



Tucker

ENERGY SERVICES

PHASED INDUCTION

SHALLOW FOCUS SP LOG

Company ROADRUNNER ENERGY Well FULSOM #2-7 Field N/A County COWLEY State KANSAS Country USA API No. 15-035-24401		File No : TUL-56966 Company : ROADRUNNER ENERGY Well : FULSOM #2-7 Field : N/A County : COWLEY State : KANSAS Country : USA API No : 15-035-24401	
Location : 770' FNL & 2010' FWL NW SE NE NW		LSD : Sect : 7 Twp : 35S Rge : 8E	
Permanent Datum:	GL	Elevations:	Services:
Drilling Measured From:	KB	KB 1082.00	CNT
Log Measured From:	KB	DF 1081.00	LDT
Above Permanent Datum:	7.00 Ft	GL 1075.00	MLT
Date	2012-06-02		
Run Number	1		
Depth--Driller	2709.0 Ft		
Depth--Logger	2708.0 Ft		
First Reading	2684.0 Ft		
Last Reading	472.0 Ft		
Casing--Driller	472.0 Ft		
Casing--Logger	472.0 Ft		
Bit Size	7.875 In		
Casing Size	8.625 In		
Hole Fluid Type	WBM		
Density	9.1 LBS/GAL		
Fluid Loss	8.2 CC		
PH/Viscosity	10.0 MEASURED 42.0 SEC		
Sample Source	MEASURED		
RM@Measured Temp.	0.850 @ 50 F		
RMF@Measured Temp	0.722 @ 50 F		
RMC@Measured Temp.	0.977 @ 50 F		
Source RMF/RMC	CALCULATED/CALCULATED		
RM@BHT	0.431 @ 110 F		
Time Circulation Stopped	110 F		
Max Recorded Temp.	TRUCK 119 TULSA		
Equipment/Base	S. DAVIS		
Recorded By	D. CLAY / G. FRIEDEL		
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)
7.875	2709.00	8.625	30.00	477.00

Run Number	1	
Date	2012-06-02	
Date/Time On Bottom	2012-06-02 07:45	
Depth to Fluid	0.0 Ft	
Salinity	0.000 PPM	
RMF@BHT	0.350 @ 110 F	
RMC@BHT	0.474 @ 110 F	

Run Number 1

Comments

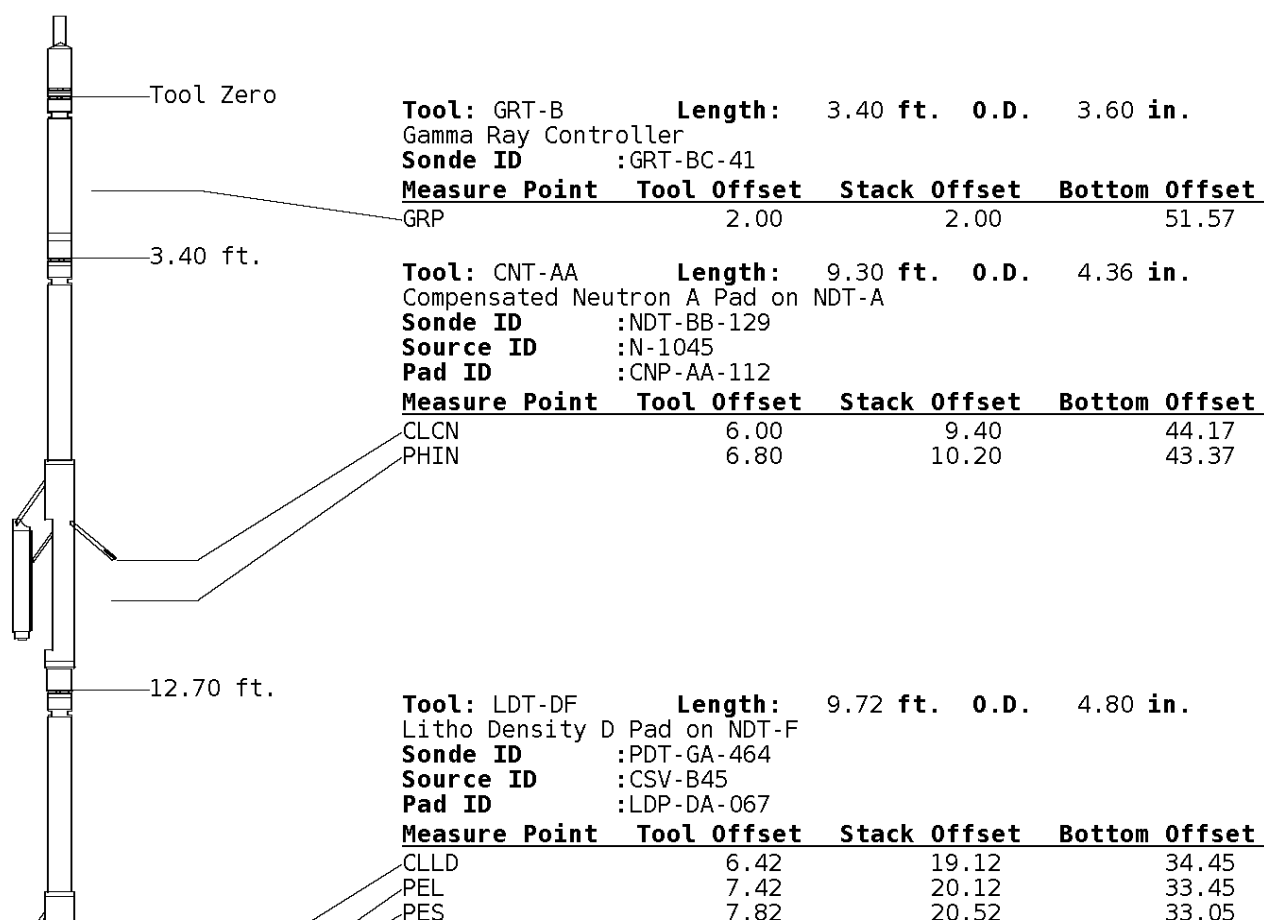
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 5.50" PRODUCTION CASING.
 PHIN IS CALIPER CORRECTED.

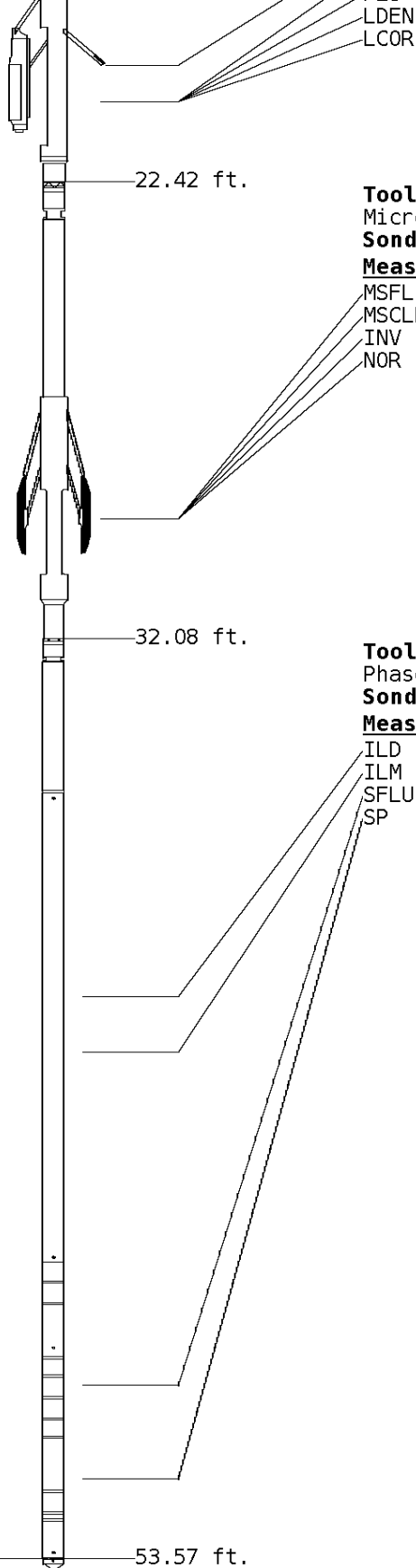
GRT: GRP.
 CNT: PHINLS, CLCNIN.
 LDT: PORLLS, LCORN, PECLN, LDENN, CLLDIN.
 MLT: NOR_RF, INV_RF, MSCLPIN.
 PIT: ILD, ILM, SPU, CIRD, SFLAEC.

OPERATORS:
 J.THOMAS
 N. BURDEN

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 :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-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: rd-rnr-ful-2-7-mstk-dip-jun-2

Scale: 1:600

Segment: V1.D1.S5 MN

Acquired: 2012-06/02 07:52 3.2.0-10932

Reference: 0

Processed: 2012-06/02 08:48 3.2.0-10932

TENSION
LBS

10000

0

SHALLOW FOCUSED RESISTIVITY
OHMM

0.0

500.0

0.0

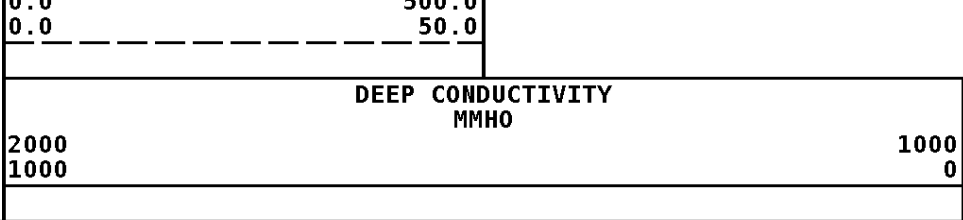
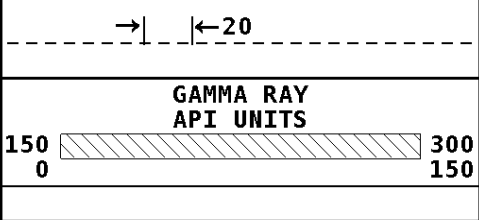
50.0

