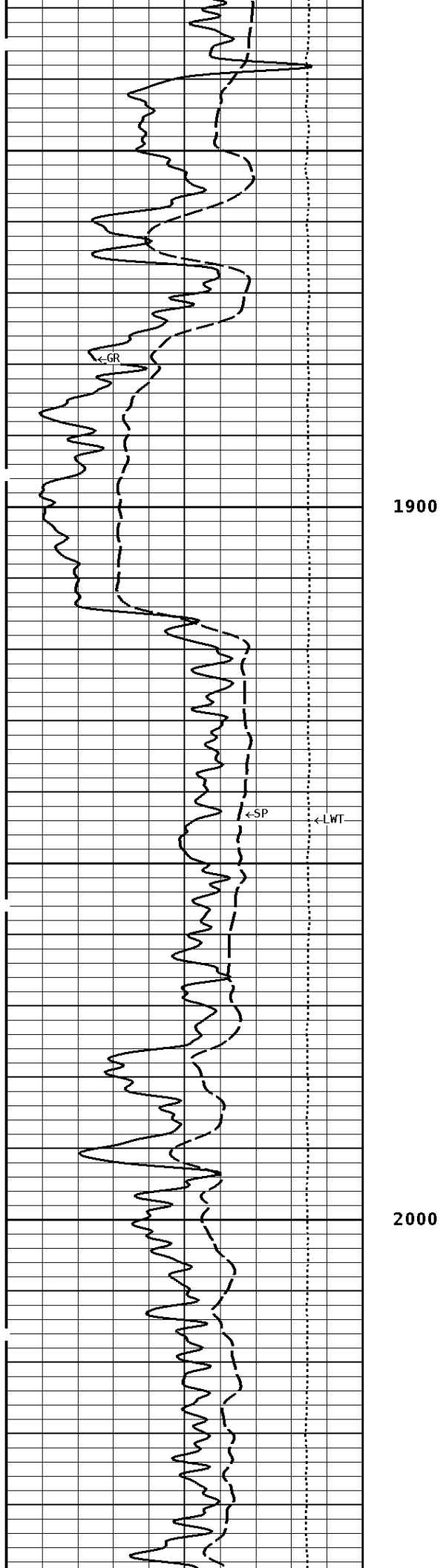


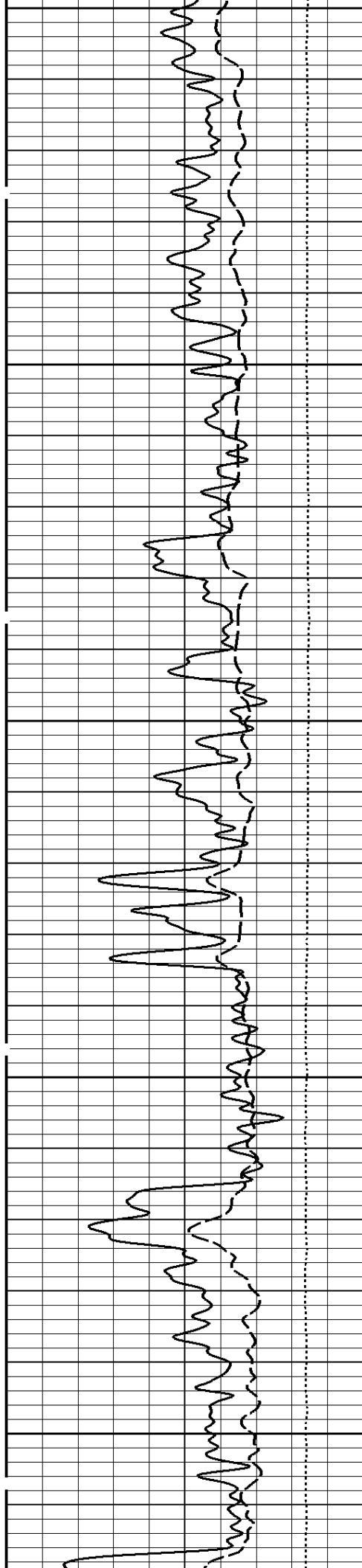


1700

1800

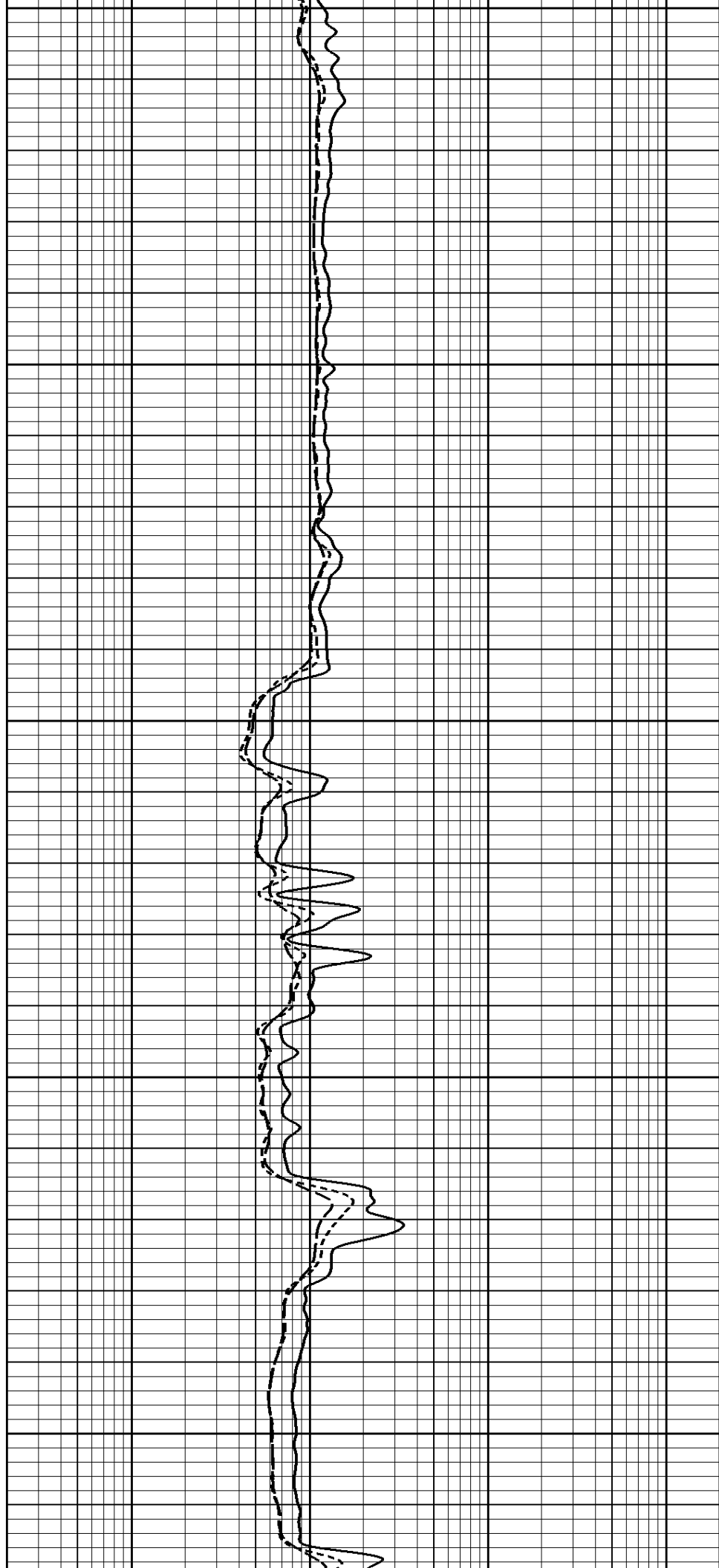


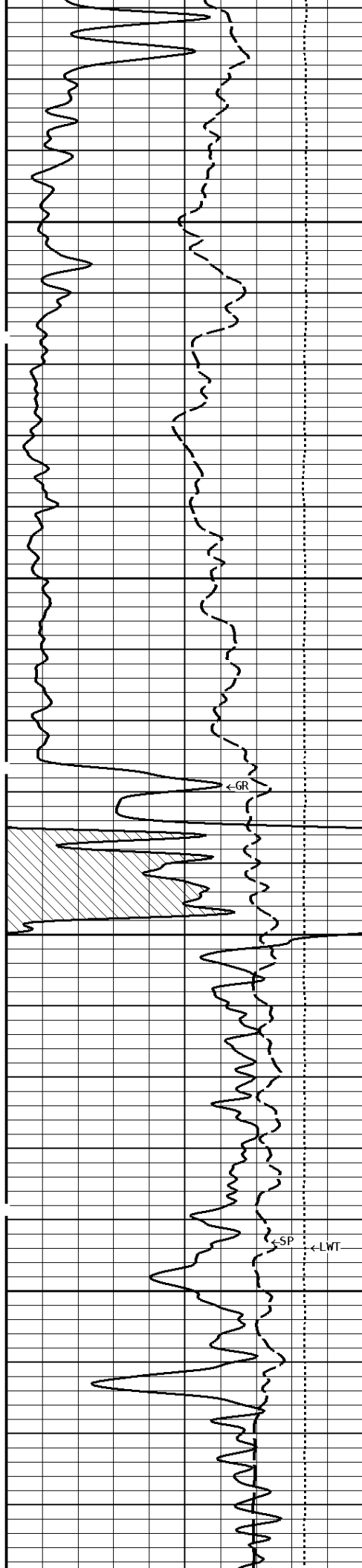




