

Tucker
ENERGY SERVICES

PHASED INDUCTION
SHALLOW FOCUS SP LOG

Company: CHIEFTAIN OIL CO., INC.
Well: DOUGLAS-KENT #5-18
Field: RHODES SOUTH
County: BARBER
State: KANSAS
Country: USA
API No.: 15-007-24224-0000

File No.: TUL-59745
Company: CHIEFTAIN OIL CO., INC.
Well: DOUGLAS-KENT #5-18
Field: RHODES SOUTH
County: BARBER
State: KANSAS
Country: USA
API No.: 15-007-24224-0000

Location:
 340' FSL & 340' FEL
 NW SE SE SE

LSD: **Sect:** 18 **Twp:** 34S **Rge:** 11W

Permanent Datum:	GL	Elevations:		Services:	
Drilling Measured From:	KB	KB 1404.00	Ft	CNT	PIT
Log Measured From:	KB	DF 1403.00	Ft	LDT	
Above Permanent Datum:	8.00 Ft	GL 1396.00	Ft	MLT	
Date:	09-29-2014				
Run Number:	1				
Depth--Driller	5229.0	Ft			
Depth--Logger	5234.0	Ft			
First Reading	5234.0	Ft			
Last Reading	302.0	Ft			
Casing--Driller	302.0	Ft			
Casing--Logger	302.0	Ft			
Bit Size	7.875	In			
Casing Size	13.375	In			
Hole Fluid Type	CHEM-GEL				
Density	9.3				
Fluid Loss	8.0				
PH/Viscosity	10.0	54.0			
Sample Source	MEASURED				
RM@Measured Temp.	2.000	@ 75 F			
RMF@Measured Temp	1.600	@ 75 F			
RMG@Measured Temp.	2.400	@ 75 F			
Source RMF/RMG	CALCULATED/CALCULATED				
RM@BHT	1.200	@ 130 F			
Time Circulation Stopped	09-29-2014 10:00 am				
Max Recorded Temp.	130	F			
Equipment/Base	127	TULSA			
Recorded By	SHELDON TYLER				
Witnessed By	DAVID 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	5229.00	13.375	45.00	302.00	0.00

Run Number	1
Date	09-29-2014
Date/Time On Bottom	09-29-2014 1:00 pm
Depth to Fluid	0.0 Ft
Salinity	4500.000
RMF@BHT	0.960 @ 130 F
RMG@BHT	1.440 @ 130 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 CALCULATE POROSITY
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING
 PHIN IS CALIPER CORRECTED

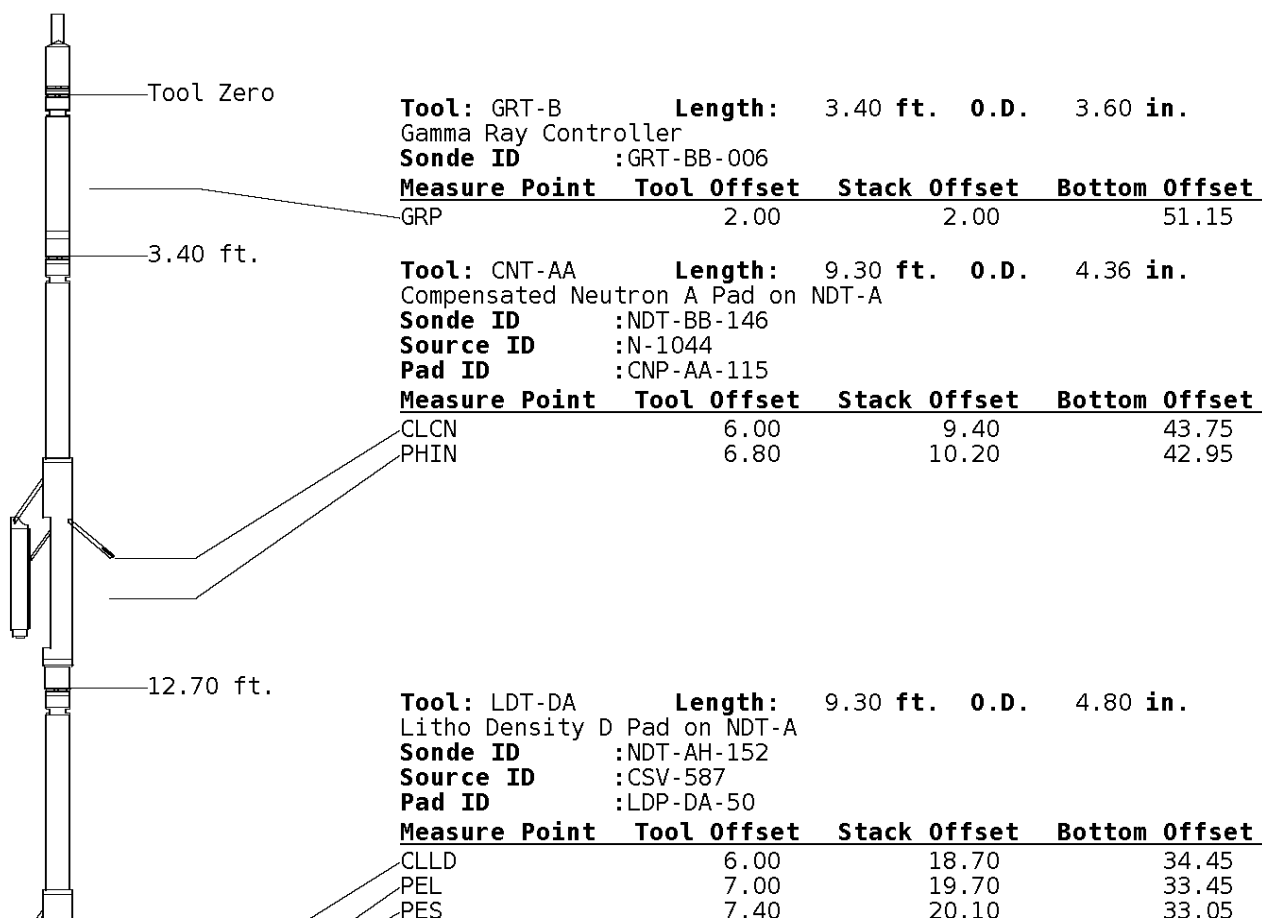
CUSTOMER REQUESTED DETAIL PULLED TO 3400'

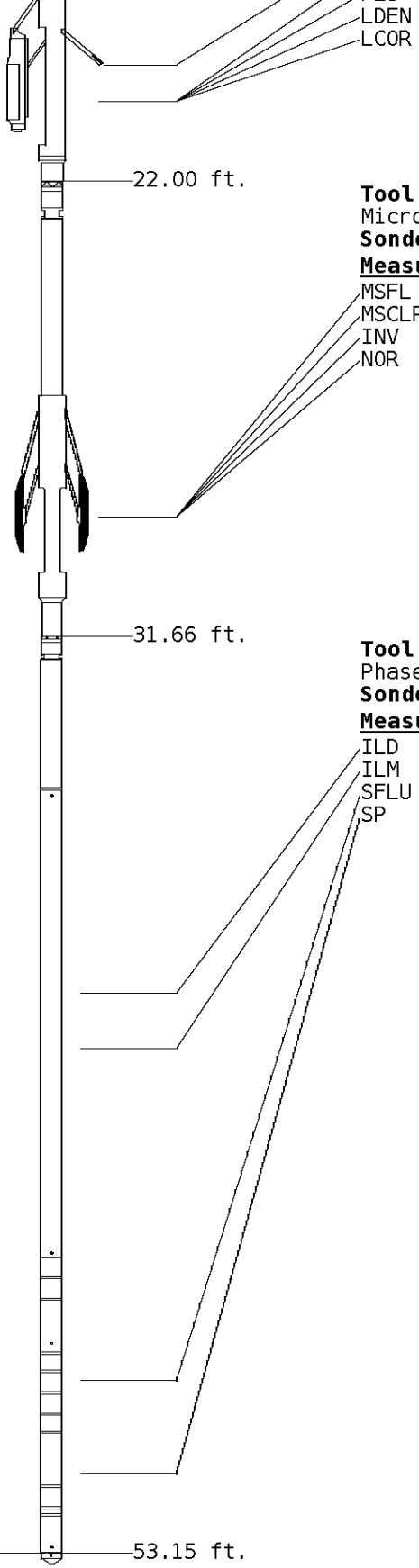
GRT: GRP, GRX
 CNT: PHIN, CLCNIN, PHXN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX
 MLT: NOR_RF, INV_RF, MSCLPIN
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:+4
 J.JOHNSON
 B.BROWN

Tool String Schematic

Total Tool Length - 53.15 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 943.00 lbs.





7.20 19.90 33.25
 7.20 19.90 33.25

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
 Micro Spherically Focused (IC)
Sonde ID :MST-DA-24

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	23.55
MSCLP	7.60	29.60	23.55
INV	7.60	29.60	23.55
NOR	7.60	29.60	23.55

Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
 Phased Dual Induction w/ RM & D
Sonde ID :PIT-CA-062

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	40.58	12.56
ILM	10.10	41.76	11.39
SFLU	17.49	49.15	4.00
SP	20.60	52.26	0.88

Well File: CHIEFTAIN DOUGLAS KENT_5-18_SEP29_MSTK **Scale:** 1:600 **Format:** DIL-600
Segment: V1.D1.S6 AS MAIN **Acquired:** 2014-09/29 12:59 3.4.0-13115
Reference: 0 **Processed:** 2014-09/29 14:09 3.4.0-13115

TENSION LBS	0
10000	

DEEP INDUCTION OHMM	
0.0	500.0
0.0	50.0

SPONTANEOUS POTENTIAL mV

SHALLOW FOCUSED RESISTIVITY OHMM	
0.0	500.0

→ ←25

0.0 500.0
0.0 50.0

GAMMA RAY
API UNITS

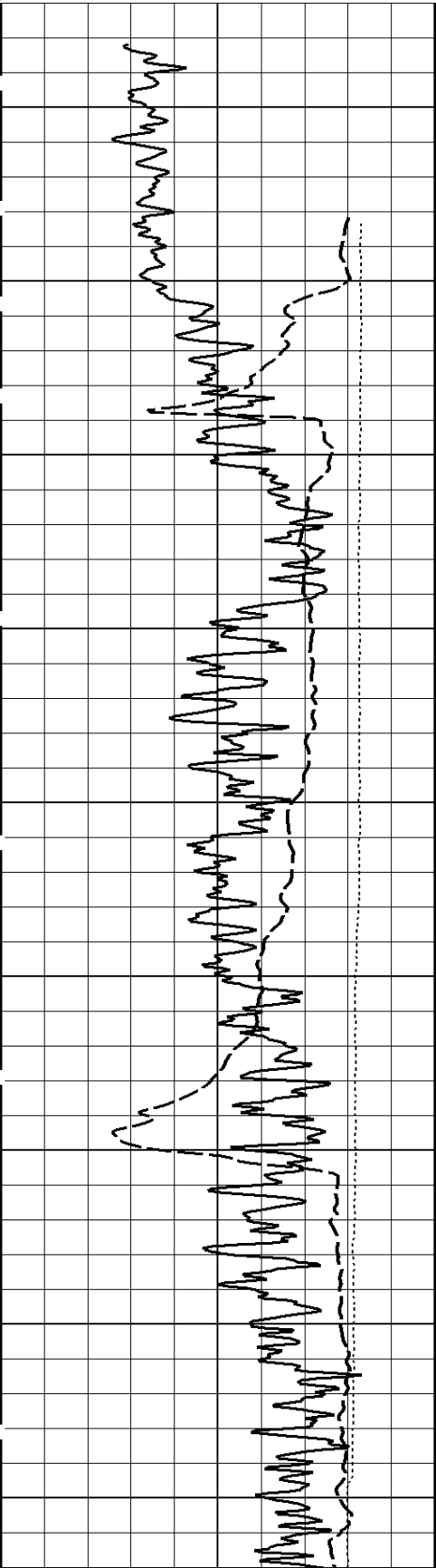
DEEP CONDUCTIVITY
MMHO

150 300
0 150

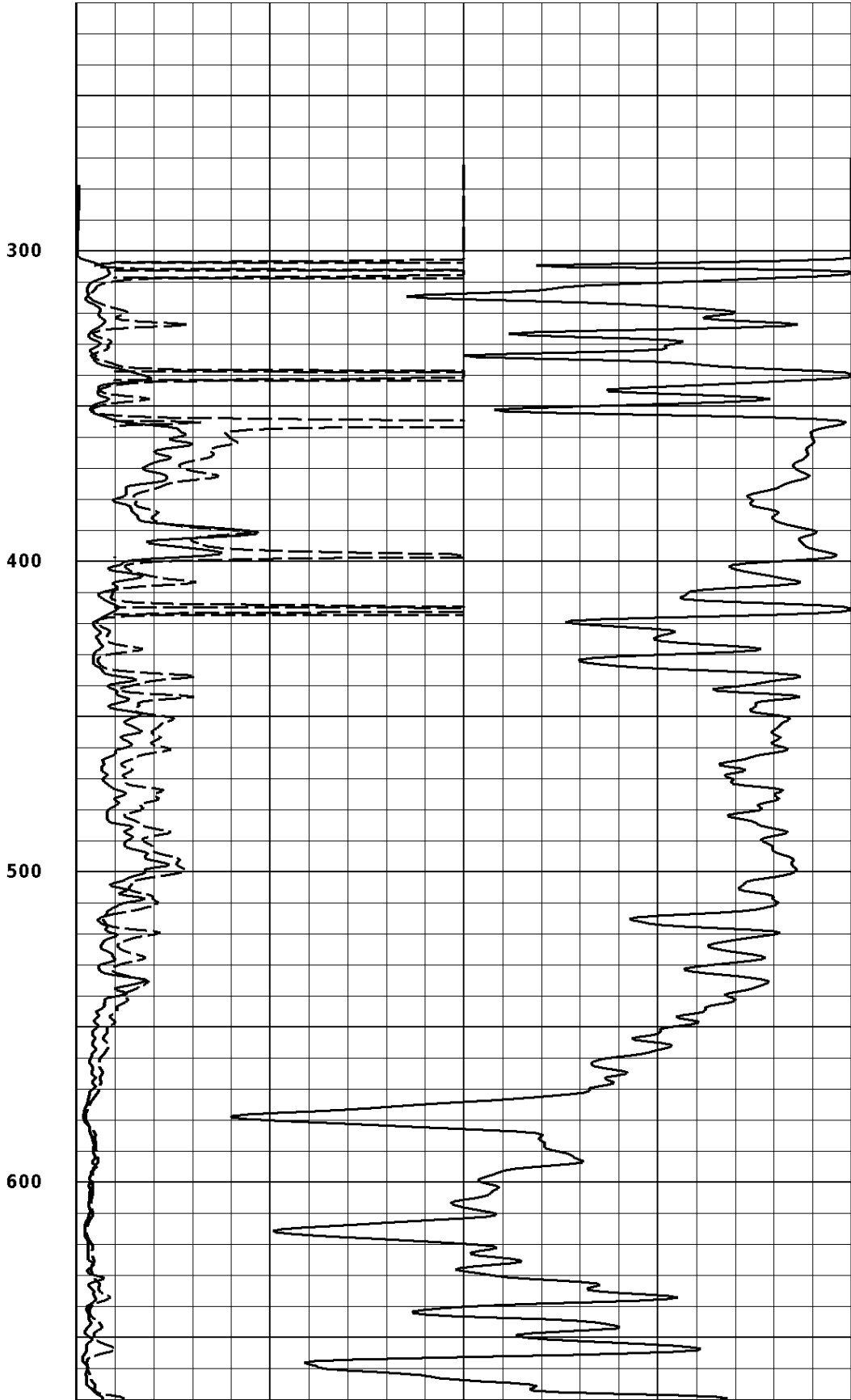
2000
1000

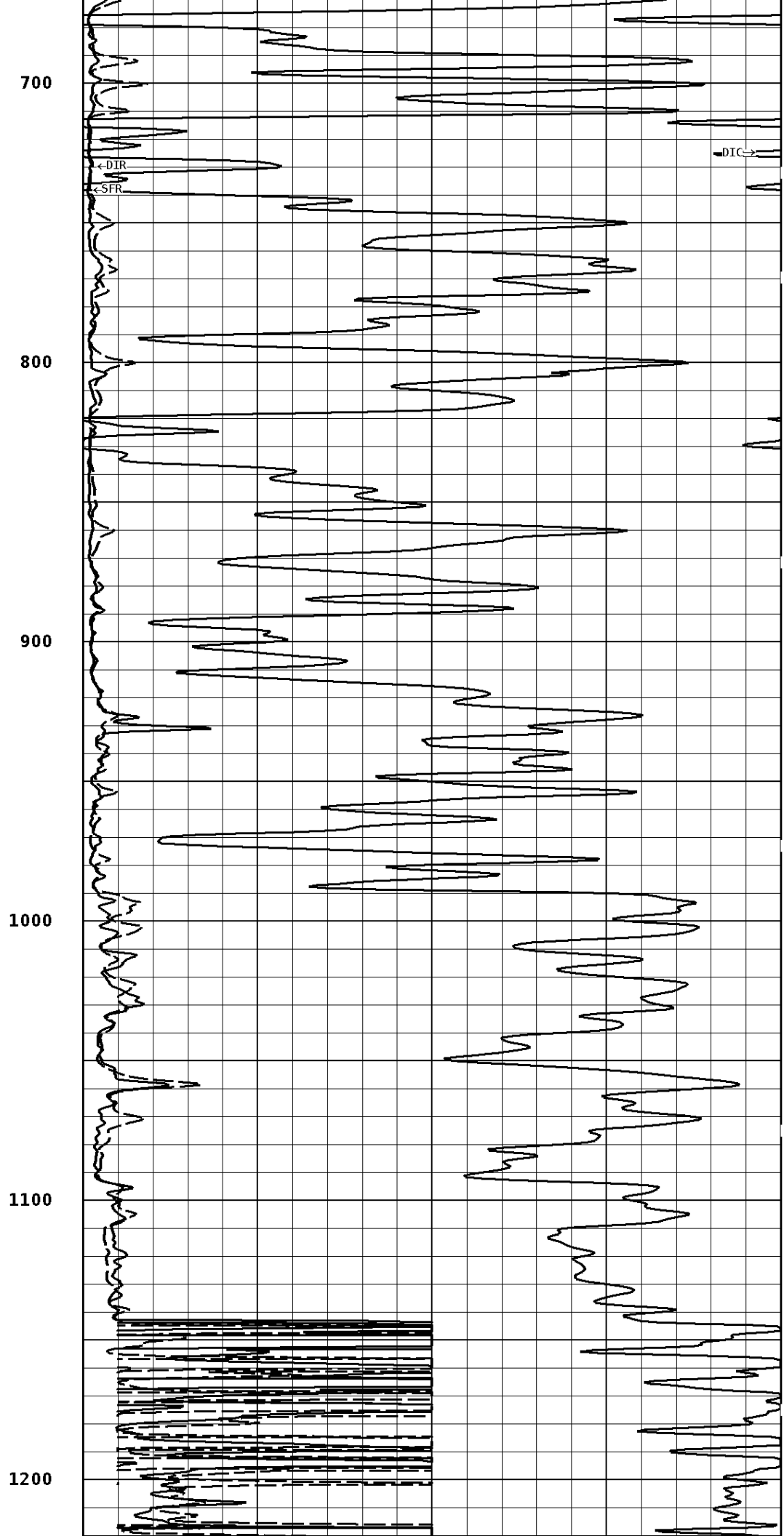
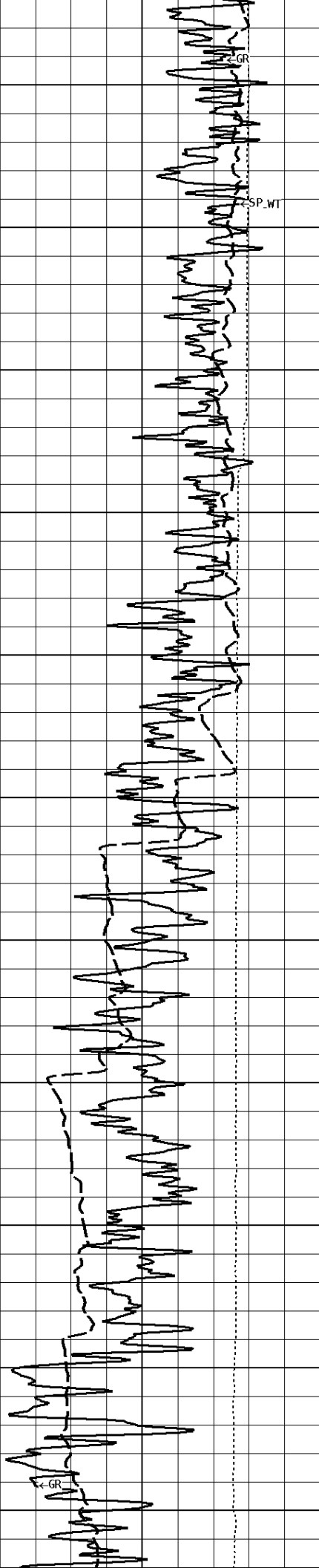
1000
0

