

HALLIBURTON

ARRAY COMP. RESISTIVITY
DUAL SPACED NEUTRON
SPECTRAL DENSITY

COMPANY		LARAMIE ENERGY II, LLC.	
WELL		SOUTH LEVERICH #13-16C	
FIELD		RULISON	
COUNTY		GARFIELD	
STATE		CO	
COMPANY		LARAMIE ENERGY II, LLC.	
WELL		SOUTH LEVERICH #13-16C	
FIELD		RULISON	
COUNTY		GARFIELD	
STATE		CO	
API No.		05045176120000	
Location		SURFACE: 0747' FSL & 0623' FWL SEC 18, TWP 07S, RNG 93W BOTTOM: 0660' FSL & 0661' FEL SEC 13, TWP 07S, RNG 94W	
Permanent Datum		GROUND LEVEL	
Log measured from		KELLY BUSHING	
Drilling measured from		KELLY BUSHING	
Date		21-Feb-09	
Run No.		ONE	
Depth - Driller		10412.00 ft	
Depth - Logger		10398.00 ft	
Bottom - Logged Interval		10388.0 ft	
Top - Logged Interval		CASING	
Casing - Driller		8.63 in @ 1582.00 ft	
Casing - Logger		1582.00 ft	
Bit Size		7.875 in @	
Type Fluid in Hole		LSMD	
Density		9.1 ppg 48.00 s/qt	
PH		8.30 pH 6 cp/m	
Source of Sample		MUD TANK	
Rm @ Meas. Temperature		2.66 ohmm @ 58.50 degF	
Rmf @ Meas. Temperature		2.10 ohmm @ 68.40 degF	
Rmc @ Meas. Temperature		2.98 ohmm @ 65.30 degF	
Source Rmf		Rmc MEAS. MEAS.	
Rm @ BHT		0.87 ohmm @ 192.0 degF	
Time Since Circulation		16.0 hr	
Time on Bottom		21-Feb-09 10:55	
Max. Rec. Temperature		192.0 degF @ 10398.0 ft	
Equipment		Location 11014853 G.J.	
Recorded By		C. GULLETT	
Witnessed By		G. STAPLETON	

Fold here

Service Ticket No.: 6518617				API Serial No.: 05045176120000				PGM Version: WL INSITE R2.4 (Build 1)							
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		ACRt-90194258		N/A		1.5" STANDOFF		N/A	
Rmc @ Meas. Temp.		@		@				E7486-S7482							
Source Rmf		Rmc		CALC.		CALC.									
Rm @ BHT		0.87 ohmm @ 192.00 degF		@											
Rmf @ BHT		0.76 ohmm @ 192.00 degF		@											
Rmc @ BHT		1.05 ohmm @ 192.00 degF		@											
EQUIPMENT DATA															
GAMMA				ACOUSTIC				DENSITY				NEUTRON			
Run No.		ONE		Run No.				Run No.		ONE		Run No.		ONE	
Serial No.		11005602		Serial No.				Serial No.		10951314		Serial No.		10993888	
Model No.		GTET		Model No.				Model No.		SDLT-I		Model No.		DSNT-I	
Diameter		3.625"		No. of Cent.				Diameter		4.5"		Diameter		3.625"	
Detector Model No.		102-T		Spacing				Log Type		GAMMA-GAMMA		Log Type		THERMAL	
Type		SCINT.						Source Type		Cs137		Source Type		Am241Be	
Length		8"		LSA [Y/N]				Serial No.		5123GW		Serial No.		DSN-388	
Distance to Source		10'		FWDA [Y/N]				Strength		1.5 Ci		Strength		15 Ci	
LOGGING DATA															
GENERAL				GAMMA		ACOUSTIC		DENSITY				NEUTRON			
Run		Depth		Speed		Scale		Scale		Matrix		Scale		Matrix	
No.		From To		ft/min		L R		L R		L R		L R		L R	
ONE		T.D. CSG.		REC.		0 200				30% -10%		2.68		30% -10% SAND	

DIRECTIONAL INFORMATION																	
Maximum Deviation								@	KOP								@
Remarks:																	
RWCH-GTET-DSN-SDL-ACRt WERE RAN IN COMBINATION.																	
A.H.V. CALCULATED FOR 4.5" CASING.																	
TENSION PULLS AND HOLE RUGOSITY MAY AFFECT LOG QUALITY.																	
CHLORIDES REPORTED AT 1100 mg/L.																	
LATITUDE: 39.43°N // LONGITUDE: 107.82°W.																	
YOUR CREW TODAY IS: T. ISHTEIWY AND M. ZWIEBEL.								RIG: GREYWOLF #706									
THANK YOU FOR CHOOSING 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	BSZ	Bit Size	7.875	in
	SHARED		Use Bit Size instead of Caliper for all applications.	No	
	SHARED		Borehole Fluid Weight	9.100	ppg
	SHARED		Mud Resistivity	2.00	ohmm
	SHARED	TRM	Temperature of Mud	75.0	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	35.0	degF
	SHARED	TD	Total Well Depth	10500.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	degF
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	DSNT	DNOK	Process DSN?	Yes	
	DSNT	DEOK	Process DSN EVR?	No	
	DSNT	NLIT	Neutron Lithology	Sandstone	
	DSNT	DSNO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.000	in
	DSNT	TMPC	Temperature Correction Type	None	
	DSNT	DPRS	DSN Pressure Correction Type	None	
	DSNT	SHCO	View More Correction Options	No	
	DSNT	UTVD	Use TVD for Gradient Corrections?	No	
	DSNT		Logging Horizontal Water Tank?	No	
	SDLT	DNOK	Process Density?	Yes	
	SDLT	DNOK	Process Density EVR?	No	
	SDLT	AD	Is Hole Air Drilled?	No	
	SDLT	CB	Use Calibration Blocks?	No	
	SDLT	SPVT	SDLT Pad Temperature Valid?	Yes	
	SDLT	DTWN	Disable temperature warning	No	
	SDLT	MDTP	Weighted Mud Correction Type?	Barite	
	SDLT	DMA	Formation Density Matrix	0.000	g/cc

SDLT	DMA	Formation Density Matrix	2.680	g/cc
SDLT	DFL	Formation Density Fluid	1.000	g/cc
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT	MLOK	Process MicroLog Outputs?	Yes	
ACRt	RTOK	Process ACRt?	Yes	
ACRt	CIND	Casing Indicator Enabled?	Yes	
ACRt	RECL	Relative Caliper Error	0	%
ACRt	MNSO	Minimum Tool Standoff	1.50	in
ACRt	RMC	Use RM Calculated for BHC?	No	
ACRt	TSEL	Calculate Temperature for Rmud Correction?	No	
ACRt	LTNM	Acrt Lateral Normalization	None	
ACRt	UTC	Use Temperature Correction	Yes	
ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt	TPOS	Tool Position	Standoff	
ACRt	BHCM	Borehole Compensation Type	Conventional	
ACRt	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt	REC6	Record 6 in curves in ADI?	No	

BOTTOM_____

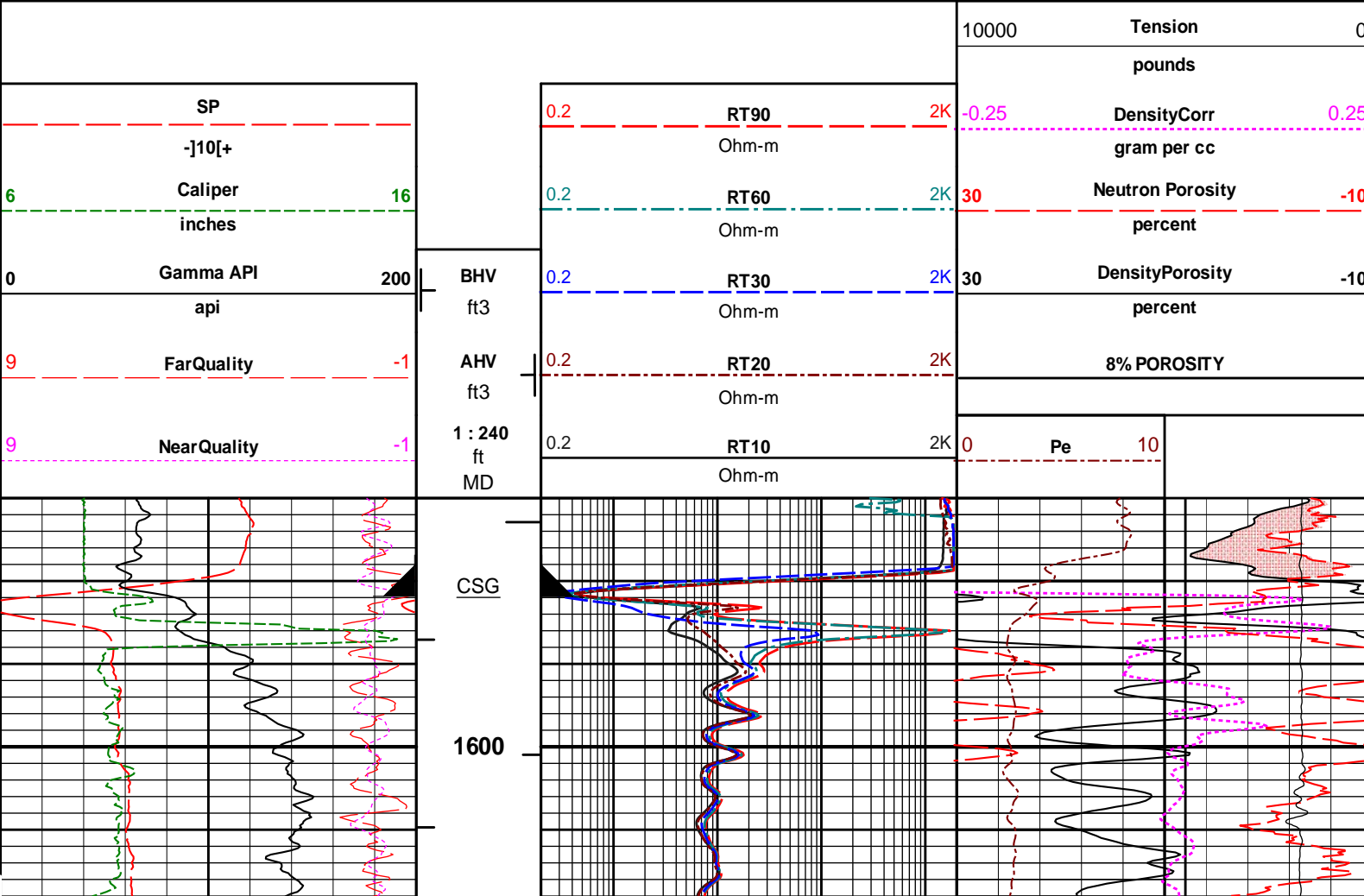
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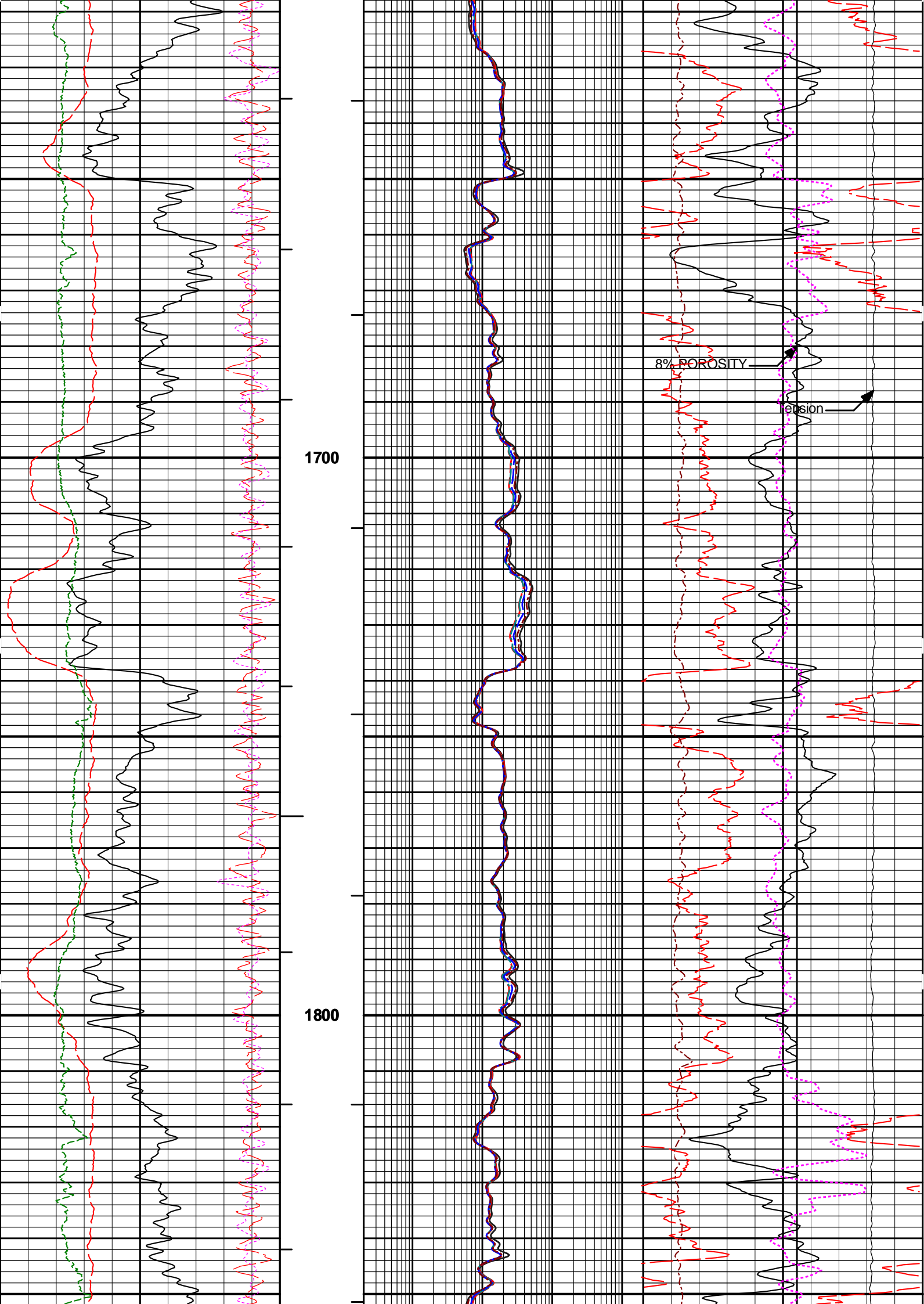
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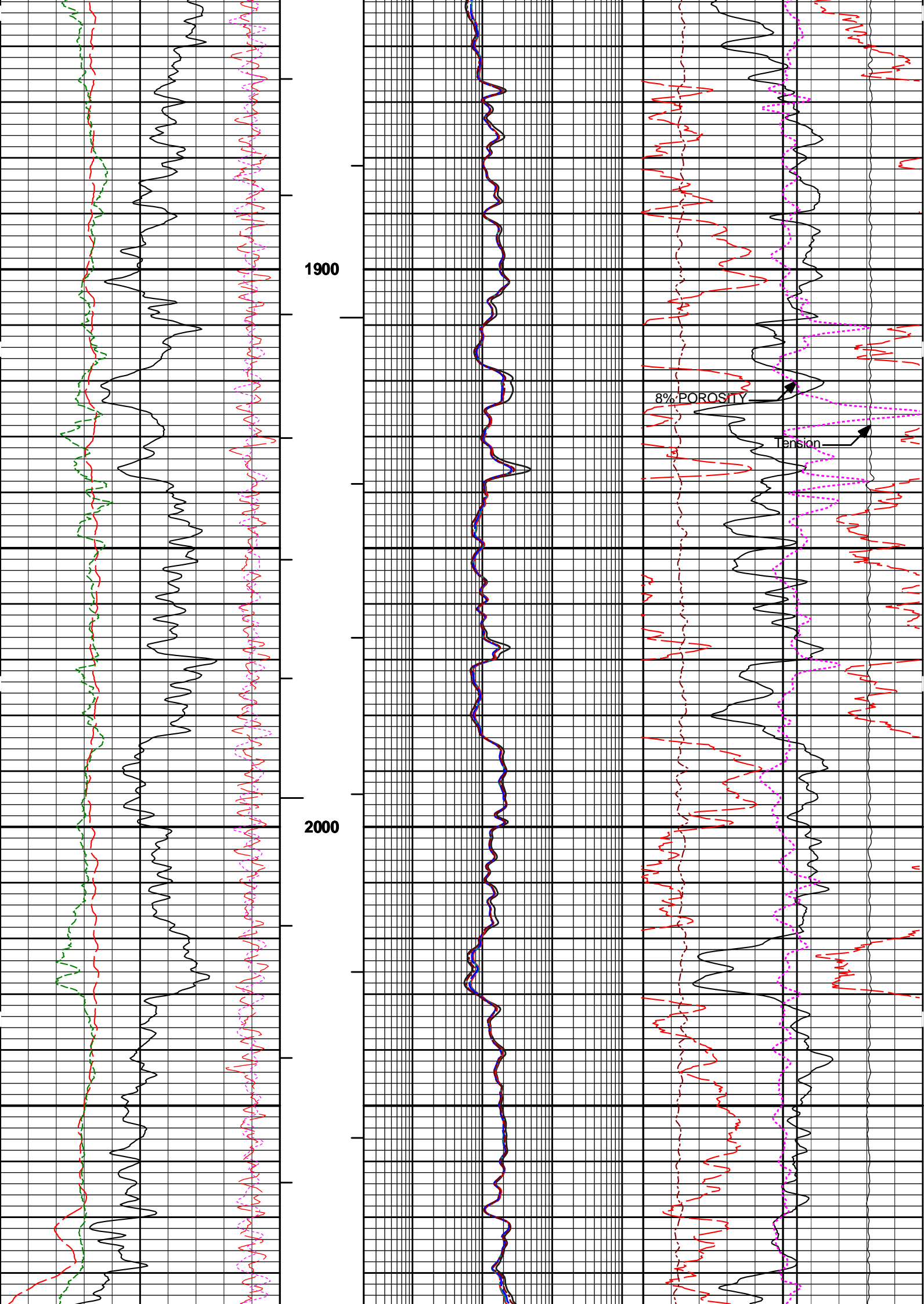
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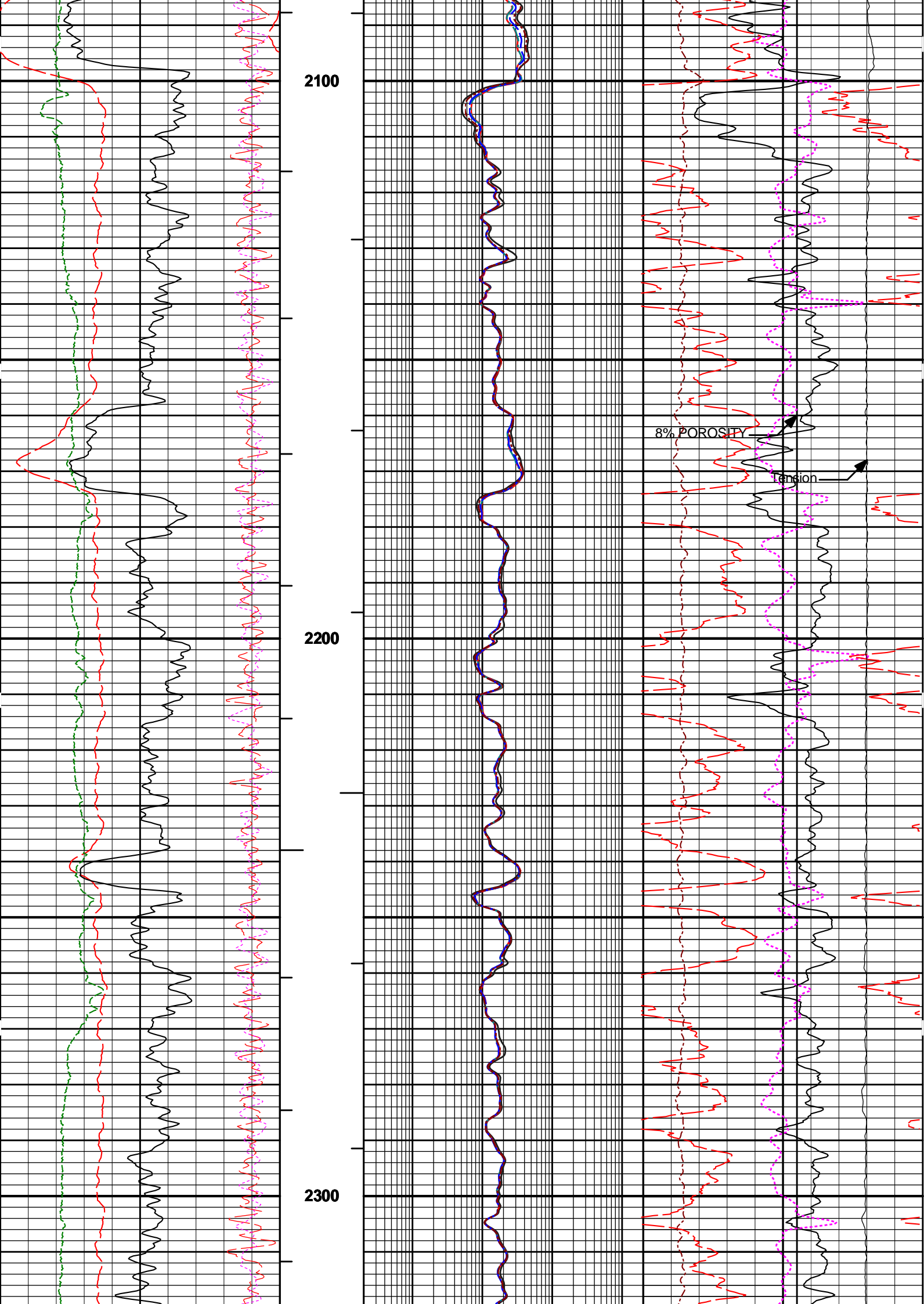
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Data: {ActiveWell}\Well Based\MAIN PASS - CASING\
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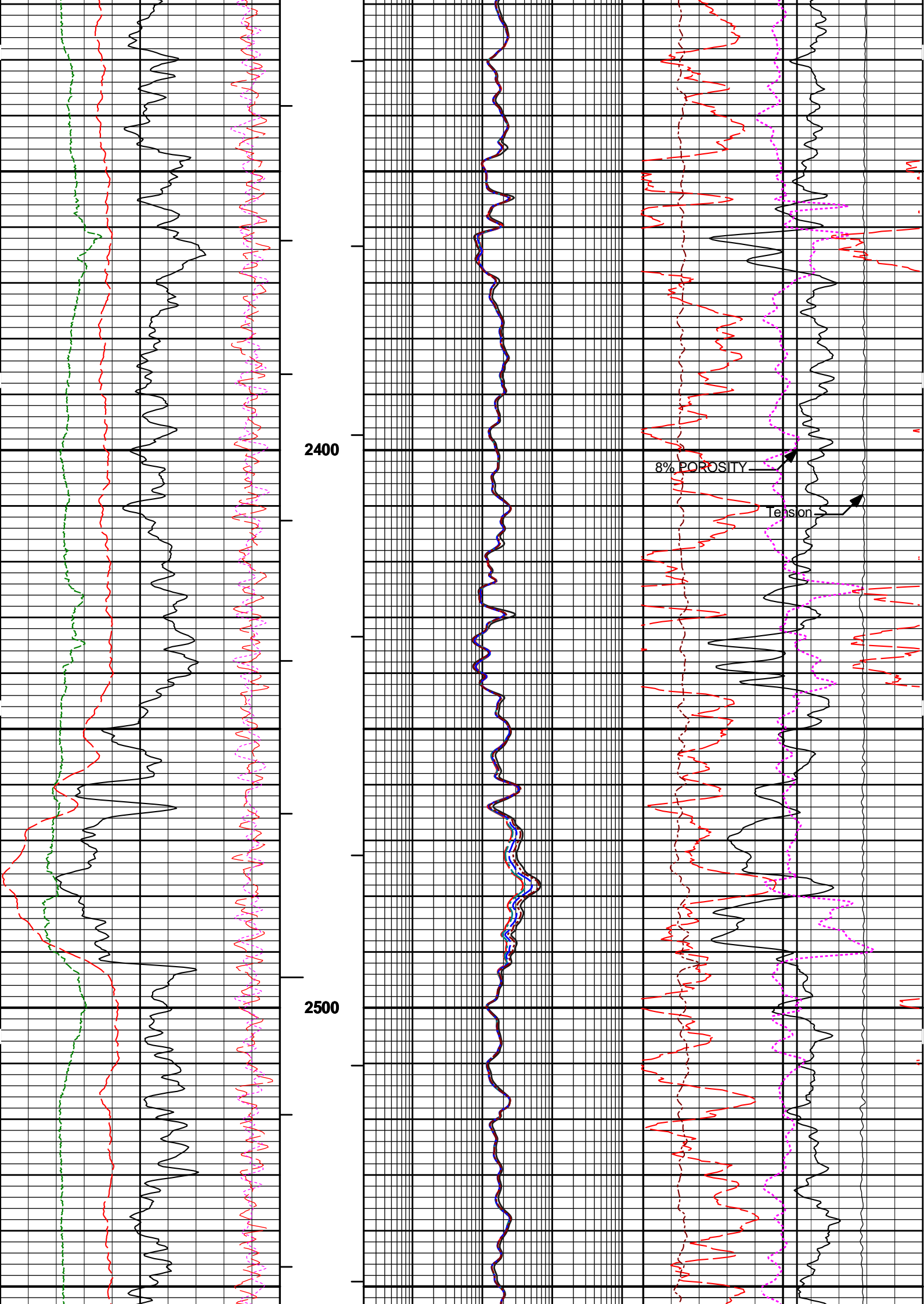
MAIN PASS 5" = 100'

