



Weatherford

**COMPENSATED SONIC
WITH INTEGRATED TRANSIT TIME**

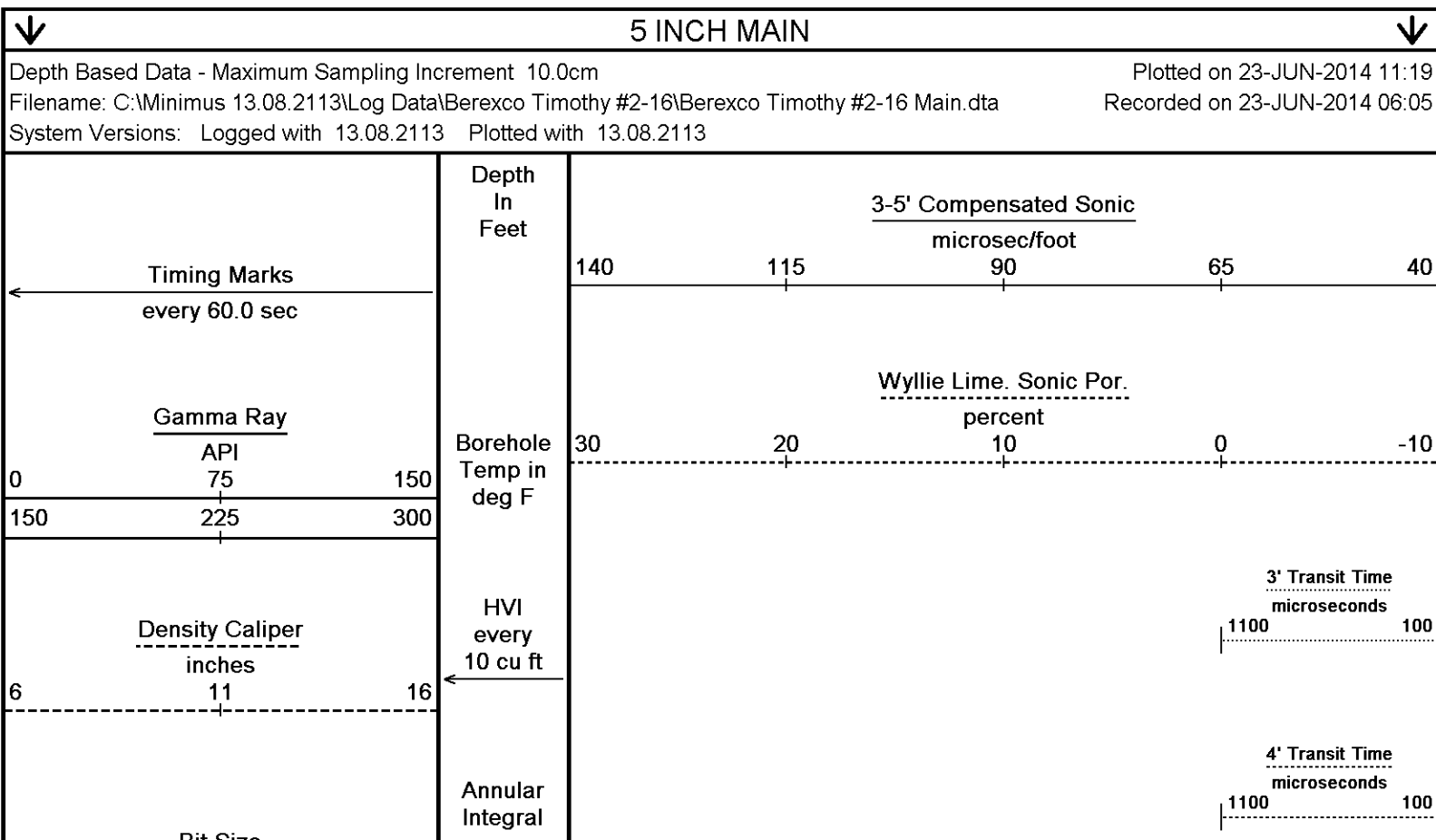
COMPANY	BEREXCO LLC		
WELL	TIMOTHY #2-16		
FIELD	WILDCAT		
PROVINCE/COUNTY	FINNEY		
COUNTRY/STATE	U.S.A. / KANSAS		
LOCATION	1644' FSL & 351' FWL		
SEC 16	TWP 22S	RGE 34W	Other Services
Latitude	38.13861	MAI/MFE	MPD/MDN
Longitude	101.0653	MML	CMI
API Number	15-055-22311		
Permanent Datum GL, Elevation 2957 feet			
Log Measured From KB			
Drilling Measured From KB @ 12 FEET			
Date	23-JUN-2014	Elevations: KB 2969.00 DF 2967.00 GL 2957.00	
Run Number	ONE		
Service Order	7606-90684489		
Depth Driller	4850.00	feet	
Depth Logger	4847.00	feet	
First Reading	4833.91	feet	
Last Reading	1696.00	feet	
Casing Driller	1700.00	feet	
Casing Logger	1696.00	feet	
Bit Size	7.875	inches	
Hole Fluid Type	CHEMICAL		
Density / Viscosity	9.00 lb/USg	54.00 CP	
PH / Fluid Loss	11.00	8.80 ml/30Min	
Sample Source	MUD PIT		
Rm @ Measured Temp	0.85 @ 75.0	ohm-m	
Rmf @ Measured Temp	0.68 @ 75.0	ohm-m	
Rmc @ Measured Temp	1.02 @ 75.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.617 @105.0	ohm-m	
Time Since Circulation	3 HOURS		
Max Recorded Temp	105.00	deg F	
Equipment / Base	13096	LIB	
Recorded By	BEN WELDIN		
Witnessed By	ED GRIEVES	DEREK CARTER	
JOB #	LB14-186		

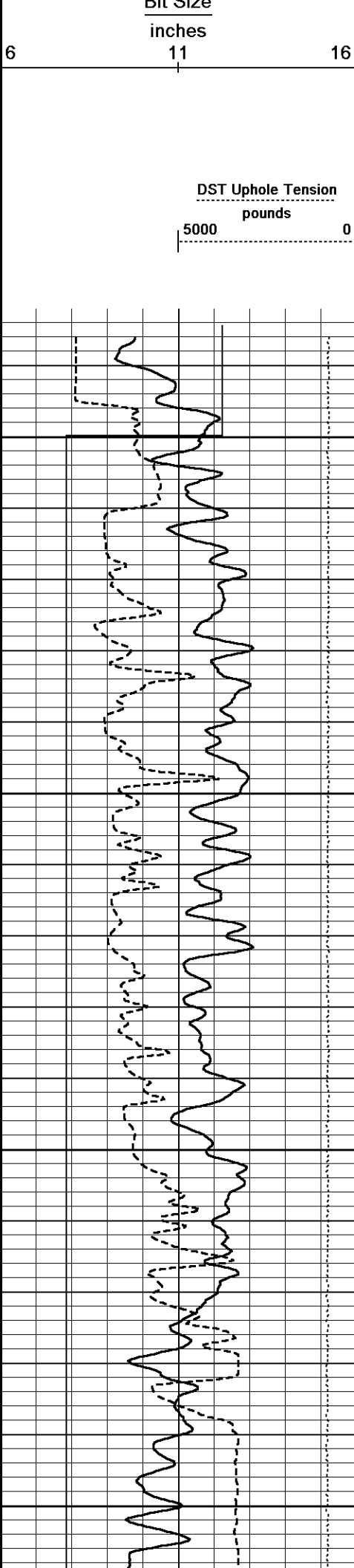
BOREHOLE RECORD					Last Edited: 23-JUN-2014 03:05
Bit Size inches		Depth From feet		Depth To feet	
12.250		0.00		1700.00	
7.875		1700.00		4850.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	1700.00	24.00	

REMARKS
- SOFTWARE ISSUE: WLS 13.08.2113
- TOOL STRING: - RUN 1: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION - RUN 2: SHA, MCG, MIM, MIE RUN IN COMBINATION
- HARDWARE: - MDN: DUAL BOWSPRING ECCENTRALIZER - MFE: 1 X 0.5 INCH STANDOFF - MSS: 2 X 0.5 INCH STANDOFF - MAI: 2 X 0.5 INCH STANDOFF - MIM: 6 LEAF CENTRALIZER - MIE: 1 X 0.5 INCH STANDOFF
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY

- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1470 CU. FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO SURFACE CASING: 960 CU. FT.
- SERVICE ORDER # 7606-90684489
- RIG: BEREDCO #1
- ENGINEER: DEREK CARTER
- JUNIOR FIELD ENGINEER: BEN WELDIN
- OPERATORS: CARLOS RAMIREZ
- LATITUDE: 38.13861
- LONGITUDE: -101.0653
- MAGNETIC DECLINATION: 6.23 DEGREES EAST

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.