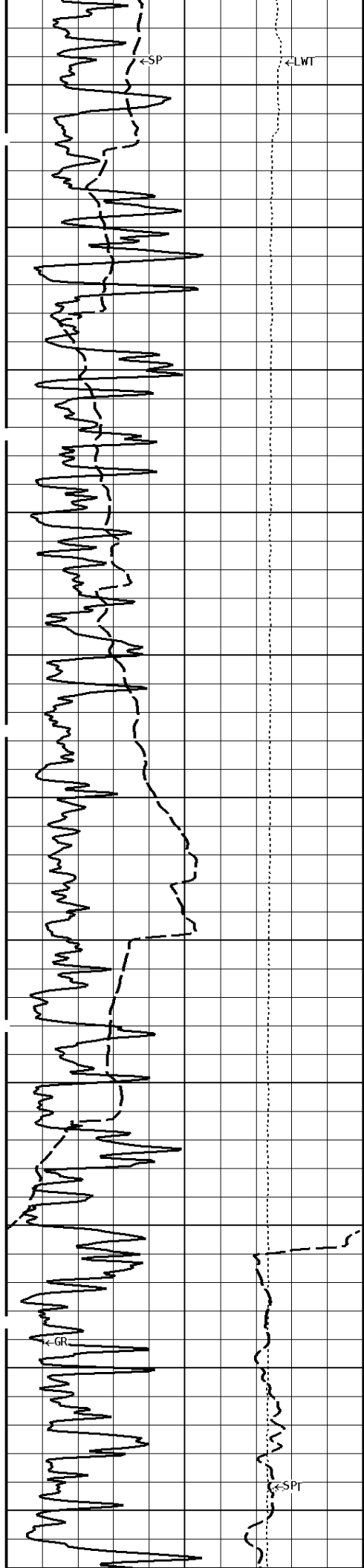
1:600 MAIN SECTION



File #1.1.6







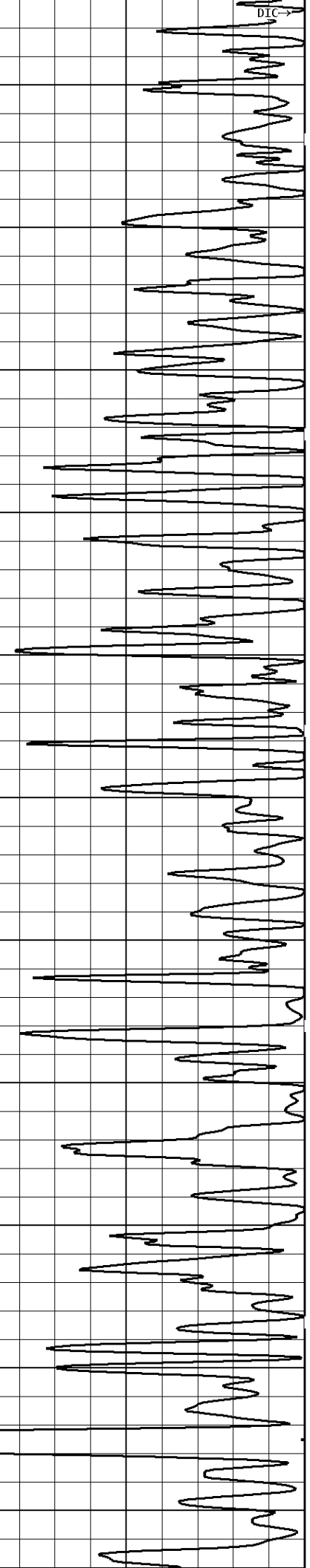
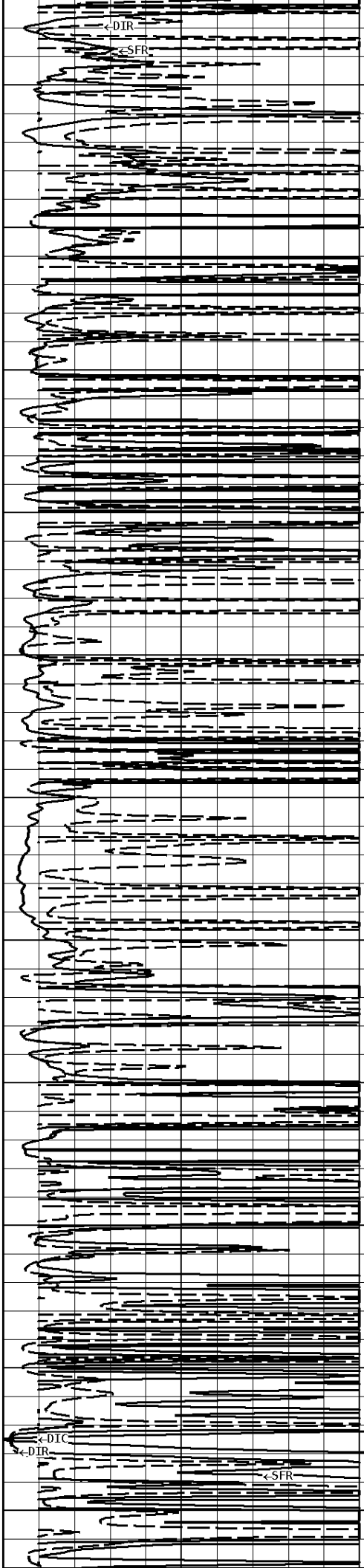
1300