SPONTANEOUS POTENTIAL
mV

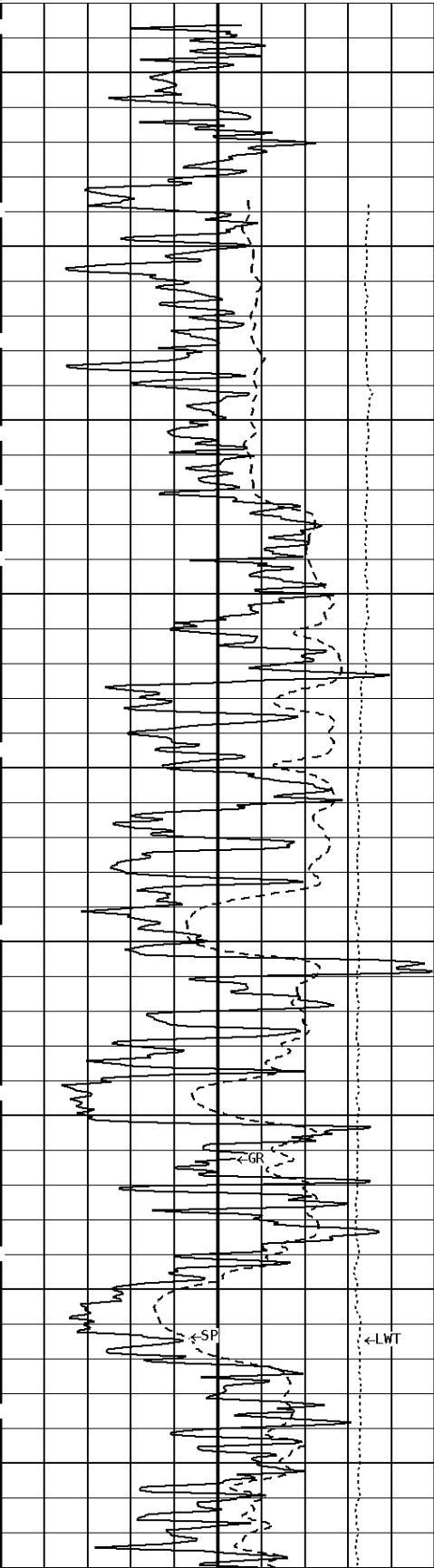
DEEP INDUCTION
OHMM

0.0

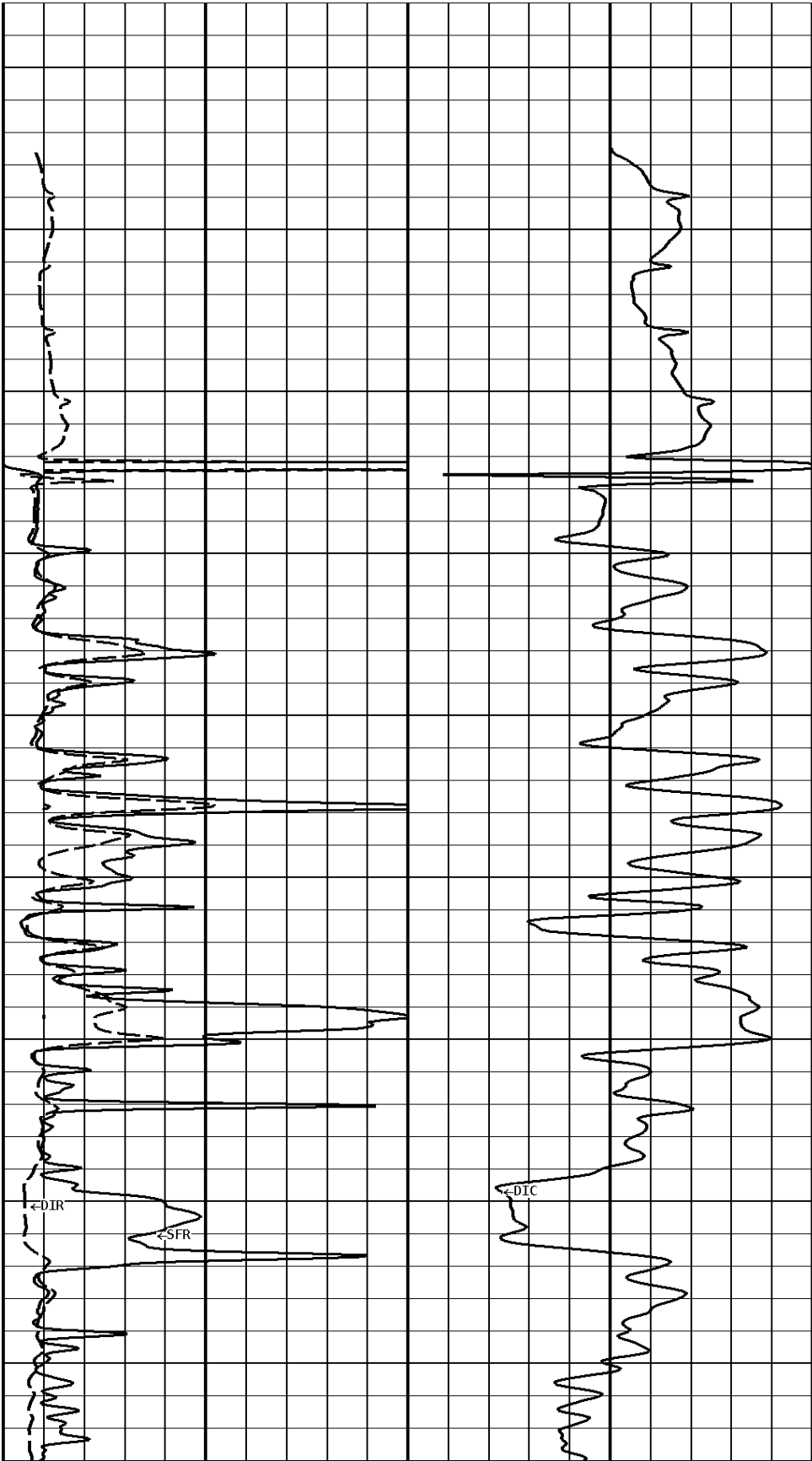
500.0

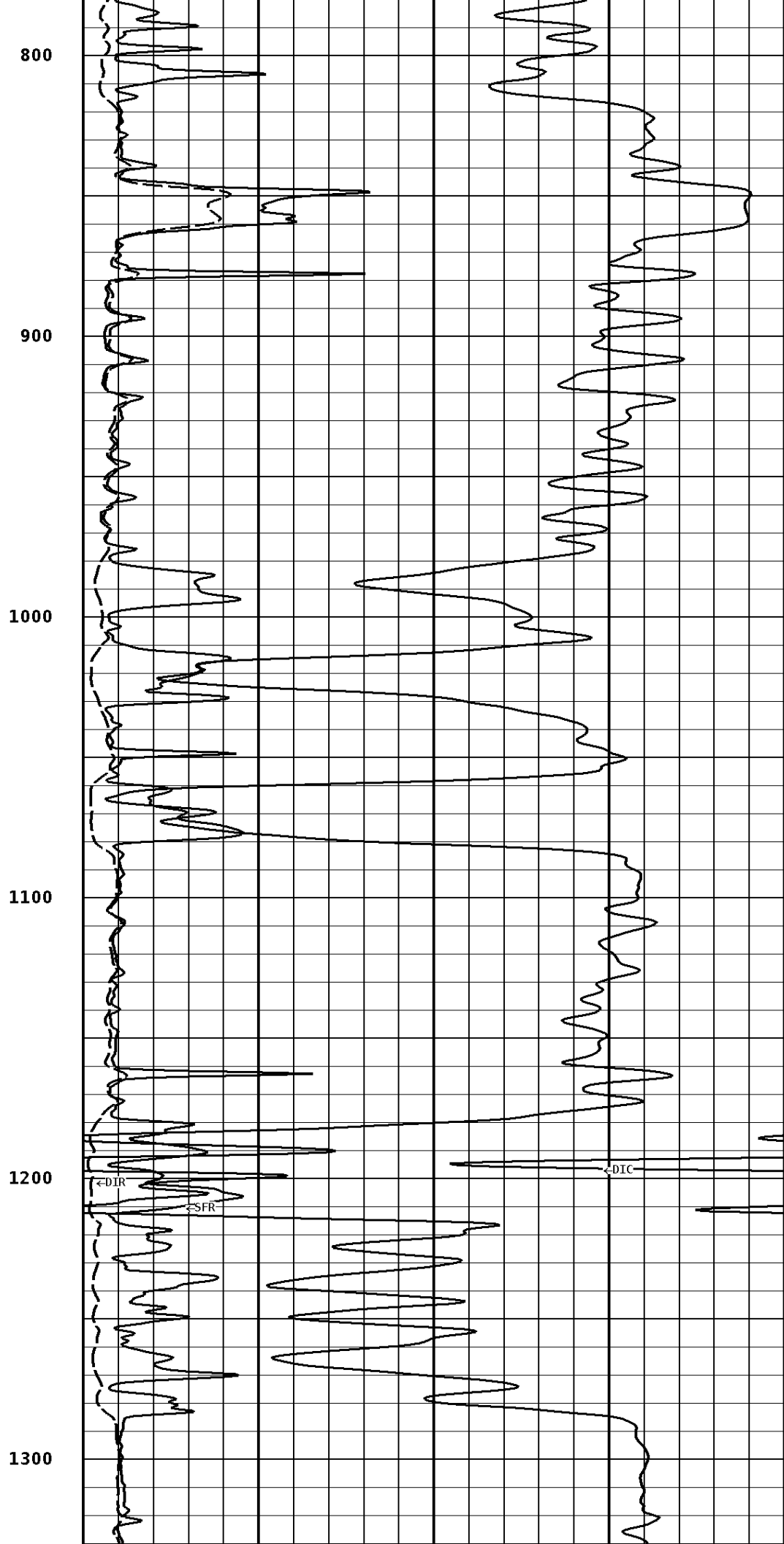
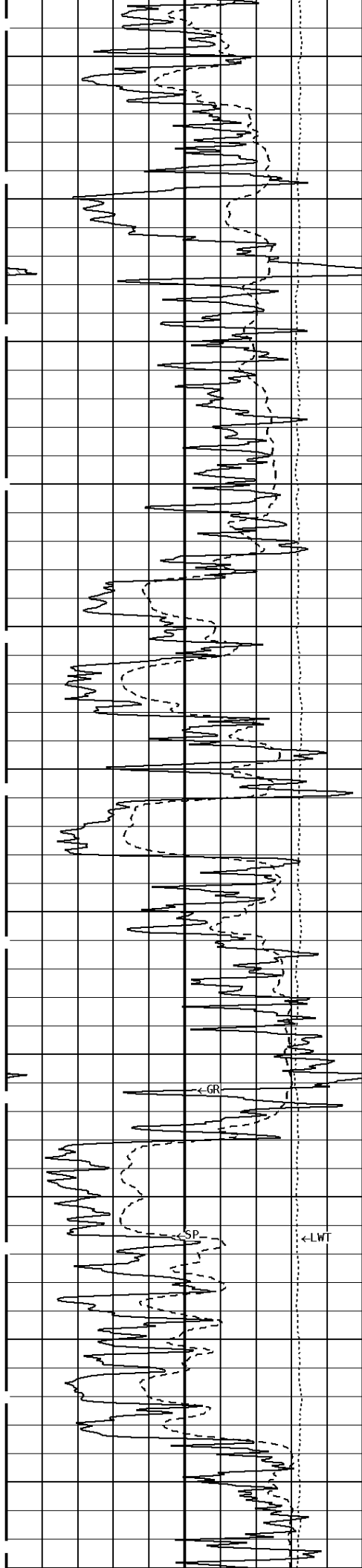


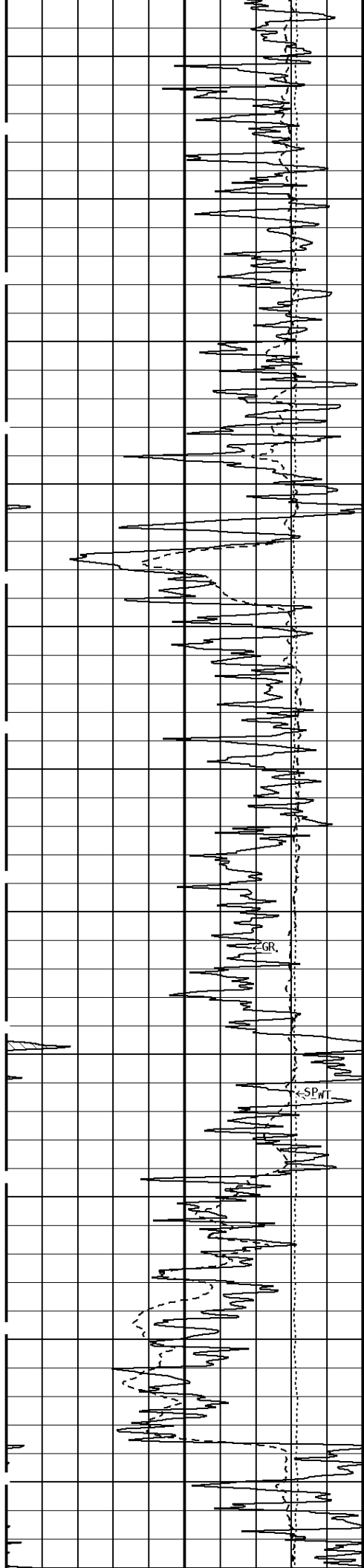
1:600 SECTION
2 INCH



400
500
600
700







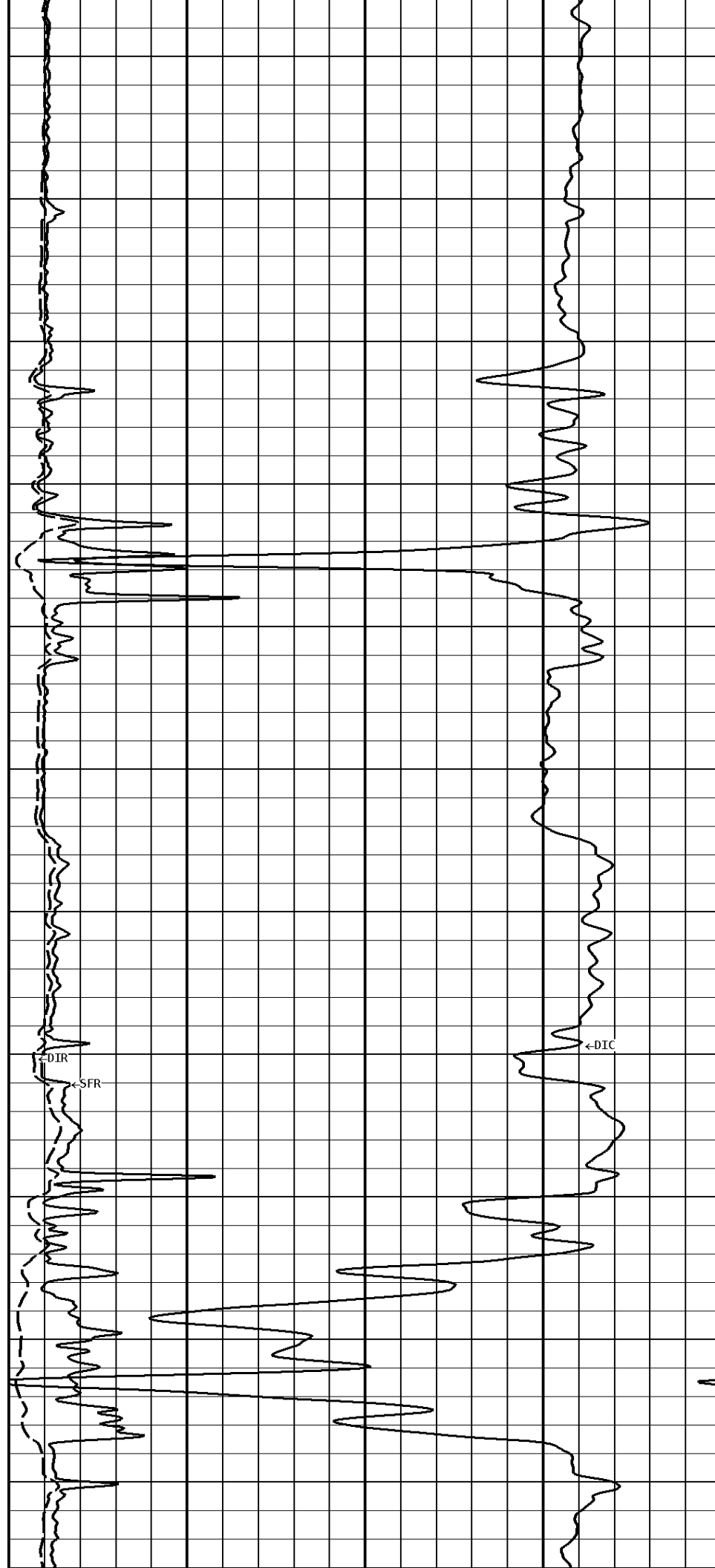
1400

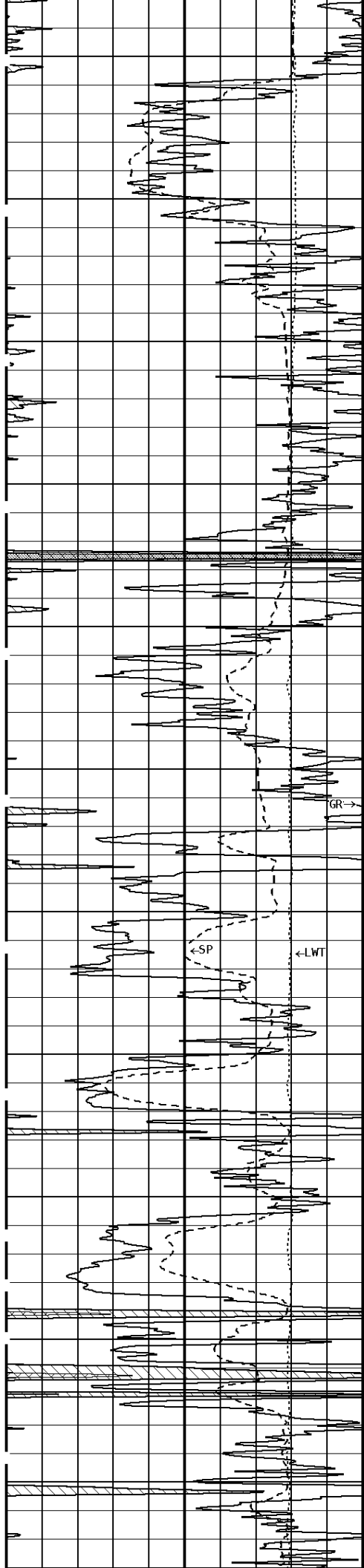
1500

1600

1700

1800





1900

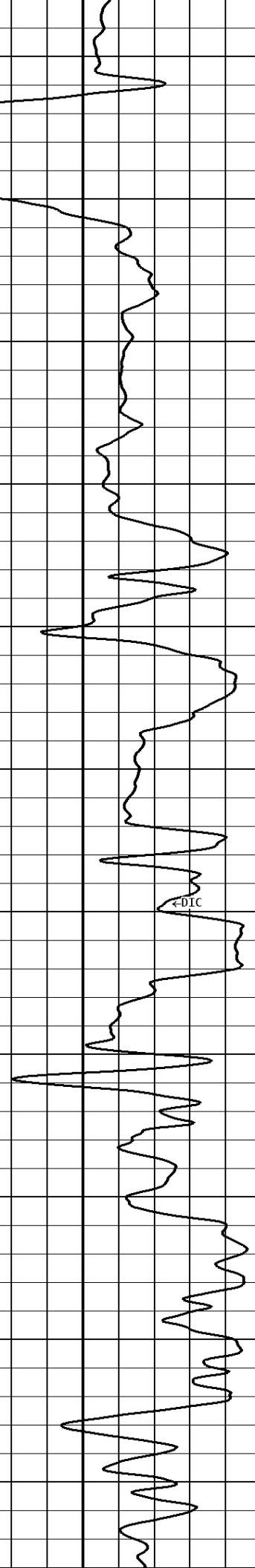
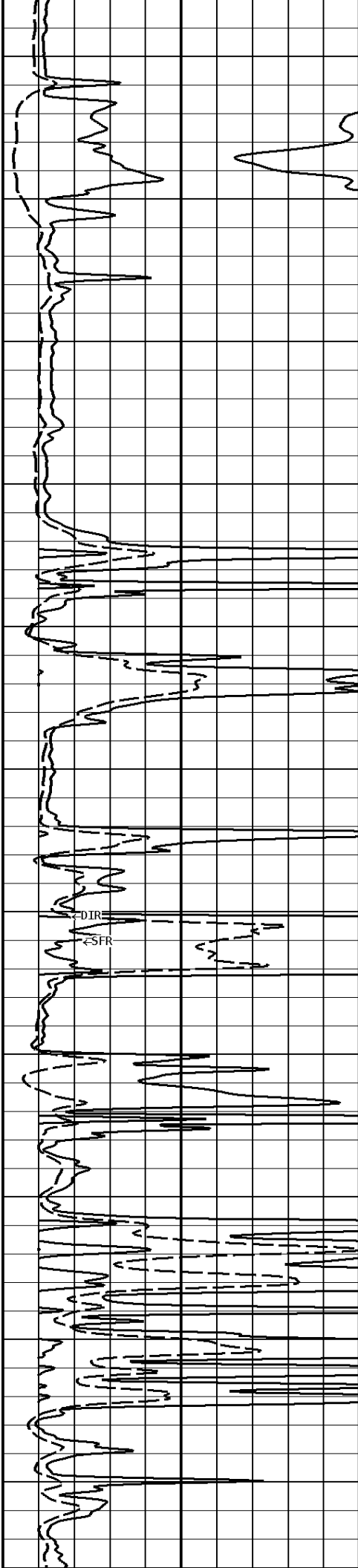
2000

