

Tucker

ENERGY SERVICES

BOREHOLE COMPENSATED

SONIC LOG

Company AZTEC OIL CO. Well COOPER D #4 Field County BUTLER State KANSAS Country USA API No. 15-015-23950-0000		File No : TUL-57363 Company : AZTEC OIL CO. Well : COOPER D #4 Field : County : BUTLER State : KANSAS Country : USA API No : 15-015-23950-0000	
Location : 2250' FNL & 820' FEL SW SE NE		LSD : Sect : 31 Twp : 28S Rge : 8E	
Permanent Datum:	GL	Elevations:	Services:
Drilling Measured From:	KB	KB 1623.00	GRT
Log Measured From:	KB	DF 1622.00	CNT
Above Permanent Datum:	10.00 Ft	GL 1613.00	LDT
Date	2012-08-09		PIT
Run Number	1		
Depth--Driller	3300.0	Ft	
Depth--Logger	3296.0	Ft	
First Reading	3270.0	Ft	
Last Reading	224.0	Ft	
Casing--Driller	224.0	Ft	
Casing--Logger	224.0	Ft	
Bit Size	7.875	In	
Casing Size	8.625	In	
Hole Fluid Type	GEL		
Density	9.5	LBS/GAL	
Fluid Loss	9.0	CC	
PH/Viscosity	9.0	50.0 SEC	
Sample Source	MEASURED		
RM@Measured Temp.	4.000 @ 79 F		
RMF@Measured Temp	3.000 @ 79 F		
RMC@Measured Temp.	5.000 @ 79 F		
Source RMF/RMC	CALCULATED/CALCULATED		
RM@BHT	2.960 @ 109 F		
Time Circulation Stopped	2012-08-09 06:00		
Max Recorded Temp.	109 F		
Equipment/Base	TRUCK 119 TULSA		
Recorded By	R. FRANKLIN / C. PAYNE		
Witnessed By	M. CROSS / B. STOUT		

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	3300.00	8.625	24.00	224.00

Run Number	1		
Date	2012-08-09		
Date/Time On Bottom	2012-08-09 10:00		
Depth to Fluid	0.0 Ft		
Salinity	800.000 PPM		
RMF@BHT	2.220 @ 109 F		
RMC@BHT	3.700 @ 109 F		

Run Number 1

Comments

ALL PRESENTATIONS AS PER CUSTOMER REQUEST

ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, MLT, CST AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED UISING 5.500" PRODUCTION CASING.

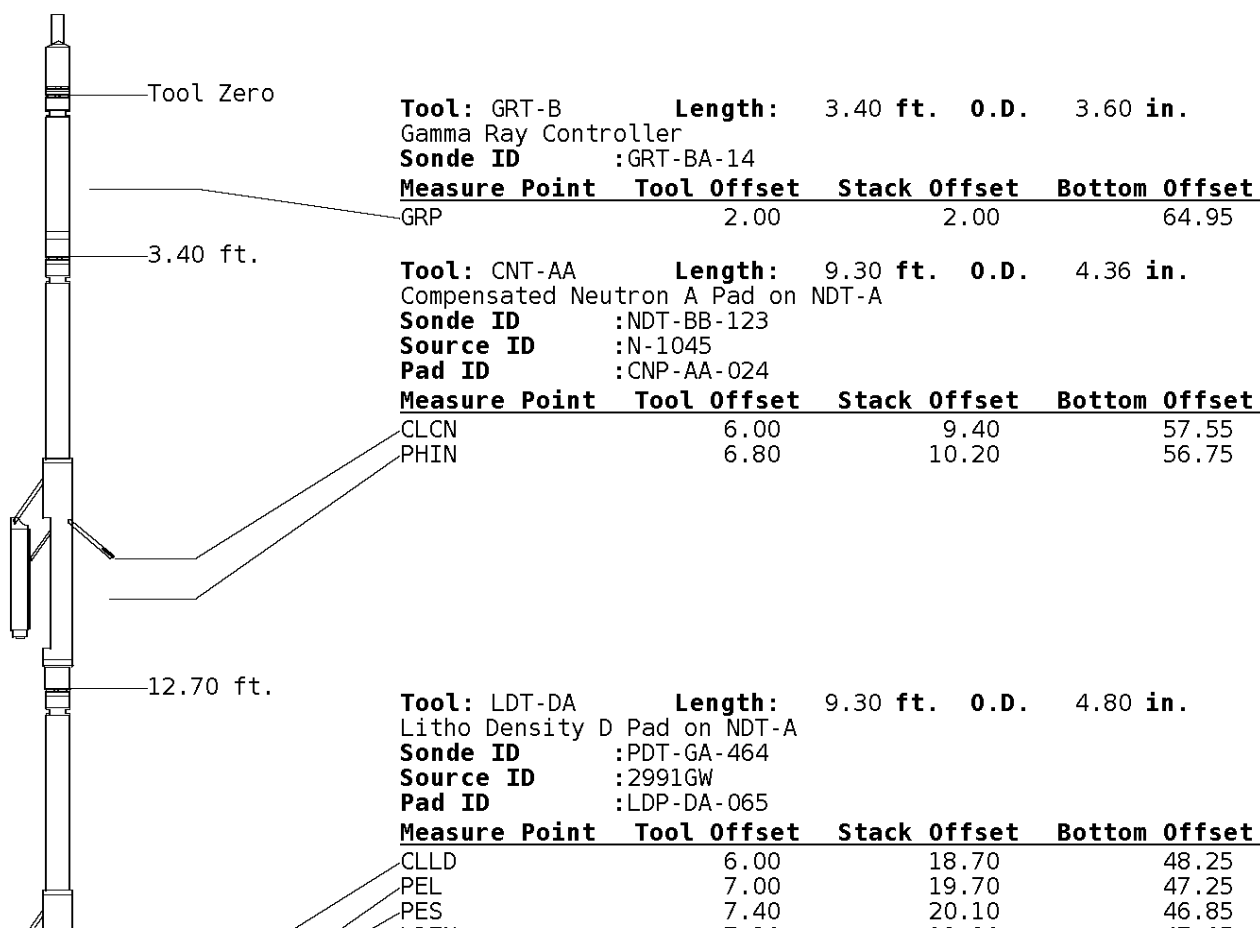
SP SPIKE AT 2000' DUE TO SPLICE.

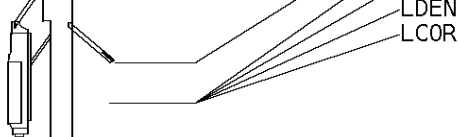
GRT: GRP.
 CNT: PHIN, CLCNIN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
 MLT: NOR_R, INV_R, MSCLPIN.
 CST: PORS, DDCDTF, TT1PF, TT3PF, ITT.
 PIT: ILD, ILM, SPU, SFLAEC

OPERATORS:
 J. THOMAS
 D. HOPPER

Tool String Schematic

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

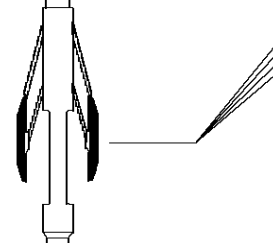




22.00 ft.

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
 Micro Spherically Focused (IC)
Sonde ID :MST-DA-36

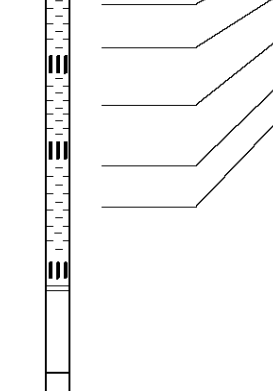
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	37.35
MSCLP	7.60	29.60	37.35
INV	7.60	29.60	37.35
NOR	7.60	29.60	37.35



31.66 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	36.46	30.49
TT3	5.80	37.46	29.49
CDT	7.30	38.96	27.99
TT4	8.80	40.46	26.49
TT2	9.80	41.46	25.49



45.46 ft.

Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
 Phased Dual Induction w/ RM & D
Sonde ID :PIT-AC-022

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: AZTEC COOPER-D-4 AUG9 QUINT

