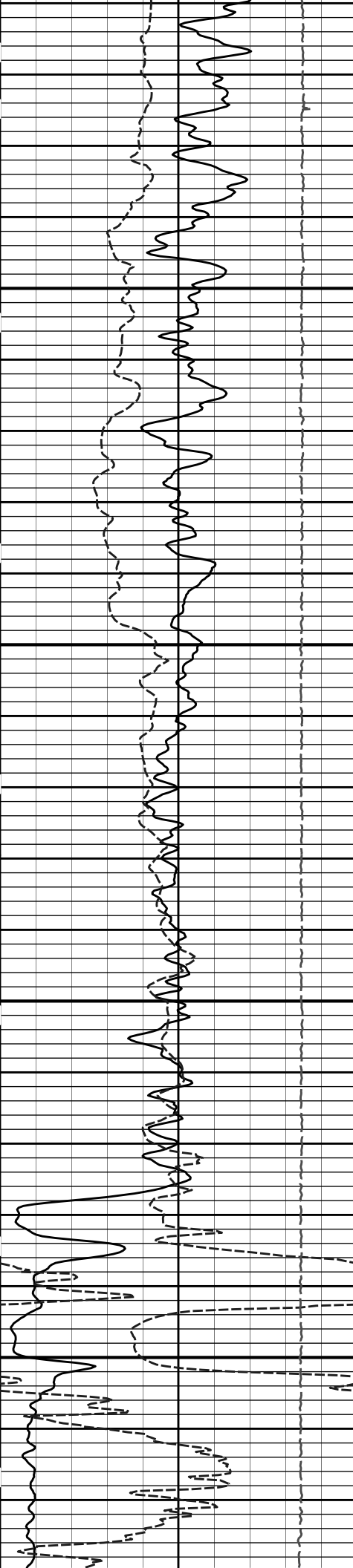


**BOREHOLE COMPENSATED
SONIC ARRAY
LOG**

----- Fold here -----

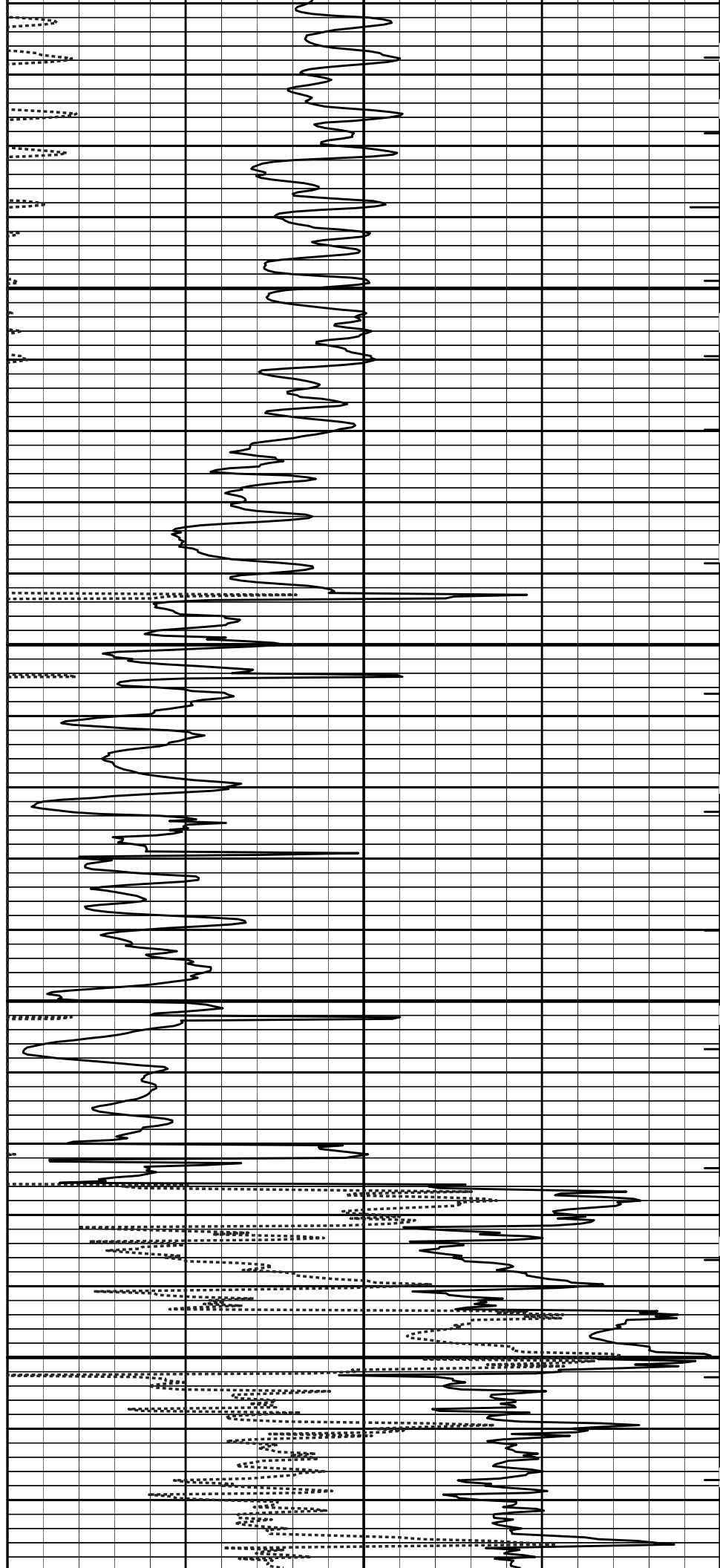
LOGGING DATA

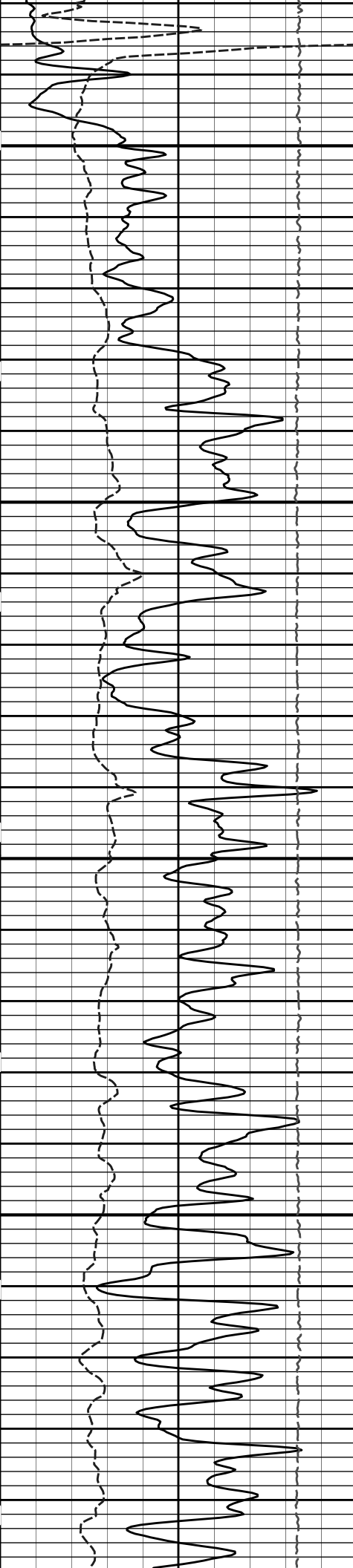
[illegible]



1600

1700

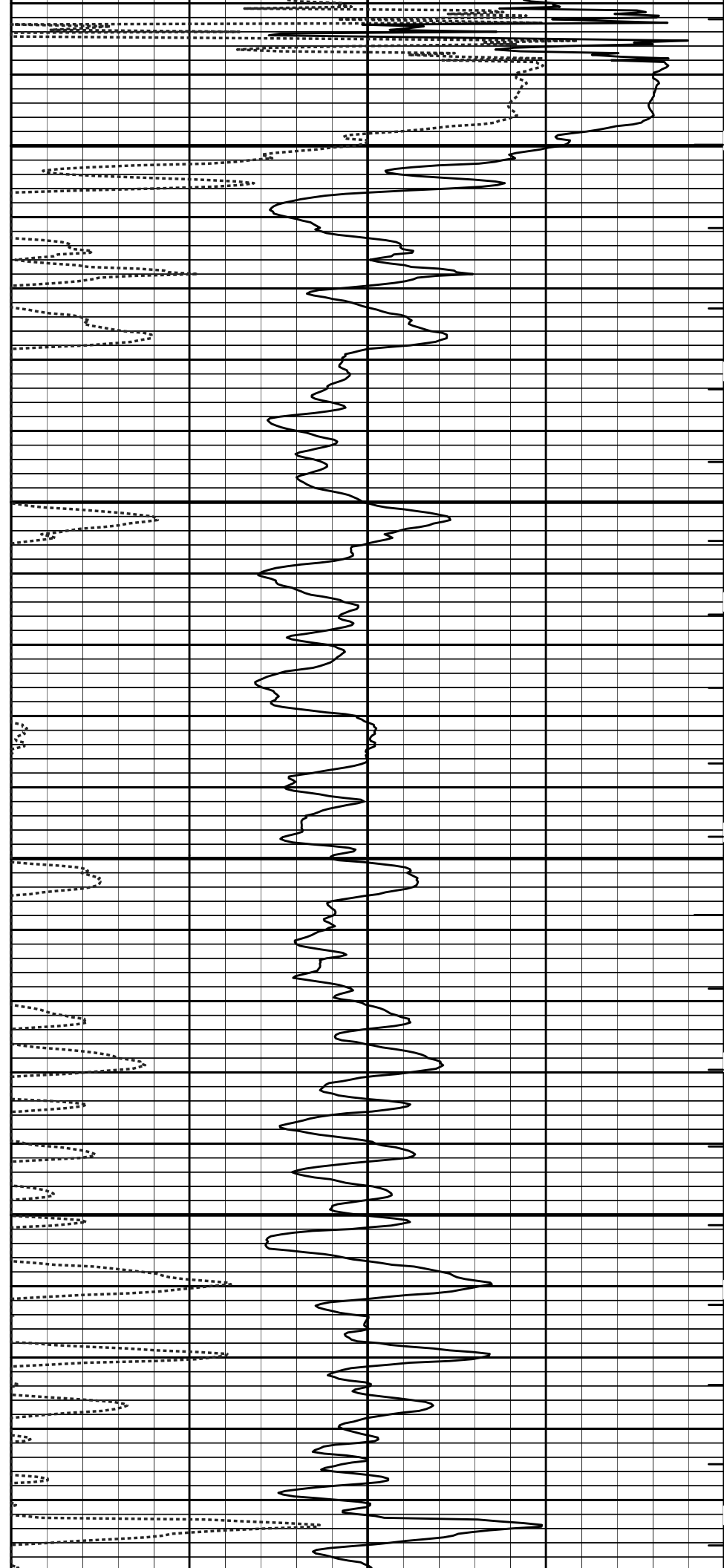


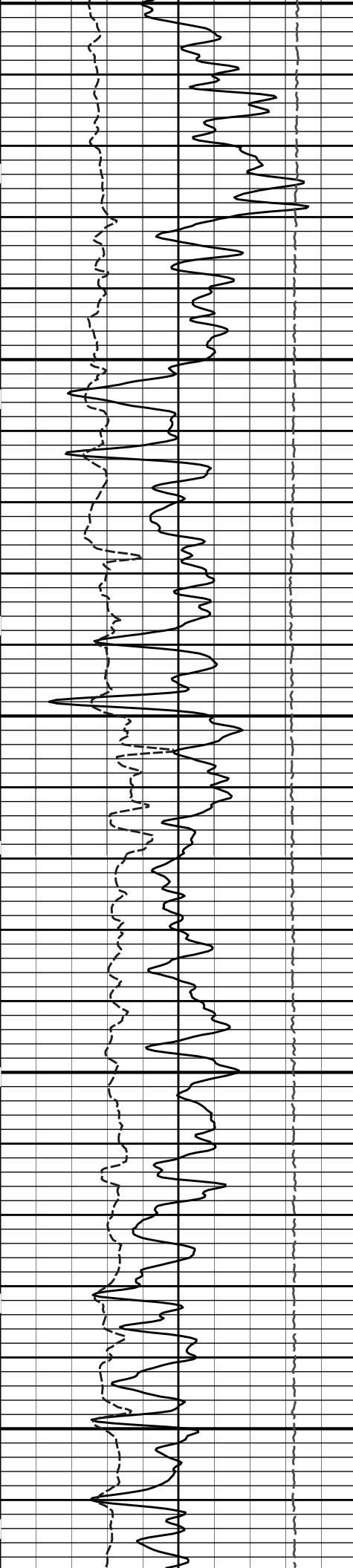


1800

1900

2000

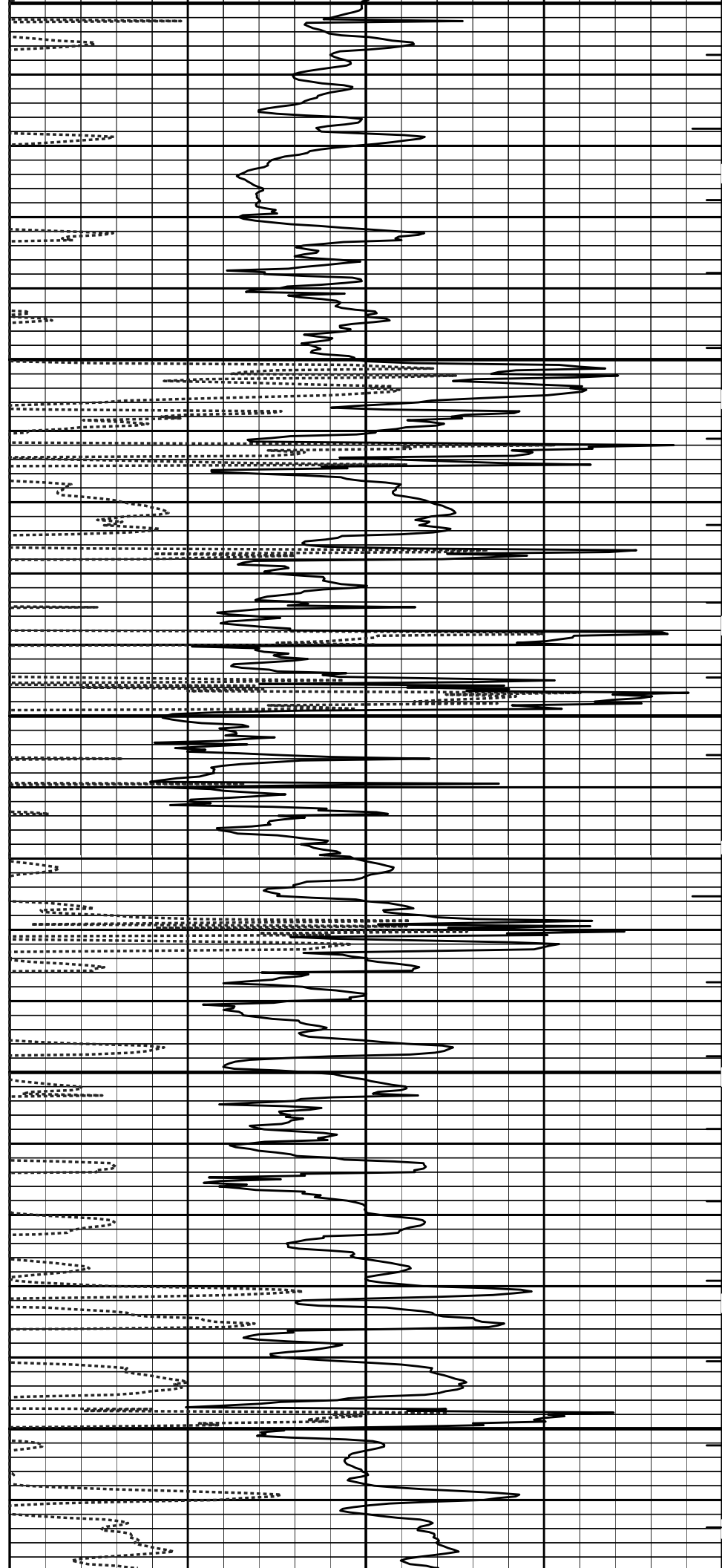


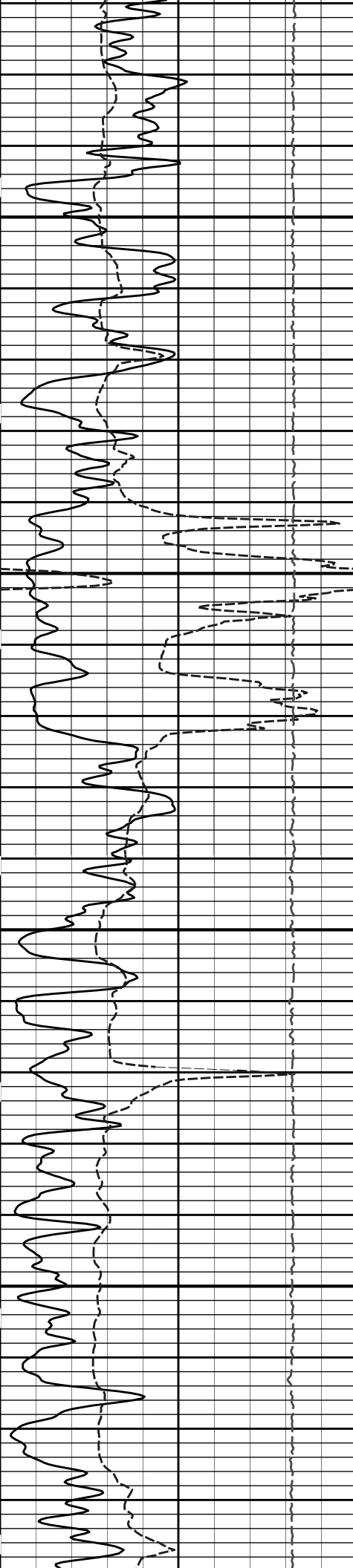


2000

2100

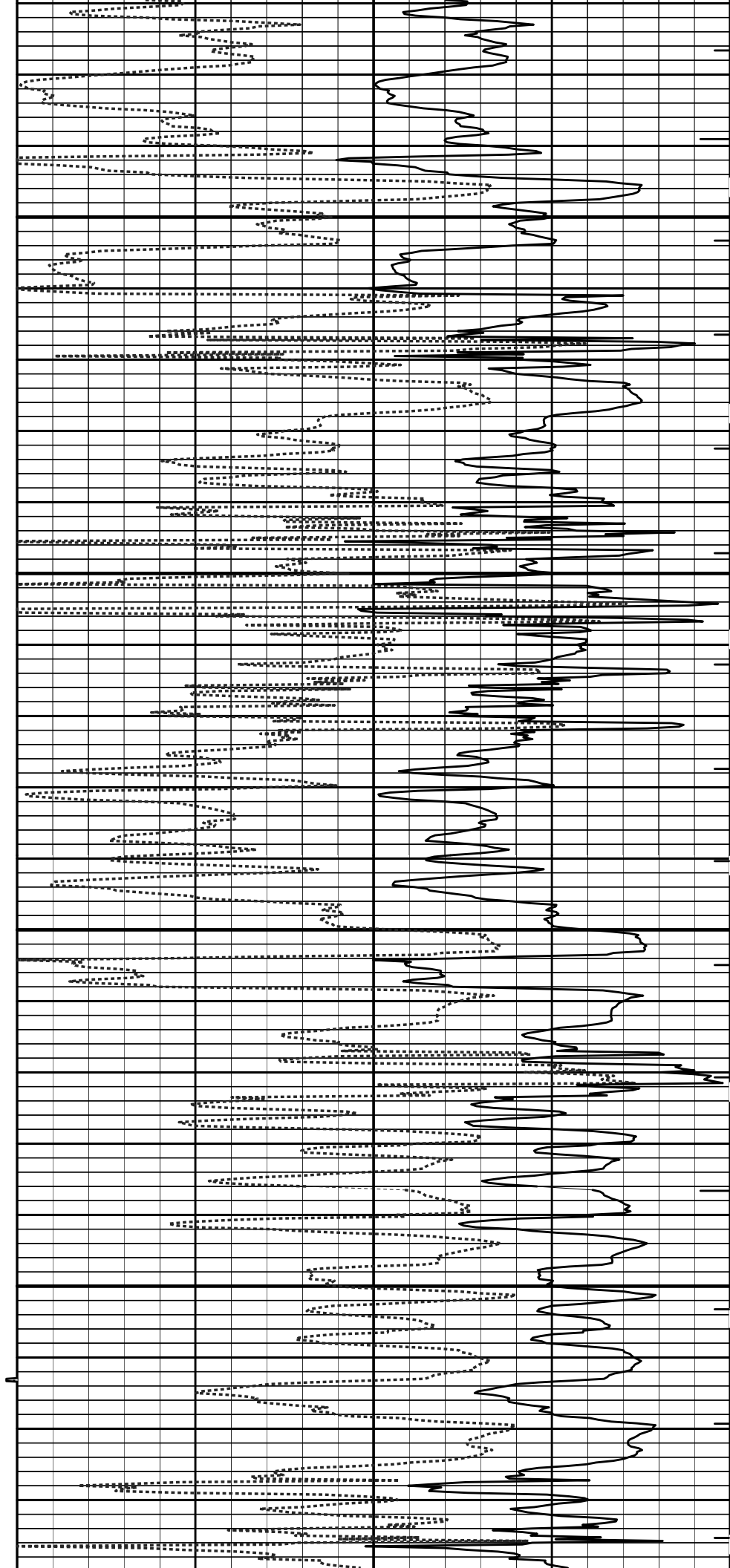
2200

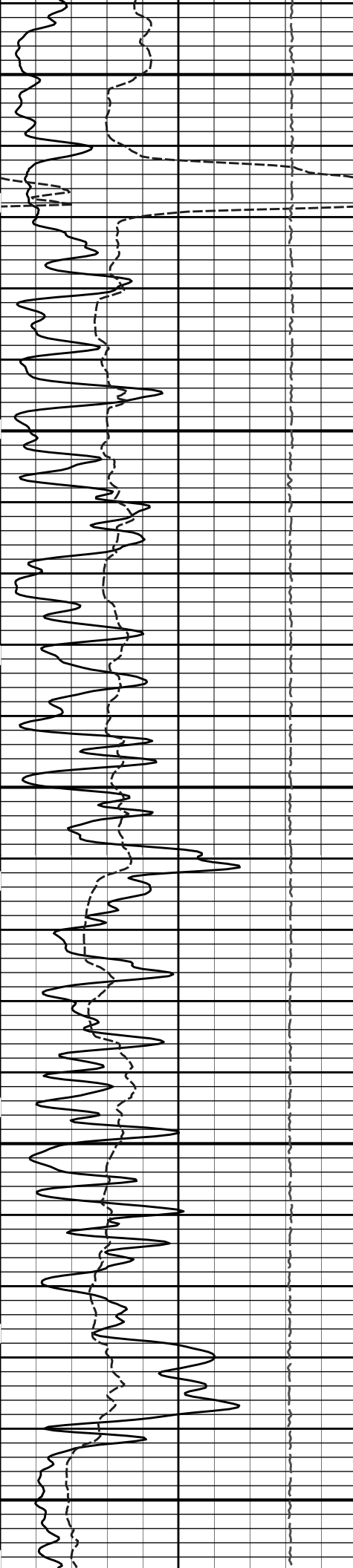




2300

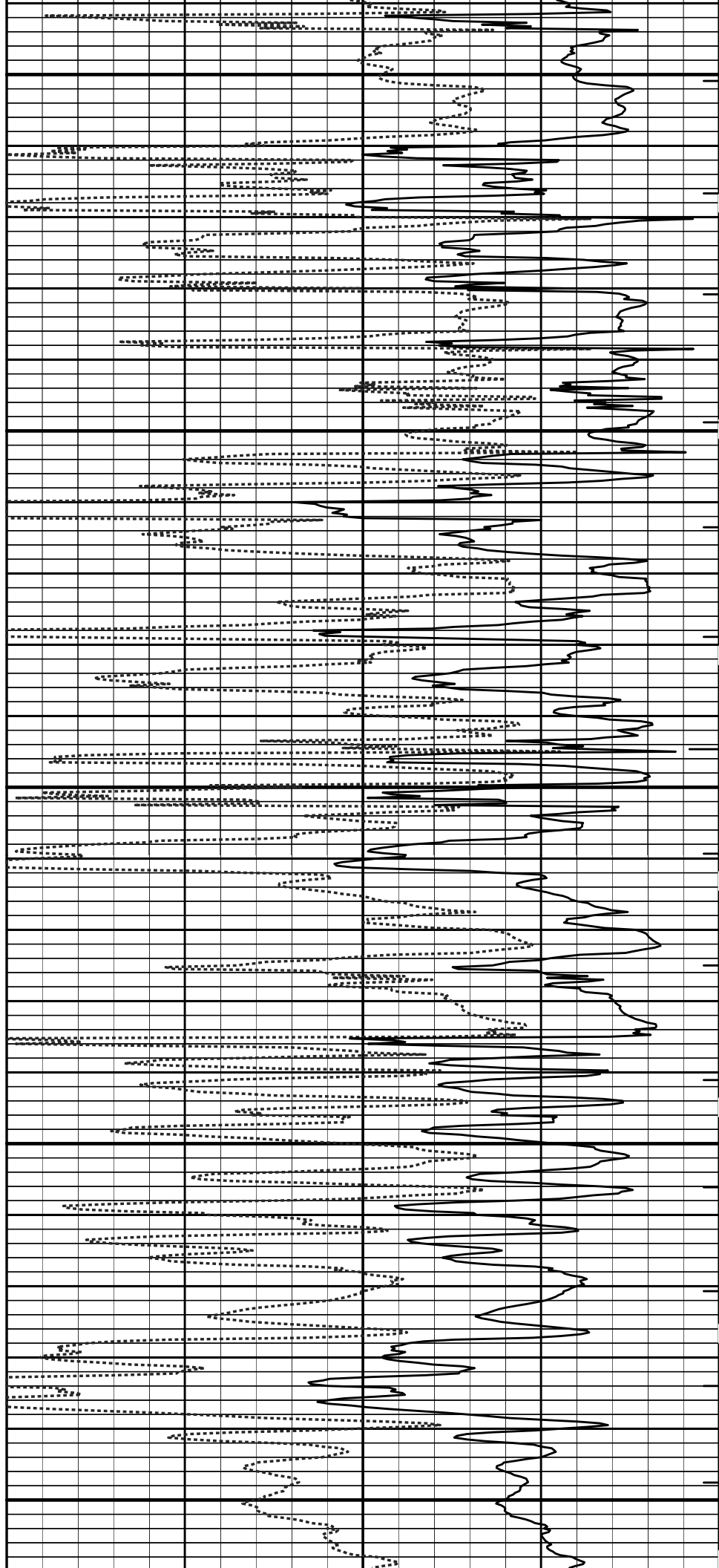
2400

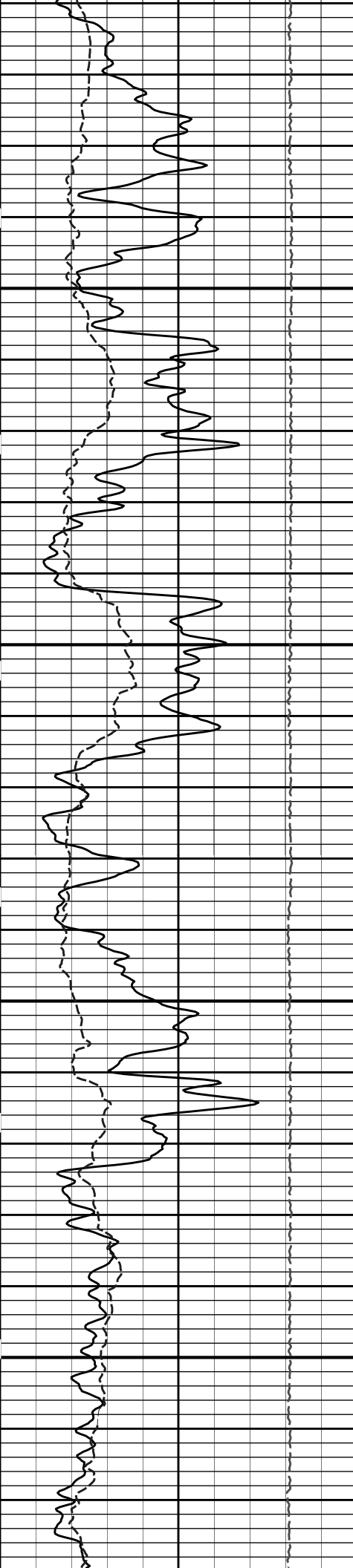




2500

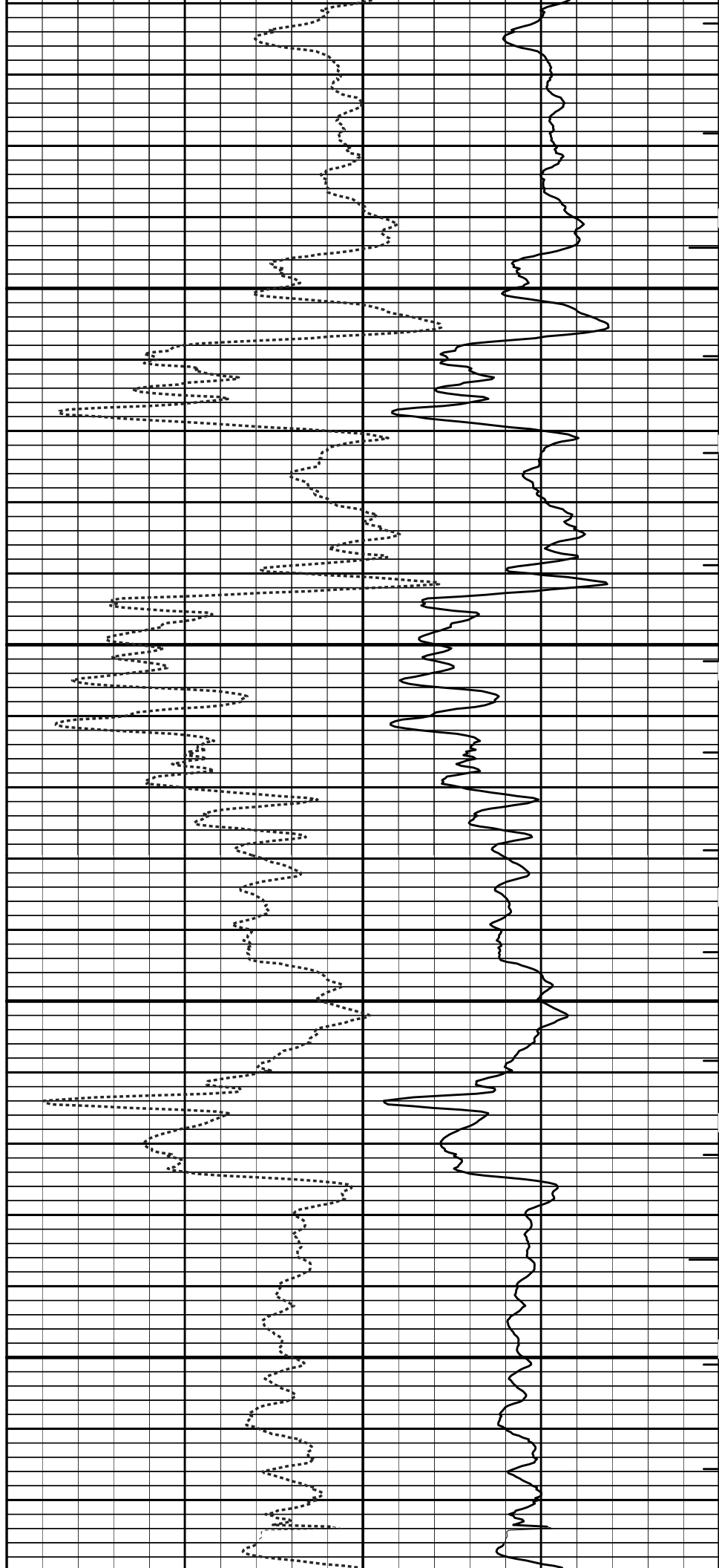
2600

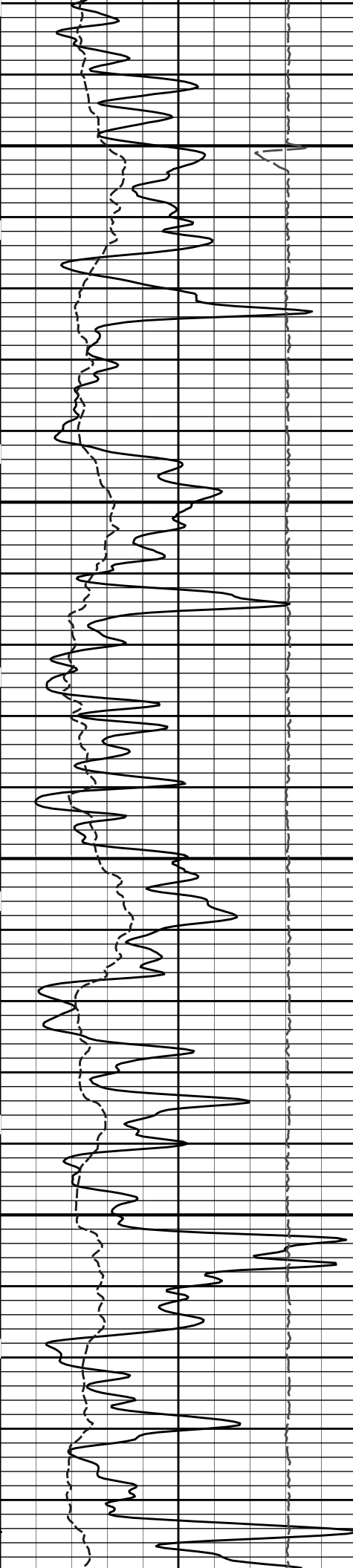




2700

2800

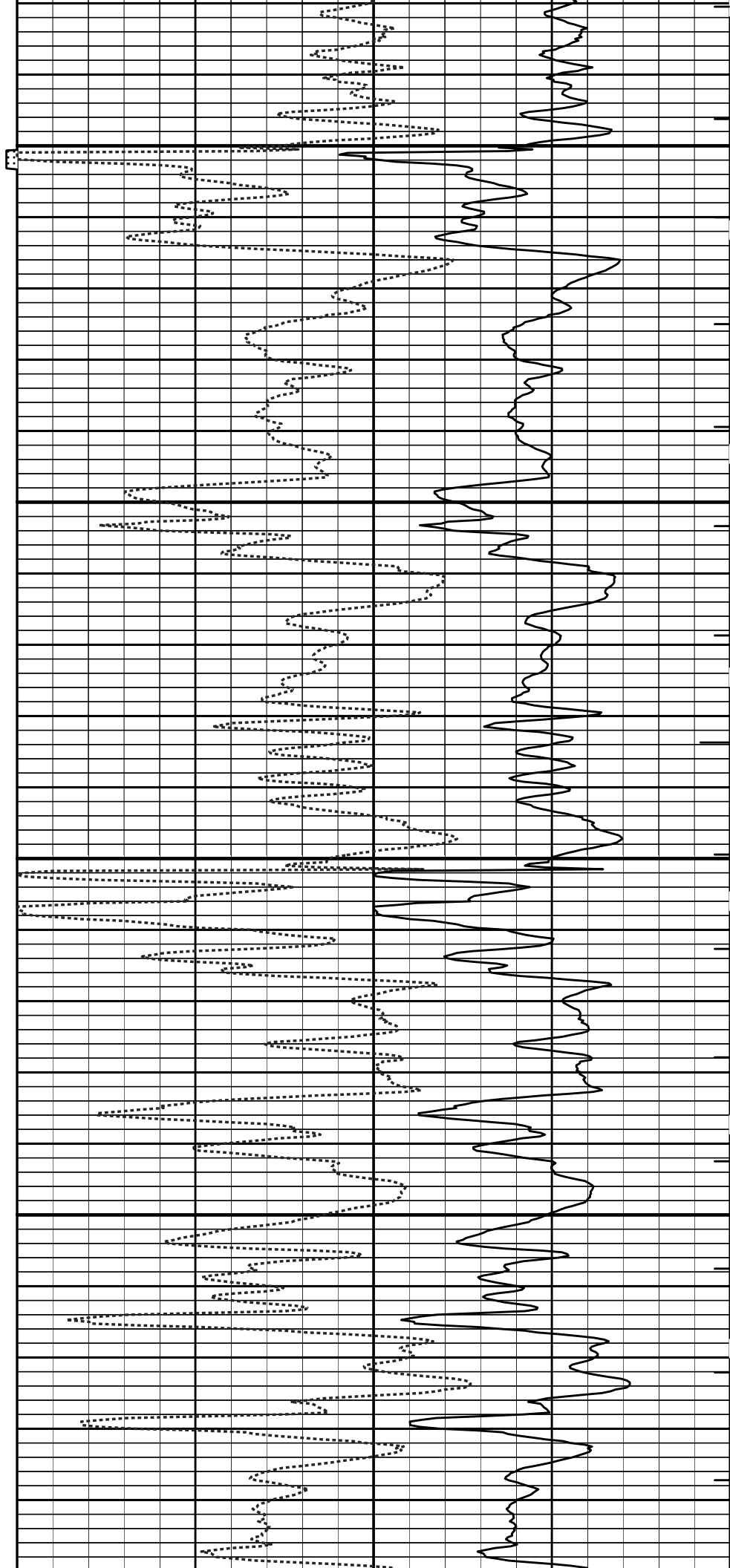


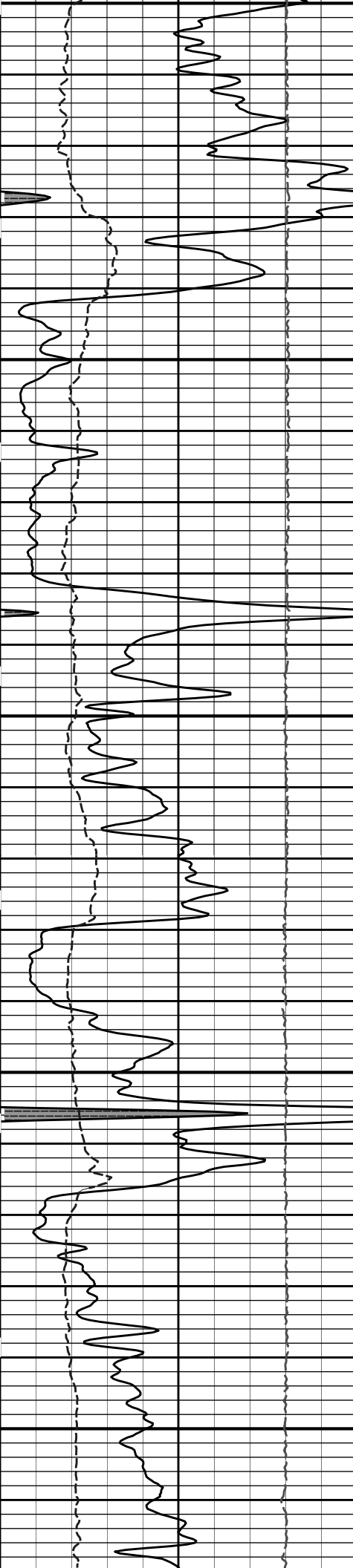


2900

3000

3100

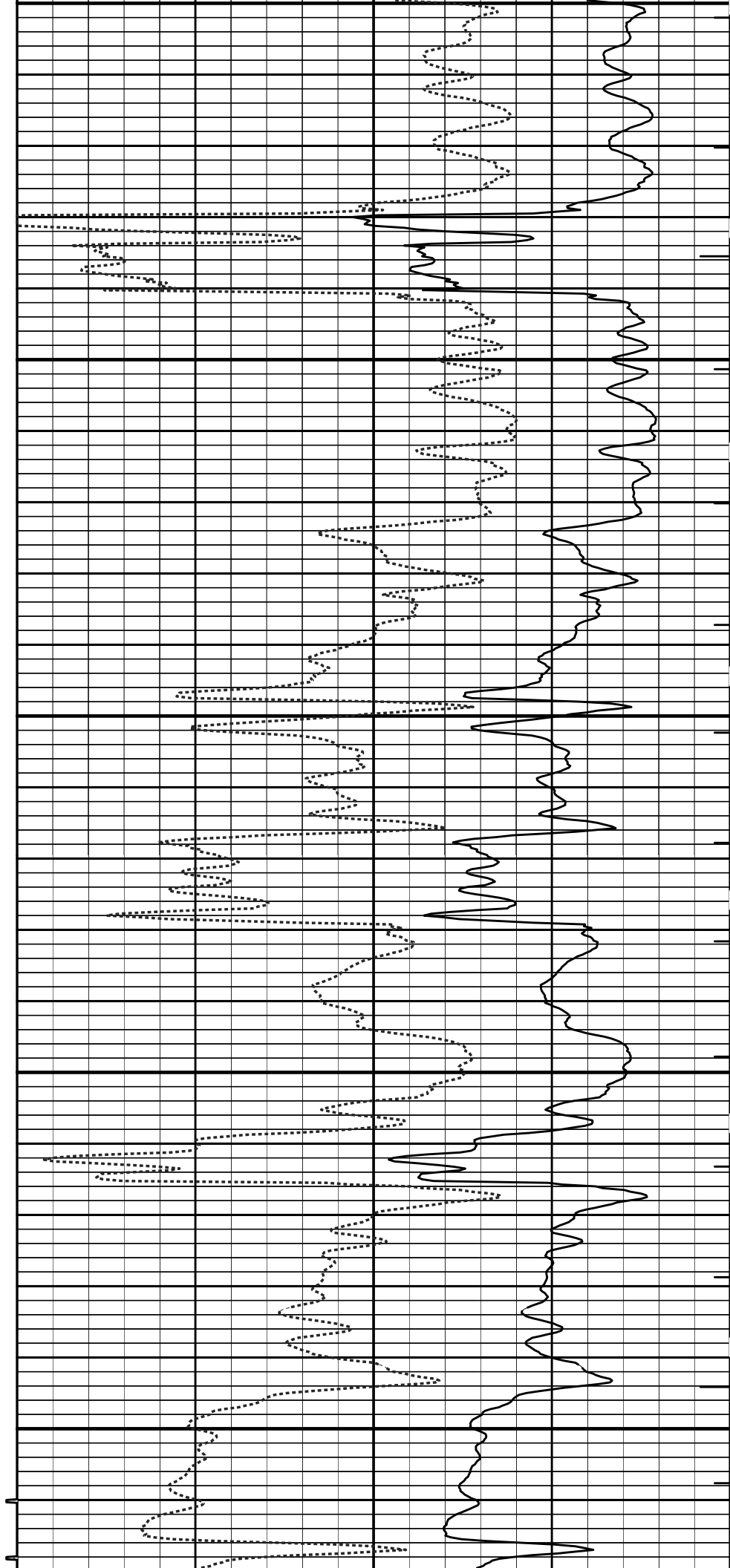


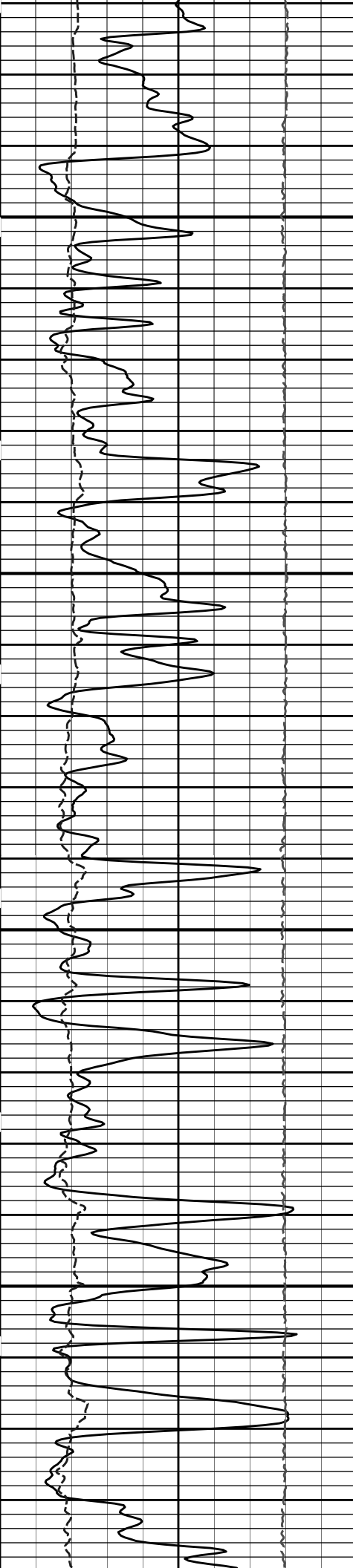


3100

3200

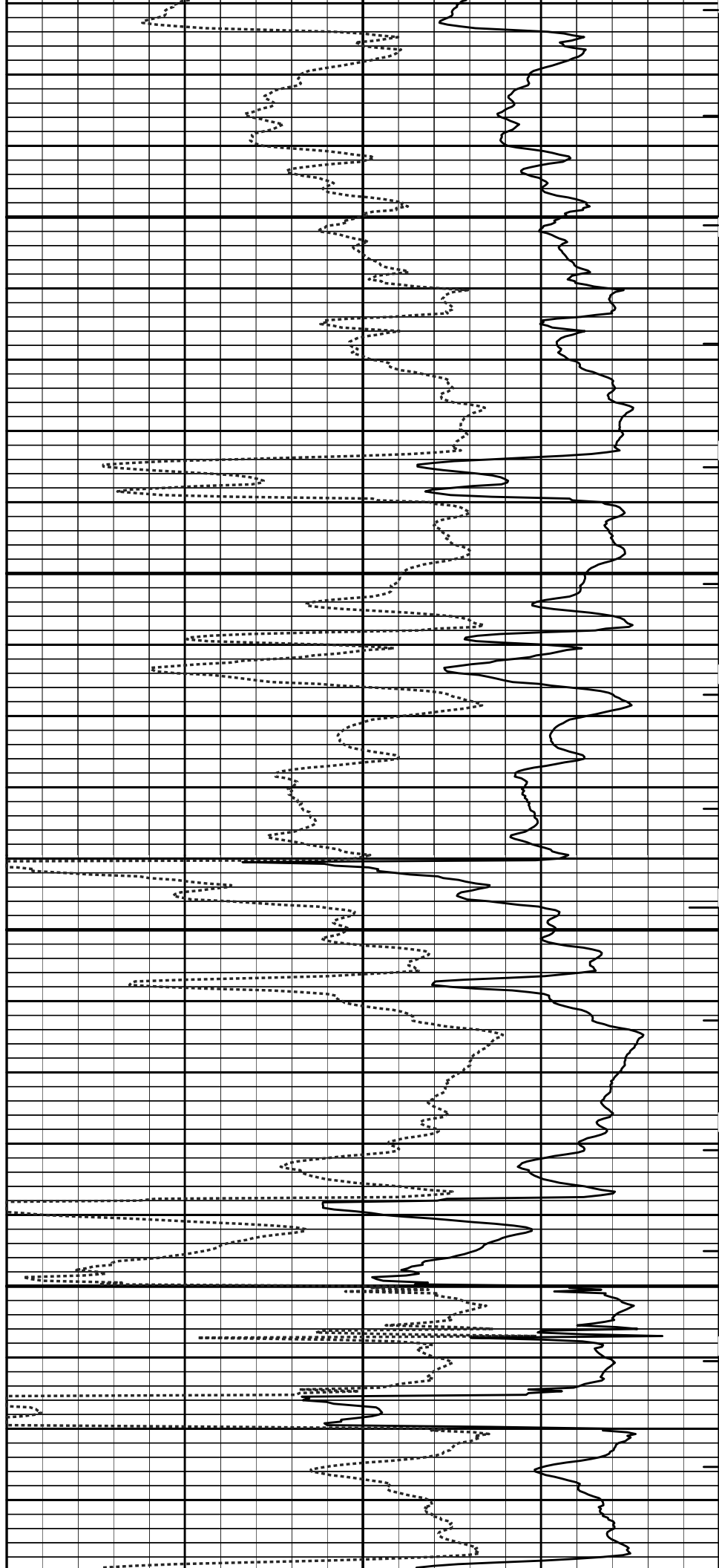
3300

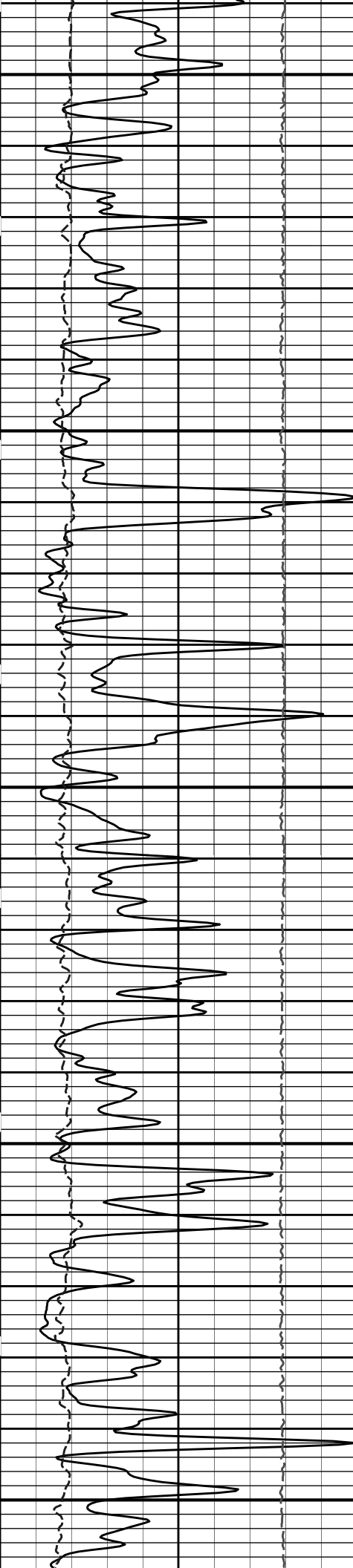




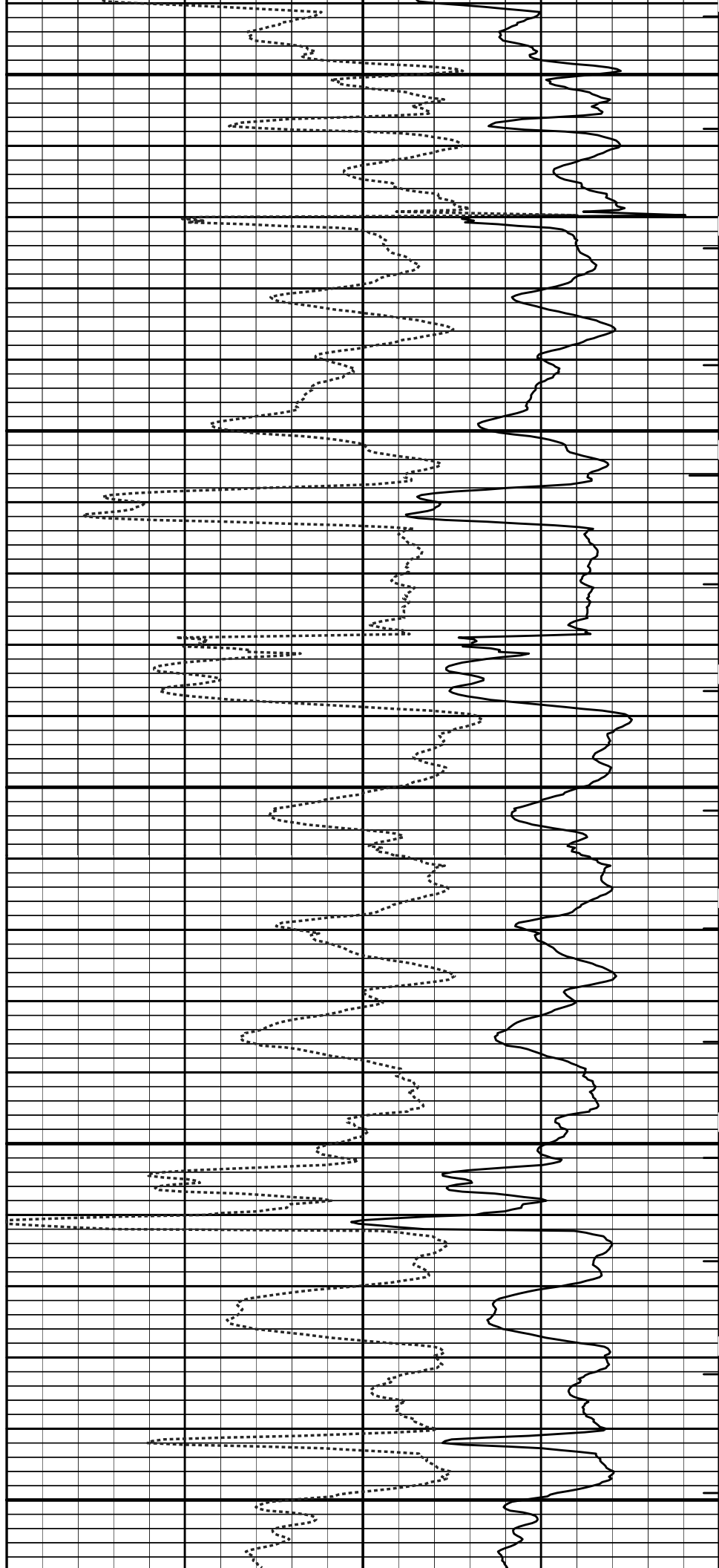
3400

3500

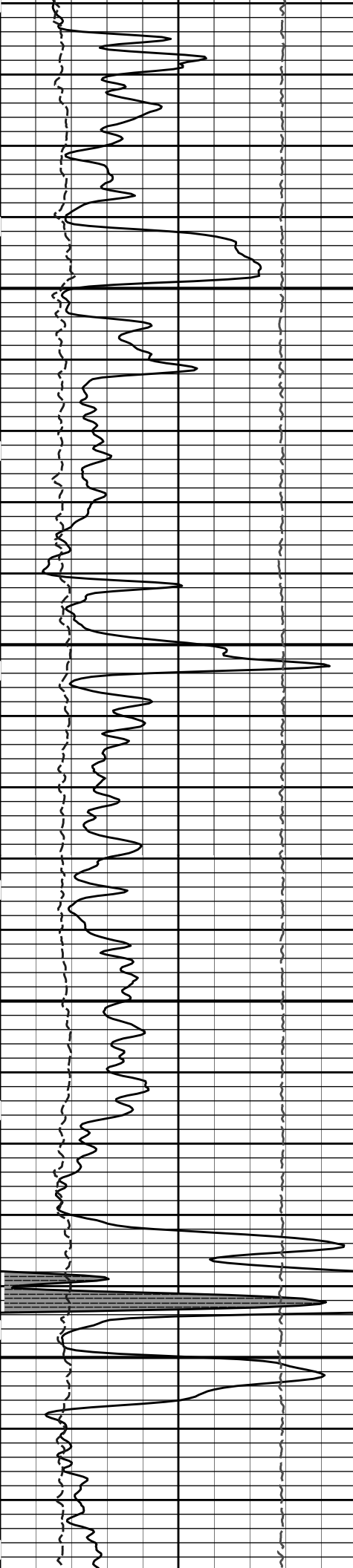




3600

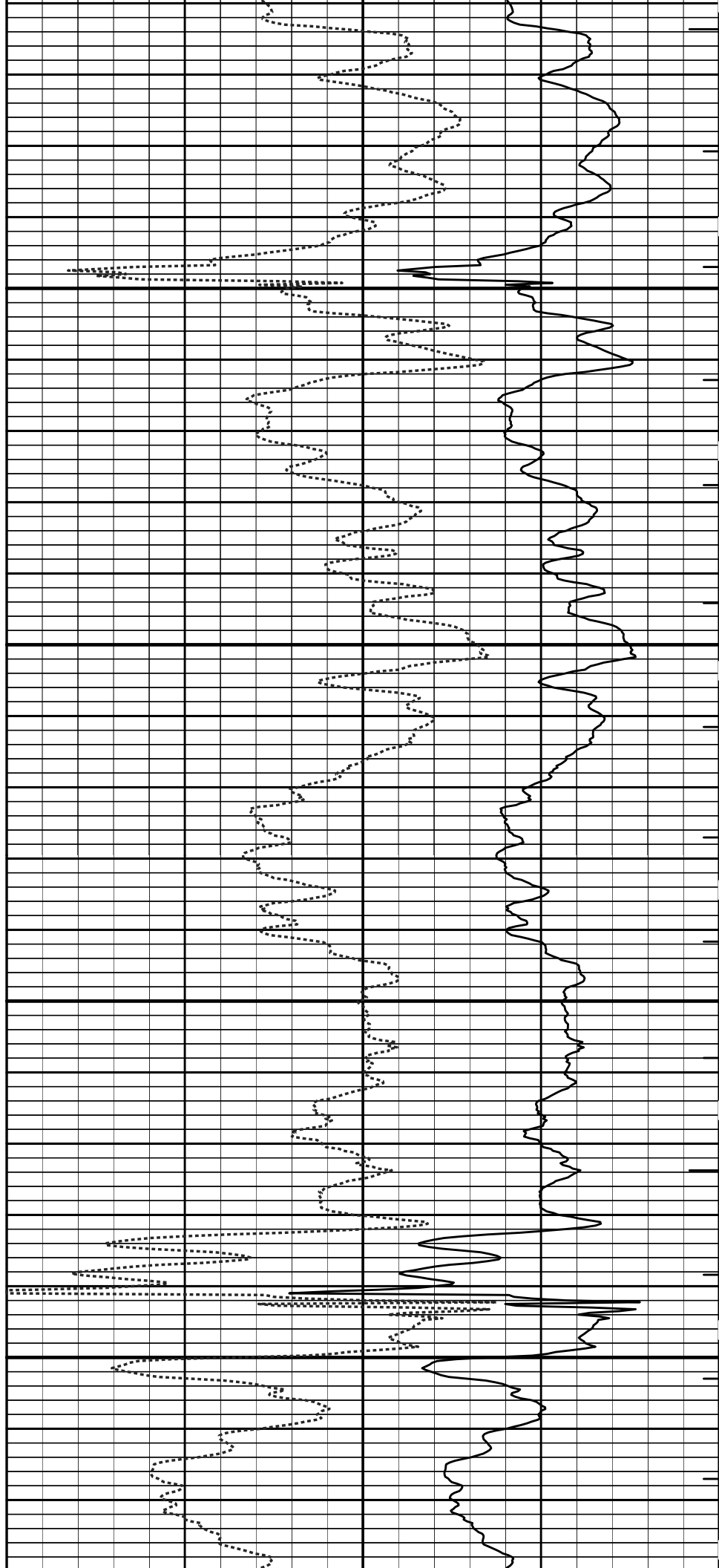


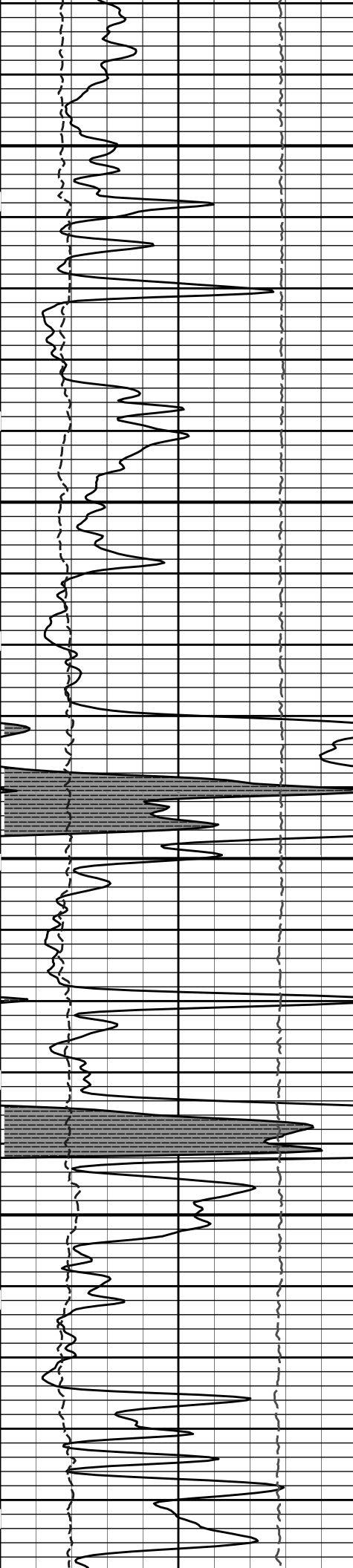
3700



3800

3900

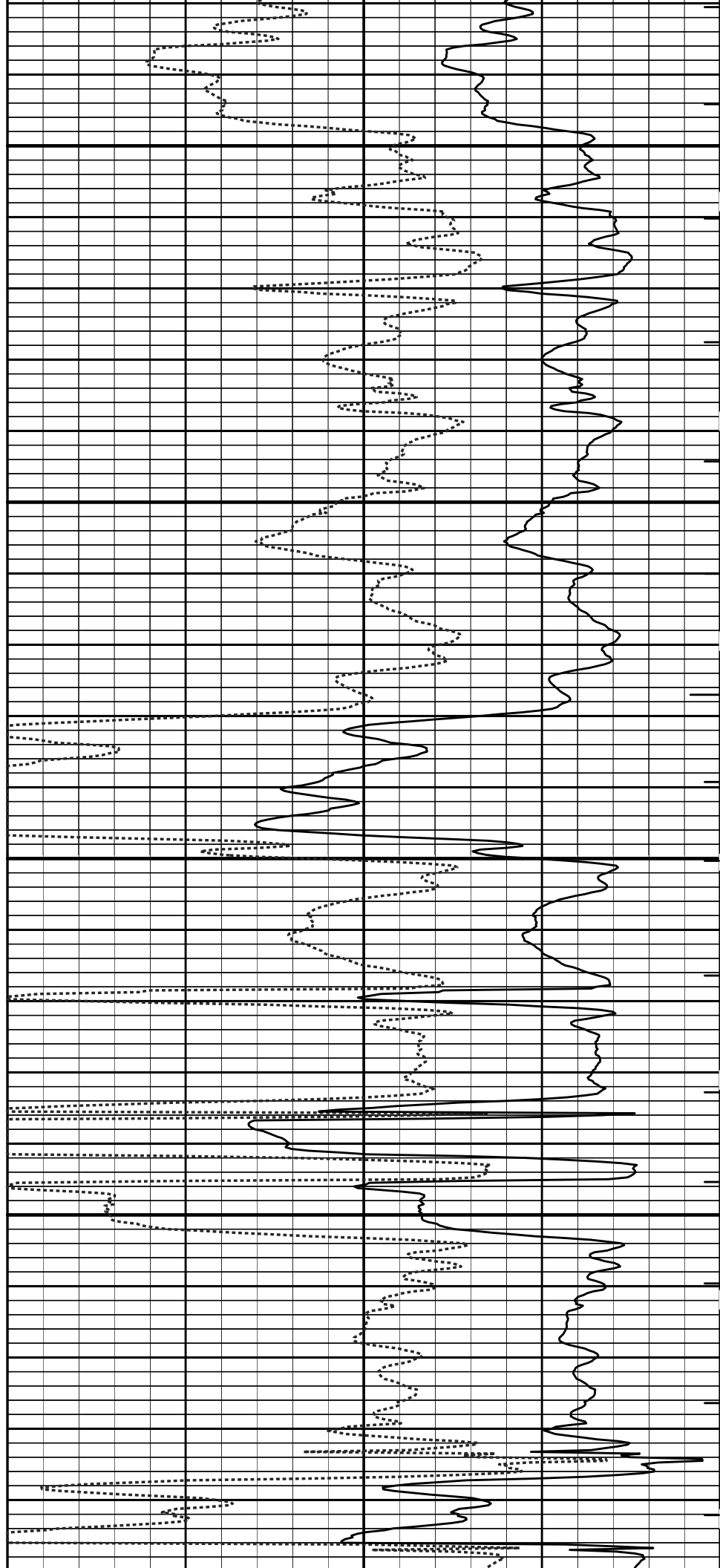


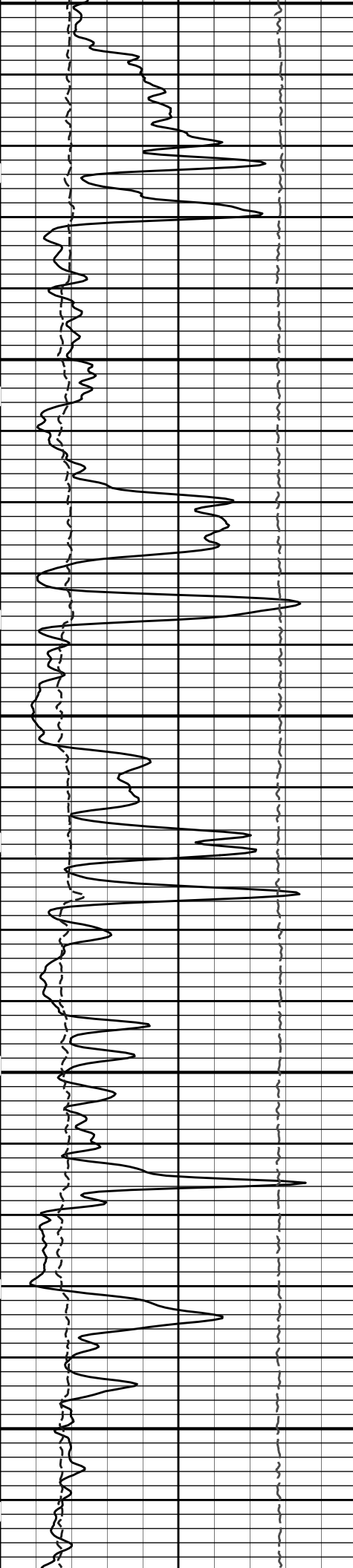


4000

4100

4200

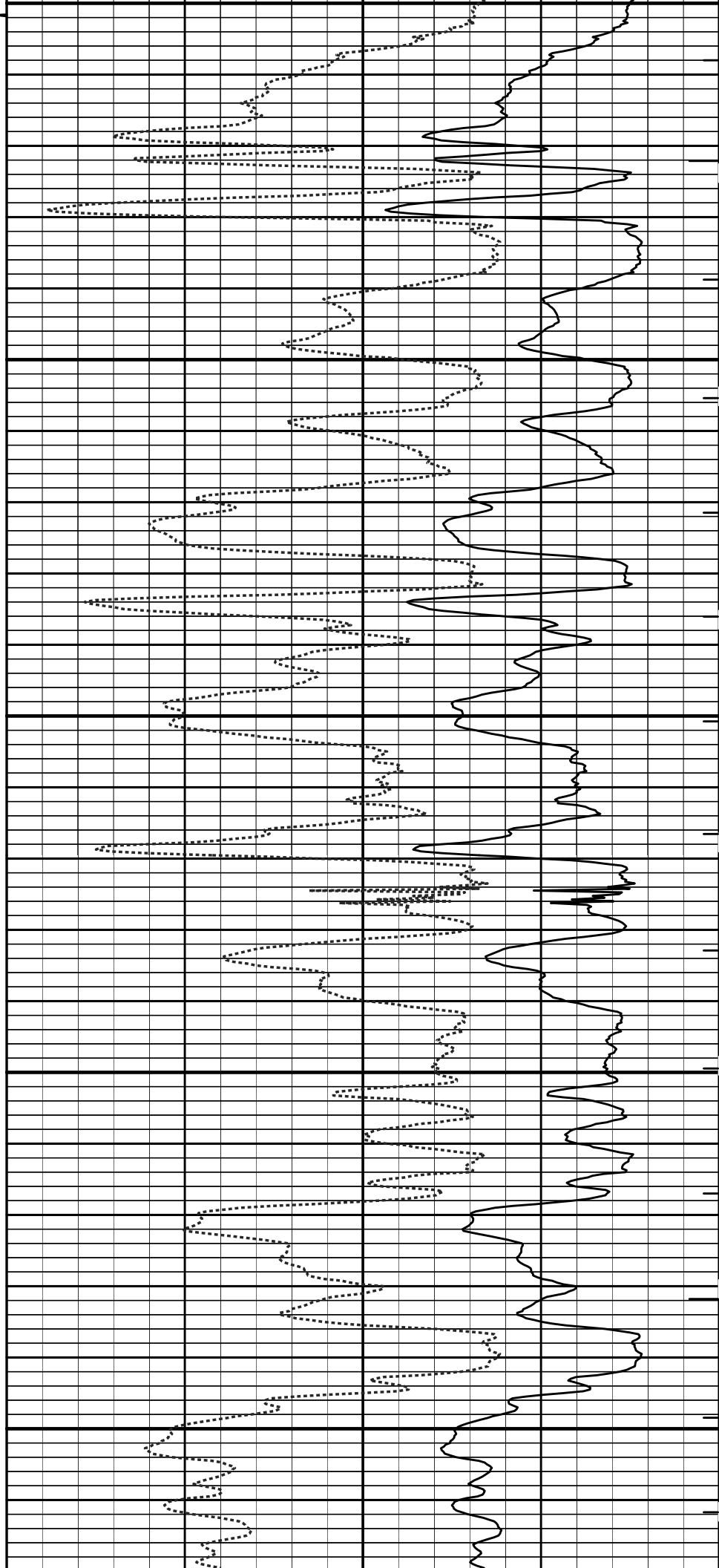


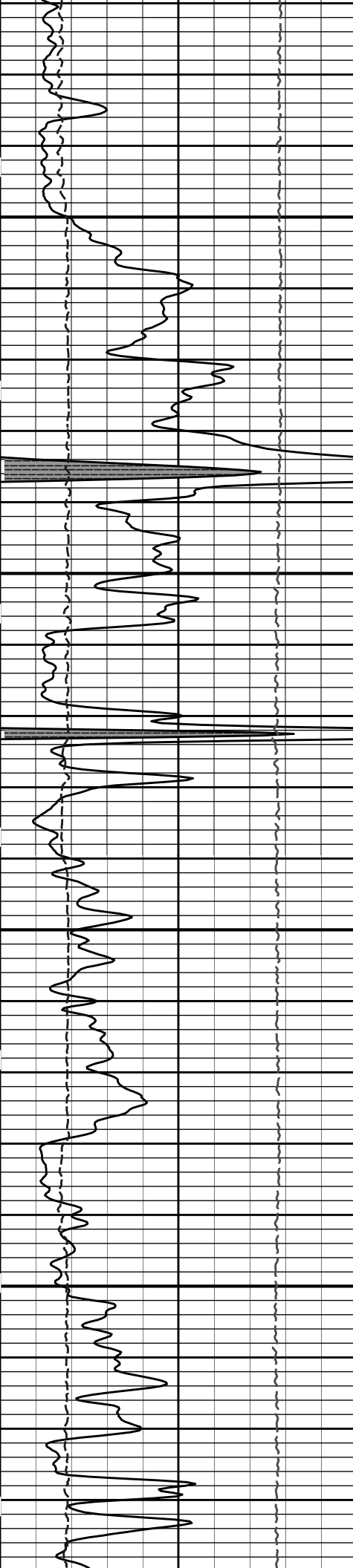


4200

4300

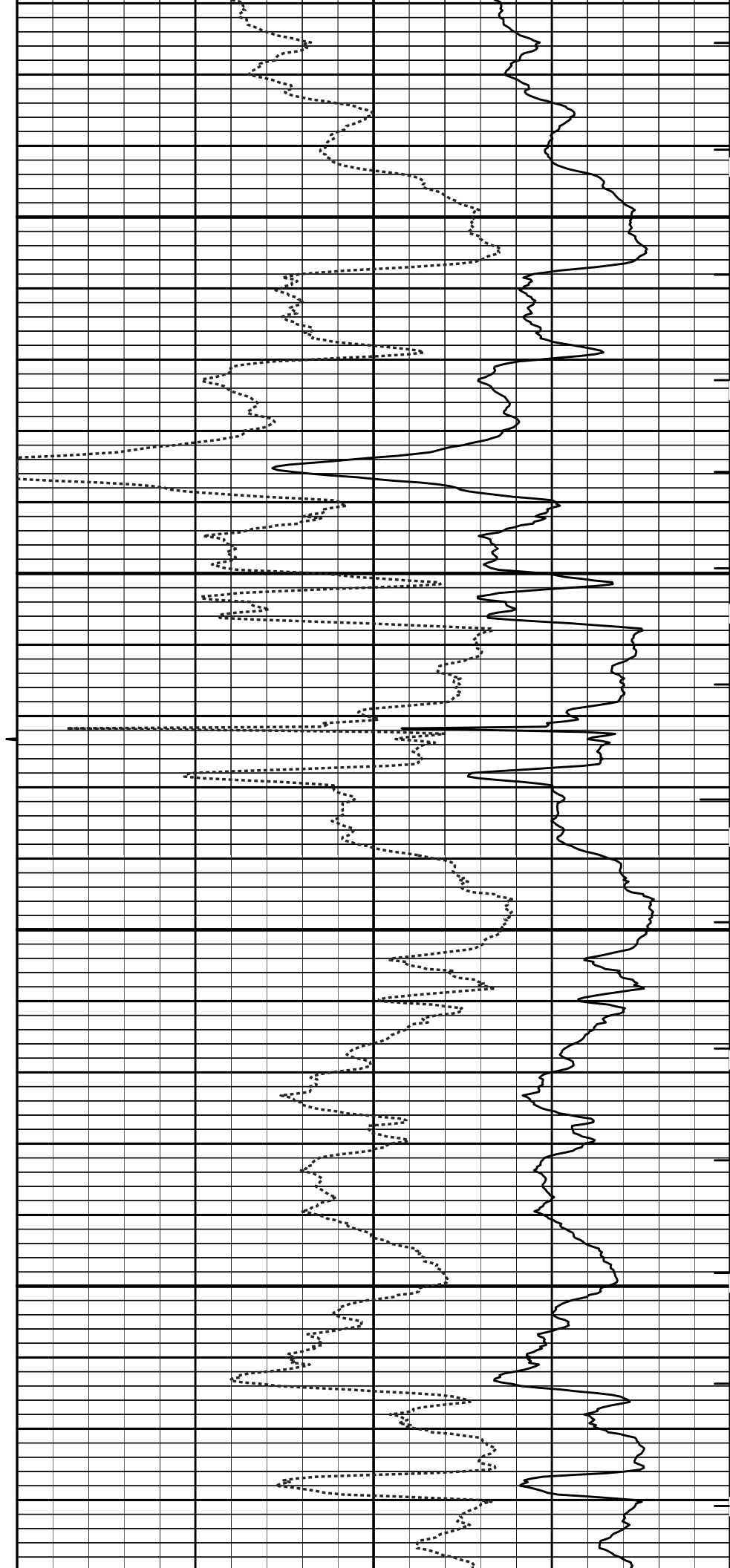
4400

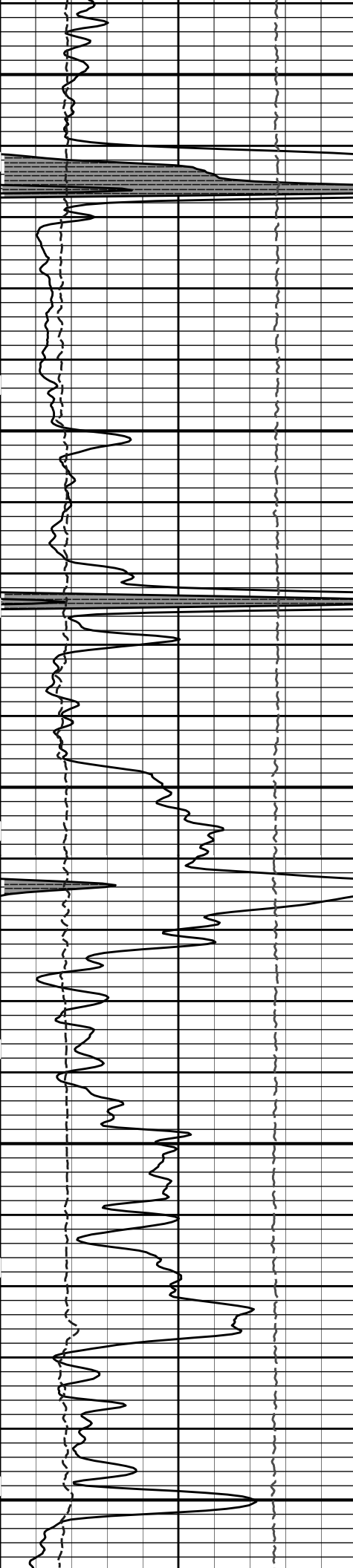




4500

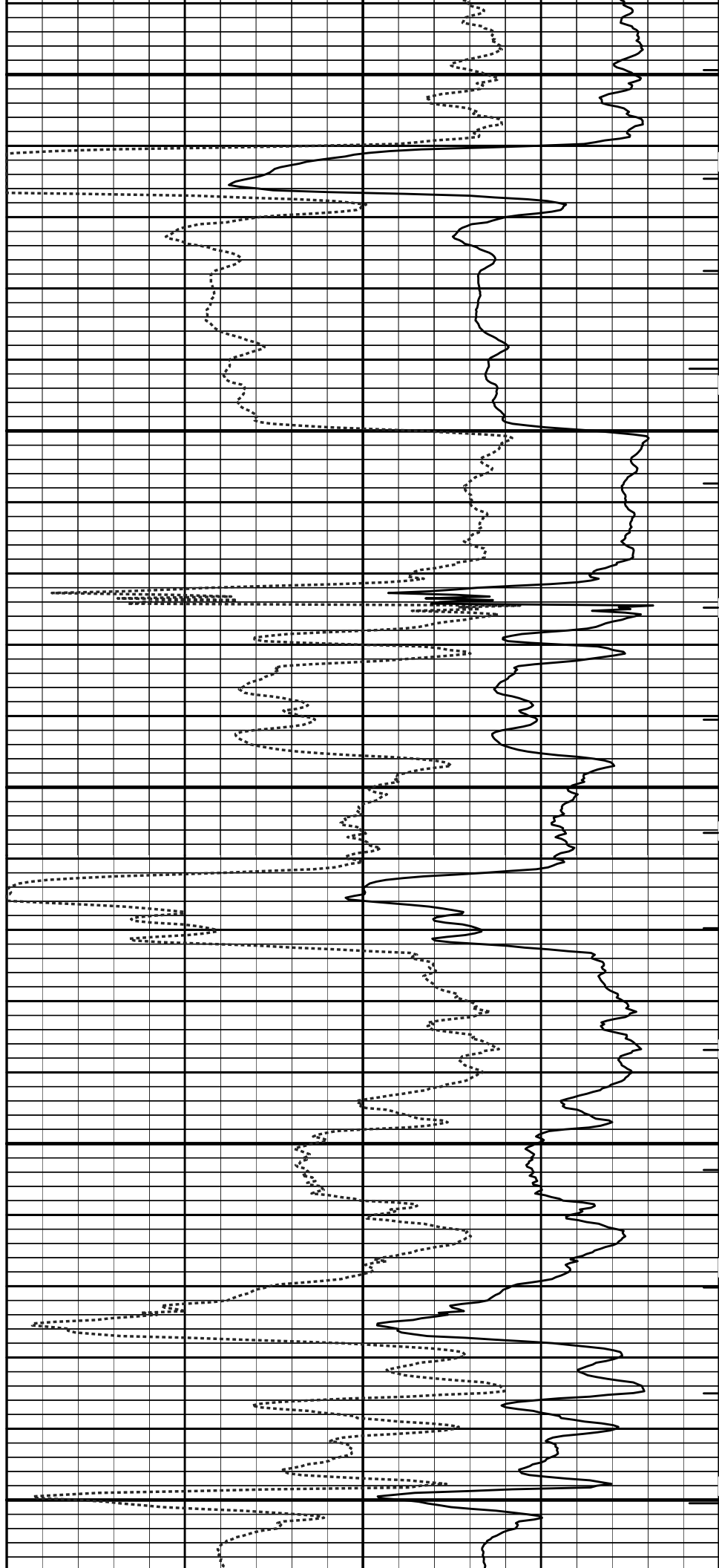
4600

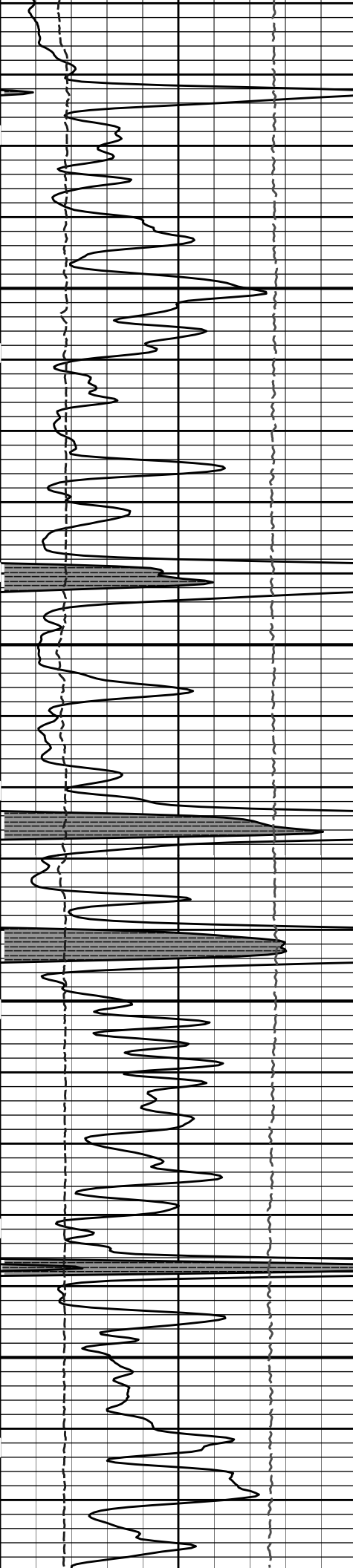




4700

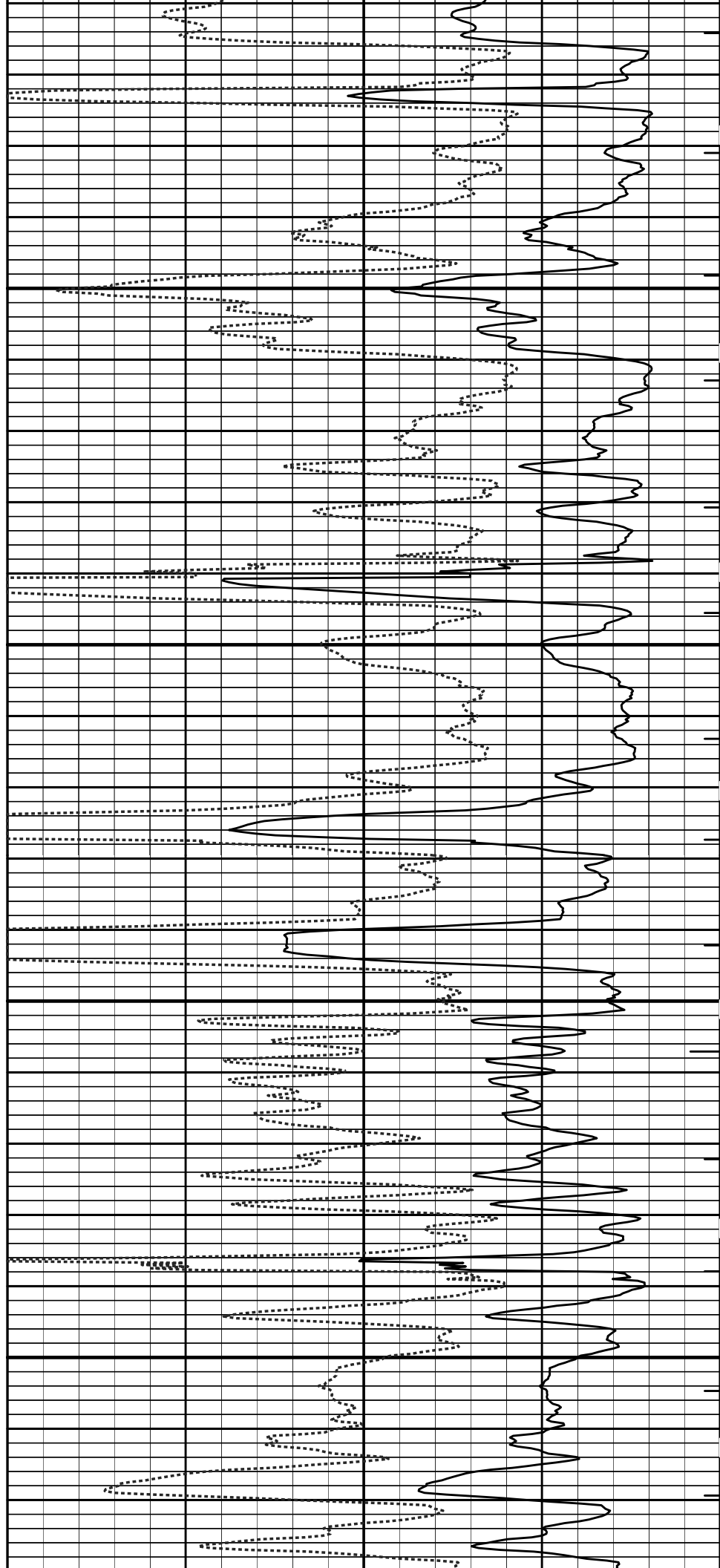
4800

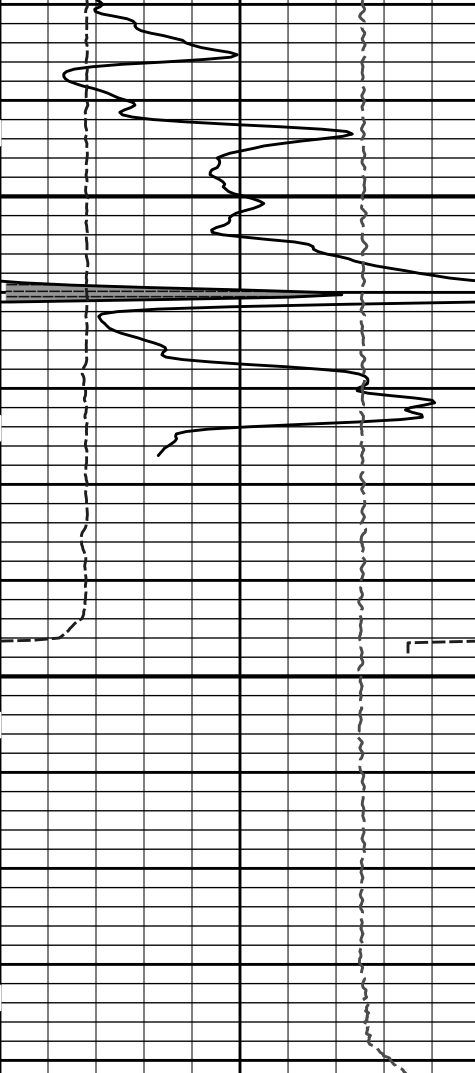




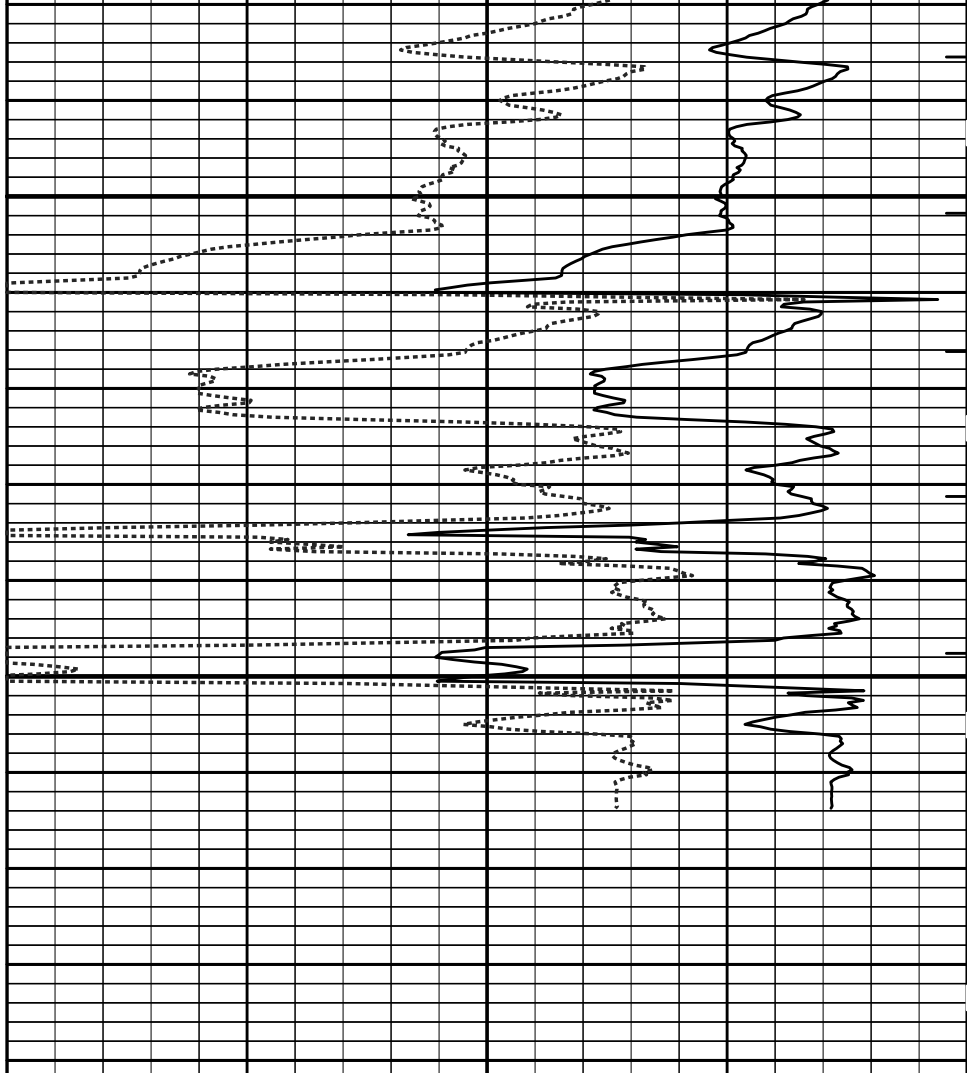
4900

5000





5100



15K	Tens	0	MD		ITTT
	pounds		1 : 240		
			ft		
6	Caliper	16	Tension Pull	0 140	DT
	inches		10		microsec per ft
0	Gamma API	150			
	api		Tension Pull	30	Acou Porosity
					percent
	SHALE				

HALLIBURTON

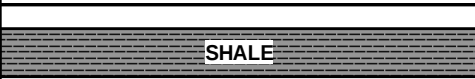
Plot Time: 17-Sep-13 04:02:28
Plot Range: 1510 ft to 5191.5 ft
Data: ENTERPRISES_A4\Well Based\IR1 CASING\
Plot File: \\BSAT\BSAT_5_MAIN_LIB

5 INCH MAIN LOG

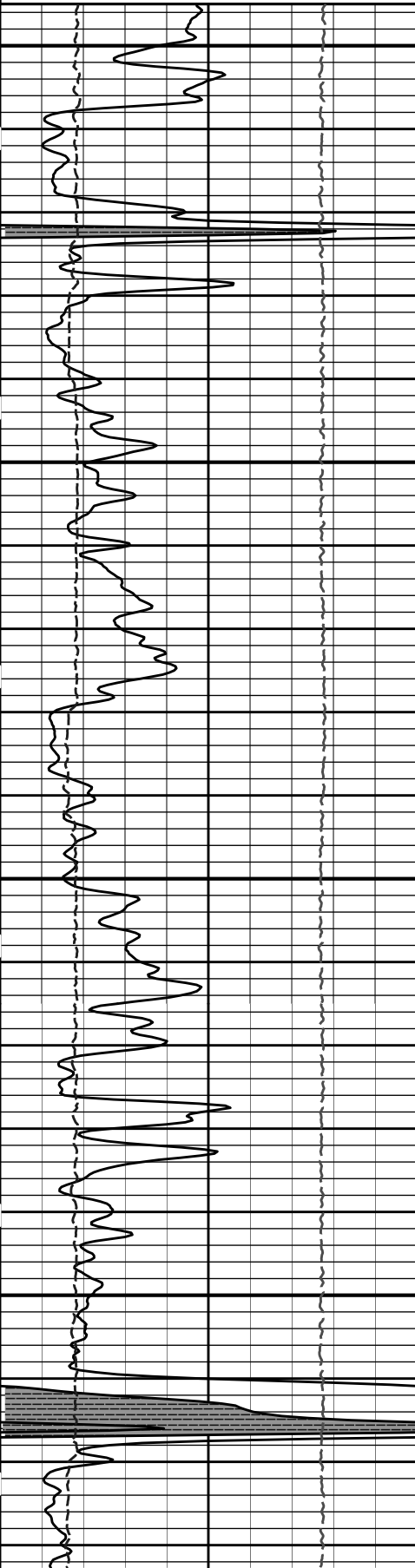
HALLIBURTON

Plot Time: 17-Sep-13 04:02:29
Plot Range: 4495 ft to 5193.75 ft
Data: ENTERPRISES_A4\Well Based\IR1 REPEAT\
Plot File: \\BSAT\BSAT_5_REP_LIB

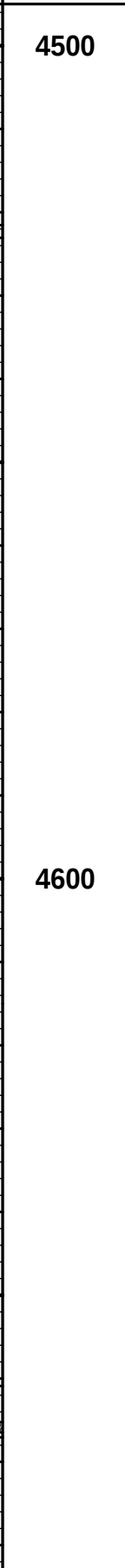
REPEAT SECTION



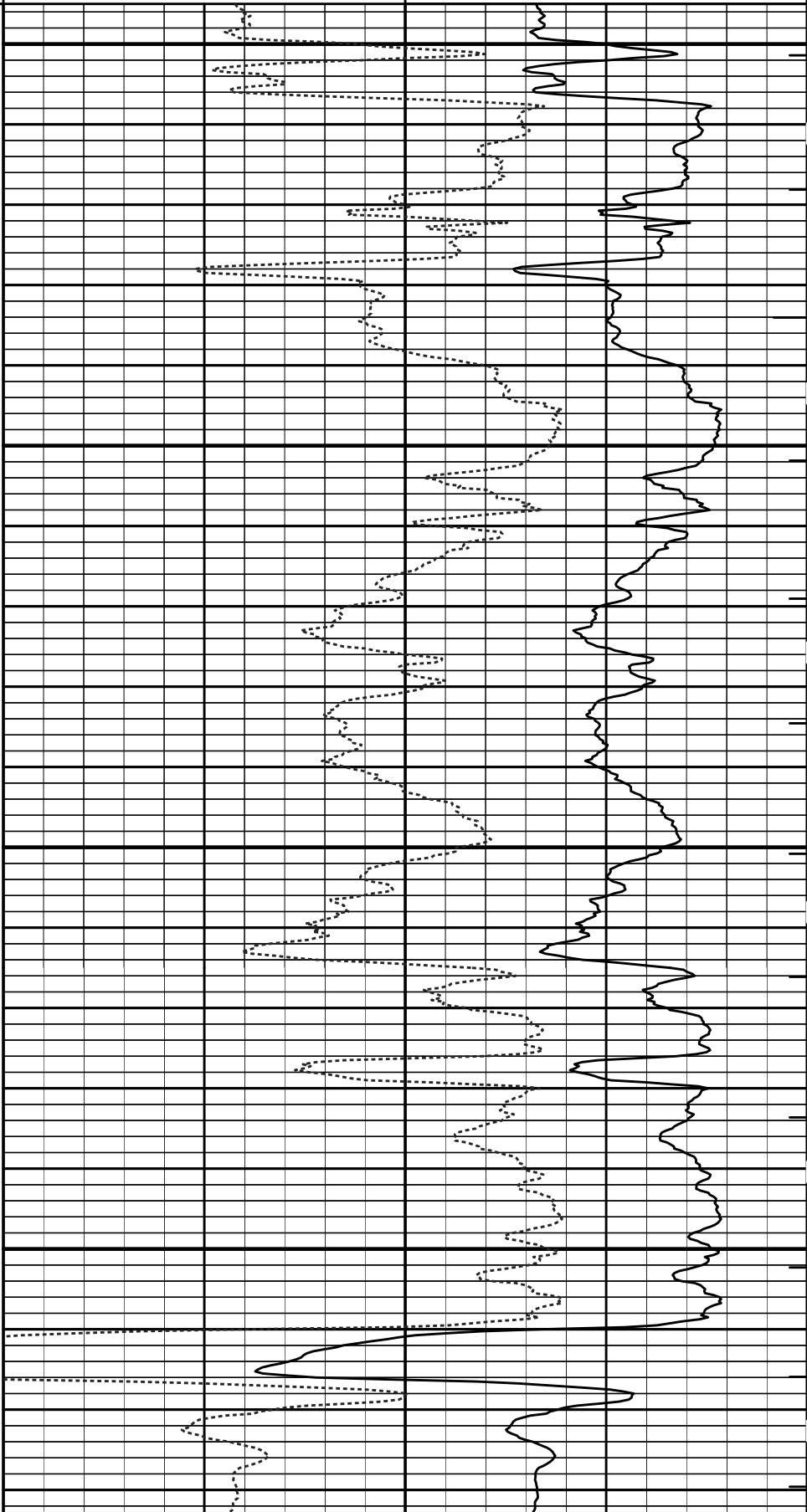
0	Gamma API	150
	api	
6	Caliper	16
	inches	
15K	Tension	0
	pounds	

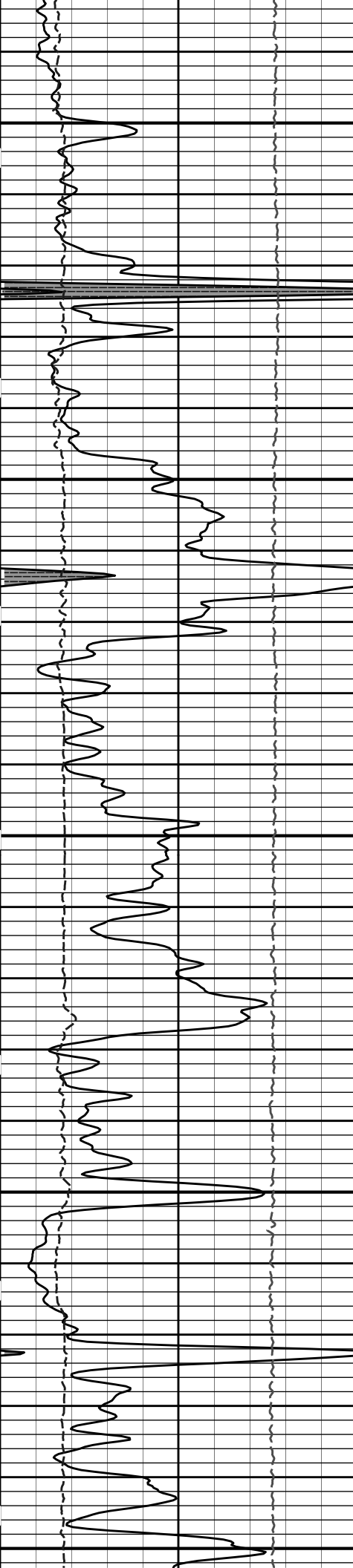


MD 1 : 240 ft



30	Acou Porosity	-10
	percent	
140	DT	40
	microsec per ft	
	ITT	

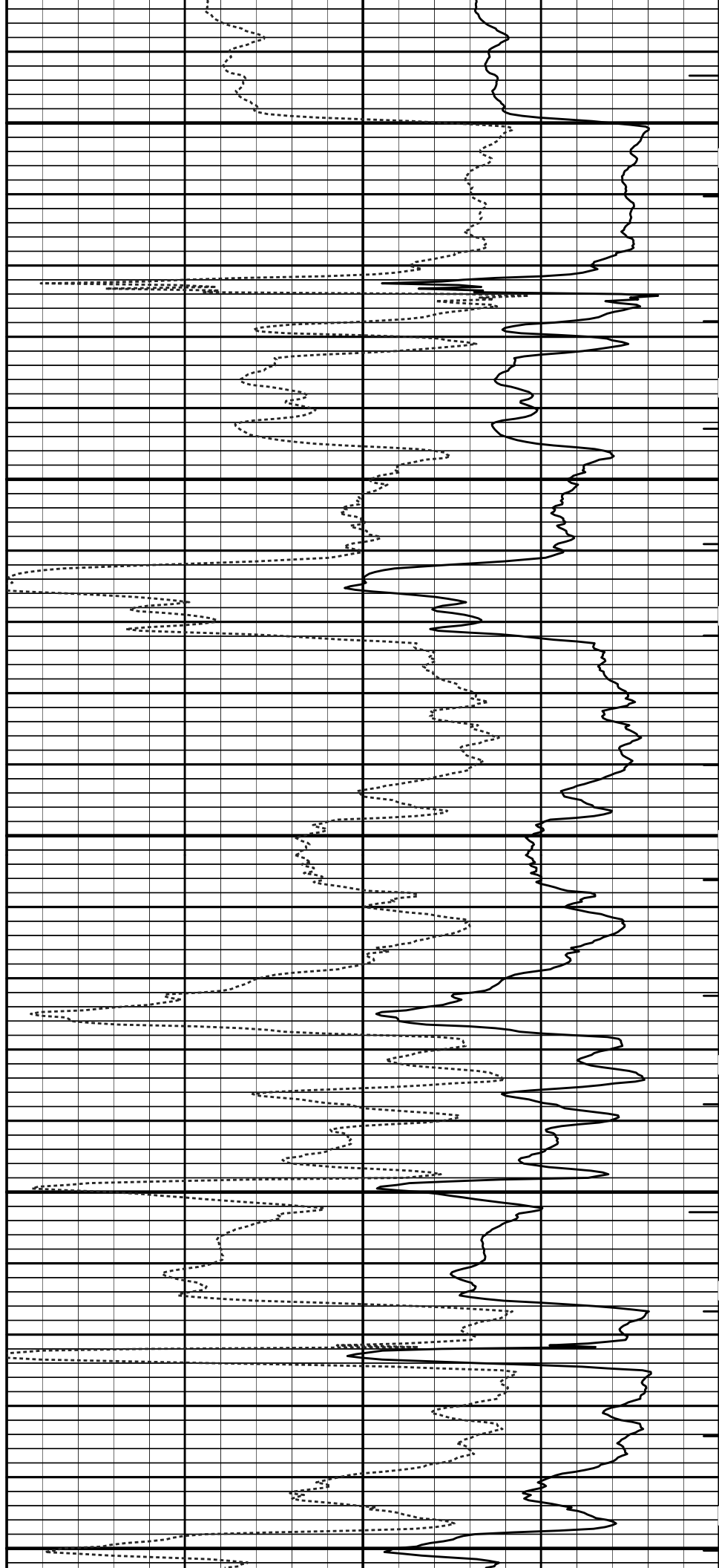


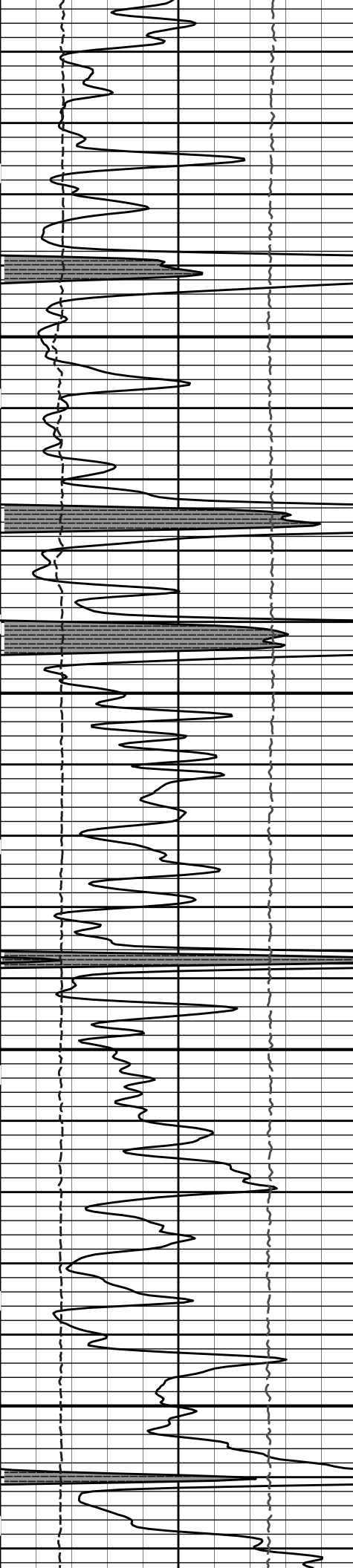


4700

4800

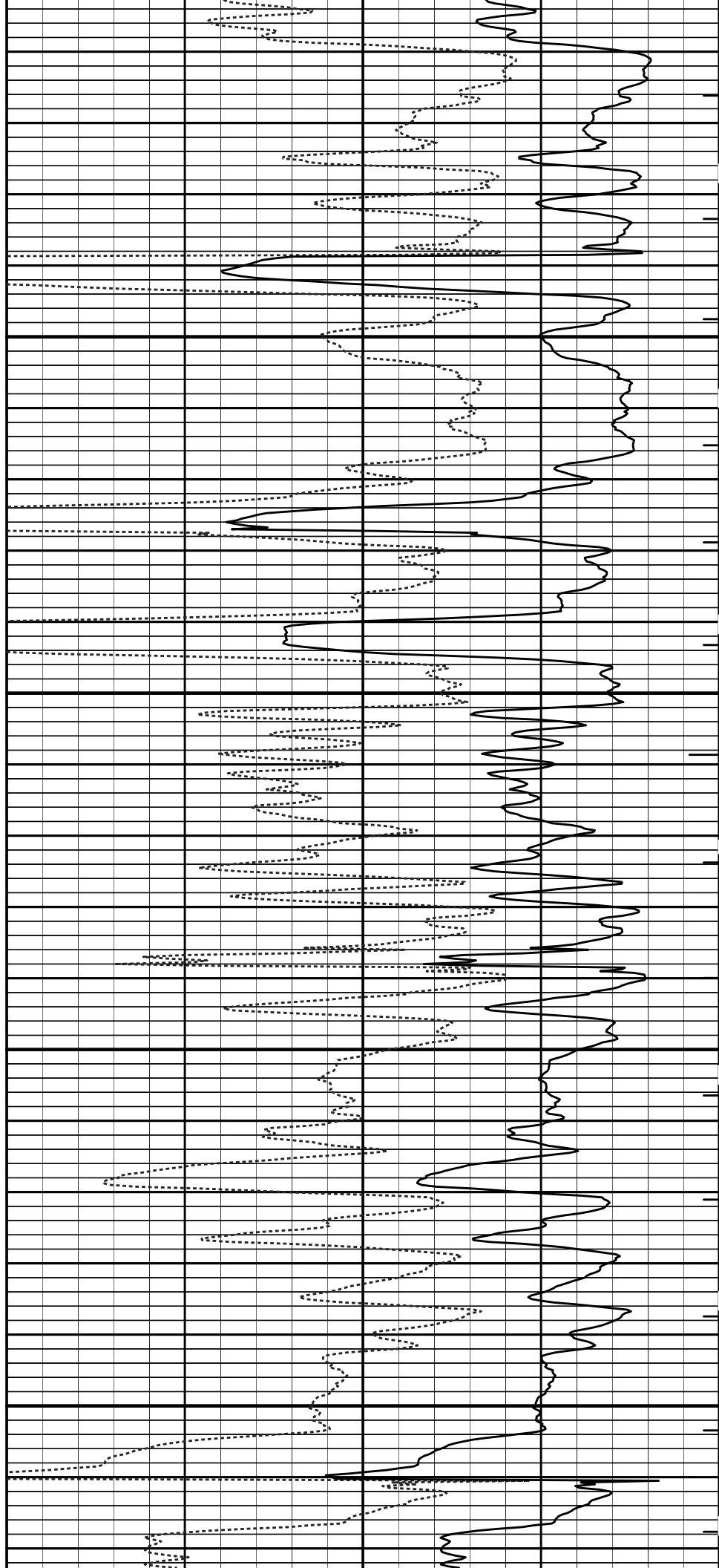
4900

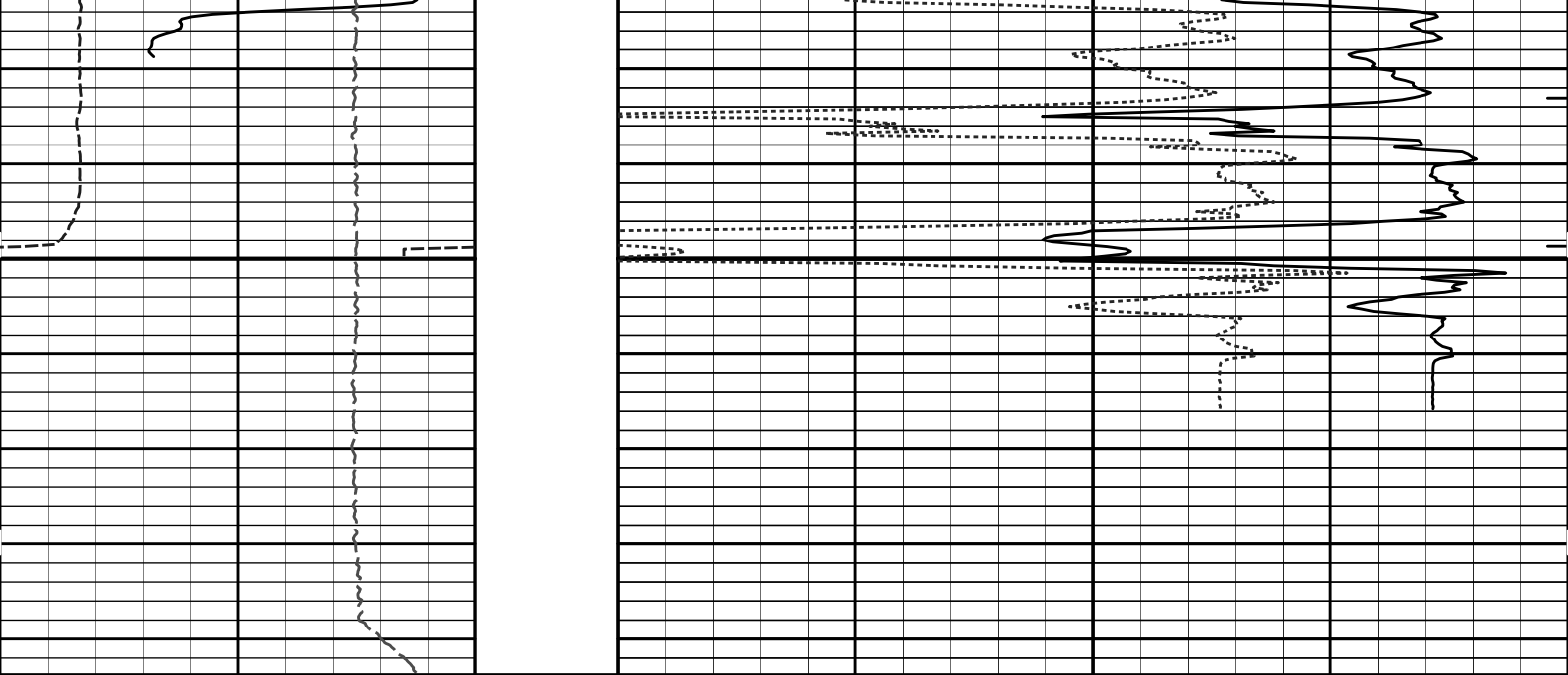




5000

5100





15K	Tension	0	MD		
	pounds		1 : 240		ITTT
			ft		
6	Caliper	16		140	DT
	inches				40
					microsec per ft
0	Gamma API	150		30	Acou Porosity
	api				-10
					percent
	SHALE				

HALLIBURTON

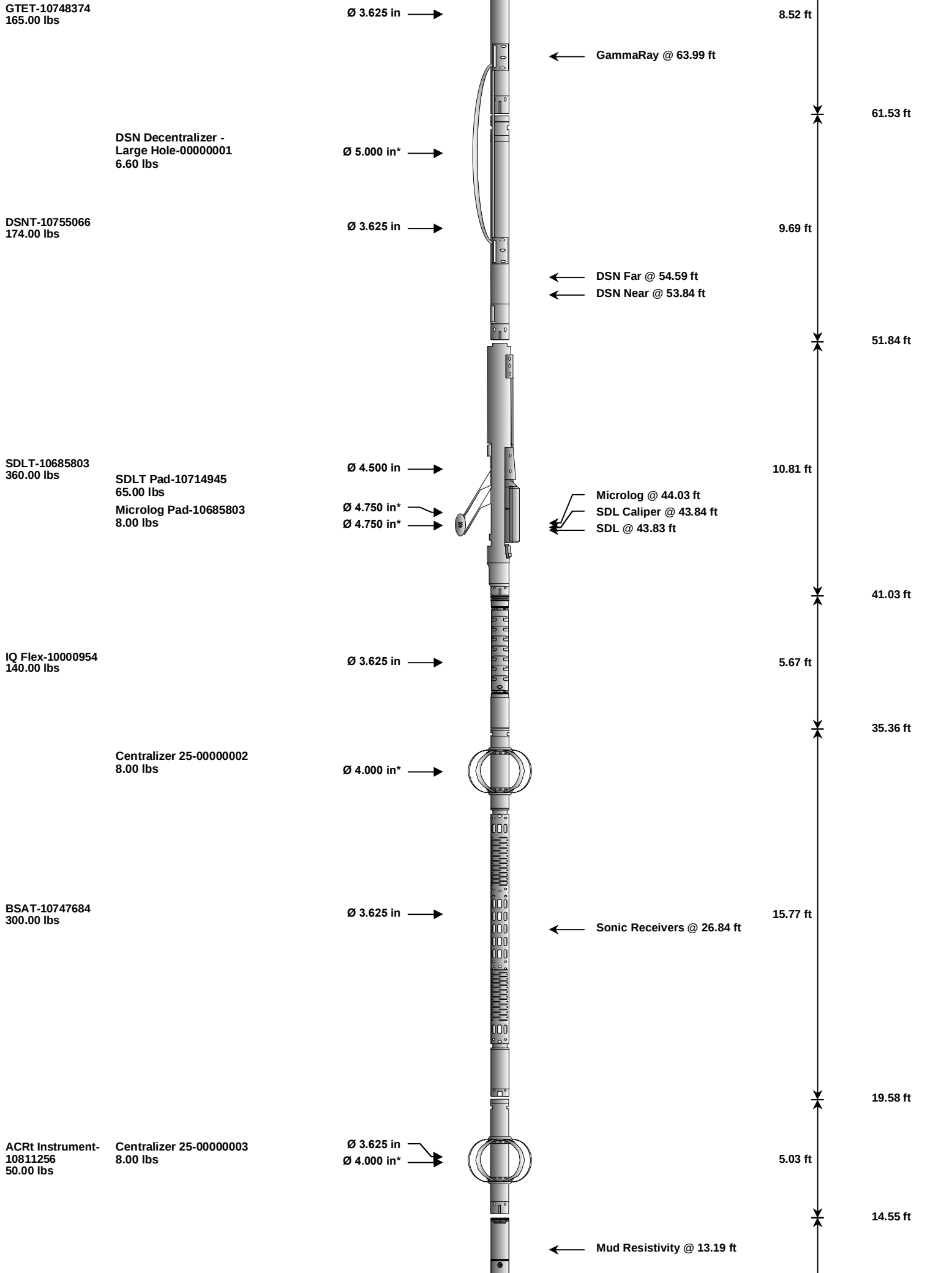
Plot Time: 17-Sep-13 04:02:36
Plot Range: 4495 ft to 5193.75 ft
Data: ENTERPRISES_A4\Well Based\R1 REPEAT\
Plot File: \\BSAT\BSAT_5_REP_LIB

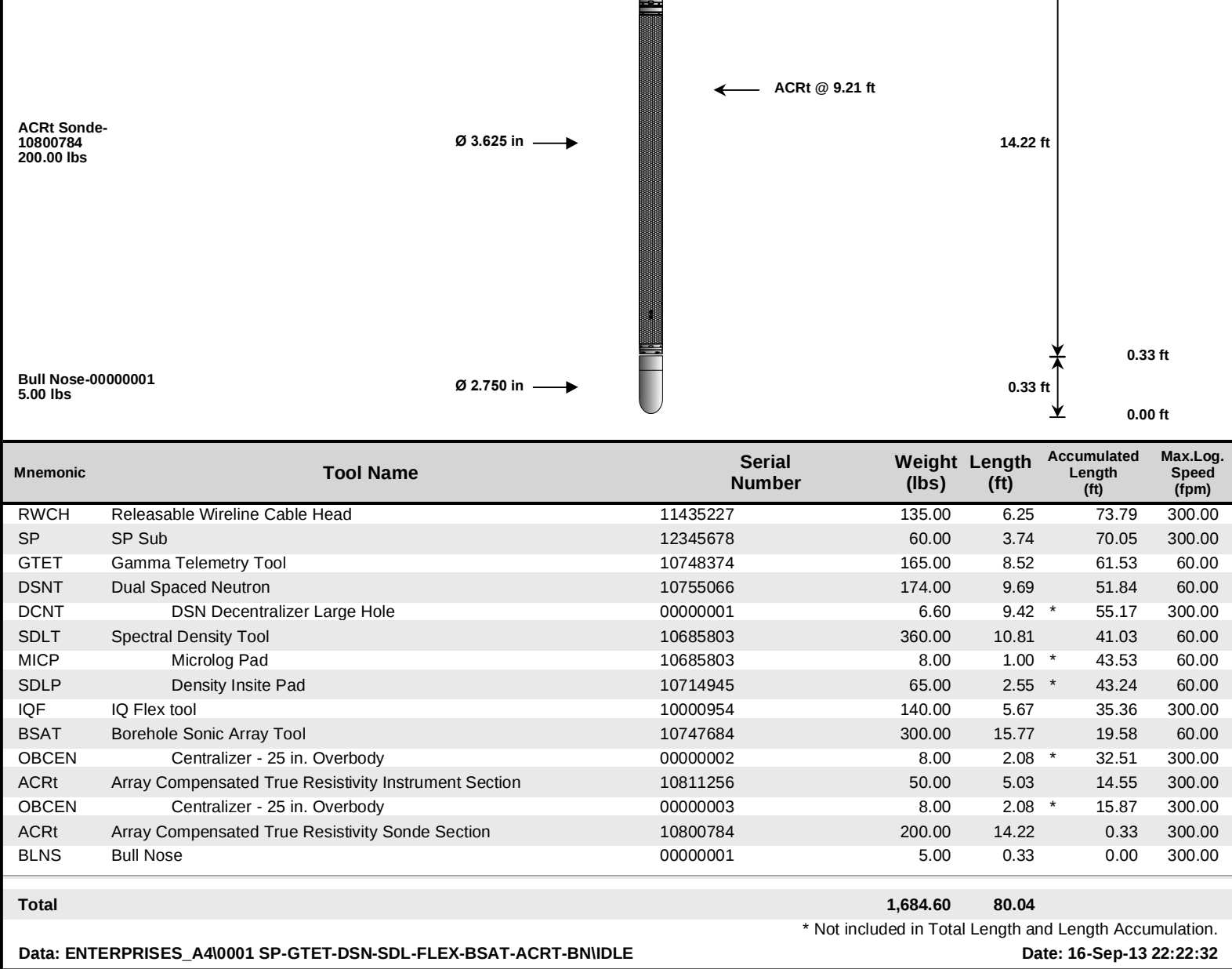
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-11435227 135.00 lbs		Ø 3.625 in →		← Load Cell @ 76.35 ft ← BH Temperature @ 75.79 ft	6.25 ft	80.04 ft
						73.79 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in →		← SP @ 72.01 ft	3.74 ft	70.05 ft





HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.200	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF

SHARED	TD	Total Well Depth	5189.00	ft
SHARED	BHT	Bottom Hole Temperature	135.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size Master Tool	NONE	
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	
BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 10748374	Reference Calibration Date:	02-Aug-13 14:20:06
Engineer:	THOMAS HYDE	Calibration Date:	03-Sep-13 10:36:47
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1

Calibrator Source S/N: TB-185			
Calibrator API Reference:228.00 api			
Equivalent Calibrator API Reference:232.0 api			
Measurement	Measured	Calibrated	Units
Background	44.2	44.4	api
Background + Calibrator	275.0	276.4	api
Calibrator	230.8	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION			
Tool Name:	GTET - 10748374	Reference Calibration Date:	03-Sep-13 10:36:47
Engineer:	THOMAS HYDE	Calibration Date:	16-Sep-13 15:22:09
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1

Calibrator Source S/N: TB-185			
Calibrator API Reference:228.00 api			
Equivalent Calibrator API Reference:232.0 api			
Field Verification	Shop	Field	Units
Background	44.4	42.7	api
Background + Calibrator	276.4	276.3	api
Calibrator	232.0	233.6	api
Shop	Field	Difference	Tolerance
232.0	233.6	-1.6	+/- 9.00

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10685803	Reference Calibration Date:	07-Aug-13 16:03:28
Engineer:	THOMAS HYDE	Calibration Date:	05-Sep-13 09:46:41
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1
Host Tool Name:	DSNT - 10755066		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-4540.73	-5035.21	-7000.00 - -1000.00
Pad Gain	0.0003893	0.0004015	0.000200 - 0.000600
Arm Offset	-2828.82	-2028.23	-5000.00 - 3000.00
Arm Gain	0.0005533	0.0005309	0.000300 - 0.000700
Arm Power	-0.000007296	-0.000006519	-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS					
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value	
PAD EXTENSION:					
Small Ring (in)	2.13	2.00	-0.13	+/- 0.20	
Medium Ring (in)	3.83	3.75	-0.08	+/- 0.20	
RING DIAMETER:					
Small Ring (in)	6.36	6.50	0.14	+/- 0.20	
Medium Ring (in)	8.19	8.25	0.06	+/- 0.20	
Large Ring (in)	15.10	15.00	-0.10	+/- 0.20	
PASS/FAIL SUMMARY					
Calibration-Coefficients Range Check:			Passed		
Ring-Measurement Check:			Passed		
PASS/FAIL SUMMARY					
Calibration-Coefficients Range Check:			Passed		

SDLT CALIPER FIELD CALIBRATION					
Tool Name:	SDLT - 10685803		Reference Calibration Date:	05-Sep-13 09:46:41	
Engineer:	THOMAS HYDE		Calibration Date:	16-Sep-13 15:24:07	
Software Version:	WL INSITE R3.8.4 (Build 5)		Calibration Version:	1	

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.75	-0.00	+/- 0.10
Ring Diameter	8.25	8.24	-0.01	+/- 0.15
PASS/FAIL SUMMARY				
Pad Extension Check:			Passed	
Diameter Check:			Passed	

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10748374						
Gamma Ray Calibrator	232.0	233.6	-----	-1.6	+/- 9.00	api
SDLT-10685803						
Pad Extension	3.75	3.75	-----	0.00	+/-0.10	in
Ring Diameter	8.25	8.24	-----	0.01	+/-0.15	in

Data: ENTERPRISES_A4I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\005 17-Sep-13 00:39 Up @5192.3f					Date: 17-Sep-13 02:08:45
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HALLIBURTON						
INPUTS, DELAYS AND FILTERS TABLE						
Mnemonic	Input Description			Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel						
TENS	Tension			0.00	NO	
RWCH						
DHTN	DownholeTension			0.00	BLK	0.000
SP Curb						

SP Sub				
PLTC	Plot Control Mask	72.01	NO	
SP	Spontaneous Potential	72.01	BLK	1.250
SPR	Raw Spontaneous Potential	72.01	NO	
SPO	Spontaneous Potential Offset	72.01	NO	
GTET				
TPUL	Tension Pull	63.99	NO	
GR	Natural Gamma Ray API	63.99	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	63.99	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	63.99	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	53.74	NO	
RNDS	Near Detector Telemetry Counts	53.84	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.59	TRI	0.583
DNTT	DSN Tool Temperature	53.84	NO	
DSNS	DSN Tool Status	53.74	NO	
ERND	Near Detector Telemetry Counts EVR	53.84	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.59	BLK	0.000
ENTM	DSN Tool Temperature EVR	53.84	NO	
SDLT				
TPUL	Tension Pull	43.84	NO	
PCAL	Pad Caliper	43.84	TRI	0.250
ACAL	Arm Caliper	43.84	TRI	0.250
BSAT				
TPUL	Tension Pull	26.84	NO	
STAT	Status	26.84	NO	
DLYT	Delay Time	26.84	NO	
SI	Sample Interval	26.84	NO	
TXRX	Raw Telemetry 10 Receivers	26.84	NO	
FRMC	Tool Frame Count	26.84	NO	
GMOD	Gain processing mode	19.58	NO	
ACRt Sonde				
TPUL	Tension Pull	2.73	NO	
F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000

F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Current Raw 12K X Receiver	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
SDLT Pad				
TPUL	Tension Pull	43.83	NO	
NAB	Near Above	43.66	BLK	0.920
NHI	Near Cesium High	43.66	BLK	0.920
NLO	Near Cesium Low	43.66	BLK	0.920
NVA	Near Valley	43.66	BLK	0.920
NBA	Near Barite	43.66	BLK	0.920
NDE	Near Density	43.66	BLK	0.920
NPK	Near Peak	43.66	BLK	0.920
NLI	Near Lithology	43.66	BLK	0.920
NBAU	Near Barite Unfiltered	43.66	BLK	0.250
NLIU	Near Lithology Unfiltered	43.66	BLK	0.250
FAB	Far Above	44.01	BLK	0.250
FHI	Far Cesium High	44.01	BLK	0.250
FLO	Far Cesium Low	44.01	BLK	0.250
FVA	Far Valley	44.01	BLK	0.250
FBA	Far Barite	44.01	BLK	0.250
FDE	Far Density	44.01	BLK	0.250
FPK	Far Peak	44.01	BLK	0.250
FLI	Far Lithology	44.01	BLK	0.250

PTMP	Pad Temperature	43.84	BLK	0.920
NHV	Near Detector High Voltage	43.24	NO	
FHV	Far Detector High Voltage	43.24	NO	
ITMP	Instrument Temperature	43.24	NO	
DDHV	Detector High Voltage	43.24	NO	
Microlog Pad				
TPUL	Tension Pull	44.03	NO	
MINV	Microlog Lateral	44.03	BLK	0.750
MNOR	Microlog Normal	44.03	BLK	0.750
Data: ENTERPRISES_A4\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\005 17-Sep-13 00:39 Up @5192.3f				Date: 17-Sep-13 02:04:59
COMPANY	OXY USA INC.			
WELL	ENTERPRISES A-4			
FIELD	DIADEN			
COUNTY	HASKELL	STATE	KANSAS	
HALLIBURTON		BOREHOLE COMPENSATED SONIC ARRAY LOG		