

HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY

COMPANY				LARAMIE ENERGY PARTNERS II			
WELL				LEVERICH 31-05B			
FIELD				RULISON			
COUNTY				GARFIELD			
STATE				CO			
Permanent Datum				GL			
Log measured from				KB			
Drilling measured from				KB			
Date				04-Aug-08			
Run No.				ONE			
Depth - Driller				9240.0 ft			
Depth - Logger				9235.0 ft			
Bottom - Logged Interval				9199.0 ft			
Top - Logged Interval				1516.0 ft			
Casing - Driller				8.625 in @ 1502.0 ft			
Casing - Logger				1516.0 ft			
Bit Size				7.875 in			
Type Fluid in Hole				LSND			
Density				11.1 ppG			
Viscosity				57.00 s/cP			
PH				9.00 pH			
Fluid Loss				7.8 cpm			
Source of Sample				MUD TANK			
Rm @ Meas. Temperature				1.78 ohmm @ 74.80 degF			
Rmf @ Meas. Temperature				1.53 ohmm @ 70.20 degF			
Rmc @ Meas. Temperature				2.80 ohmm @ 71.20 degF			
Source Rmf				Rmc			
MEAS.				MEAS.			
Rm @ BHT				0.86 ohmm @ 163.0 degF			
Time Since Circulation				8.0 hr			
Time on Bottom				04-Aug-08 16:44			
Max. Rec. Temperature				163.0 degF @ 9235.0 ft			
Equipment				Location			
10549593				GJ			
Recorded By				D. RENNER			
J. GEISER							
Witnessed By				M. BLAKLEY			

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Service Ticket No.: 6079706				API Serial No.: 050451572600				PGM Version: R2.2											
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES													
Date		Sample No.				Type Log		Depth		Scale Up Hole		Scale Down Hole							
Depth-Driller																			
Type Fluid in Hole																			
Density		Viscosity																	
Ph		Fluid Loss																	
Source of Sample						RESISTIVITY EQUIPMENT DATA													
Rm @ Meas. Temp		@		@		Run No.		Tool Type & No.		Pad Type		Tool Pos.		Other					
Rmf @ Meas. Temp.		@		@		ONE		HRID-IB1S0944		N/A		1.5" STANDOFF		N/A					
Rmc @ Meas. Temp.		@		@															
Source Rmf		Rmc		CALC		CALC													
Rm @ BHT		0.86 ohmm @ 163.0 degF		@															
Rmf @ BHT		0.74 ohmm @ 163.0 degF		@															
Rmc @ BHT		1.35 ohmm @ 163.0 degF		@															
EQUIPMENT DATA																			
GAMMA				ACOUSTIC				DENSITY				NEUTRON							
Run No.		ONE		Run No.				Run No.		ONE		Run No.		ONE					
Serial No.		034		Serial No.				Serial No.		I709MC136		Serial No.		108760					
Model No.		D4TGX		Model No.				Model No.		SDL_DC		Model No.		DSN-II					
Diameter		3.625"		No. of Cent.				Diameter		4.5"		Diameter		3.625"					
Detector Model No.		D4TGX		Spacing				Log Type		GAMMA-GAMMA		Log Type		THERMAL					
Type		SCINT						Source Type		Cs137		Source Type		Am241 Be					
Length		8"		LSA [Y/N]				Serial No.		2189GW		Serial No.		DSN-60					
Distance to Source		16'		FWDA [Y/N]				Strength		1.5 Ci		Strength		18.5 Ci					
LOGGING DATA																			
GENERAL				GAMMA				ACOUSTIC				DENSITY				NEUTRON			

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	TD	CASING	REC	0 api	200 api				30%	-10%	2.68 g/cc	30%	-10%	SAND
DIRECTIONAL INFORMATION														
Maximum Deviation @									KOP @					
Remarks: RWCH-D4TGX-DSN-SDL-HRID WERE RUN IN COMBINATION.														
TENSION PULLS AND HOLE RUGOSITY MAY AFFECT LOG QUALITY.														
AHV CALCULATED FOR 4.5" CASING.														
CHLORIDES REPORTED AT 1200 mg/L.														
LATITUDE: 39.48 // LONGITUDE: 107.82														
YOUR CREW TODAY IS J. WILKERSON							RIG: GREYWOLF 706							
THANK YOU FOR CHOSSING HALLIBURTON ENERGY SERVICES - GRAND JUNCTION, CO (970) 523 - 3600														
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.														
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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	MDWT	Borehole Fluid Weight	11.100	ppg
	SHARED	RMUD	Mud Resistivity	1.780	ohmm
	SHARED	TRM	Temperature of Mud	74.8	degF
	SHARED	OBM	Oil Based Mud System?	No	
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	4.500	in
	SHARED	ST	Surface Temperature	94.0	degF
	SHARED	TD	Total Well Depth	9240.00	ft
	SHARED	BHT	Bottom Hole Temperature	163.0	degF
	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
	D4TGX	GROK	Process Gamma Ray?	Yes	
	D4TGX	GRSO	Gamma Tool Standoff	0.000	in

D4TGX	GEOK	Process Gamma Ray EVR?	No	
DSN_II	DNOK	Process DSN?	Yes	
DSN_II	DEOK	Process DSN EVR?	No	
DSN_II	NLIT	Neutron Lithology	Sandstone	
DSN_II	DNSO	DSNTool Standoff	0.000	in
DSN_II	DNTP	Temperature Correction Type	None	
DSN_II	DPRS	DSN Pressure Correction Type	None	
DSN_II	SHCO	View More Correction Options	No	
DSN_II	UTVD	Use TVD for Gradient Corrections?	No	
DSN_II		Logging Horizontal Water Tank?	No	
SDL_DC	DNOK	Process Density?	Yes	
SDL_DC	DNOK	Process Density EVR?	No	
SDL_DC	AD	Is Hole Air Drilled?	No	
SDL_DC	CB	Use Calibration Blocks?	No	
SDL_DC	SPVT	SDLT Pad Temperature Valid?	Yes	
SDL_DC	MDTP	Weighted Mud Correction Type?	Barite	
SDL_DC	DMA	Formation Density Matrix	2.680	g/cc
SDL_DC	DFL	Formation Density Fluid	1.000	g/cc
SDL_DC	CLOK	Process Caliper Outputs?	Yes	
HRID	HRE	Do HRI Induction Calculation?	Yes	
HRID	DFLE	Do DFL Calculation?	Yes	
HRID	PYRI	Pyrite Switch	Off	
HRID	CSDP	Casing Depth	1506.0	ft
HRID	HDSP	Spike Reduction Filter Type	DELTA	
HRID	HRTC	Temperature Correction Source	None	
HRID	MMRS	Hrimap Minimum Resistivity	0.20	
HRID	MXRS	Hrimap Maximum Resistivity	200.00	

BOTTOM

Data: LAR_LEV_31_05B\0001 TRIPLE\IDLE

Date: 04-Aug-08 19:28:19

HALLIBURTON

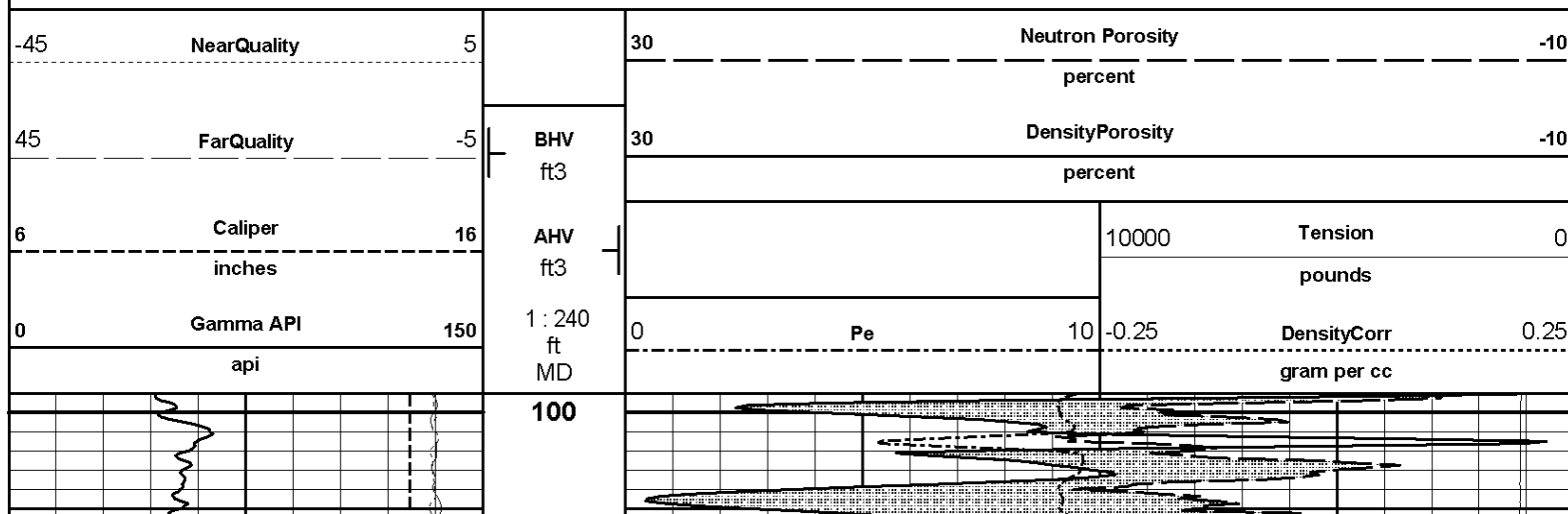
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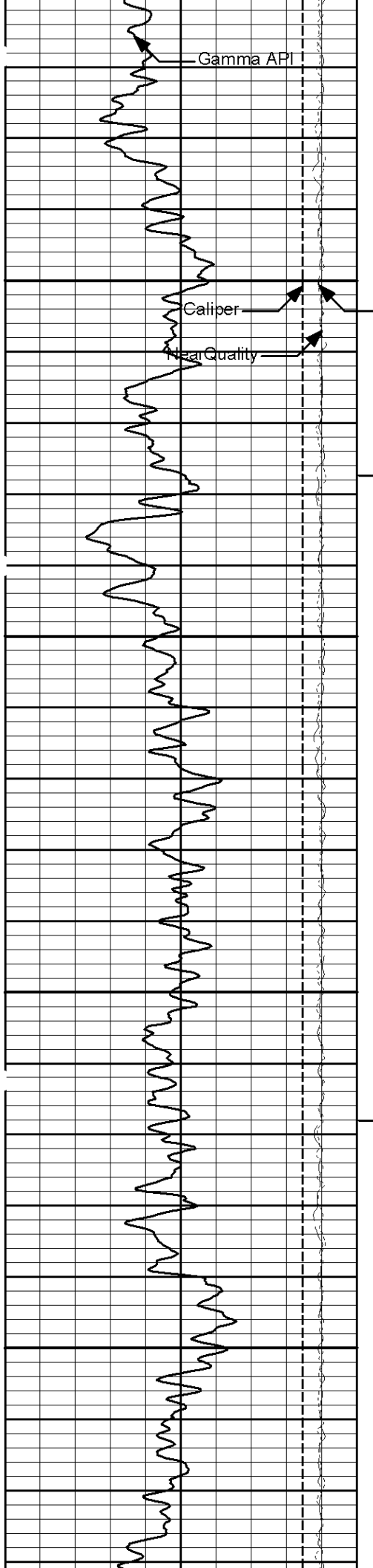
Plot Range: 98 ft to 9245 ft

Data: LAR_LEV_31_05B\Well Based\MAIN PASS - CASING\

Plot File: \IPOROSITY\DITS_POROSITY_5IN_RM

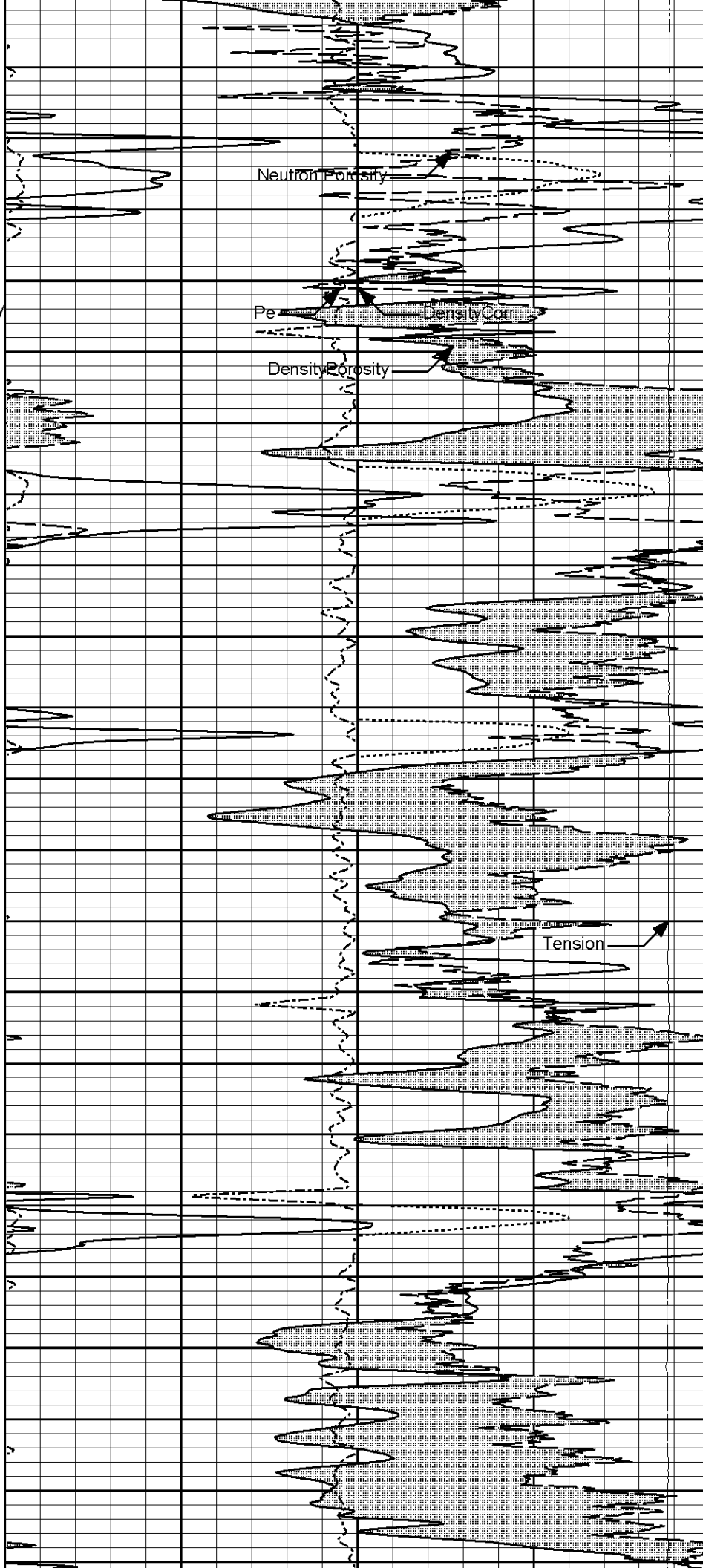
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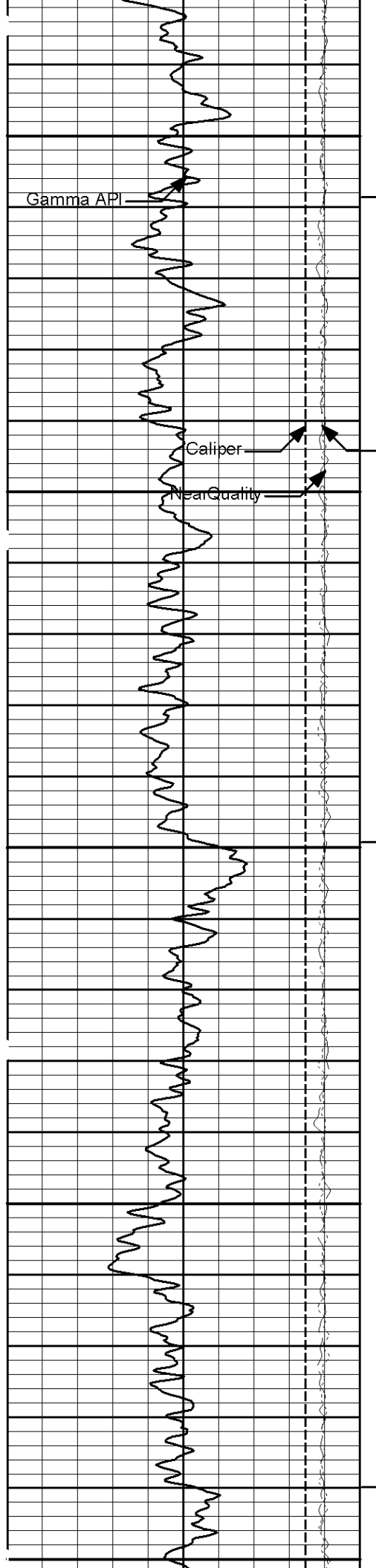




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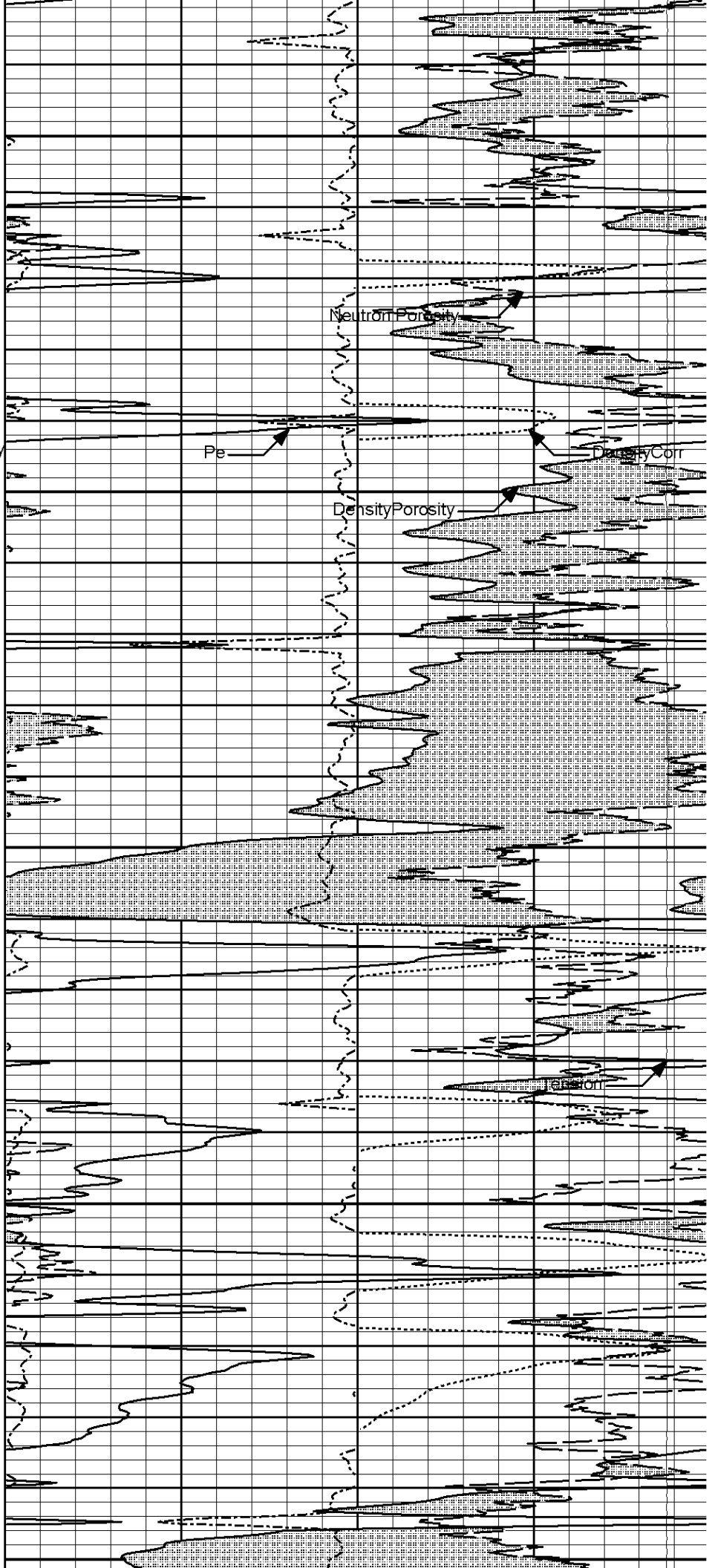
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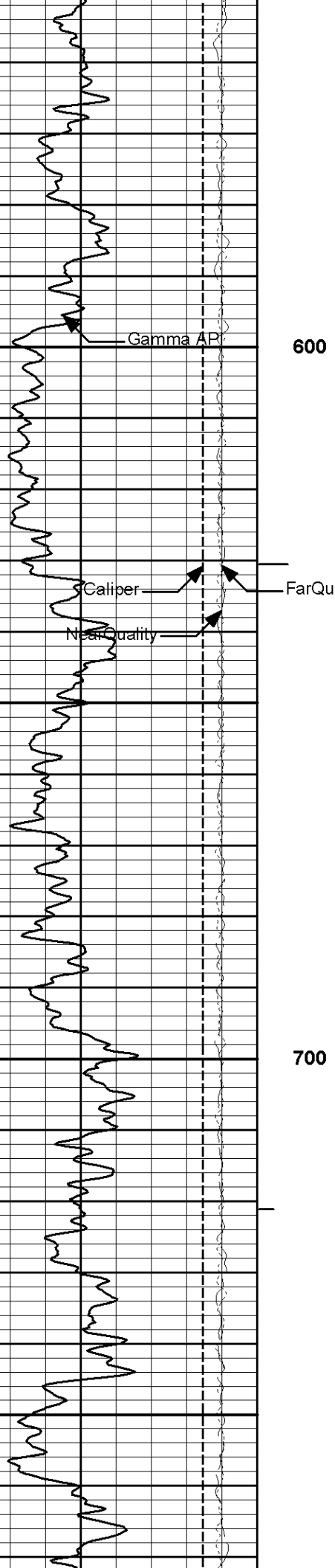




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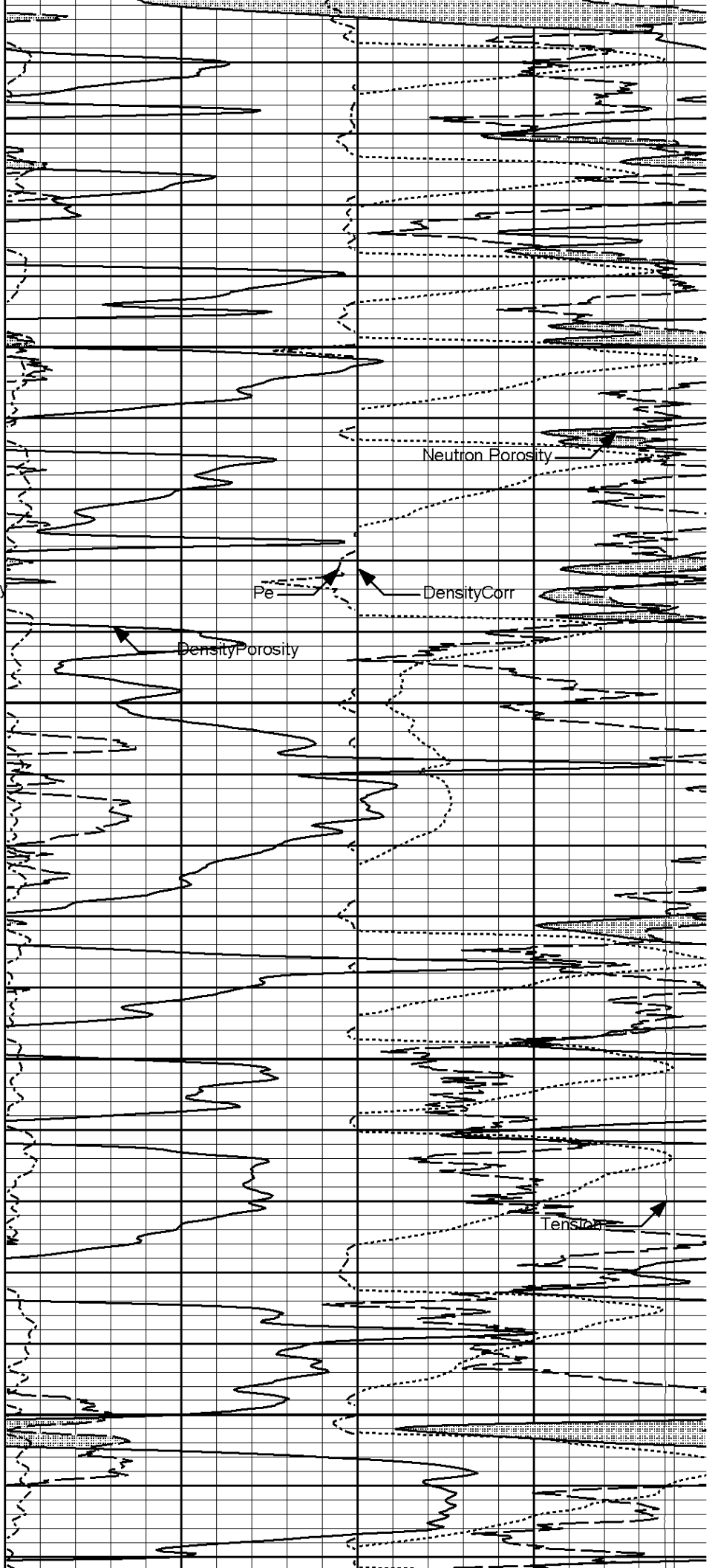
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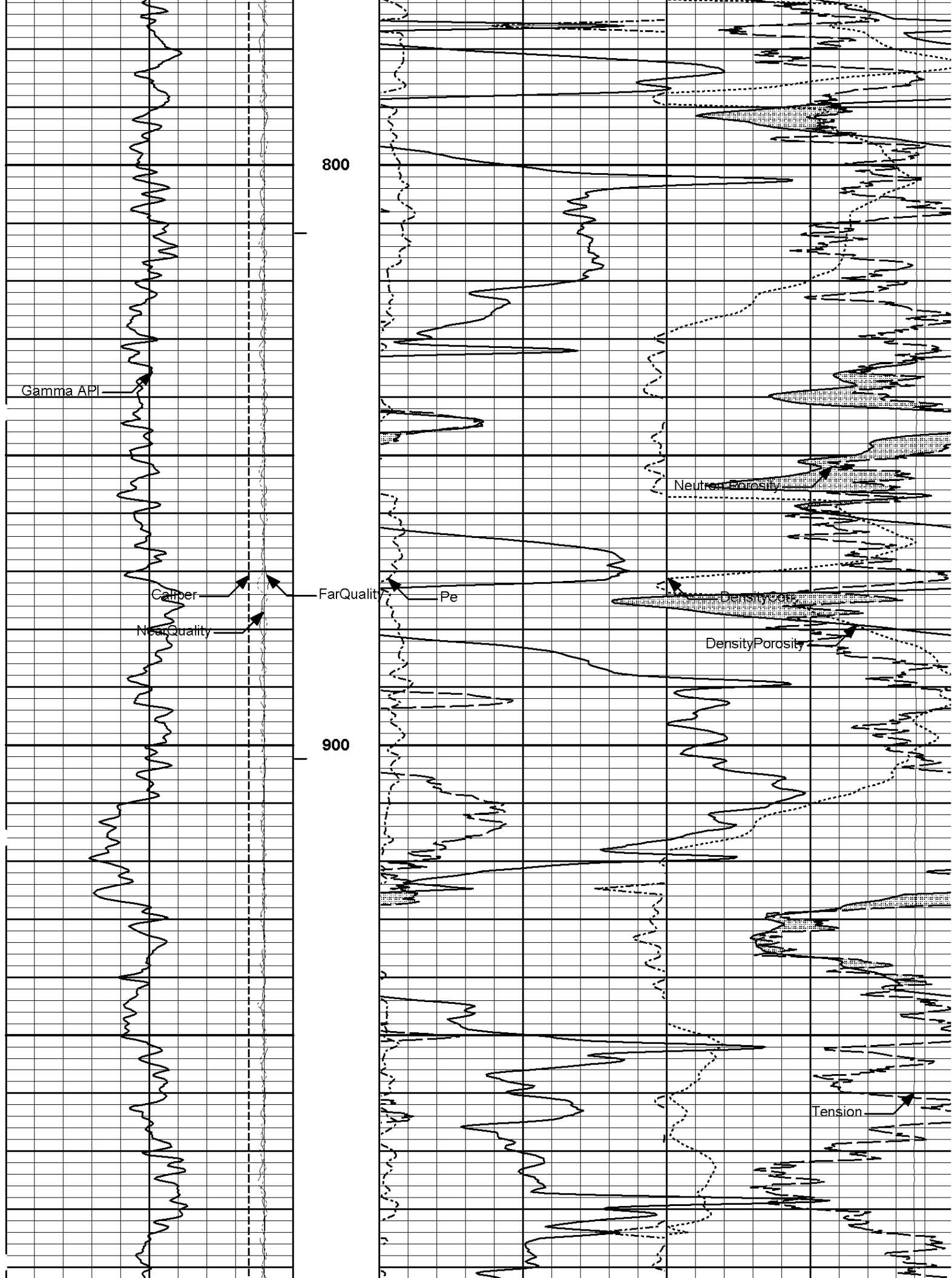
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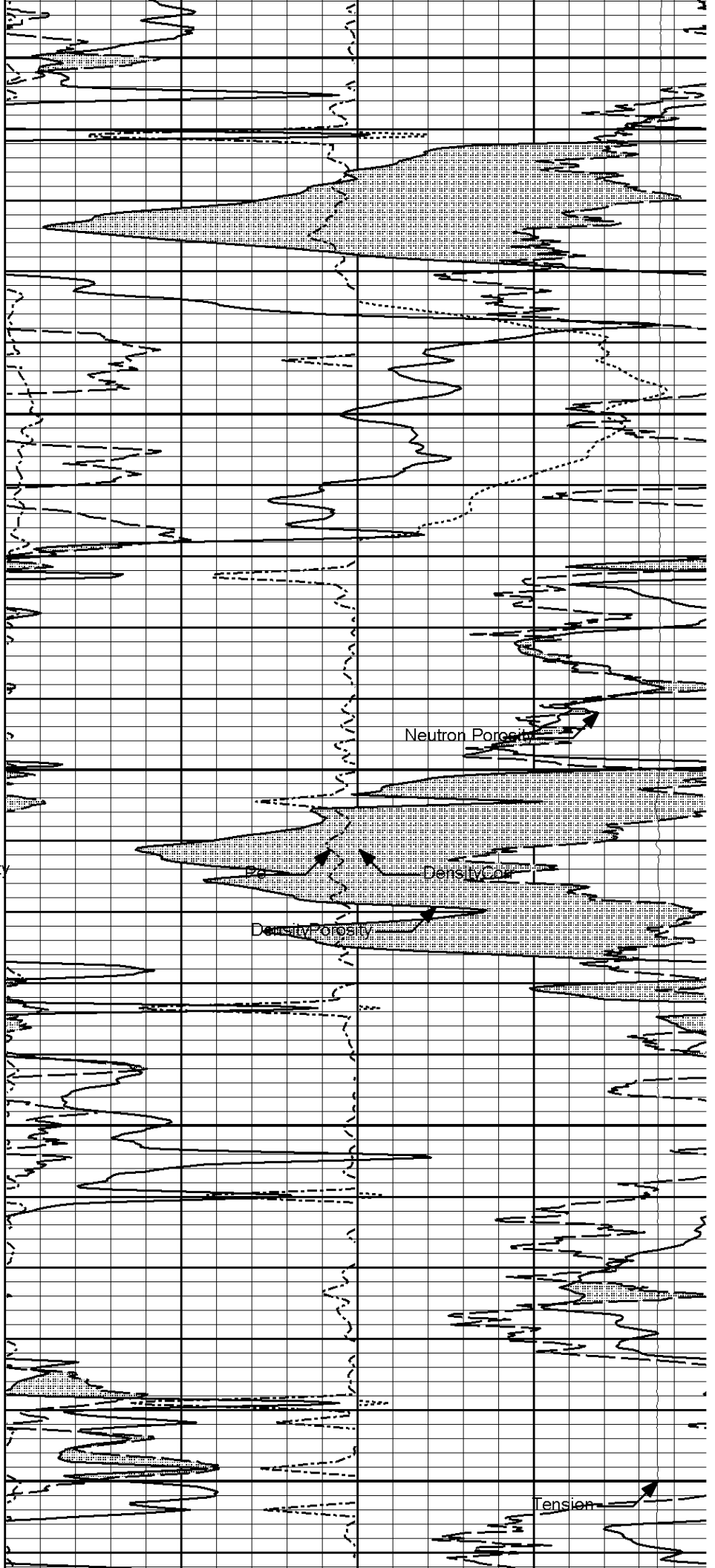
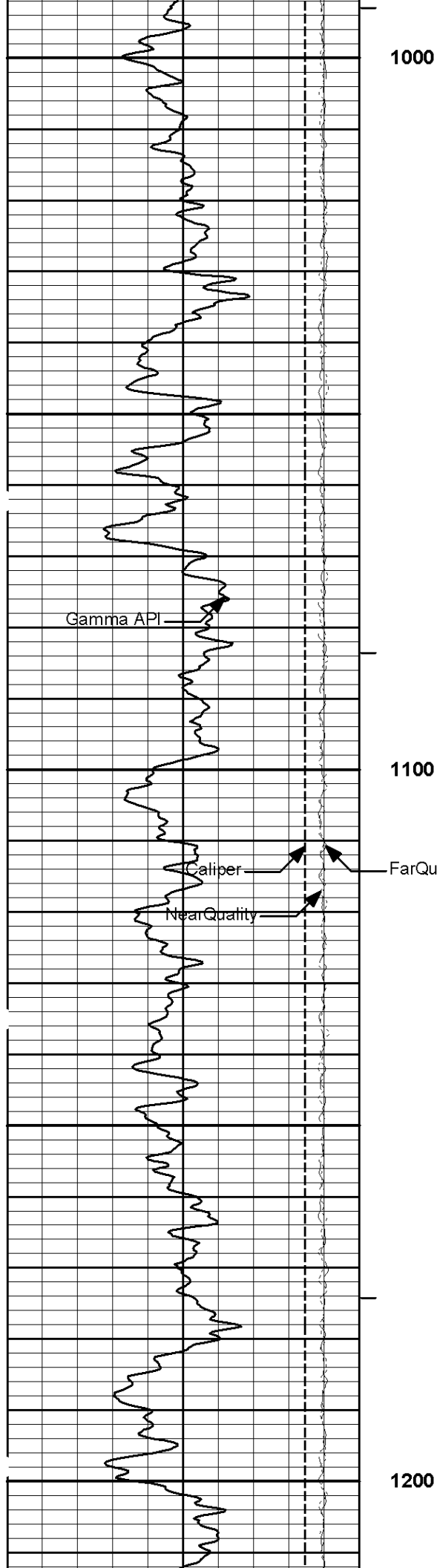
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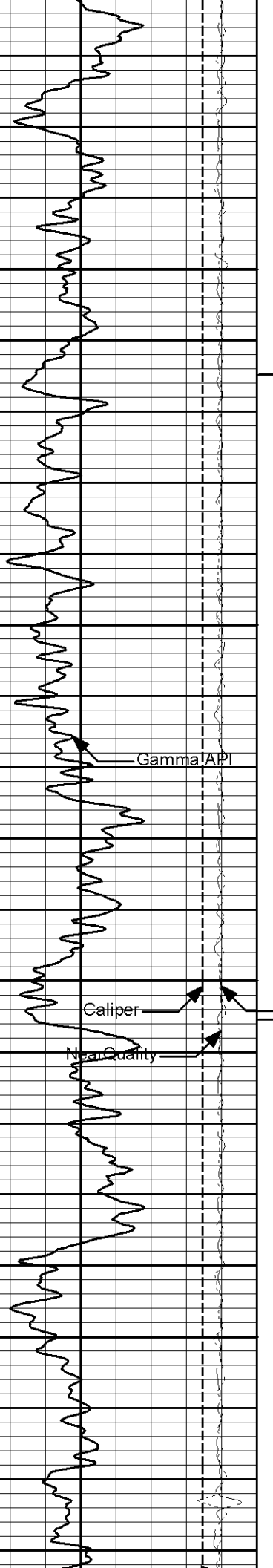
Density Corr

Density Porosity

Tension

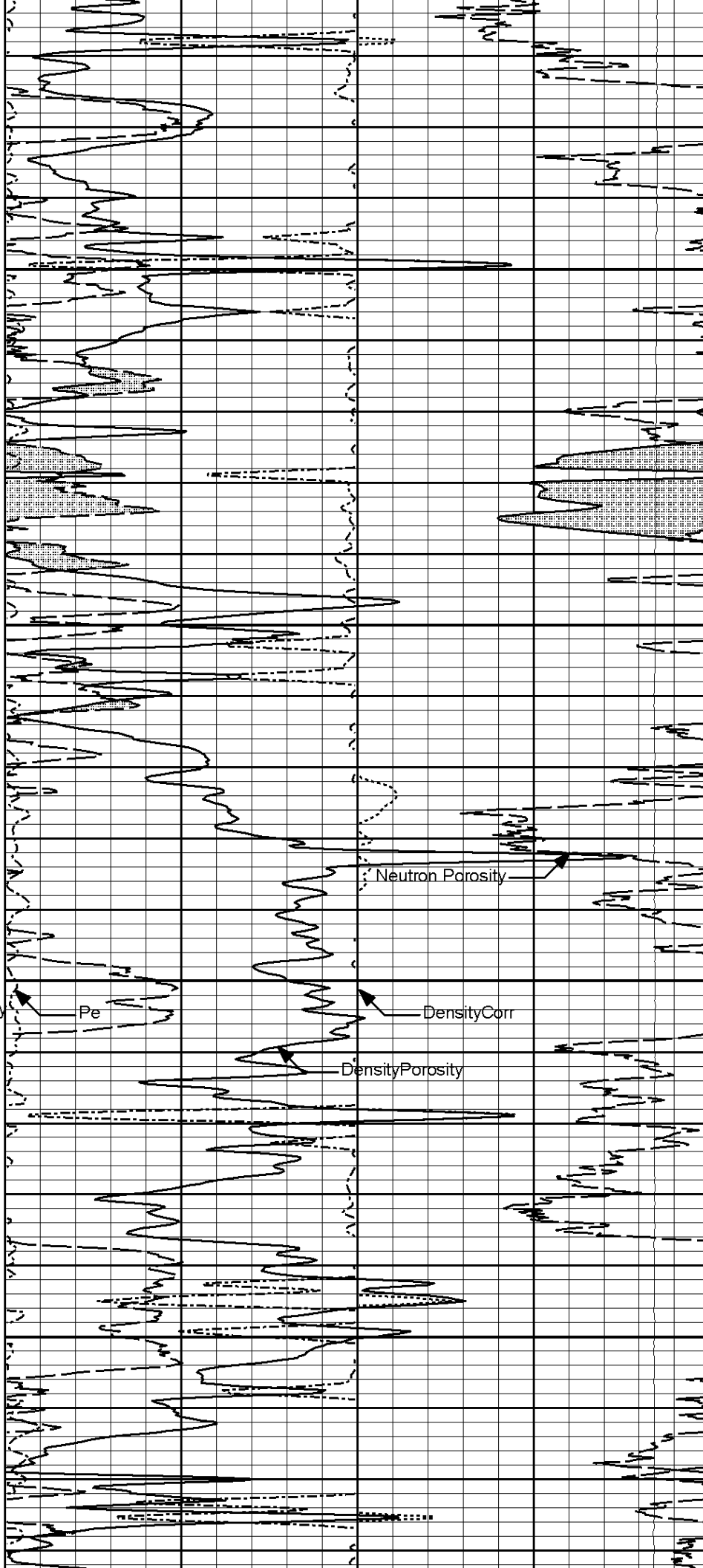


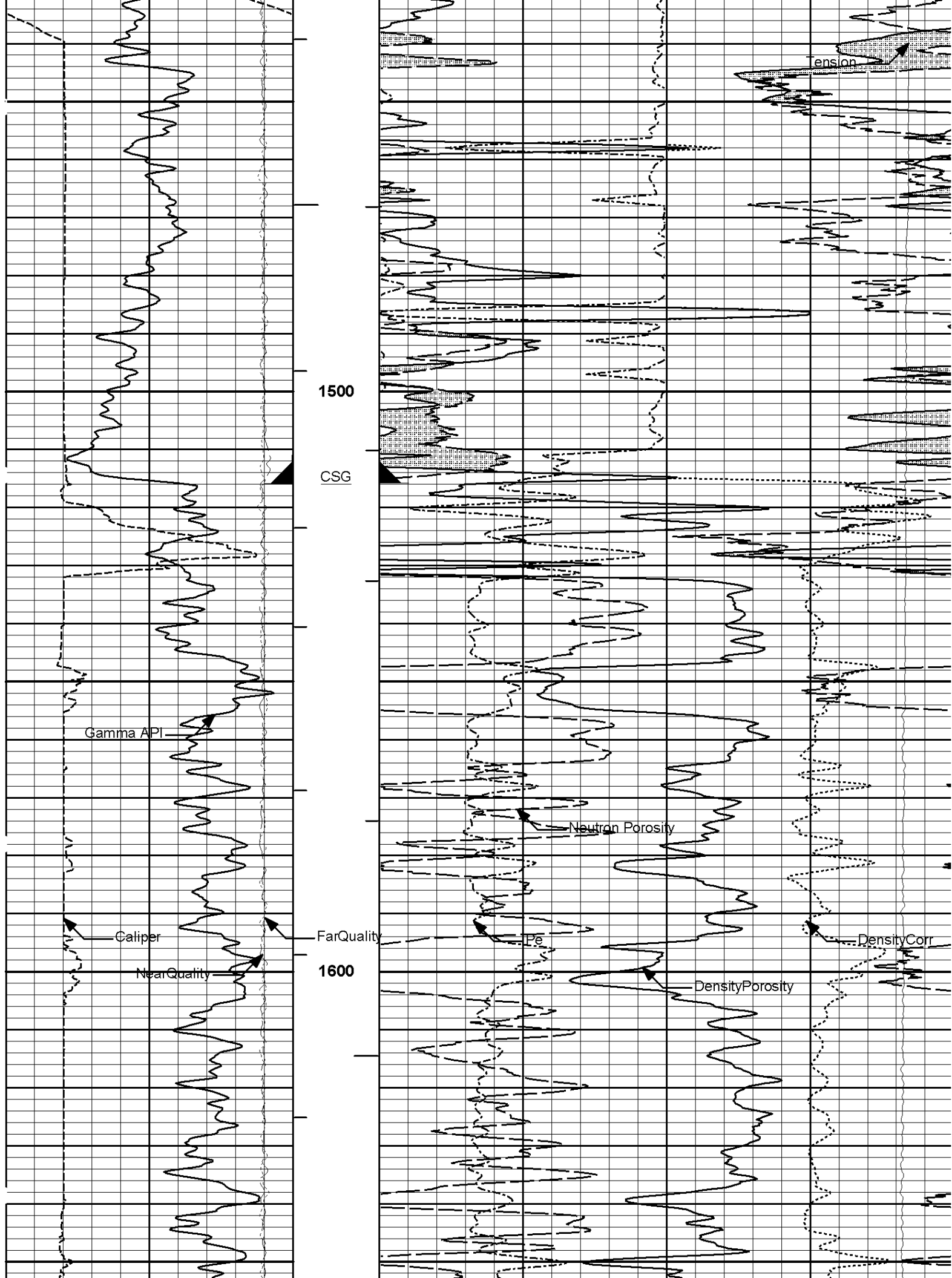


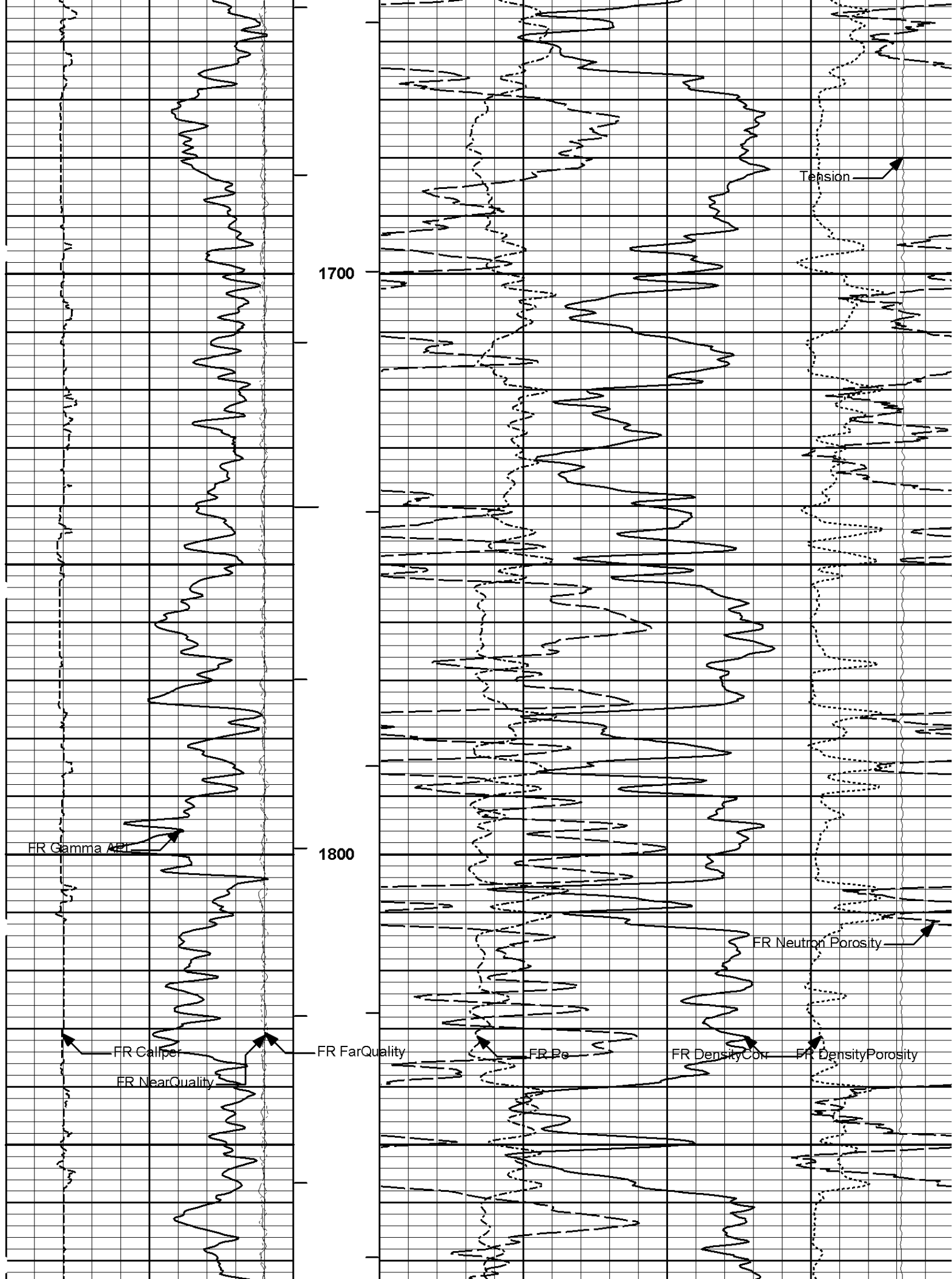


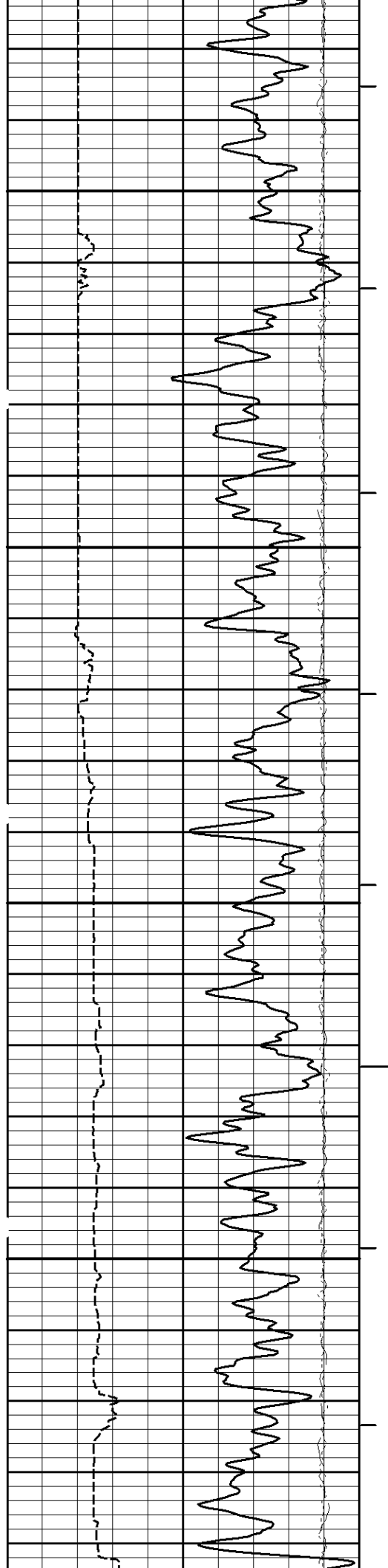
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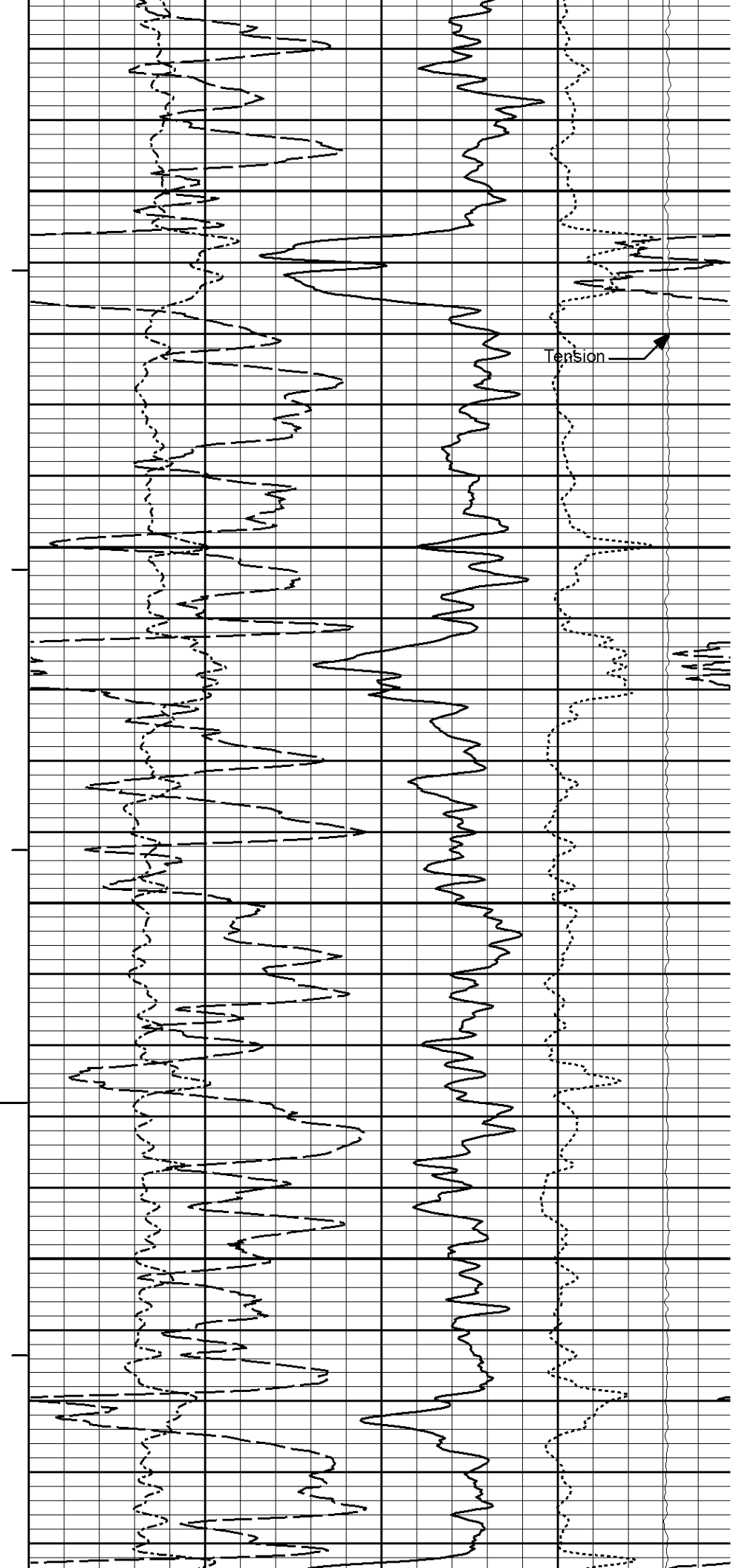


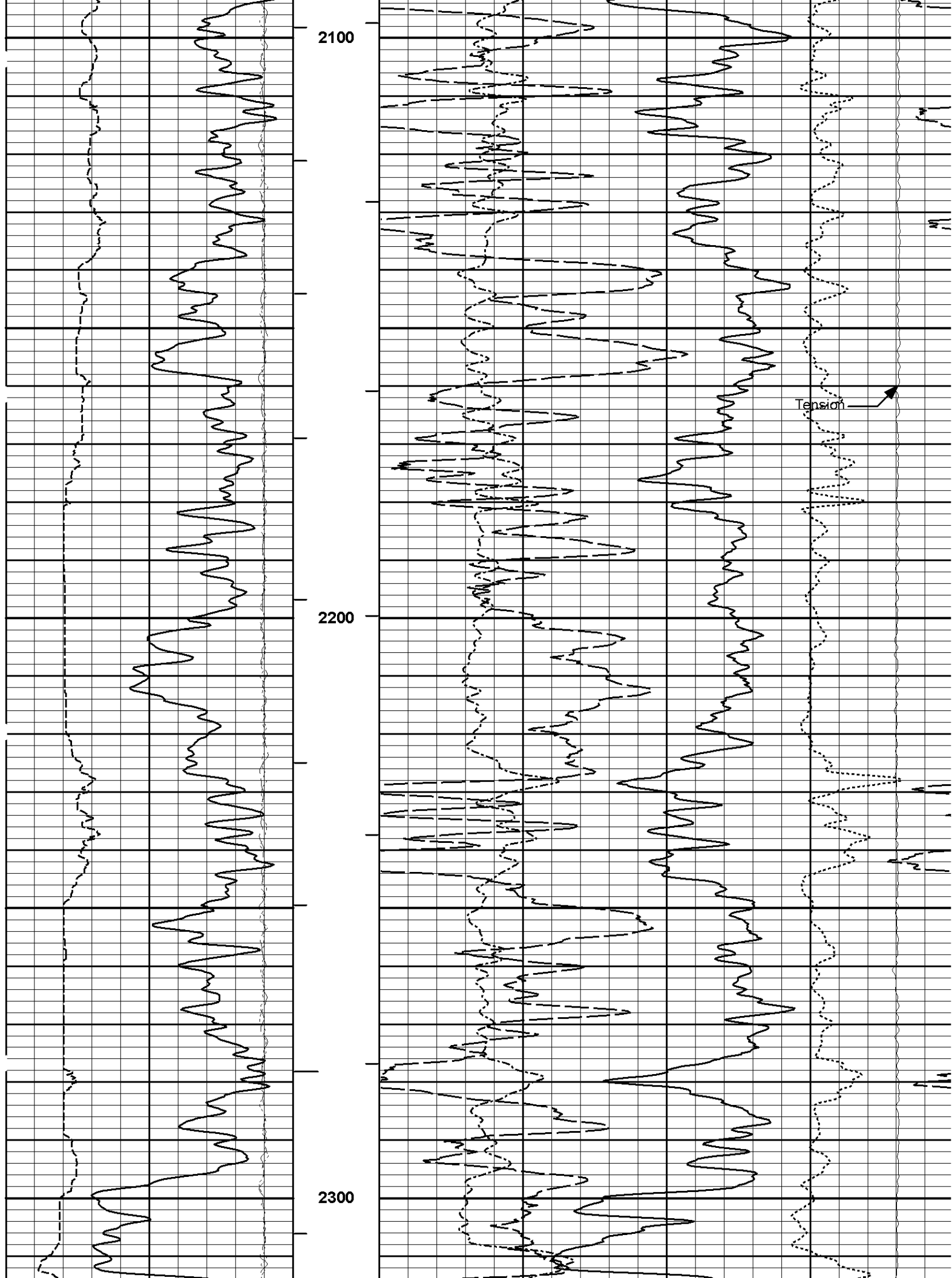


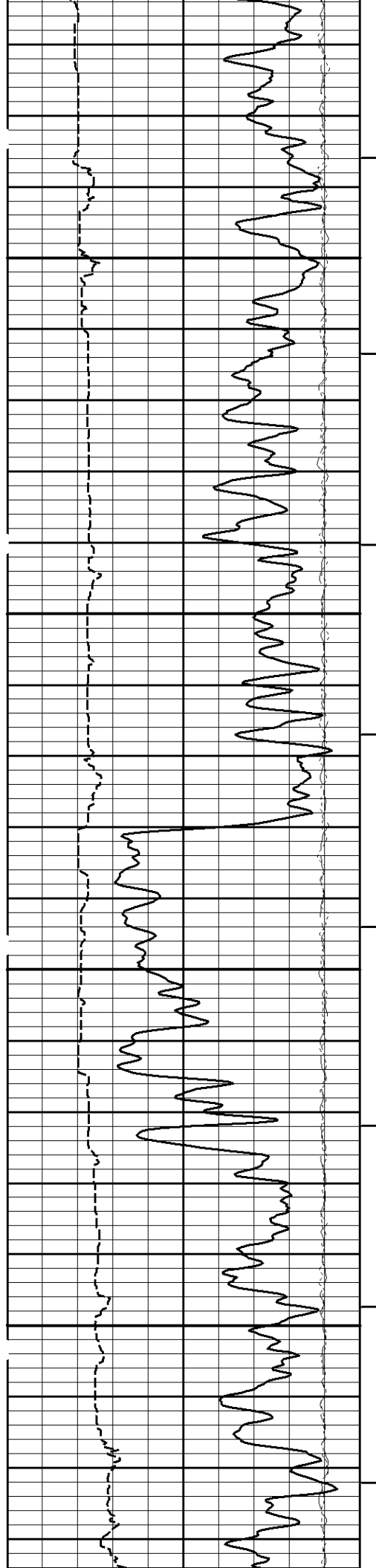


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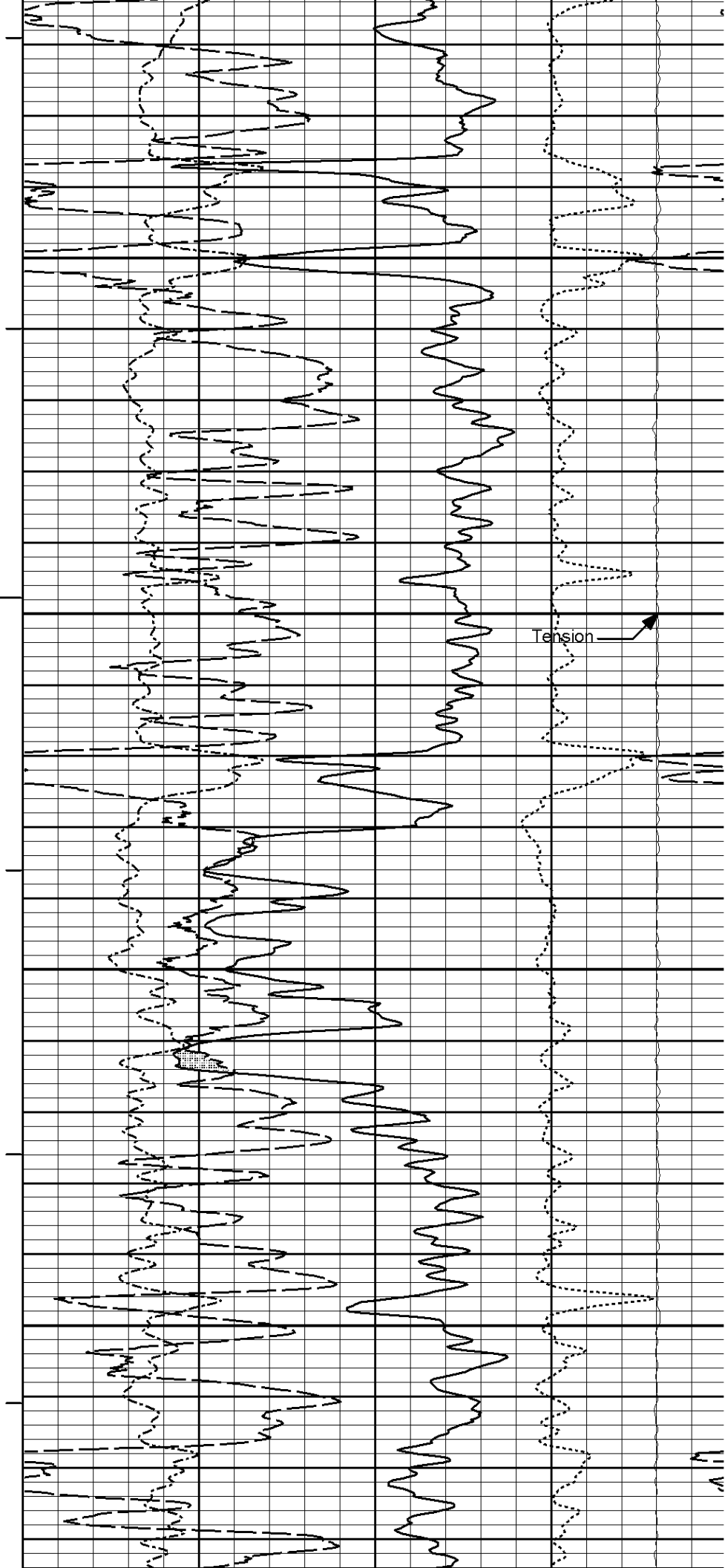




