

HALLIBURTON

ULTRA-SLIM SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY

COMPANY	COACHMAN ENERGY LLC		
WELL	FEDERAL 14/15-7-21		
FIELD/BLOCK	KOKOPELLI		
COUNTY	GARFIELD		
STATE	COLORADO		
COMPANY	COACHMAN ENERGY LLC	WELL	FEDERAL 14/15-7-21
FIELD/BLOCK	KOKOPELLI	COUNTY	GARFIELD
COUNTY	GARFIELD	STATE	COLORADO
API No.	05045224600000		
Location	SURFACE HOLE LOCATION: 2345' FNL & 713' FEL (SW/NE) LATITUDE: 39.514404° N LONGITUDE: -107.552396° W		
Sect.	21	Twp.	6S
Rge.	91W		
Other Services:	N/A		

Permanent Datum	GL	Elev. 6932.0 ft
Log measured from	KB	D.F. 6954.0 ft
Drilling measured from	KB	G.L. 6932.0 ft
23.0 ft above perm. Datum		

Date	25-Jan-15	
Run No.	TWO	
Depth - Driller	13680.00 ft	
Depth - Logger	13000.00 ft	
Bottom - Logged Interval	12980.0 ft	
Top - Logged Interval	9010.0	
Casing - Driller	7.000 in @ 9030.0 ft	
Casing - Logger	9010.0 ft	
Bit Size	6.000 in @	
Type Fluid in Hole	LSND	
Density	12.3 ppg	47.00 s/qt
PH	8.60 pH	5.2 cp/m
Source of Sample	MUD TANK	
Rm @ Meas. Temperature	2.49 ohmm	@ 48.30 degF
Rmf @ Meas. Temperature	1.38 ohmm	@ 66.30 degF
Rmc @ Meas. Temperature	3.01 ohmm	@ 66.50 degF
Source Rmf	MEASURED	MEASURED
Rm @ BHT	0.45 ohmm	@ 300.0 degF
Time Since Circulation	15.7 hr	
Time on Bottom	25-Jan-15 10:11	
Max. Rec. Temperature	300.0 degF	@ 13000.0 ft
Equipment	11335318	VERNAL, UT
Recorded By	O. JEFFERIES	
Witnessed By	P. BLACKMIER	
	WHITEY	

Fold here

Service Ticket No.: 902073724 API Serial No.: 05045224600000 PGM Version: WL INSITE R4.2.0 (Build 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.		@		@	TWO	SACRt	N/A	0.25" S.O.	ECC.
Rmc @ Meas. Temp.		@		@		I: 11577714			
Source Rmf	Rmc					S: 11577718			
Rm @ BHT		@		@					
Rmf @ BHT		@		@					
Rmc @ BHT		@		@					

EQUIPMENT DATA							
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	TWO	Run No.		Run No.	TWO	Run No.	TWO
Serial No.	11790910	Serial No.		Serial No.	11581740	Serial No.	11581737
Model No.	S4TG	Model No.		Model No.	SSDL	Model No.	SDSN
Diameter	2.35"	No. of Cent.		Diameter	2.35"	Diameter	2.35"
Detector Model No.	S4TG	Spacing		Log Type	GAMMA	Log Type	THERMAL
Type	SCINT.			Source Type	Cs137	Source Type	Am241Be
Length	8"	LSA [Y/N]		Serial No.	5499GW	Serial No.	21480B
Distance to Source	7'	FWDA [Y/N]		Strength	1.78 Ci	Strength	15 Ci

LOGGING DATA

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON			
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
TWO	13000	9010	REC.	0	150				30%	-10%	2.65 g/cc	30%	-10%	SAND

DIRECTIONAL INFORMATION

Maximum Deviation	0.00 deg	@	0.00 ft	KOP	@	0.00 ft
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Remarks: TOOL STRING CONFIGURATION: SCH/S4TG/SDSN/SSDL/SACRi/BN
 ANNULAR HOLE VOLUME CALCULATED USING 4.5 INCH CASING
 DSNT DECENTRALIZER AND ACRI STANDOFF NOT RUN PER CUSTOMER REQUEST
 REPEAT SECTION LOGGED BELOW THE CASING SHOE DUE TO HIGH TEMPERATURES AT BOTTOM
 TENSION PULLS AND BOREHOLE RUGOSITY MAY AFFECT LOG QUALITY
 DENSITY PAD SHUT OFF FROM 12925-11626 DUE TO BOREHOLE CONDITIONS
 CALIPER ANOMALIES APPARENT WHEN DENSITY PAD RETURNS TO SERVICE
 LOG SET ON DEPTH WITH THIRD PARTY INTERMEDIATE PAPER LOG
 LATITUDE: 39.514404° N LONGITUDE: 107.552396° W
 HES CEW: J. PIEP; J. MARTIN; S. WEIMER
 THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES - VERNAL, UT (435)

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	UBS	Use Bit Size instead of Caliper for all applications.	Yes	
	SHARED	MDWT	Borehole Fluid Weight	15.000	ppg
	SHARED	CSD	Logging Interval is Cased?	Yes	
	SHARED	CSOD	Inner Casing OD size	8.500	in
	SHARED	CSWT	Casing Weight	17.00	lbpf
	SHARED	ISOC	Is Outer Casing Present?	No	
	SHARED	CSCM	Casing Cemented	Yes	
	SHARED	CMWT	Cement Weight	16.500	ppg
8990.00					
	SHARED	BS	Bit Size	6.000	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	12.250	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	900.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	2.490	ohmm
	SHARED	TRM	Temperature of Mud	48.3	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	4.500	in
	SHARED	ST	Surface Temperature	25.0	degF
	SHARED	TD	Total Well Depth	12925.00	ft

SHARED	ID	Total Well Depth	13000.00	ft
SHARED	BHT	Bottom Hole Temperature	300.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	S4TG	
SHARED	TEMM	Temperature Master Tool	NONE	
S4TG	GROK	Process Gamma Ray?	Yes	
S4TG	GRSO	Gamma Tool Standoff	0.000	in
S4TG	GEOK	Process Gamma Ray EVR?	No	
S4TG	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
S4TG	BHSM	Borehole Size Source Tool	SSDL	
SDSN	DNOK	Process DSN?	Yes	
SDSN	DEOK	Process DSN EVR?	No	
SDSN	NLIT	Neutron Lithology	Sandstone	
SDSN	DNSO	DSNTool Standoff	0.000	in
SDSN	DNTP	Temperature Correction Type	None	
SDSN	DPRS	DSN Pressure Correction Type	None	
SDSN	SHCO	View More Correction Options	No	
SDSN	UTVD	Use TVD for Gradient Corrections?	No	
SDSN	LHWT	Logging Horizontal Water Tank?	No	
SDSN	USND	Use Var StandOff?	No	
SDSN	BHSM	Borehole Size Source Tool	SSDL	
SSDL	CLOK	Process Caliper Outputs?	Yes	
SSDL Pad	DNOK	Process Density?	Yes	
SSDL Pad	DNOK	Process Density EVR?	No	
SSDL Pad	CB	Logging Calibration Blocks?	No	
SSDL Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SSDL Pad	DTWN	Disable temperature warning	No	
SSDL Pad	MLPE	Mute Large Pe's? (Recommended Yes-Liquid, No-Air)	Yes	
SSDL Pad	DMA	Formation Density Matrix	2.650	g/cc
SSDL Pad	DFL	Formation Density Fluid	1.000	g/cc
SSDL Pad	BHSM	Borehole Size Source Tool	SSDL	
SACRT Sonde	RTOK	Process ACRT?	Yes	
SACRT Sonde	MNSO	Minimum Tool Standoff	0.25	in
SACRT Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
SACRT Sonde	TPOS	Tool Position	Eccentered	
SACRT Sonde	RMOP	Rmud Source	Mud Cell	
SACRT Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
SACRT Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
SACRT Sonde	THQY	Threshold Quality	0.50	
SACRT Sonde	MRFX	Fixed mud resistivity	2000	ohmm
SACRT Sonde	BHSM	Borehole Size Source Tool	SSDL	

