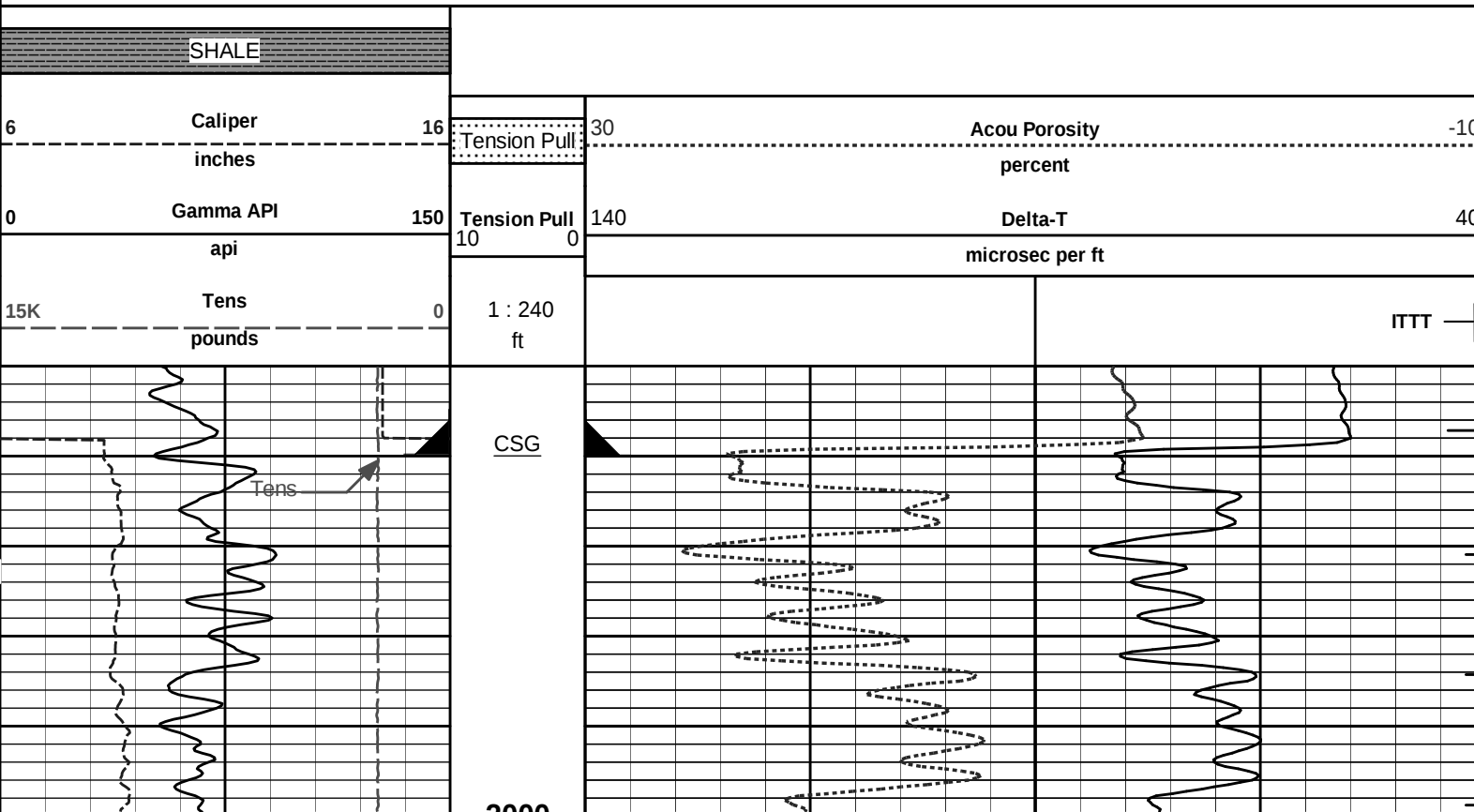


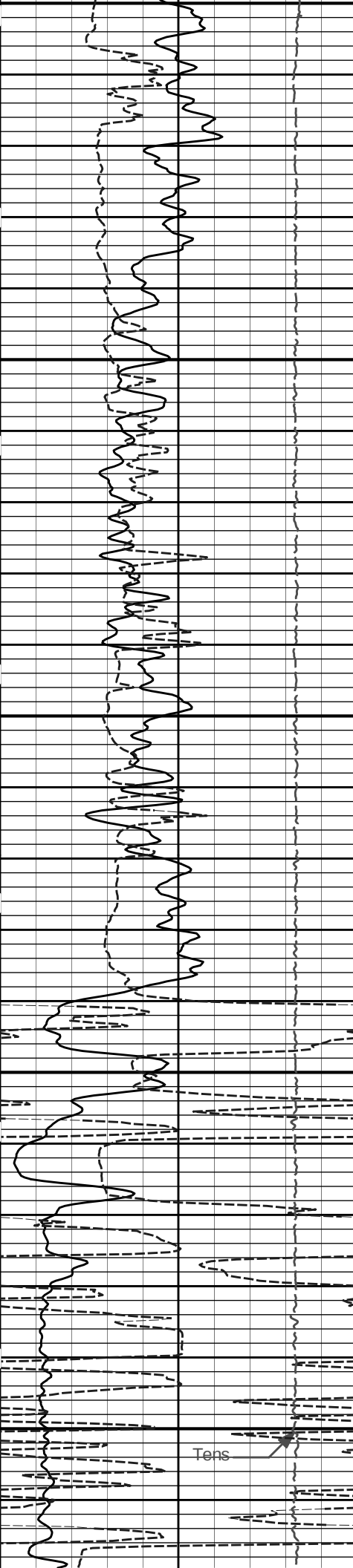
**BOREHOLE COMPENSATED
SONIC ARRAY
LOG**

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

LOGGING DATA

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON			
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	4949	1960	REC	0	150	30	-10	47.6 us/ft	30	-10	2.71 gm/CC	30	-10	LIME
DIRECTIONAL INFORMATION														
Maximum Deviation @								KOP @						
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.														
HAD TO CLOSE CALIPER 3 TIMES BETWEEN 3250 - 3200 DUE TO PULLING TIGHT.														