Segment: V1.D1.S19 MAIN

Reference: 0

Scale: 1:240

Acquired: Not Available

Processed: Not Available

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

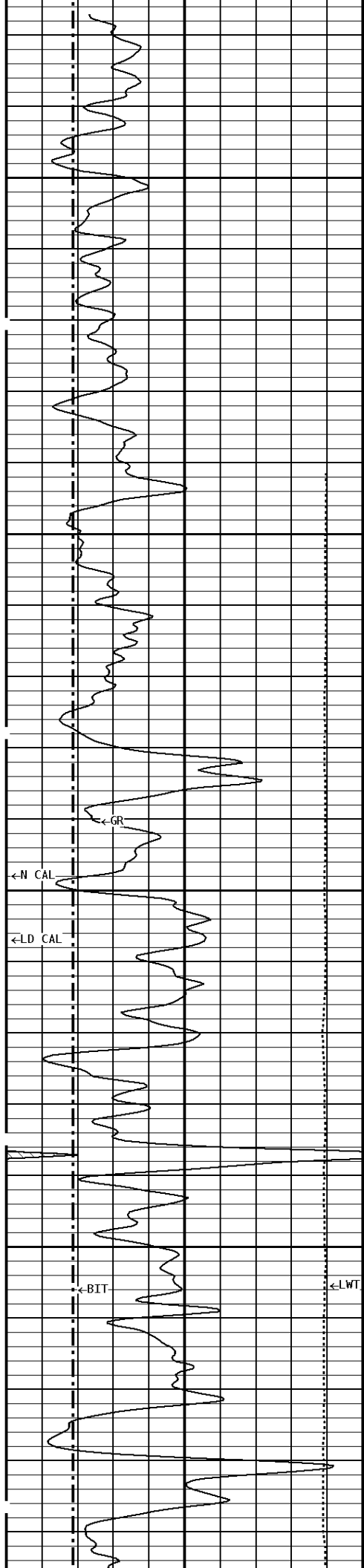
SONIC POROSITY
Percent

30 -10

1:240 MAIN SECTION

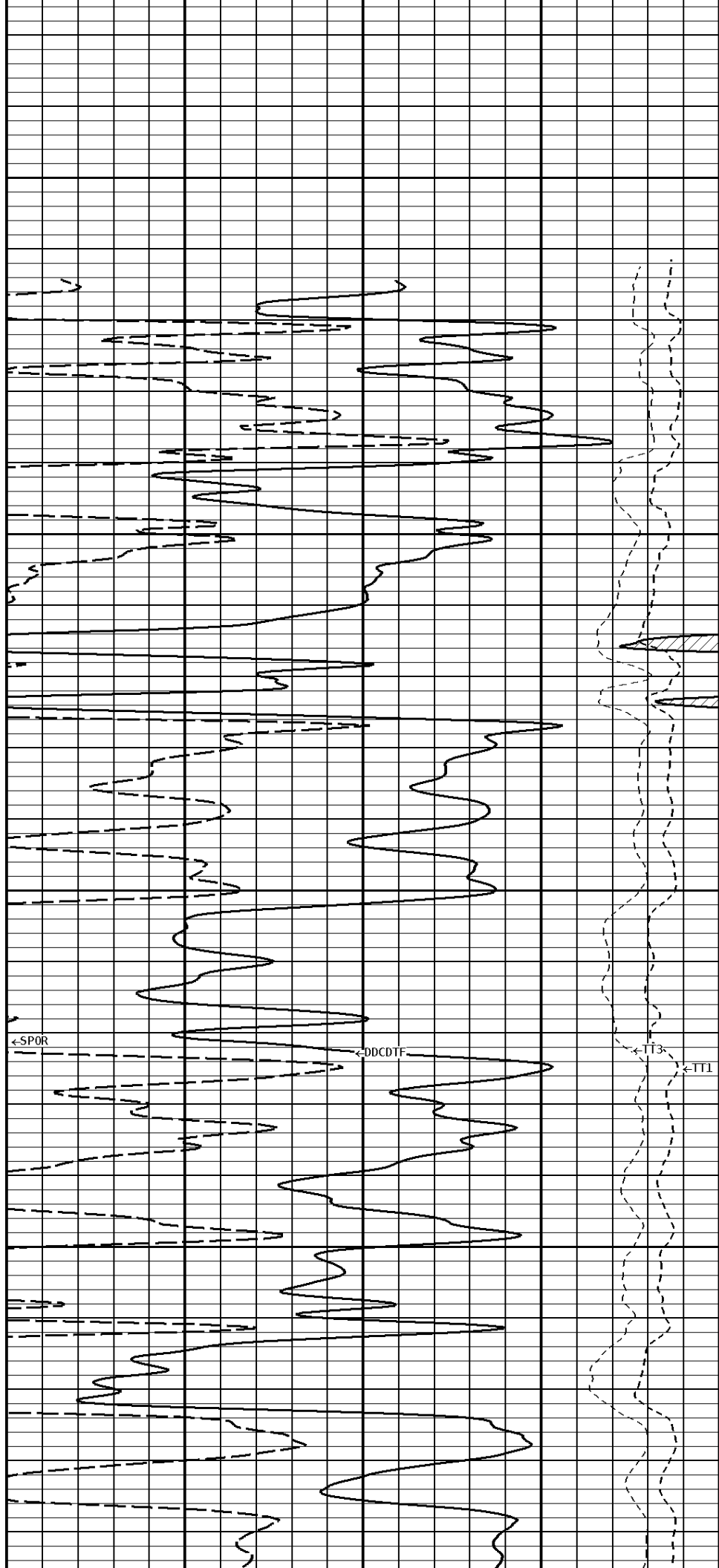
File #1.1.19

