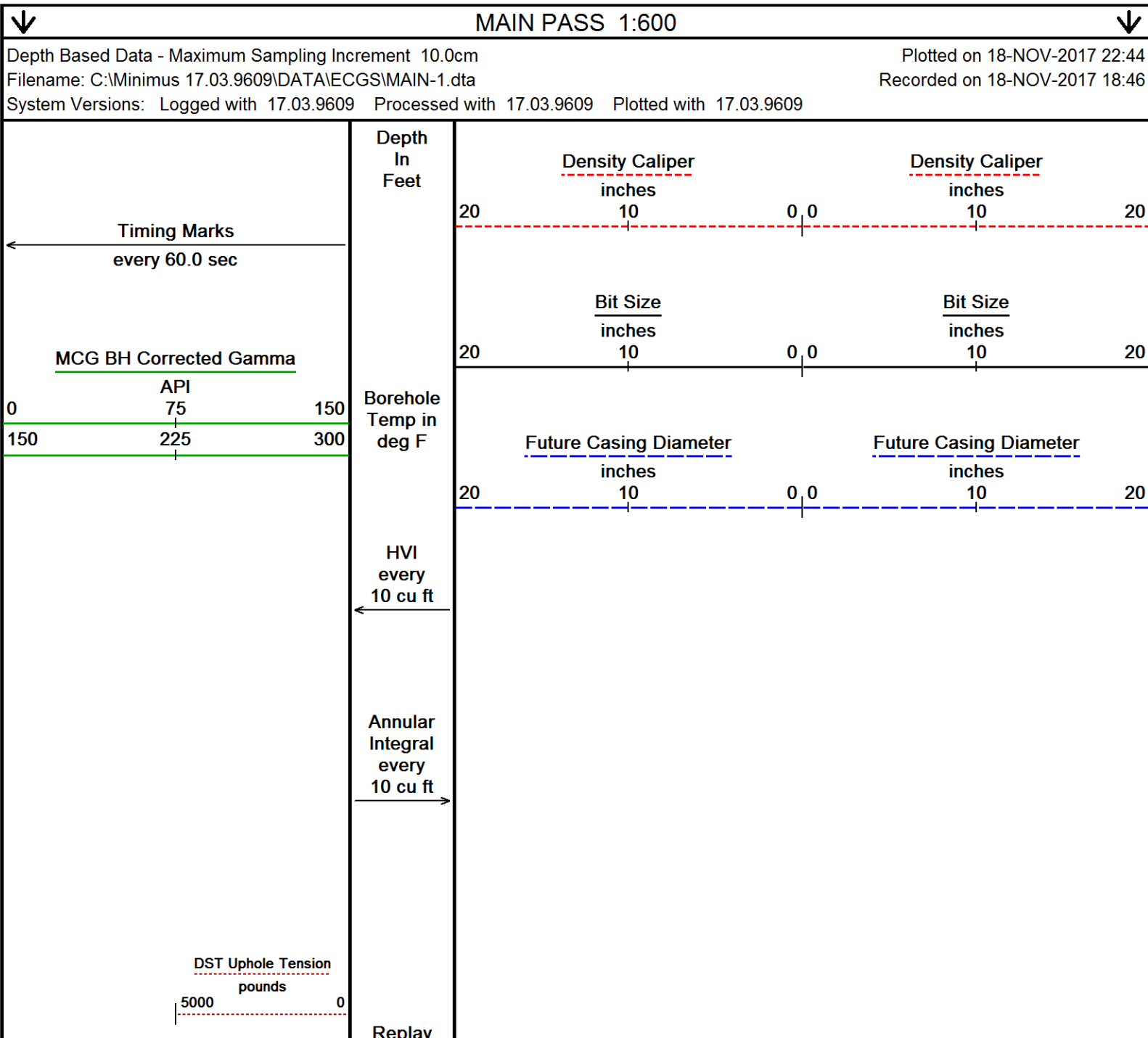
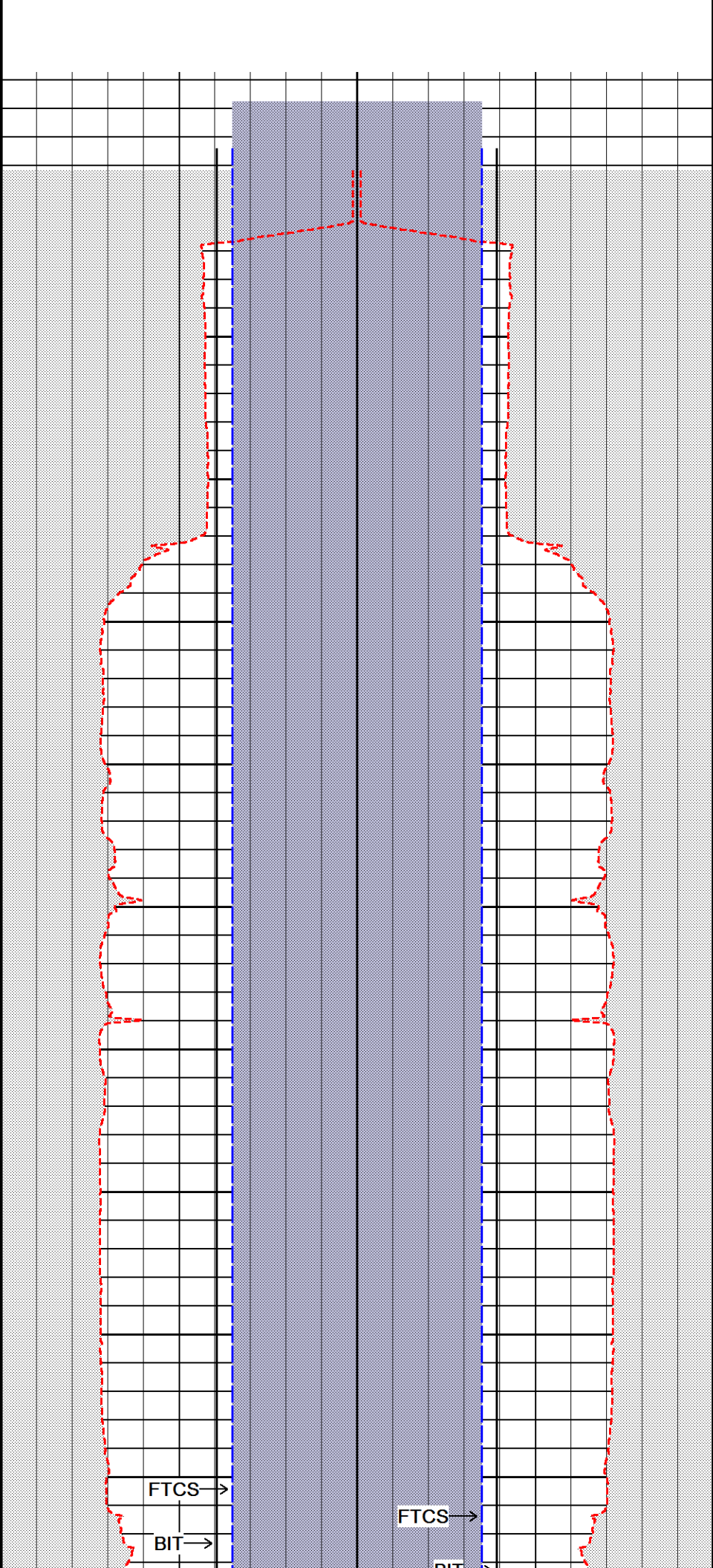
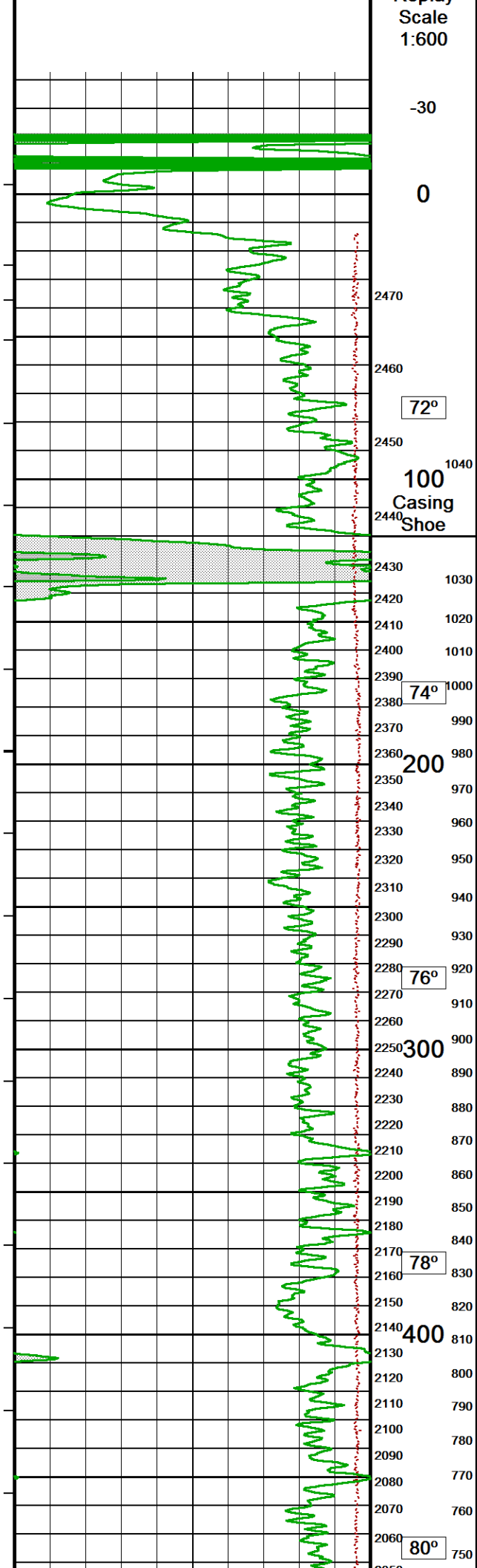


