

HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY
ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY		CATAMOUNT ENERGY PARTNERS	
WELL		ELSA 34-6-19 #1	
FIELD/BLOCK		IGNACIO BLANCO	
COUNTY		LA PLATA	
STATE		CO	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date		09-Apr-15	
Run No.		ONE	
Depth - Driller		3515.00 ft	
Depth - Logger		3512.0 ft	
Bottom - Logged Interval		3510.0 ft	
Top - Logged Interval		100.0 ft	
Casing - Driller		9.625 in @ 482.0 ft	
Casing - Logger		480.0 ft	
Bit Size		8.750 in @	
Type Fluid in Hole		Water Based Mud	
Density		9.3 ppq	
Viscosity		75.00 s/qt	
PH		8.50 pH	
Source of Sample		MUD TANK	
Rm @ Meas. Temperature		2.640 ohmm @ 59.00 degF	
Rmf @ Meas. Temperature		1.98 ohmm @ 71.20 degF	
Rmc @ Meas. Temperature		2.690 ohmm @ 71.00 degF	
Source Rmf		MEASURED	
Rmc		MEASURED	
Rm @ BHT		1.54 ohmm @ 106.0 degF	
Time Since Circulation		6.5 hr	
Time on Bottom		09-Apr-15 04:31:01.000	
Max. Rec. Temperature		106.0 degF @ 3512.0 ft	
Equipment		11871076	
Location		GJ CO	
Recorded By		P. DIMPFL	
Witnessed By		D. ARNOLD	

COMPANY	CATAMOUNT ENERGY PARTNERS
WELL	ELSA 34-6-19 #1
FIELD/BLOCK	IGNACIO BLANCO
COUNTY	LA PLATA
STATE	CO

API No.	05067099220000
Location	SURFACE HOLE LOCATION: 1303' FSL & 290' FEL BOTTOM HOLE LOCATION: 1967' FSL & 840' FWL LATITUDE: 37.172660 LONGITUDE: -107.533660
Sect.	19
Twp.	34N
Rge.	6W
Other Services:	RWCH

Elev.	6970.0 ft
D.F.	6986.0 ft
G.L.	6970.0 ft

Fold here

Service Ticket No.: 902301386				API Serial No.: 05067099220000				PGM Version:							
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		N/A		ECCENT		N/A	
Rmc @ Meas. Temp.		@		@				I: 11585787							
Source Rmf		Rmc						S: 11585797							
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.		11958949		Serial No.				Serial No.		10951300		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.		GTET		Spacing				Log Type		GAMMA-GAMMA		Log Type		NEU-THERM	
Type		SCINT						Source Type		Cs137		Source Type		Am241Be	
Length		8"		LSA [Y/N]				Serial No.		5153GW		Serial No.		DSN-388	
Distance to Source		9'		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	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	3512	3000	REC	0 API	150 API				30 %	-10 %	2.65 g/cc	30 %	-10 %	SAND
ONE	3000	100	REC	0 API	150 API									
DIRECTIONAL INFORMATION														
Maximum Deviation						@	KOP						@	
Remarks: RUN ONE: RWCH/GTET/DSNT/SDLT/ACRT/BN														
BORHOLE RUGOSITY, TENSION PULLS, AND WASHOUTS MAY EFFECT LOG QUALITY AND REPEATABILITY														
CHLORIDES REPORTED TO BE 900 ppm														
ANNULAR HOLE VOLUME CALCULATED USING 7-INCH CASING.														
YOU CREW TODAY: T. RAFF, B. CALDWELL, A. KOBE										RIG: D & J 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.														
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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP_____					
	SHARED	BS	Bit Size	8.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.300	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	2.640	ohmm
	SHARED	TRM	Temperature of Mud	59.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	7.000	in
	SHARED	ST	Surface Temperature	30.0	degF
	SHARED	TD	Total Well Depth	3515.00	ft
	SHARED	BHT	Bottom Hole Temperature	120.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	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
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
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 for Gamma Ray Tools.	Eccentered	
GTET	BHSM	Borehole Size Source Tool	SDLT	
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	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.650	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	0.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Eccentered	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	

BOTTOM

Data: ELSA_34_6_19_1\0001 TRIPLE\004 09-Apr-15 04:43 Up @3519.3f

Date: 09-Apr-15 05:37:05

HALLIBURTON

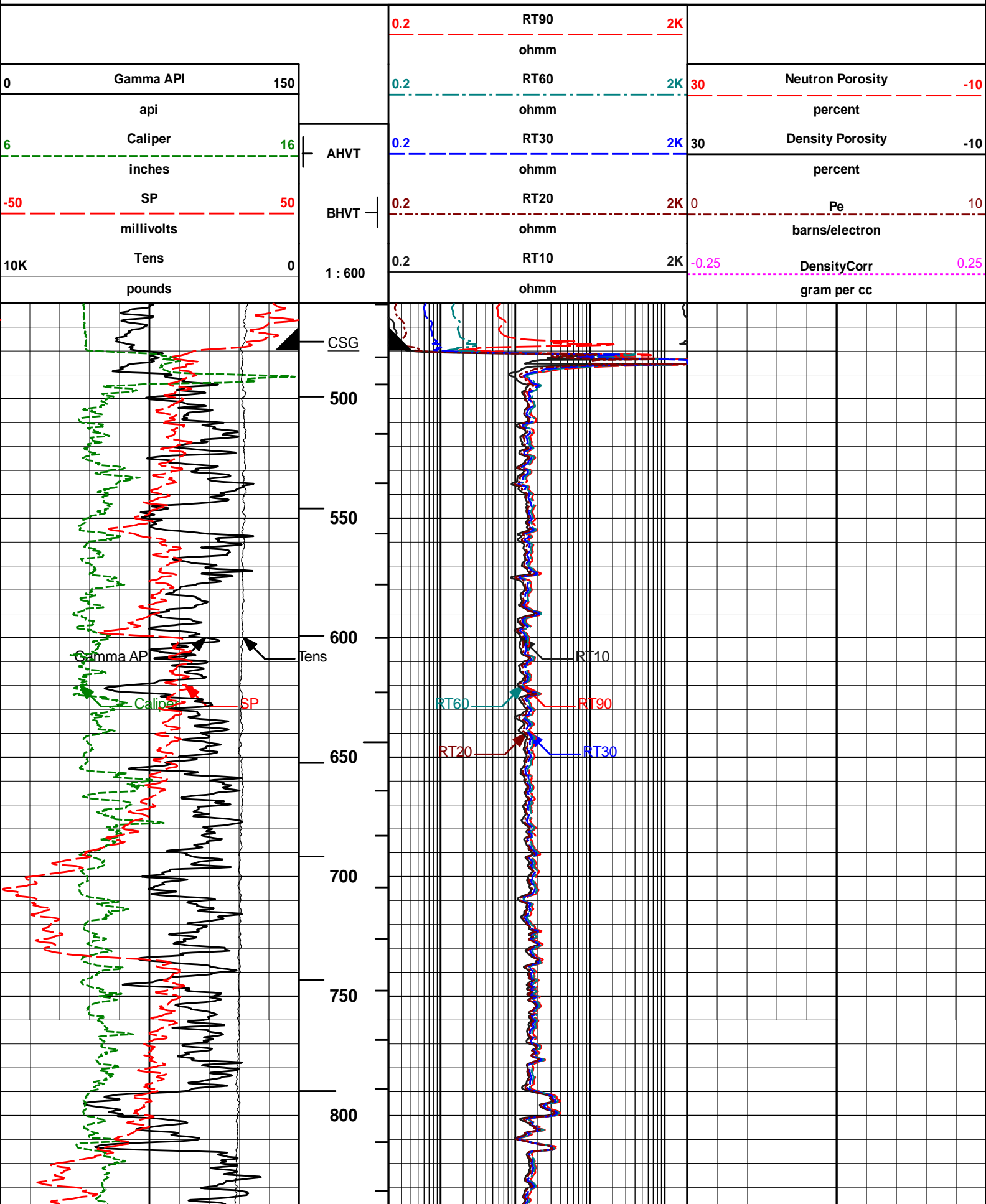
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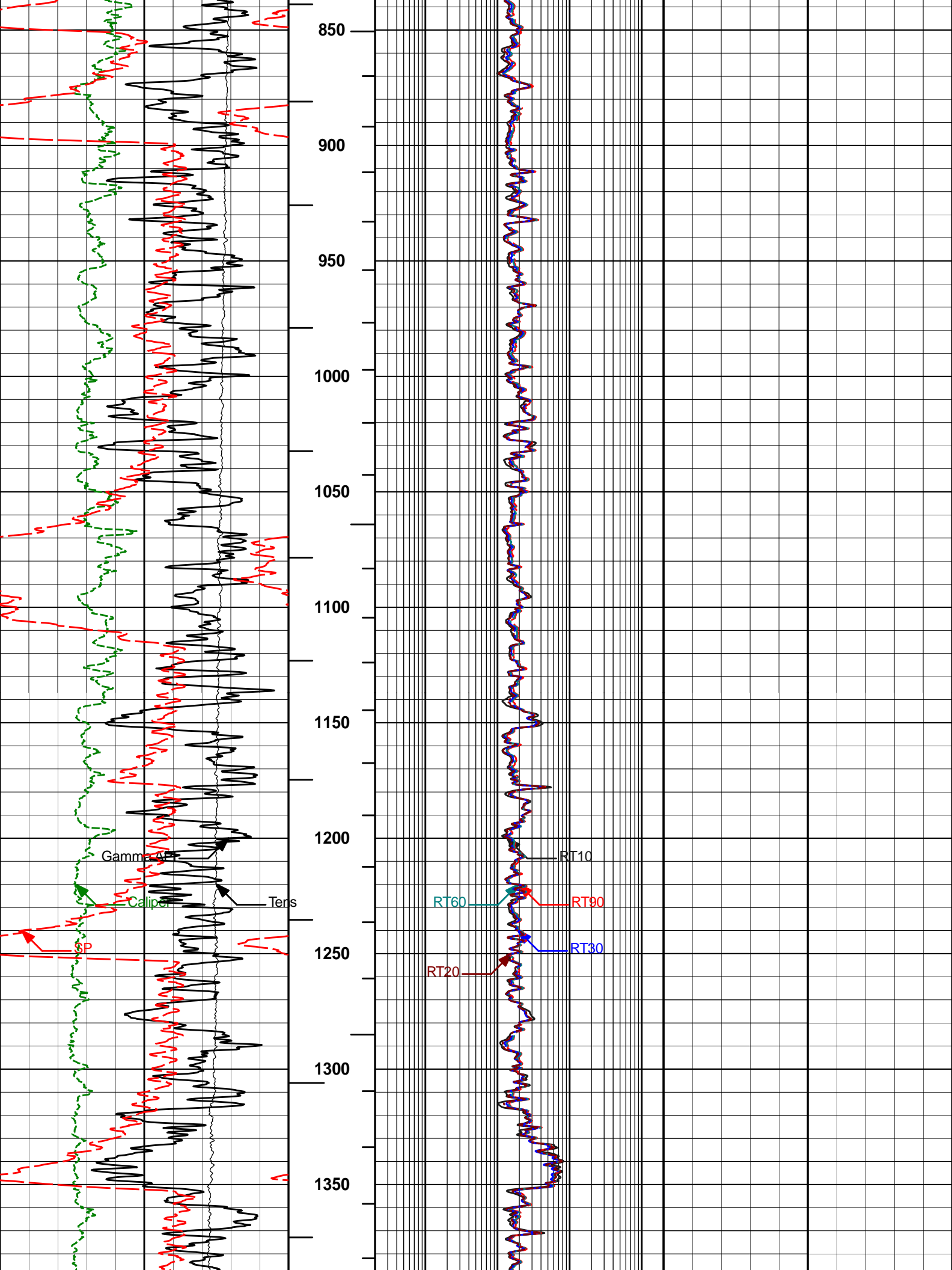
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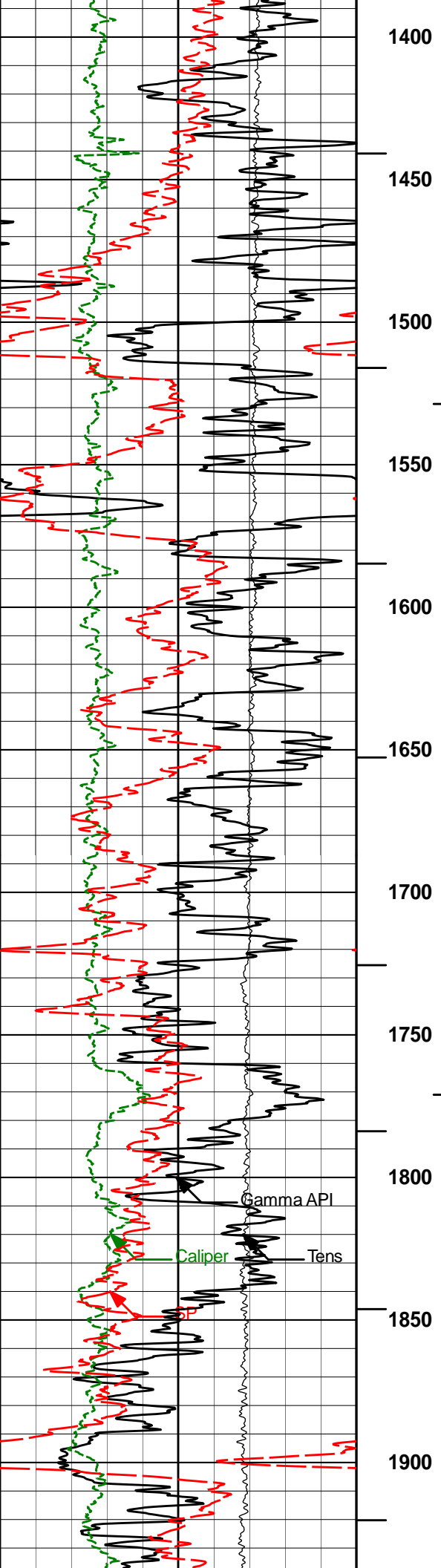
Data: ELSA_34_6_19_1\Well Based\

Plot File: \COMP\MAIN-2"

MAIN PASS 2" = 100'