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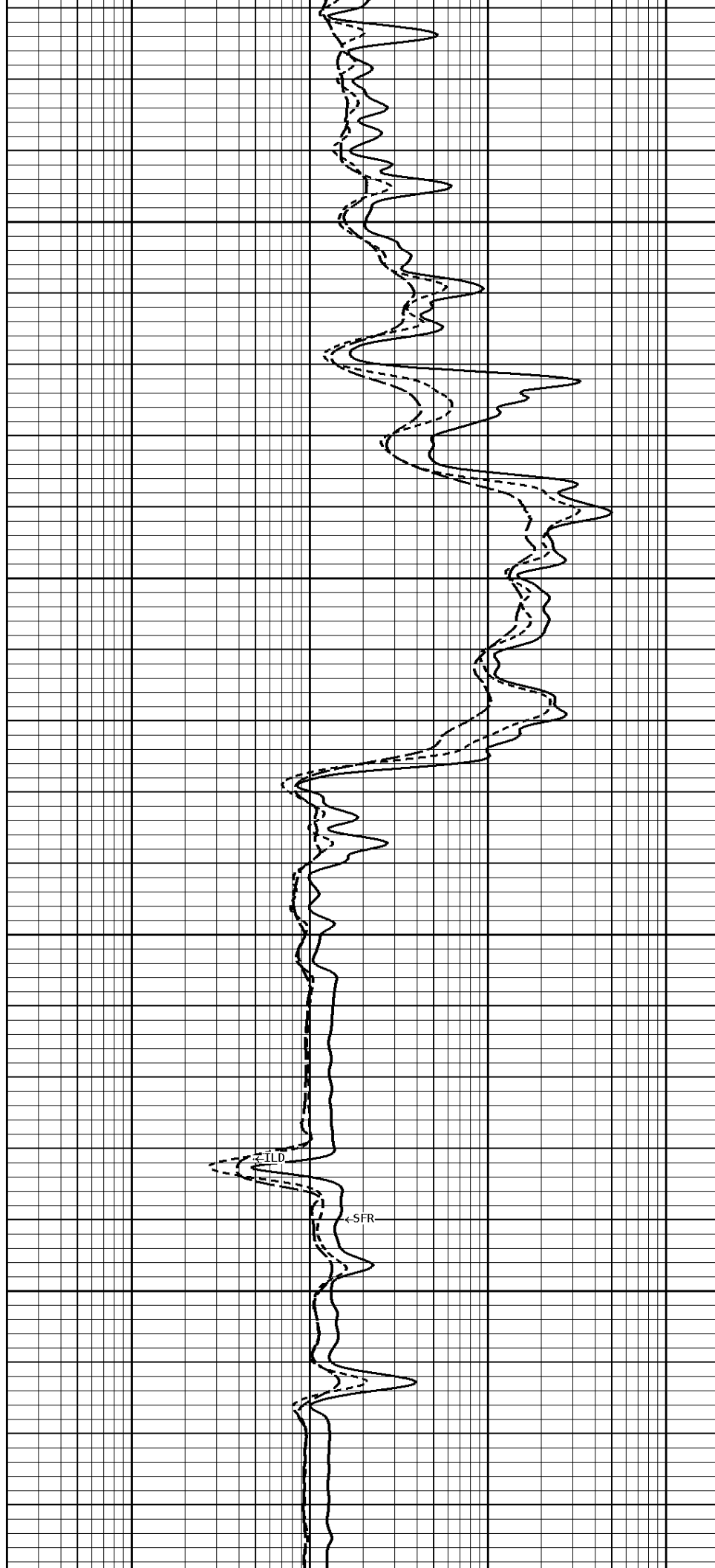
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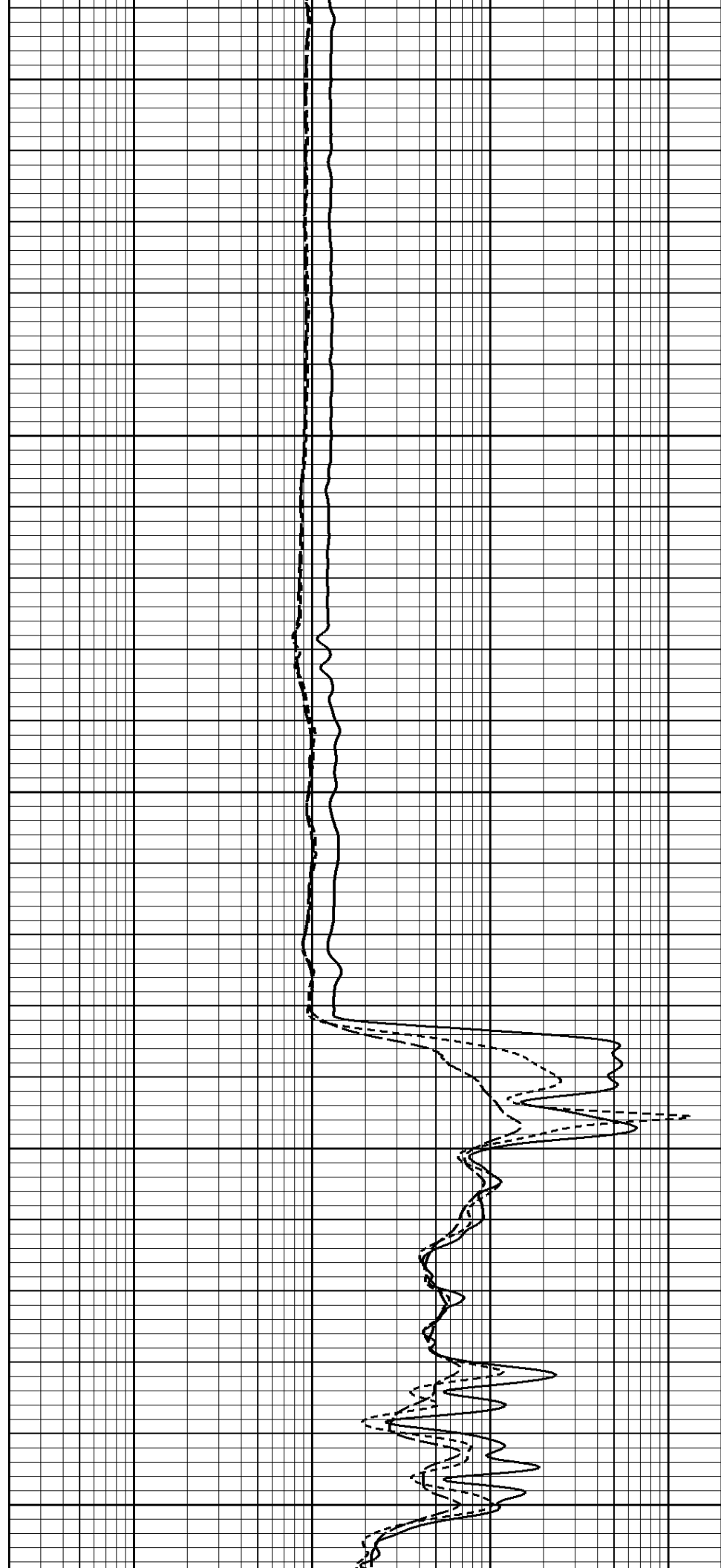
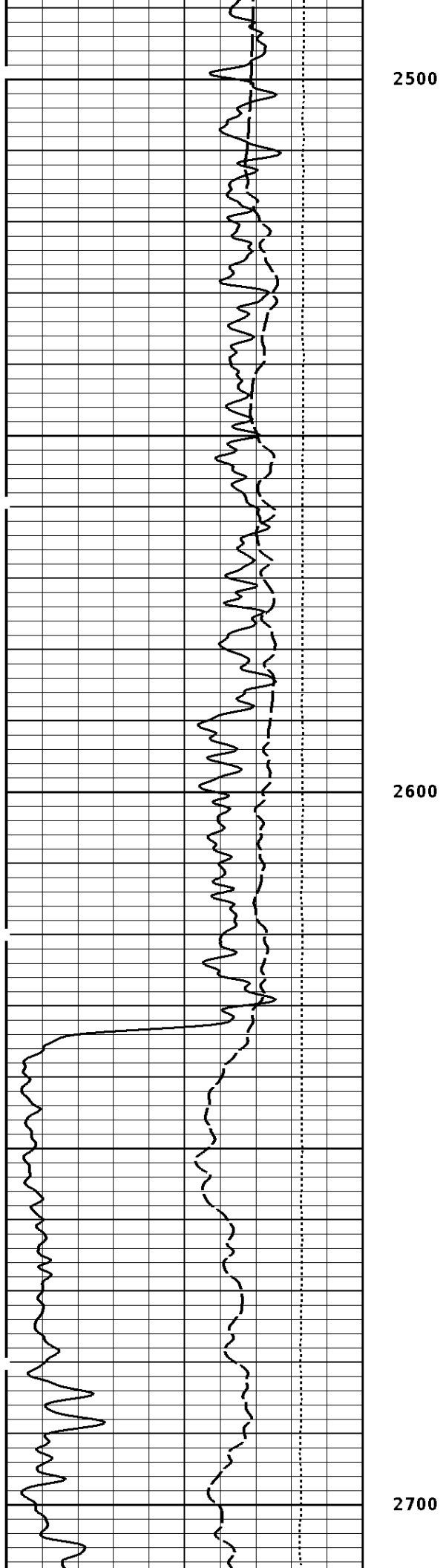


