

HALLIBURTON

**SPECTRAL DENSITY
DUAL SPACED NEUTRON
ARRAY COMPENSATED
TRUE RESISTIVITY**

COMPANY		NOBLE ENERGY INC	
WELL		SHERWOOD L30-32D	
FIELD		WATTENBERG	
COUNTY		WELD	
STATE		CO	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date	08-Nov-10		
Run No.	ONE		
Depth - Driller	8367.00 ft		
Depth - Logger	8376.0 ft		
Bottom - Logged Interval	8367 ft		
Top - Logged Interval	608 ft		
Casing - Driller	8,625 in @ 606.0 ft		
Casing - Logger	608.0 ft		
Bit Size	7.875 in		
Type Fluid in Hole	WBM		
Density	9.4 ppg	50.00	s/qt
PH	8.00 pH	18.0	cpm
Source of Sample		FLOW LINE	
Rm @ Meas. Temperature	1.090 ohmm @ 71.20 degF	@	
Rmf @ Meas. Temperature	0.88 ohmm @ 75.00 degF	@	
Rmc @ Meas. Temperature	0.939 ohmm @ 75.00 degF	@	
Source Rmf	CHART	CHART	
Rm @ BHT	0.35 ohmm @ 235.0 degF	@	
Time Since Circulation	5.0 hr		
Time on Bottom	08-Nov-10 05:28		
Max. Rec. Temperature	235.0 degF @ 8376.0 ft	@	
Equipment	11454566	BRIGHTON	
Recorded By	C. BLUE		
Witnessed By	S. BIGGS		

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Service Ticket No.: 7752864				API Serial No.: 05123311250000				PGM Version: WL INSITE R3.0.4 (Build 6)											
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 758-352	N/A	0.5" S.O.	N/A									
Rmc @ Meas. Temp.		@		@															
Source Rmf	Rmc																		
Rm @ BHT		@		@															
Rmf @ BHT		@		@															
Rmc @ BHT		@		@															
EQUIPMENT DATA																			
GAMMA				ACOUSTIC				DENSITY				NEUTRON							
Run No.		ONE		Run No.				Run No.		ONE		Run No.		ONE					
Serial No.		11277436		Serial No.				Serial No.		I132M275		Serial No.		11301132					
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.		102A		Spacing				Log Type		GAM/GAM		Log Type		NEU/NEU					
Type		SCINT						Source Type		Cs137		Source Type		Am241Be					
Length		8"		LSA [Y/N]				Serial No.		2770 GW		Serial No.		DSN 434					
Distance to Source		17'		FWDA [Y/N]				Strength		1.5 Ci		Strength		15 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	8376	8194	REC	0	250				20%	0%	2.65 g/cc	20%	0%	SAND
ONE	8194	7754	REC	0	250				20%	0%	2.68 g/cc	20%	0%	SAND
ONE	7754	7482	REC	0	250				20%	0%	2.71 g/cc	20%	0%	LIME
ONE	7482	608	REC	0	250				20%	0%	2.68 g/cc	20%	0%	SAND
DIRECTIONAL INFORMATION														
Maximum Deviation @									KOP @					
Remarks:														
RWCH/GTET/CSNG/DSNT/SDLT/ACRT RAN IN COMBINATION														
ANNULAR HOLE VOLUME CALCULATED FOR 4.5 INCH PRODUCTION CASING														
TENSION PULLS, WASHOUTS, AND BOREHOLE RUGOSITY AFFECT TOOL RESPONSE														
CREW: A. LEWIS, T. BINEAU RIG: ENSIGN 128														
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES -- BRIGHTON, CO -- (303) 825-4346														
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	Description	Value	Units
TOP				
	DSNT	Neutron Lithology	Sandstone	
	SDLT	Formation Density Matrix	2.680	g/cc
7482.00				
	DSNT	Neutron Lithology	Limestone	
	SDLT	Formation Density Matrix	2.710	g/cc
7754.00				
	SDLT	Formation Density Matrix	2.680	g/cc
8194.00				
	SHARED	Bit Size	7.875	in
	SHARED	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	Borehole Fluid Weight	9.400	ppg
	SHARED	Oil Based Mud System?	No	
	SHARED	Mud Resistivity	1.090	ohmm
	SHARED	Temperature of Mud	71.2	degF
	SHARED	Logging Interval is Cased?	No	
	SHARED	AHV Casing OD	4.500	in
	SHARED	Surface Temperature	55.0	degF
	SHARED	Total Well Depth	8376.00	ft
	SHARED	Bottom Hole Temperature	235.0	degF
	SHARED	Navigation and Survey Master Tool	NONE	
	SHARED	High Res Z Accelerometer Master Tool	GTET	
	SHARED	Temperature Master Tool	NONE	
	SHARED	Borehole Size Master Tool	NONE	

GTET	Process Gamma Ray?	Yes	
GTET	Gamma Tool Standoff	0.000	in
GTET	Process Gamma Ray EVR?	No	
GTET	Potassium	0.00	%
GTET	Mud Type	Natural	
GTET	Tool Position	Standoff	
CSNG	Process CSNG Data?	Yes	
CSNG	Is Tool Centralized?	No	
CSNG	Mud Type?	Natural	
CSNG	Percent K in Mud by Weight?	0.00	%
CSNG	Gamma Enviromental Corrections?	Yes	
CSNG	Barite Correction Factor	1.00	
DSNT	Process DSN?	Yes	
DSNT	Process DSN EVR?	No	
DSNT	Neutron Lithology	Sandstone	
DSNT	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.000	in
DSNT	Temperature Correction Type	None	
DSNT	DSN Pressure Correction Type	None	
DSNT	View More Correction Options	No	
DSNT	Use TVD for Gradient Corrections?	No	
DSNT	Logging Horizontal Water Tank?	No	
SDLT	Process Density?	Yes	
SDLT	Process Density EVR?	No	
SDLT	Is Hole Air Drilled?	No	
SDLT	Logging Calibration Blocks?	No	
SDLT	SDLT Pad Temperature Valid?	Yes	
SDLT	Disable temperature warning	No	
SDLT	Weighted Mud Correction Type?	None	
SDLT	Formation Density Matrix	2.650	g/cc
SDLT	Formation Density Fluid	1.000	g/cc
SDLT	Process Caliper Outputs?	Yes	
SDLT	Process MicroLog Outputs?	Yes	
ACRt	Process ACRt?	Yes	
ACRt	Minimum Tool Standoff	0.50	in
ACRt	Temperature Correction Source	FP Lwr & FP Up	
ACRt	Tool Position	Free Hanging	
ACRt	Rmud Source	Mud Cell	
ACRt	Minimum Resistivity for MAP	0.20	ohmm
ACRt	Maximum Resistivity for MAP	200.00	ohmm
ACRt	Threshold Quality	0.50	