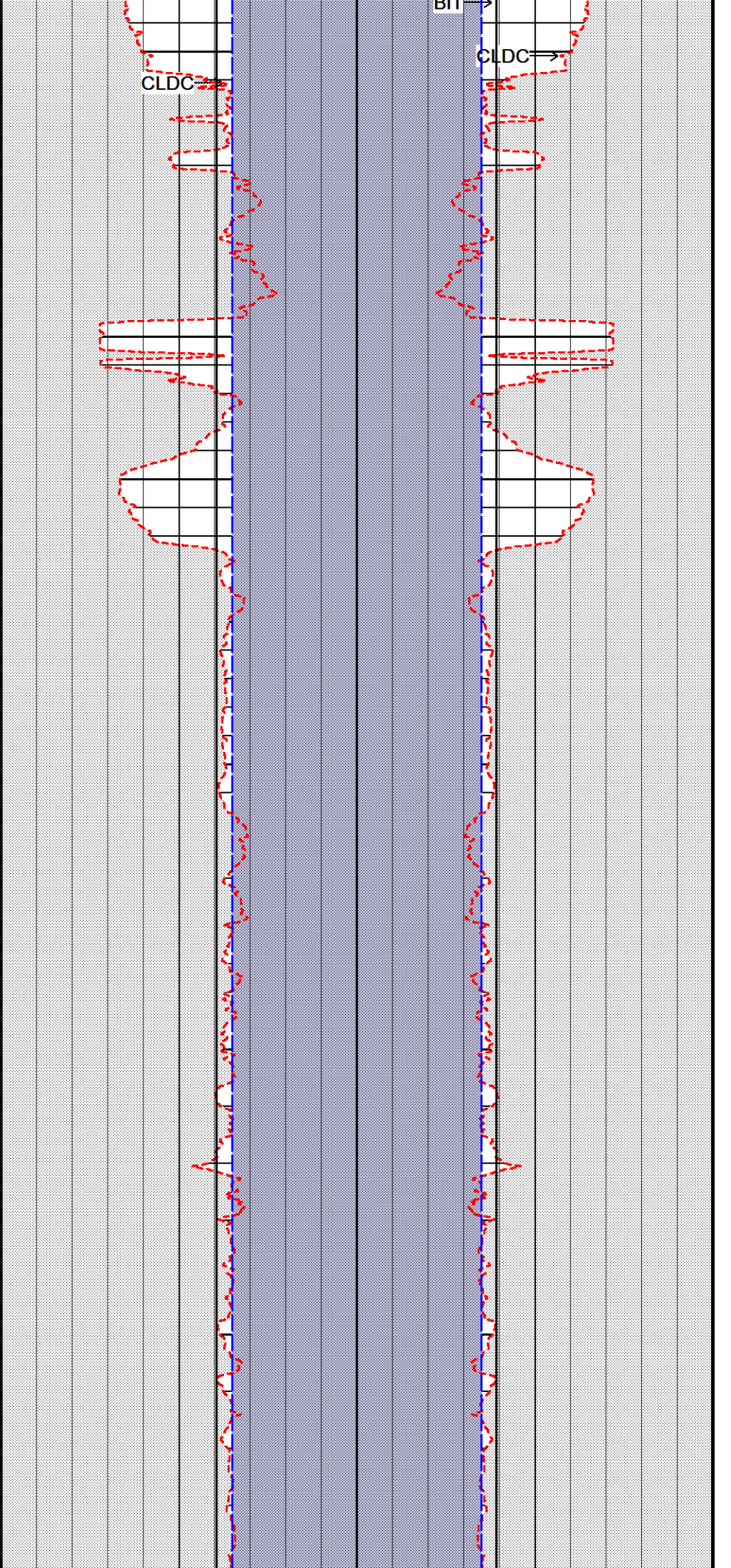
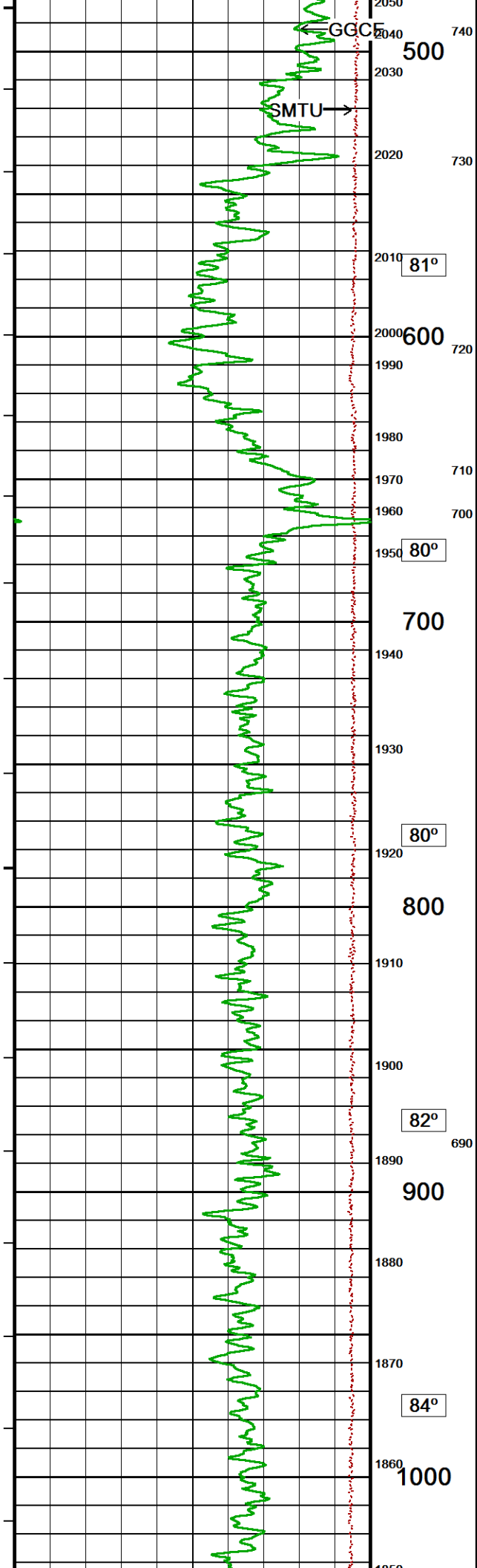


