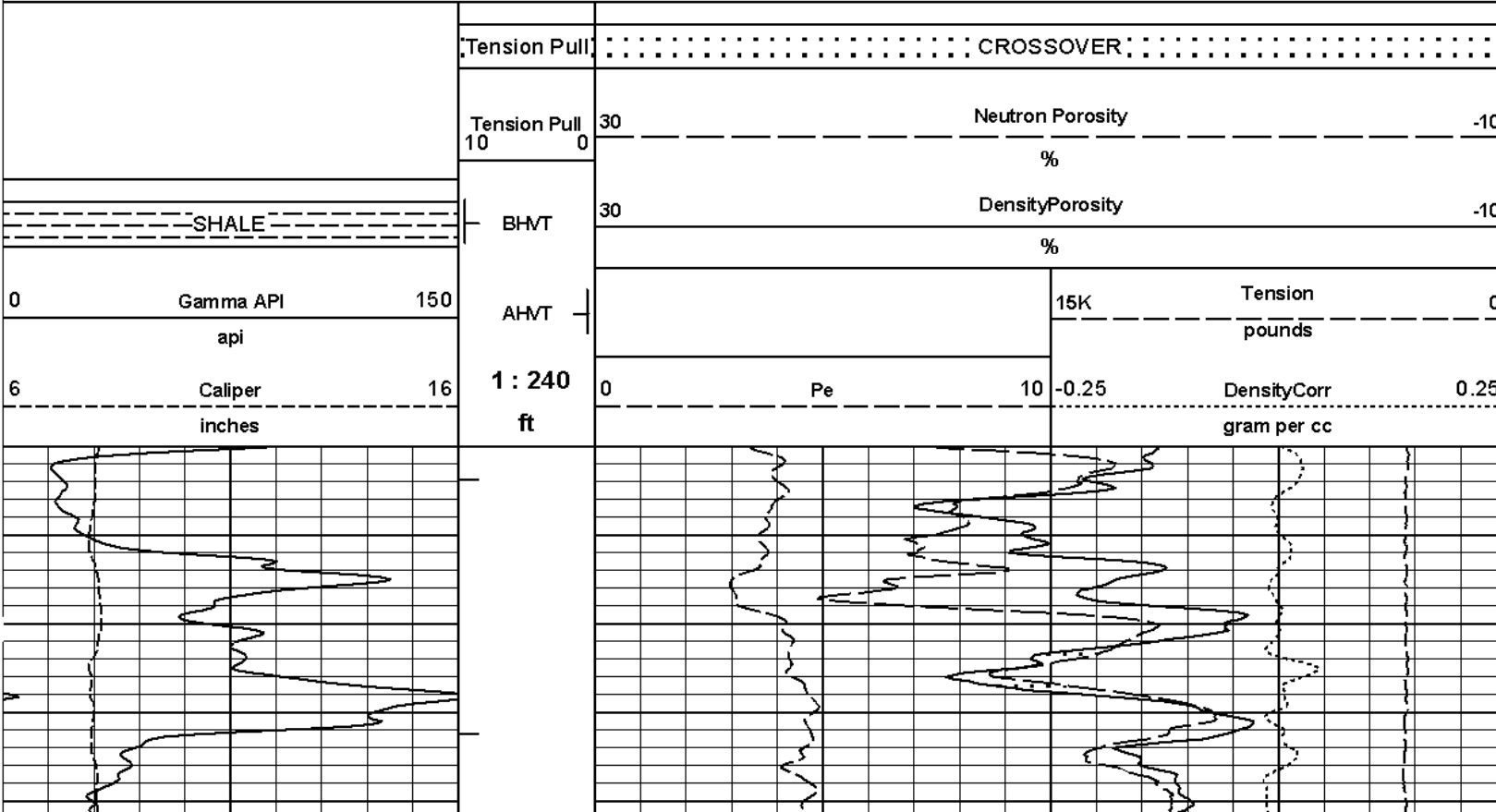
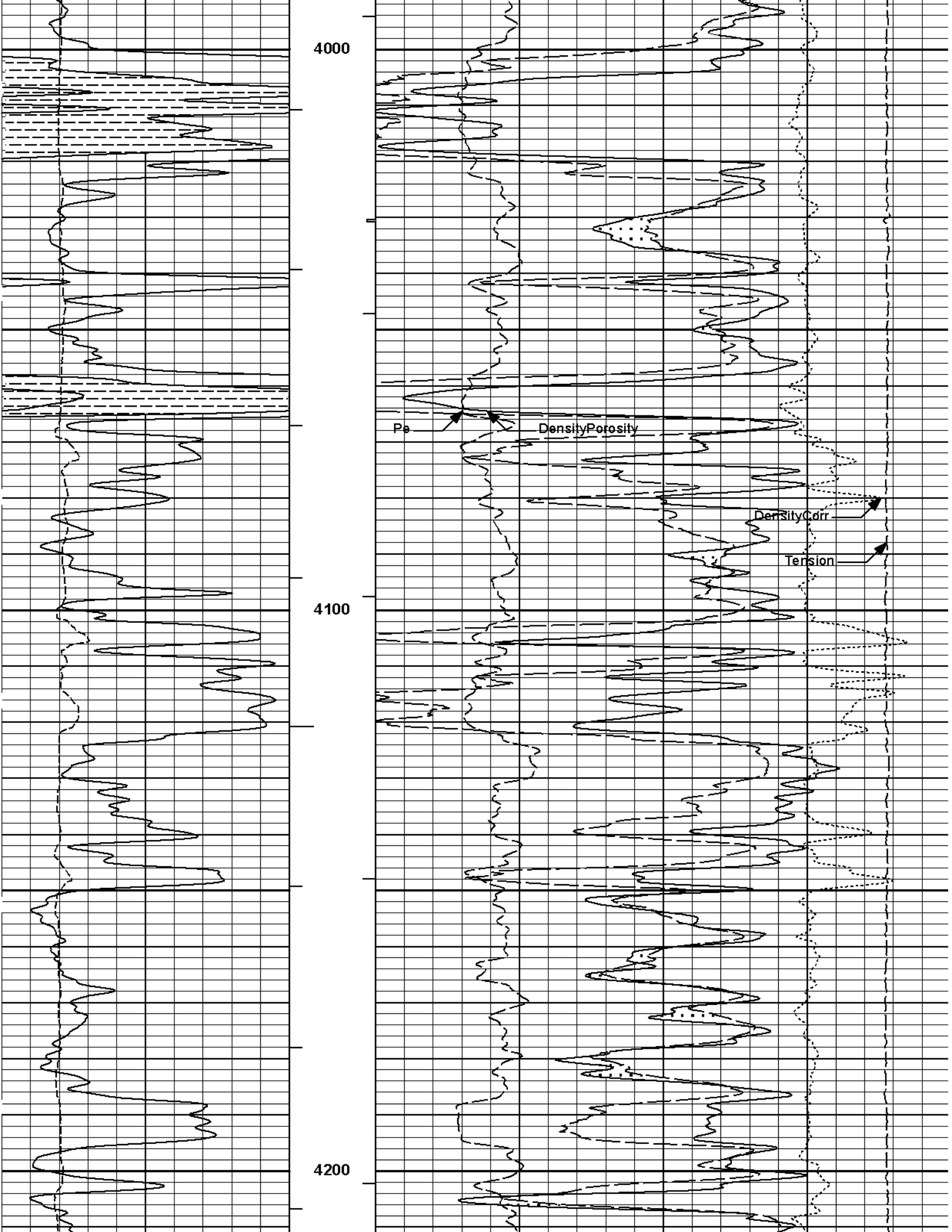


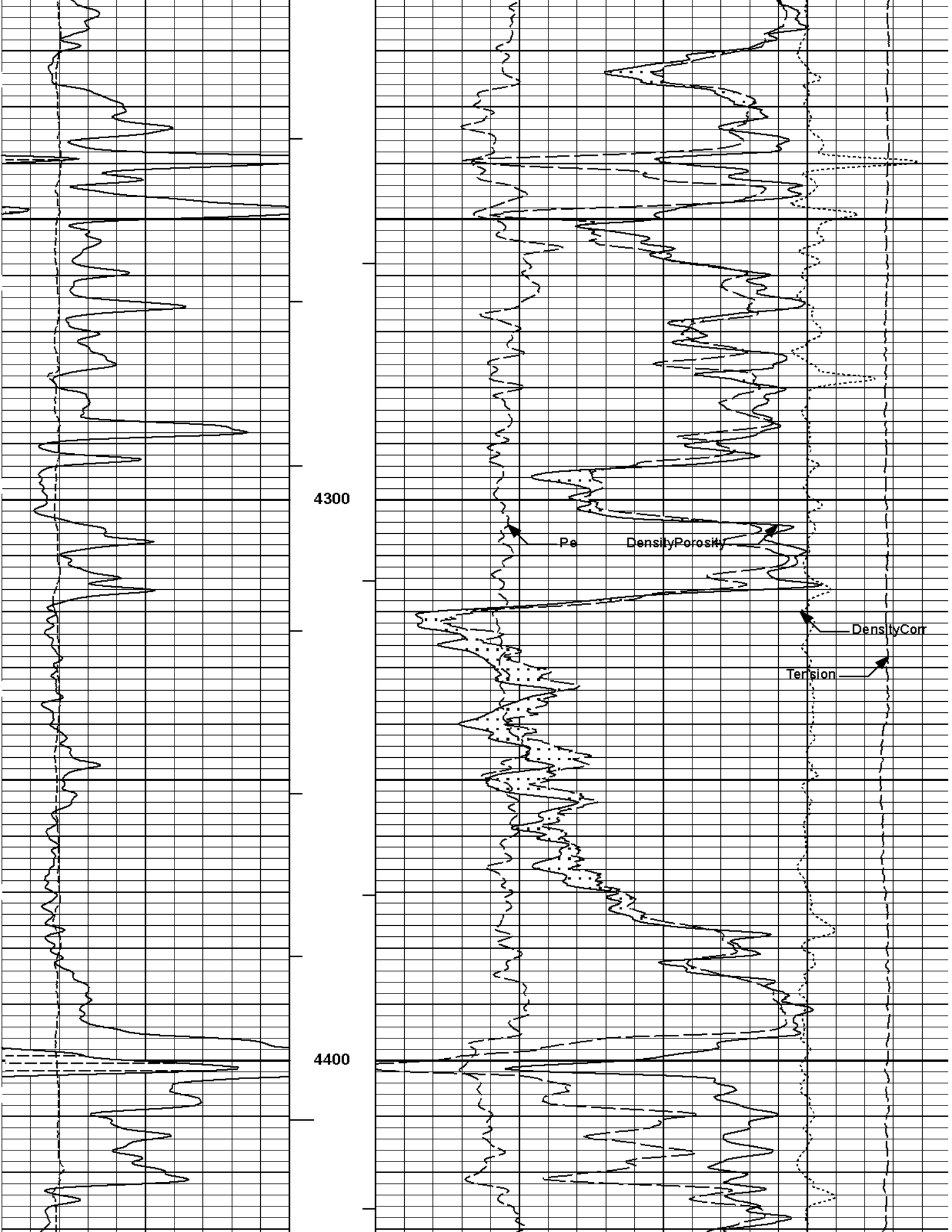
**SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG**

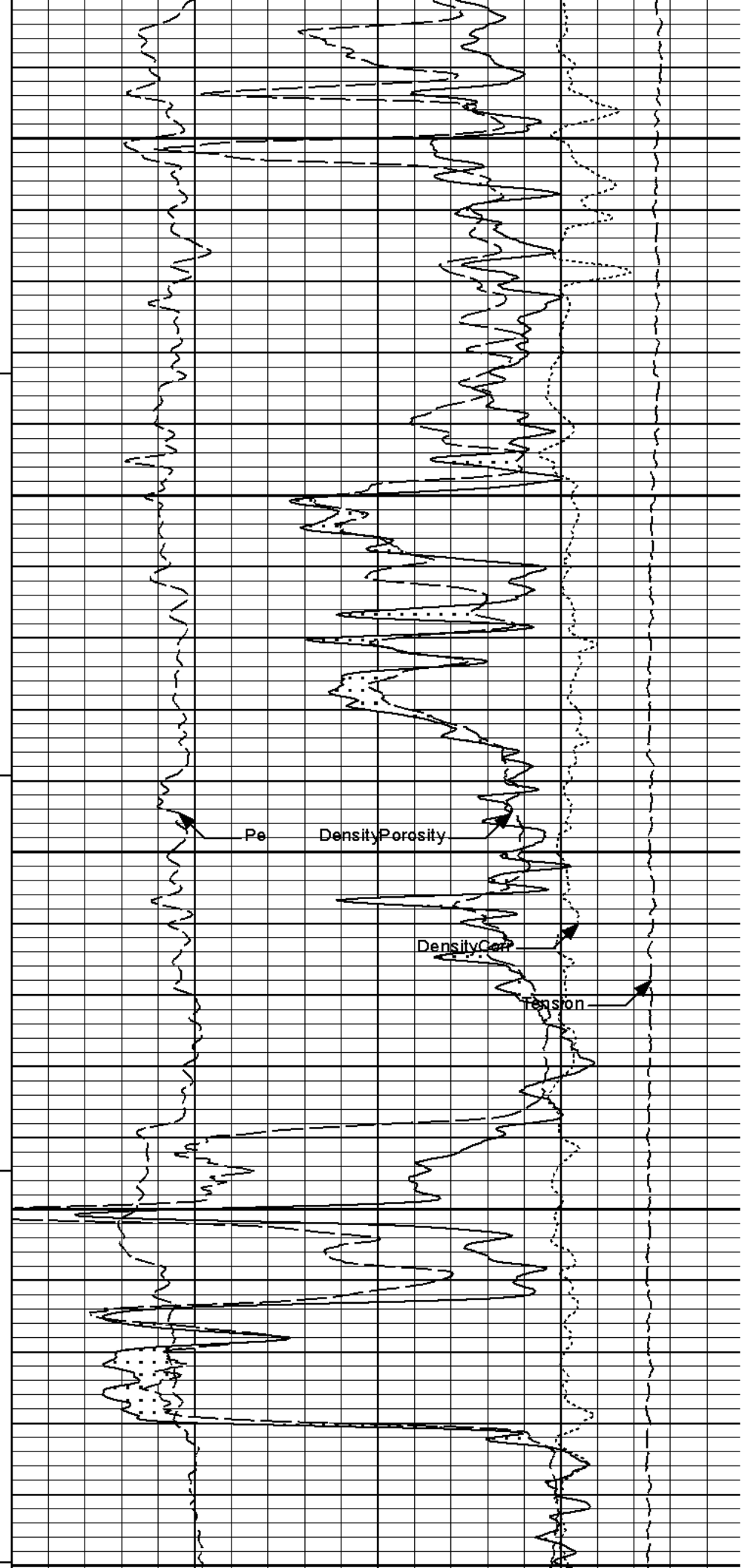
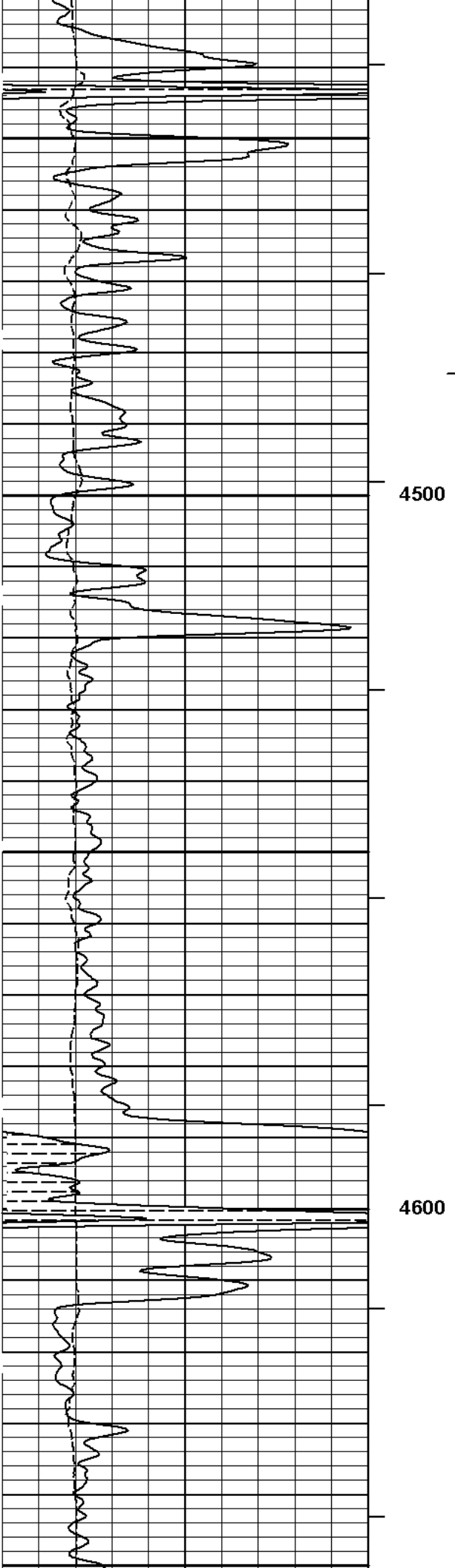
Fold here

