

Tucker
ENERGY SERVICES

BOREHOLE COMPENSATED

SONIC LOG

Company RUNNING FOXES PETROLEUM Well HERRMANN #9-4B-2 Field LIVINGOOD County BROWN State KANSAS Country USA API No. 15-013-20052-0000		File No : TUL-61201 Company : RUNNING FOXES PETROLEUM INC. Well : HERRMANN #9-4B-2 Field : LIVINGOOD County : BROWN State : KANSAS 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:	GL	Elevations:	Services:
Drilling Measured From:	KB	KB 1146.00	CNT
Log Measured From:	KB	DF 1145.00	LDT
Above Permanent Datum:	6.00 Ft	GL 1140.00	PIT
Date	09-18-2016		
Run Number	1		
Depth--Driller	3435.0	Ft	
Depth--Logger	3436.0	Ft	
First Reading	3404.0	Ft	
Last Reading	215.0	Ft	
Casing--Driller	215.0	Ft	
Casing--Logger	215.0	Ft	
Bit Size	7.875	In	
Casing Size	8.625	In	
Hole Fluid Type	WBM		
Density	8.9		
Fluid Loss	7.6		
PH/Viscosity	9.0	56.0	
Sample Source	MEASURED		
RMF@Measured Temp.	2.000	@ 75 F	
RMF@Measured Temp	1.600	@ 75 F	
RMF@Measured Temp.	2.400	@ 75 F	
Source RMF/RMC	CALCULATED/CALCULATED		
RM@BHT	1.400	@ 110 F	
Time Circulation Stopped	09-18-2016 12:00		
Max Recorded Temp.	110	F	
Equipment/Base	1022	TULSA, OK	
Recorded By	SHELDON TYLER		
Witnessed By	CHAD COUNTS		

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

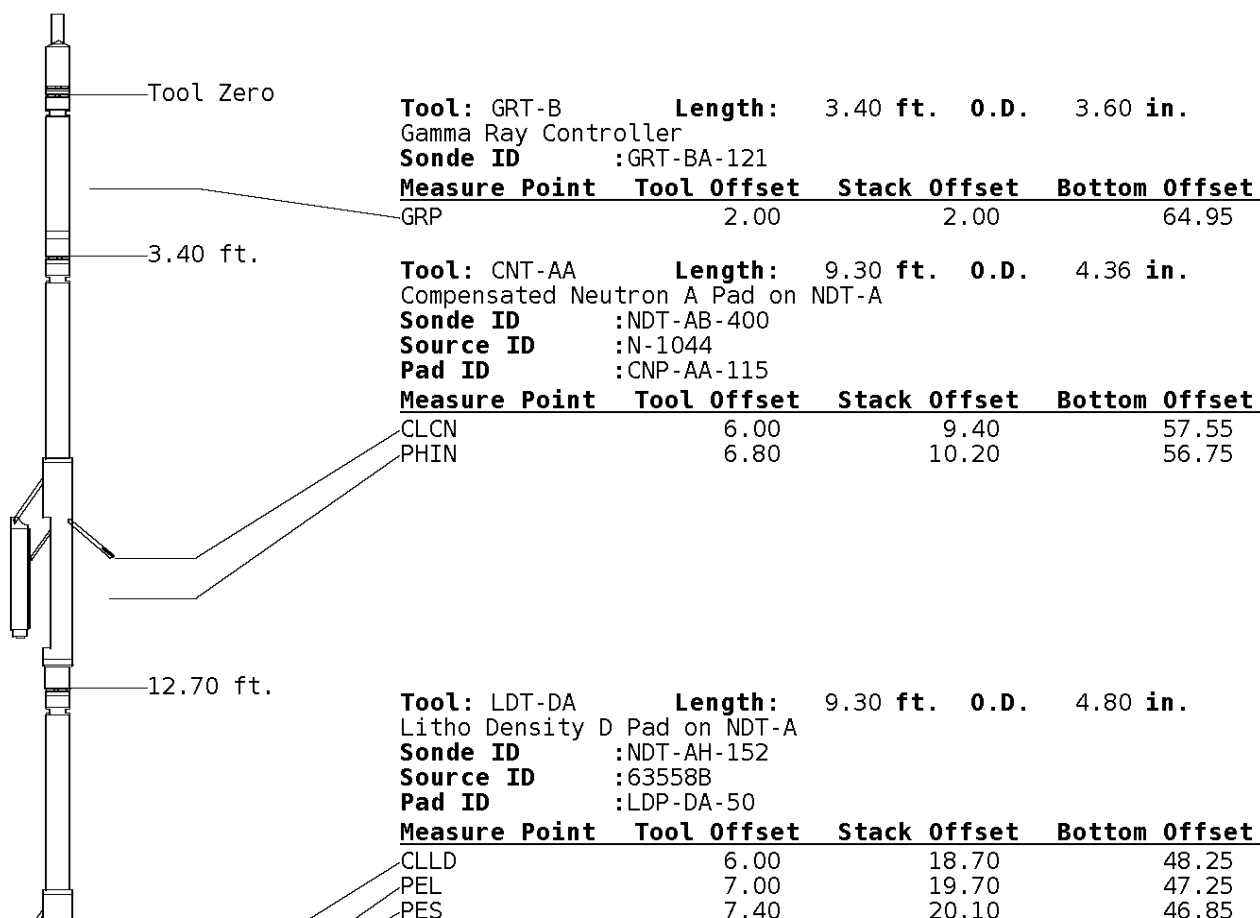
OPERATORS:

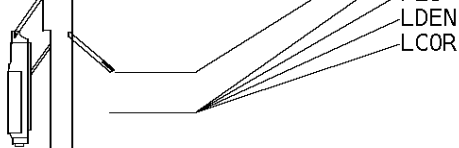
R.FRANKLIN

B.BAILEY

Tool String Schematic

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



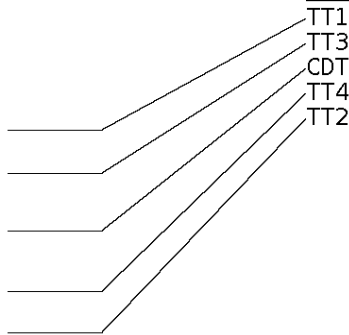


7.20	19.90	47.05
7.20	19.90	47.05

22.00 ft.

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

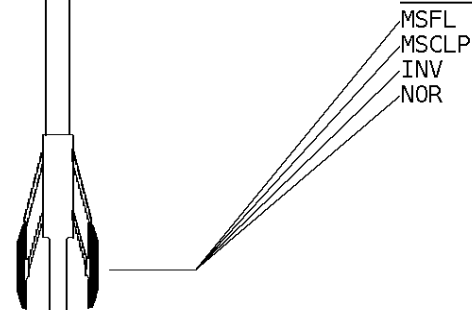
Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	26.80	40.15
TT3	5.80	27.80	39.15
CDT	7.30	29.30	37.65
TT4	8.80	30.80	36.15
TT2	9.80	31.80	35.15



35.80 ft.

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

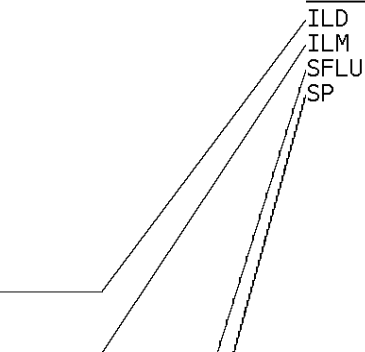
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	43.40	23.55
MSCLP	7.60	43.40	23.55
INV	7.60	43.40	23.55
NOR	7.60	43.40	23.55

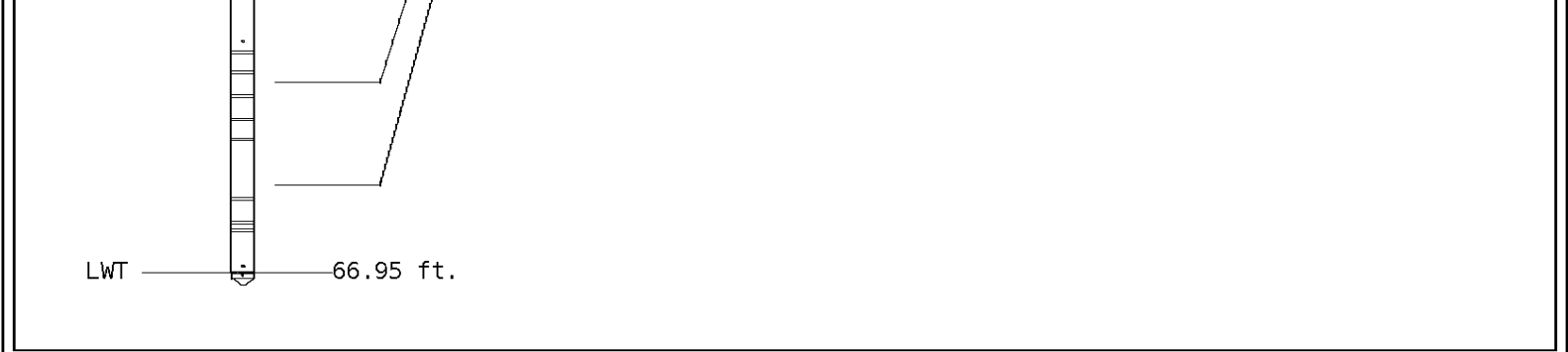


45.46 ft.

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

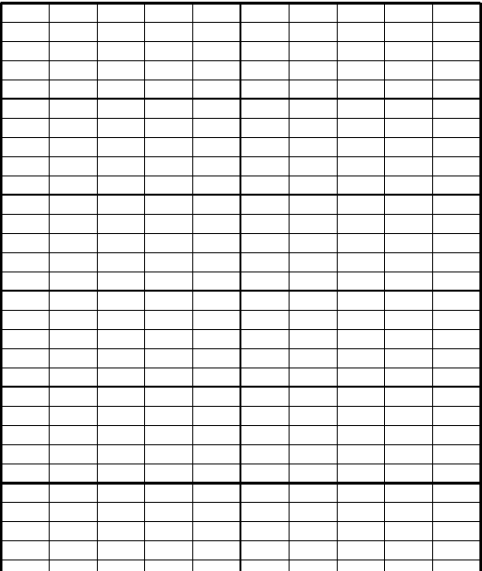




Well File: RFP_HERRMANN_9-4B-2_SEPT18_QUINT Scale: 1:240 Format: CST-240
Segment: V1.D1.S7_DS_FINAL_MAIN Acquired: 2016-09/18 15:08 3.4.0-13711
Reference: 0 Processed: 2016-09/18 15:08 3.4.0-13711

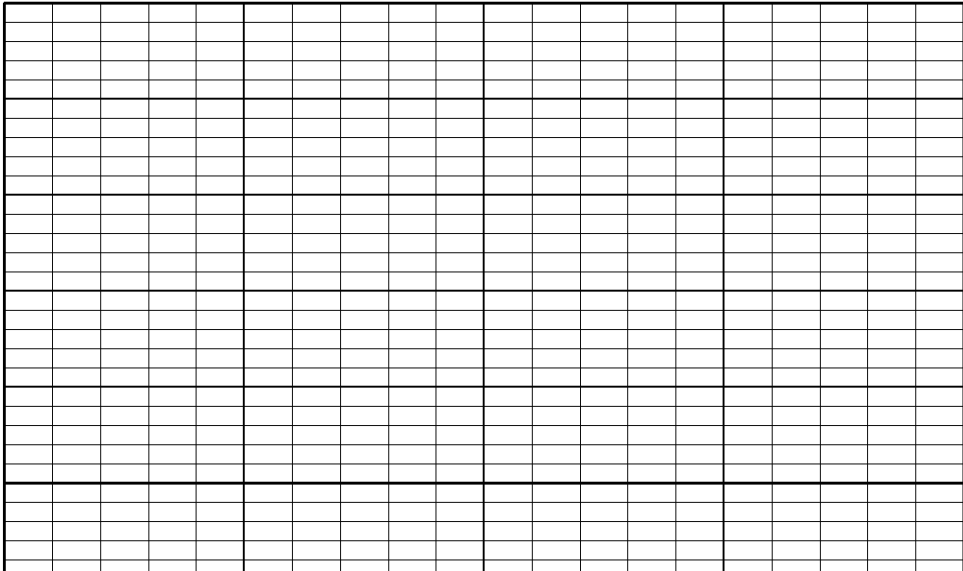
NEUTRON (Y) CALIPER INCHES (IN)		TT4 uSEC	
16	26	950	50
6	16		
DENSITY (X) CALIPER INCHES (IN)		TT3 uSEC	
16	26	950	50
6	16		
BIT SIZE INCHES (IN)		TT2 uSEC	
6	16	950	50
TENSION LBS		TT1 uSEC	
10000	0	950	50
GAMMA RAY API UNITS		COMPENSATED SONIC TRAVEL TIME uSEC/FT	
150	300	240	140
0	150	140	40
		SONIC POROSITY PERCENT	
		30	-10