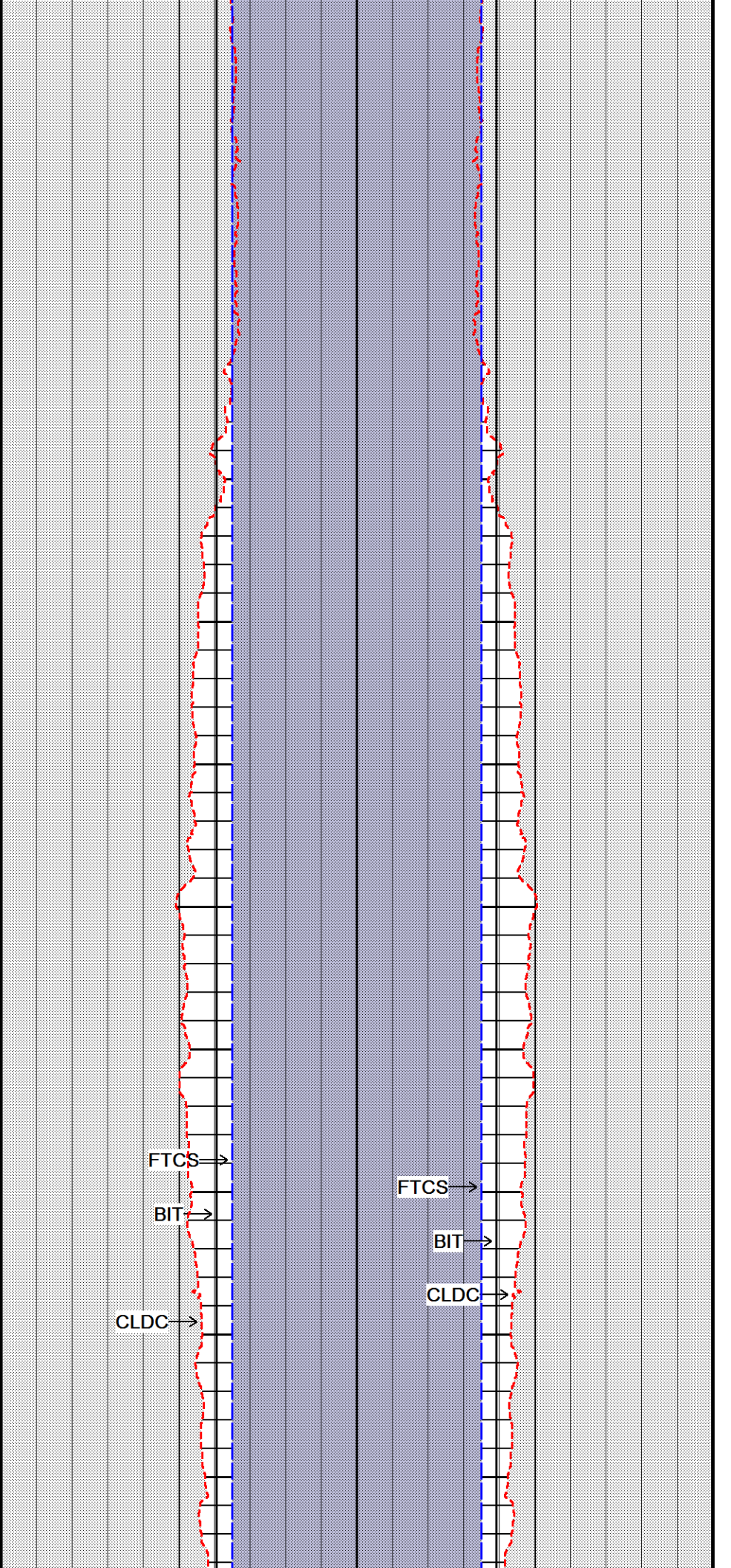
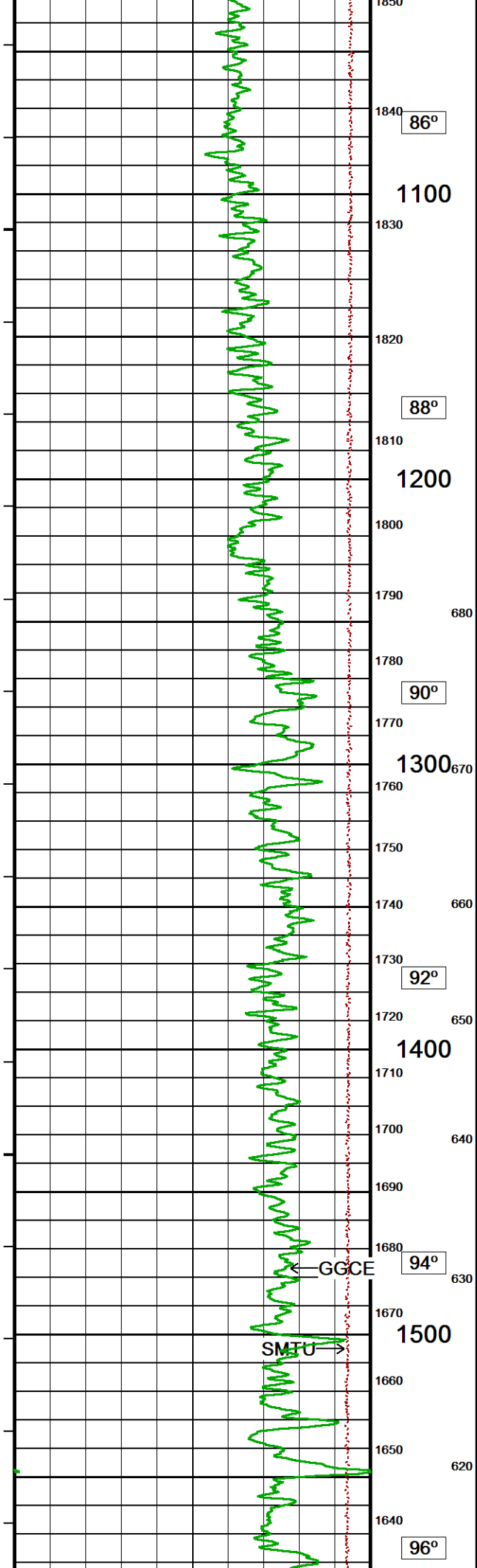
\*\*\*NO REPEAT SECTION LOGGED ON BOTTOM DUE TO HOLE CONDITIONS\*\*\*  
 \*\*\*\*LOG RESPONSE EFFECTED BY HOLE RUGOSITY\*\*\*\*

