

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

Fold here

Service Ticket No.: 7364960						API Serial No.: 05123293630000						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 817-353		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.		11294346		Serial No.				Serial No.		I440M335		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.		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		45'		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		8334 8111		REC		0 250						20% 0%		2.65 g/cc		20% 0%		SAND					
ONE		8111 7641		REC		0 250						20% 0%		2.68 g/cc		20% 0%		SAND					

Depth (ft)	Tool Name	Description	Value	Units
TOP				
7391.00	DSNT	Neutron Lithology	Sandstone	
	SDLT	Formation Density Matrix	2.680	g/cc
7641.00	DSNT	Neutron Lithology	Limestone	
	SDLT	Formation Density Matrix	2.710	g/cc
8111.00	SDLT	Formation Density Matrix	2.680	g/cc
	SHARED	Bit Size	7.875	in
	SHARED	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	Borehole Fluid Weight	9.200	ppg
	SHARED	Mud Resistivity	1.930	ohmm
	SHARED	Temperature of Mud	102.8	degF
	SHARED	Oil Based Mud System?	No	
	SHARED	Logging Interval is Cased?	No	
	SHARED	AHV Casing OD	4.500	in
	SHARED	Surface Temperature	55.0	degF
	SHARED	Total Well Depth	8334.00	ft
	SHARED	Bottom Hole Temperature	240.0	degF
	GTET	Process Gamma Ray?	Yes	
	GTET	Gamma Tool Standoff	0.000	in
	GTET	Process Gamma Ray EVR?	No	
	IDT	Survey Writing Interval	30	ft
	ICT	Process Caliper Outputs?	Yes	
	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	1.0	

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	Use 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

BOTTOM

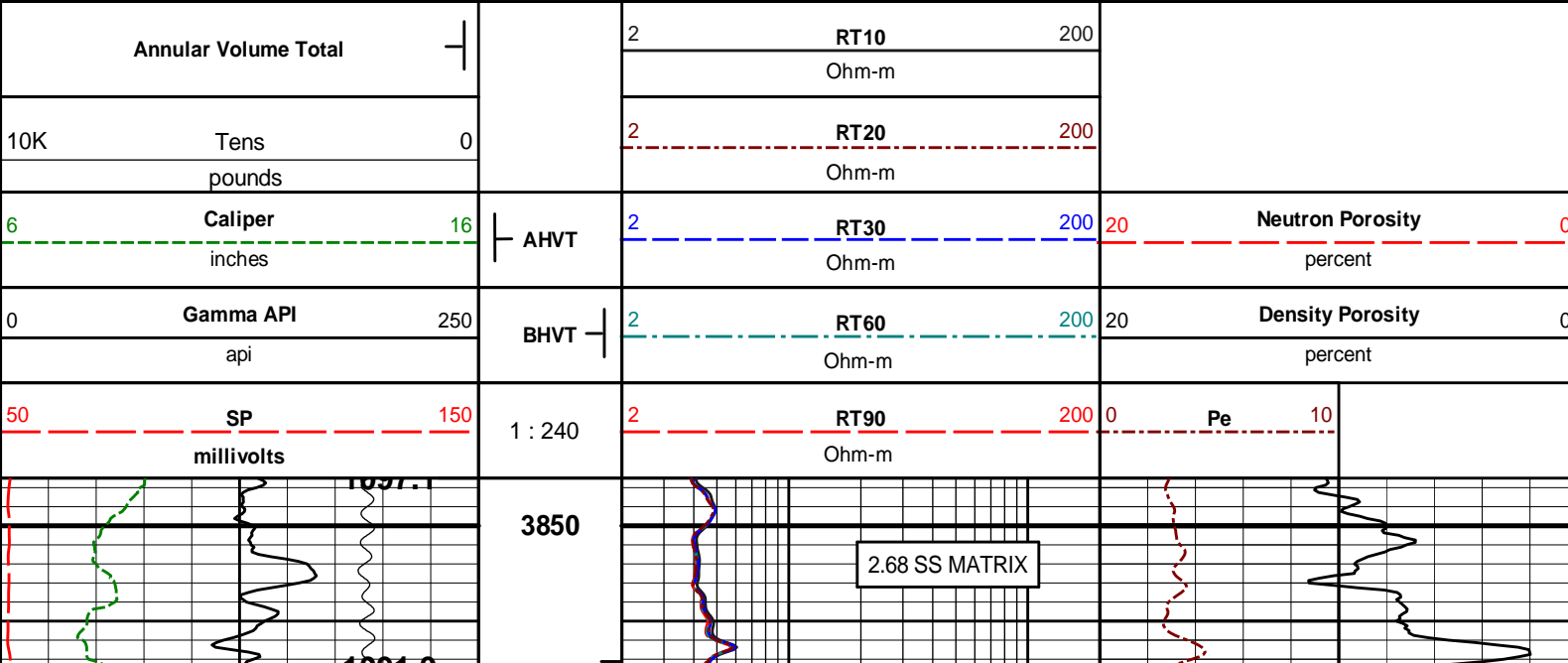
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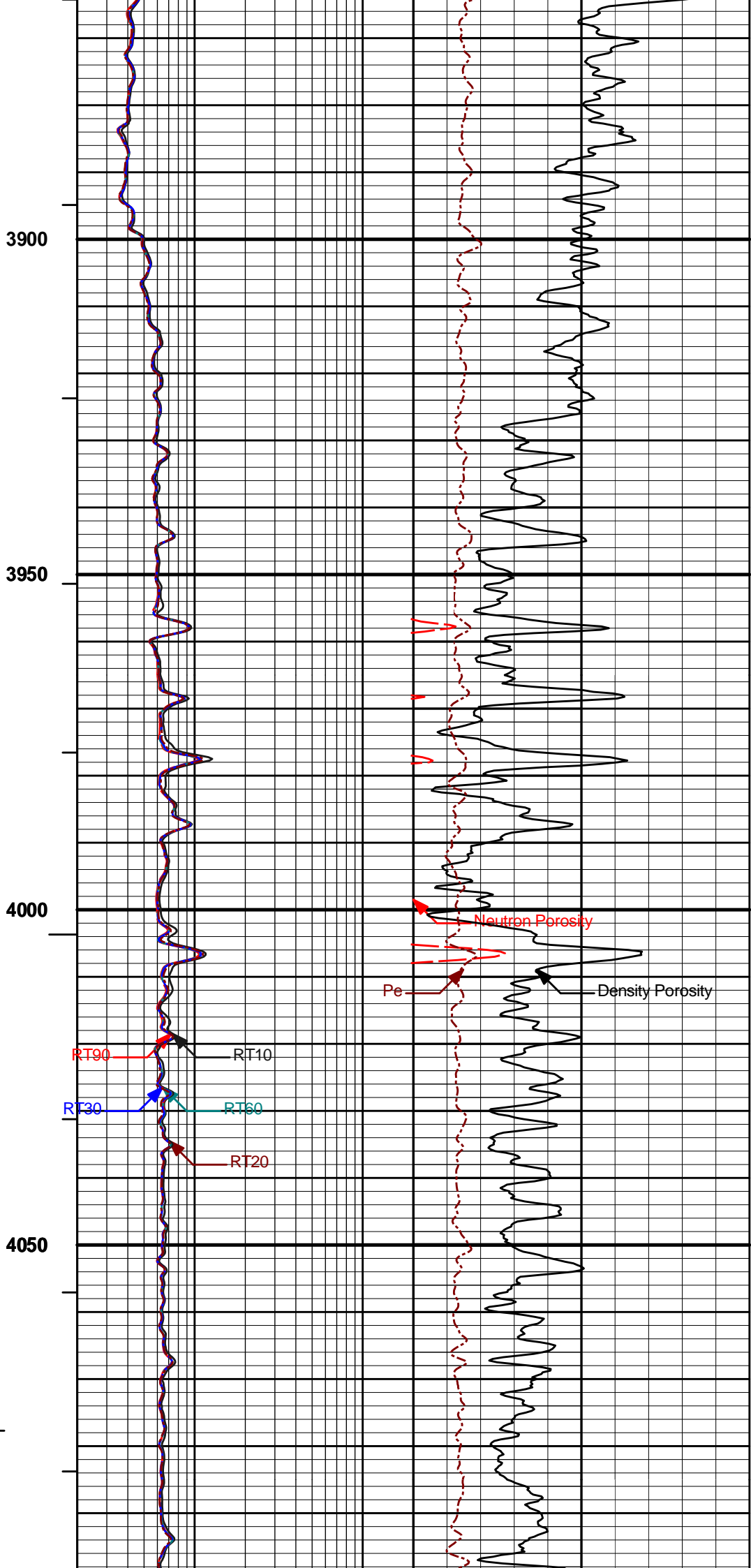
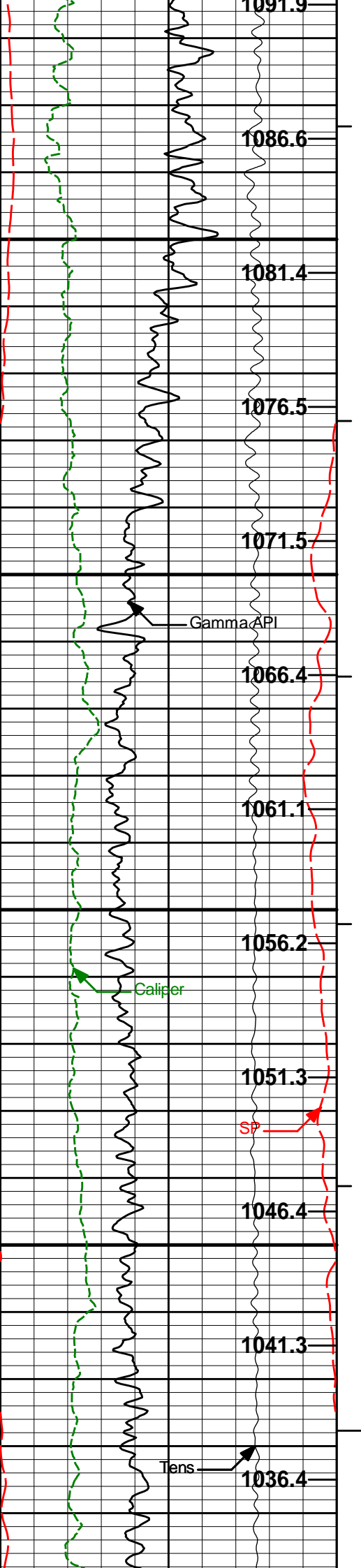
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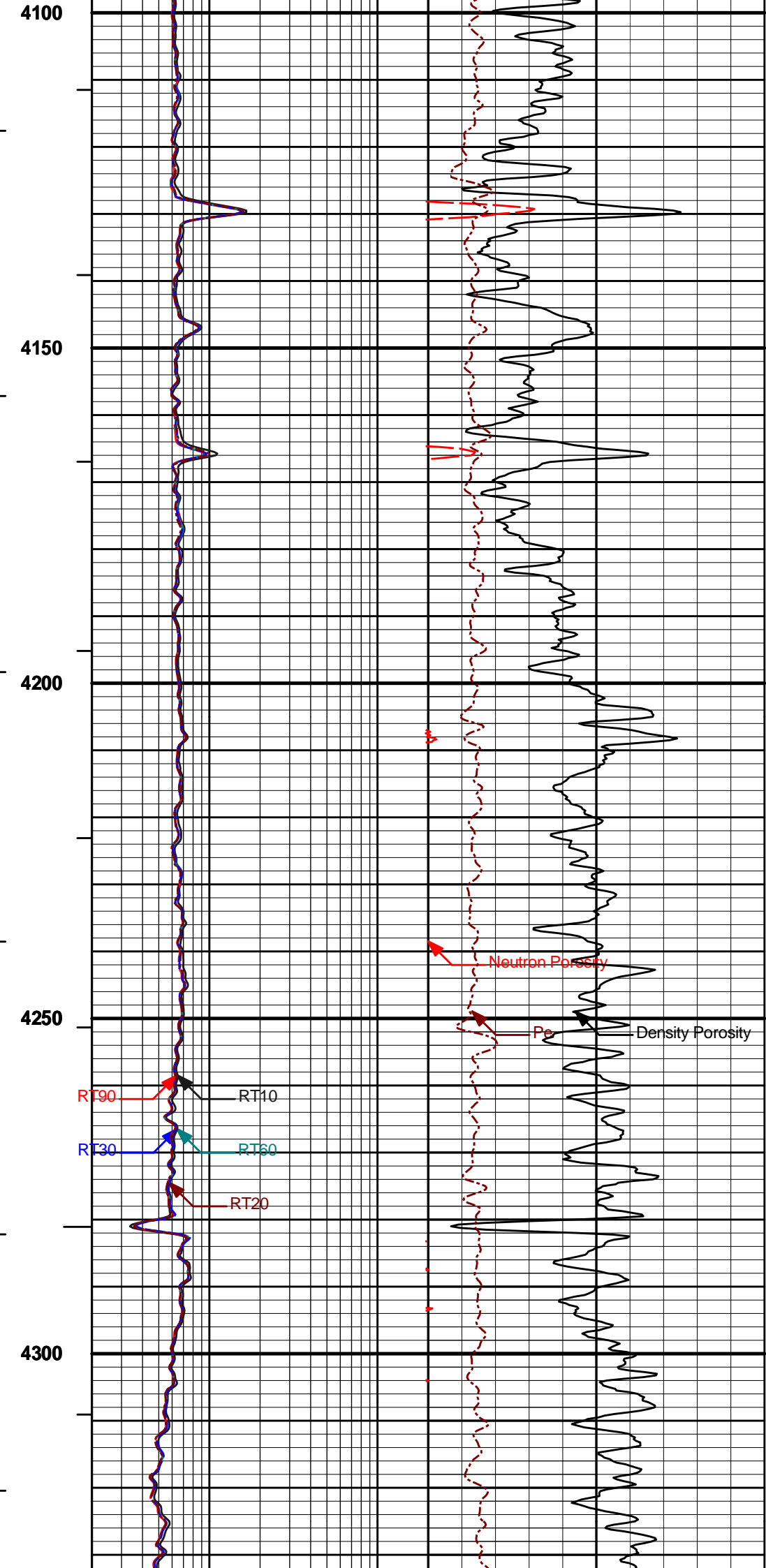
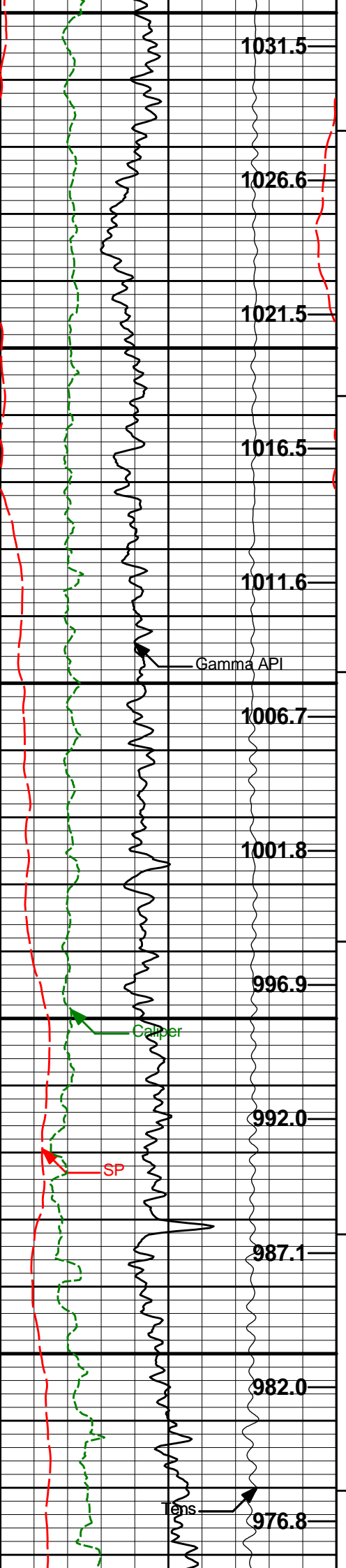
HALLIBURTON

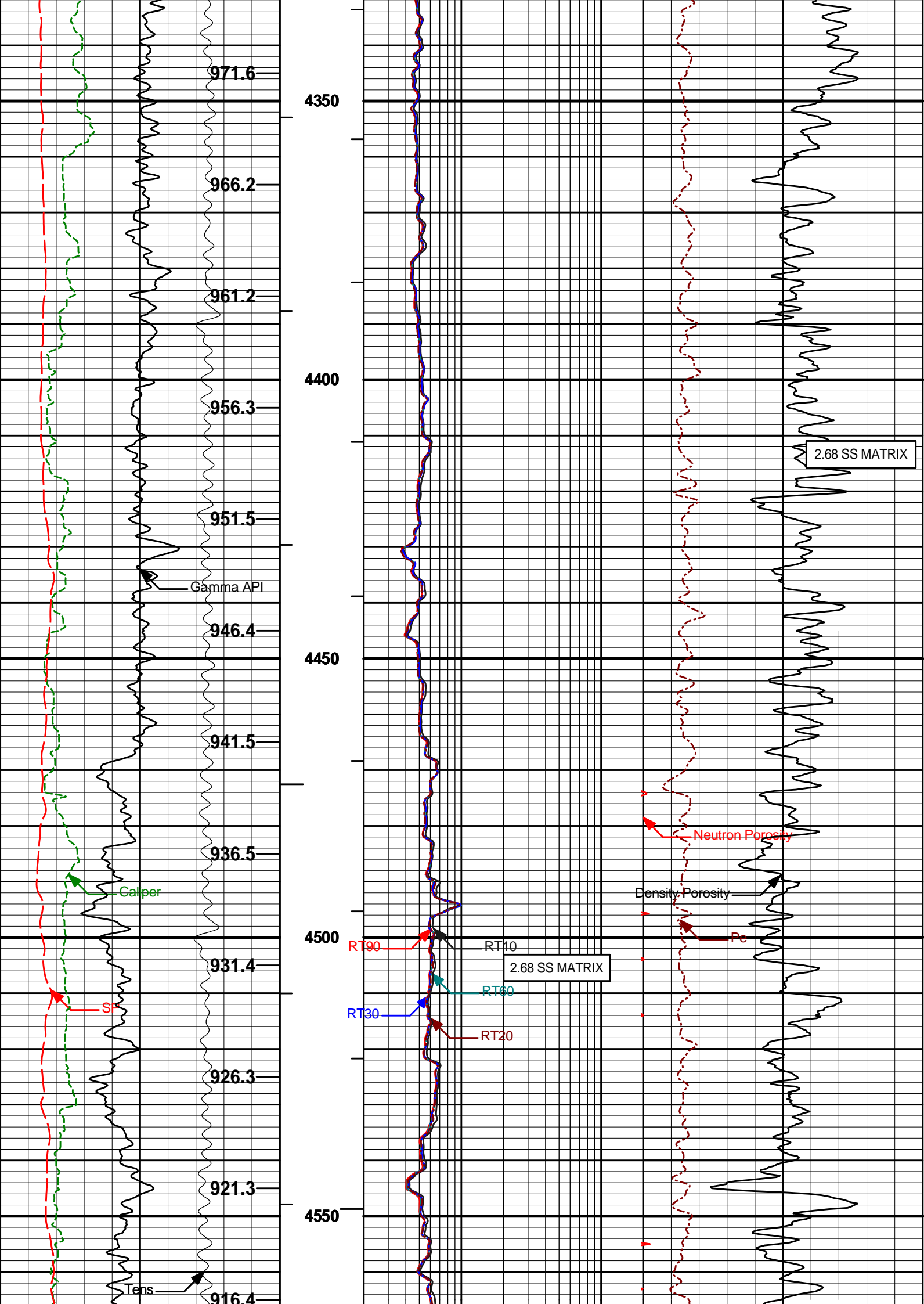
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Plot Range: 3845 ft to 5205 ft
Data: ASHTON_J33_21D\Well Based\MAIN*
Plot File: \COMP\PIRK_SUS

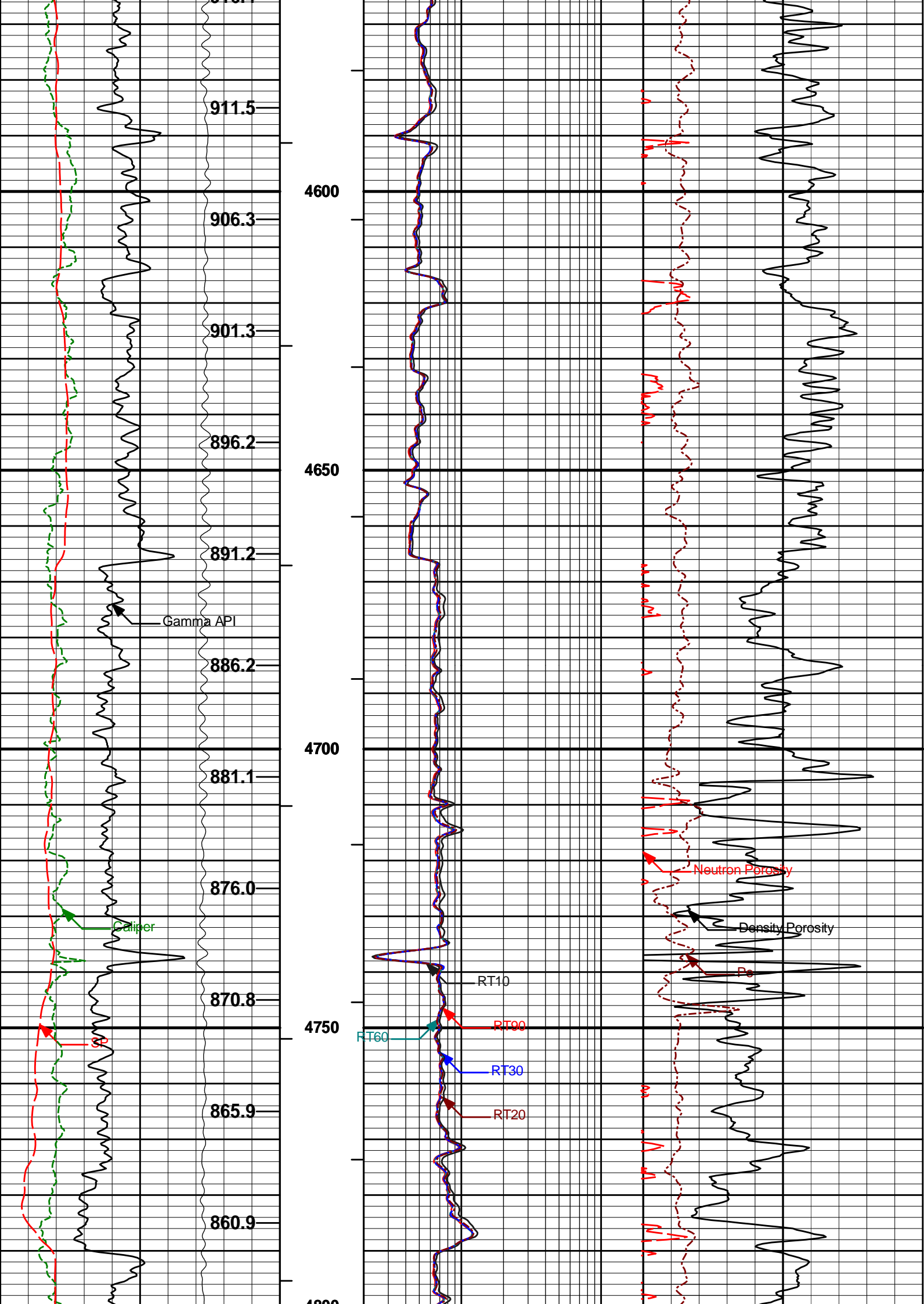
MAIN PASS 5" = 100'

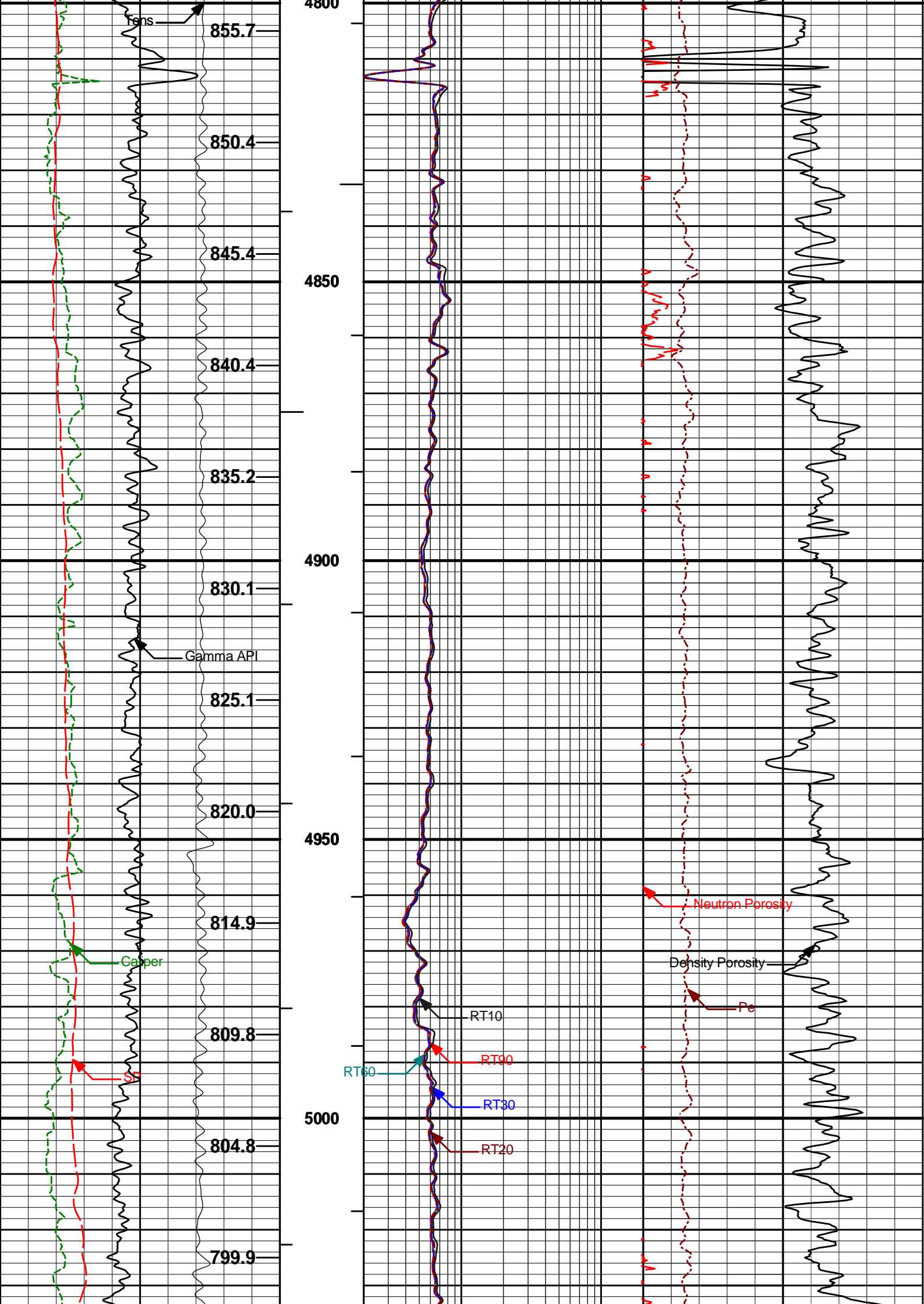


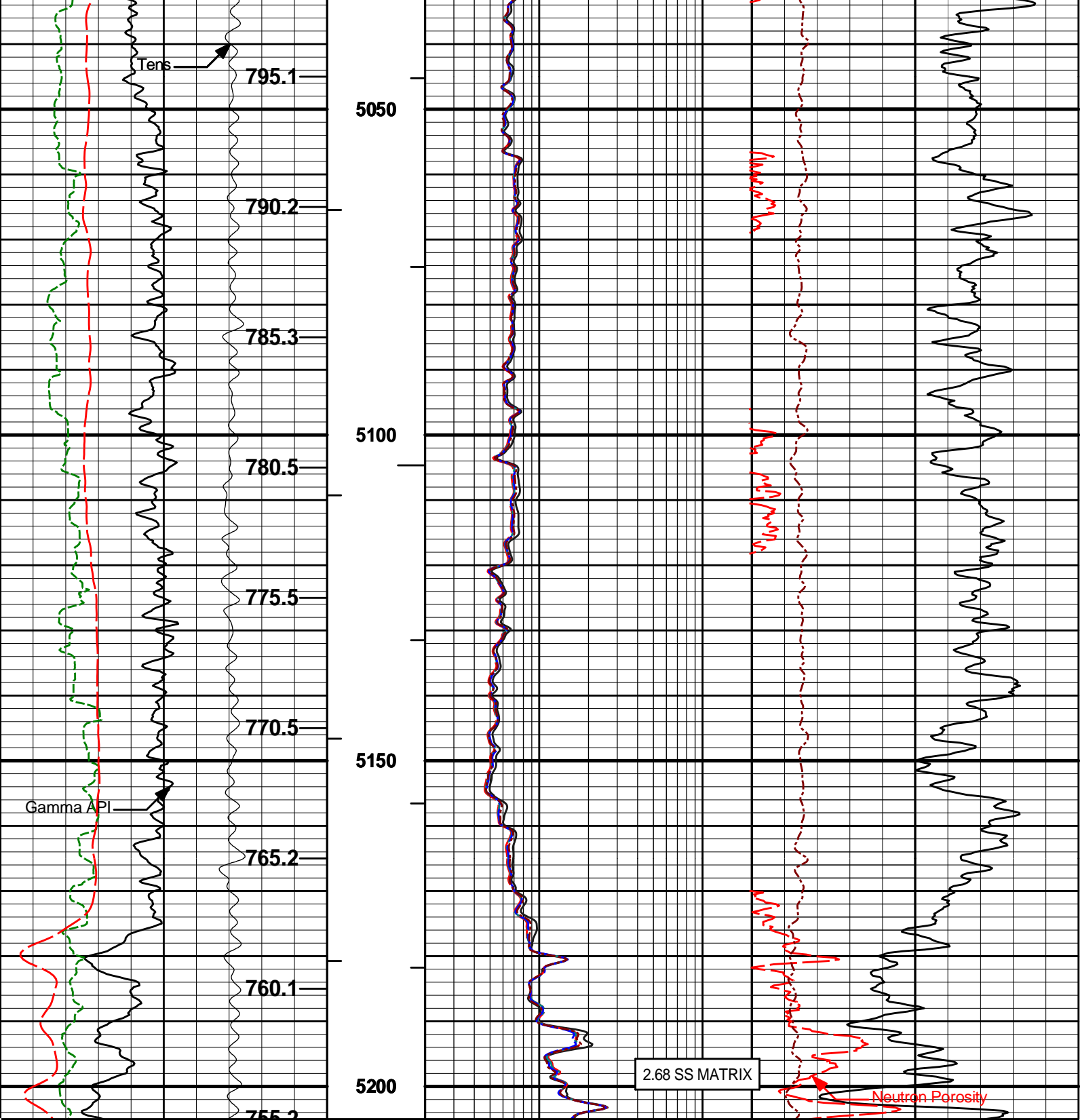












50	SP	150	1 : 240	2	RT90	200	0	Pe	10
	millivolts				Ohm-m				
0	Gamma API	250	BHVT	2	RT60	200	20	Density Porosity	0
	api				Ohm-m			percent	
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity	0
	inches				Ohm-m			percent	
10K	Tens	0		2	RT20	200			
	pounds				Ohm-m				
	Annular Volume Total			2	RT10	200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

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Plot Time: 13-May-10 02:31:35
 Plot Range: 3845 ft to 5205 ft
 Data: ASHTON_J33_21DWell Based\MAIN*
 Plot File: \COMP\BARK_SUG

MAIN PASS 5" = 100'

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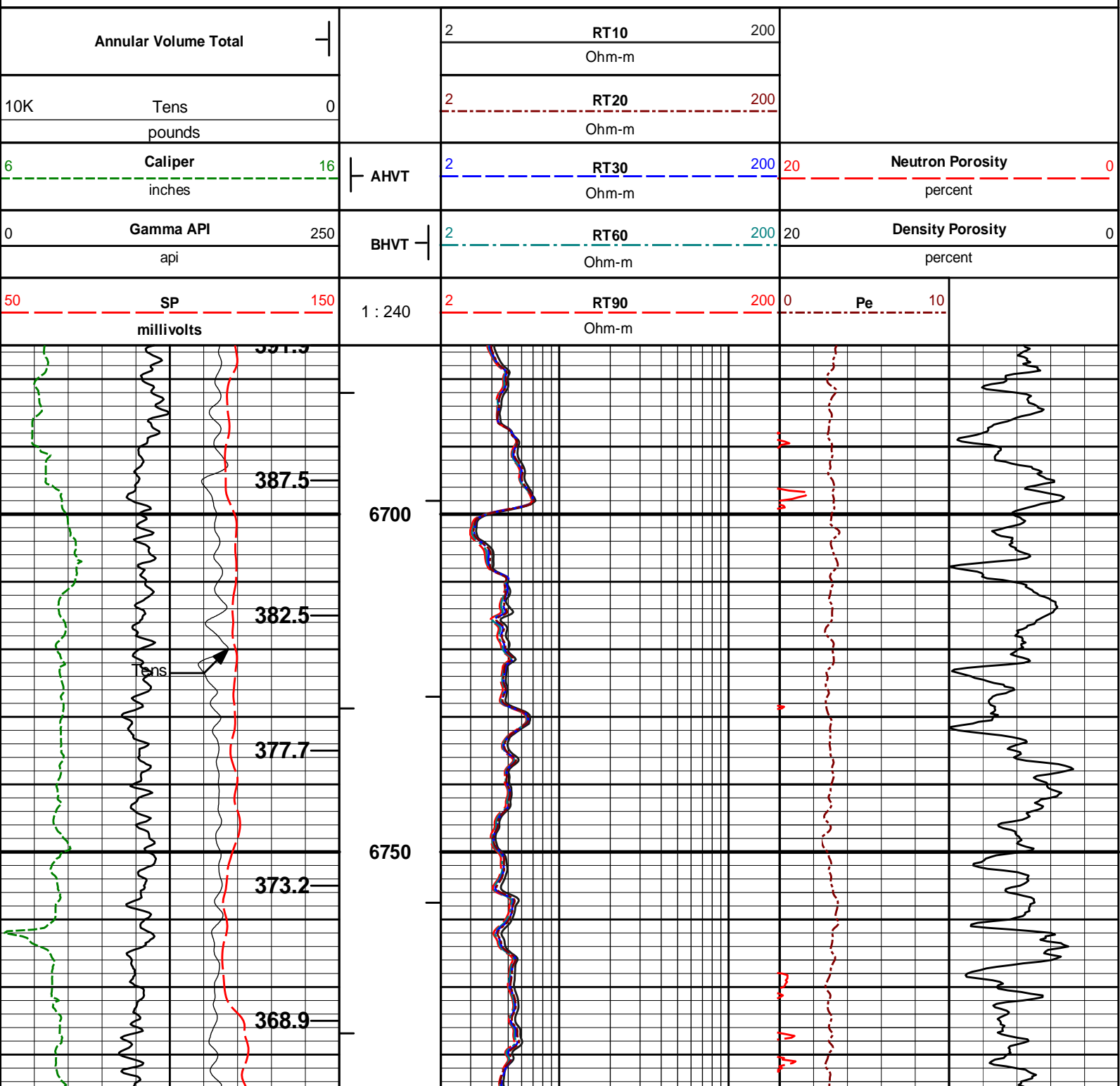
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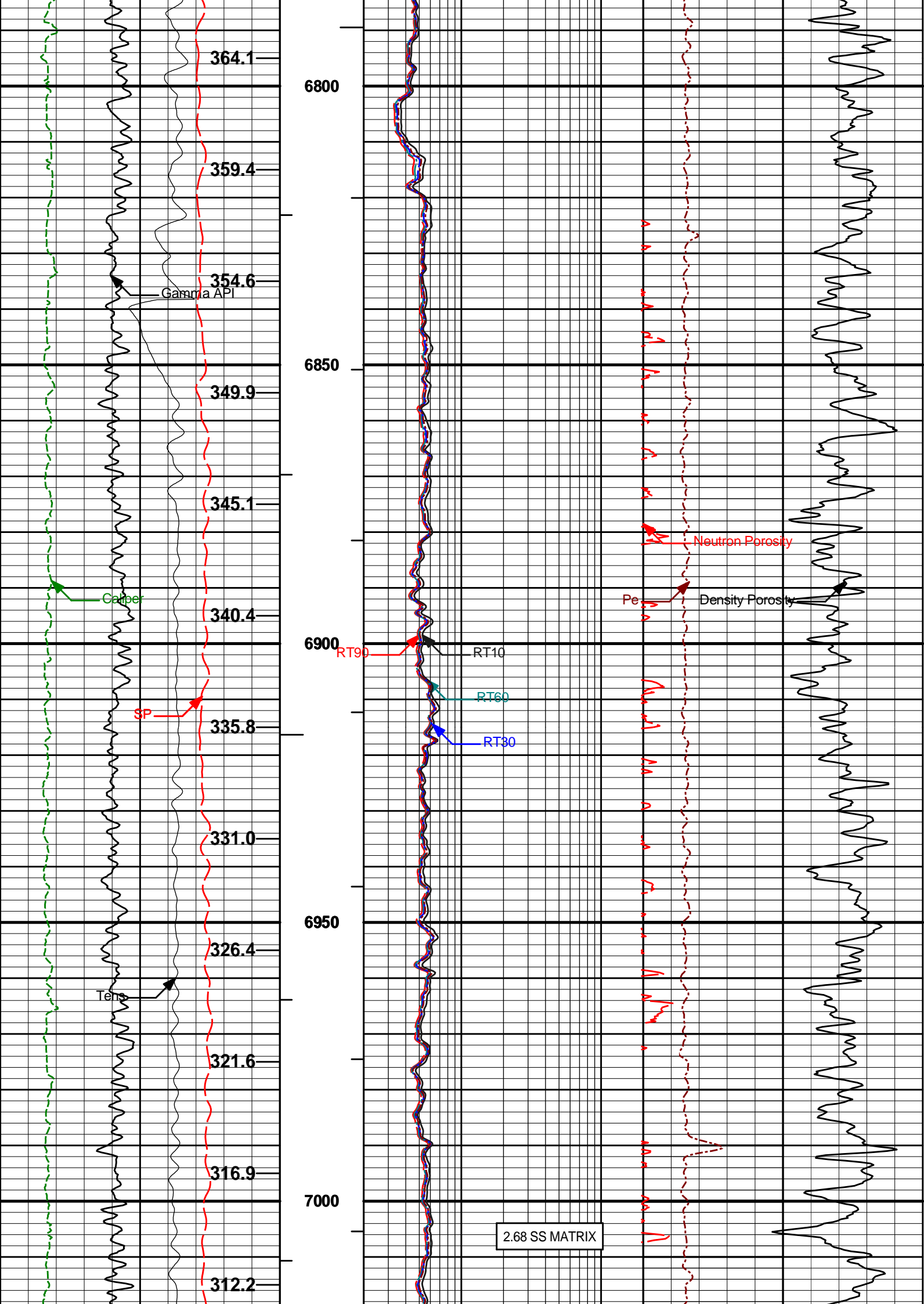
Plot Range: 6675 ft to 8353.92 ft

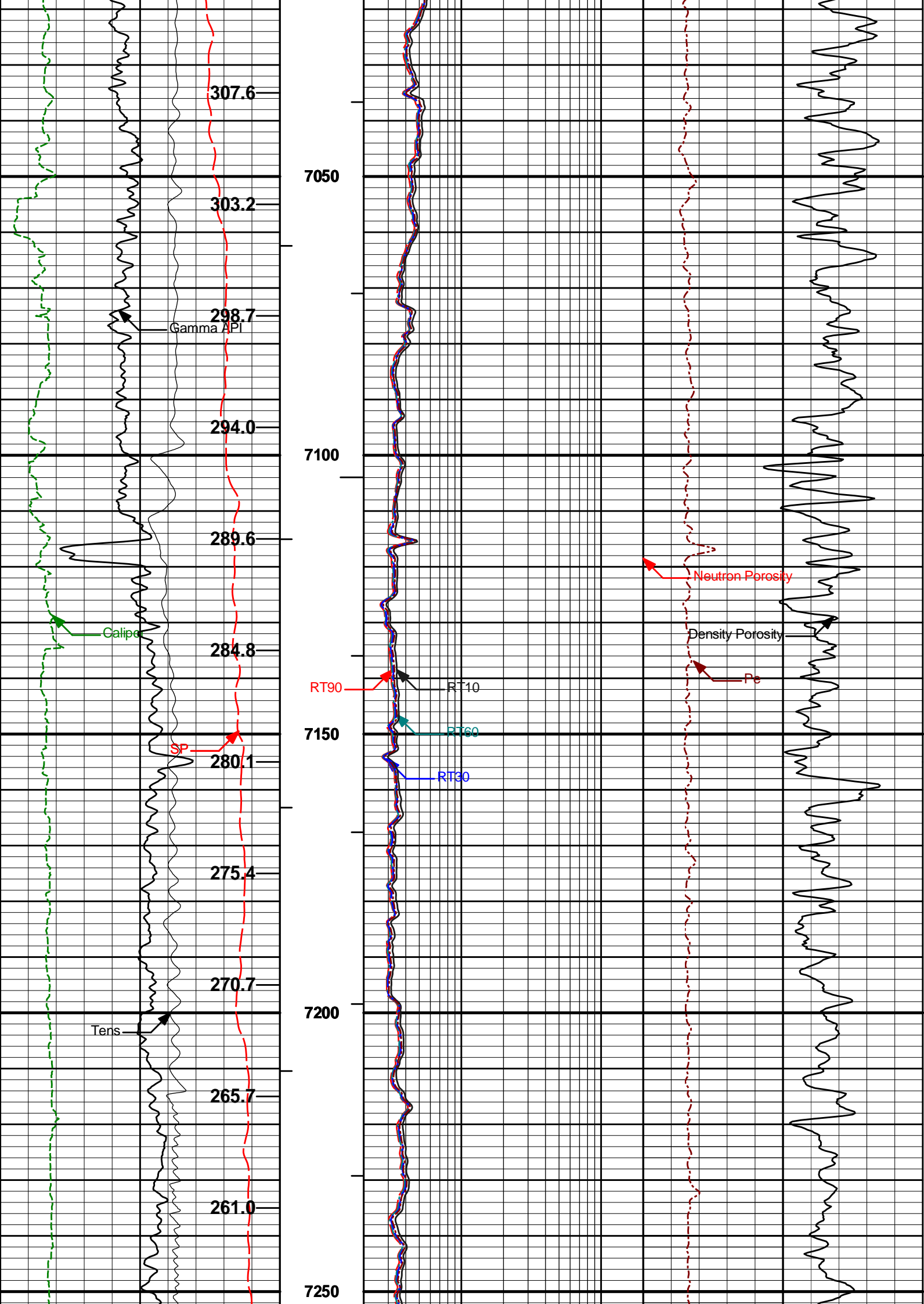
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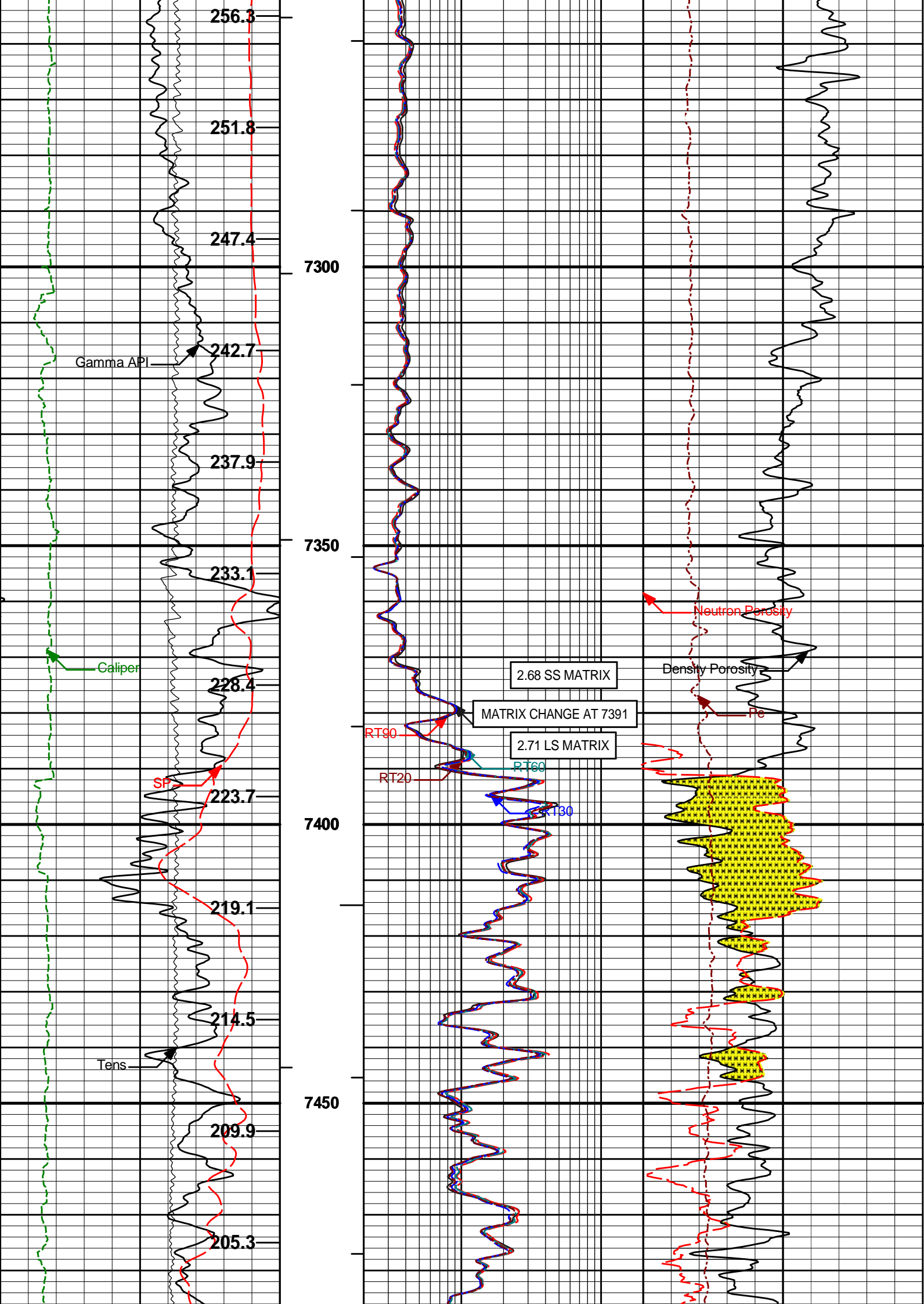
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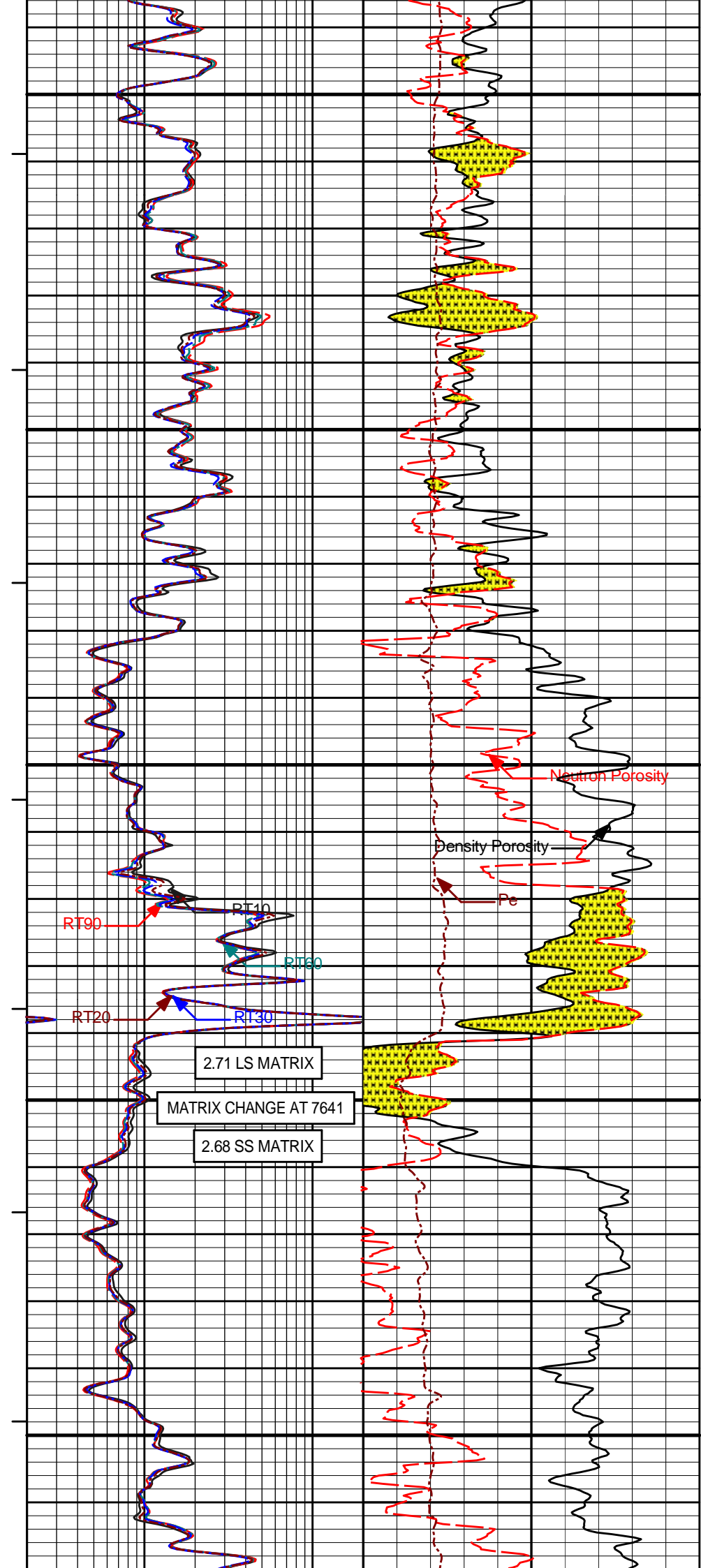
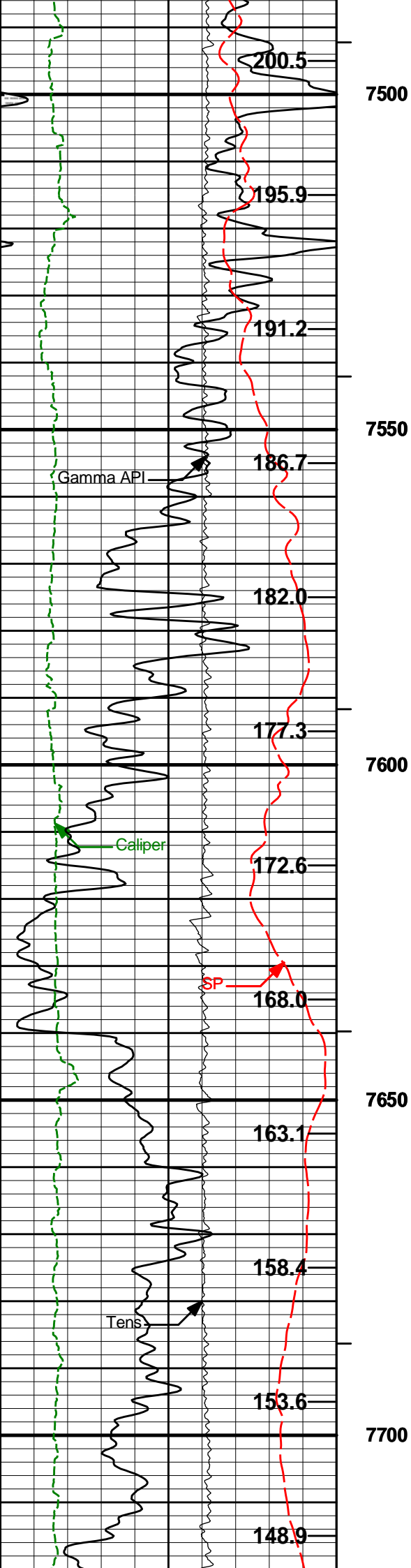
MAIN PASS 5" = 100'

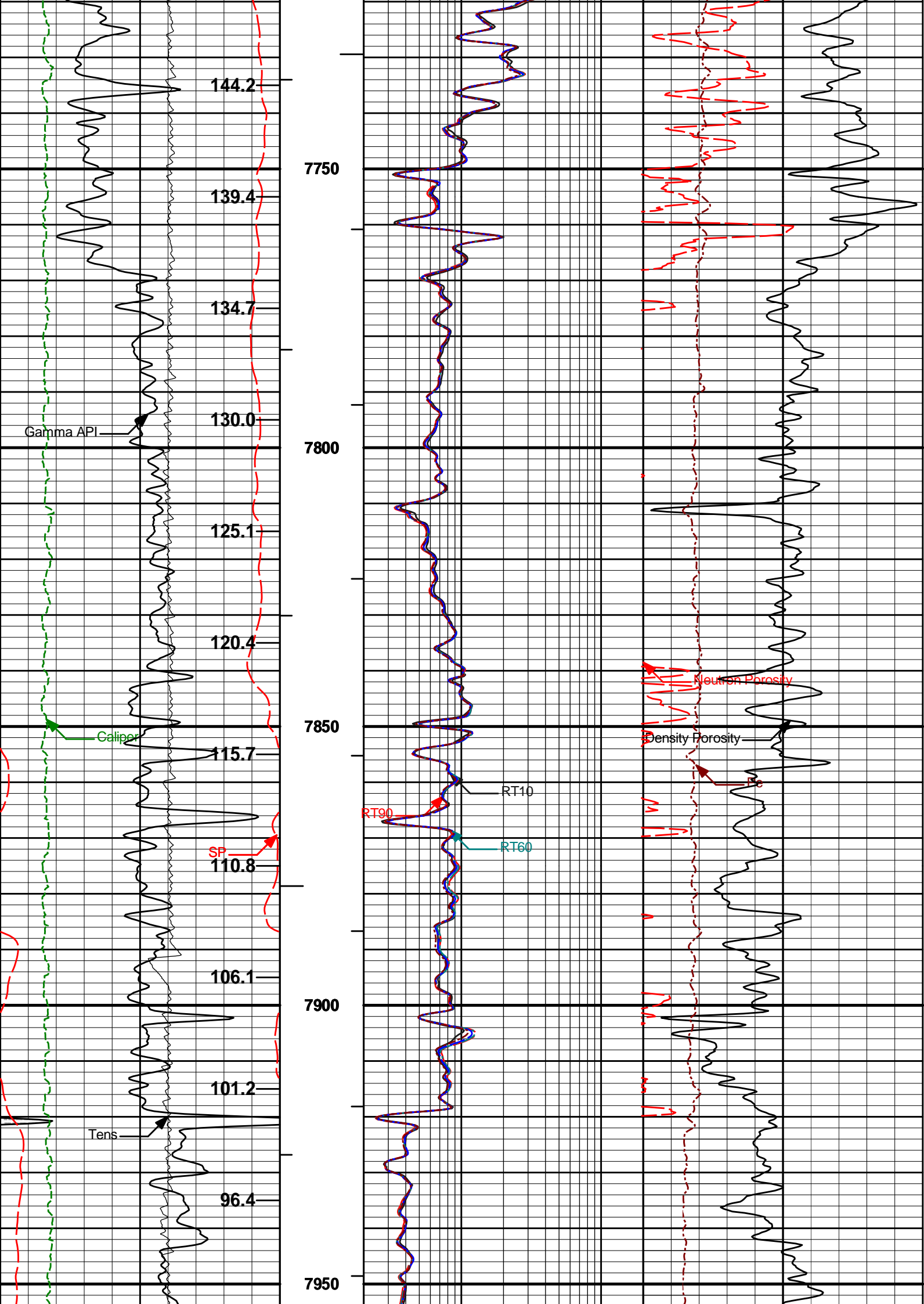


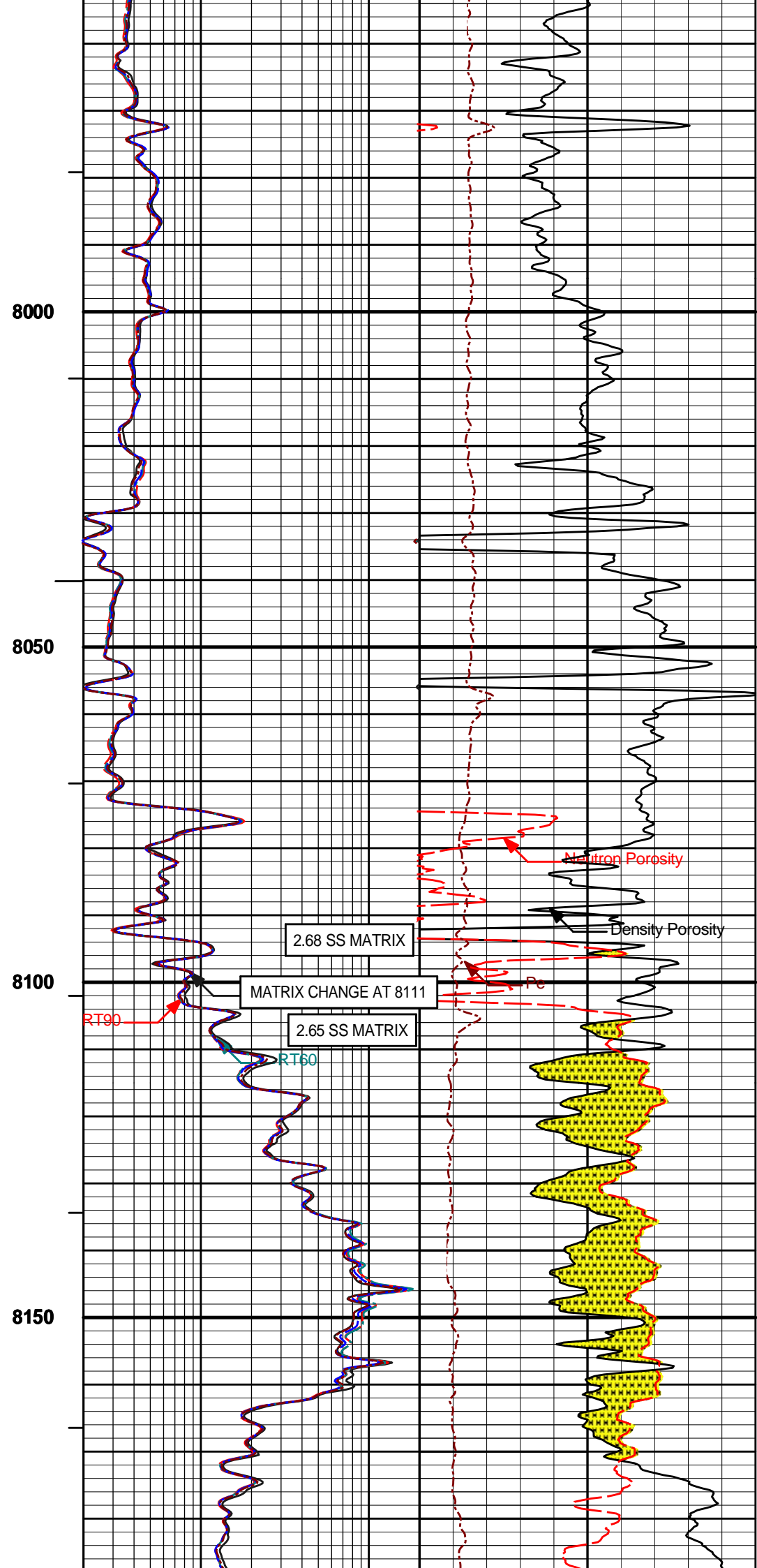
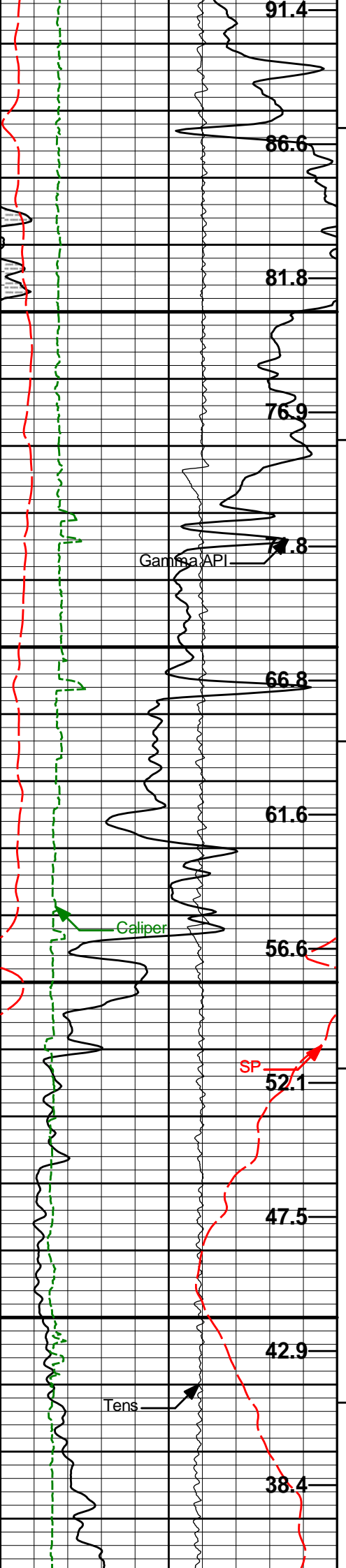


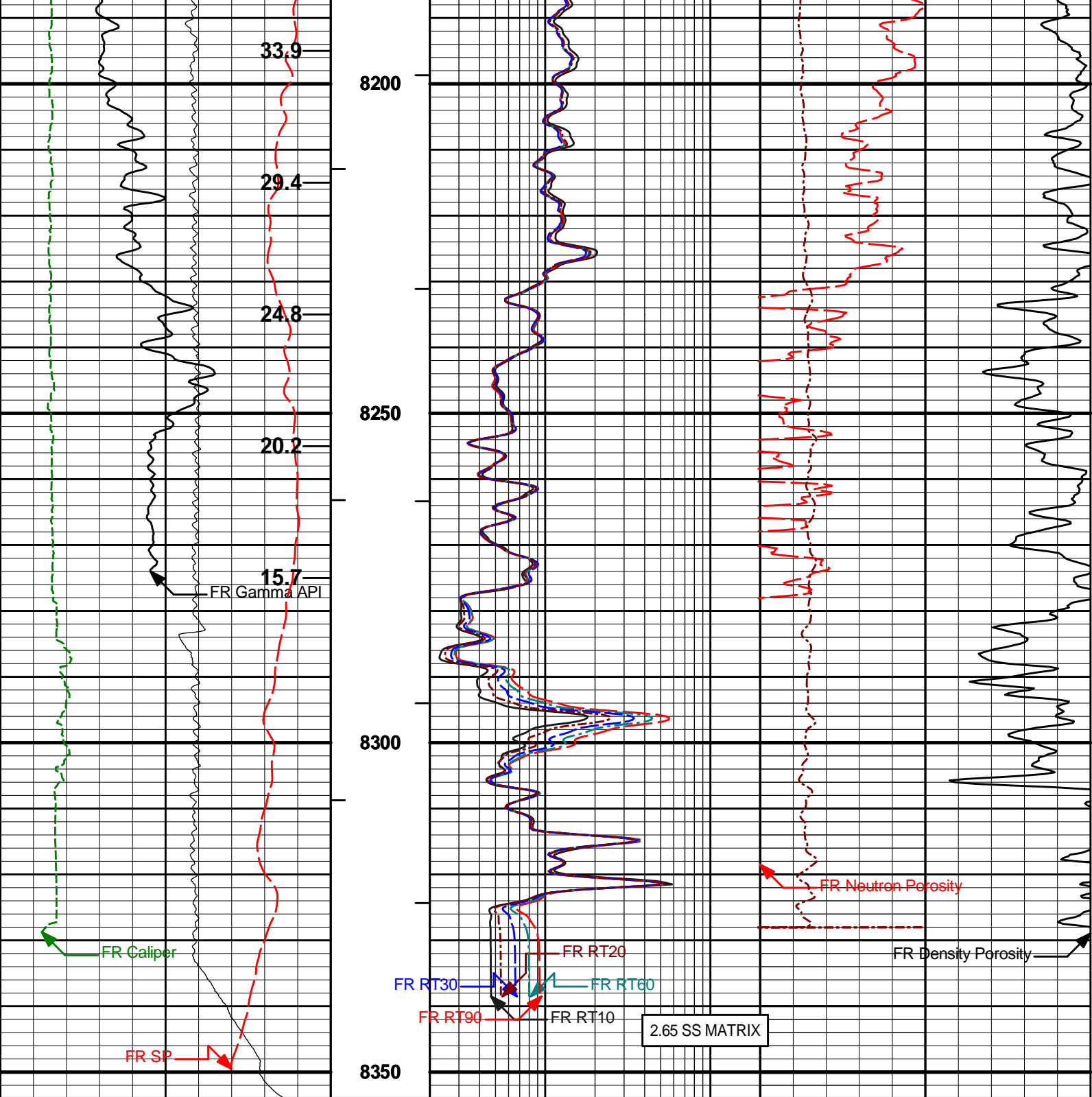












50	SP	150	1 : 240	2	RT90	200	0	Pe	10
	millivolts				Ohm-m				
0	Gamma API	250	BHVT	2	RT60	200	20	Density Porosity	0
	api				Ohm-m			percent	
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity	0
	inches				Ohm-m			percent	
10K	Tens	0		2	RT20	200			
	pounds				Ohm-m				
	Annular Volume Total			2	RT10	200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

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Plot Time: 13-May-10 02:31:41
 Plot Range: 6675 ft to 8353.92 ft
 Data: ASHTON_J33_21D\Well Based\MAIN*
 Plot File: \COMP\NIO_COD

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 11294346	Reference Calibration Date:	06-Apr-10 09:14:39
Engineer:	C. BLUE	Calibration Date:	27-Apr-10 14:22:21
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

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

Measurement	Measured	Calibrated	Units
Background	71.0	72.9	api
Background + Calibrator	295.0	302.9	api
Calibrator	231.9	230.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11294346	Reference Calibration Date:	27-Apr-10 14:22:21
Engineer:	C. BLUE	Calibration Date:	12-May-10 17:16:57
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

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

Field Verification	Shop	Field	Units
Background	72.9	114.4	api
Background + Calibrator	302.9	347.6	api
Calibrator	230.0	233.2	api

Shop	Field	Difference	Tolerance
230.0	233.2	-3.2	+/- 9.00

ACCELEROMETER AND MAGNETOMETER SHOP CALIBRATION

Tool Name:	IDT - 11277453	Reference Calibration Date:	01-Jan-70 00:00:00
Engineer:	Lito	Calibration Date:	18-Dec-08 10:33:15
Software Version:	WL INSITE R2.2 (Build 9)	Calibration Version:	1

Reference Gravity Field: 1.0000 g
Reference Magnetic Field: 42252.1719 nT

* QF : value of 0 is shown for bad quality if | data - reference | > (2 * standard deviation) or > (0.5% of reference value)

ACCELEROMETER CALIBRATION RAW DATA VALUE					
Raw Acc X	Raw Acc Y	Raw Acc Z	Quality(Gravity)	Quality Error(%)	QF
0.5639	0.4499	-0.0254	0.9979	0.0021	1
0.0241	-0.7097	-0.0183	0.9995	0.0005	1
-0.7264	0.1572	-0.0198	0.9986	0.0014	1
0.0321	0.7394	-0.0273	1.0008	0.0008	1
0.0087	0.7385	-0.0409	0.9997	0.0003	1
-0.0193	0.7287	0.0487	1.0002	0.0002	1
-0.0188	0.7411	-0.0166	1.0006	0.0006	1
0.7038	-0.0854	0.0044	1.0015	0.0015	1
-0.0222	-0.7110	-0.0119	1.0000	0.0000	1
-0.7419	-0.0072	-0.0271	1.0012	0.0012	1

0.0012	0.0012	0.0012	0.0012	0.0012	1
-0.0052	0.0177	0.3463	0.9999	0.0001	1
-0.1420	0.1556	-0.3685	1.0001	0.0001	1

ACCELEROMETER QUALITY SUMMARY		
Average Calculated Gravity Field	1.0000	g
Standard Deviation Calculated Gravity Field	0.0010	g

ACCELEROMETER GAIN AND OFFSET		
	GAIN	OFFSET
ACC X	1.3768593073	0.0210890602
ACC Y	1.3775787354	-0.0203358047
ACC Z	2.7496292591	0.0477359891

* QF : value of 0 is shown for bad quality if | data - reference | > (3 * standard deviation) or > (1% of reference value)

MAGNETOMETER CALIBRATION RAW DATA VALUE					
Raw Mag X	Raw Mag Y	Raw Mag Z	Quality(Magnetic)	Quality Error(%)	QF
-0.4154	1.0229	-0.0950	42024.7539	0.0054	1
1.0528	-0.2167	0.2776	42074.7891	0.0042	1
-0.4415	-1.0055	0.2475	42539.5195	0.0068	1
-1.0086	0.3168	0.2225	41896.5000	0.0084	1
0.1035	0.2138	1.1679	42187.0156	0.0015	1
-0.2684	0.0751	-1.1534	43752.5820	0.0355	1
0.0233	0.2698	-1.1548	43518.4336	0.0300	1
0.2384	0.1877	-1.0735	40961.8242	0.0305	1
0.2729	-0.2633	-1.0552	41254.2813	0.0236	1
-0.2686	-0.2420	-1.0537	41232.5859	0.0241	1
1.0859	-0.1058	-0.2452	42784.8086	0.0126	1
-0.4976	-0.9440	0.3454	42315.6367	0.0015	1

MAGNETOMETER QUALITY SUMMARY		
Average Calculated Magnetic Field	42211.8945	nT
Standard Deviation Calculated Magnetic Field	859.1619	nT

MAGNETOMETER GAIN AND OFFSET		
	GAIN	OFFSET
MAG X	38687.1679687500	-510.5658569336
MAG Y	37591.9726562500	-65.9105224609
MAG Z	35998.0312500000	-764.1088867188

Noise Level Value: 0.000000 cnts

Noise Level Cal Value: 0.0000 g

ICT SHOP CALIBRATION

Tool Name:	ICT - 11294350	Reference Calibration Date:	06-Apr-10 13:20:00
Engineer:	C. BLUE	Calibration Date:	05-May-10 12:16:50
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

CALIPERS AND RINGS			
Ring	Measured	Calibrated	Units
CALIPER 1:			
Small Ring	3.75	3.63	in
Medium Ring	7.99	8.00	in
Large Ring	14.94	15.00	in
X-Large Ring	21.01	21.00	in
CALIPER 2:			
Small Ring	3.65	3.63	in
Medium Ring	8.03	8.00	in
Large Ring	14.94	15.00	in

Large Ring	14.94	15.00	in
X-Large Ring	21.00	21.00	in
CALIPER 3:			
Small Ring	3.65	3.63	in
Medium Ring	8.05	8.00	in
Large Ring	15.05	15.00	in
X-Large Ring	21.07	21.00	in
CALIPER 4:			
Small Ring	3.77	3.63	in
Medium Ring	8.10	8.00	in
Large Ring	15.14	15.00	in
X-Large Ring	21.07	21.00	in
CALIPER 5:			
Small Ring	3.76	3.63	in
Medium Ring	8.06	8.00	in
Large Ring	15.16	15.00	in
X-Large Ring	21.04	21.00	in
CALIPER 6:			
Small Ring	3.66	3.63	in
Medium Ring	7.99	8.00	in
Large Ring	15.00	15.00	in
X-Large Ring	21.04	21.00	in

ICT FIELD CALIBRATION			
Tool Name:	ICT - 11294350	Reference Calibration Date:	05-May-10 12:16:50
Engineer:	C. BLUE	Calibration Date:	12-May-10 18:14:35
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

CALIPERS				
Caliper	Shop	Field	Units	
Caliper 1	8.00	8.02	in	
Caliper 2	8.00	8.03	in	
Caliper 3	8.00	8.07	in	
Caliper 4	8.00	8.13	in	
Caliper 5	8.00	8.00	in	
Caliper 6	8.00	7.95	in	

CSNG-FS SHOP CALIBRATION			
Tool Name:	CSNG - 10965402	Reference Calibration Date:	10-Mar-10 17:15:40
Engineer:	C. BLUE	Calibration Date:	06-Apr-10 13:29:42
Software Version:	WL INSITE R2.4 (Build 20)	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 #	22.8	22.8	Channel #
583 KEV Peak Channel #	51.6	51.6	Channel #
2614 KEV Peak Channel #	212.2	211.8	Channel #
Calibrate Temperature	68.9	88.2	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	1754.8	CPS	365.4	342.5	API
Background	416.4	CPS	104.2	81.3	API

Gamma Ray Gain: 0.98

CSNG-FS FIELD CALIBRATION

Tool Name:	CSNG - 10965402	Reference Calibration Date:	06-Apr-10 13:29:42
Engineer:	C. BLUE	Calibration Date:	12-May-10 17:27:14
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1
Source SN:			

TITANIUM CASE	Shop	Field	Units
60 KEV Peak Channel #	48.0	48.0	Channel #
239 KEV Peak Channel #	22.8	22.7	Channel #
583 KEV Peak Channel #	51.6	51.3	Channel #
2614 KEV Peak Channel #	211.8	210.8	Channel #
Calibrate Temperature	88.2	77.7	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	1793.4	CPS	342.5	346.7	API
Background	442.2	CPS	81.3	85.5	API

Gamma Ray Gain: 0.97

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 11277440	Reference Calibration Date:	06-Apr-10 11:36:01
Engineer:	C. BLUE	Calibration Date:	27-Apr-10 11:15:35
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Logging Source S/N: CASPER 434
Tank Serial Number: 11068236
Reference value assigned to Tank: 53.720
Snow Block S/N: CASPER IQ
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:	1.006	1.010	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):	0.2214	0.2224	0.0010	+/- 0.0020
Calibrated Ratio:	10.08	10.11	0.034	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0741	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 - 11277440	Reference Calibration Date:	27-Apr-10 11:15:35
Engineer:	C. BLUE	Calibration Date:	12-May-10 17:34:10
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Logging Source S/N: CASPER 434				
Snow Block S/N: CASPER IQ				
NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0741	0.0630	-0.0111	+/- 0.0150
PASS/FAIL SUMMARY				
Block Change Check:	Passed			
Snow Block Stat Check:	Passed			
Temperature Check:	Passed			

SPECTRAL DENSITY SHOP CALIBRATION			
Tool Name:	SDLT - I440M335	Reference Calibration Date:	06-Apr-10 09:36:00
Engineer:	C. BLUE	Calibration Date:	27-Apr-10 11:01:19
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Logging Source S/N: 2770 GW

Aluminum Block S/N: BRIGHTON ALUMINUM BLOCK

Density: 2.600g/cc

Magnesium Block S/N: BRIGHTON MAGNESIUM BLOCK

Density: 1.680g/cc

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0334	1.0839	0.90 - 1.10
Near Dens Gain	1.0077	1.0466	0.90 - 1.10
Near Peak Gain	0.9852	1.0642	0.90 - 1.10
Near Lith Gain	0.9514	1.0294	0.90 - 1.10
Far Bar Gain	1.0190	1.0201	0.90 - 1.10
Far Dens Gain	1.0037	1.0067	0.90 - 1.10
Far Peak Gain	0.9976	1.0011	0.90 - 1.10
Far Lith Gain	0.9660	0.9762	0.90 - 1.10
Near Bar Offset	-0.0710	-0.5322	NONE
Near Dens Offset	0.1826	-0.1599	NONE
Near Peak Offset	0.3715	-0.2846	NONE
Near Lith Offset	0.6246	-0.0145	NONE
Far Bar Offset	0.0329	0.0213	NONE
Far Dens Offset	0.1511	0.1270	NONE
Far Peak Offset	0.1947	0.1713	NONE
Far Lith Offset	0.4065	0.3386	NONE
Near Bar Background	1092.14	1088.80	700 - 1450
Near Dens Background	358.61	357.77	230 - 480
Near Peak Background	155.50	154.99	100 - 210
Near Lith Background	191.23	189.52	125 - 260

Far Bar Background	571.65	571.17	450 - 900
Far Dens Background	221.93	222.65	175 - 345
Far Peak Background	86.44	86.19	70 - 140
Far Lith Background	92.10	91.40	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.679	1.680	0.001	+/- 0.015
Pe	2.648	2.594	-0.054	+/- 0.150
ALUMINUM				
Density (g/cc)	2.604	2.600	-0.004	+/- 0.01500
Pe	3.086	3.100	0.014	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0028	+/- 0.0110	-0.0027	+/- 0.0140
Magnesium Block	-0.0000	+/- 0.0110	-0.0007	+/- 0.0140
Aluminum Block	-0.0020	+/- 0.0110	-0.0017	+/- 0.0140
Resolution	9.14	6.00 - 11.50	9.73	6.00 - 11.50
Internal Verifier(B+D+P+L)	1791	1200 - 2700	971	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 - I440M335	Reference Calibration Date:	27-Apr-10 11:01:19
Engineer:	C. BLUE	Calibration Date:	12-May-10 18:24:59
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Aluminum Block S/N: BRIGHTON ALUMINUM BLOCK
Density: 2.600g/cc

Magnesium Block S/N: BRIGHTON MAGNESIUM BLOCK
Density: 1.680g/cc

Pad Temperature: 52.7 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1791.073	1788.122	-2.951	16.960
Far (B+D+P+L) cps	971.416	966.823	-4.593	16.754
Near Resolution	9.14	9.31	0.170	0.50
Far Resolution	9.73	10.34	0.610	1.00

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

DENSITY CALIBER SHOP CALIBRATION

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2476.09	-2480.32	-7000.00 - -1000.00
Pad Gain	0.0003828	0.0003811	0.000200 - 0.000600
Arm Offset	-3486.79	-3472.18	-5000.00 - 3000.00
Arm Gain	0.0005449	0.0005404	0.000300 - 0.000700
Arm Power	-0.000003911	-0.000003549	-0.000010 - 0.000010

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)	2.01	2.00	-0.01	+/- 0.20	
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20	
RING DIAMETER:					
Small Ring (in)	6.51	6.50	-0.01	+/- 0.20	
Medium Ring (in)	8.27	8.25	-0.02	+/- 0.20	
Large Ring (in)	15.00	15.00	0.00	+/- 0.20	

PASS/FAIL SUMMARY

Ring-Measurement Check: Passed

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check: Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name:	SDLT - I440M335	Reference Calibration Date:	05-May-10 12:32:56
Engineer:	C. BLUE	Calibration Date:	12-May-10 17:36:20
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.69	-0.06	+/- 0.10
Ring Diameter	8.25	8.19	-0.06	+/- 0.15

PASS/FAIL SUMMARY

Diameter Check: Passed

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	ACRt - 90199477-E2817-S4353	Reference Calibration Date:	14-Apr-10 10:45:08
Engineer:	C. BLUE	Calibration Date:	14-Apr-10 10:59:55
Software Version:	WL INSITE R2.4 (Build 20)	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	1.0035	1.05	0.95	1.0074	1.05	0.95	1.0054	1.05
A2 (50")	0.95	1.0102	1.05	0.95	1.0142	1.05	0.95	1.0148	1.05
A3 (29")	0.95	1.0033	1.05	0.95	1.0060	1.05	0.95	1.0035	1.05
A4 (17")	0.95	1.0035	1.05	0.95	1.0035	1.05	0.95	1.0035	1.05

A4 (17")	0.95	1.0065	1.05	0.95	1.0067	1.05	0.95	1.0075	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9957	1.05	0.95	0.9949	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9826	1.05	0.95	0.9817	1.05

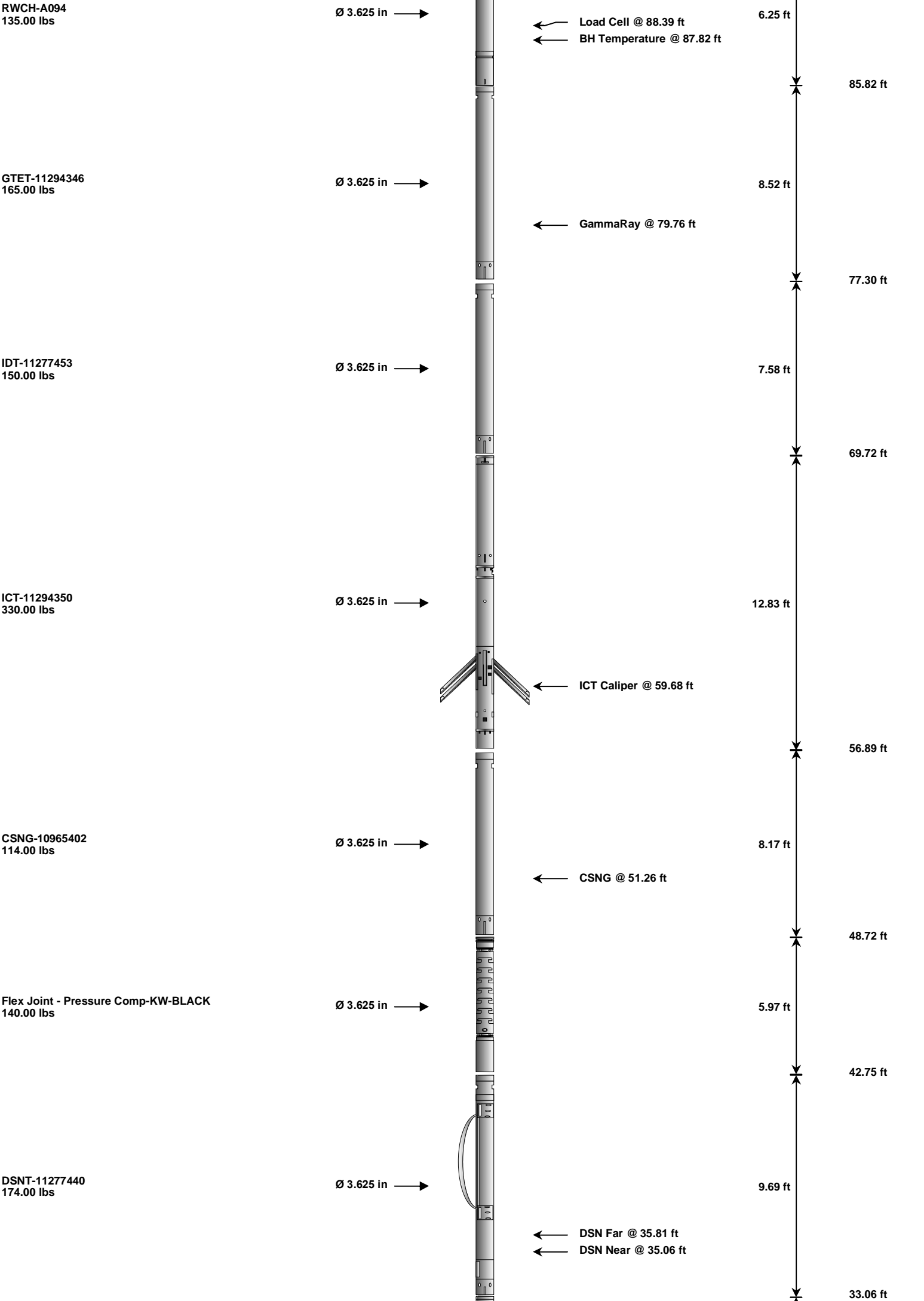
TYPICAL SONDE OFFSET RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-1.158	2	-6	-4.357	-2	-8	-4.686	-2
A2 (50")	-7	-1.911	-2	-6	-2.967	-2	-7	-4.615	-2
A3 (29")	-27	-12.876	-9	-9	-3.485	-3	-7	-3.402	-1
A4 (17")	-180	-91.122	-60	-45	-29.375	-15	-39	-24.941	-13
A5 (10")	N/A	N/A	N/A	-150	-86.818	-50	-80	-42.414	-10
A6 (6")	N/A	N/A	N/A	175	316.205	525	90	158.894	270

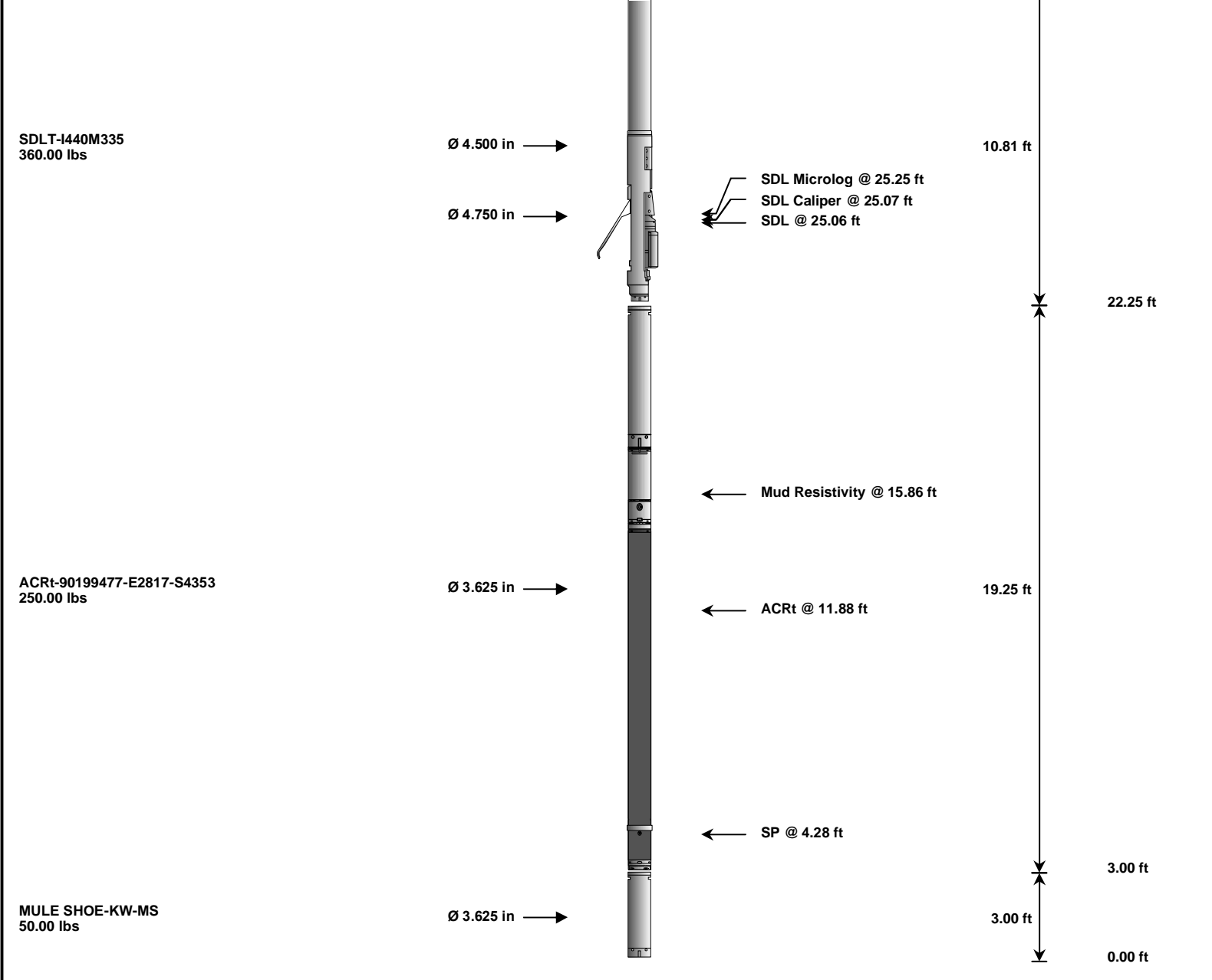
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION			
Signal	Lower	R	Upper		Signal	Lower (ohm-m)	Measured (ohmm)	Upper (ohm-m)
12K	0.6	0.8991	1.3		Mud Cell	0.95	0.997	1.05
36K	1.0	1.8313	2.0					
72K	1.0	1.1404	2.0					

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11294346						
Gamma Ray Calibrator	230.0	233.2	-----	-3.2	+/- 9.00	api
ICT-11294350						
Caliper 1	8.00	8.02	-----	-0.02	+/-0.25	in
Caliper 2	8.00	8.03	-----	-0.03	+/-0.25	in
Caliper 3	8.00	8.07	-----	-0.07	+/-0.25	in
Caliper 4	8.00	8.13	-----	-0.13	+/-0.25	in
Caliper 5	8.00	8.00	-----	0.00	+/-0.25	in
Caliper 6	8.00	7.95	-----	0.05	+/-0.25	in
CSNG-10965402						
60 KEV Peak Channel #	48.0	48.0	-----	0.0	-----	Channel #
239 KEV Peak Channel #	22.8	22.7	-----	0.1	-----	Channel #
583 KEV Peak Channel #	51.6	51.3	-----	0.3	-----	Channel #
2614 KEV Peak Channel #	211.8	210.8	-----	1.0	-----	Channel #
DSNT-11277440						
Snow-Block Porosity	0.0741	0.0630	-----	0.0111	+/- 0.0150	decp
SDLT-I440M335						
Near(B+D+P+L)	1791.073	1788.122	-----	2.951	+/-16.960	cps
Far(B+D+P+L)	971.416	966.823	-----	4.593	+/-16.754	cps
Pad Extension	3.75	3.69	-----	0.06	+/-0.10	in
Ring Diameter	8.25	8.19	-----	0.060	+/-0.15	in
ACRt-90199477-E2817-S4353						
Mud Cell	0.997	-----	-----	0.000	-----	ohmm

Data: ASHTON_J33_21D\0001 NOBLE_RED\IDLE	Date: 13-May-10 00:19:30
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HALLIBURTON					
TOOL STRING DIAGRAM REPORT					
Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
					92.07 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	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
CSNG	Compensated Spectral Natural Gamma		10965402	114.00	8.17	48.72	15.00
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		90199477-E2817-S4353	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				1,918.00	92.07		
* Not included in Total Length and Length Accumulation.							
Data: ASHTON_J33_21D\0001 NOBLE_RED\IDLE							
Date: 12-May-10 22:12:57							

COMPANY	NOBLE		
WELL	ASHTON J33-21D		
FIELD	WATTENBERG		
COUNTY	WELD	STATE	CO

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
ARRAY COMPENSATED
TRUE RESISTIVITY