every
10 cu ft

Replay
Scale
1:240

1684

Casing
Shoe

1700

91°

1750

91°

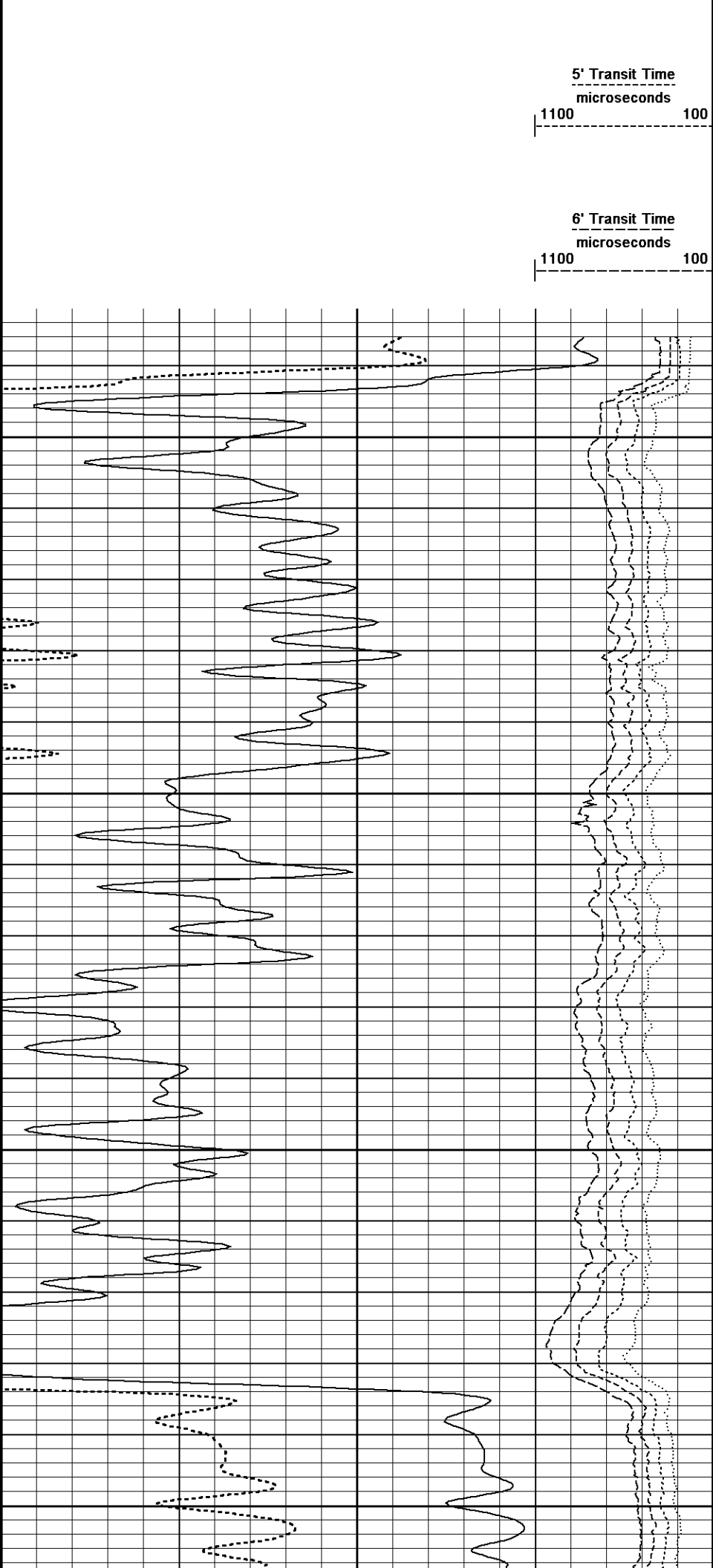
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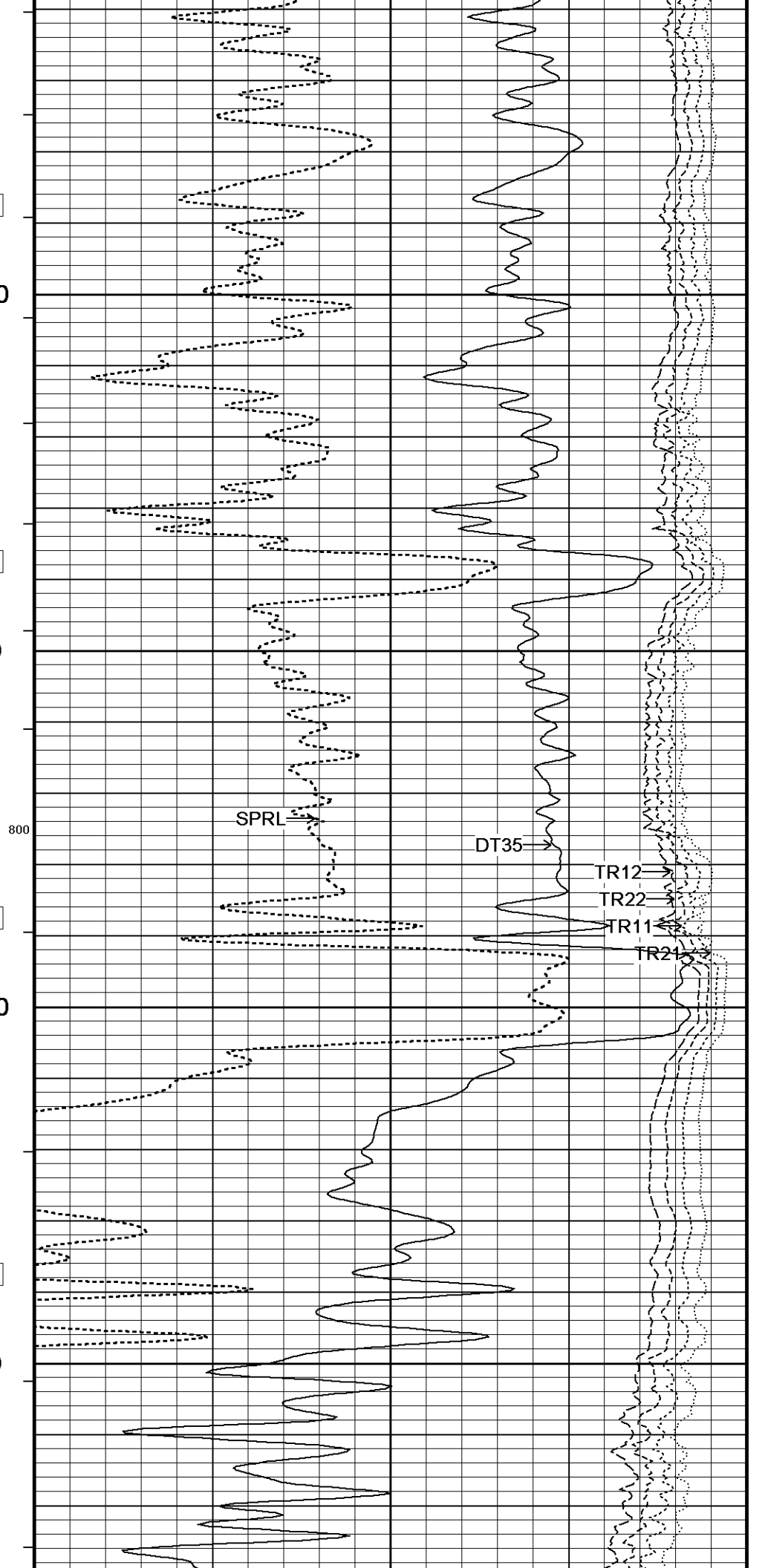
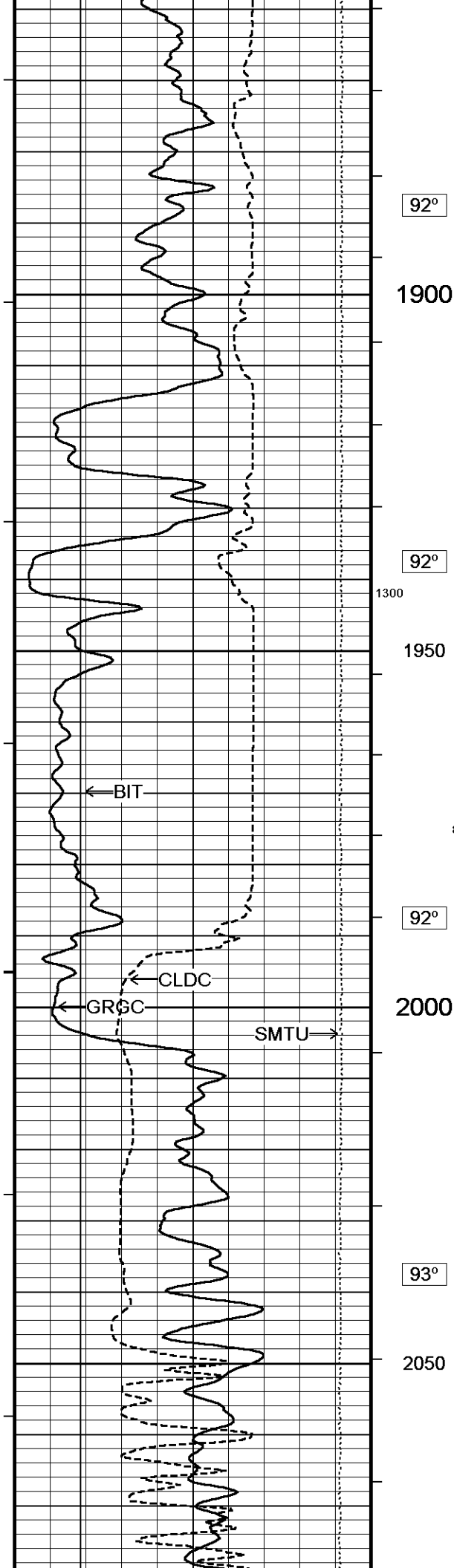
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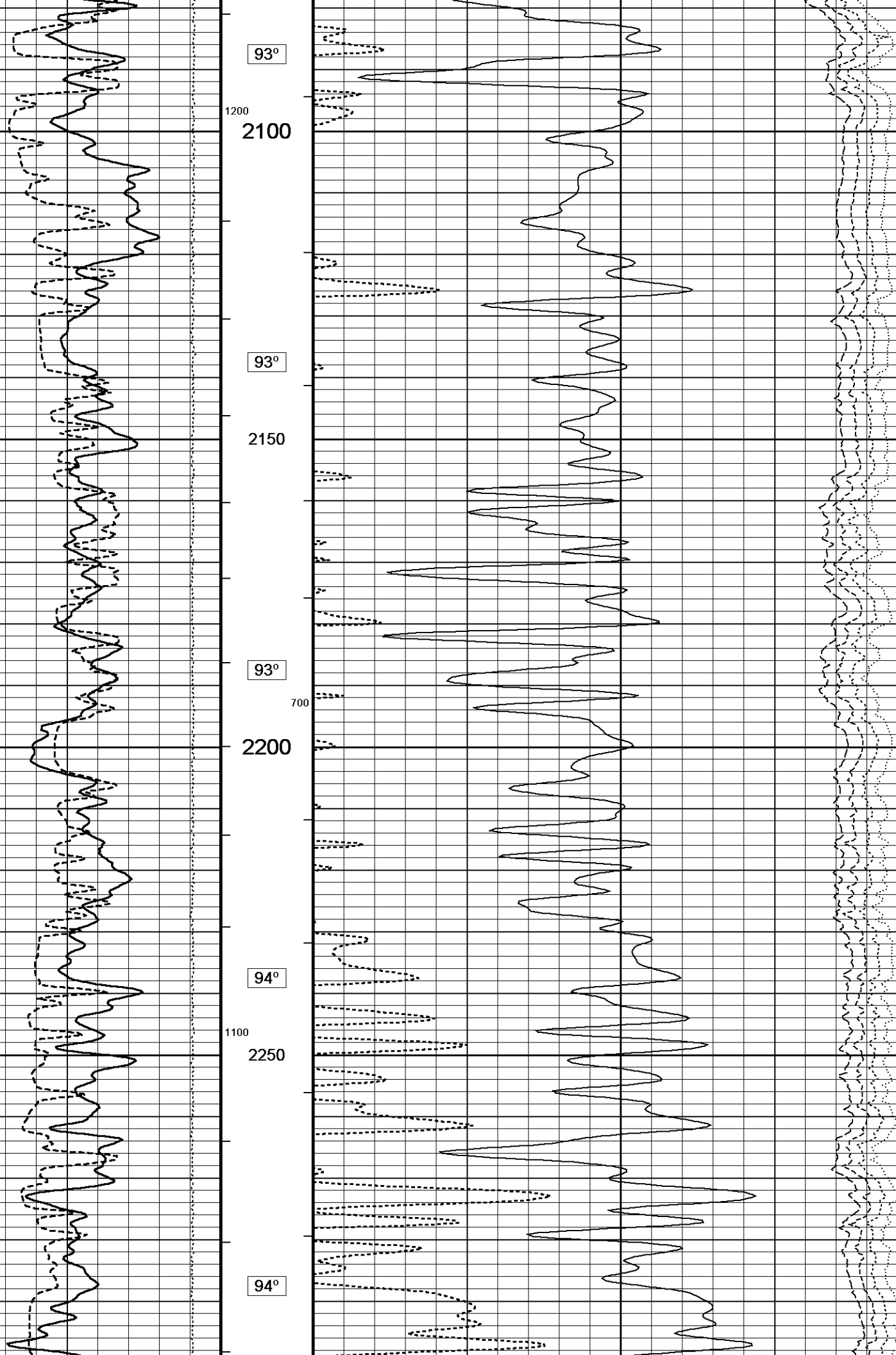
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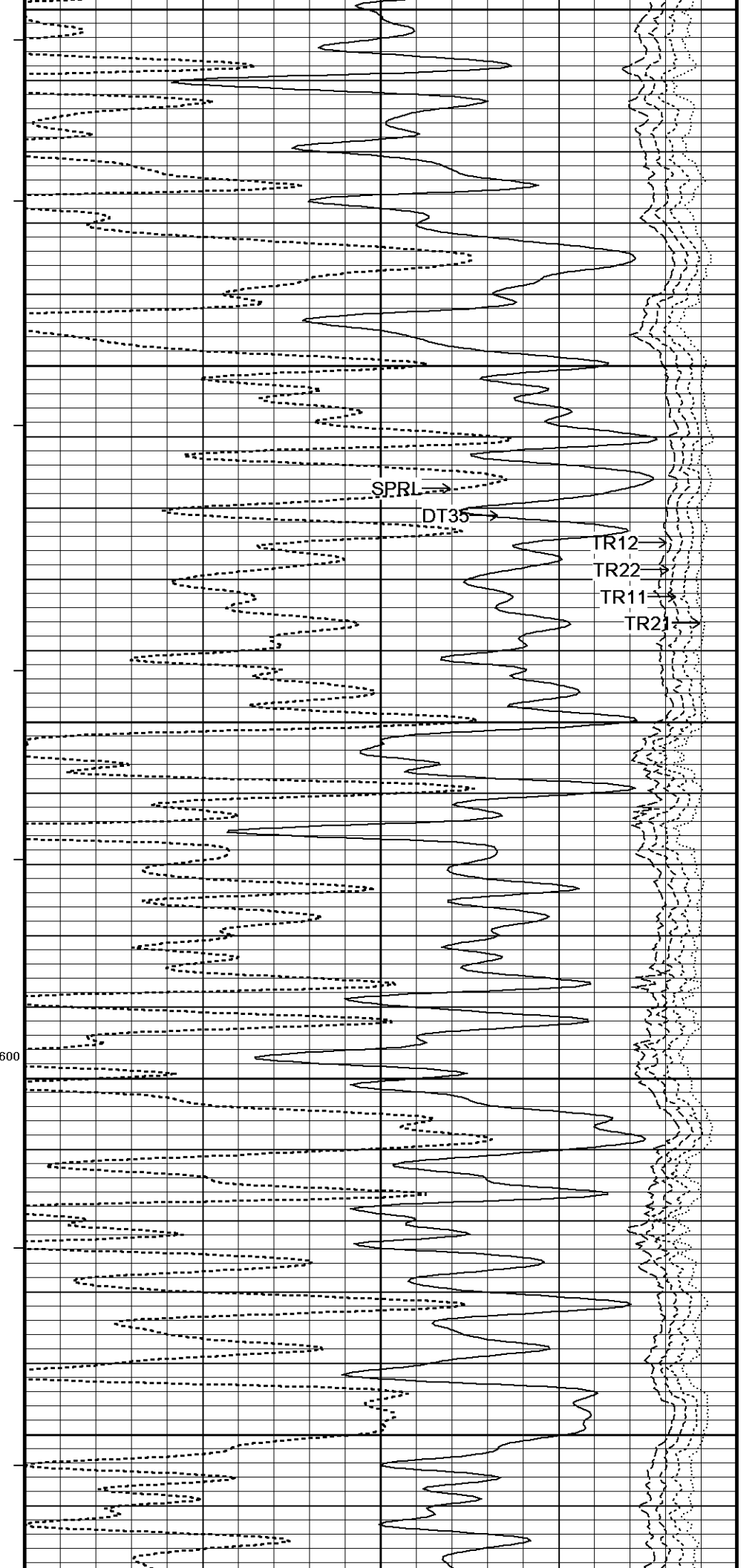
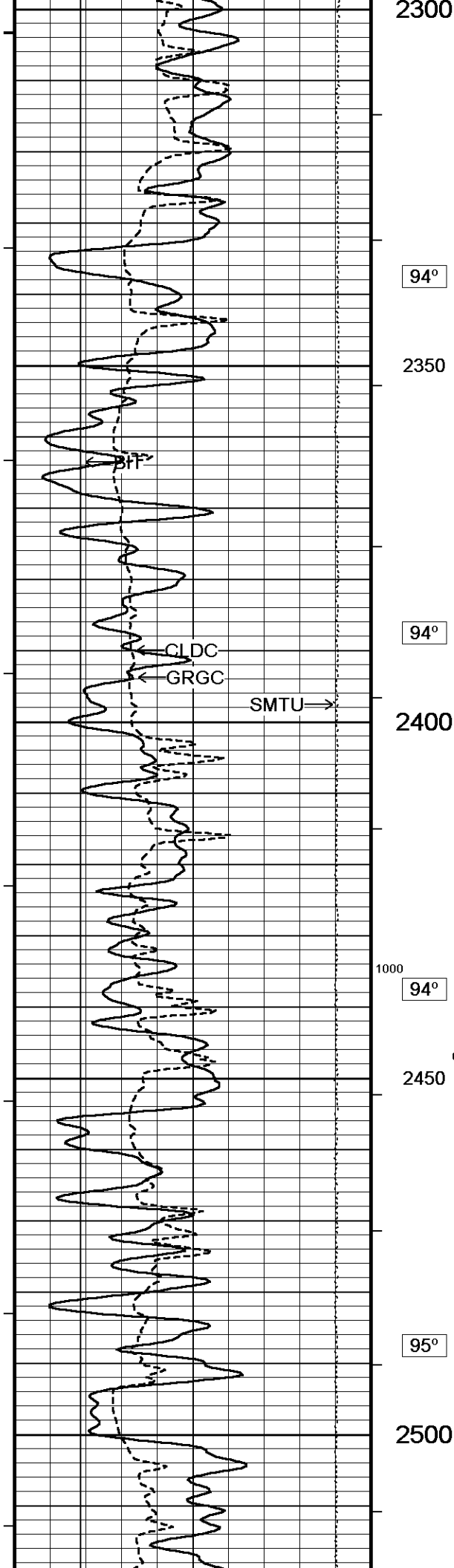
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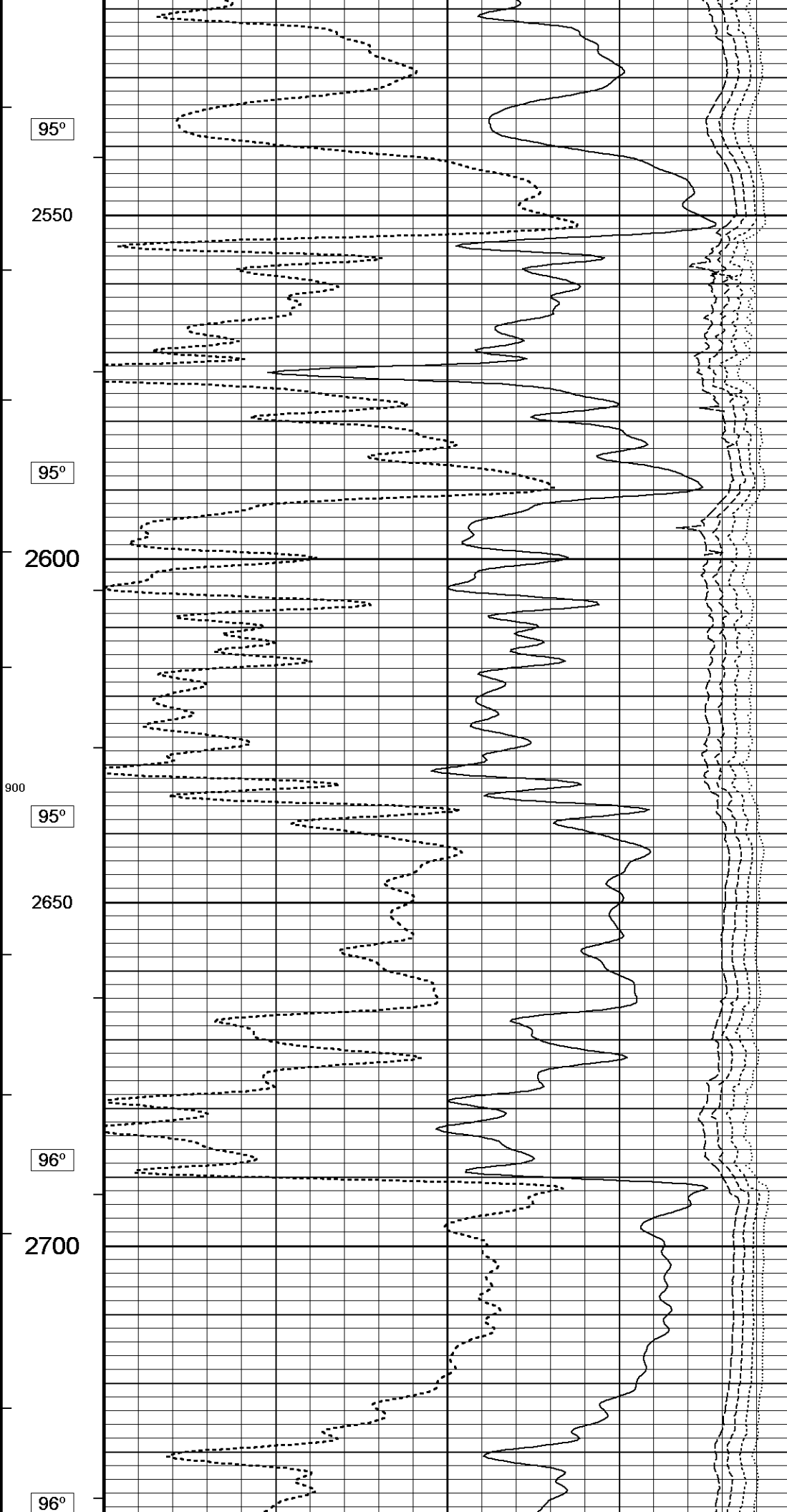
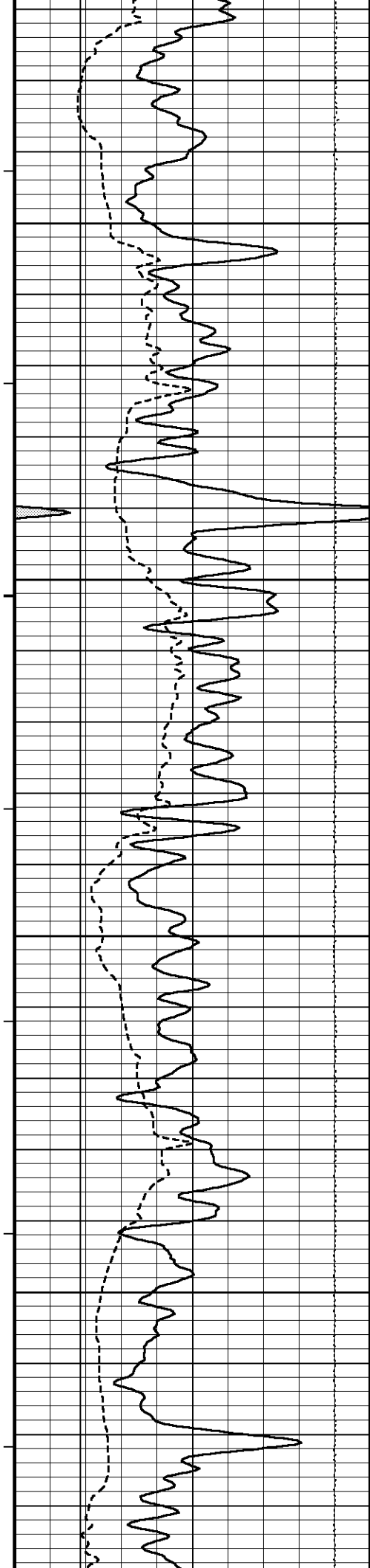
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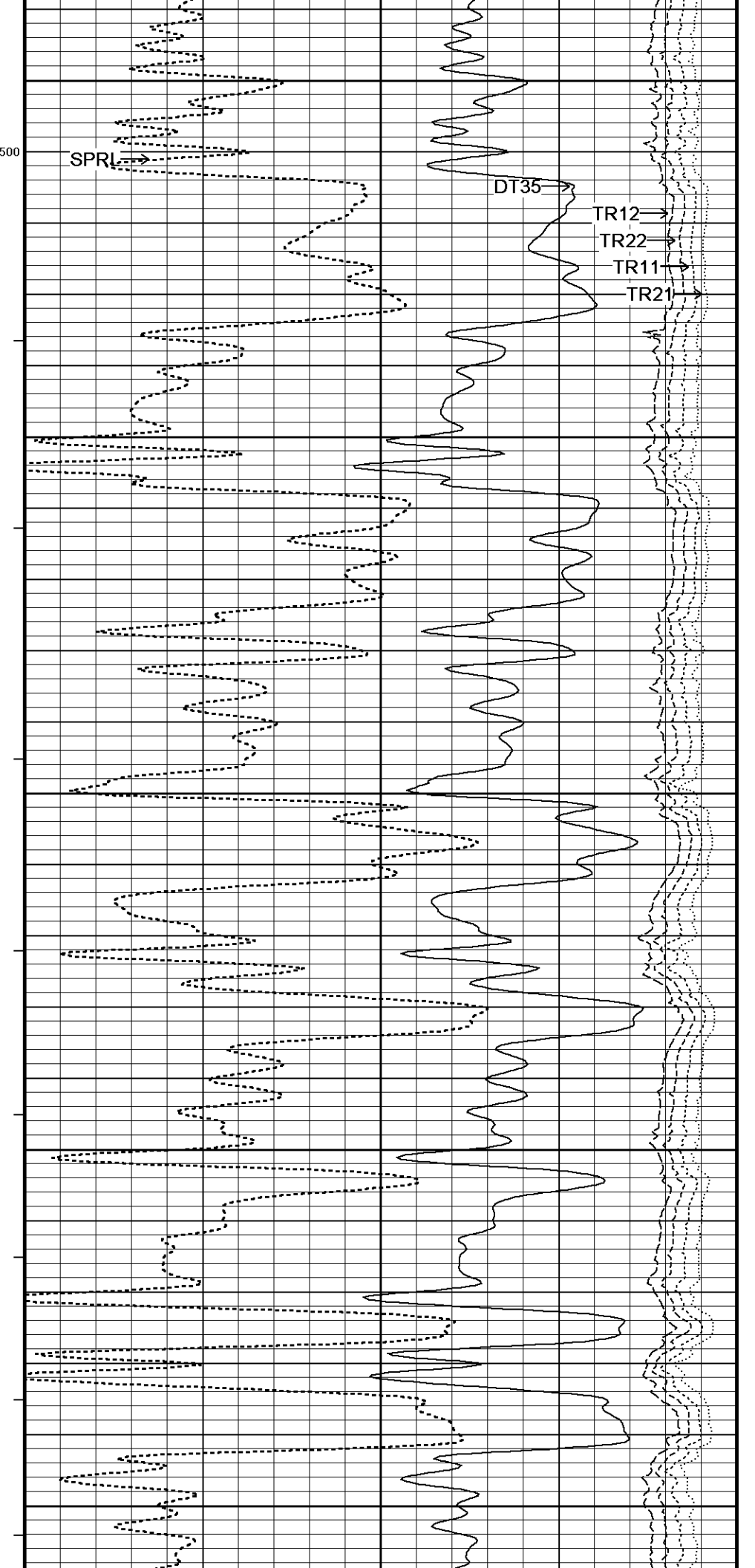
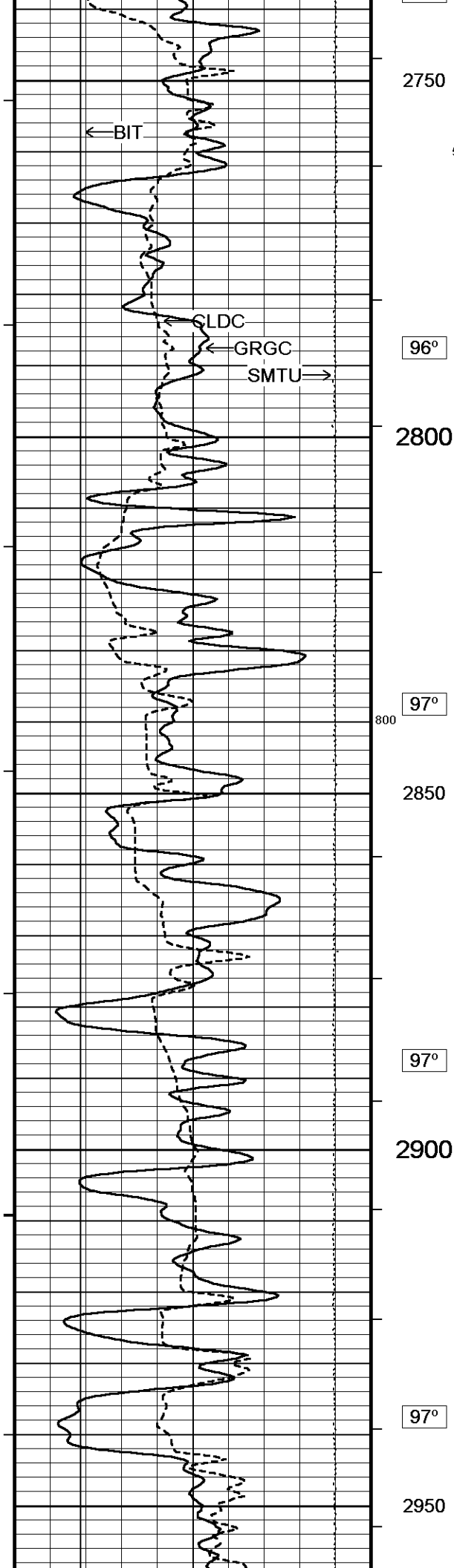


