

HALLIBURTON

ARRAY COMPENSATED
TRUE RESISTIVITY
SPECTRAL DENSITY
DUAL SPACED NEUTRON

COMPANY		WESTWATER FARMS LLC		
WELL		HARLEY DOME 1		
FIELD		GREATER CISCO		
COUNTY		GRAND		
STATE		UT		
Permanent Datum		GL	Elev. 10.0 ft	Other Services: NONE
Log measured from		KB	Elev.: K.B. 4874.0 ft	
Drilling measured from		KB	D.F. 4873.0 ft	
		KB	G.L. 4864.0 ft	
Date	22-May-10			
Run No.	ONE			
Depth - Driller	7130.00 ft			
Depth - Logger	1727.0 ft			
Bottom - Logged Interval	1725.0 ft			
Top - Logged Interval	10.0 ft			
Casing - Driller	8.625 in @ 228.0 ft			
Casing - Logger	225.0 ft			
Bit Size	7.875 in			
Type Fluid in Hole	WATER			
Density	8.3 ppq			
Viscosity				
PH	7.50 pH			
Source of Sample	WATER REPORT			
Rm @ Meas. Temperature	0.36 ohmm @ 75.00 degF			
Rmf @ Meas. Temperature	0.24 ohmm @ 75.00 degF			
Rmc @ Meas. Temperature	0.49 ohmm @ 75.00 degF			
Source Rmf	CHART			
Rmc	CHART			
Rm @ BHT	0.20 ohmm @ 89.0 degF			
Time Since Circulation	29.3 hr			
Time on Bottom	22-May-10 21:16			
Max. Rec. Temperature	89.0 degF @ 1727.0 ft			
Equipment	11014853 G.J., CO			
Recorded By	K. WOOD			
Witnessed By	D. ALLIN			

Fold here

Service Ticket No.: 7388036				API Serial No.: 43019316220000				PGM Version: WL INSITE R2.6.1 (Build 9)					
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" S.O.	N/A			
Rmc @ Meas. Temp.		@		@			-E7486						
Source Rmf	Rmc	CALC.	CALC.										
Rm @ BHT		0.31 ohmm @ 89.0 degF		@									
Rmf @ BHT		0.20 ohmm @ 89.0 degF		@									
Rmc @ BHT		0.42 ohmm @ 89.0 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.	10951300	Serial No.		10993887			
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.	GTET			Spacing		Log Type	GAMMA-GAMMA	Log Type		THERMAL			
Type	SCINT.					Source Type	Cs137	Source Type		Am241Be			
Length	8"			LSA [Y/N]		Serial No.	20785B	Serial No.		DSN-388			
Distance to Source	10'			FWDA [Y/N]		Strength	1.5 Ci	Strength		15.0 Ci			
LOGGING DATA													
GENERAL				GAMMA		ACOUSTIC		DENSITY		NEUTRON			

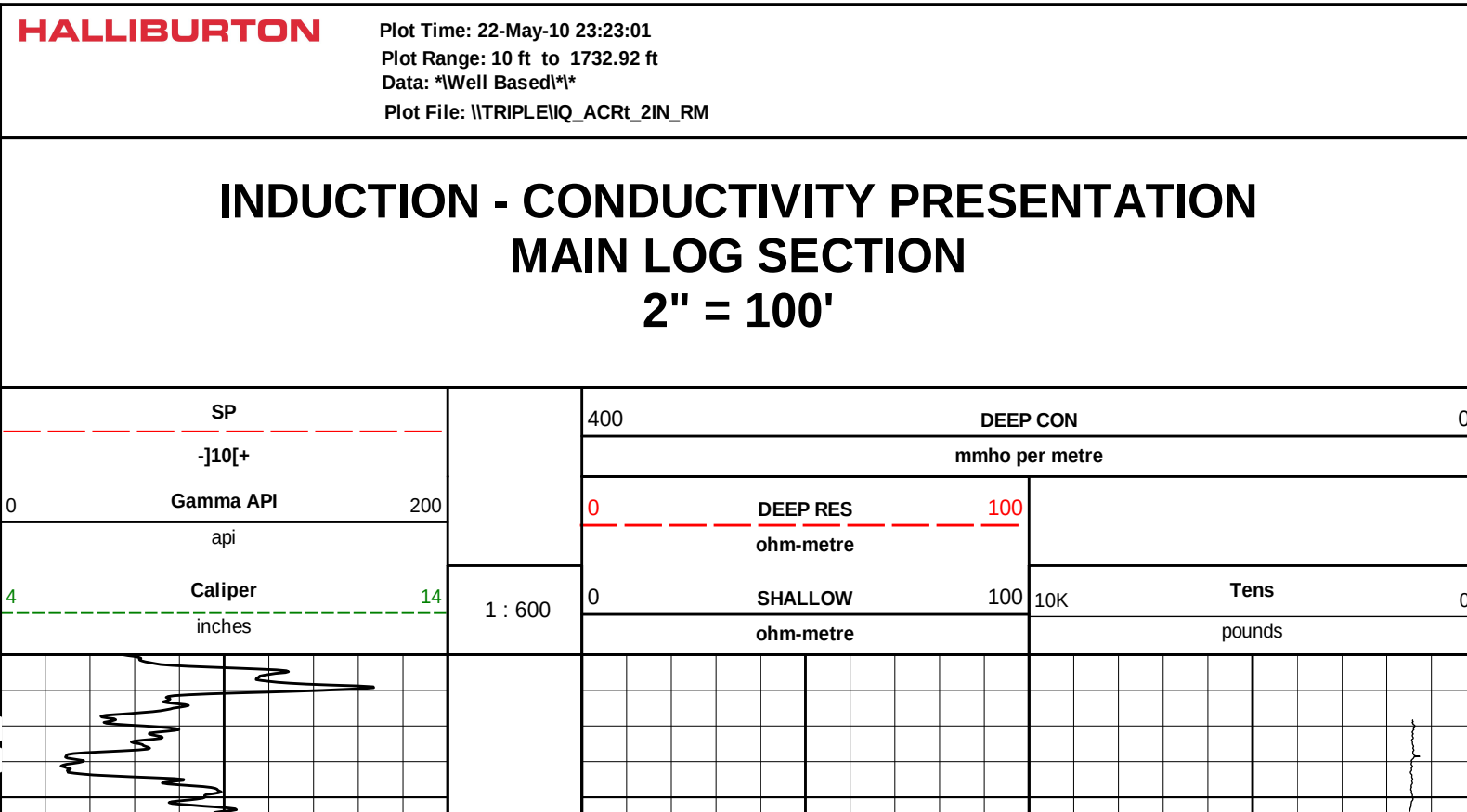
GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON							
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix		
No.	From	To	ft/min	L	R	L	R		L	R		L	R			
ONE	T.D.	CSG.	REC.	0	200				30%	-10%	2.65 g/cc	30%	-10%	SAND		
ONE	CSG.	SURF.	REC.	0	200											
DIRECTIONAL INFORMATION																
Maximum Deviation								@	KOP							@
Remarks: RWCH-GTET-DSNT-SDLT-ACRT WERE RUN IN COMBINATION.																
HOLE RUGOSITY AND TENSION PULLS MAY AFFECT LOG QUALITY.																
AHV CALCULATED FOR 5.5" CASING.																
CHLORIDES REPORTED AT 22,000 mg/L.																
LATITUDE: 39.174° N // LONGITUDE: 109.133° W.																
YOUR CREW TODAY: N. EHLERS AND T. VANALSTYNE.					RIG: PROPETROCO 1.											
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.																
HALLIBURTON																

