

**CCL VDL
GAMMA RAY
CEMENT BOND LOG**

Company	NOBLE	Well	GUTTERSEN D03-27	Field	WATTENBERG	County	WELD	State	COLORADO
Location:	LAT: 40.262169 LONG: -104.532398			API #: 5-123-30074		Other Services N/A			
Permanent Datum	GL	Elevation	4696'	Elevation					
Log Measured From	KB			K.B: 4709'					
Drilling Measured From	KB			D.F: 4708'					
				G.L: 4696'					

Date	8/24/20
Run Number	ONE
Depth Driller	7018'
Depth Logger	700'
Bottom Logged Interval	700'
Top Log Interval	SURFACE
Open Hole Size	7.875"
Type Fluid	H2O
Density / Viscosity	N/A
Max. Recorded Temp.	N/A
Estimated Cement Top	N/A
Time Well Ready	12PM
Time Logger on Bottom	12:50PM
Equipment Number	453
Location	EATON, CO
Recorded By	T. KASPER
Witnessed By	M. ABBOTT

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record							
Surface String		8.625"		24#		SURFACE	650'
Prot. String							
Production String		4.5"		11.6#		SURFACE	6997'
Liner							

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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 interpretation, and we shall not, except in the case of gross or willful 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 set out in our current Price Schedule.

Comments

LOG RAN PER CUSTOMER REQUEST
ZERO PRESSURE APPLIED

LOG RAN FROM 700' TO SURFACE

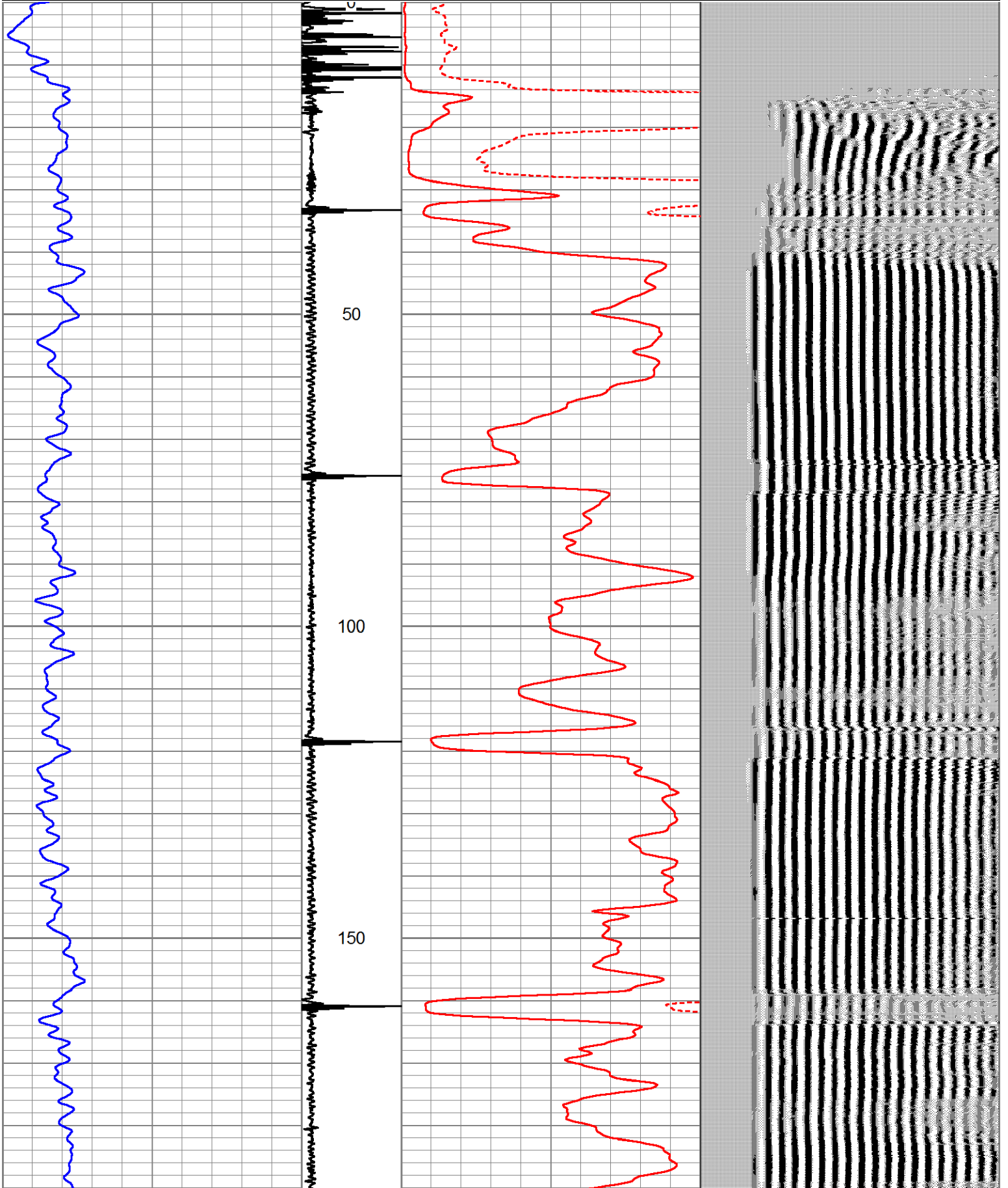
THANK YOU FOR USING A-PLUS WELL SERVICES

