

COMPANY		NOBLE	
WELL		CECIL USX A01-11D	
FIELD		WATTENBERG	
COUNTY		WELD	
STATE		CO	
Permanent Datum		GL	Elev.: K.B.
Log measured from		KB	D.F.
Drilling measured from		KB	G.L.
Date		14-Nov-09	
Run No.		ONE	
Depth - Driller		7311.00 ft	
Depth - Logger		7313.0 ft	
Bottom - Logged Interval		7303 ft	
Top - Logged Interval		842 ft	
Casing - Driller		8.625 in @ 840.0 ft	@
Casing - Logger		842.0 ft	
Bit Size		7.875 in	@
Type Fluid in Hole		WBM	
Density		9.2 ppg	30.00 s/qt
PH		8.00 pH	32.0 cpm
Source of Sample		FLOWLINE	
Rm @ Meas. Temperature		1.50 ohmm @ 75.00 degF	@
Rmf @ Meas. Temperature		1.31 ohmm @ 75.00 degF	@
Rmc @ Meas. Temperature		1.30 ohmm @ 75.00 degF	@
Source Rmf		CHART	CHART
Rm @ BHT		0.55 ohmm @ 215.0 degF	@
Time Since Circulation		8.0 hr	
Time on Bottom		14-Nov-09 15:44	
Max. Rec. Temperature		215.0 degF @ 7311.0 ft	@
Equipment		10549597	BRIGHTON
Recorded By		F. LODER	
Witnessed By		SHANE HEARD	

COMPANY NOBLE
WELL CECIL USX A01-11D
FIELD WATTENBERG
COUNTY WELD
STATE CO

API No. 05123297870000
Location SHL: 2115' FSL & 1995' FEL
BHL: 1980' FSL & 1980' FWL
LAT: 40.51° N
LONG: 104.49° W

Other Services:
RWCH
ICT
IDT
CSNG

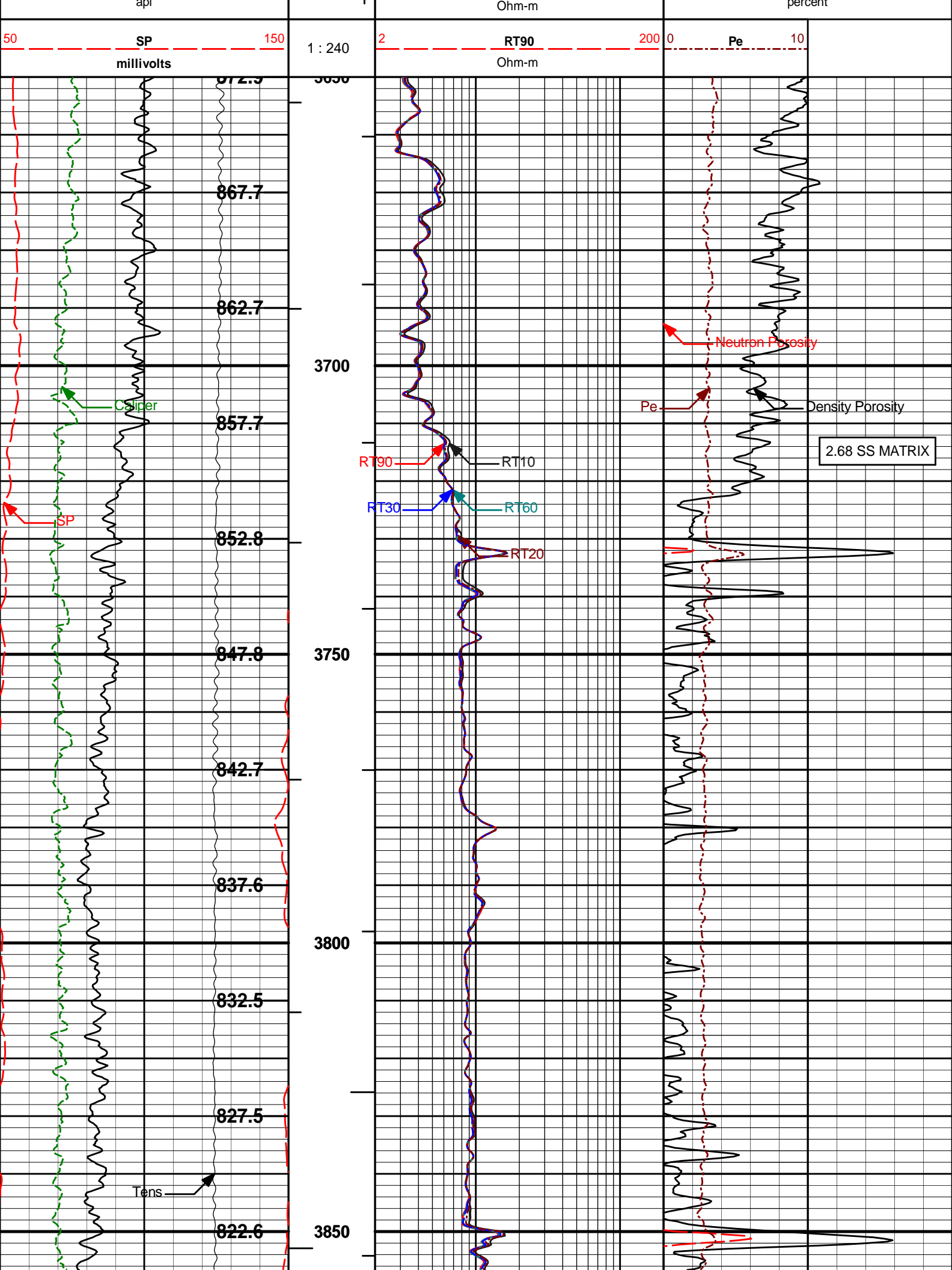
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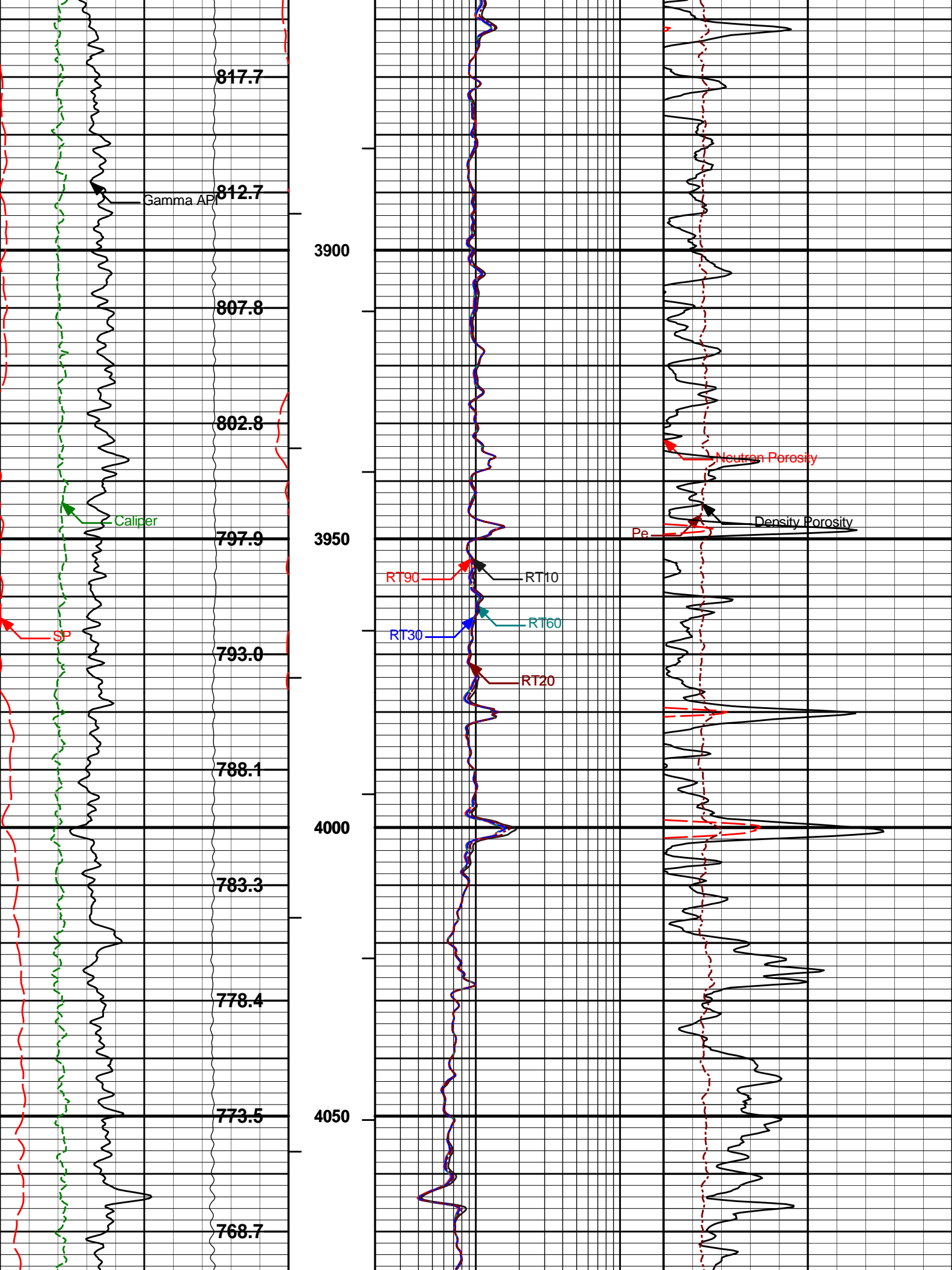
Service Ticket No.: 7009202						API Serial No.: 05123297870000						PGM Version: WL INSITE R2.4 (Build 20)																	
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE												RESISTIVITY SCALE CHANGES																	
Date		Sample No.										Type Log		Depth		Scale Up Hole				Scale Down Hole									
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-E6758-S4				N/A				1.5" 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.		11294346				Serial No.						Serial No.		I440N335				Serial No.		11277440									
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.		102-T				Spacing						Log Type		GAM-GAM				Log Type		NEU-NEU									
Type		SCINT										Source Type		Cs-137				Source Type		Am241Be									
Length		8"				LSA [Y/N]						Serial No.		2770GW				Serial No.		DSN-434									
Distance to Source		45'				FWDA [Y/N]						Strength		1.5 Ci				Strength		15 Ci									

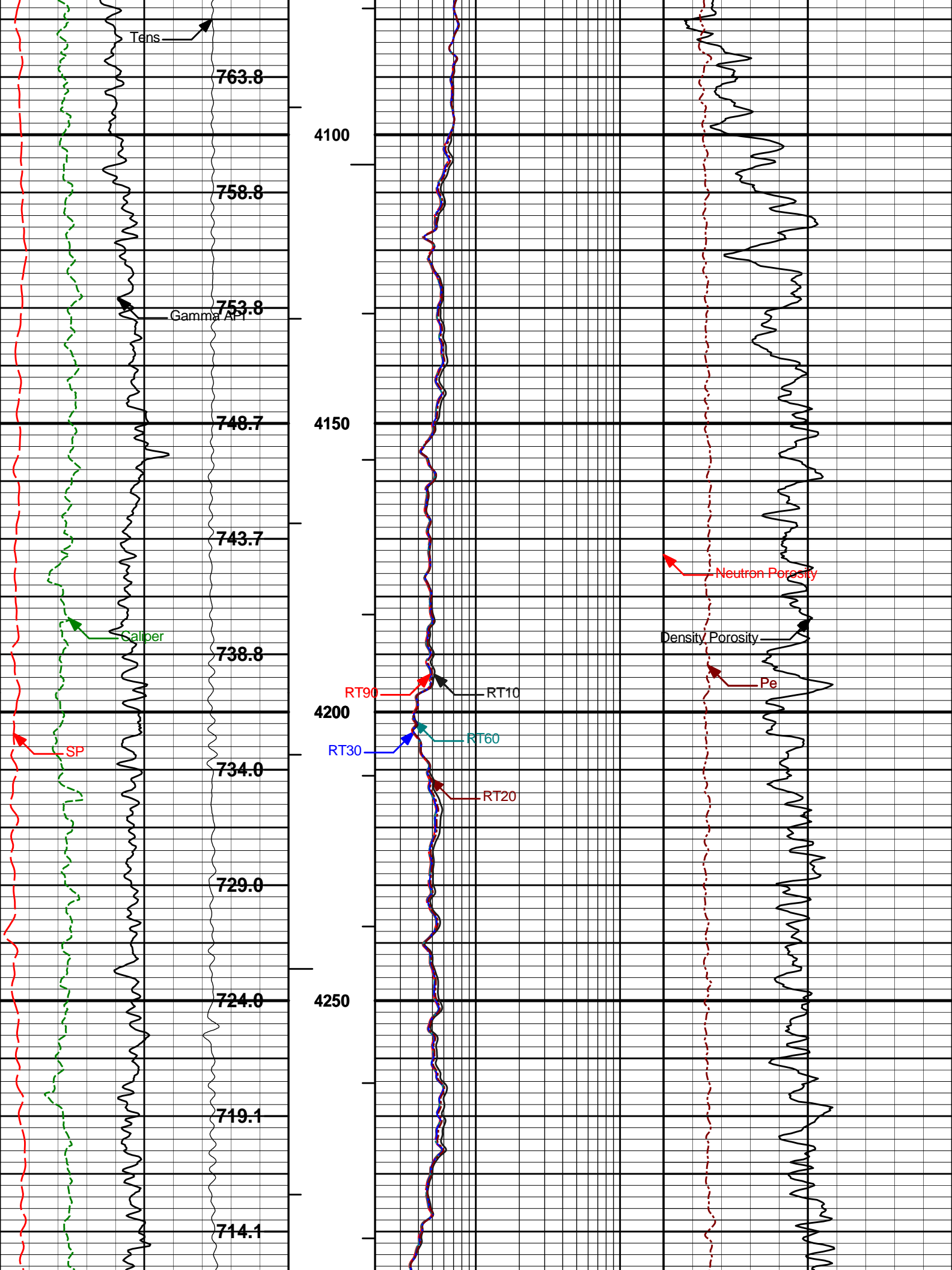
PARAMETERS REPORT

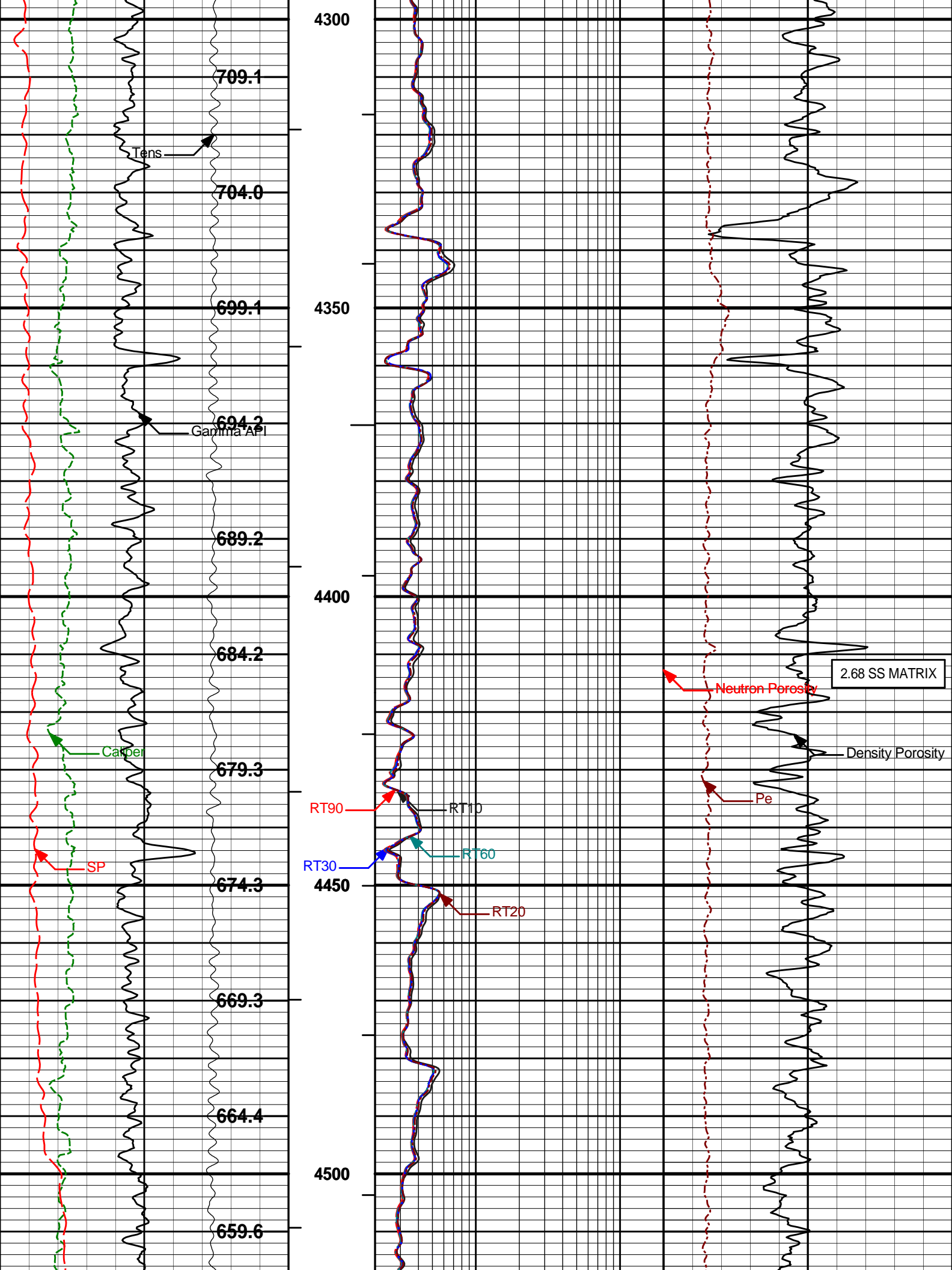
CSNG	CENT	Is Tool Centralized?	No	
CSNG	MUDT	Mud Type?	Natural	
CSNG	KPCT	Percent K in Mud by Weight?	0.00	%
CSNG	GBOK	Gamma Enviromental Corrections?	Yes	
CSNG	BARF	Barite Correction Factor	1.0	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Sandstone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.000	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		Logging Horizontal Water Tank?	No	
SDLT	DNOK	Process Density?	Yes	
SDLT	DNOK	Process Density EVR?	No	
SDLT	AD	Is Hole Air Drilled?	No	
SDLT	CB	Use Calibration Blocks?	No	
SDLT	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT	DTWN	Disable temperature warning	No	
SDLT	MDTP	Weighted Mud Correction Type?	None	
SDLT	DMA	Formation Density Matrix	2.680	g/cc
SDLT	DFL	Formation Density Fluid	1.000	g/cc
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT	MLOK	Process MicroLog Outputs?	Yes	
ACRt	RTOK	Process ACRt?	Yes	
ACRt	MNSO	Minimum Tool Standoff	1.50	in
ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt	TPOS	Tool Position	Free Hanging	
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: CECIL_A01-11D\0001 NOBLE_RED\002.01 15-Nov-09 05:20 Up			Date: 15-Nov-09 05:24:13	

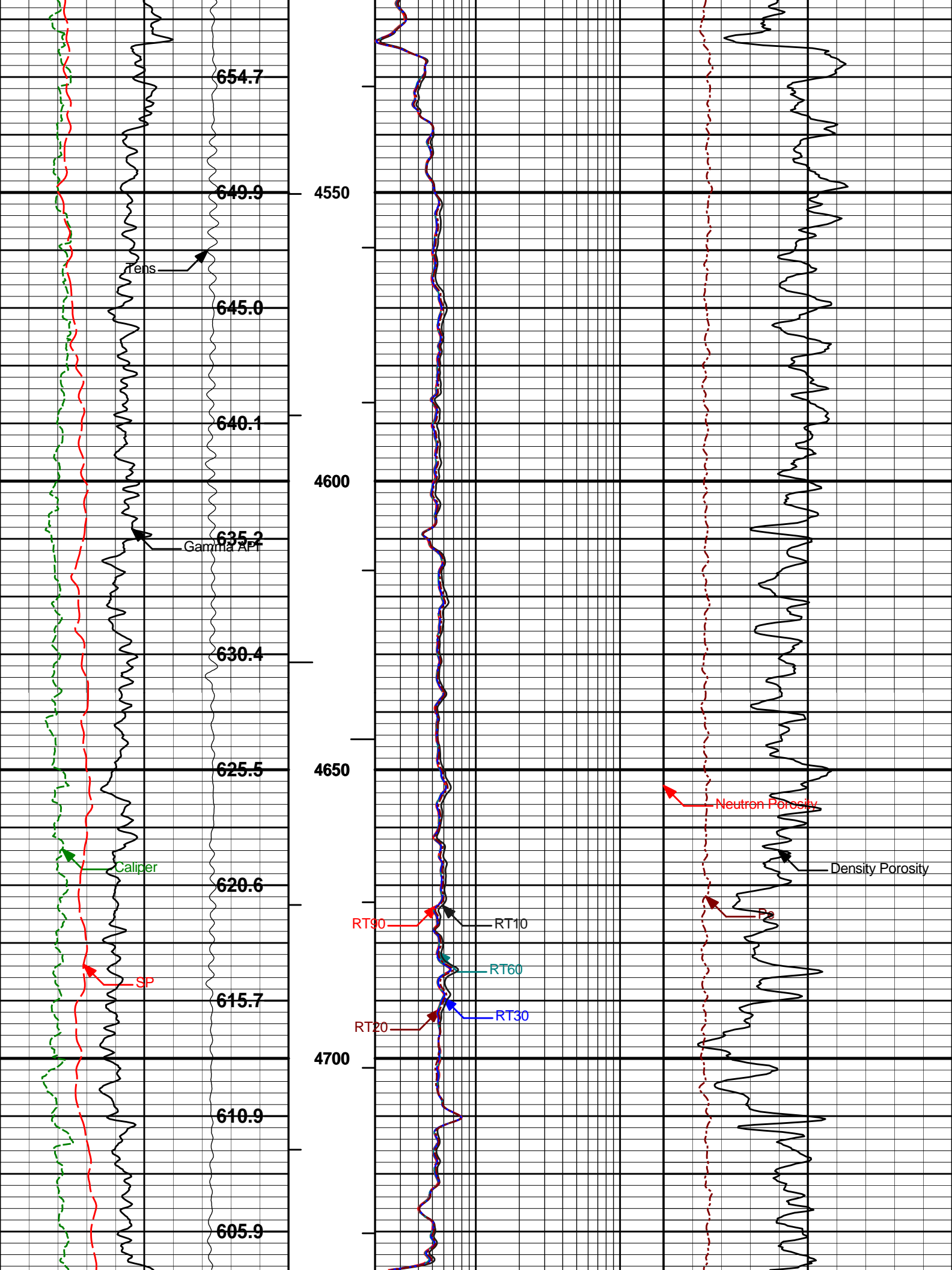
HALLIBURTON		Plot Time: 15-Nov-09 09:54:35 Plot Range: 3650 ft to 5255 ft Data: {ActiveWell}\Well Based\MAIN* Plot File: \\COMP\PARK_SUS							
MAIN PASS 5" = 100'									
Annular Volume Total			2	RT10	200				
				Ohm-m					
10K	Tens		0	2	RT20		200		
pounds				Ohm-m					
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity	0
inches					Ohm-m			percent	
0	Gamma API	250	BHVT	2	RT60	200	20	Density Porosity	0

