



VDL CCL
GAMMA RAY
CEMENT BOND LOG

Company NOBLE ENERGY		Well HSR-MELCHIOR #13-17		Field WATTENBERG		County WELD		State CO	
Location:		API # : 05-123-15510		Other Services					
Permanent Datum		GL		Elevation 4733'		Elevation K.B. 4734'			
Log Measured From		KB				D.F. 4733'			
Drilling Measured From		KB				G.L. 4733'			
LAT/LONG: 40.307046/-104.693728		SEC 17		TWP 4N		RGE 65W			
SWSW									
Date 2-21-20		Run Number ONE							
Depth Driller		7301'							
Depth Logger		664'							
Bottom Logged Interval		656'							
Top Log Interval		SURFACE							
Open Hole Size		12.25"							
Type Fluid		WATER							
Density / Viscosity		8.4#							
Max. Recorded Temp.		N/A							
Estimated Cement Top		SEE LOG							
Time Well Ready		8:00							
Time Logger on Bottom		8:10							
Equipment Number		420							
Location		EATON, CO							
Recorded By		NAZARETH DIONNE							
Witnessed By		SCOTT MAREZ							
Borehole Record		Tubing Record							
Run Number		Bit		From		To		Size	
								Weight	
								From	
								To	
Casing Record		Size		Wgt/Ft		Top		Bottom	
Surface String		8.625"		24#		SURFACE		345'	
Prot. String									
Production String		4.5"		11.6#		SURFACE		7290'	
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