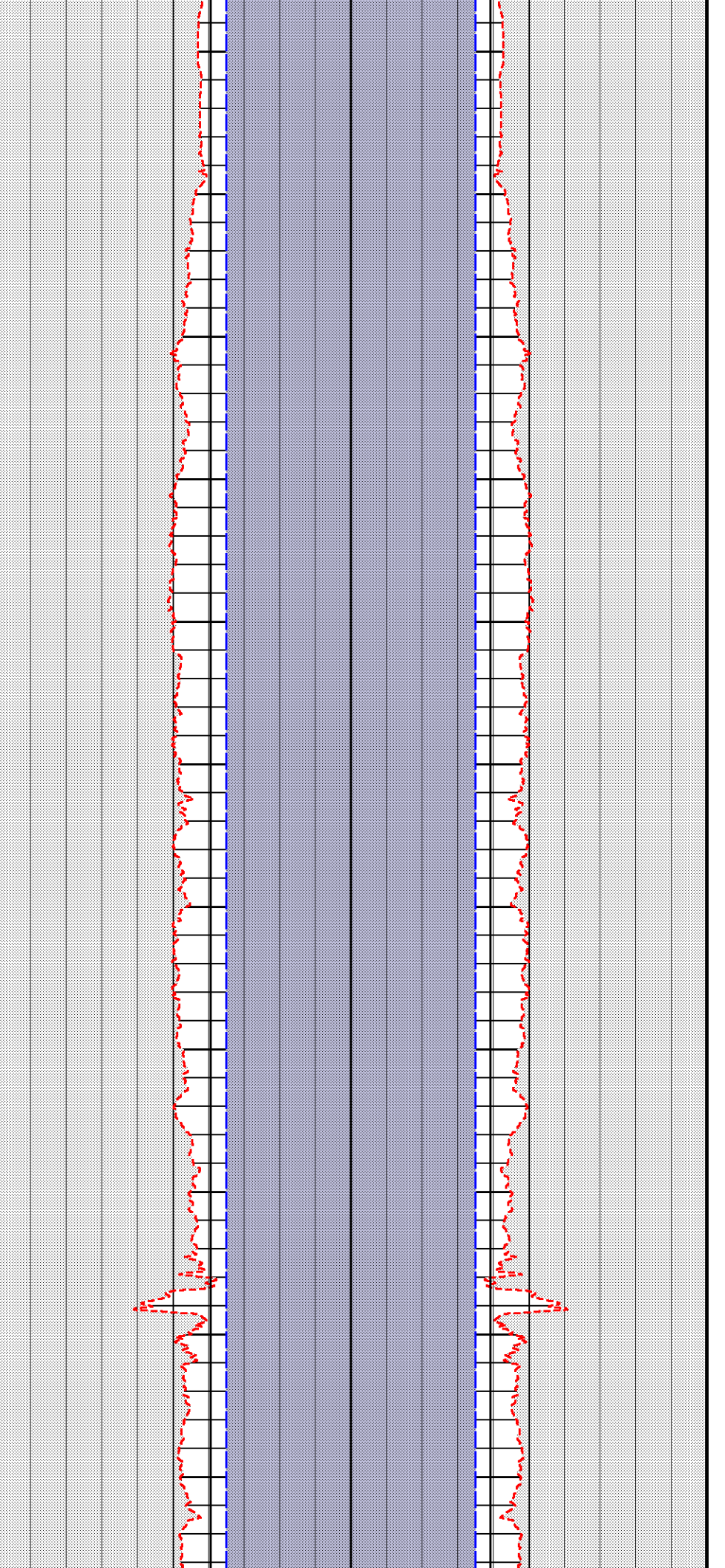
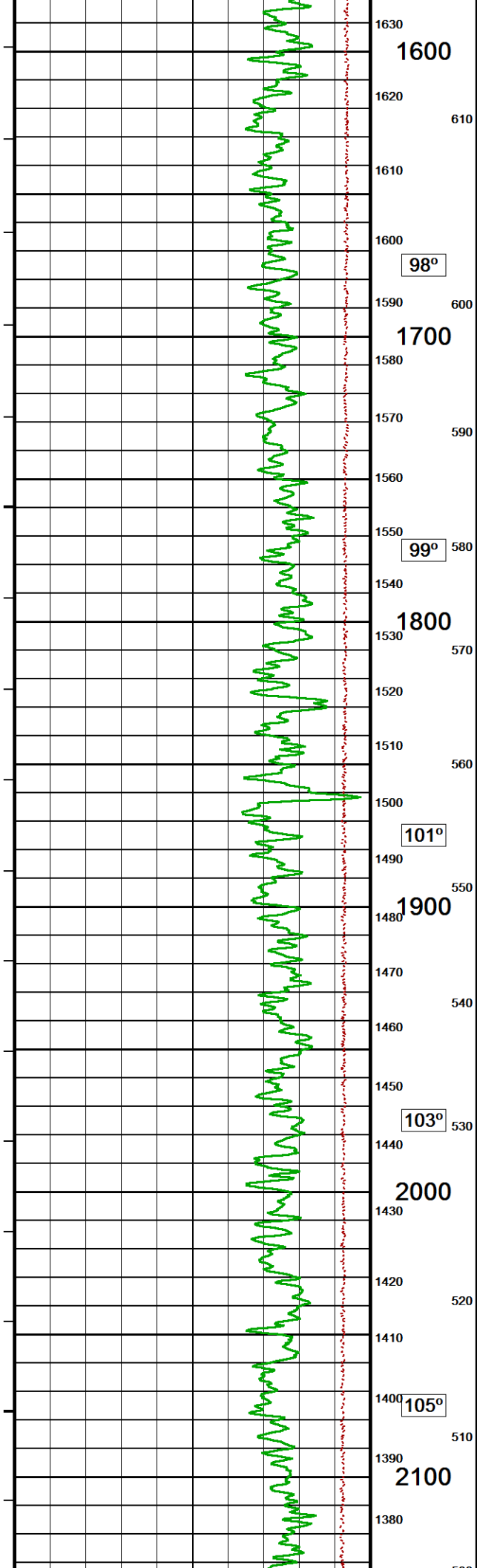
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will 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.

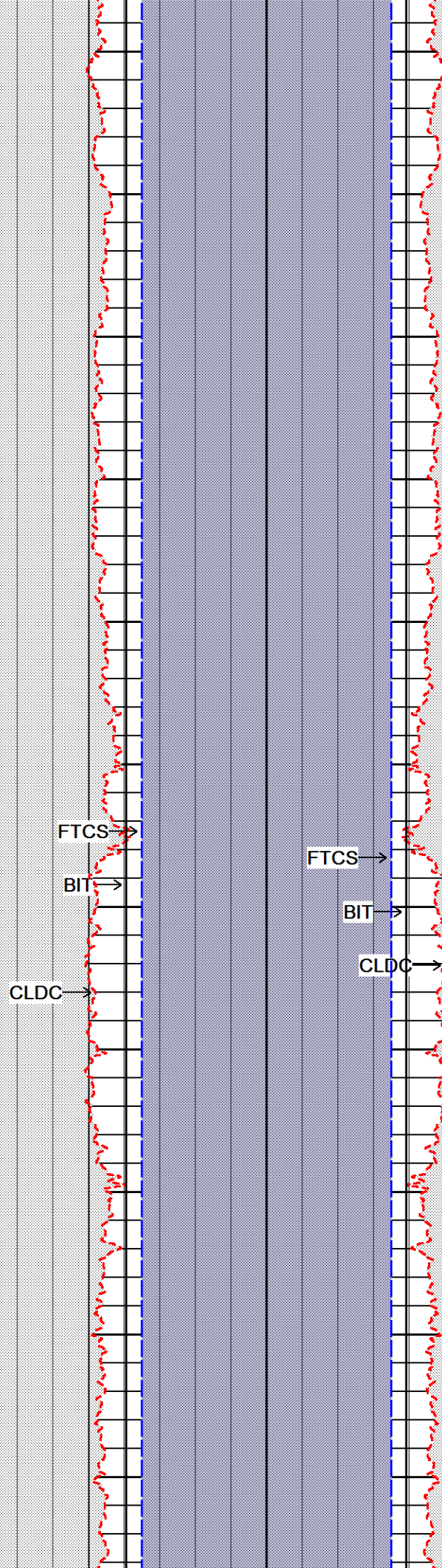
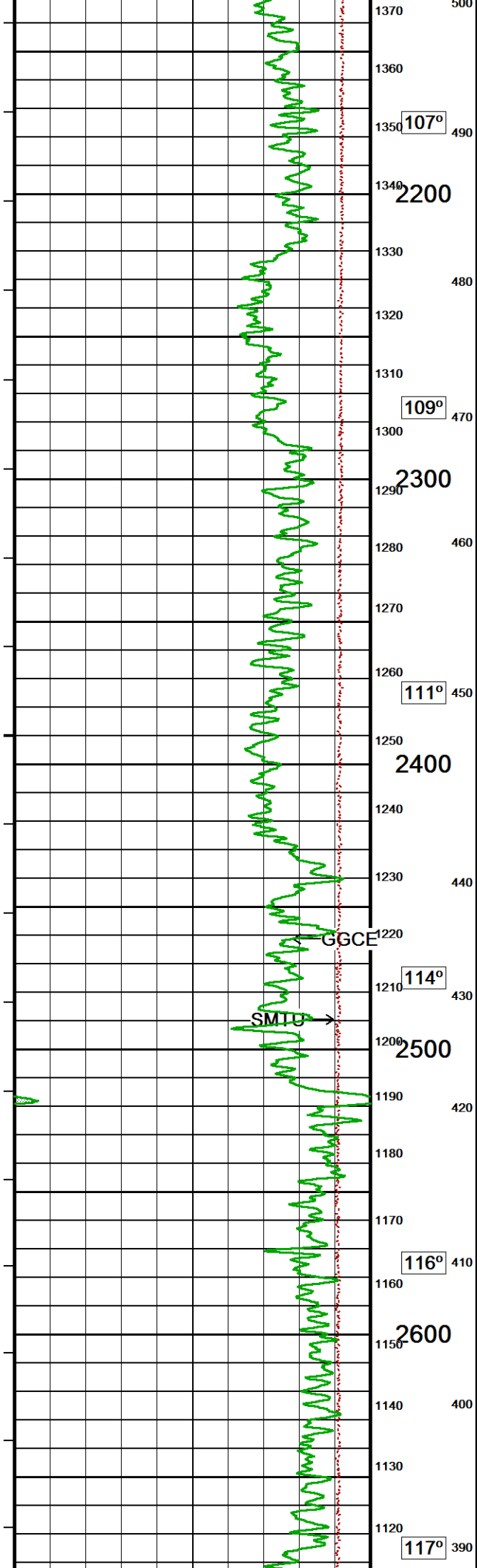