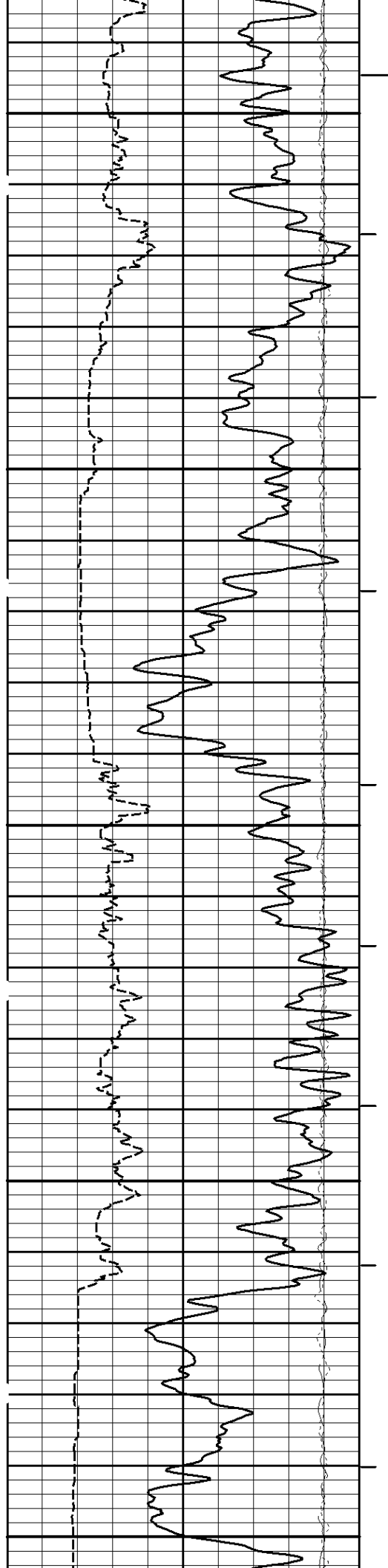


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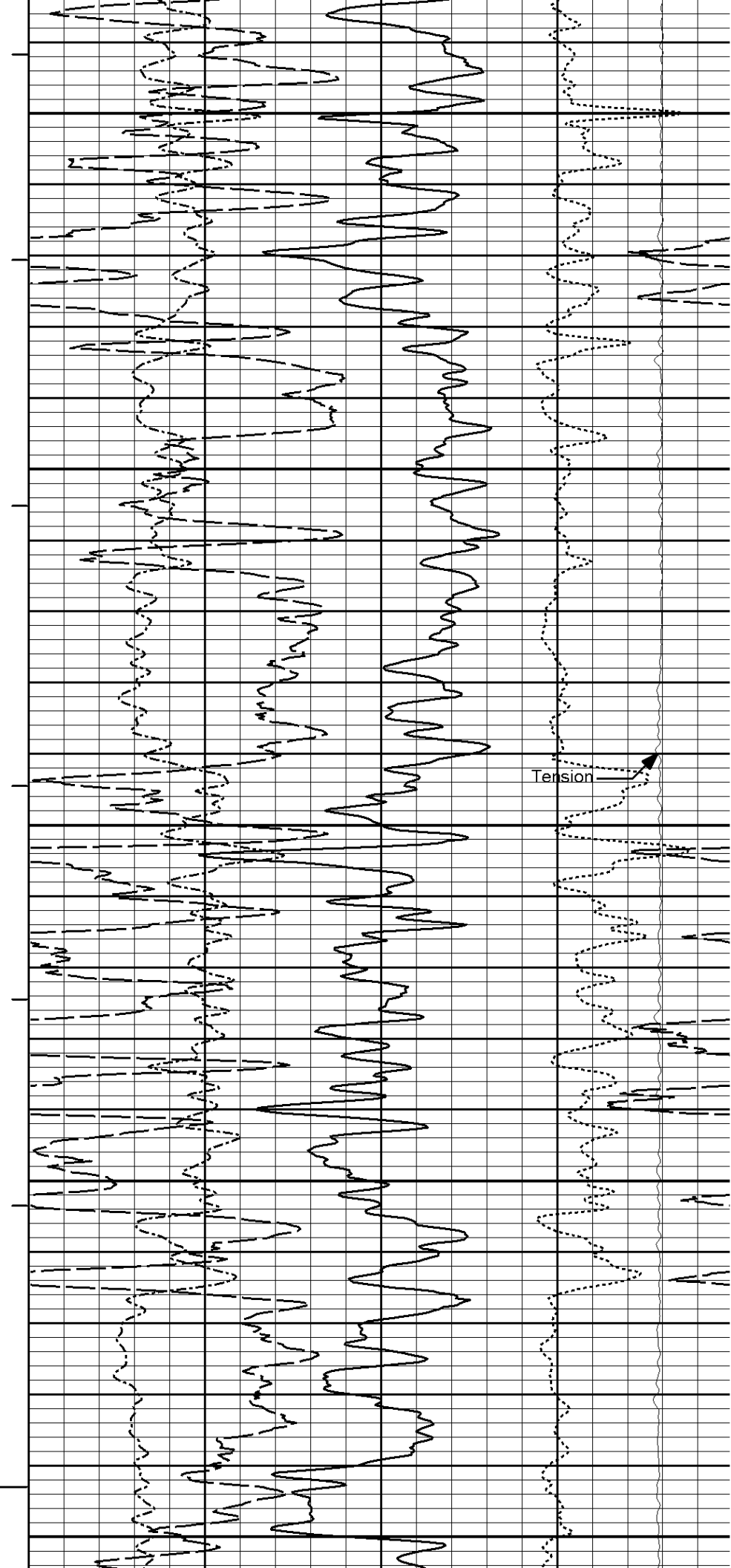


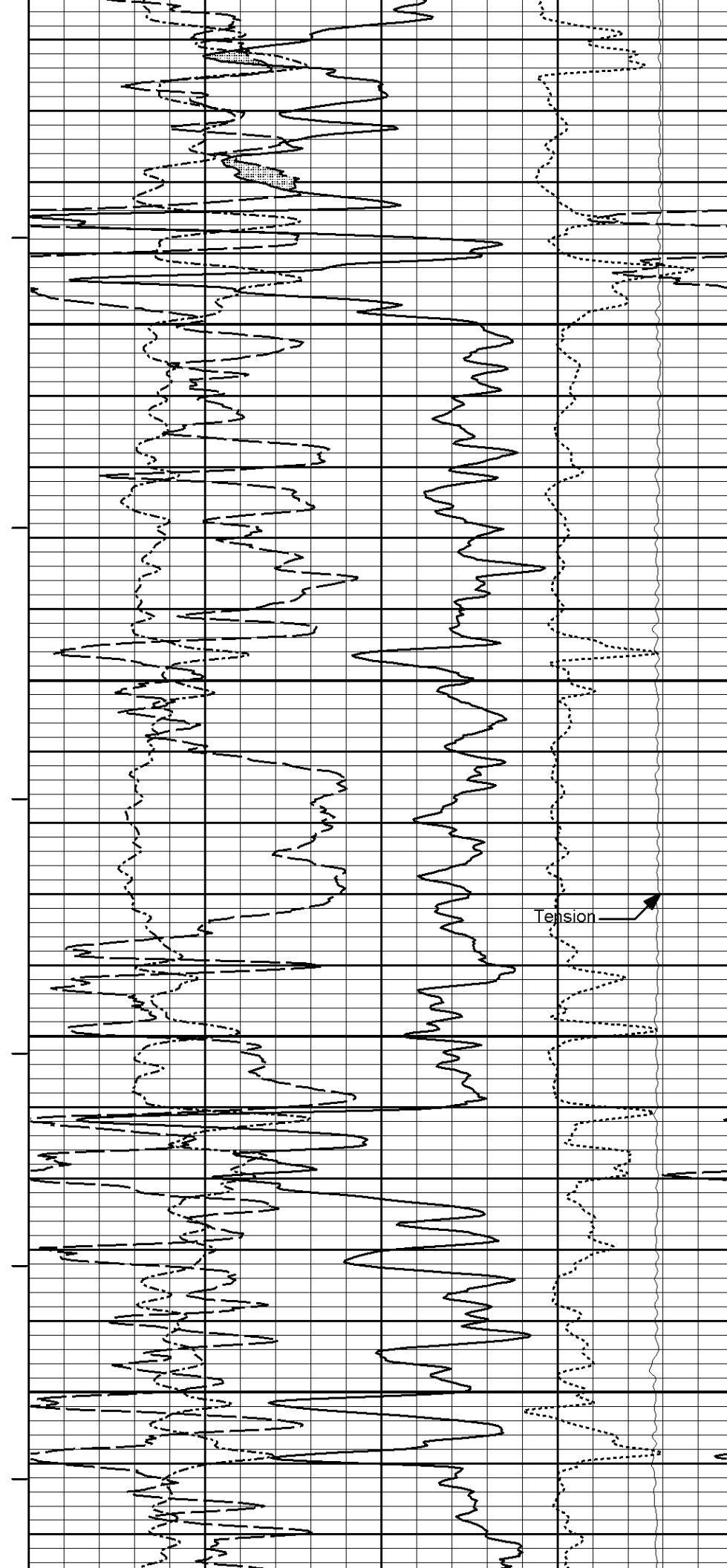
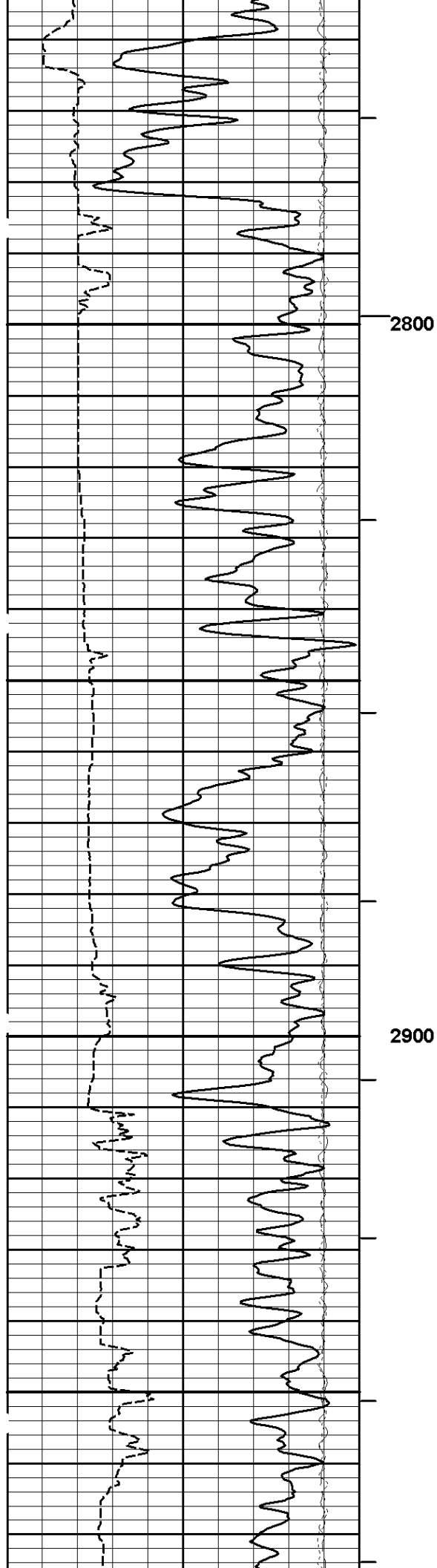
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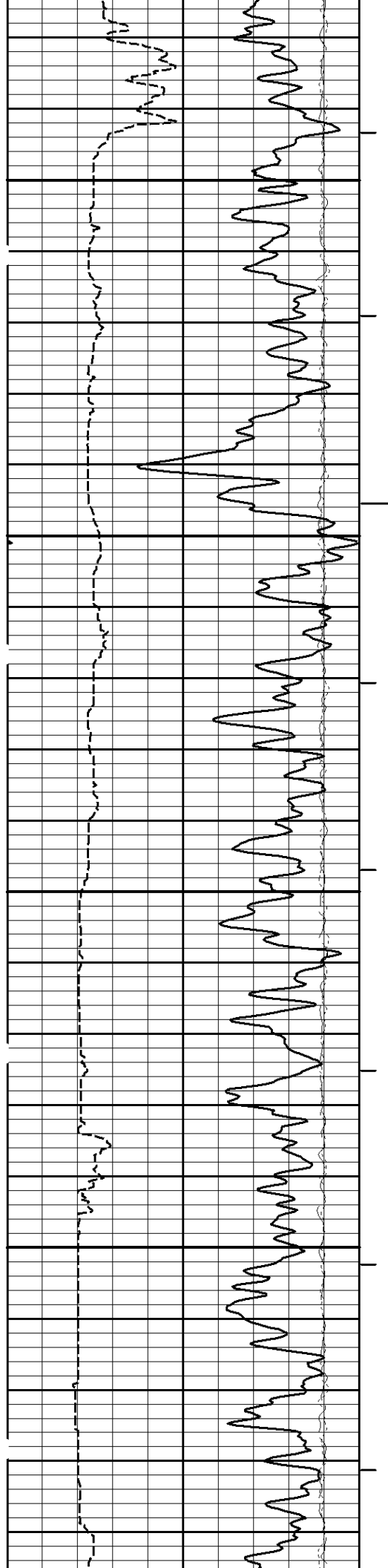


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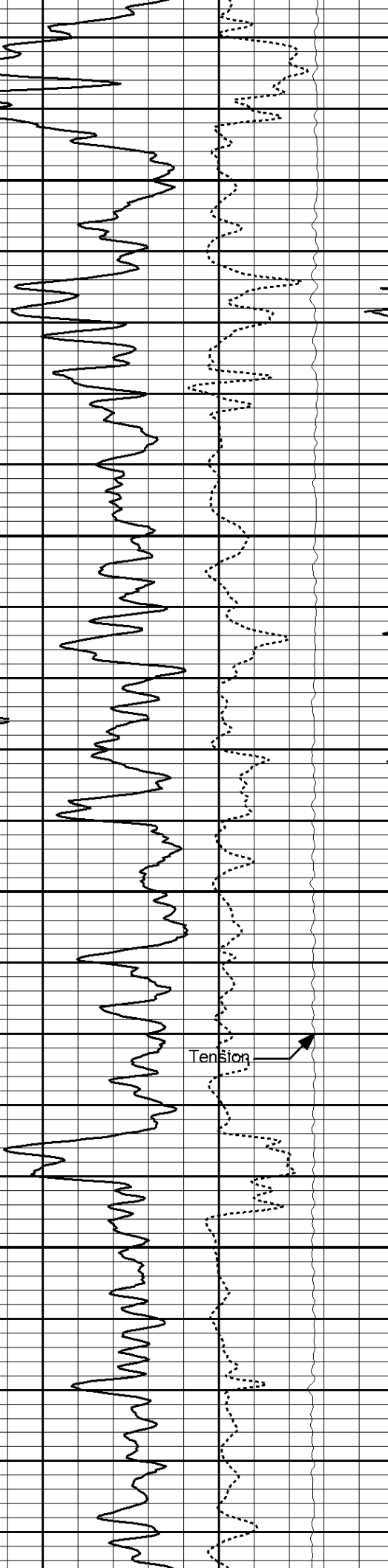
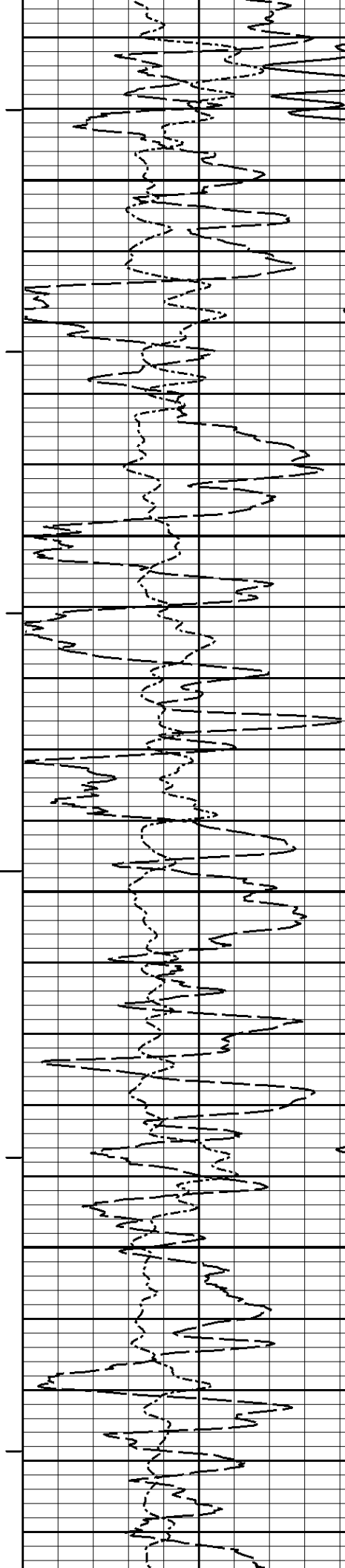




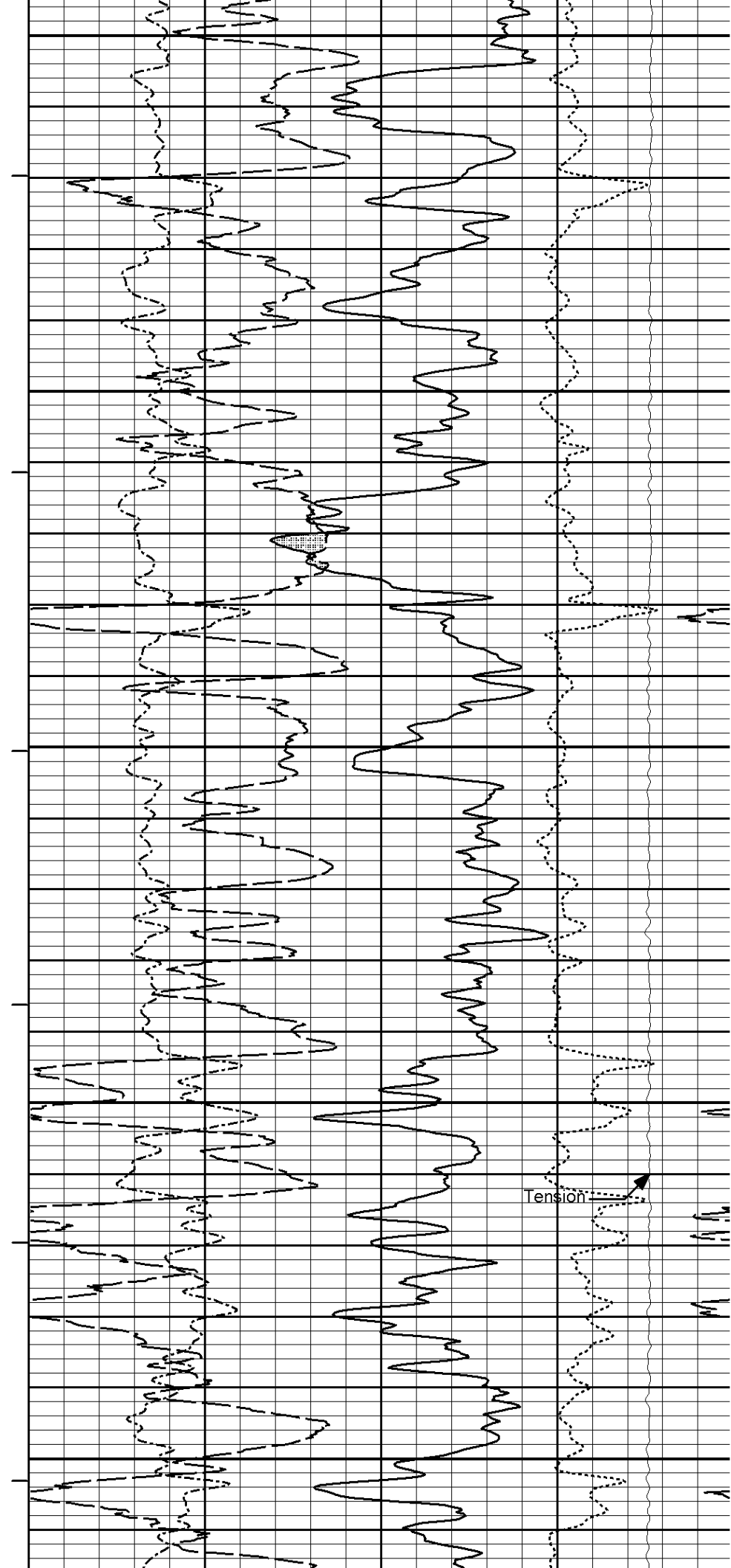
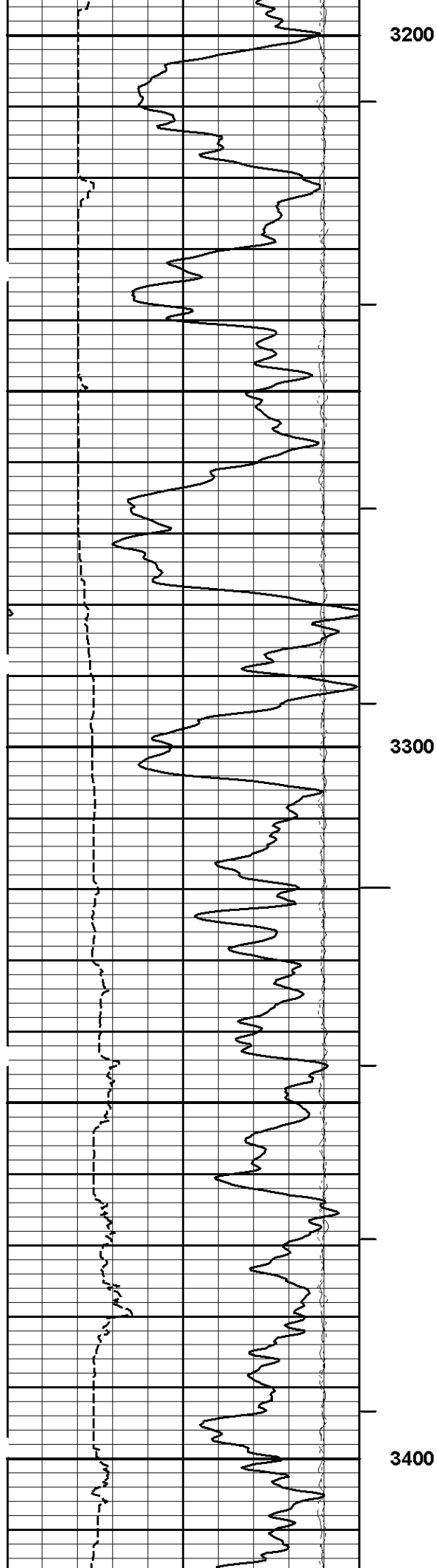


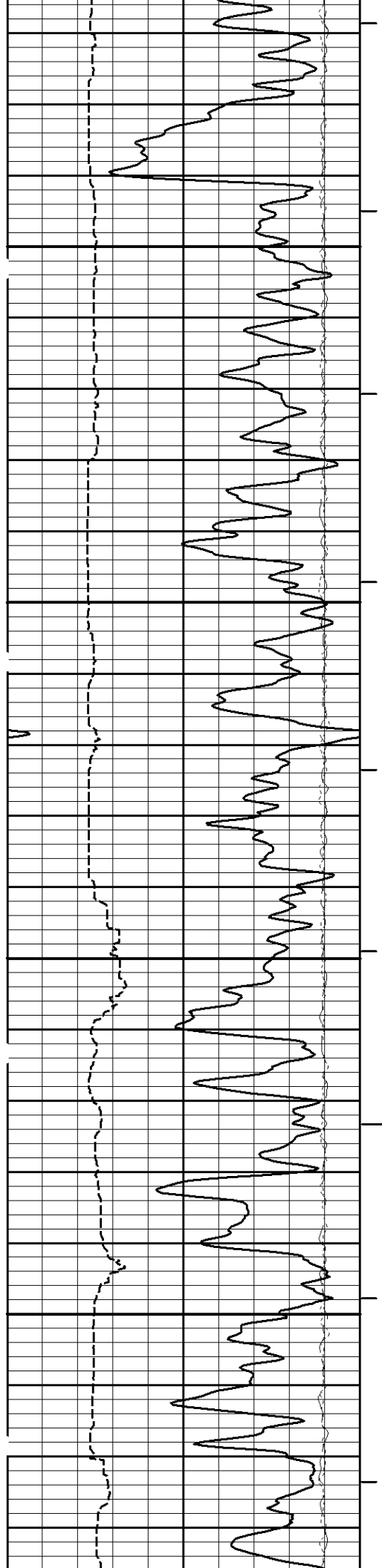
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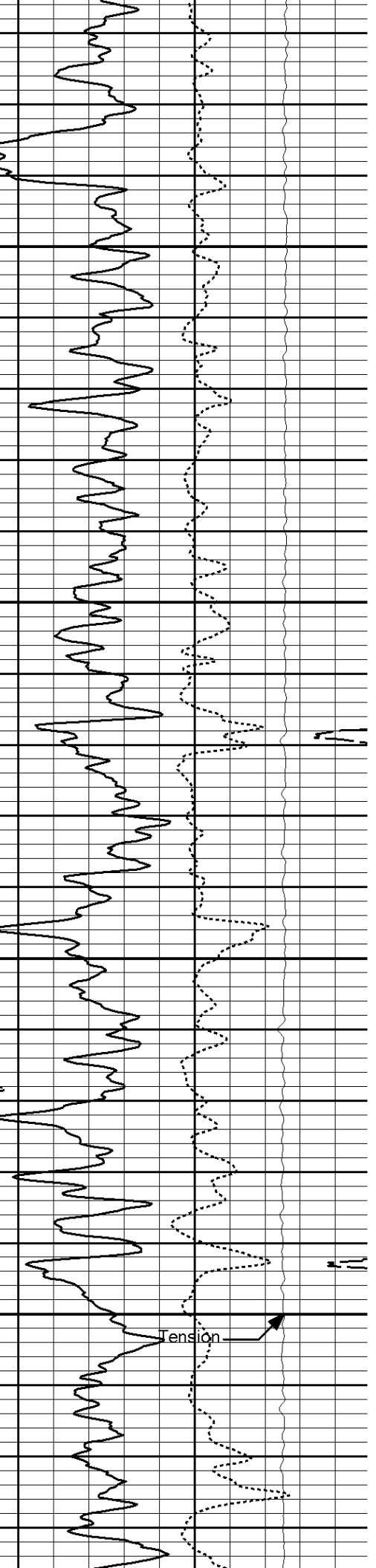
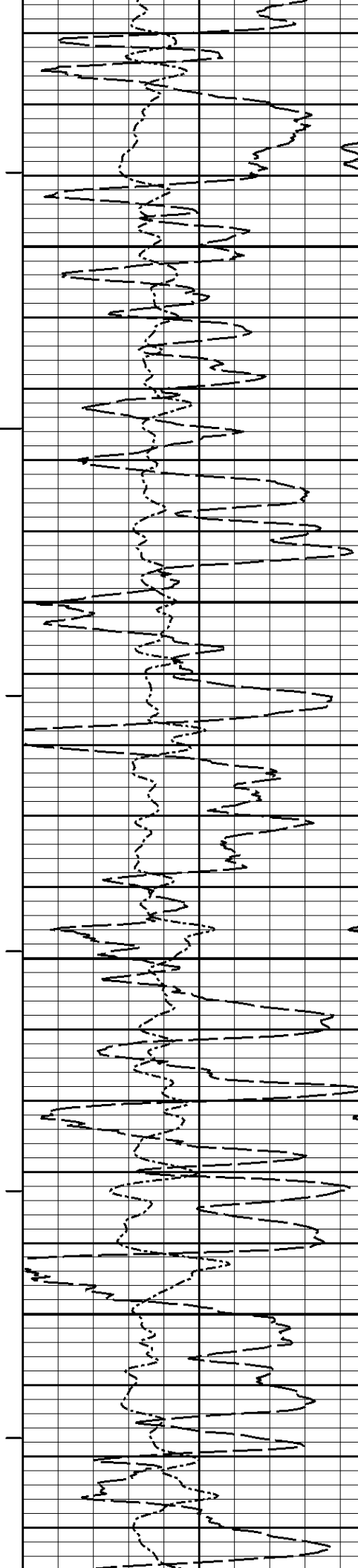
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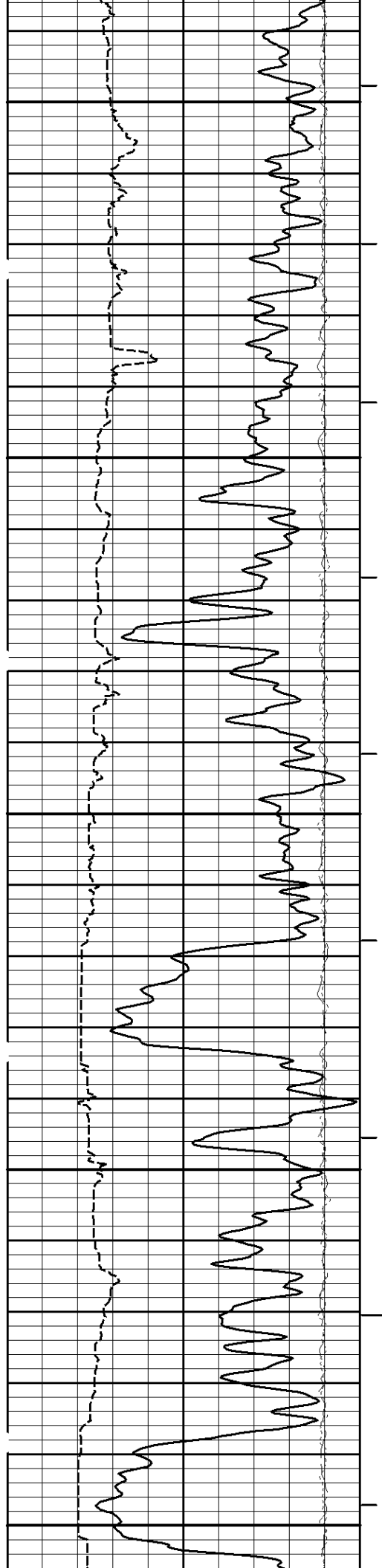


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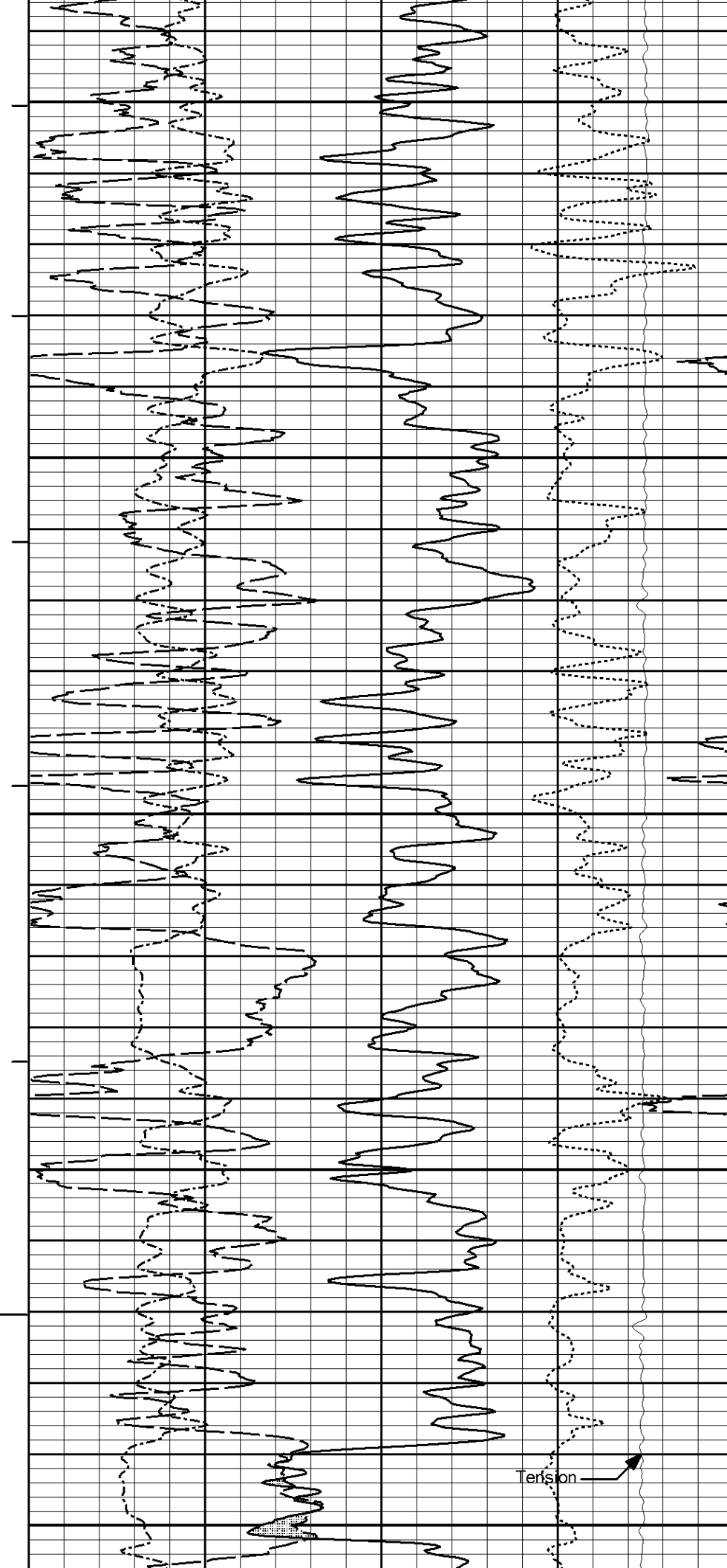


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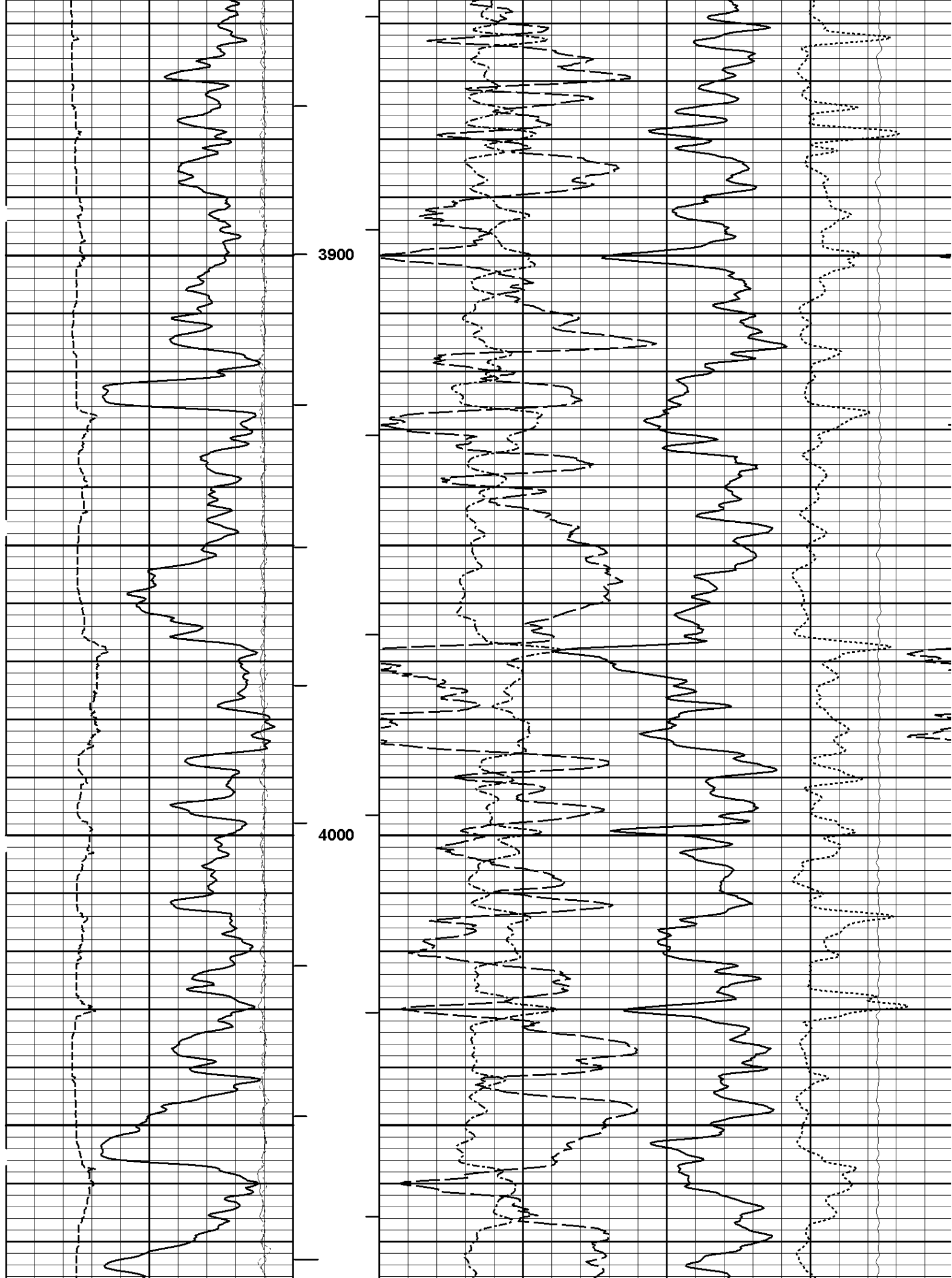


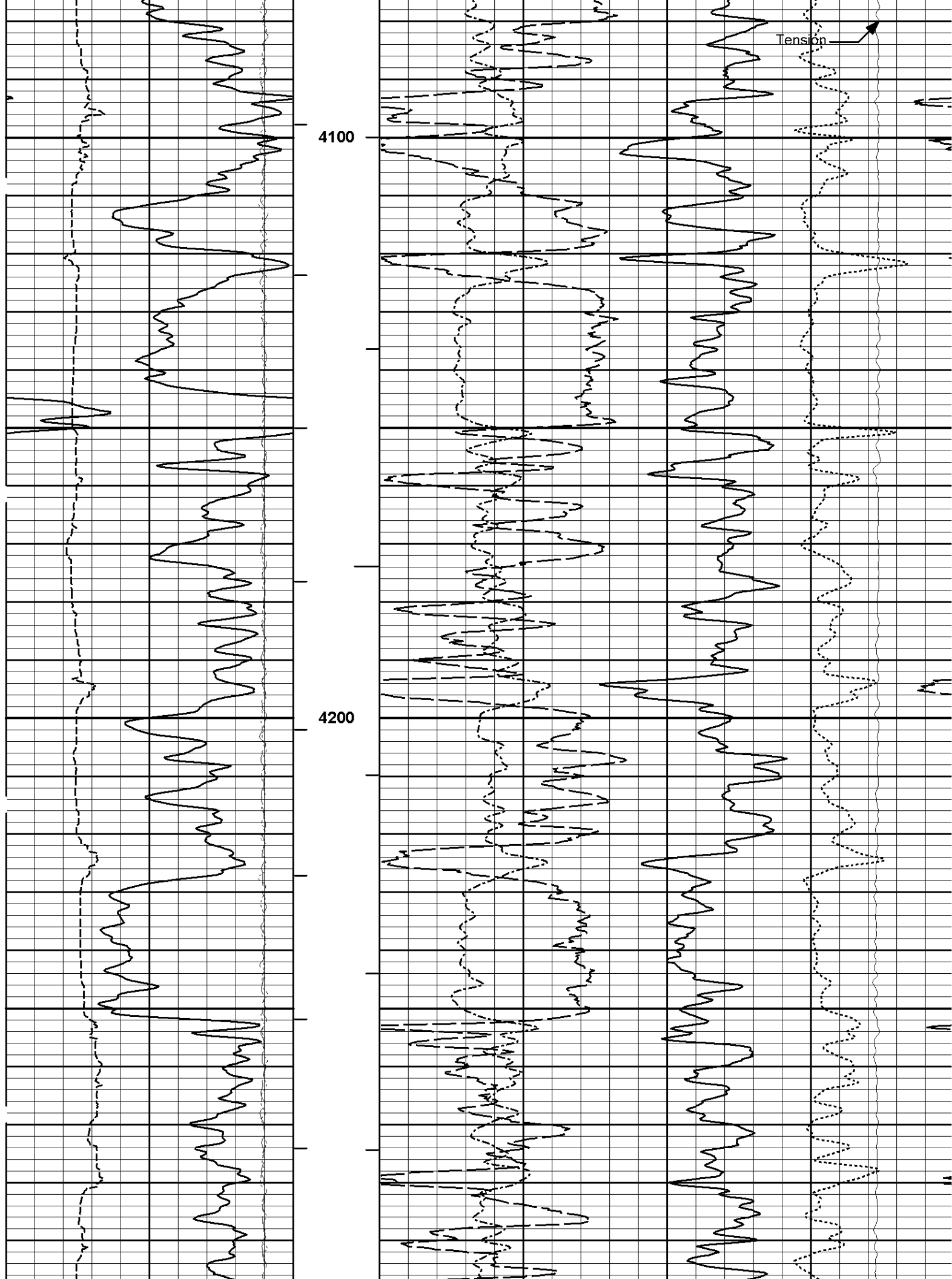
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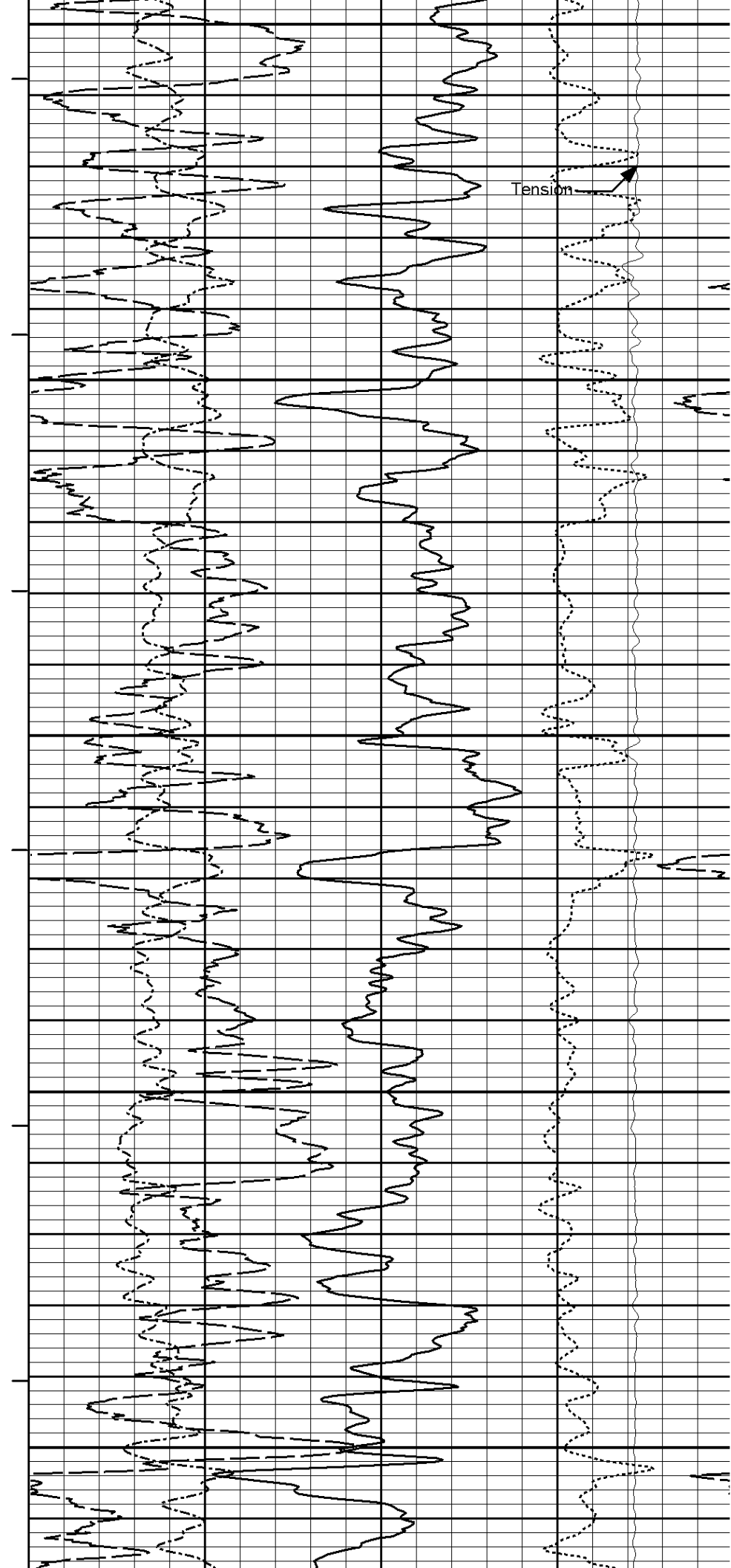
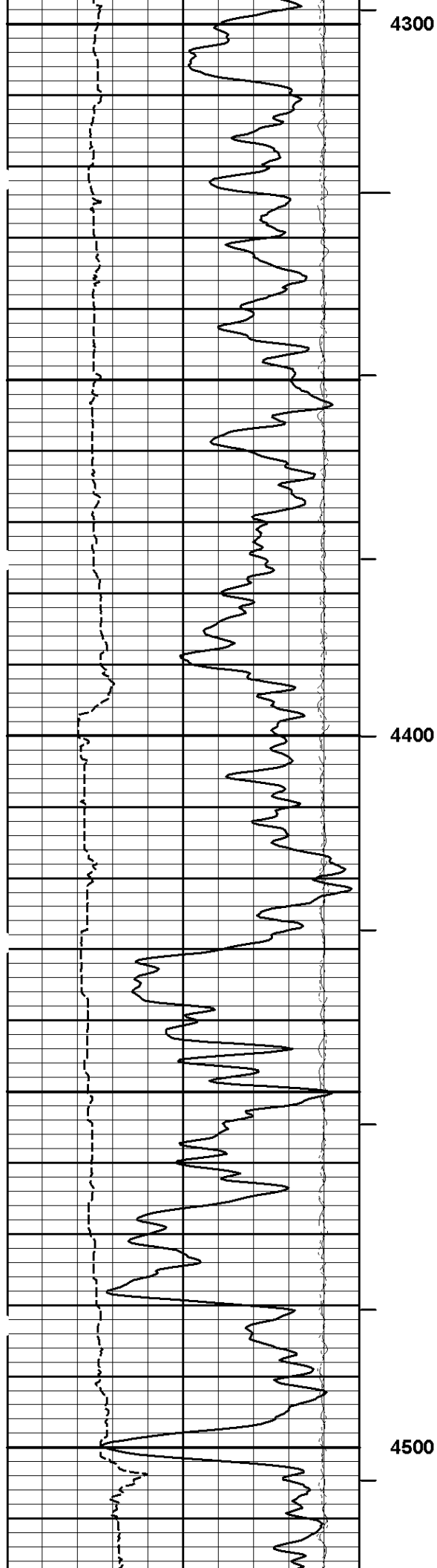
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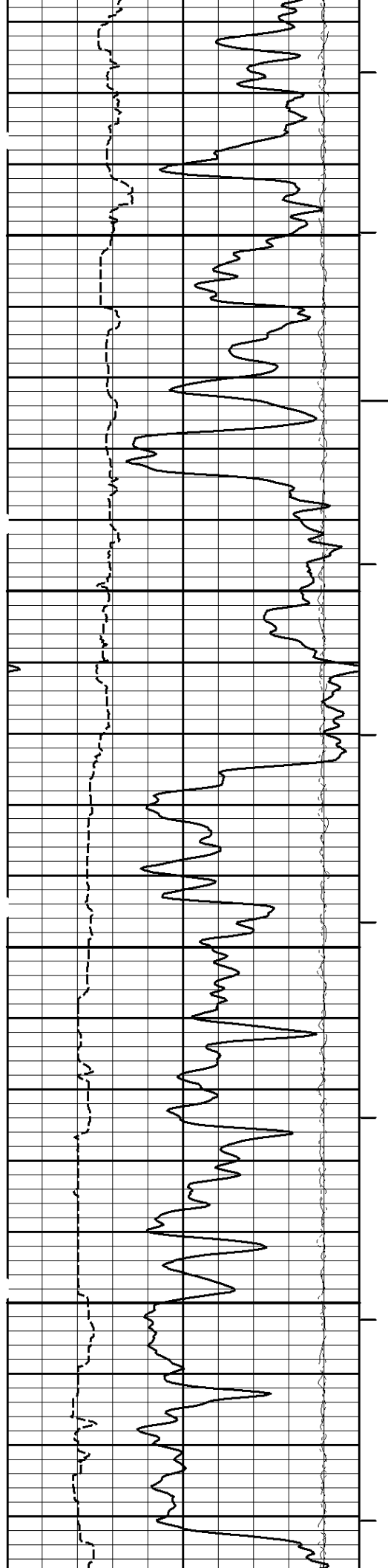


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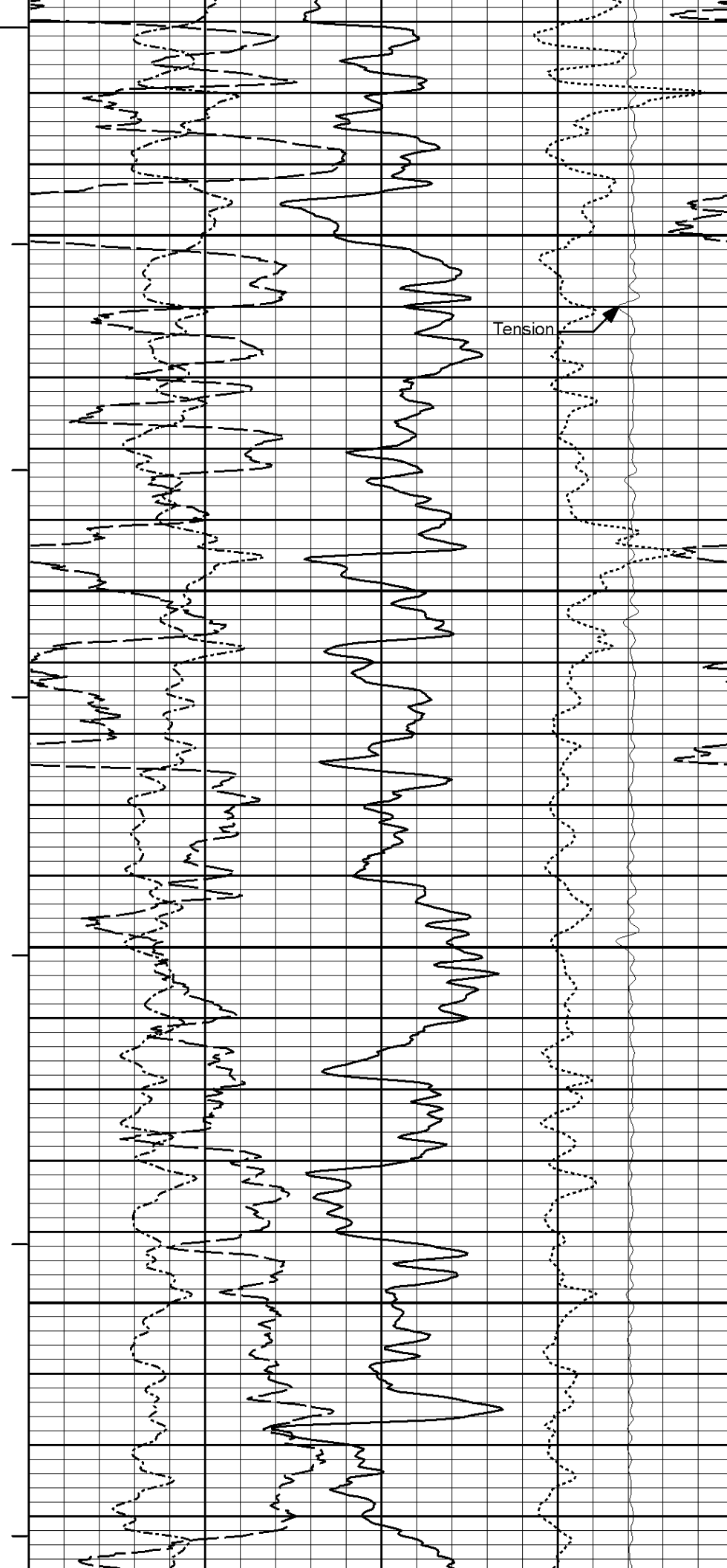