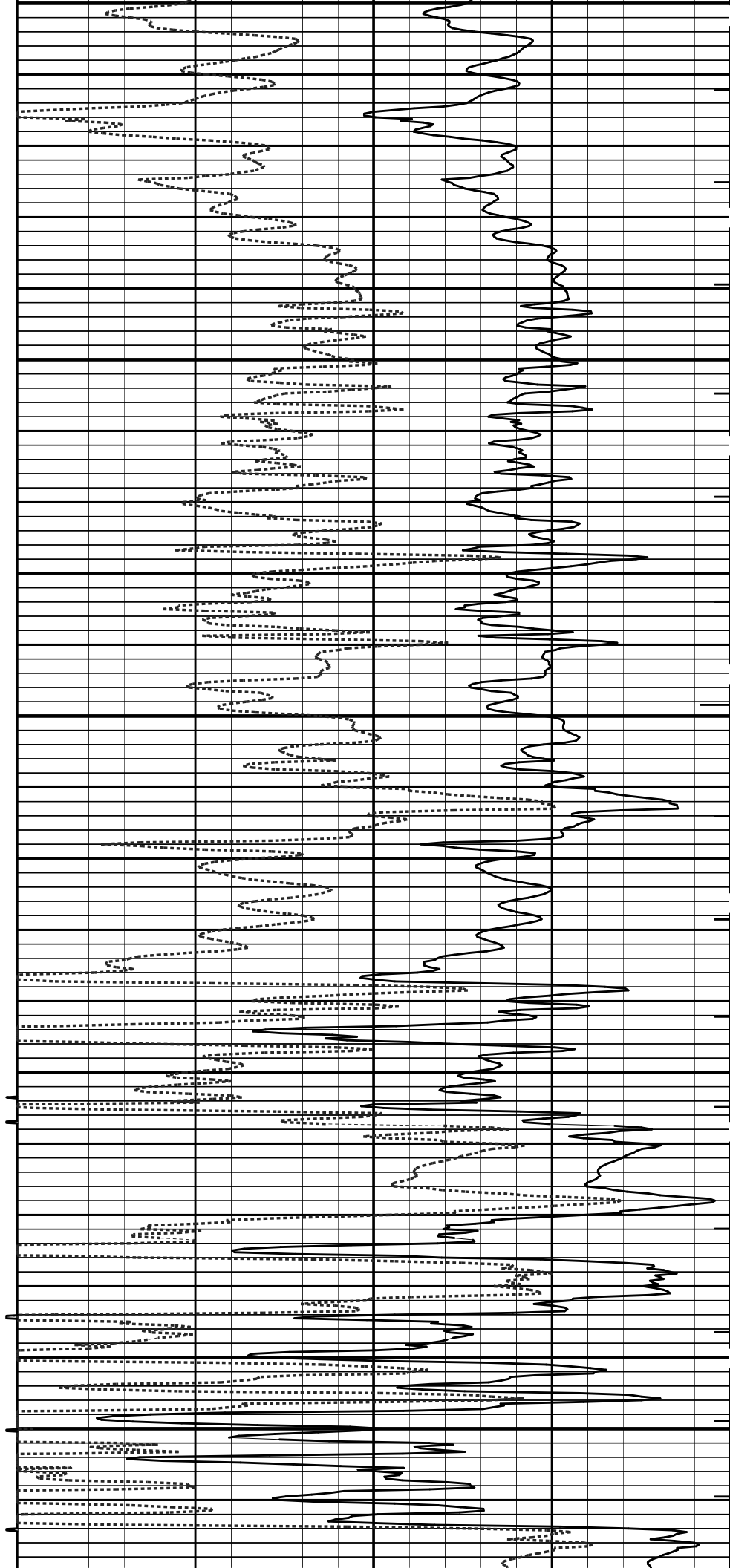




2000

2100

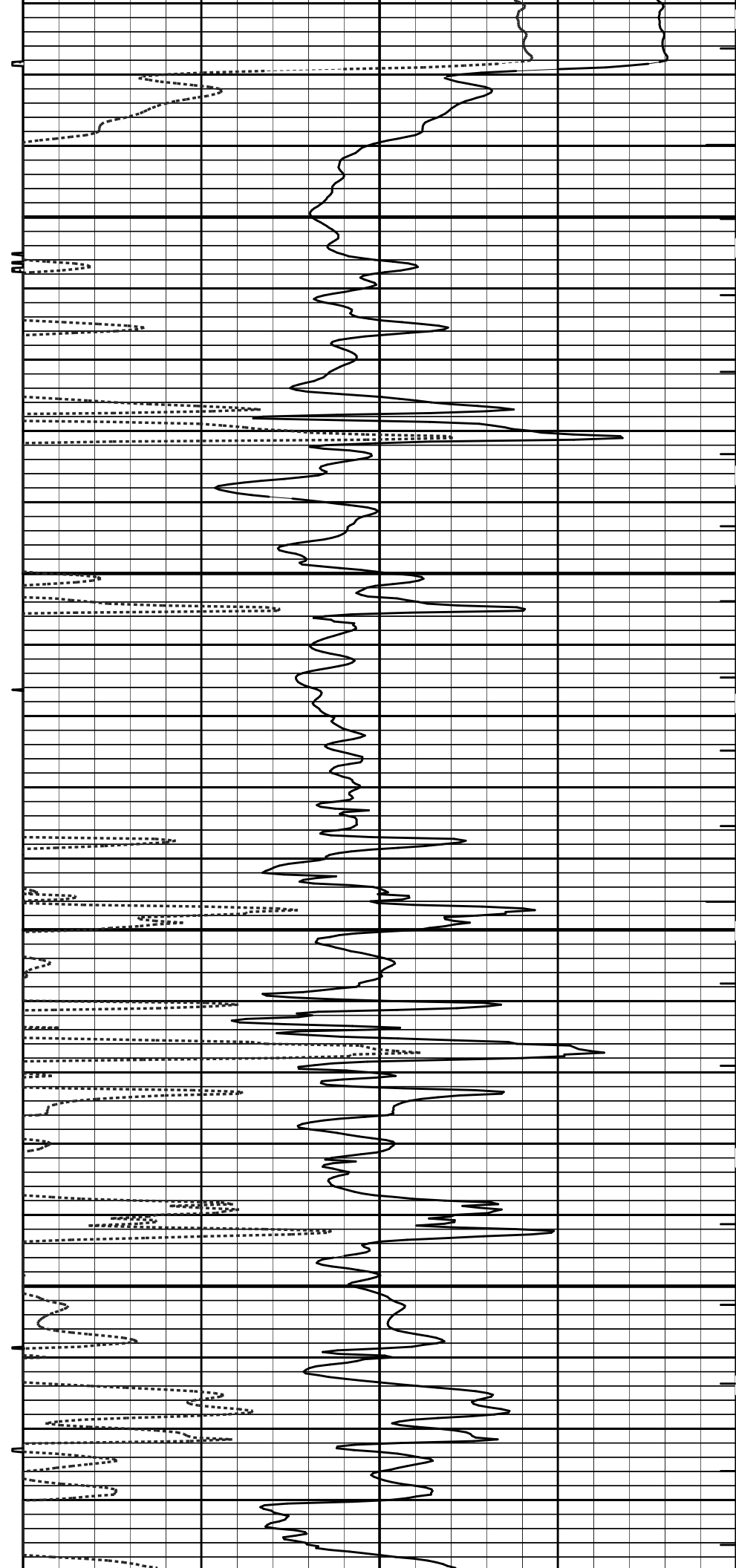
2200





2300

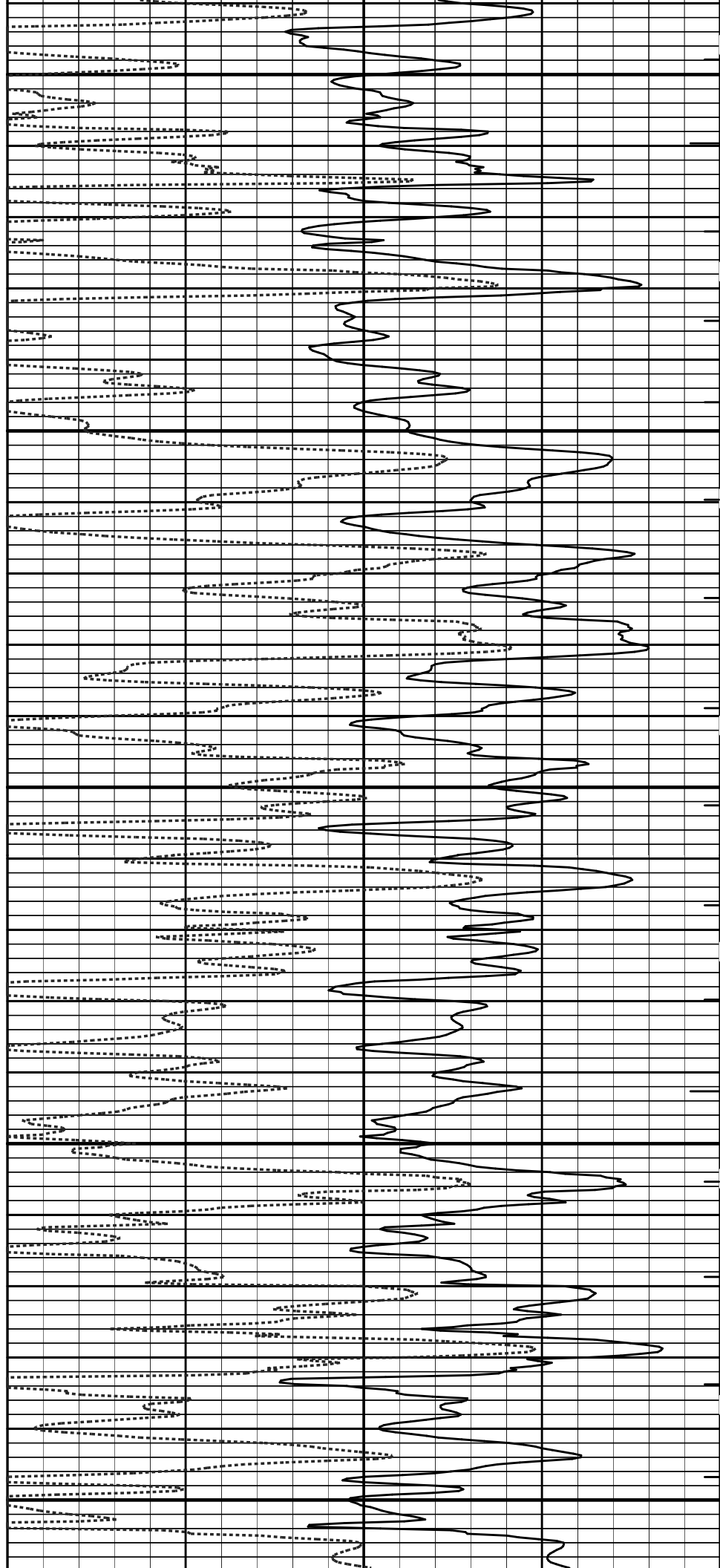
2400





2500

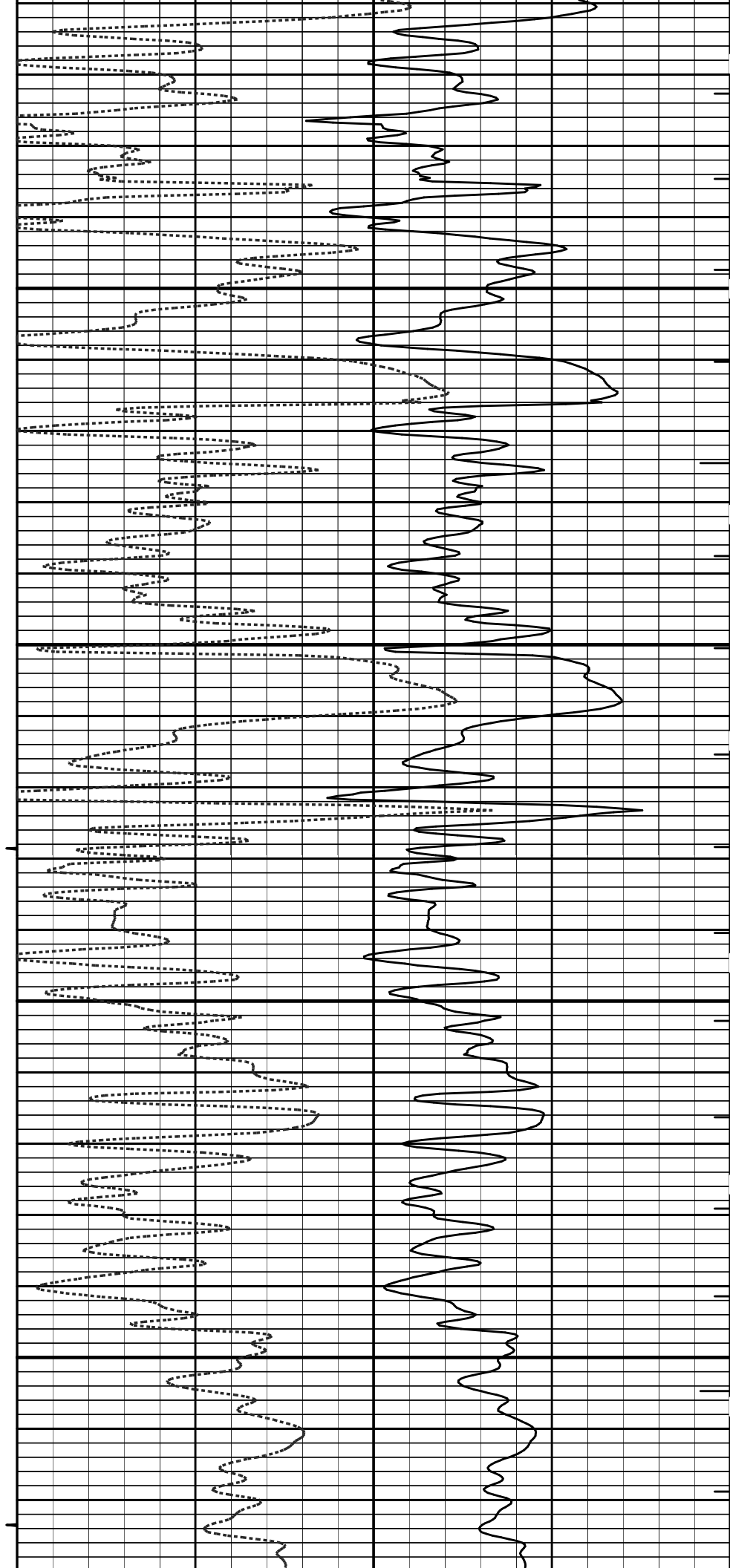
2600

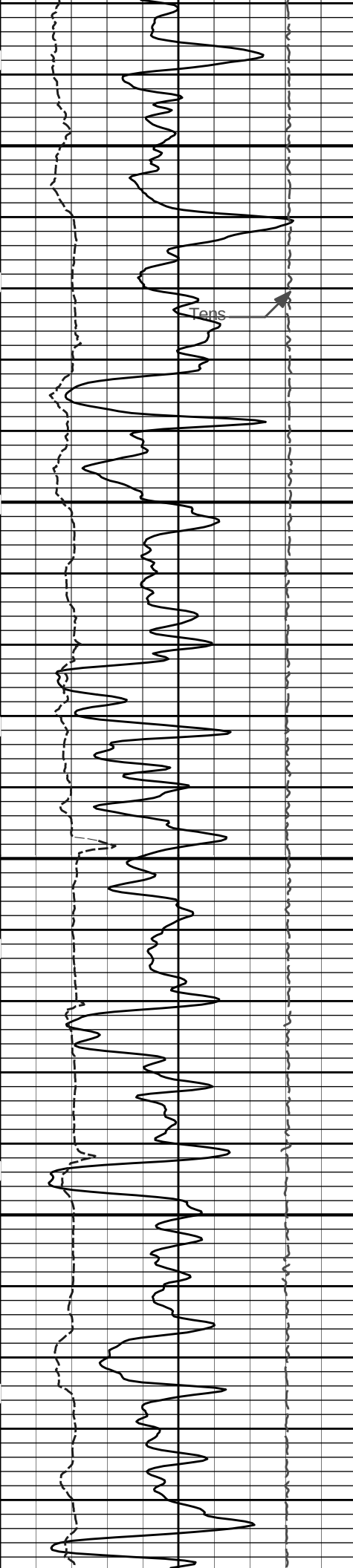




2700