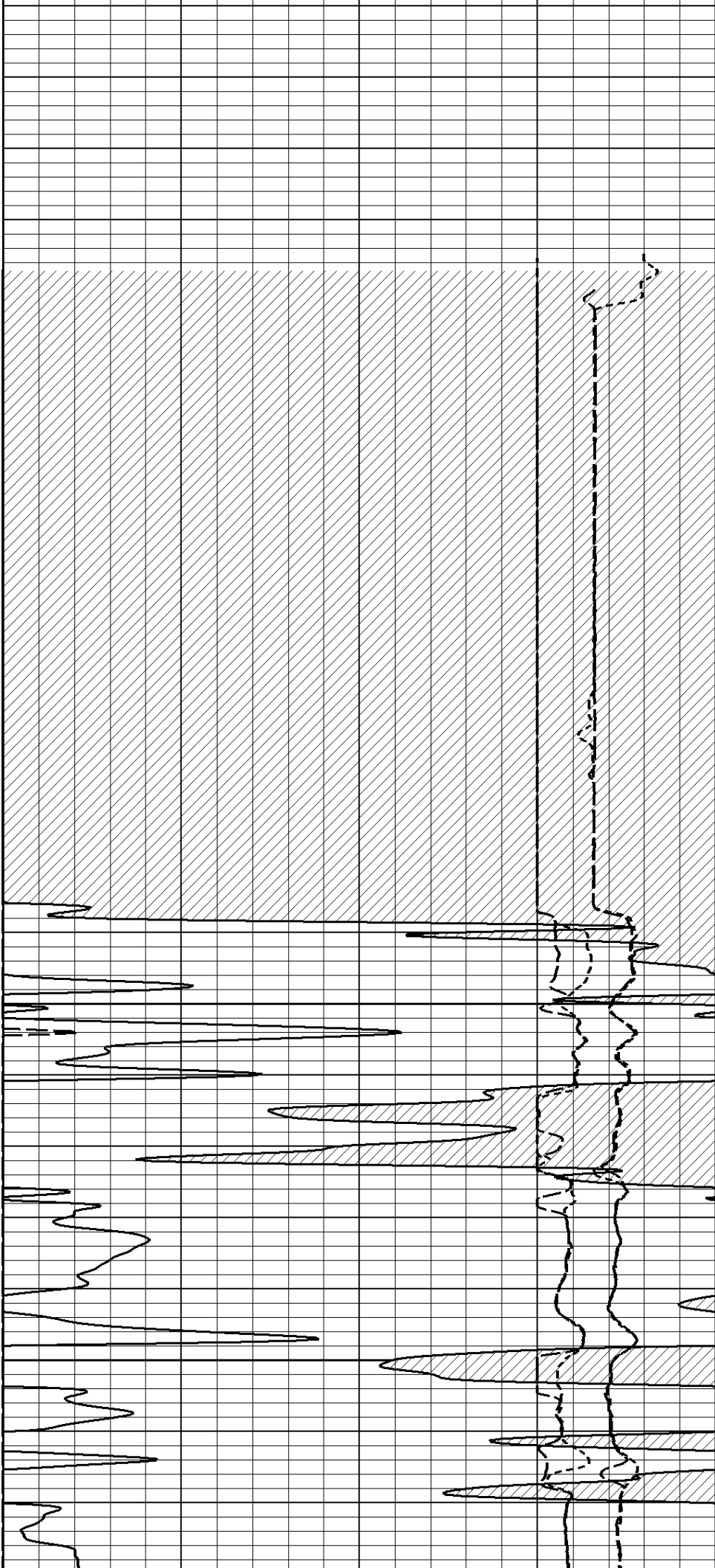
1:240 MAIN SECTION



File #1.1.7

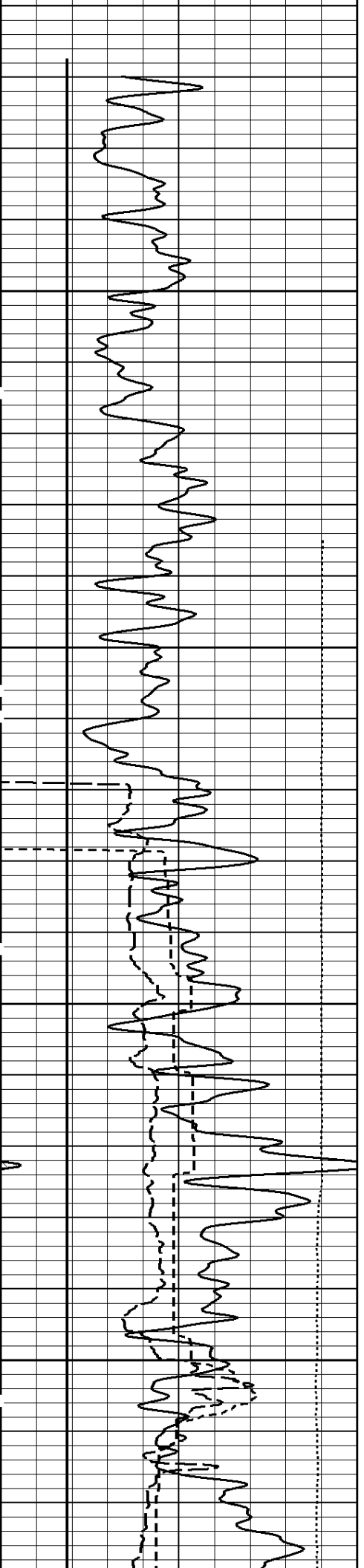
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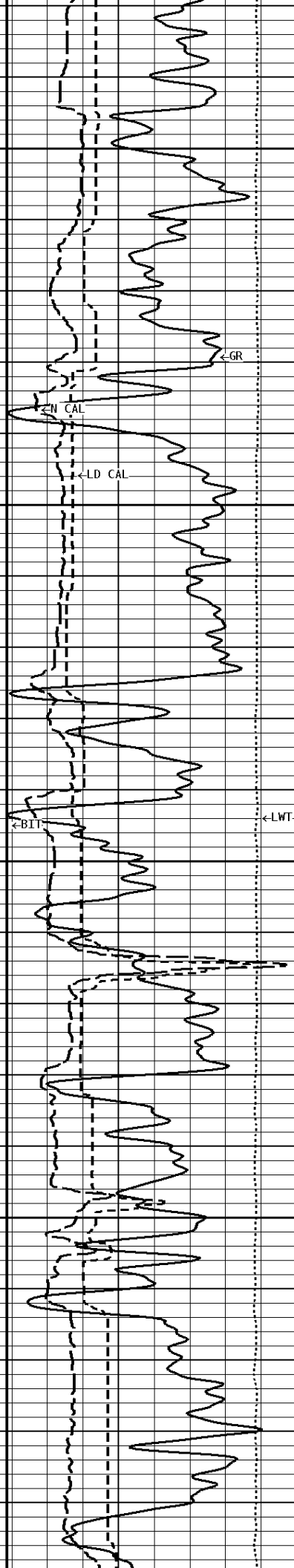




200

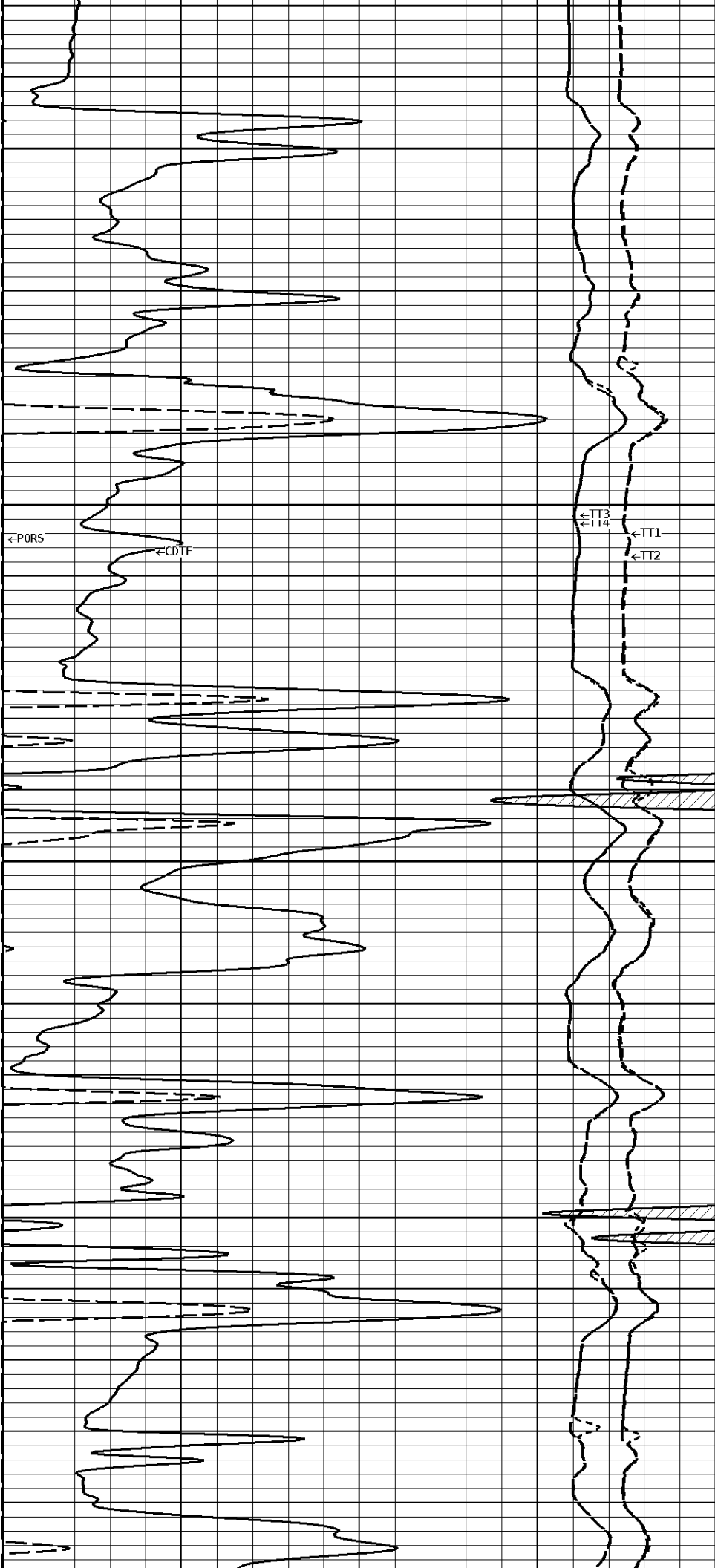
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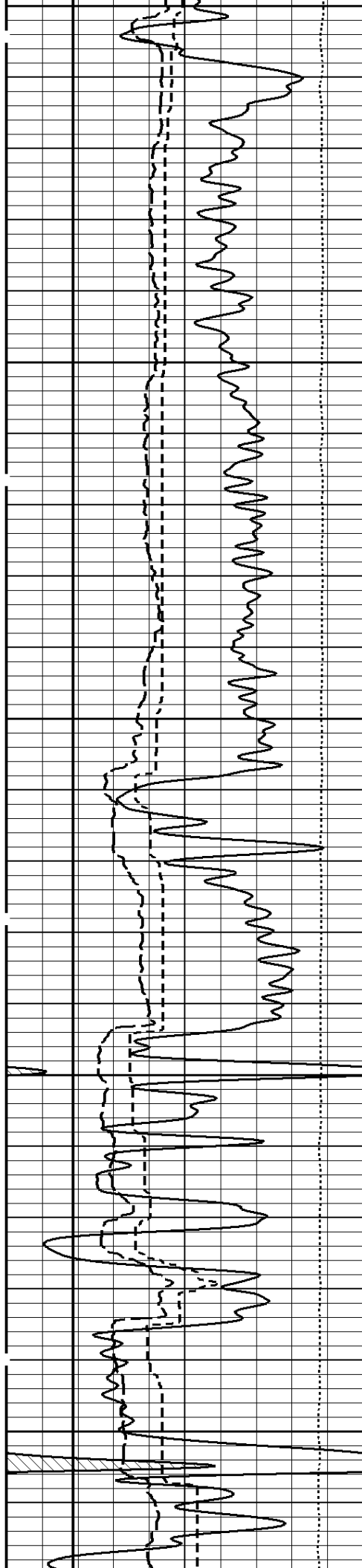