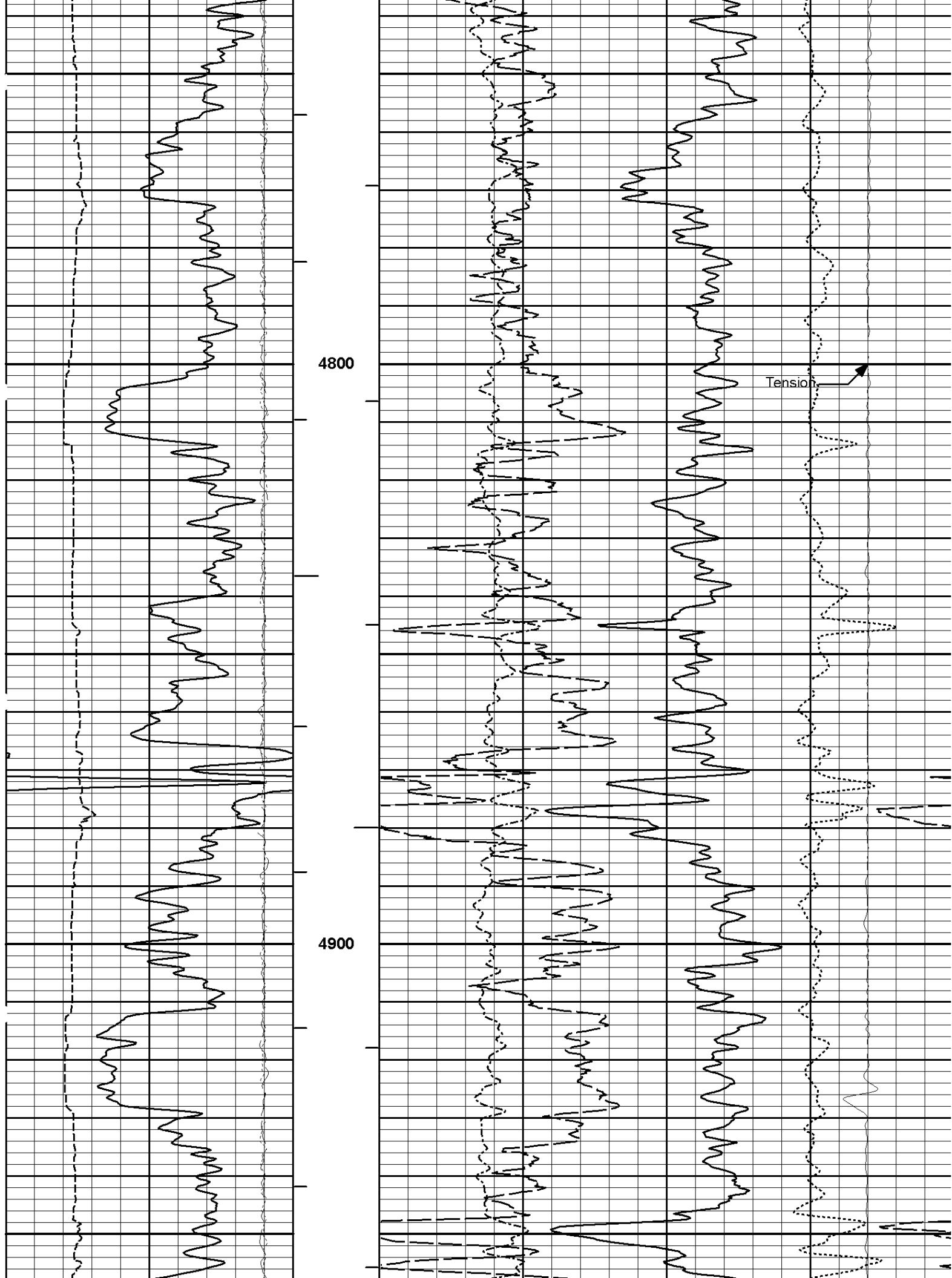


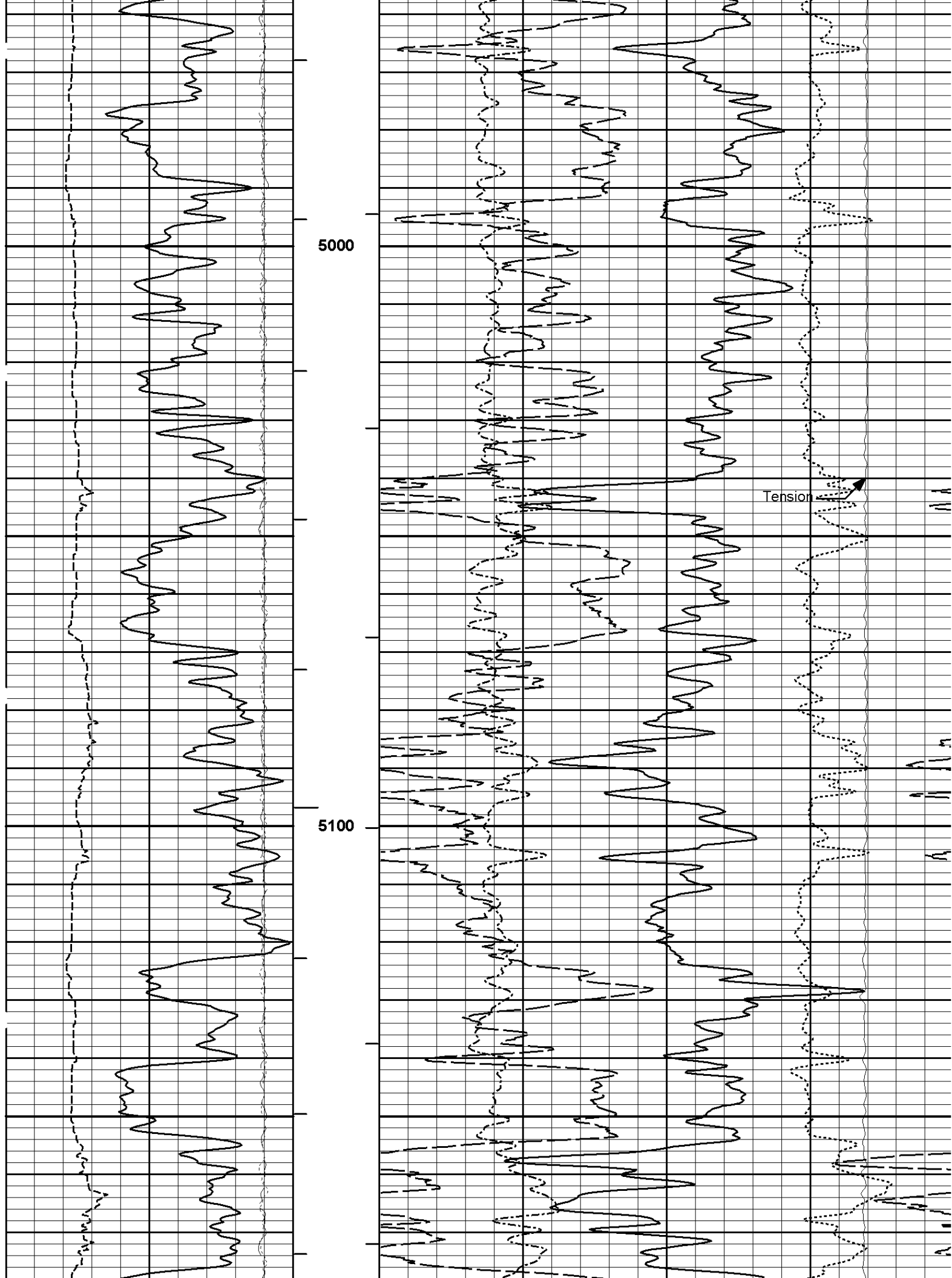


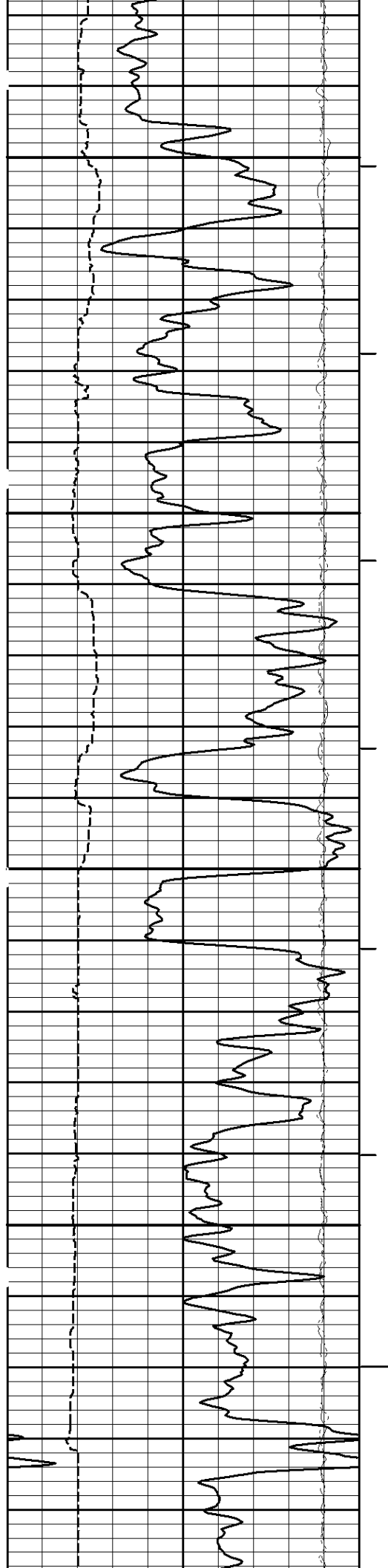
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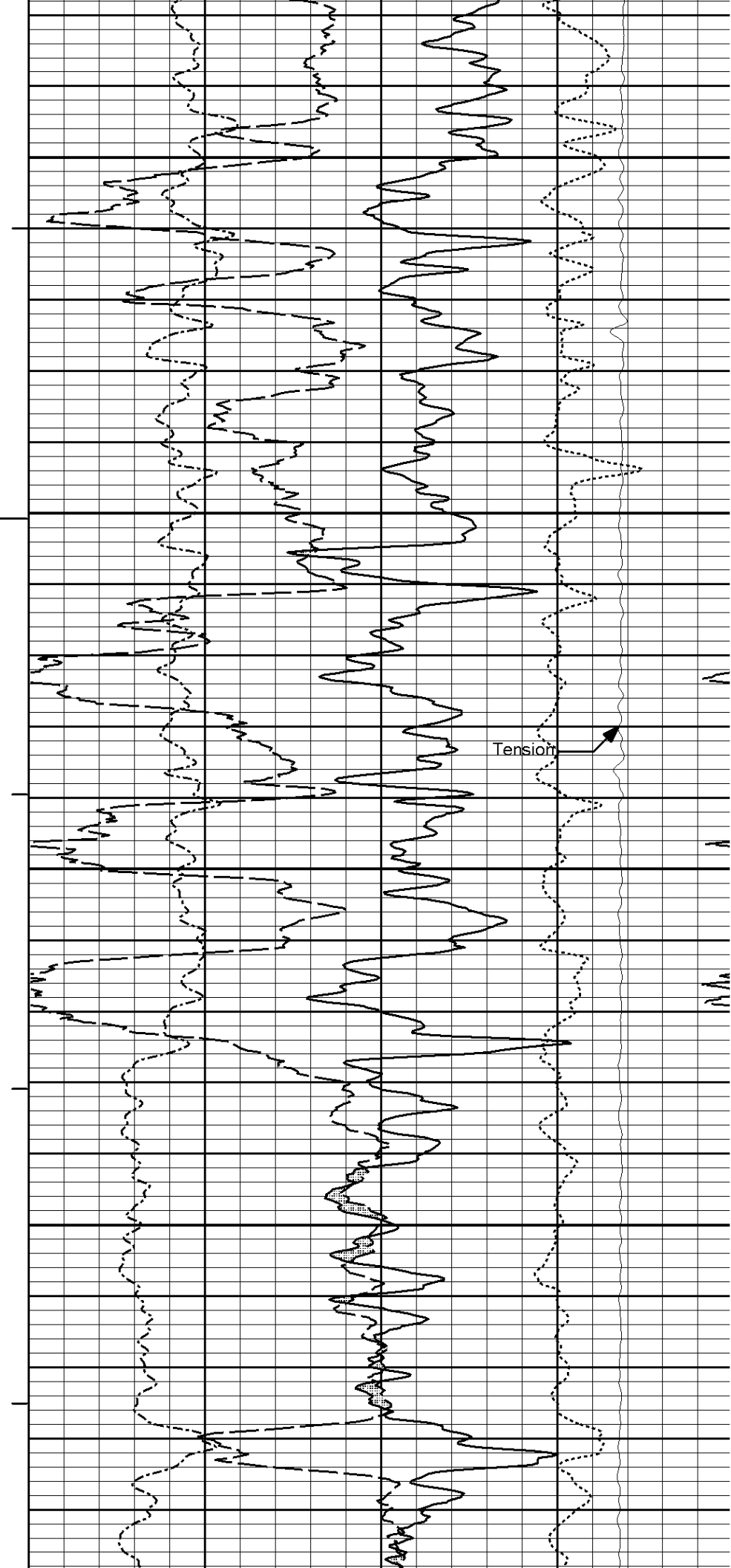


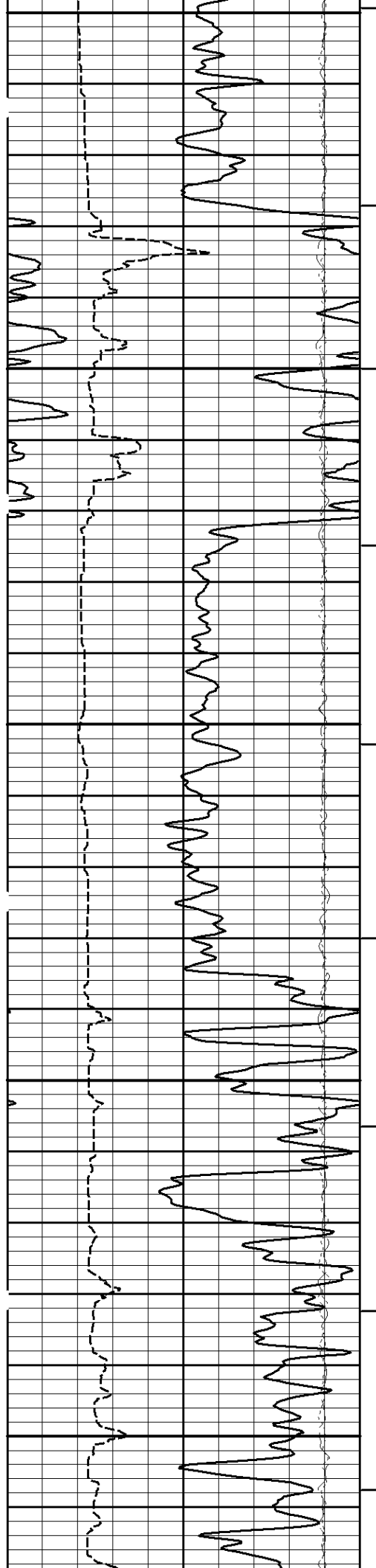




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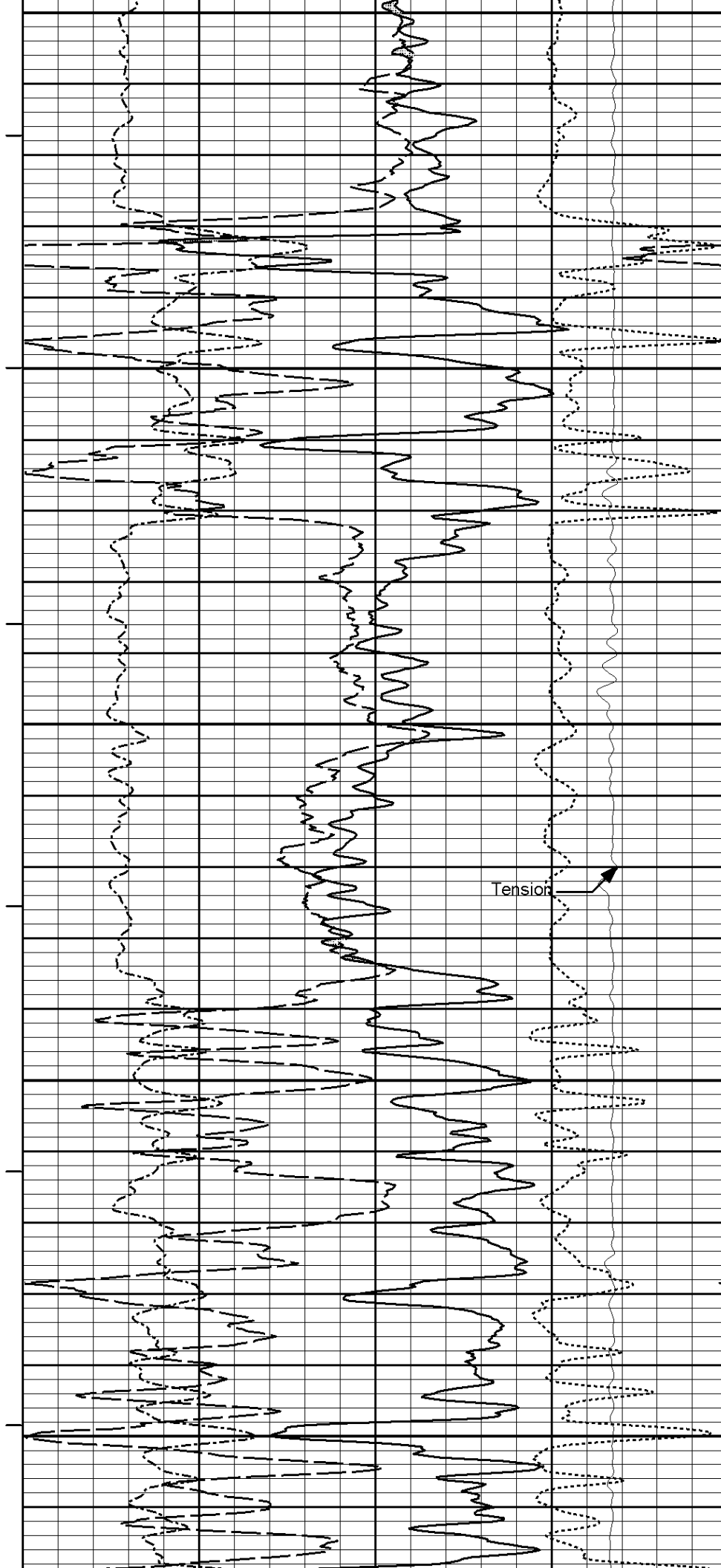




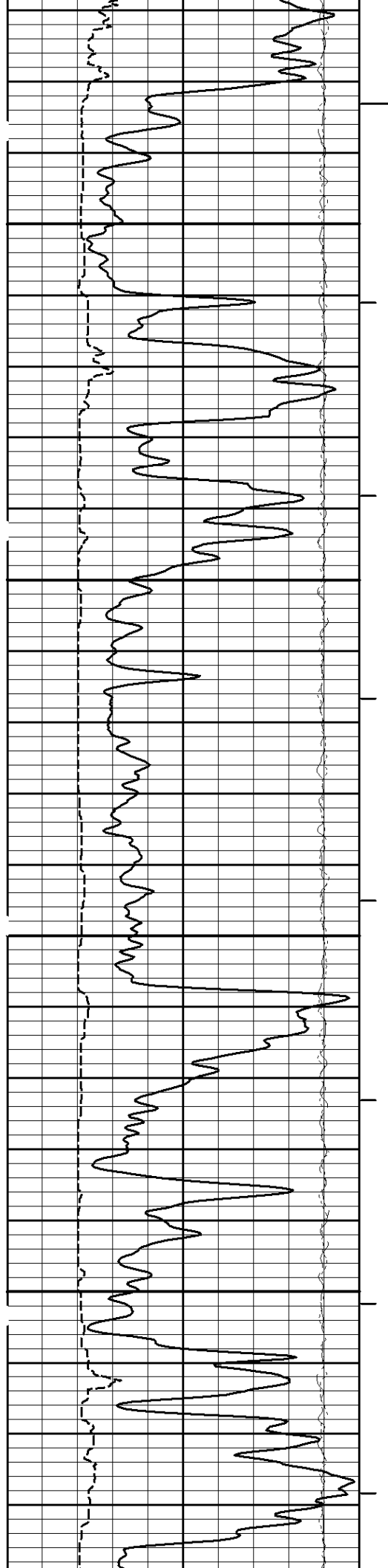
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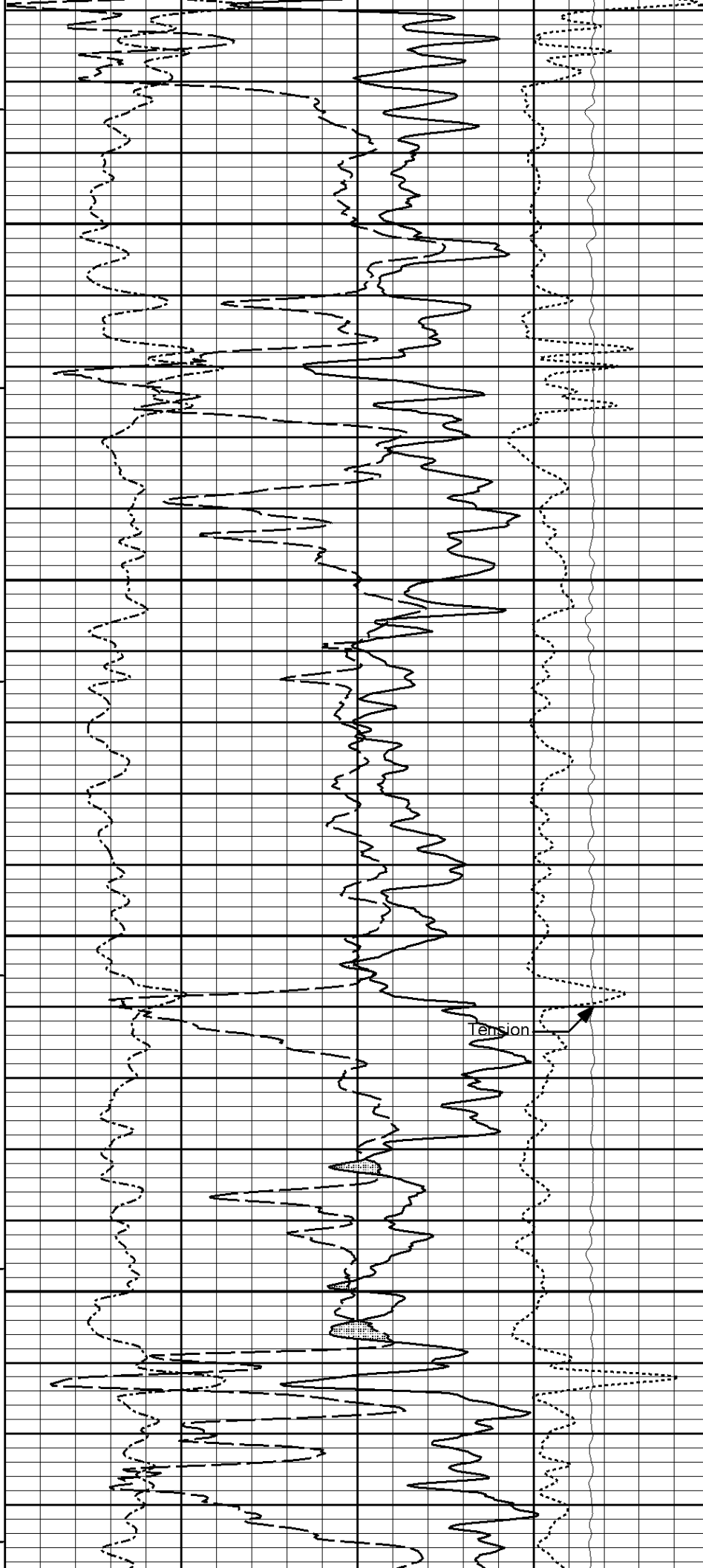


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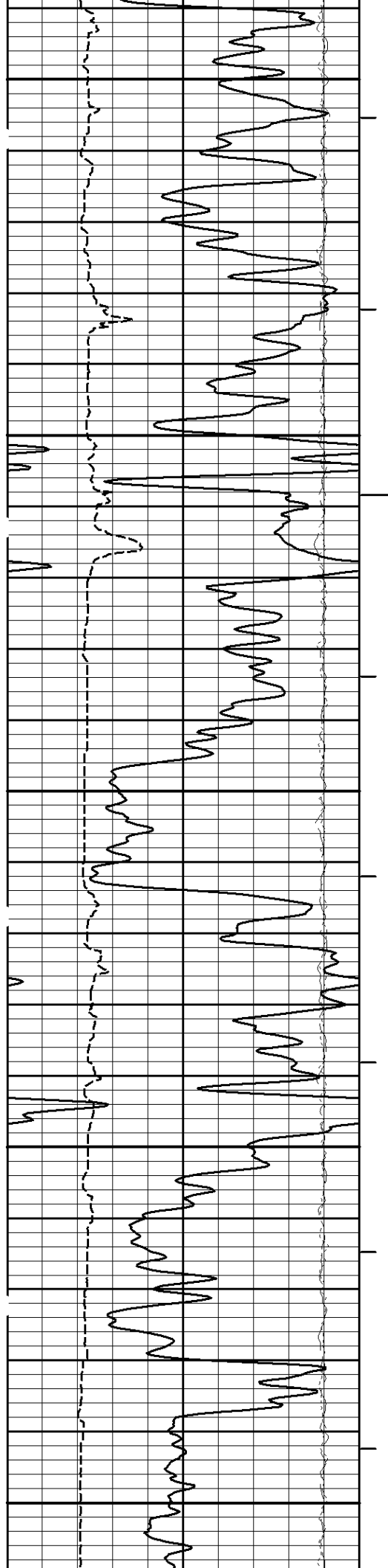


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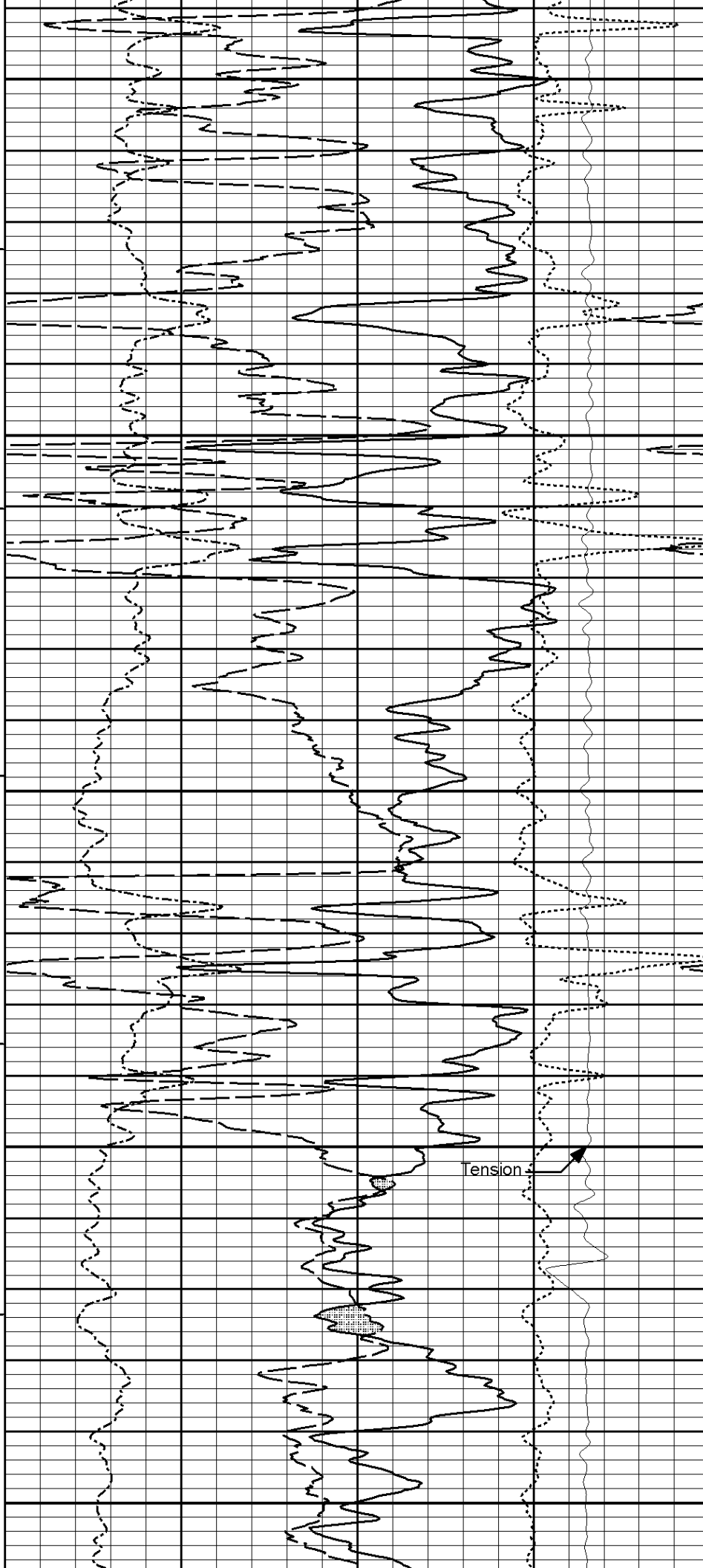


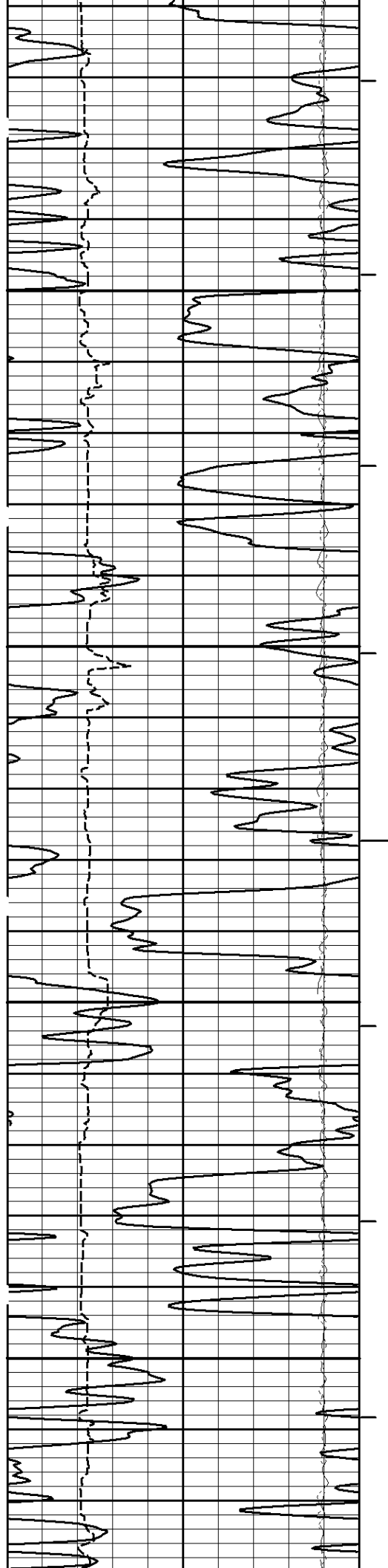
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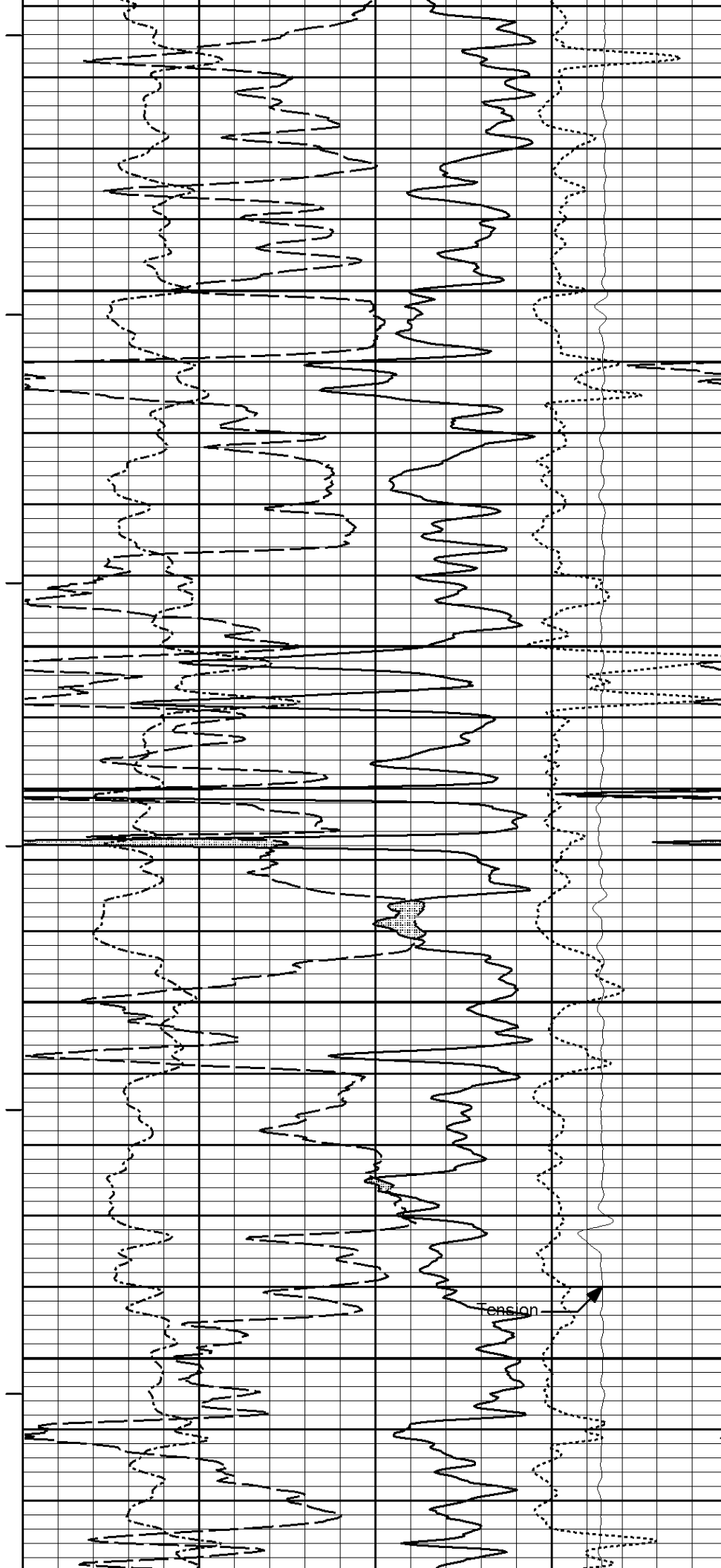
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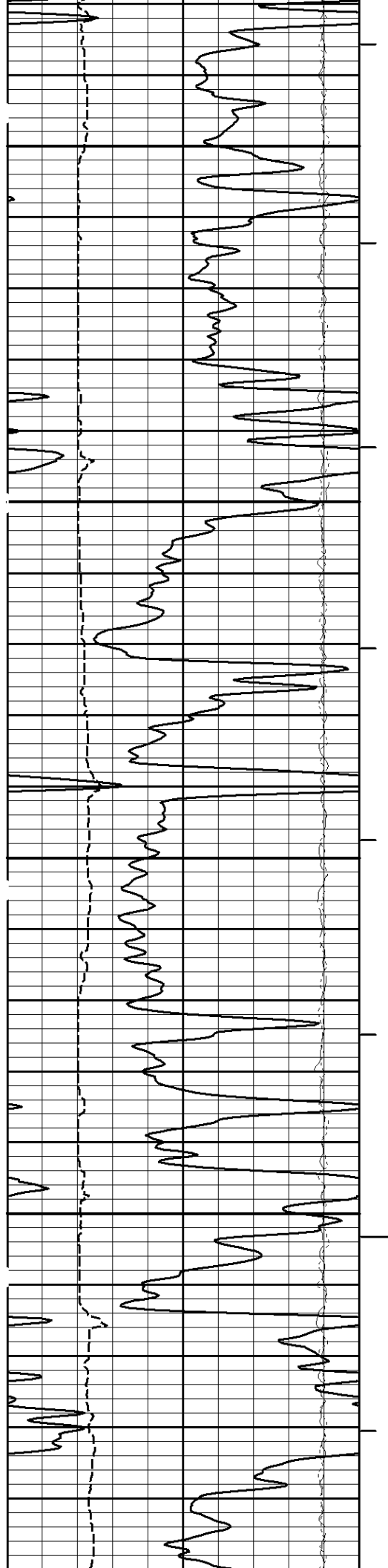


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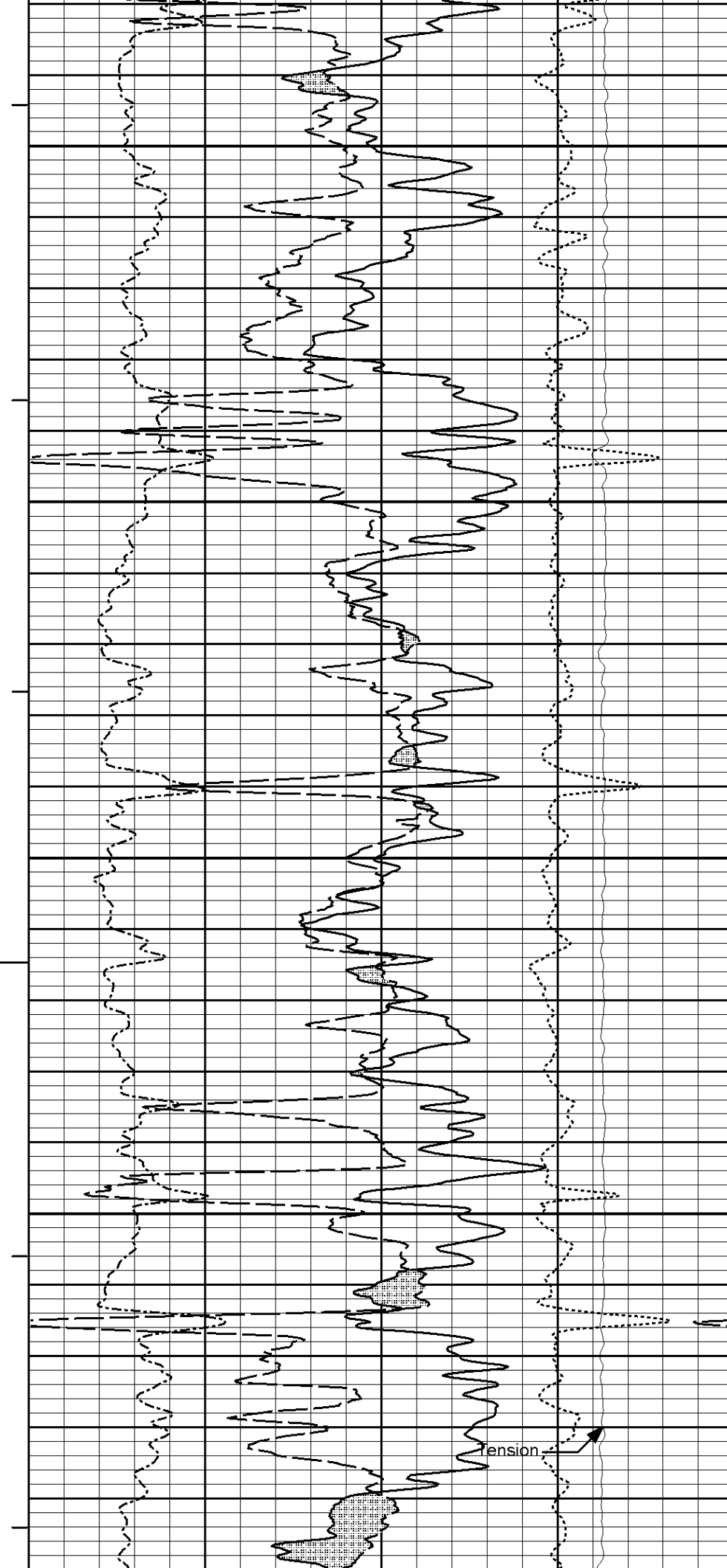
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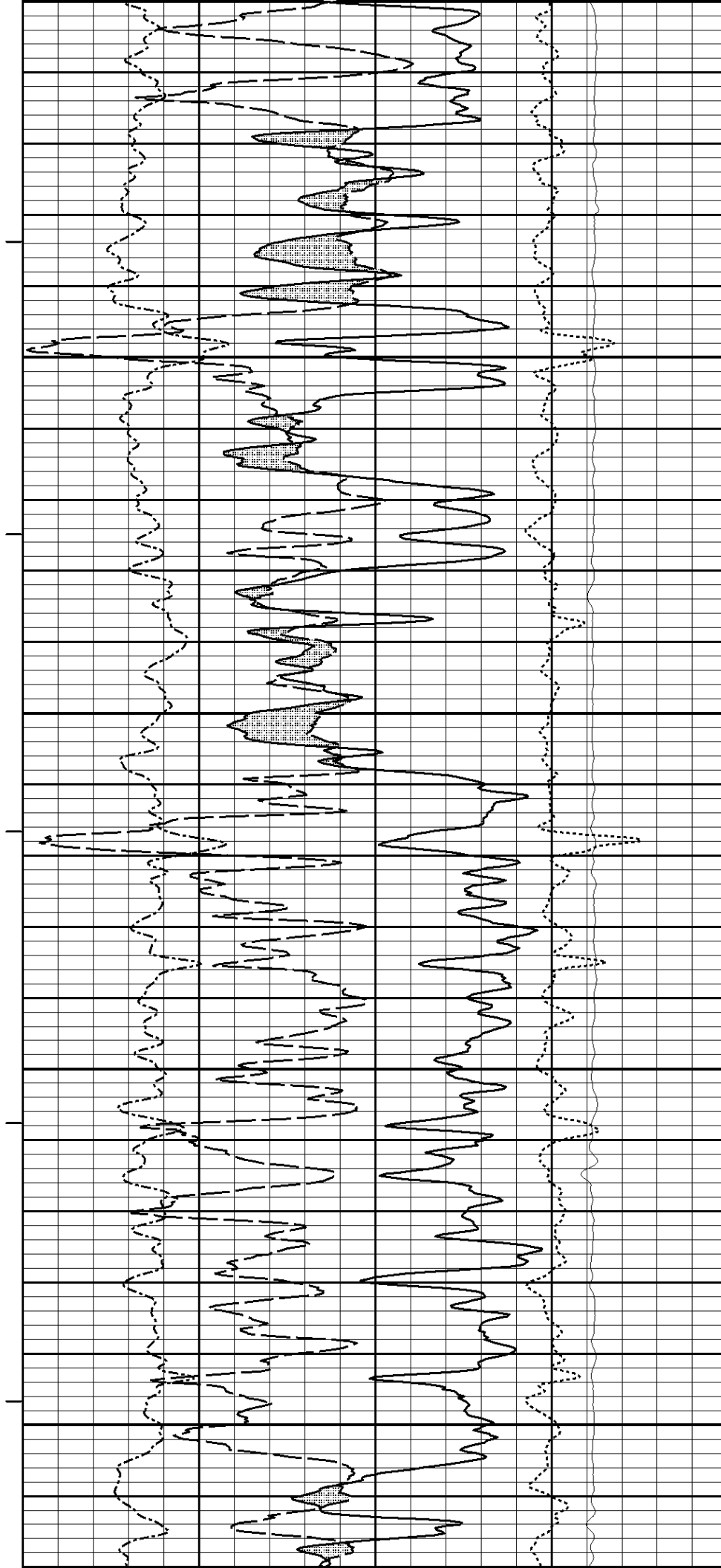
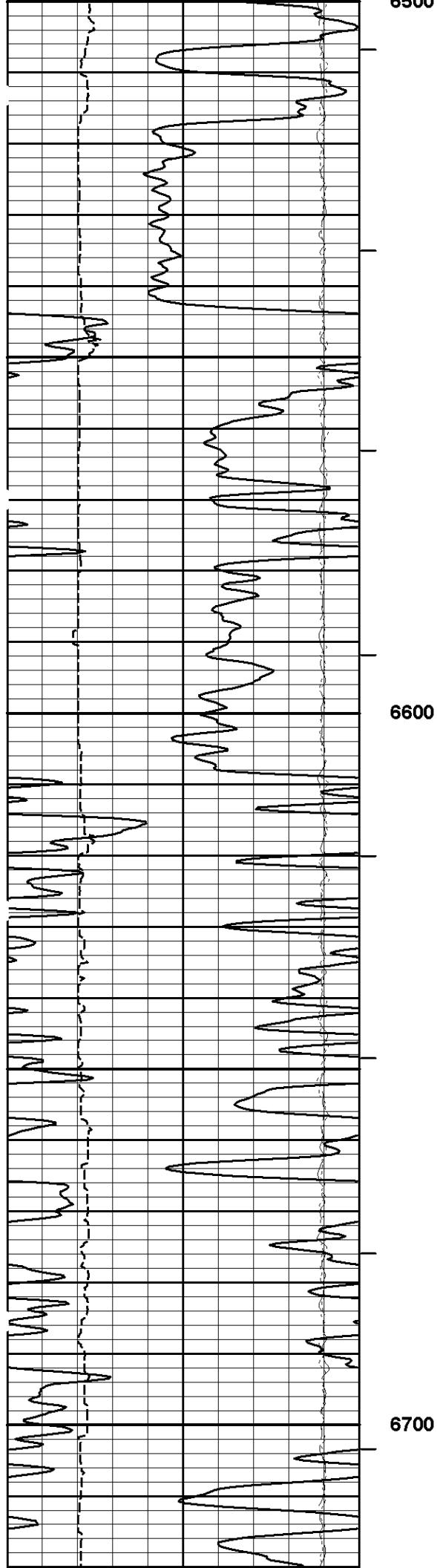
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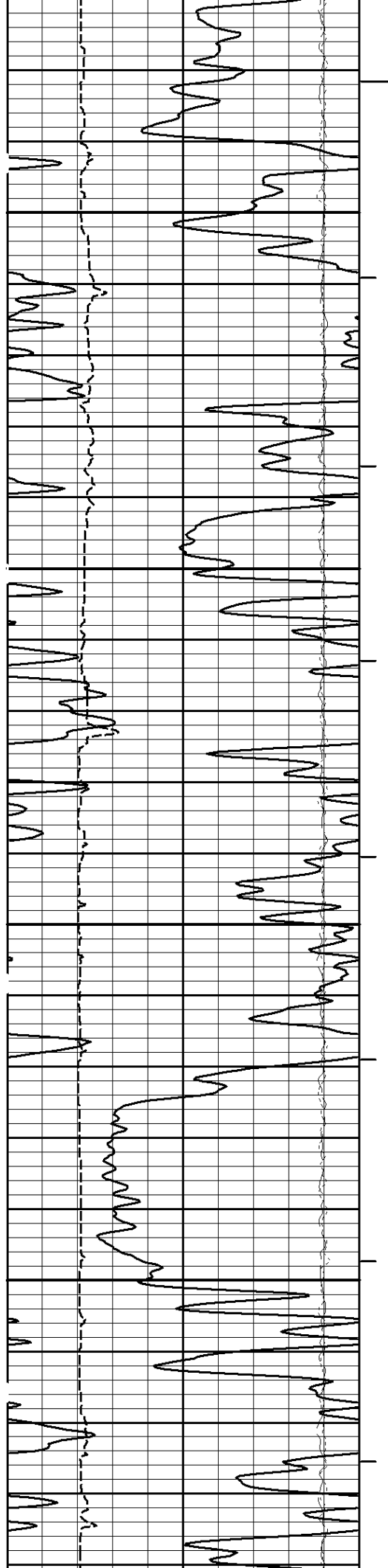
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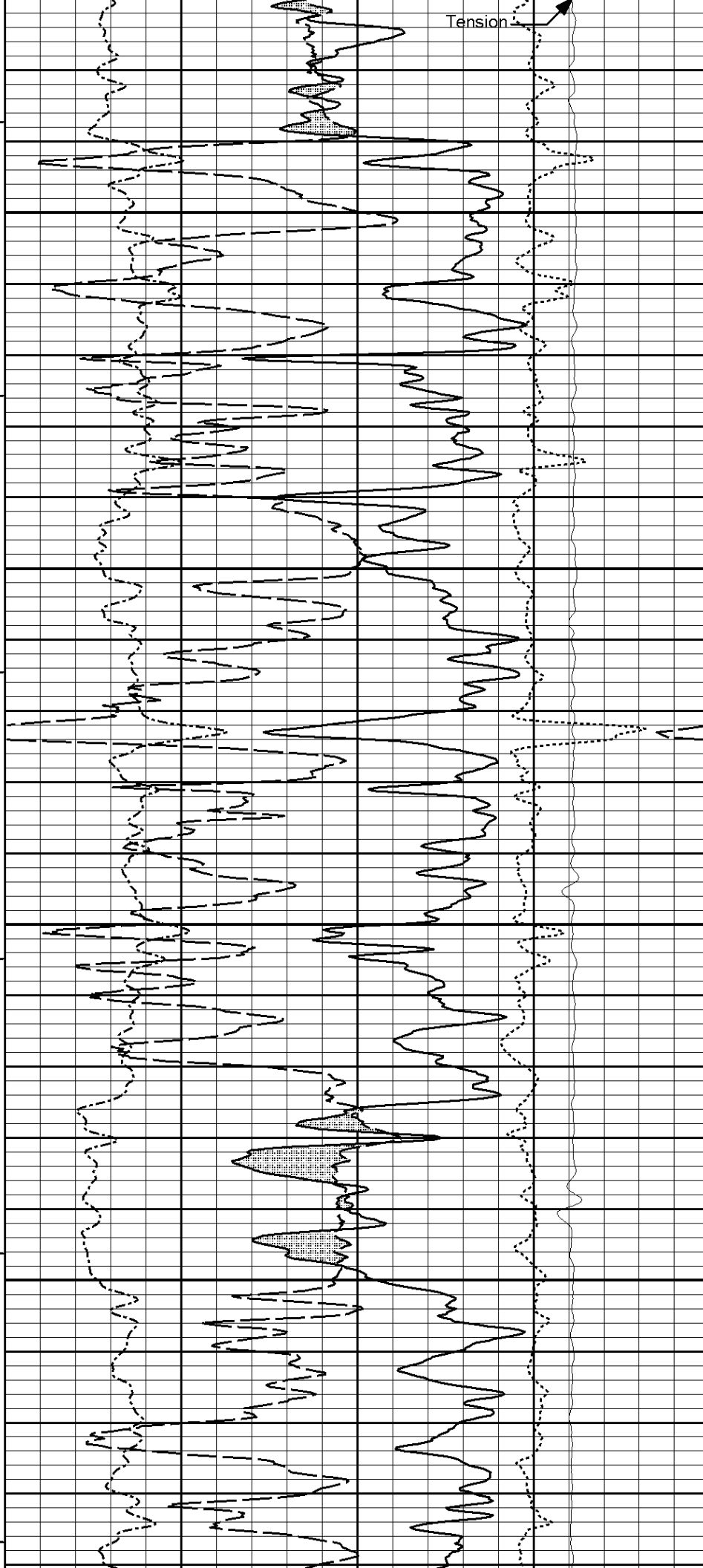
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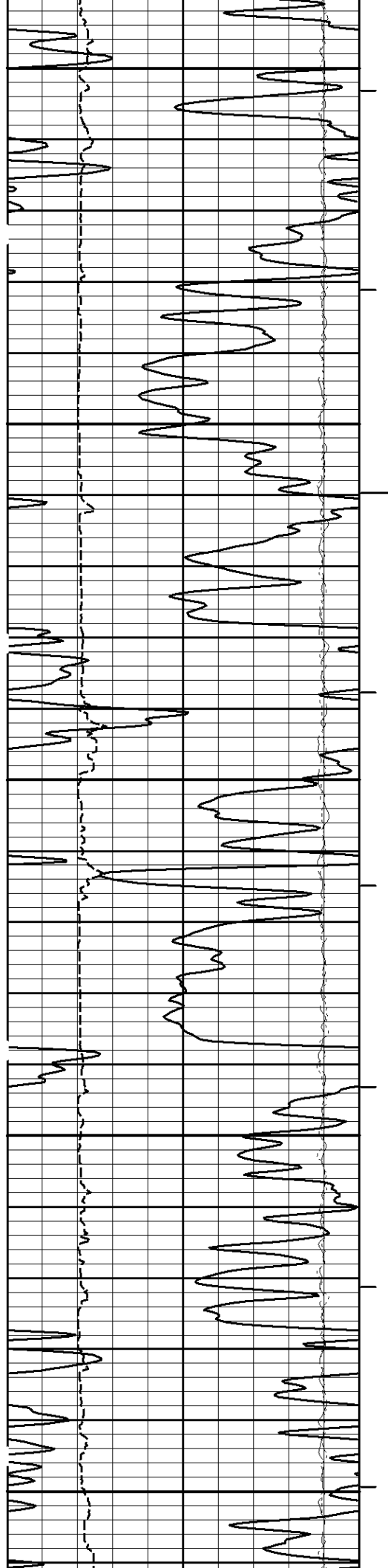


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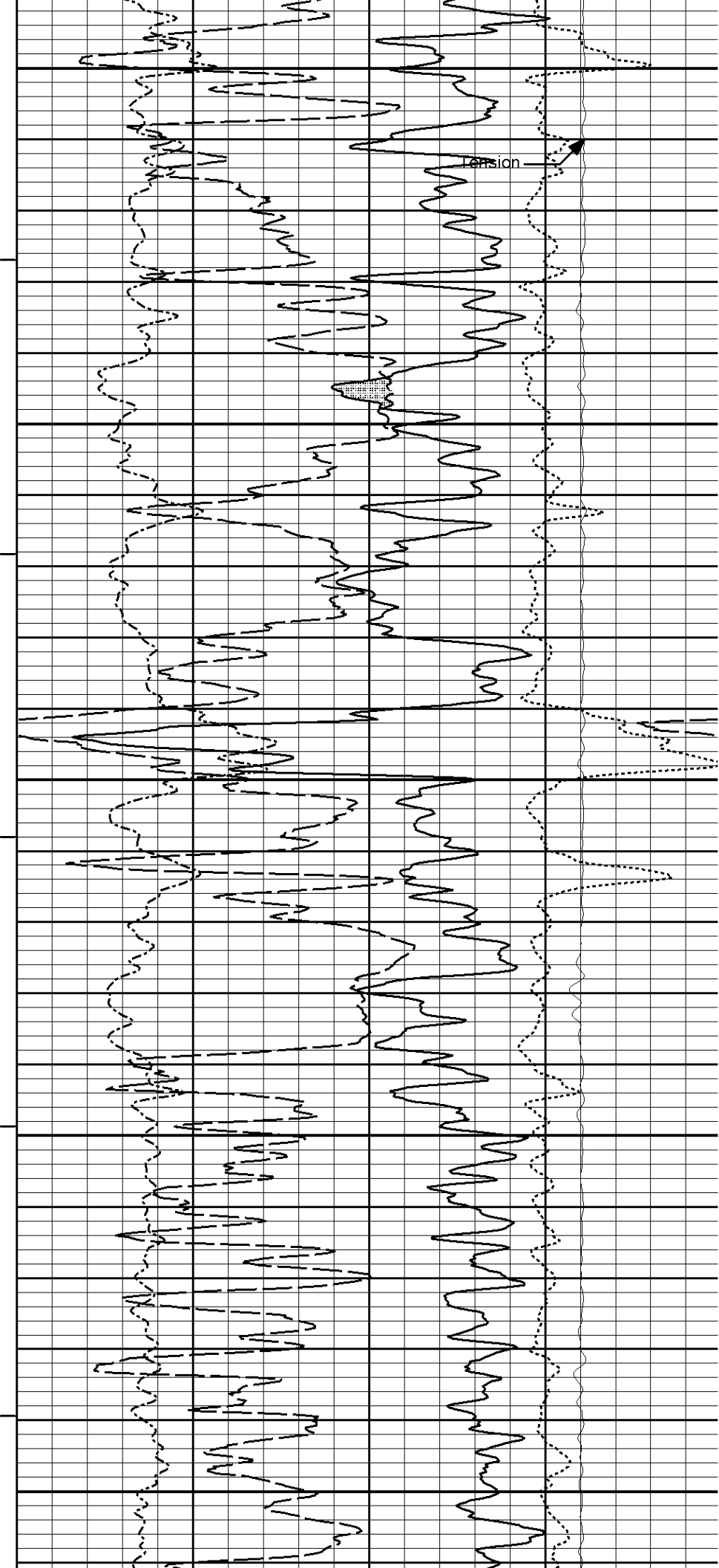


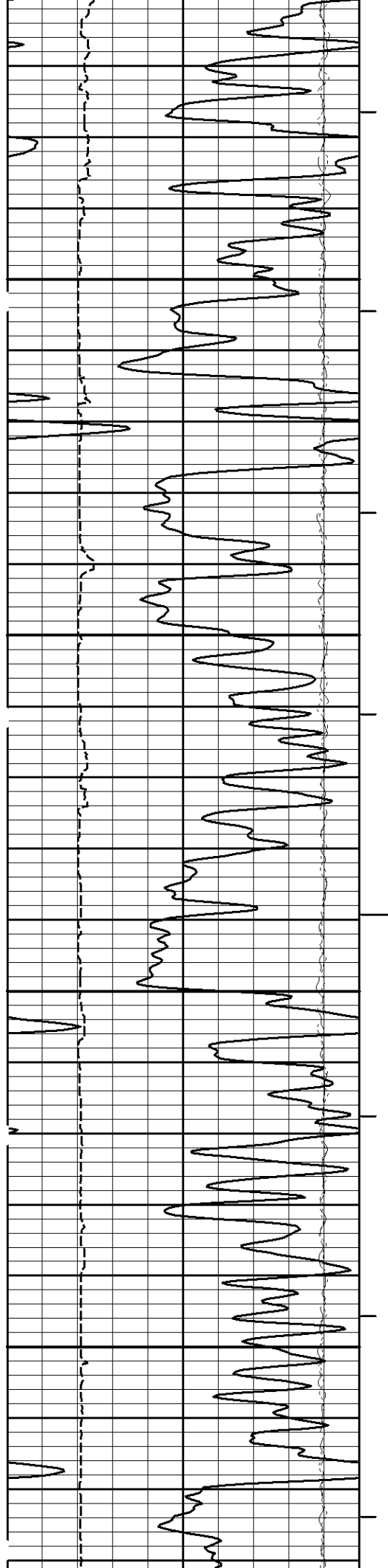
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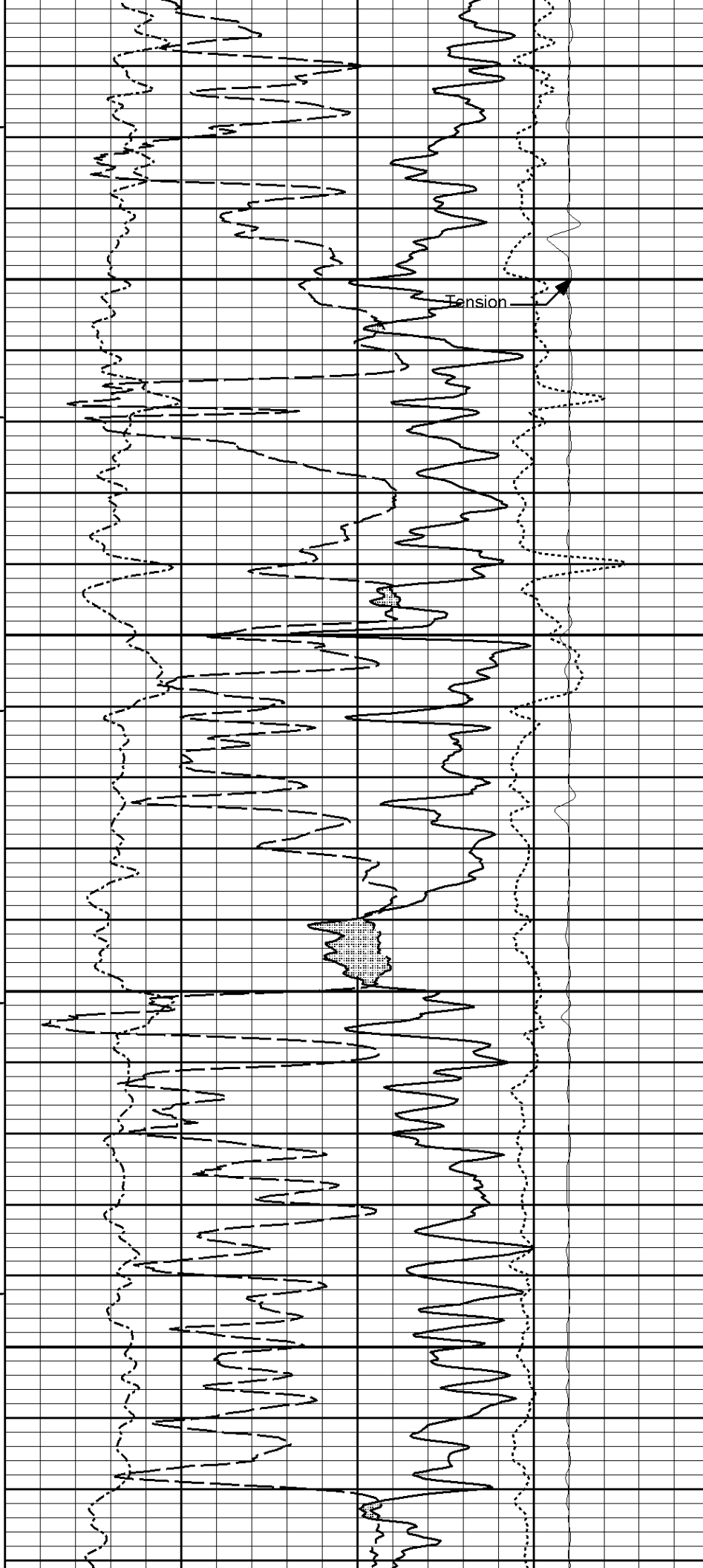
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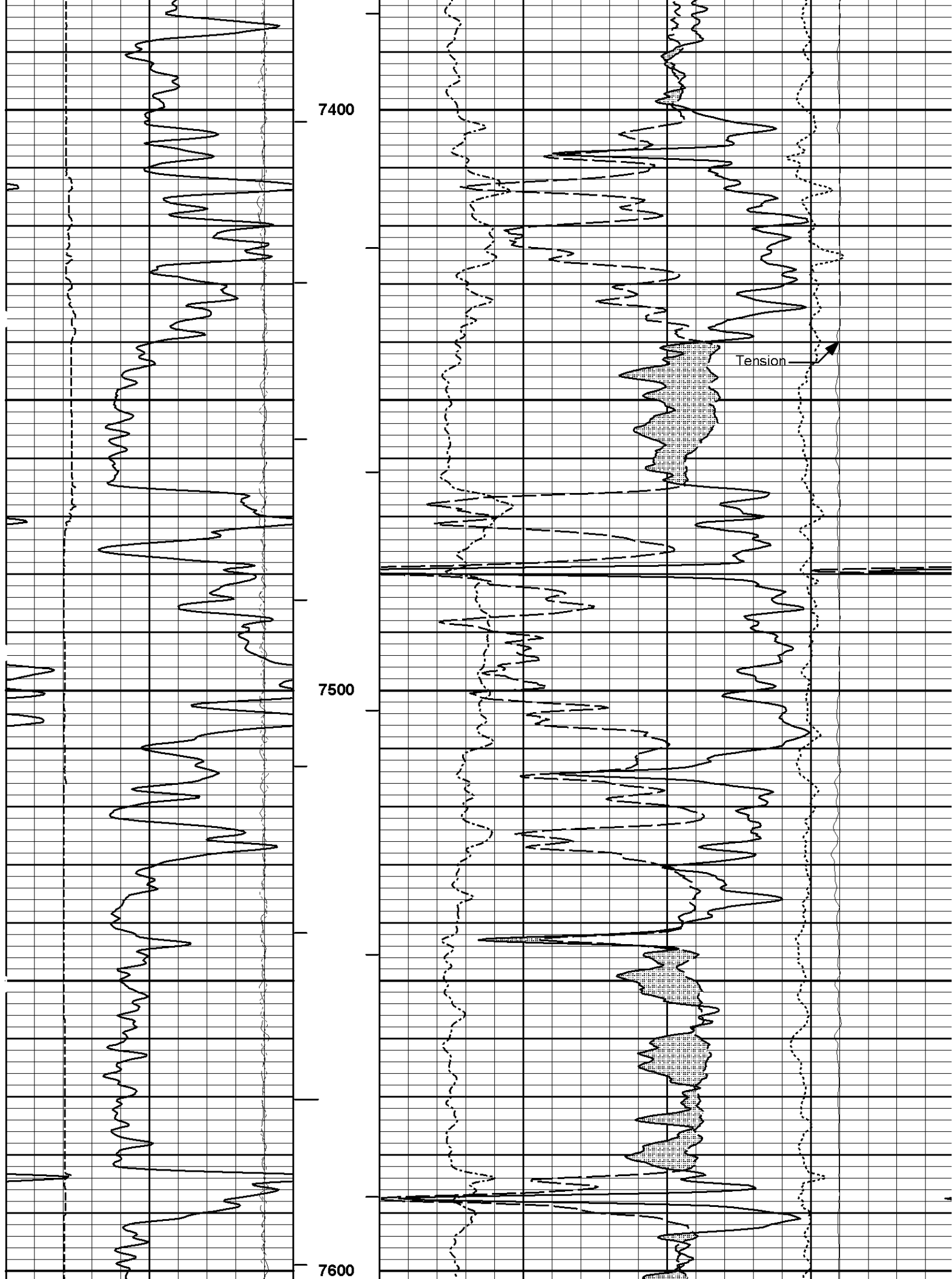


