



**Weatherford®**

**CALIPER LOG**

**COMPANY** WHITING OIL AND GAS CORPORATION

**WELL** RAZOR 26-2306B

**FIELD** REDTAIL

**PROVINCE/COUNTY** WELD

**COUNTRY/STATE** U.S.A. / COLORADO

**LOCATION** SHL: 2373' FSL & 1948' FWL

**SEC** TWP RGE Other Services

26 10N 58W

**API Number** 05-123-37878

**Permit Number**

**Permanent Datum G.L., Elevation 4737 feet**

**Log Measured From** KB

**Drilling Measured From** KB

**Elevations:**  
KB 4759.50  
DF 4759.50  
GL 4737.00

Date	22-JAN-2014
Run Number	1
Service Order	3795-77499695
Depth Driller	13220.00 feet
Depth Logger	12661.00 feet
First Reading	12591.00 feet
Last Reading	6087.00 feet
Casing Driller	6088.00 feet
Casing Logger	6087.00 feet
Bit Size	6.000 inches
Hole Fluid Type	WATER BASED
Density / Viscosity	10.50 g/cc 45.00 CP
PH / Fluid Loss	9.80 19.00 ml/30Min
Sample Source	MUD PIT
Rm @ Measured Temp	1.30 @ 56.0 ohm-m
Rmf @ Measured Temp	0.98 @ 56.0 ohm-m
Rmc @ Measured Temp	1.63 @ 56.0 ohm-m
Source Rmf / Rmc	CALC CALC
Rm @ BHT	0.35 @ 216.0 ohm-m
Time Since Circulation	1 HOUR
Max Recorded Temp	216.00 deg F
Equipment / Base	18004 S.A.
Recorded By	MICHAEL RYAN
Witnessed By	PETER BUCKNAM
	RIG: FRONTIER 26

**REMARKS**

LOGGED USING 13.04.8723

ANNULAR VOLUME CALCULATED WITH 4.5 INCH CASING.

POROSITY CALCULATED USING SANDSTONE MATRIX (2.71 gm/cc).

WELL WAS LOGGED WITH THE COMPACT WELL SHUTTLE SYSTEM.

LOG INTERVALS FROM TD - CASING SHOE AS PER CUSTOMER REQUESTED

DEPTH WAS RECORDED WITH THE WEATHERFORD PASON AQUISITION SYSTEM.

THE DEPTH WAS CORRECTED TO THE DRILLERS STRAP.

HARDWARE: SEE THE TOOL DIAGRAM.

LAT: 40.808886 LON: -103.834644

BIT DEPTH DURING DEPLOYMENT 12,490 FT

TOOL DEPTH AFTER DEPLOYMENT 12,597 FT

THANK YOU FOR USING "WEATHERFORD".

**BOREHOLE RECORD**

Last Edited: 22-JAN-2014 20:36

Bit Size inches	Depth From feet	Depth To feet
6.000	6088.00	13385.00

# CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
	7.000	0.00	6087.00	24.00

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

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CWS MEMORY LOG DSC

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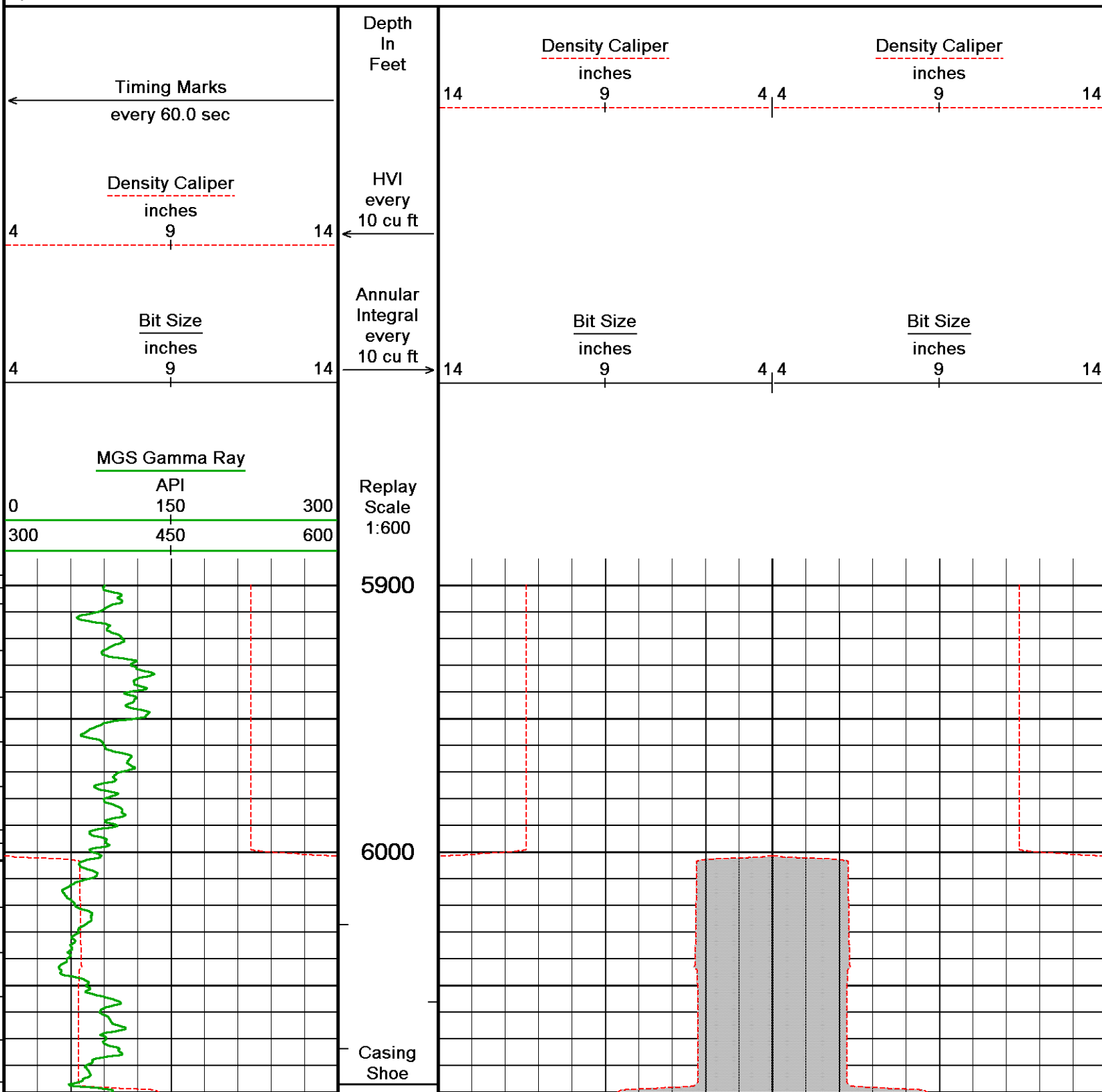
Depth Based Data - Maximum Sampling Increment 10.0cm