1400

1450

1500

1550

1600

1650

1700

1750

1800

1850

1900

Gamma API

Caliper

Tens

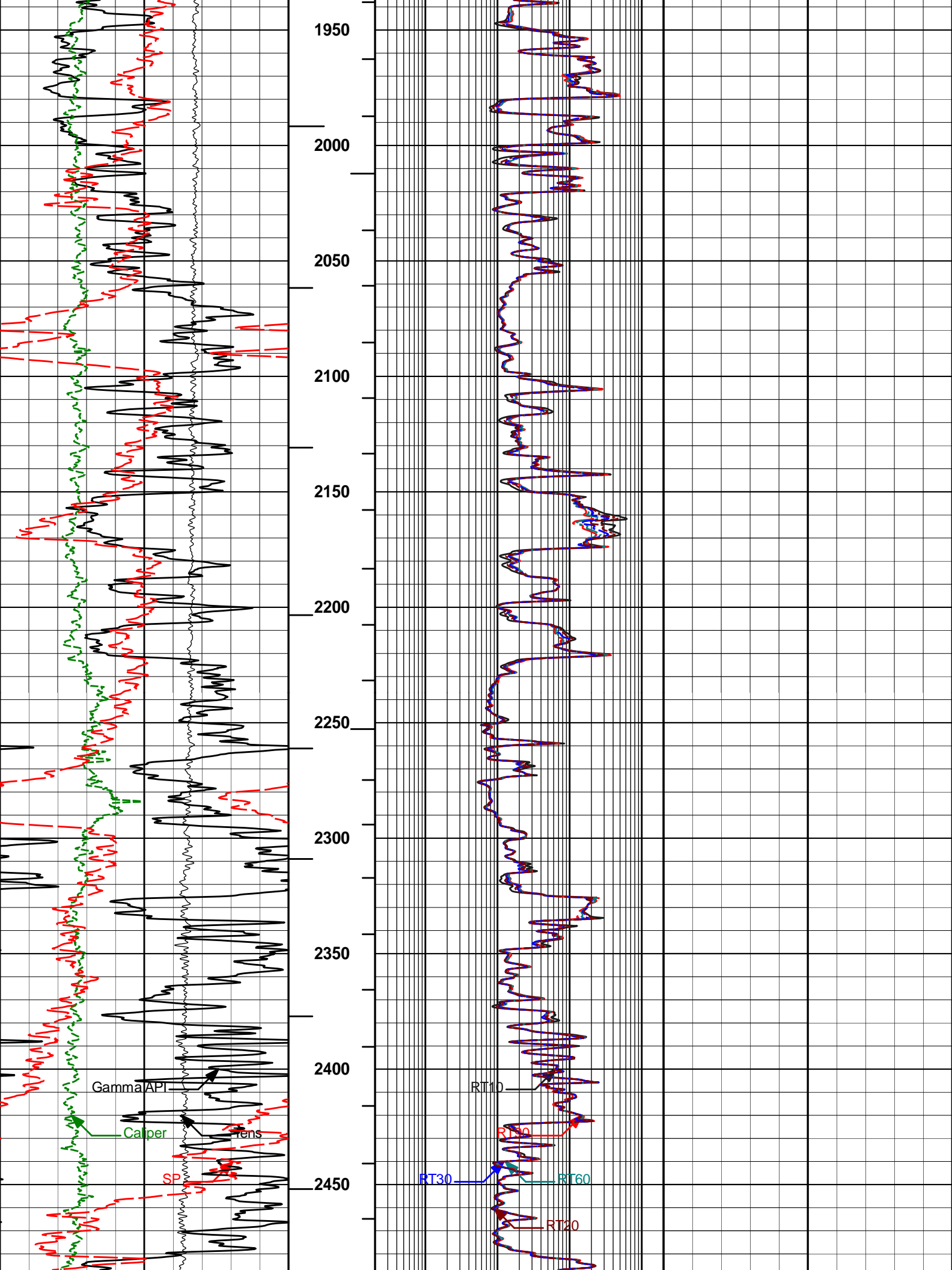
RT10

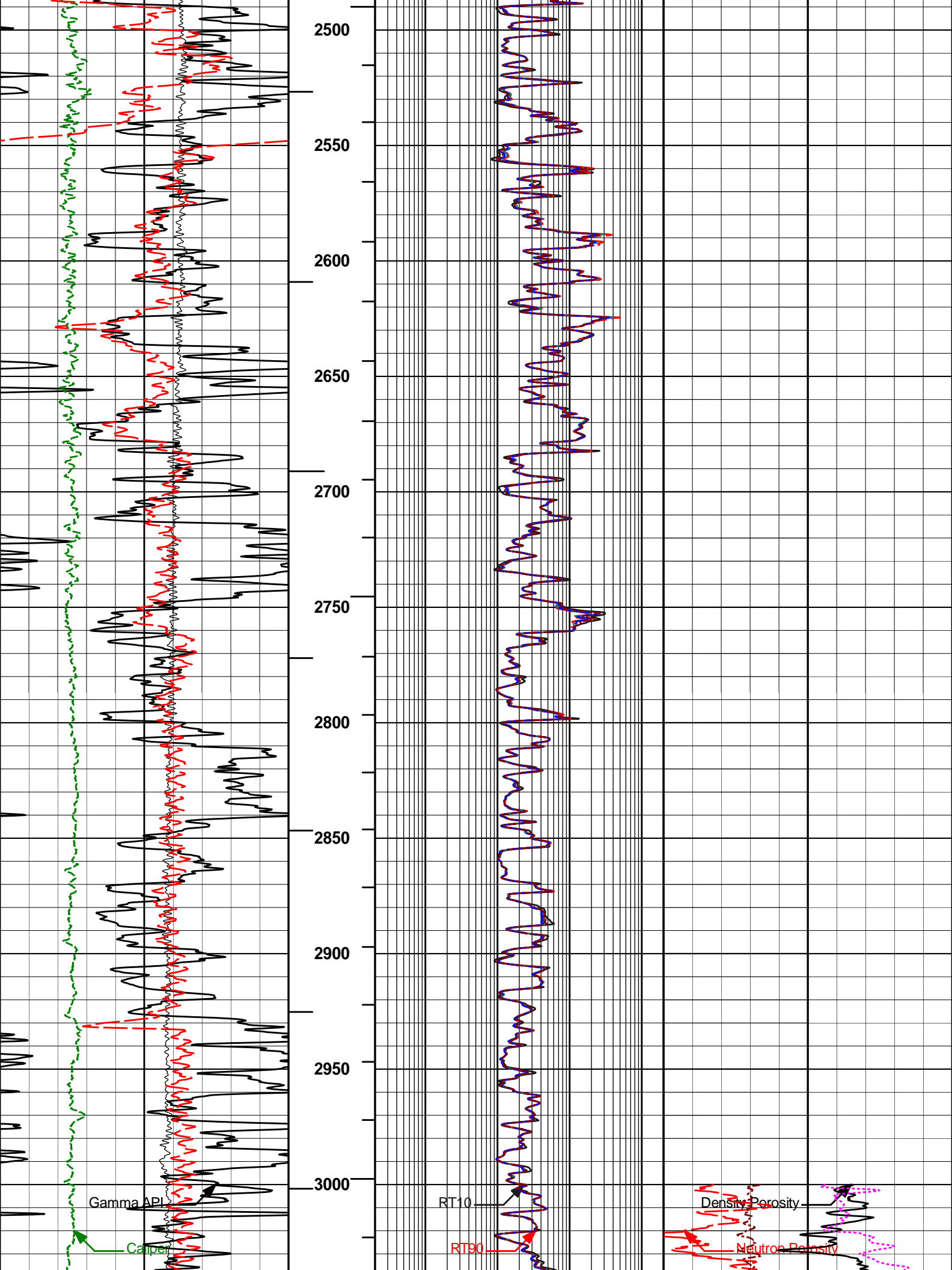
RT60

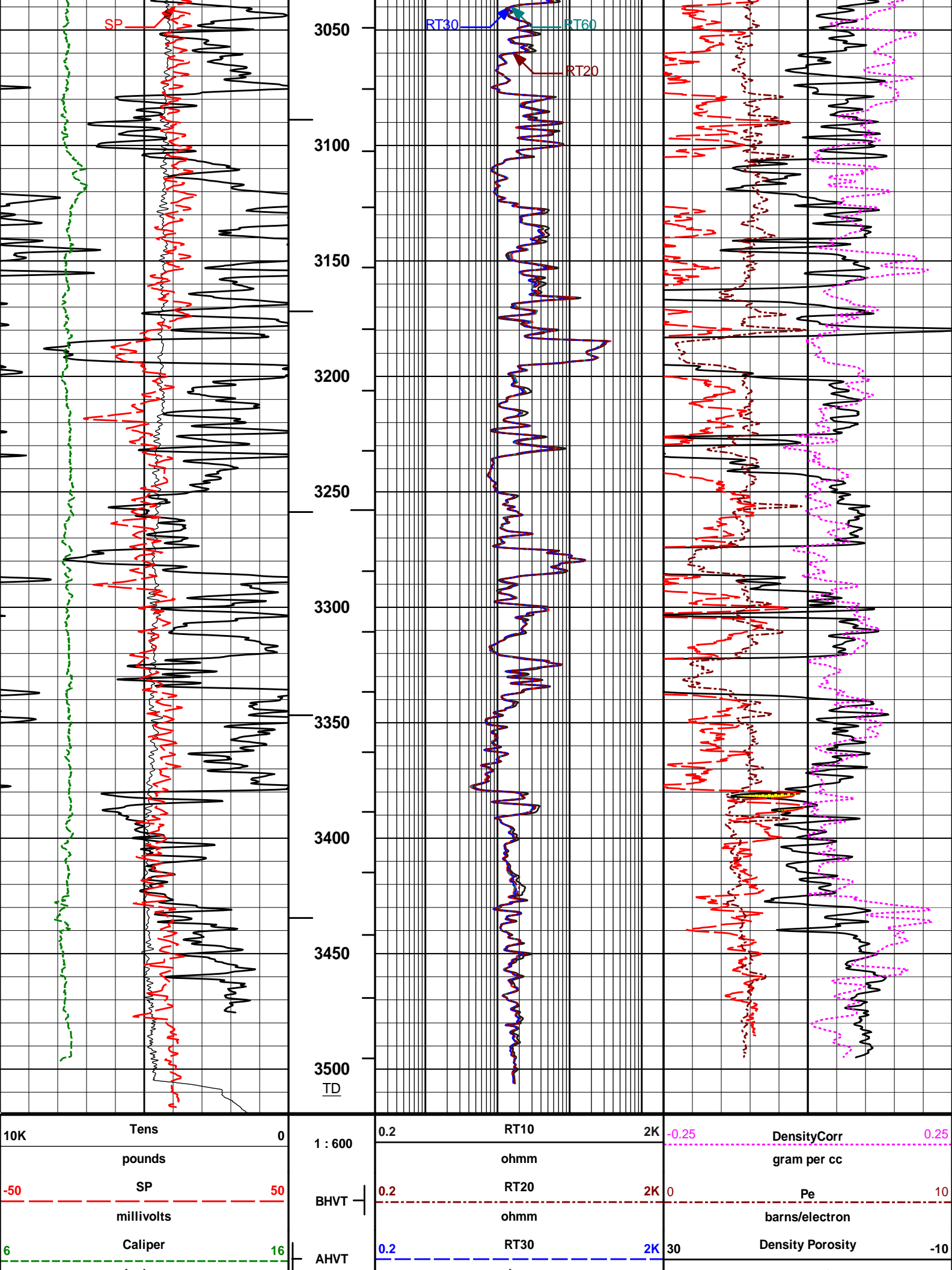
RT90

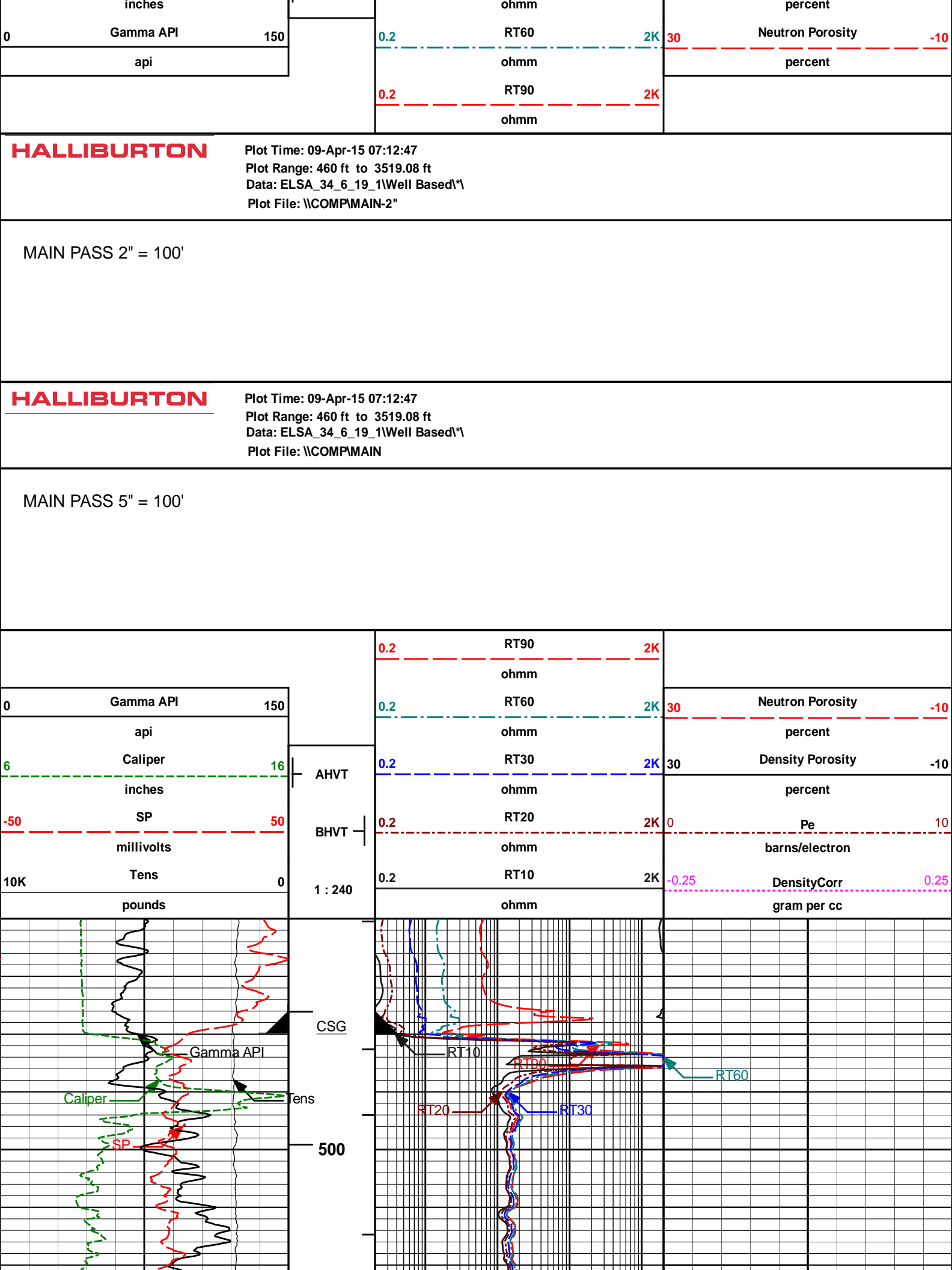