1400

1500

1600

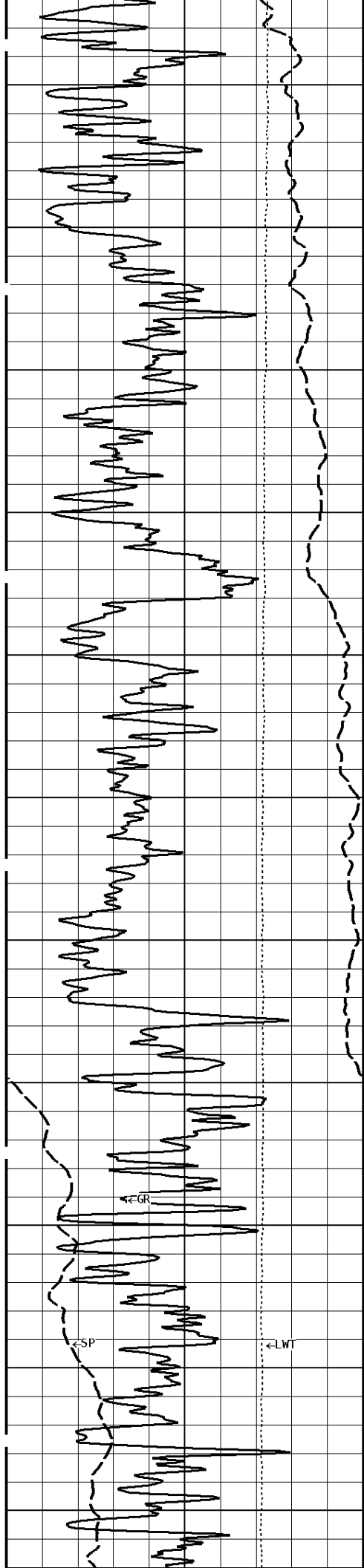
1700



ρ_{DIC}
 ρ_{DIR}

ρ_{SFR}

ρ_{SP}



1800

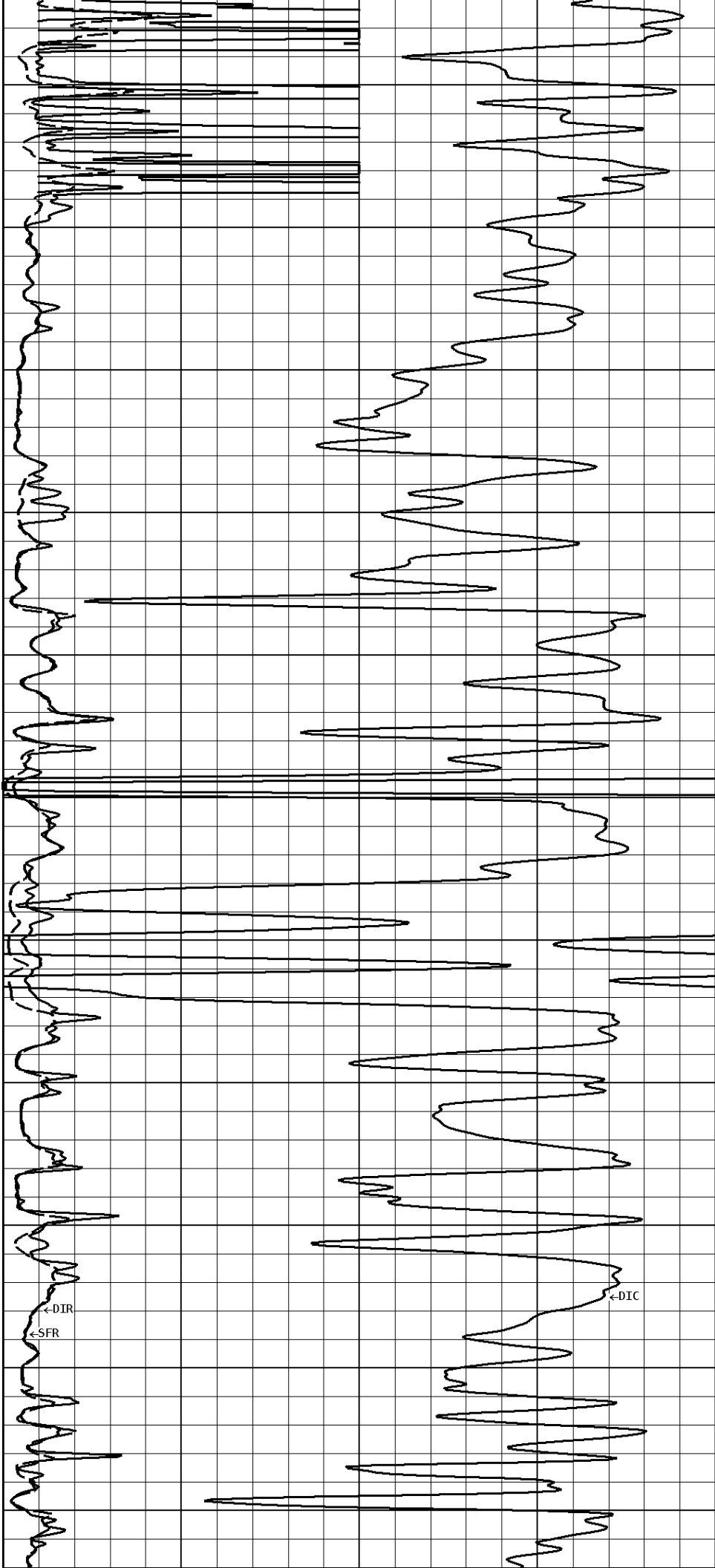
1900

2000

2100

2200

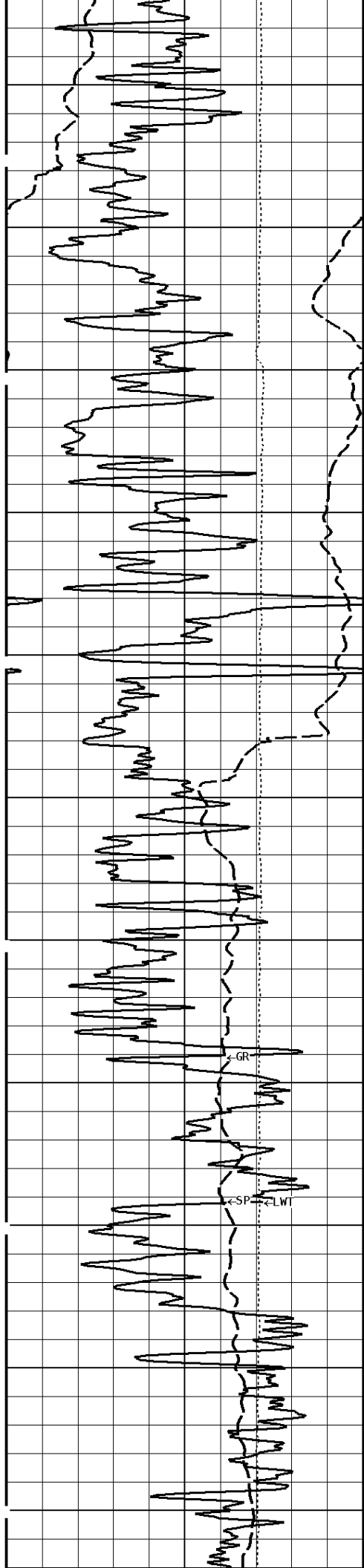
2300



←DIR

←SFR

←DIC



2400

2500

2600

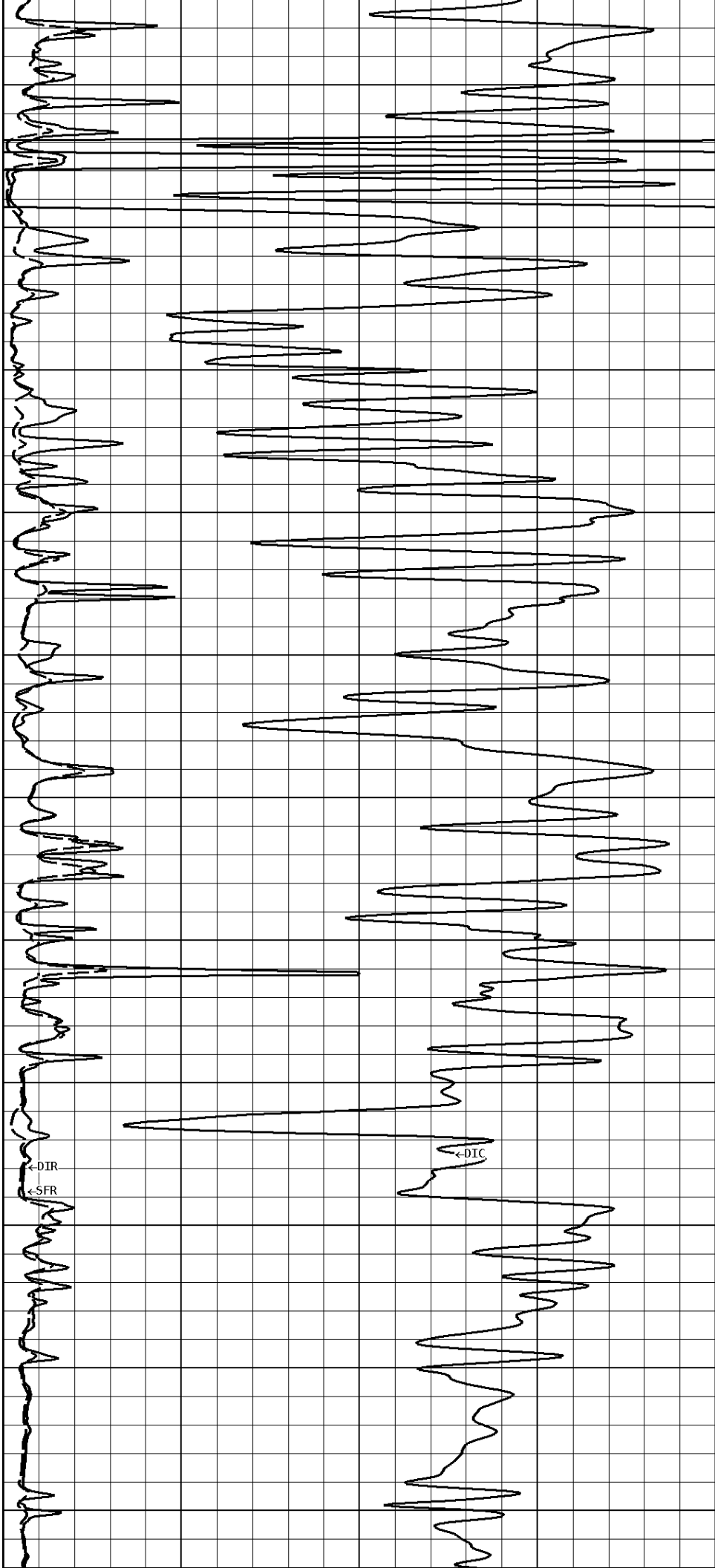
2700

2800

← GR

← SP

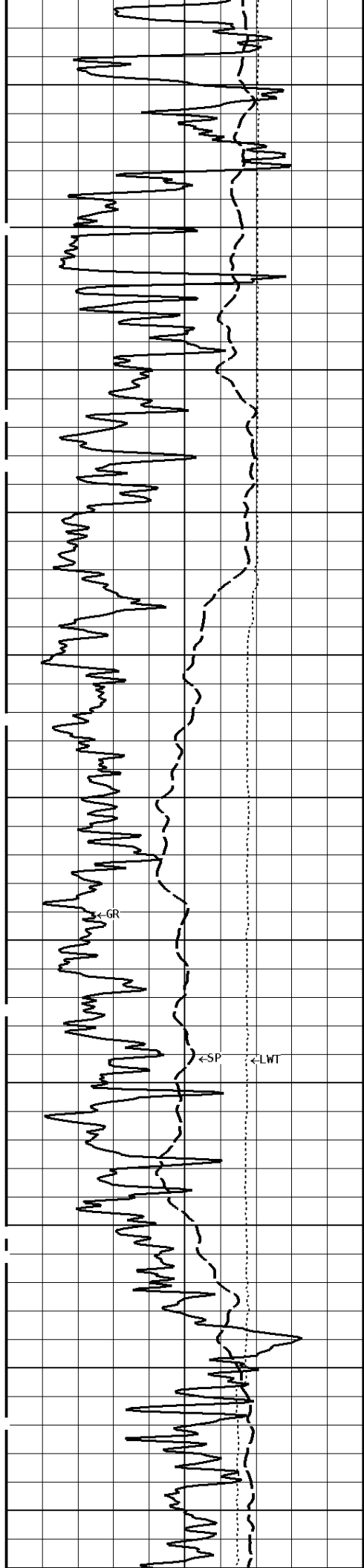
← LW



← DIR

← SFR

← DIC



2900

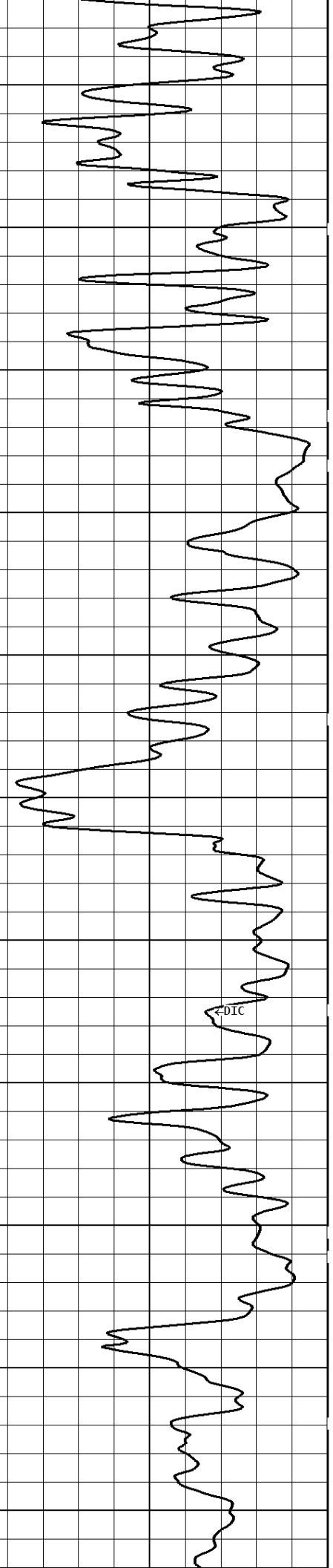
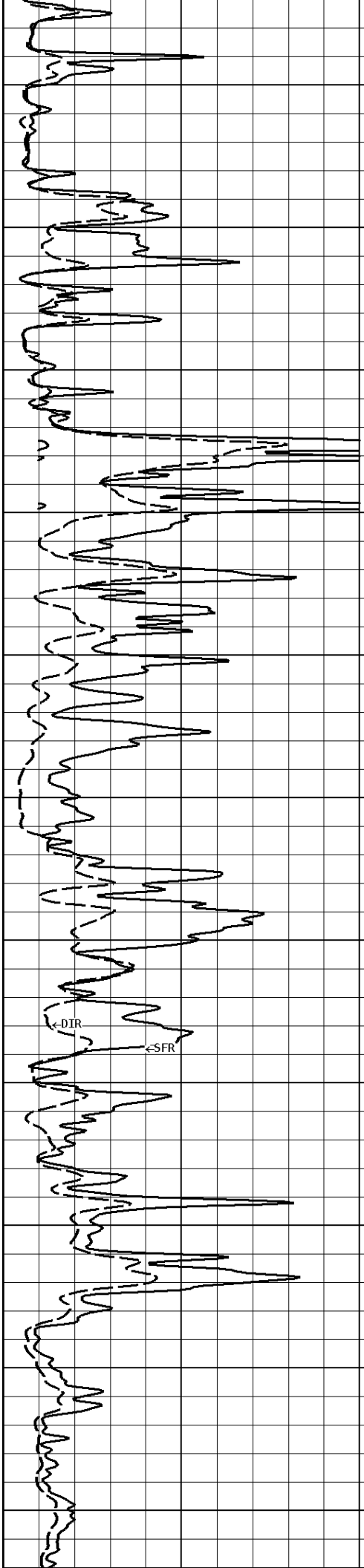
3000

3100

3200

3300

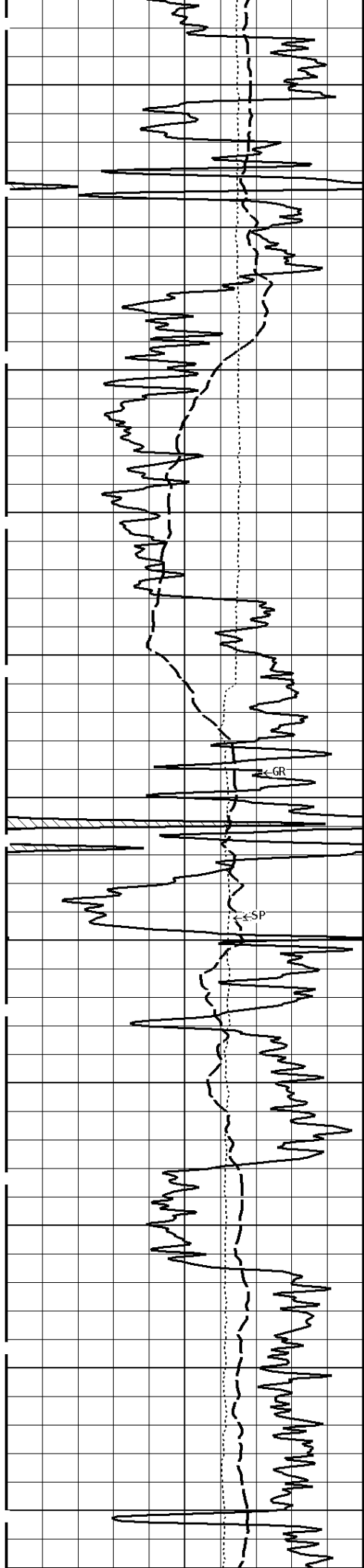
3400



DIR

SFR

DIC



3500

3600

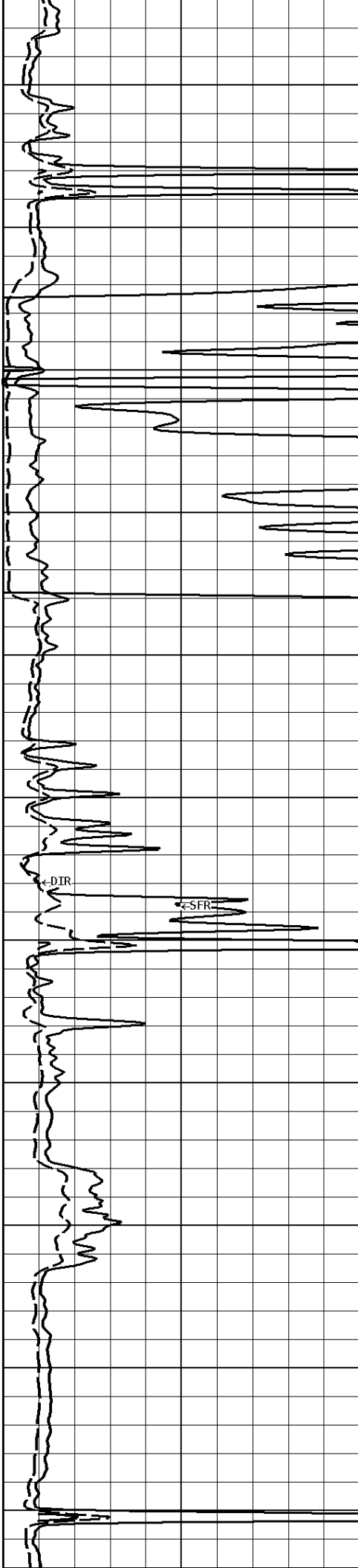
3700

3800

3900

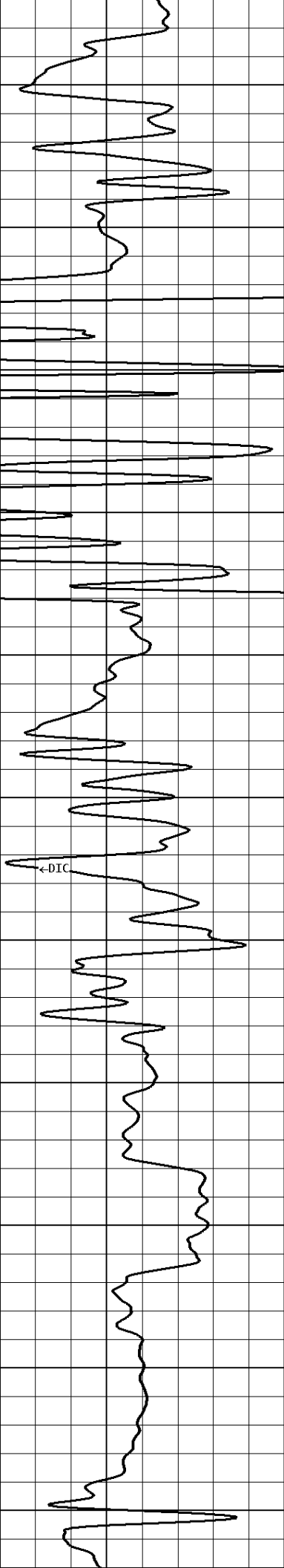
← GR

← SP

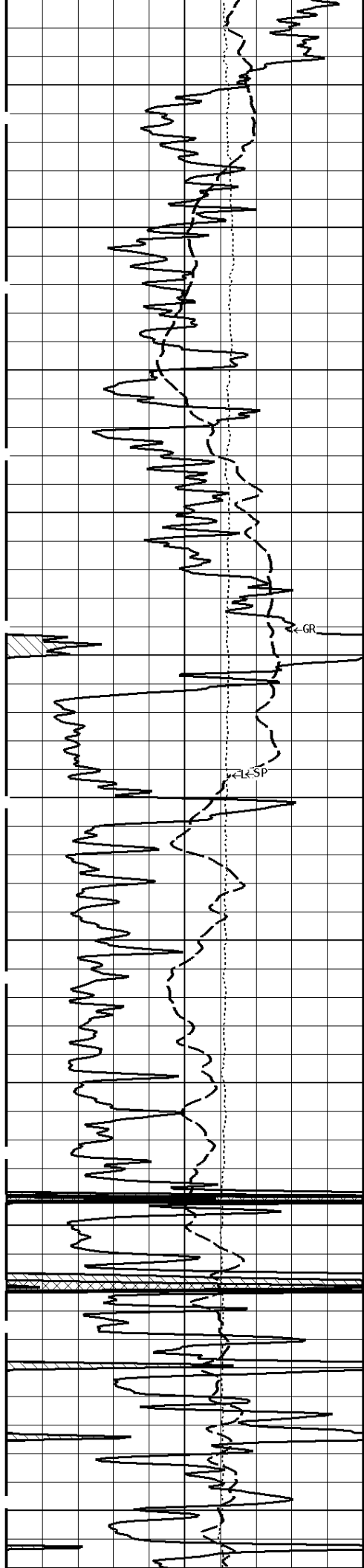


← DIR

← SFR



← DIC



4000

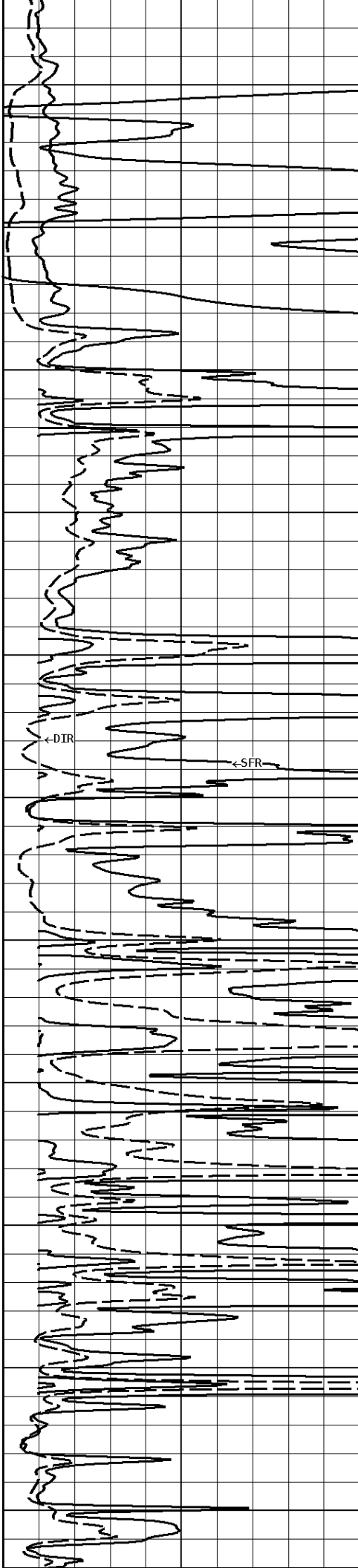
4100

4200

4300

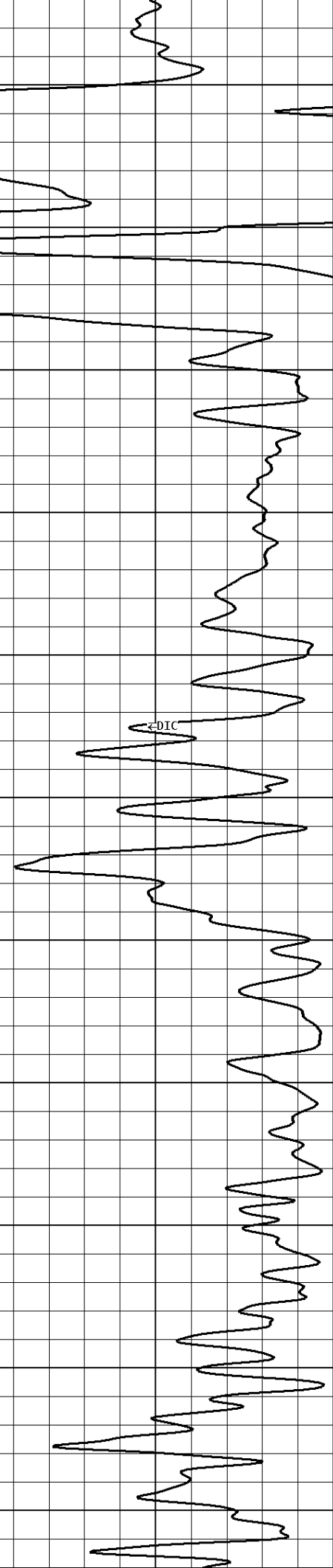
4400

4500

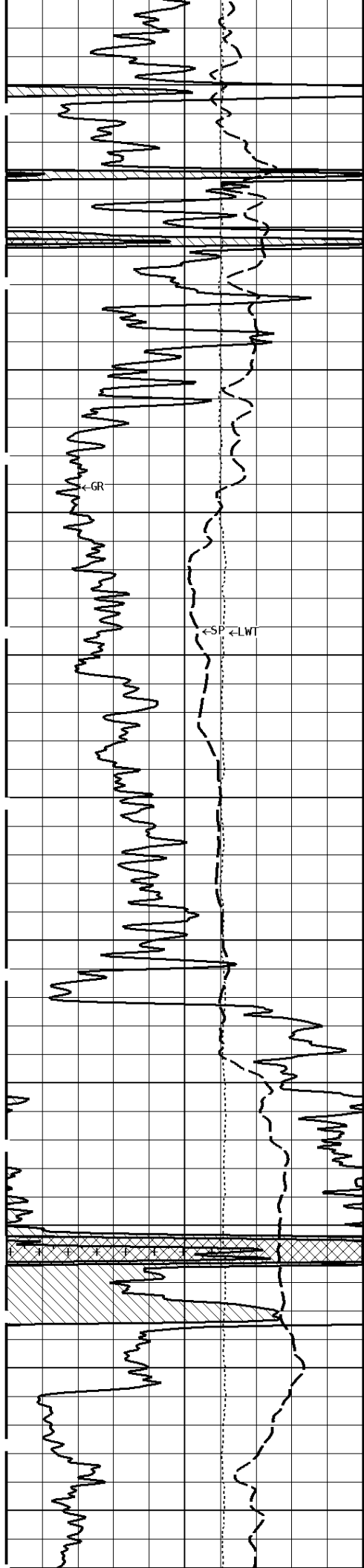


←DIR

←SFR



←DIC



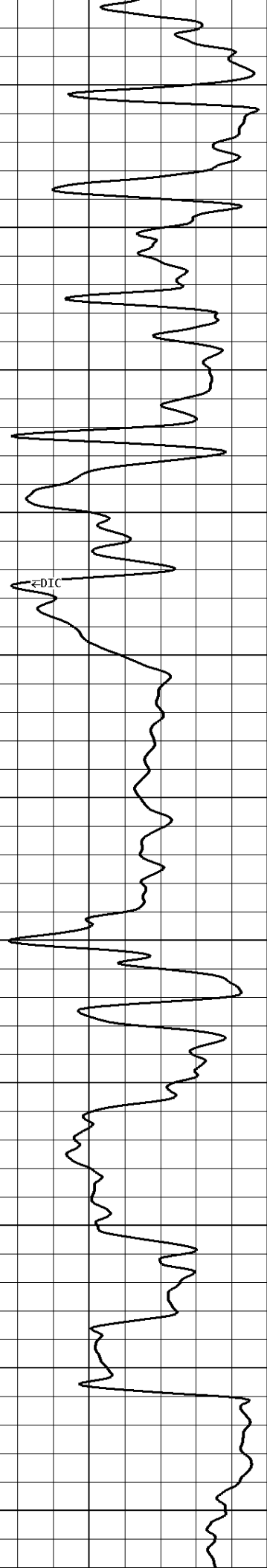
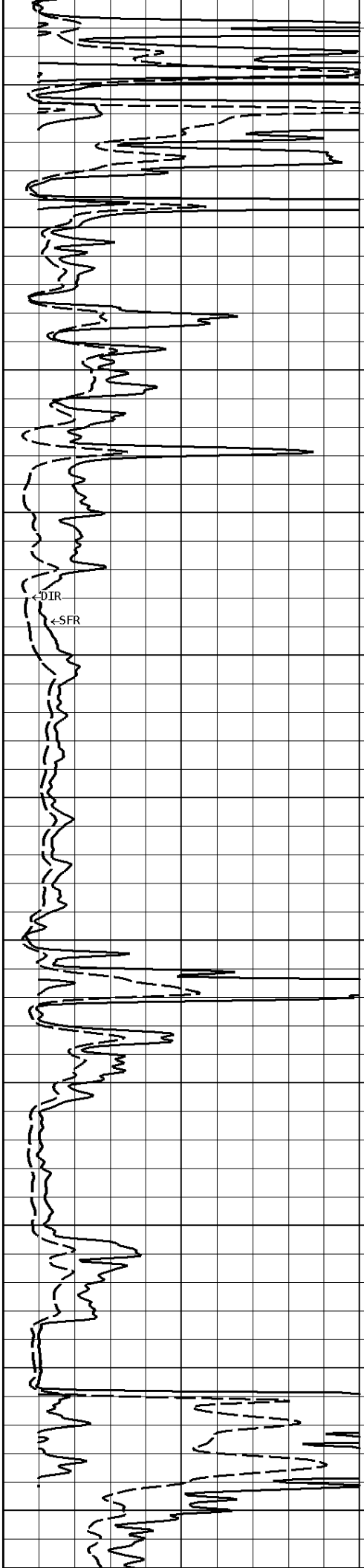
4600

