

# HALLIBURTON

## BOREHOLE COMPENSATED SONIC ARRAY LOG

COMPANY	HARTMAN OIL CO., INC.		
WELL	WILKINSON #3-22		
FIELD/BLOCK	WILDCAT		
COUNTY	SCOTT		
STATE	KANSAS		
COMPANY	HARTMAN OIL CO., INC.	WELL	WILKINSON #3-22
FIELD/BLOCK	WILDCAT	COUNTY	SCOTT
COUNTY	SCOTT	STATE	KANSAS
API No.	15-171-20951	Location	335' FSL & 2656' FEL
Other Services:	MICROLOG DSNT,SDLT ACRT		
Permanent Datum	GL	Elev.	3086.0 ft
Log measured from	KB	Elev.	3097.0 ft
Drilling measured from	KB	D.F.	3096.0 ft
		G.L.	3086.0 ft
Date	31-May-13		
Run No.	ONE		
Depth - Driller	4930.00 ft		
Depth - Logger	4932.0 ft		
Bottom - Logged Interval	4905.0 ft		
Top - Logged Interval	330.0 ft		
Casing - Driller	8.625 in @ 339.0 ft		
Casing - Logger	330.0 ft @		
Bit Size	7.875 in @		
Type Fluid in Hole	WATER BASED		
Density	9.1 ppG	56.00	s/qt
PH	10.50 pH	8.8	cp/m
Source of Sample	MUD PIT		
Rm @ Meas. Temperature	0.300 ohmm	@	75.00 degF
Rmf @ Meas. Temperature	0.22 ohmm	@	75.00 degF
Rmc @ Meas. Temperature	0.350 ohmm	@	75.00 degF
Source Rmf	MEASURED		MEASURED
Rm @ BHT	0.17 ohmm	@	135.0 degF
Time Since Circulation	5.0 hr		
Time on Bottom	31-May-13 11:10		
Max. Rec. Temperature	135.0 degF @	4932.0 ft	@
Equipment	Location	10782954	LIBERAL
Recorded By	J. BOLLOM		
Witnessed By	K. NOAH		

Fold here

Service Ticket No.: 900461286		API Serial No.: 15-171-20951		PGM Version: WL INSITE R3.8.4 (Build 5)			
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.	@	@					
Rmc @ Meas. Temp.	@	@					
Source Rmf	Rmc						
Rm @ BHT	@	@					
Rmf @ BHT	@	@					
Rmc @ BHT	@	@					
EQUIPMENT DATA							
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	10811258	Serial No.	10747684	Serial No.		Serial No.	
Model No.	GTET	Model No.	BSAT	Model No.		Model No.	
Diameter	3.625"	No. of Cent.	2	Diameter		Diameter	
Detector Model No.	GTET	Spacing	6"	Log Type		Log Type	
Type	SCINT			Source Type		Source Type	

Length	8'	LSA [Y/N]	NO	Serial No.		Serial No.	
Distance to Source	10'	FWDA [Y/N ]	NO	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	
ONE	4932	330	REC	0	150	30	-10	47.6						

**DIRECTIONAL INFORMATION**

Maximum Deviation	@	KOP	@
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Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING

CHLORIDES REPORTED AT 7,500 PPM

LCM REPORTED AT 2 LB/BBL

GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION

TODAY'S CREW: J. ALBRIGHT & V. JAIME

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KS. 620-624-8123

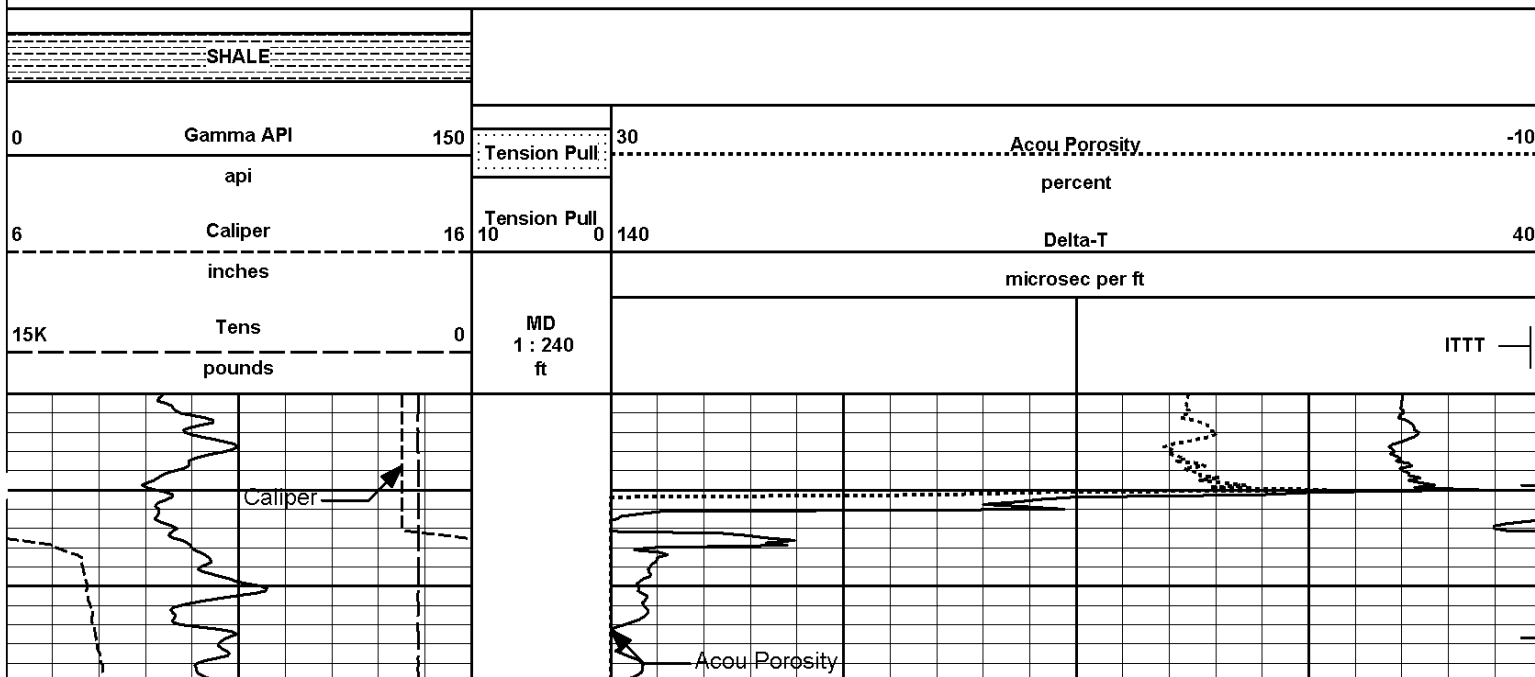
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR 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.

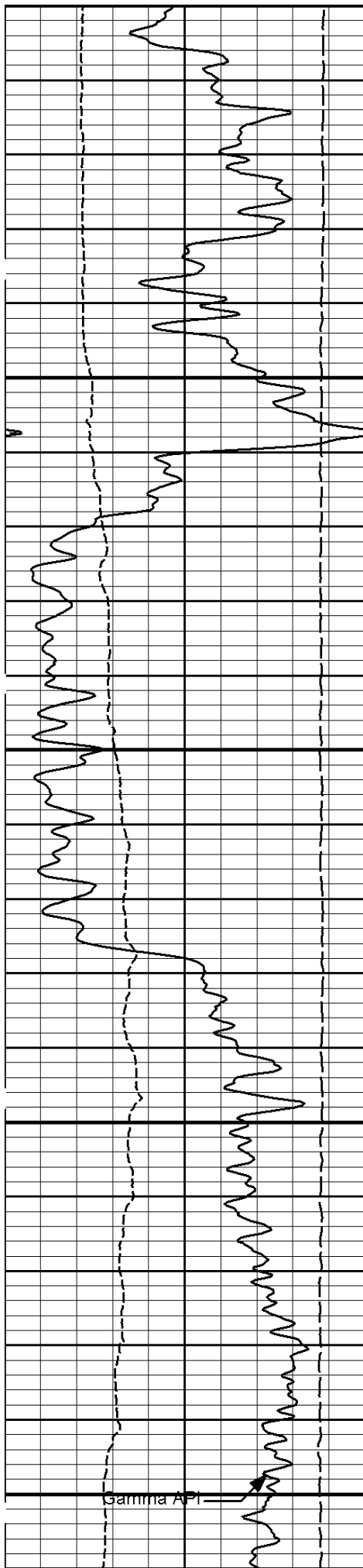
HALLIBURTON

**HALLIBURTON**

Plot Time: 31-May-13 15:57:50  
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 Data: WILKINSON\_3\_22\Well Based\CASING\  
 Plot File: \\BSAT\BSAT\_5\_MAIN\_LIB

