

Tucker

WIRELINE SERVICES

BOREHOLE COMPENSATED
SONIC LOG

File No. : TUL-55264
Company : BERXCO
Well : BAMBERGER #13
Field :
County : HODGEMAN
State : KANSAS
Country : USA

Location : API#: 25-083-21656
636' FSL& 844' FWL
SW SW

Sect : 20 Twp : 22S Rge : 22W

Recorded By : B.BAILEY
Witnessed By : G.KORALEGEDARA, J.OBRIST

Date : JUL 24 2010	
Run No. : 1	
Permanent Datum : GL	
Drilling Measured From : KB	
Log Measured From : KB	
Above Permanent Datum : 13.00 FT	
Depth--Driller : 4635.0 FT	
Depth--Logger : 4630.0 FT	
Bottom Log Interval : 4603.0 FT	
Top Log Interval : 280.0 FT	
Casing Depth--Driller: 278.0 FT	
Casing Depth--Logger : 280.0 FT	
Casing Diameter : 8.625 IN	
Bit Size : 7.875 IN	
Unit No. : 122	
Location : TULSA	

Elevations :
KB : 2327.00 FT
DF : 2326.00 FT
GL : 2314.00 FT

Additional Services

CNT
LDT
MLT
PIT

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.

Run Number 1

Depth To Fluid	0.0	FT		
Fluid Type In Hole	WBM			
Density :	9.100	SG		
Viscosity :	48.000	SEC		
pH :	9.500			
Fluid Loss :	14.400			
Salinity :	0.000	KPPM		
RM Source :	MEASURED			
RM :	0.220	OHMM at	85	F
RM at BHT :	0.143	OHMM at	134	F
RMF Source :	CALCULATED			
RMF :	0.187	OHMM at	85	F
RMF at BHT :	0.122	OHMM at	134	F
RMC Source :	CALCULATED			
RMC :	0.253	OHMM at	85	F

RMC :	0.255	OHMM at	85	F
RMC at BHT :	0.165	OHMM at	134	F
Max Recorded Temp. :			134	F
Time Circulation Stopped :				
Operating Rig Time, Hrs. :			3.0	

- Source Serial Numbers -

Gamma	CSV-587
Neutron	N-1044

- Sonde Serial Numbers -

GRTB	GRT-BA-121
CNT	CNP-AA-111
LDTNG	LDP-DA-01
MSTNG	MST-DA-36
CST	CST-AD-38
PIT	PIT-AB-14

Casing Strings

Size (IN)	Weight (LB/FT)	Bottom (FT)
8.625	32.00	278.00

- Comments -

ALL PRESENTATIONS AS PER CUSTOMER REQUEST.

GRT, CNT, LDT, MLT, CST, PIT RAN IN COMBINATION
CALIPERS ORIENTED ON THE X-Y AXIS.
PHIN IS CALIPER CORRECTED.
2.71 G/CC USED TO CALCULATE POROSITY.
ANNULAR HOLE VOLUME CALCULATED USING 5.50" PRODUCTION CASING.
CUSTOMER REQUEST SPLIT RUNS WITH CNT LDT.

GRT: GRP.
CNT: PHIN, CLCNIN, PHINLS.
LDT: PORL, LCON, PECLN, CLLDIN, LDENN, PORLLS, PECSN.
MLT: INV R, NOR R, MSCLPIN
CST: DDCDTF, ITT, PORS, TT1, TT3.
PIT: ILD, ILM, CIRD, SFLAEC, SPU
MINERAL VOLUME: VM31, VM32, VM33.

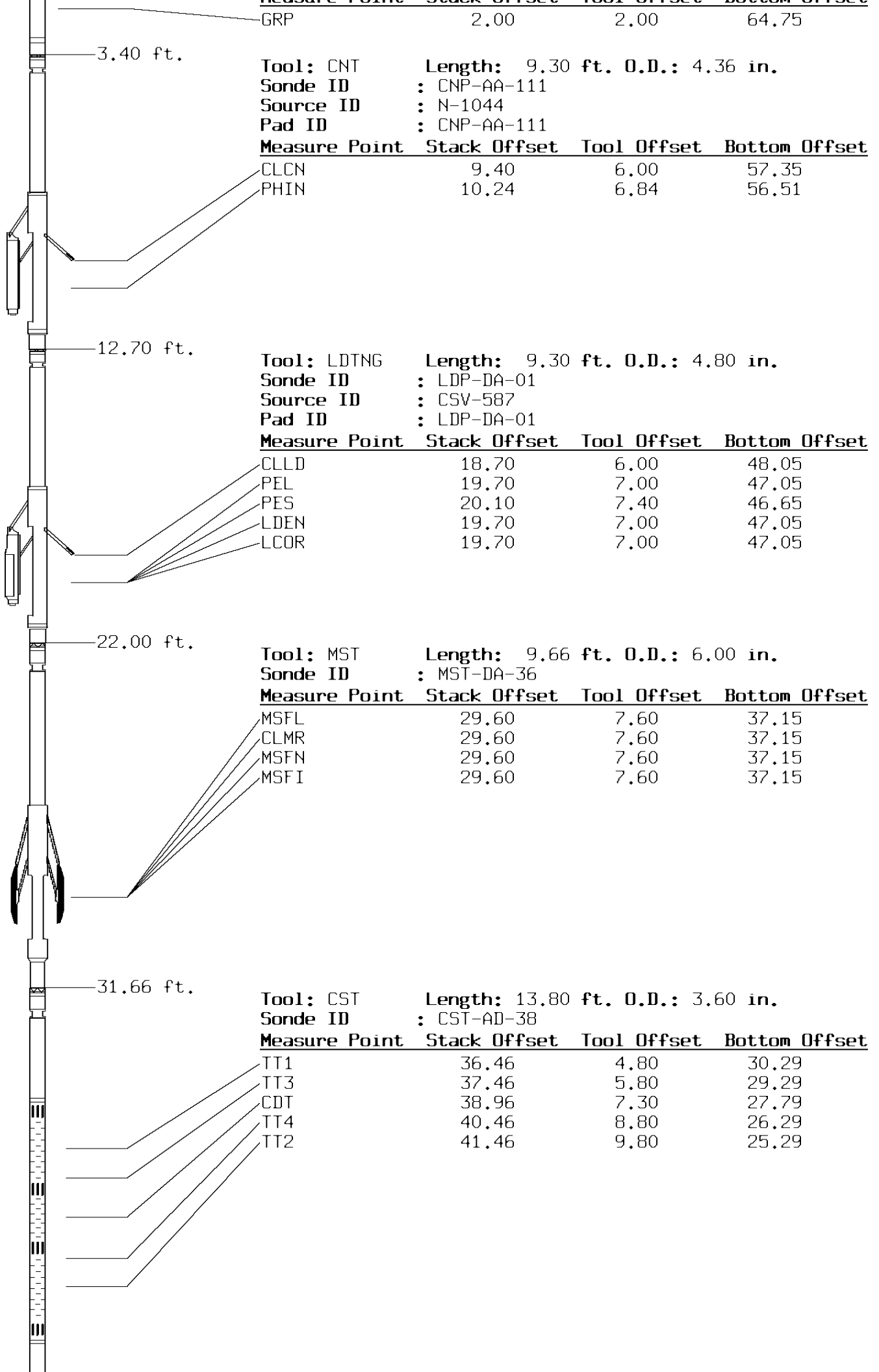
OPERATORS:
R.AUSTIN
M.BURKE
THANK YOU FOR USING TUCKER WIRELINE SERVICES!

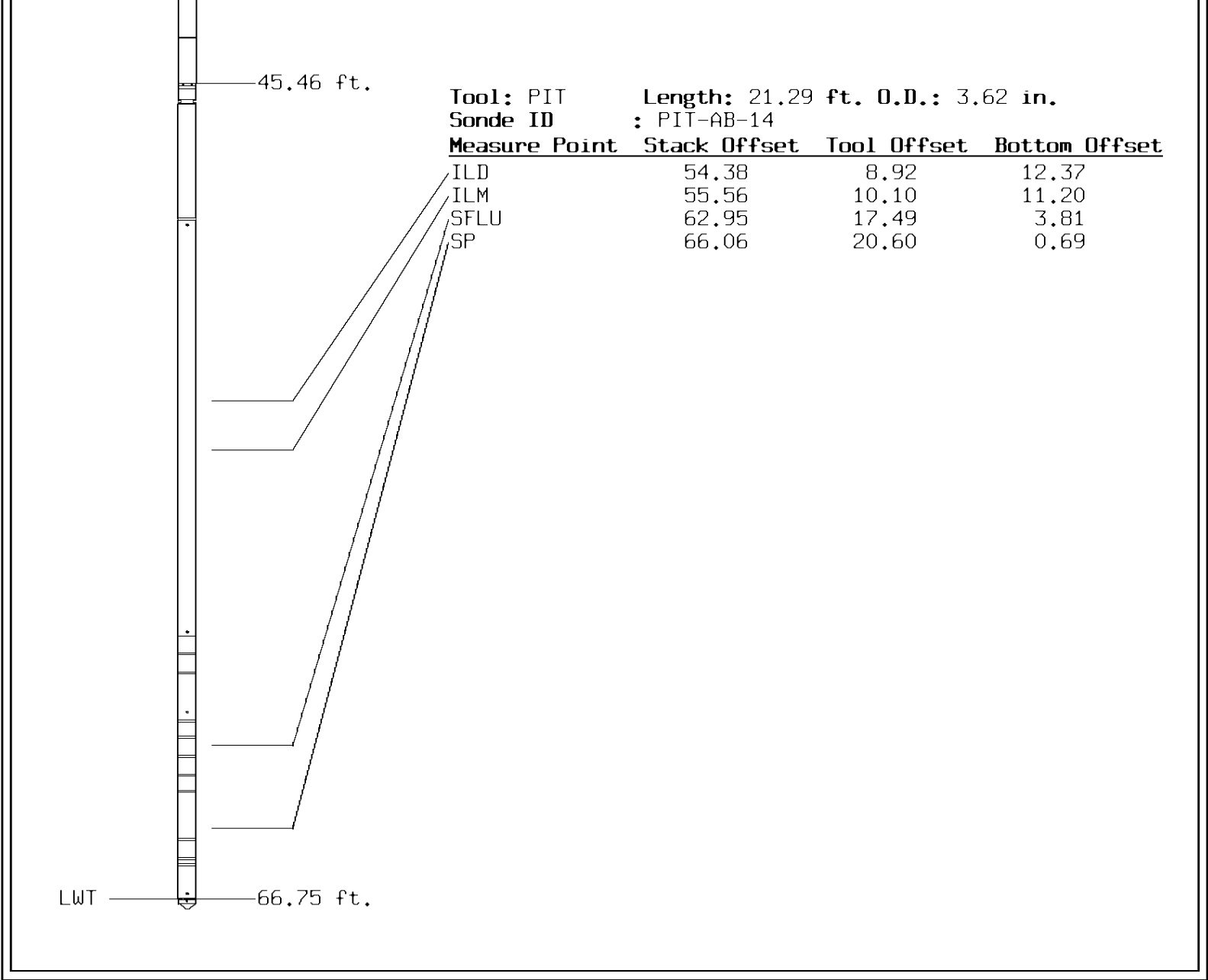
Tool String Schematic

Total Tool Length - 66.75 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 1171.00 lbs.



Tool: GRTB **Length:** 3.40 ft. **O.D.:** 3.60 in.
Sonde ID : GRT-BA-121
Measure Point **Stack Offset** **Tool Offset** **Bottom Offset**





CALIPER MICRO INCHES (IN)	
16	26
6	16

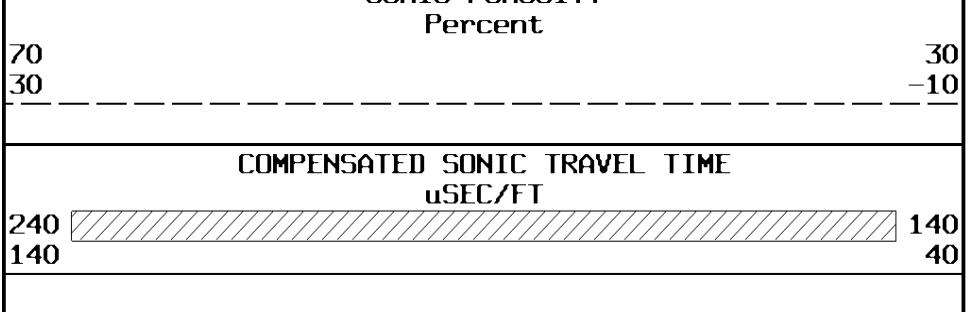
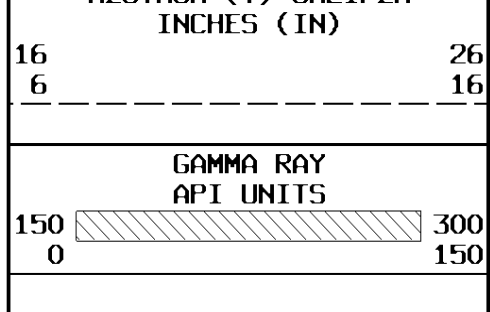
TENSION LBS	
10000	0

BIT SIZE INCHES (IN)	
6	16

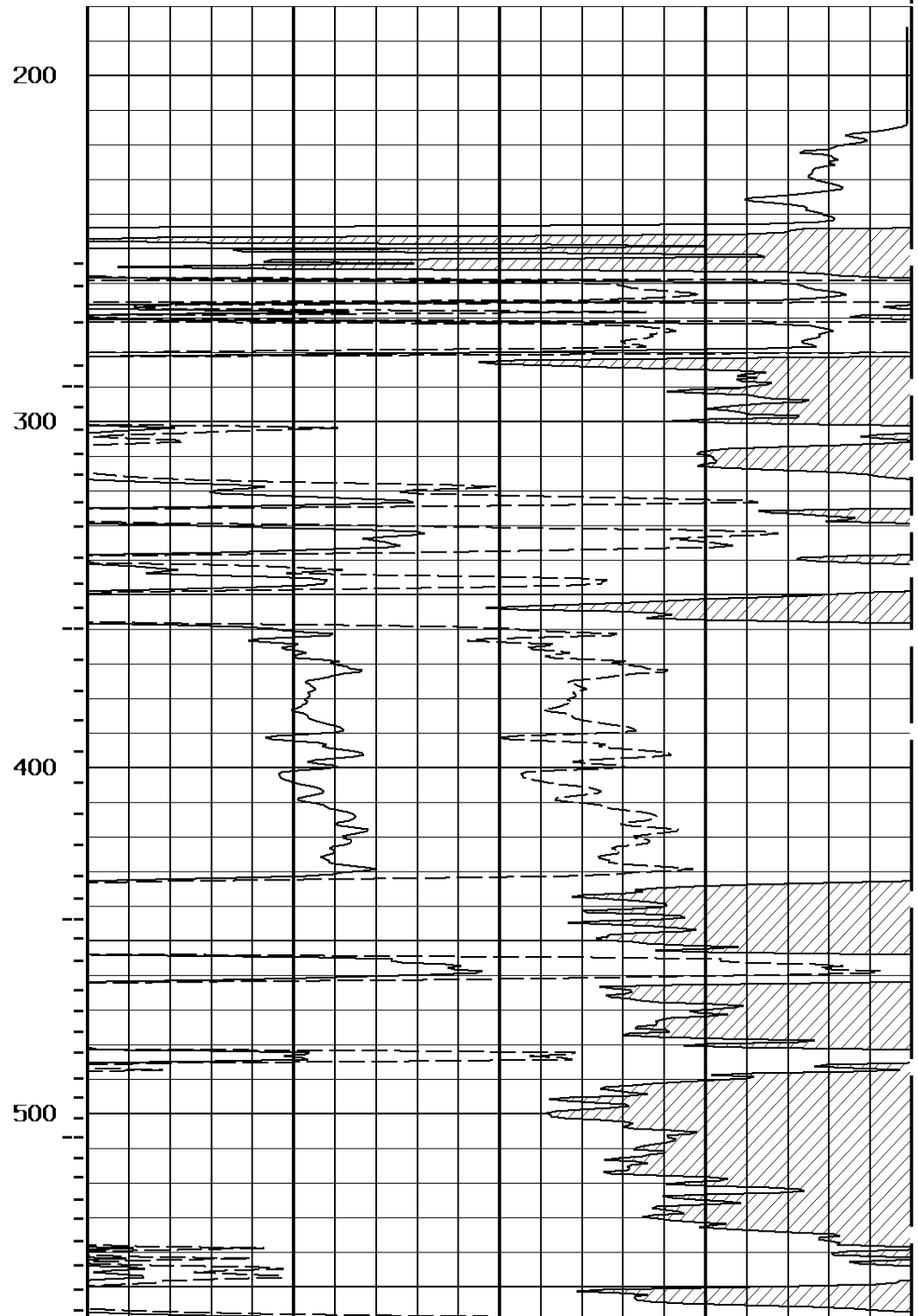
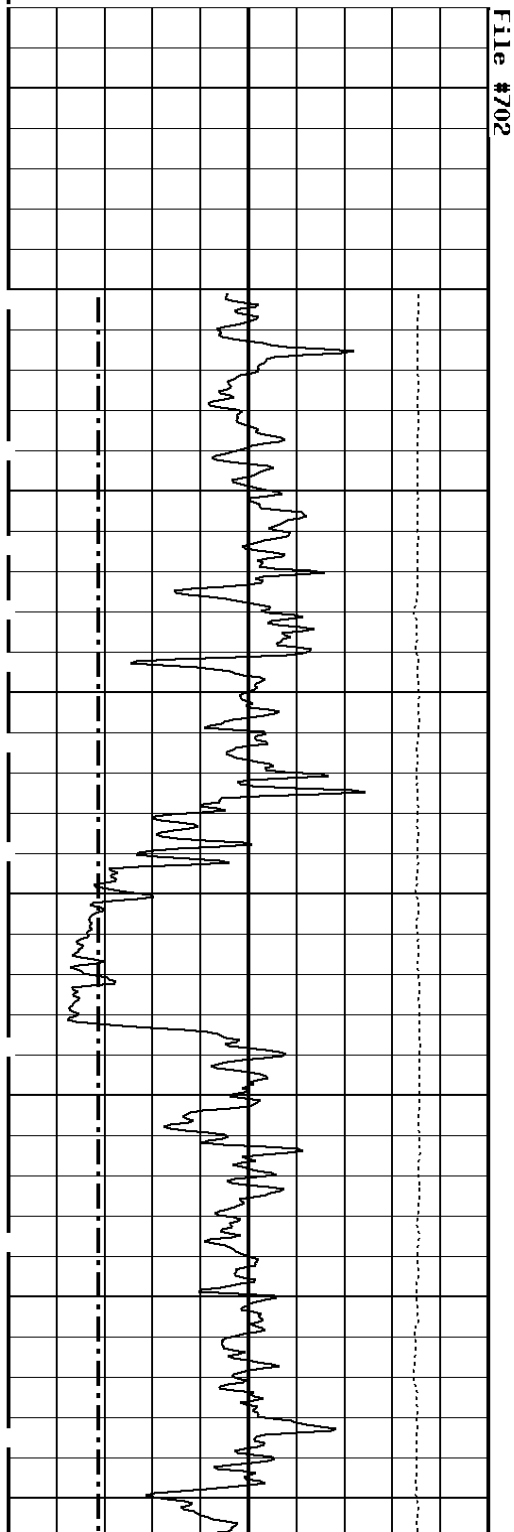
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16

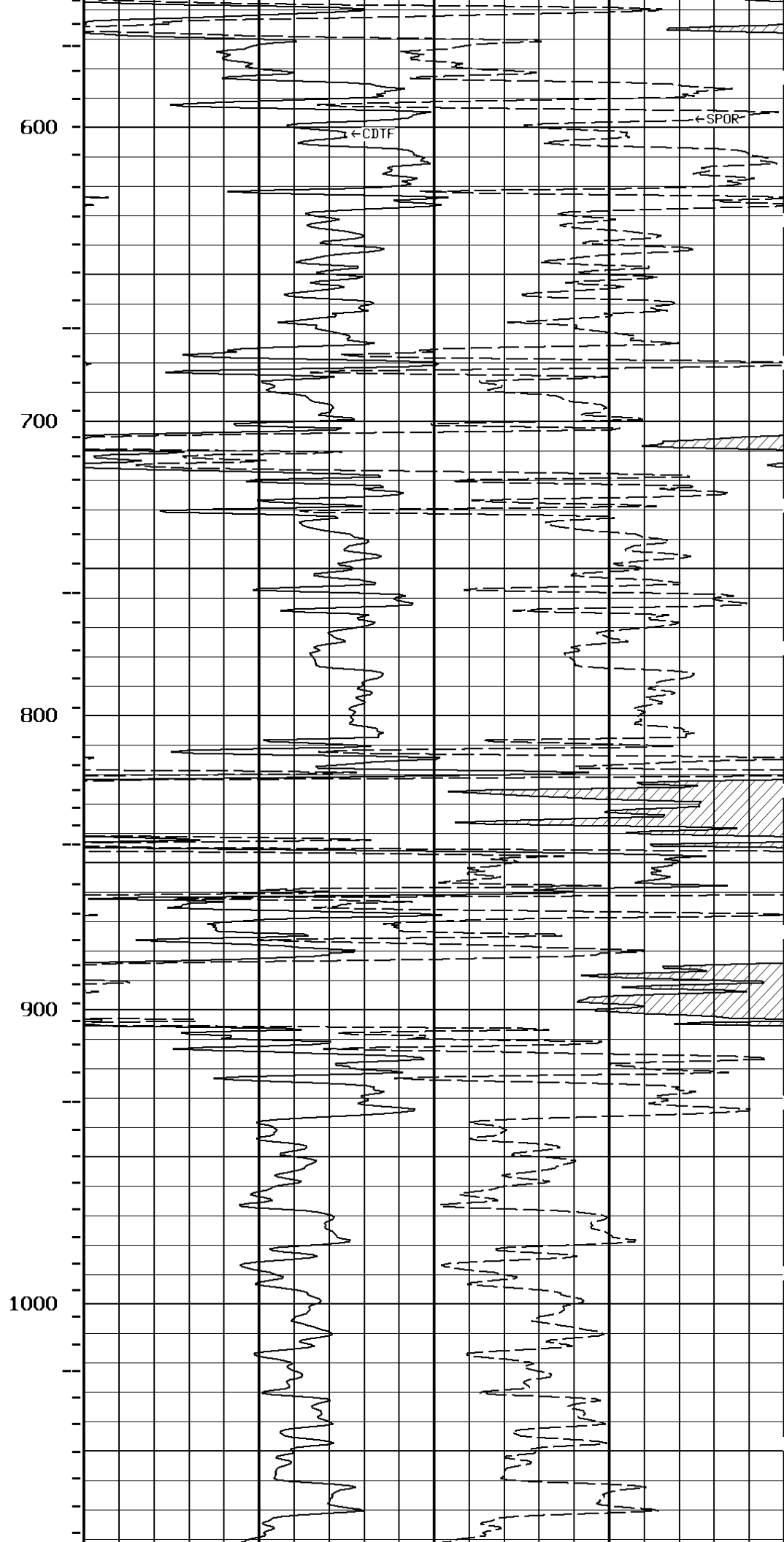
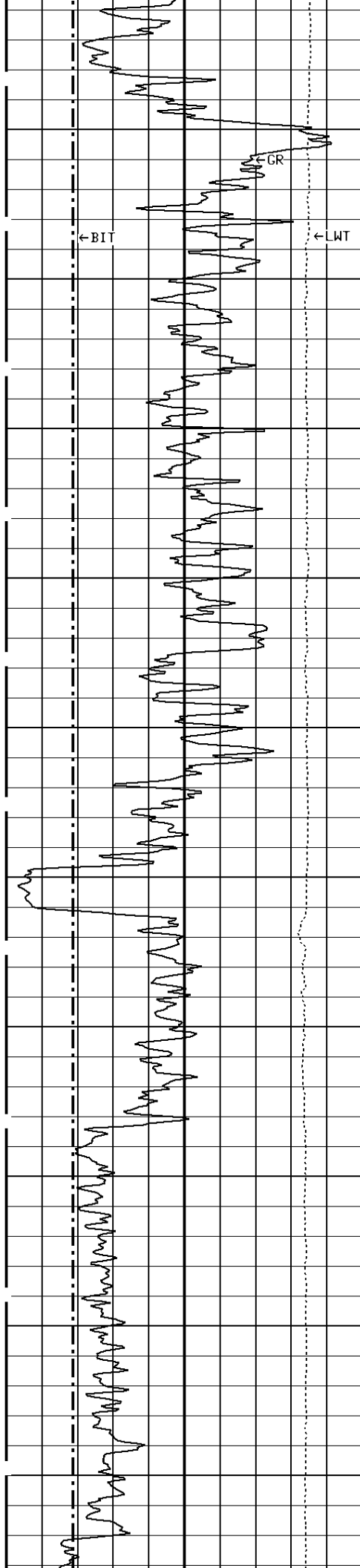
NEUTRON (Y) CALIPER	

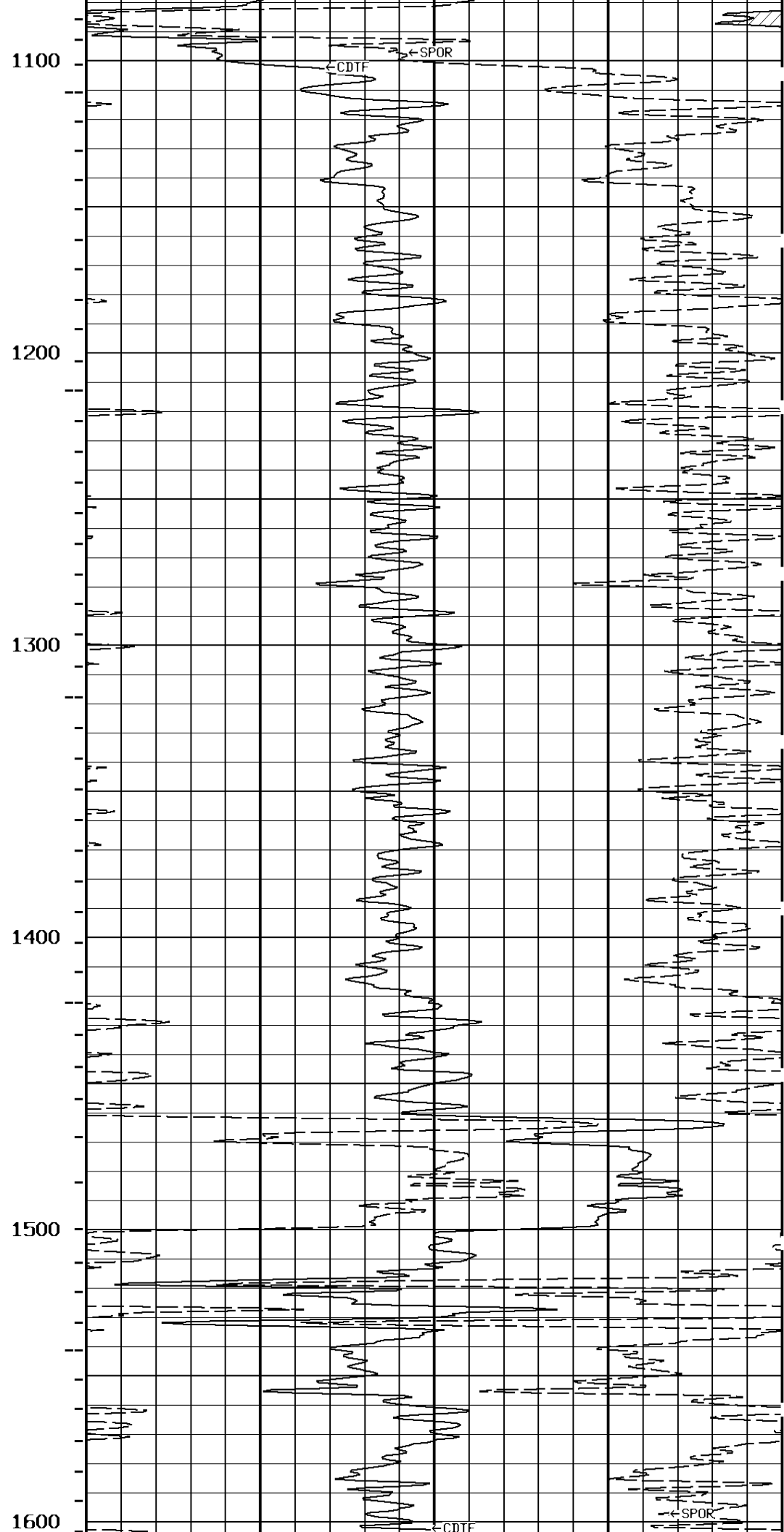
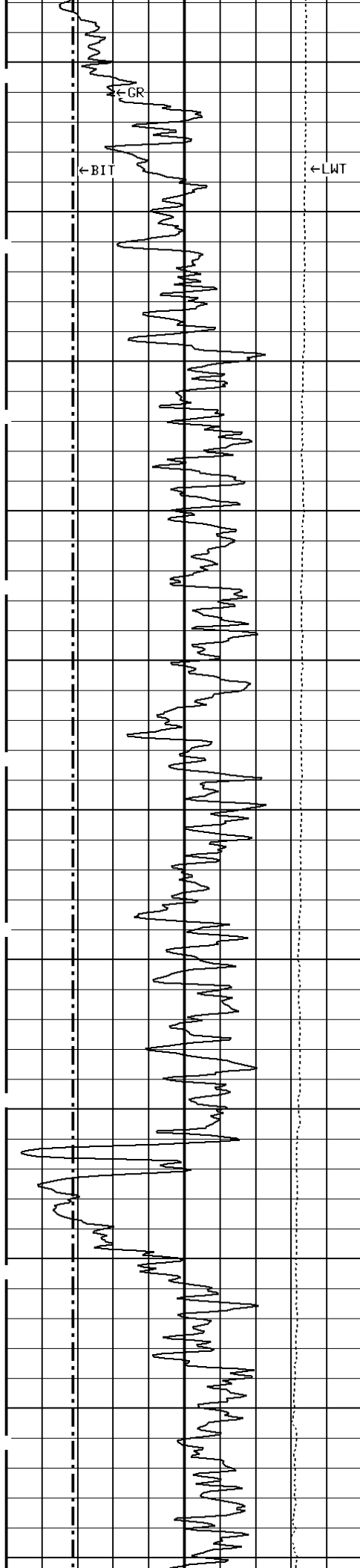
SONIC POROSITY

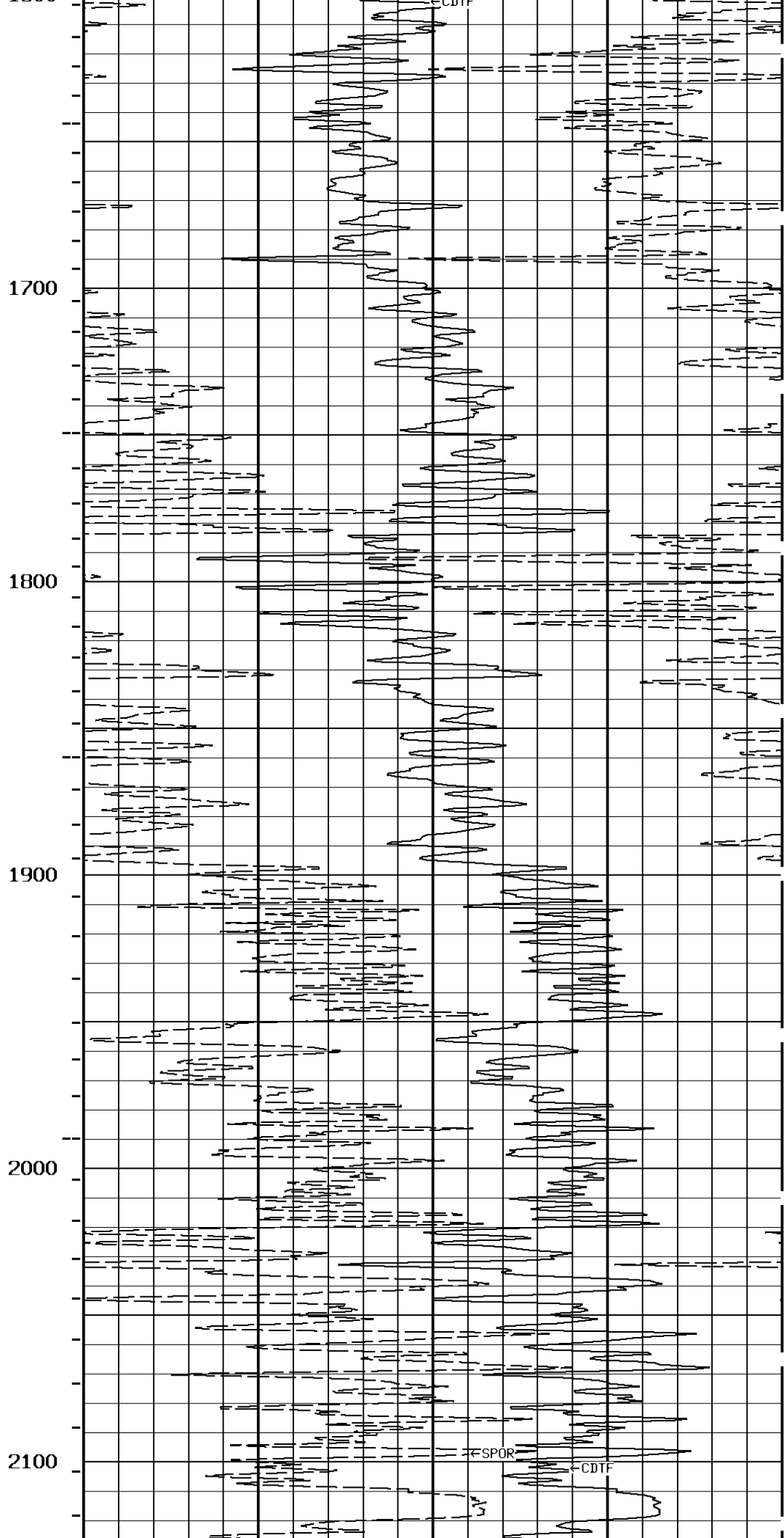
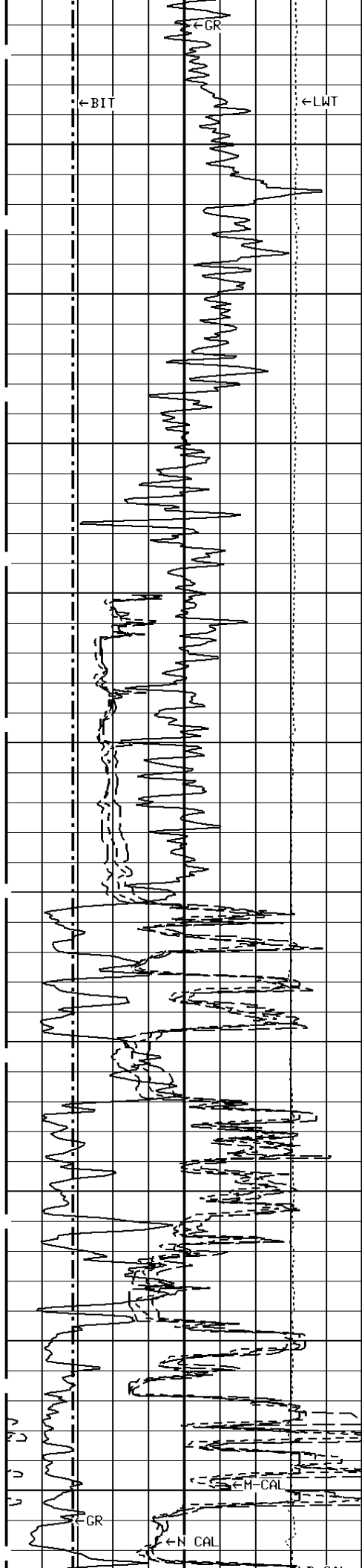


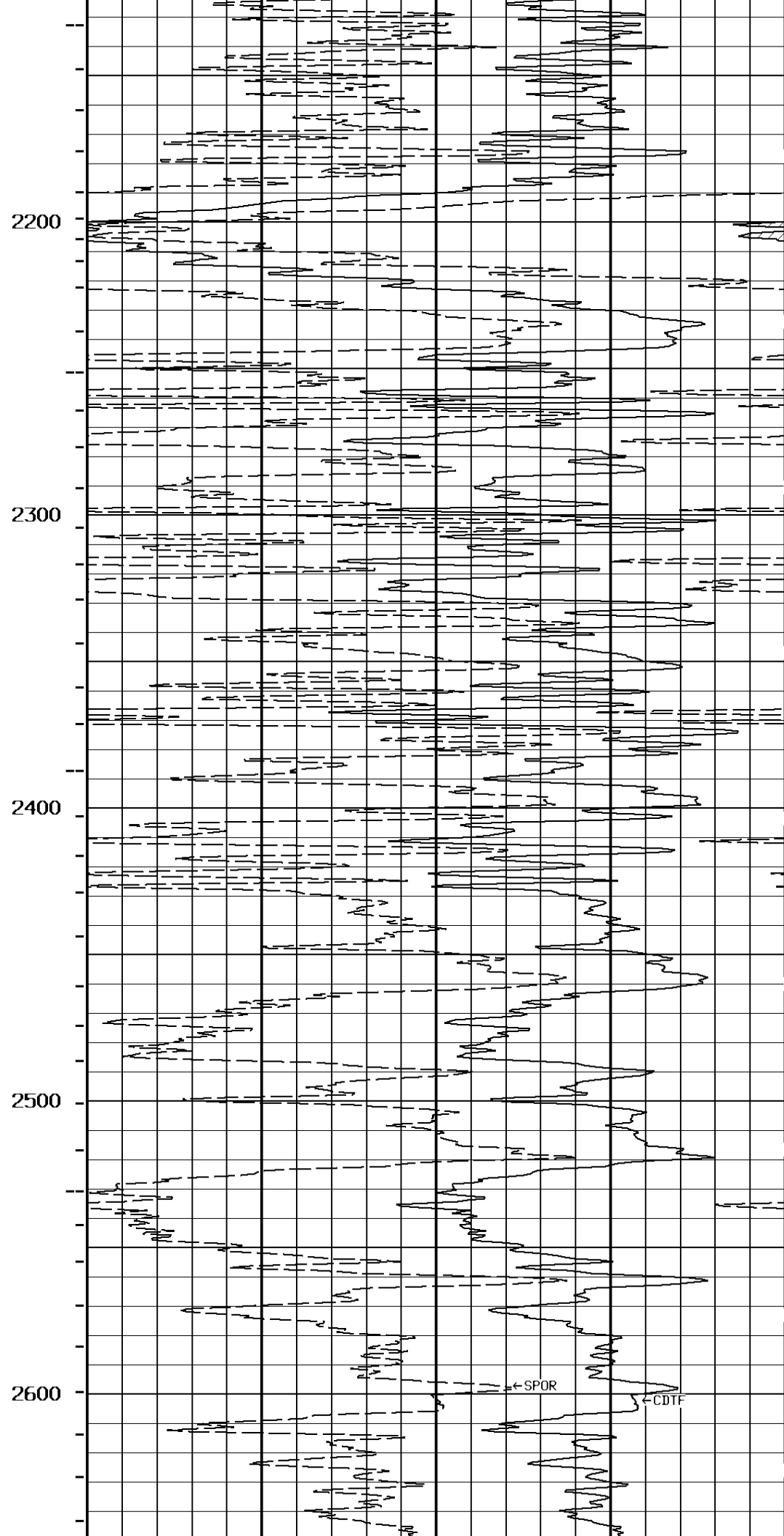
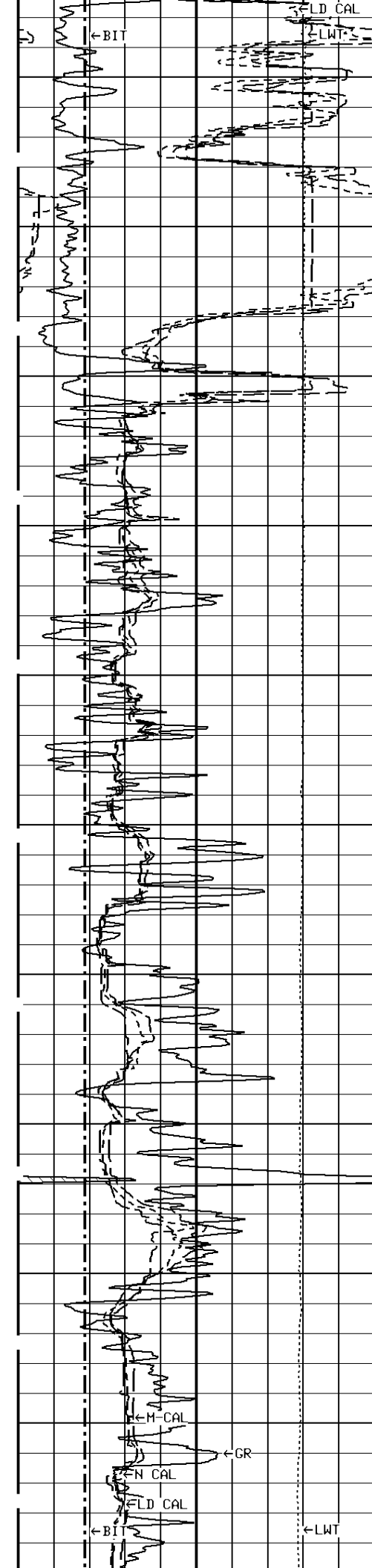
1:600 SECTION

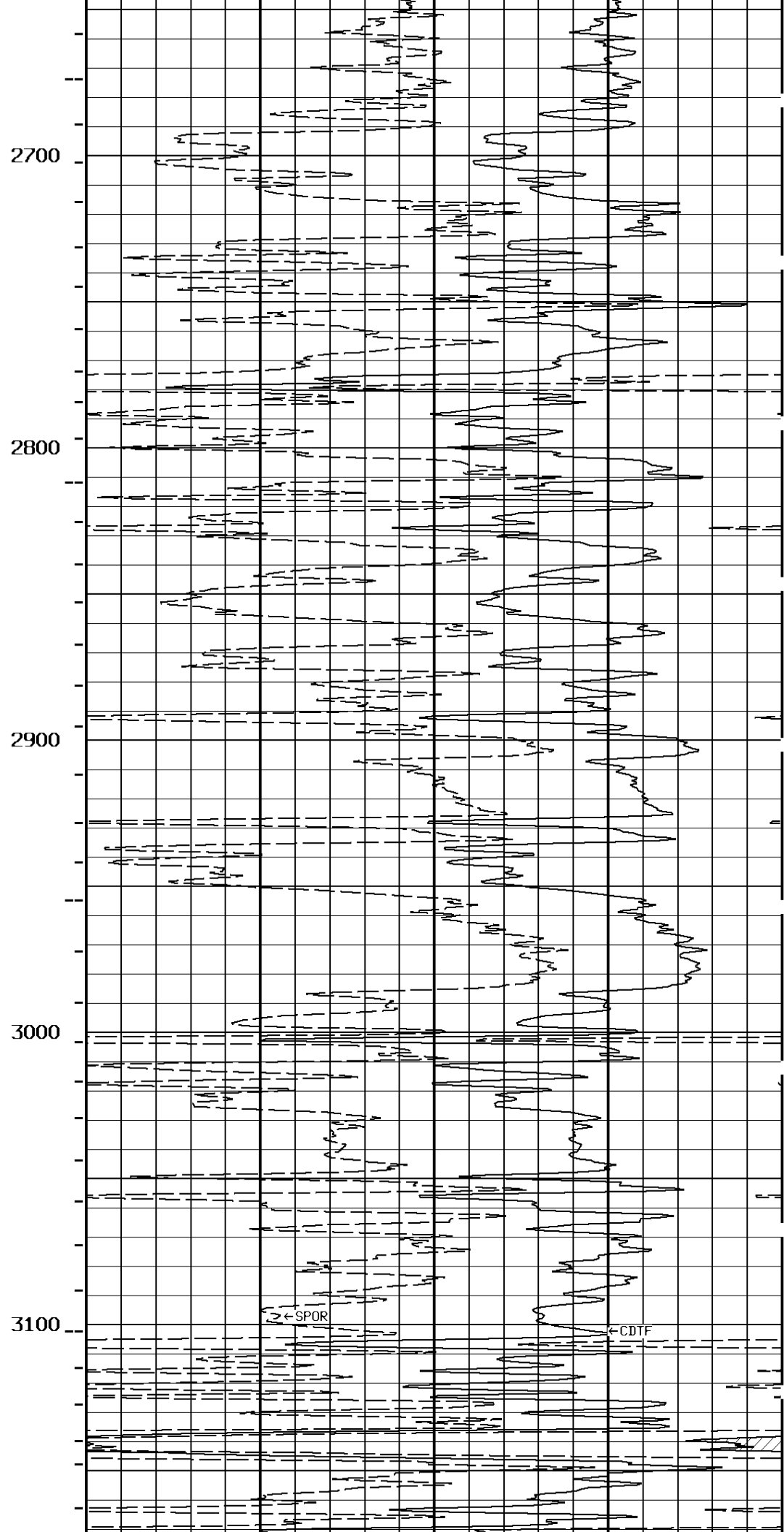
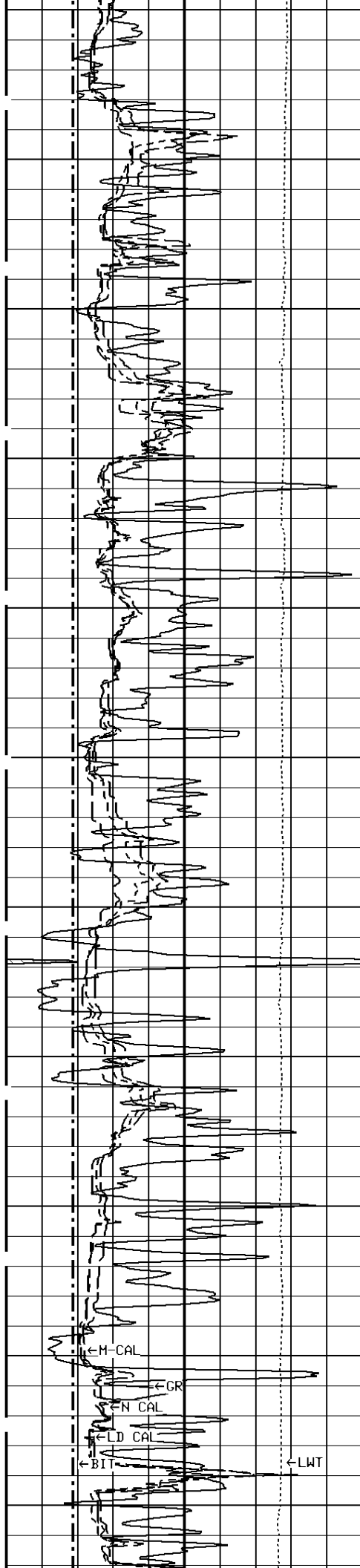


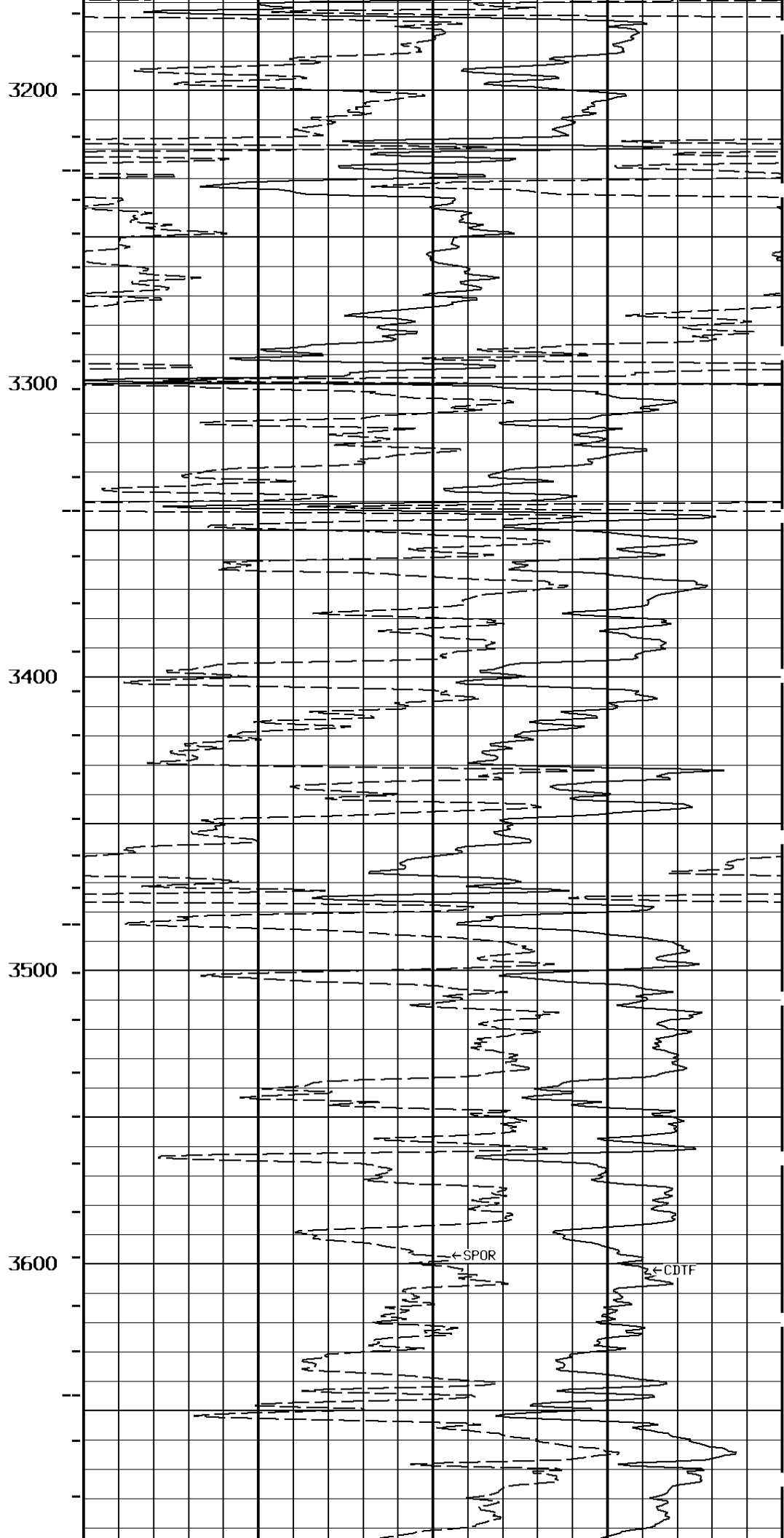
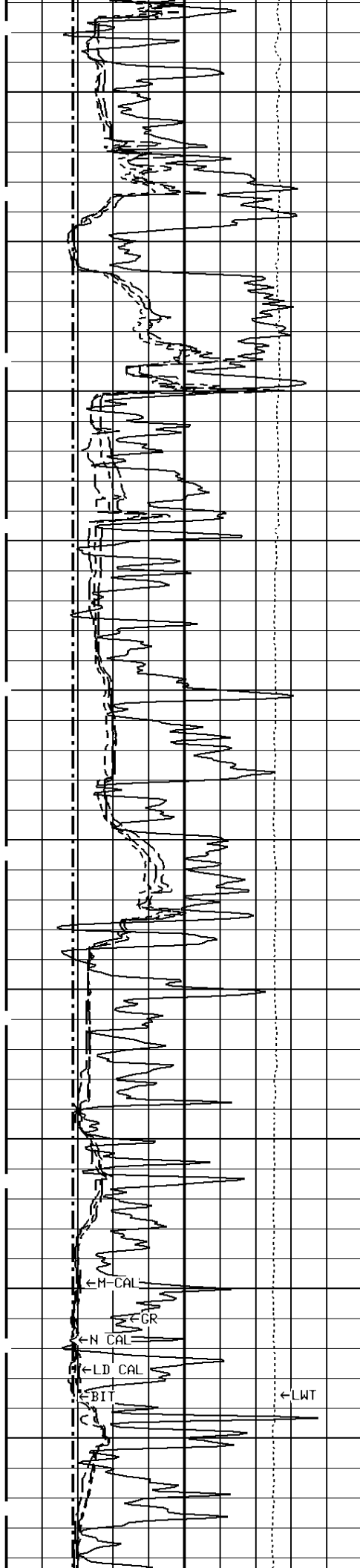


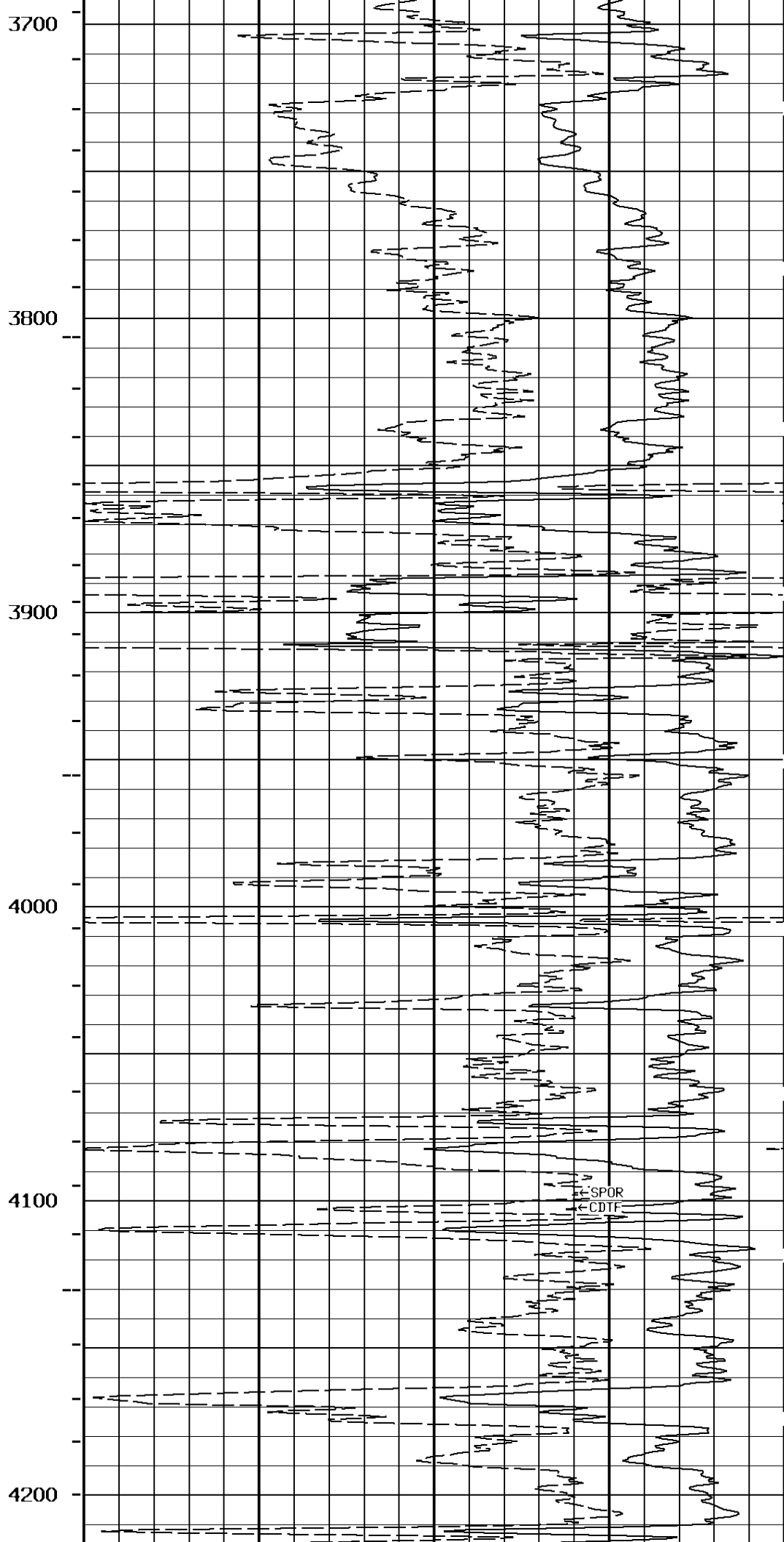
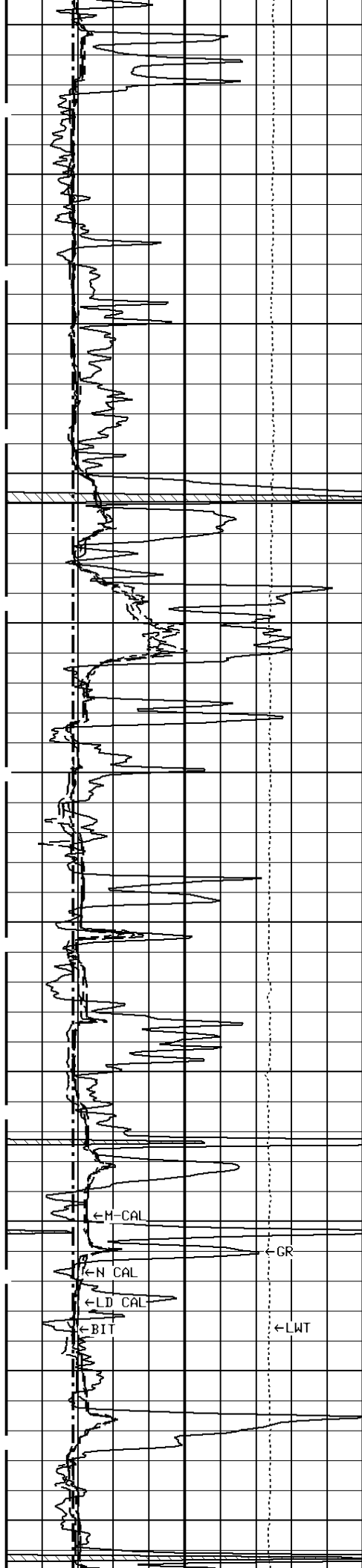


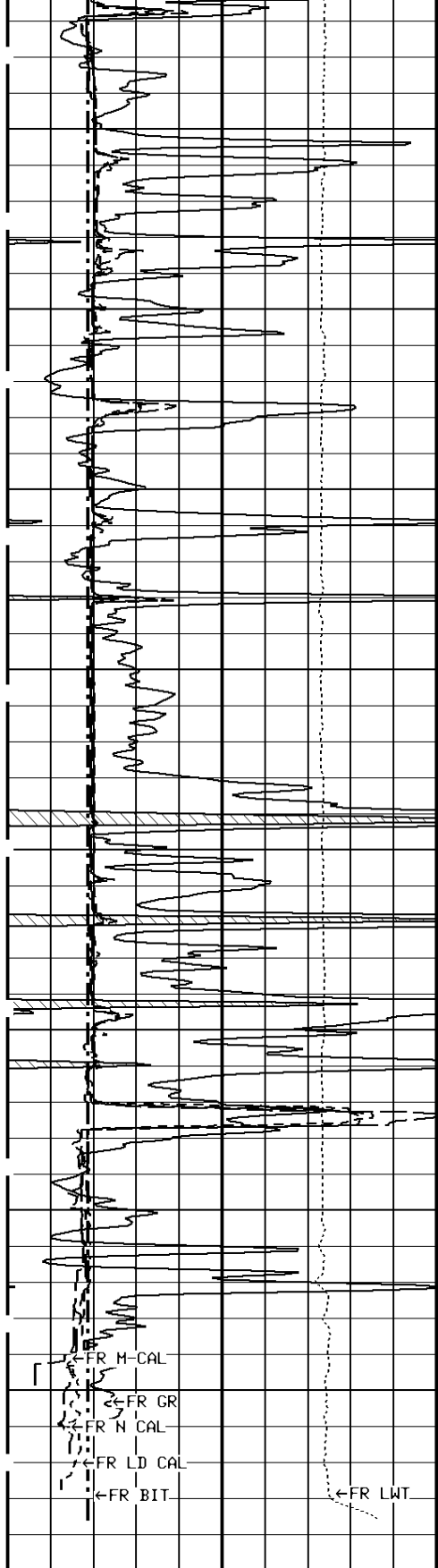




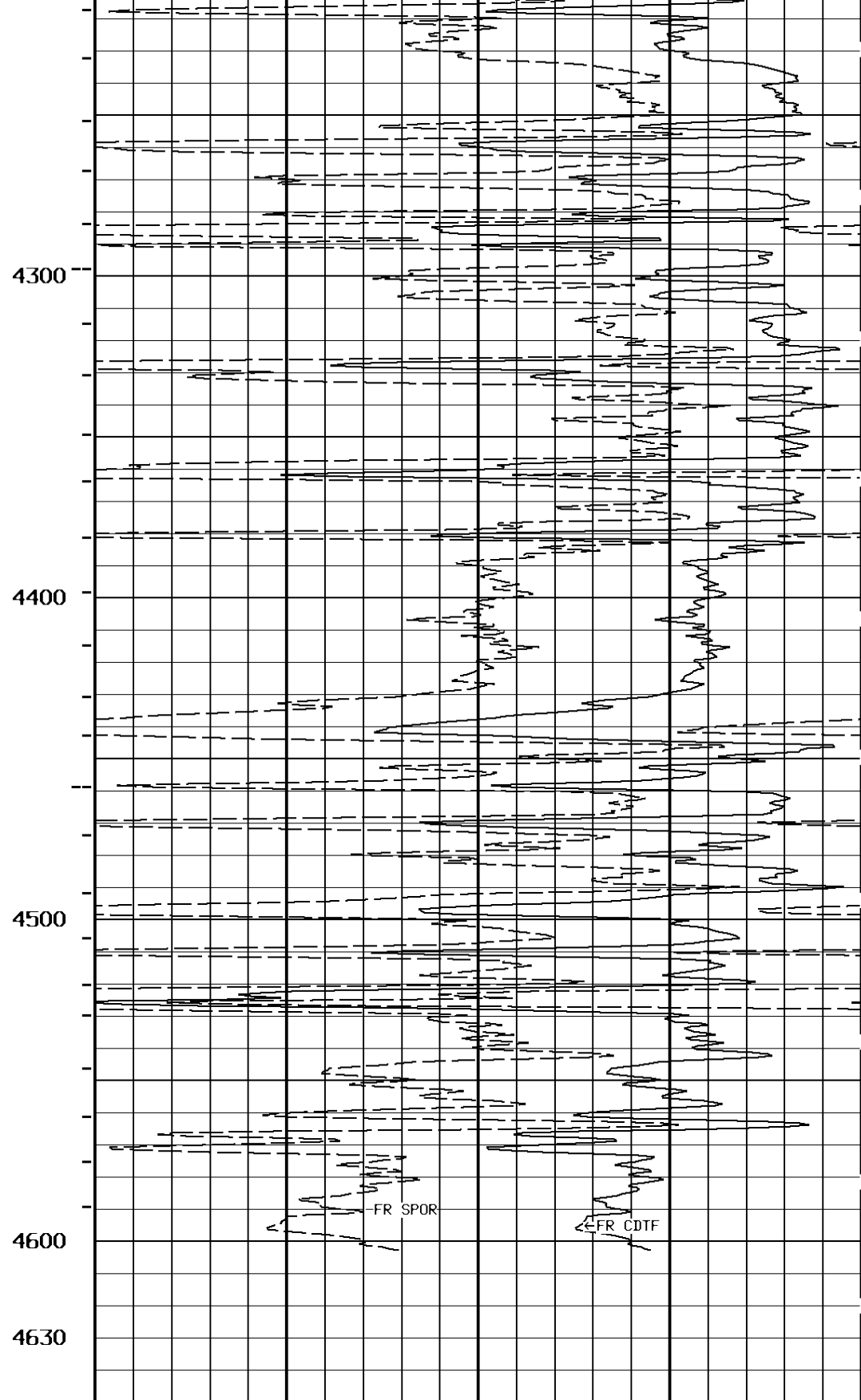






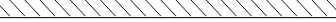


File #702



1:600 SECTION



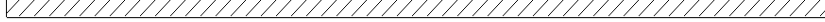
150		300
0		150
NEUTRON (Y) CALIPER INCHES (IN)		
16		26
6		16

DENSITY (X) CALIPER INCHES (IN)		
16		26
6		16

BIT SIZE INCHES (IN)		
6		16

TENSION LBS		
10000		0

CALIPER MICRO INCHES (IN)		
16		26
6		16

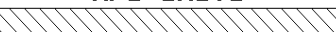
240		140
140		40
SONIC POROSITY Percent		
70		30
30		-10

TENSION LBS		
10000		0

BIT SIZE INCHES (IN)		
6		16

DENSITY (X) CALIPER INCHES (IN)		
16		26
6		16

NEUTRON (Y) CALIPER INCHES (IN)		
16		26
6		16

GAMMA RAY API UNITS		
150		300
0		150

TT3 uSEC		
950		50

TT1 uSEC		
950		50

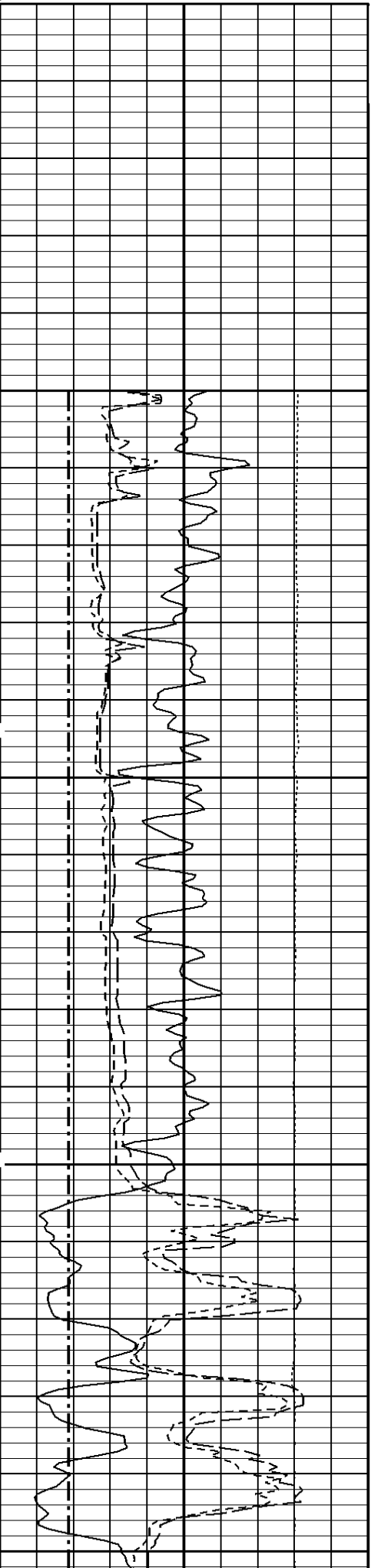
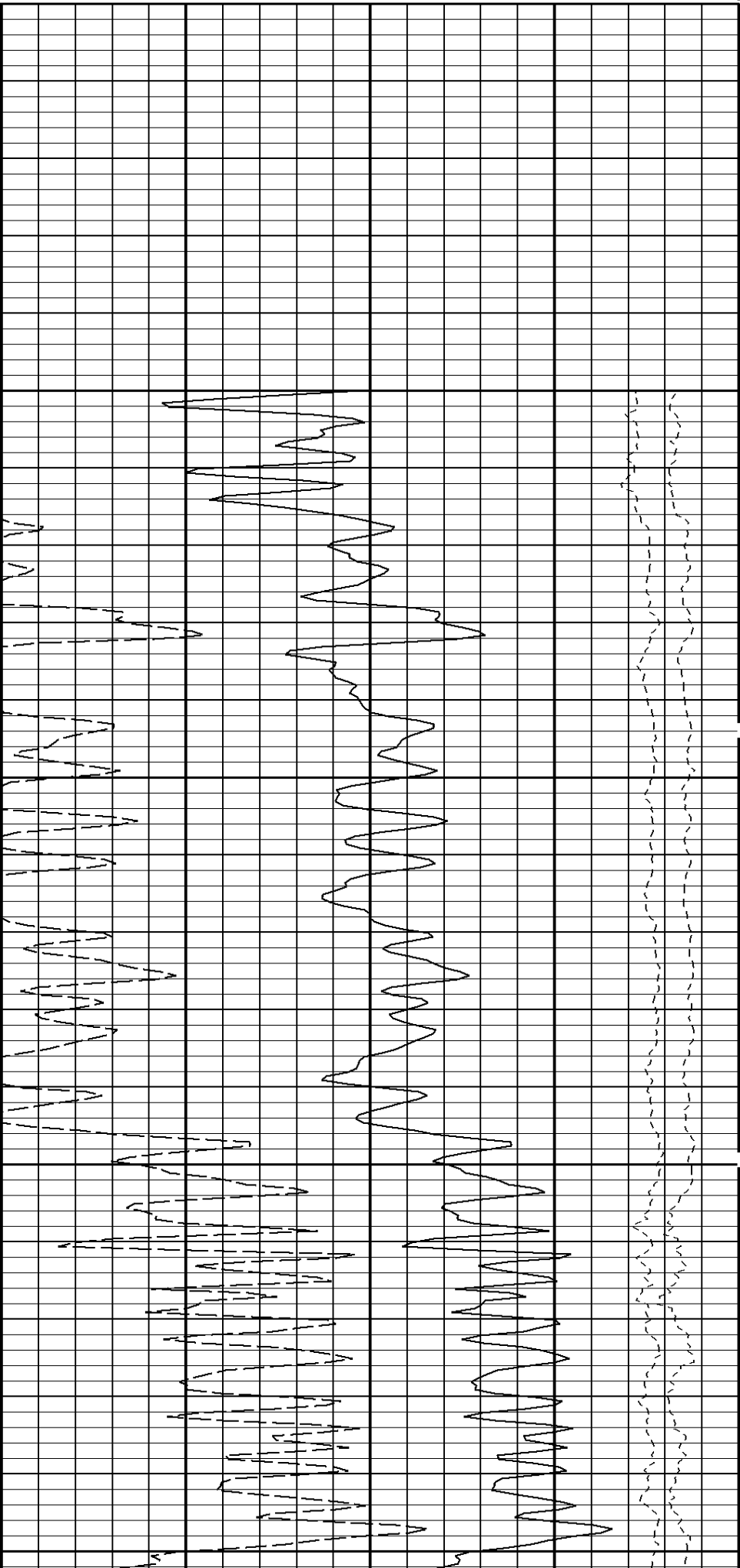
COMPENSATED SONIC TRAVEL TIME uSEC/FT		
240		140
140		40
SONIC POROSITY Percent		
30		-10

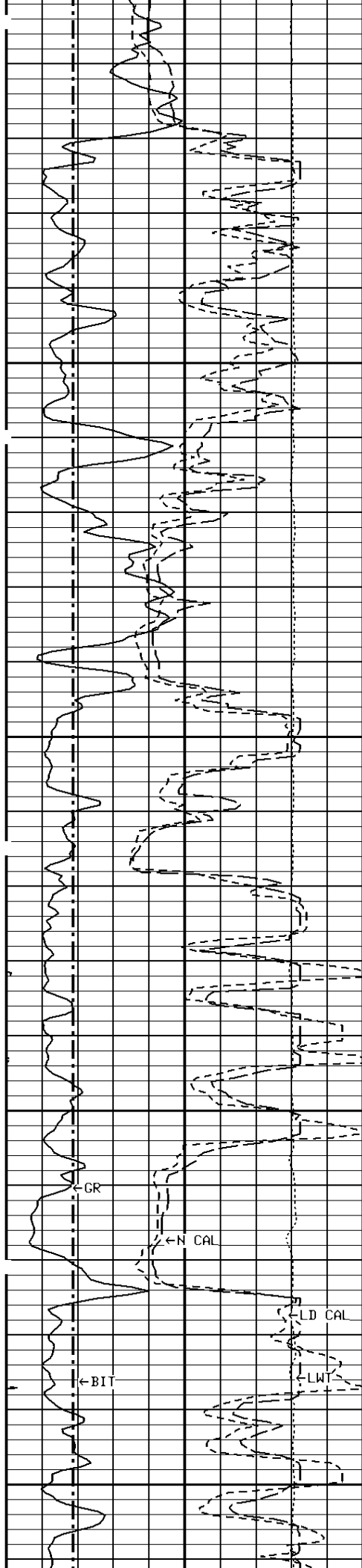
1:240 MAIN SECTION

File #725

1800

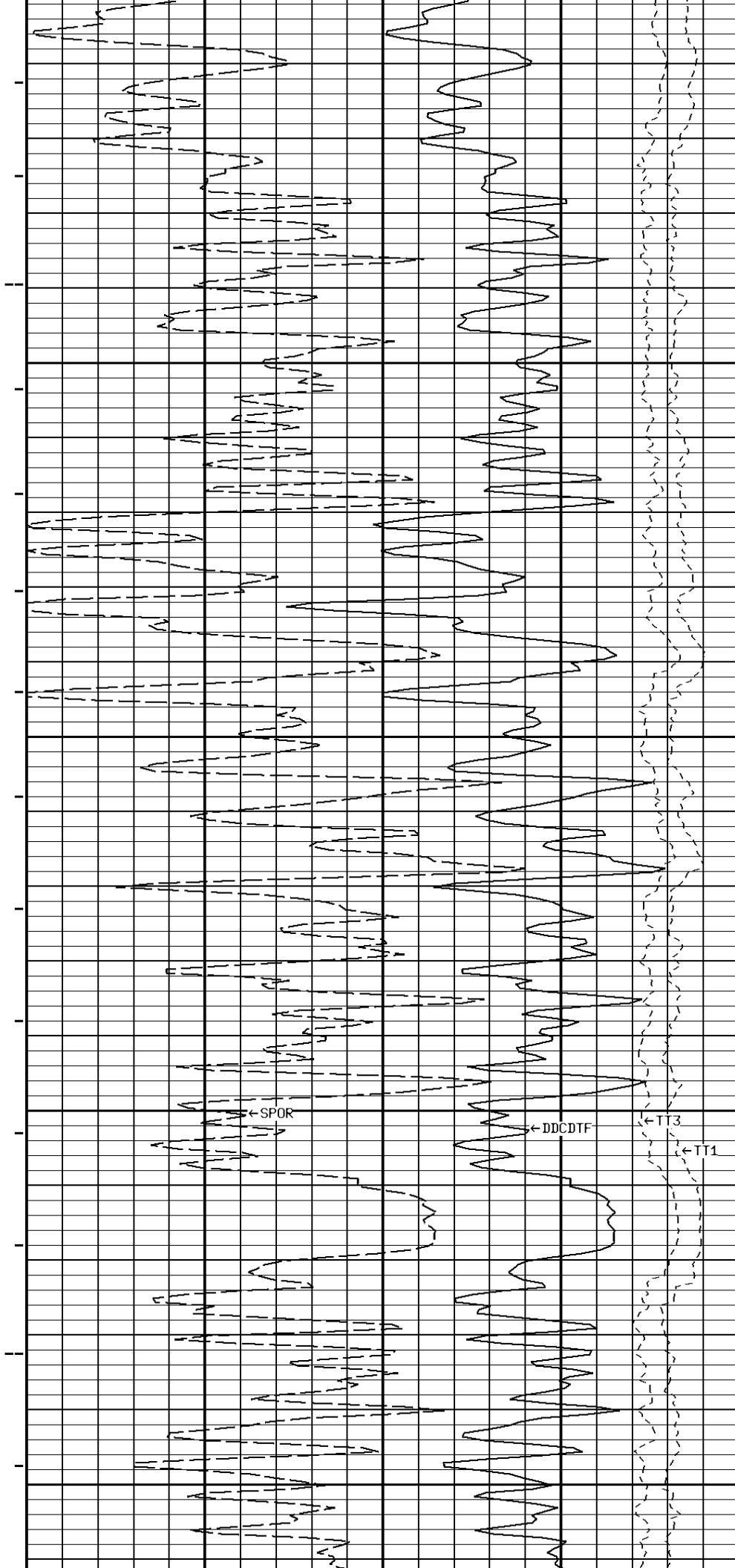
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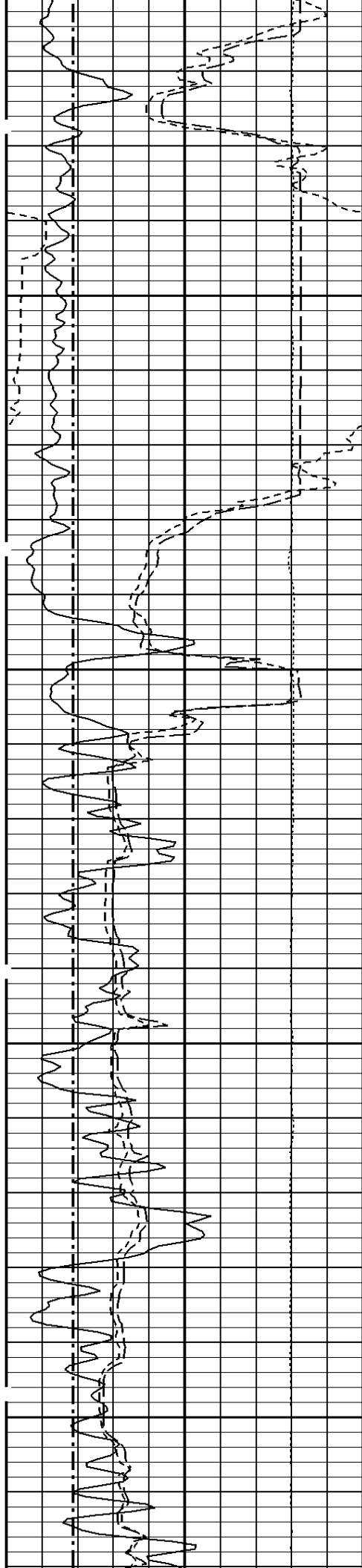




2000

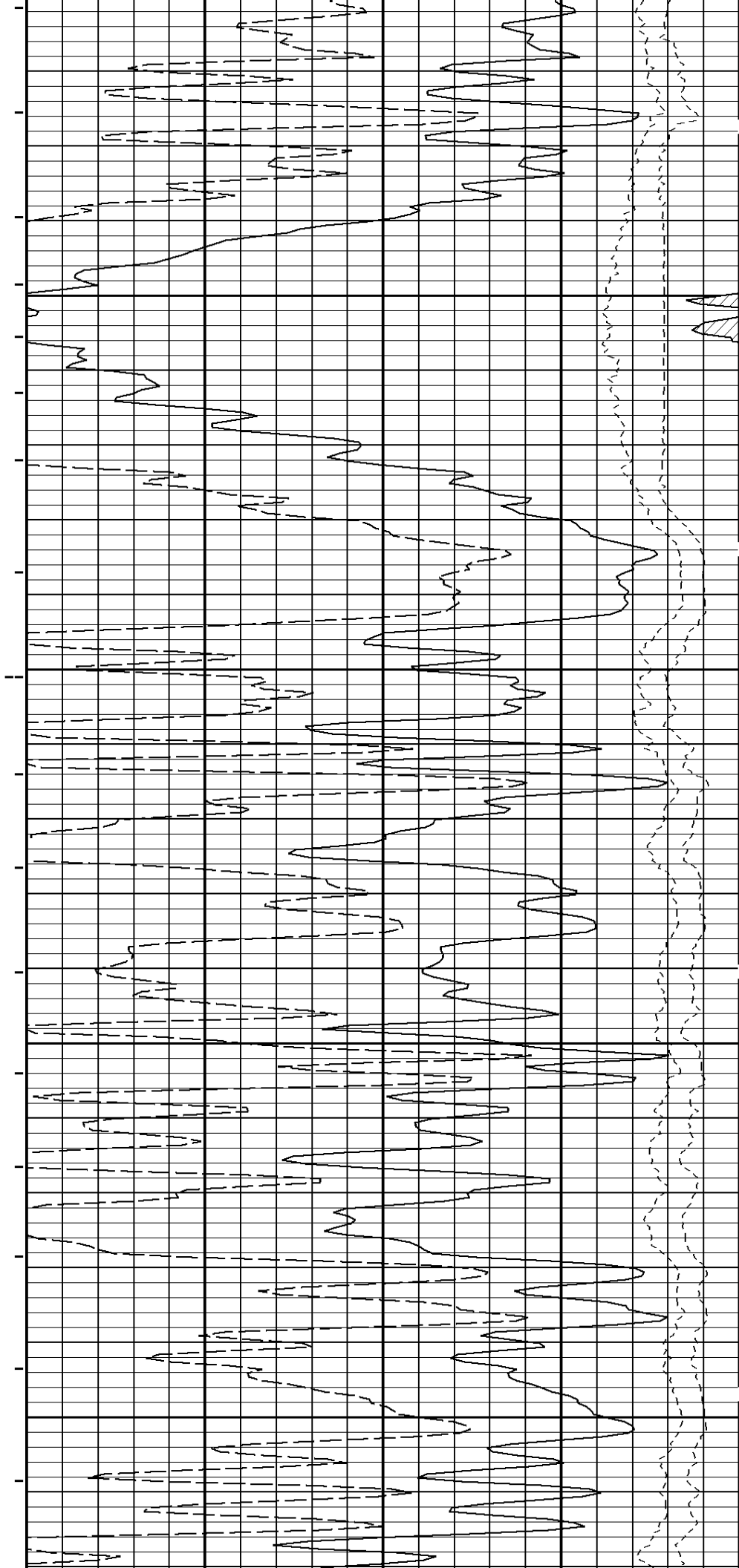
2100

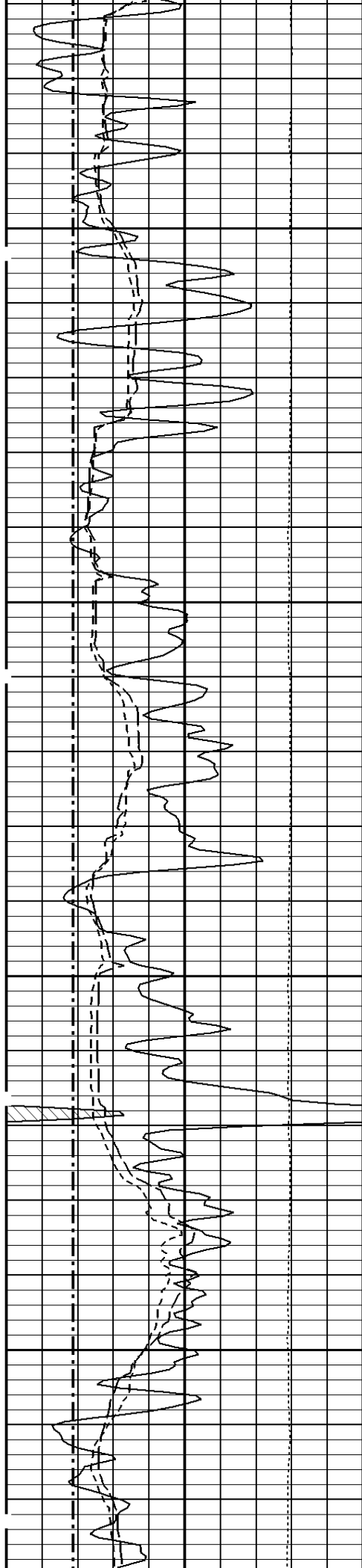




2200

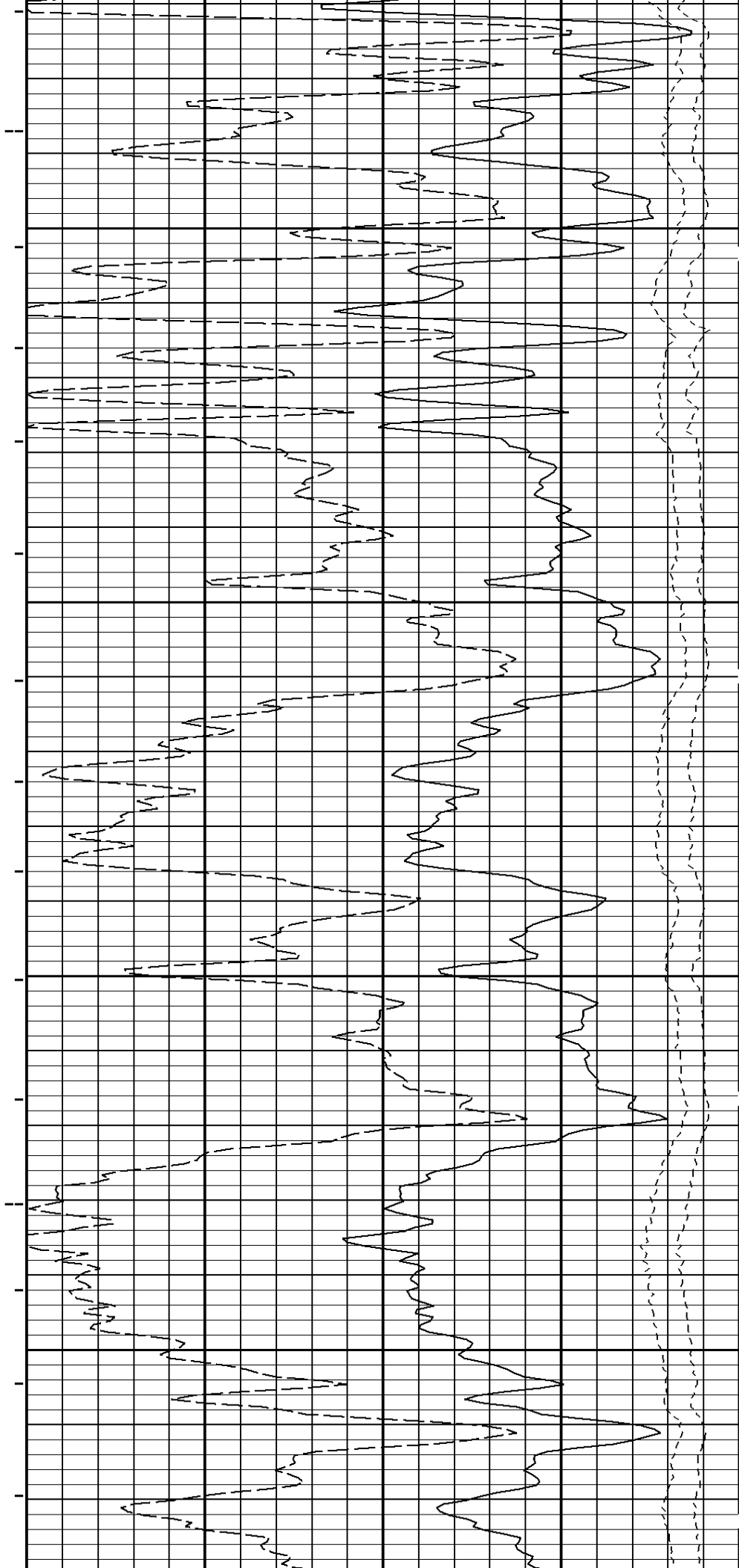
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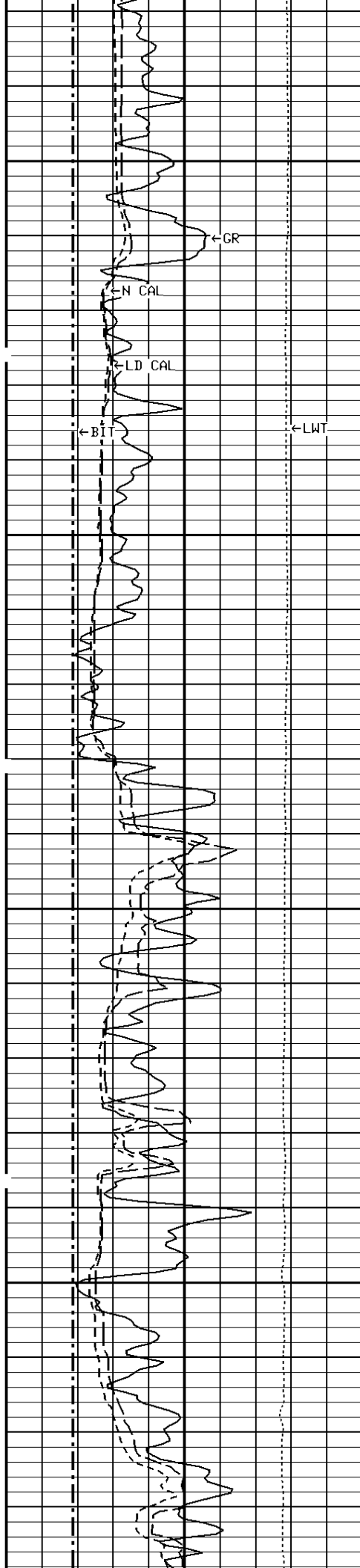




2400

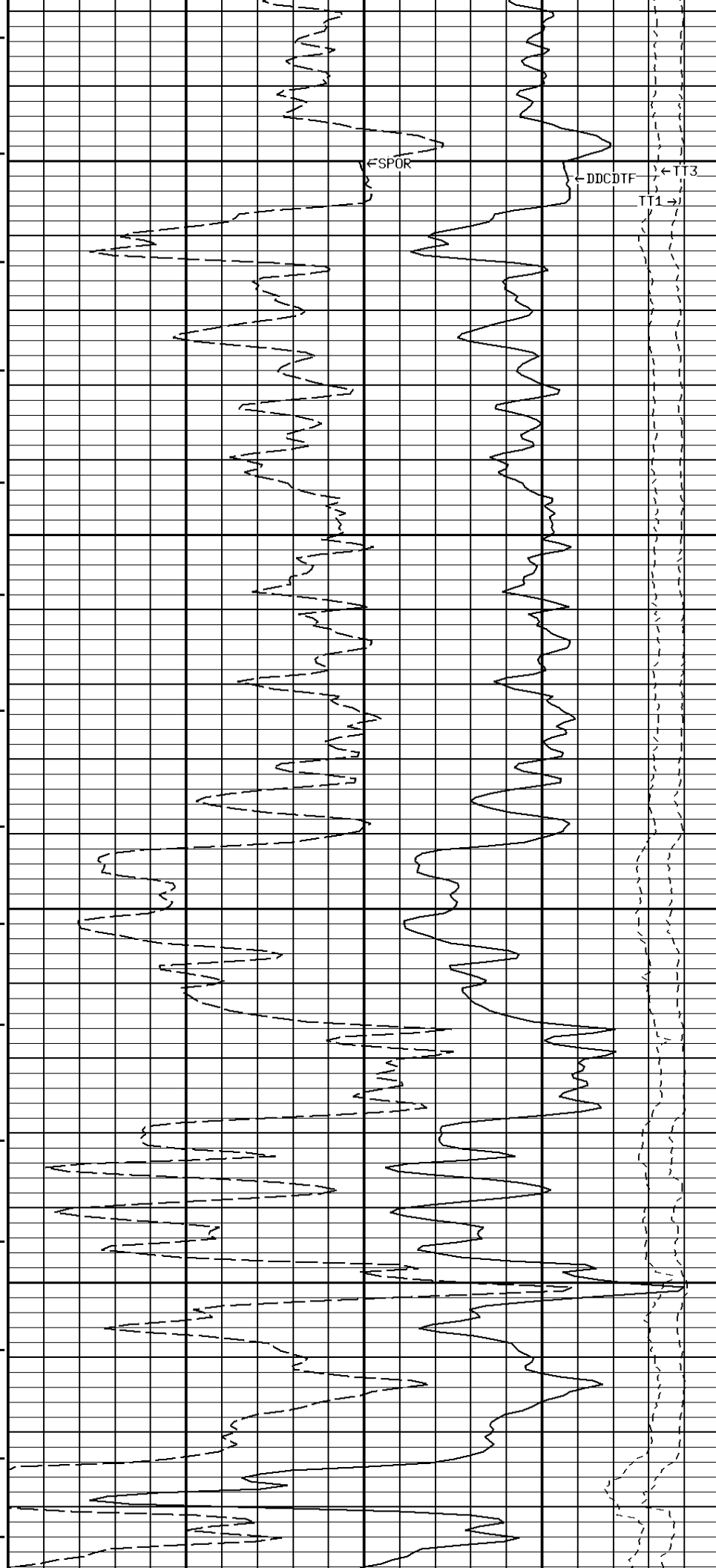
2500

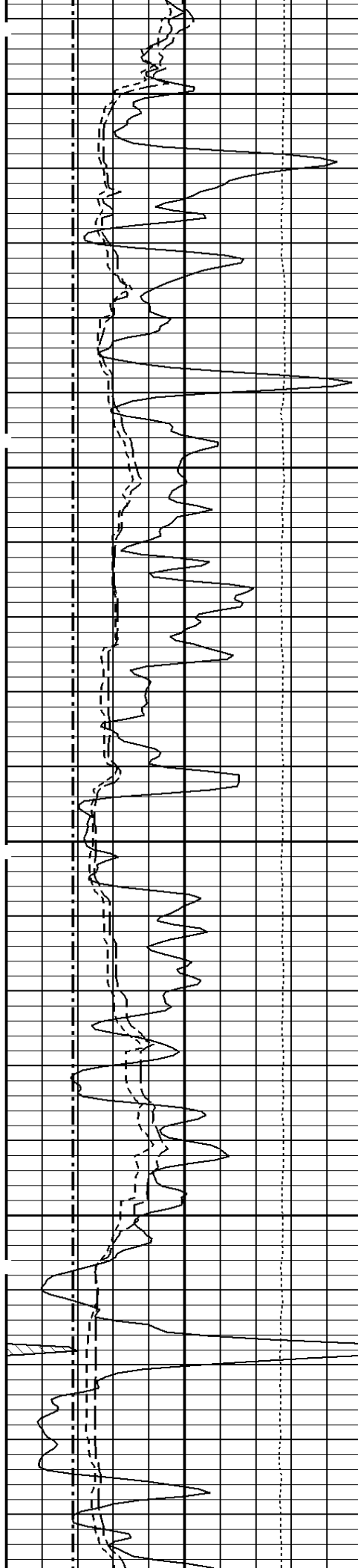




2600

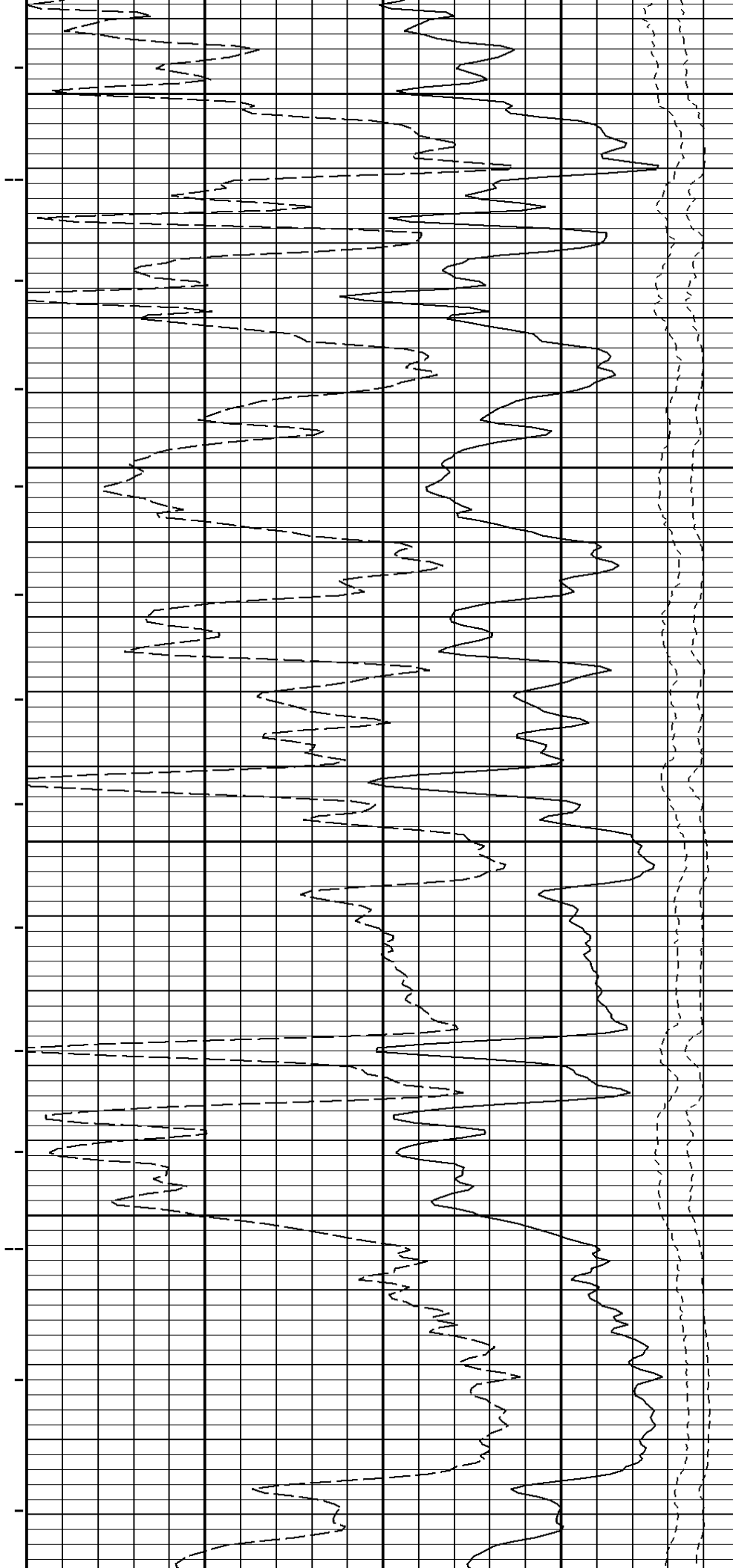
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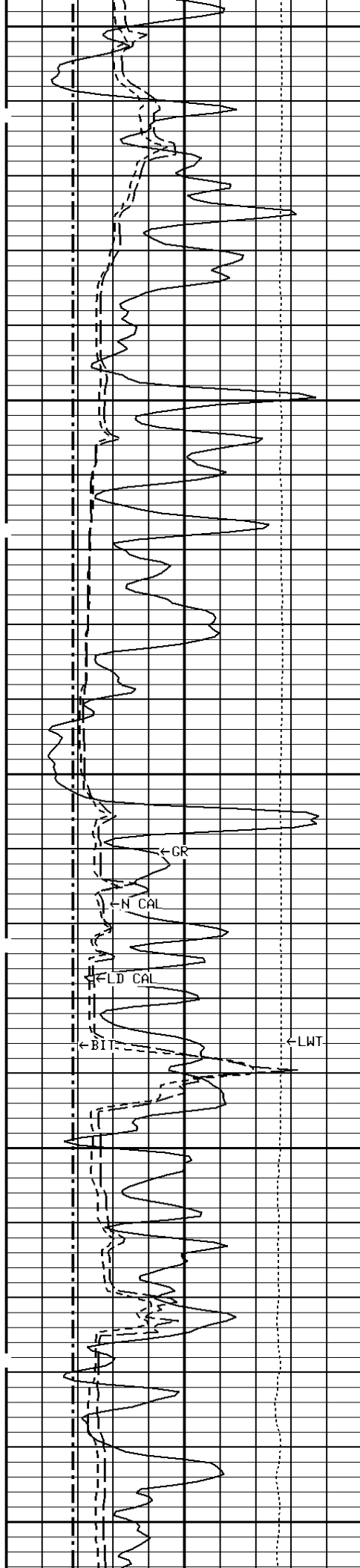




2800

2900

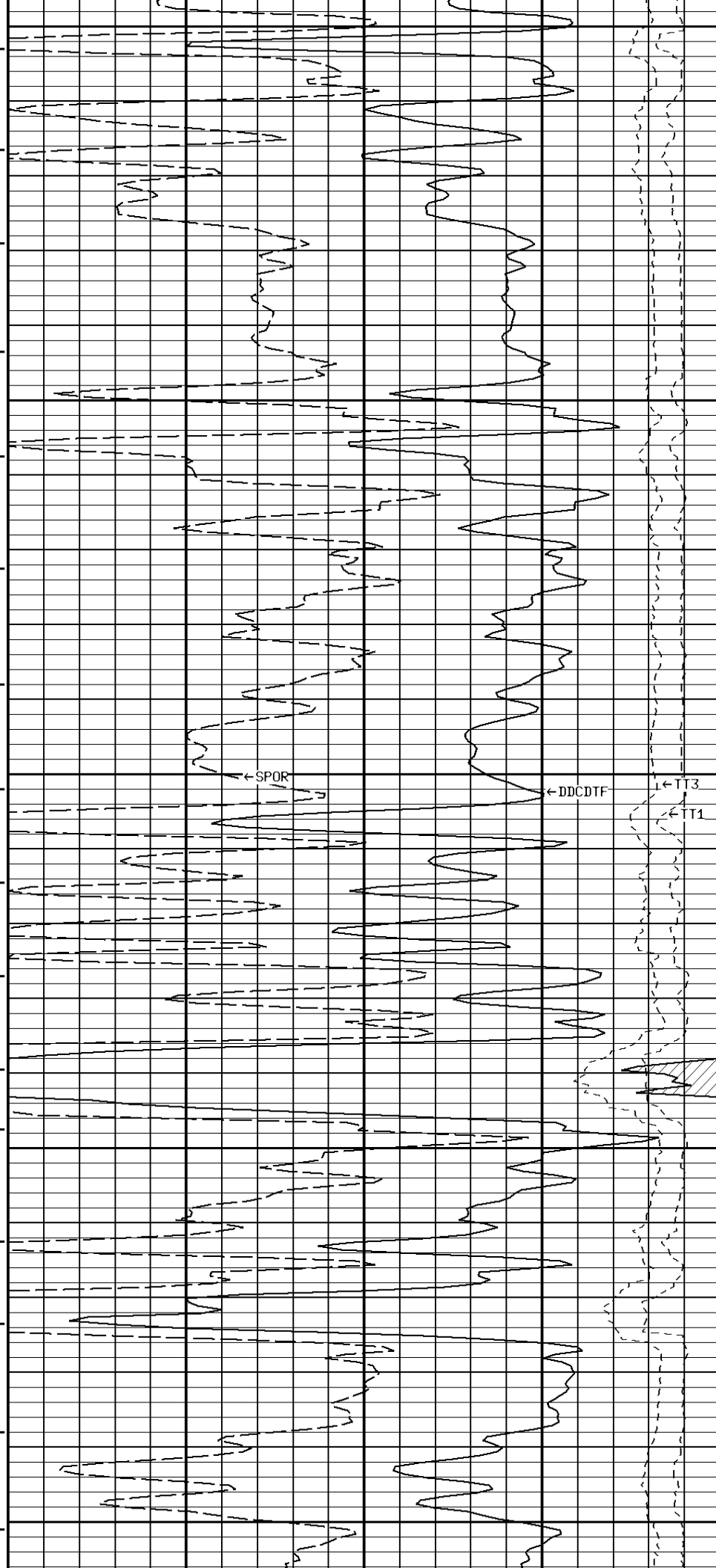


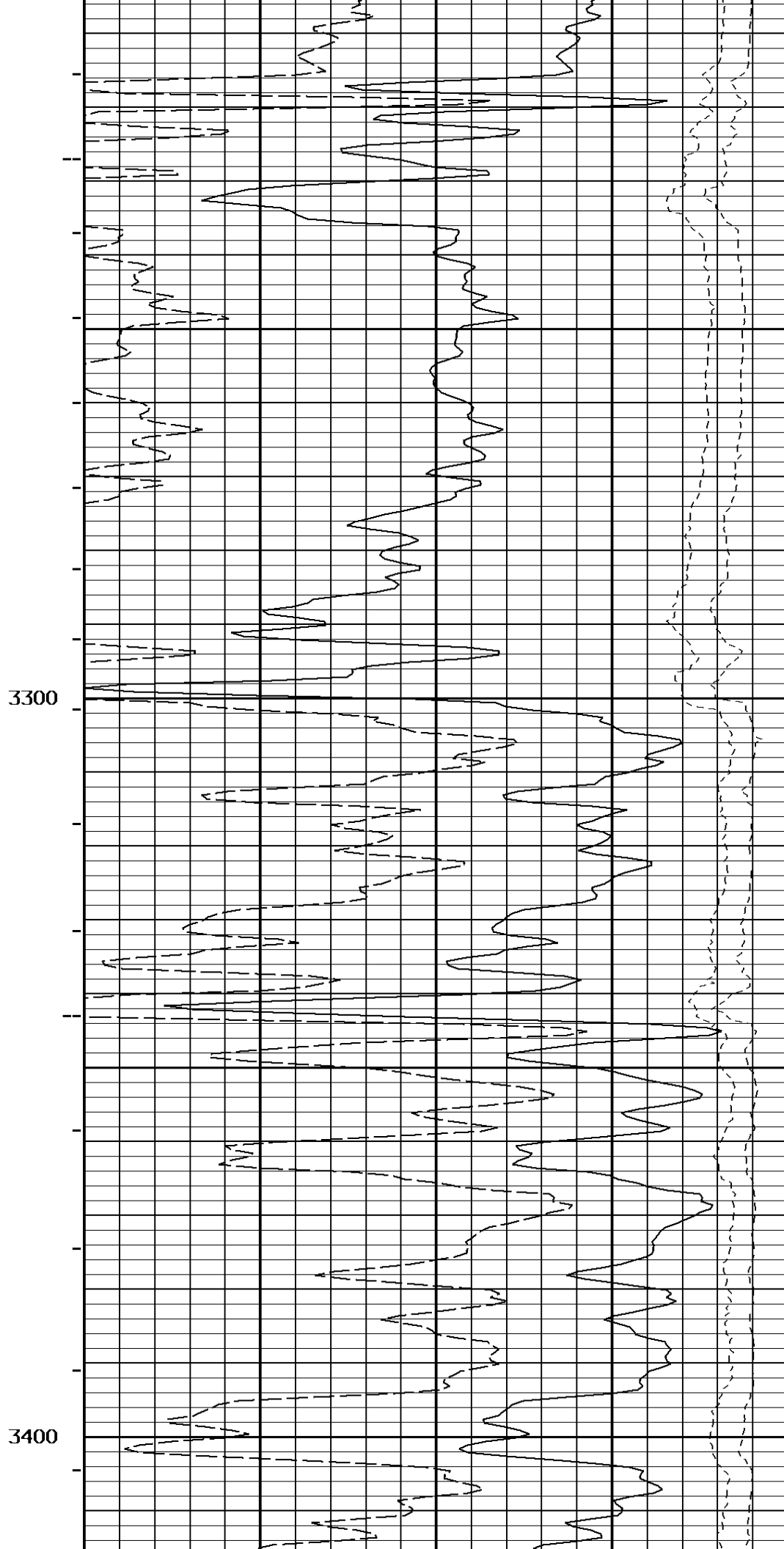
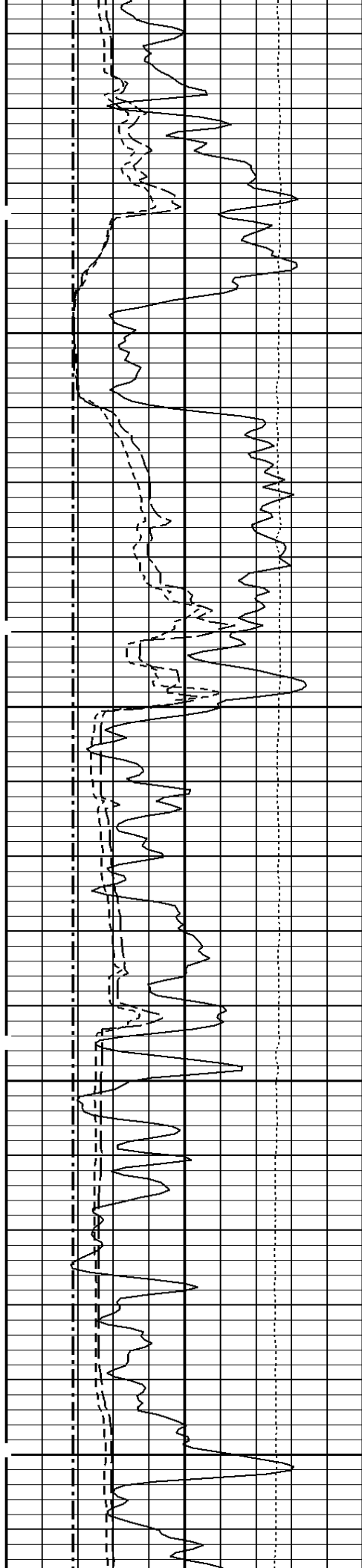


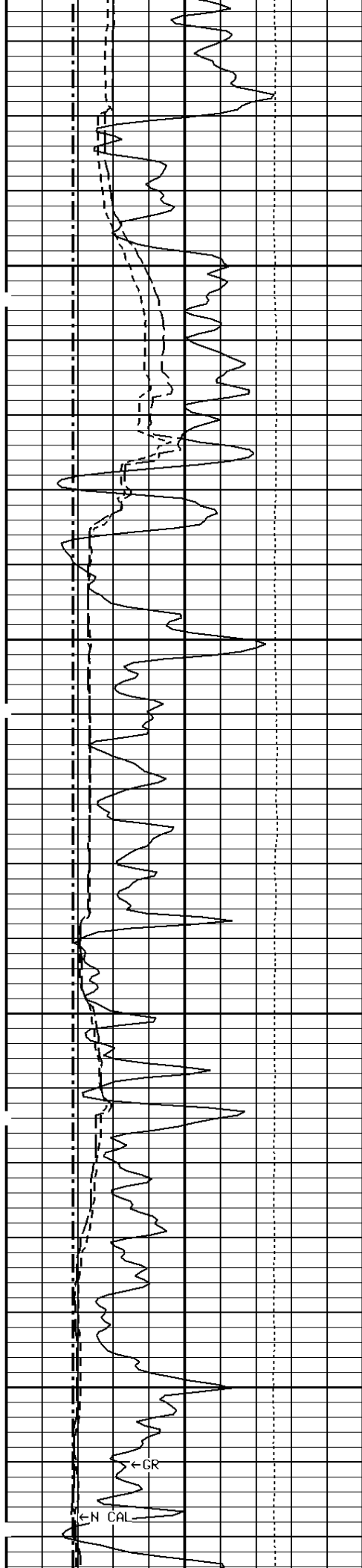
3000

3100

3200

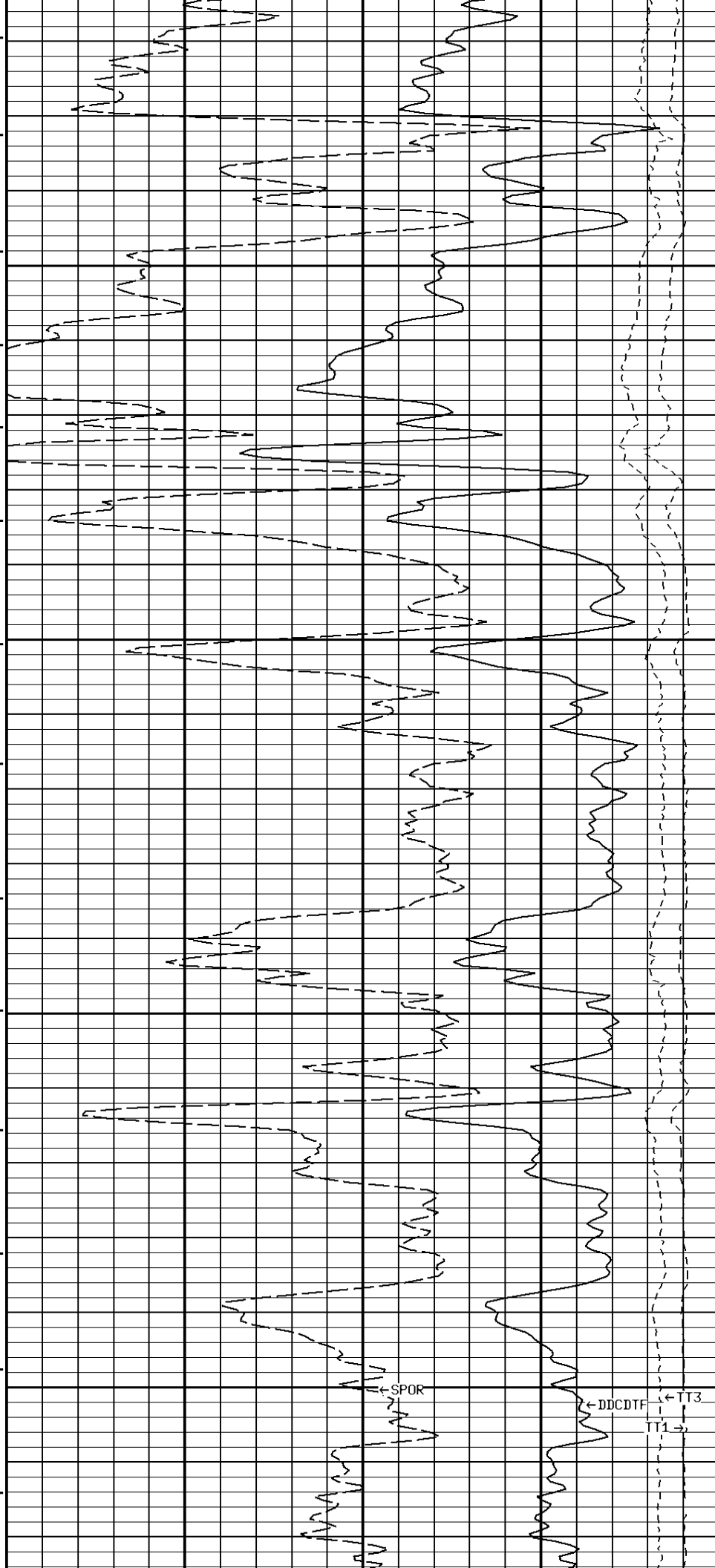


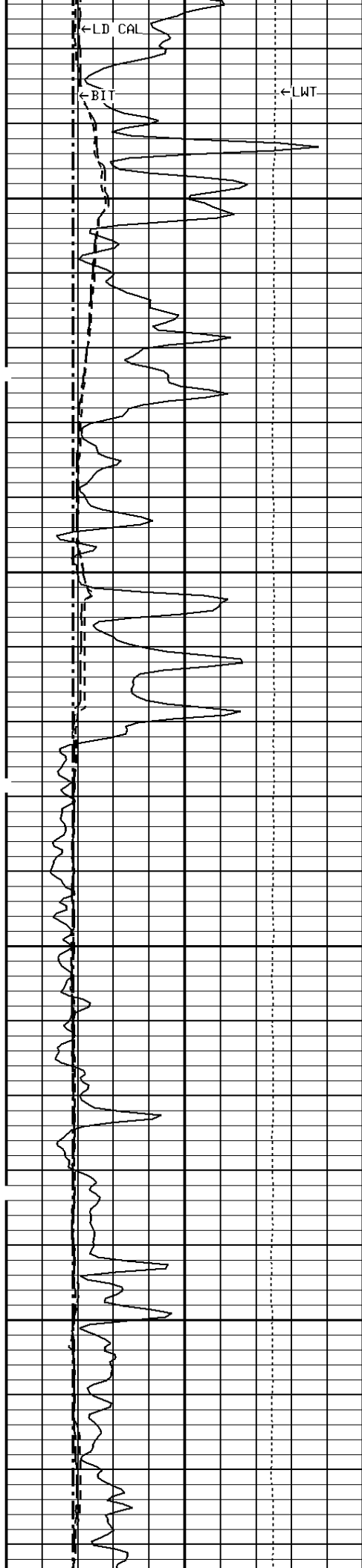




3500

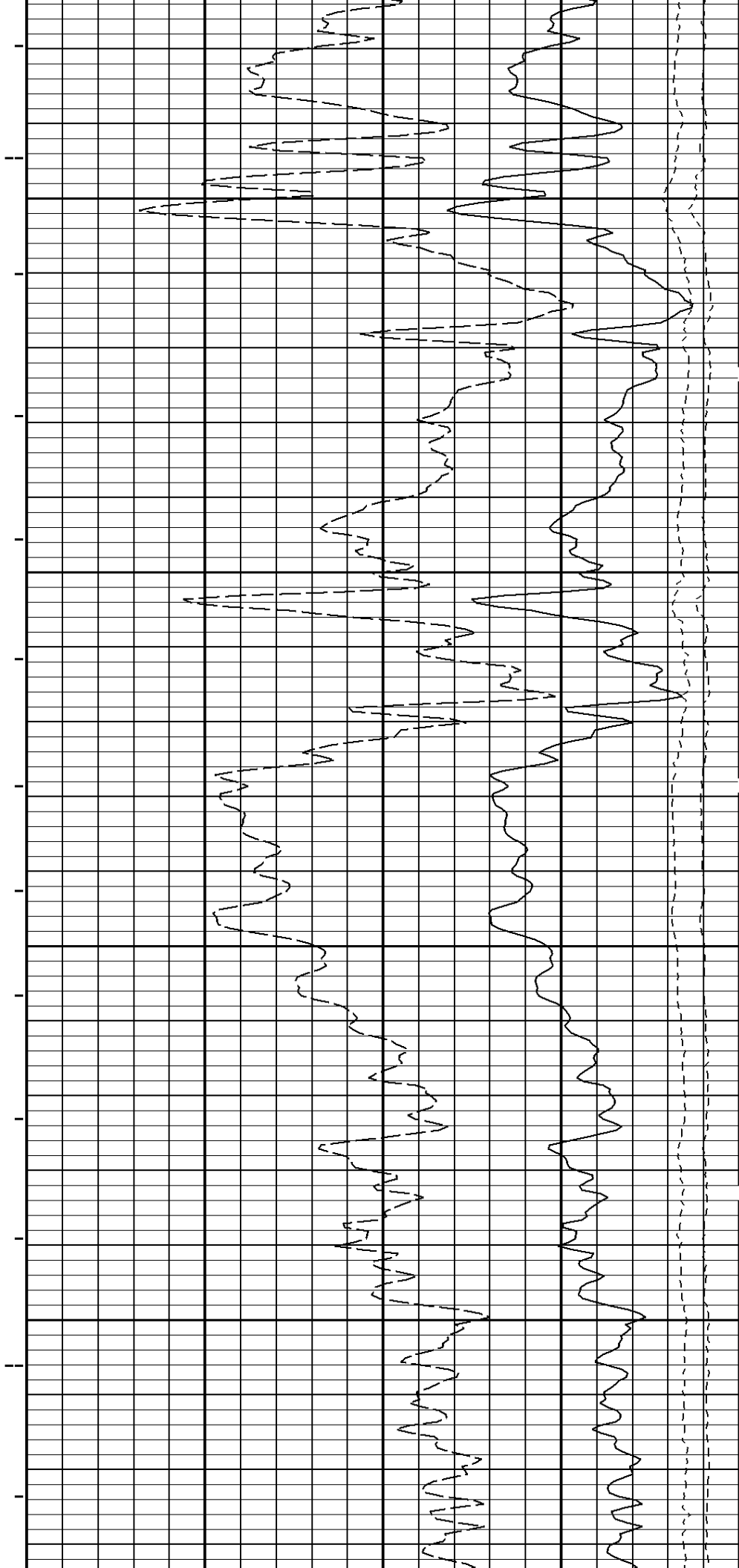
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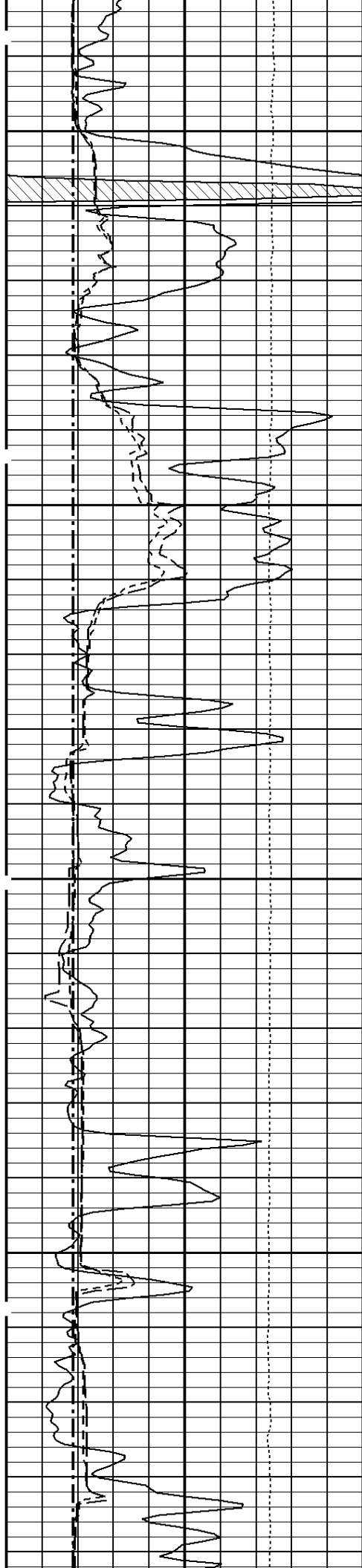




3700

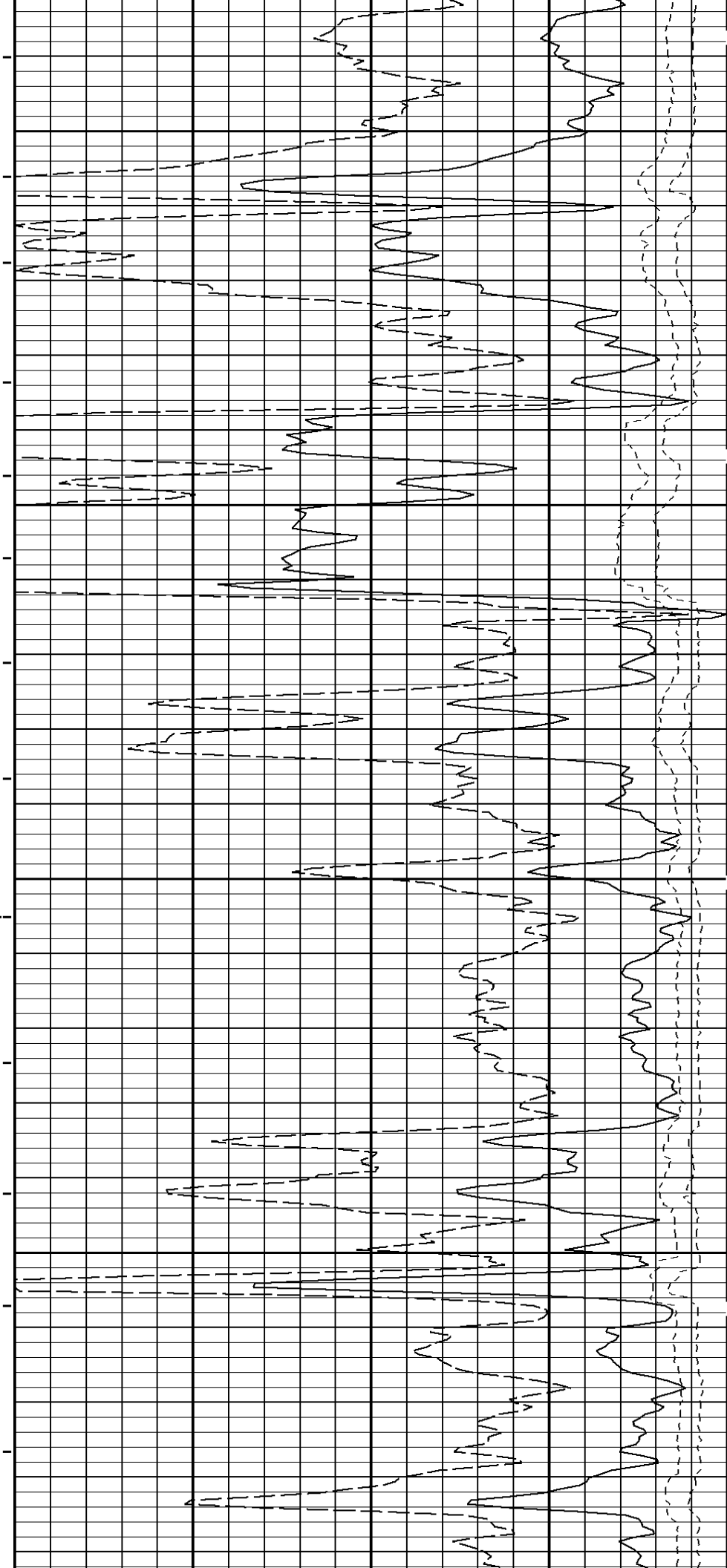
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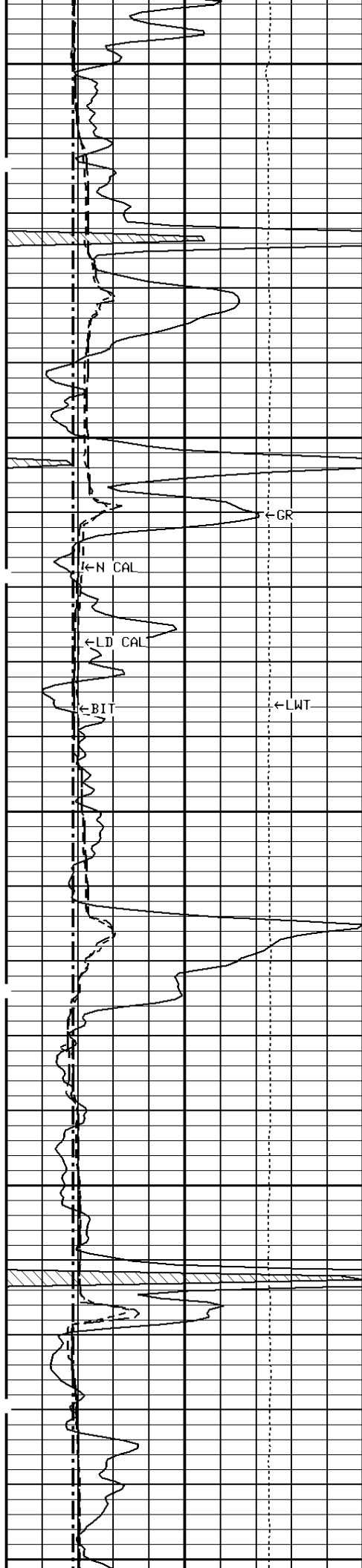




3900

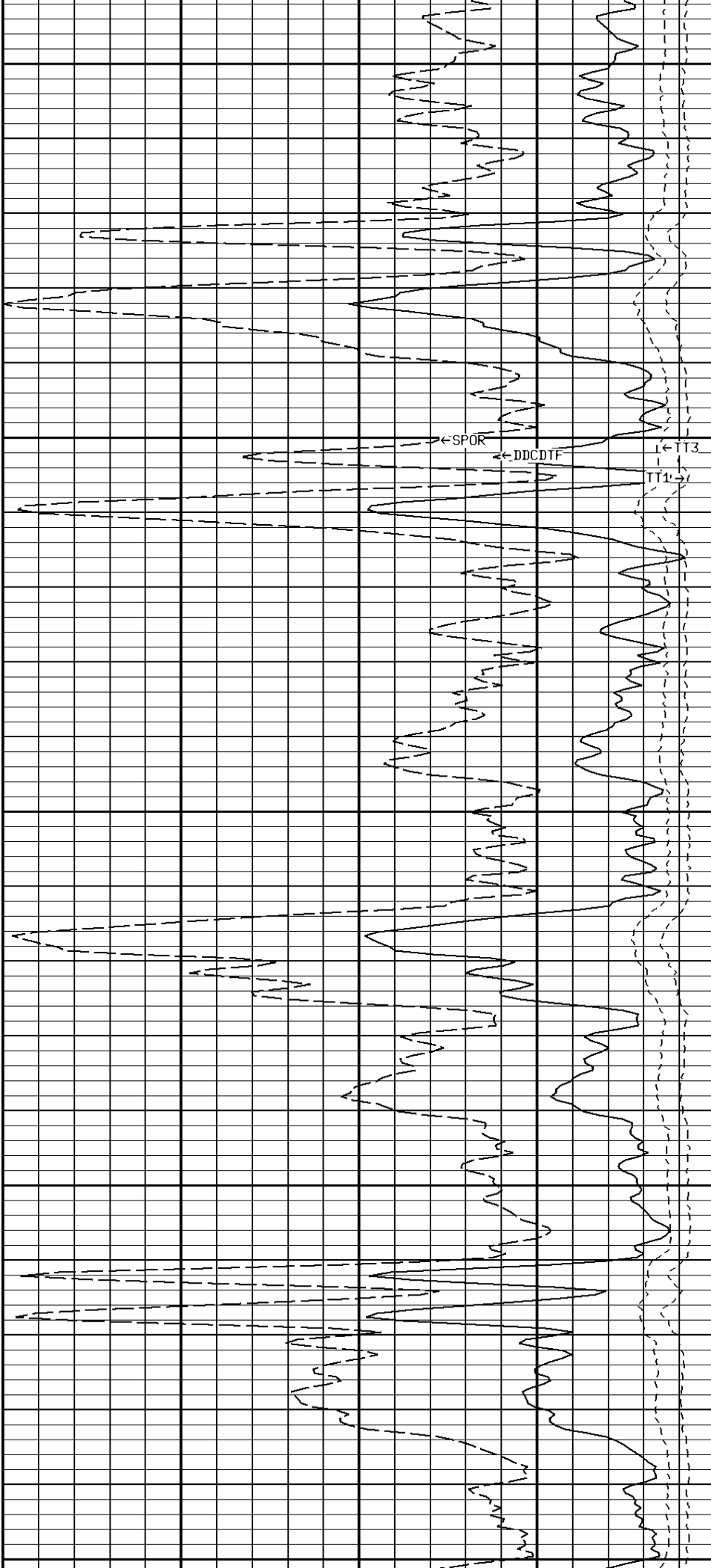
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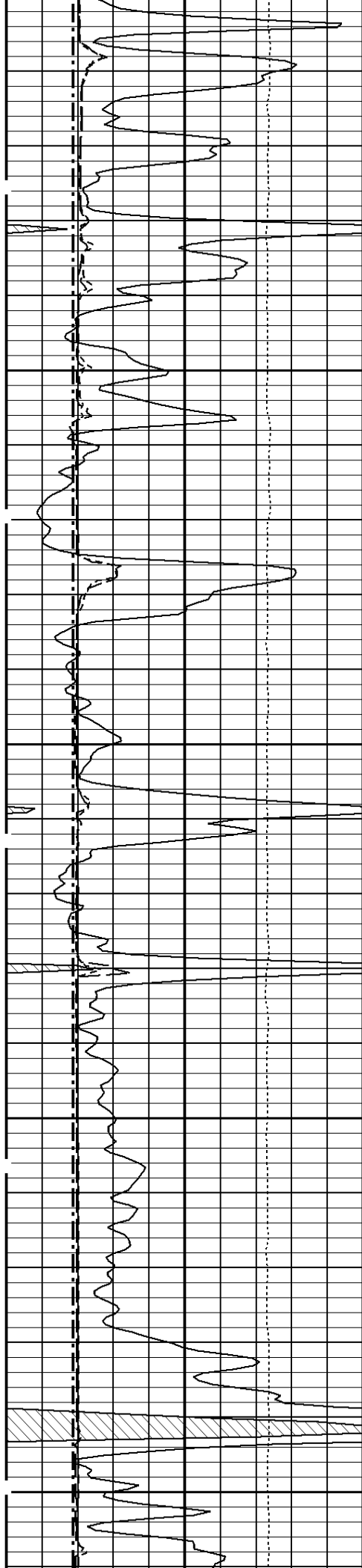




4100

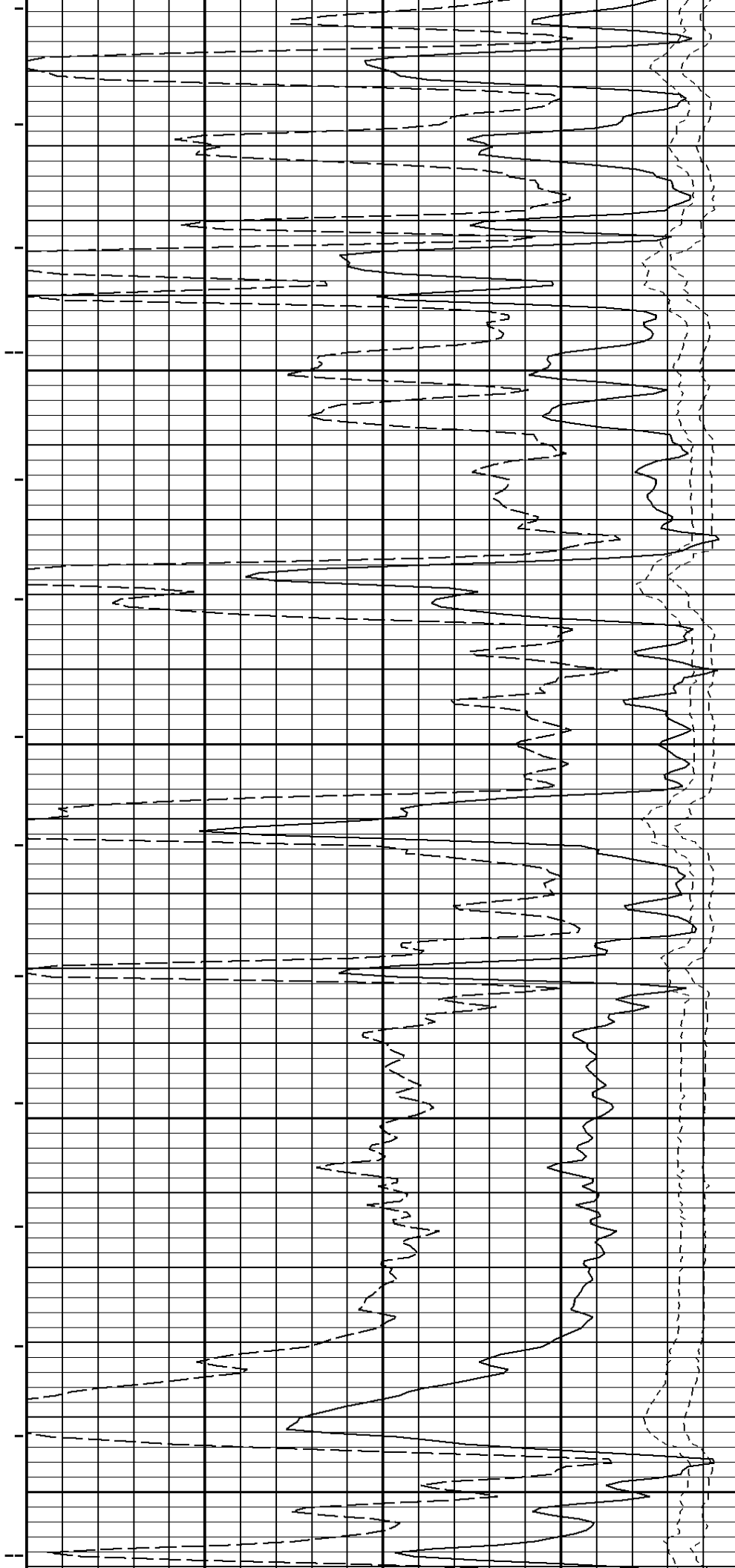
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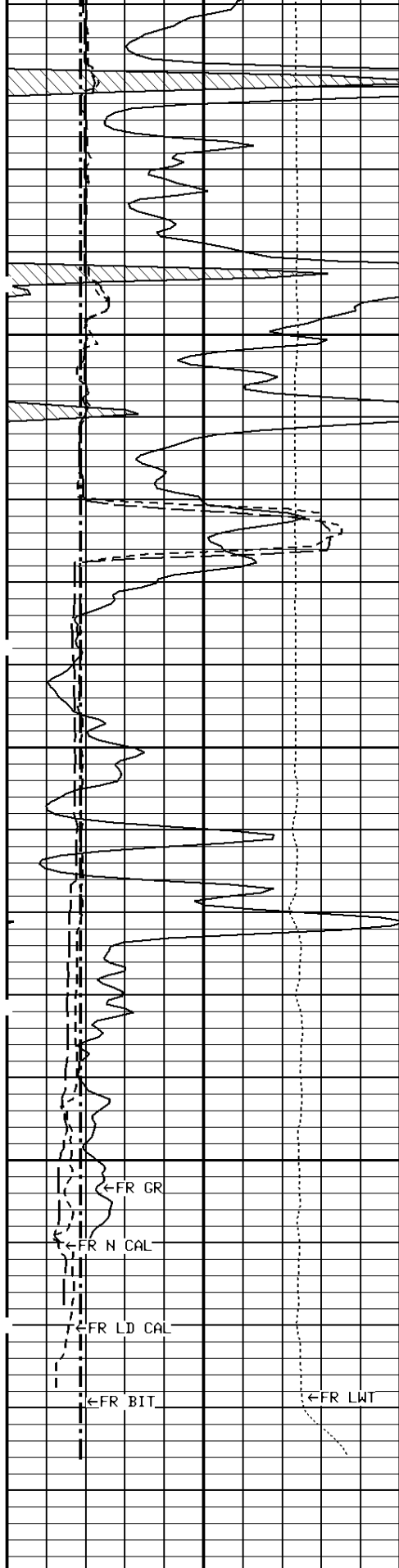




4300

4400



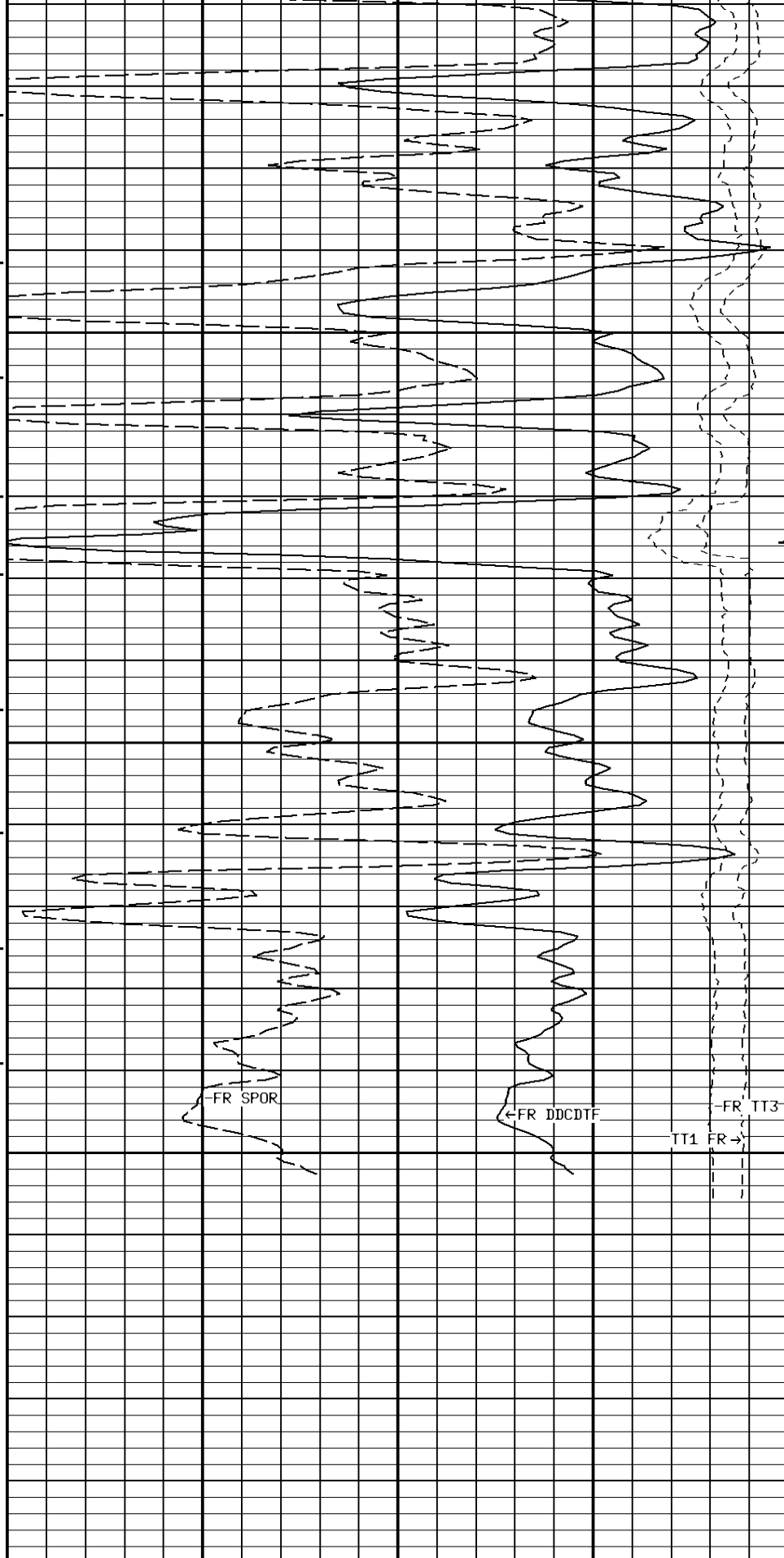


File #725

4500

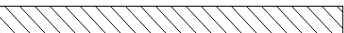
4600

4630

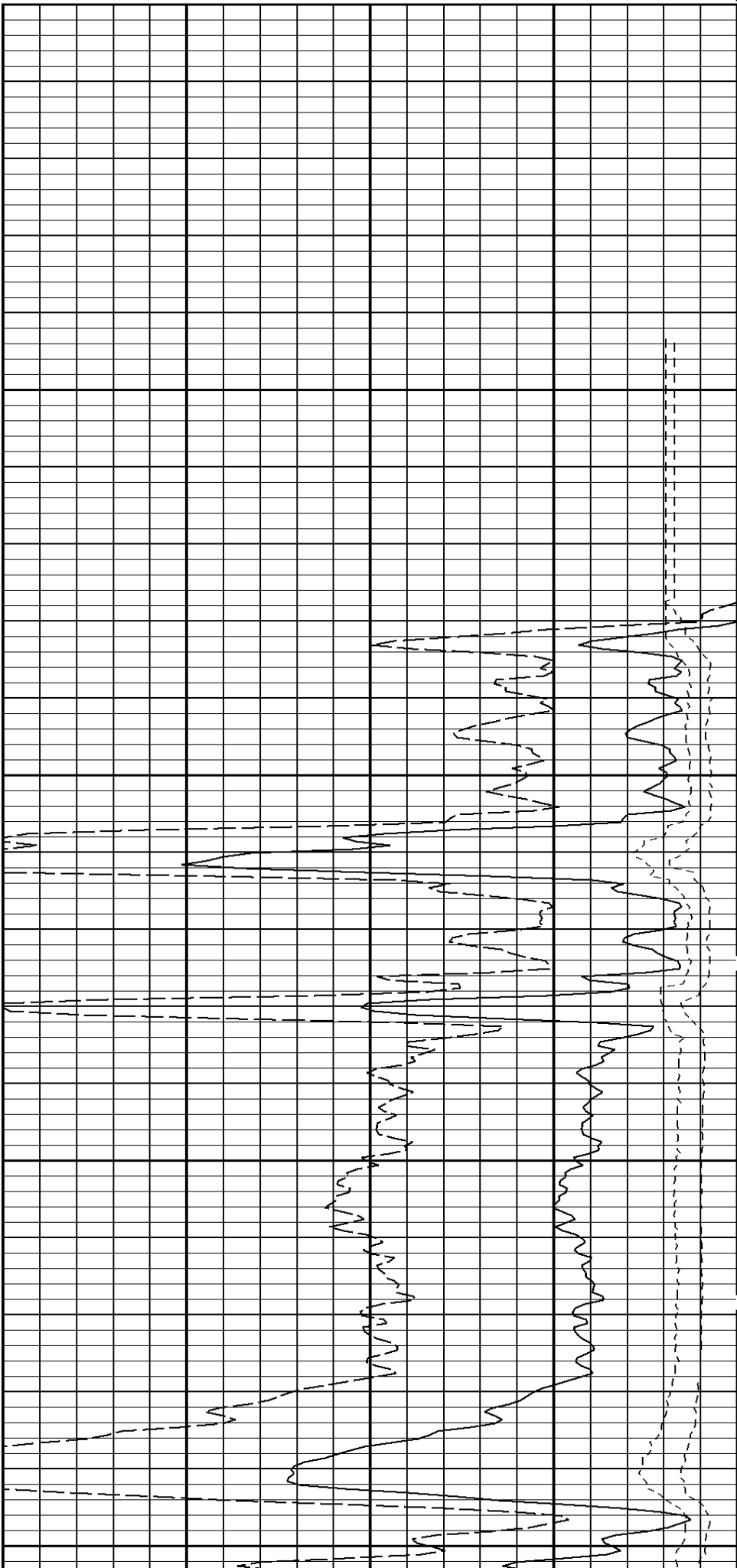


1:240 MAIN SECTION

GAMMA RAY API UNITS 150  300 0 150		SONIC POROSITY Percent 30 ----- -10	
NEUTRON (Y) CALIPER INCHES (IN) 16 26 6 16		COMPENSATED SONIC TRAVEL TIME uSEC/FT 240  140 140 40	
DENSITY (X) CALIPER INCHES (IN) 16 26 6 16		TT1 uSEC 950 50	
BIT SIZE INCHES (IN) 6 ----- 16		TT3 uSEC 950 50	
TENSION LBS 10000 ----- 0			

TENSION LBS 10000 ----- 0			
BIT SIZE INCHES (IN) 6 ----- 16		TT3 uSEC 950 50	
DENSITY (X) CALIPER INCHES (IN) 16 26 6 16		TT1 uSEC 950 50	
NEUTRON (Y) CALIPER INCHES (IN) 16 26 6 16		COMPENSATED SONIC TRAVEL TIME uSEC/FT 240  140 140 40	
GAMMA RAY API UNITS 150  300 0 150		SONIC POROSITY Percent 30 ----- -10	

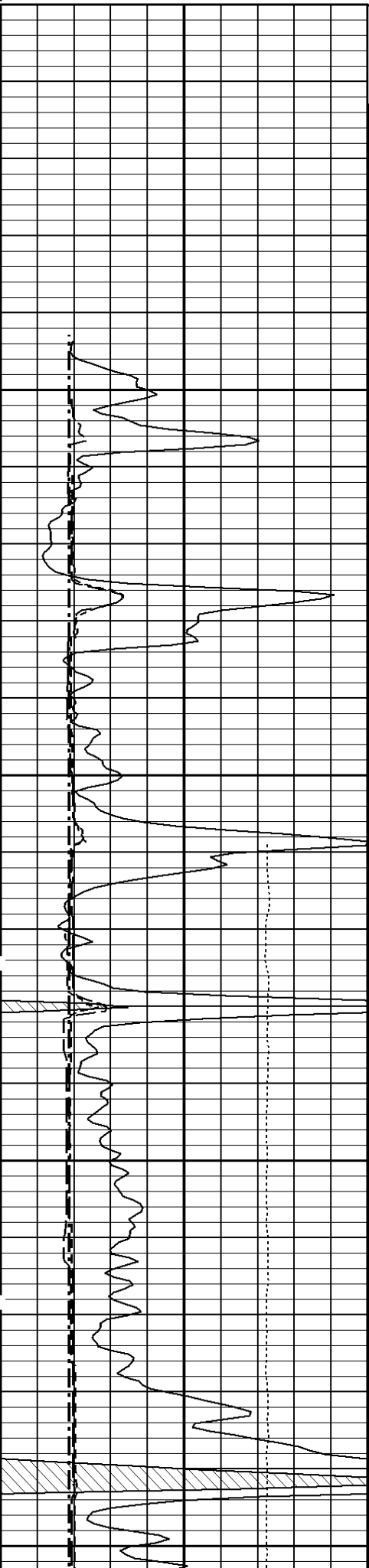
1:240 REPEAT SECTION

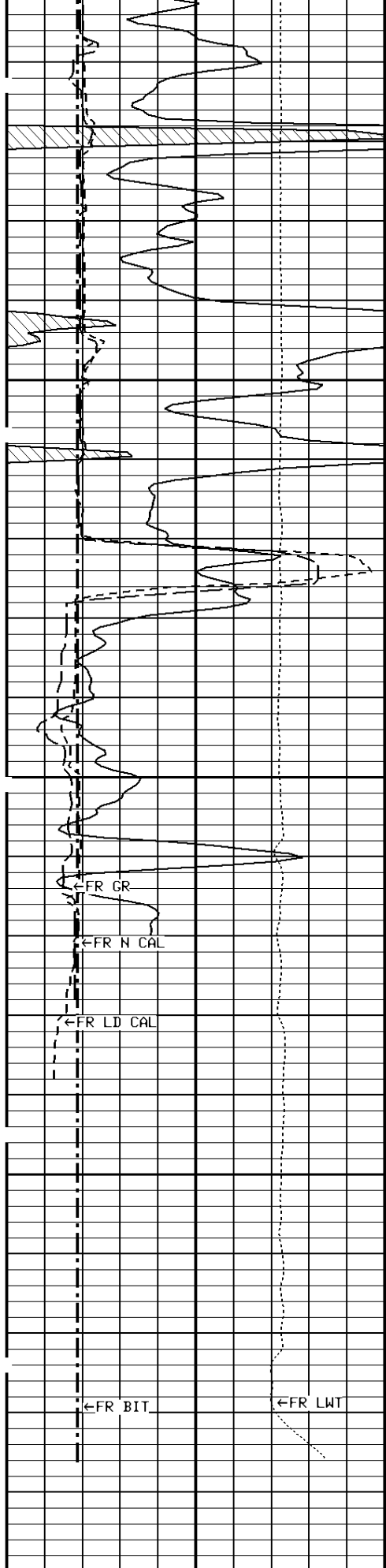


4300

4400

File #733

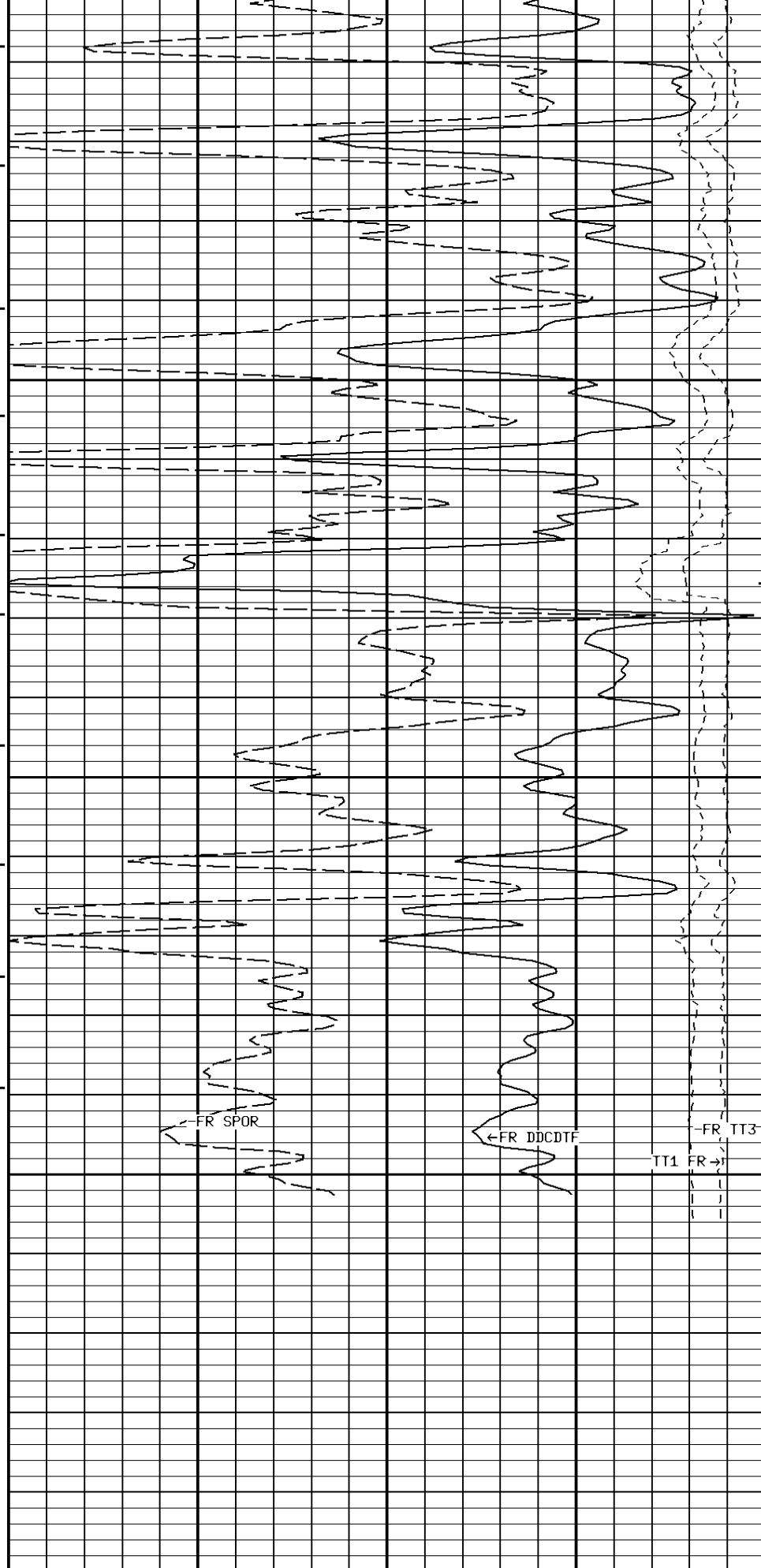




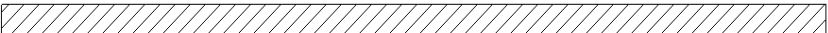
4500

4600

4630



1:240 REPEAT SECTION

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NEUTRON (Y) CALIPER INCHES (IN) 16 26 6 16		COMPENSATED SONIC TRAVEL TIME uSEC/FT 240  140 140 40	
DENSITY (X) CALIPER INCHES (IN) 16 26 6 16		TT1 uSEC 950 ----- 50	
BIT SIZE INCHES (IN) 6 ----- 16		TT3 uSEC 950 ----- 50	
TENSION LBS 10000 ----- 0			

*** Calibration Summary ***

Shop Calibration					
GRTB					
Performed : 21-Aug-2009			Time : 15:13		
Sensor Suite : GR-GR5			ID : GRT-BA-121		
	Background	Measured Jig	Units	Calibrated Jig	Units
GR	50	360	CPS	175	GRAPI

Shop Calibration					
CNT					
Performed : 16-AUG-2009			Time : 10:24		
Sensor Suite : CALI-BCN			ID : CNP-AA-111		
	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	8.3	14.3	6.0	12.0	IN.

Shop Calibration					
CST					
Performed : 14-JUN-2006			Time : 12:26		
Sensor Suite : SON-ANA			ID : CST-AD-38		
Transit Time					
T/R Pair	Measured		Calibrated		Units
T1R1	208.5		208.5		uS
T2R2	208.5		208.5		uS
T1R2	322.5		322.5		uS
T2R1	322.5		322.5		uS
Amplitude					
T/R Pair	Measured		Calibrated		Units
T1R1	90.00		90.00		mV

T2R2	90.00	90.00	mV
T1R2	78.00	78.00	mV
T2R1	78.00	78.00	mV