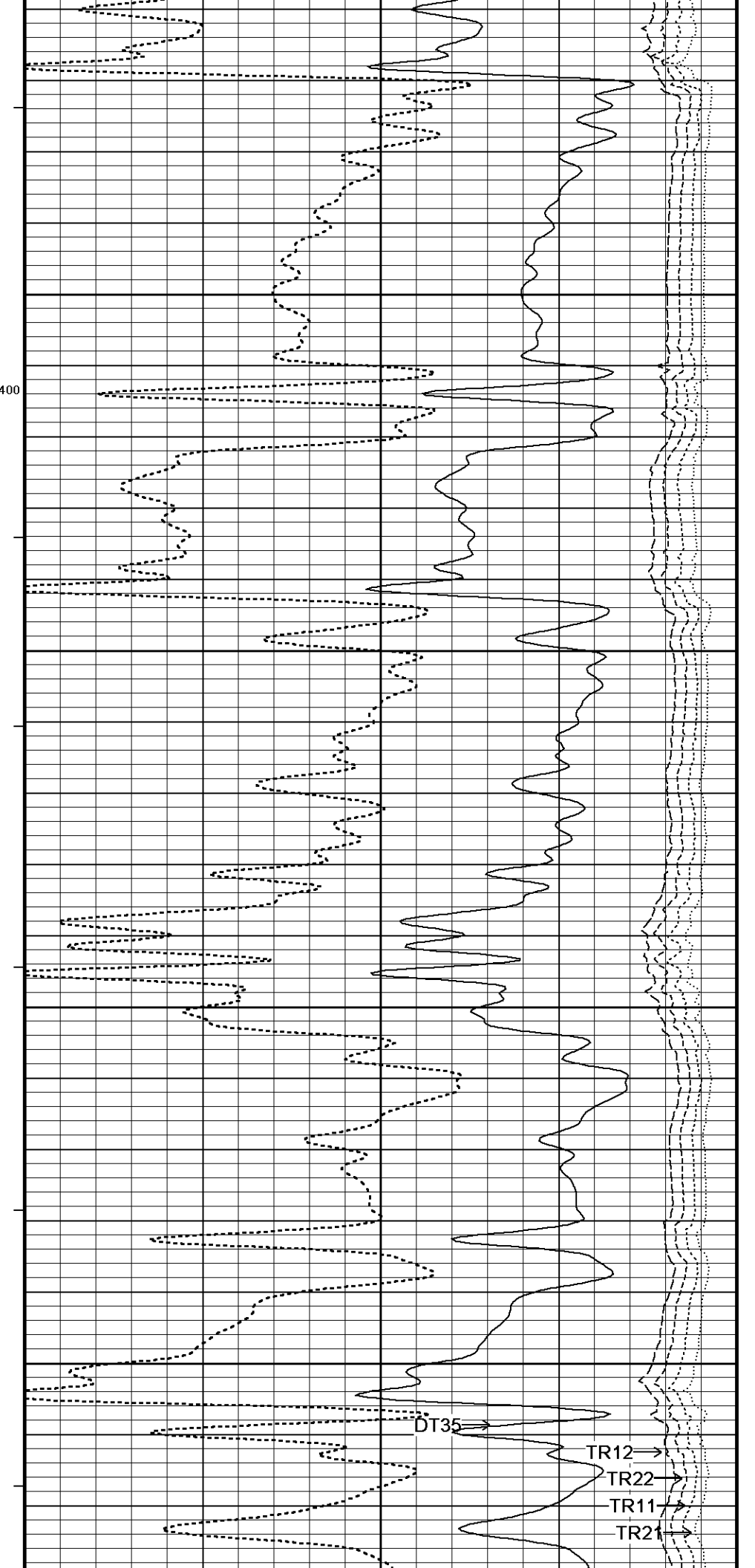
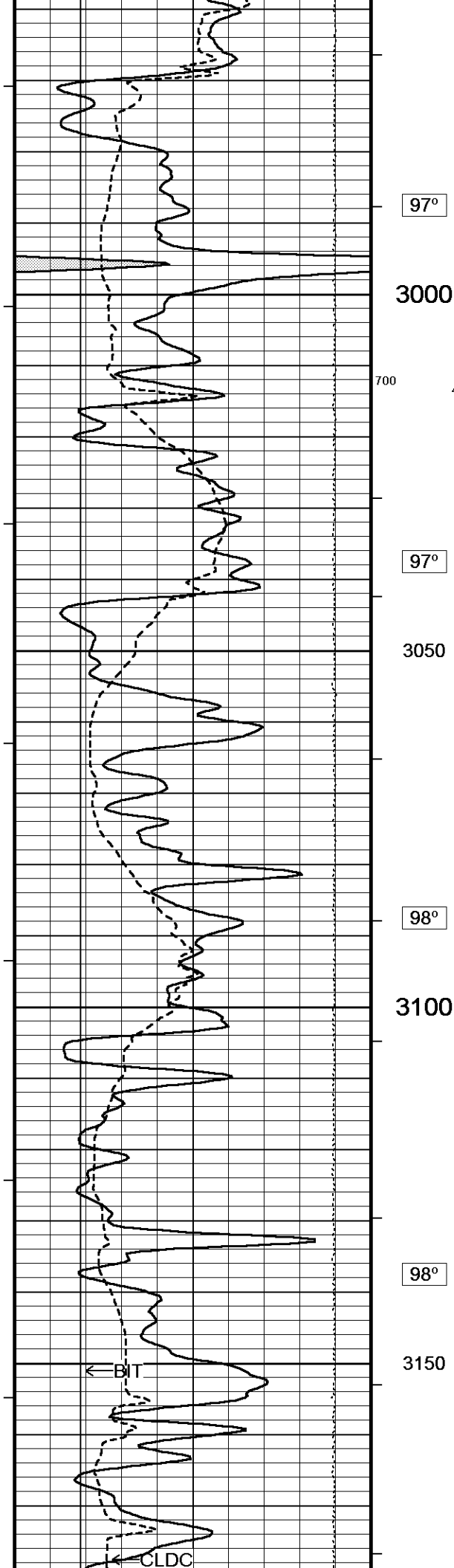