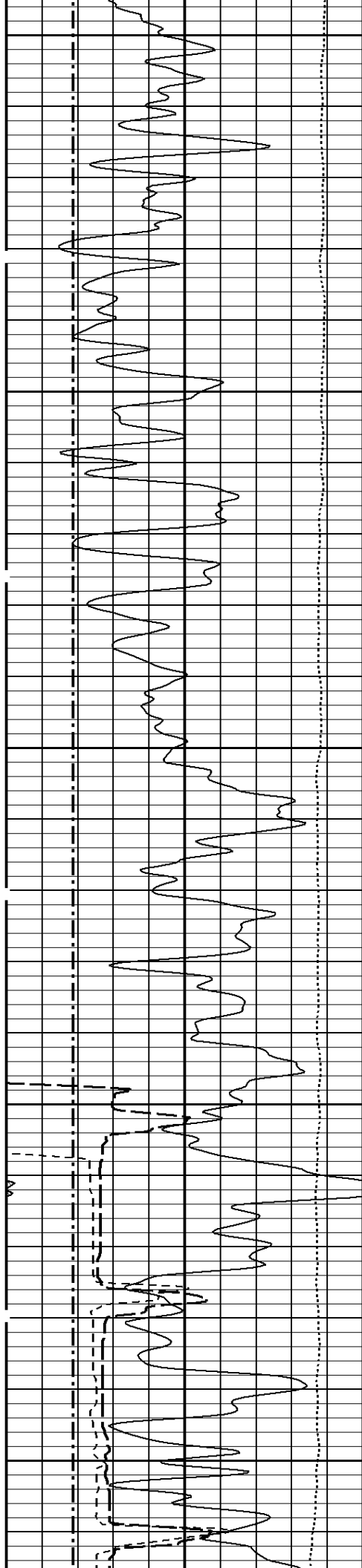
100



200

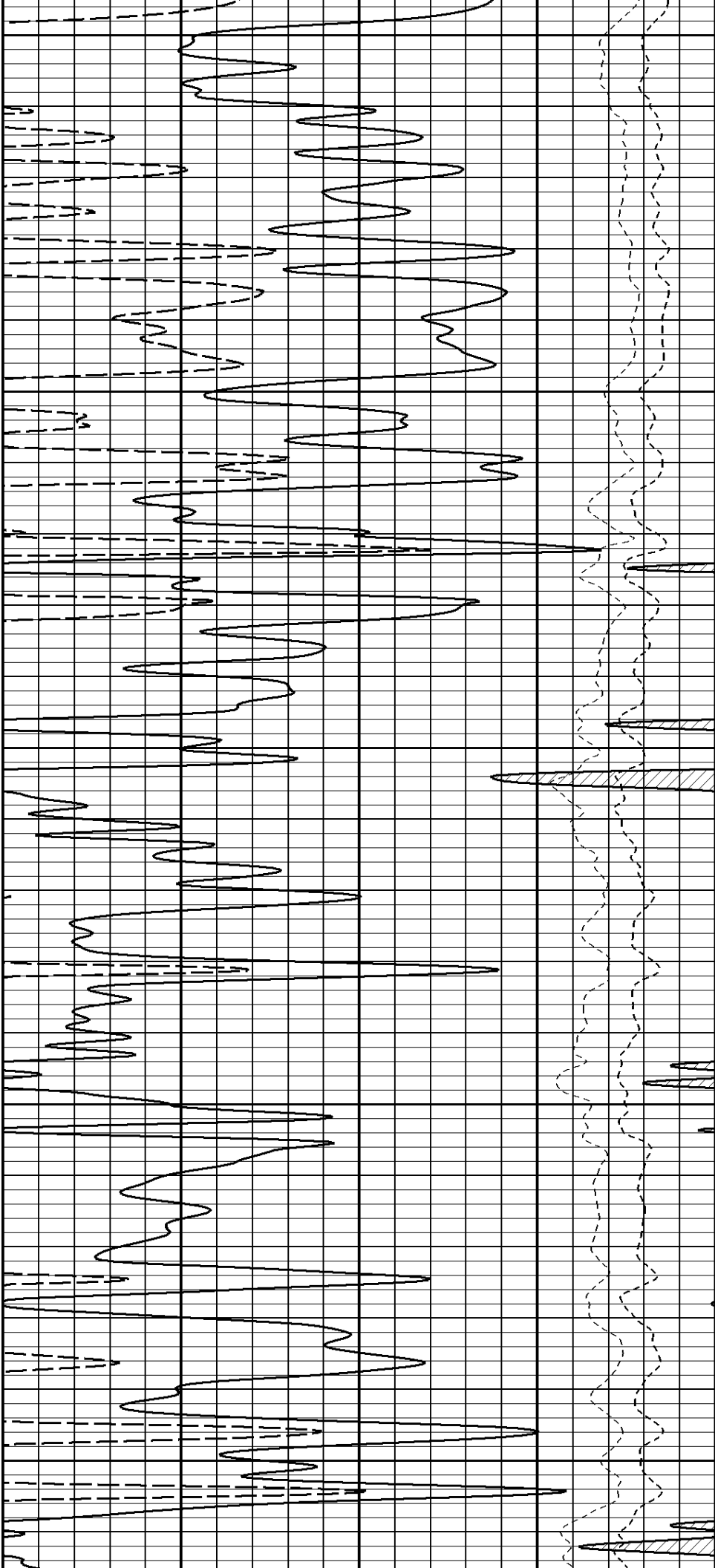
300

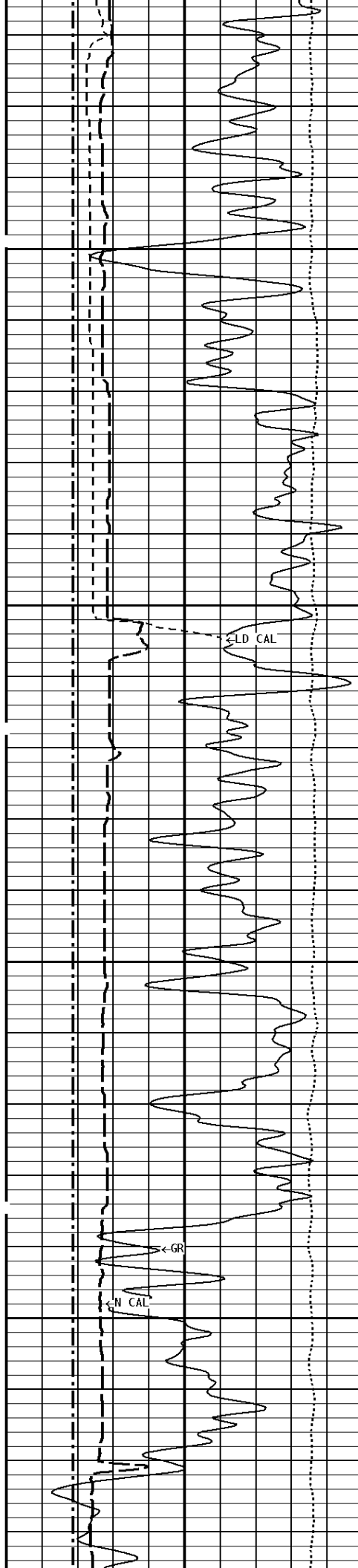




400

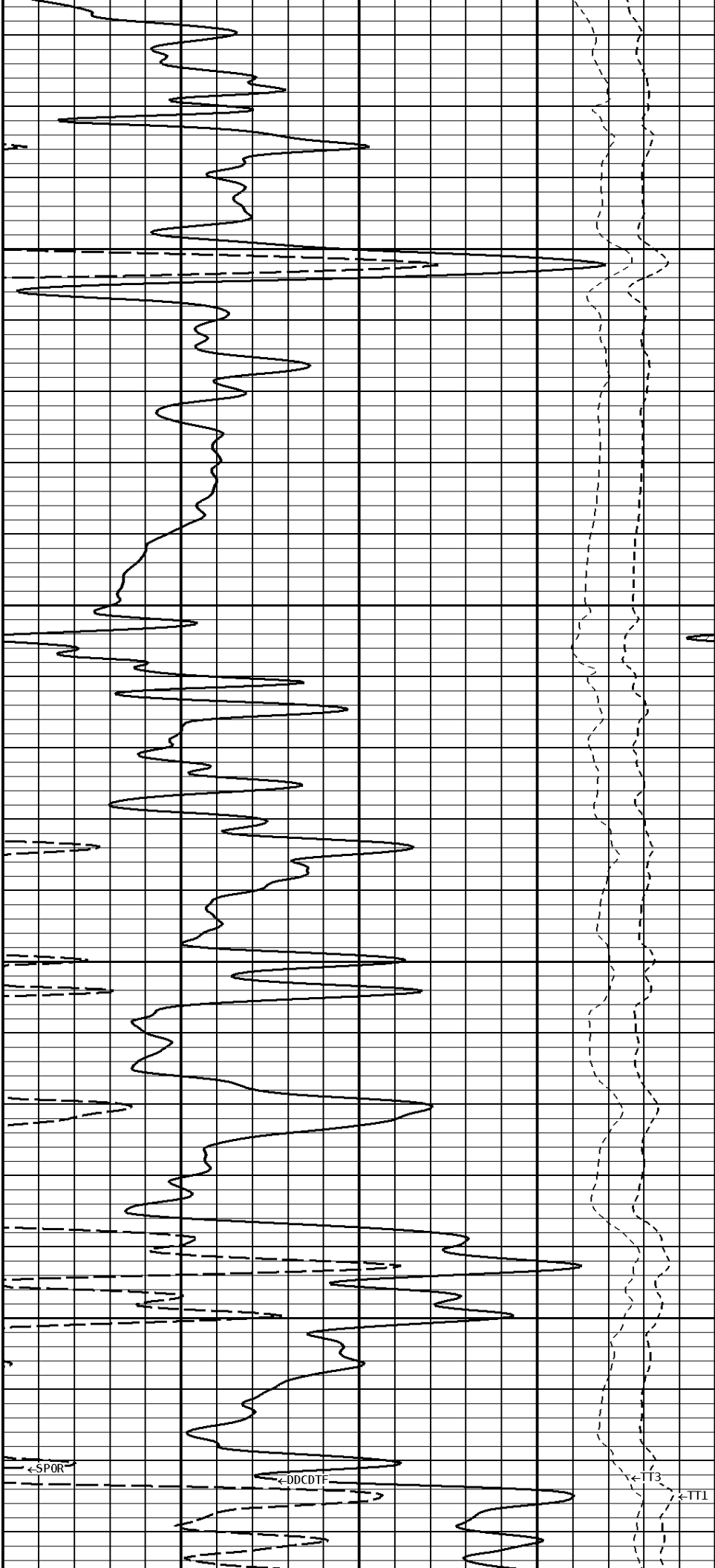
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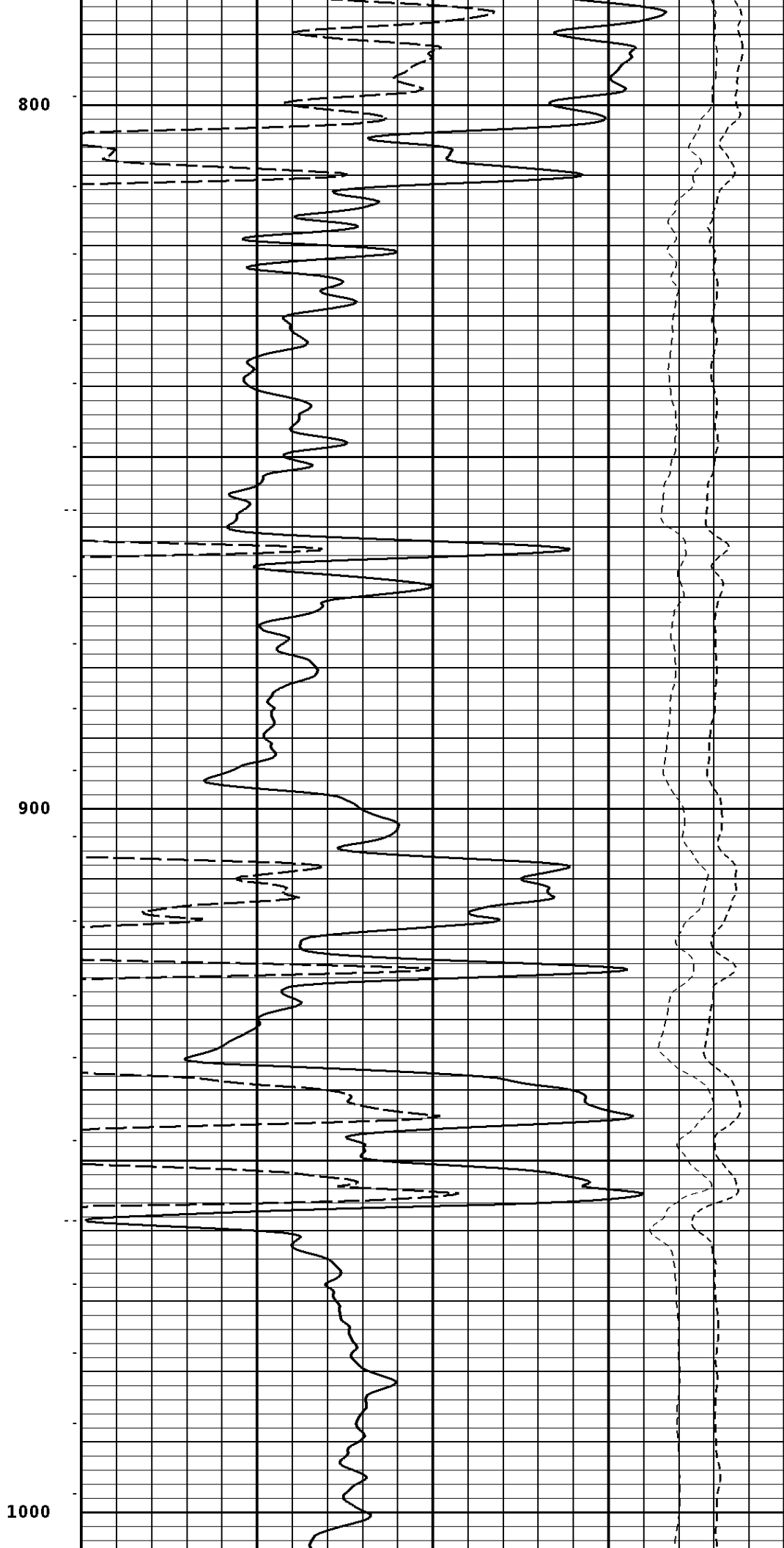
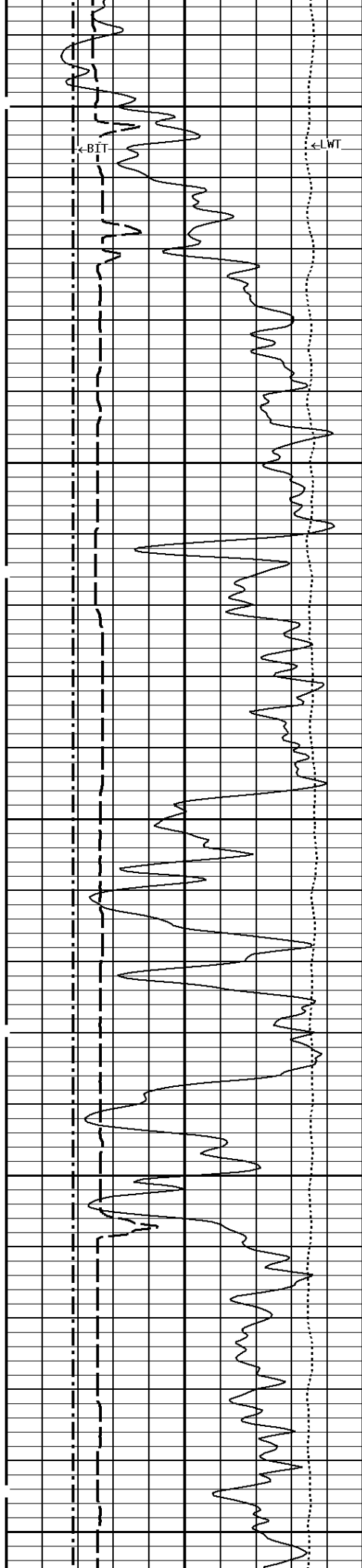