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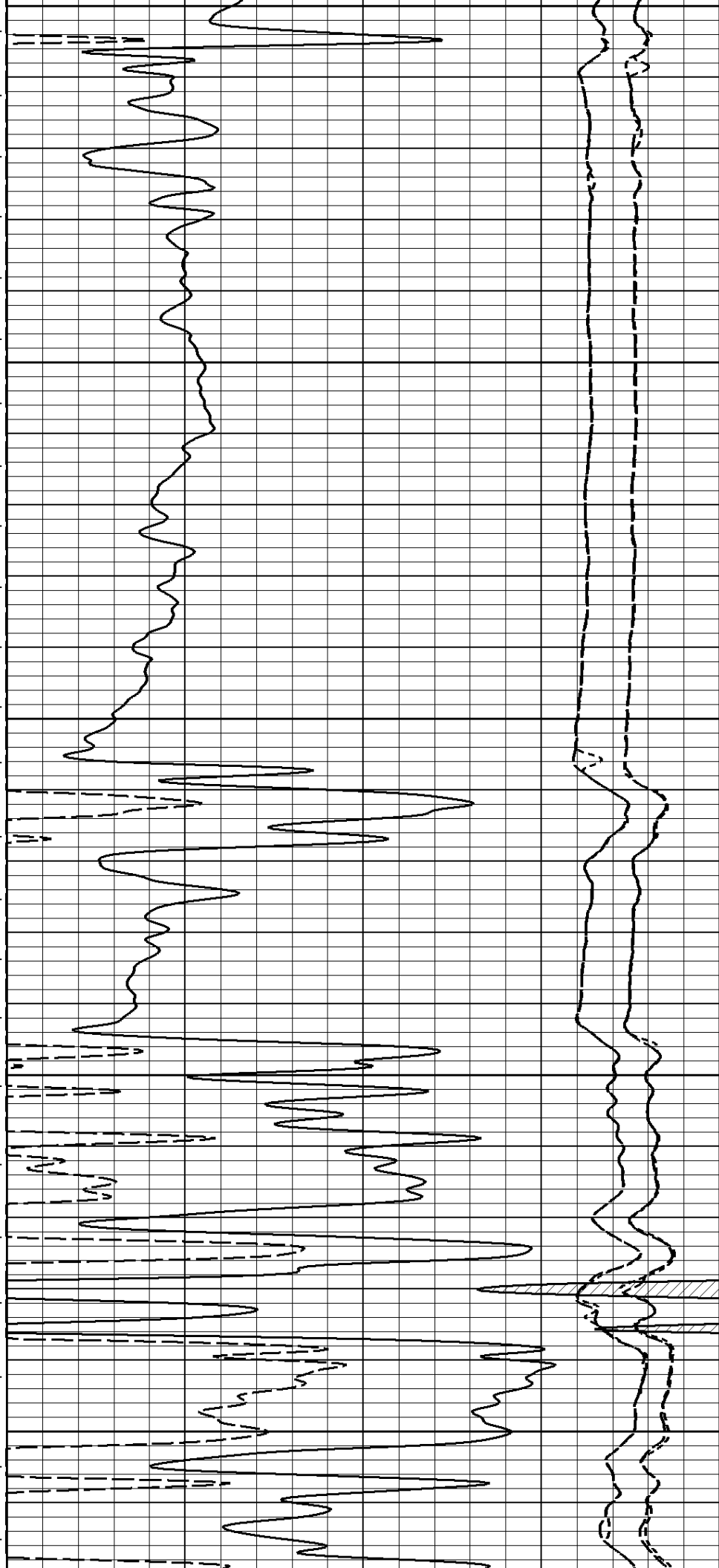
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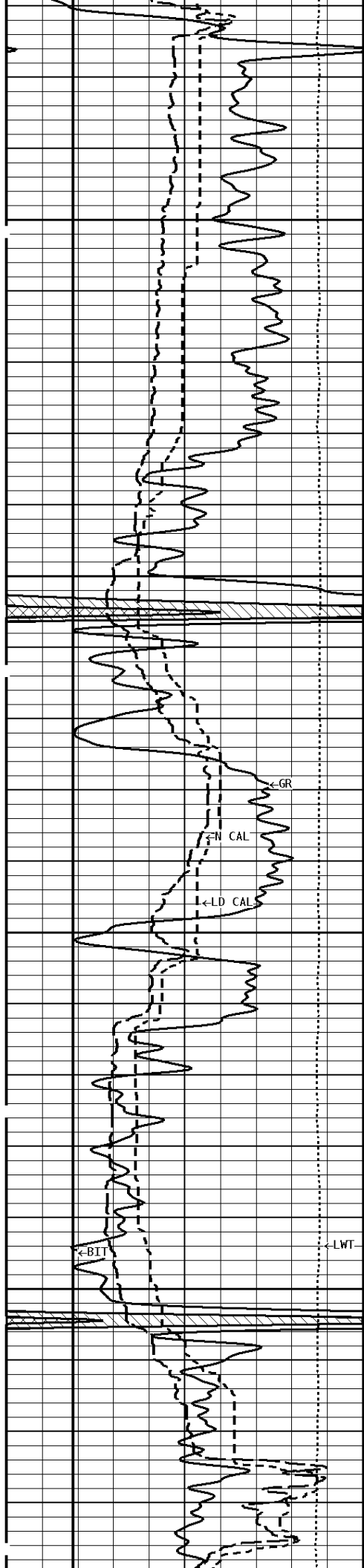




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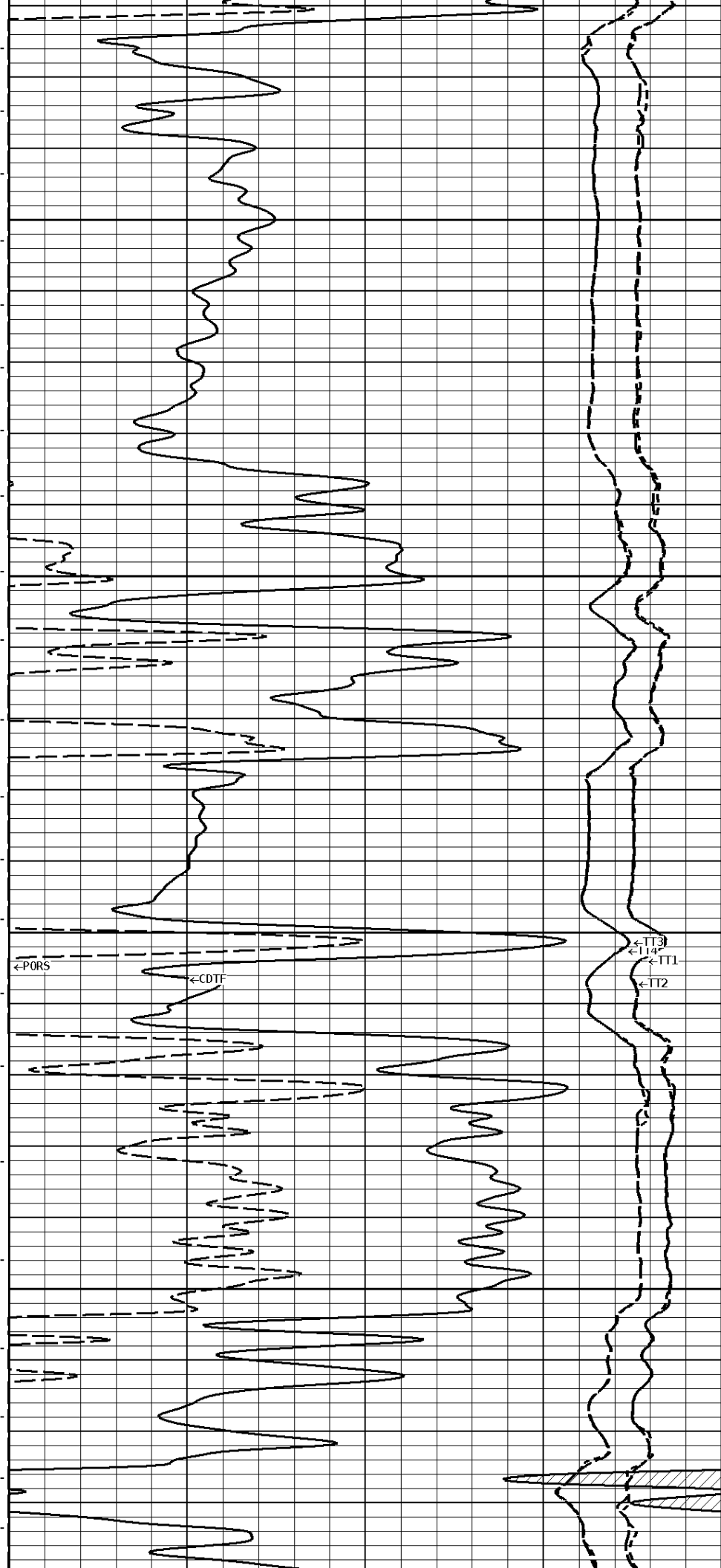
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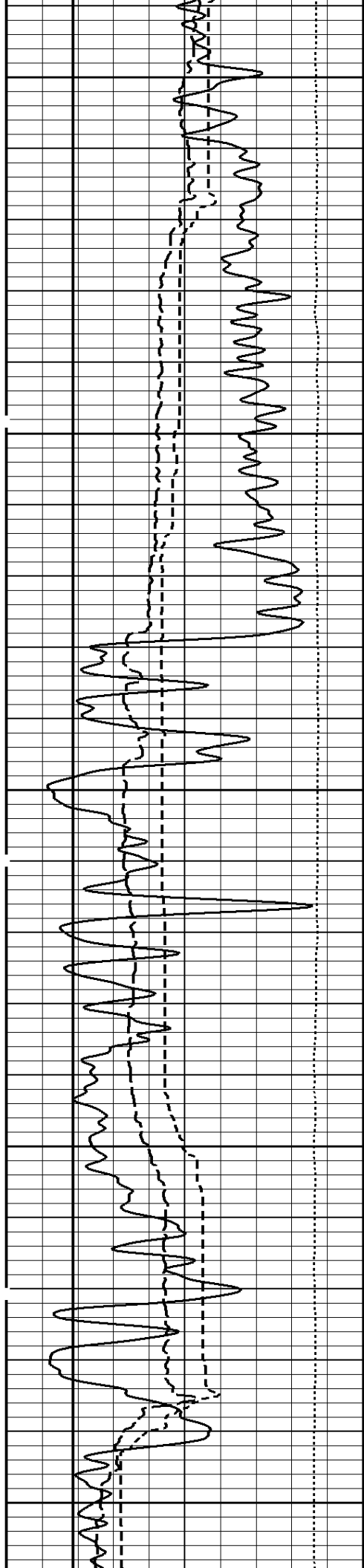