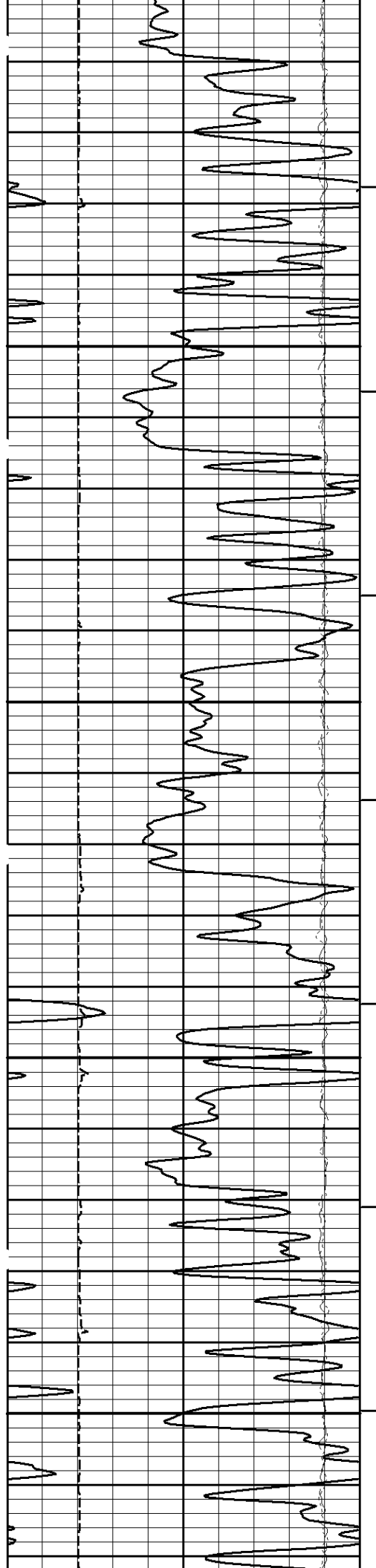
7200

7300



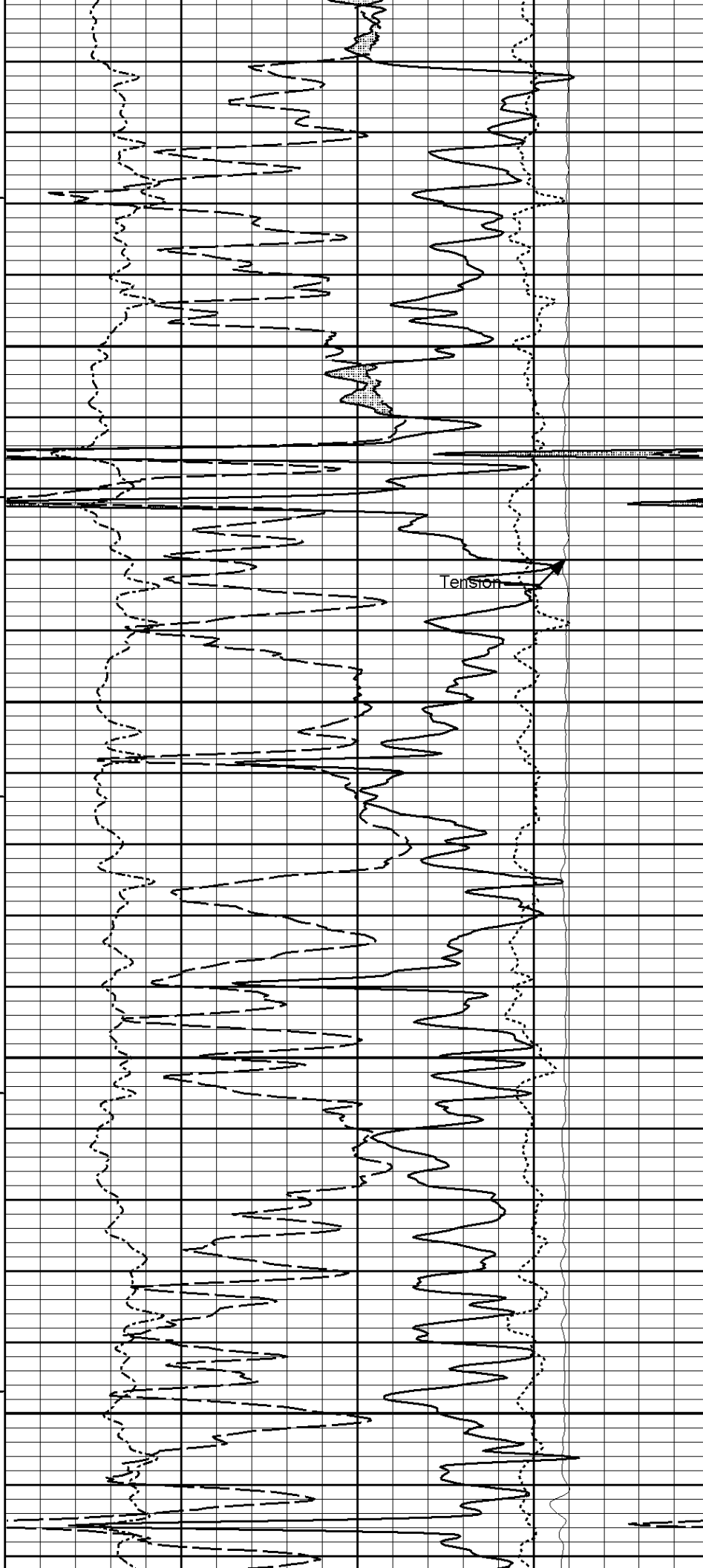
Tension

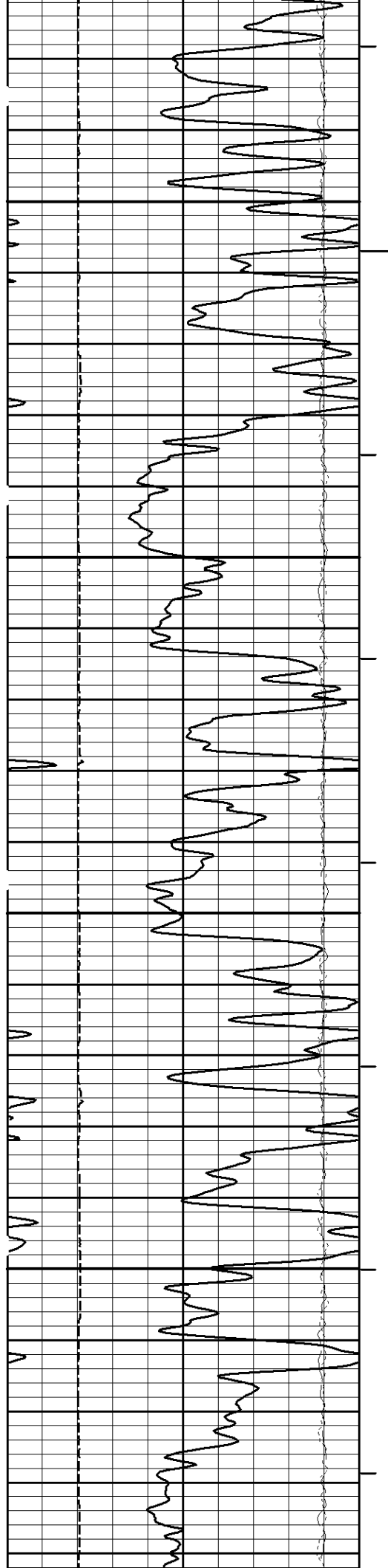




7700

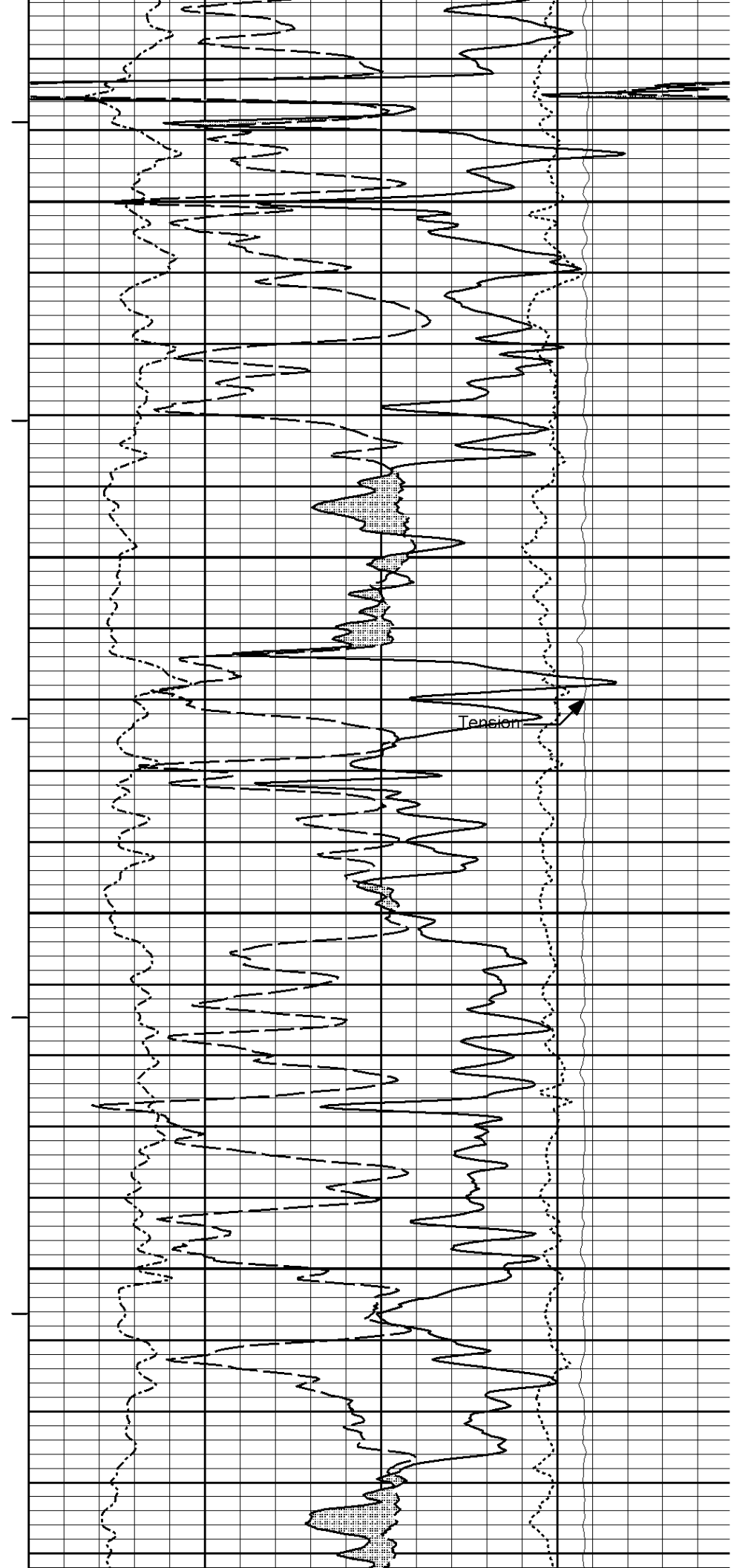
7800

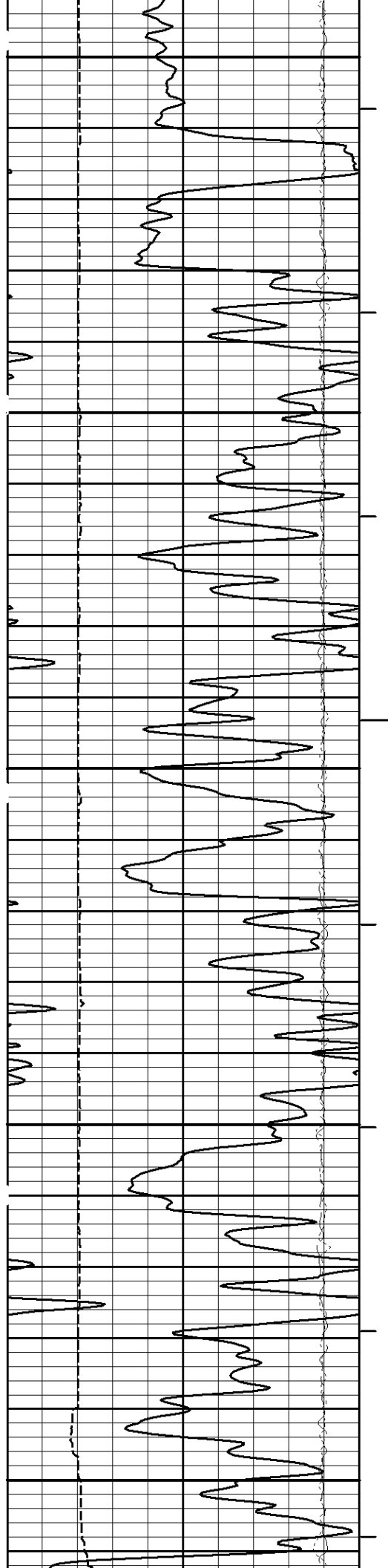




7900

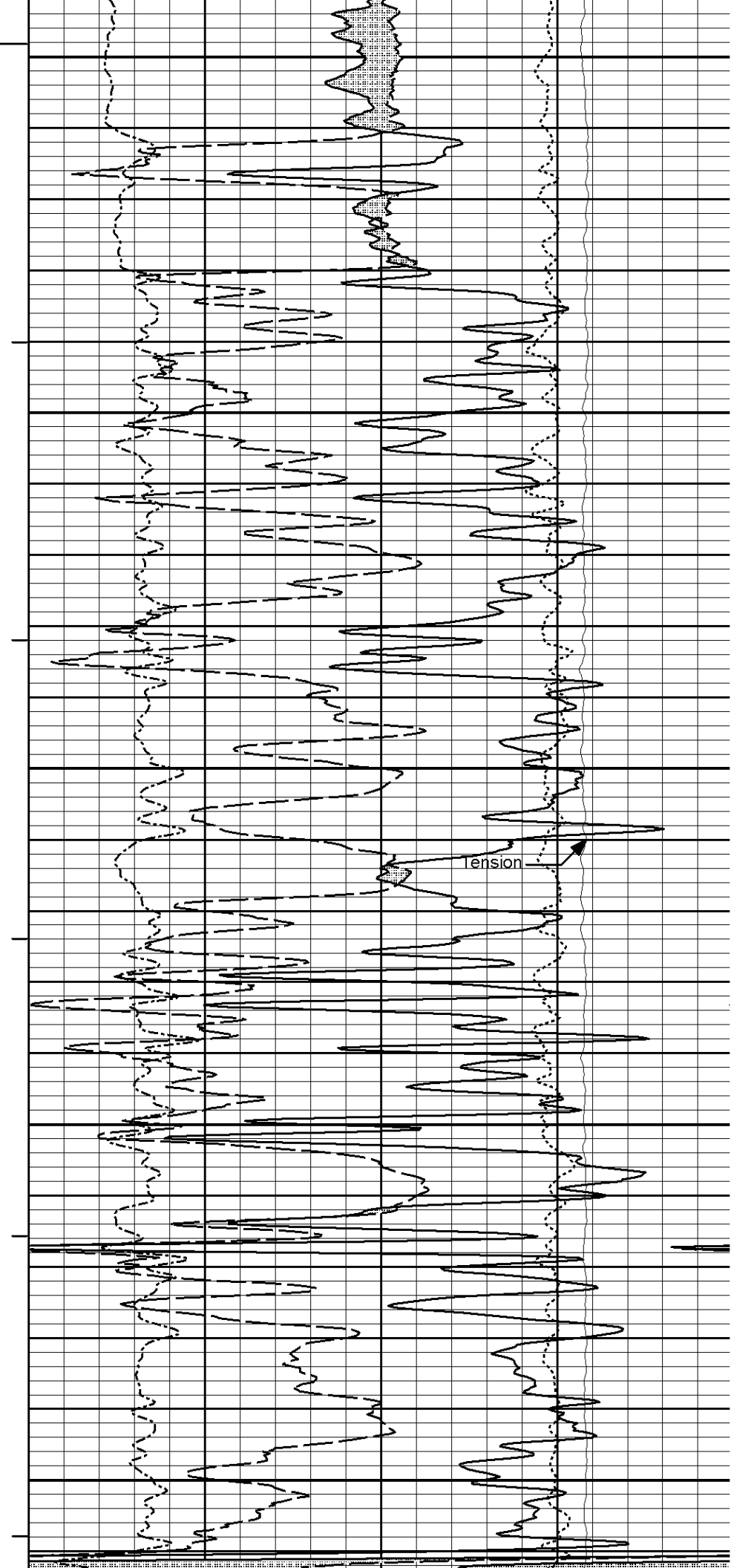
8000

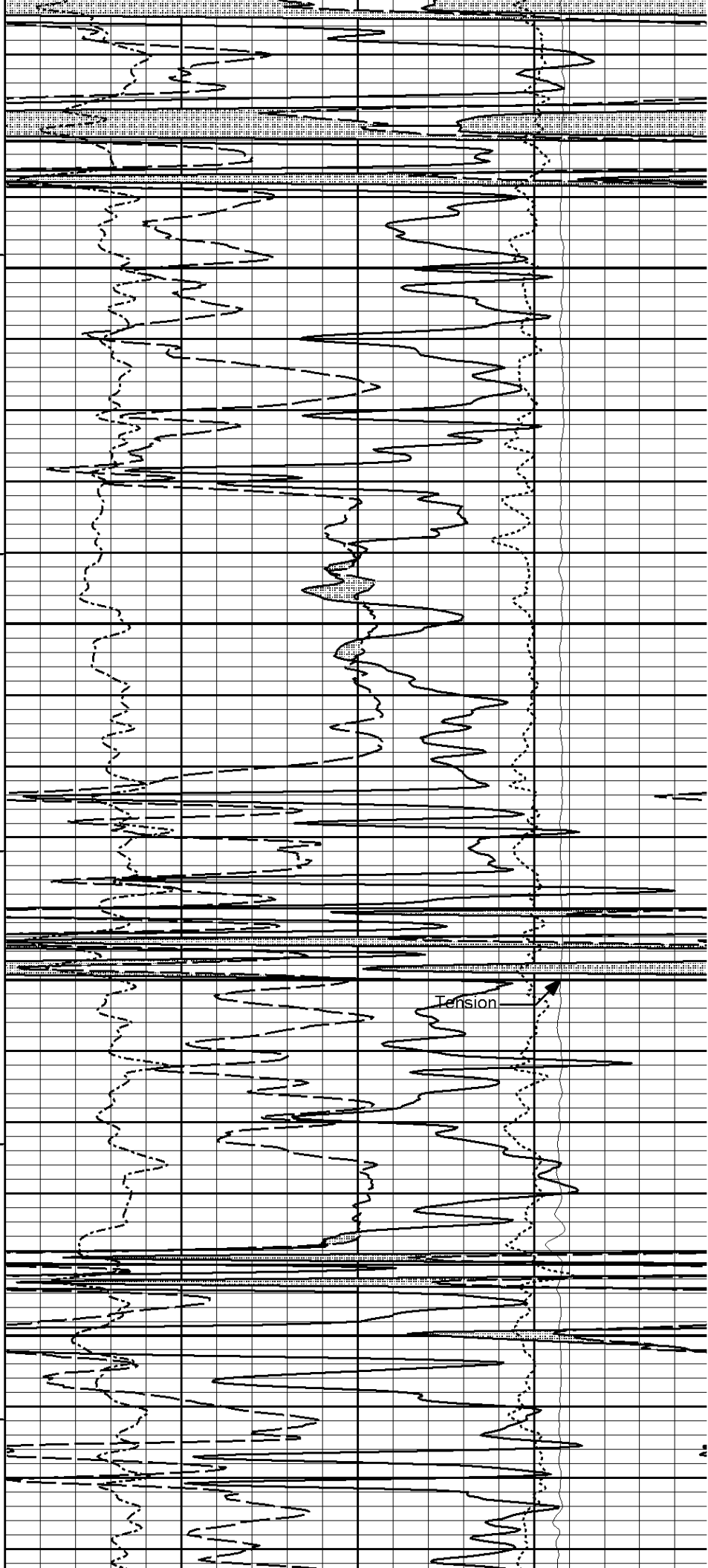
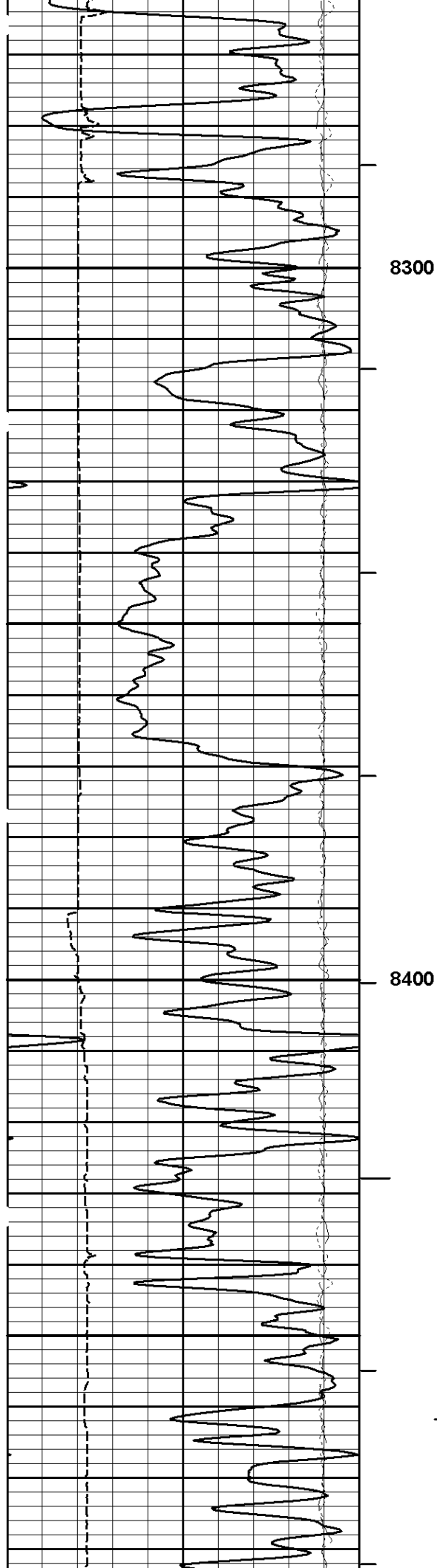


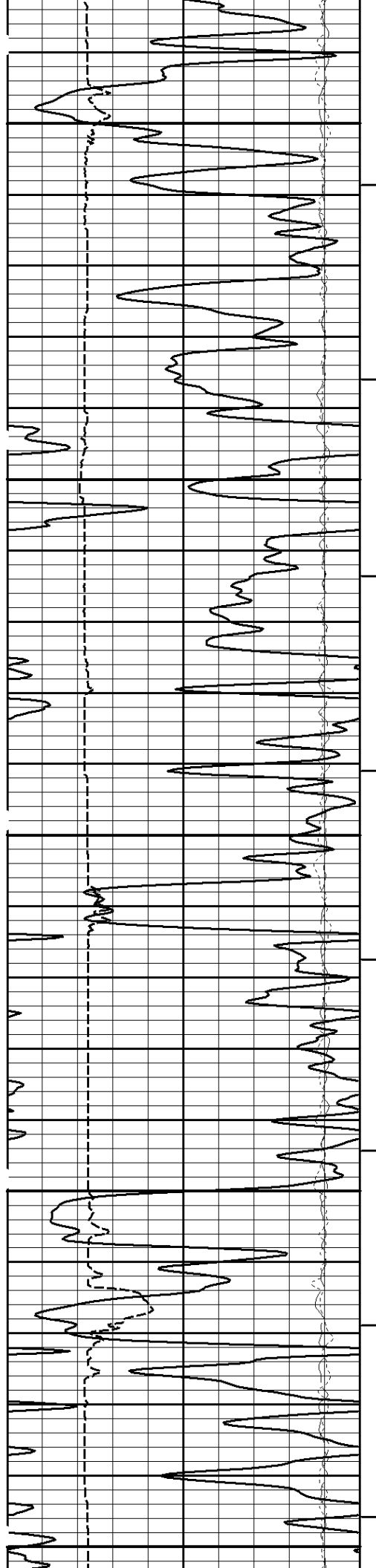


8100

8200



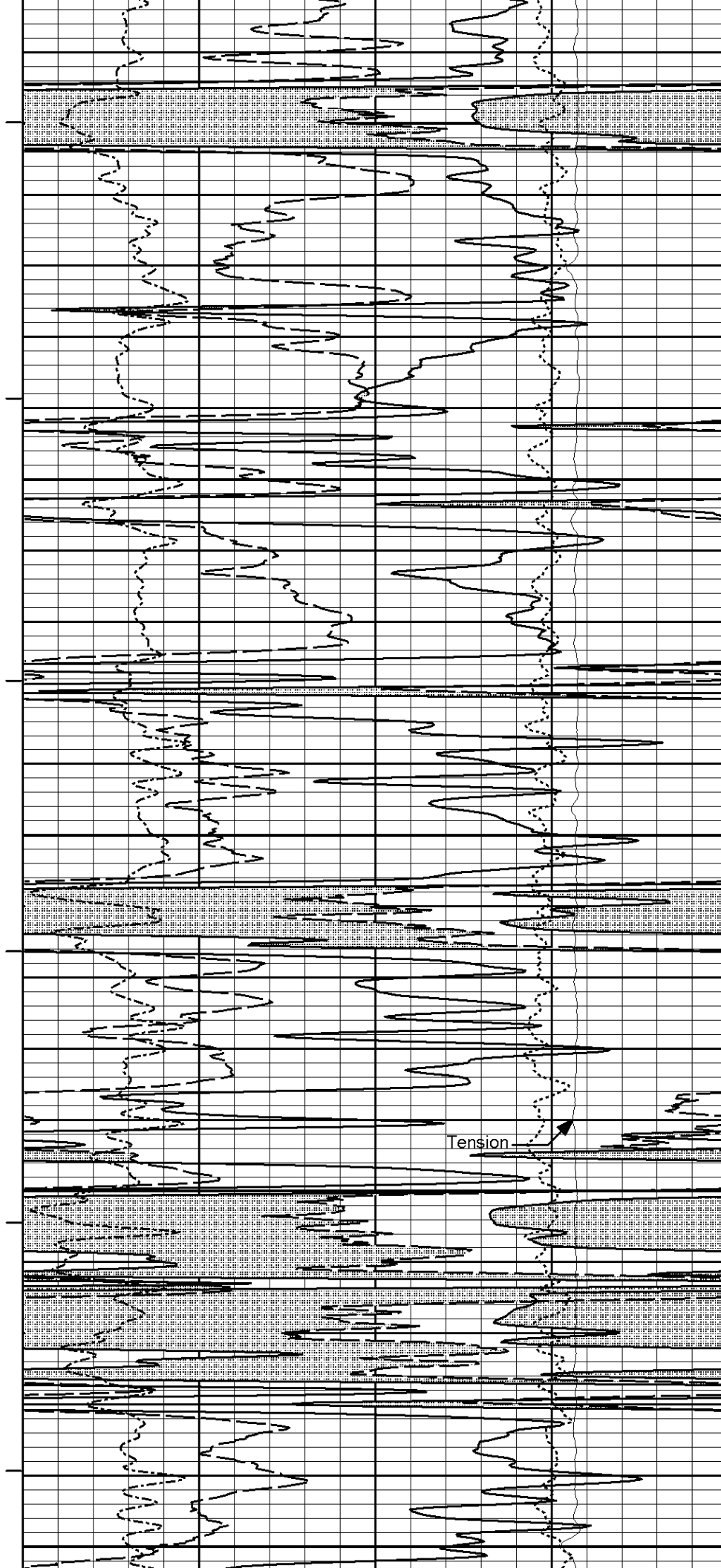


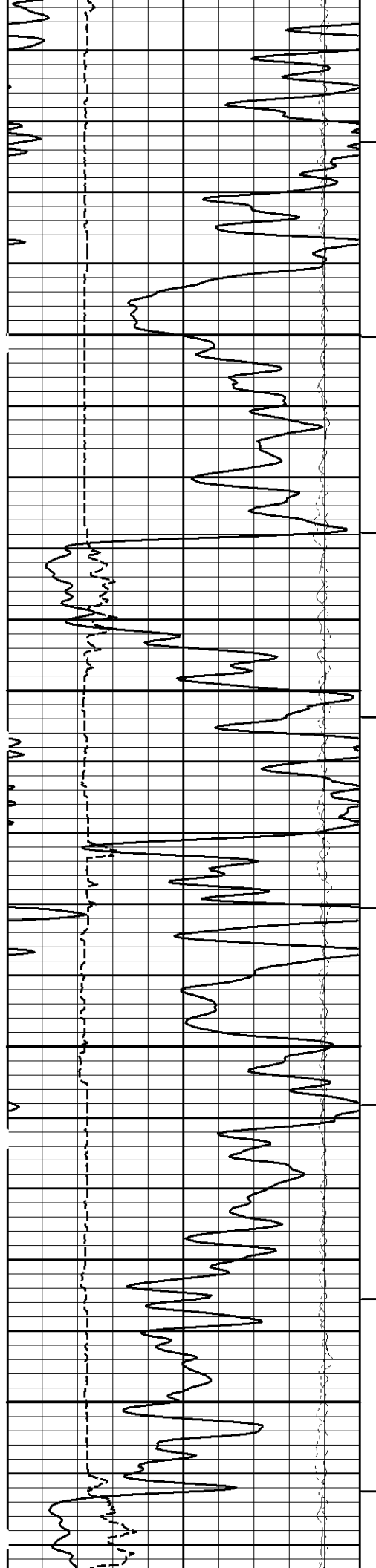


8500

8600

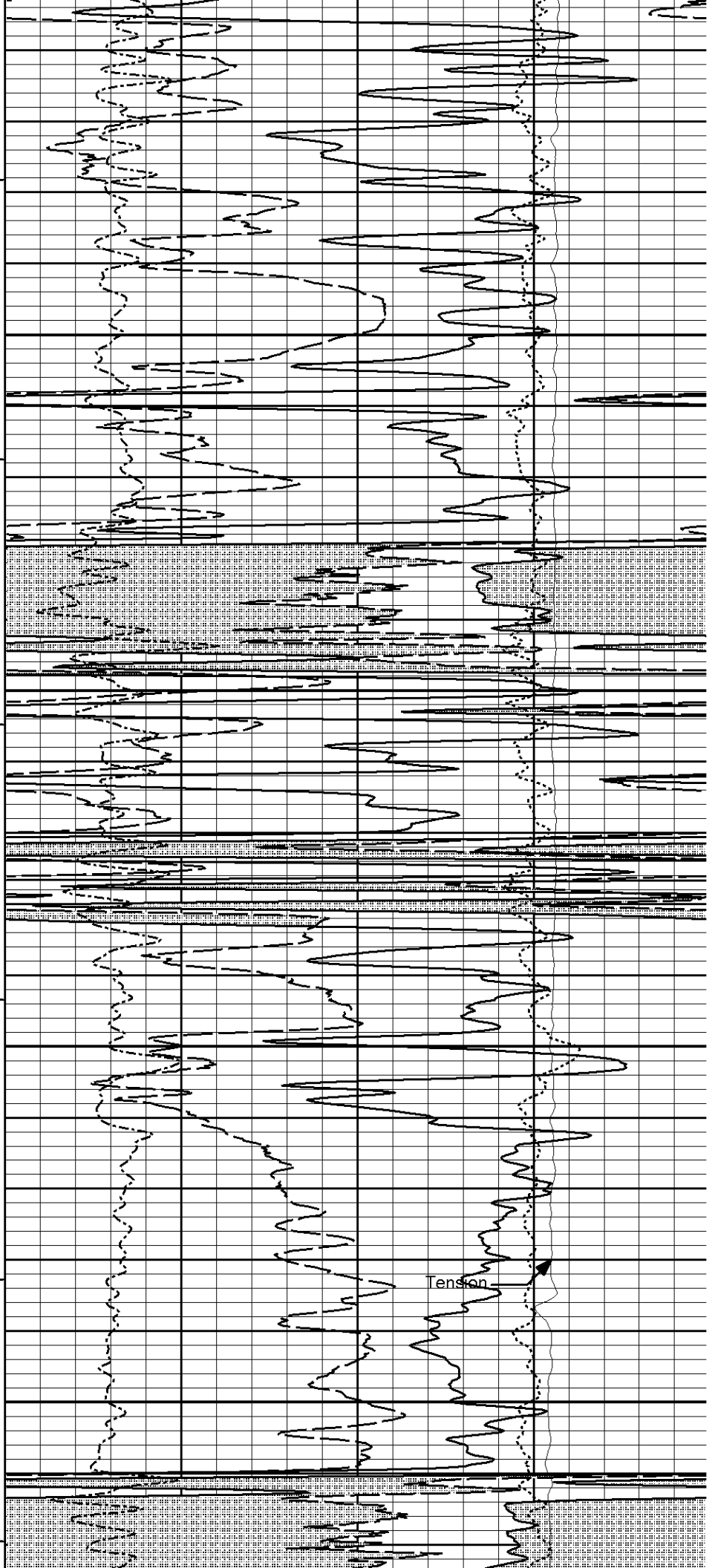
8700

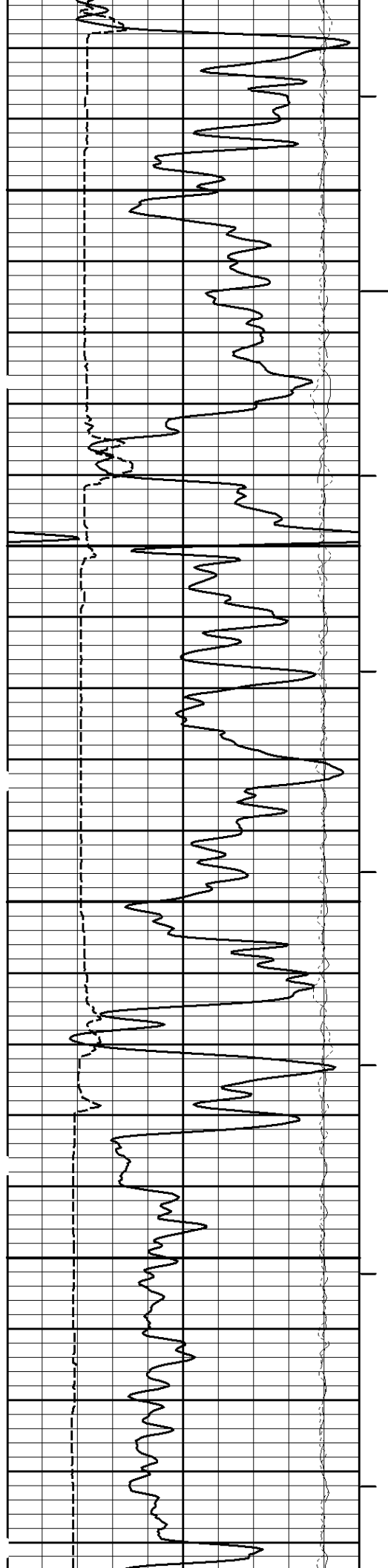




8800

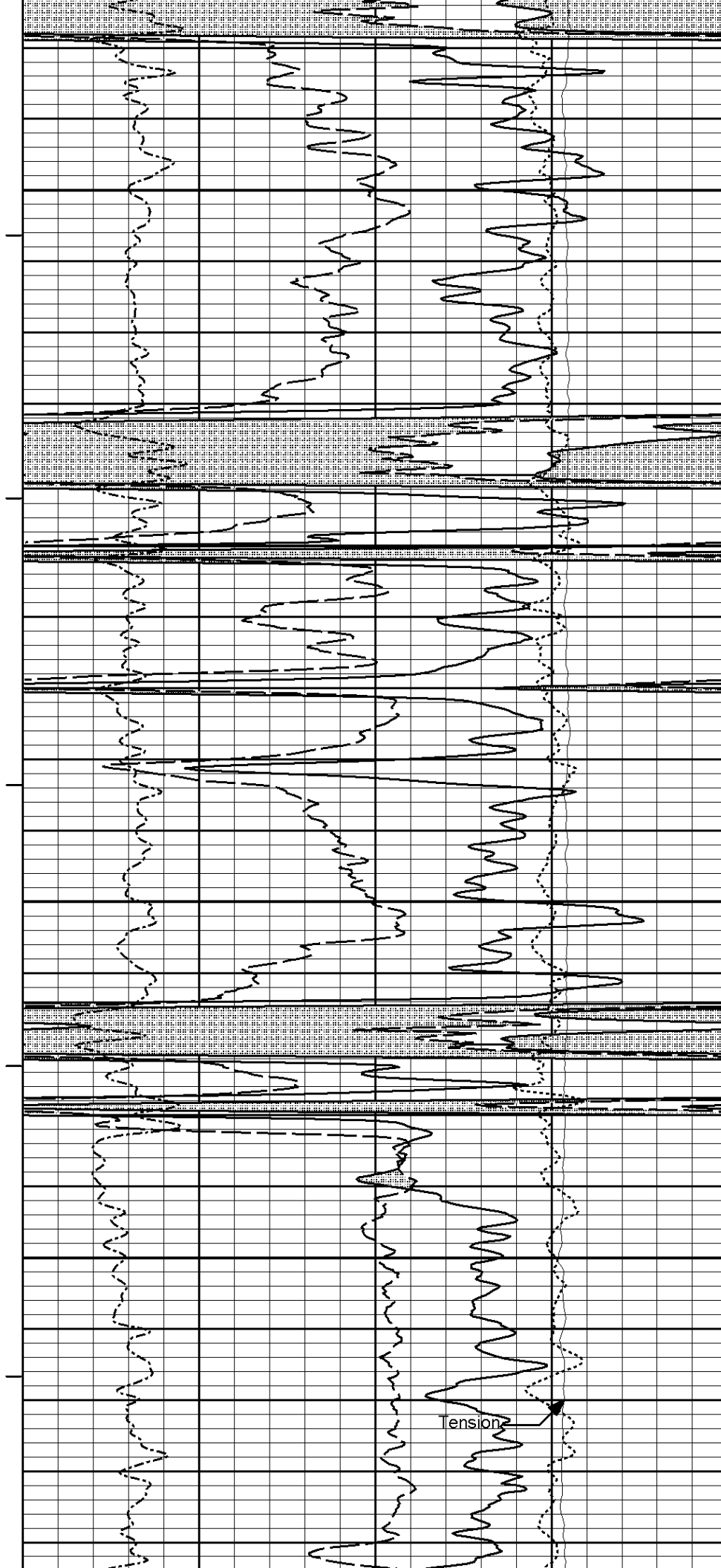
8900



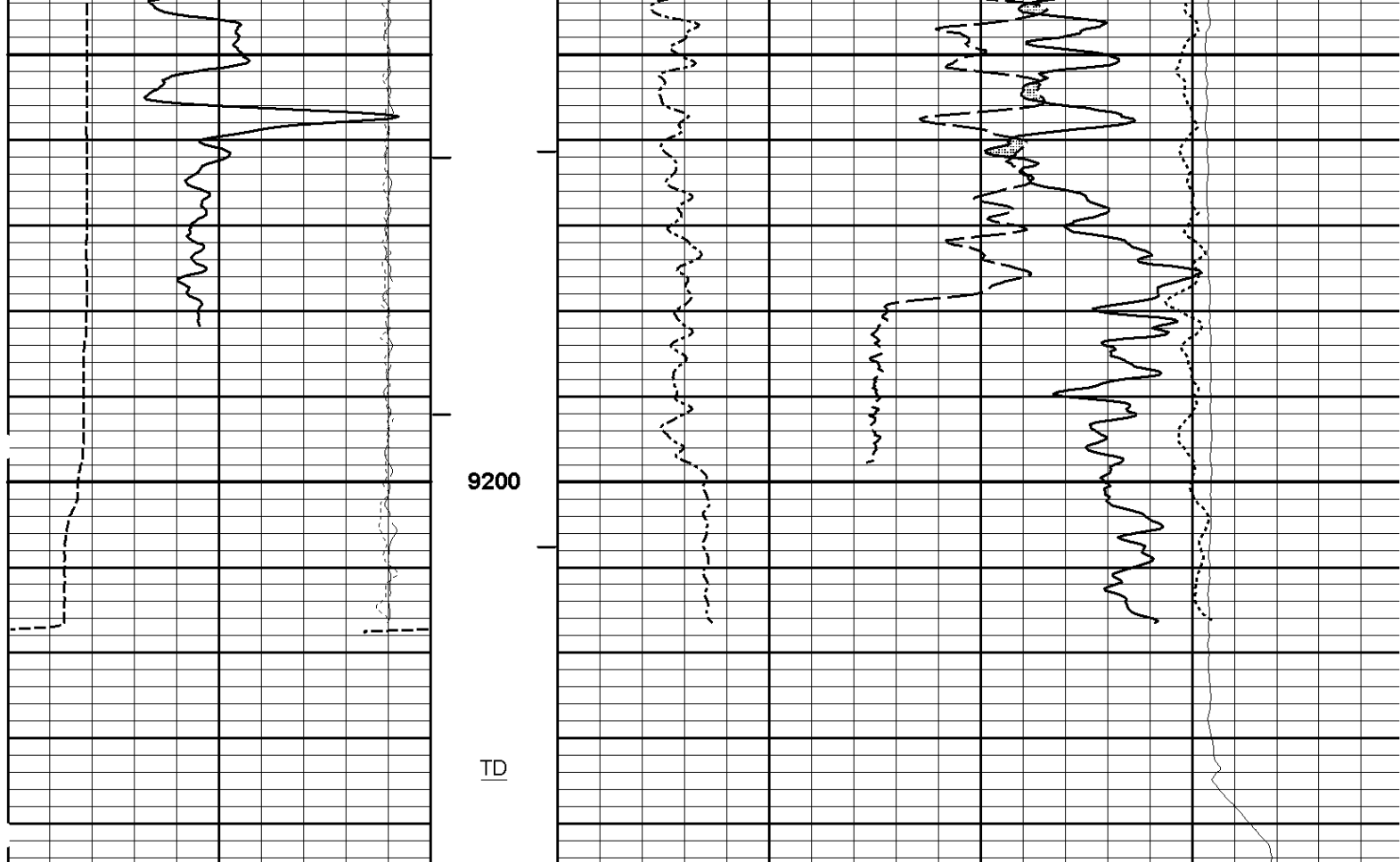


9000

9100



Tension



0	Gamma API	150	1 : 240 ft MD	0	Pe	10	-0.25	DensityCorr	0.25
	api							gram per cc	
6	Caliper	16	AHV ft3				10000	Tension	0
	inches							pounds	
45	FarQuality	-5	BHV ft3	30	DensityPorosity				-10
					percent				
-45	NearQuality	5		30	Neutron Porosity				-10
					percent				

HALLIBURTON

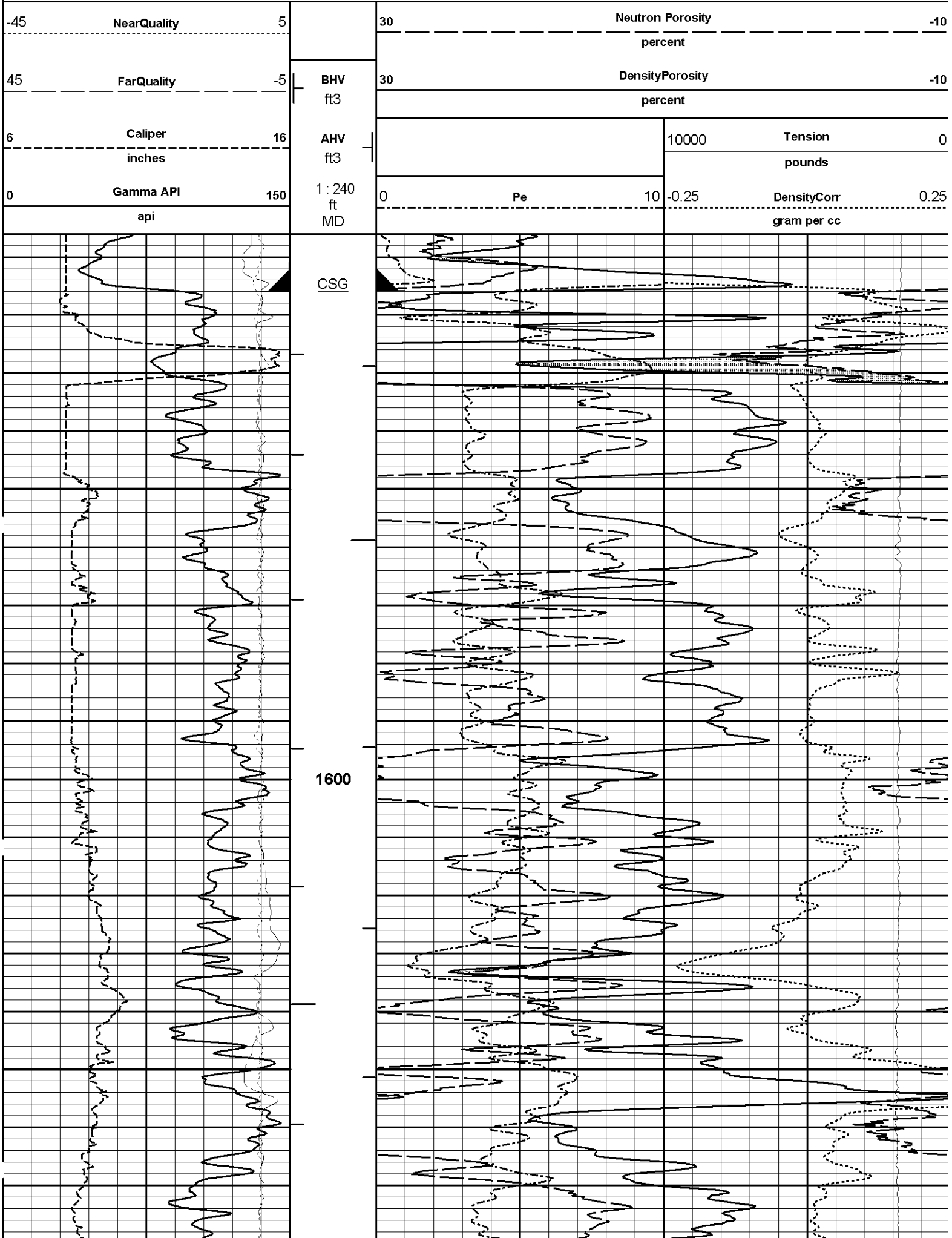
Plot Time: 04-Aug-08 21:11:14
Plot Range: 98 ft to 9245 ft
Data: LAR_LEV_31_05B\Well Based\MAIN PASS - CASING\
Plot File: \\POROSITY\DITS_POROSITY_5IN_RM

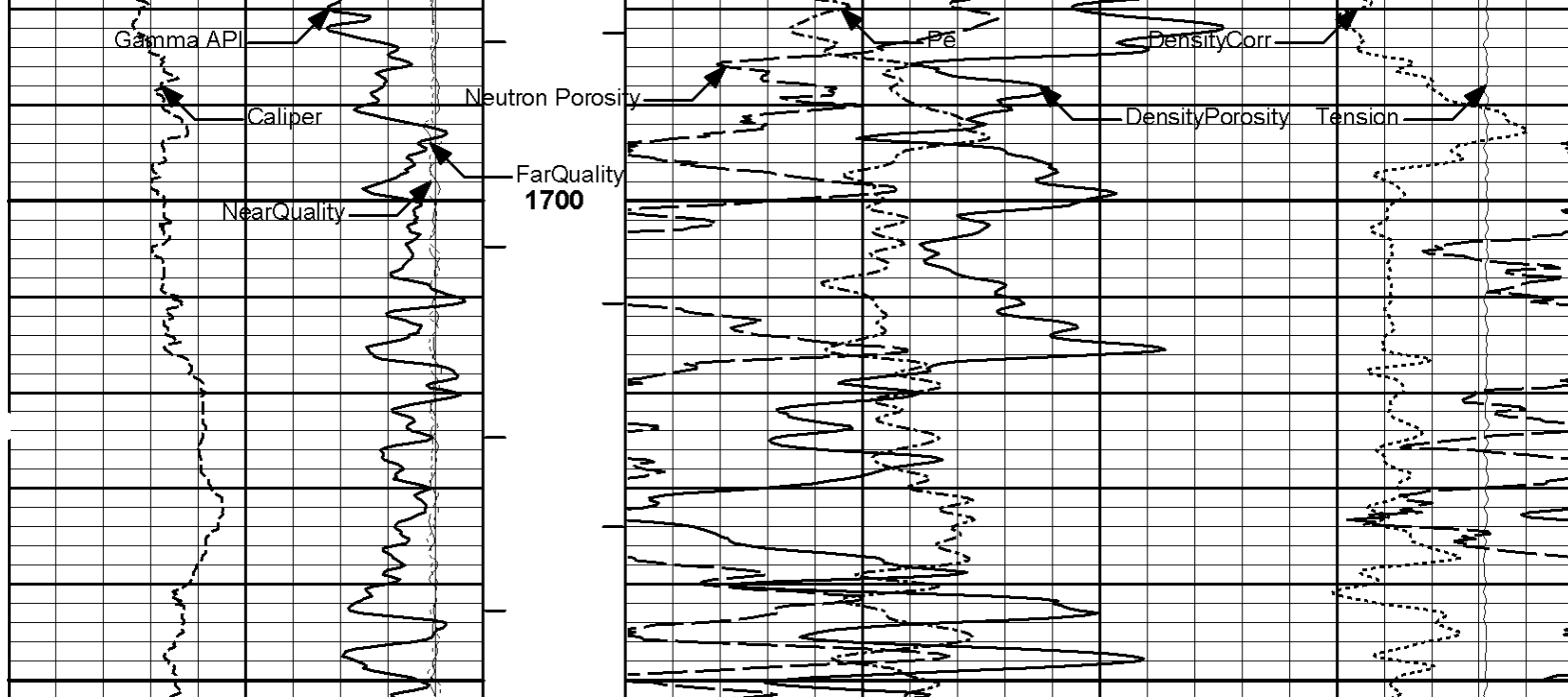
MAIN PASS 5" = 100'

HALLIBURTON

Plot Time: 04-Aug-08 21:11:15
Plot Range: 1506 ft to 1752 ft
Data: LAR_LEV_31_05B\Well Based\REPEAT\
Plot File: \\POROSITY\REPEAT

REPEAT PASS 5" = 100'





0	Gamma API	150	1 : 240 ft MD	0	Pe	10	-0.25	DensityCorr	0.25
	api							gram per cc	
6	Caliper	16	AHV ft3				10000	Tension	0
	inches							pounds	
45	FarQuality	-5	BHV ft3	30	DensityPorosity				-10
					percent				
-45	NearQuality	5		30	Neutron Porosity				-10
					percent				

HALLIBURTON

Plot Time: 04-Aug-08 21:11:16
 Plot Range: 1506 ft to 1752 ft
 Data: LAR_LEV_31_05B\Well Based\REPEAT\
 Plot File: \\POROSITY\REPEAT

REPEAT PASS 5" = 100'

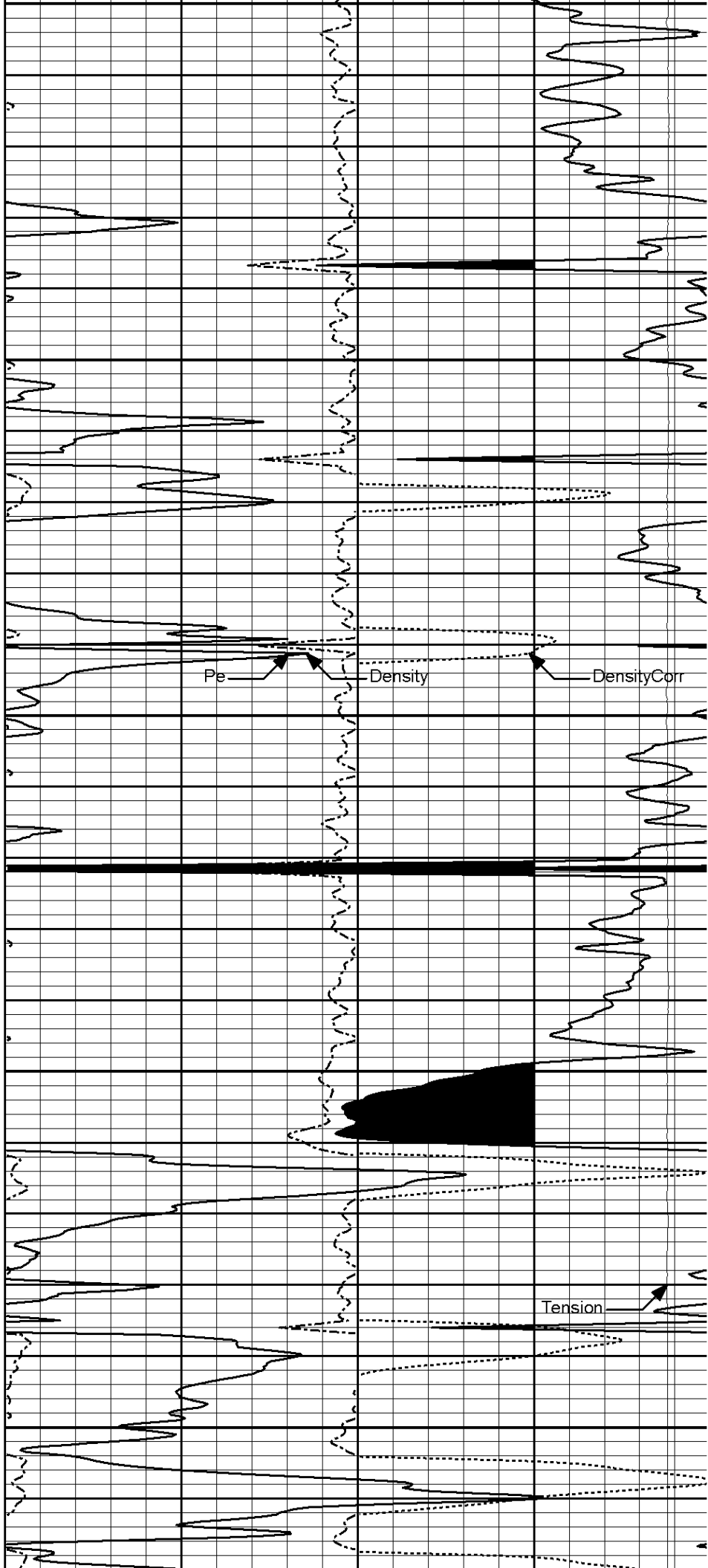
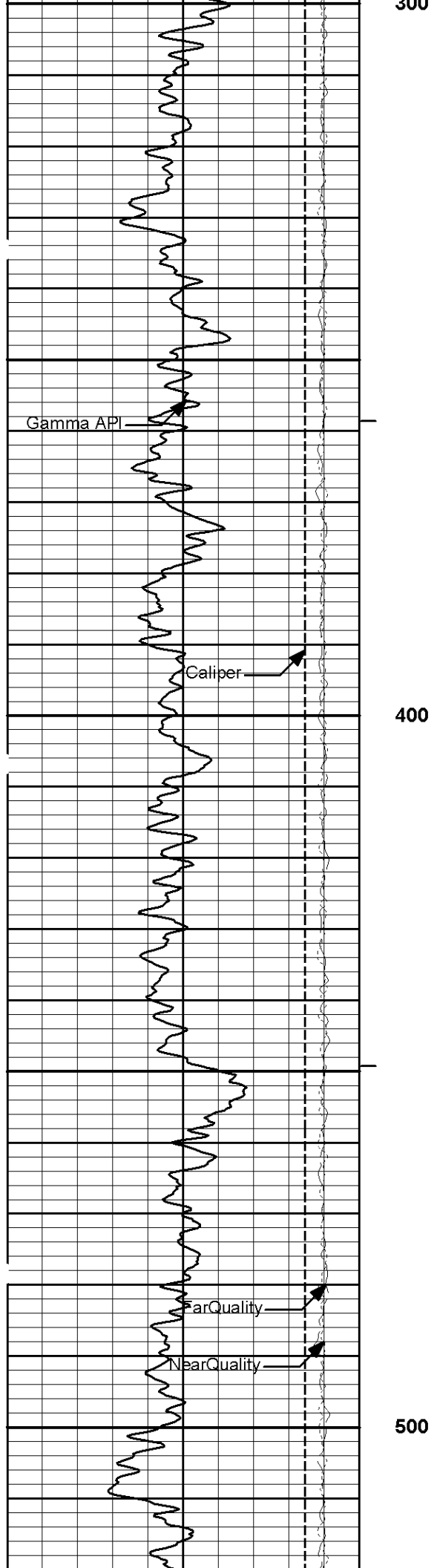
HALLIBURTON