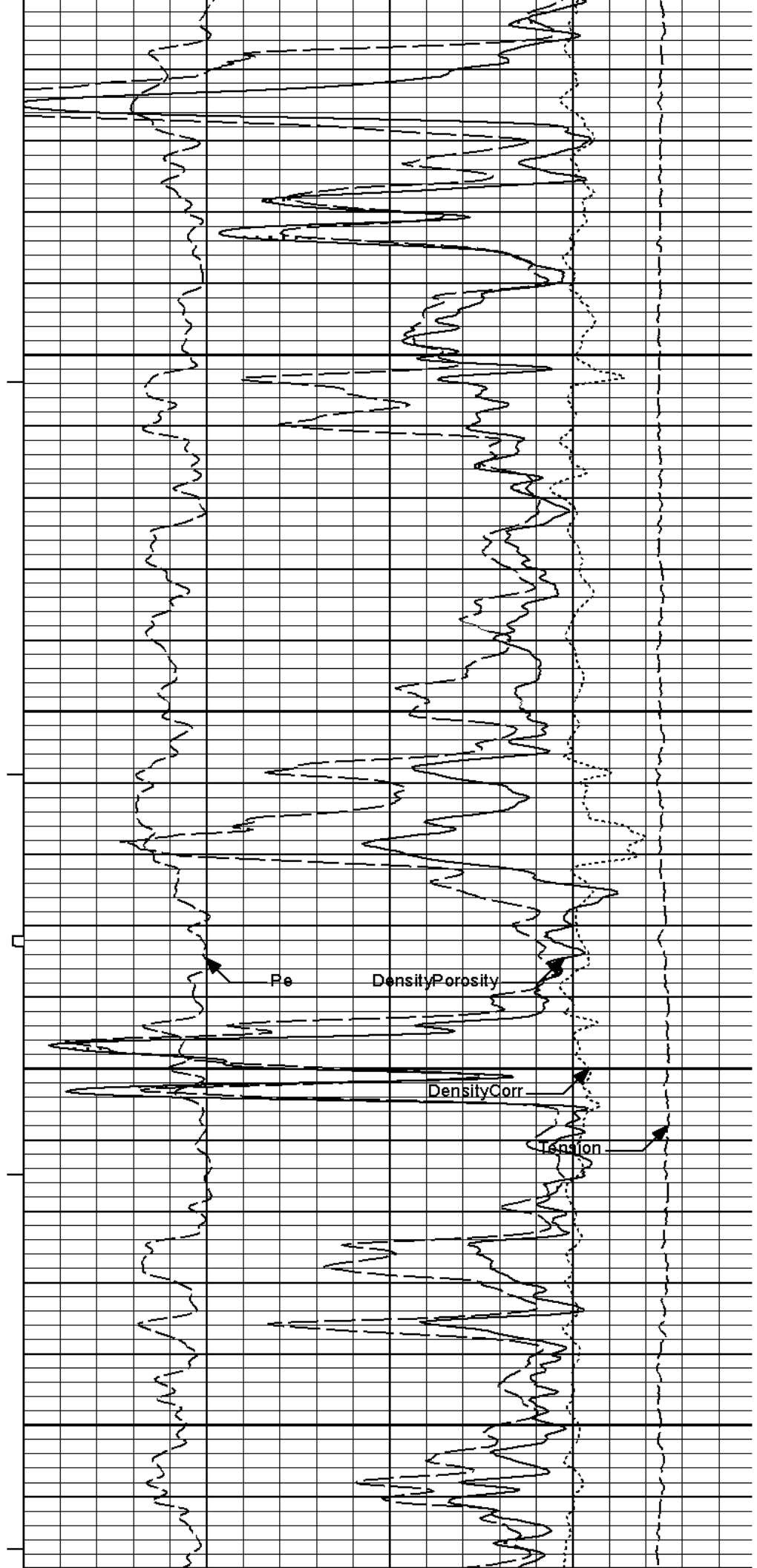
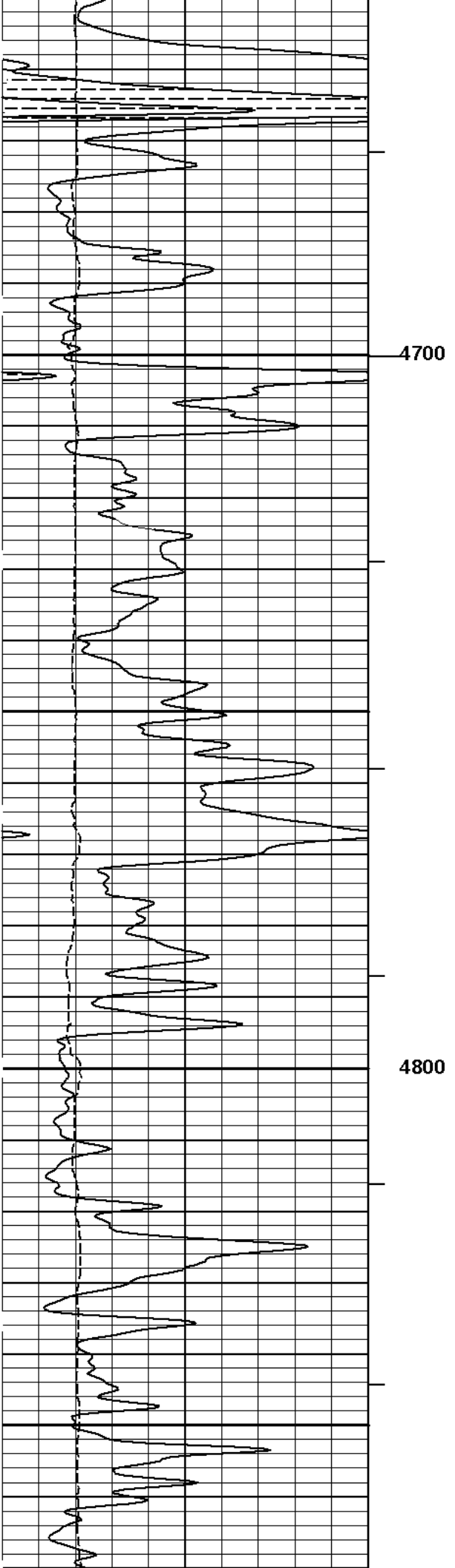
Service Ticket No.: 8105526						API Serial No.: 15-081-21933						PGM Version: VL INSITE R3.2.0 (Build 7)											
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE												RESISTIVITY SCALE CHANGES											
Date	Sample No.					Type Log	Depth	Scale Up Hole				Scale Down Hole											
Depth-Driller																							
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.		@		@																			
Rmc @ Meas. Temp.		@		@																			
Source Rmf	Rmc																						
Rm @ BHT		@		@																			
Rmf @ BHT		@		@																			
Rmc @ BHT		@		@																			
EQUIPMENT DATA																							
GAMMA				ACOUSTIC				DENSITY				NEUTRON											
Run No.	ONE			Run No.				Run No.	ONE			Run No.	ONE										
Serial No.	11039640			Serial No.				Serial No.	105_M96_P84			Serial No.	11055304										
Model No.	GTET			Model No.				Model No.	SDLT			Model No.	DSNT										
Diameter	3.625			No. of Cent.				Diameter	4.5			Diameter	3.625										
Detector Model No.	T-102			Spacing				Log Type	GAM-GAM			Log Type	NEU-NEU										
Type	SCINT							Source Type	CS137			Source Type	AM241BE										
Length	8"			LSA [Y/N]				Serial No.	5168 GW			Serial No.	DSN-424										
Distance to Source	10'			FWDA [Y/N]				Strength	1.5 CI			Strength	15 CI										
LOGGING DATA																							

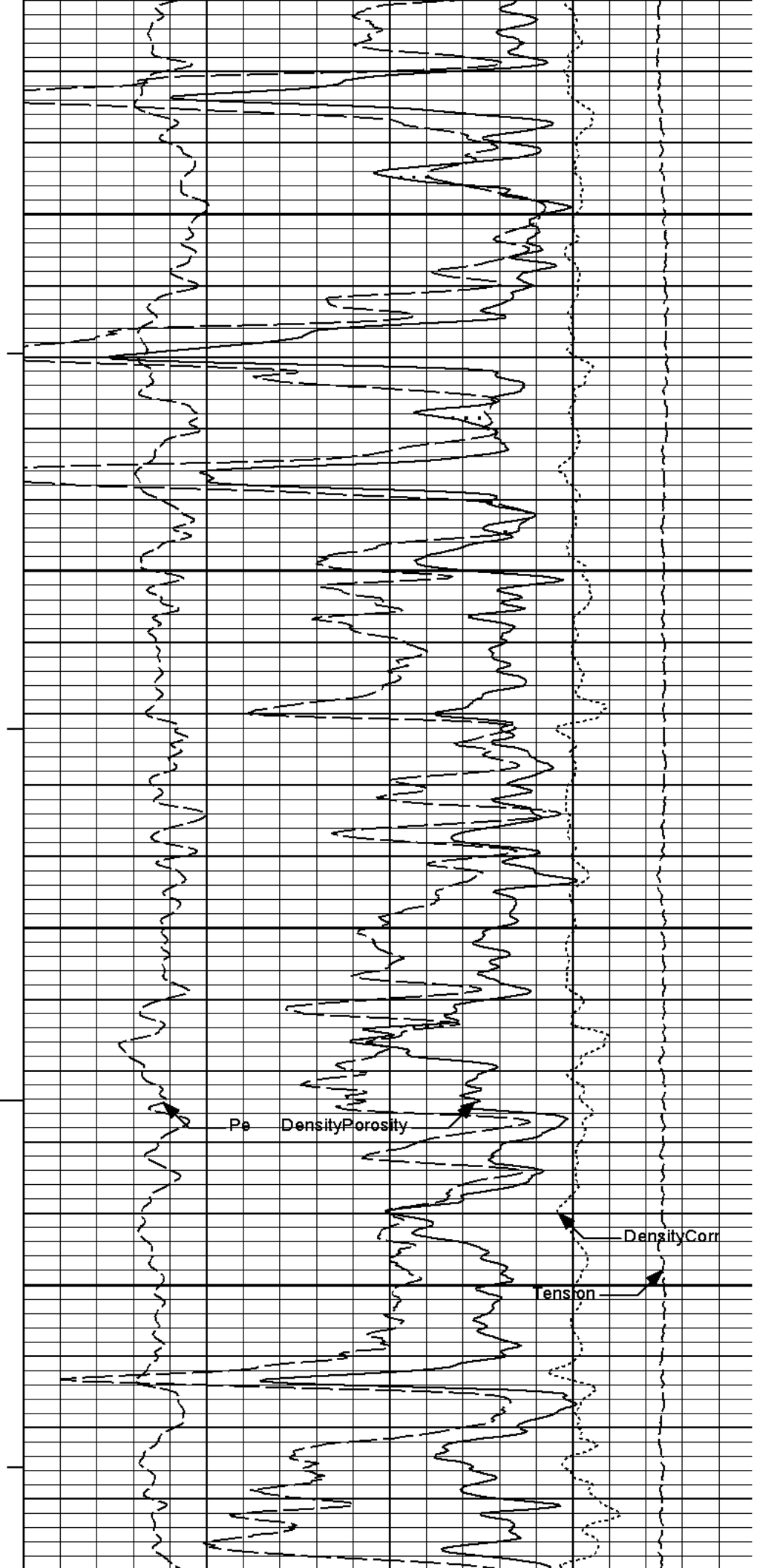
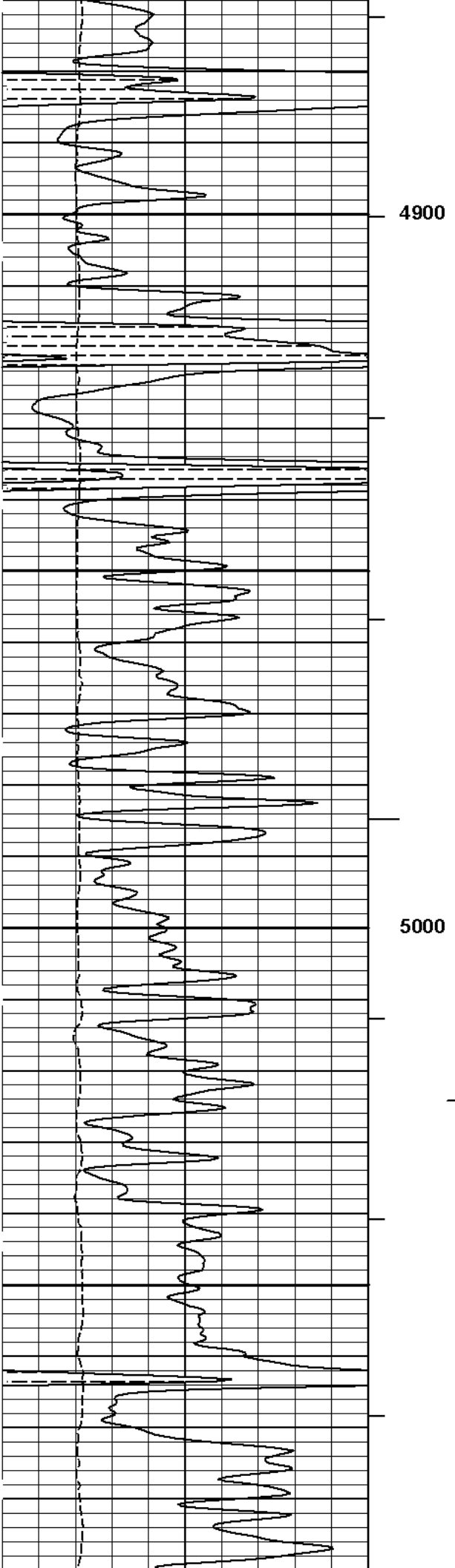


