



**BOREHOLE COMPENSATED  
SONIC LOG**

Company **CHOLLA PRODUCTION, LLC**  
 Well **ZIMMERMAN #1-3**  
 Field **WILDCAT**  
 County **RUSH**  
 State **KANSAS**

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 County **RUSH** State **KANSAS**

Location: **API #: 15-165-22166-00-00**  
**735' FNL & 2065' FWL**  
 SEC 3 TWP 16S RGE 20W  
 Permanent Datum **GROUND LEVEL Elevation 2166'**  
 Log Measured From **KELLY BUSHING**  
 Drilling Measured From **KELLY BUSHING**  
 Other Services **DIL/MEL CNL/CDL**  
 Elevation **K.B. 2173'**  
**D.F. N/A**  
**G.L. 2166'**

Date	10/4/2019						
Run Number	TWO						
Type Log	BHCS						
Depth Driller	3900'						
Depth Logger	3900'						
Bottom Logged Interval	3889'						
Top Logged Interval	250'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	3900						
Density	9.2						
Level	FULL						
Max. Rec. Temp. F	115 DEG/F						
Operating Rig Time	4 HOURS						
Equipment -- Location	P-108 HAYS						
Recorded By	J. HENRICKSON						
Witnessed By	CHARLIE STURDAVANT						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	258'	8.625"	23#	0	258'
TWO	7.875"	258'		TD			
Casing Record							

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

**Comments**

**N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.**  
**ELLIS, KANSAS**  
**SOUTH TO RUSH COUNTY LINE, 2 1/2 EAST, SOUTH INTO**

**Log Measured From: KELLY BUSHING 7 Ft. Above Permanent Datum**

**THANK YOU FOR USING PIONEER ENERGY SERVICES**  
**www.pioneerenergy.com 785-625-3858**

**Your Pioneer Energy Services Crew**

Engineer: **J. HENRICKSON**  
 Operator:  
 Operator:  
 Operator:

**This Log Record Was Witnessed By**


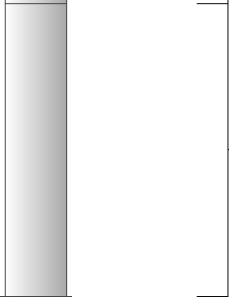
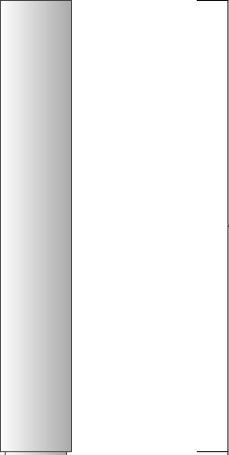

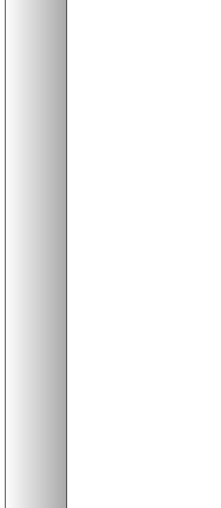
Primary Witness: **CHARLIE STURDAVANT**  
 Secondary Witness:  
 Secondary Witness:  
 Secondary Witness:

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\cholla\_zimmerman\_1\_3.db  
 Dataset field/well/stack/pass4.1/\_vars\_

## Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	115	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	0	0	Off	3900

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	29.90 29.15		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	20.85 20.83 20.35		CDL-M&W (979-229)	8.50	4.00	250.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (976)	18.50	3.50	220.00

CILM 4.70

SP 0.20

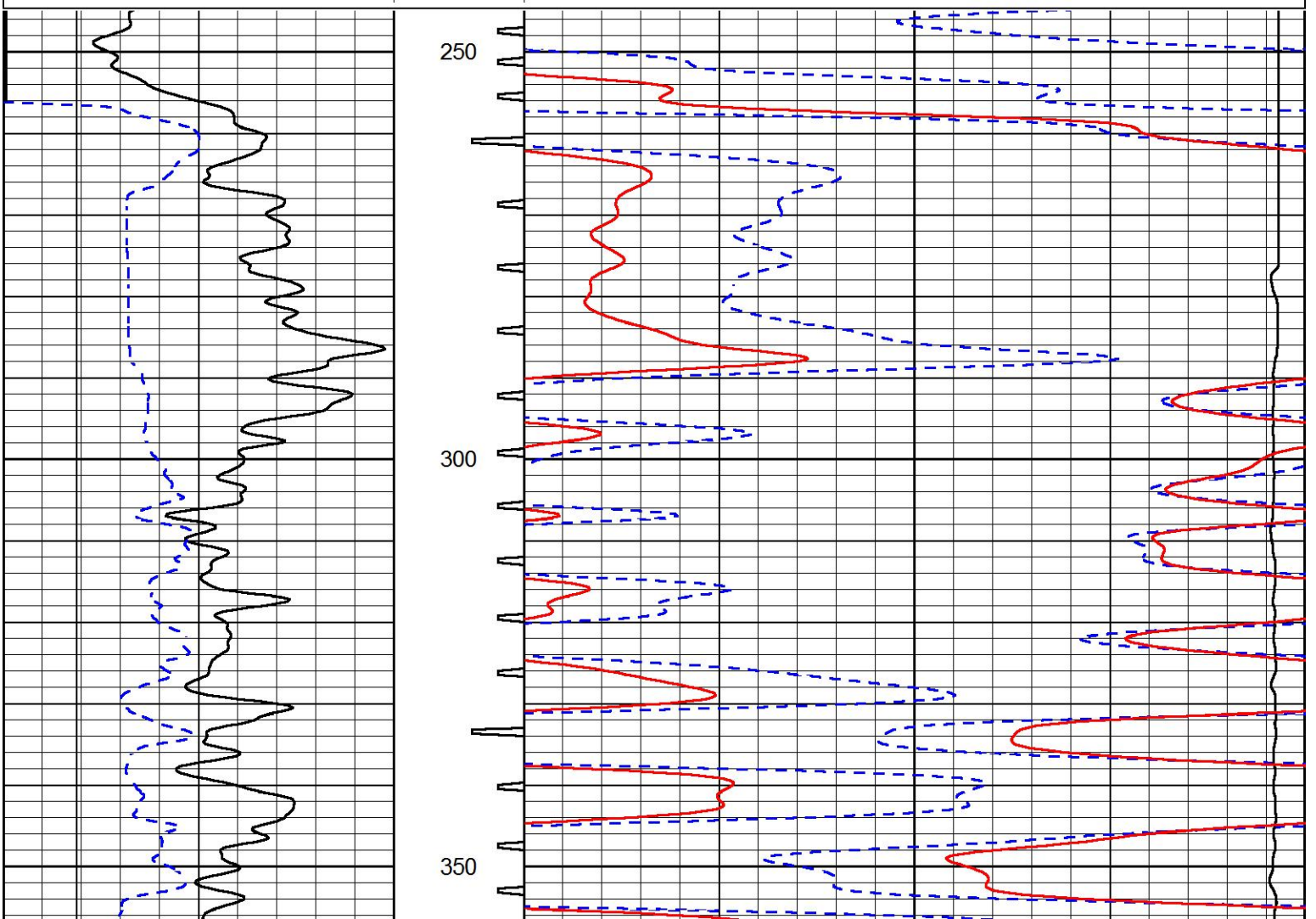
Dataset: cholla\_zimmerman\_1\_3.db: field/well/stack/pass4.1  
 Total length: 35.50 ft  
 Total weight: 620.00 lb  
 O.D.: 4.00 in

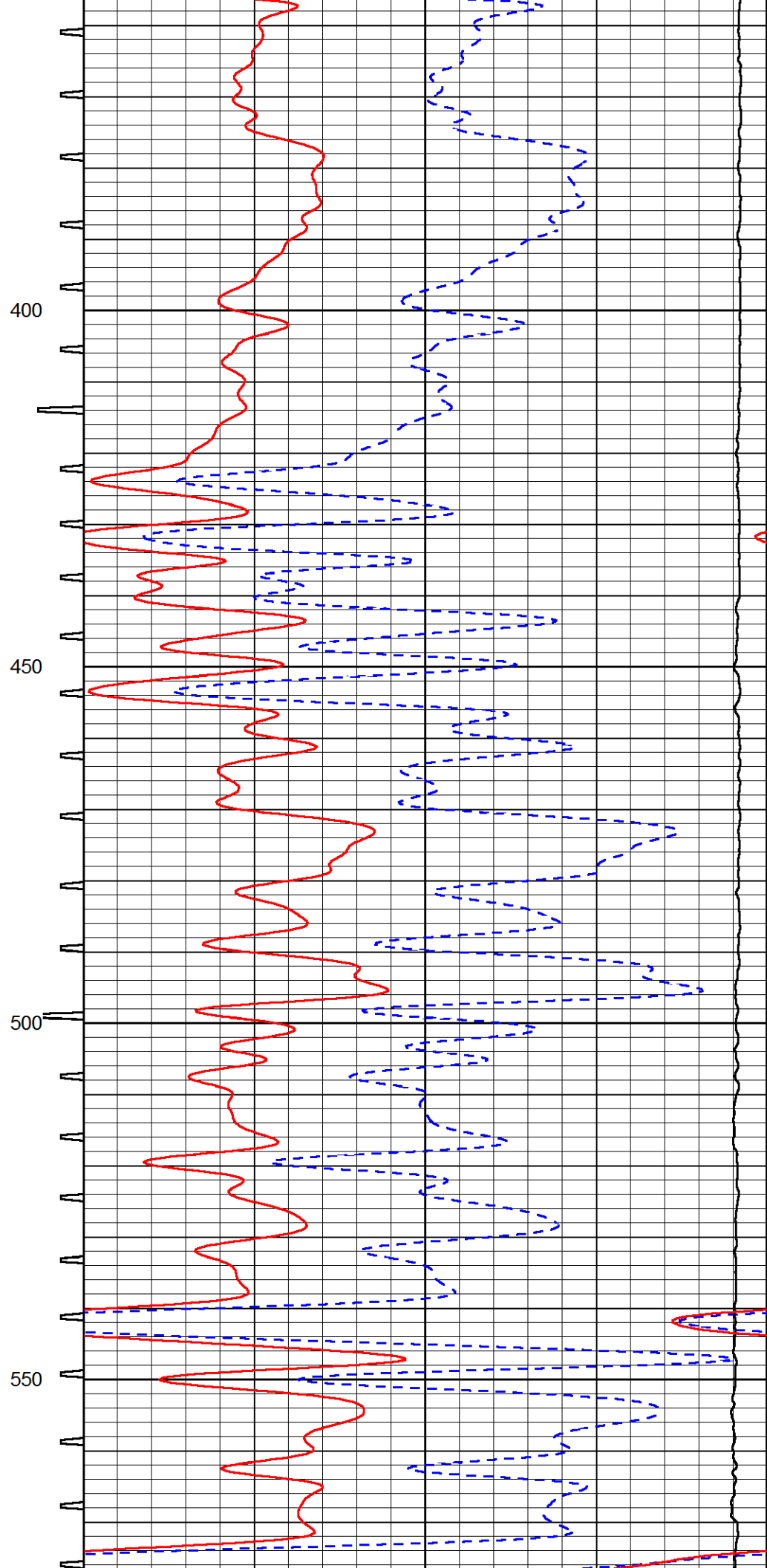
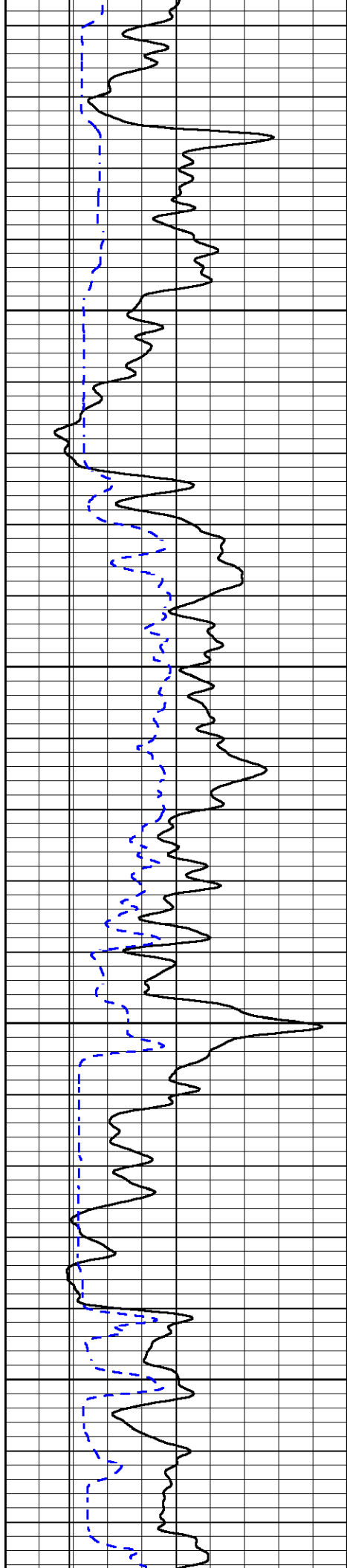