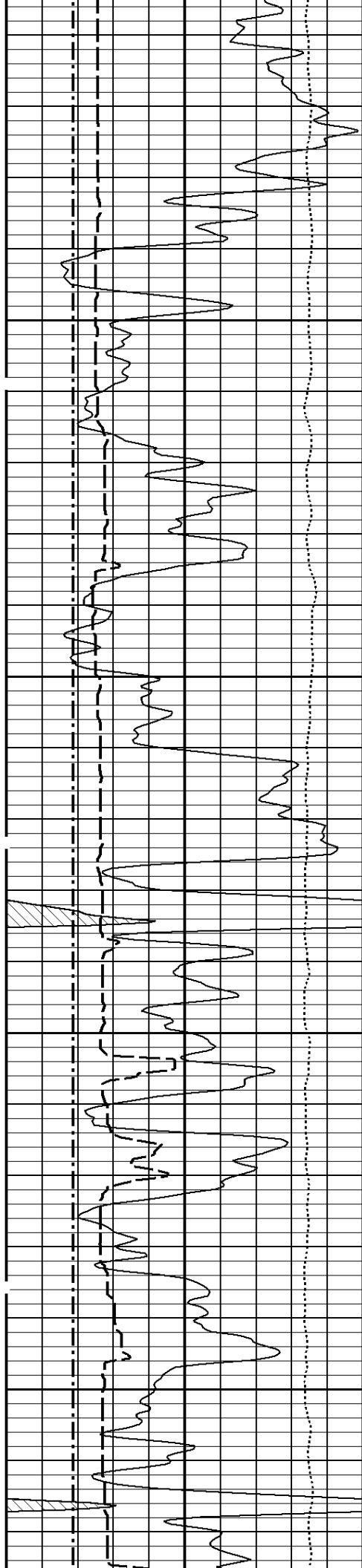


600

700

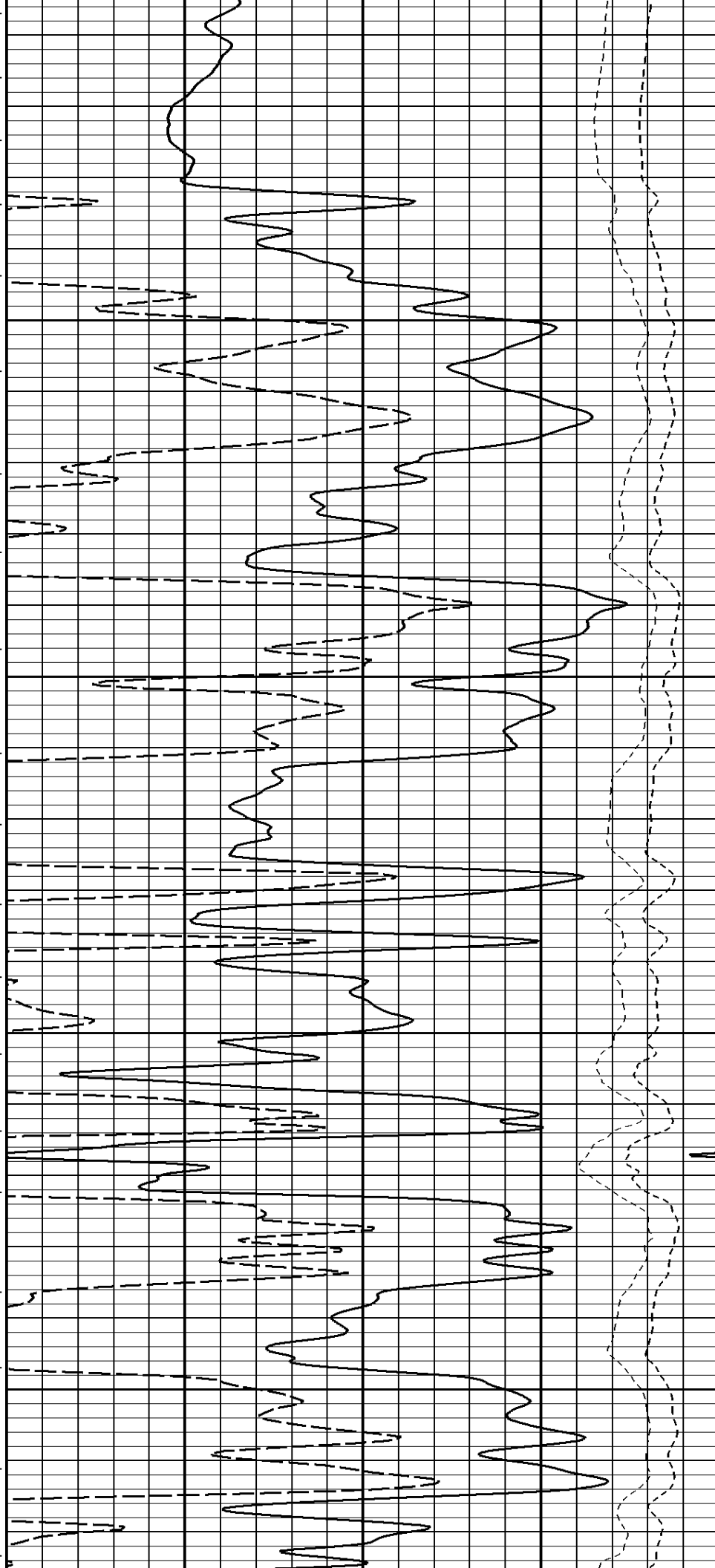


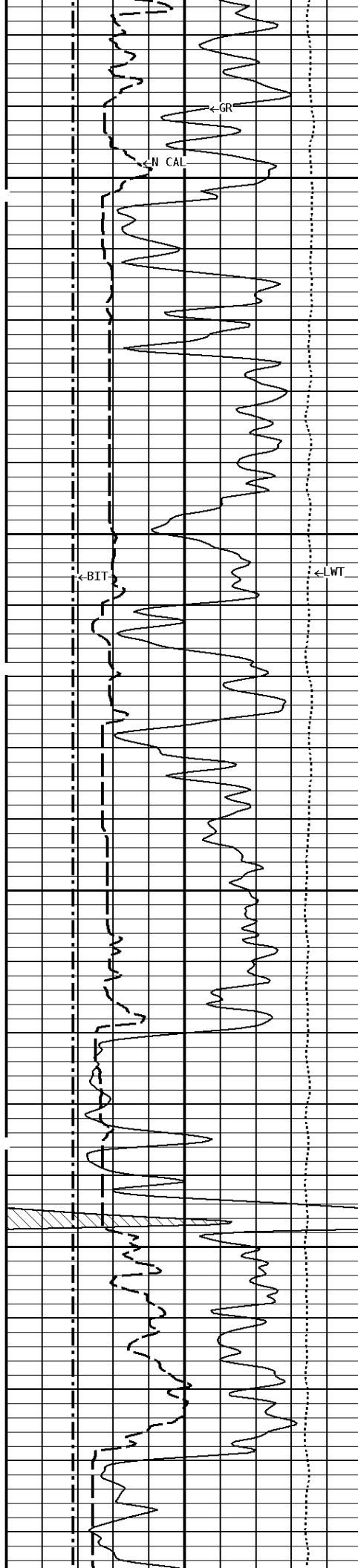




1100

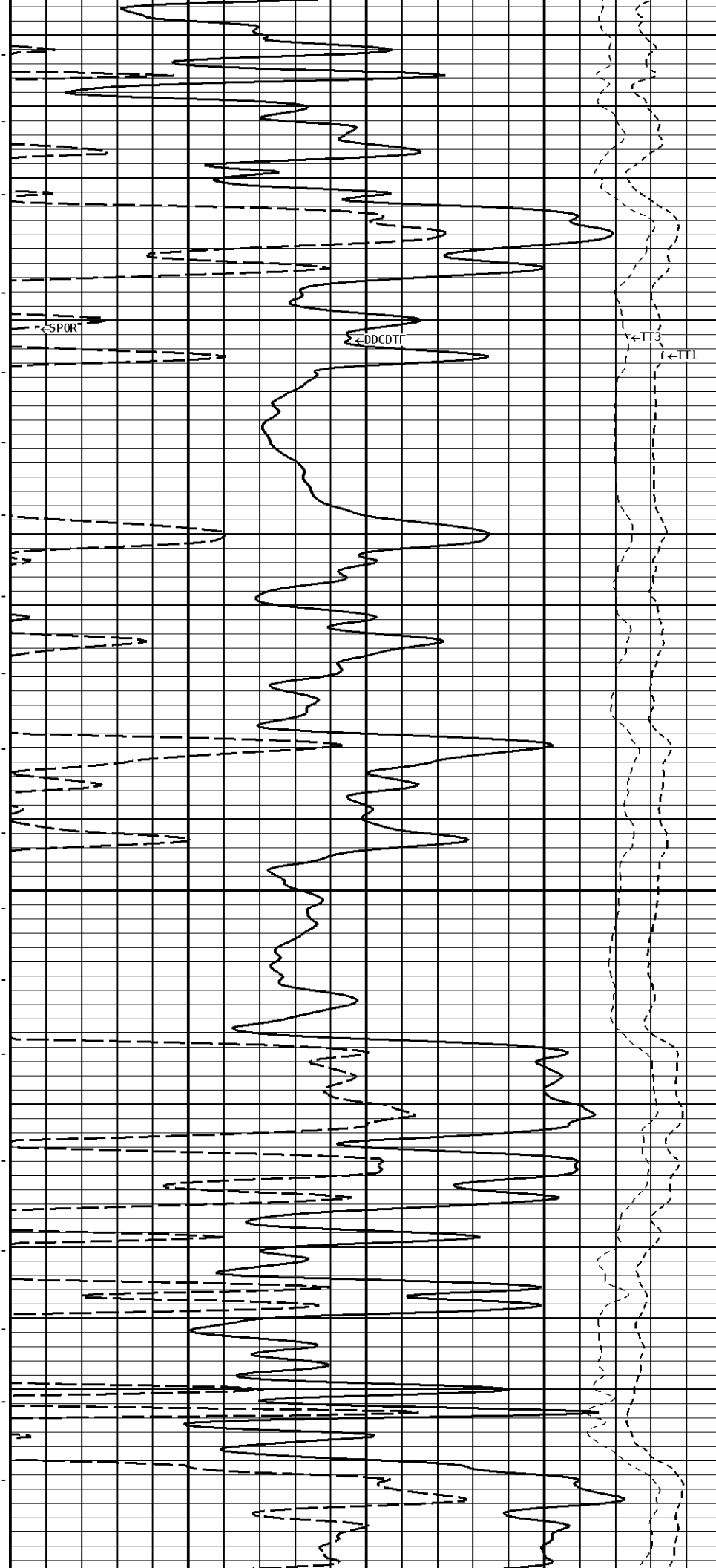
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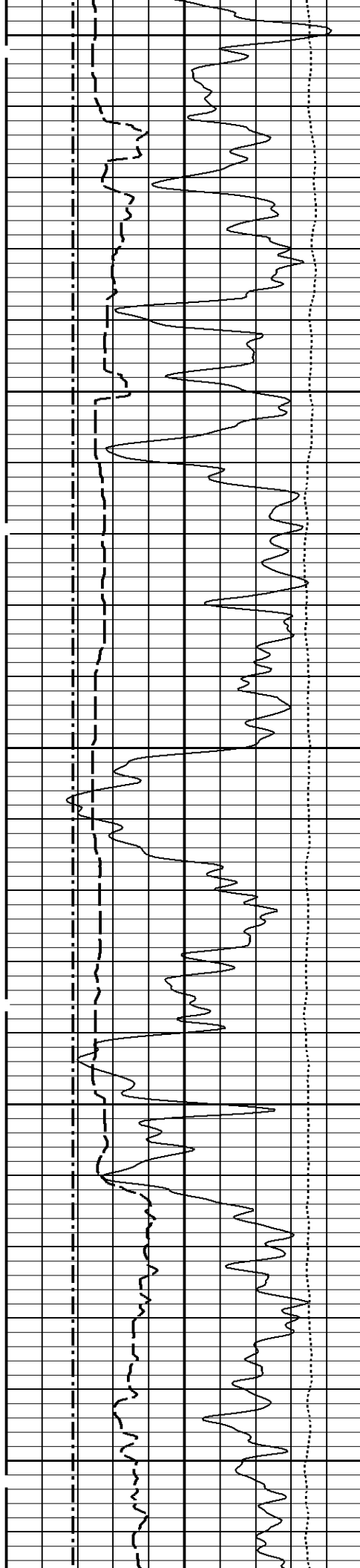




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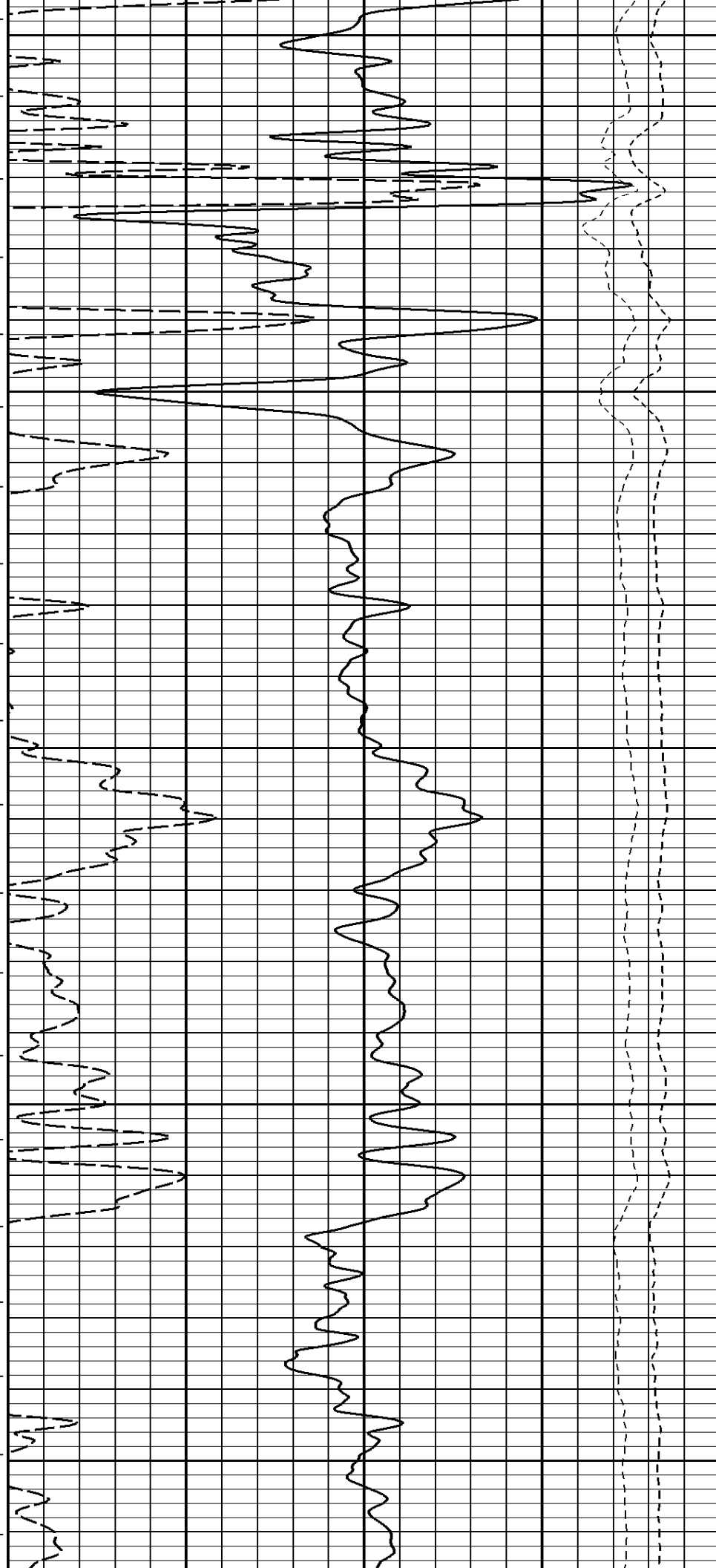
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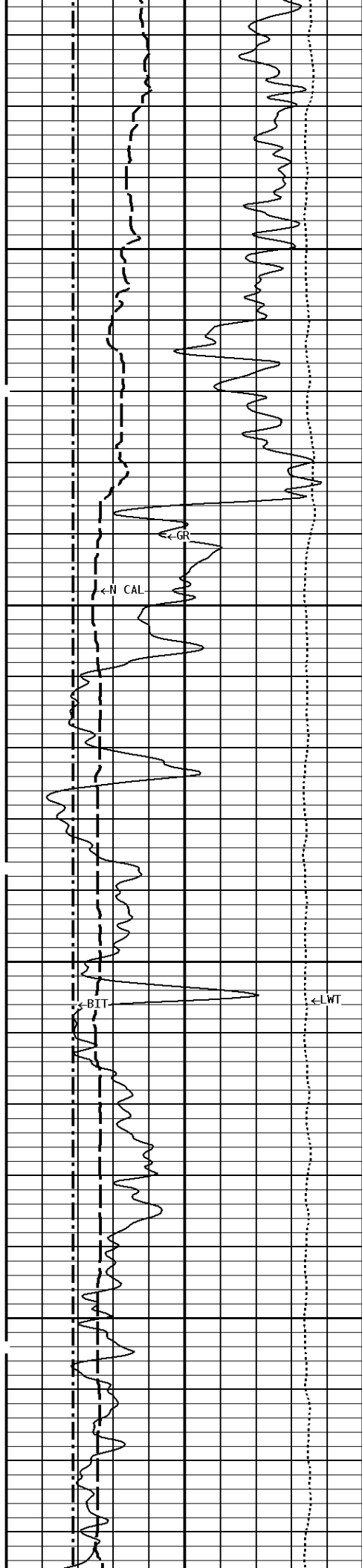




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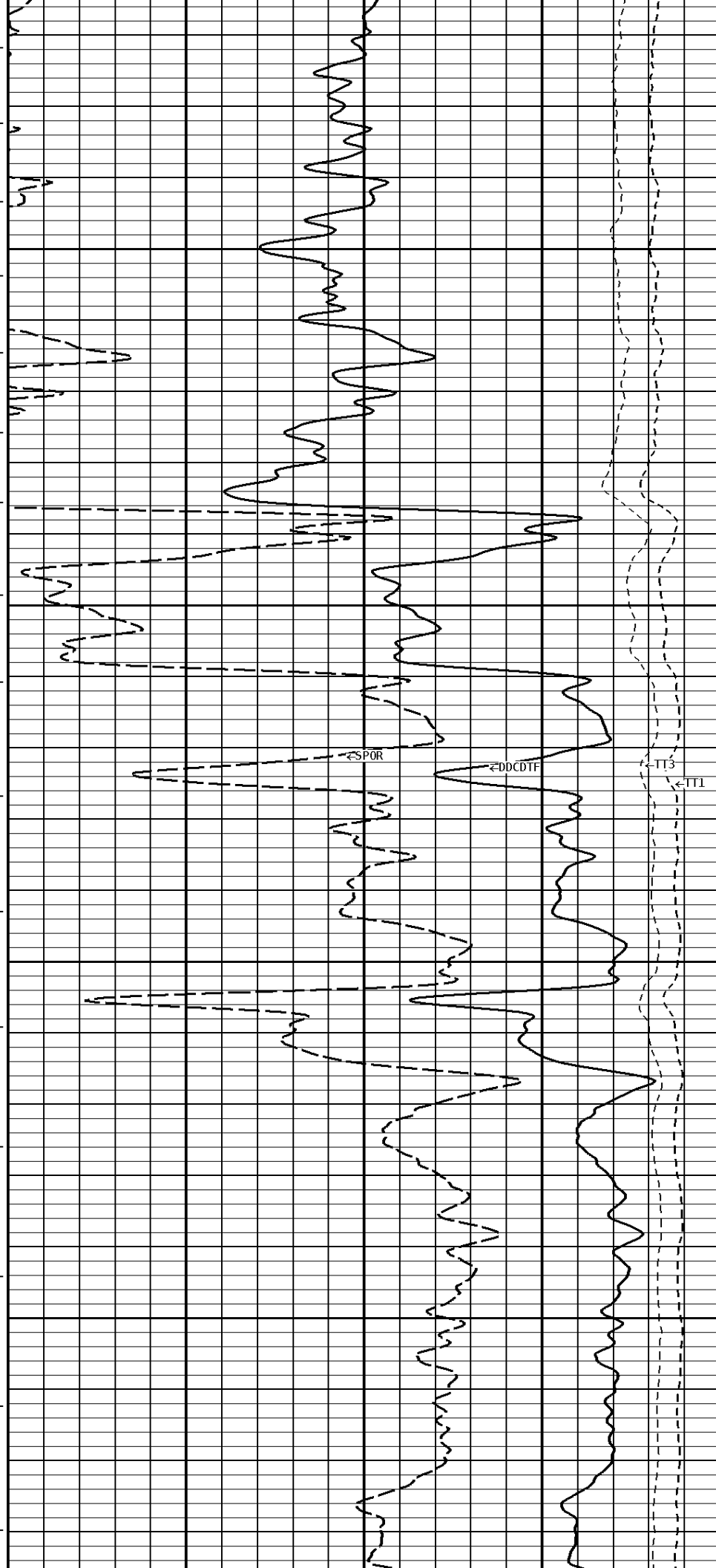
1600