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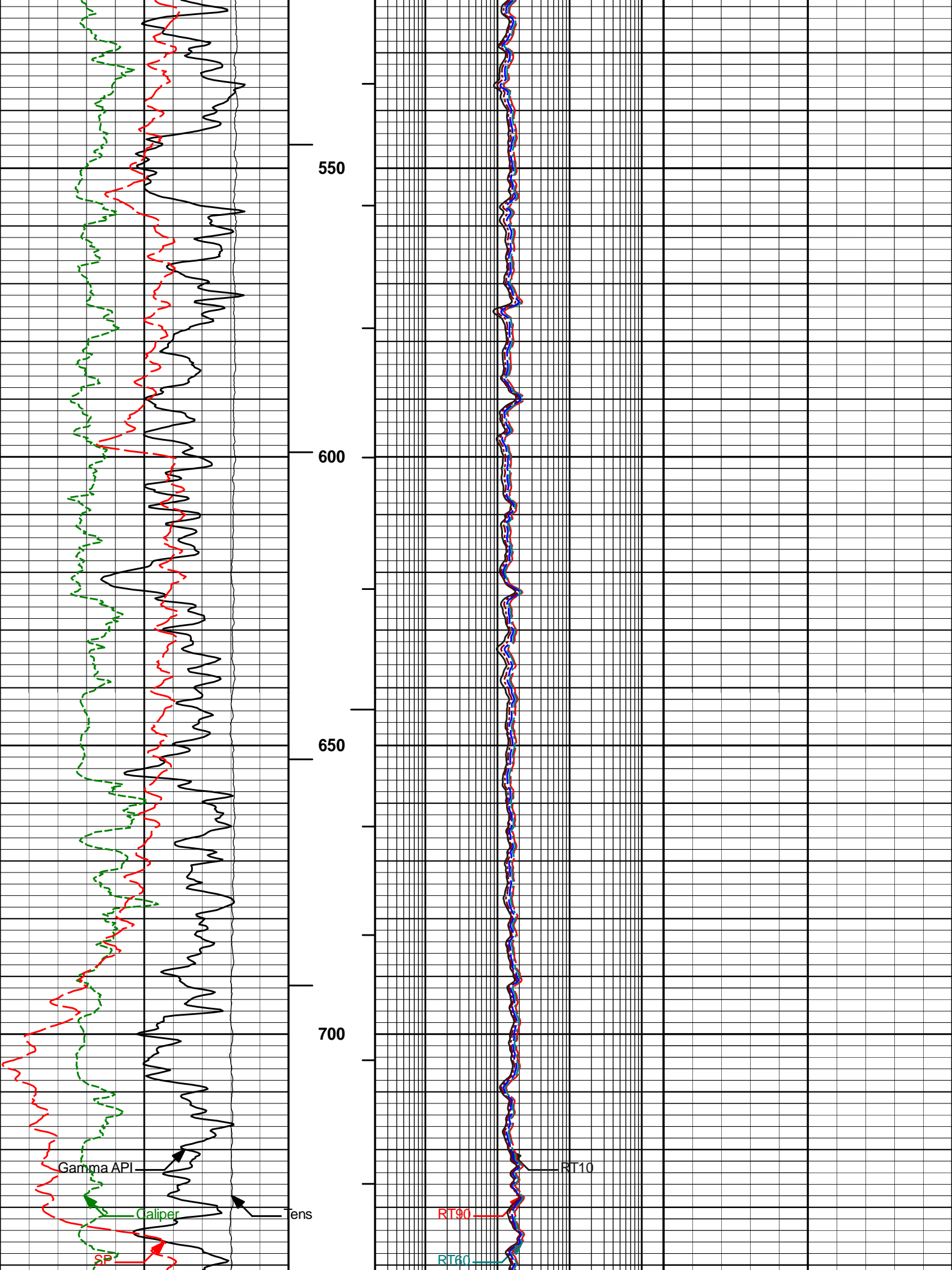
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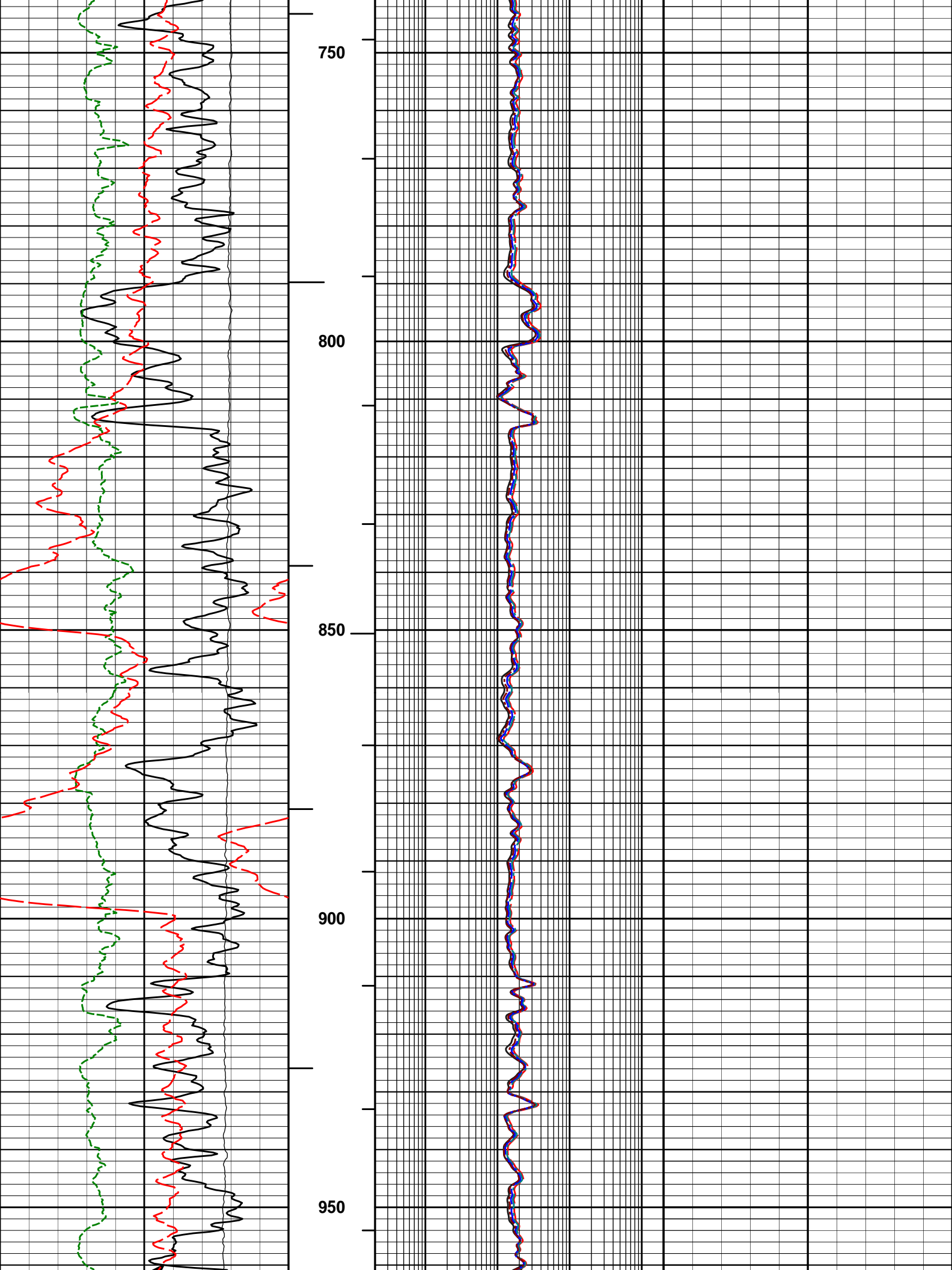


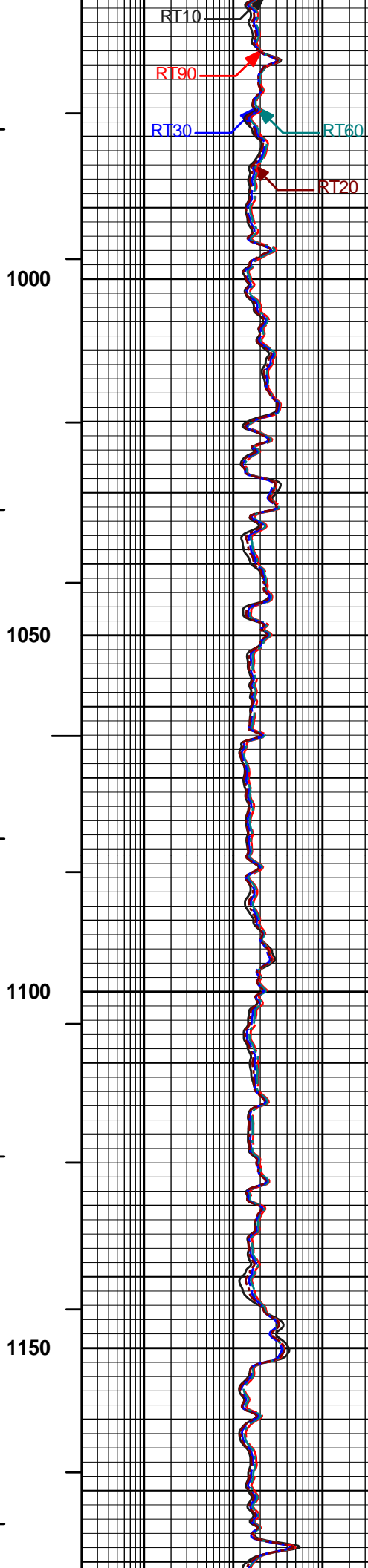
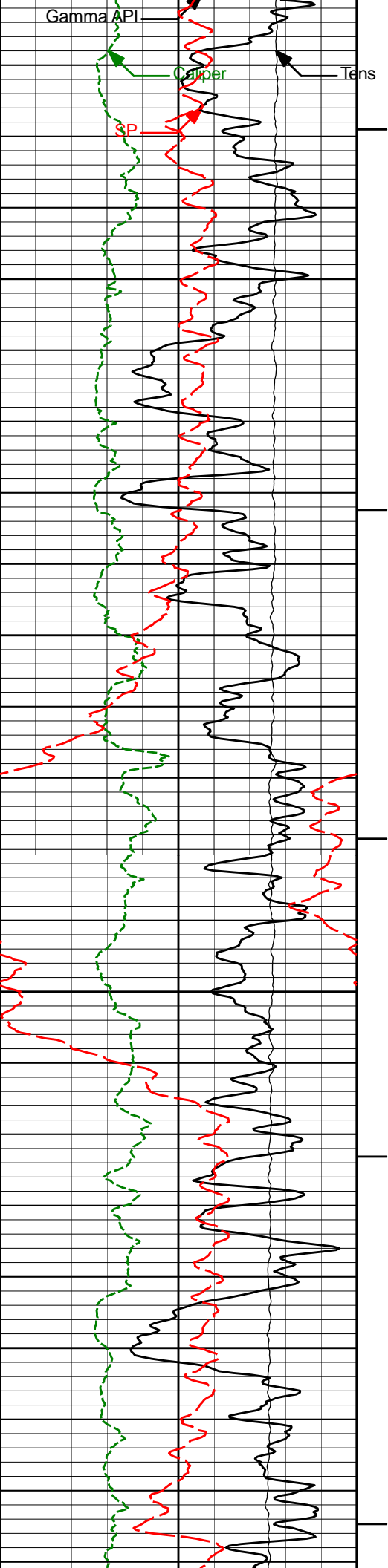


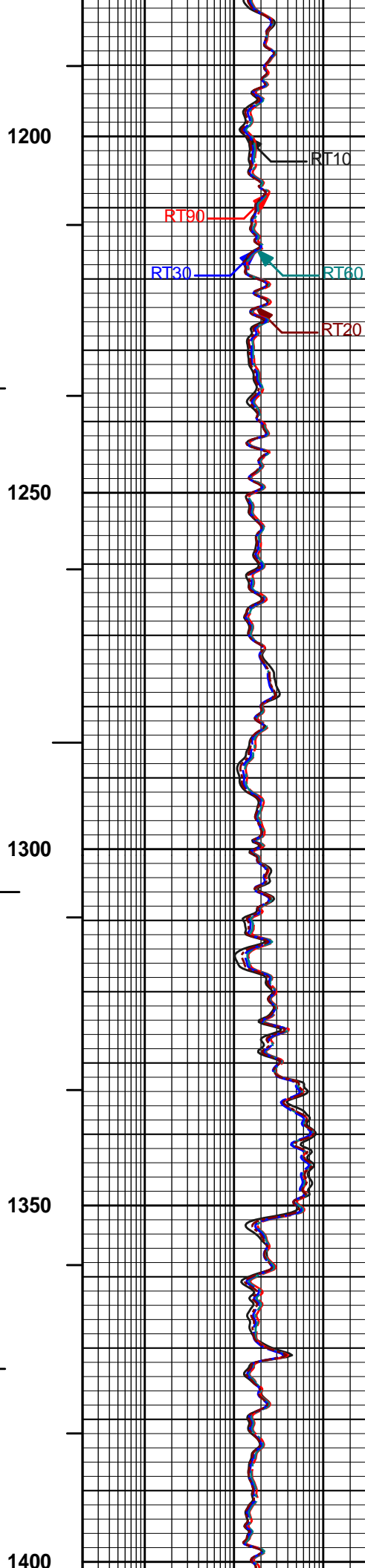
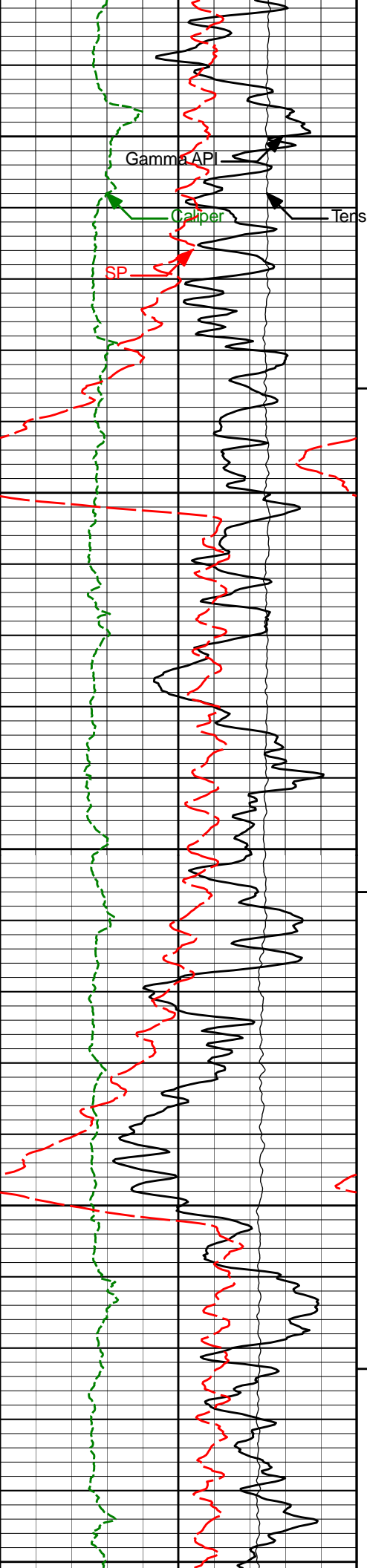