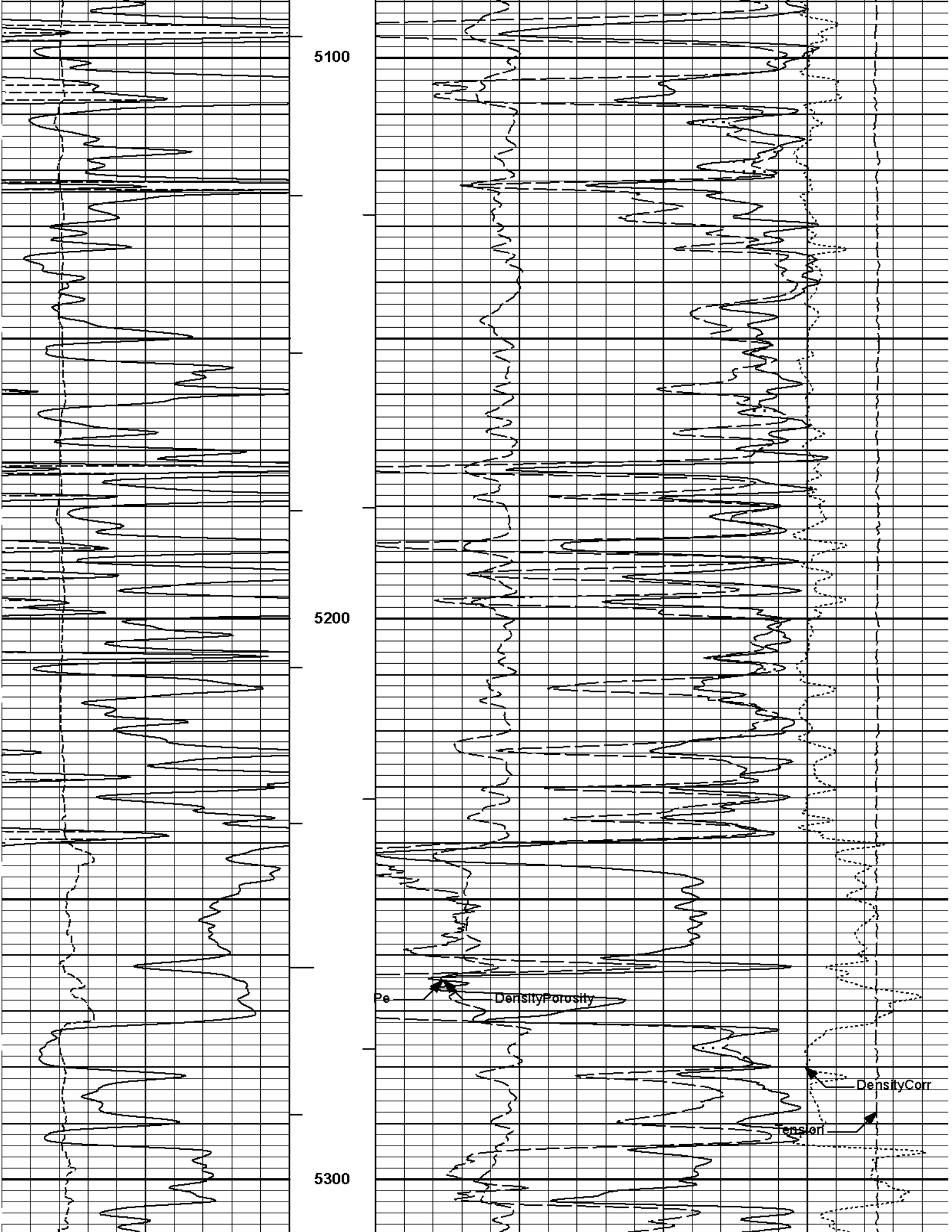


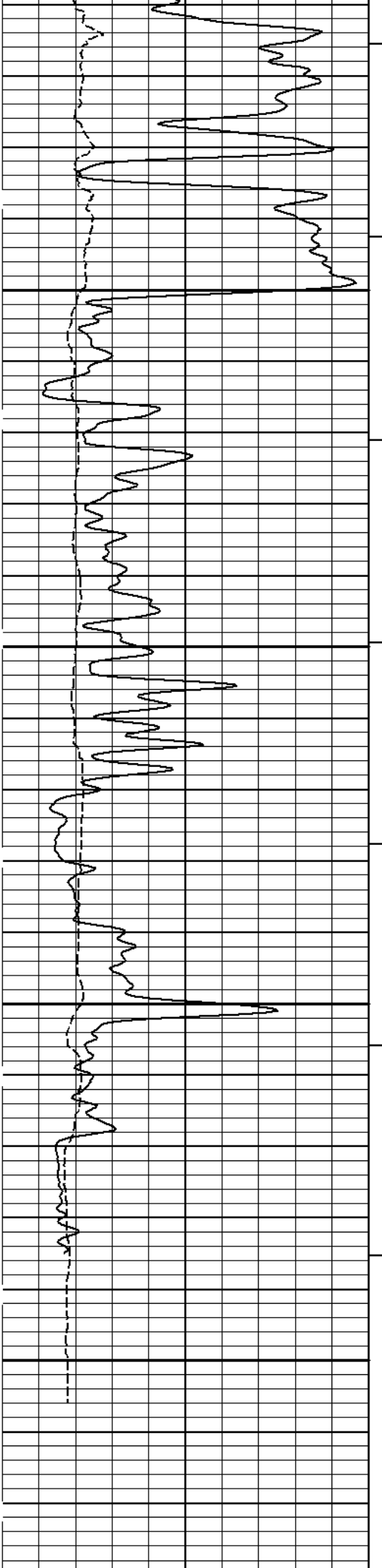






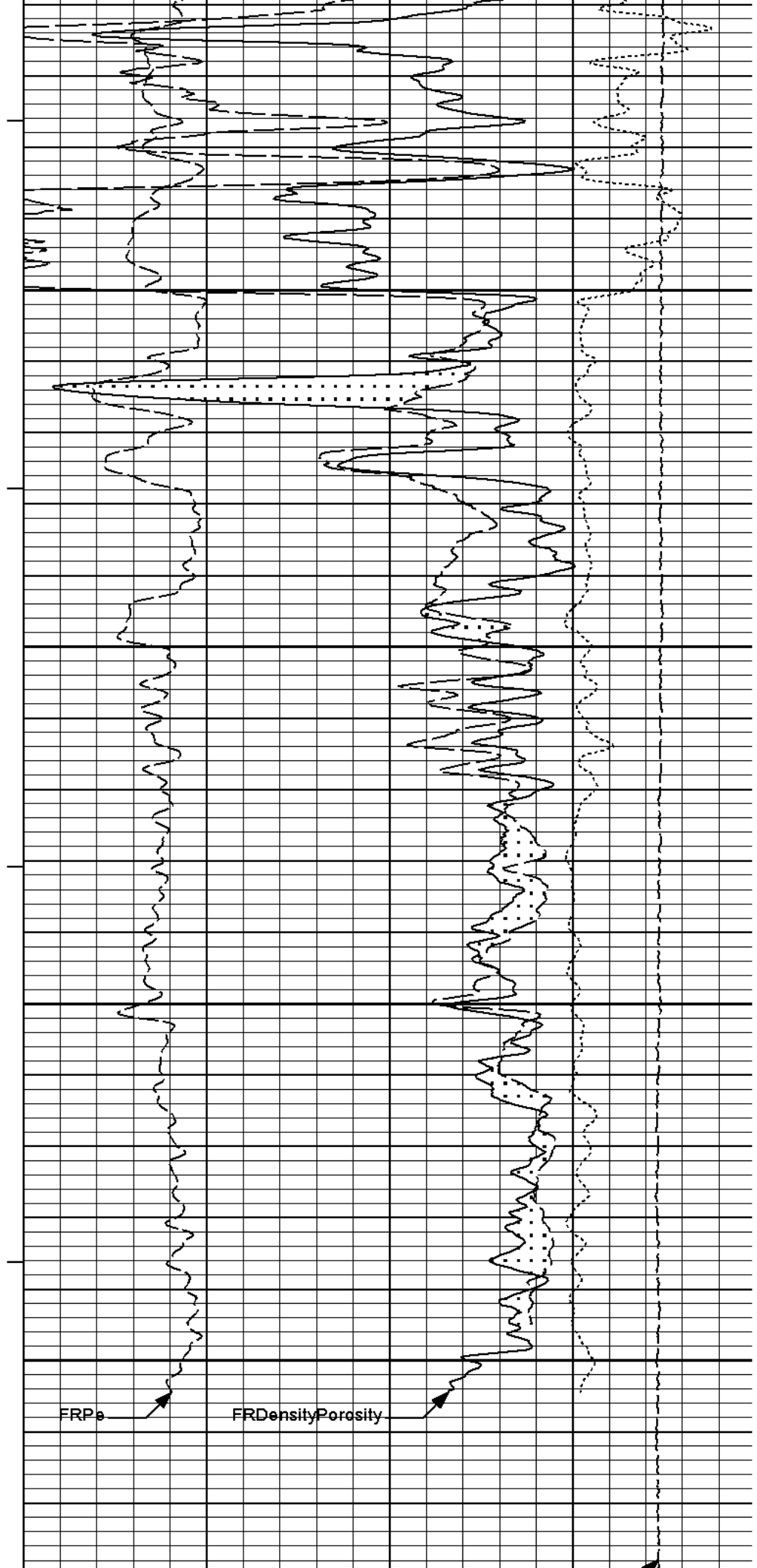






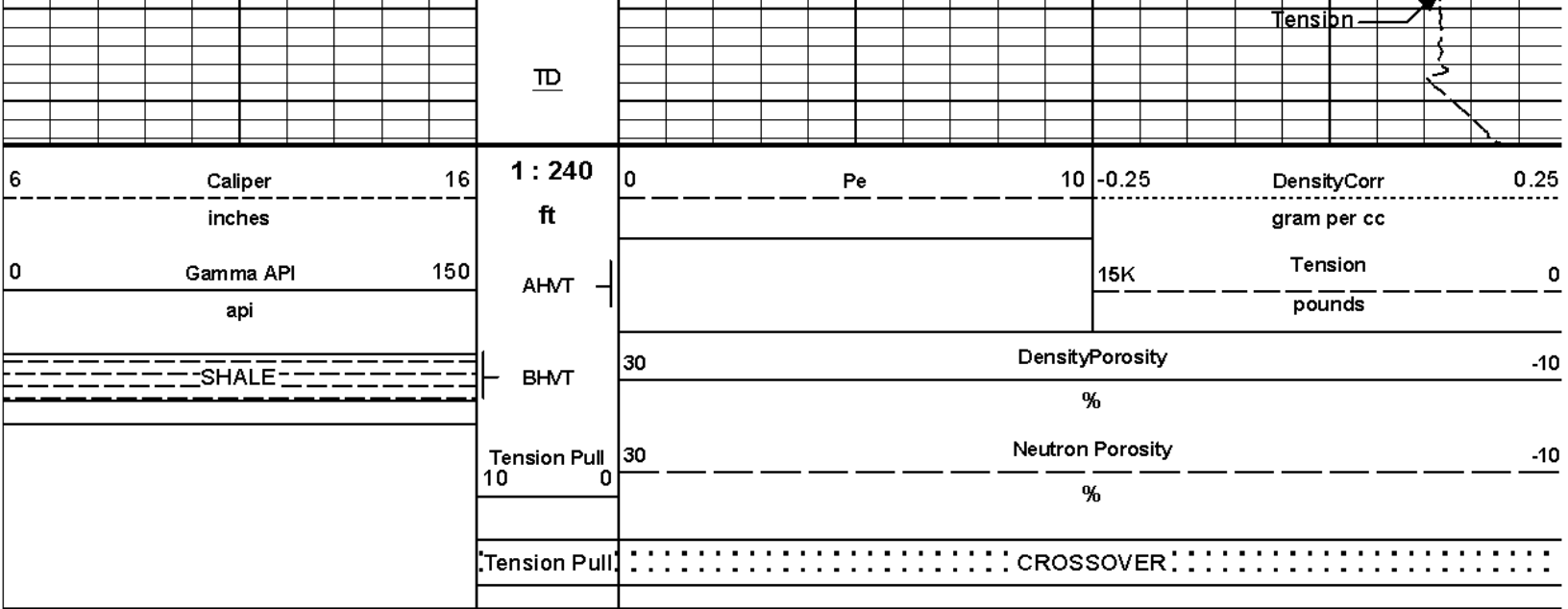
5400

5500



FRP

FRDensityPorosity



HALLIBURTON

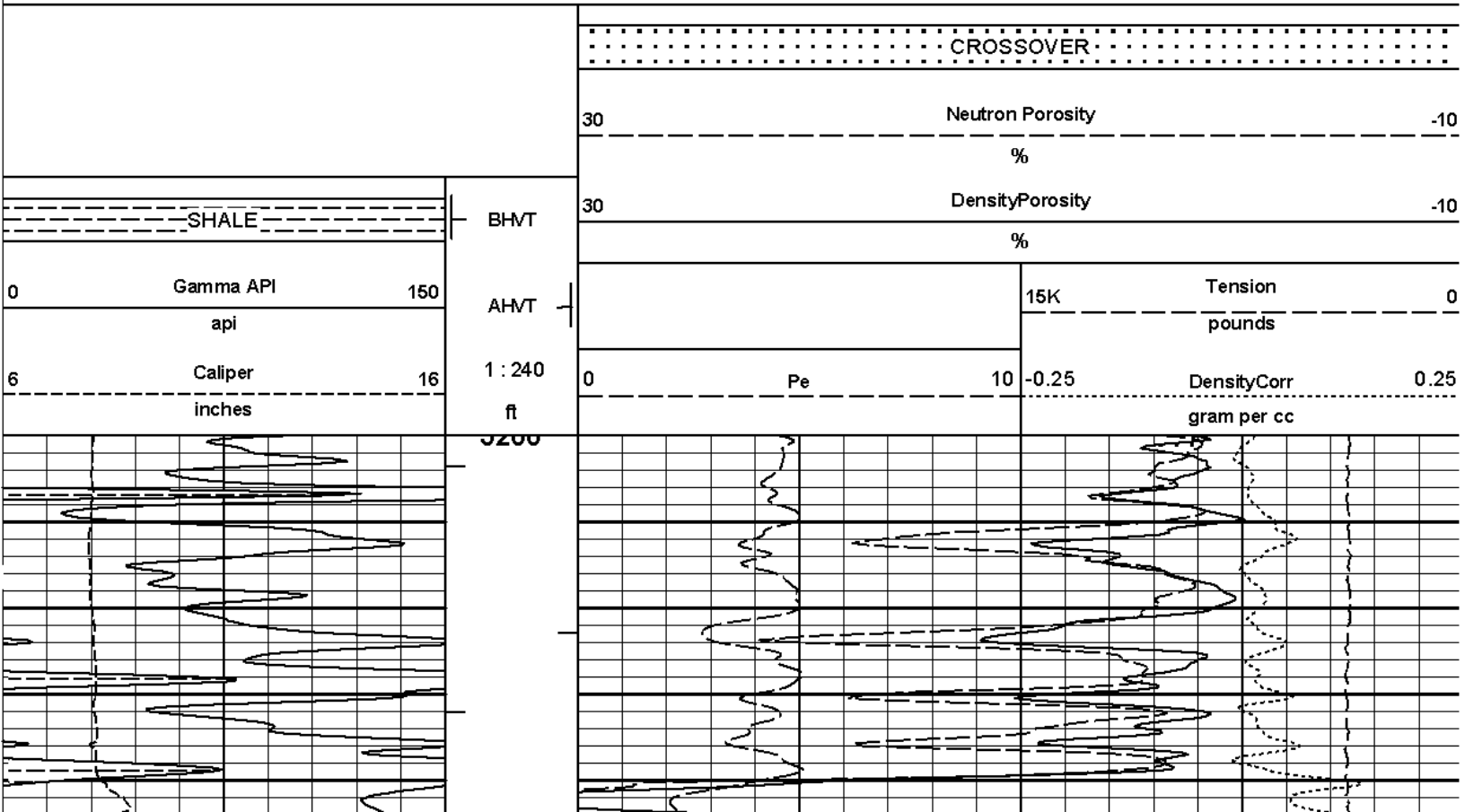
Plot Time: 16-Apr-11 10:06:09
Plot Range: 3950 ft to 5544.67 ft
Data: WILLIAMS_1\Well Based\DAQ-0001-003\
Plot File: \\PORO\Porosity_Q_5_MAIN_LIB

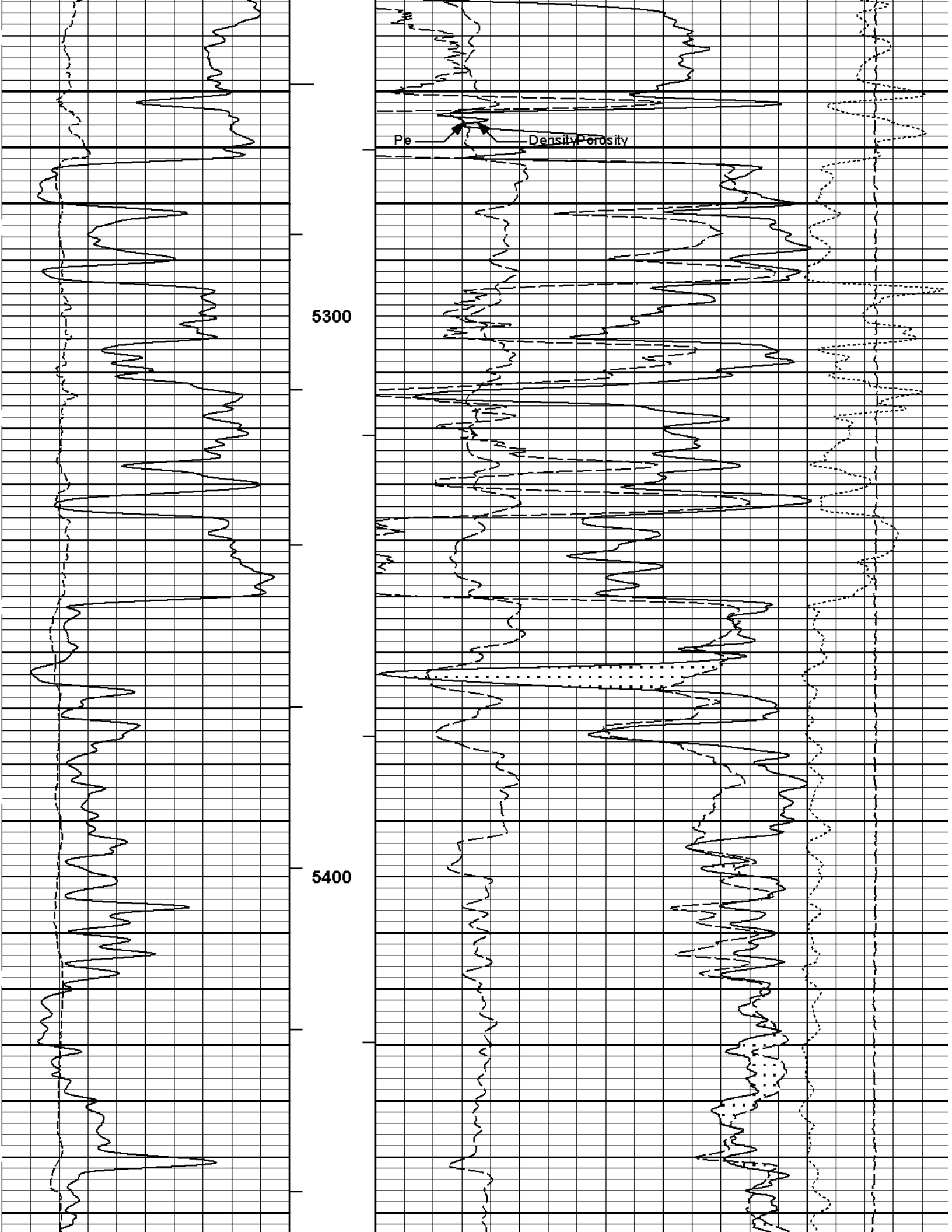
5 INCH MAIN LOG

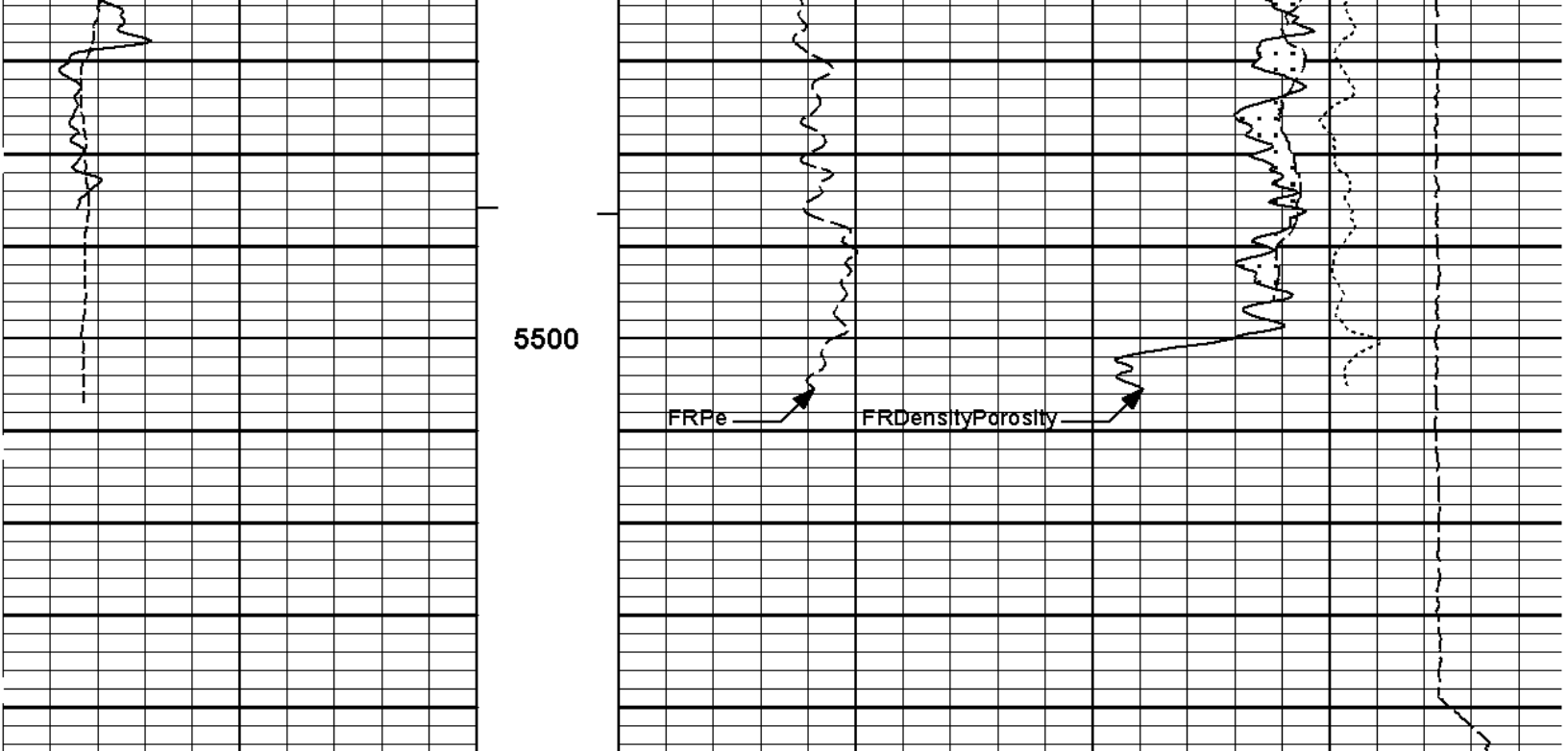
HALLIBURTON

Plot Time: 16-Apr-11 10:06:10
Plot Range: 5200 ft to 5545.58 ft
Data: WILLIAMS_1\Well Based\DAQ-0001-002\
Plot File: \\PORO\Porosity_Q_5_REP_LIB