2800

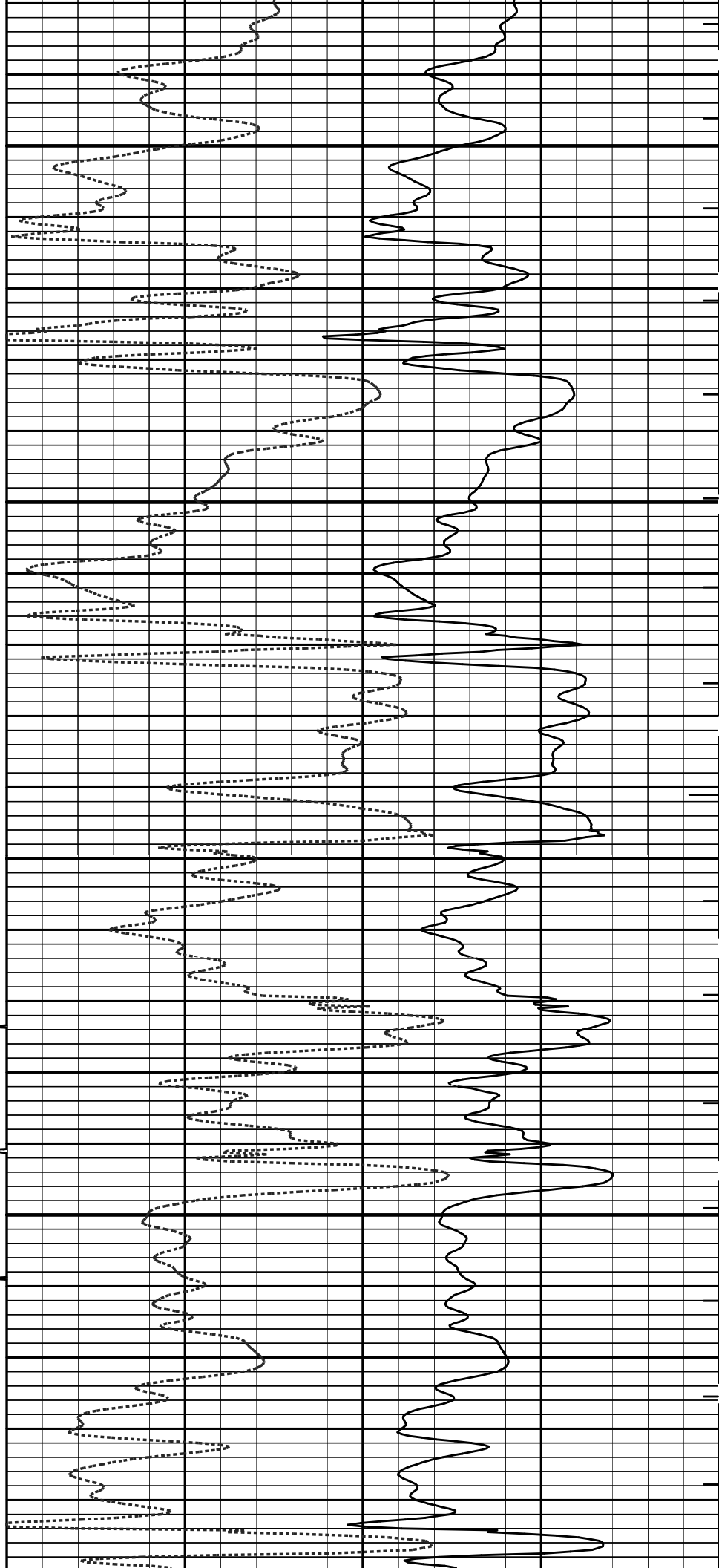


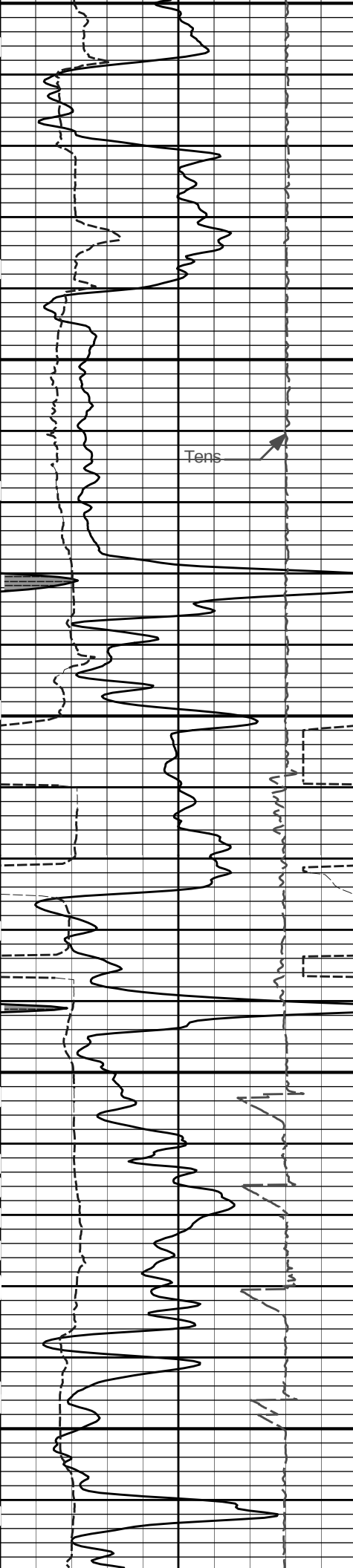


2900

3000

3100

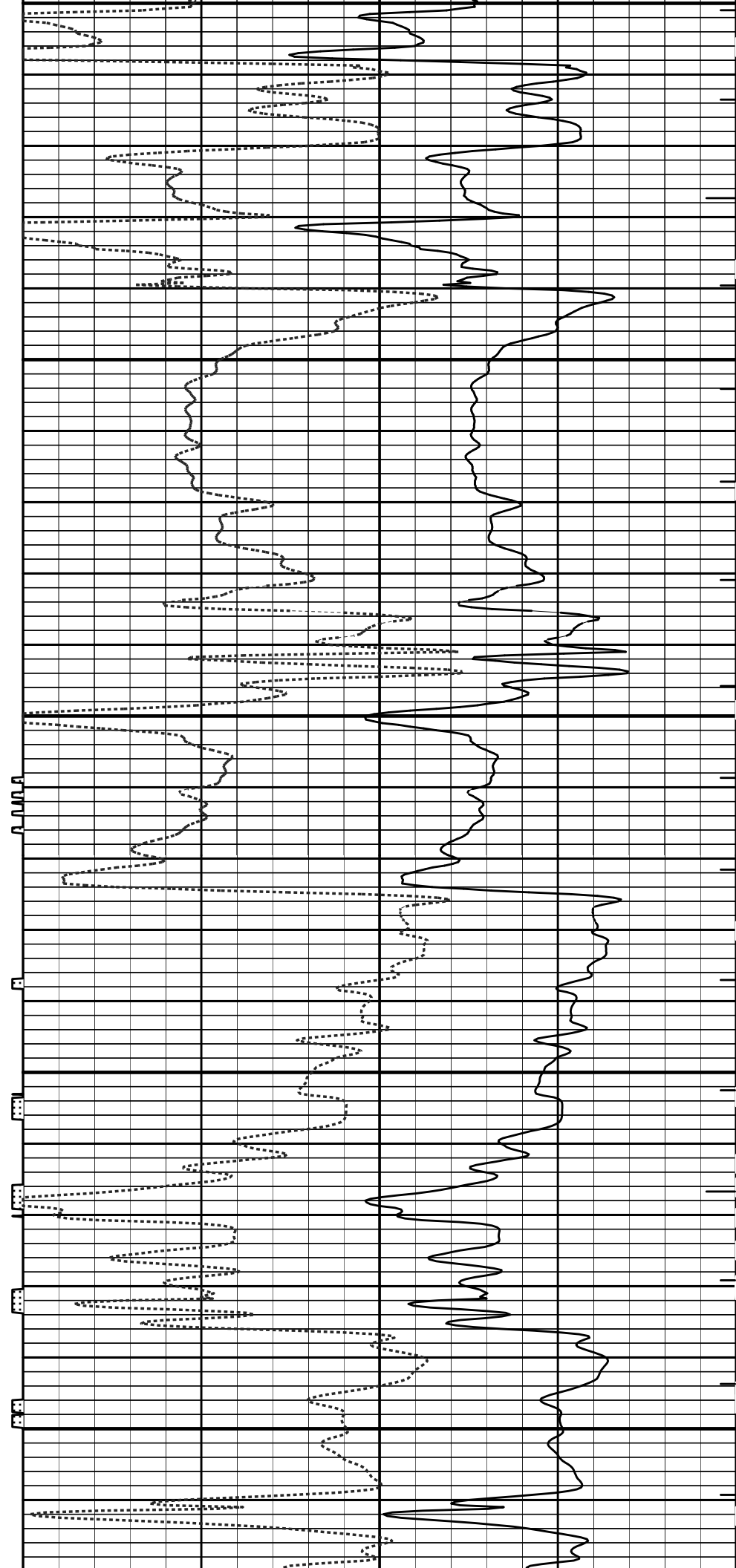


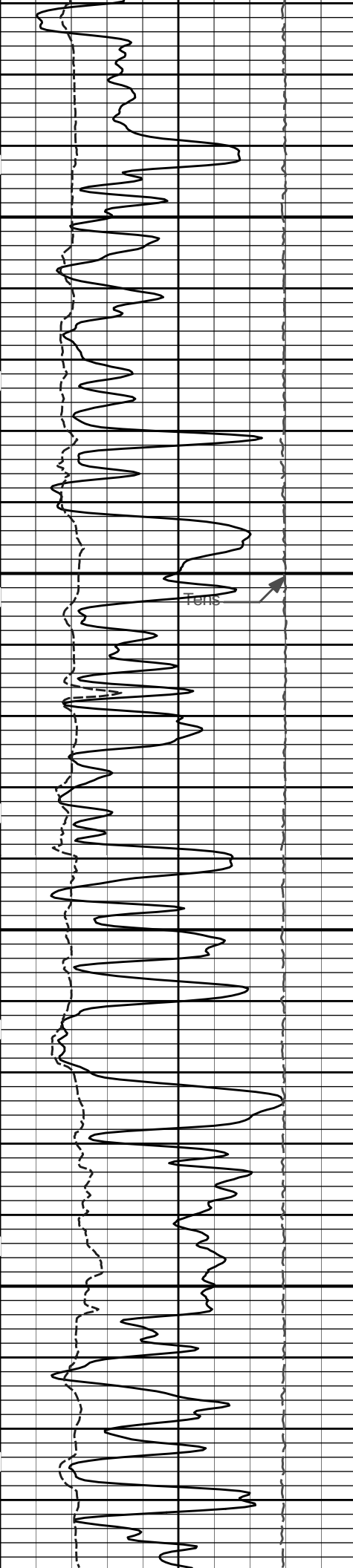


3100

3200

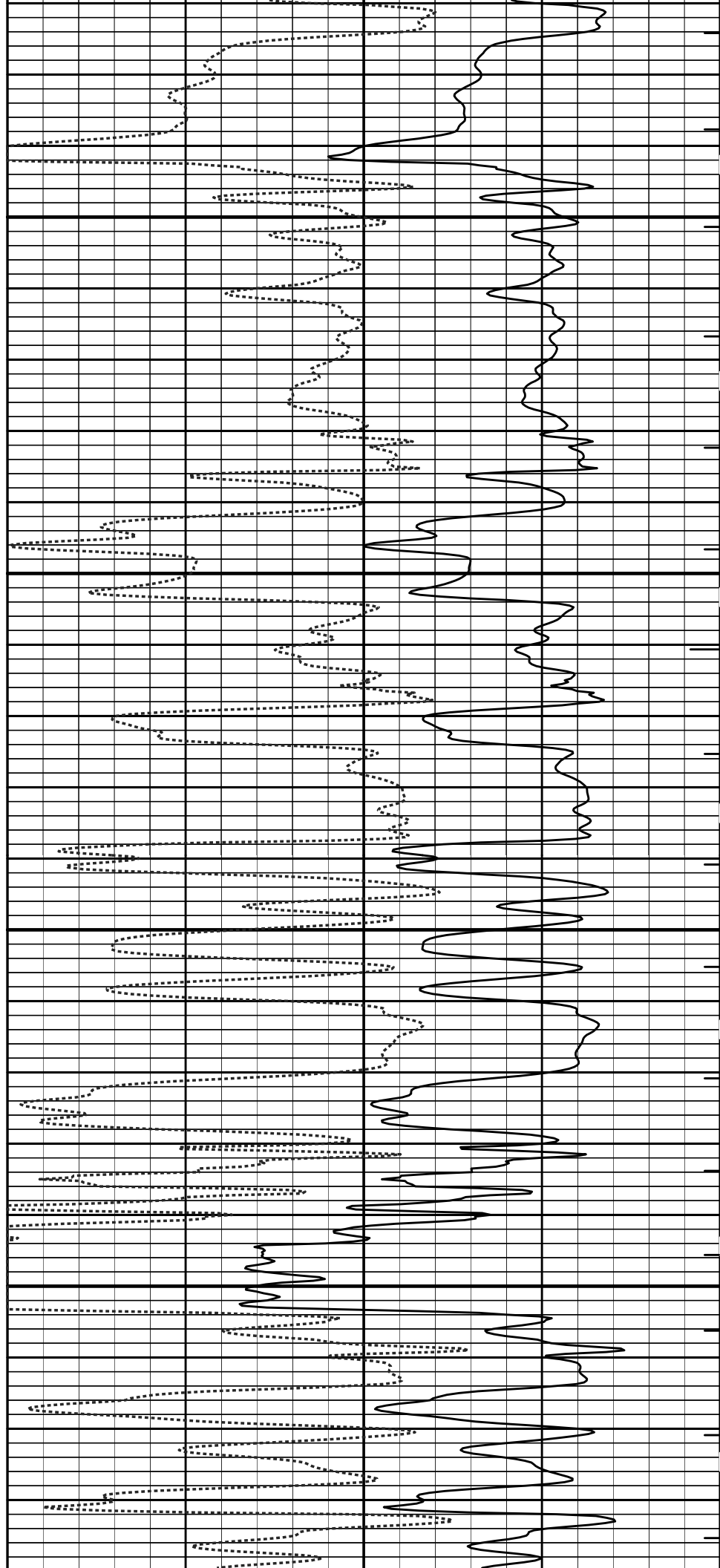
3300