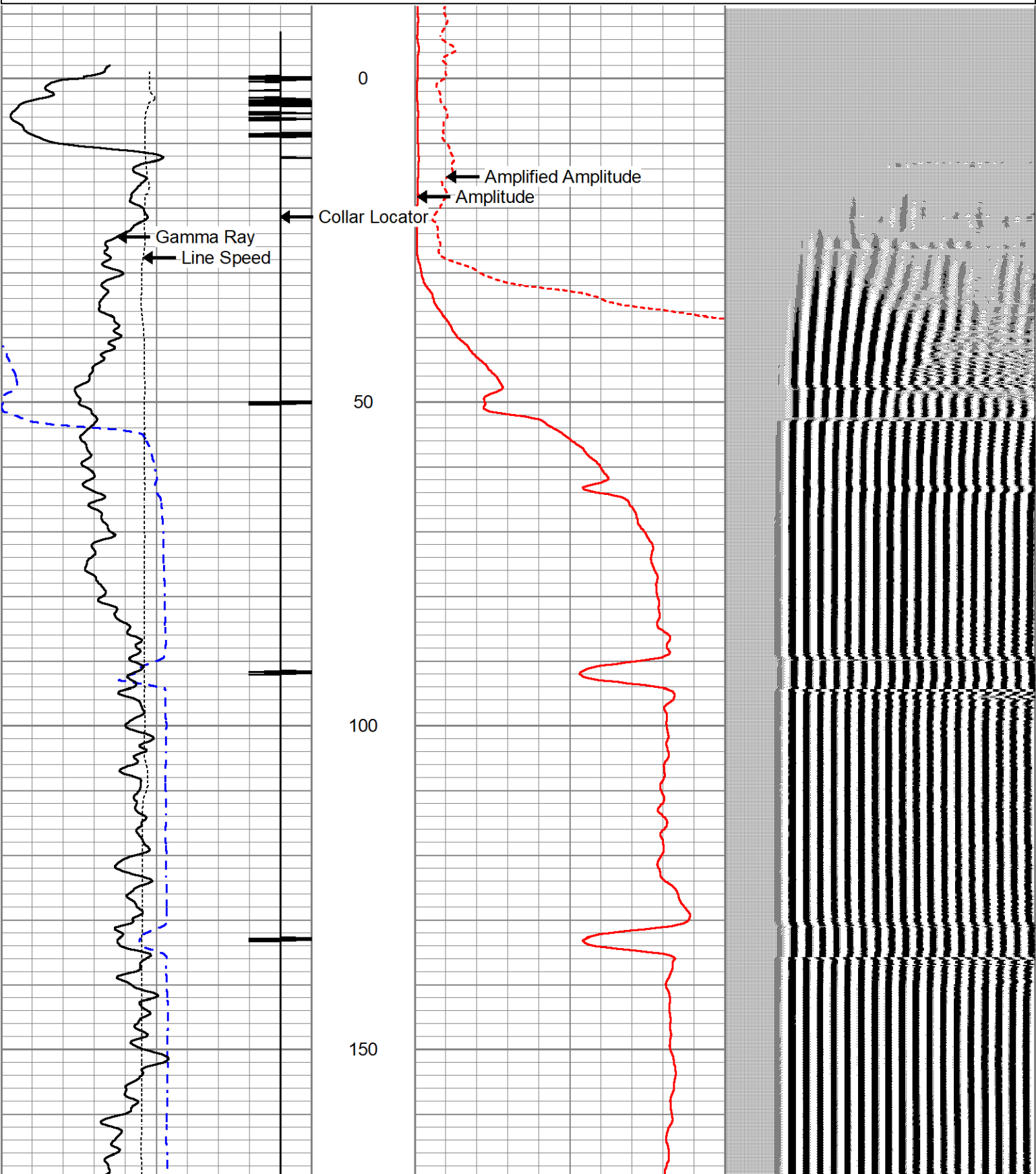
LOG RAN PER CUSTOMER REQUEST
LOG RAN WITH 0 PSI SURFACE INDUCED PRESSURE

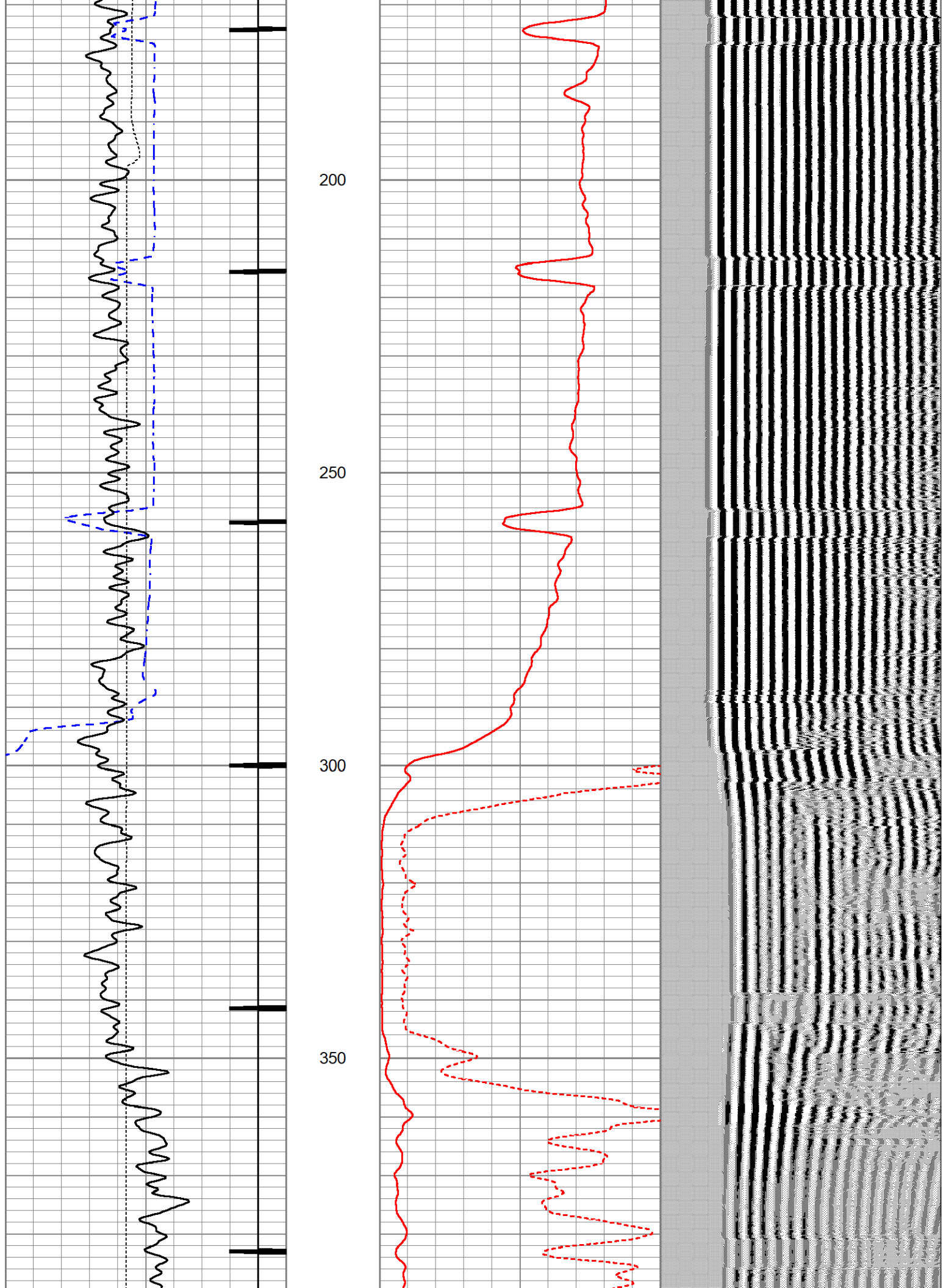
THANK YOU FOR CHOOSING A-PLUS WELL SERVICES