REPEAT SECTION







6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					gram per cc	
0	Gamma API	150	AHVT				15K	Tension	0
	api							pounds	
	SHALE		BHVT	30	DensityPorosity				-10
					%				
				30	Neutron Porosity				-10
					%				
					 CROSSOVER				

HALLIBURTON

Plot Time: 16-Apr-11 10:06:14
Plot Range: 5200 ft to 5545.58 ft
Data: WILLIAMS_I_1\Well Based\DAQ-0001-002\
Plot File: \\POROI\Poroi_IQ_5_REP_LIB

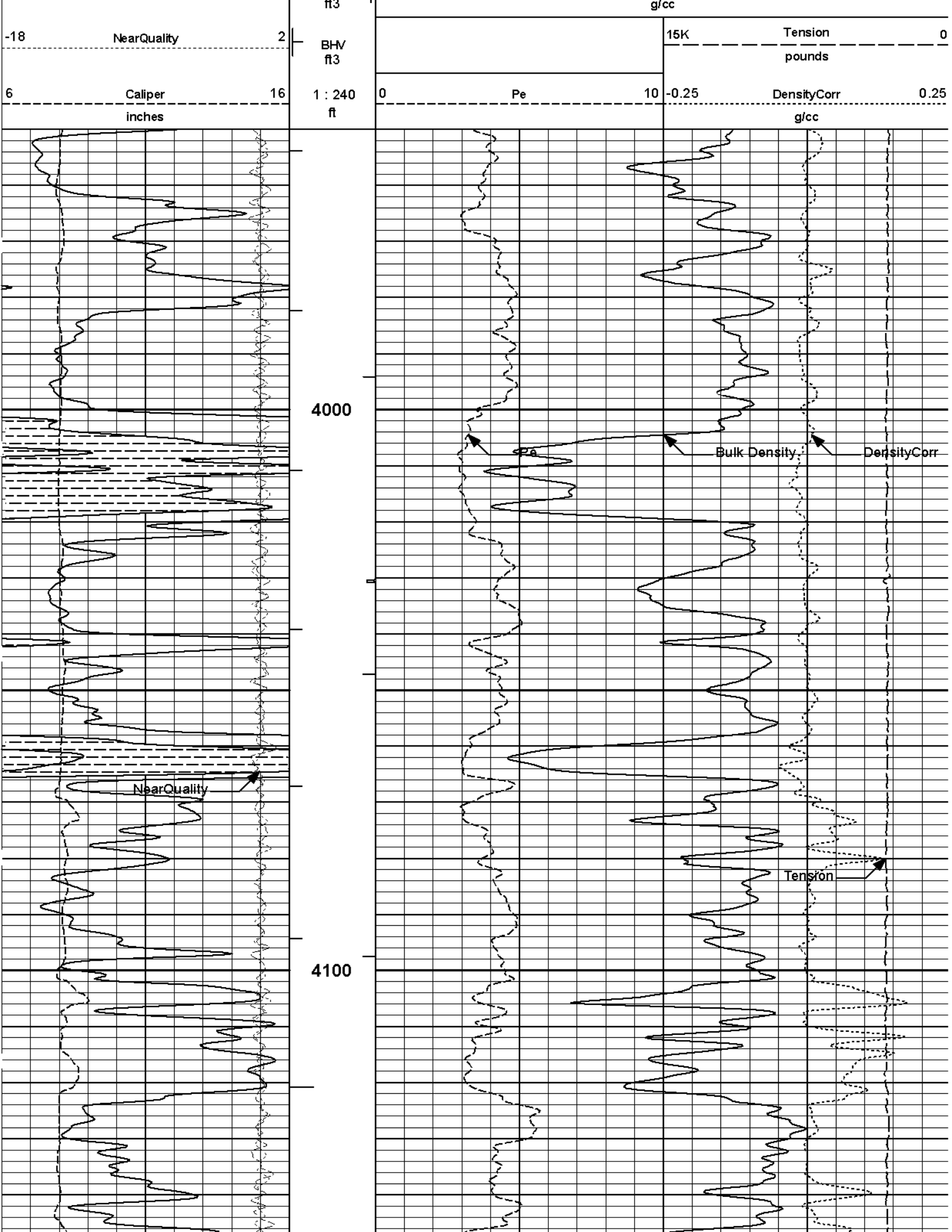
REPEAT SECTION

HALLIBURTON

Plot Time: 16-Apr-11 10:06:15
Plot Range: 3950 ft to 5544.67 ft
Data: WILLIAMS_I_1\Well Based\DAQ-0001-003\
Plot File: \\LOCAL-WILLIAMS_I_1\Well Based\POROI\BULKD_5_MAIN_LIB

5 INCH MAIN LOG

	SHALE		Tension Pull	
0	Gamma Ray	150	Tension Pull	
	api		10	0
18	FarQuality	-2	AHV	2
				Bulk Density
				3

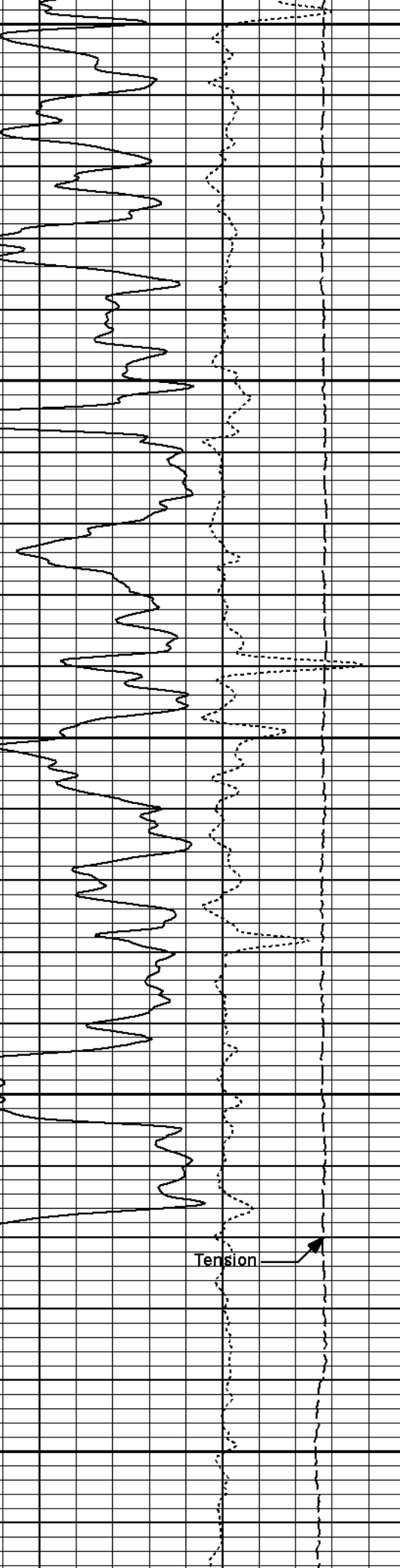
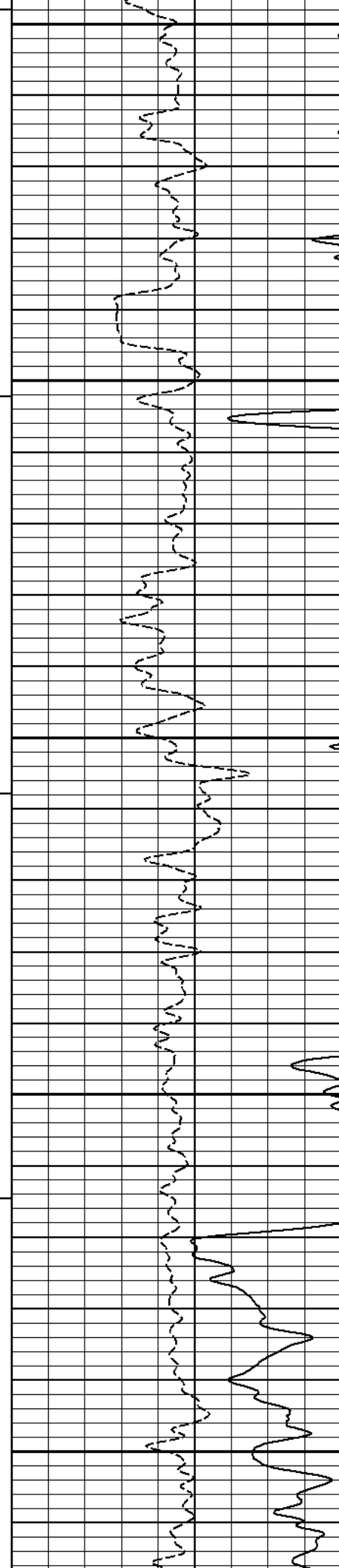




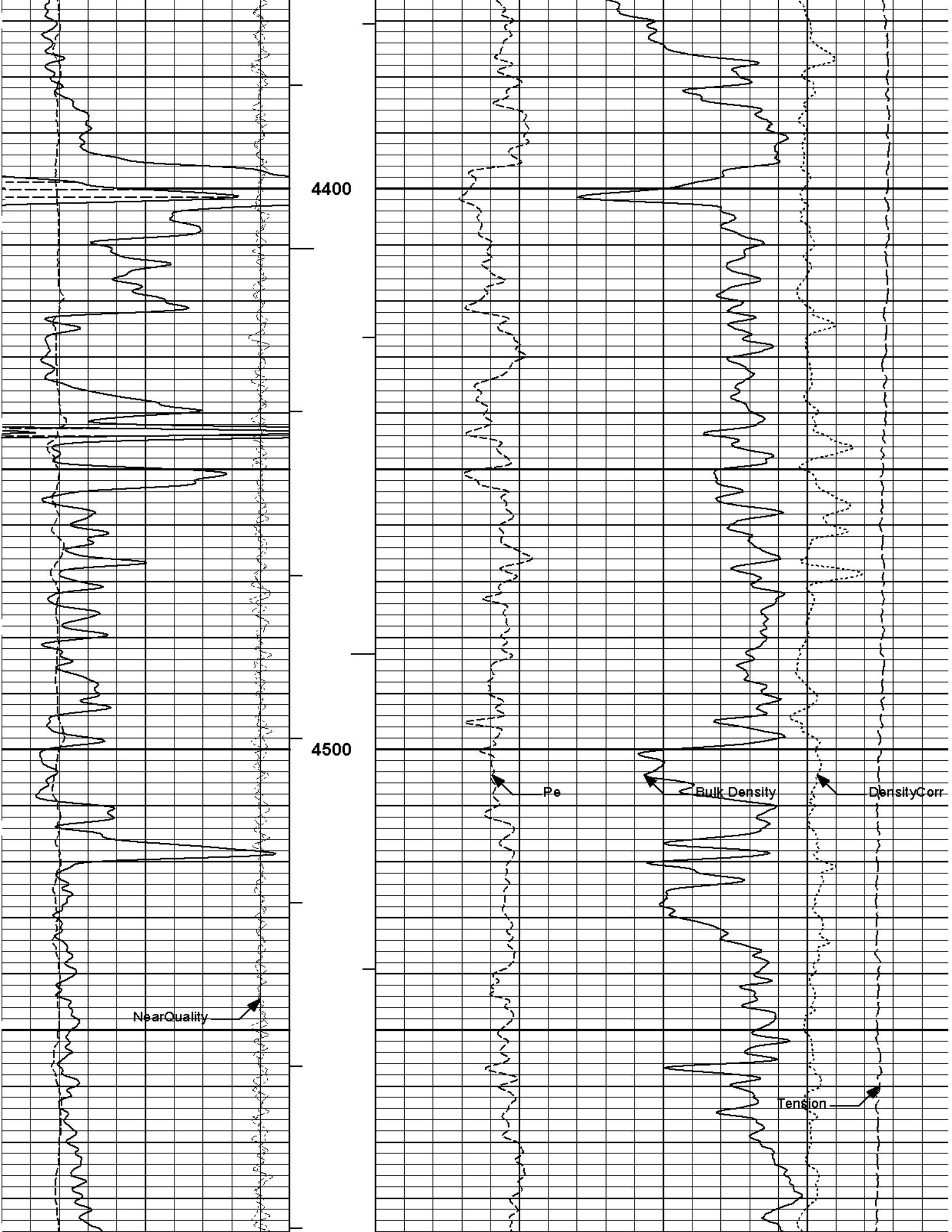
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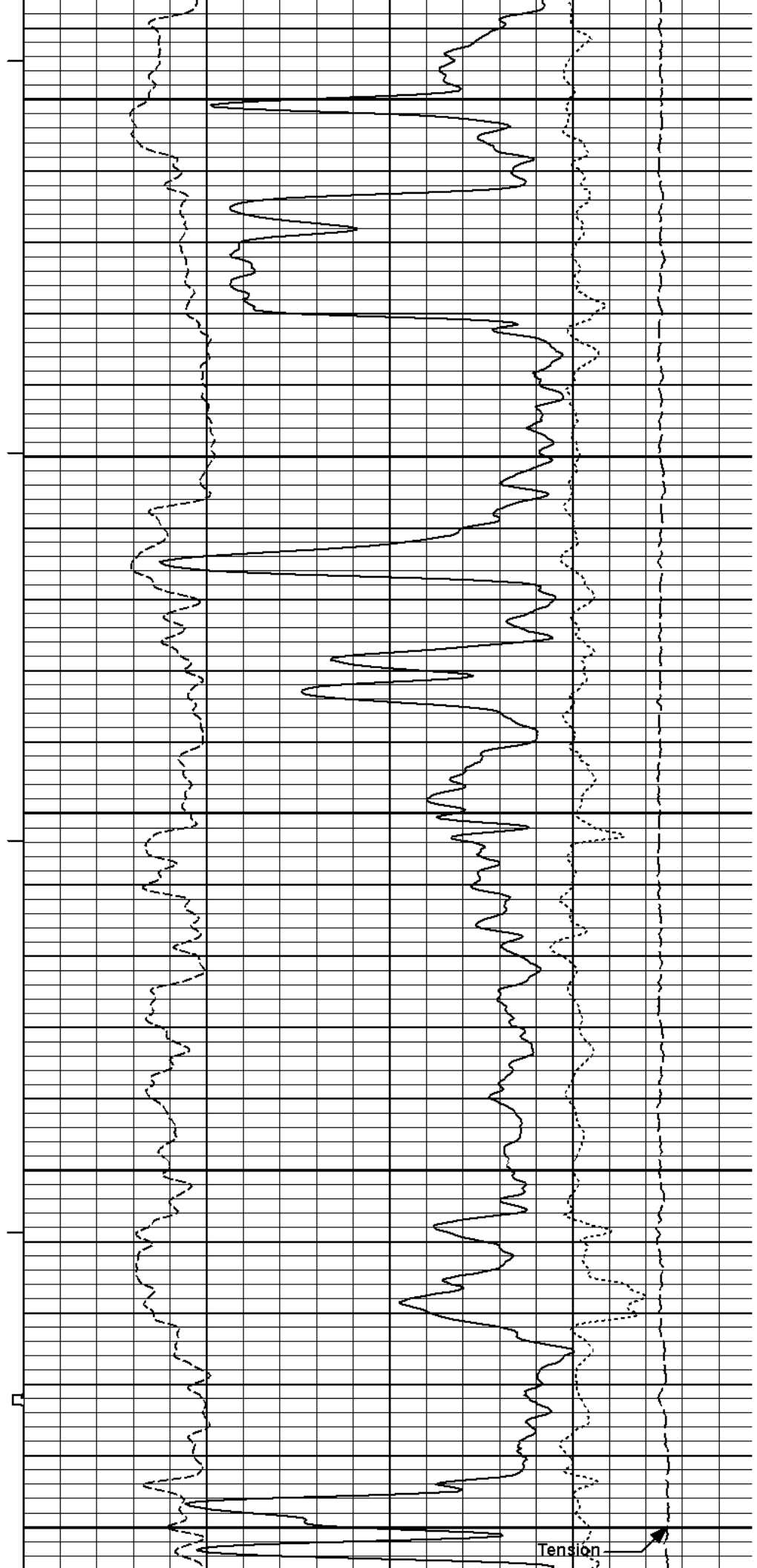
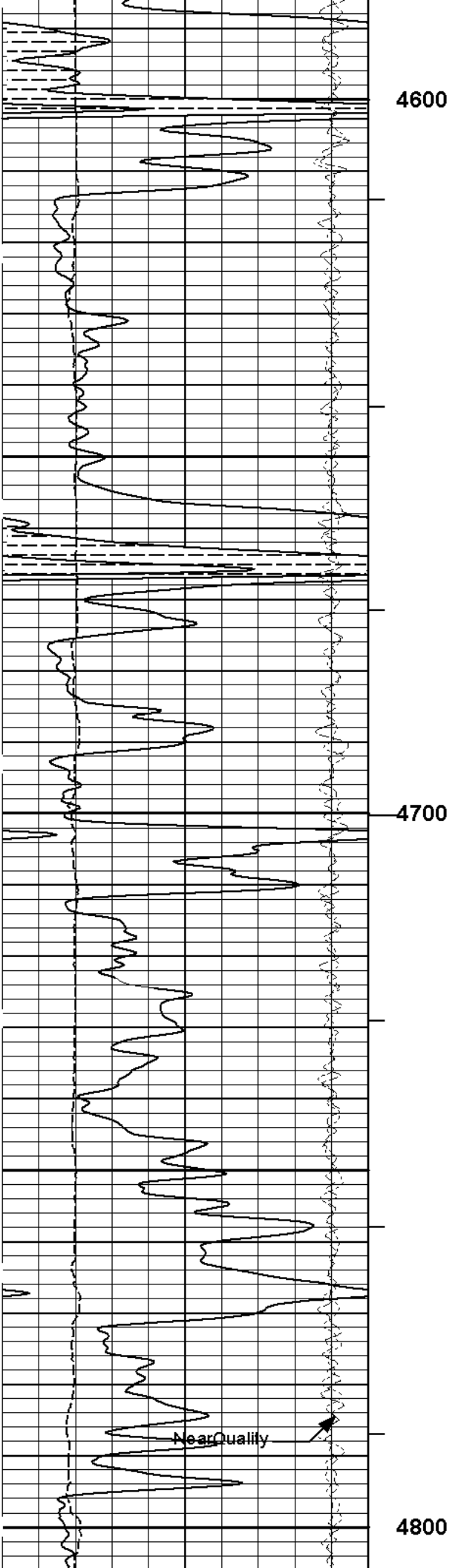
4300