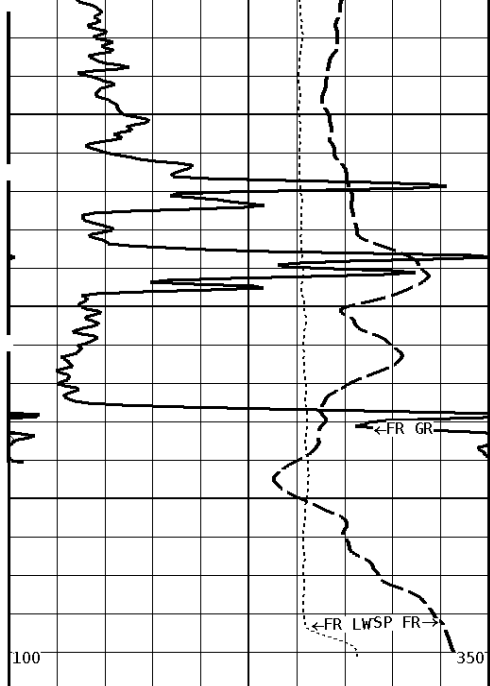
4700

4800

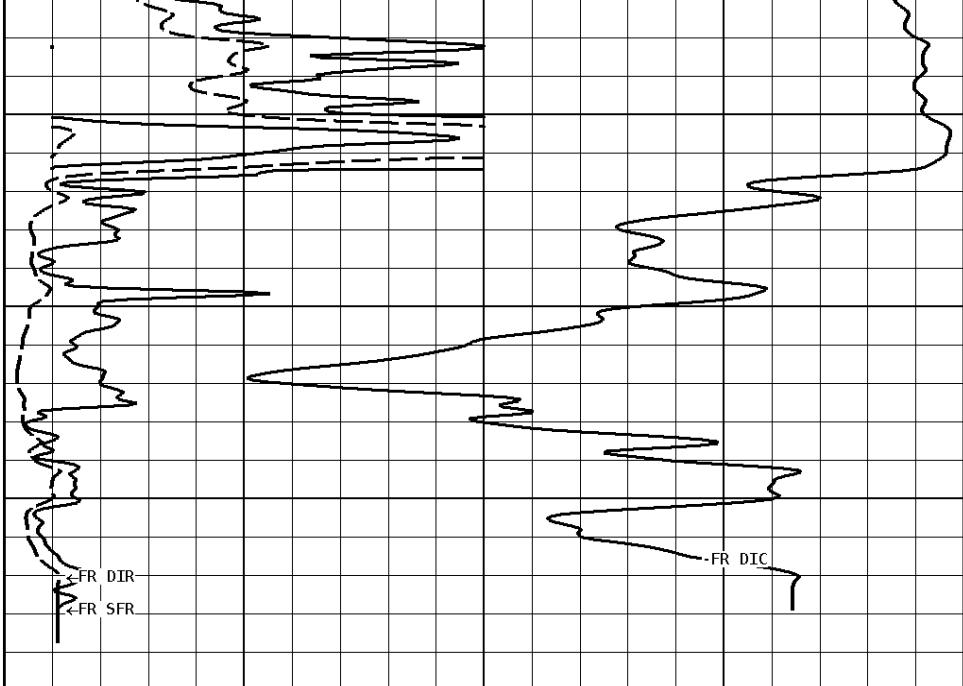
4900

5000

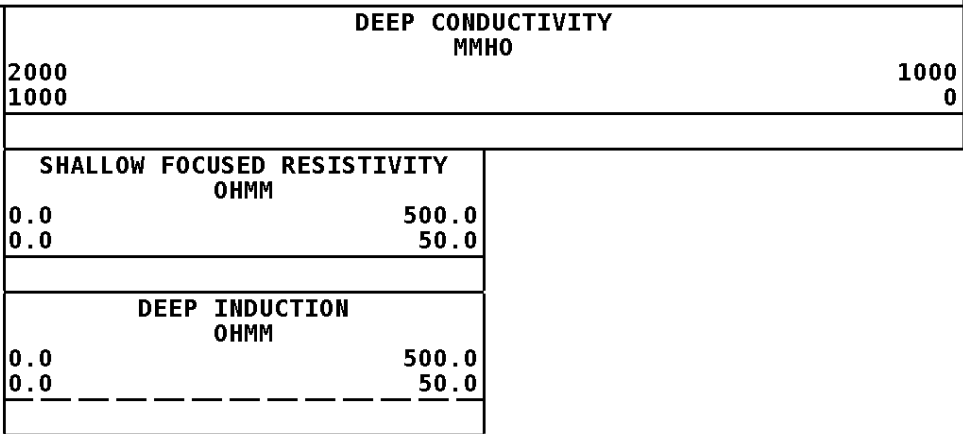
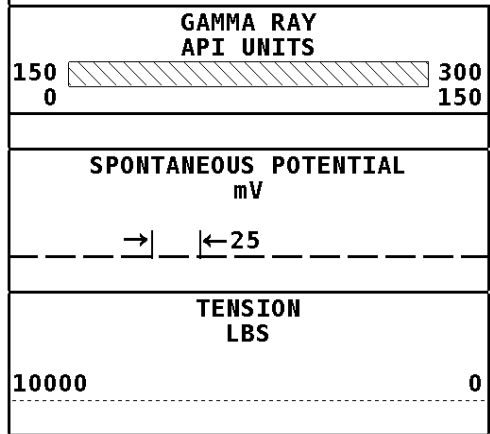




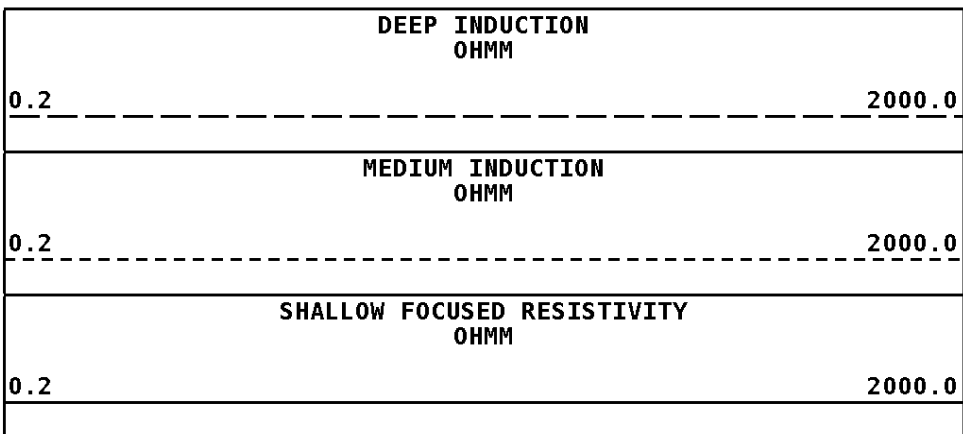
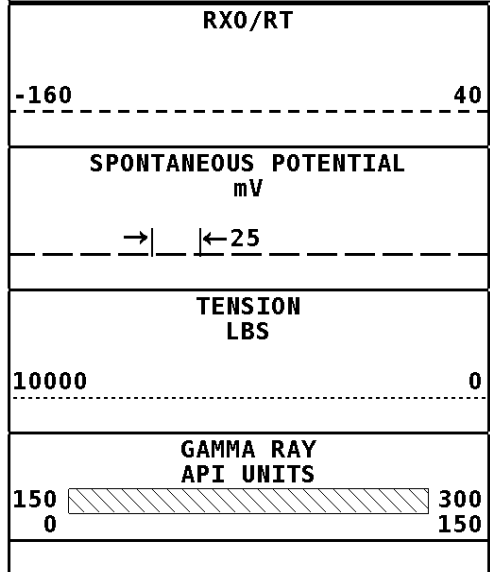
5100
5200
5234



1:600 MAIN SECTION



Well File: CHIEFTAIN DOUGLAS KENT 5-18 SEP29 MSTK Scale: 1:240 Format: DIL-240
 Segment: V1.D1.S6 AS MAIN Acquired: 2014-09/29 12:59 3.4.0-13115
 Reference: 0 Processed: 2014-09/29 14:09 3.4.0-13115



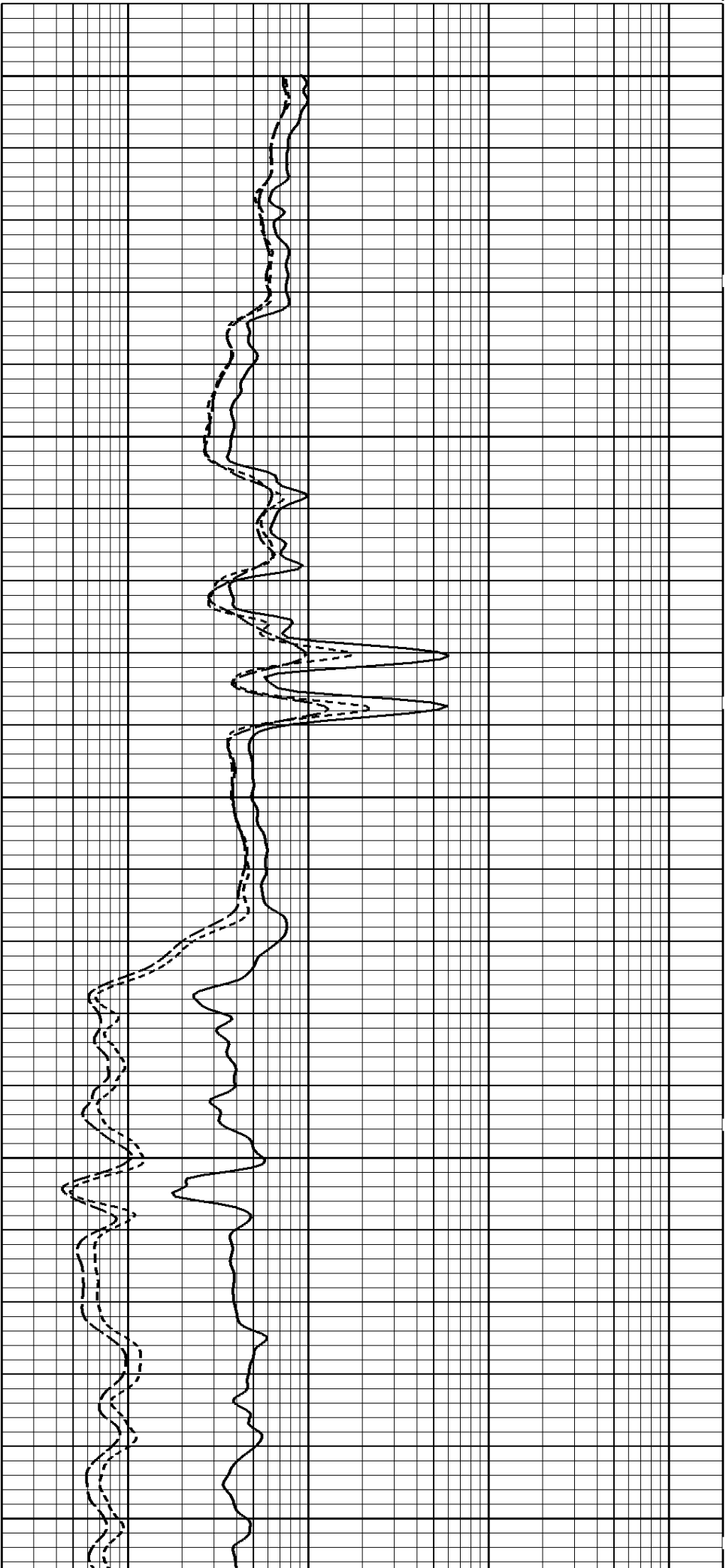
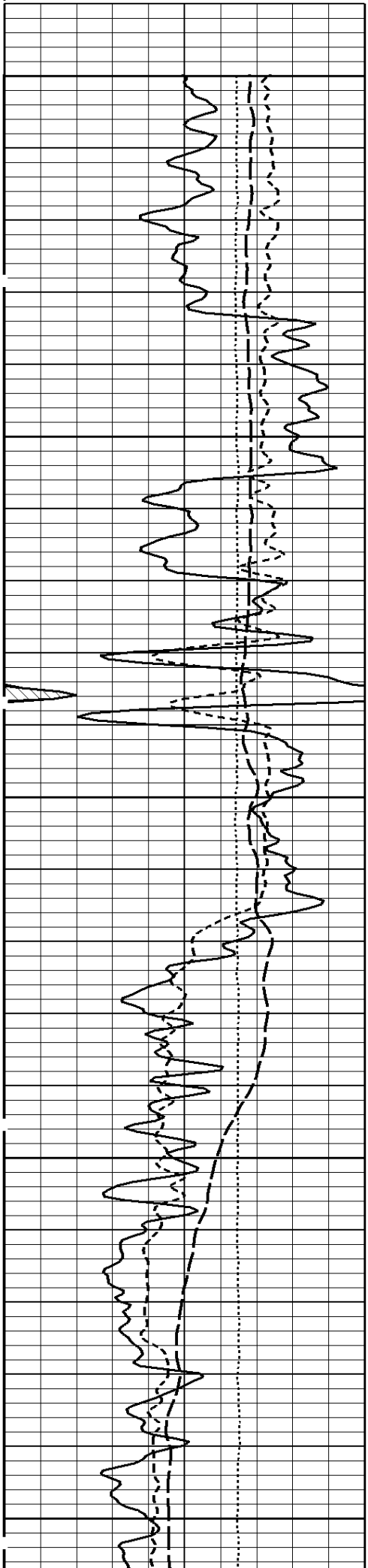
1:240 MAIN SECTION