800

900

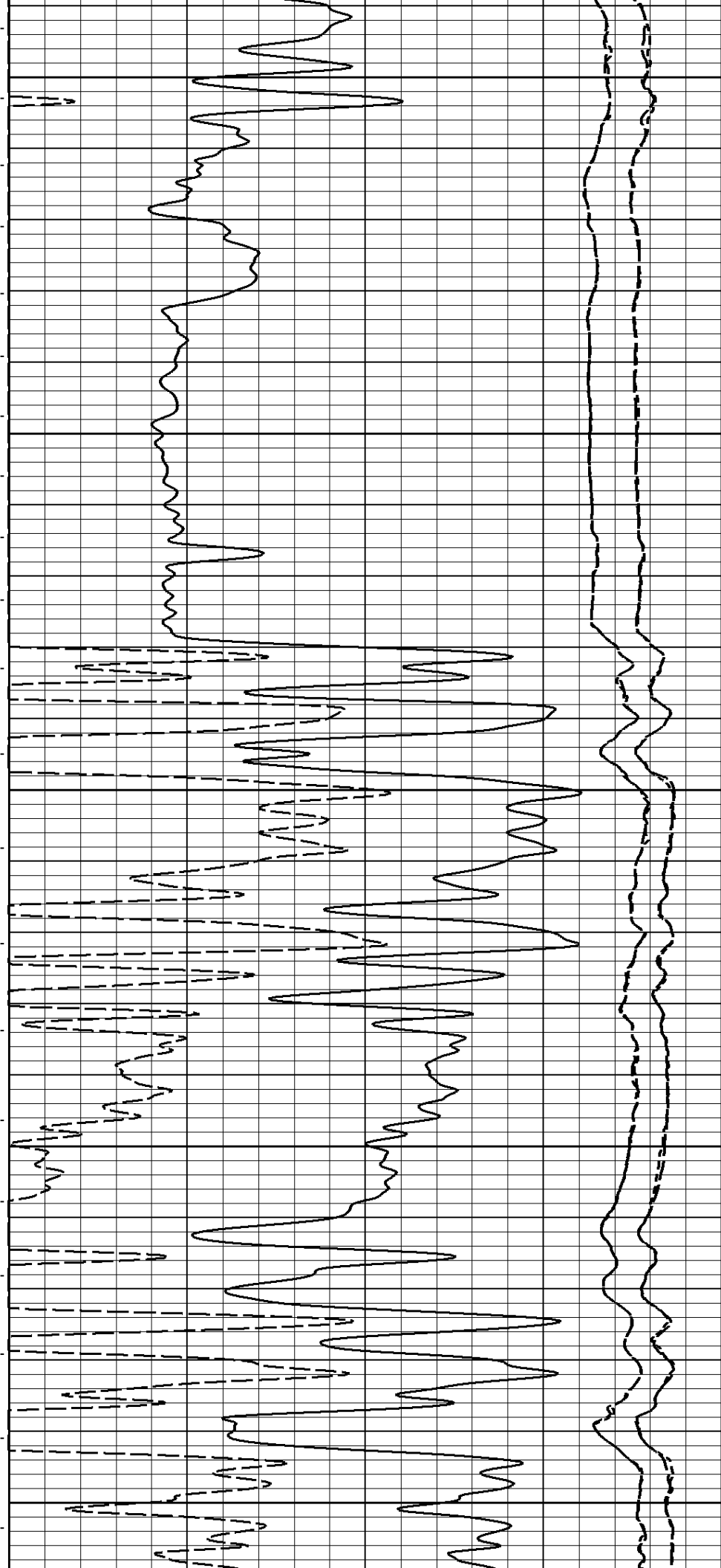


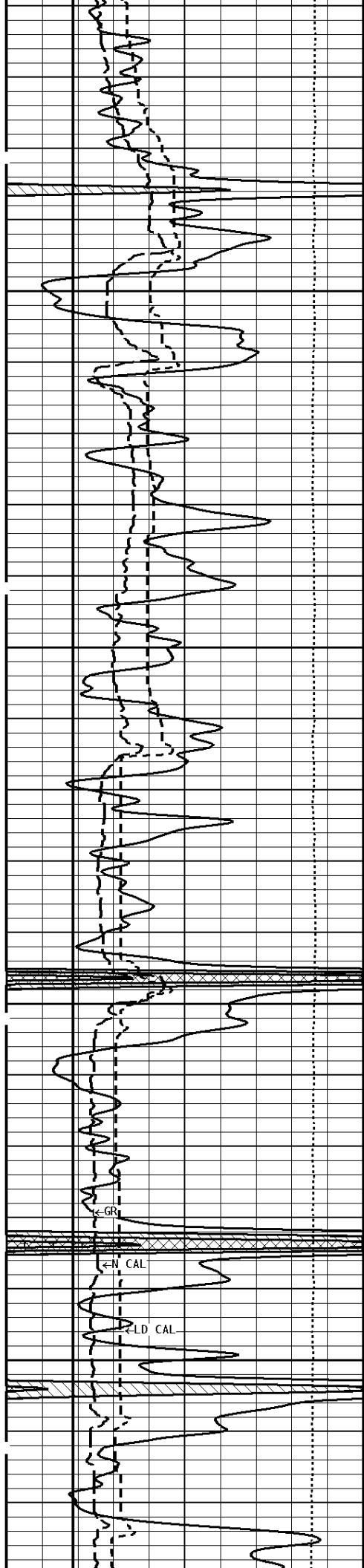


1000

1100

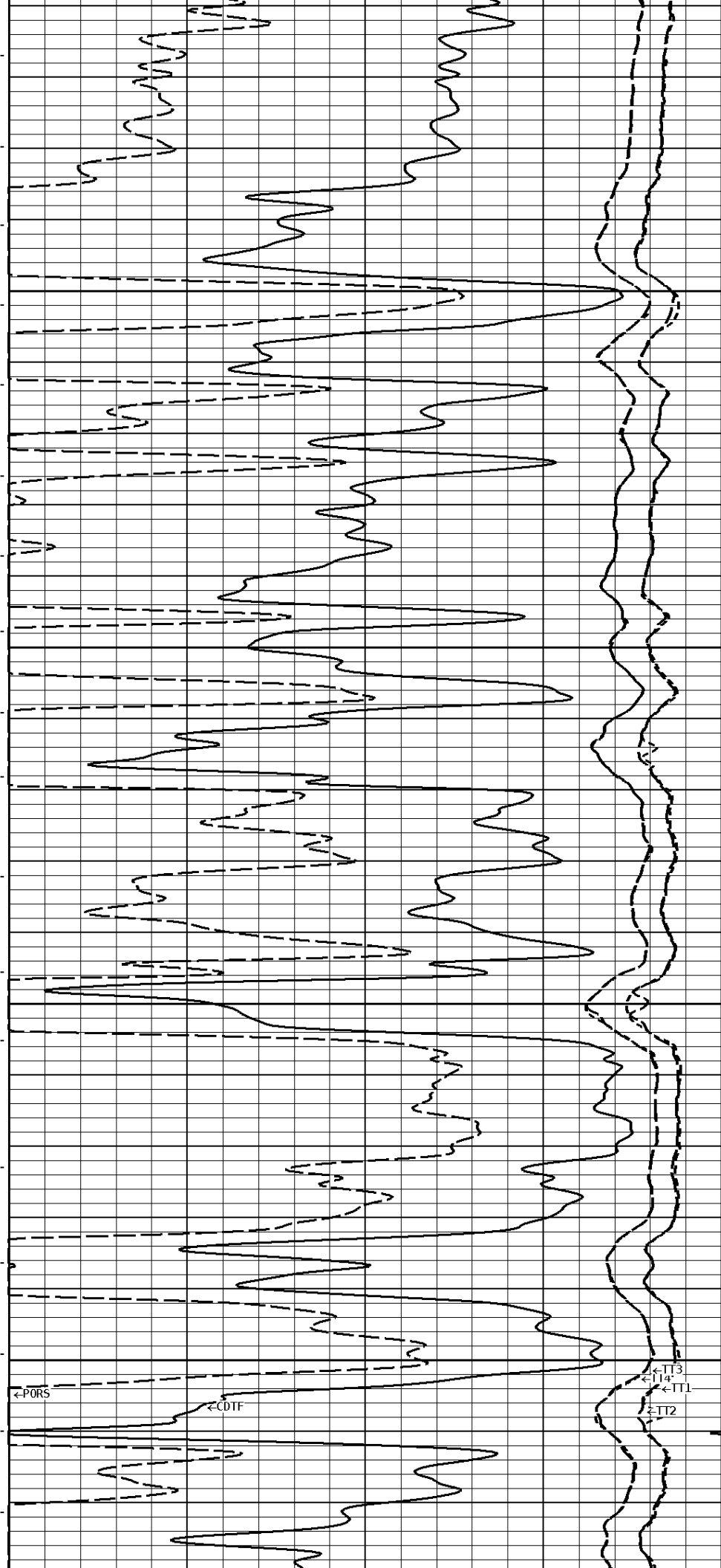
1200





1300

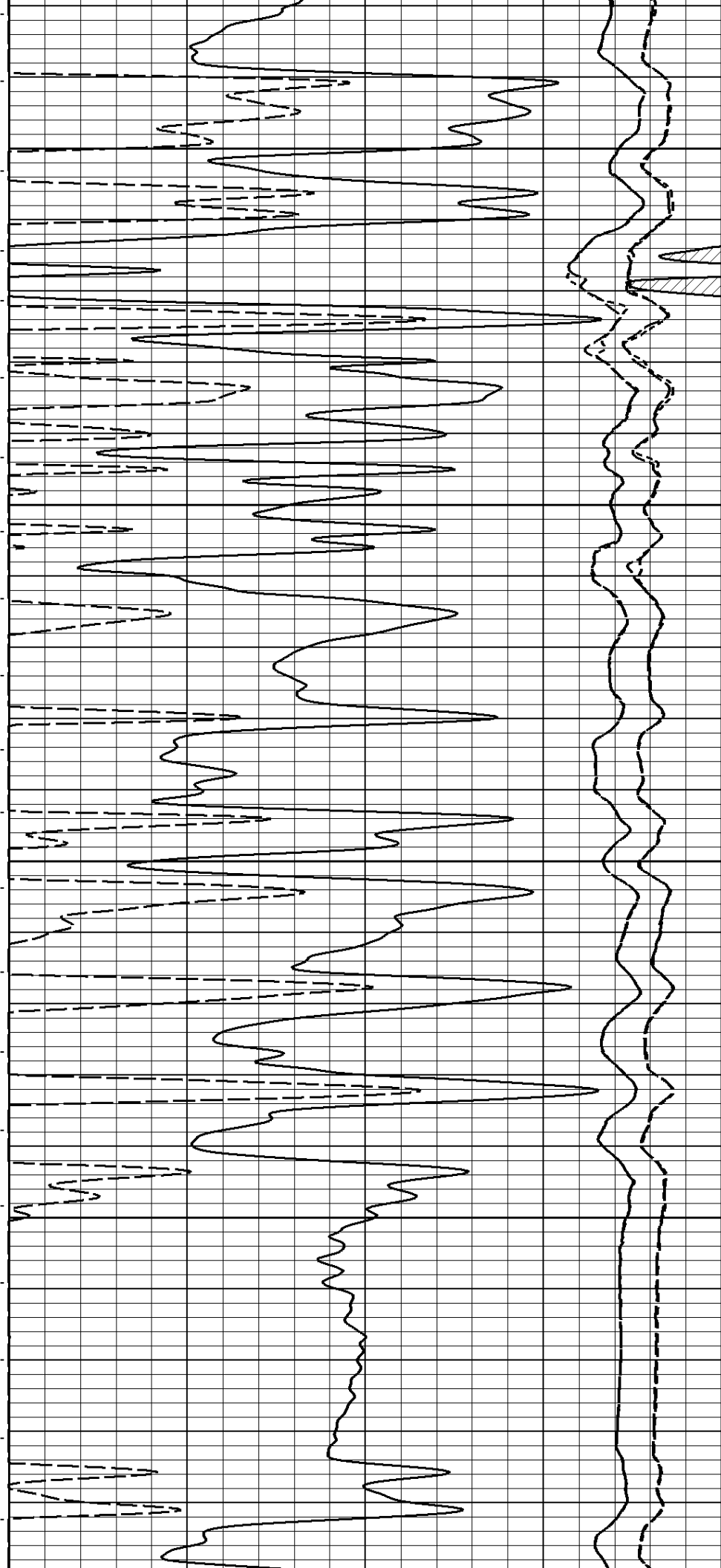
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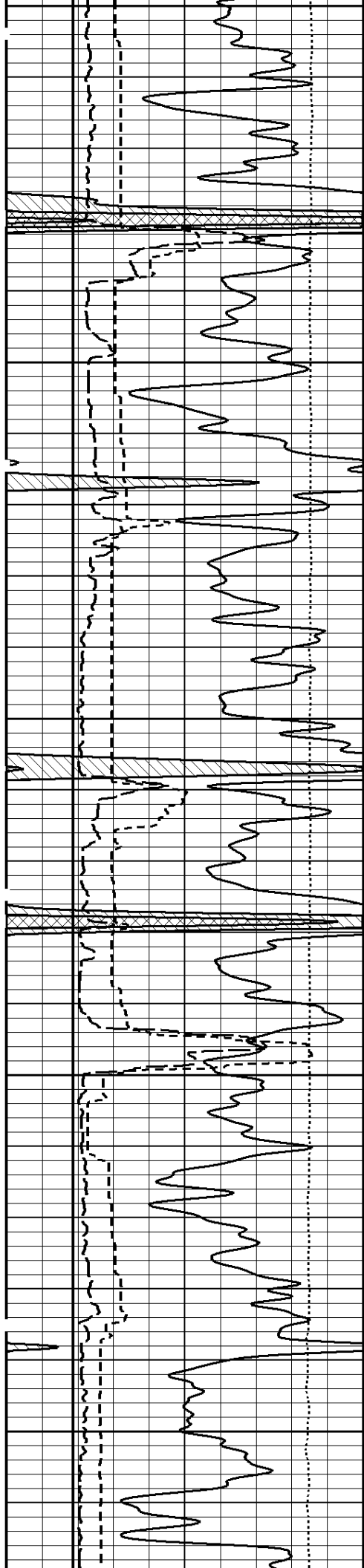




1500

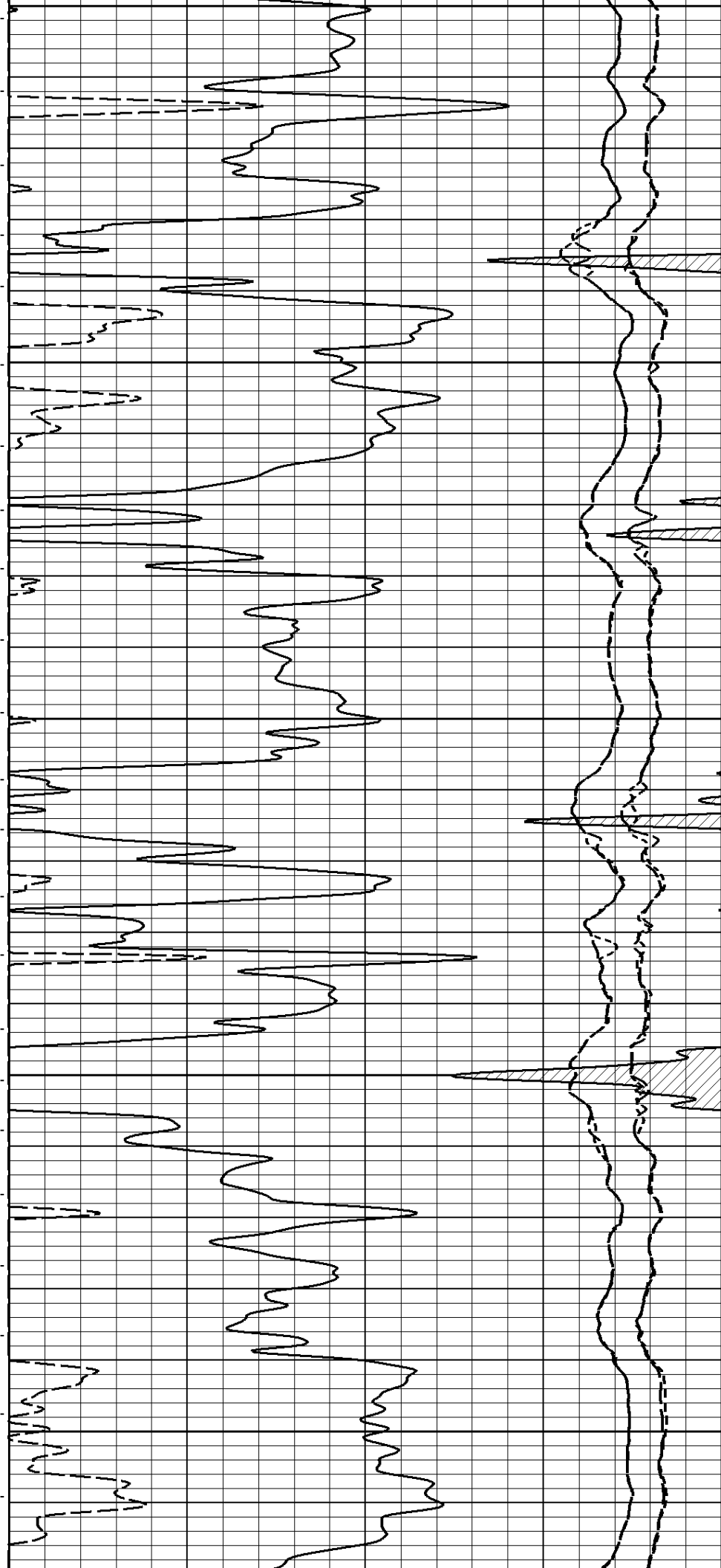
1600

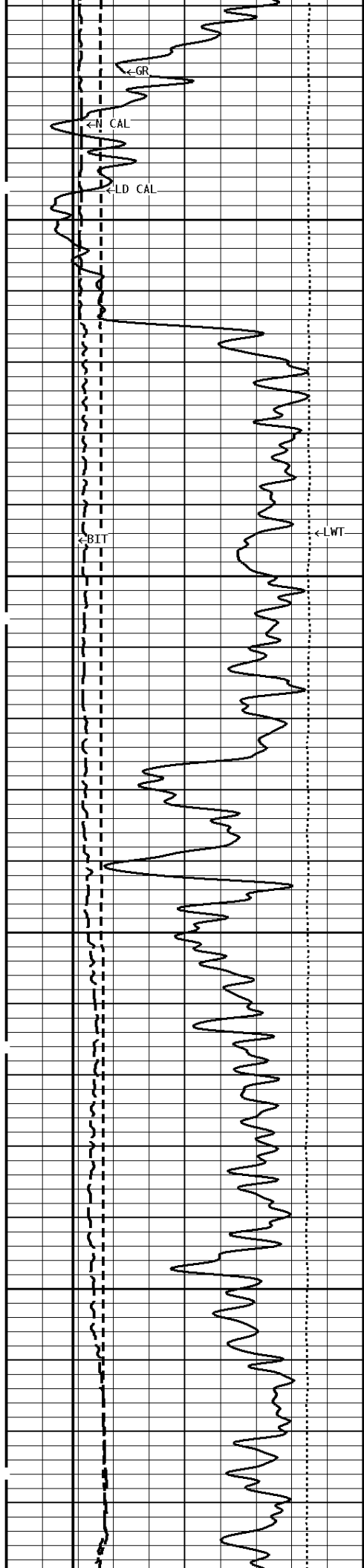




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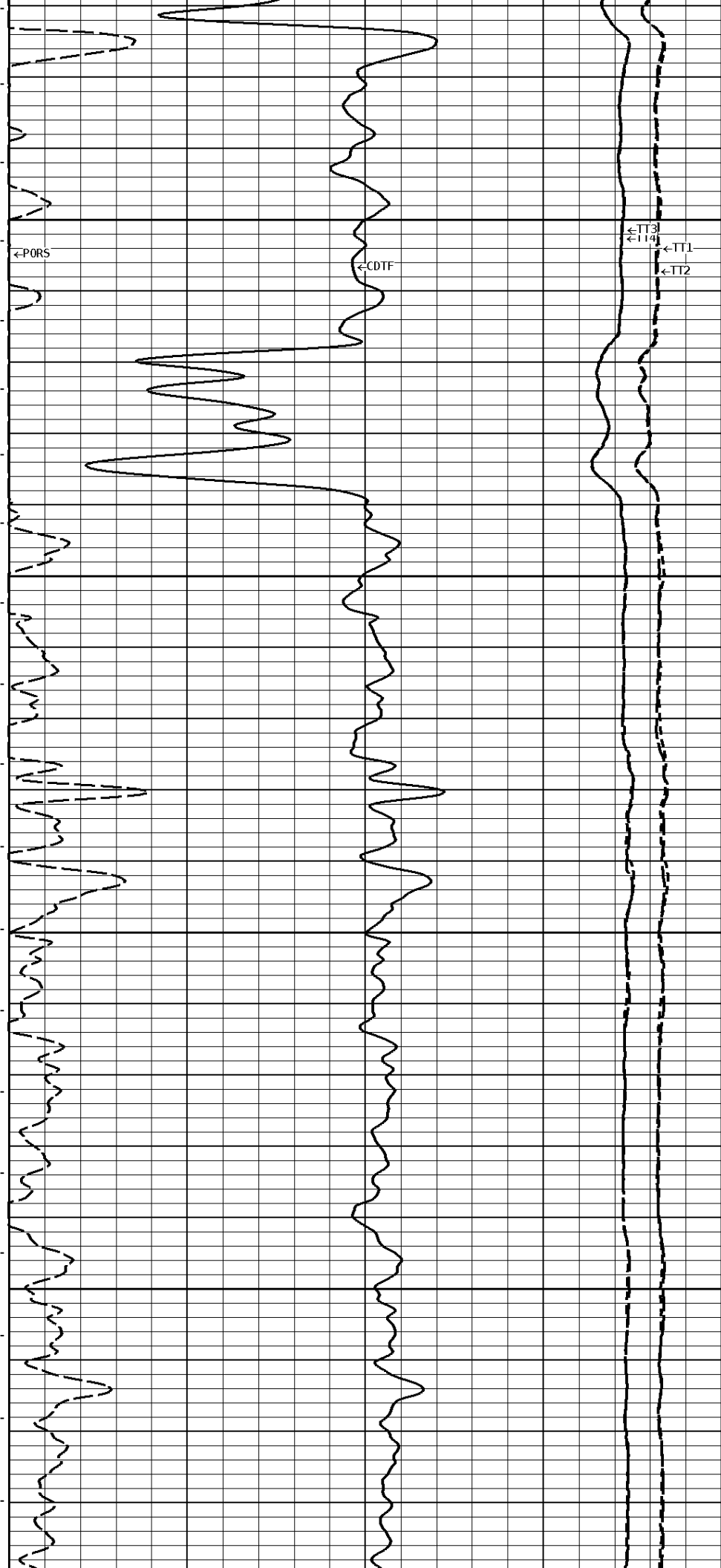
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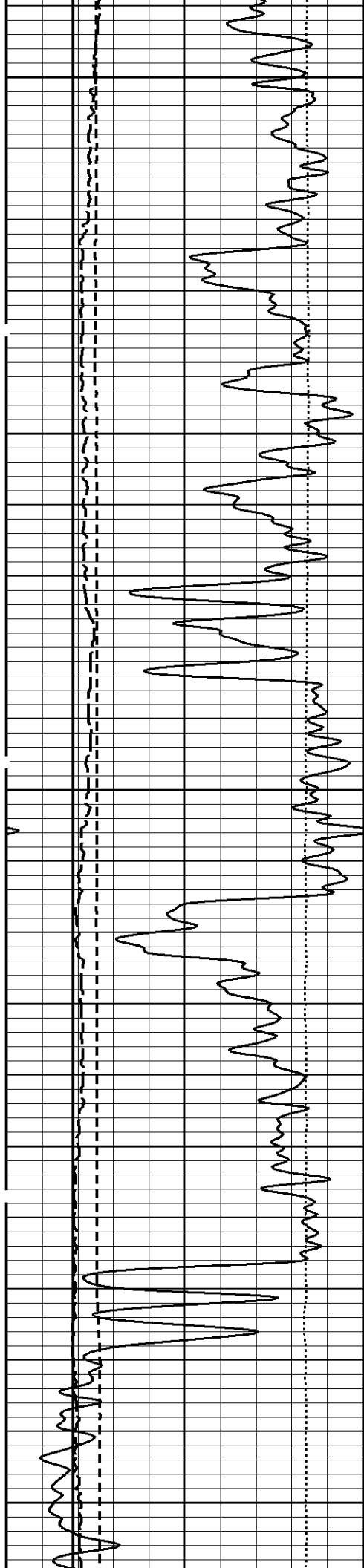