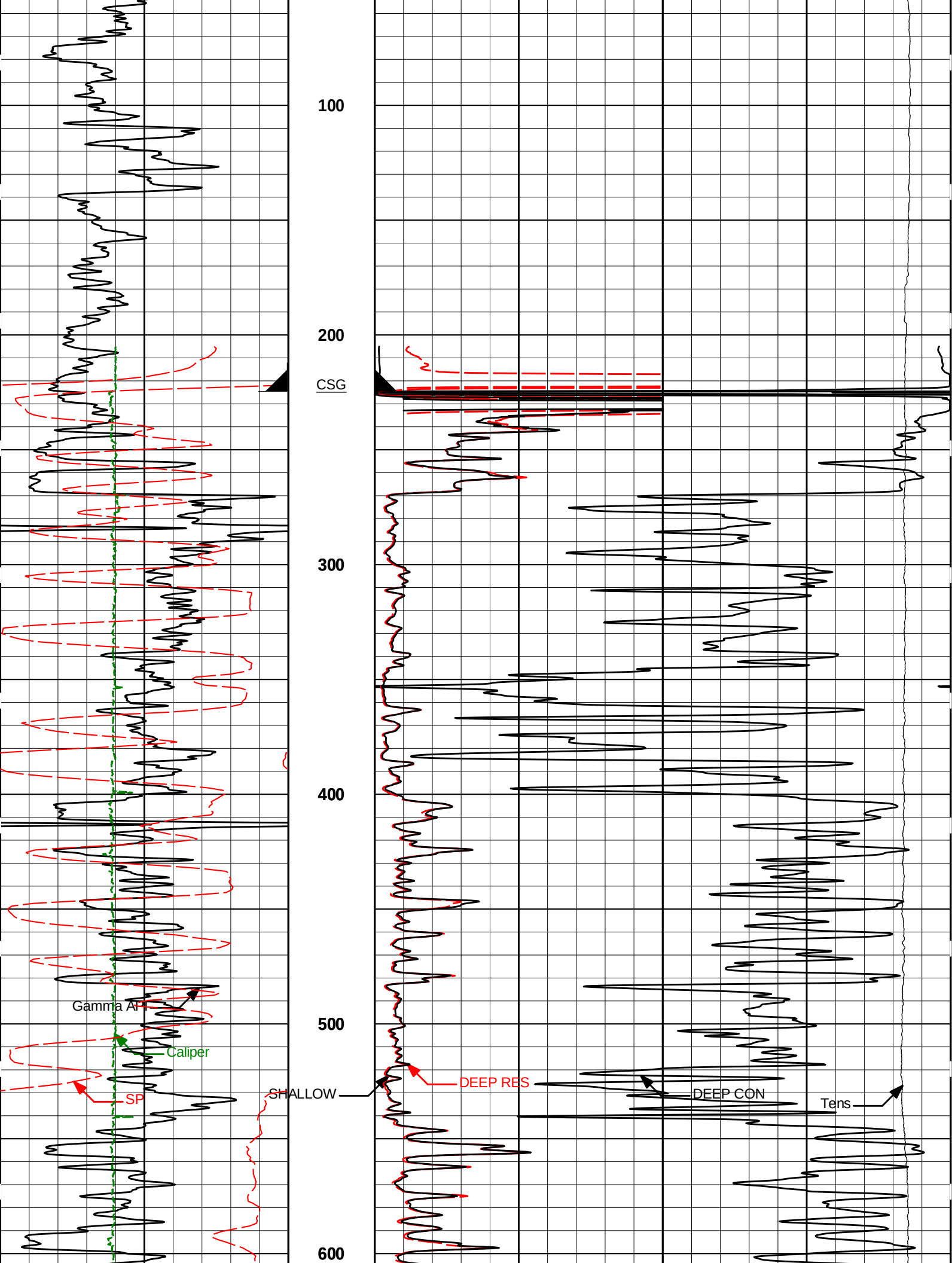
HALLIBURTON

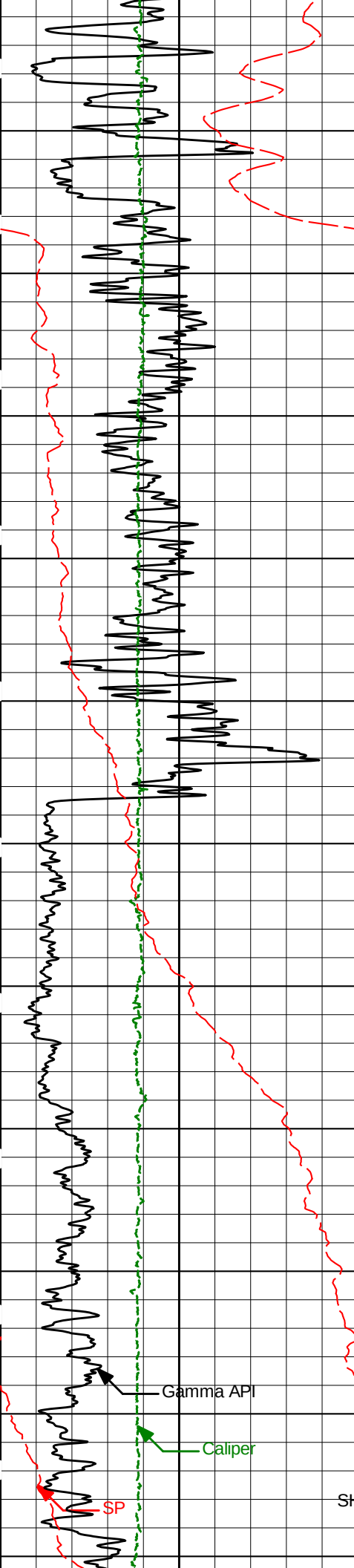
PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	8.300	ppg
	SHARED	OBM	Oil Based Mud System?	No	
	SHARED	RMUD	Mud Resistivity	0.360	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	1727.00	ft
	SHARED	BHT	Bottom Hole Temperature	89.0	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
	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	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	DNOK	Process Density?	Yes	
SDLT	DNOK	Process Density EVR?	No	
SDLT	AD	Is Hole Air Drilled?	No	
SDLT	CB	Logging Calibration Blocks?	No	
SDLT	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT	DTWN	Disable temperature warning	No	
SDLT	MDTP	Weighted Mud Correction Type?	None	
SDLT	DMA	Formation Density Matrix	2.650	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	MNSO	Minimum Tool Standoff	1.50	in
ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt	TPOS	Tool Position	Eccentered	
ACRt	RMOP	Rmud Source	Mud Cell	
ACRt	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt	RMIN	Maximum Resistivity for MAP	200.00	ohmm
BOTTOM				
Data: WW_HARLEY_DOME1\0001 IQ-TRIPLE\IDLE			Date: 22-May-10 21:54:09	







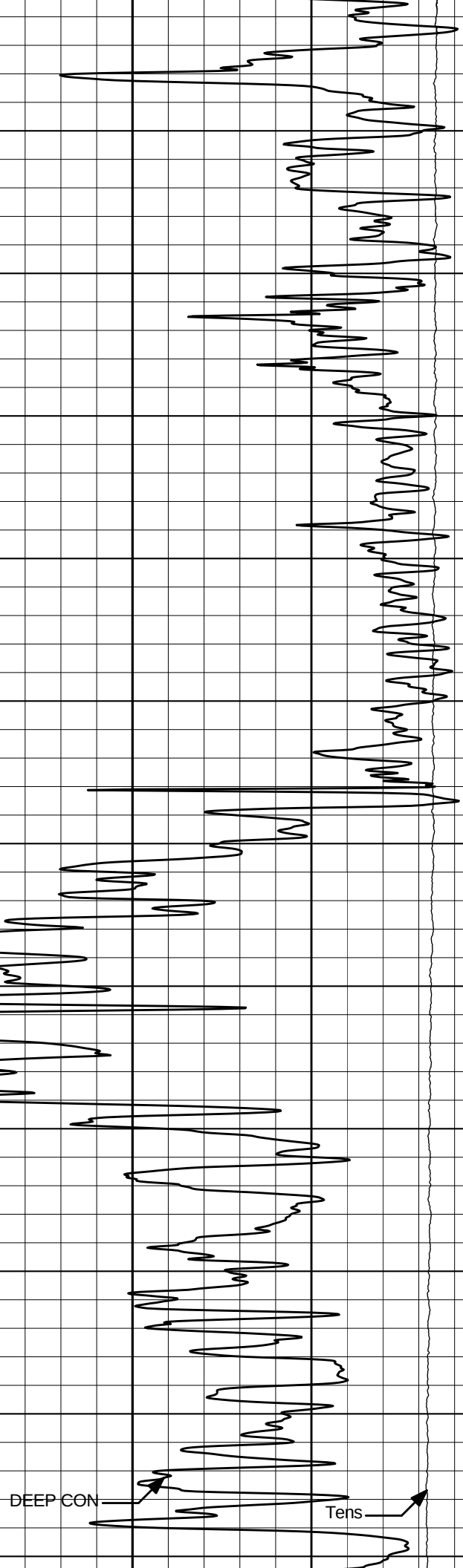
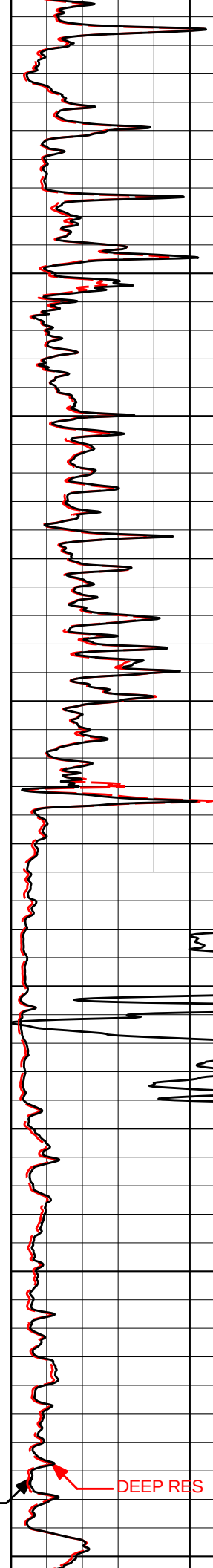
700

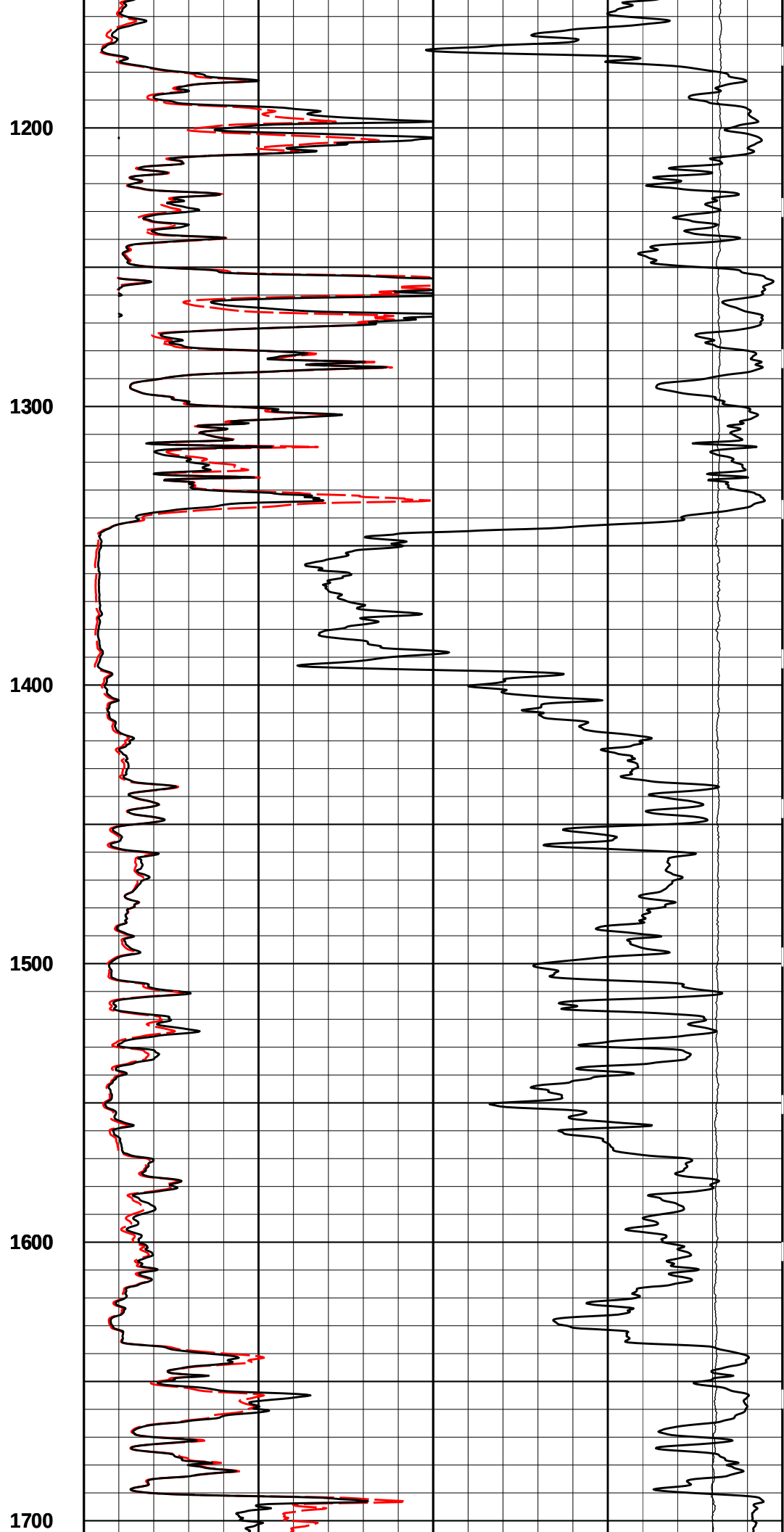
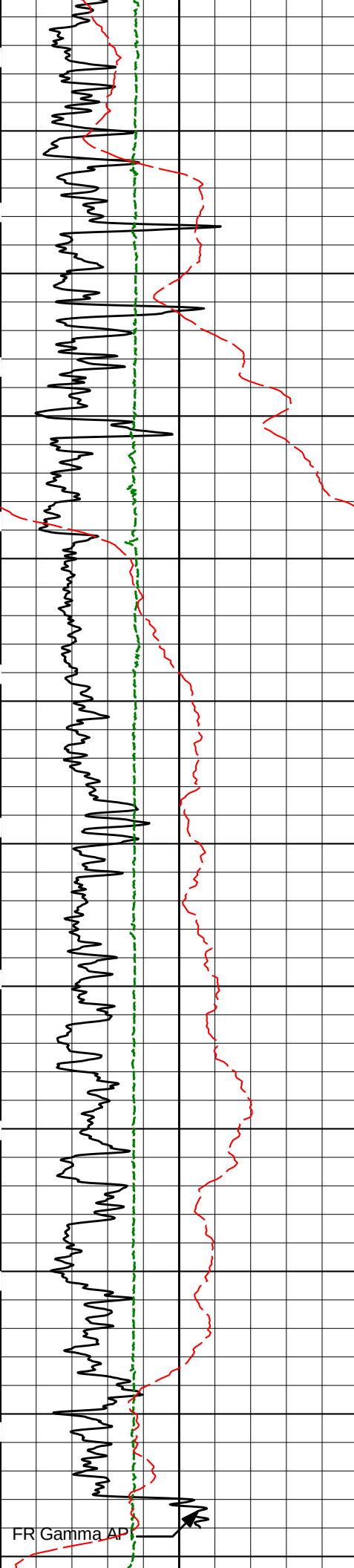
800