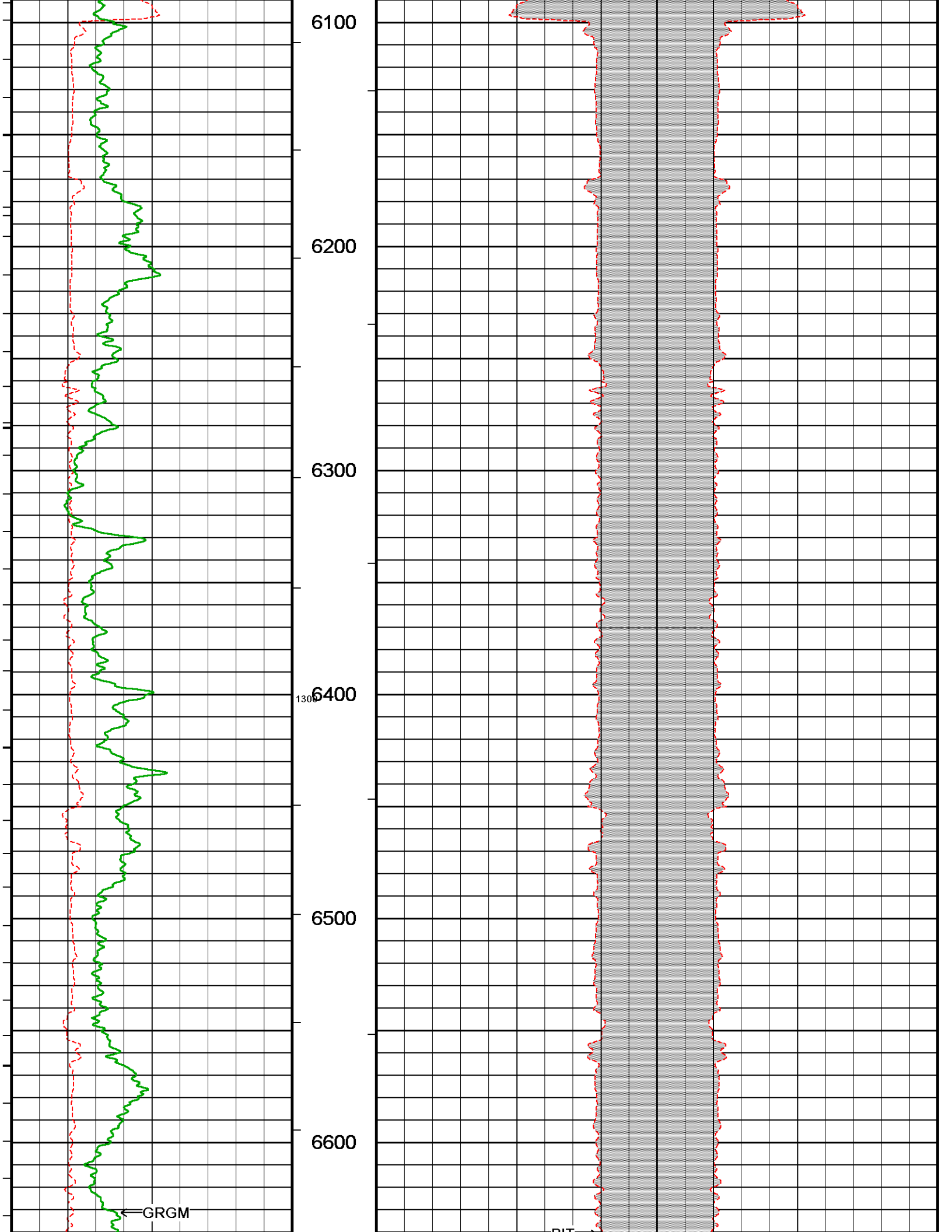
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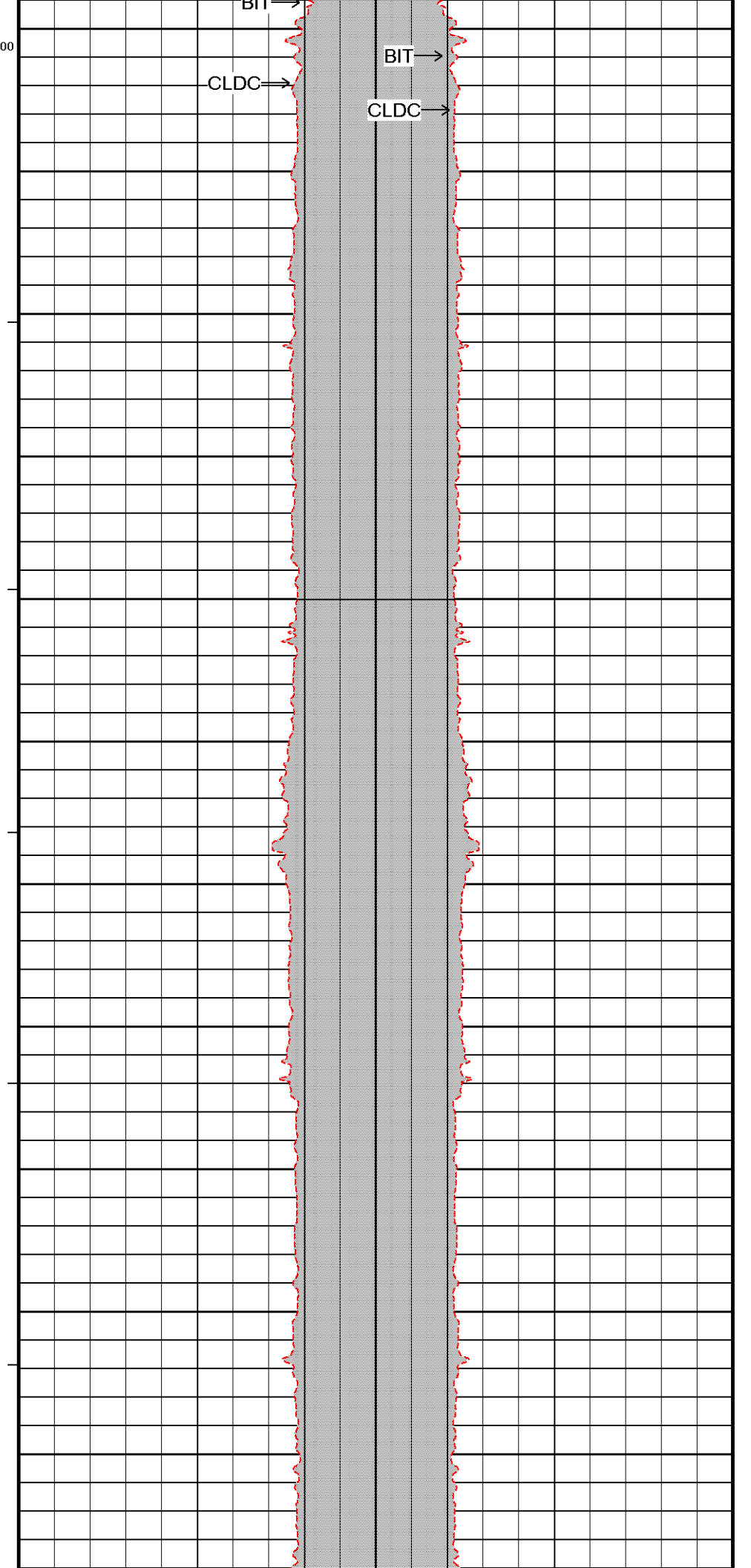
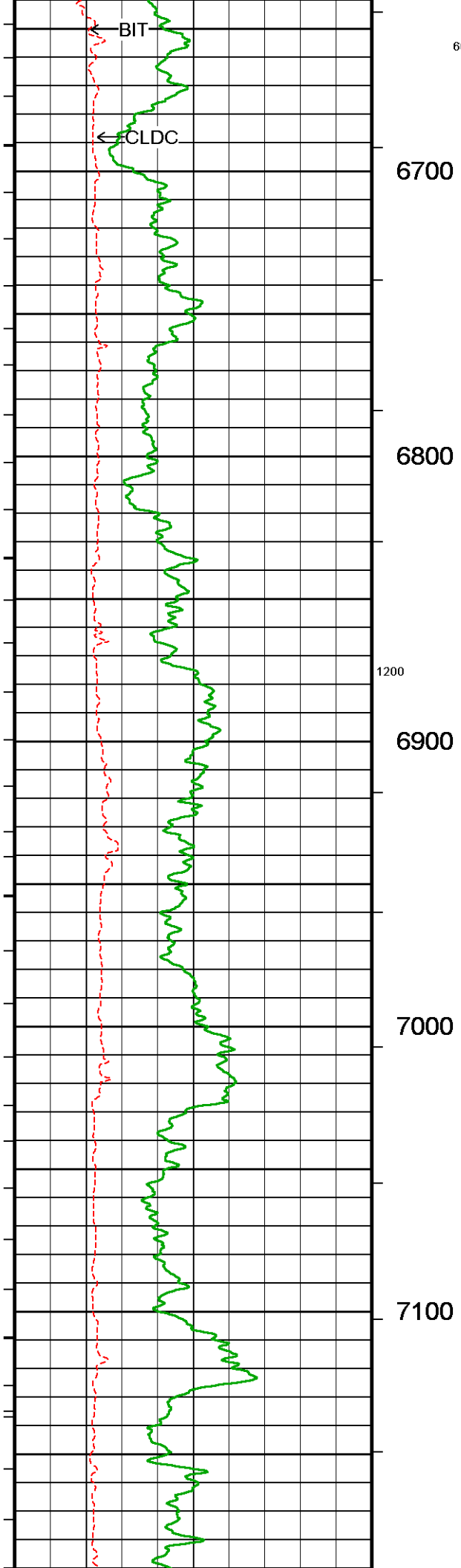
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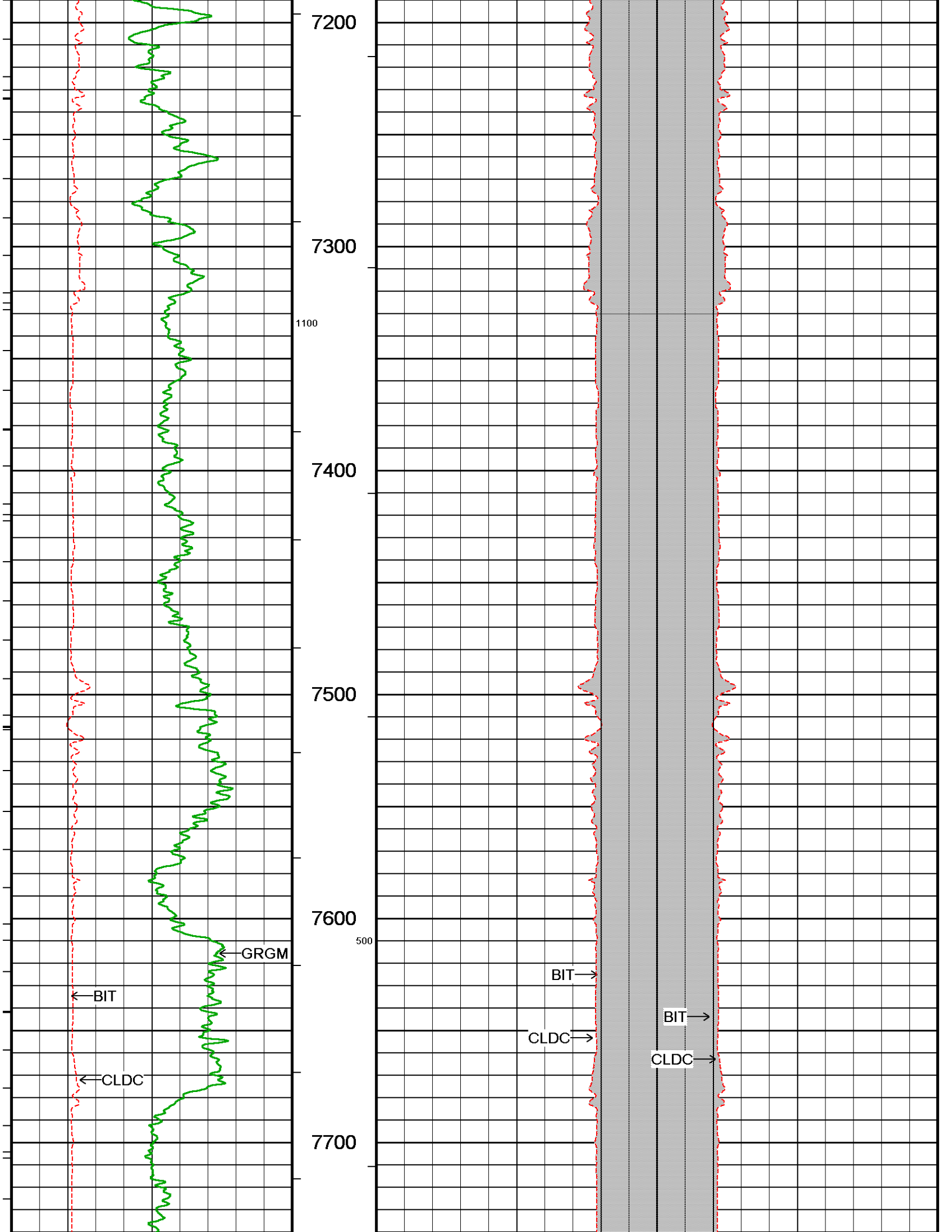
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System Versions: Processed with 13.04.8723 Plotted with 13.04.8723