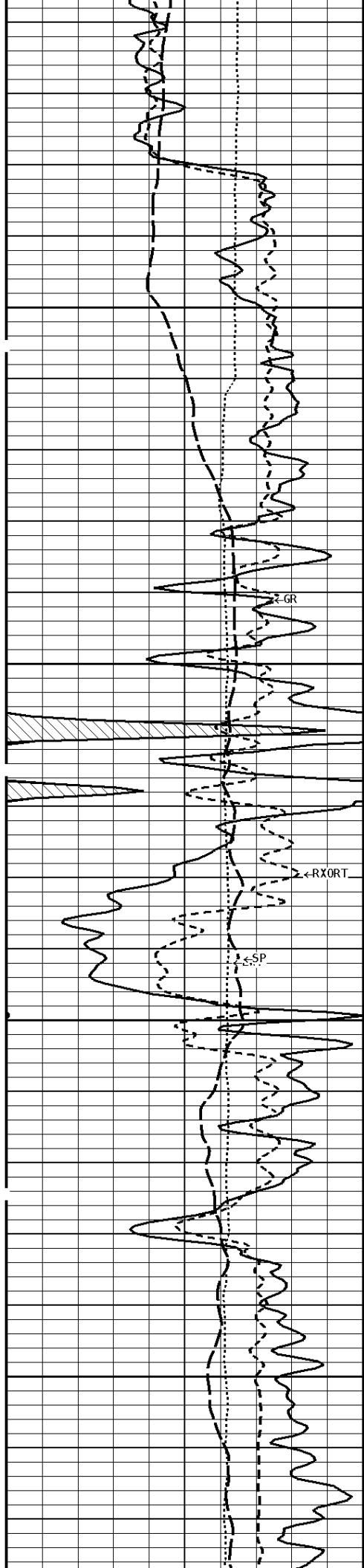
File #1.1.6

3400

3500

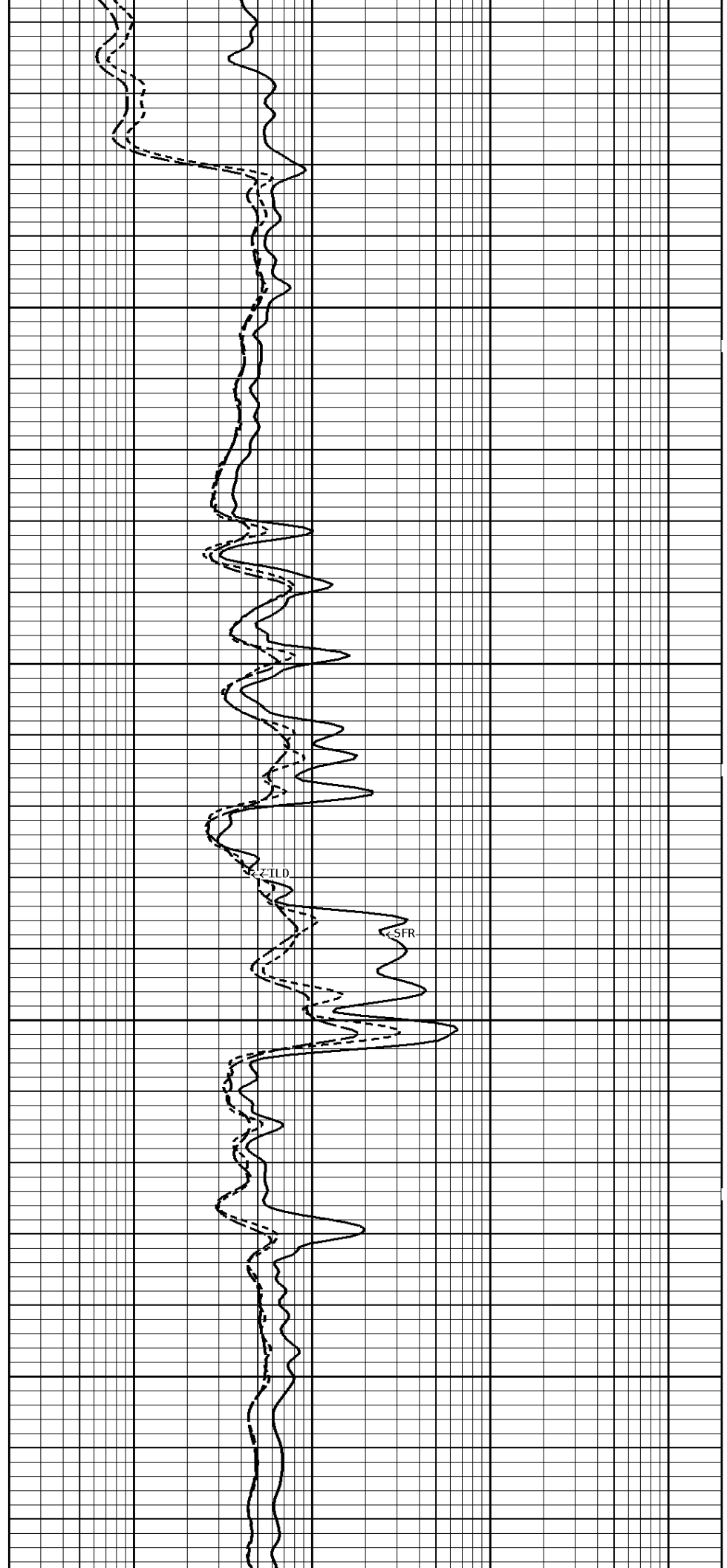
3600

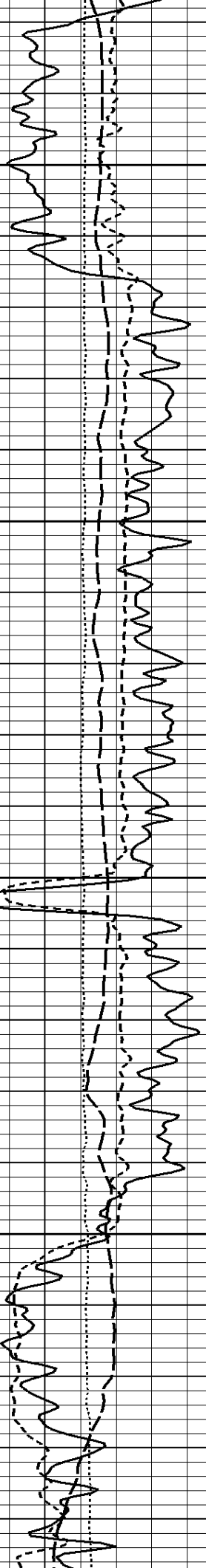




3700

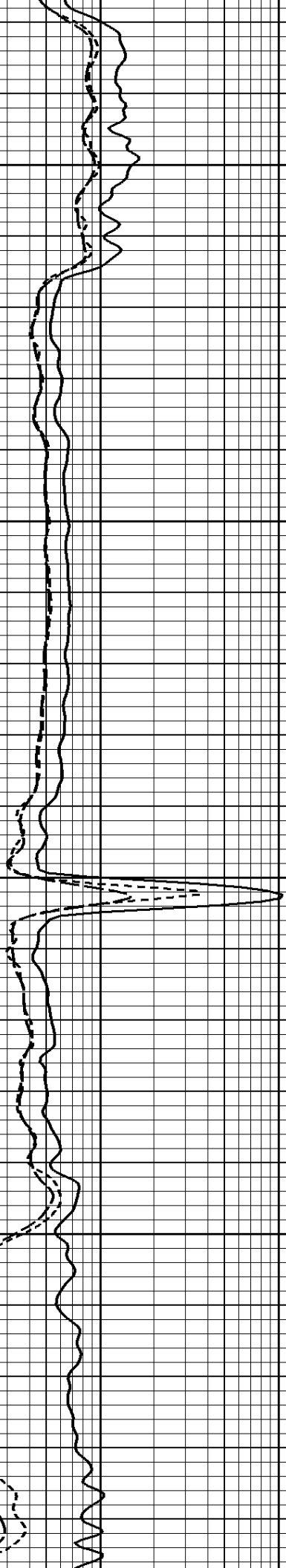
3800

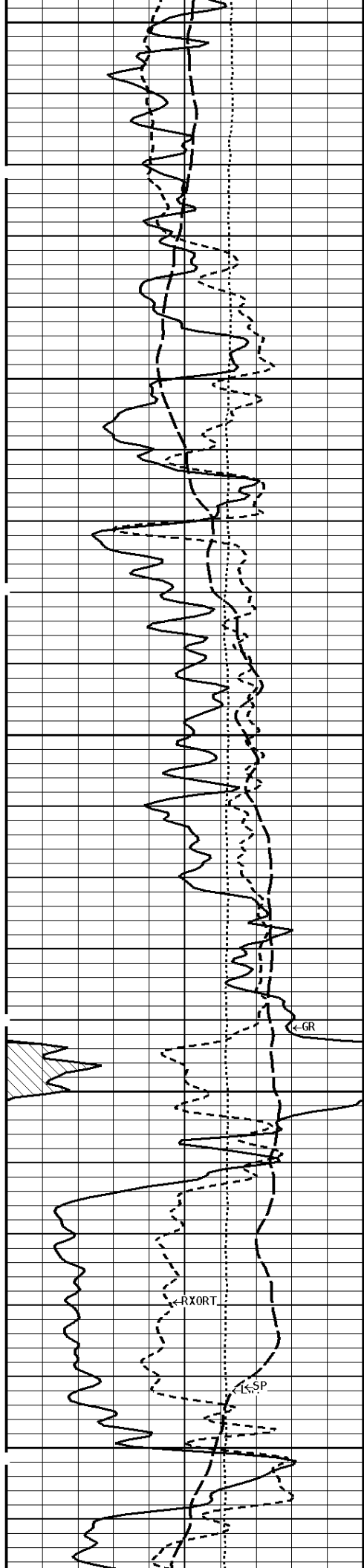




3900

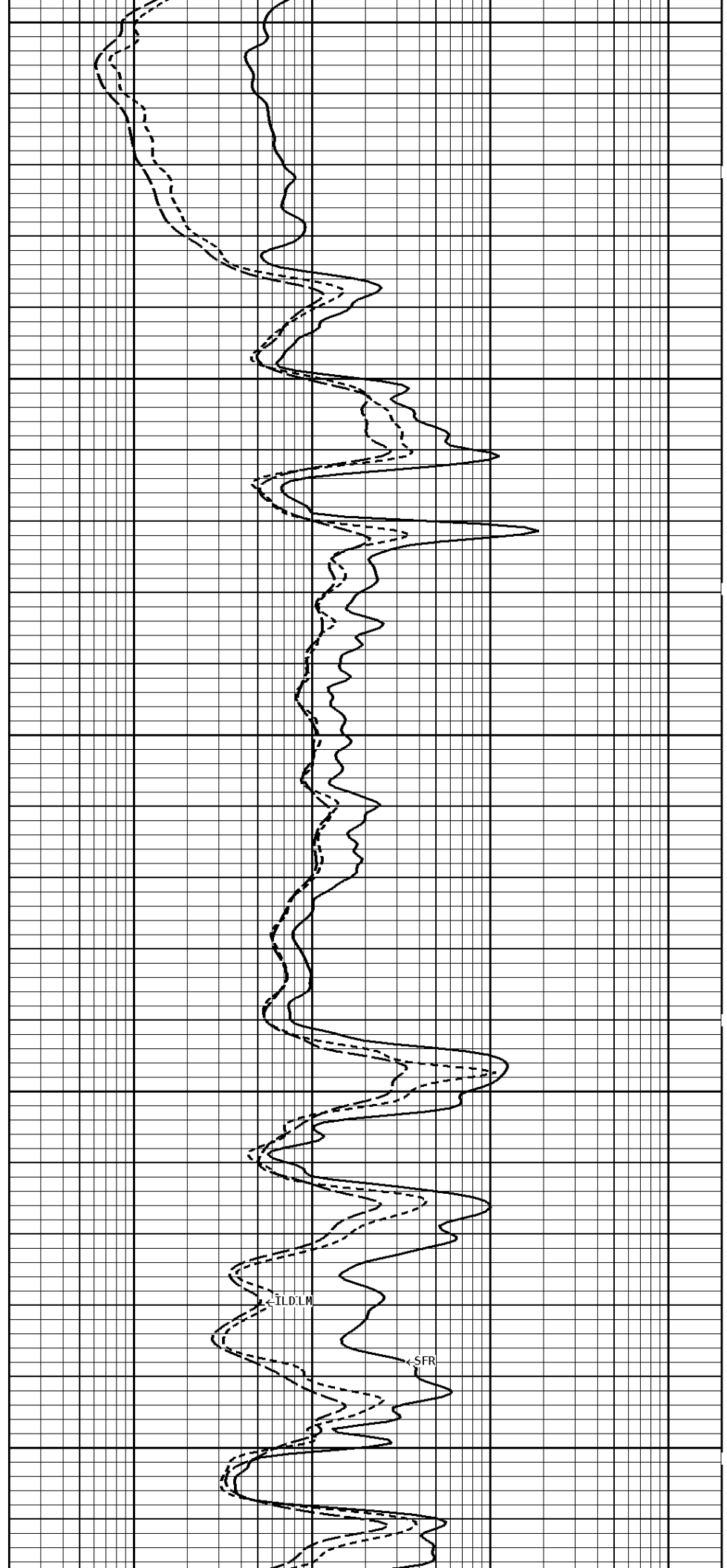
4000





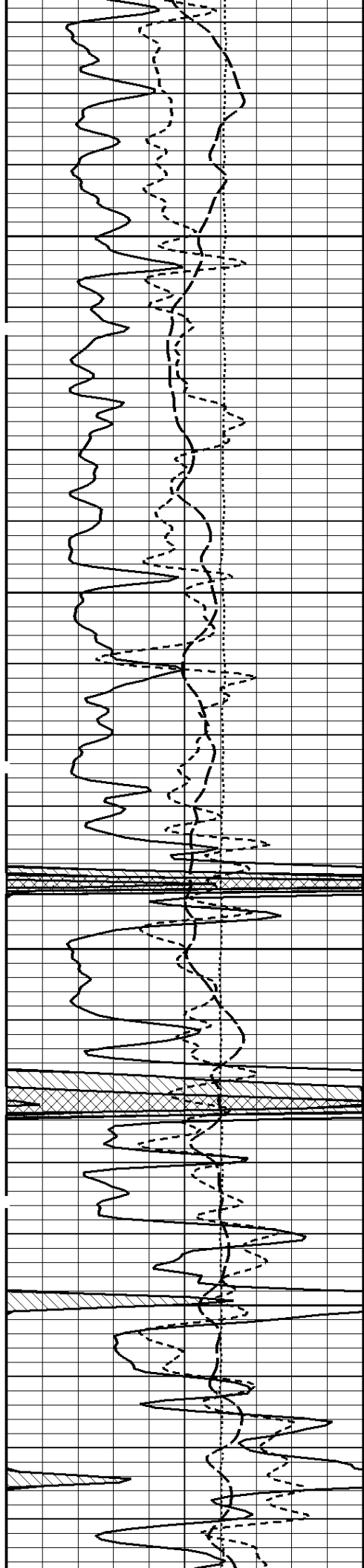
4100

4200



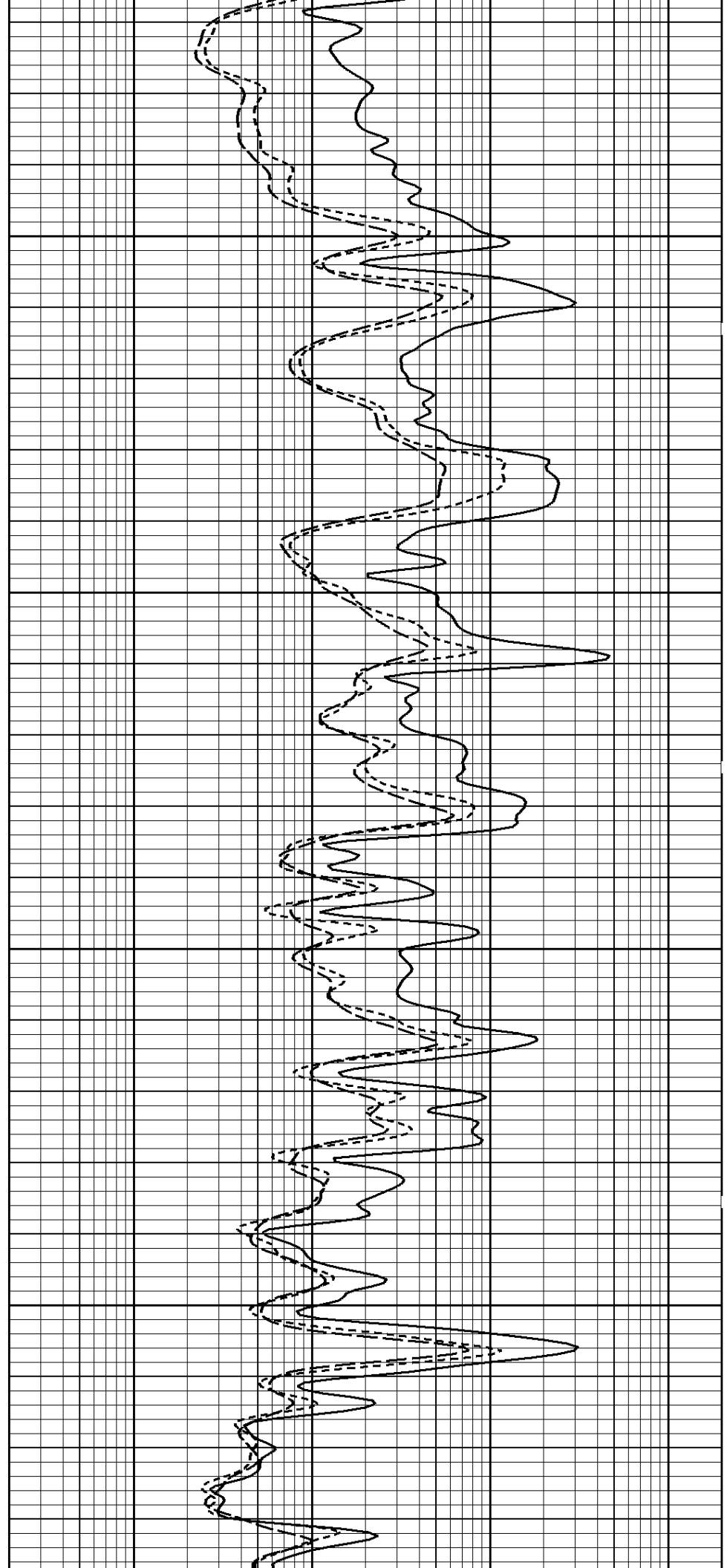
ILDLM

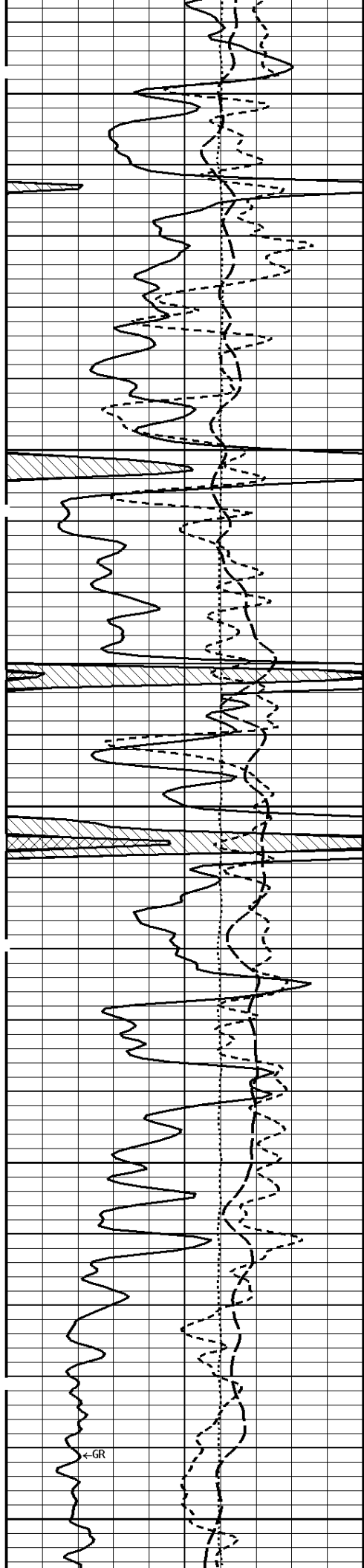