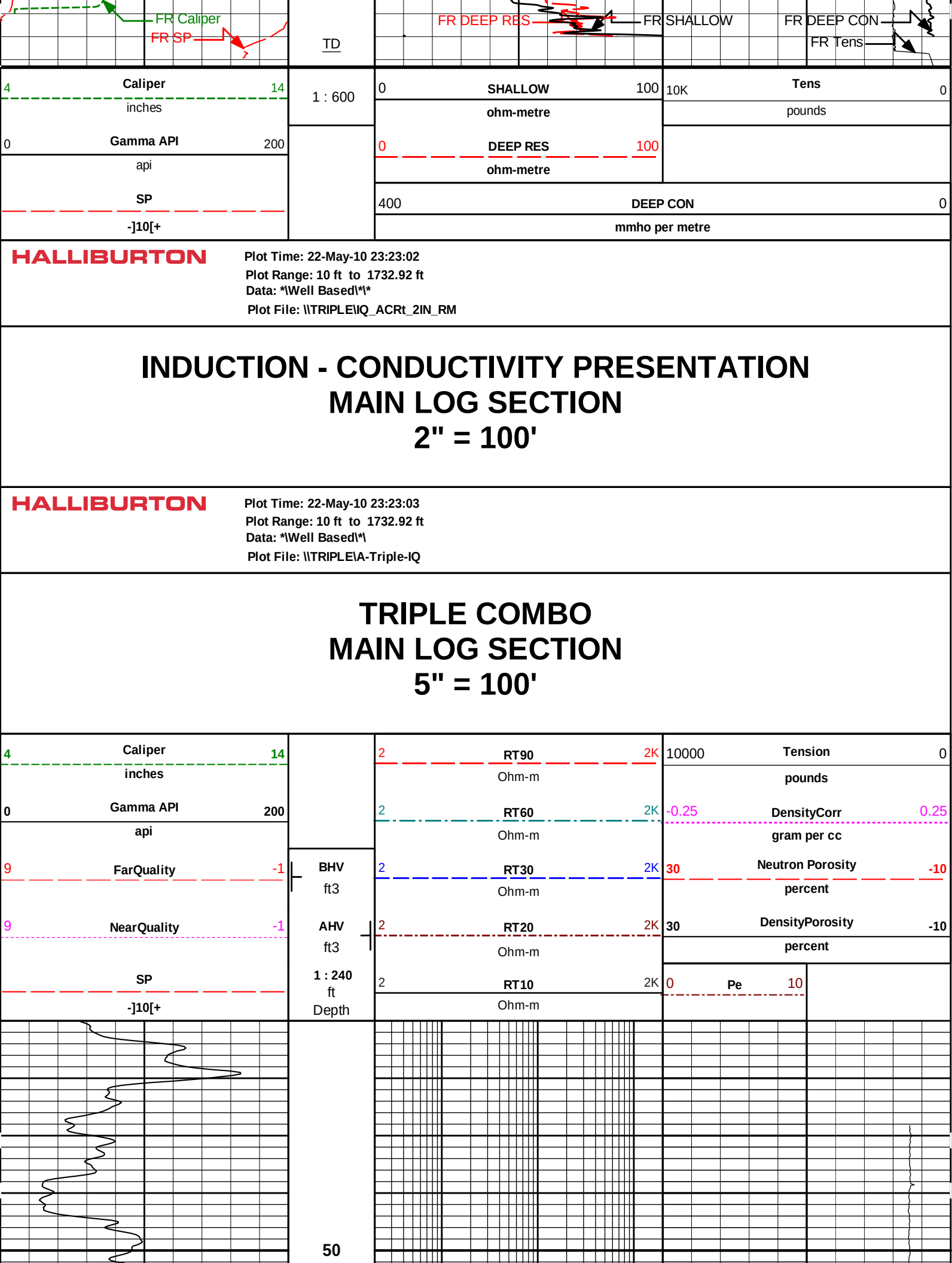
900

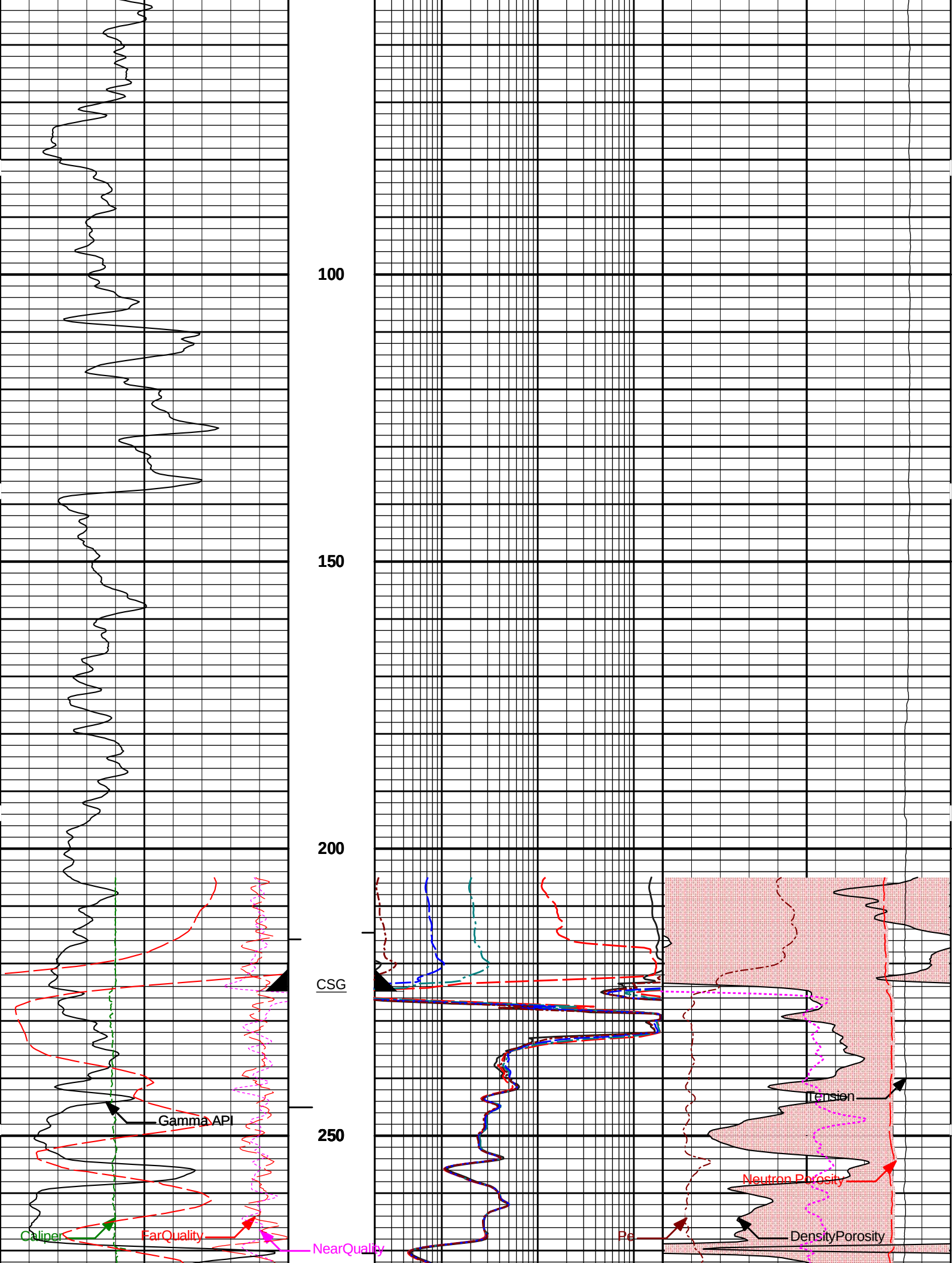
1000

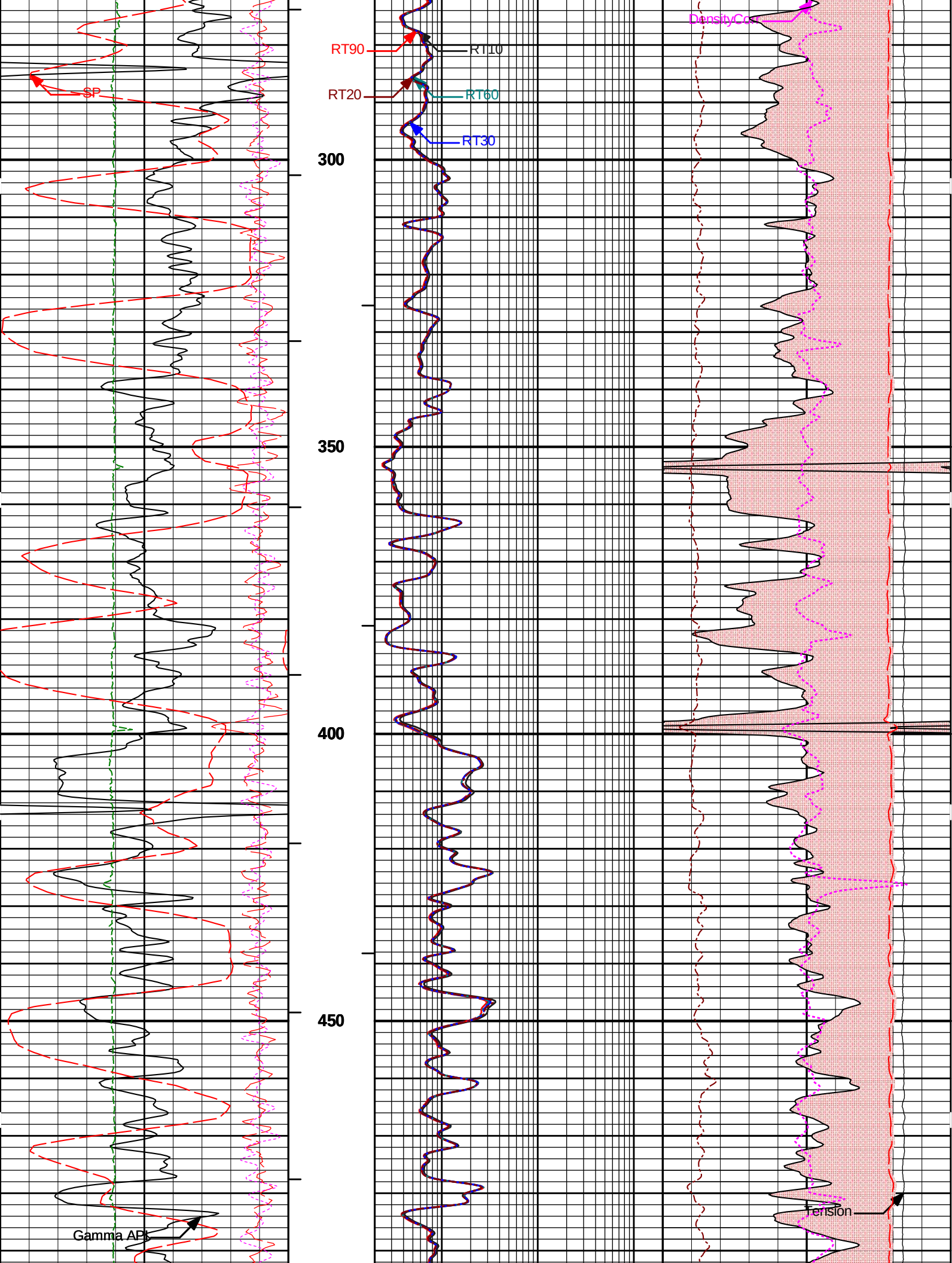
1100

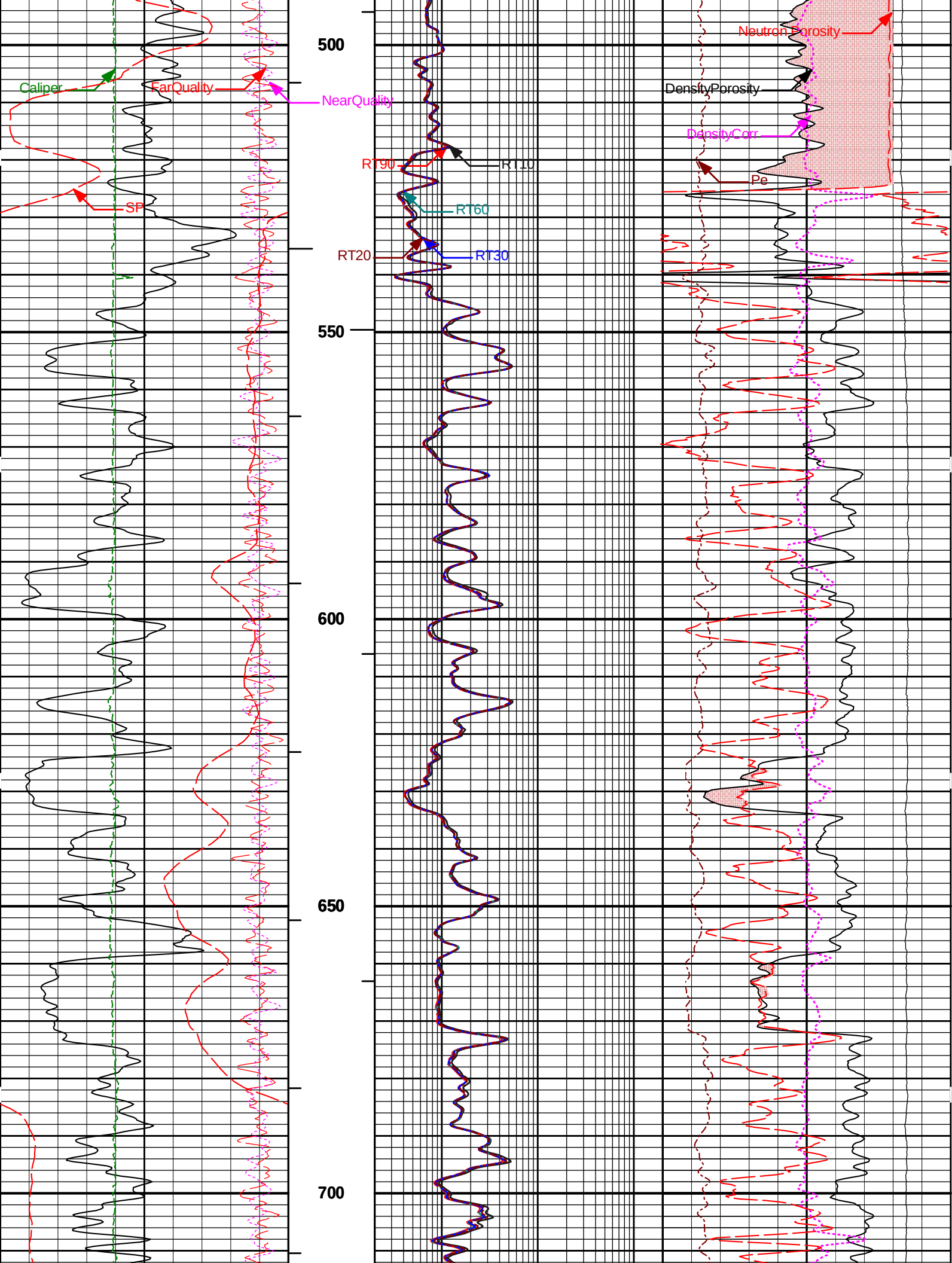


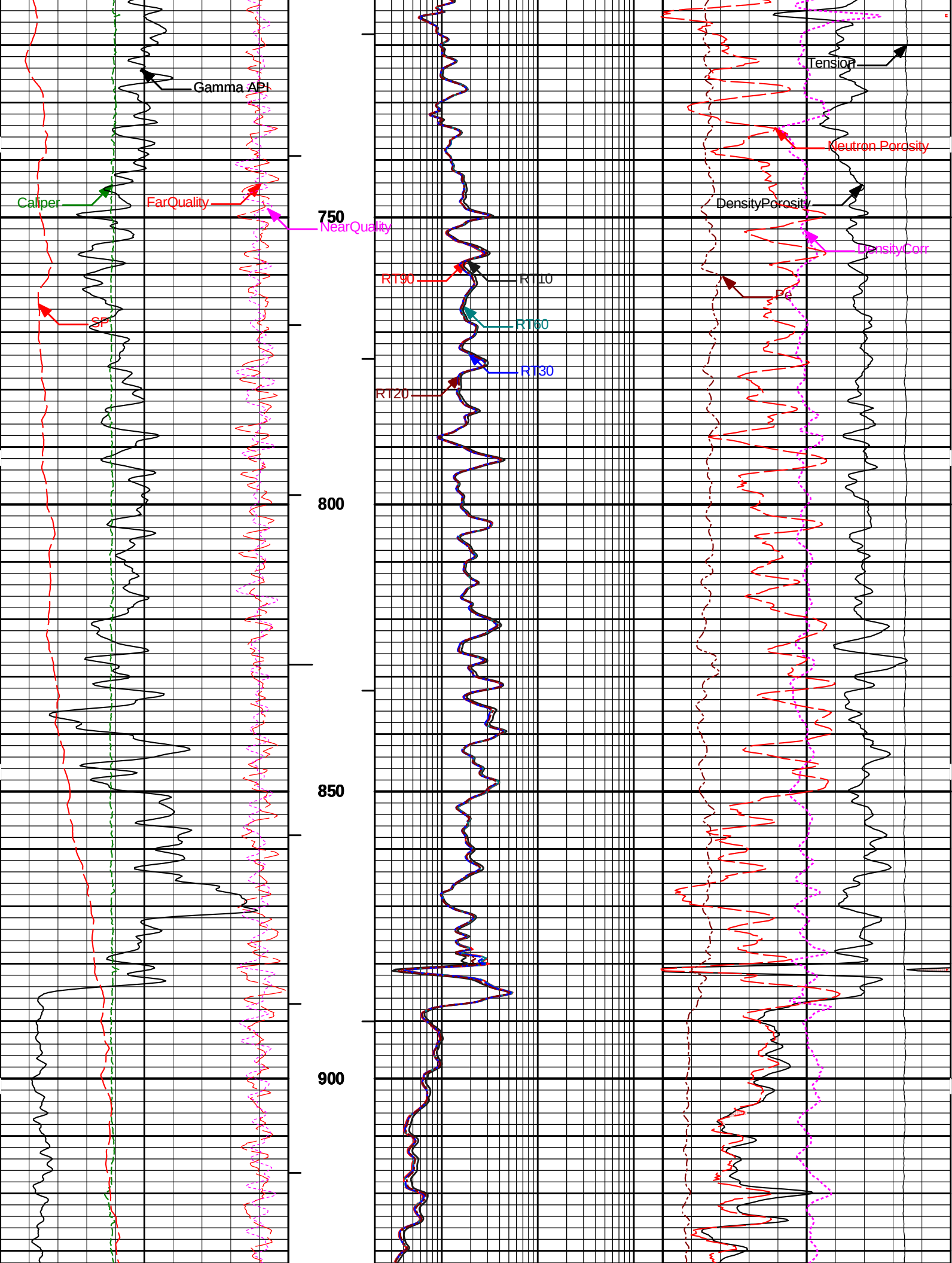


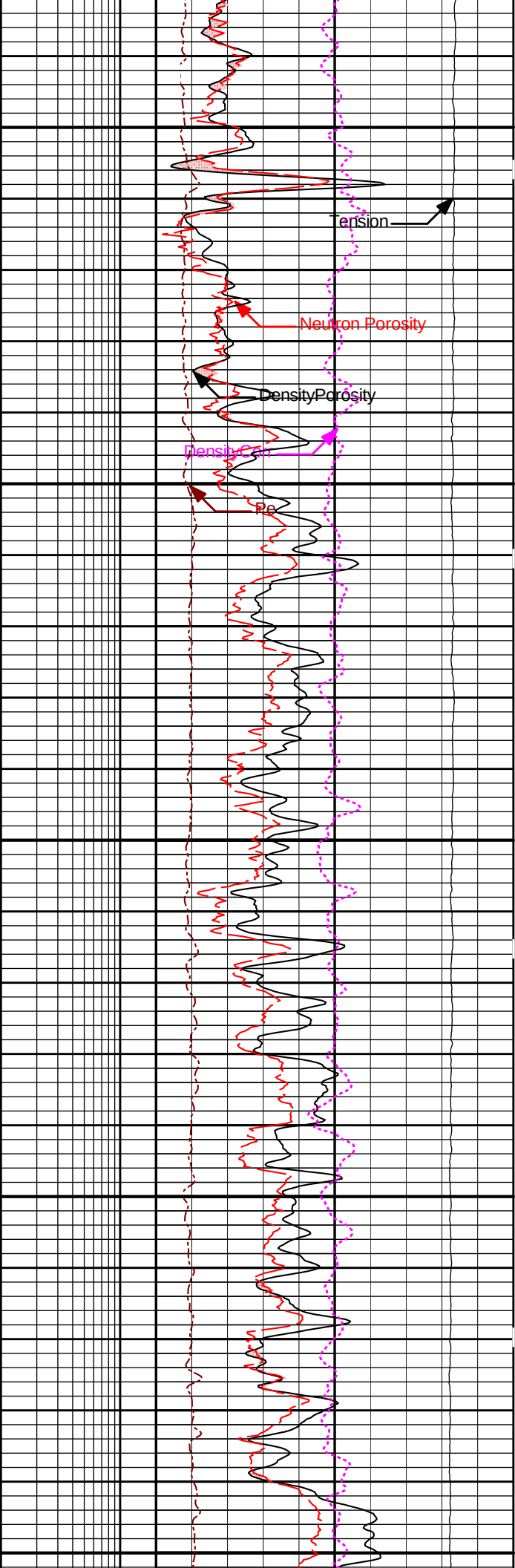
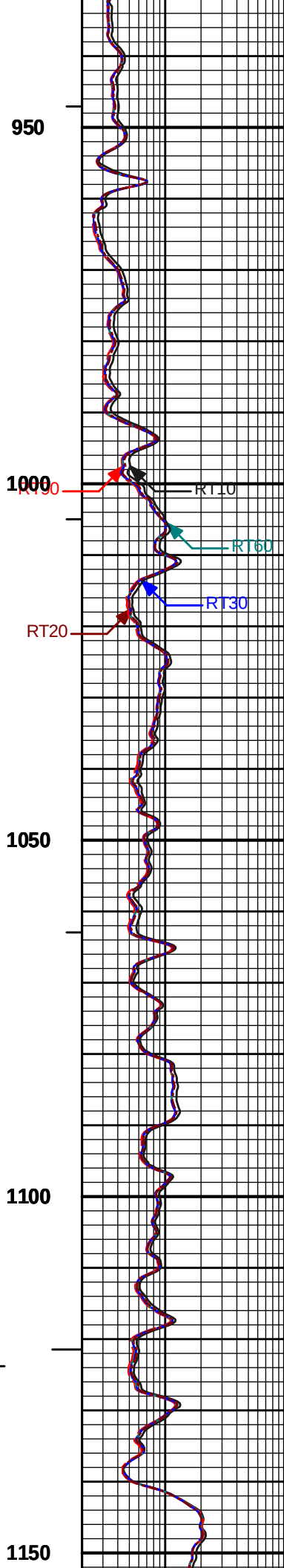
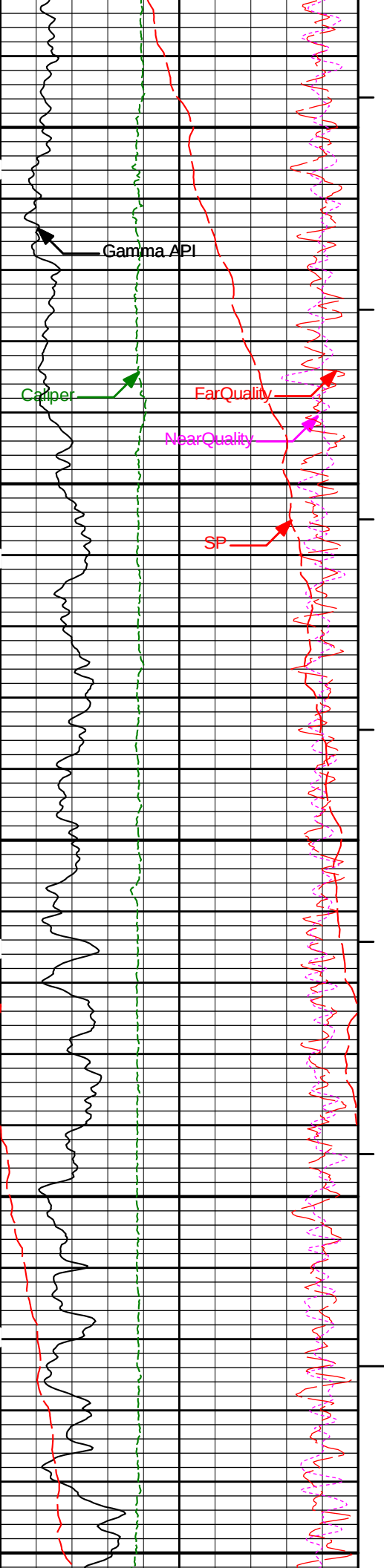


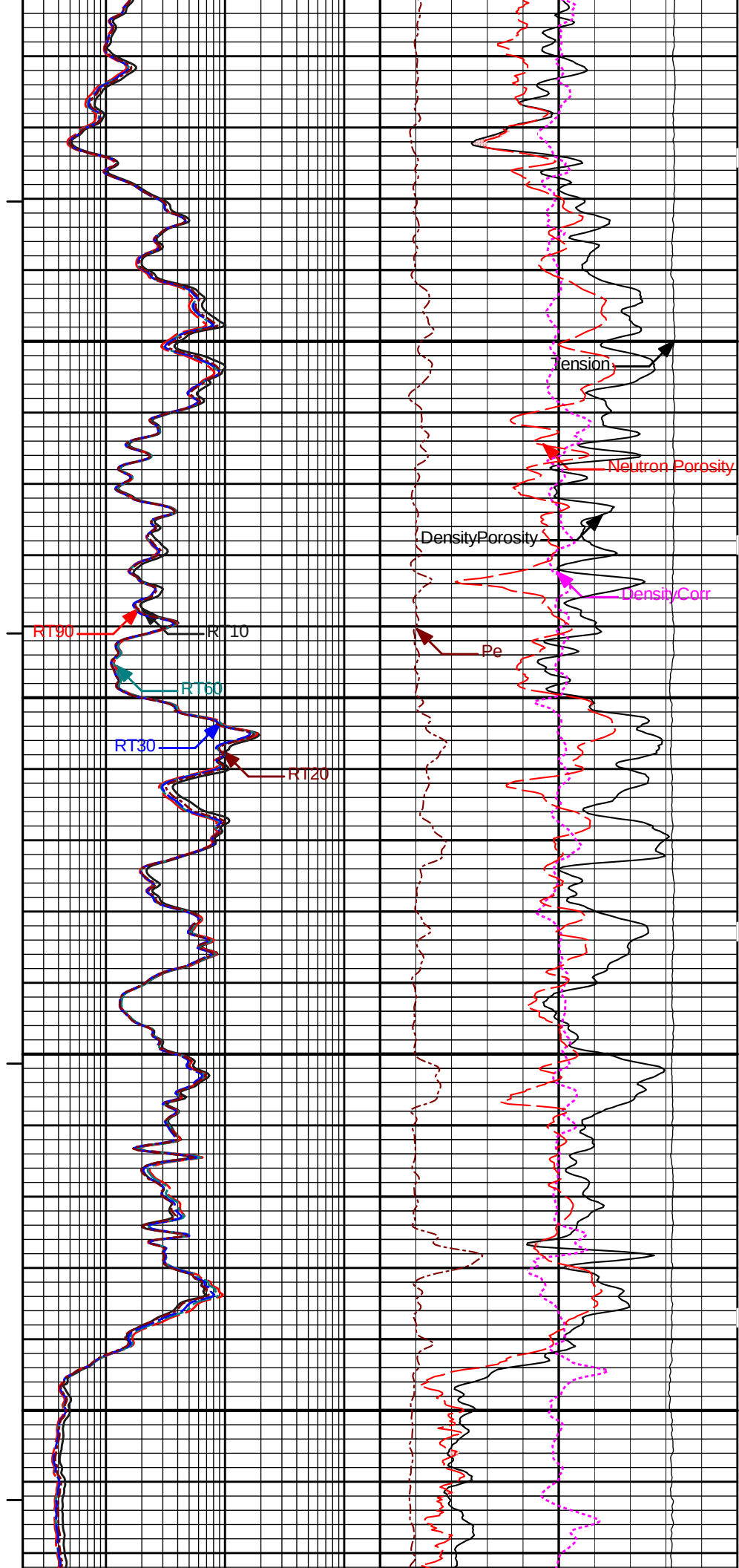
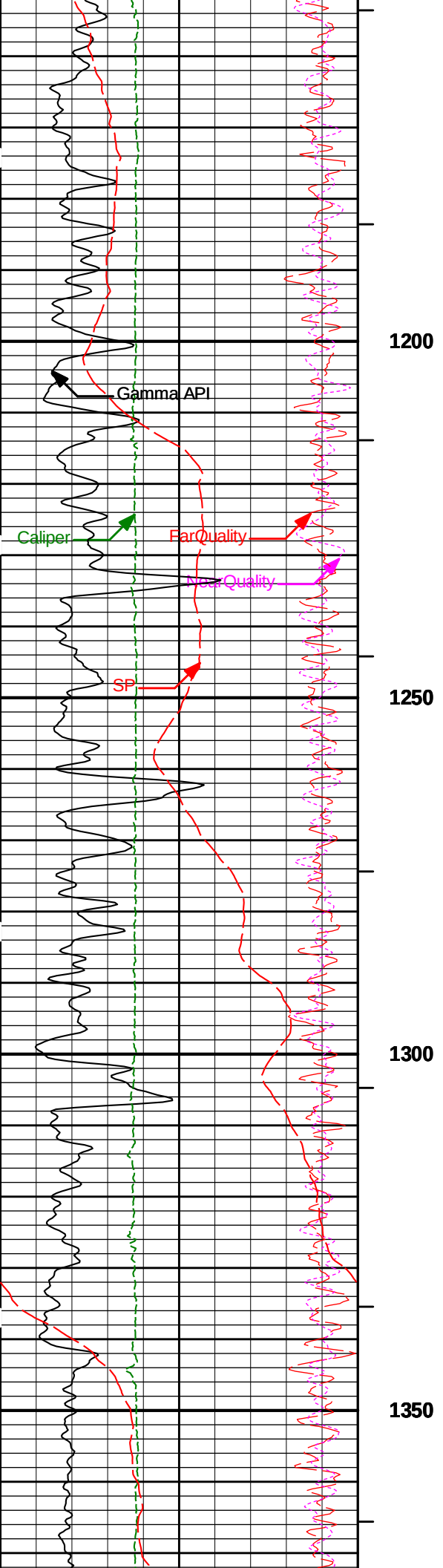