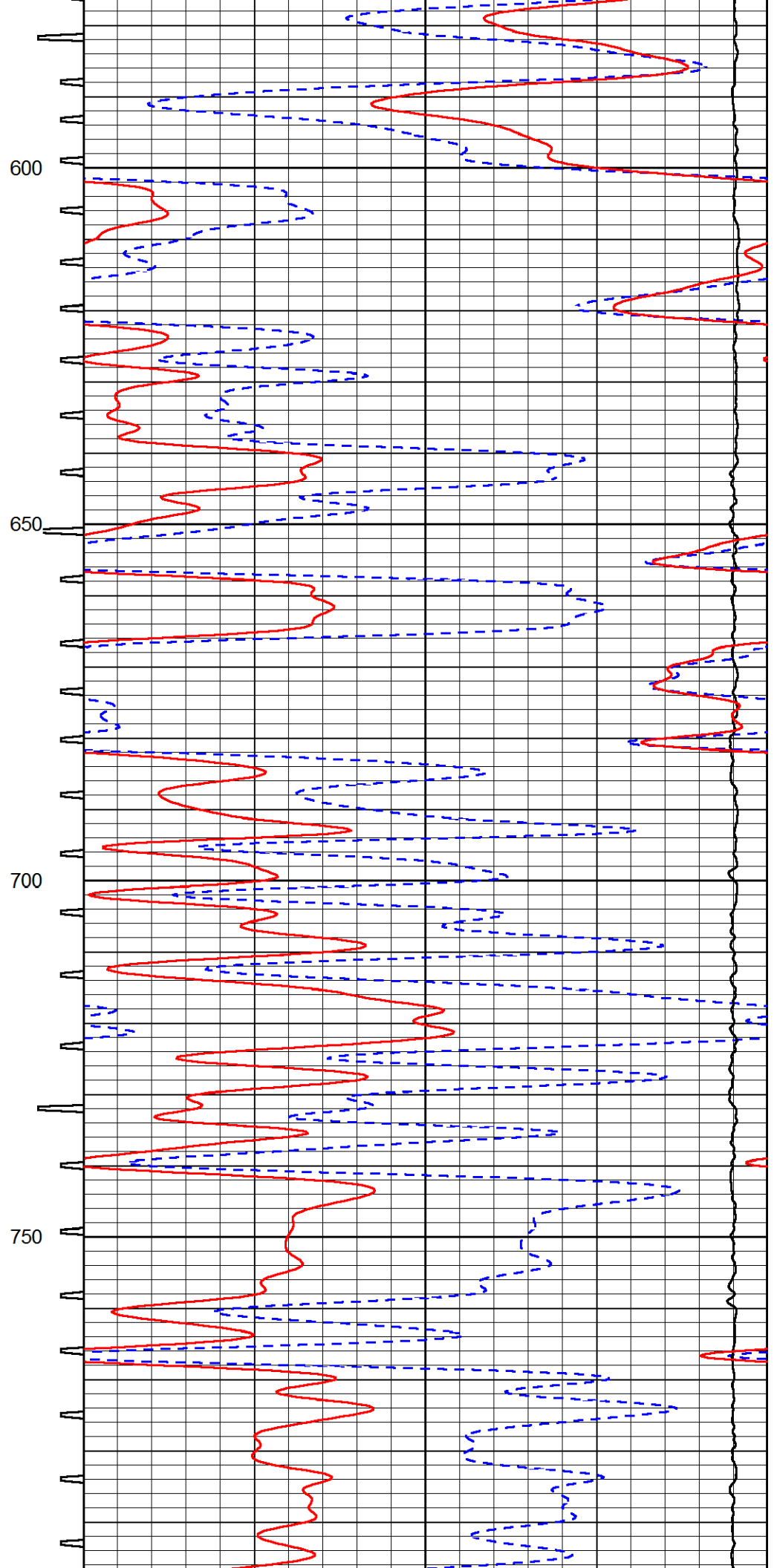
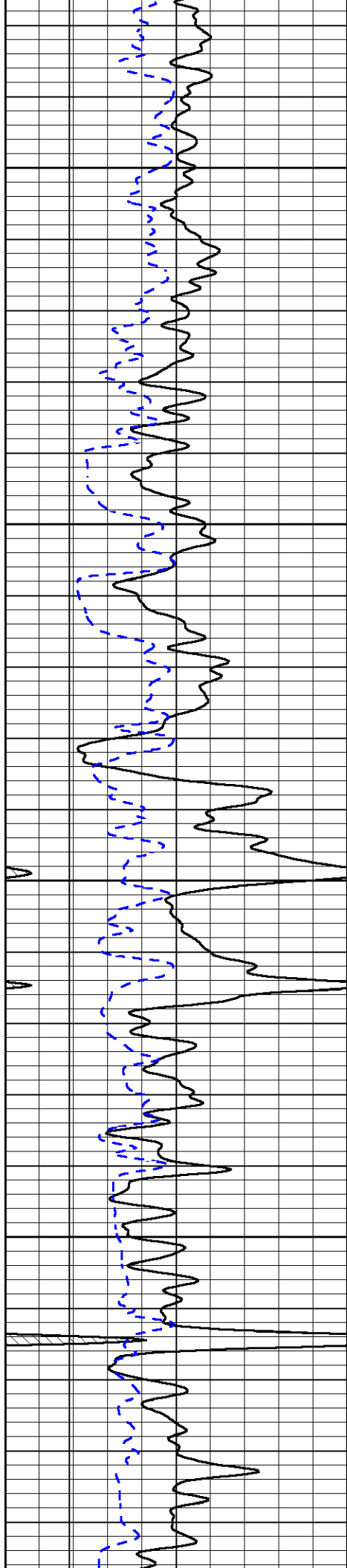
# MAIN PASS

Database File cholla\_zimmerman\_1\_3.db  
 Dataset Pathname stack/pass4.1  
 Presentation Format sonic  
 Dataset Creation Fri Oct 04 06:23:11 2019  
 Charted by Depth in Feet scaled 1:240

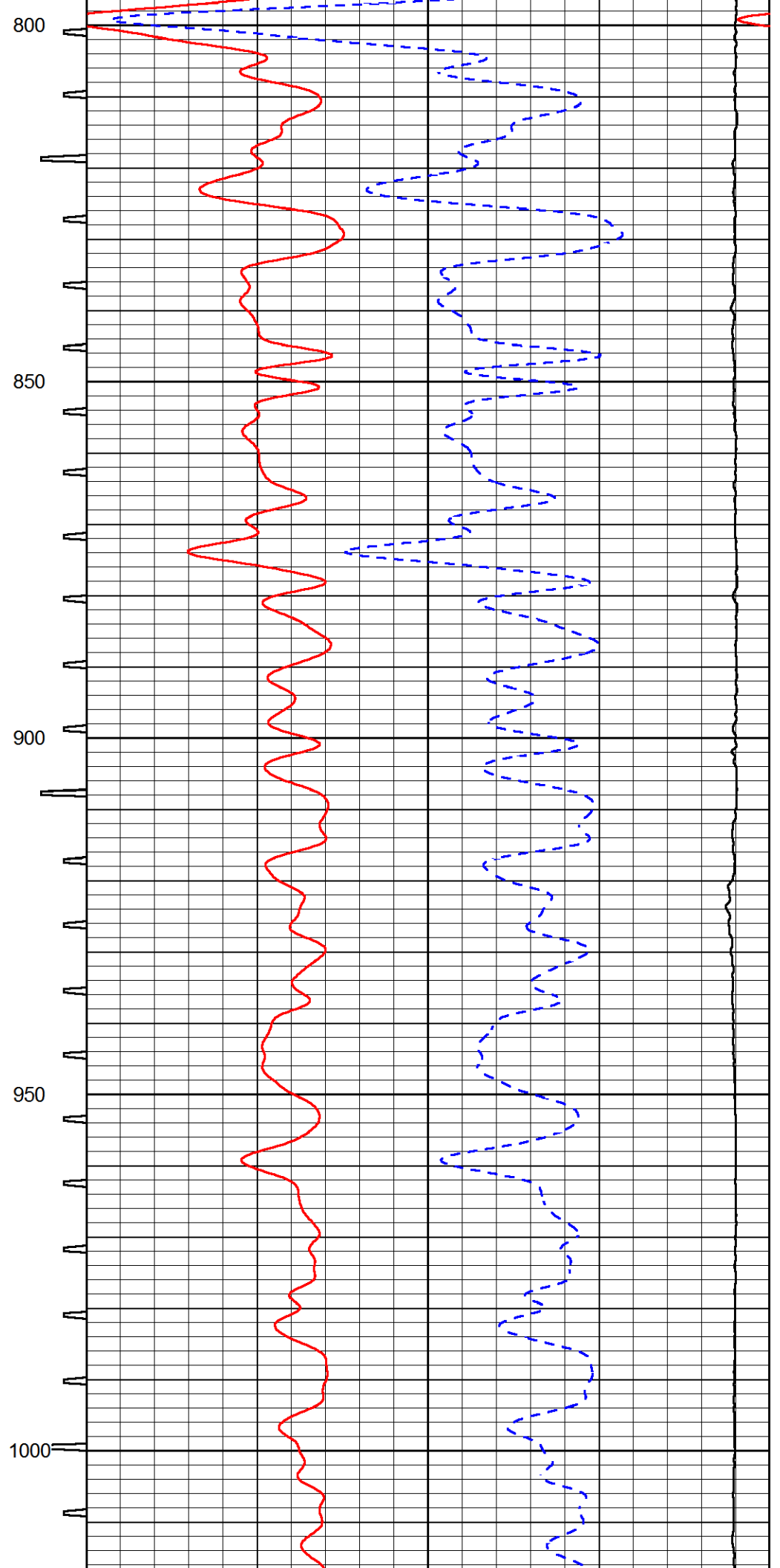
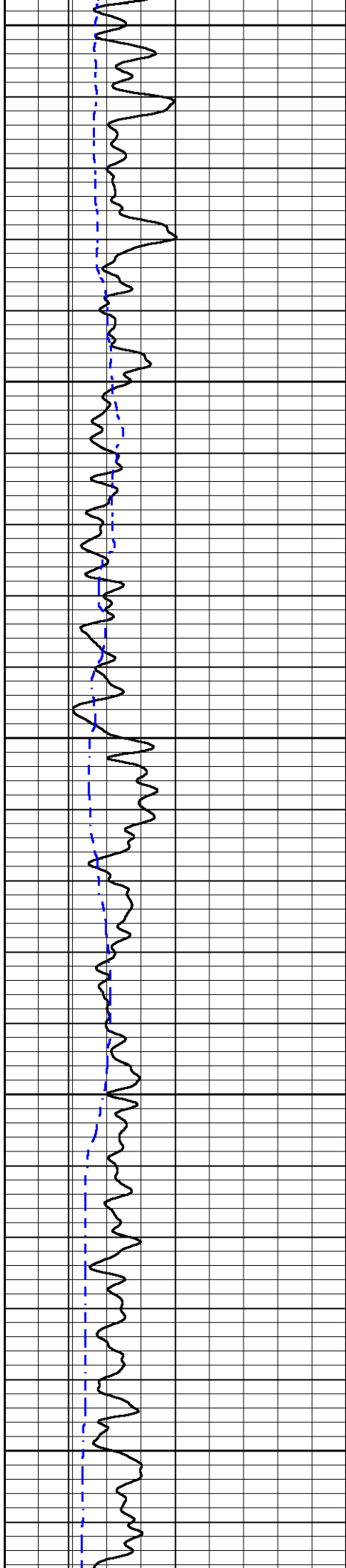
0	GAMMA RAY (GAPI)	150	SONIC INT	140	DELTA TIME (usec/ft) (usec/ft)	40
6	CALIPER (in)	16	TRAVEL TIME	30	SONIC POROSITY (pu)	-10
6	BIT SIZE	16	(msec)	15000	LINE TENSION (lb)	0