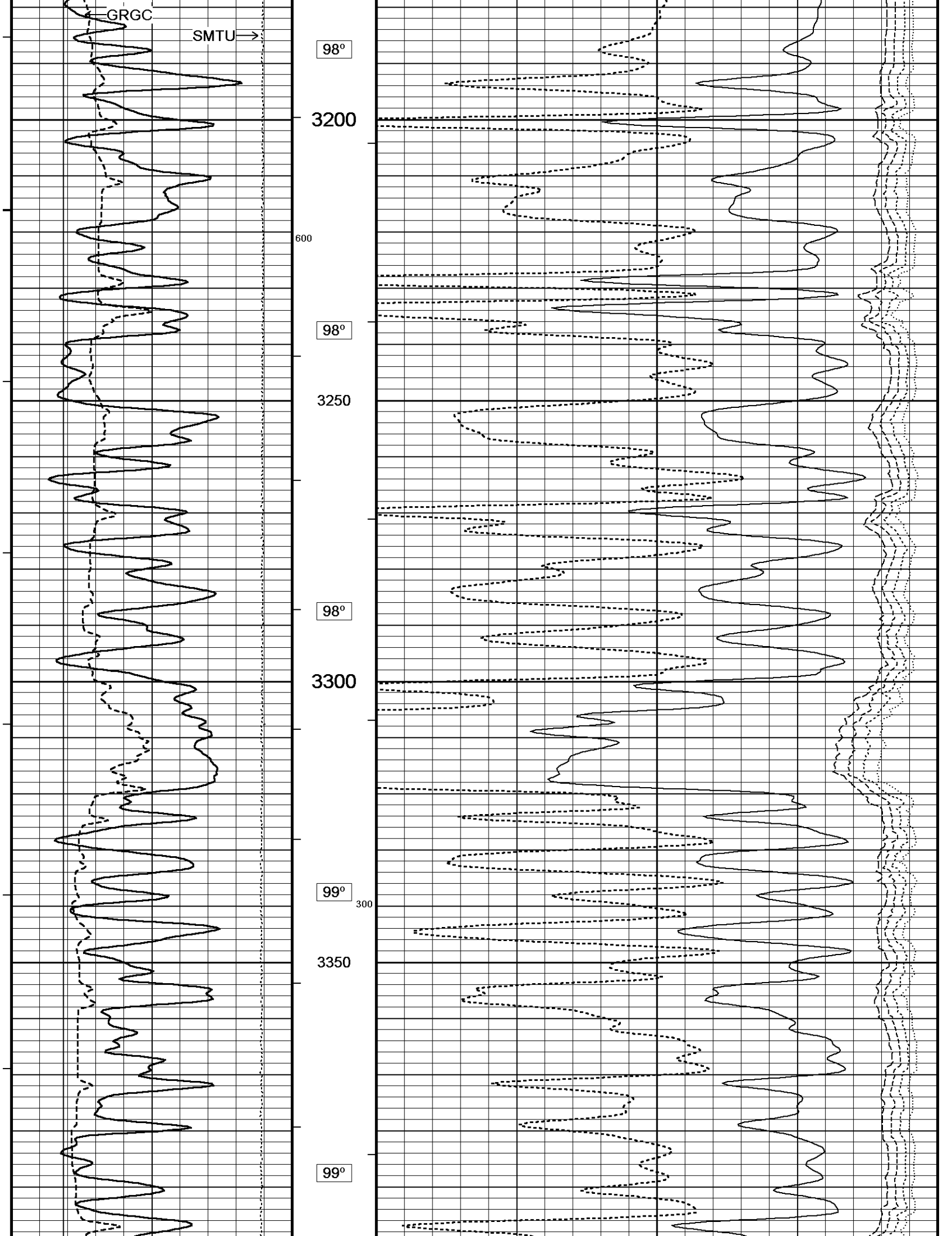


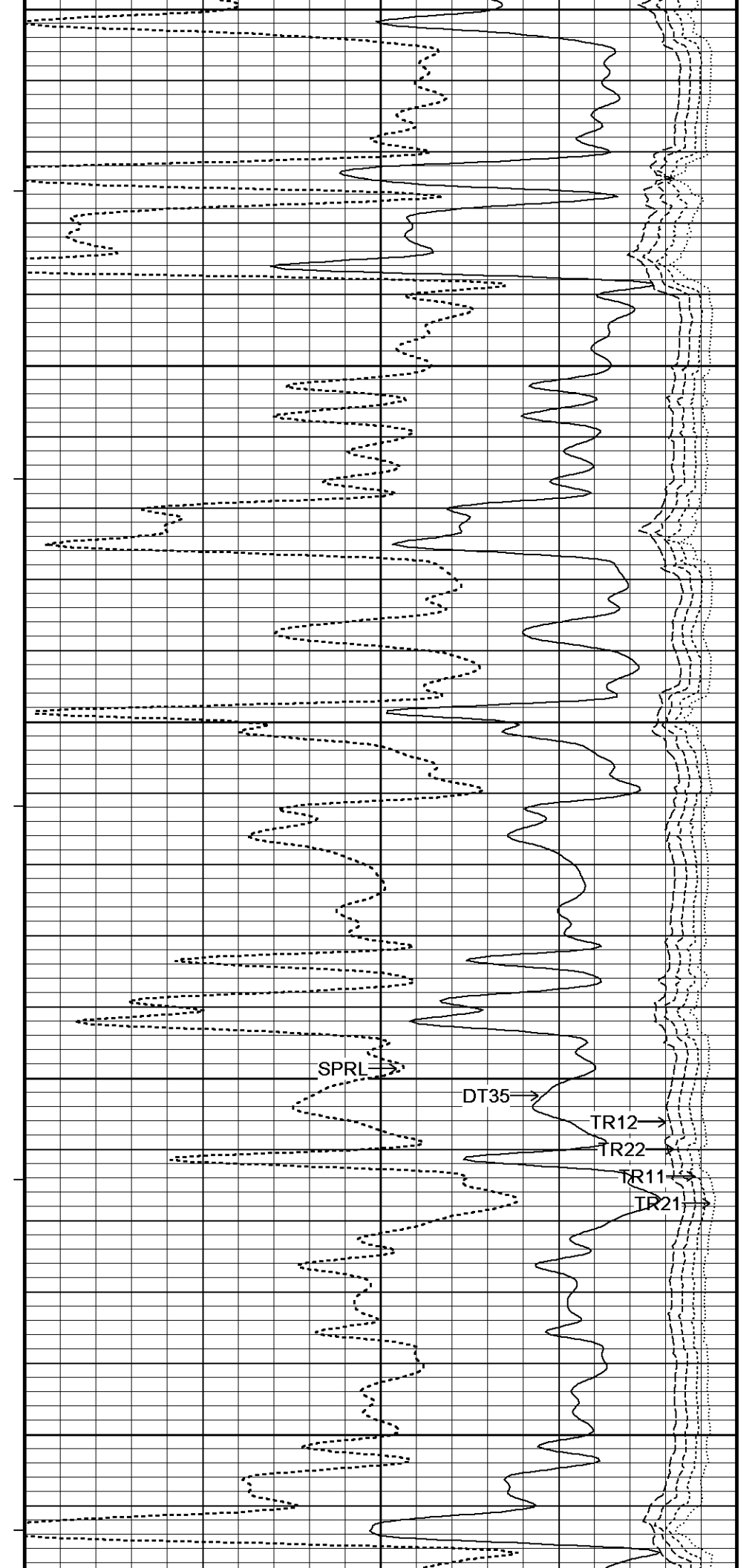
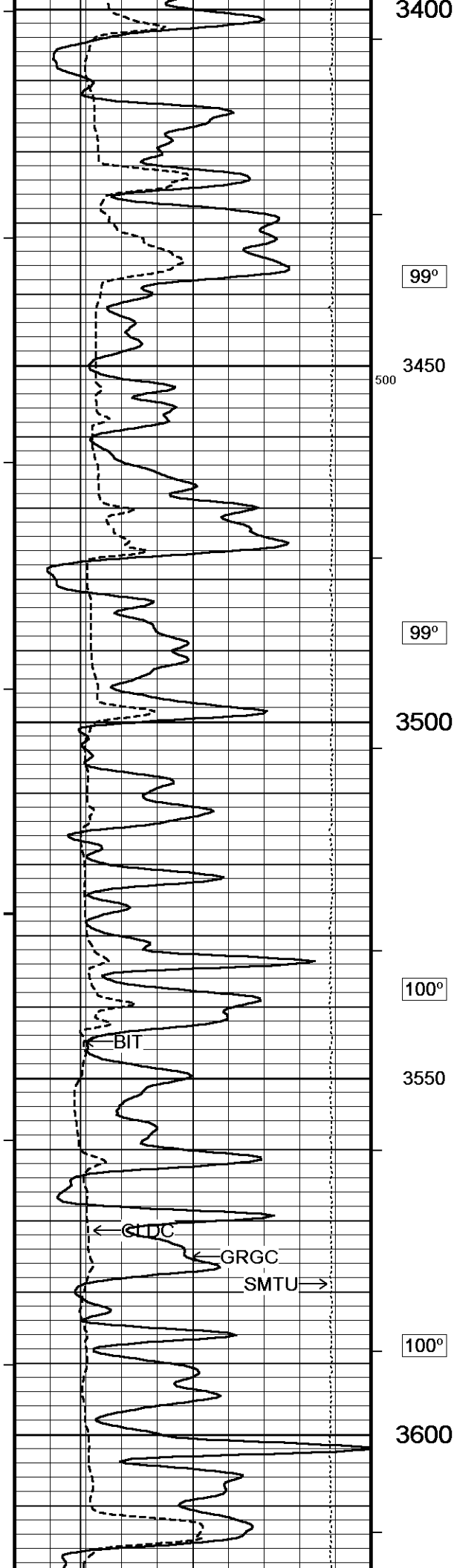


