

HALLIBURTON

ARRAY COMPENSATED
TRUE RESISTIVITY
SPECTRAL DENSITY
DUAL SPACED NEUTRON
INSITE DIRECTIONAL TOOL

COMPANY		CHEVRON	
WELL		UP 59-27A	
FIELD		RANGELY	
COUNTY		RIO BLANCO	
STATE		CO	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date		18-Mar-09	
Run No.		ONE	
Depth - Driller		6833.00 ft	
Depth - Logger		6835.0 ft	
Bottom - Logged Interval		6832.0 ft	
Top - Logged Interval		5766.0 ft	
Casing - Driller		7.000 in @ 6066.0 ft	
Casing - Logger		6066.0 ft	
Bit Size		6.125 in	
Type Fluid in Hole		BRINE	
Density		10.0 ppG	
PH			
Source of Sample			
Rm @ Meas. Temperature		@	
Rmf @ Meas. Temperature		@	
Rmc @ Meas. Temperature		@	
Source Rmf		Rmc	
Rm @ BHT		@	
Time Since Circulation		0.0 hr	
Time on Bottom		18-Mar-09 13:12	
Max. Rec. Temperature		175.0 degF @ 6835.0 ft	
Equipment		Location	
Recorded By		K. WOOD	
Witnessed By		G. COLLINS	

Fold here

Service Ticket No.: 6567642		API Serial No.: 051031120700		PGM Version: WL INSITE R2.4 (Build 11)			
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.
Rmf @ Meas. Temp.		@	@	ONE	ACRT-	N/A	1.5" S.O.
Rmc @ Meas. Temp.		@	@		90194258-		
Source Rmf		Rmc			E7486-S7482		
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.	11005602	Serial No.		Serial No.	10951314	Serial No.	10993888
Model No.	GTET	Model No.		Model No.	DSNT	Model No.	SDLT
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diam eter	3.625"
Detector Model No.	GTET	Spacing		Log Type	GAMMA-GAMMA	Log Type	THERMAL
Type	SCINT.			Source Type	Cs-137	Source Type	Am241Be
Length	8"	LOG NAME		Serial No.	5123GW	Serial No.	DSN-388

Length		LOG [Y/N]		SERIAL NO.	15000	SERIAL NO.	15000		
Distance to Source		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
No.	From	To	ft/min	L	R	L	R	L	R
ONE	TD	5766	REC	0	150			30 %	-10 %
								2.68 g/cc	30 %
									-10 %
									SAND
DIRECTIONAL INFORMATION									
Maximum Deviation				@		KOP		@	
Remarks: RWCH-GTET-IDT-DSNT-SDLT-ACRT DATA WAS ACQUIRED ON SEPARATE PASSES.									
HOLE RUGOSITY AND TENSION PULLS MAY AFFECT LOG QUALITY.									
AHV CALCULATED FOR 4.5" CASING.									
DSNT NOT DECENTRALIZED DUE TO BOREHOLE SIZE.									
TWO BOTTOM HOLE THERMOMETERS READ 165 degF AND 191 degF.									
LATITUDE: 40.12°N // LONGITUDE: 108.83°W									
YOUR CREW TODAY: K. LAUCK, A. LEWIS AND E. KEEN					RIG: NONE				
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	6.125	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	10.000	ppg
	SHARED	RMUD	Mud Resistivity	2.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	OBM	Oil Based Mud System?	No	
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	4.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	6633.00	ft
	SHARED	BHT	Bottom Hole Temperature	174.0	degF
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	IDT		Survey Writing Interval	30	ft
	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: CHV_UP_59_27A10001 GTET-IDT-ACRTIDLE

Date: 18-Mar-09 11:16:08

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	6.125	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	10.000	ppg
	SHARED	RMUD	Mud Resistivity	2.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	OBM	Oil Based Mud System?	No	
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	4.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	6633.00	ft
	SHARED	BHT	Bottom Hole Temperature	175.0	degF
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	DSNT	DNOK	Process DSN?	Yes	
	DSNT	DEOK	Process DSN EVR?	No	
	DSNT	NLIT	Neutron Lithology	Sandstone	
	DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
	DSNT	DNTP	Temperature Correction Type	None	
	DSNT	DPRS	DSN Pressure Correction Type	None	
	DSNT	SHCO	View More Correction Options	No	
	DSNT	UTVD	Use TVD for Gradient Corrections?	No	
	DSNT		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	1.100	g/cc
	SDLT	CLOK	Process Caliper Outputs?	Yes	
	SDLT	MLOK	Process MicroLog Outputs?	Yes	
BOTTOM					

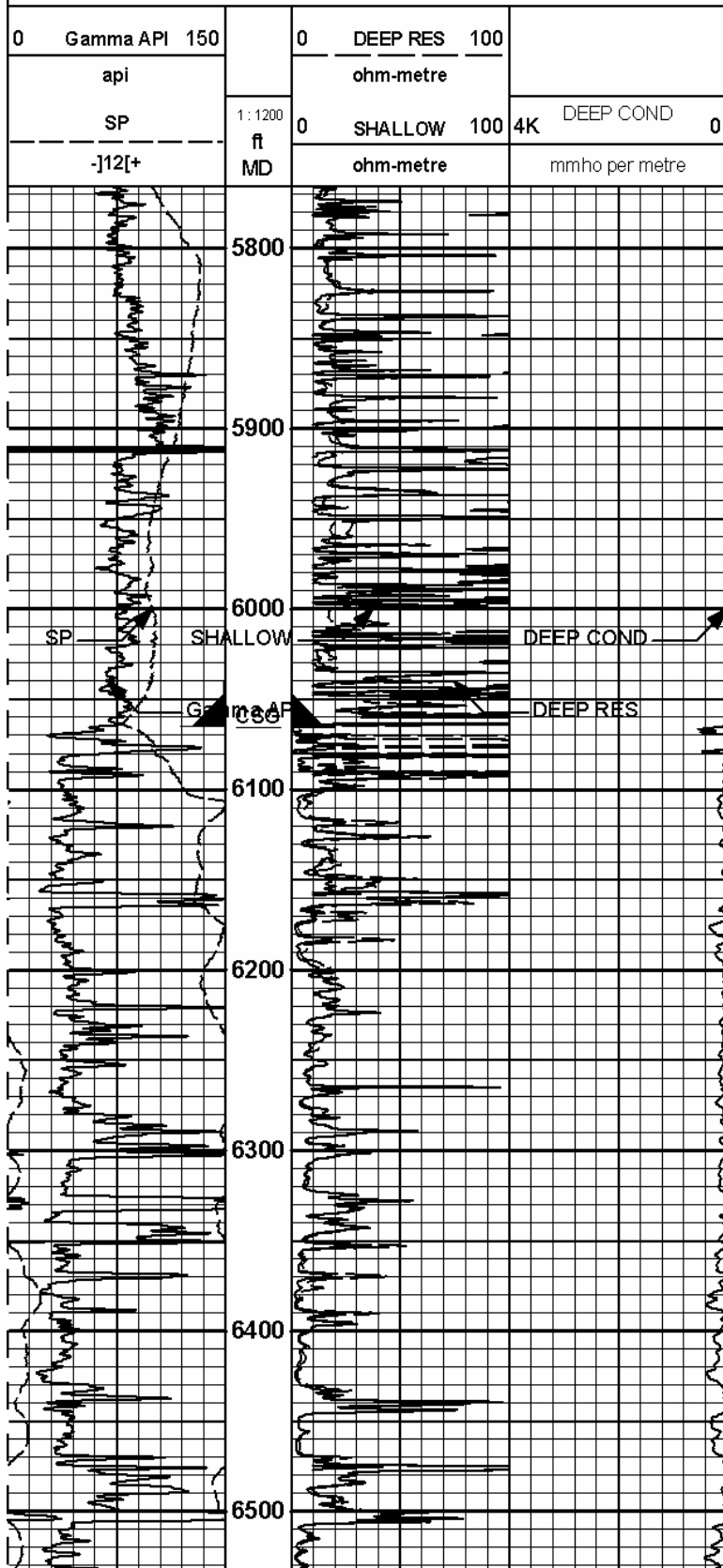
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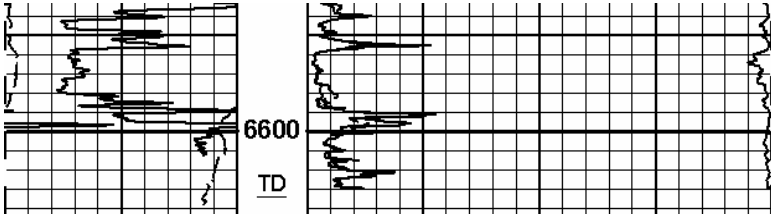
Date: 18-Mar-09 14:35:48

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Plot Time: 18-Mar-09 15:57:59
Plot Range: 5766 ft to 6643.92 ft

MAIN PASS 1" = 100' (HALF SCALE)





SP	1:1200 ft MD	0	SHALLOW	100	4K	DEEP COND	0
-]12[+			ohm-metre			mmho per metre	
0	Gamma API	150	0	DEEP RES	100		
api			ohm-metre				

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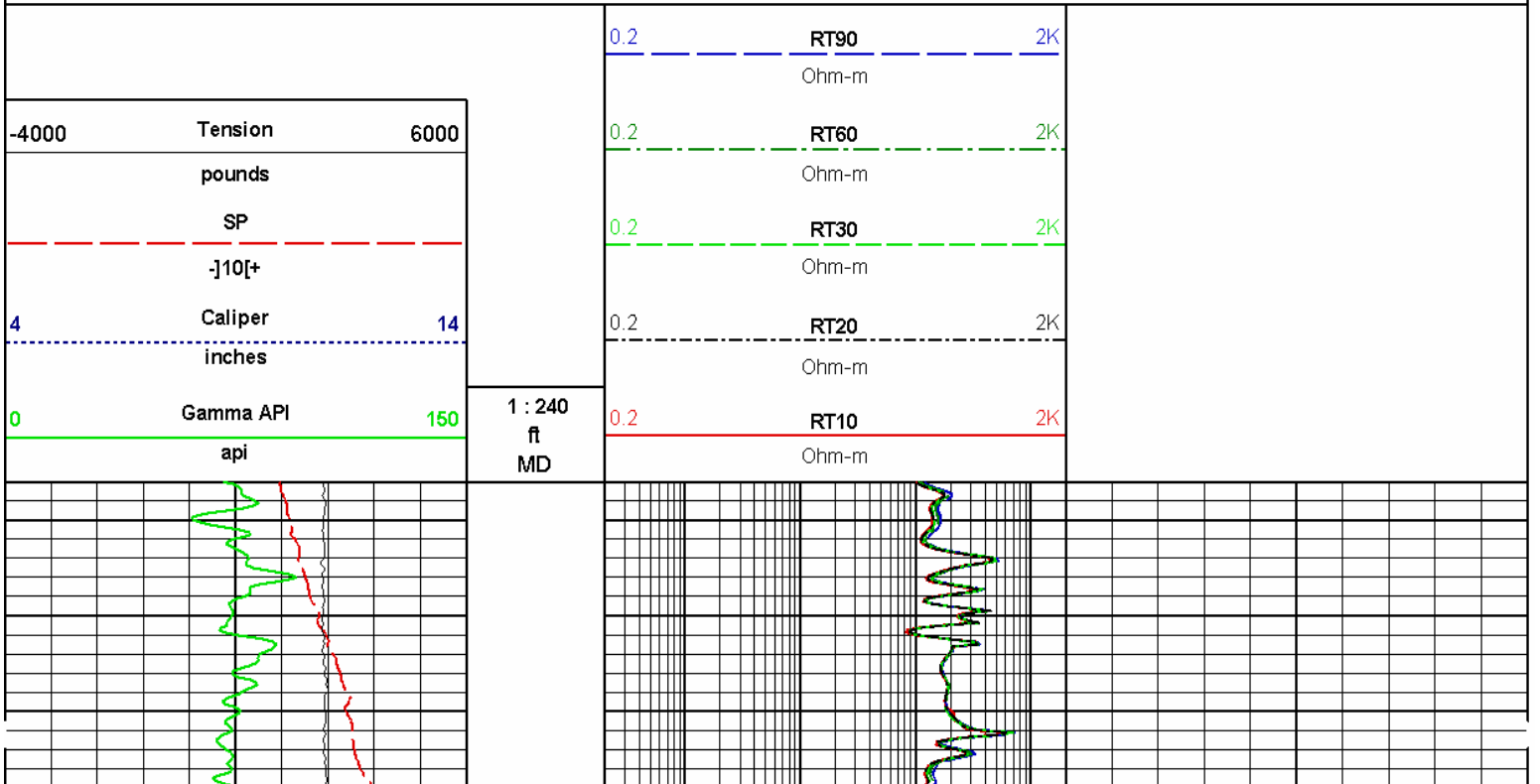
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CHV_UP_59_27A\Well Based...i...
Plot File: \\...NQ_ACRT_1IN_WILLIAMS

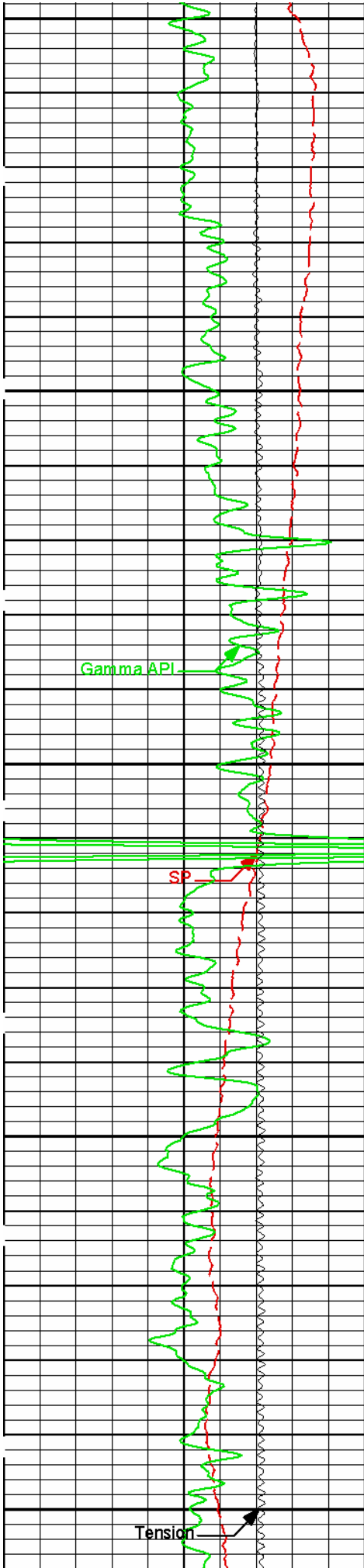
MAIN PASS 1" = 100' (HALF SCALE)

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Plot Time: 18-Mar-09 15:58:00
Plot Range: 5766 ft to 6643.92 ft
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Plot File: \\TRIPLE-IDT\ACRT

MAIN PASS 5" = 100'

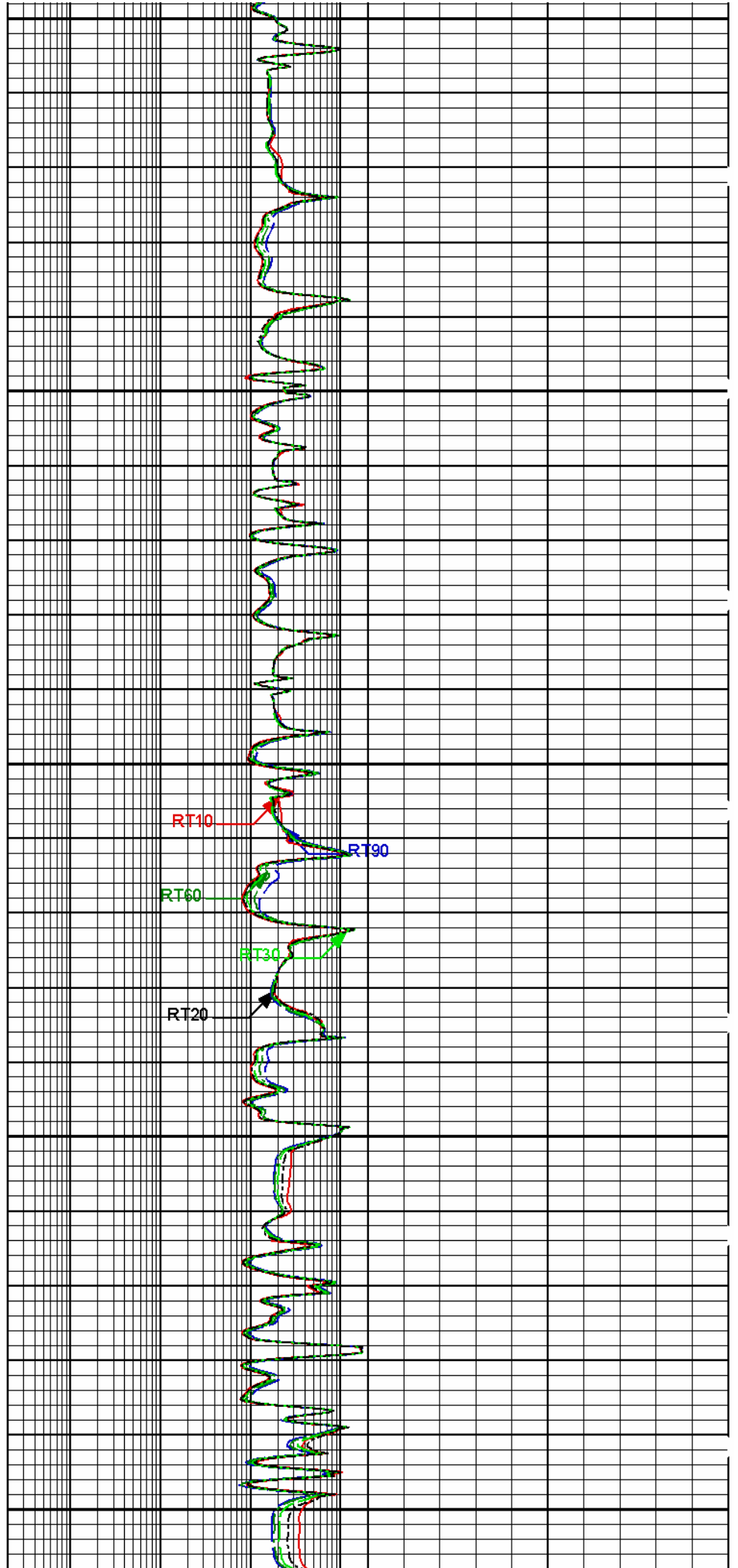


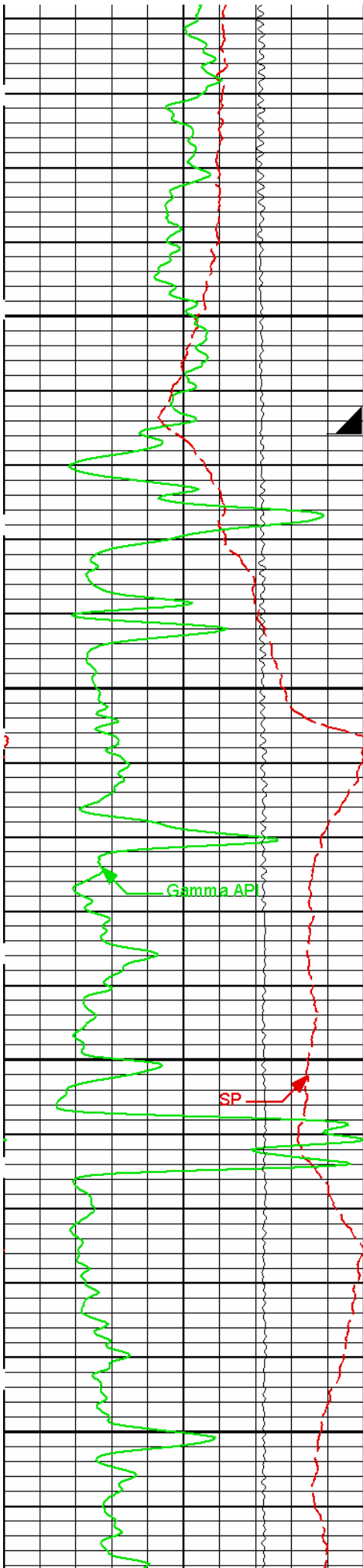


5800

5900

6000





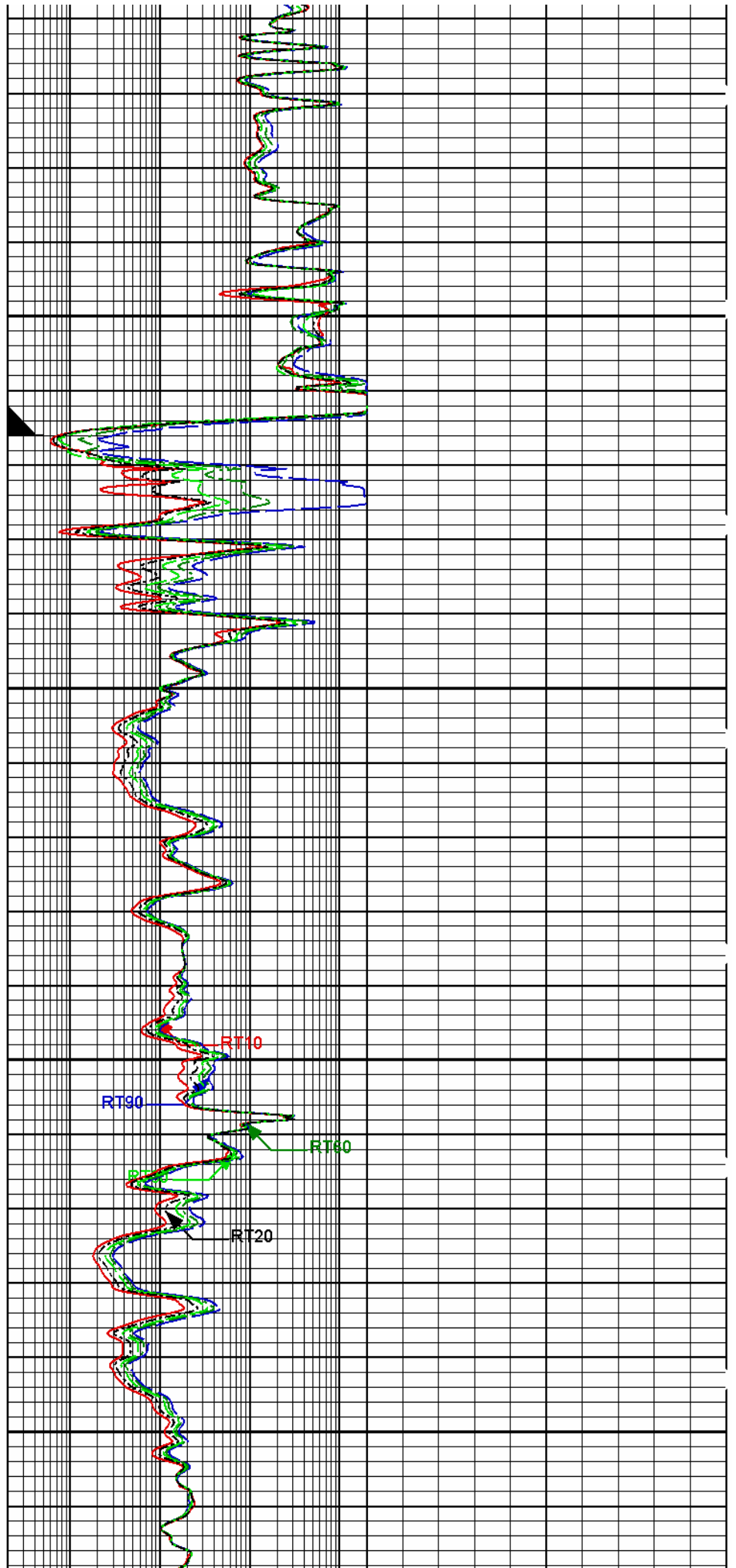
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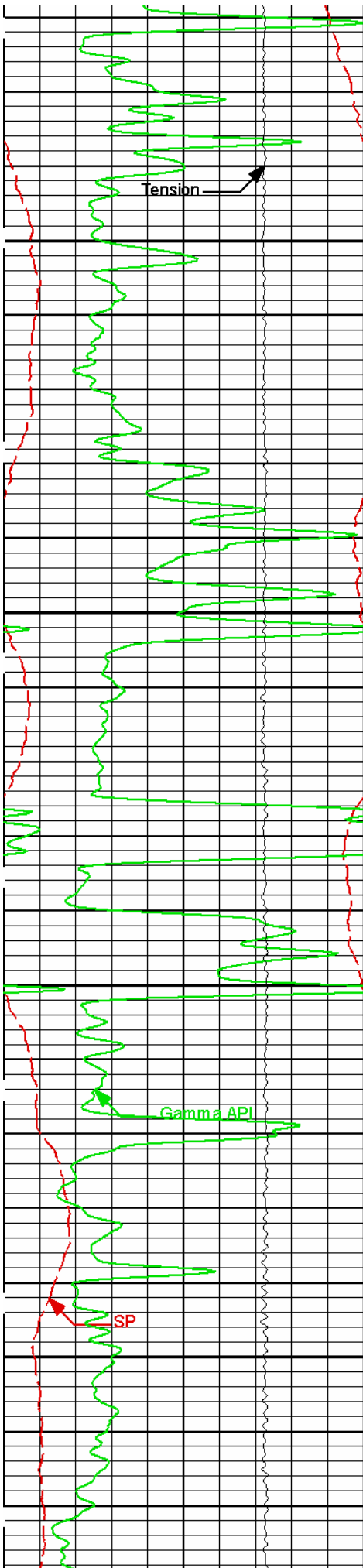
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SP

Gamma API

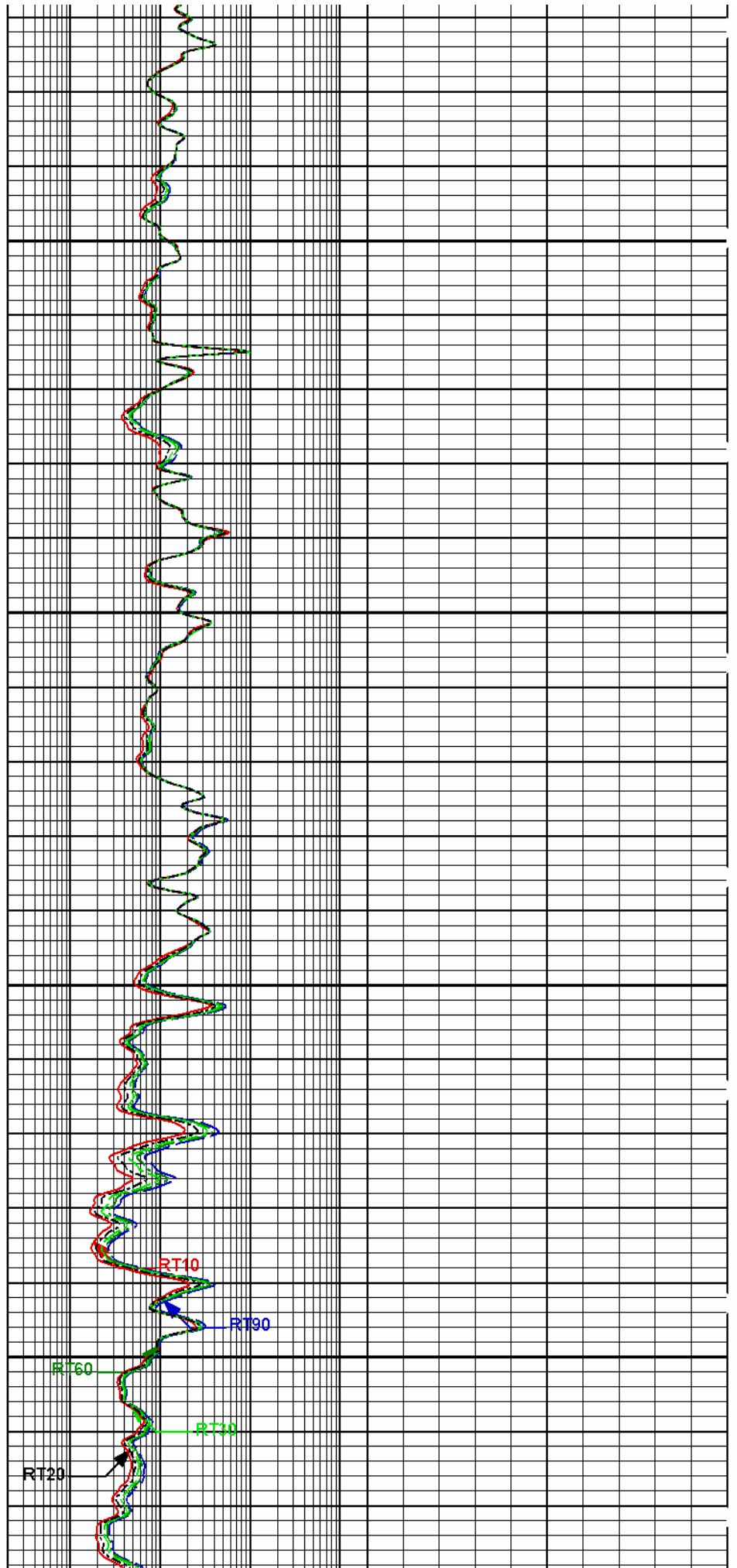
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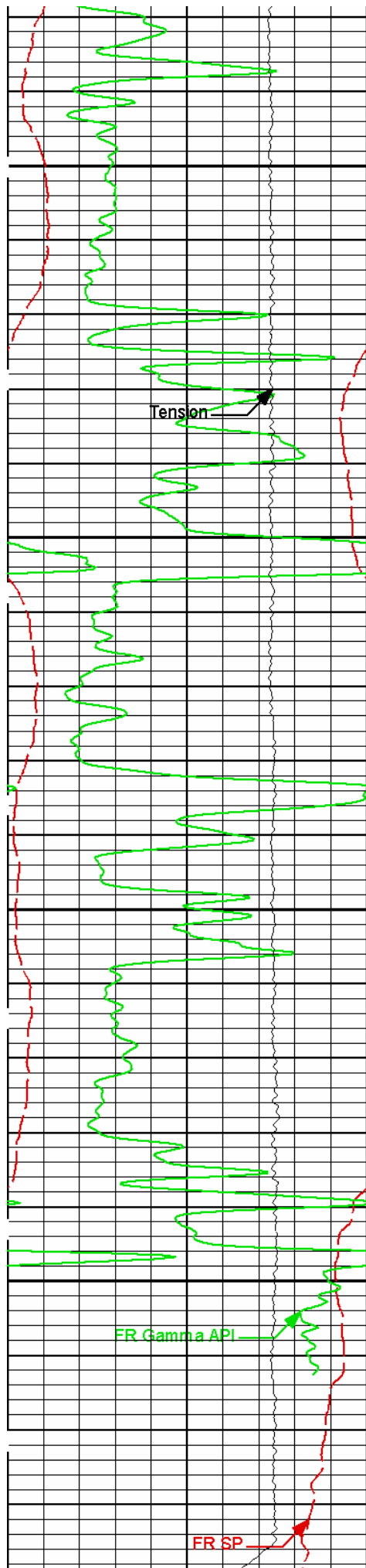




6300

6400

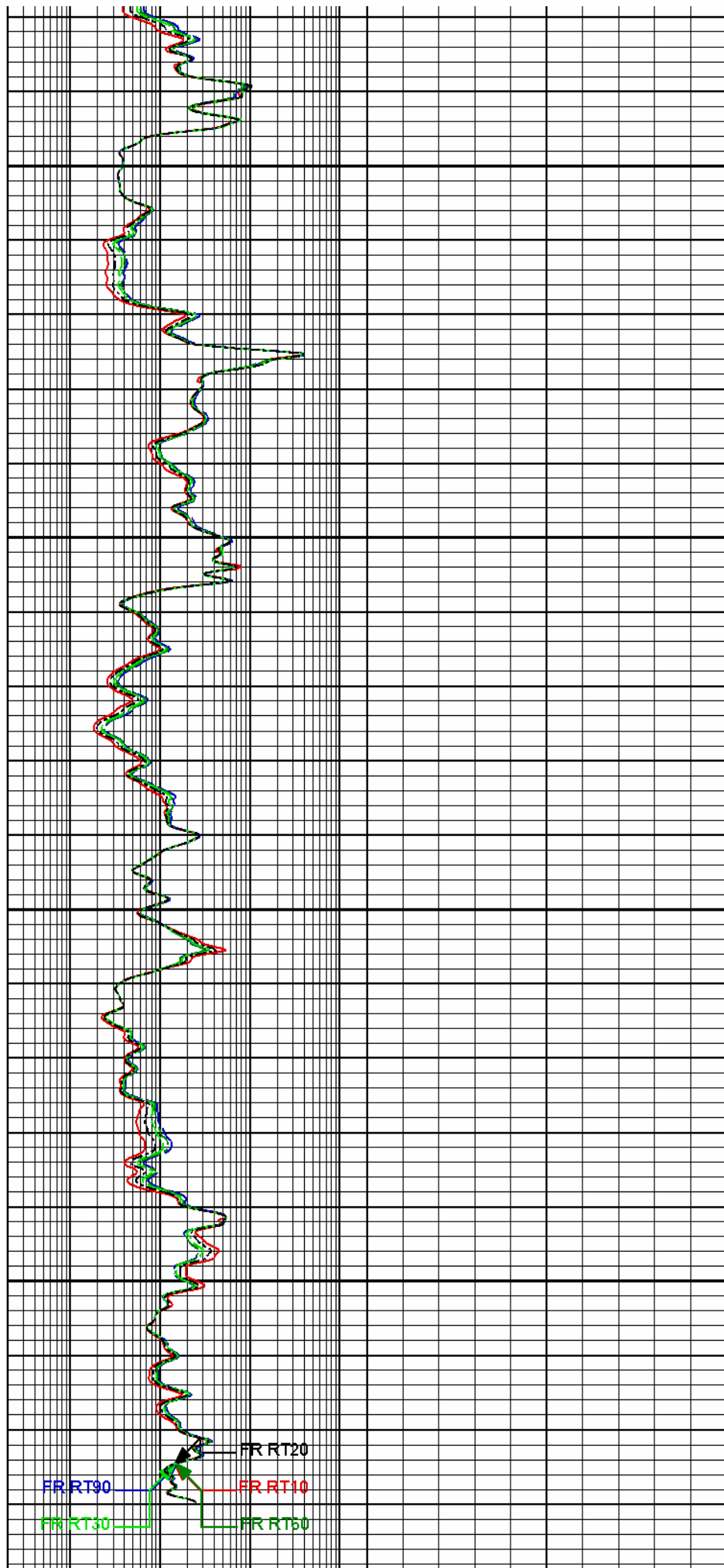




6500

6600

TD



0	Gamma API	150	1 : 240 ft MD	0.2	RT10	2K	
	api				Ohm-m		
4	Caliper	14		0.2	RT20	2K	
	inches				Ohm-m		
	SP			0.2	RT30	2K	
	-]10[+				Ohm-m		
-4000	Tension	6000		0.2	RT60	2K	
	pounds				Ohm-m		
				0.2	RT90	2K	
					Ohm-m		

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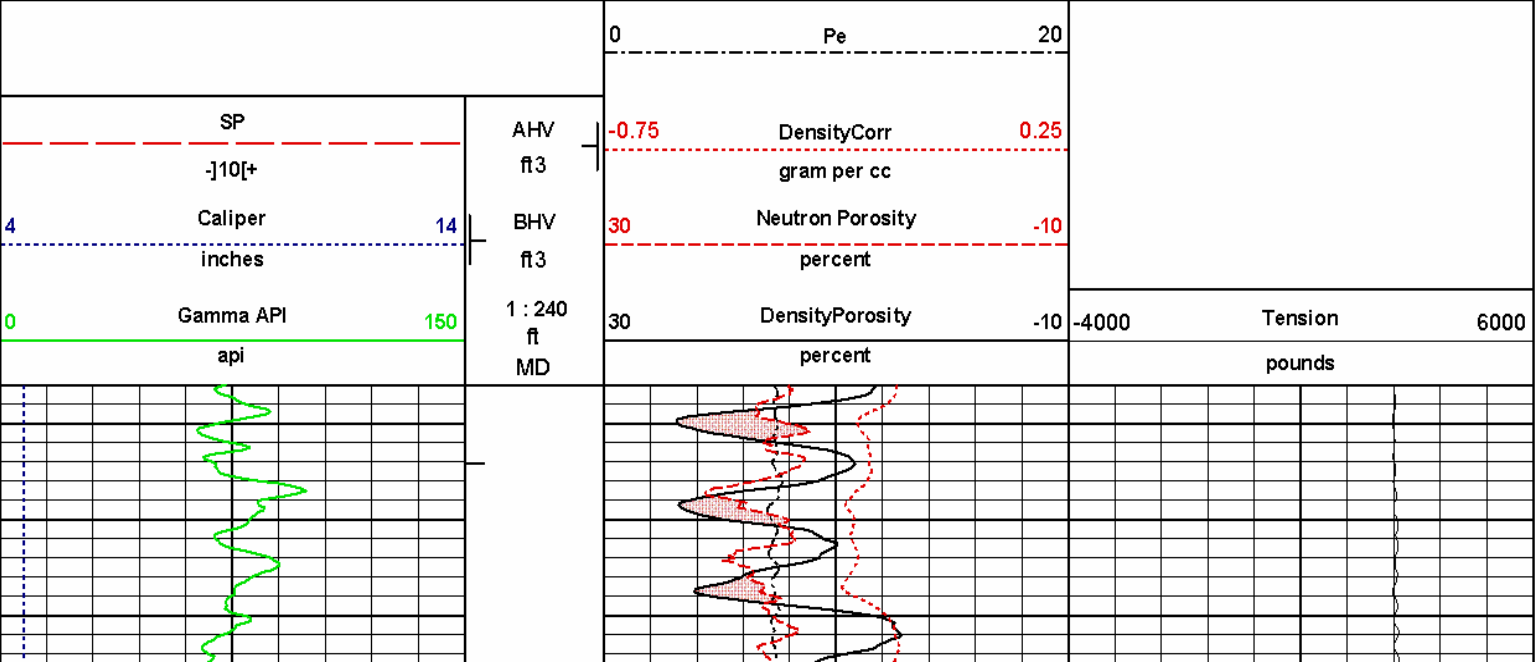
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 Plot File: \\TRIPLE-IDT\ACRT

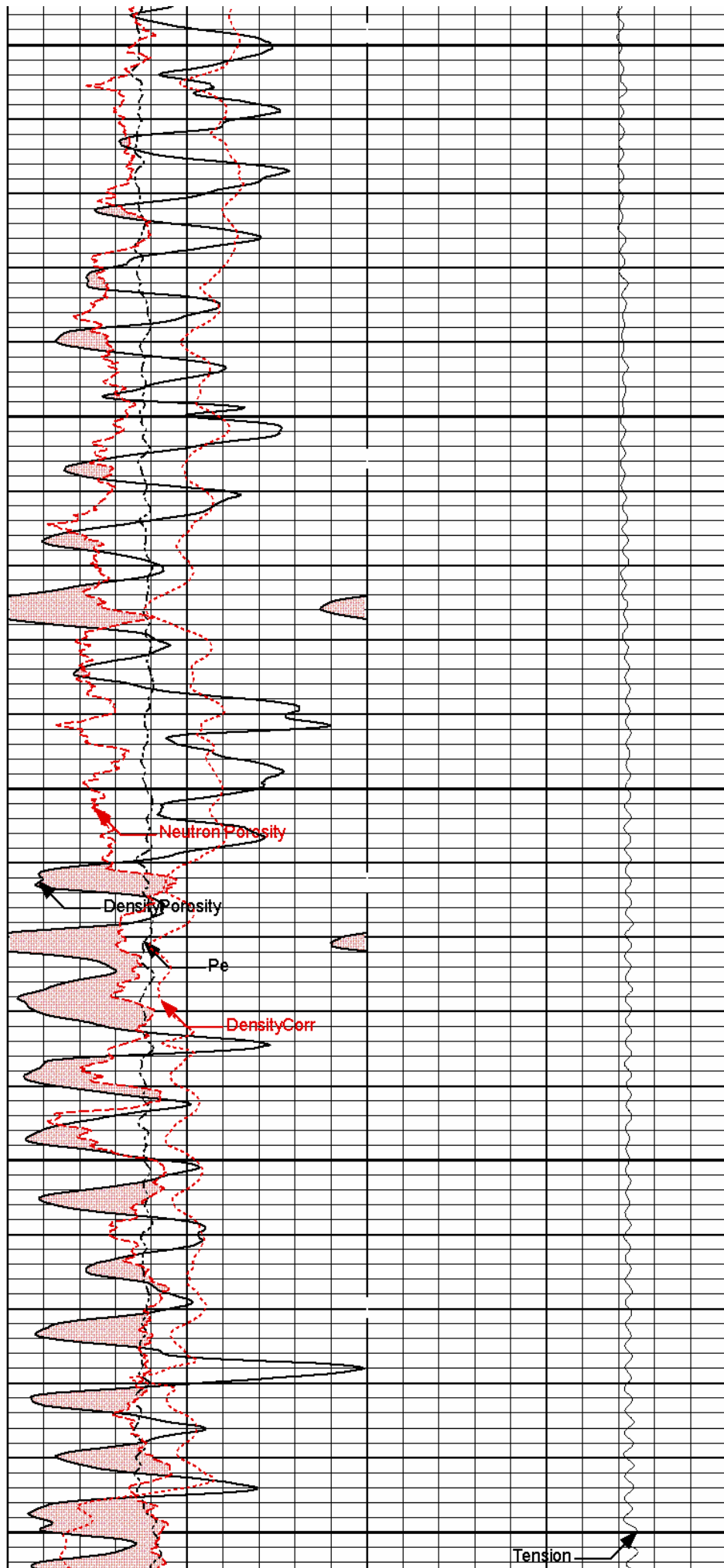
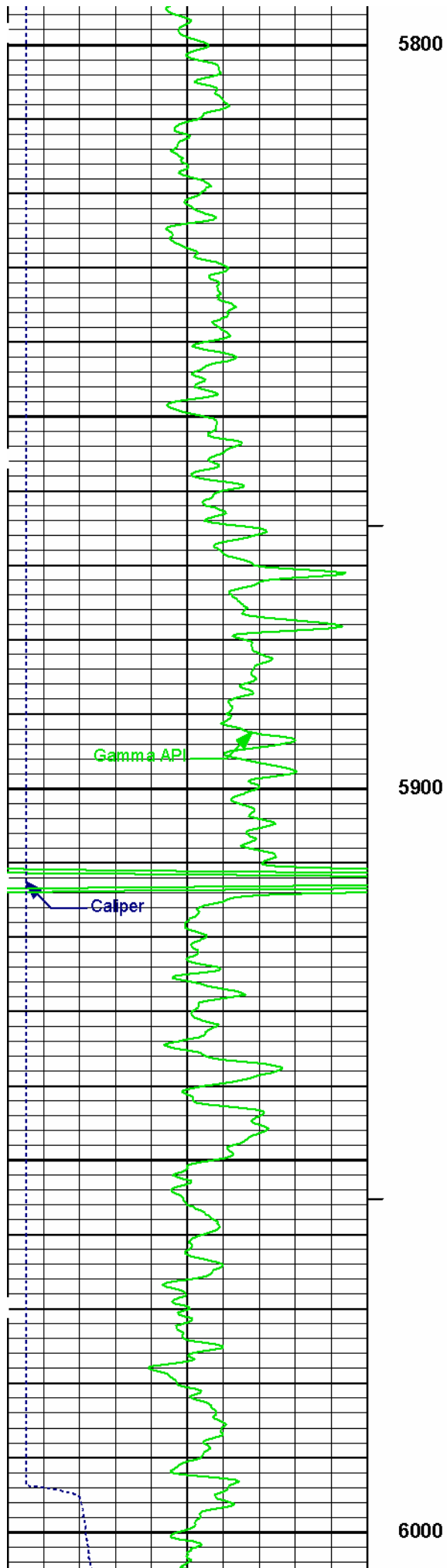
MAIN PASS 5" = 100'

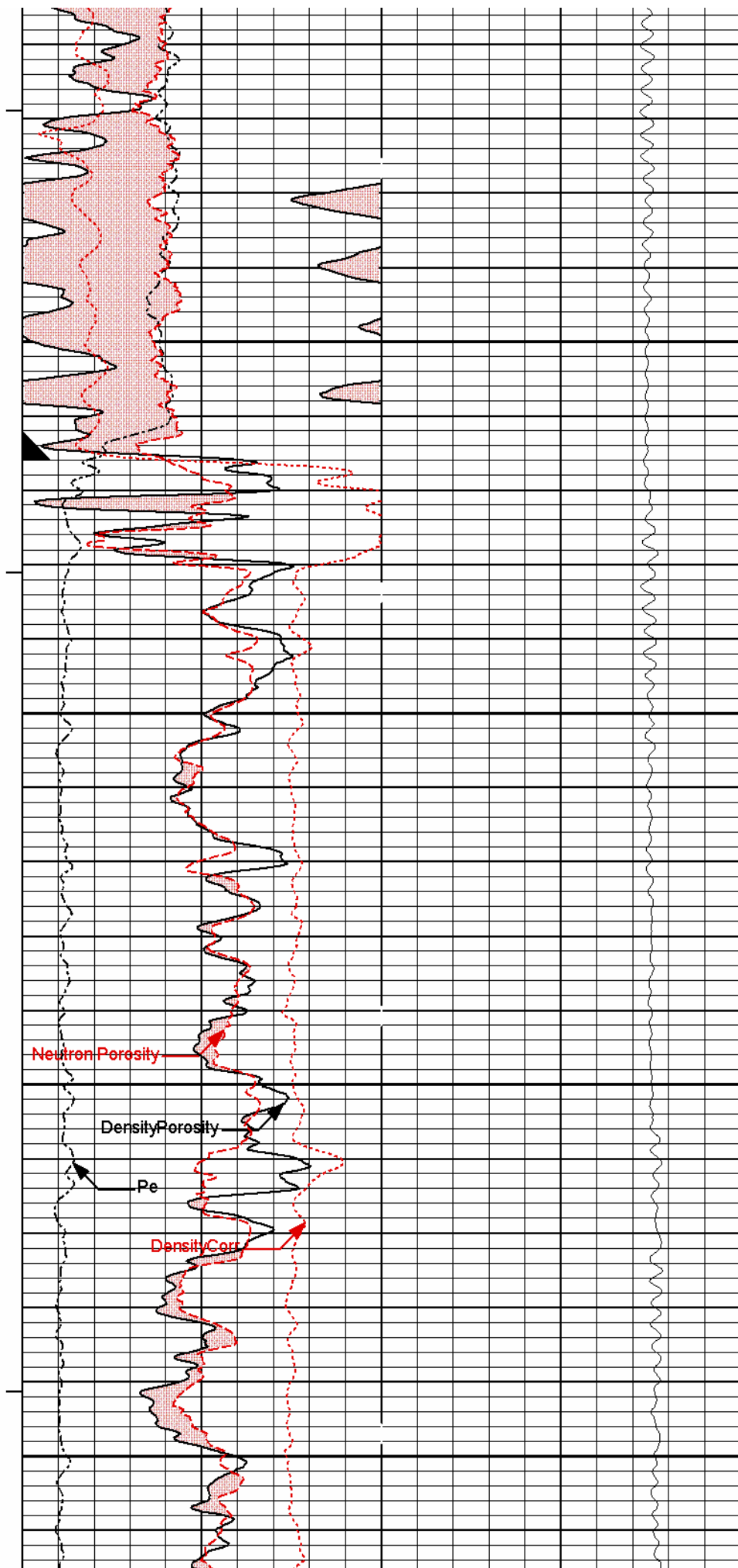
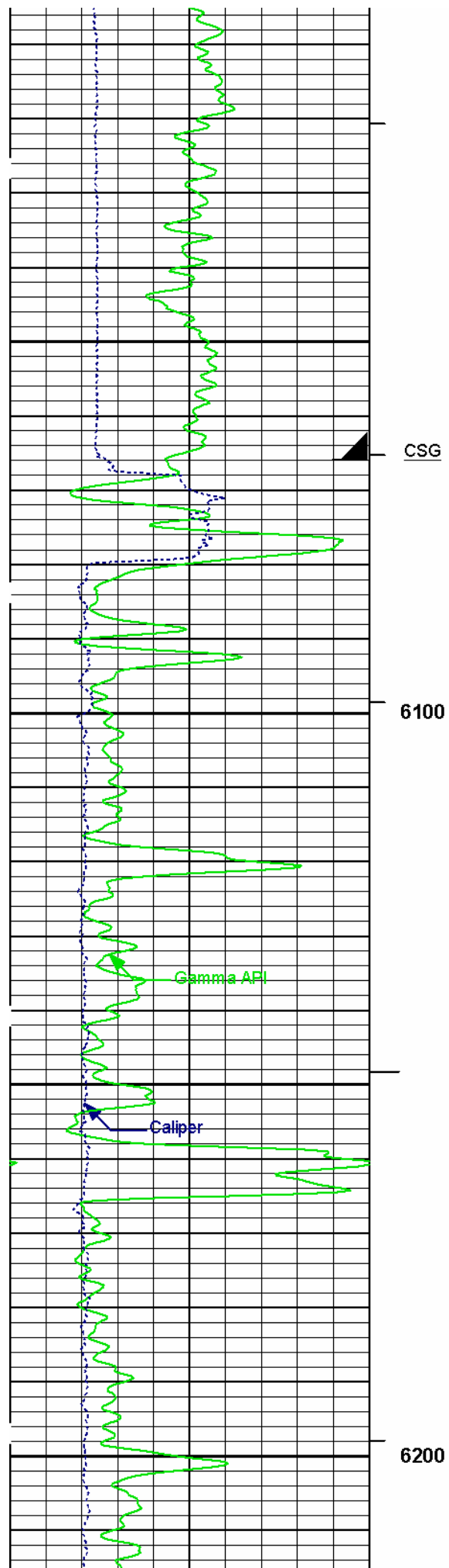
HALLIBURTON

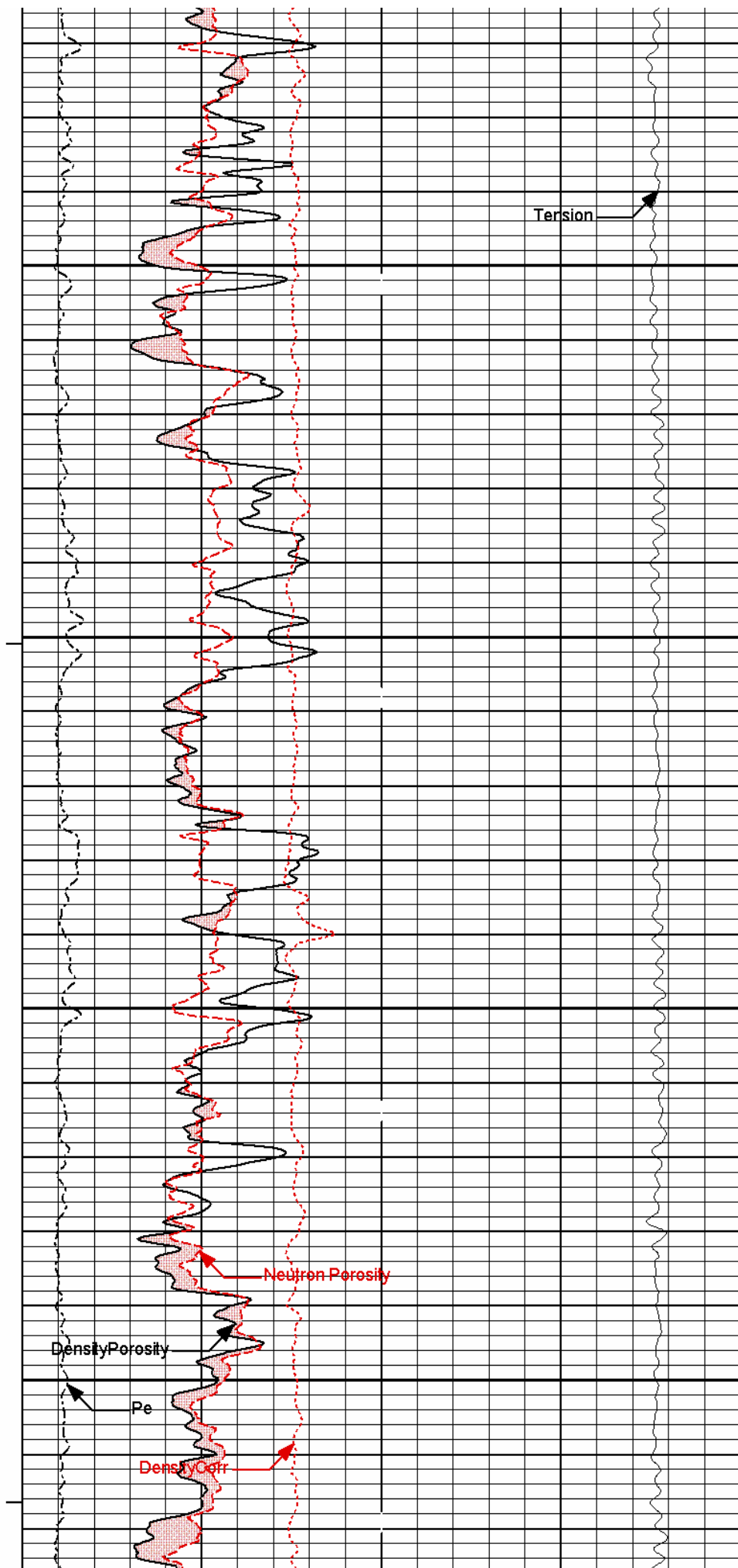
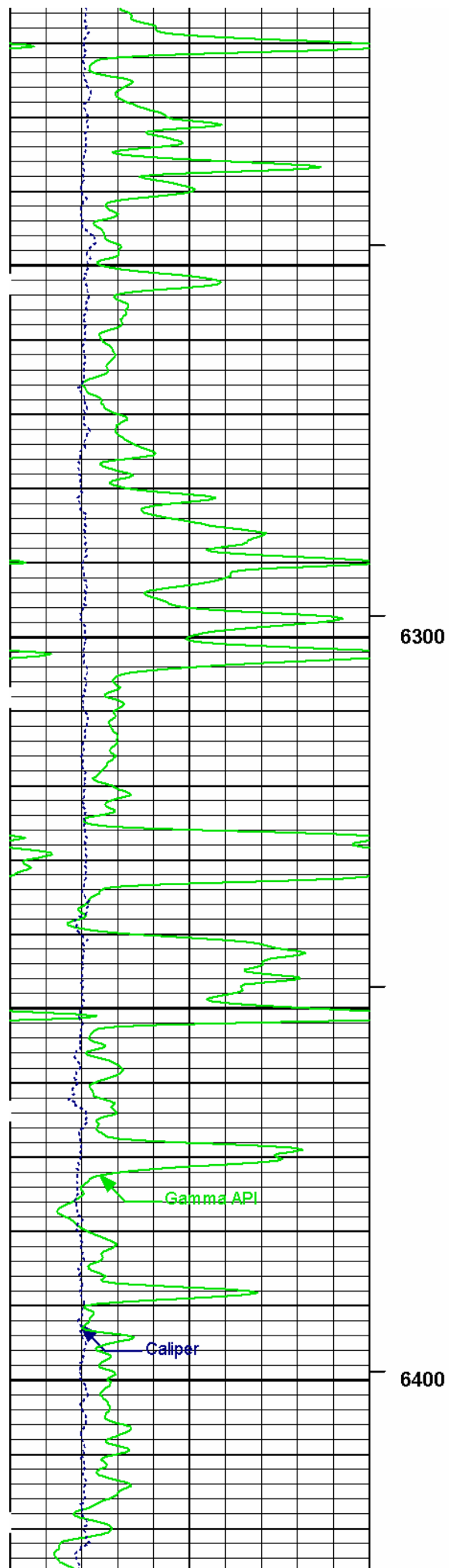
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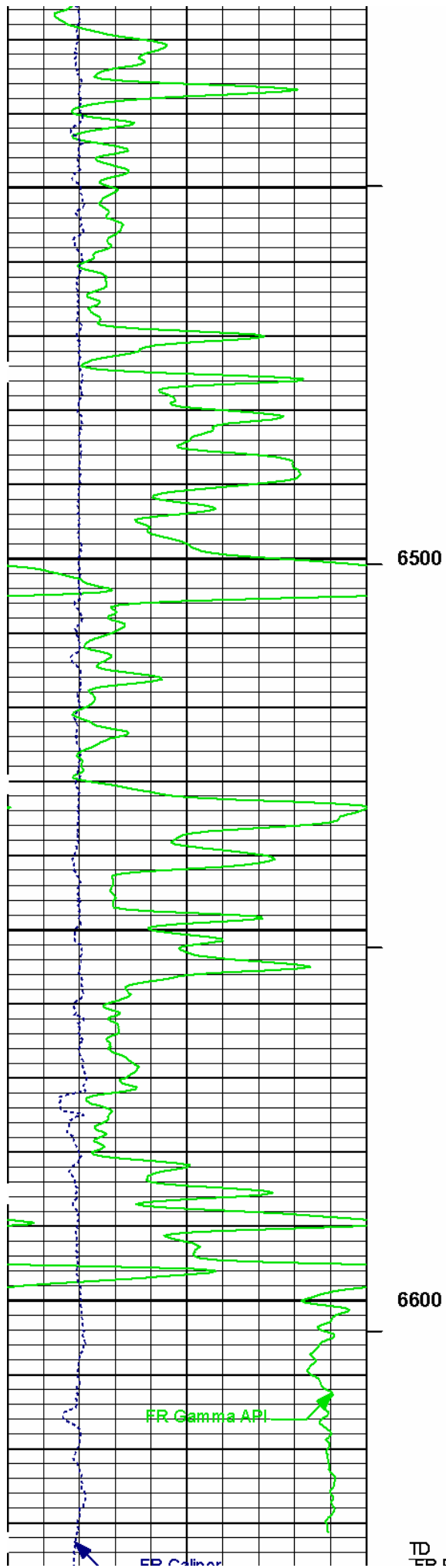
MAIN PASS 5" = 100'







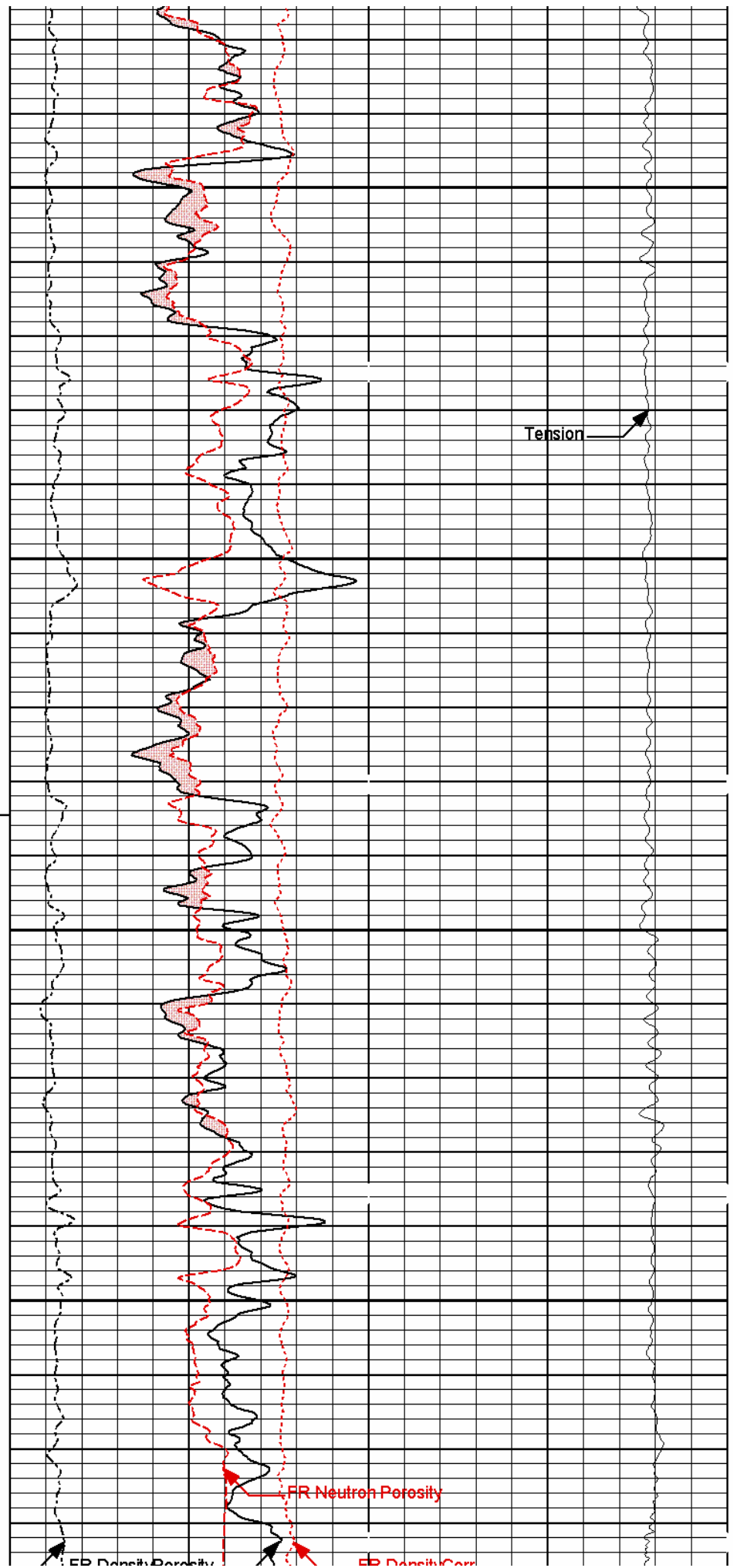




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6600

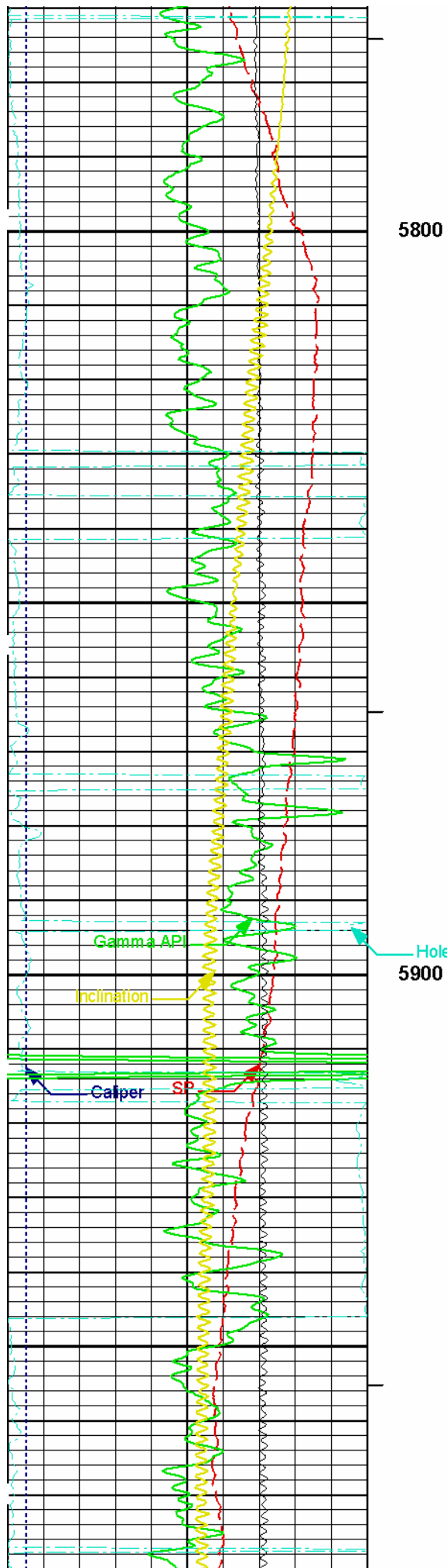
TD
EB Da



Tension

FR Neutron Porosity

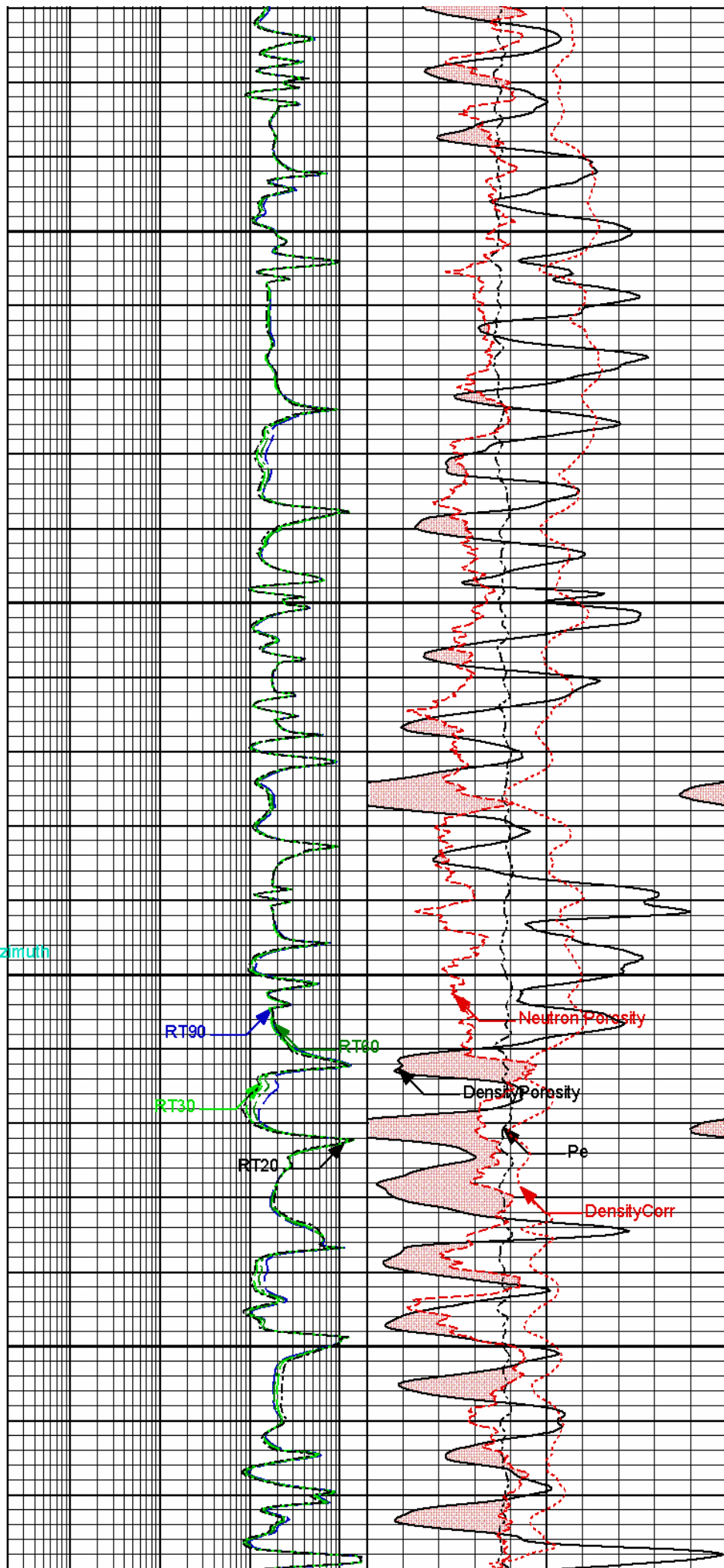
EB Density/Density

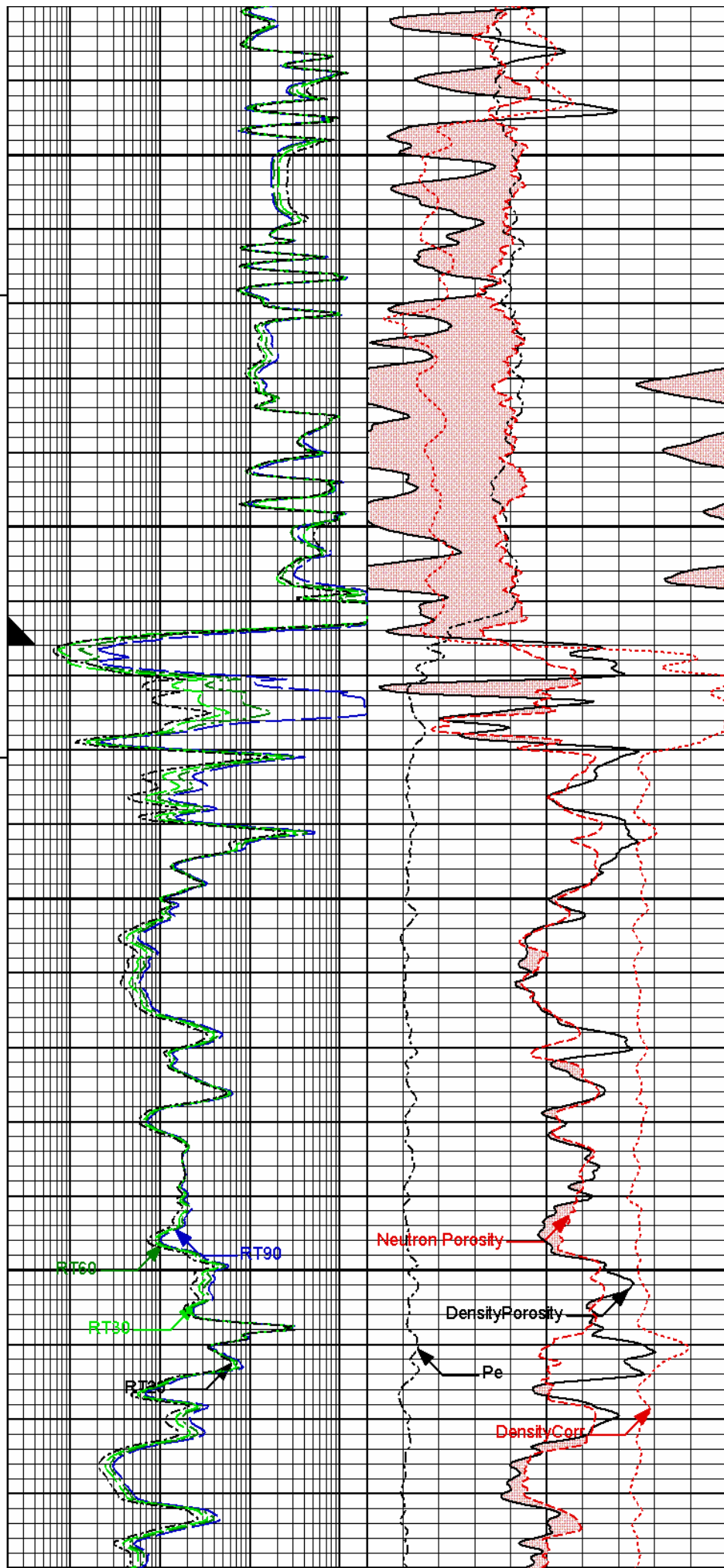
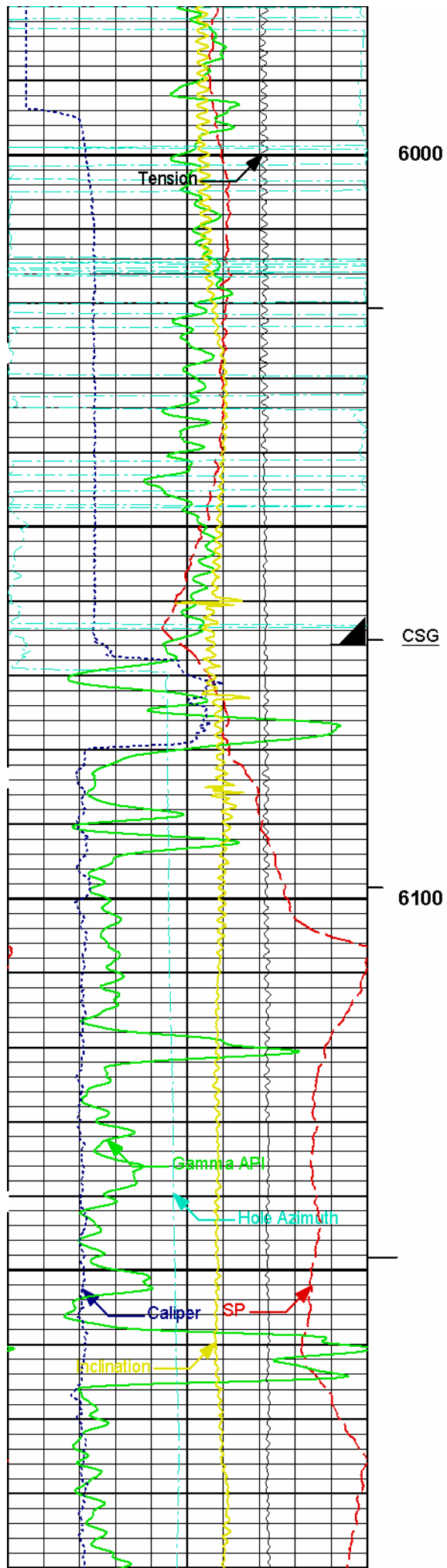


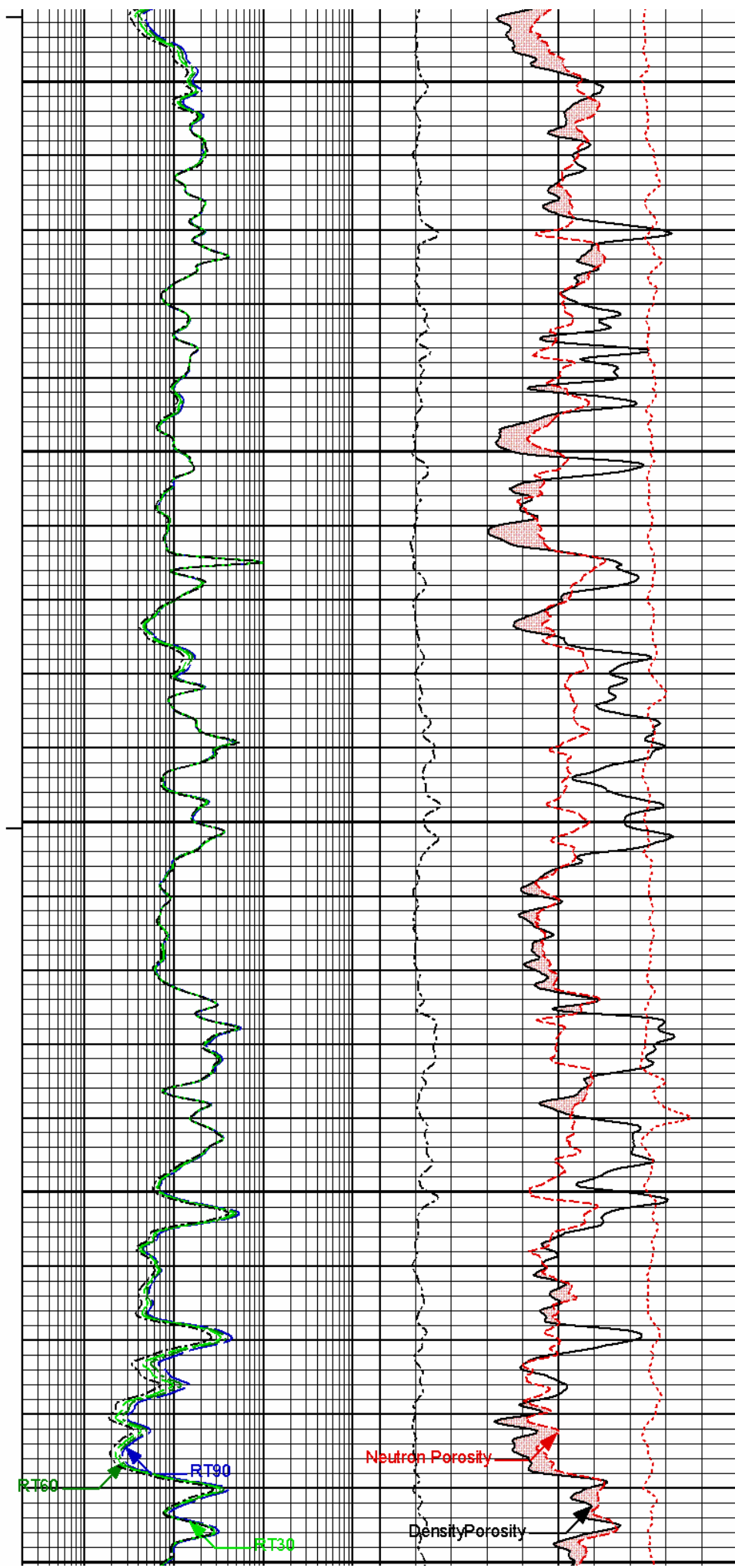
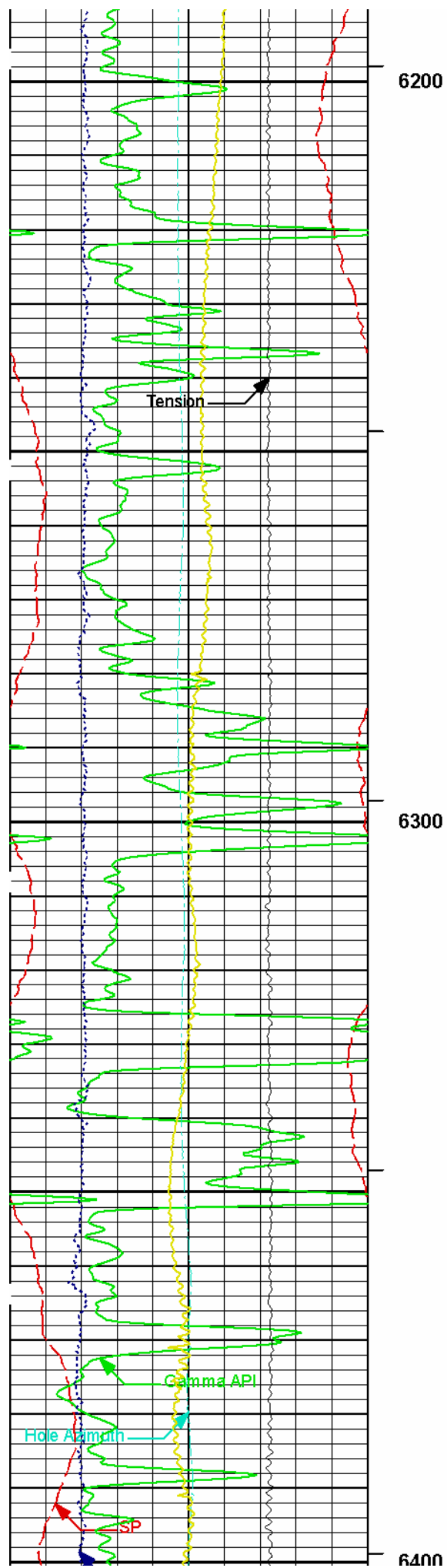
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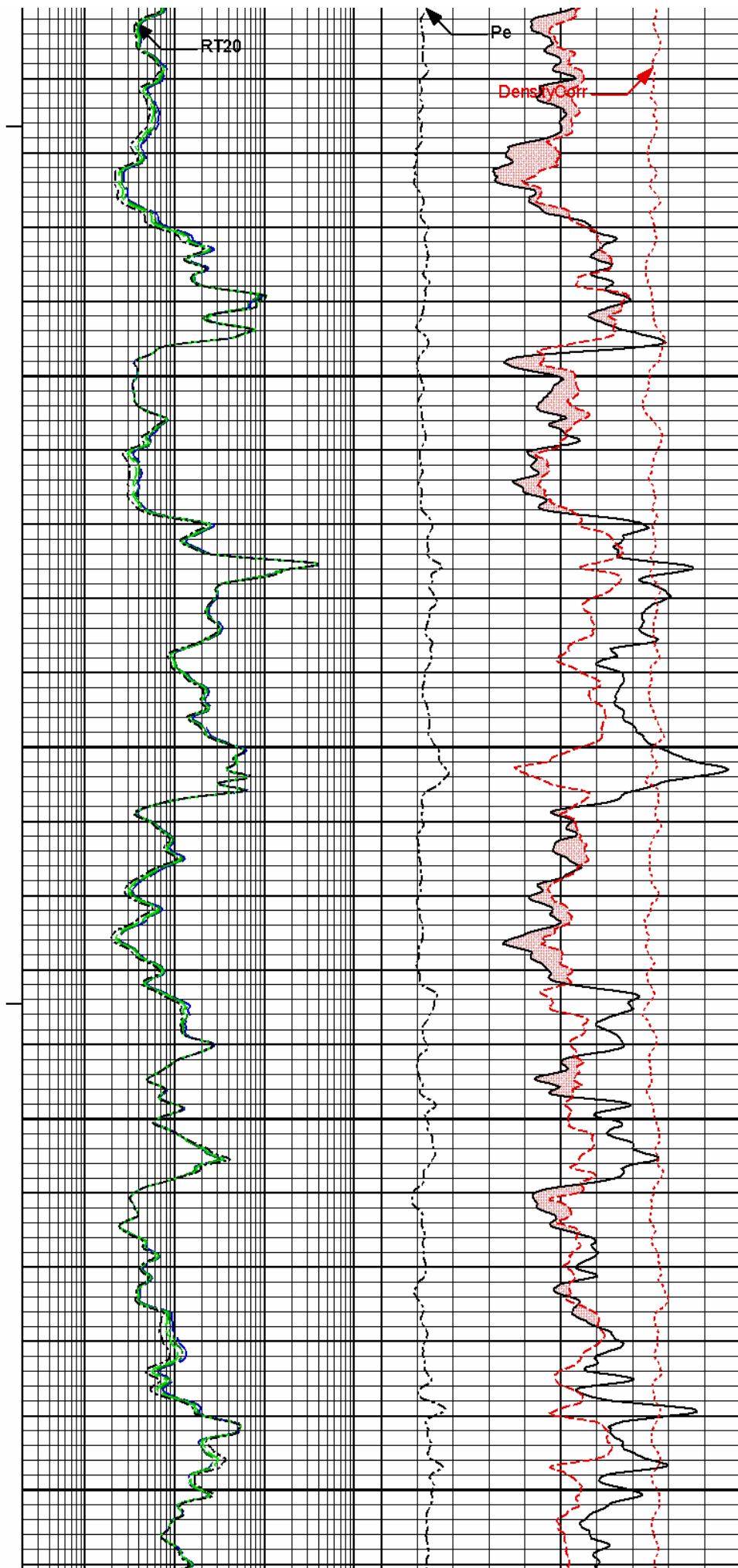
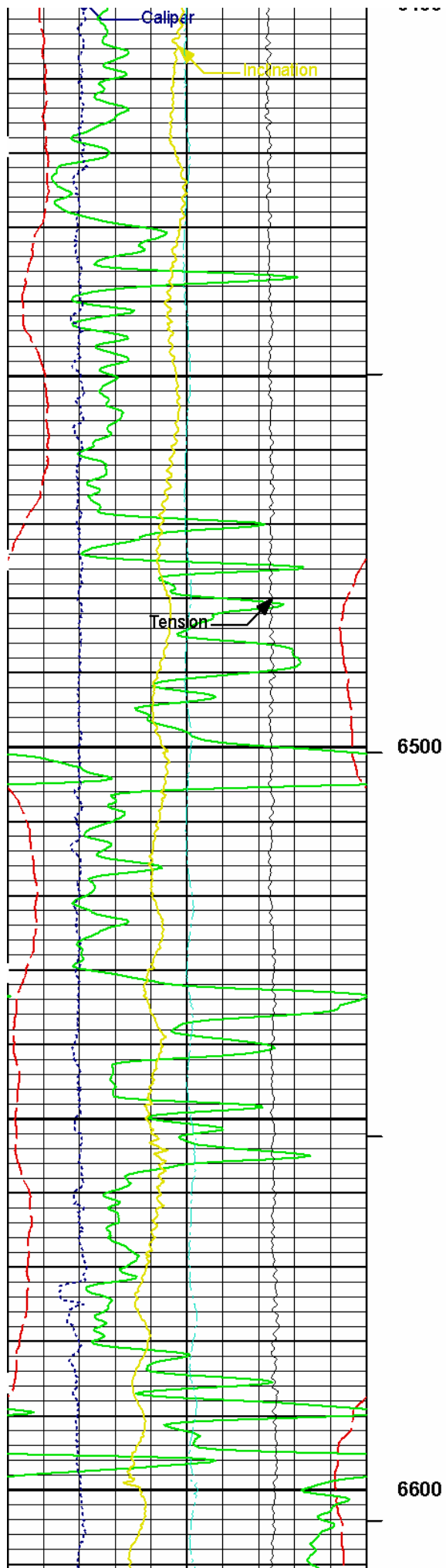
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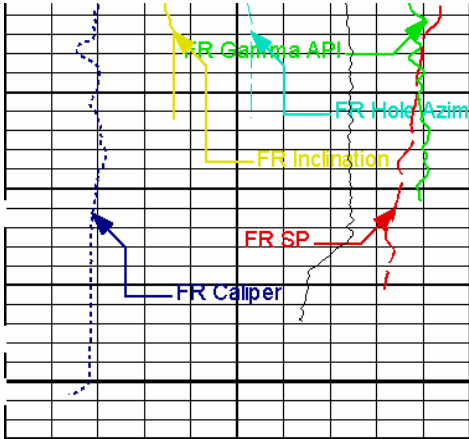
Hole Azimuth



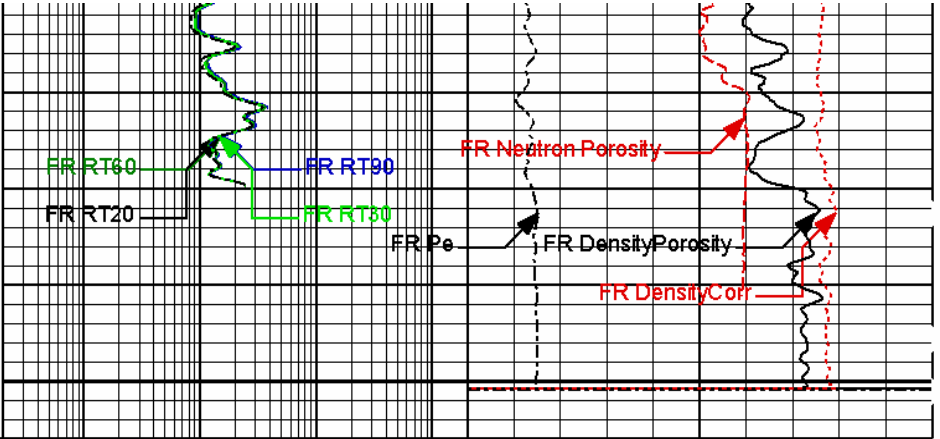








TD



0	Inclination	10	1 : 240 ft MD		30	DensityPorosity	-10
	degrees					percent	
0	Hole Azimuth	360	BHV	0.2	RT20	2K	30
	degrees		ft3		Ohm-m		
0	Gamma API	150	AHV	0.2	RT30	2K	-0.75
	api		ft3		Ohm-m		
4	Caliper	14		0.2	RT60	2K	0
	inches				Ohm-m		
	SP			0.2	RT90	2K	
	-10[+				Ohm-m		
-4000	Tension	6000					
	pounds						

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Plot Time: 18-Mar-09 15:58:12
 Plot Range: 5766 ft to 6655.92 ft
 Data: CHV_UP_59_27A\Well Based!\
 Plot File: \\TRIPLE-IDT\A-Triple-IQ

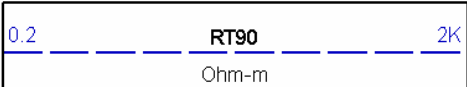
MAIN PASS 5" = 100'

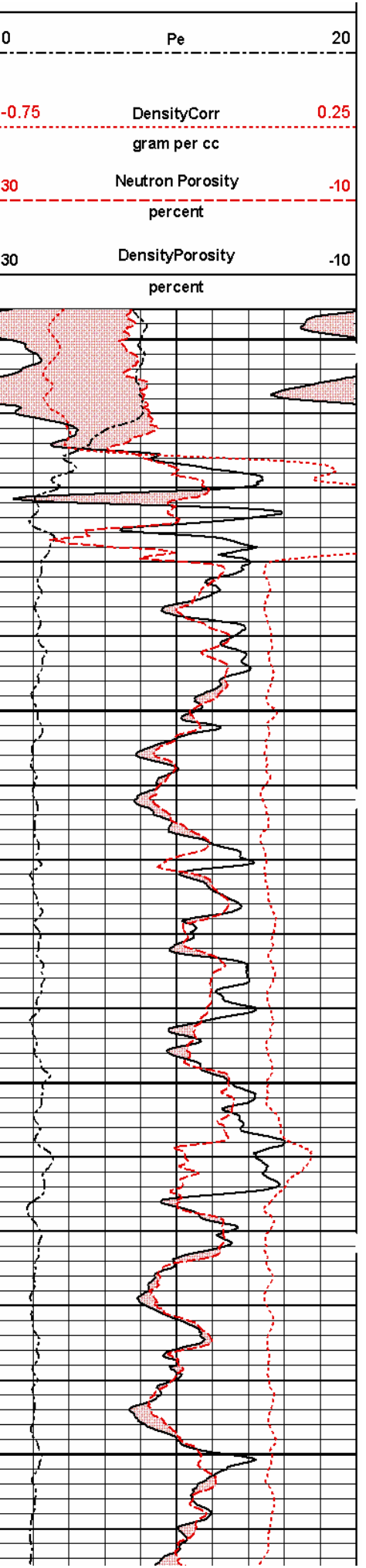
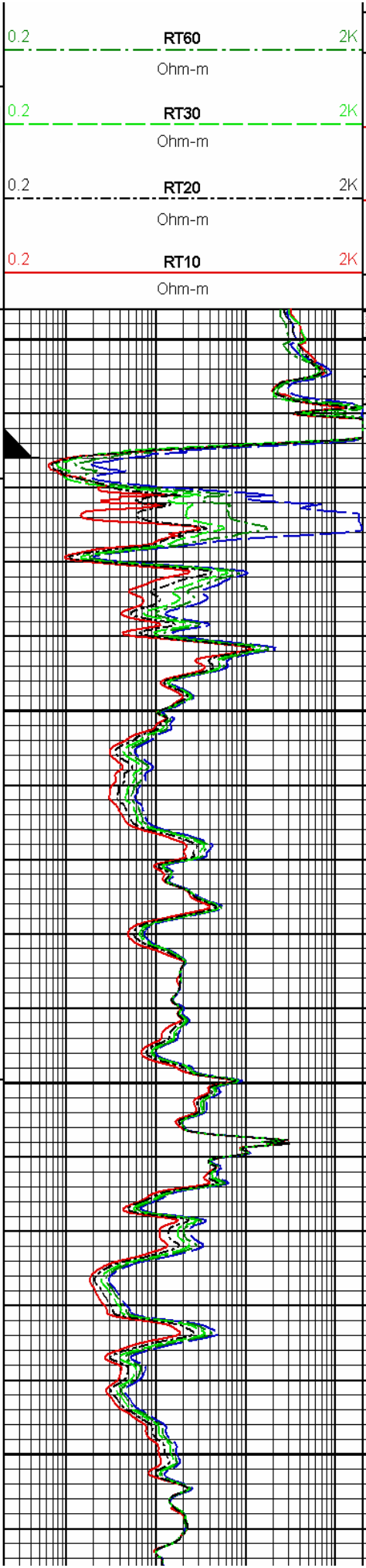
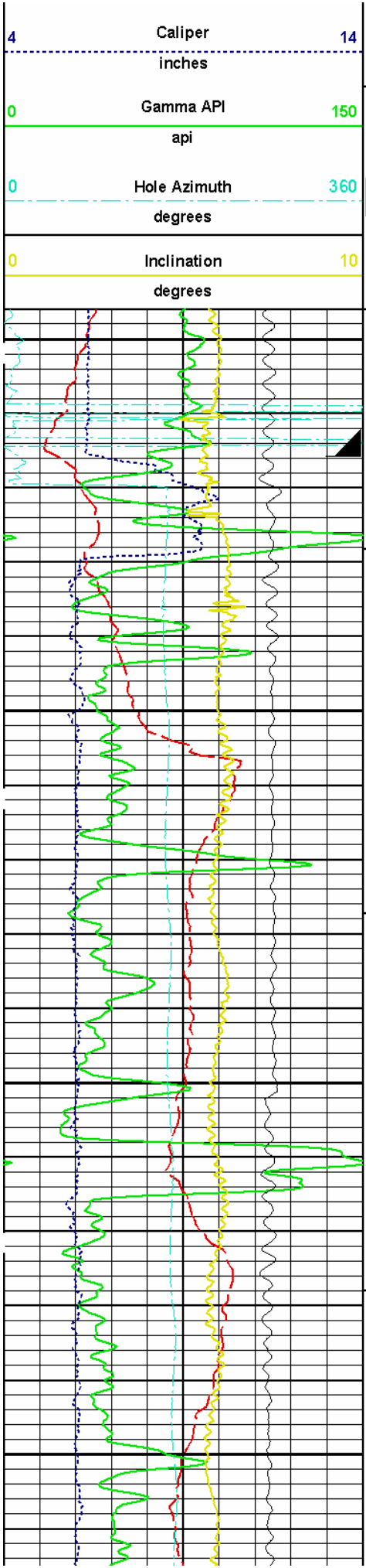
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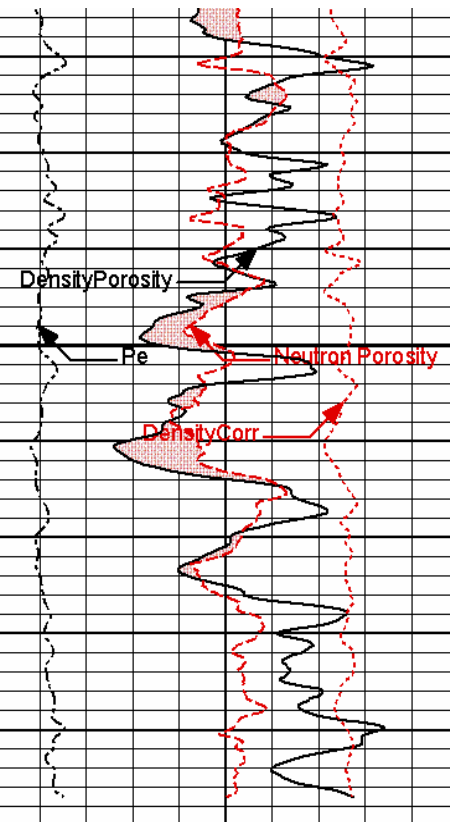
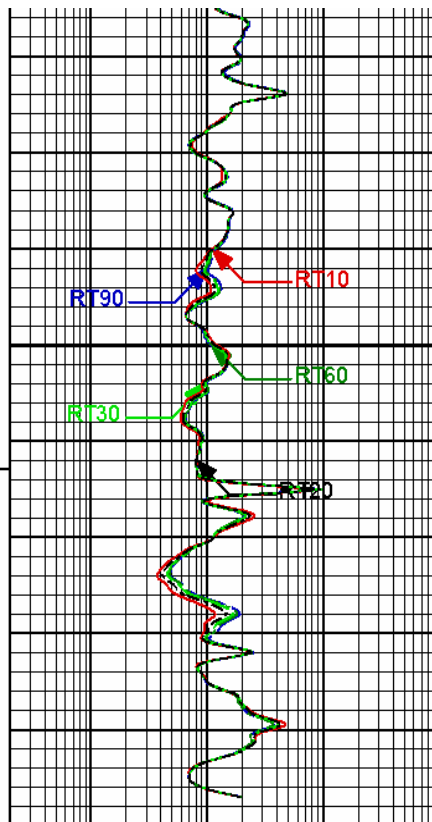
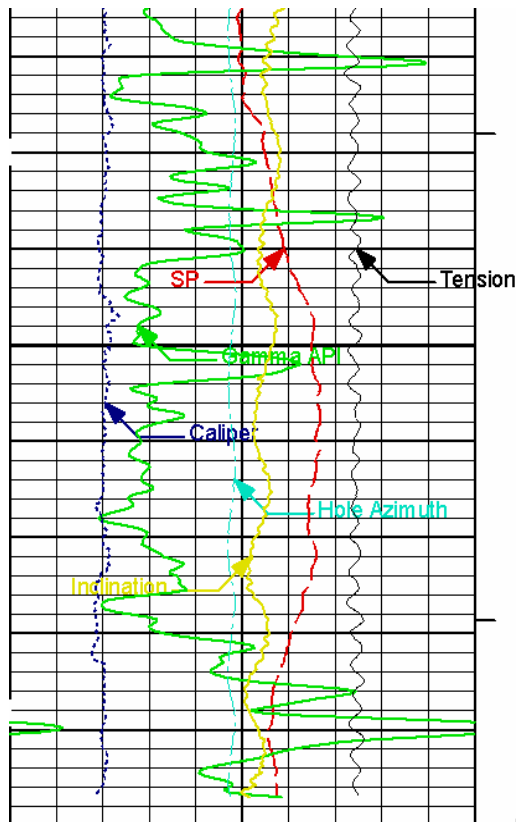
Plot Time: 18-Mar-09 15:58:13
 Plot Range: 6046 ft to 6300 ft
 Data: CHV_UP_59_27A\Well Based!\
 Plot File: \\TRIPLE-IDT\REPEAT

REPEAT PASS 5" = 100'

-4000	Tension	6000
	pounds	
	SP	
	-10[+	







0	Inclination	10
	degrees	
0	Hole Azimuth	360
	degrees	
0	Gamma API	150
	api	
4	Caliper	14
	inches	
	SP	
	-10[+	
-4000	Tension	6000
	pounds	

6200
1 : 240
ft
MD
BHV
ft3
AHV
ft3

0.2	RT10	2K
	Ohm-m	
0.2	RT20	2K
	Ohm-m	
0.2	RT30	2K
	Ohm-m	
0.2	RT60	2K
	Ohm-m	
0.2	RT90	2K
	Ohm-m	

30	DensityPorosity	-10
	percent	
30	Neutron Porosity	-10
	percent	
-0.75	DensityCorr	0.25
	gram per cc	
0	Pe	20

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Plot Time: 18-Mar-09 15:58:14
Plot Range: 6046 ft to 6300 ft
Data: CHV_UP_59_27A\Well Based*
Plot File: \\TRIPLE-IDT\REPEAT

REPEAT PASS 5" = 100'

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11005602**Reference Calibration Date: 04-Feb-09 16:13:51****Engineer: G. BOOK****Calibration Date: 01-Mar-09 10:20:54****Software Version: WL INSITE R2.4 (Build 1)****Calibration Version: 1**

Calibrator Source S/N: TB-110

Calibrator API Reference:239.00 api

Measurement	Measured	Calibrated	Units
Background	63.3	54.8	api
Background + Calibrator	338.9	293.8	api
Calibrator	230.6	239.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION**Tool Name: GTET - 11005602****Reference Calibration Date: 01-Mar-09 10:20:54****Engineer: K. WOOD****Calibration Date: 18-Mar-09 06:35:42****Software Version: WL INSITE R2.4 (Build 11)****Calibration Version: 1**

Calibrator Source S/N: TB-110

Calibrator API Reference:239.00 api

Field Verification	Shop	Field	Units
Background	54.8	47.7	api
Background + Calibrator	293.8	292.6	api
Calibrator	239.0	244.9	api

Shop	Field	Difference	Tolerance
239.0	244.9	-5.9	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION**Tool Name: GTET - 11005602****Reference Calibration Date: 18-Mar-09 06:35:42****Engineer: K. WOOD****Calibration Date: 18-Mar-09 14:30:11****Software Version: WL INSITE R2.4 (Build 11)****Calibration Version: 1**

Calibrator Source S/N: TB-110

Calibrator API Reference:239.00 api

Post Verification	Field	Post	Units
Background	47.7	48.9	api
Background + Calibrator	292.6	291.3	api
Calibrator	244.9	242.4	api

Shop	Field	Post	Difference	Tolerance
239.0	244.9	242.4	2.5	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION**Tool Name: DSNT - 10993888****Reference Calibration Date: 05-Feb-09 09:06:54****Engineer: G. BOOK****Calibration Date: 01-Mar-09 10:02:22****Software Version: WL INSITE R2.4 (Build 1)****Calibration Version: 1**

Logging Source S/N: DSN-388

Tank Serial Number: GJ - H2O

Reference value assigned to Tank: 52.750

Snow Block S/N: SB-110

Calibration Tank Water Temperature: 68 degF

Min. Tool Housing Outside Diameter: 3.510 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.963	0.967	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):	0.2156	0.2169	0.0013	+/- 0.0020
Calibrated Ratio:	9.88	9.93	0.045	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0679	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 - 10993888	Reference Calibration Date:	01-Mar-09 10:02:22
Engineer:	K. WOOD	Calibration Date:	18-Mar-09 06:47:38
Software Version:	WL INSITE R2.4 (Build 11)	Calibration Version:	1

Logging Source S/N: DSN-388
Snow Block S/N: SB-110

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0679	0.0756	0.0077	+/- 0.0150

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

DUAL SPACED NEUTRON POST CALIBRATION

Tool Name:	DSNT - 10993888	Reference Calibration Date:	18-Mar-09 06:47:38
Engineer:	K. WOOD	Calibration Date:	18-Mar-09 14:36:35
Software Version:	WL INSITE R2.4 (Build 11)	Calibration Version:	1

Logging Source S/N: DSN-388
Snow Block S/N: SB-110

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0756	0.0740	-0.0016	+/- 0.0150

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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT - 10951314

Reference Calibration Date: 05-Mar-09 11:05:50

Engineer: G. BOOK

Calibration Date: 05-Mar-09 11:27:56

Software Version: WL INSITE R2.4 (Build 1)

Calibration Version: 1

Logging Source S/N: 5123GW

Aluminum Block S/N: 63094

Density: 2.610g/cc

Magnesium Block S/N: 63387

Density: 1.685g/cc

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0009	0.9915	0.90 - 1.10
Near Dens Gain	0.9824	0.9771	0.90 - 1.10
Near Peak Gain	0.9522	0.9518	0.90 - 1.10
Near Lith Gain	0.9079	0.9075	0.90 - 1.10
Far Bar Gain	1.0013	0.9997	0.90 - 1.10
Far Dens Gain	0.9885	0.9885	0.90 - 1.10
Far Peak Gain	0.9752	0.9765	0.90 - 1.10
Far Lith Gain	0.9454	0.9467	0.90 - 1.10
Near Bar Offset	0.2024	0.2892	NONE
Near Dens Offset	0.3644	0.4113	NONE
Near Peak Offset	0.6083	0.6112	NONE
Near Lith Offset	0.9617	0.9659	NONE
Far Bar Offset	0.1695	0.1849	NONE
Far Dens Offset	0.2462	0.2460	NONE
Far Peak Offset	0.3119	0.3019	NONE
Far Lith Offset	0.5009	0.4892	NONE
Near Bar Background	1005.81	1005.30	700 - 1450
Near Dens Background	332.43	331.03	230 - 480
Near Peak Background	146.04	146.37	100 - 210
Near Lith Background	179.97	179.97	125 - 260
Far Bar Background	593.57	593.01	450 - 900
Far Dens Background	230.83	230.63	175 - 345
Far Peak Background	92.39	92.78	70 - 140
Far Lith Background	95.12	94.40	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.686	1.685	-0.001	+/- 0.015
Pe	2.596	2.594	-0.002	+/- 0.150
ALUMINUM				
Density (g/cc)	2.609	2.610	0.001	+/- 0.01500
Pe	3.090	3.100	0.010	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector	Far Detector
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	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0006	+/- 0.0110	0.0006	+/- 0.0140
Magnesium Block	-0.0001	+/- 0.0110	-0.0008	+/- 0.0140
Aluminum Block	-0.0003	+/- 0.0110	-0.0001	+/- 0.0140
Resolution	9.64	6.00 - 11.50	8.95	6.00 - 11.50
Internal Verifier(B+D+P+L)	1663	1200 - 2700	1011	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 - 10951314

Reference Calibration Date: 05-Mar-09 11:27:56

Engineer: K. WOOD

Calibration Date: 18-Mar-09 06:35:32

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

Calibration Version: 1

Aluminum Block S/N: 63094

Density: 2.610g/cc

Magnesium Block S/N: 63387

Density: 1.685g/cc

Pad Temperature: 42.9 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1662.664	1663.732	1.068	16.378
Far (B+D+P+L) cps	1010.814	1004.310	-6.504	16.990
Near Resolution	9.64	9.77	0.130	0.50
Far Resolution	8.95	9.11	0.160	1.00

PASS/FAIL SUMMARY

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

SPECTRAL DENSITY POST CHECK

Tool Name: SDLT - 10951314

Reference Calibration Date: 18-Mar-09 06:35:32

Engineer: K. WOOD

Calibration Date: 18-Mar-09 14:30:46

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

Calibration Version: 1

Aluminum Block S/N: 63094

Density: 2.610g/cc

Magnesium Block S/N: 63387

Density: 1.685g/cc

Pad Temperature: 82.3 degF

DENSITY POST CALIBRATION SUMMARY

Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1663.732	1670.962	7.230	16.378
Far (B+D+P+L) cps	1004.310	1016.434	12.124	16.990
Near Resolution	9.77	9.66	-0.110	0.50

Next Resolution:	9.11	9.01	-0.100	1.00
Far Resolution				

PASS/FAIL SUMMARY

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT - 10951314	Reference Calibration Date:	05-Mar-09 15:59:47
Engineer:	G. BOOK	Calibration Date:	05-Mar-09 16:05:12
Software Version:	WL INSITE R2.4 (Build 1)	Calibration Version:	1

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2059.20	-1822.46	-7000.00 - -1000.00
Pad Gain	0.0003753	0.0003690	0.000200 - 0.000600
Arm Offset	-109.50	-401.22	-5000.00 - 3000.00
Arm Gain	0.0004938	0.0005060	0.000300 - 0.000700
Arm Power	-0.000003754	-0.000004596	-0.000010 - 0.000010

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS

Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	1.95	2.00	0.05	+/- 0.20
Medium Ring (in)	3.73	3.75	0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.51	6.50	-0.01	+/- 0.20
Medium Ring (in)	8.23	8.25	0.02	+/- 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 - 10951314	Reference Calibration Date:	05-Mar-09 16:05:12
Engineer:	K. WOOD	Calibration Date:	18-Mar-09 06:40:44
Software Version:	WL INSITE R2.4 (Build 11)	Calibration Version:	1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.74	-0.01	+/- 0.10
Ring Diameter	8.25	8.35	0.10	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
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Diameter Check:

Passed

SDLT CALIPER POST CALIBRATION

Tool Name: SDLT - 10951314

Reference Calibration Date: 18-Mar-09 06:40:44

Engineer: K. WOOD

Calibration Date: 18-Mar-09 14:33:35

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

Calibration Version: 1

MEASURED CALIPER VALUES

Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.74	3.67	-0.07	+/- 0.10
Ring Diameter	8.35	8.33	-0.02	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:

Passed

Diameter Check:

Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11005602						
Gamma Ray Calibrator	239.0	244.9	242.4	2.5	+/- 9.00	api
DSNT-10993888						
Snow-Block Porosity	0.0679	0.0756	0.0740	0.0016	+/- 0.0150	decg
SDLT-10951314						
Near(B+D+P+L)	1662.664	1663.732	1670.962	-7.230	+/-16.378	cps
Far(B+D+P+L)	1010.814	1004.310	1016.434	-12.124	+/-16.990	cps
Pad Extension	3.75	3.74	3.67	0.07	+/-0.10	in
Ring Diameter	8.25	8.35	8.33	0.020	+/-0.15	in

Data: CHV_UP_59_27A\0003 GTET-DSN-SDLVDLE

Date: 18-Mar-09 14:37:24

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CALIBRATION REPORT

ACCELEROMETER AND MAGNETOMETER SHOP CALIBRATION

Tool Name: IDT - 11006873

Reference Calibration Date: 25-Apr-08 13:40:19

Engineer: M. MAZUREK

Calibration Date: 18-Jun-08 19:02:26

Software Version: WL INSITE R2.2 (Build 2)

Calibration Version: 1

Reference Gravity Field: 1.0000 g

Reference Magnetic Field: 52317.0000 nT

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

ACCELEROMETER CALIBRATION RAW DATA VALUE

Raw Acc X	Raw Acc Y	Raw Acc Z	Quality(Gravity)	Quality Error(%)	QF
0.5463	-0.4943	-0.0055	0.9999	0.0001	1
-0.4608	-0.5772	-0.0060	0.9998	0.0002	1
-0.6091	0.4280	-0.0061	0.9996	0.0004	1
0.4761	0.5676	-0.0059	1.0000	0.0000	1
0.0864	0.7353	-0.0062	0.9996	0.0004	1
0.2294	0.6785	0.0057	1.0004	0.0004	1

0.2294	0.0700	0.0007	1.0004	0.0004	1
0.0128	0.7409	0.0066	1.0003	0.0003	1
0.7321	-0.1080	0.0073	1.0000	0.0000	1
-0.1046	-0.7277	0.0074	1.0001	0.0001	1
-0.7388	-0.0933	0.0074	1.0001	0.0001	1
-0.0050	0.0041	0.3733	0.9999	0.0001	1
-0.6463	-0.3154	-0.0936	1.0004	0.0004	1

ACCELEROMETER QUALITY SUMMARY

Average Calculated Gravity Field	1.0000	g
Standard Deviation Calculated Gravity Field	0.0003	g

ACCELEROMETER GAIN AND OFFSET

	GAIN	OFFSET
ACC X	1.3459646702	0.0030341661
ACC Y	1.3552038670	-0.0041552139
ACC Z	2.6791157722	-0.0002229267

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

MAGNETOMETER CALIBRATION RAW DATA VALUE

Raw Mag X	Raw Mag Y	Raw Mag Z	Quality(Magnetic)	Quality Error(%)	QF
-0.4962	1.1779	0.0113	52323.2500	0.0001	1
1.1212	0.5880	0.0063	52308.2227	0.0002	1
0.6339	-1.1077	0.0104	52214.7852	0.0020	1
-1.1459	-0.5528	0.0153	52428.4414	0.0021	1
-0.2539	-1.1555	0.6221	52384.2344	0.0013	1
-0.3552	-1.2196	-0.0917	52369.9531	0.0010	1
0.0344	-1.1783	-0.3822	52253.7070	0.0012	1
-1.1556	0.1124	-0.3792	52184.2227	0.0025	1
0.0963	1.1719	-0.3835	52305.5977	0.0002	1
1.1395	0.2176	-0.3859	52305.8281	0.0002	1
-0.0969	0.5325	1.2576	52285.5234	0.0006	1
0.8416	0.5128	-0.6761	52437.0039	0.0023	1

MAGNETOMETER QUALITY SUMMARY

Average Calculated Magnetic Field	52316.7305	nT
Standard Deviation Calculated Magnetic Field	78.3867	nT

MAGNETOMETER GAIN AND OFFSET

	GAIN	OFFSET
MAG X	41214.2031250000	30.7338867188
MAG Y	40648.1914062500	74.3190917969
MAG Z	41713.4257812500	-5064.3144531250

Noise Level Value: 0.000000 cnts

Noise Level Cal Value: 0.0000 g

Data: CHV_UP_59_27A10001 GTET-IDT-ACRTIDLE

Date: 18-Mar-09 14:38:57

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CUSTOMER EVENT LOG

CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	18-Mar-09 09:37:23	270.00	Logging 001 18-Mar-09 09:37 Dn @270.0f
	18-Mar-09 09:39:08	554.72	Halting 001 18-Mar-09 09:37 Dn @270.0f
	18-Mar-09 09:40:12	587.75	Logging 002 18-Mar-09 09:40 Dn @587.8f
	18-Mar-09 10:09:42	6350.44	Halting 002 18-Mar-09 09:40 Dn @587.8f
	18-Mar-09 10:09:51	6349.75	Logging 003 18-Mar-09 10:09 Up @6349.8f
	18-Mar-09 10:24:58	5938.67	Halting 003 18-Mar-09 10:09 Up @6349.8f
	18-Mar-09 10:27:41	6248.25	Logging 004 18-Mar-09 10:27 Dn @6248.3f
	18-Mar-09 10:29:57	6611.32	Halting 004 18-Mar-09 10:27 Dn @6248.3f
	18-Mar-09 10:30:16	6608.25	Logging 005 18-Mar-09 10:30 Up @6608.3f
	18-Mar-09 10:30:36	6607.51	Halting 005 18-Mar-09 10:30 Up @6608.3f
	18-Mar-09 10:30:57	6613.75	Logging 006 18-Mar-09 10:30 Up @6613.8f
	18-Mar-09 11:10:10	5500.15	Halting 006 18-Mar-09 10:30 Up @6613.8f
Data: CHV_UP_59_27A\0001 GTET-IDT-ACRTHW11047			Date: 18-Mar-09 11:12:21


HALLIBURTON

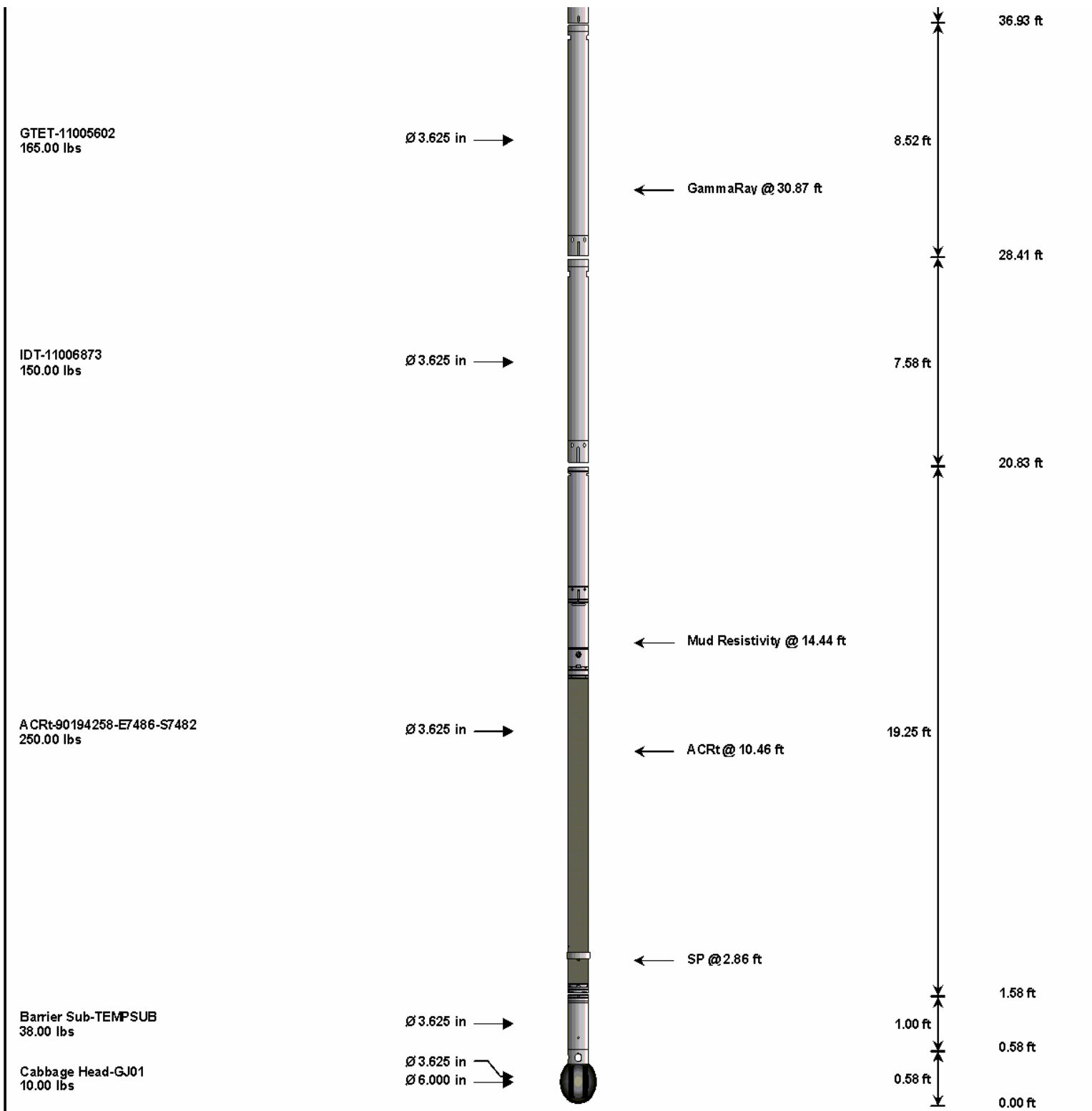
CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	18-Mar-09 12:32:08	261.00	Logging 001 18-Mar-09 12:32 Dn @261.0f
	18-Mar-09 12:33:39	618.34	Halting 001 18-Mar-09 12:32 Dn @261.0f
	18-Mar-09 12:34:02	581.25	Logging 002 18-Mar-09 12:34 Dn @581.3f
	18-Mar-09 12:35:20	886.50	Halting 002 18-Mar-09 12:34 Dn @581.3f
	18-Mar-09 12:37:03	1244.50	Logging 003 18-Mar-09 12:37 Dn @1244.5f
	18-Mar-09 13:00:19	6327.57	Halting 003 18-Mar-09 12:37 Dn @1244.5f
	18-Mar-09 13:00:31	6351.00	Logging 004 18-Mar-09 13:00 Up @6351.0f
	18-Mar-09 13:07:45	5956.73	Halting 004 18-Mar-09 13:00 Up @6351.0f
	18-Mar-09 13:09:33	6068.25	Logging 005 18-Mar-09 13:09 Dn @6068.3f
	18-Mar-09 13:12:17	6627.22	Halting 005 18-Mar-09 13:09 Dn @6068.3f
	18-Mar-09 13:12:23	6626.25	Logging 006 18-Mar-09 13:12 Up @6626.3f
	18-Mar-09 13:22:48	6351.00	Relogging 004.01 18-Mar-09 13:22 Up
	18-Mar-09 13:22:58	5953.02	Halting 004.01 18-Mar-09 13:22 Up
	18-Mar-09 13:33:49	5581.37	Halting 006 18-Mar-09 13:12 Up @6626.3f
	18-Mar-09 13:59:04	6626.00	Relogging 006.01 18-Mar-09 13:58 Up
	18-Mar-09 13:59:24	5578.99	Halting 006.01 18-Mar-09 13:58 Up
Data: CHV_UP_59_27A\0002 GTET-DSN-SDLIHW11047			Date: 18-Mar-09 14:35:20

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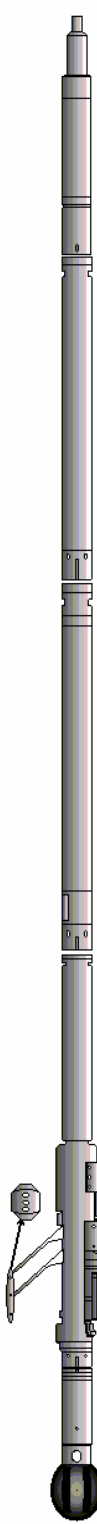
TOOL STRING DIAGRAM REPORT

Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-C11013846 135.00 lbs	Ø 3.625 in →		← Load Cell @ 39.50 ft ← BH Temperature @ 38.93 ft	6.25 ft	43.18 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	C11013846	135.00	6.25	36.93	300.00
GTET	Natural Gamma Ray Tool	11005602	165.00	8.52	28.41	60.00
IDT	Insite Directional Tool	11006873	150.00	7.58	20.83	30.00
ACRt	Array Compensated True Resistivity	90194258-E7486-S7482	250.00	19.25	1.58	300.00
SP	SP Ring	PROTO1	0.00	0.25	*	300.00
BSUB	Barrier Sub - Rigid Bridle	TEMPSUB	38.00	1.00	0.58	300.00
CBHD	Cabbage Head	GJ01	10.00	0.58	0.00	300.00

TOOL STRING DIAGRAM REPORT

Description		O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length	
RWCH-C11013846 135.00 lbs		Ø 3.625 in →		← Load Cell @ 33.17 ft ← BH Temperature @ 32.60 ft	6.25 ft	36.85 ft	
GTET-11005602 165.00 lbs		Ø 3.625 in →		← GammaRay @ 24.54 ft	8.52 ft	30.60 ft	
DSNT-10993888 174.00 lbs		Ø 3.625 in →		← DSN Far @ 15.14 ft ← DSN Near @ 14.39 ft	9.69 ft	22.08 ft	
SDLT-10951314 360.00 lbs		Ø 4.500 in → Ø 4.750 in →		← SDL Microlog @ 4.58 ft ← SDL Caliper @ 4.40 ft ← SDL @ 4.39 ft	10.81 ft	12.39 ft	
Barrier Sub-TEMPSUB 38.00 lbs		Ø 3.625 in →			1.00 ft	1.58 ft	
Cabbage Head-GJ01 10.00 lbs		Ø 3.625 in → Ø 6.000 in →			0.58 ft	0.00 ft	
Mnemonic	Tool Name	Serial Number		Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	C11013846		135.00	6.25	30.60	300.00
GTET	Natural Gamma Ray Tool	11005602		165.00	8.52	22.08	60.00
DSNT	Dual Spaced Neutron	10993888		174.00	9.69	12.39	60.00

SDLT	Spectral Density Tool	10951314	360.00	10.81	1.58	60.00
BSUB	Barrier Sub - Rigid Bridle	TEMPSUB	38.00	1.00	0.58	300.00
CBHD	Cabbage Head	GJ01	10.00	0.58	0.00	300.00
Total			882.00	36.85		
Data: CHV_UP_59_27A\0002 GTET-DSN-SDL\IDLE				Date: 18-Mar-09 12:27:46		

COMPANY	CHEVRON		
WELL	UP 59-27A		
FIELD	RANGELY		
COUNTY	RIO BLANCO	STATE	CO
HALLIBURTON		ARRAY COMPENSATED TRUE RESISTIVITY SPECTRAL DENSITY DUAL SPACED NEUTRON INSITE DIRECTIONAL TOOL	