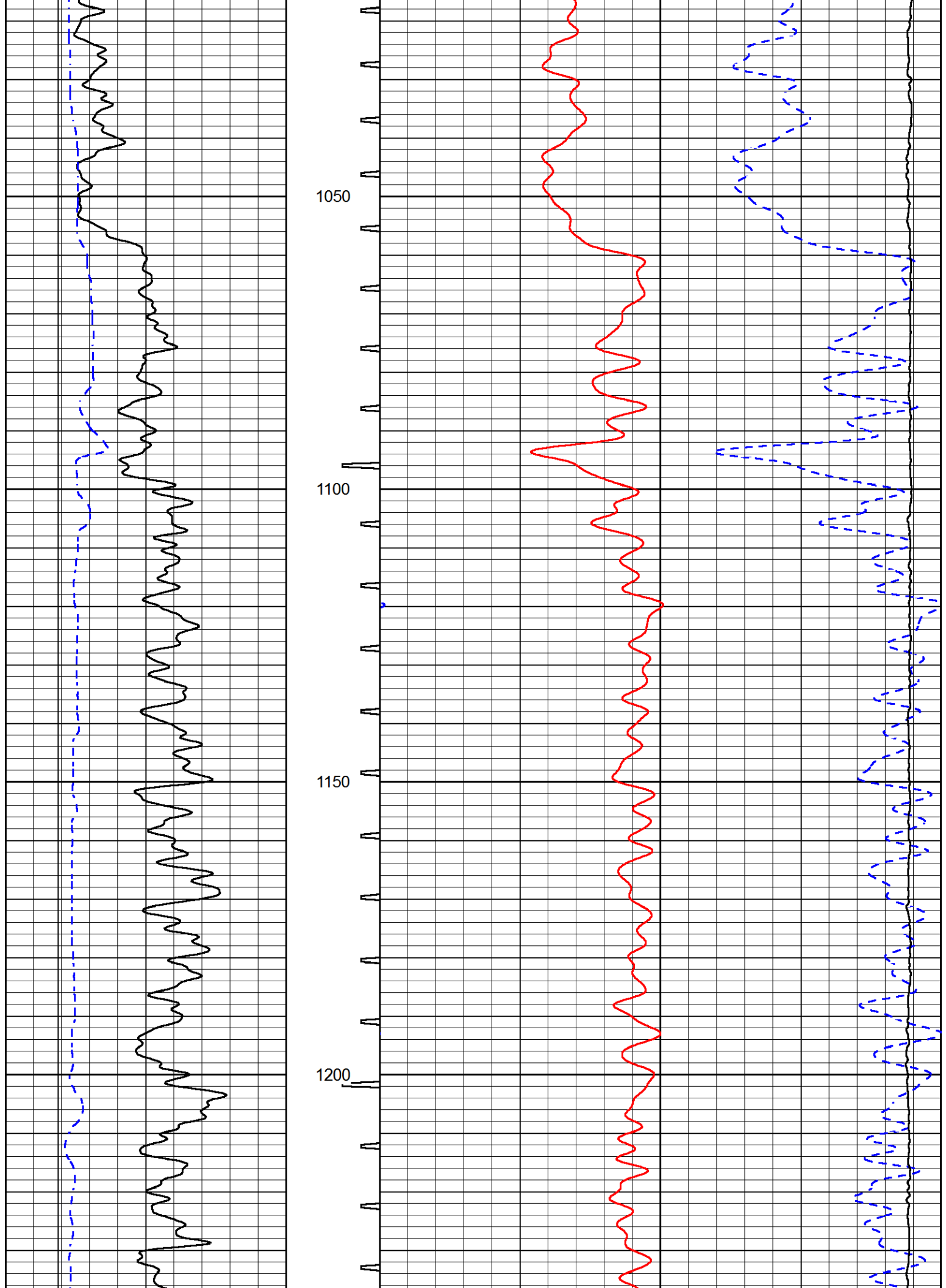


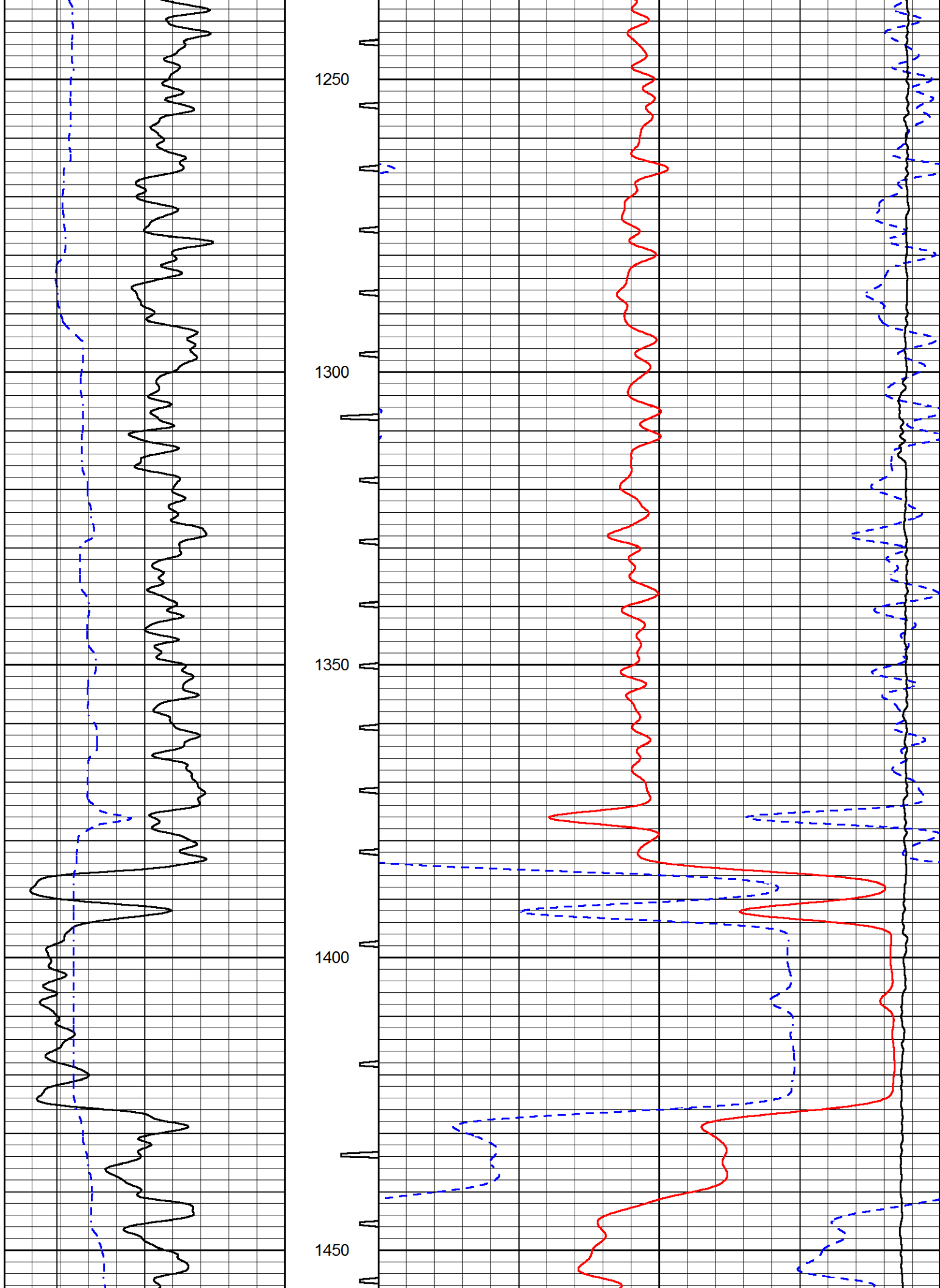




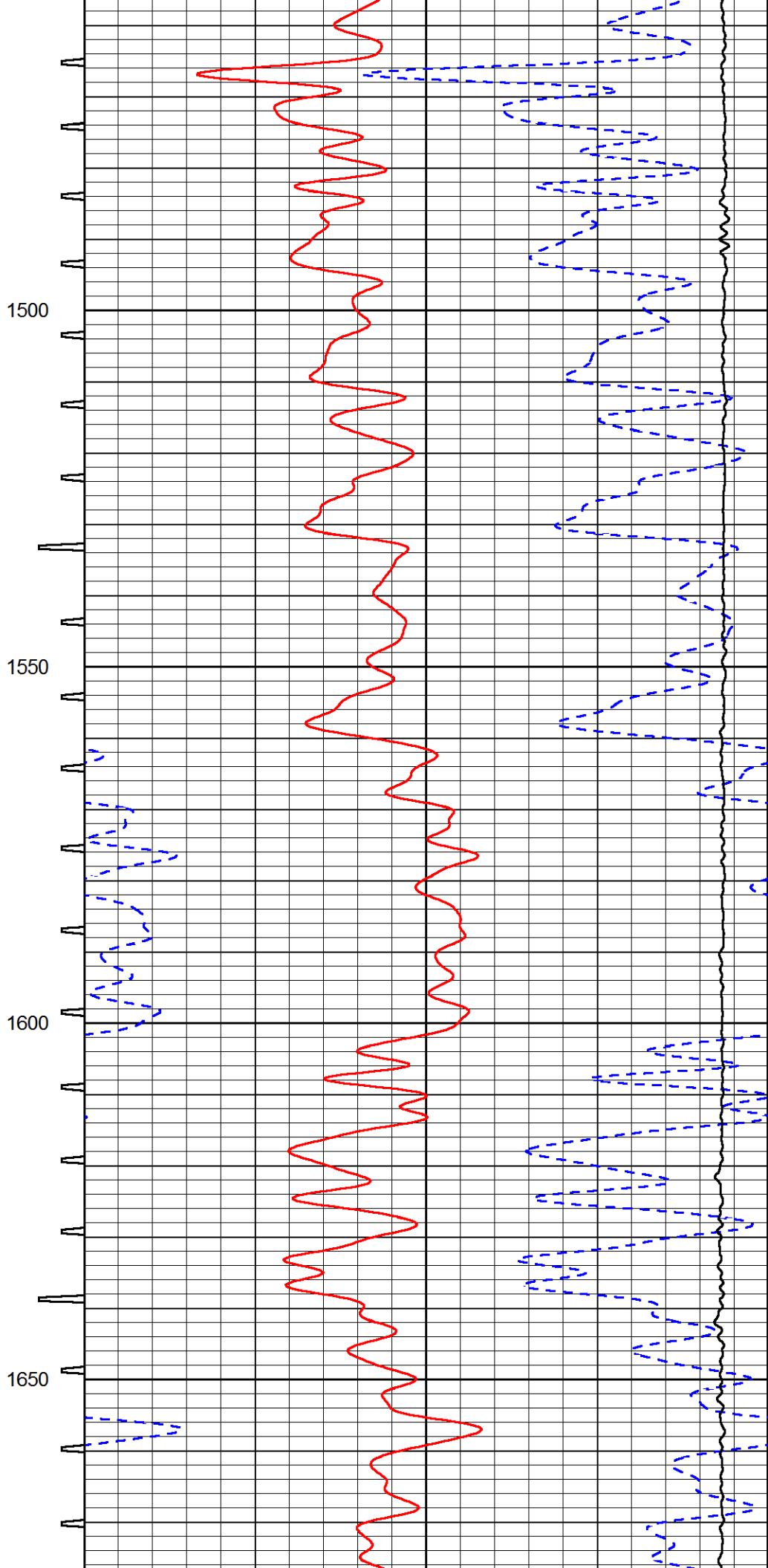
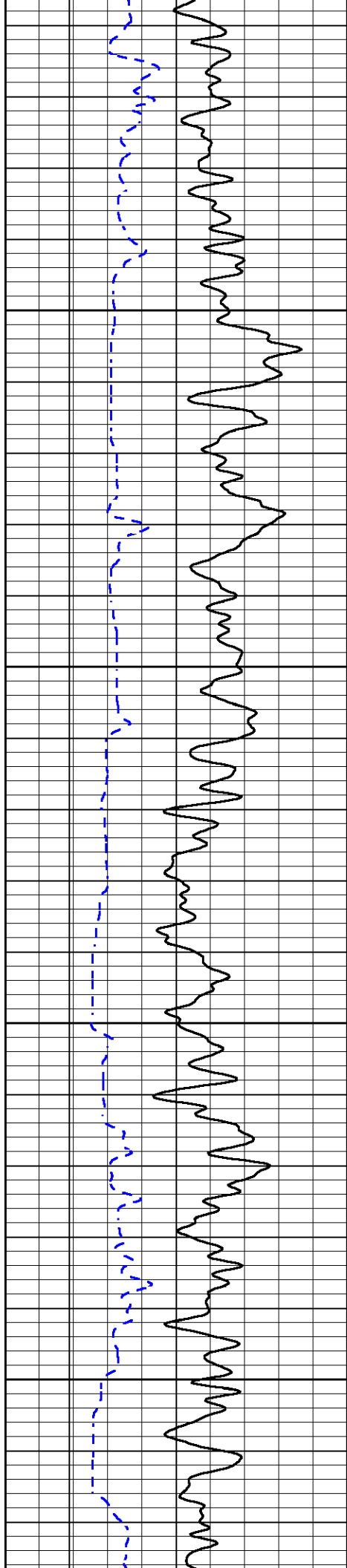