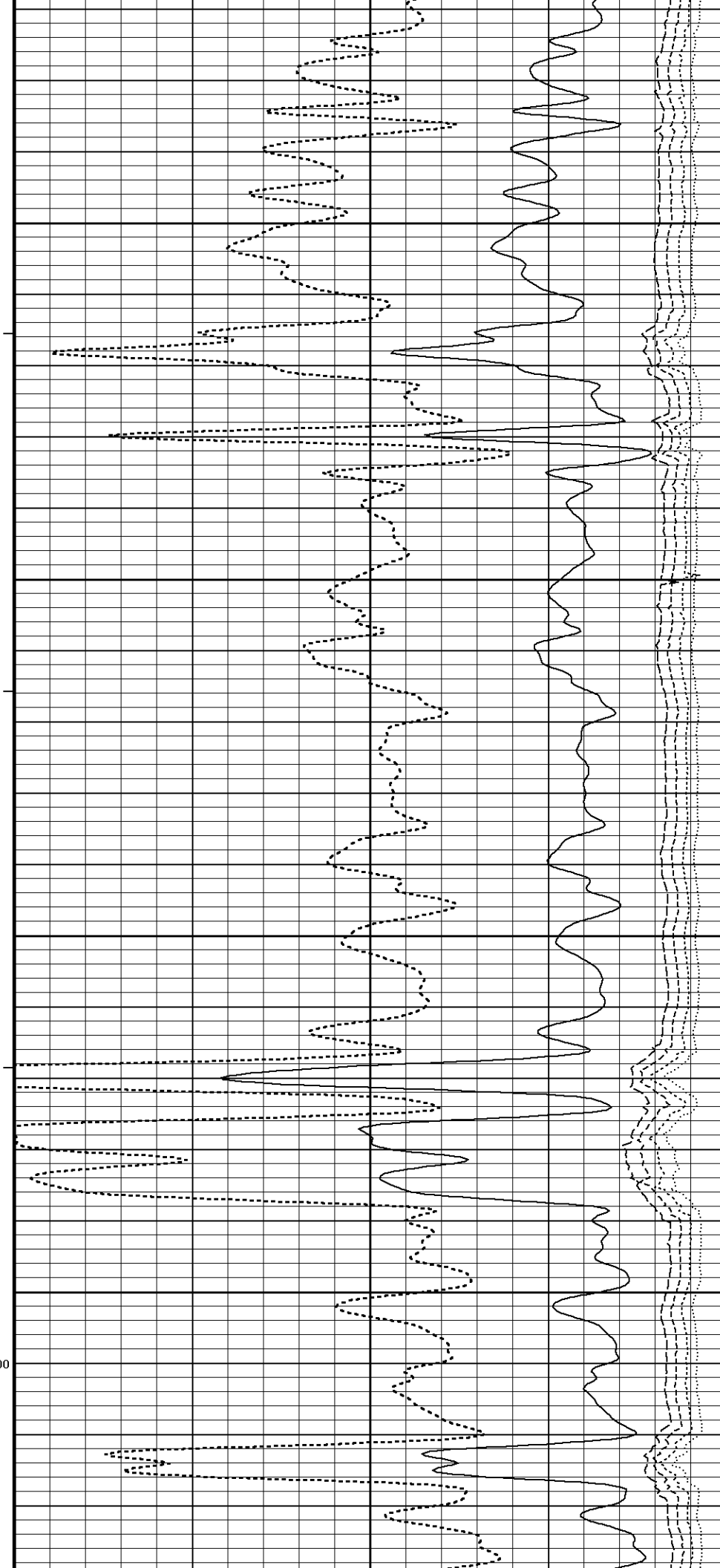
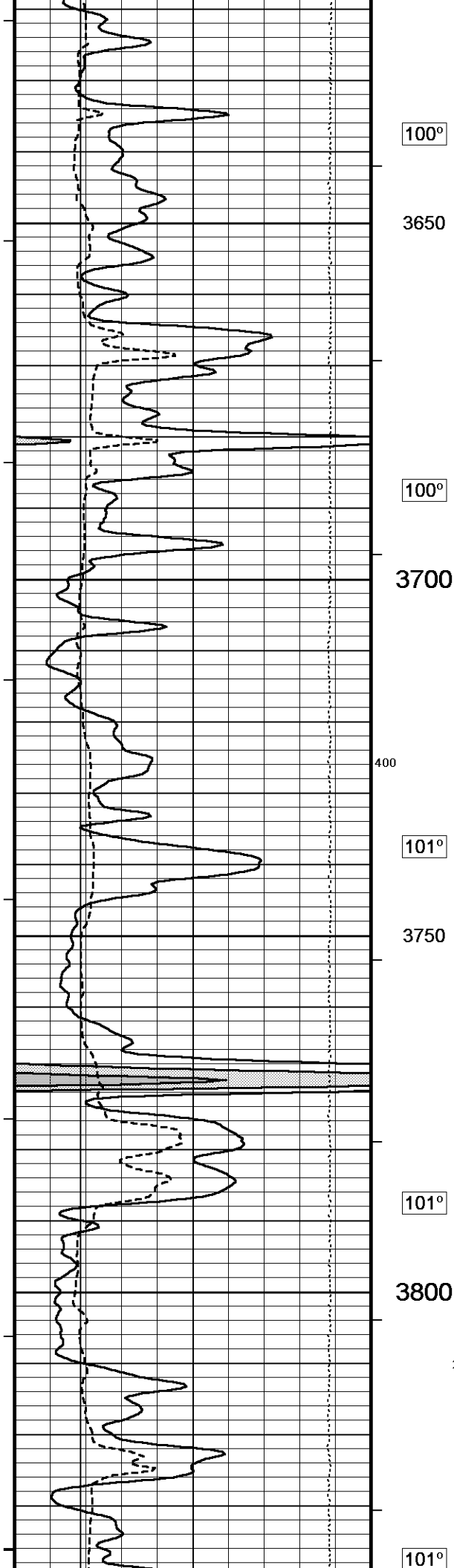


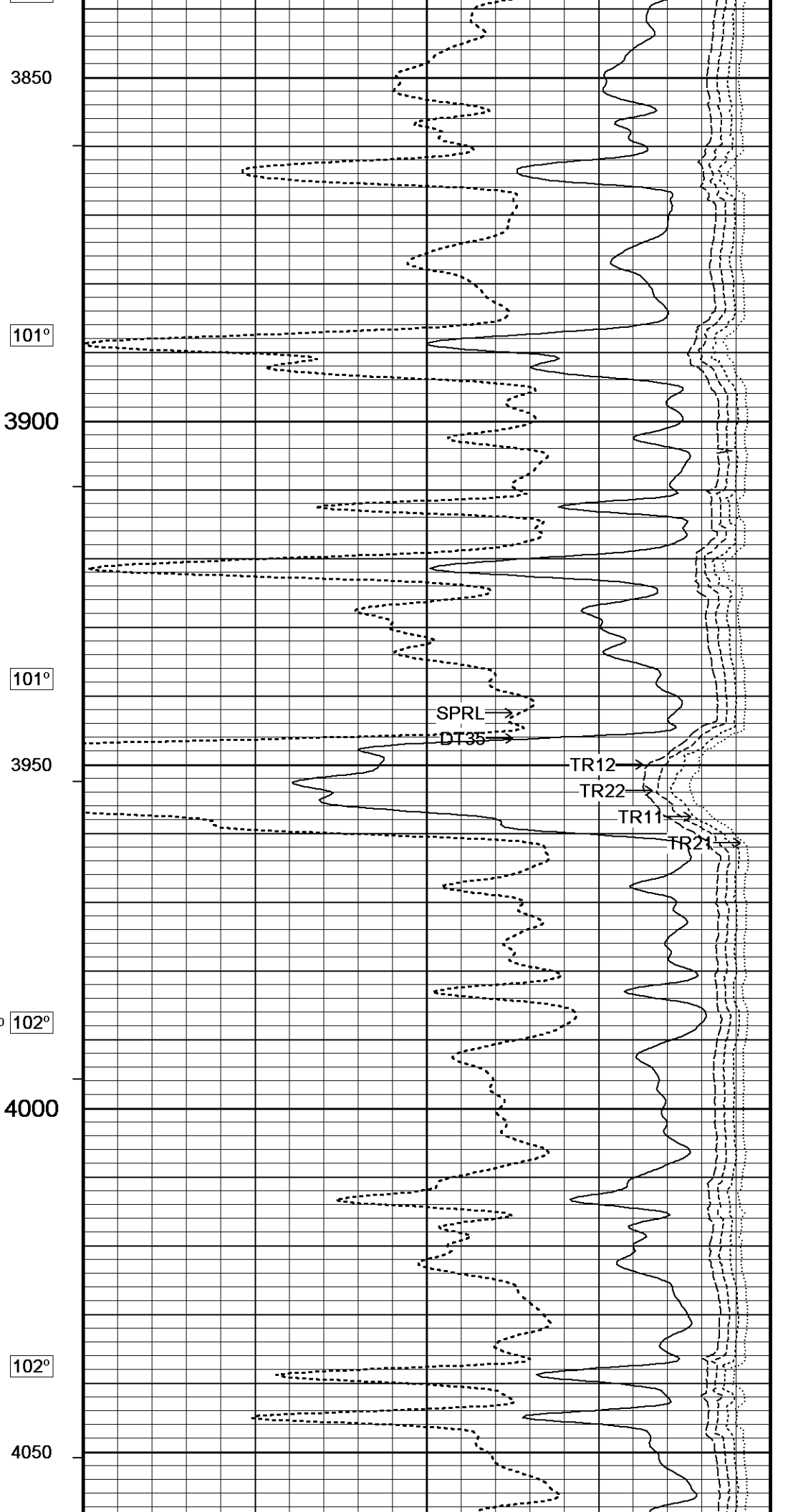
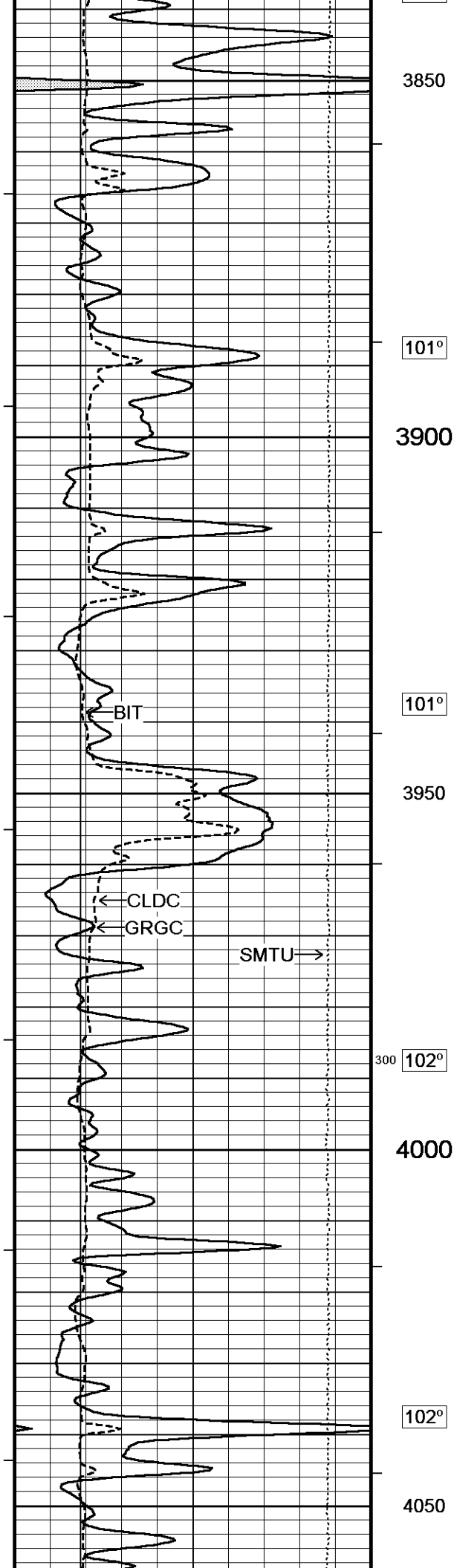