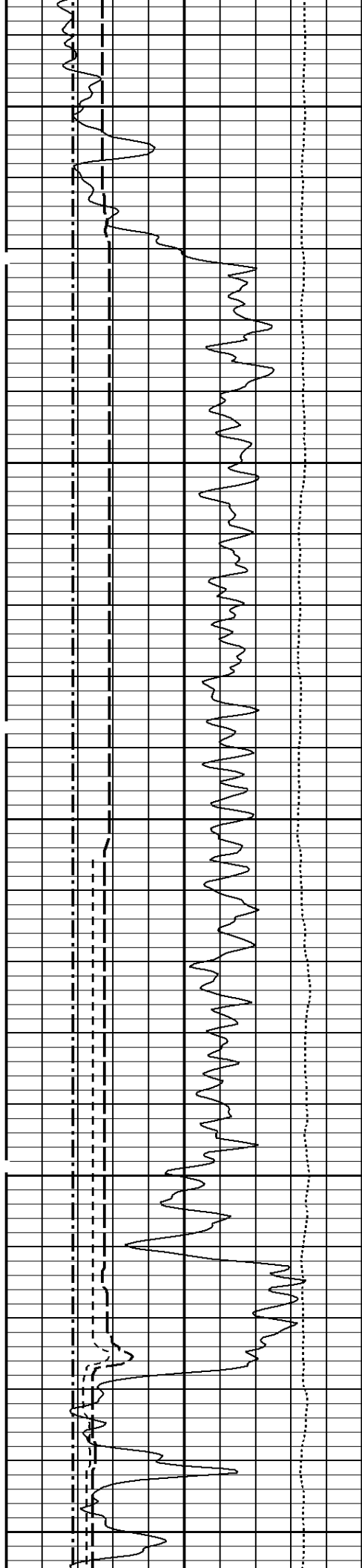




1700

1800

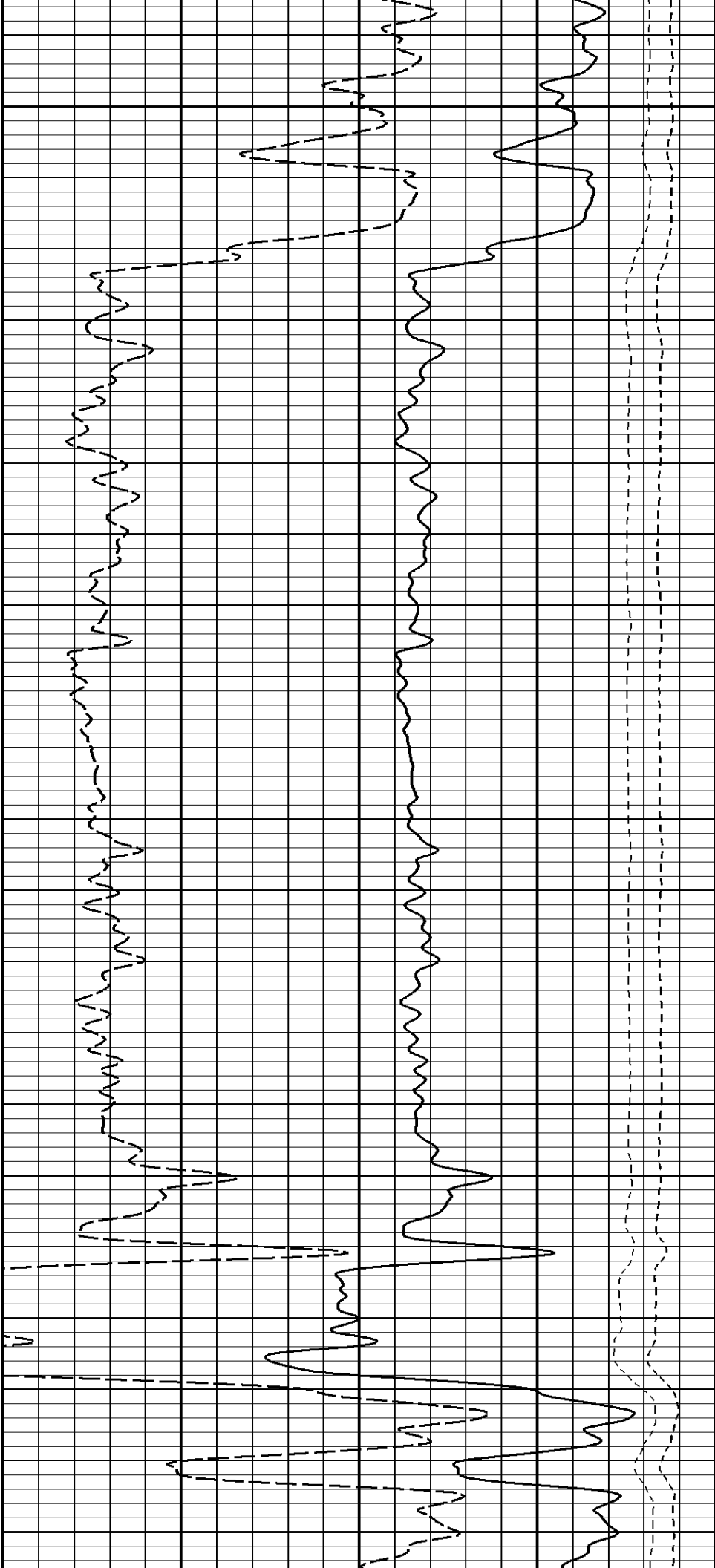


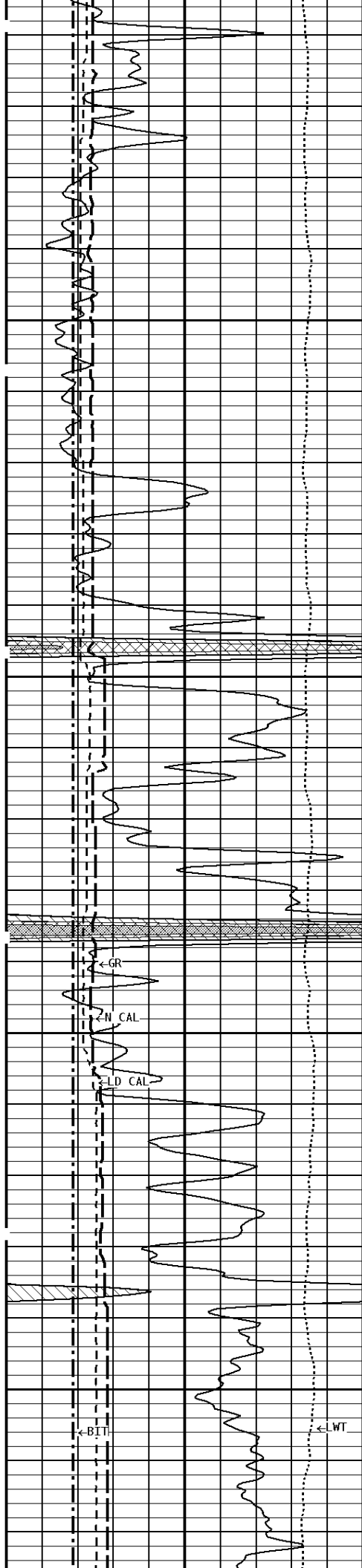


1900

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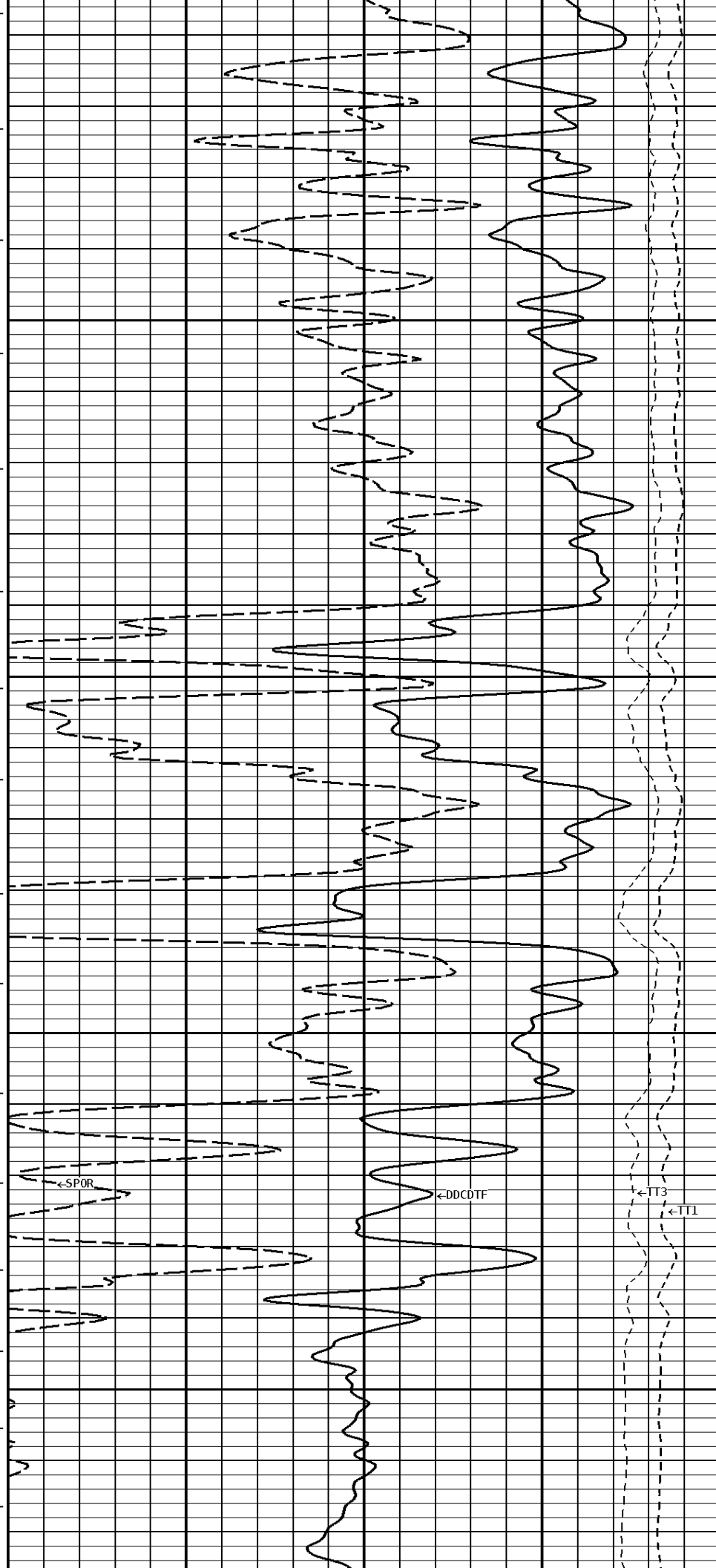
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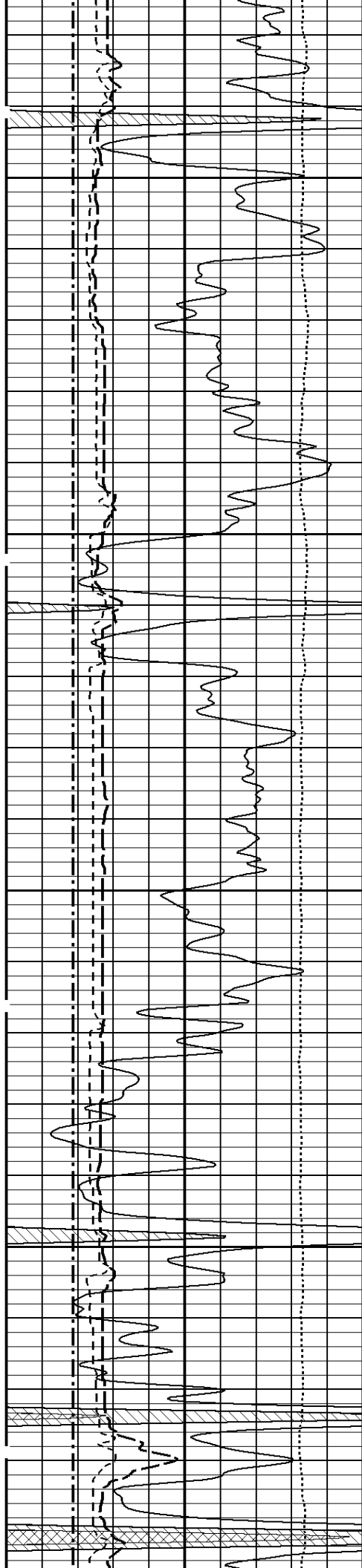




2200

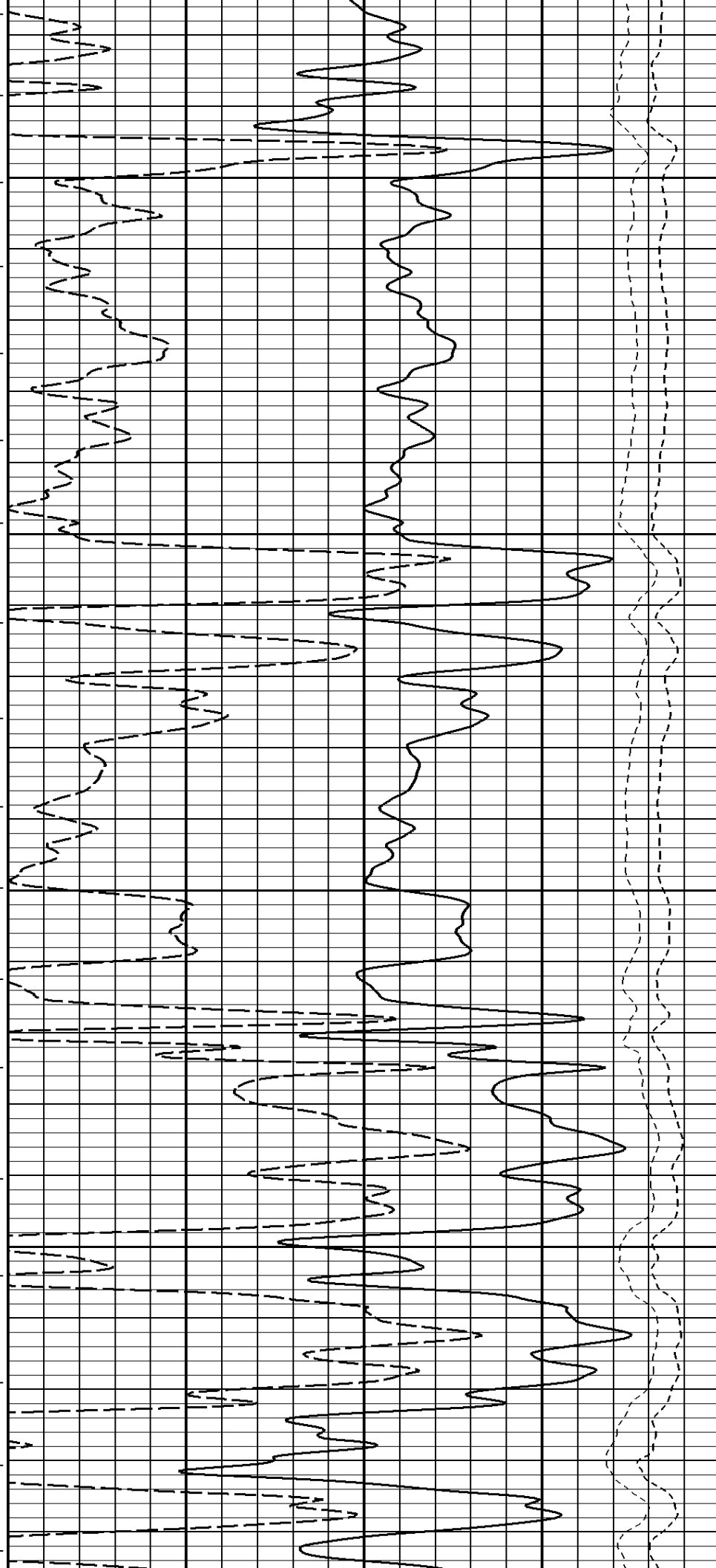
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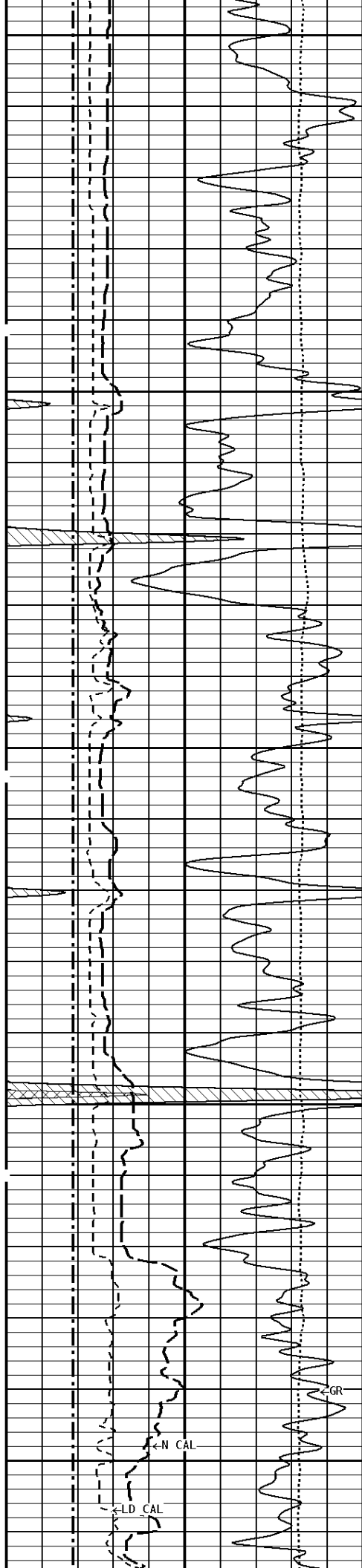




2400

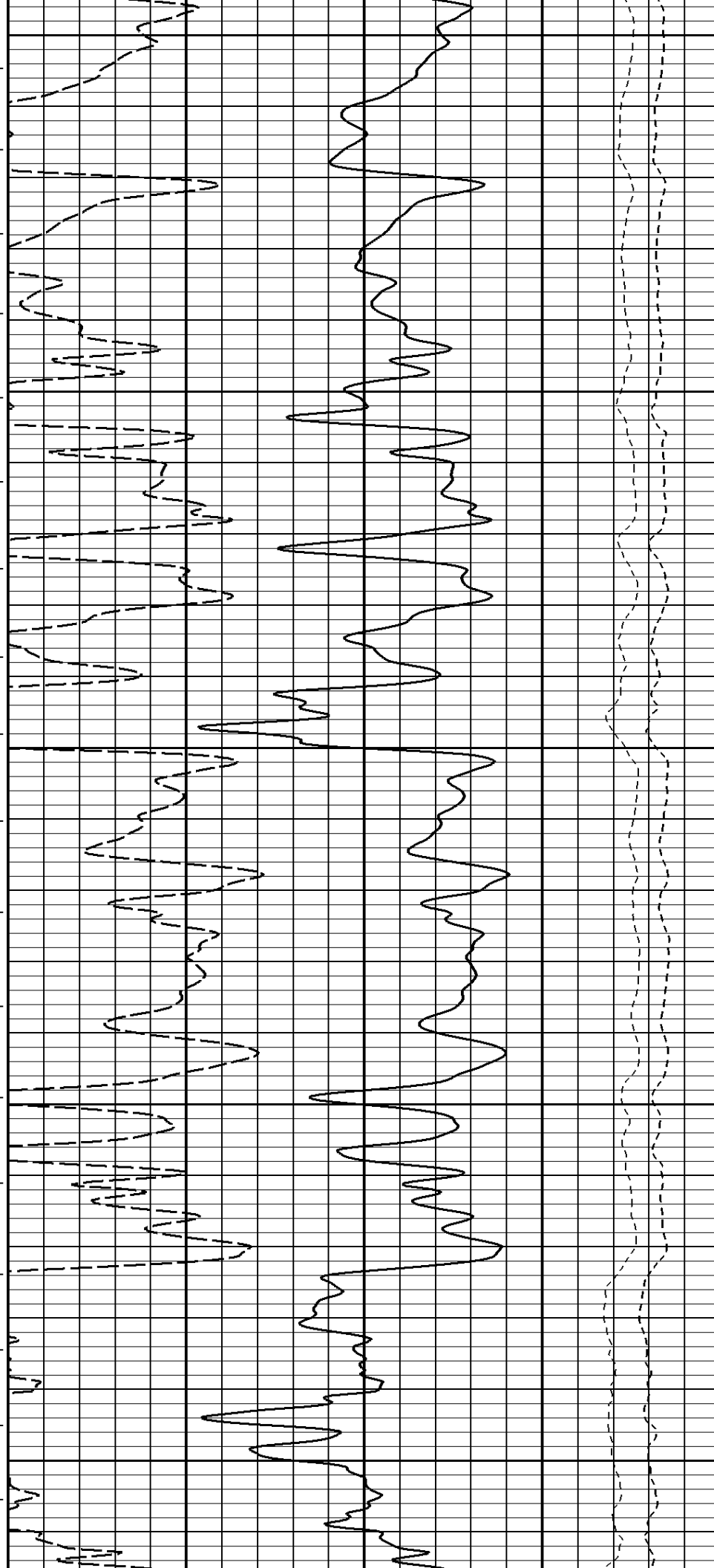
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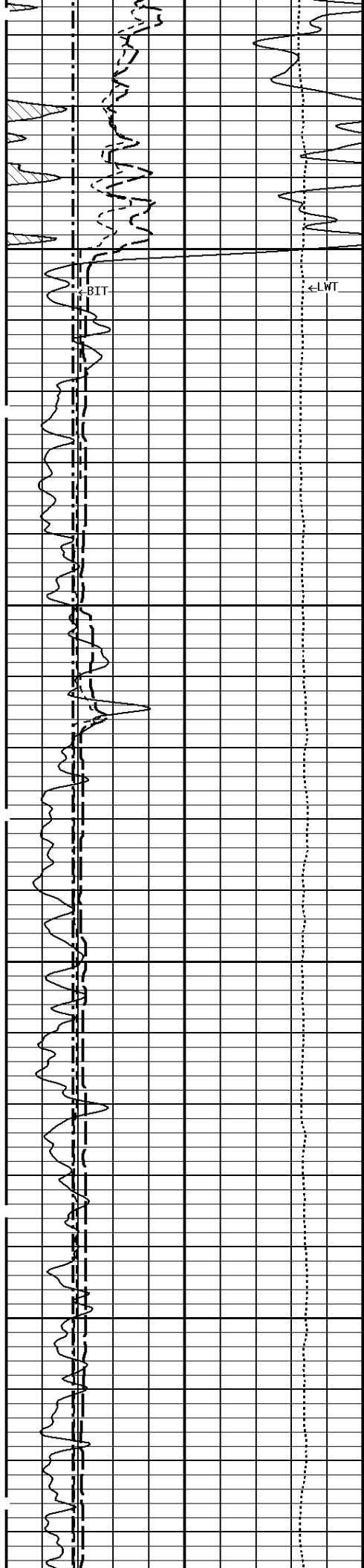




2600

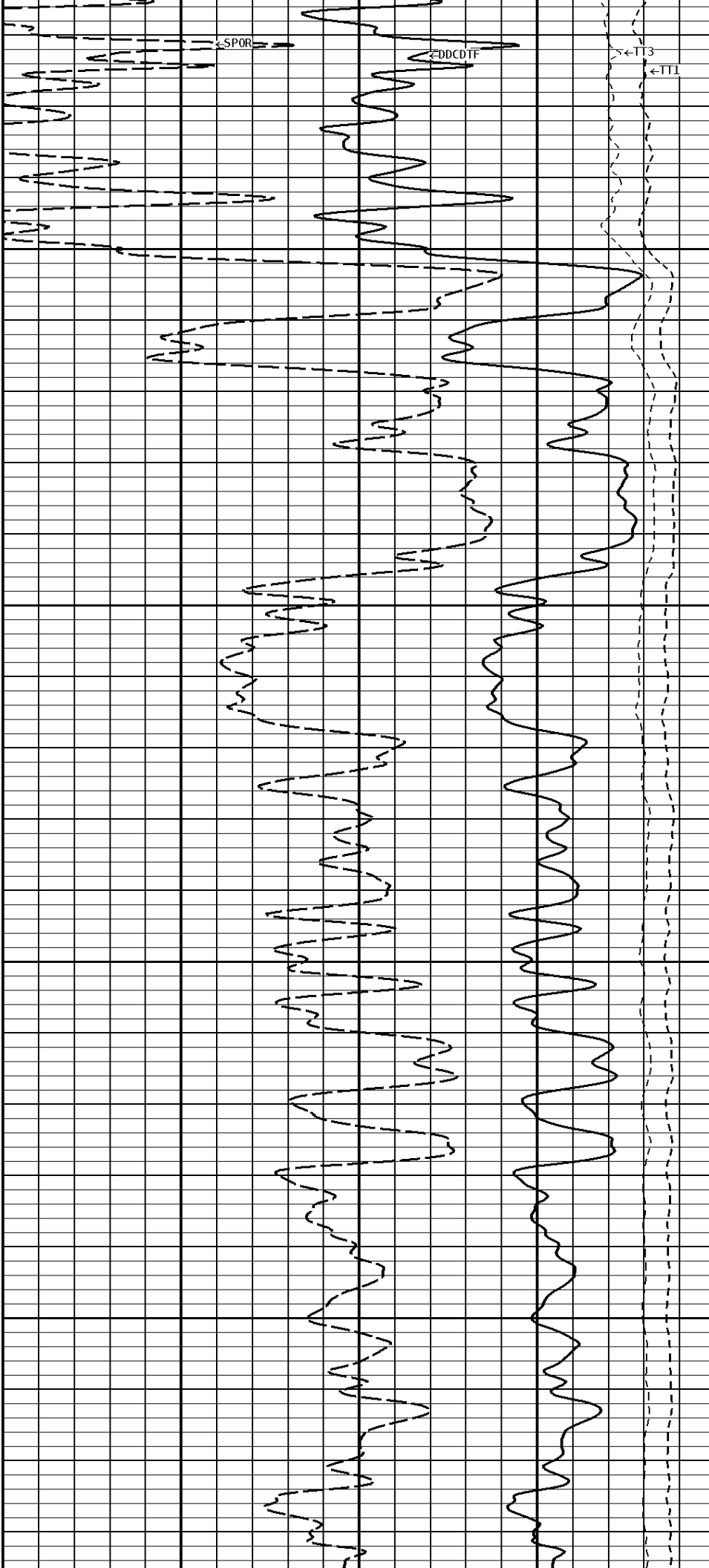
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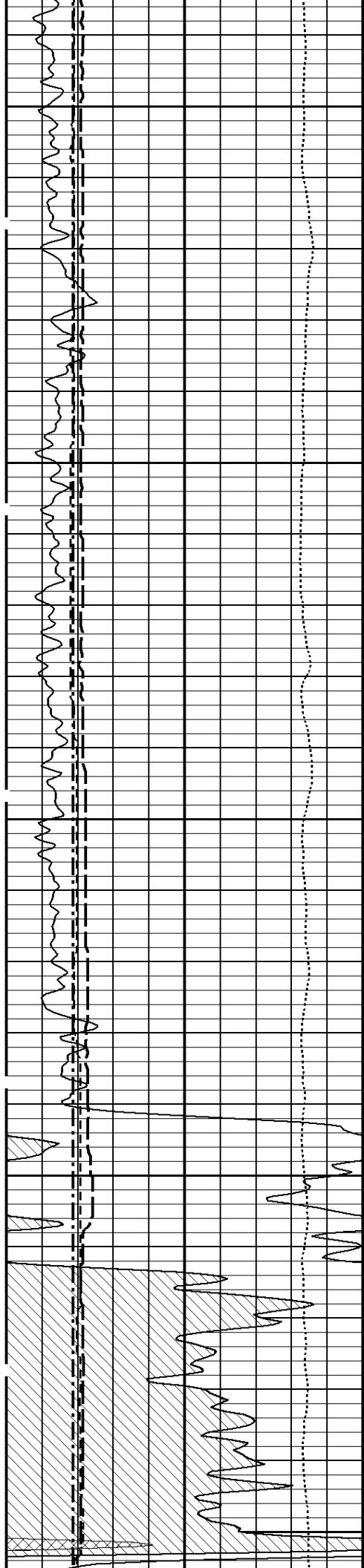




2800

2900

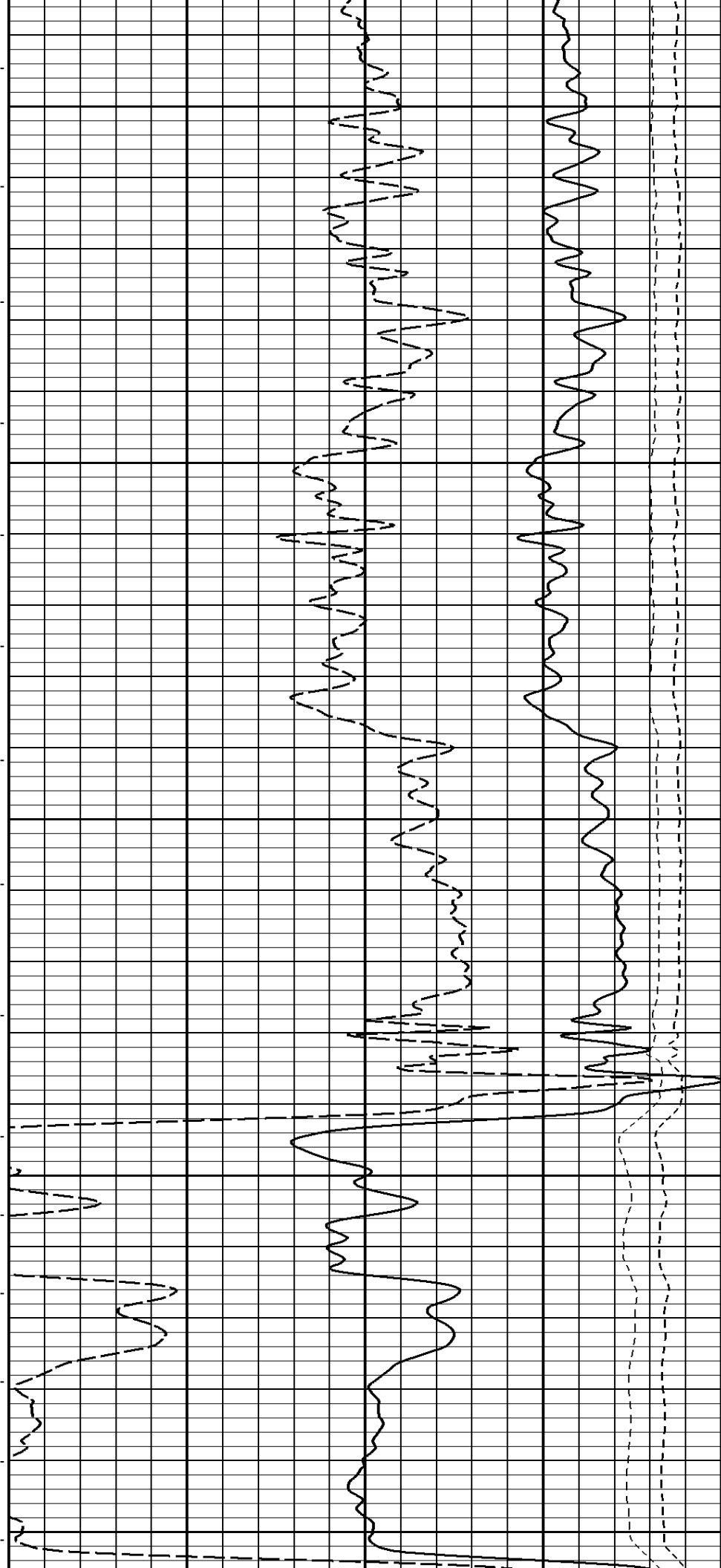


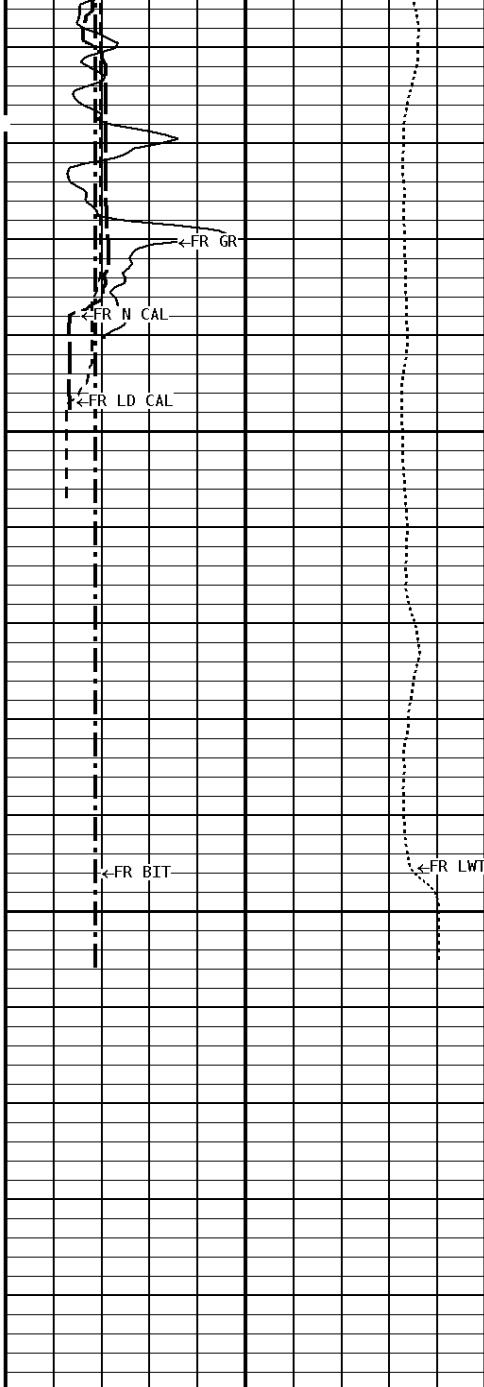


3000

3100

3200

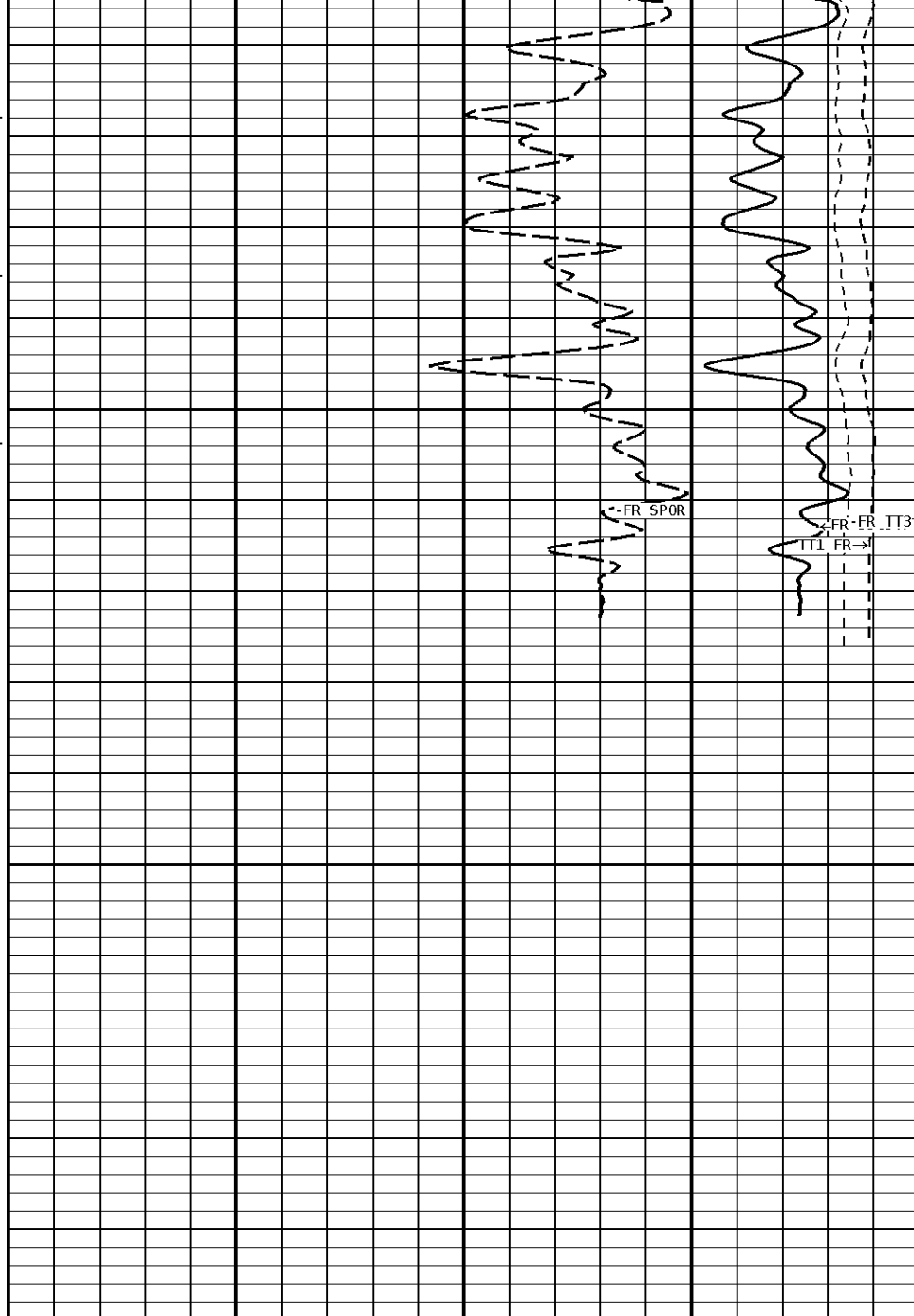




3296
3300

File #1.1.19

1:240 MAIN SECTION



GAMMA RAY API UNITS		
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)		

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

6	16
TENSION LBS	
10000	0

950	50
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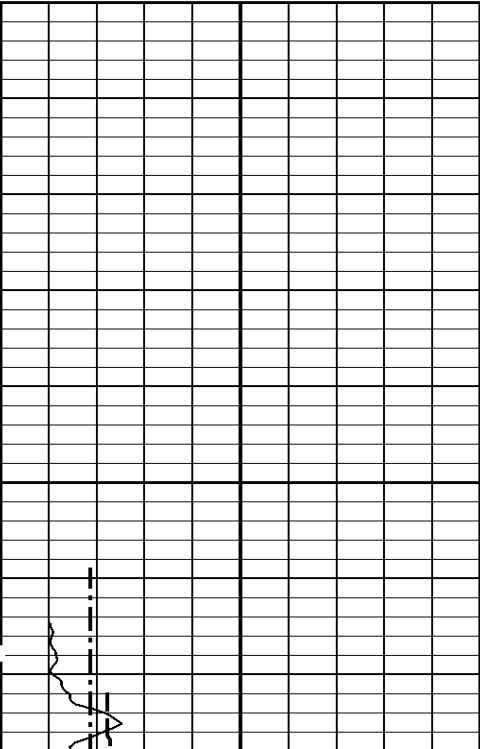
Well File: AZTEC_COOPER-D-4_AUG9_QUINT	Scale: 1:240
Segment: V1.D1.S20 REPEAT	Acquired: 2012-08/09 11:44 3.2.0-11172
Reference: 0	Processed: 2012-08/09 14:22 3.2.0-11172