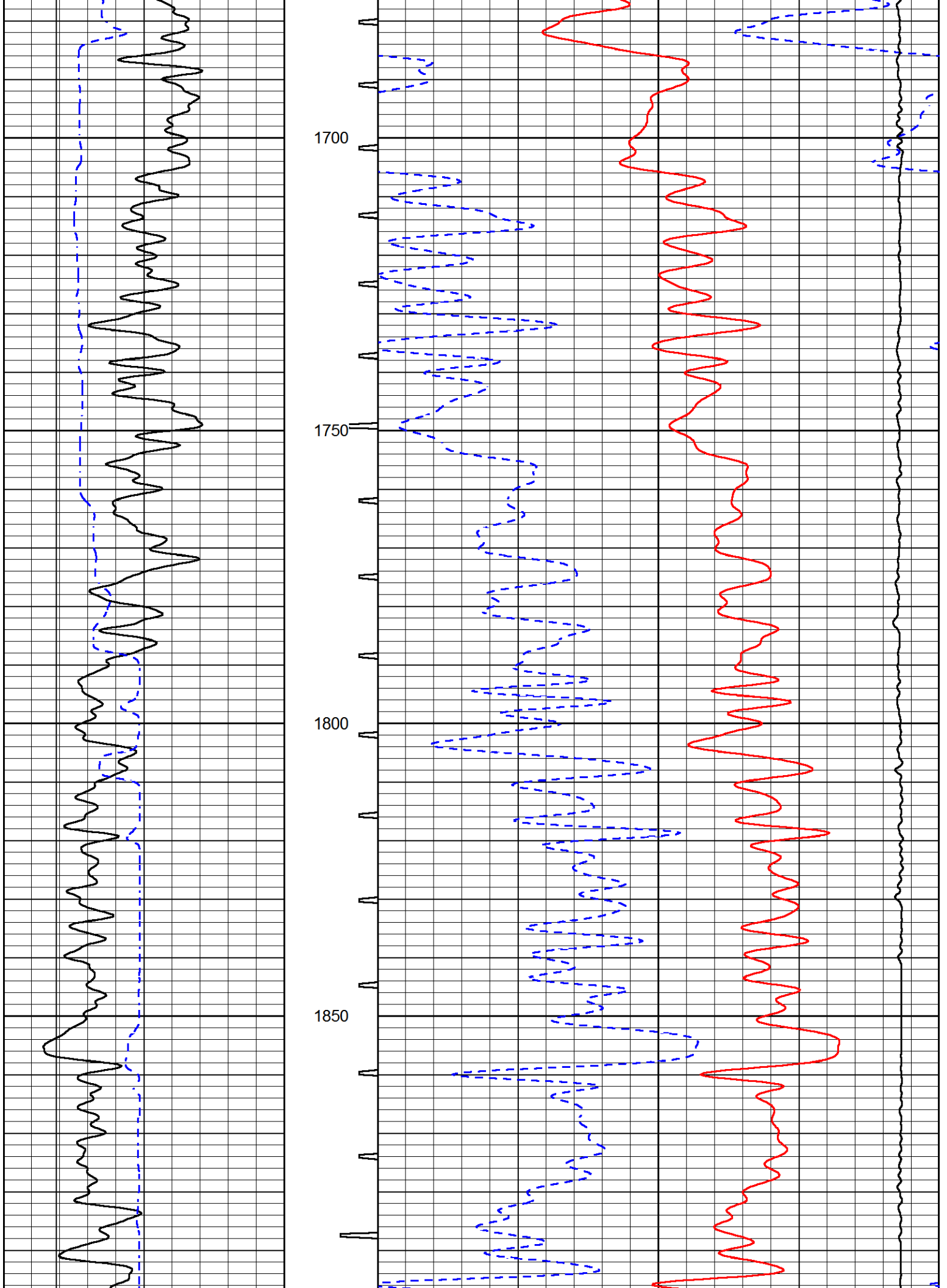


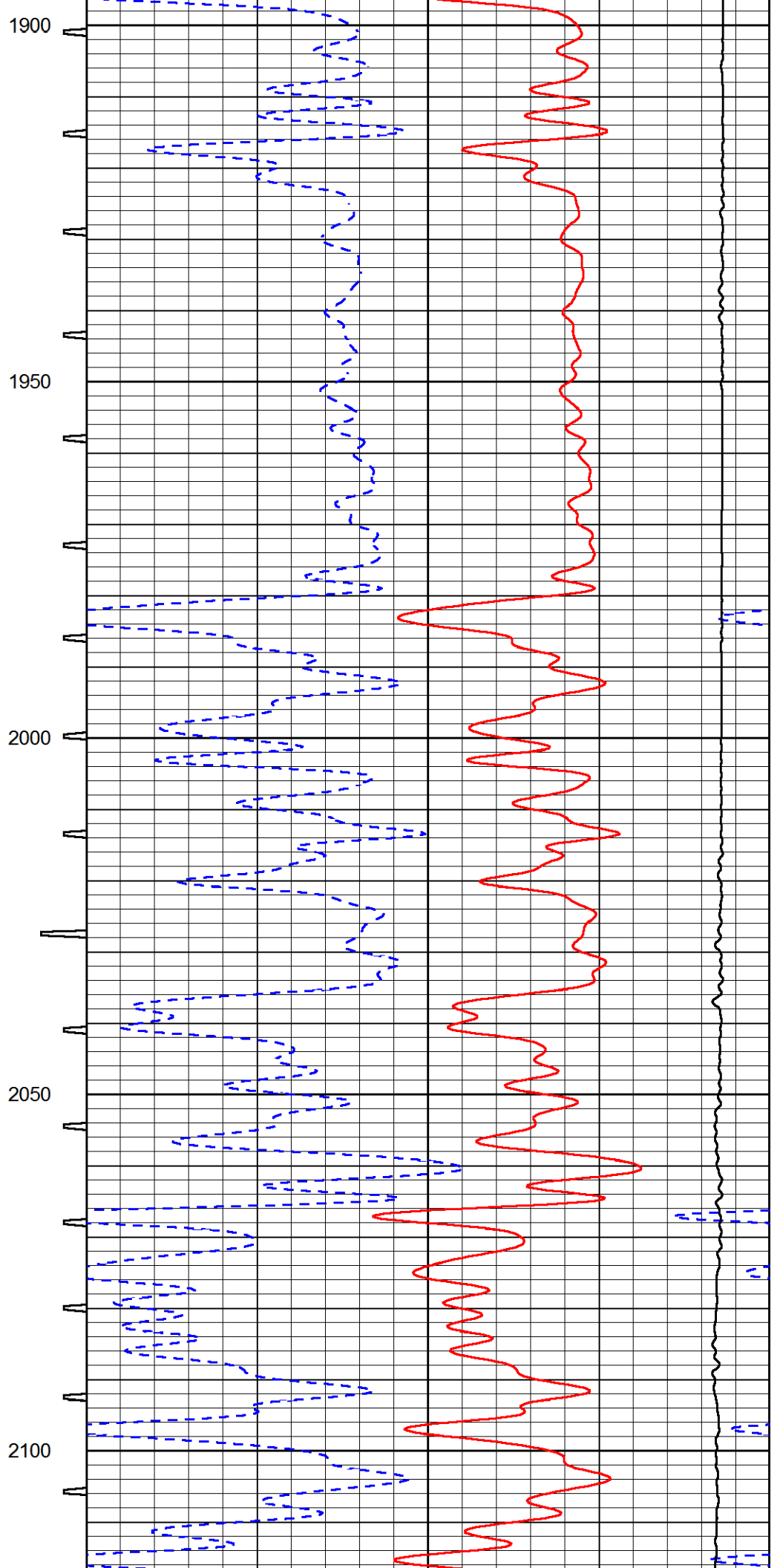
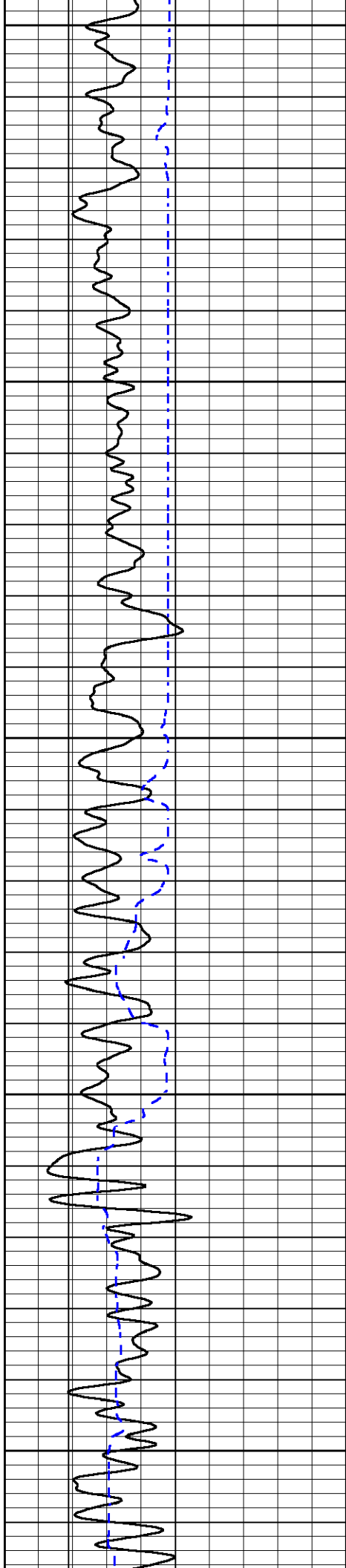
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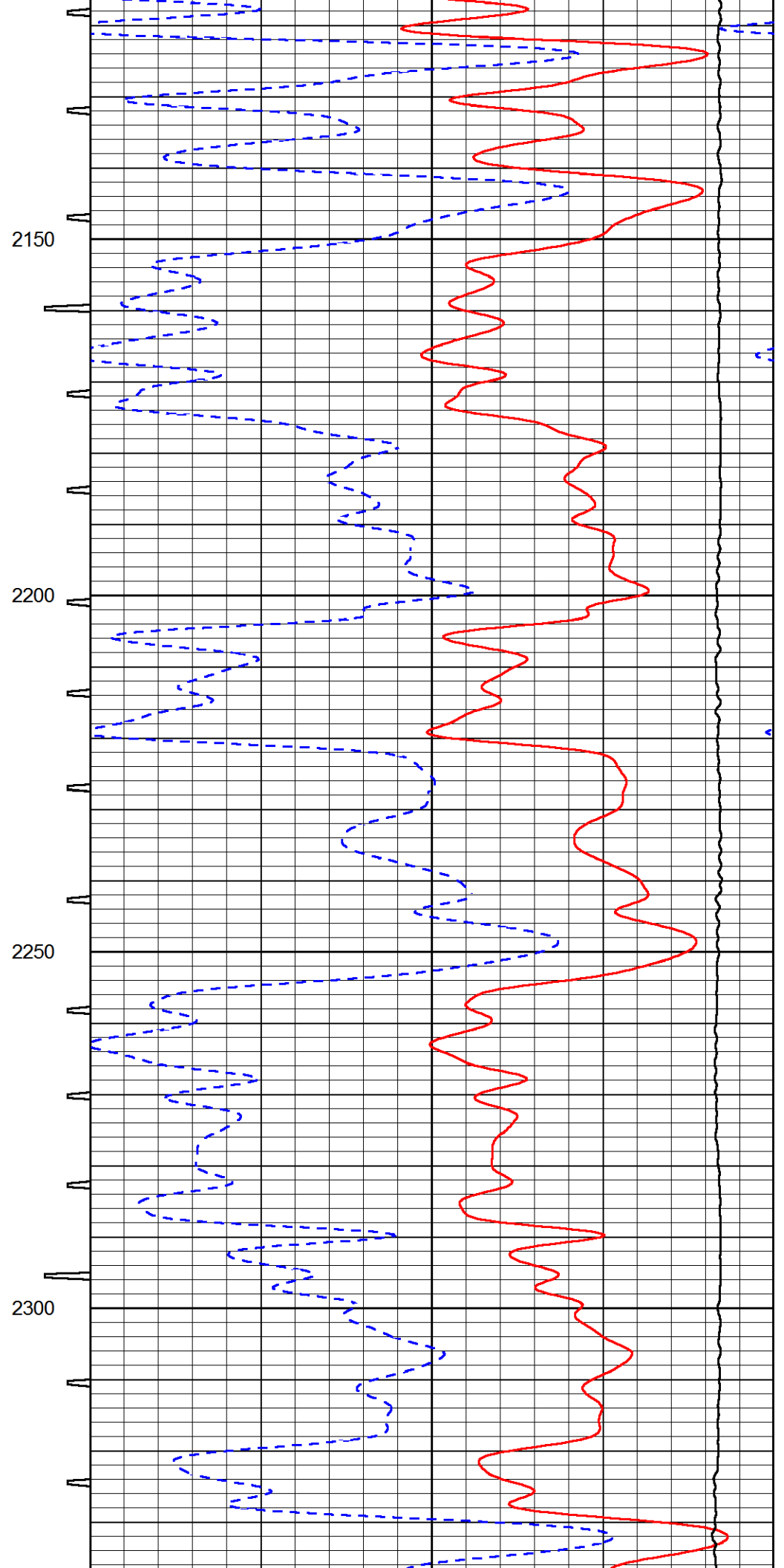
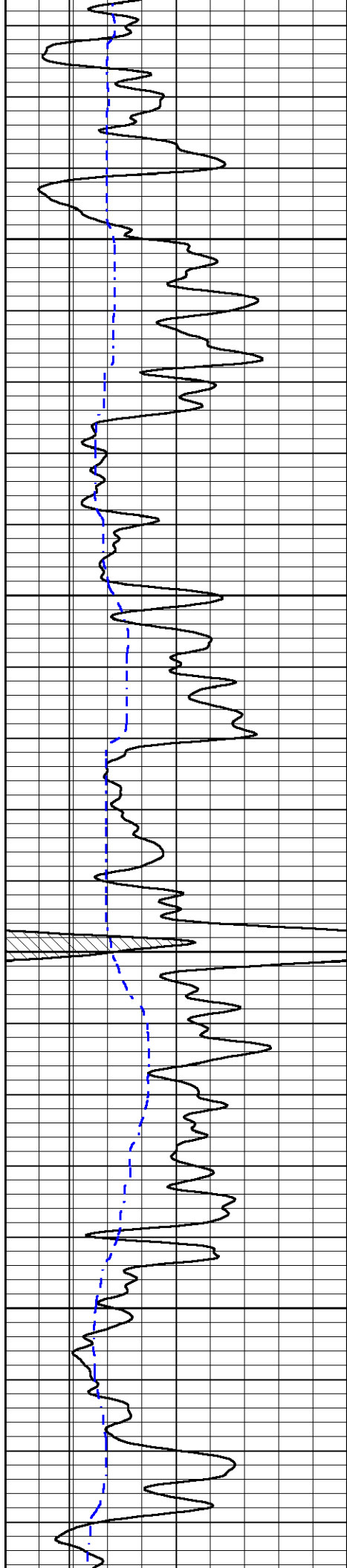
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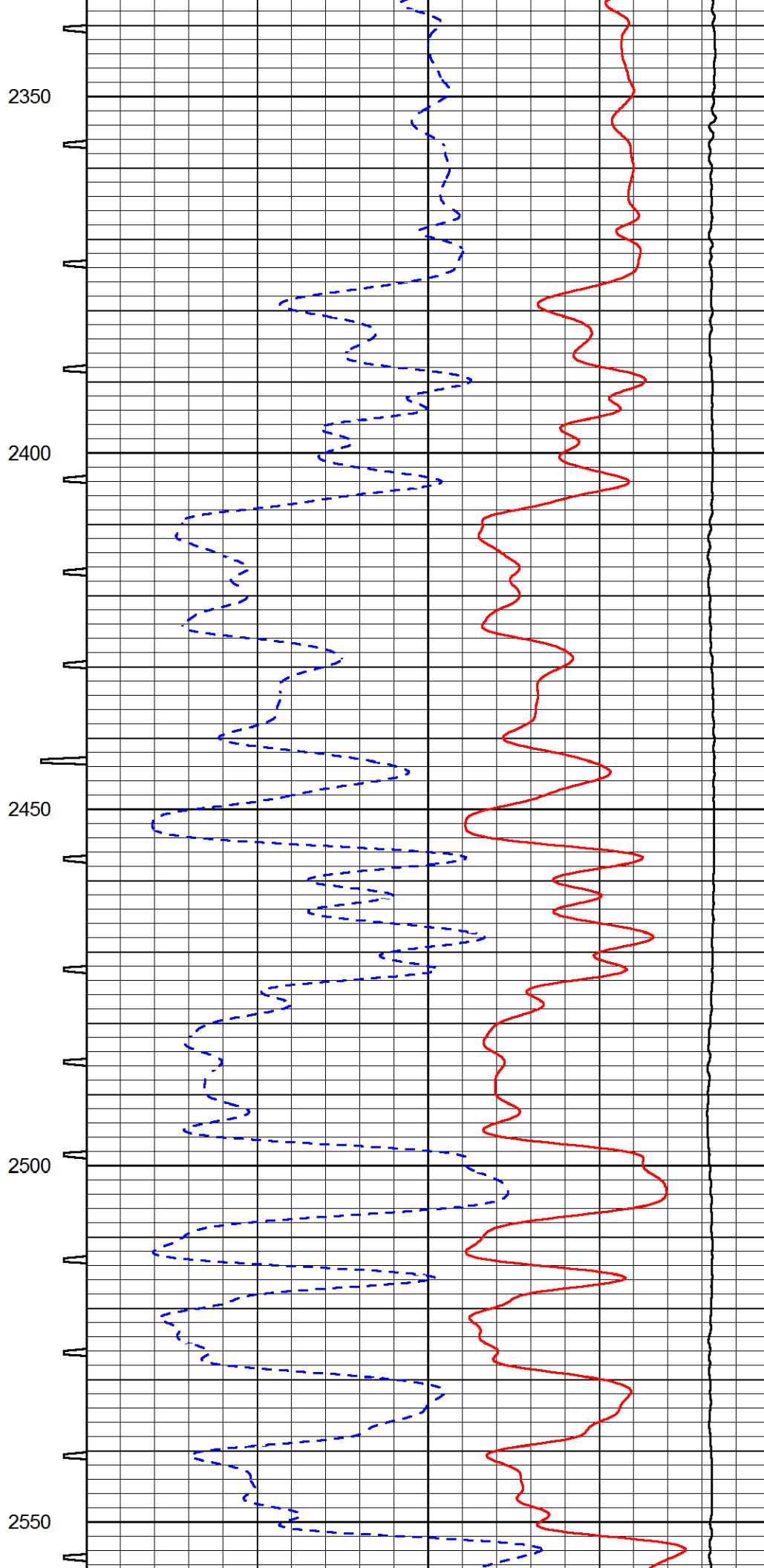