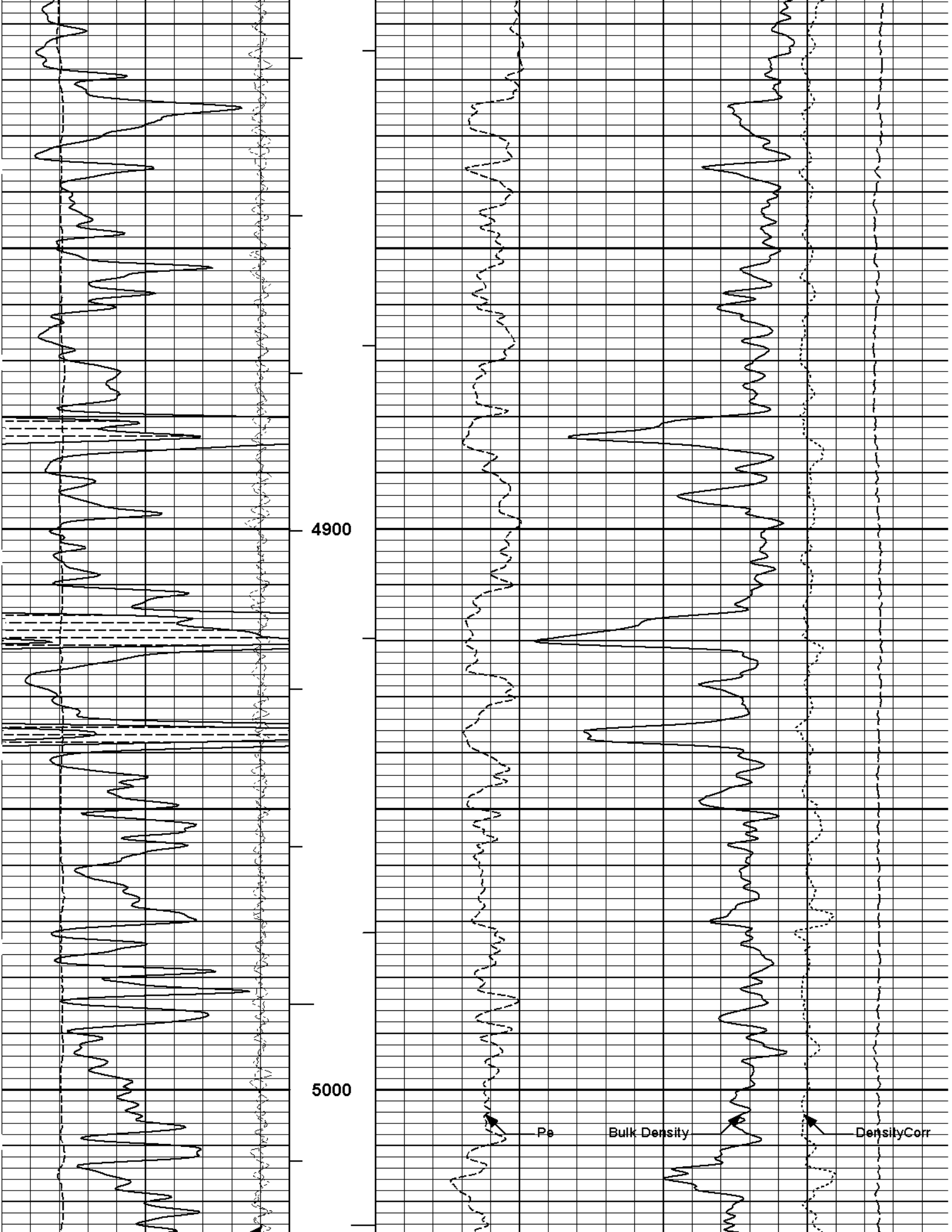
NearQuality

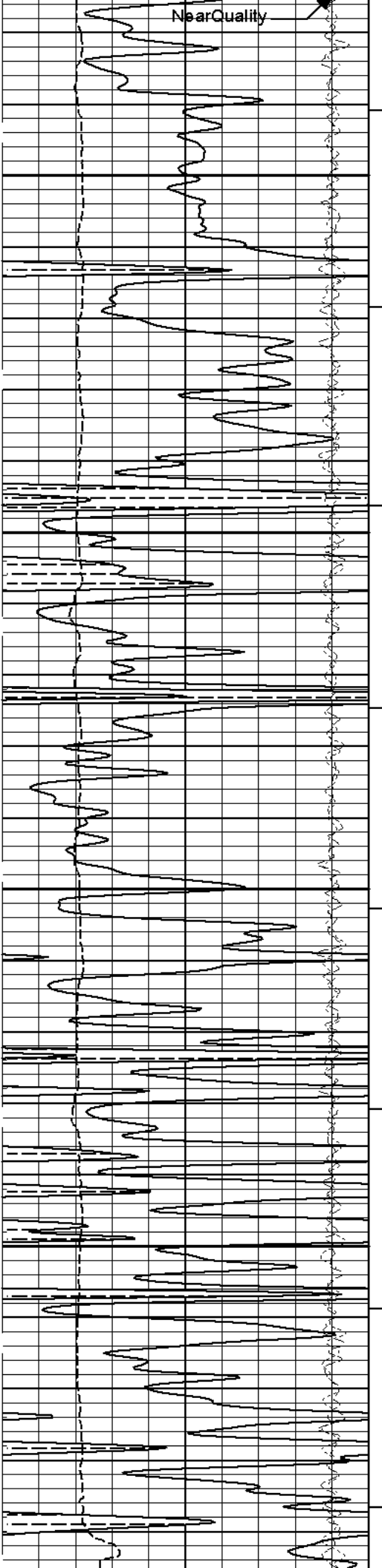


Tension





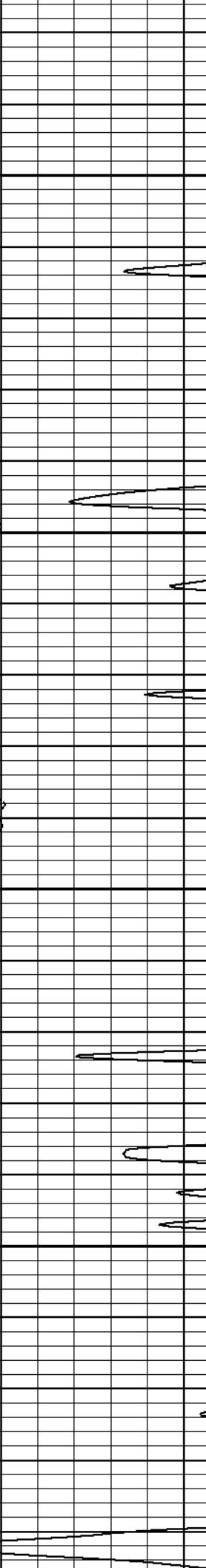
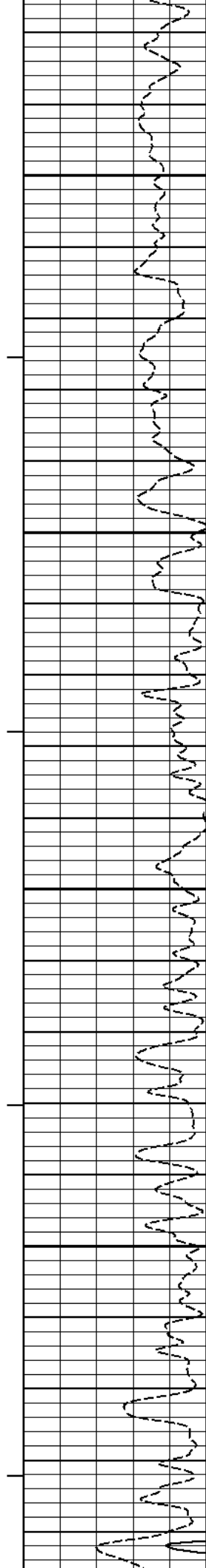




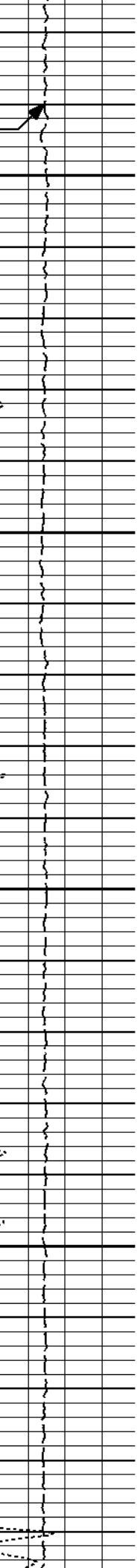
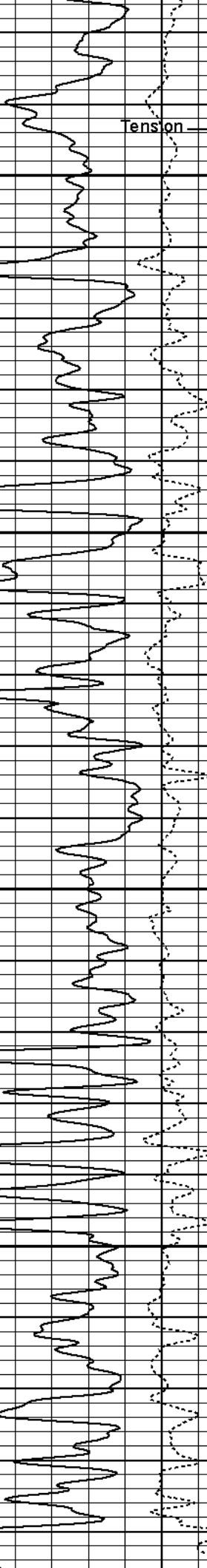
NearQuality

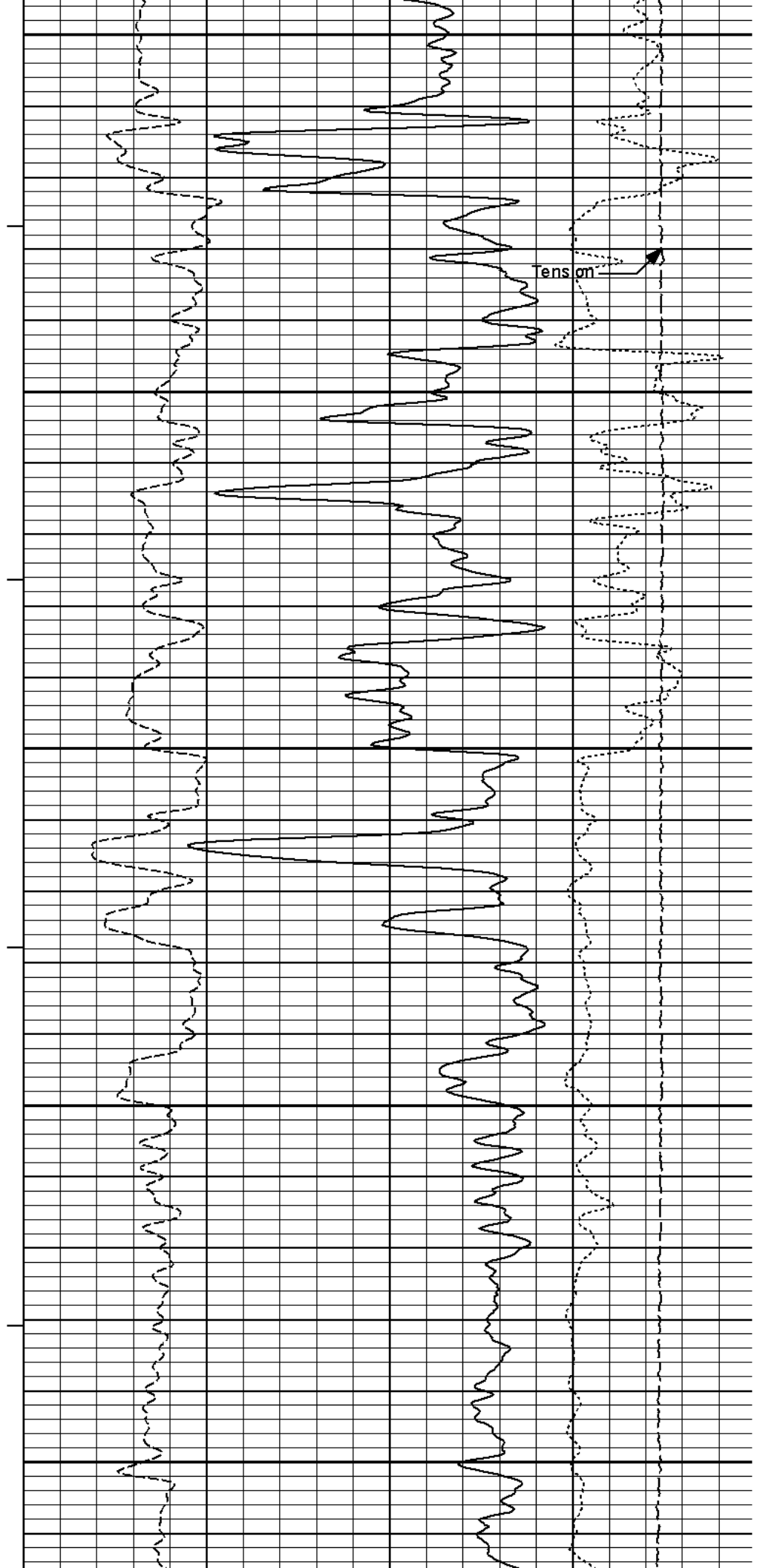
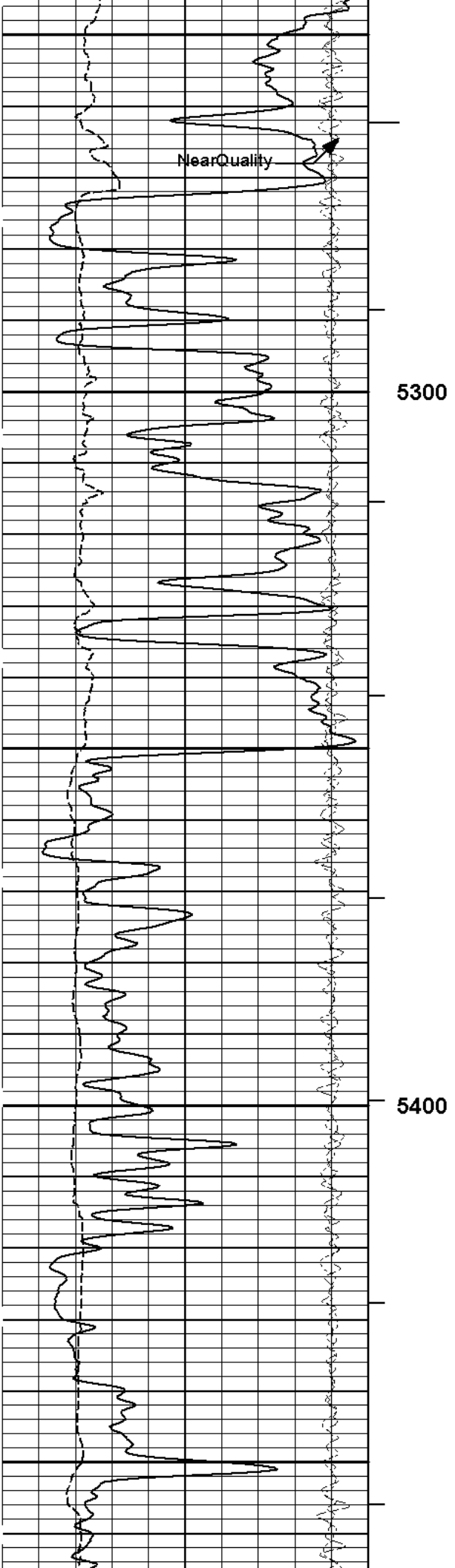
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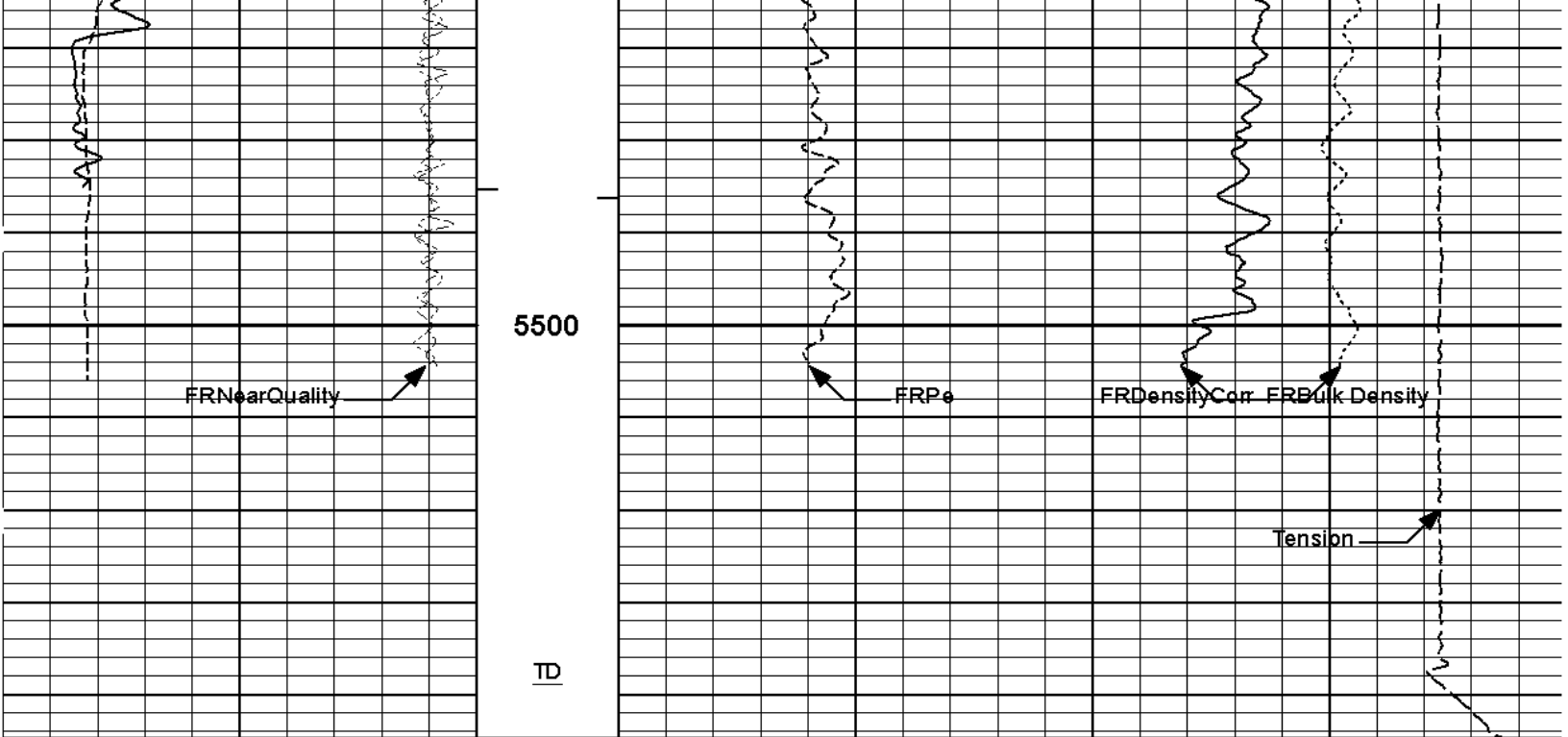
5200