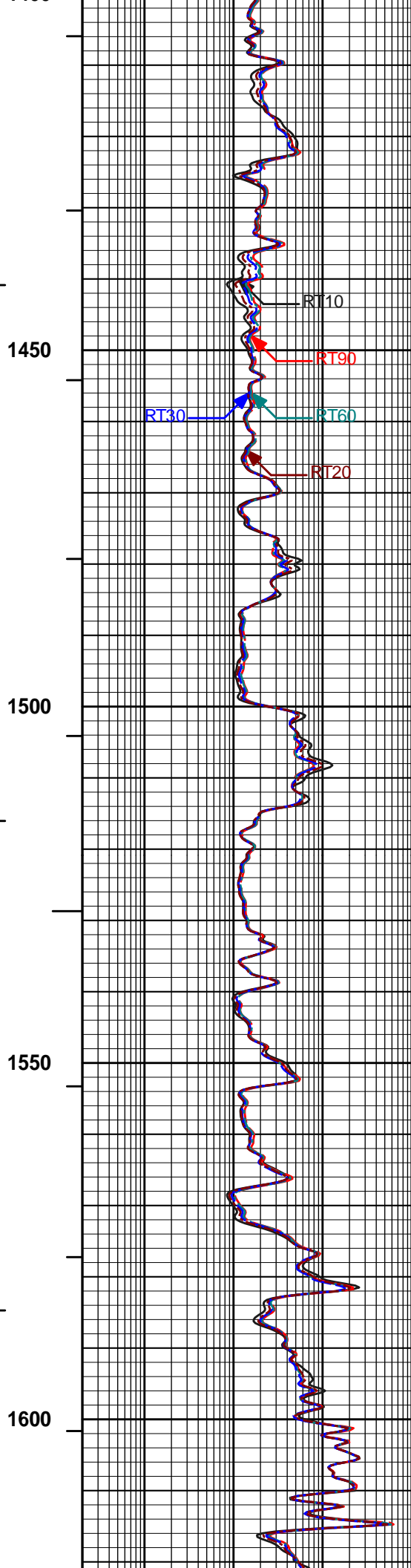
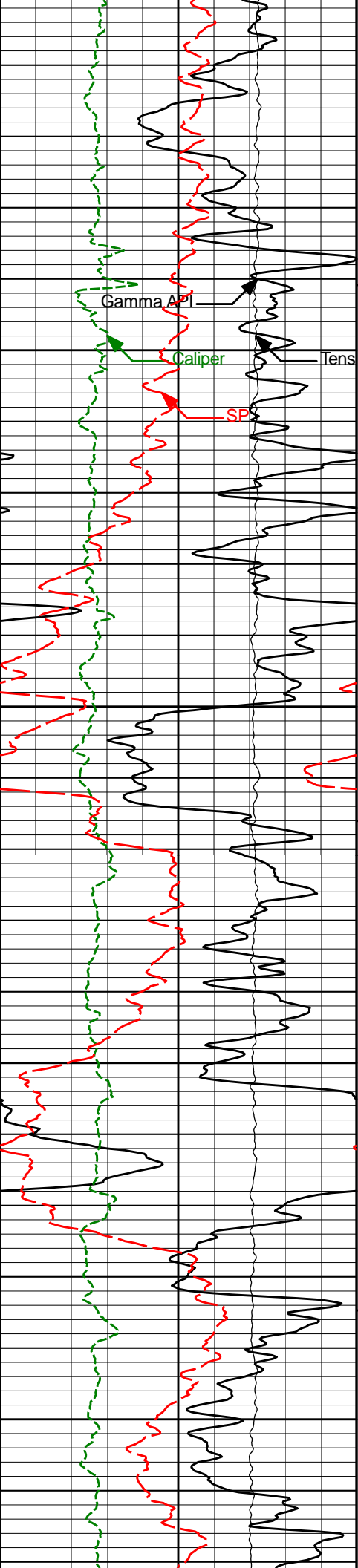


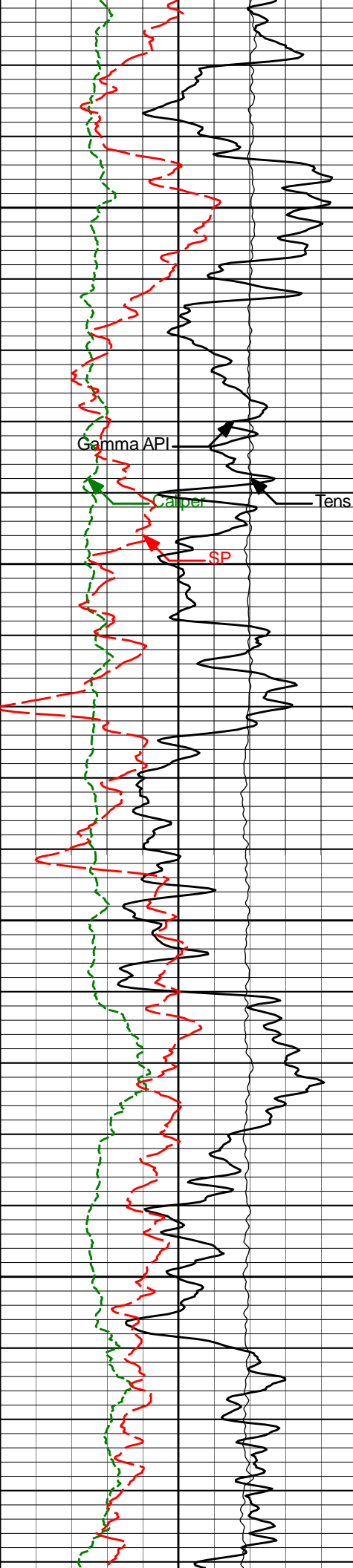










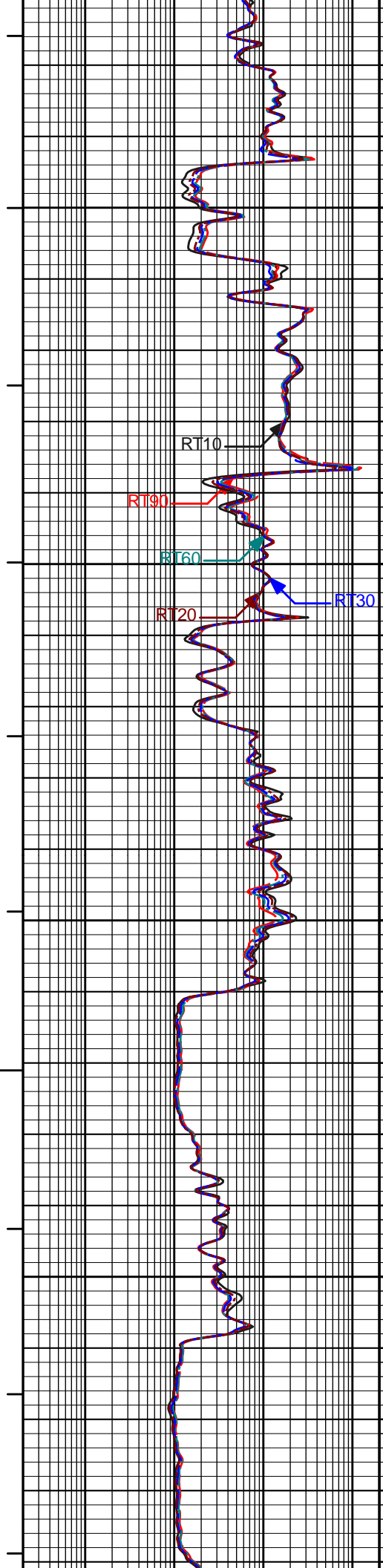


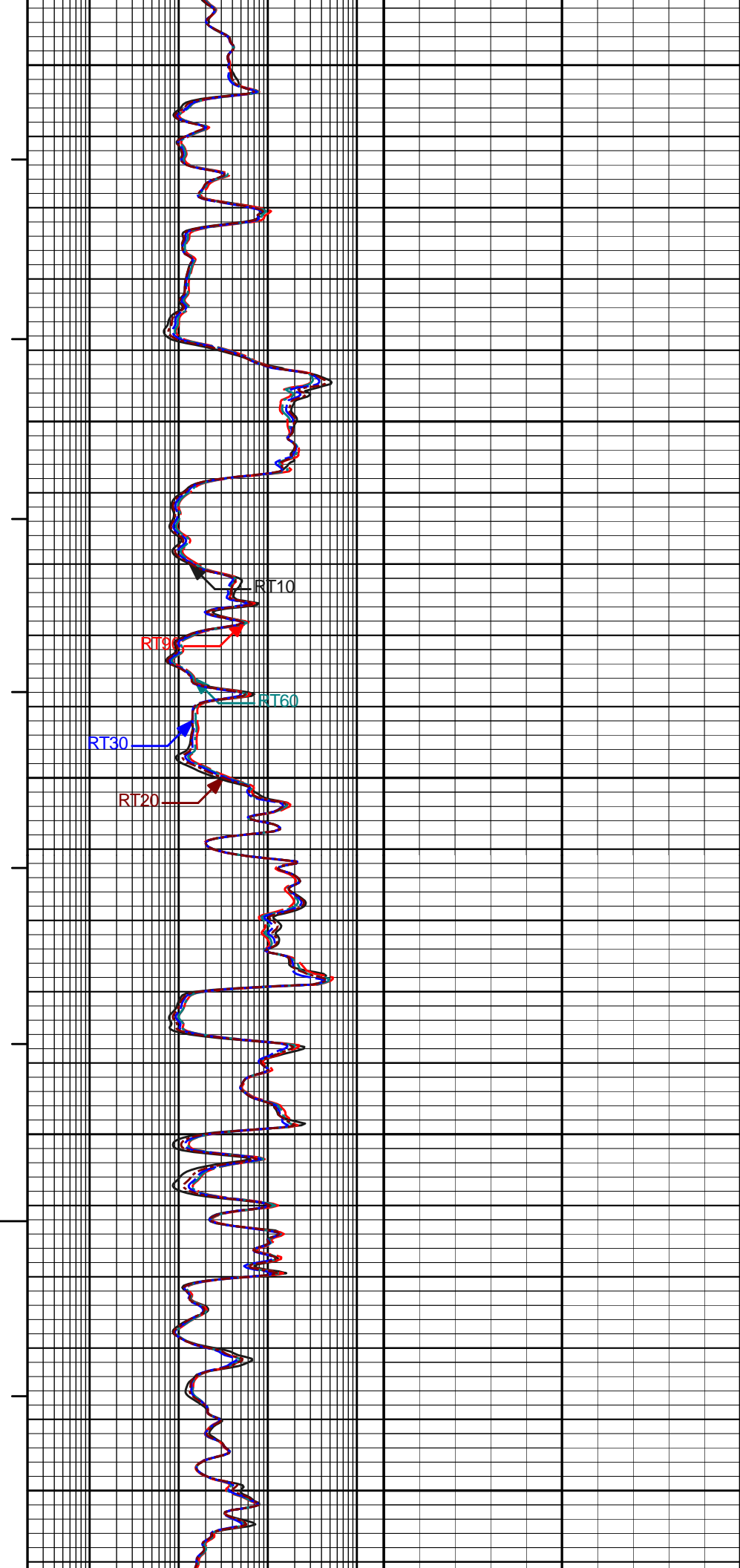
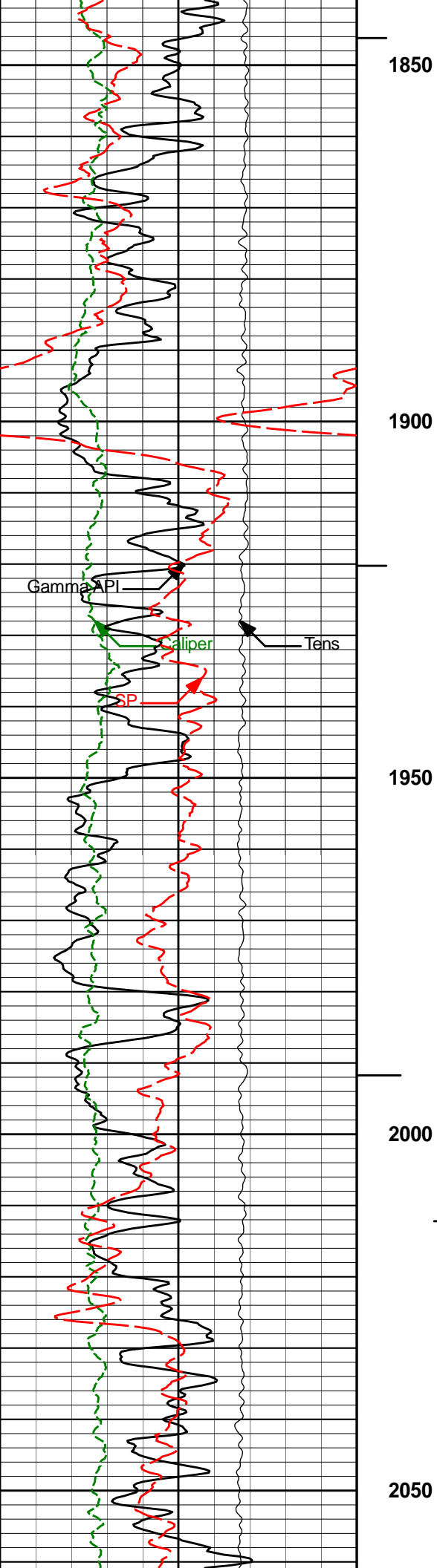
1650