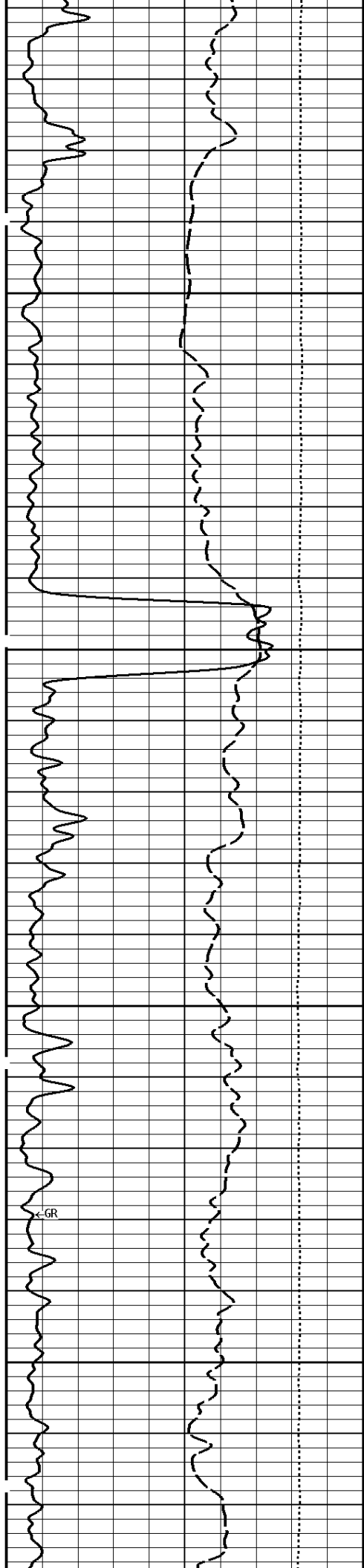


2300

2400

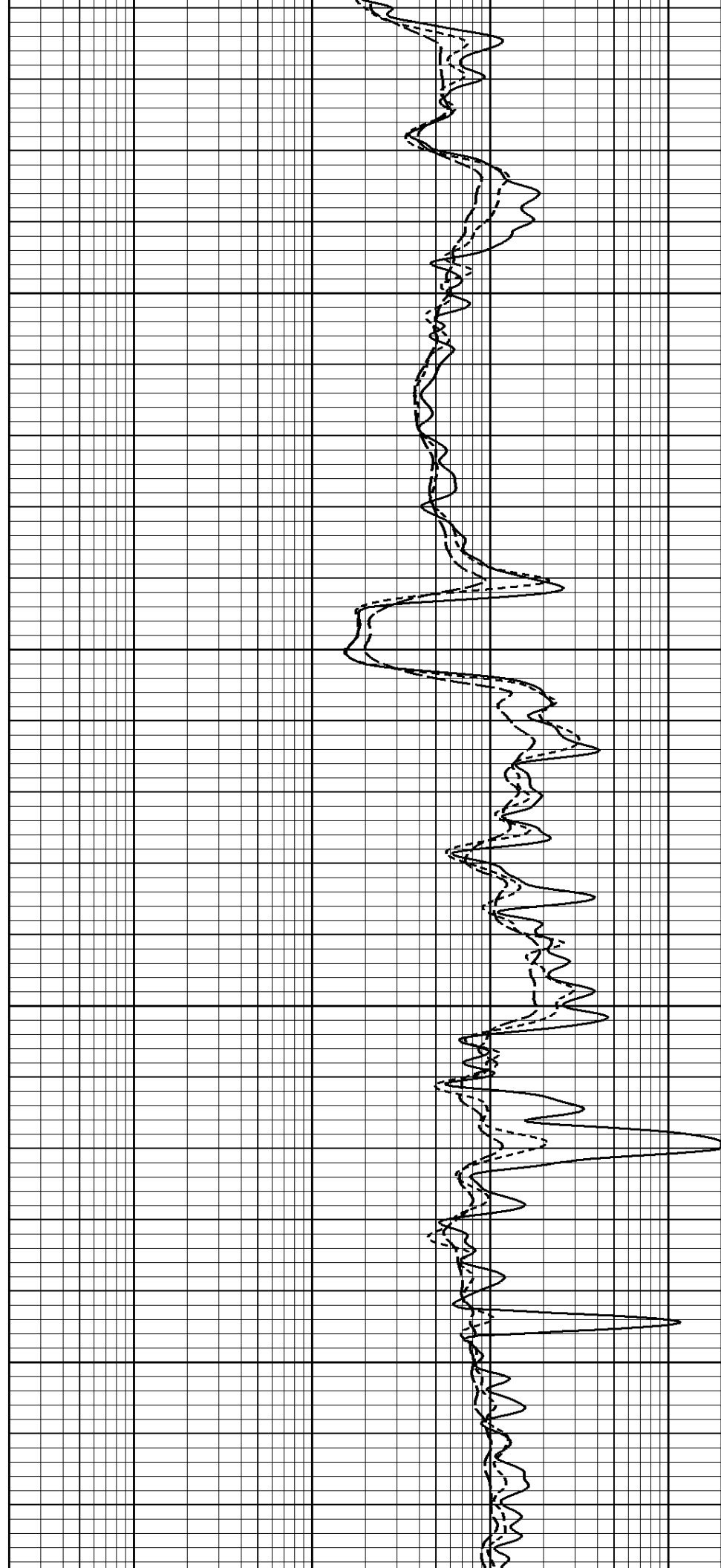


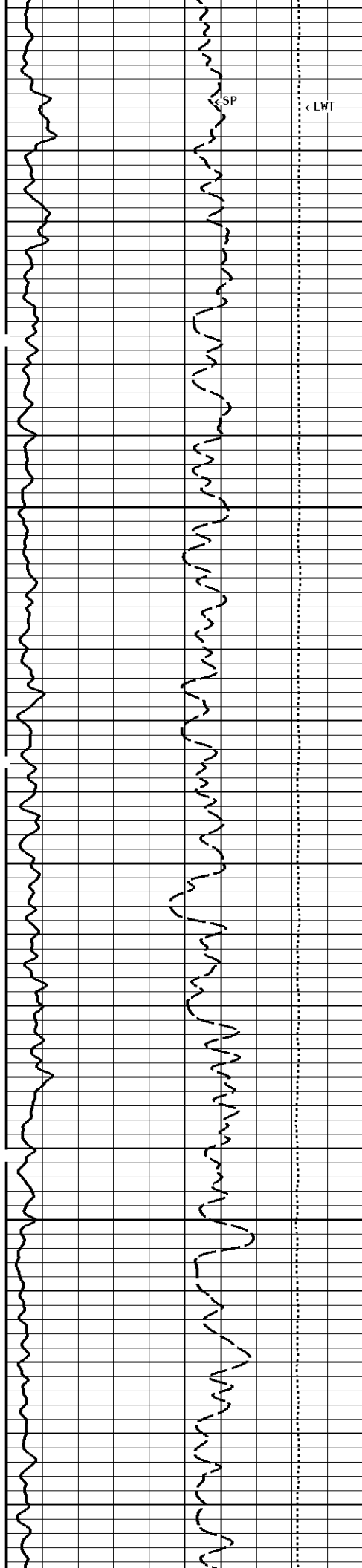




