



PIONEER

Pioneer Energy Services

BOREHOLE COMPENSATED SONIC LOG

Company CYNOSURE ENERGY, LLC
Well LEIKER NO. 2-25-15-20
Field WILDCAT
County ELLIS State KANSAS

Location: API #: 15-051-26848-00-00

Other Services

SE/4 NE/4 SE/4 SW/4
740' FSL & 2,506' FWL
SEC 25 TWP 15S RGE 20W

CNL/CDL
DIL/MEL

Permanent Datum GROUND LEVEL Elevation 2123'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2131'
D.F. N/A
G.L. 2123'

Date 11/11/2016

Run Number TWO

Type Log BHCS

Depth Driller 3800'

Depth Logger 3799'

Bottom Logged Interval 3788'

Top Logged Interval 1350'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 6800

Density 9.0

Level FULL

Max. Rec. Temp. F 114

Operating Rig Time 4 HOURS

Equipment -- Location 108 COLBY

Recorded By J. LONG

Witnessed By CHARLIE STURDAVANT

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	00'	1371'	8.625"	23#	00'	1371'
TWO	7.875"	1371'	TD				

<<< Fold Here >>>

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.

SCHOENCHEN, 9 1/2 WEST (1/2 WEST OF 160TH AVENUE), 1/8 NORTH, WEST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

Engineer: J. LONG
Operator: C. PFEIFER
Operator:
Operator:

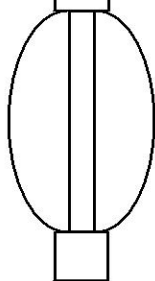
This Log Record Was Witnessed By

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

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	114	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	-160	55	Off	3799

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
MCAL MI MN	28.00		ML-Armadillo (Armadillo-1) Pengo micro log tool mandrel with Armadillo Electronics	5.00	3.50	100.00
	28.00		CENT-PENGO	5.50	3.00	70.00
	28.00		SLT-PENGO (0001)	16.00	3.50	300.00
WVF4 WVF1	13.50 13.50					
WVF3 WVF2	11.50 11.50					



CENT-PENGO

5.50

3.00

70.00

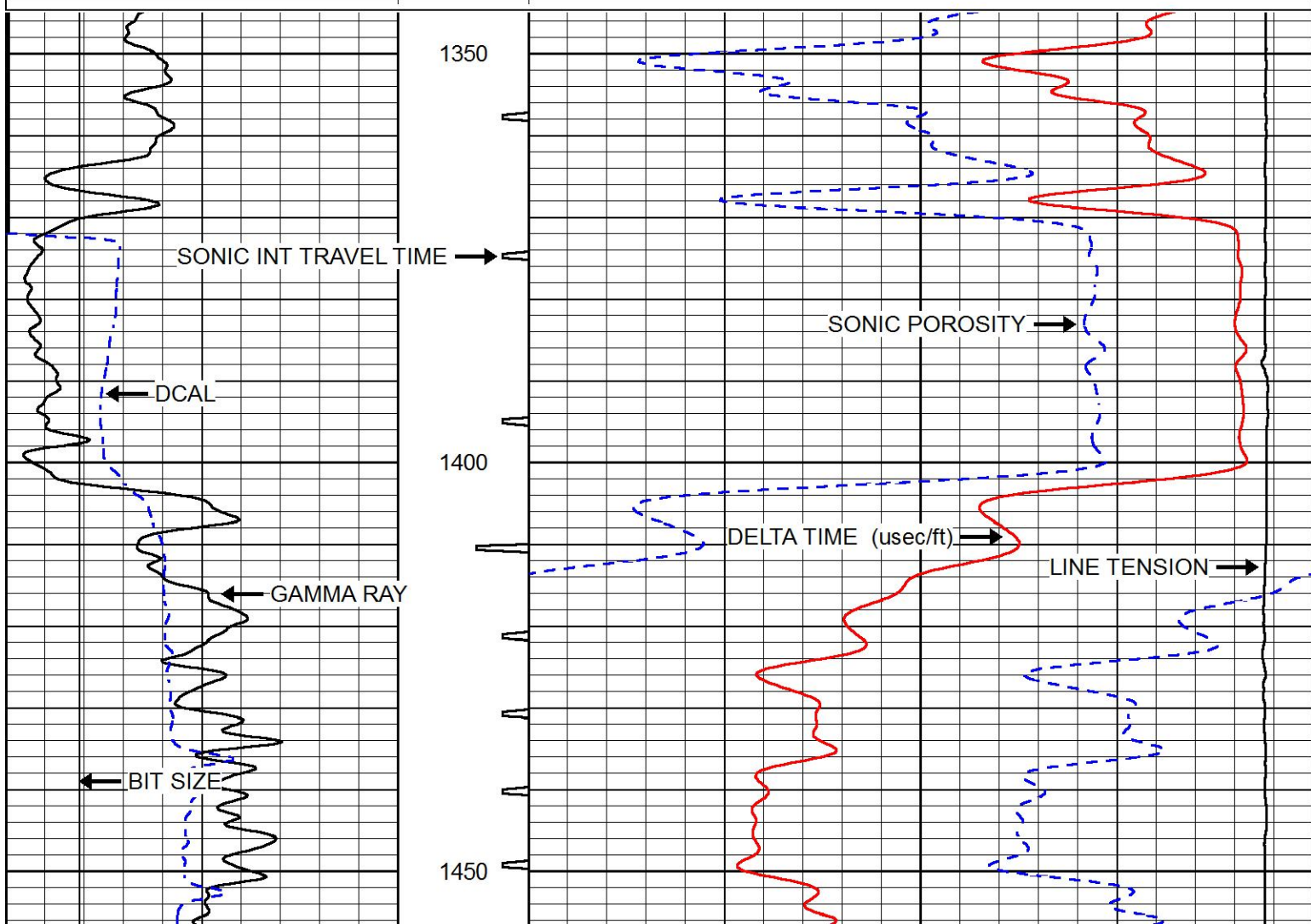
Dataset: cynosureenergy_leiker_2-25-15-20.db: field/well/sonmel/pass1
Total length: 32.00 ft
Total weight: 540.00 lb
O.D.: 3.50 in

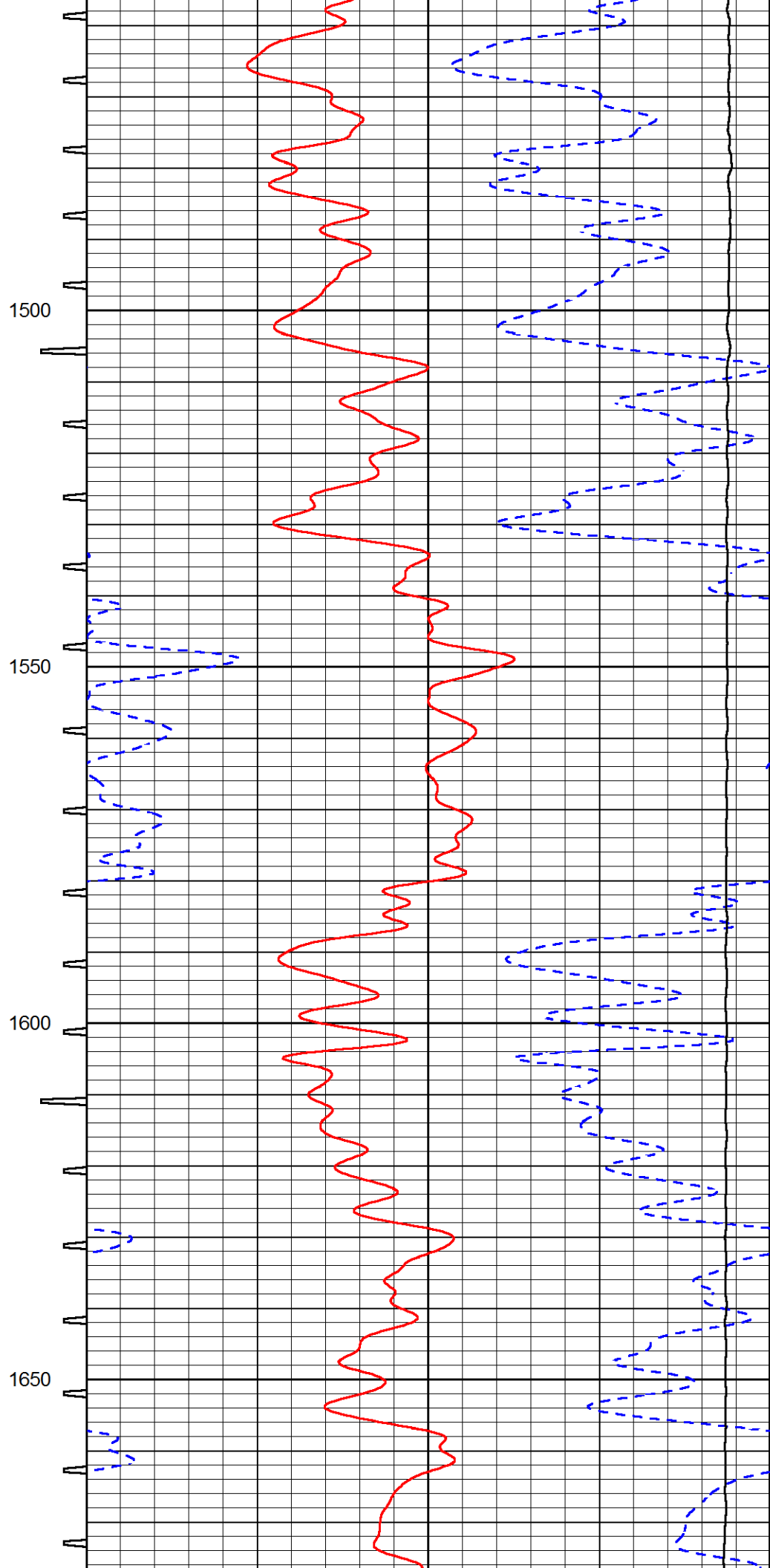
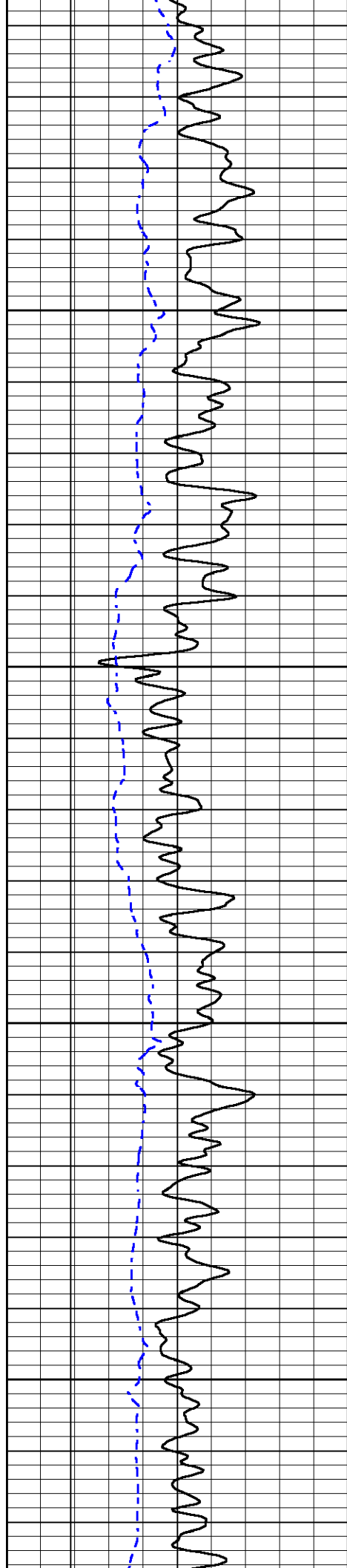


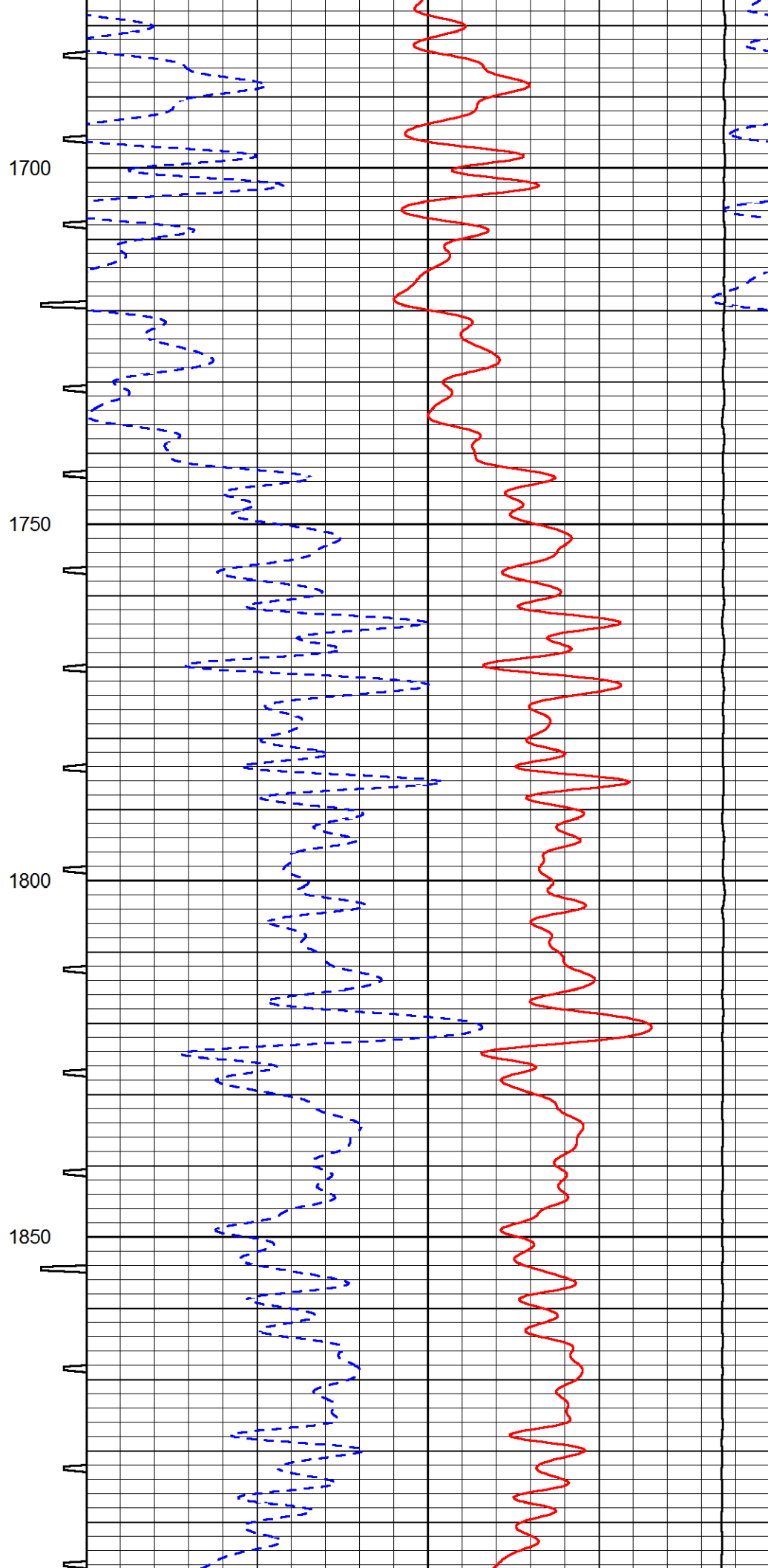
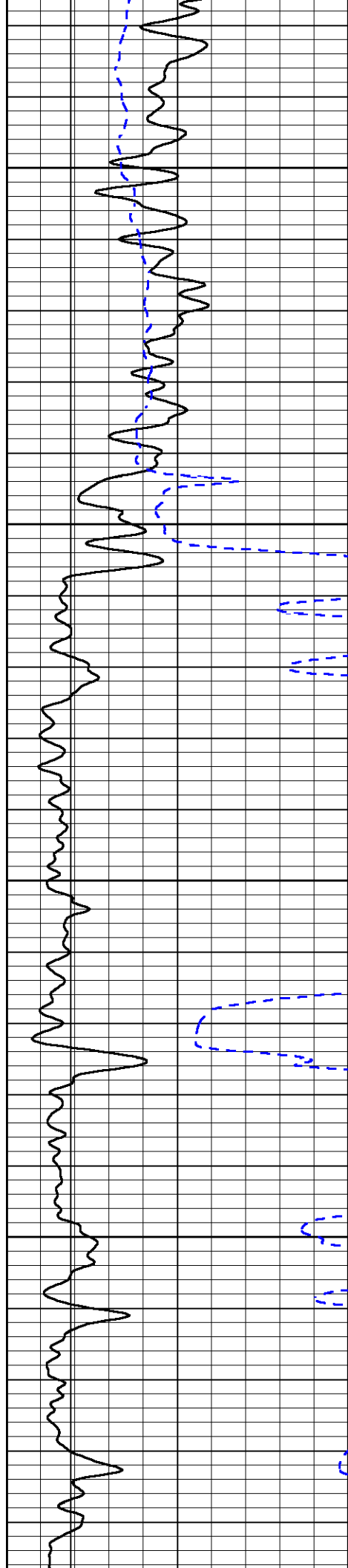
MAIN PASS

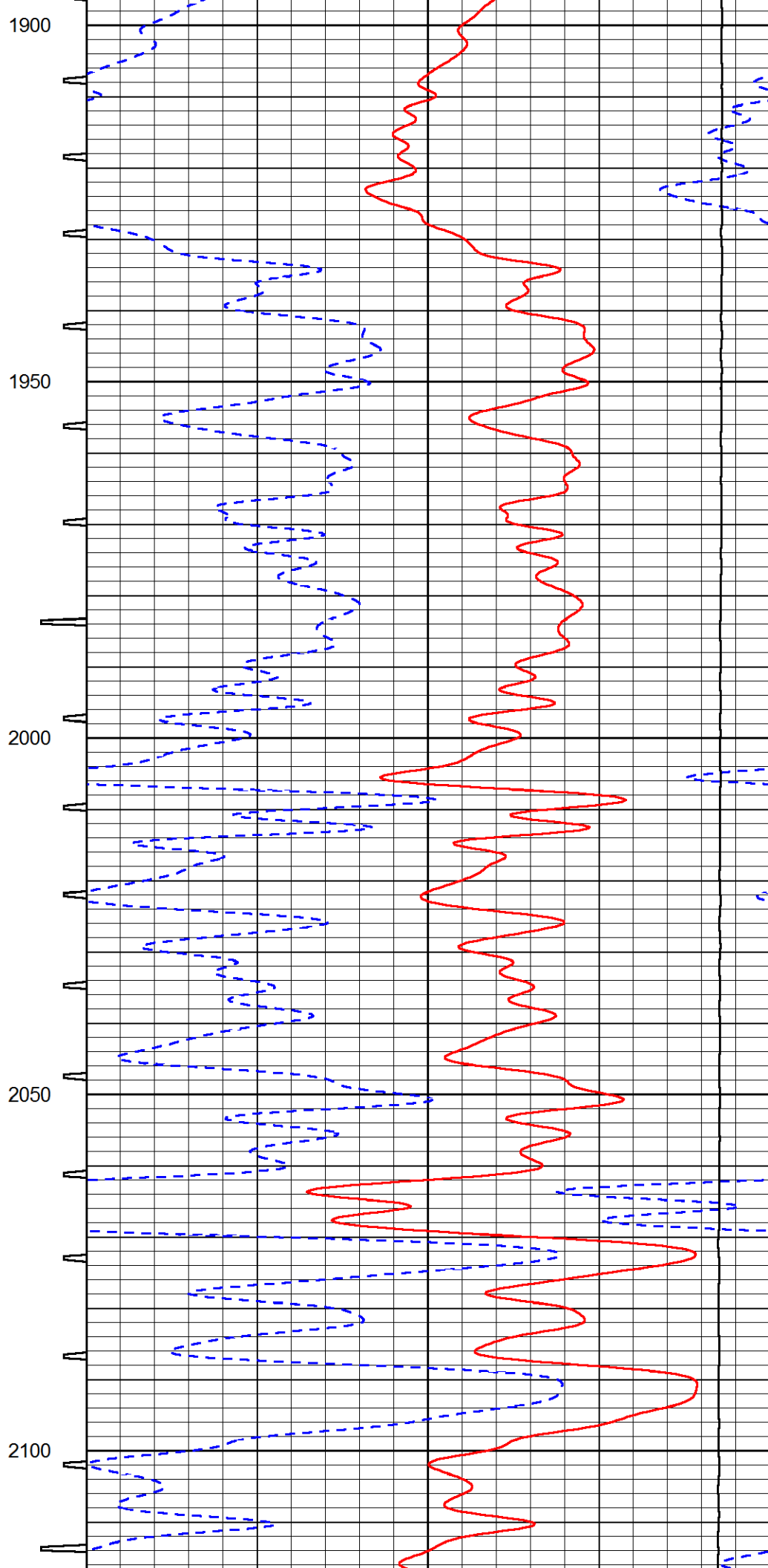
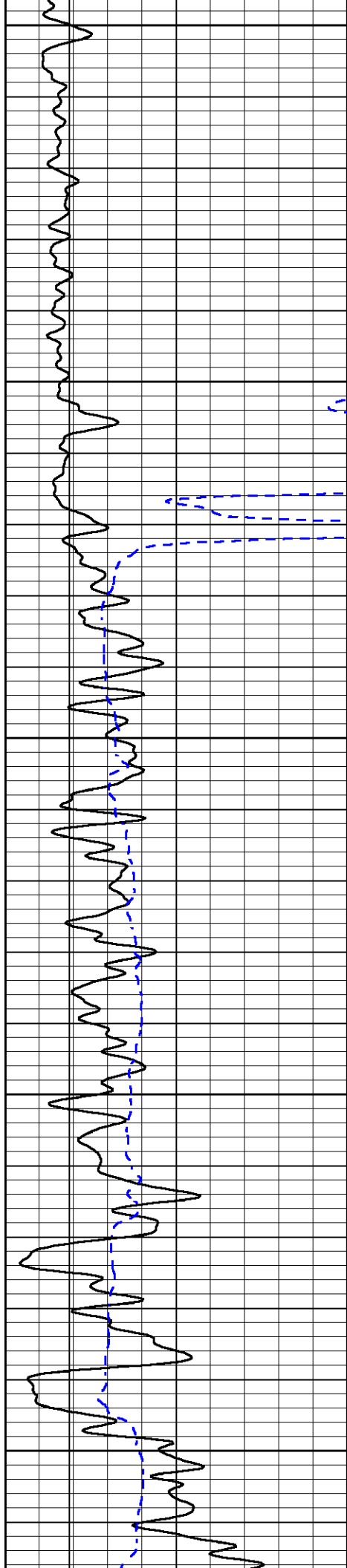
Database File cynosureenergy_leiker_2-25-15-20.db
Dataset Pathname stack/pass4.1
Presentation Format sonic
Dataset Creation Wed Nov 02 01:08:16 2016
Charted by Depth in Feet scaled 1:240

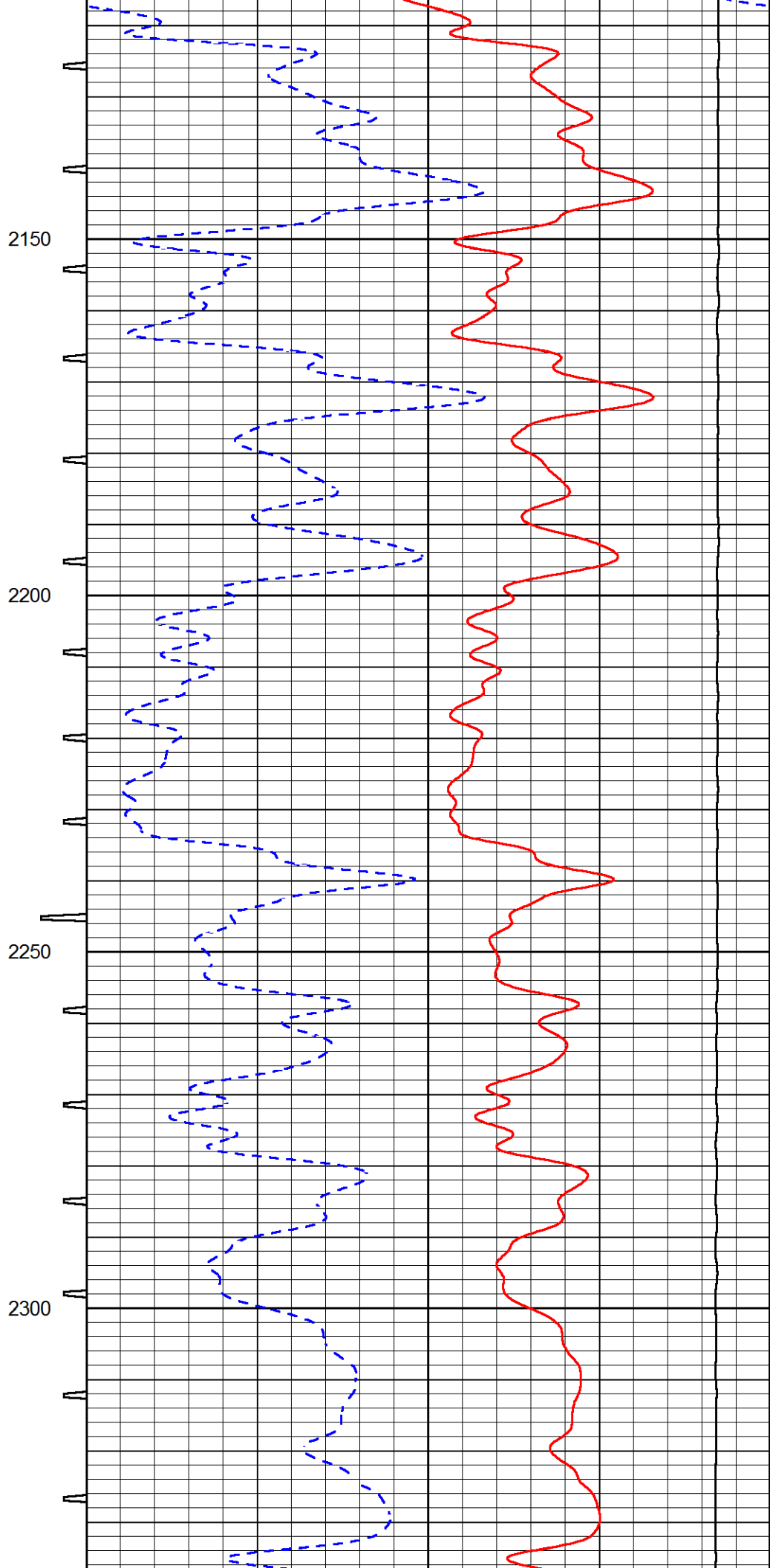
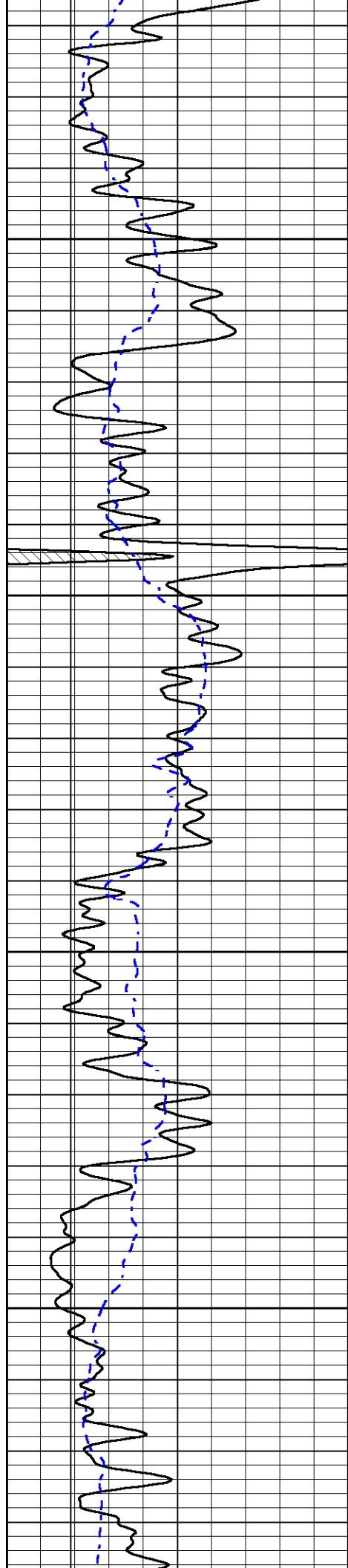
0	GAMMA RAY (GAPI)	150	SONIC INT	140	DELTA TIME (usec/ft) (usec/ft)	40
6	CALIPER (in)	16	TRAVEL TIME	30	SONIC POROSITY (pu)	-10
6	BIT SIZE	16	(msec)	15000	LINE TENSION (lb)	0

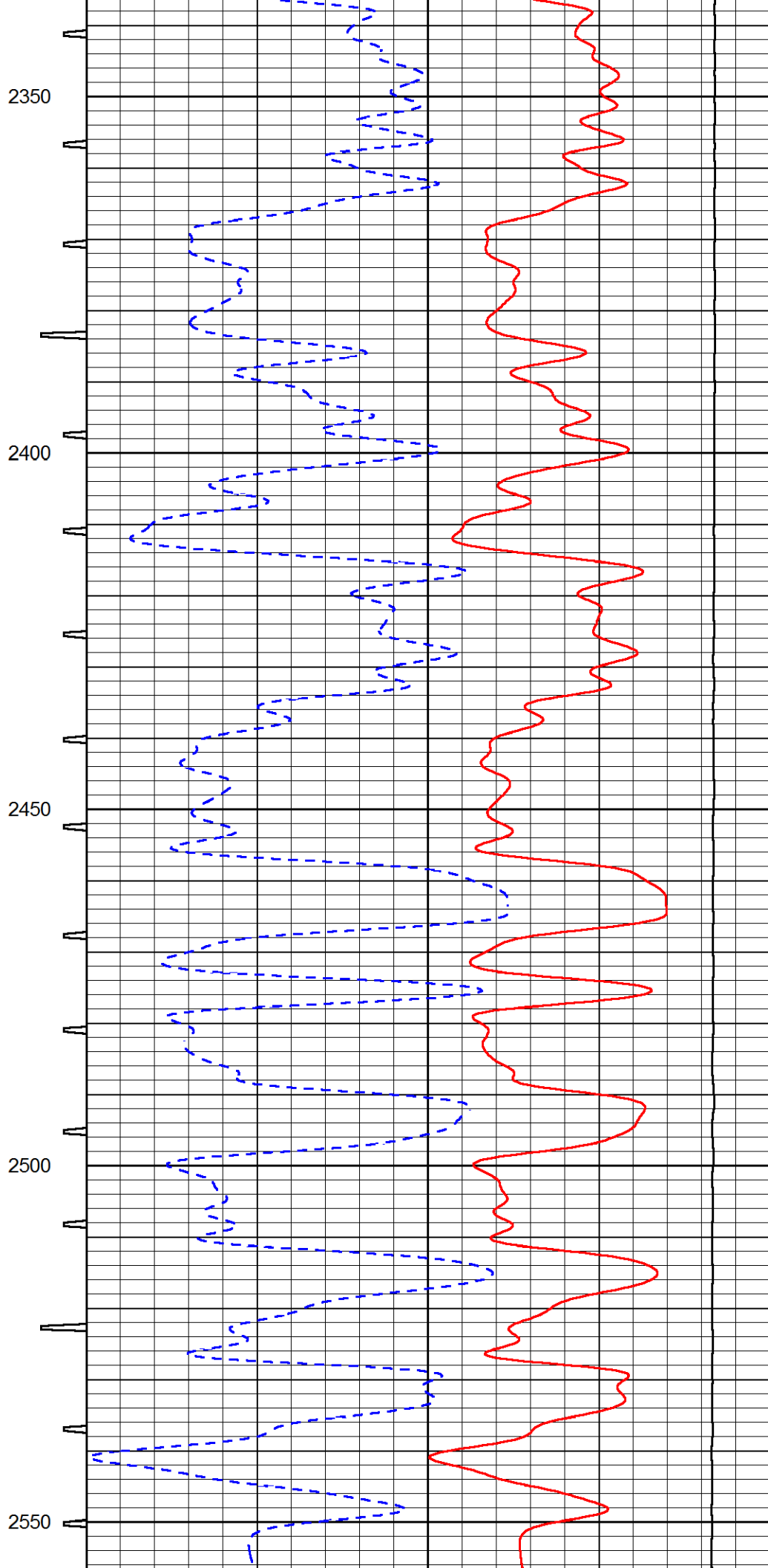
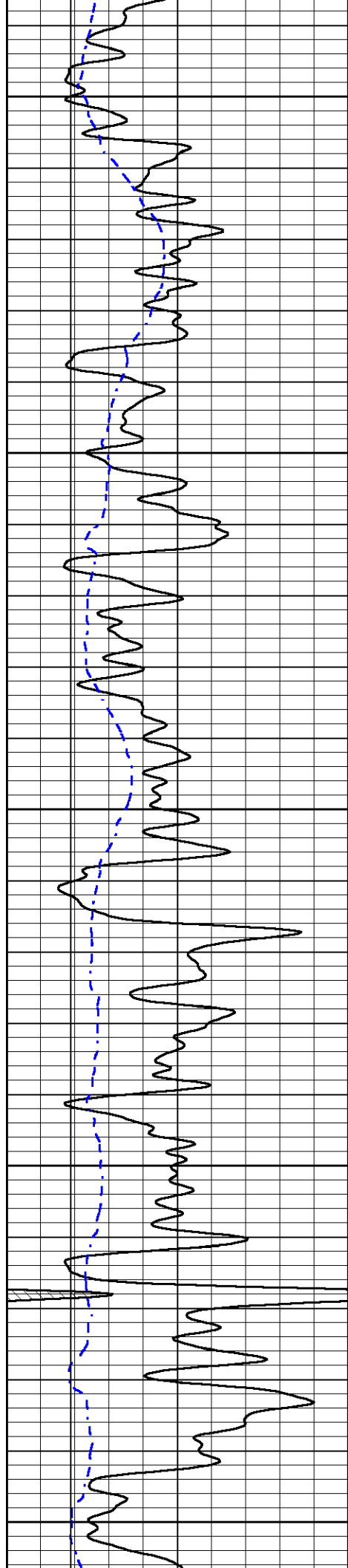