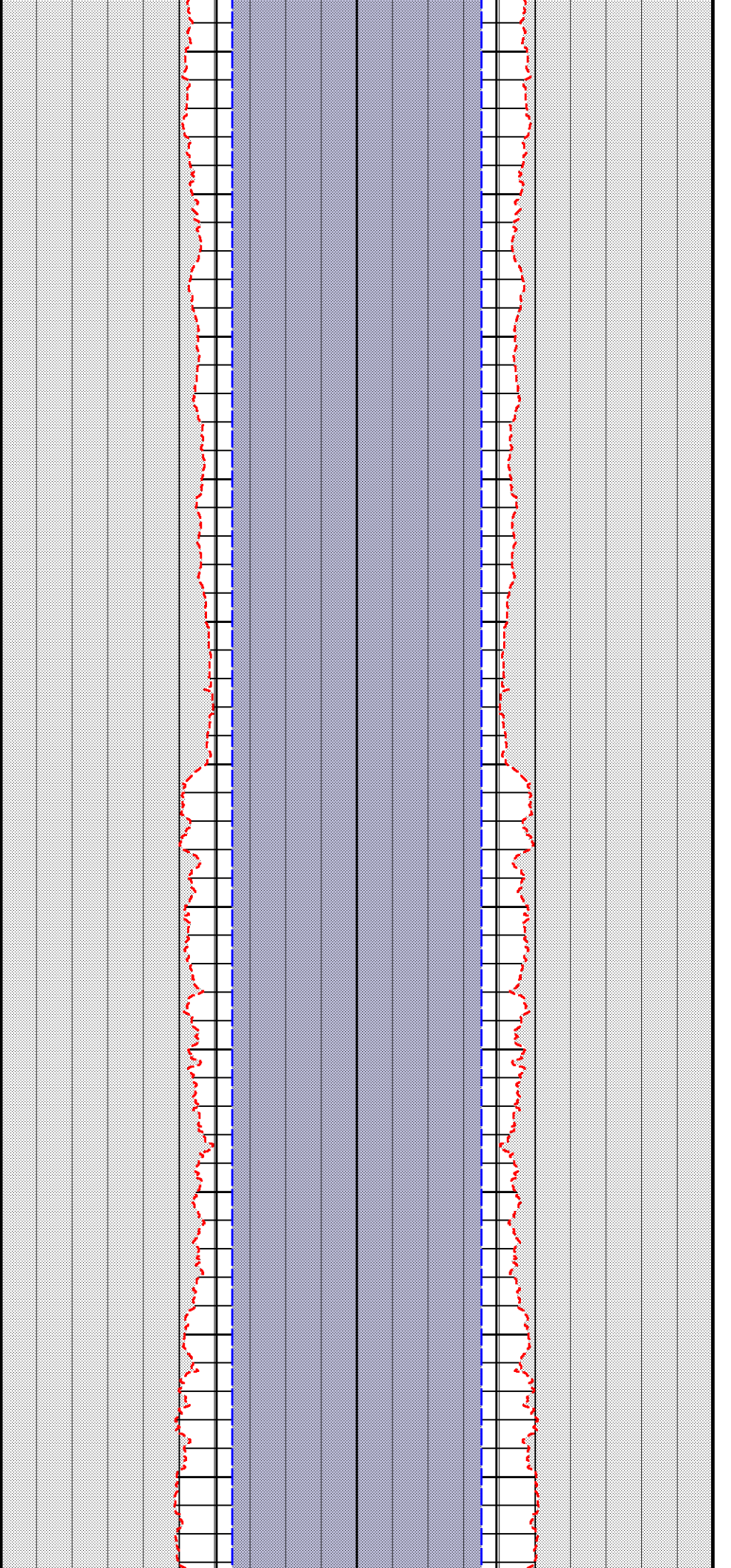
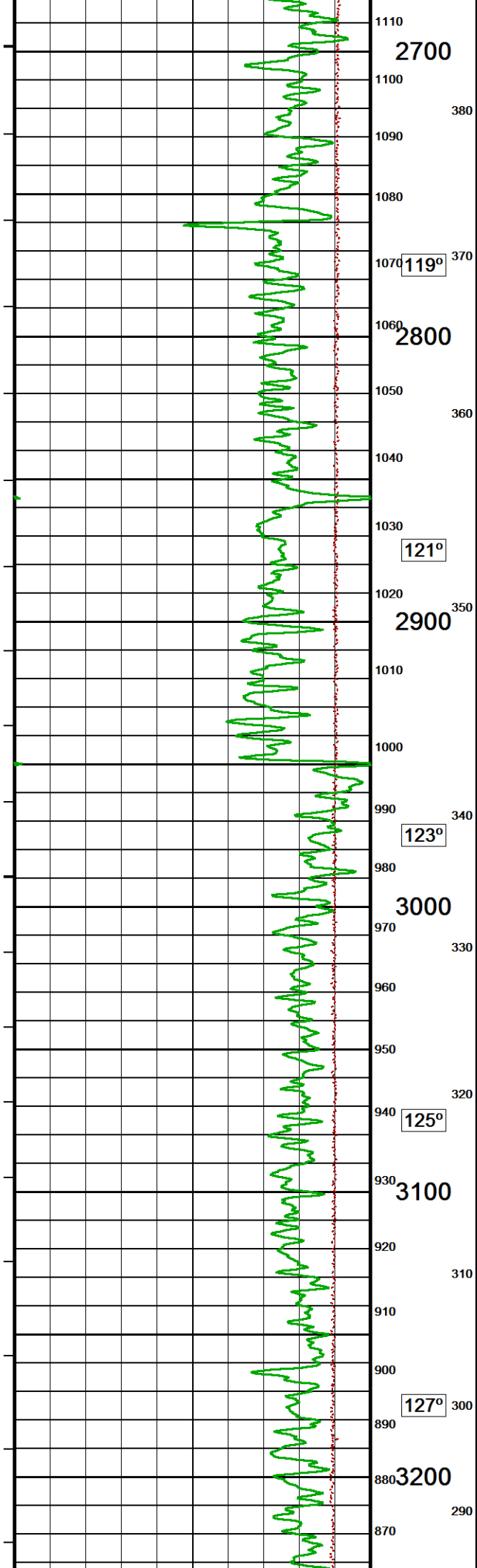