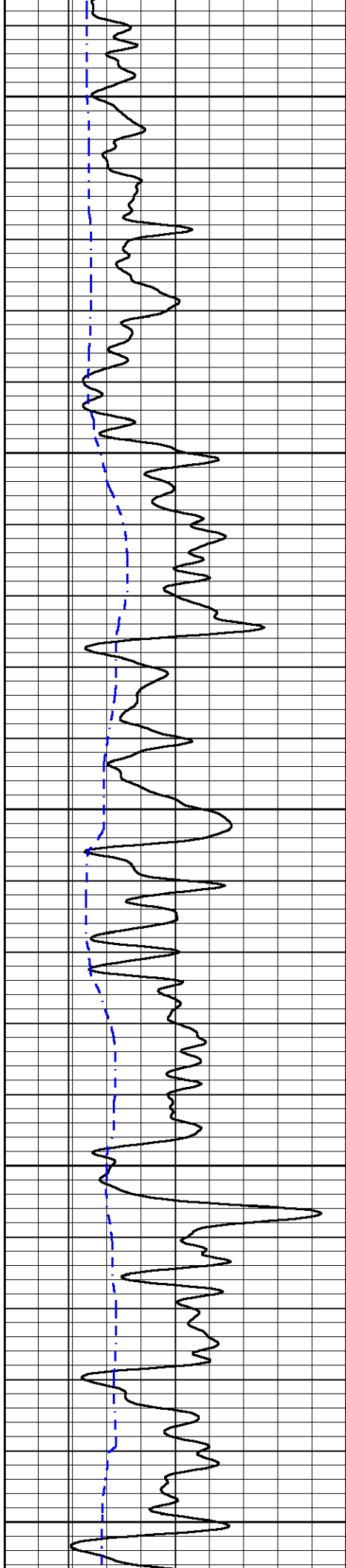
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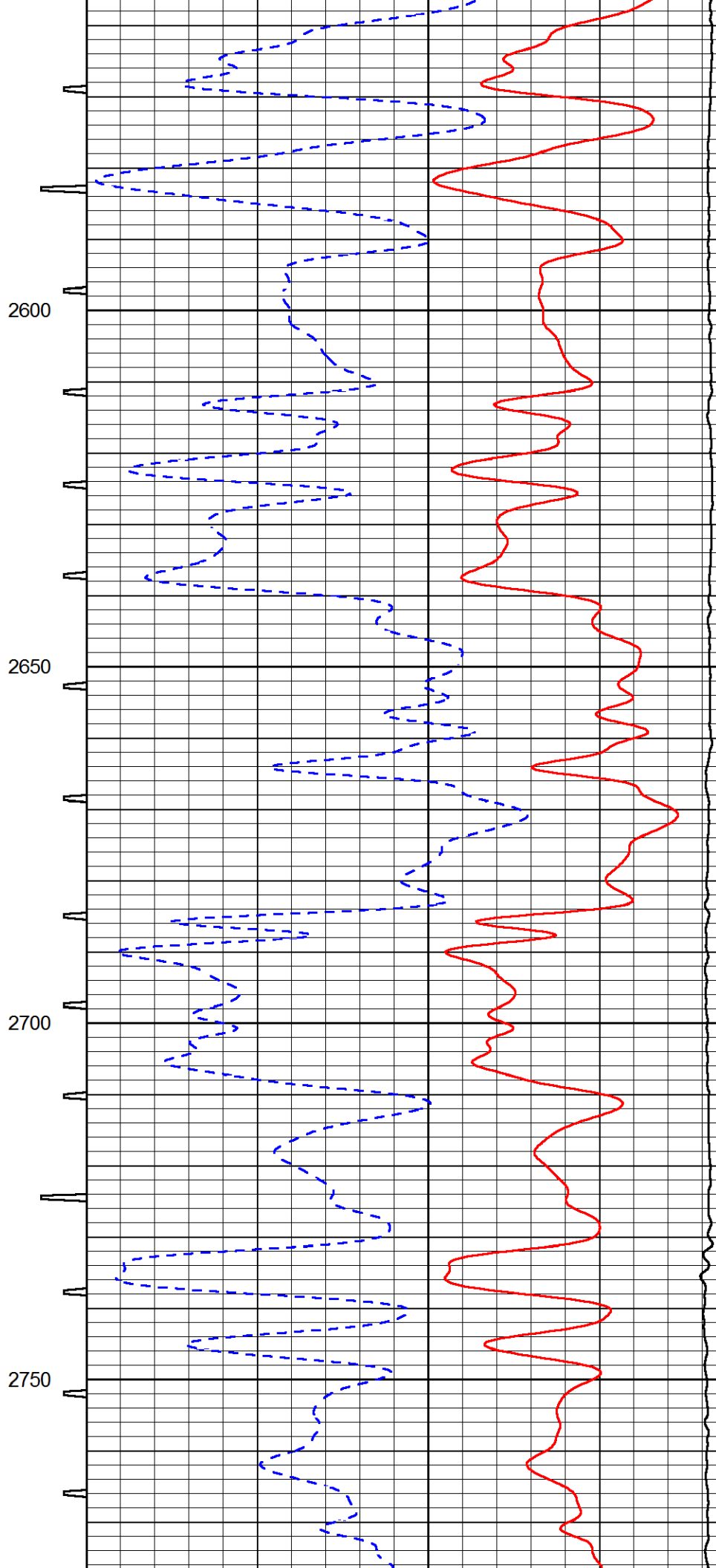
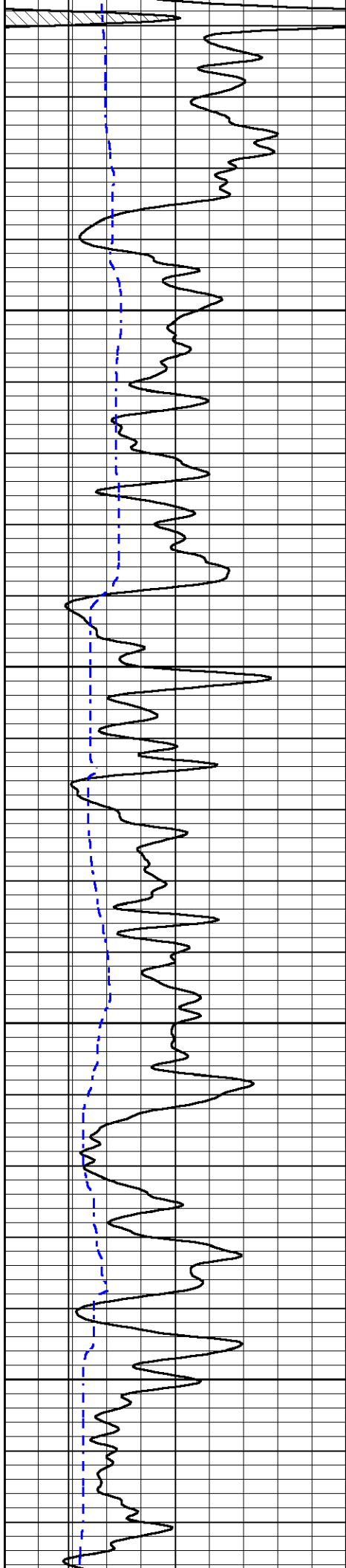
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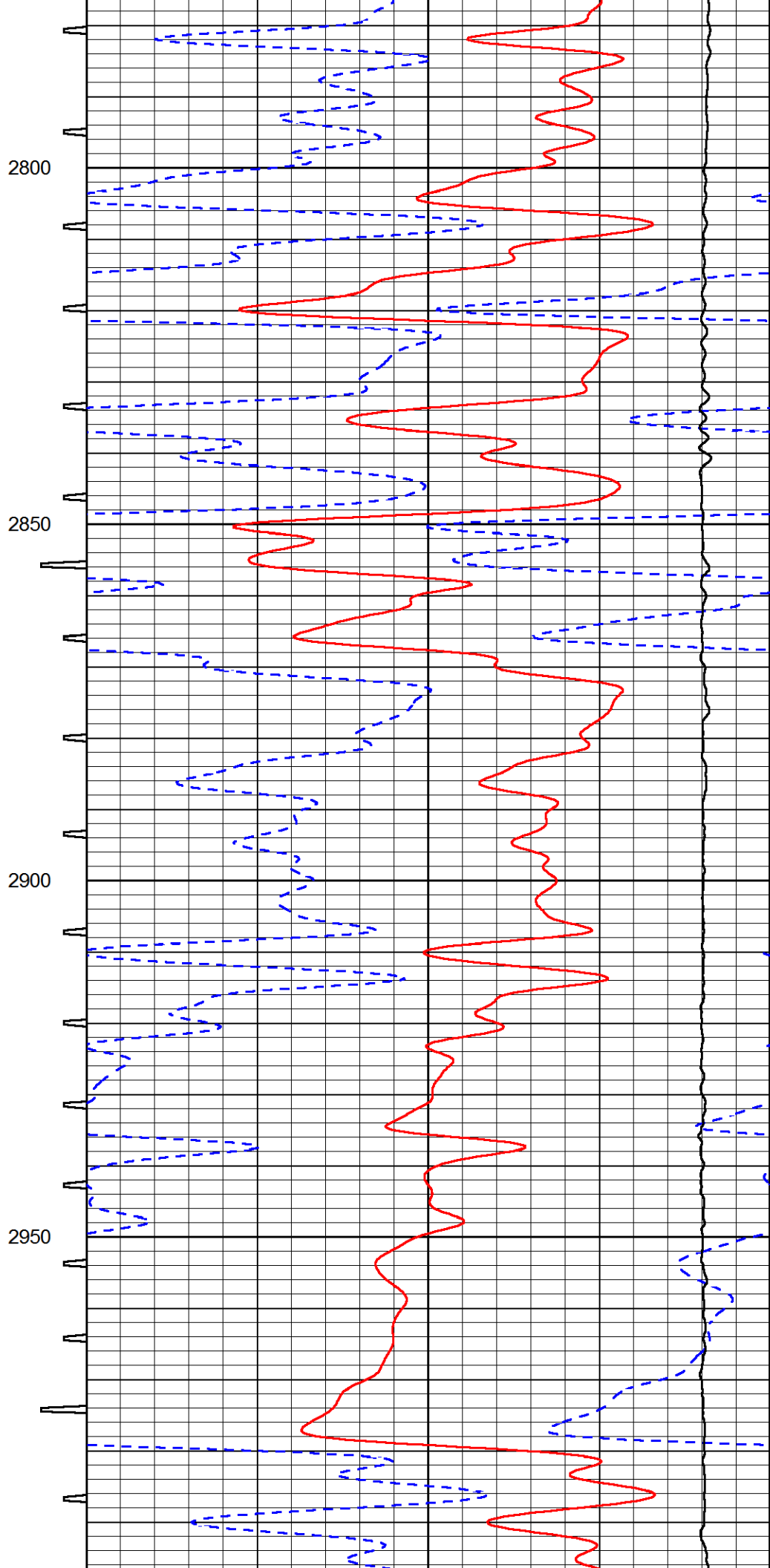
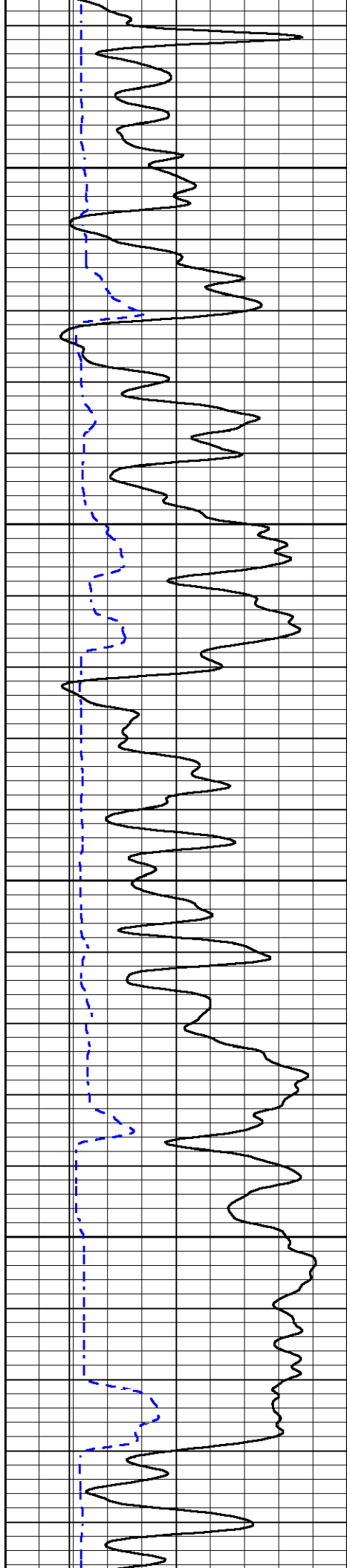


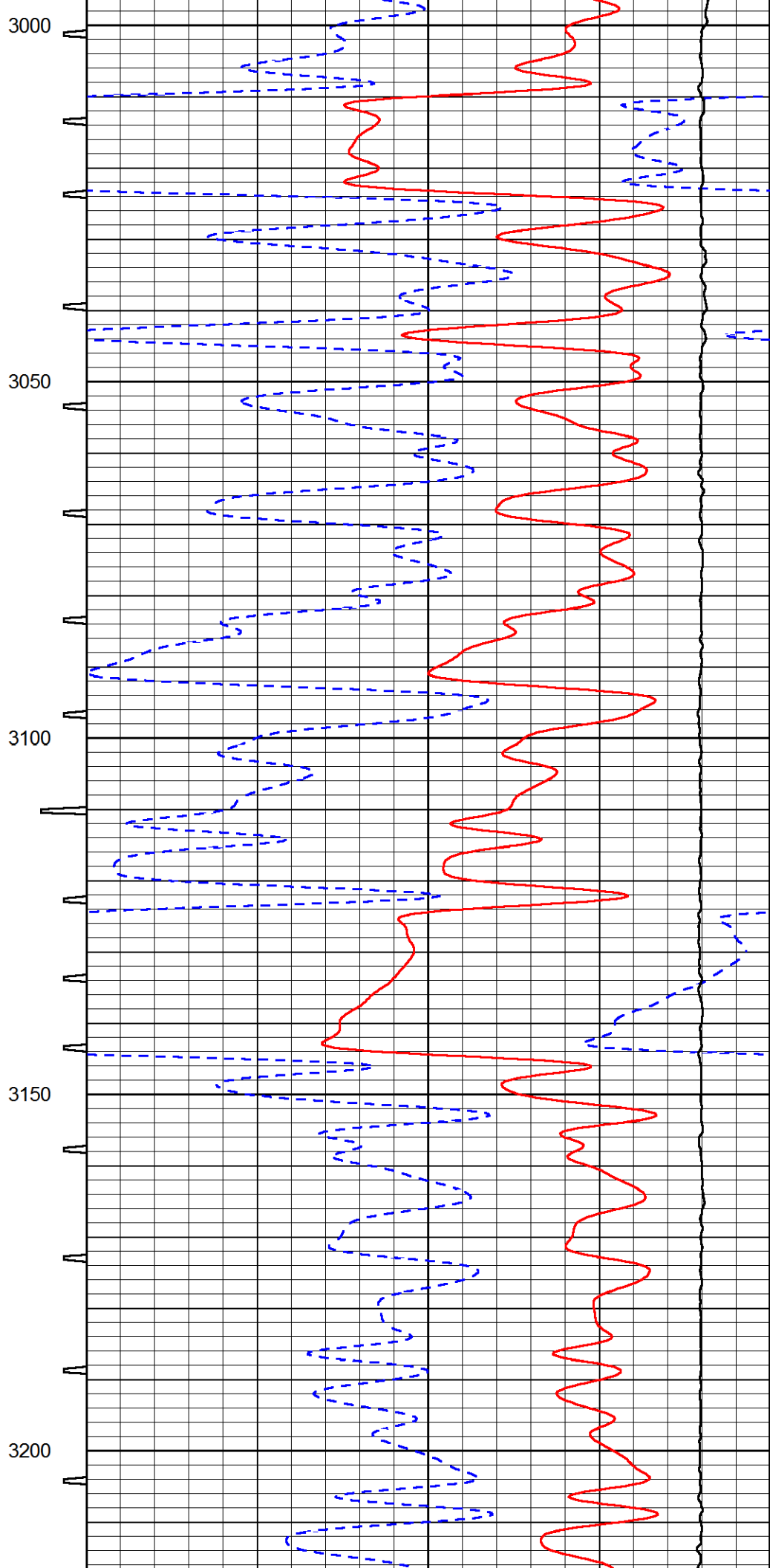
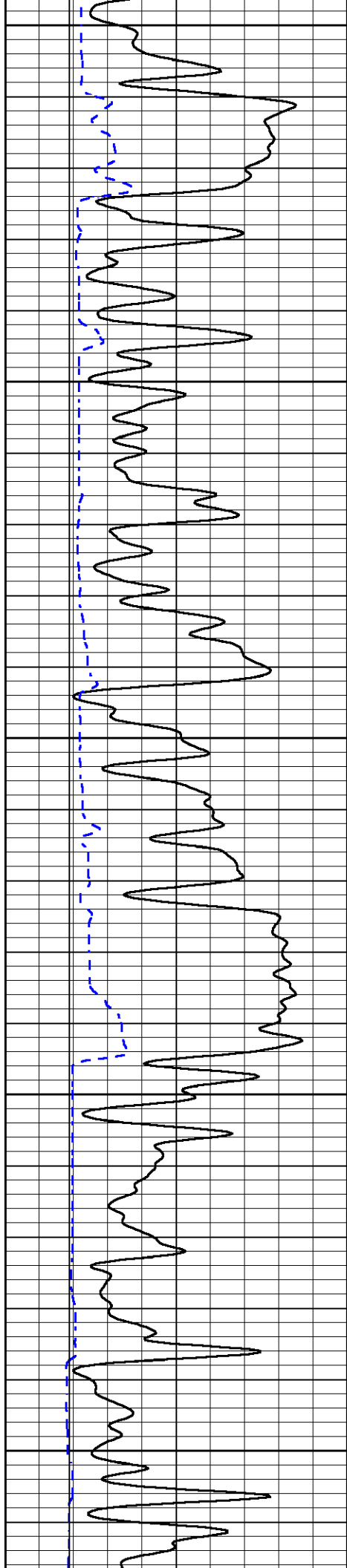