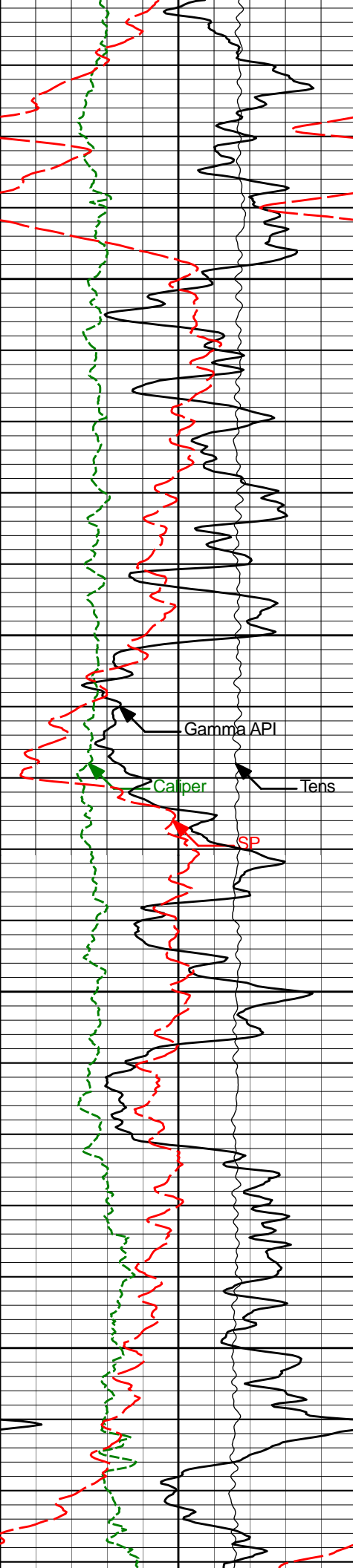
1700

1750

1800







2100

2150

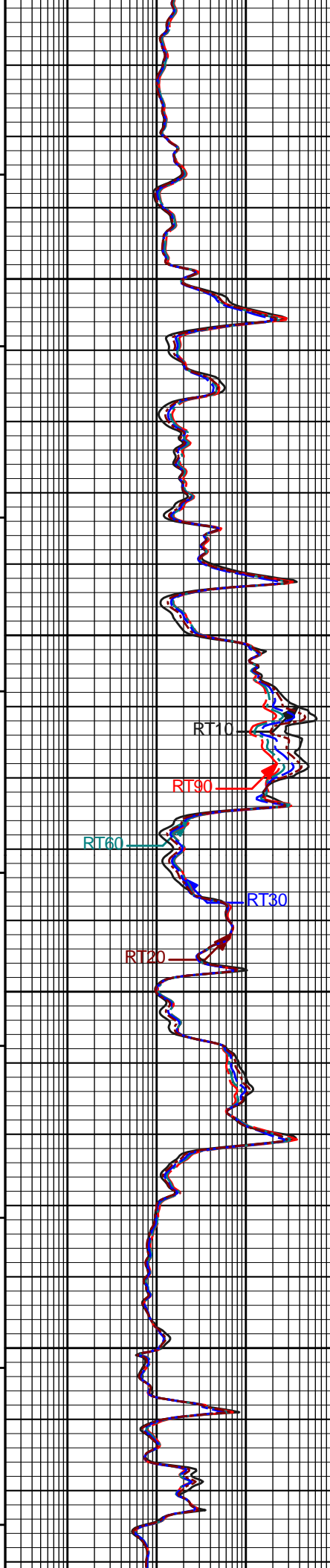
2200

2250

Gamma API

Caliper

Tens



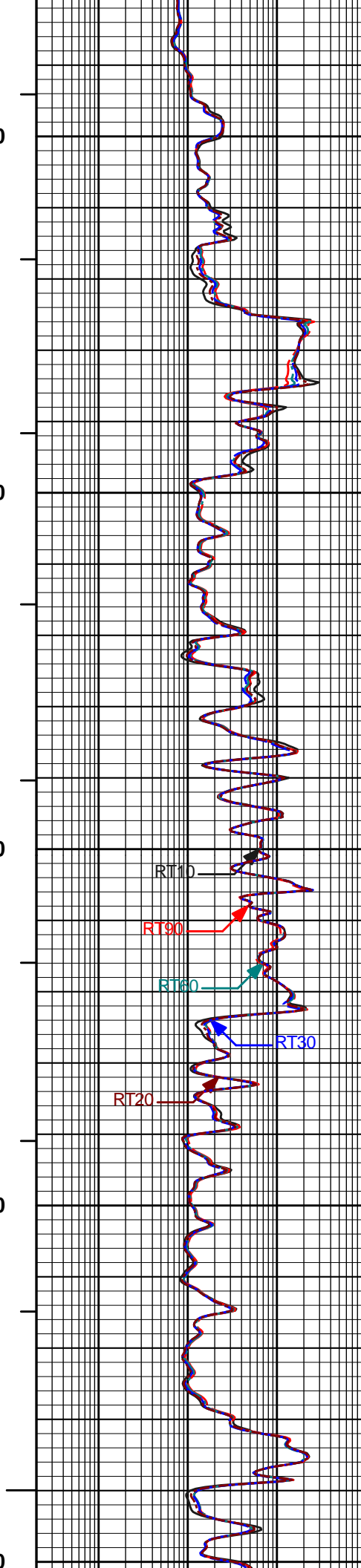
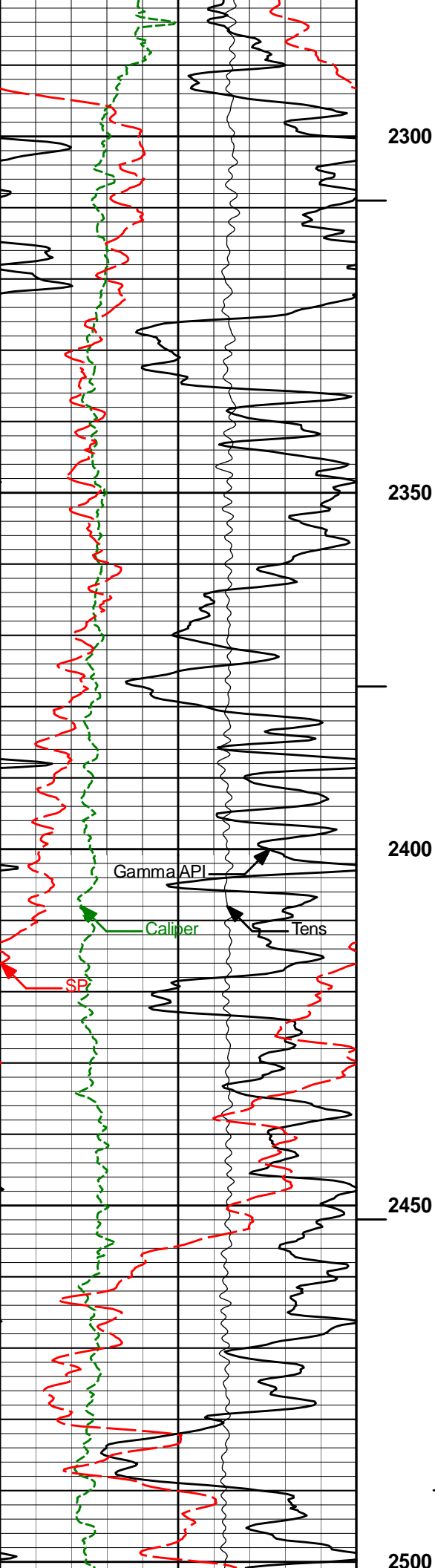
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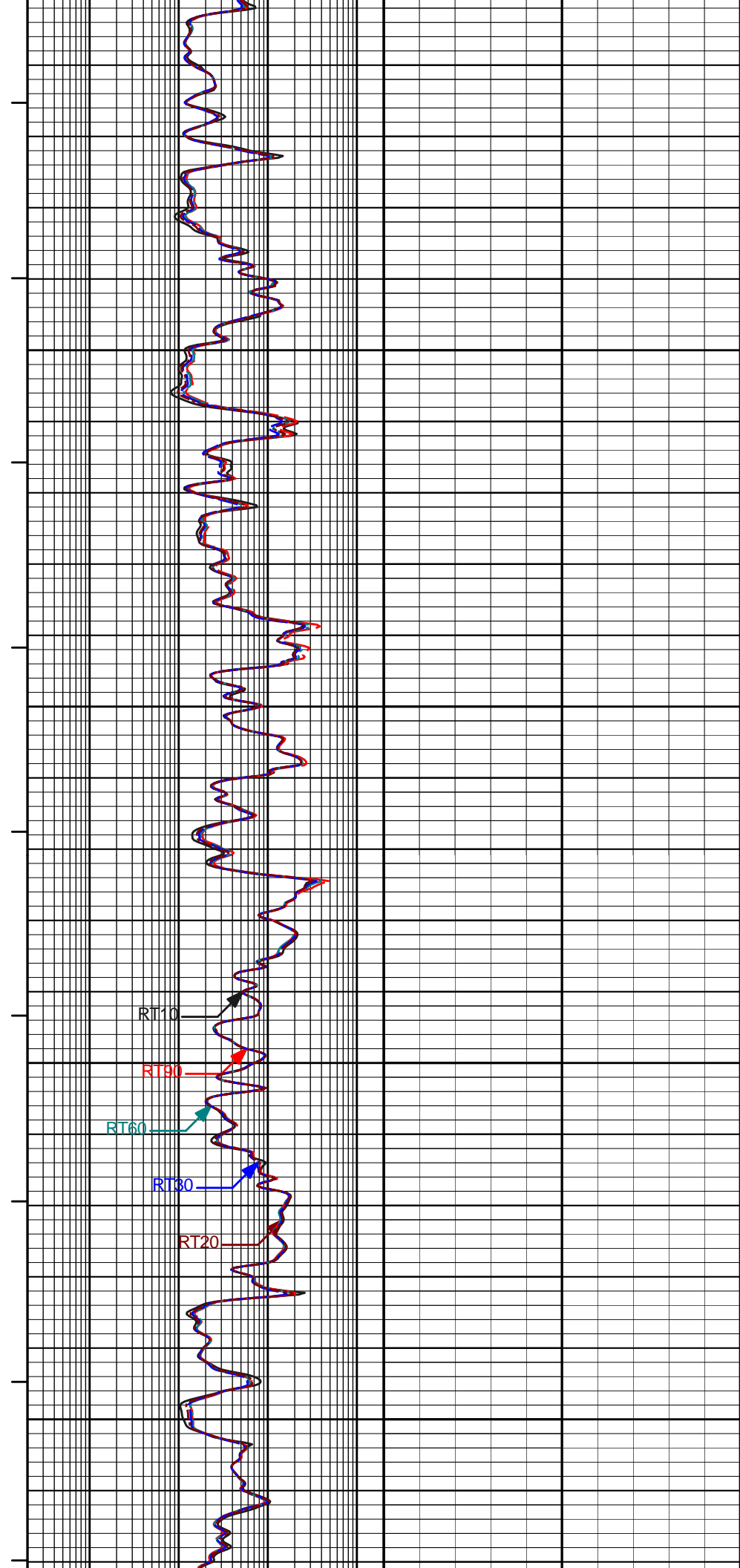
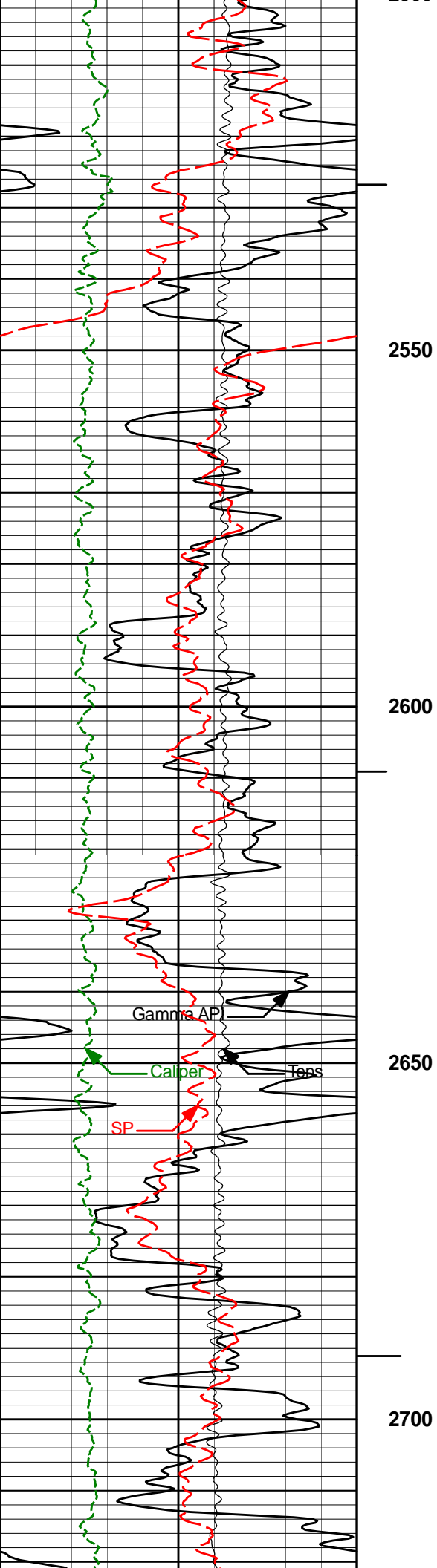