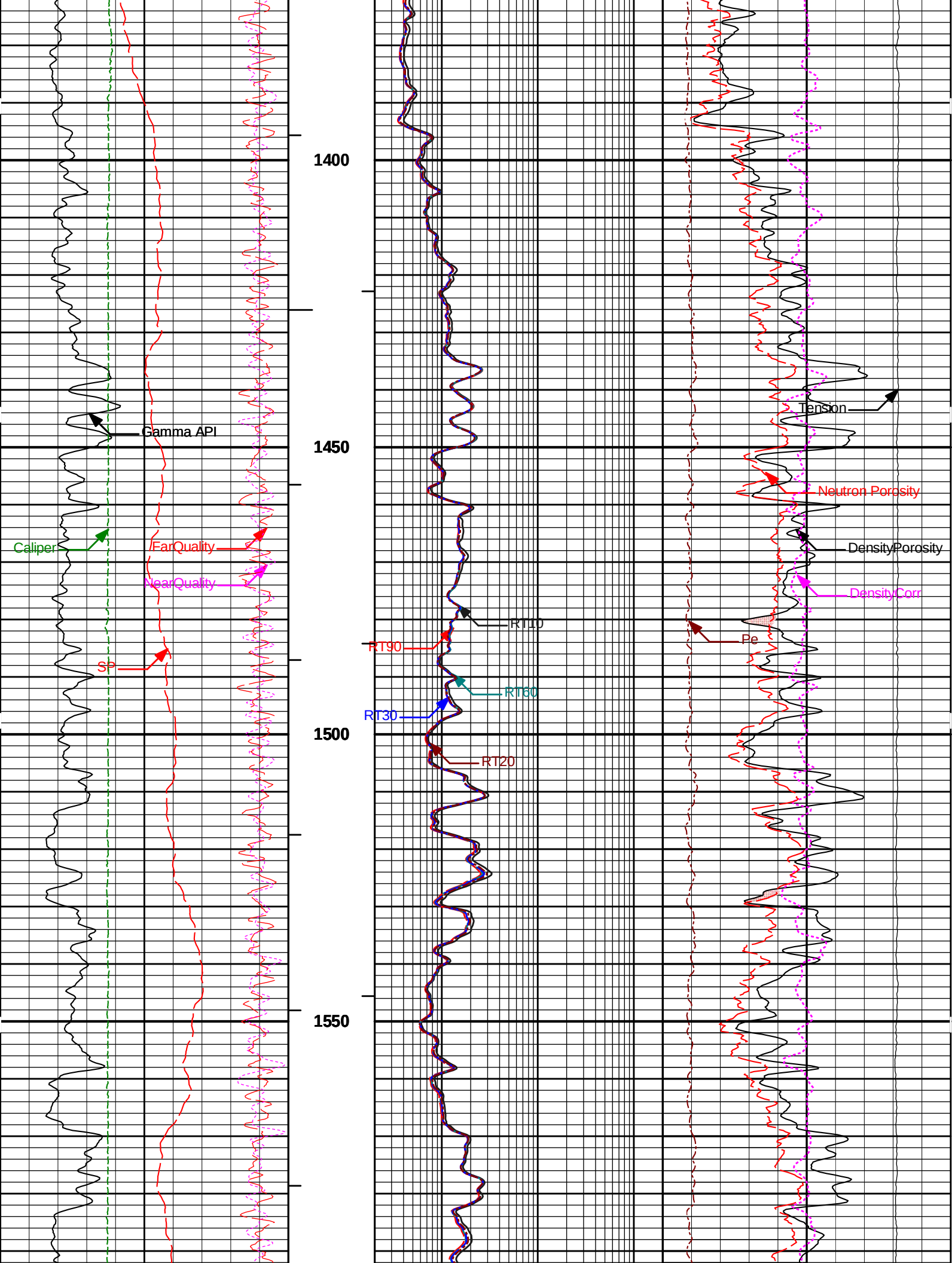


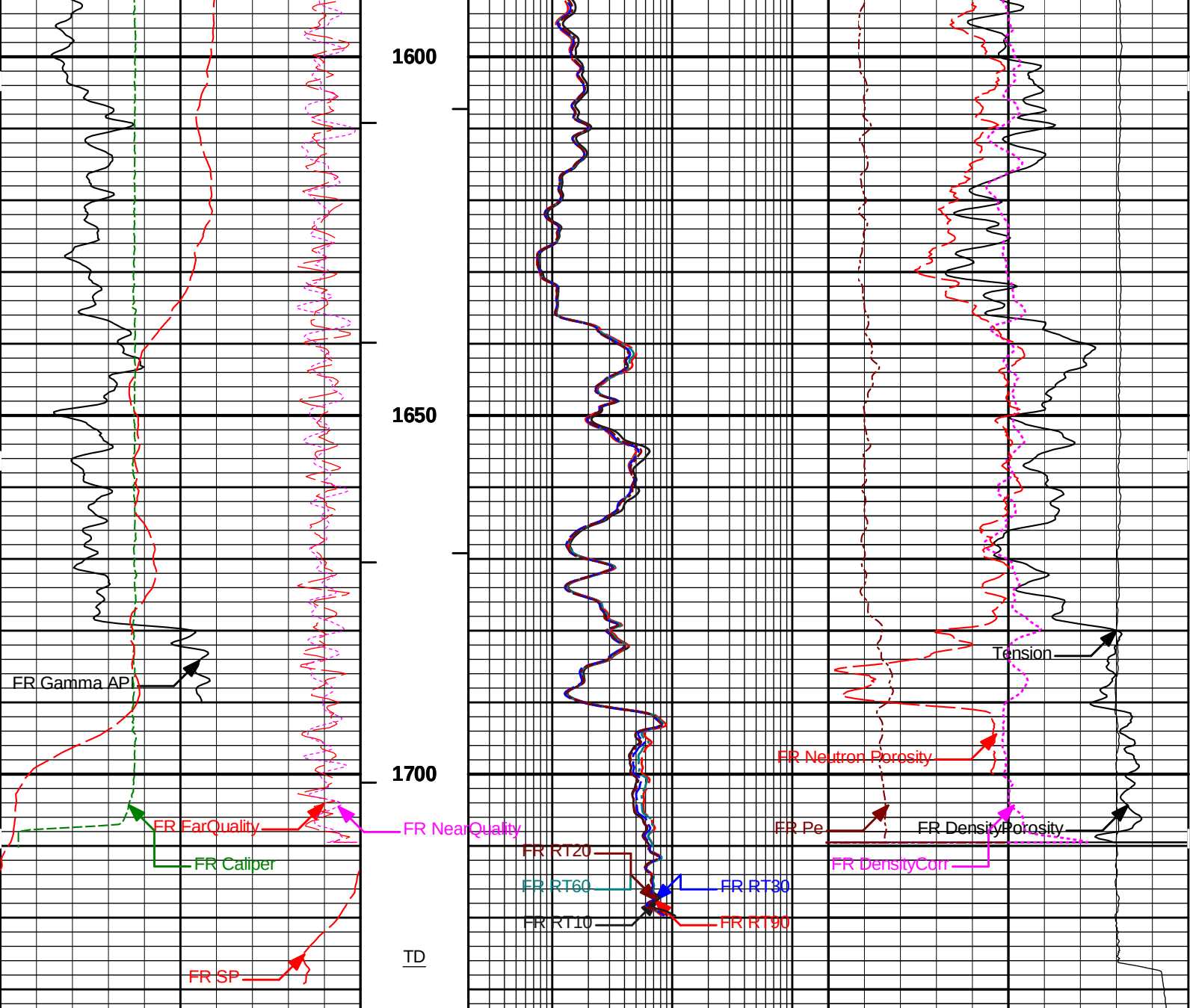












SP		1 : 240 ft Depth	RT10		2K	0	Pe	10		
-]10[+			Ohm-m							
9	NearQuality		-1	AHV	2	RT20	2K	30	DensityPorosity	-10
				ft3		Ohm-m		percent		
9	FarQuality		-1	BHV	2	RT30	2K	30	Neutron Porosity	-10
				ft3		Ohm-m		percent		
0	Gamma API	200		2	RT60	2K	-0.25	DensityCorr	0.25	
api					Ohm-m		gram per cc			
4	Caliper	14		2	RT90	2K	10000	Tension	0	
inches					Ohm-m		pounds			

HALLIBURTON

Plot Time: 22-May-10 23:23:05
Plot Range: 10 ft to 1732.92 ft
Data: *Well Based*
Plot File: \\TRIPLEIA-Triple-IQ

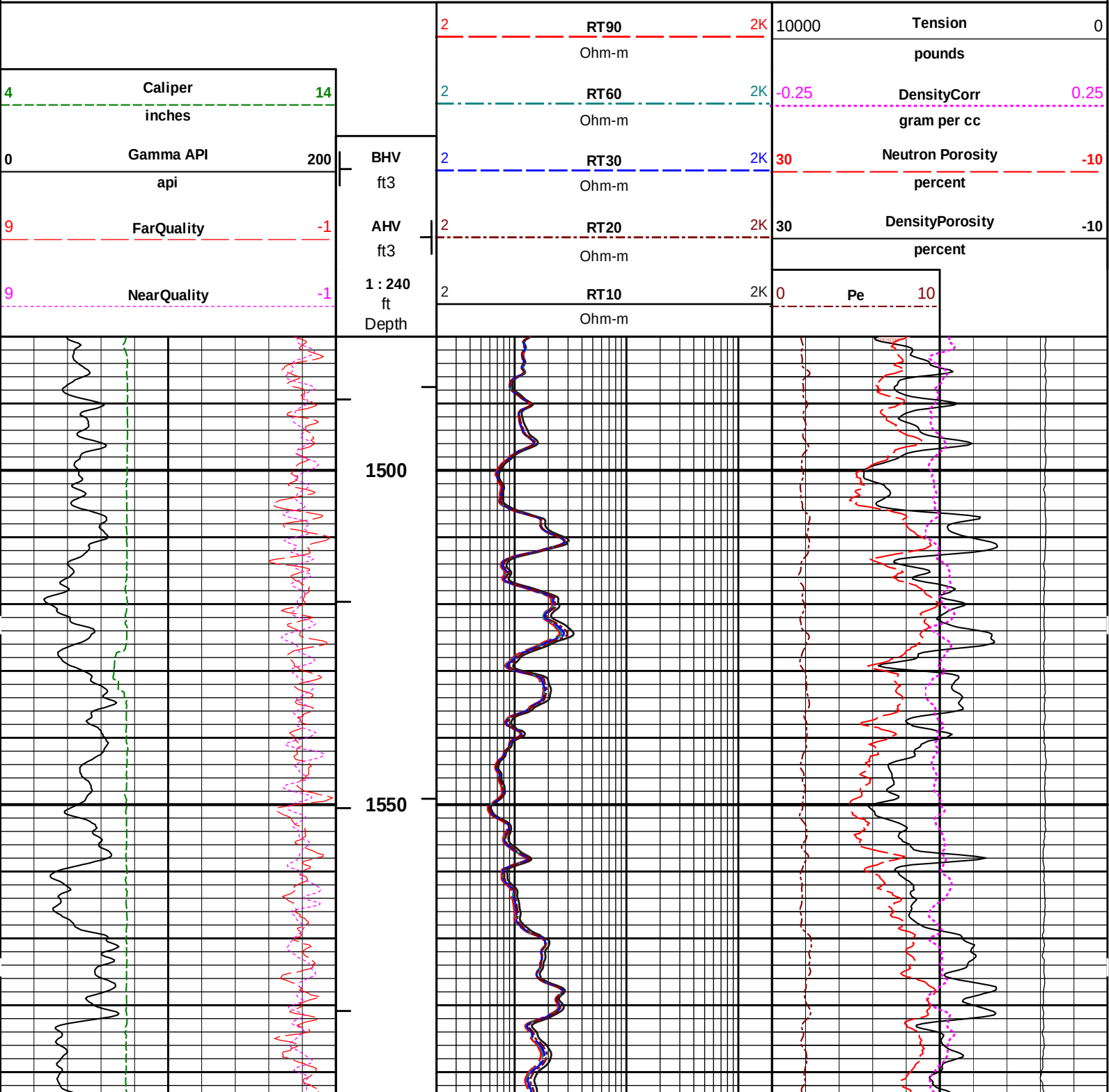
TRIPLE COMBO
MAIN LOG SECTION

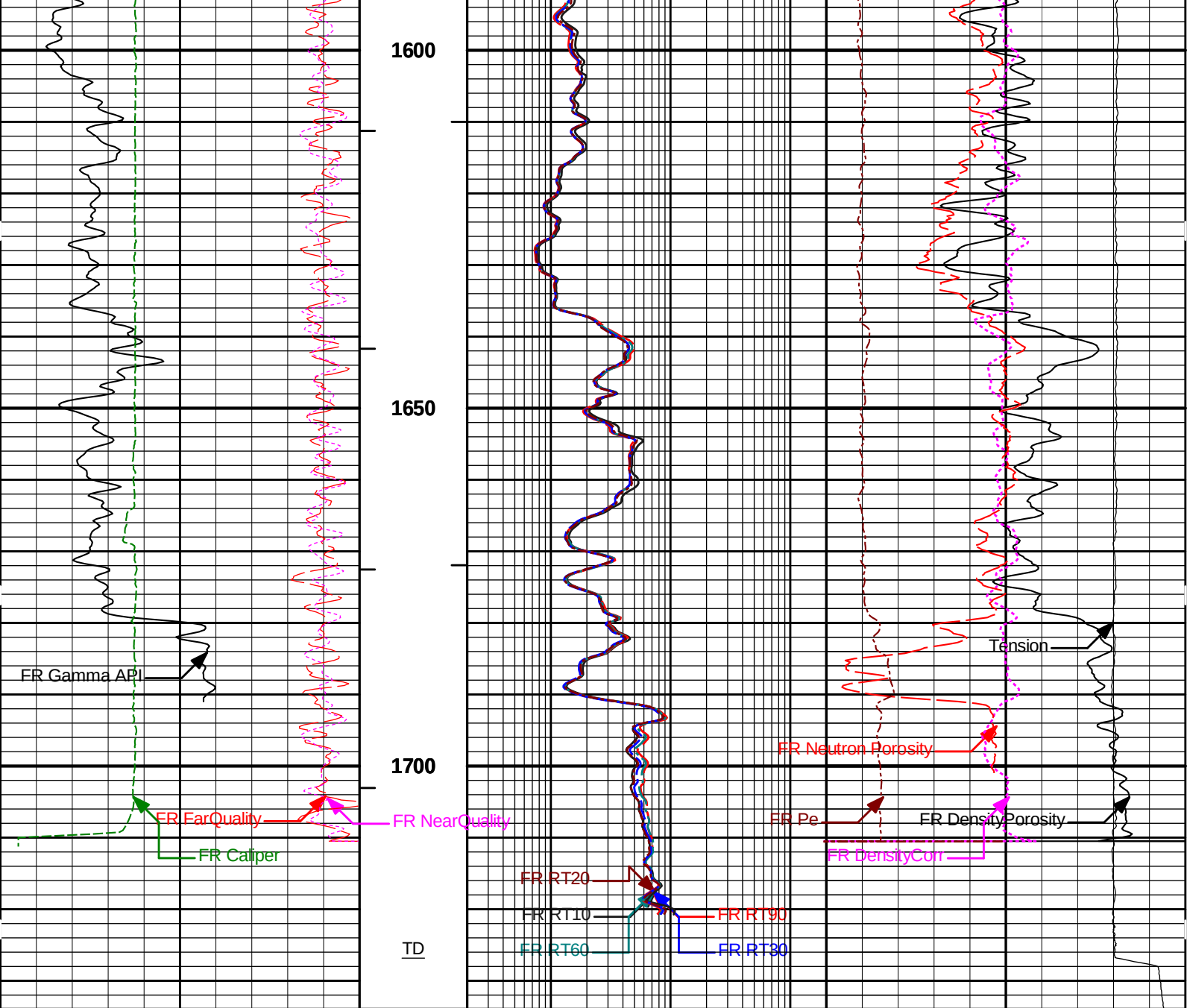
MAIN LOG SECTION
5" = 100'

HALLIBURTON

Plot Time: 22-May-10 23:23:06
Plot Range: 1480 ft to 1733.92 ft
Data: WW_HARLEY_DOME1\Well Based\REPEAT\
Plot File: \\TRIPLE\REPEAT

TRIPLE COMBO
REPEAT LOG SECTION
5" = 100'





9	NearQuality	-1	1 : 240 ft Depth	2	RT10	2K	0	Pe	10
9	FarQuality	-1	AHV ft3	2	RT20	2K	30	DensityPorosity	-10
0	Gamma API	200	BHV ft3	2	RT30	2K	30	Neutron Porosity	-10
4	Caliper	14		2	RT60	2K	-0.25	DensityCorr	0.25
				2	RT90	2K	10000	Tension	0
								pounds	

HALLIBURTON

Plot Time: 22-May-10 23:23:07
Plot Range: 1480 ft to 1733.92 ft
Data: WW_HARLEY_DOME1\Well Based\REPEAT\
Plot File: \TRIPLE\REPEAT

TRIPLE COMBO REPEAT LOG SECTION

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 11005602	Reference Calibration Date:	11-Apr-10 10:34:24
Engineer:	K. WOOD	Calibration Date:	02-May-10 13:33:59
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1

Calibrator Source S/N: 110
Calibrator API Reference:239.00 api

Measurement	Measured	Calibrated	Units
Background	52.6	51.0	api
Background + Calibrator	299.1	290.0	api
Calibrator	237.4	239.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11005602	Reference Calibration Date:	02-May-10 13:33:59
Engineer:	K. WOOD	Calibration Date:	22-May-10 17:28:47
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1

Calibrator Source S/N: 110
Calibrator API Reference:239.00 api

Field Verification	Shop	Field	Units
Background	51.0	59.5	api
Background + Calibrator	290.0	293.8	api
Calibrator	239.0	234.3	api

Shop	Field	Difference	Tolerance
239.0	234.3	4.7	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name:	GTET - 11005602	Reference Calibration Date:	22-May-10 17:28:47
Engineer:	K. WOOD	Calibration Date:	22-May-10 22:48:39
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1

Calibrator Source S/N: 110
Calibrator API Reference:239.00 api

Post Verification	Field	Post	Units
Background	59.5	92.7	api
Background + Calibrator	293.8	330.4	api
Calibrator	234.3	237.7	api

Shop	Field	Post	Difference	Tolerance
239.0	234.3	237.7	-3.4	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 10993887	Reference Calibration Date:	03-Apr-10 12:05:14
Engineer:	M. HUNT	Calibration Date:	04-May-10 15:35:45
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1

Logging Source S/N: DSN-388

Logging Source S/N: DSN-388

Tank Serial Number: GJ WATER TANK

Reference value assigned to Tank: 52.750

Snow Block S/N: GJ-110

Calibration Tank Water Temperature: 66 degF

Min. Tool Housing Outside Diameter: 3.578 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.948	0.948	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):	0.2171	0.2169	0.0002	+/- 0.0020
Calibrated Ratio:	9.93	9.93	0.005	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0683	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 - 10993887

Reference Calibration Date: 04-May-10 15:35:45

Engineer: K. WOOD

Calibration Date: 22-May-10 17:38:19

Software Version: WL INSITE R2.6.1 (Build 9)

Calibration Version: 1

Logging Source S/N: DSN-388

Snow Block S/N: GJ-110

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0683	0.0750	0.0066	+/- 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 - 10993887

Reference Calibration Date: 22-May-10 17:38:19

Engineer: K. WOOD

Calibration Date: 22-May-10 23:20:39

Software Version: WL INSITE R2.6.1 (Build 9)

Calibration Version: 1

Logging Source S/N: DSN-388

Snow Block S/N: GJ-110

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0750	0.0737	-0.0012	+/- 0.0150

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

SPECTRAL DENSITY SHOP CALIBRATION				
Tool Name: SDLT - 10951300		Reference Calibration Date: 02-May-10 10:01:27		
Engineer: K. WOOD		Calibration Date: 07-May-10 13:25:18		
Software Version: WL INSITE R2.6.1 (Build 9)		Calibration Version: 1		

Logging Source S/N: 20785B

Aluminum Block S/N: 63094

Magnesium Block S/N: 63387

Density: 2.610g/cc

Density: 1.685g/cc

Pe: 3.100

Pe: 2.594

DENSITY CALIBRATION SUMMARY				
Measurement	Previous Value	New Value	Control Limit	
Near Bar Gain	1.0718	1.0967	0.90 - 1.10	
Near Dens Gain	1.0167	1.0258	0.90 - 1.10	
Near Peak Gain	0.9734	0.9974	0.90 - 1.10	
Near Lith Gain	0.9194	0.9457	0.90 - 1.10	
Far Bar Gain	1.0132	1.0211	0.90 - 1.10	
Far Dens Gain	0.9989	1.0060	0.90 - 1.10	
Far Peak Gain	0.9887	0.9959	0.90 - 1.10	
Far Lith Gain	0.9597	0.9752	0.90 - 1.10	
Near Bar Offset	-0.5631	-0.7719	NONE	
Near Dens Offset	-0.0475	-0.1106	NONE	
Near Peak Offset	0.3170	0.1330	NONE	
Near Lith Offset	0.7395	0.5353	NONE	
Far Bar Offset	-0.0803	-0.1208	NONE	
Far Dens Offset	0.0291	0.0022	NONE	
Far Peak Offset	0.0871	0.0890	NONE	
Far Lith Offset	0.2683	0.2436	NONE	
Near Bar Background	982.37	982.25	700 - 1450	
Near Dens Background	325.79	324.39	230 - 480	
Near Peak Background	141.94	142.41	100 - 210	
Near Lith Background	176.72	175.18	125 - 260	
Far Bar Background	580.35	579.56	450 - 900	
Far Dens Background	226.69	226.12	175 - 345	
Far Peak Background	89.90	89.45	70 - 140	
Far Lith Background	93.03	93.38	75 - 145	

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.699	1.685	-0.014	+/- 0.015
Pe	2.613	2.594	-0.019	+/- 0.150
ALUMINUM				
Density (g/cc)	2.620	2.610	-0.010	+/- 0.01500
Pe	3.082	3.100	0.018	+/- 0.150