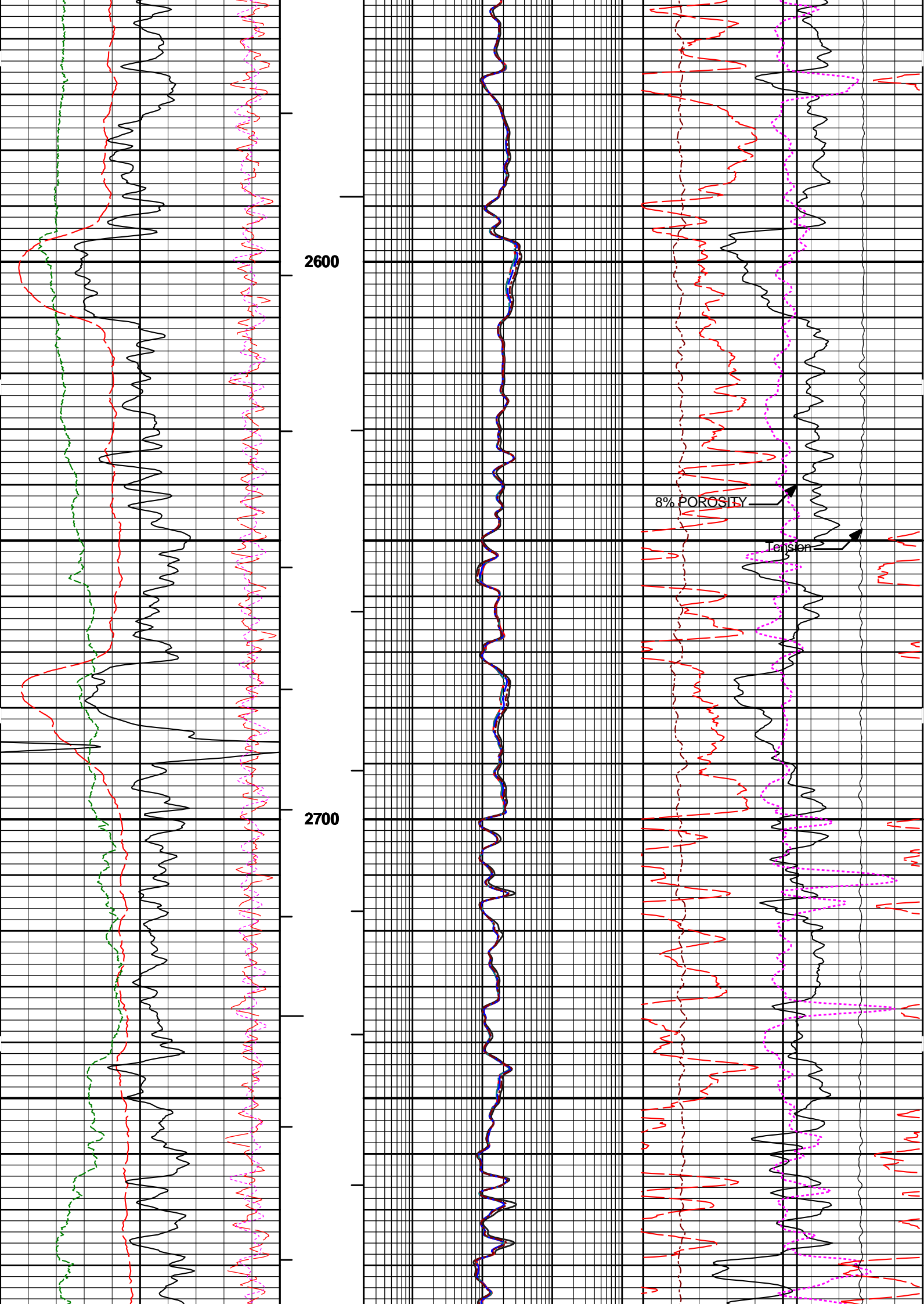


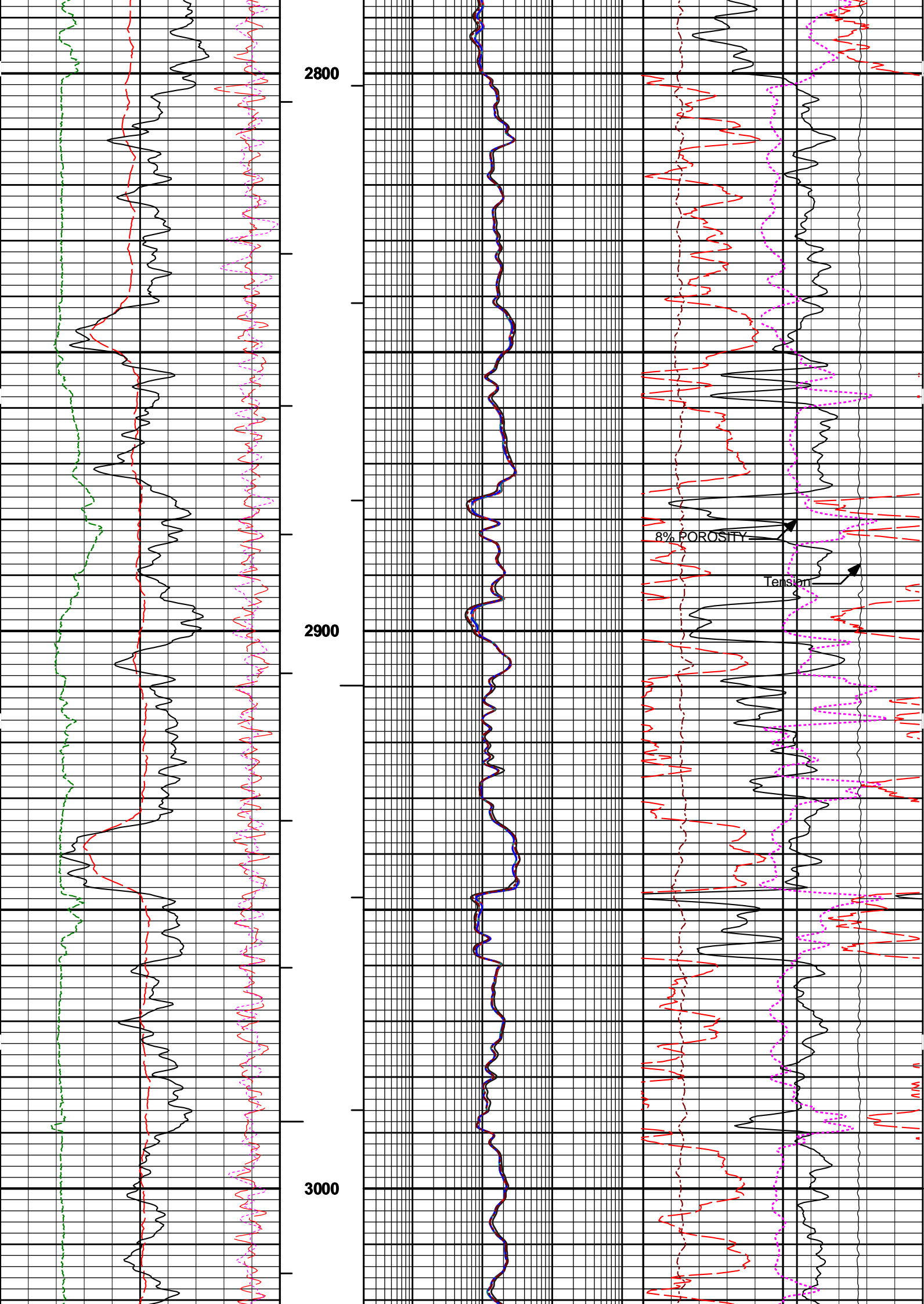


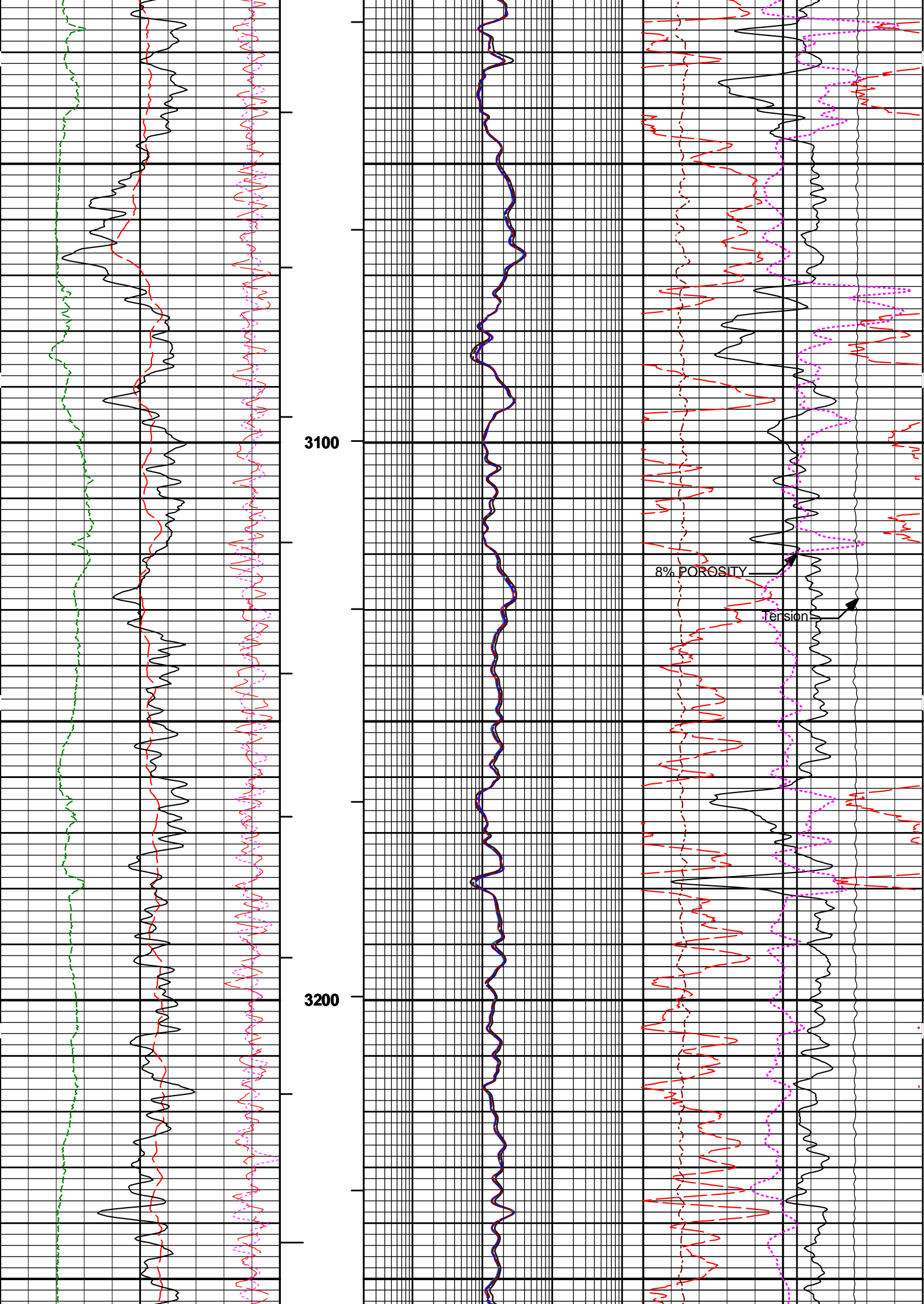


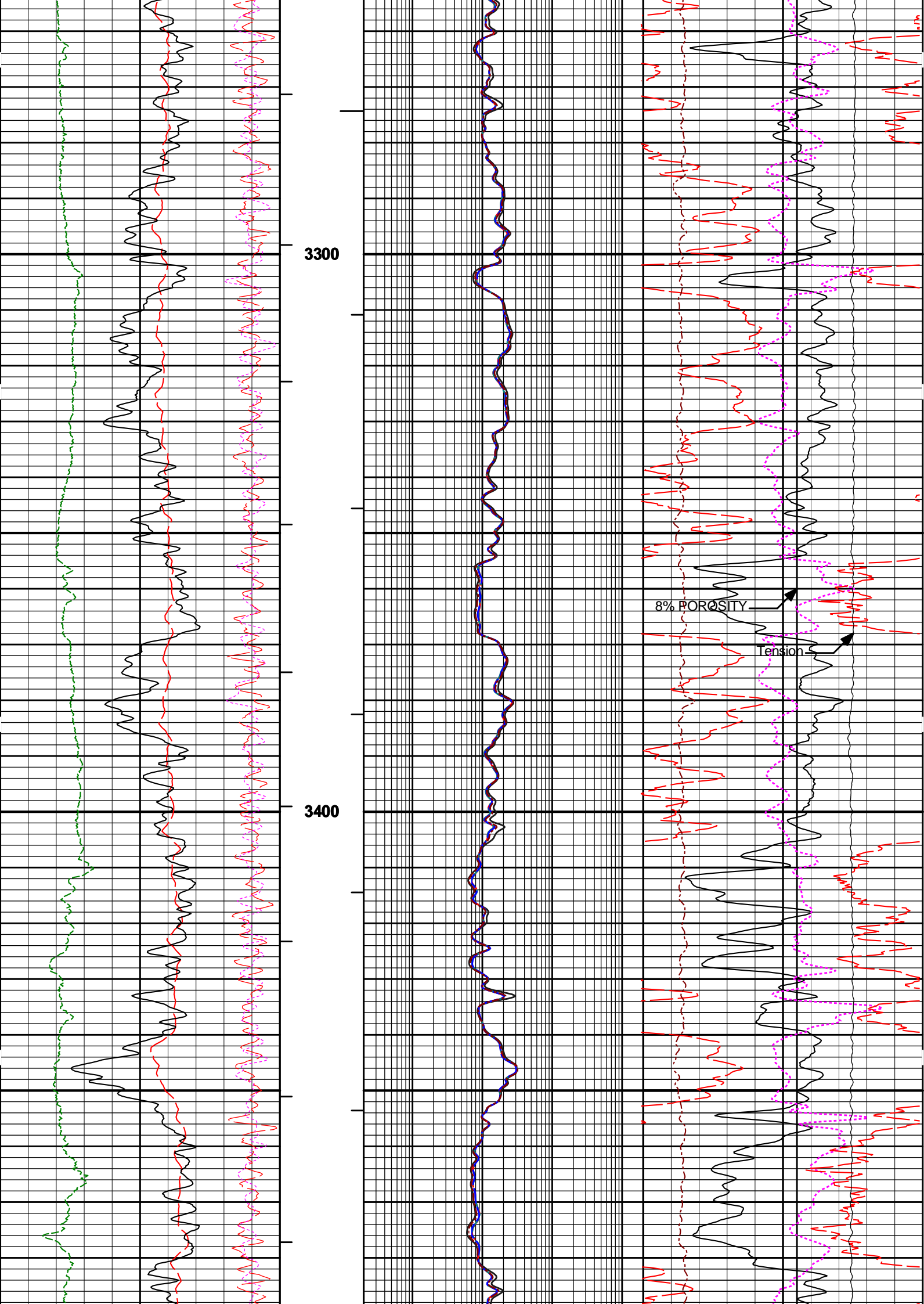


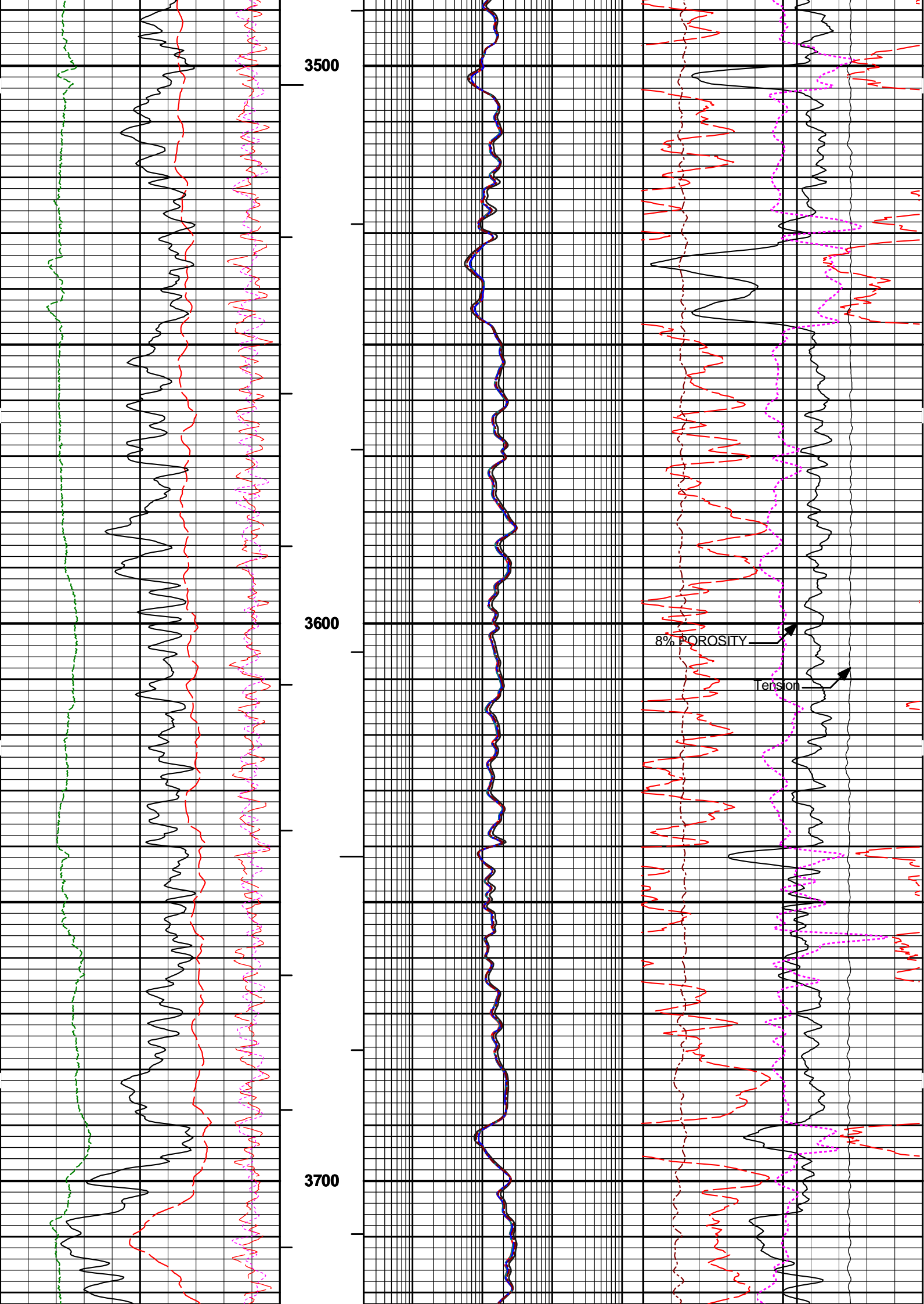


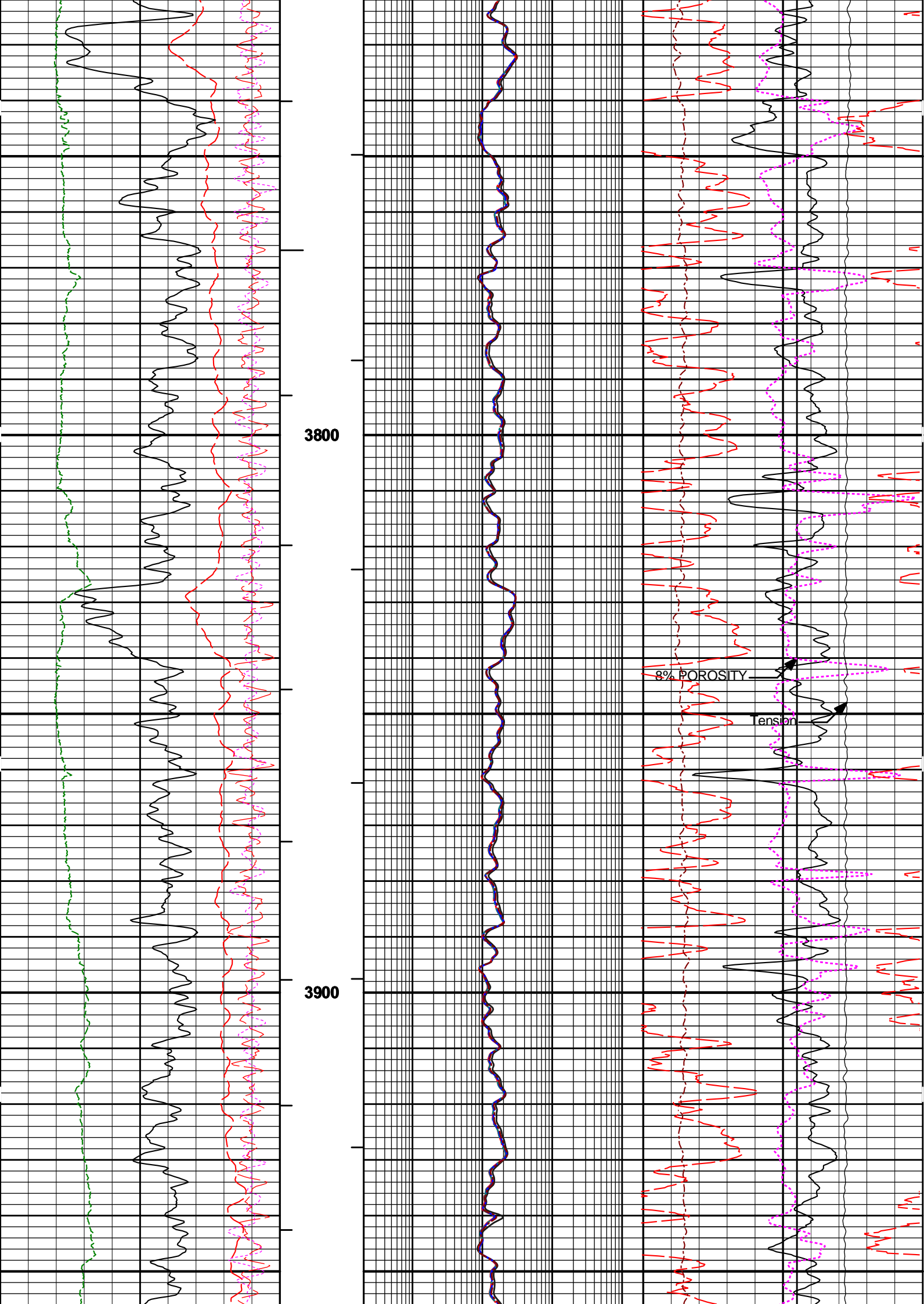


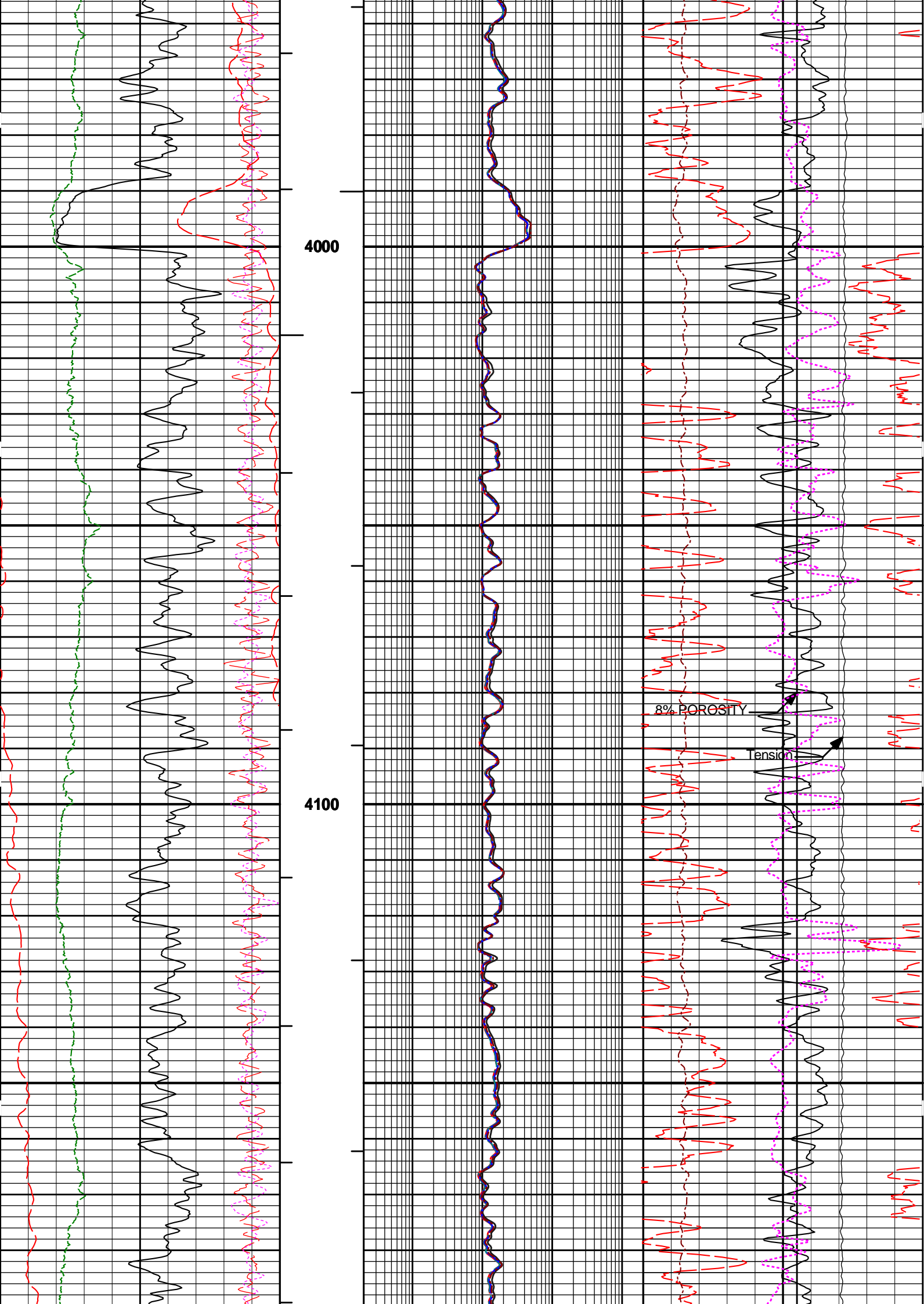


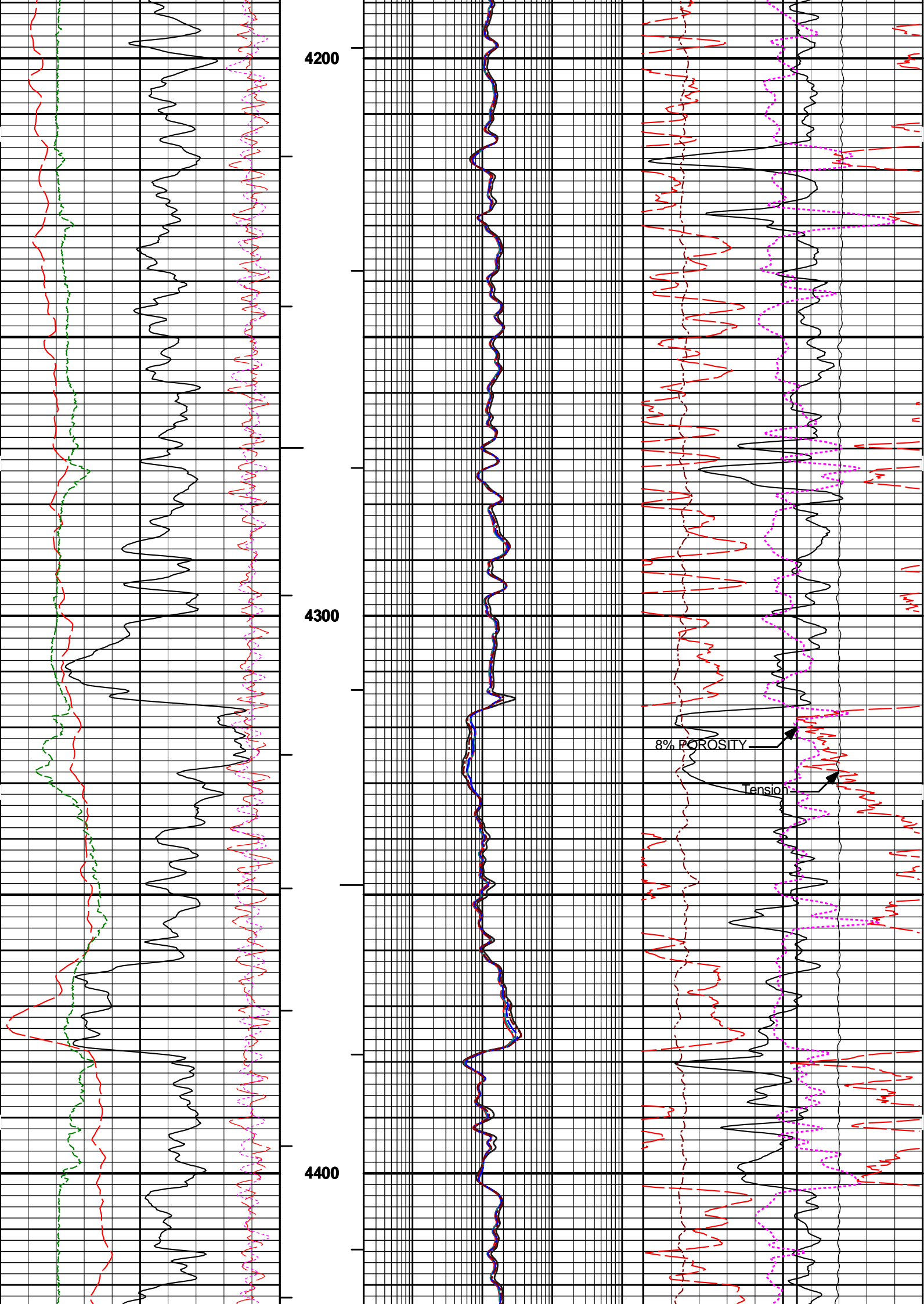


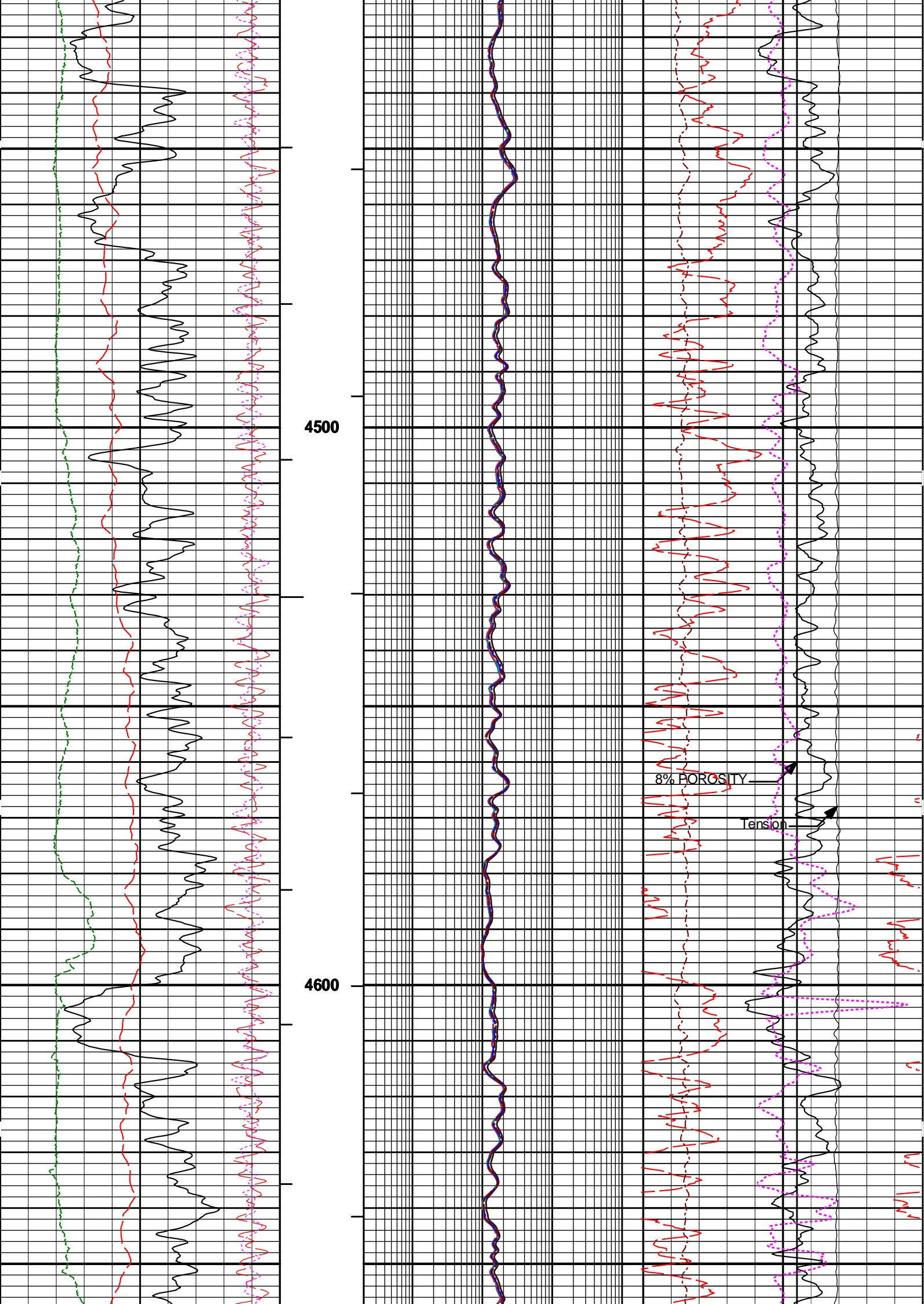


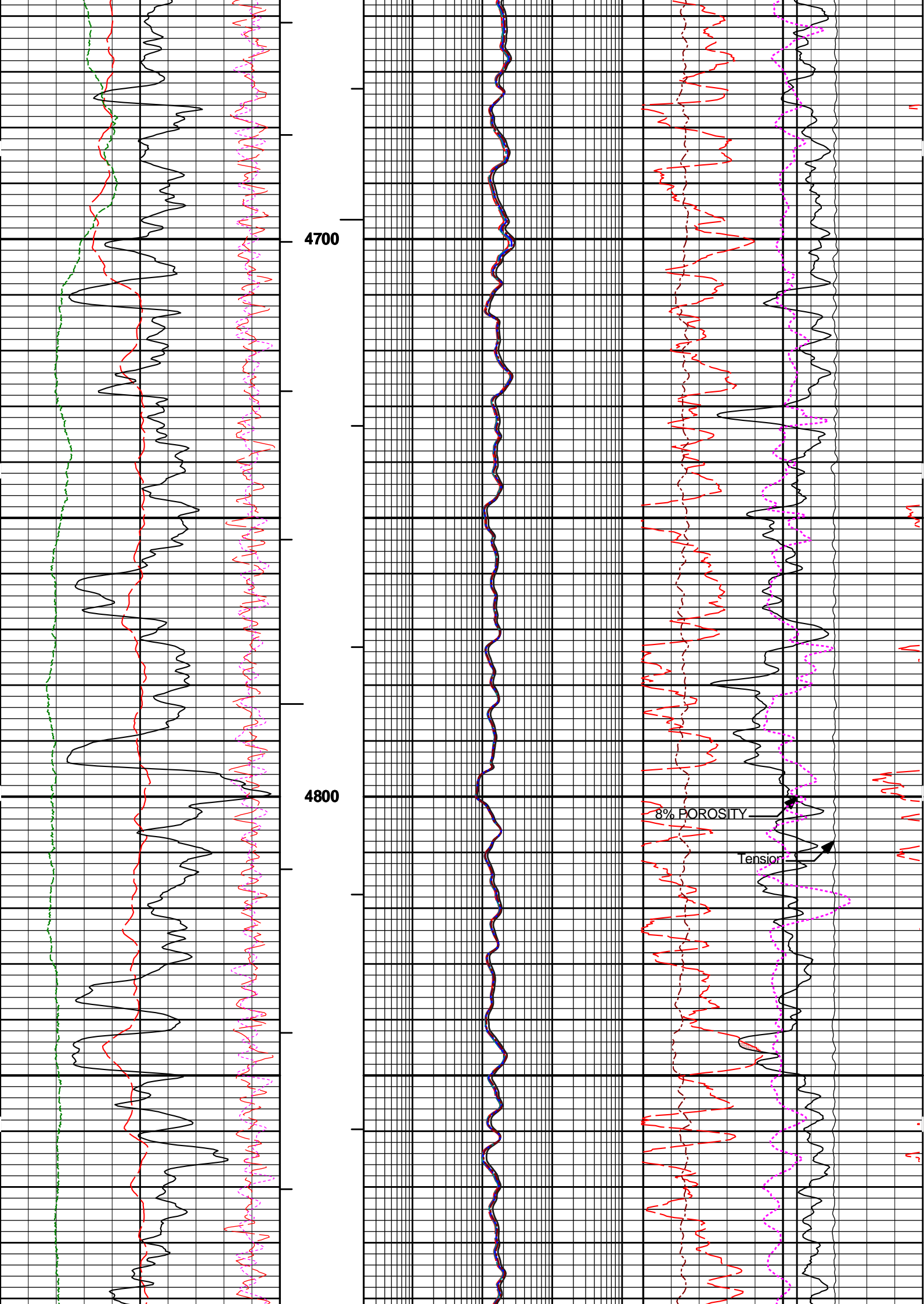


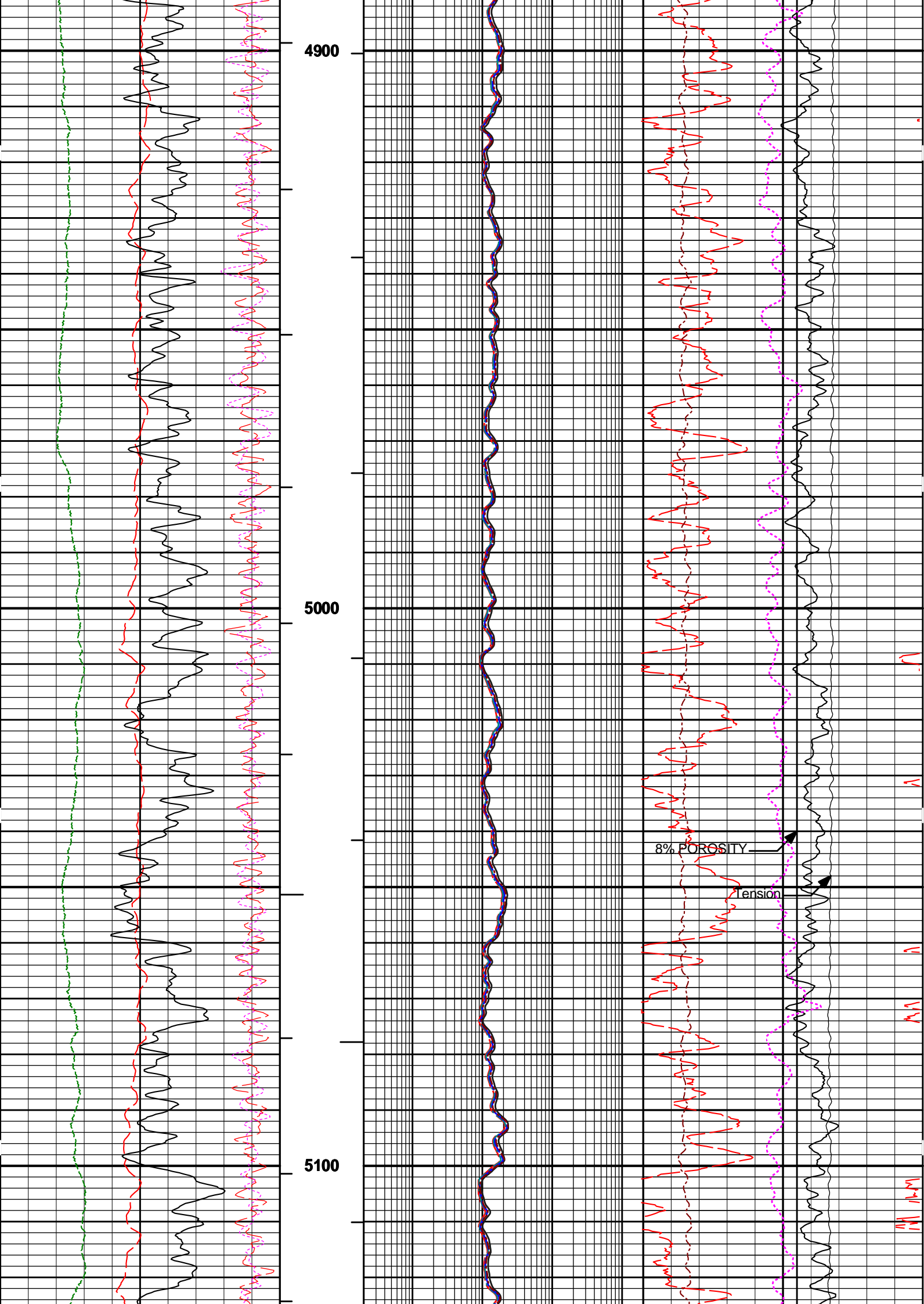


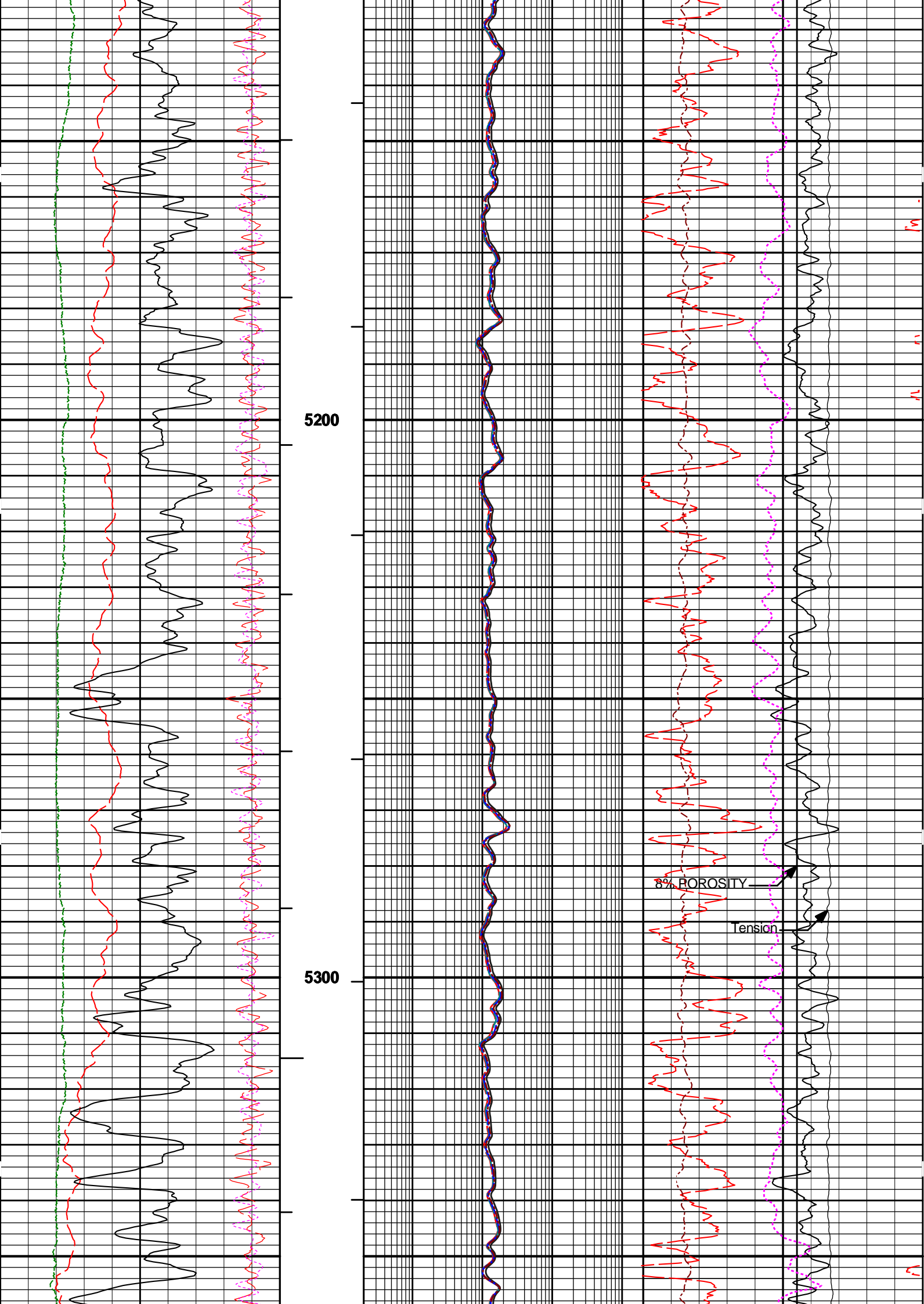


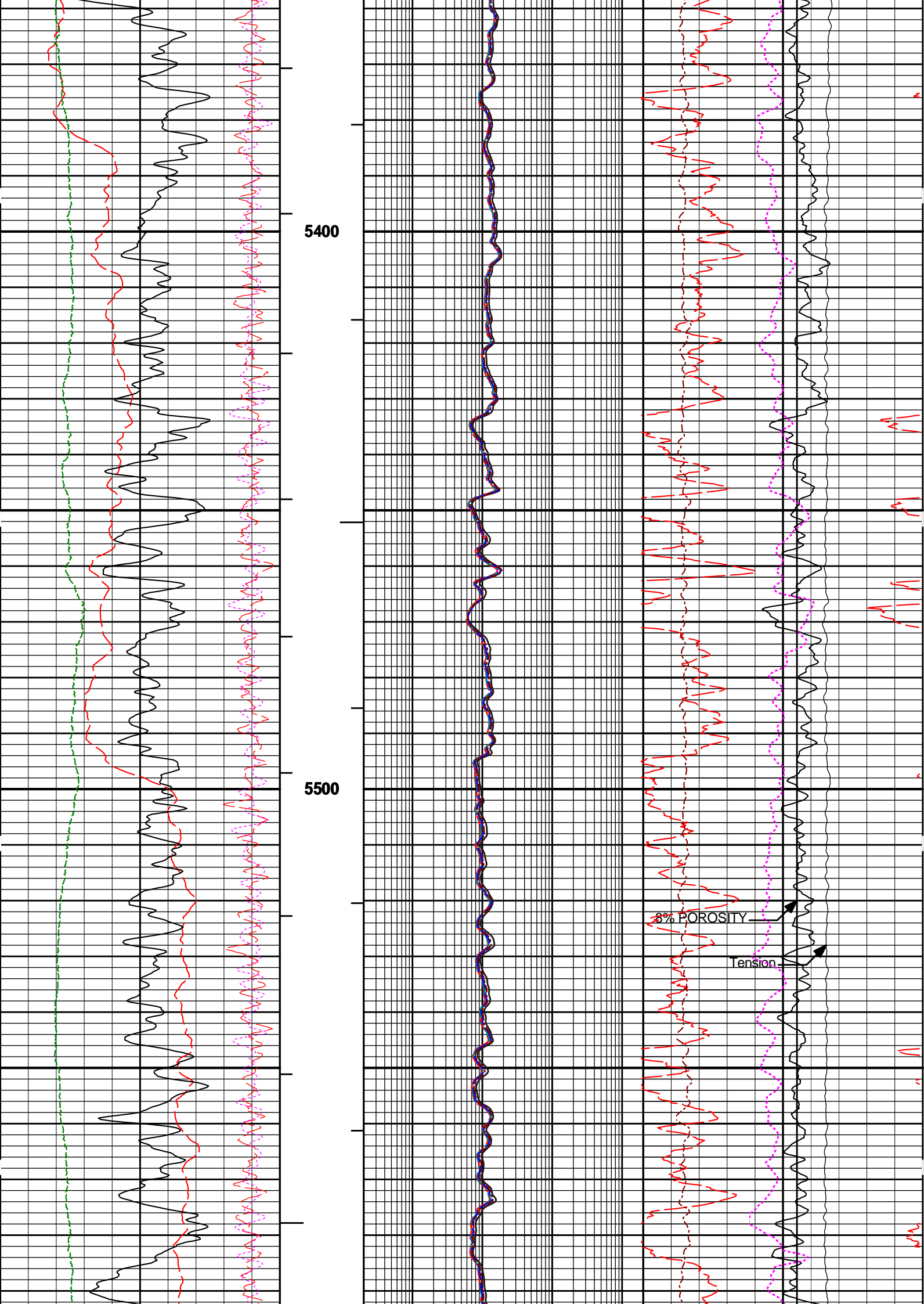


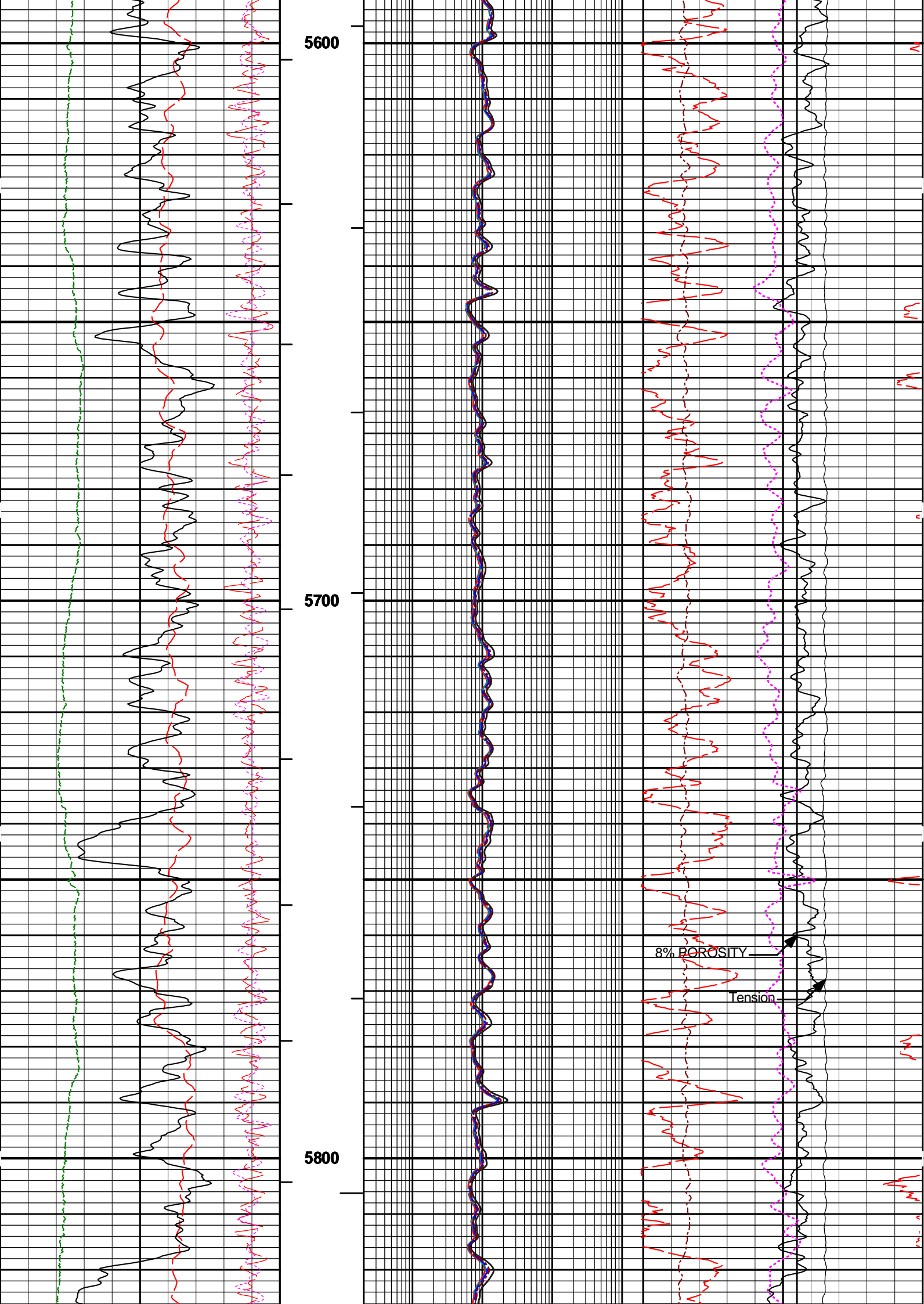


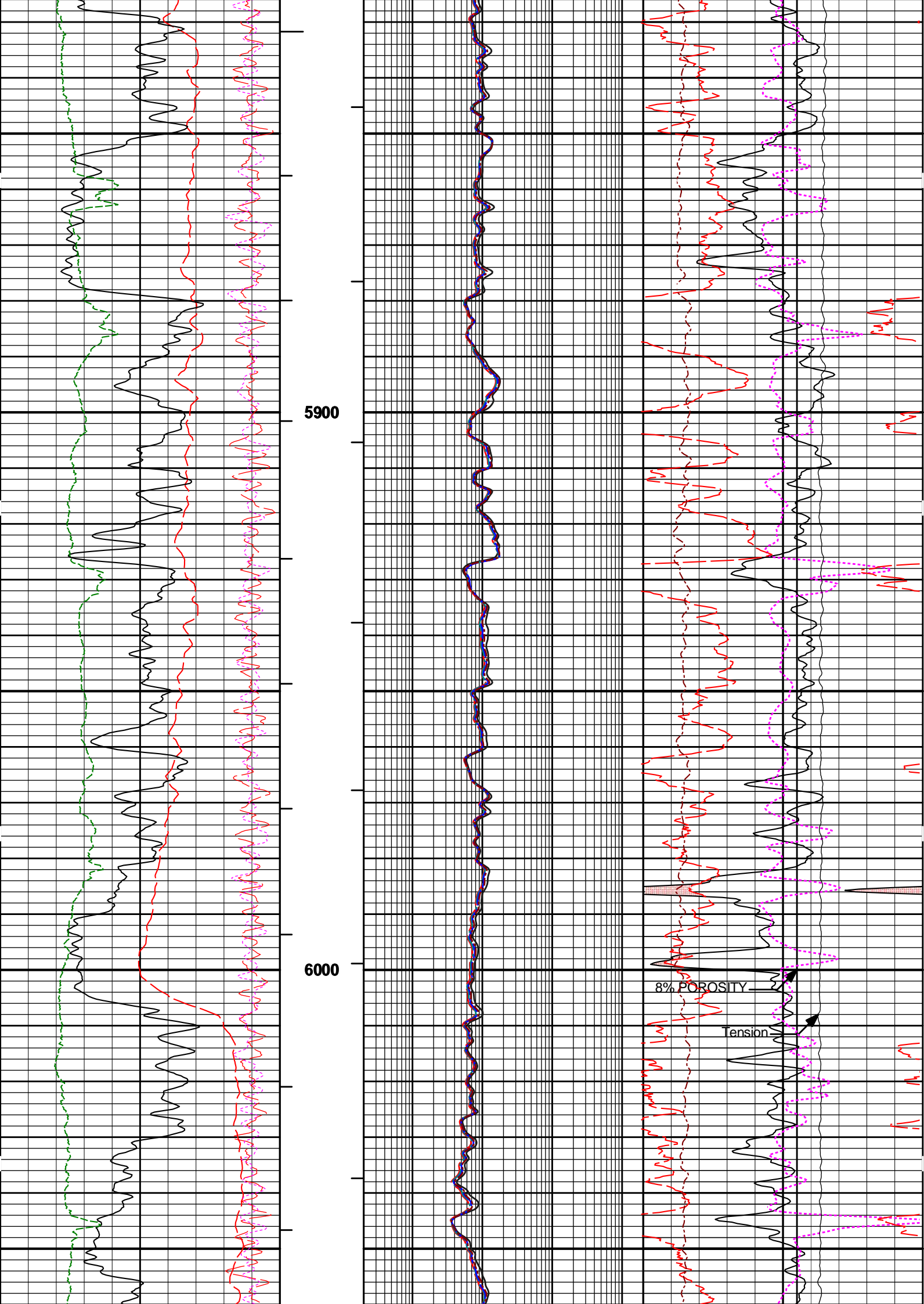


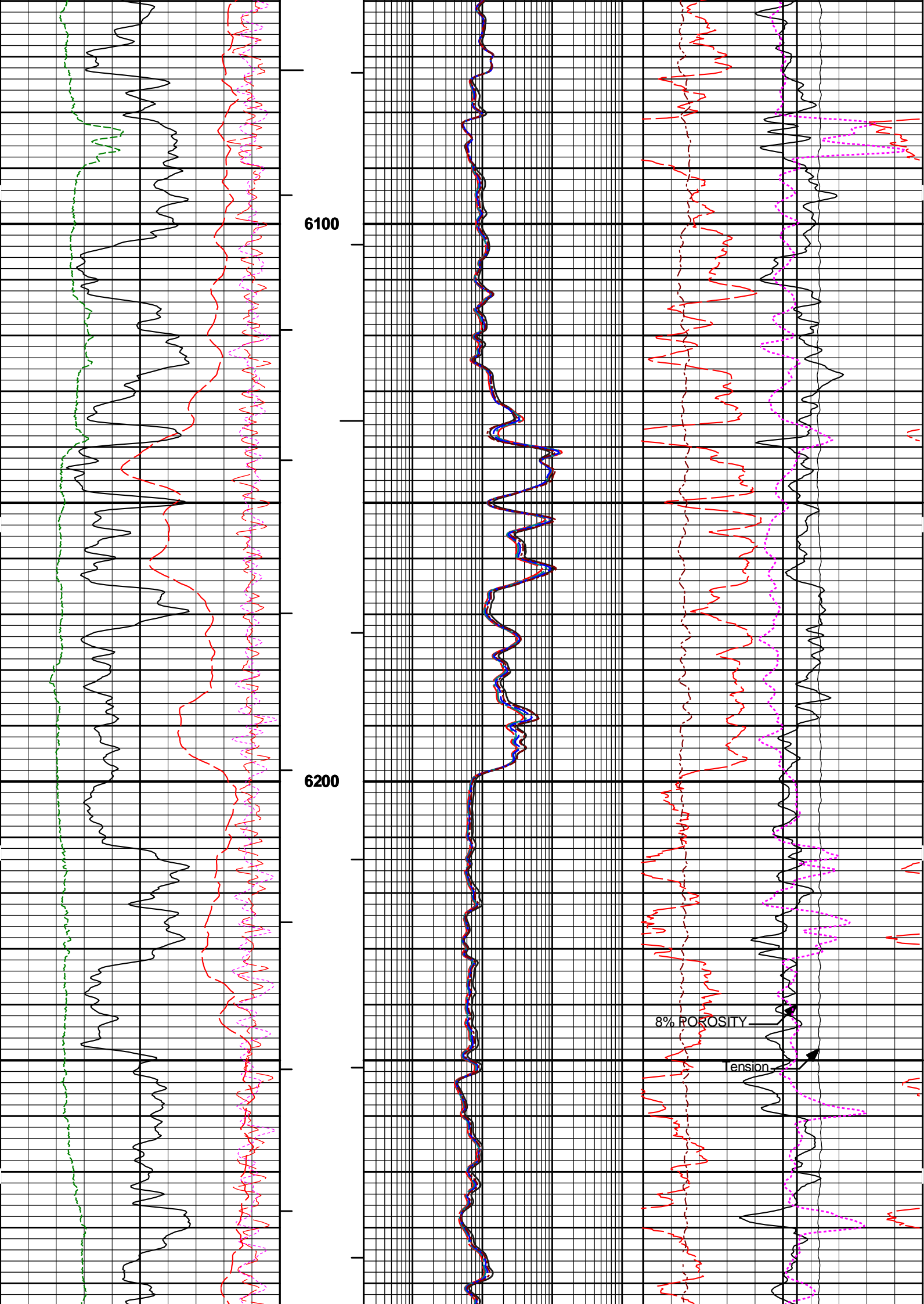


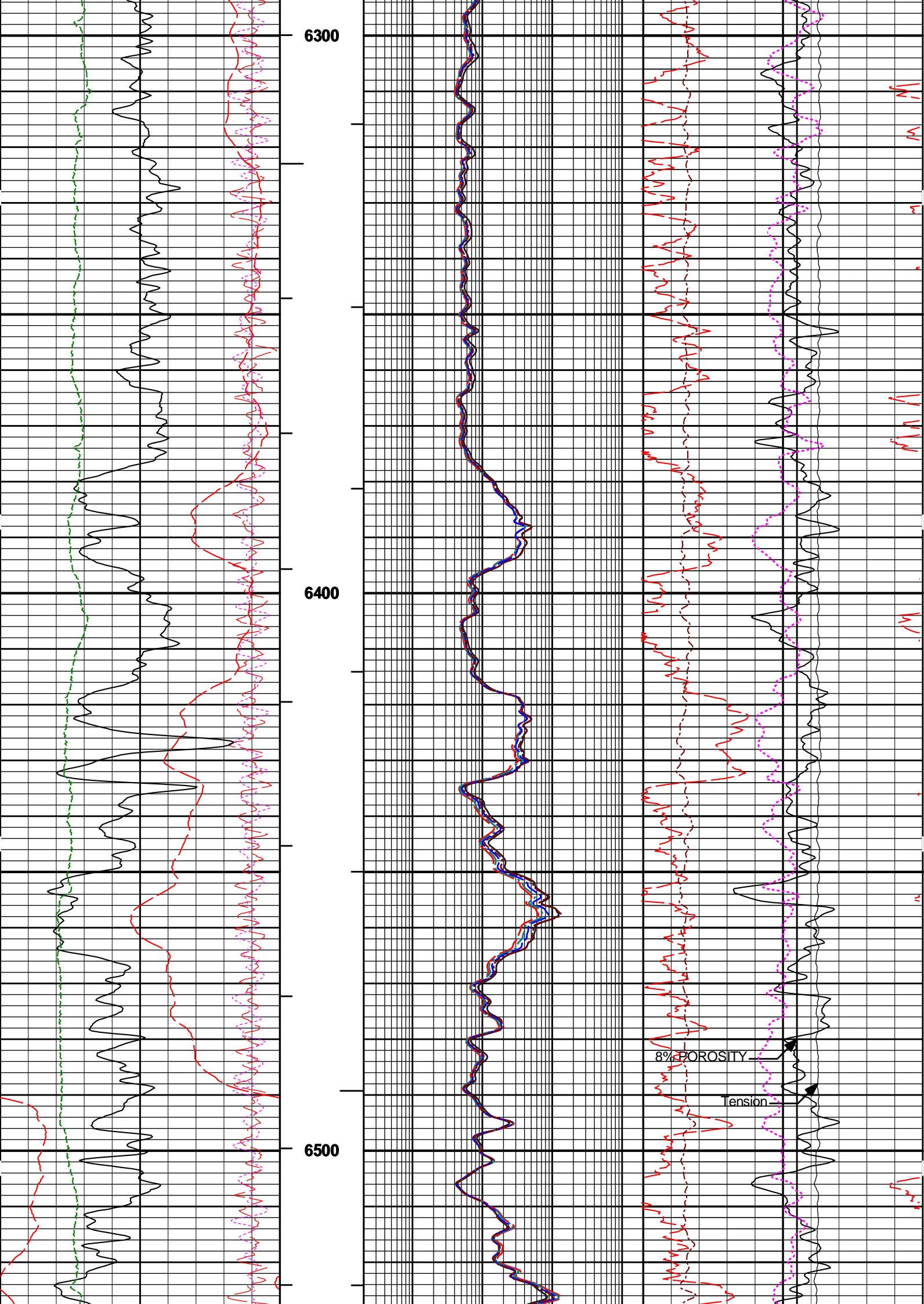


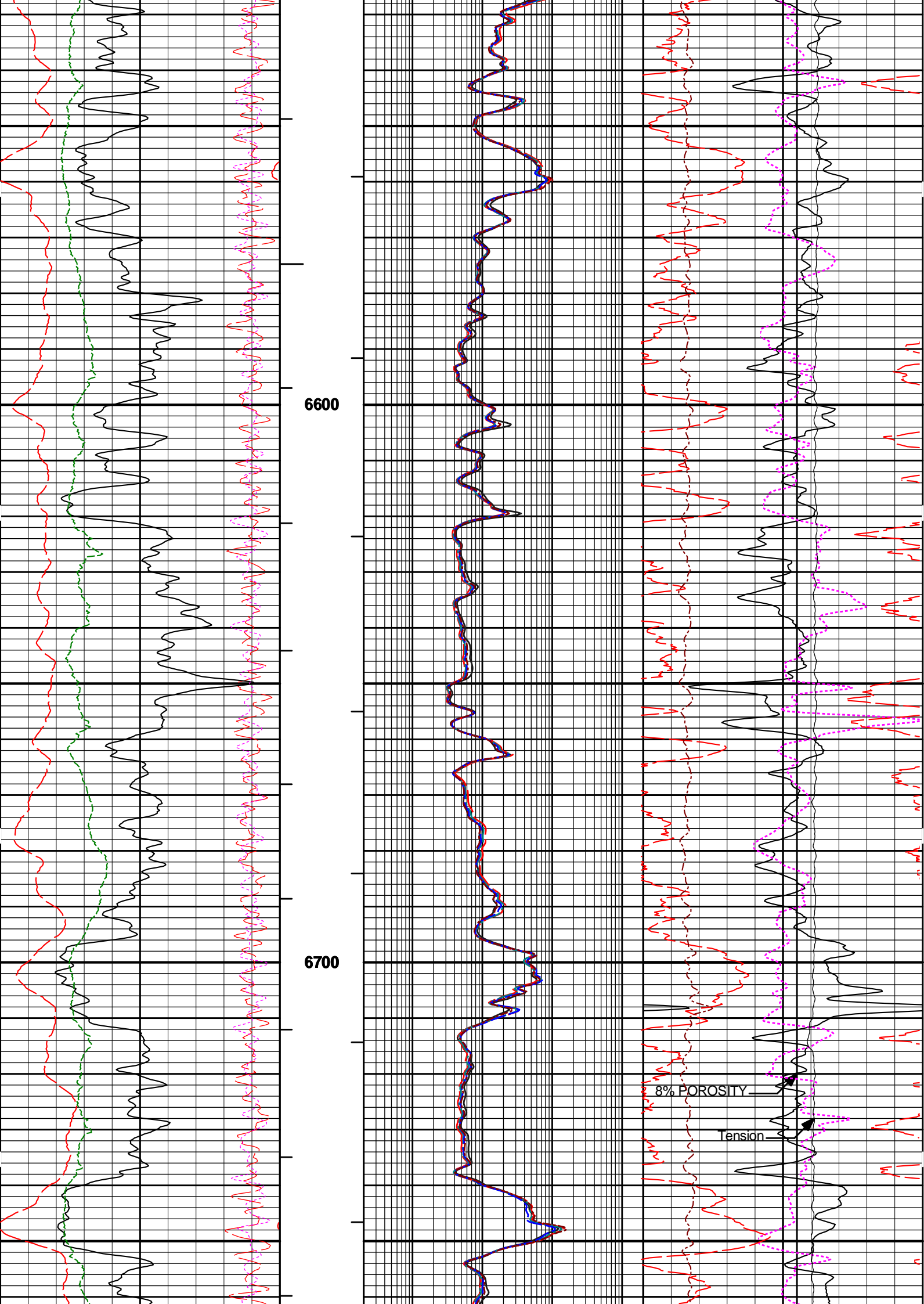


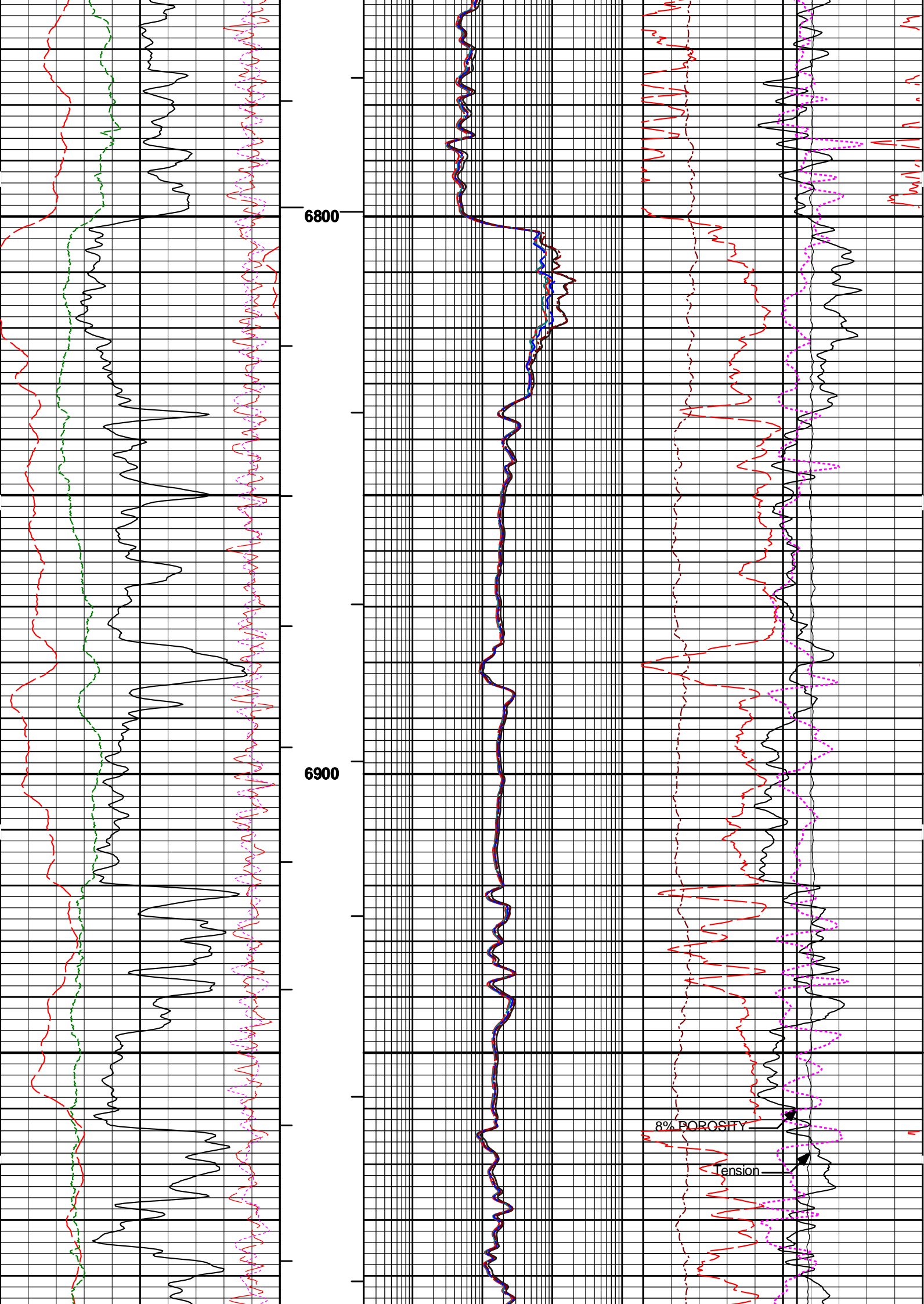


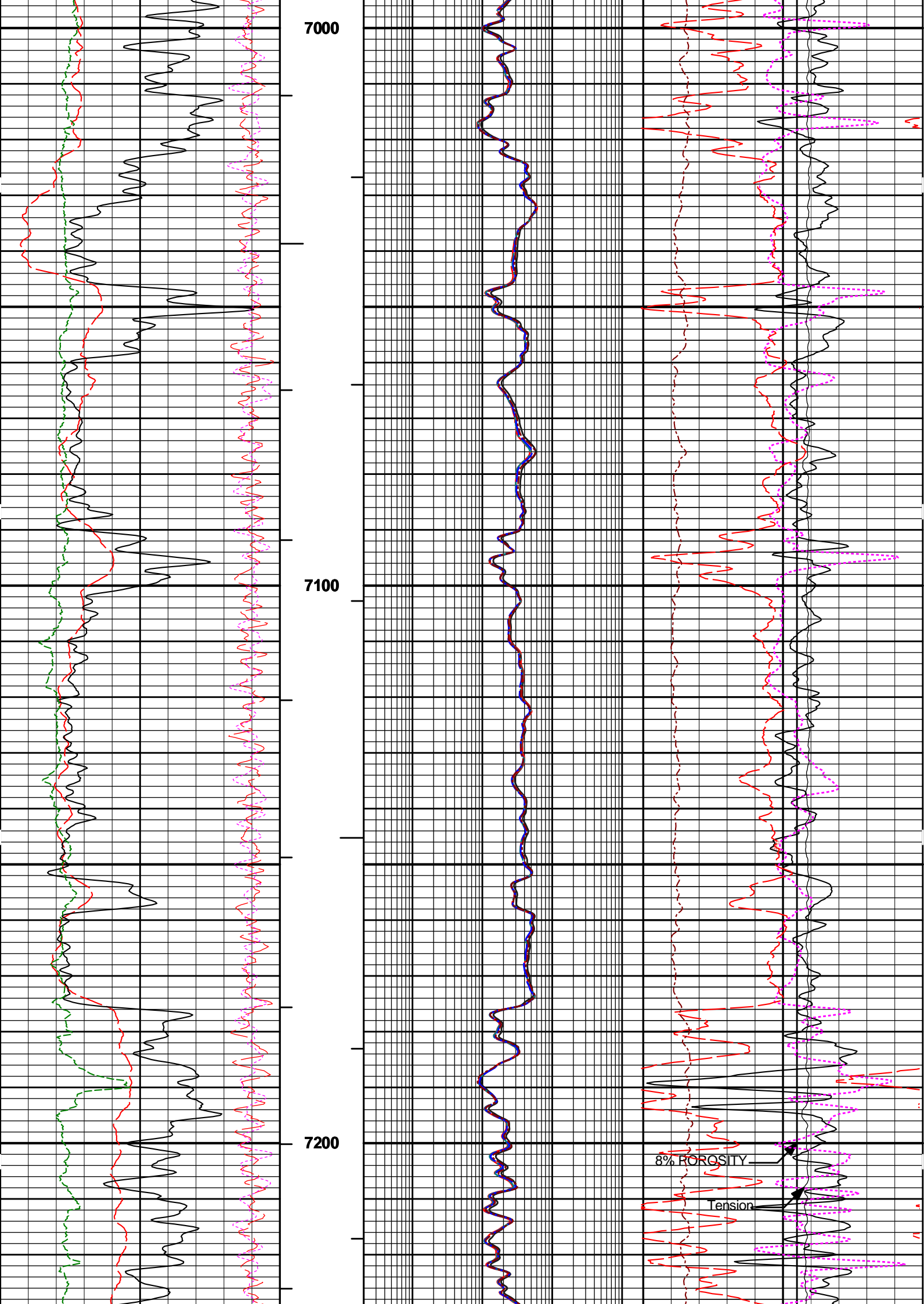


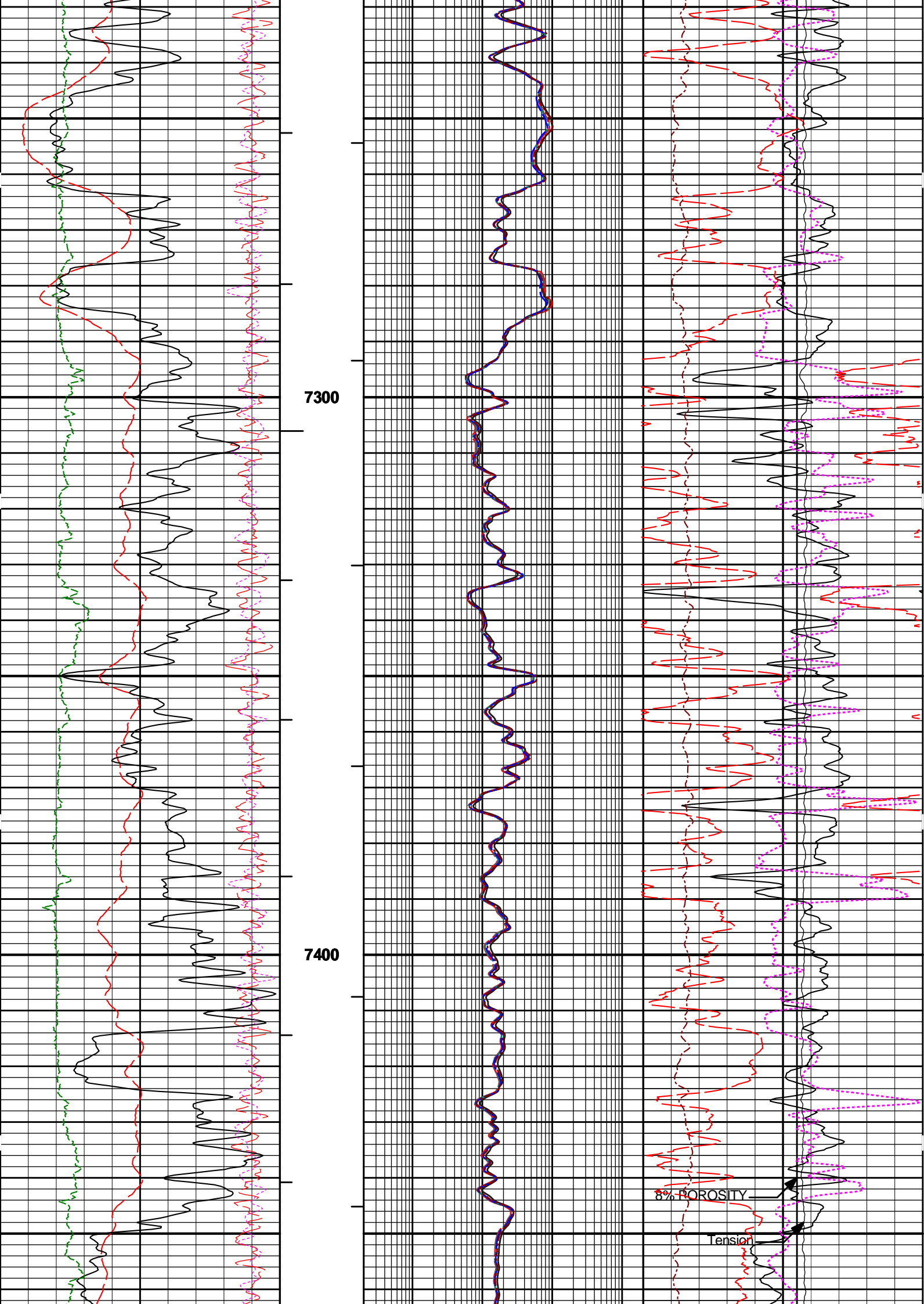


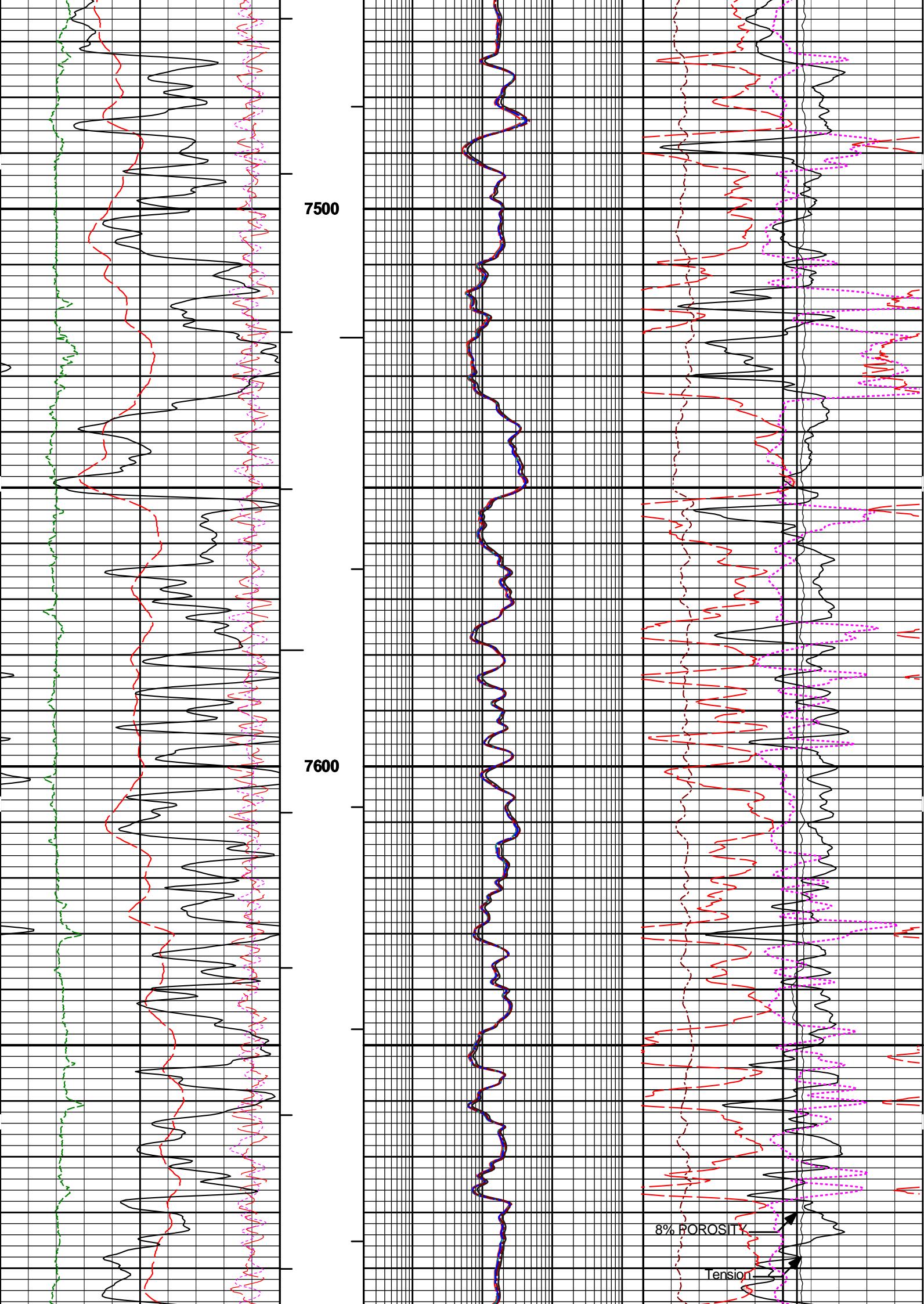


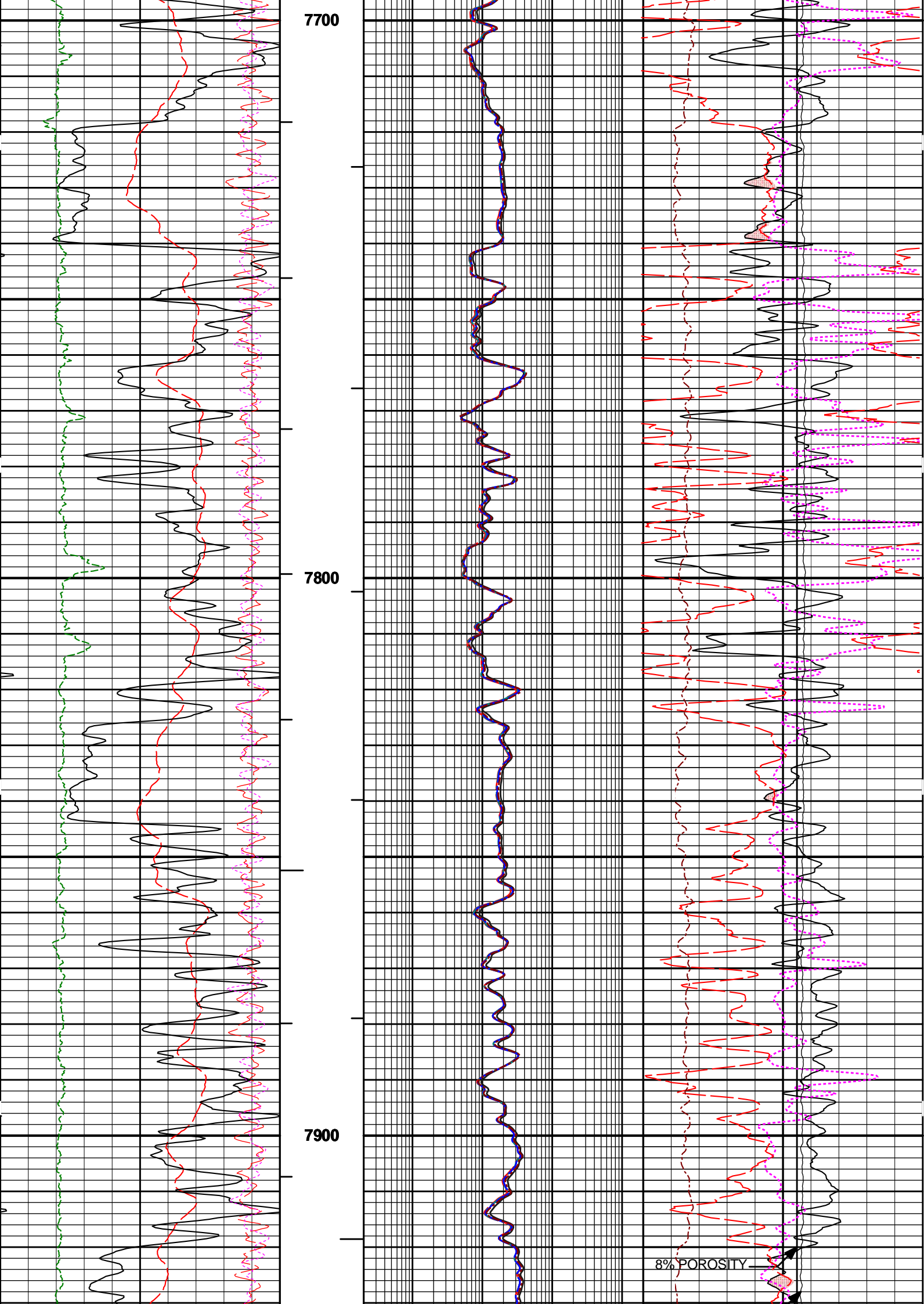


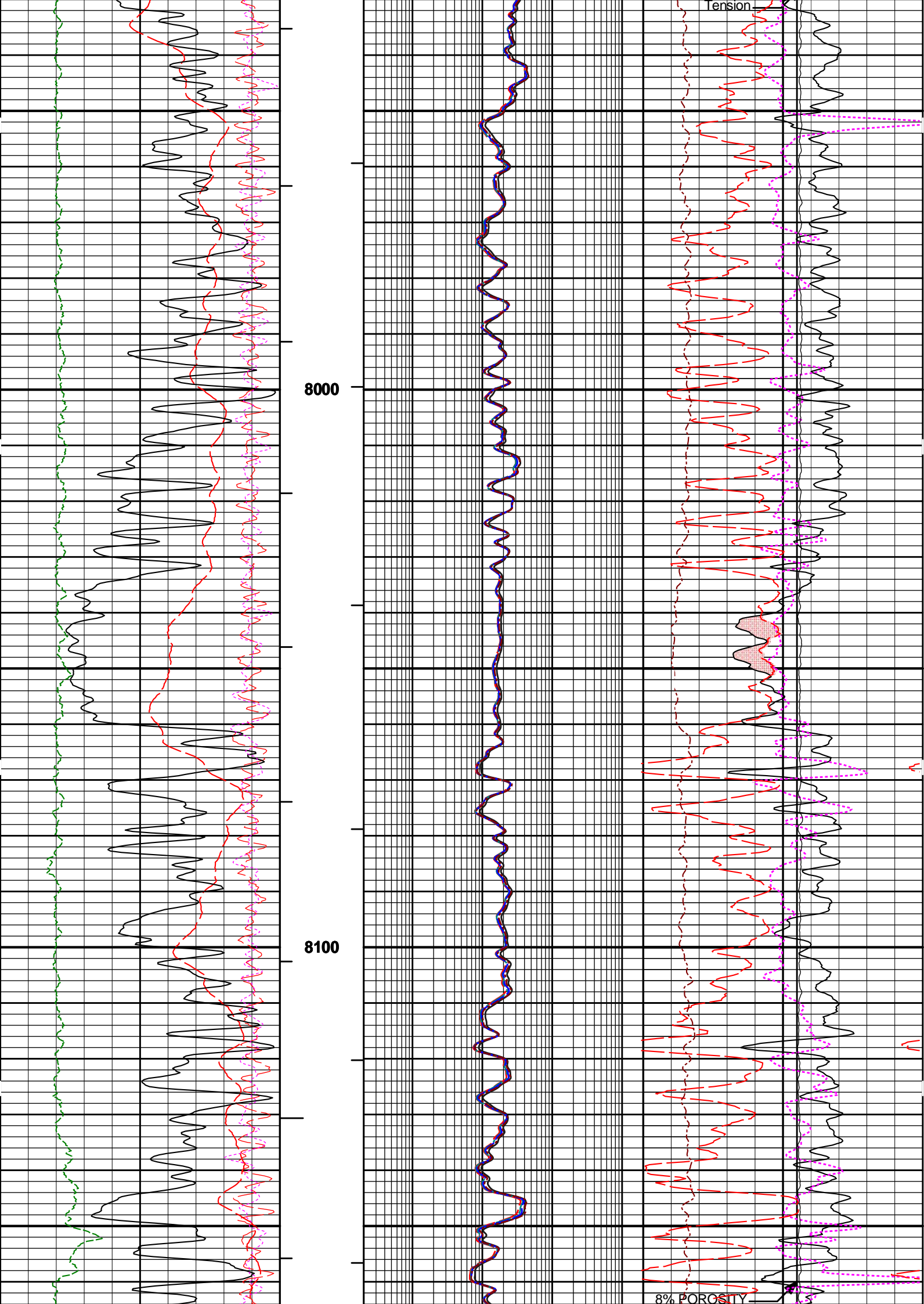


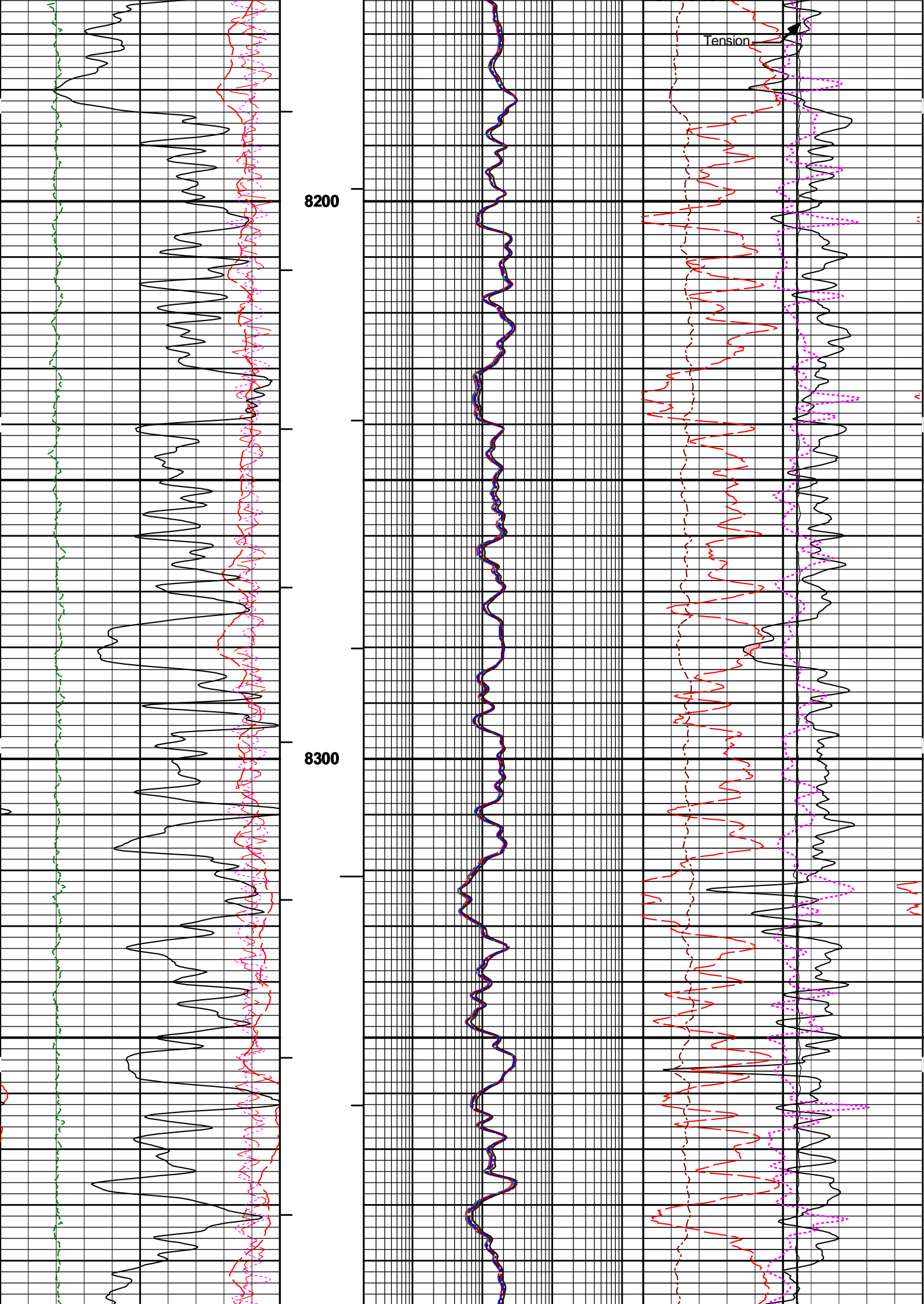


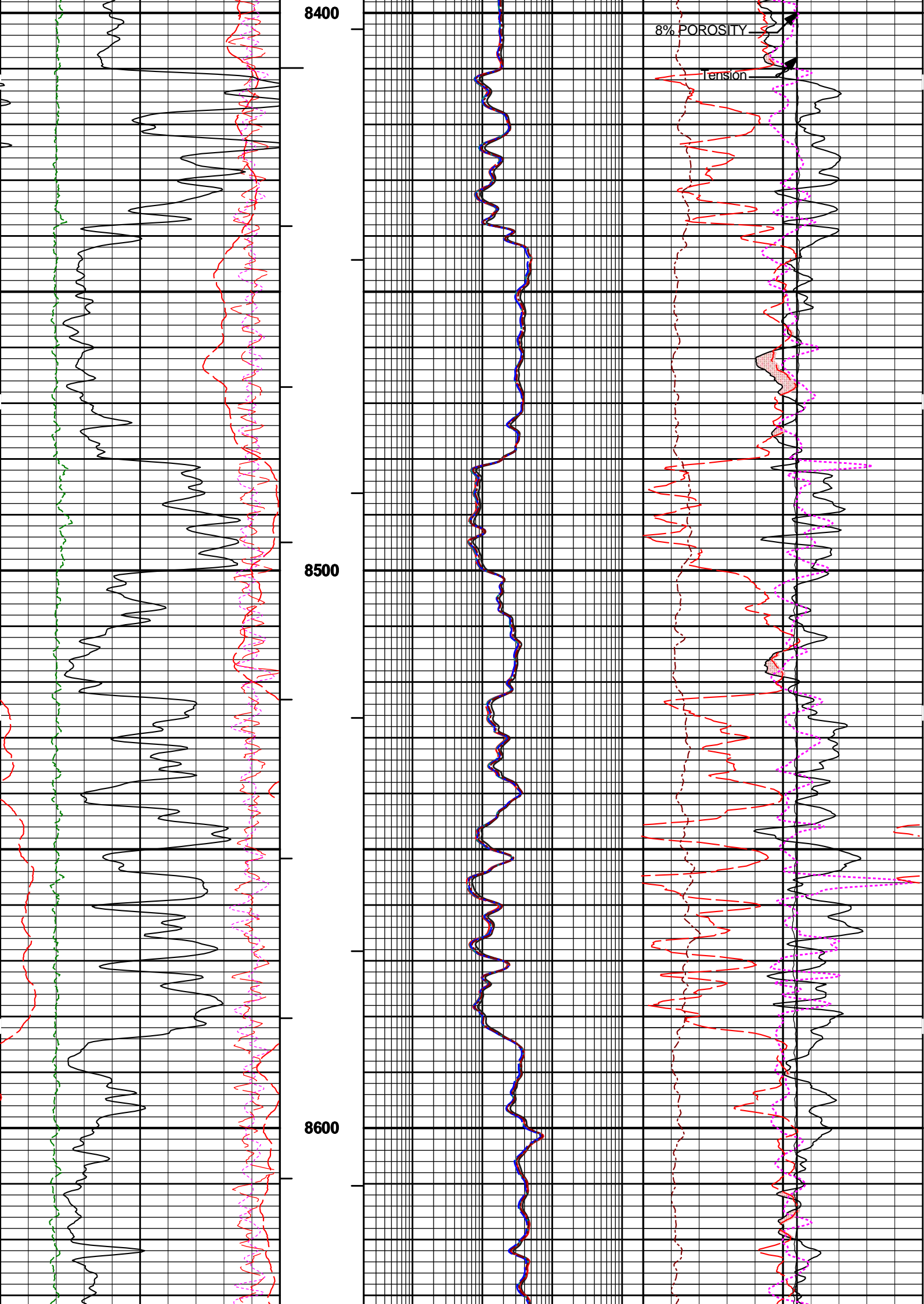


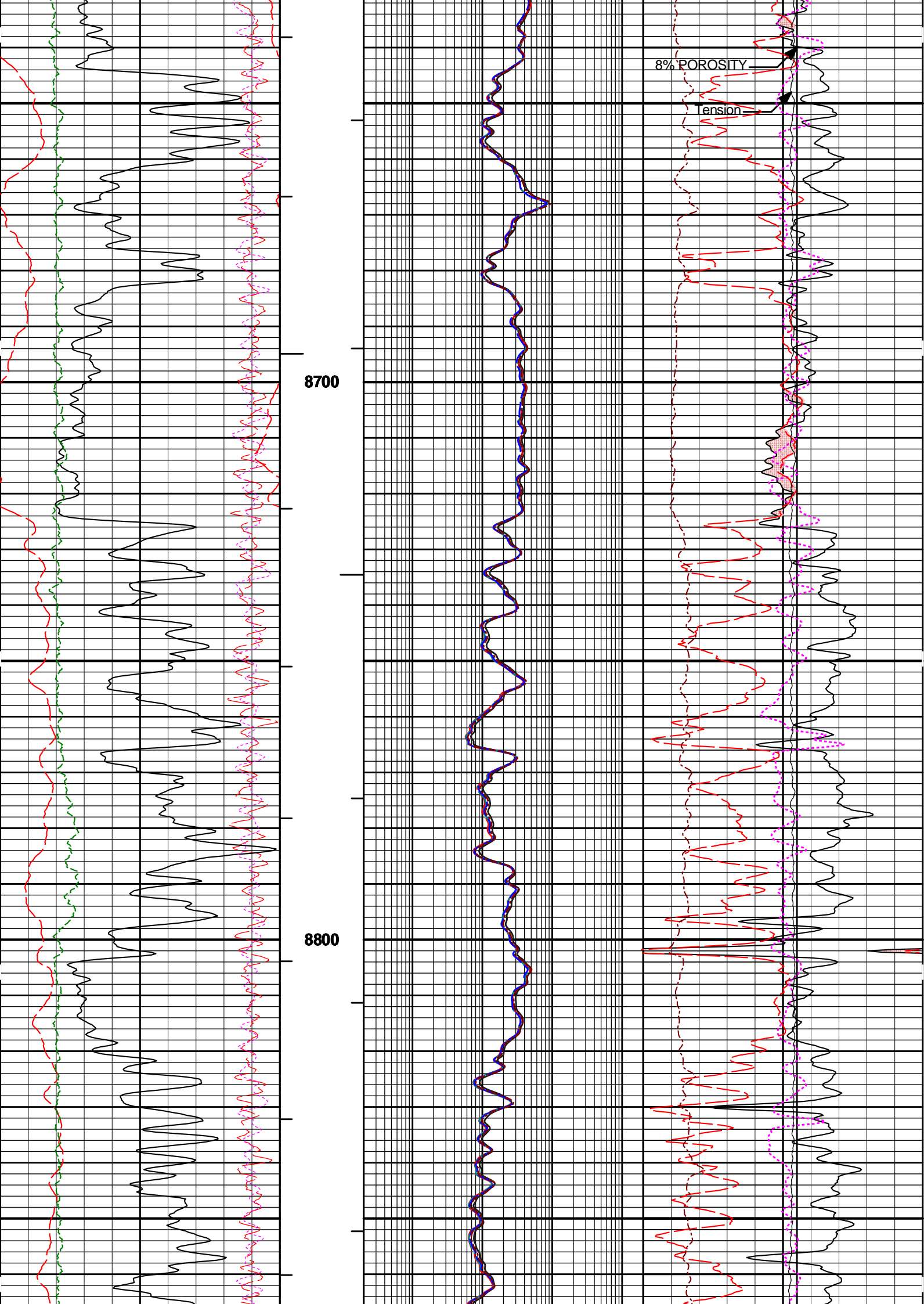


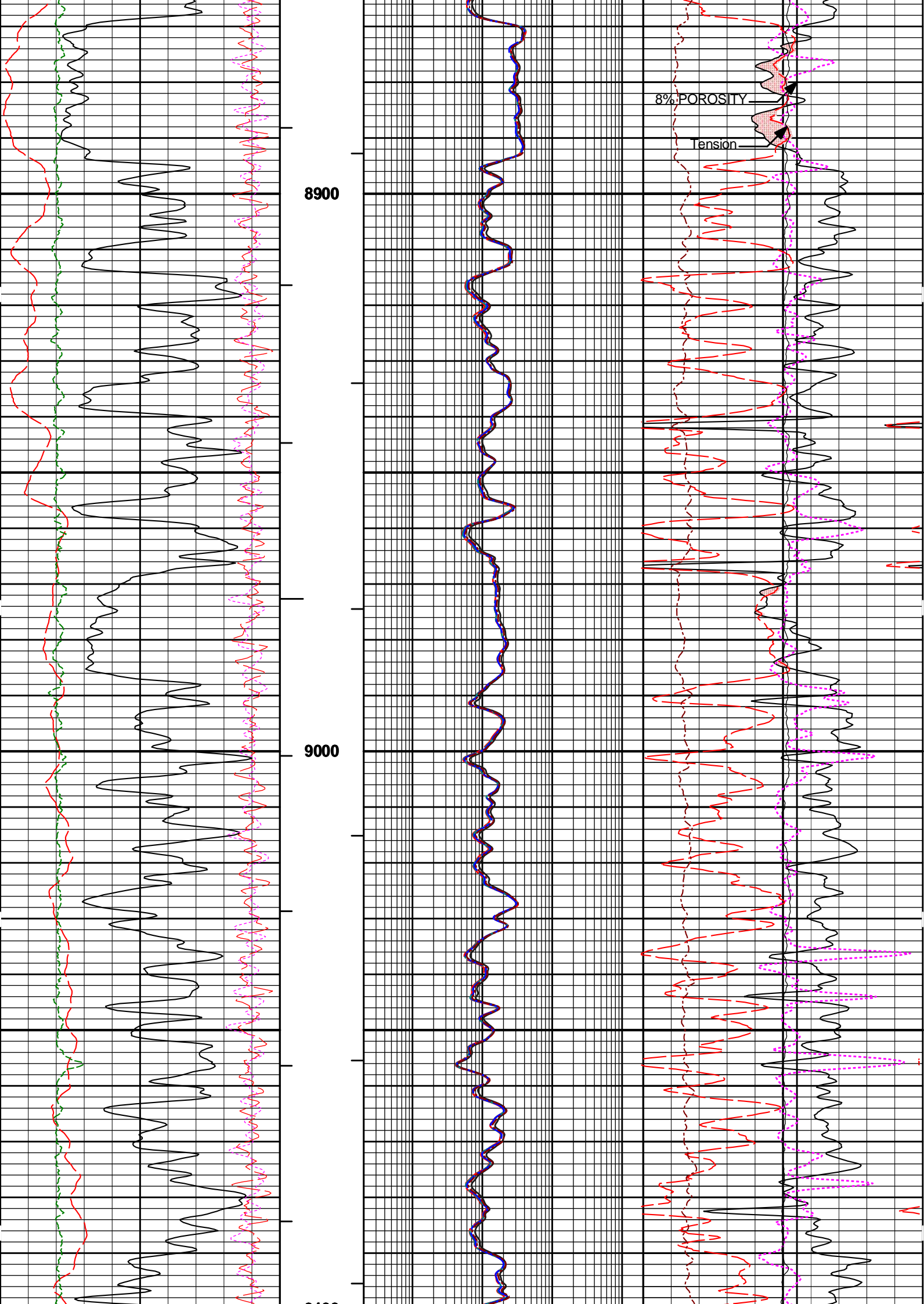


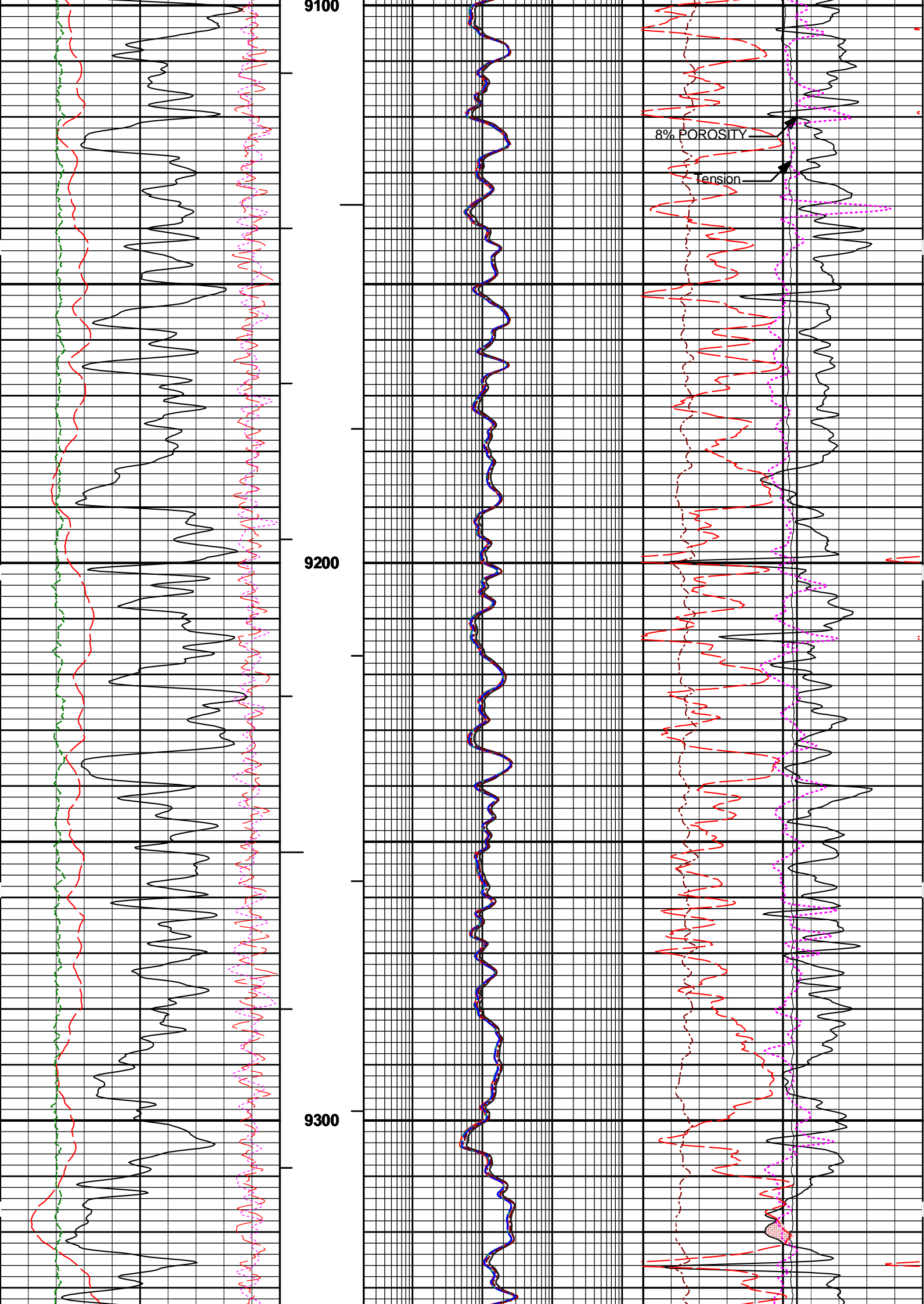


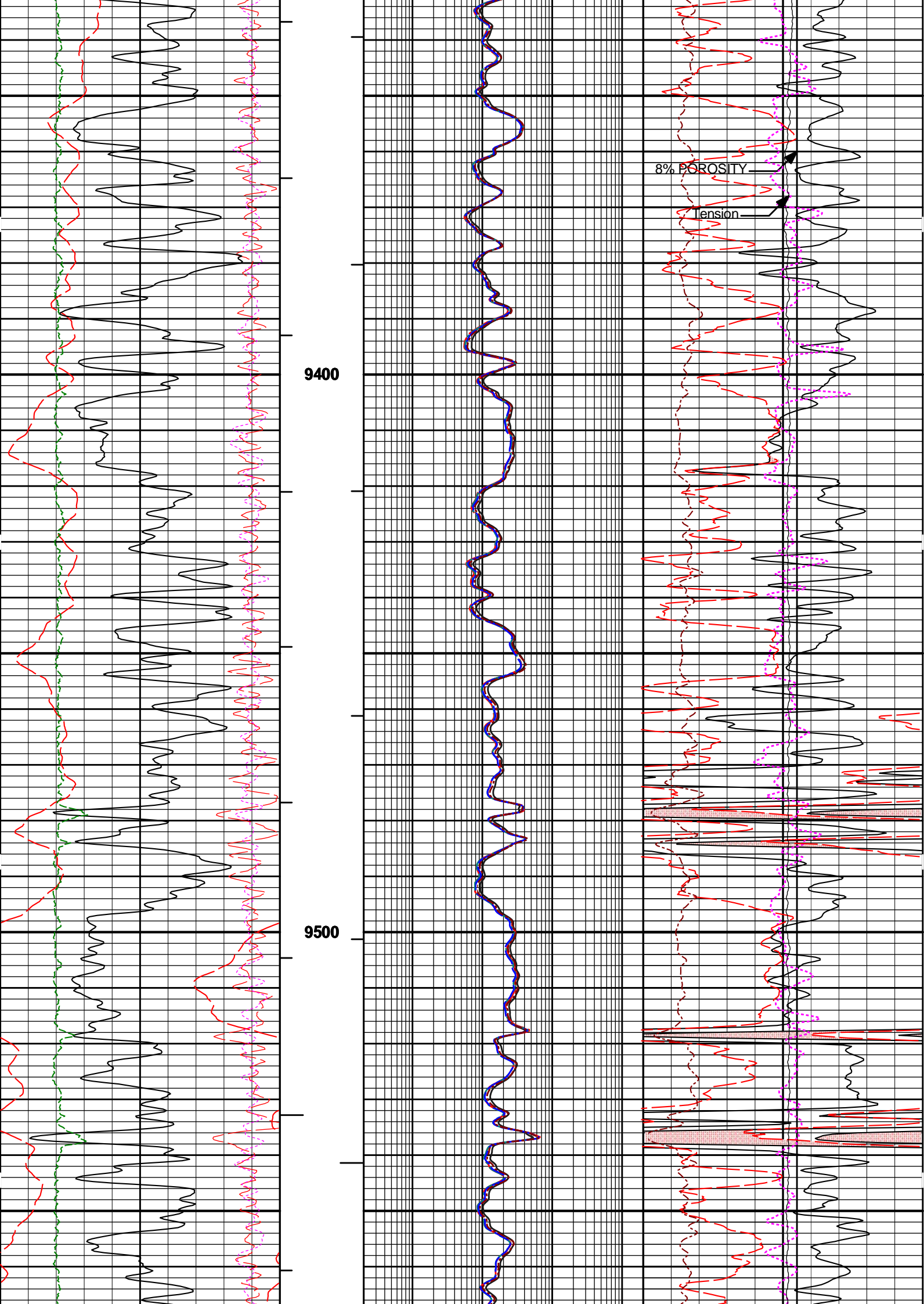


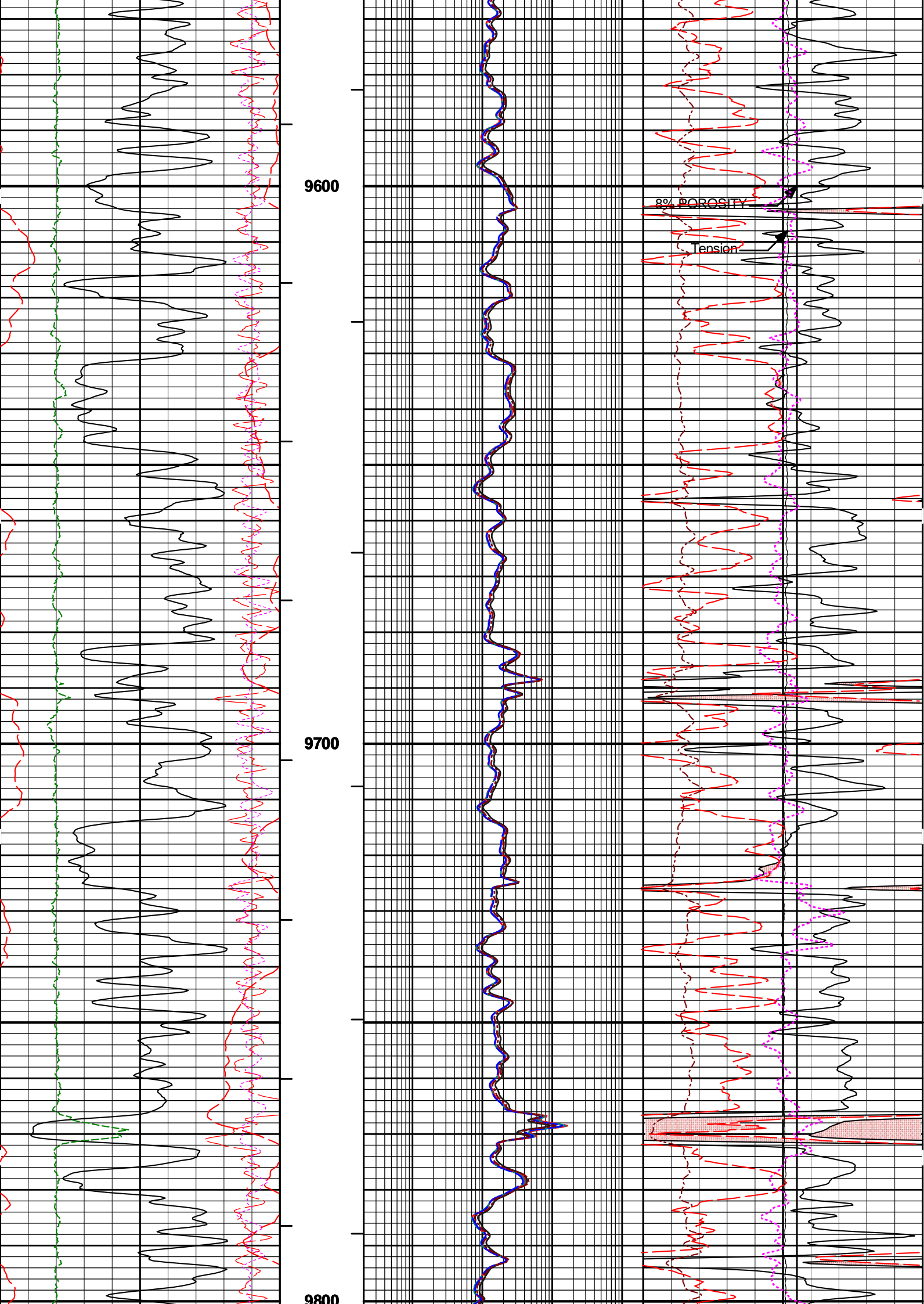


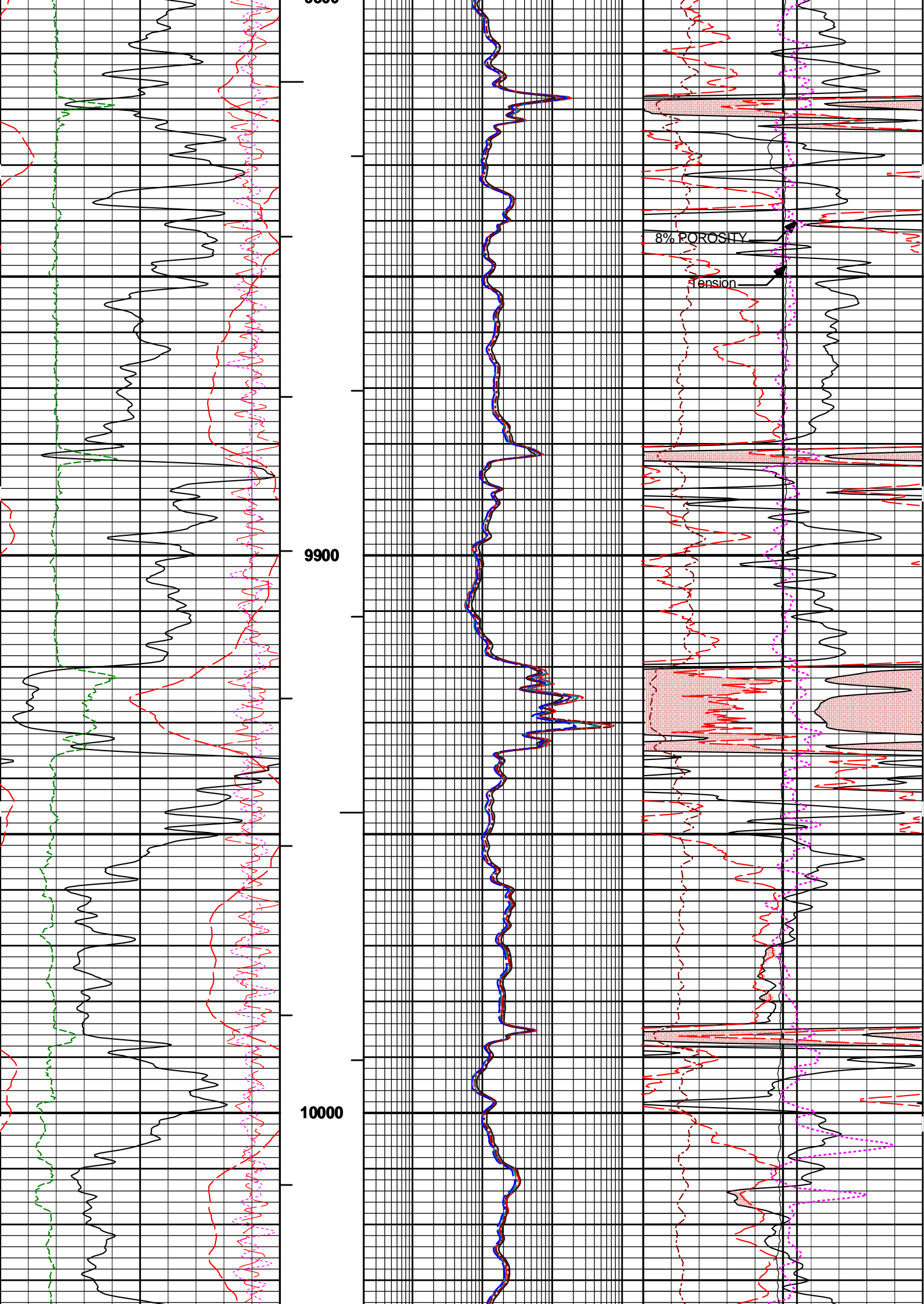


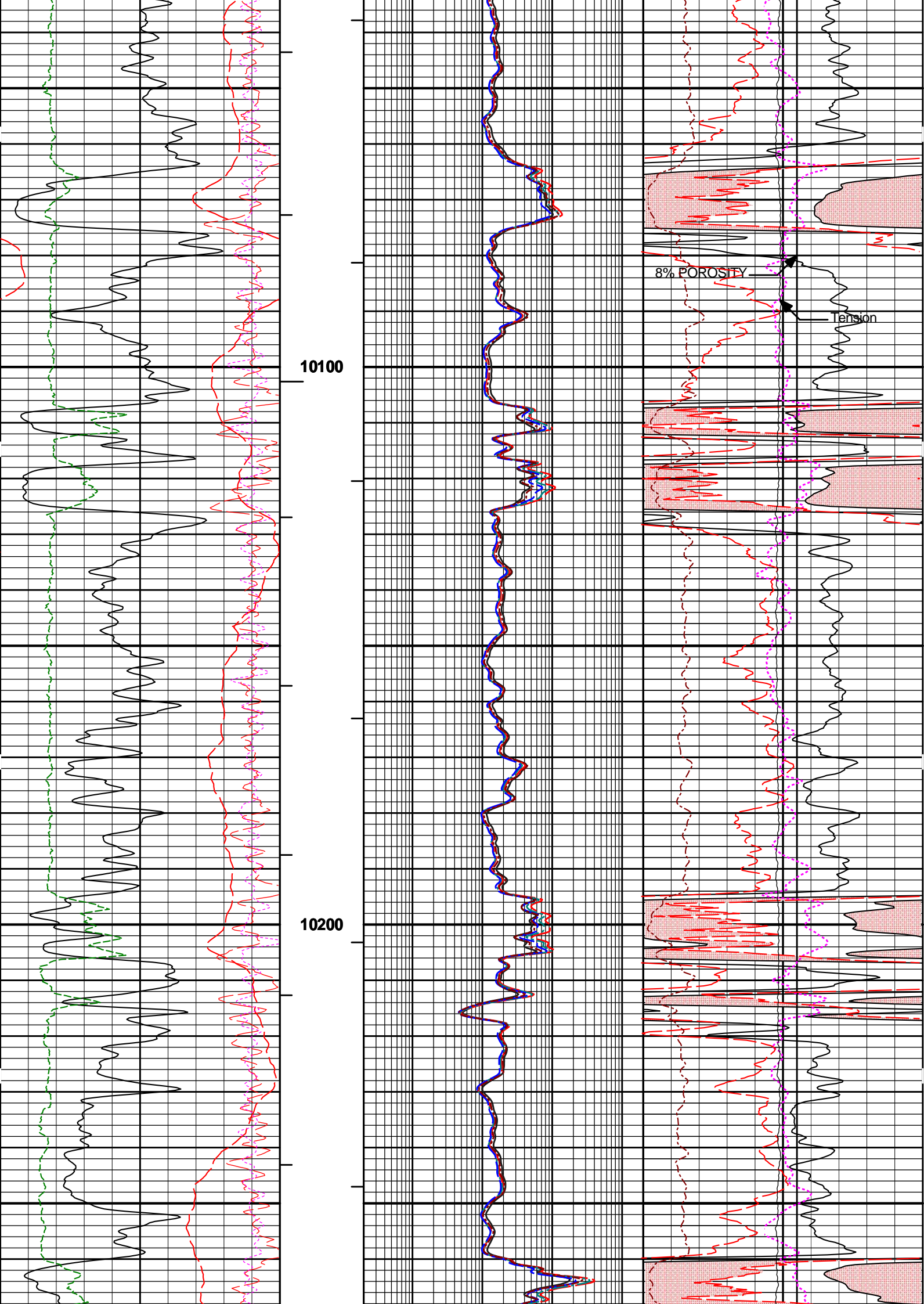


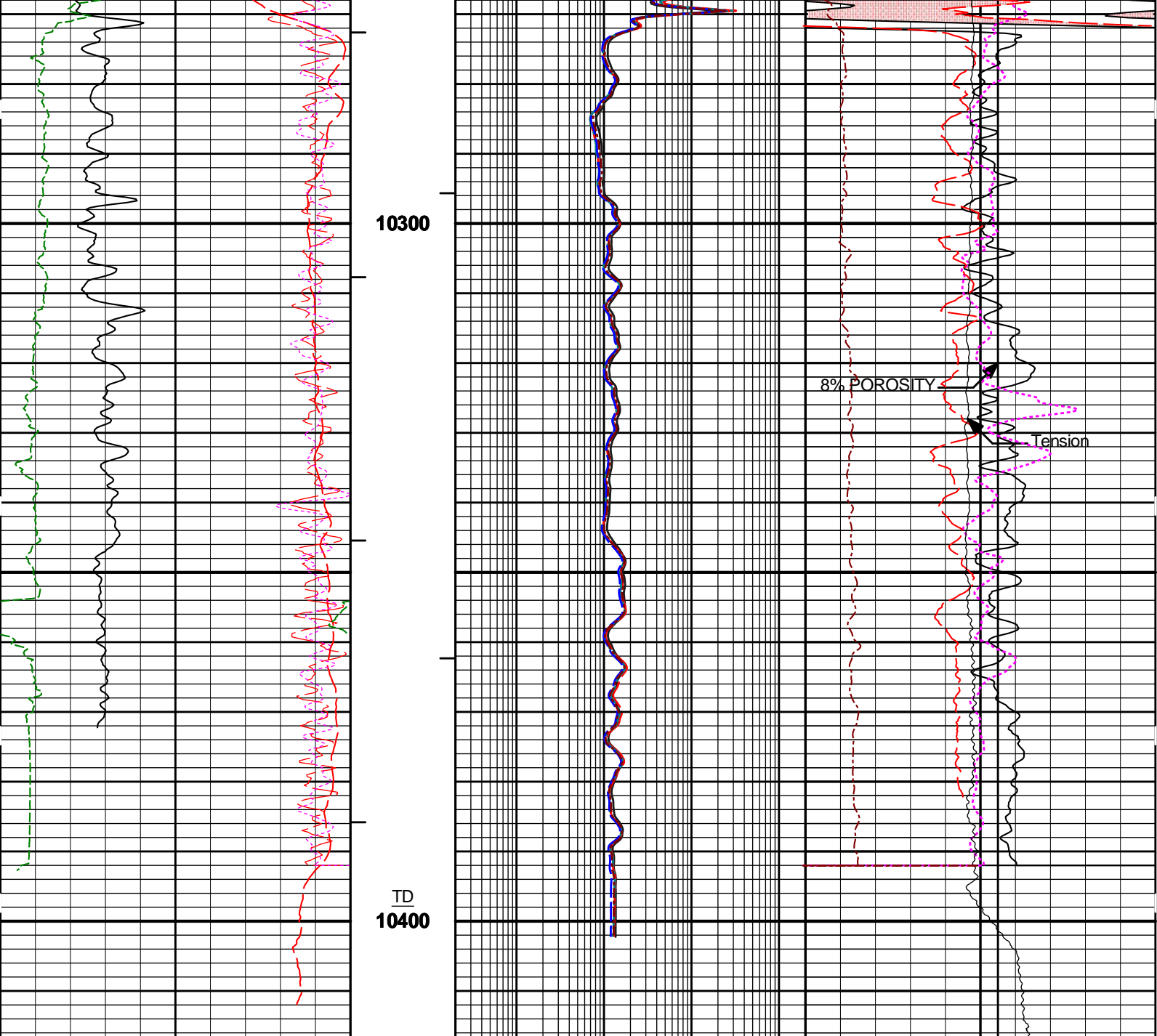












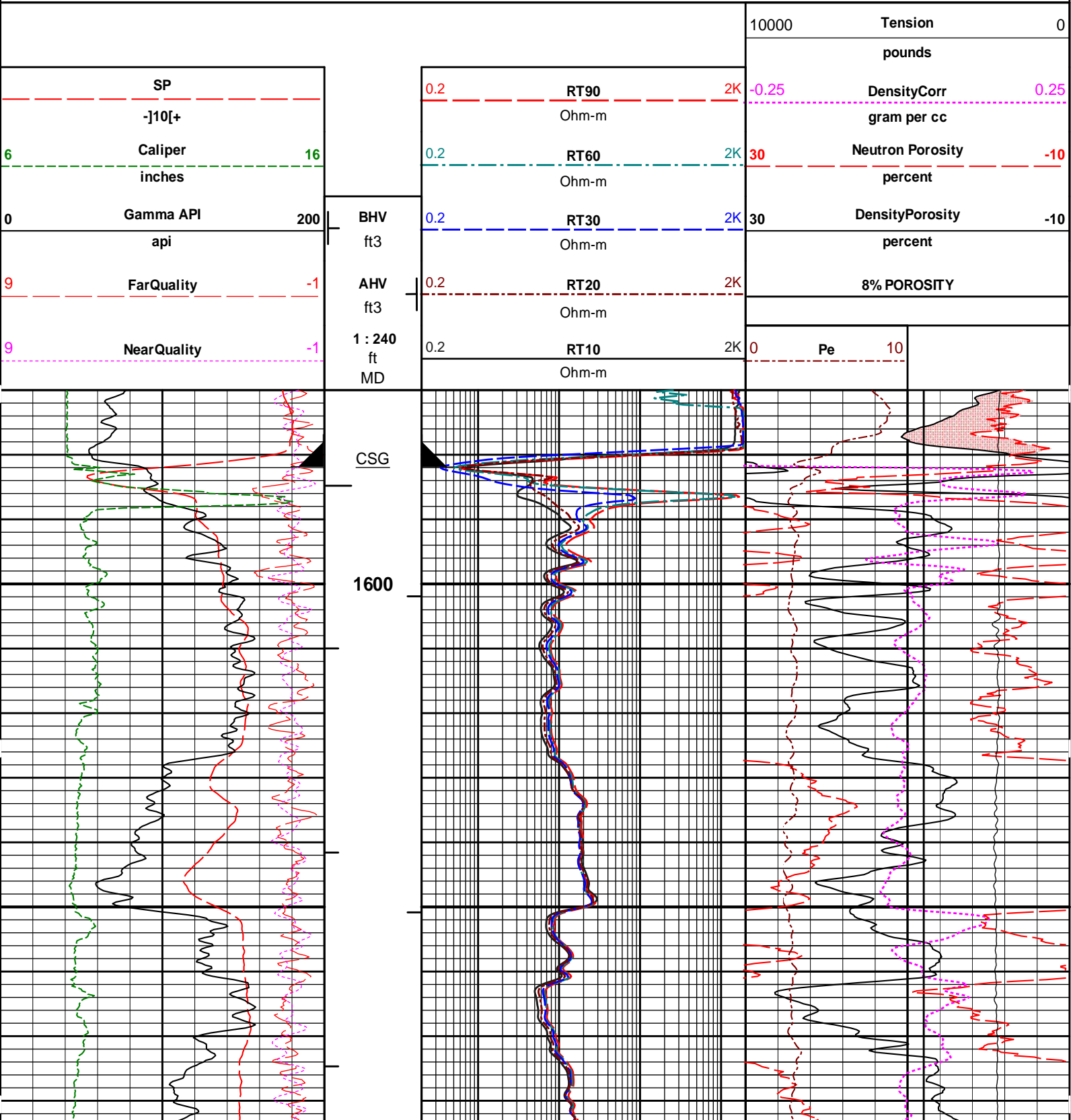
9	NearQuality	-1	1 : 240 ft MD	0.2	RT10	2K	0	Pe	10
9	FarQuality	-1	AHV ft3	0.2	RT20	2K		8% POROSITY	
0	Gamma API	200	BHV ft3	0.2	RT30	2K	30	DensityPorosity	-10
	api				Ohm-m			percent	
6	Caliper	16		0.2	RT60	2K	30	Neutron Porosity	-10
	inches				Ohm-m			percent	
	SP			0.2	RT90	2K	-0.25	DensityCorr	0.25
	-]10[+				Ohm-m			gram per cc	
							10000	Tension	0
								pounds	

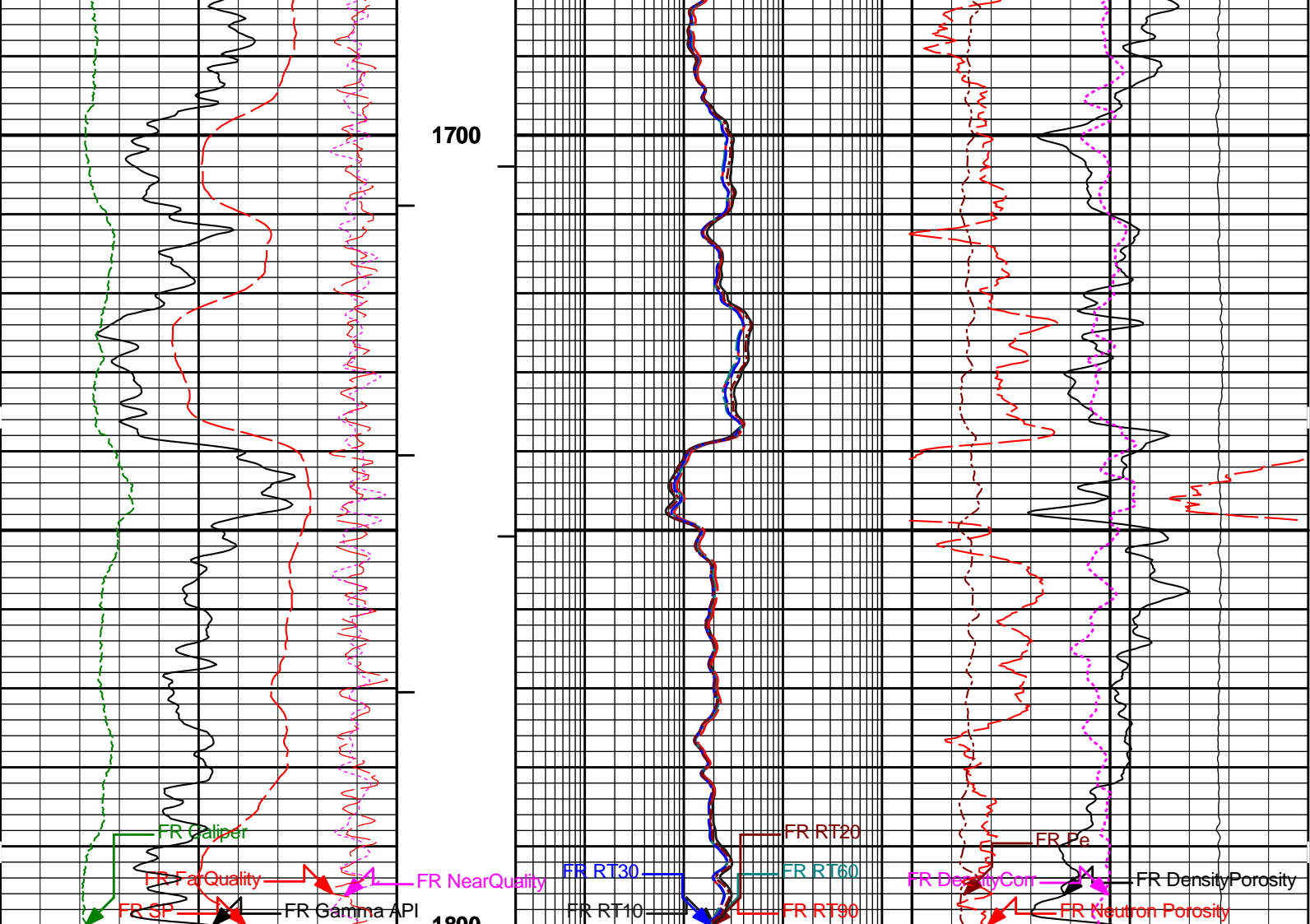
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Plot Time: 21-Feb-09 17:01:34
Plot Range: 1570 ft to 10416.9 ft
Data: {ActiveWell}\Well Based\MAIN PASS - CASING\
Plot File: \\TRIPLEA-Triple-IQ

MAIN PASS 5" = 100'

REPEAT PASS 5" = 100'





9	NearQuality	-1	1 : 240 ft MD	0.2	RT10	2K	0	Pe	10	
					Ohm-m					
9	FarQuality	-1	AHV ft3	0.2	RT20	2K	8% POROSITY			
					Ohm-m					
0	Gamma API	200	BHV ft3	0.2	RT30	2K	30	DensityPorosity	-10	
	api				Ohm-m			percent		
6	Caliper	16		0.2	RT60	2K	30	Neutron Porosity	-10	
	inches					Ohm-m			percent	
	SP			0.2	RT90	2K	-0.25	DensityCorr	0.25	
	-]10[+					Ohm-m			gram per cc	
							10000	Tension	0	
								pounds		

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Plot Time: 21-Feb-09 17:01:35
Plot Range: 1570 ft to 1800 ft
Data: {ActiveWell}\Well Based\REPEAT\
Plot File: \\TRIPLE\REPEAT

REPEAT PASS 5" = 100'

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CALIBRATION REPORT

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION				
Tool Name:	GTET - 11005602		Reference Calibration Date:	19-Dec-08 13:53:22
Engineer:	T. ISHTEIWY		Calibration Date:	21-Jan-09 10:27:34
Software Version:	WL INSITE R2.2 (Build 12)		Calibration Version:	1
Calibrator Source S/N: TB-110				
Calibrator API Reference:239.00 api				
	Measurement	Measured	Calibrated	Units
	Background	90.8	90.6	api
	Background + Calibrator	330.2	329.6	api
	Calibrator	238.8	239.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION				
Tool Name:	GTET - 11005602		Reference Calibration Date:	21-Jan-09 10:27:34
Engineer:	C. GULLETT		Calibration Date:	21-Feb-09 05:09:08
Software Version:	WL INSITE R2.4 (Build 1)		Calibration Version:	1
Calibrator Source S/N: TB-110				
Calibrator API Reference:239.00 api				
	Field Verification	Shop	Field	Units
	Background	90.6	53.3	api
	Background + Calibrator	329.6	298.7	api
	Calibrator	239.0	245.3	api
	Shop	Field	Difference	Tolerance
	239.0	245.3	-6.3	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION				
Tool Name:	GTET - 11005602		Reference Calibration Date:	21-Feb-09 05:09:08
Engineer:	C. GULLETT		Calibration Date:	21-Feb-09 16:51:38
Software Version:	WL INSITE R2.4 (Build 1)		Calibration Version:	1
Calibrator Source S/N: TB-110				
Calibrator API Reference:239.00 api				
	Post Verification	Field	Post	Units
	Background	53.3	37.1	api
	Background + Calibrator	298.7	283.6	api
	Calibrator	245.3	246.5	api
	Shop	Field	Post	Difference
	239.0	245.3	246.5	-1.2
				+/- 9.00

ACCELEROMETER SHOP CALIBRATION				
Tool Name:	GTET - 11005602		Reference Calibration Date:	25-Dec-08 07:28:09
Engineer:	T. ISHTEIWY		Calibration Date:	21-Jan-09 10:19:18
Software Version:	WL INSITE R2.2 (Build 12)		Calibration Version:	1
	Horizontal-1 Telemetry	Horizontal-2 Telemetry	Vertical Telemetry	Units
	-330.45	-138.00	-16437.82	cnts
	Coefficient	Coefficient Value	Tolerance	
	Gain	-0.000062	-0.0010 - 0.0010	
	Offset	-0.014	-----	
	Orientation	Measured	Calibrated	
	Horizontal	0.00	0.00	
	Vertical	1.00	1.00	

Vertical

1.00

1.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 10993888

Engineer: T. McKEE

Software Version: WL INSITE R2.4 (Build 1)

Reference Calibration Date: 05-Feb-09 08:52:09

Calibration Date: 05-Feb-09 09:06:54

Calibration Version: 1

Logging Source S/N: DSN-388

Tank Serial Number: GJ - H2O

Reference value assigned to Tank: 52.750

Snow Block S/N: SB-110

Calibration Tank Water Temperature: 63 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.958	0.963	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):	0.2155	0.2169	0.0014	+/- 0.0020
Calibrated Ratio:	9.88	9.93	0.046	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0659	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 - 10993888

Engineer: C. GULLETT

Software Version: WL INSITE R2.4 (Build 1)

Reference Calibration Date: 05-Feb-09 09:06:54

Calibration Date: 21-Feb-09 05:20:02

Calibration Version: 1

Logging Source S/N: DSN-388

Snow Block S/N: SB-110

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0659	0.0738	0.0079	+/- 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 - 10993888

Engineer: C. GULLETT

Software Version: WL INSITE R2.4 (Build 1)

Reference Calibration Date: 21-Feb-09 05:20:02

Calibration Date: 21-Feb-09 16:59:40

Calibration Version: 1

Logging Source S/N: DSN-388

Snow Block S/N: SB-110

NEUTRON POST-CHECK SUMMARY

	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0738	0.0661	-0.0077	+/- 0.0150

PASS/FAIL SUMMARY	
Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDLT - 10951314	Reference Calibration Date:	20-Jan-09 18:10:03
Engineer:	T. ISHTEIWY	Calibration Date:	20-Jan-09 18:53:20
Software Version:	WL INSITE R2.2 (Build 12)	Calibration Version:	1

Logging Source S/N: 5123GW

Aluminum Block S/N: 63094

Magnesium Block S/N: 63387

Density: 2.610g/cc

Density: 1.685g/cc

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0126	1.0279	0.90 - 1.10
Near Dens Gain	0.9961	1.0000	0.90 - 1.10
Near Peak Gain	0.9726	0.9627	0.90 - 1.10
Near Lith Gain	0.9054	0.9078	0.90 - 1.10
Far Bar Gain	1.0034	1.0012	0.90 - 1.10
Far Dens Gain	0.9904	0.9901	0.90 - 1.10
Far Peak Gain	0.9789	0.9828	0.90 - 1.10
Far Lith Gain	0.9469	0.9497	0.90 - 1.10
Near Bar Offset	0.0732	-0.0599	NONE
Near Dens Offset	0.2087	0.1843	NONE
Near Peak Offset	0.3960	0.4891	NONE
Near Lith Offset	0.9393	0.9302	NONE
Far Bar Offset	0.1361	0.1565	NONE
Far Dens Offset	0.2273	0.2305	NONE
Far Peak Offset	0.2821	0.2517	NONE
Far Lith Offset	0.4847	0.4643	NONE
Near Bar Background	1011.10	1012.42	700 - 1450
Near Dens Background	332.86	335.66	230 - 480
Near Peak Background	147.43	147.02	100 - 210
Near Lith Background	178.98	179.97	125 - 260
Far Bar Background	595.32	599.65	450 - 900
Far Dens Background	233.94	234.57	175 - 345
Far Peak Background	93.38	94.13	70 - 140
Far Lith Background	96.48	96.35	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.677	1.685	0.008	+/- 0.015
Pe	2.626	2.594	-0.032	+/- 0.150
ALUMINUM				
Density (g/cc)	2.600	2.610	0.010	+/- 0.01500
Pe	3.145	3.100	-0.045	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0004	+/- 0.0110	0.0009	+/- 0.0140
Magnesium Block	0.0006	+/- 0.0110	0.0007	+/- 0.0140
Aluminum Block	0.0000	+/- 0.0110	0.0009	+/- 0.0140
Resolution	9.31	6.00 - 11.50	8.94	6.00 - 11.50
Internal Verifier(B+D+P+L)	1675	1200 - 2700	1025	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 - 10951314	Reference Calibration Date:	20-Jan-09 18:53:20
Engineer:	C. GULLETT	Calibration Date:	21-Feb-09 05:28:19
Software Version:	WL INSITE R2.4 (Build 1)	Calibration Version:	1

Aluminum Block S/N: 63094

Density: 2.610g/cc

Magnesium Block S/N: 63387

Density: 1.685g/cc

Pad Temperature: 43.5 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1675.070	1663.608	-11.462	16.435
Far (B+D+P+L) cps	1024.701	1016.011	-8.690	17.072
Near Resolution	9.31	9.76	0.450	0.50
Far Resolution	8.94	9.15	0.210	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

SPECTRAL DENSITY POST CHECK

Tool Name:	SDLT - 10951314	Reference Calibration Date:	21-Feb-09 05:28:19
Engineer:	C. GULLETT	Calibration Date:	21-Feb-09 16:56:51
Software Version:	WL INSITE R2.4 (Build 1)	Calibration Version:	1

Aluminum Block S/N: 63094

Density: 2.610g/cc

Magnesium Block S/N: 63387

Density: 1.685g/cc

Pad Temperature: 68.2 degF

DENSITY POST CALIBRATION SUMMARY				
Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1663.608	1672.363	8.755	16.435
Far (B+D+P+L) cps	1016.011	1014.617	-1.394	17.072
Near Resolution	9.76	9.77	0.010	0.50
Far Resolution	9.15	9.24	0.090	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed

Bkg Resolution Check:		Passed	
Bkg Verification Check:		Passed	

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10951314	Reference Calibration Date:	23-Dec-08 19:31:21
Engineer:	T. McKEE	Calibration Date:	21-Jan-09 21:38:53
Software Version:	WL INSITE R2.2 (Build 12)	Calibration Version:	1

	CALIBRATION COEFFICIENTS				
	Measurement	Previous Value	New Value	Control Limit On New Value	
	Pad Offset	-1433.46	-2054.74	-7000.00 - -1000.00	
	Pad Gain	0.0003777	0.0004061	0.000200 - 0.000600	
	Arm Offset	-2454.78	-1929.37	-5000.00 - 3000.00	
	Arm Gain	0.0005296	0.0005269	0.000300 - 0.000700	
Arm Power	-0.000003450	-0.000003013	-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)	2.09	2.00	-0.09	+/- 0.20
	Medium Ring (in)	3.72	3.75	0.03	+/- 0.20
	RING DIAMETER:				
	Small Ring (in)	6.48	6.50	0.02	+/- 0.20
	Medium Ring (in)	8.24	8.25	0.01	+/- 0.20
Large Ring (in)	14.95	15.00	0.05	+/- 0.20	

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed
PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION				
Tool Name:	ACRt - 90194258-E7486-	Reference Calibration Date:	27-Jan-09 16:48:05	
Engineer:	D. RENNER	Calibration Date:	27-Jan-09 17:02:25	
Software Version:	WL INSITE R2.4 (Build 1)	Calibration Version:	1	

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	0.9892	1.05	0.95	0.9925	1.05	0.95	0.9896	1.05
A2 (50")	0.95	1.0098	1.05	0.95	1.0122	1.05	0.95	1.0090	1.05
A3 (29")	0.95	0.9924	1.05	0.95	0.9941	1.05	0.95	0.9906	1.05
A4 (17")	0.95	0.9853	1.05	0.95	0.9853	1.05	0.95	0.9829	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9751	1.05	0.95	0.9716	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9776	1.05	0.95	0.9735	1.05


TYPICAL SONDE OFFSET RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	0.054	2	-6	-3.705	-2	-8	-4.644	-2
A2 (50")	-7	-2.350	-2	-6	-3.790	-2	-7	-4.417	-2
A3 (29")	-27	-10.649	-9	-9	-3.197	-3	-7	-2.562	-1
A4 (17")	-180	-101.664	-60	-45	-32.293	-15	-39	-25.544	-13

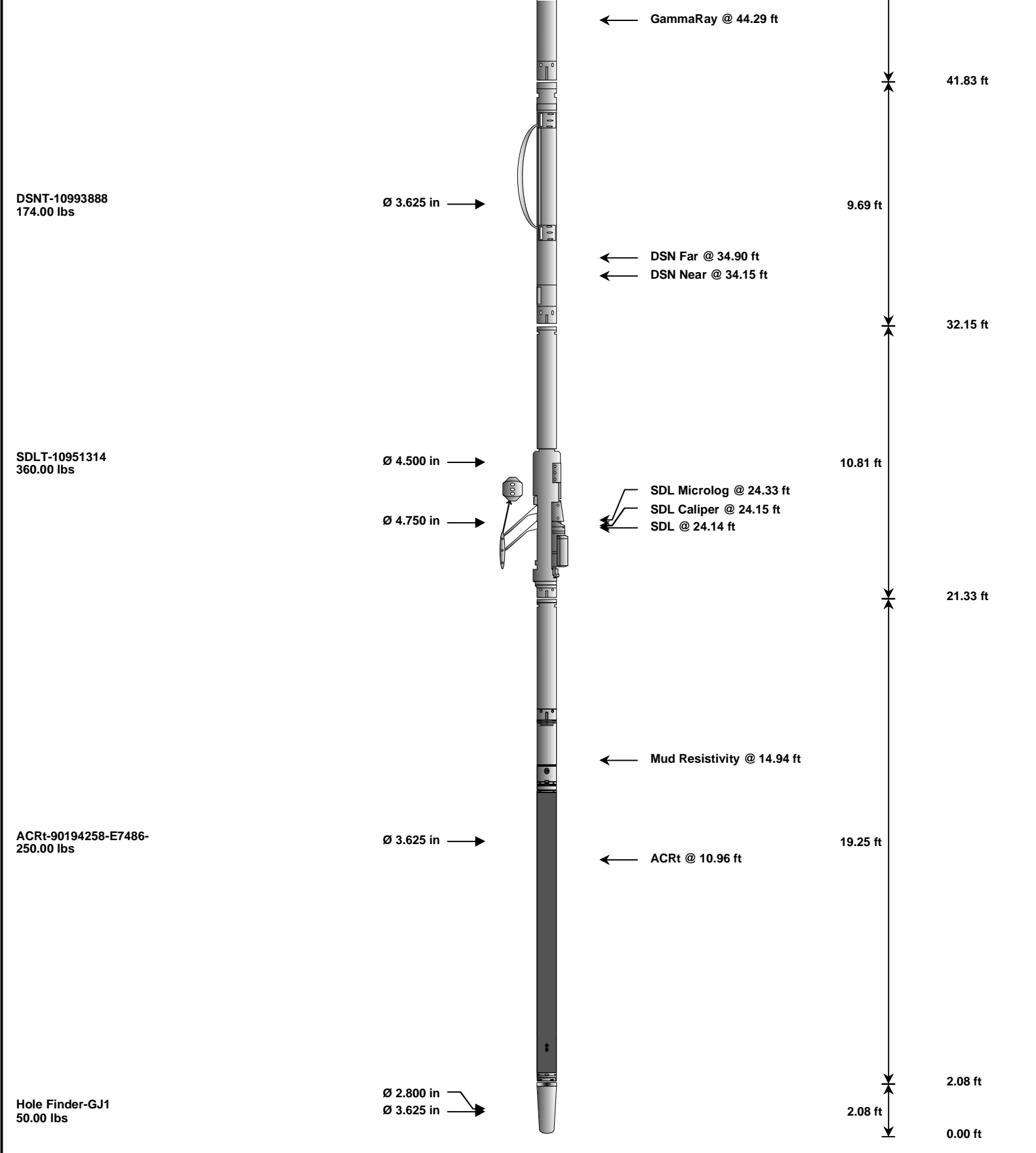
A5 (10")	N/A	N/A	N/A	-150	-62.524	-50	-80	-32.496	-10
A6 (6")	N/A	N/A	N/A	175	261.521	525	90	138.310	270

TRANSMITTER CURRENT GAIN				R-MUD VERIFICATION			
Signal	Lower	R	Upper	Signal	Lower (ohm-m)	Measured (ohmm)	Upper (ohm-m)
12K	0.6	0.7981	1.3	Mud Cell	0.95	1.004	1.05
36K	1.0	1.8151	2.0				
72K	1.0	1.0409	2.0				

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11005602						
Gamma Ray Calibrator	239.0	245.3	246.5	-1.2	+/- 9.00	api
DSNT-10993888						
Snow-Block Porosity	0.0659	0.0738	0.0661	0.0077	+/- 0.0150	decg
SDLT-10951314						
Near(B+D+P+L)	1675.070	1663.608	1672.363	-8.755	+/-16.435	cps
Far(B+D+P+L)	1024.701	1016.011	1014.617	1.394	+/-17.072	cps
Pad Extension	3.75	-----	-----	0.00	+/-0.20	in
Ring Diameter	8.25	-----	-----	0.00	+/-0.20	in
ACRt-90194258-E7486-S7482						
Mud Cell	1.004	-----	-----	0.000	-----	ohmm
Data: LAR_SLEV_1316C\0001 TRIPLE_IQ_STRING_1\IDLE					Date: 21-Feb-09 17:00:26	

HALLIBURTON			
CUSTOMER EVENT LOG			
Event Type	Time & Date	Depth (ft)	Event Description
	21-Feb-09 12:12:24	1899.00	Logging 001 21-Feb-09 12:12 Up @1898.8f
	21-Feb-09 12:20:13	1472.86	Halting 001 21-Feb-09 12:12 Up @1898.8f
	21-Feb-09 12:21:36	1491.75	Logging 002 21-Feb-09 12:21 Dn @1495.0f
	21-Feb-09 13:09:08	10369.92	Halting 002 21-Feb-09 12:21 Dn @1495.0f
	21-Feb-09 13:10:13	10417.75	Logging 003 21-Feb-09 13:10 Up 10417.8f
	21-Feb-09 16:03:42	108.48	Halting 003 21-Feb-09 13:10 Up 10417.8f
Data: LAR_SLEV_1316C\0001 TRIPLE_IQ_STRING_1\HWI0855			Date: 21-Feb-09 16:04:40

HALLIBURTON					
TOOL STRING DIAGRAM REPORT					
Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-C11013846 135.00 lbs	Ø 3.625 in →		← Load Cell @ 52.92 ft ← BH Temperature @ 52.35 ft	6.25 ft	56.60 ft
				50.35 ft	
GTET-11005602 165.00 lbs	Ø 3.625 in →			8.52 ft	



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	C11013846	135.00	6.25	50.35	300.00
GTET	Natural Gamma Ray Tool	11005602	165.00	8.52	41.83	60.00
DSNT	Dual Spaced Neutron	10993888	174.00	9.69	32.15	60.00
DCNT	DSN Decentralizer	10993887	50.00	5.13	*	35.48
SDLT	Spectral Density Tool	10951314	360.00	10.81	21.33	60.00
ACRt	Array Compensated True Resistivity	90194258-E7486-	250.00	19.25	2.08	300.00
HFND	Hole Finder	GJ1	50.00	2.08	0.00	300.00
Total			1,184.00	56.60		
* Not included in Total Length and Length Accumulation.						
Data: LAR_SLEV_1316C\0001 TRIPLE_IQ_STRING_1\VDLE						Date: 21-Feb-09 11:01:47

COMPANY	LARAMIE ENERGY II, LLC.		
WELL	SOUTH LEVERICH #13-16C		
FIELD	RULISON		
COUNTY	GARFIELD	STATE	CO
HALLIBURTON		ARRAY COMP. RESISTIVITY DUAL SPACED NEUTRON SPECTRAL DENSITY	