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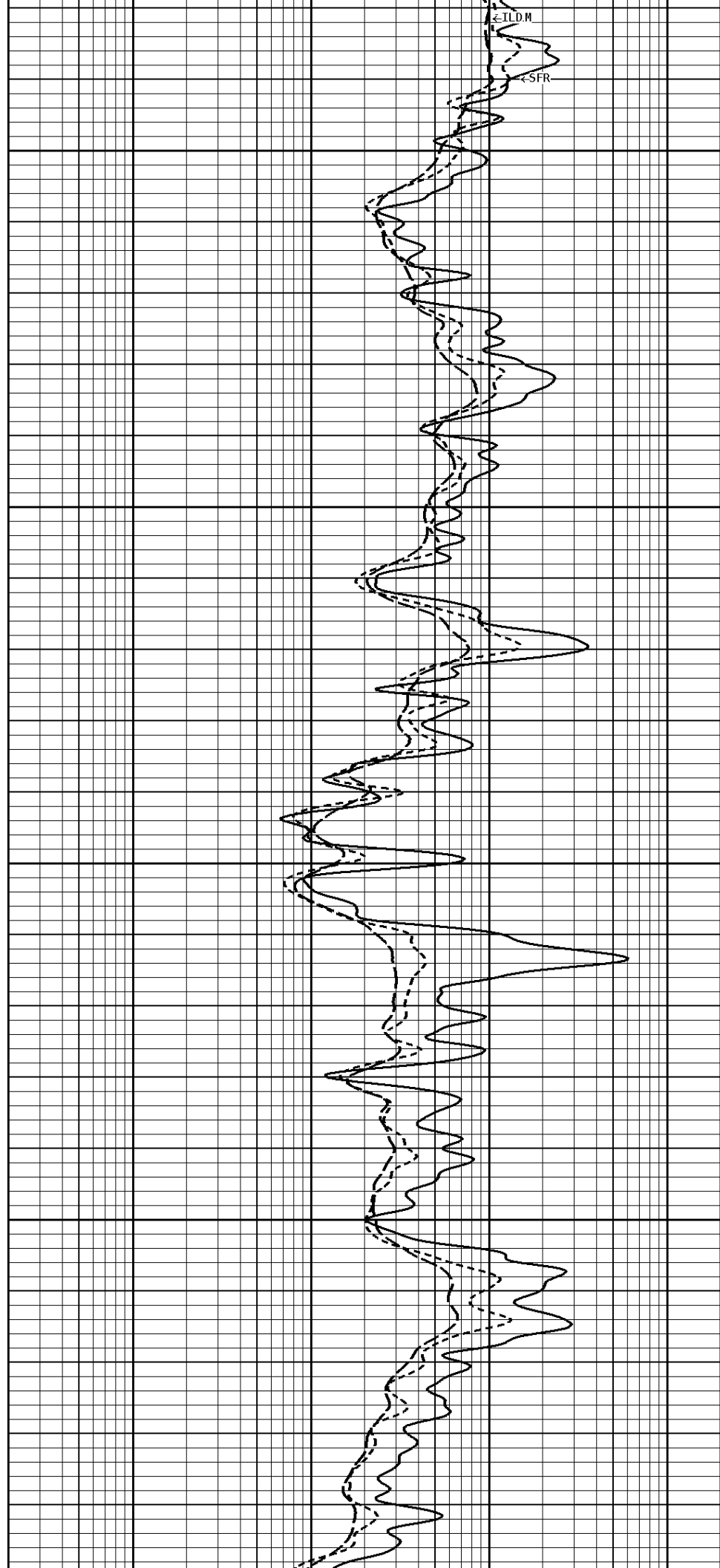
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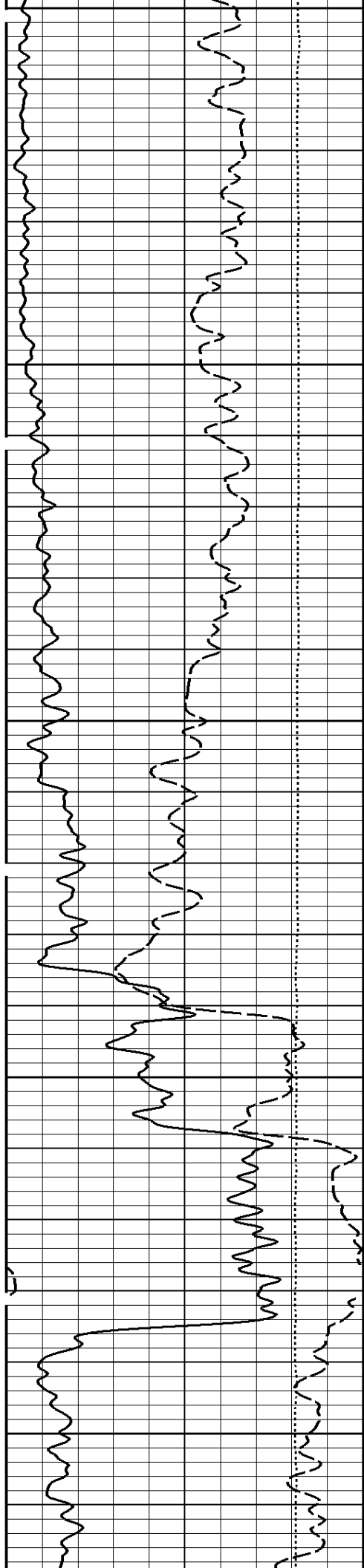
3000