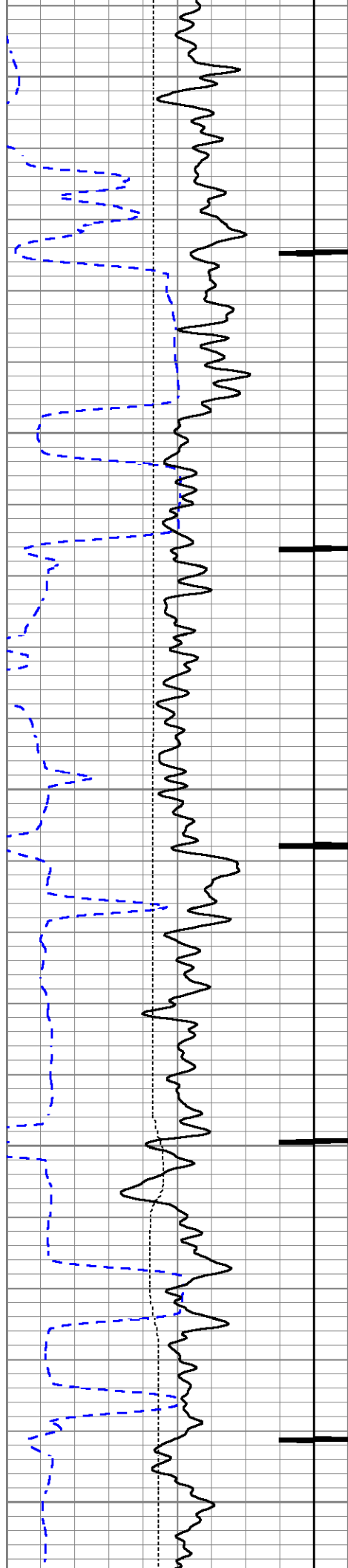


MAIN PASS 0 PSI

300	TT3FT (usec)	200	0	Amplified Amplitude (mV)	10	200	VDL (usec)	1200
-9	Collar Locator	1	0	Amplitude (mV)	100			
0	Gamma Ray (GAPI)	200						
-500	Line Speed (ft/min)	500						







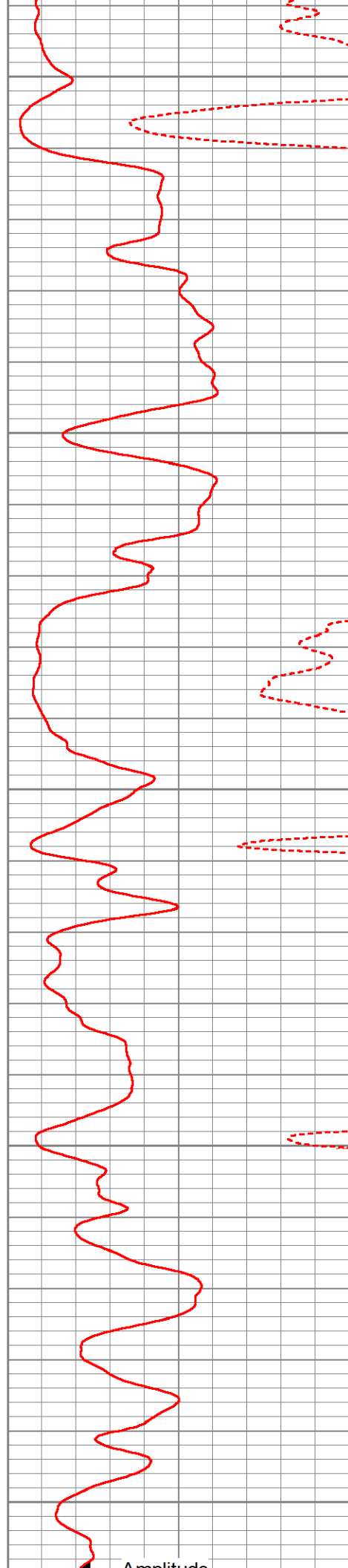
400

450

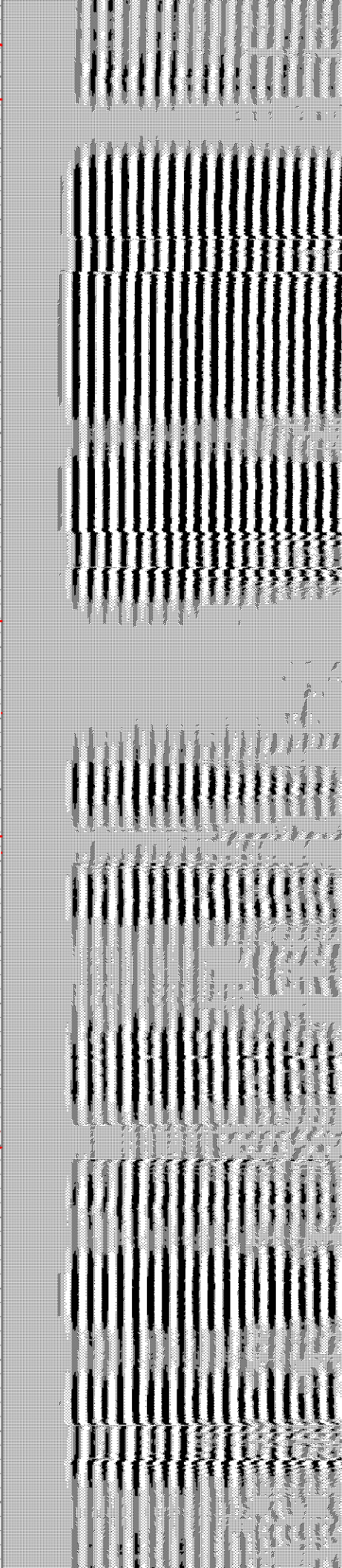
500

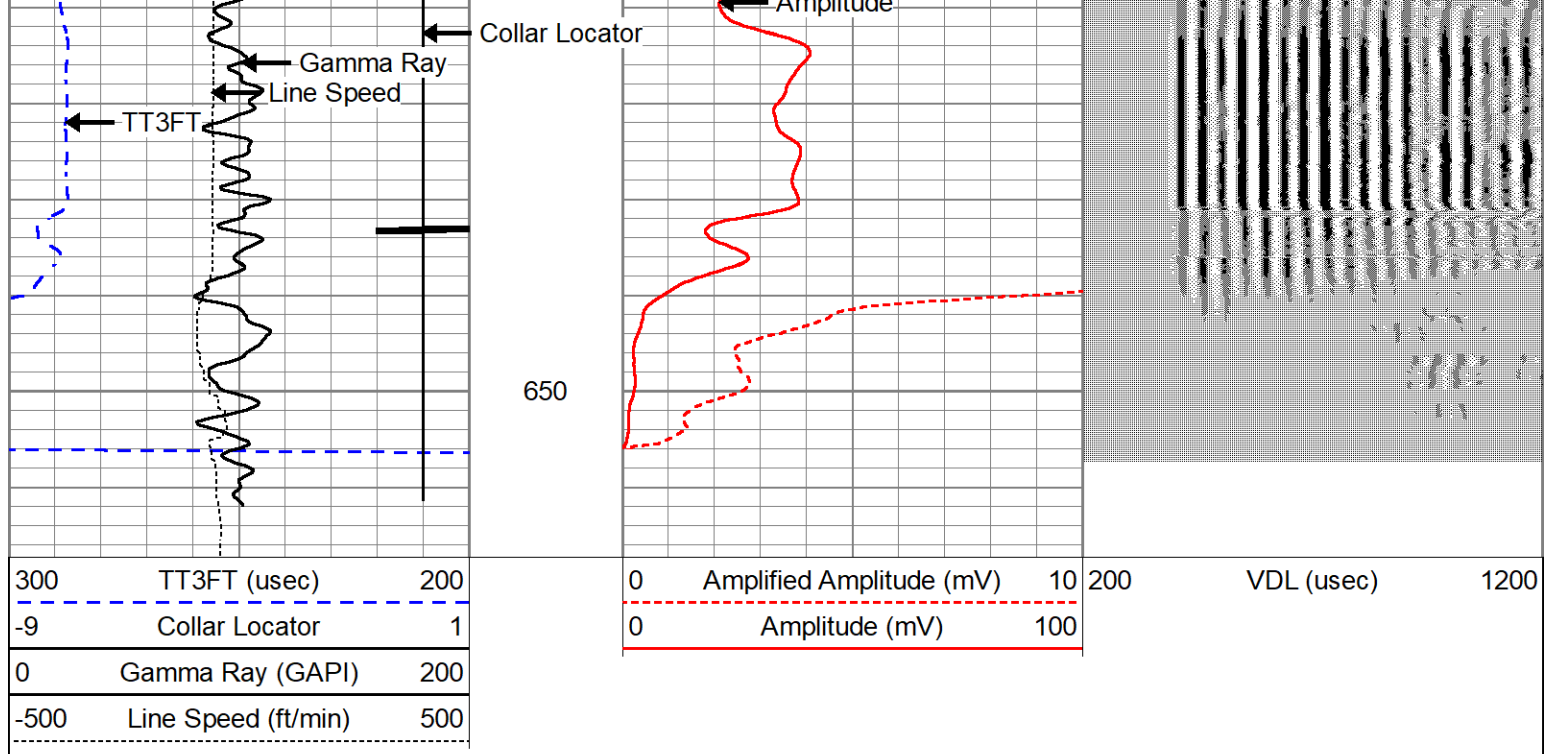
550

600



Amplitude





Calibration Report		
Database File	noble melchior 13-17 2-21-20.db	
Dataset Pathname	pass3	
Dataset Creation	Fri Feb 21 08:05:34 2020	

Gamma Ray Calibration Report		
Serial Number:	275	
Tool Model:	Probe	
Performed:	Thu May 09 10:03:43 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	275	
Tool Model:	Probe	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	166.142	ft

Master Calibration, performed Fri Feb 21 07:57:39 2020:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.017	0.433	-0.450	81.196	196.194	-3.813
CAL						
5'	0.037	0.280	-0.450	81.196	335.884	-12.939
SUM						
S1						
S2						
S3						
S4						
S5						