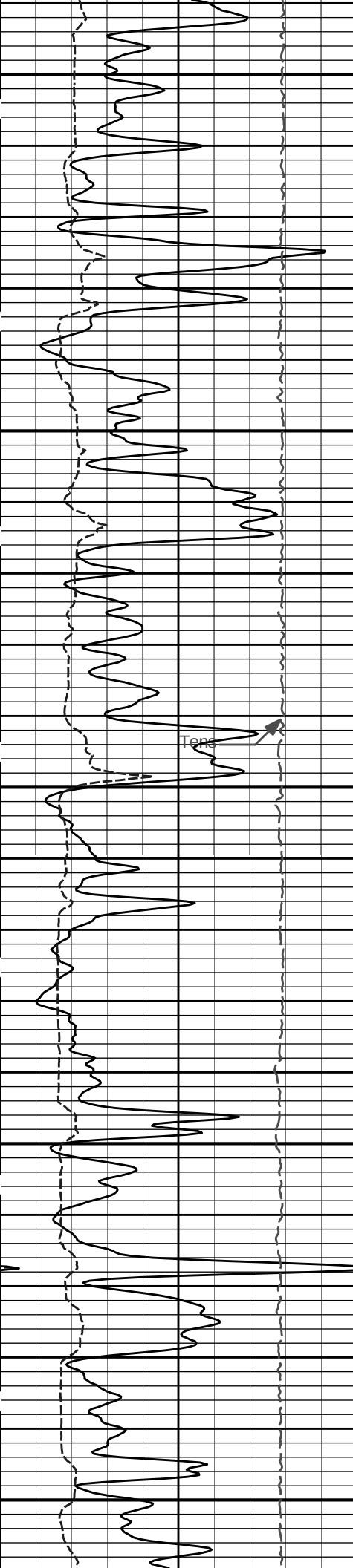




3400

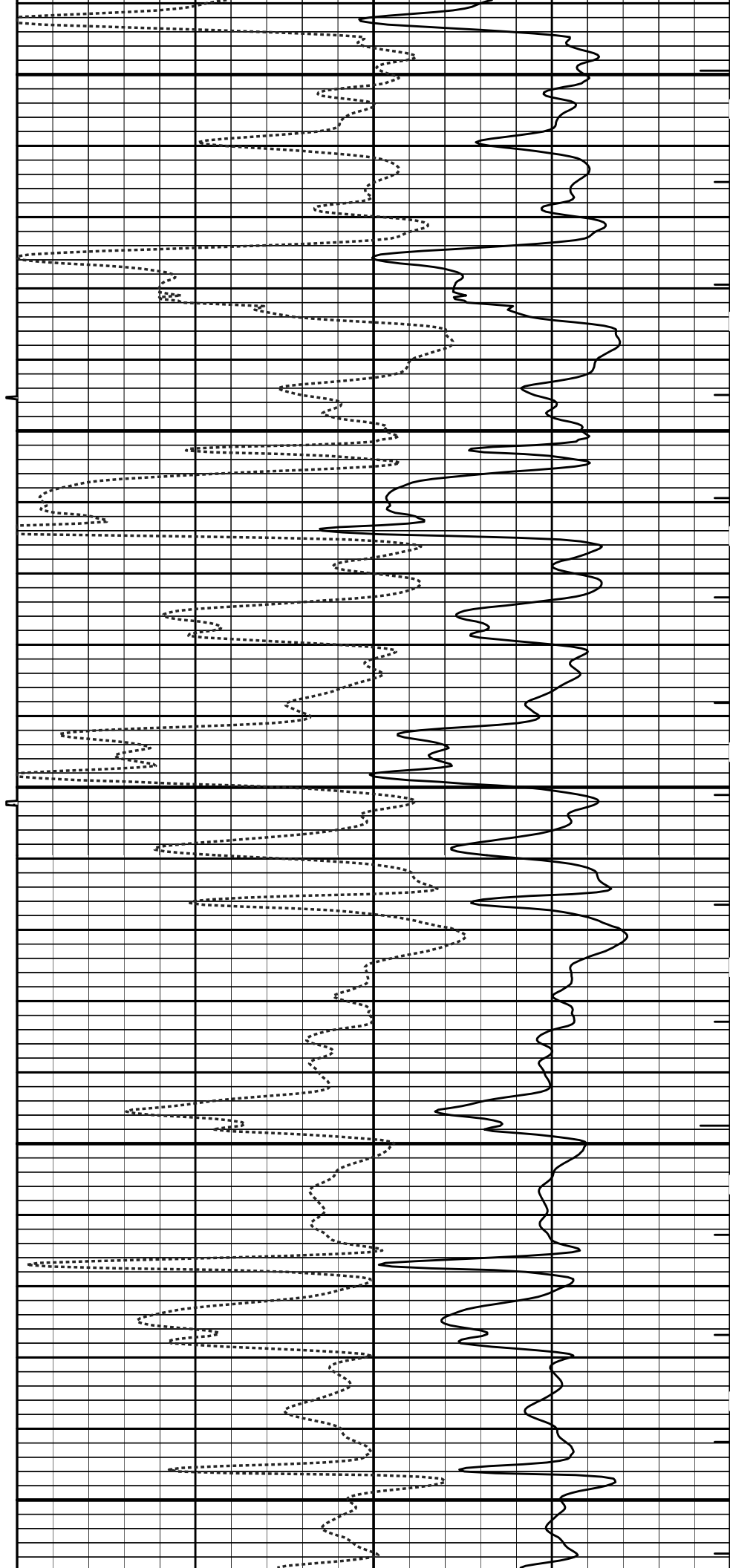
3500

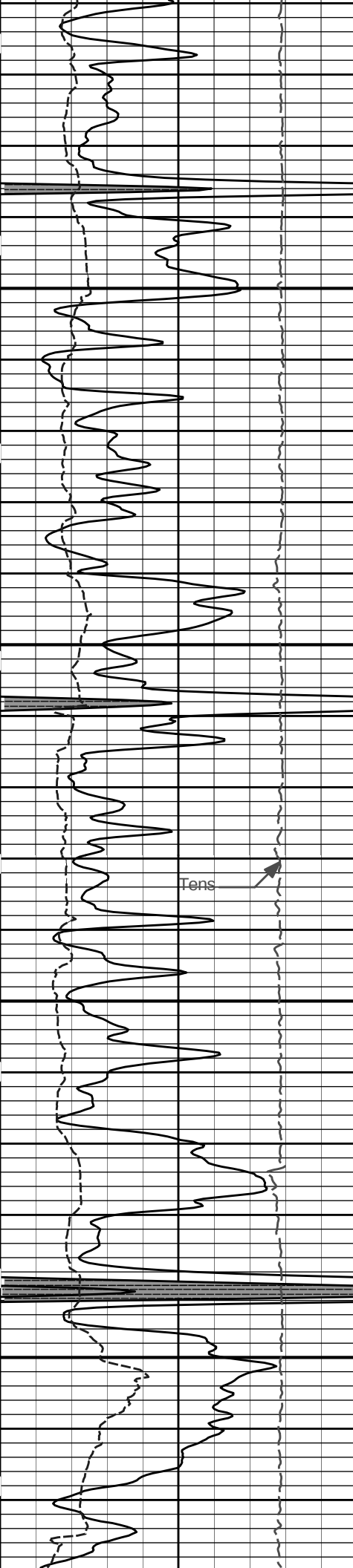




3600

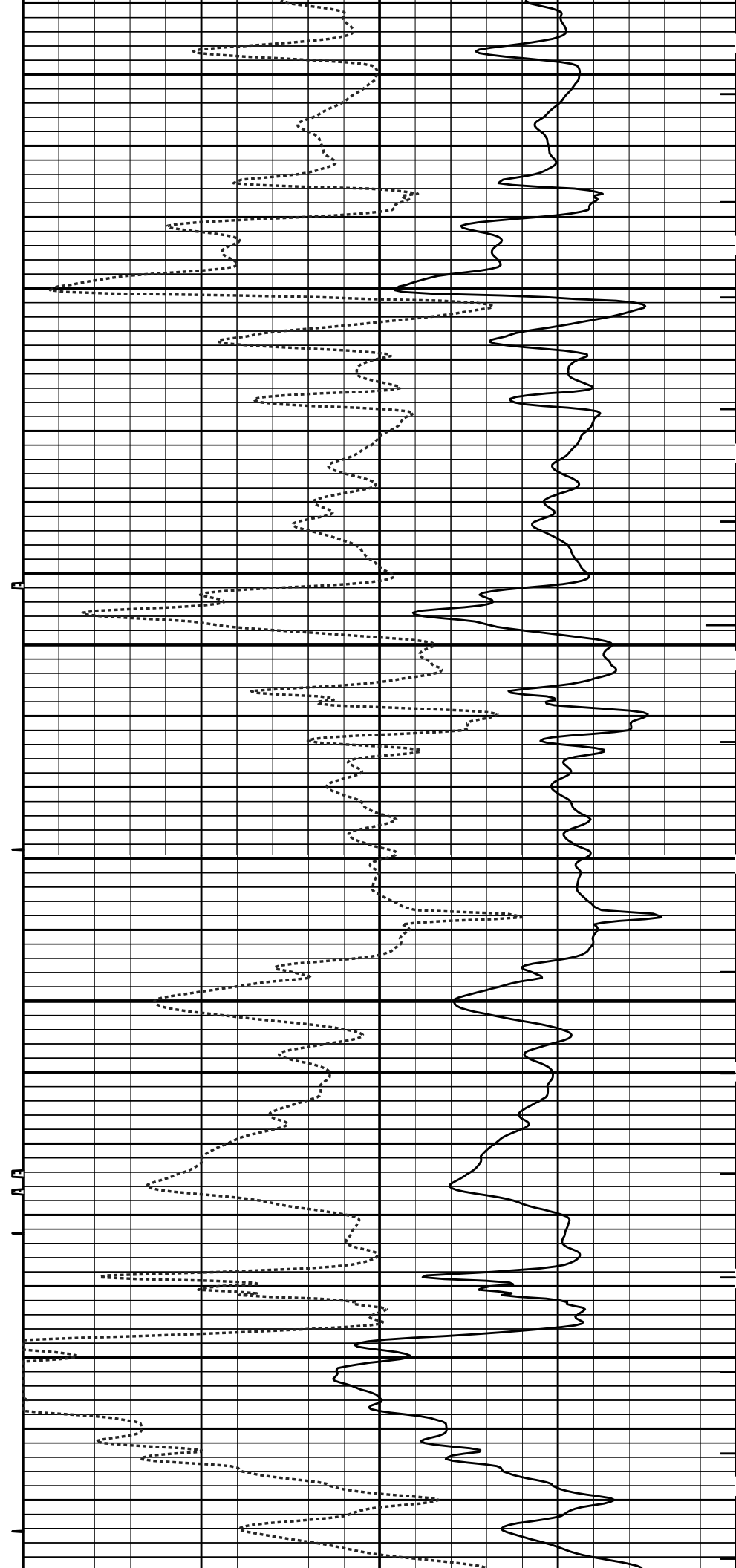
3700





3800

3900

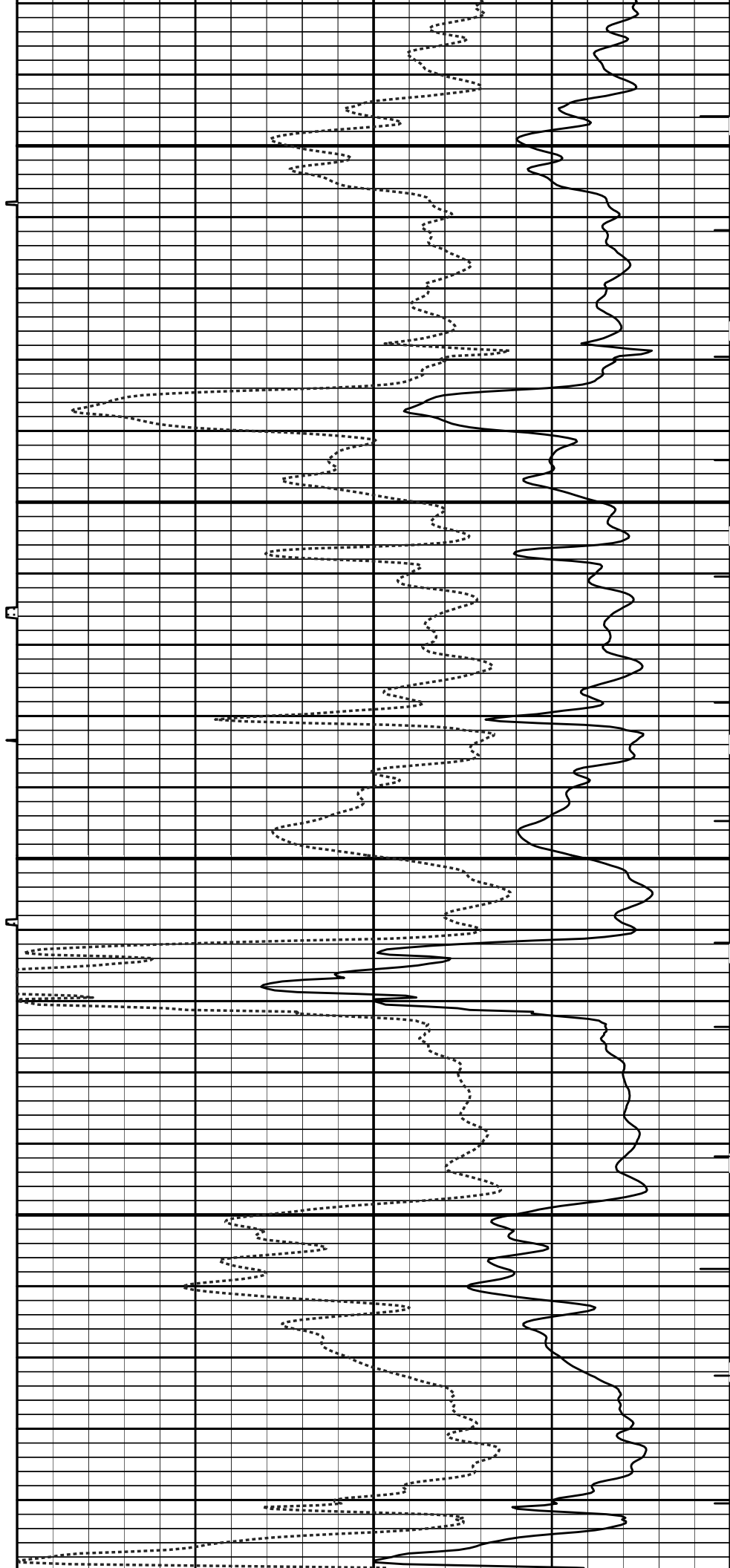


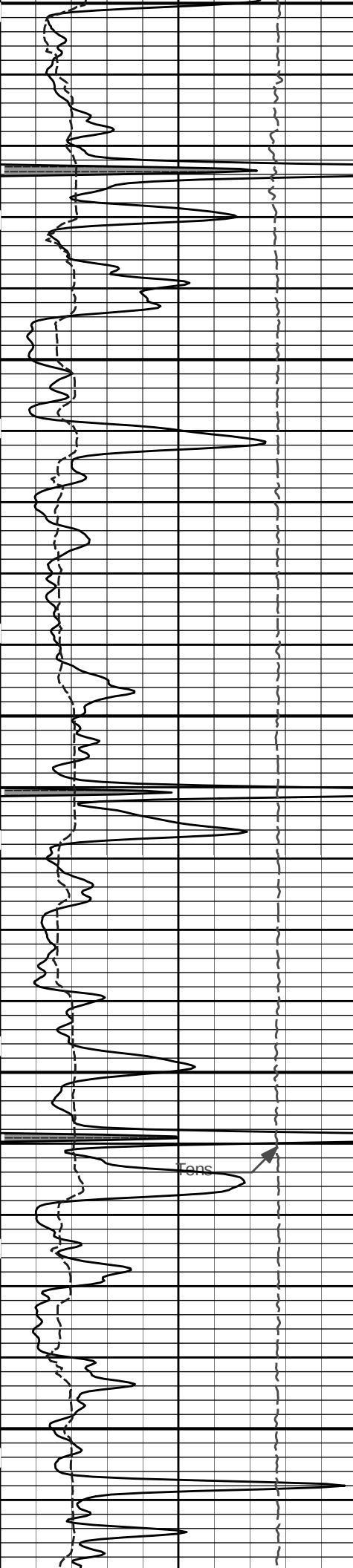