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

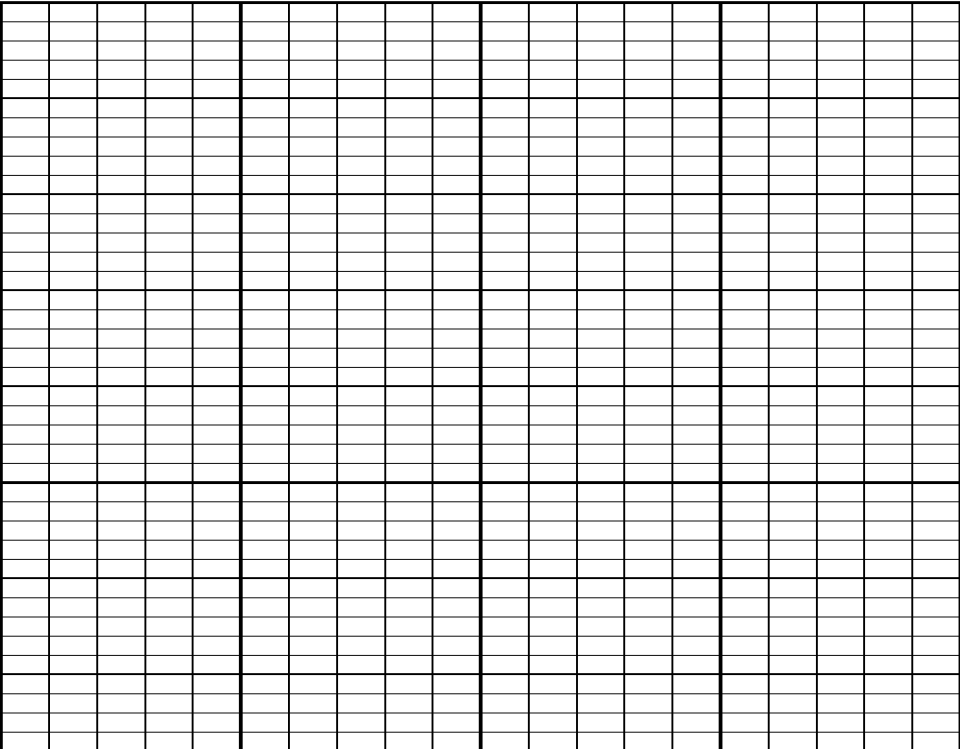
TT3 uSEC	
950	50
TT1 uSEC	
950	50

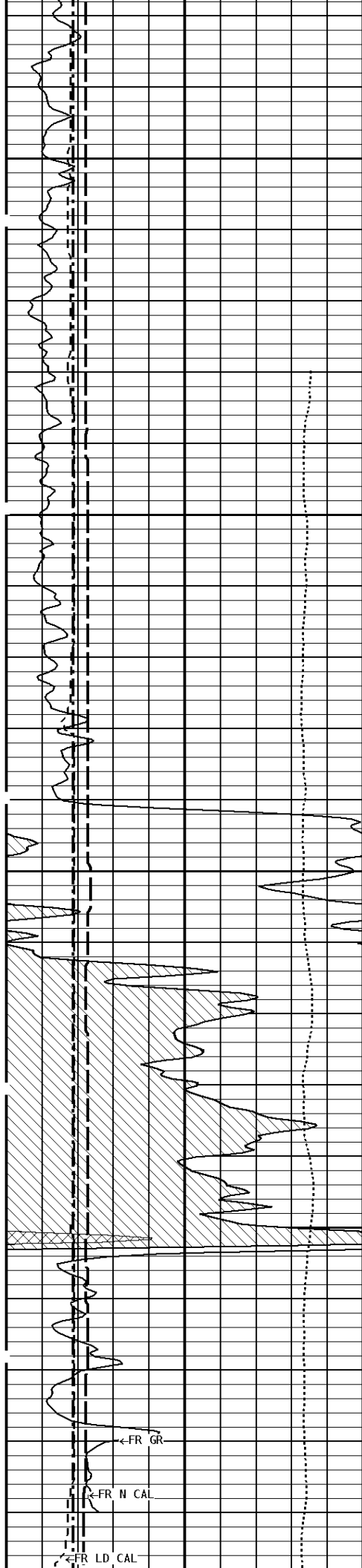
COMPENSATED SONIC TRAVEL TIME uSEC/FT	
240	140
140	40
SONIC POROSITY Percent	
30	-10

1:240 REPEAT SECTION



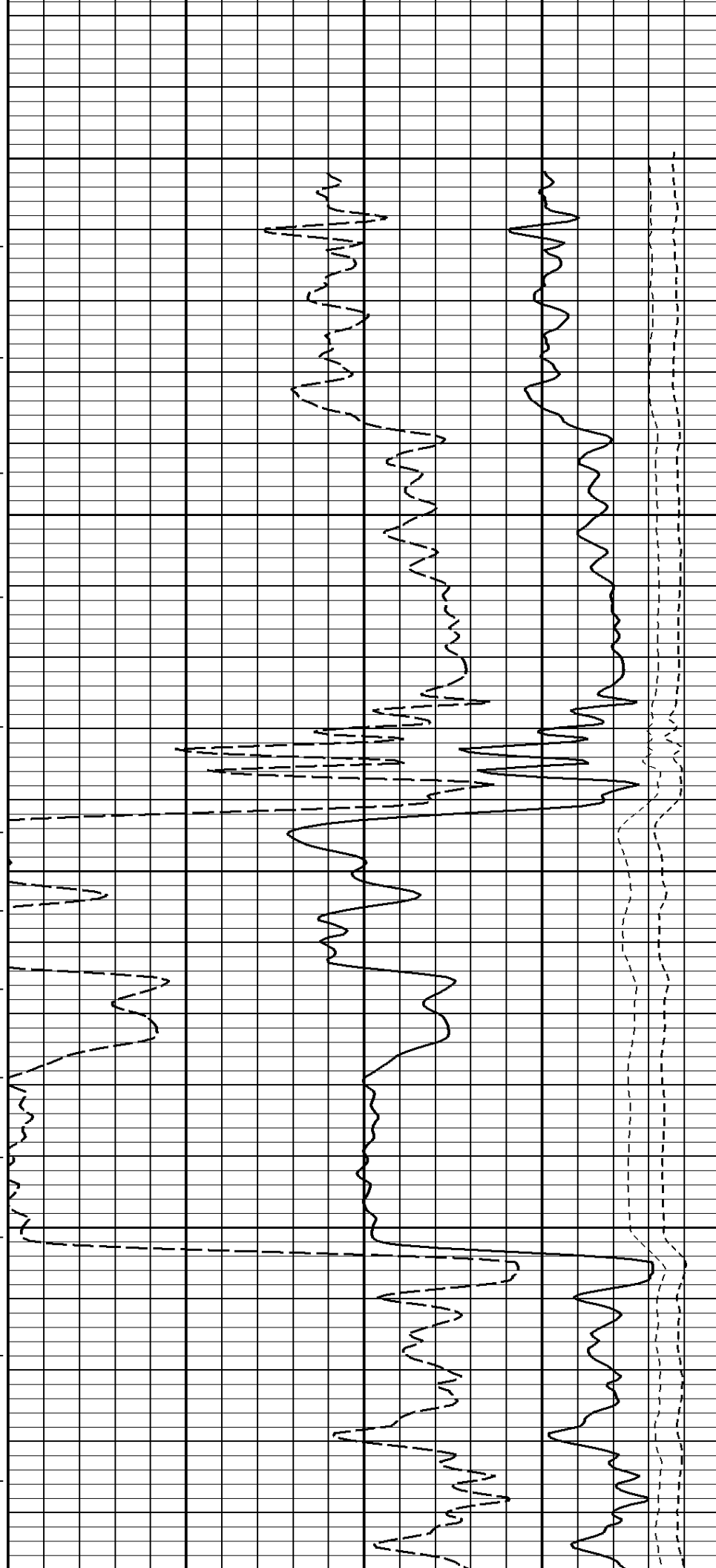
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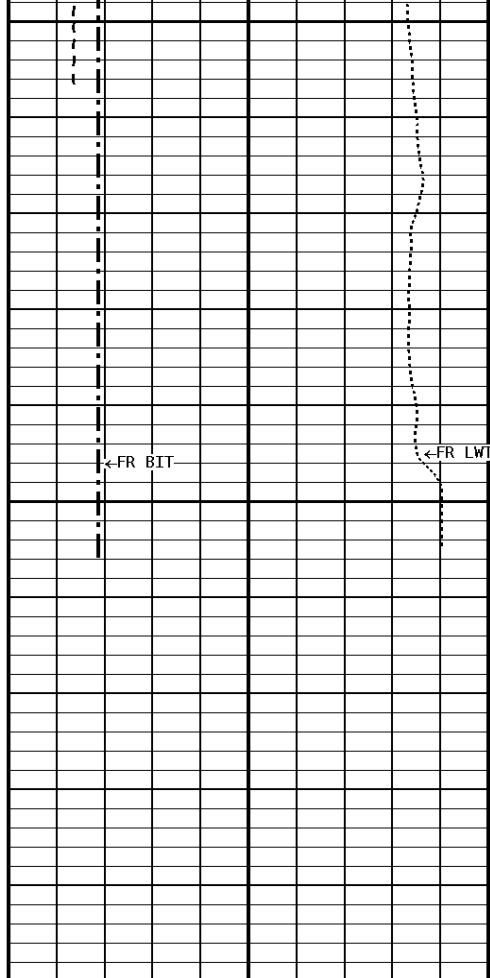




3100

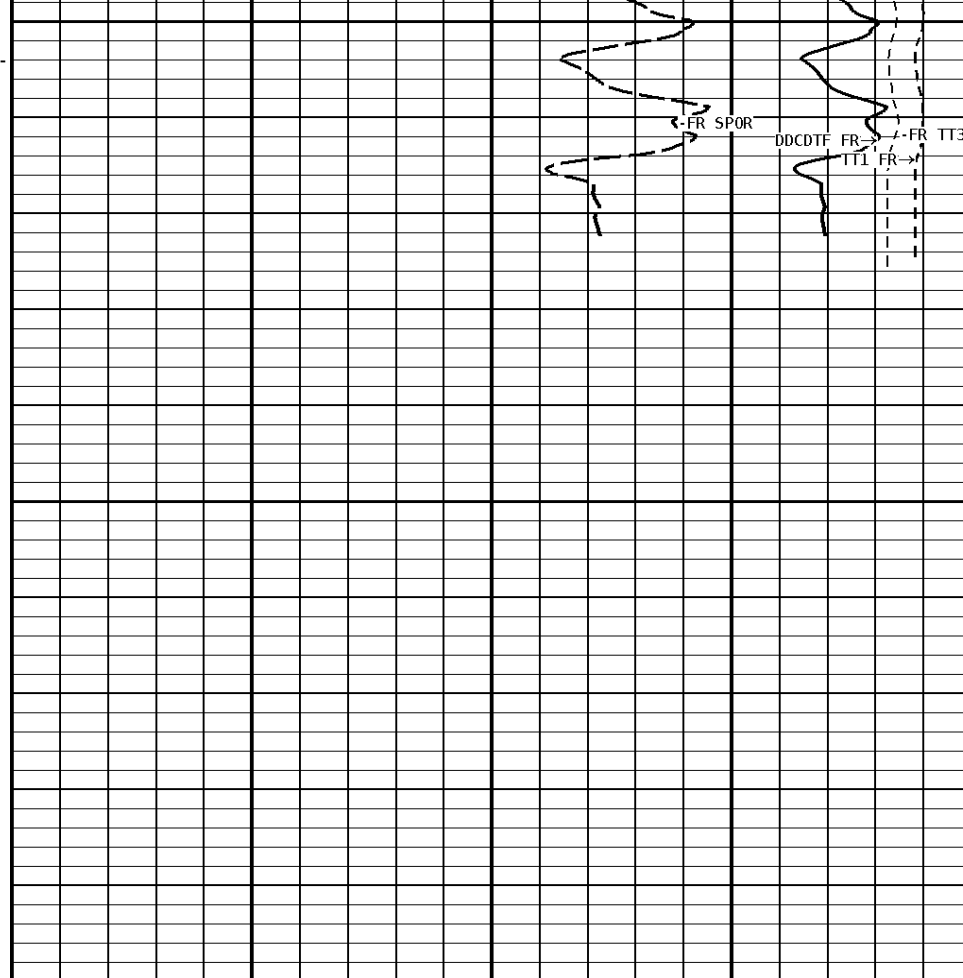
3200





3296
3300

File #1.1.20



1:240 REPEAT SECTION

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

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

* Calibration Summary *

Shop Calibration GRT-B	
Performed : 16-MAY-2011	Time : 09:49

Sensor Suite : GR-GR5			ID : GRT-BA-14		
	Measured	Units	Calibrated	Units	
	Jig		Jig		
GR	Background 50	361	CPS	175	GRAPI
Shop Calibration CST-AD Performed : 15-AUG-2011 Time : 09:37 Sensor Suite : SON-ANA 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	



Tucker
ENERGY SERVICES

Company: AZTEC OIL CO.
 Well: COOPER D #4
 Location: 2250' FNL & 820' FEL
 Logged: 2012-08-09
 K.B. Elev: 1623.0