1900

2000

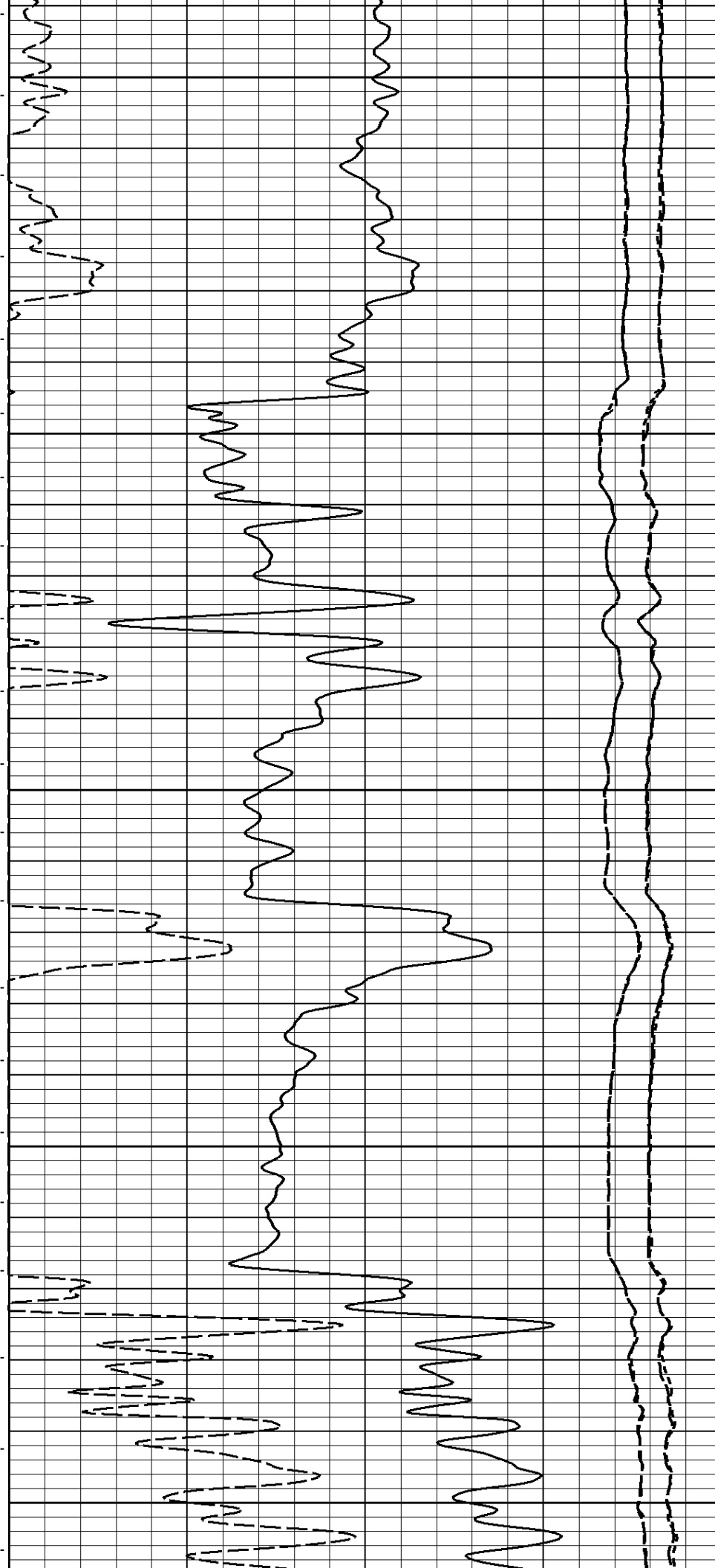


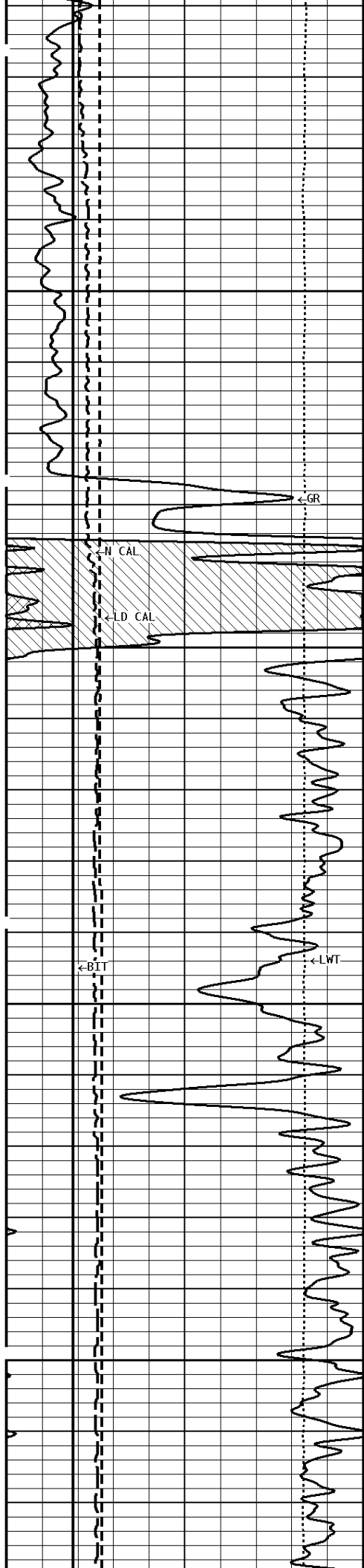


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2200

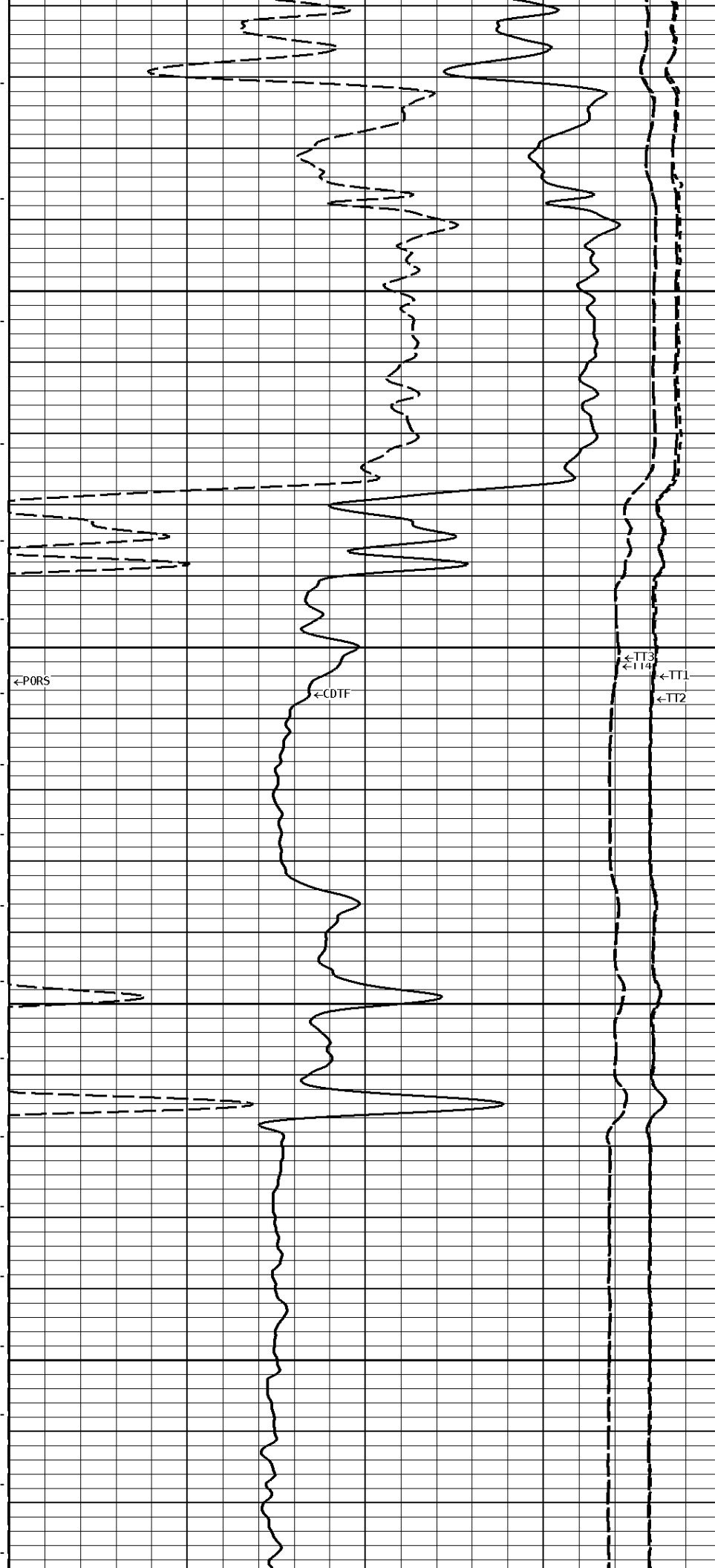
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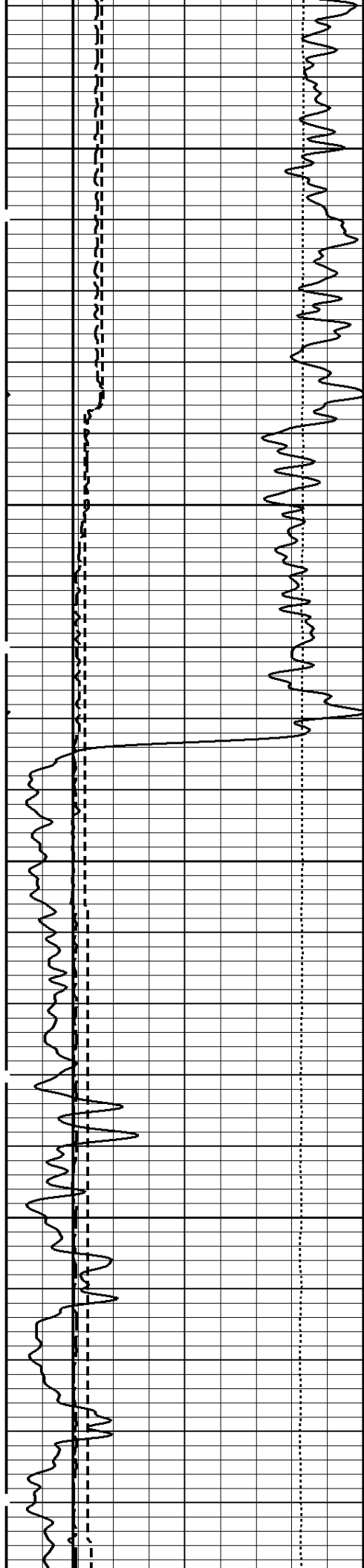




2400

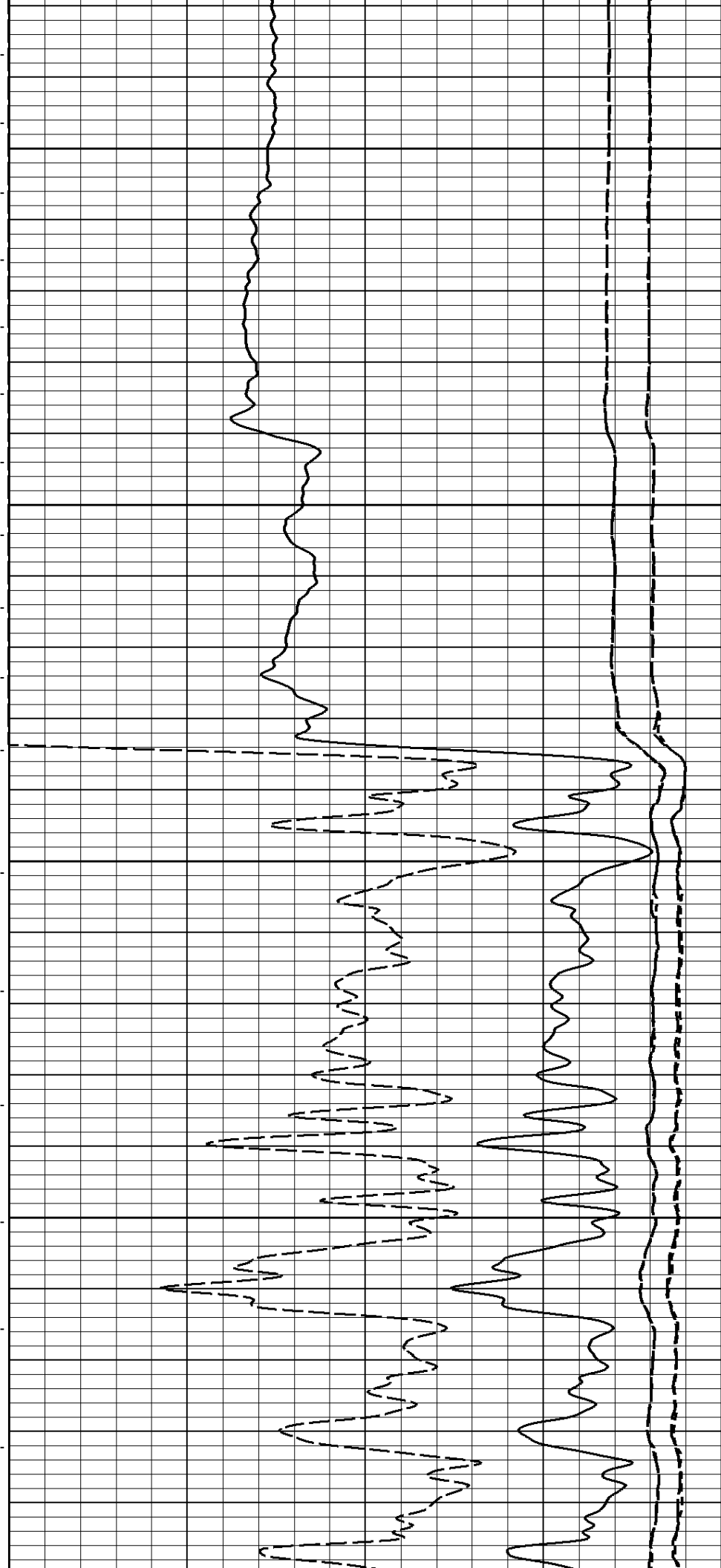
2500

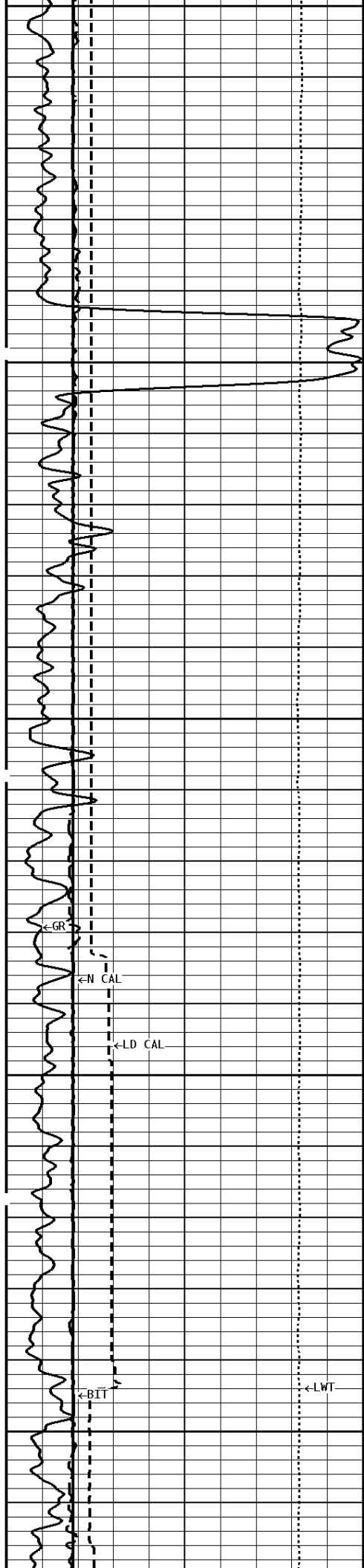




2600

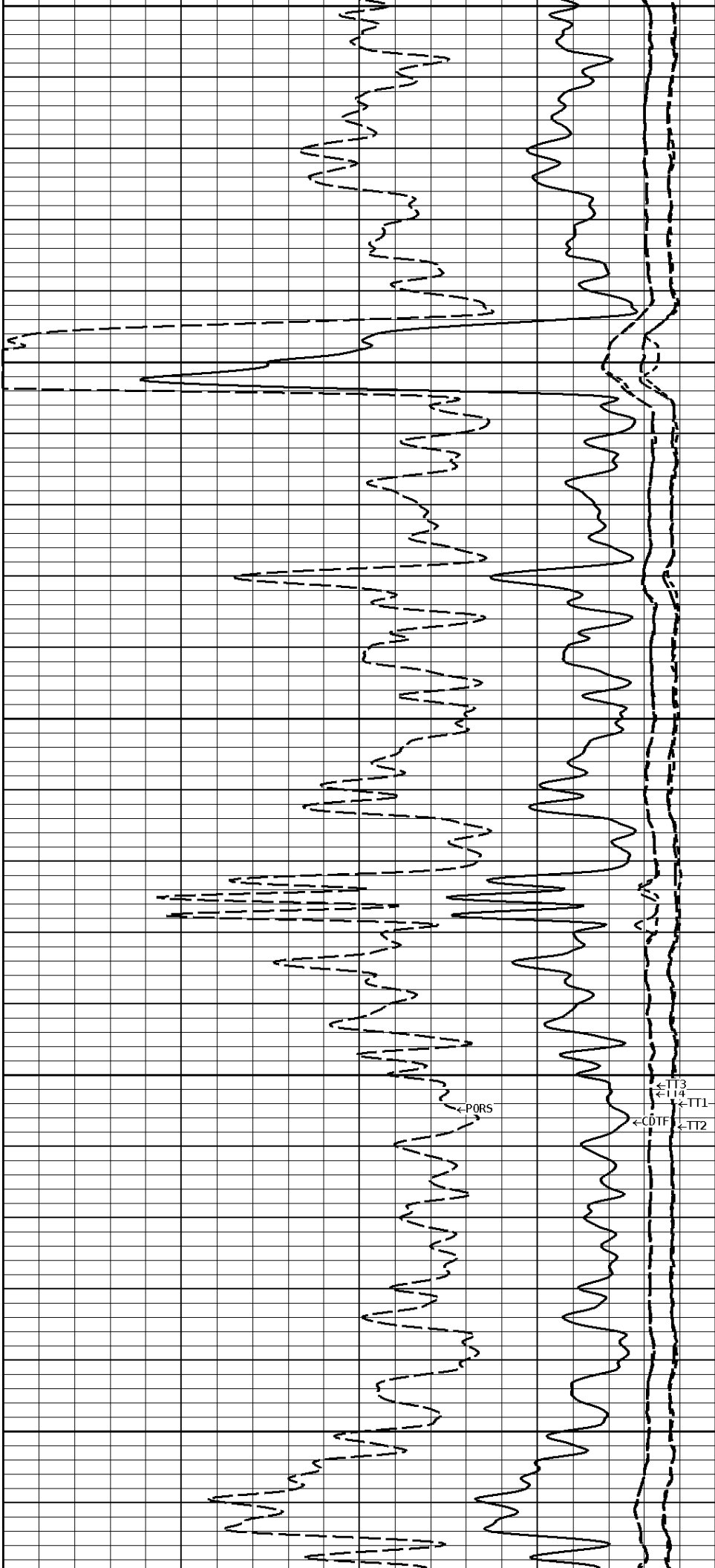
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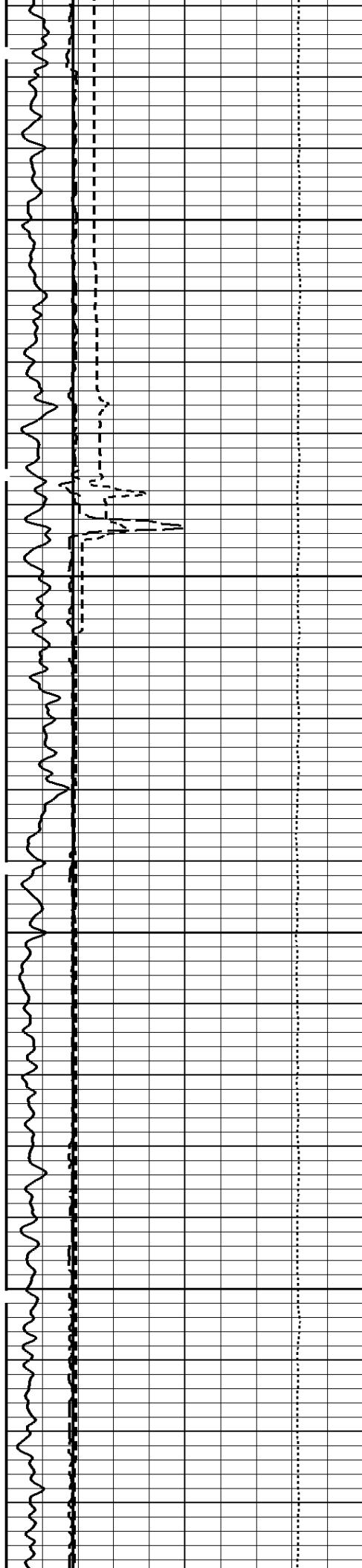




2800

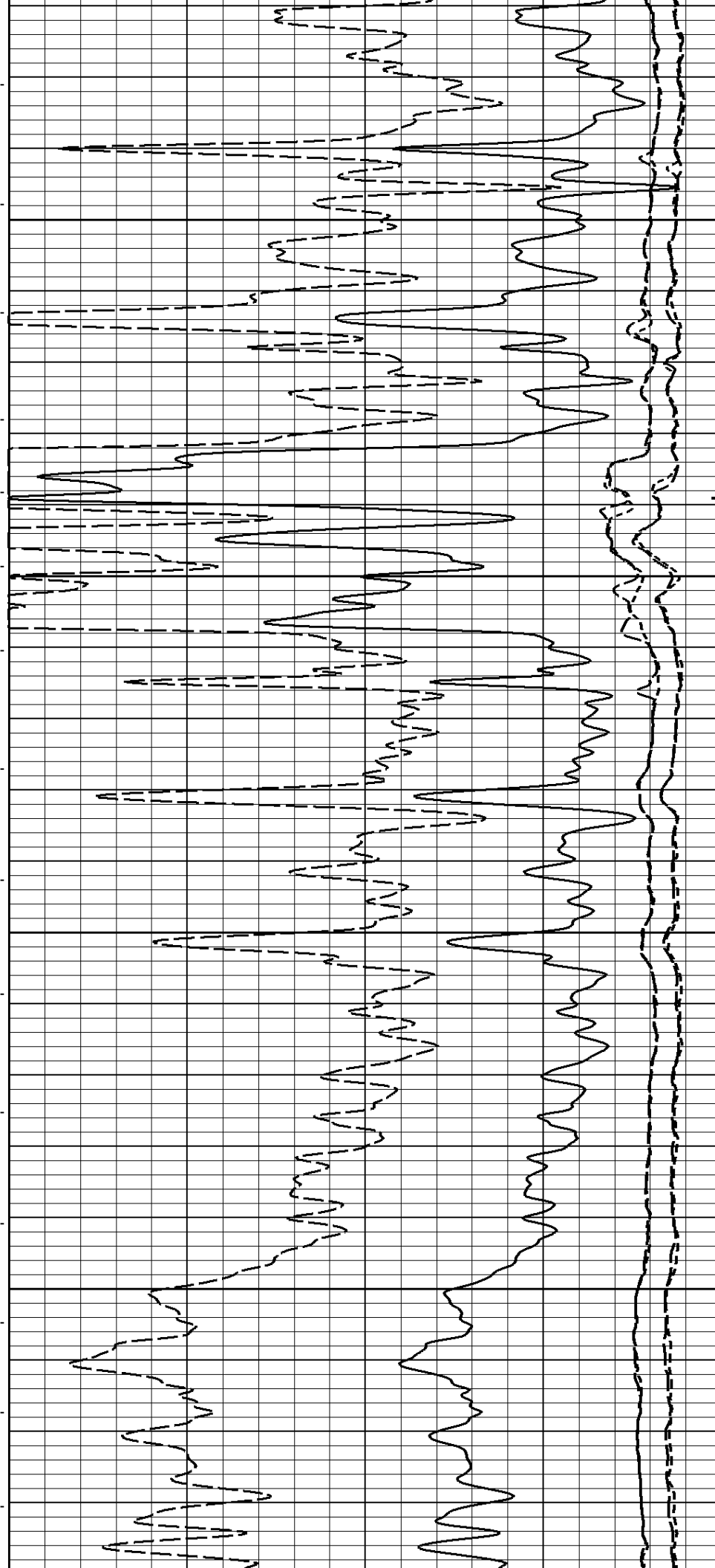
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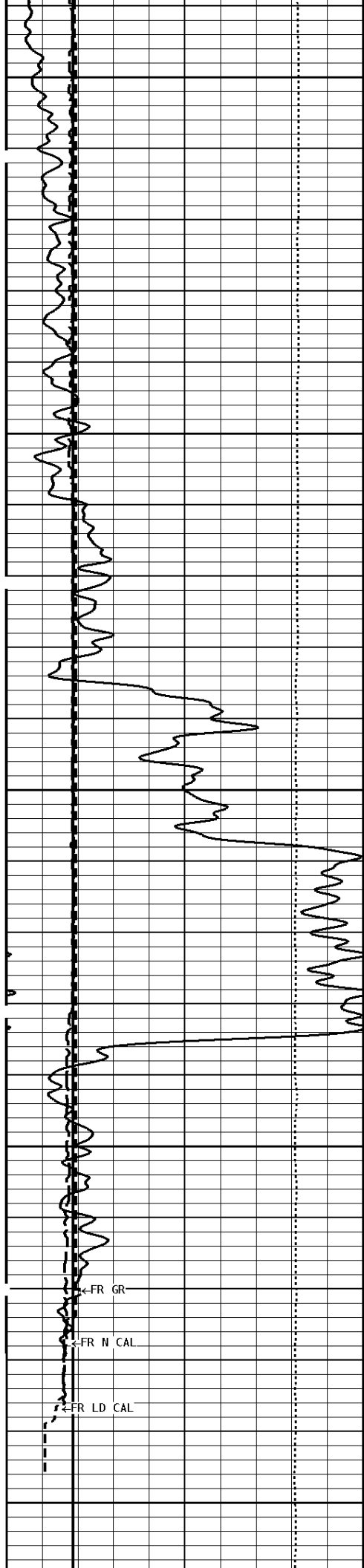




3000

3100

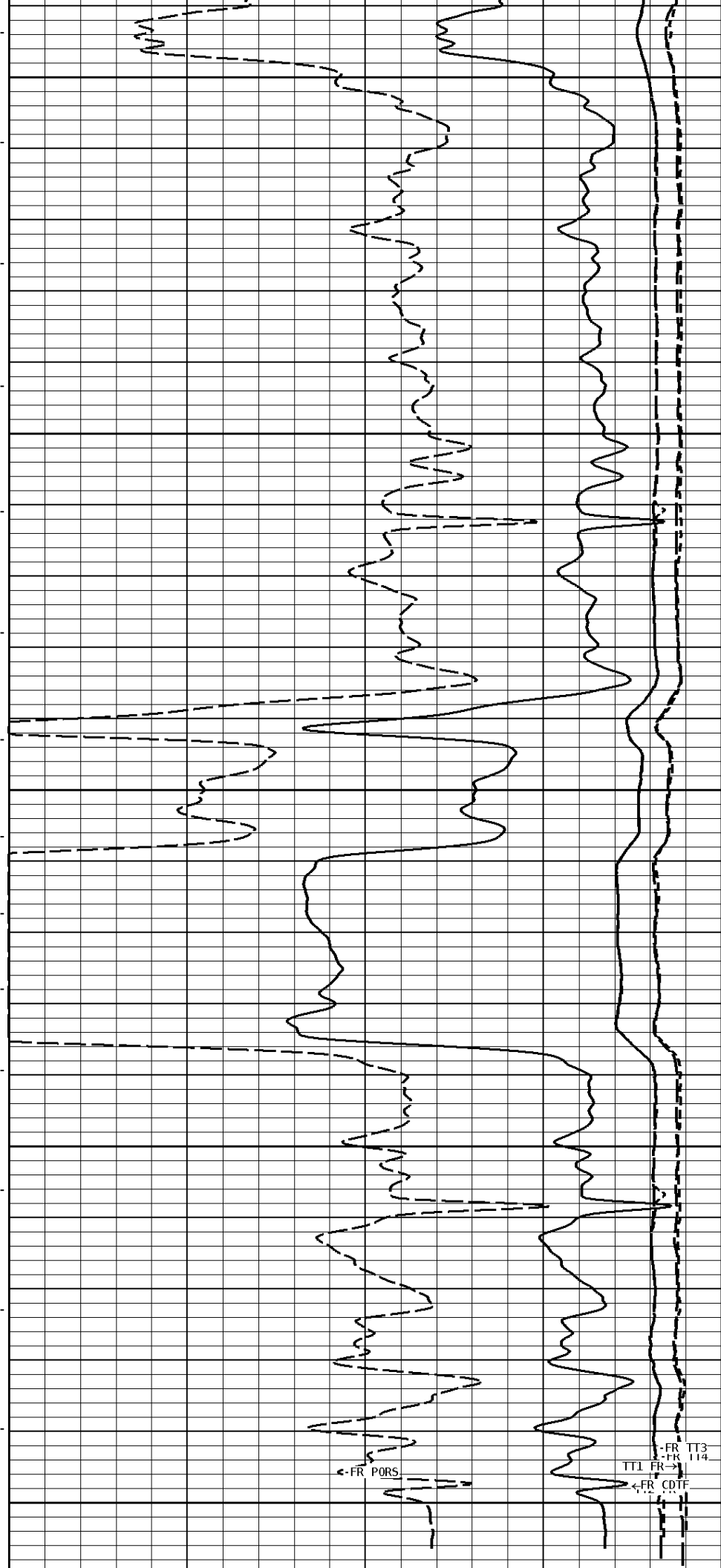




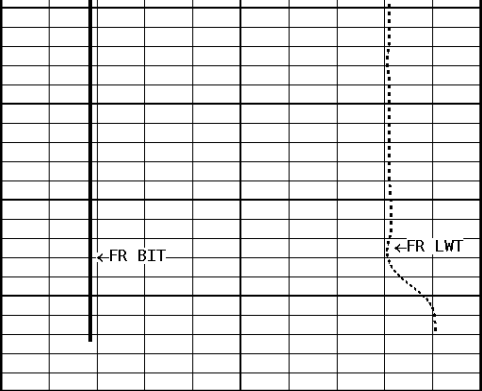
3200

3300

3400



FR PORS



3436

1:240 MAIN SECTION

GAMMA RAY API UNITS	
150	300
0	150
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

SONIC POROSITY PERCENT	
30	-10
COMPENSATED SONIC TRAVEL TIME uSEC/FT	
240	140
140	40
TT1 uSEC	
950	50
TT2 uSEC	
950	50
TT3 uSEC	
950	50
TT4 uSEC	
950	50

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet			
Matrix Transit Time	47.5	us/ft	
Fluid Transit Time	189.0	us/ft	

Well File: RFP HERRMANN 9-4B-2 SEPT18_QUINT	Scale: 1:240	Format: CST-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	

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

TT4 uSEC	
950	50
TT3 uSEC	
950	50
TT2 uSEC	
950	50

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

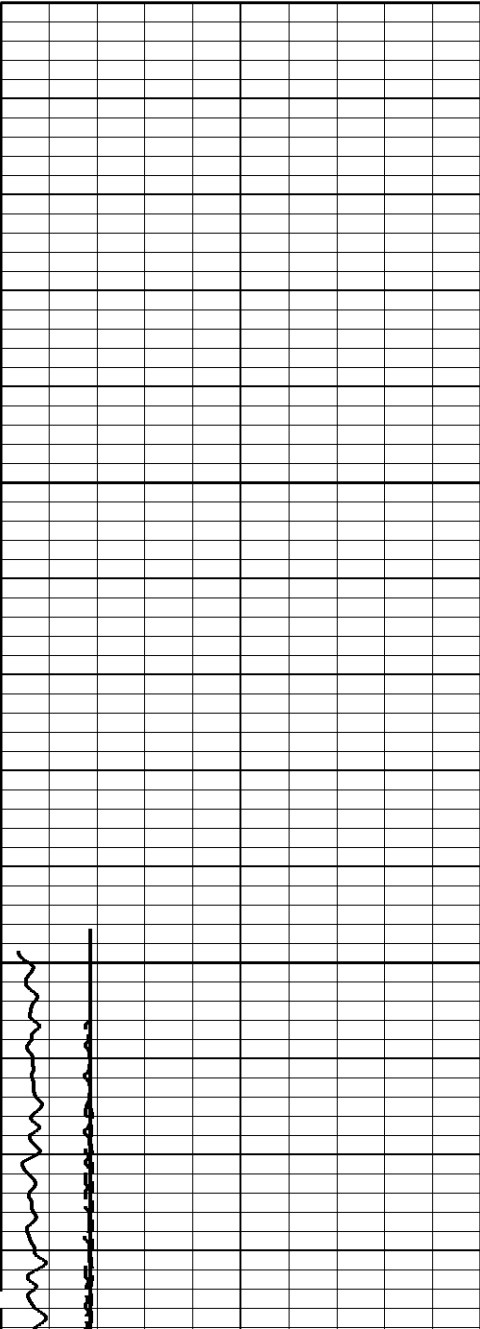
BIT SIZE INCHES (IN)	
6	16
TENSION LBS	
10000	0
GAMMA RAY API UNITS	
150 0	300 150

TT2 uSEC	
950	50

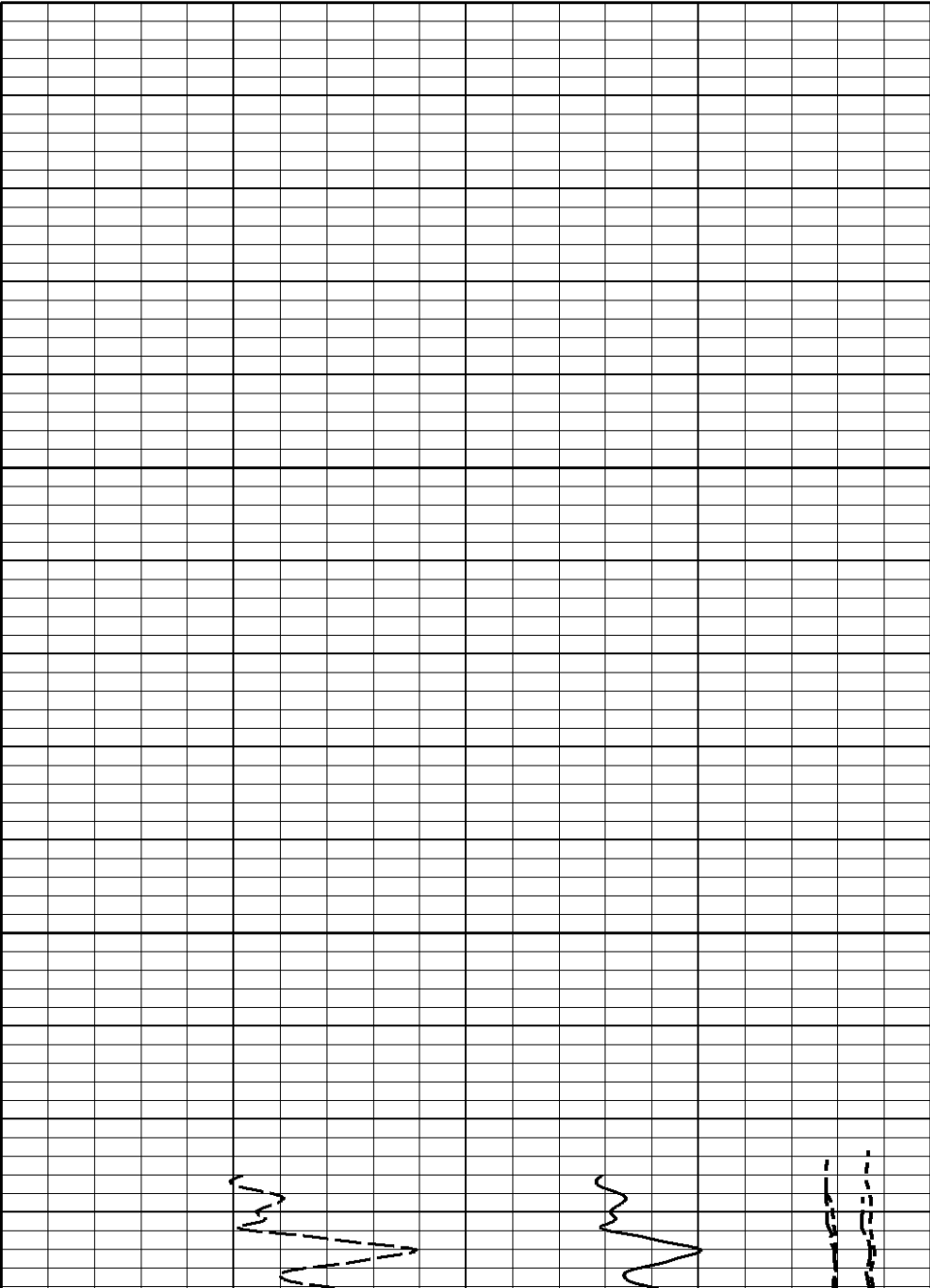
TT1 uSEC	
950	50

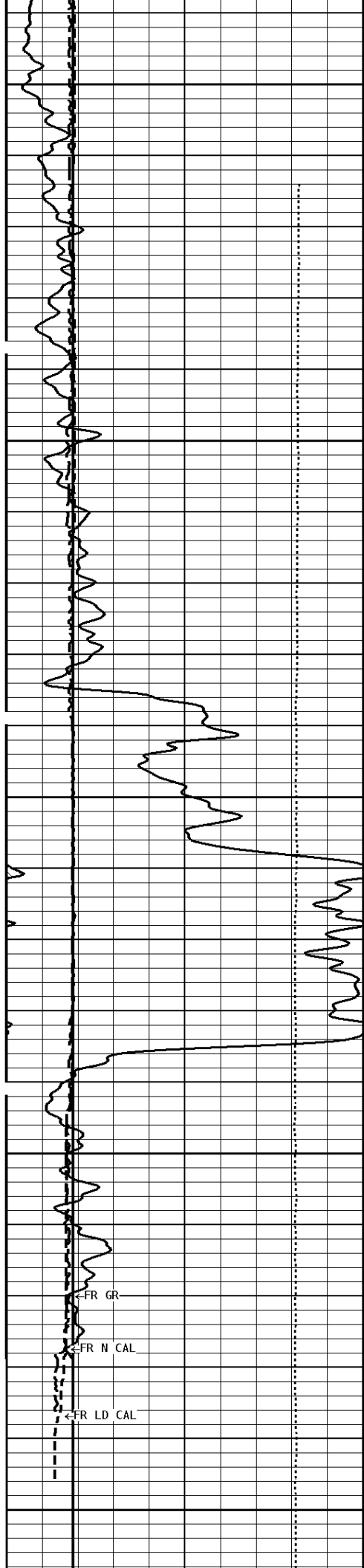
COMPENSATED SONIC TRAVEL TIME uSEC/FT	
240 140	 140 40
SONIC POROSITY PERCENT	
30	-10

1:240 REPEAT SECTION



3100

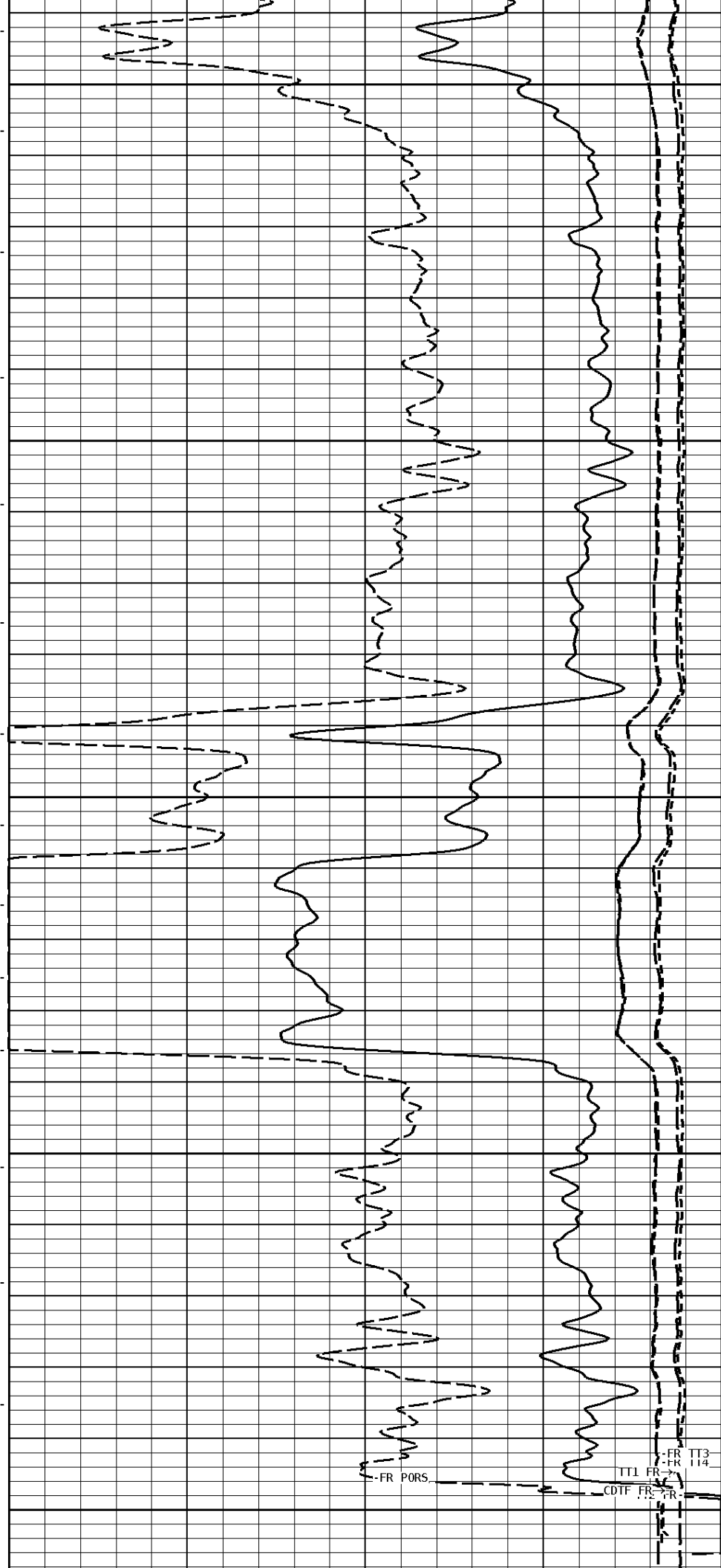




3200

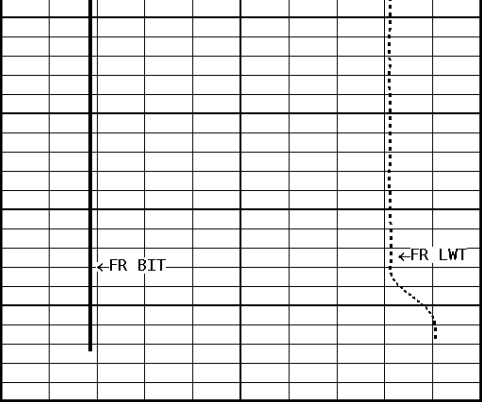
3300

3400



FR POR.

TT1 FR
TT3 FR
CDTF FR
TT2 FR



3436

1:240 REPEAT SECTION

GAMMA RAY API UNITS	
150 0	300 150
TENSION LBS	
10000	0
BIT SIZE INCHES (IN)	
6	16
DENSITY (X) CALIPER INCHES (IN)	
16 6	26 16
NEUTRON (Y) CALIPER INCHES (IN)	
16 6	26 16

SONIC POROSITY PERCENT	
30	-10
COMPENSATED SONIC TRAVEL TIME uSEC/FT	
240 140	140 40
TT1 uSEC	
950	50
TT2 uSEC	
950	50
TT3 uSEC	
950	50
TT4 uSEC	
950	50

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet			
Matrix Transit Time		47.5	us/ft
Fluid Transit Time		189.0	us/ft

* 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	
GR	Background	Jig	Jig		
	47	341	175	GRAPI	
Shop Calibration CST-AD					
Performed : 09-SEP-2016			Time : 10:54		
Sensor Suite : SON-AMA			ID : CST-AD-078		

		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	