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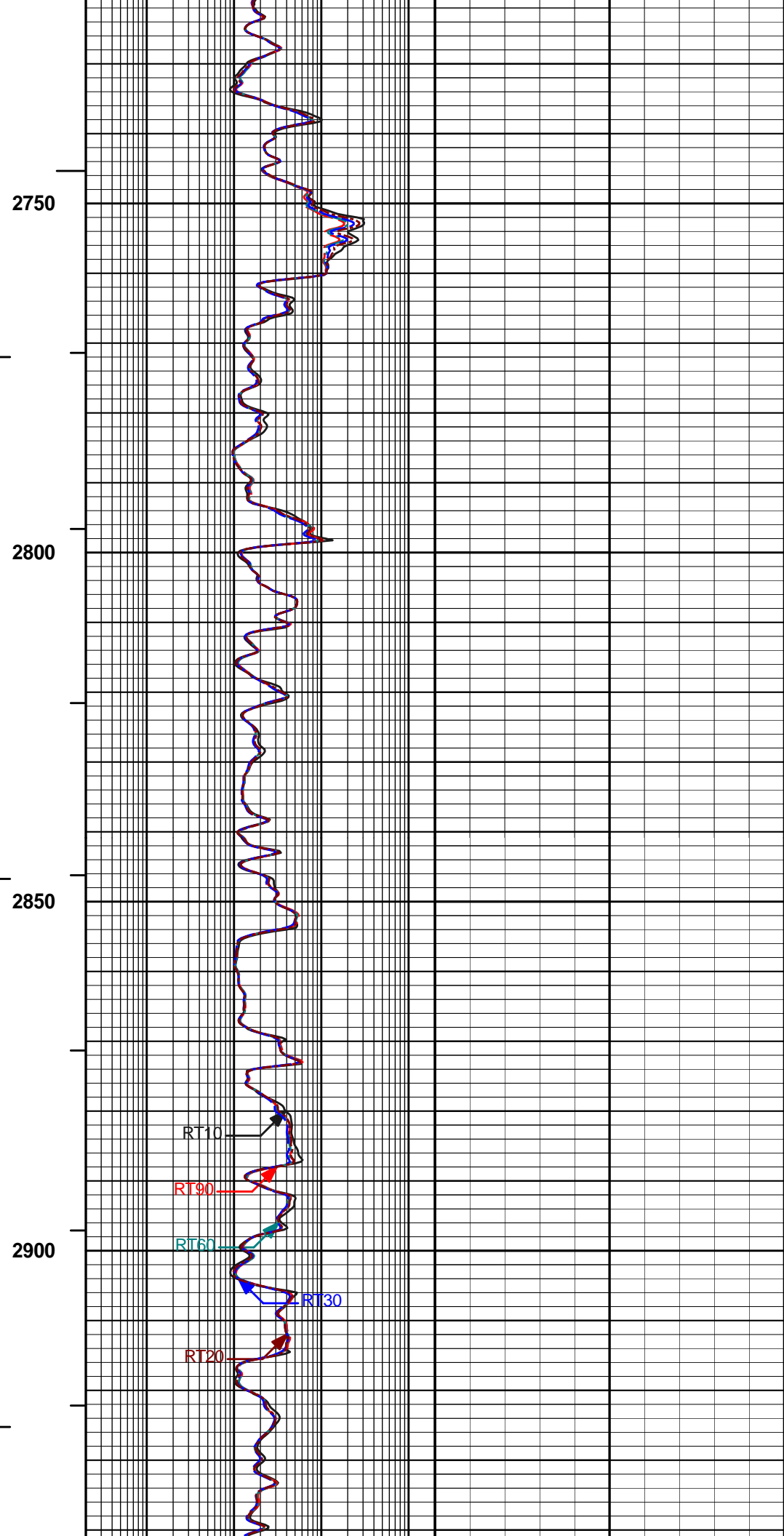
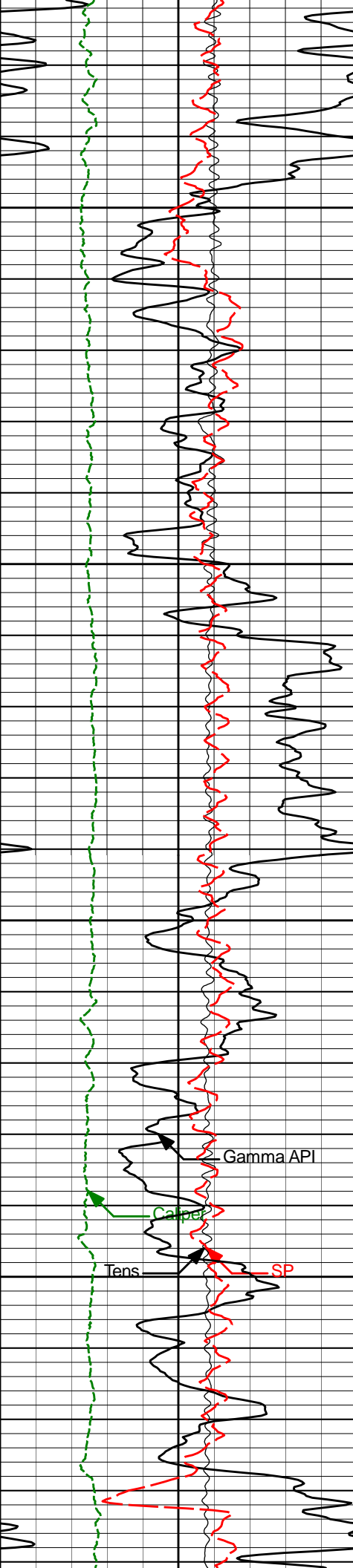
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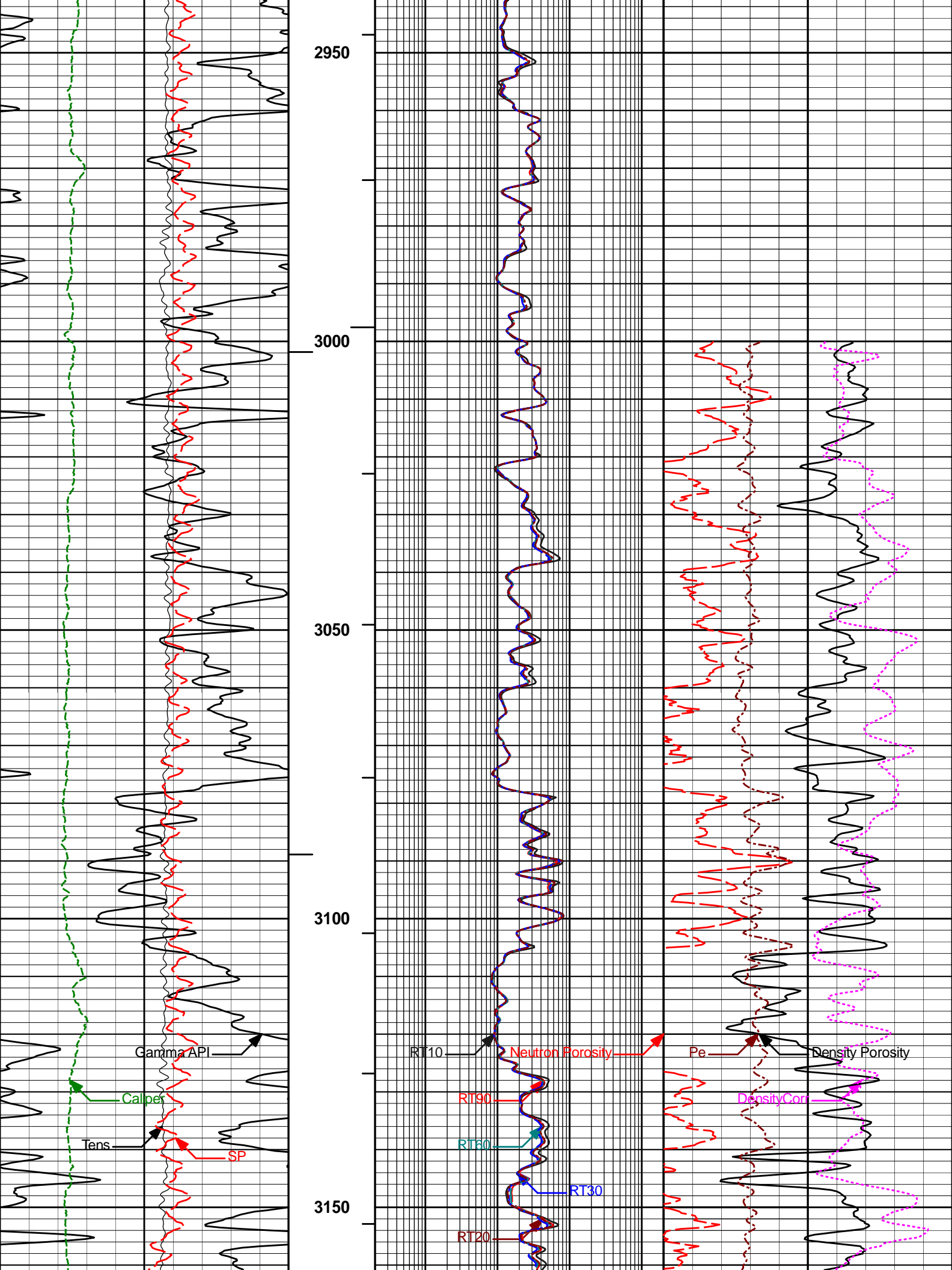
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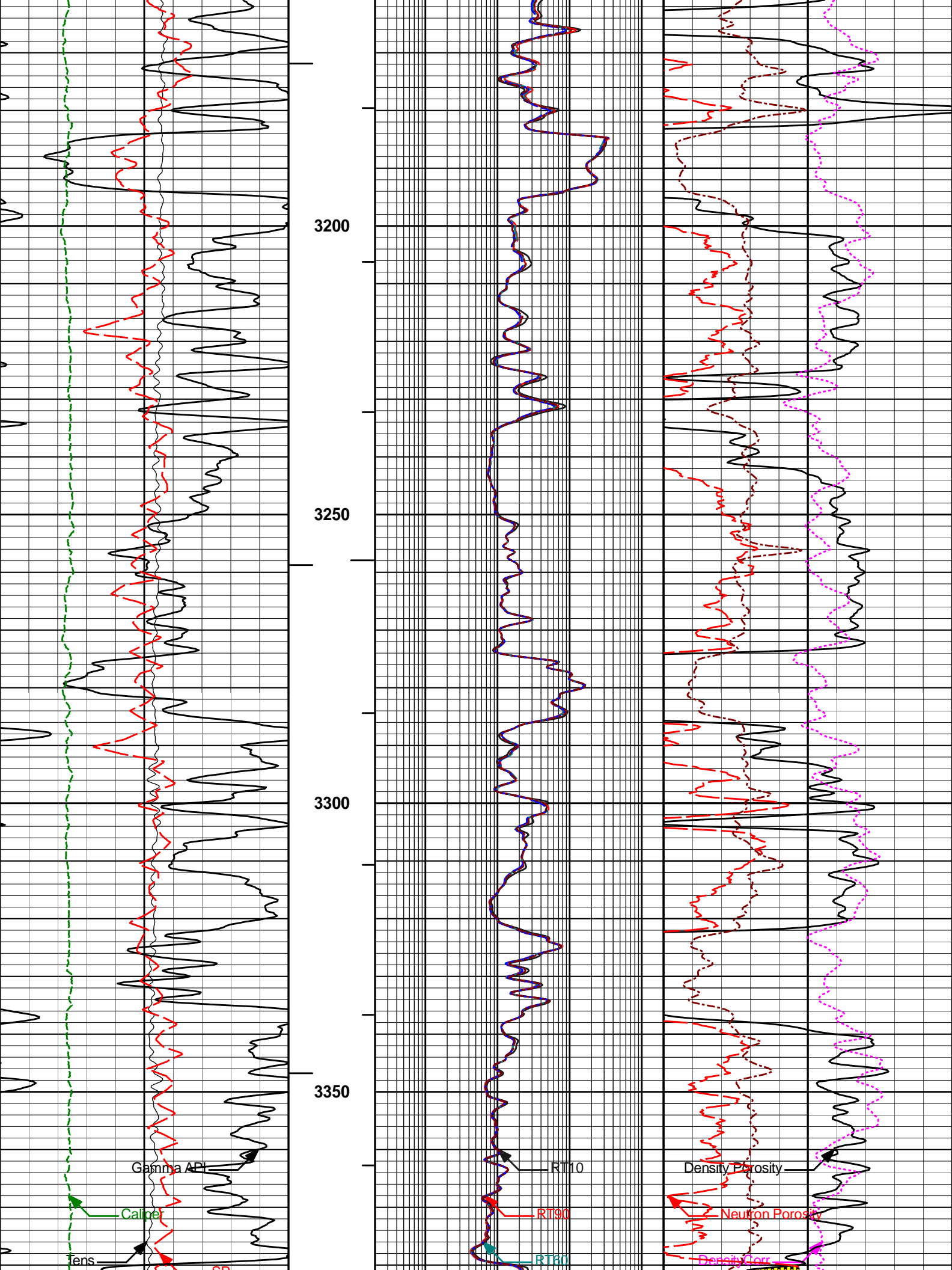
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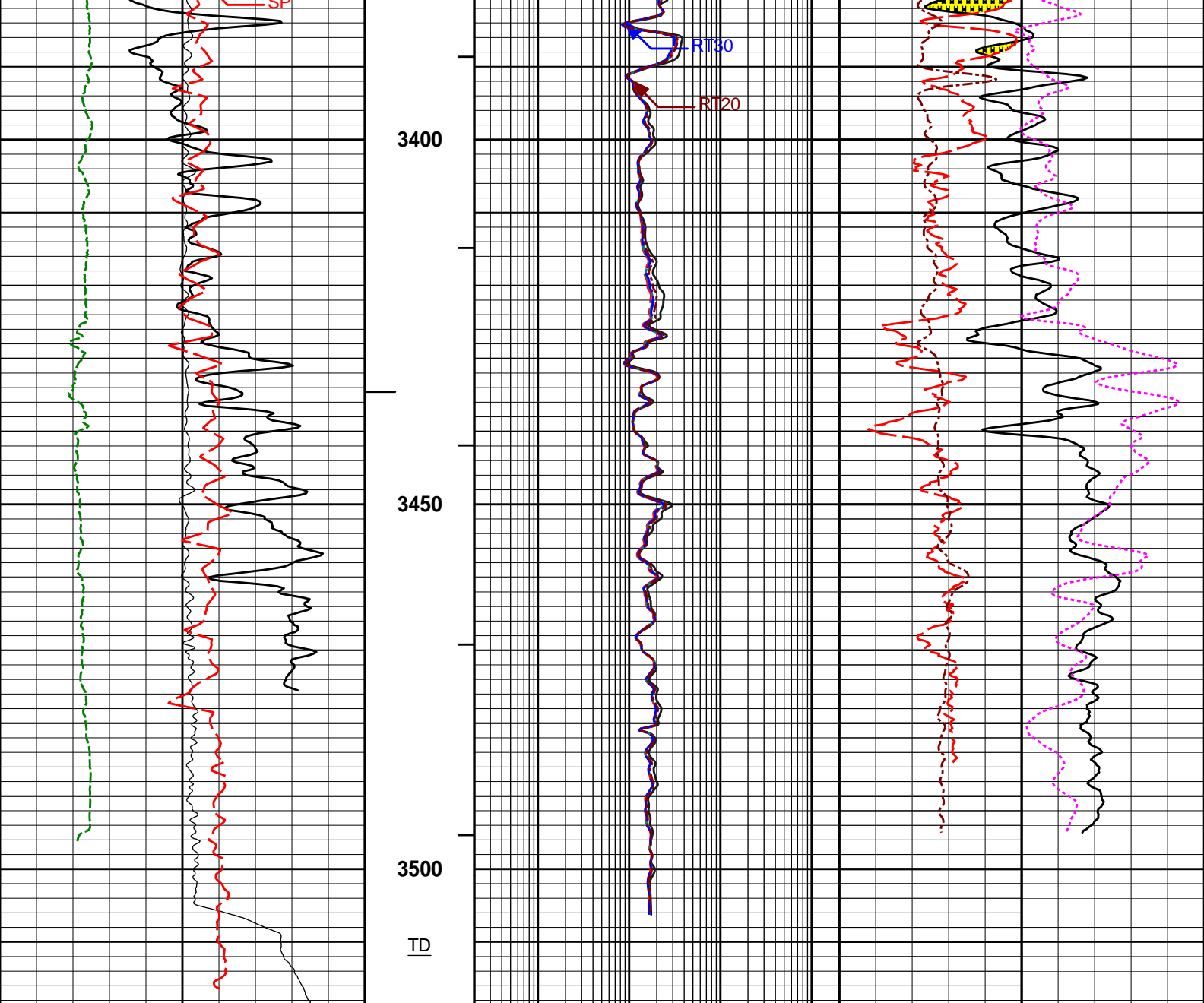