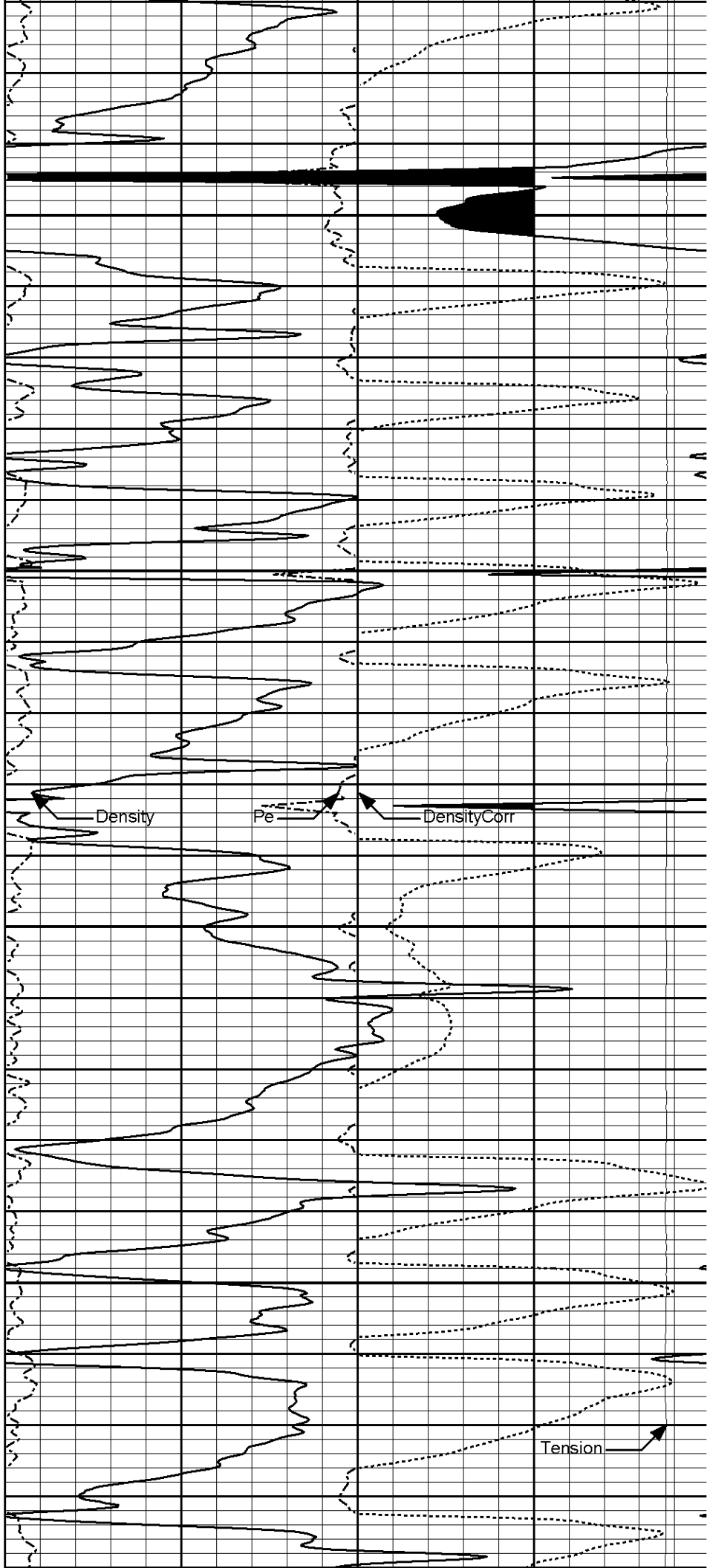
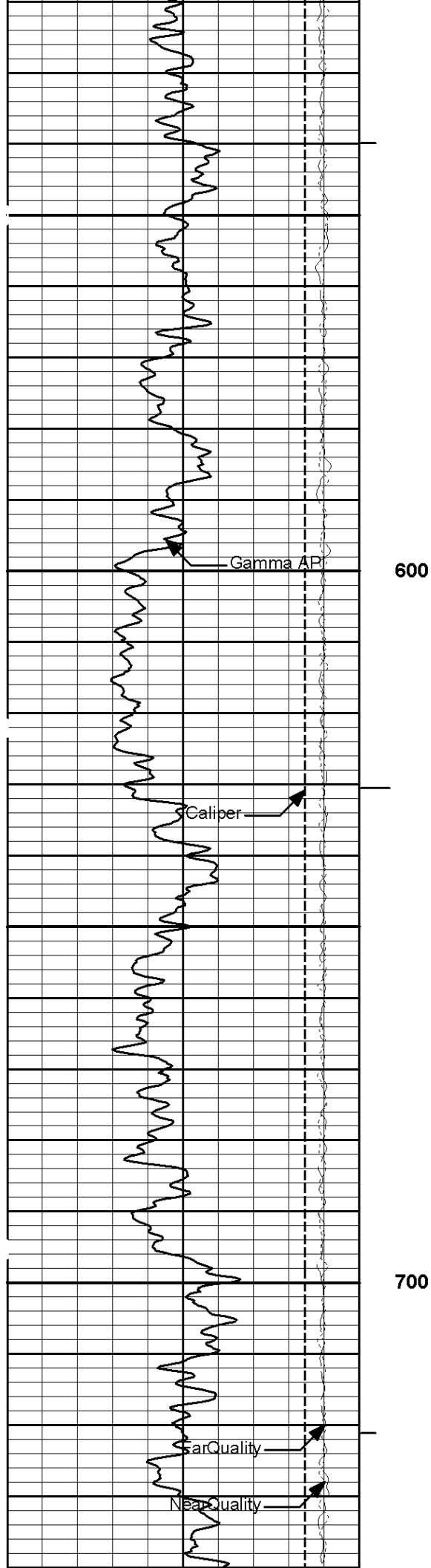
Plot Time: 04-Aug-08 21:11:17
 Plot Range: 98 ft to 9245 ft
 Data: LAR_LEV_31_05B\Well Based\MAIN PASS - CASING\
 Plot File: \\POROSITY\DITS_RHOB_5IN_RM

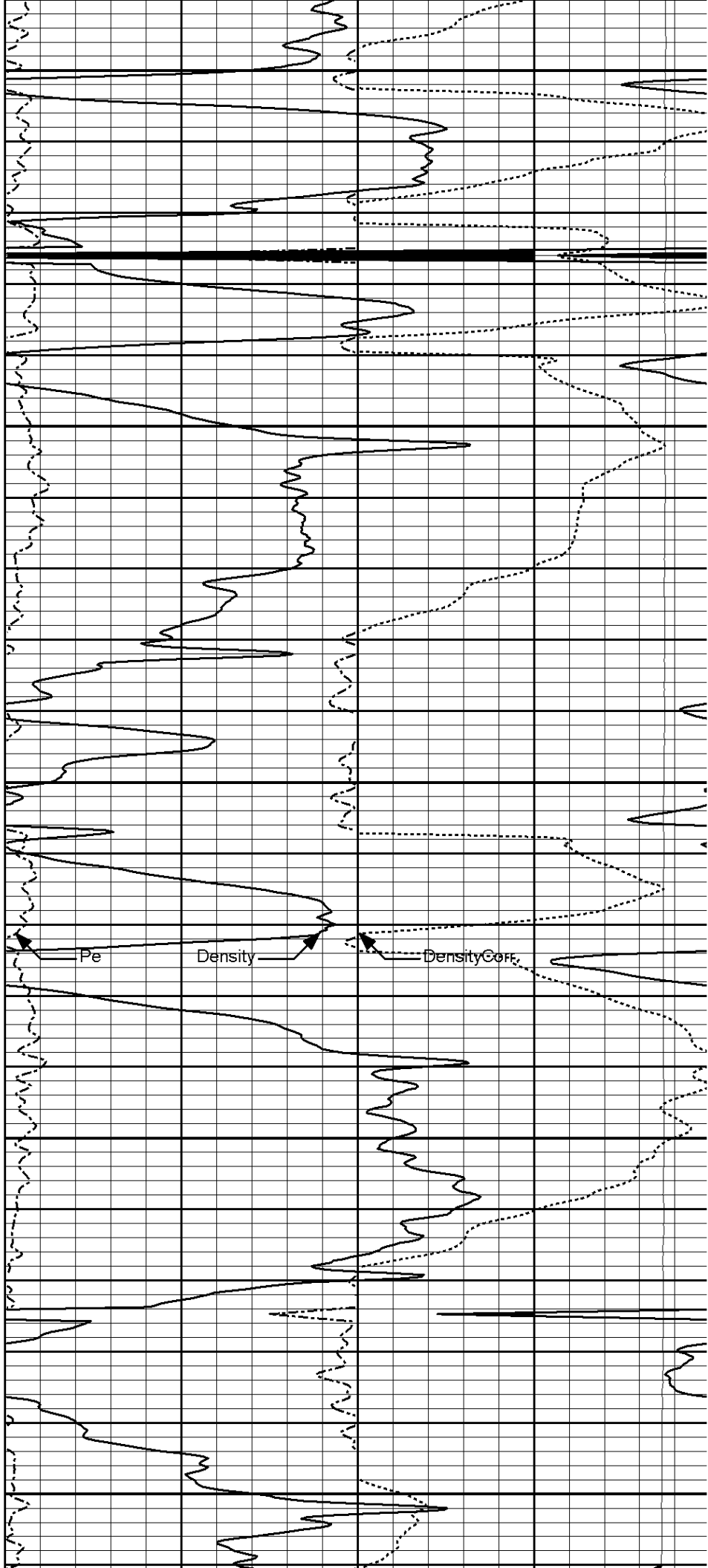
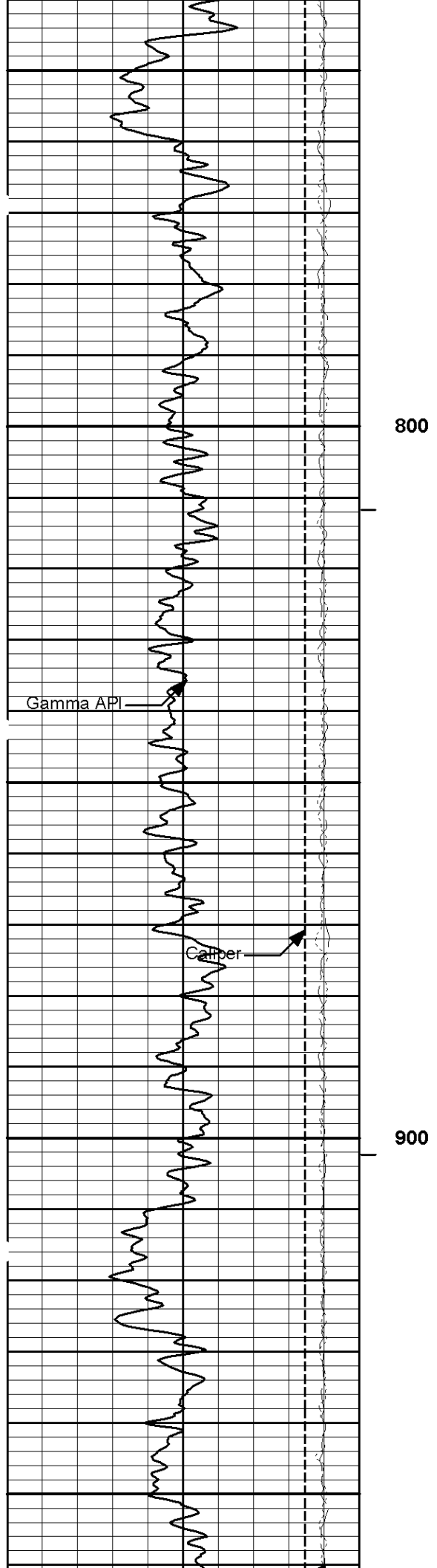
RHOB MAIN PASS 5" = 100'

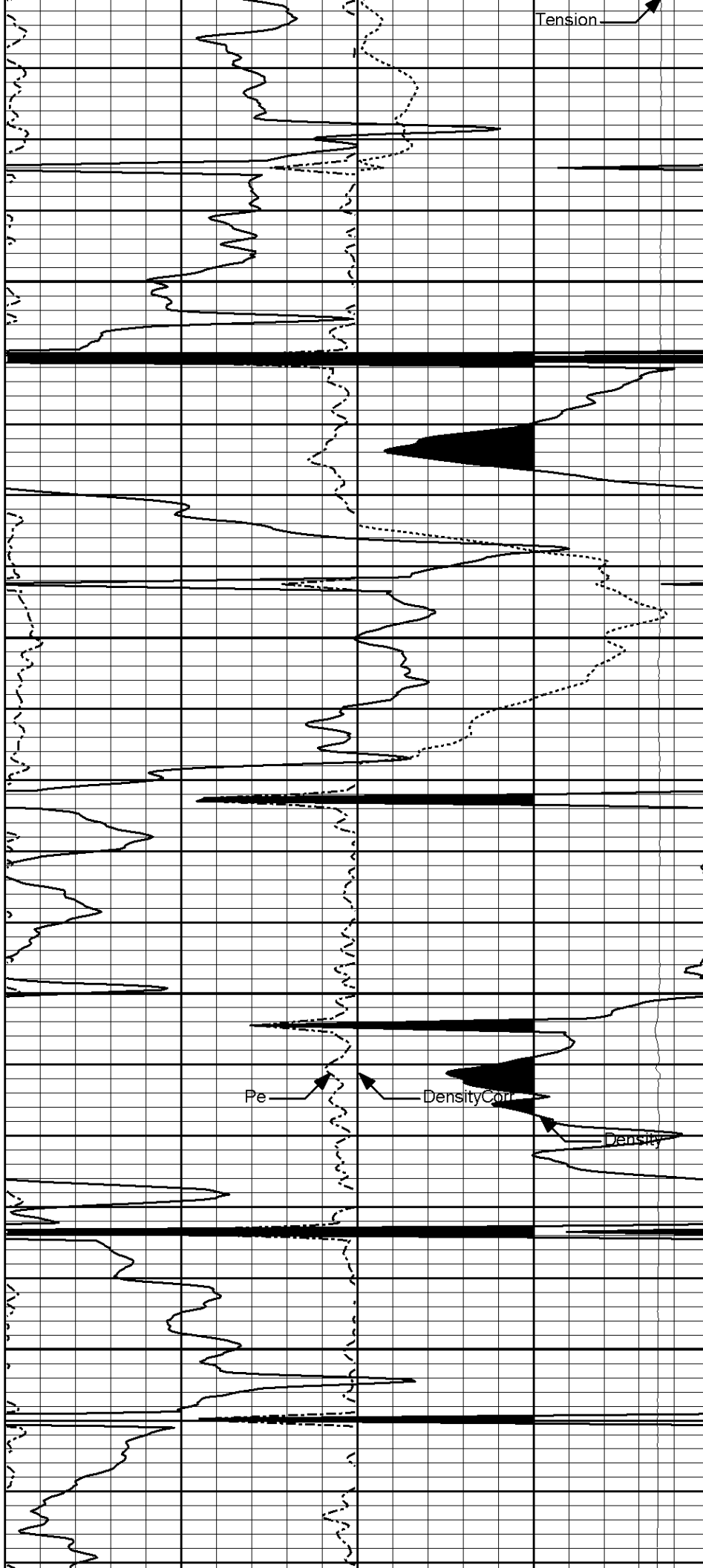
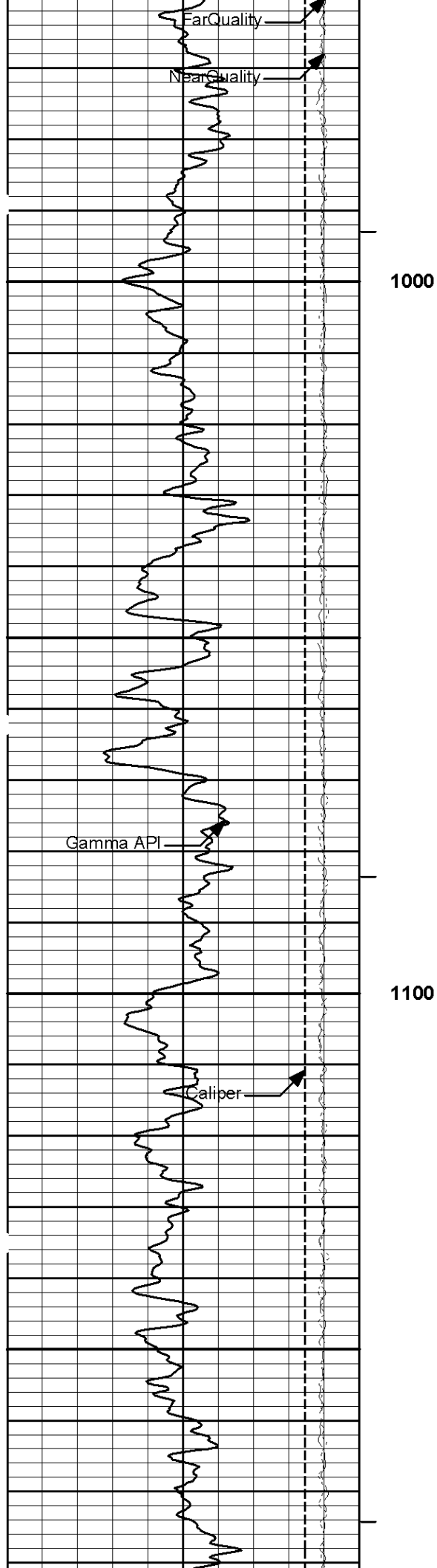
-45	NearQuality	5							
45	FarQuality	-5	AHV ft3	2	Density				3
					gram per cc				

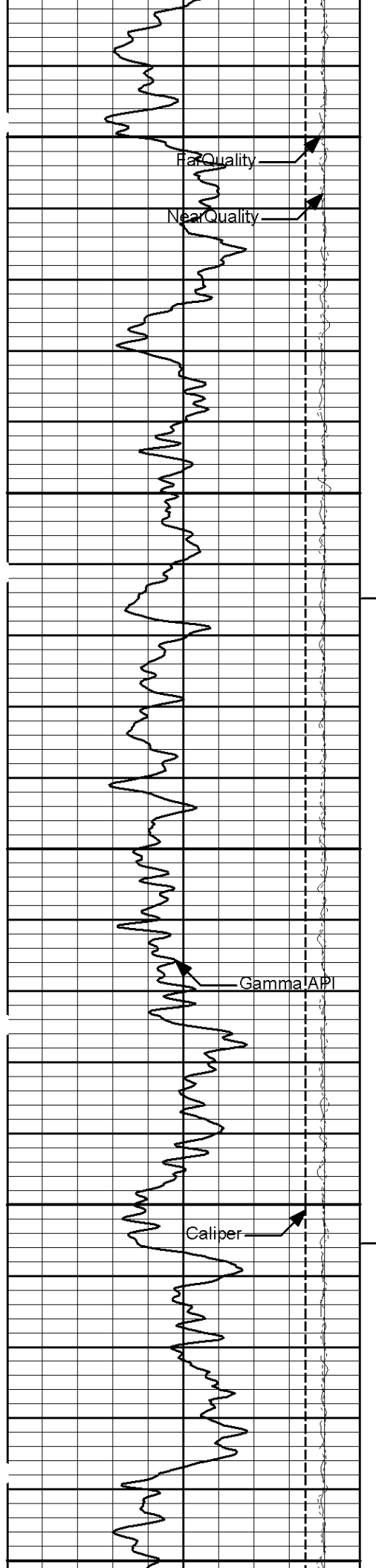








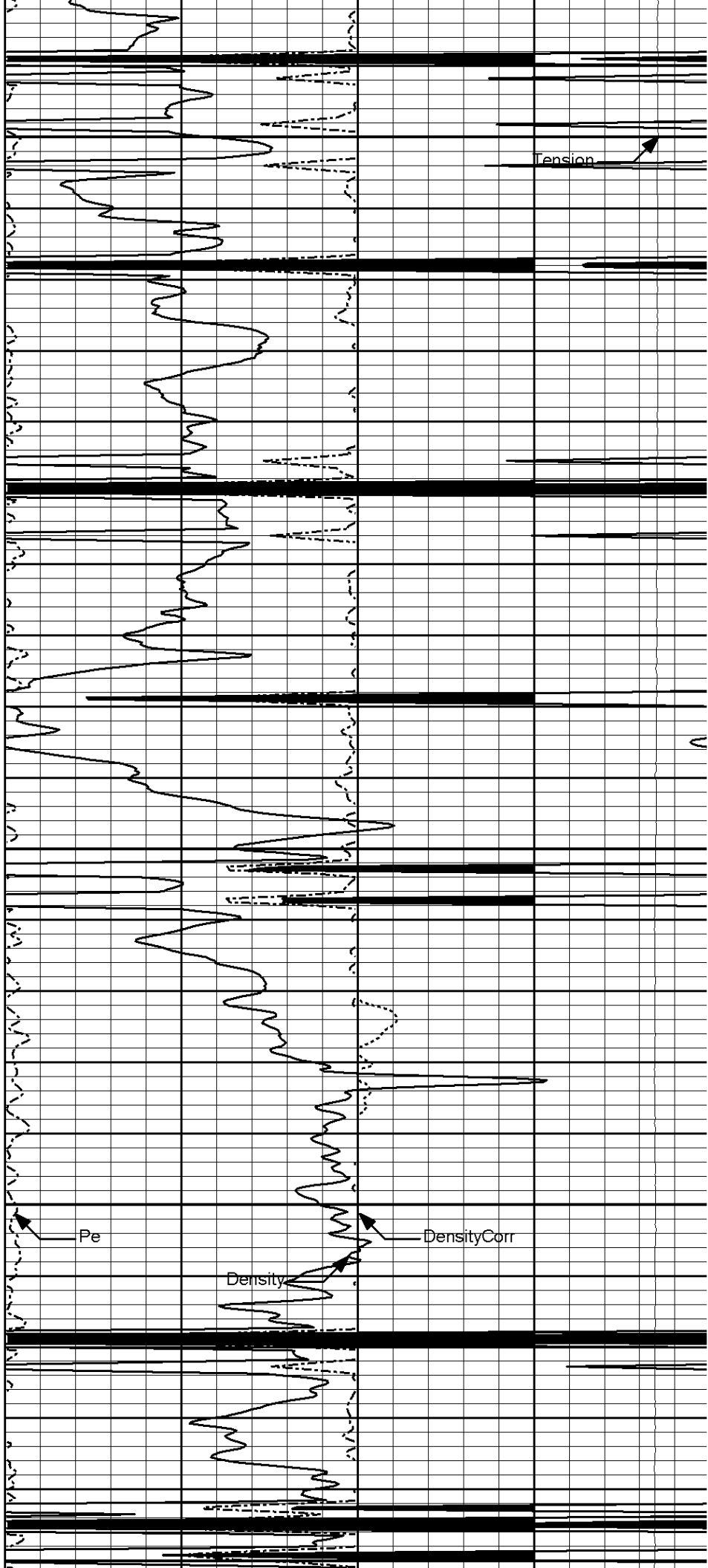


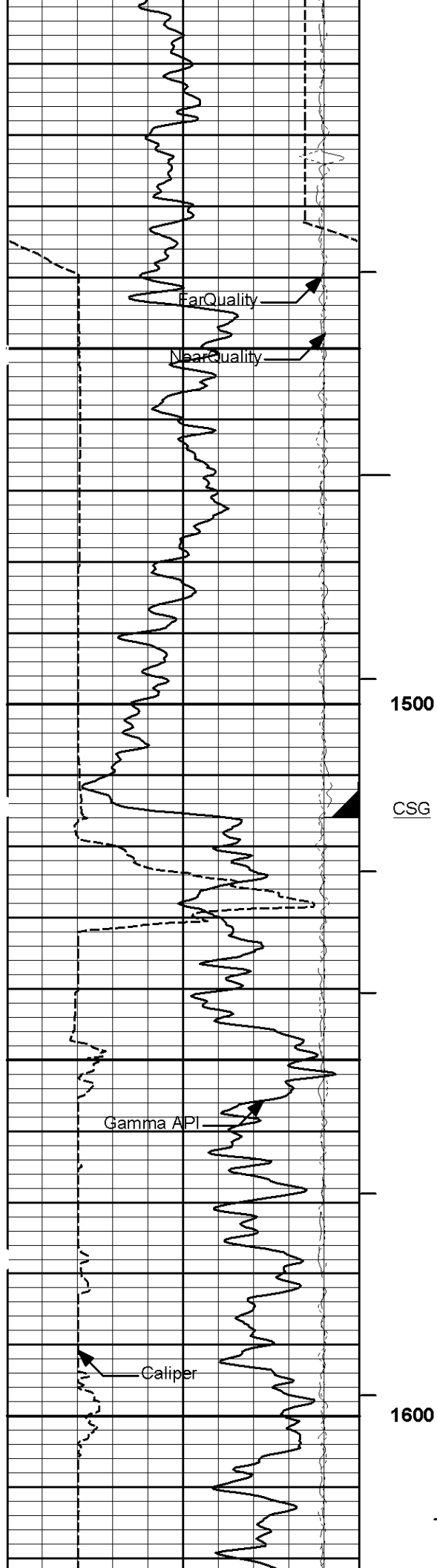


1200

1300

1400

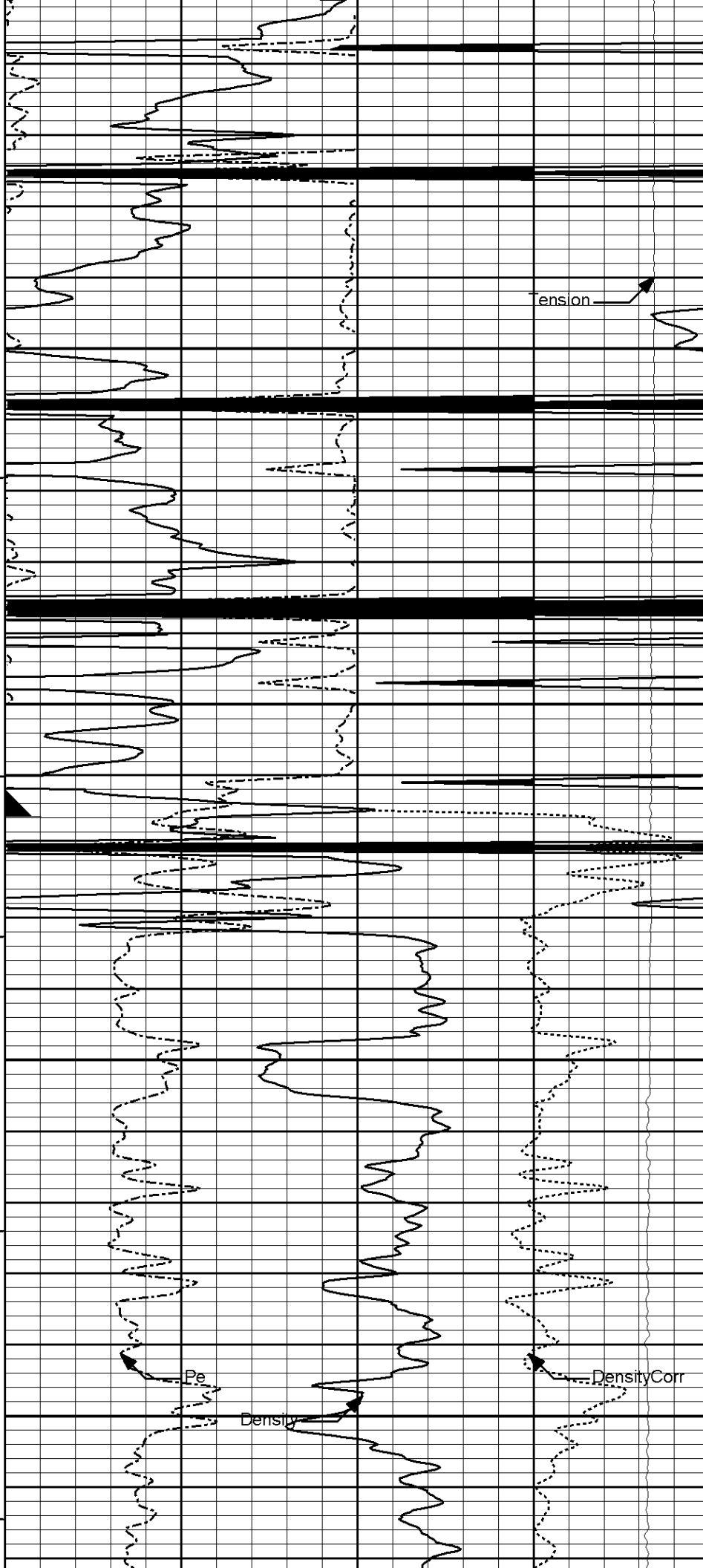


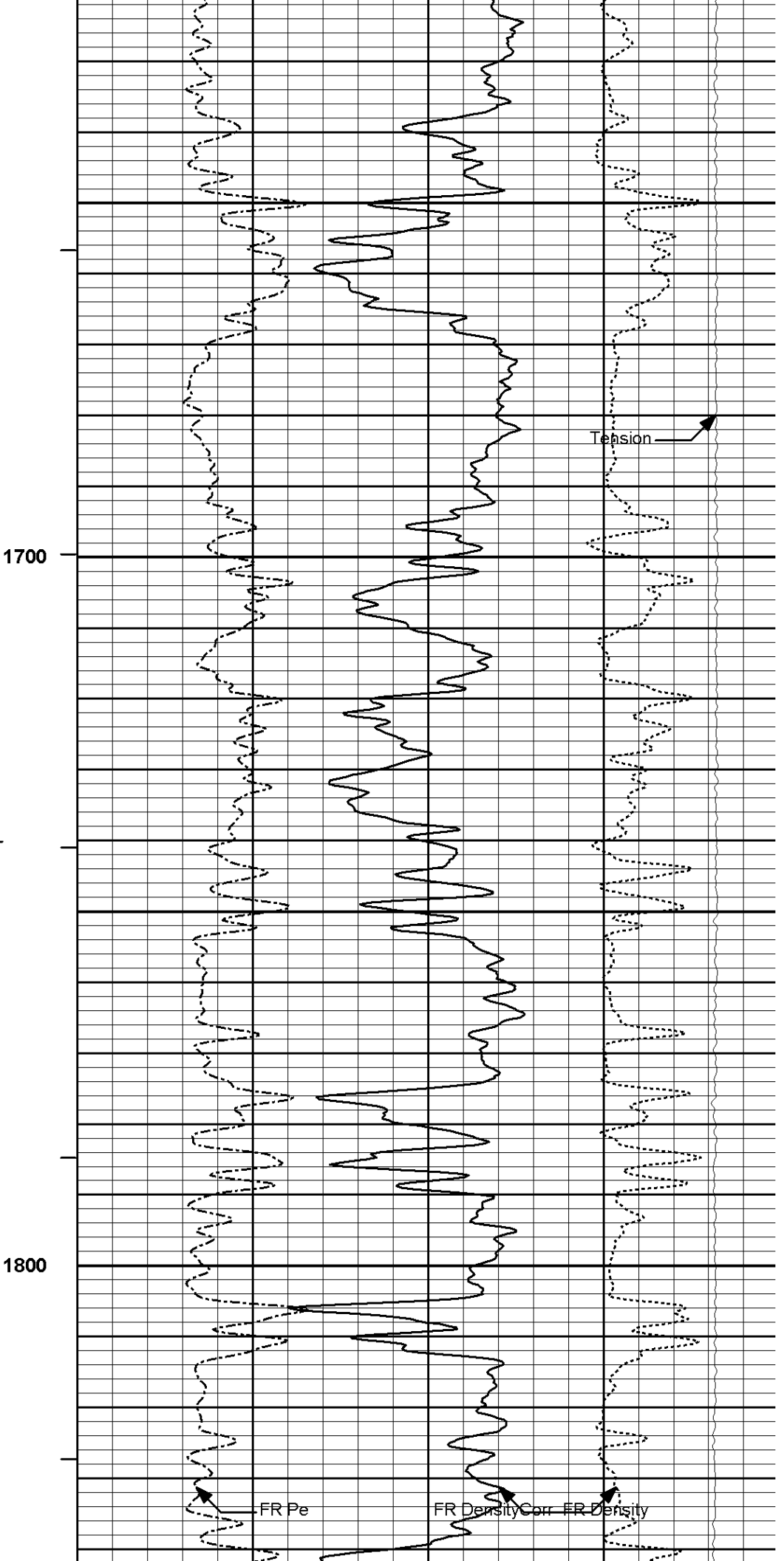
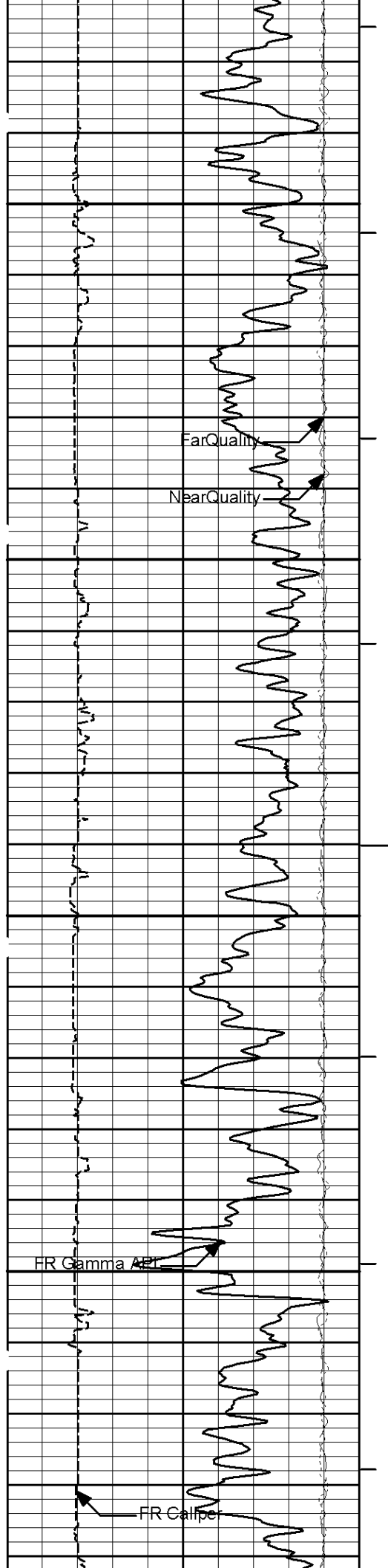


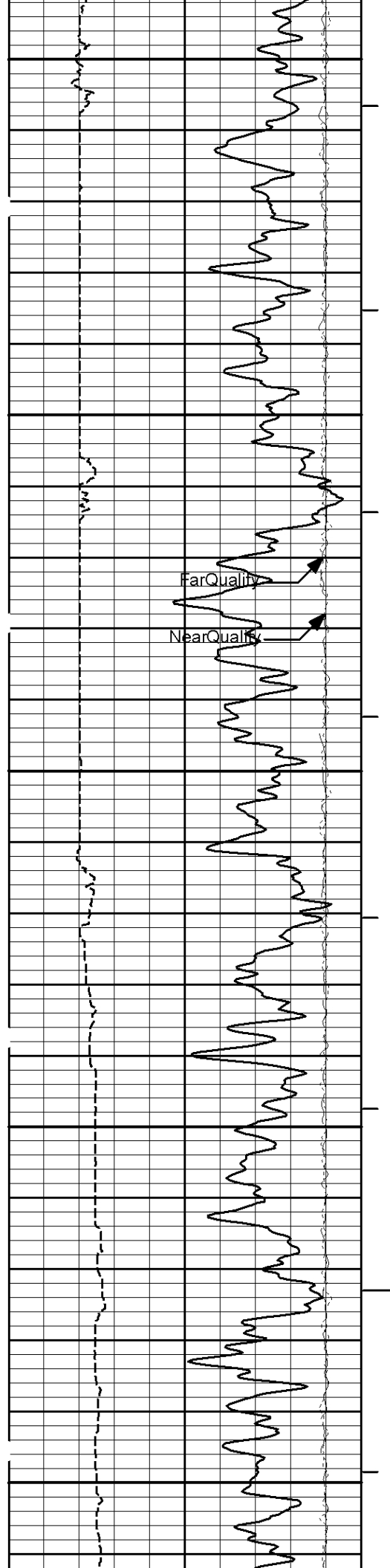
1500

CSG

1600





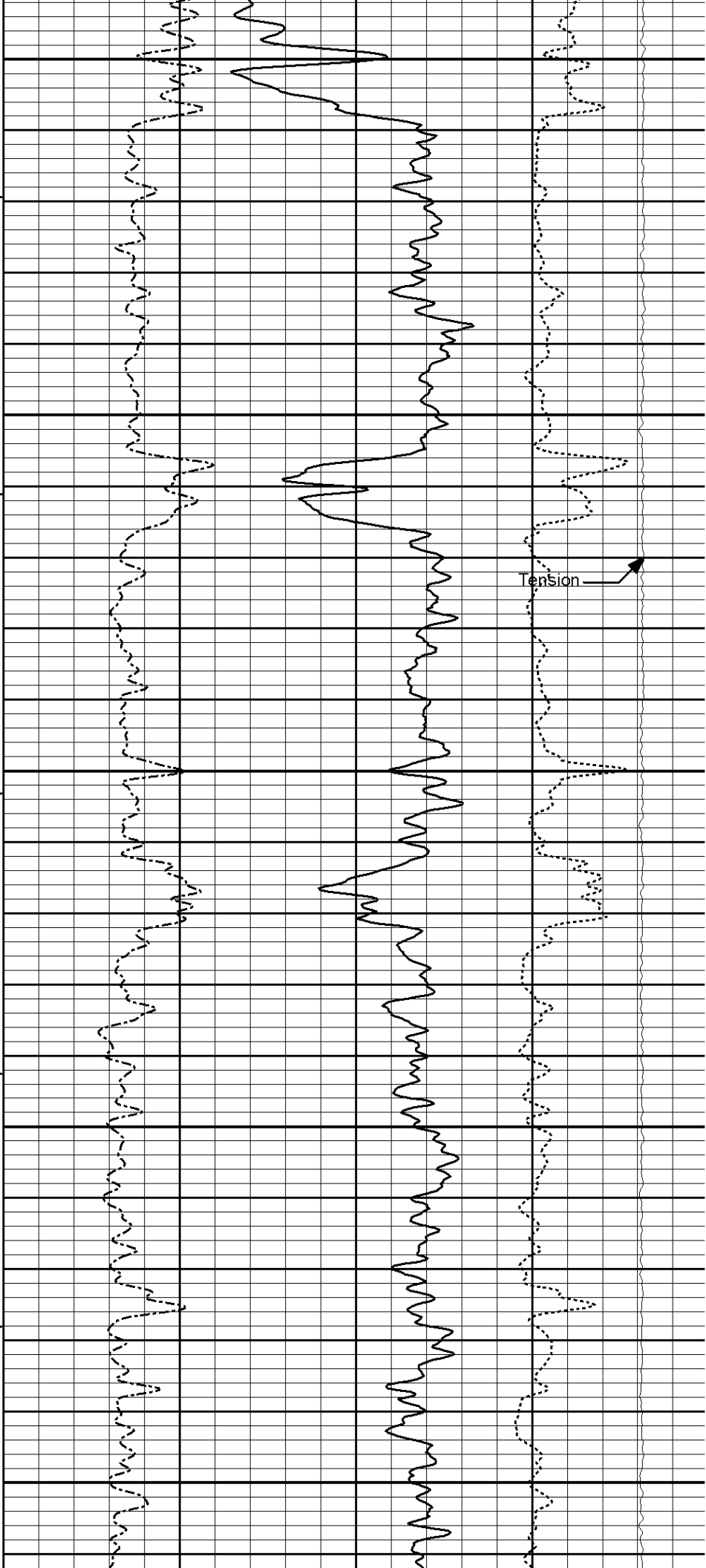


1900

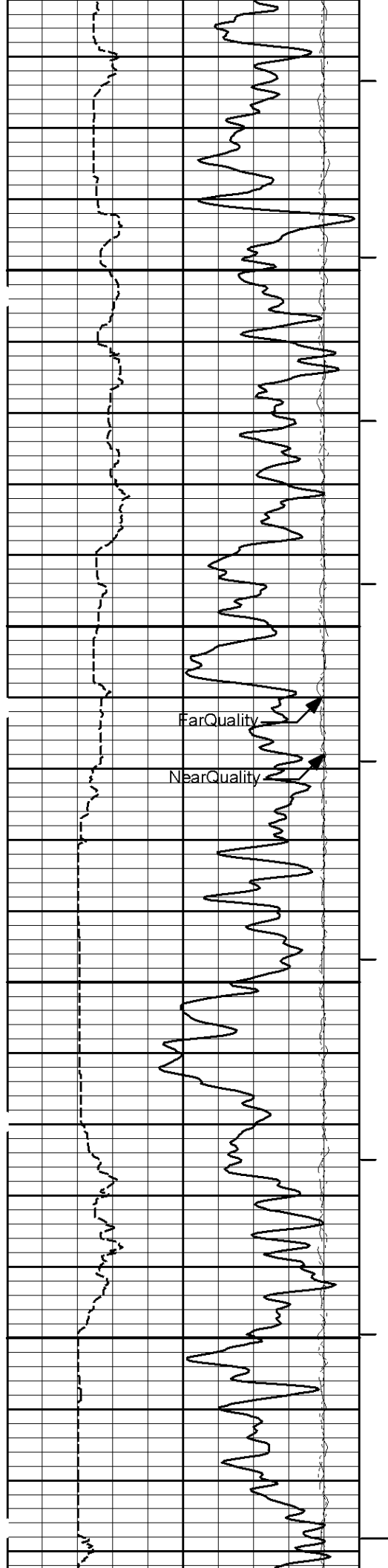
2000

FarQuality

NearQuality

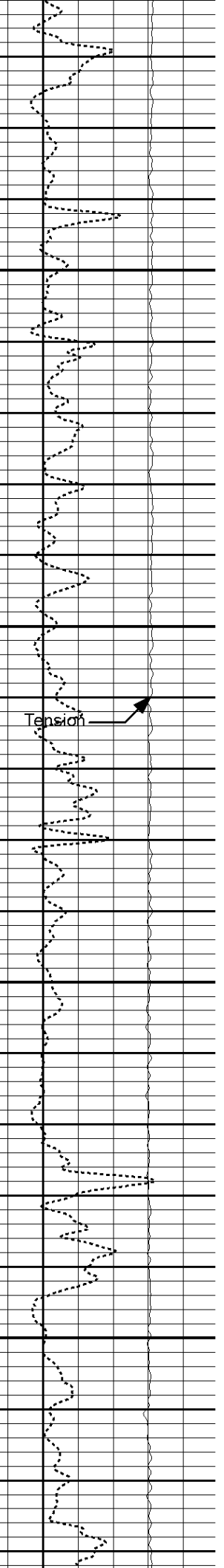
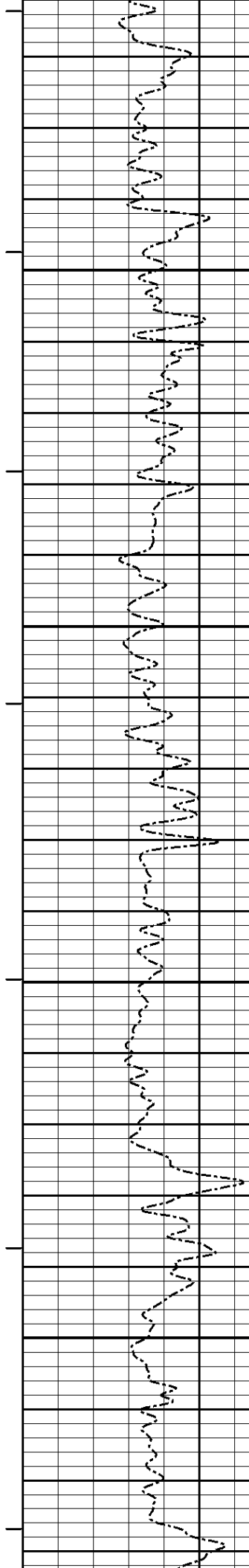


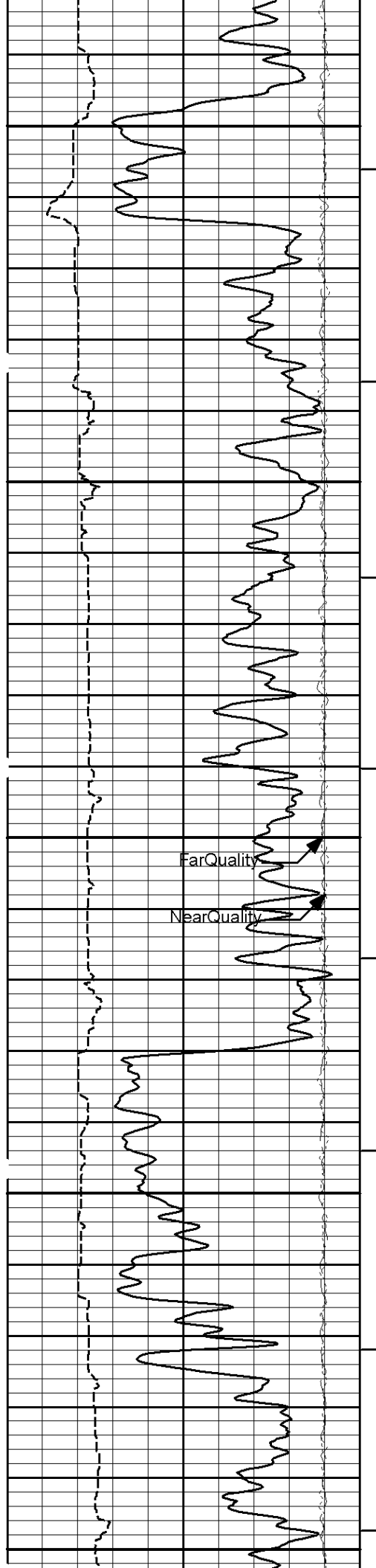
Tension



2100

2200





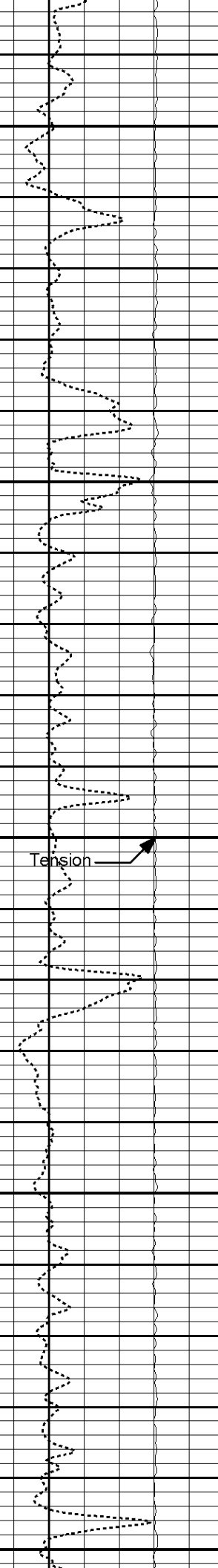
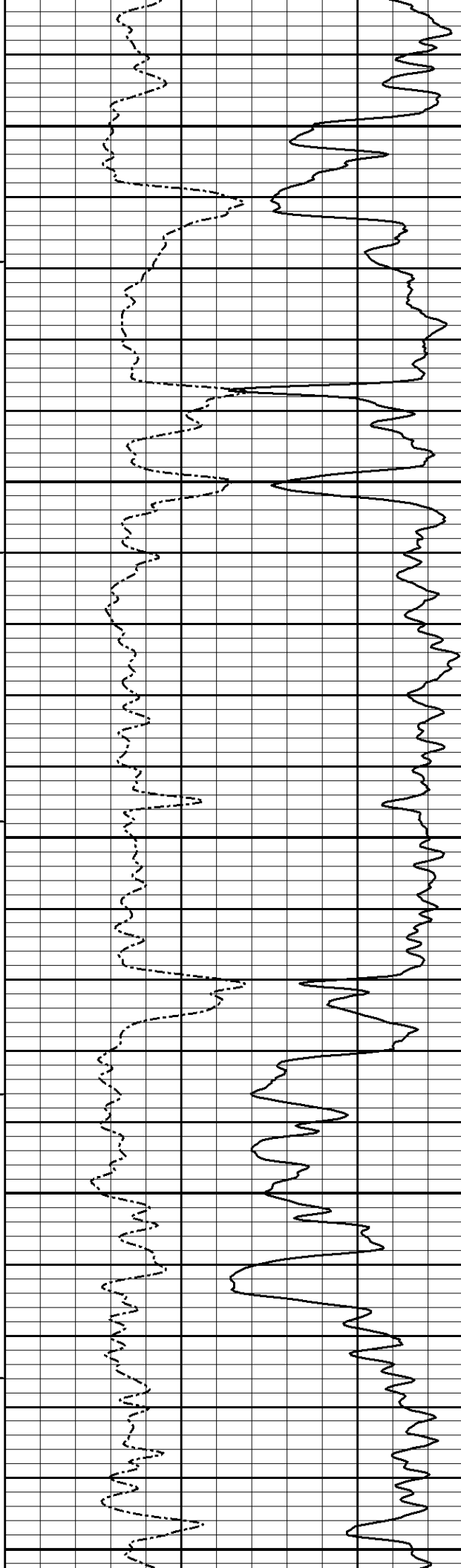
2300

2400

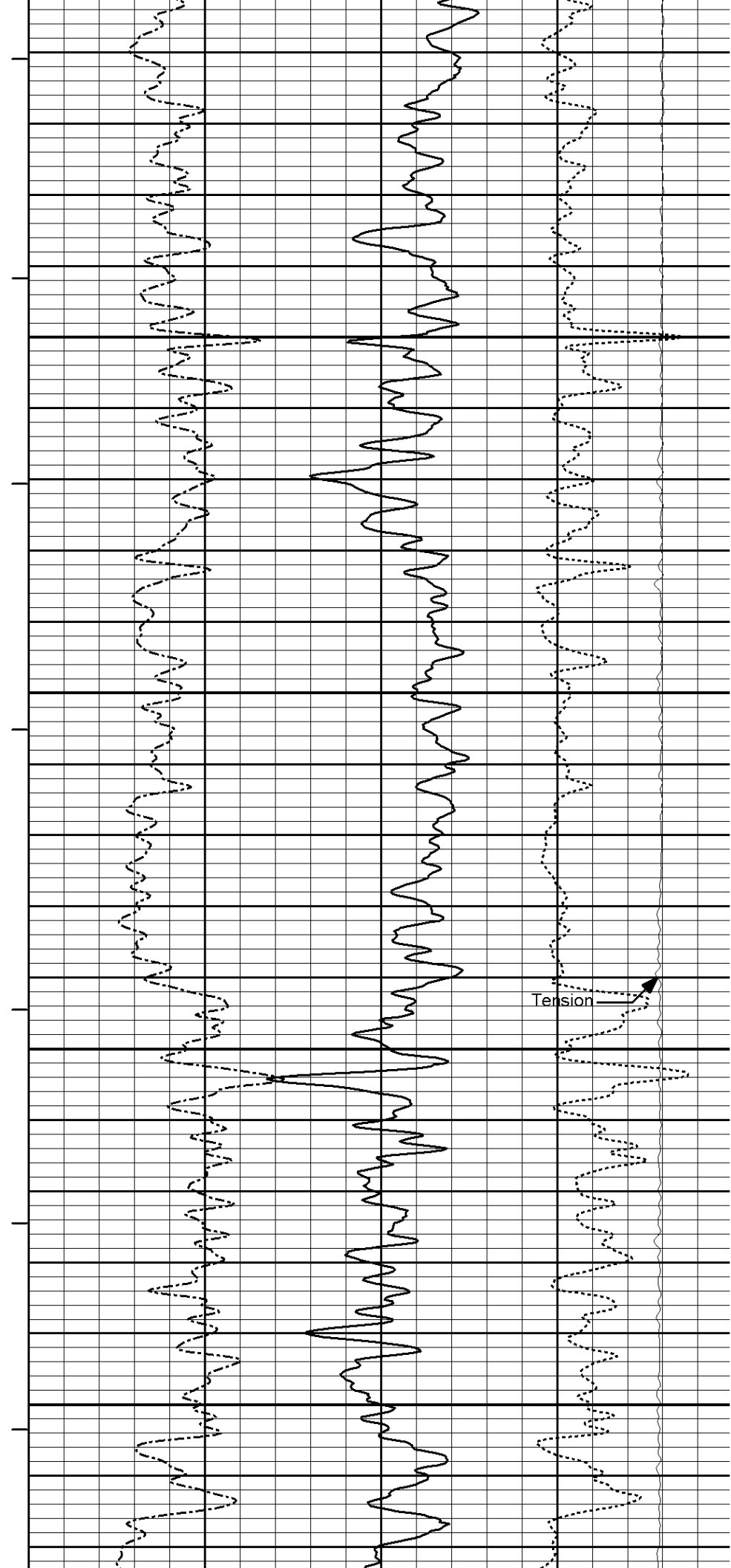
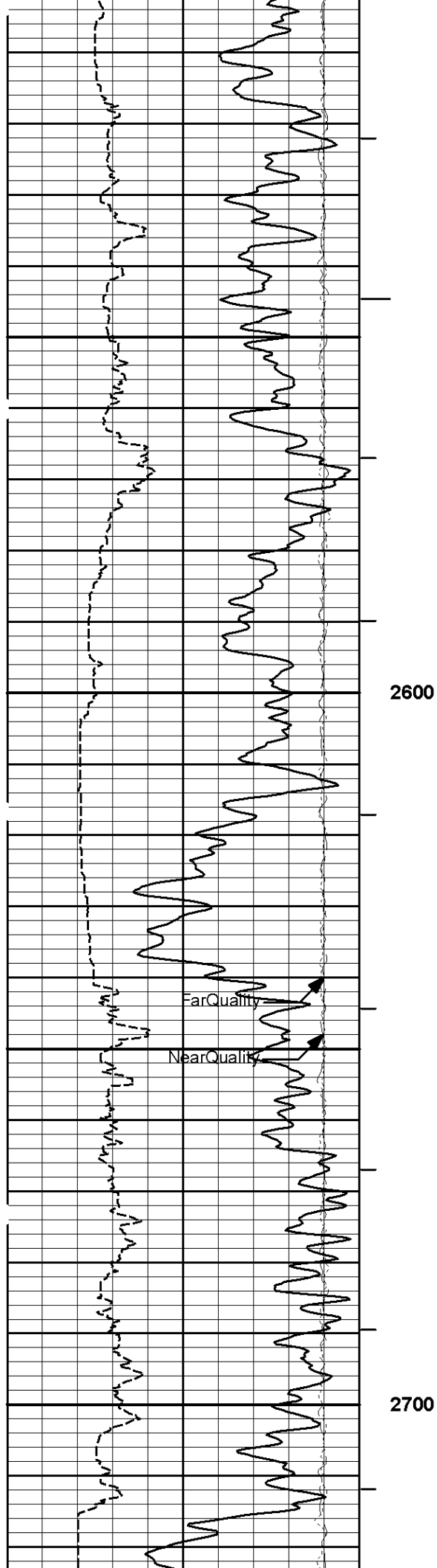
2500

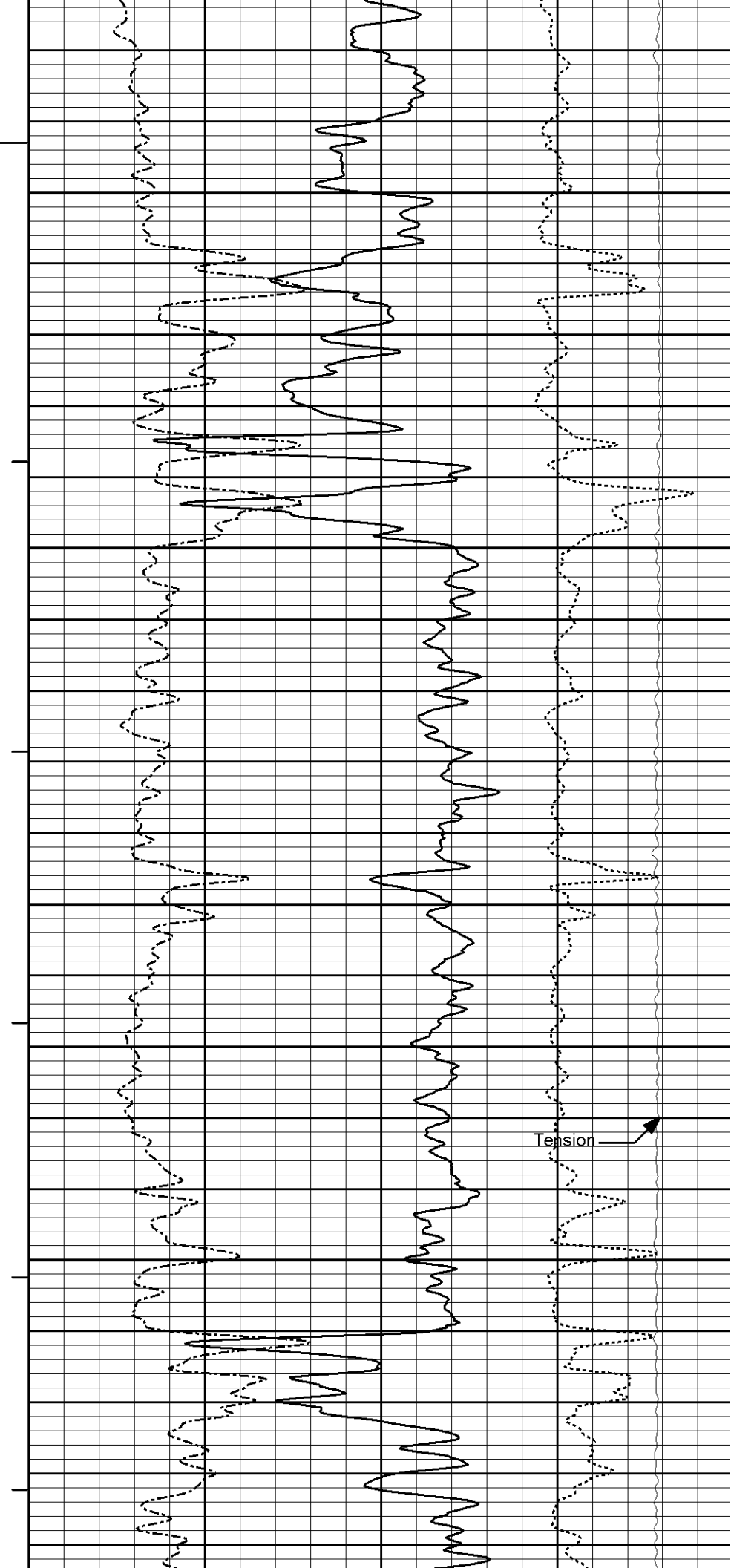
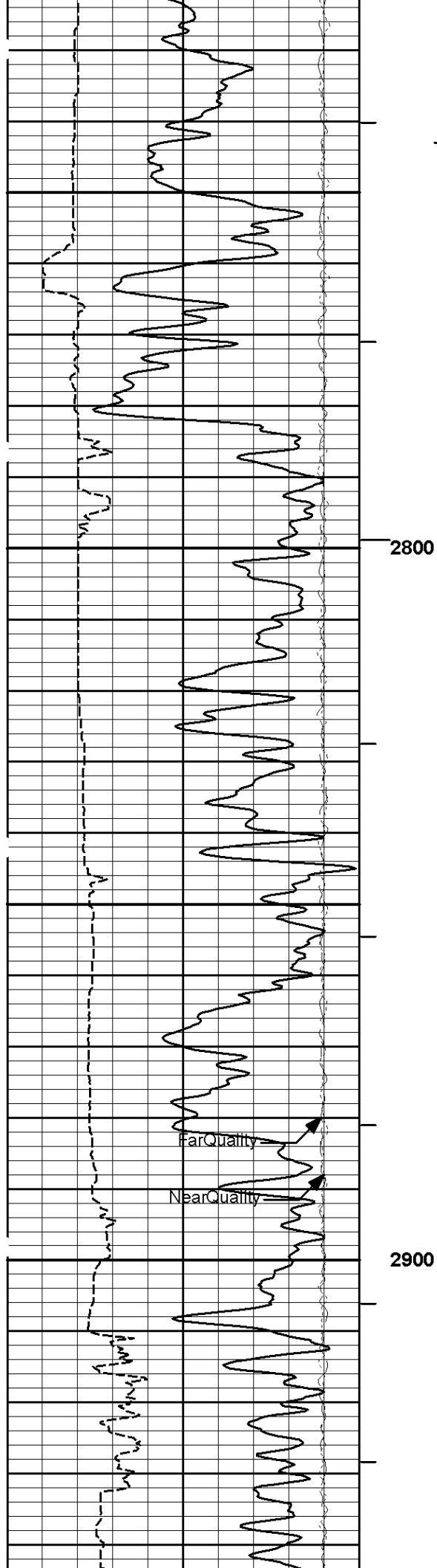
FarQuality

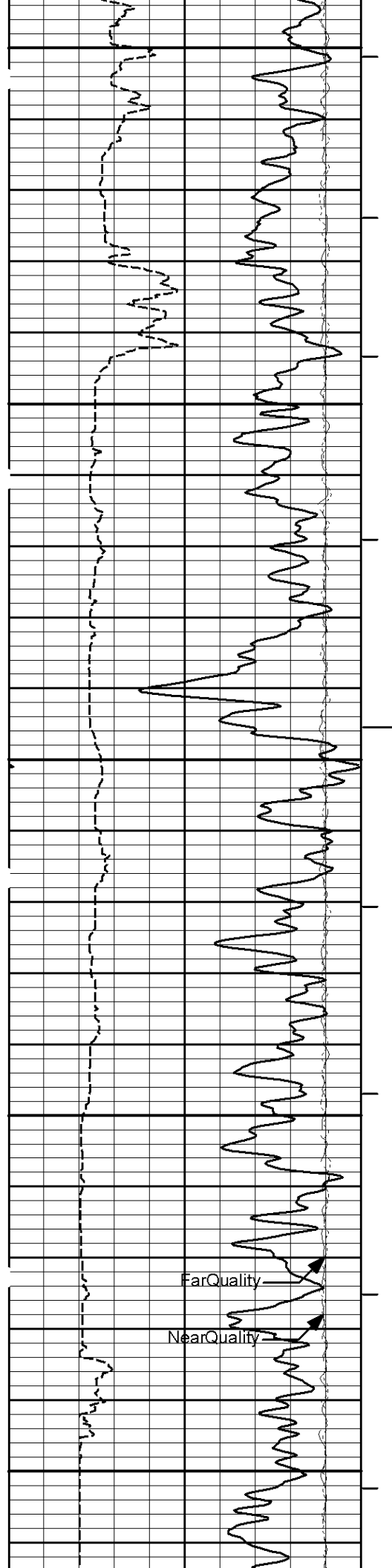
NearQuality



Tension





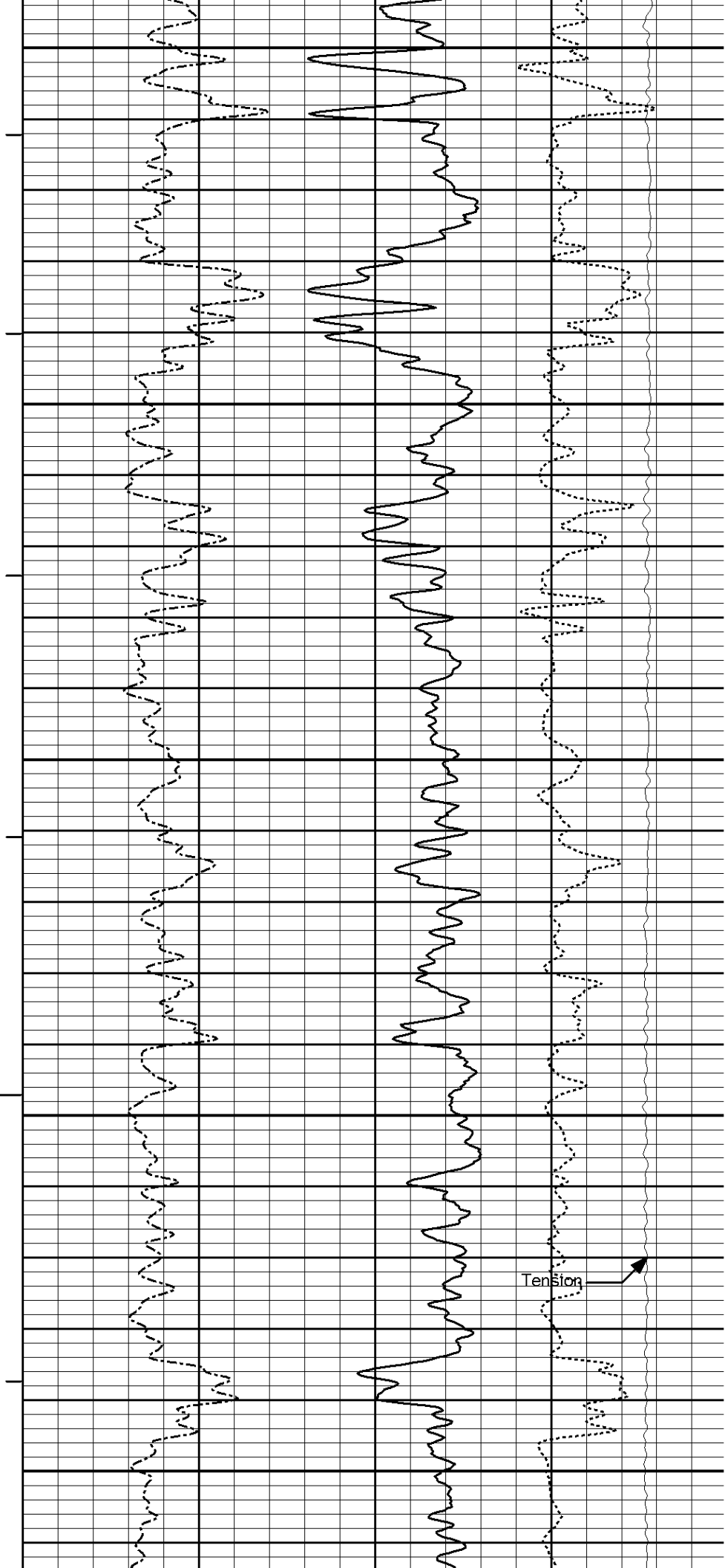


3000

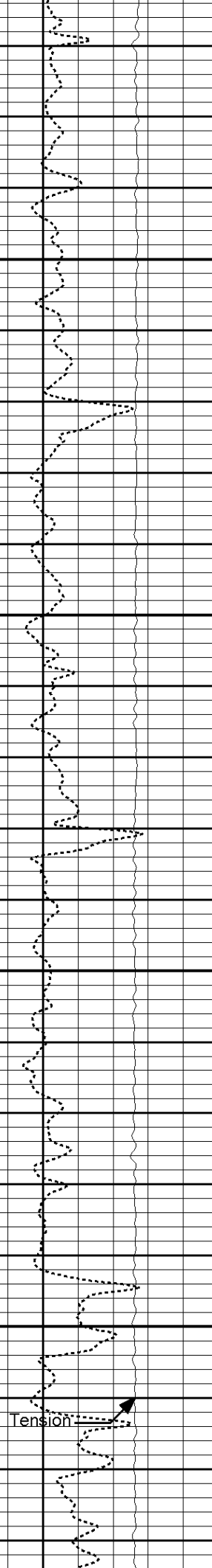
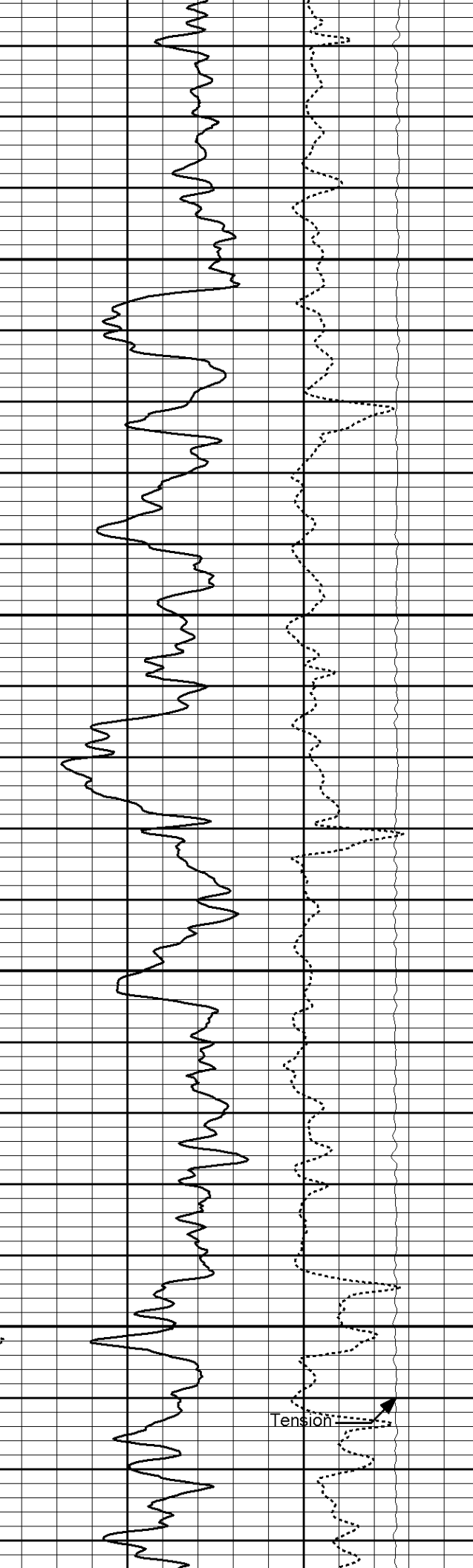
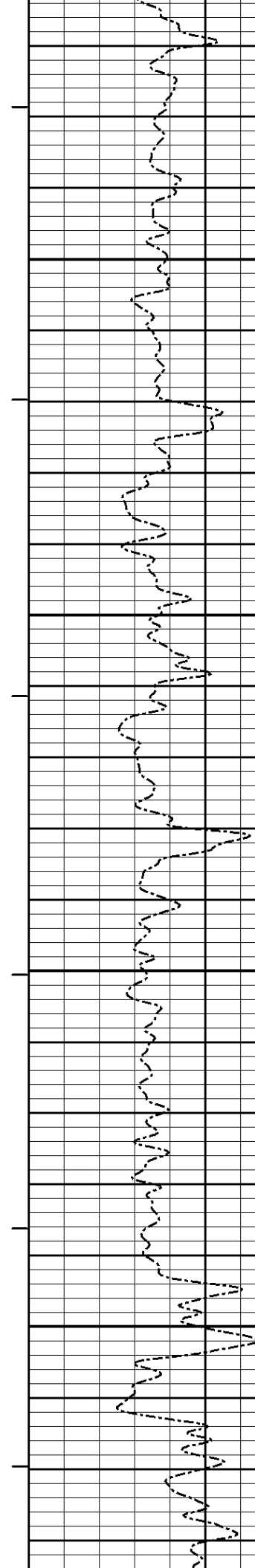
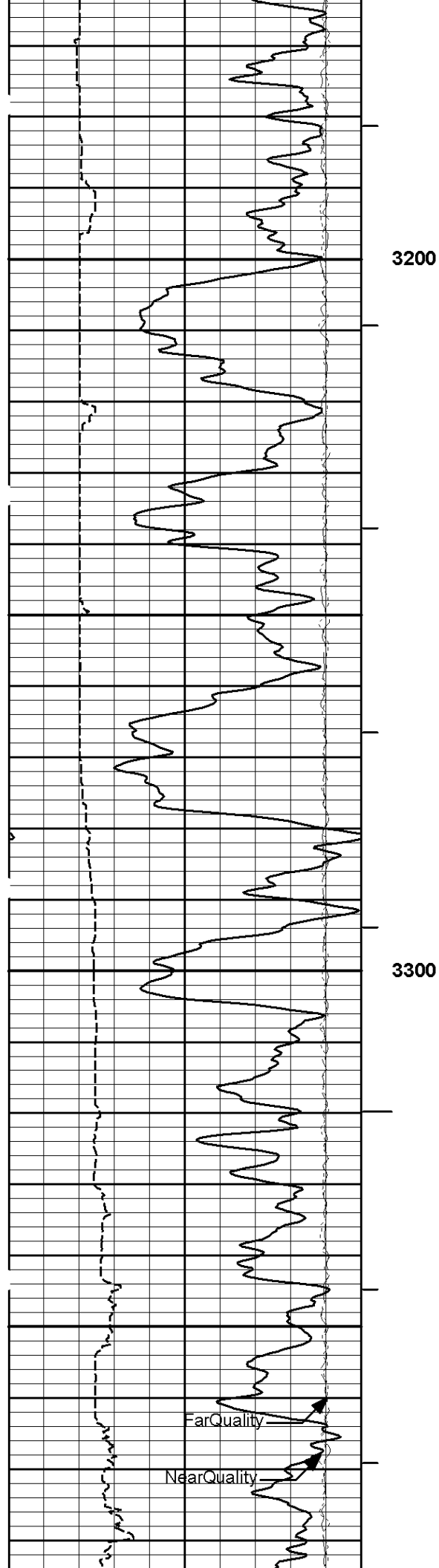
3100

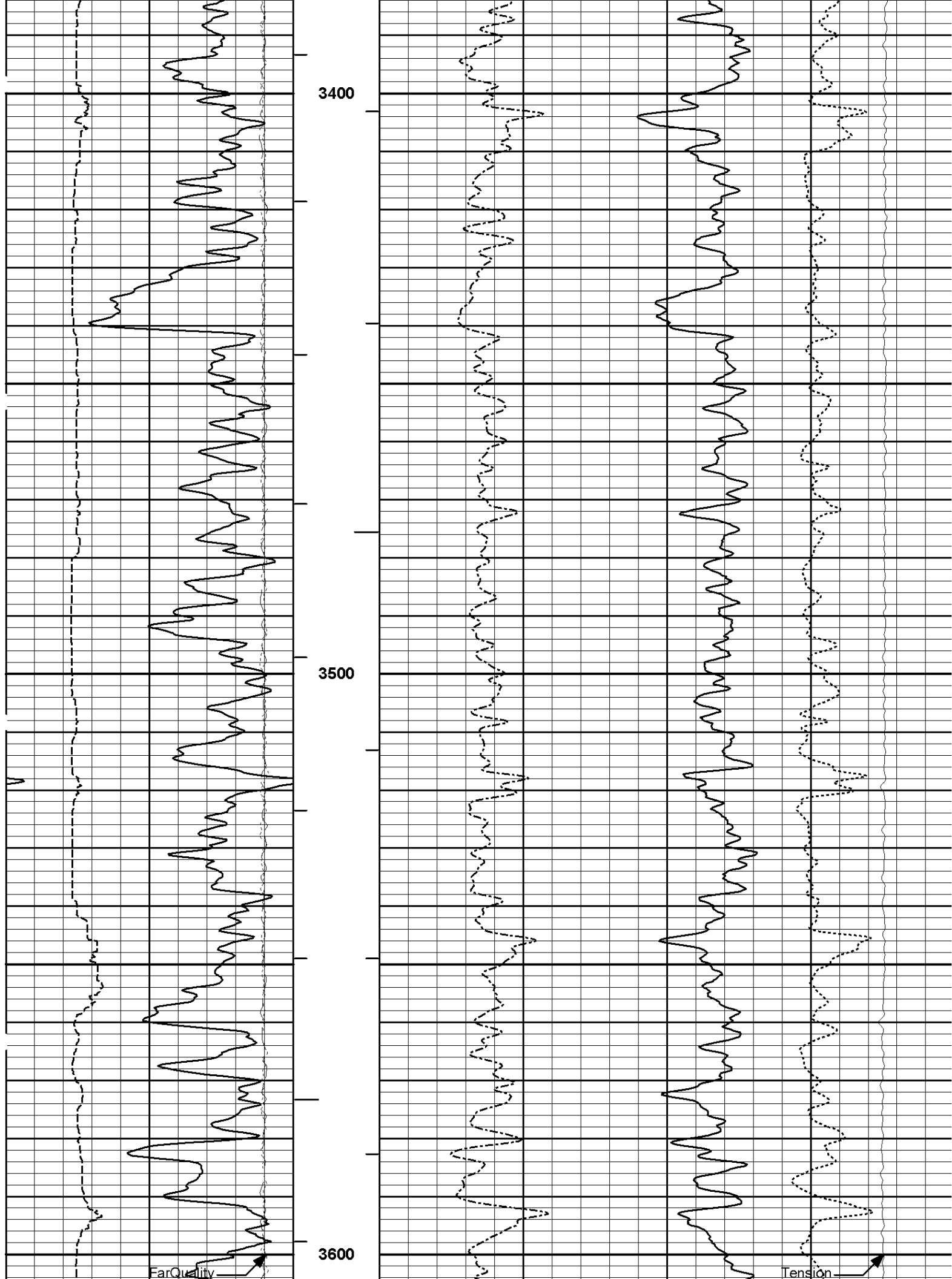
FarQuality

NearQuality



Tension

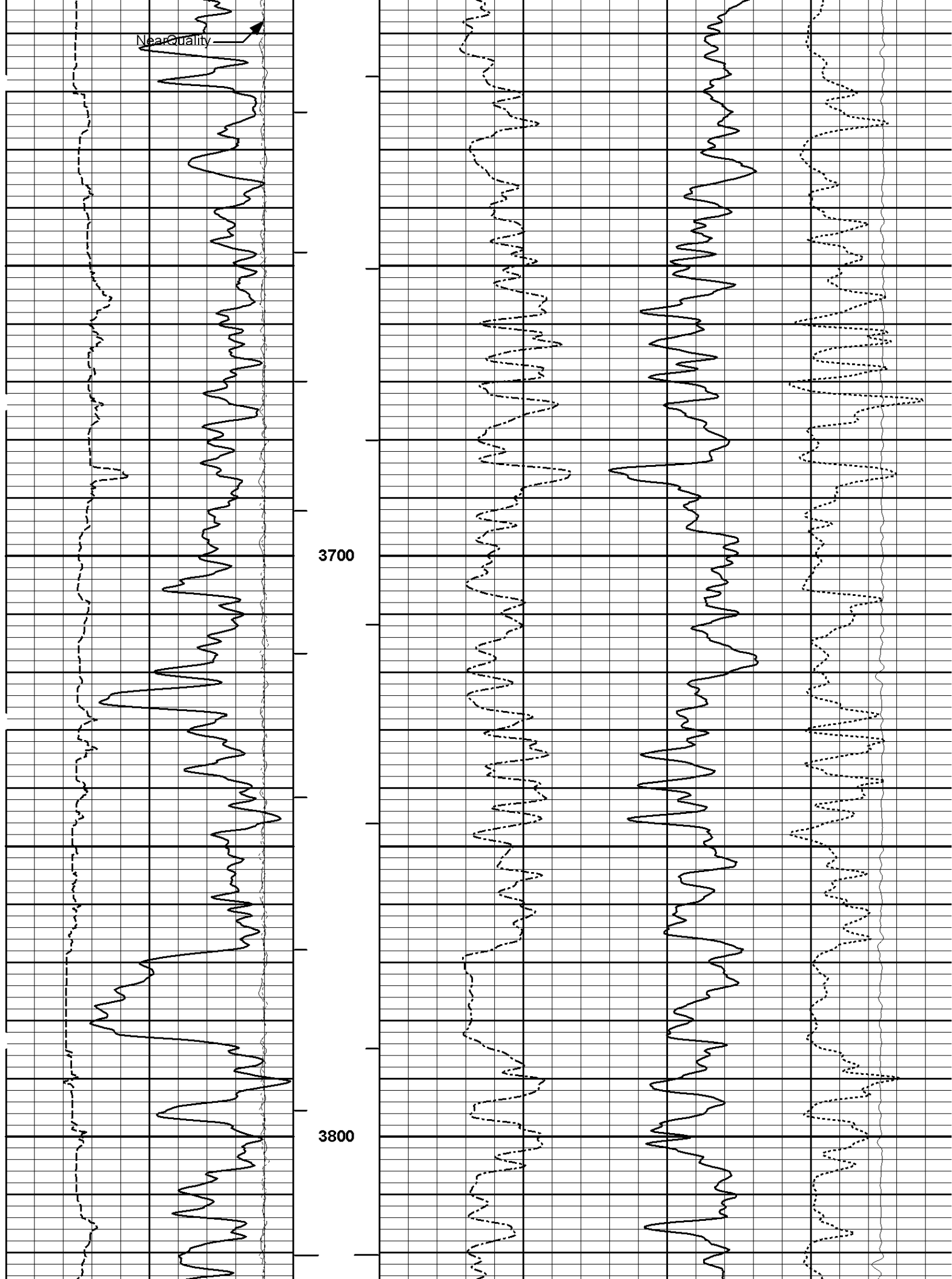


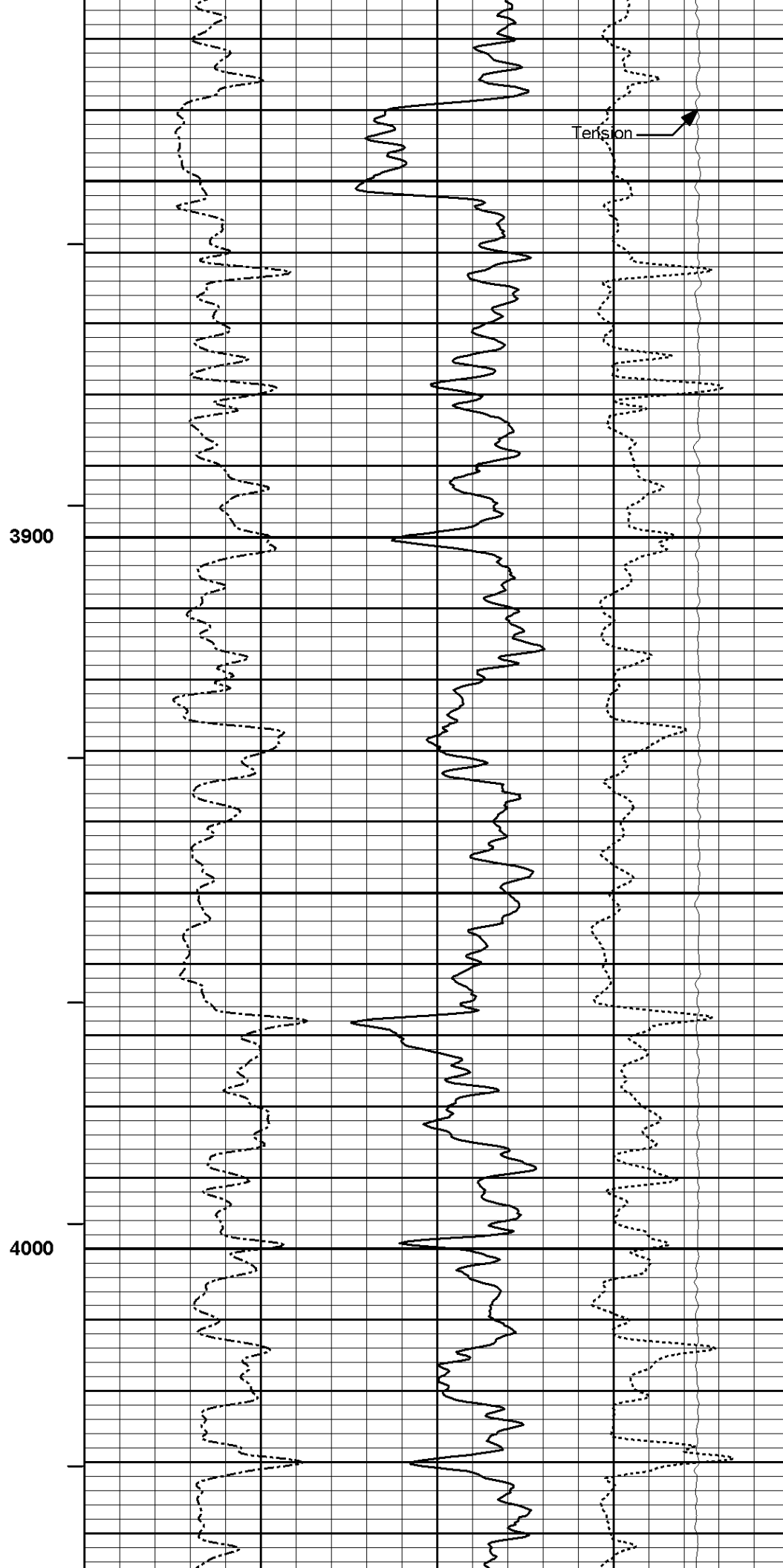
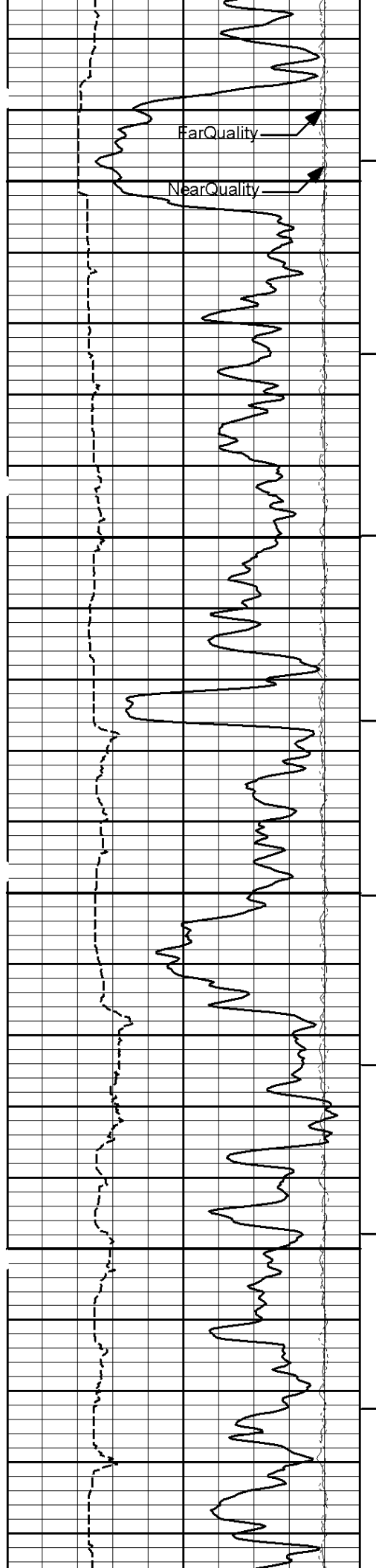


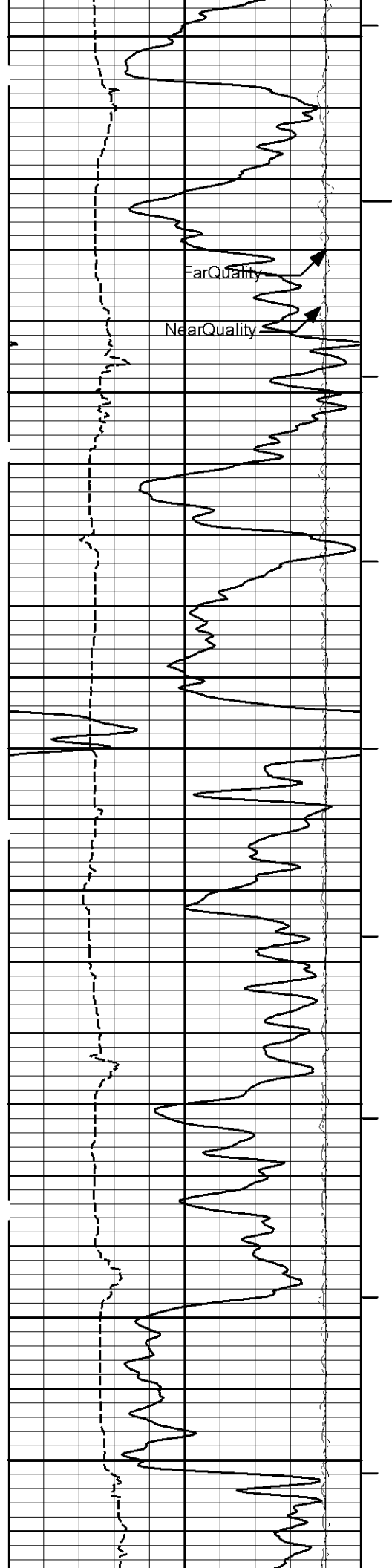
NearQuality

3700

3800

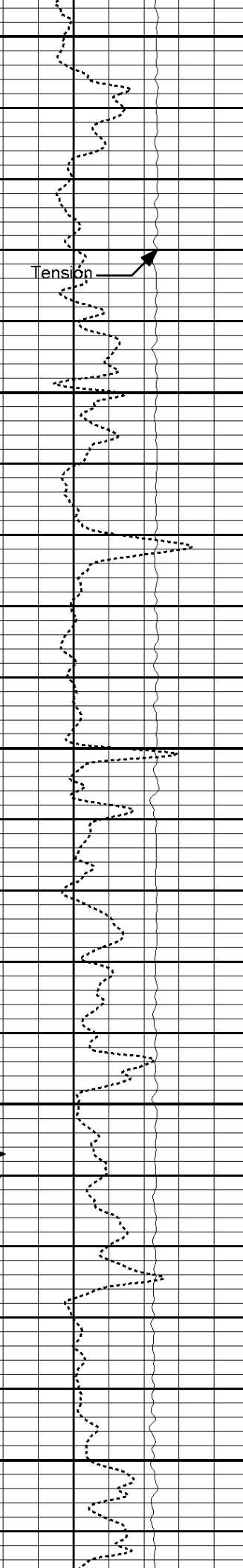
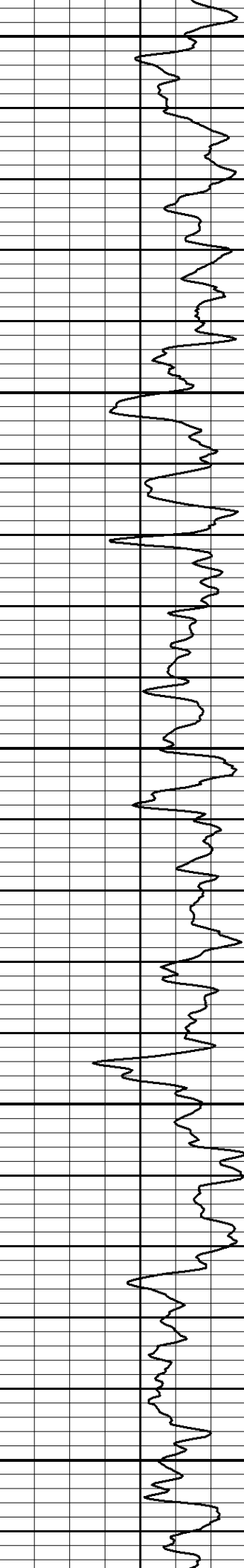
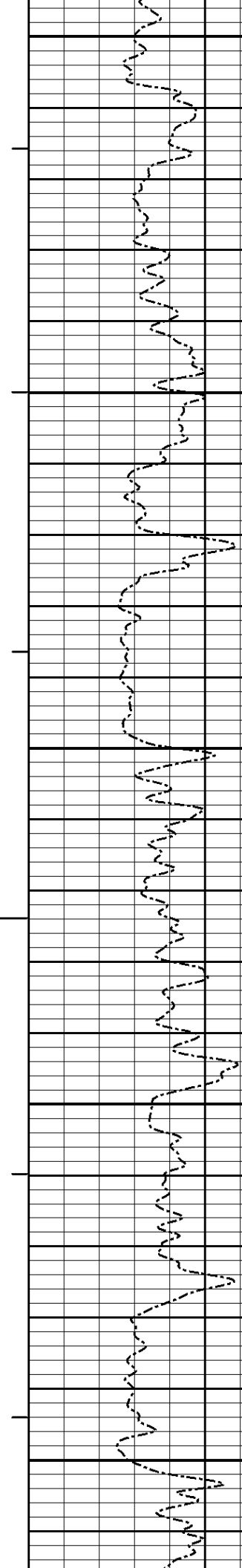


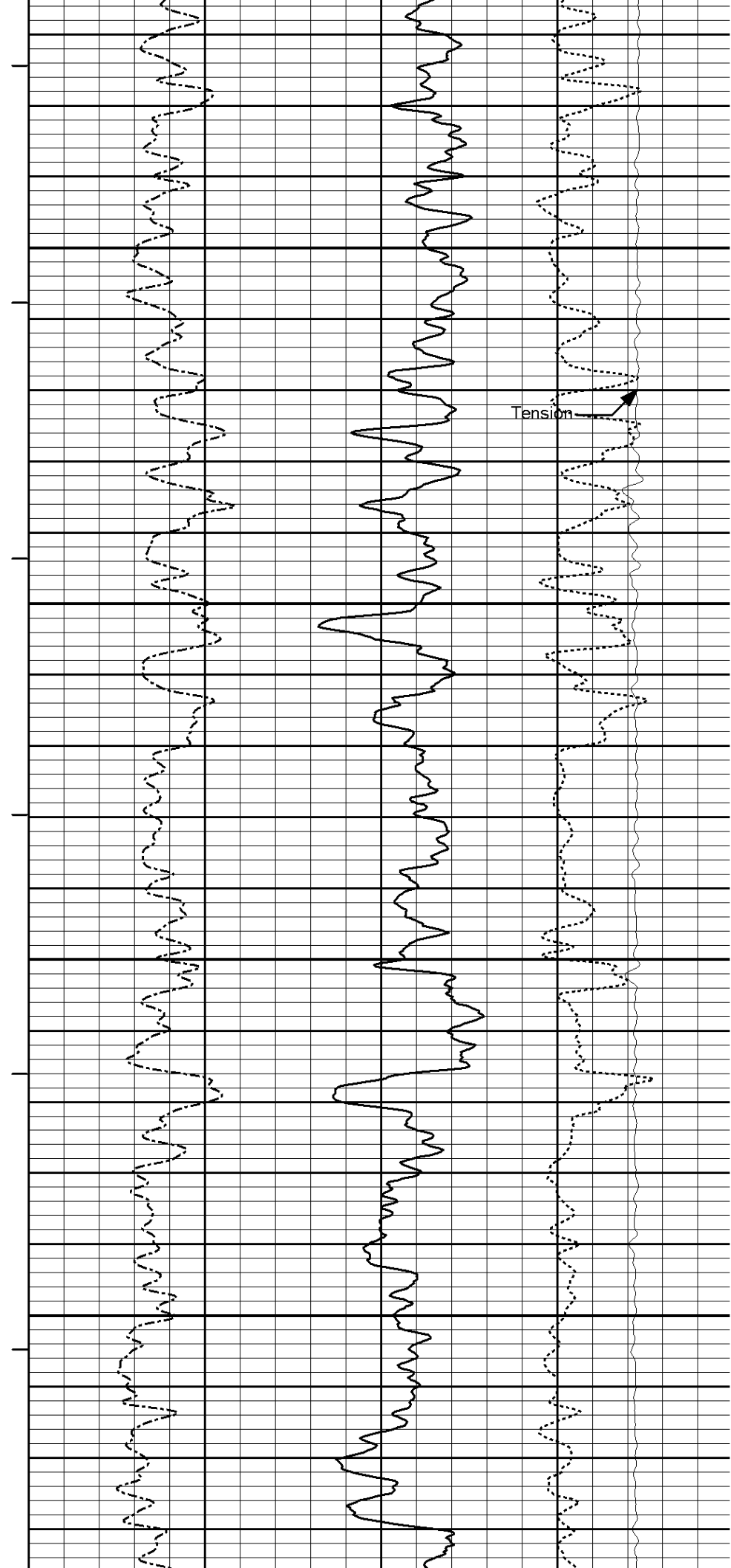
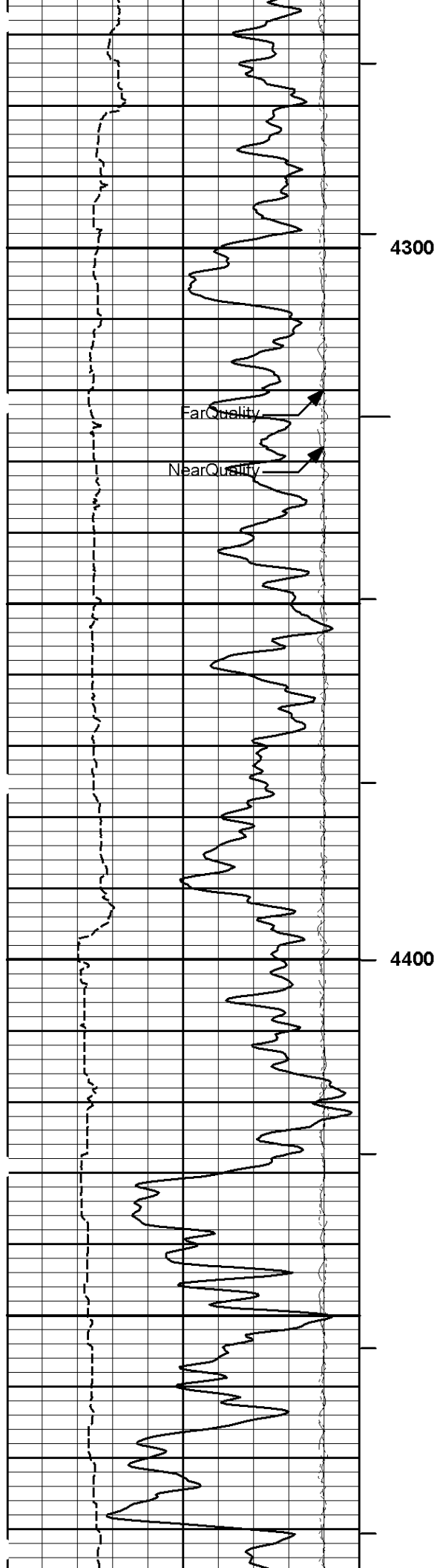


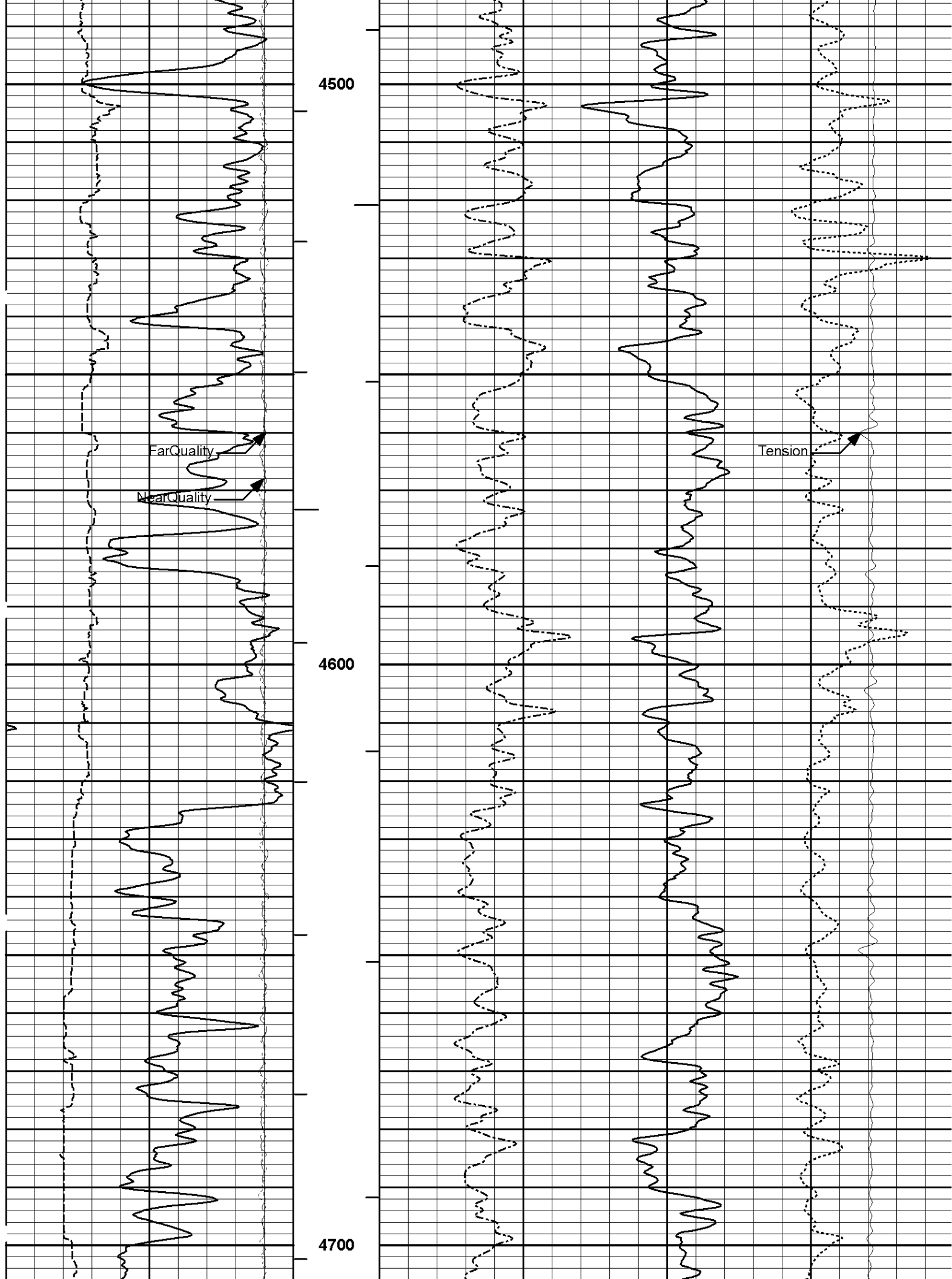


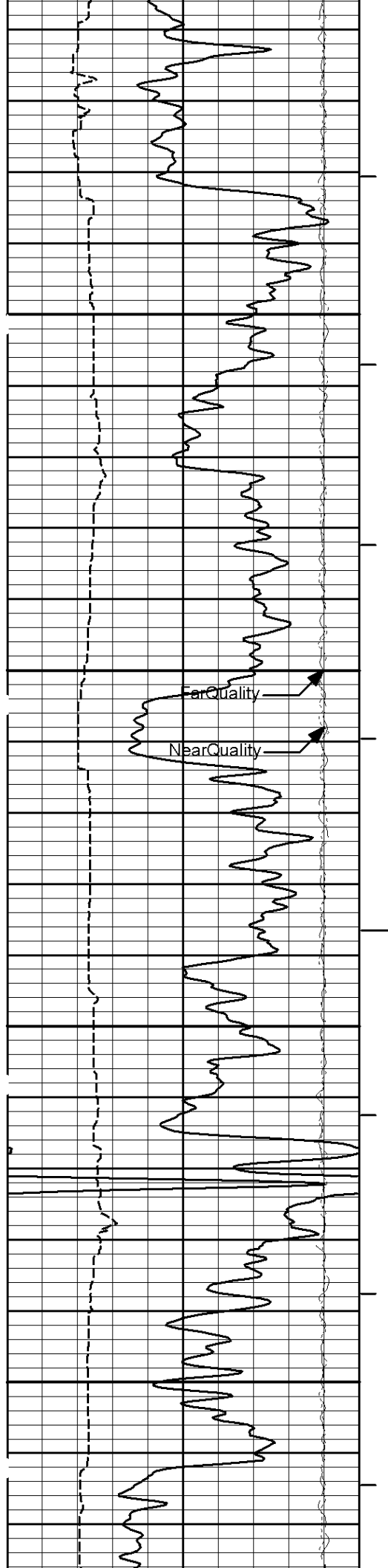
4100

4200



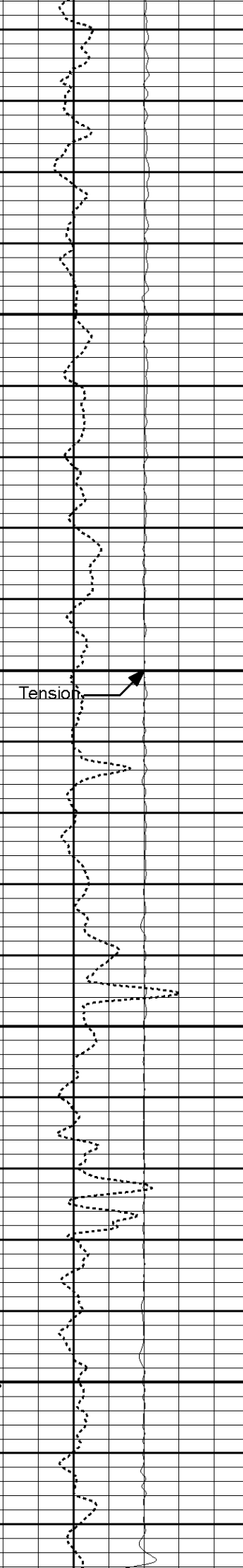
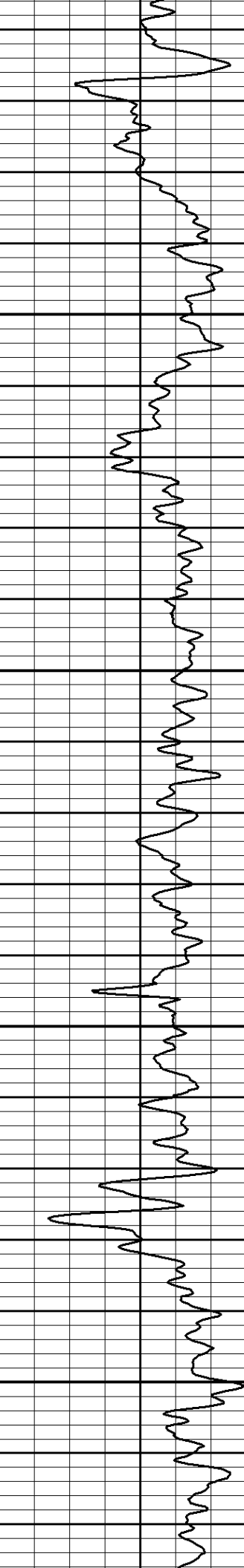
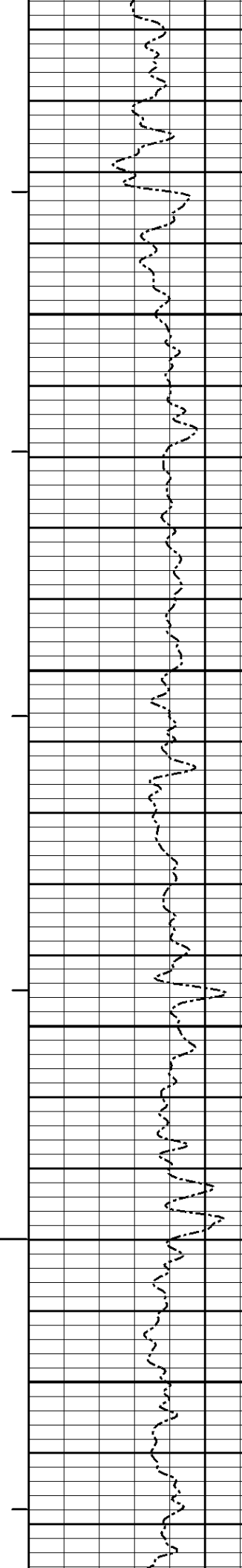


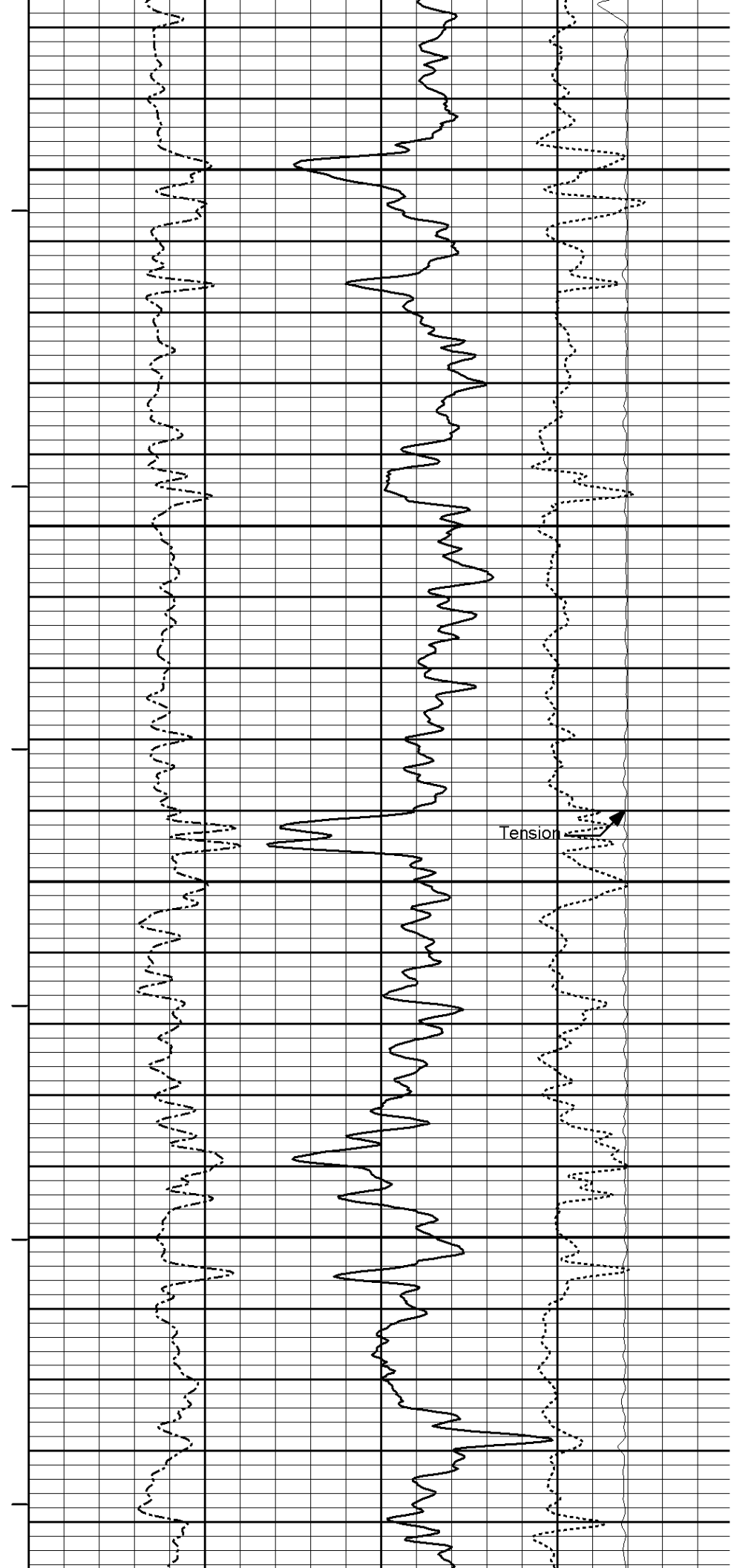
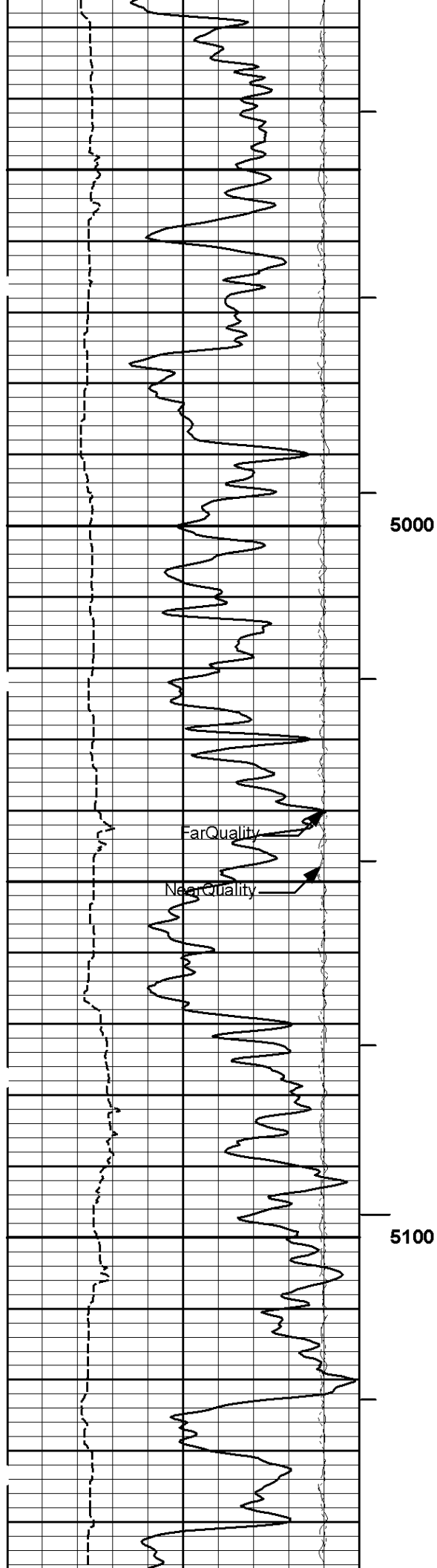


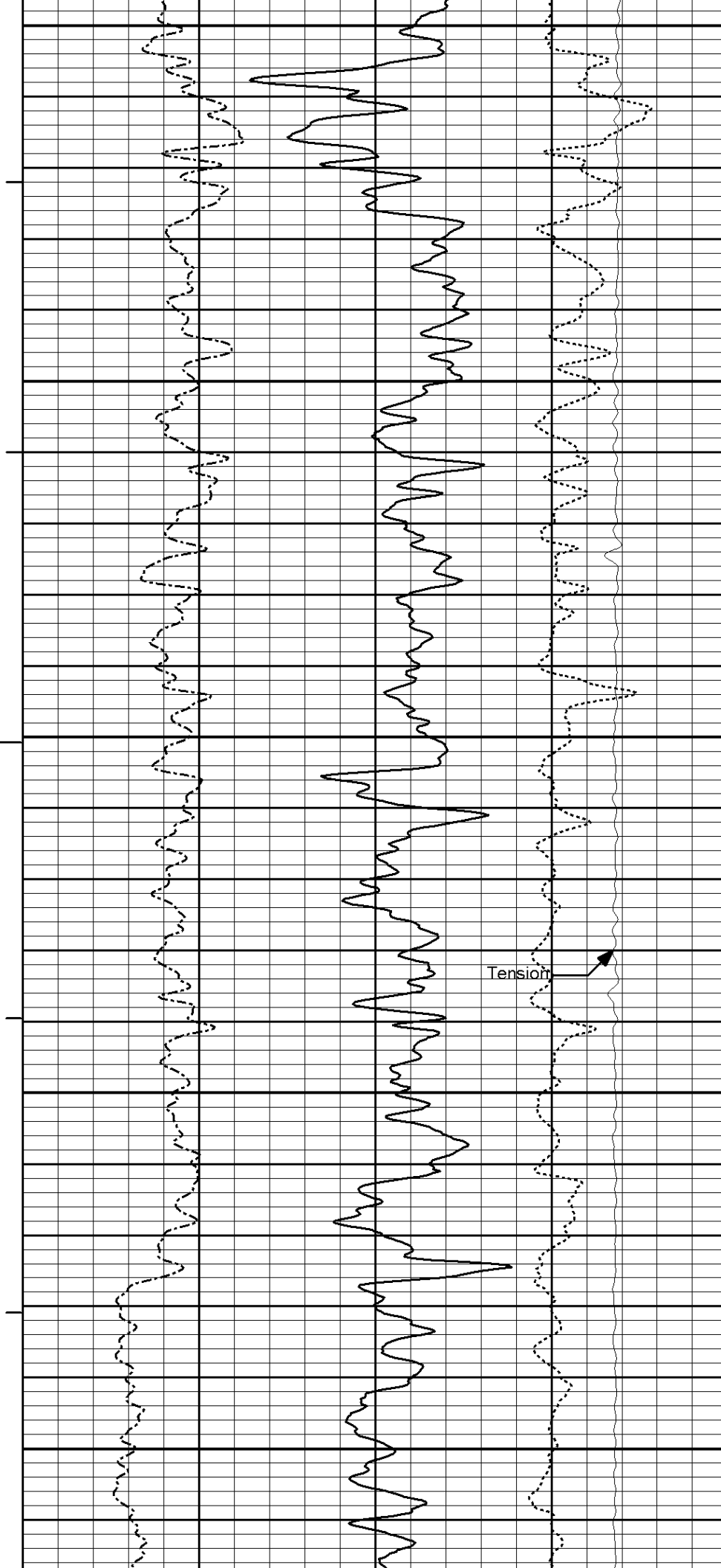
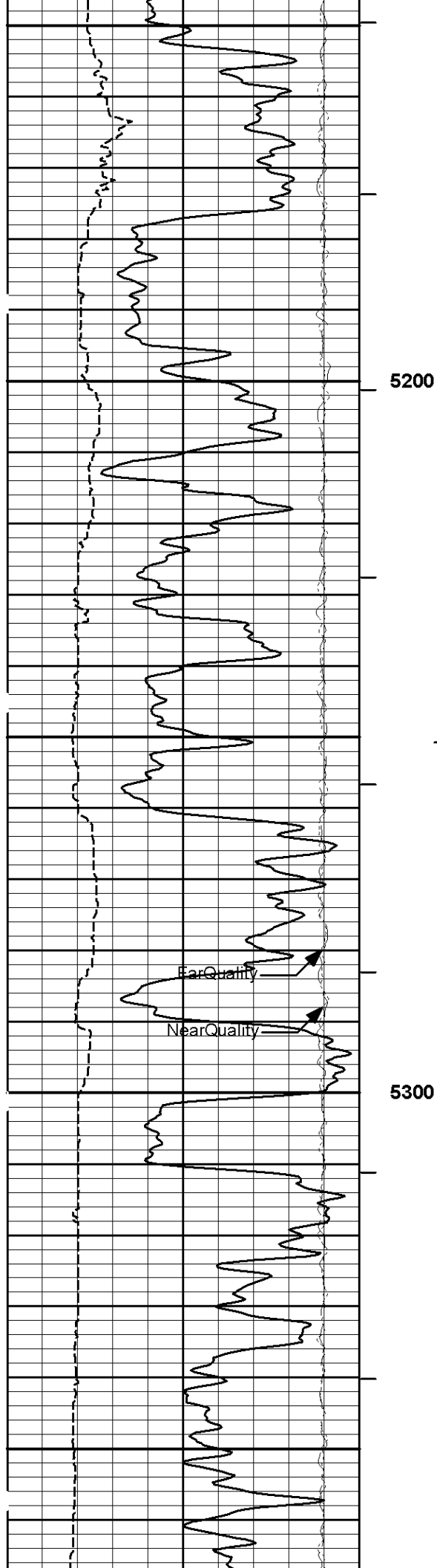


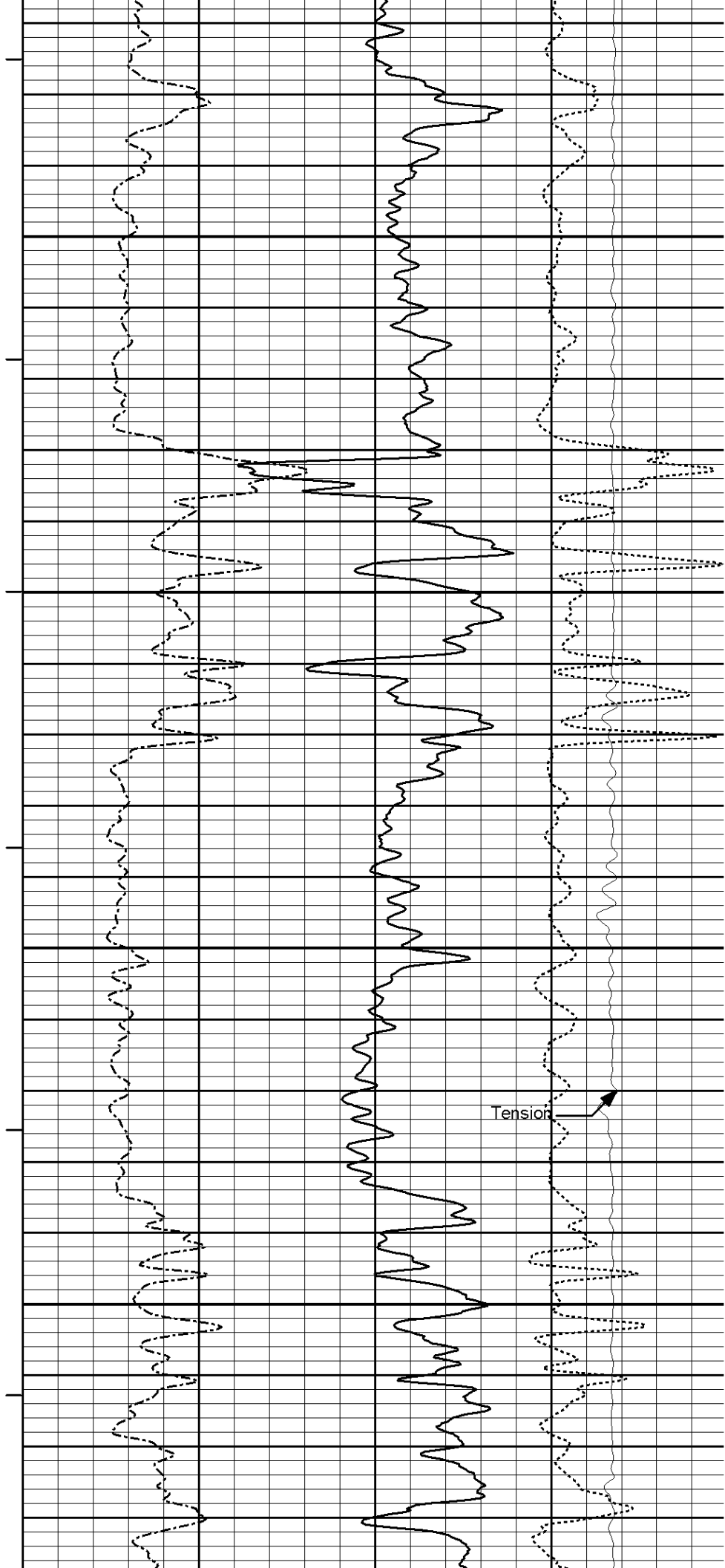
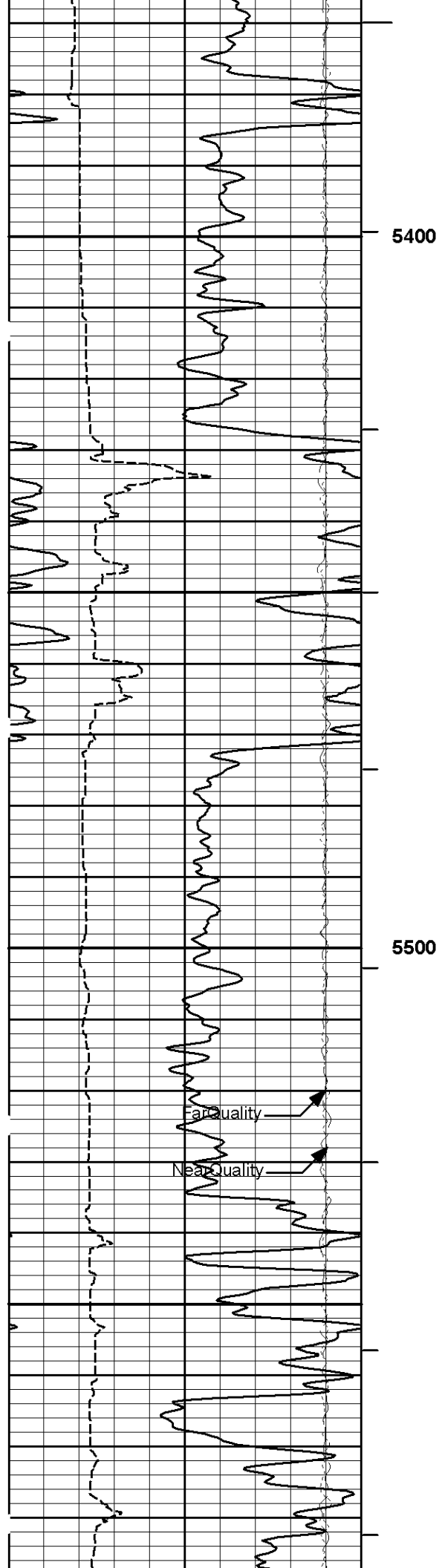
4800

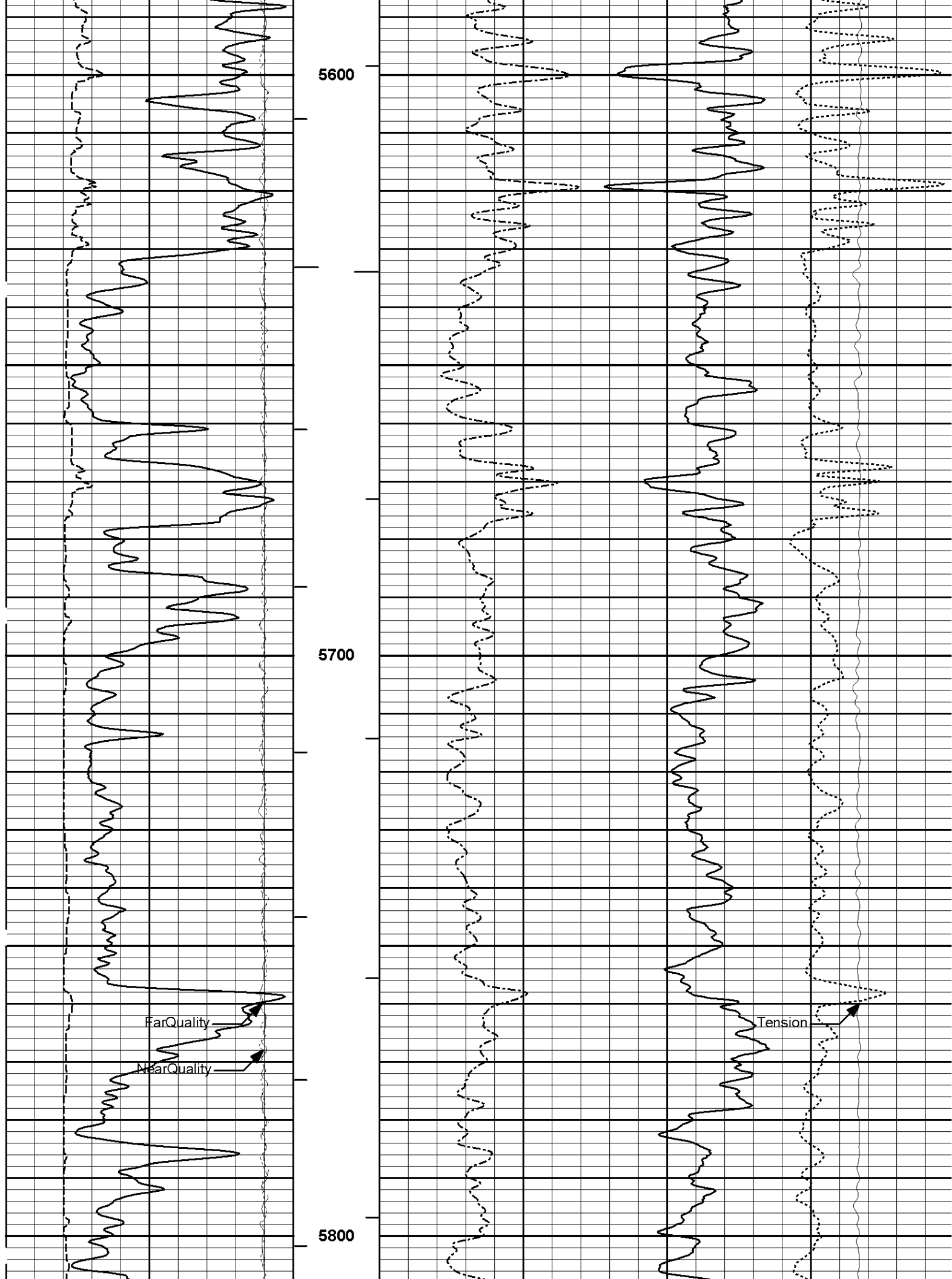
4900

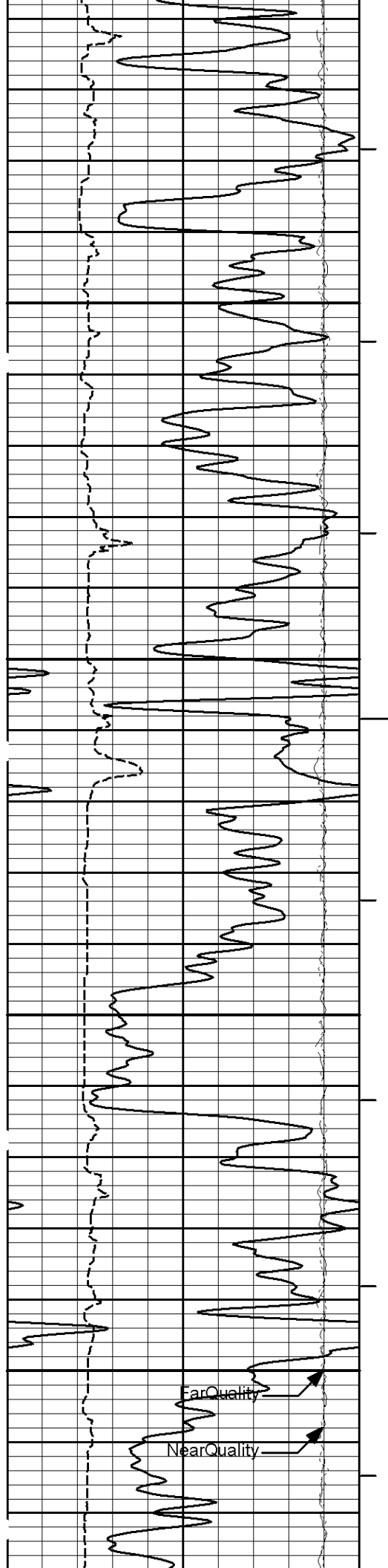






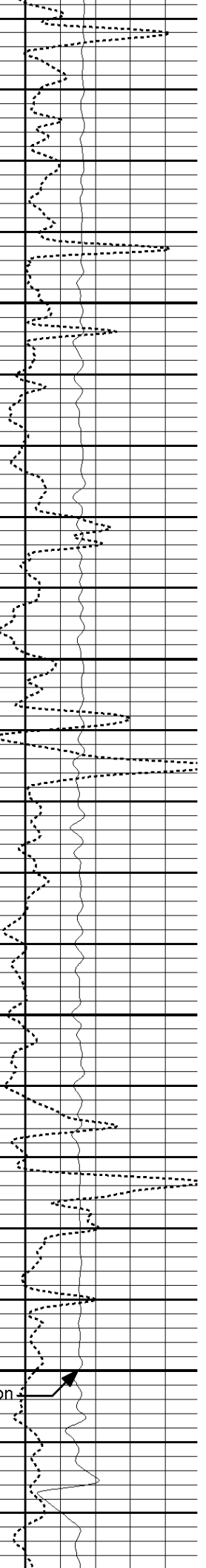
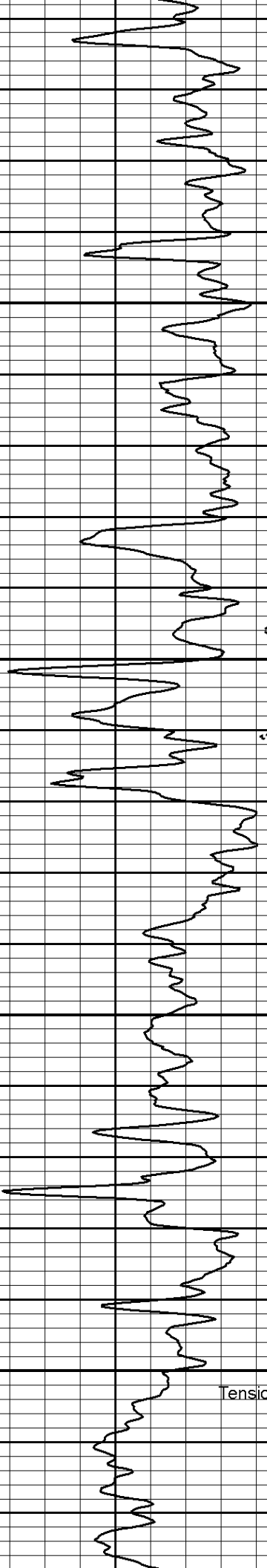
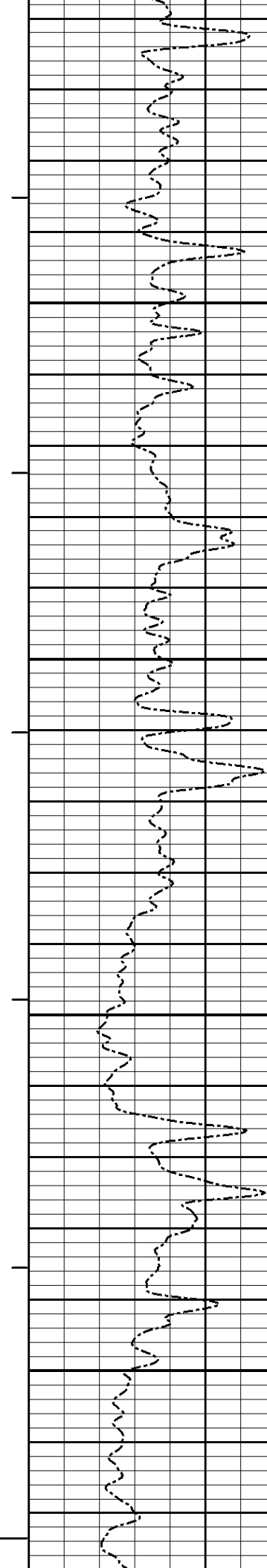


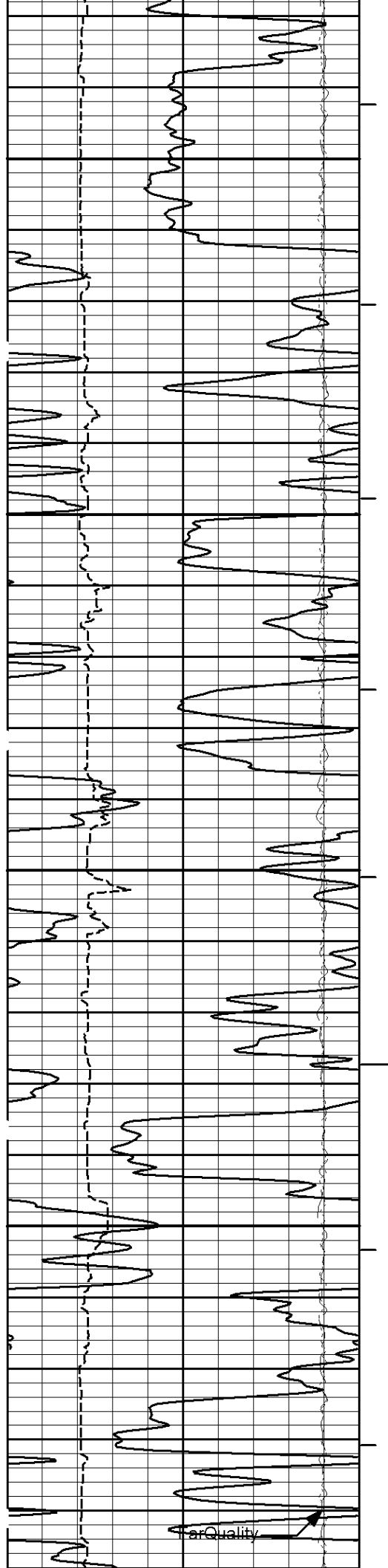




5900

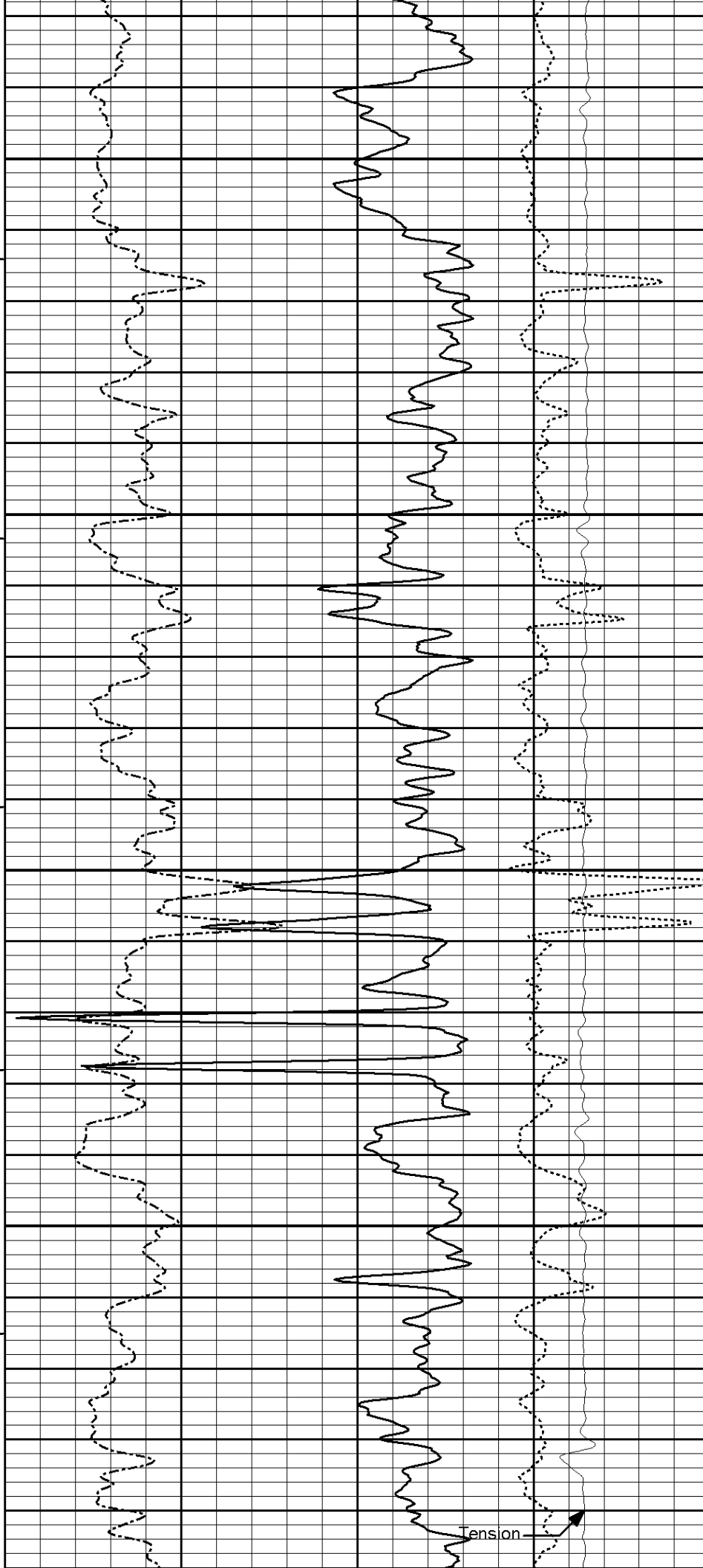
6000

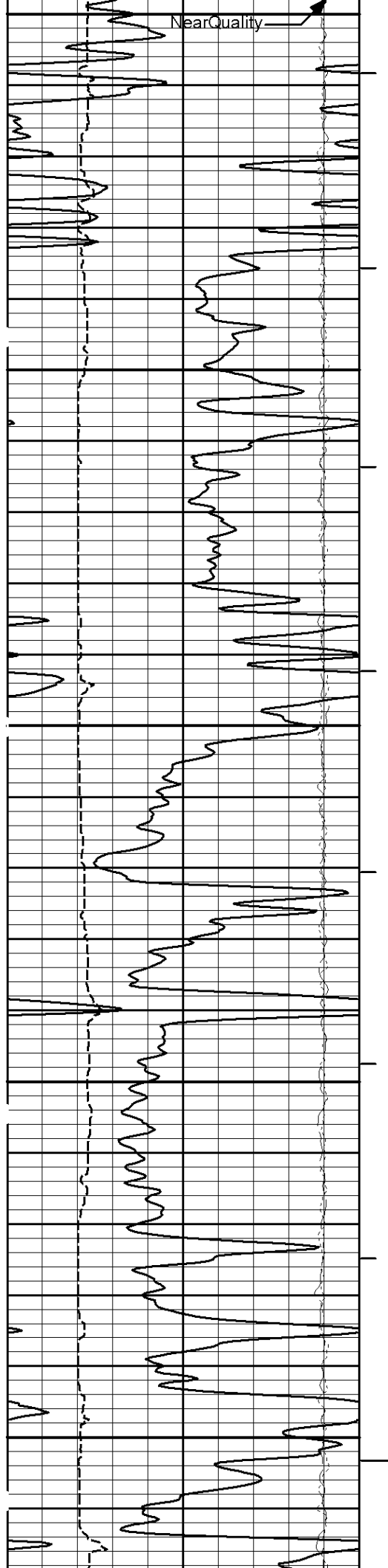




6100

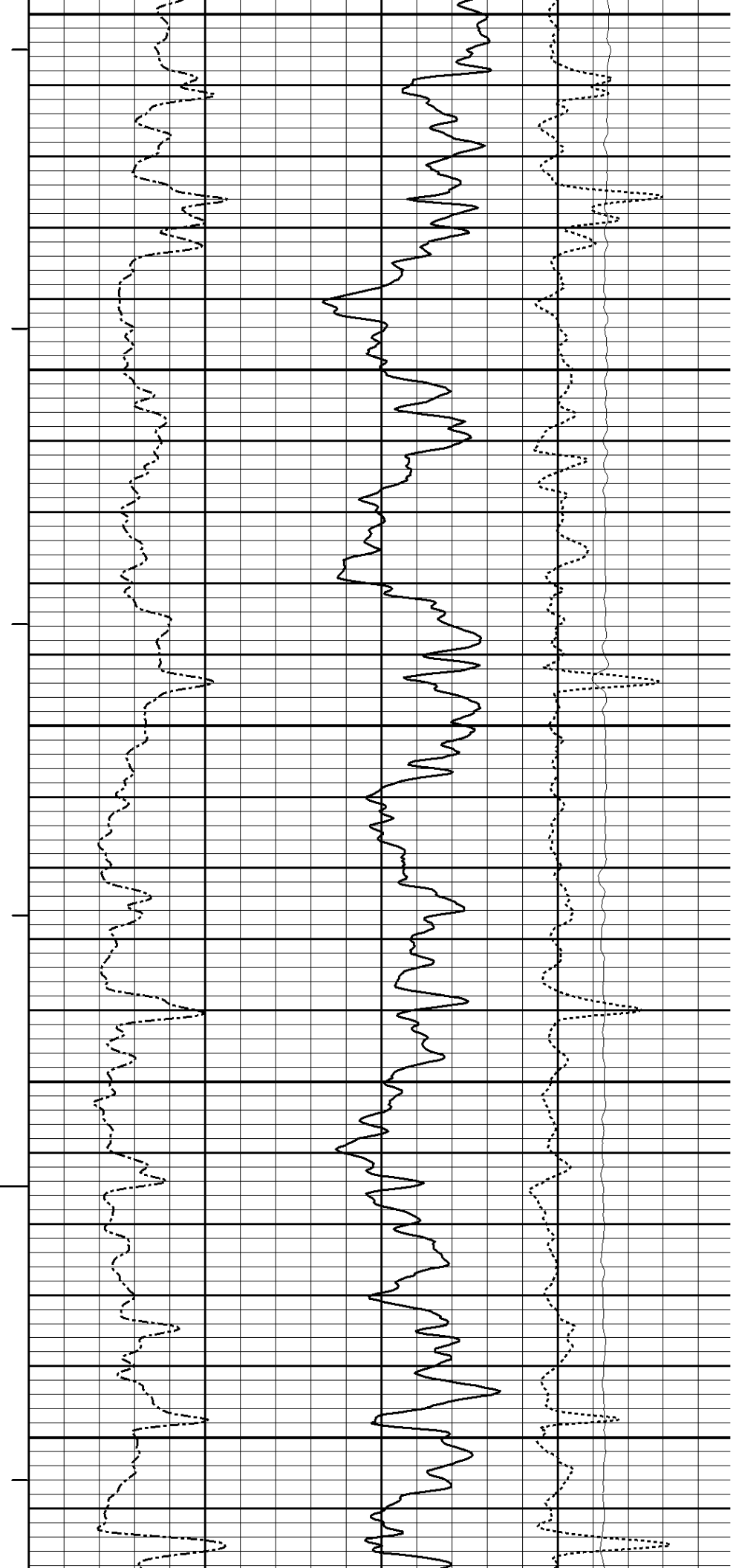
6200

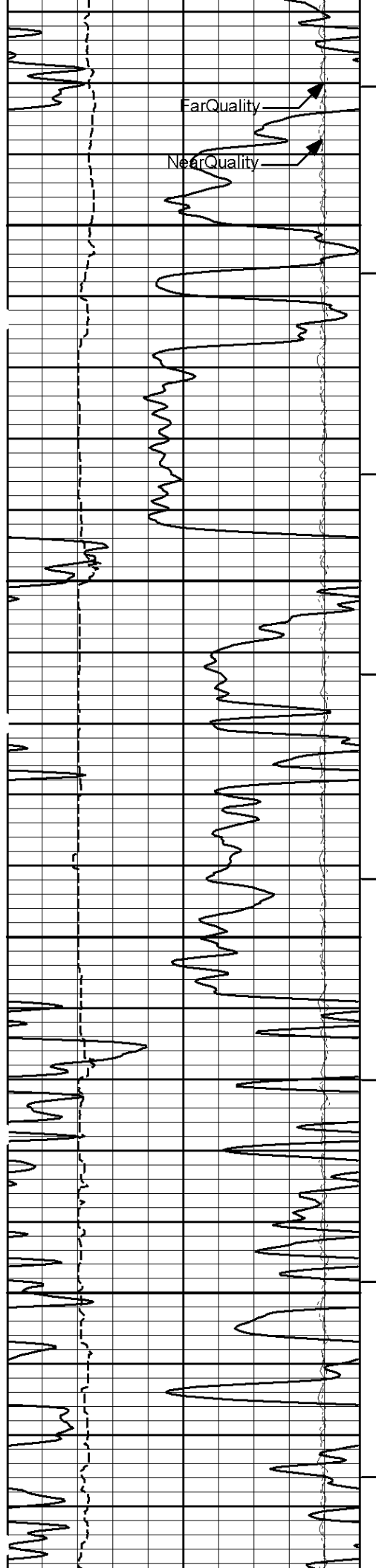




6300

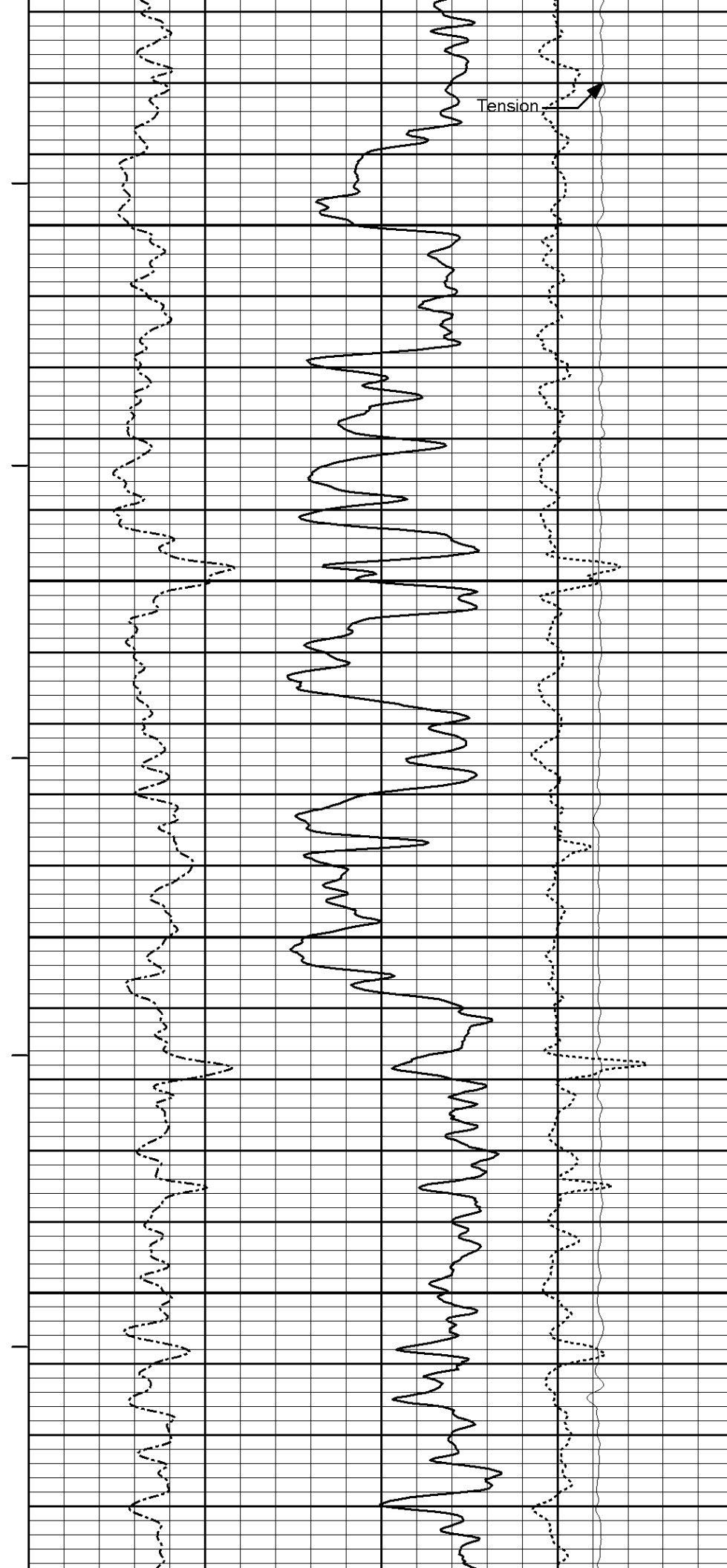
6400

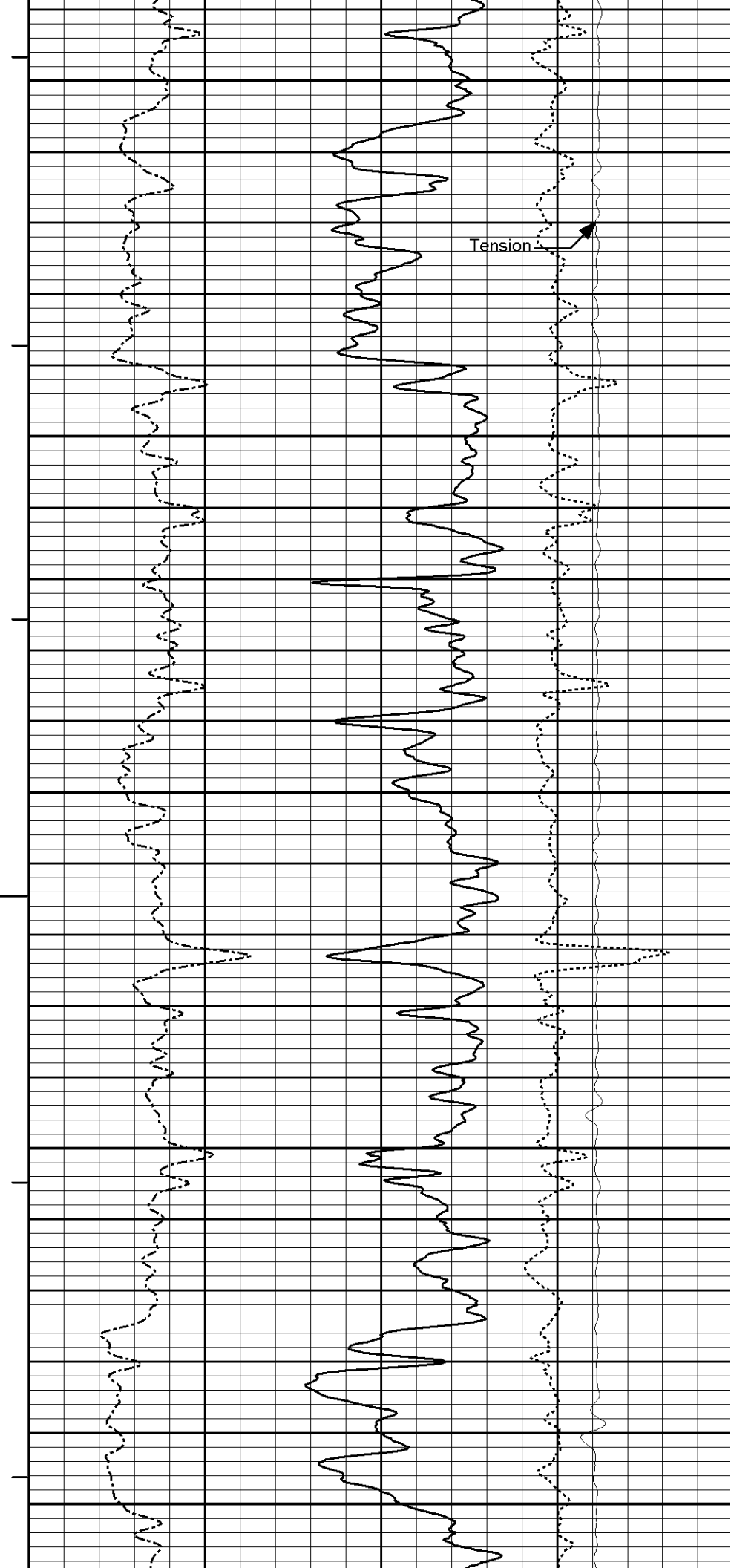
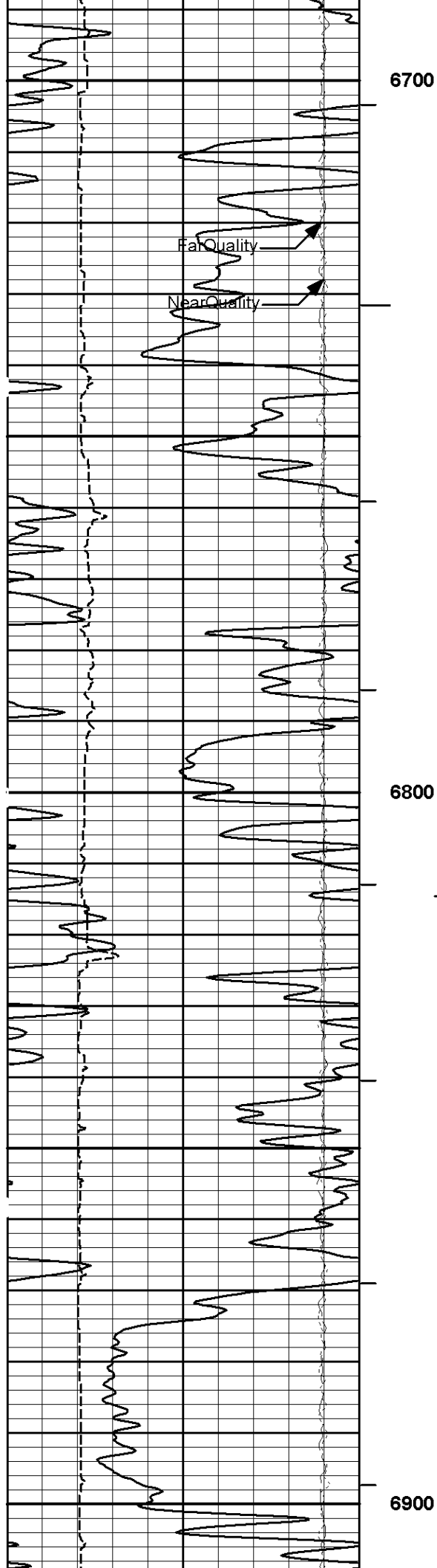


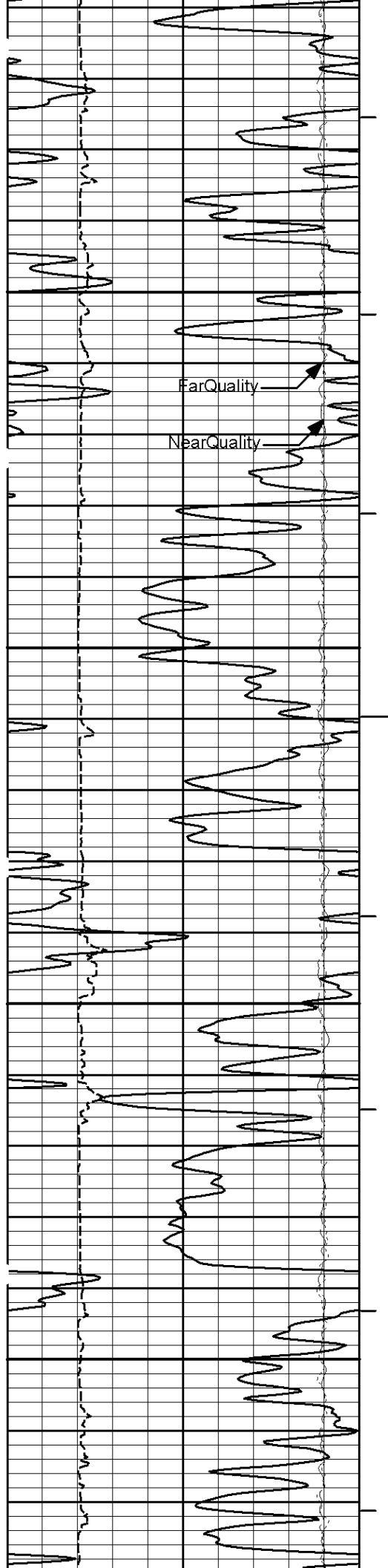


6500

6600

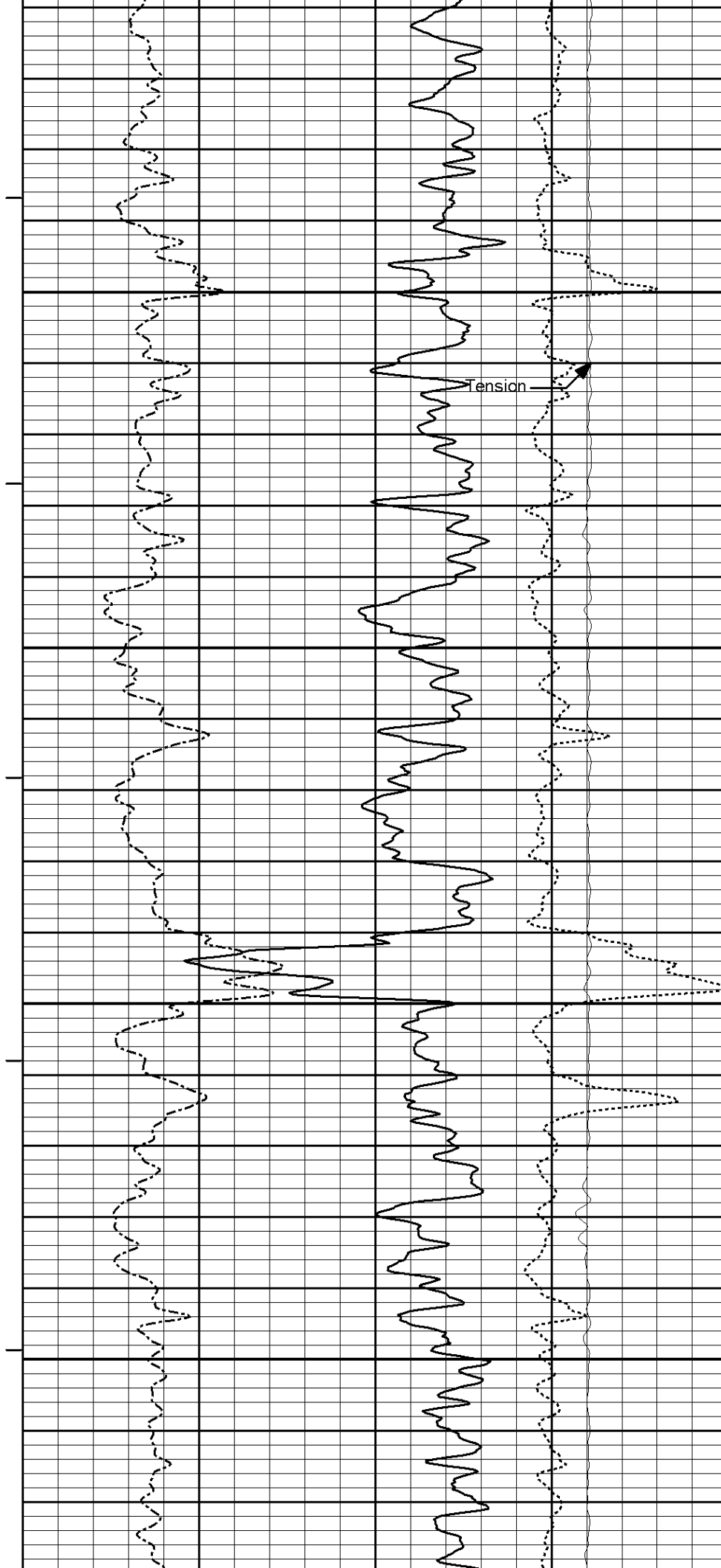


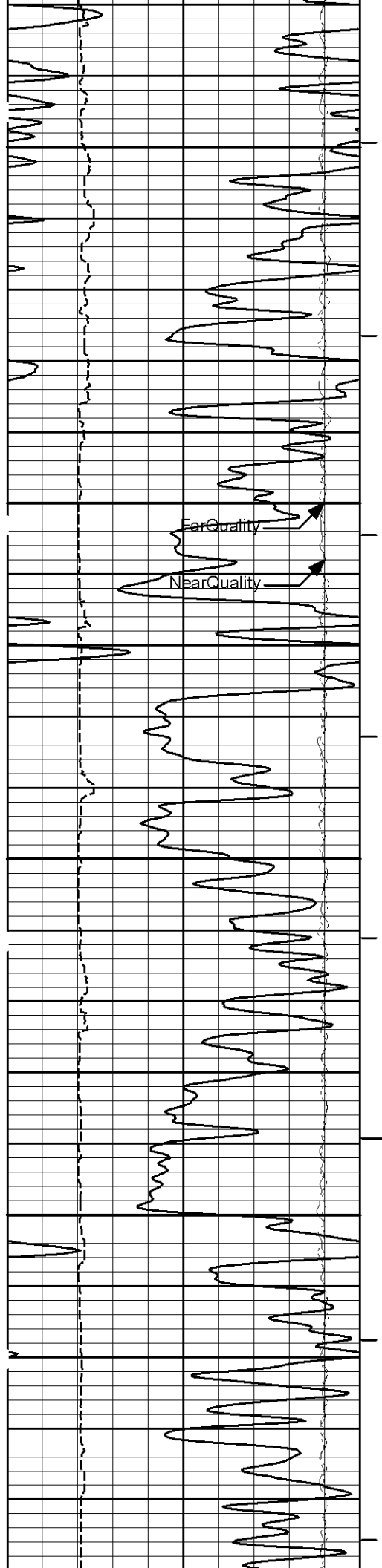




7000

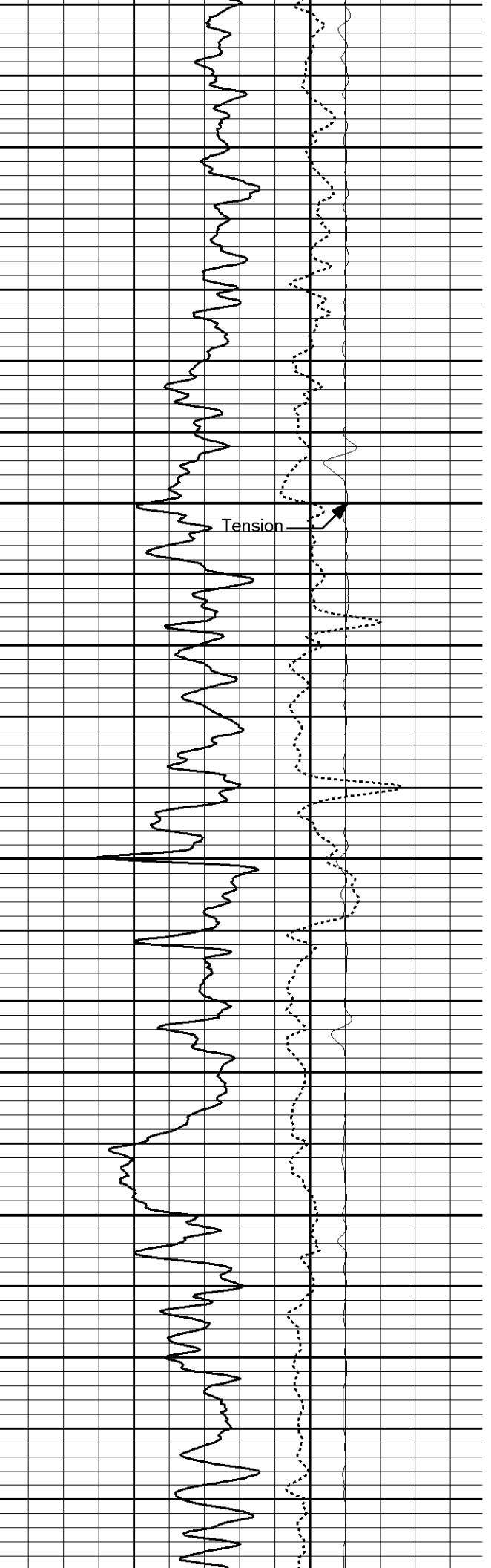
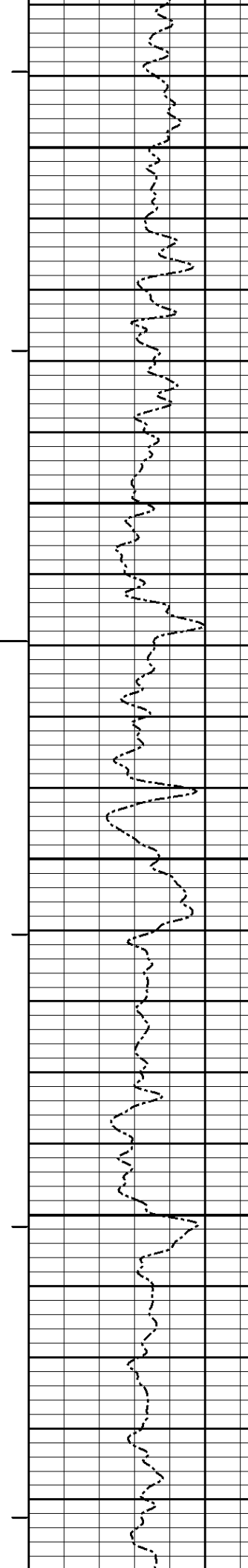
7100

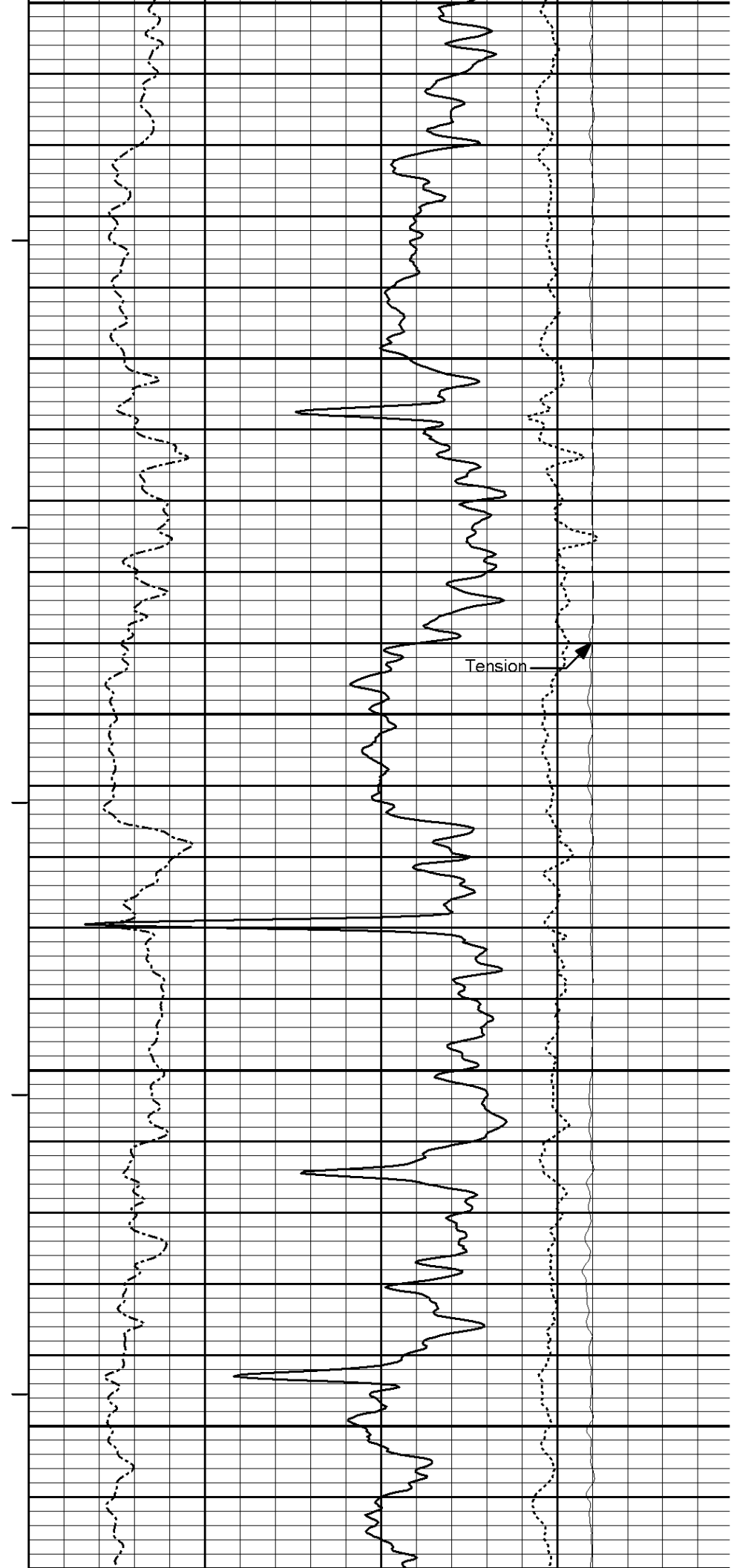
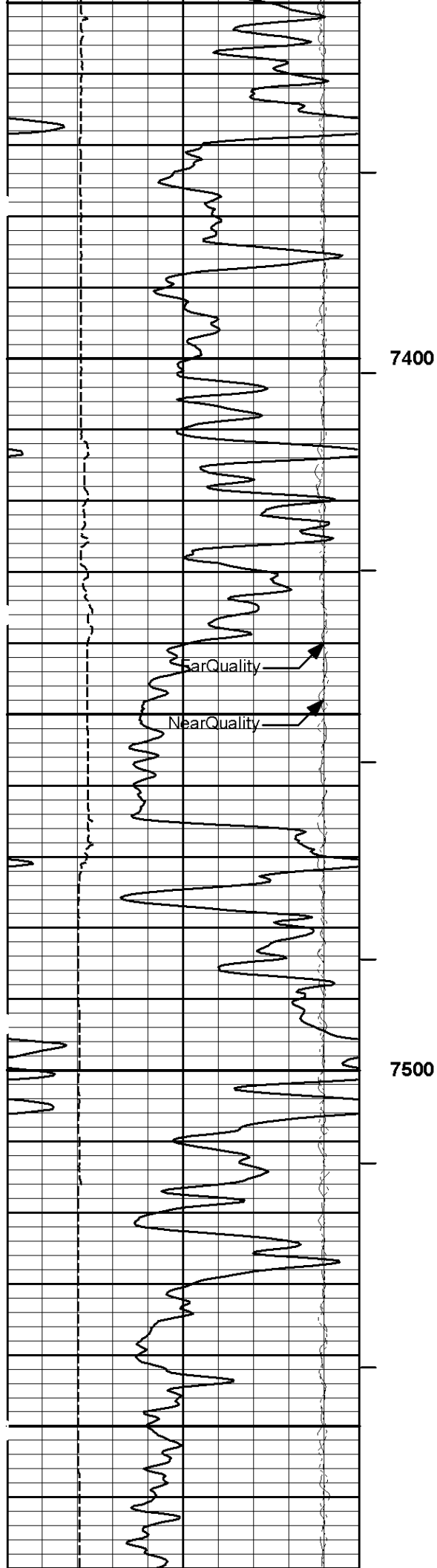


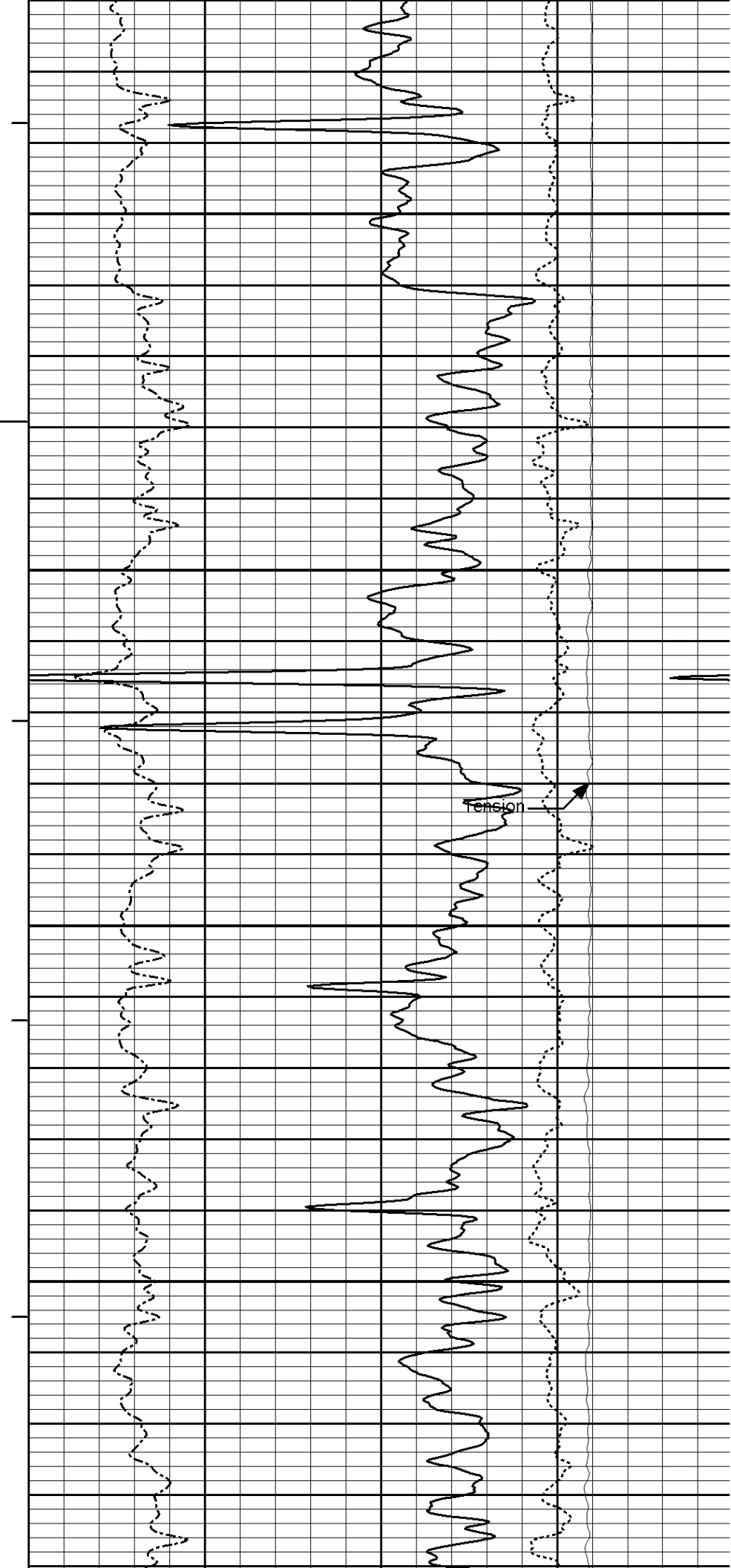
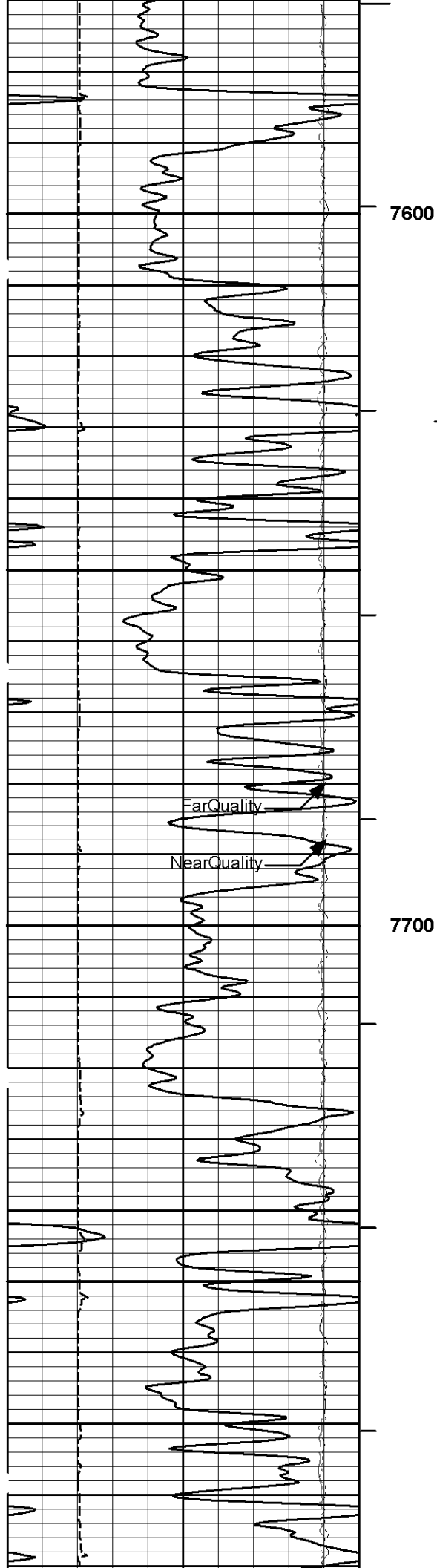


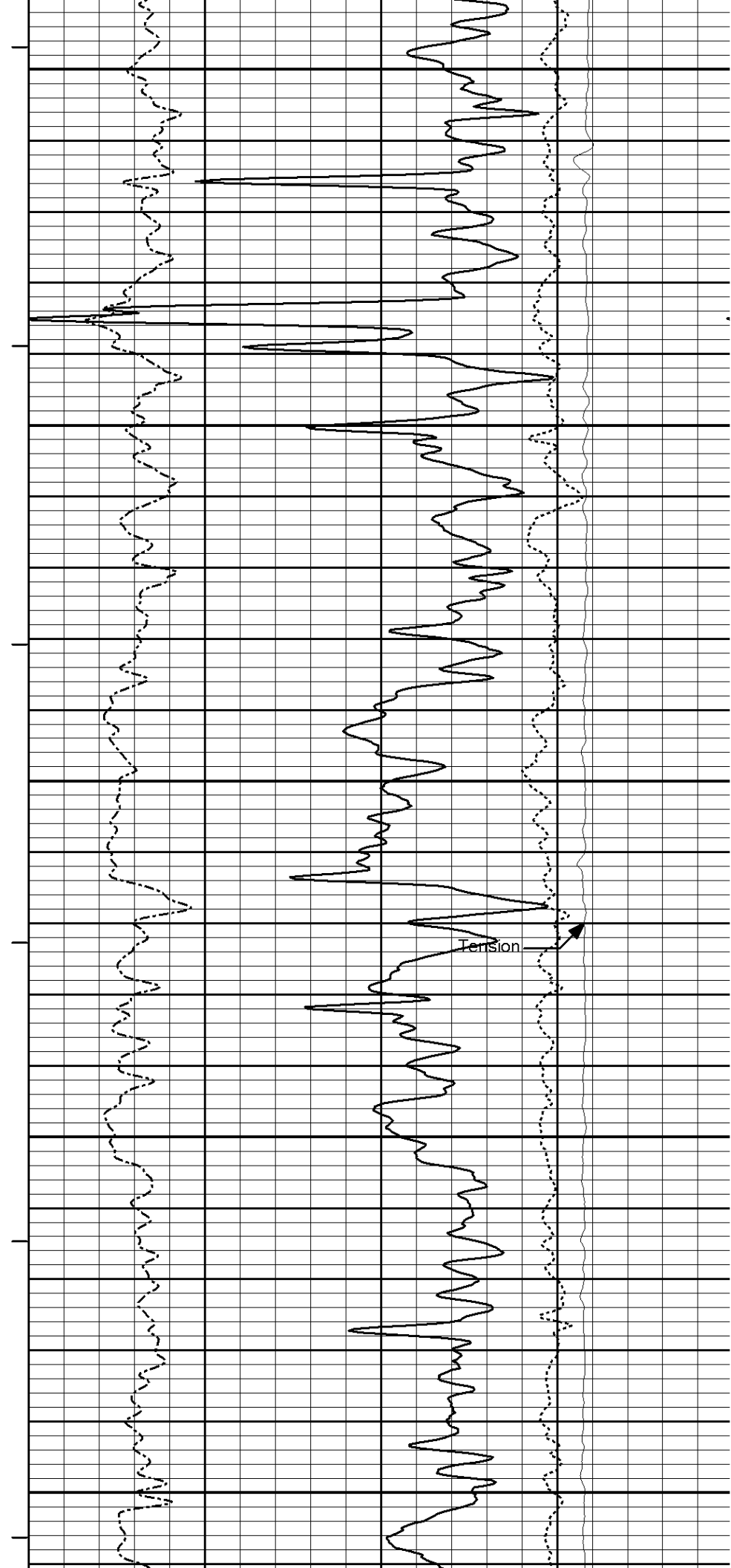
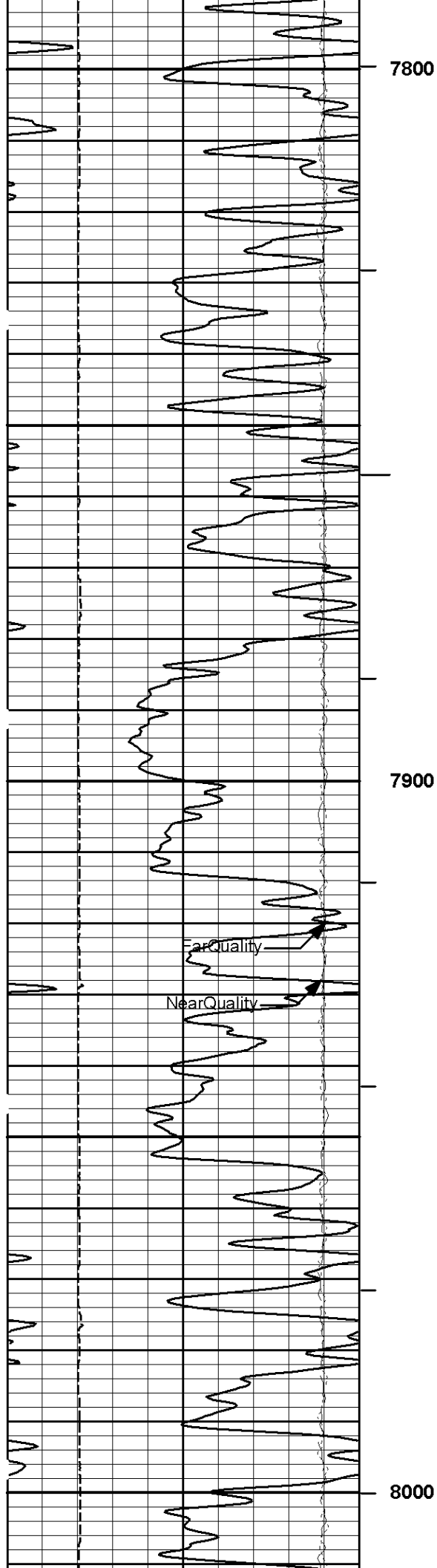
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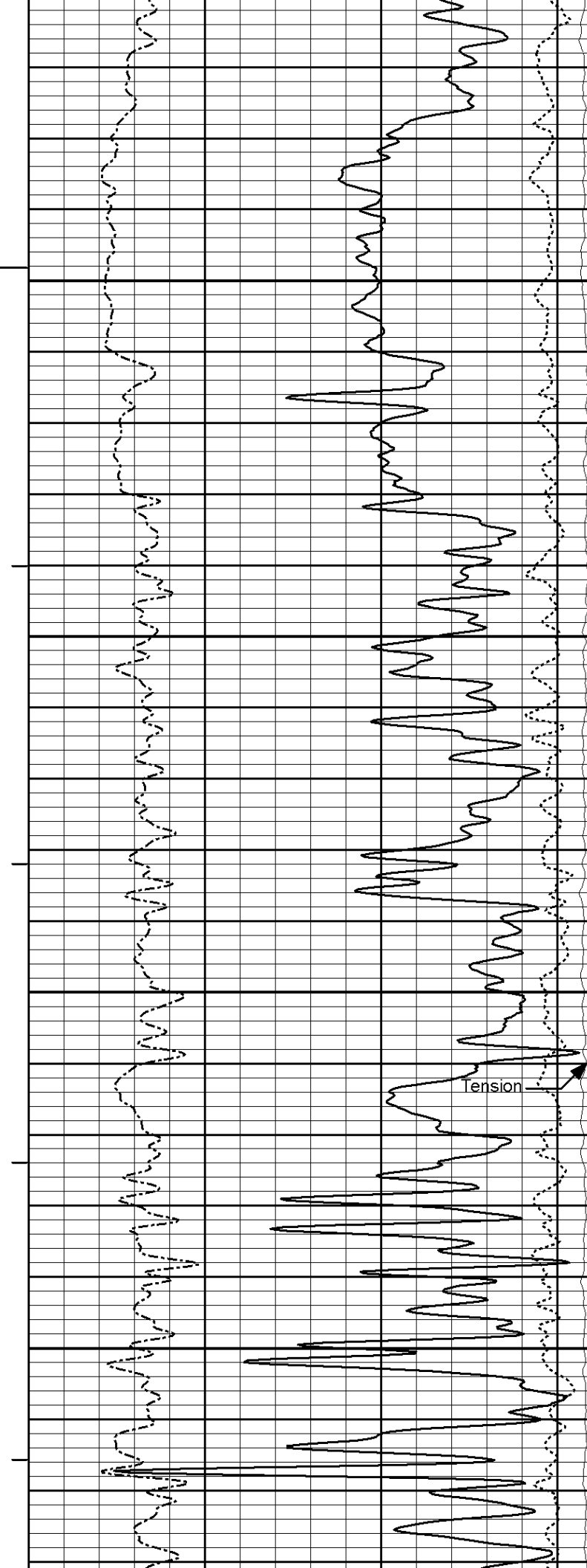
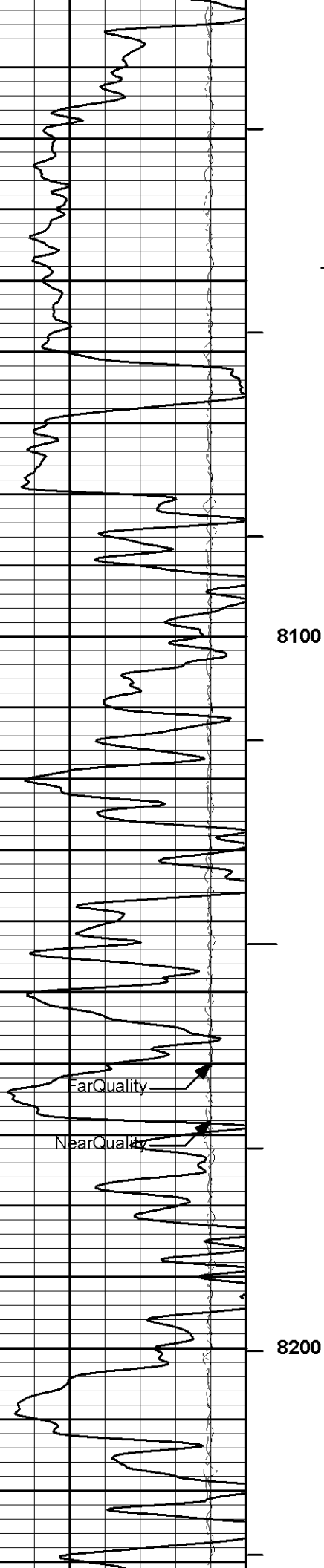
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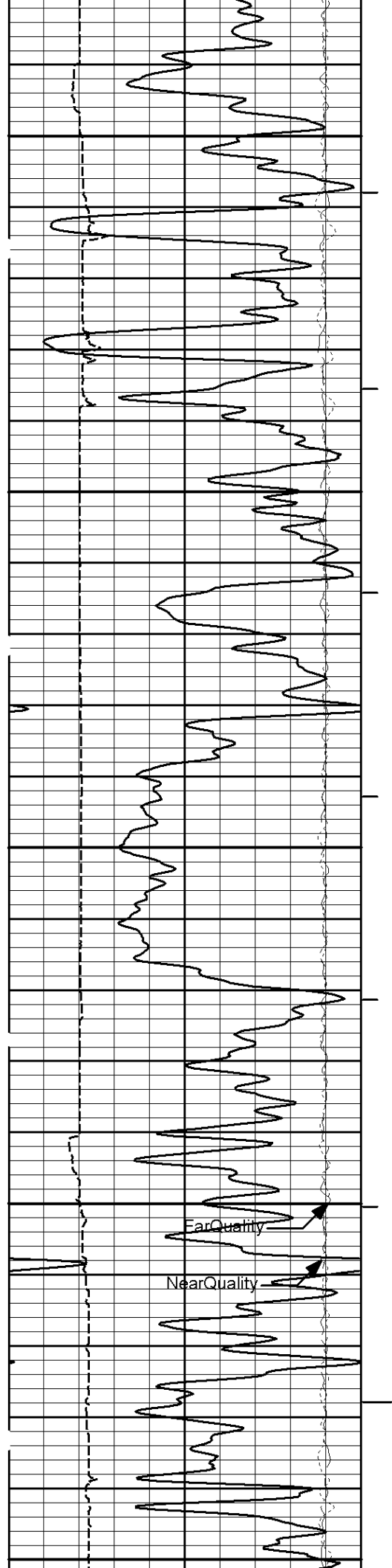






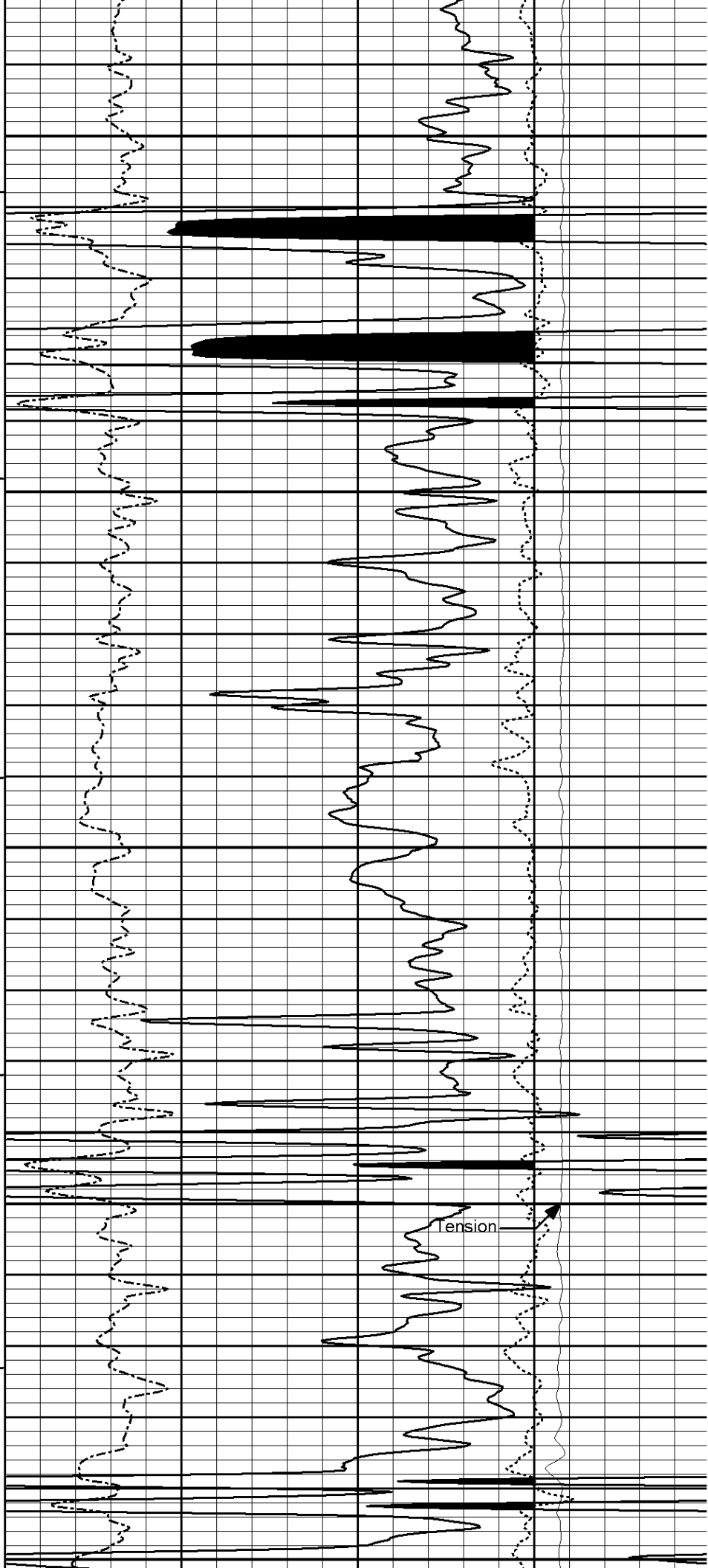


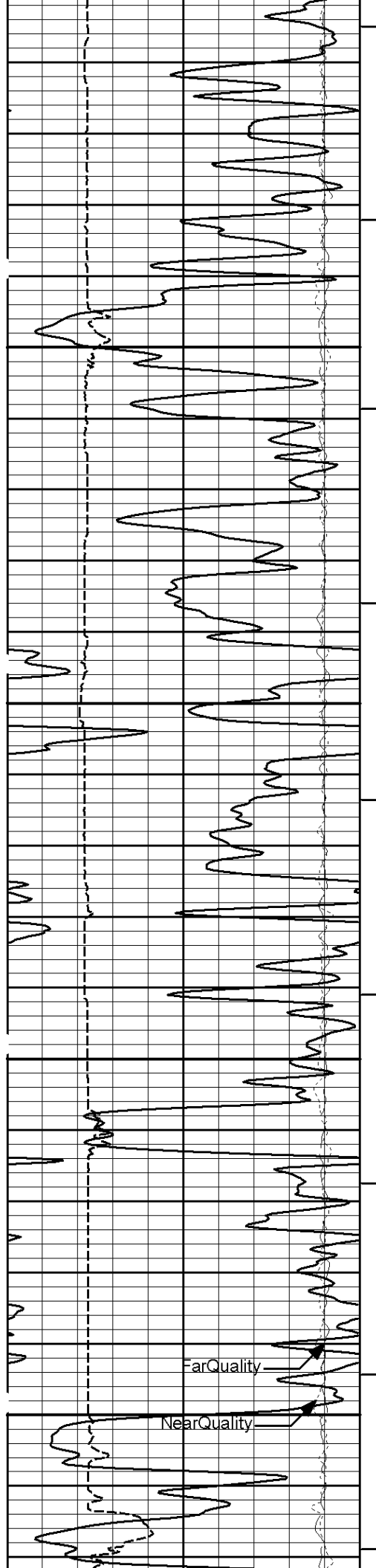




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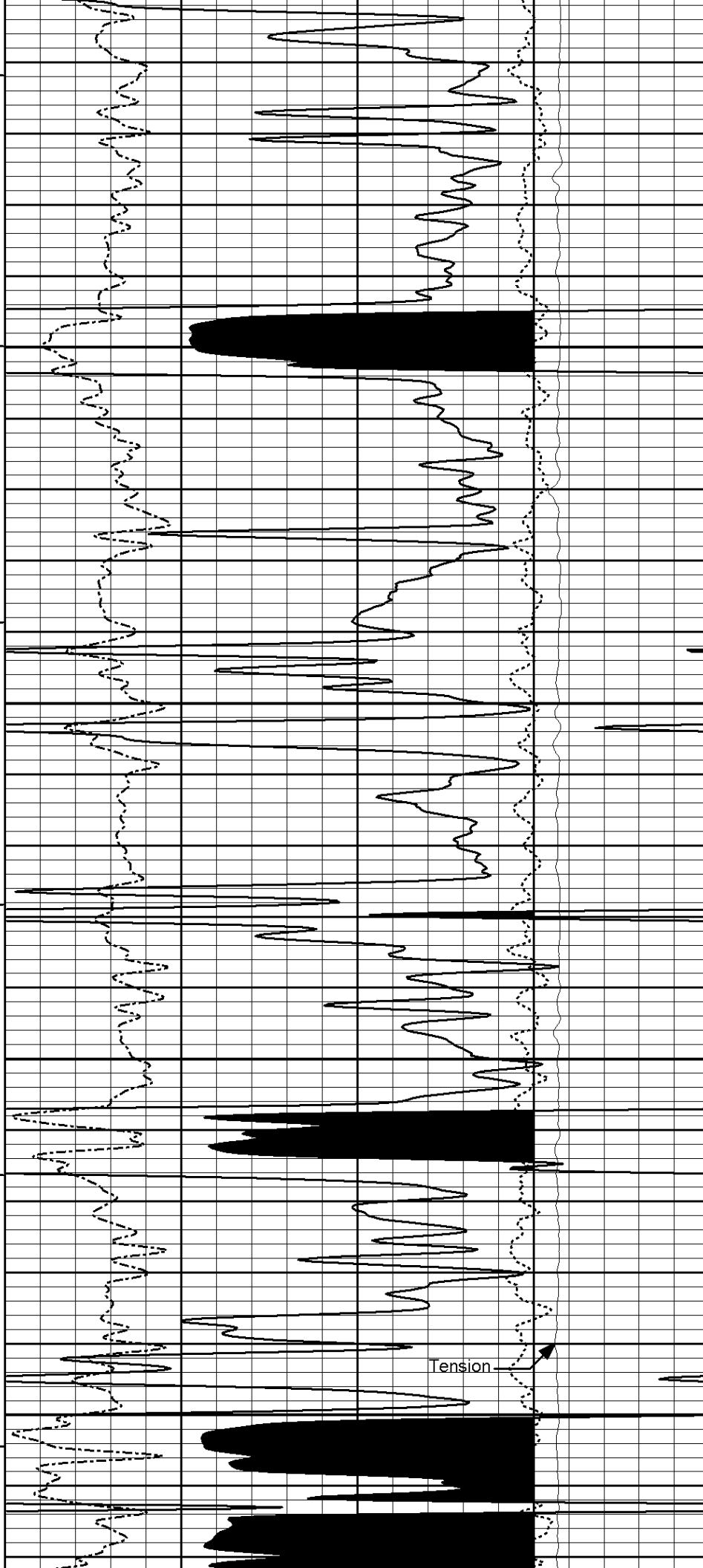
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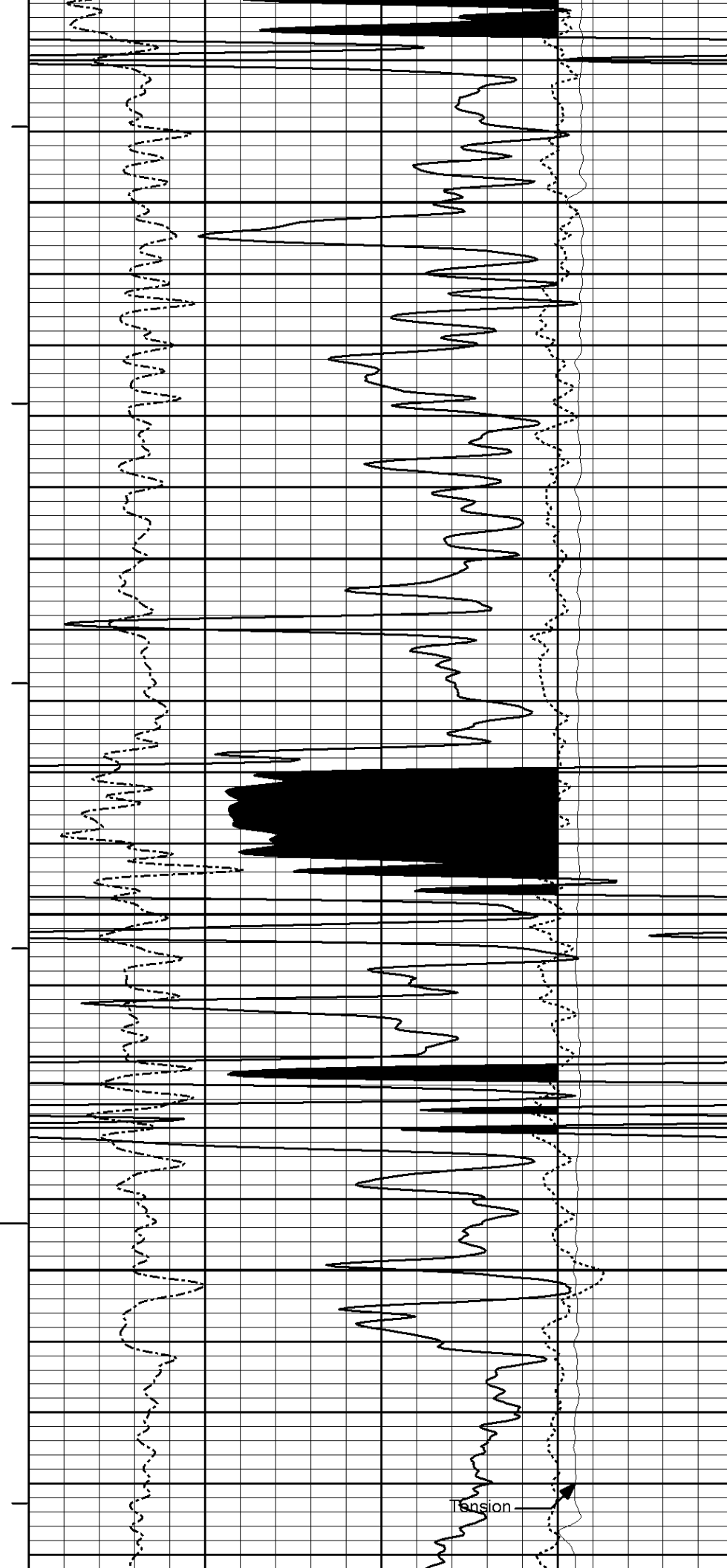
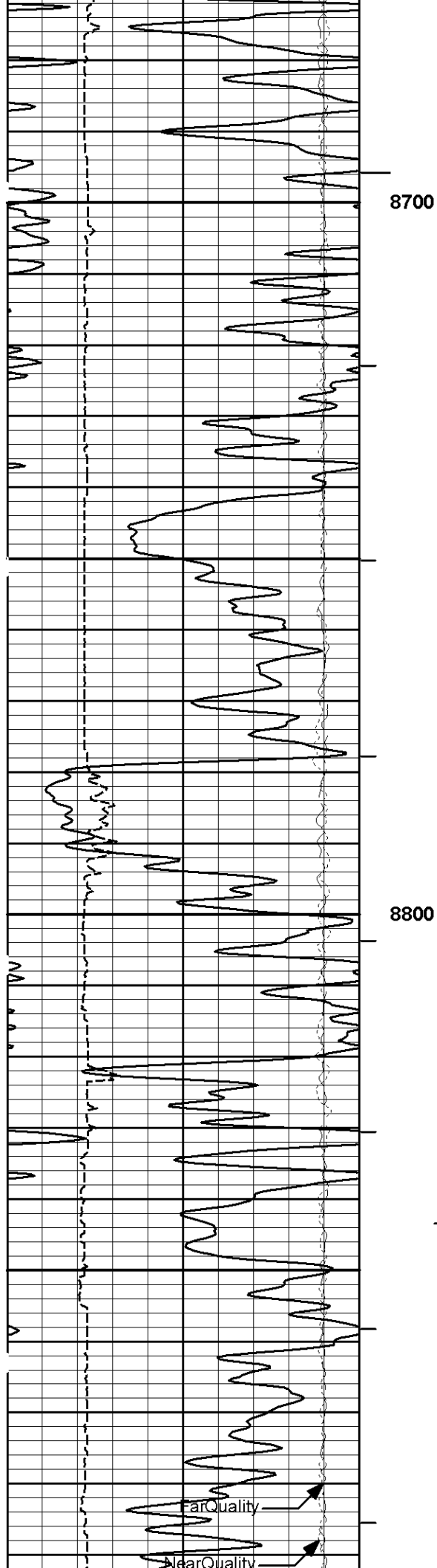


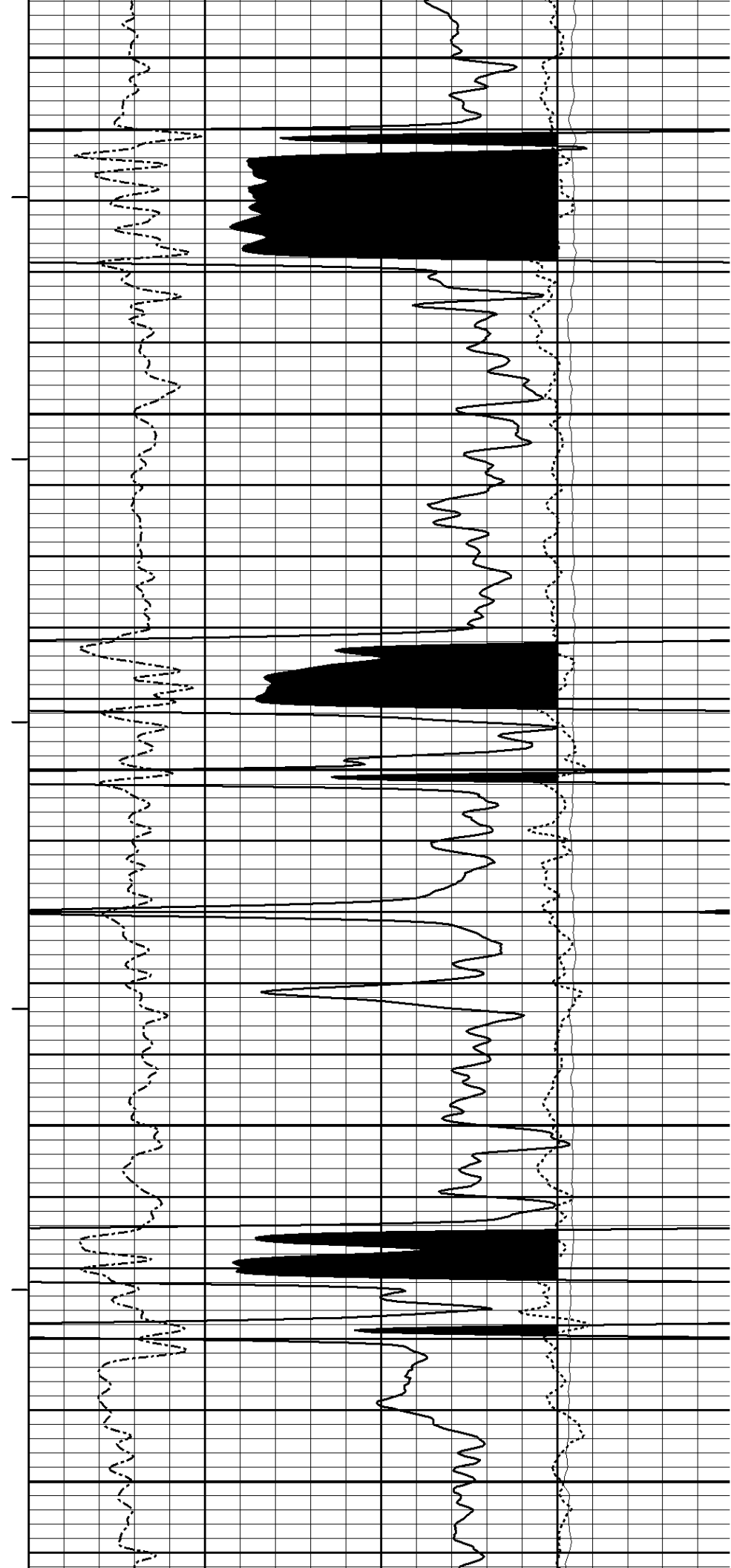
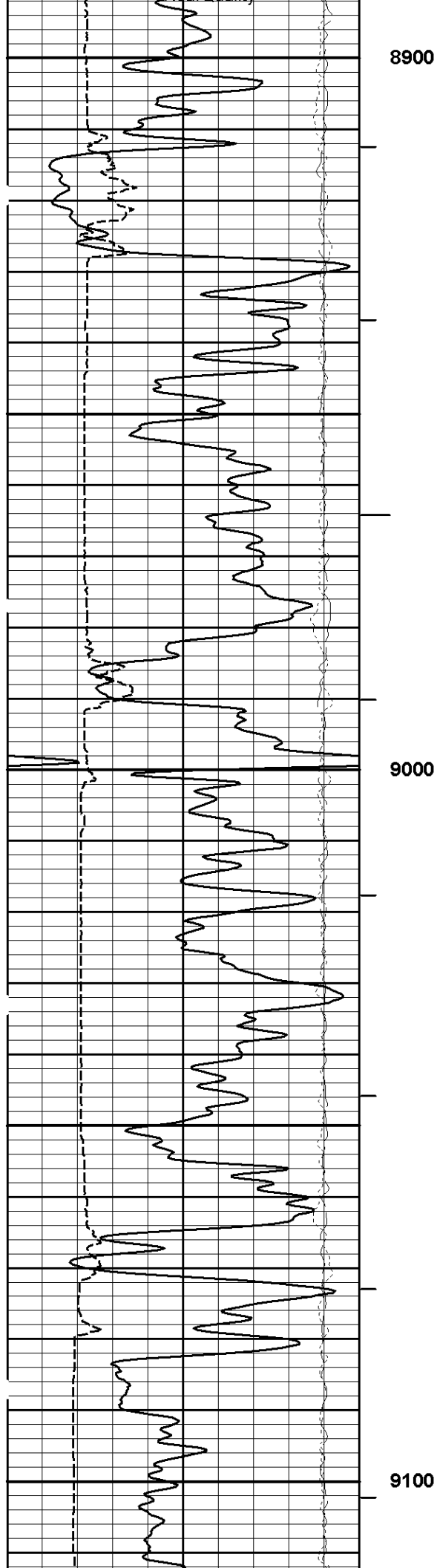


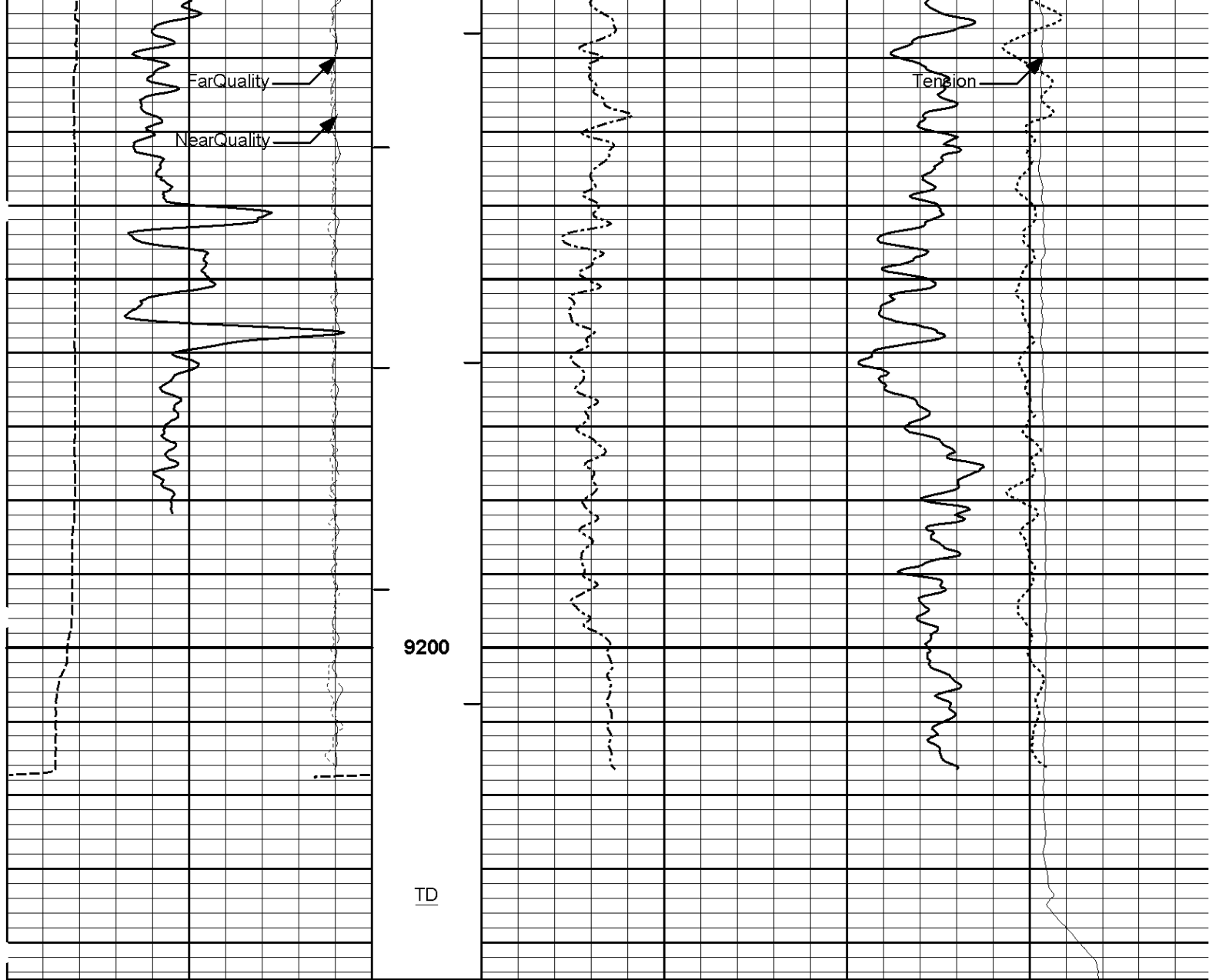
8500

8600









0	Gamma API	150	1 : 240 ft MD	0	Pe	10	-0.25	DensityCorr	0.25
	api							gram per cc	
6	Caliper	16	BHV				10000	Tension	0
	inches		ft3					pounds	
45	FarQuality	-5	AHV	2	Density				
			ft3		gram per cc				
-45	NearQuality	5							

HALLIBURTON

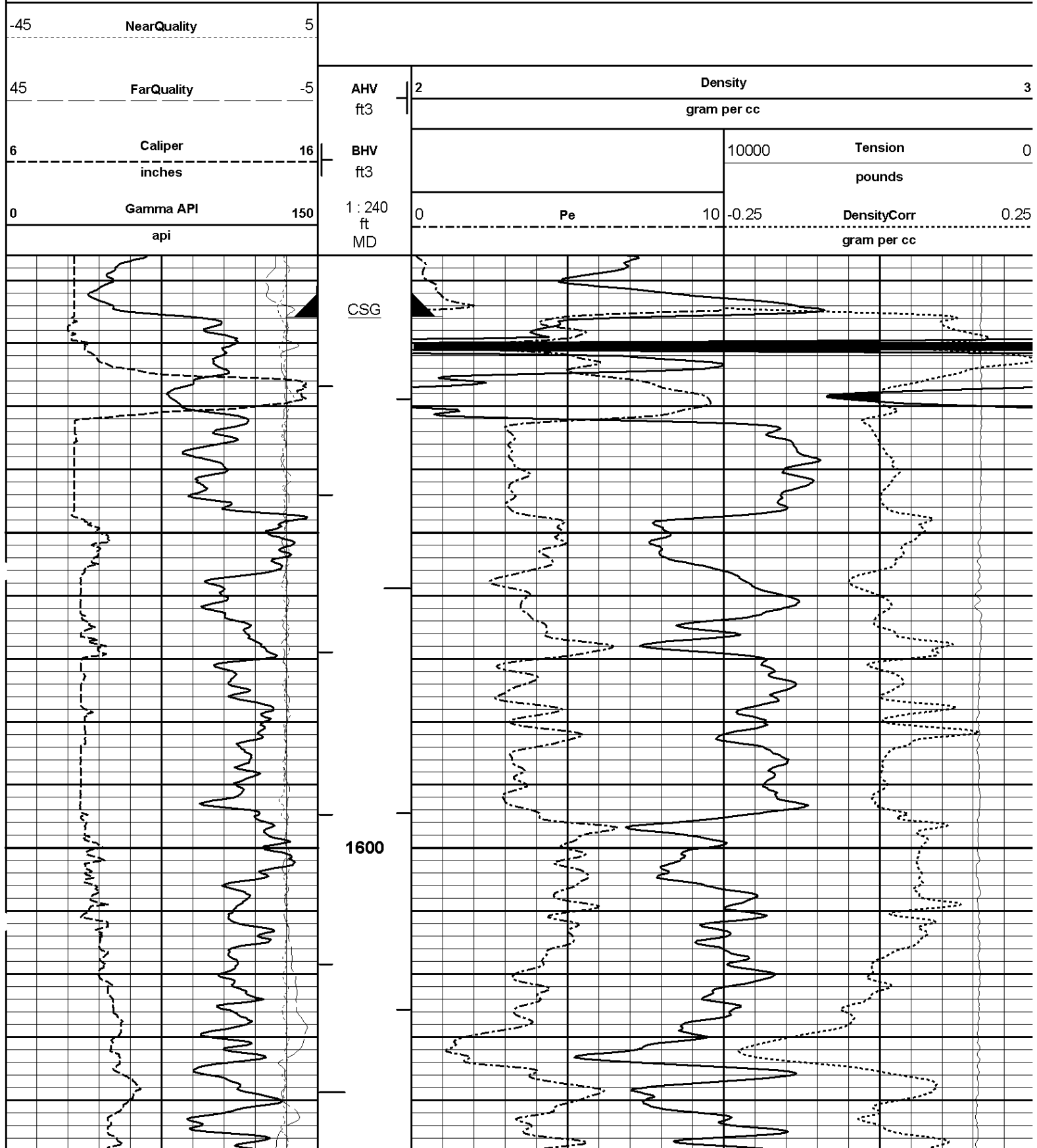
Plot Time: 04-Aug-08 21:11:30
 Plot Range: 98 ft to 9245 ft
 Data: LAR_LEV_31_05B\Well Based\MAIN PASS - CASING\
 Plot File: \\POROSITY\DITS_RHOB_5IN_RM

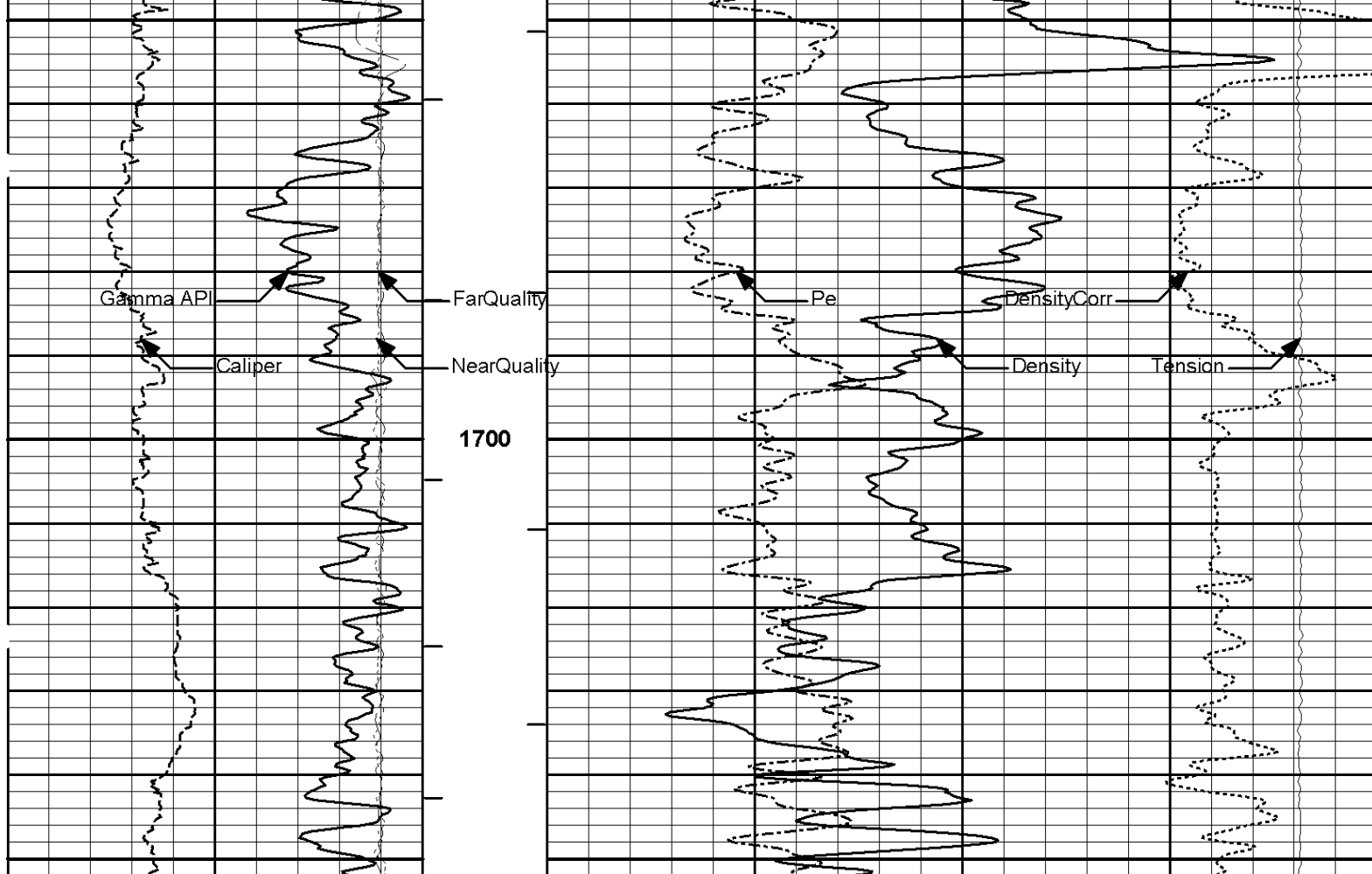
RHOB MAIN PASS 5" = 100'

HALLIBURTON

Plot Time: 04-Aug-08 21:11:30

RHOB REPEAT PASS 5" = 100'





0	Gamma API	150	1 : 240 ft MD	0	Pe	10	-0.25	DensityCorr	0.25
	api							gram per cc	
6	Caliper	16	BHV				10000	Tension	0
	inches		ft3					pounds	
45	FarQuality	-5	AHV	2	Density	3			
			ft3		gram per cc				
-45	NearQuality	5							

HALLIBURTON

Plot Time: 04-Aug-08 21:11:31
Plot Range: 1506 ft to 1752 ft
Data: LAR_LEV_31_05B\Well Based\REPEAT\
Plot File: \\POROSITY\REPEAT

RHOB REPEAT PASS 5" = 100'

HALLIBURTON

CALIBRATION REPORT

ACCELEROMETER SHOP CALIBRATION

Tool Name: D4TGX - 034

Reference Calibration Date: 01-Jan-70 00:00:00

Engineer: Unkown

Calibration Date: 21-Jul-05 12:10:41

Software Version: Legacy Version		Calibration Version: 0	
Horizontal-1 Telemetry		Horizontal-2 Telemetry	Vertical Telemetry
16666.54		16656.18	20861.91
		Units	
		cnts	
Coefficient		Coefficient Value	Tolerance
Gain		0.000238	0.0002 - 0.0003
Offset		-3.966	----
Orientation		Measured	Calibrated
Horizontal		16661.36	0.00
Vertical		20861.91	1.00

DITS 4 TELEMETRY GAMMA SHOP CALIBRATION (GIBRALTAR)			
Tool Name:	D4TGX - 034	Reference Calibration Date:	20-Jul-08 11:10:02
Engineer:	M. CARPENTER	Calibration Date:	24-Jul-08 11:29:25
Software Version:	WL INSITE R2.2 (Build 2)	Calibration Version:	1
Calibrator Source S/N: TB 255			
Calibrator API Reference:253.00 api			
Measurement	Measured	Calibrated	Units
Background	52.9	54.0	api
Background + Calibrator	300.9	307.0	api
Calibrator	254.1	253.0	api

DITS 4 TELEMETRY GAMMA FIELD CALIBRATION (GIBRALTAR)			
Tool Name:	D4TGX - 034	Reference Calibration Date:	24-Jul-08 11:29:25
Engineer:	M. CARPENTER	Calibration Date:	04-Aug-08 07:00:10
Software Version:	WL INSITE R2.2 (Build 2)	Calibration Version:	1
Calibrator Source S/N: TB 255			
Calibrator API Reference:253.00 api			
Field Verification	Shop	Field	Units
Background	54.0	358.2	api
Background + Calibrator	307.0	602.6	api
Calibrator	253.0	244.3	api
Shop	Field	Difference	Tolerance
253.0	244.3	8.7	+/- 9.00

DITS 4 TELEMETRY GAMMA POST CALIBRATION (GIBRALTAR)				
Tool Name:	D4TGX - 034	Reference Calibration Date:	04-Aug-08 07:00:10	
Engineer:	D. RENNER	Calibration Date:	04-Aug-08 21:08:49	
Software Version:	WL INSITE R2.2 (Build 2)	Calibration Version:	1	
Calibrator Source S/N: TB 255				
Calibrator API Reference:253.00 api				
Post Verification	Field	Post	Units	
Background	358.2	60.7	api	
Background + Calibrator	602.6	297.3	api	
Calibrator	244.3	236.6	api	
Shop	Field	Post	Difference	Tolerance
253.0	244.3	236.6	7.7	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION				
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DUAL SPACED NEUTRON SHOP CALIBRATION**Tool Name:** DSN_II - 108760**Reference Calibration Date:** 17-Jun-08 09:17:59**Engineer:** C. GULLETT**Calibration Date:** 14-Jul-08 16:00:52**Software Version:** WL INSITE R2.2 (Build 2)**Calibration Version:** 1

Logging Source S/N: DSN-60

Calibrator Source S/N: CAL-131

Water Tank S/N: 105371101

Water Tank Value: 52.750

Snow Block S/N: 10549593

Calibration Tank Water Temperature: 81 degF

Min. Tool Housing Outside Diameter: 3.512 in

WATER TANK SUMMARY (Horizontal Water Tank)

Measurement	Measured	Calibrated	Units
Ratio	6.383	6.450	
Porosity	0.11565	0.11749	decP

SNOW BLOCK SUMMARY

Measurement	Measured	Calibrated	Units
Ratio	6.083	6.060	
Porosity	0.11144	0.11027	decP

DSN Sensitivity: 1.028

DUAL SPACED NEUTRON FIELD CALIBRATION**Tool Name:** DSN_II - 108760**Reference Calibration Date:** 14-Jul-08 16:00:52**Engineer:** M. CARPENTER**Calibration Date:** 04-Aug-08 06:49:37**Software Version:** WL INSITE R2.2 (Build 2)**Calibration Version:** 1

Logging Source S/N: DSN-60

Calibrator Source S/N: CAL-131

Snow Block S/N: 10549593

SNOW BLOCK SUMMARY

Measurement	Shop	Field	Units
Ratio	6.060	6.072	
Porosity	0.11027	0.11173	decP

DSN Sensitivity: 1.028

DUAL SPACED NEUTRON POST CALIBRATION**Tool Name:** DSN_II - 108760**Reference Calibration Date:** 04-Aug-08 06:49:37**Engineer:** D. RENNER**Calibration Date:** 04-Aug-08 20:44:59**Software Version:** WL INSITE R2.2 (Build 2)**Calibration Version:** 1

Logging Source S/N: DSN-60

Calibrator Source S/N: CAL-131

Snow Block S/N: 10549593

SNOW BLOCK SUMMARY

Measurement	Field	Post	Units
Ratio	6.072	6.072	
Porosity	0.11173	0.11173	decP

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDL_DC - I709MC136	Reference Calibration Date:	14-Jul-08 10:02:58
Engineer:	E.KIND	Calibration Date:	29-Jul-08 10:22:22
Software Version:	WL INSITE R2.2 (Build 2)	Calibration Version:	1

Logging Source S/N: 2189GW
Aluminum Block S/N: FARMINGTON Density: 2.588g/cc
Magnesium Block S/N: FARMINGTON Density: 1.687g/cc

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0388	1.0524	0.85 - 1.15
Near Dens Gain	1.0137	1.0238	0.85 - 1.15
Near Peak Gain	0.9850	0.9982	0.85 - 1.15
Near Lith Gain	0.9759	0.9846	0.85 - 1.15
Far Bar Gain	1.0197	1.0277	0.85 - 1.15
Far Dens Gain	1.0039	1.0084	0.85 - 1.15
Far Peak Gain	0.9946	1.0008	0.85 - 1.15
Far Lith Gain	0.9843	0.9898	0.85 - 1.15
Near Bar Offset	0.0589	-0.0720	NONE
Near Dens Offset	0.2464	0.1474	NONE
Near Peak Offset	0.4605	0.3411	NONE
Near Lith Offset	0.5410	0.4568	NONE
Far Bar Offset	0.2350	0.1519	NONE
Far Dens Offset	0.3594	0.3052	NONE
Far Peak Offset	0.4672	0.3956	NONE
Far Lith Offset	0.6356	0.5640	NONE
Near Bar Background	1161.19	1159.74	700 - 1500
Near Dens Background	477.70	477.83	290 - 600
Near Peak Background	209.73	210.92	130 - 280
Near Lith Background	202.82	202.96	125 - 270
Far Bar Background	476.42	475.81	350 - 750
Far Dens Background	184.06	184.48	140 - 300
Far Peak Background	74.97	75.04	50 - 130
Far Lith Background	76.93	77.03	50 - 130

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.682	1.687	0.005	+/- 0.015
Pe	2.561	2.594	0.033	+/- 0.150
ALUMINUM				
Density (g/cc)	2.578	2.588	0.010	+/- 0.01500
Pe	3.076	3.100	0.024	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits

QUALITY

Background	-0.0017	+/- 0.0110	-0.0057	+/- 0.0140
Magnesium Block	-0.0075	+/- 0.0110	-0.0120	+/- 0.0140
Aluminum Block	-0.0039	+/- 0.0110	0.0029	+/- 0.0140
Resolution	8.93	6.00 - 11.00	9.83	6.00 - 11.00
Internal Verifier(B+D+P+L)	2051	1250 - 2700	812	600 - 1300

PASS/FAIL SUMMARY

Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name:	SDL_DC - I709MC136	Reference Calibration Date:	29-Jul-08 10:22:22
Engineer:	M. CARPENTER	Calibration Date:	04-Aug-08 06:24:43
Software Version:	WL INSITE R2.2 (Build 2)	Calibration Version:	1

Aluminum Block S/N: FARMINGTON	Density: 2.588g/cc
Magnesium Block S/N: FARMINGTON	Density: 1.687g/cc
Pad Temperature: 72.9 degF	

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	2051.454	2049.987	-1.467	18.081
Far (B+D+P+L) cps	812.364	811.393	-0.971	15.749
Near Resolution	8.93	8.91	-0.020	0.50
Far Resolution	9.84	9.83	0.010	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

SPECTRAL DENSITY POST CHECK

Tool Name:	SDL_DC - I709MC136	Reference Calibration Date:	04-Aug-08 06:24:43
Engineer:	D. RENNER	Calibration Date:	04-Aug-08 20:25:23
Software Version:	WL INSITE R2.2 (Build 2)	Calibration Version:	1

Aluminum Block S/N: FARMINGTON	Density: 2.588g/cc
Magnesium Block S/N: FARMINGTON	Density: 1.687g/cc
Pad Temperature: 67.1 degF	

DENSITY POST CALIBRATION SUMMARY

Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	2049.987	2043.553	-6.434	20.097
Far (B+D+P+L) cps	811.393	811.439	0.046	17.017
Near Resolution	8.91	8.92	0.010	0.50
Far Resolution	9.96	9.84	0.120	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:	Passed
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Bkg Resolution Check:
Bkg Verification Check:

Passed
Passed

CALIPER SHOP CALIBRATION

Tool Name: SDL_DC - I709MC136 Reference Calibration Date: 04-Aug-08 06:31:01
Engineer: M. CARPENTER Calibration Date: 04-Aug-08 06:41:01
Software Version: WL INSITE R2.2 (Build 2) Calibration Version: 1

MEASURED CALIPER RINGS

Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change
RING DIAMETER:			
Ring #1 (in)	5.90	6.00	-0.10
Ring #2 (in)	13.69	13.69	0.00

CALIPER FIELD CALIBRATION

Tool Name: SDL_DC - I709MC136 Reference Calibration Date: 04-Aug-08 06:41:01
Engineer: M. CARPENTER Calibration Date: 04-Aug-08 06:41:24
Software Version: WL INSITE R2.2 (Build 2) Calibration Version: 1

MEASURED CALIPER RINGS

Measurement	Shop	Field	Change	Control Limit On New Value
Ring #1 (in)	5.90	6.00	0.10	+/- 0.50

PASS/FAIL SUMMARY

Ring #1 Check: Passed

CALIPER POST CALIBRATION

Tool Name: SDL_DC - I709MC136 Reference Calibration Date: 04-Aug-08 06:41:24
Engineer: D. RENNER Calibration Date: 04-Aug-08 20:31:31
Software Version: WL INSITE R2.2 (Build 2) Calibration Version: 1

MEASURED CALIPER RING

Measurement	Field	Post	Change	Control Limit On New Value
Ring #1 (in)	6.00	6.29	0.29	+/- 0.50

PASS/FAIL SUMMARY

Ring #1 Check: Passed

HIGH RESOLUTION INDUCTION SHOP CALIBRATION

Tool Name: HRID - I81S0944 Reference Calibration Date: 08-Jul-08 14:27:13
Engineer: D. RENNER Calibration Date: 25-Jul-08 14:06:02
Software Version: WL INSITE R2.2 (Build 2) Calibration Version: 1

HIGH RESOLUTION INDUCTION SHOP CALIBRATION SUMMARY

TEST LOOP RESPONSE

	1 - Test Loop Closed		Measured Signal		Nominal		Units
	R	X	R	X	R	X	
HRD	1976	1972	1976	1972			MMHOS
HRM	2838	2832	2838	2832			MMHOS
	2 - Test Loop Off(Sonde Error)		Measured Signal		Nominal		Units
	R	X	R	X	R	X	
HRD	-5	-96	+/- 15	+/- 100			MMHOS

ELECTRONICS RELATIVE GAIN

	Set		Nominal	
	Magnitude	Phase	Magnitude	Phase
HRD	1.00	-1.70	1. +/- .1	0. +/- 5
HRM	1.00	-1.60	1. +/- .1	0. +/- 5
Temperature at time of calibration:		120.79	degF	

**** NOTICE ****
THE HIGH RESOLUTION INDUCTION TOOL (HRID) IS A CONTINUAL SELF-CALIBRATING TOOL. DURING LOGGING, THE TOOL CONSTANTLY SELF-UPDATES ITS COEFFICIENTS, THE SHOP CALIBRATION IS PERFORMED UNDER VERY STRINGENT CONDITIONS. SINCE THE TOOL IS SELF-CALIBRATING DURING LOGGING, FIELD AND POST CALIBRATIONS ARE NOT AVAILABLE OR NECESSARY FOR THE HRID TOOL.

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
D4TGX-034						
AccZ Horizontal	0.00	-----	-----	0.00	-----	g
AccZ Vertical	1.00	-----	-----	0	-----	g
Gamma Ray Calibrator	253.0	244.3	236.6	7.7	+/- 9.00	api
DSN_II-108760						
Snow Block Porosity	0.11027	0.11173	0.11173	0.00000	+/- +/-0.00900	decP
SDL_DC-I709MC136						
Near(B+D+P+L)	2051.454	2049.987	2043.553	6.434	+/-20.097	cps
Far(B+D+P+L)	812.364	811.393	811.439	-0.046	+/-17.017	cps
Field Block Density	2.130	0.000	0.000	0.000	+/-0.01500	g/cc
Ring #1	6.00	6.00	6.29	-0.29	+/- 0.500	in

Data: LAR_LEV_31_05B\0001 TRIPLE\IDLE

Date: 04-Aug-08 21:09:47

HALLIBURTON

CUSTOMER EVENT LOG

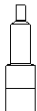

Event Type	Time & Date	Depth (ft)	Event Description
	04-Aug-08 15:49:15	65.75	Logging 001 04-Aug-08 15:49 Dn @70.0f
	04-Aug-08 15:57:25	1872.27	Halting 001 04-Aug-08 15:49 Dn @70.0f
	04-Aug-08 15:58:02	1868.00	Logging 002 04-Aug-08 15:58 Up @1868.0f
	04-Aug-08 16:06:20	1432.44	Halting 002 04-Aug-08 15:58 Up @1868.0f
	04-Aug-08 16:08:01	1604.50	Logging 003 04-Aug-08 16:08 Dn @1619.0f
	04-Aug-08 16:44:12	9247.22	Halting 003 04-Aug-08 16:08 Dn @1619.0f
	04-Aug-08 16:44:32	9254.50	Logging 004 04-Aug-08 16:44 Up @9254.3f
	04-Aug-08 19:27:00	95.39	Halting 004 04-Aug-08 16:44 Up @9254.3f

Data: LAR_LEV_31_05B\0001 TRIPLE\HWI0782

Date: 04-Aug-08 19:28:04

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
					79.22 ft

RWCH-10703220
135.00 lbs

Ø 3.625 in →

← Load Cell @ 75.54 ft
← BH Temperature @ 74.97 ft

6.25 ft

72.97 ft

D4TGX-034
221.00 lbs

Ø 3.625 in →

9.63 ft

63.34 ft

DSN_II-108760
195.80 lbs

Ø 3.625 in →

10.25 ft

53.09 ft

← Neutron Porosity @ 54.99 ft

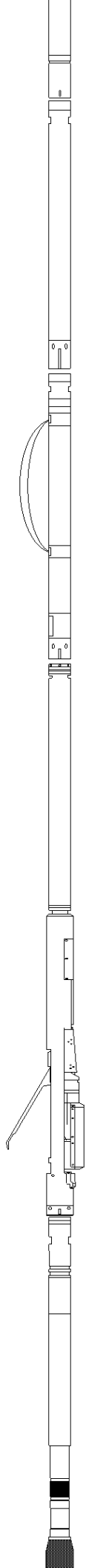
SDL_DC-1709MC136
420.00 lbs

Ø 4.500 in →

19.43 ft

33.66 ft

← SDL Caliper @ 36.16 ft
← SDL @ 35.70 ft



HRID-I81S0944
445.00 lbs

Ø 3.625 in →

33.33 ft

HRID @ 9.13 ft
SP @ 9.03 ft

Bull Nose-GJ
5.00 lbs

Ø 2.750 in →

0.33 ft

0.33 ft

0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	10763226	135.00	6.25	72.97	300.00
D4TGX	DITS Telemetry Gamma - Gibraltar Class	034	221.00	9.63	63.34	60.00
DSN_II	Dual Spaced Neutron-II Tool	108760	195.80	10.25	53.09	60.00
SDLD	SDL (D) with (C) Mandrel w/ EVR	I709MC136	420.00	19.43	33.66	60.00
HRID	High Resolution Induction Tool Dits	I81S0944	445.00	33.33	0.33	100.00
SP	SP Ring	I91S0180	5.00	0.25	* 9.03	300.00
BLNS	Bull Nose	GJ	5.00	0.33	0.00	300.00
Total			1,426.80	79.22		
						* Not included in Total Length and Length Accumulation.
Data: LAR_LEV_31_05B\0001 TRIPLE\IDLE					Date: 04-Aug-08 15:44:16	

COMPANY	LARAMIE ENERGY PARTNERS II		
WELL	LEVERICH 31-05B		
FIELD	RULISON		
COUNTY	GARFIELD	STATE	CO
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY	