

Company MAGPIE
 Well BUNKER 3A-2H
 Field LOVELAND
 County LARIMER State CO

Company MAGPIE
 Well BUNKER 3A-2H
 Field LOVELAND
 County LARIMER State CO

API No.: 05-069-06499 Serv. #: 904976141
 Location: SENW 32-5N-68W
 Sec: 32 Twp: 5N Rge: 68W
 Elevation 5053'
 Other Services
 CBL

Permanent Datum GL
 Log Measured From KB
 Drilling Measured From KB
 Elevation 5053'
 K.B. 5069'
 D.F. 5069'
 G.L. 5053'

Date @ Time Logged 7/5/2018
 Run No. ONE
 Depth - Driller 9344'
 Depth - Logger 5094'
 Bottom - Logged Interval 5072'
 Top - Log Interval 640'
 Max. Recorded Temp. 185 DEG F
 Type Fluid in Hole WATER
 Density of Fluid 8.35 PPG
 Fluid Level SURFACE
 Cement Top Est. Logged 1950'
 Equipment / Location 11981352 / RKSP
 Recorded by PEDERSEN/COBLE
 Witnessed by JOE RICHARDSON

CEMENTING DATA
 Date / Time Cemented
 Primary / Squeeze
 Expected Compressive Strength
 Cement Volume
 Cement Type / Weight
 Formulation
 Mud Type / Mud Wgt.

Borehole Record		Casing & Tubing Record					
Run Number	Bit	From	To	Size	Weight	From	To
				4.5"	13.5	SURFACE	9344'
				7"	26	SURFACE	5285'
				9.625	36	SURFACE	650'

<<< Fold Here >>>

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

LOG CORRELATED TO CASING TALLY SJ 4138' - 4158'
 TOOL ANAMOLIES AT 1558' & 1760'

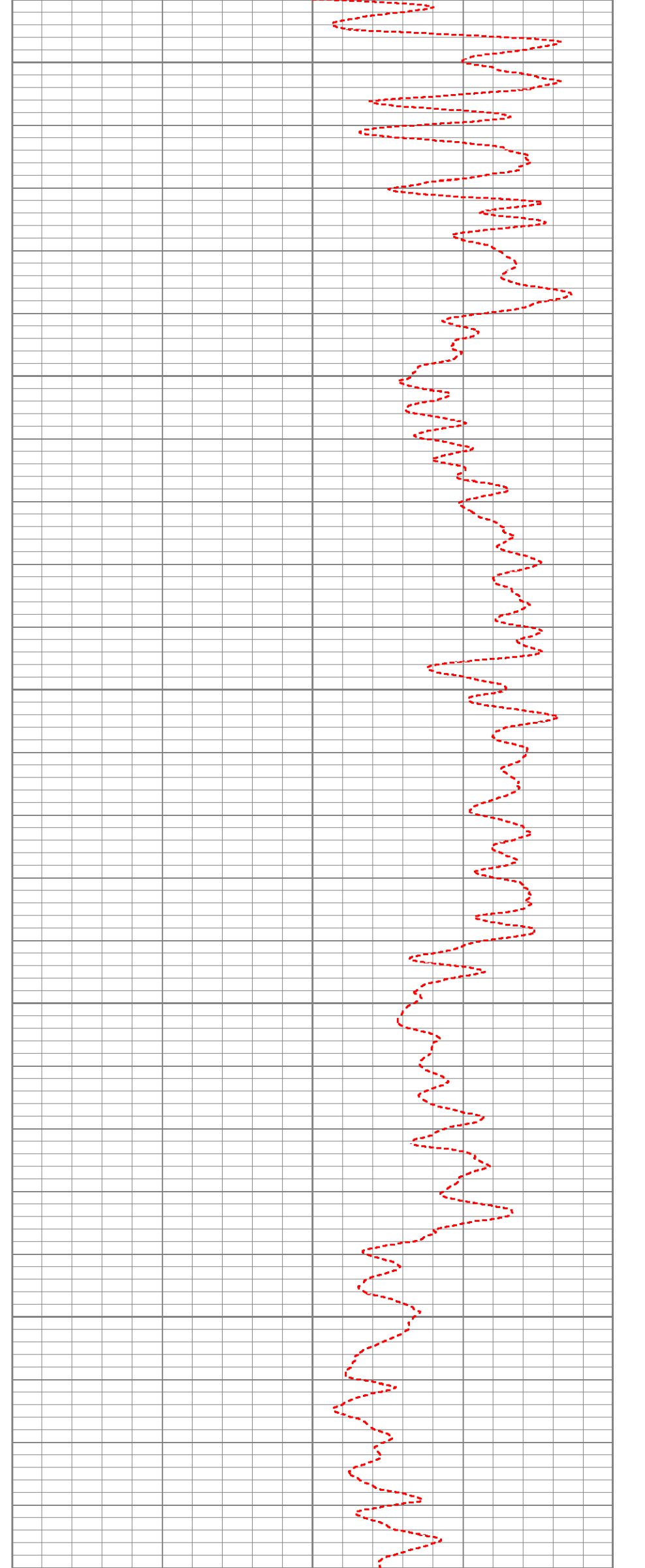
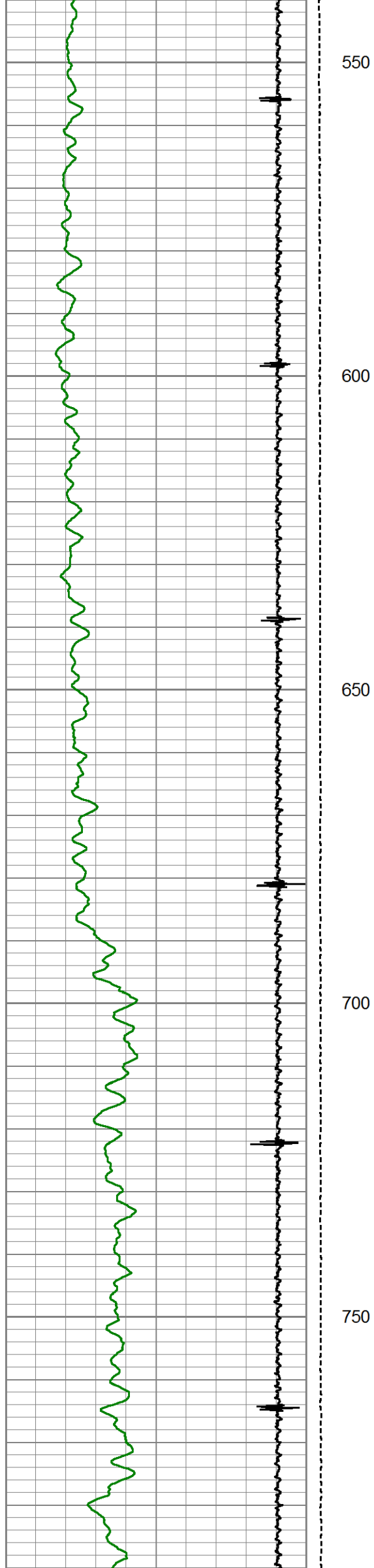
MAIN PASS

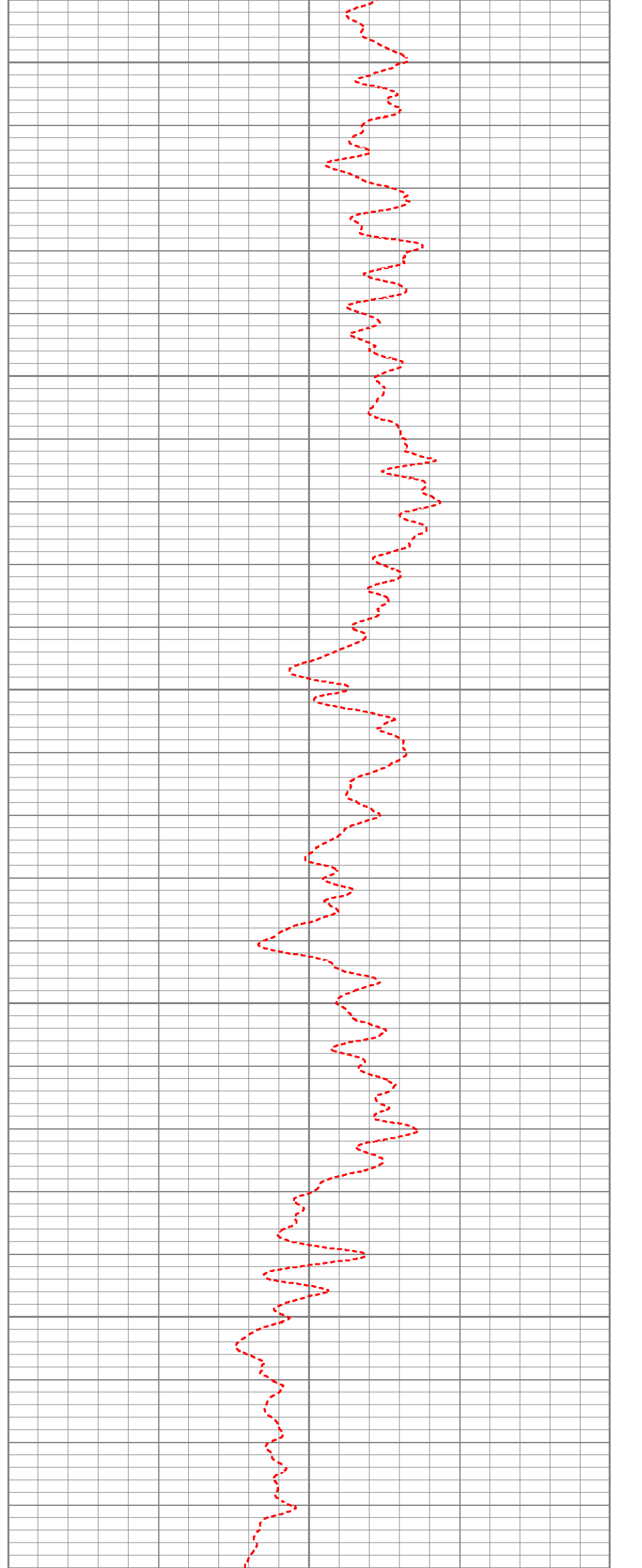
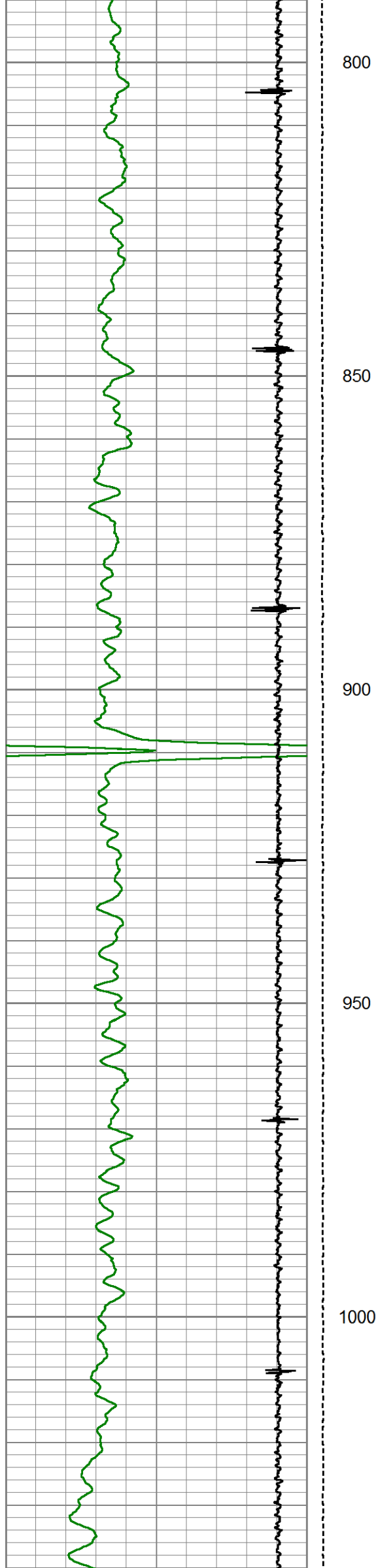


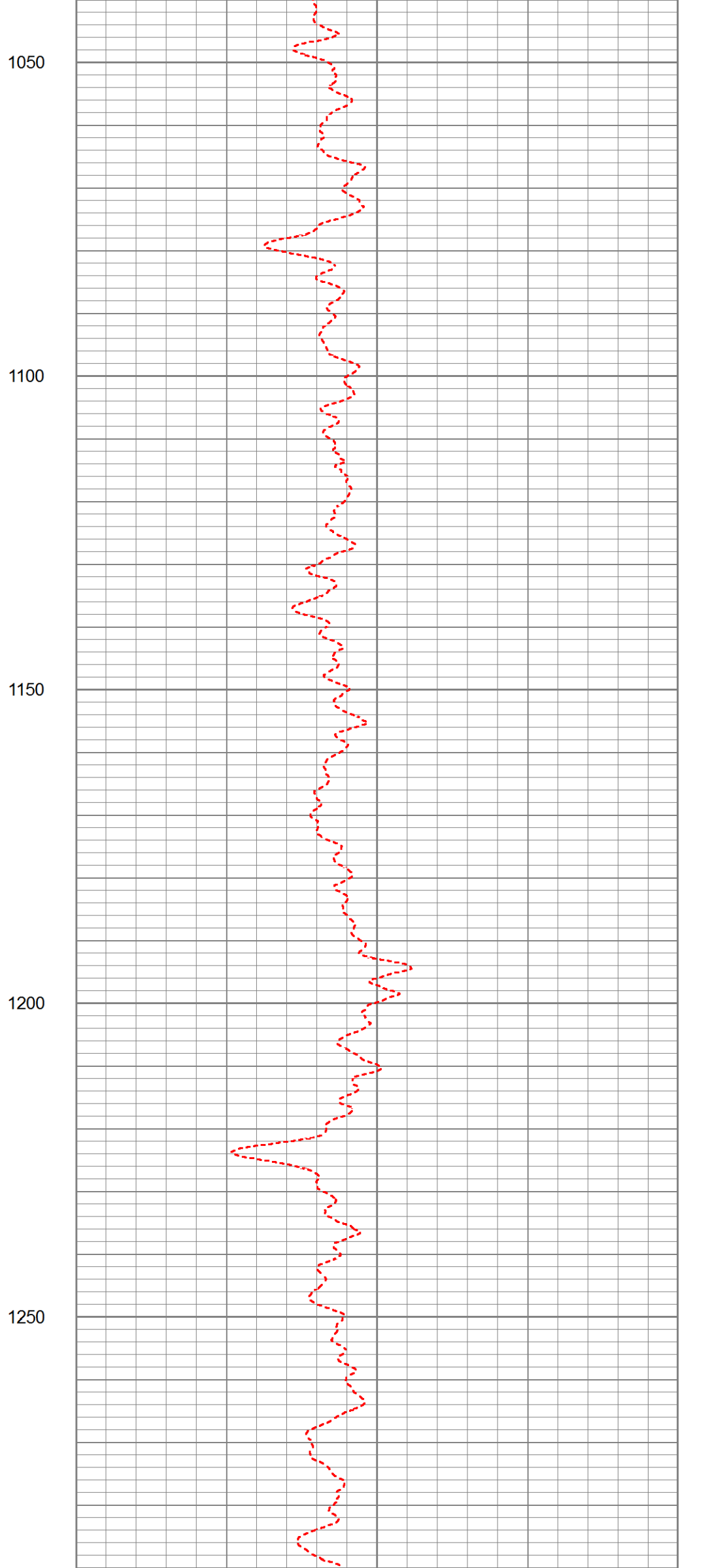
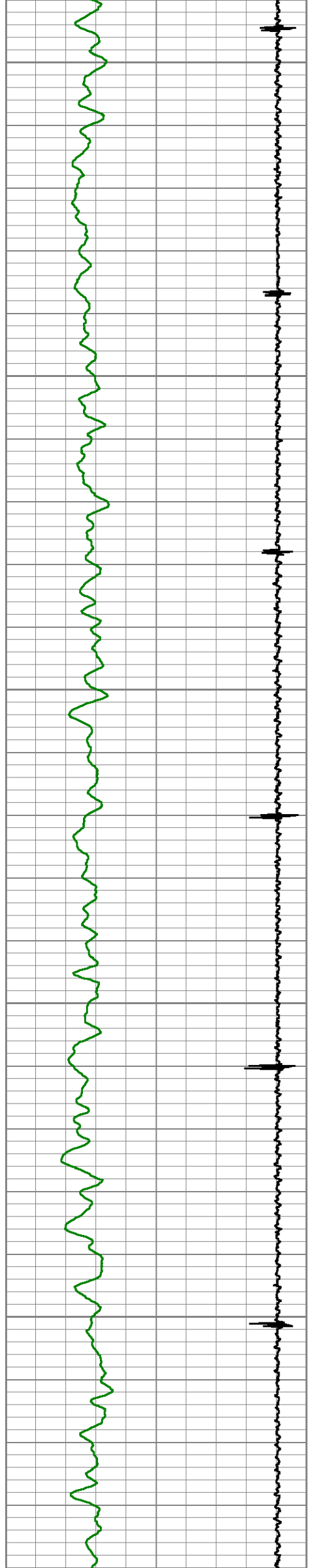
5" = 100'

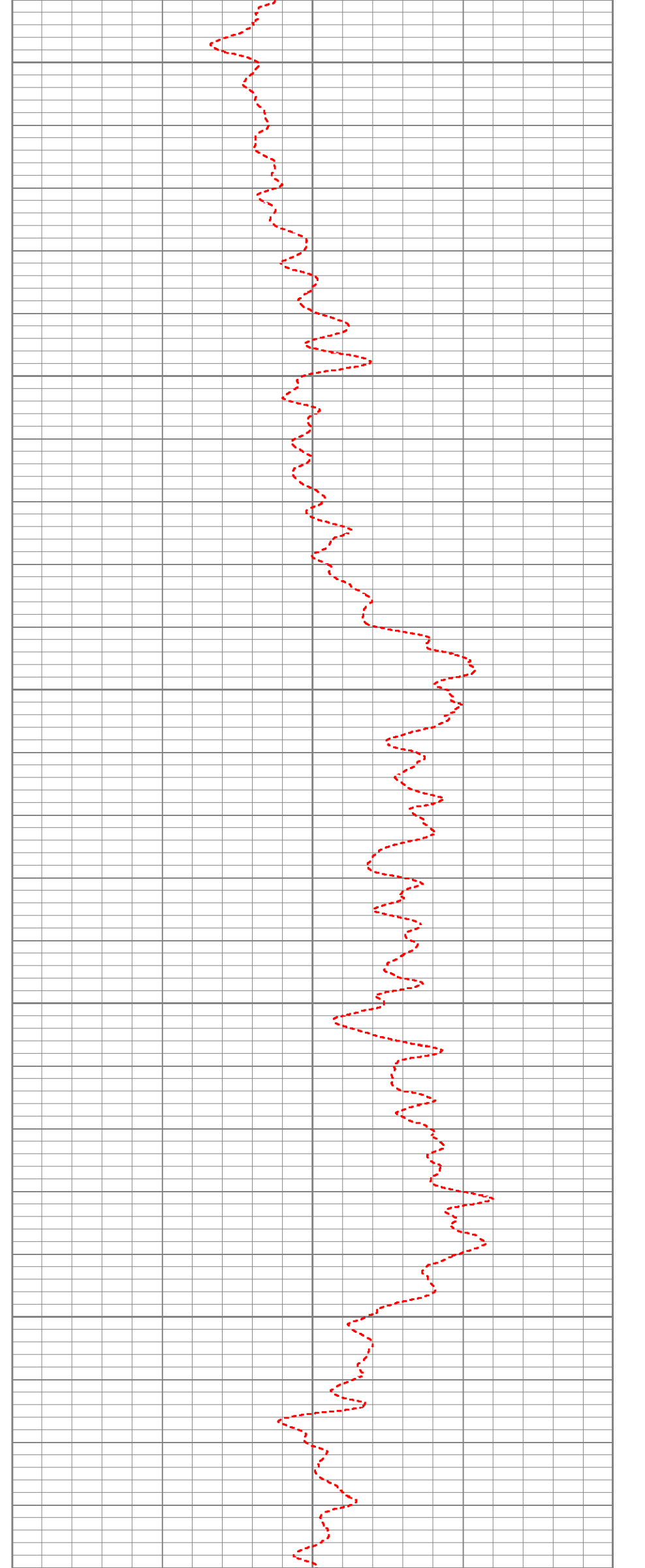
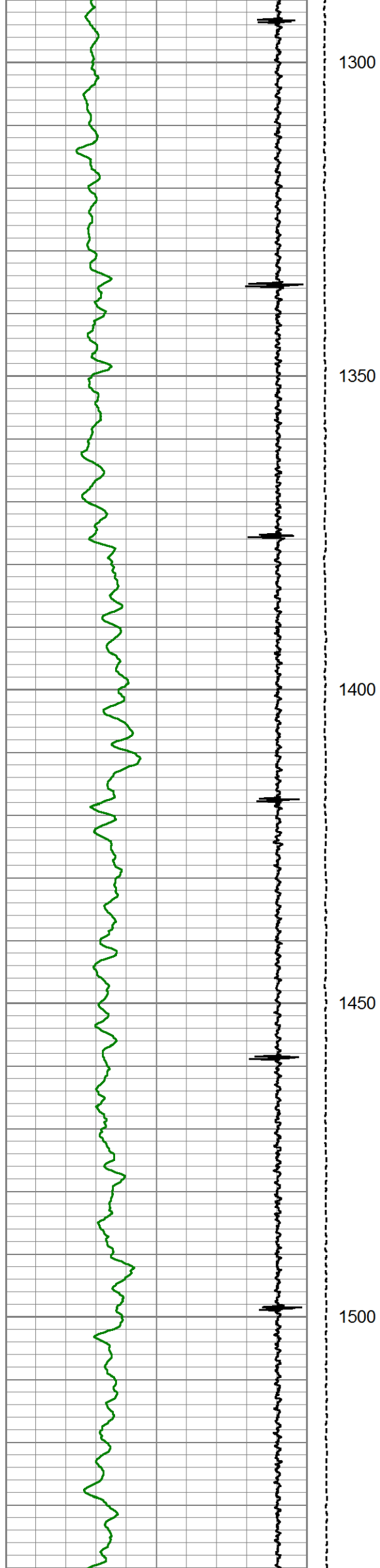
Database File bunker rmt.db
 Dataset Pathname pass3
 Presentation Format !magpie_nphi
 Dataset Creation Thu Jul 05 13:00:27 2018
 Charted by Depth in Feet scaled 1:240

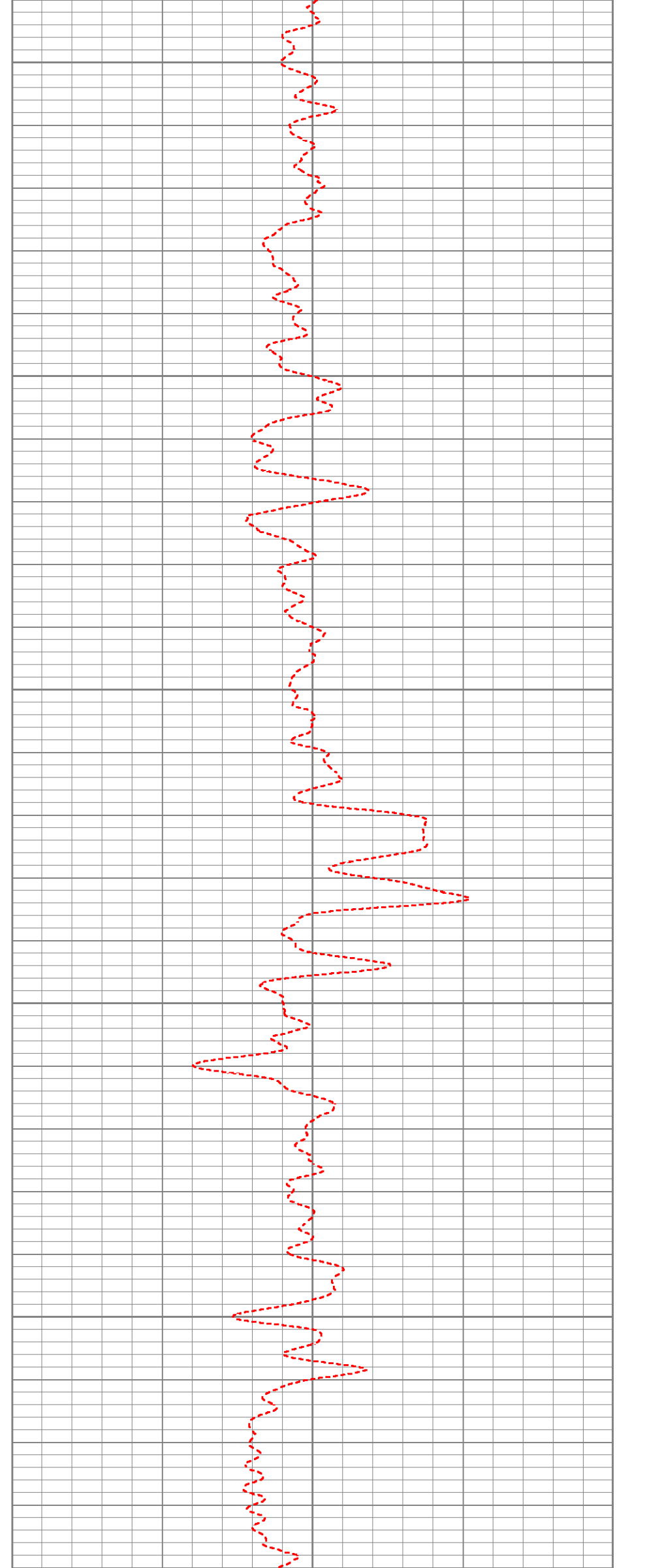
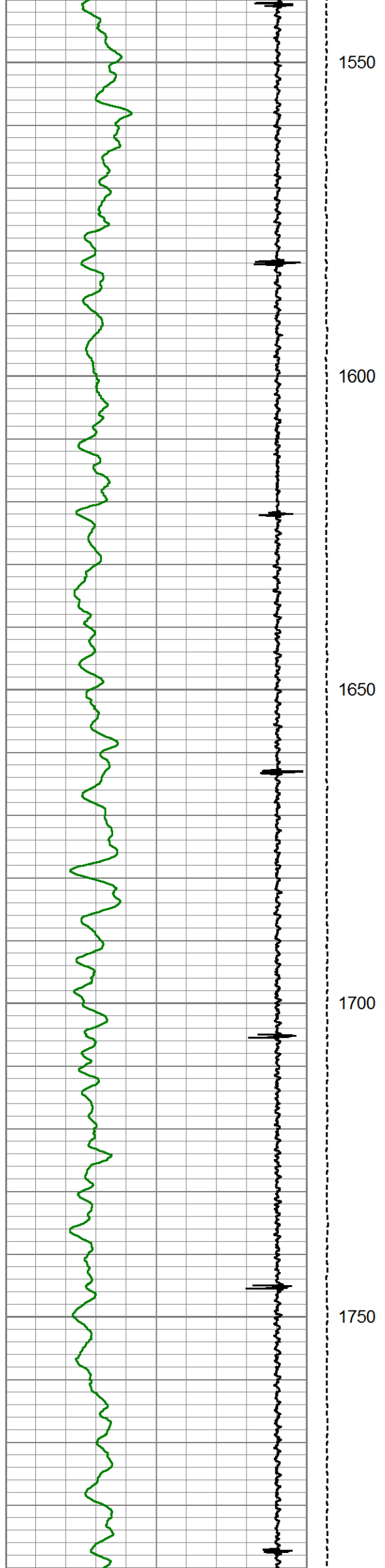
0	GR (GAPI)	150	TENSION	0	NPHI ()	1
8500	CCL	18500	0	(lb)2500		

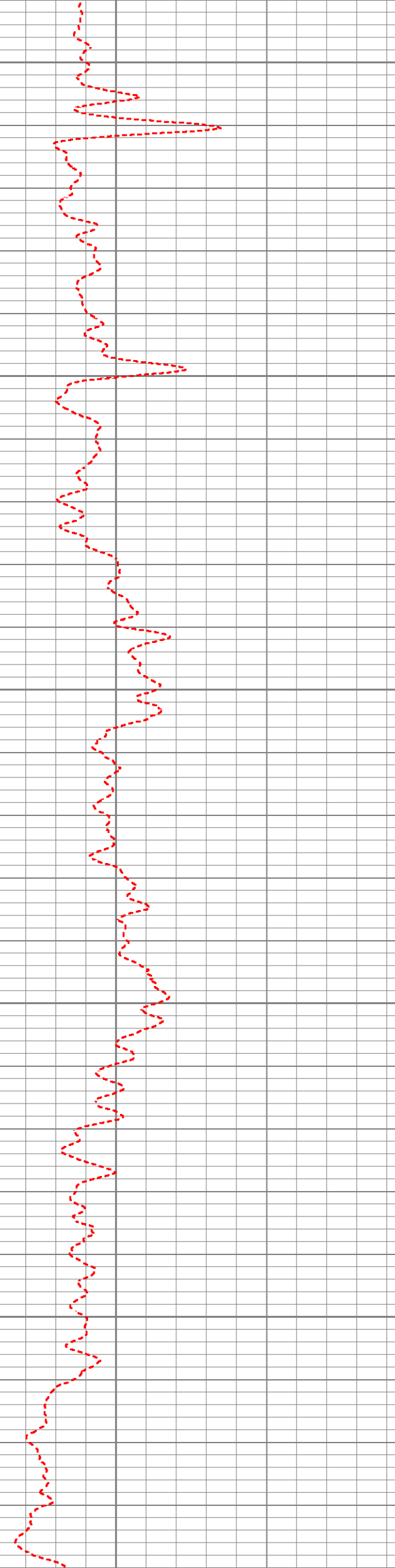
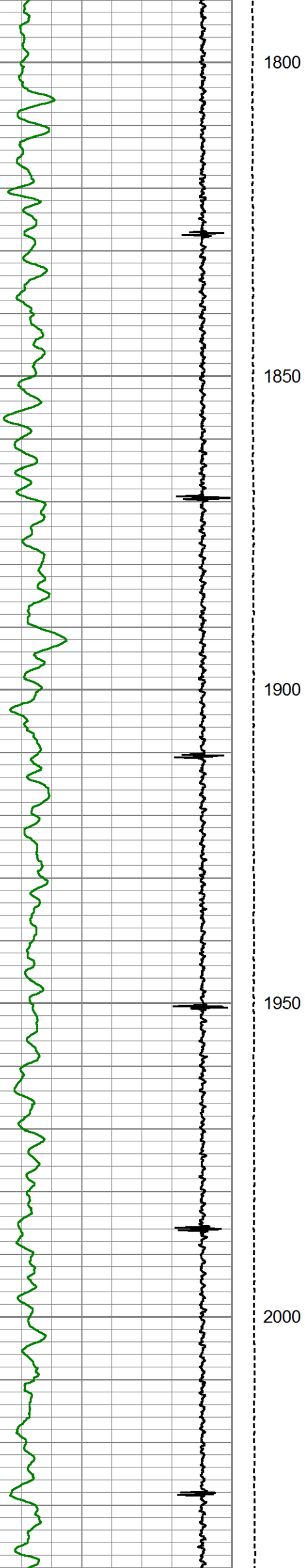


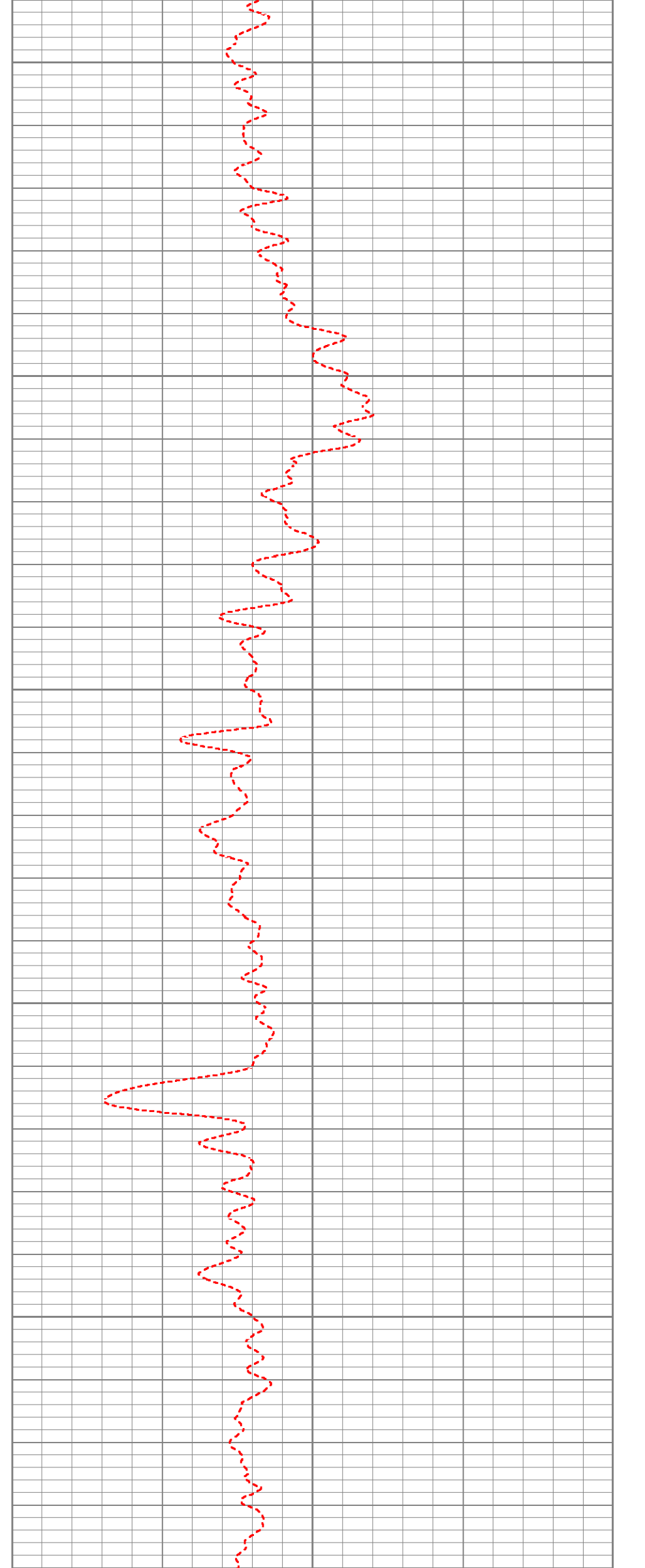
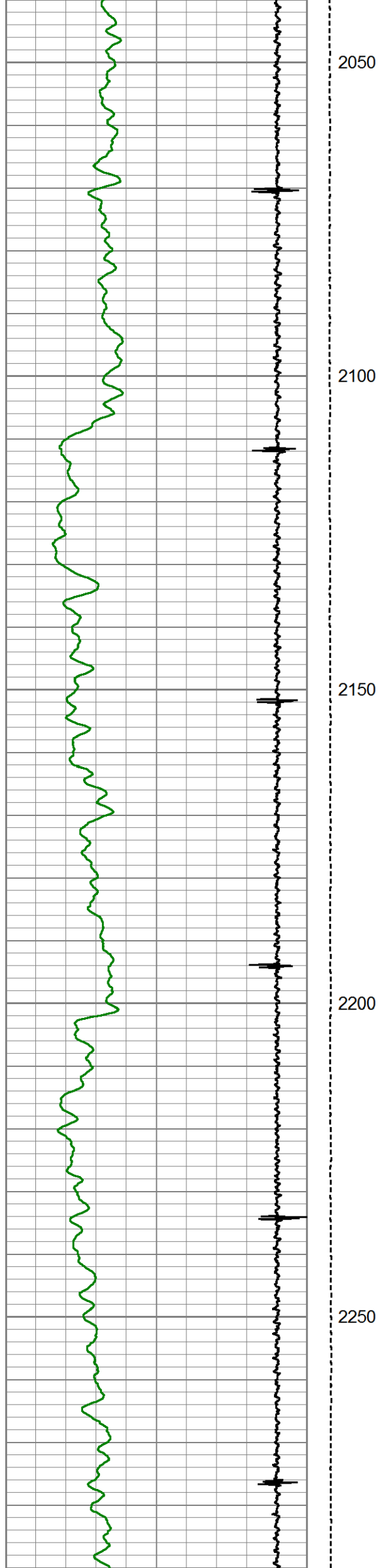


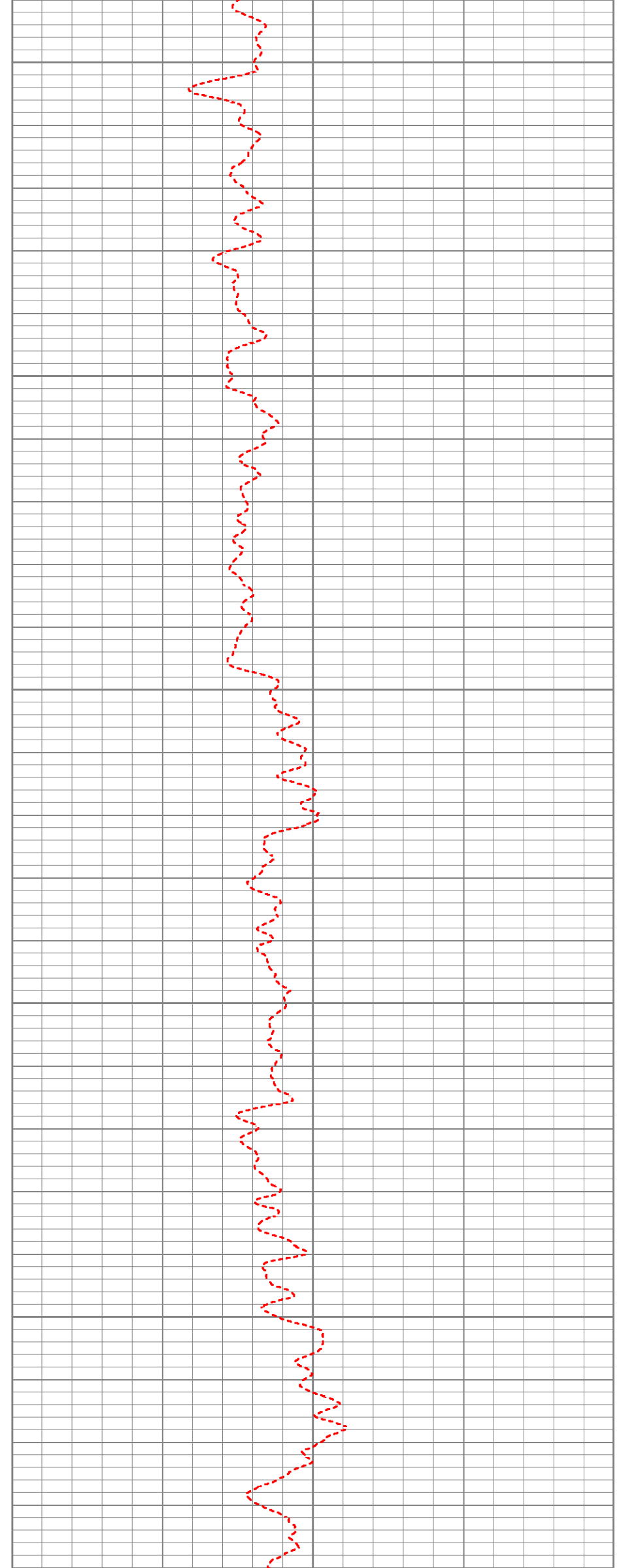
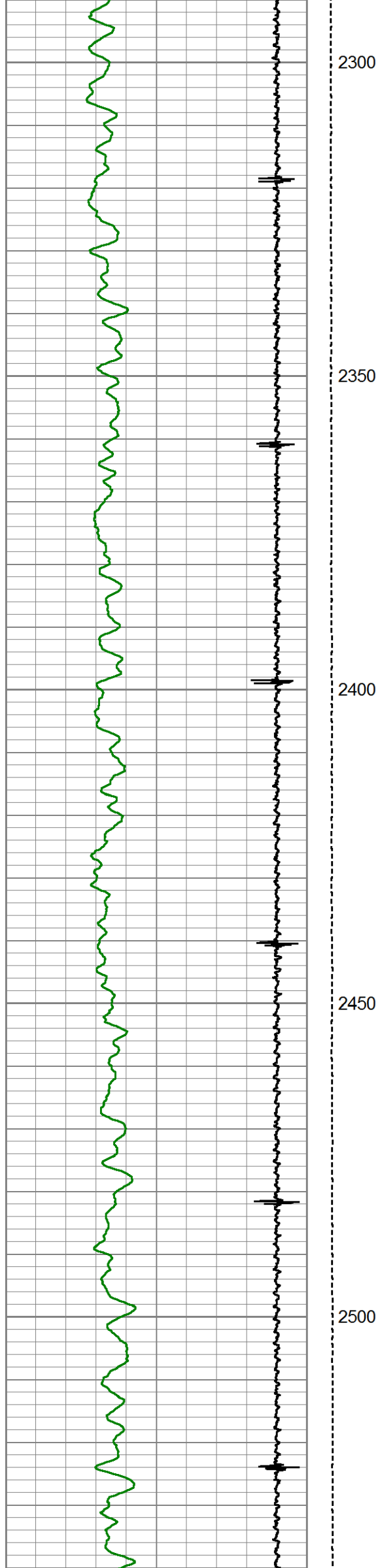


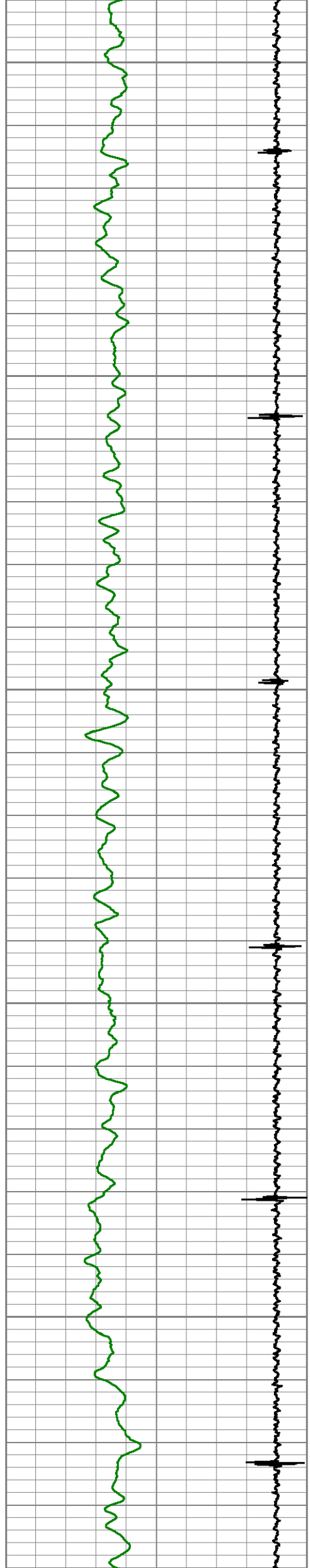












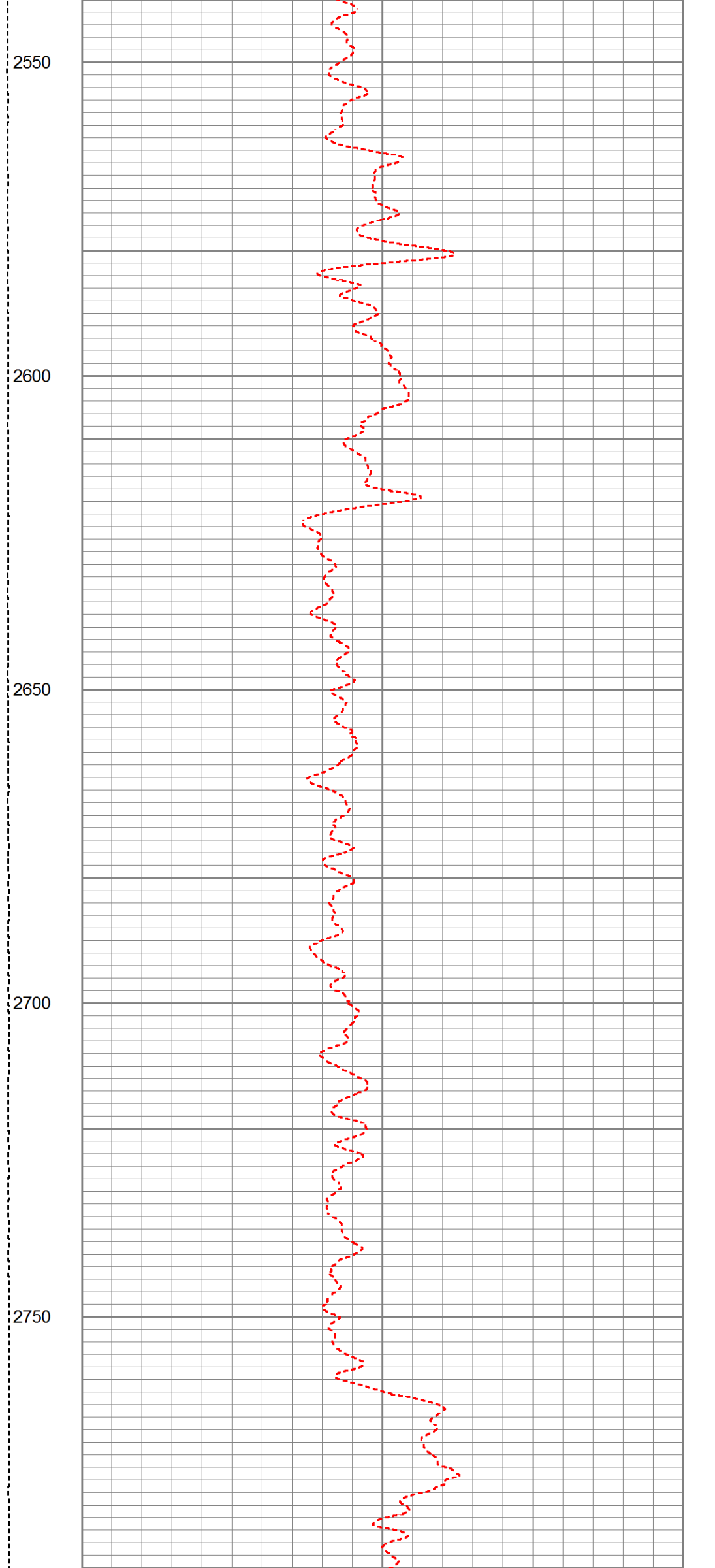
2550

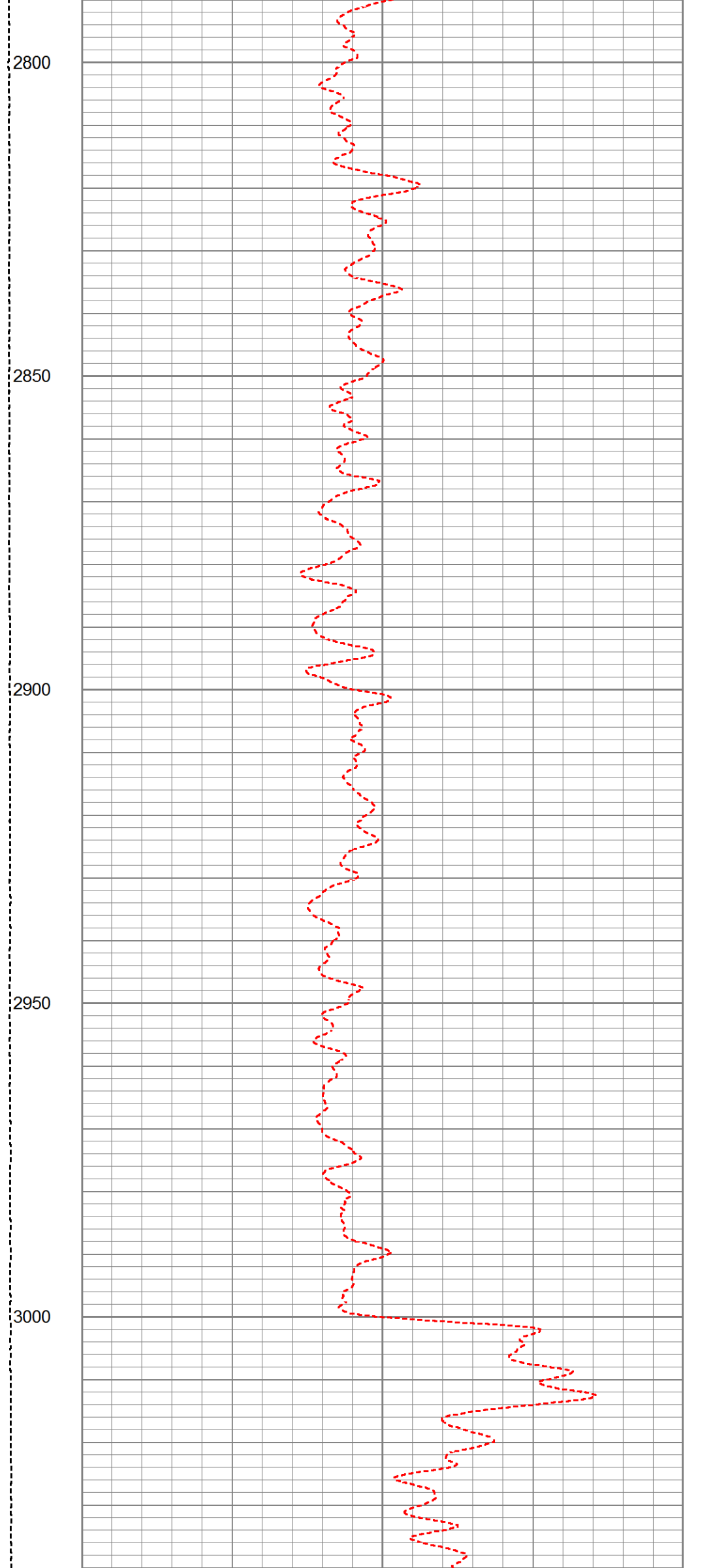
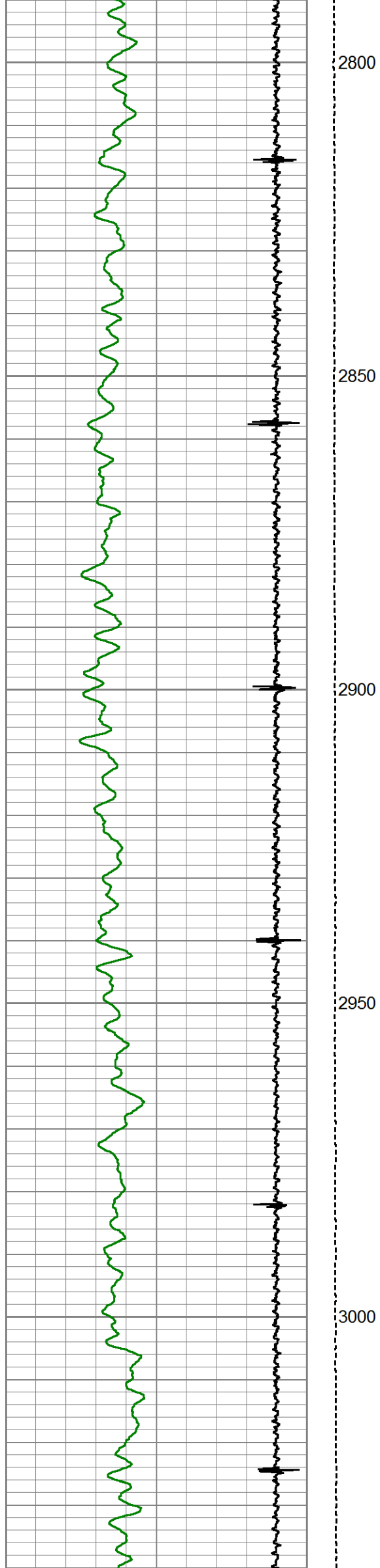
2600

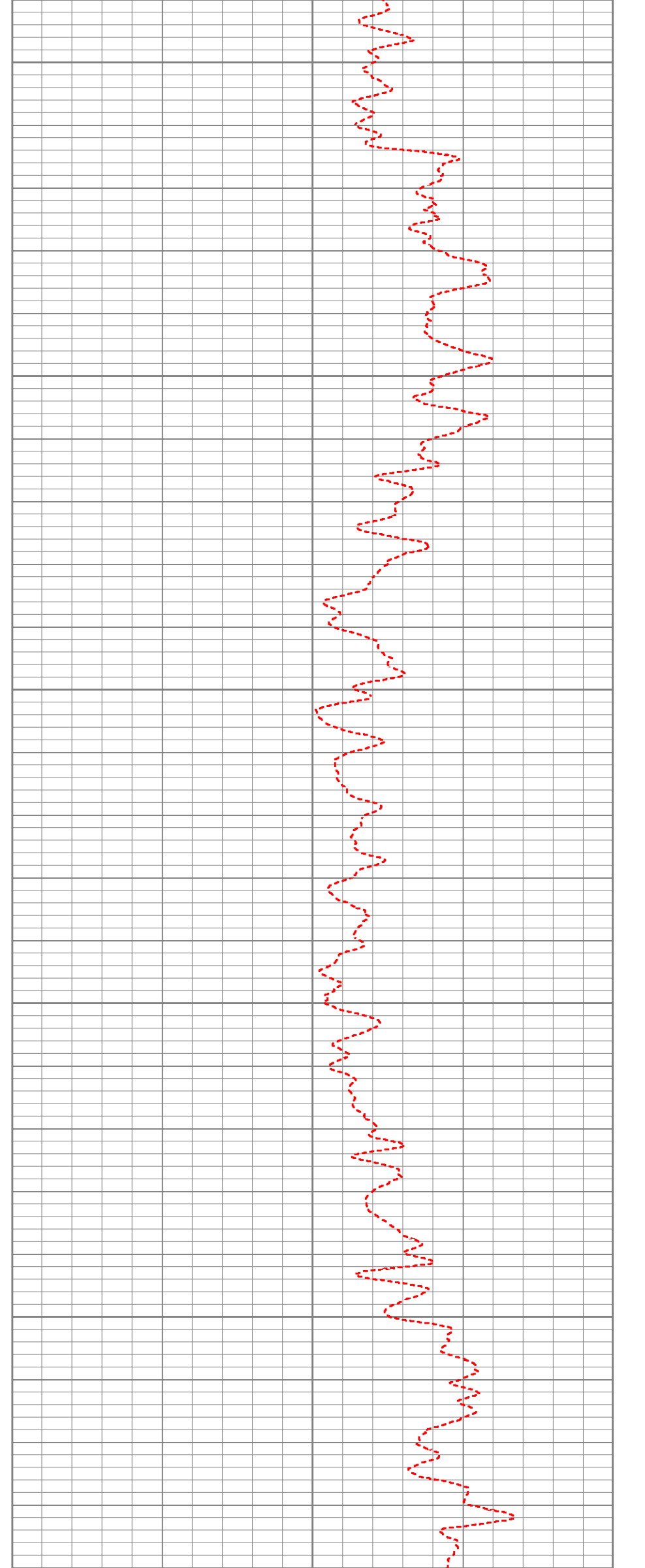
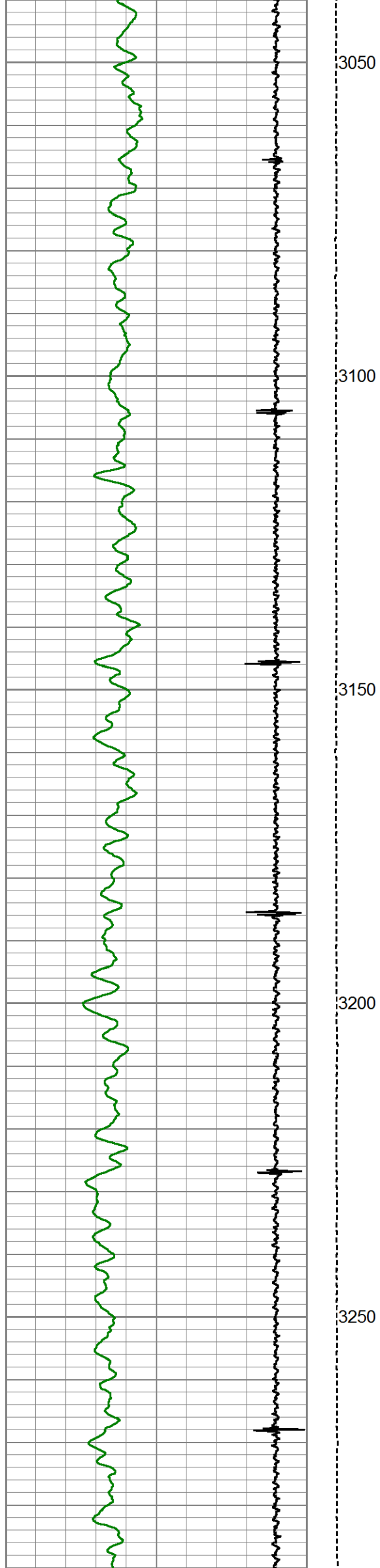
2650

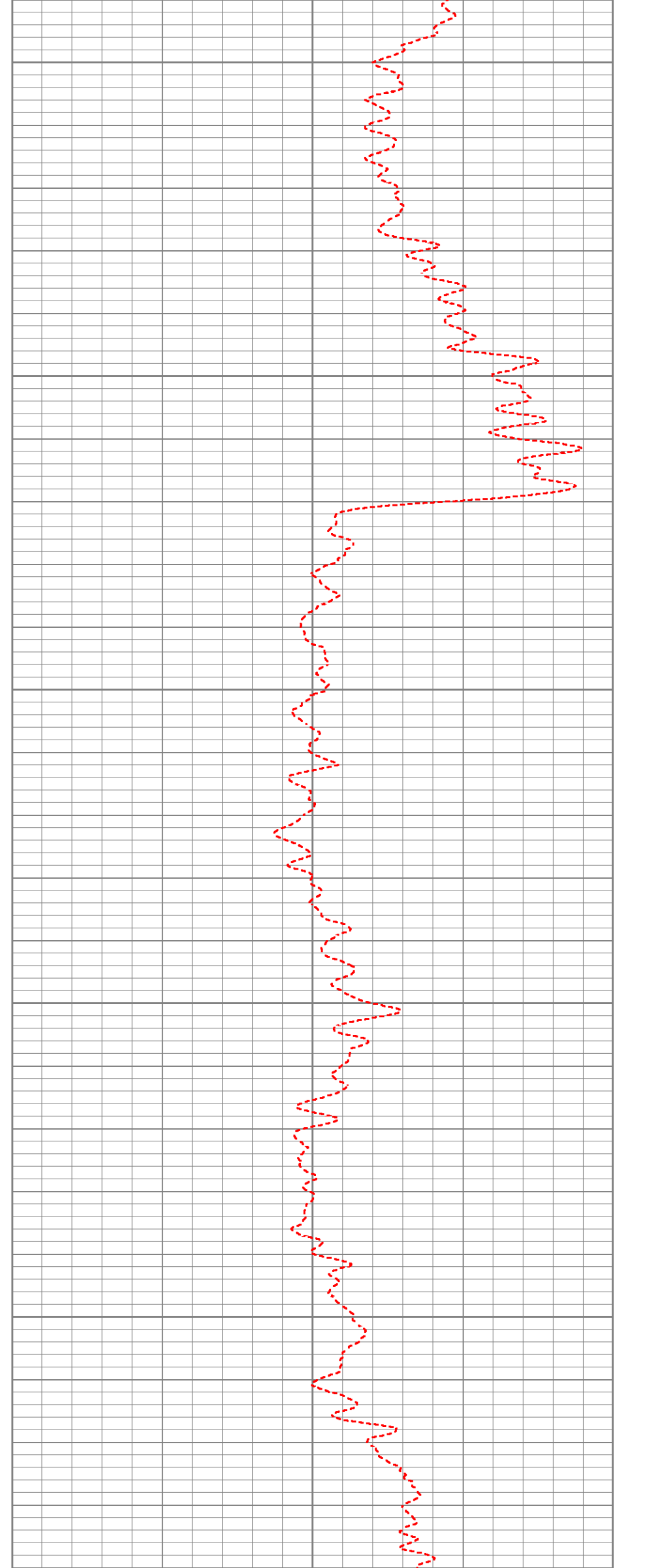
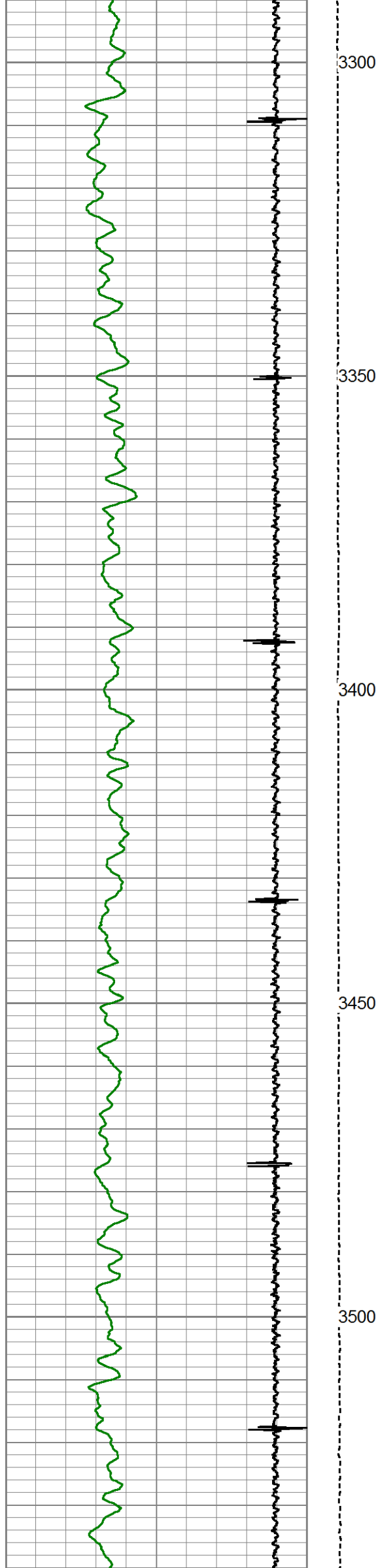
2700

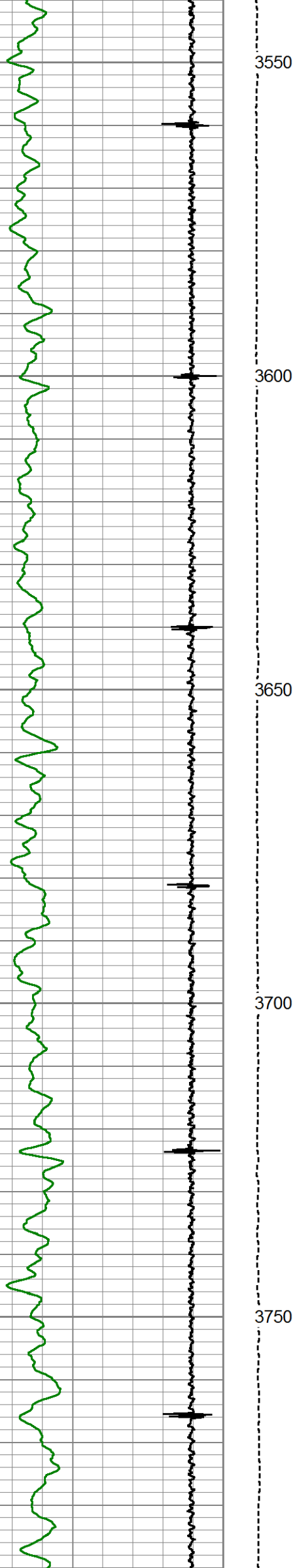
2750











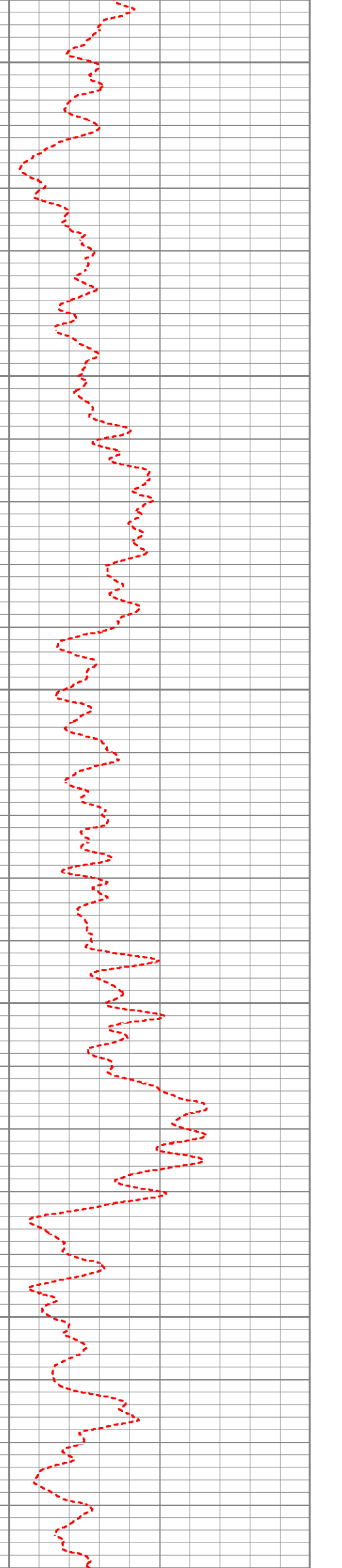
3550

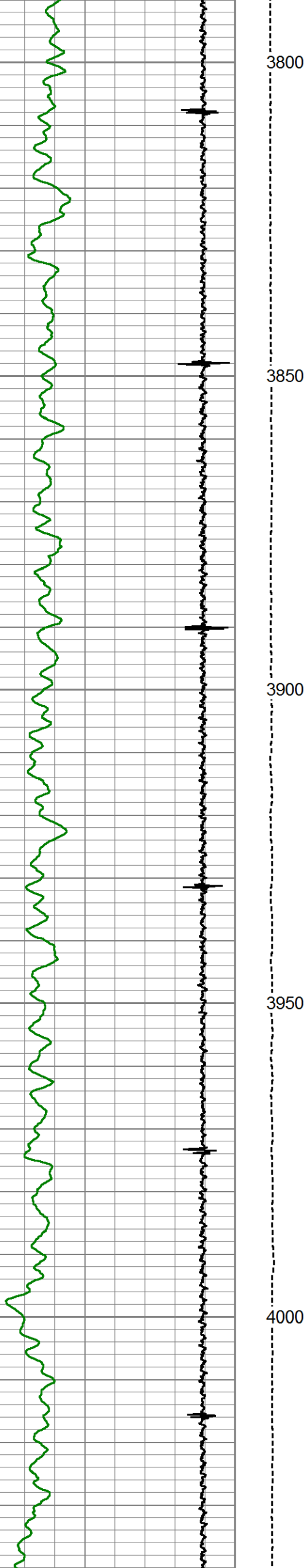
3600

3650

3700

3750





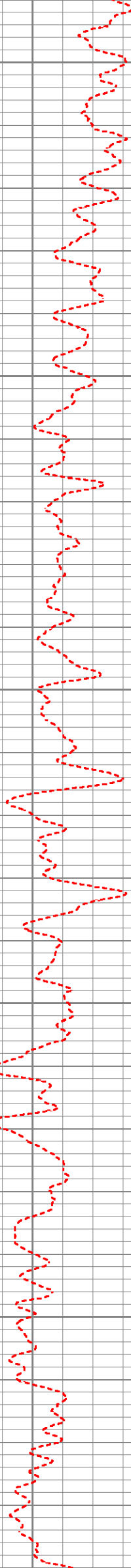
3800

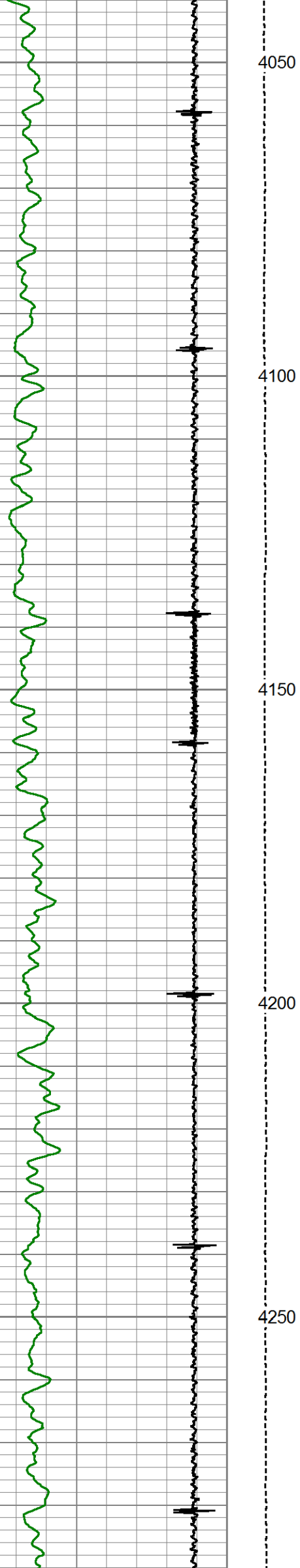
3850

3900

3950

4000





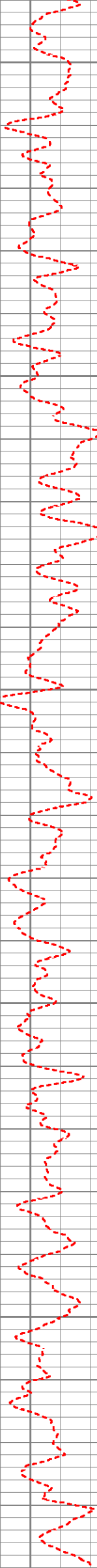
4050

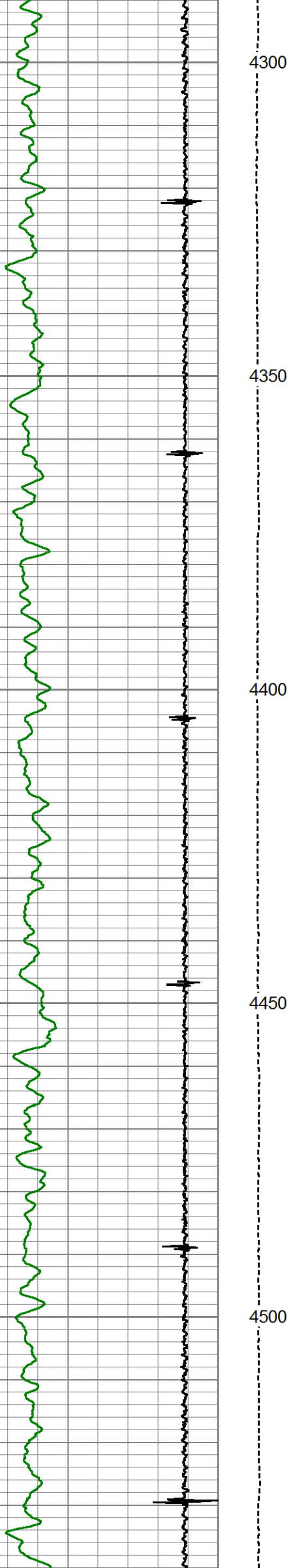
4100

4150

4200

4250





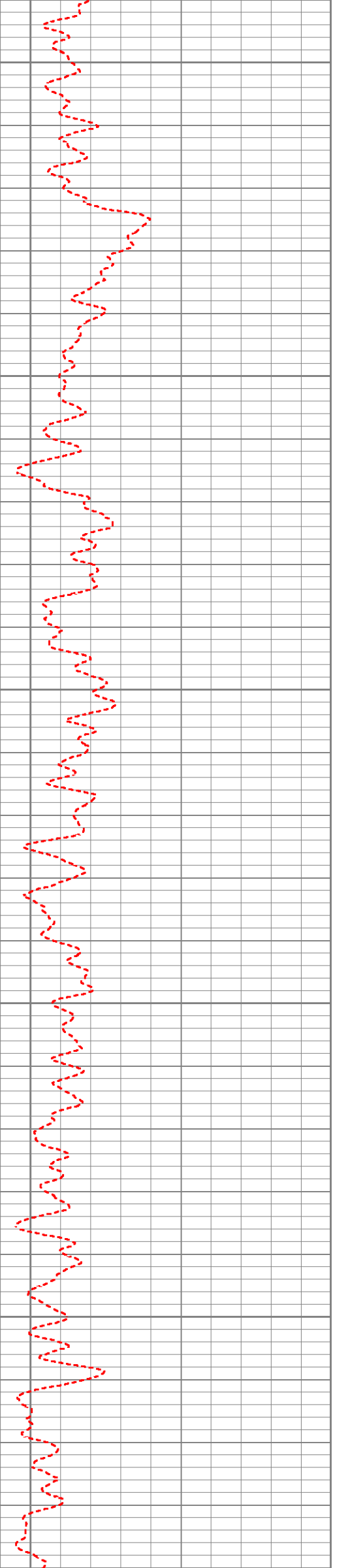
4300

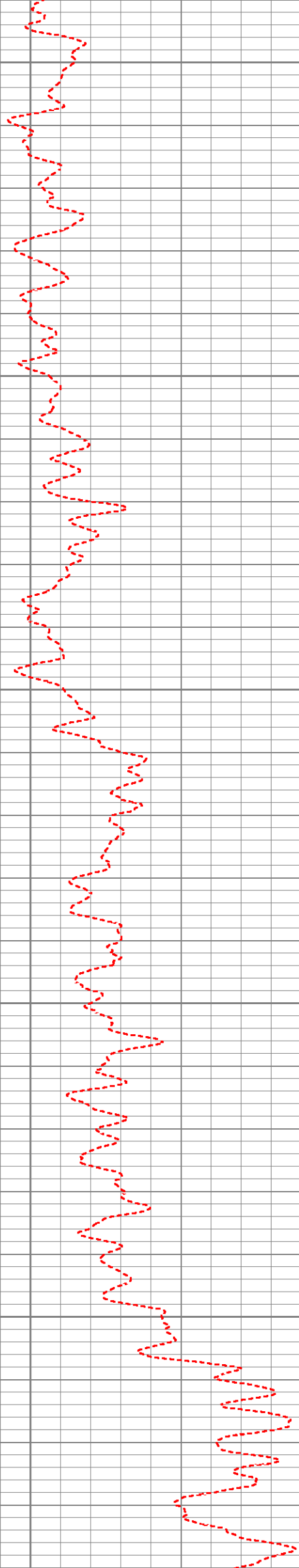
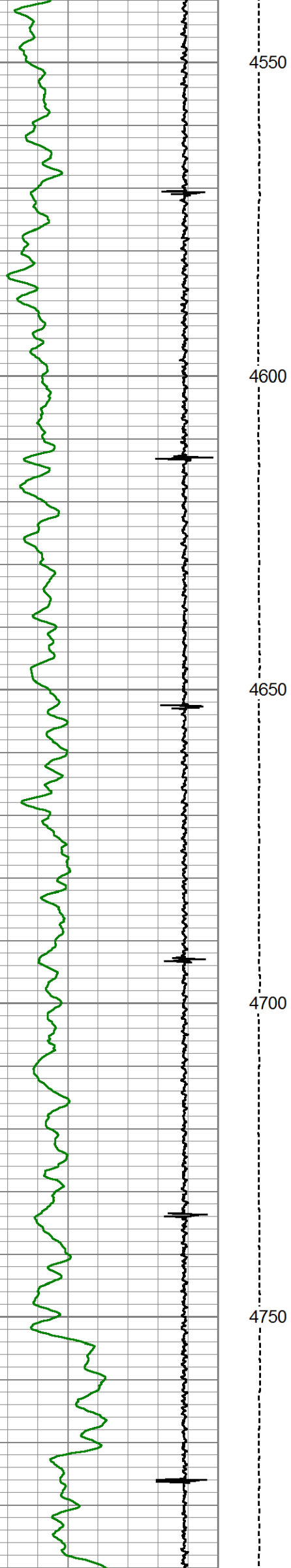
4350

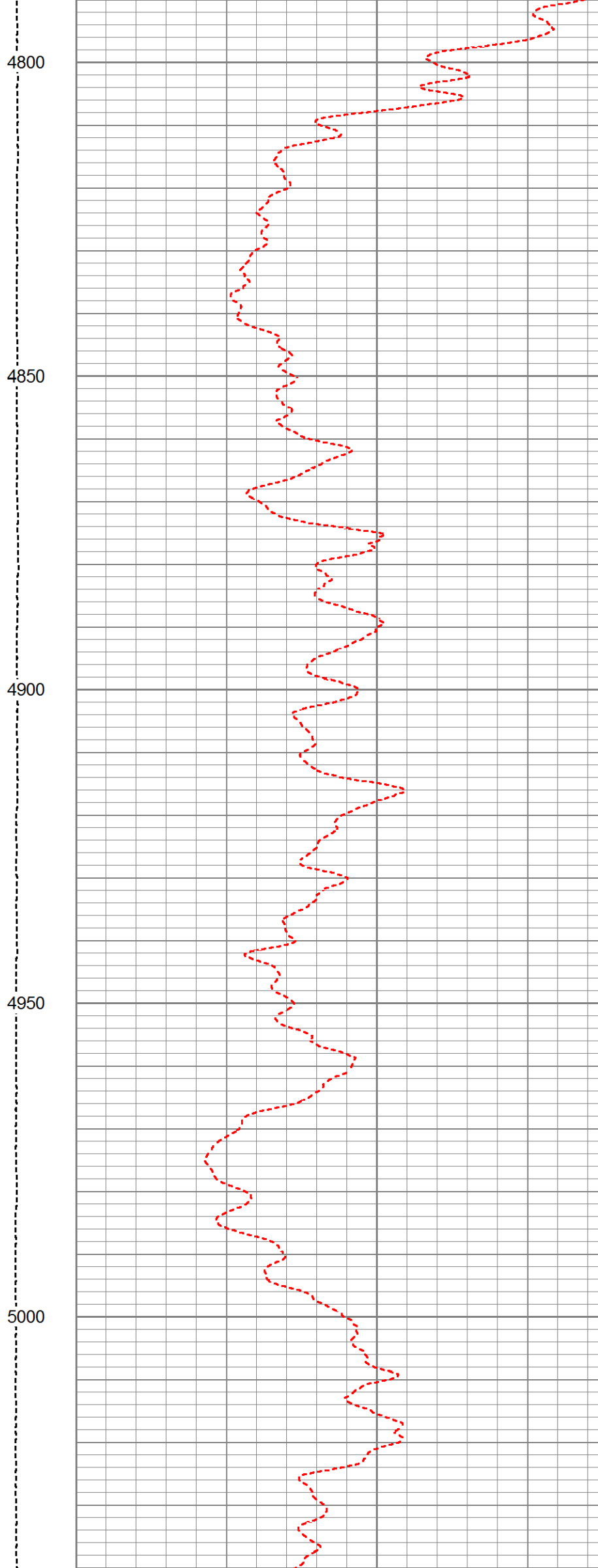
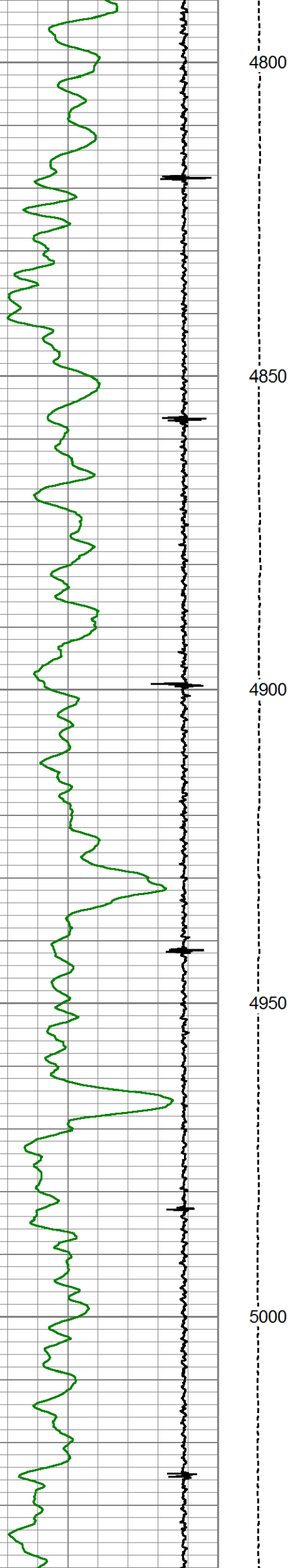
4400

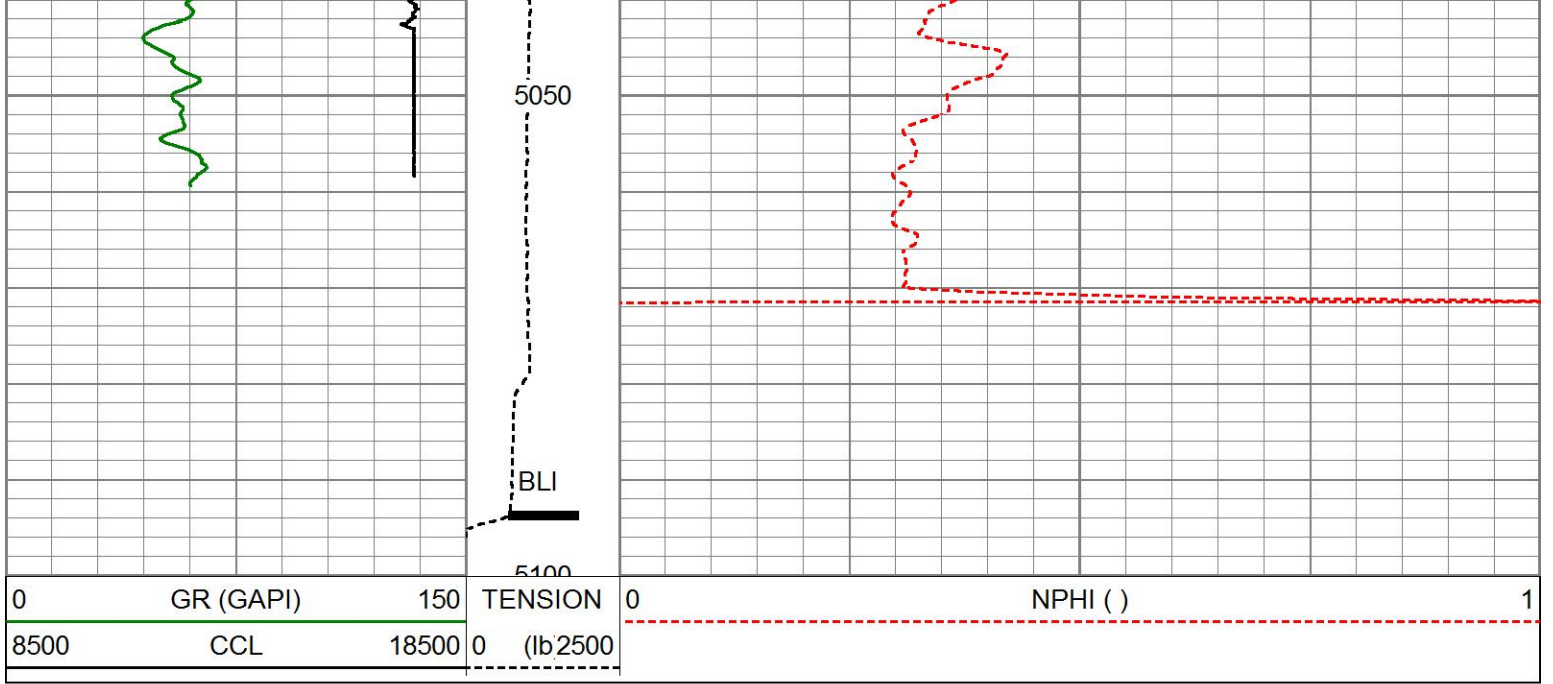
4450

4500









HALLIBURTON

MAIN PASS

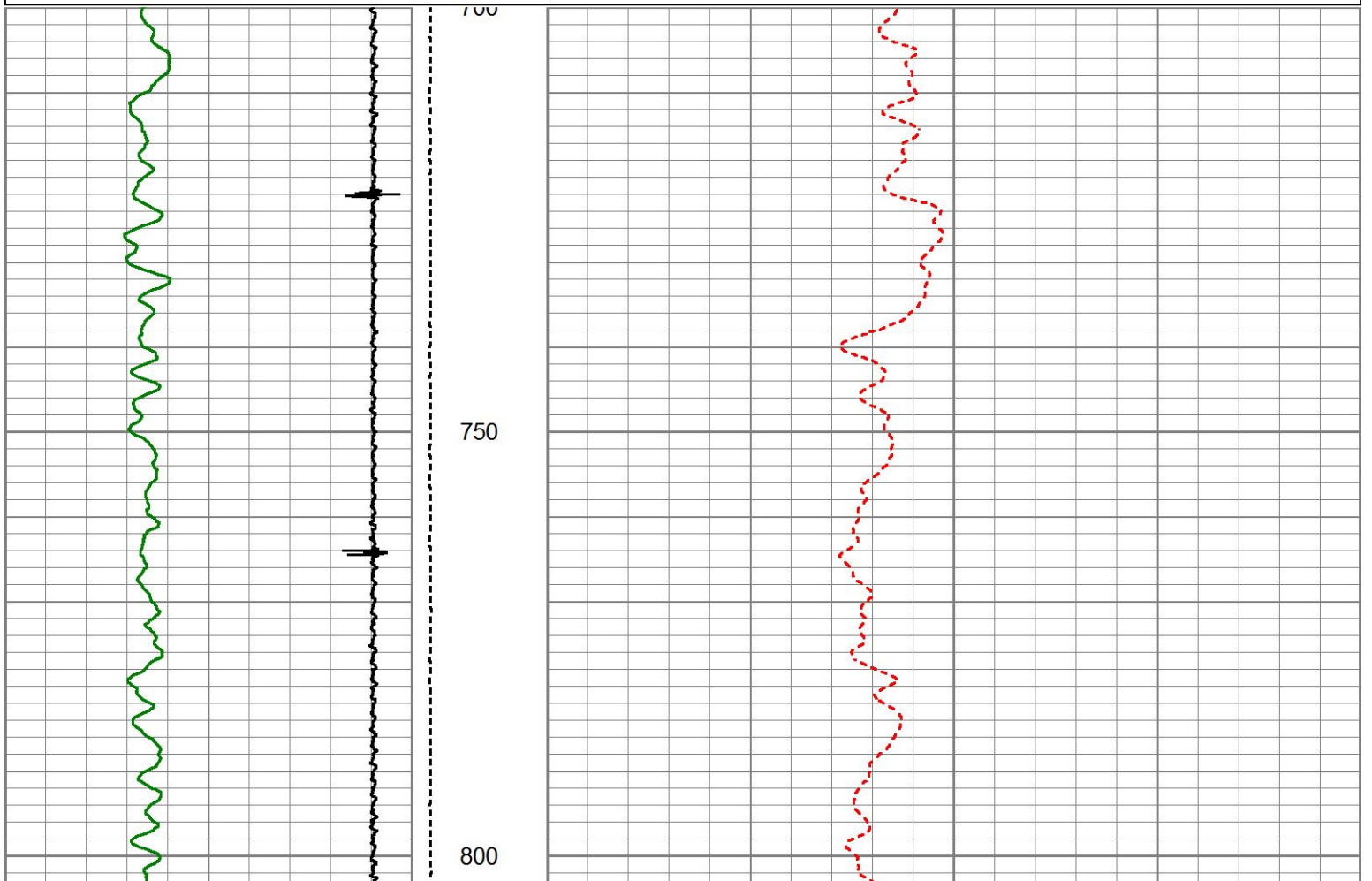
5" = 100'

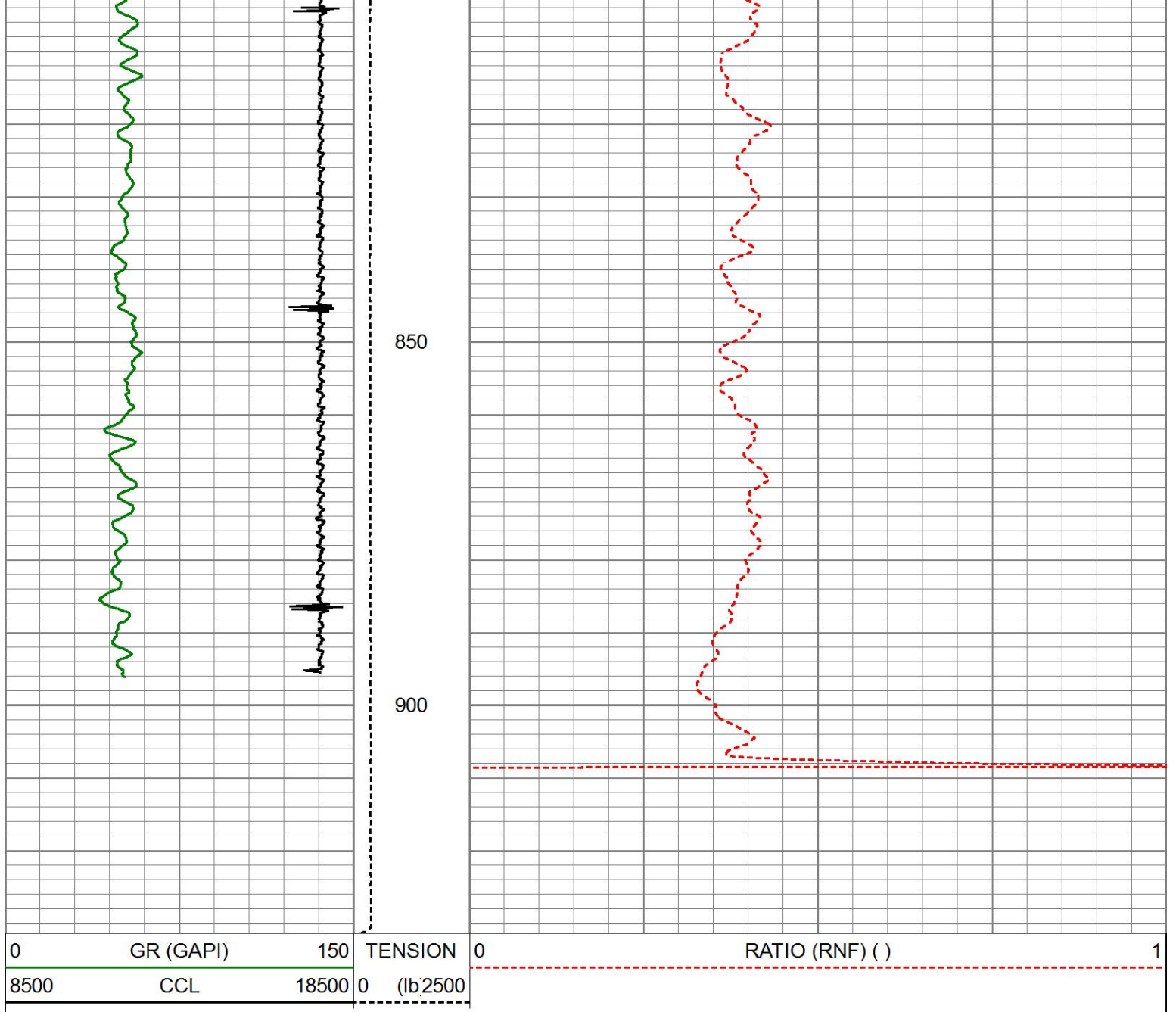
HALLIBURTON

REPEAT PASS

5" = 100'

Database File bunker3a-2h_cbl.db
 Dataset Pathname pass13
 Presentation Format IMAGPI~2
 Dataset Creation Thu Jul 05 11:06:20 2018
 Charted by Depth in Feet scaled 1:240





HALLIBURTON

REPEAT PASS

5" = 100'

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
CCL	35.78		TTTCU-002 (11224502) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
GR	33.52		XHU-003 (12461939) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00

RmtTFGT	22.87							
RmtTNGT	22.37							
				RMTI-A (12190168) Halliburton RMTI Tool	14.00	2.13	77.00	
RmtFP5V	14.62			X-OVER-SondexxGo Sondex Box x Go Pin Cross Over	0.31	1.69	1.00	
RmtNFwwMcsPI	14.62			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00	
RmtCommFWa	14.62							
Temp	9.49							
TT3FT	7.24			HCBLM-A (11923474) Halliburton HCBLM Tool	9.38	2.75	116.00	
AMP3FT	7.24							
WVF5FT	6.28							
WVF3FT	2.76			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00	
LLMTEN	0.00			AUH-001 (10000971) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00	
				BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20	
		Dataset:		bunker3a-2h_cbl.db: field/well/run1/pass3				
		Total length:		39.35 ft				
		Total weight:		356.20 lb				
		O.D.:		3.13 in				

Calibration Report		
Database File	bunker rmt.db	
Dataset Pathname	pass3	
Dataset Creation	Thu Jul 05 13:00:27 2018	
Cement Bond Log Shop Calibration Report		
Serial-Model:	11923474-A	
Calibration Performed:	Thu Jul 05 10:55:31 2018	
Free Pipe Calibration		
TT	Measured	Units
Amplitude	245.9	usec
Log Base Line	452.9	mV
	-1.0	mV
Calibration References and Gain		
Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp	81.2	mV

Type Ref. Amp. 01.2 mV
 Amp. Gain 0.179

Reservoir Monitor Tool I Calibration Report

Serial-Model: 12190168-A
 Shop Calibration Performed: Tue Jun 26 16:07:19 2018

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	79.00	80.00	-1.00	+/-15.00	V
ITCR2	3385	3250	135	+/-250	cps

Near Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	59	60 +/-2	0.0337	4.73	<6.00
Fe	207	206 +/-2	0.0995	----	----
NGAIN = 0.992		NZOFF = 1.0			

Far Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0412	5.40	<6.50
Fe	209	208 +/-2	0.0925	----	----
FGAIN = 0.994		FZOFF = 0.5			

Flask Temperature 59.1 degF

Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.44	0.45	-0.01	+/-0.02	
LIRI2	1.38	1.36	0.02	+/-0.05	
TCCR2	4114	4000	114	+/-1000	cps
ITCR2	3374	3200	174	+/-250	cps

Sigma Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	76.00	80.00	-4.00	+/-15.00	V
FCAP	9535	10000	-465	+/-500	cps

Horizontal Water Tank

Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.97	0.95	0.02		
N/F Inel Norm	0.63	0.61	0.02		
RNF	1.03	1.07	-0.04	+/-0.12	
RINC	1.59	1.64	-0.05	+/-0.18	
SGFN	24.11	24.00	0.12	+/-0.50	cu
SGFF	22.92	22.85	0.07	+/-0.50	cu
FSIN	22995	24000	-1005	+/-2000	cps
FCAP	9678	10000	-322	+/-1000	cps
NFTR	0.84			<5.00	
FFTR	0.90			<5.00	
NBKG	229			<500	cps
FBKG	104			<500	cps
RTN	0.39	0.40	-0.01	+/-0.10	usec
RTF	0.41	0.40	0.01	+/-0.10	usec

HRMTI Module 2015.5.4.0
RMTI Module 2015.10.16.1

Log Data Acquisition Software Modules

HRMTI Module 2015.5.4.0
RMTI Module 2015.10.16.1

Gamma Ray Calibration Report

Type / Serial: 002 / 11224502

SHOP CALIBRATION

Sat Jun 30 16:02:34 2018

	Counts/Sec.	Gain	Offset	Jig	Units
Background	28.3				cps
Calibrator	186.6	1.4344			cps GAPI/cps

PRIMARY VERIFICATION

Background	42.6				cps
Calibrator	263.8				cps
Difference				221.1	GAPI

BEFORE SURVEY VERIFICATION

Background	41.9				cps
Calibrator	263.3				cps
Difference				221.4	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Company **MAGPIE**
Well **BUNKER 3A-2H**
Field **LOVELAND**
County **LARIMER** State **CO**

HALLIBURTON

RESERVOIR
MONITORING TOOL