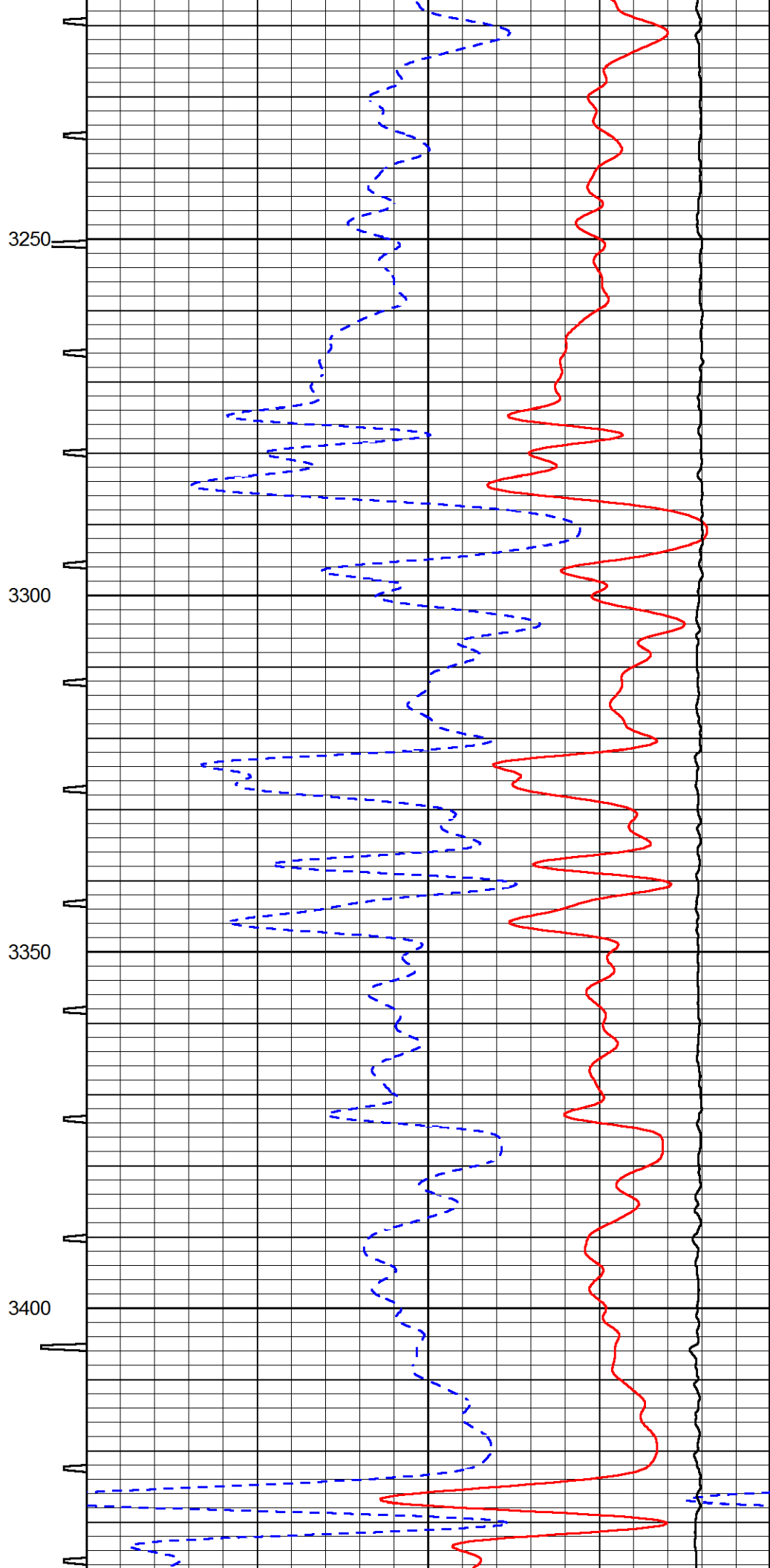
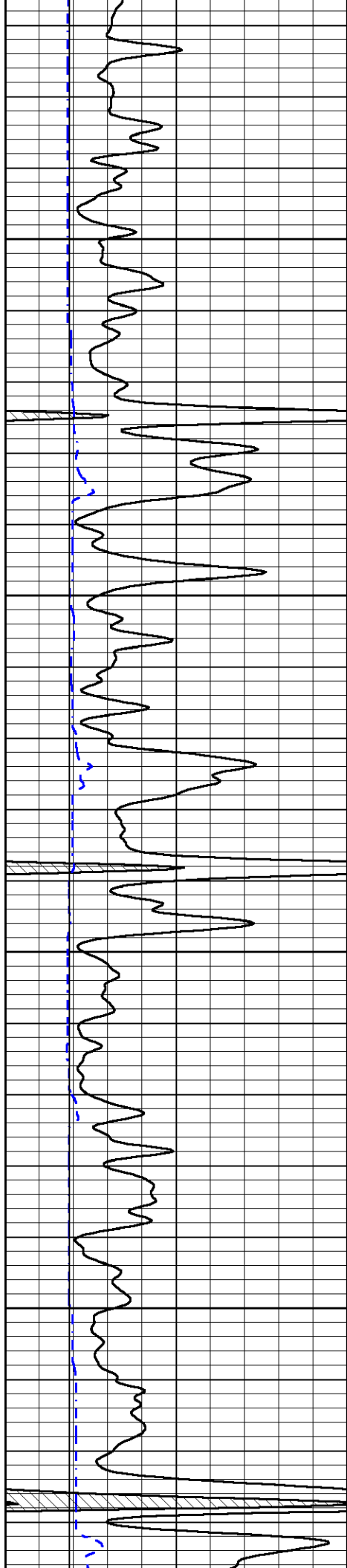


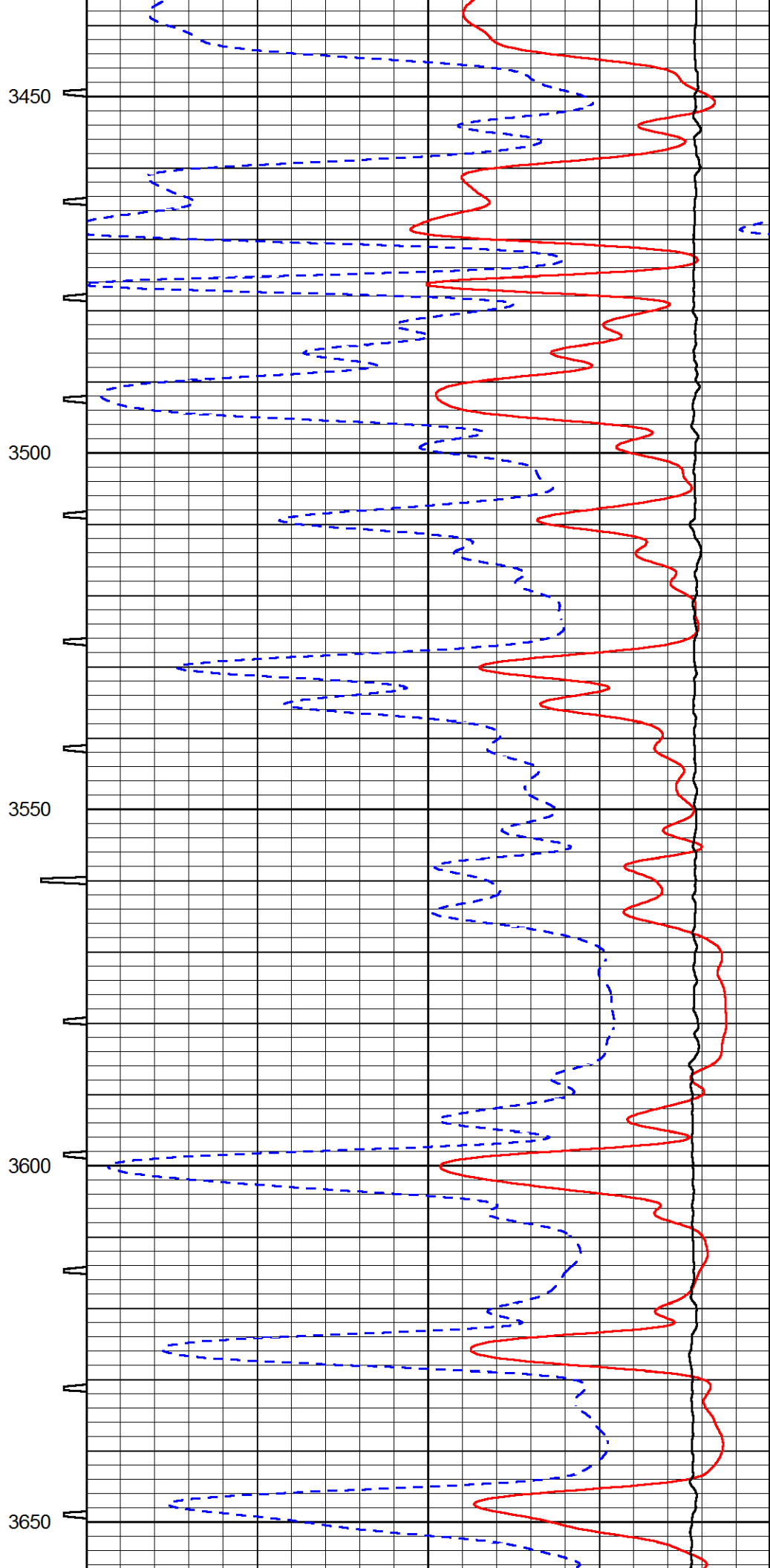
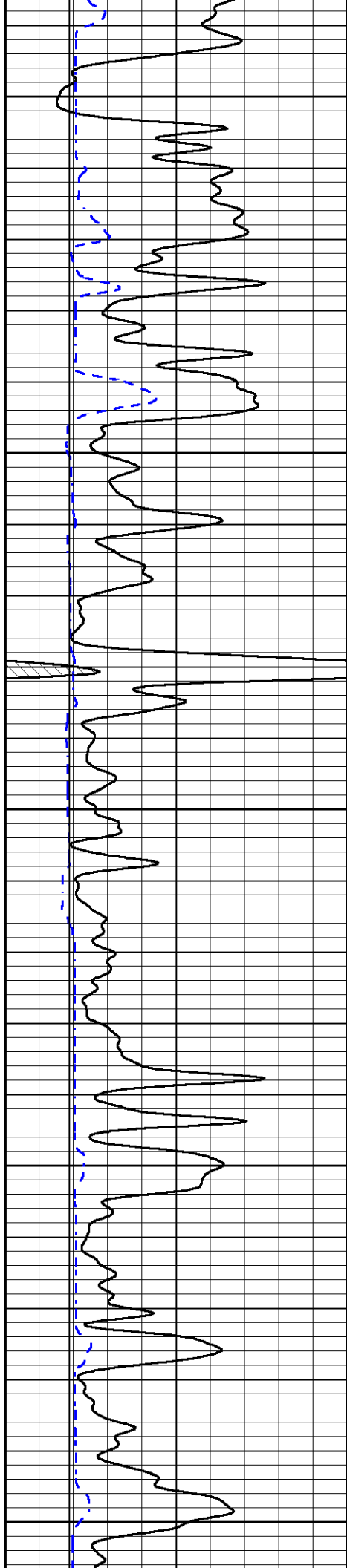