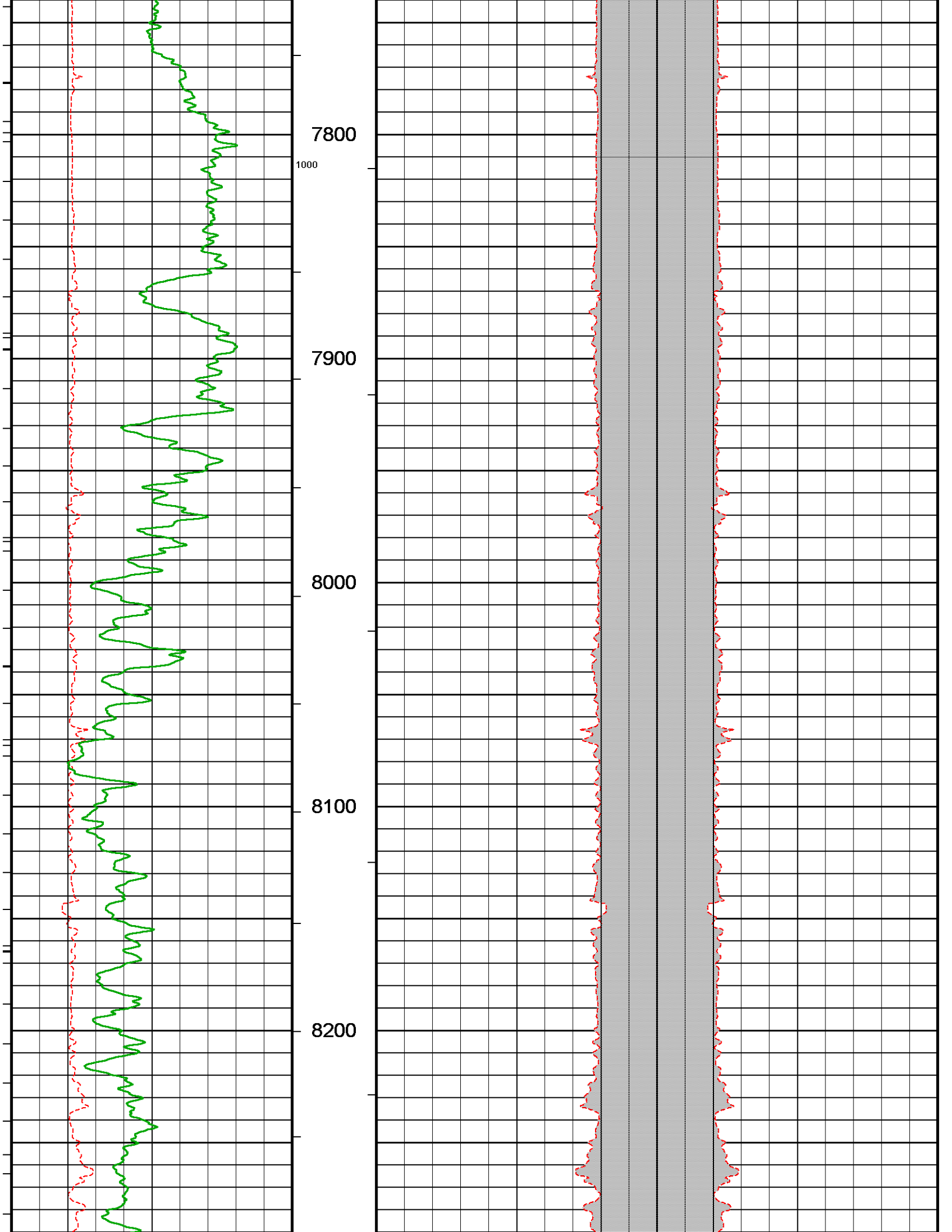


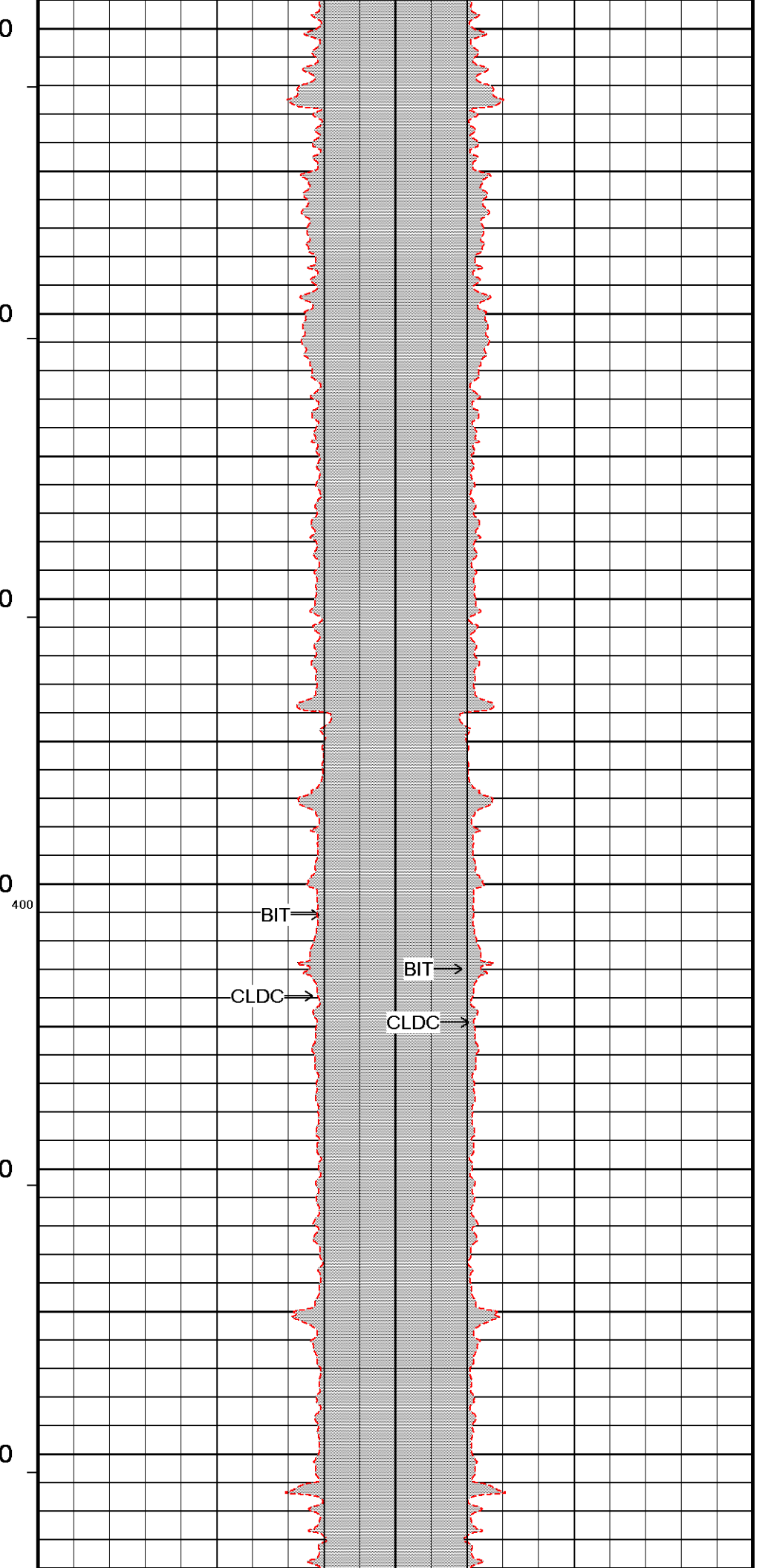
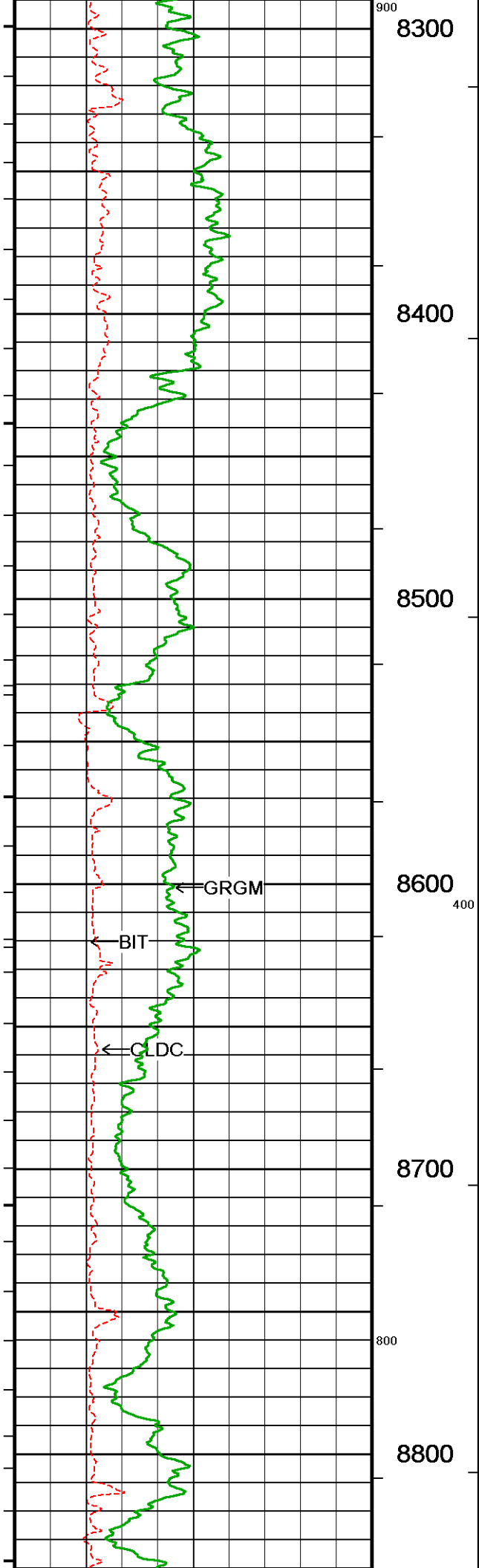


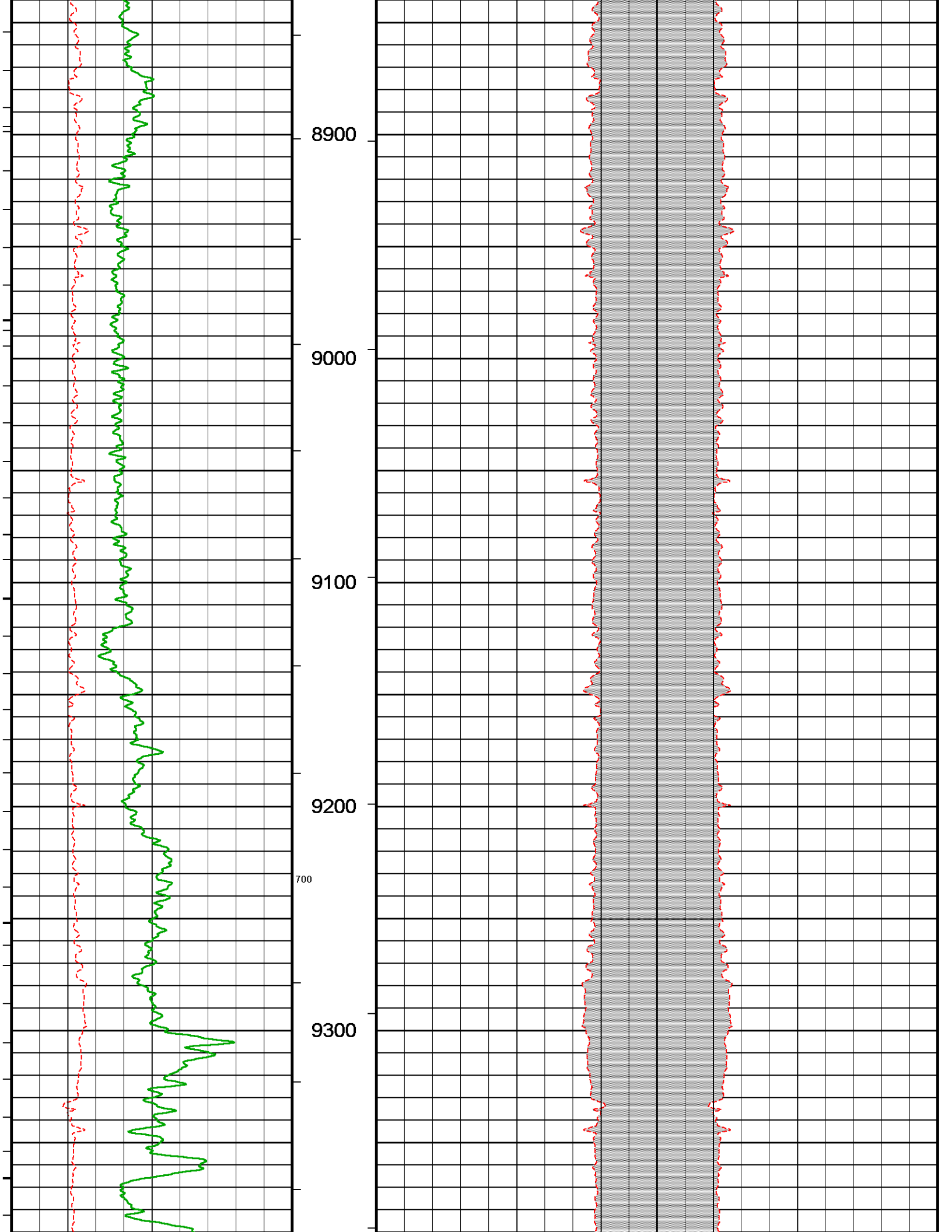




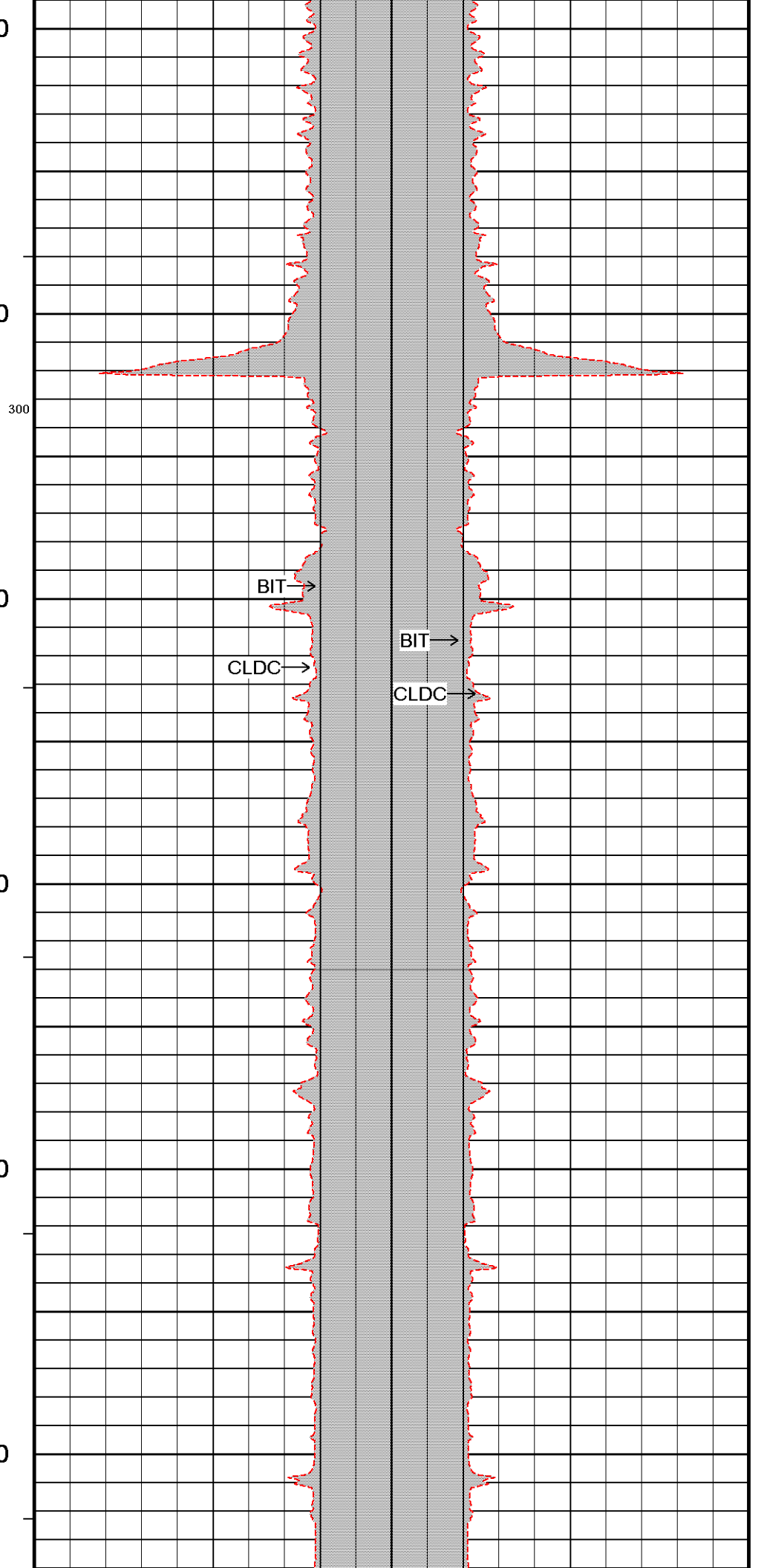
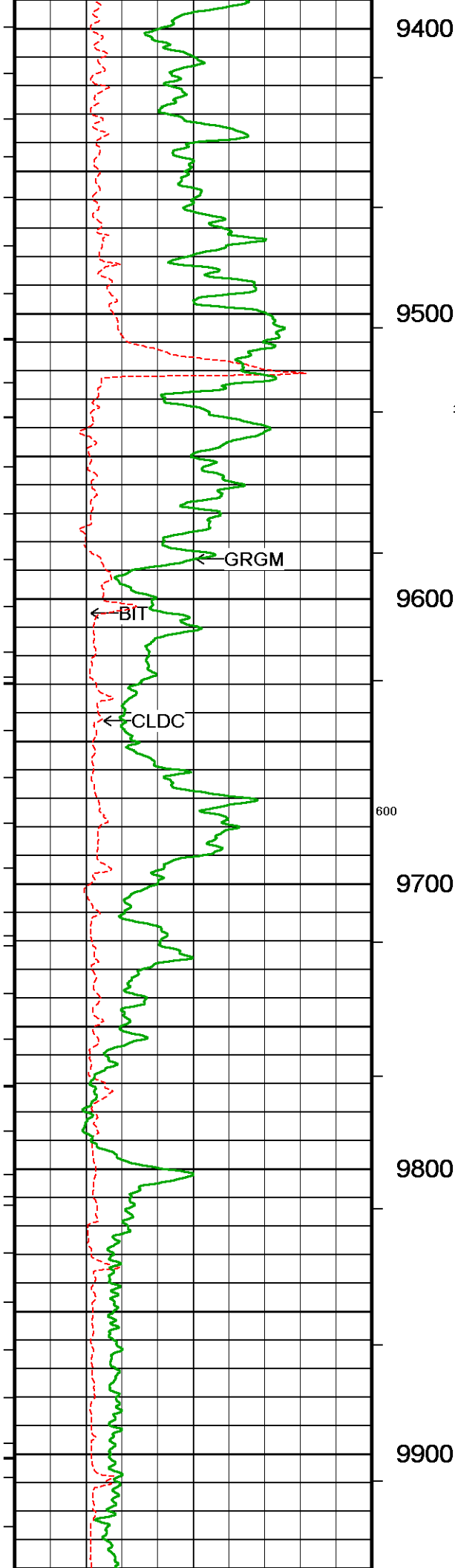


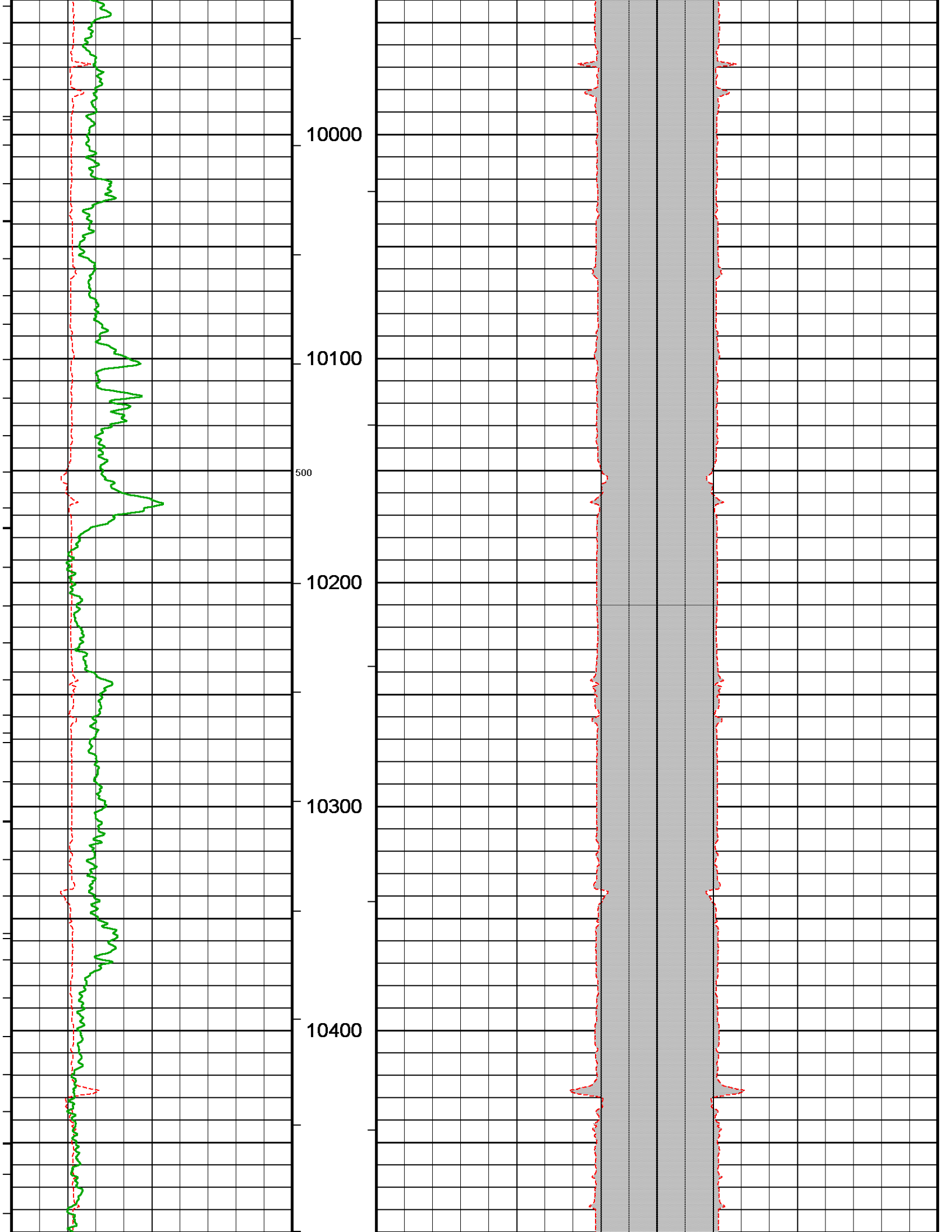


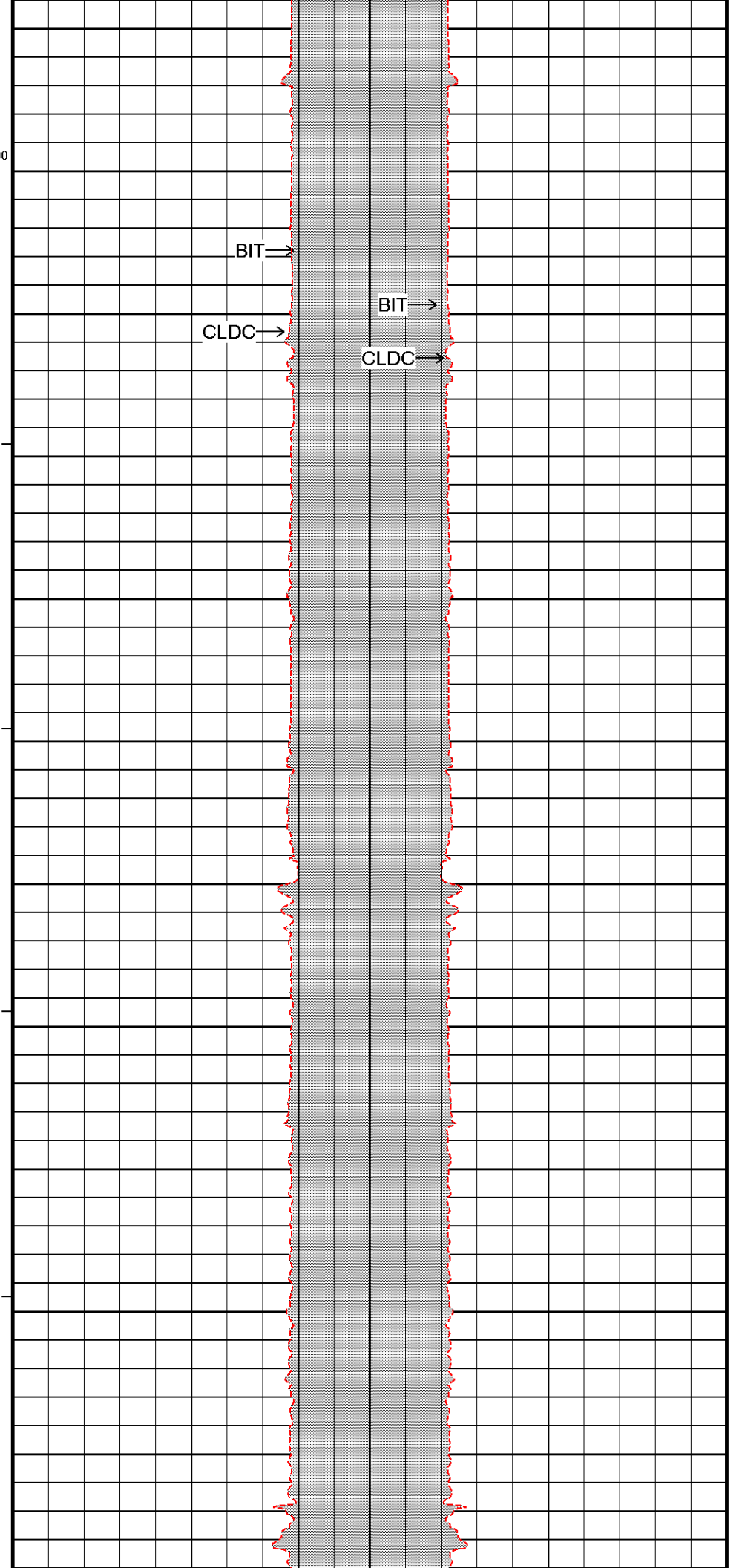
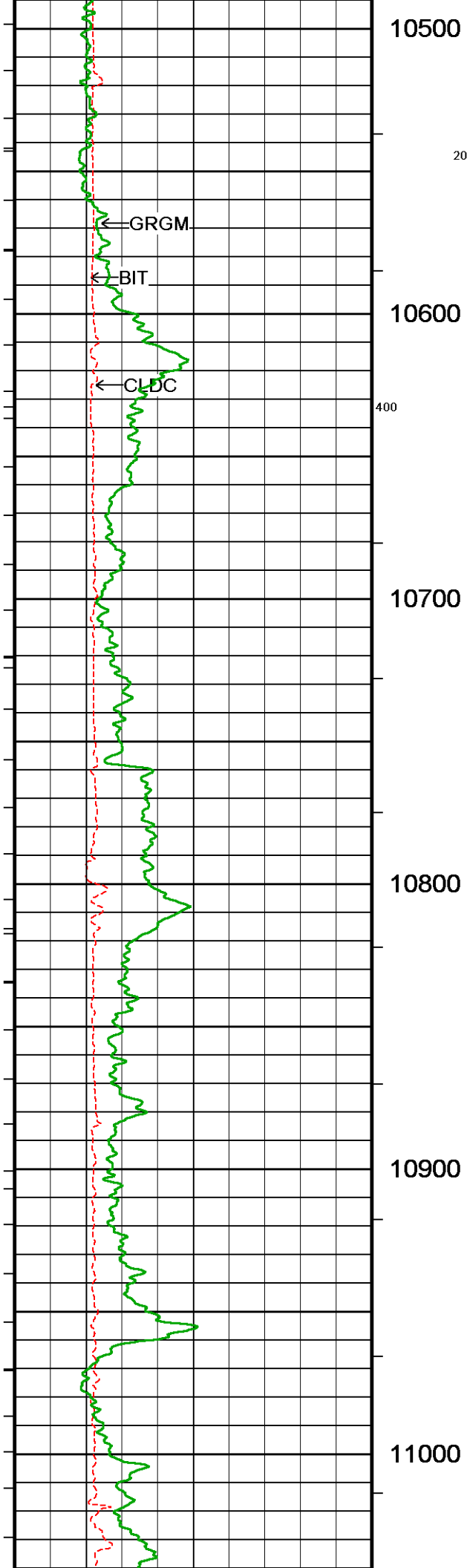


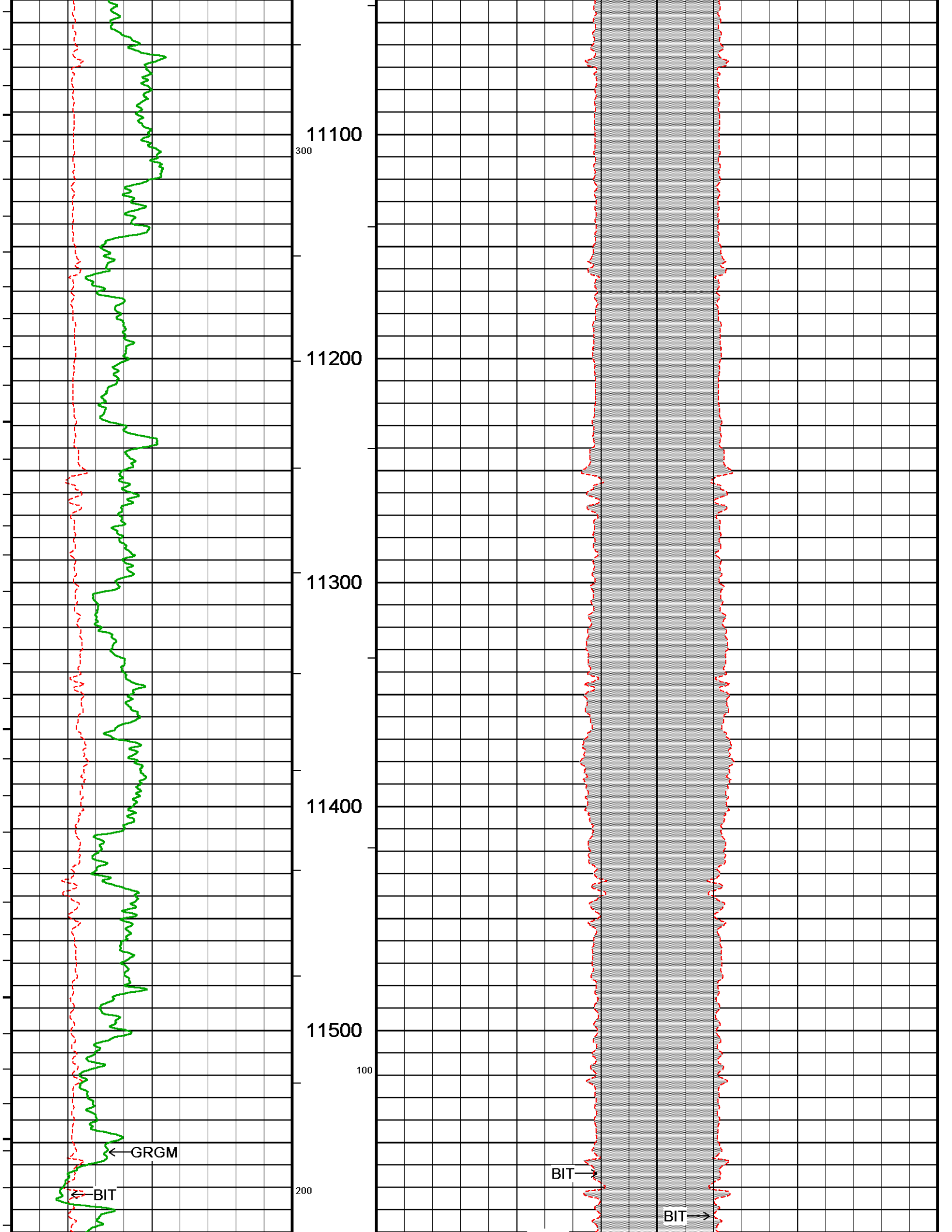




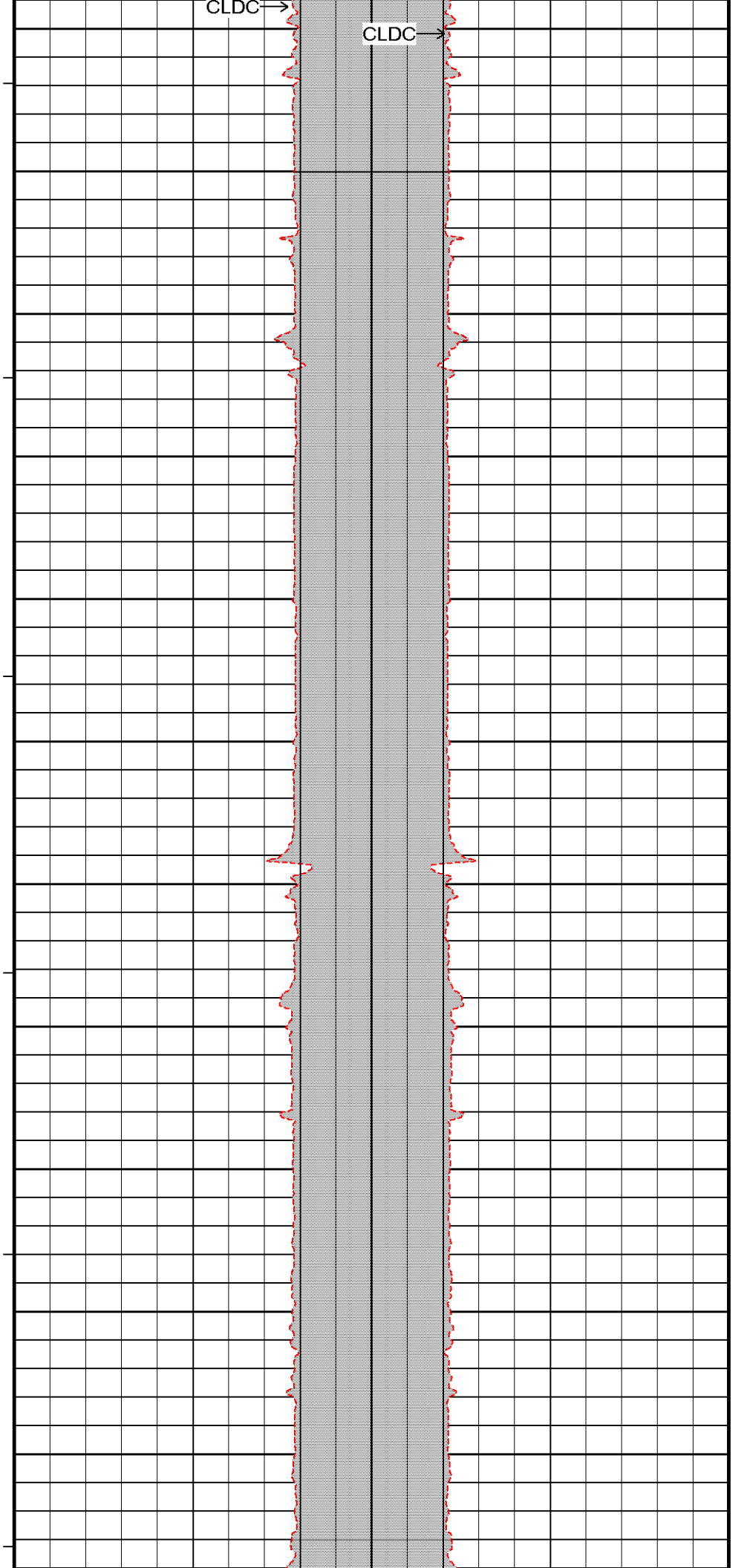
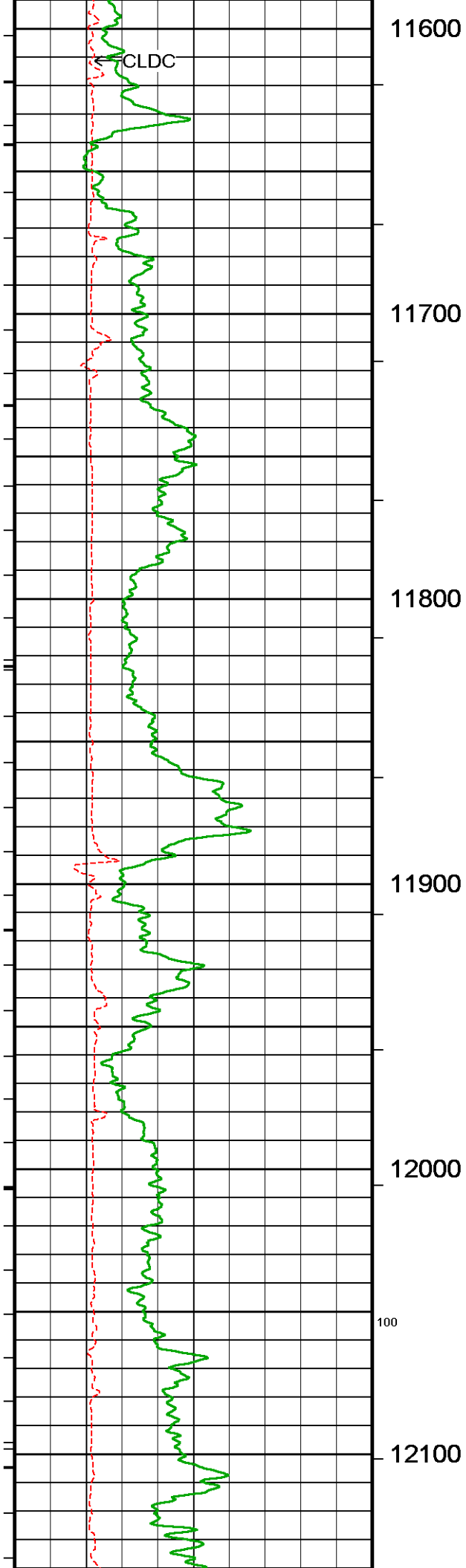




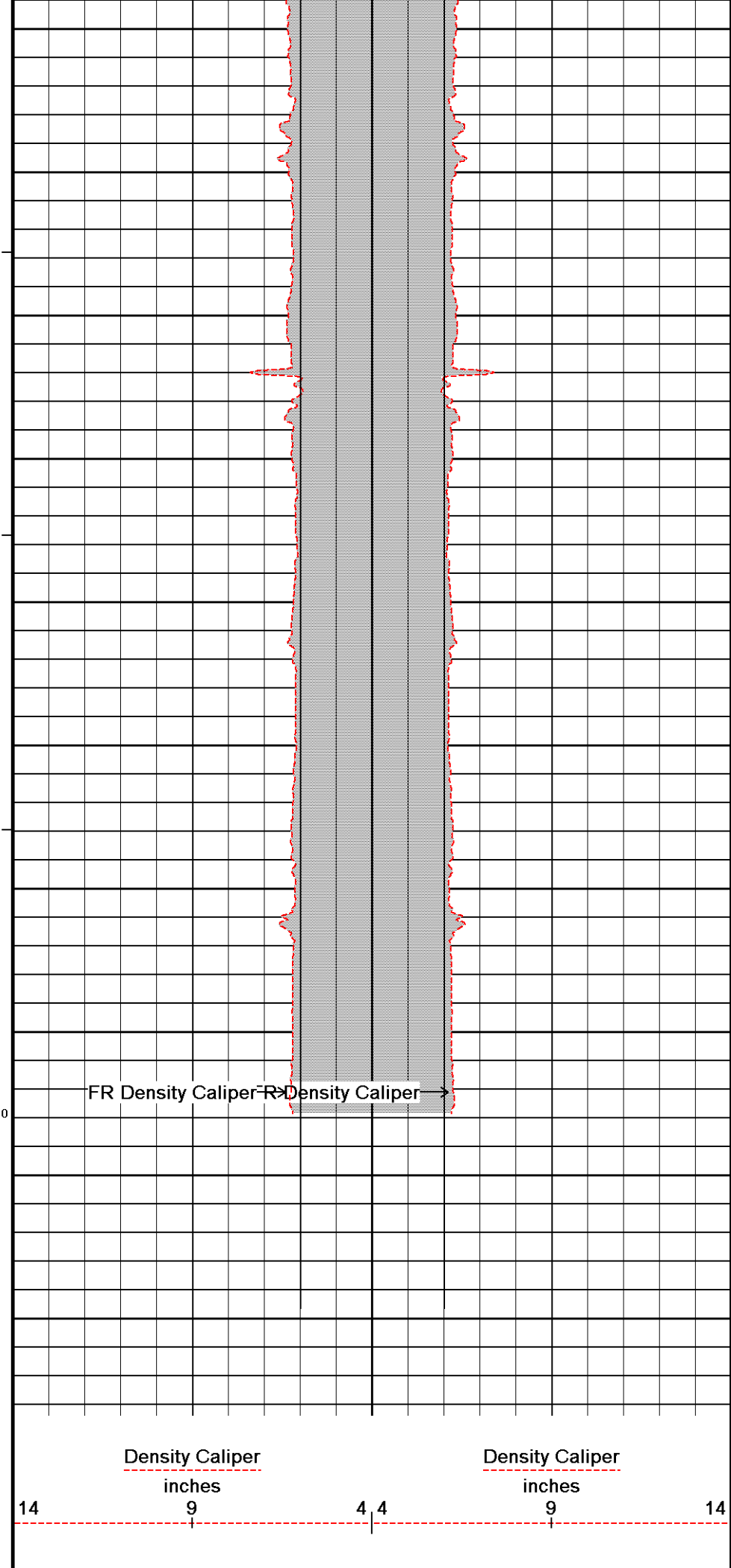
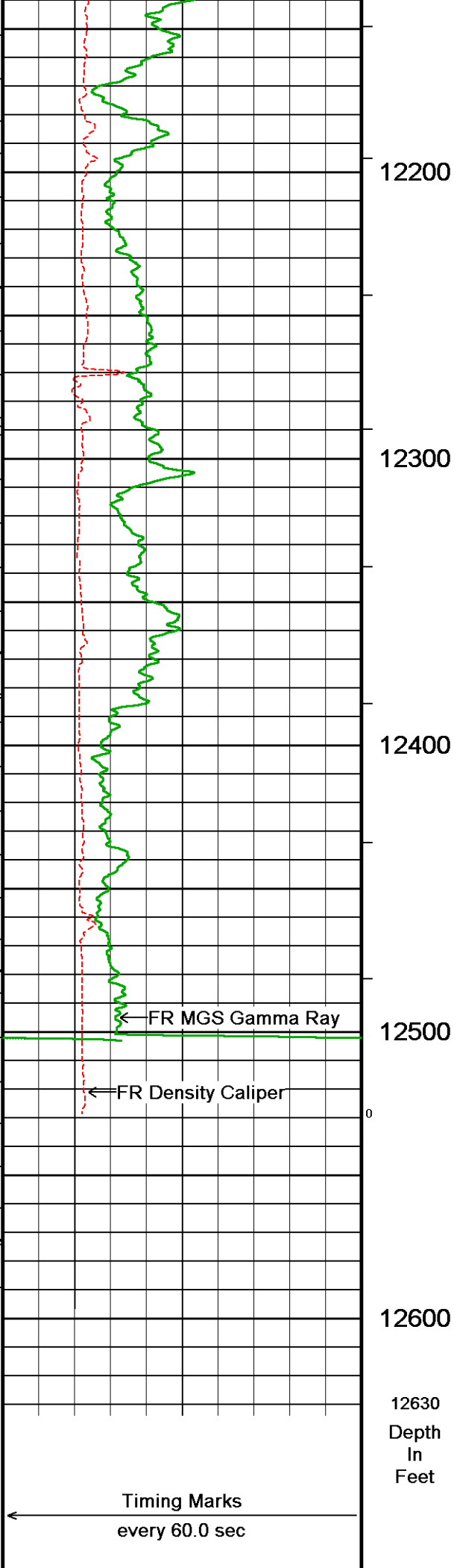