S6
S7
S8

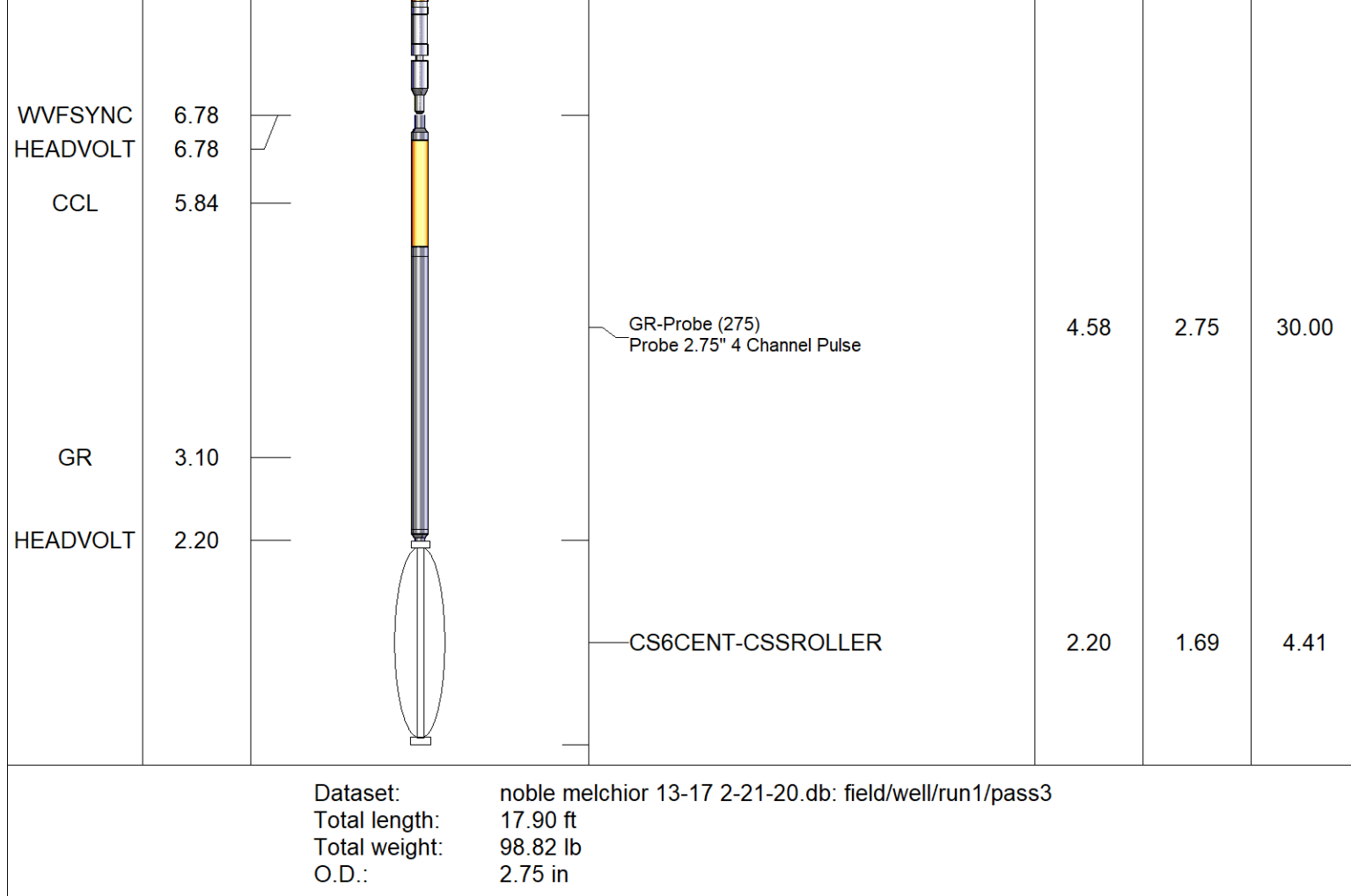
Internal Reference Calibration, performed (Not Performed):

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

Air Zero Calibration, performed Fri Feb 21 07:34:10 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						

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CS6CENT-CSSROLLER	2.20	1.69	4.41
WVF3FT	10.97		CBL-Probe (275) Probe 2.75" Dual Receiver Bond	8.92	2.75	60.00
WVF5FT	9.97					



Log Variables

DatabaseC:\ProgramData\Warrior\Data\noble melchior 13-17 2-21-20.db

Dataset field/well/run1/pass3/_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.

BOTTEMP : Bottom Hole Temperature

CASEOD : Casing O.D.

CASETHCK : Casing Thickness

CASEWGHT : Casing Weight

MAXAMPL : Maximum Amplitude

MINAMPL : Minimum Amplitude

MINATTN : Minimum Attenuation

PERFS : Perforation Flag

PPT : Predicted Pipe Time

SRFTEMP : Surface Temperature

TDEPTH : Total Depth