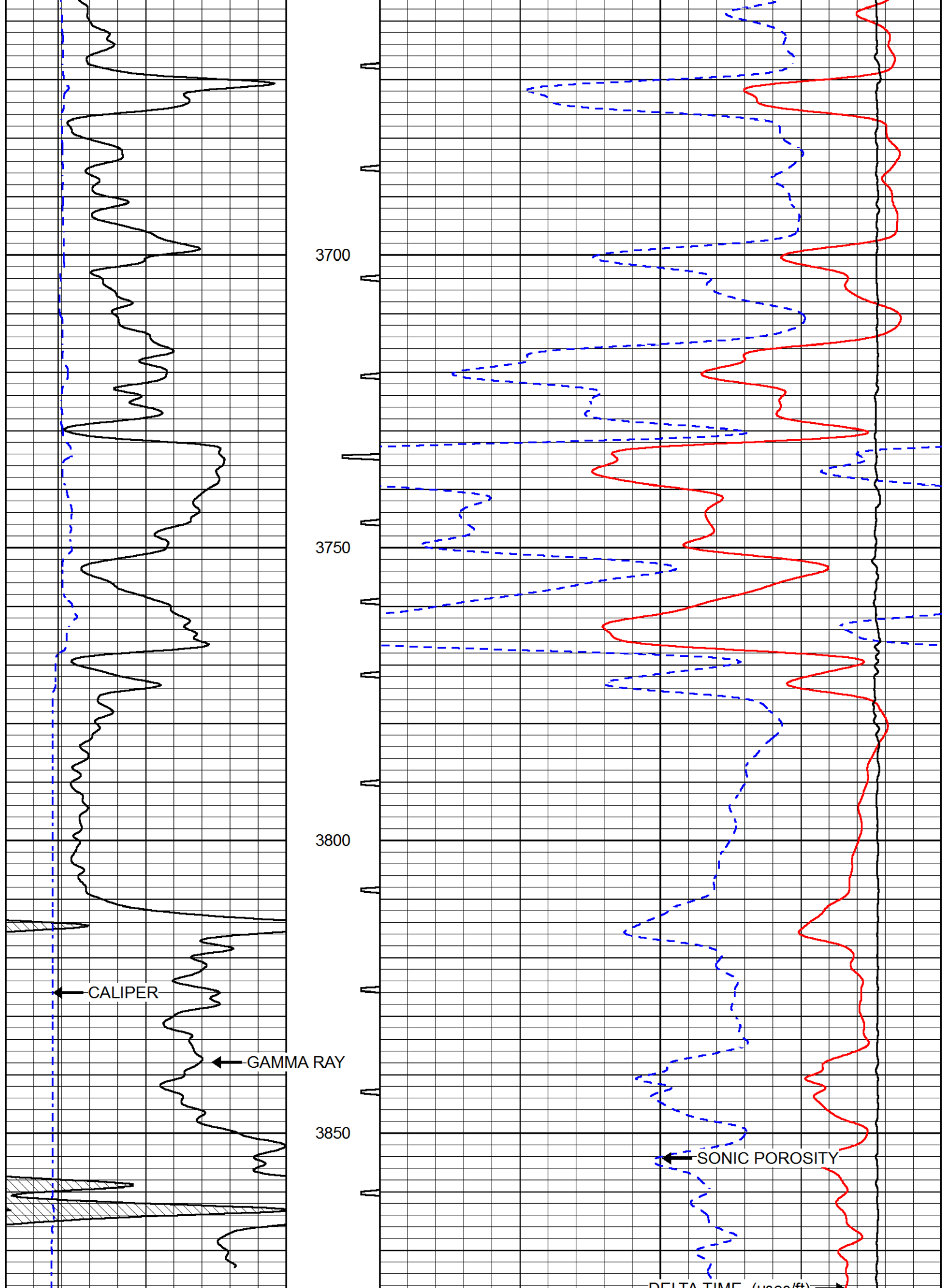


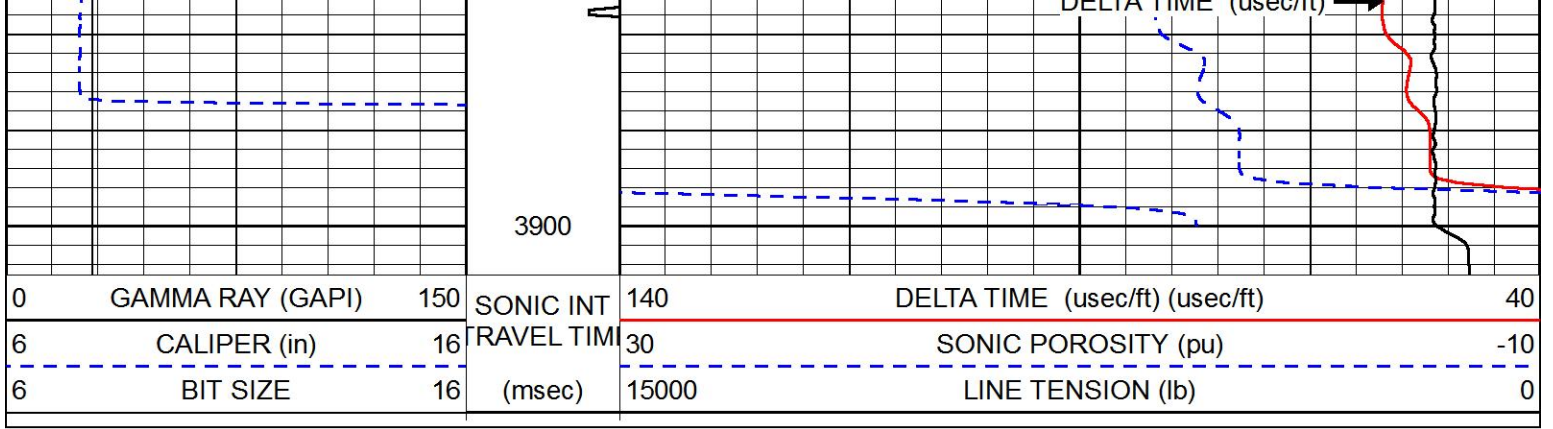








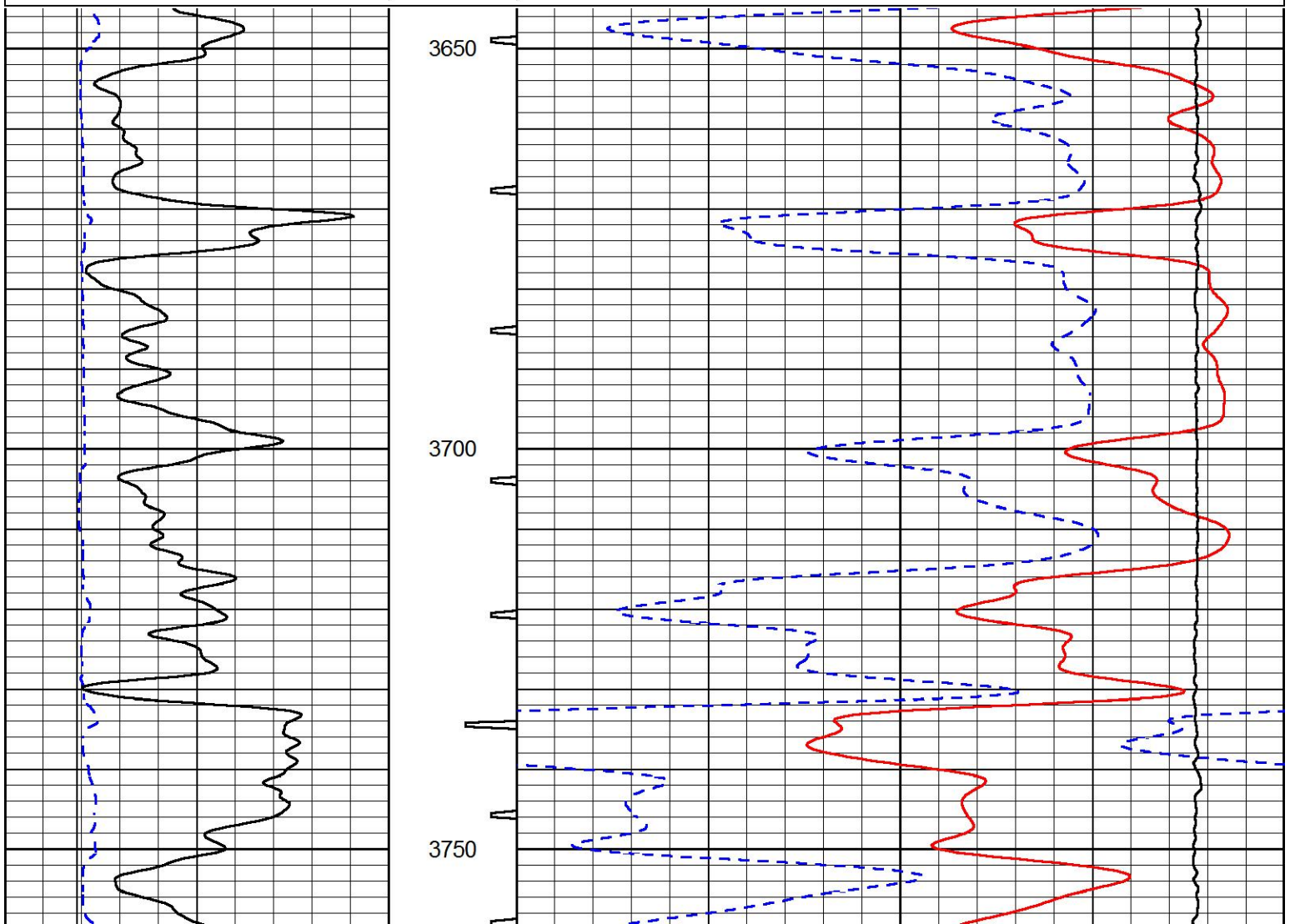




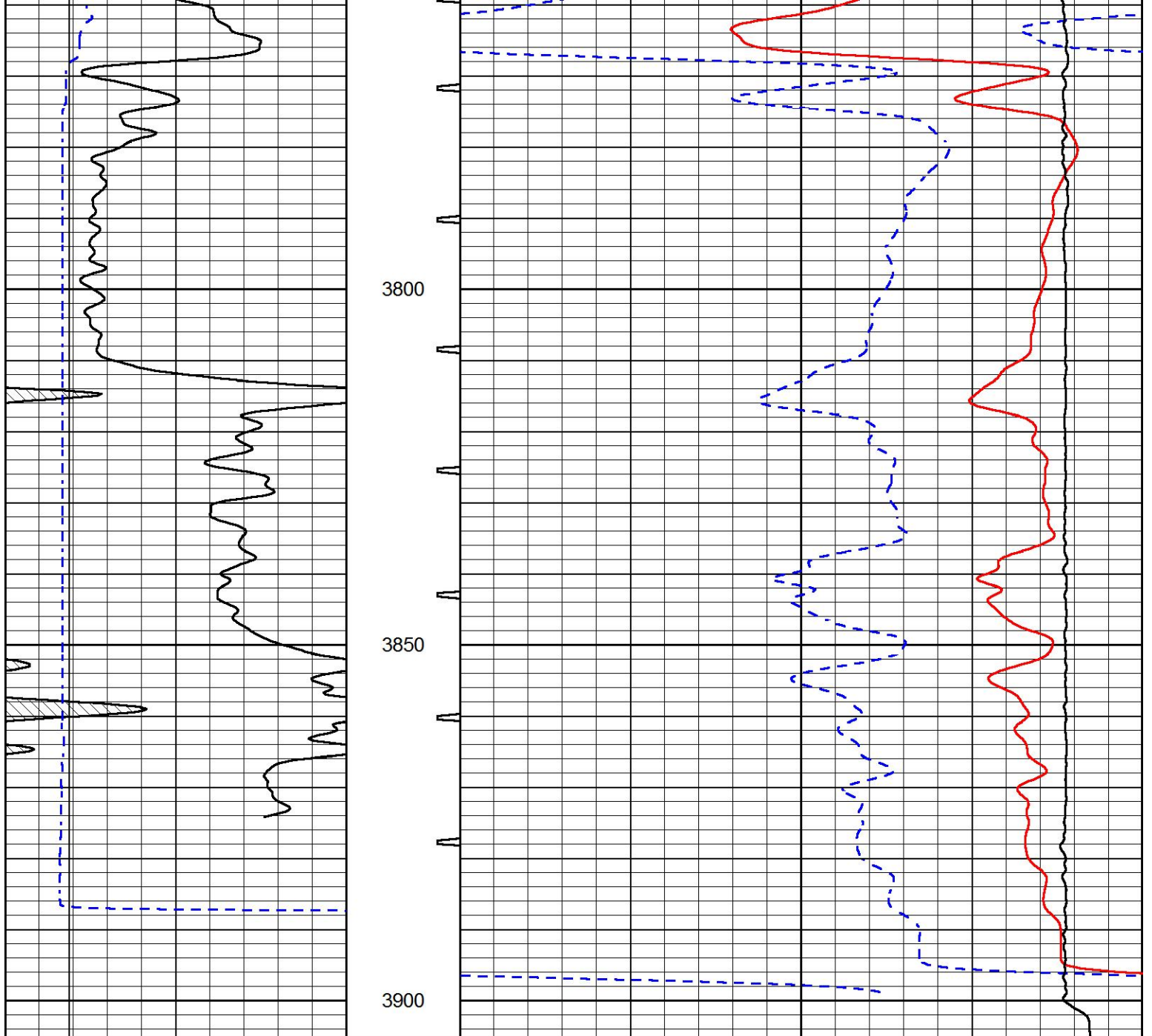
# REPEAT SECTION

Database File cholla\_zimmerman\_1\_3.db  
 Dataset Pathname stack/pass2.1  
 Presentation Format sonic  
 Dataset Creation Fri Oct 04 05:37:31 2019  
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	SONIC INT	140	DELTA TIME (usec/ft) (usec/ft)	40
6	CALIPER (in)	16	TRAVEL TIM	30	SONIC POROSITY (pu)	-10
6	BIT SIZE	16	(msec)	15000	LINE TENSION (lb)	0







0	GAMMA RAY (GAPI)	150	SONIC INTERVAL	140	DELTA TIME (usec/ft) (usec/ft)	40
6	CALIPER (in)	16	SONIC TRAVEL TIME	30	SONIC POROSITY (pu)	-10
6	BIT SIZE	16	(msec)	15000	LINE TENSION (lb)	0



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