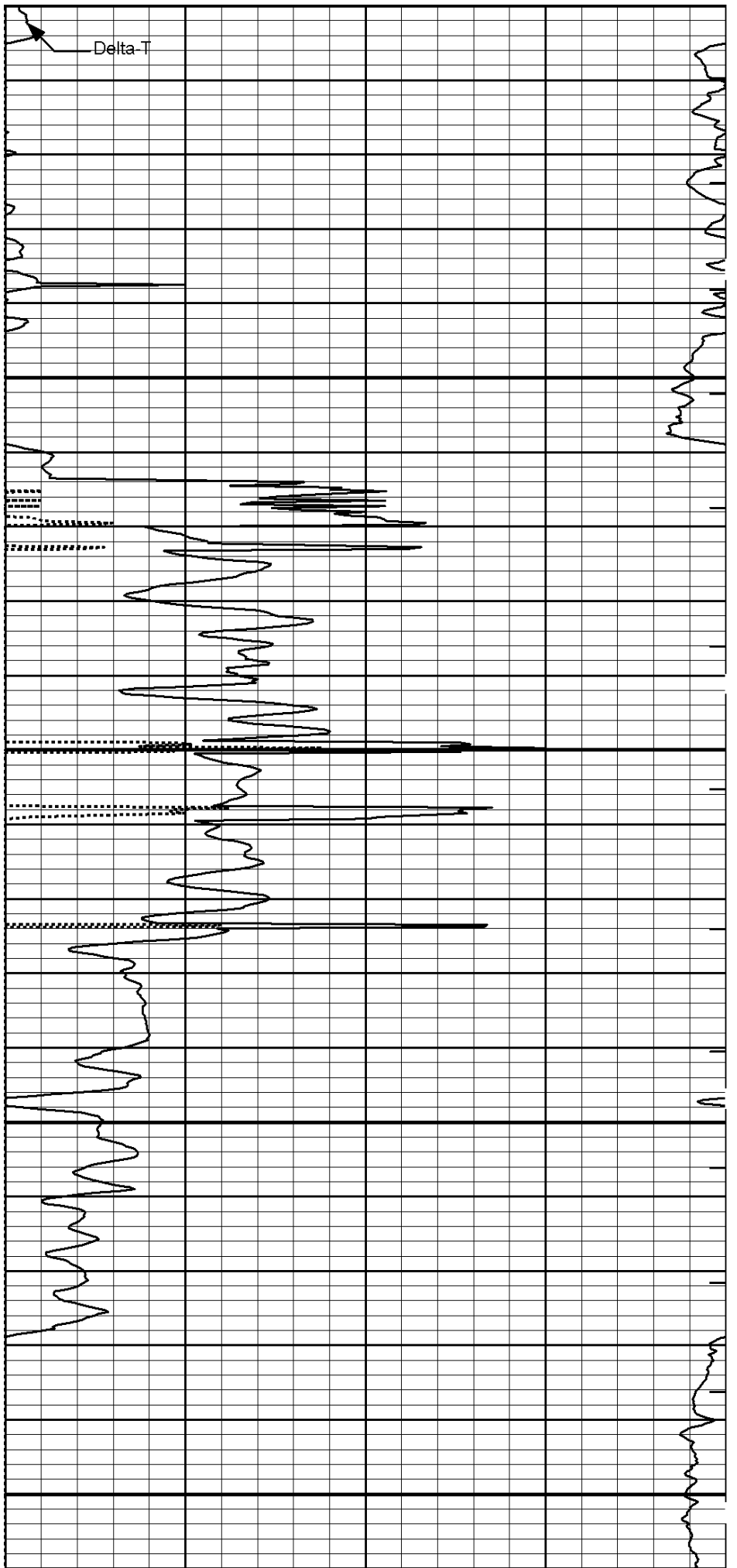
## 5 INCH MAIN LOG





400

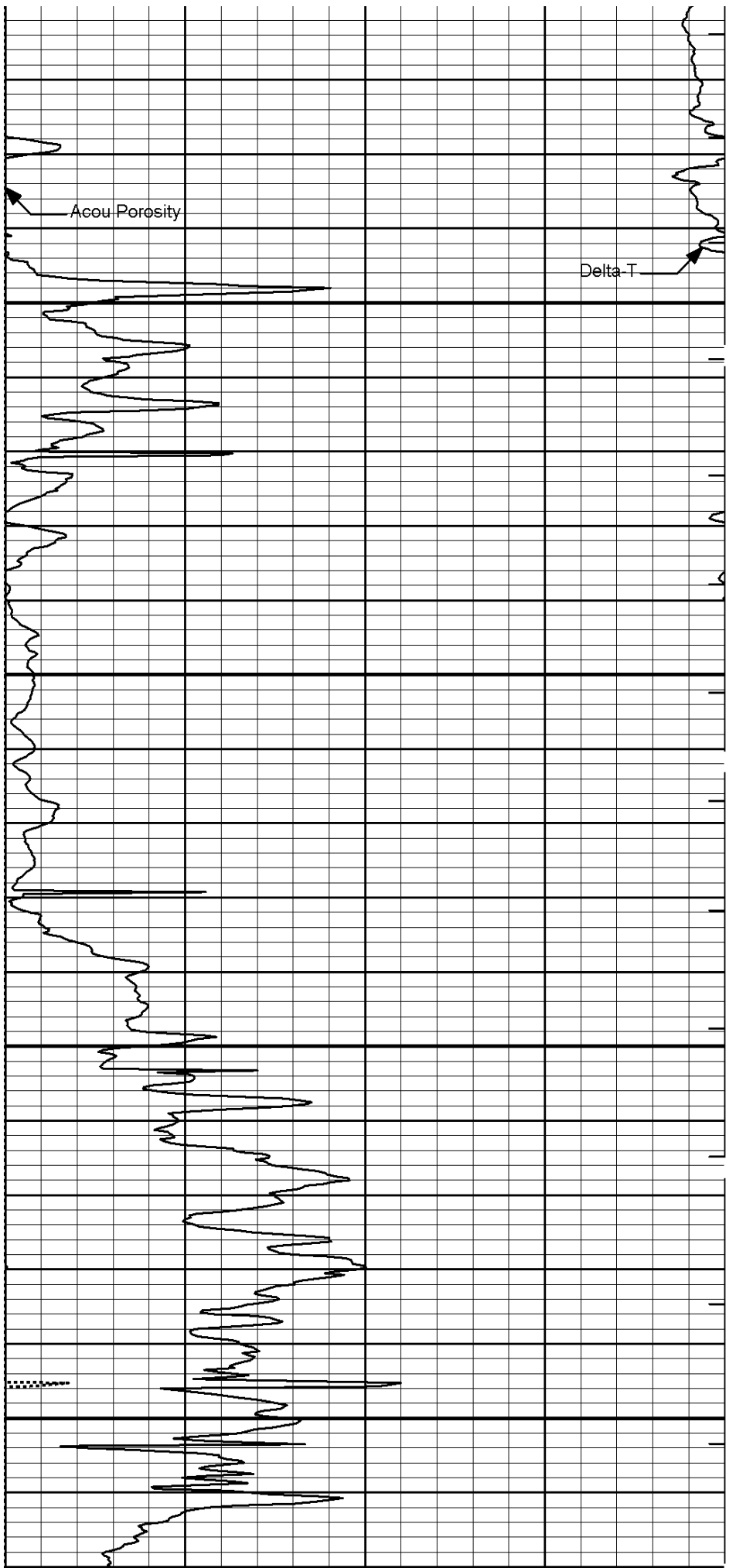
500

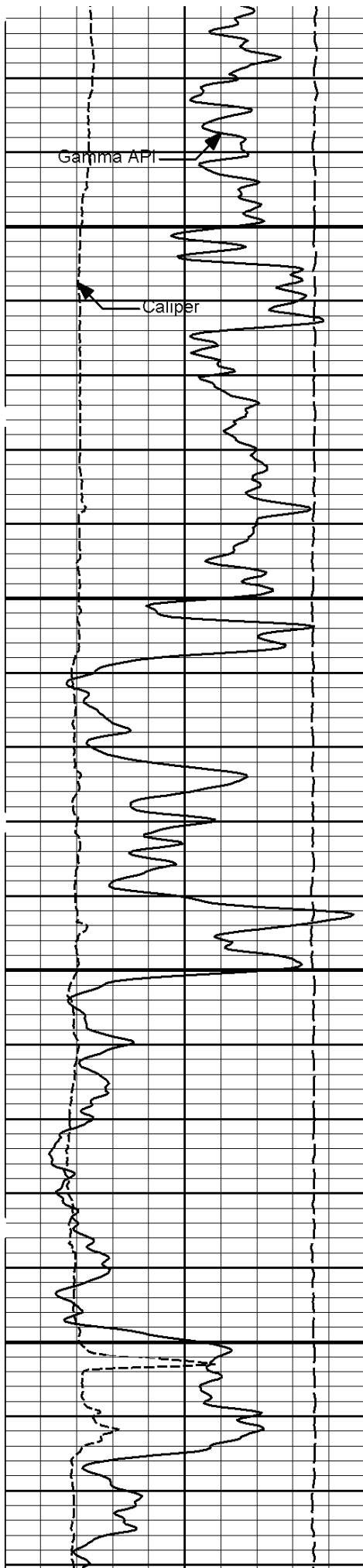




600

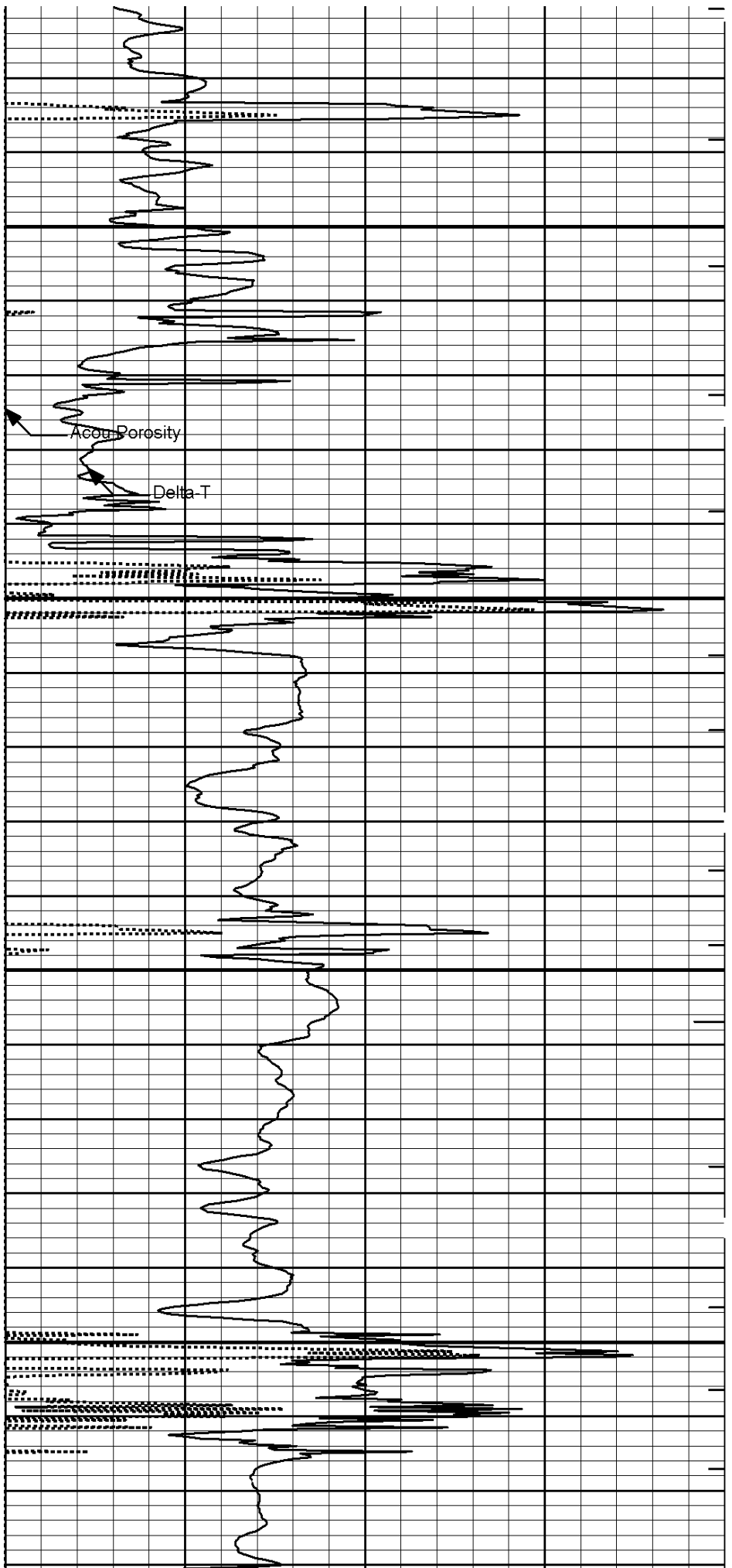
700





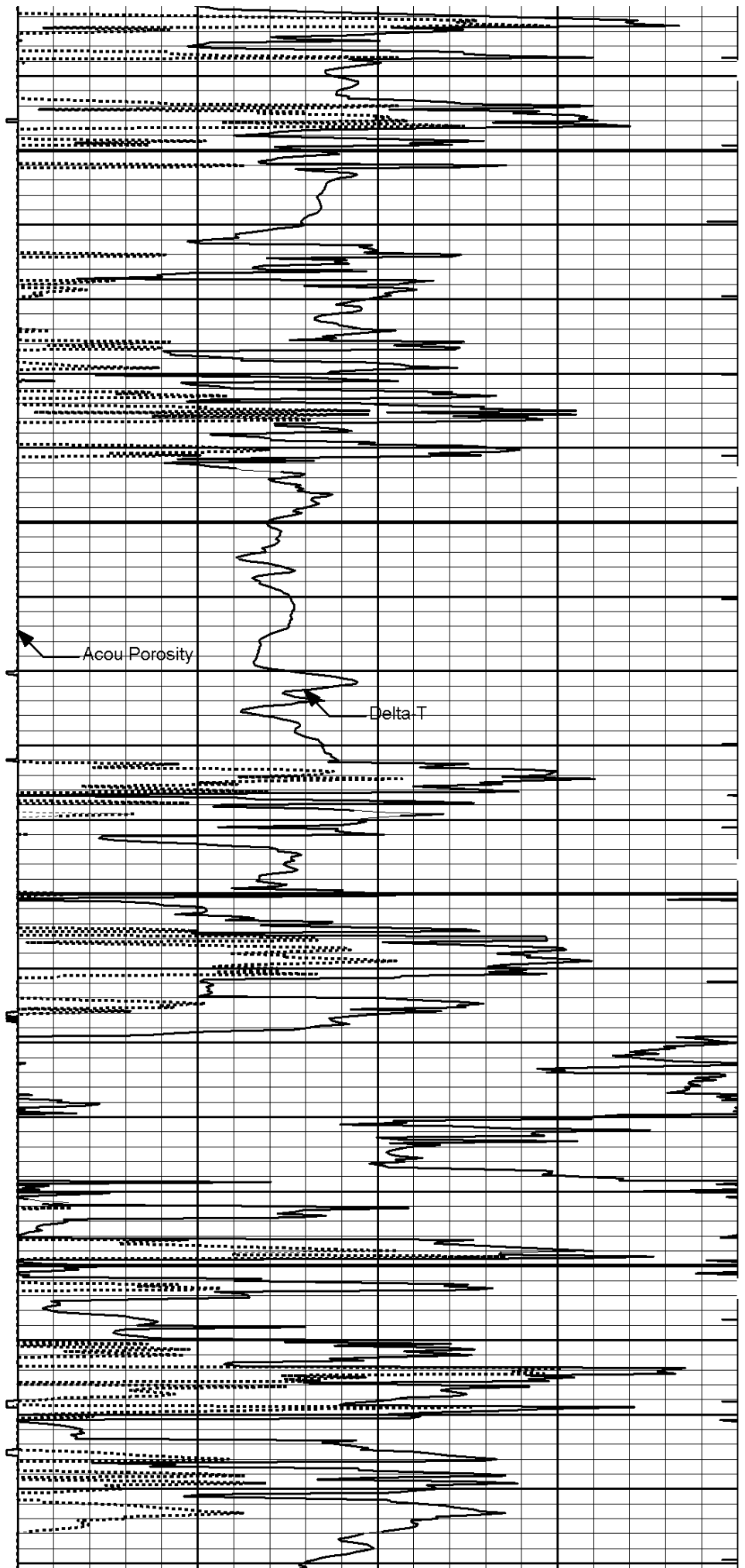
800

900

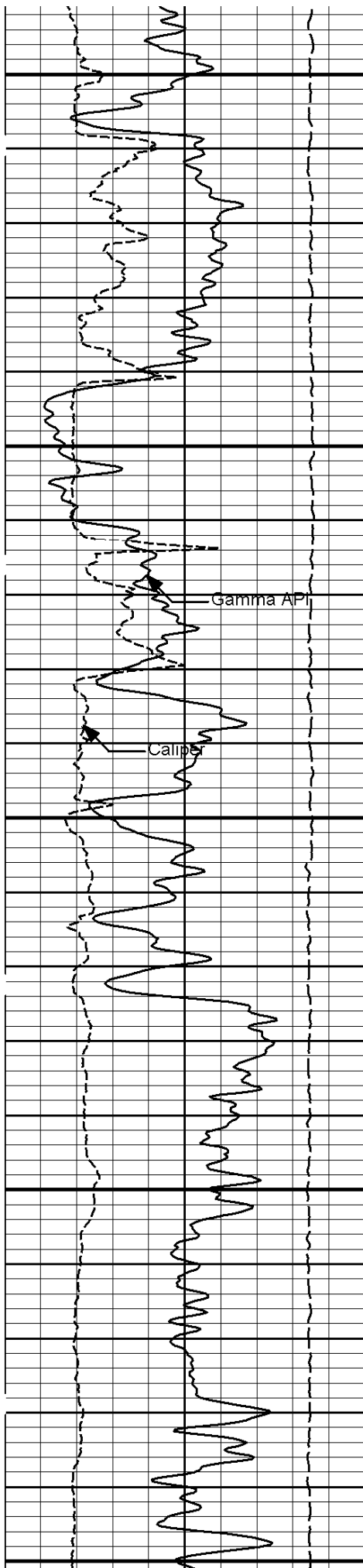




1000



1100



1200

1300

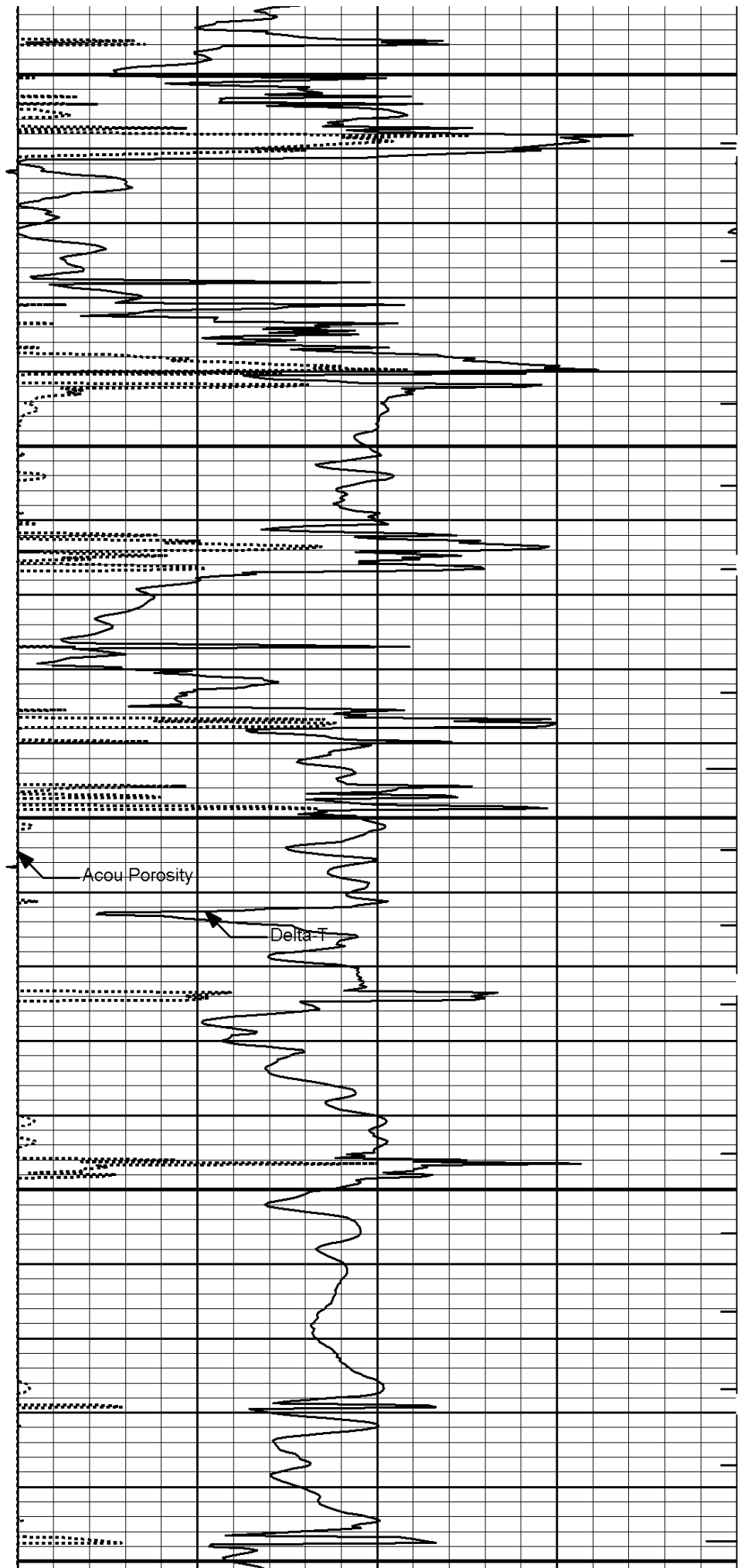
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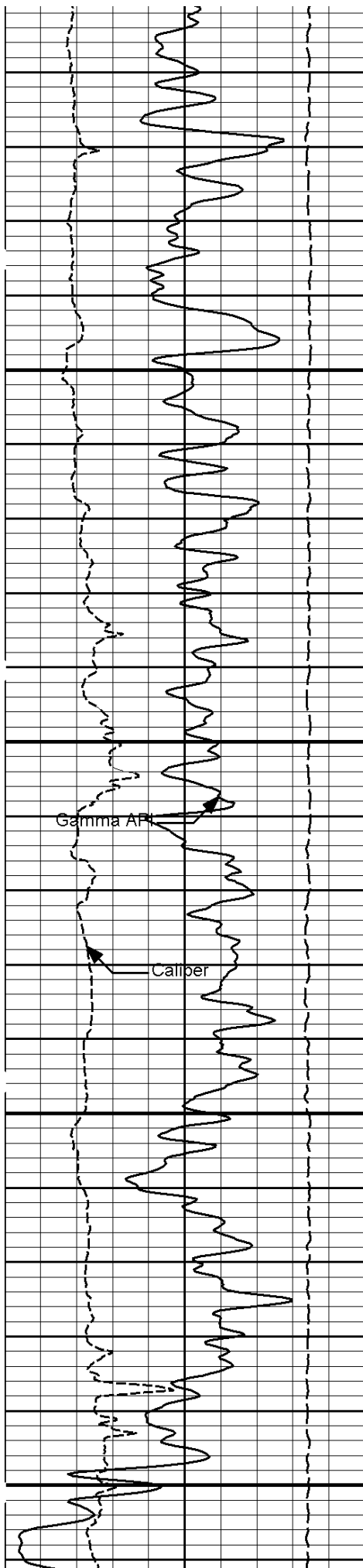
Gamma API

