

**BOREHOLE
COMPENSATED
SONIC
LOG**

Fold here

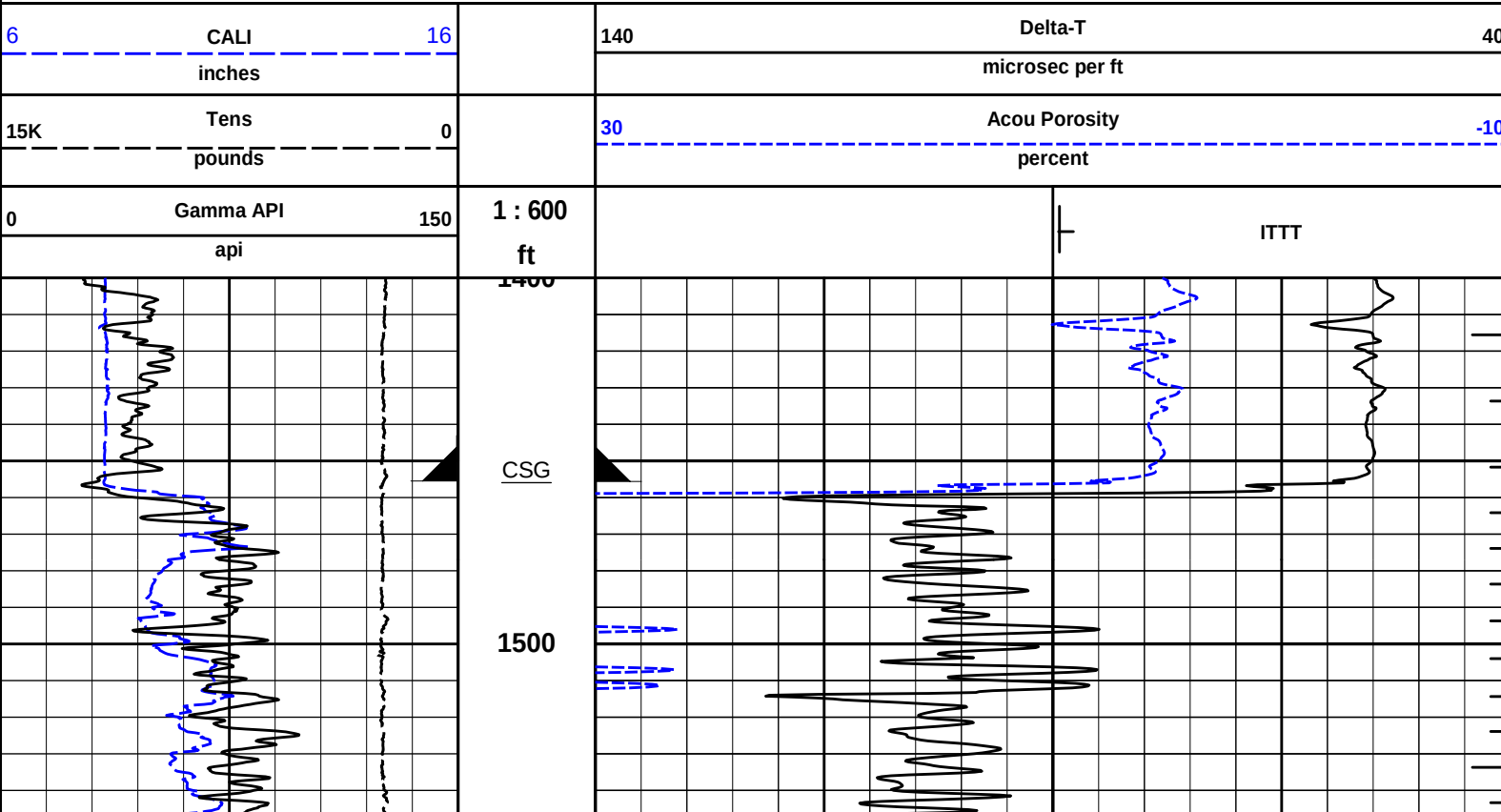
Service Ticket No.: 904406430						API No.: 15-067-21839-00-00		PGM Version: WL INSITE R5.0.5 (Build 8)						
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES								
Date	Sample No.						Type Log	Depth	Scale Up Hole		Scale Down Hole			
Depth-Driller														
Type Fluid in 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.			@		@									
Rmc @ Meas. Temp.			@		@									
Source Rmf	Rmc													
Rm @ BHT			@		@									
Rmf @ BHT			@		@									
Rmc @ BHT			@		@									
EQUIPMENT DATA														
GAMMA			ACOUSTIC			DENSITY			NEUTRON					
Run No.			Run No.			Run No.			Run No.					
Serial No.			Serial No.			Serial No.			Serial No.					
Model No.			Model No.			Model No.			Model No.					
Diameter			No. of Cent.			Diameter			Diameter					
Detector Model No.			Spacing			Log Type			Log Type					
Type						Source Type			Source Type					
Length			LSA [Y/N]			Serial No.			Serial No.					
Distance to Source			FWDA [Y/N]			Strength			Strength					
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	

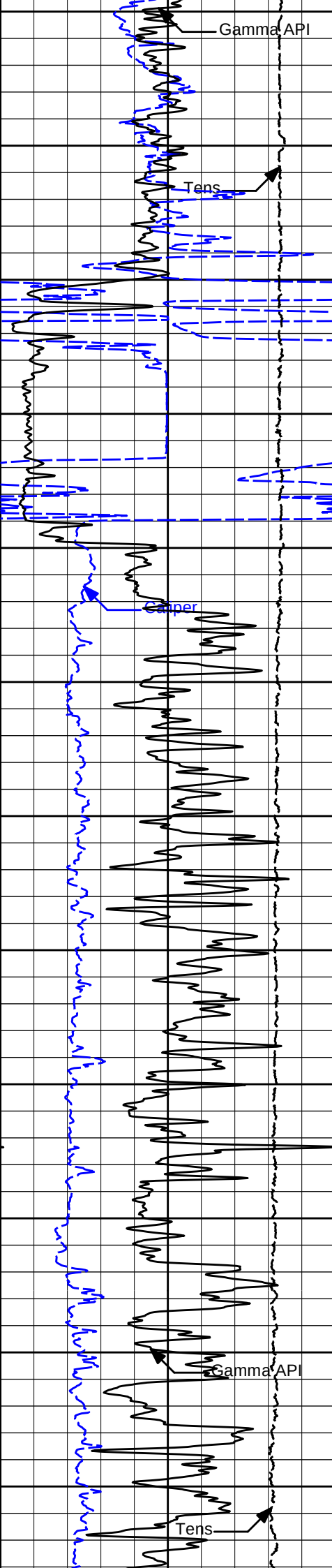
[illegible]

Plot Time: 01-Nov-17 09:12:11
Plot Range: 1400 ft to 6613.83 ft
Data: MERIT_LCSLUIWell Based\DAQ-0001-004
Plot File: \\BSAT\BSAT_2inch

2 INCH MAIN LOG

2" MAIN LOG SECTION





1600

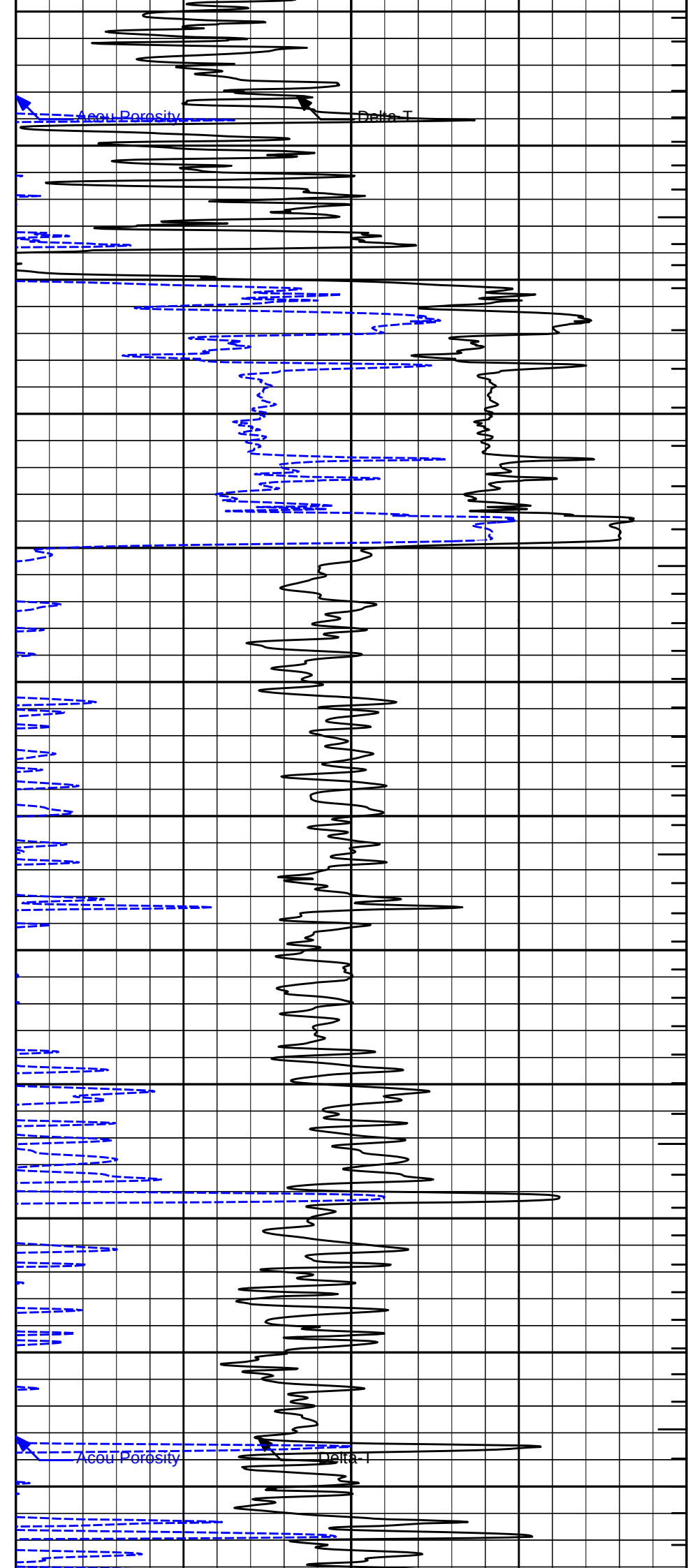
1700

1800

1900

2000

2100

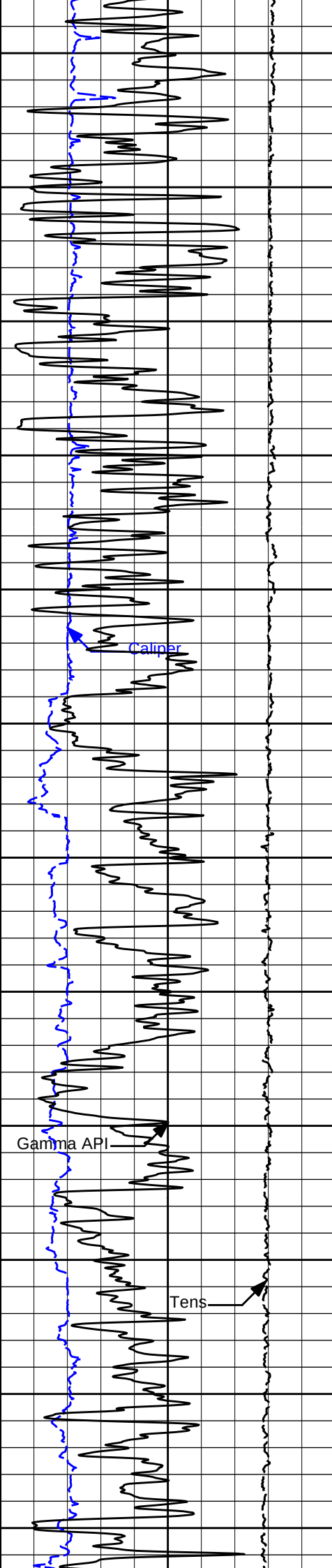


Acou Porosity

Delta T

Acou Porosity

Delta T



2200

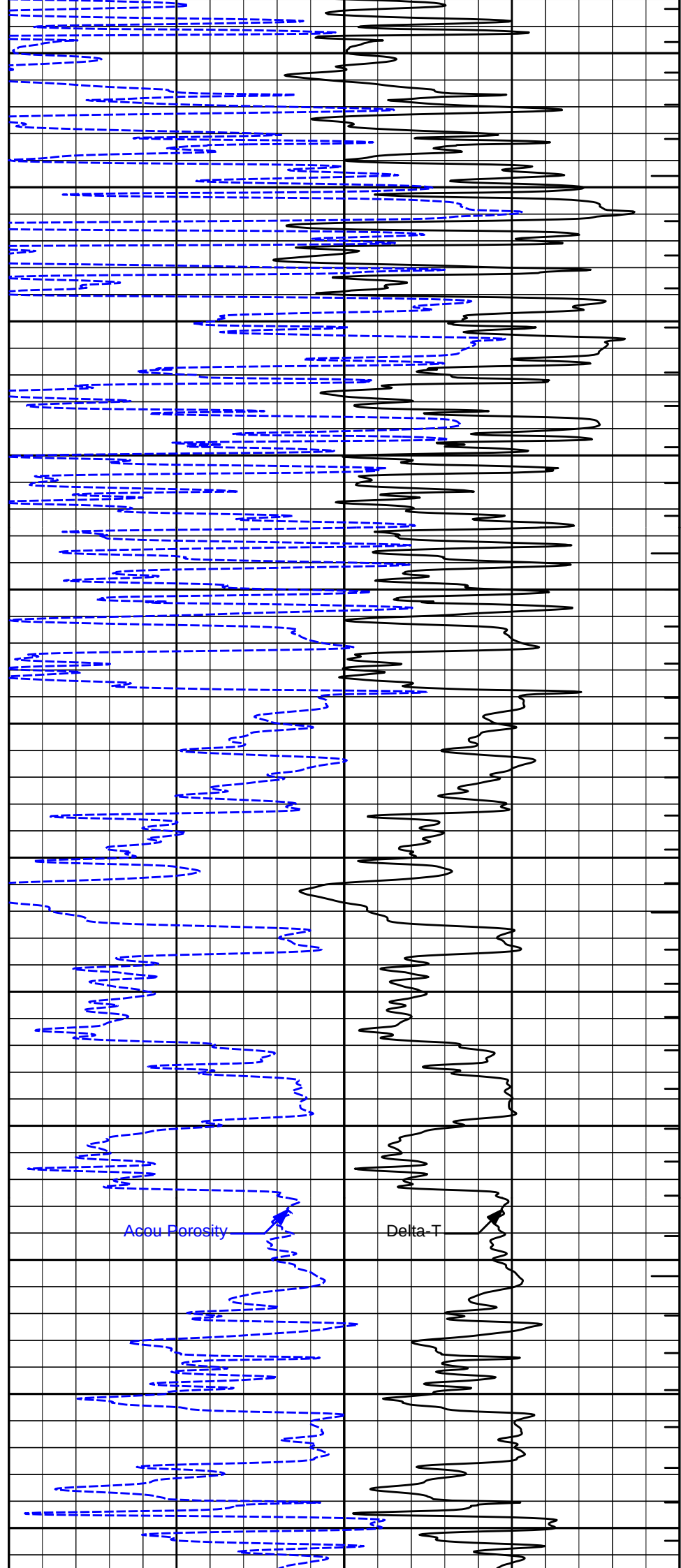
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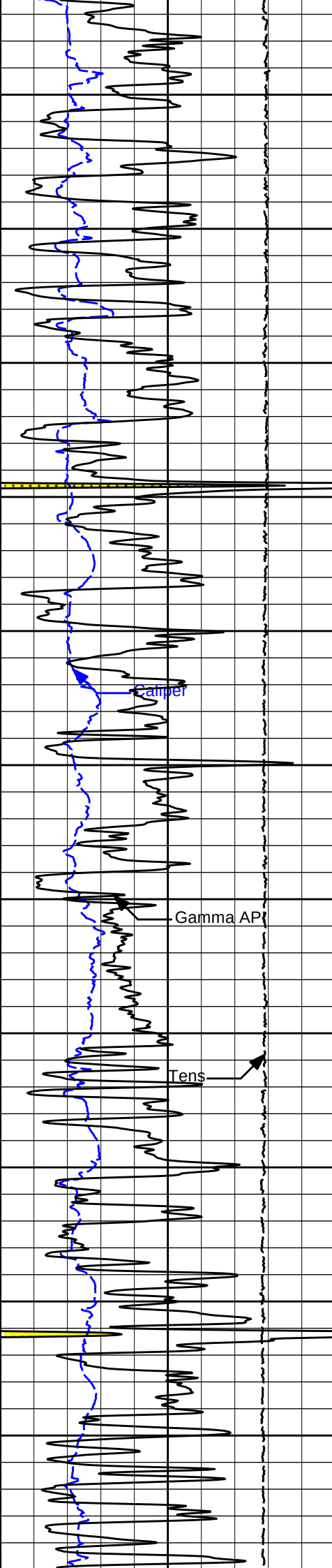
2400

2500

2600

2700





2800

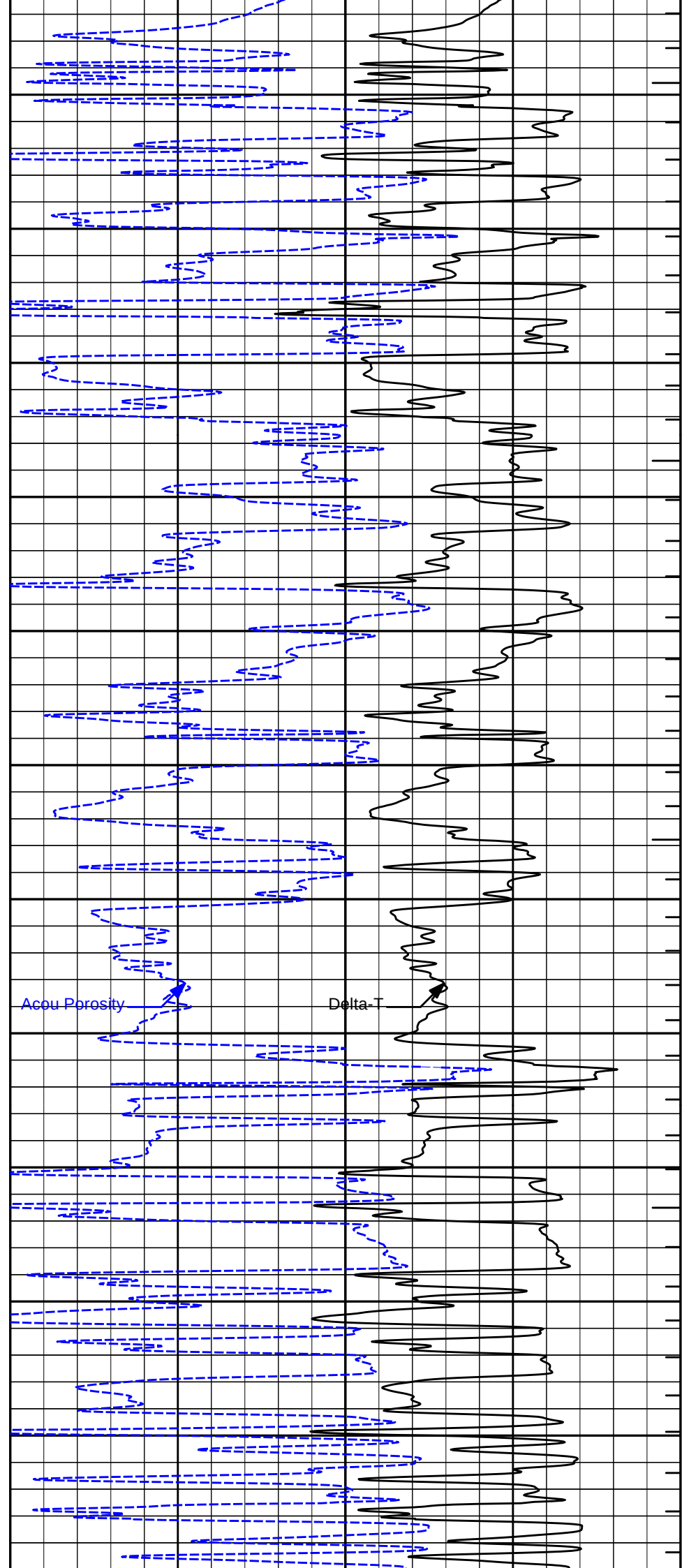
2900

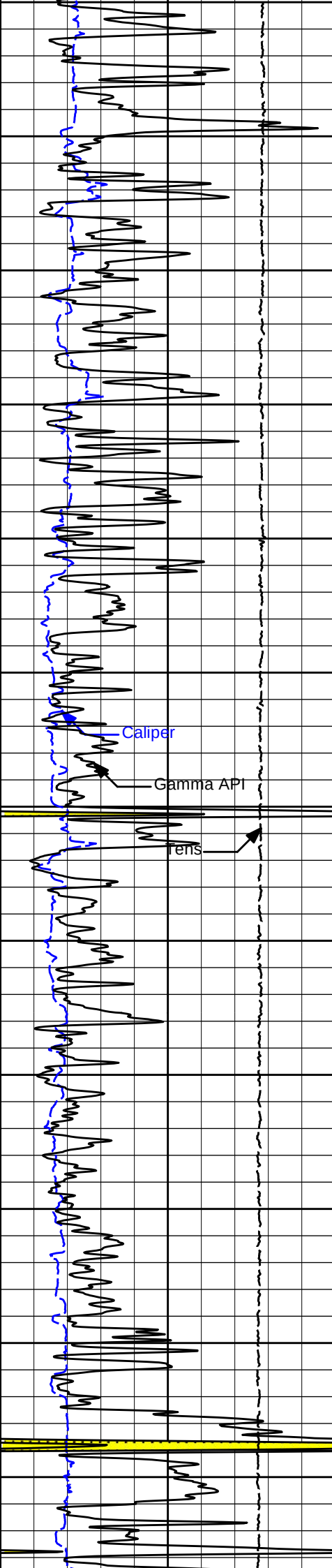
3000

3100

3200

3300





3300

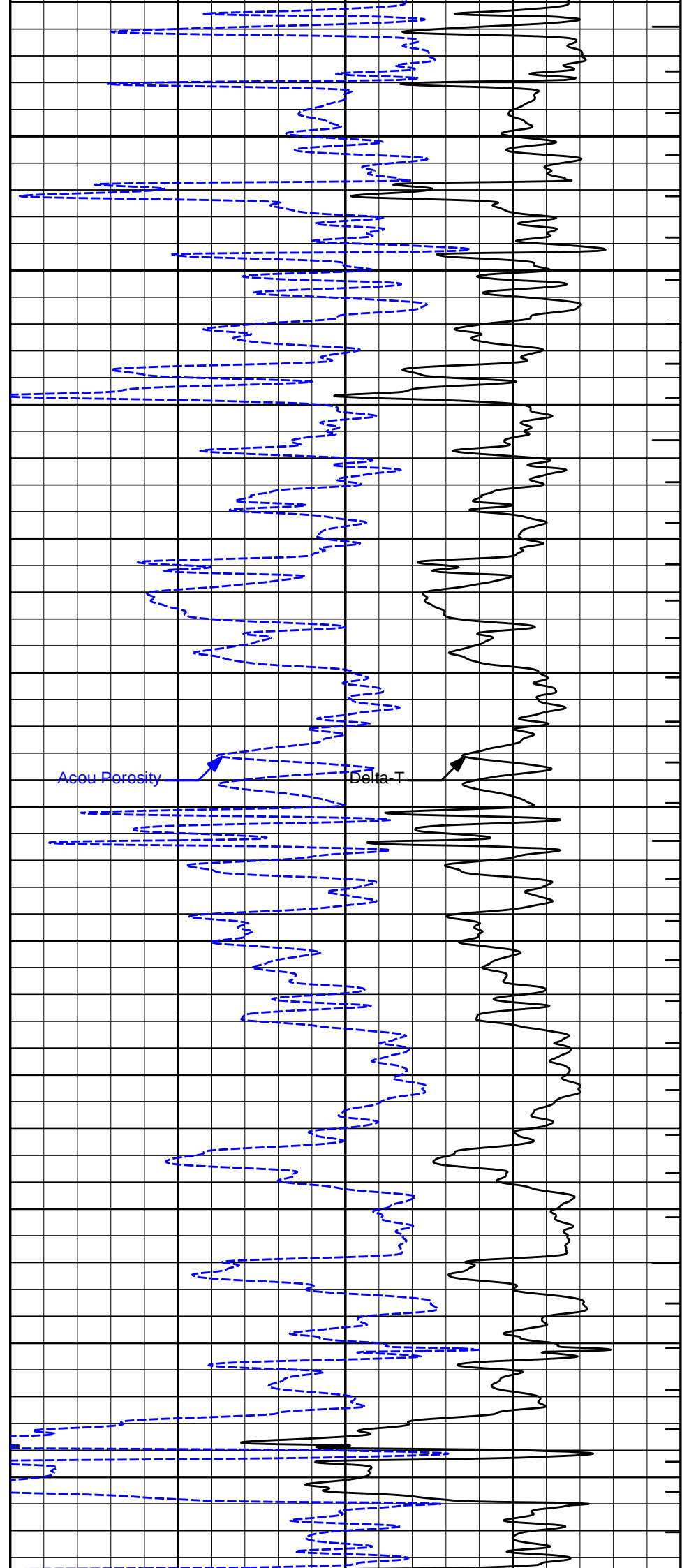
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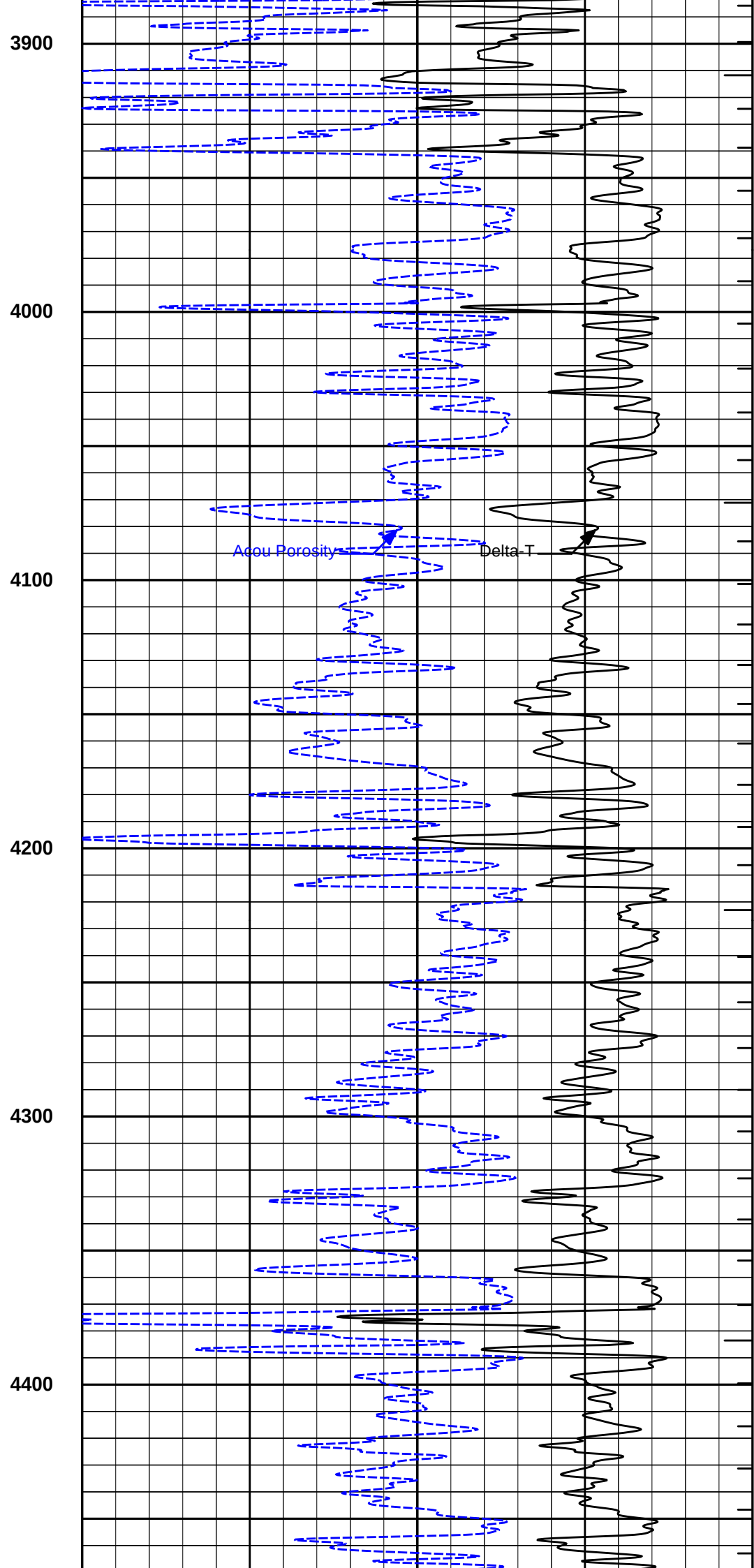
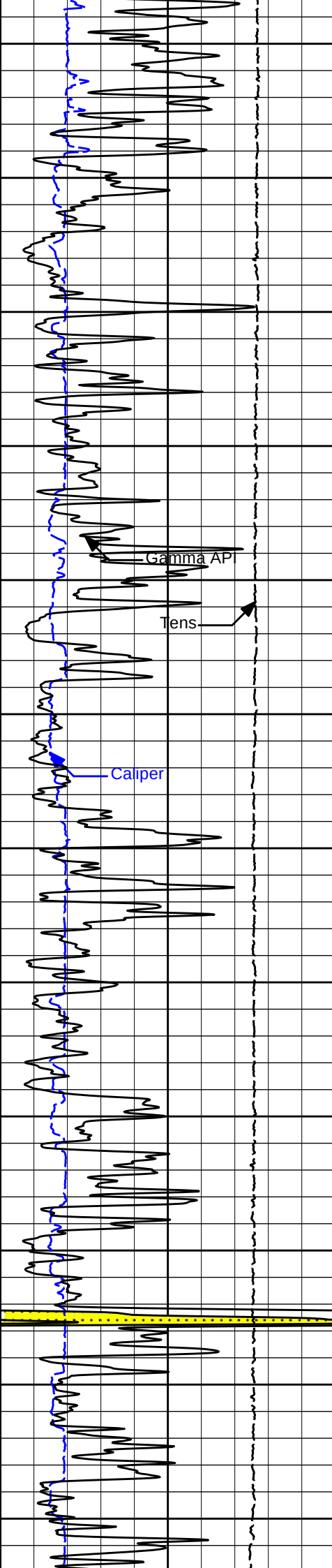
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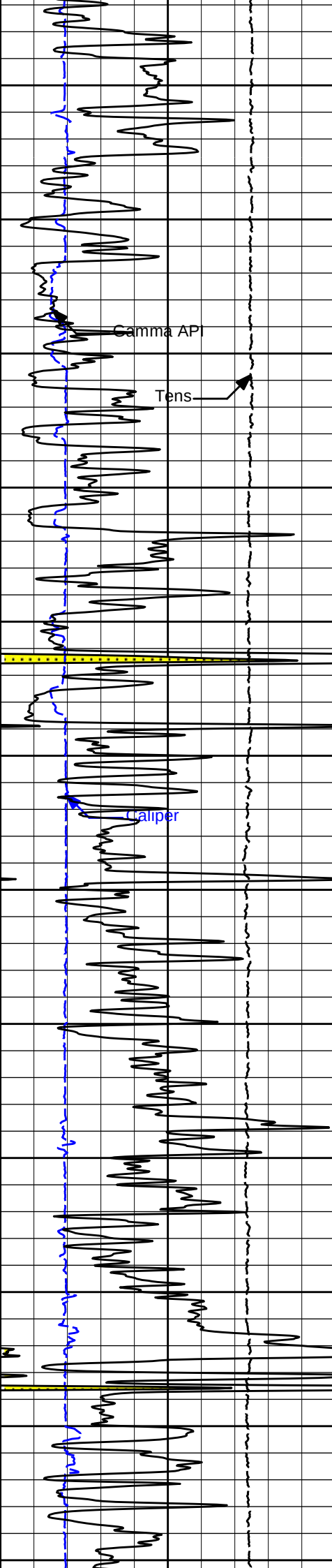
3600

3700

3800







4500

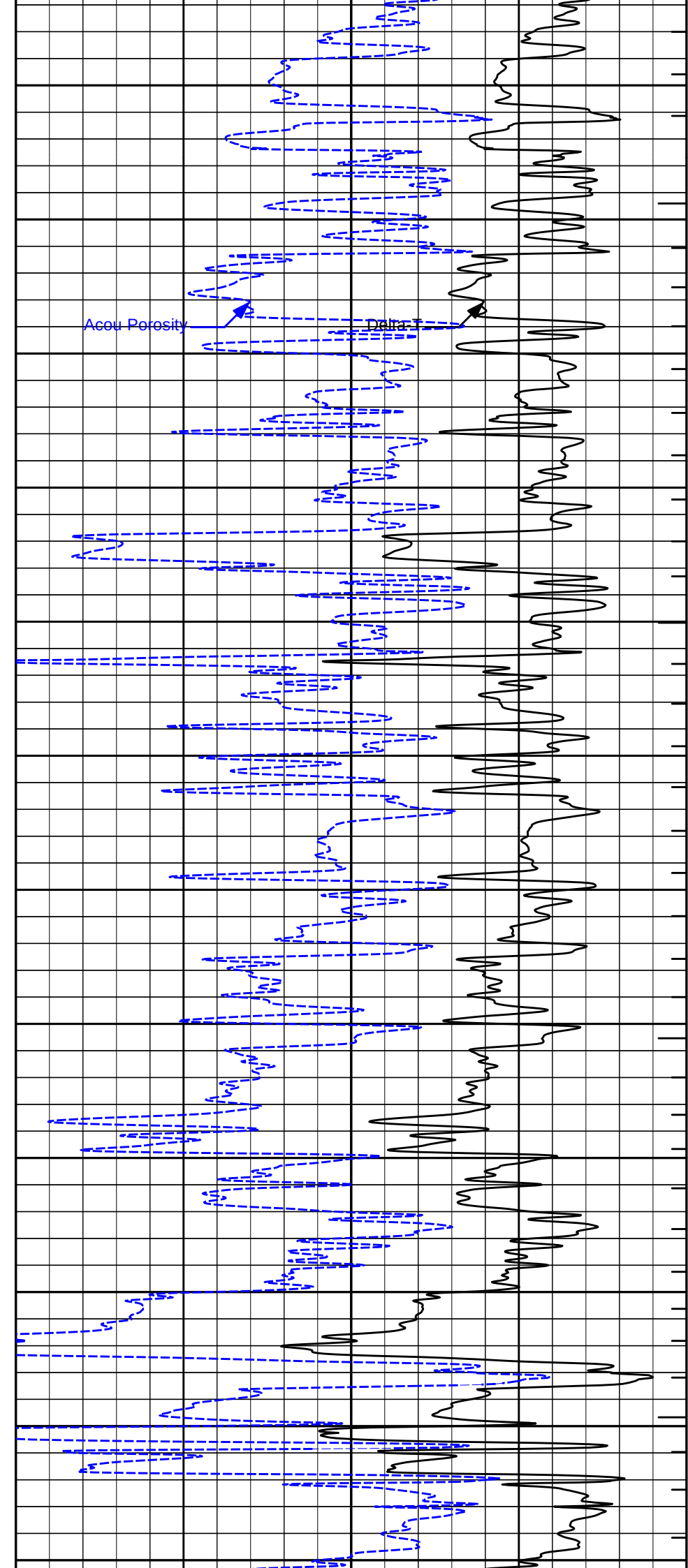
4600

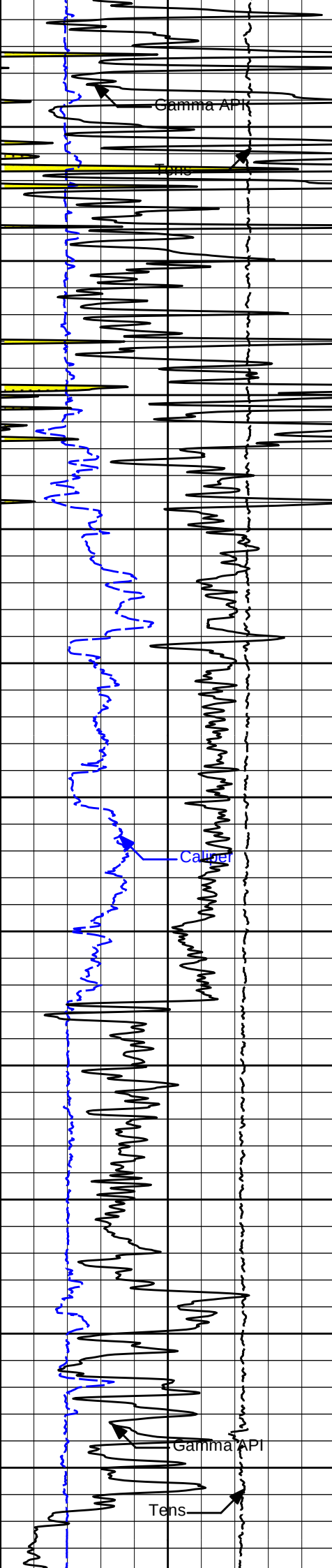
4700

4800

4900

5000





5100

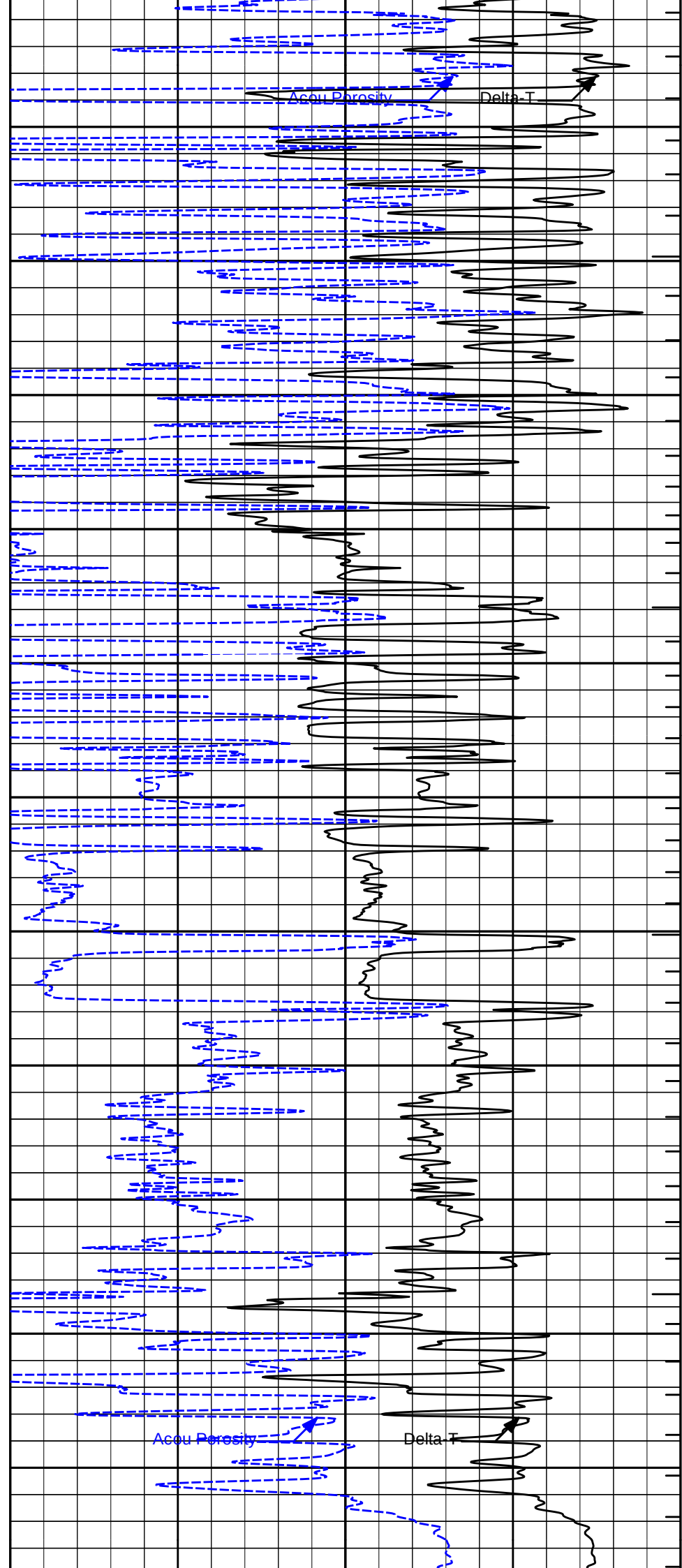
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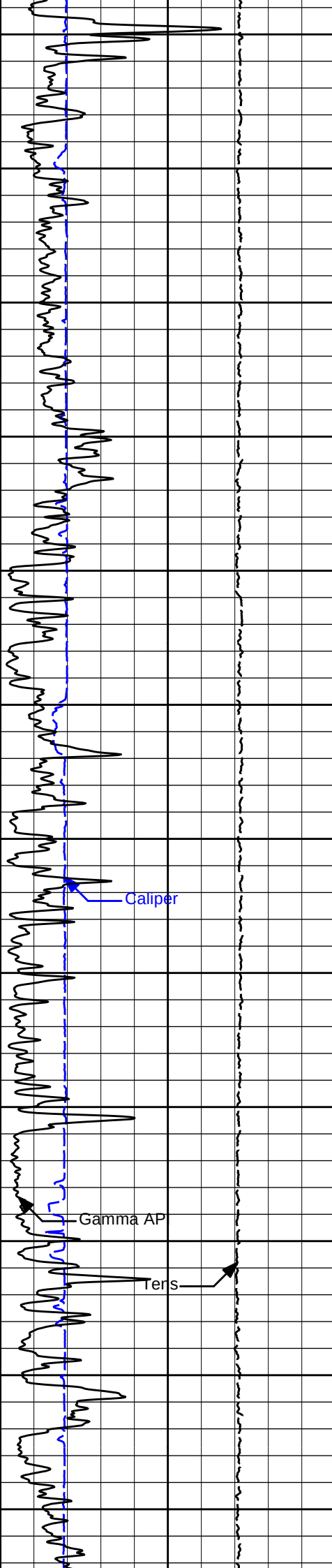
5300

5400

5500

5600





5700

5800

5900

6000

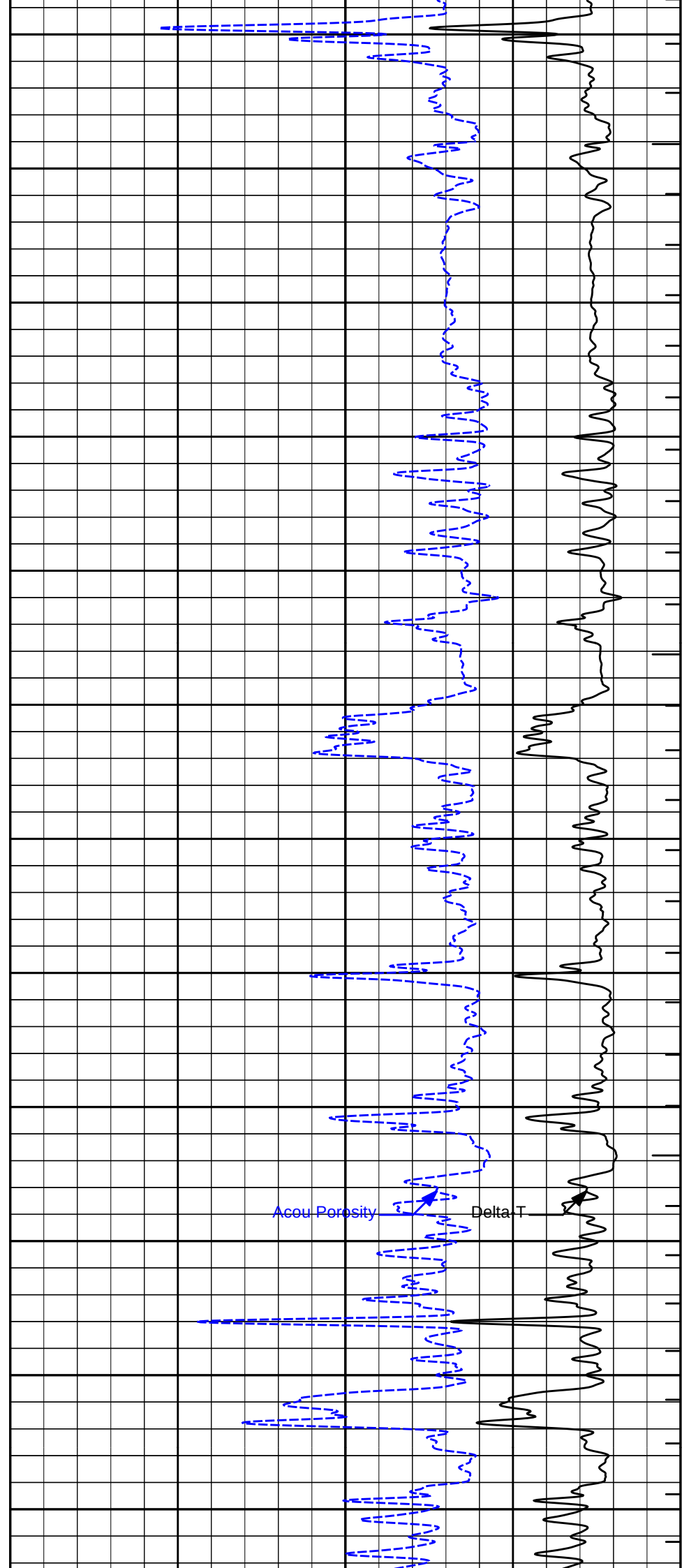
6100

6200

Caliper

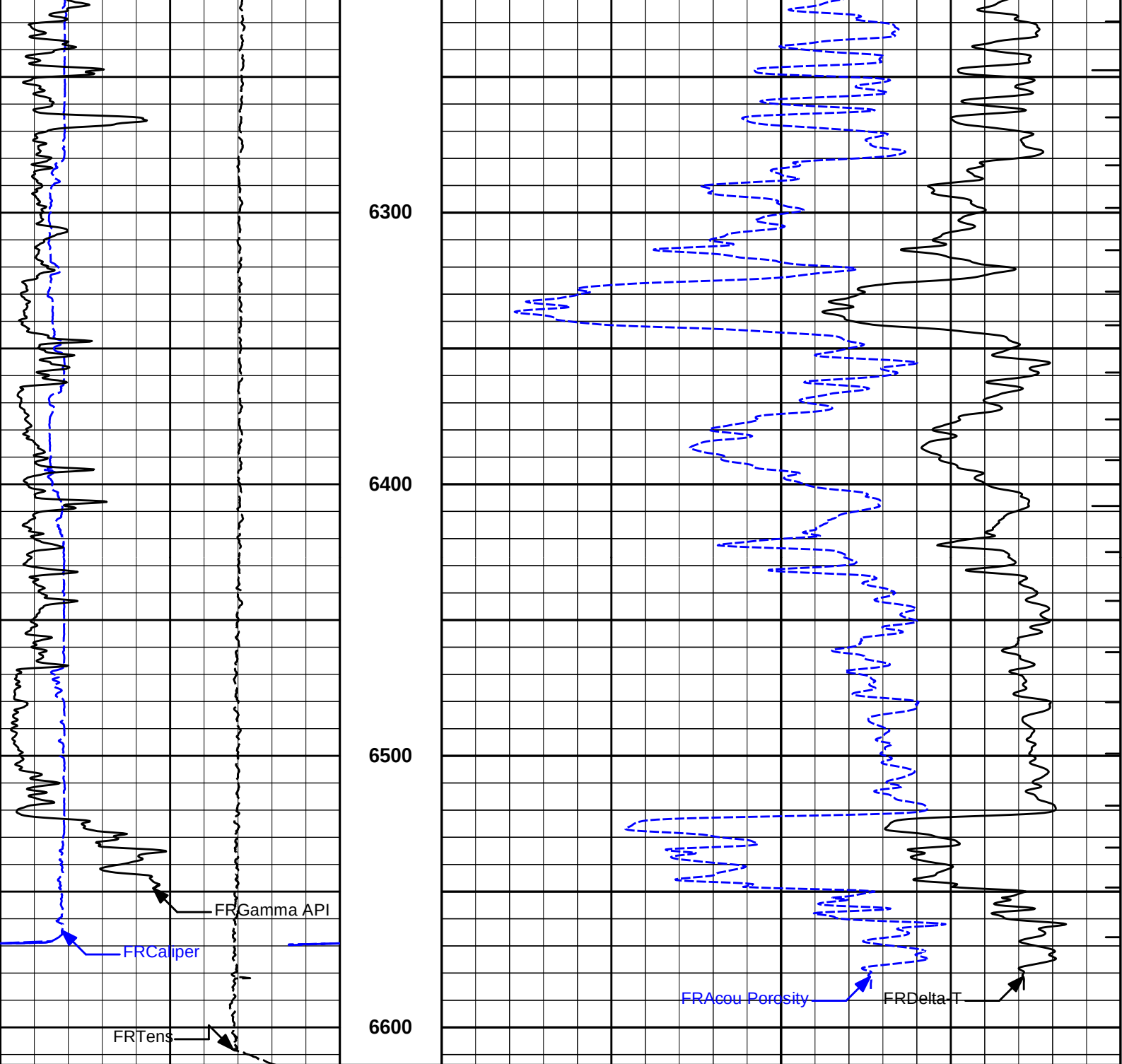
Gamma AP

Ters



Acou Porosity

Delta T



0	Gamma API	150	1 : 600		ITTT
	api		ft		
15K	Tens	0		30	Acou Porosity
	pounds				percent
6	CALI	16		140	Delta-T
	inches				microsec per ft

HALLIBURTON

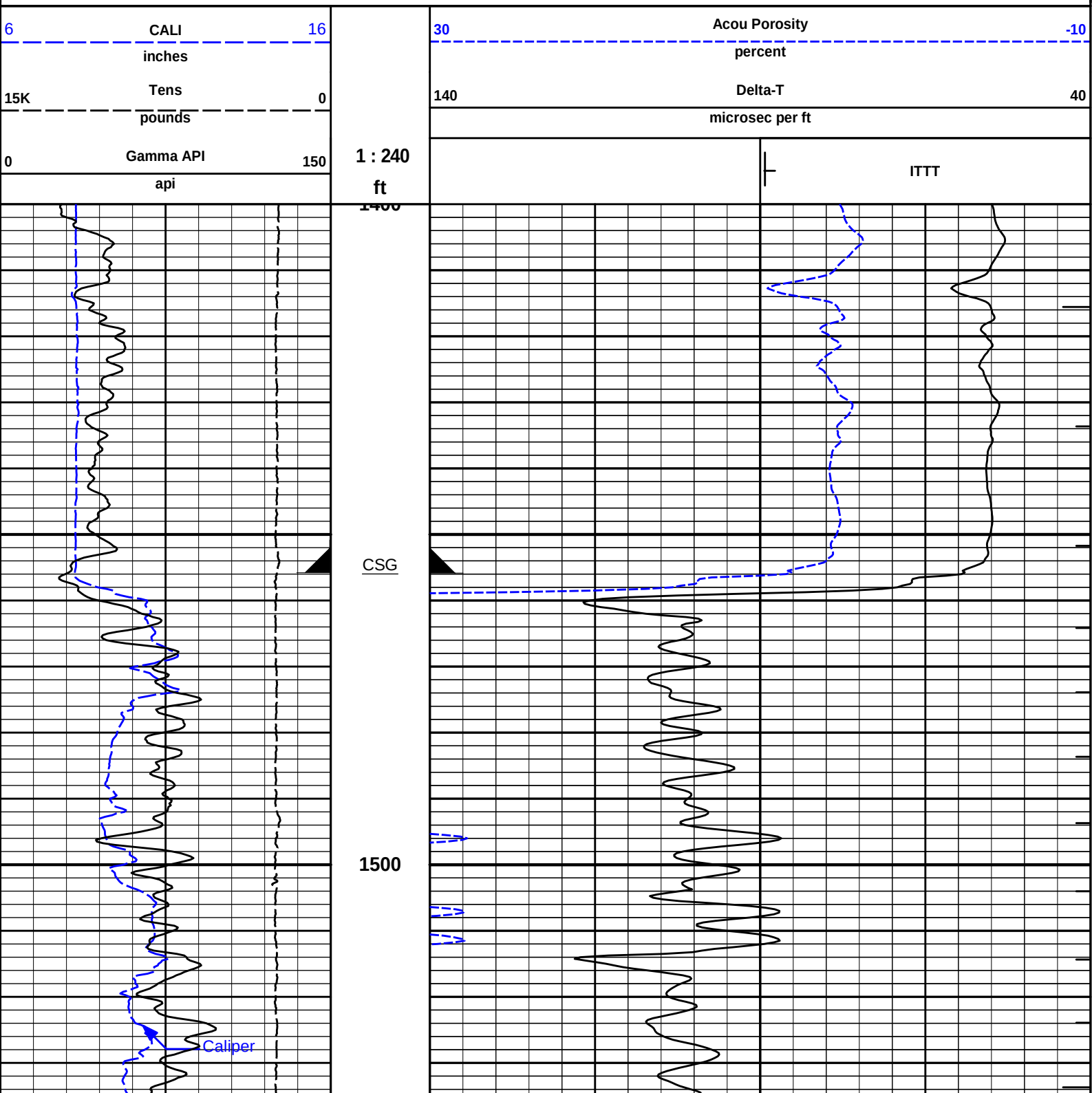
Plot Time: 01-Nov-17 09:12:17
 Plot Range: 1400 ft to 6613.83 ft
 Data: MERIT_LCSLU\Well Based\DAQ-0001-004\
 Plot File: \\BSAT\BSAT_2inch

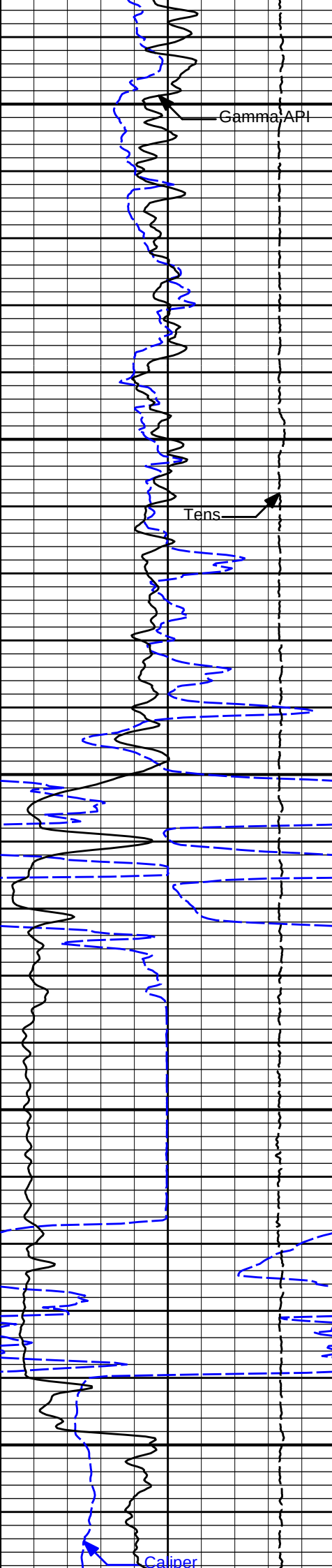
2 INCH MAIN LOG

2" MAIN LOG SECTION

5 INCH MAIN LOG

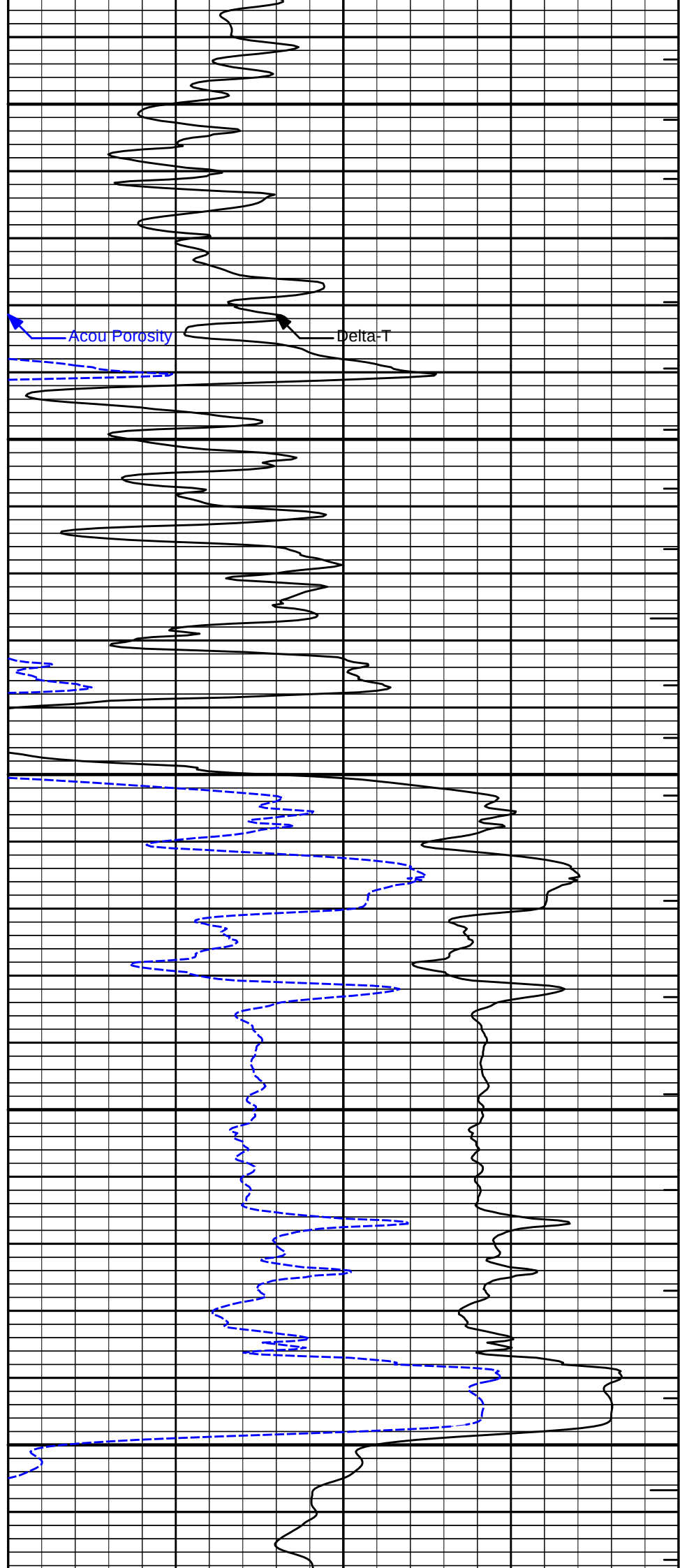
MAIN LOG SECTION

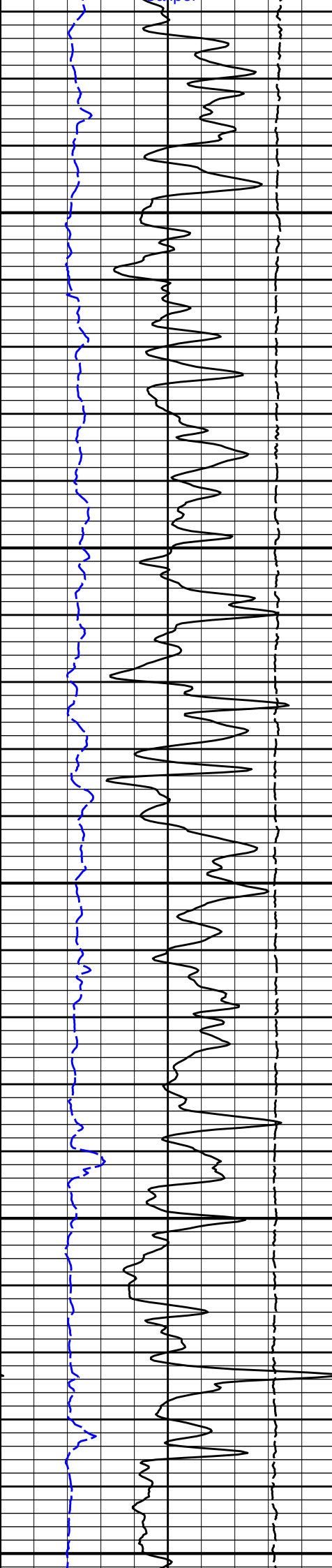




1600

1700

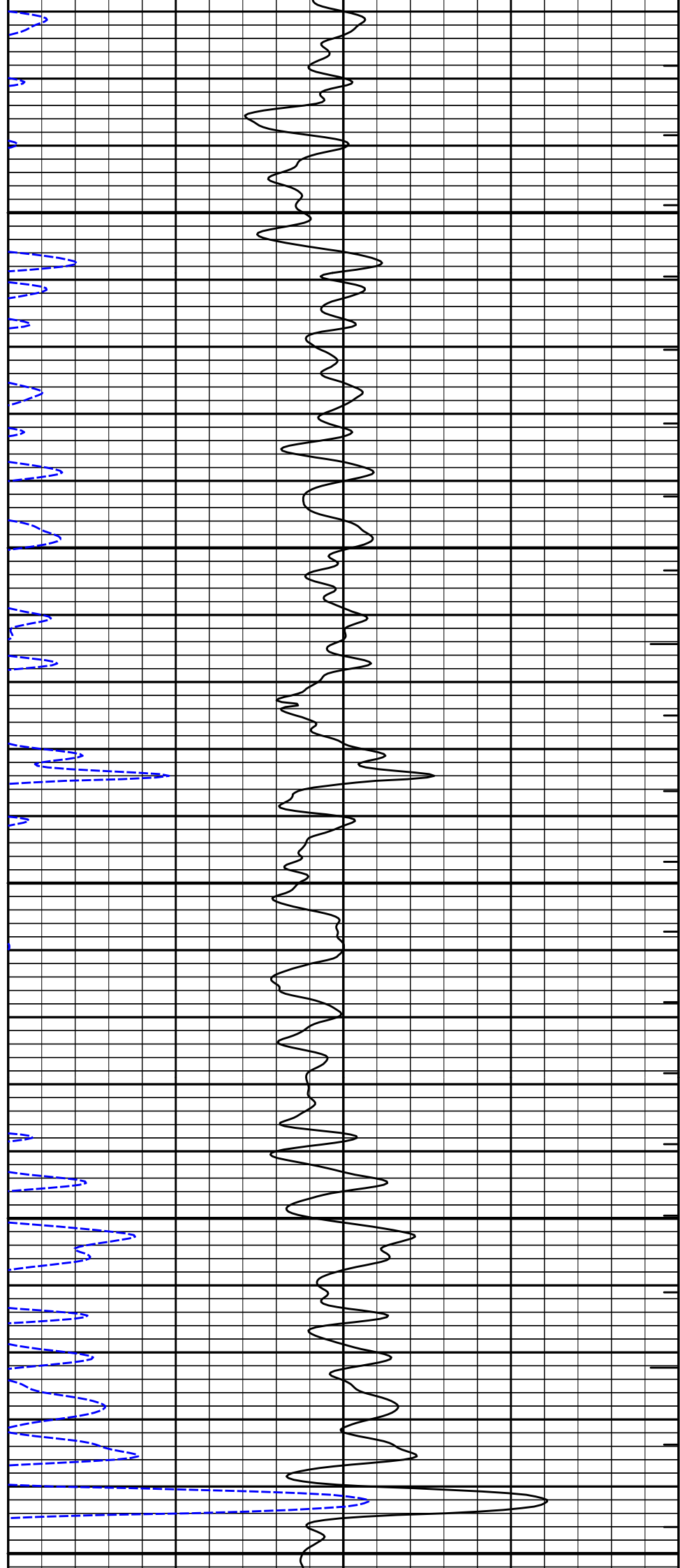


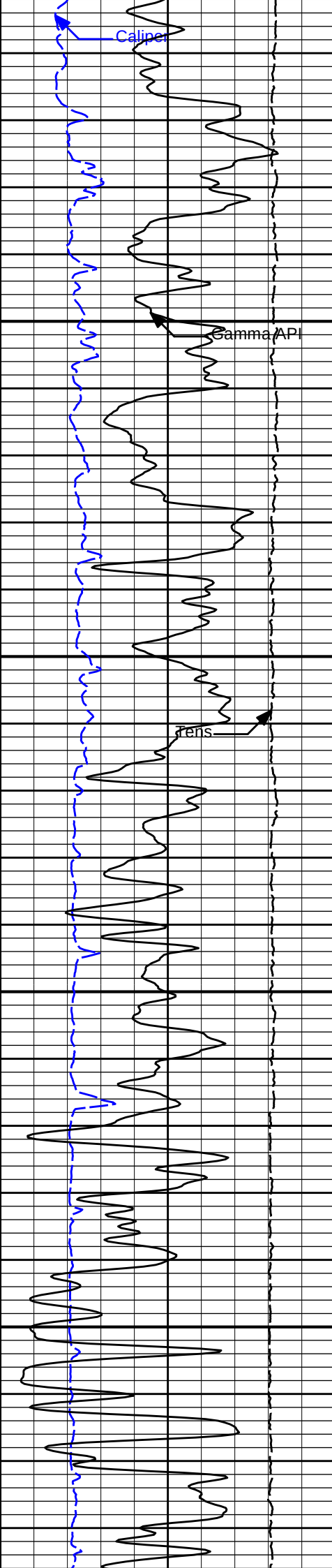


1800

1900

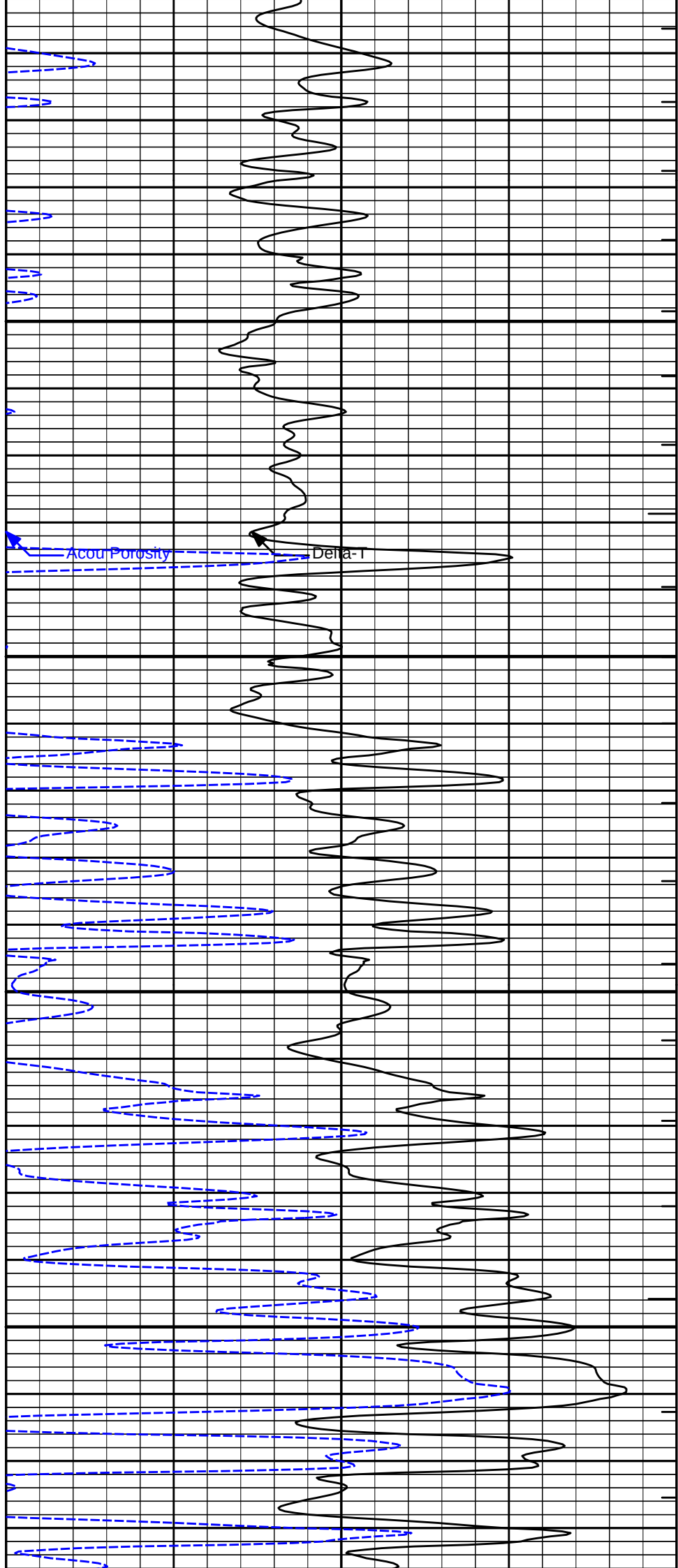
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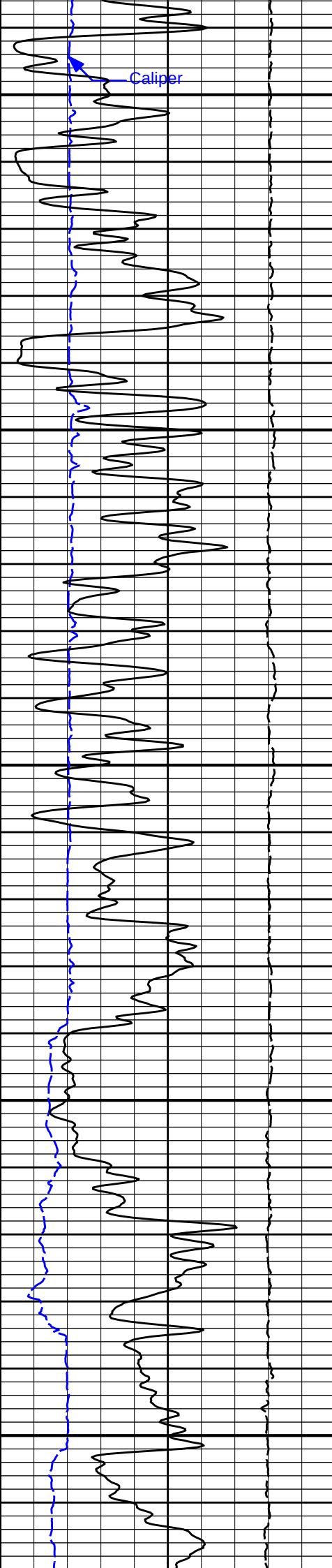




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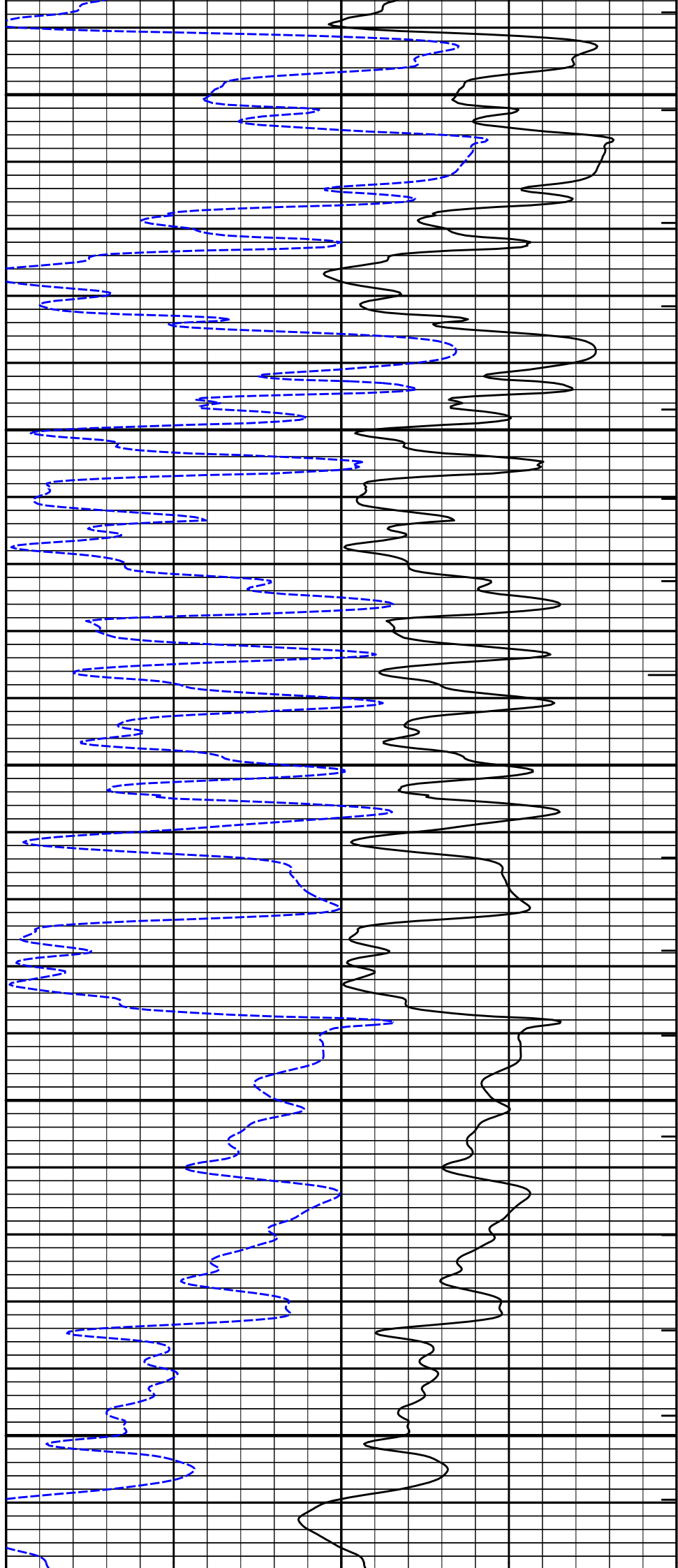
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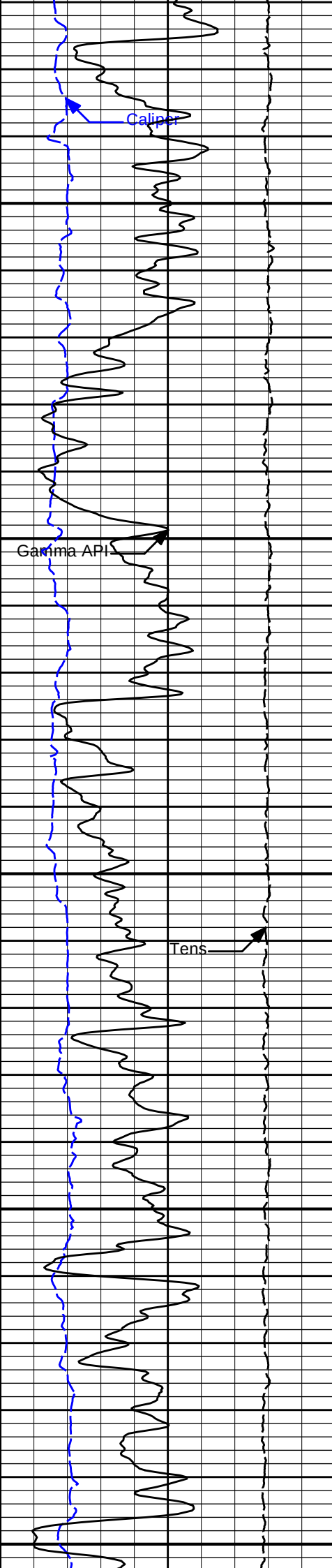




2300

2400

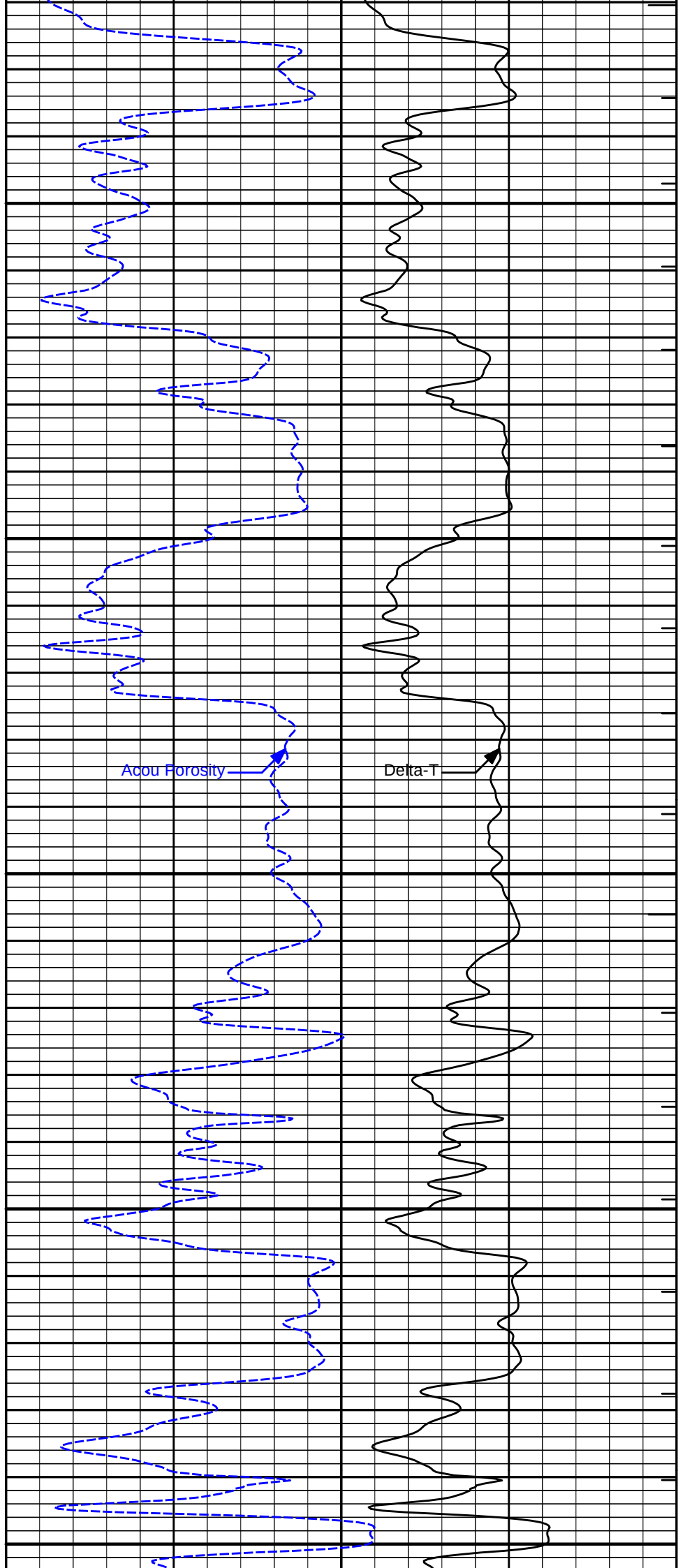


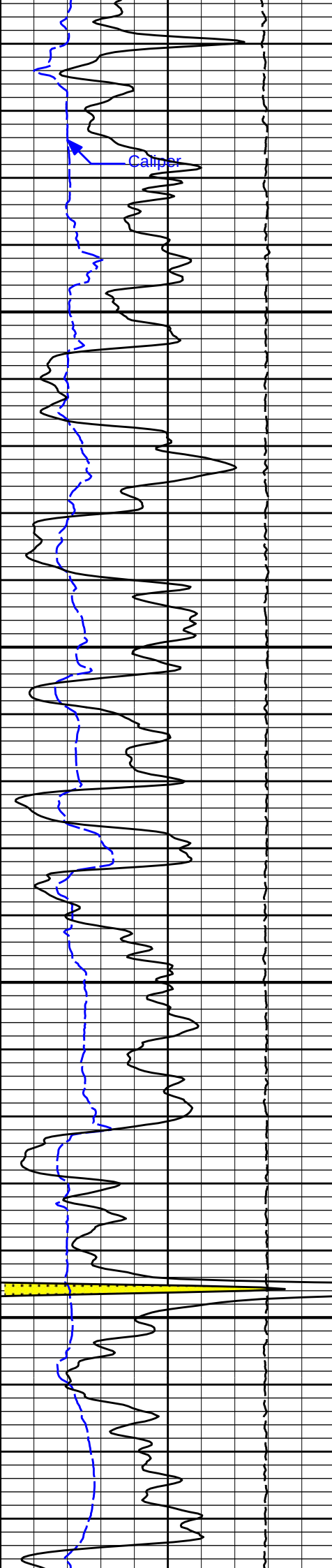


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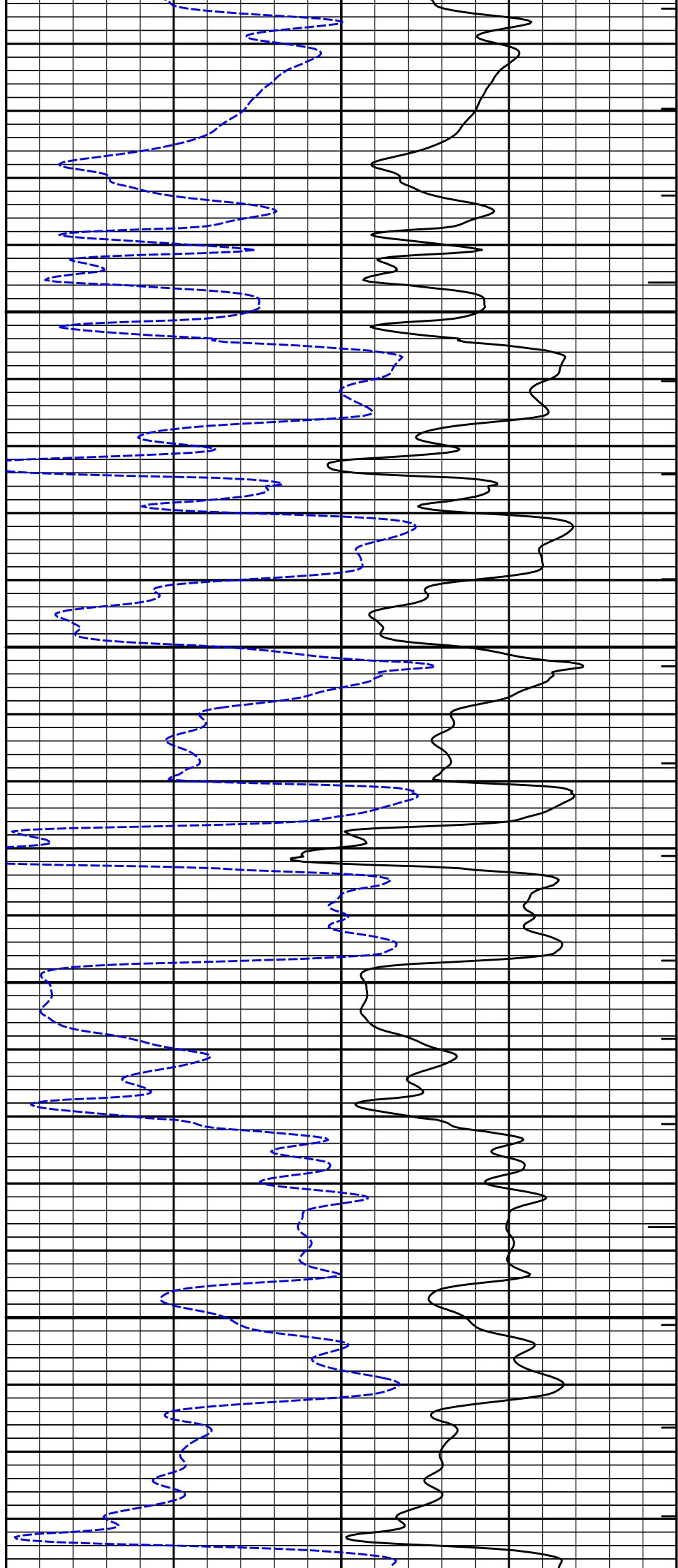
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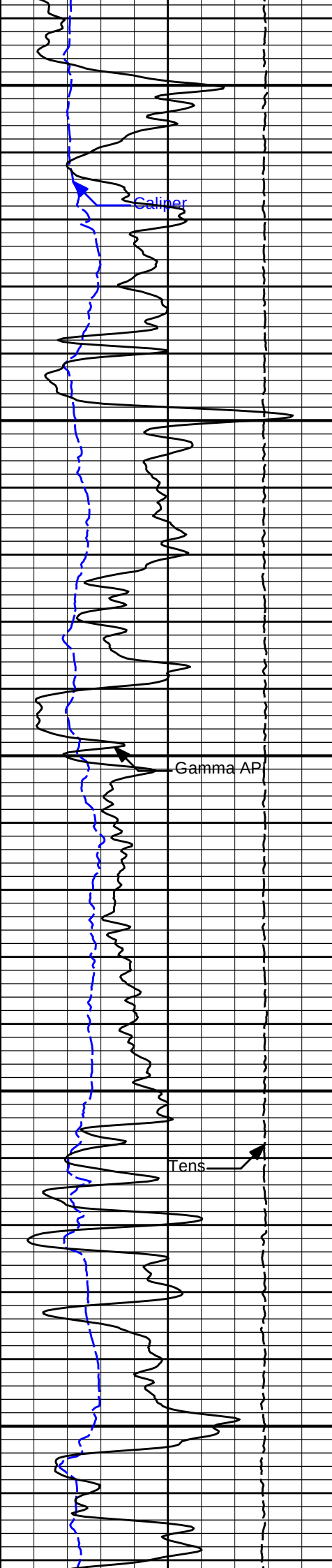




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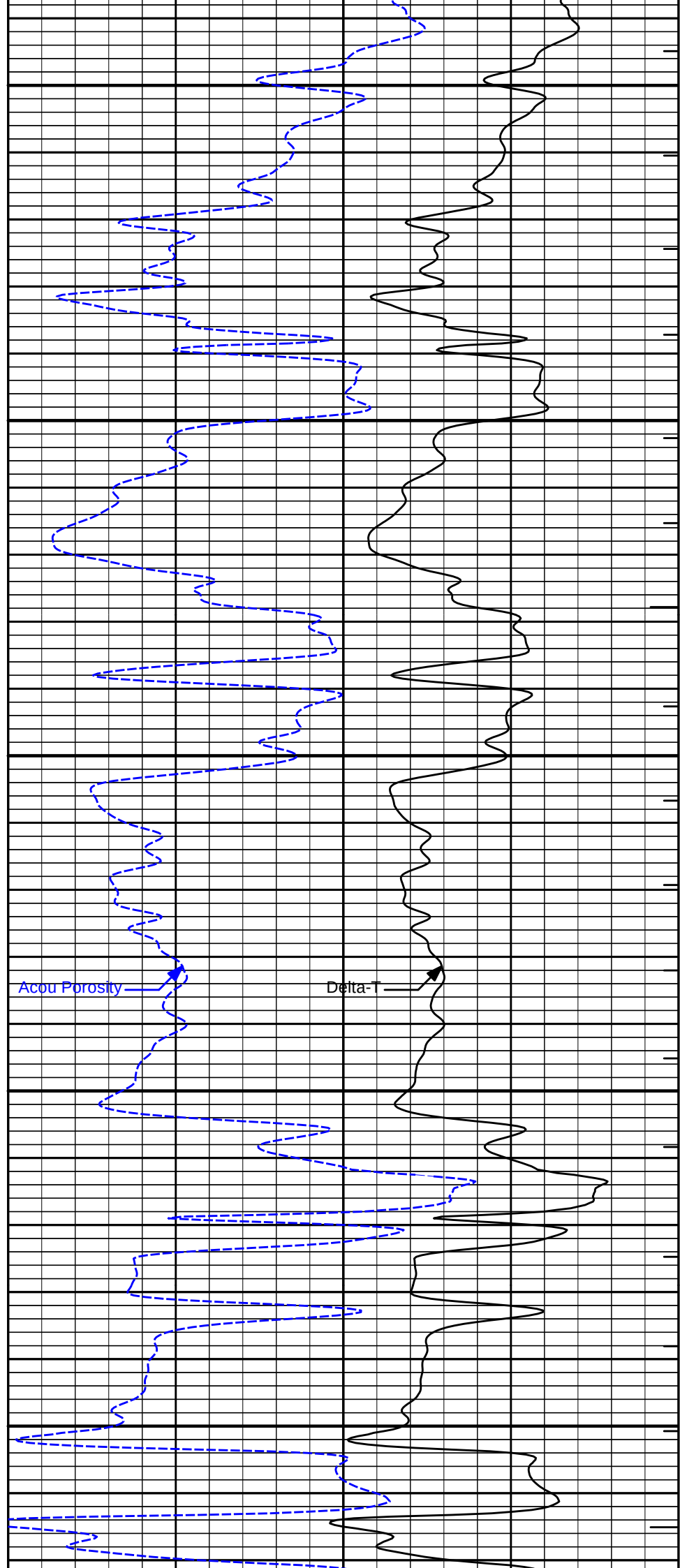
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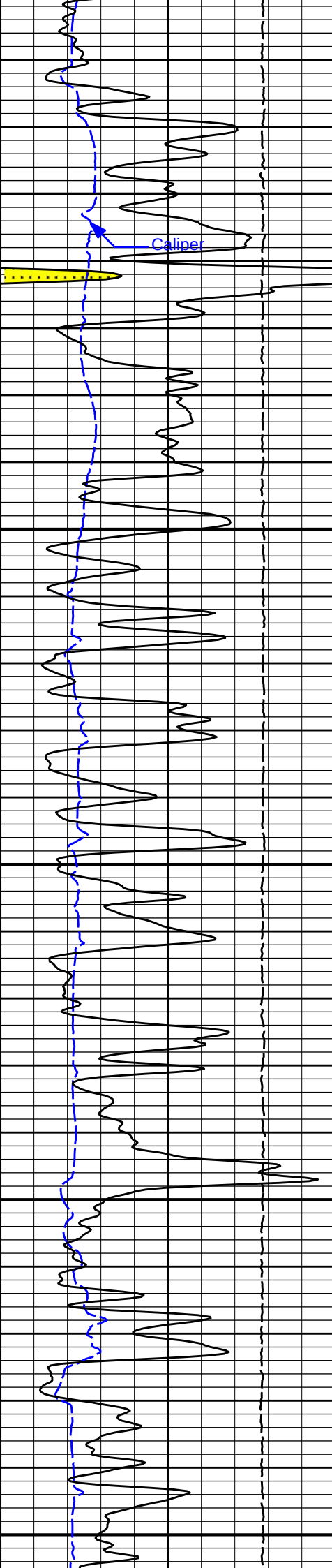




3000

3100

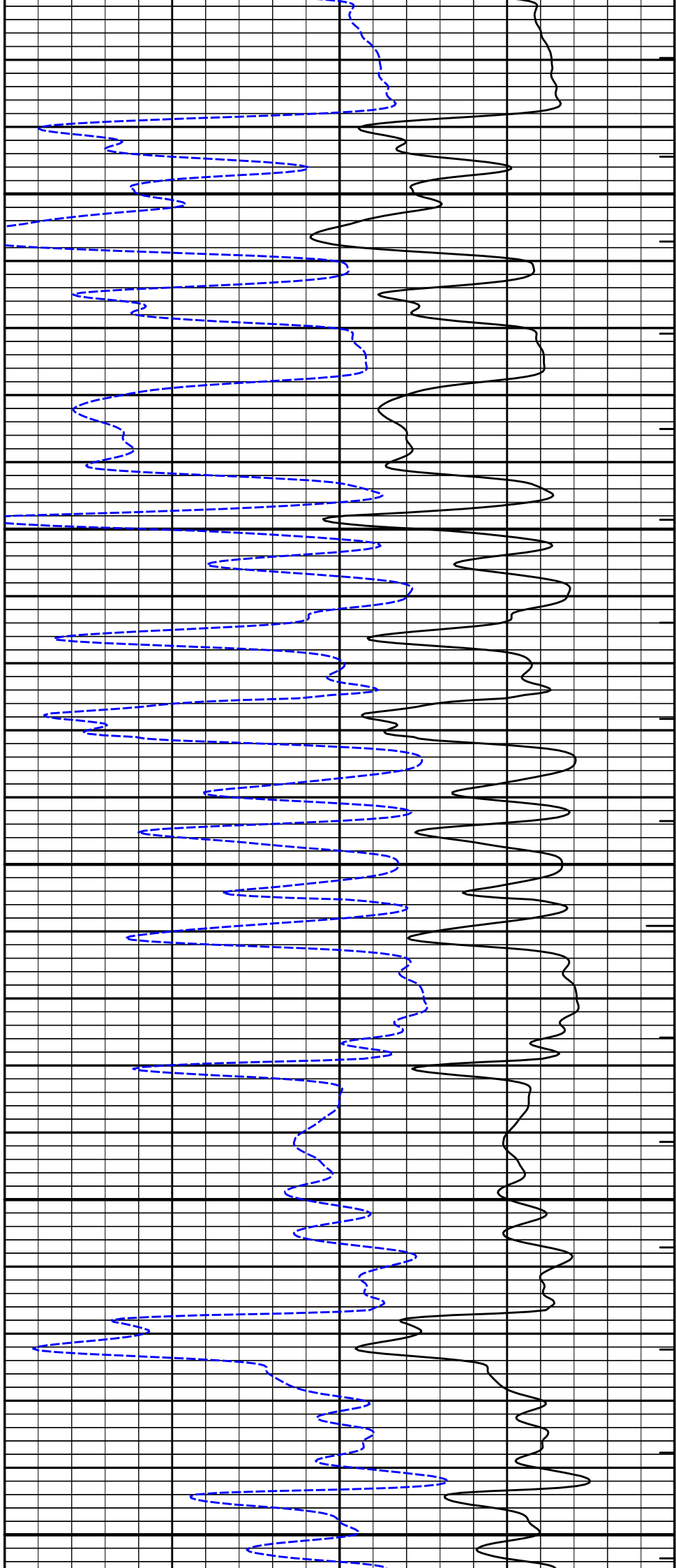


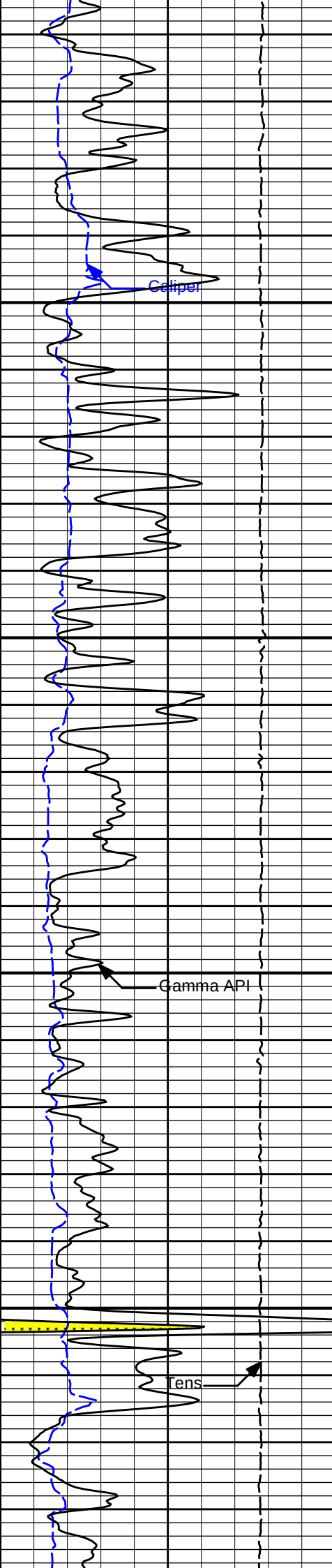


3200

3300

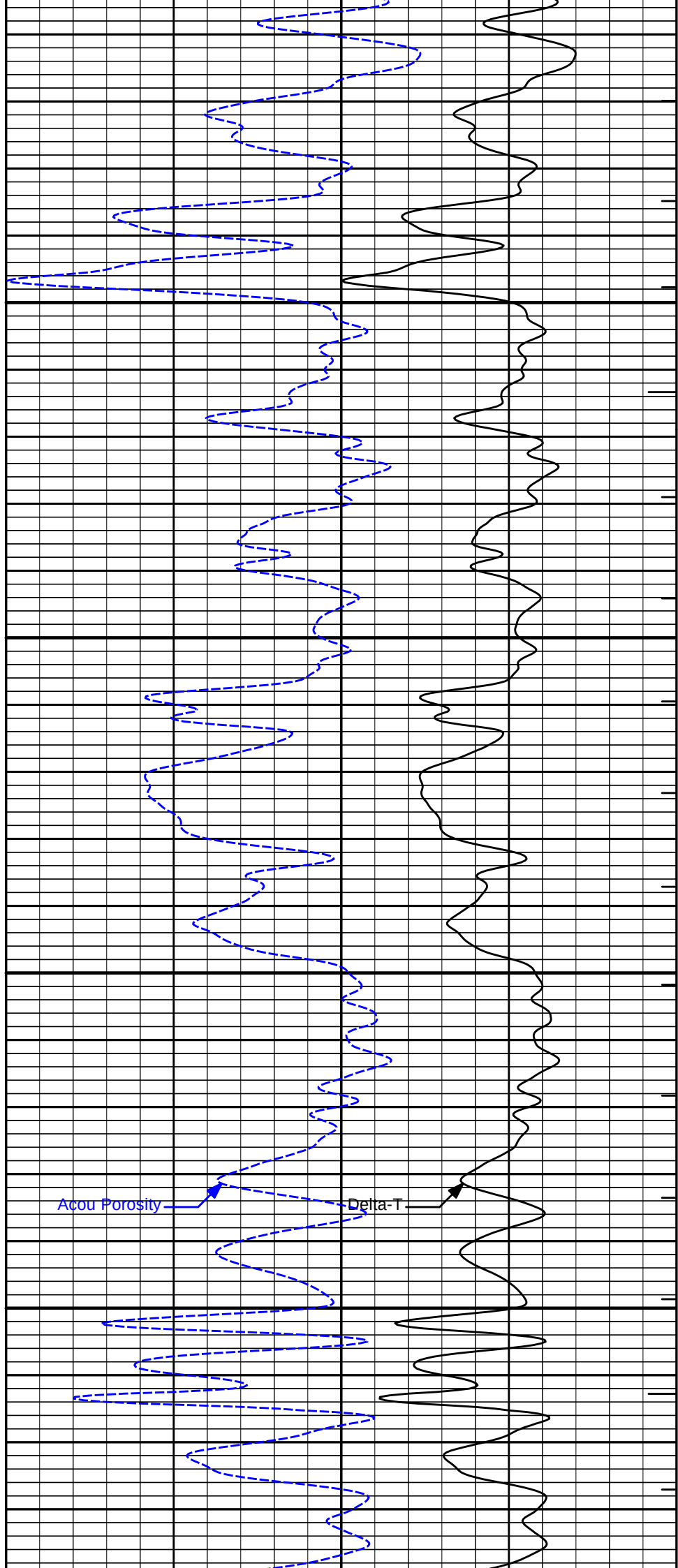
3400

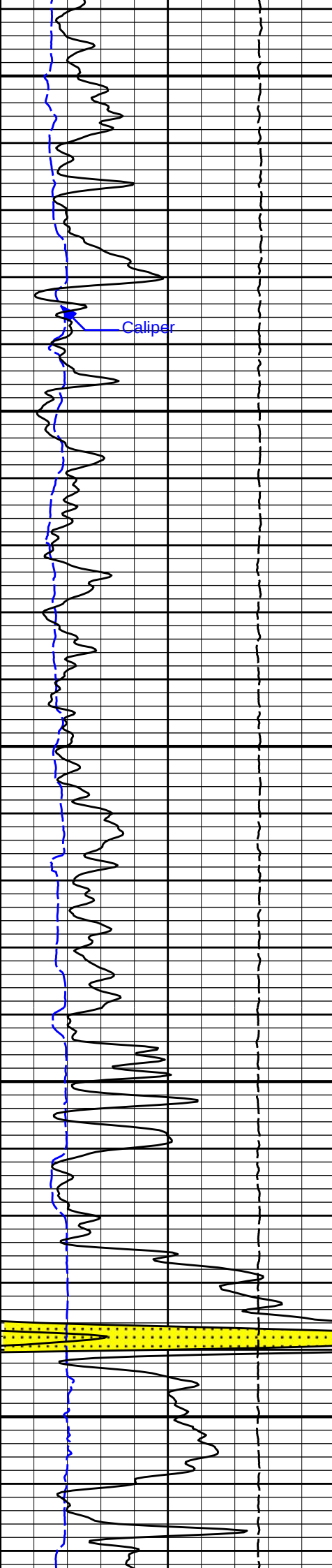




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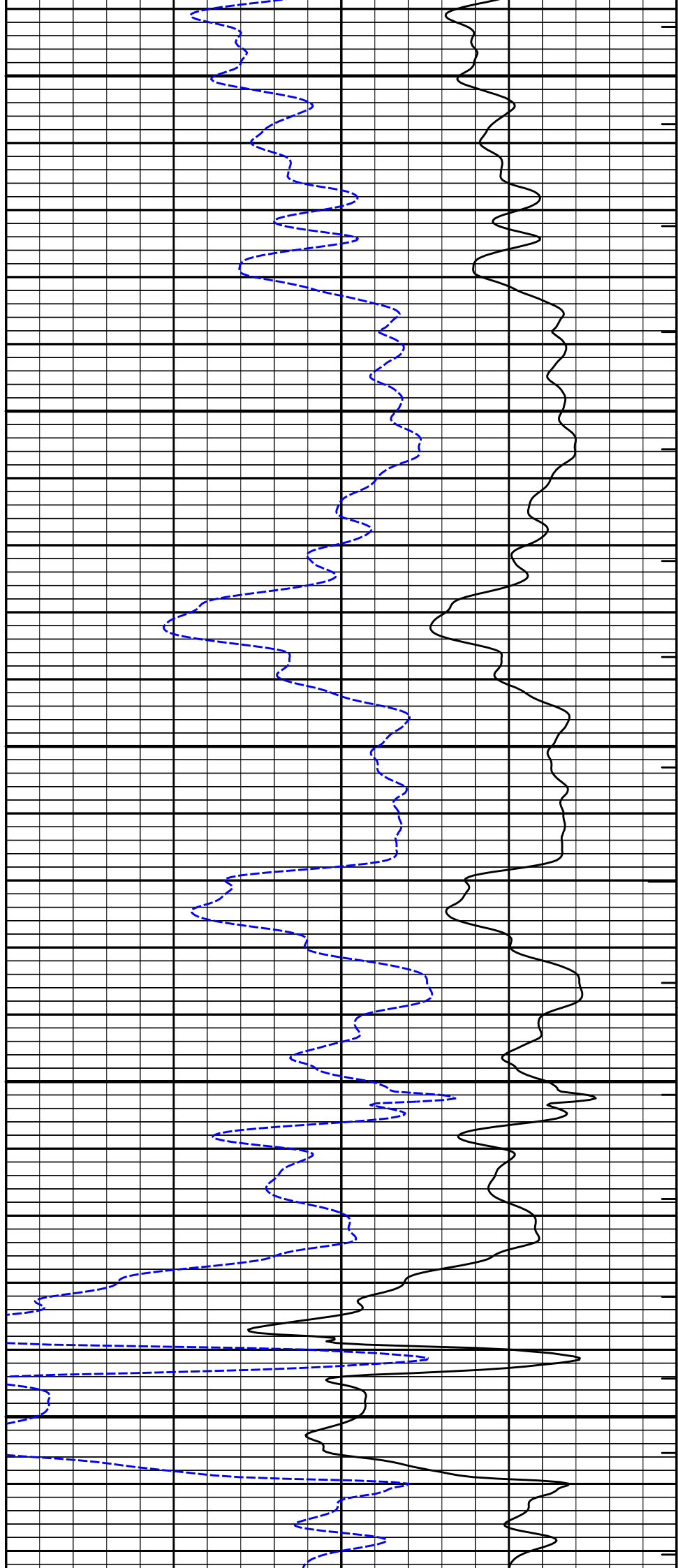
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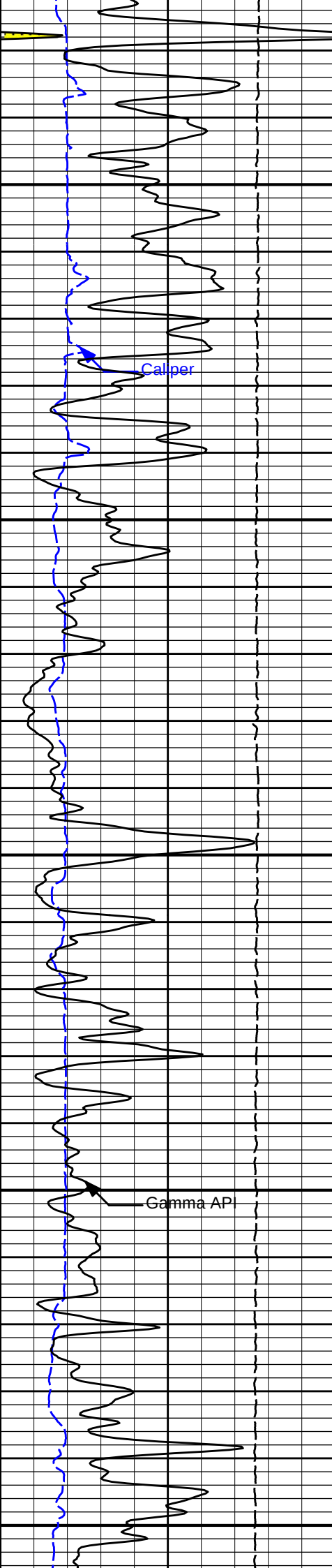




3700

3800



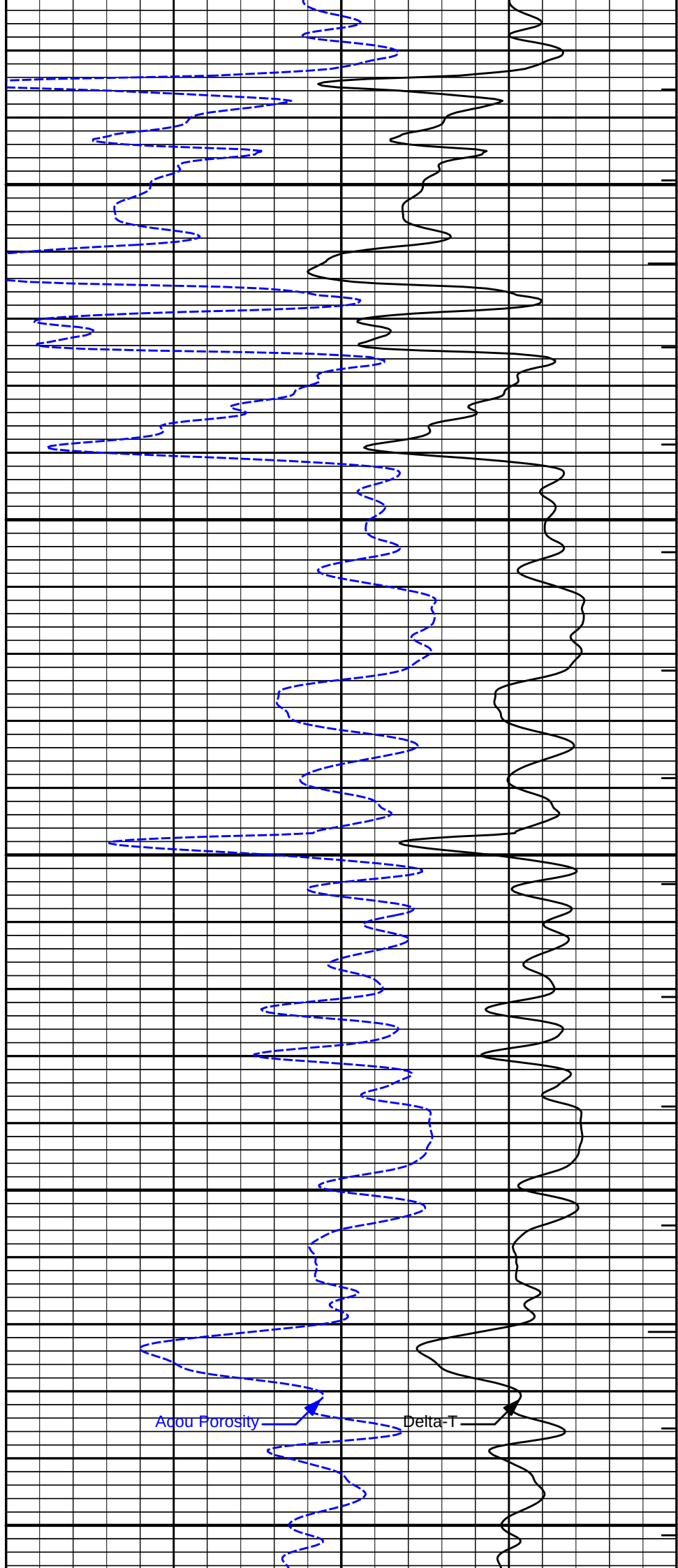


3900

4000

Gamma API

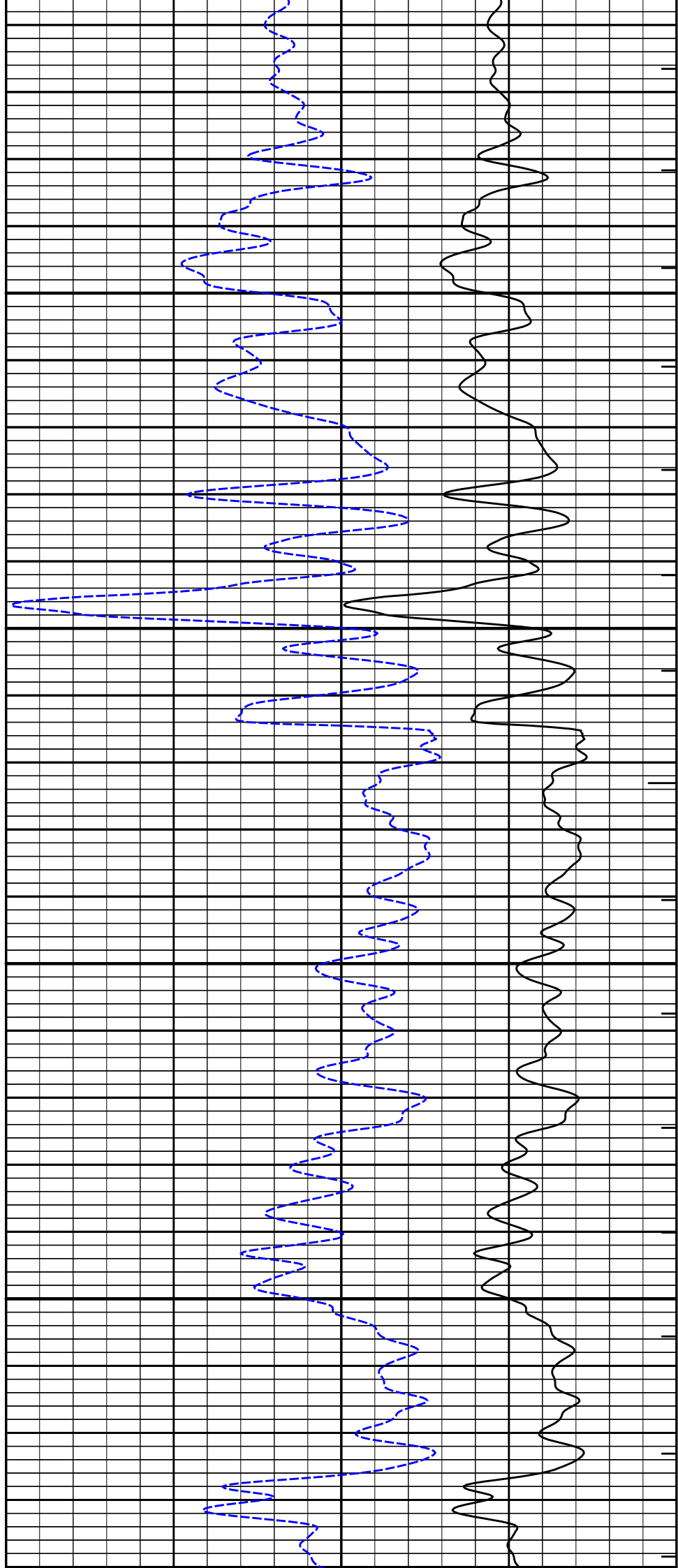
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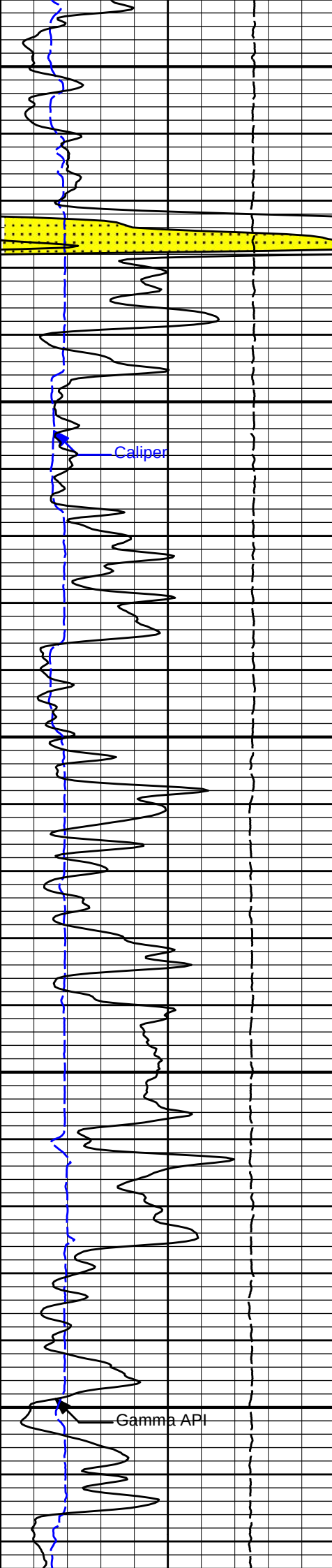




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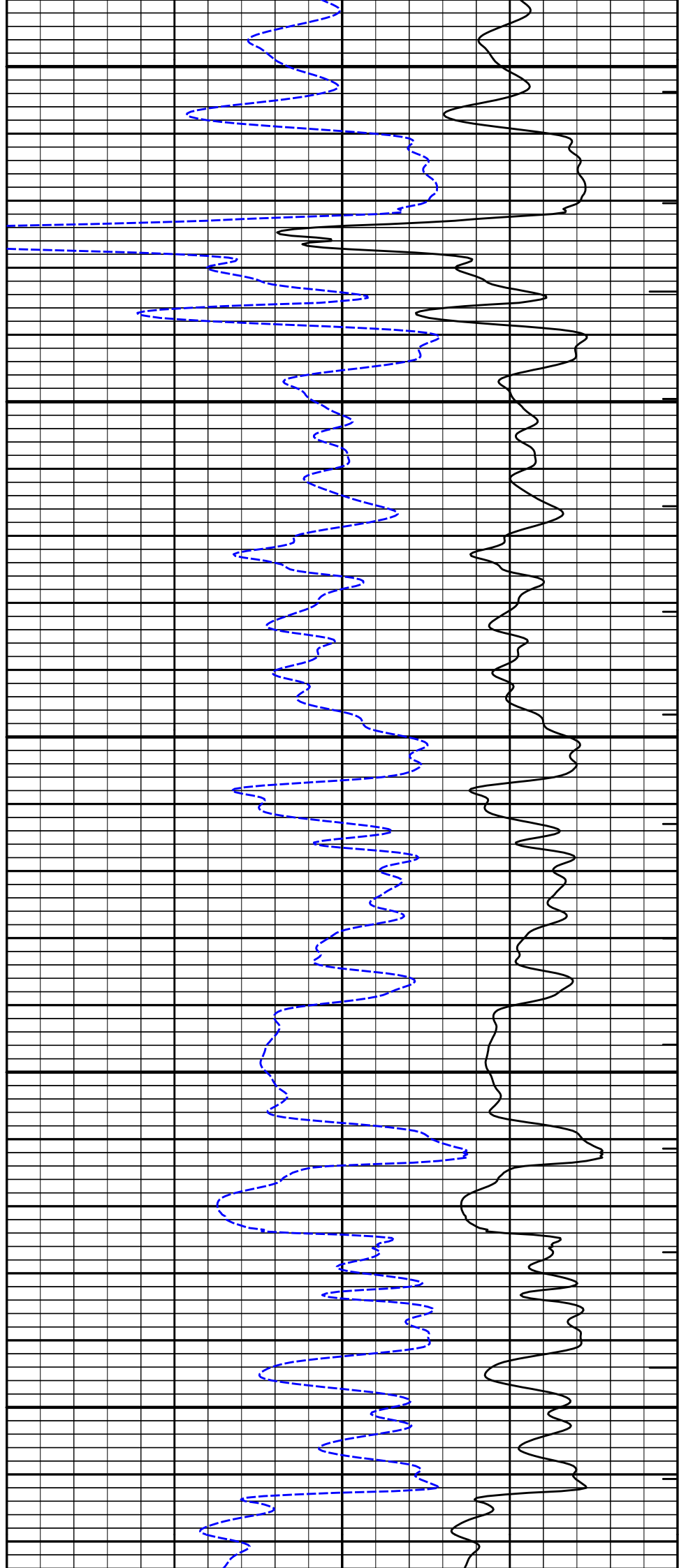
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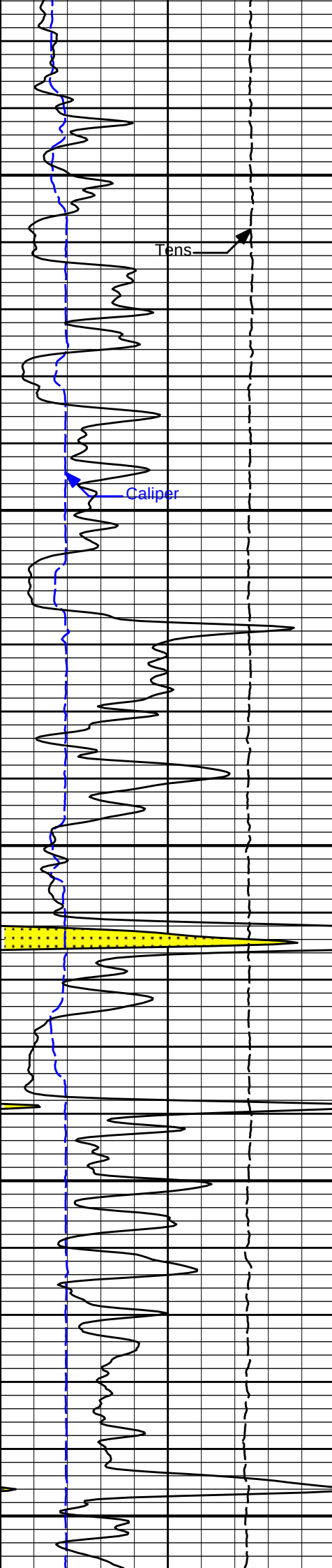




4400

4500

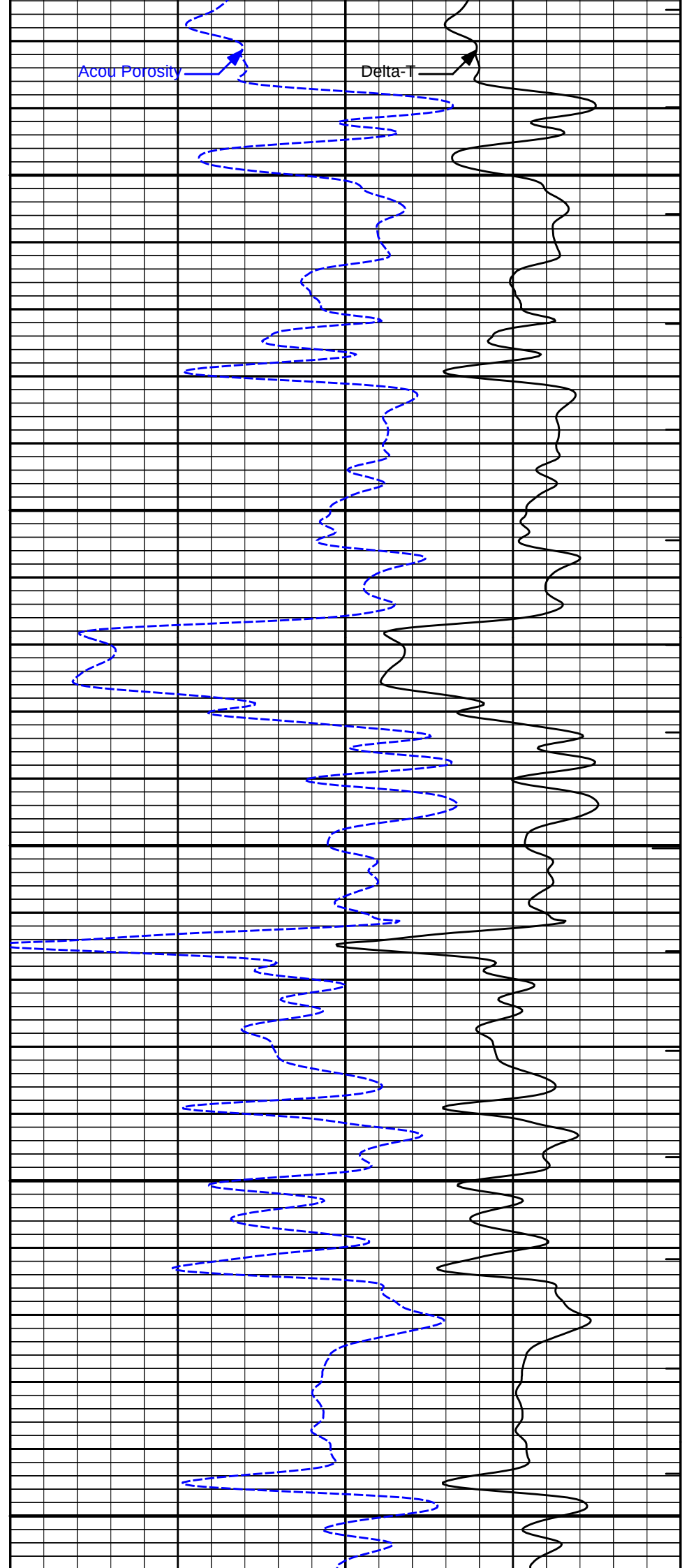




4600

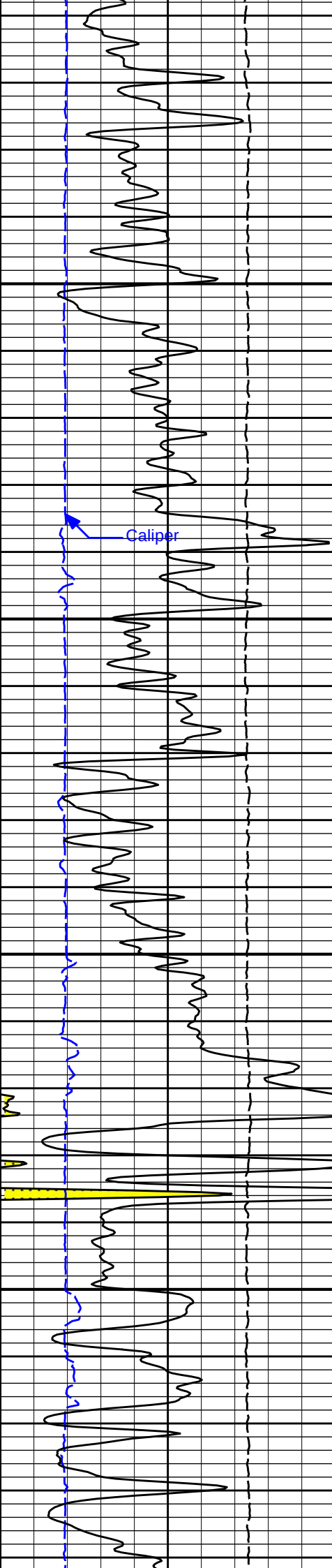
4700

4800



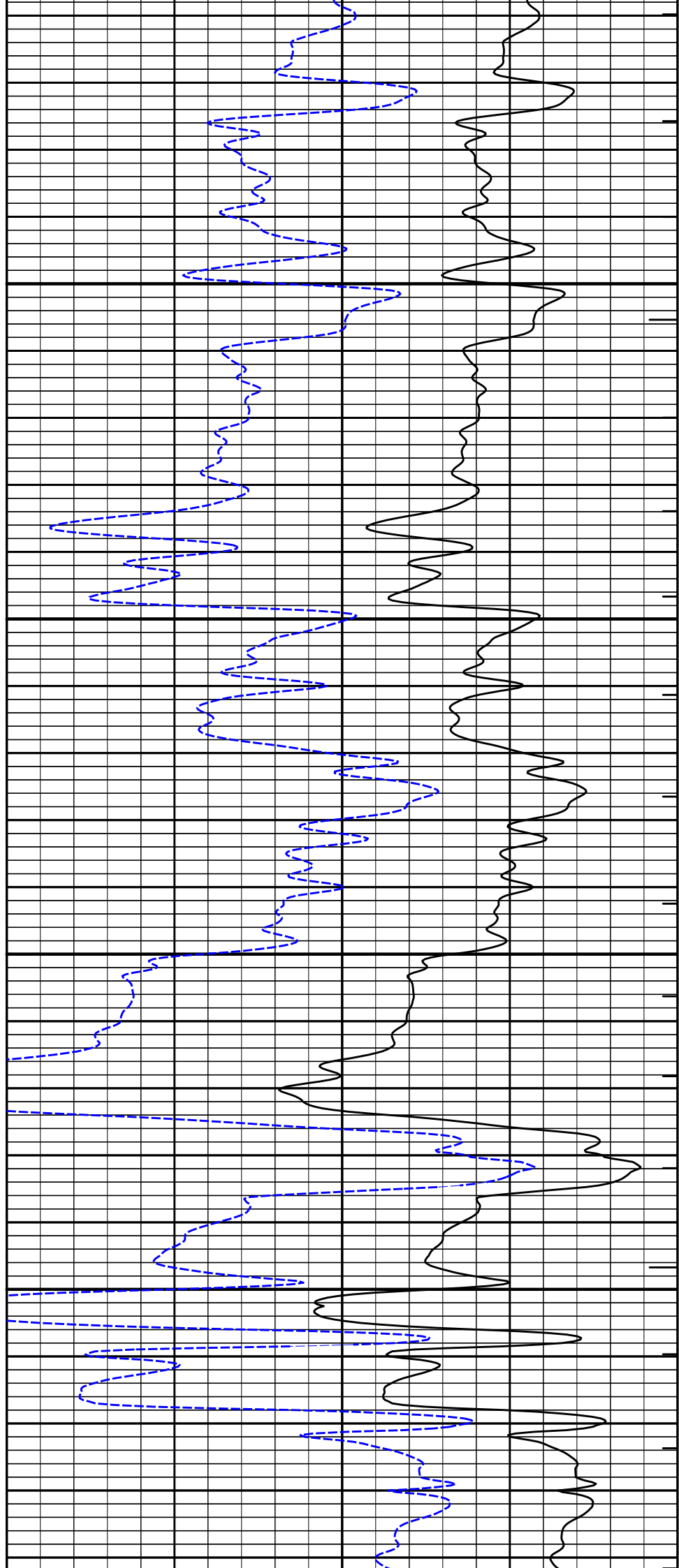
Acou Porosity

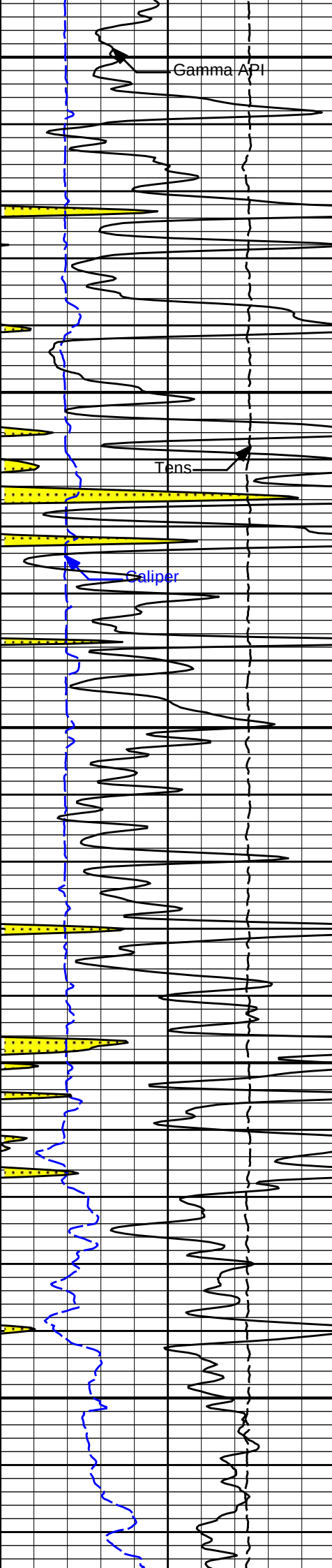
Delta-T



4900

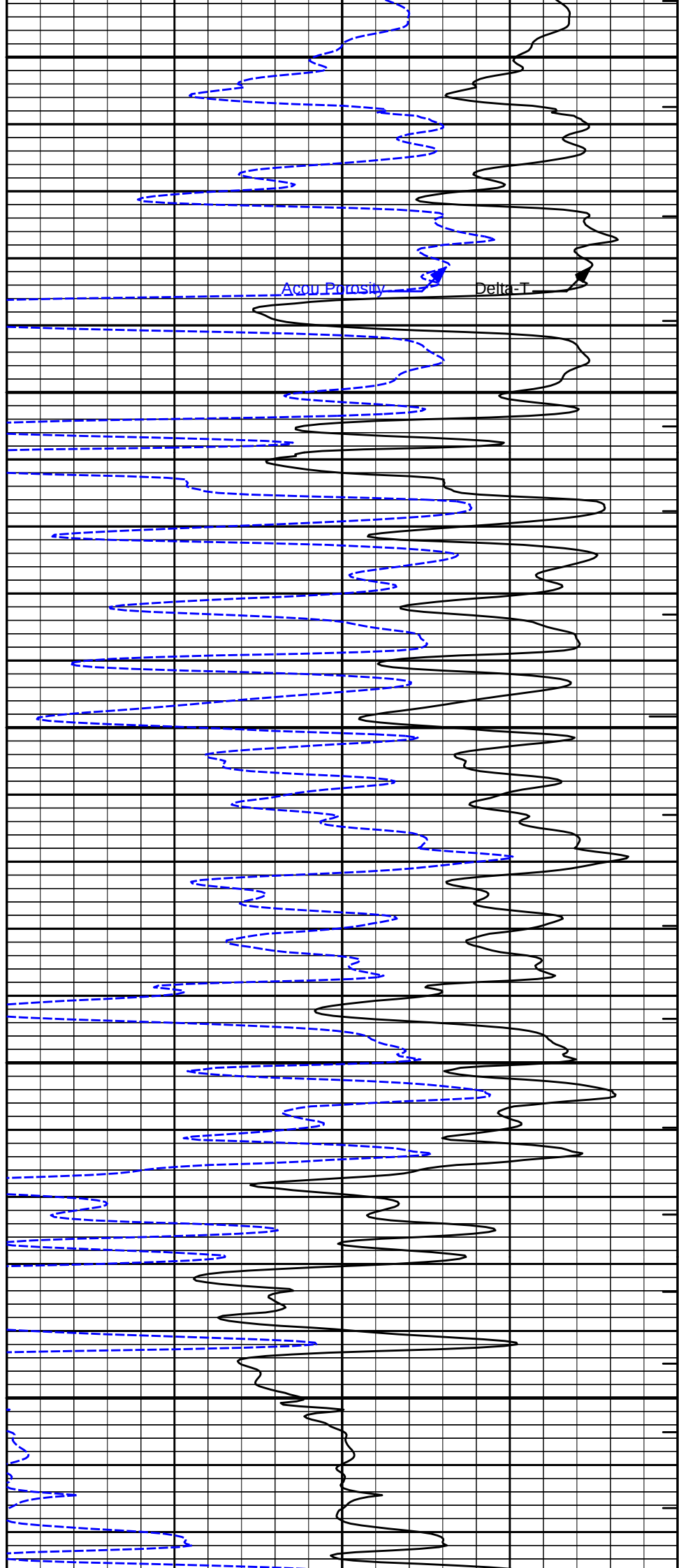
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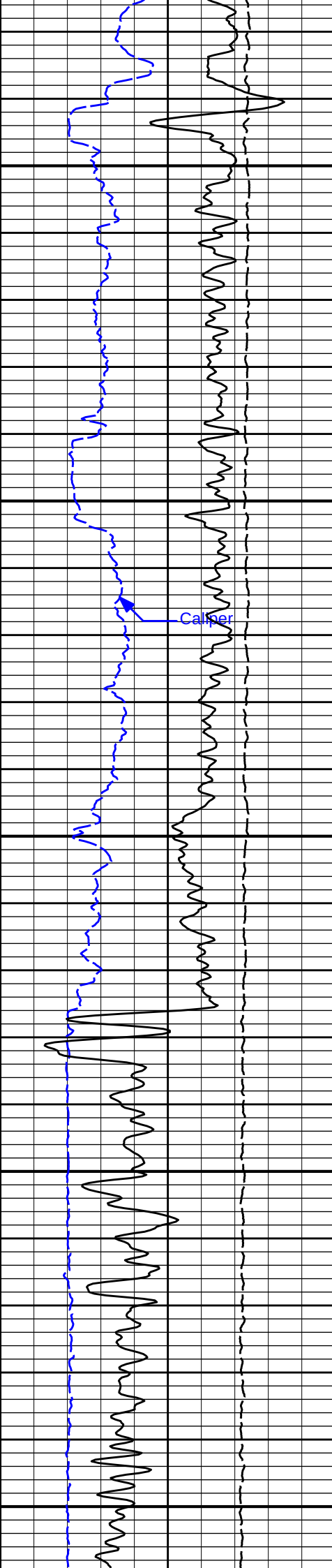




5100

5200

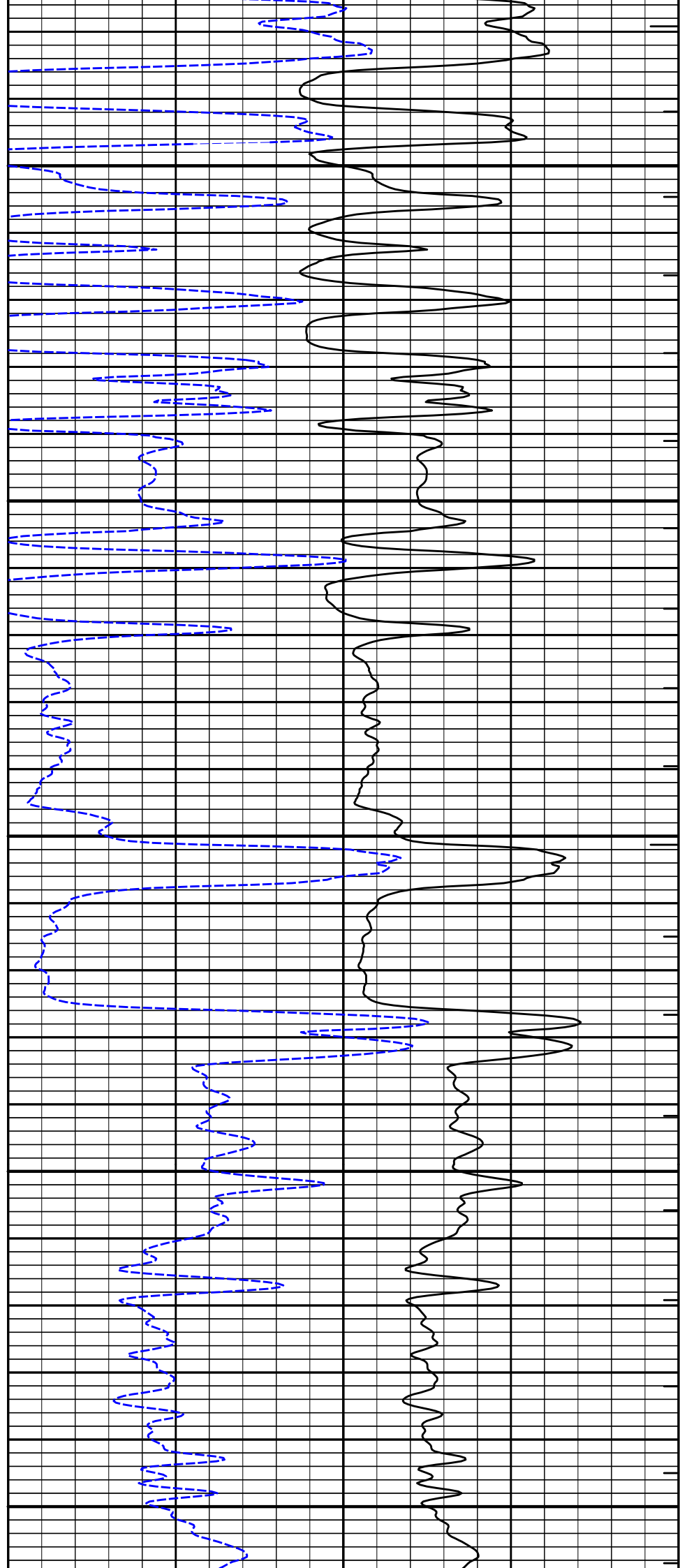


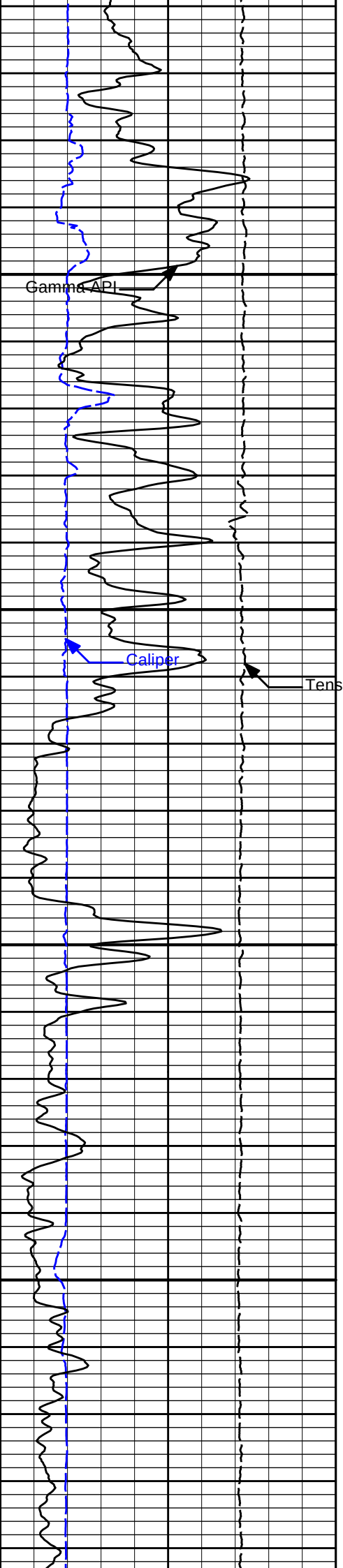


5300

5400

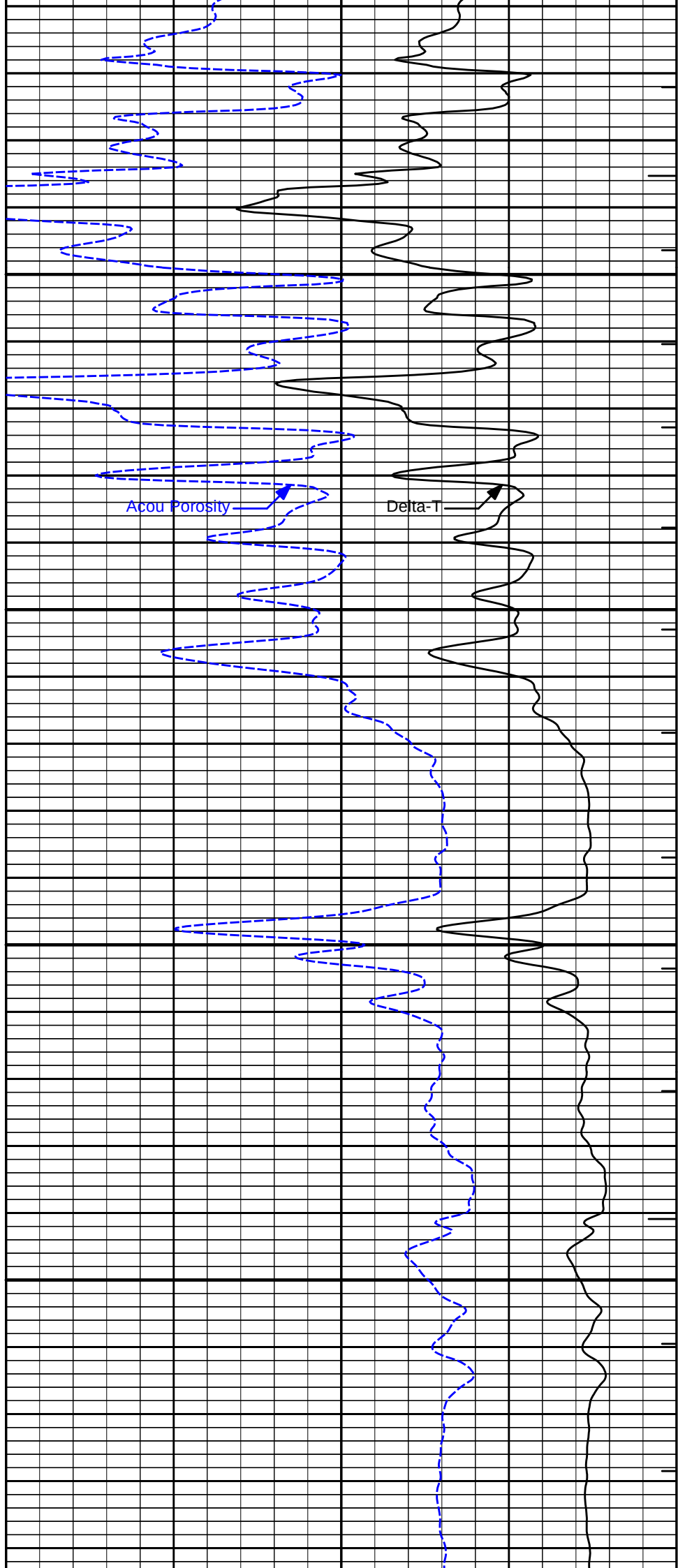
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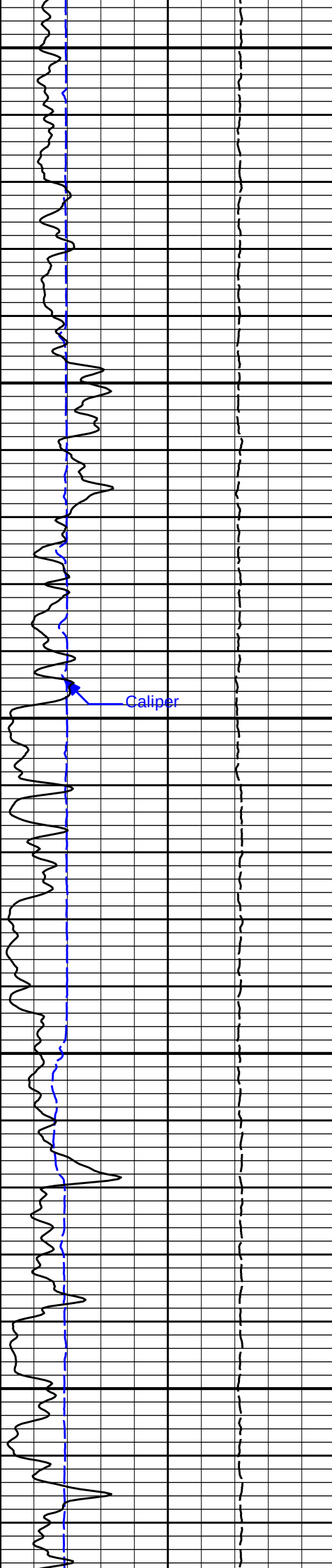




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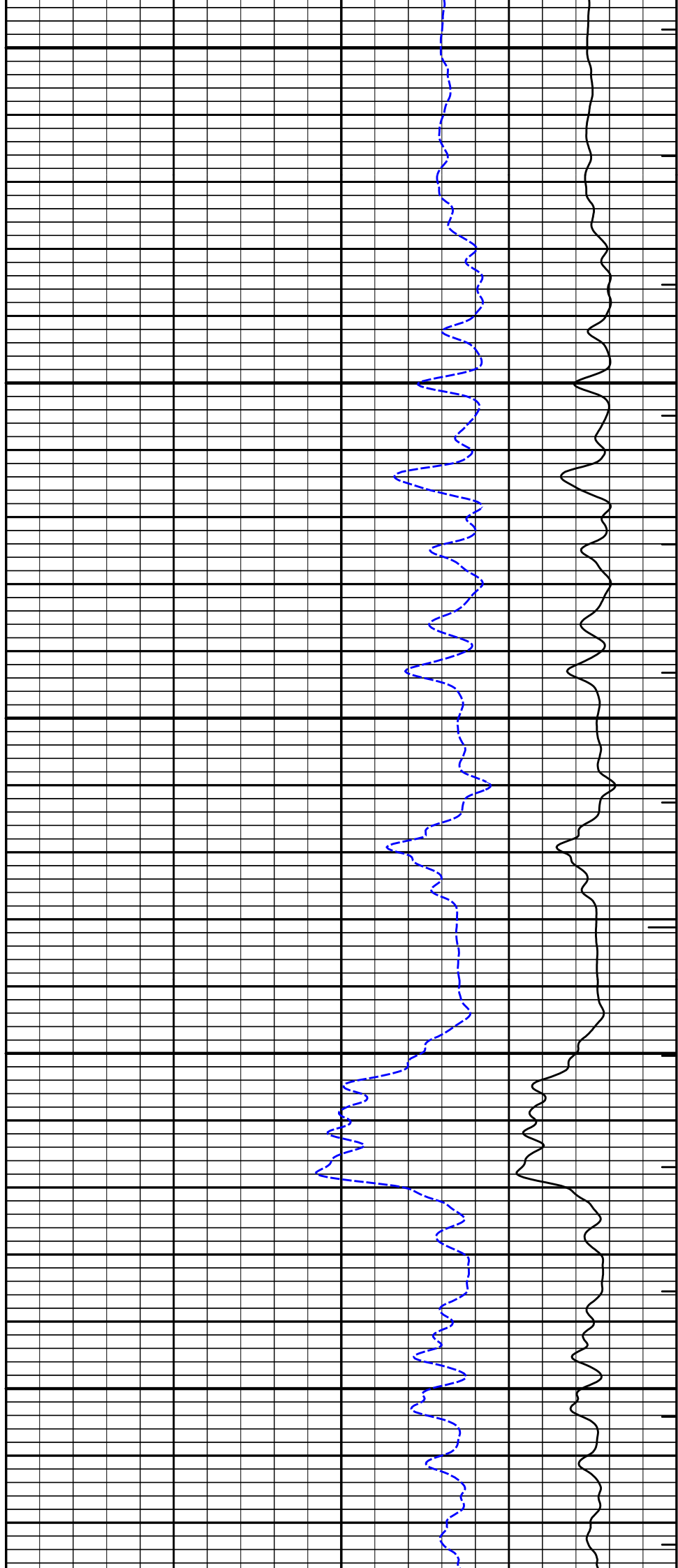
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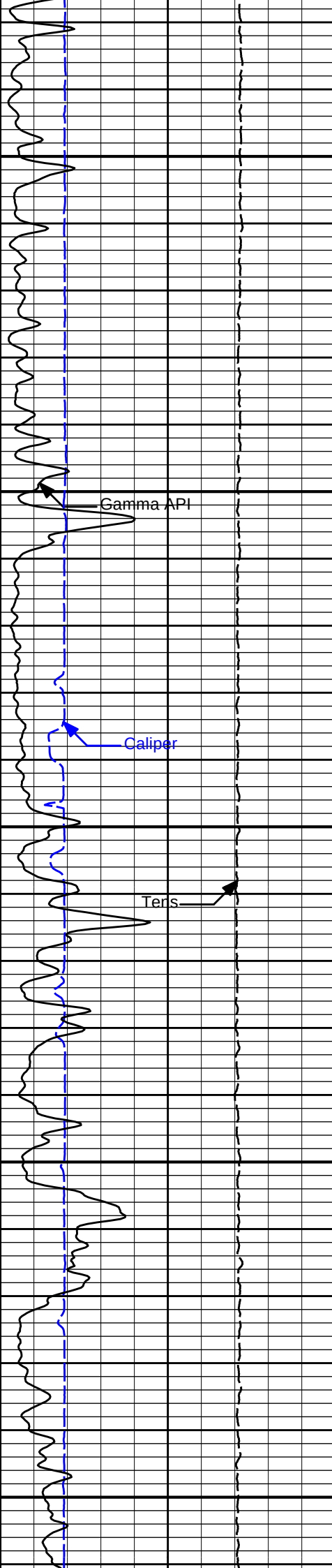




5800

5900





6000

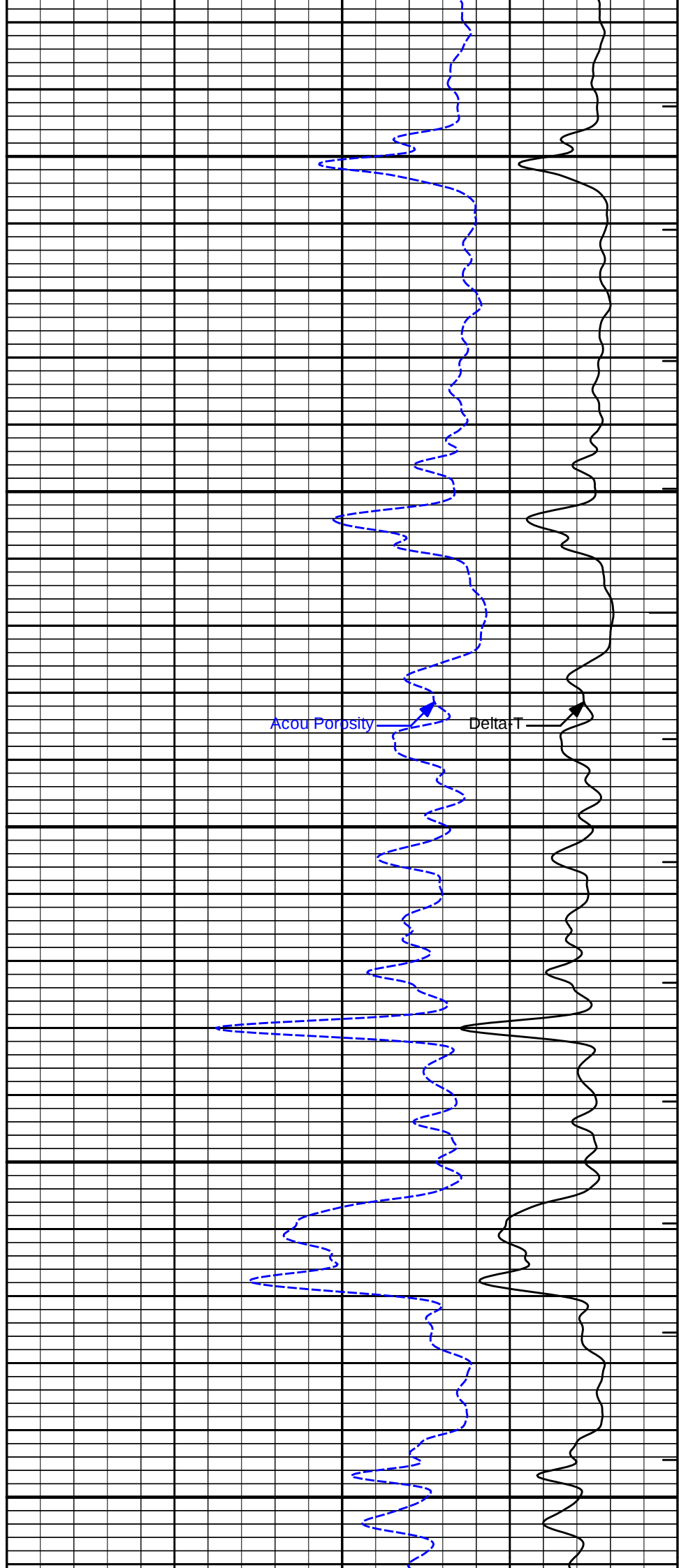
Gamma API

Caliper

Tere

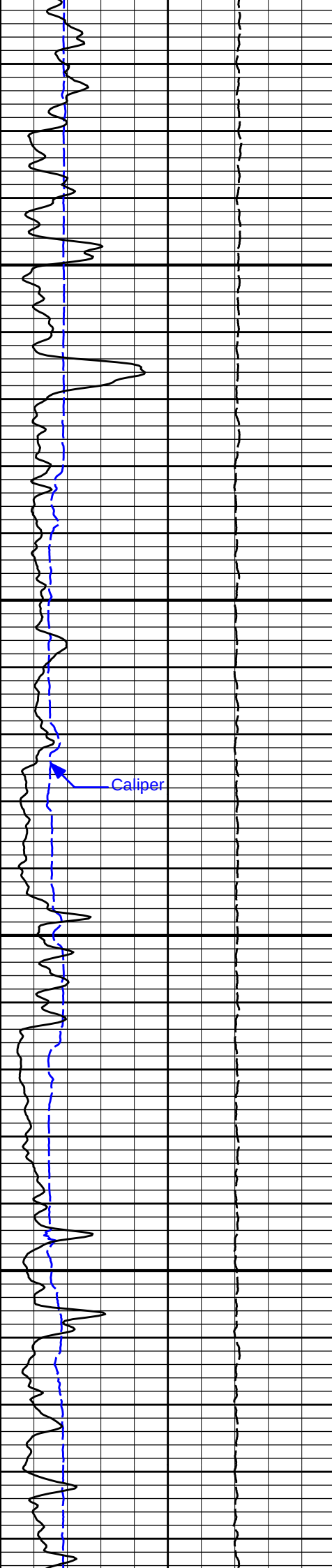
6100

6200



Acou Porosity

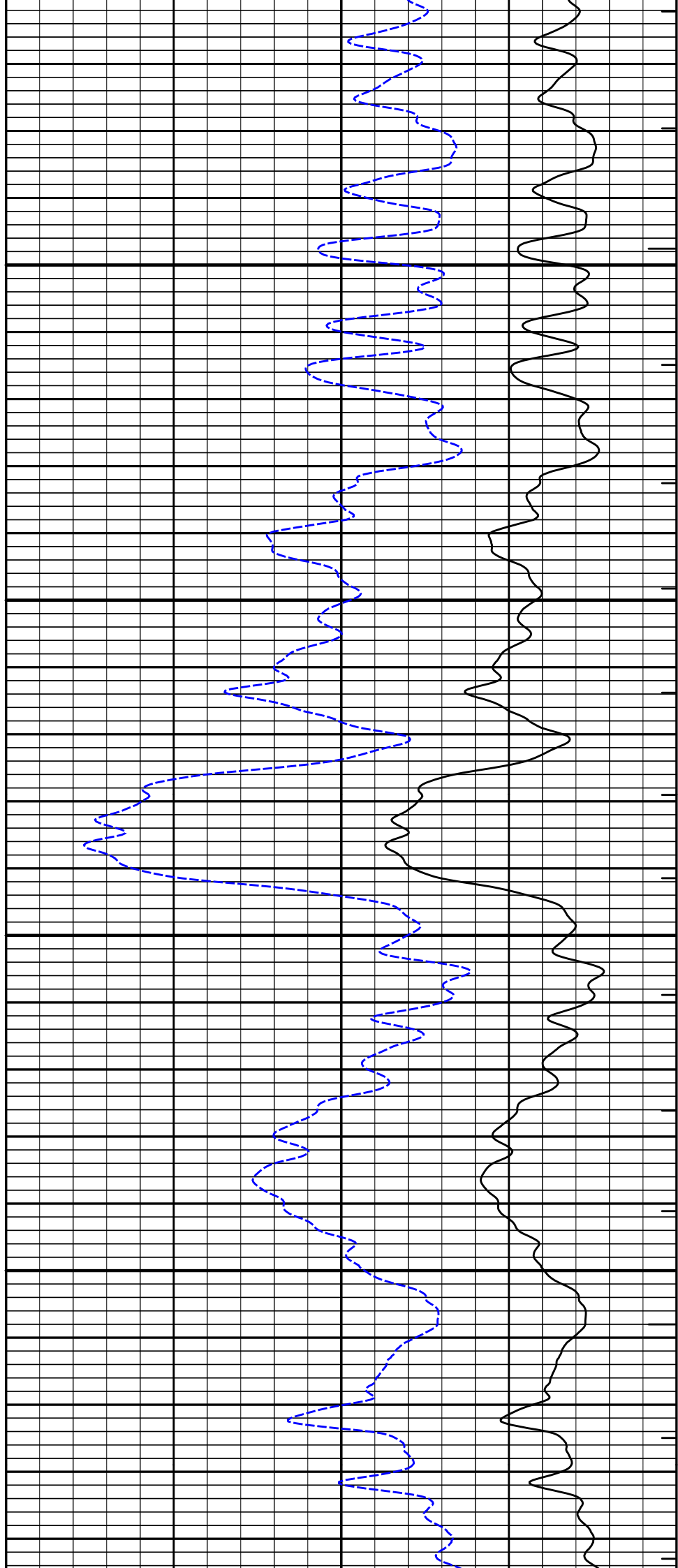
Delta T

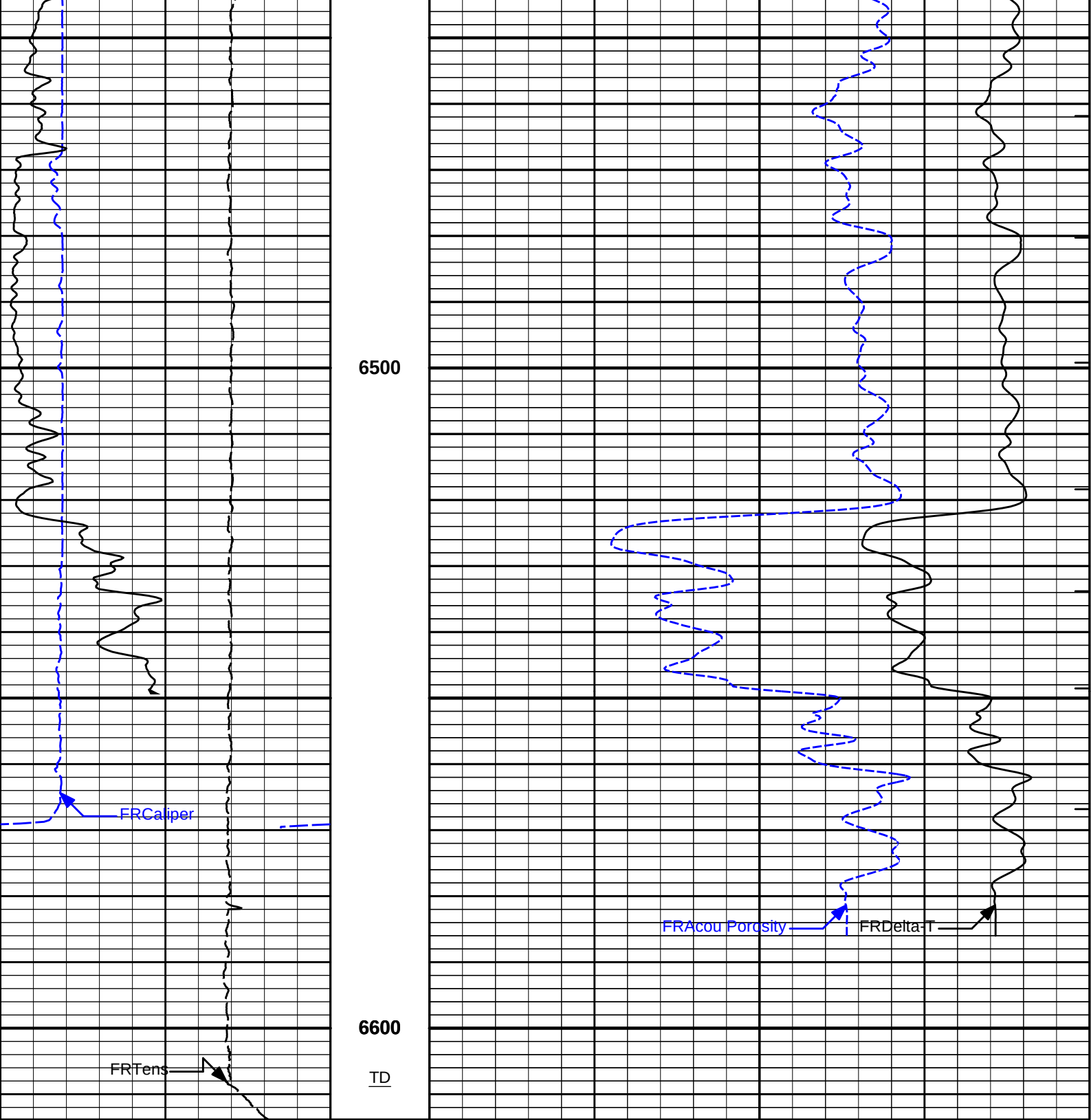


Caliper

6300

6400





0		Gamma API	150	1 : 240 ft	ITTT	
		api				
15K		Tens	0		Delta-T	
		pounds			microsec per ft	
6		CALI	16		Acou Porosity	
		inches			percent	

HALLIBURTON

Plot Time: 01-Nov-17 09:12:26
Plot Range: 1400 ft to 6613.83 ft
Data: MERIT_LCSLUIWell Based\DAQ-0001-004\
Plot File: \\BSAT\BSAT_5inch

5 INCH MAIN LOG

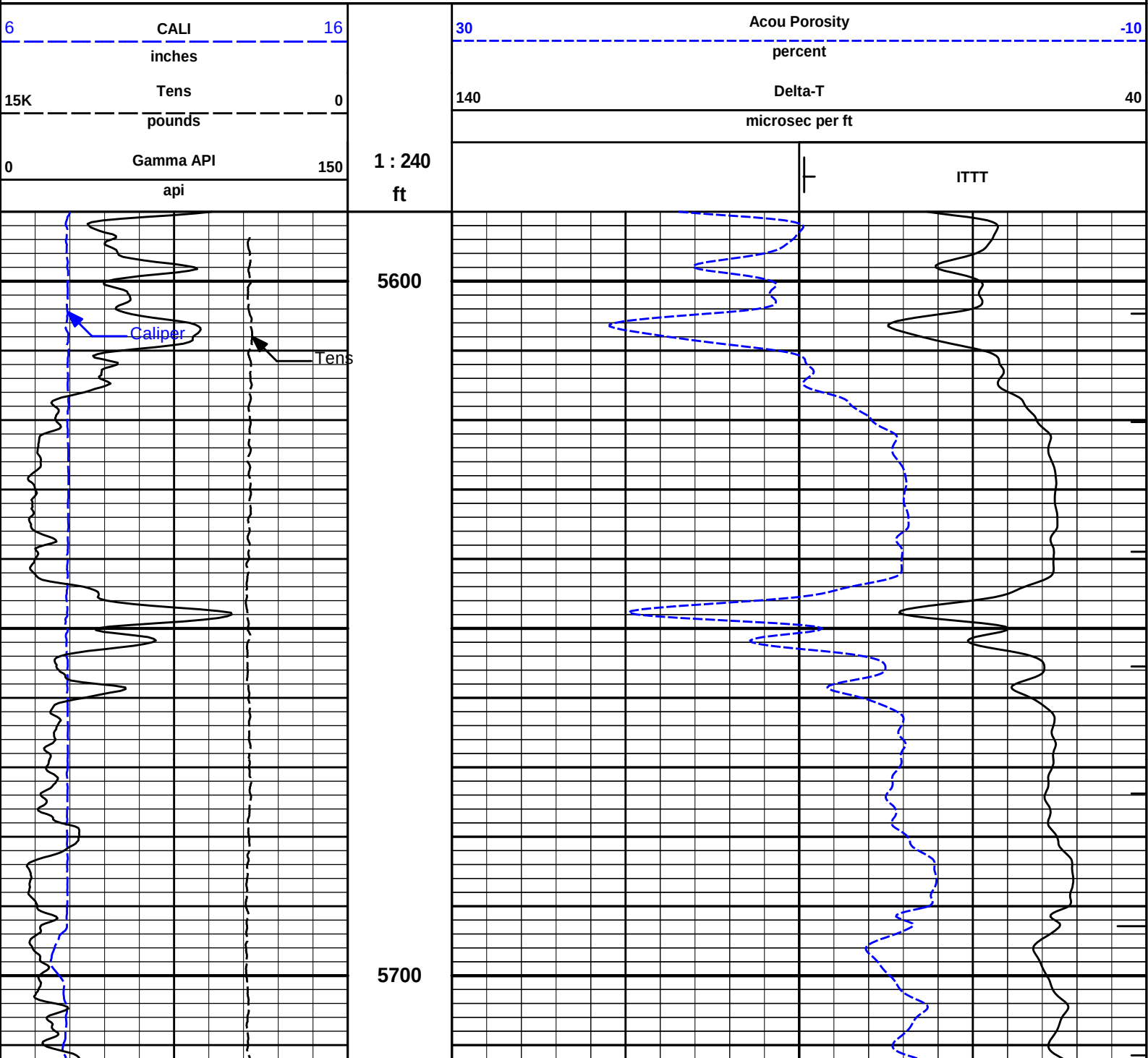
MAIN LOG SECTION

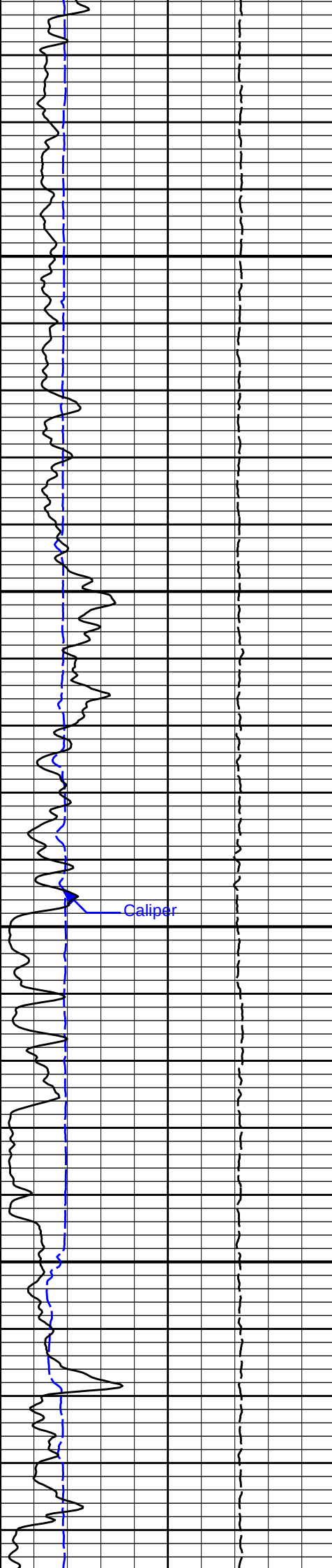
HALLIBURTON

Plot Time: 01-Nov-17 09:12:26
Plot Range: 5590 ft to 6615.75 ft
Data: MERIT_LCSLU\Well Based\DAQ-0001-003\
Plot File: \\BSAT\BSAT_5inch

REPEAT SECTION

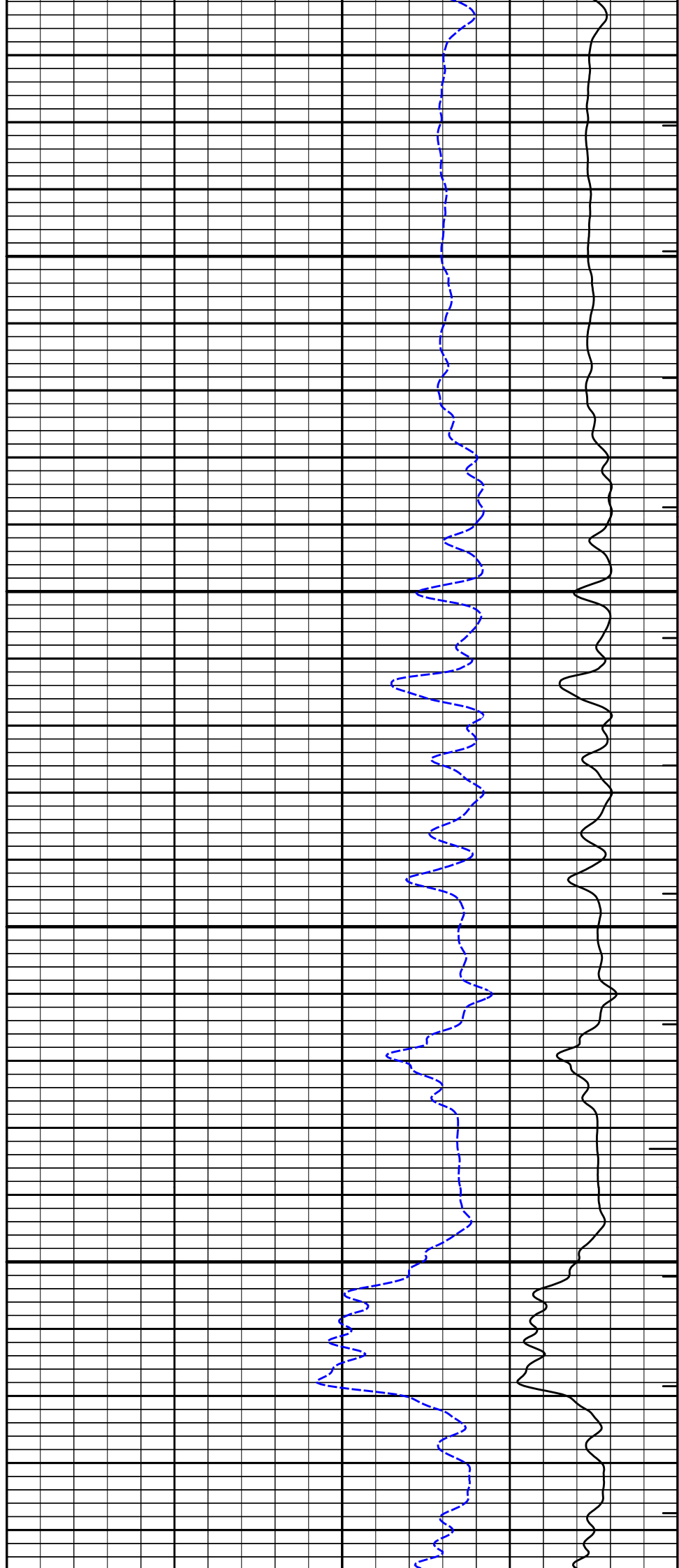
REPEAT SECTION

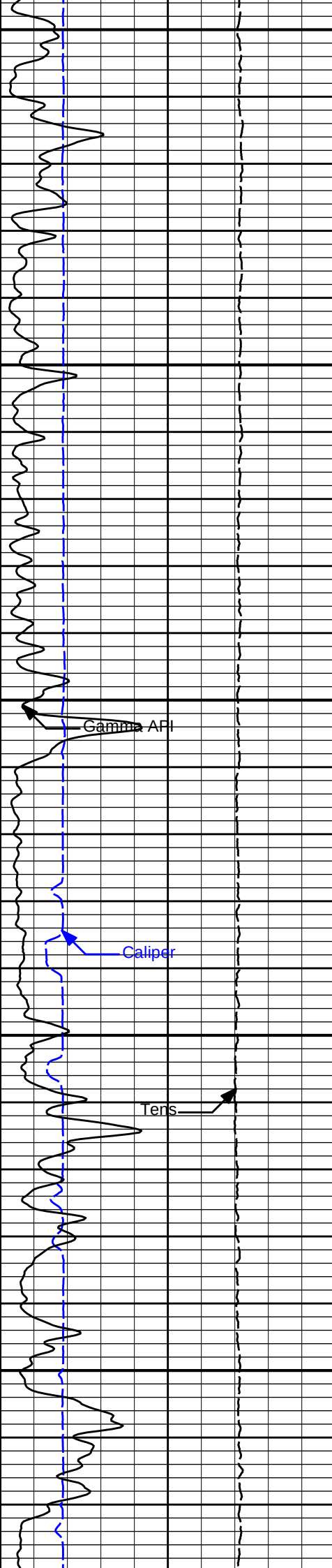




5800

5900





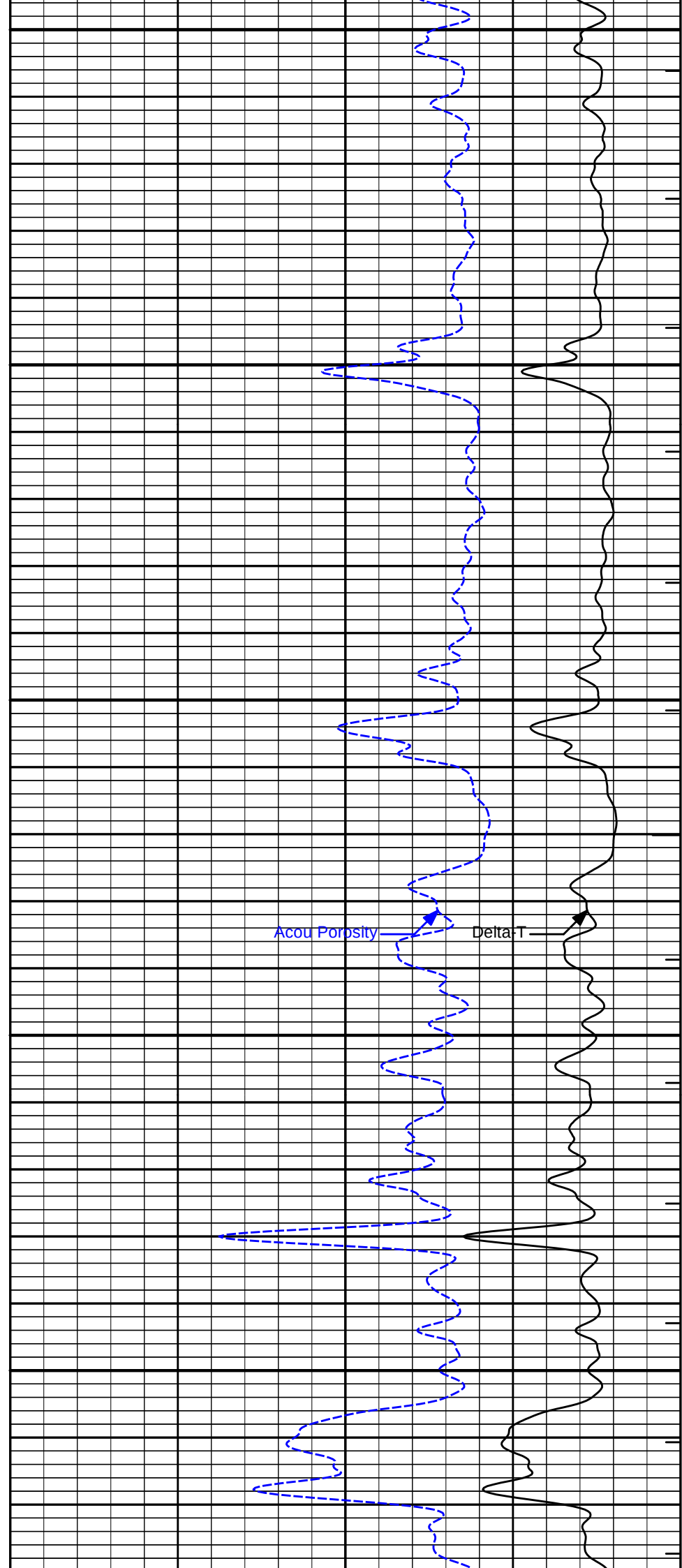
6000

6100

Gamma API

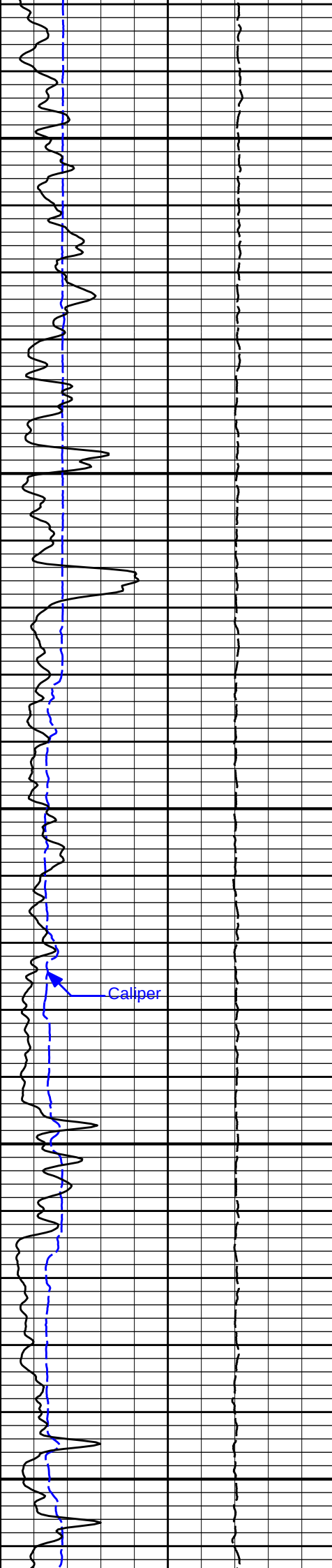
Caliper

Tens



Acou Porosity

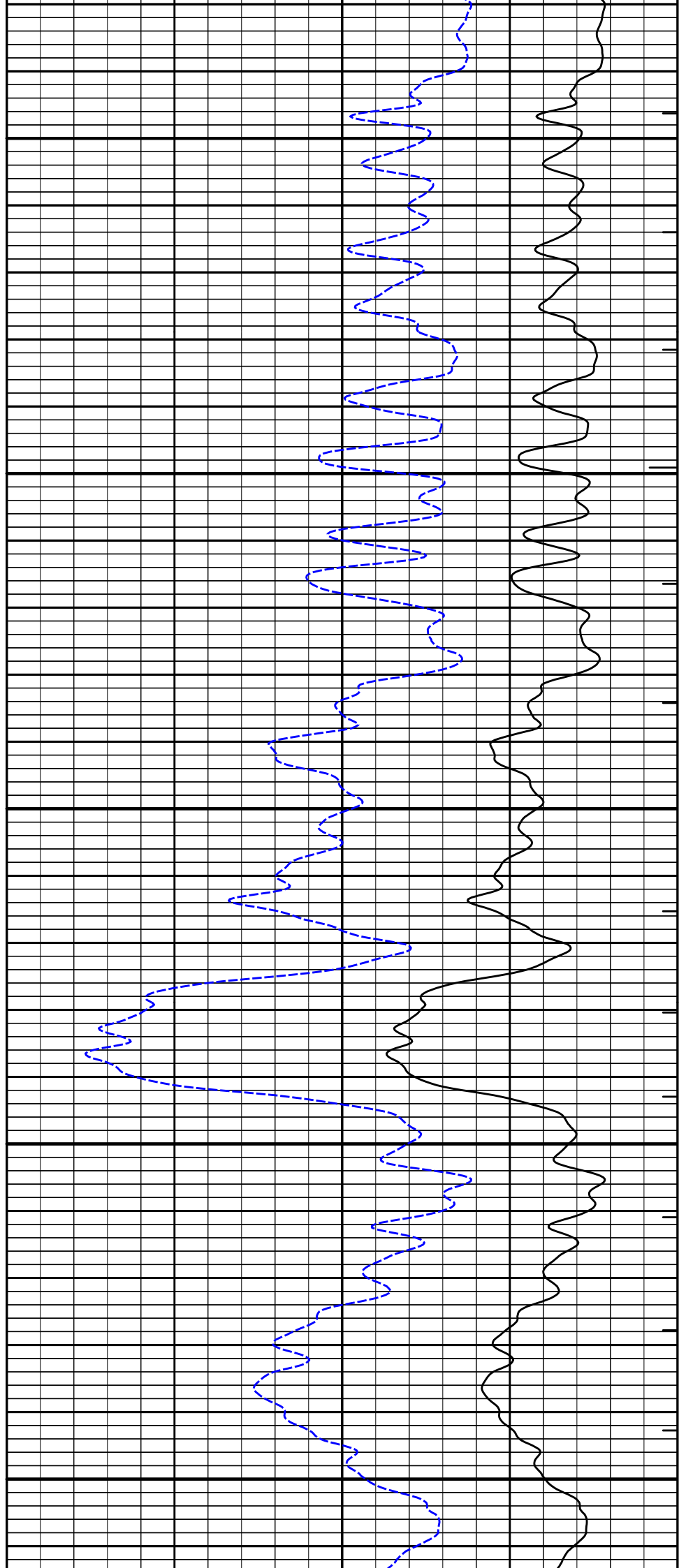
Delta-T

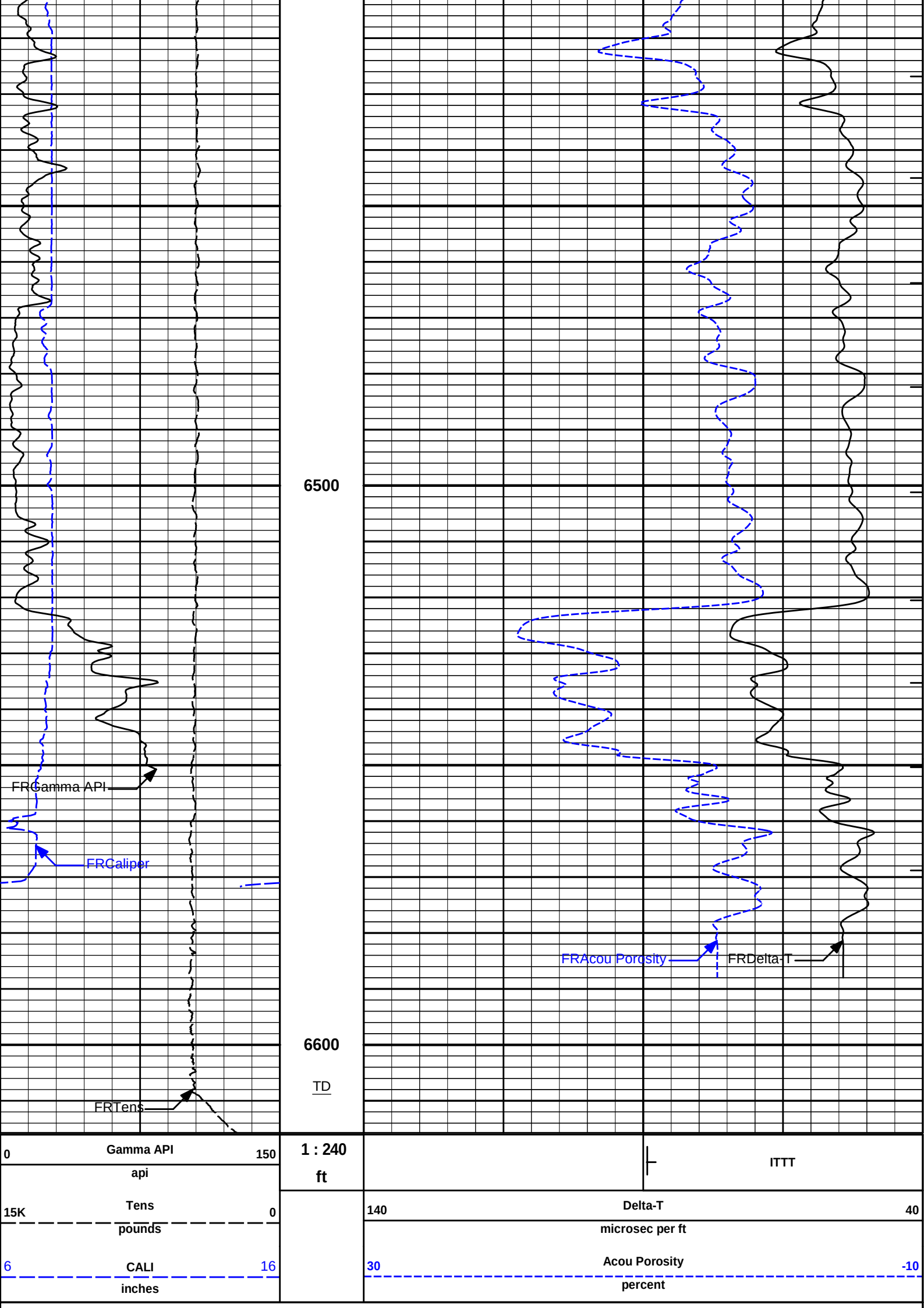


6200

6300

6400





REPEAT SECTION

REPEAT SECTION

CALIBRATION REPORT

SURFACE TENSION SHOP CALIBRATION

Tool Name: Depth Panel - PROT01 Reference Calibration Date: 18-Oct-17 01:21:15
Engineer: MICHAEL RICHTER Calibration Date: 19-Oct-17 01:16:32
Software Version: WL INSITE R5.0.5 (Build 8) Calibration Version: 1

SURFACE TENSION LOAD CELL

Measurement	Load Cell Value	Measurement	Calibrated	Units
Low	10840.82	-5.49	0.00	lbs
High	17350.41	7821.21	7830.00	lbs

DOWNHOLE TENSION SHOP CALIBRATION

Tool Name: CH_HOS - CH_HOS_I Reference Calibration Date: 18-Oct-17 01:28:42
Engineer: MICHAEL RICHTER Calibration Date: 19-Oct-17 01:20:41
Software Version: WL INSITE R5.0.5 (Build 8) Calibration Version: 1

DOWNHOLE LOAD CELL

Measurement	Tool Value	Measurement	Calibrated	Units
Low	-547.18	16.15	0.00	lbs
High	2593.77	989.87	1030.00	lbs

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11021139 Reference Calibration Date: 06-Oct-17 11:06:34
Engineer: WHITLOCK Calibration Date: 31-Oct-17 09:35:18
Software Version: WL INSITE R5.0.5 (Build 8) Calibration Version: 1

Calibrator Source S/N: TB79

Calibrator API Reference:222.00 api

Equivalent Calibrator API Reference:225.9 api

Measurement	Measured	Calibrated	Units
Background	20.9	20.9	api
Background + Calibrator	247.2	246.8	api
Calibrator	226.2	225.9	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11021139 Reference Calibration Date: 31-Oct-17 09:35:18
Engineer: WHITLOCK Calibration Date: 31-Oct-17 09:40:12
Software Version: WL INSITE R5.0.5 (Build 8) Calibration Version: 1

Calibrator Source S/N: TB79

Calibrator API Reference:222.00 api

Equivalent Calibrator API Reference:225.9 api

Field Verification	Shop	Field	Units
Background	20.9	22.7	api
Background + Calibrator	246.8	247.5	api
Calibrator	225.9	224.8	api

Shop	Field	Difference	Tolerance
225.9	224.8	1.1	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 11660709	Reference Calibration Date:	14-Jul-17 14:37:56
Engineer:	MICHAEL RICHTER	Calibration Date:	21-Oct-17 10:02:19
Software Version:	WL INSITE R5.4.5 (Build 2)	Calibration Version:	1

Logging Source S/N: DSN-424
Tank Serial Number: EL RENO
Reference value assigned to Tank: 56.100
Snow Block S/N: 668
Calibration Tank Water Temperature: 79 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.01791	1.01437	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):	0.2369	0.2358	0.0011	+/- 0.0020
Calibrated Ratio:	10.5966	10.5597	0.037	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0811	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 - 11660709	Reference Calibration Date:	21-Oct-17 10:02:19
Engineer:	WHITLOCK	Calibration Date:	31-Oct-17 09:49:47
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1

Logging Source S/N: DSN-424
Snow Block S/N: 668

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0811	0.0704	-0.0106	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT - 11014296	Reference Calibration Date:	21-Oct-17 17:29:11
Engineer:	MICHAEL RICHTER	Calibration Date:	21-Oct-17 17:35:11
Software Version:	WL INSITE R5.4.5 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 11660709		

CALIBRATION COEFFICIENTS				
Measurement	Previous Value	New Value	Control Limit On New Value	
Pad Offset	-4037.57	-3976.32	-7000.00 - -1000.00	
Pad Gain	0.0003850	0.0003840	0.0002000 - 0.0006000	
Arm Offset	-3741.15	-3704.04	-5000.00 - 3000.00	
Arm Gain	0.0005006	0.0004953	0.000300 - 0.000700	
Arm Power	-0.000004136	-0.000003872	-0.000010000 - 0.000010000	
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)	1.98	2.00	0.02	+/- 0.20
Medium Ring (in)	3.74	3.75	0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.48	6.50	0.02	+/- 0.20
Medium Ring (in)	8.24	8.25	0.01	+/- 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	

SDLT CALIPER FIELD CALIBRATION			
Tool Name:	SDLT - 11014296	Reference Calibration Date:	21-Oct-17 17:35:11
Engineer:	MICHAEL RICHTER	Calibration Date:	31-Oct-17 09:25:10
Software Version:	WL INSITE R5.4.5 (Build 2)	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	8.24	-0.01	+/- 0.15
PASS/FAIL SUMMARY				
Pad Extension Check:			Passed	
Diameter Check:			Passed	

BSAT FIELD CASING CHECK			
Tool Name:	BSAT - 10939049	Calibration Date:	30-Mar-17 10:01:32
Engineer:	HARRIS		
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1

Pre-Log Check	Check Depth	Shop	Field	Difference	Tolerance	Units
Delta-T Compensated	147.01	57.00	56.56	0.4400	1.00	uspf

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION			
Tool Name:	ACRt Sonde - 11038385	Reference Calibration Date:	12-Sep-17 13:48:00
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	12-Sep-17 13:58:19

Software Version: WL INSITE R5.0.5 (Build 8)				Calibration Version: 1					
Host Tool Name: ACRt Instrument - 11055059									
TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0395	1.05	0.95	1.0229	1.05	0.95	1.0146	1.05
A2 (50")	0.95	1.0409	1.05	0.95	1.0225	1.05	0.95	1.0165	1.05
A3 (29")	0.95	1.0384	1.05	0.95	1.0194	1.05	0.95	1.0115	1.05
A4 (17")	0.95	1.0343	1.05	0.95	1.0133	1.05	0.95	1.0069	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0083	1.05	0.95	0.9989	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.0000	1.05	0.95	0.9929	1.05
SONDE OFFSET									
Subarray	R12KHz			R36KHz			R72KHz		
	(mmho/m)			(mmho/m)			(mmho/m)		
A1 (80")	0.702			-4.637			-5.501		
A2 (50")	-0.771			-4.034			-5.172		
A3 (29")	-13.230			-3.699			-3.350		
A4 (17")	-110.240			-33.969			-26.356		
A5 (10")	N/A			-83.665			-41.621		
A6 (6")	N/A			333.771			173.557		
TRANSMITTER CURRENT GAIN						R-MUD VERIFICATION			
Signal	Lower	R	Upper			Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.90	1.3			Mud Cell	0.95	1.00	1.05
36K	1.0	1.36	2.0						
72K	1.0	1.62	2.0						
PASS/FAIL SUMMARY									
GAIN RANGE CHK						PASS			
SONDE OFFSET CHK						PASS			
TOOL OK TO LOG									
QUALITY CHECK SHOP CALIBRATION									
Tool Name: ACRt Sonde - 11038385				Reference Calibration Date: 12-Sep-17 13:59:44					
Engineer: JORGE ORLANDO PEREZ				Calibration Date: 12-Sep-17 14:00:57					
Software Version: WL INSITE R5.0.5 (Build 8)				Calibration Version: 1					
Host Tool Name: ACRt Instrument - 11055059									
STANDARD DEVIATIONS									
	R12KHz			R36KHz			R72KHz		
	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail
A1 (80")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A2 (50")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A3 (29")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A4 (17")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A5 (10")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A6 (6")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
AVERAGES									
	R12KHz			R36KHz			R72KHz		
	Measured	Expected		Measured	Expected		Measured	Expected	

	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail
A1 (80")	0.000	< 0.500	Pass	-0.001	> -0.500	Pass	-0.006	> -0.500	Pass
A2 (50")	0.000	< 0.500	Pass	-0.001	> -0.500	Pass	-0.005	> -0.500	Pass
A3 (29")	-0.000	< 0.500	Pass	-0.001	> -0.500	Pass	-0.003	> -0.500	Pass
A4 (17")	-0.003	> -0.500	Pass	-0.008	> -0.500	Pass	-0.027	> -0.500	Pass
A5 (10")	-0.012	> -0.500	Pass	-0.020	> -0.500	Pass	-0.043	> -0.500	Pass
A6 (6")	0.015	< 0.500	Pass	0.074	< 0.500	Pass	0.160	< 0.500	Pass

GAIN TOLERANCE					
R12KHz					
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-223155904.000	-223150640.000	5264.000	11157532.000	Pass
A2 (50")	-220713888.000	-220710416.000	3472.000	11035520.800	Pass
A3 (29")	-216614880.000	-216612000.000	2880.000	10830600.000	Pass
A4 (17")	-214578320.000	-214578224.000	96.000	10728911.200	Pass
A5 (10")	-214986432.000	-214982096.000	4336.000	10749104.800	Pass
A6 (6")	-214394544.000	-214391936.000	2608.000	10719596.800	Pass
R36KHz					
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	60628184.000	60610992.000	17192.000	3030549.600	Pass
A2 (50")	62049960.000	62033248.000	16712.000	3101662.400	Pass
A3 (29")	53214172.000	53197224.000	16948.000	2659861.200	Pass
A4 (17")	50561756.000	50544860.000	16896.000	2527243.000	Pass
A5 (10")	52600244.000	52584856.000	15388.000	2629242.800	Pass
A6 (6")	50656572.000	50641704.000	14868.000	2532085.200	Pass
R72KHz					
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-92698504.000	-92694664.000	3840.000	4634733.200	Pass
A2 (50")	-89662344.000	-89657152.000	5192.000	4482857.600	Pass
A3 (29")	-89109216.000	-89105528.000	3688.000	4455276.400	Pass
A4 (17")	-84842648.000	-84836840.000	5808.000	4241842.000	Pass
A5 (10")	-83337800.000	-83332480.000	5320.000	4166624.000	Pass
A6 (6")	-84561904.000	-84554136.000	7768.000	4227706.800	Pass

PASS/FAIL SUMMARY									
Std Deviation Verification							Pass		
Average Verification							Pass		
Gain Tolerance Verification							Pass		

MICRO LOG SHOP CALIBRATION			
Tool Name:	Microlog Pad - 11014296	Reference Calibration Date:	21-Oct-17 17:40:50
Engineer:	MICHAEL RICHTER	Calibration Date:	21-Oct-17 17:42:32
Software Version:	WL INSITE R5.4.5 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 11660709		

CALIBRATION COEFFICIENT SUMMARY						
Measurement	Micro Log Normal		Micro Log Lateral		Units	
	Measured	Calibrated	Measured	Calibrated		
Tool Zero	-0.11	-0.14	0.01	0.01	ohmm	
Calibration Point #1	0.02	0.00	-0.01	0.00	ohmm	
Calibration Point #2	20.00	20.00	19.99	20.00	ohmm	
Internal Reference	19.95	19.94	20.00	20.01	ohmm	

	Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value		Units
	Tool Zero	-10.63		4.50		V
	Calibration Point #1	24.92		-0.13		V
	Calibration Point #2	5262.56		6875.93		V
	Internal Reference	5247.65		6879.76		V

MICRO LOG FIELD CHECK

Tool Name:

Microlog Pad - 11014296

Reference Calibration Date:

21-Oct-17 17:42:32

Engineer:

WHITLOCK

Calibration Date:

31-Oct-17 09:30:12

Software Version:

WL INSITE R5.0.5 (Build 8)

Calibration Version:

1

	Measurement	Micro Log Normal		Micro Log Lateral		Units
		Shop	Field	Shop	Field	
	Tool Zero	-0.14	-0.10	0.01	0.00	ohmm
	Internal Reference	19.94	19.77	20.01	19.83	ohmm

Summary					
Signal	Shop	Field	Difference	Tolerance	
Microlog Normal	19.94	19.77	0.17	+/- 0.80	
Microlog Lateral	20.01	19.83	0.18	+/- 0.80	

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:

SDLT Pad - 10809130

Reference Calibration Date:

25-May-17 12:11:12

Engineer:

MICHAEL RICHTER

Calibration Date:

03-Aug-17 02:19:19

Software Version:

WL INSITE R5.0.5 (Build 8)

Calibration Version:

1

Logging Source S/N: 5155GW

Aluminum Block S/N: EL RENO

Magnesium Block S/N: EL RENO MG

Density: 2.581g/cc

Density: 1.687g/cc

Pe: 3.170

Pe: 2.594

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.689	1.687	-0.002	+/- 0.015
Pe	2.521	2.561	0.040	+/- 0.150
ALUMINUM				
Density (g/cc)	2.574	2.580	0.006	+/- 0.01500
Pe	3.085	3.134	0.049	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0002	+/- 0.0110	-0.0029	+/- 0.0140
Magnesium Block	-0.0013	+/- 0.0110	-0.0010	+/- 0.0140
Aluminum Block	-0.0009	+/- 0.0110	-0.0014	+/- 0.0140
Resolution	8.91	6.00 - 11.50	9.49	6.00 - 11.50
Internal Verifier(B+D+P+L)	1339	1200 - 2700	811	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 Pad - 10809130	Reference Calibration Date:	03-Aug-17 02:19:19
Engineer:	WHITLOCK	Calibration Date:	31-Oct-17 09:35:41
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1

Pad Temperature: 47.0 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1339.219	1326.077	-13.142	14.801
Far (B+D+P+L) cps	810.608	805.315	-5.293	15.737
Near Resolution	8.91	9.00	0.090	0.50
Far Resolution	9.49	9.37	-0.120	1.00

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

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
Depth Panel-PROT01						
Tension Zero	0.00	-----	-----	0.00	-----	lbs
Tension Cal	7830.00	-----	-----	0.00	-----	lbs

DH Tension Zero	0.00	-----	-----	0.00	-----	lbs
DH Tension Cal	1030.00	-----	-----	0.00	-----	lbs
GTET-11021139						
Gamma Ray Calibrator	225.9	224.8	-----	1.1	+/- 9.00	api
DSNT-11660709						
Snow-Block Porosity	0.0811	0.0704	-----	0.0107	+/- 0.0150	decP
SDLT-11014296						
Pad Extension	3.75	3.74	-----	0.01	+/-0.10	in
Ring Diameter	8.25	8.24	-----	0.01	+/-0.15	in
ACRt Sonde-11038385						
Mud Cell	1.00	-----	-----	0	-----	ohm-m
Microlog Pad-11014296						
MicroLog Normal	19.94	19.77	-----	0.17	+/-0.80	ohmm
MicroLog Lateral	20.01	19.83	-----	0.18	+/-0.80	ohmm
SDLT Pad-10809130						
Near(B+D+P+L)	1339.219	1326.077	-----	13.142	+/-14.801	cps
Far(B+D+P+L)	810.608	805.315	-----	5.293	+/-15.737	cps
Data: MERIT_LCCLU0001 GTET-DSN-SDL-FLX-BSAT-ACRTIDLE						
Date: 01-Nov-17 00:21:37						

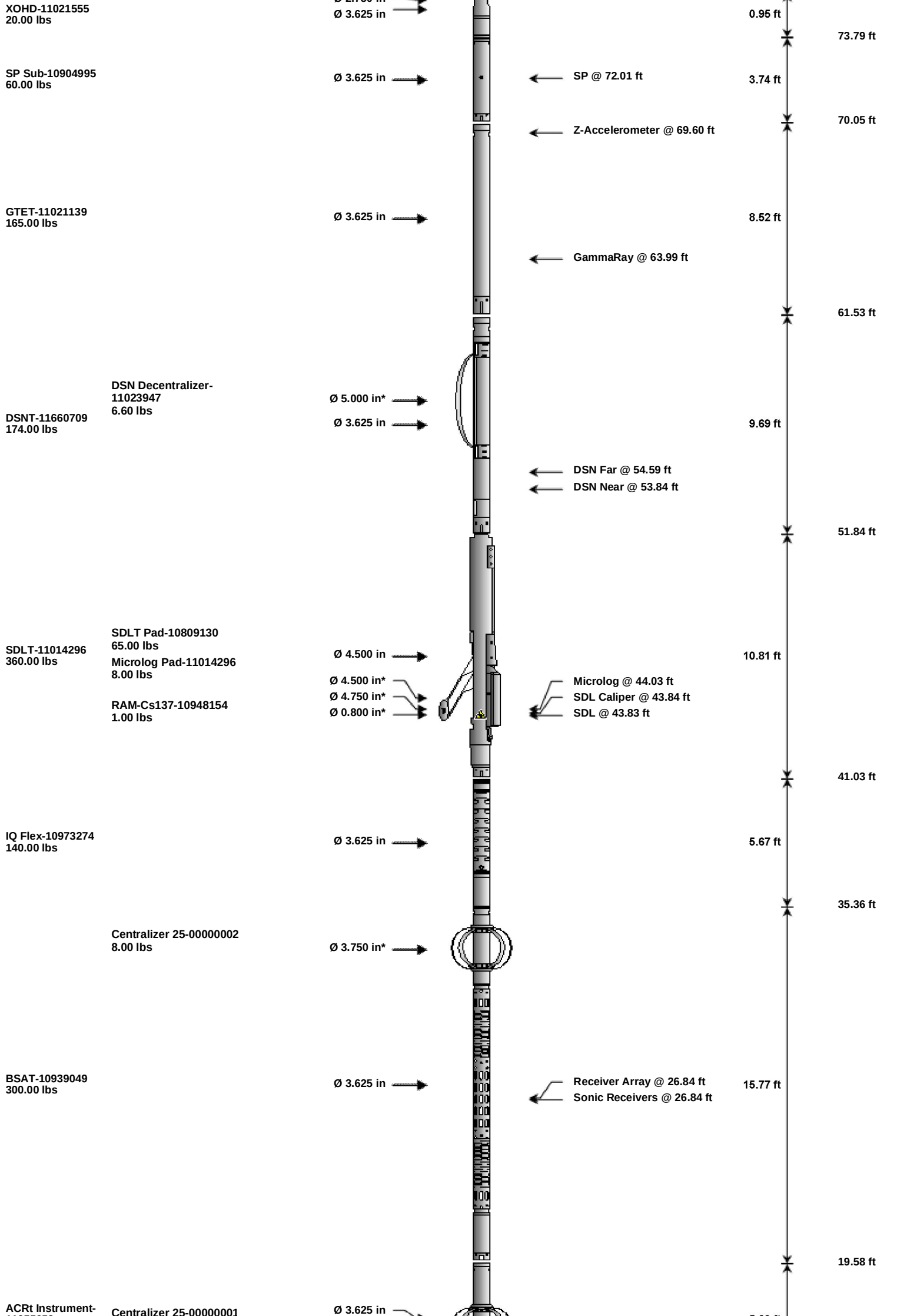


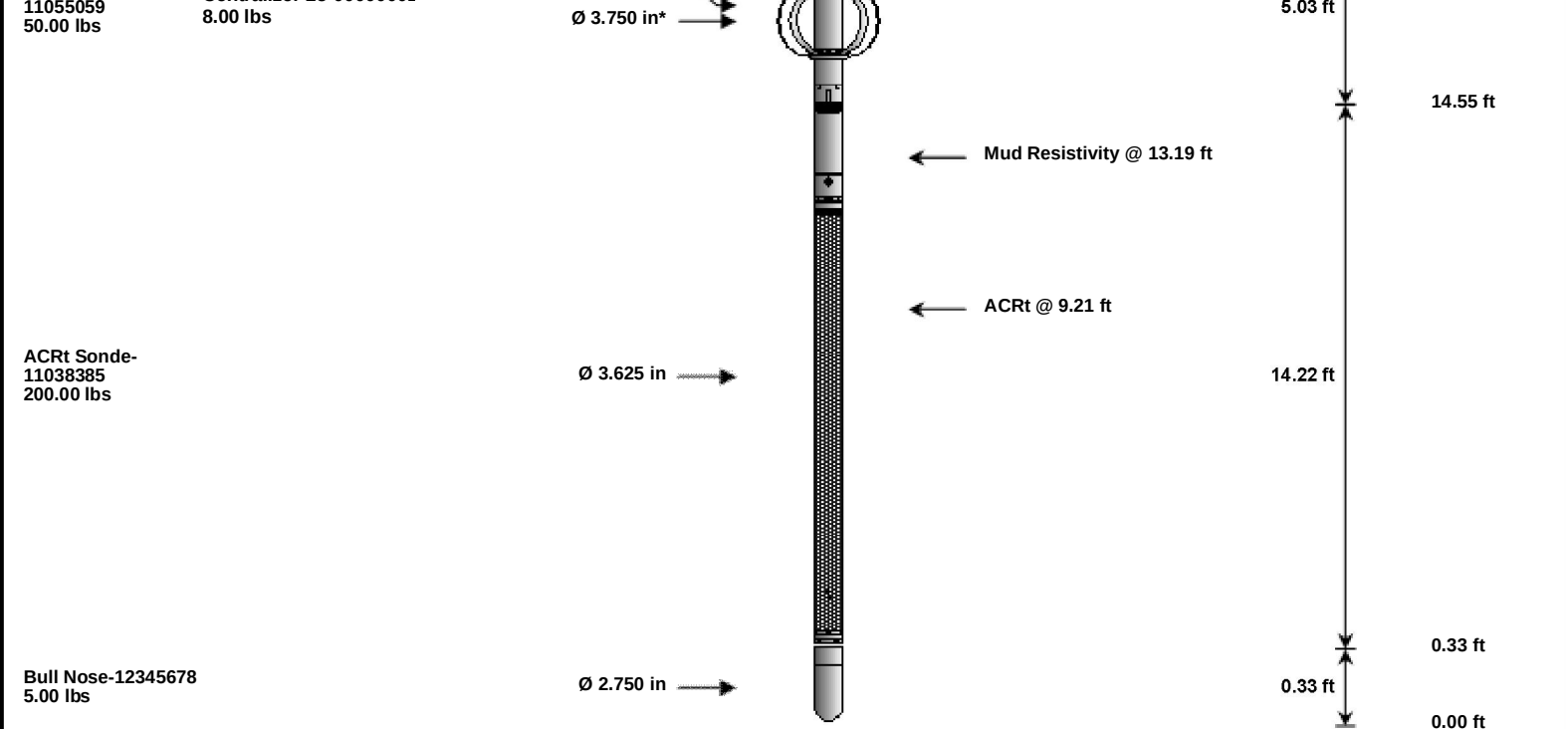
PARAMETERS REPORT

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	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.000	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	2.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	CSTR	Compressive Strength	1000.00	psia
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	6610.00	ft
	SHARED	BHT	Bottom Hole Temperature	138.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	CBM Temperature Master Tool	GTET	
	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
	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	

Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT
Rwa / CrossPlot	ROIN	Input for RO Calculation	Rwa
GTET	GROK	Process Gamma Ray?	Yes
GTET	GEOK	Process Gamma Ray EVR?	No
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered
GTET	BHSM	Borehole Size Source Tool	SDLT
DSNT	DNOK	Process DSN?	Yes
DSNT	DEOK	Process DSN EVR?	No
DSNT	NLIT	Neutron Lithology	Limestone
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250 in
DSNT	DNTT	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	LHWT	Logging Horizontal Water Tank?	No
DSNT	BHSM	Borehole Size Source Tool	SDLT
SDLT	CLOK	Process Caliper Outputs?	Yes
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes
SDLT Pad	DNOK	Process Density?	Yes
SDLT Pad	DNOK	Process Density EVR?	No
SDLT Pad	CB	Logging Calibration Blocks?	No
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes
SDLT Pad	DTWN	Disable temperature warning	No
SDLT Pad	DMA	Formation Density Matrix	2.710 g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000 g/cc
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT
BSAT	MBOK	Compute BCAS Results?	Yes
BSAT	FLLO	Frequency Filter Low Pass Value?	5000 Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000 Hz
BSAT	DTFL	Delta -T Pore Fluid	189.00 uspf
BSAT	DTMT	Delta -T Matrix Type	Limestone 47.6
BSAT	DTSH	Delta -T Shale	100.00 uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie
ACRt Sonde	RTOK	Process ACRt?	Yes
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50 in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr
ACRt Sonde	TPOS	Tool Position	Free Hanging
ACRt Sonde	RMOP	Rmud Source	Mud Cell
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20 ohmm
ACRt Sonde	RMAX	Maximum Resistivity for MAP	200.00 ohmm
ACRt Sonde	THQY	Threshold Quality	0.50
ACRt Sonde	MRFX	Fixed mud resistivity	2000 ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No
BOTTOM			

Data: MERIT_LCSLU0001 GTET-DSN-SDL-FLX-BSAT-ACRTIDLE
Date: 01-Nov-17 00:23:57





Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	CH_HOS_I	37.50	2.25	74.74	300.00	
XOHD	Hostile to Dits Cross Over	11021555	20.00	0.95	73.79	300.00	
SP	SP Sub	10904995	60.00	3.74	70.05	300.00	
GTET	Gamma Telemetry Tool	11021139	165.00	8.52	61.53	60.00	
DSNT	Dual Spaced Neutron	11660709	174.00	9.69	51.84	60.00	
DCNT	DSN Decentralizer	11023947	6.60	5.13	* 55.17	300.00	
SDLT	Spectral Density Tool	11014296	360.00	10.81	41.03	60.00	
SDLP	Density Insite Pad	10809130	65.00	2.55	* 43.24	60.00	
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137	10948154	1.00	0.80	* 43.47	300.00	
MICP	Microlog Pad	11014296	8.00	1.00	* 43.53	60.00	
IQF	IQ Flex tool	10973274	140.00	5.67	35.36	300.00	
BSAT	Borehole Sonic Array Tool	10939049	300.00	15.77	19.58	60.00	
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	* 32.44	300.00	
ACRt	Array Compensated True Resistivity Instrument Section	11055059	50.00	5.03	14.55	120.00	
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	* 15.70	300.00	
ACRt	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22	0.33	120.00	
BLNS	Bull Nose	12345678	5.00	0.33	0.00	300.00	
Total			1,608.10	76.99			
* Not included in Total Length and Length Accumulation.							
Data: MERIT_LCSLU0001 GTET-DSN-SDL-FLX-BSAT-ACRTIDLE				Date: 01-Nov-17 00:24:18			