BOTTOM

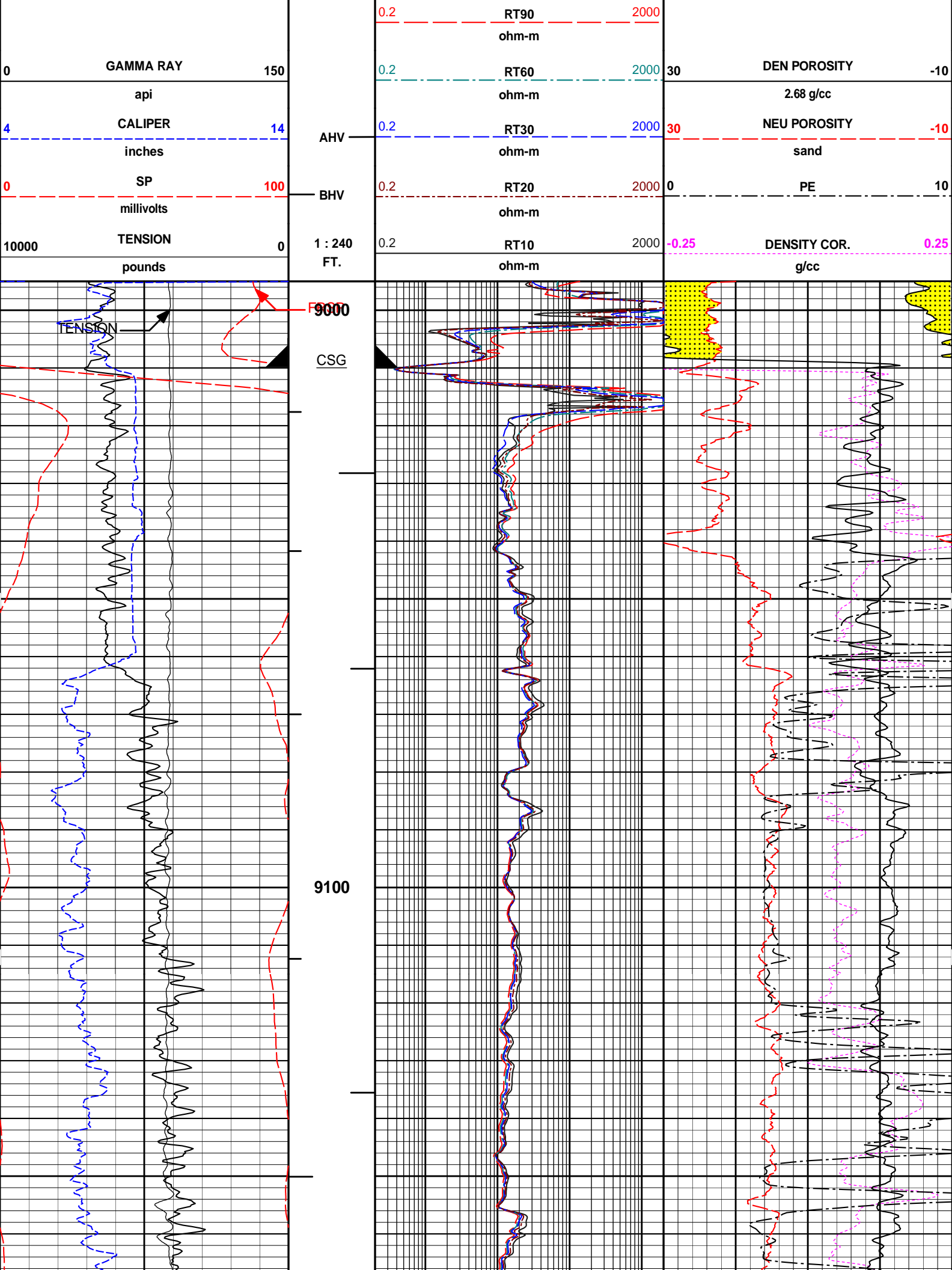
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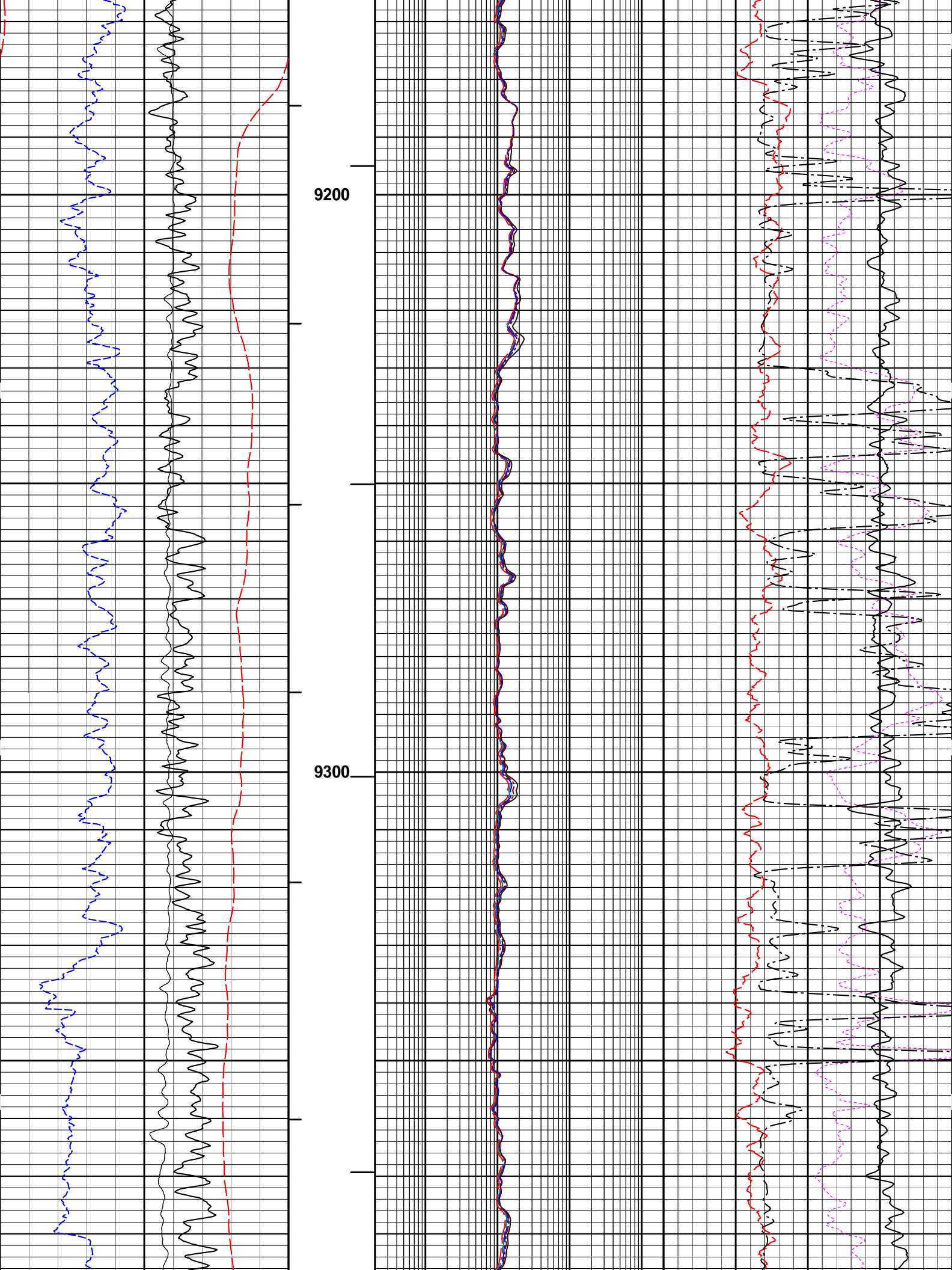
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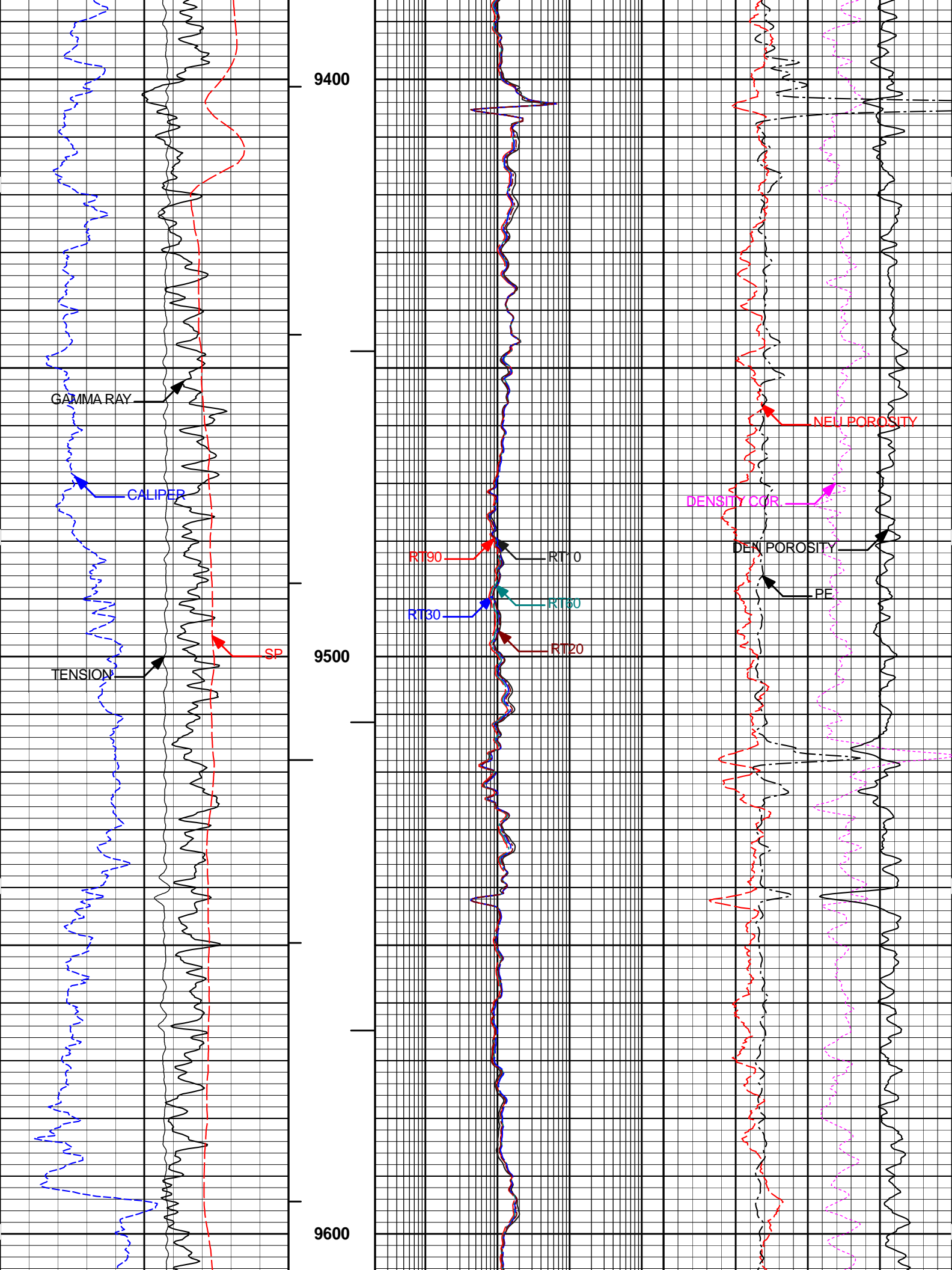
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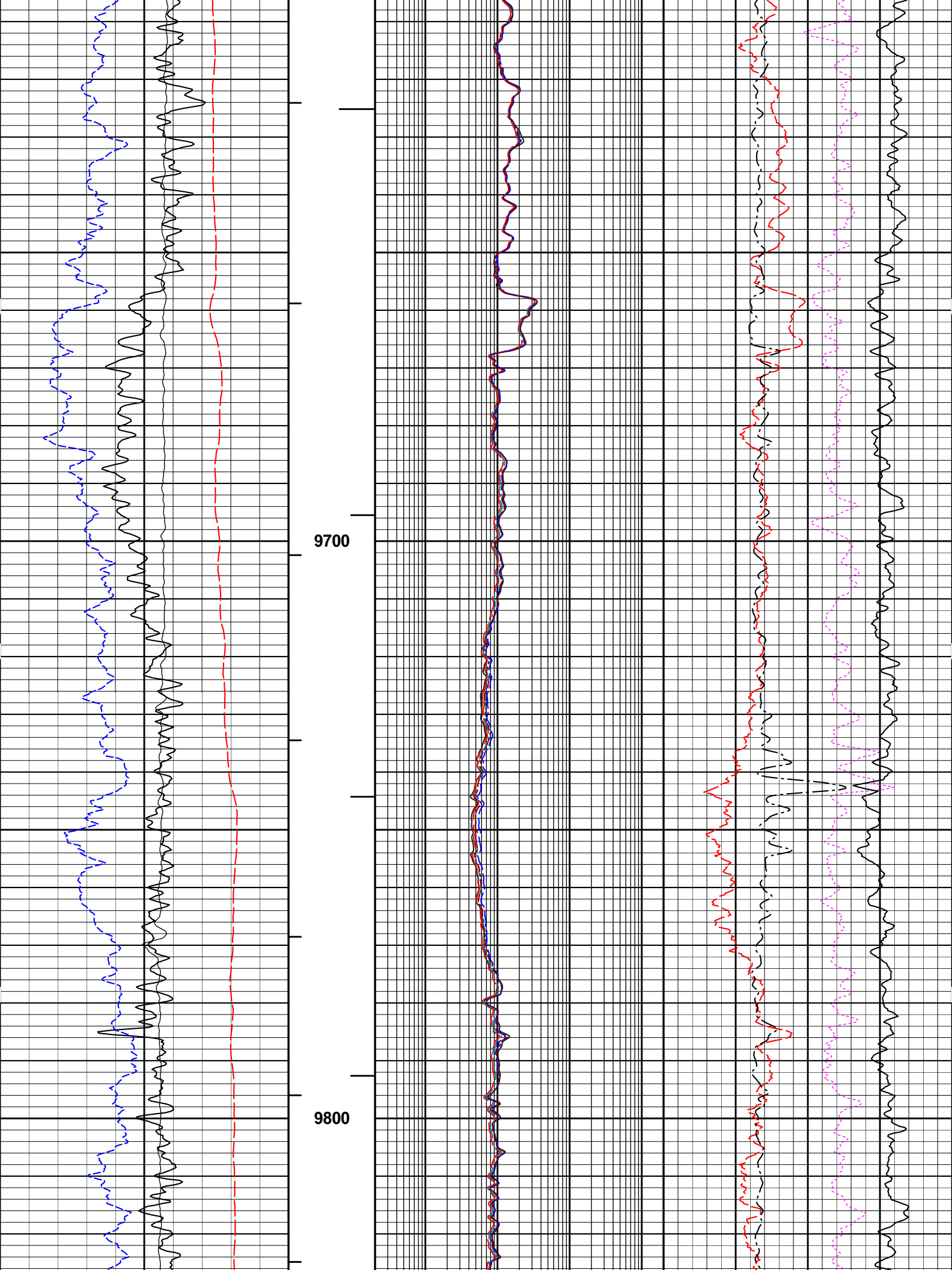
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 Plot File: \\COMPOSITE\TRIPLE_M

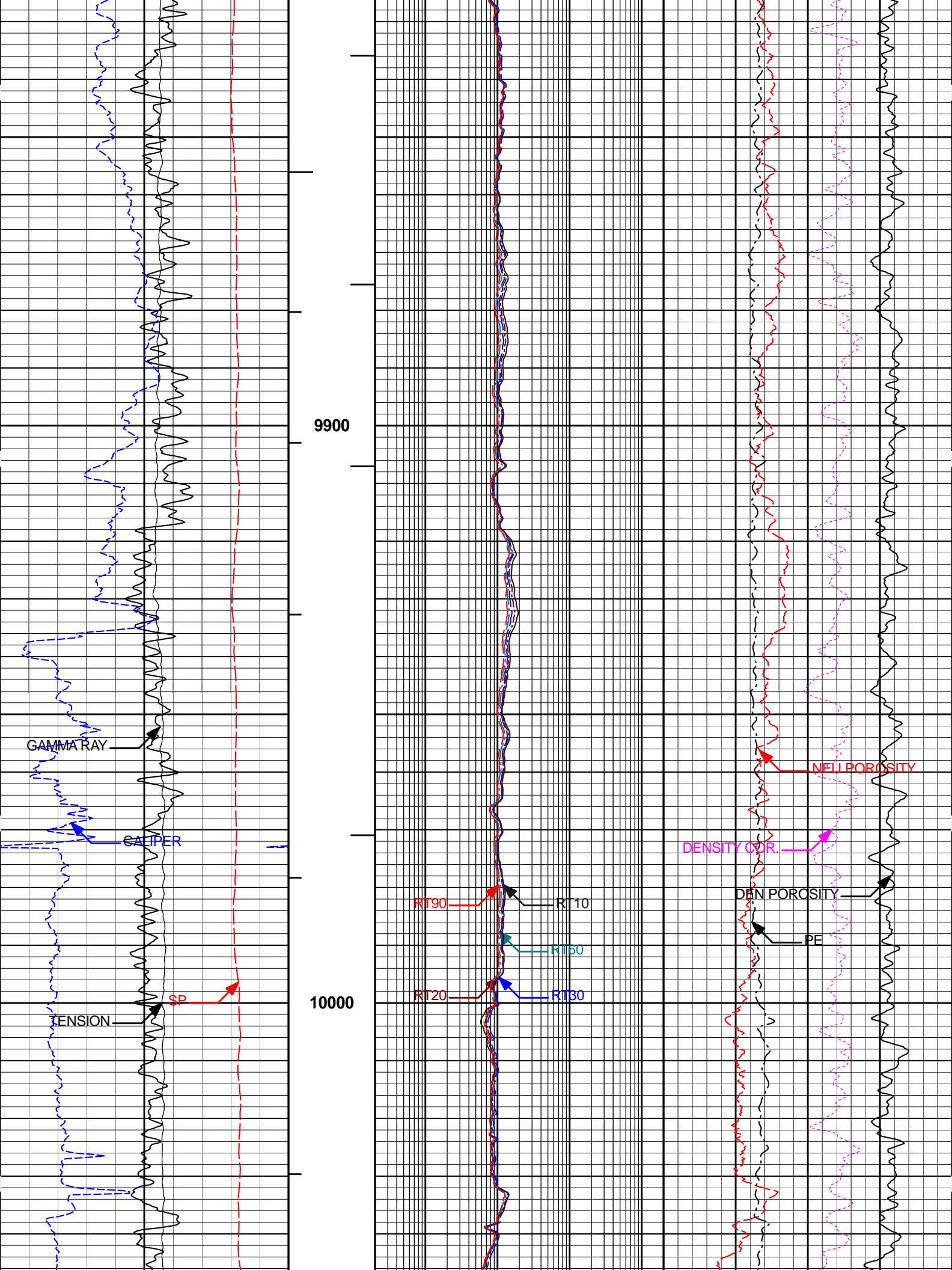
MAIN PASS 5" = 100'

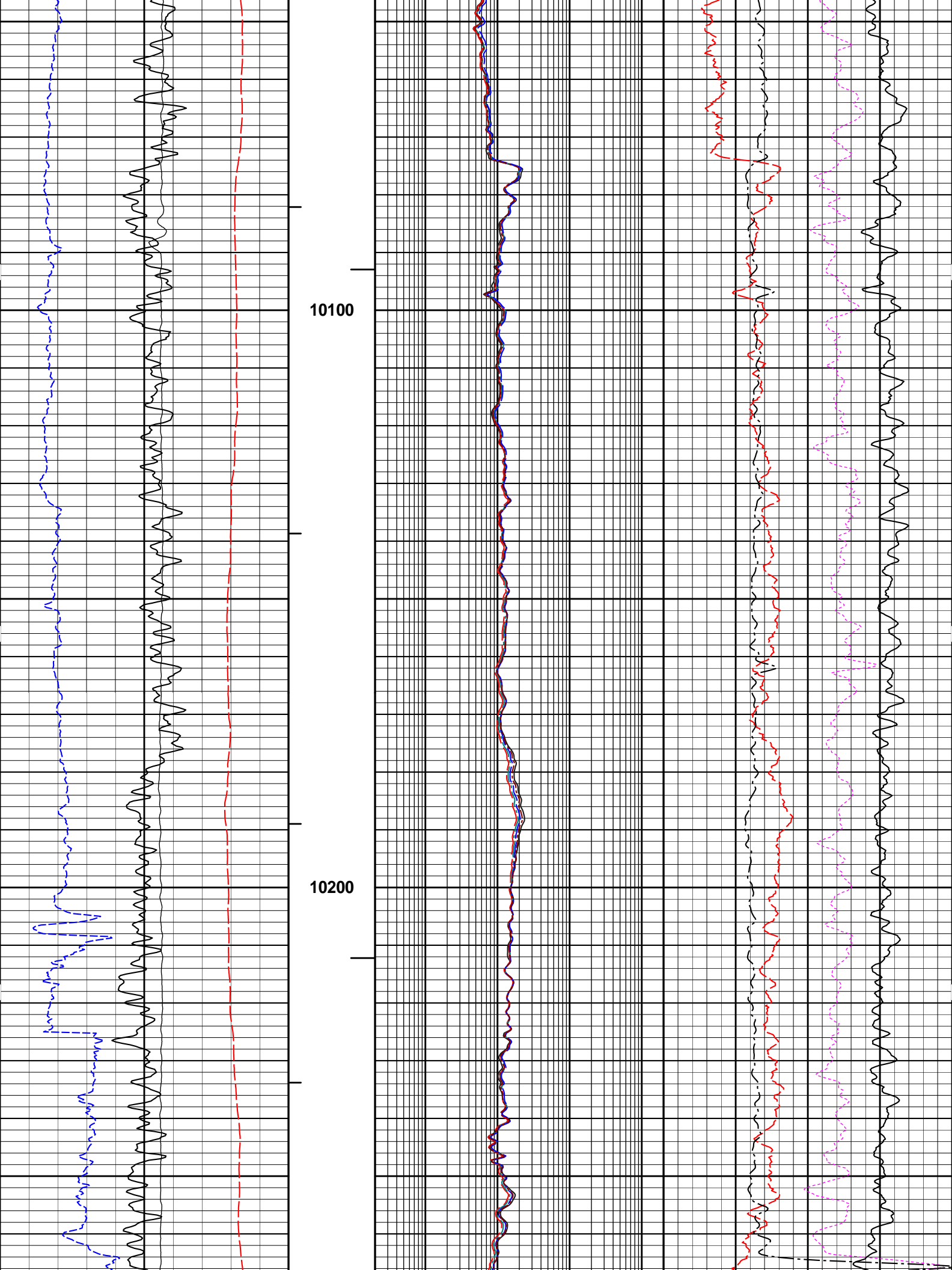


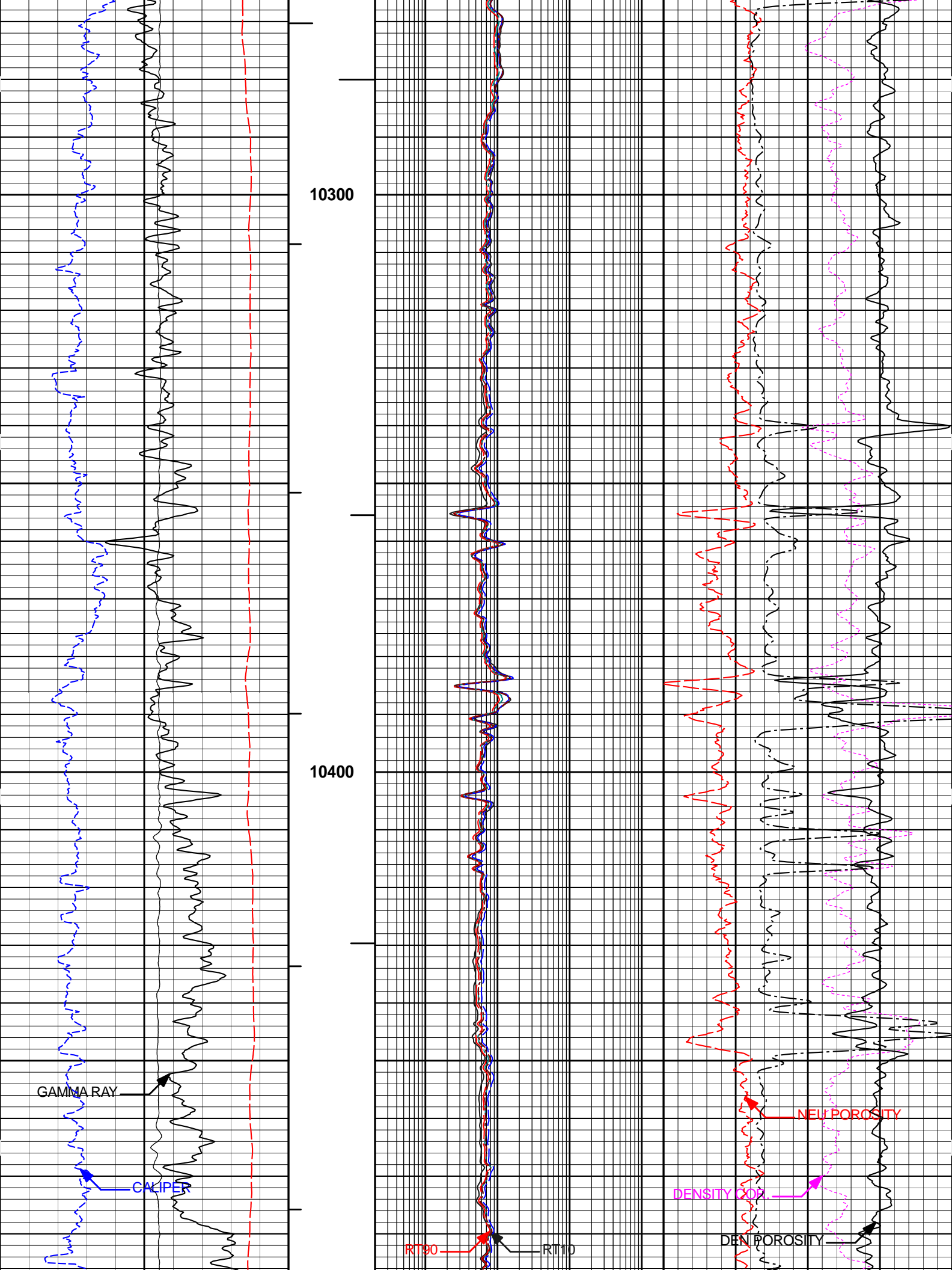


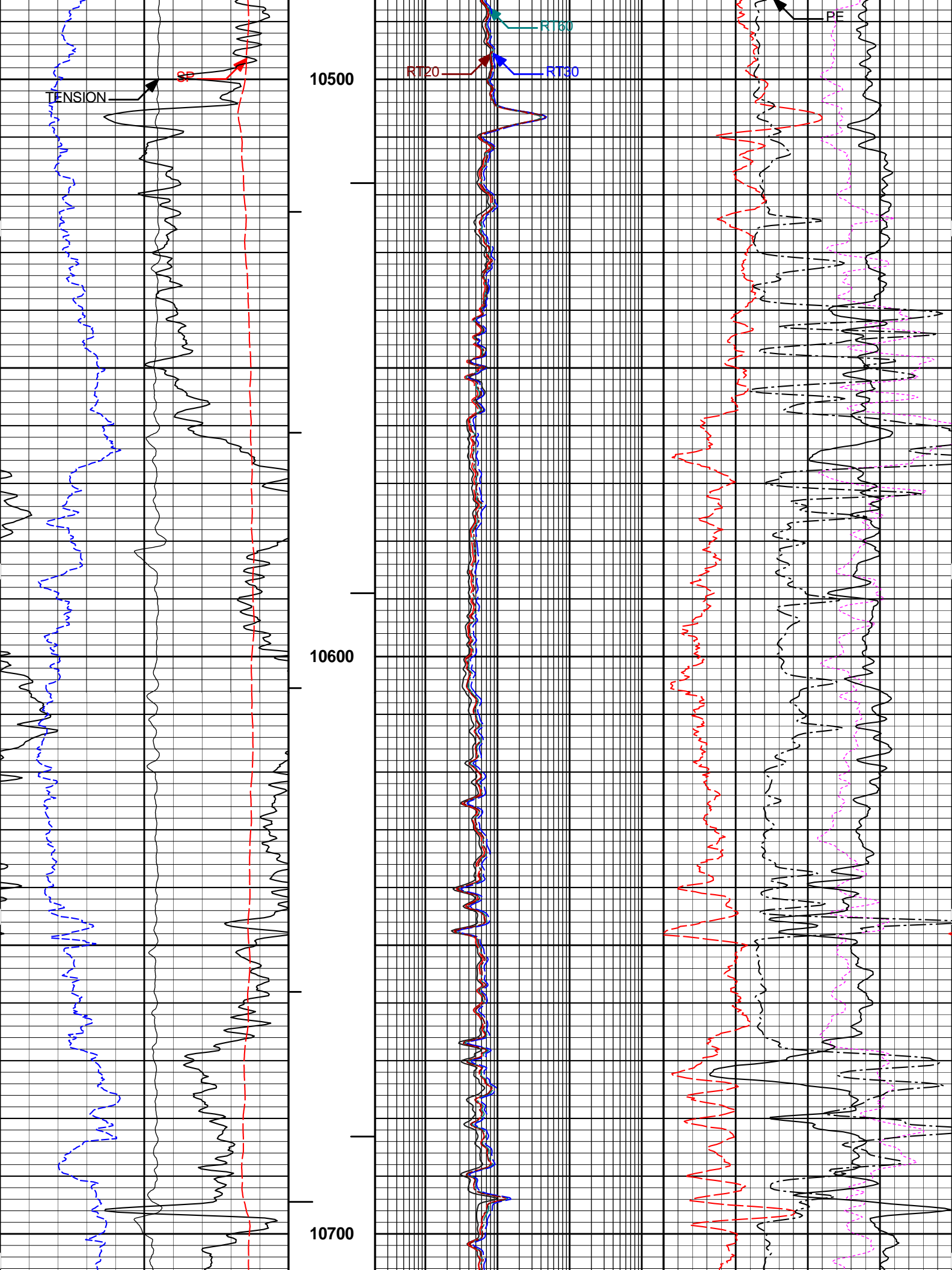


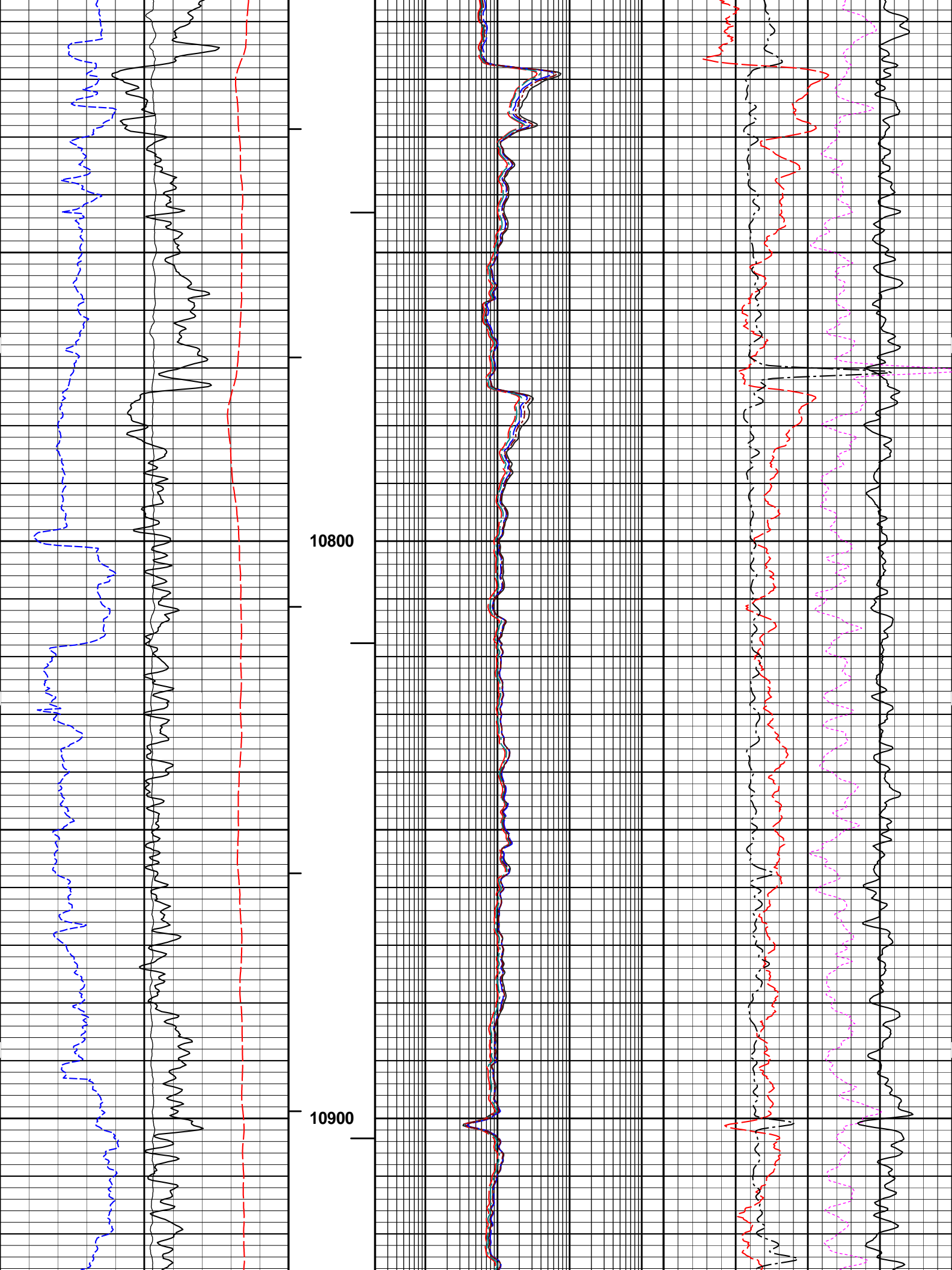


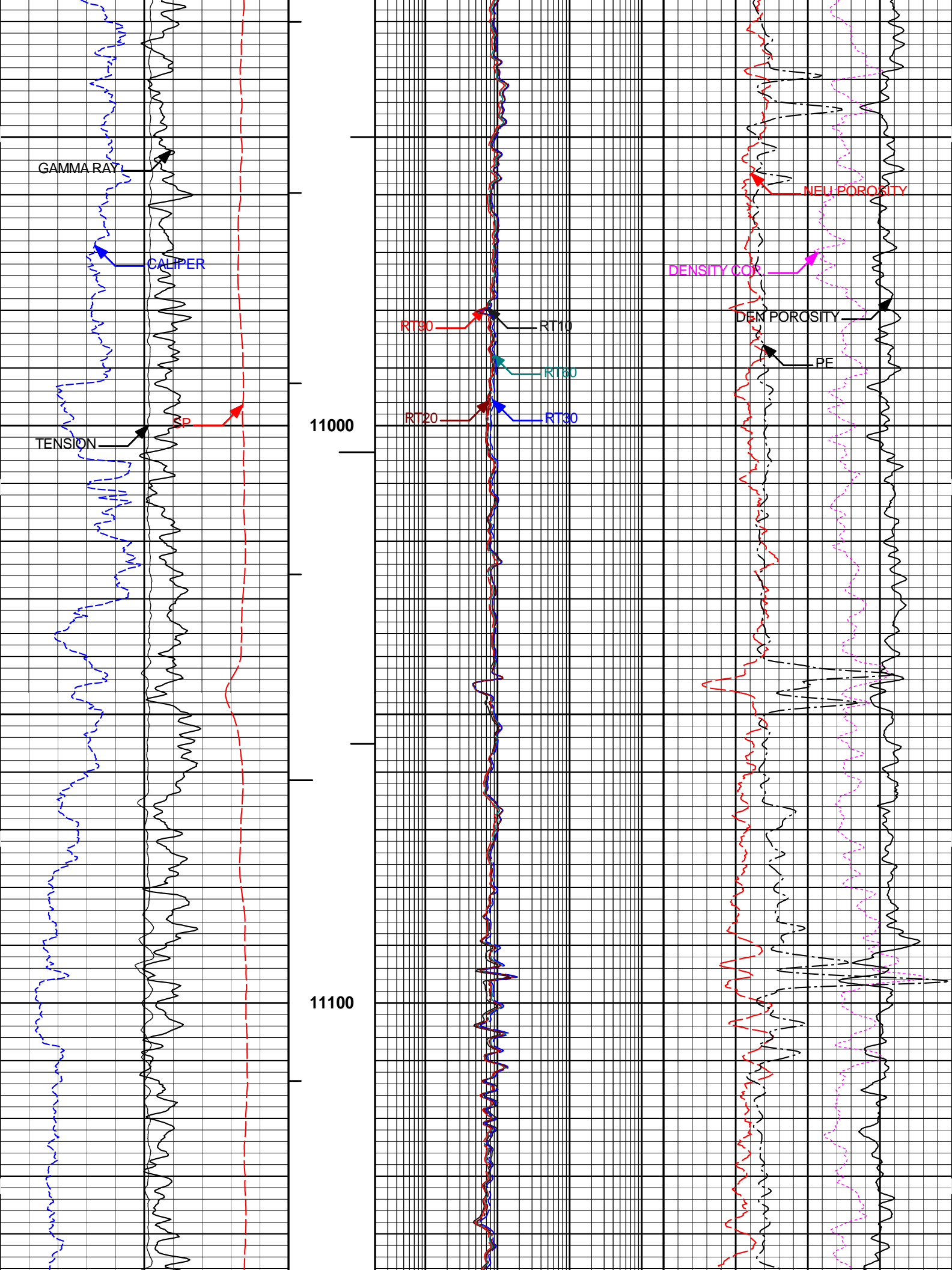


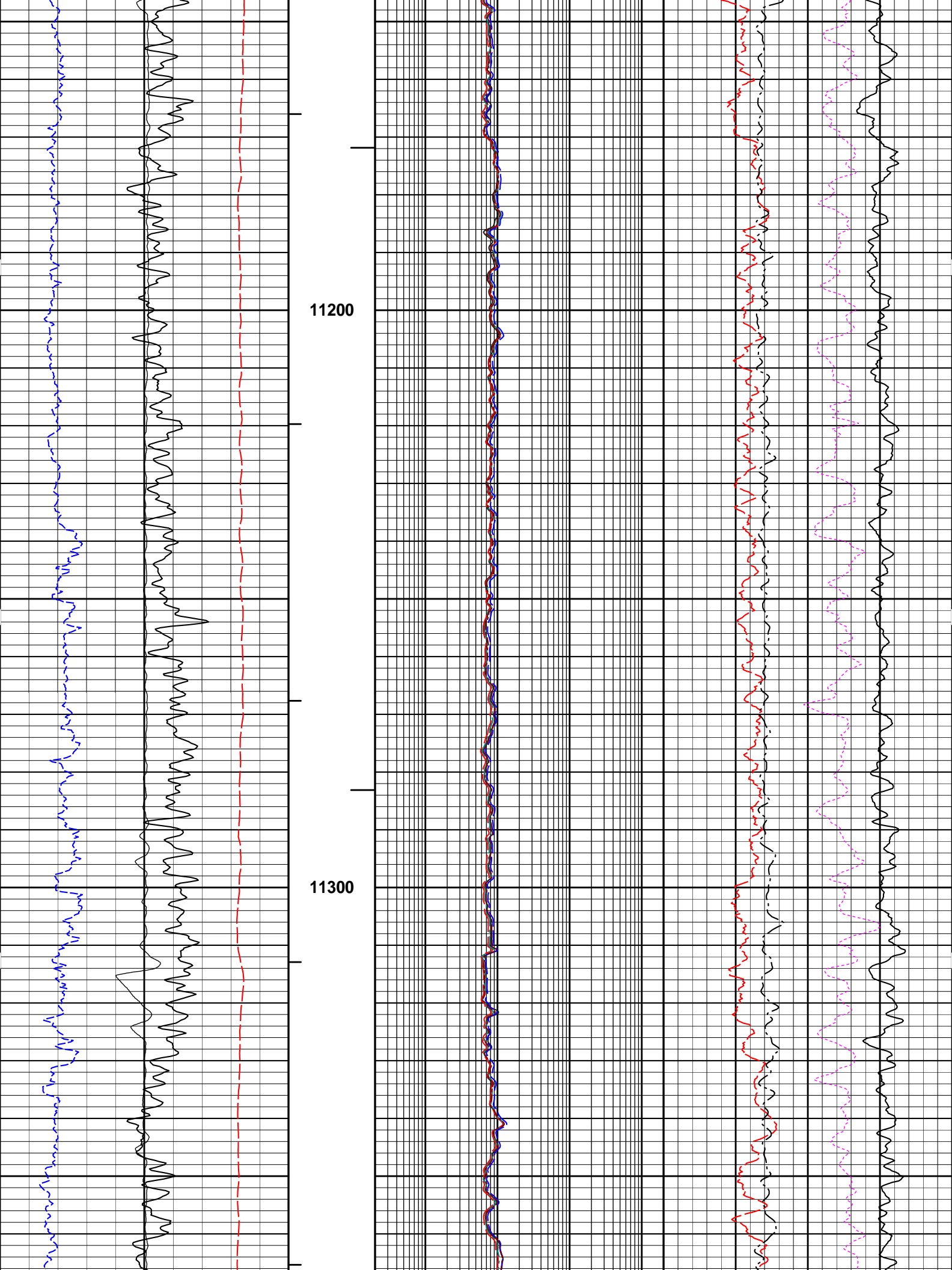


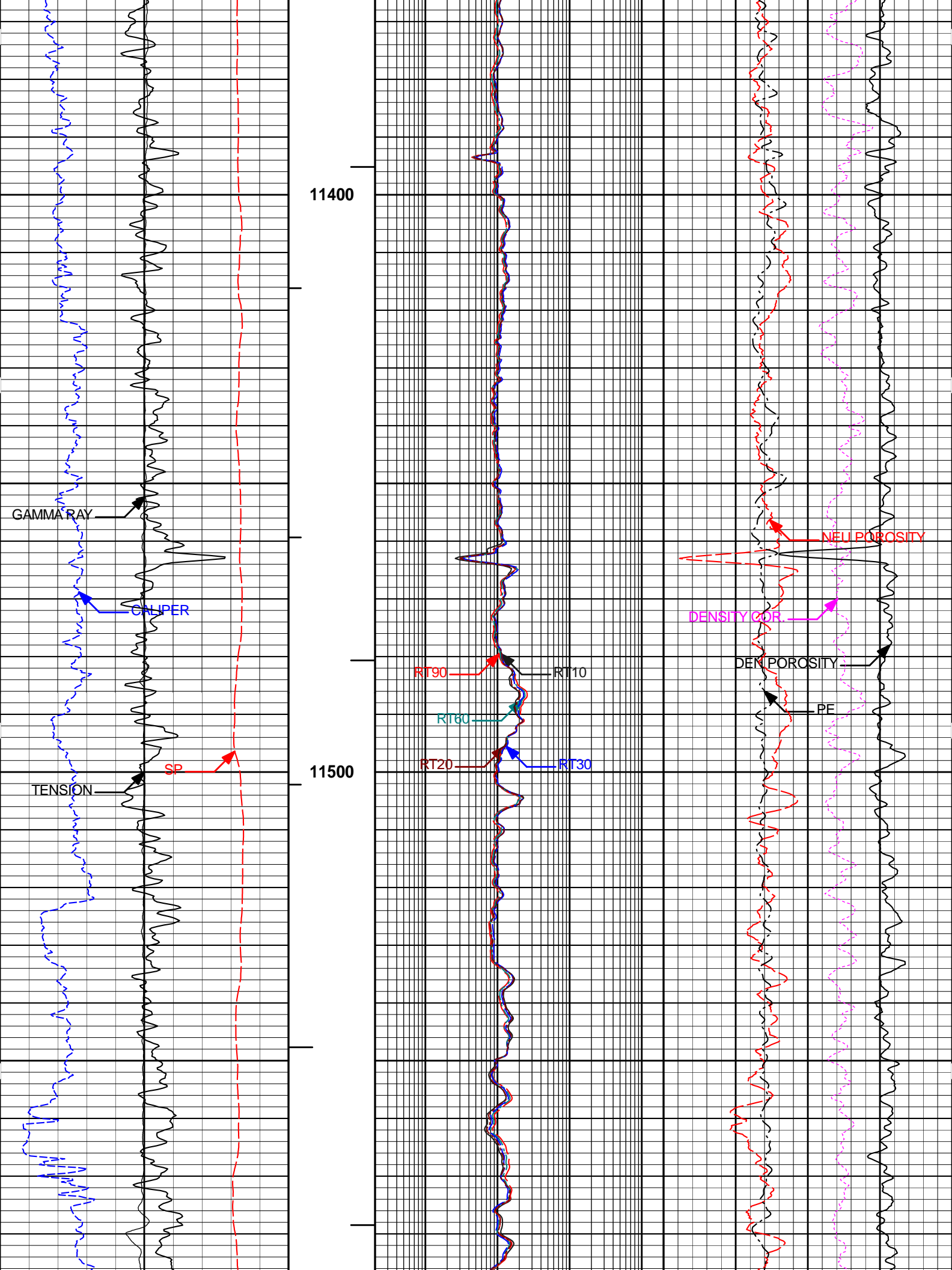


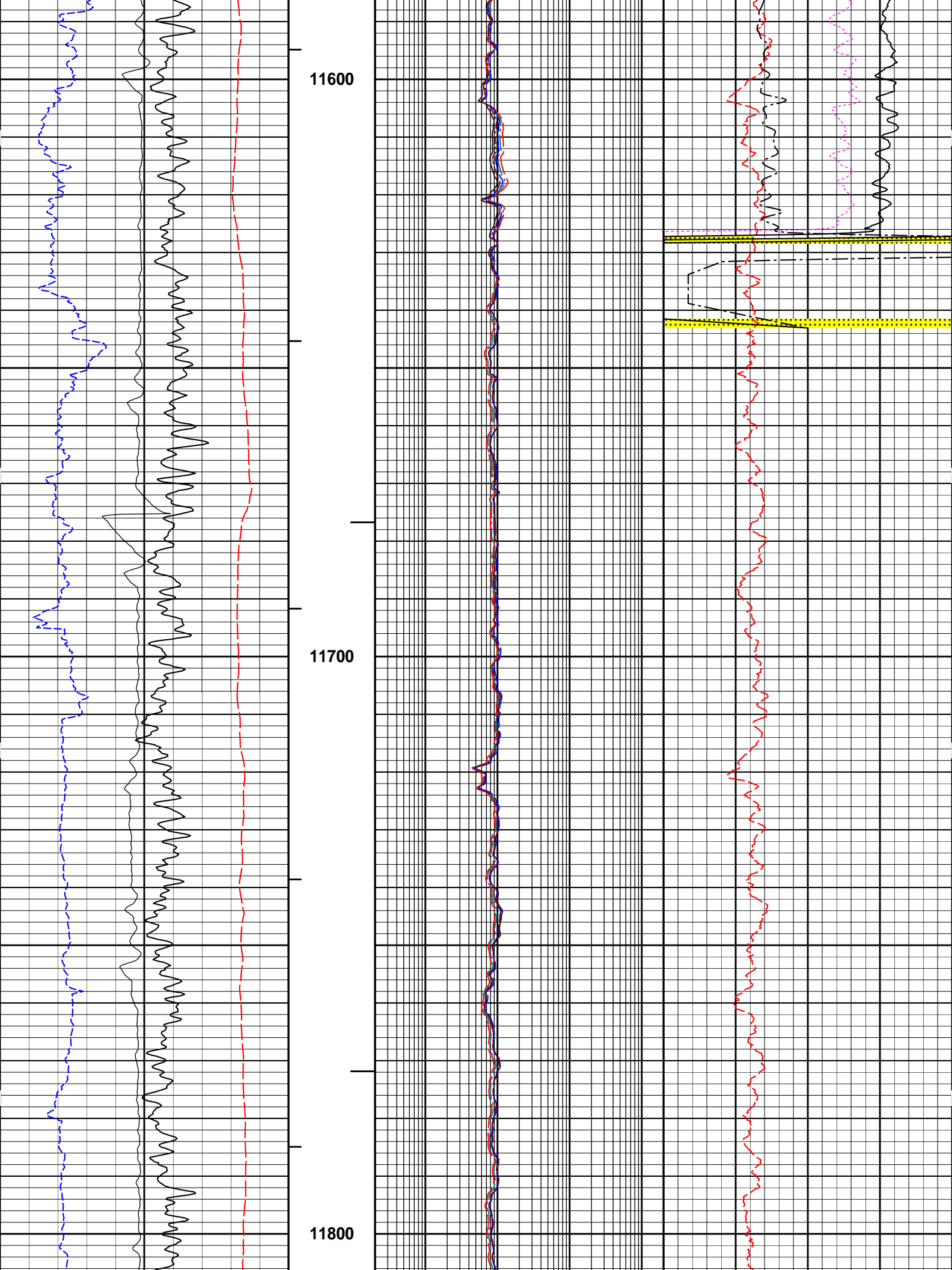


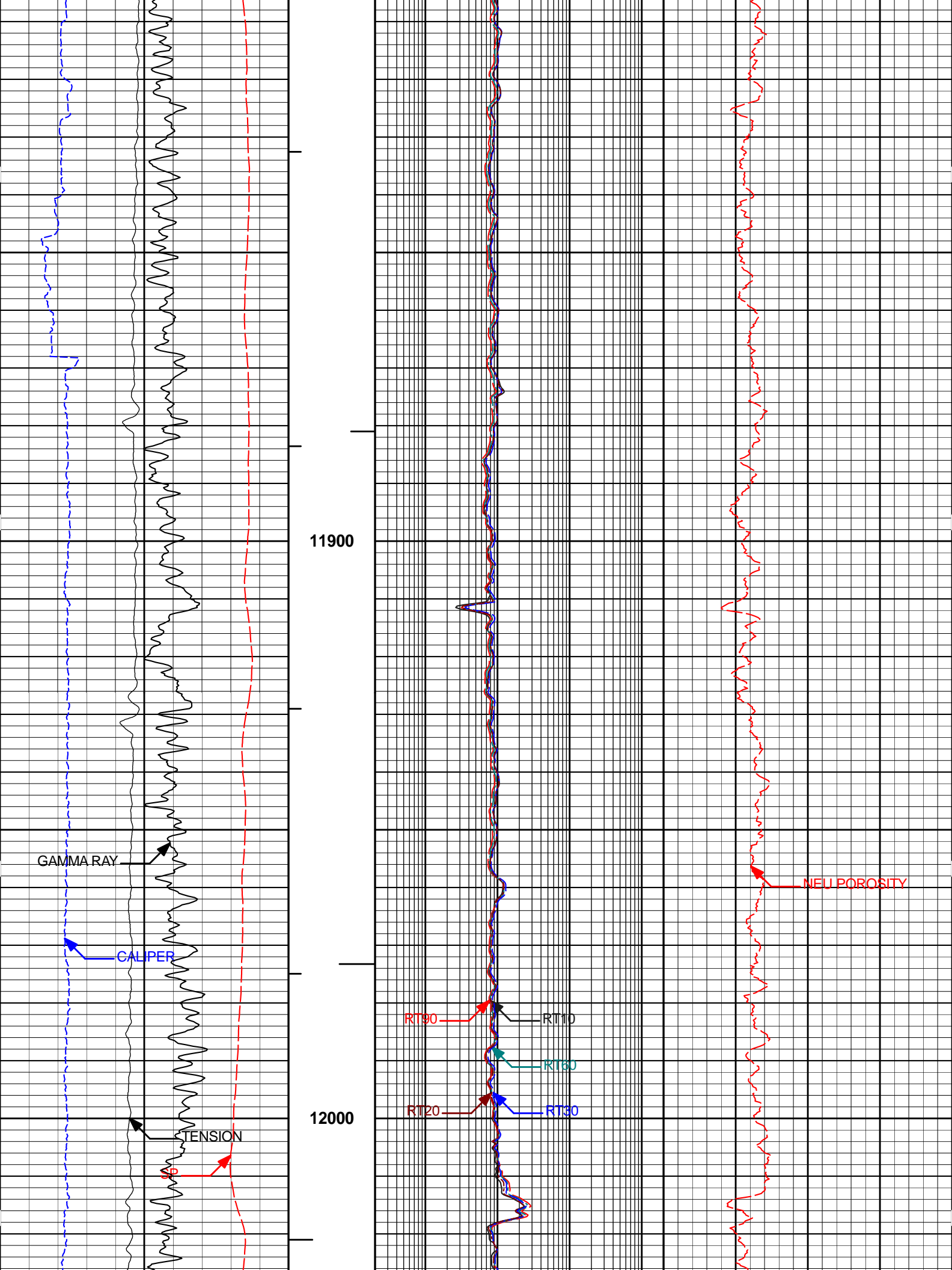


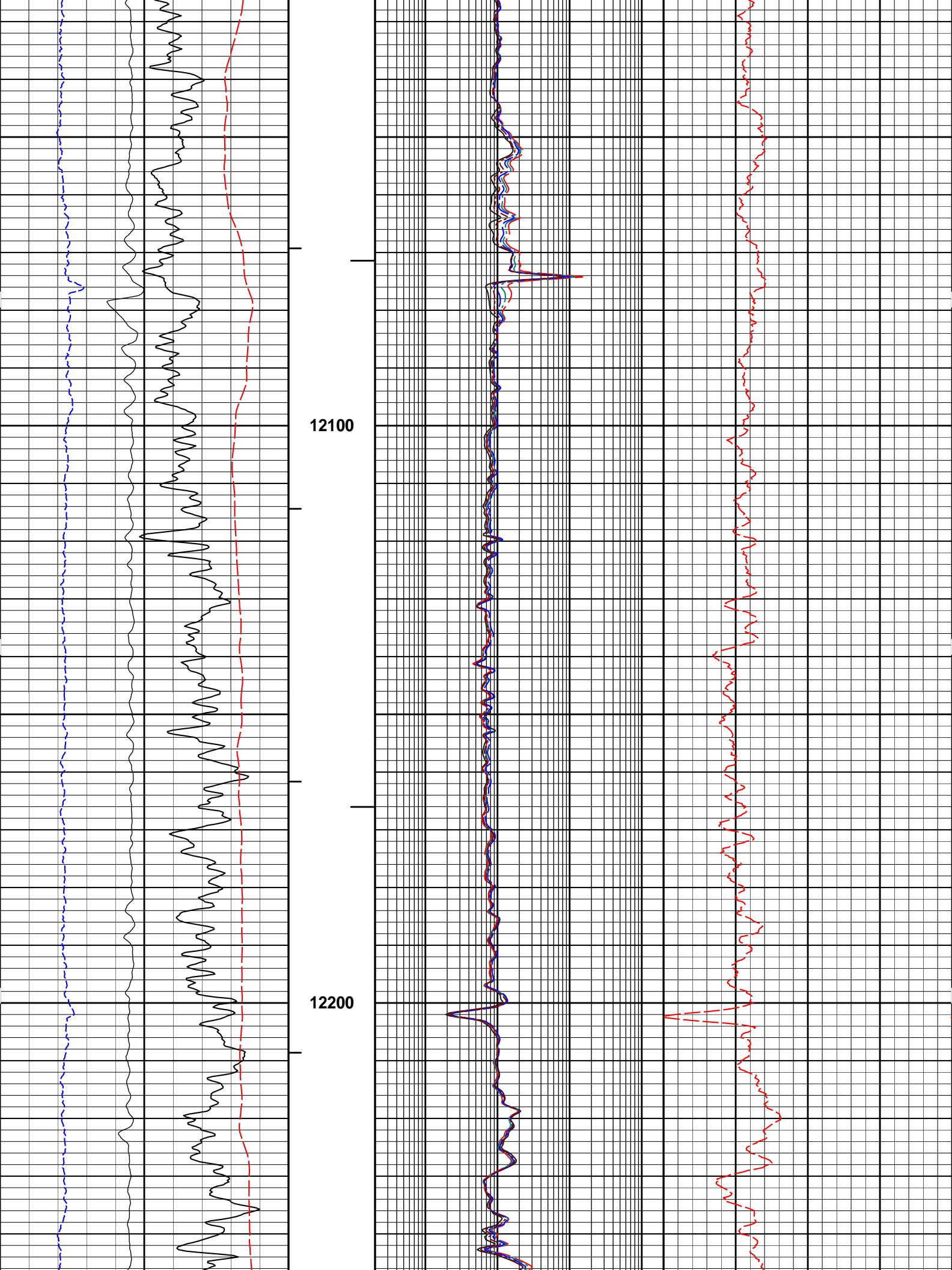


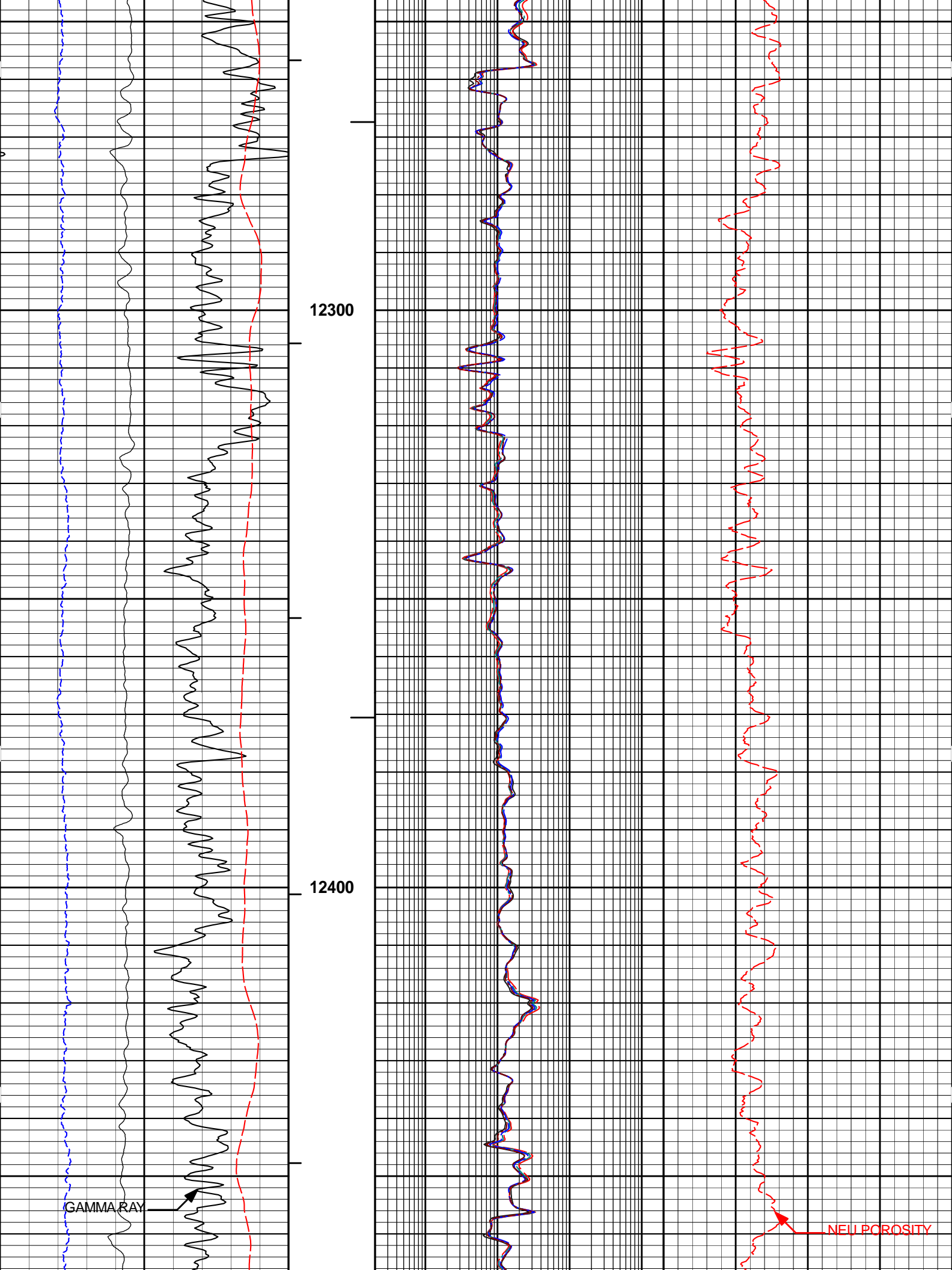


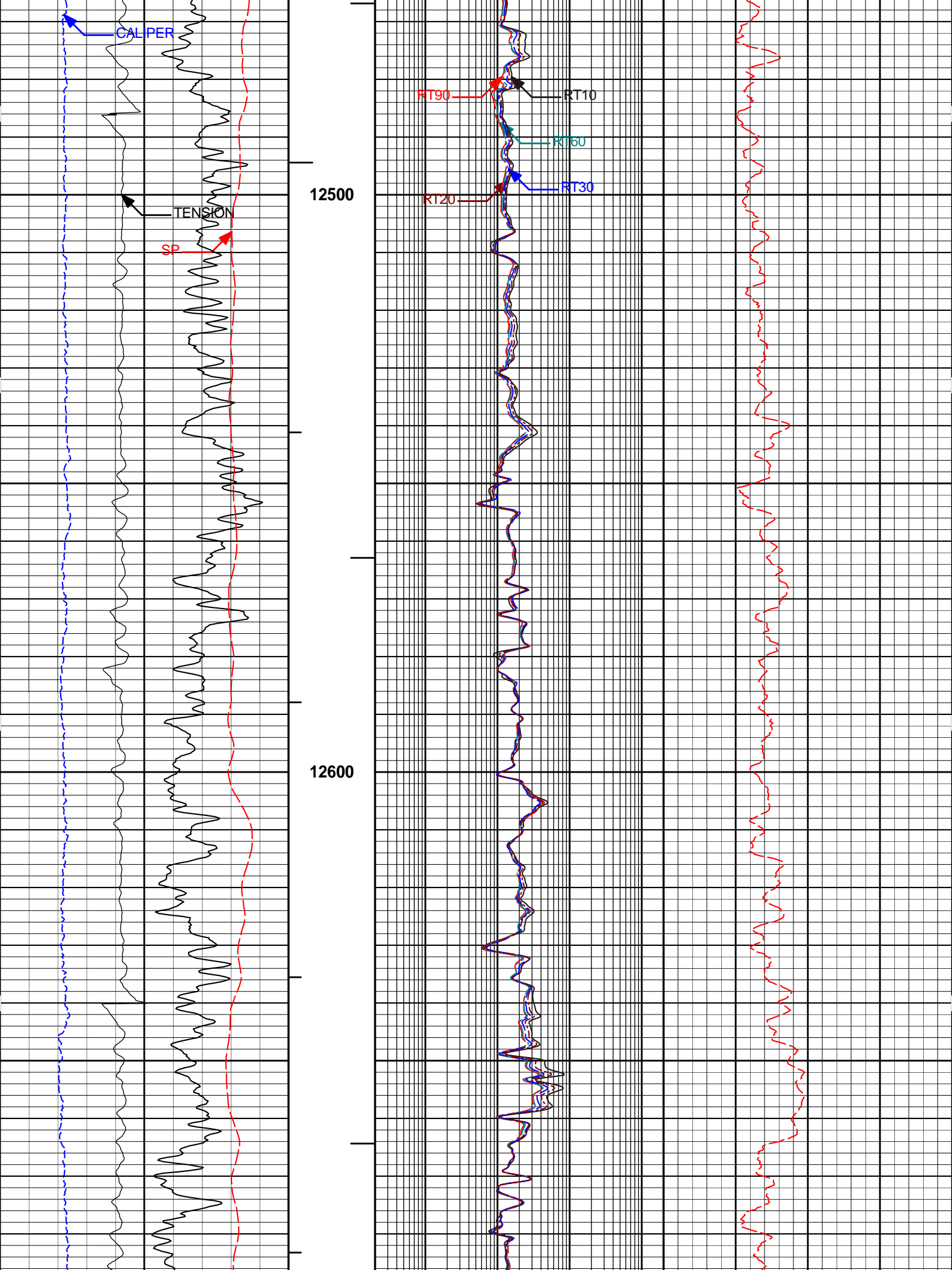


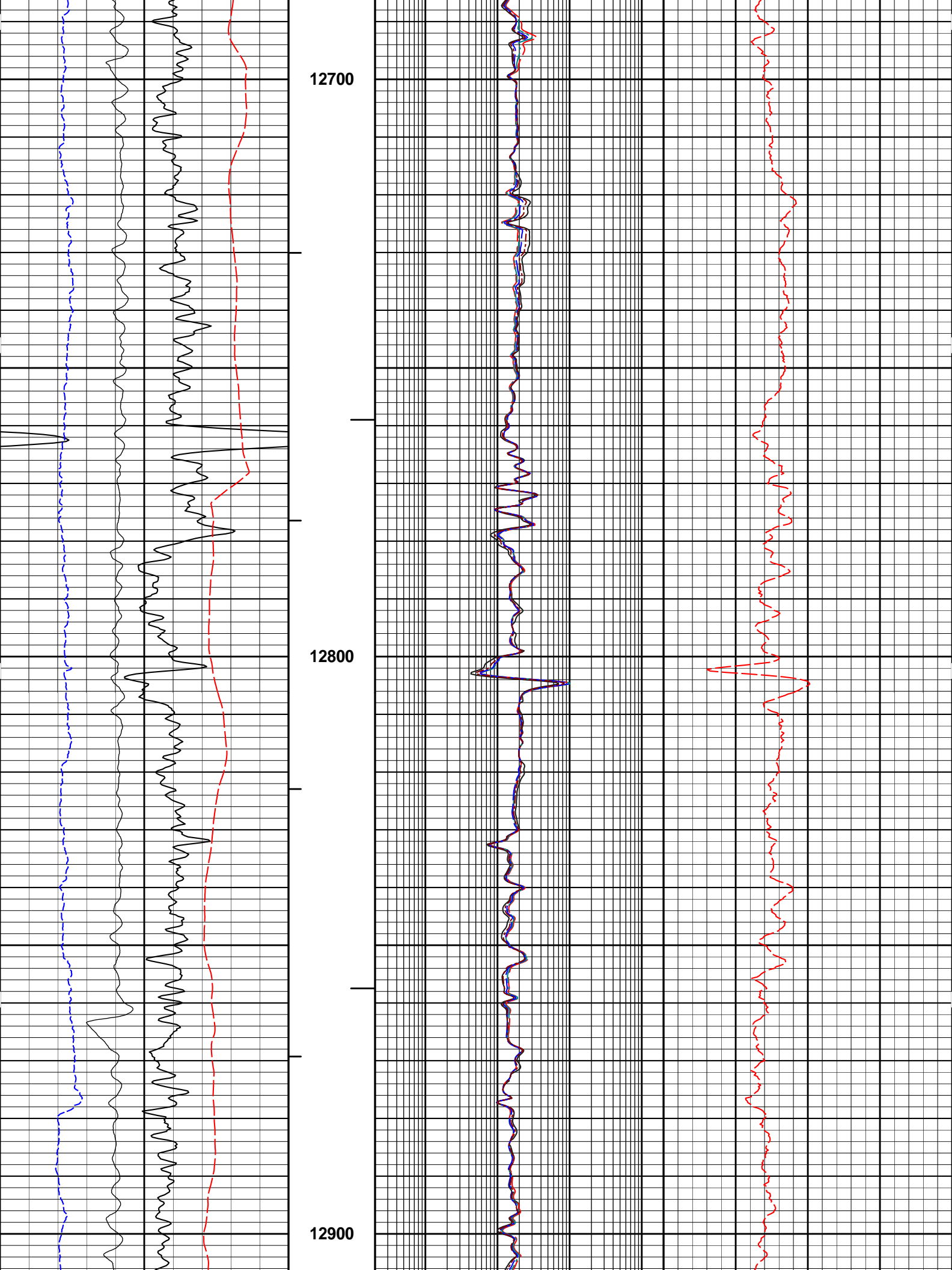


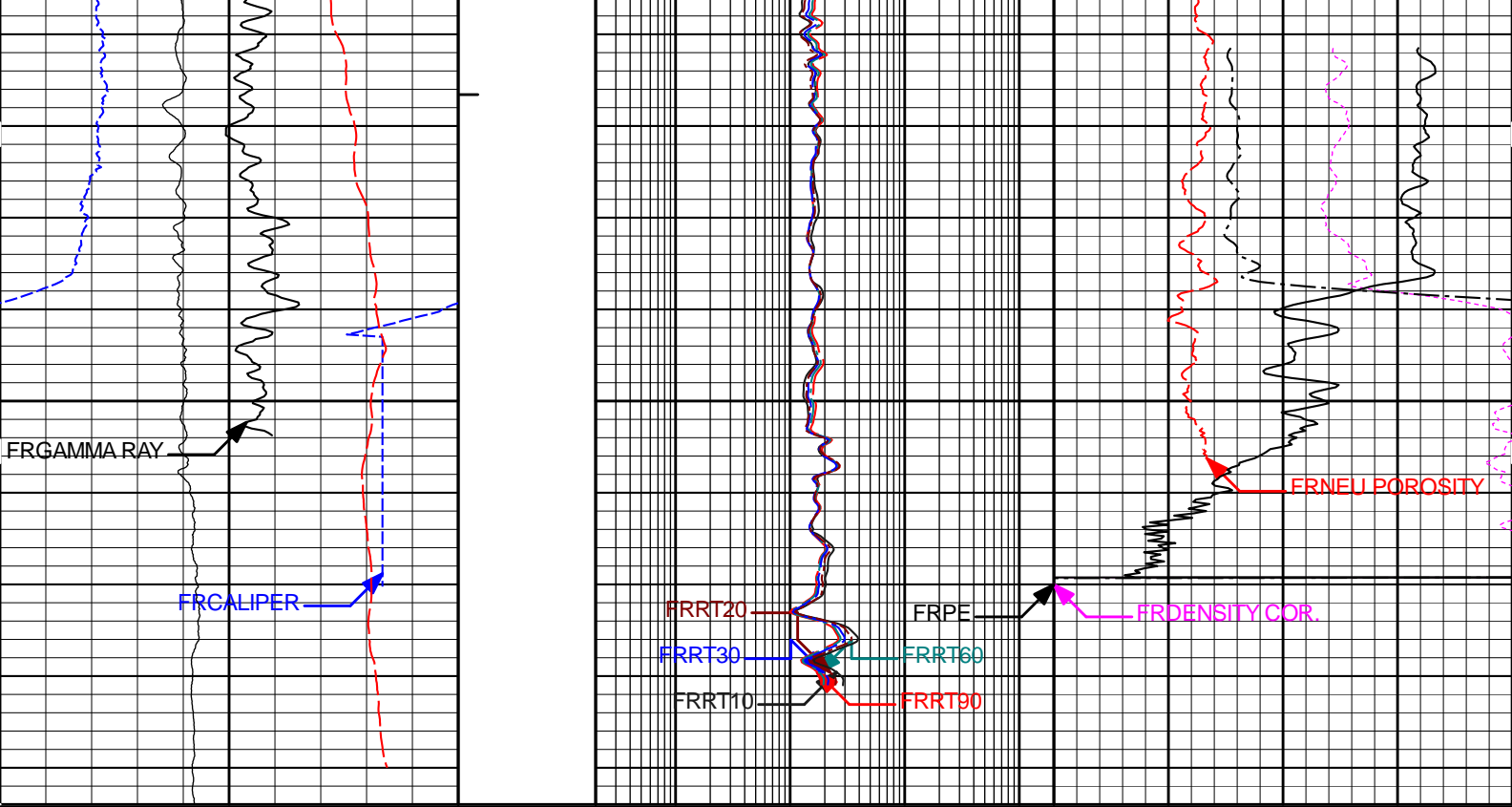












10000	TENSION	0	1 : 240	0.2	RT10	2000	-0.25	DENSITY COR.	0.25
	pounds		FT.		ohm-m			g/cc	
0	SP	100	BHV	0.2	RT20	2000	0	PE	10
	millivolts				ohm-m				
4	CALIPER	14	AHV	0.2	RT30	2000	30	NEU POROSITY	-10
	inches				ohm-m			sand	
0	GAMMA RAY	150		0.2	RT60	2000	30	DEN POROSITY	-10
	api				ohm-m			2.68 g/cc	
				0.2	RT90	2000			
					ohm-m				

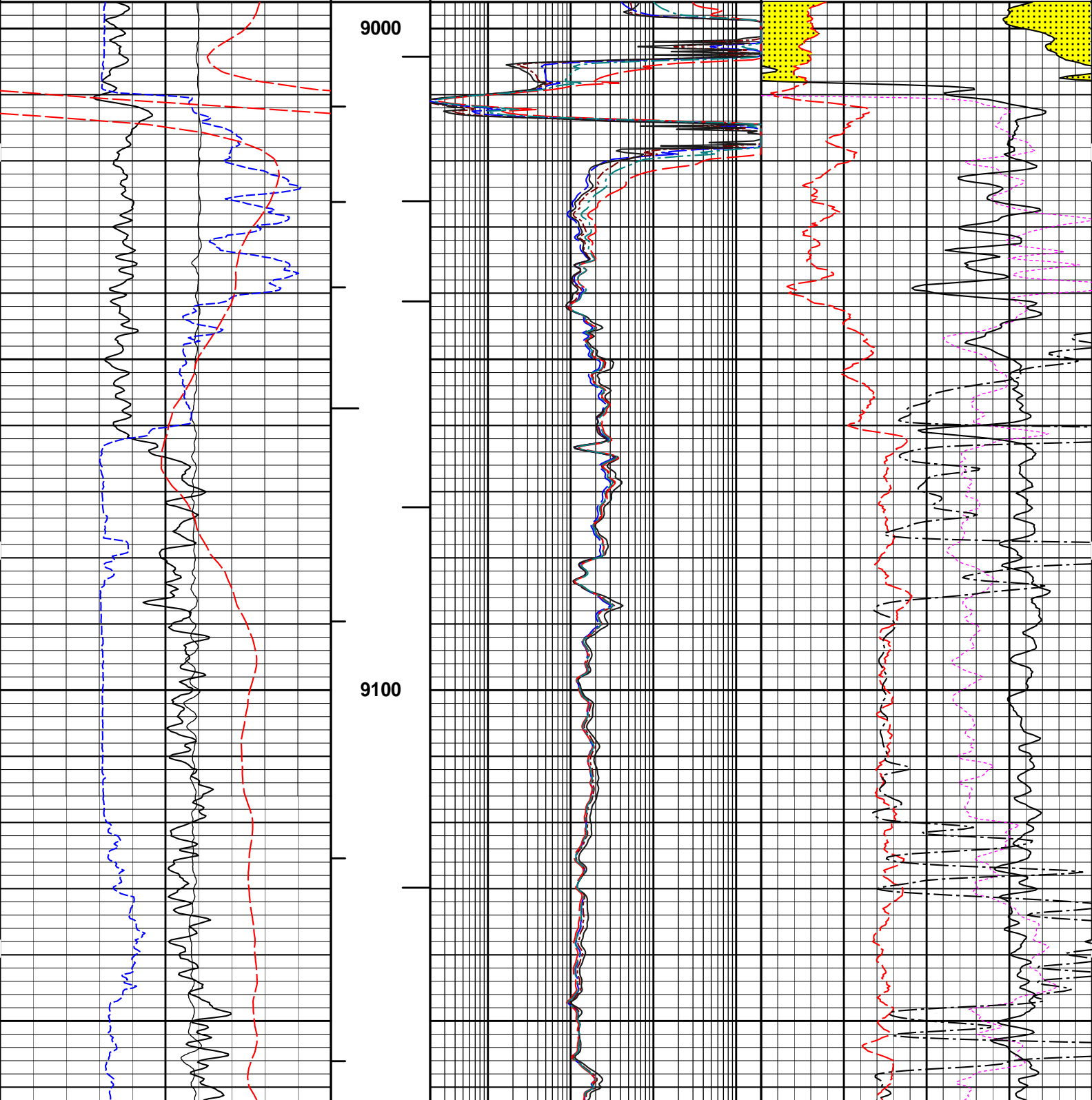
HALLIBURTON Plot Time: 06-Mar-15 12:03:45
 Plot Range: 8995 ft to 12994 ft
 Data: KOKO_14_15_7_21\Well Based\MAIN
 Plot File: \\COMPOSITE\TRIPLE_M

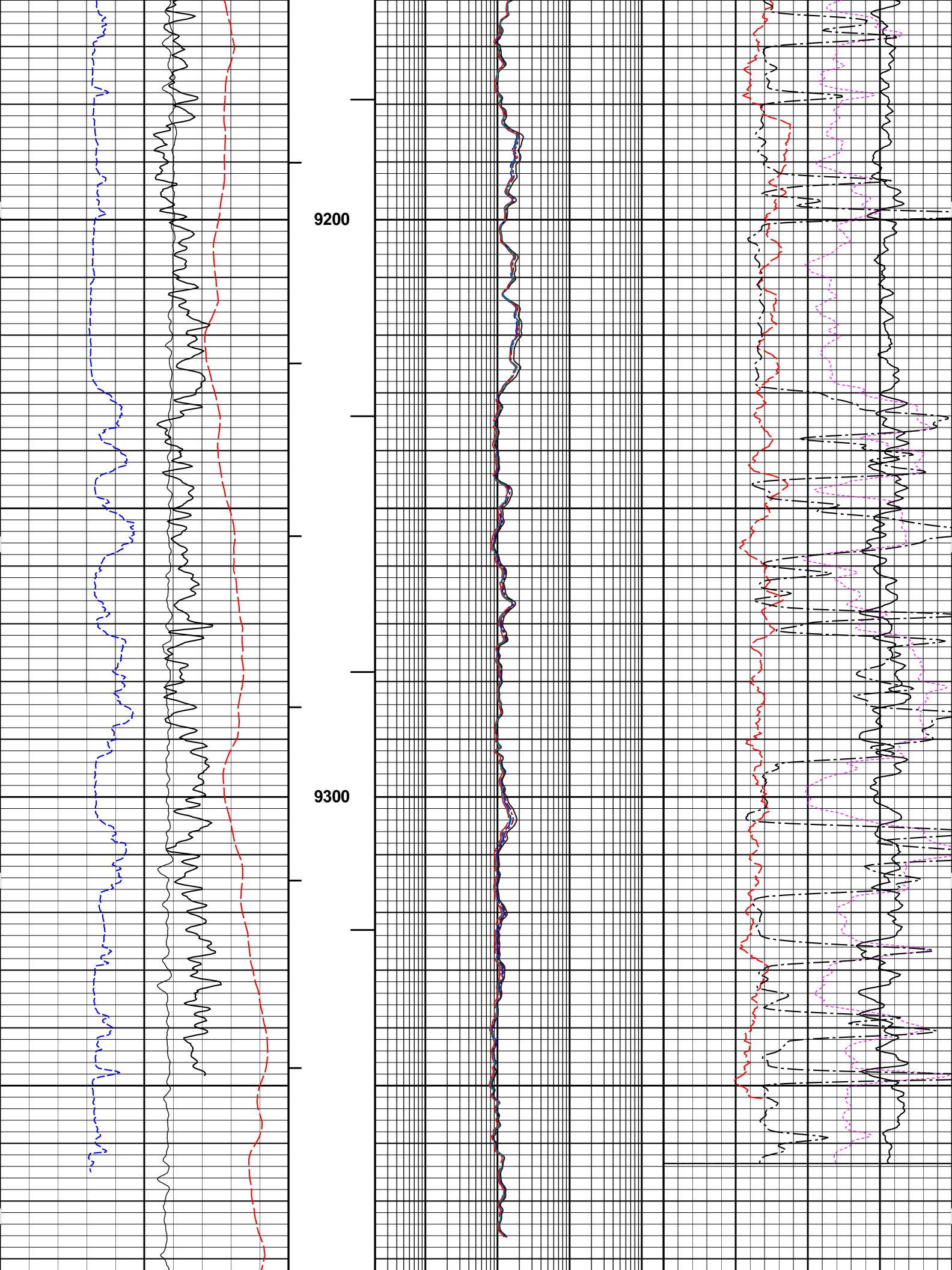
MAIN PASS 5" = 100'

HALLIBURTON Plot Time: 06-Mar-15 12:03:45
 Plot Range: 8996 ft to 9388 ft
 Data: KOKO_14_15_7_21\Well Based\RPT
 Plot File: \\COMPOSITE\TRIPLE_R

REPEAT PASS 5" = 100'

0	GAMMA RAY	150		0.2	RT90	2000		
	api				ohm-m			
4	CALIPER	14	AHV	0.2	RT60	2000	30	DEN POROSITY
	inches				ohm-m			2.68 g/cc
0	SP	100	BHV	0.2	RT30	2000	30	NEU POROSITY
	millivolts				ohm-m			sand
10000	TENSION	0	1 : 240 FT.	0.2	RT20	2000	0	PE
	pounds				ohm-m			10
					RT10	2000	-0.25	DENSITY COR.
					ohm-m			0.25
								g/cc





10000	TENSION	0	1 : 240	0.2	RT10	2000	-0.25	DENSITY COR.	0.25
	pounds		FT.		ohm-m			g/cc	
0	SP	100	BHV	0.2	RT20	2000	0	PE	10
	millivolts				ohm-m				
4	CALIPER	14	AHV	0.2	RT30	2000	30	NEU POROSITY	-10
	inches				ohm-m			sand	
0	GAMMA RAY	150		0.2	RT60	2000	30	DEN POROSITY	-10
	api				ohm-m			2.68 g/cc	
				0.2	RT90	2000			
					ohm-m				

HALLIBURTON Plot Time: 06-Mar-15 12:03:47
 Plot Range: 8996 ft to 9388 ft
 Data: KOKO_14_15_7_21\Well Based\RPT\
 Plot File: \\COMPOSITE\TRIPLE_R

REPEAT PASS 5" = 100'

HALLIBURTON

CALIBRATION REPORT

SURFACE TENSION SHOP CALIBRATION

Tool Name: Depth Panel - 11335318 Reference Calibration Date: 20-Jan-15 11:47:27
 Engineer: O. JEFFERIES Calibration Date: 25-Jan-15 08:24:28
 Software Version: WL INSITE R4.2.0 (Build 2) Calibration Version: 1

SURFACE TENSION LOAD CELL

Measurement	Load Cell Value	Measurement	Calibrated	Units
Low	10651.99	74.24	0.00	lbs
High	17227.04	7905.59	7830.00	lbs

DOWNHOLE TENSION SHOP CALIBRATION

Tool Name: SCHD - 11736180 Reference Calibration Date: 07-Nov-14 07:59:40
 Engineer: O. JEFFERIES Calibration Date: 25-Jan-15 08:29:42
 Software Version: WL INSITE R4.2.0 (Build 2) Calibration Version: 1

DOWNHOLE LOAD CELL

Measurement	Tool Value	Measurement	Calibrated	Units
Low	-772.21	151.58	0.00	lbs
High	194.82	518.58	368.00	lbs

ACCELEROMETER SHOP CALIBRATION

Tool Name: S4TG - 11790910 Reference Calibration Date: 23-Nov-14 13:24:38
 Engineer: Z. TAYLOR Calibration Date: 10-Jan-15 13:49:38
 Software Version: WL INSITE R4.2.0 (Build 2) Calibration Version: 1

Horizontal-1 Horizontal-2 Vertical Units

Telemetry	Telemetry	Telemetry	Units
0.04	0.04	1.06	cnts

Coefficient	Coefficient Value	Tolerance
Gain	0.981706	-----
Offset	-0.038	-----
Noise	0.0004	0.0000 - 0.0030

Orientation	Measured	Tolerance	Calibrated	Tolerance
Horizontal	-0.01	-0.10 - 0.10	0.00	-0.10 - 0.10
Vertical	1.00	0.90 - 1.10	1.00	0.90 - 1.10

ULTRA-SLIM QUAD TELEMETRY GAMMA CARTRIDGE SHOP CALIBRATION

Tool Name: S4TG - 11790910 **Reference Calibration Date:** 23-Nov-14 18:18:43
Engineer: Z. TAYLOR **Calibration Date:** 10-Jan-15 13:41:31
Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Calibrator Source S/N: USC-003-CB
 Calibrator API Reference: 155.00
 Calibrator API Value: 155.0

Measurement	Measured	Calibrated	Units
Background	32.6	33.2	api
Background + Calibrator	184.8	188.2	api
Calibrator	152.2	155.0	api

ULTRA-SLIM QUAD TELEMETRY GAMMA CARTRIDGE FIELD CALIBRATION

Tool Name: S4TG - 11790910 **Reference Calibration Date:** 10-Jan-15 13:41:31
Engineer: Z. TAYLOR **Calibration Date:** 10-Jan-15 13:45:23
Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Calibrator Source S/N: USC-003-CB

Field Verification	Shop	Field	Units
Background	33.2	33.0	api
Background + Calibrator	188.2	191.2	api
Calibrator	155.0	158.2	api

Shop	Field	Difference	Tolerance
155.0	158.2	-3.2	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: SDSN - 11581737 **Reference Calibration Date:** 23-Nov-14 16:50:41
Engineer: Z. TAYLOR **Calibration Date:** 29-Dec-14 15:21:06
Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Logging Source S/N: 21480B
 Reference value assigned to Bath: 22.284
 Snow Block S/N: 100133139
 Calibration Bath Water Temperature: 68 degF
 Min. Tool Housing Outside Diameter: 2.350 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.025	1.020	0.900 - 1.100

WATER BATH SUMMARY (Vertical Water Bath)

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	1.0160	1.0000	0.0160	+/- 0.0280
Calibrated Ratio:	22.40	22.28	0.114	+/- 0.180

VERIFIER

Measurement	Value	Control Limit
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Snow-Block Porosity (decp):	0.0495	0.02000 - 0.09000
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PASS/FAIL SUMMARY

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

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name: SDSN - 11581737	Reference Calibration Date: 29-Dec-14 15:21:06
Engineer: Z. TAYLOR	Calibration Date: 29-Dec-14 15:22:22
Software Version: WL INSITE R4.2.0 (Build 2)	Calibration Version: 1

Logging Source S/N: 21480B
Snow Block S/N: 100133139

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
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Snow-Block Porosity (decp):	0.0495	0.0494	-0.0000	+/- 0.0150
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PASS/FAIL SUMMARY

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SSDL - 11581740	Reference Calibration Date: 29-Dec-14 15:58:55
Engineer: Z. TAYLOR	Calibration Date: 29-Dec-14 16:08:01
Software Version: WL INSITE R4.2.0 (Build 2)	Calibration Version: 1

The ring diameter is computed from: $DIAMETER = PAD\ EXTENSION + ARM\ EXTENSION + TOOL\ DIAMETER$
 Calibrator Small Ring Diameter: 4.350 in
 Calibrator Medium Ring Diameter: 8.35 in
 Calibrator Large Ring Diameter: 12.350 in
 Tool Diameter: 2.35 in

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-19249.47	-19244.88	-32000.00 - -15000.00
Pad Gain	0.0000709	0.0000709	0.000052 - 0.000098
Arm Offset	-14813.20	-14849.24	-18000.00 - -13000.00
Arm Gain	0.0003048	0.0003031	0.000270 - 0.000330
Arm Power	-0.000002721	-0.000002643	-0.000004200 - -0.000001400

CALIBRATION RINGS

Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
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PAD EXTENSION:				
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Closed (in)	-0.00	0.00	0.00	+/- 0.20
Medium Ring (in)	2.03	2.03	-0.00	+/- 0.20
Maximum (in)	2.3	2.3	-0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	4.37	4.35	-0.02	+/- 0.20
Medium Ring (in)	8.38	8.35	-0.03	+/- 0.20
Large Ring (in)	12.38	12.35	-0.03	+/- 0.20
Maximum (in)	17.58	17.56	-0.02	+/- 0.20

PASS/FAIL SUMMARY

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

DENSITY CALIPER FIELD CALIBRATION

Tool Name: SSDL - 11581740	Reference Calibration Date: 29-Dec-14 16:08:01
Engineer: Z. TAYLOR	Calibration Date: 29-Dec-14 16:10:44
Software Version: WL INSITE R4.2.0 (Build 2)	Calibration Version: 1

The Caliper is computed from: CALIPER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 2.35 in

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	12.89	12.90	0.01	+/- 0.20
Caliper	17.56	17.63	0.08	+/- 0.20

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SSDL Pad - 11581731	Reference Calibration Date: 23-Nov-14 17:38:56
Engineer: Z. TAYLOR	Calibration Date: 29-Dec-14 14:37:31
Software Version: WL INSITE R4.2.0 (Build 2)	Calibration Version: 1

Logging Source S/N: 5265GW

Aluminum Block S/N: 63069

Density: 2.588g/cc

Pe: 3.160

Magnesium Block S/N: 63376

Density: 1.685g/cc

Pe: 2.594

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0414	0.9675	0.90 - 1.10
Near Dens Gain	1.0376	1.0168	0.90 - 1.10
Near Peak Gain	1.0393	1.0191	0.90 - 1.10
Near Lith Gain	1.0526	1.0357	0.90 - 1.10
Far Bar Gain	1.0104	0.9956	0.90 - 1.10
Far Dens Gain	1.0189	1.0081	0.90 - 1.10
Far Peak Gain	1.0200	1.0107	0.90 - 1.10
Far Lith Gain	1.0120	1.0042	0.90 - 1.10

Near Bar Offset	-0.3658	0.3462	NONE
Near Dens Offset	-0.3458	-0.1341	NONE
Near Peak Offset	-0.3776	-0.1721	NONE
Near Lith Offset	-0.4602	-0.3026	NONE
Far Bar Offset	-0.0569	0.0727	NONE
Far Dens Offset	-0.1417	-0.0475	NONE

Far Peak Offset	-0.1723	-0.0873	NONE
Far Lith Offset	-0.0506	0.0049	NONE
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Near Bar Background	226.96	225.20	155 - 360
Near Dens Background	133.60	132.34	90 - 210
Near Peak Background	76.75	77.15	55 - 125
Near Lith Background	64.16	64.51	45 - 100
Far Bar Background	133.20	133.73	90 - 210
Far Dens Background	66.72	65.60	45 - 105
Far Peak Background	53.06	54.00	35 - 85
Far Lith Background	34.61	33.56	25 - 55

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.682	1.686	0.004	+/- 0.015
Pe	2.359	2.382	0.023	+/- 0.150
ALUMINUM				
Density (g/cc)	2.575	2.581	0.006	+/- 0.01500
Pe	2.906	2.972	0.066	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0014	+/- 0.0110	0.0011	+/- 0.0140
Magnesium Block	-0.0016	+/- 0.0110	-0.0081	+/- 0.0140
Aluminum Block	-0.0002	+/- 0.0110	-0.0049	+/- 0.0140
Resolution	9.82	6.00 - 11.50	9.57	6.00 - 11.50
Noise Edge	0	< 11	0	< 20
Internal Verifier(B+D+P+L)	499	345 - 795	287	195 - 455

PASS/FAIL SUMMARY	
Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Near Noise Edge:	Passed
Far Noise Edge:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK			
Tool Name:	SSDL Pad - 11581731	Reference Calibration Date:	29-Dec-14 14:37:31
Engineer:	Z. TAYLOR	Calibration Date:	29-Dec-14 15:39:42
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1

Pad Temperature: 73.4 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	499.200	500.116	0.916	9.426
Far (B+D+P+L) cps	286.890	289.265	2.375	11.388
Near Resolution	9.82	10.13	0.310	0.50
Far Resolution	9.57	9.74	0.170	1.00

PASS/FAIL SUMMARY

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

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: SACRT Sonde - 11577718	Reference Calibration Date: 11-Nov-14 11:05:21
Engineer: O. JEFFERIES	Calibration Date: 27-Nov-14 13:00:00
Software Version: WL INSITE R4.2.0 (Build 2)	Calibration Version: 1
Host Tool Name: SACRT Instrument - 11577714	

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	0.9932	1.05	0.95	0.9978	1.05	0.95	0.9942	1.05
A2 (50")	0.95	0.9988	1.05	0.95	1.0037	1.05	0.95	1.0017	1.05
A3 (29")	0.95	0.9946	1.05	0.95	0.9986	1.05	0.95	0.9973	1.05
A4 (17")	0.95	0.9950	1.05	0.95	0.9998	1.05	0.95	0.9972	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9999	1.05	0.95	0.9908	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.0026	1.05	0.95	1.0001	1.05

TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-40	7.439	40	-25	3.877	25	-15	0.589	15
A2 (50")	-40	15.451	40	-25	1.582	25	-15	1.423	15
A3 (29")	-40	12.380	40	-25	17.597	25	-15	2.587	15
A4 (17")	-80	-19.538	80	-40	9.253	40	-25	19.429	25
A5 (10")	N/A	N/A	N/A	-150	-61.875	100	-75	17.597	75
A6 (6")	N/A	N/A	N/A	-100	314.335	250	-250	320.188	250

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.59	0.65	0.69
36K	0.79	0.88	0.91
72K	0.6	0.68	0.74

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.00	1.05

PASS/FAIL SUMMARY

GAIN RANGE CHK	PASS
TOOL OK TO LOG	

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
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Tension Zero	0.00	-----	-----	0.00	-----	lbs
Tension Cal	7830.00	-----	-----	0.00	-----	lbs
SCHD-11736180						
DH Tension Zero	0.00	-----	-----	0.00	-----	lbs
DH Tension Cal	368.00	-----	-----	0.00	-----	lbs
S4TG-11790910						
AccZ Horizontal	-0.00	-----	-----	0.00	-----	g
AccZ Vertical	1.00	-----	-----	0	-----	g
Gamma Ray Calibrator	155.0	158.2	-----	-3.2	+/- 9.00	api
SDSN-11581737						
Snow-Block Porosity	0.0495	0.0494	-----	0.0001	+/- 0.0150	decp
SSDL-11581740						
Arm Extension	12.89	12.90	-----	-0.01	0.20	in
Max Caliper	17.56	17.63	-----	-0.07	0.20	in
SSDL Pad-11581731						
Near(B+D+P+L)	499.200	500.116	-----	-0.916	+/-9.426	cps
Far(B+D+P+L)	286.890	289.265	-----	-2.375	+/-11.388	cps
SACRT Sonde-11577718						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m

Data: KOKO_14_15_7_21\0002 US_TRIPLEIDLE Date: 25-Jan-15 14:35:20

HALLIBURTON

TOOL STRING DIAGRAM REPORT