Caliper

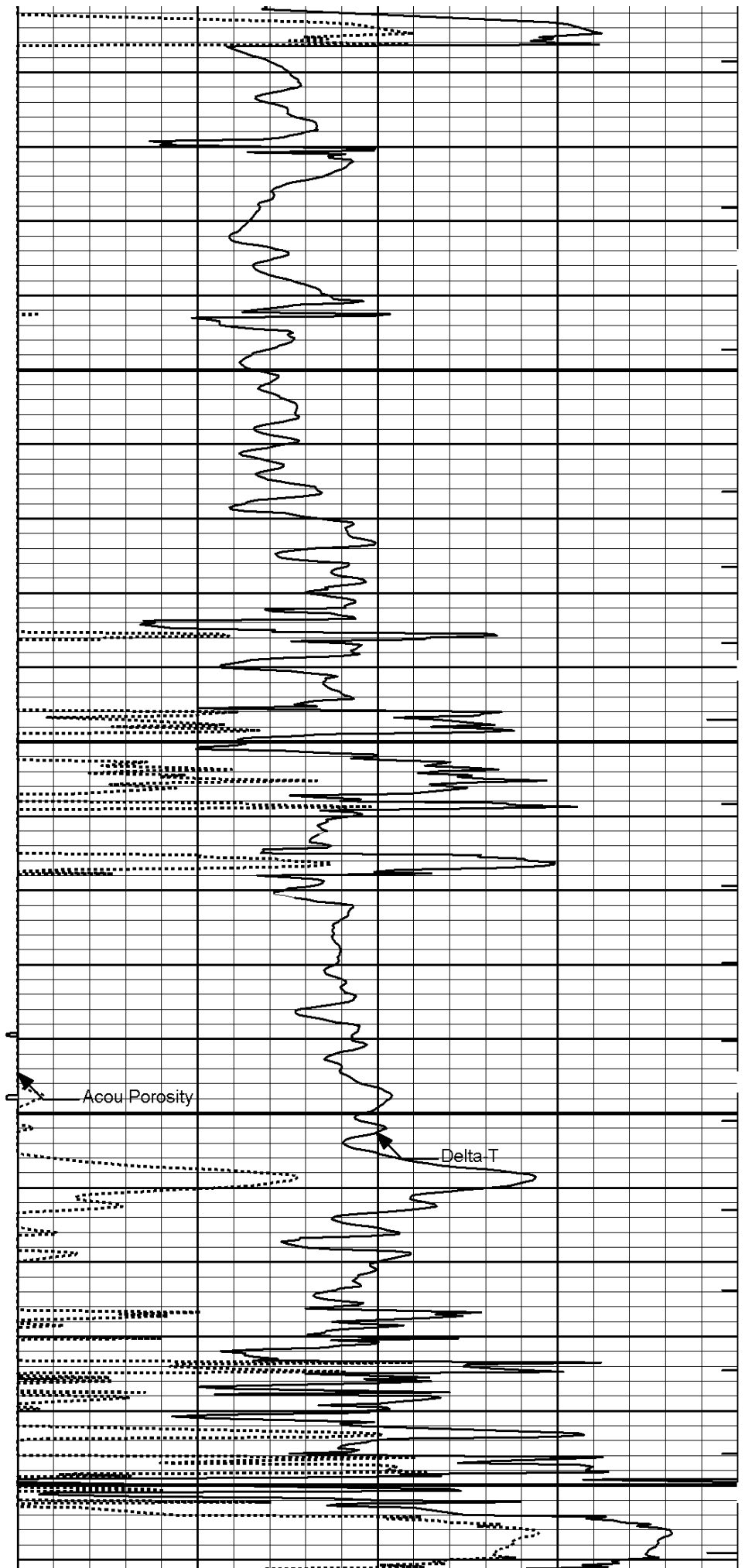
Acou Porosity

Delta T

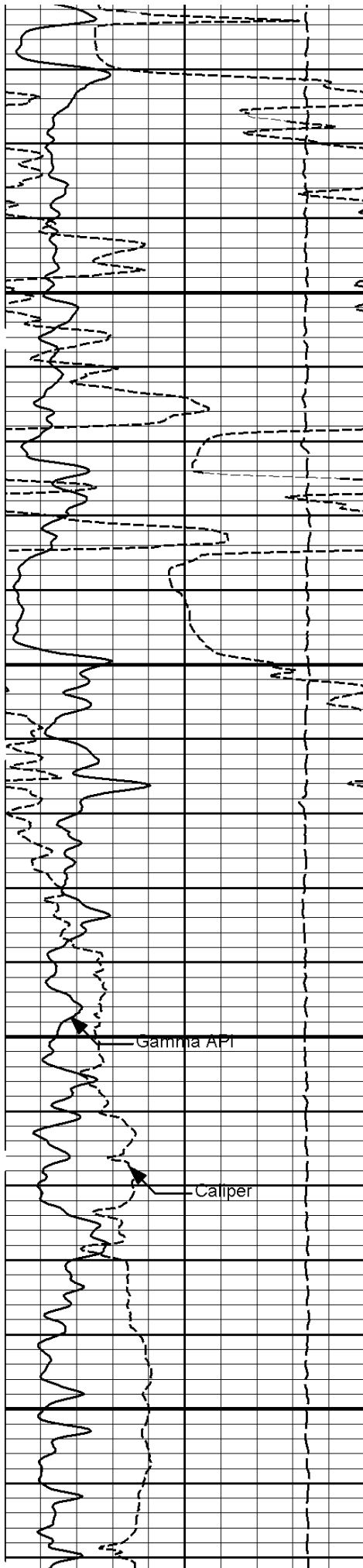




1500

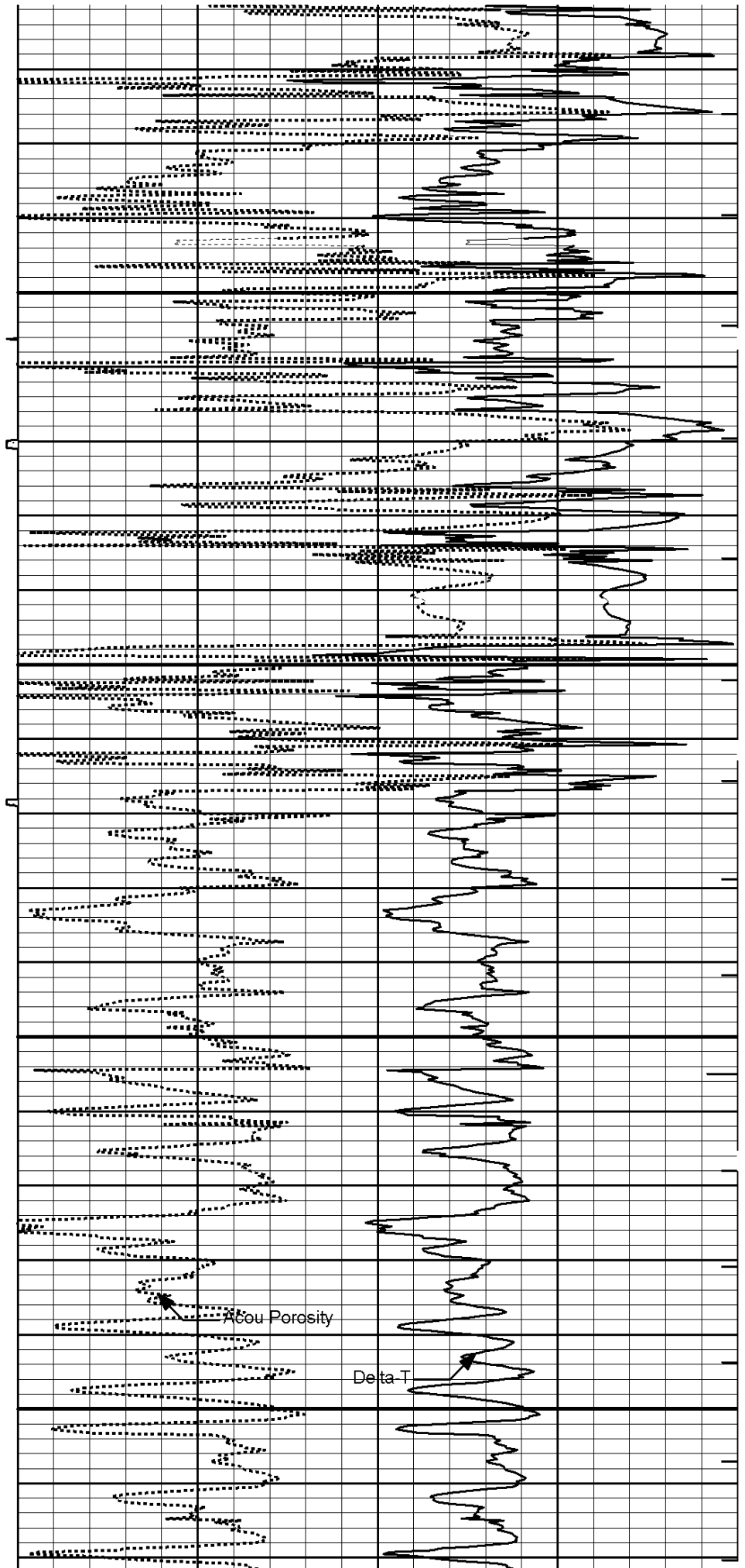


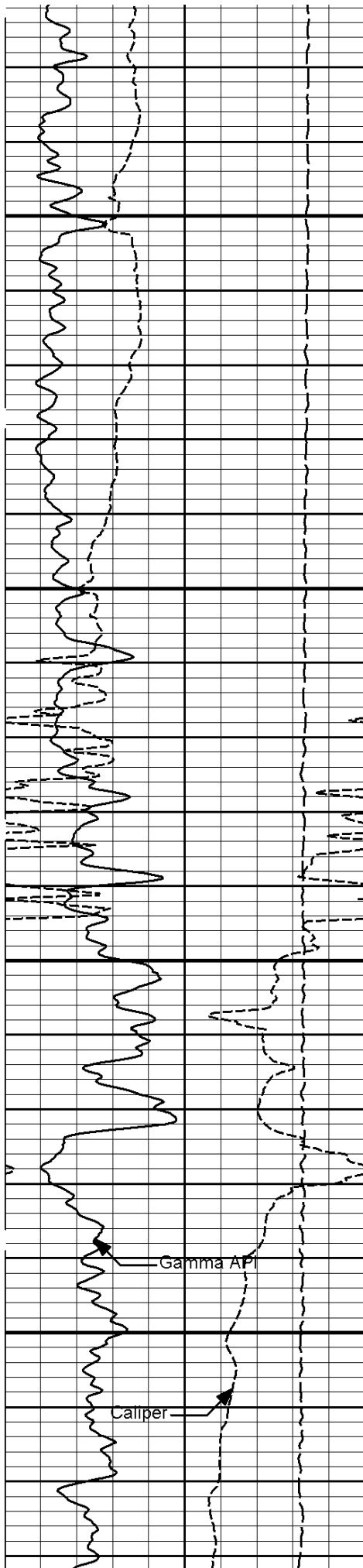
1600



1700

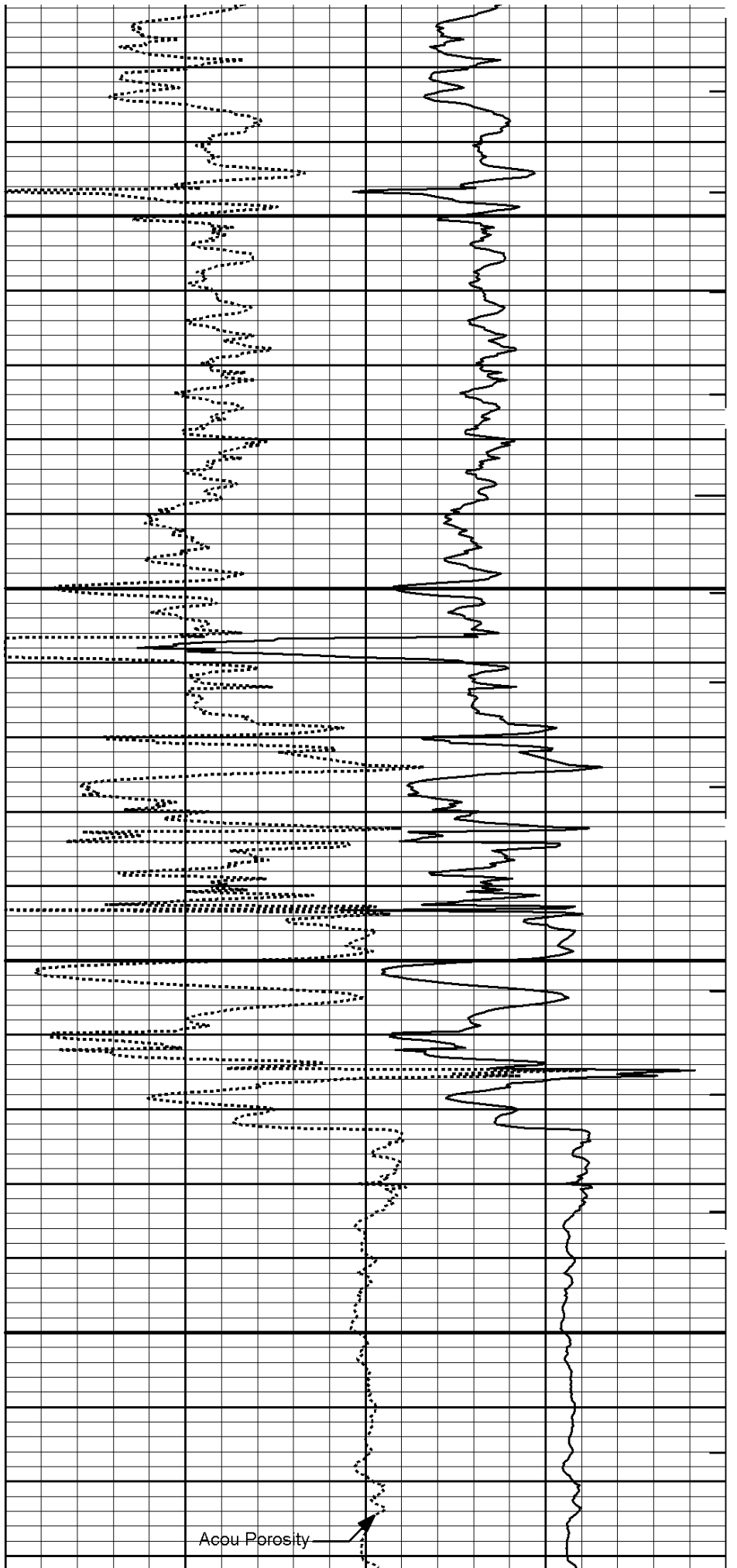
1800





1900

2000

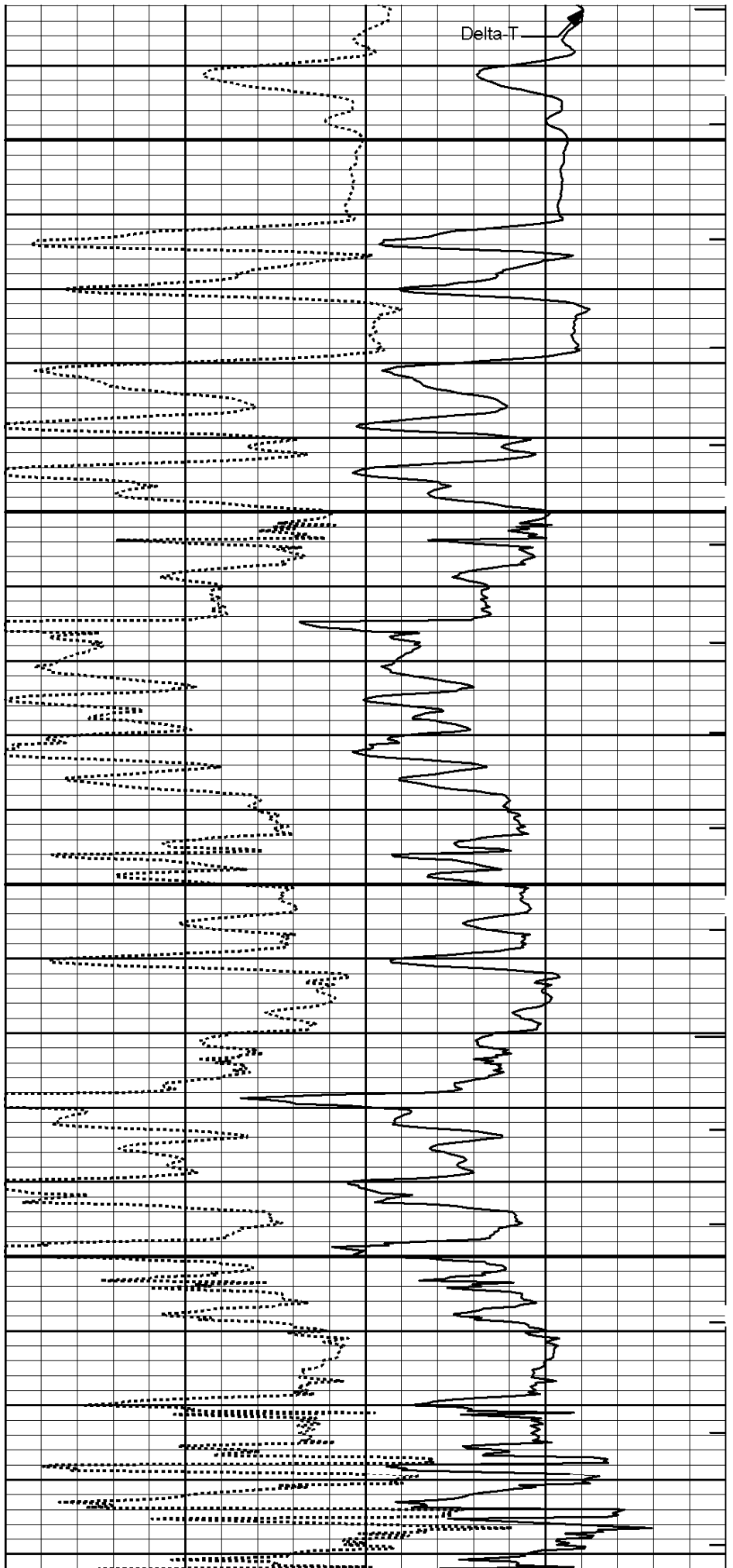


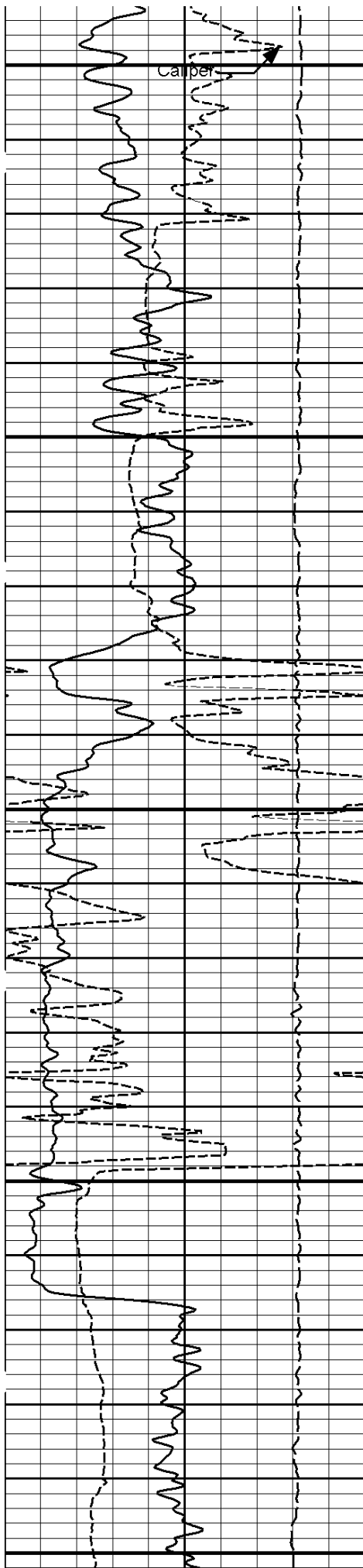
Acou Porosity



2100

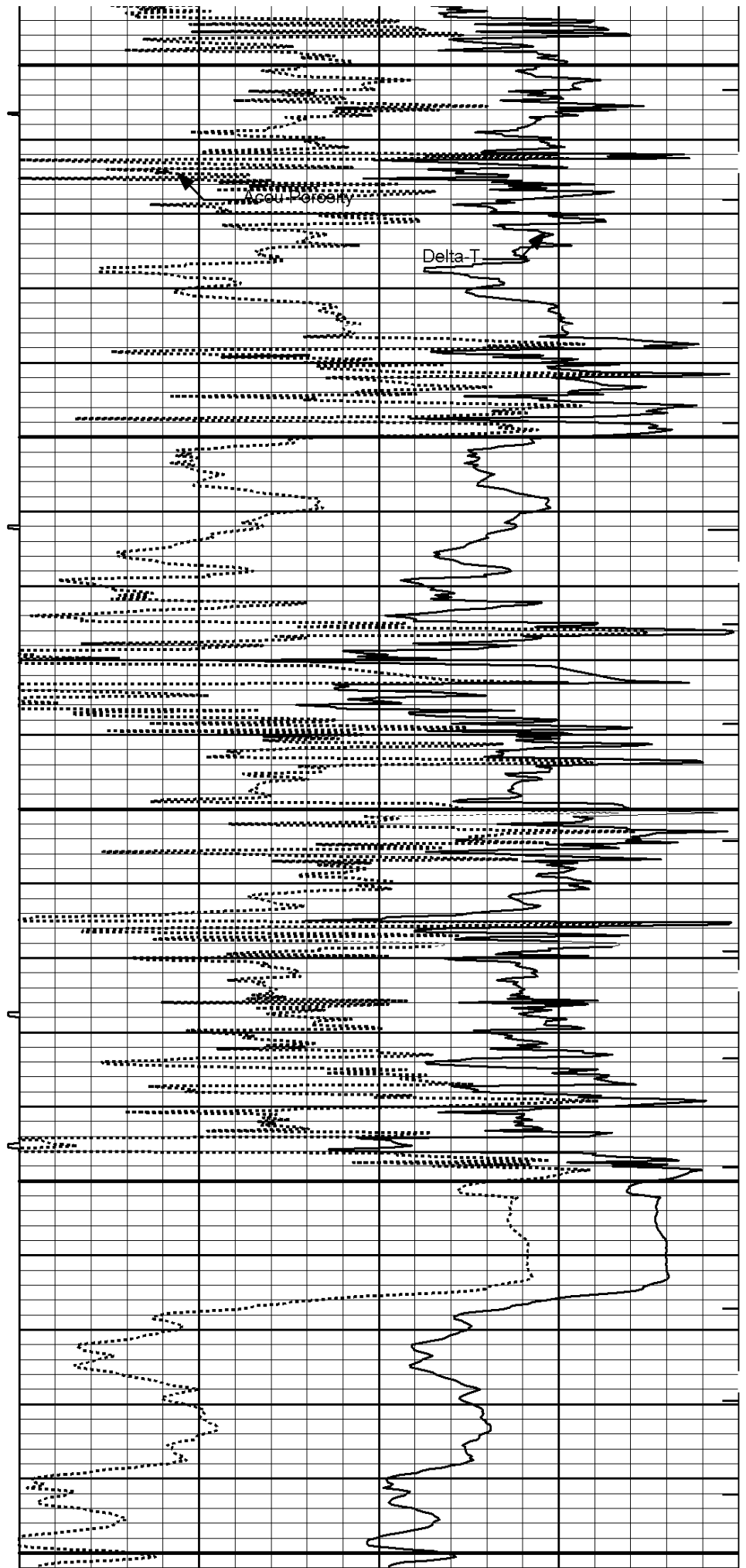
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2300

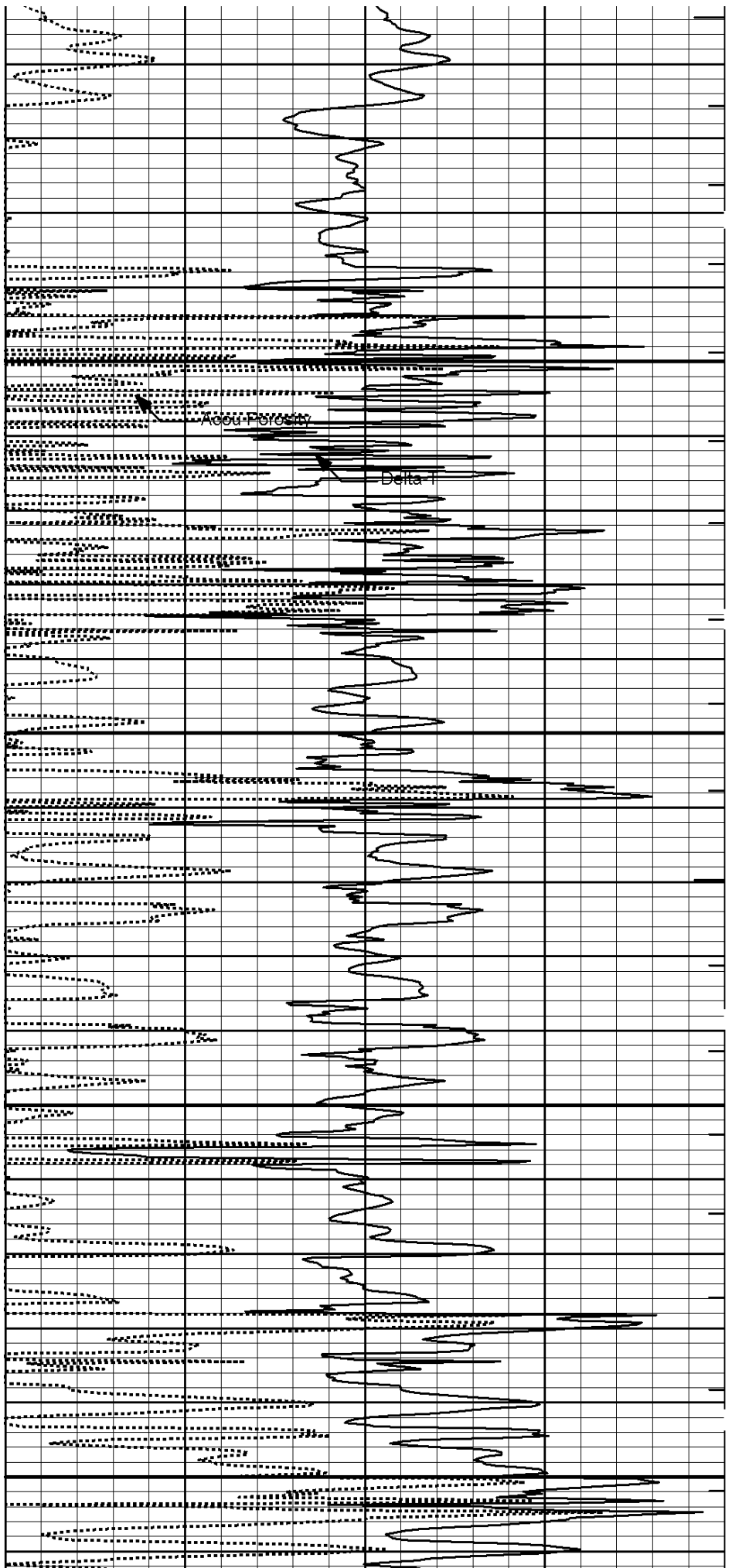
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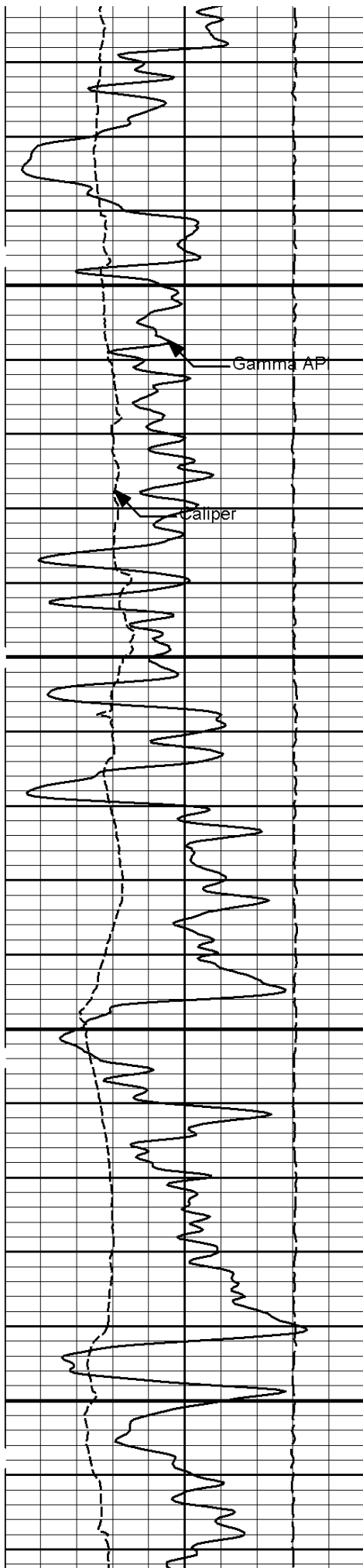




2500

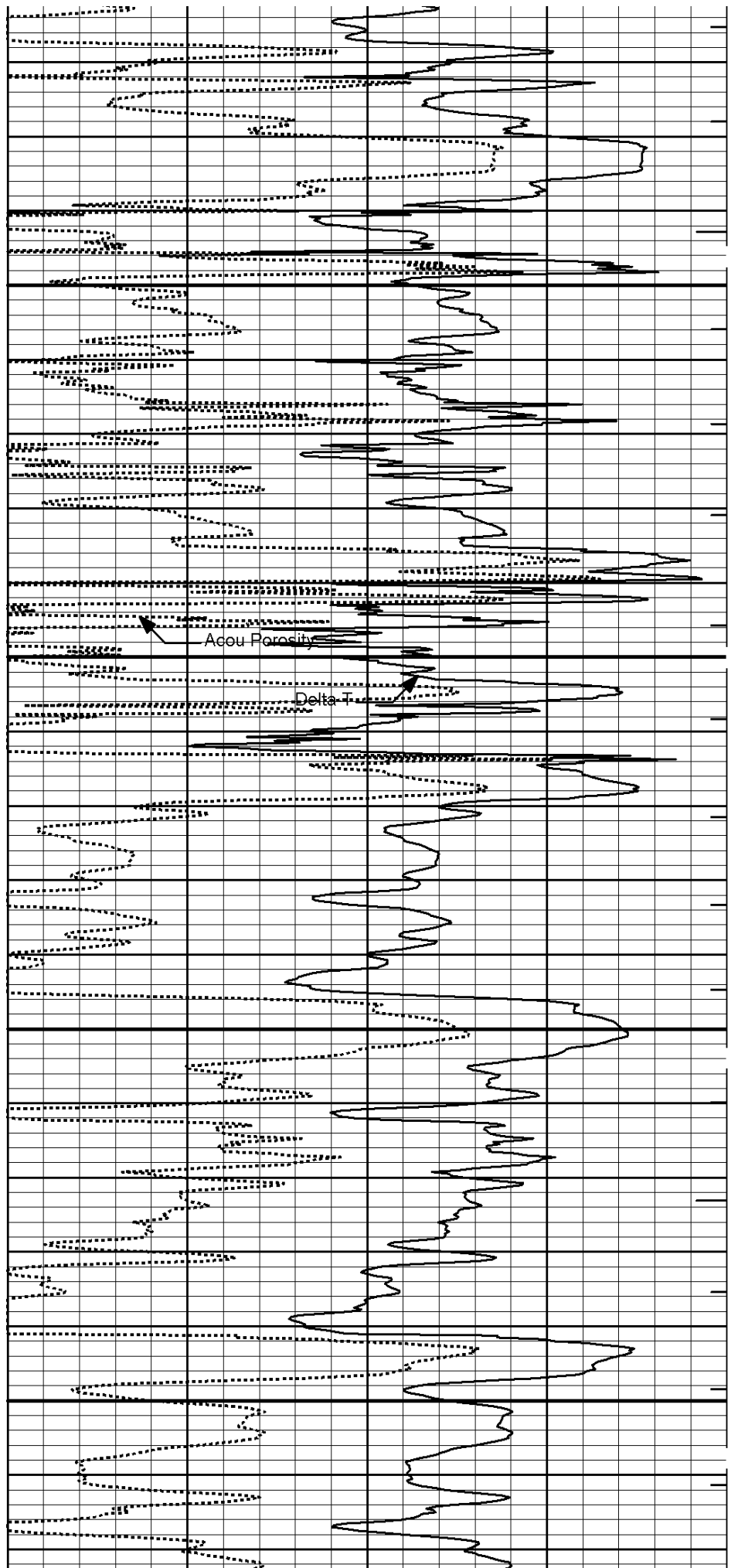
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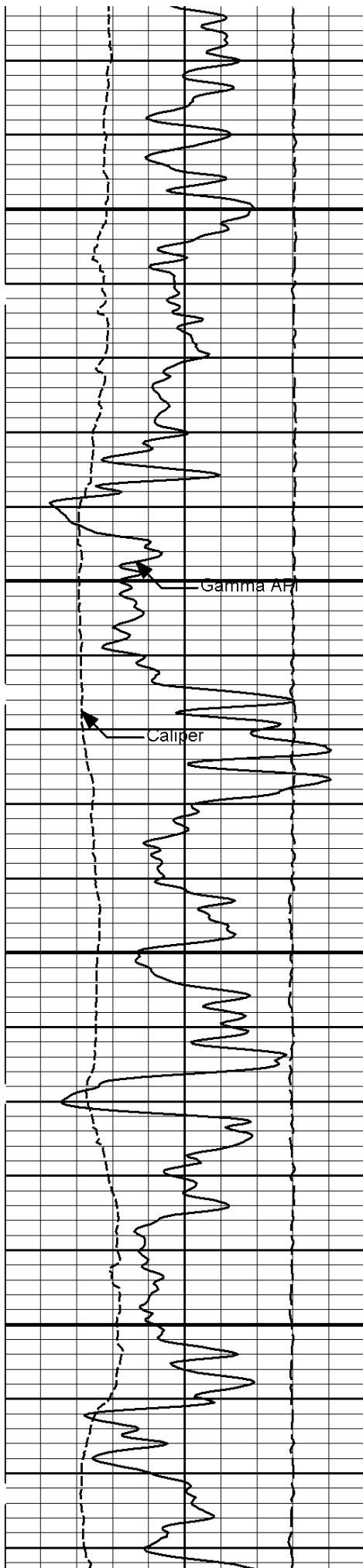




2700

2800



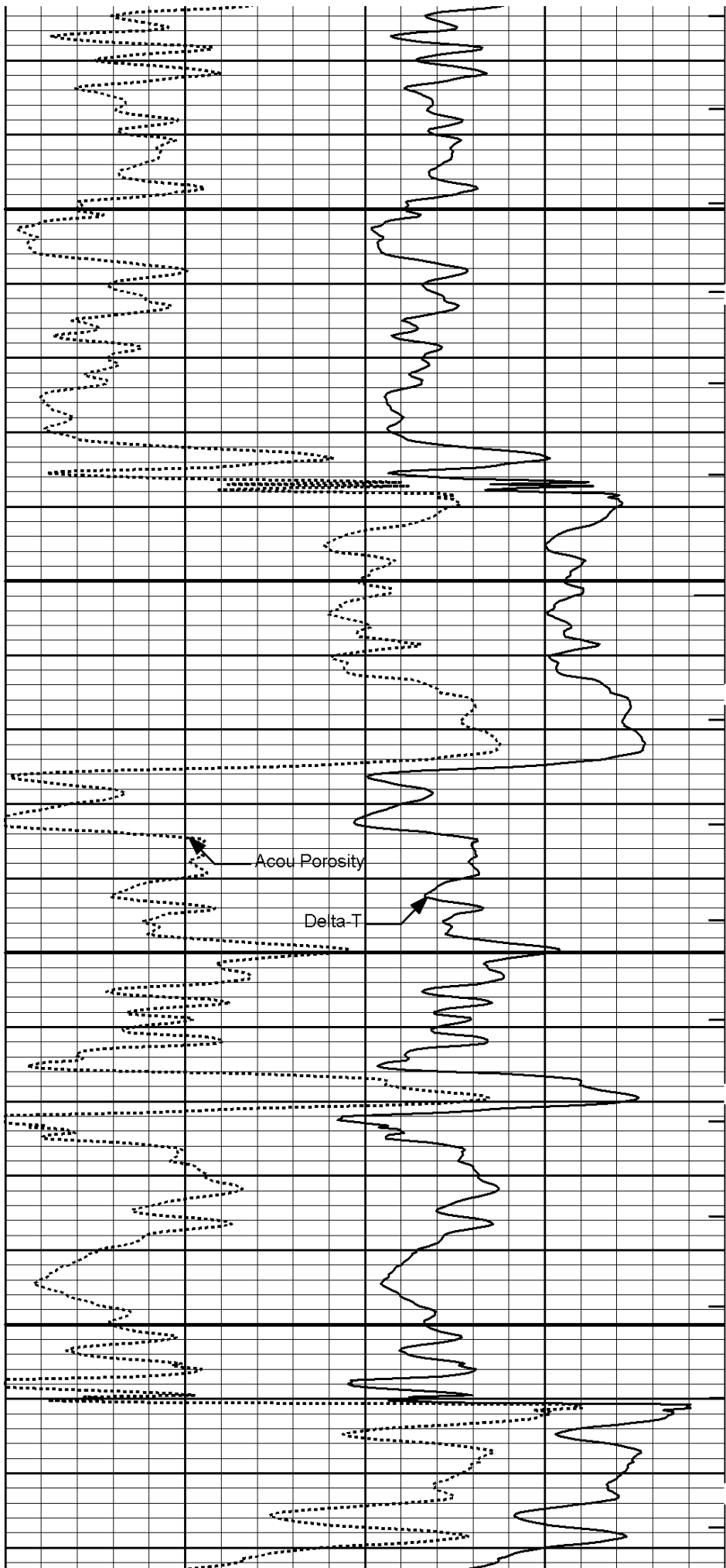


2900

Gamma Ray

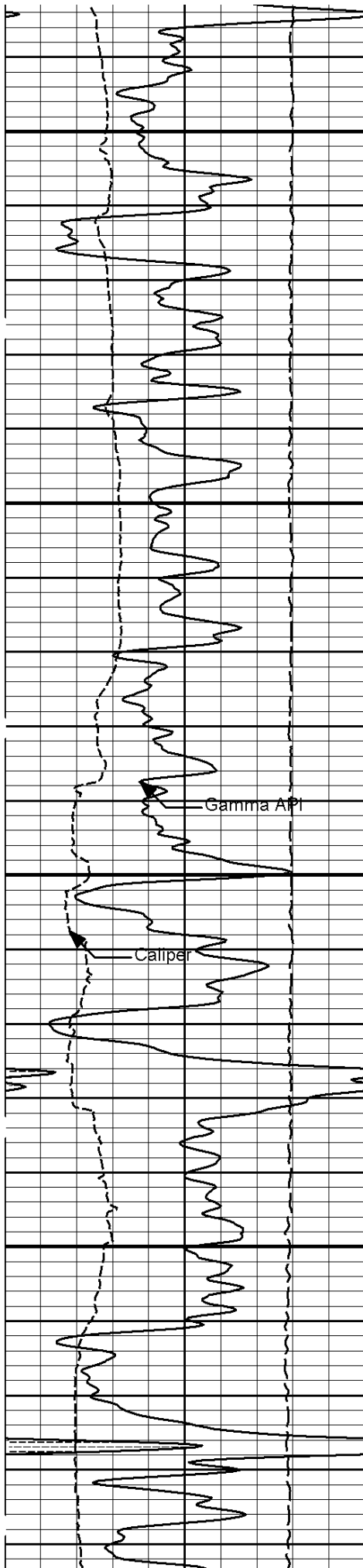
Caliper

3000



Acoustic Porosity

Delta-T

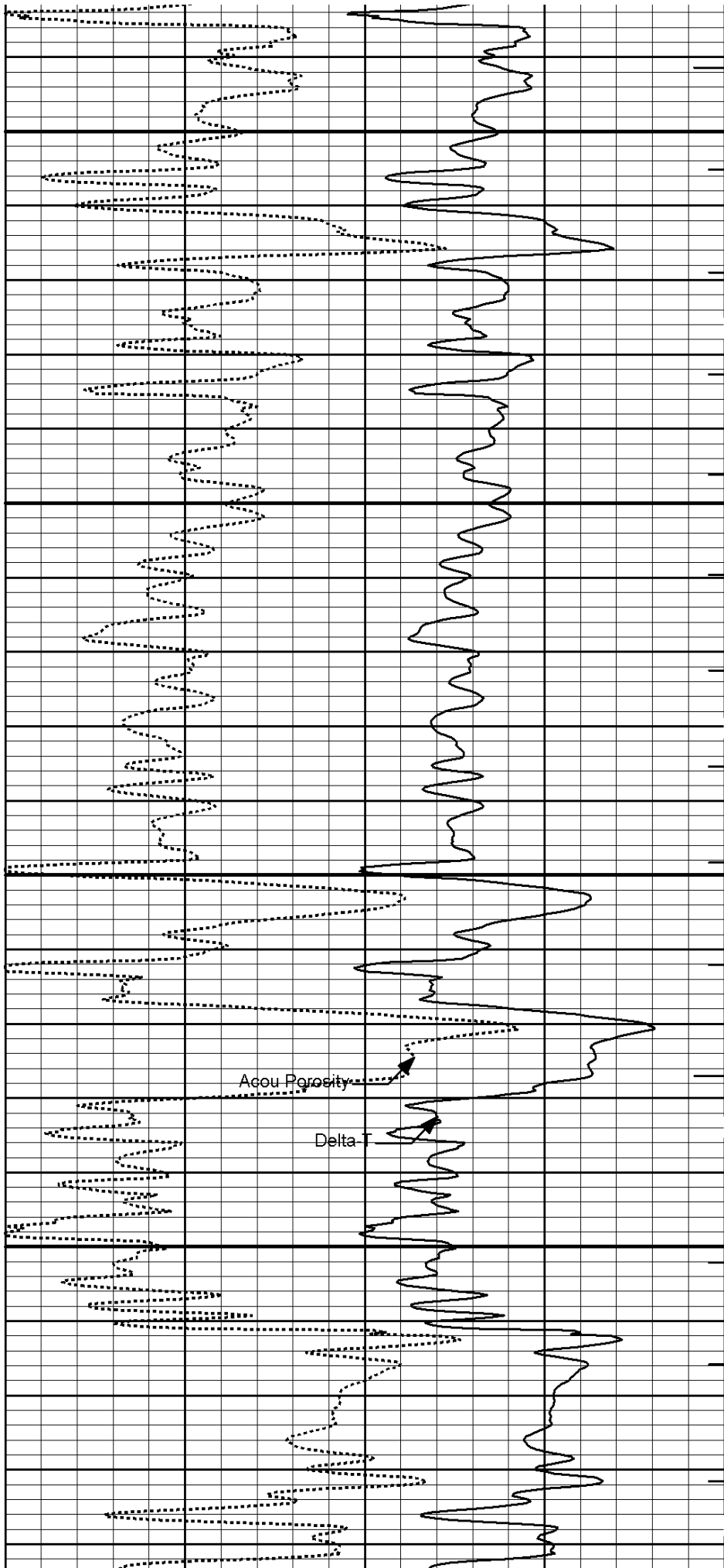


3100

3200

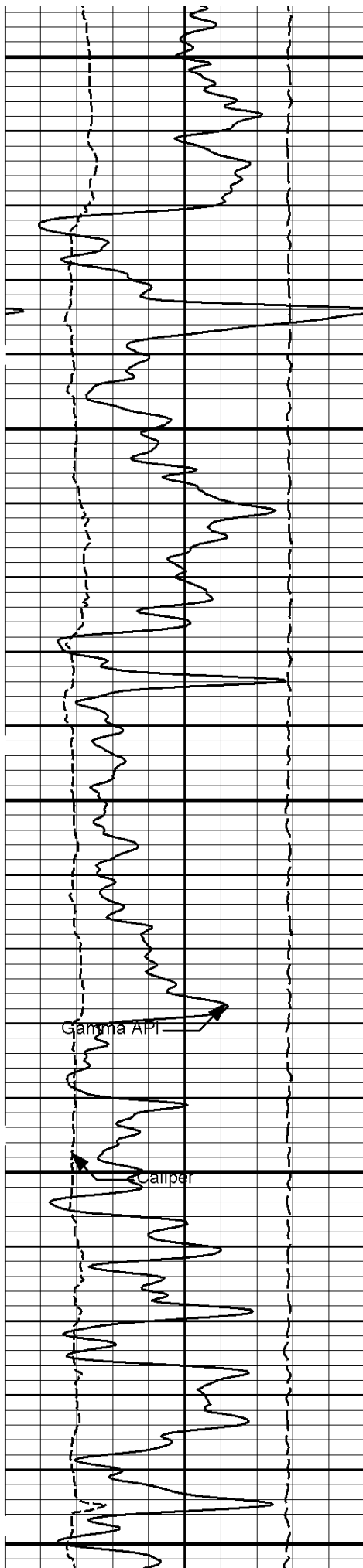
Gamma Ray

Caliper



Acou Porosity

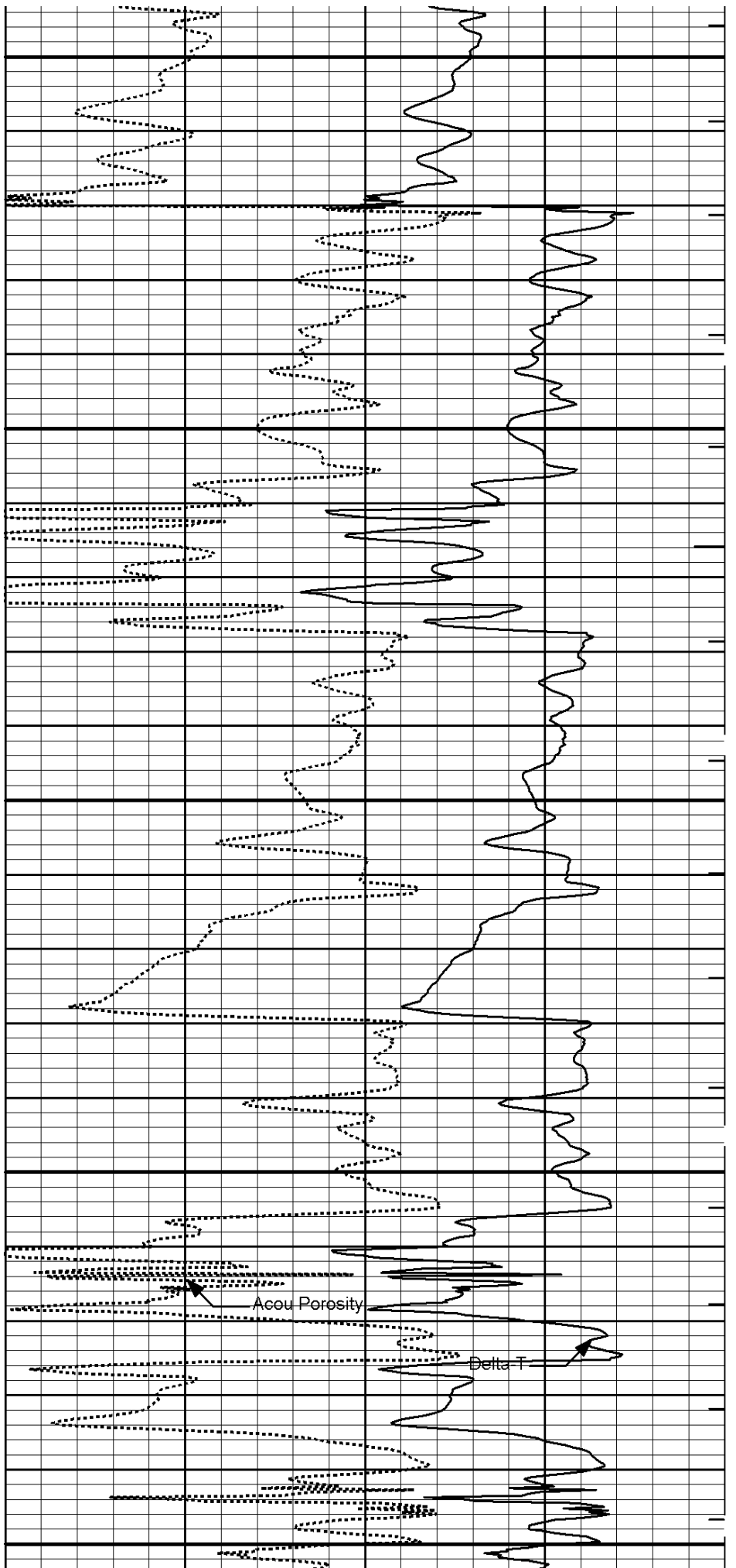
Delta T



3300

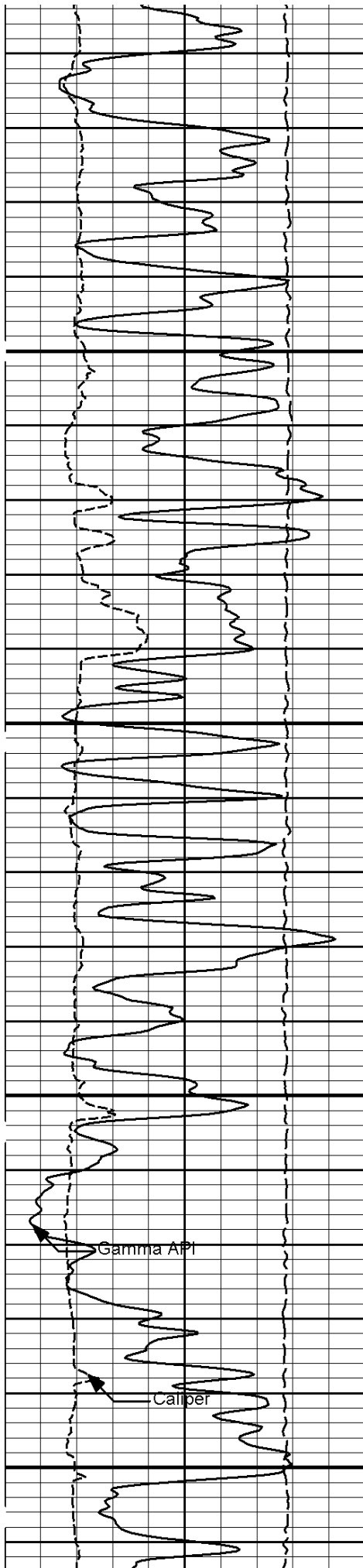