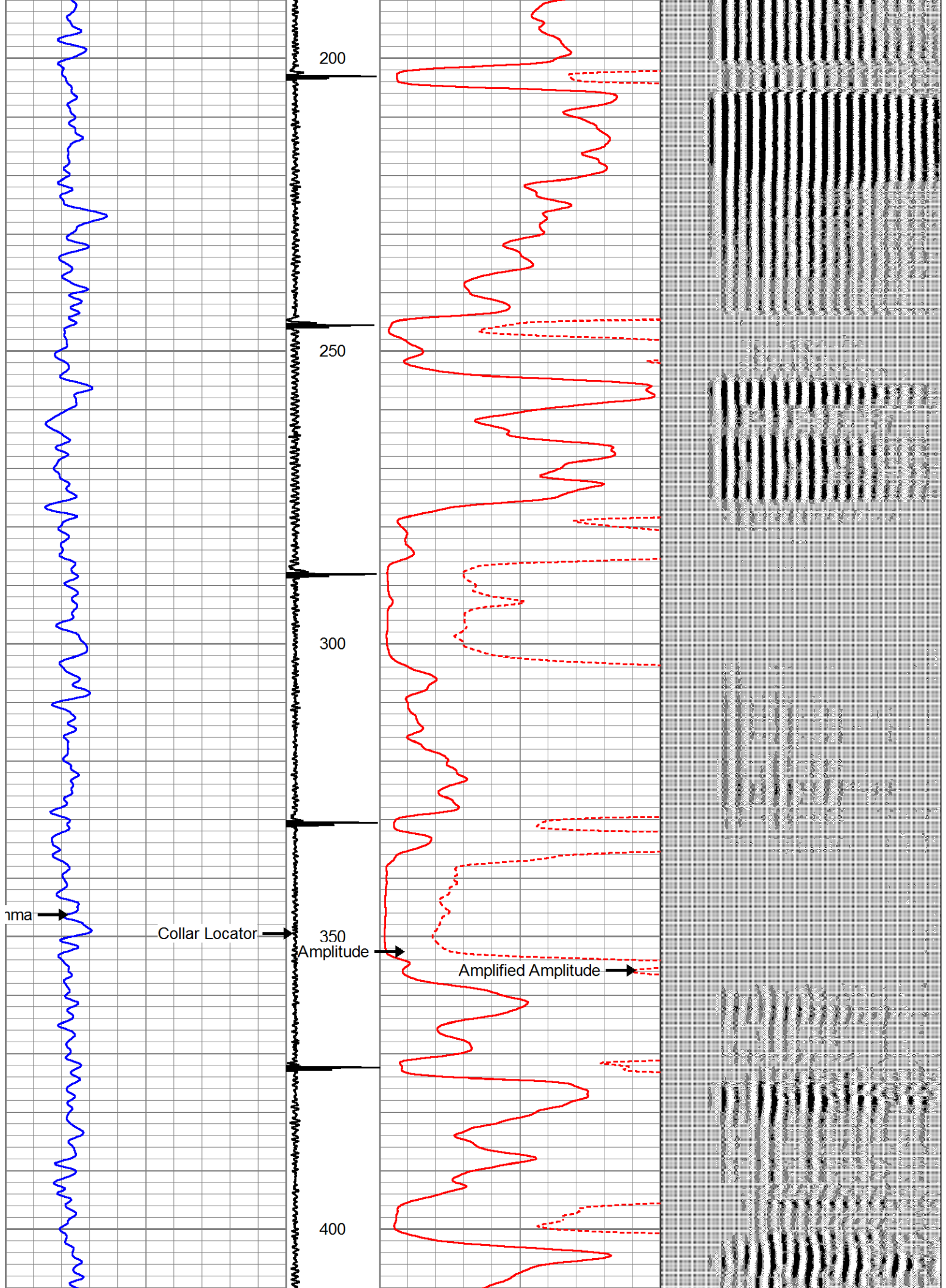


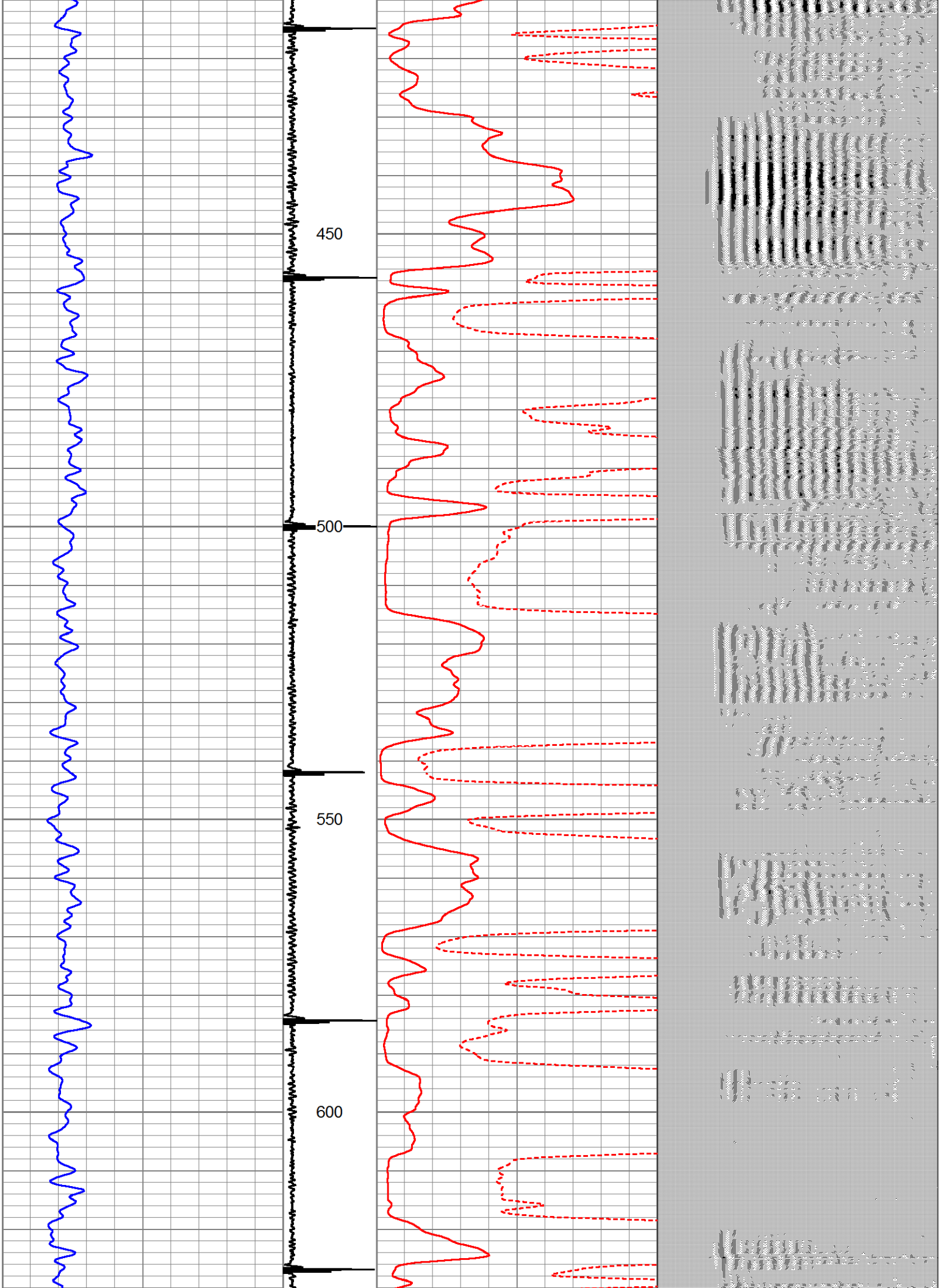
MAIN PASS

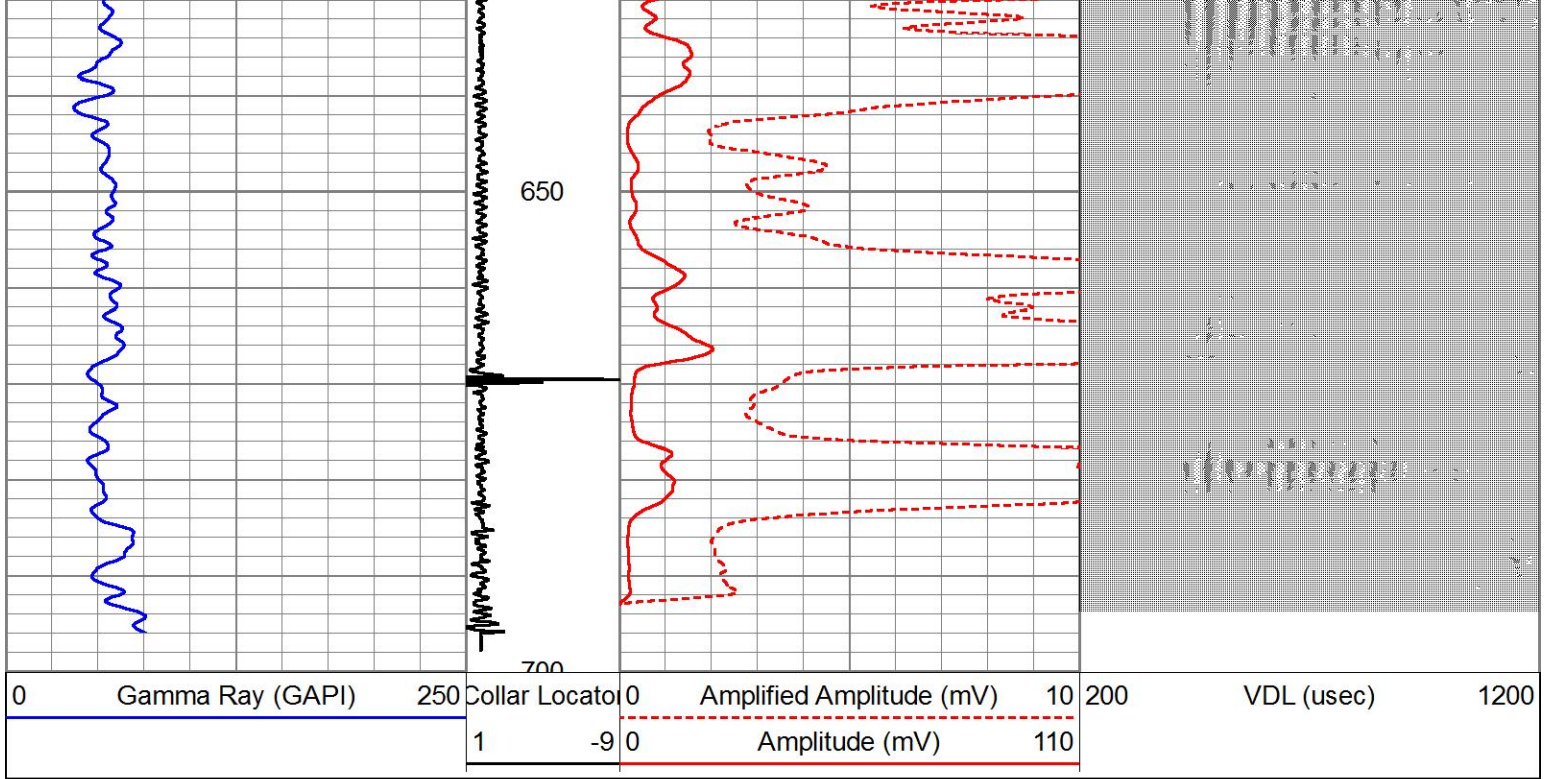
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 Dataset Pathname WATTENBERG/GUTTERSEN_D03-27/run1/pass8
 Presentation Format noble cbl pres
 Dataset Creation Mon Aug 24 12:56:39 2020
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	250	Collar Locato	0	Amplified Amplitude (mV)	10	200	VDL (usec)	1200
			1	-9	0	Amplitude (mV)	110		