3100



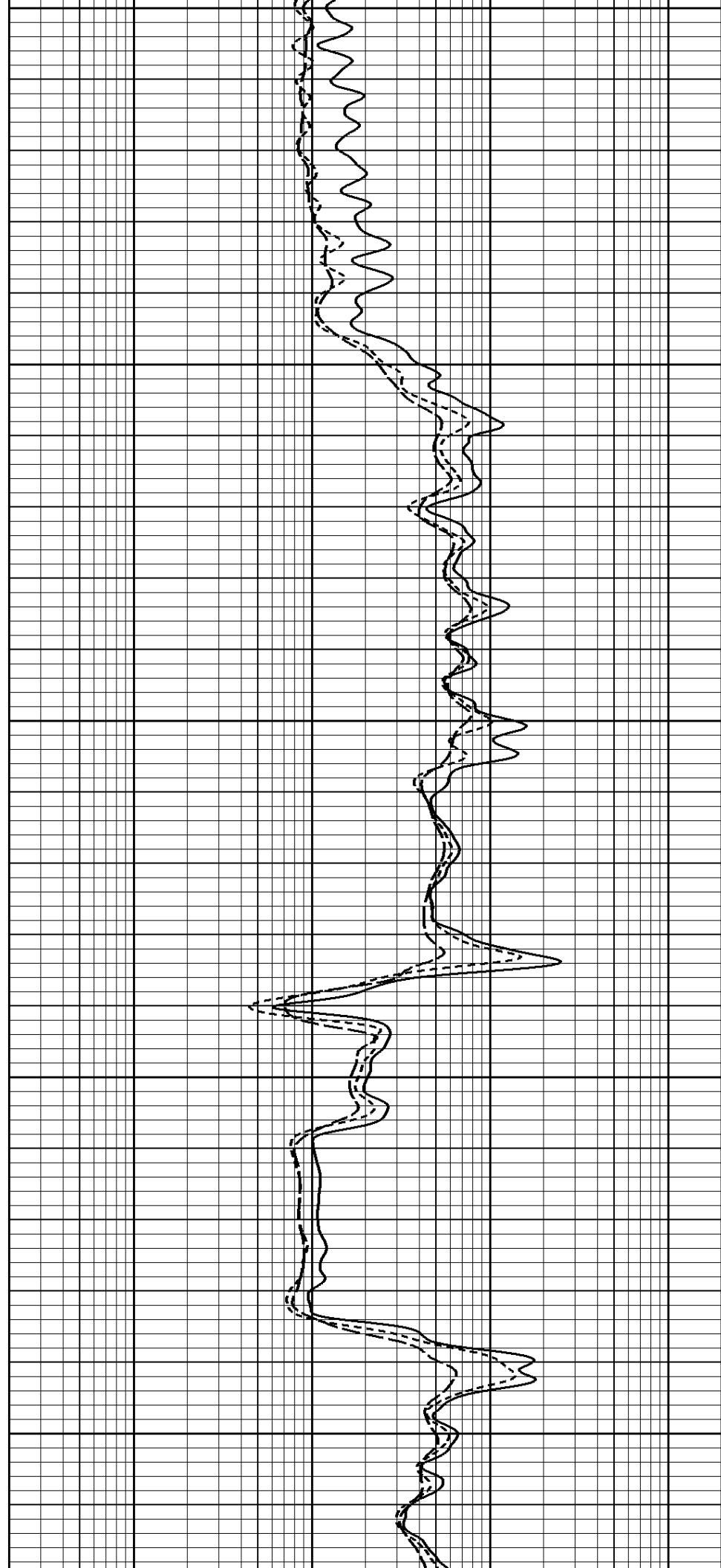
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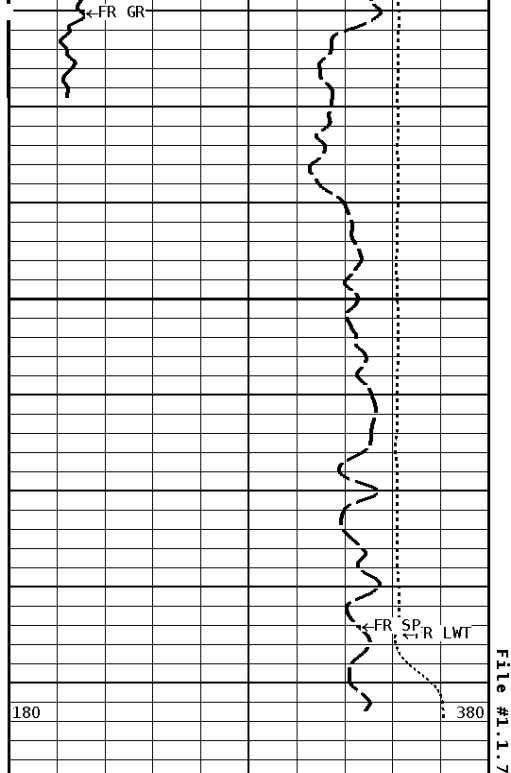
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3200

3300

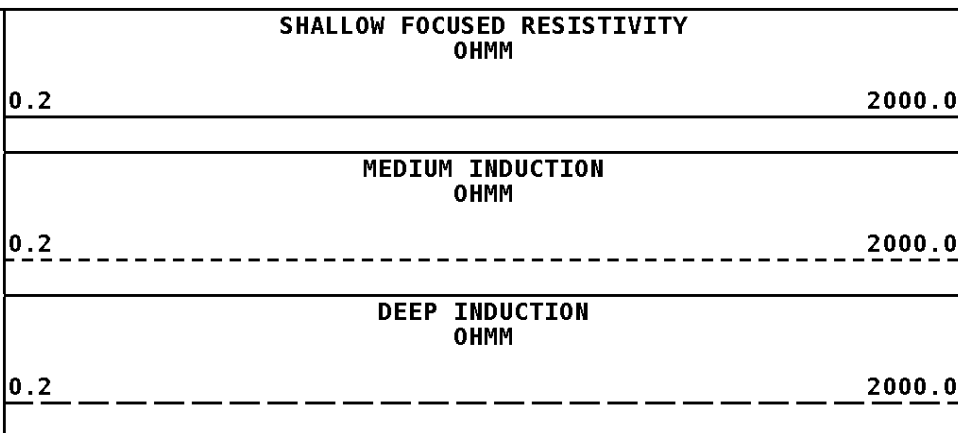
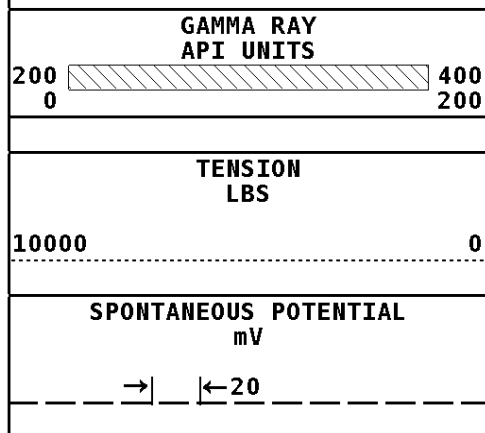




3400

3436

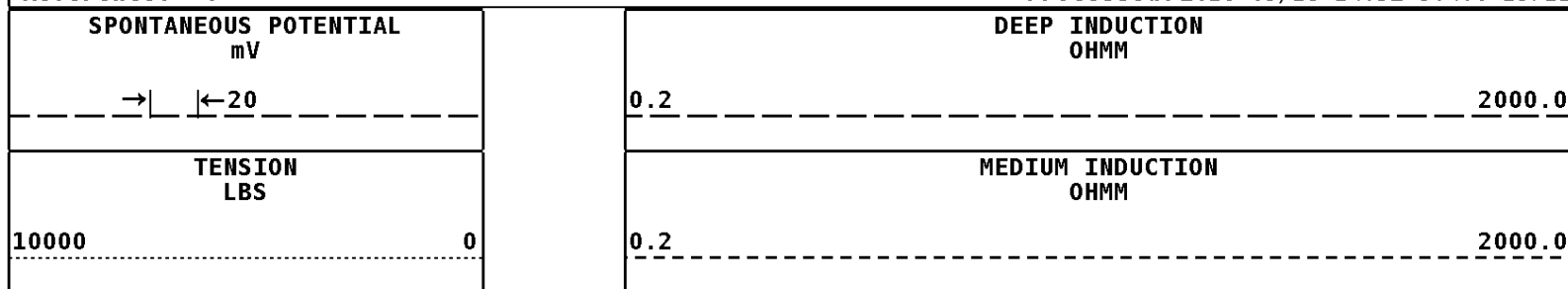
1:240 MAIN SECTION



* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet		
Drill Bit Size	7.875	in
Casing Diameter	5.500	in
BHT Depth	3435.000	ft
Borehole Temperature	110.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	2.000	ohmm
Resistivity Of Mud Temperature	75.00	degF

Well File: RFP HERRMANN 9-4B-2 SEPT18_QUINT	Scale: 1:240	Format: DIL-240
Segment: V1.D1.S9 DS FINAL REPEAT	Acquired: 2016-09/18 14:43 3.4.0-13711	
Reference: 0	Processed: 2016-09/18 14:52 3.4.0-13711	