2100

2200

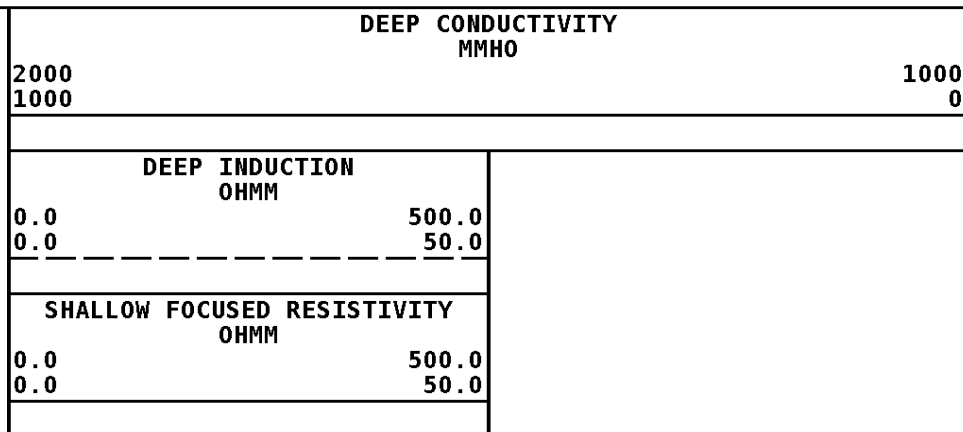
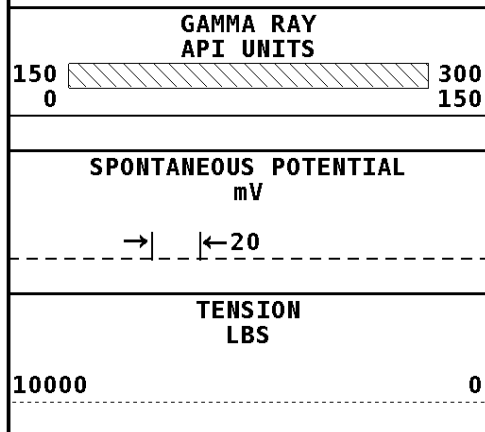
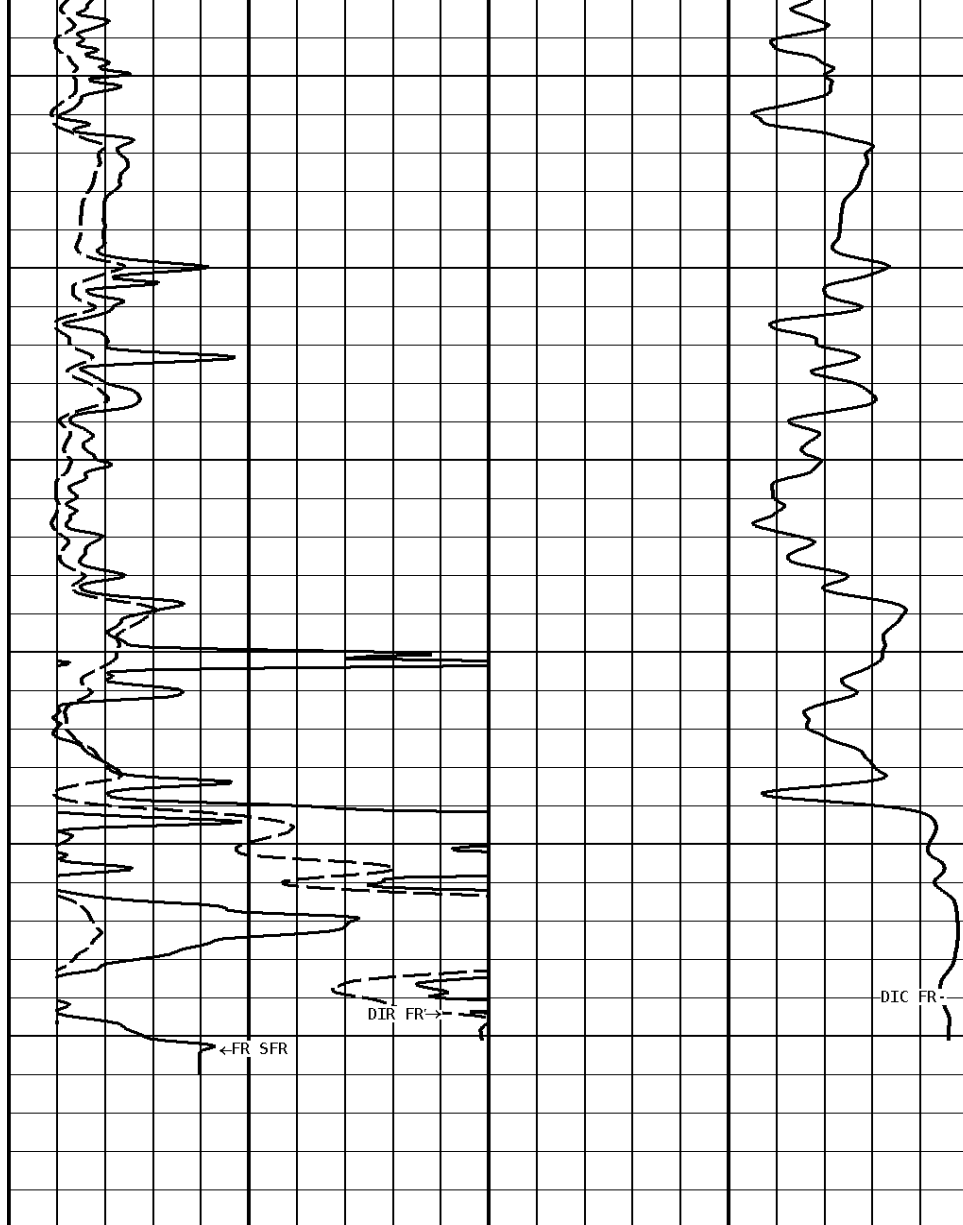
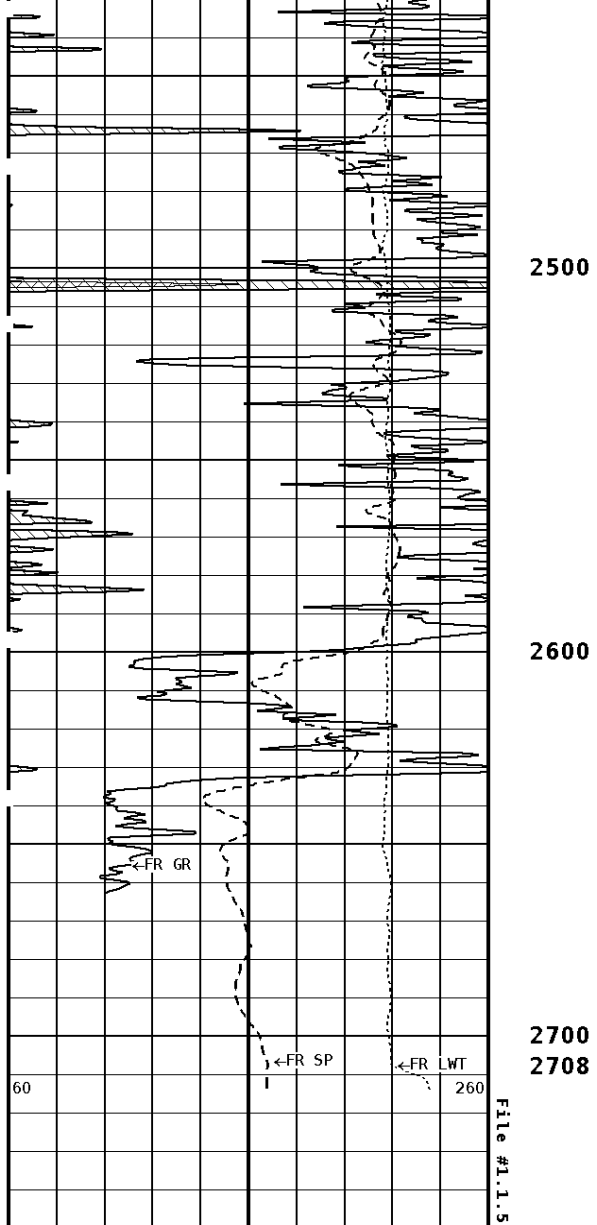
2300

2400

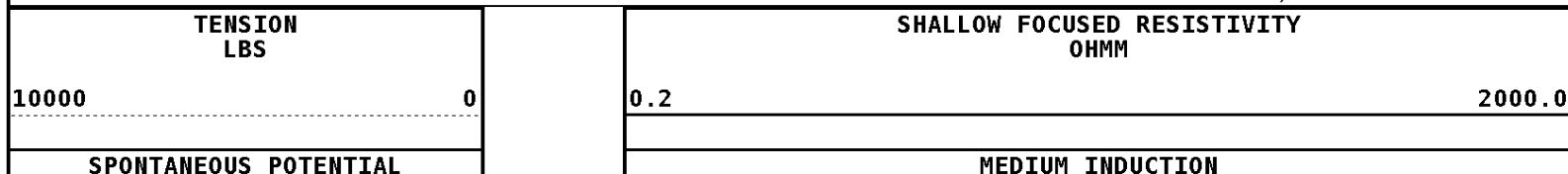


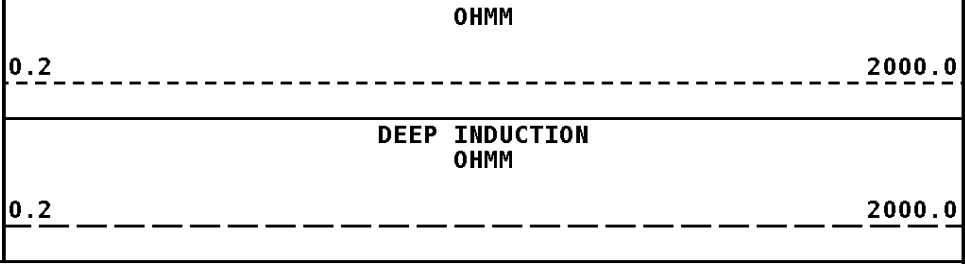
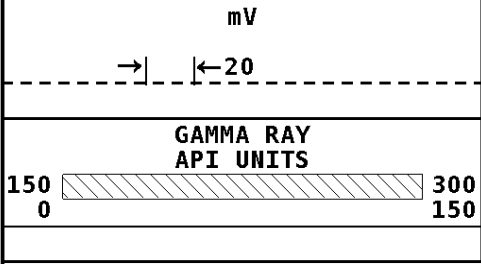
DIR

SFR

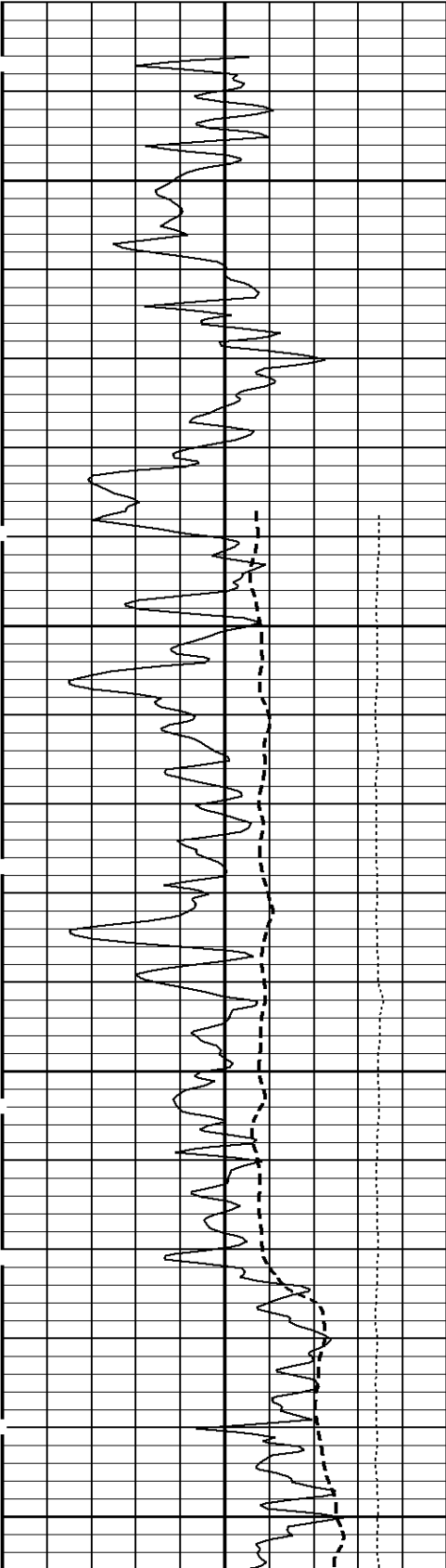


Well File: rd-rnr-ful-2-7-mstk-dip-jun-2	Scale: 1:240
Segment: V1.D1.S5 MN	Acquired: 2012-06/02 07:52 3.2.0-10932
Reference: 0	Processed: 2012-06/02 08:48 3.2.0-10932