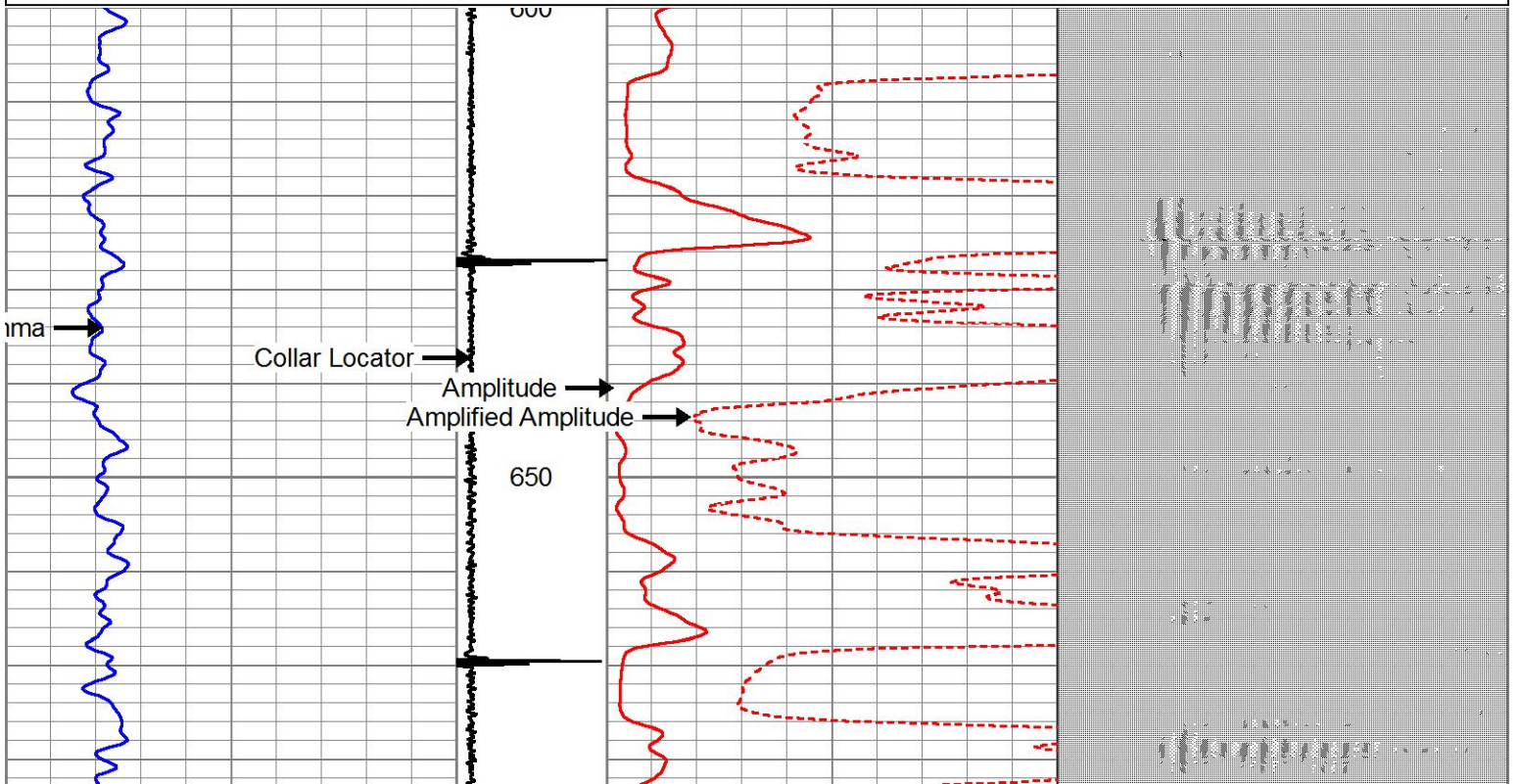
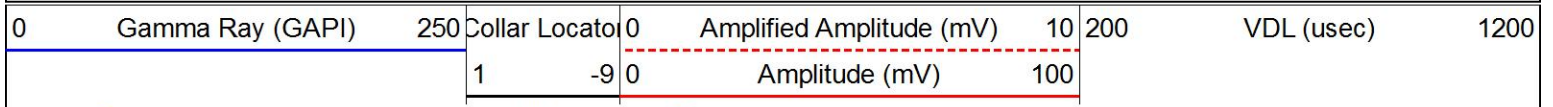