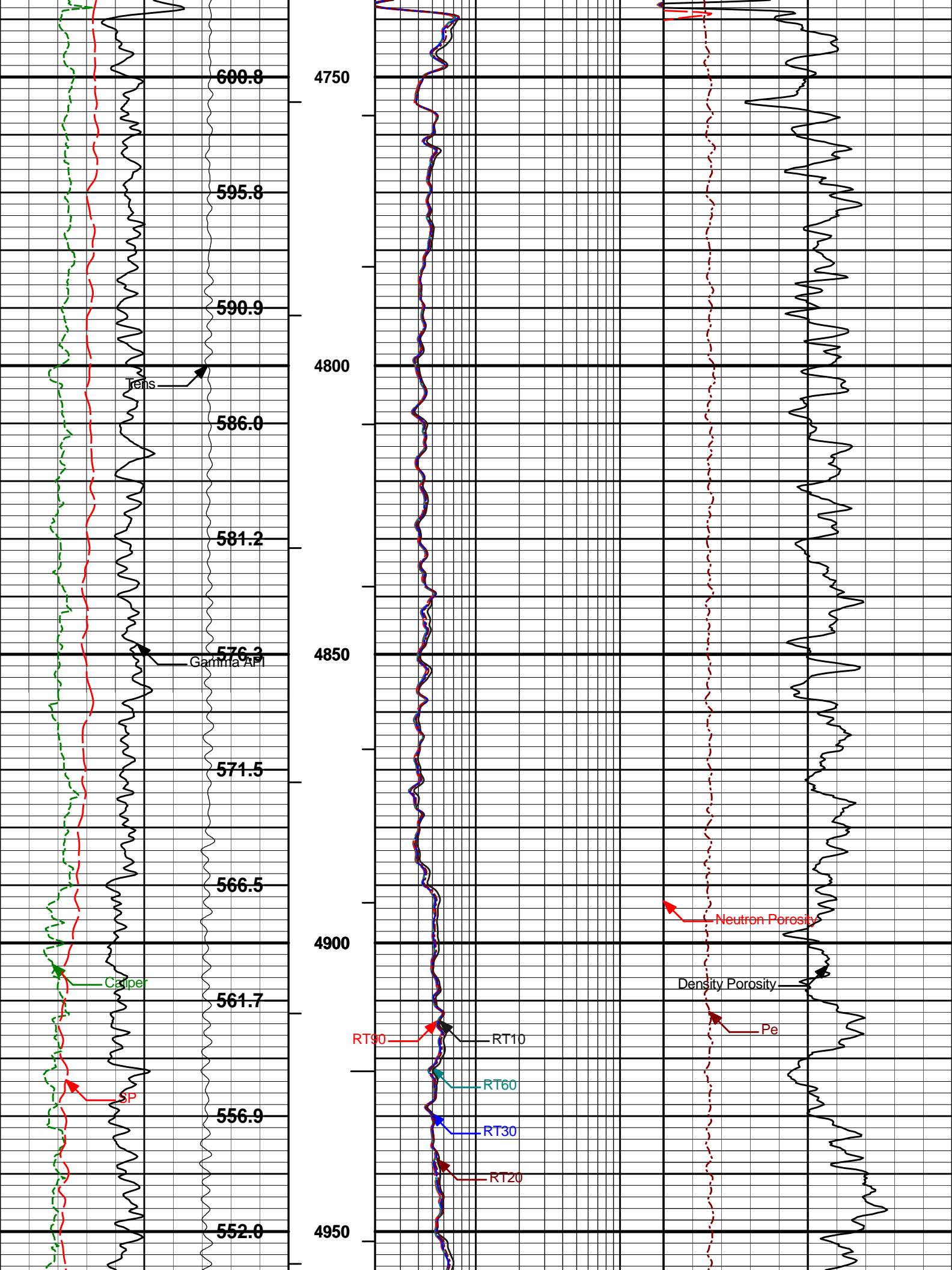


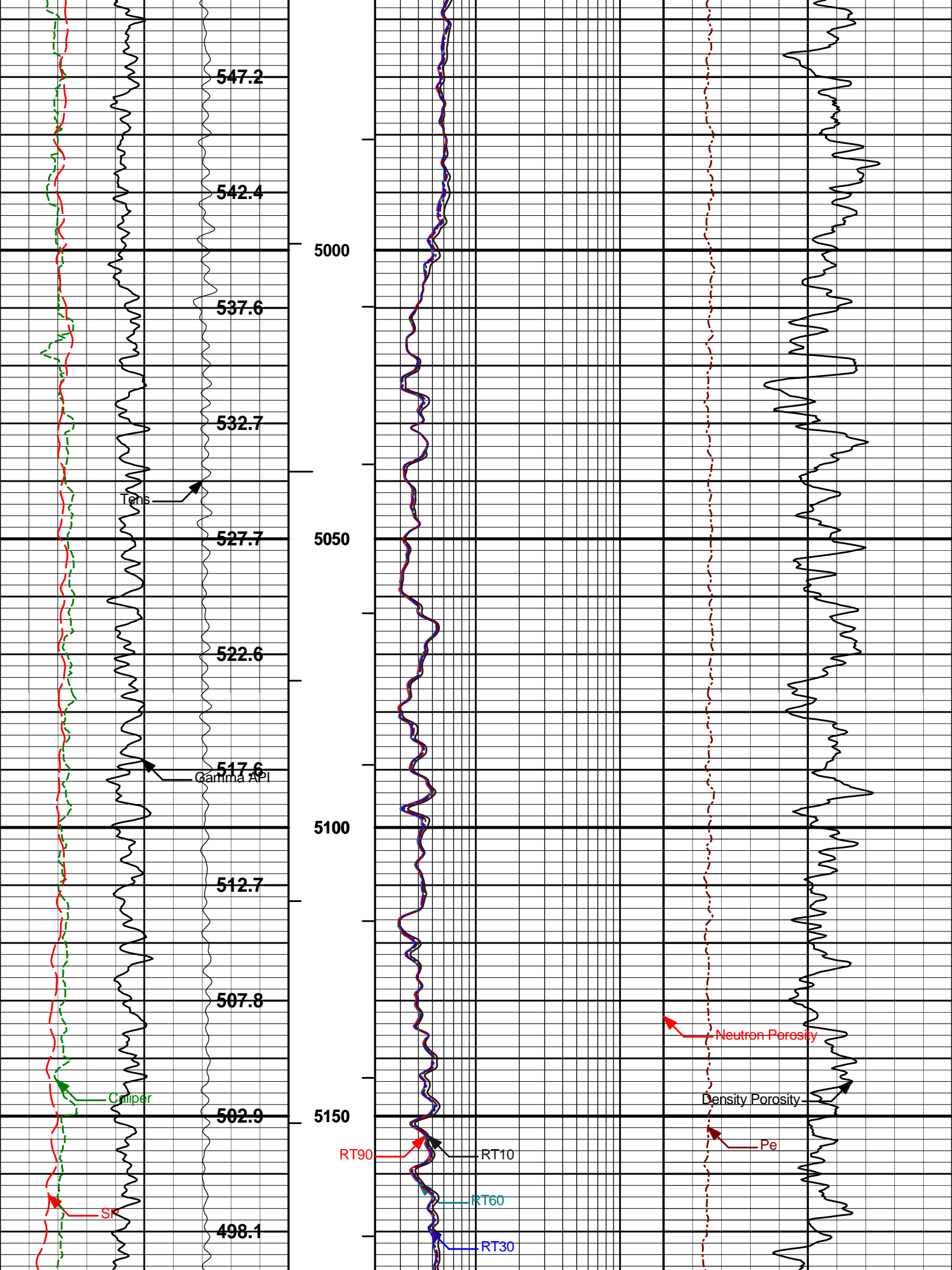


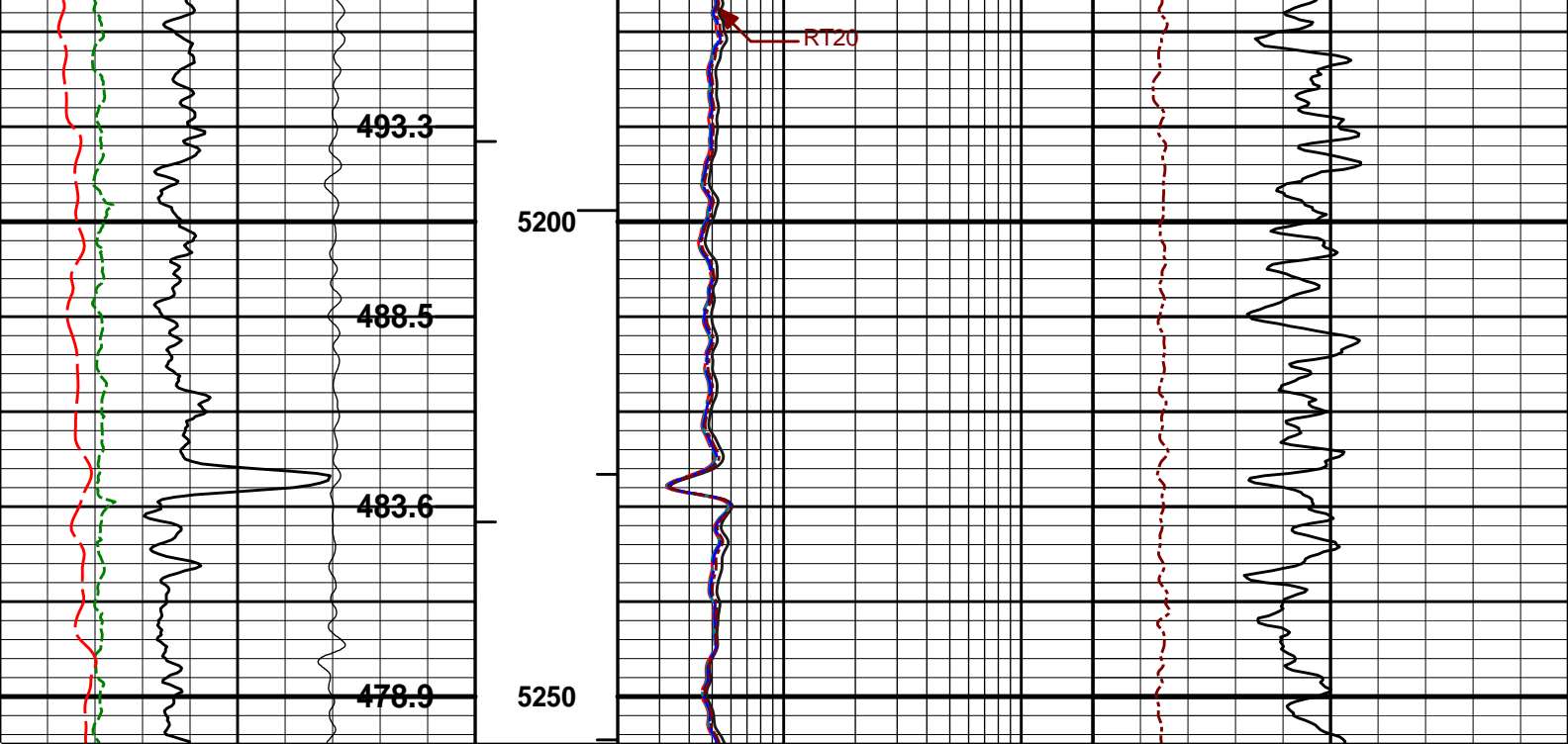












50	SP	150	1 : 240	2	RT90	200	0	Pe	10
	millivolts				Ohm-m				
0	Gamma API	250	BHVT	2	RT60	200	20	Density Porosity	0
	api				Ohm-m			percent	
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity	0
	inches				Ohm-m			percent	
10K	Tens	0		2	RT20	200			
	pounds				Ohm-m				
	Annular Volume Total			2	RT10	200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

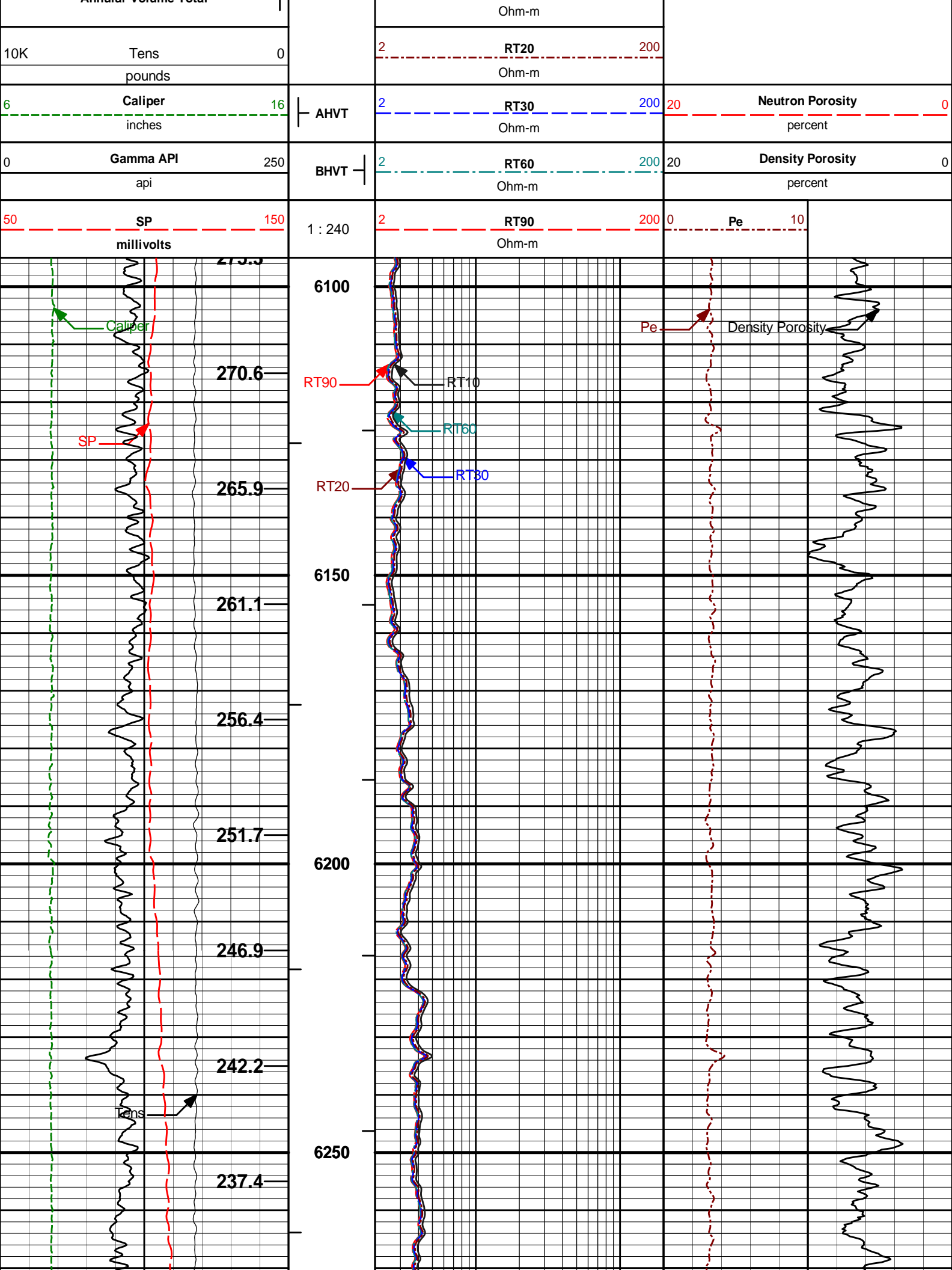
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Plot Range: 3650 ft to 5255 ft
Data: {ActiveWell}\Well Based\MAIN*
Plot File: \COMP\PARK_SUS

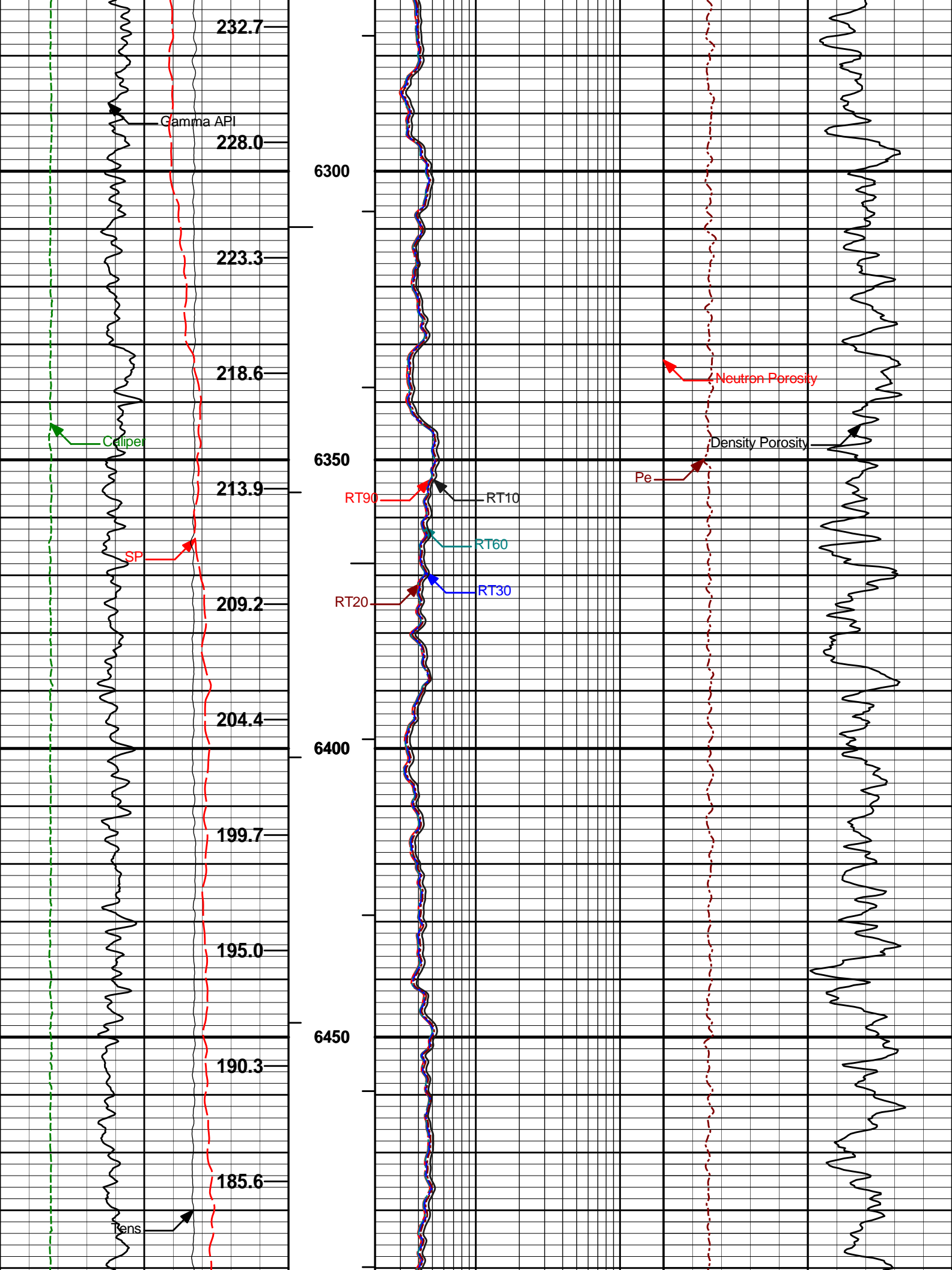
MAIN PASS 5" = 100'

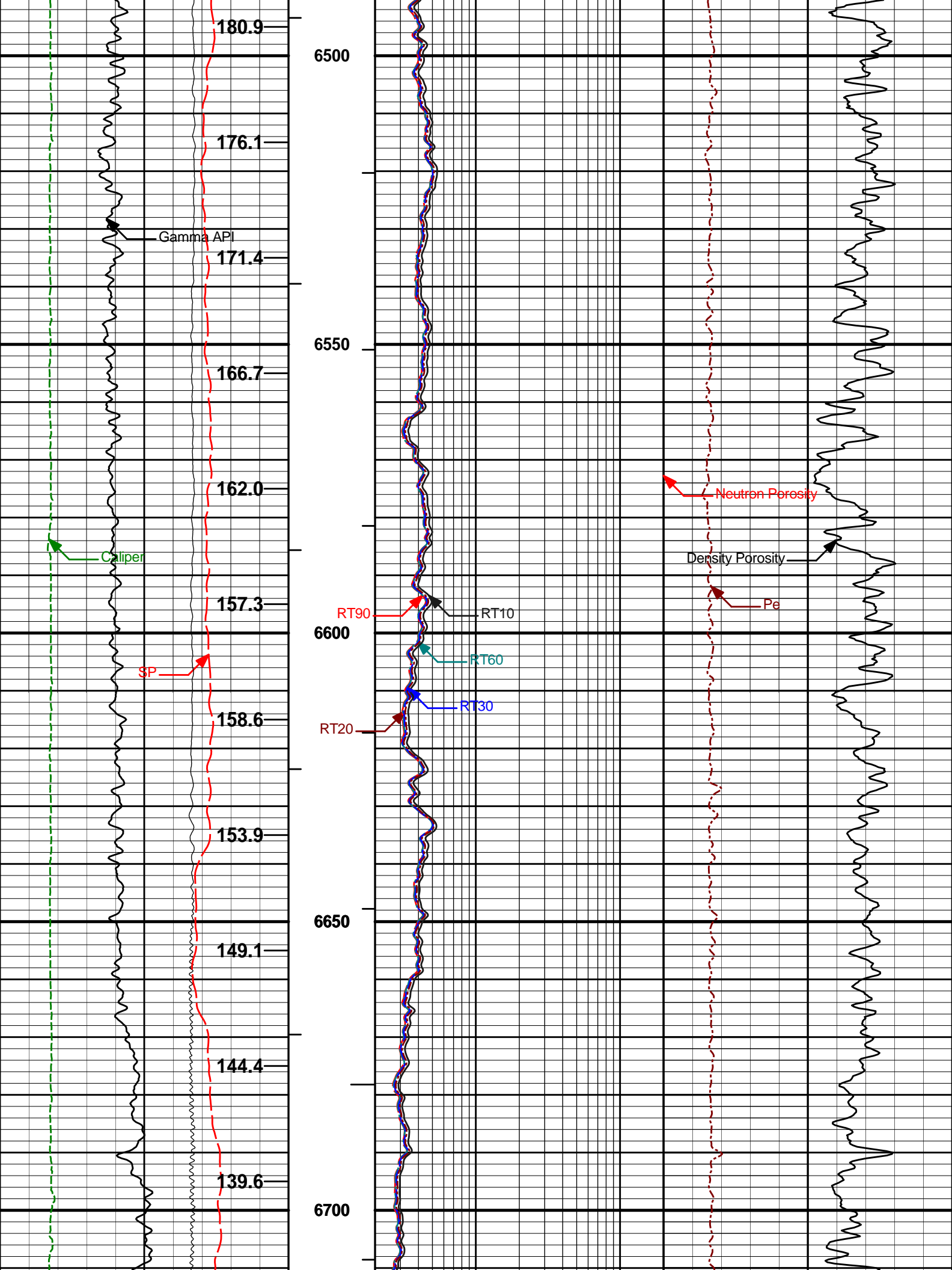
HALLIBURTON Plot Time: 15-Nov-09 09:54:52
Plot Range: 6095 ft to 7328.92 ft
Data: {ActiveWell}\Well Based\MAIN*
Plot File: \COMP\NIO_COD

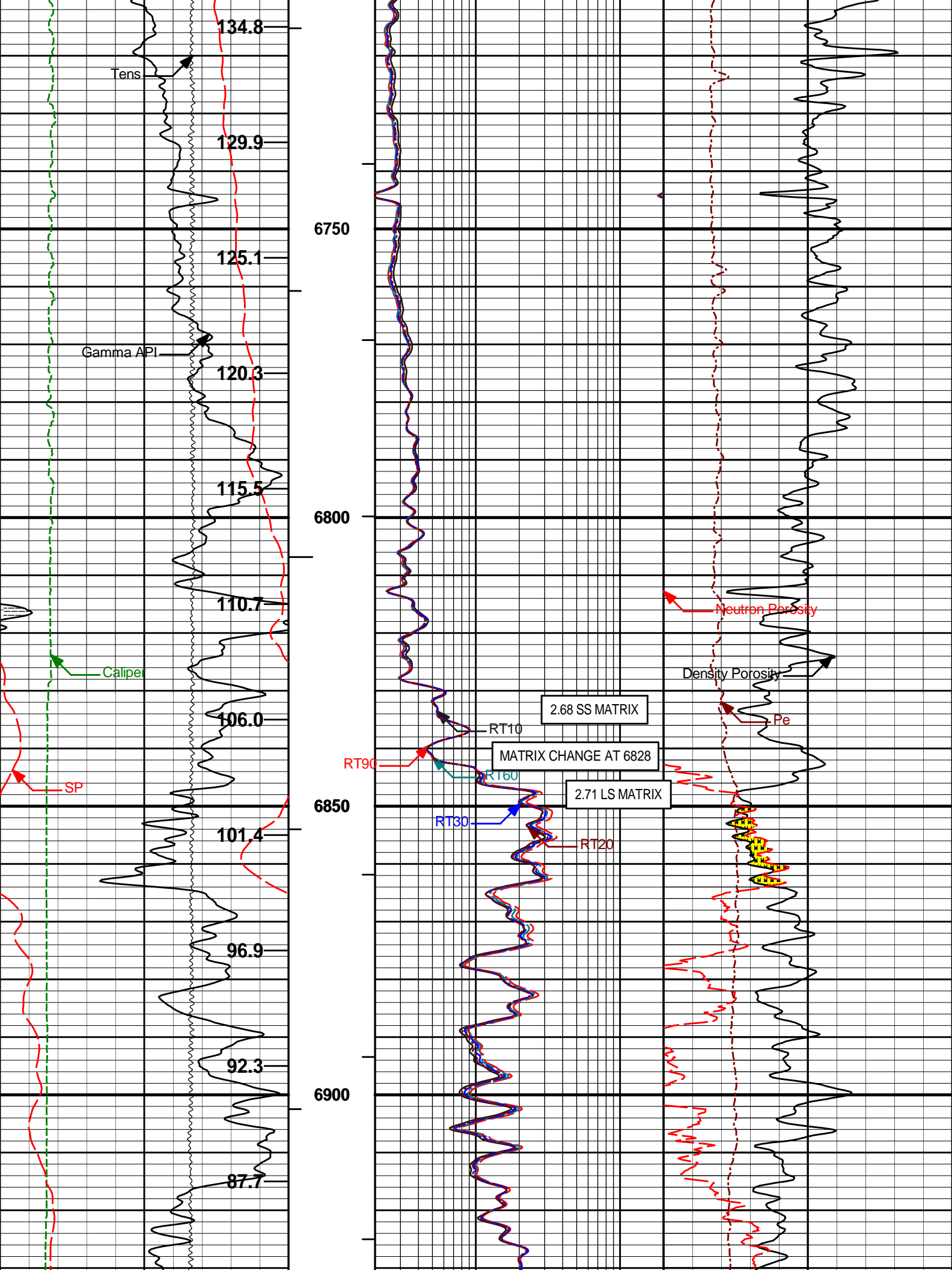
MAIN PASS 5" = 100'

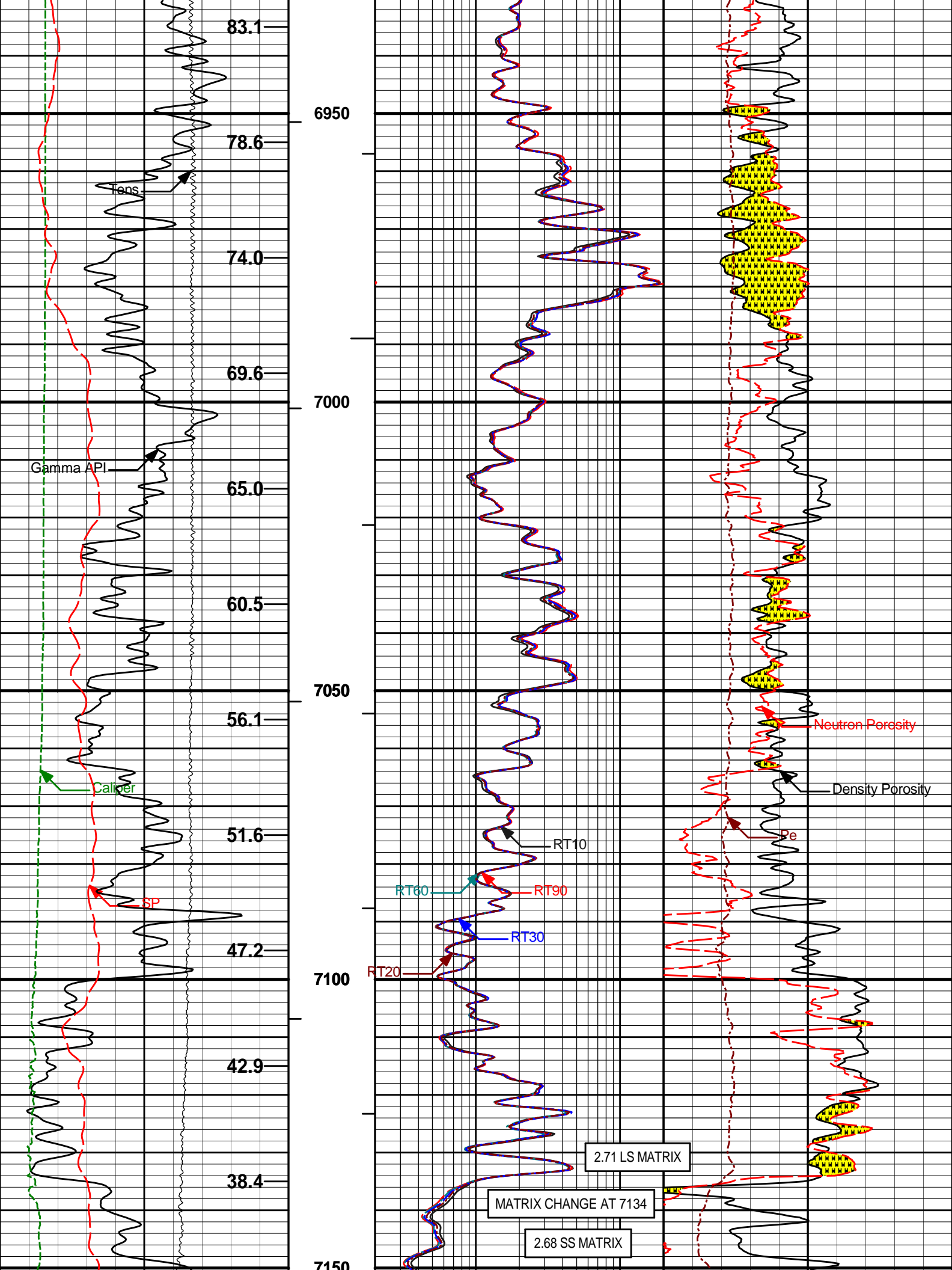
Annular Volume Total		2	RT10	200
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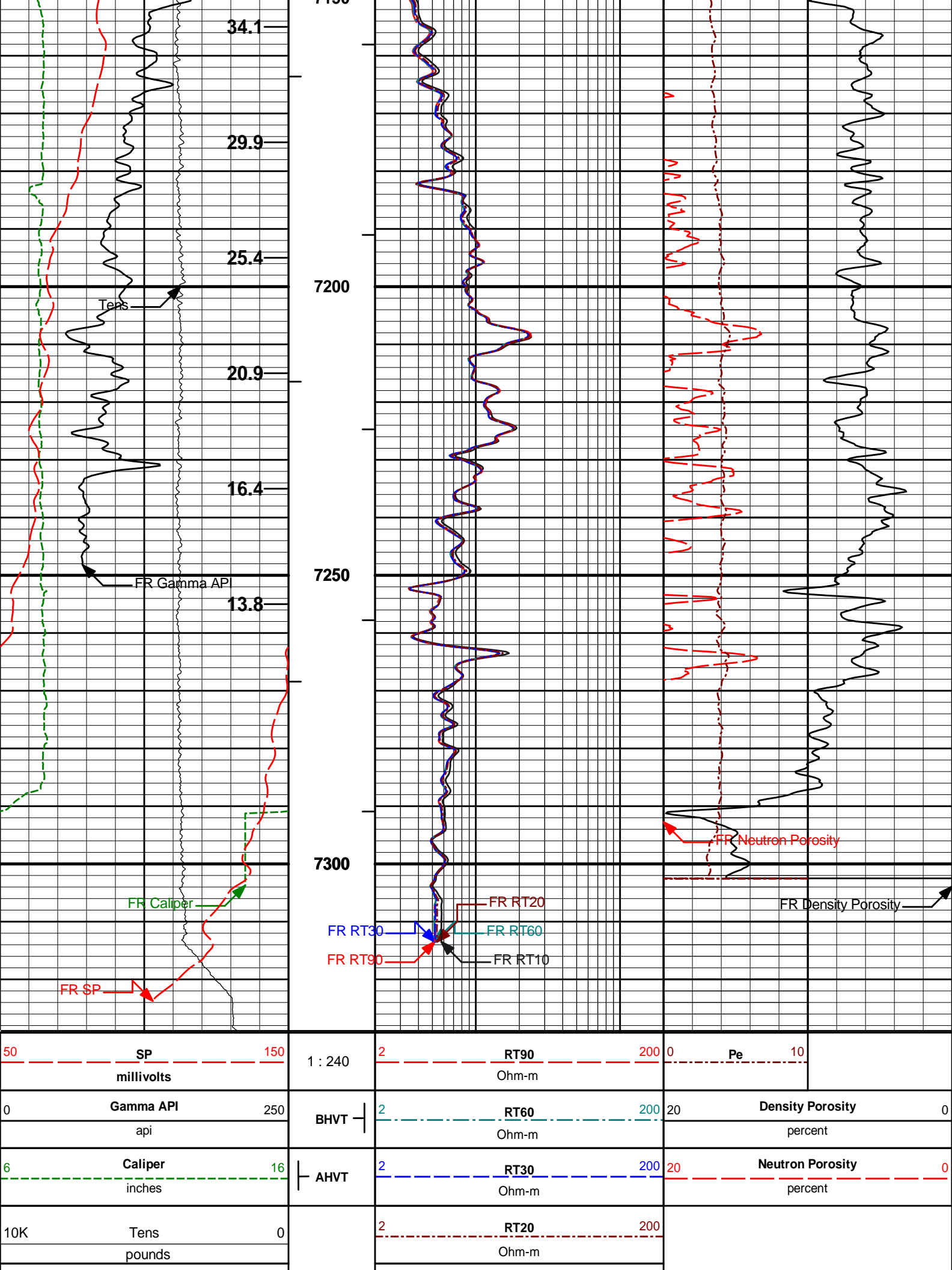












Annular Volume Total		2	RT10	200																
		Ohm-m																		
HALLIBURTON		Plot Time: 15-Nov-09 09:55:02 Plot Range: 6095 ft to 7328.92 ft Data: {ActiveWell}\Well Based\MAIN* Plot File: \\COMP\NIO_COD																		
MAIN PASS 5" = 100'																				
HALLIBURTON																				
CALIBRATION REPORT																				
NATURAL GAMMA RAY TOOL SHOP CALIBRATION																				
Tool Name: GTET - 11294346		Reference Calibration Date: 26-Sep-09 16:33:53																		
Engineer: F. LODER		Calibration Date: 24-Oct-09 10:32:16																		
Software Version: WL INSITE R2.4 (Build 11)		Calibration Version: 1																		
Calibrator Source S/N: TB-270 Calibrator API Reference:230.00 api																				
<table><tr><th>Measurement</th><th>Measured</th><th>Calibrated</th><th>Units</th></tr><tr><td>Background</td><td>134.2</td><td>130.9</td><td>api</td></tr><tr><td>Background + Calibrator</td><td>369.8</td><td>360.9</td><td>api</td></tr><tr><td>Calibrator</td><td>226.8</td><td>230.0</td><td>api</td></tr></table>					Measurement	Measured	Calibrated	Units	Background	134.2	130.9	api	Background + Calibrator	369.8	360.9	api	Calibrator	226.8	230.0	api
Measurement	Measured	Calibrated	Units																	
Background	134.2	130.9	api																	
Background + Calibrator	369.8	360.9	api																	
Calibrator	226.8	230.0	api																	
DUAL SPACED NEUTRON SHOP CALIBRATION																				
Tool Name: DSNT - 11277440		Reference Calibration Date: 24-Sep-09 10:16:48																		
Engineer: F. LODER		Calibration Date: 24-Oct-09 11:08:06																		
Software Version: WL INSITE R2.4 (Build 11)		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 SNOW BLOCK Calibration Tank Water Temperature: 68 degF Min. Tool Housing Outside Diameter: 3.625 in																				
CALIBRATION CONSTANTS																				
Measurement	Prev. Value	New Value	Control Limit On New Value																	
Gain:	0.997	0.999	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):	0.2219	0.2224	0.0005	+/- 0.0020																
Calibrated Ratio:	10.10	10.11	0.017	+/- 0.050																
VERIFIER																				
Measurement	Value	Control Limit																		
Snow Block Density (decp):	0.0000	0.00000 - 0.00000																		

Show-Block Porosity (dec):	0.0609	0.02000 - 0.09000
PASS/FAIL SUMMARY		
Background Check:	Passed	
Gain-Range Check:	Passed	
Snow-Block Check:	Passed	

SPECTRAL DENSITY SHOP CALIBRATION			
Tool Name:	SDLT - I440M335	Reference Calibration Date:	24-Sep-09 09:50:00
Engineer:	F. LODER	Calibration Date:	24-Oct-09 10:49:11
Software Version:	WL INSITE R2.4 (Build 11)	Calibration Version:	1

Logging Source S/N: 2770 GW
 Aluminum Block S/N: 63066
 Magnesium Block S/N: 63066

Density: 2.600g/cc
 Density: 1.680g/cc

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0744	1.0908	0.90 - 1.10
Near Dens Gain	1.0269	1.0329	0.90 - 1.10
Near Peak Gain	1.0115	1.0249	0.90 - 1.10
Near Lith Gain	0.9808	1.0091	0.90 - 1.10
Far Bar Gain	1.0236	1.0239	0.90 - 1.10
Far Dens Gain	1.0078	1.0106	0.90 - 1.10
Far Peak Gain	1.0033	1.0049	0.90 - 1.10
Far Lith Gain	0.9815	0.9786	0.90 - 1.10
Near Bar Offset	-0.4659	-0.6201	NONE
Near Dens Offset	-0.0403	-0.0944	NONE
Near Peak Offset	0.0857	-0.0239	NONE
Near Lith Offset	0.3189	0.0886	NONE
Far Bar Offset	-0.0357	-0.0466	NONE
Far Dens Offset	0.0929	0.0587	NONE
Far Peak Offset	0.1059	0.0816	NONE
Far Lith Offset	0.2379	0.2502	NONE
Near Bar Background	970.19	971.09	700 - 1450
Near Dens Background	322.68	320.64	230 - 480
Near Peak Background	140.51	139.04	100 - 210
Near Lith Background	170.02	170.15	125 - 260
Far Bar Background	513.10	511.76	450 - 900
Far Dens Background	205.14	203.69	175 - 345
Far Peak Background	80.06	79.87	70 - 140
Far Lith Background	83.67	83.36	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.674	1.680	0.006	+/- 0.015
Pe	2.658	2.594	-0.064	+/- 0.150
ALUMINUM				
Density (g/cc)	2.595	2.600	0.005	+/- 0.01500
Pe	3.142	3.100	-0.042	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0002	+/- 0.0110	-0.0011	+/- 0.0140
Magnesium Block	-0.0012	+/- 0.0110	-0.0013	+/- 0.0140
Aluminum Block	-0.0007	+/- 0.0110	-0.0004	+/- 0.0140
Resolution	8.86	6.00 - 11.50	9.87	6.00 - 11.50
Internal Verifier(B+D+P+L)	1601	1200 - 2700	879	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

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - I440M335

Reference Calibration Date: 24-Sep-09 10:29:21

Engineer: F. LODER

Calibration Date: 24-Oct-09 11:17:24

Software Version: WL INSITE R2.4 (Build 11)

Calibration Version: 1

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2678.46	-2486.61	-7000.00 - -1000.00
Pad Gain	0.0003952	0.0003893	0.000200 - 0.000600
Arm Offset	-3298.66	-3560.09	-5000.00 - 3000.00
Arm Gain	0.0005569	0.0005655	0.000300 - 0.000700
Arm Power	-0.000004678	-0.000005247	-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)	1.95	2.00	0.05	+/- 0.20
Medium Ring (in)	3.73	3.75	0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.55	6.50	-0.05	+/- 0.20
Medium Ring (in)	8.27	8.25	-0.02	+/- 0.20
Large Ring (in)	15.02	15.00	-0.02	+/- 0.20

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

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRT - 90199007-E6758-S4352				Reference Calibration Date: 05-Jun-09 11:35:58					
Engineer: C. BLUE				Calibration Date: 10-Sep-09 22:01:54					
Software Version: WL INSITE R2.4 (Build 11)				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	1.0013	1.05	0.95	1.0013	1.05	0.95	0.9969	1.05
A2 (50")	0.95	1.0006	1.05	0.95	1.0011	1.05	0.95	0.9976	1.05
A3 (29")	0.95	0.9977	1.05	0.95	0.9962	1.05	0.95	0.9915	1.05
A4 (17")	0.95	1.0007	1.05	0.95	0.9992	1.05	0.95	0.9963	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9892	1.05	0.95	0.9863	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9932	1.05	0.95	0.9883	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	-0.502	2	-6	-3.905	-2	-8	-4.862	-2
A2 (50")	-7	-2.891	-2	-6	-3.892	-2	-7	-4.418	-2
A3 (29")	-27	-14.136	-9	-9	-4.152	-3	-7	-3.171	-1
A4 (17")	-180	-96.230	-60	-45	-31.611	-15	-39	-25.608	-13
A5 (10")	N/A	N/A	N/A	-150	-85.139	-50	-80	-42.182	-10
A6 (6")	N/A	N/A	N/A	175	296.248	525	90	153.357	270
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower	R	Upper	Signal	Lower (ohm-m)	Measured (ohmm)	Upper (ohm-m)		
12K	0.6	0.8893	1.3	Mud Cell	0.95	1.009	1.05		
36K	1.0	1.8813	2.0						
72K	1.0	1.1258	2.0						
CALIBRATION SUMMARY									
Sensor	Shop	Field	Post	Difference	Tolerance	Units			
GTET-11294346									
Gamma Ray Calibrator	230.0	-----	-----	0.0	+/- 9.00	api			
DSNT-11277440									
Snow-Block Porosity	0.0609	-----	-----	0.0000	+/- -.--	decp			
SDLT-I440M335									
Near(B+D+P+L)	1600.923	-----	-----	0.000	+/-14.068	cps			
Far(B+D+P+L)	878.683	-----	-----	0.000	+/-14.681	cps			
Pad Extension	3.75	-----	-----	0.00	+/-0.20	in			
Ring Diameter	8.25	-----	-----	0.00	+/-0.20	in			
ACRt-90199007-E6758-S4352									
Mud Cell	1.009	-----	-----	0.000	-----	ohmm			
Data: CECIL_A01-11D\0001 NOBLE_RED\001 15-Nov-09 03:10 Dn @15.3f							Date: 15-Nov-09 04:00:15		
HALLIBURTON									
TOOL STRING DIAGRAM REPORT									
Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length				

RWCH-B097
135.00 lbs

Ø 3.625 in →

← Load Cell @ 88.39 ft
← BH Temperature @ 87.82 ft

6.25 ft

85.82 ft

GTET-11294346
165.00 lbs

Ø 3.625 in →

← GammaRay @ 79.76 ft

8.52 ft

77.30 ft

IDT-11277453
150.00 lbs

Ø 3.625 in →

7.58 ft

69.72 ft

ICT-11294350
330.00 lbs

Ø 3.625 in →

← ICT Caliper @ 59.68 ft

12.83 ft

56.89 ft

CSNG-10965402
114.00 lbs

Ø 3.625 in →

← CSNG @ 51.26 ft

8.17 ft

48.72 ft

Flex Joint - Pressure Comp-KW-BLACK
140.00 lbs

Ø 3.625 in →

5.97 ft

42.75 ft

DSNT-11277440
174.00 lbs

Ø 3.625 in →

9.69 ft

92.07 ft

SDLT-I440M335
360.00 lbs

Ø 4.500 in →

Ø 4.750 in →

← DSN Far @ 35.81 ft
← DSN Near @ 35.06 ft

SDL Microlog @ 25.25 ft
SDL Caliper @ 25.07 ft
SDL @ 25.06 ft

10.81 ft

33.06 ft

22.25 ft

ACRt-90199007-E6758-S4352
250.00 lbs

Ø 3.625 in →

← Mud Resistivity @ 15.86 ft

← ACRt @ 11.88 ft

19.25 ft

← SP @ 4.28 ft

3.00 ft

MULE SHOE-KW-MS
50.00 lbs

Ø 3.625 in →

3.00 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	B097	135.00	6.25	85.82	300.00
GTET	Natural Gamma Ray Tool	11294346	165.00	8.52	77.30	60.00
IDT	Insite Directional Tool	11277453	150.00	7.58	69.72	30.00
ICT	Six Independent Arm Caliper	11294350	330.00	12.83	56.89	30.00
OBCEN	Centralizer - 29 in.Overbody	B	12.00	2.42	* 66.65	300.00
CSNG	Compensated Spectral Natural Gamma	10965402	114.00	8.17	48.72	15.00
OBCEN	Centralizer - 29 in.Overbody	A	12.00	2.42	* 52.90	300.00
FLEX	Flex Joint	KW-BLACK	140.00	5.97	42.75	300.00
DSNT	Dual Spaced Neutron	11277440	174.00	9.69	33.06	60.00
DCNT	DSN Decentralizer	11277440	50.00	5.13	* 36.39	300.00
SDLT	Spectral Density Tool	I440M335	360.00	10.81	22.25	60.00
ACRt	Array Compensated True Resistivity	90199007-E6758-S4352	250.00	19.25	3.00	300.00
SP	SP Ring	PROTO1	0.00	0.25	* 4.28	300.00
MS	MS	KW-MS	50.00	3.00	0.00	100.00

Total **1,942.00** **92.07**

* Not included in Total Length and Length Accumulation.

COMPANY	NOBLE		
WELL	CECIL USX A01-11D		
FIELD	WATTENBERG		
COUNTY	WELD	STATE	CO
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY LOG	