4000

4100

4200

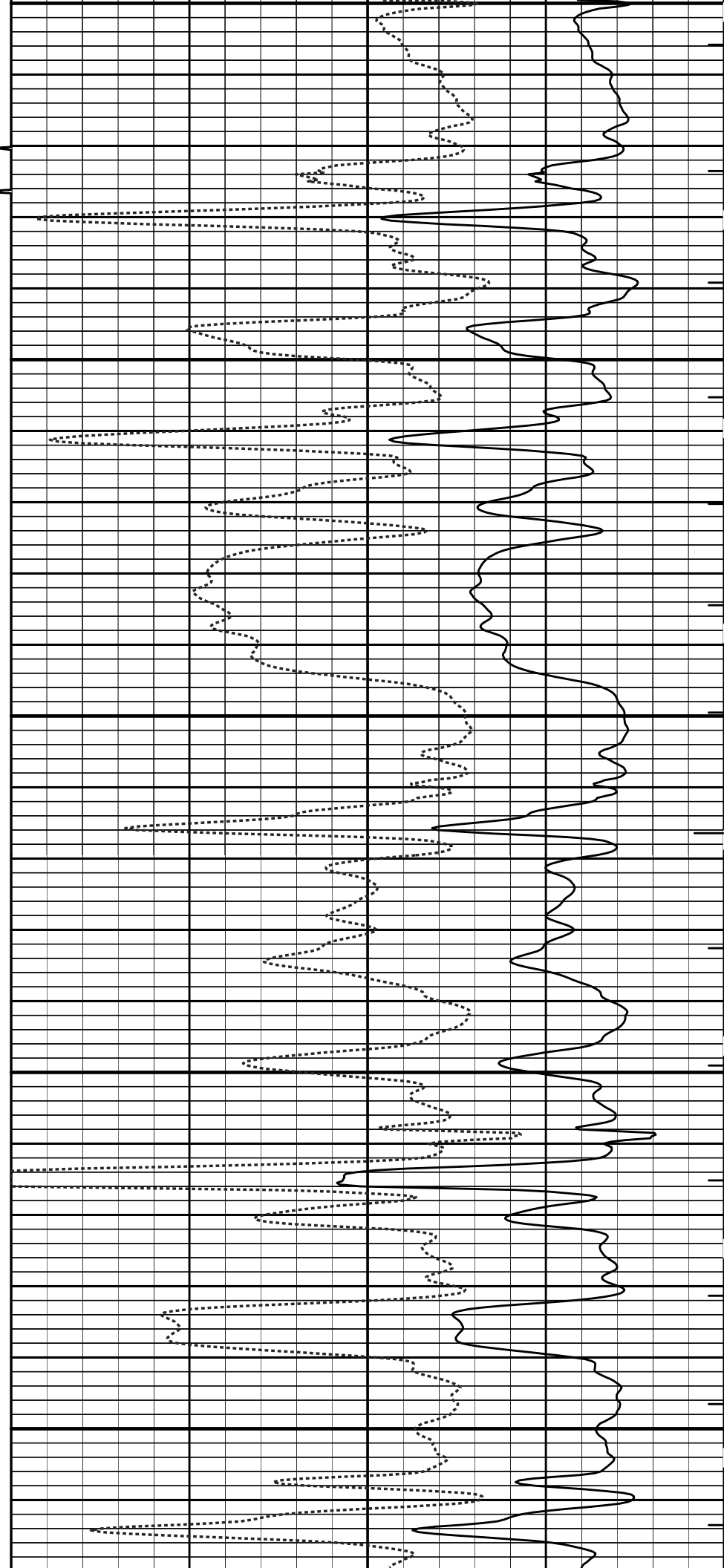


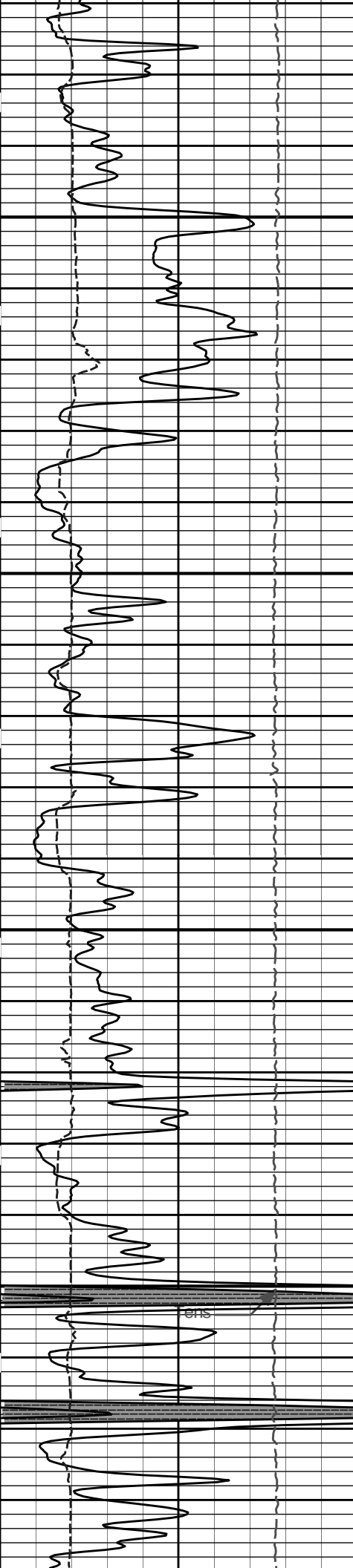


4200

4300

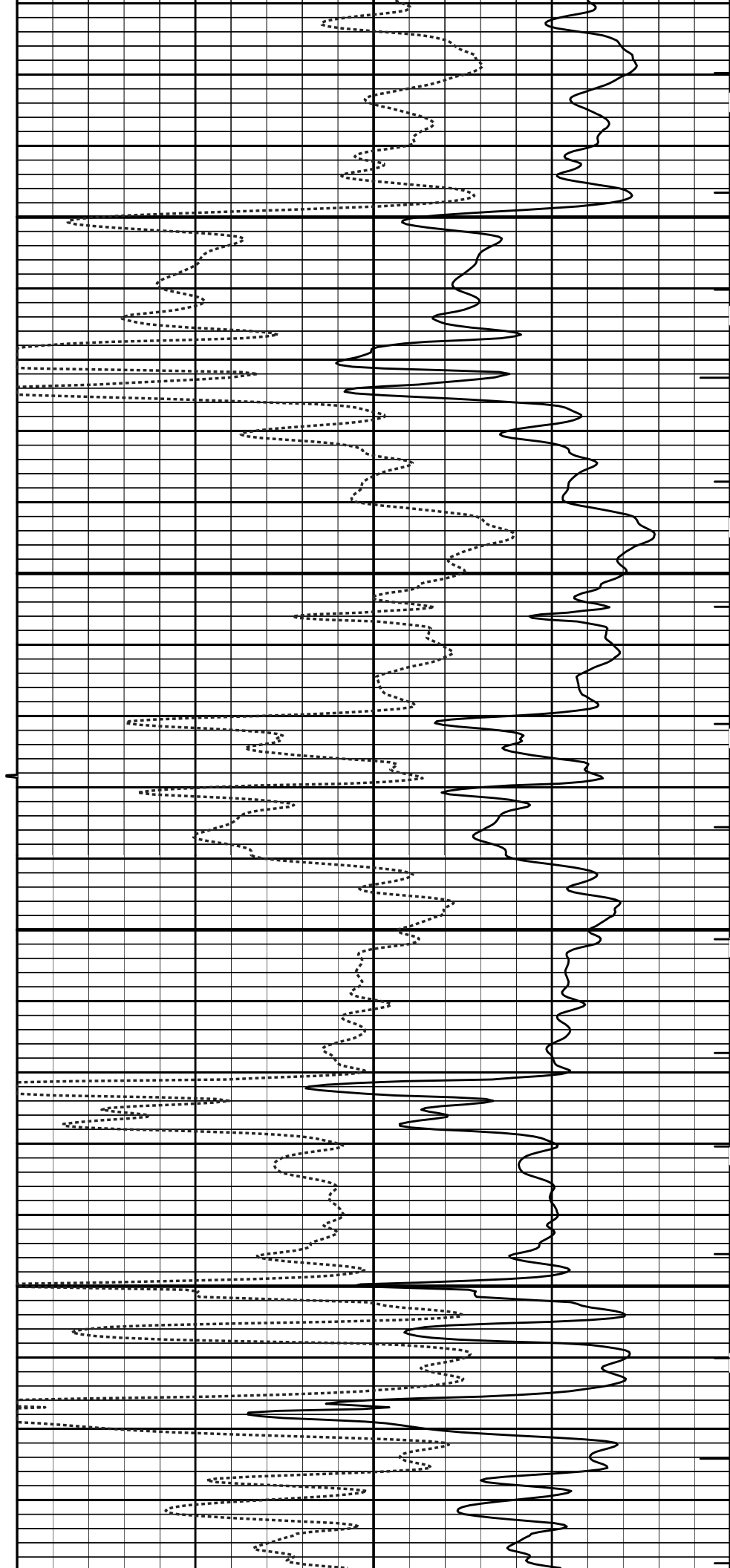
4400

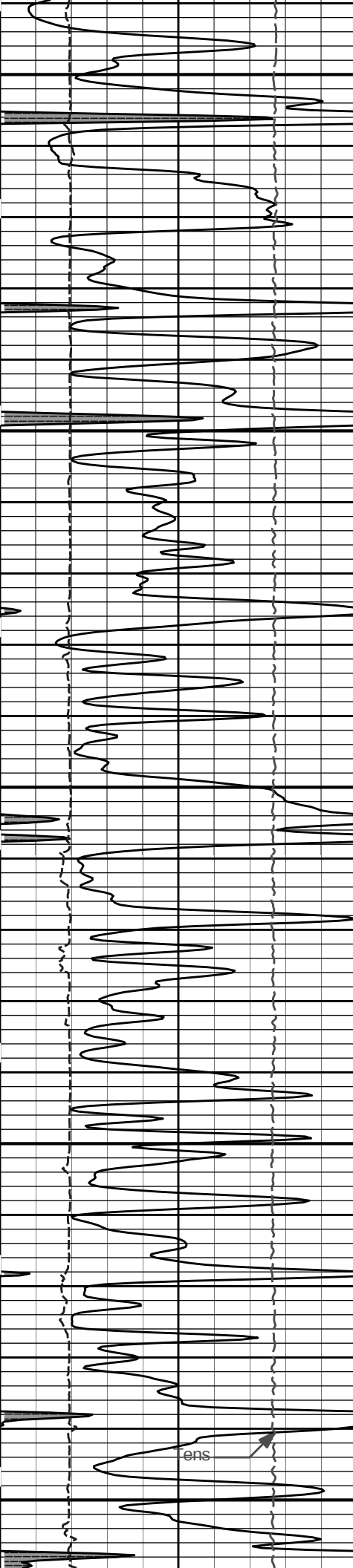




4500

4600

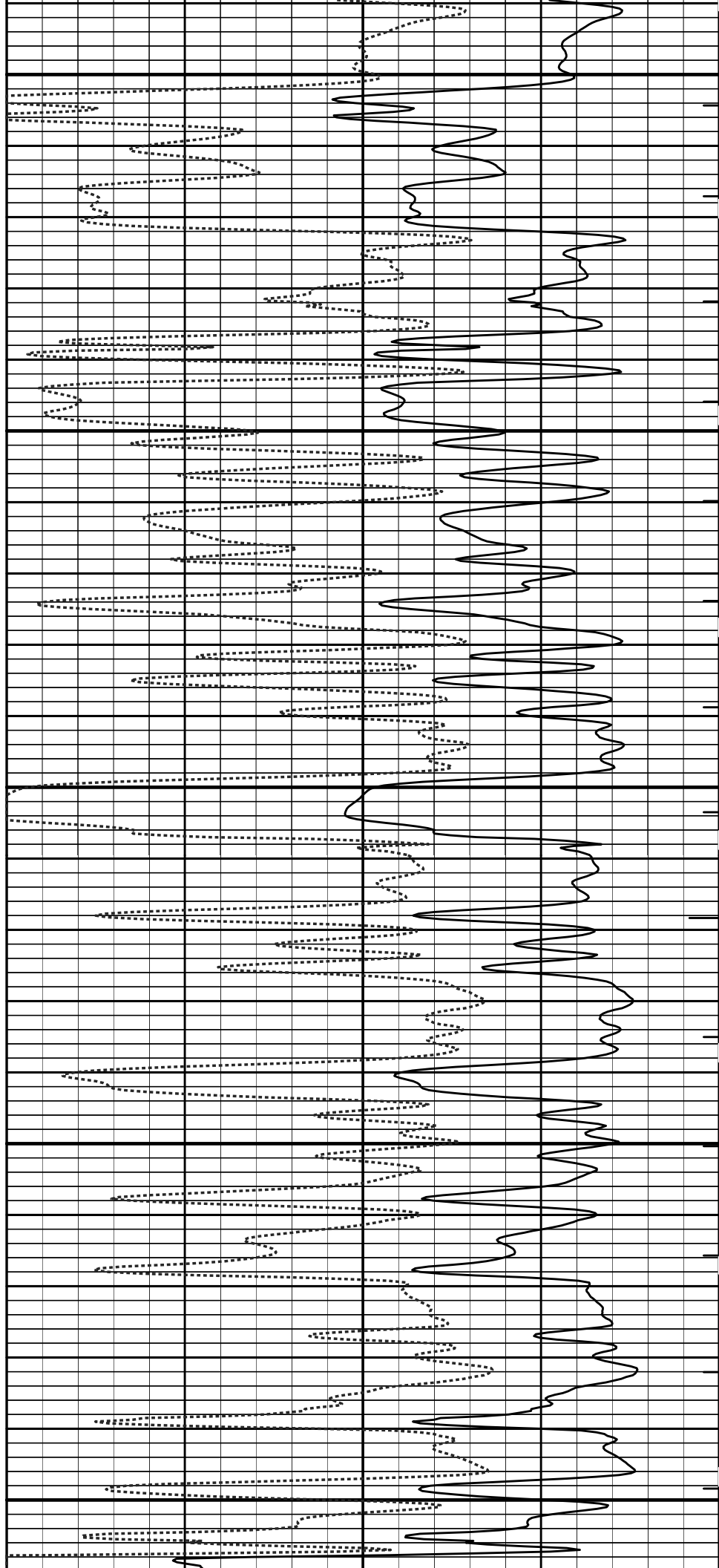


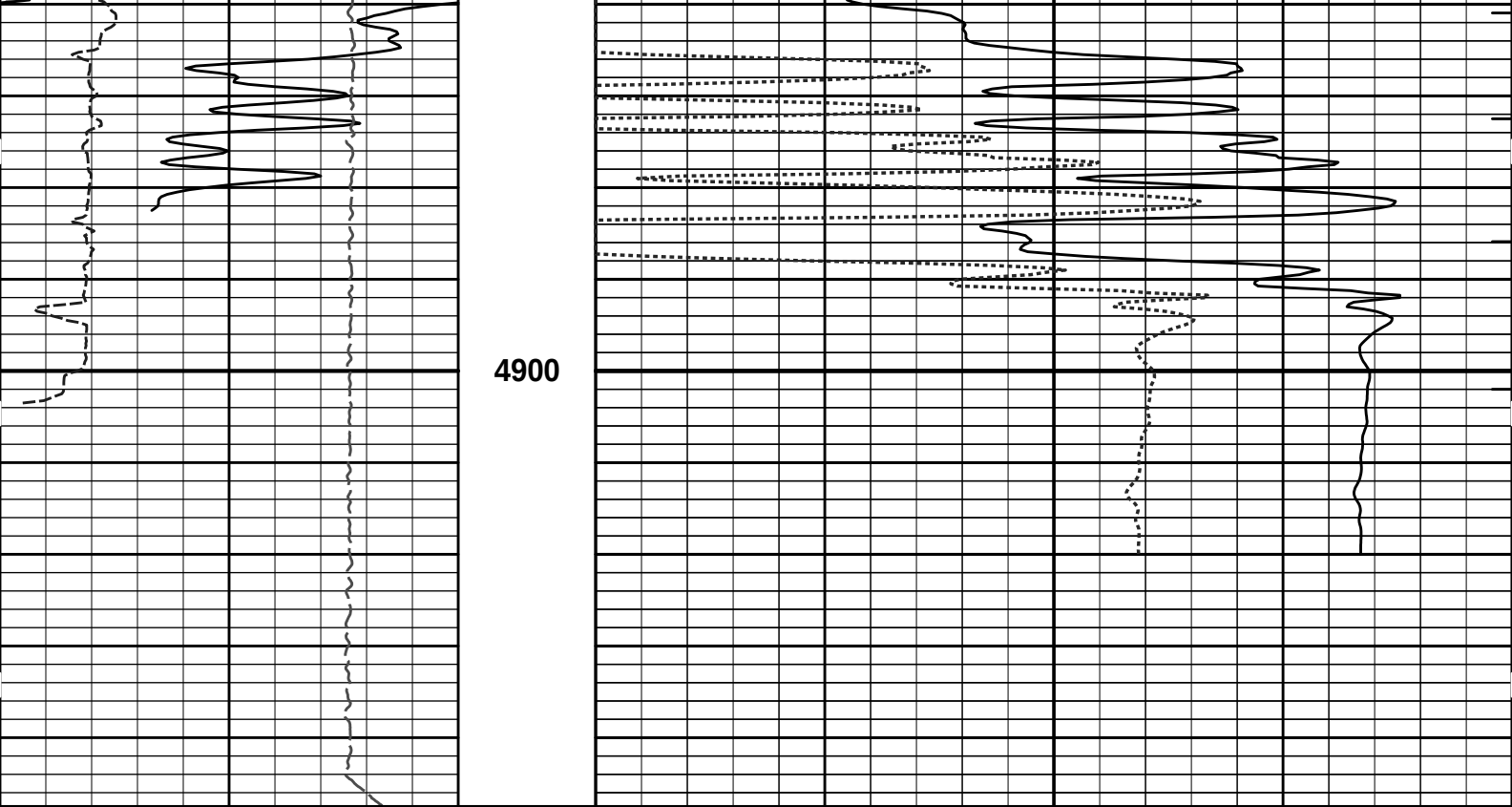


4700

4800

ens





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

HALLIBURTON

Plot Time: 28-Mar-13 12:57:12
Plot Range: 1950 ft to 4947.5 ft
Data: PRENTICE_A-1\Well Based\CASING\
Plot File: \\BSAT\BSAT_5_MAIN_LIB

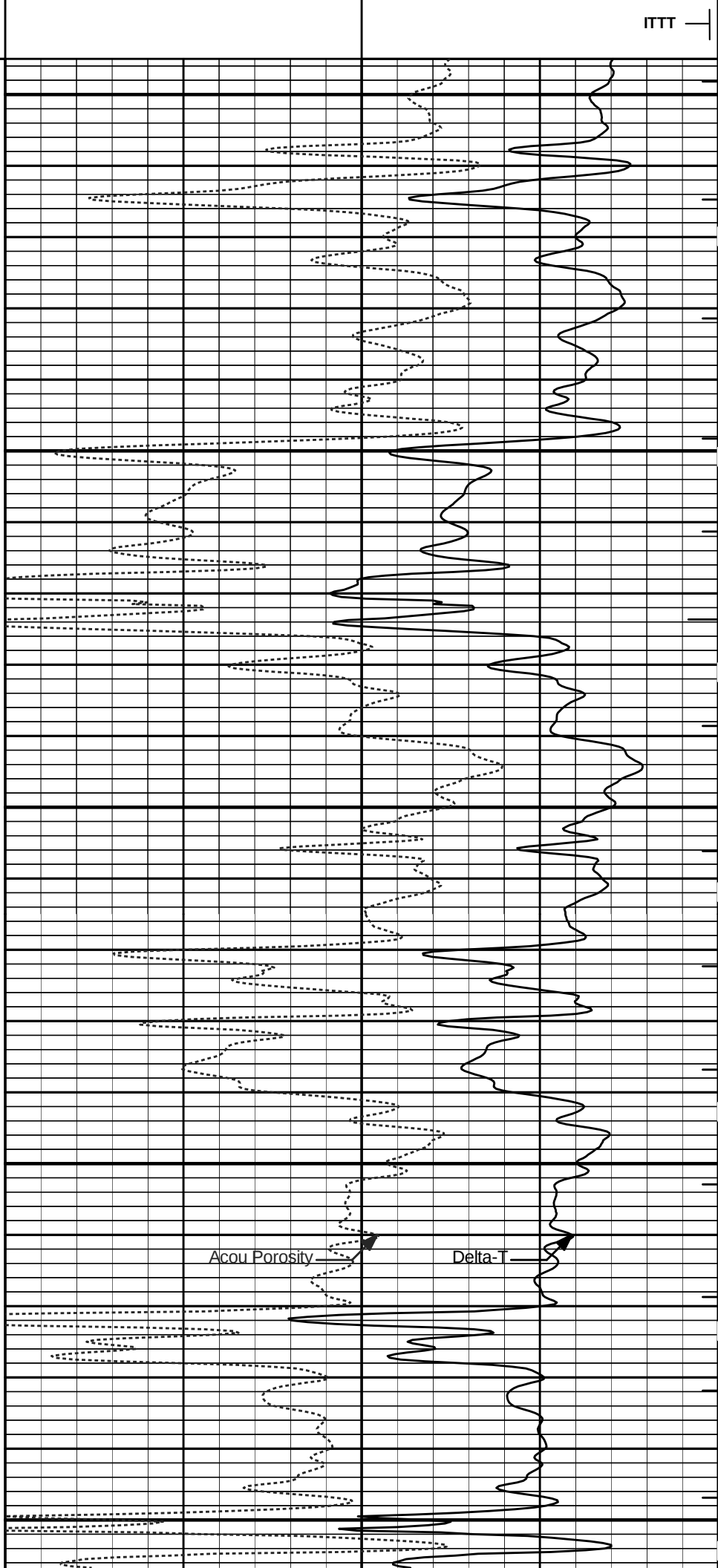
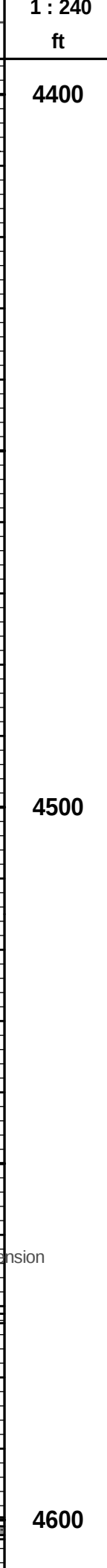
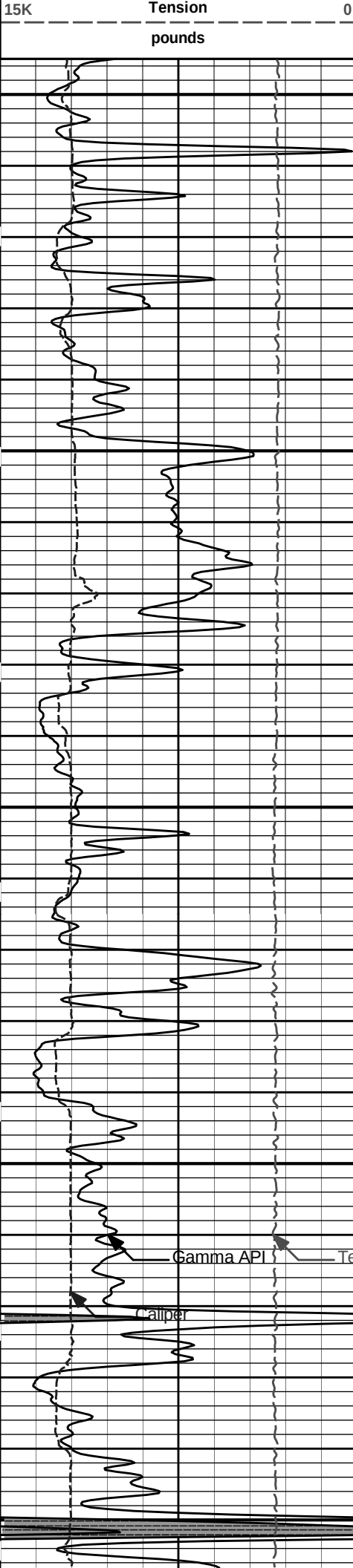
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 28-Mar-13 12:57:12
Plot Range: 4395 ft to 4949.17 ft
Data: PRENTICE_A-1\Well Based\REPEAT\
Plot File: \\BSAT\BSAT_5_REP_LIB

REPEAT SECTION

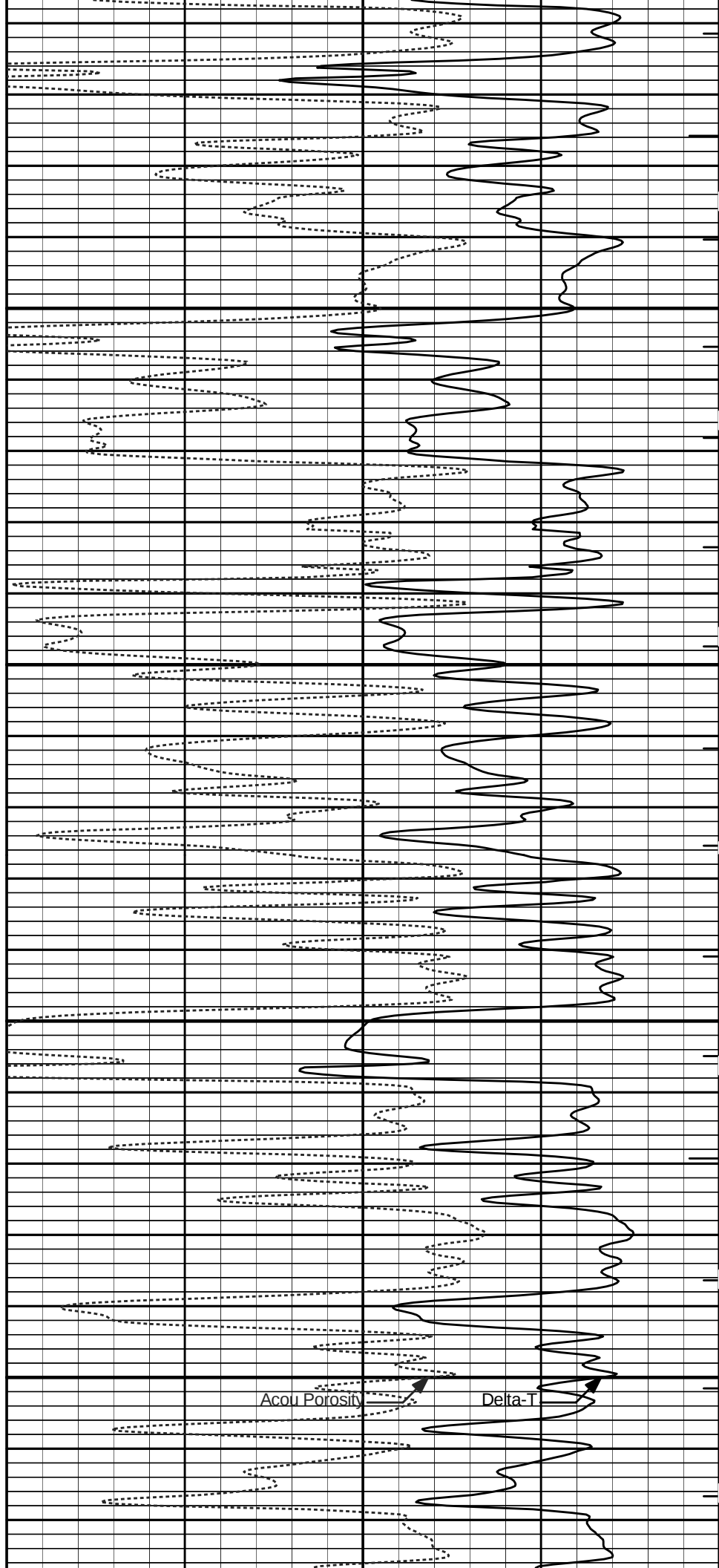
	SHALE				
6	Caliper	16	30	Acou Porosity	-10
	inches			percent	
0	Gamma API	150	140	Delta-T	40
	api			microsec per ft	