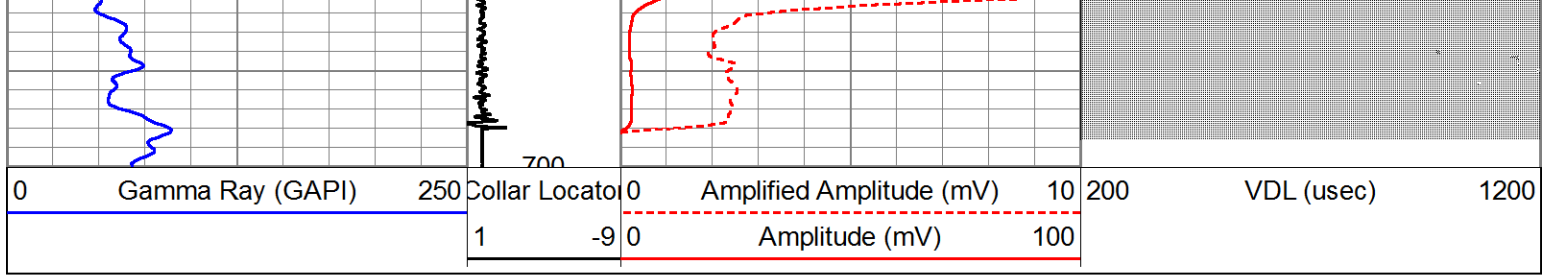




REPEAT PASS

Database File 8 24 20 noble guttersen.db
 Dataset Pathname WATTENBERG/GUTTERSEN_D03-27/run1/pass7
 Presentation Format noble cbl pres
 Dataset Creation Mon Aug 24 12:53:30 2020
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File 8 24 20 noble guttersen.db
 Dataset Pathname WATTENBERG/GUTTERSEN_D03-27/run1/pass8
 Dataset Creation Mon Aug 24 12:56:39 2020

Gamma Ray Calibration Report

Serial Number: 275_Top
 Tool Model: Top_det
 Performed: Wed Oct 31 14:28:57 2007

Calibrator Value: 200.0 GAPI

Background Reading: 45.1 cps
 Calibrator Reading: 326.6 cps

Sensitivity: 0.7105 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: CB275D_Base
 Tool Model: Probe CB275D

Calibration Casing Diameter: 4.500 in
 Calibration Depth: 168.767 ft

Master Calibration, performed Mon Aug 24 12:45:39 2020:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.857	0.045	81.196	95.371	-0.523
CAL						
5'	0.006	0.859	0.045	81.196	95.173	-0.551
SUM						
S1						
S2						
S3						
S4						
S5						
S6						
S7						
S8						

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL						

Air Zero Calibration, performed Mon Apr 13 11:20:19 2020:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1			
S2			
S3			
S4			
S5			
S6			
S7			
S8			

Log Variables

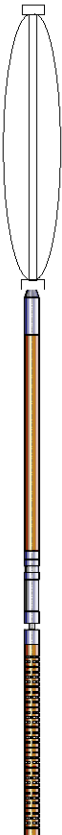
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 Dataset WATTENBERG/GUTTERSEN_D03-27/run1/pass8/_vars_