GAMMA RAY
API UNITS

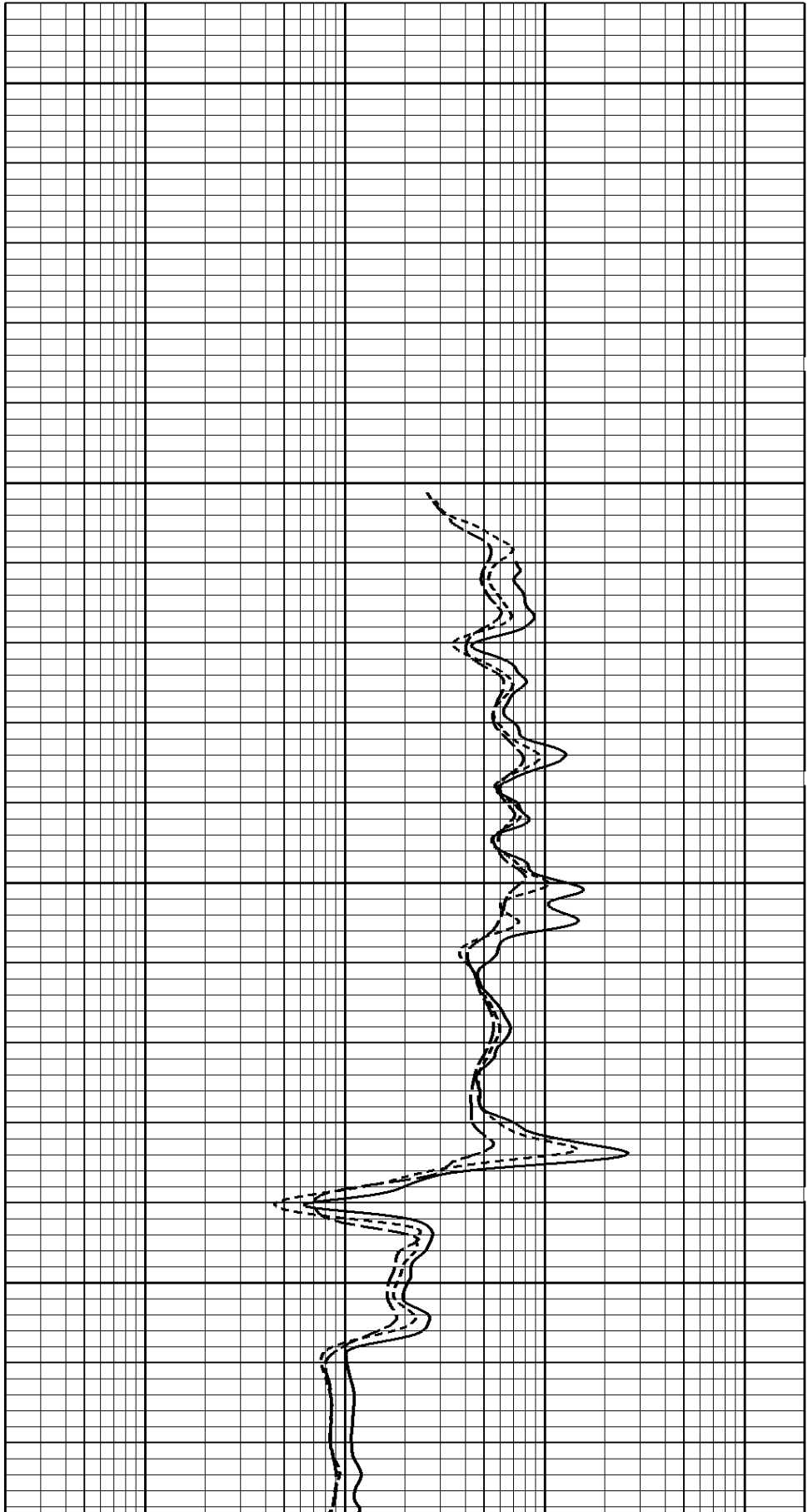
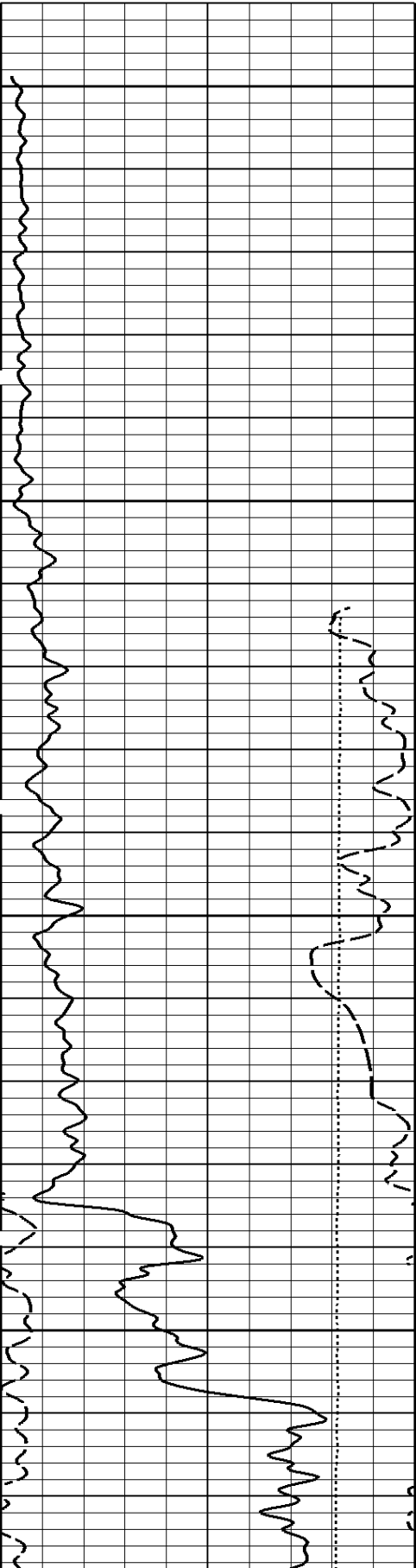
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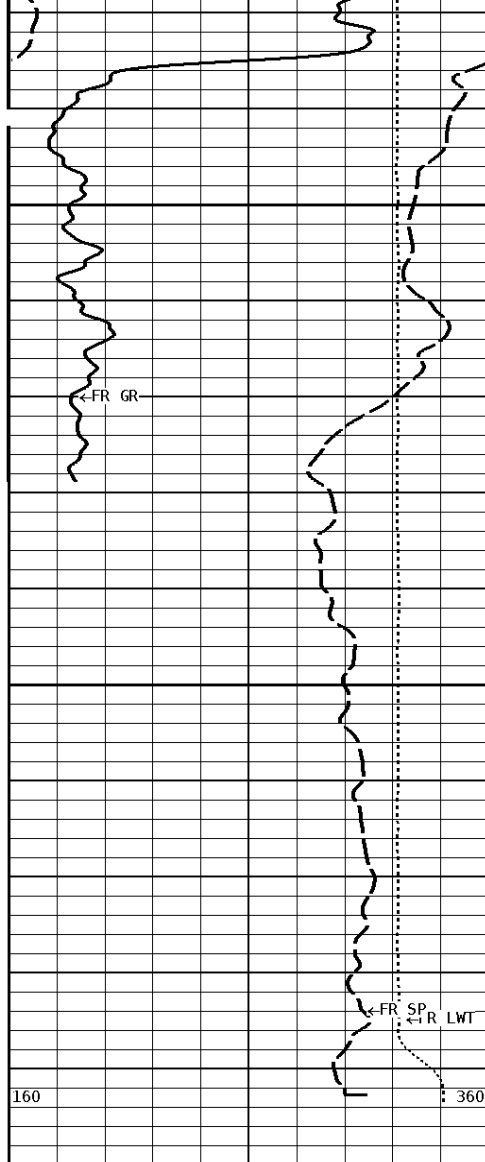
SHALLOW FOCUSED RESISTIVITY
OHMM

0.2

2000.0

1:240 REPEAT SECTION

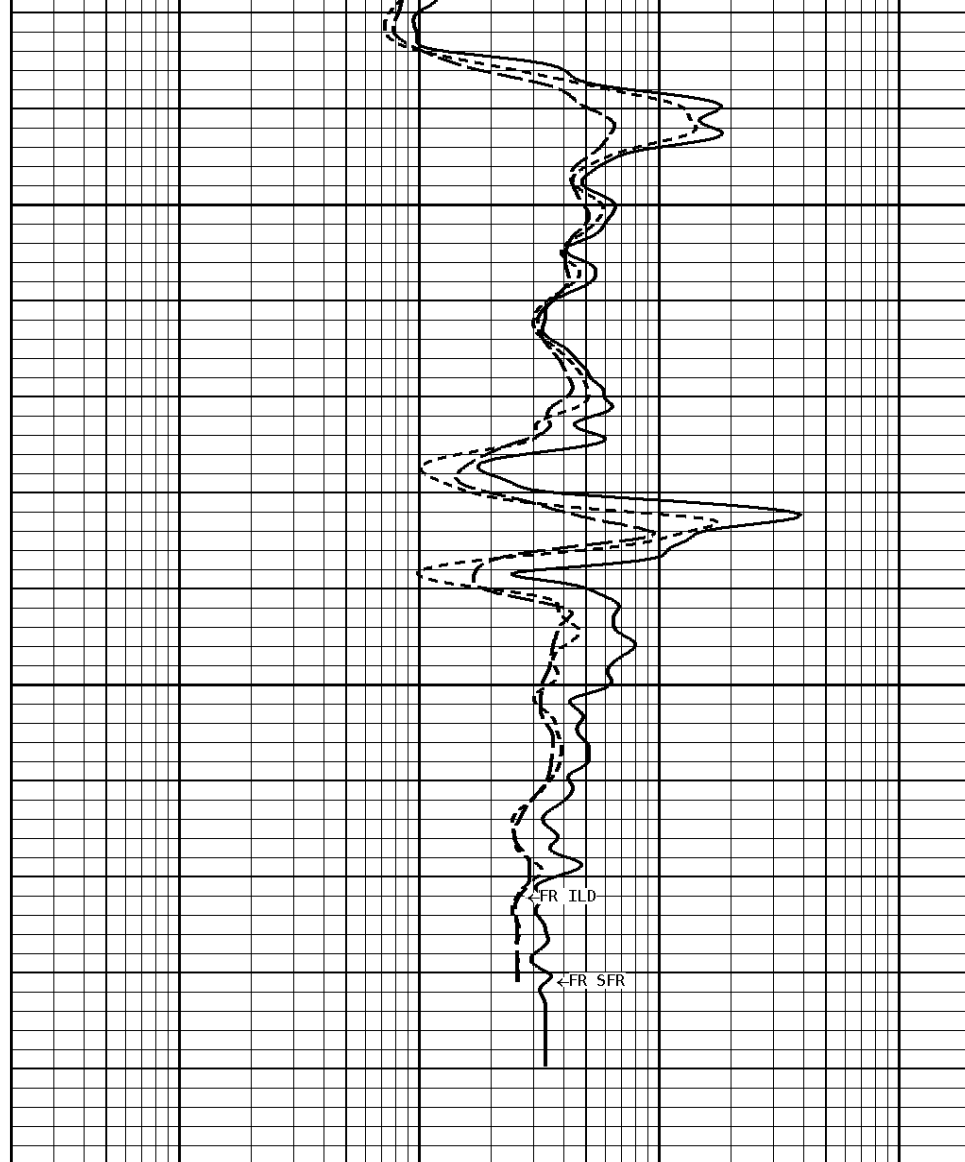




File #1.1.9

3400

3436



1:240 REPEAT SECTION

GAMMA RAY
API UNITS

200 0 400 200

TENSION
LBS

10000 0

SPONTANEOUS POTENTIAL
mV

→ ←20

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	3435.000	ft
Borehole Temperature	110.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	2.000	ohmm
Resistivity Of Mud Temperature	75.00	degF

*** Calibration Summary ***

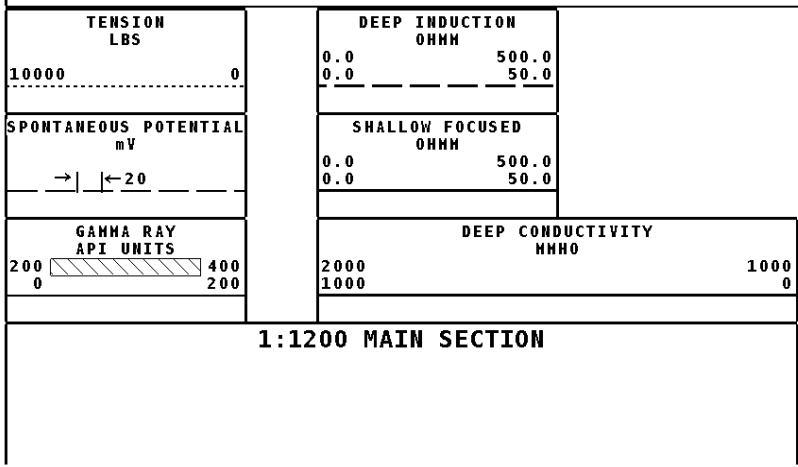
Shop Calibration GRT-B						
Performed : 08-AUG-2016			Time : 10:25			
Sensor Suite : GR-GR5			ID : GRT-BA-121			
	Measured	Units	Calibrated	Units		
	Background Jig		Jig			
GR	47 341	CPS	175	GRAPI		

Shop Calibration PIT-CA						
Performed : 08-AUG-2016			Time : 09:31			
Sensor Suite : P-IND-T			ID : PIT-CA-069			
Medium						
	Measured		Calibrated		Units	
	R X		R X			
Air	130143 131168		0.7 0.2		MMHOS	
Zero	131071 131068		42.6 -7.7		MMHOS	
Reference	248896 248691		5042.6 4992.3		MMHOS	
Loop	129628 217994		3669.7 3712.9		MMHOS	
Sonde Error			-1.0 -6.9		MMHOS	
Cond			5042.6 4992.3		MMHOS	
Deep						
	Measured		Calibrated		Units	
	R X		R X			
Air	128078 132113		0.0 -0.3		MMHOS	
Zero	131064 131069		56.8 -22.3		MMHOS	
Reference	234442 233900		2056.8 1977.7		MMHOS	
Loop	127802 222193		1746.7 1757.0		MMHOS	
Sonde Error			-3.0 -0.7		MMHOS	
Cond			2056.8 1977.7		MMHOS	
Temperature						
	Measured		Calibrated		Units	
	Low High		Low High			
	16980.0 56920.0		70.0 350.0		DEGF	

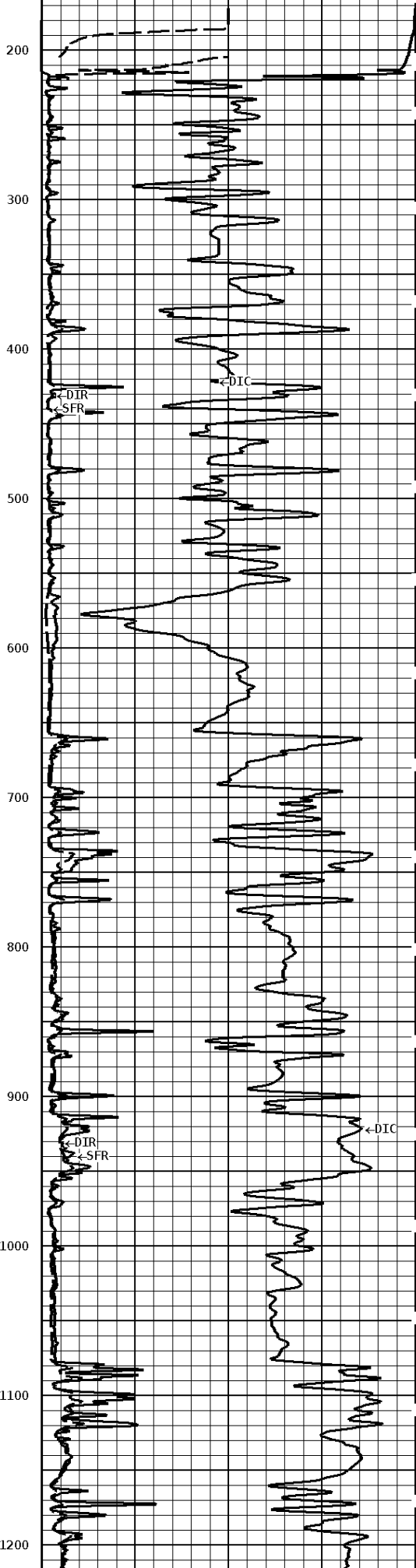
Performed : 08-AUG-2016			Time : 09:31			
Sensor Suite : SFL			ID : PIT-CA-069			
Internal						
	Measured		Calibrated		Units	
	Zero Reference		Zero Reference			
Im	32764.0 50173.0		0.0 7028.0		uA	
Ib	32771.0 49454.7		0.0 1750.0		mA	
MOM1	32777.0 57600.3		0.0 175.0		mV	
Equivalent SFL			43.97		OHMM	

Performed : 08-AUG-2016			Time : 09:31			
Sensor Suite : P-SP			ID : PIT-CA-069			
Internal						
	Measured		Calibrated		Units	
	Zero Reference		Zero Reference			
	32789.4 58814.3		0.0 1000.0		mV	

Well File: RFP HERRMANN 9-4B-2 SEPT18 QUINT	Scale: 1:1200	Format: DIL1200
Segment: V1.D1.S7 DS FINAL MAIN	Acquired: 2016-09/18 15:08 3.4.0-13711	
Reference: 0	Processed: 2016-09/18 15:08 3.4.0-13711	



File #1.1.7



300

400

500

600

700

800

900

1000

1100

1200

←DTR

←SFR

←DTC

←DTR

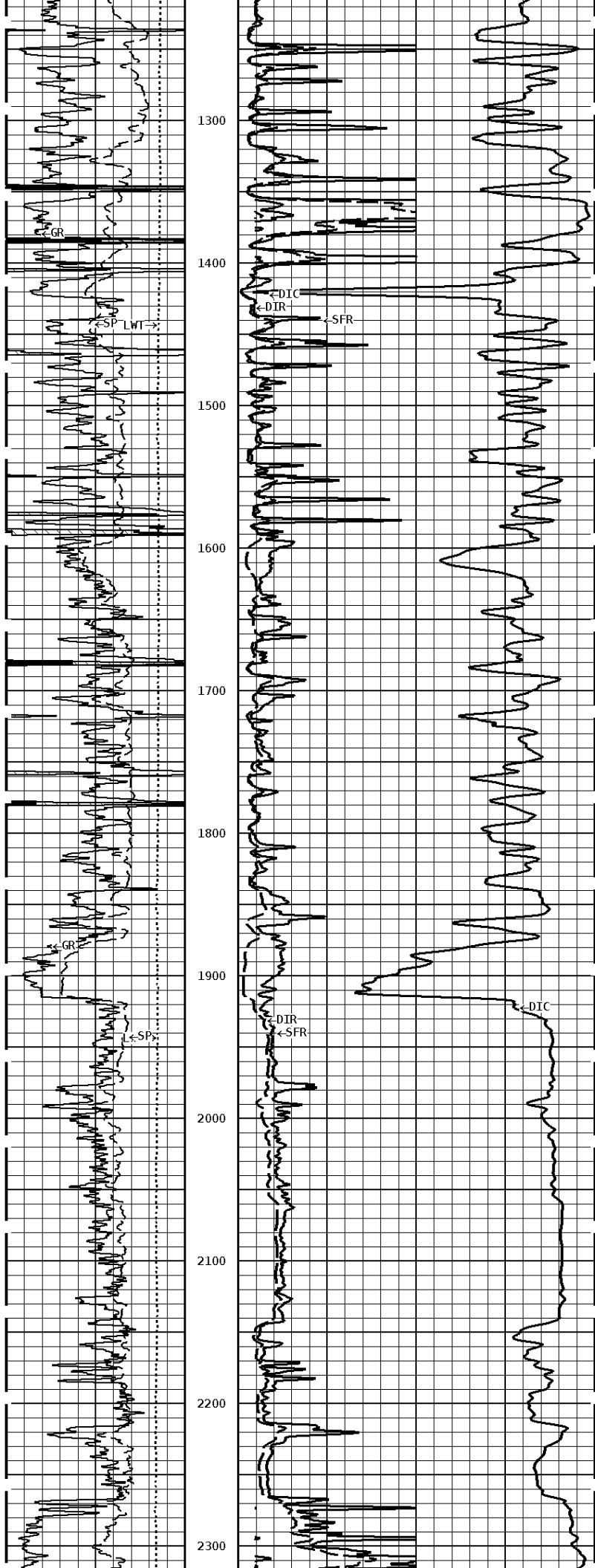
←SFR

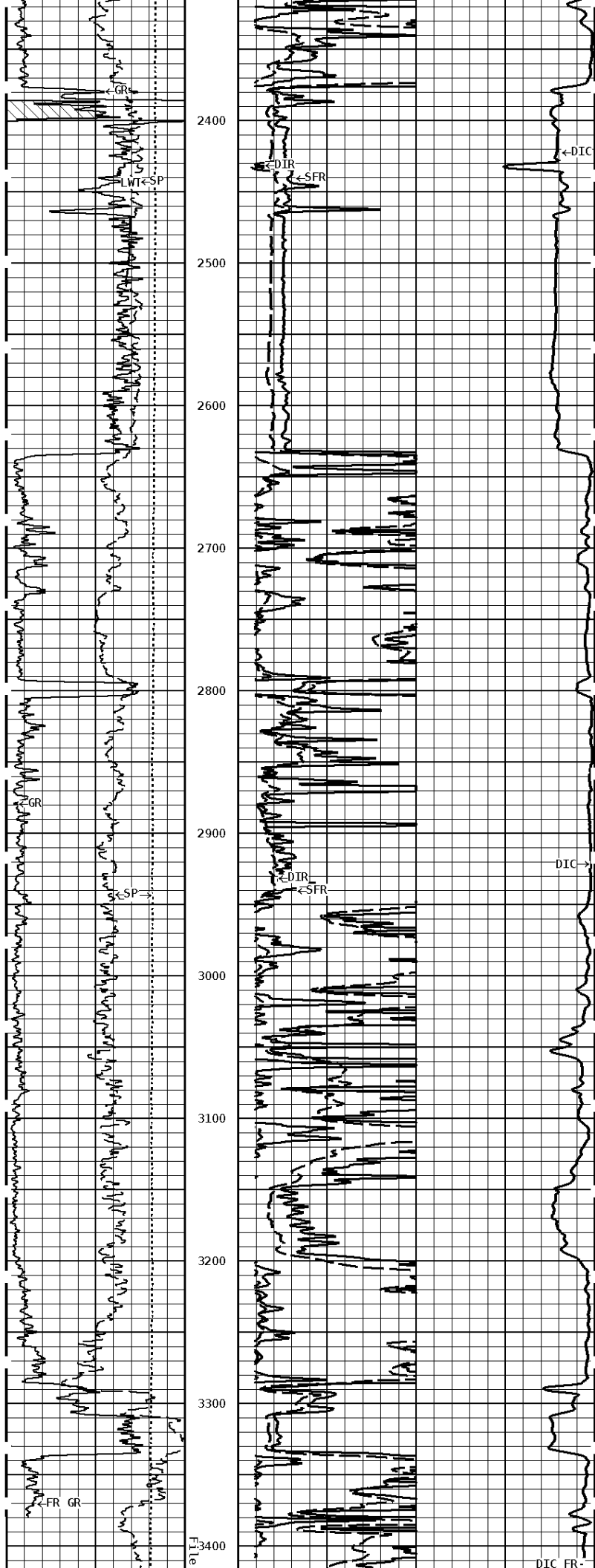
←DTC

←DTR

←SFR

←DTC





180	LWT FR	FR SP	380	#1.1.7	3436	FR DIR	FR SFR
1:1200 MAIN SECTION							
GAMMA RAY API UNITS 200  400 0 200		DEEP CONDUCTIVITY MMHO 2000 1000 1000 0					
SPONTANEOUS POTENTIAL mV → ← 20		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					