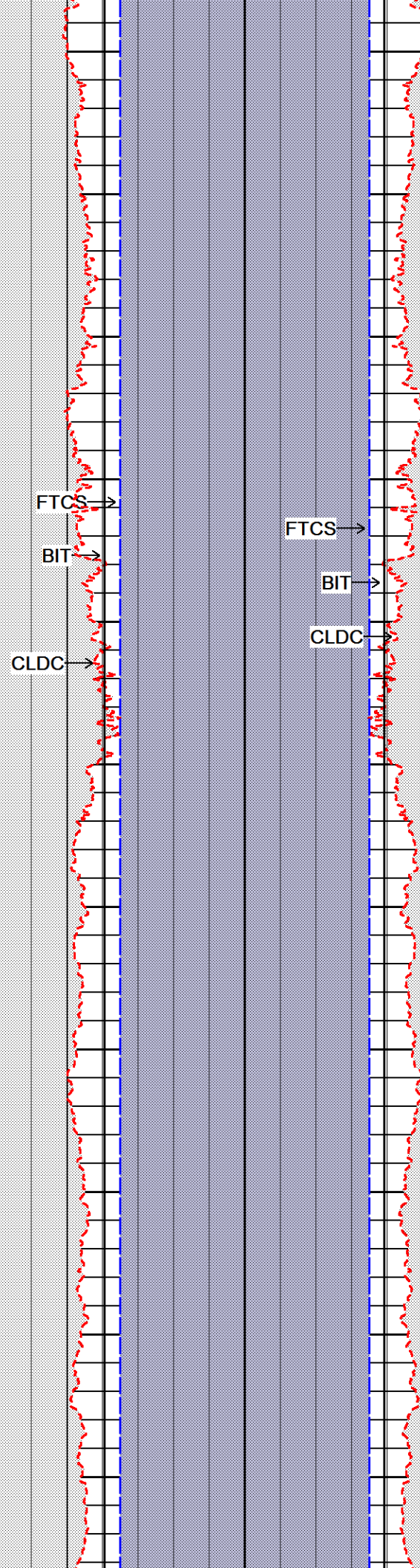
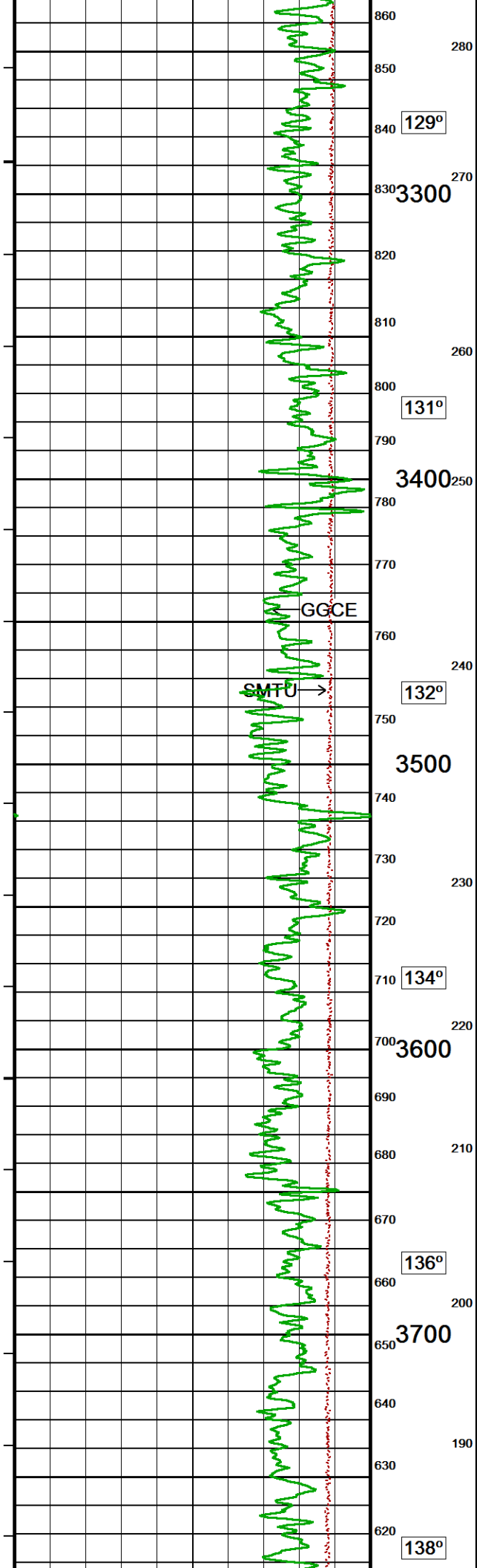




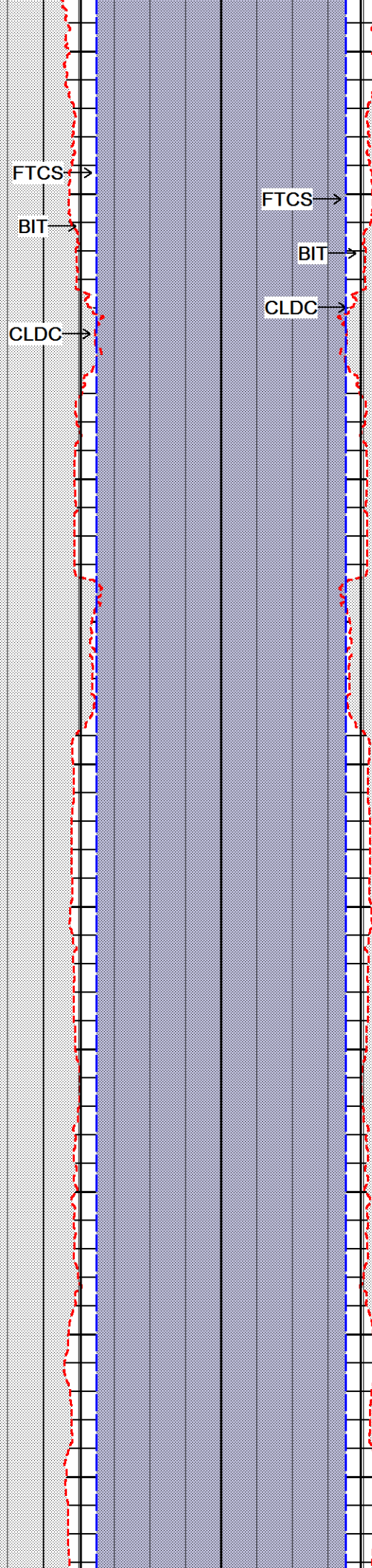
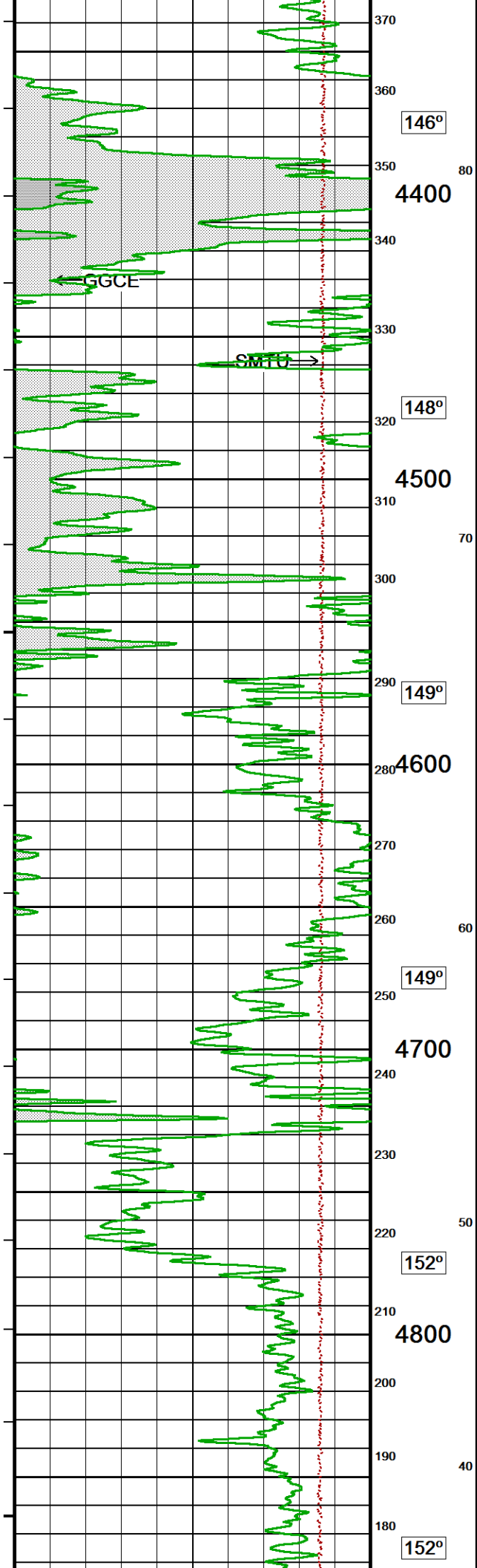