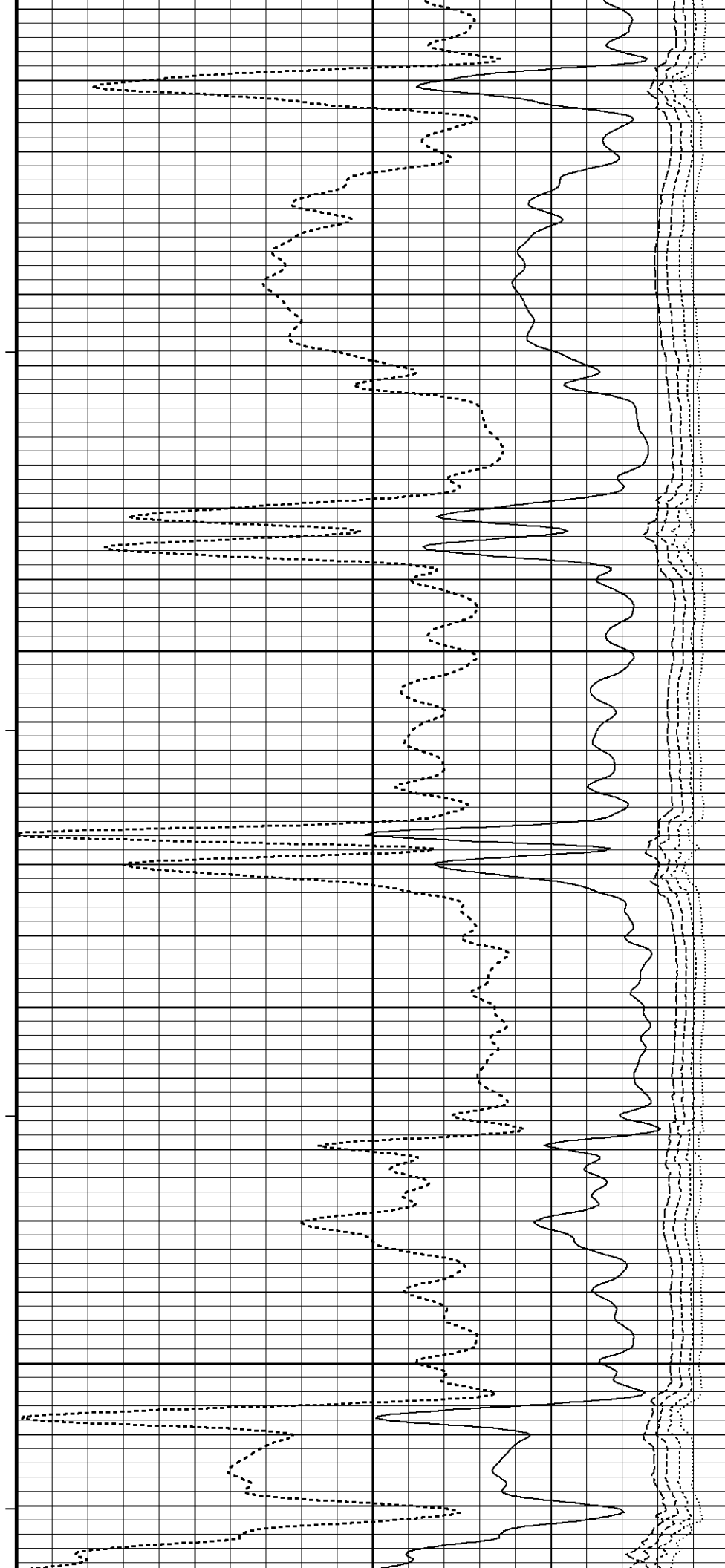
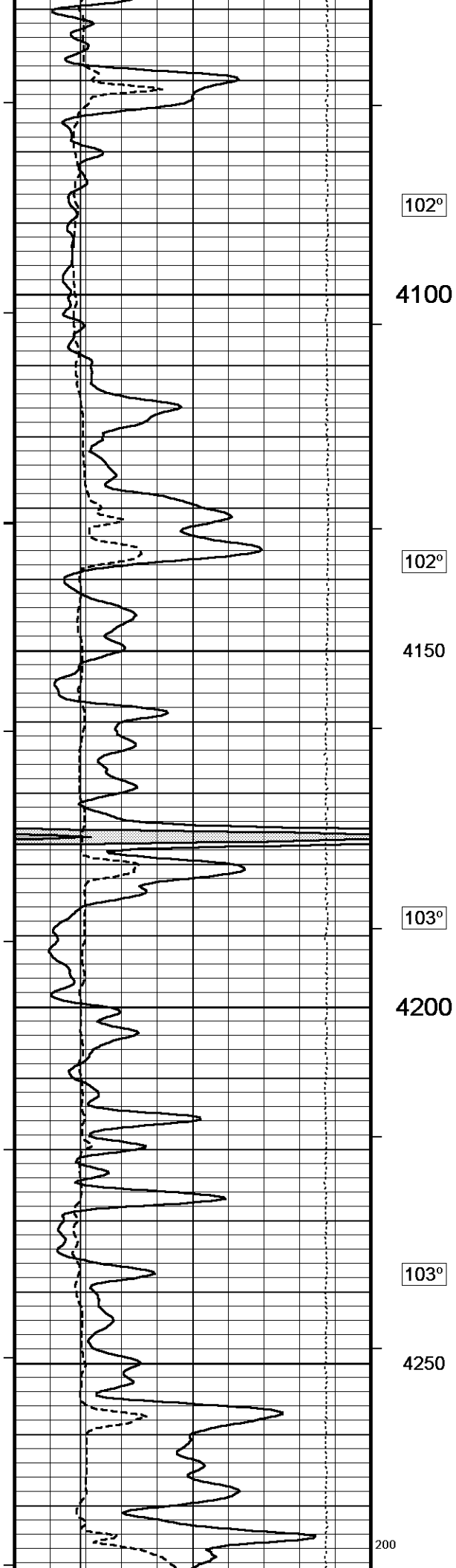


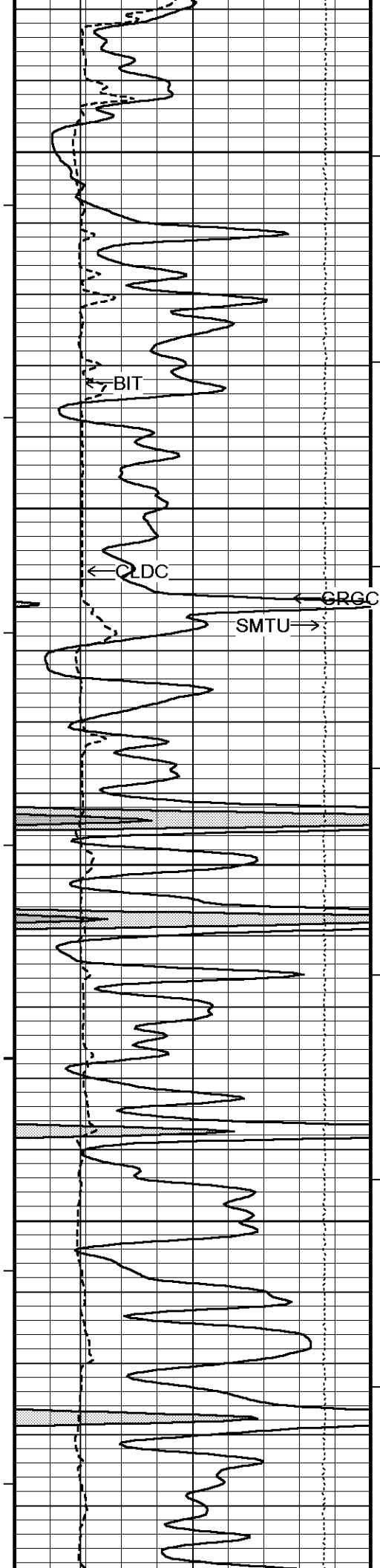












103°

4300

100

103°

4350

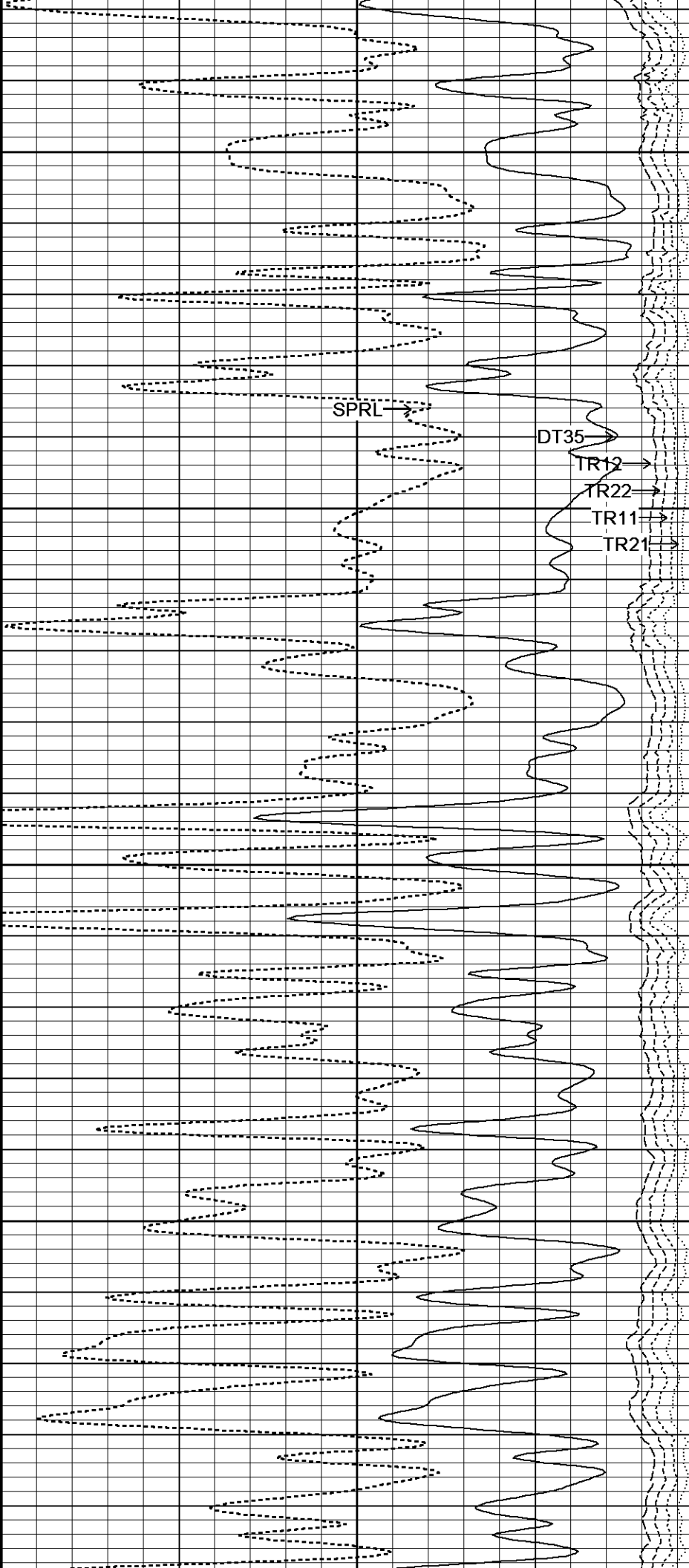
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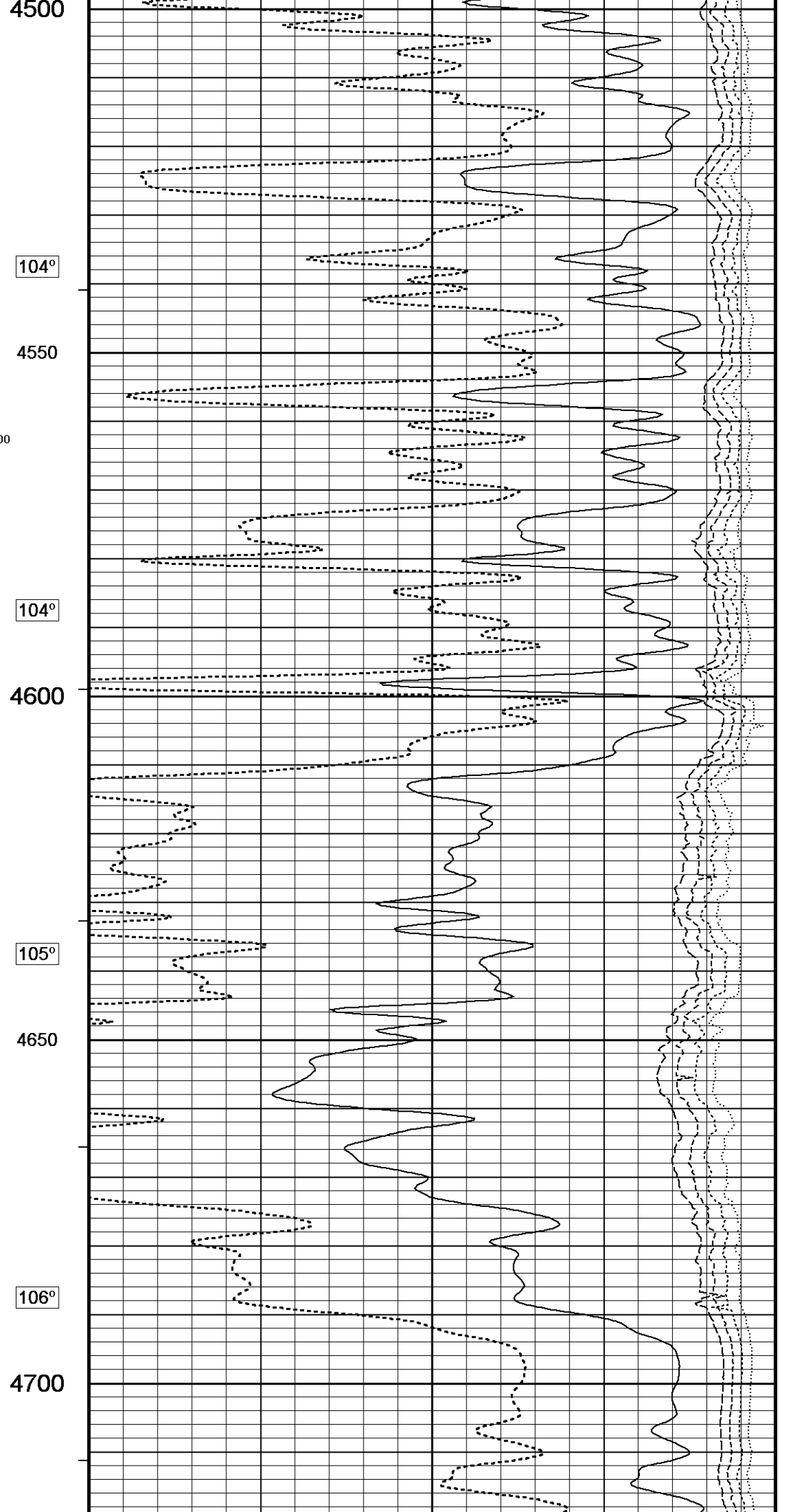
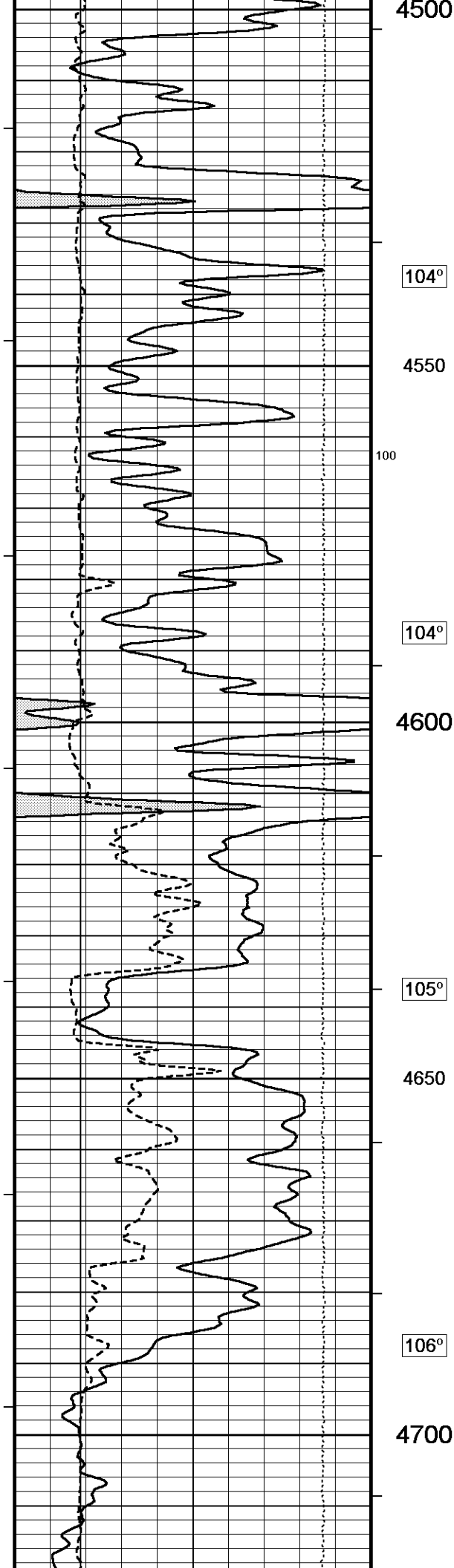
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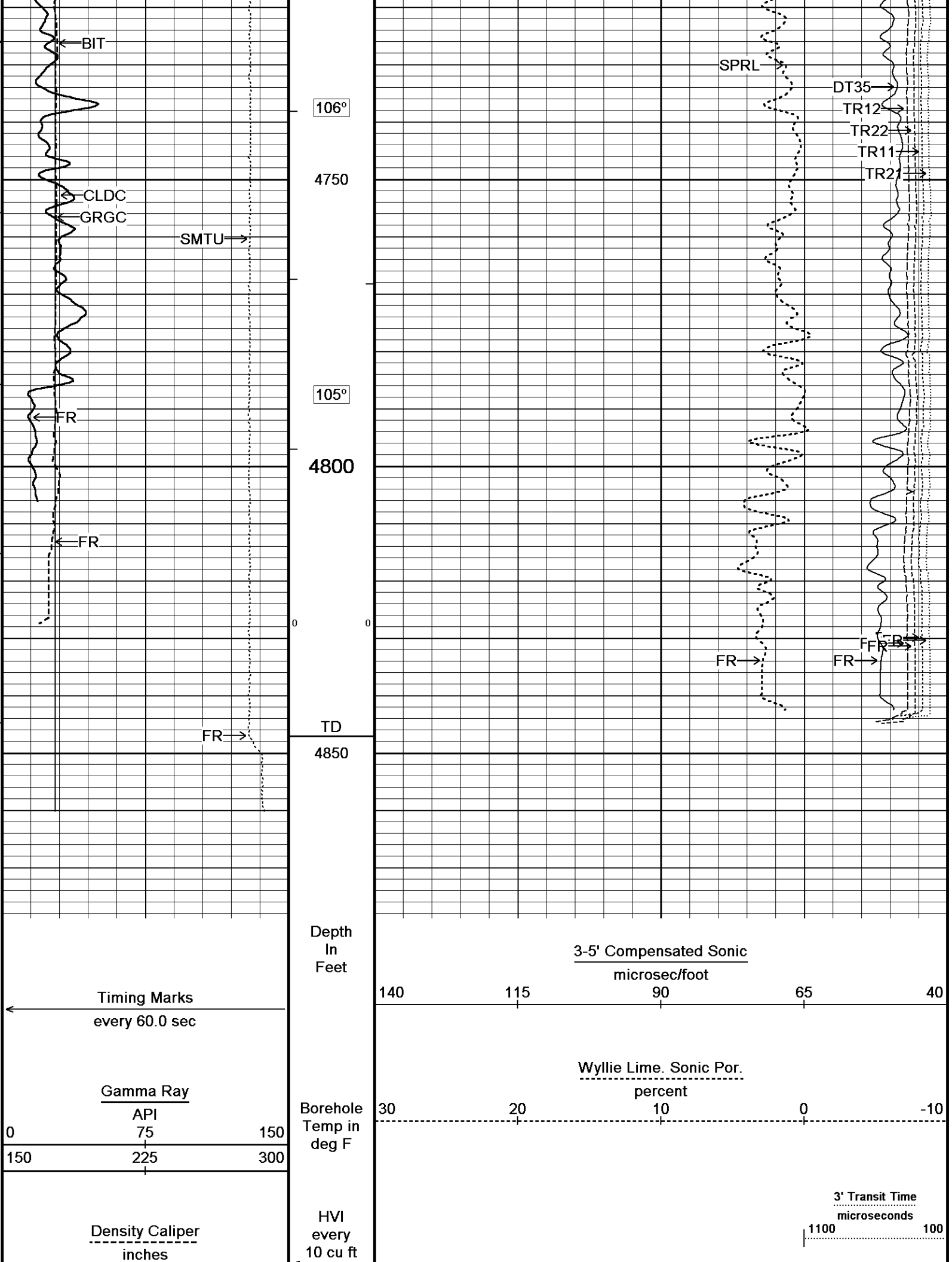
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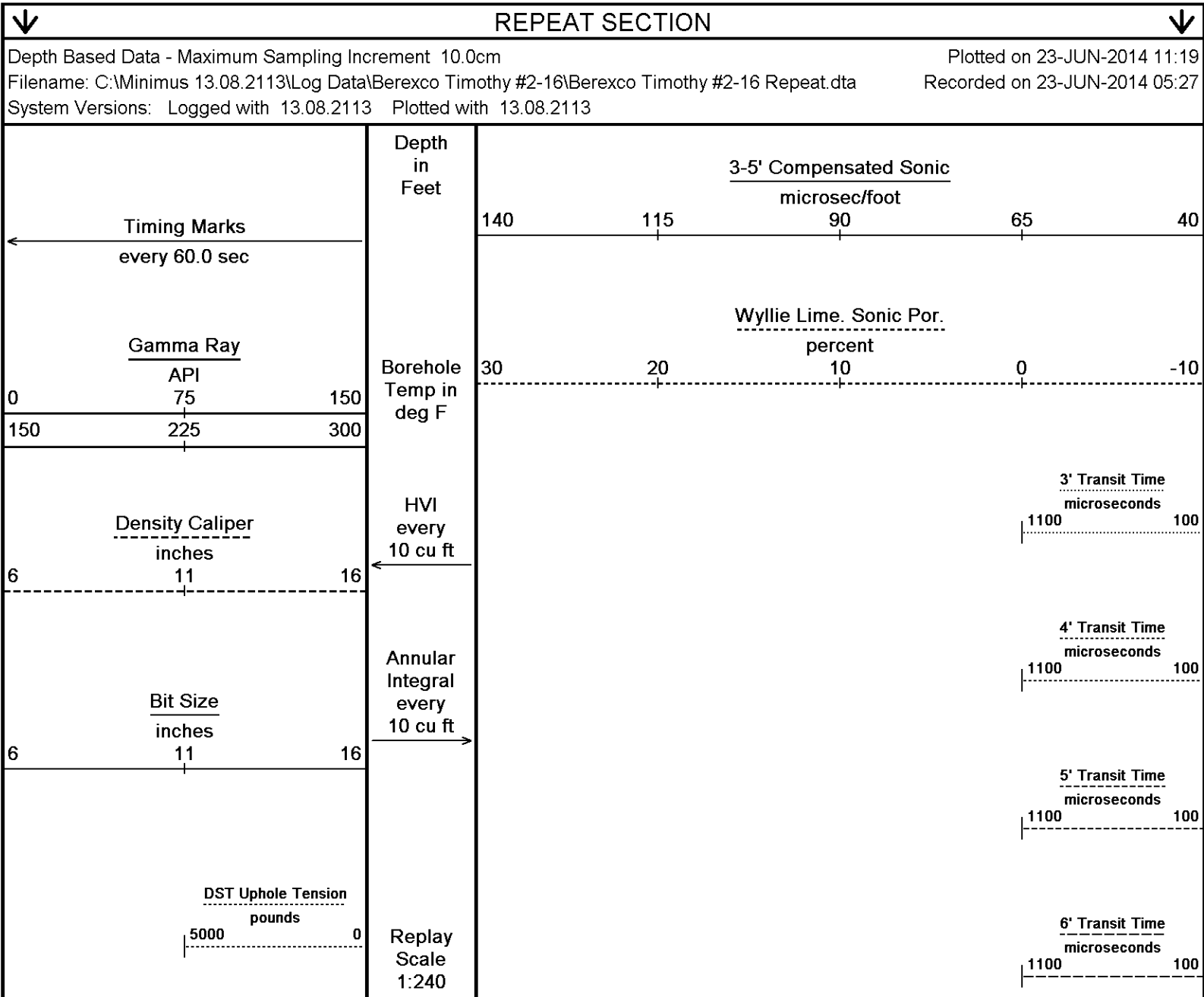
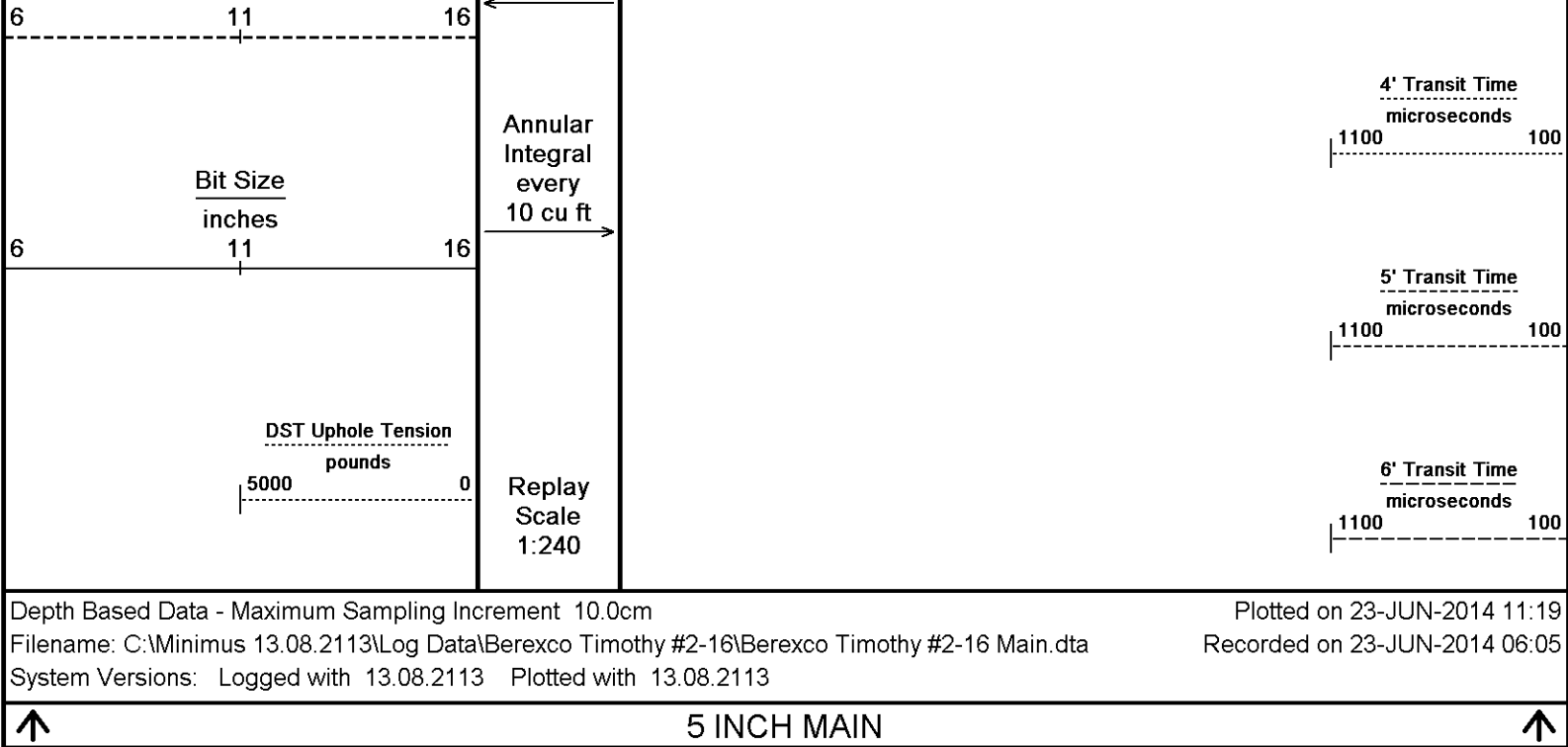
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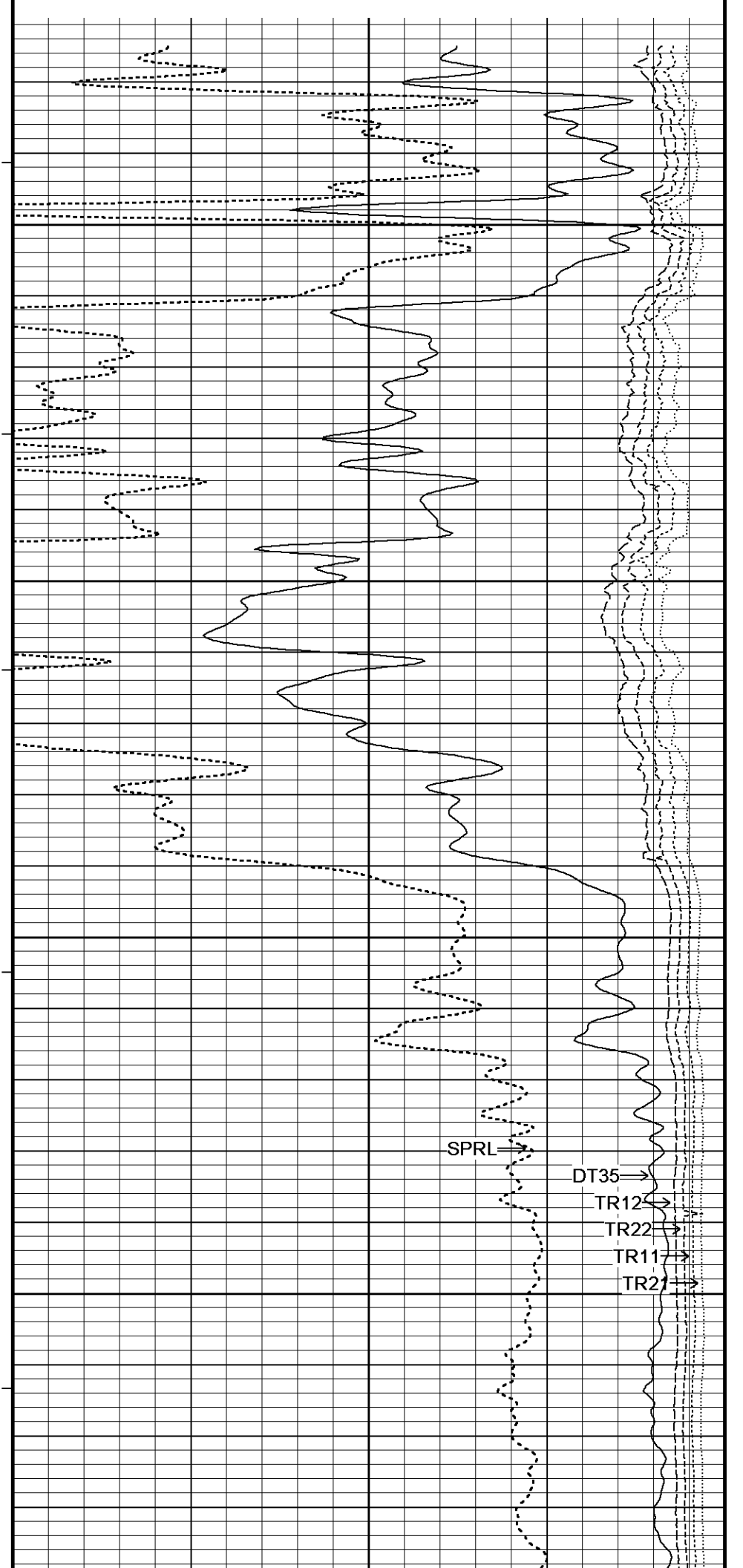
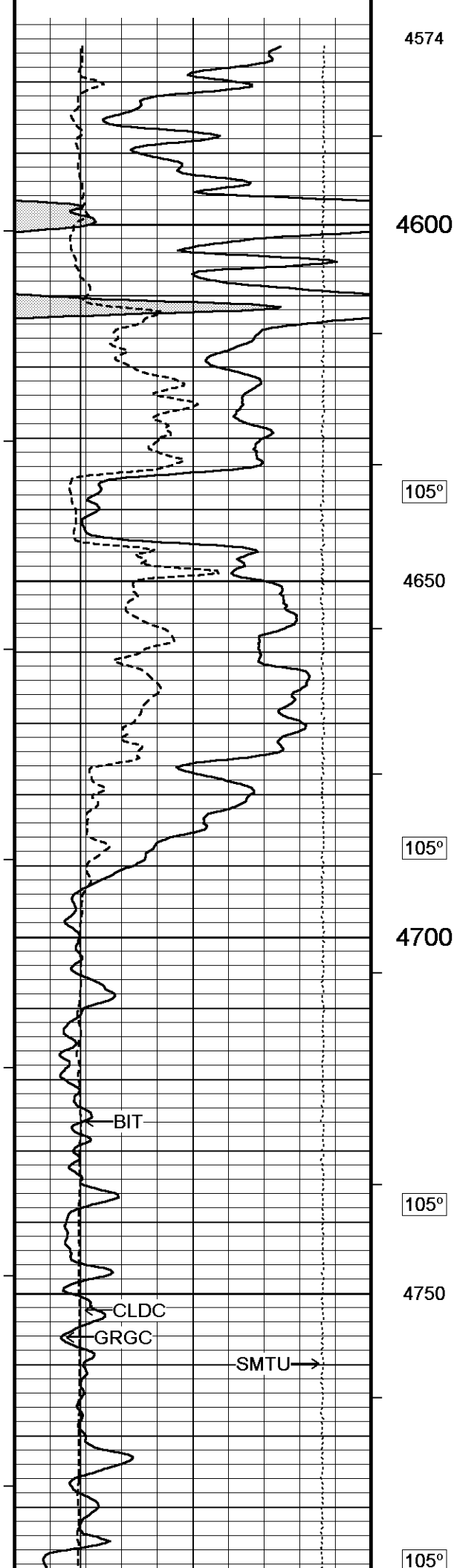
104°















REPEAT SECTION



BEFORE SURVEY CALIBRATION

C:\Minimus 13.08.2113\Log Data\Berexco Timothy #2-16\Berexco Timothy #2-16 Main.dta

General Constants All 000

Last Edited on 23-JUN-2014,03:06

General Parameters

Mud Resistivity	0.850	ohm-metres
Mud Resistivity Temperature	75.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters

HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	MML Caliper	

Rwa Parameters

Porosity used	Wyllie Lime. Sonic Por.
Resistivity used	Array Ind. One Res Rt
RWA Constant A	0.610
RWA Constant M	2.150
SW/APOR Tool Source	0.000

Gamma Calibration MCG-D.K 469

Field Calibration on 22-JUN-2014 22:28

	Measured	Calibrated (API)
Background	77	51
Calibrator (Gross)	1163	776
Calibrator (Net)	1086	725

Gamma Constants MCG-D.K 469

Last Edited on 23-JUN-2014,02:57

Gamma Calibrator Number	GRC038	
Mud Density	1.08	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

High Resolution Temperature Calibration MCG-D.K 469

Field Calibration on 12-MAY-2014,02:16

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-D.K 469

Last Edited on 12-JUN-2014,06:51

Pre-filter Length	11
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Sonic Constants MSS-C.K 330

Last Edited on 23-JUN-2014,03:06

Maximum Boundary Contrast	100.00	micro-sec/ft
Fluid Transit Time	189.00	micro-sec/ft
Limestone Transit Time	47.50	micro-sec/ft
Sandstone Transit Time	55.50	micro-sec/ft
Dolomite Transit Time	43.50	micro-sec/ft
Sonic used for Porosities	3-5' Compensated Sonic	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	N/A	micro-sec
MX3FT	N/A	micro-sec
Hunt-Raymer Constant	83.13	micro-sec/ft

Sonde Mode	Compensated
Hole Type	Open Hole

Hole Type

Open Hole

Sonde Parameters

	Measured	Calibrated
Offset	N/A	0.0000
Free Pipe	N/A	N/A
Peak Amplitude Source		N/A

Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A

Processed Fixed Gate Parameters

Waveform Used For Processing	N/A			
Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A	
N/A	N/A	N/A		N/A
N/A	N/A	N/A		N/A
N/A	N/A	N/A		N/A
N/A	N/A	N/A		N/A
N/A	N/A	N/A		N/A

Full Waveform Parameters

Use 3' Waveform to derive TR	N/A	
Use 4' Waveform to derive TR	N/A	
Use 5' Waveform to derive TR	N/A	
Use 6' Waveform to derive TR	N/A	
3' Waveform Discriminator Level	N/A	mV
4' Waveform Discriminator Level	N/A	mV
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	
Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A

Caliper Calibration MPD-C.A 216

Base Calibration on 18-JUN-2014 10:39
Field Calibration on 22-JUN-2014 22:12

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	16948	3.99
2	27088	5.98
3	37015	7.97
4	46800	9.86
5	58001	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.93	7.97

DOWNHOLE EQUIPMENT

C:\Minimus 13.08.2113\Log Data\Berecxo Timothy #2-16\Berecxo Timothy #2-16 Main.dta

3/8" Triple Cone Cable Head (MCB C A)
MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.244 in

Compact Comms Gamma
MCG-D.K 469 LG: 8.70 ft WT: 63.9 lb OD: 2.240 in



55.39 ft

GRGC - Gamma Ray

52.48 ft

CGXT - MCG External Temperature

Compact Micro-log
MML-A.3 LG: 7.97 ft WT: 81.6 lb OD: 2.240 in

Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

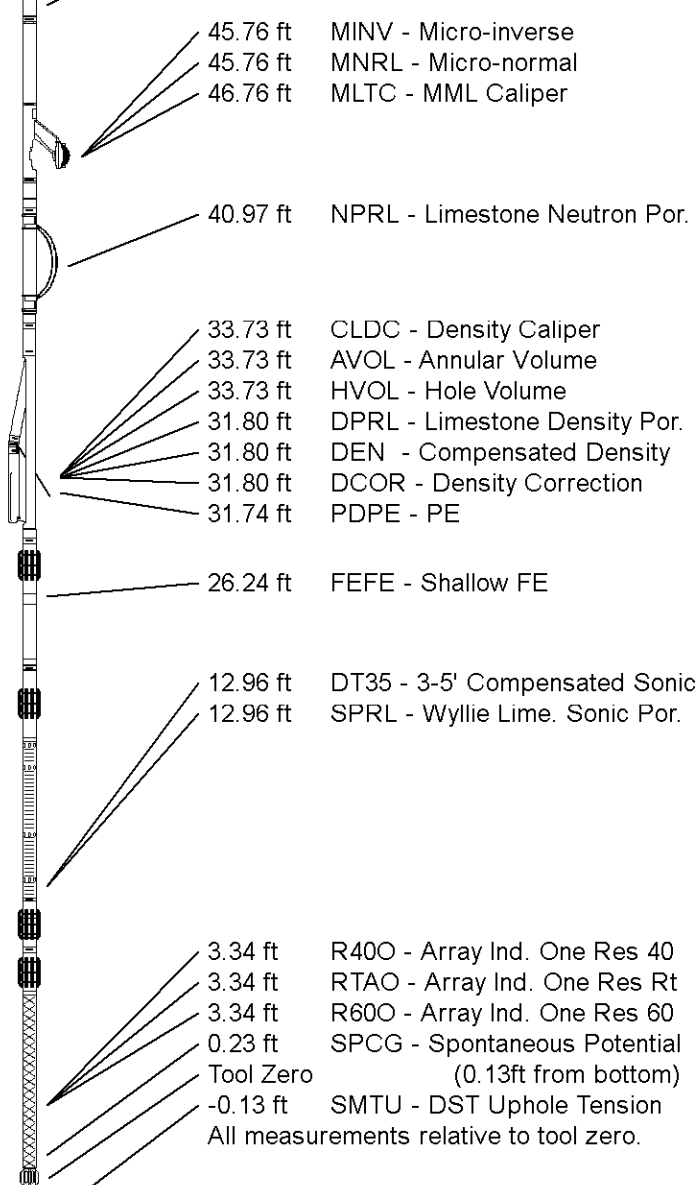
Compact Density/Caliper
MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric
MFE-A.A 135 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Sonic
MSS-C.K 330 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction
MAI-A.A 111 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 62.25 ft Weight: 471.8 lb



COMPANY	BEREXCO LLC
WELL	TIMOTHY #2-16
FIELD	WILDCAT
PROVINCE/COUNTY	FINNEY
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2969.00	feet	First Reading	4833.91	feet
Elevation Drill Floor	2967.00	feet	Depth Driller	4850.00	feet
Elevation Ground Level	2957.00	feet	Depth Logger	4847.00	feet



Weatherford®

COMPENSATED SONIC
WITH INTEGRATED TRANSIT TIME