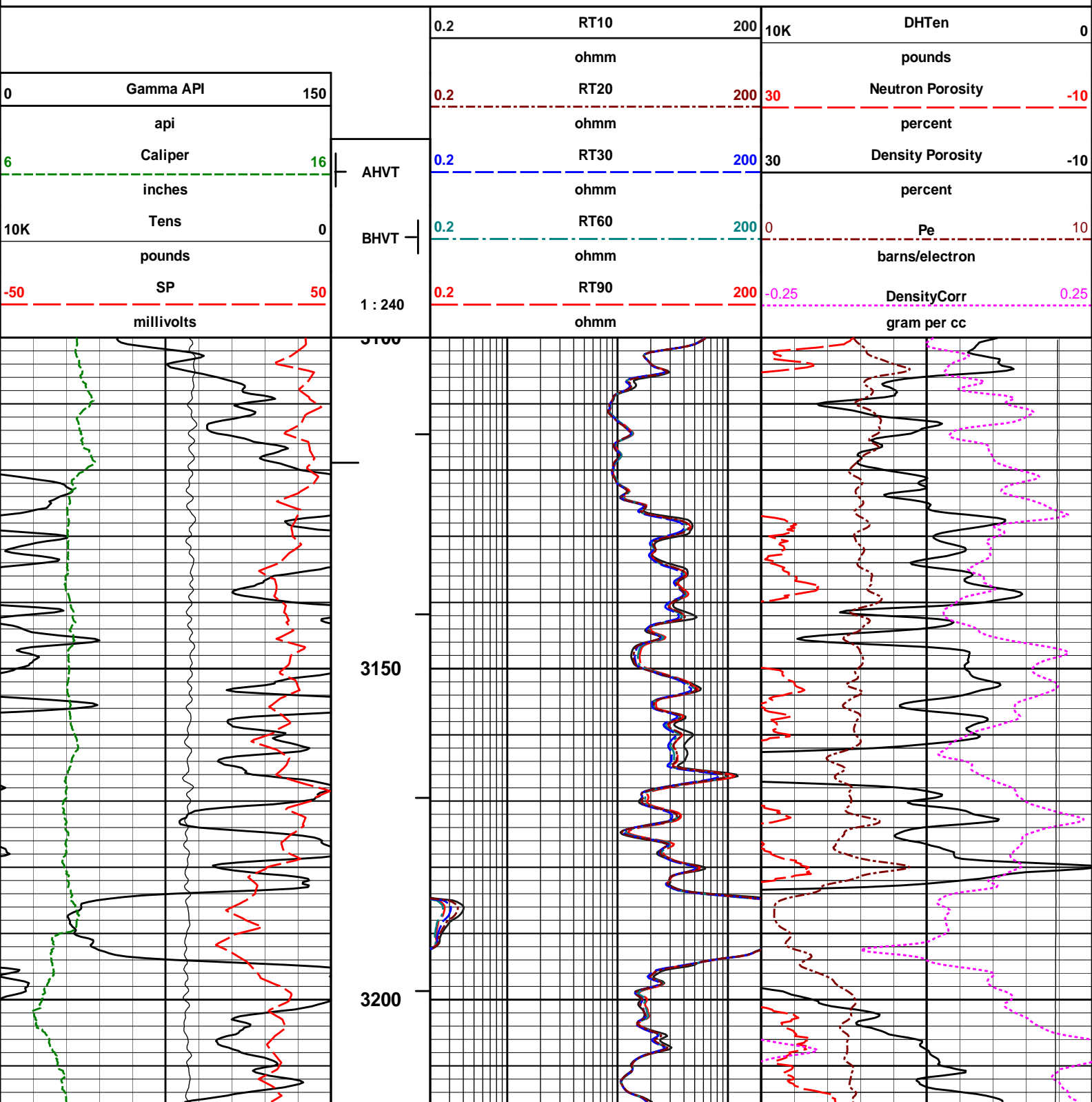
10K	Tens	0	1 : 240	0.2	RT10	2K	-0.25	DensityCorr	0.25
	pounds				ohmm			gram per cc	
-50	SP	50	BHVT	0.2	RT20	2K	0	Pe	10
	millivolts				ohmm			barns/electron	
6	Caliper	16	AHVT	0.2	RT30	2K	30	Density Porosity	-10
	inches				ohmm			percent	
0	Gamma API	150		0.2	RT60	2K	30	Neutron Porosity	-10
	api				ohmm			percent	
				0.2	RT90	2K			
					ohmm				

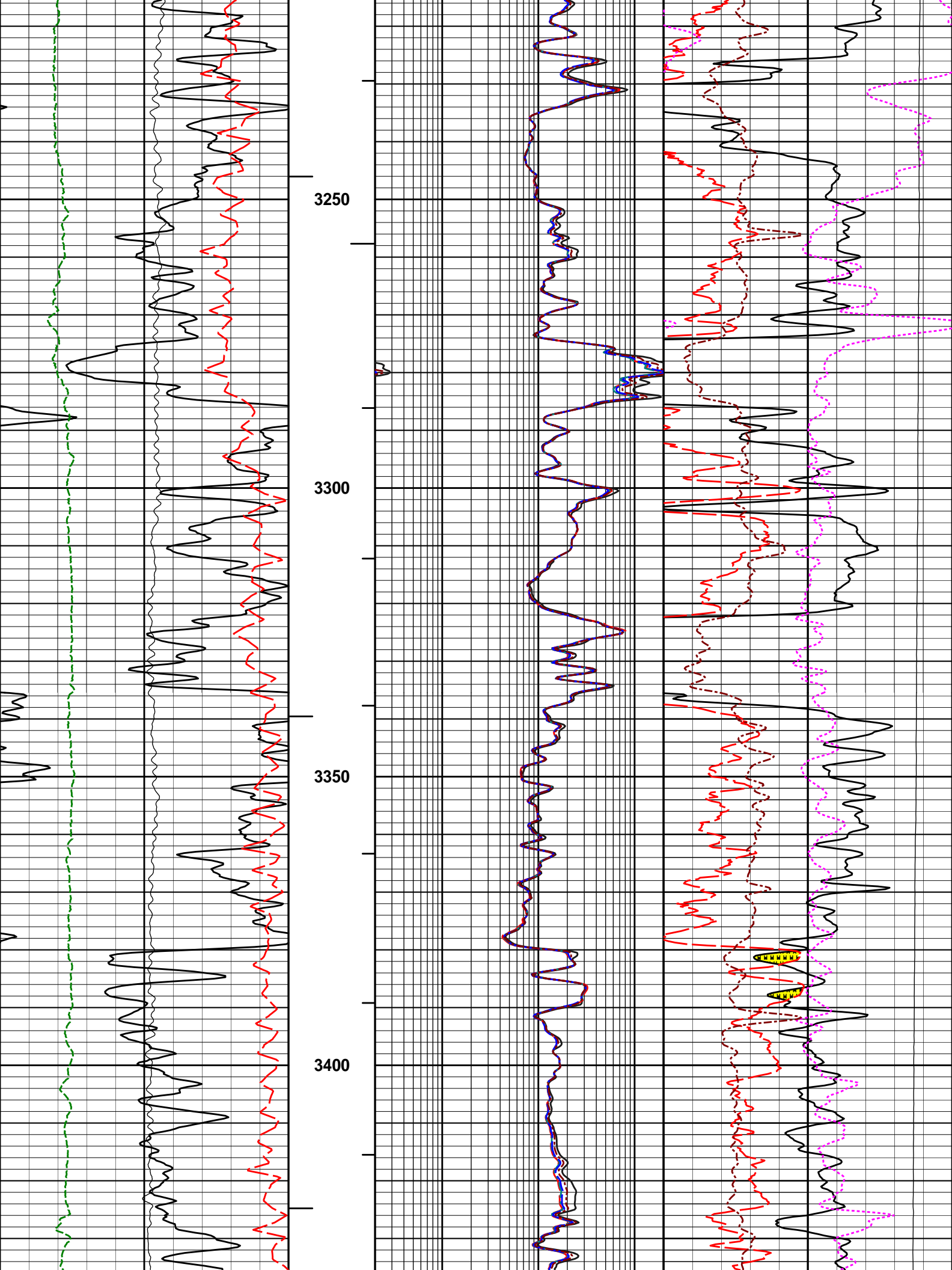
HALLIBURTON

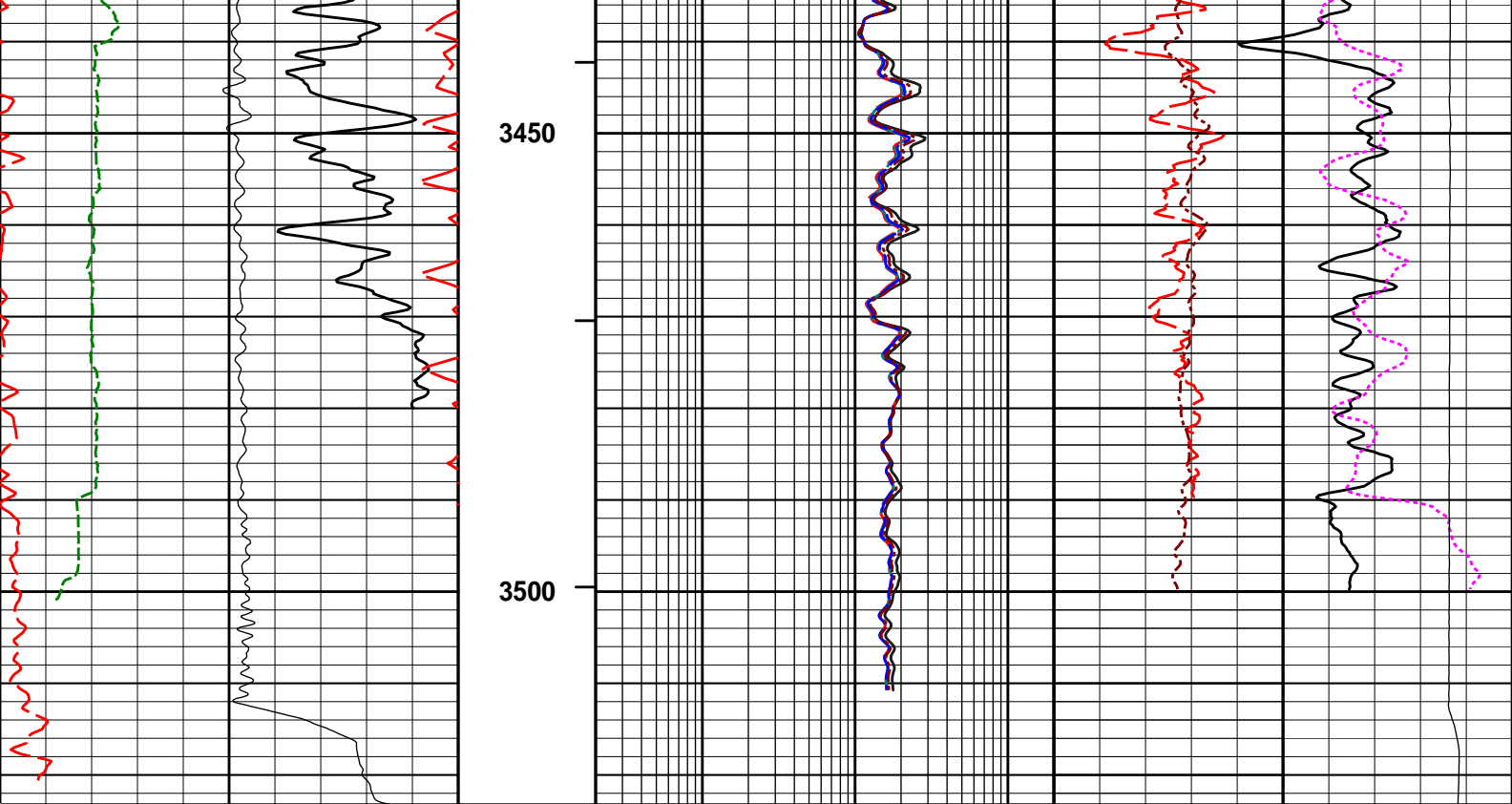
Plot Time: 09-Apr-15 07:12:53
 Plot Range: 460 ft to 3519.08 ft
 Data: ELSA_34_6_19_1\Well Based\1\
 Plot File: \COMP\MAIN

MAIN PASS 5" = 100'

REPEAT PASS 5" = 100'







<div><div>-50</div><div>SP</div><div>50</div></div> <div>millivolts</div> <div>10K</div> <div>Tens</div> <div>0</div> <div>pounds</div> <div>6</div> <div>Caliper</div> <div>16</div> <div>inches</div> <div>0</div> <div>Gamma API</div> <div>150</div> <div>api</div>	<div>1 : 240</div> <div>BHVT</div> <div>AHVT</div>	<div><div>0.2</div><div>RT90</div><div>200</div></div> <div>ohmm</div> <div><div>0.2</div><div>RT60</div><div>200</div></div> <div>ohmm</div> <div><div>0.2</div><div>RT30</div><div>200</div></div> <div>ohmm</div> <div><div>0.2</div><div>RT20</div><div>200</div></div> <div>ohmm</div> <div><div>0.2</div><div>RT10</div><div>200</div></div> <div>ohmm</div>	<div><div>-0.25</div><div>DensityCorr</div><div>0.25</div></div> <div>gram per cc</div> <div><div>0</div><div>Pe</div><div>10</div></div> <div>barns/electron</div> <div><div>30</div><div>Density Porosity</div><div>-10</div></div> <div>percent</div> <div><div>30</div><div>Neutron Porosity</div><div>-10</div></div> <div>percent</div> <div><div>10K</div><div>DHTen</div><div>0</div></div> <div>pounds</div>
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Plot Time: 09-Apr-15 07:12:56
Plot Range: 3100 ft to 3523.25 ft
Data: ELSA_34_6_19_1\Well Based\REPEAT\
Plot File: \\COMP\REPEAT

REPEAT PASS 5" = 100'

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11958949	Reference Calibration Date:	22-Mar-15 09:28:34
Engineer:	B. RIDDEL	Calibration Date:	31-Mar-15 07:35:19
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

Calibrator Source S/N: MP051807-04

Calibrator API Reference:239.00 api

Equivalent Calibrator API Reference:243.2 api

Measurement	Measured	Calibrated	Units
Background	42.4	39.9	api
Background + Calibrator	296.0	278.9	api
Calibrator	236.6	239.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11958949

Reference Calibration Date: 31-Mar-15 07:35:19

Engineer: P. DIMPFL

Calibration Date: 09-Apr-15 03:02:10

Software Version: WL INSITE R4.6.0 (Build 4)

Calibration Version: 1

Calibrator Source S/N: MP051807-04

Calibrator API Reference:239.00 api

Equivalent Calibrator API Reference:243.2 api

Field Verification	Shop	Field	Units
Background	39.9	34.1	api
Background + Calibrator	278.9	266.8	api
Calibrator	239.0	232.7	api

Shop	Field	Difference	Tolerance
239.0	232.7	6.3	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 10993888

Reference Calibration Date: 05-Mar-15 14:06:08

Engineer: P. DIMPFL

Calibration Date: 06-Apr-15 08:53:49

Software Version: WL INSITE R4.6.0 (Build 4)

Calibration Version: 1

Logging Source S/N: DSN-388

Tank Serial Number: GJ WATER TANK

Reference value assigned to Tank: 52.750

Snow Block S/N: GJ SNOW BLOCK

Calibration Tank Water Temperature: 65 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.998	0.995	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (dec):	0.2177	0.2169	0.0008	+/- 0.0020
Calibrated Ratio:	9.96	9.93	0.027	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (dec):	0.0634	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

Snow Block Check: Passed				
DUAL SPACED NEUTRON FIELD CALIBRATION				
Tool Name:	DSNT - 10993888	Reference Calibration Date:	06-Apr-15 08:53:49	
Engineer:	P. DIMPFL	Calibration Date:	09-Apr-15 03:18:33	
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1	
Logging Source S/N: DSN-388				
Snow Block S/N: GJ SNOW BLOCK				
NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0634	0.0713	0.0080	+/- 0.0150
PASS/FAIL SUMMARY				
Block Change Check:			Passed	
Snow Block Stat Check:			Passed	
Temperature Check:			Passed	