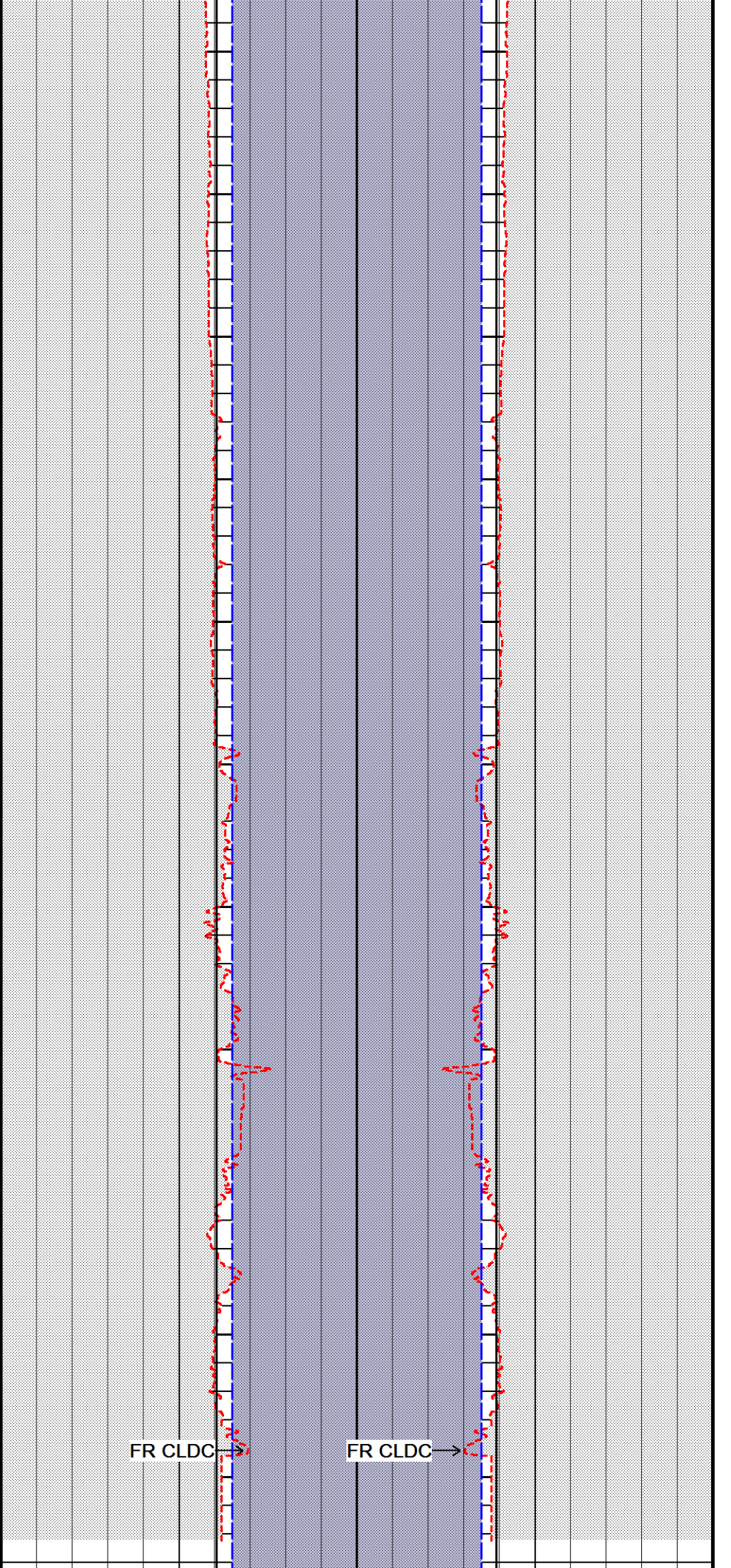
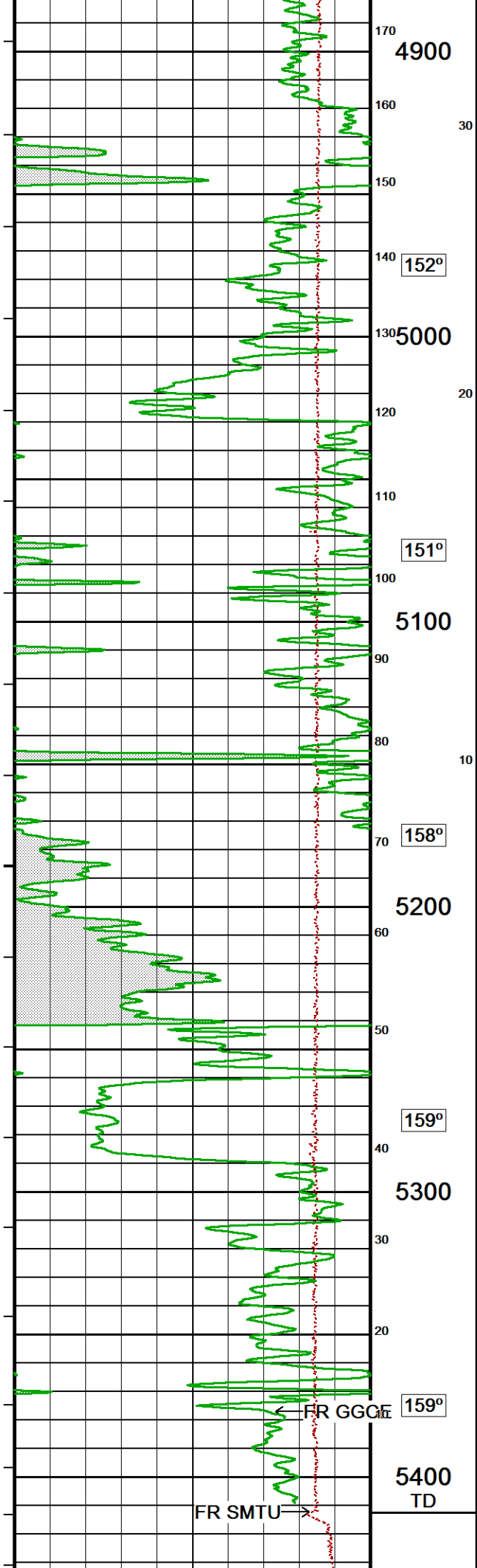


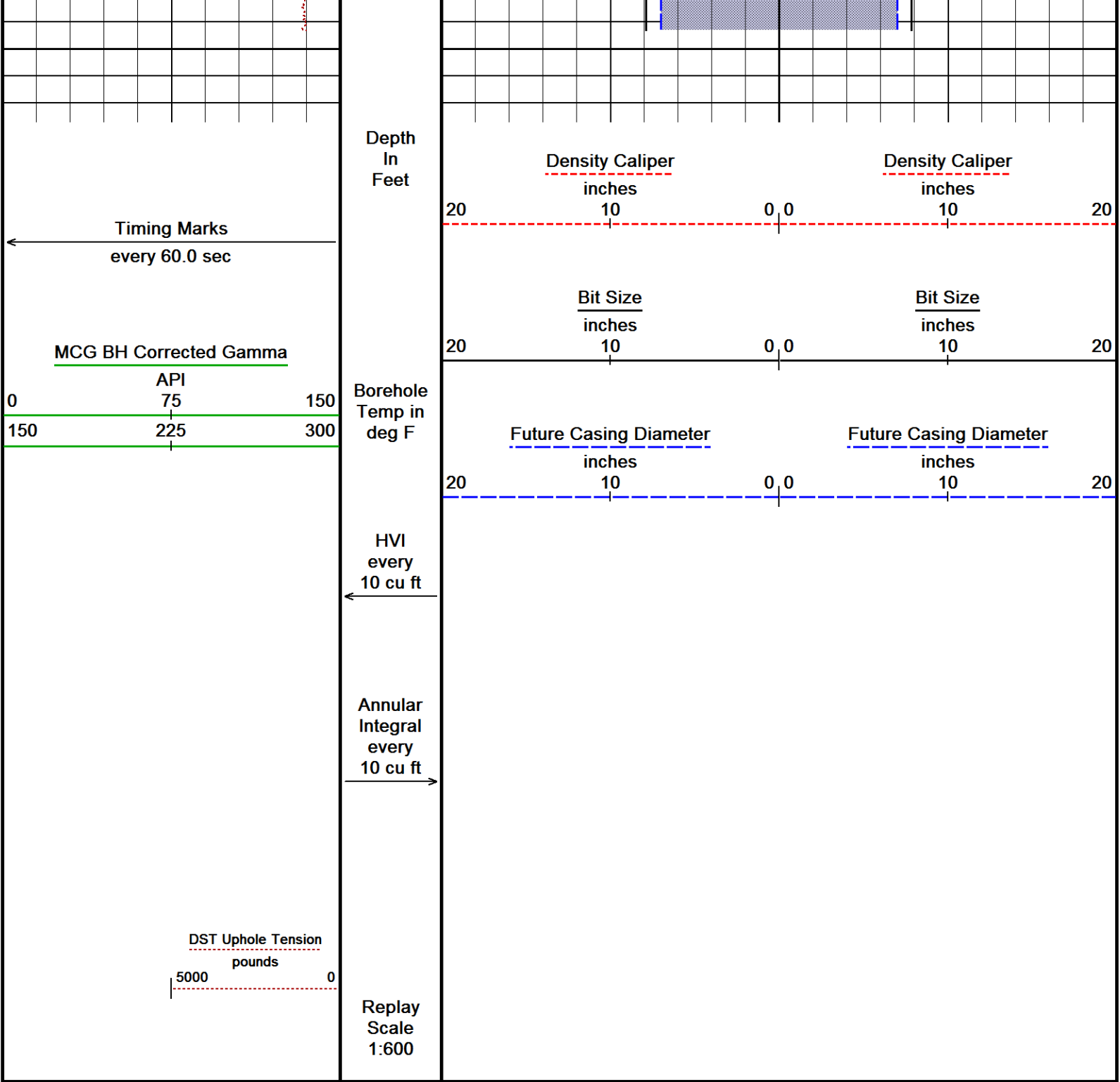












Depth Based Data - Maximum Sampling Increment 10.0cm  
Filename: C:\Minimus 17.03.9609\DATA\ECGS\MAIN-1.dta  
System Versions: Logged with 17.03.9609 Processed with 17.03.9609 Plotted with 17.03.9609  
Plotted on 18-NOV-2017 22:44  
Recorded on 18-NOV-2017 18:46

MAIN PASS 1:600

BEFORE SURVEY CALIBRATION			C:\Minimus 17.03.9609\DATA\ECGS\MAIN-1.dta
General Constants All 000			Last Edited on 18-NOV-2017,18:17
General Parameters			
Mud Resistivity	0.110	ohm-metres	
Mud Resistivity Temperature	85.000	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	7.000	inches
Caliper for Differential Caliper	Density Caliper	

Rwa Parameters	
Porosity used	Crossplot Porosity
Resistivity used	Array Ind. One Res Rt
RWA Constant A	0.620
RWA Constant M	2.150
SW/APOR Tool Source	0.000

### High Resolution Temperature Calibration MCG-D.K 475

Field Calibration on 15-NOV-2017,10:29

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	200.00	200.00

### High Resolution Temperature Constants MCG-D.K 475

Last Edited on 11-MAY-2016 11:23

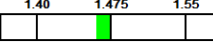
Pre-filter Length 11

### Gamma Calibration MCG-D.K 475

Field Calibration on 15-NOV-2017 10:41

	Measured	Calibrated (API)
Background	40	27
Calibrator (Gross)	1880	1288
Calibrator (Net)	1841	1261

### Gamma Calibration Tolerances MCG-D.K 475

Ratio 1.460  Counts/API

The bar shows a scale from 1.40 to 1.55. The value 1.460 is marked, and the bar is green.

### Gamma Constants MCG-D.K 475

Last Edited on 18-NOV-2017,18:13

Gamma Calibrator Number	GRC.C 46	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.10	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Potassium Equivalence	Chloride	
K Mud Concentration	0.00	%

### Caliper Calibration MPD-B 120

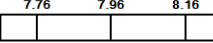
Base Calibration on 19-OCT-2017 14:24

Field Calibration on 15-NOV-2017 10:22

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	16976	4.00
2	25701	5.96
3	34368	7.96
4	42681	9.86
5	51811	11.88
6	N/A	N/A

Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	7.96	7.96

### Caliper Calibration Tolerances MPD-B 120

Short Arm Field Cal. 7.96  in

The bar shows a scale from 7.76 to 8.16. The value 7.96 is marked, and the bar is green.

## DOWNHOLE EQUIPMENT

C:\Minimus 17.03.9609\DATA\ECGS\MAIN-1.dta

11B Tension Cablehead  
MCB-A 1 LG: 2.18 ft WT: 19.8 lb OD: 2.244 in



Compact Swivel Head Adaptor  
SHA-J.A 438 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

Compact Comms Gamma  
MCG-D.K 475 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

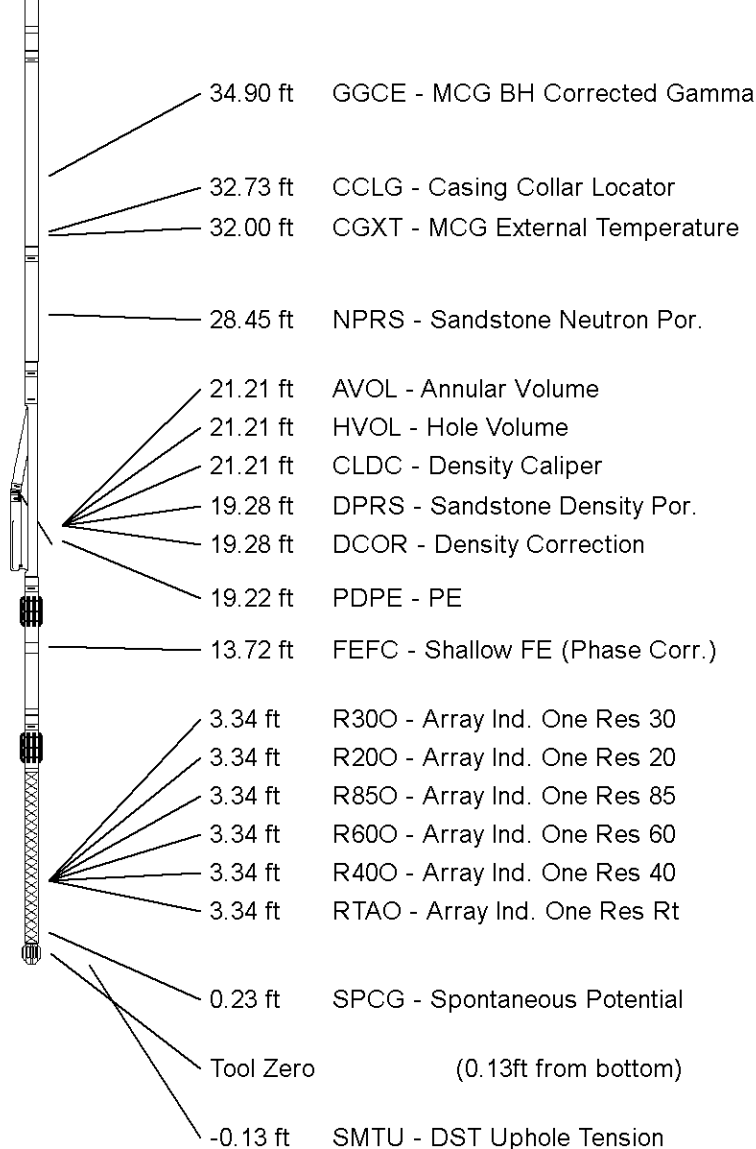
Compact Neutron  
MDN-B.J 388 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper  
MPD-B 120 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric  
MFE-B.A 261 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction  
MAI-B.J 426 LG: 10.81 ft WT: 48.5 lb OD: 2.240 in

Total Length: 44.67 ft Weight: 343.9 lb



All measurements relative to tool zero.

COMPANY	EAST CHEYENNE GAS STORAGE, LLC
WELL	LC-M005 ROPER 1
FIELD	WEST PEETZ
PROVINCE/COUNTY	LOGAN
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	4606	feet	First Reading	5390.00	feet
Elevation Drill Floor	4606	feet	Depth Driller	5412.00	feet
Elevation Ground Level	4596	feet	Depth Logger	5412.70	feet



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CALIPER LOG