TOOL SUMMARY	
--------------	--

TEST SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0005	+/- 0.0110	0.0002	+/- 0.0140
Magnesium Block	0.0011	+/- 0.0110	-0.0018	+/- 0.0140
Aluminum Block	-0.0007	+/- 0.0110	0.0012	+/- 0.0140
Resolution	9.70	6.00 - 11.50	8.95	6.00 - 11.50
Internal Verifier(B+D+P+L)	1624	1200 - 2700	989	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 - 10951300	Reference Calibration Date:	07-May-10 13:25:18	
Engineer:	K. WOOD	Calibration Date:	22-May-10 17:28:32	
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1	

Pad Temperature: 84.4 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1624.229	1627.735	3.506	16.199
Far (B+D+P+L) cps	988.508	988.337	-0.171	16.857
Near Resolution	9.70	9.69	-0.010	0.50
Far Resolution	8.95	9.01	0.060	1.00

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

SPECTRAL DENSITY POST CHECK				
Tool Name:	SDLT - 10951300	Reference Calibration Date:	22-May-10 17:28:32	
Engineer:	K. WOOD	Calibration Date:	22-May-10 23:15:49	
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1	

Pad Temperature: 61.1 degF

DENSITY POST CALIBRATION SUMMARY				
Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1627.735	1628.033	0.298	16.199
Far (B+D+P+L) cps	988.337	991.088	2.751	16.857
Near Resolution	9.69	10.01	0.320	0.50
Far Resolution	9.01	9.83	0.820	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed

Bkg Resolution Check:		Passed			
Bkg Verification Check:		Passed			
DENSITY CALIPER SHOP CALIBRATION					
Tool Name:	SDLT - 10951300	Reference Calibration Date:	05-May-10 09:08:30		
Engineer:	M. HUNT	Calibration Date:	05-May-10 09:15:47		
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1		
	CALIBRATION COEFFICIENTS				
	Measurement	Previous Value	New Value	Control Limit On New Value	
	Pad Offset	-2589.90	-2617.83	-7000.00 - -1000.00	
	Pad Gain	0.0003755	0.0003784	0.000200 - 0.000600	
	Arm Offset	-3250.81	-3117.32	-5000.00 - 3000.00	
	Arm Gain	0.0005057	0.0004979	0.000300 - 0.000700	
	Arm Power	-0.000001765	-0.000001270	-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)	3.73	3.75	0.02	+/- 0.20	
RING DIAMETER:					
Small Ring (in)	6.47	6.50	0.03	+/- 0.20	
Medium Ring (in)	8.24	8.25	0.01	+/- 0.20	
Large Ring (in)	15.00	15.00	0.00	+/- 0.20	
PASS/FAIL SUMMARY					
Calibration-Coefficients Range Check:			Passed		
Ring-Measurement Check:			Passed		
PASS/FAIL SUMMARY					
Calibration-Coefficients Range Check:			Passed		
SDLT CALIPER FIELD CALIBRATION					
Tool Name:	SDLT - 10951300	Reference Calibration Date:	05-May-10 09:15:47		
Engineer:	K. WOOD	Calibration Date:	22-May-10 17:41:49		
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1		
	MEASURED CALIPER VALUES				
	Measurement	Shop	Field	Change	Control Limit On New Value
	Pad Extension	3.75	3.79	0.04	+/- 0.10
	Ring Diameter	8.25	8.20	-0.05	+/- 0.15
	PASS/FAIL SUMMARY				
Pad Extension Check:			Passed		
Diameter Check:			Passed		
SDLT CALIPER POST CALIBRATION					
Tool Name:	SDLT - 10951300	Reference Calibration Date:	22-May-10 17:41:49		
Engineer:	K. WOOD	Calibration Date:	22-May-10 23:07:10		
Software Version:	WL INSITE R2.6.1 (Build 9)	Calibration Version:	1		
	MEASURED CALIPER VALUES				
	Measurement	Shop	Field	Change	Control Limit On New Value
	Pad Extension	3.75	3.79	0.04	+/- 0.10
	Ring Diameter	8.25	8.20	-0.05	+/- 0.15
	PASS/FAIL SUMMARY				

MEASURED CALIPER VALUES									
Measurement			Field	Post	Change	Control Limit On New Value			
Pad Extension			3.79	3.85	0.07	+/- 0.10			
Ring Diameter			8.20	8.18	-0.02	+/- 0.15			
PASS/FAIL SUMMARY									
Pad Extension Check:					Passed				
Diameter Check:					Passed				
ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION									
Tool Name:			ACRt - 90194258-E7486-			Reference Calibration Date:		26-Feb-10 12:33:05	
Engineer:			M. HUNT			Calibration Date:		26-Feb-10 14:15:18	
Software Version:			WL INSITE R2.6.1 (Build 9)			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	1.0416	1.05	0.95	1.0446	1.05	0.95	1.0425	1.05
A2 (50")	0.95	1.0033	1.05	0.95	1.0055	1.05	0.95	1.0043	1.05
A3 (29")	0.95	1.0078	1.05	0.95	1.0089	1.05	0.95	1.0057	1.05
A4 (17")	0.95	0.9930	1.05	0.95	0.9936	1.05	0.95	0.9914	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9852	1.05	0.95	0.9817	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9747	1.05	0.95	0.9708	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	-0.097	2	-6	-3.865	-2	-8	-5.003	-2
A2 (50")	-7	-2.028	-2	-6	-3.671	-2	-7	-4.414	-2
A3 (29")	-27	-11.214	-9	-9	-3.369	-3	-7	-2.808	-1
A4 (17")	-180	-103.608	-60	-45	-32.623	-15	-39	-25.974	-13
A5 (10")	N/A	N/A	N/A	-150	-66.337	-50	-80	-34.379	-10
A6 (6")	N/A	N/A	N/A	175	263.177	525	90	137.205	270
TRANSMITTER CURRENT GAIN						R-MUD VERIFICATION			
Signal	Lower		R	Upper		Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K		0.6	0.8580	1.3		Mud Cell	0.95	1.004	1.05
36K		1.0	1.7929	2.0					
72K		1.0	1.0993	2.0					
CALIBRATION SUMMARY									
Sensor		Shop	Field	Post	Difference	Tolerance		Units	
GTET-11005602									
Gamma Ray Calibrator		239.0	234.3	237.7	-3.4	+/- 9.00		api	
DSNT-10993887									
Snow-Block Porosity		0.0683	0.0750	0.0737	0.0013	+/- 0.0150		decp	
SDLT-10951300									
Near(B+D+P+L)		1624.229	1627.735	1628.033	-0.298	+/-16.199		cps	
Far(B+D+P+L)		988.508	988.337	991.088	-2.751	+/-16.857		cps	
Pad Extension		3.75	3.79	3.85	-0.06	+/-0.10		in	
Ring Diameter		8.25	8.20	8.18	0.020	+/-0.15		in	

Mud Cell	1.004	-----	-----	0.000	-----	ohm-m
----------	-------	-------	-------	-------	-------	-------

Data: WW_HARLEY_DOME1\0001 IQ-TRIPLE\IDLE	Date: 22-May-10 23:21:38
---	--------------------------

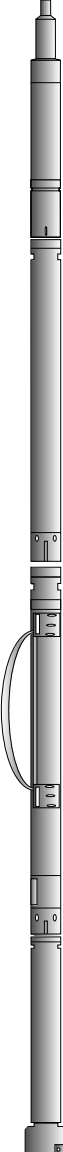
HALLIBURTON

CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	22-May-10 20:57:21	294.75	Logging 001 22-May-10 20:57 Dn @294.8f
	22-May-10 21:05:08	1730.55	Halting 001 22-May-10 20:57 Dn @294.8f
	22-May-10 21:05:22	1735.00	Logging 002 22-May-10 21:05 Up @1735.0f
	22-May-10 21:13:11	1383.09	Halting 002 22-May-10 21:05 Up @1735.0f
	22-May-10 21:16:52	1734.00	Logging 003 22-May-10 21:16 Up @1734.0f
	22-May-10 21:50:25	28.32	Halting 003 22-May-10 21:16 Up @1734.0f
Data: WW_HARLEY_DOME1\0001 IQ-TRIPLE\HW11256	Date: 22-May-10 21:53:06		

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 @ 51.42 ft ← BH Temperature @ 50.85 ft	6.25 ft	55.10 ft
GTET-11005602 165.00 lbs	Ø 3.625 in →		← GammaRay @ 42.79 ft	8.52 ft	48.85 ft
DSNT-10993887 174.00 lbs	Ø 3.625 in →		← DSN Far @ 33.39 ft ← DSN Near @ 32.64 ft	9.69 ft	40.33 ft
SDLT-10951300	Ø 4.500 in →			10.81 ft	30.64 ft

360.00 lbs

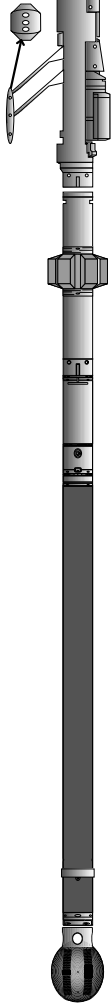
ACRt-90194258-E7486-
250.00 lbs

Cabbage Head-GJ-01
10.00 lbs

Ø 4.750 in →

Ø 3.625 in →

Ø 3.625 in
Ø 6.000 in →



SDL Microlog @ 22.83 ft
SDL Caliper @ 22.65 ft
SDL @ 22.64 ft

← Mud Resistivity @ 13.44 ft

← ACRt @ 9.46 ft

← SP @ 1.86 ft

19.83 ft

19.25 ft

0.58 ft
0.58 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	C11013846	135.00	6.25	48.85	300.00
GTET	Gamma Telemetry Tool	11005602	165.00	8.52	40.33	60.00
DSNT	Dual Spaced Neutron	10993887	174.00	9.69	30.64	60.00
DCNT	DSN Decentralizer	10917119	6.60	5.13	* 33.97	300.00
SDLT	Spectral Density Tool	10951300	360.00	10.81	19.83	60.00
ACRt	Array Compensated True Resistivity	90194258-E7486-	250.00	19.25	0.58	300.00
SP	SP Ring	1	0.00	0.25	* 1.86	300.00
HFCS	Hostile Full Wave Sonic Caged Metal and Rubber Standoff	01	7.94	1.33	* 17.01	300.00
CBHD	Cabbage Head	GJ-01	10.00	0.58	0.00	300.00

Total	1,108.54	55.10	* Not included in Total Length and Length Accumulation.
Data: WW_HARLEY_DOME1\0001 IQ-TRIPLE\IDLE			
Date: 22-May-10 21:54:23			

COMPANY	WESTWATER FARMS LLC		
WELL	HARLEY DOME 1		
FIELD	GREATER CISCO		
COUNTY	GRAND	STATE	UT
HALLIBURTON		ARRAY COMPENSATED TRUE RESISTIVITY SPECTRAL DENSITY DUAL SPACED NEUTRON	