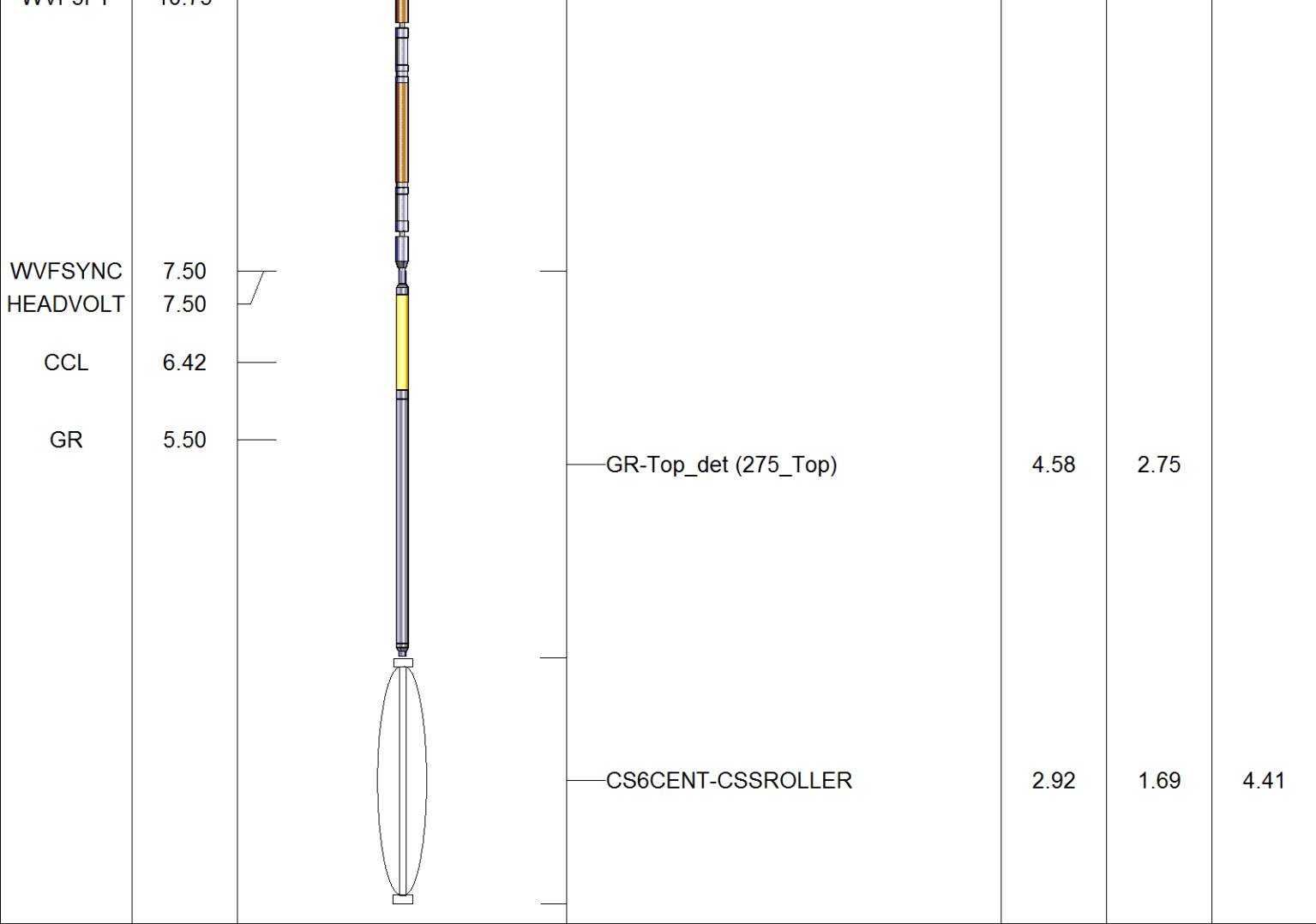
Top - Bottom

BOREID in 7.875	BOTTEMP degF 100	CASEOD in 4.5	CASETHCK in 0	CASEWGHT lb/ft 11.6	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.8
PERFS No	PPT usec 0	SRFTEMP degF 0	TDEPTH ft 0				

Variable Description

BOREID : Borehole I.D.	CASEWGHT : Casing Weight	PERFS : Perforation Flag
BOTTEMP : Bottom Hole Temperature	MAXAMPL : Maximum Amplitude	PPT : Predicted Pipe Time
CASEOD : Casing O.D.	MINAMPL : Minimum Amplitude	SRFTEMP : Surface Temperature
CASETHCK : Casing Thickness	MINATTN : Minimum Attenuation	TDEPTH : Total Depth

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CS6CENT-CSSROLLER	2.92	1.69	4.41
WVF3FT	11.75		CBL-Probe CB275D (CB275D_Base) 2.75" Dual Receiver Bond	8.75	2.75	90.00
WVF5ET	10.75					



Dataset: 8 24 20 noble guttersen.db: WATTENBERG/GUTTERSEN_D03-27/run1/pass8
 Total length: 19.17 ft
 Total weight: 98.82 lb
 O.D.: 2.75 in