tension







6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					g/cc	
-18	NearQuality	2	BHV				15K	Tension	0
			ft3					pounds	
18	FarQuality	-2	AHV	2	Bulk Density				
			ft3		g/cc				
0	Gamma Ray	150	Tension Pull						
	api		10	0					
	SHALE		Tension Pull						

HALLIBURTON

Plot Time: 16-Apr-11 10:06:20
Plot Range: 3950 ft to 5544.67 ft
Data: WILLIAMS_I_1\Well Based\DAQ-0001-0031
Plot File: \\LOCAL-I\WILLIAMS_I_1\Well Based\POROI\BULKD_5_MAIN_LIB

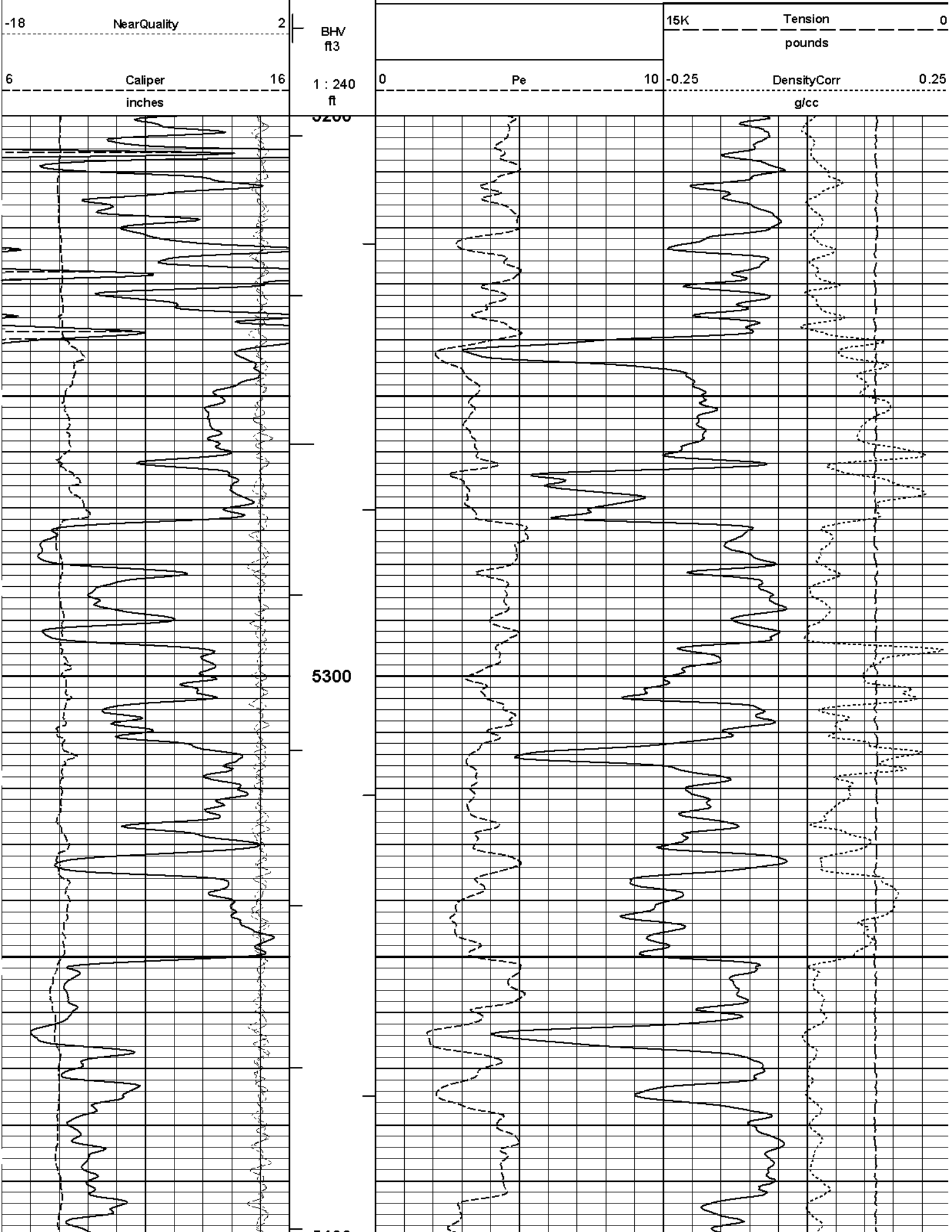
5 INCH MAIN LOG

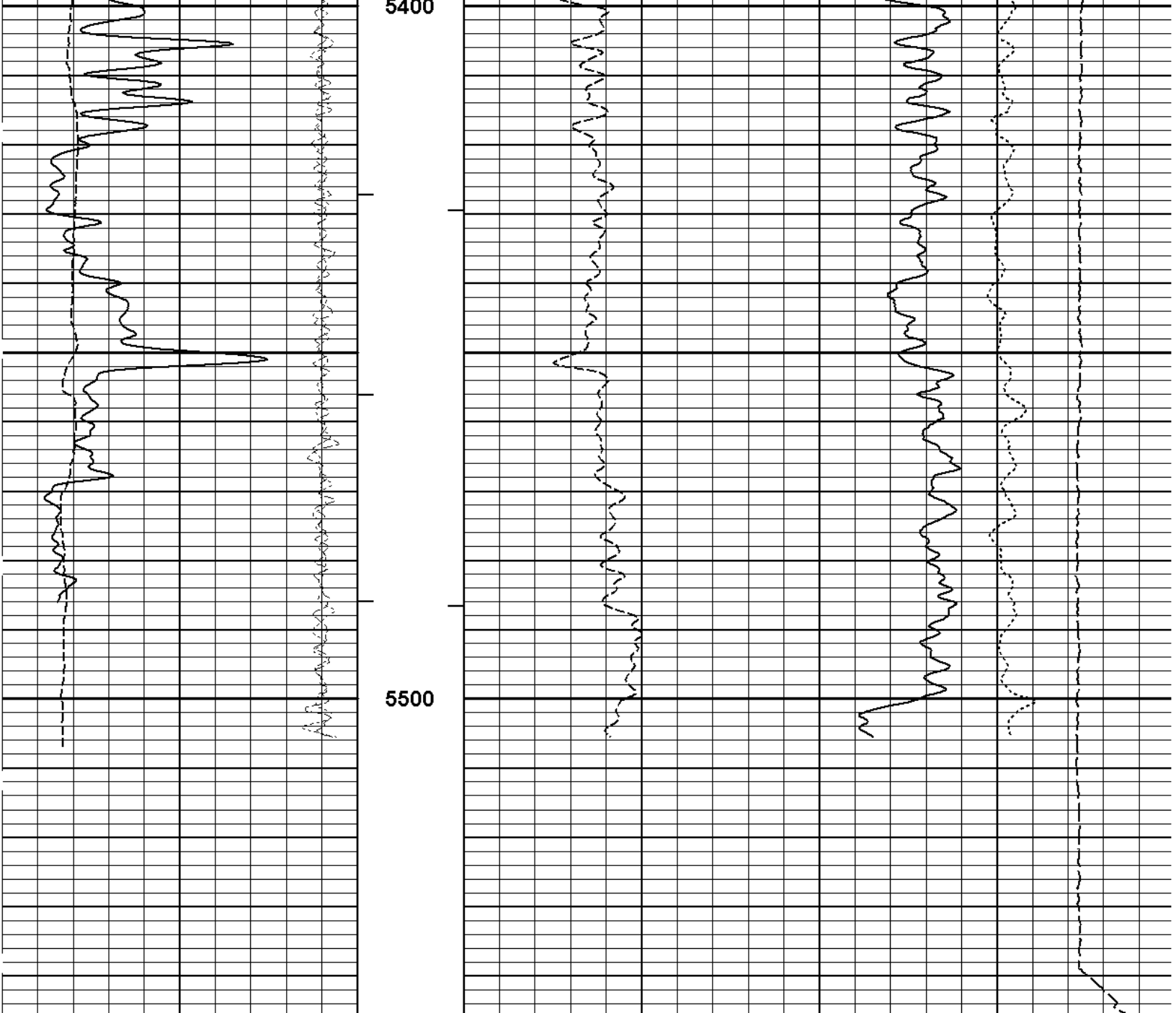
HALLIBURTON

Plot Time: 16-Apr-11 10:06:21
Plot Range: 5200 ft to 5545.58 ft
Data: WILLIAMS_I_1\Well Based\DAQ-0001-0021
Plot File: \\LOCAL-I\WILLIAMS_I_1\Well Based\POROI\BULKD_5_REP_LIB

REPEAT SECTION

	SHALE								
0	Gamma Ray	150							
	api								
18	FarQuality	-2	AHV	2	Bulk Density				
			ft3		g/cc				





6	Caliper	16	1 : 240 ft	0	Pe	10	-0.25	DensityCorr	0.25
	inches							g/cc	
-18	NearQuality	2	BHV ft3				15K	Tension	0
								pounds	
18	FarQuality	-2	AHV ft3	2	Bulk Density				
					g/cc				
0	Gamma Ray	150							
	api								
	SHALE								

HALLIBURTON

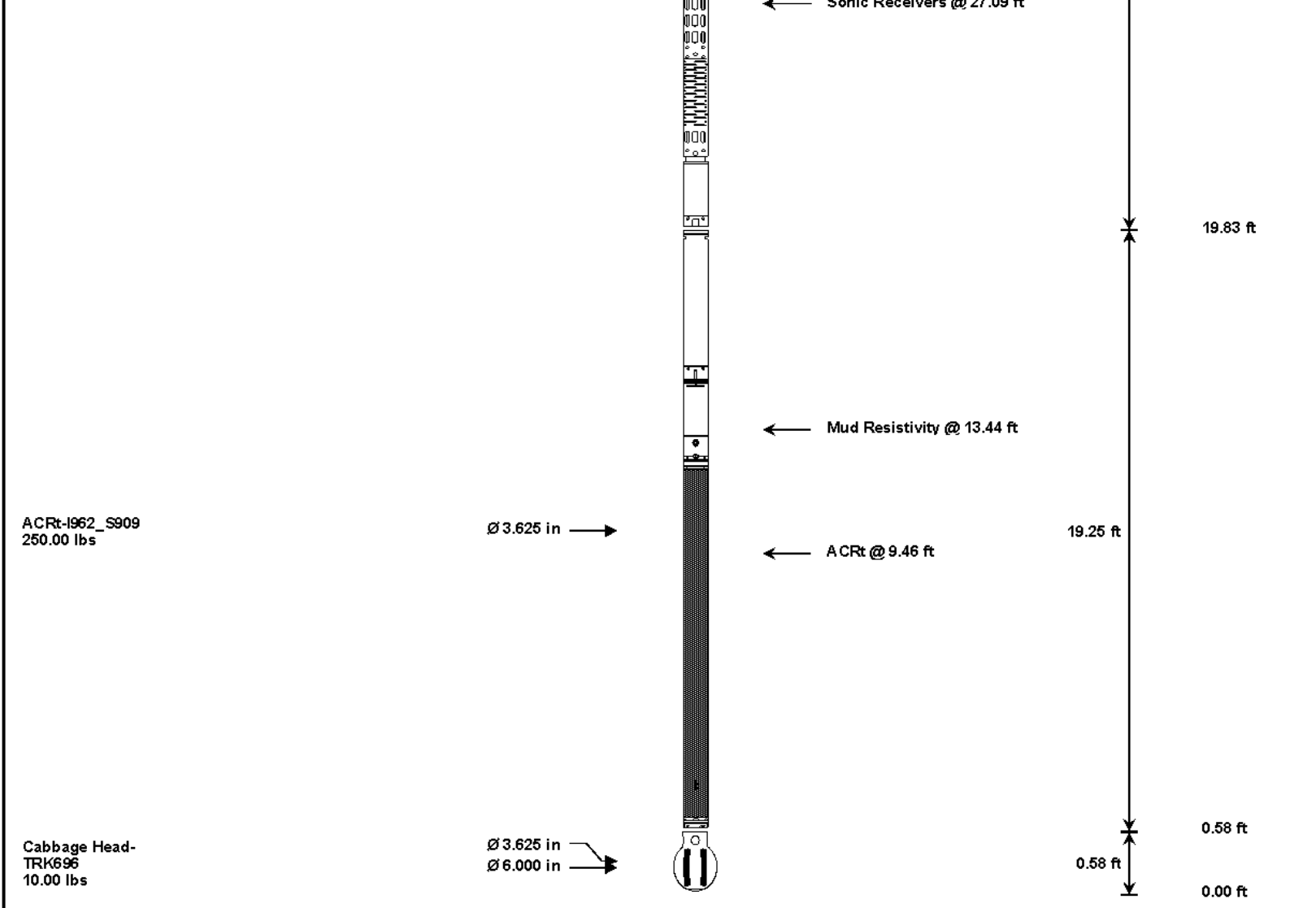
Plot Time: 16-Apr-11 10:06:23
Plot Range: 5200 ft to 5545.58 ft
Data: WILLIAMS_I_1Well Based\DAQ-0001-0021
Plot File: \\LOCAL-I\WILLIAMS_I_1Well Based\PORO\BULKD_5_REP_LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in →		← Temperature @ 71.31 ft	3.03 ft	72.34 ft
XOHD-TRK696 20.00 lbs		Ø 2.750 in → Ø 3.625 in →			0.95 ft	69.31 ft
SP Sub-PROT01 60.00 lbs		Ø 3.625 in →		← SP @ 66.59 ft	3.74 ft	68.36 ft
GTET-11039640 165.00 lbs		Ø 3.625 in →			8.52 ft	64.63 ft
				← GammaRay @ 58.56 ft		56.10 ft
DSNT-11055304 174.00 lbs	DSN Decentralizer- 10755066 6.60 lbs	Ø 3.625 in* → Ø 3.625 in →		← DSN Far @ 49.17 ft ← DSN Near @ 48.42 ft	9.69 ft	46.42 ft
SDLT-404_P84 360.00 lbs		Ø 4.500 in → Ø 4.750 in →		SDL Microlog @ 38.60 ft SDL Caliper @ 38.42 ft SDL @ 38.41 ft	10.81 ft	35.60 ft
BSAT-10747684 300.00 lbs		Ø 3.625 in →			15.77 ft	
				← Series Resistor @ 27.00 ft		



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	CH_696	37.50	3.03	69.31	300.00
XOHD	Hostile to Dits Cross Over	TRK696	20.00	0.95	68.36	300.00
SP	SP Sub	PROT01	60.00	3.74	64.63	300.00
GTET	Gamma Telemetry Tool	11039640	165.00	8.52	56.10	60.00
DSNT	Dual Spaced Neutron	11055304	174.00	9.69	46.42	60.00
DCNT	DSN Decentralizer	10755066	6.60	5.13	49.75	300.00
SDLT	Spectral Density Tool	I04_P84	360.00	10.81	35.60	60.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77	19.83	60.00
ACRt	Array Compensated True Resistivity	I962_S909	250.00	19.25	0.58	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58	0.00	300.00
Total			1,383.10	72.34		
* Not included in Total Length and Length Accumulation.						
Data: WILLIAMS_I_110001 SP-GTET-DSN-SDL-BSAT-ACRT-CHVDLE						Date: 15-Apr-11 21:30:41

HALLIBURTON			
CALIBRATION REPORT			
NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11039640	Reference Calibration Date:	15-Feb-11 06:08:03
Engineer:	J. BOSH	Calibration Date:	11-Mar-11 10:16:52
Software Version:	WL INSITE R3.2.0 (Build 7)	Calibration Version:	1
Calibrator Source S/N: TR 116			

Calibrator Source S/N: TB 146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	57.7	57.8	api
Background + Calibrator	326.8	327.4	api
Calibrator	269.8	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11039640

Reference Calibration Date: 11-Mar-11 10:16:52

Engineer: J. BOSH

Calibration Date: 15-Apr-11 09:33:50

Software Version: WL INSITE R3.2.0 (Build 7)

Calibration Version: 1

Calibrator Source S/N: TB 146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	57.8	100.8	api
Background + Calibrator	327.4	367.1	api
Calibrator	269.6	266.3	api

Shop	Field	Difference	Tolerance
269.6	266.3	3.3	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name: GTET - 11039640

Reference Calibration Date: 15-Apr-11 09:33:50

Engineer: J. BOSH

Calibration Date: 16-Apr-11 09:54:03

Software Version: WL INSITE R3.2.0 (Build 7)

Calibration Version: 1

Calibrator Source S/N: TB 146

Calibrator API Reference:265.00 api

Calibrator API Reference:269.6 api

Post Verification	Field	Post	Units
Background	100.8	47.2	api
Background + Calibrator	367.1	318.2	api
Calibrator	266.3	271.0	api

Shop	Field	Post	Difference	Tolerance
269.6	266.3	271.0	-4.7	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11055304

Reference Calibration Date: 31-Mar-11 17:34:30

Engineer: J. BOSH

Calibration Date: 31-Mar-11 17:51:18

Software Version: WL INSITE R3.2.0 (Build 7)

Calibration Version: 1

Logging Source S/N: DSN-424

Tank Serial Number: LIB-105060

Reference value assigned to Tank: 51.680

Snow Block S/N: 696 BLOCK

Calibration Tank Water Temperature: 64 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.988	0.990	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2105	0.2110	0.0005	+/- 0.0020
Calibrated Ratio:	9.71	9.73	0.016	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0644	0.02000 - 0.09000

PASS/FAIL SUMMARY

Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name:	DSNT - 11055304	Reference Calibration Date:	31-Mar-11 17:51:18
Engineer:	J. BOSH	Calibration Date:	15-Apr-11 09:38:01
Software Version:	WL INSITE R3.2.0 (Build 7)	Calibration Version:	1

Logging Source S/N: DSN-424

Snow Block S/N: 696 BLOCK

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0644	0.0688	0.0044	+/- 0.0150

PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DUAL SPACED NEUTRON POST CALIBRATION

Tool Name:	DSNT - 11055304	Reference Calibration Date:	15-Apr-11 09:38:01
Engineer:	J. BOSH	Calibration Date:	16-Apr-11 10:01:52
Software Version:	WL INSITE R3.2.0 (Build 7)	Calibration Version:	1

Logging Source S/N: DSN-424

Snow Block S/N: 696 BLOCK

NEUTRON POST-CHECK SUMMARY

	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0688	0.0626	-0.0062	+/- 0.0150

PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDLT - I04_P84	Reference Calibration Date:	11-Mar-11 13:50:39
Engineer:	J. BOSH	Calibration Date:	11-Mar-11 14:09:56
Software Version:	WL INSITE R3.2.0 (Build 7)	Calibration Version:	1

Logging Source S/N: 5168GW
Aluminum Block S/N: LIBERAL
Magnesium Block S/N: LIBERAL

Density: 2.598g/cc
Density: 1.684g/cc

Pe: 3.170
Pe: 2.594

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0041	0.9909	0.90 - 1.10
Near Dens Gain	0.9901	0.9919	0.90 - 1.10
Near Peak Gain	0.9875	0.9825	0.90 - 1.10
Near Lith Gain	0.9784	0.9789	0.90 - 1.10
Far Bar Gain	1.0118	1.0118	0.90 - 1.10
Far Dens Gain	1.0021	1.0004	0.90 - 1.10
Far Peak Gain	0.9972	0.9958	0.90 - 1.10
Far Lith Gain	0.9734	0.9741	0.90 - 1.10
Near Bar Offset	0.0859	0.2068	NONE
Near Dens Offset	0.1906	0.1741	NONE
Near Peak Offset	0.1792	0.2208	NONE
Near Lith Offset	0.2253	0.2201	NONE
Far Bar Offset	-0.0395	-0.0391	NONE
Far Dens Offset	0.0232	0.0367	NONE
Far Peak Offset	0.0316	0.0421	NONE
Far Lith Offset	0.1807	0.1698	NONE
Near Bar Background	769.26	769.10	700 - 1450
Near Dens Background	249.38	248.33	230 - 480
Near Peak Background	110.32	110.11	100 - 210
Near Lith Background	136.32	135.34	125 - 260
Far Bar Background	534.99	535.69	450 - 900
Far Dens Background	209.40	209.25	175 - 345
Far Peak Background	82.69	83.37	70 - 140
Far Lith Background	86.43	85.80	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.684	1.684	0.000	+/- 0.015
Pe	2.563	2.553	-0.010	+/- 0.150
ALUMINUM				
Density (g/cc)	2.597	2.598	0.001	+/- 0.01500
Pe	3.116	3.126	0.010	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0024	+/- 0.0110	0.0035	+/- 0.0140
Magnesium Block	-0.0008	+/- 0.0110	-0.0013	+/- 0.0140
Aluminum Block	0.0018	+/- 0.0110	0.0005	+/- 0.0140
Resolution	9.14	6.00 - 11.50	9.01	6.00 - 11.50
Internal Verifier(B+D+P+L)	1263	1200 - 2700	914	800 - 1700

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:	SDLT - I04_P84	Reference Calibration Date:	11-Mar-11 14:09:56
Engineer:	J. BOSH	Calibration Date:	15-Apr-11 09:33:52
Software Version:	WL INSITE R3.2.0 (Build 7)	Calibration Version:	1

Pad Temperature: 58.4 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1262.884	1264.341	1.457	14.402
Far (B+D+P+L) cps	914.113	916.382	2.269	16.402
Near Resolution	9.14	9.25	0.110	0.50
Far Resolution	9.01	9.18	0.170	1.00

PASS/FAIL SUMMARY

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

SPECTRAL DENSITY POST CHECK

Tool Name:	SDLT - I04_P84	Reference Calibration Date:	15-Apr-11 09:33:52
Engineer:	J. BOSH	Calibration Date:	16-Apr-11 09:59:00
Software Version:	WL INSITE R3.2.0 (Build 7)	Calibration Version:	1

Pad Temperature: 57.6 degF

DENSITY POST CALIBRATION SUMMARY

Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1264.341	1263.149	-1.192	14.402
Far (B+D+P+L) cps	916.382	919.022	2.640	16.402
Near Resolution	9.25	9.21	-0.040	0.50
Far Resolution	9.18	9.30	0.120	1.00

PASS/FAIL SUMMARY

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT - I04_P84	Reference Calibration Date:	27-Mar-11 01:02:57
Engineer:	S. JUNG	Calibration Date:	27-Mar-11 01:06:56
Software Version:	WL INSITE R3.2.0 (Build 7)	Calibration Version:	1

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
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Pad Offset	-3974.64	-3938.98	-7000.00 - -1000.00
Pad Gain	0.0003976	0.0003949	0.000200 - 0.000600
Arm Offset	-2472.03	-2449.30	-5000.00 - 3000.00
Arm Gain	0.0005305	0.0005123	0.000300 - 0.000700
Arm Power	-0.000006582	-0.000005776	-0.000010 - 0.000010

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)	3.76	3.75	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.54	6.50	-0.04	+/- 0.20
Medium Ring (in)	8.33	8.25	-0.08	+/- 0.20
Large Ring (in)	15.11	15.00	-0.11	+/- 0.20

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check:	Passed
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SDLT CALIPER FIELD CALIBRATION

Tool Name:	SDLT - I04_P84	Reference Calibration Date:	27-Mar-11 01:06:56
Engineer:	J. BOSH	Calibration Date:	15-Apr-11 09:41:26
Software Version:	WL INSITE R3.2.0 (Build 7)	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	8.27	0.02	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

SDLT CALIPER POST CALIBRATION

Tool Name:	SDLT - I04_P84	Reference Calibration Date:	15-Apr-11 09:41:26
Engineer:	J. BOSH	Calibration Date:	16-Apr-11 10:04:13
Software Version:	WL INSITE R3.2.0 (Build 7)	Calibration Version:	1

MEASURED CALIPER VALUES

Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.75	3.80	0.05	+/- 0.10
Ring Diameter	8.27	8.39	0.12	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11039640						
Gamma Ray Calibrator	269.6	266.3	271.0	-4.7	+/- 9.00	api
DSNT-11055304						
Snow-Block Porosity	0.0644	0.0688	0.0626	0.0062	+/- 0.0150	decP
SDLT-I04_P84						
Near(B+D+P+L)	1262.884	1264.341	1263.149	1.192	+/-14.402	cps
Far(B+D+P+L)	914.113	916.382	919.022	-2.640	+/-16.402	cps
Pad Extension	3.75	3.75	3.80	-0.05	+/-0.10	in
Ring Diameter	8.25	8.27	8.39	-0.120	+/-0.15	in
Data: WILLIAMS_I_10001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIDLE						
Date: 16-Apr-11 10:04:35						

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	DNOK	Process DSN?	No	
	SDLT	DNOK	Process Density?	No	
	SDLT	MLOK	Process MicroLog Outputs?	No	
3940.00					
	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	Barite	
	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	1.980	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	5540.00	ft
	SHARED	BHT	Bottom Hole Temperature	130.0	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	
	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	Centered	
	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	0.300	in
	DSNT	DNTP	Temperature Correction Type	None	
	DSNT	DPRS	DSN Pressure Correction Type	None	
	DSNT	SHCO	View More Correction Options	No	

DSNT	SHCO	view more Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	DNOK	Process Density?	Yes	
SDLT	DNOK	Process Density EVR?	No	
SDLT	CB	Logging Calibration Blocks?	No	
SDLT	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT	DTWN	Disable temperature warning	No	
SDLT	DMA	Formation Density Matrix	2.710	g/cc
SDLT	DFL	Formation Density Fluid	1.000	g/cc
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT	MLOK	Process MicroLog Outputs?	Yes	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	7000	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	RTOK	Process ACRt?	Yes	
ACRt	MNSO	Minimum Tool Standoff	1.50	in
ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt	TPOS	Tool Position	Free Hanging	
ACRt	RMOP	Rmud Source	Mud Cell	
ACRt	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt	THQY	Threshold Quality	0.50	
BOTTOM				

Data: WILLIAMS_I_10001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIDLE

Date: 16-Apr-11 07:16:09

HALLIBURTON				
INPUTS, DELAYS AND FILTERS TABLE				
Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
CH_HOS				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	66.58	NO	
SP	Spontaneous Potential	66.58	BLK	1.250
SPR	Raw Spontaneous Potential	66.58	NO	
SPO	Spontaneous Potential Offset	66.58	NO	
GTET				
TPUL	Tension Pull	58.56	NO	
GR	Natural Gamma Ray API	58.56	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	58.56	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	58.56	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	

DSNT				
TPUL	Tension Pull	48.32	NO	
RNDS	Near Detector Telemetry Counts	48.42	BLK	1.417
RFDS	Far Detector Telemetry Counts	49.17	TRI	0.583
DNTT	DSN Tool Temperature	48.42	NO	
DSNS	DSN Tool Status	48.32	NO	
ERND	Near Detector Telemetry Counts EVR	48.42	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	49.17	BLK	0.000
ENTM	DSN Tool Temperature EVR	48.42	NO	
SDLT				
TPUL	Tension Pull	38.41	NO	
NAB	Near Above	38.24	BLK	0.920
NHI	Near Cesium High	38.24	BLK	0.920
NLO	Near Cesium Low	38.24	BLK	0.920
NVA	Near Valley	38.24	BLK	0.920
NBA	Near Barite	38.24	BLK	0.920
NDE	Near Density	38.24	BLK	0.920
NPK	Near Peak	38.24	BLK	0.920
NLI	Near Lithology	38.24	BLK	0.920
NBAU	Near Barite Unfiltered	38.24	BLK	0.250
NLIU	Near Lithology Unfiltered	38.24	BLK	0.250
FAB	Far Above	38.58	BLK	0.250
FHI	Far Cesium High	38.58	BLK	0.250
FLO	Far Cesium Low	38.58	BLK	0.250
FVA	Far Valley	38.58	BLK	0.250
FBA	Far Barite	38.58	BLK	0.250
FDE	Far Density	38.58	BLK	0.250
FPK	Far Peak	38.58	BLK	0.250
FLI	Far Lithology	38.58	BLK	0.250
PTMP	Pad Temperature	38.42	BLK	0.920
NHV	Near Detector High Voltage	35.60	NO	
FHV	Far Detector High Voltage	35.60	NO	
ITMP	Instrument Temperature	35.60	NO	
DDHV	Detector High Voltage	35.60	NO	
TPUL	Tension Pull	38.42	NO	
PCAL	Pad Caliper	38.42	TRI	0.250
ACAL	Arm Caliper	38.42	TRI	0.250
TPUL	Tension Pull	38.60	NO	
MINV	Microlog Lateral	38.60	BLK	0.750
MNOR	Microlog Normal	38.60	BLK	0.750
BSAT				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
ACRt				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000

F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	
Data: WILLIAMS_I_110001 SP-GTET-DSN-SDL-BSAT-ACRT-CHVDLE		Date: 15-Apr-11 21:31:49		

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Plot Time: 16-Apr-11 10:06:24

Plot Range: 1725 ft to 5544.67 ft

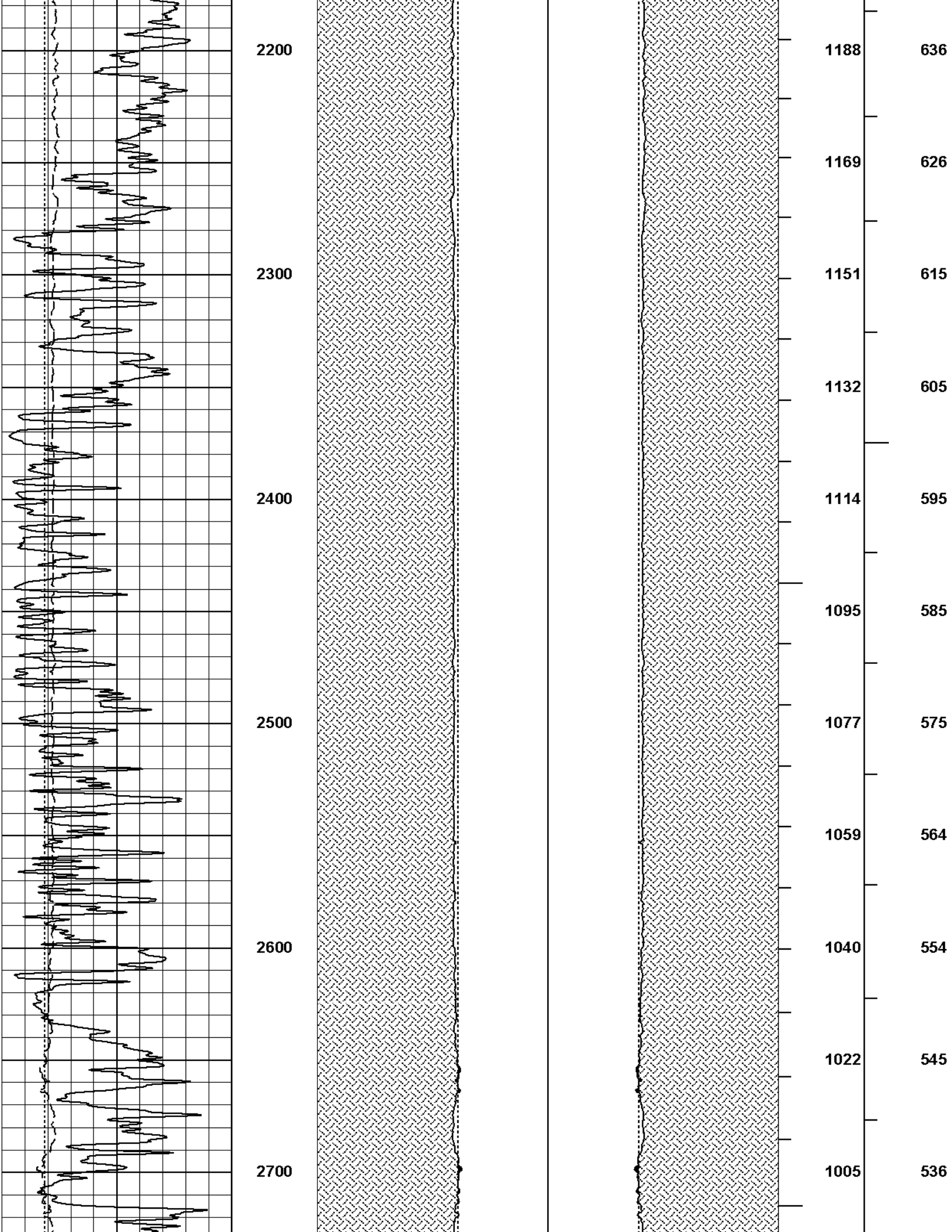
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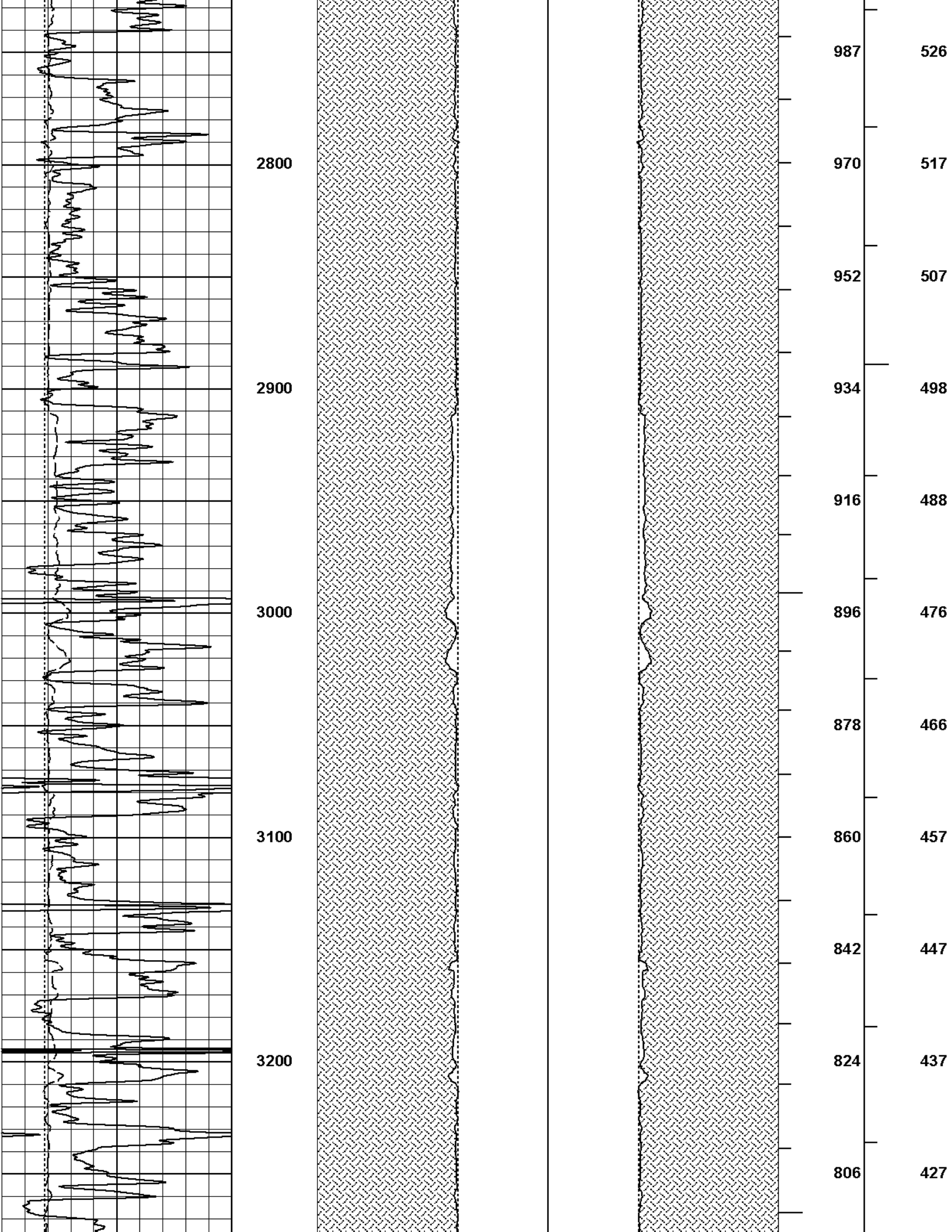
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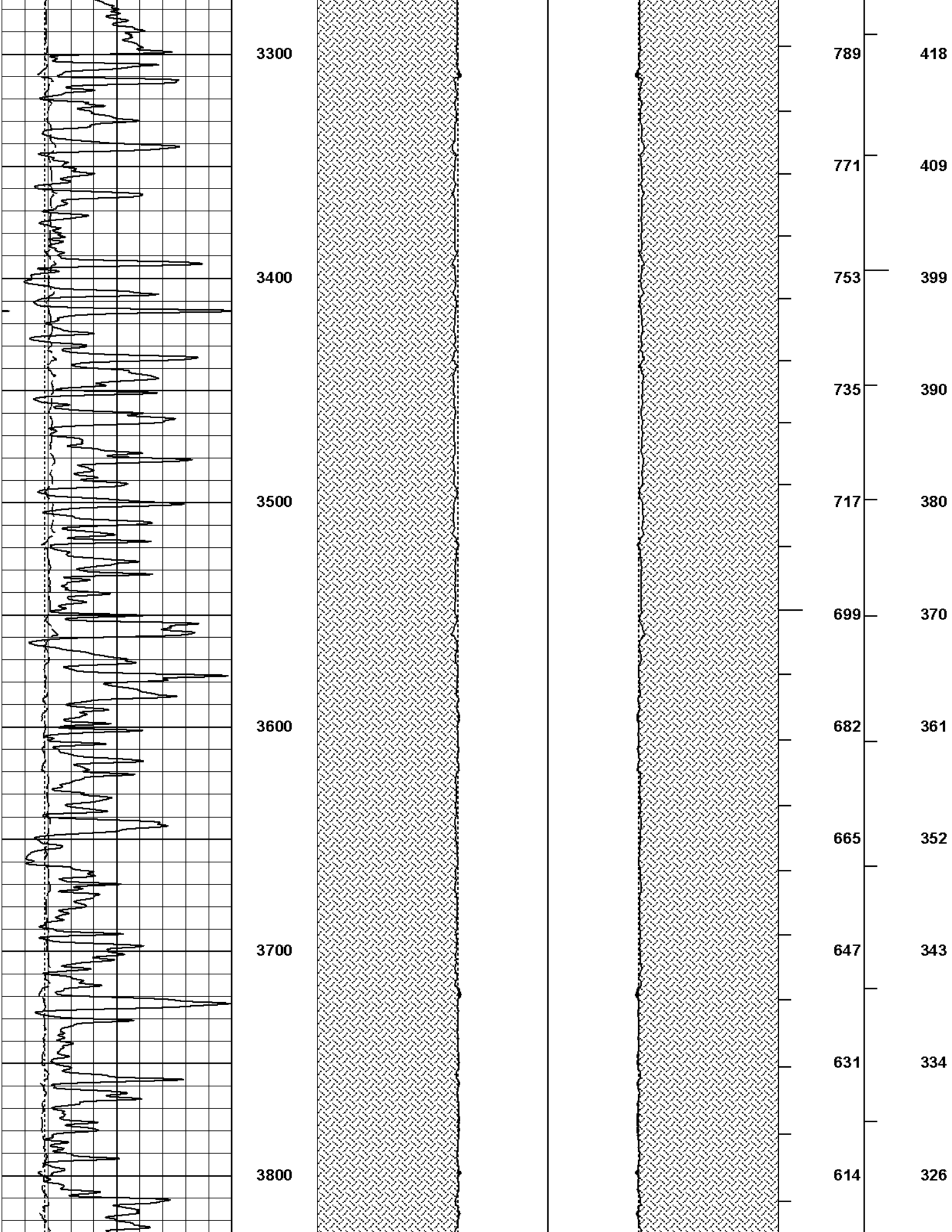
ANNUAL HOLE VOLUME PLOT

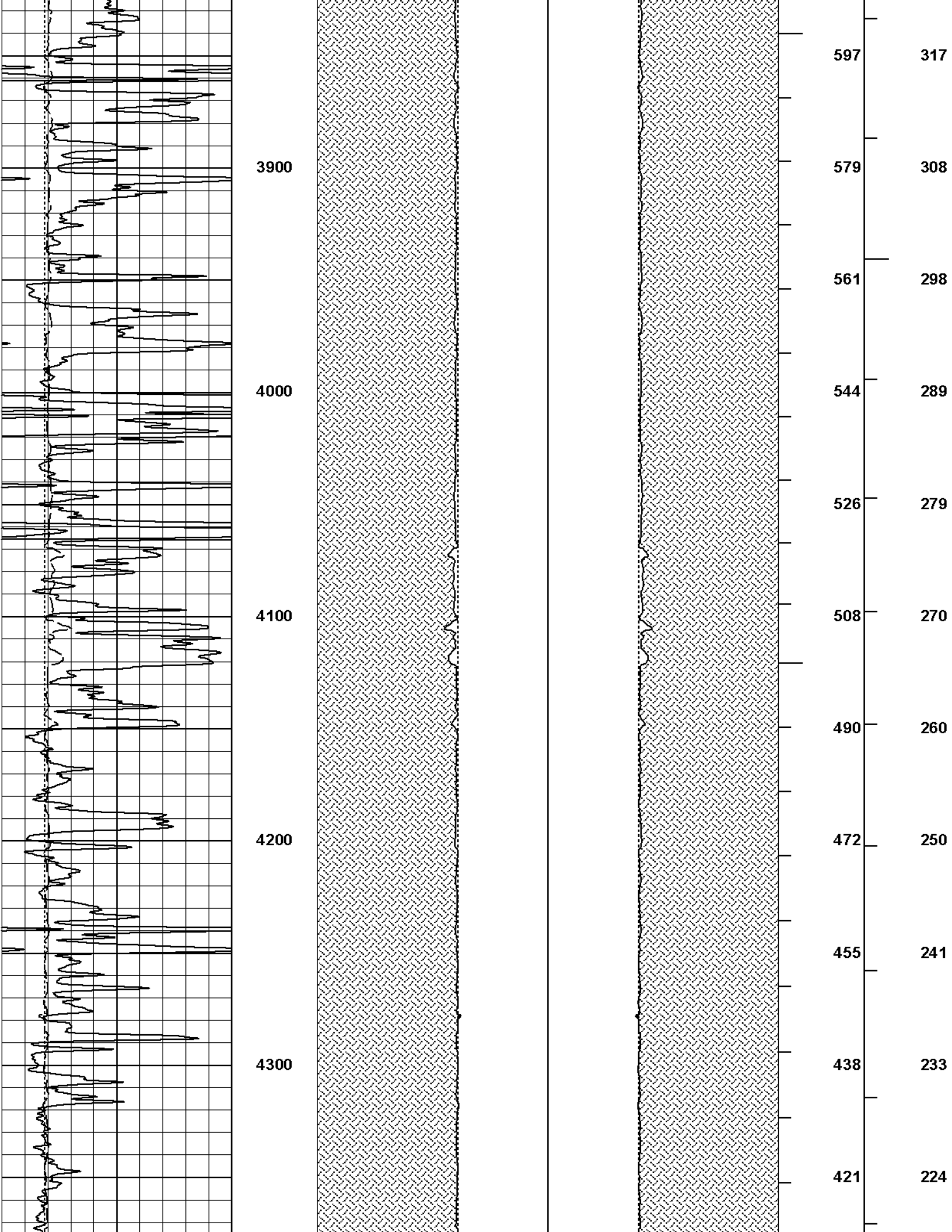
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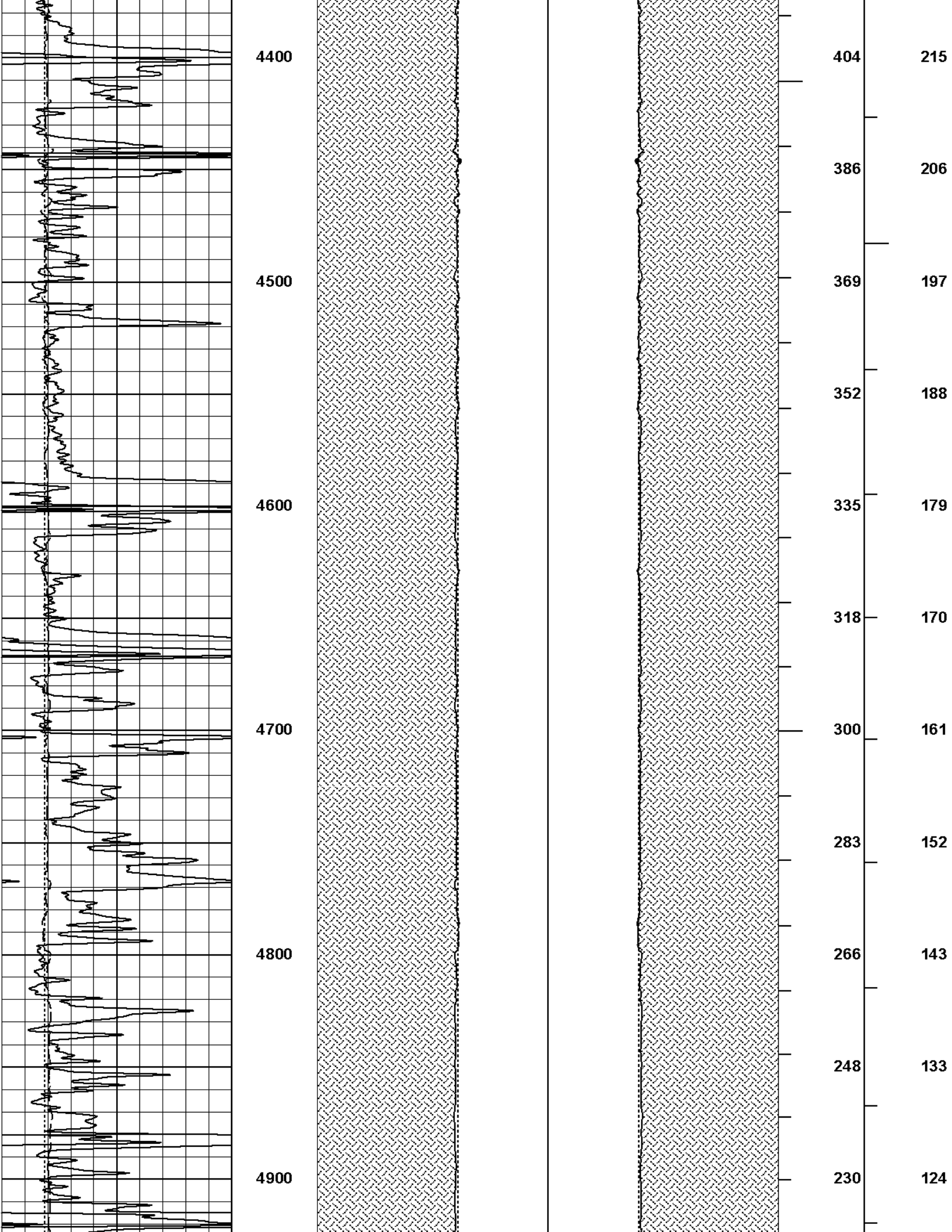
0 Gamma API 150					MUDCAKE		MUDCAKE			
api										
6	Bit Size	16			20	Bit Size	0	0	20	
inches										
6	Caliper	16	1 : 600		20	Caliper	0	0	20	BHVT
inches			ft		inches		inches			AHVT
			1800						1395	770
									1361	743
									1320	710
			1900						1301	700
									1282	689
			2000						1264	679
									1245	668
			2100						1226	657
									1207	647

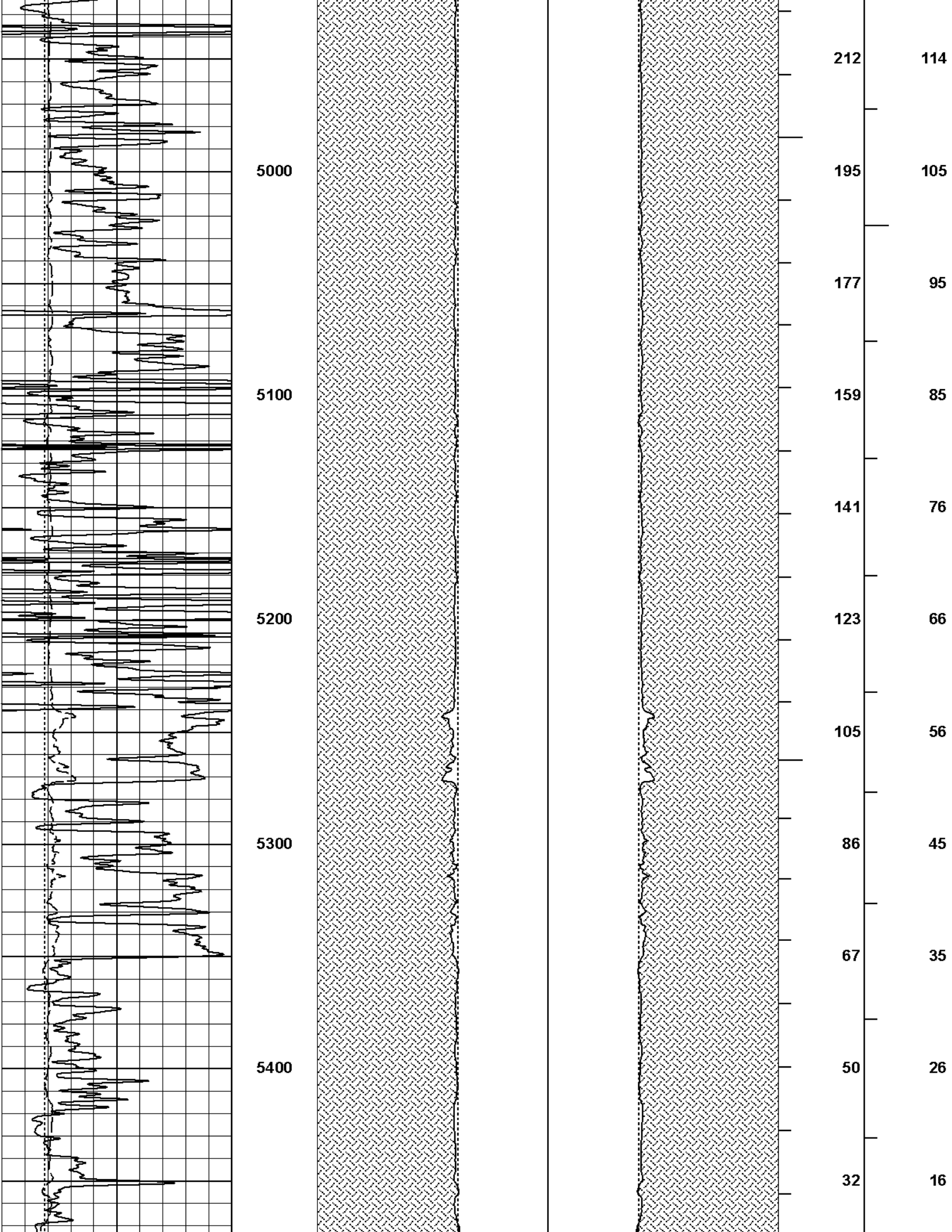












										5500												15		8							
6		Caliper								16		1 : 600 ft		20		Caliper								0 0		20		BHVT		AHVT	
		inches														inches															
6		Bit Size								16				20		Bit Size								0 0		20					
		inches														inches															
0		Gamma API								150						MUDCAKE															
		api														MUDCAKE															