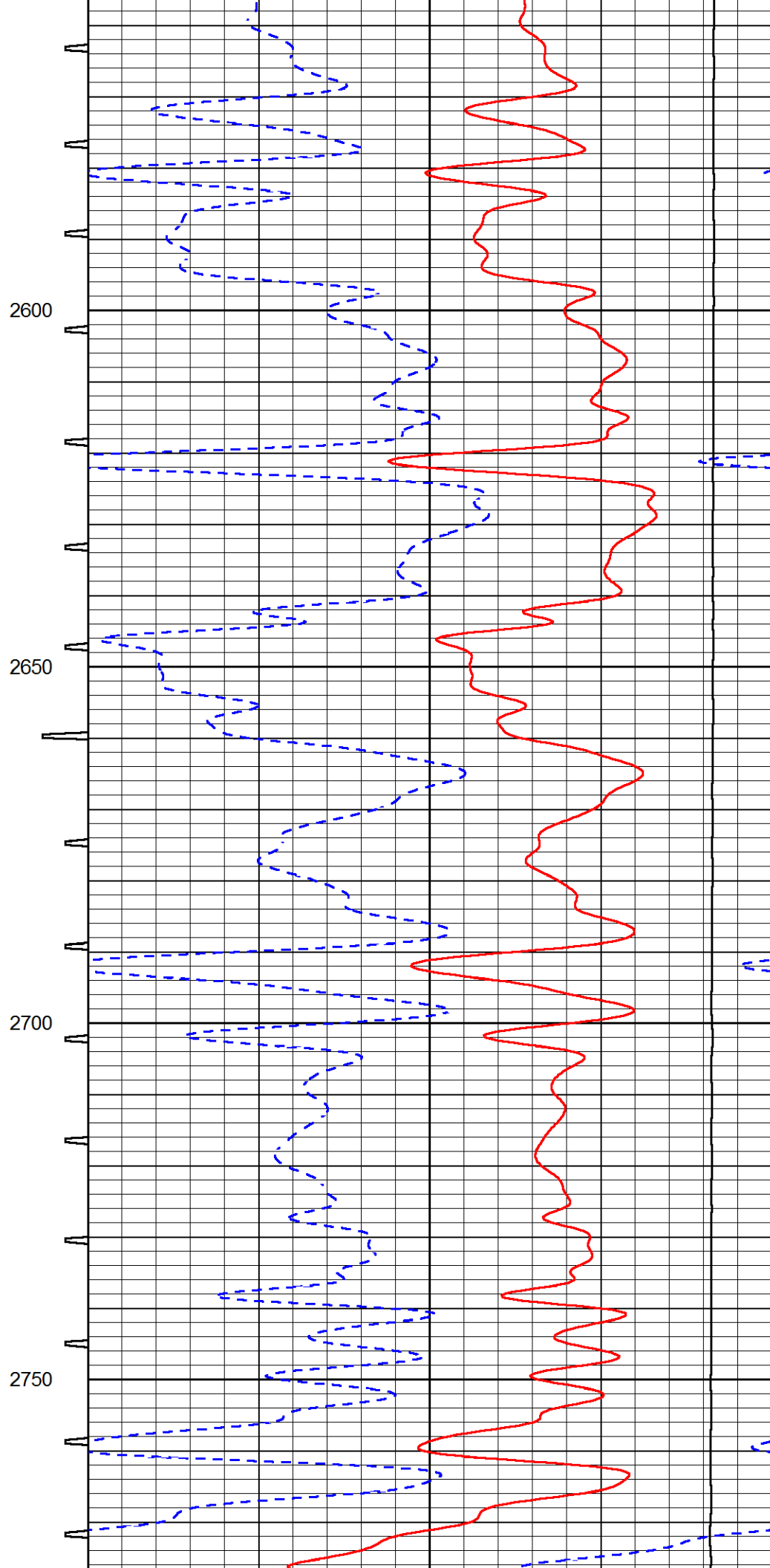
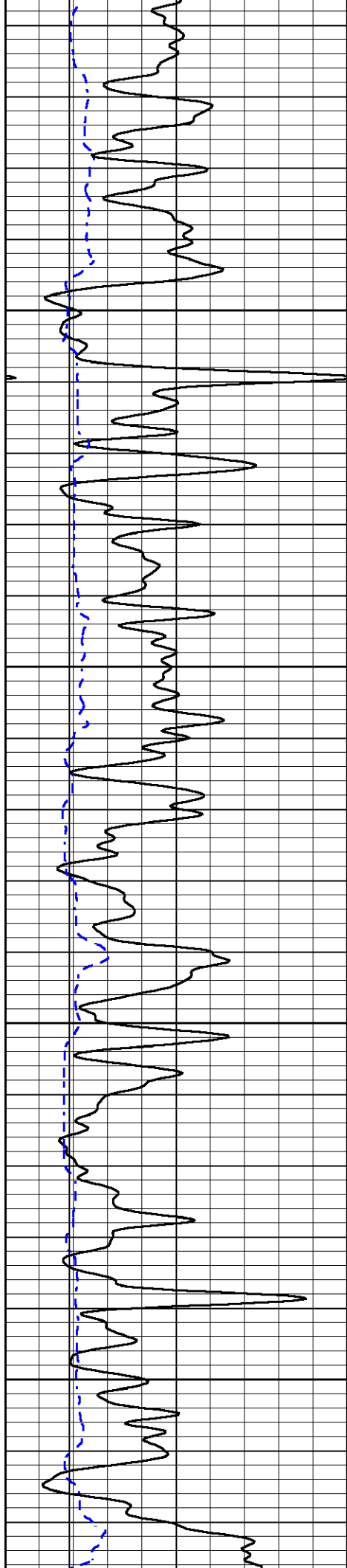


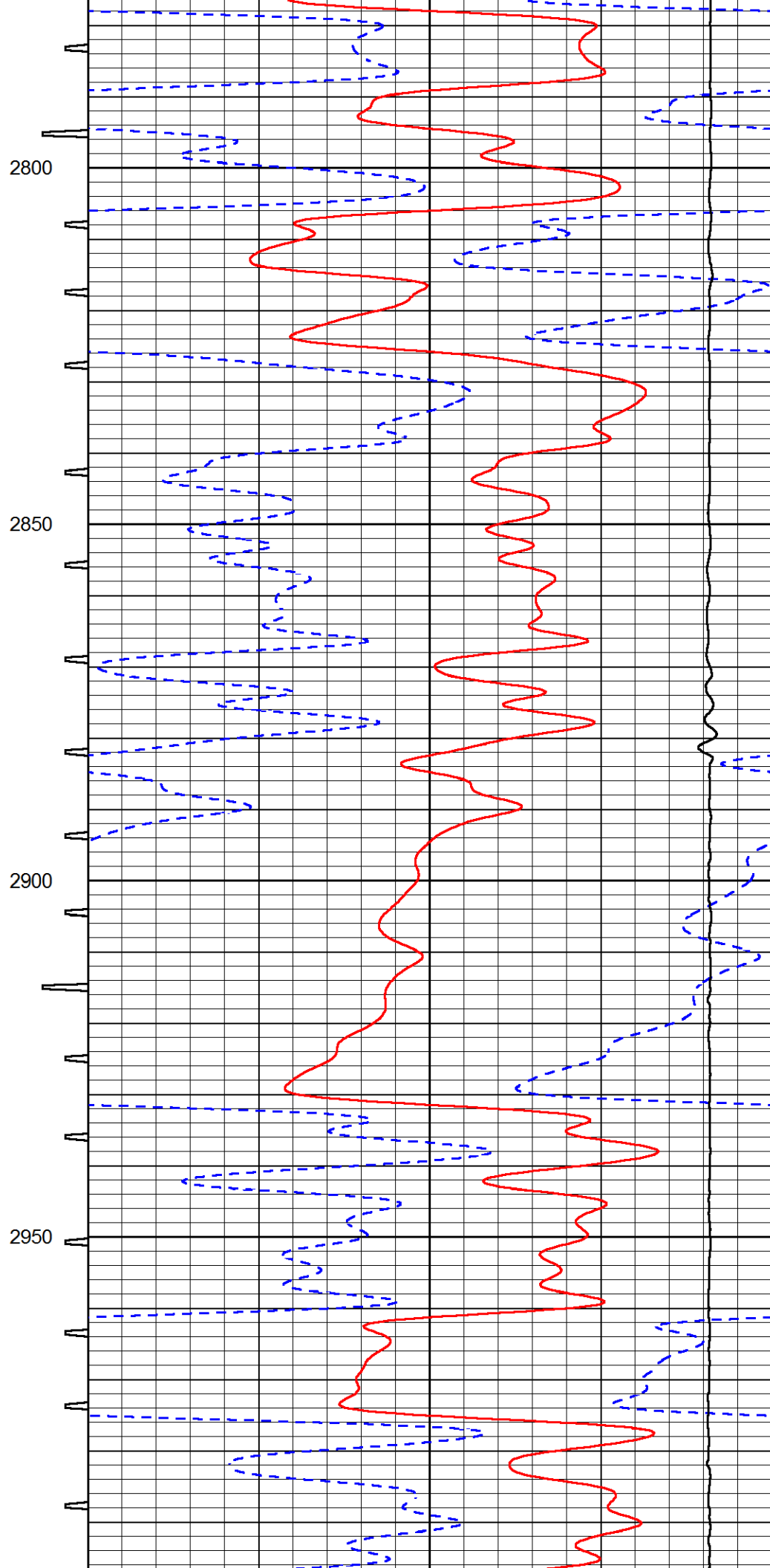
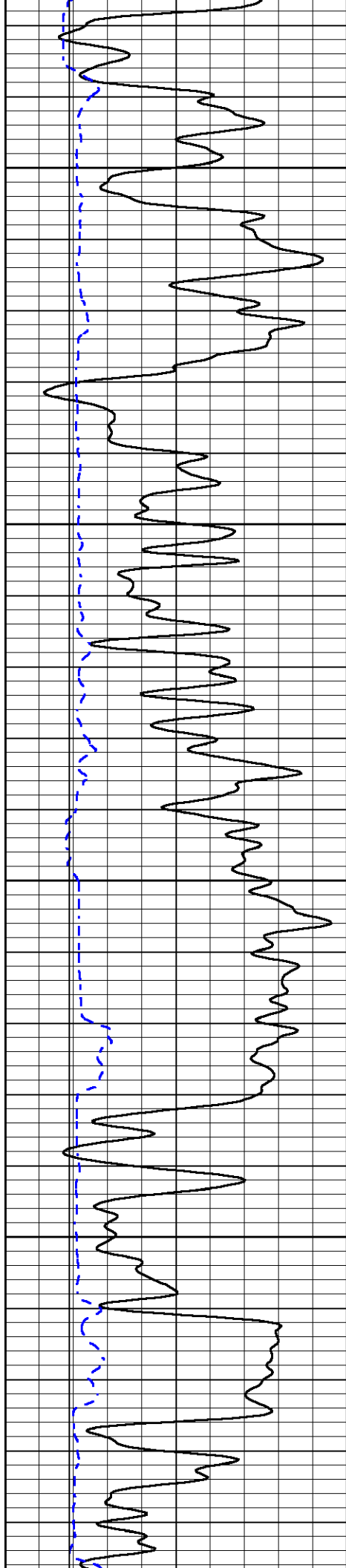


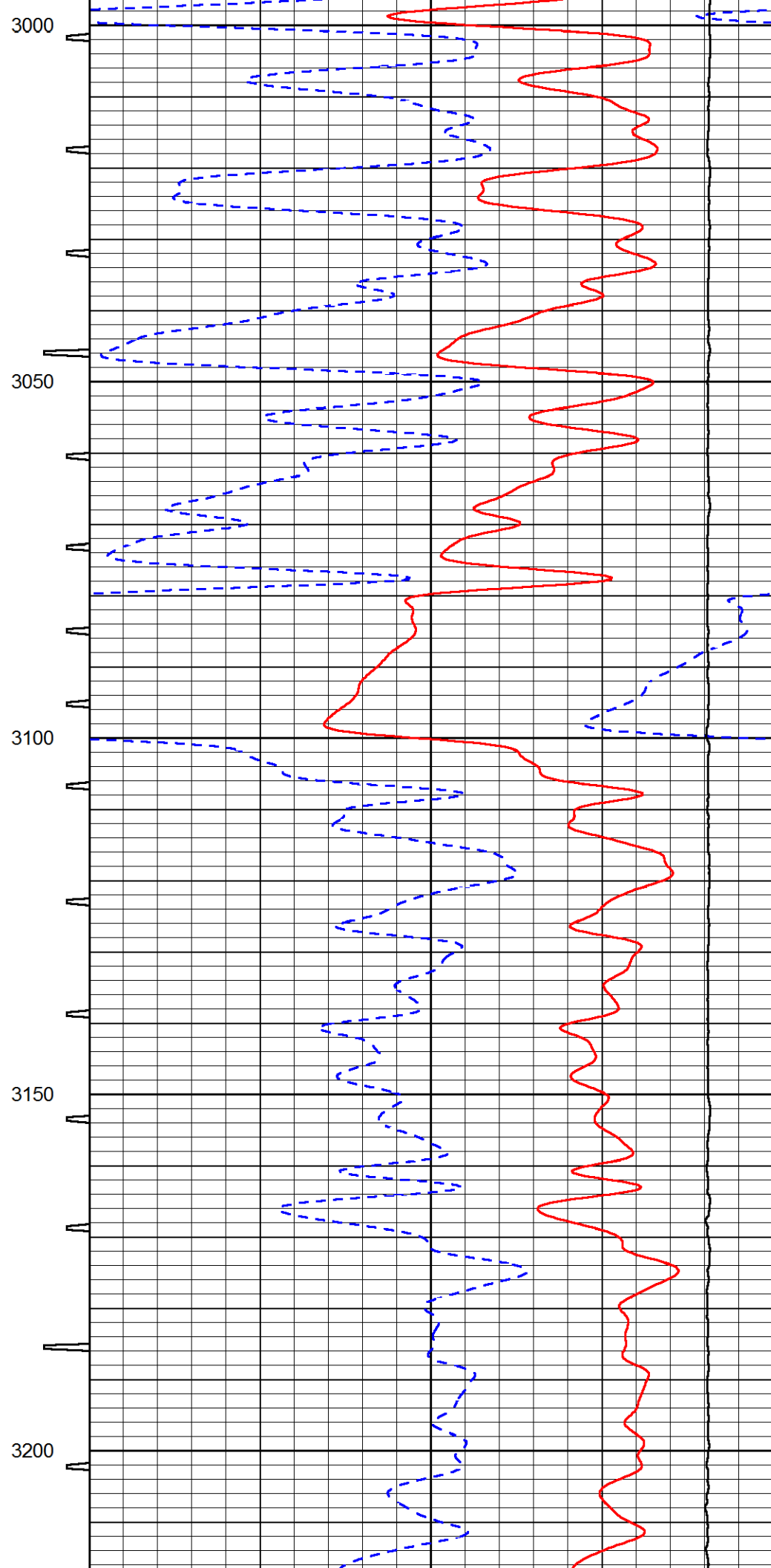
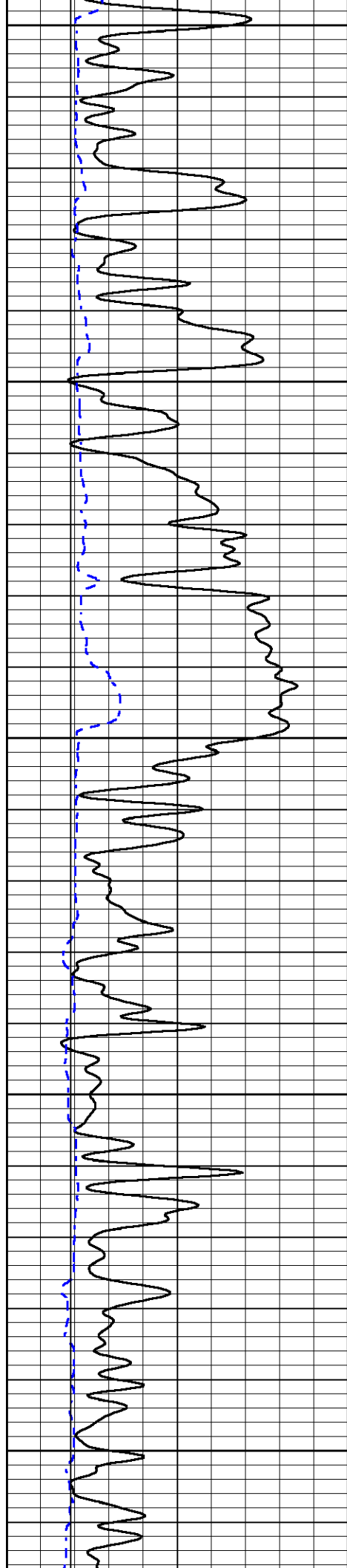


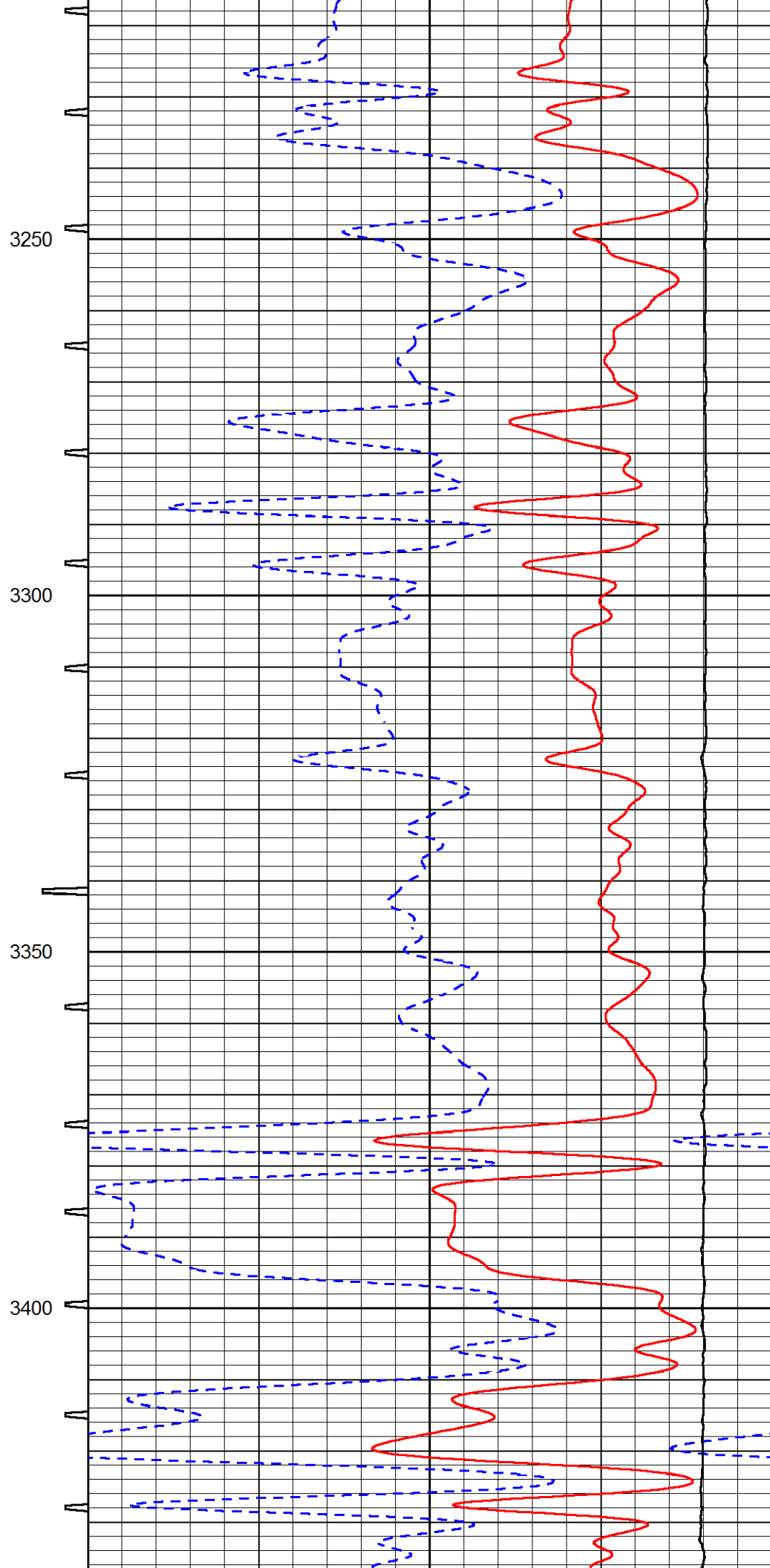
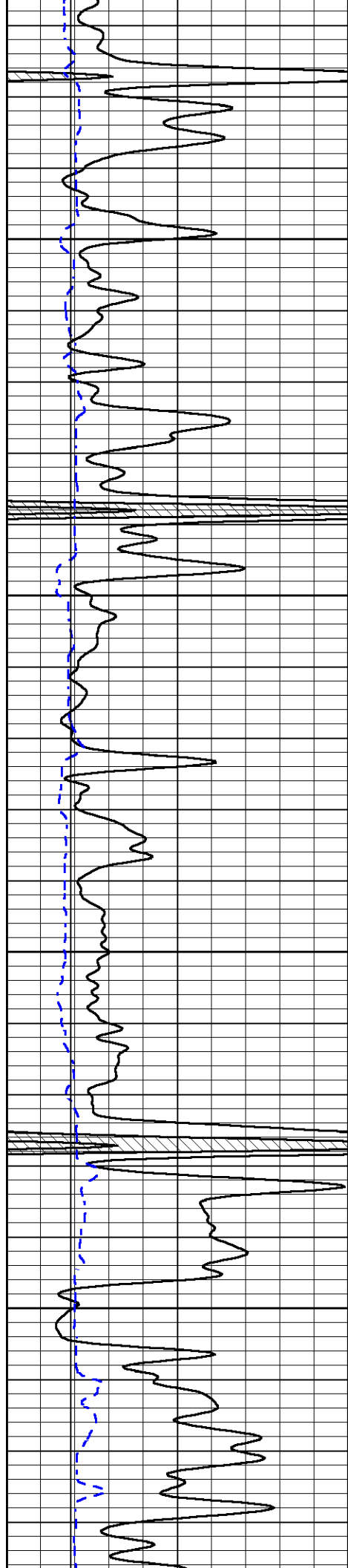


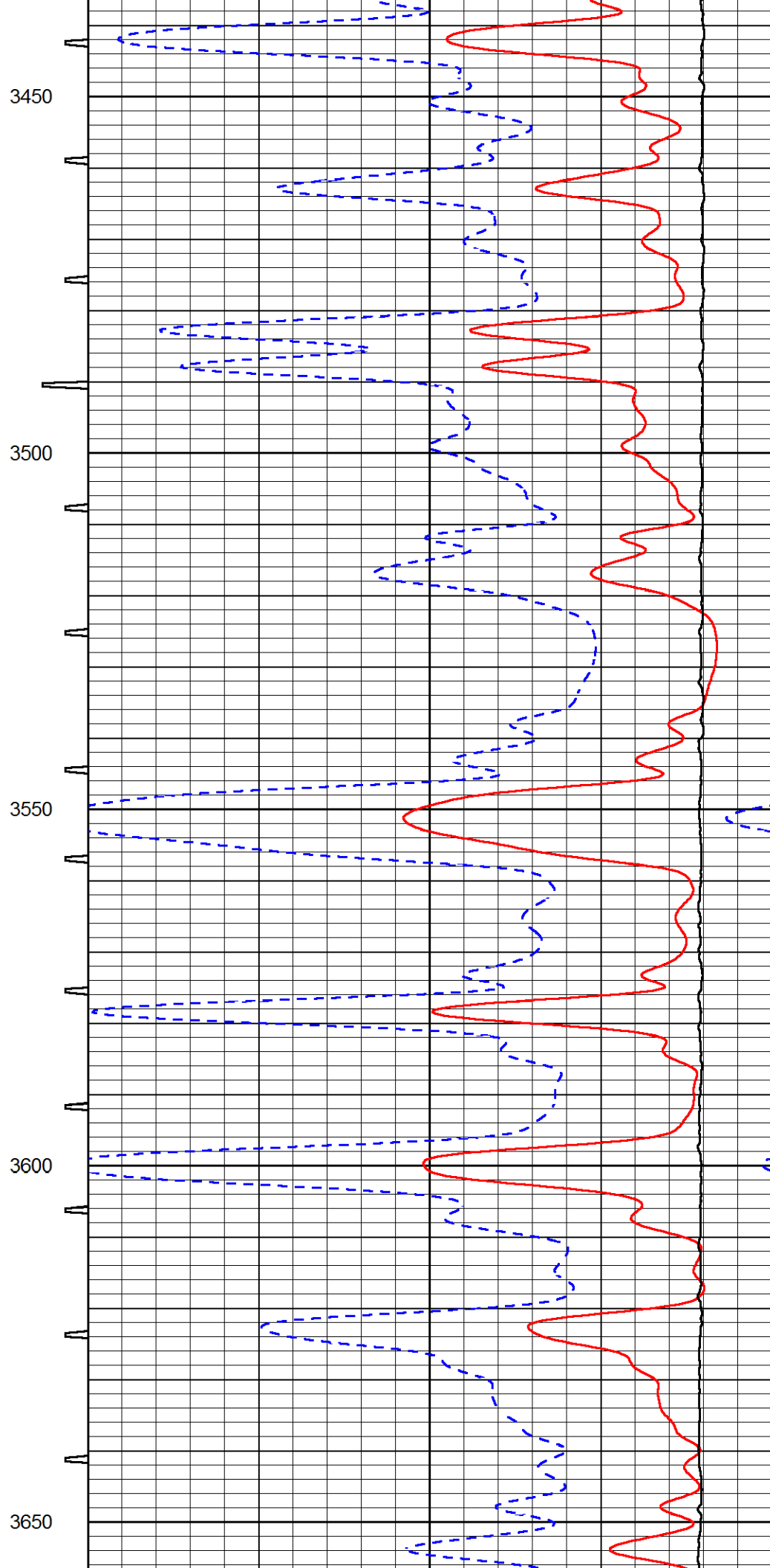
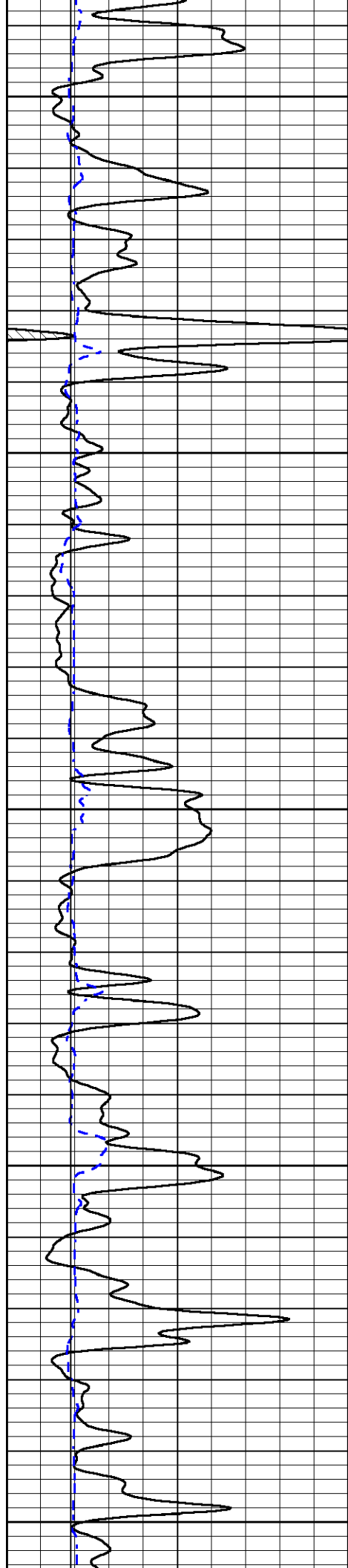


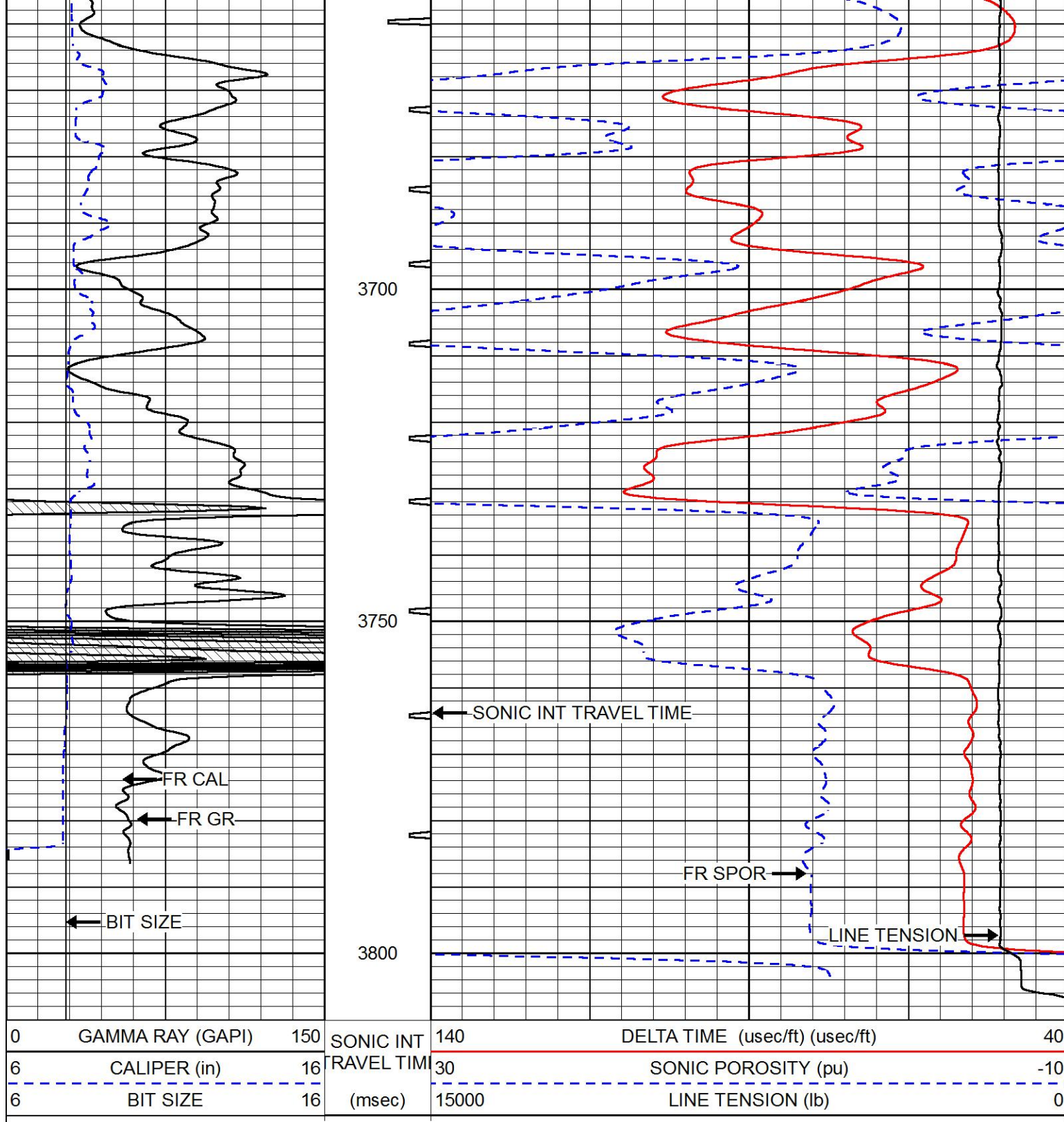














PIONEER
Pioneer Energy Services

REPEAT SECTION

Database File: cynosureenergy_leiker_2-25-15-20.db

Dataset Pathname: stack/pass3.1

Presentation Format: sonic

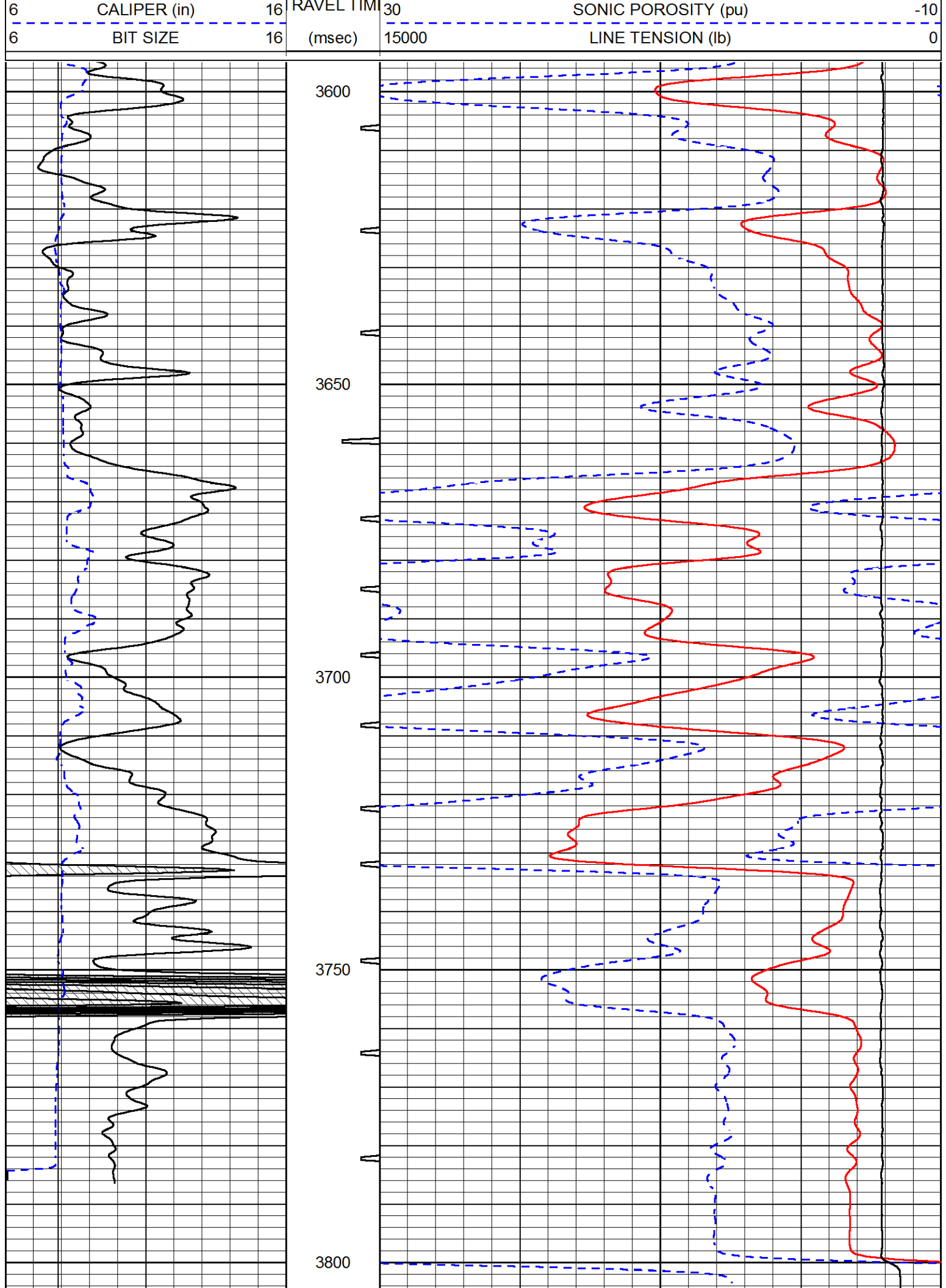
Dataset Creation: Wed Nov 02 02:22:47 2016

Charted by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150

SONIC INT 140

DELTA TIME (usec/ft) (usec/ft) 40



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

Database File	cynosureenergy_leiker_2-25-15-20.db
Dataset Pathname	stack/pass1
Dataset Creation	Tue Nov 01 23:00:35 2016

Serial-Model: 1987-M&W
Calibration Performed: Tue Aug 30 16:23:58 2016

		Readings		References		Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Serial-Model: 71-914-M&W
Source / Verifier: /
Master Calibration Performed: Fri Oct 07 08:39:26 2016

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4314.49	5307.52	cps
Aluminum	2.675	g/cc	822.19	3456.36	cps
Spine Angle = 75.49			Density/Spine Ratio = 0.537		
	Size		Reading		
Small Ring	4.00	in	1.16		
Large Ring	14.00	in	1.57		

Serial Number: tk10-MW
Tool Model: M&W
Calibration Performed: Sat Oct 1 10:01:53 2016

Detector	Readings		Target		Normalization
Short Space	6240.00	cps	1000.00	cps	1.6025
Long Space	460.00	cps	1000.00	cps	1.9500

Serial Number: 89-M&W
Tool Model: M&W
Calibration Performed: Fri Sep 30 22:06:47 2016

Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps



Company	CYNOSURE ENERY, LLC
Well	LEIKER NO. 2-25-15-20
Field	WILDCAT
County	ELLIS
State	KANSAS