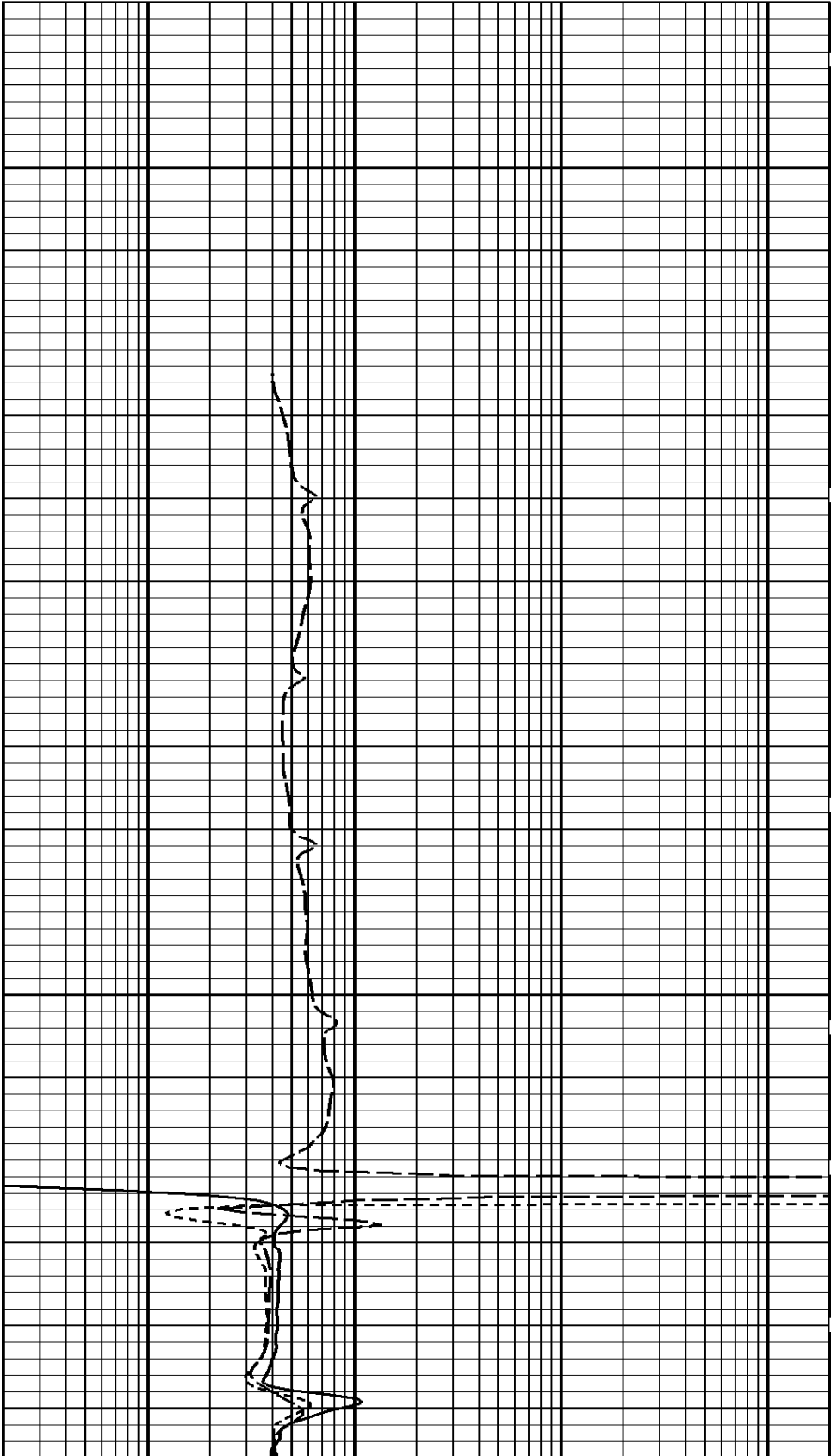


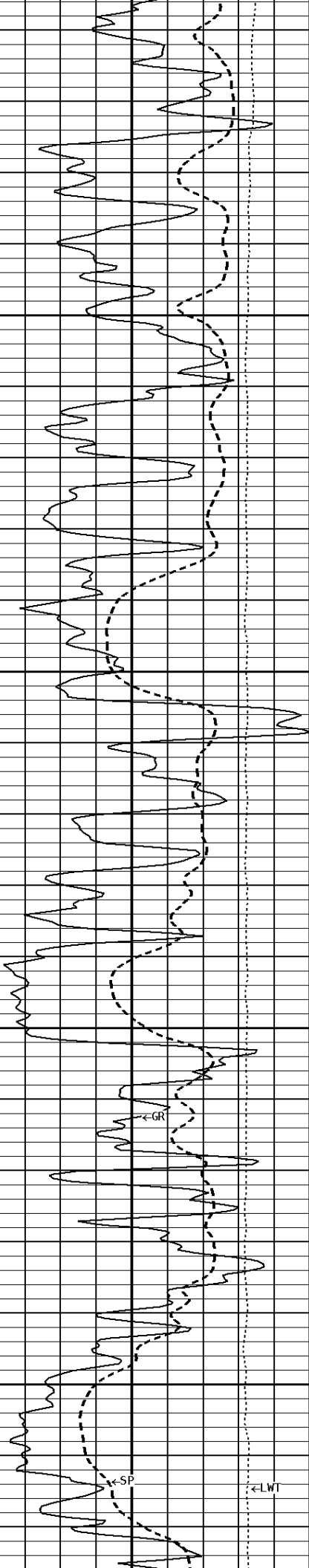
1:240 MAIN SECTION



400

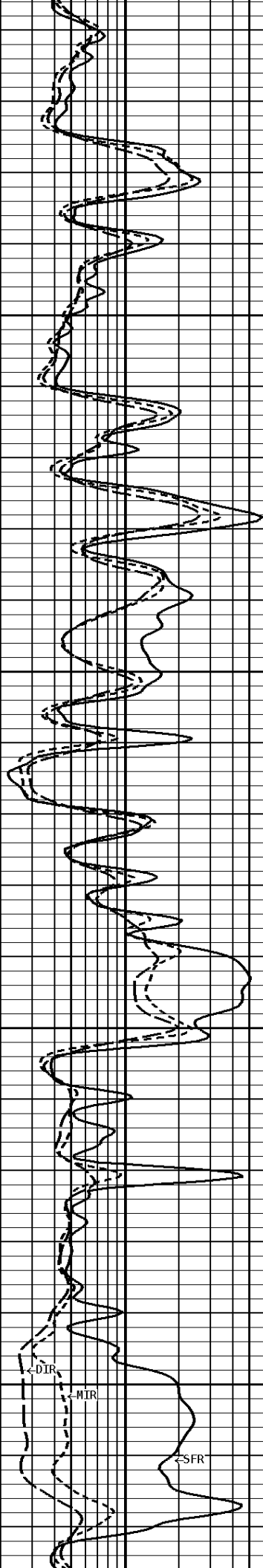
500

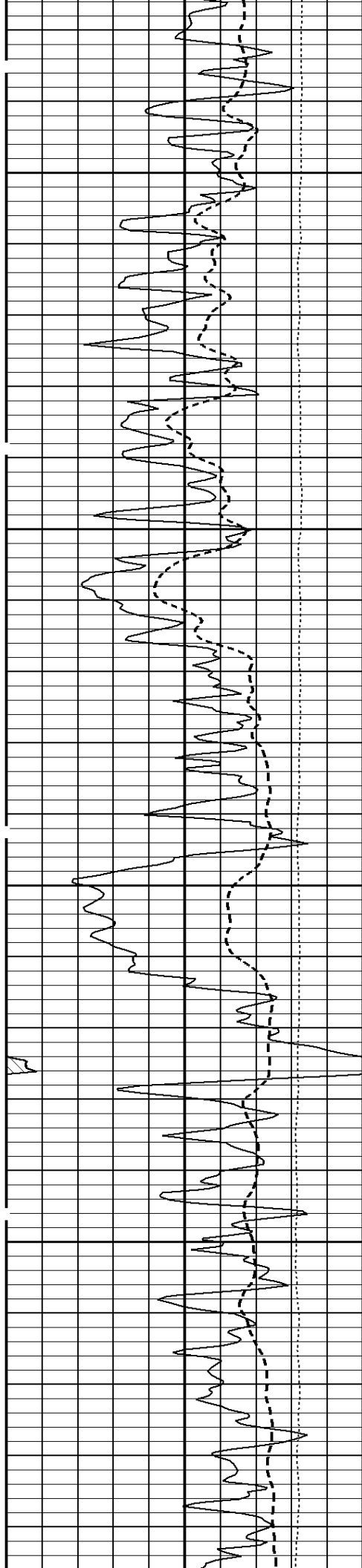




600

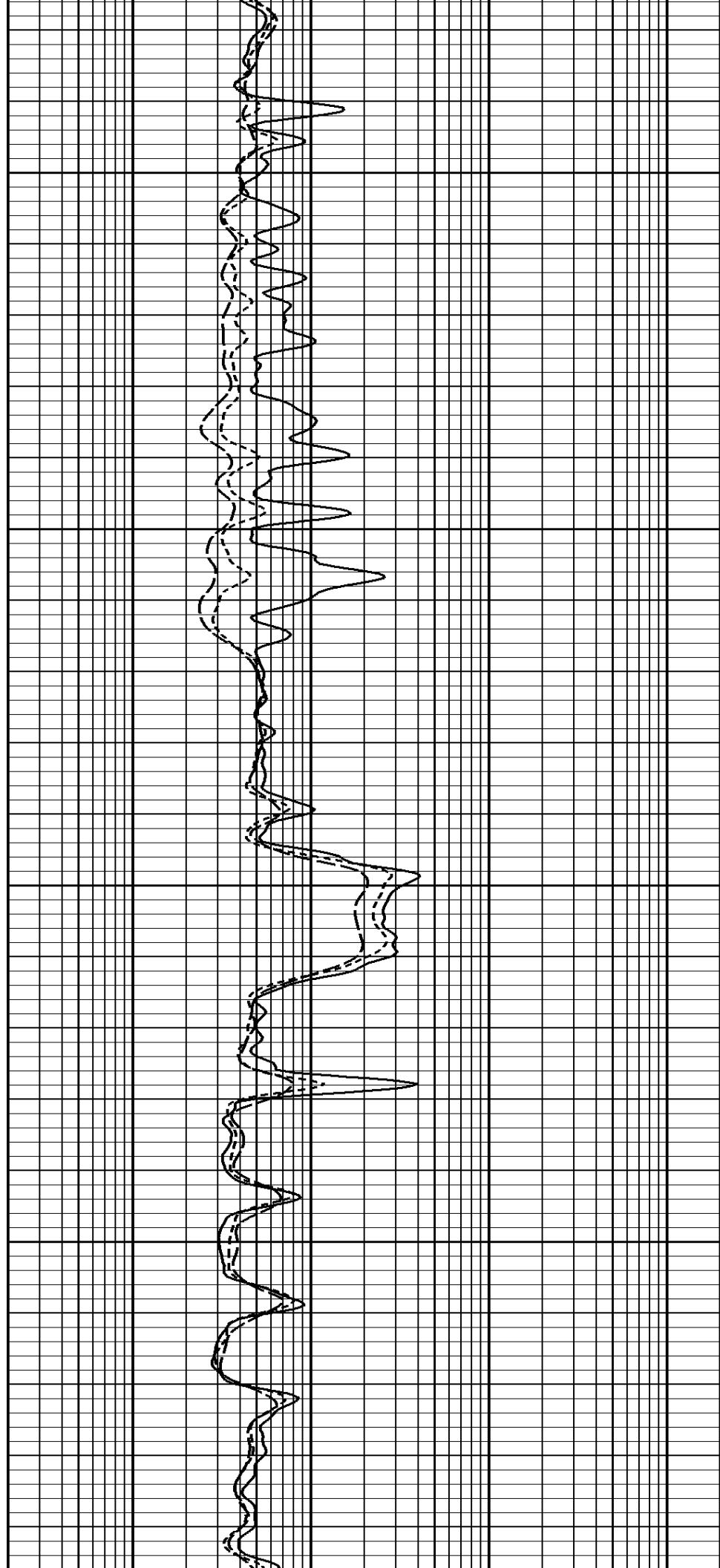
700

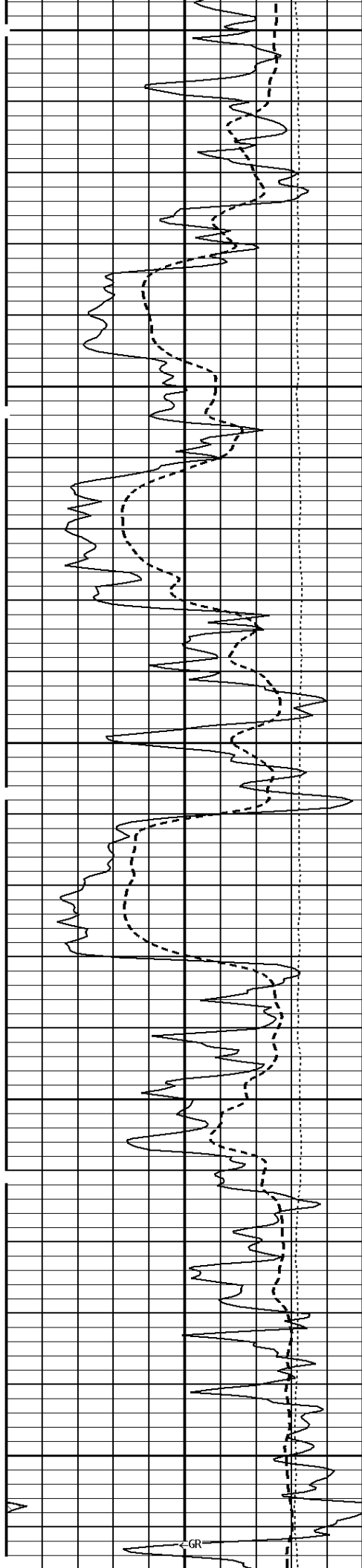




800

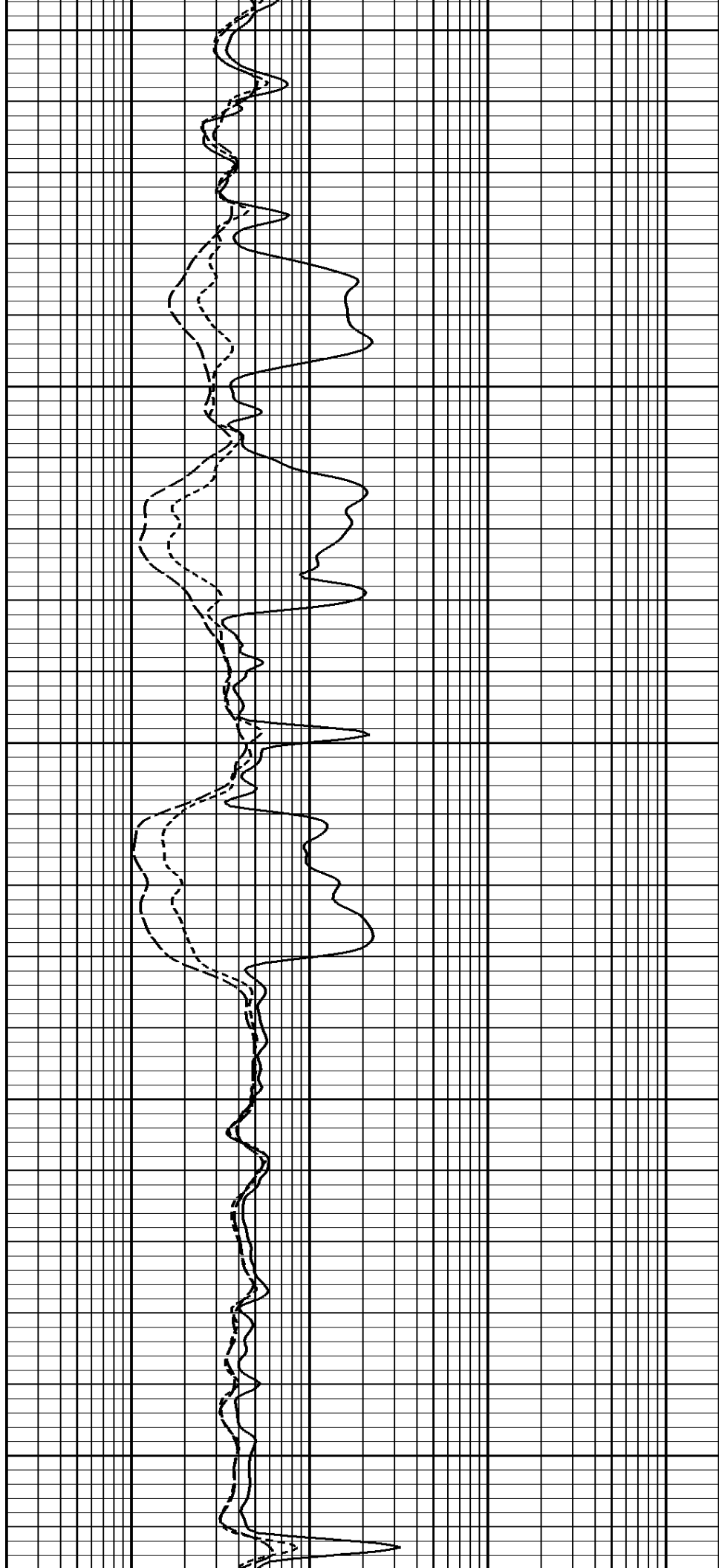
900

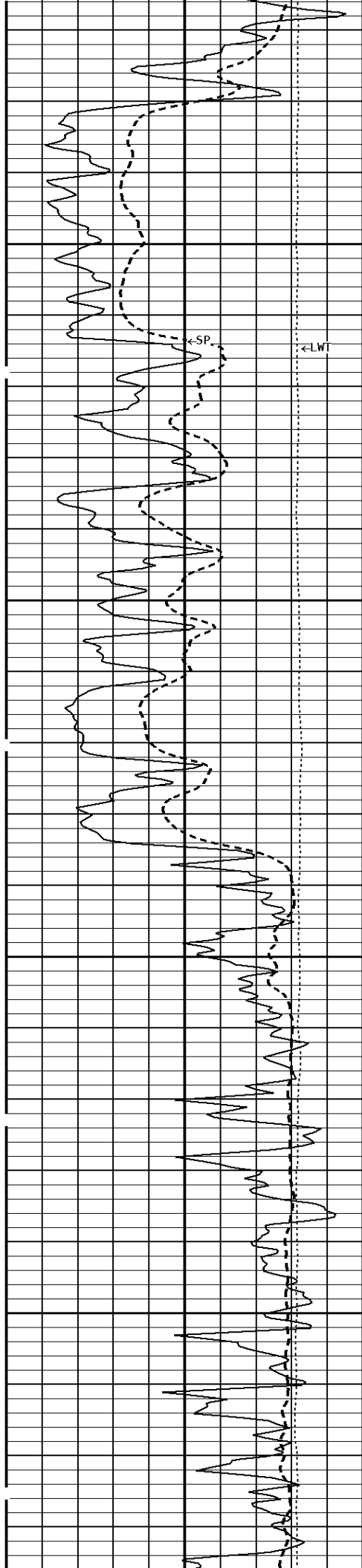




1000

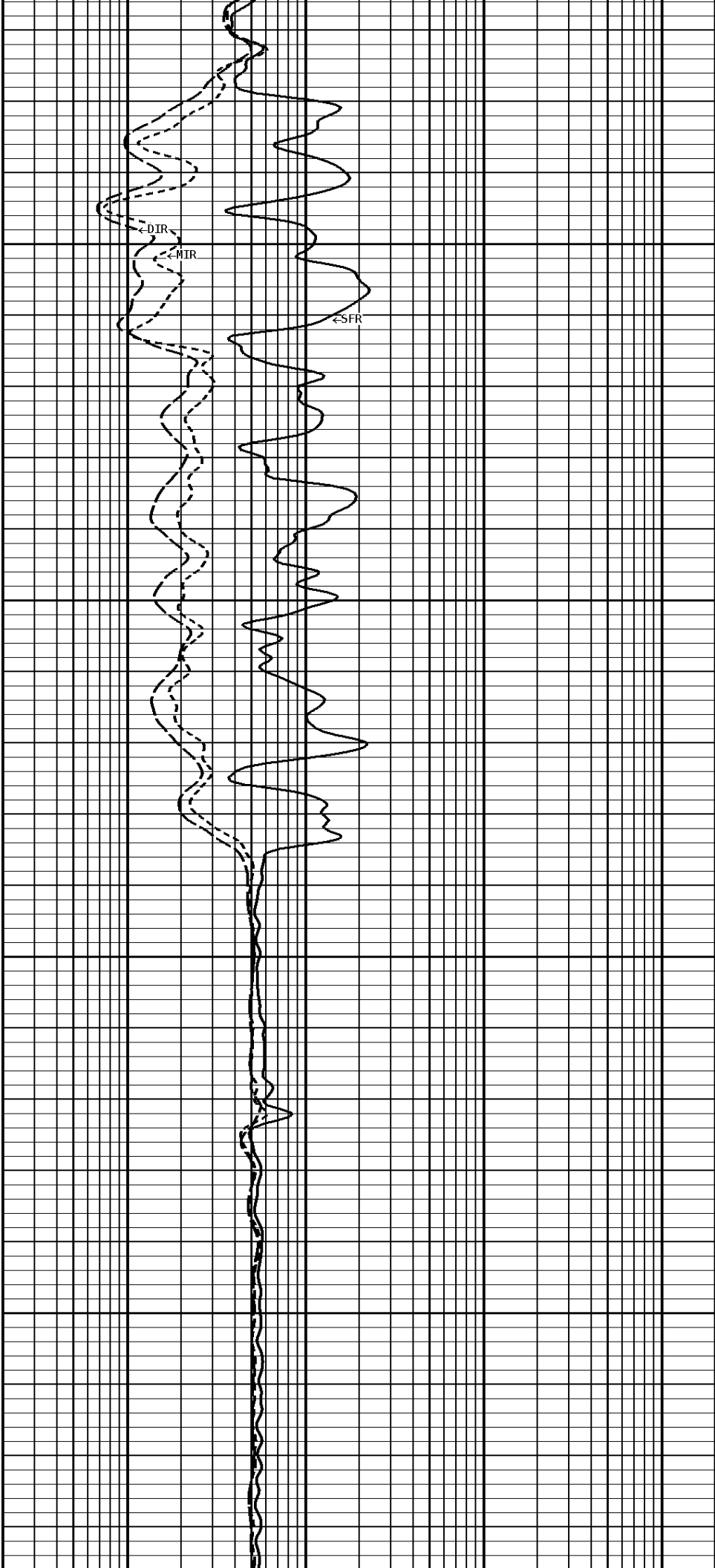
1100

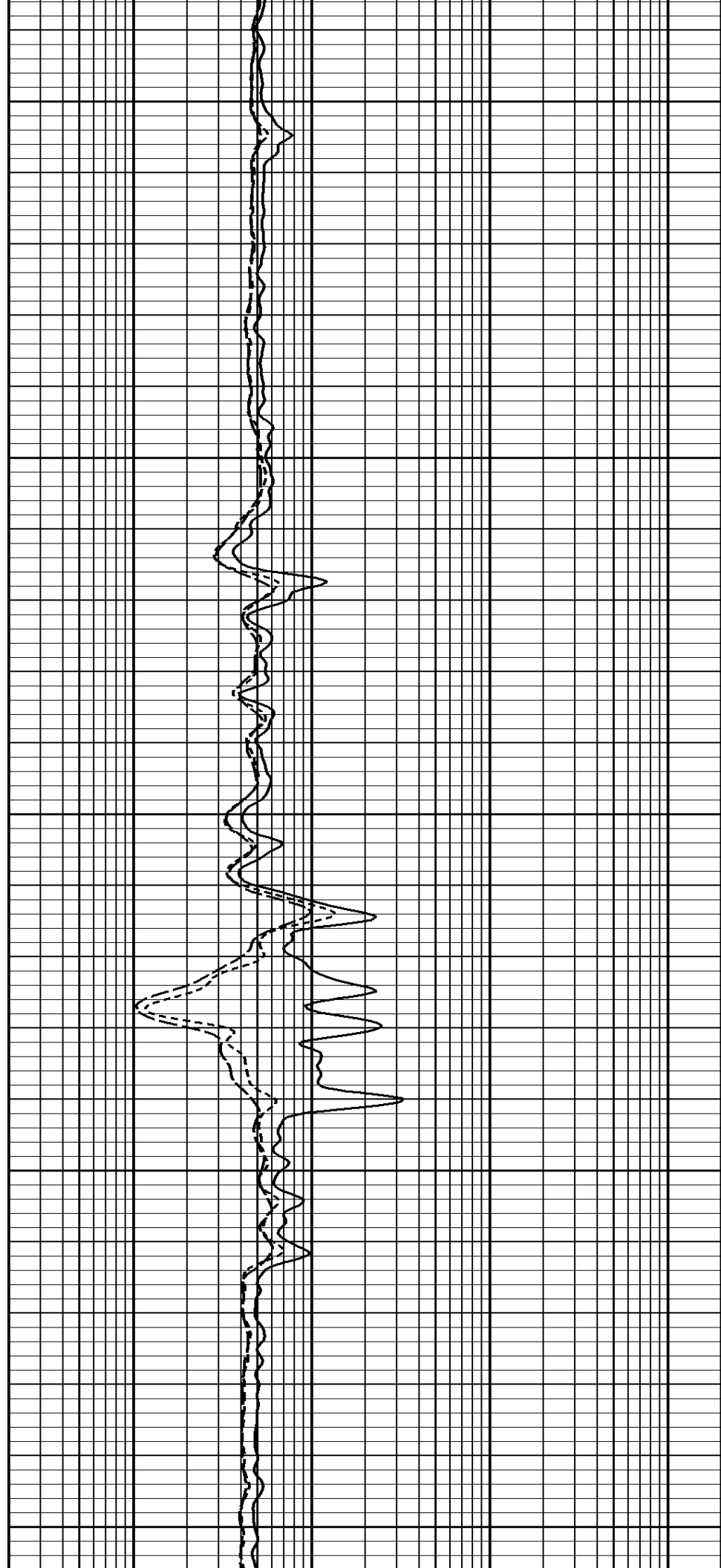
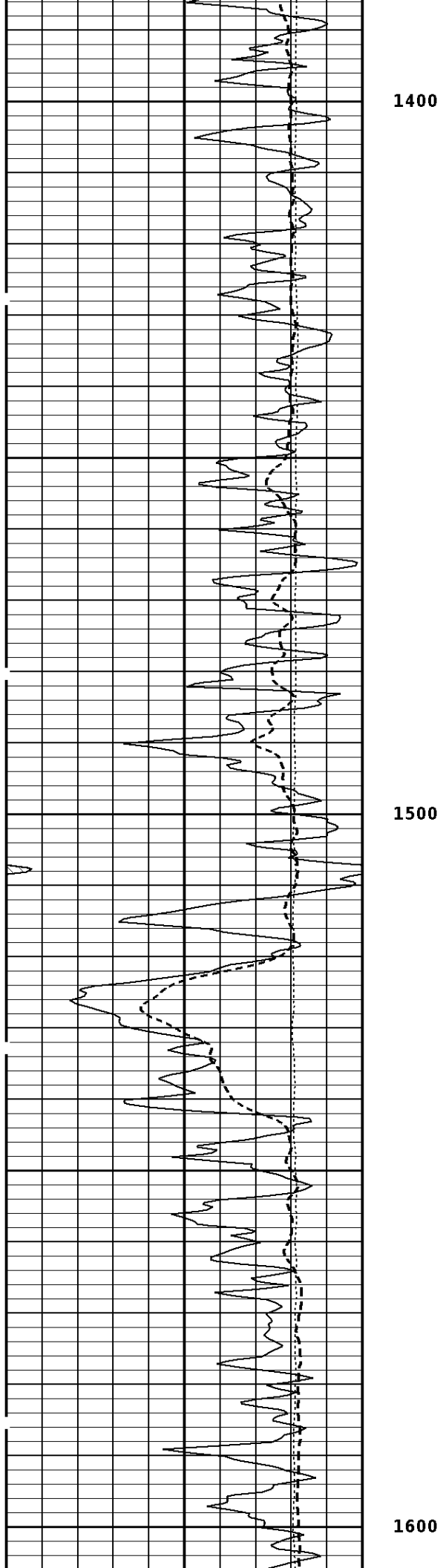


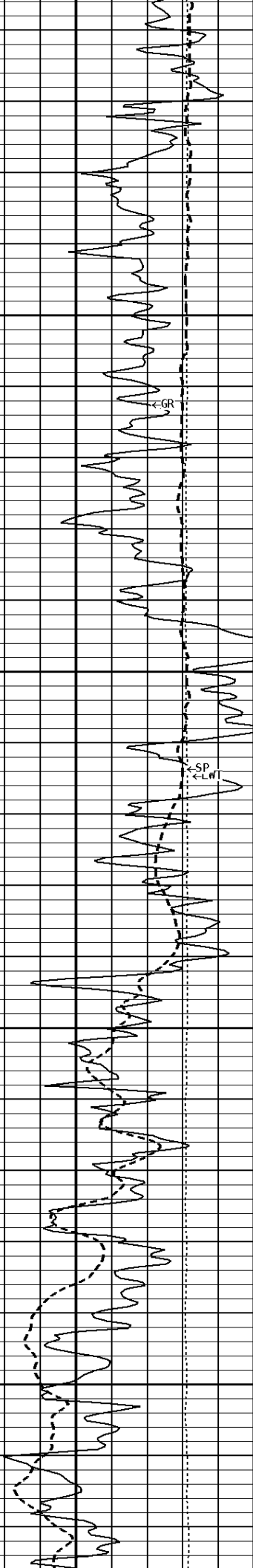


1200

1300

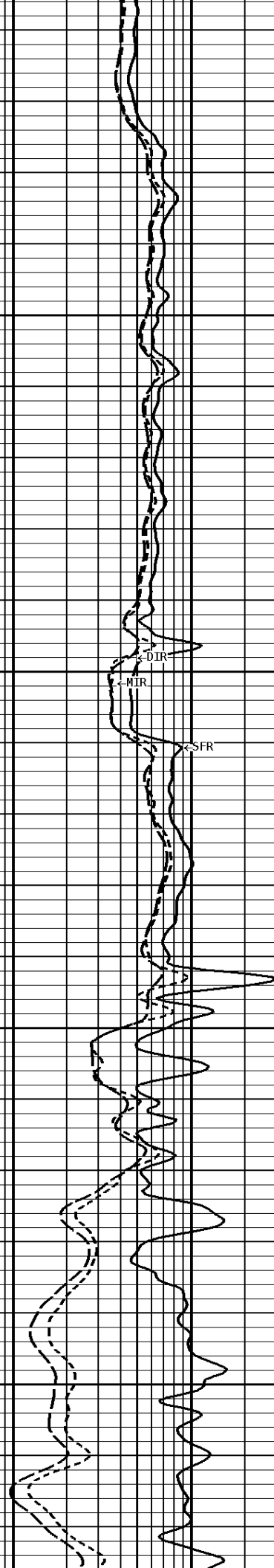


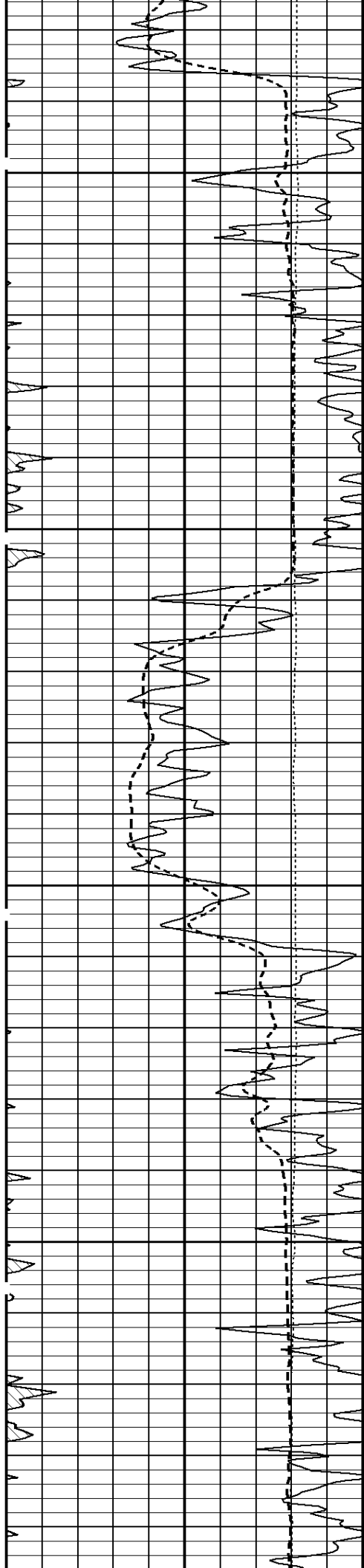




1700

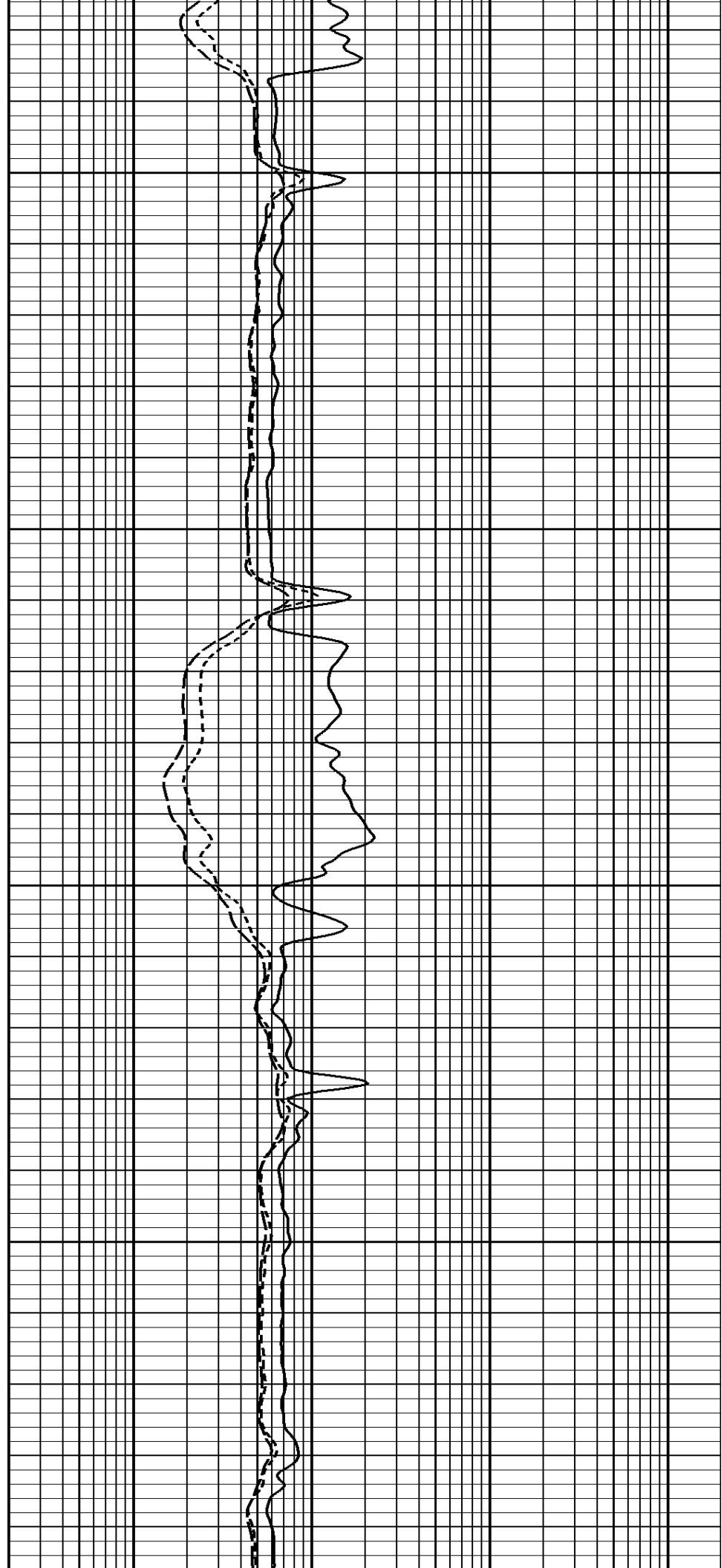
1800

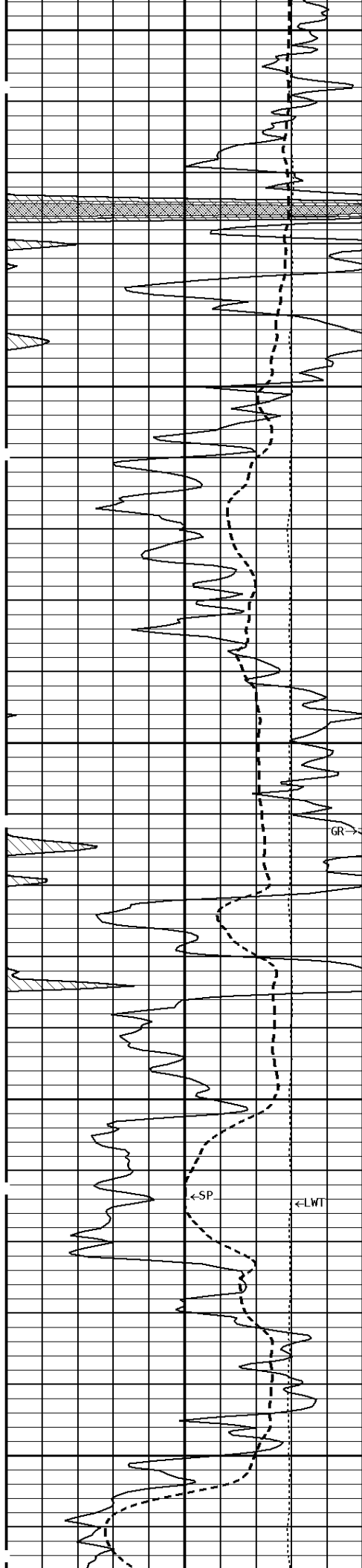




1900

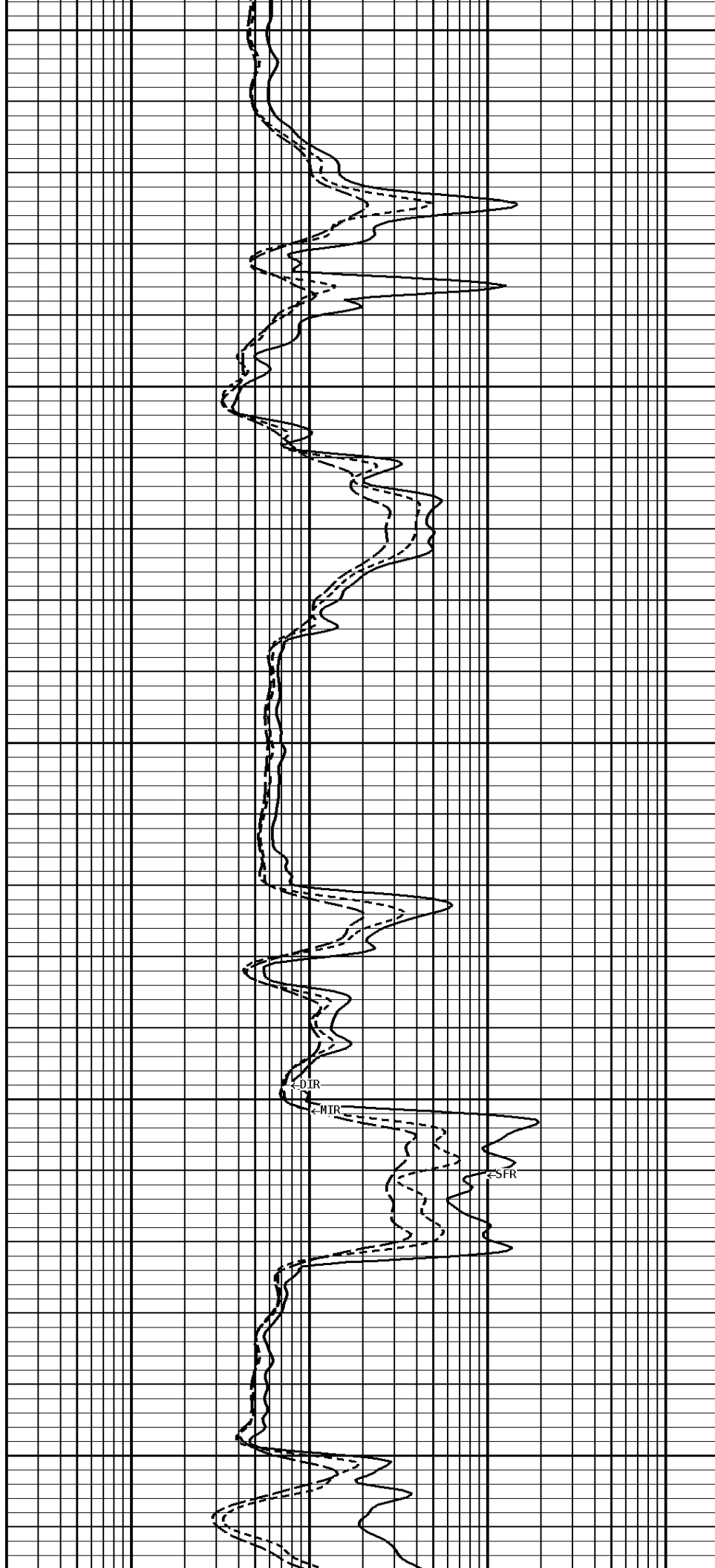
2000

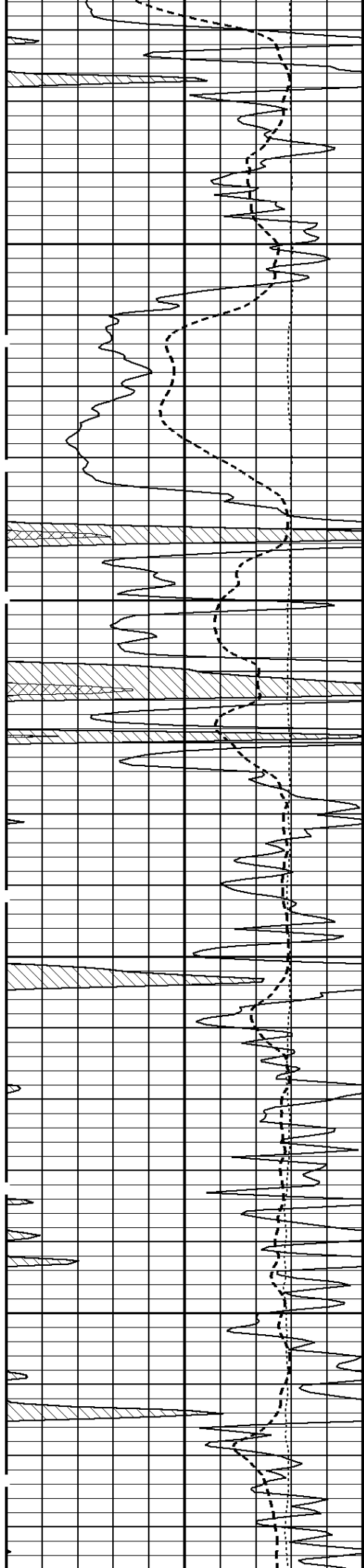




2100

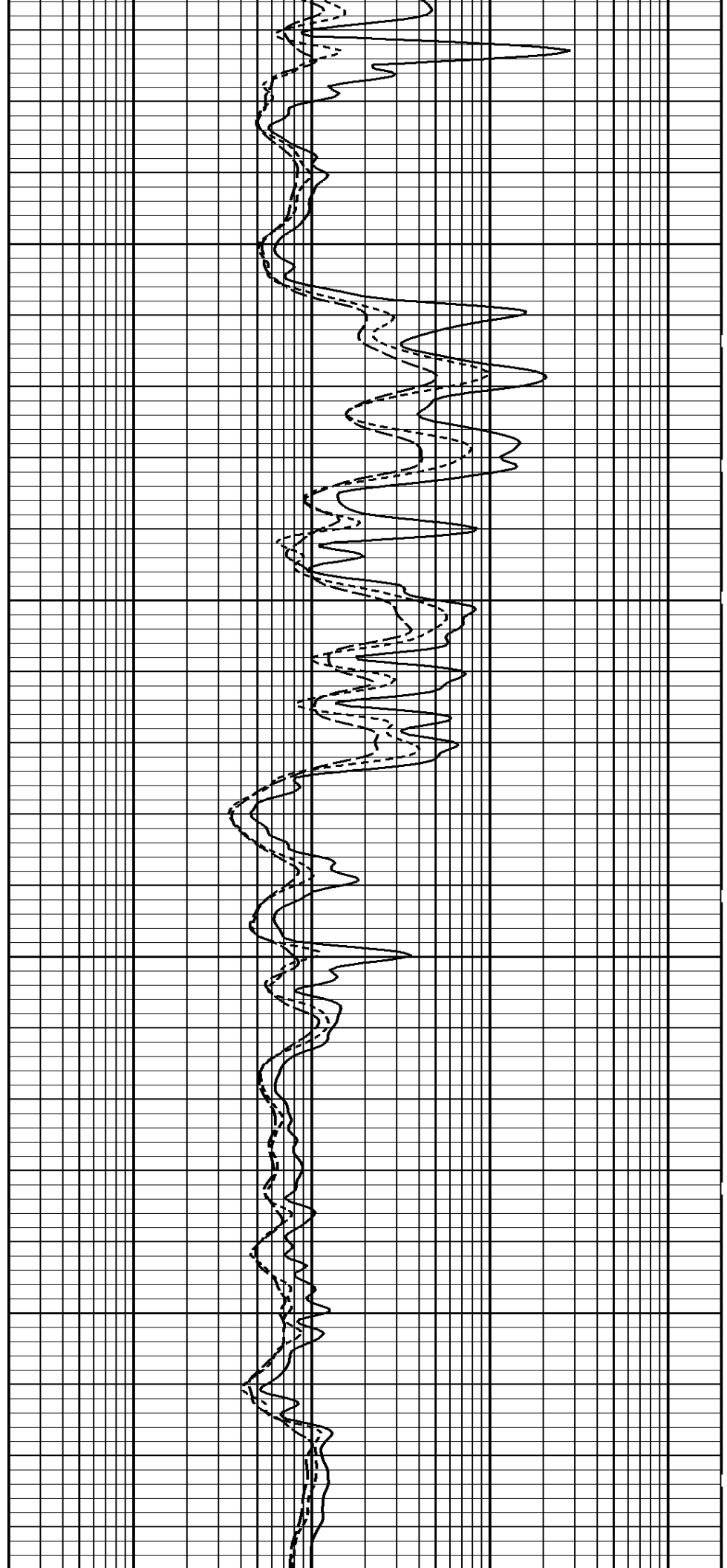
2200

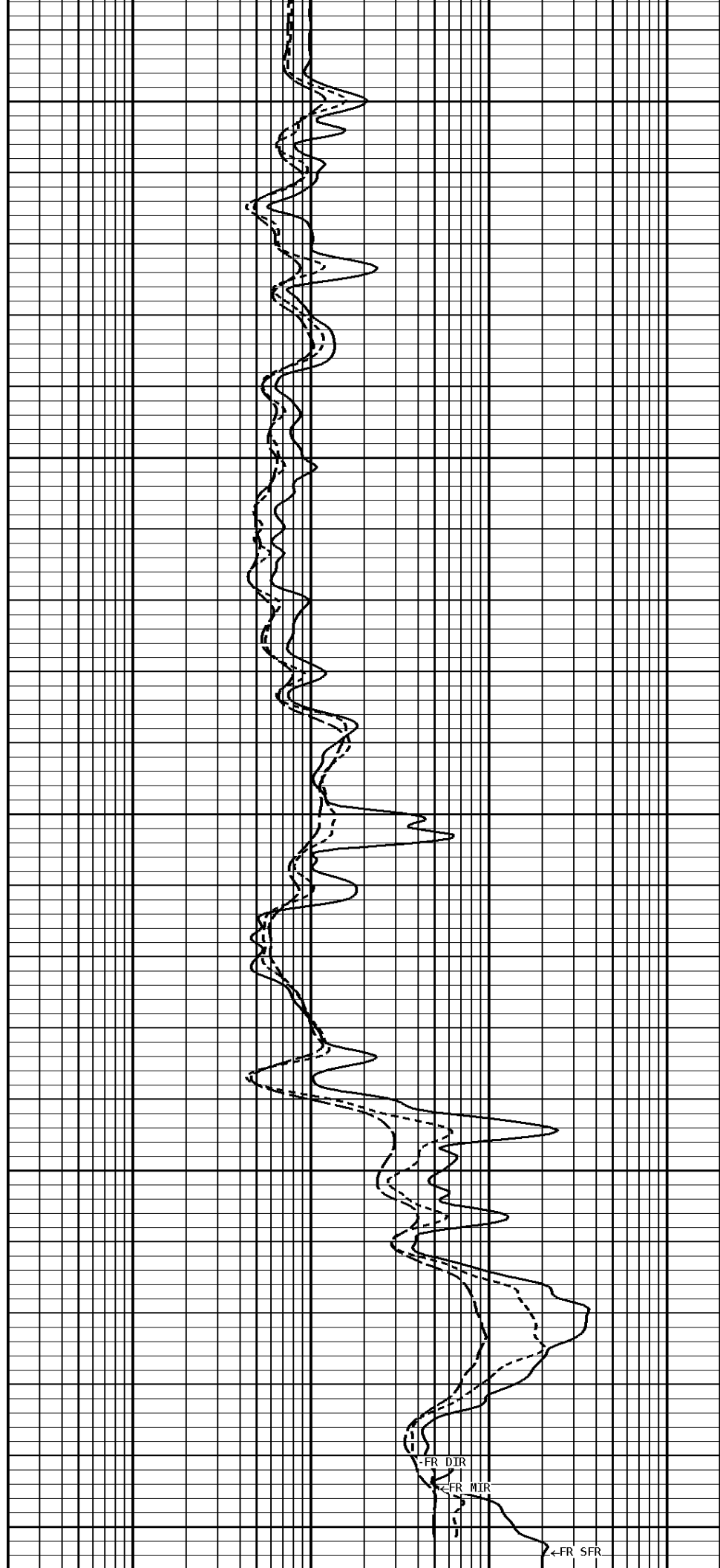
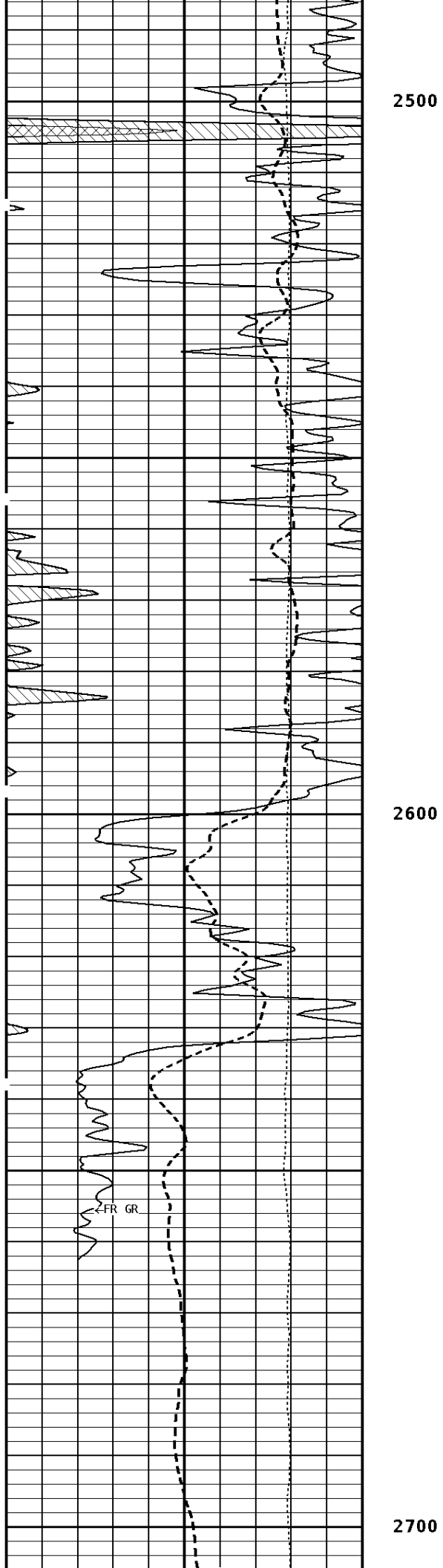


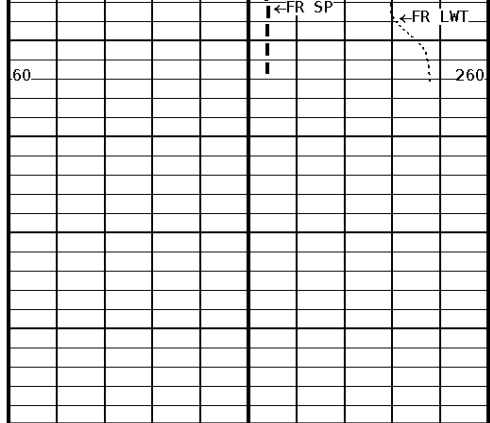


2300

2400

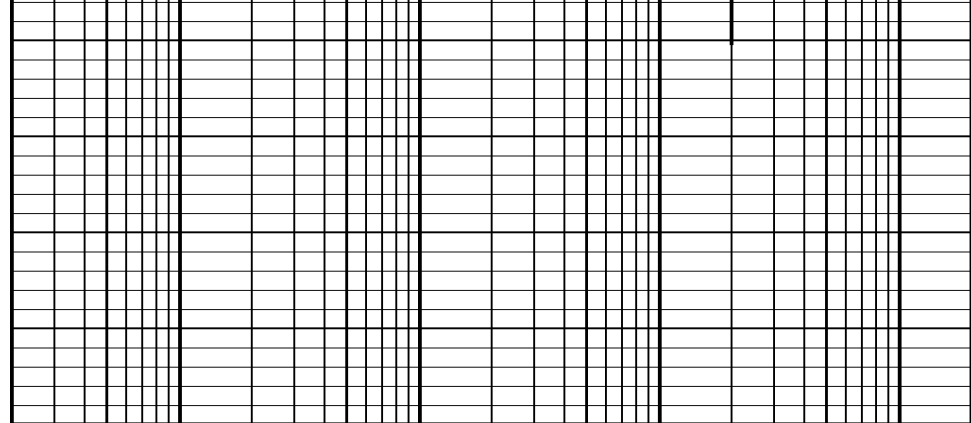




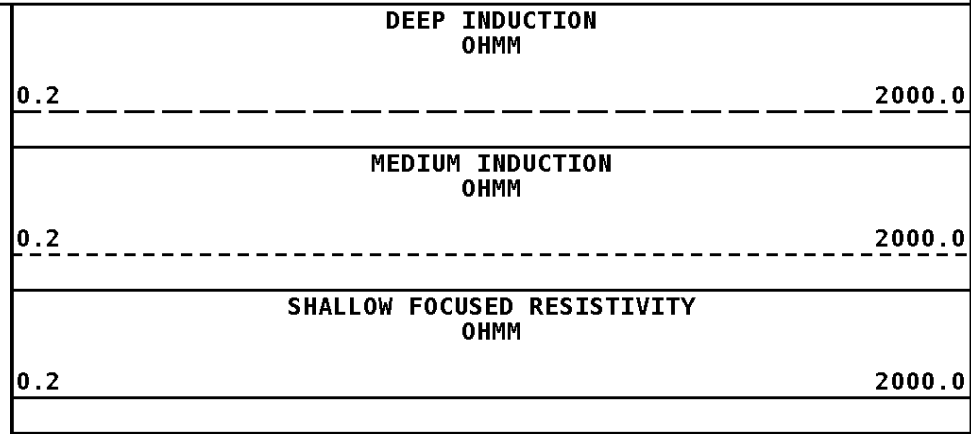
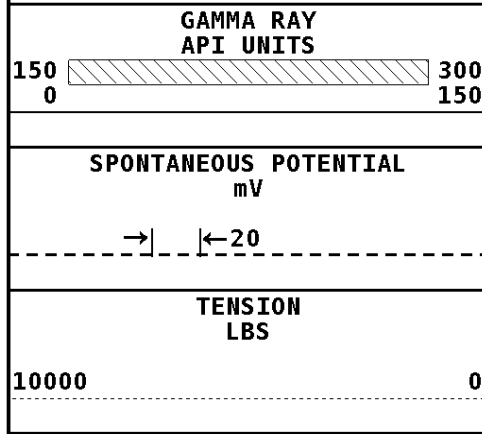


2708

File #1.1.5



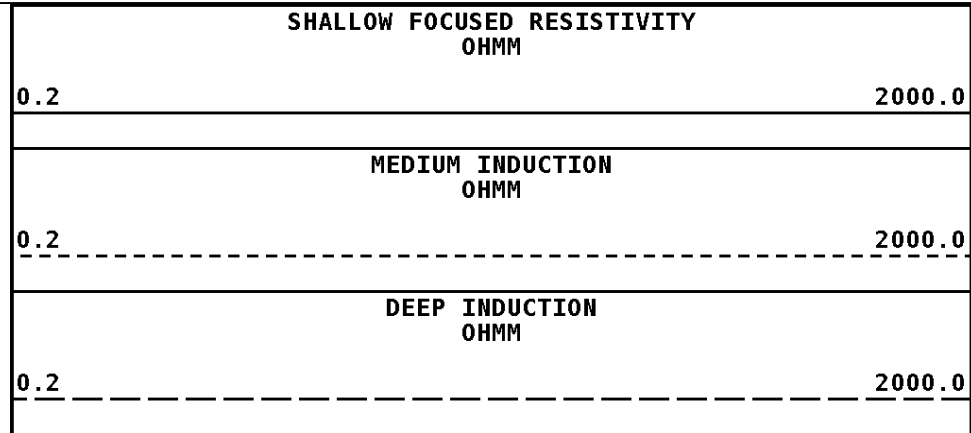
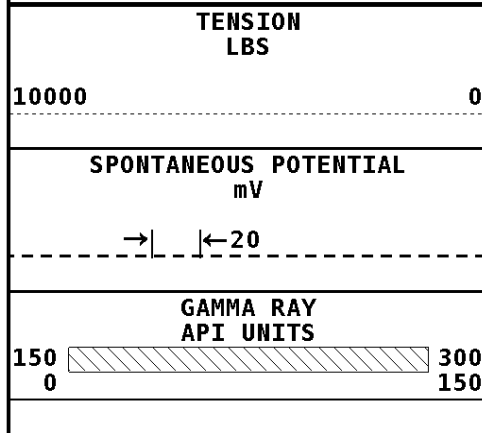
1:240 MAIN SECTION



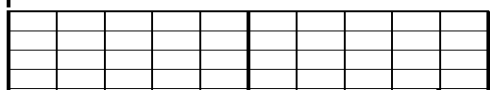
* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet			
Drill Bit Size		7.875	in
BHT Depth		2708.000	ft
Borehole Temperature		110.0	degF
Temperature Gradient		1.00	DFHF
Resistivity Of Mud		0.850	ohm/m
Resistivity Of Mud Temperature		50.00	degF

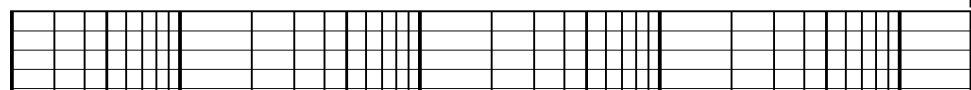
Well File: rd-rnr-ful-2-7-mstk-dip-jun-2	Scale: 1:240
Segment: V1.D1.S4 RP	Acquired: 2012-06/02 07:41 3.2.0-10932
Reference: 0	Processed: 2012-06/02 08:47 3.2.0-10932

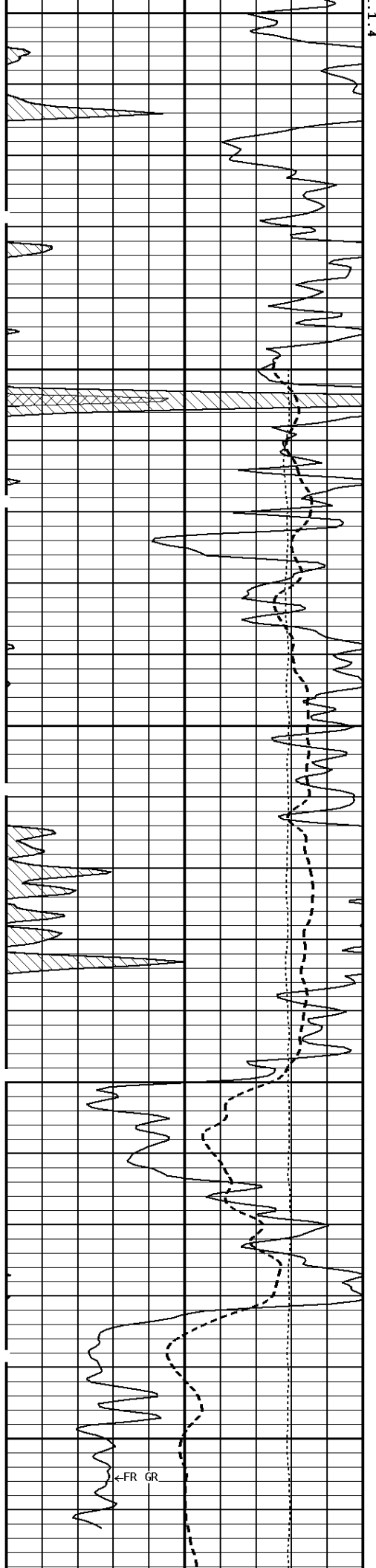


1:240 REPEAT SECTION



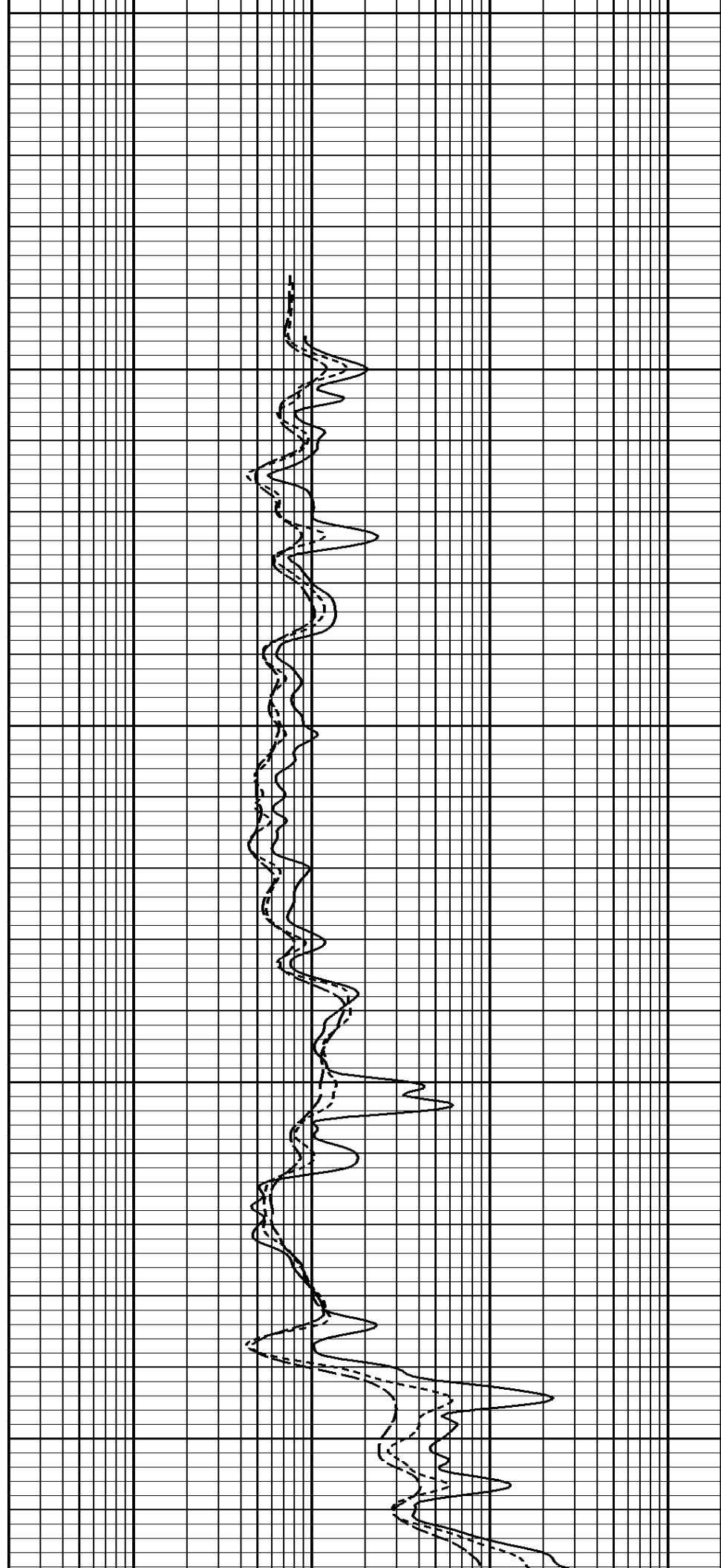
File #1.1.5



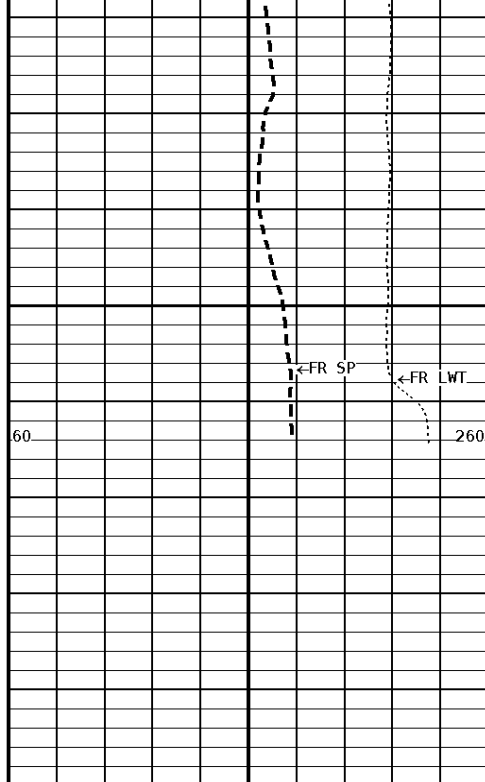


2500

2600

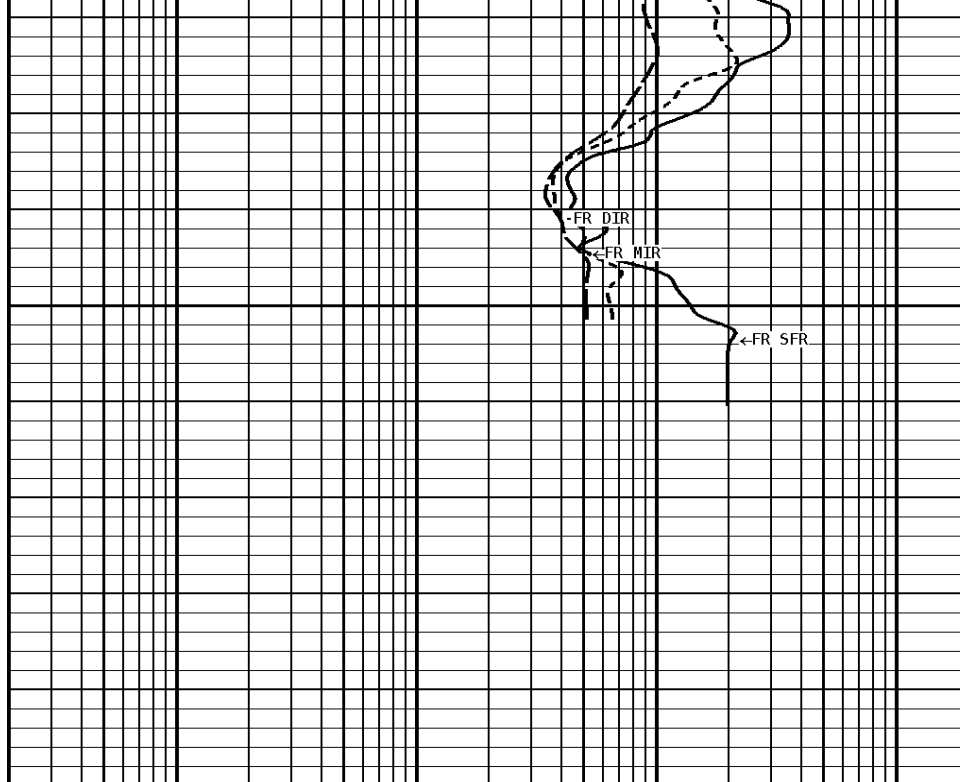


←FR GR



File #1.1.4

2700
2708



1:240 REPEAT SECTION

GAMMA RAY API UNITS	
150 0	300 150
SPONTANEOUS POTENTIAL mV	
→	←20
TENSION LBS	
10000	0

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

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet			
Drill Bit Size	7.875	in	
BHT Depth	2708.000	ft	
Borehole Temperature	110.0	degF	
Temperature Gradient	1.00	DFHF	
Resistivity Of Mud	0.850	ohm/m	
Resistivity Of Mud Temperature	50.00	degF	

* Calibration Summary *

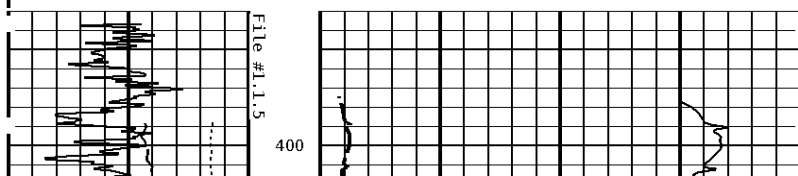
Shop Calibration GRT-B					
Performed : 04-APR-2011			Time : 19:28		
Sensor Suite : GR-GR5			ID : GRT-BC-41		
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig		
	46	346	175	GR-API	
Shop Calibration PIT-CA					
Performed : 17-FEB-2010			Time : 10:55		
Sensor Suite : P-IND-T			ID : PIT-AC-22		

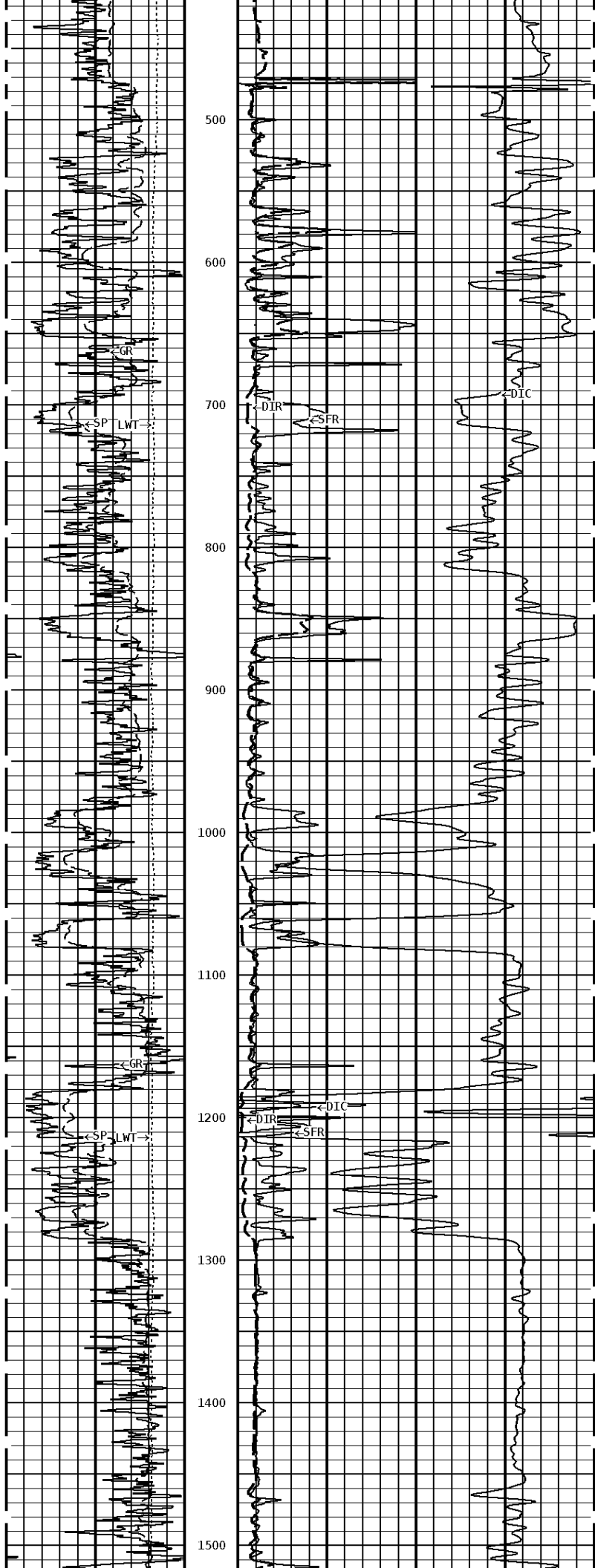
Medium						
	Measured		Calibrated			
	R	X	R	X		Units
Air	129390	131208	-0.3	-0.3		MMHOS
Zero	131066	131073	0.0	0.0		MMHOS
Reference	248788	249307	5000.0	5000.0		MMHOS
Loop	147423	174670	2603.6	1071.8		MMHOS
Sonde Error			-2.9	-5.7		MMHOS
Cond			5000.0	5000.0		MMHOS
Deep						
	Measured		Calibrated			
	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-2010			Time : 10:45			
Sensor Suite : SFL			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-2010			Time : 10:38			
Sensor Suite : P-SP			ID : PIT-AC-22			
Internal						
	Measured		Calibrated			
	Zero	Reference	Zero	Reference		Units
	32785.7	58911.1	0.0	1000.0		mV
Performed : 19-OCT-2009			Time : 13:08			
Sensor Suite : P-RMUD			ID : PIT-AC-22			
Internal						
	Measured		Calibrated			
	Zero	Reference	Zero	Reference		Units
Rmi	5.0	54416.8	0.0	290.6		mA
Rmv	4.7	54228.6	0.0	290.6		mV
Equivalent Rm				0.9037		OHMM

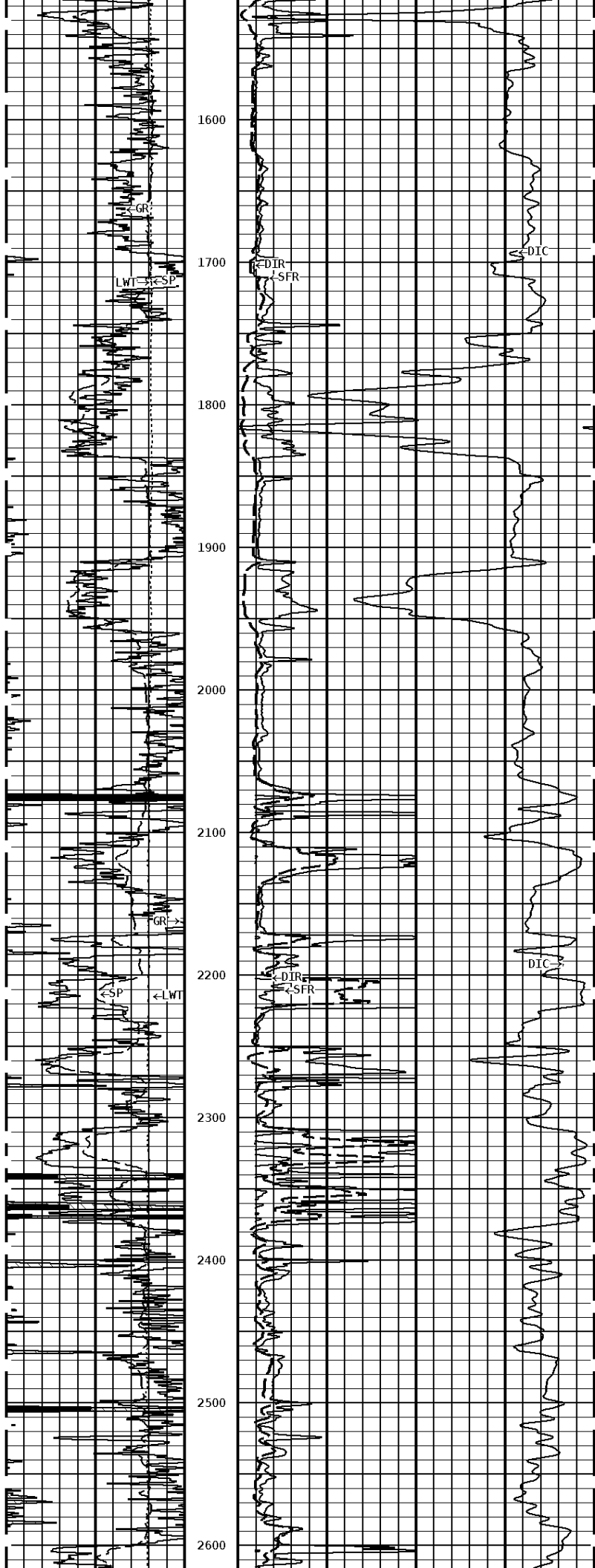
Well File: rd-rnr-ful-2-7-mstk-dip-jun-2	Scale: 1:1200
Segment: V1.D1.S5 MN	Acquired: 2012-06/02 07:52 3.2.0-10932
Reference: 0	Processed: 2012-06/02 08:48 3.2.0-10932

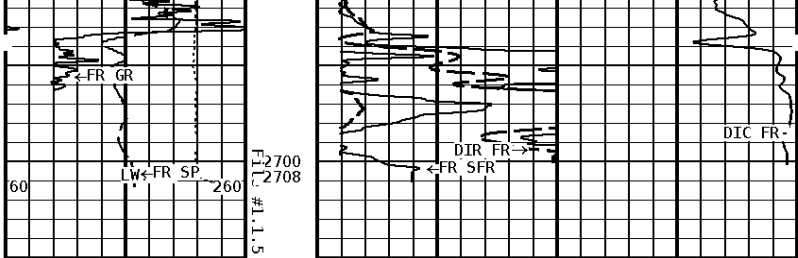
TENSION LBS	DEEP INDUCTION OHMM
10000 0	0.0 500.0 0.0 50.0
SPONTANEOUS POTENTIAL mV	SHALLOW FOCUSED OHMM
→ ← 20	0.0 500.0 0.0 50.0
GAMMA RAY API UNITS	DEEP CONDUCTIVITY MHMO
150 0 300 150	2000 1000 1000 0

1:1200 MAIN SECTION









1:1200 MAIN SECTION

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