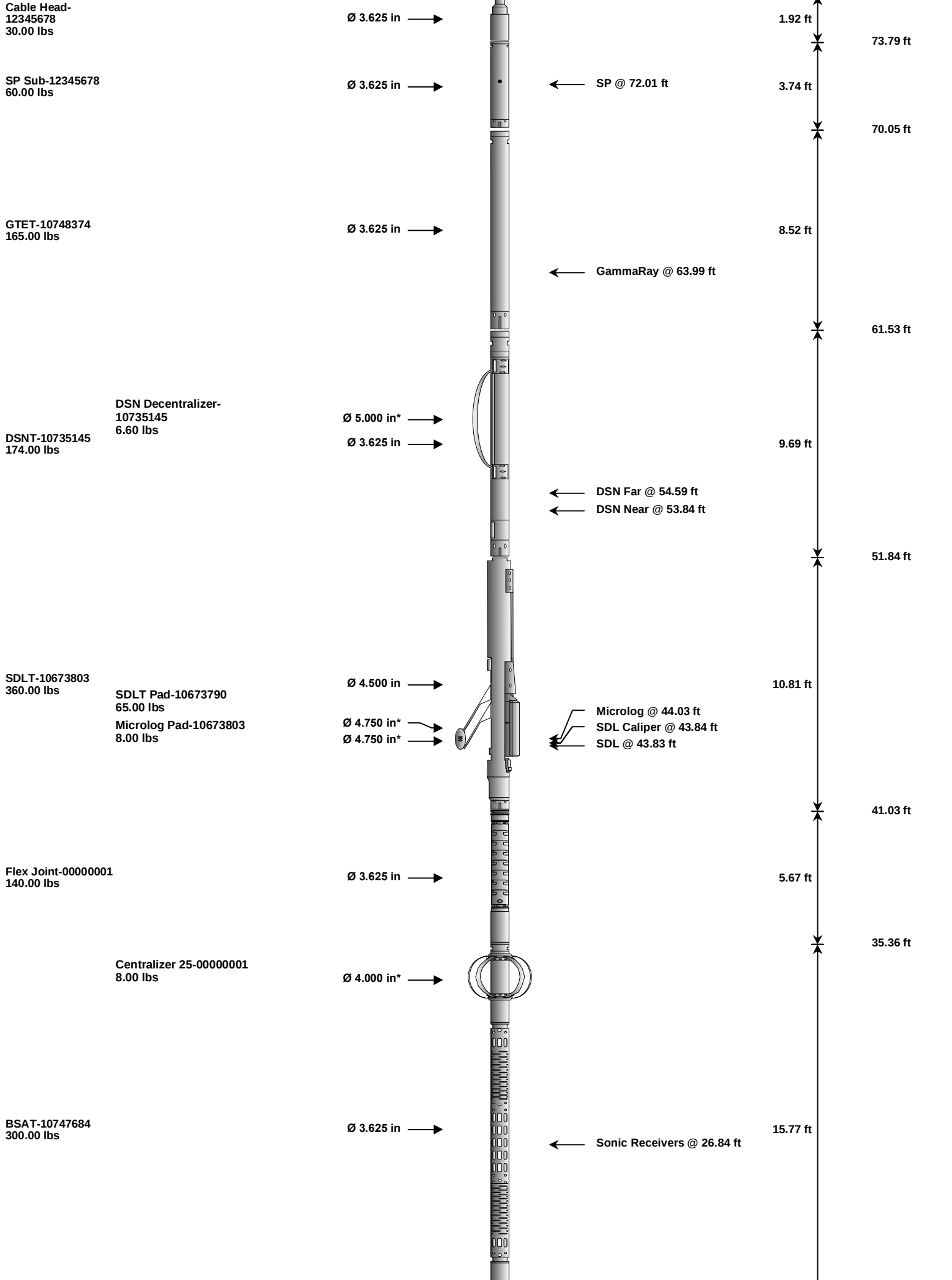


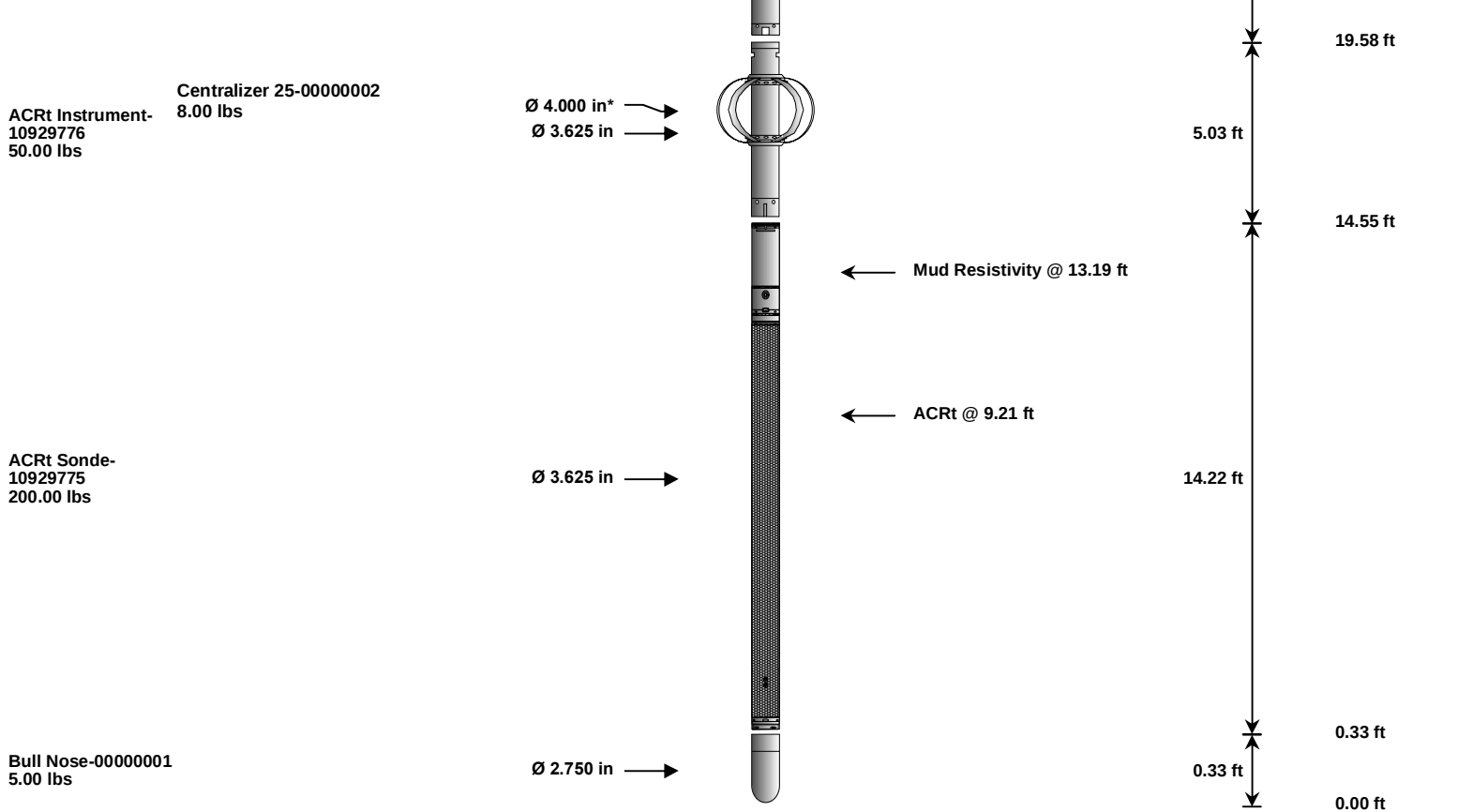


4700

4800







Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH	Standard OH Cable Head		12345678	30.00	1.92	73.79	300.00
SP	SP Sub		12345678	60.00	3.74	70.05	300.00
GTET	Gamma Telemetry Tool		10748374	165.00	8.52	61.53	60.00
DSNT	Dual Spaced Neutron		10735145	174.00	9.69	51.84	60.00
DCNT	DSN Decentralizer		10735145	6.60	5.13	* 55.17	300.00
SDLT	Spectral Density Tool		10673803	360.00	10.81	41.03	60.00
MICP	Microlog Pad		10673803	8.00	1.00	* 43.53	60.00
SDLP	Density Insite Pad		10673790	65.00	2.55	* 43.24	60.00
FLEX	Flex Joint		00000001	140.00	5.67	35.36	300.00
BSAT	Borehole Sonic Array Tool		10747684	300.00	15.77	19.58	60.00
OBCEN	Centralizer - 25 in. Overbody		00000001	8.00	2.08	* 32.82	300.00
ACRt	Array Compensated True Resistivity Instrument Section		10929776	50.00	5.03	14.55	300.00
OBCEN	Centralizer - 25 in. Overbody		00000002	8.00	2.08	* 16.55	300.00
ACRt	Array Compensated True Resistivity Sonde Section		10929775	200.00	14.22	0.33	300.00
BLNS	Bull Nose		00000001	5.00	0.33	0.00	300.00

Total		1,579.60	75.71	* Not included in Total Length and Length Accumulation.
Data: PRENTICE_A-1\0002 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\IDLE				
			Date: 28-Mar-13 08:34:10	

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	WACI	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	0.500	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	4955.00	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
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
BOTTOM				
Data: PRENTICE_A-110002 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN1005 28-Mar-13 10:38 Up @4947.8f				Date: 28-Mar-13 12:06:22

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION				
Tool Name:	GTET - 10748374	Reference Calibration Date:	17-Jan-13 13:03:23	
Engineer:	THOMAS HYDE	Calibration Date:	12-Mar-13 13:11:16	
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	43.5	43.2	api
	Background + Calibrator	277.4	275.2	api
	Calibrator	233.9	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION				
Tool Name:	GTET - 10748374	Reference Calibration Date:	12-Mar-13 13:11:16	
Engineer:	S. INGERSOLL	Calibration Date:	27-Mar-13 23:33:12	
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		43.2	62.7	api
Background + Calibrator		275.2	292.2	api
Calibrator		232.0	229.5	api
Shop		Field	Difference	Tolerance
232.0		229.5	2.5	+/- 9.00

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10673803	Reference Calibration Date:	12-Mar-13 13:14:02
Engineer:	THOMAS HYDE	Calibration Date:	12-Mar-13 13:18:16
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1
Host Tool Name:	DSNT - 10735145		

CALIBRATION COEFFICIENTS				
--------------------------	--	--	--	--

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3713.67	-3673.34	-7000.00 - -1000.00
Pad Gain	0.0003799	0.0003767	0.000200 - 0.000600
Arm Offset	-4381.70	-4510.72	-5000.00 - 3000.00
Arm Gain	0.0005135	0.0005258	0.000300 - 0.000700
Arm Power	-0.000005109	-0.000005867	-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)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.51	6.50	-0.01	+/- 0.20
Medium Ring (in)	8.23	8.25	0.02	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 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 - 10673803	Reference Calibration Date:	12-Mar-13 13:18:16
Engineer:	S. INGERSOLL	Calibration Date:	27-Mar-13 23:38:49
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	3.76	0.01	+/- 0.10
Ring Diameter	8.25	8.34	0.09	+/- 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	229.5	-----	2.5	+/- 9.00	api
SDLT-10673803						
Pad Extension	3.75	3.76	-----	-0.01	+/-0.10	in
Ring Diameter	8.25	8.34	-----	-0.09	+/-0.15	in

Data: PRENTICE_A-1\0002 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNI005 28-Mar-13 10:38 Up @4947.8f

Date: 28-Mar-13 12:08:50

HALLIBURTON

INPUTS. DELAYS AND FILTERS TABLE

INFO, DELAY AND FILTER TABLE				
Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
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
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: PRENTICE_A-1\0002 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\005 28-Mar-13 10:38 Up @4947.8f			Date: 28-Mar-13 12:05:58	
COMPANY	OXY USA			
WELL	PRENTICE A-1			
FIELD	HUGOTON GAS AREA			
STATE	KANSAS	COUNTRY	USA	
HALLIBURTON		BOREHOLE COMPENSATED SONIC ARRAY LOG		