DENSITY CALIPER SHOP CALIBRATION				
Tool Name:	SDLT - 10951300	Reference Calibration Date:	06-Apr-15 10:27:46	
Engineer:	P. DIMPFL	Calibration Date:	06-Apr-15 10:31:19	
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1	
Host Tool Name:	DSNT - 10993888			
CALIBRATION COEFFICIENTS				
Measurement	Previous Value	New Value	Control Limit On New Value	
Pad Offset	-3535.42	-3274.69	-7000.00 - -1000.00	
Pad Gain	0.0003795	0.0003725	0.000200 - 0.000600	
Arm Offset	-1594.55	-1199.65	-5000.00 - 3000.00	
Arm Gain	0.0004809	0.0004350	0.000300 - 0.000700	
Arm Power	-0.000003244	-0.000000169	-0.000010000 - 0.000010000	
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)	1.94	2.00	0.06	+/- 0.20
Medium Ring (in)	3.72	3.75	0.03	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.39	6.50	0.11	+/- 0.20
Medium Ring (in)	8.25	8.25	0.00	+/- 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	

SPECTRAL DENSITY SHOP CALIBRATION				
Tool Name:	SDLT Pad - 10865876	Reference Calibration Date:	05-Mar-15 09:54:34	
Engineer:	P. DIMPFL	Calibration Date:	06-Apr-15 10:05:43	

Logging Source S/N: 5153 GW

Aluminum Block S/N: GJ ALUMINUM BLOCK

Density: 2.608g/cc

Pe: 3.230

Magnesium Block S/N: GJ MAG BLOCK

Density: 1.681g/cc

Pe: 2.600

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0249	1.0358	0.90 - 1.10
Near Dens Gain	1.0101	1.0194	0.90 - 1.10
Near Peak Gain	1.0022	1.0140	0.90 - 1.10
Near Lith Gain	0.9813	0.9802	0.90 - 1.10
Far Bar Gain	1.0118	1.0150	0.90 - 1.10
Far Dens Gain	1.0016	1.0009	0.90 - 1.10
Far Peak Gain	0.9932	0.9958	0.90 - 1.10
Far Lith Gain	0.9727	0.9698	0.90 - 1.10
Near Bar Offset	-0.0232	-0.1147	NONE
Near Dens Offset	0.1143	0.0359	NONE
Near Peak Offset	0.1710	0.0773	NONE
Near Lith Offset	0.3293	0.3415	NONE
Far Bar Offset	0.0272	0.0003	NONE
Far Dens Offset	0.0978	0.1069	NONE
Far Peak Offset	0.1479	0.1280	NONE
Far Lith Offset	0.2725	0.2902	NONE
Near Bar Background	857.08	854.82	700 - 1450
Near Dens Background	286.70	285.65	230 - 480
Near Peak Background	127.29	125.22	100 - 210
Near Lith Background	154.92	154.23	125 - 260
Far Bar Background	526.12	524.45	450 - 900
Far Dens Background	204.04	203.79	175 - 345
Far Peak Background	80.77	81.18	70 - 140
Far Lith Background	85.27	84.80	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.676	1.681	0.005	+/- 0.015
Pe	2.529	2.562	0.033	+/- 0.150
ALUMINUM				
Density (g/cc)	2.602	2.608	0.006	+/- 0.01500
Pe	3.156	3.182	0.026	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0013	+/- 0.0110	-0.0005	+/- 0.0140
Magnesium Block	-0.0014	+/- 0.0110	-0.0021	+/- 0.0140
Aluminum Block	-0.0010	+/- 0.0110	-0.0004	+/- 0.0140
Resolution	8.94	6.00 - 11.50	9.56	6.00 - 11.50
Internal Verifier(B+D+P+L)	1420	1200 - 2700	894	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

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION			
Tool Name:	ACRt Sonde - 11585797	Reference Calibration Date:	27-Jan-15 15:50:02
Engineer:	P. DIMPFL	Calibration Date:	27-Jan-15 16:03:38
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11585787		

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0234	1.05	0.95	1.0213	1.05	0.95	1.0201	1.05
A2 (50")	0.95	1.0120	1.05	0.95	1.0125	1.05	0.95	1.0133	1.05
A3 (29")	0.95	1.0058	1.05	0.95	1.0054	1.05	0.95	1.0047	1.05
A4 (17")	0.95	1.0036	1.05	0.95	1.0005	1.05	0.95	1.0023	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0075	1.05	0.95	1.0083	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9861	1.05	0.95	0.9861	1.05

SONDE OFFSET			
Subarray	R12KHz	R36KHz	R72KHz
	(mmho/m)	(mmho/m)	(mmho/m)
A1 (80")	-1.400	-4.436	-5.489
A2 (50")	-1.992	-3.255	-4.694
A3 (29")	-15.645	-4.528	-3.257
A4 (17")	-119.763	-35.638	-27.444
A5 (10")	N/A	-97.013	-50.120
A6 (6")	N/A	312.823	158.068

TRANSMITTER CURRENT GAIN				R-MUD VERIFICATION			
Signal	Lower	R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.85	1.3	Mud Cell	0.95	1.00	1.05
36K	1.0	1.83	2.0				
72K	1.0	1.10	2.0				

PASS/FAIL SUMMARY	
GAIN RANGE CHK	PASS
SONDE OFFSET CHK	PASS

TOOL OK TO LOG

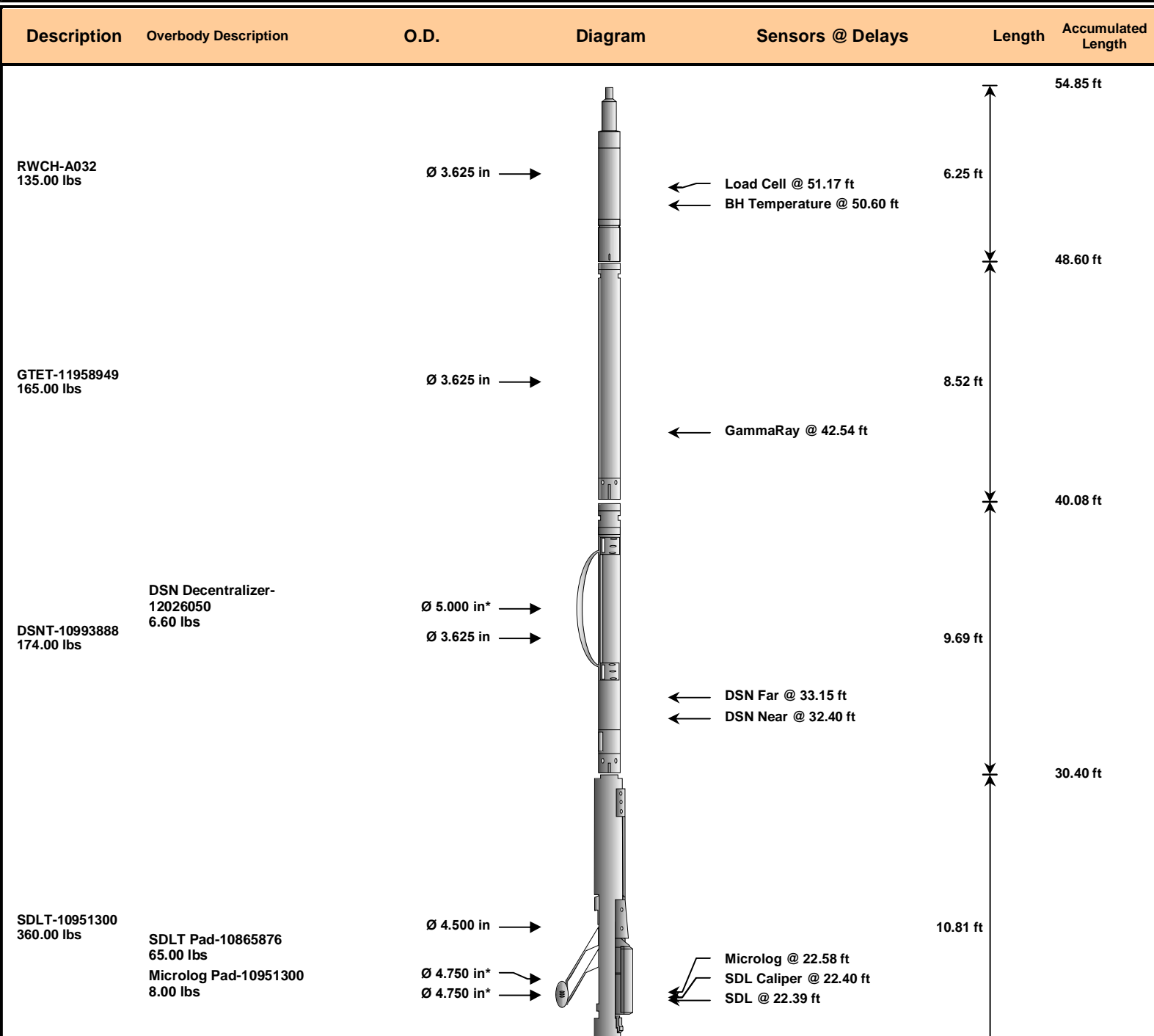
CALIBRATION SUMMARY	
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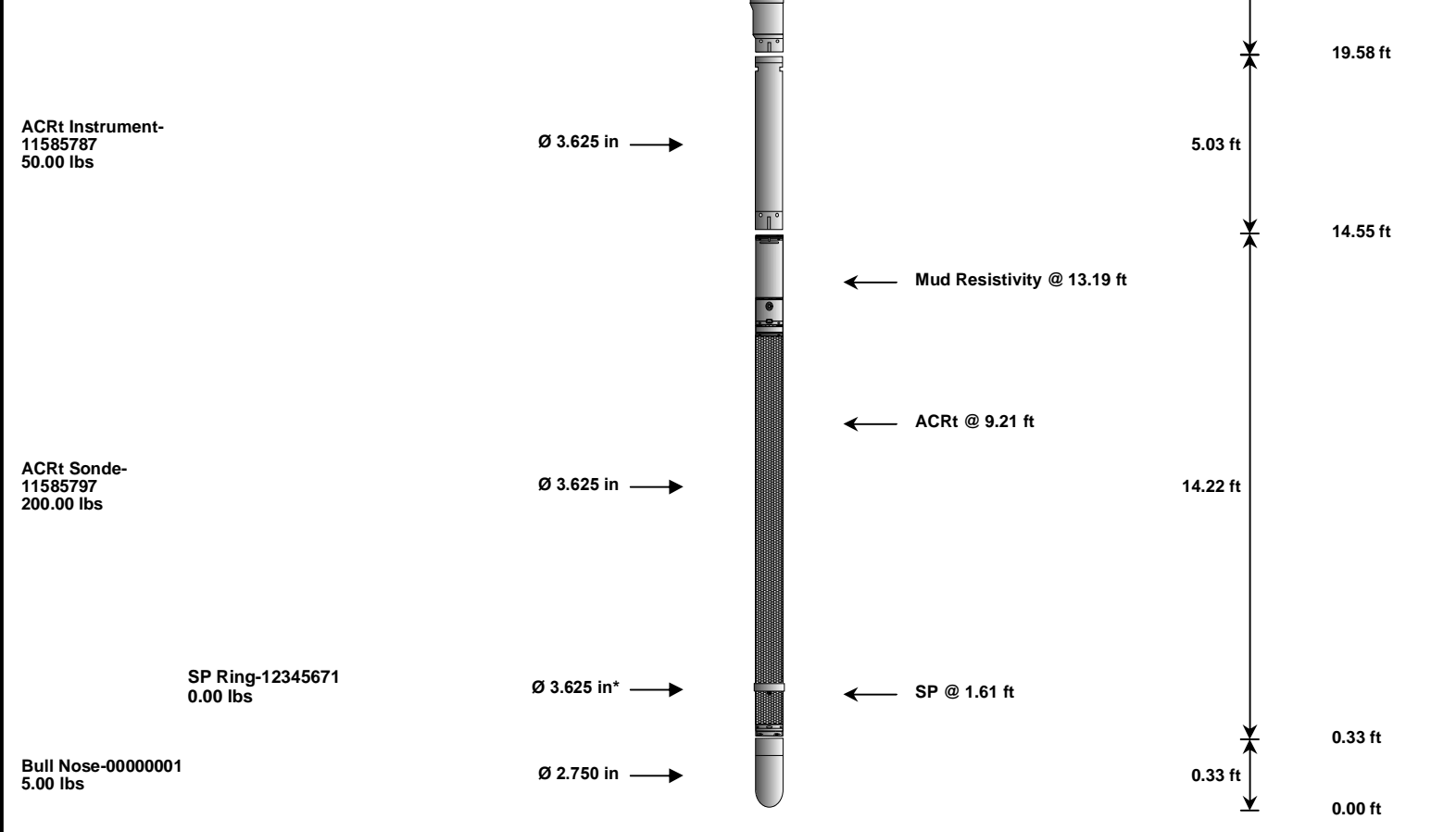
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11958949						
Gamma Ray Calibrator	239.0	232.7	-----	6.3	+/- 9.00	api
DSNT-10993888						
Snow-Block Porosity	0.0634	0.0713	-----	-0.0079	+/- 0.0150	decp
SDLT-10951300						
Pad Extension	3.75	-----	-----	0.00	+/-0.20	in
Ring Diameter	8.25	-----	-----	0.00	+/-0.20	in
SDLT Pad-10865876						
Near(B+D+P+L)	1419.920	-----	-----	0.000	+/-13.307	cps
Far(B+D+P+L)	894.216	-----	-----	0.000	+/-14.766	cps
ACRt Sonde-11585797						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m

Data: ELSA 34 6 19 1\0001 TRIPLE\004 09-Apr-15 04:43 Up @3519.3f
Date: 09-Apr-15 05:37:40

HALLIBURTON

TOOL STRING DIAGRAM REPORT





Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	A032	135.00	6.25	48.60	300.00
GTET	Gamma Telemetry Tool	11958949	165.00	8.52	40.08	60.00
DSNT	Dual Spaced Neutron	10993888	174.00	9.69	30.40	60.00
DCNT	DSN Decentralizer	12026050	6.60	5.13	* 33.73	300.00
SDLT	Spectral Density Tool	10951300	360.00	10.81	19.58	60.00
SDLP	Density Insite Pad	10865876	65.00	2.55	* 21.79	60.00
MICP	Microlog Pad	10951300	8.00	1.00	* 22.08	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11585787	50.00	5.03	14.55	120.00
ACRt	Array Compensated True Resistivity Sonde Section	11585797	200.00	14.22	0.33	120.00
SP	SP Ring	12345671	0.00	0.25	* 1.61	300.00
BLNS	Bull Nose	00000001	5.00	0.33	0.00	300.00
Total			1,168.60	54.85		
						* Not included in Total Length and Length Accumulation.
Data: ELSA_34_6_19_1\0001 TRIPLEVIDLE						Date: 09-Apr-15 04:06:31

COMPANY	CATAMOUNT ENERGY PARTNERS		
WELL	ELSA 34-6-19 #1		
FIELD	IGNACIO BLANCO		
COUNTY	LA PLATA	STATE	CO
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY	