

# HALLIBURTON

DUAL SPACED NEUTRON  
SPECTRAL DENSITY  
ARRAY COMP. RESISTIVITY

COMPANY WELL FIELD COUNTY STATE				PLAINS EXPLORATION AND PRODUCTION CO. HAWKINS RANCH 10-8B PLATEAU MESA CO				COMPANY WELL FIELD COUNTY STATE				PLAINS EXPLORATION AND PRODUCTION CO. HAWKINS RANCH 10-8B PLATEAU MESA STATE CO			
Permanent Datum Log measured from Drilling measured from				GL KB KB				Elev. 7336.0 ft D.F. 7350.0 ft 7336.0 ft				Other Services:			
Date				01-Mar-08 15:28											
Run No.				ONE											
Depth - Driller				6640.0 ft											
Depth - Logger				6635.0 ft											
Bottom - Logged Interval				6632.0 ft											
Top - Logged Interval				100.0 ft											
Casing - Driller				8.625 in @ 1578.0 ft											
Casing - Logger				1577.0 ft											
Bit Size				7.875 in											
Type Fluid in Hole				LSND											
Density				9.9 ppg				42.00 s/qt							
PH				10.00 pH				6.5 cpm							
Source of Sample				MUD TANK											
Rm @ Meas. Temperature				1.98 ohmm @ 73.10 degF											
Rmf @ Meas. Temperature				1.63 ohmm @ 78.00 degF											
Rmc @ Meas. Temperature				2.32 ohmm @ 78.20 degF											
Source Rmf				MEAS.											
Rm @ BHT				0.95 ohmm @ 159.0 degF											
Time Since Circulation				8.8 hr											
Time on Bottom				01-Mar-08 17:15											
Max. Rec. Temperature				159.0 degF @ 6635.0 ft											
Equipment				11014853				G.J.							
Recorded By				M. CARPENTER								J. GEISER			
Witnessed By				D. VANHOUDEN											

Fold here

Service Ticket No.: 5716500				API Serial No.: 050770948500				PGM Version: WL INSITE R2.0 (Build 22)											
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-90144319	N/A	N/A	N/A					
Rmc @ Meas. Temp.						@		@			e554-s481								
Source Rmf	Rmc	CALC.	CALC.																
Rm @ BHT						0.95 ohmm @ 159.00 degF		@											
Rmf @ BHT						0.84 ohmm @ 159.00 degF		@											
Rmc @ BHT						1.19 ohmm @ 159.00 degF		@											
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.	SDLT			Model No.	DSNT						
Diameter	3.625"			No. of Cent.				Diameter	4.5"			Diameter	3.625"						
Detector Model No.	GTET			Spacing				Log Type	GAMMA-GAMMA			Log Type	THERMAL						
Type	SCINT.							Source Type	Cs137			Source Type	Am241Be						
Length	8"			LSA [Y/N]				Serial No.	5123GW			Serial No.	DSN-388						
Distance to Source	10'			FWDA [Y/N]				Strength	1.5 Ci			Strength	18.5 Ci						
LOGGING DATA																			
GENERAL				GAMMA				ACOUSTIC				DENSITY				NEUTRON			

[illegible]

## DIRECTIONAL INFORMATION

Maximum Deviation

@

KOP

@

Remarks:

RWCH-GTET-DSN-SDL-ACRT WERE RAN IN COMBINATION

HOLE RUGOSITY AND TENSION PULLS MAY AFFECT LOG QUALITY

A.H.V. CALCULATED FOR 4.5" CASING.

CHLORIDES REPORTED AT 1000 mg/L.

LATITUDE : 39.2° N // LONGITUDE : 107.9° W

YOUR CREW TODAY IS T. ISHTEI WY AND S. HOWELL

RIG : ENSIGN 54

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.

HALLIBURTON

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## PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	9.700	ppg
	SHARED	RMUD	Mud Resistivity	1.980	ohmm
	SHARED	TRM	Temperature of Mud	73.1	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	6635.00	ft
	SHARED	BHT	Bottom Hole Temperature	159.0	degF
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
	Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
	Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
	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	0.000	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?	Barite	
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	CIND	Casing Indicator Enabled?	Yes	
ACRt	RECE	Relative Caliper Error	0	%
ACRt	MNSO	Minimum Tool Standoff	1.50	in
ACRt	RMC	Use RM Calculated for BHC?	No	
ACRt	LTNM	Acrt Lateral Normalization	None	
ACRt	UTC	Use Temperature Correction	Yes	
ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt	TPOS	Tool Position	Standoff	
ACRt	BHCM	Borehole Compensation Type	Conventional	
ACRt	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt	RMIN	Maximum Resistivity for MAP	200.00	ohmm

BOTTOM

Data: PXP\_HR\_10\_8B\0001 TRIPLE COMBO 1\VDLE

Date: 01-Mar-08 18:46:33

**HALLIBURTON**

Plot Time: 01-Mar-08 20:18:08

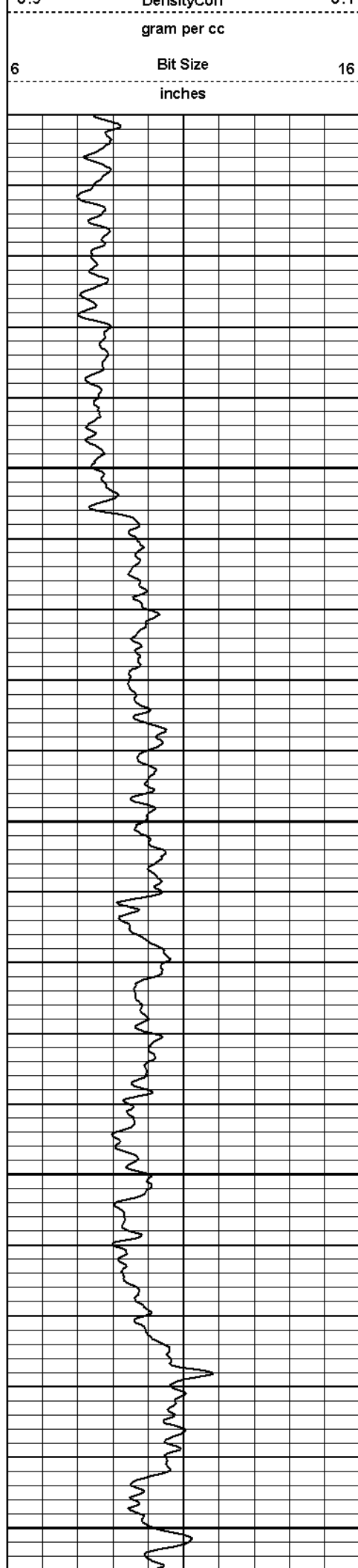
Plot Range: 100 ft to 6646 ft

Data: {ActiveWell}\Well Based\1

Plot File: \TRIPLE\IQ\_COMPOSITE\_HRI\_5IN\_RM

**MAIN PASS 5" = 100'**

SP				0.2RT902K				
-10[+				Ohm-m				
6	Caliper	16		0.2RT602K		21000	Tension	1000
inches			BHV ft3	Ohm-m		pounds		
0	Gamma API	200		0.2RT302K		30	Neutron Porosity	-10
api				Ohm-m		percent		
-0.9	Density Corr	0.1	AHV	0.2	RT202K	30	DensityPorosity	-10



ft

1 : 240

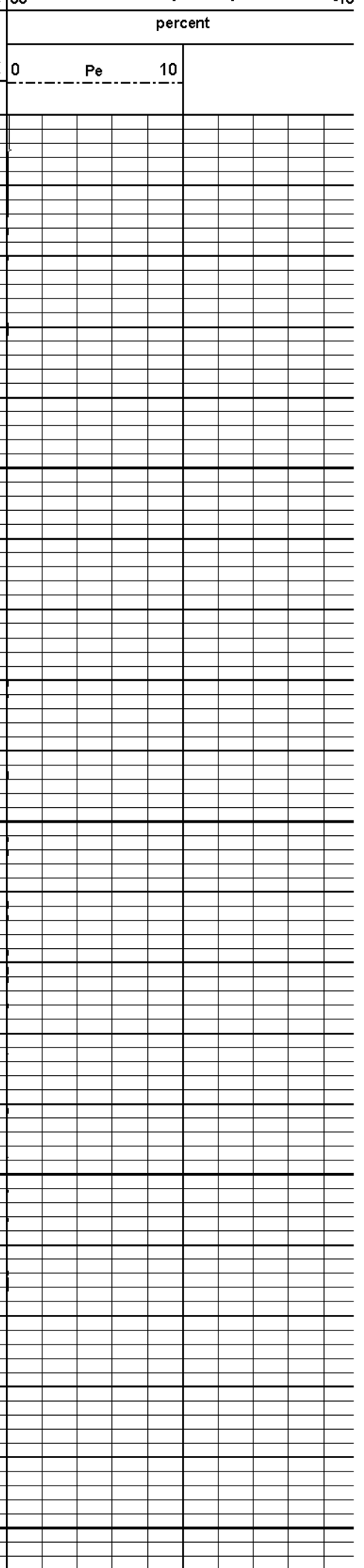
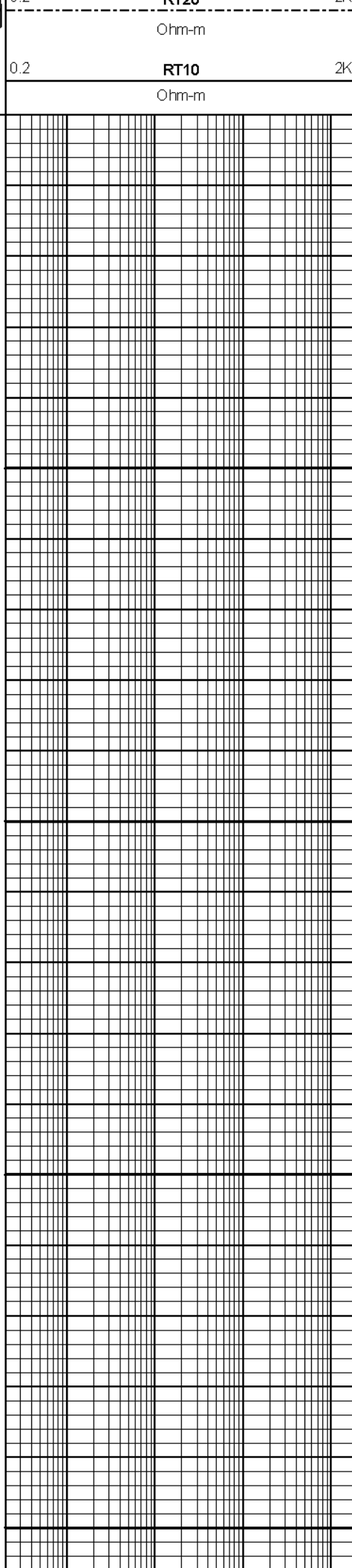
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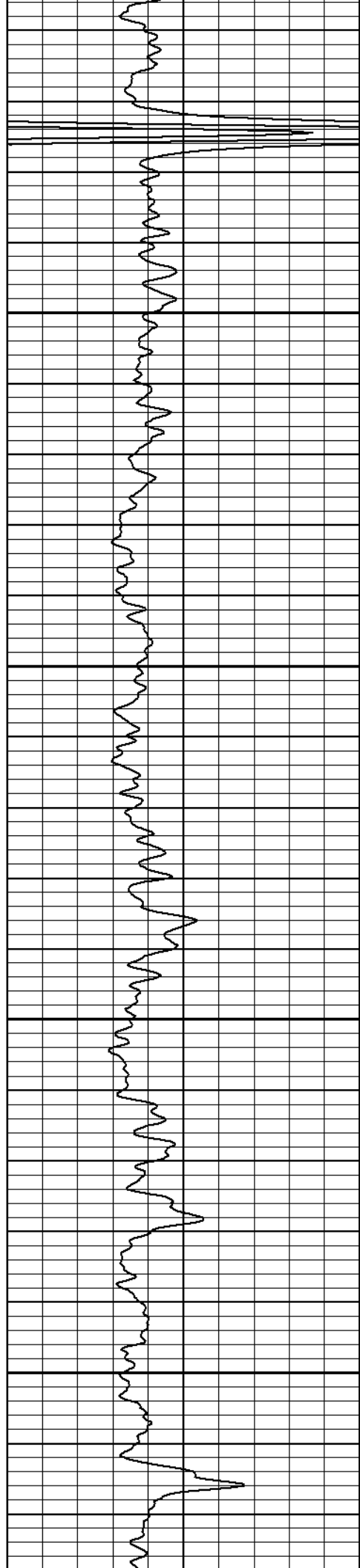
MD

100

200

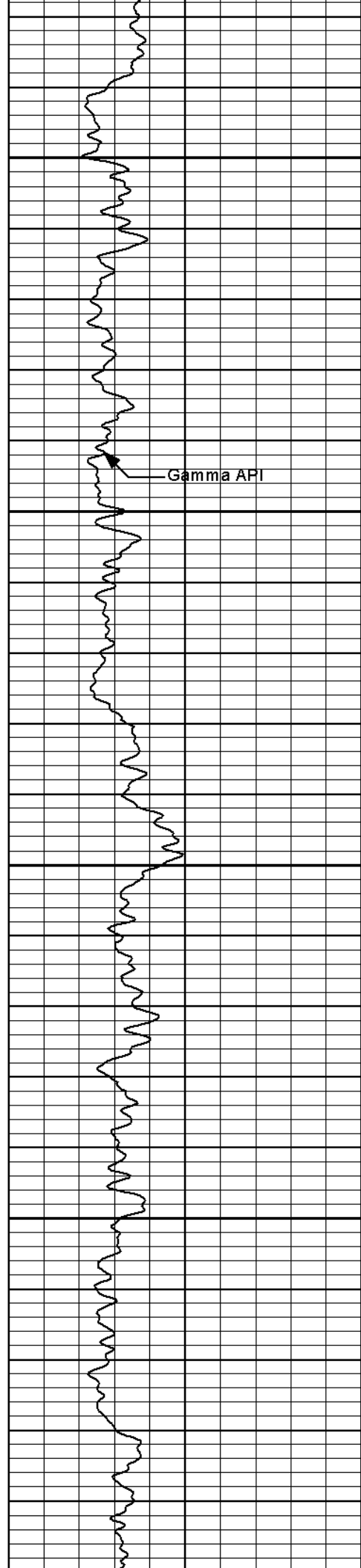
300





400

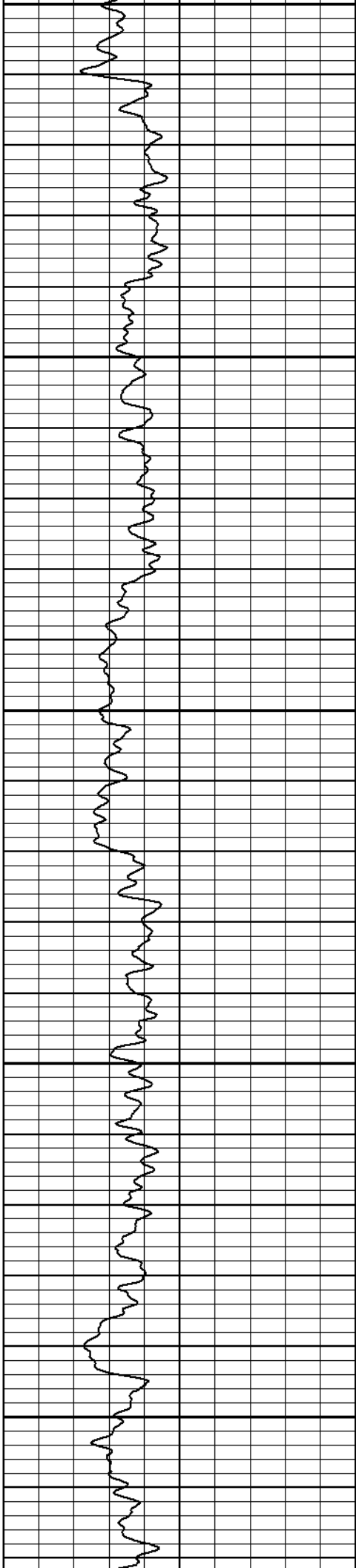
500



Gamma API

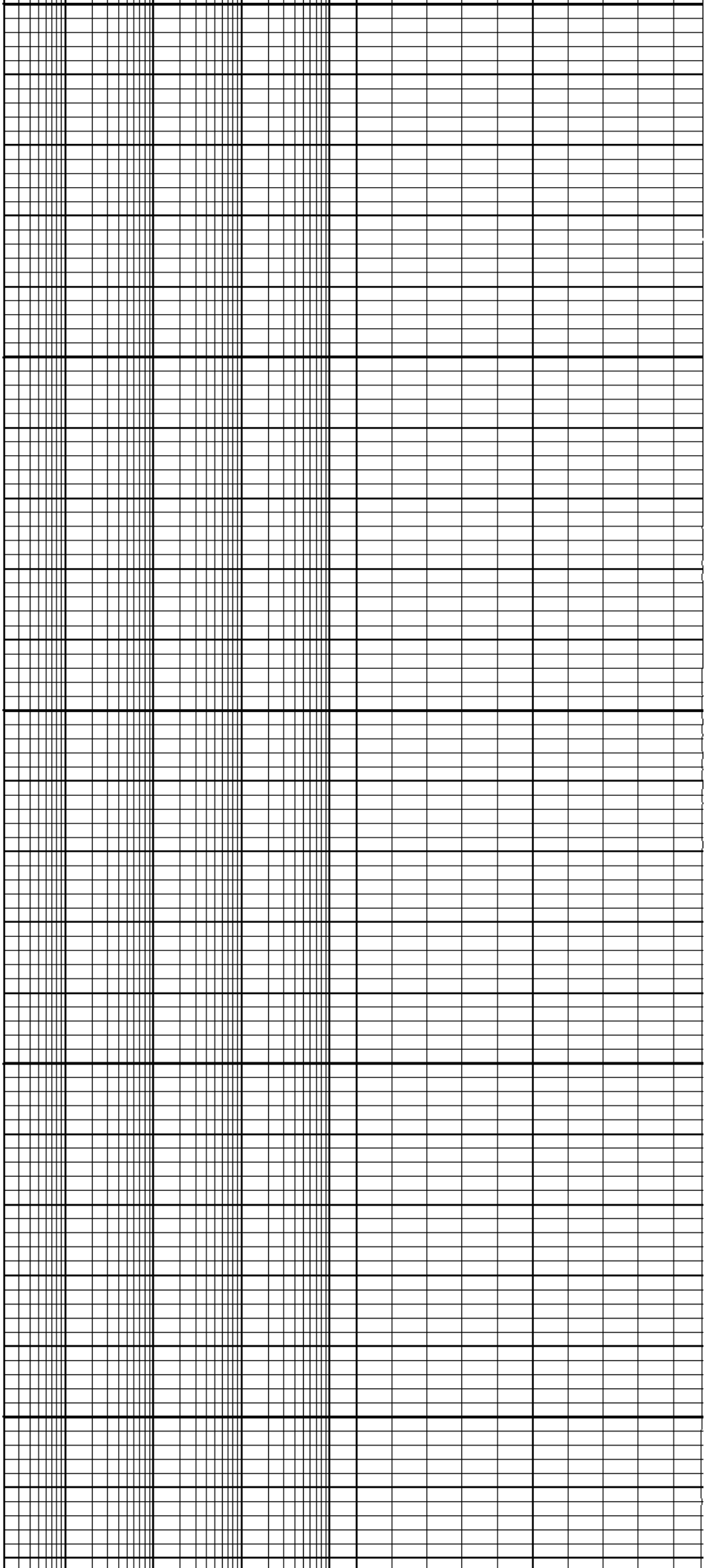
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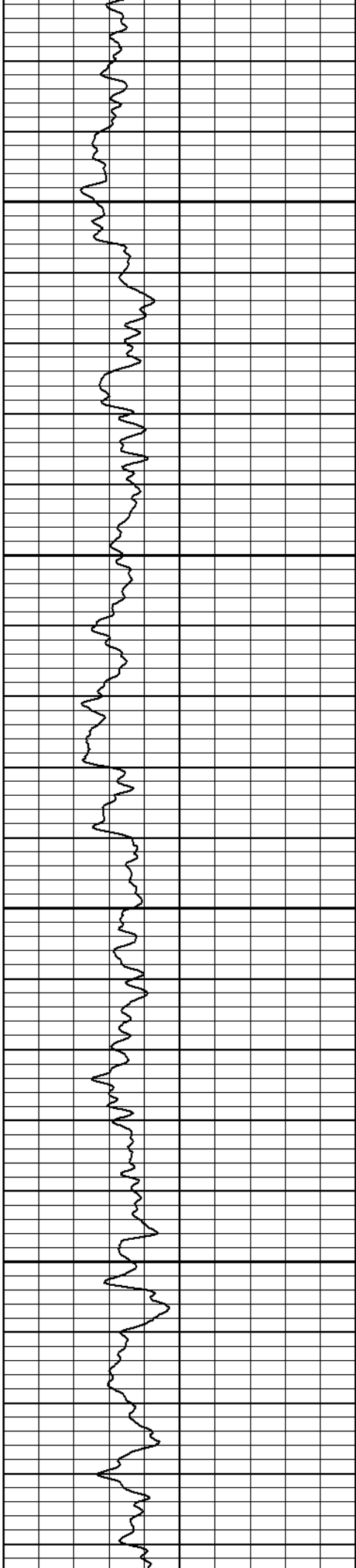
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800


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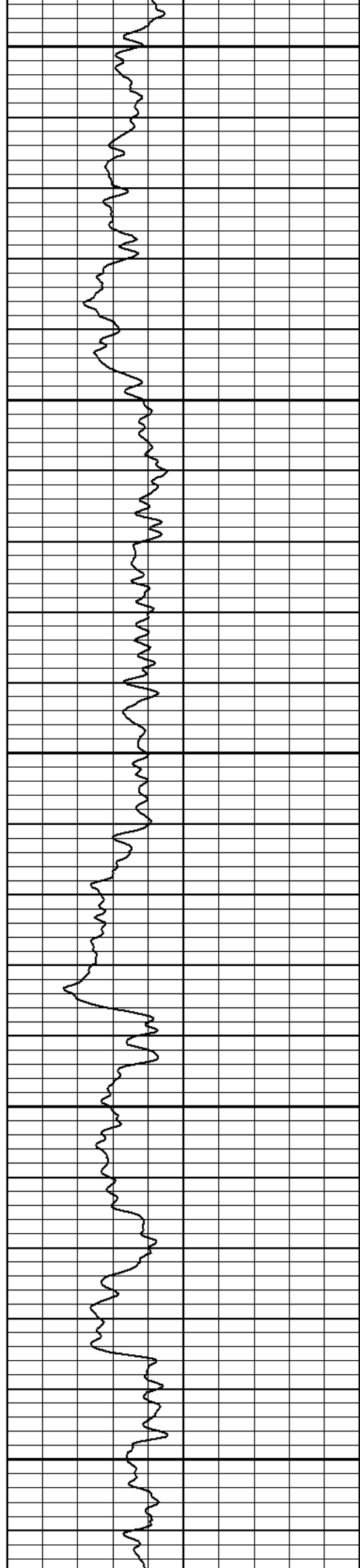


1000

1100

Tension 

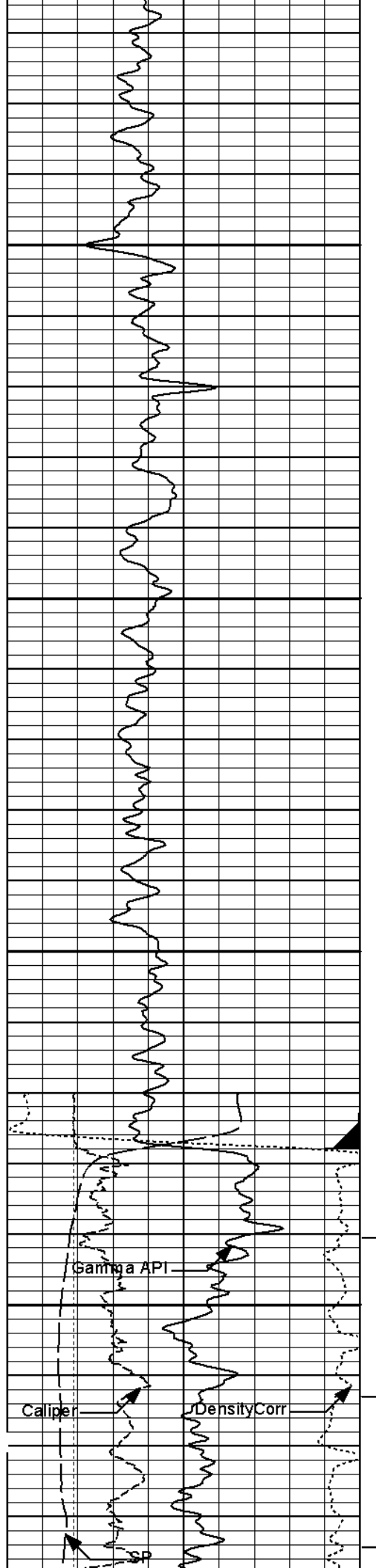




1200

1300

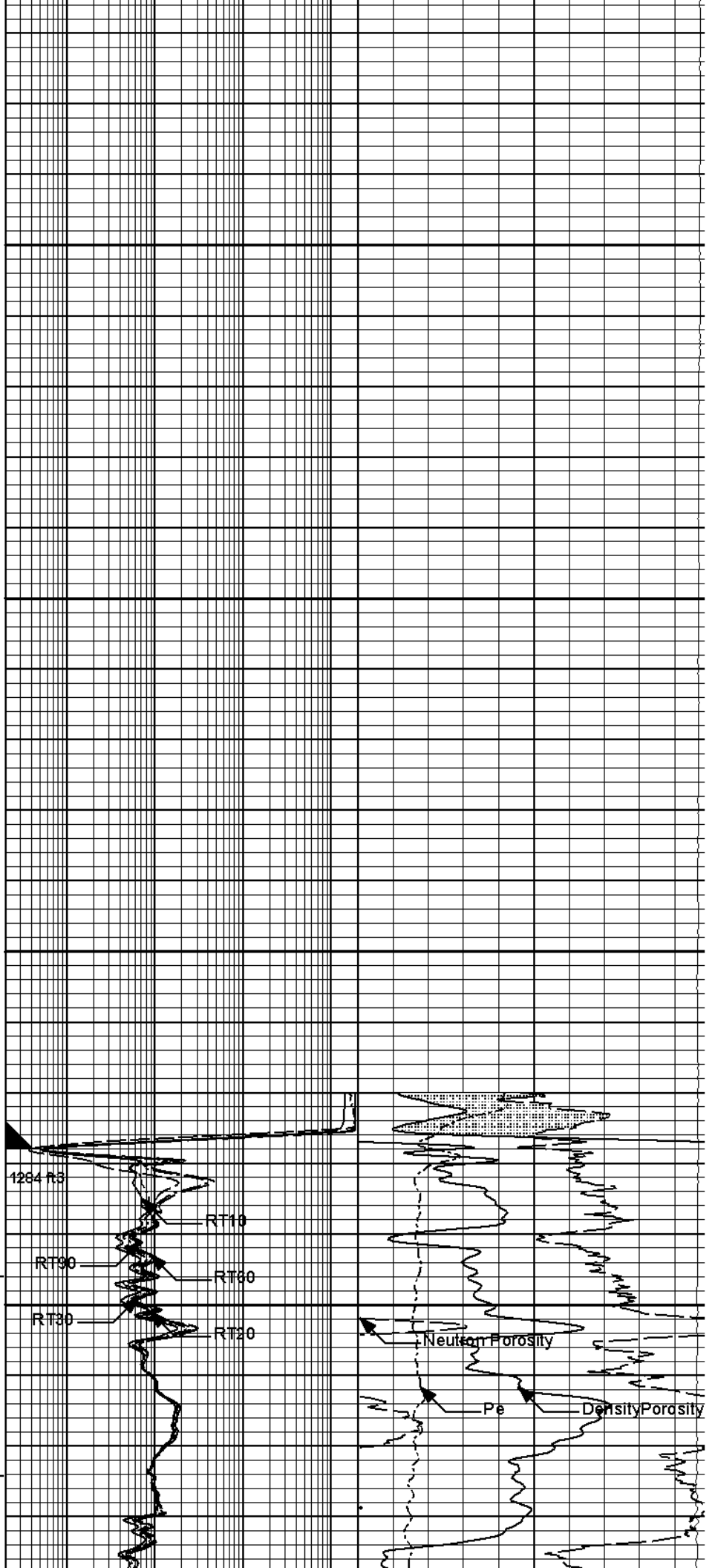
1400



1500

CSG

1600



1264 R3

RT10

RT90

RT30

RT20

Neutron Porosity

Pe

Density Porosity

Bit Size

1700

1247 R3

1800

1211 R3

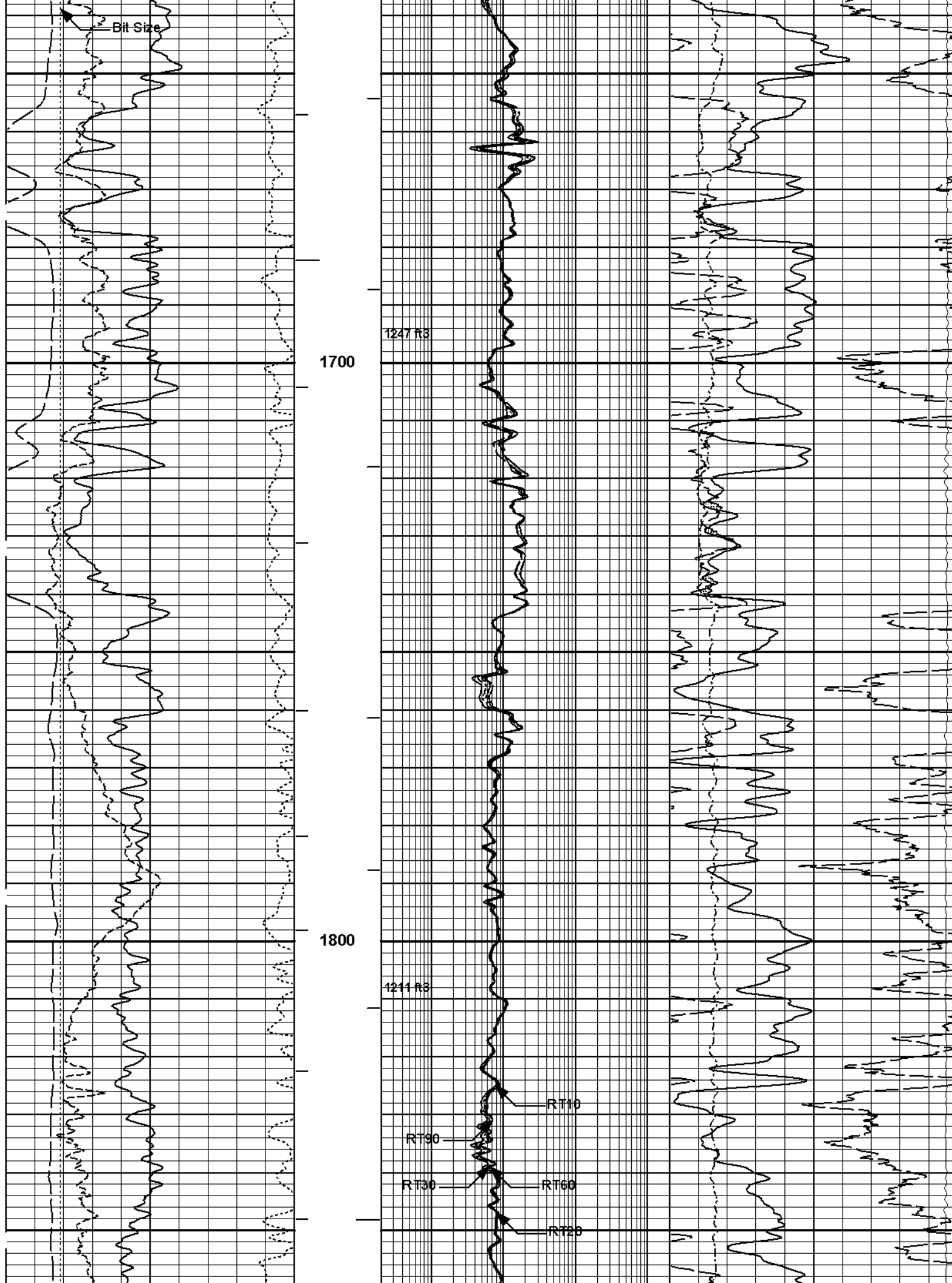
RT90

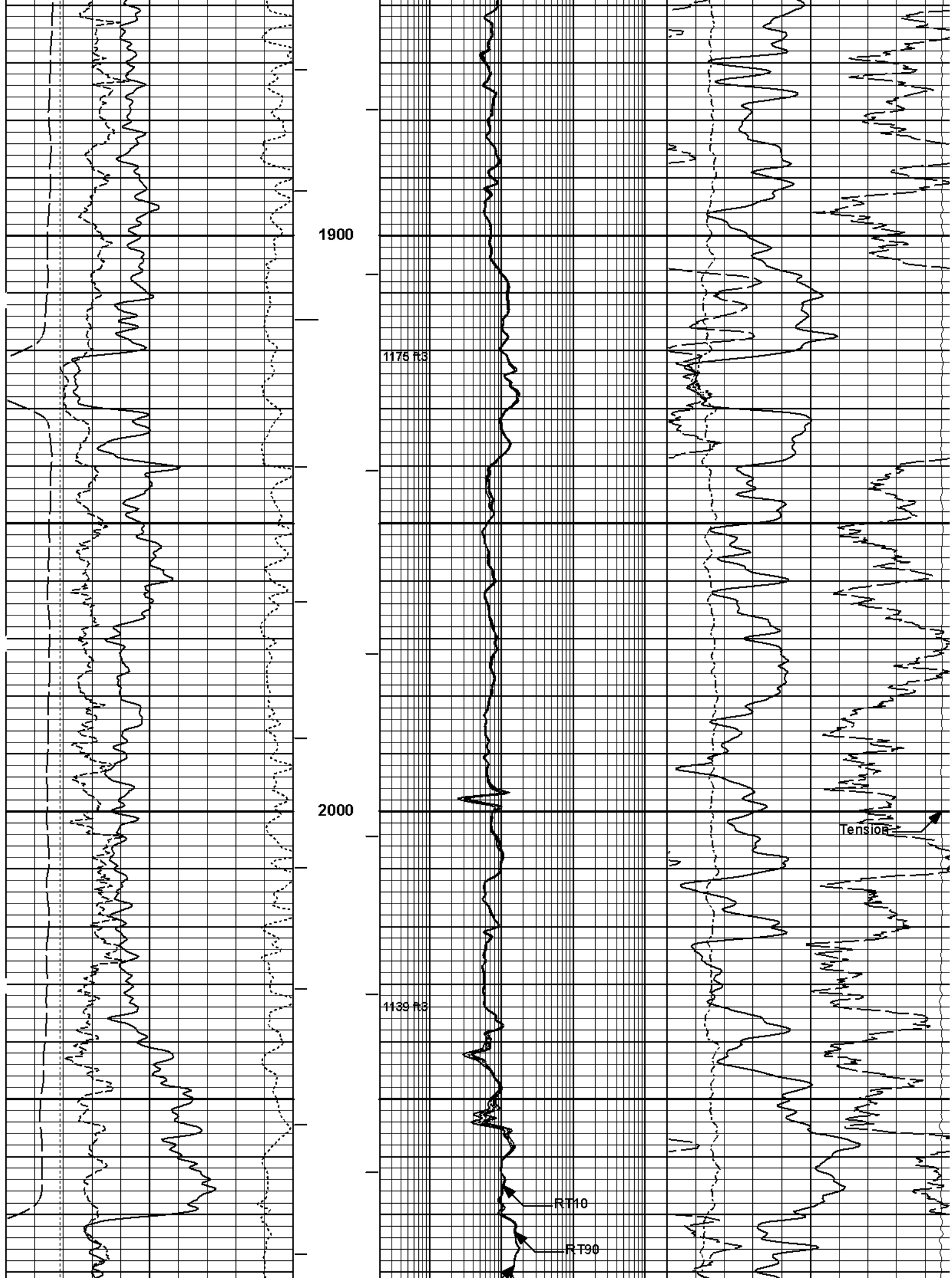
RT30

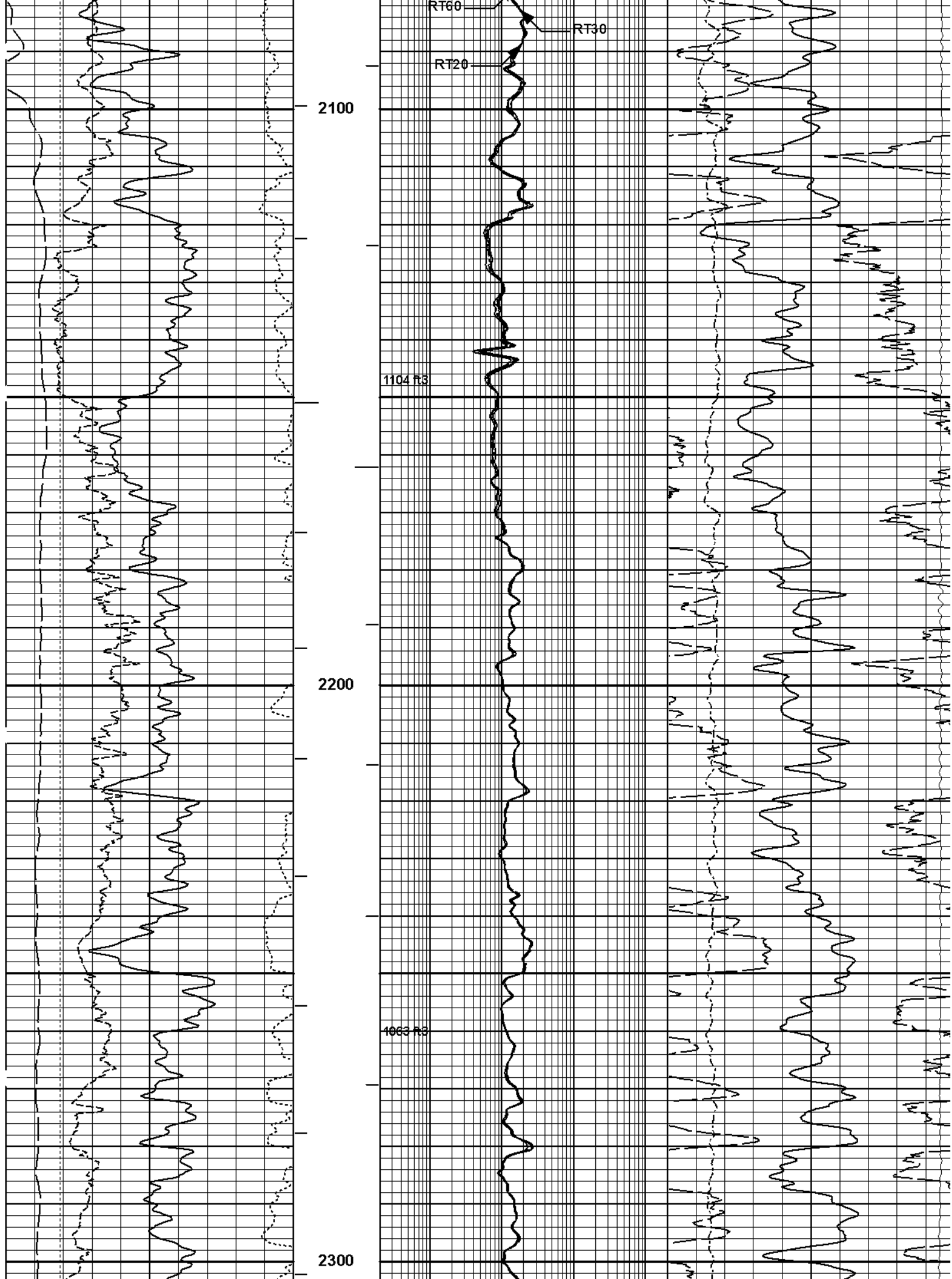
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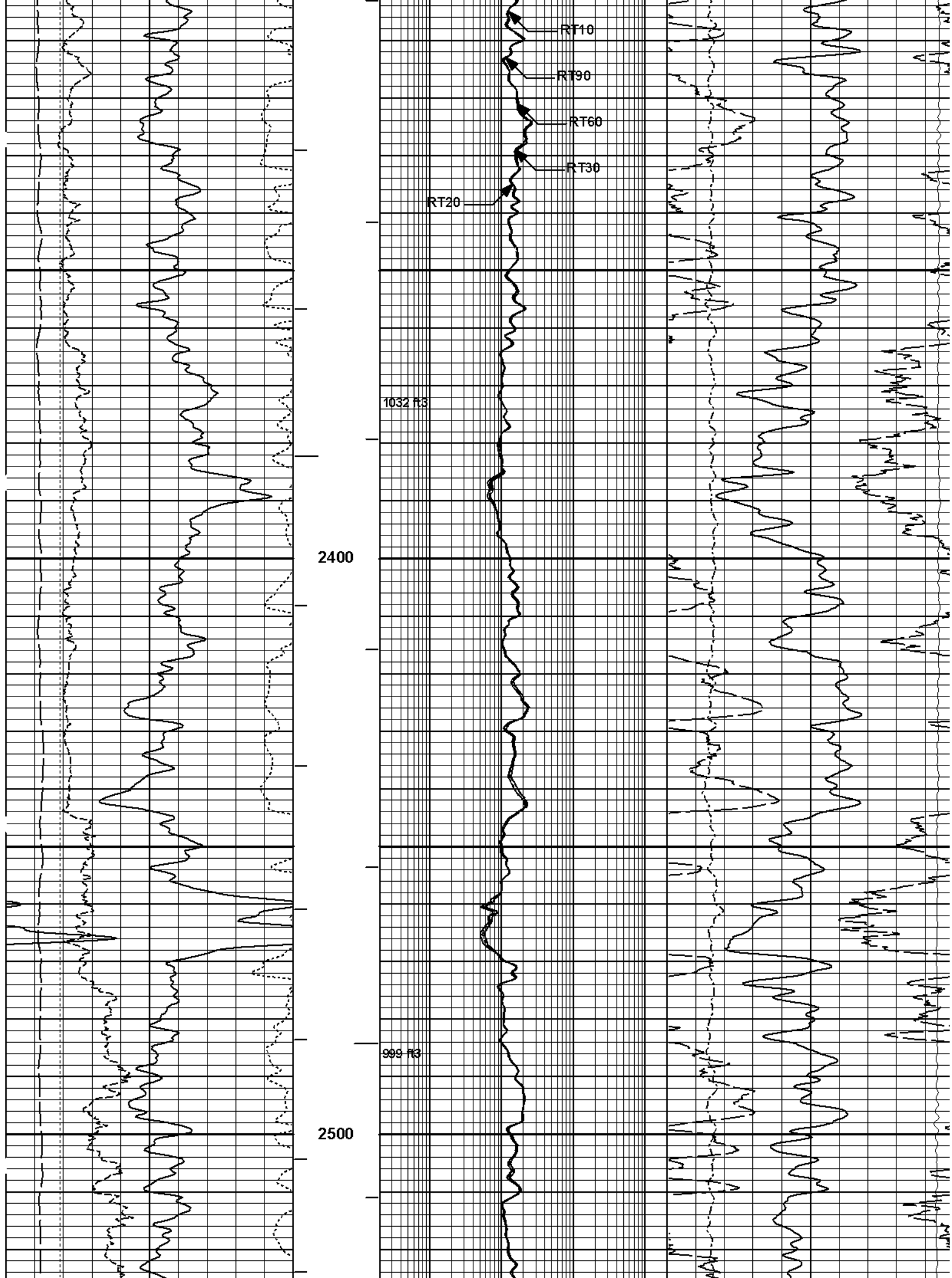
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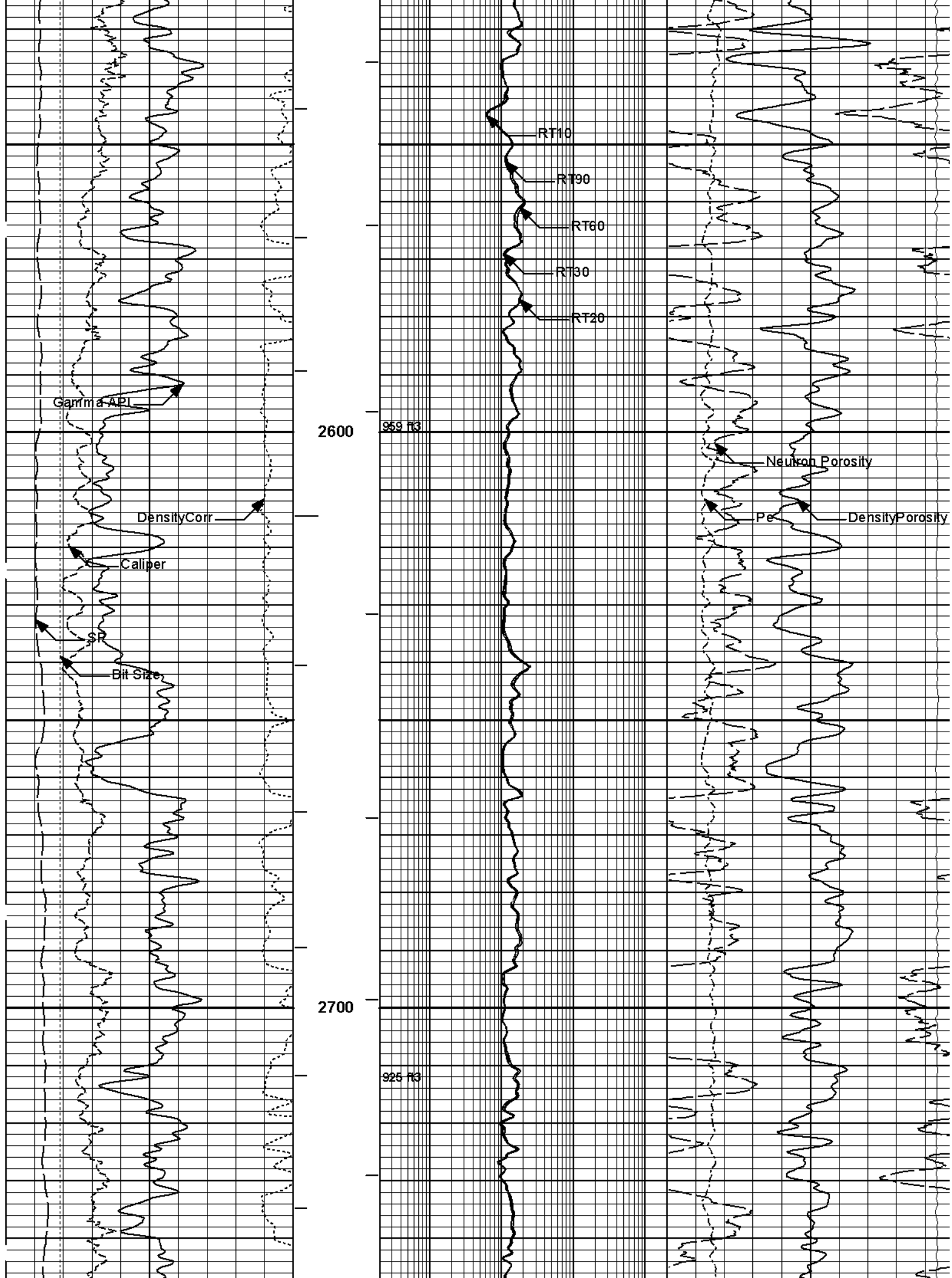
RT20

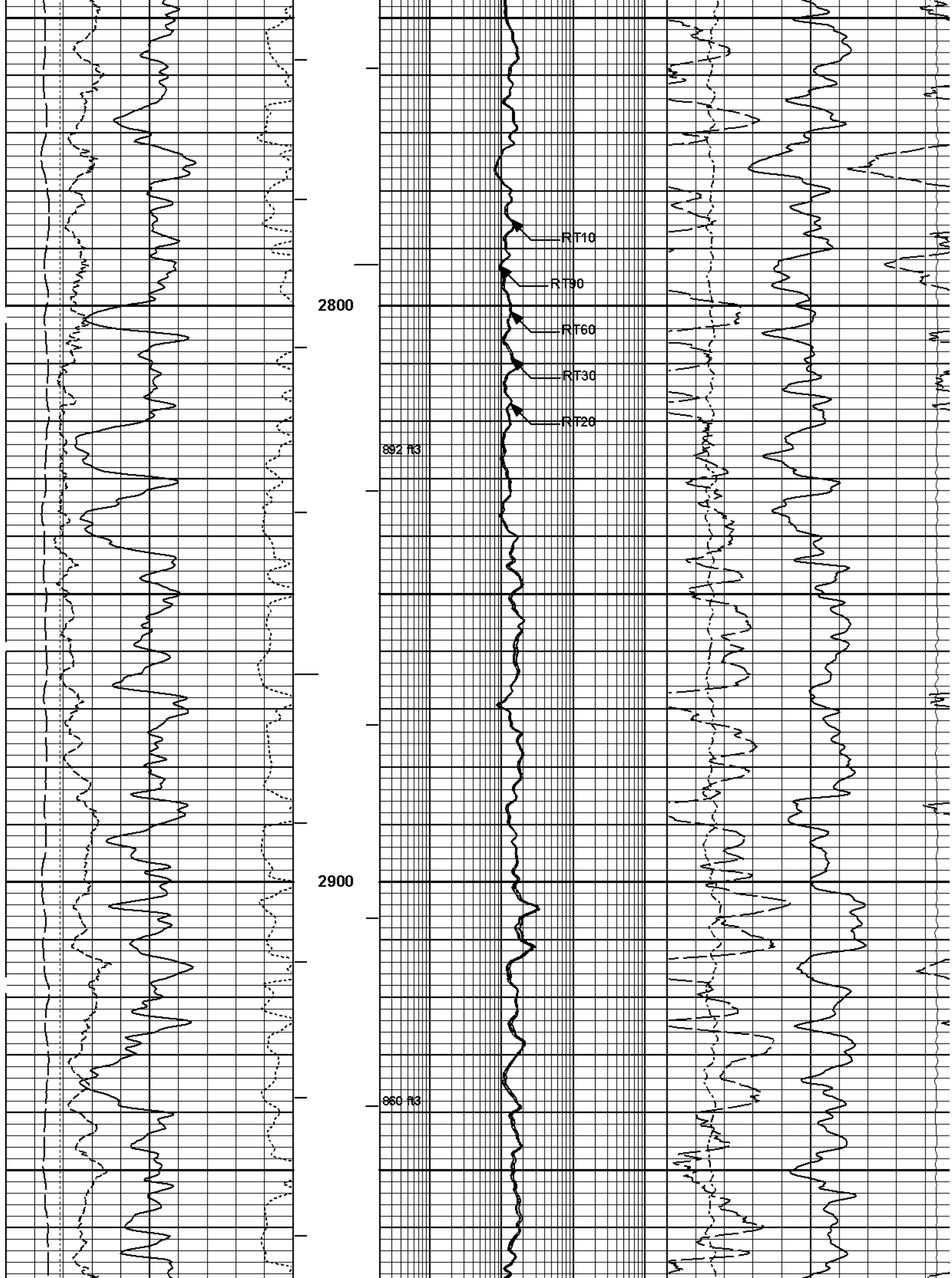




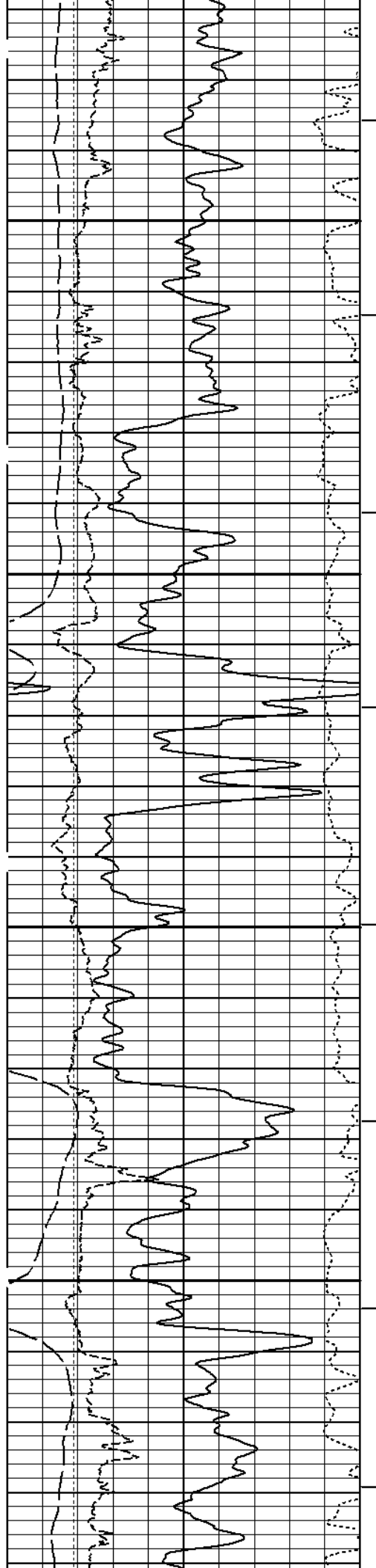






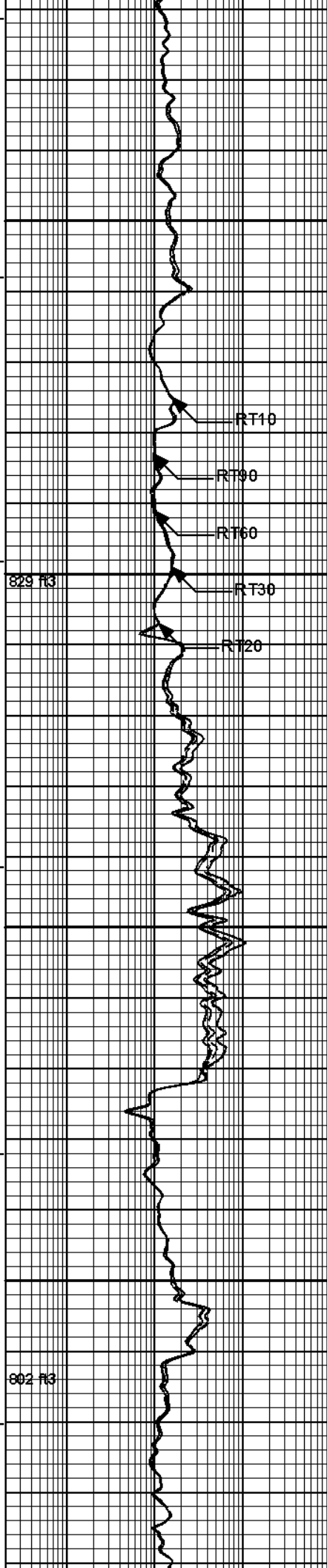






3000

3100



RT10

RT90

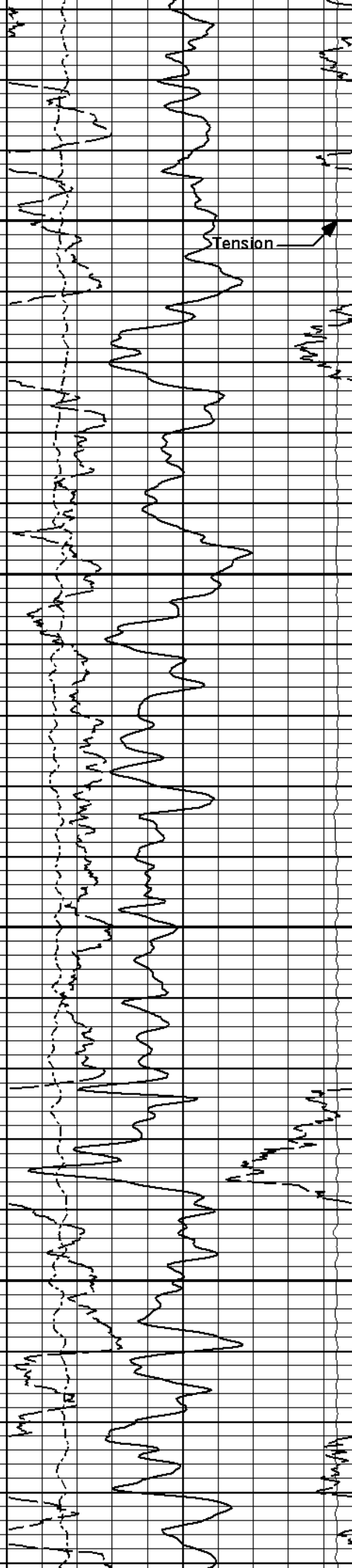
RT60

RT30

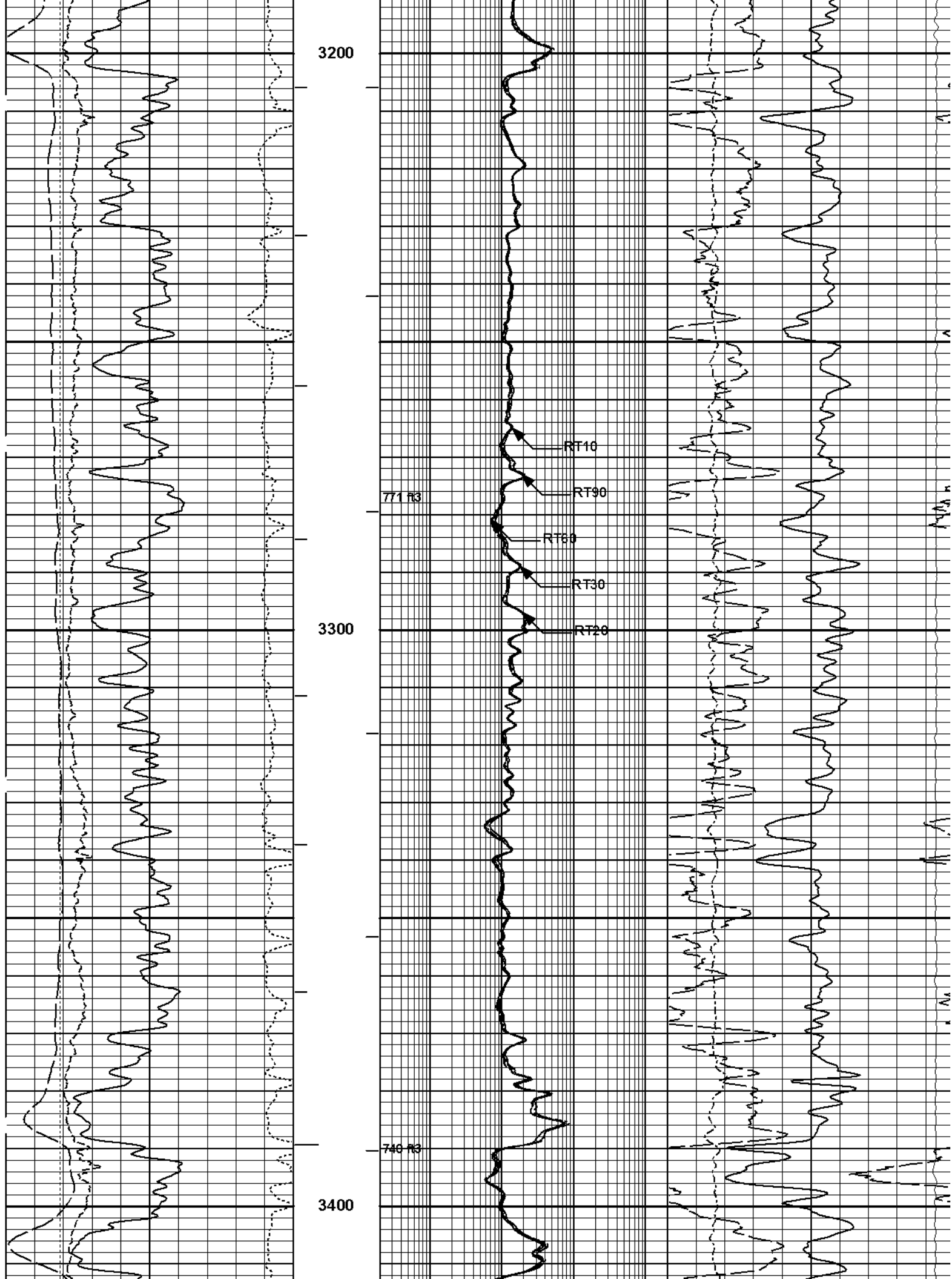
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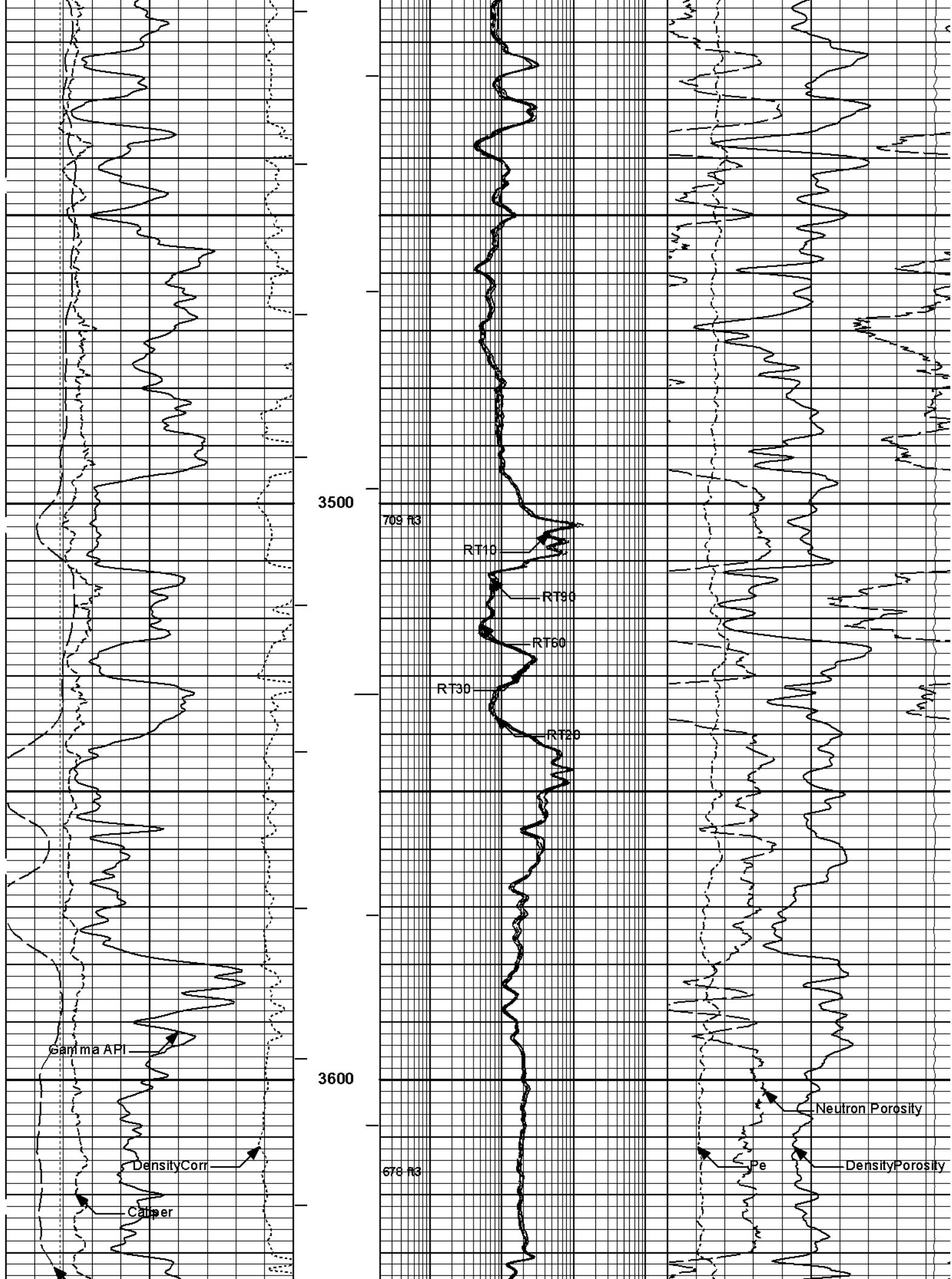
829 R3

802 R3



Tension





SP

Bit Size

3700

648 ft

RT10

RT90

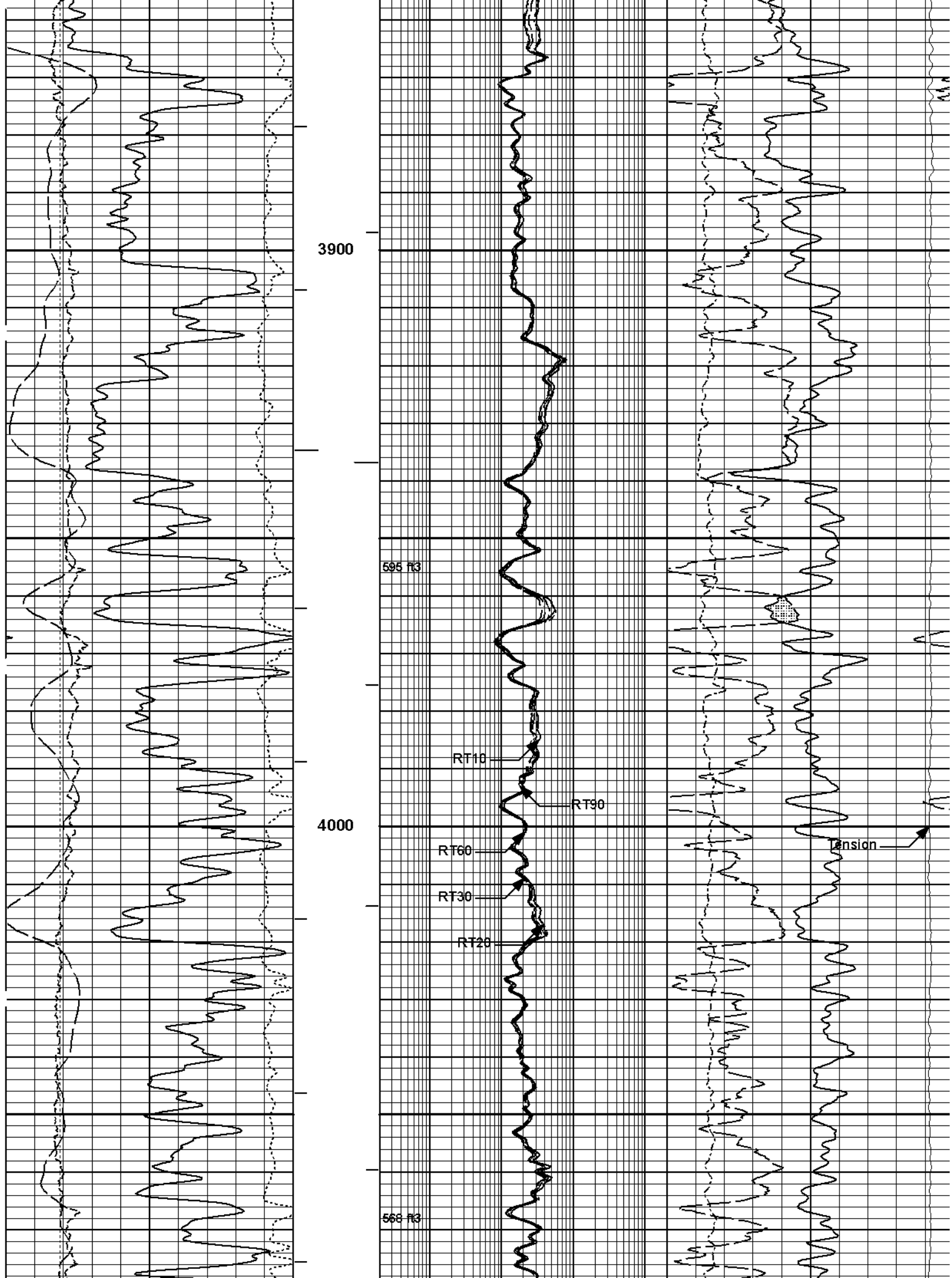
RT60

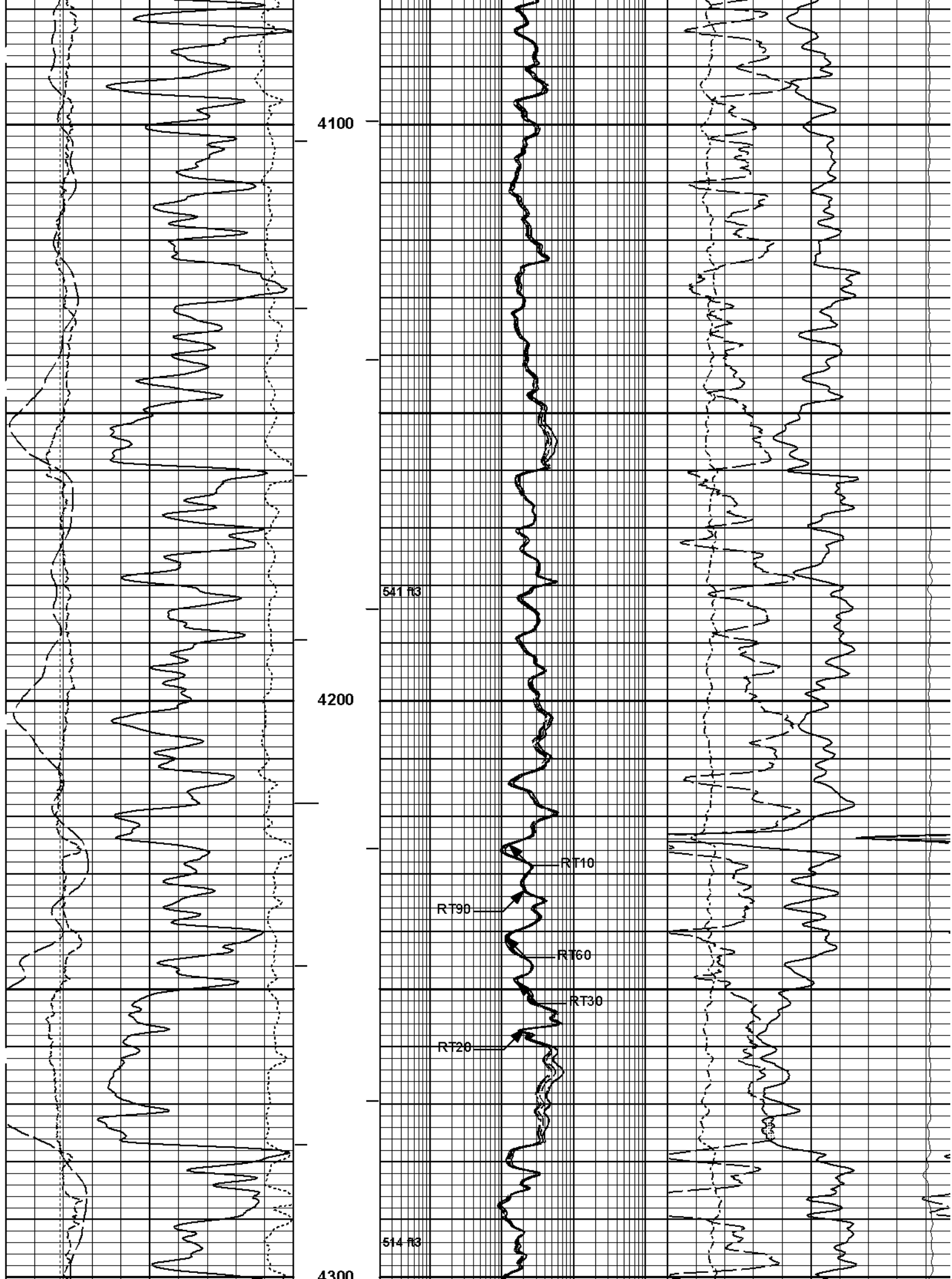
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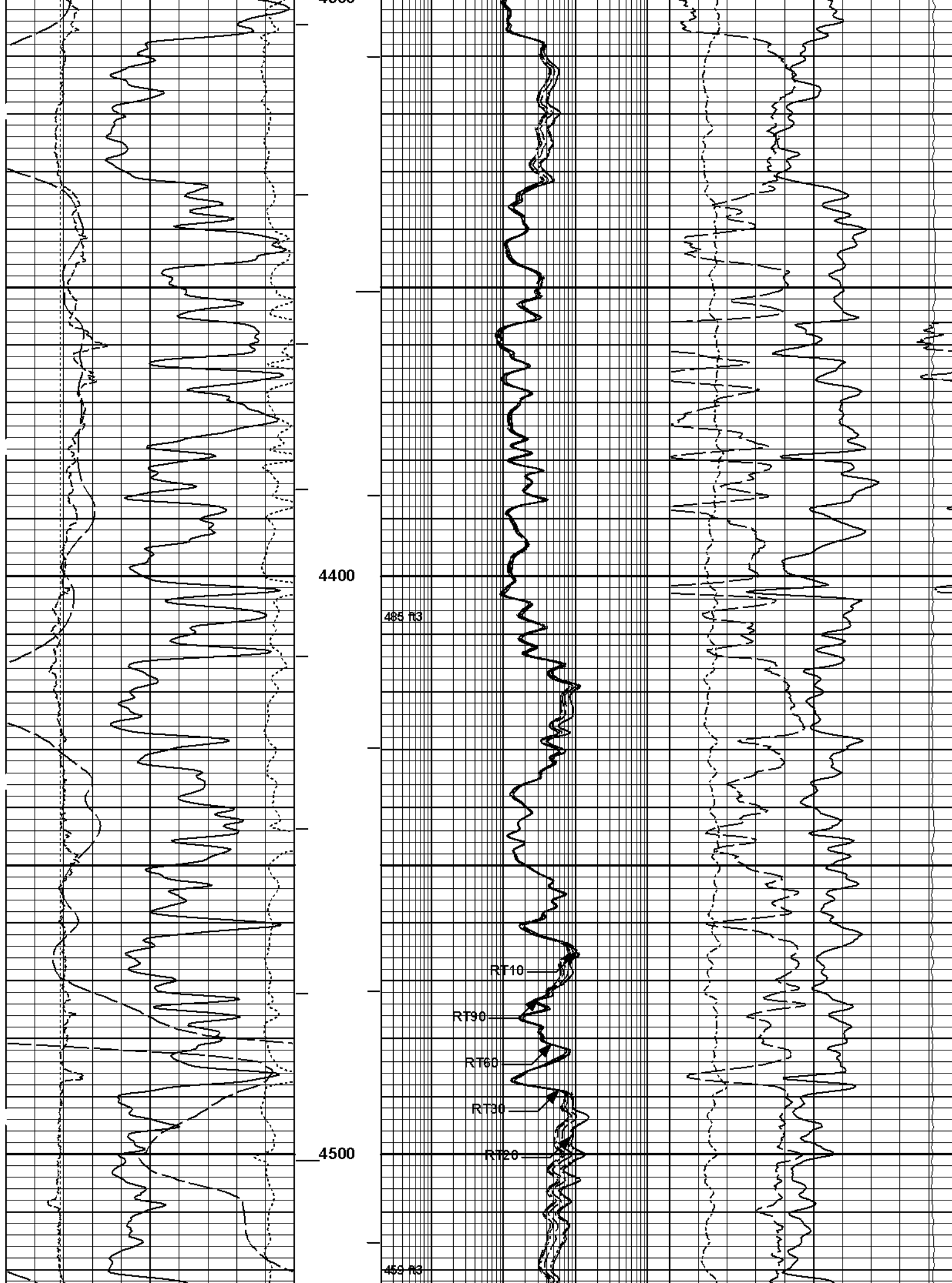
RT20

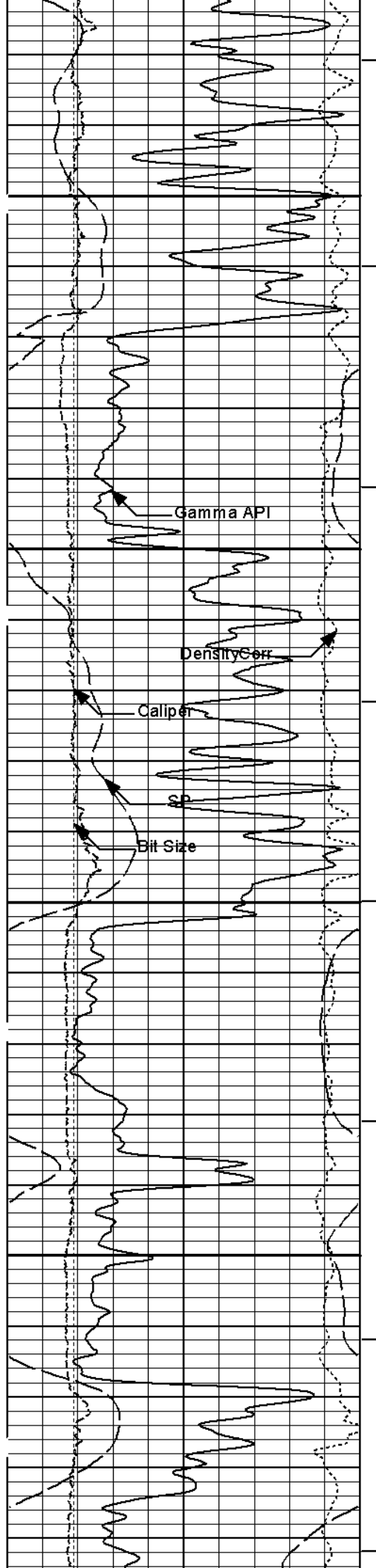
3800

622 ft

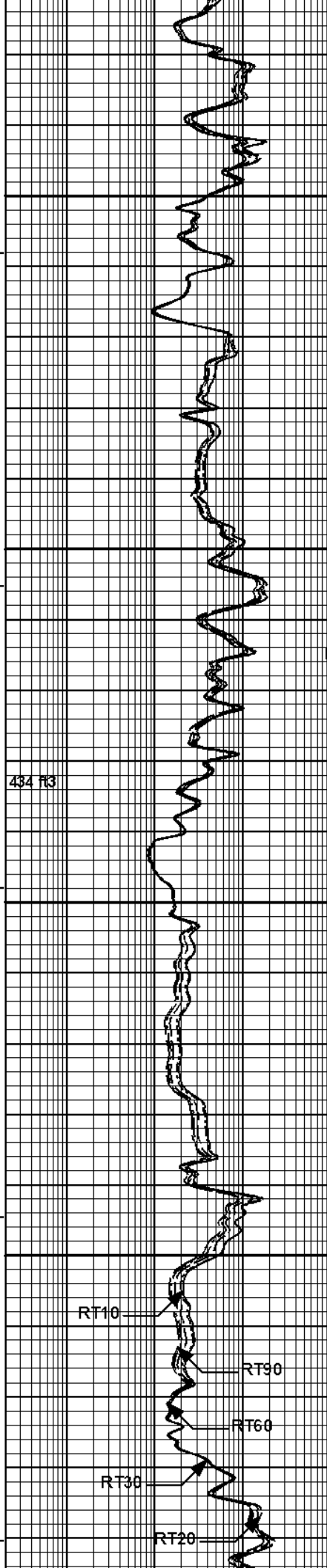






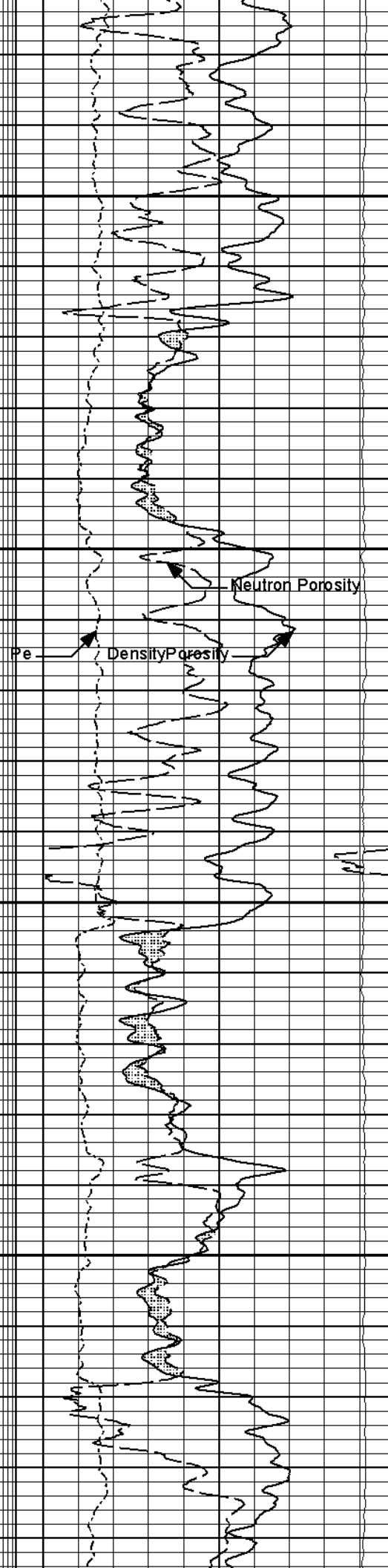


4600

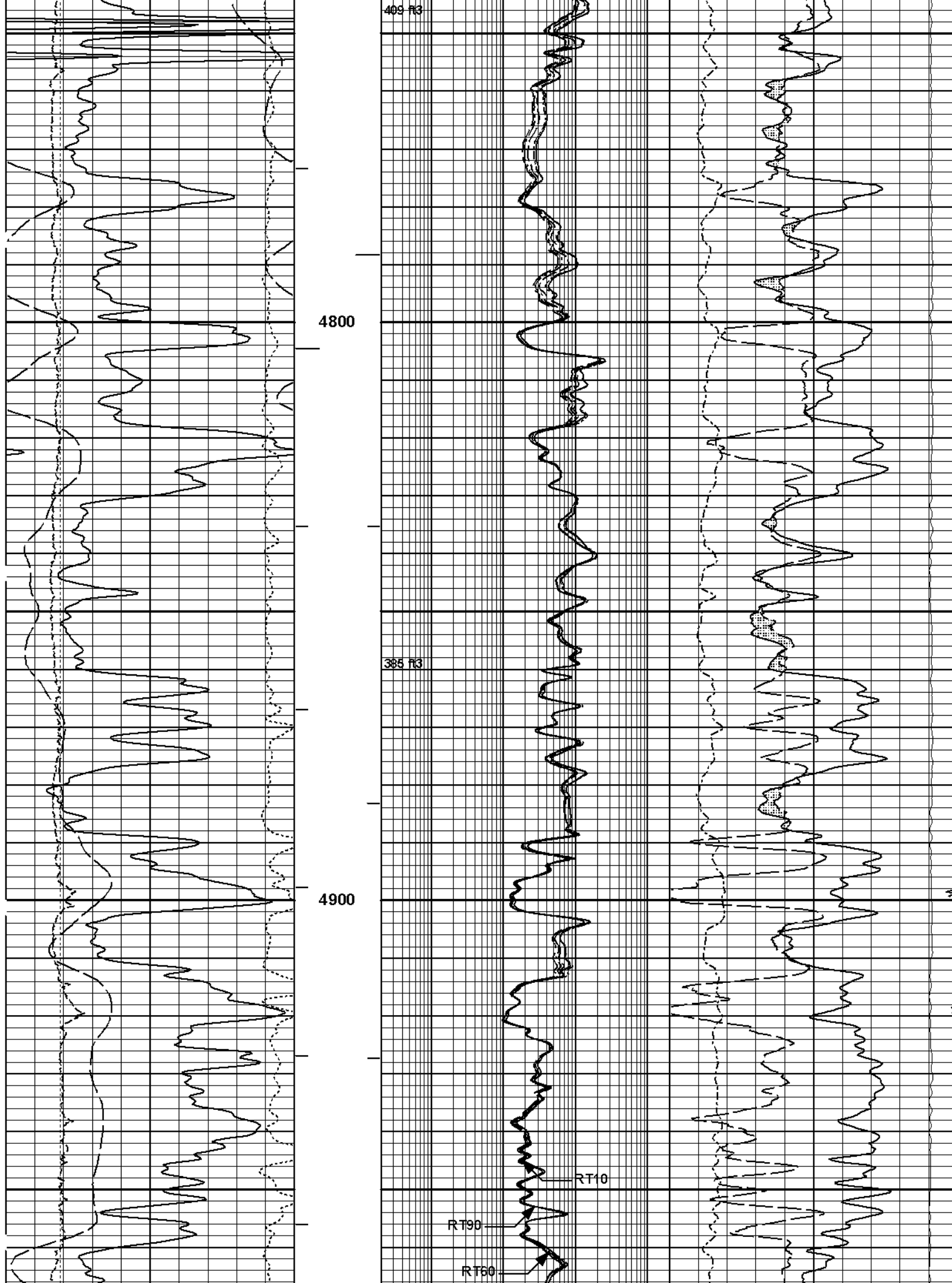


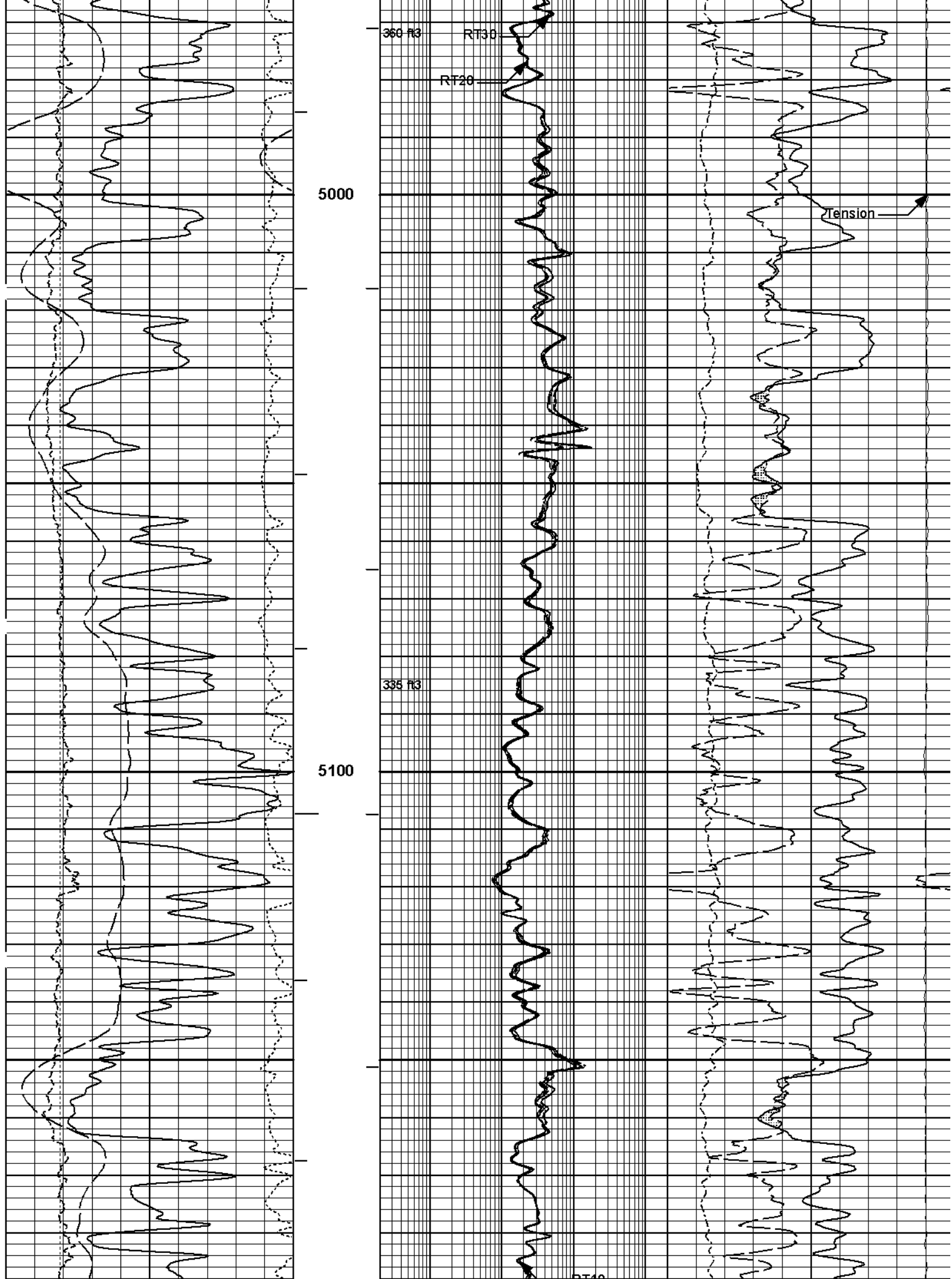
434 ft

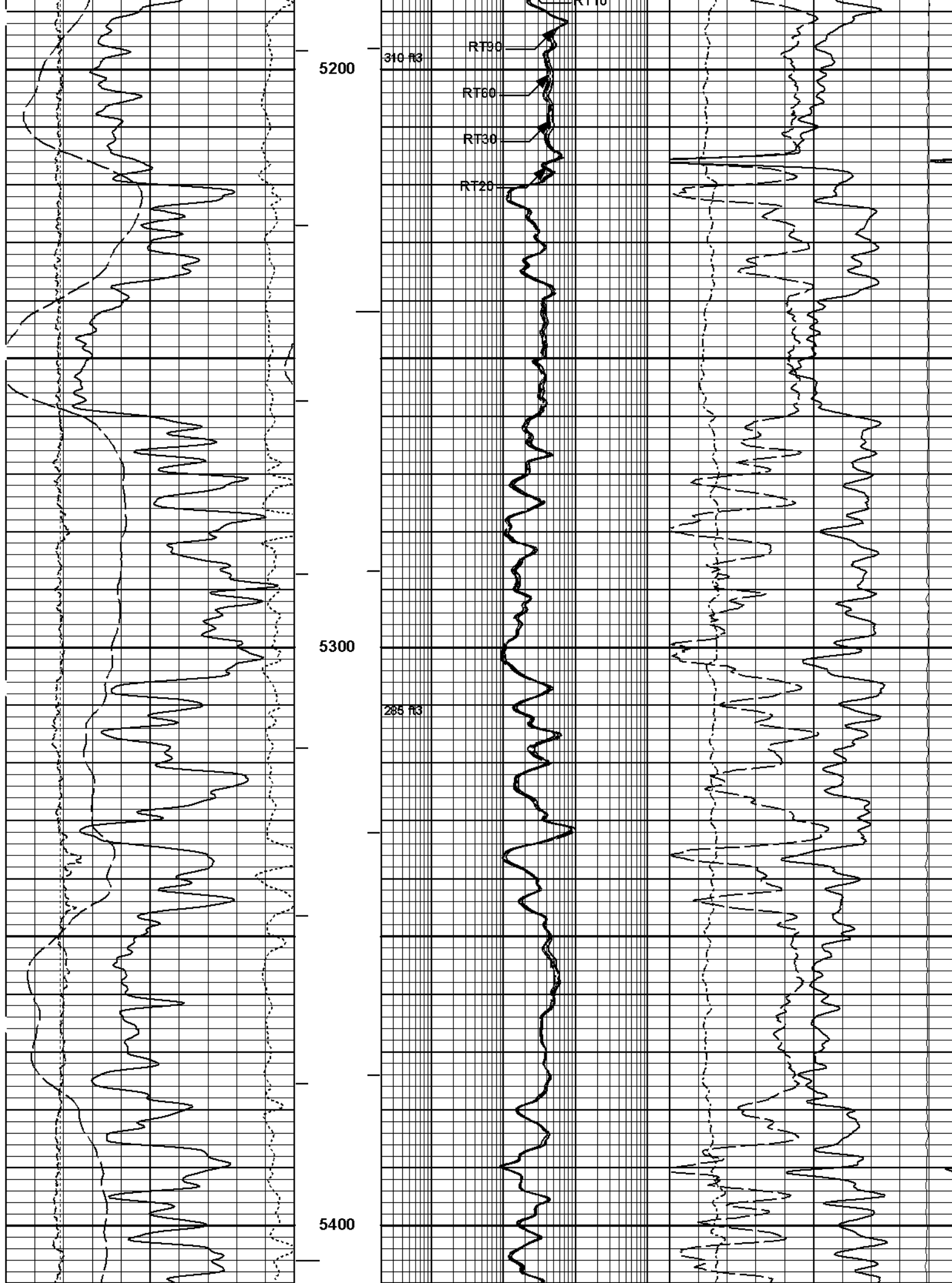
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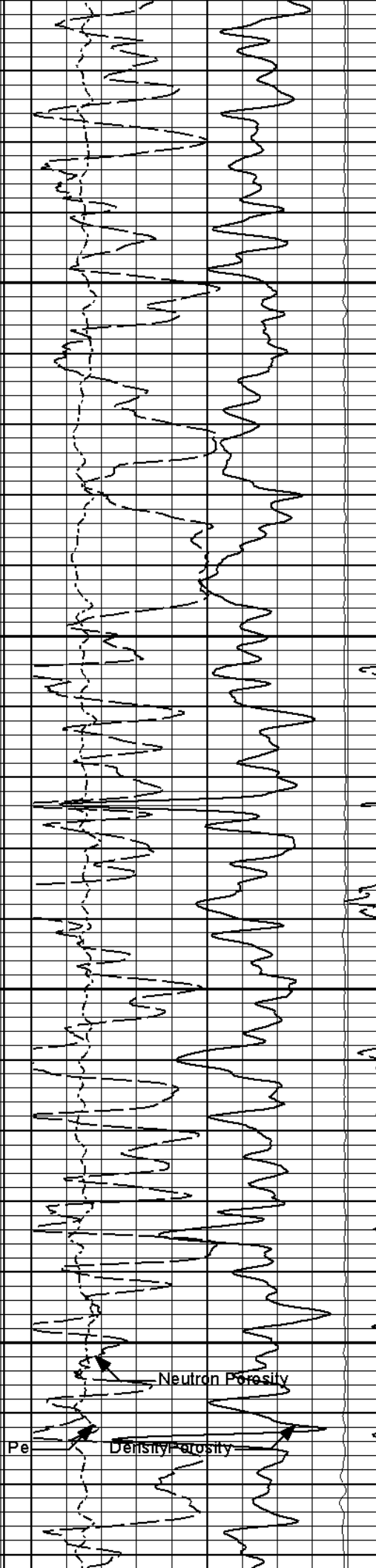
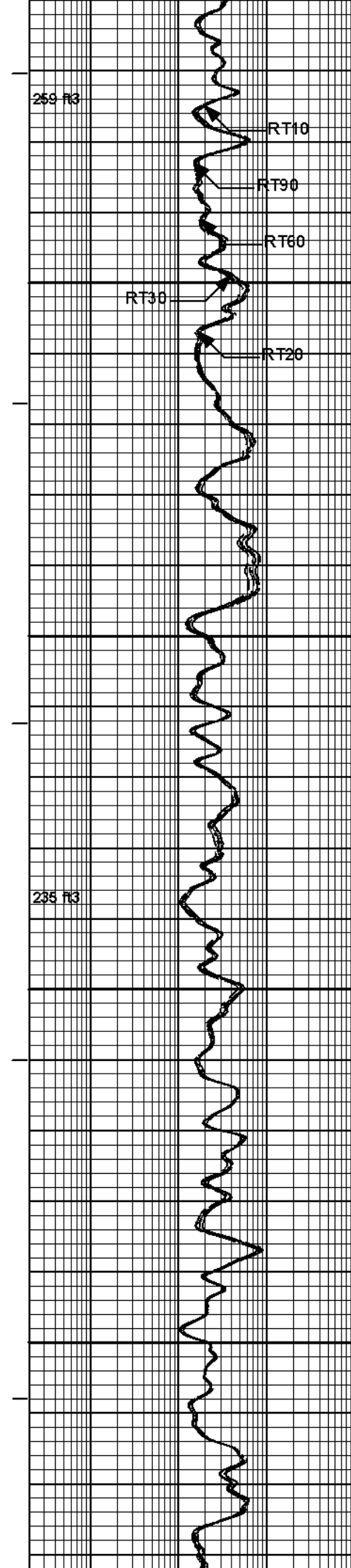
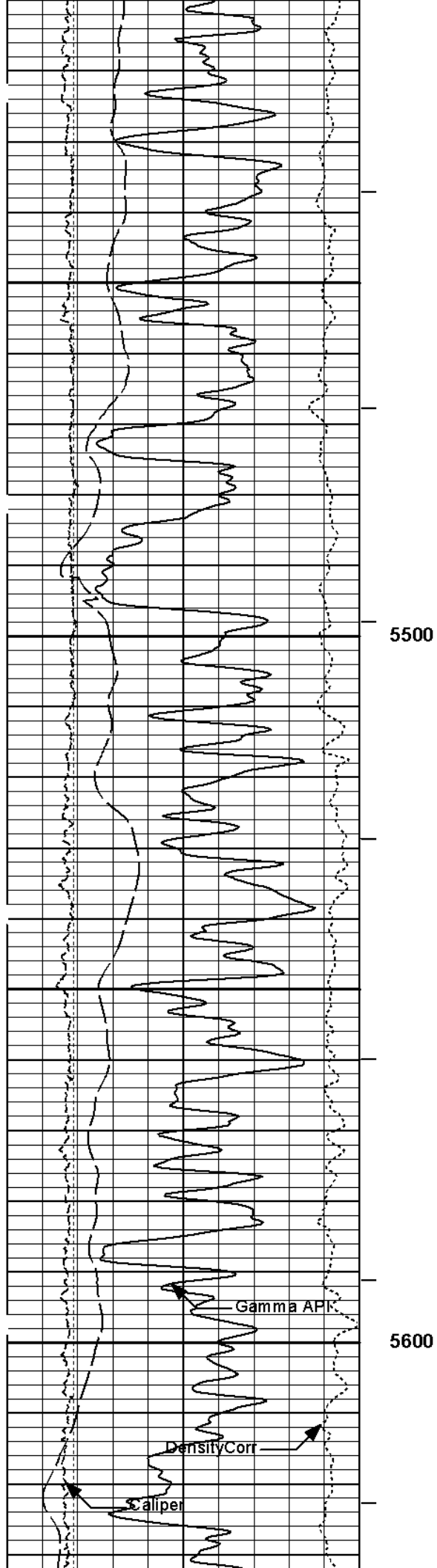


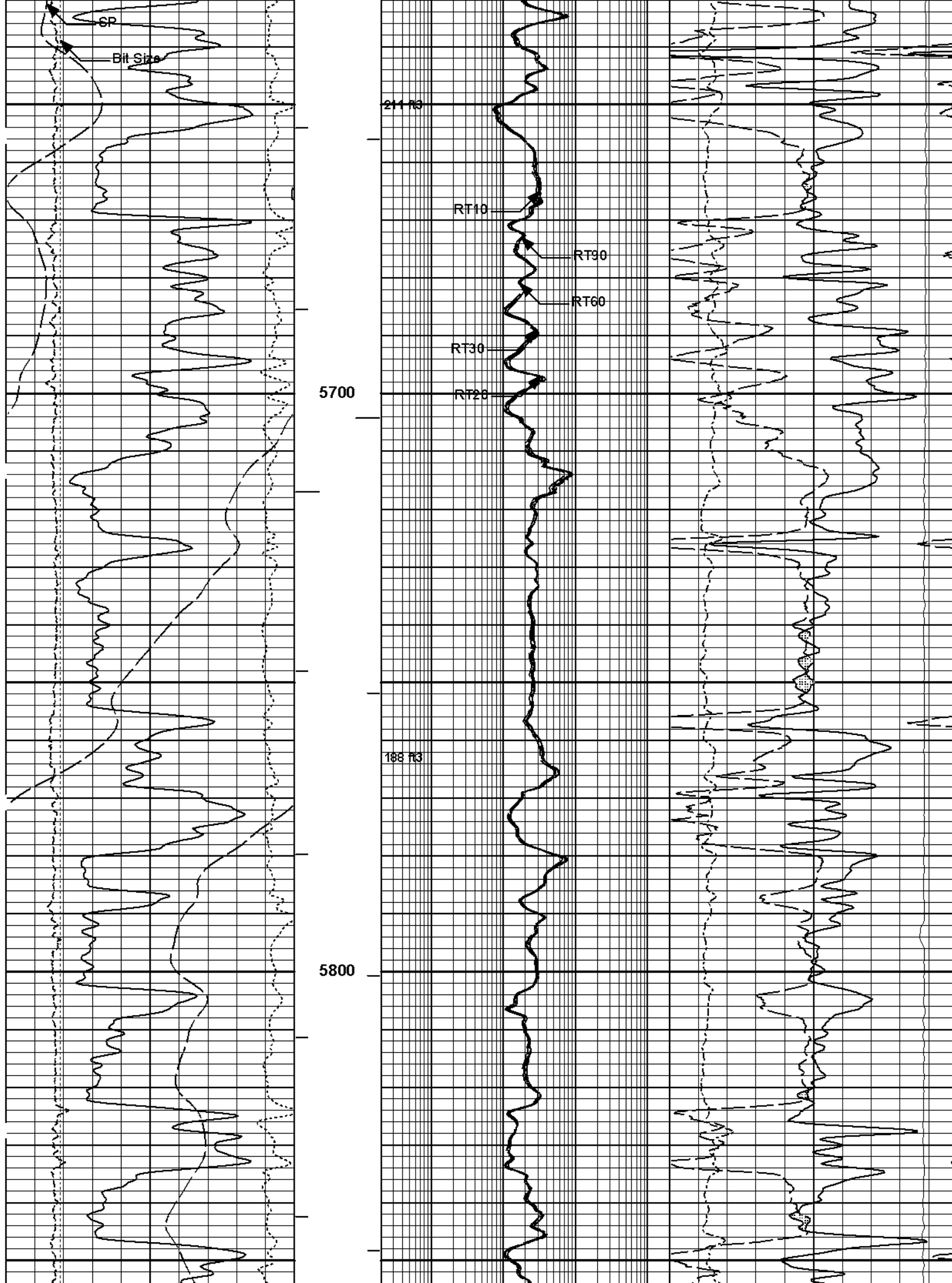


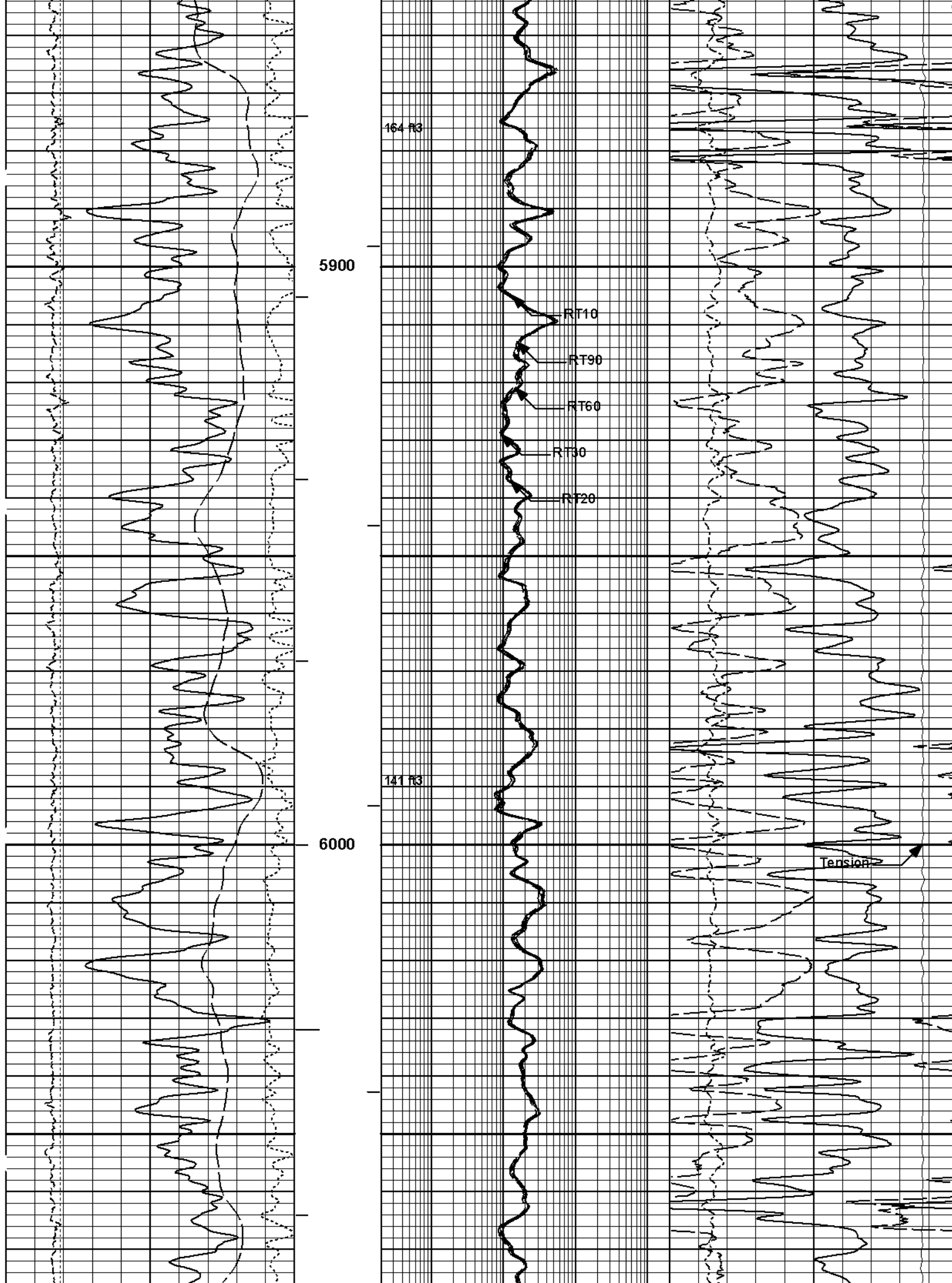


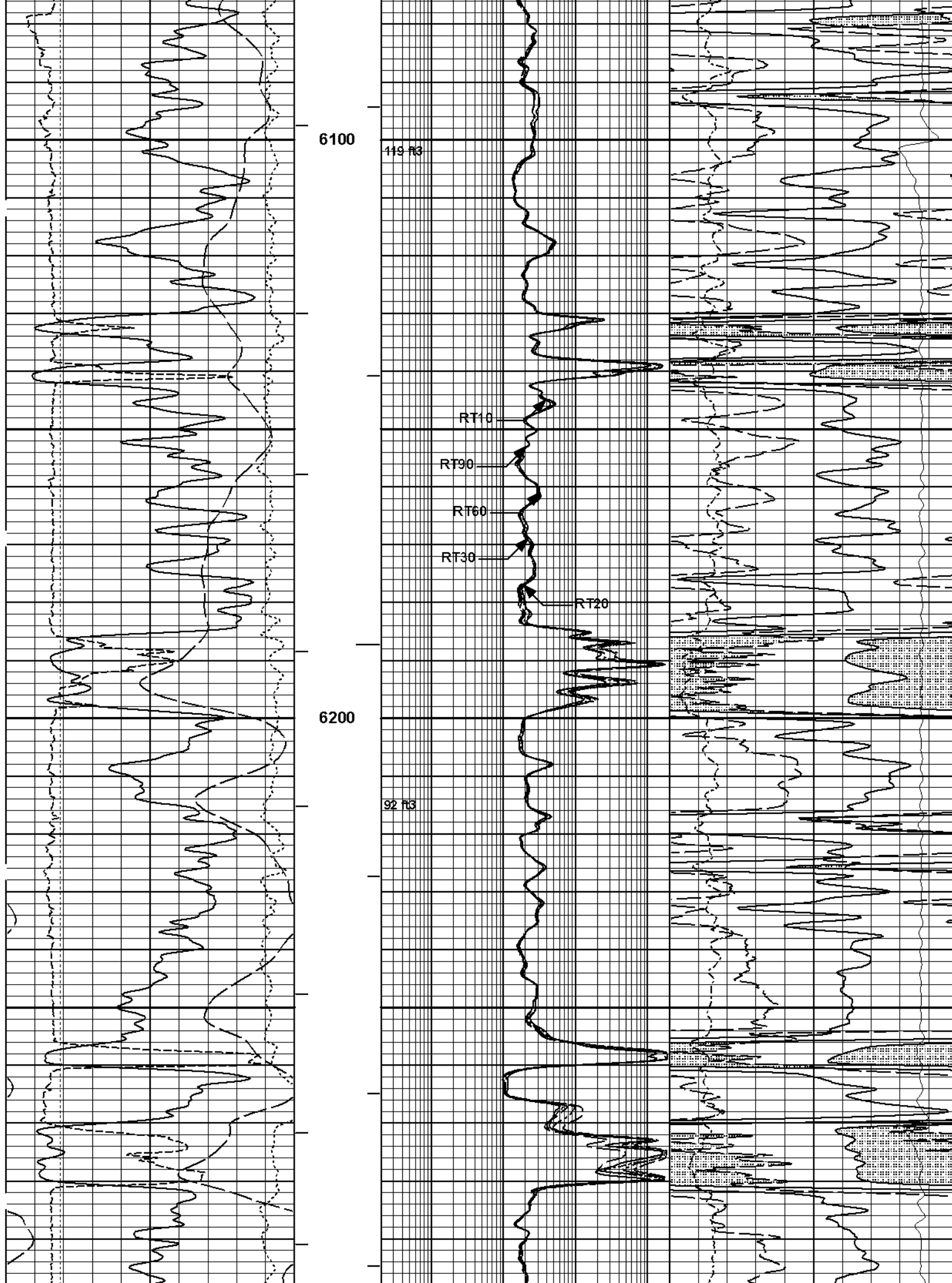


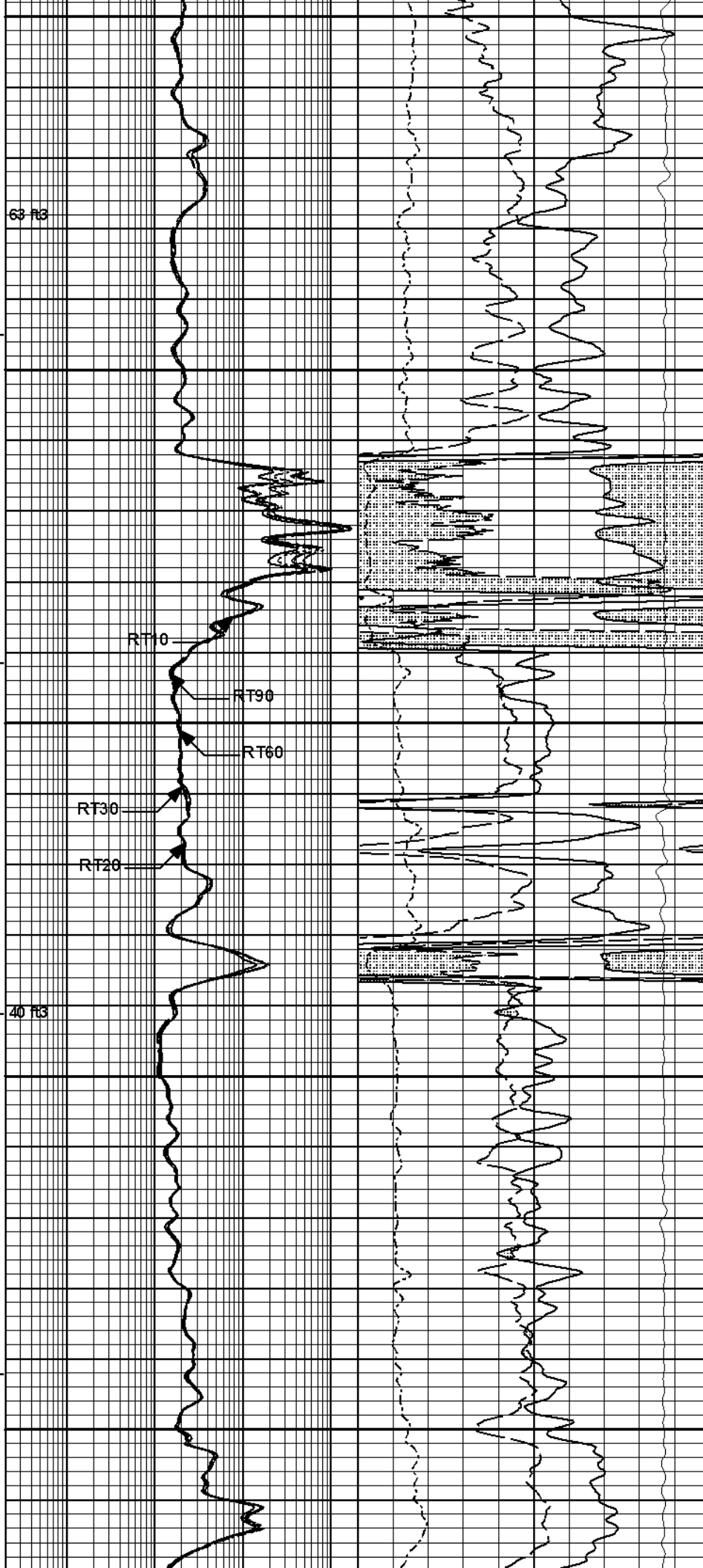
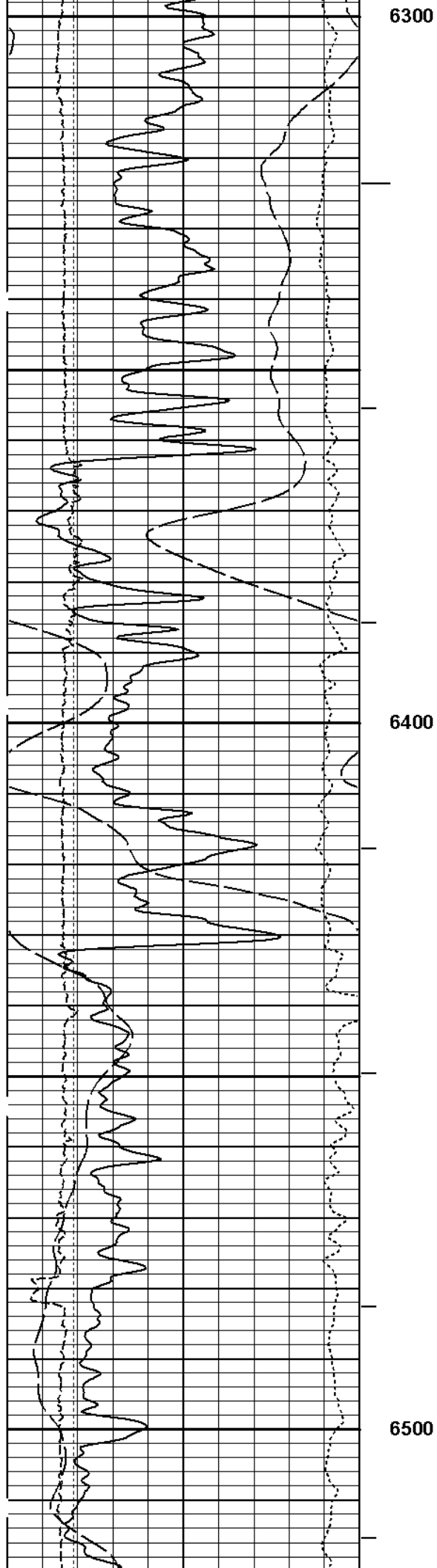




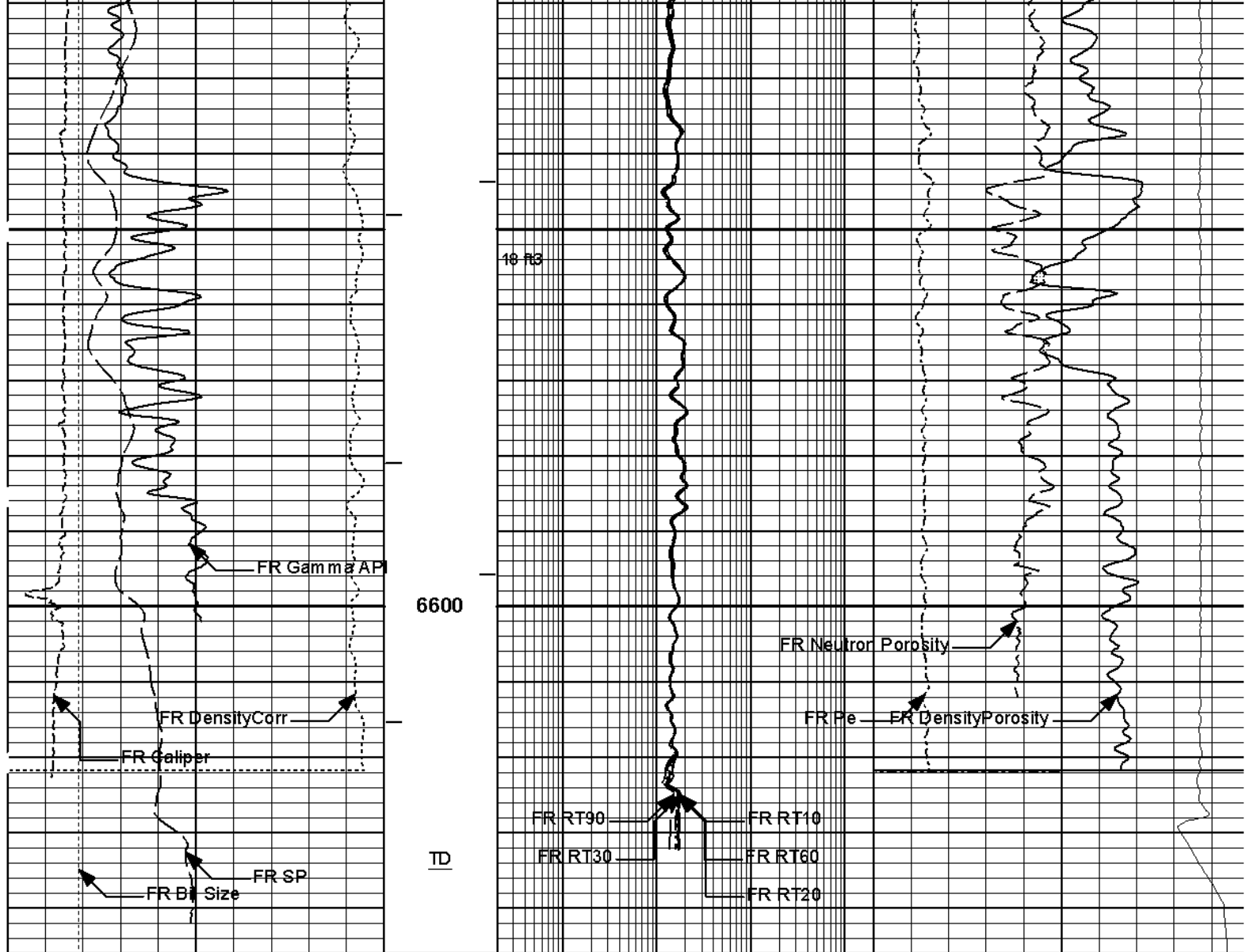












6	Bit Size	16	1 : 240 ft MD	0.2	RT10	2K	0	Pe	10
	inches				Ohm-m				
-0.9	DensityCorr	0.1	AHV ft3	0.2	RT20	2K	30	DensityPorosity	-10
	gram per cc				Ohm-m			percent	
0	Gamma API	200	BHV ft3	0.2	RT30	2K	30	Neutron Porosity	-10
	api				Ohm-m			percent	
6	Caliper	16		0.2	RT60	2K	21000	Tension	1000
	inches				Ohm-m			pounds	
	SP			0.2	RT90	2K			
	-J10[+				Ohm-m				

**HALLIBURTON**

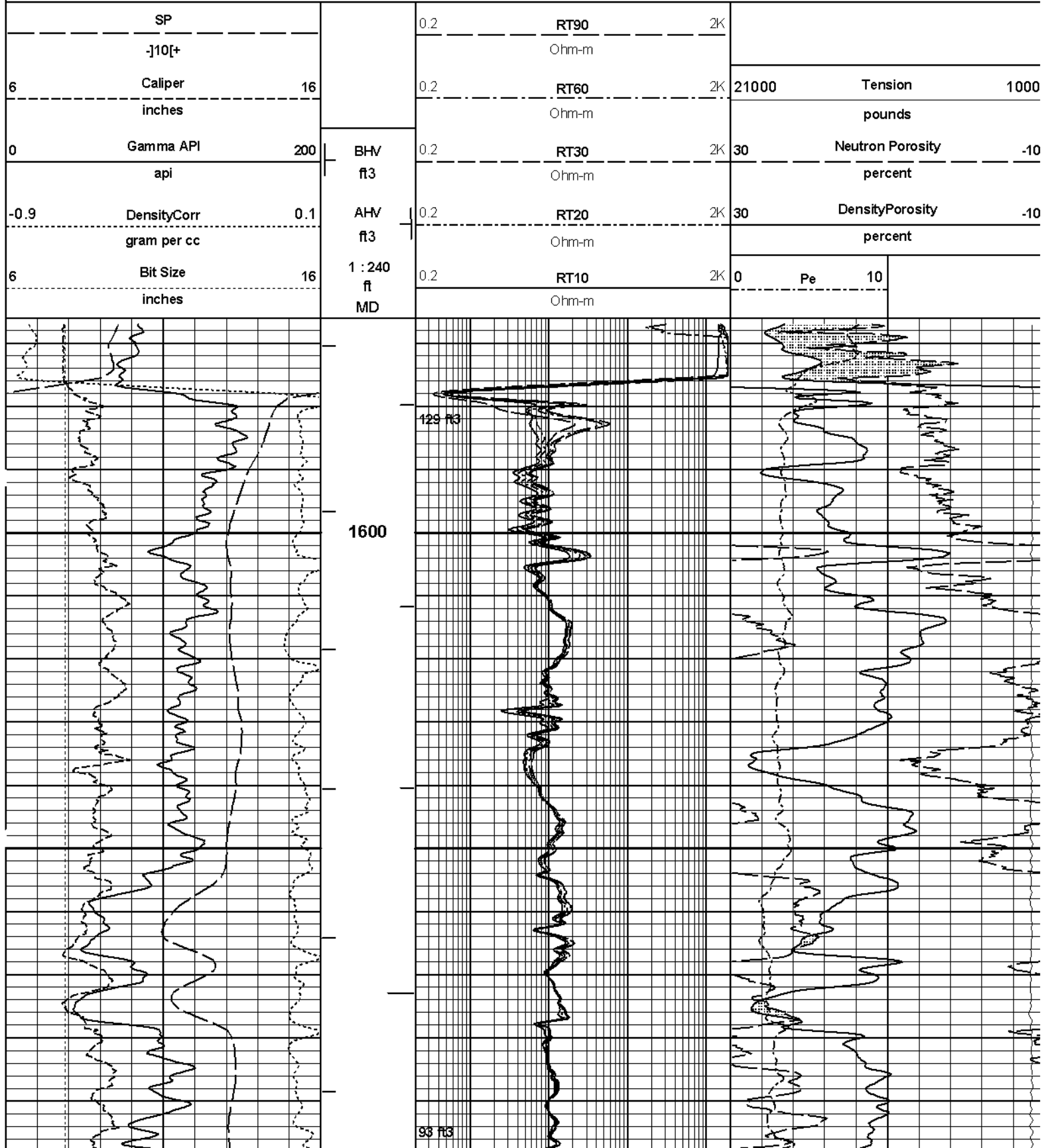
Plot Time: 01-Mar-08 20:18:18  
 Plot Range: 100 ft to 6646 ft  
 Data: {ActiveWell}Well Based!  
 Plot File: \\TRIPLEIQ\_COMPOSITE\_HRI\_5IN\_RM

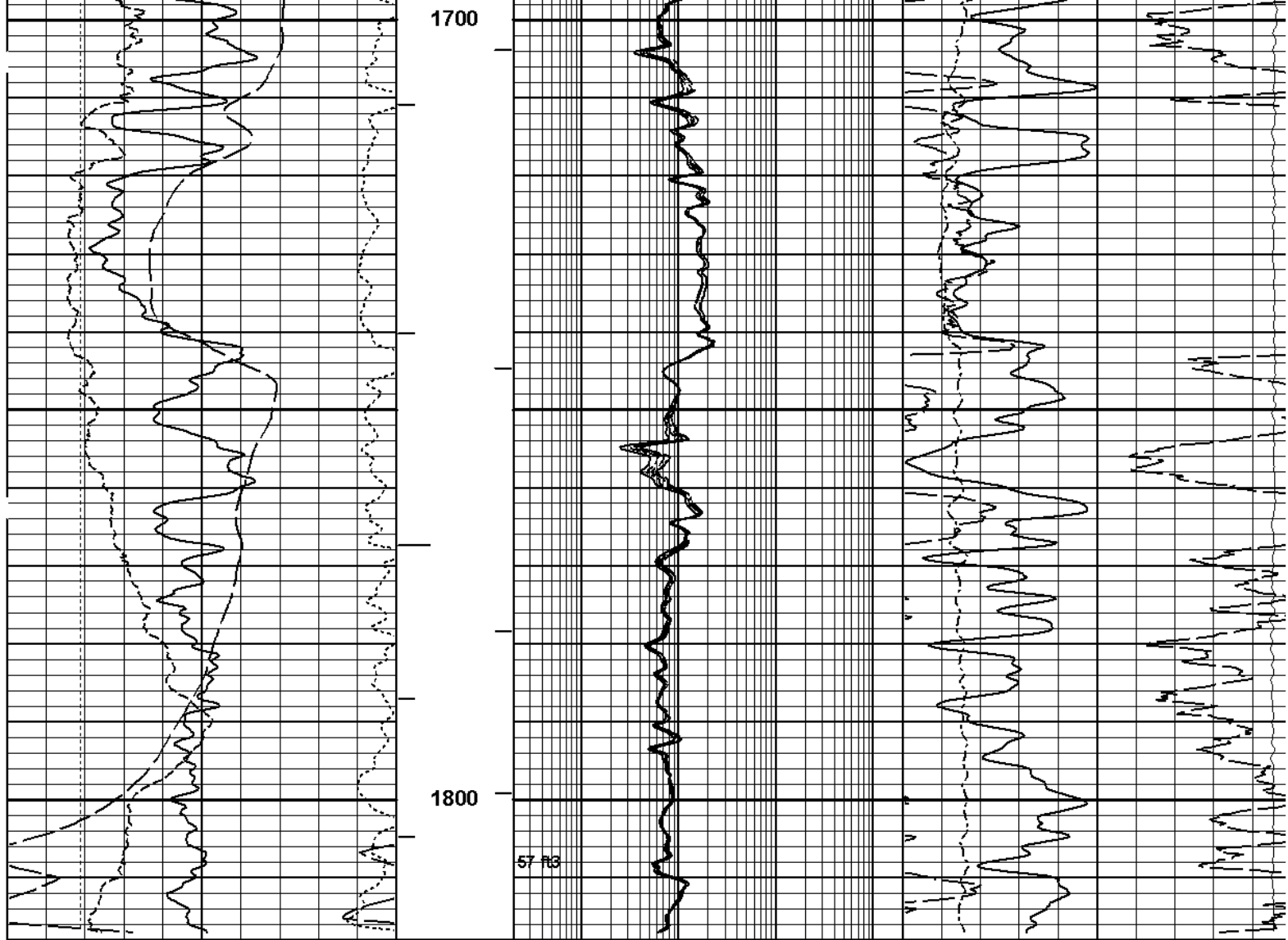
**MAIN PASS 5" = 100'**

**HALLIBURTON**

Plot Time: 01-Mar-08 20:18:18

# REPEAT PASS 5" = 100'





6	Bit Size	16	1 : 240 ft MD	0.2	RT10	2K	0	Pe	10
	inches				Ohm-m				
-0.9	Density	0.1	AHV	0.2	RT20	2K	30	Density Porosity	-10
	gram per cc		ft3		Ohm-m			percent	
0	Gamma API	200	BHV	0.2	RT30	2K	30	Neutron Porosity	-10
	api		ft3		Ohm-m			percent	
6	Caliper	16		0.2	RT60	2K	21000	Tension	1000
	inches				Ohm-m			pounds	
	SP			0.2	RT90	2K			
	-10[+				Ohm-m				

**HALLIBURTON**

Plot Time: 01-Mar-08 20:18:20  
Plot Range: 1566 ft to 1818 ft  
Data: PXP\_HR\_10\_8BIWell Based(DAQ-0001-002)  
Plot File: \\TRIPLE\\REPEAT

**REPEAT PASS 5" = 100'**

**HALLIBURTON**

# CALIBRATION REPORT

## NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11005602

Reference Calibration Date: 24-Feb-08 15:15:34

Engineer: M LEE

Calibration Date: 24-Feb-08 15:18:16

Software Version: WL INSITE R2.0 (Build 22)

Calibration Version: 1

Calibrator Source S/N: MP051807-04

Calibrator API Reference: 239.00 api

Measurement	Measured	Calibrated	Units
Background	61.5	61.7	api
Background + Calibrator	299.7	300.7	api
Calibrator	239.2	239.0	api

## NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11005602

Reference Calibration Date: 24-Feb-08 15:18:16

Engineer: M CARPENTER

Calibration Date: 01-Mar-08 08:50:29

Software Version: WL INSITE R2.0 (Build 22)

Calibration Version: 1

Calibrator Source S/N: MP051807-04

Calibrator API Reference: 239.00 api

Field Verification	Shop	Field	Units
Background	61.7	61.2	api
Background + Calibrator	300.7	304.1	api
Calibrator	239.0	242.8	api

Shop	Field	Difference	Tolerance
239.0	242.8	-3.8	+/- 9.0

## NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name: GTET - 11005602

Reference Calibration Date: 01-Mar-08 08:50:29

Engineer: M CARPENTER

Calibration Date: 01-Mar-08 20:08:20

Software Version: WL INSITE R2.0 (Build 22)

Calibration Version: 1

Calibrator Source S/N: MP051807-04

Calibrator API Reference: 239.00 api

Post Verification	Field	Post	Units
Background	61.2	40.0	api
Background + Calibrator	304.1	280.7	api
Calibrator	242.8	240.7	api

Shop	Field	Post	Difference	Tolerance
239.0	242.8	240.7	2.1	+/- 9.0

## DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 10993888

Reference Calibration Date: 20-Nov-07 10:45:40

Engineer: M LEE

Calibration Date: 19-Feb-08 09:39:27

Software Version: WL INSITE R2.0 (Build 22)

Calibration Version: 1

Logging Source S/N: DSN\_388

Tank Serial Number: GJ\_TANK

Reference value assigned to Tank: 52.750

Snow Block S/N: TRUCK\_3

Calibration Tank Water Temperature: 56.70 degF

Min. Tool Housing Outside Diameter: 3.624 in

**CALIBRATION CONSTANTS**

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.962	0.960	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):	0.2178	0.2169	0.0009	+/- 0.0020
Calibrated Ratio:	9.96	9.93	0.029	+/- 0.050

**VERIFIER**

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0731	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:	19-Feb-08 09:39:27
Engineer:	M CARPENTER	Calibration Date:	01-Mar-08 08:56:54
Software Version:	WL INSITE R2.0 (Build 22)	Calibration Version:	1

Logging Source S/N: DSN\_388

Snow Block S/N: TRUCK\_3

**NEUTRON FIELD-CHECK SUMMARY**

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0731	0.0735	0.0004	+/- 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:	01-Mar-08 08:56:54
Engineer:	M CARPENTER	Calibration Date:	01-Mar-08 20:14:12
Software Version:	WL INSITE R2.0 (Build 22)	Calibration Version:	1

Logging Source S/N: DSN\_388

Snow Block S/N: TRUCK\_3

**NEUTRON POST-CHECK SUMMARY**

	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0735	0.0797	0.0062	+/- 0.0150

**PASS/FAIL SUMMARY**

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

**SPECTRAL DENSITY SHOP CALIBRATION**

Tool Name: SDLT - 10951314

Reference Calibration Date: 24-Feb-08 14:35:59

Engineer: M LEE

Calibration Date: 24-Feb-08 14:56:13

Software Version: WL INSITE R2.0 (Build 22)

Calibration Version: 1

Logging Source S/N: 5123 GW

Aluminum Block S/N: GJ\_ALUMINIUM\_BLOCK

Density: 2.606g/cc

Magnesium Block S/N: GJ\_MAGNESIUM\_BLOCK

Density: 1.684g/cc

**DENSITY CALIBRATION SUMMARY**

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0121	1.0101	0.90 - 1.10
Near Dens Gain	0.9900	0.9876	0.90 - 1.10
Near Peak Gain	0.9574	0.9543	0.90 - 1.10
Near Lith Gain	0.9031	0.9035	0.90 - 1.10
Far Bar Gain	1.0075	1.0059	0.90 - 1.10
Far Dens Gain	0.9930	0.9921	0.90 - 1.10
Far Peak Gain	0.9799	0.9823	0.90 - 1.10
Far Lith Gain	0.9555	0.9566	0.90 - 1.10
Near Bar Offset	0.0764	0.0931	NONE
Near Dens Offset	0.2566	0.2800	NONE
Near Peak Offset	0.5297	0.5570	NONE
Near Lith Offset	0.9676	0.9636	NONE
Far Bar Offset	0.0533	0.0691	NONE
Far Dens Offset	0.1686	0.1780	NONE
Far Peak Offset	0.2614	0.2407	NONE
Far Lith Offset	0.4299	0.4227	NONE
Near Bar Background	1008.09	1011.96	700 - 1450
Near Dens Background	330.28	331.28	230 - 480
Near Peak Background	143.85	144.60	100 - 210
Near Lith Background	177.18	176.66	125 - 260
Far Bar Background	618.19	621.23	450 - 900
Far Dens Background	238.48	241.44	175 - 345
Far Peak Background	94.82	94.46	70 - 140
Far Lith Background	98.85	98.10	75 - 145

**CALIBRATION BLOCK SUMMARY**

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.685	1.684	-0.001	+/- 0.015
Pe	2.598	2.594	-0.004	+/- 0.150
ALUMINUM				
Density (g/cc)	2.605	2.606	0.001	+/- 0.01500
Pe	3.101	3.100	-0.001	+/- 0.150

**TOOL SUMMARY**

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0006	+/- 0.0110	0.0008	+/- 0.0140
Magnesium Block	-0.0008	+/- 0.0110	-0.0010	+/- 0.0140
Aluminum Block	0.0003	+/- 0.0110	-0.0006	+/- 0.0140

Resolution	9.74	6.00 - 11.50	9.41	6.00 - 11.50
Internal Verifier(B+D+P+L)	1664	1200 - 2700	1055	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

<b>Tool Name:</b>	<b>SDLT - 10951314</b>	<b>Reference Calibration Date:</b>	<b>24-Feb-08 14:56:13</b>
<b>Engineer:</b>	<b>M CARPENTER</b>	<b>Calibration Date:</b>	<b>01-Mar-08 09:02:37</b>
<b>Software Version:</b>	<b>WL INSITE R2.0 (Build 22)</b>	<b>Calibration Version:</b>	<b>1</b>

Aluminum Block S/N: GJ_ALUMINIUM_BLOCK	Density: 2.606g/cc
Magnesium Block S/N: GJ_MAGNESIUM_BLOCK	Density: 1.684g/cc
Pad Temperature: 61.1 degF	

### DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1664.498	1662.163	-2.335	16.386
Far (B+D+P+L) cps	1055.230	1061.947	6.717	17.251
Near Resolution	9.74	9.67	-0.070	0.50
Far Resolution	9.62	9.41	0.210	1.00

### PASS/FAIL SUMMARY

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

### SPECTRAL DENSITY POST CHECK

<b>Tool Name:</b>	<b>SDLT - 10951314</b>	<b>Reference Calibration Date:</b>	<b>01-Mar-08 09:02:37</b>
<b>Engineer:</b>	<b>M CARPENTER</b>	<b>Calibration Date:</b>	<b>01-Mar-08 20:15:04</b>
<b>Software Version:</b>	<b>WL INSITE R2.0 (Build 22)</b>	<b>Calibration Version:</b>	<b>1</b>

Aluminum Block S/N: GJ_ALUMINIUM_BLOCK	Density: 2.606g/cc
Magnesium Block S/N: GJ_MAGNESIUM_BLOCK	Density: 1.684g/cc
Pad Temperature: 61.1 degF	

### DENSITY POST CALIBRATION SUMMARY

Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1662.163	1666.735	4.572	16.386
Far (B+D+P+L) cps	1061.947	1070.331	8.384	17.251
Near Resolution	9.67	9.93	0.260	0.50
Far Resolution	10.33	9.62	0.710	1.00

### 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: 01-Jan-70 00:00:00

Engineer: M LEE

Calibration Date: 24-Feb-08 15:32:45

Software Version: WL INSITE R2.0 (Build 22)

Calibration Version: 1

**CALIBRATION COEFFICIENTS**

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1521.58	-1521.58	-7000.00 - -1000.00
Pad Gain	0.0003762	0.0003762	0.000200 - 0.000600
Arm Offset	-1984.80	-1984.80	-5000.00 - 3000.00
Arm Gain	0.0005212	0.0005212	0.000300 - 0.000700
Arm Power	-0.000002746	-0.000002746	-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)	2.00	2.00	0.0000	+/- 0.200
Medium Ring (in)	3.75	3.75	0.0000	+/- 0.200
RING DIAMETER:				
Small Ring (in)	6.50	6.50	0.0000	+/- 0.200
Medium Ring (in)	8.25	8.25	0.0000	+/- 0.200
Large Ring (in)	15.00	15.00	0.0000	+/- 0.200

**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: 24-Feb-08 15:32:45

Engineer: M CARPENTER

Calibration Date: 01-Mar-08 08:51:27

Software Version: WL INSITE R2.0 (Build 22)

Calibration Version: 1

**MEASURED CALIPER VALUES**

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.72	-0.03	+/- 0.10
Ring Diameter	8.25	8.11	-0.14	+/- 0.15

**PASS/FAIL SUMMARY**

Pad Extension Check:	Passed
Diameter Check:	Passed

**SDLT CALIPER POST CALIBRATION**

Tool Name: SDLT - 10951314

Reference Calibration Date: 01-Mar-08 08:51:27

Engineer: M CARPENTER

Calibration Date: 01-Mar-08 20:10:24

Software Version: WL INSITE R2.0 (Build 22)

Calibration Version: 1

**MEASURED CALIPER VALUES**

Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.72	3.72	0.00	+/- 0.10
Ring Diameter	8.11	8.18	0.08	+/- 0.15



# PASS/FAIL SUMMARY

Pad Extension Check:

Passed

Diameter Check:

Passed

## ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRT - 90144319-e554-s481

Reference Calibration Date: 21-Sep-07 15:43:52

Engineer: M. LEE

Calibration Date: 21-Sep-07 15:56:34

Software Version: WL INSITE R2.0 (Build 9)

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	0.9372	1.05	0.95	0.9364	1.05	0.95	0.9342	1.05
A2 (50")	0.95	0.9308	1.05	0.95	0.9304	1.05	0.95	0.9279	1.05
A3 (29")	0.95	0.9261	1.05	0.95	0.9275	1.05	0.95	0.9303	1.05
A4 (17")	0.95	0.9979	1.05	0.95	0.9995	1.05	0.95	1.0024	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9930	1.05	0.95	0.9933	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9816	1.05	0.95	0.9826	1.05

### TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-3	-1.511	-1	-6	-4.222	-2	-6	-4.803	-2
A2 (50")	-6	-5.317	-2	-6	-4.366	-2	-6	-4.569	-2
A3 (29")	-27	-20.145	-9	-9	-5.519	-3	-9	-3.573	-3
A4 (17")	-180	-106.191	-60	-45	-31.788	-15	-39	-25.059	-13
A5 (10")	N/A	N/A	N/A	-150	-95.948	-50	-90	-48.447	-30
A6 (6")	N/A	N/A	N/A	175	284.578	525	90	142.301	270

### TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.75	0.8561	1.4
36K	1.0	1.7548	2.4
72K	1.25	1.2817	2.5

### R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohmm)	Upper (ohm-m)
Mud Cell	0.95	1.001	1.05

## CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11005602						
Gamma Ray Calibrator	239.0	242.8	240.7	2.1	+/- 9.0	api
DSNT-10993888						
Snow-Block Porosity	0.0731	0.0735	0.0797	-0.0062	+/- 0.0150	decp
SDLT-10951314						
Near(B+D+P+L)	1664.498	1662.163	1666.735	-4.572	+/- 16.386	cps
Far(B+D+P+L)	1055.230	1061.947	1070.331	-8.384	+/- 17.251	cps
CALIPER RING 1	8.25	8.11	8.18	-0.07	+/- 0.15	in

Data: PXP\_HR\_10\_8B\0001 TRIPLE COMBO 1\VDLE

Date: 01-Mar-08 20:16:43

HALLIBURTON

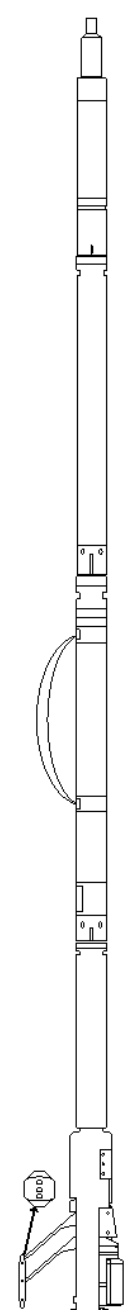
CUSTOMER EVENT LOG

# CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	01-Mar-08 16:14:15	10.75	Logging 001 01-Mar-08 16:14 Dn @10.8f
	01-Mar-08 16:30:03	2002.16	Halting 001 01-Mar-08 16:14 Dn @10.8f
	01-Mar-08 16:30:17	2000.50	Logging 002 01-Mar-08 16:30 Up @2000.5f
	01-Mar-08 16:39:33	1517.48	Halting 002 01-Mar-08 16:30 Up @2000.5f
	01-Mar-08 16:41:39	1628.75	Logging 003 01-Mar-08 16:41 Dn @1628.8f
	01-Mar-08 17:07:55	6642.00	Halting 003 01-Mar-08 16:41 Dn @1628.8f
	01-Mar-08 17:08:57	6643.50	Logging 004 01-Mar-08 17:08 Up @6643.5f
	01-Mar-08 19:04:04	96.00	Halting 004 01-Mar-08 17:08 Up @6643.5f
	01-Mar-08 19:06:08	6646.25	Relogging 004.01 01-Mar-08 19:04 Up
	01-Mar-08 19:09:50	3448.05	Halting 004.01 01-Mar-08 19:04 Up
Data: PXP_HR_10_8B\0001 TRIPLE COMBO 1\HWI0788			Date: 01-Mar-08 19:11:05

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## TOOL STRING DIAGRAM REPORT

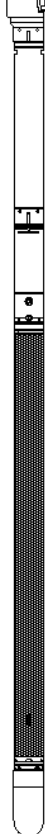
Description	OD/Sensors	Diagram	Sensors	Tool Length	Accumulated Length
RWCH-C11013846 135.00 lbs	O.D. = 3.63 in		Load Cell @ 51.89 ft BH Temperature @ 51.32 ft	6.25 ft	55.57 ft
GTET-11005602 165.00 lbs	O.D. = 3.63 in		GammaRay @ 43.32 ft	8.46 ft	49.32 ft
DSNT-10993888 174.00 lbs	O.D. = 3.63 in		DSN Far @ 33.92 ft DSN Near @ 33.17 ft	9.69 ft	40.86 ft
SDLT-10951314 360.00 lbs	O.D. = 4.50 in O.D. = 4.75 in		SDL Microlog @ 23.36 ft SDL Caliper @ 23.18 ft SDL @ 23.17 ft	10.81 ft	31.17 ft

ACRt-90144319-e554-s481  
250.00 lbs

O.D. = 3.63 in

BLNS-Thermomter  
12.00 lbs

O.D. = 3.63 in



Mud Resistivity @ 13.97 ft

ACRt @ 9.99 ft

SP @ 2.39 ft

19.25 ft

1.11 ft

20.36 ft

1.11 ft

0.00 ft

Tool Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Length Accumulation (ft)	Max Logging Speed (fpm)
RWCH	RWCH	C11013846	135.00	6.25	49.32	300.00
GTET	GTET	11005602	165.00	8.46	40.86	60.00
DSNT	DSNT	10993888	174.00	9.69	31.17	60.00
SDLT	SDLT	10951314	360.00	10.81	20.36	60.00
ACRt	ACRt	90144319-e554-s481	250.00	19.25	1.11	300.00
BLNS	Bull Nose	Thermomter	12.00	1.11	0.00	300.00
Total			1,096.00	55.57		60.00

Data: PXP\_HR\_10\_8B\0001 TRIPLE COMBO 1\004 01-Mar-08 17:08 Up @6643.5f Date: 01-Mar-08 18:45:44

COMPANY PLAINS EXPLORATION AND PRODUCTION CO.

WELL HAWKINS RANCH 10-8B

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**HALLIBURTON**

DUAL SPACED NEUTRON  
SPECTRAL DENSITY  
ARRAY COMP. RESISTIVITY