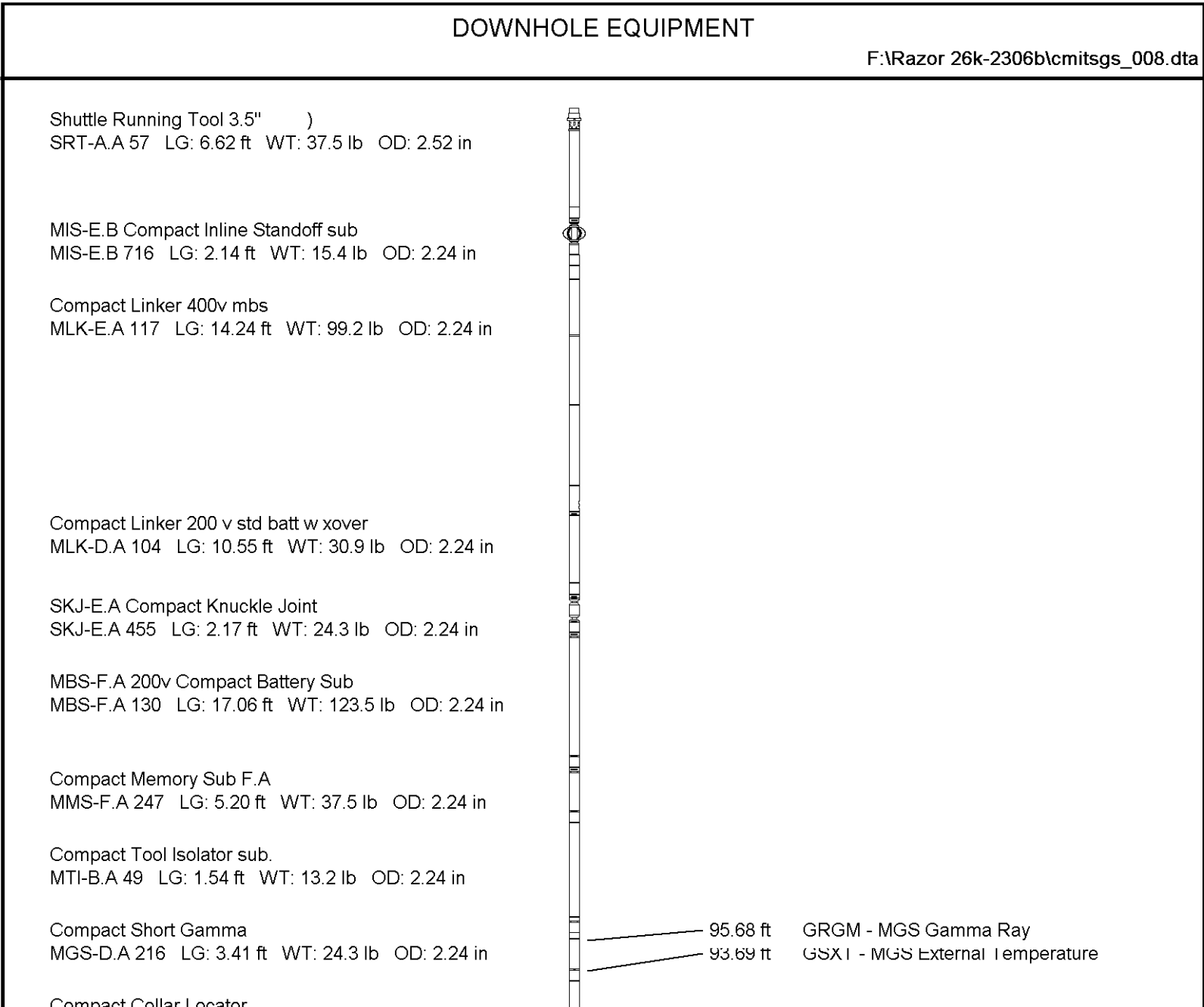
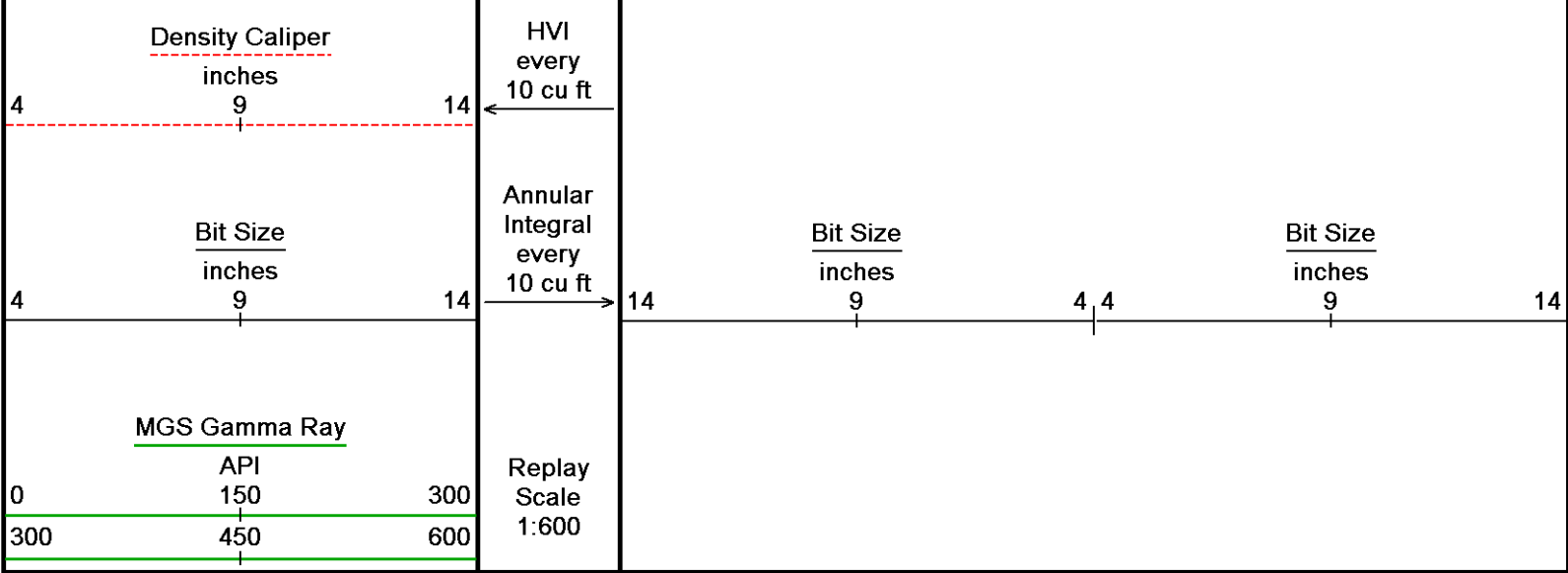












Compact Conal Locator  
MCL-C.A 121 LG: 3.17 ft WT: 26.5 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint  
SKJ-E.B 581 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.B Compact Swivel Head Adaptor  
SHA-J.B 582 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub  
MIS-D.B 722 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron  
MDN-C.A 399 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper  
MPD-D.A 410 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub  
MIS-D.B 720 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.B Compact Swivel Head Adaptor  
SHA-J.B 549 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint  
SKJ-E.B 580 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-E.B Compact Inline Standoff sub  
MIS-E.B 718 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint  
SKJ-E.B 579 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-D.A Compact Inline Bowspring sub  
MIS-D.A 721 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact MMI Memory Section  
MIM-A.A 152 LG: 4.65 ft WT: 26.5 lb OD: 2.24 in

Compact MMI Electrode Section  
MIE-A.A 152 LG: 13.96 ft WT: 99.2 lb OD: 4.09 in

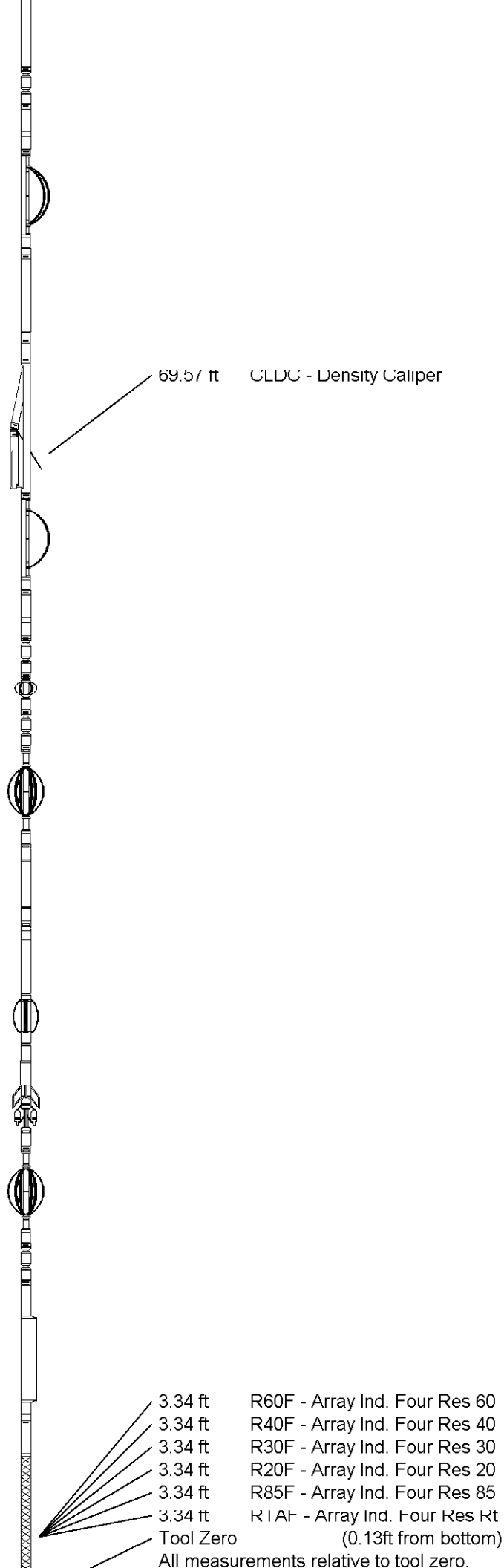
MIS-D.A Compact Inline Bowspring sub  
MIS-D.A 324 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SKJ-E.A Compact Knuckle Joint  
SKJ-E.A 474 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Spectral Gamma Ray Sub  
SGS-E.J 128 LG: 7.78 ft WT: 105.8 lb OD: 3.54 in

Compact Induction  
MAI-C.A 401 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 156.11 ft Weight: 1142.0 lb





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WELL	RAZOR 26-2306B
FIELD	REDTAIL
PROVINCE/COUNTY	WELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	4759.50	feet	First Reading		feet
Elevation Drill Floor	4759.50	feet	Depth Driller	13220.00	feet
Elevation Ground Level	4737.00	feet	Depth Logger	12661.00	feet

  
**Weatherford**<sup>®</sup>

CALIPER LOG