SFR



4300

4400



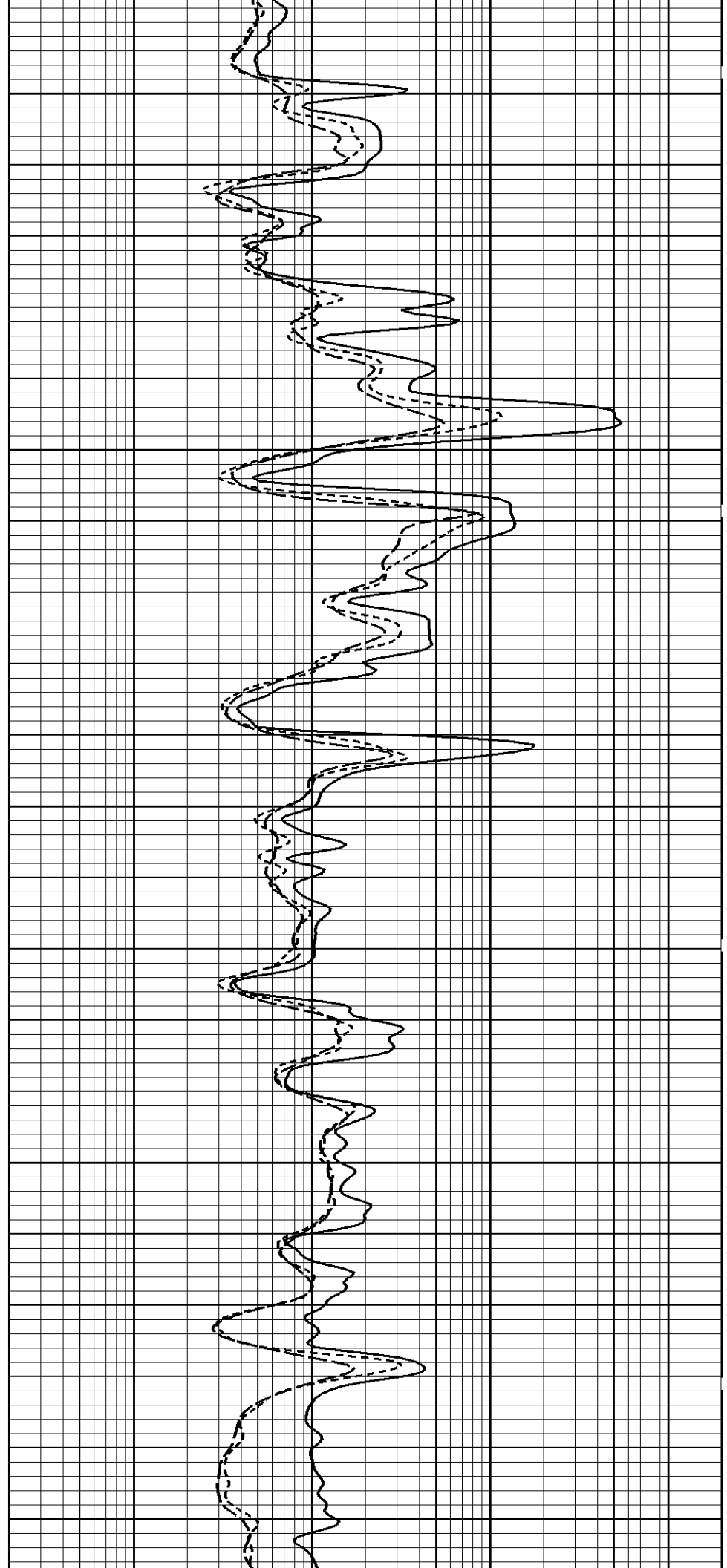


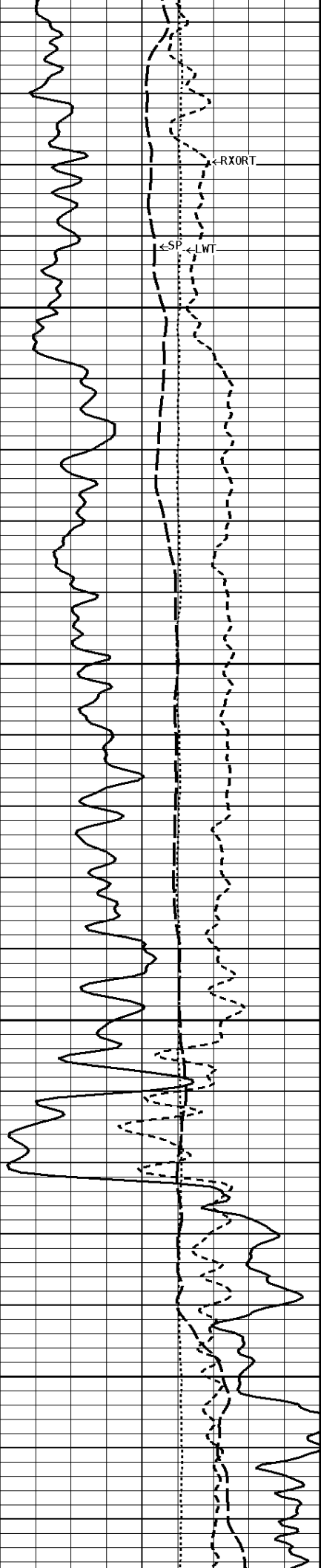
4500

4600

4700

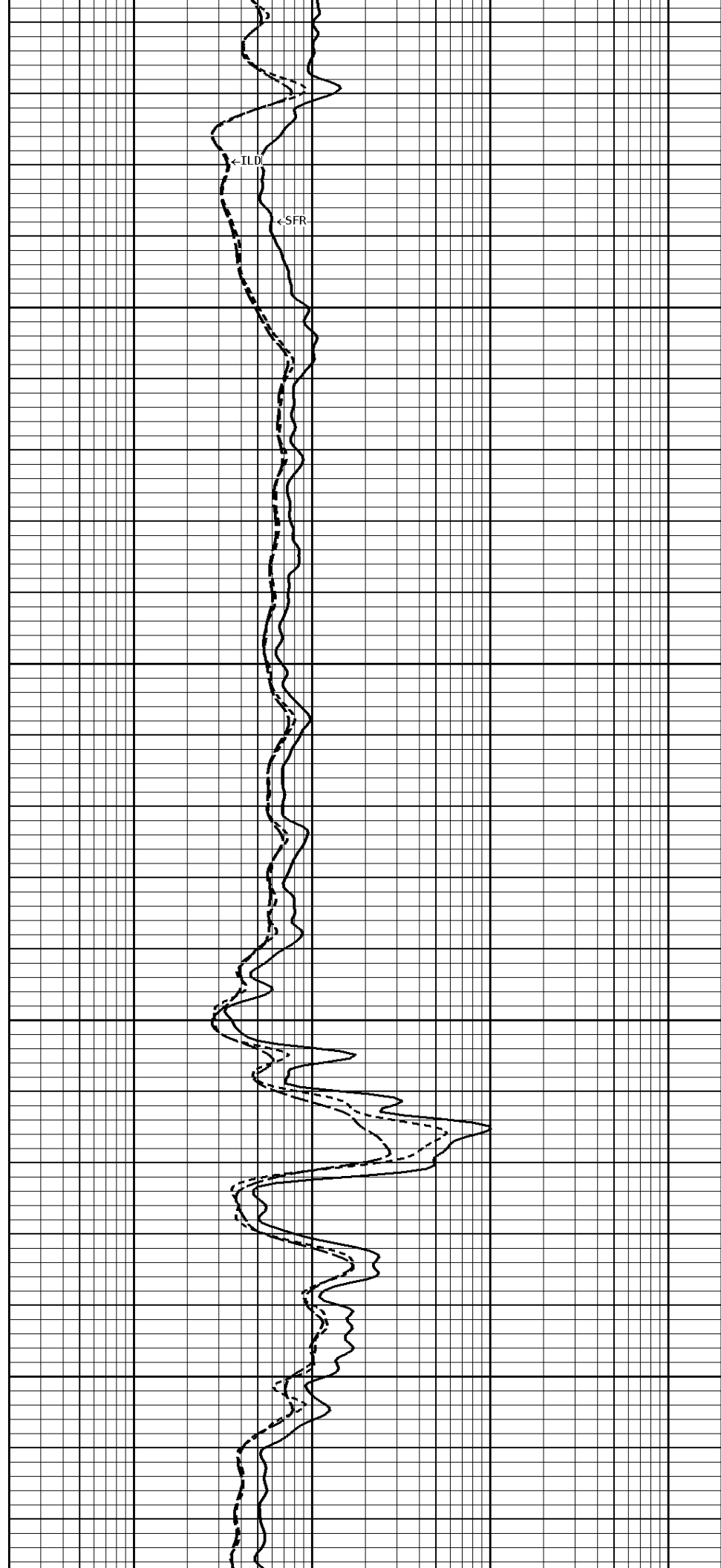
← GR

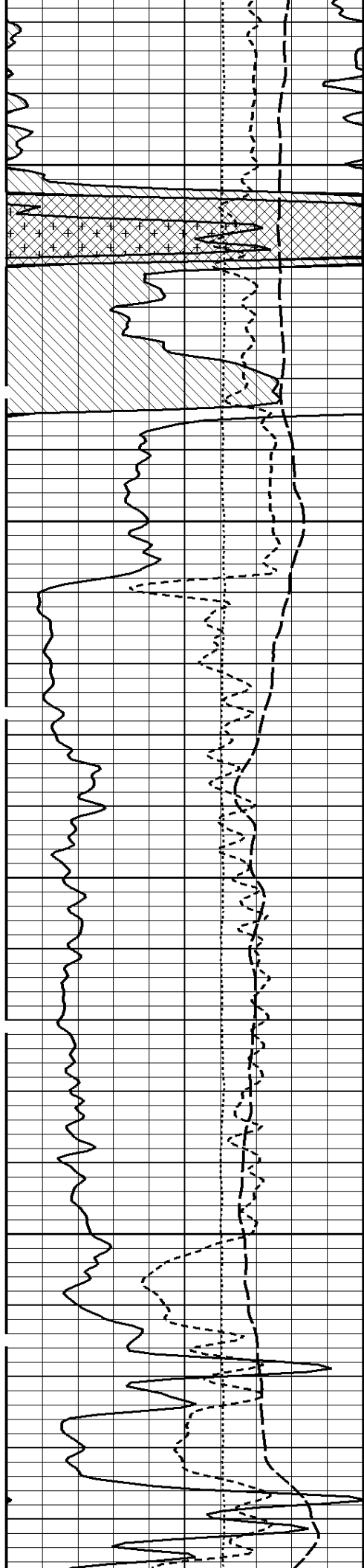




4800

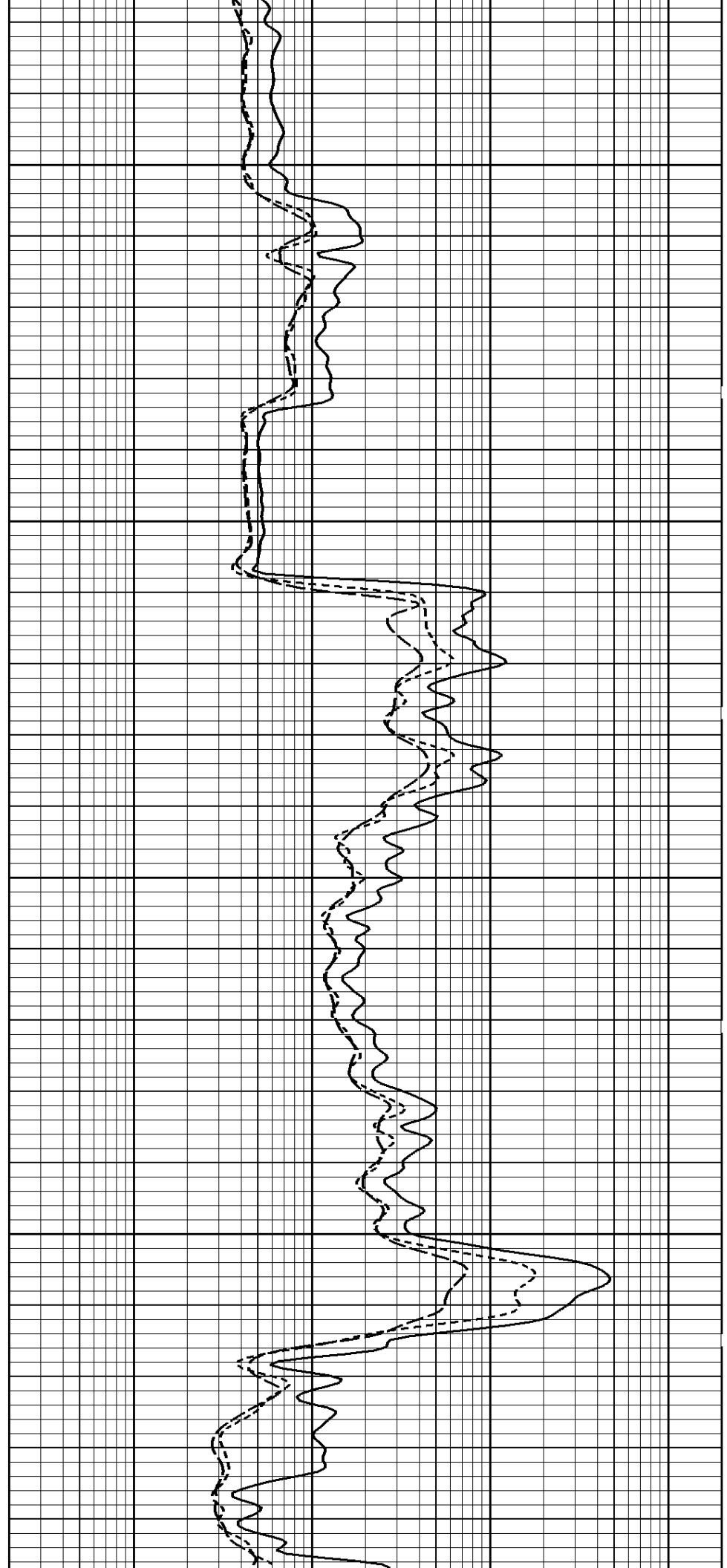
4900

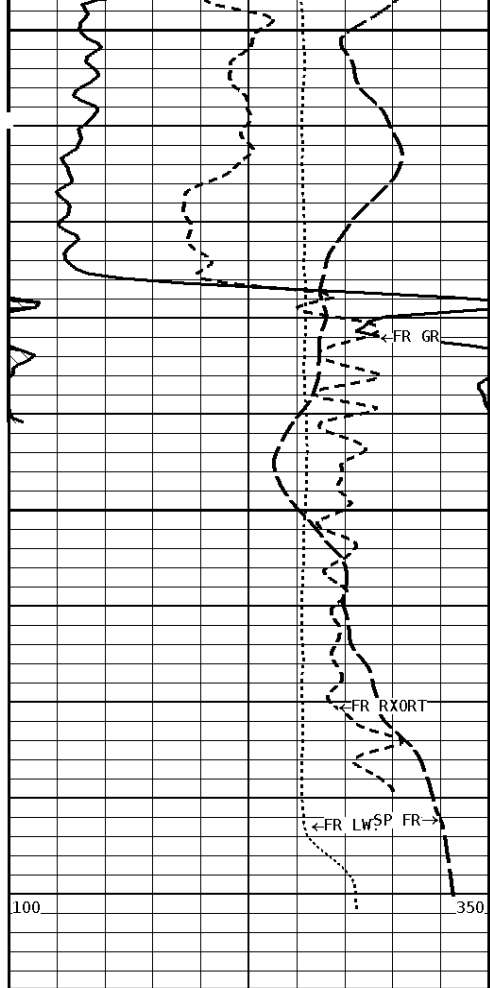




5000

5100

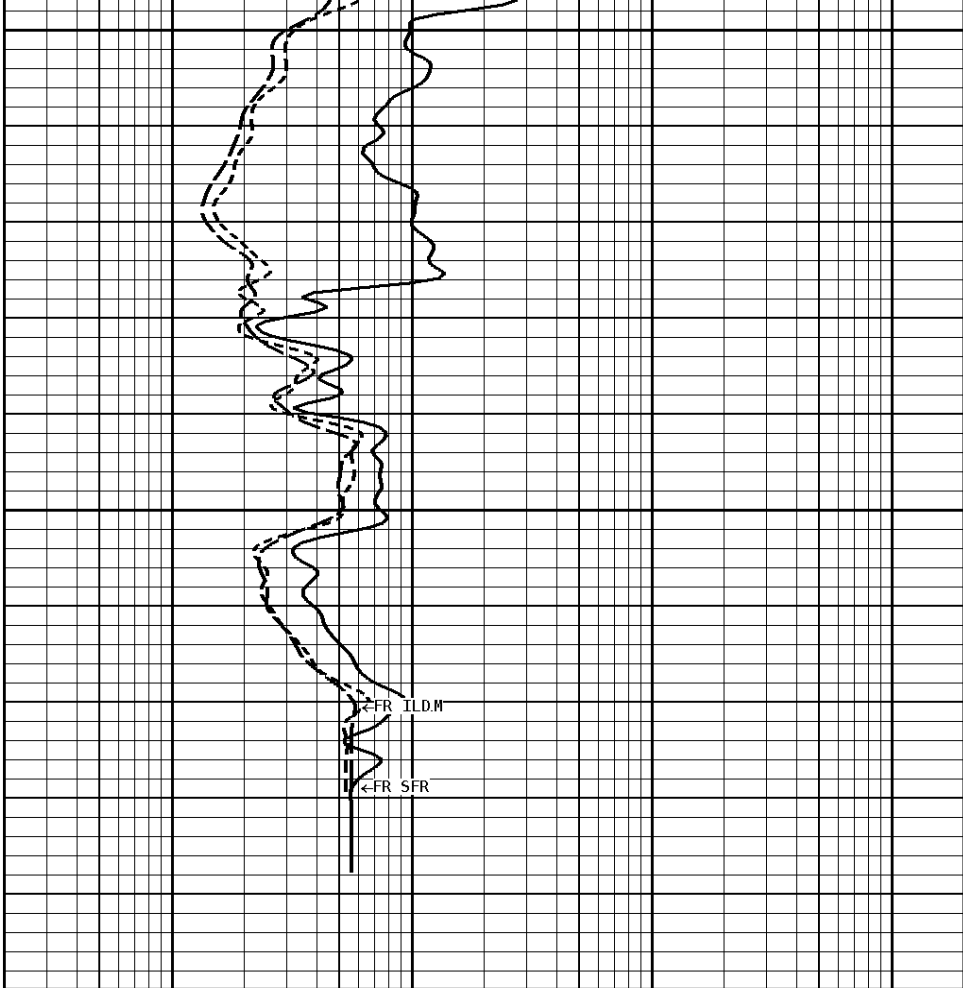




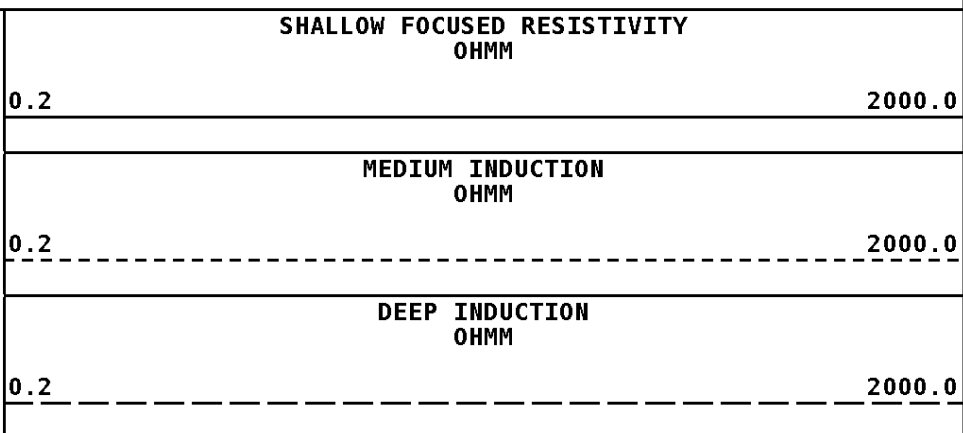
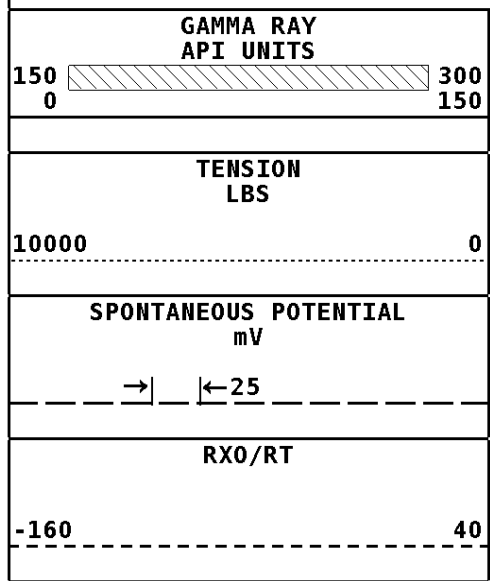
5200

5234

File # 1.1.6

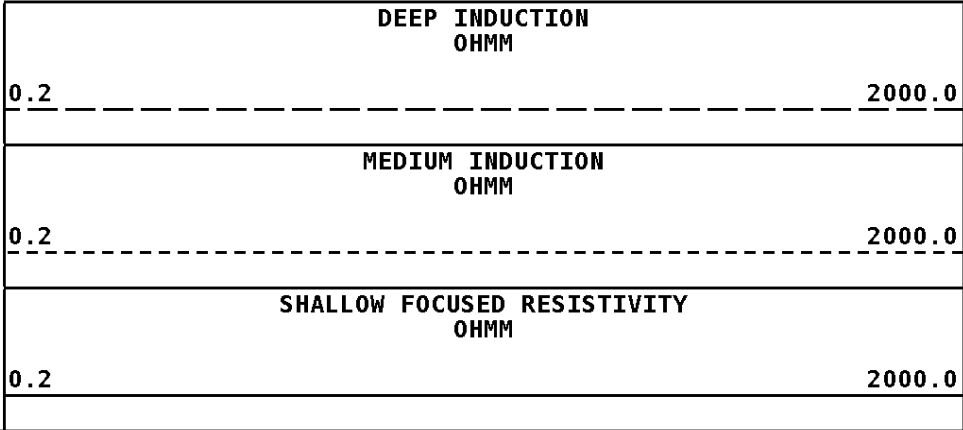
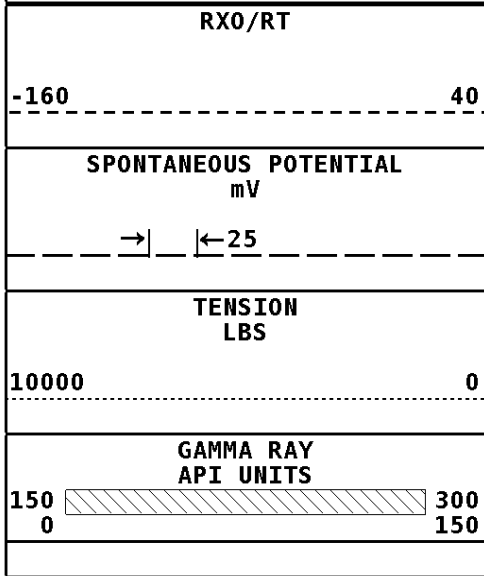


1:240 MAIN SECTION

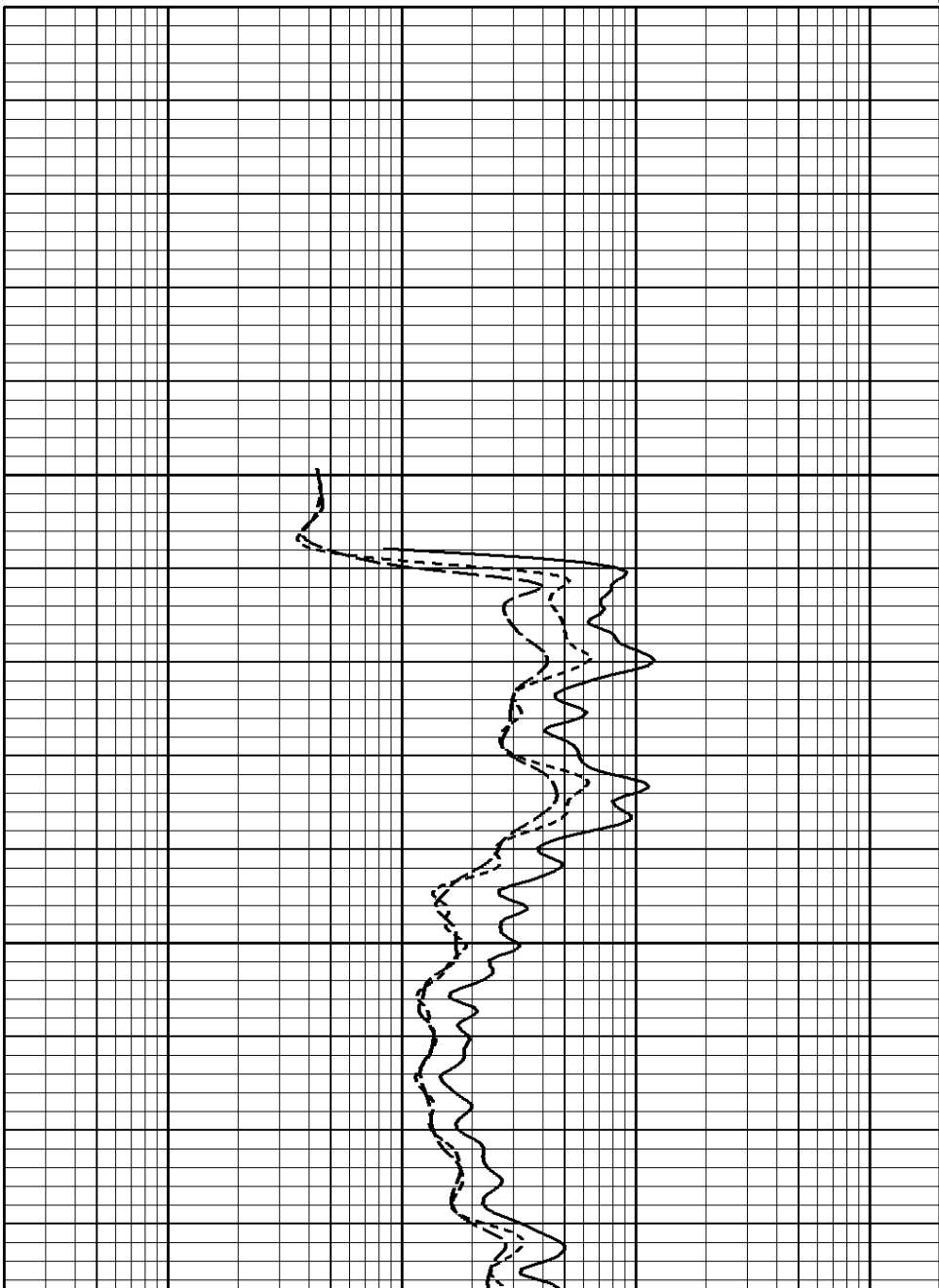
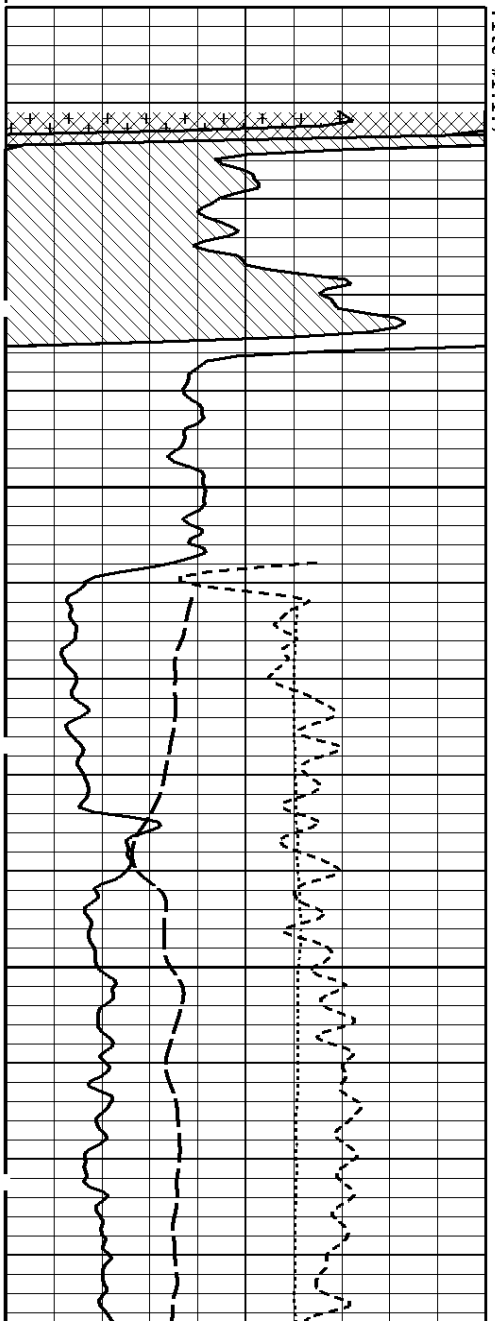


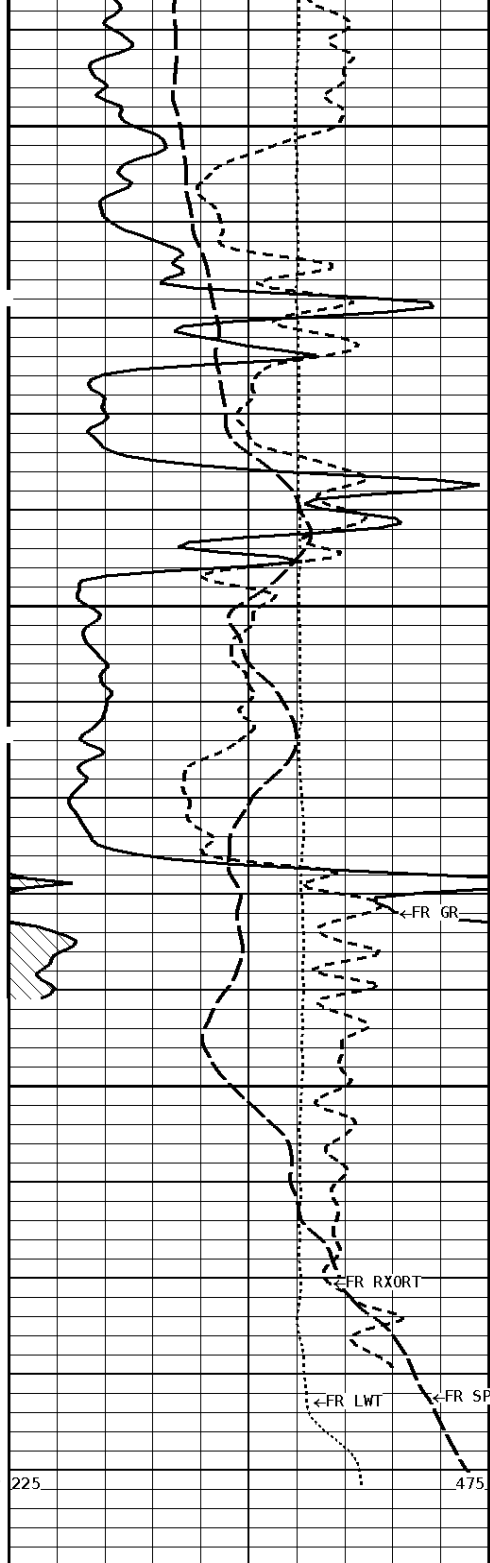
*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet		
Drill Bit Size	_____	7.875 in
Casing Diameter	_____	5.500 in
BHT Depth	_____	5229.000 ft
Borehole Temperature	_____	130.0 degF
Temperature Gradient	_____	1.00 DFHF
Resistivity Of Mud	_____	2.000 ohm/m
Resistivity Of Mud Temperature	_____	75.00 degF



1:240 REPEAT SECTION



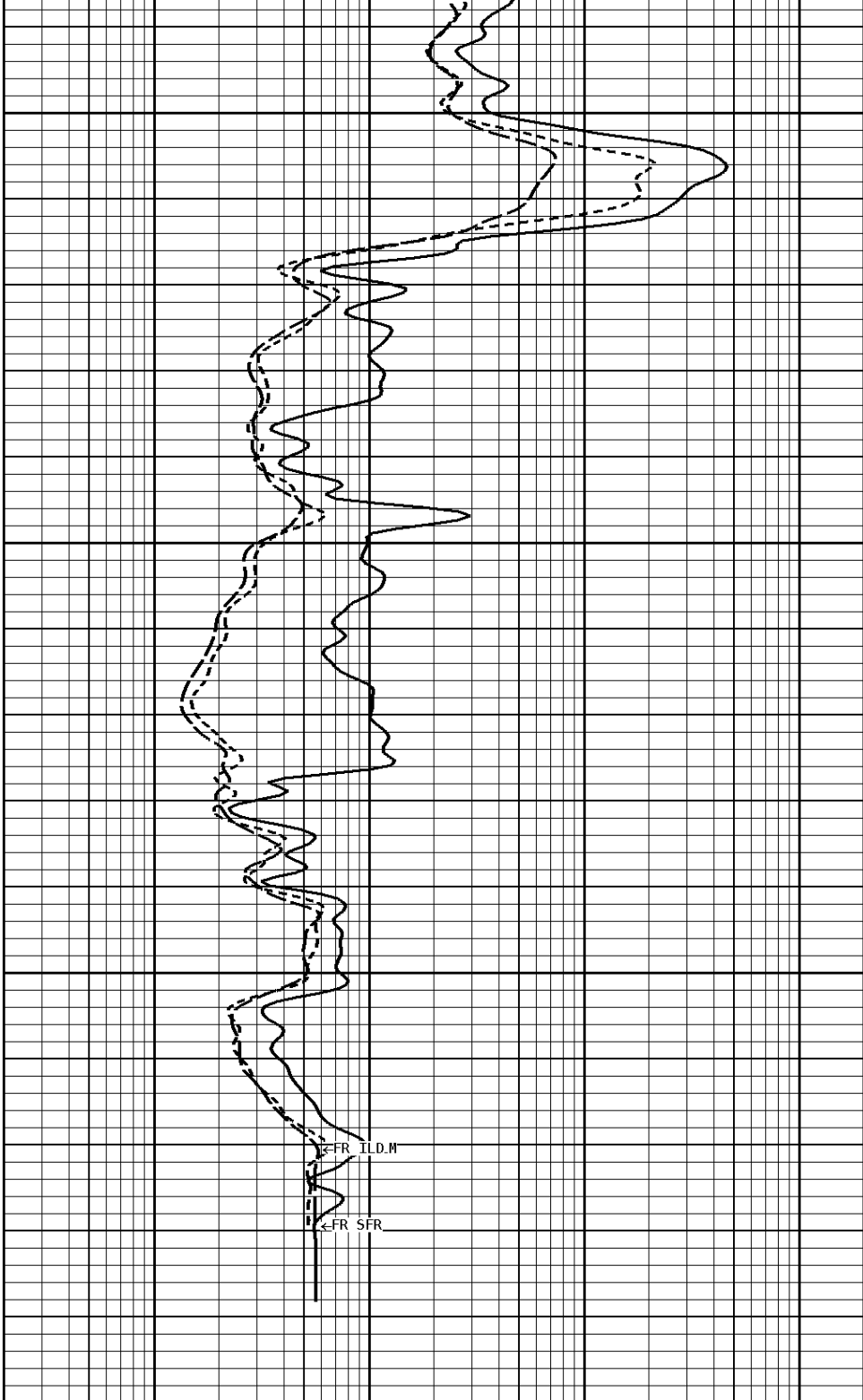


5100

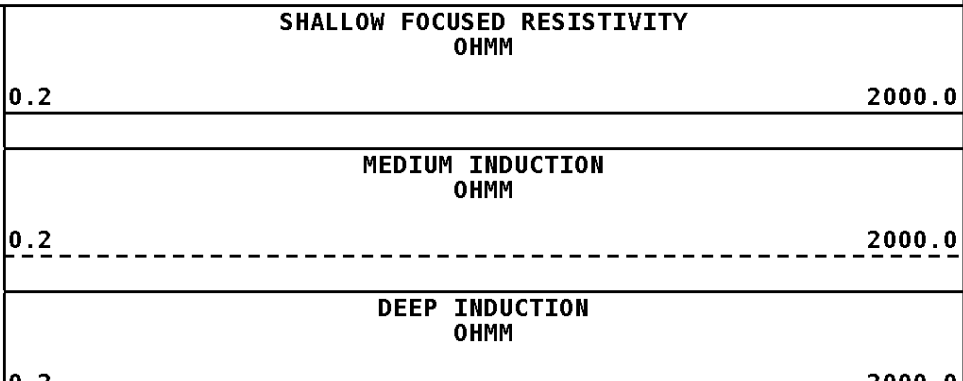
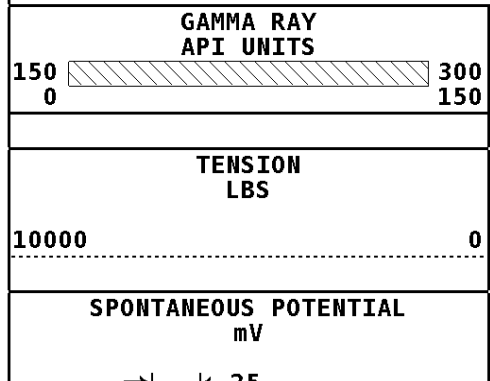
5200

5235

File #1.1.7



1:240 REPEAT SECTION



*** Borehole Zone Factors ***

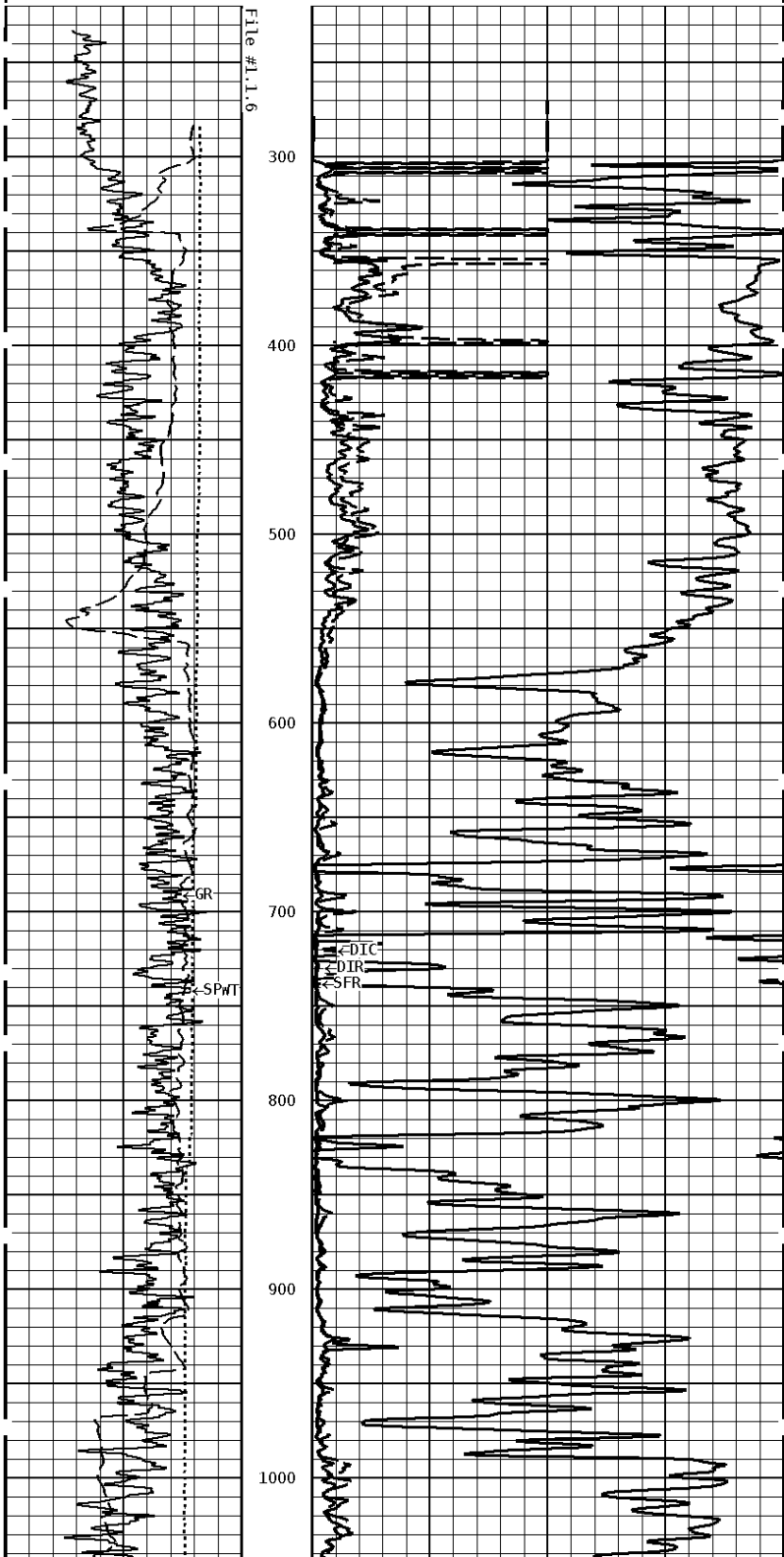
Zone 1 99999.0 to 0.0 Feet		
Drill Bit Size	_____	7.875 in
Casing Diameter	_____	5.500 in
BHT Depth	_____	5229.000 ft
Borehole Temperature	_____	130.0 degF
Temperature Gradient	_____	1.00 DFHF
Resistivity Of Mud	_____	2.000 ohm/m
Resistivity Of Mud Temperature	_____	75.00 degF

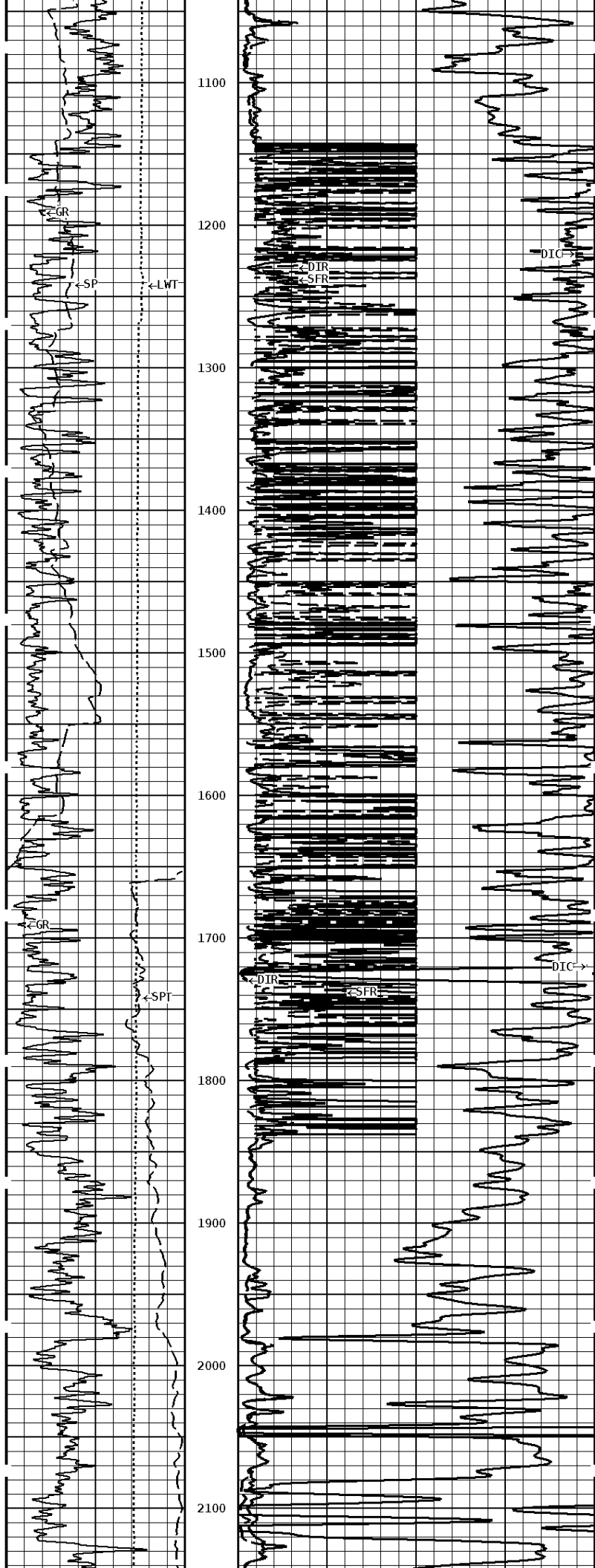
*** Calibration Summary ***

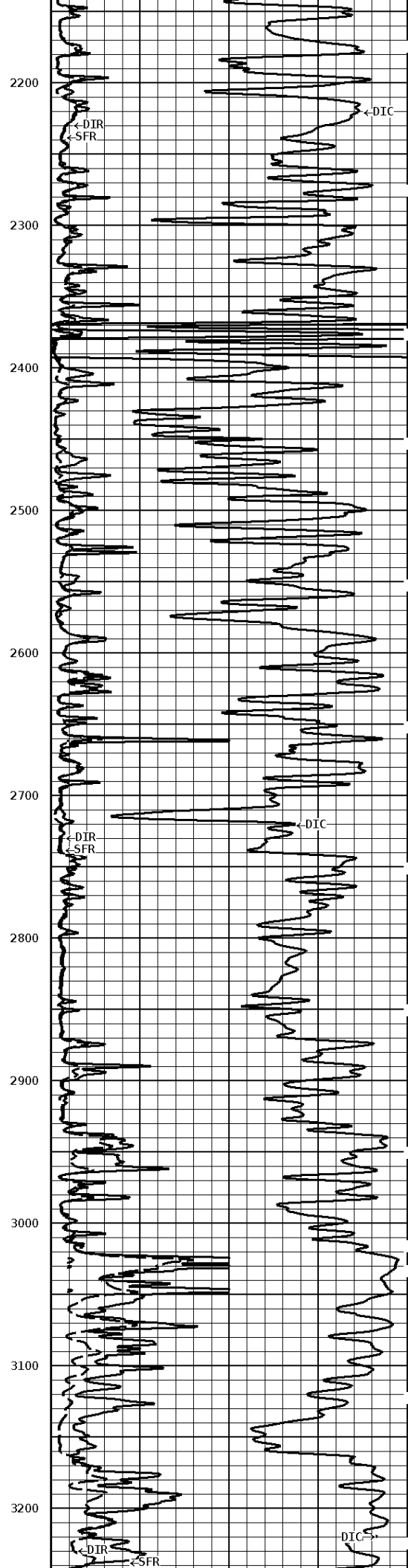
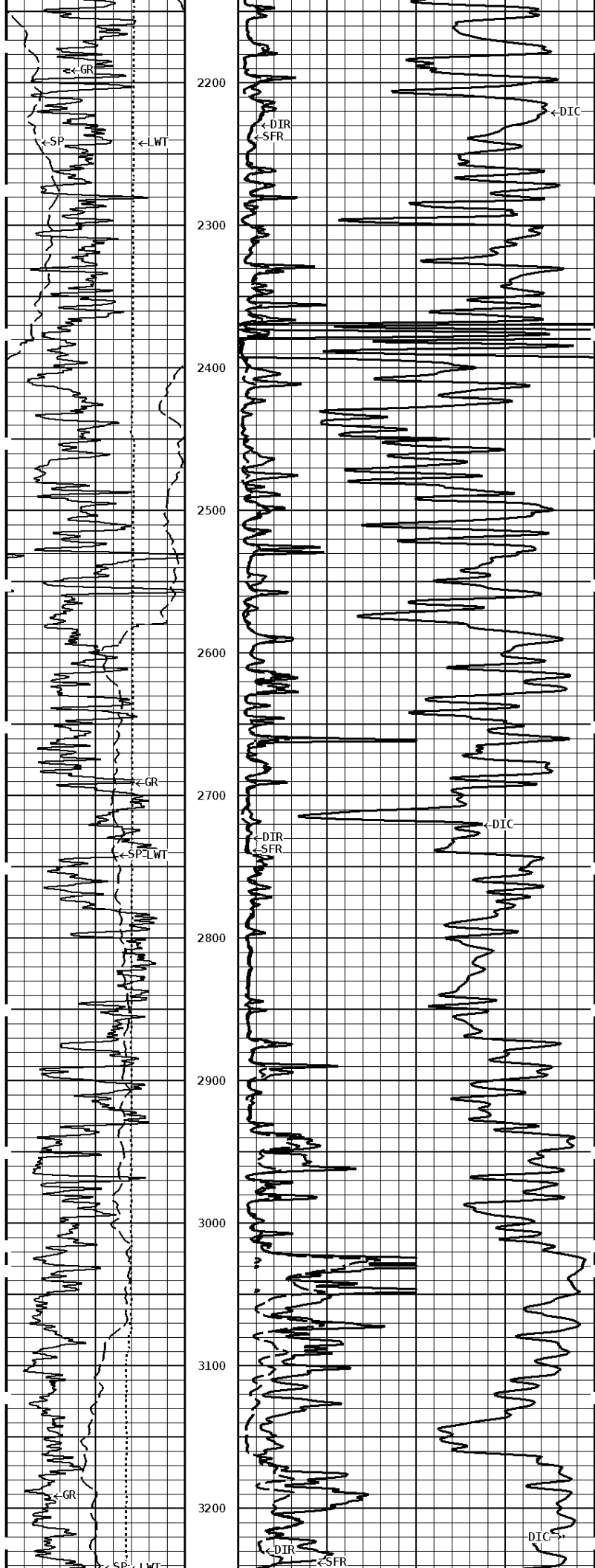
Shop Calibration						
GRT-B						
Performed : 27-JUN-2014			Time : 09:30			
Sensor Suite : GR-GR5			ID : GRT-BB-006			
	Measured	Units	Calibrated	Units		
GR	Background Jig	CPS	Jig	GRAPI		
	62 374		175			
Shop Calibration						
PIT-CA						
Performed : 15-APR-2014			Time : 14:04			
Sensor Suite : P-IND-T			ID : PIT-CA-062			
Medium						
	Measured		Calibrated	Units		
	R X		R X			
Air	130583 130713		-0.1 -0.1	MMHOS		
Zero	131074 131072		27.3 6.4	MMHOS		
Reference	253427 250043		5027.3 5006.4	MMHOS		
Loop	130592 221688		3823.7 3823.0	MMHOS		
Sonde Error			-1.3 -15.8	MMHOS		
Cond			5027.3 5006.4	MMHOS		
Deep						
	Measured		Calibrated	Units		
	R X		R X			
Air	129032 131483		-0.0 0.1	MMHOS		
Zero	131074 131059		39.8 -17.0	MMHOS		
Reference	233823 231658		2039.8 1983.0	MMHOS		
Loop	129039 222242		1804.5 1804.3	MMHOS		
Sonde Error			-8.5 -8.7	MMHOS		
Cond			2039.8 1983.0	MMHOS		
Temperature						
	Measured		Calibrated	Units		
	Low High		Low High			
	16980.0 56920.0		70.0 350.0	DEGF		
Performed : 15-Apr-2014			Time : 13:51			
Sensor Suite : SFL			ID : PIT-CA-062			
Internal						
	Measured		Calibrated	Units		
	Zero Reference		Zero Reference			
Im	32763.3 48949.7		0.0 7028.0	uA		
Ib	32767.3 48756.3		0.0 1750.0	mA		
MOM1	32726.5 57507.3		0.0 175.0	mV		
Equivalent SFL			43.97	OHMM		
Performed : 15-Apr-2014			Time : 13:49			
Sensor Suite : P-SP			ID : PIT-CA-062			
Internal						
	Measured		Calibrated	Units		
	Zero Reference		Zero Reference			
	32765.9 58980.4		0.0 1000.0	mV		

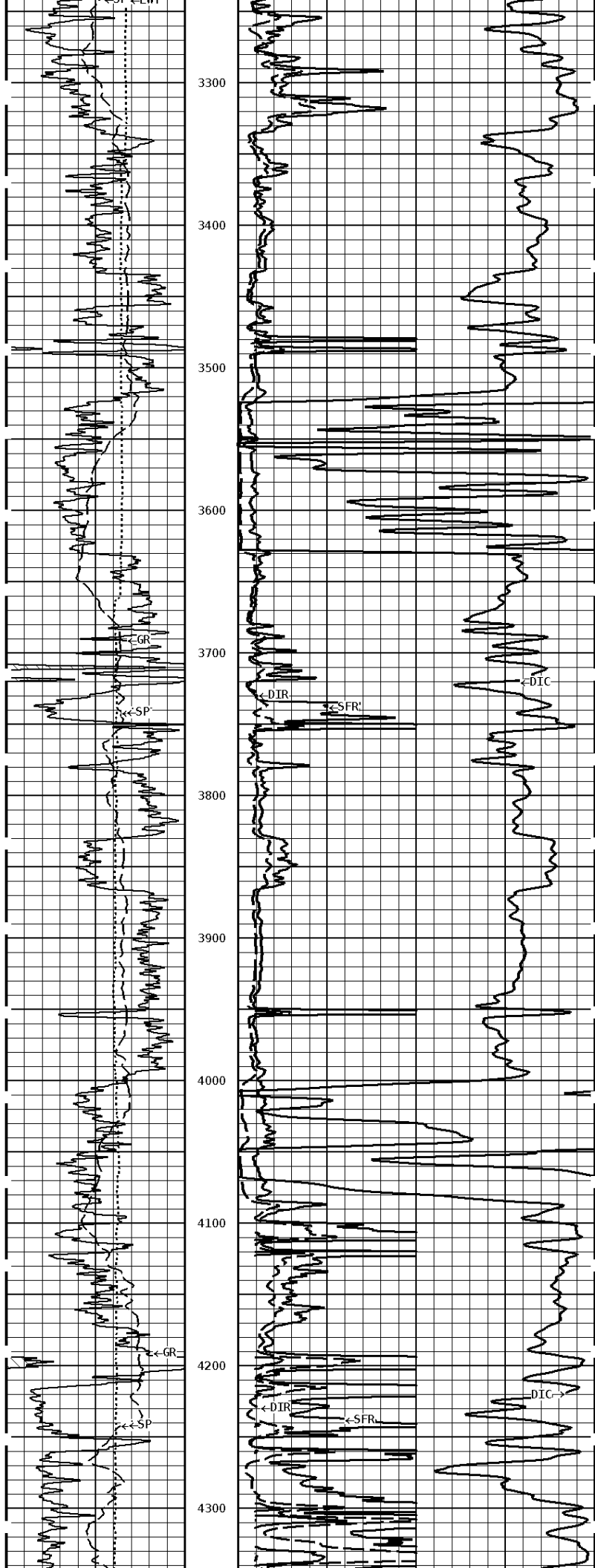
TENSION LBS	DEEP INDUCTION OHMM
10000 ----- 0	0.0 500.0 0.0 ----- 50.0
SPONTANEOUS POTENTIAL mV	SHALLOW FOCUSED OHMM
→ ← 25	0.0 500.0 0.0 ----- 50.0
GAMMA RAY API UNITS	DEEP CONDUCTIVITY MHMO
150 300 0 150	2000 1000 1000 0

1:1200 MAIN SECTION









LBS
10000 0

OHMM
0.0 500.0
0.0 50.0



Company: CHIEFTAIN OIL CO., INC.
Well: DOUGLAS-KENT #5-18
Location: 340' FSL & 340' FEL
Logged: 09-29-2014
K.B. Elev: 1404.0 Ft