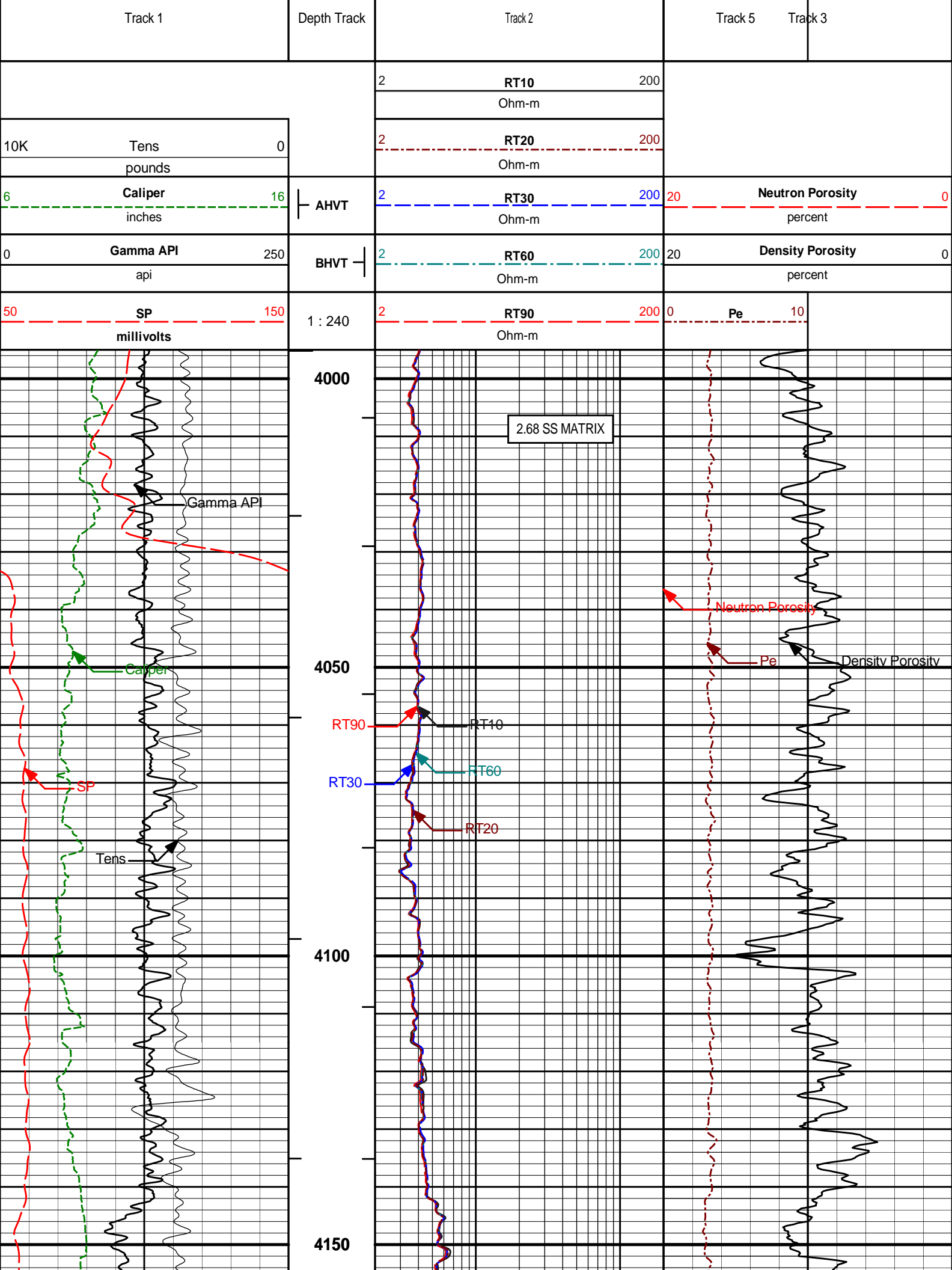
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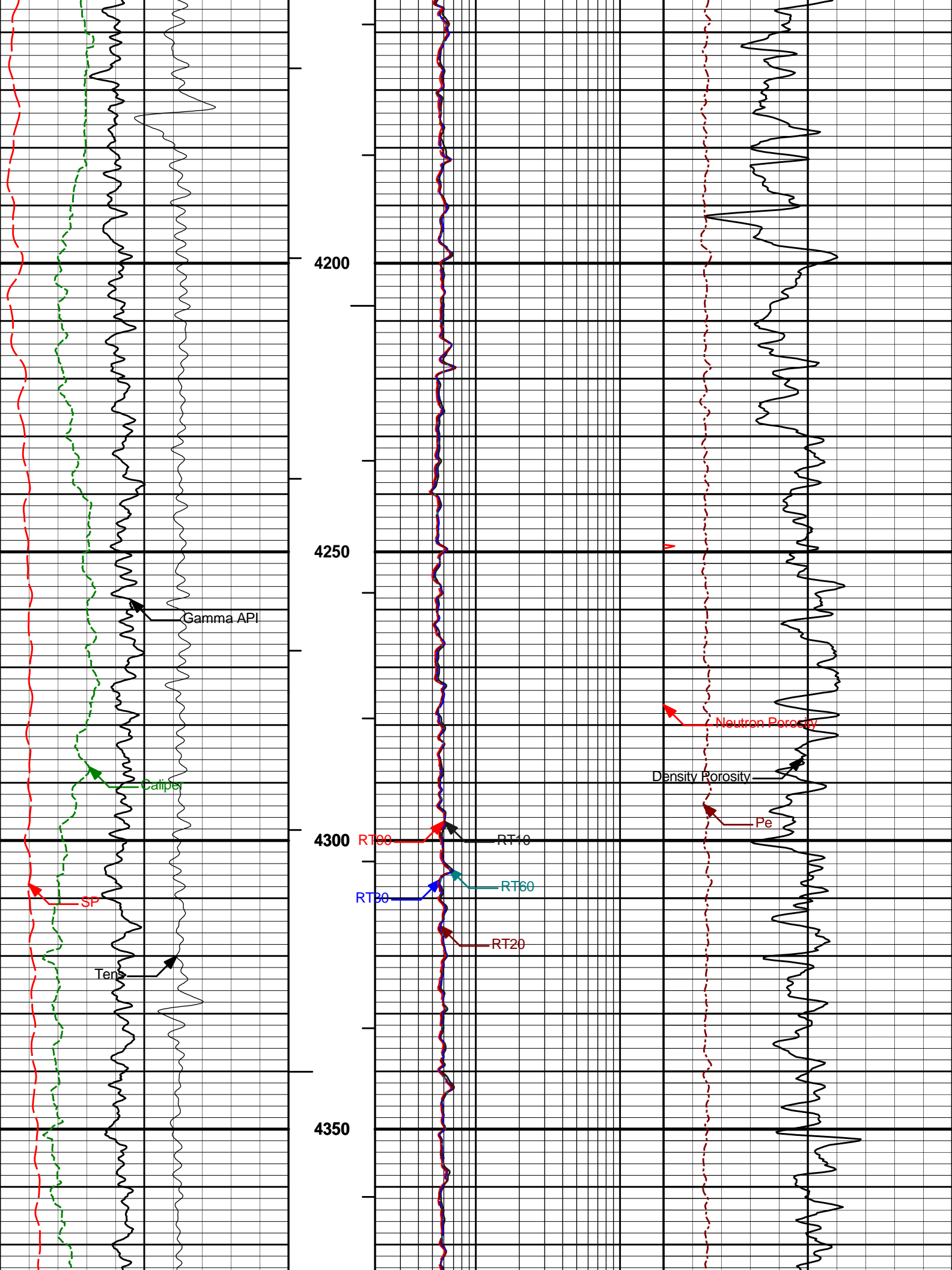
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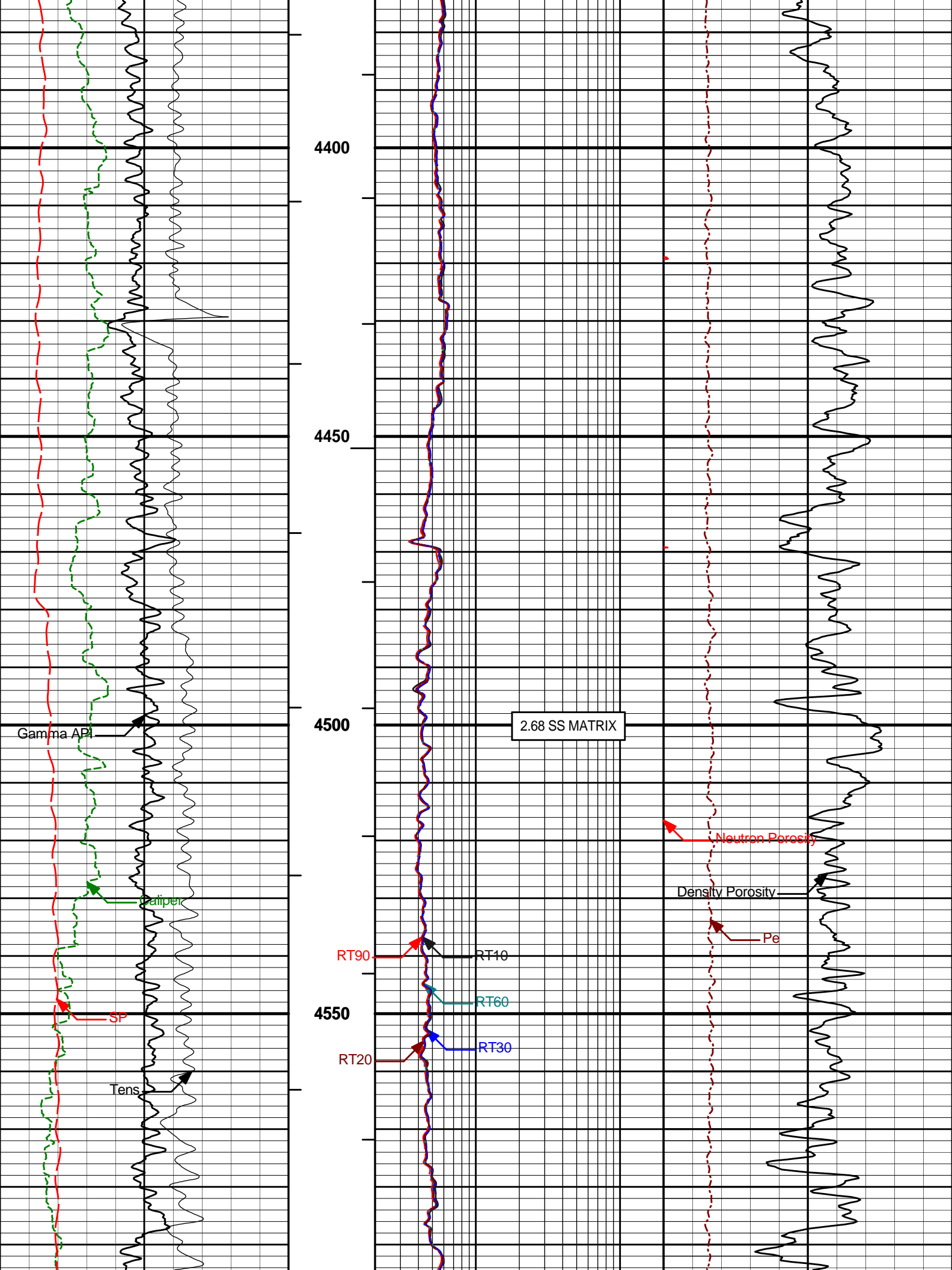
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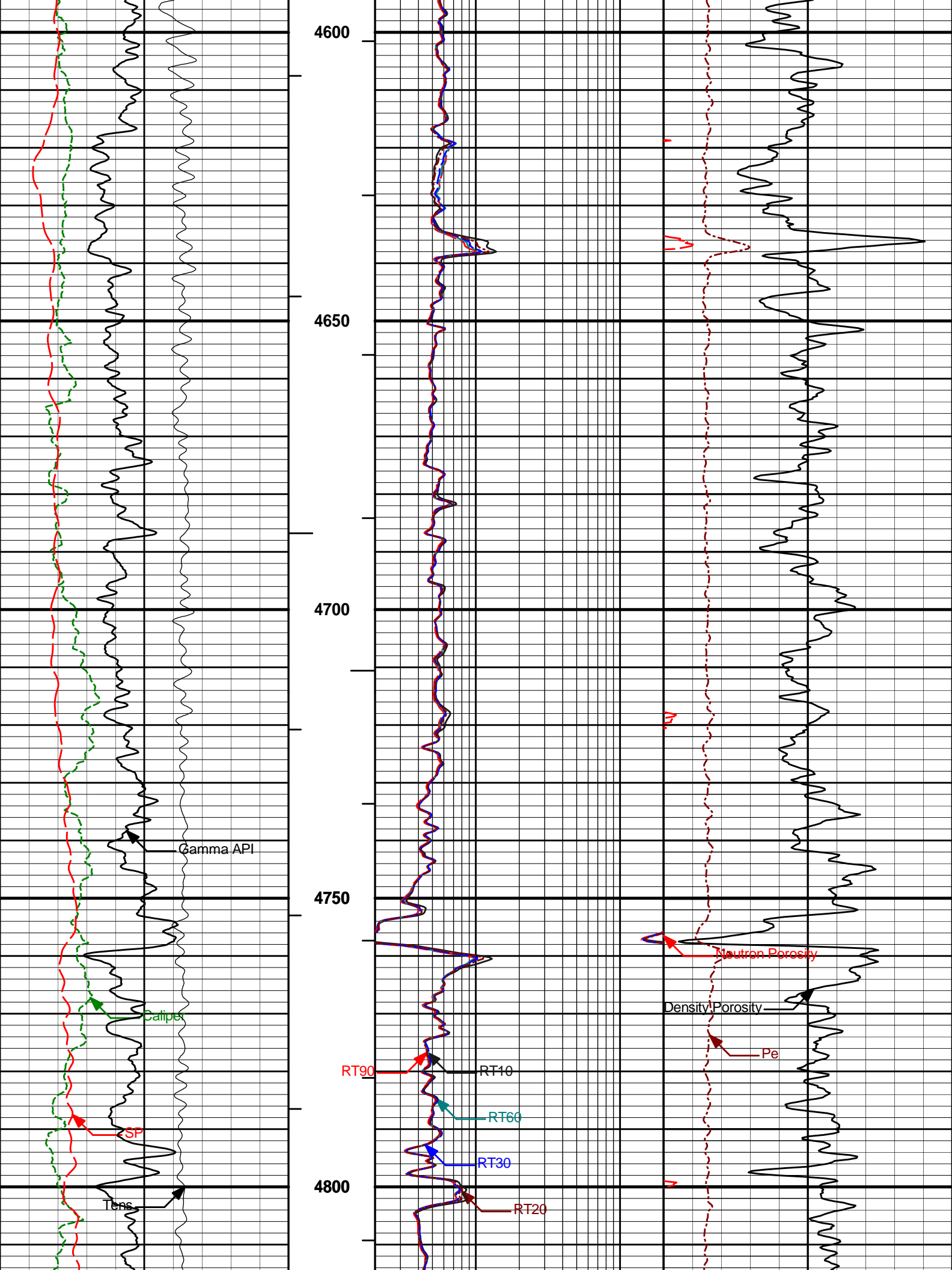
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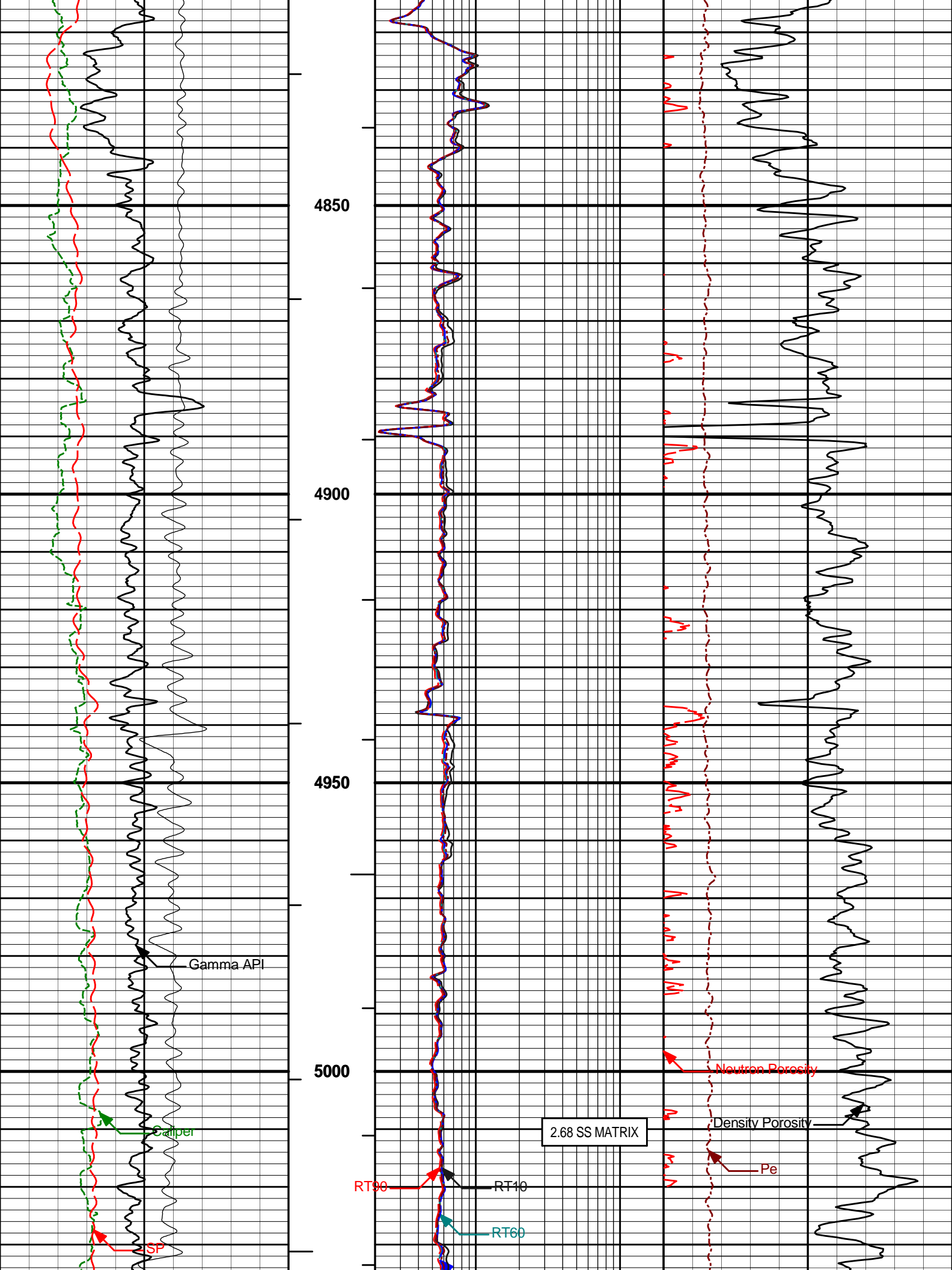
MAIN PASS 5" = 100'

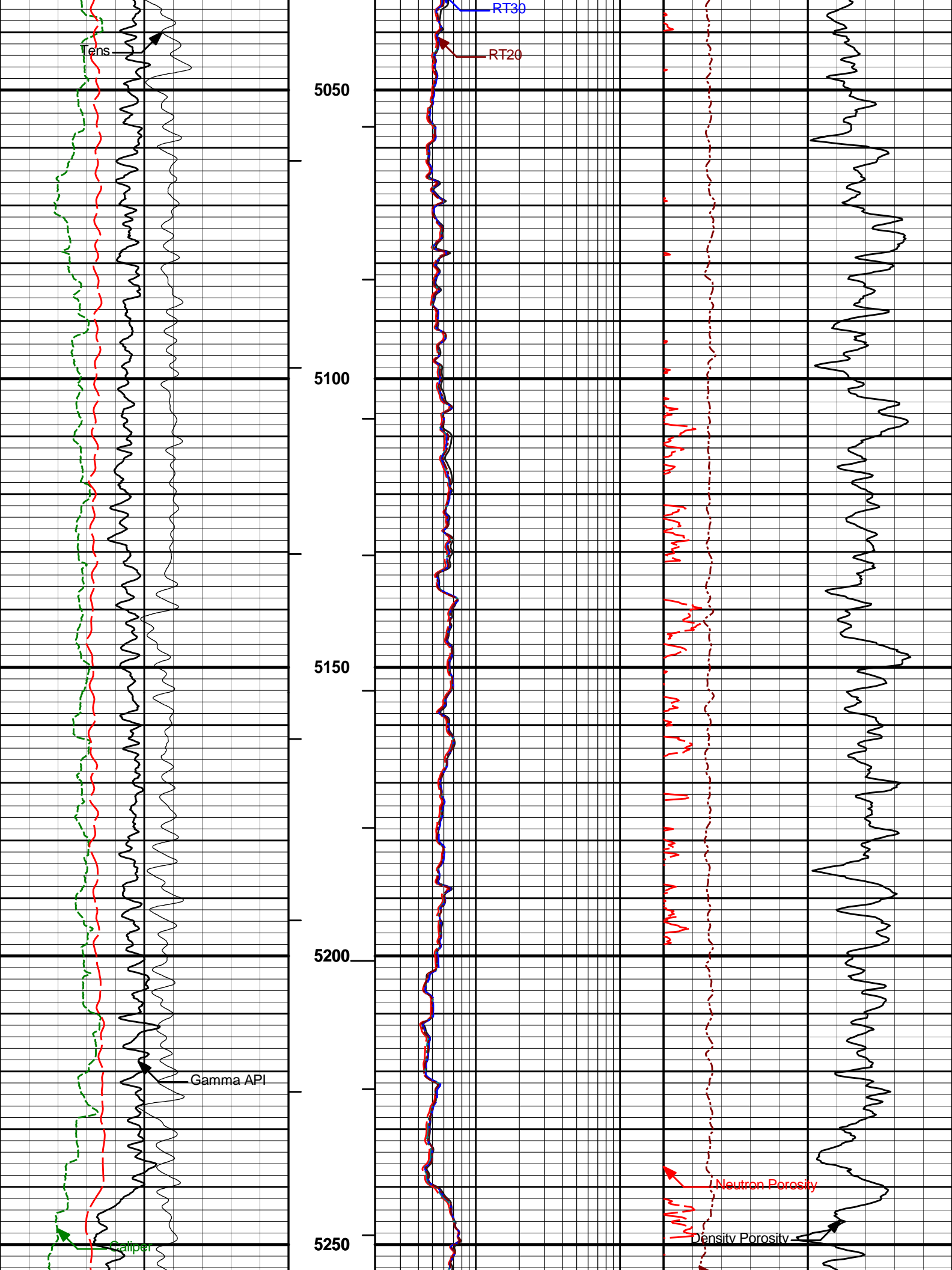


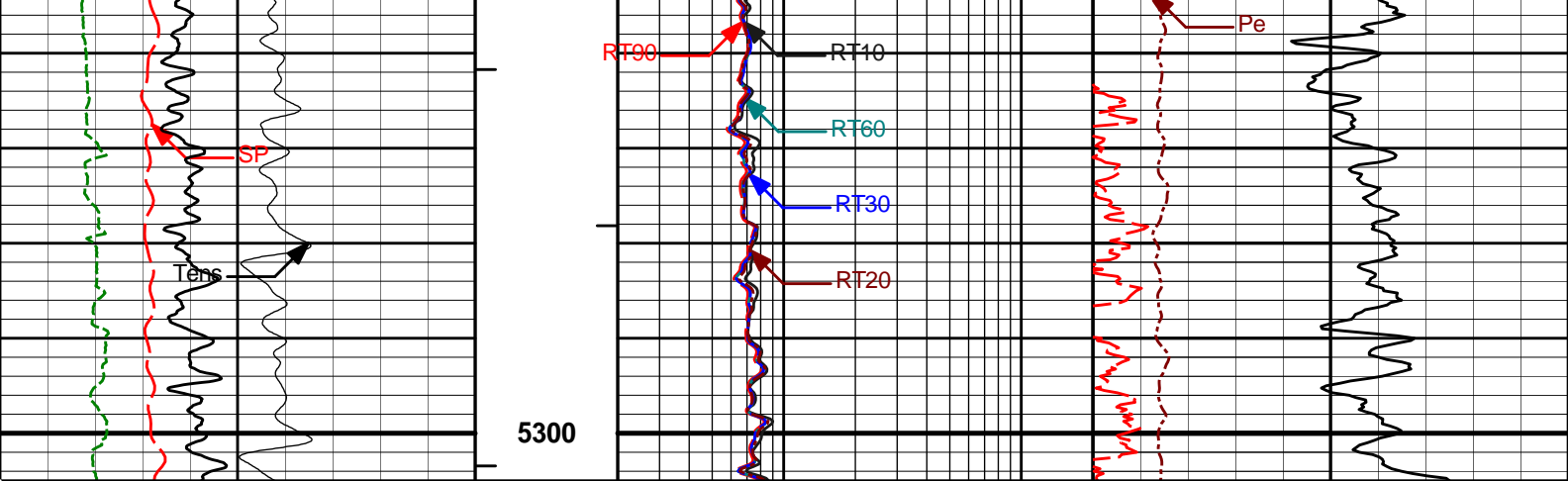












50	SP	150	1 : 240	2	RT90	200	0	Pe	10
	millivolts				Ohm-m				
0	Gamma API	250	BHVT	2	RT60	200	20	Density Porosity	0
	api				Ohm-m			percent	
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity	0
	inches				Ohm-m			percent	
10K	Tens	0		2	RT20	200			
	pounds				Ohm-m				
				2	RT10	200			
					Ohm-m				

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Plot Time: 08-Nov-10 07:46:26
Plot Range: 3995 ft to 5305 ft
Data: SHERWOOD_L30_32\Well Based\MAIN*
Plot File: \\COMP\PARK_SUS

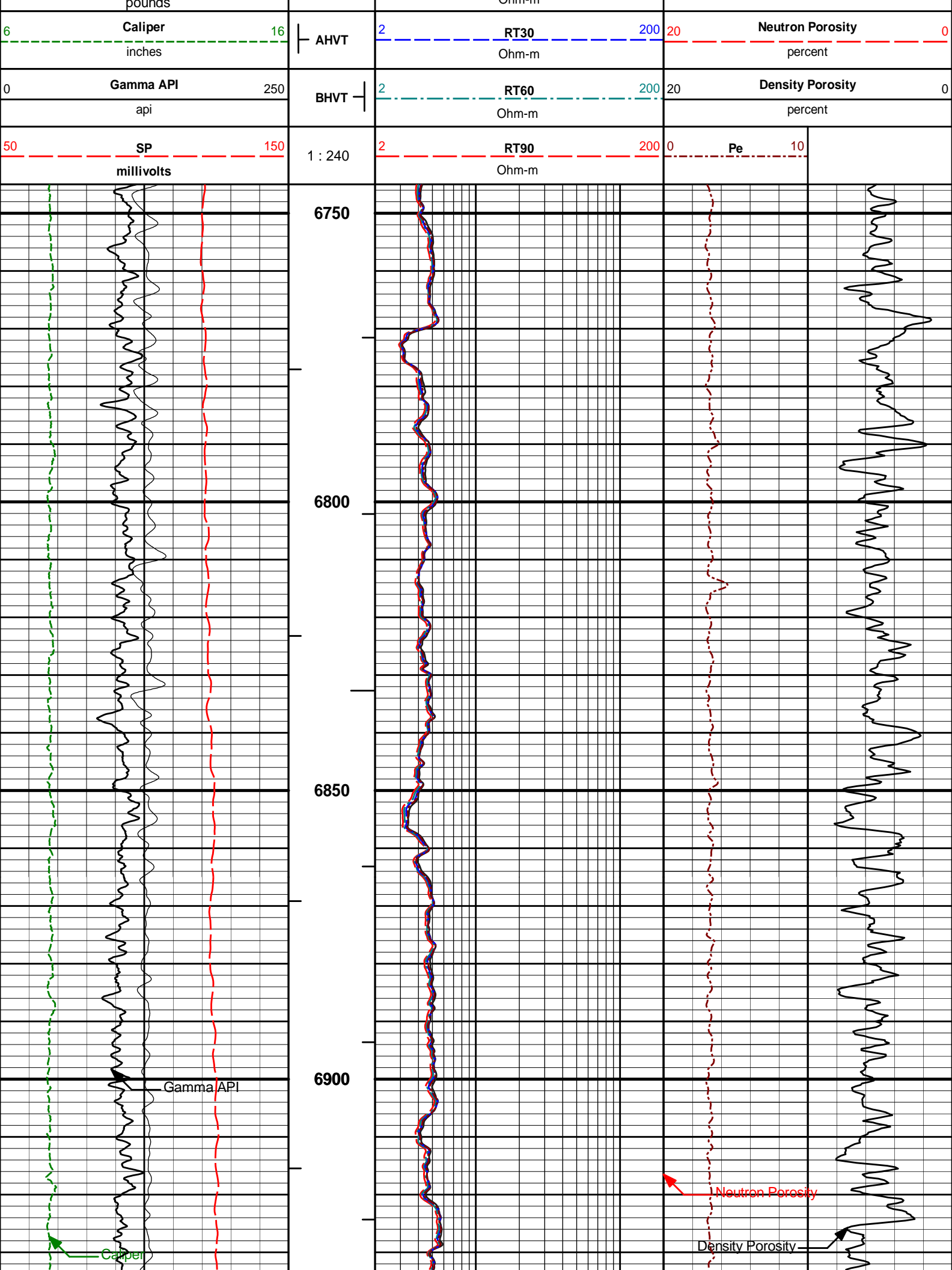
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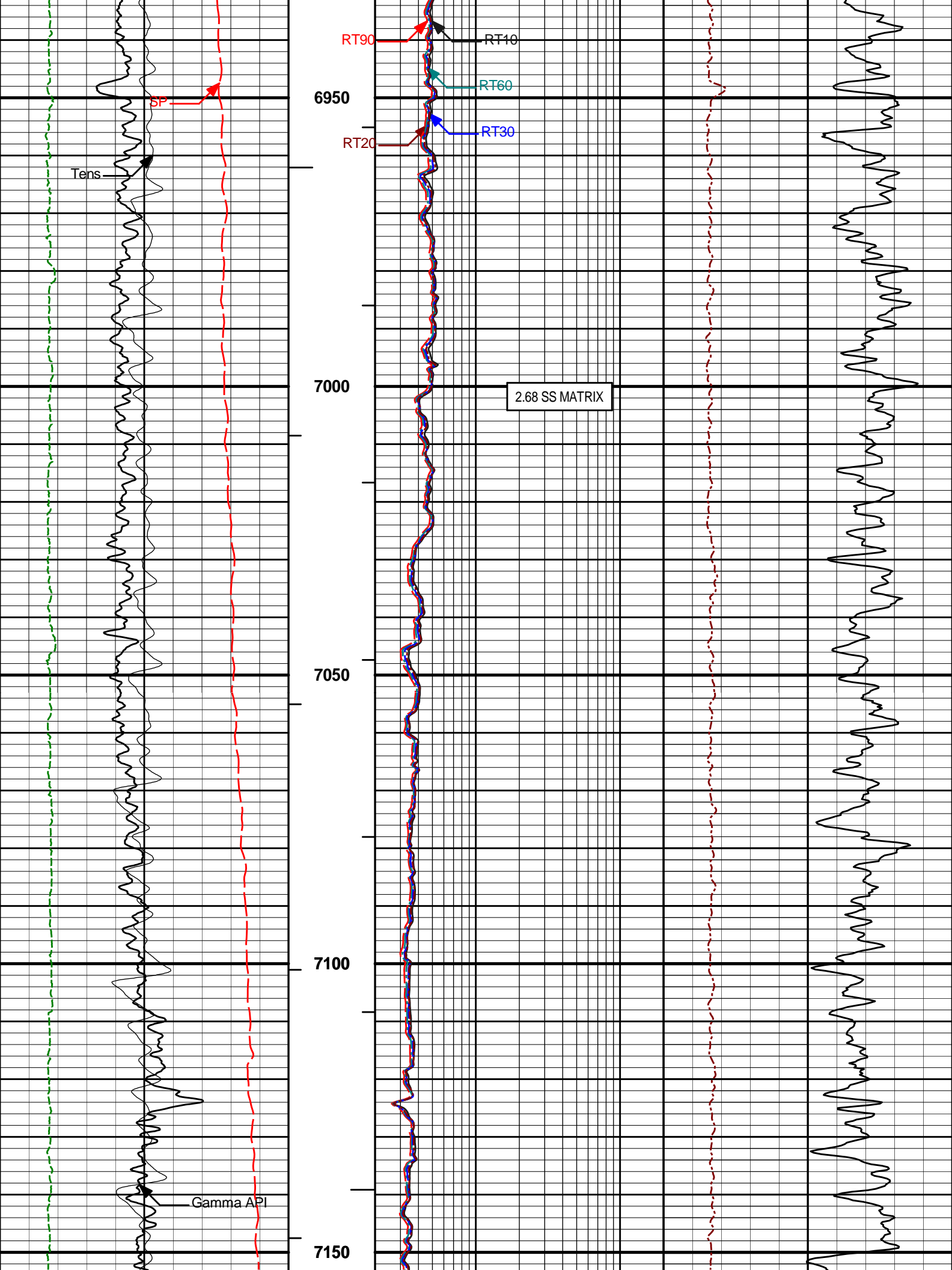
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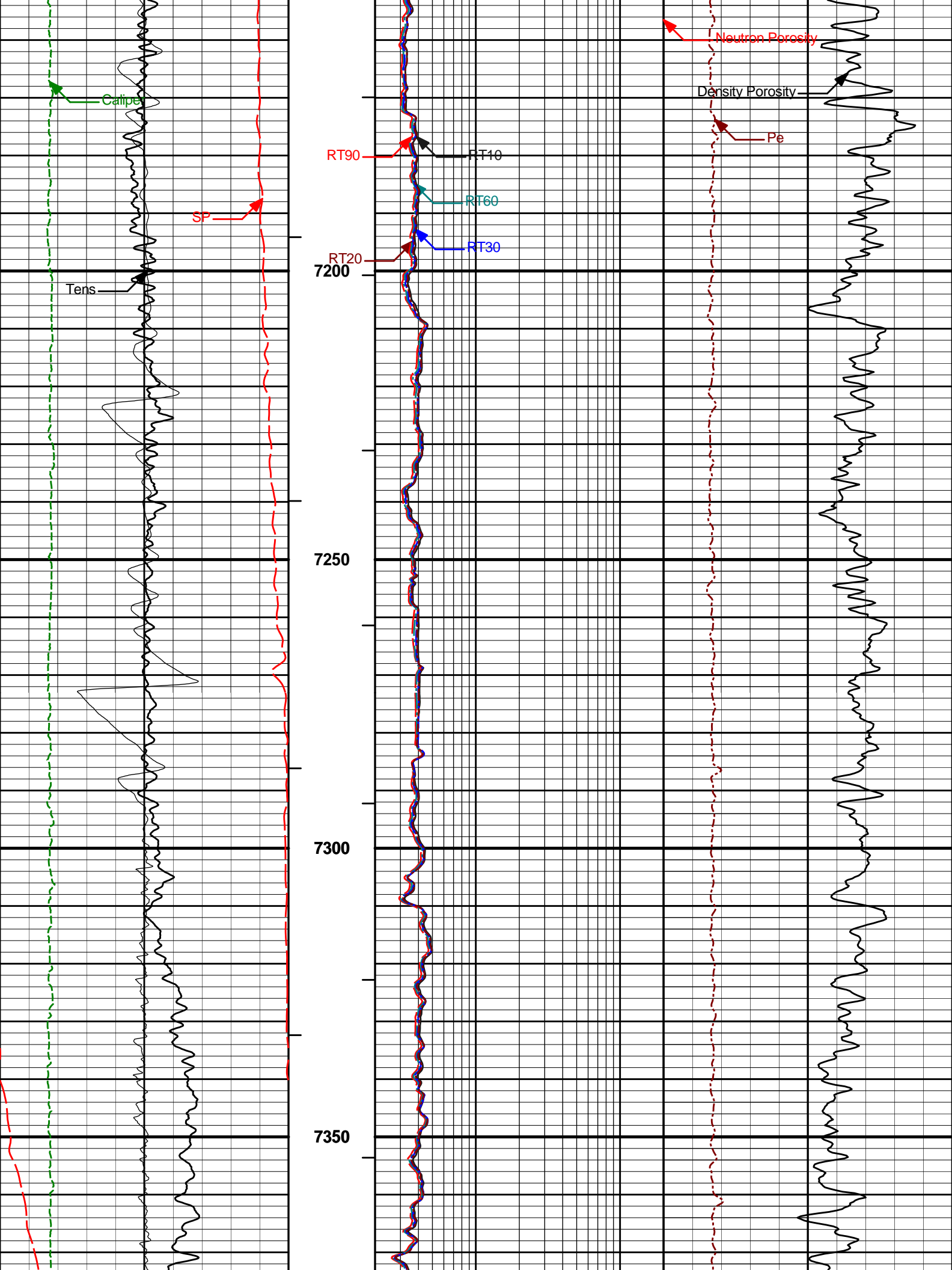
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Plot Range: 6745 ft to 8390.33 ft
Data: SHERWOOD_L30_32\Well Based\MAIN*
Plot File: \\COMP\PIO_COD

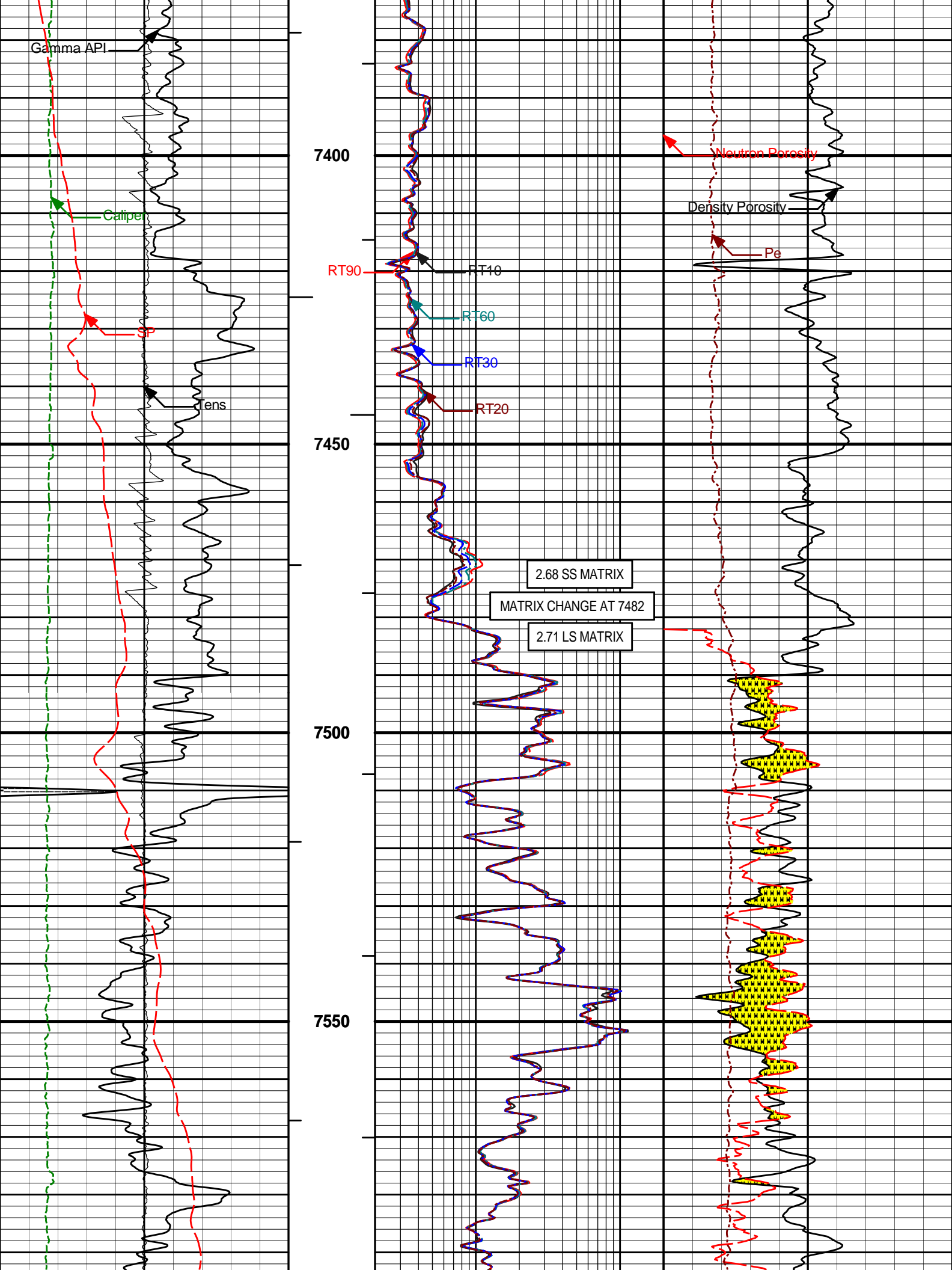
MAIN PASS 5" = 100'

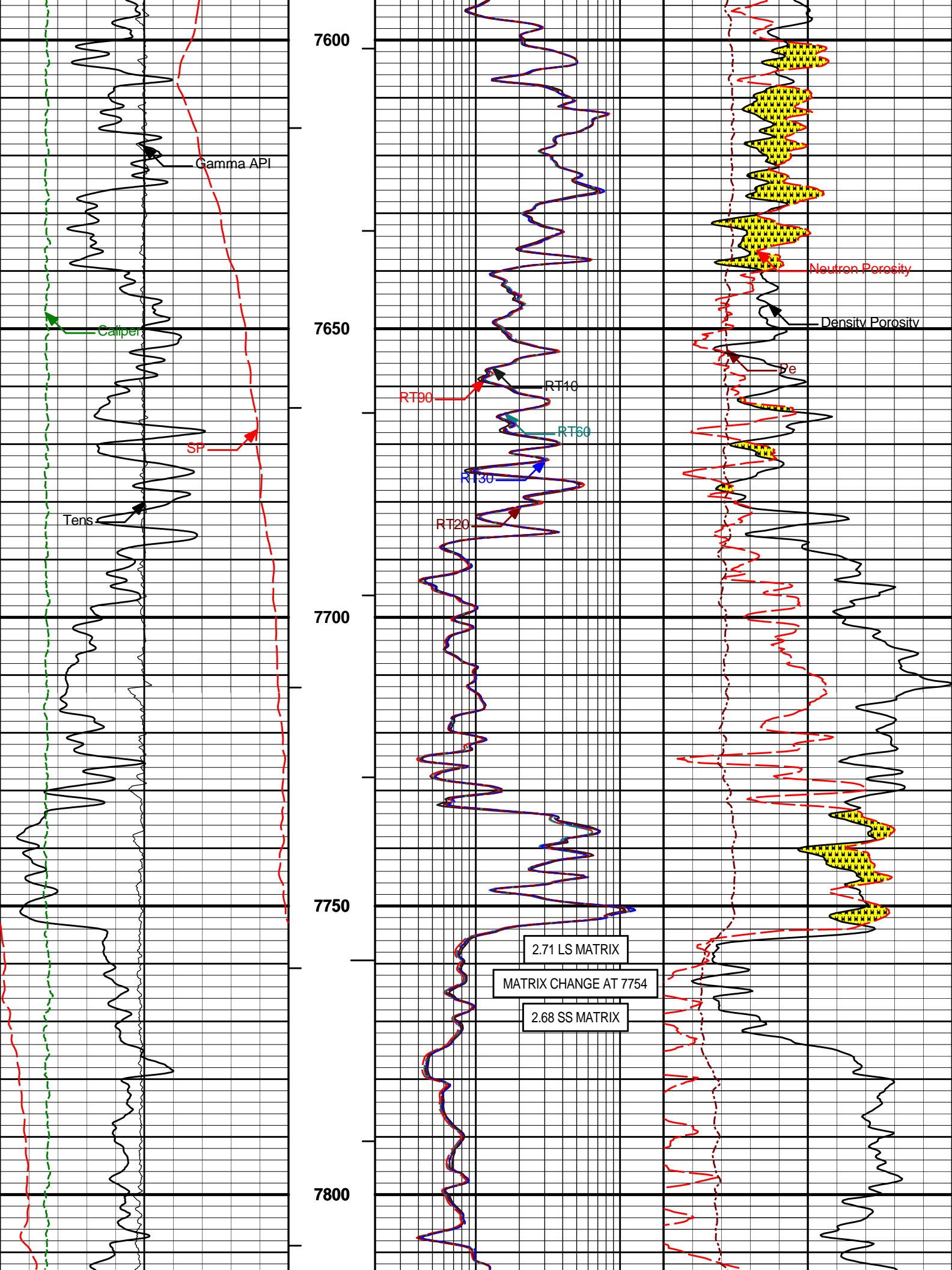
Track 1		Depth Track	Track 2		Track 5	Track 3
			2	RT10	200	
			Ohm-m			
			2	RT20	200	
			Ohm-m			
10K	Tens	0				

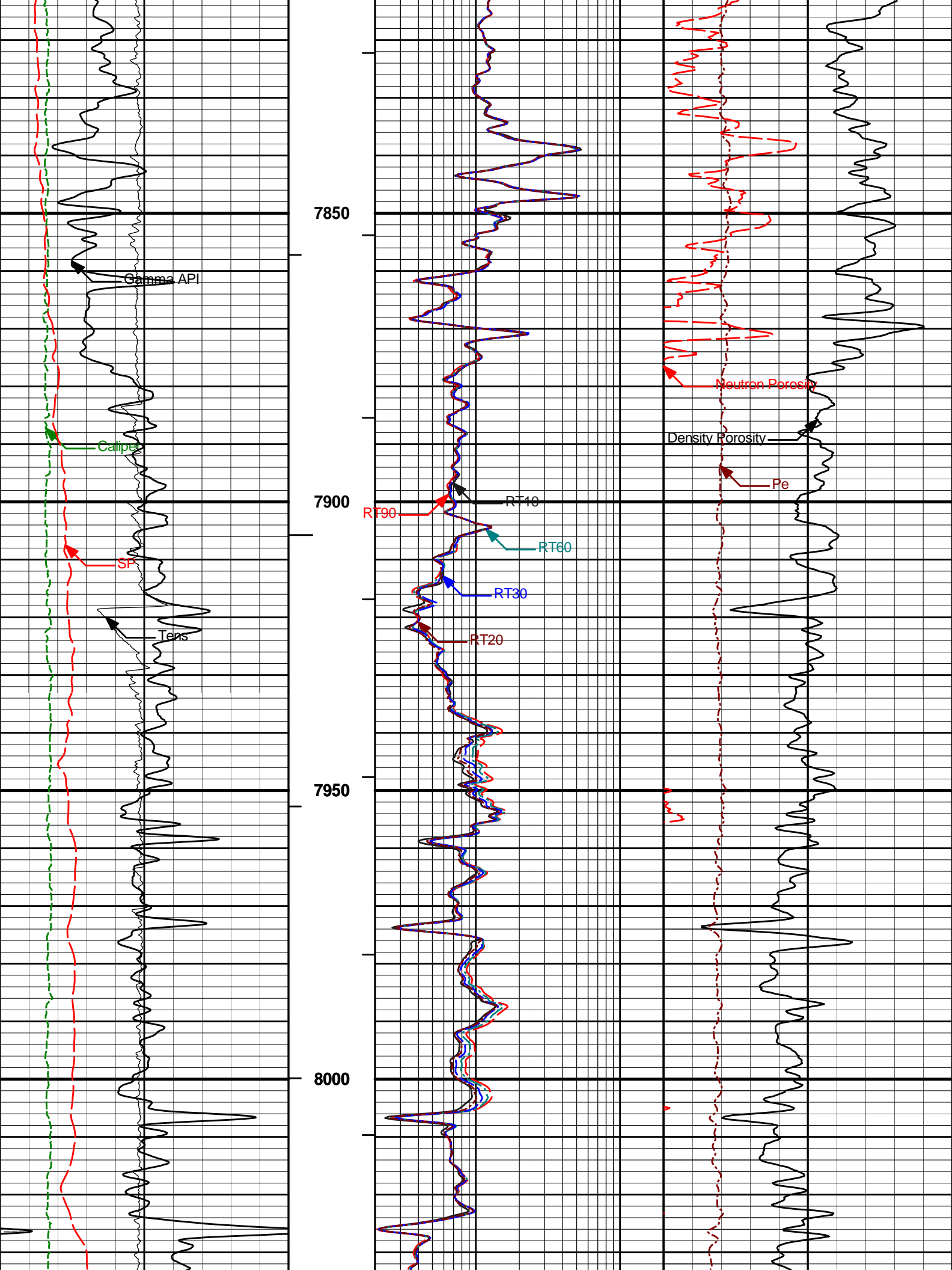


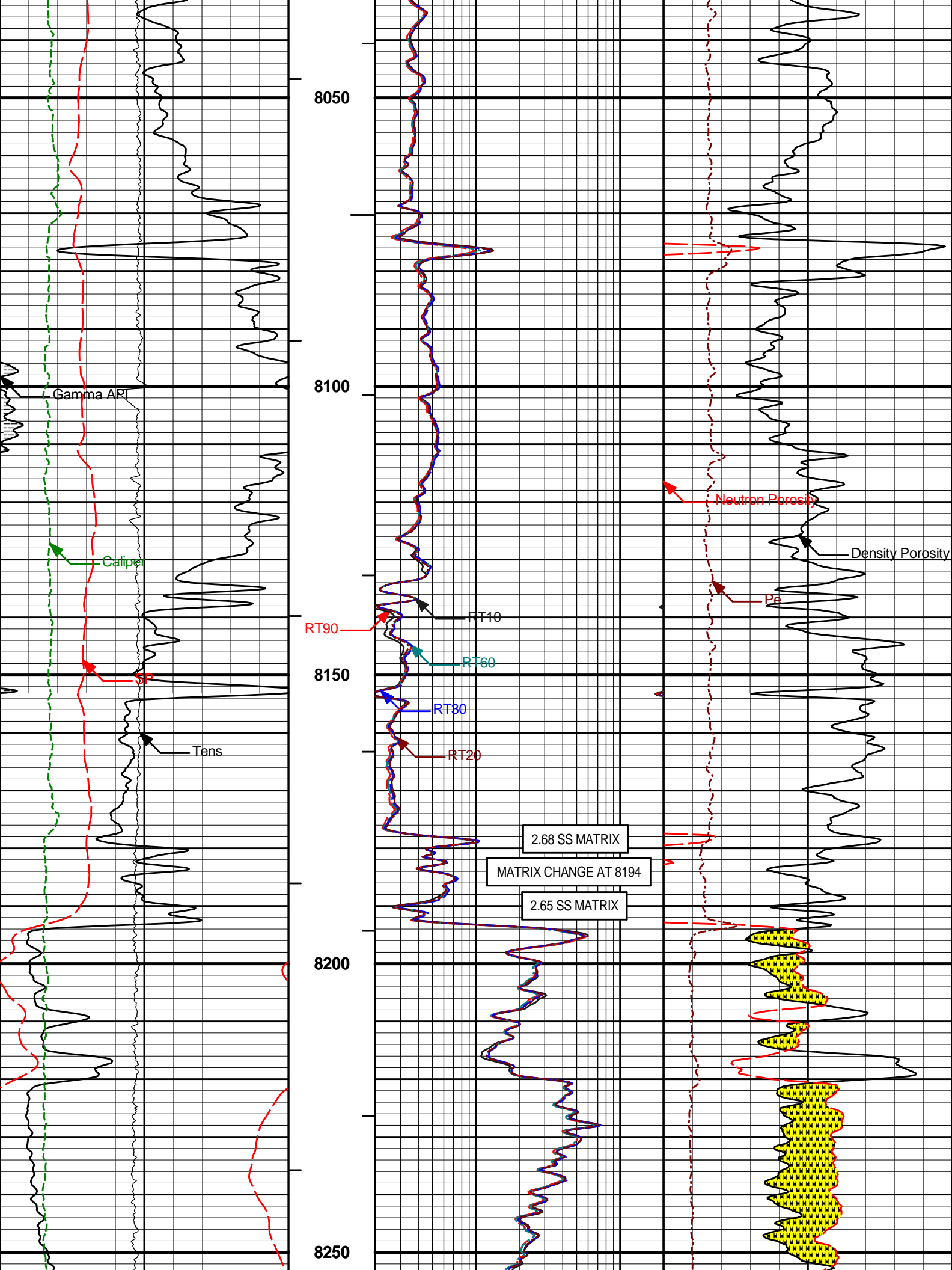


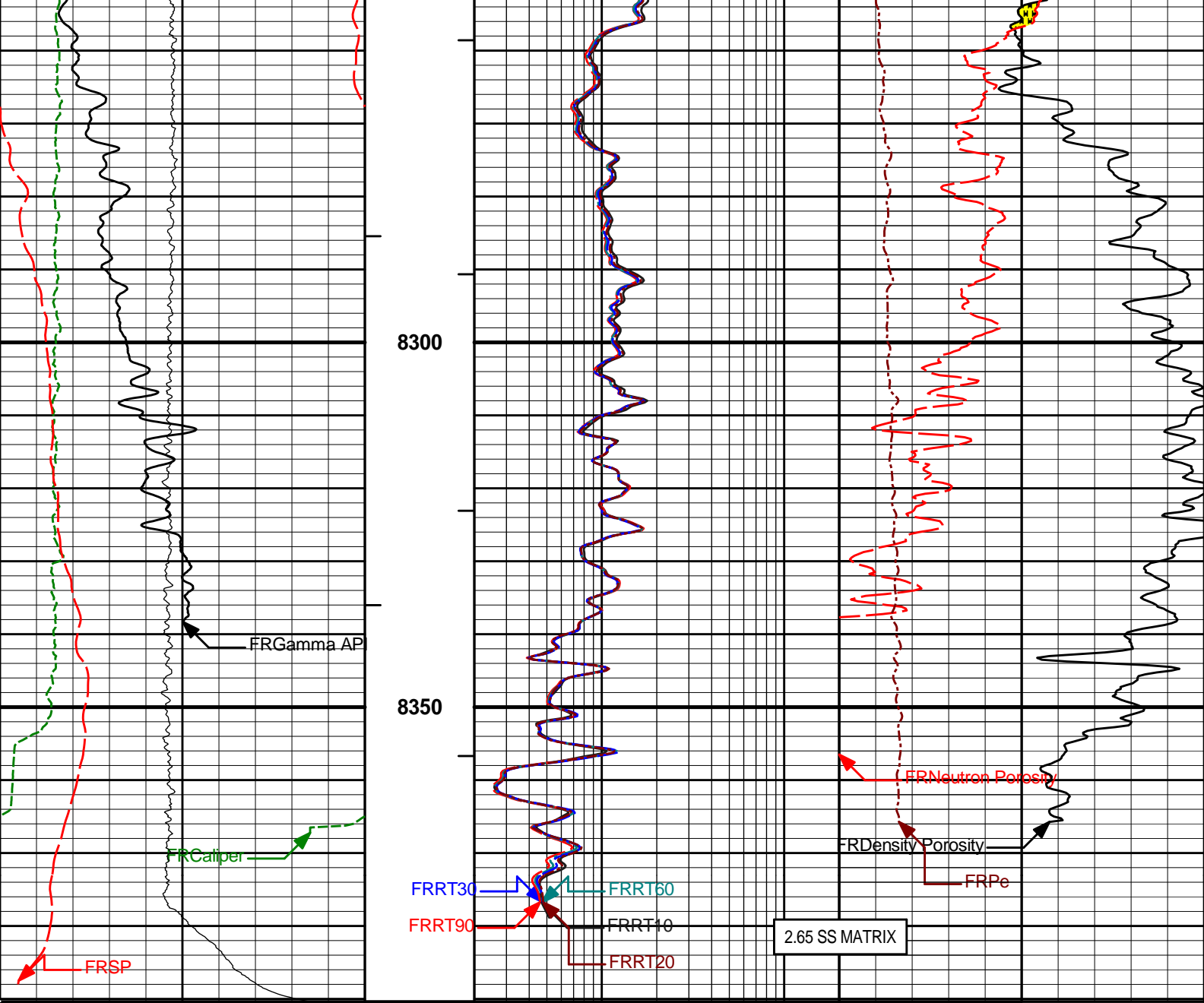












50	SP	150	1 : 240	2	RT90	200	0	Pe	10
	millivolts				Ohm-m				
0	Gamma API	250	BHVT	2	RT60	200	20	Density Porosity	0
	api				Ohm-m			percent	
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity	0
	inches				Ohm-m			percent	
10K	Tens	0		2	RT20	200			
	pounds				Ohm-m				
				2	RT10	200			
					Ohm-m				

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Plot Time: 08-Nov-10 07:46:30
 Plot Range: 6745 ft to 8390.33 ft
 Data: SHERWOOD_L30_32\Well Based\MAIN*
 Plot File: \COMP\NIO_COD

MAIN PASS 5" = 100'

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11277436Reference Calibration Date: 28-Sep-10 17:37:59

Engineer: F. LODERCalibration Date: 27-Oct-10 13:55:35

Software Version: WL INSITE R3.0.4 (Build 6)Calibration Version: 1

Calibrator Source S/N: KW-290
Calibrator API Reference:230.00 api

Measurement	Measured	Calibrated	Units
Background	80.0	79.0	api
Background + Calibrator	317.1	313.0	api
Calibrator	233.0	234.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11277436Reference Calibration Date: 27-Oct-10 13:55:35

Engineer: C. BLUECalibration Date: 07-Nov-10 21:52:57

Software Version: WL INSITE R3.0.4 (Build 6)Calibration Version: 1

Calibrator Source S/N: KW-290
Calibrator API Reference:230.00 api

Field Verification	Shop	Field	Units
Background	79.0	84.3	api
Background + Calibrator	313.0	313.8	api
Calibrator	234.0	229.5	api

Shop	Field	Difference	Tolerance
234.0	229.5	4.5	+/- 9.00

CSNG-FS SHOP CALIBRATION

Tool Name: CSNG - 11212563Reference Calibration Date: 27-Oct-10 13:22:07

Engineer: F. LODERCalibration Date: 27-Oct-10 13:43:32

Software Version: WL INSITE R3.0.4 (Build 6)Calibration Version: 1

Source SN: KW-290

TITANIUM CASE	Measured	Calibrated	Units
60 KEV Peak Channel #	48.0	48.0	Channel #
239 KEV Peak Channel #	23.1	23.1	Channel #
583 KEV Peak Channel #	51.8	51.8	Channel #
2614 KEV Peak Channel #	212.3	212.5	Channel #
Calibrate Temperature	57.9	63.7	degF

Pass/Fail Summary	Centroid
239 KEV Peak	Passed
583 KEV Peak	Passed
2614 KEV Peak	Passed

Calibrator Value: 261.2 API

	Counts	Units	Measured	Calibrated	Units
Thorium Blanket	1620.5	CPS	327.4	326.4	API
Background	323.5	CPS	66.2	65.1	API

Gamma Ray Gain: 1.01

Gamma Gain Check: Passed

CSNG-FS FIELD CALIBRATION

Tool Name:	CSNG - 11212563	Reference Calibration Date:	27-Oct-10 13:43:32
Engineer:	C. BLUE	Calibration Date:	07-Nov-10 22:01:19
Software Version:	WL INSITE R3.0.4 (Build 6)	Calibration Version:	1
Source SN:			

TITANIUM CASE	Shop	Field	Units
60 KEV Peak Channel #	48.0	48.0	Channel #
239 KEV Peak Channel #	23.1	22.9	Channel #
583 KEV Peak Channel #	51.8	51.0	Channel #
2614 KEV Peak Channel #	212.5	208.9	Channel #
Calibrate Temperature	63.7	78.9	degF

Pass/Fail Summary	Centroid
239 KEV Peak	Passed
583 KEV Peak	Passed
2614 KEV Peak	Passed

Blanket Reference Value: 230.00 API

Calibrator Value: 261.2 API

	Counts	Units	Measured	Calibrated	Units
Thorium Blanket	1664.6	CPS	326.4	332.6	API
Background	357.4	CPS	65.1	71.4	API

Gamma Ray Gain: 1.01

Gamma Gain Check: Passed

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 11301132	Reference Calibration Date:	26-Oct-10 18:08:26
Engineer:	F. LODER	Calibration Date:	26-Oct-10 18:22:51
Software Version:	WL INSITE R3.0.4 (Build 6)	Calibration Version:	1

Logging Source S/N: DSN-434

Tank Serial Number: 11068236

Reference value assigned to Tank: 53.720

Snow Block S/N: BRIGHTON

Calibration Tank Water Temperature: 60 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.999	1.001	0.900 - 1.100

Near Peak Offset	0.0170	0.1433	NONE
Near Lith Offset	0.0109	0.4550	NONE
Far Bar Offset	0.0107	0.0229	NONE
Far Dens Offset	0.1210	0.1350	NONE
Far Peak Offset	0.1506	0.1461	NONE
Far Lith Offset	0.3010	0.2999	NONE
Near Bar Background	946.11	948.01	700 - 1450
Near Dens Background	313.71	312.96	230 - 480
Near Peak Background	136.31	136.24	100 - 210
Near Lith Background	164.99	165.12	125 - 260
Far Bar Background	501.70	501.94	450 - 900
Far Dens Background	199.44	200.52	175 - 345
Far Peak Background	78.22	77.50	70 - 140
Far Lith Background	81.49	81.81	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.683	1.680	-0.003	+/- 0.015
Pe	2.535	2.589	0.054	+/- 0.150
ALUMINUM				
Density (g/cc)	2.601	2.600	-0.001	+/- 0.01500
Pe	3.113	3.095	-0.018	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0007	+/- 0.0110	-0.0010	+/- 0.0140
Magnesium Block	-0.0016	+/- 0.0110	-0.0024	+/- 0.0140
Aluminum Block	-0.0012	+/- 0.0110	-0.0005	+/- 0.0140
Resolution	8.95	6.00 - 11.50	9.83	6.00 - 11.50
Internal Verifier(B+D+P+L)	1562	1200 - 2700	862	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 - I132M275

Reference Calibration Date: 26-Oct-10 17:24:11

Engineer: C. BLUE

Calibration Date: 07-Nov-10 03:58:43

Software Version: WL INSITE R3.0.4 (Build 6)

Calibration Version: 1

Pad Temperature: 50.5 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1562.329	1562.514	0.185	15.906
Far (B+D+P+L) cps	861.767	860.083	-1.684	16.071
Near Resolution	8.95	8.95	0.000	0.50
Far Resolution	9.83	10.47	0.640	1.00

PASS/FAIL SUMMARY

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT - I132M275	Reference Calibration Date:	07-Nov-10 04:06:22
Engineer:	C. BLUE	Calibration Date:	07-Nov-10 04:10:29
Software Version:	WL INSITE R3.0.4 (Build 6)	Calibration Version:	1

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1684.75	-1647.20	-7000.00 - -1000.00
Pad Gain	0.0003830	0.0003865	0.000200 - 0.000600
Arm Offset	-700.55	-824.41	-5000.00 - 3000.00
Arm Gain	0.0005247	0.0005323	0.000300 - 0.000700
Arm Power	-0.000006128	-0.000006539	-0.000010 - 0.000010

The ring diameter is computed from: $\text{DIAMETER} = \text{PAD EXTENSION} + \text{ARM EXTENSION} + \text{TOOL DIAMETER}$

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)	1.97	2.00	0.03	+/- 0.20
Medium Ring (in)	3.70	3.75	0.05	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.52	6.50	-0.02	+/- 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
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SDLT CALIPER FIELD CALIBRATION

Tool Name:	SDLT - I132M275	Reference Calibration Date:	07-Nov-10 04:10:29
Engineer:	C. BLUE	Calibration Date:	07-Nov-10 04:15:56
Software Version:	WL INSITE R3.0.4 (Build 6)	Calibration Version:	1

MEASURED CALIPER VALUES

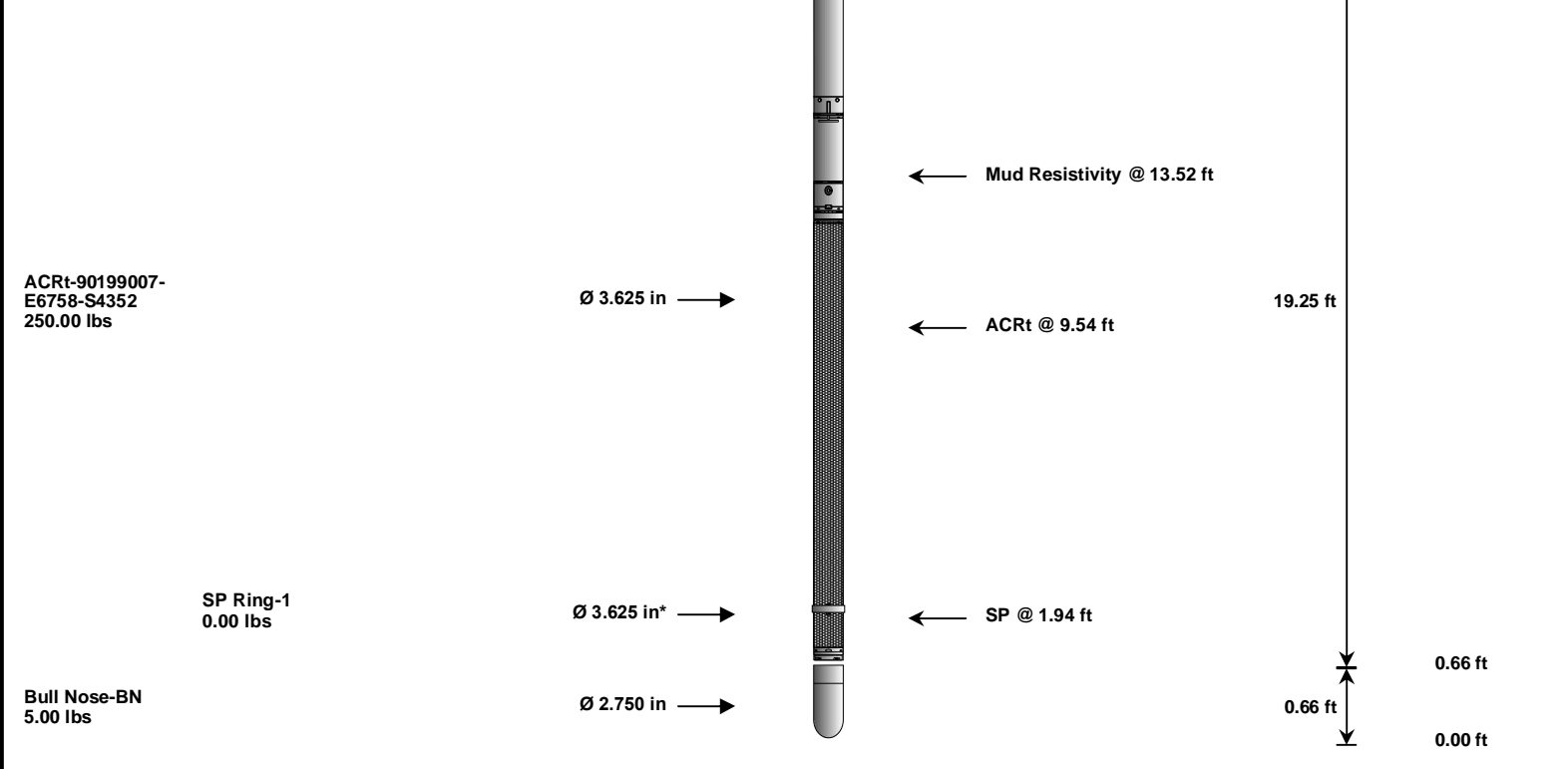
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.75	0.00	+/- 0.10
Ring Diameter	8.25	8.23	-0.02	+/- 0.15

PASS/FAIL SUMMARY

PASS/FAIL SUMMARY									
Pad Extension Check:					Passed				
Diameter Check:					Passed				
ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION									
Tool Name: ACRt - 90199007-E6758-S4352					Reference Calibration Date: 04-Jun-10 17:35:57				
Engineer: C. BLUE					Calibration Date: 13-Aug-10 20:36:17				
Software Version: WL INSITE R3.0.4 (Build 6)					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	1.0222	1.05	0.95	1.0229	1.05	0.95	1.0194	1.05
A2 (50")	0.95	0.9997	1.05	0.95	1.0021	1.05	0.95	0.9995	1.05
A3 (29")	0.95	0.9946	1.05	0.95	0.9956	1.05	0.95	0.9917	1.05
A4 (17")	0.95	0.9997	1.05	0.95	0.9975	1.05	0.95	0.9947	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0022	1.05	0.95	0.9988	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9802	1.05	0.95	0.9754	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	-0.767	2	-6	-4.245	-2	-8	-5.212	-2
A2 (50")	-7	-3.191	-1	-6	-4.049	-2	-7	-4.429	-2
A3 (29")	-27	-14.006	-9	-9	-4.120	-3	-7	-3.109	-1
A4 (17")	-180	-96.845	-60	-45	-31.787	-15	-39	-25.716	-13
A5 (10")	N/A	N/A	N/A	-150	-89.499	-50	-80	-43.805	-10
A6 (6")	N/A	N/A	N/A	175	295.504	525	90	152.604	270
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower		R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)	
12K		0.6	0.8902	1.3	Mud Cell	0.95	1.010	1.05	
36K		1.0	1.8792	2.0					
72K		1.0	1.1270	2.0					
CALIBRATION SUMMARY									
Sensor		Shop	Field	Post	Difference	Tolerance	Units		
GTET-11277436									
Gamma Ray Calibrator		234.0	229.5	-----	4.5	+/- 9.00	api		
CSNG-11212563									
60 KEV Peak Channel #		48.0	48.0	-----	0.0	-----	Channel #		
239 KEV Peak Channel #		23.1	22.9	-----	0.2	-----	Channel #		
583 KEV Peak Channel #		51.8	51.0	-----	0.8	-----	Channel #		
2614 KEV Peak Channel #		212.5	208.9	-----	3.6	-----	Channel #		
DSNT-11301132									
Snow-Block Porosity		0.0843	0.0818	-----	0.0025	+/- 0.0150	decp		
SDLT-I132M275									
Near(B+D+P+L)		1562.329	1562.514	-----	-0.185	+/-15.906	cps		
Far(B+D+P+L)		861.767	860.083	-----	1.684	+/-16.071	cps		
Pad Extension		3.75	3.75	-----	0.00	+/-0.10	in		
Ring Diameter		8.25	8.23	-----	0.020	+/-0.15	in		
ACRt-90199007-E6758-S4352									
Mud Cell		1.010			0.000		ohm m		

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-A094 135.00 lbs		Ø 3.625 in →		Load Cell @ 59.66 ft BH Temperature @ 59.10 ft	6.25 ft	63.35 ft
GTET-11277436 165.00 lbs		Ø 3.625 in →		GammaRay @ 51.03 ft	8.52 ft	57.10 ft
CSNG-11212563 114.00 lbs		Ø 3.625 in →		CSNG @ 42.95 ft	8.17 ft	48.58 ft
DSNT-11301132 174.00 lbs	DSN Decentralizer- 10860047 6.60 lbs	Ø 3.625 in* → Ø 3.625 in →		DSN Far @ 33.47 ft DSN Near @ 32.72 ft	9.69 ft	40.41 ft
SDLT-1132M275 360.00 lbs		Ø 4.500 in → Ø 4.750 in →		SDL Microlog @ 22.91 ft SDL Caliper @ 22.73 ft SDL @ 22.72 ft	10.81 ft	30.72 ft
						19.91 ft



Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head		A094	135.00	6.25	57.10	300.00
GTET	Gamma Telemetry Tool		11277436	165.00	8.52	48.58	60.00
CSNG	Compensated Spectral Natural Gamma		11212563	114.00	8.17	40.41	15.00
DSNT	Dual Spaced Neutron		11301132	174.00	9.69	30.72	60.00
DCNT	DSN Decentralizer		10860047	6.60	5.13	34.05	300.00
SDLT	Spectral Density Tool		1132M275	360.00	10.81	19.91	60.00
ACRT	Array Compensated True Resistivity		90199007-E6758-S4352	250.00	19.25	0.66	300.00
SP	SP Ring		1	0.00	0.25	1.94	300.00
BLNS	Bull Nose		BN	5.00	0.66	0.00	300.00
Total				1,209.60	63.35		
Data: SHERWOOD_L30_32\0001 NOBLE_RED\IDLE				* Not included in Total Length and Length Accumulation.			
				Date: 08-Nov-10 04:12:52			

COMPANY	NOBLE ENERGY INC		
WELL	SHERWOOD L30-32D		
FIELD	WATTENBERG		
COUNTY	WELD	STATE	CO
HALLIBURTON		SPECTRAL DENSITY DUAL SPACED NEUTRON ARRAY COMPENSATED TRUE RESISTIVITY	