3400

3500



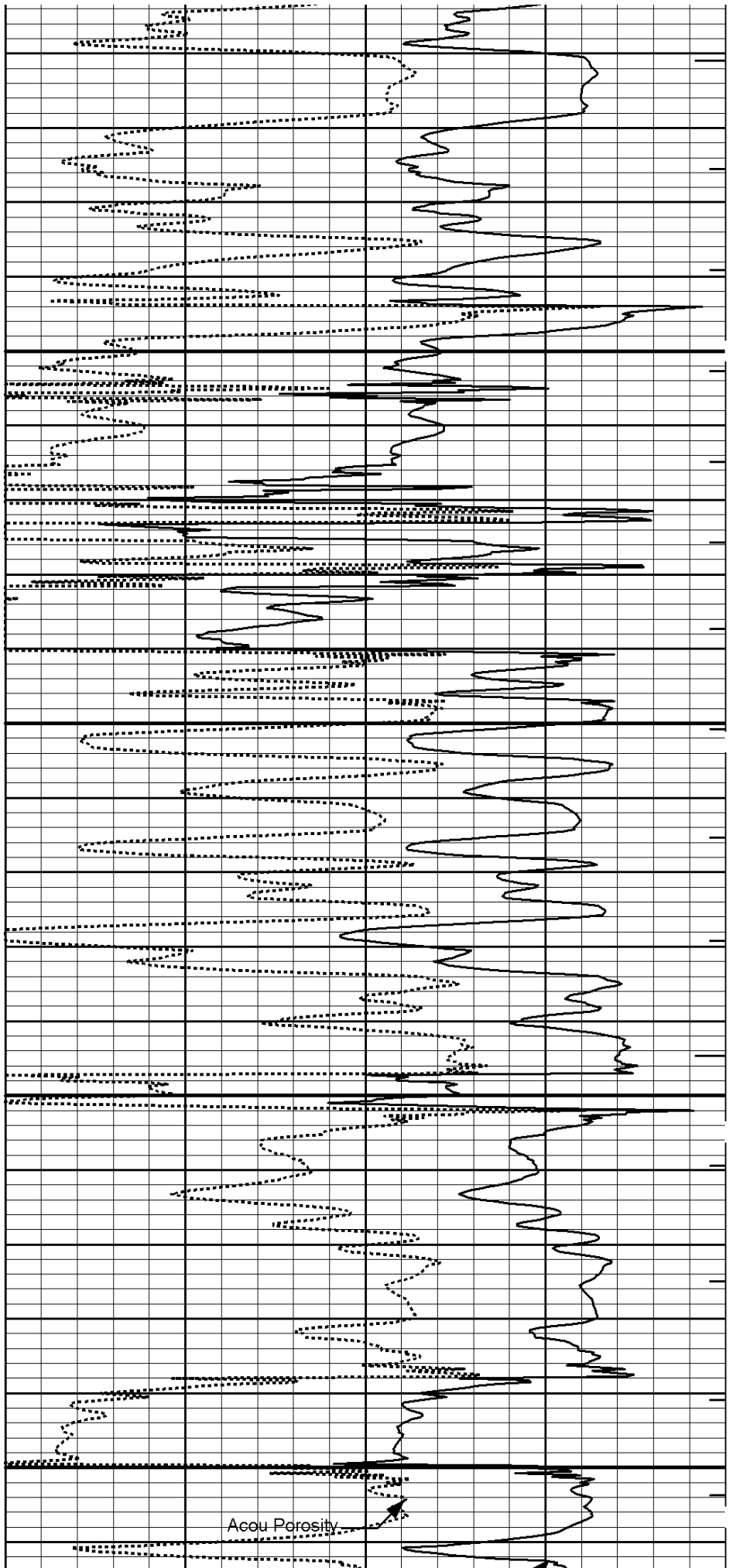
Acou Porosity

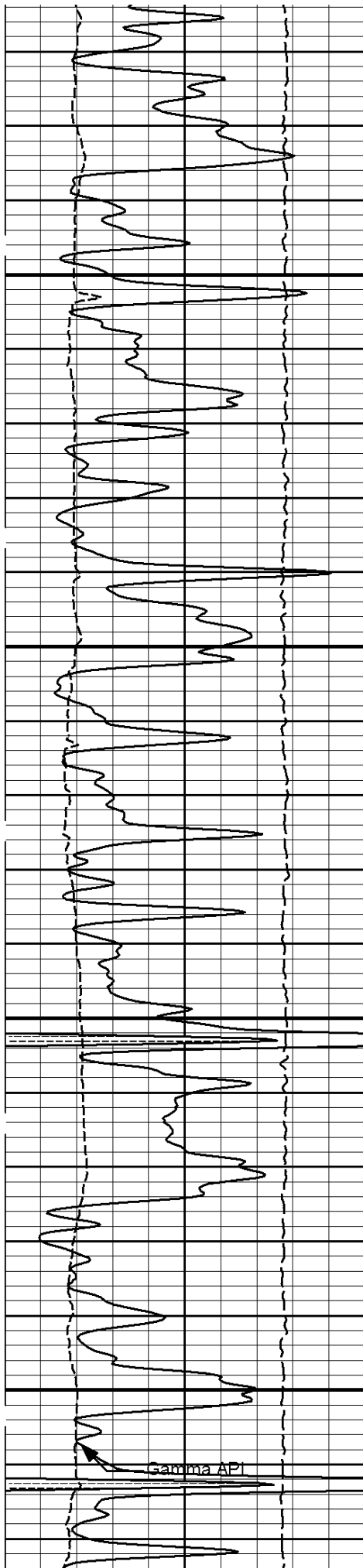
Delta T



3600

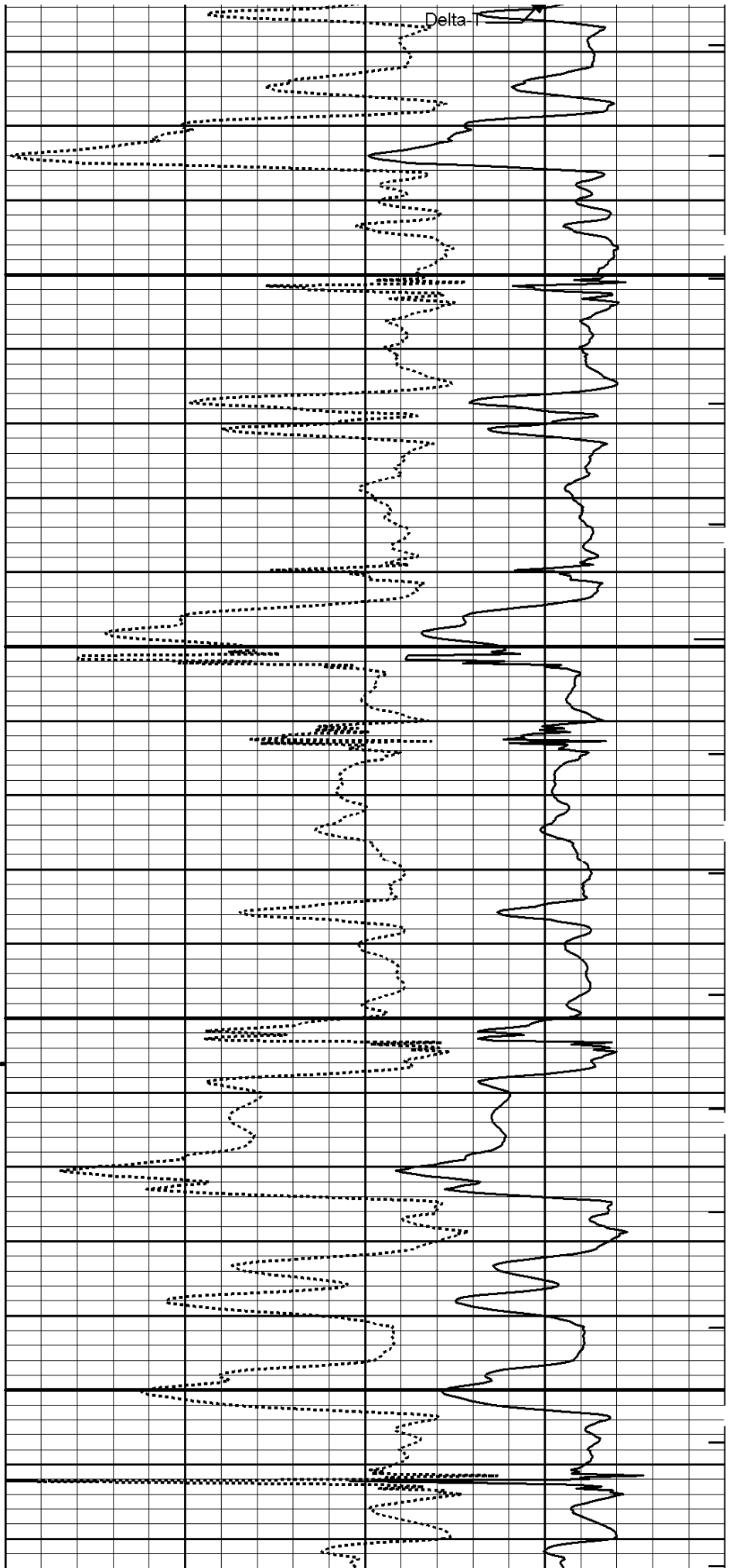
3700

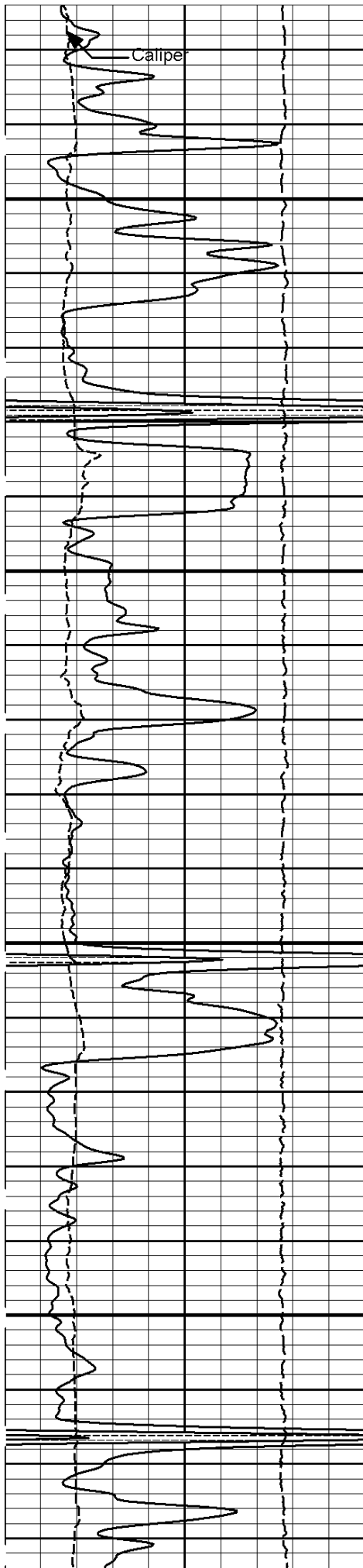




3800

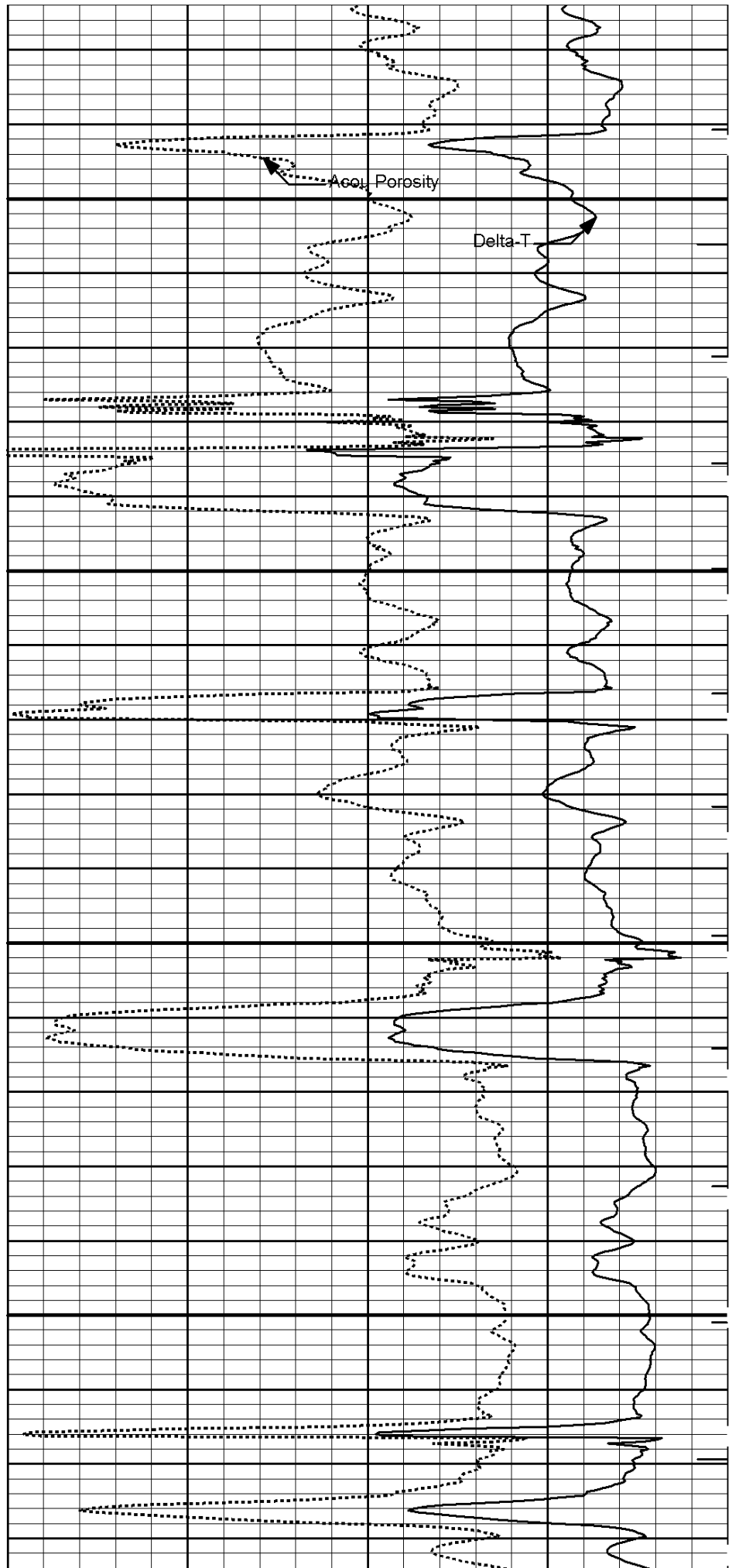
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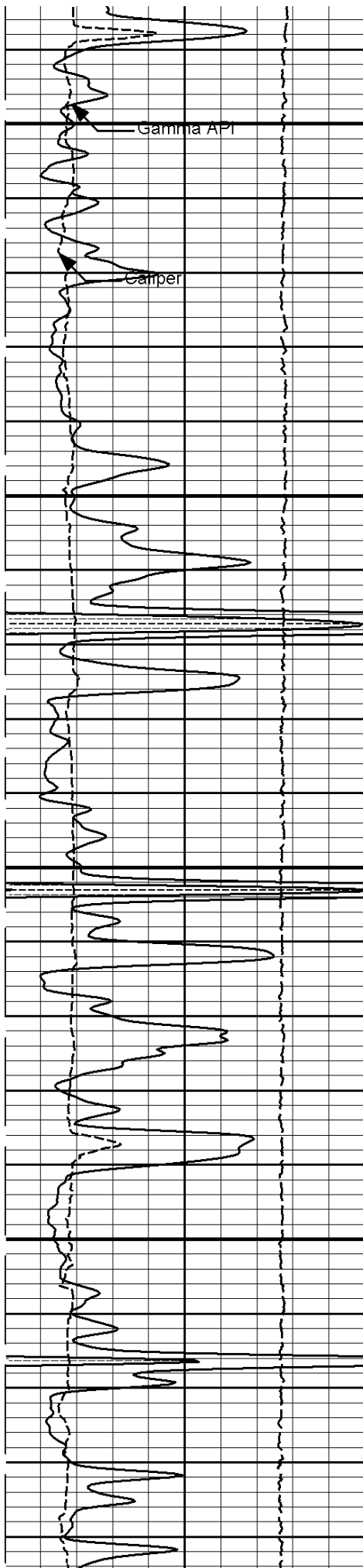




4000

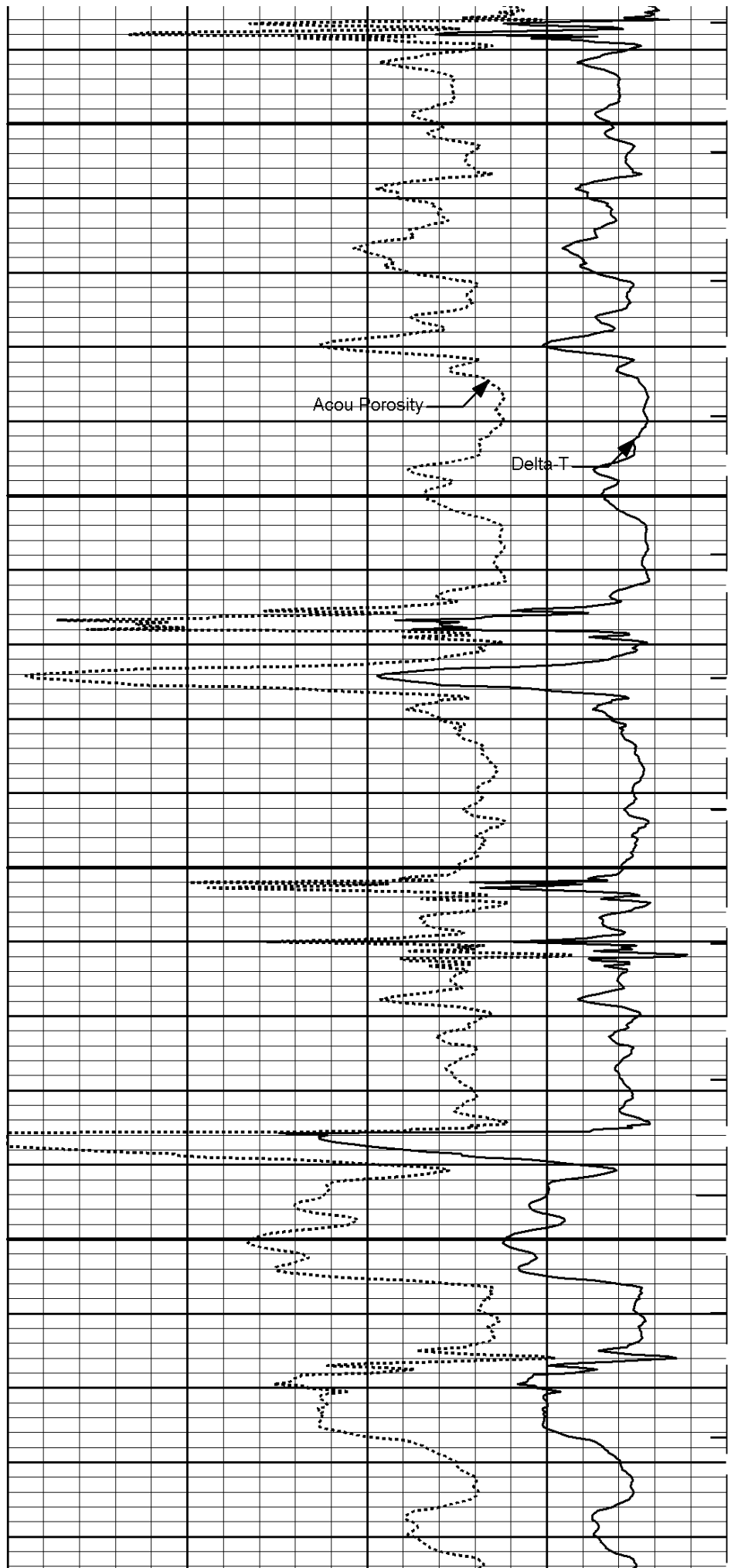
4100





4200

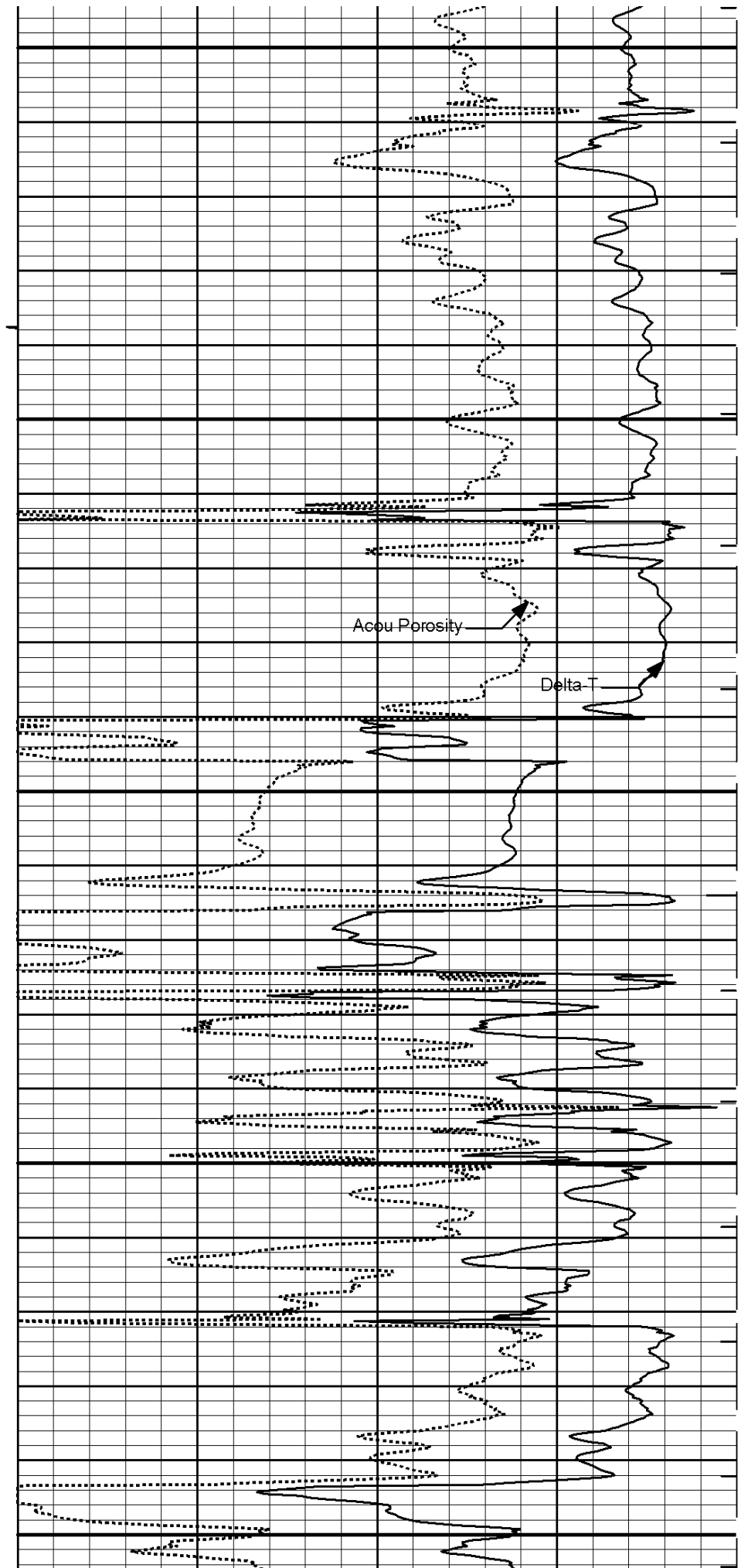
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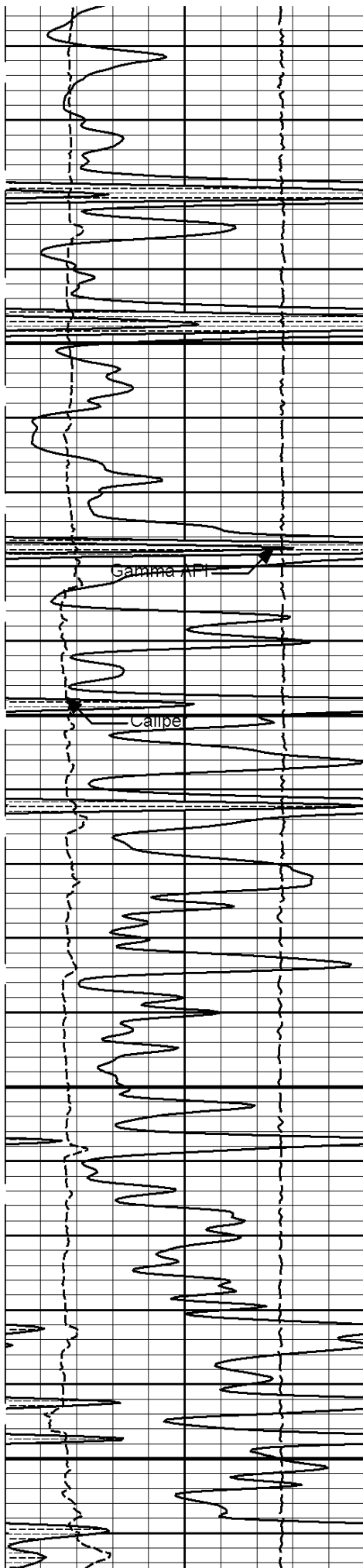




4400

4500



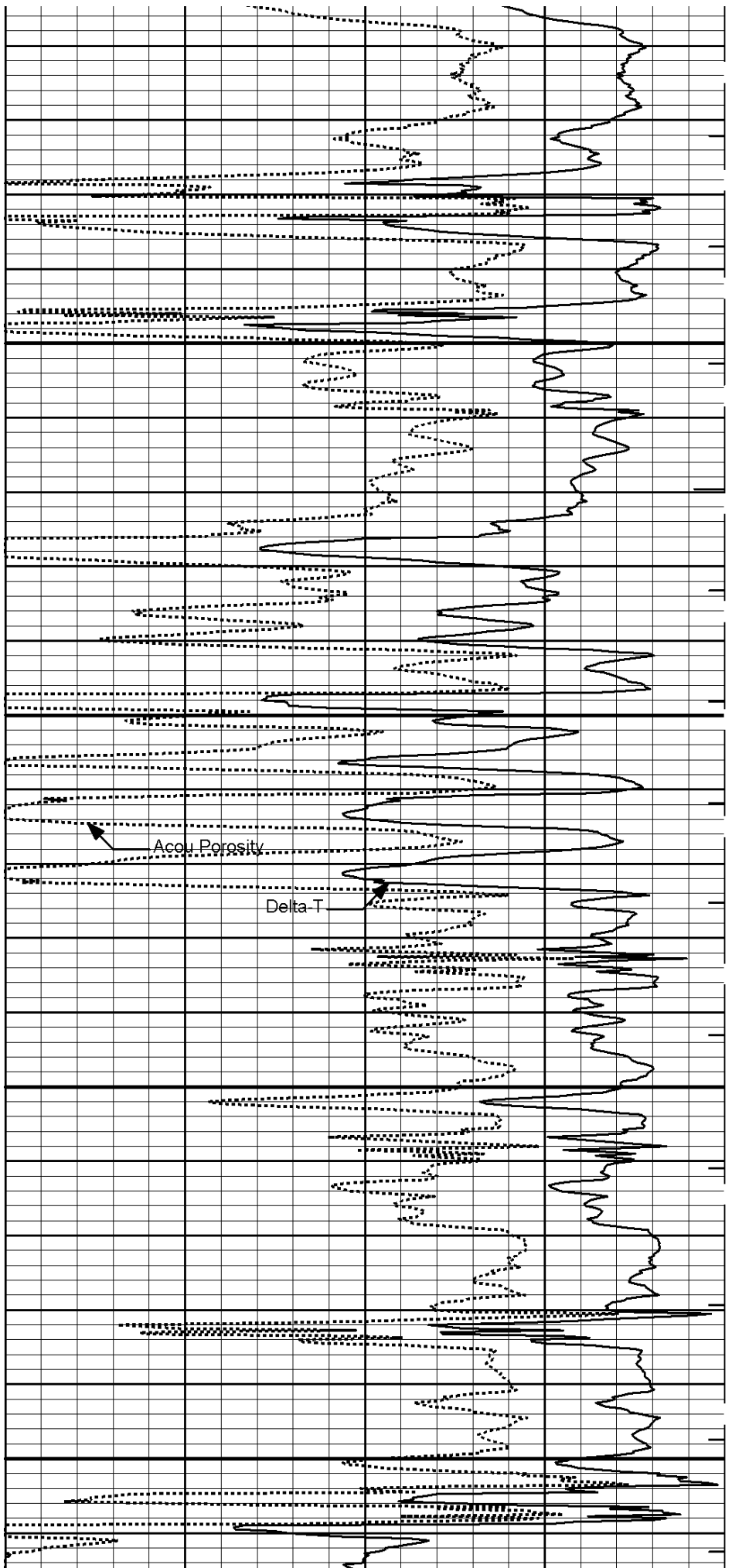


4600

Gamma API

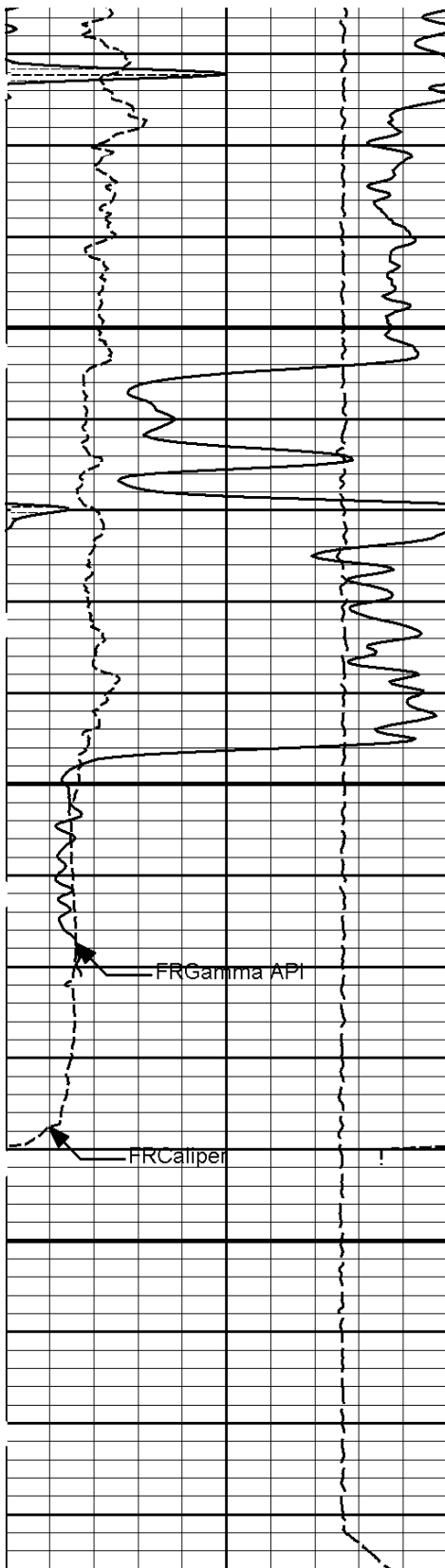
Caliper

4700



Acou. Porosity

Delta-T

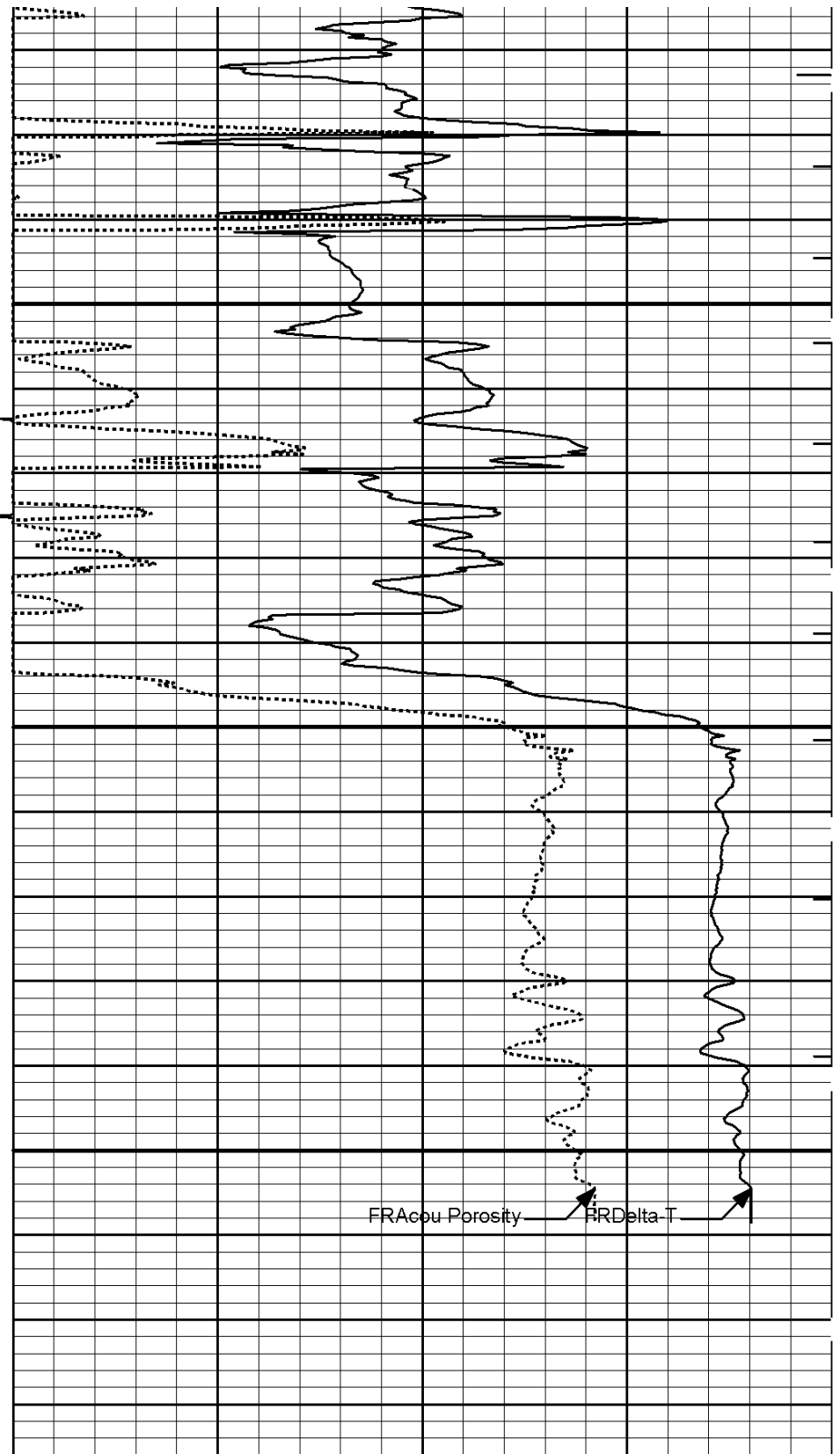


4800

4900

FRGamma API

FRCaliper



FRAcou Porosity

FRDelta-T

15K	Tens	0	MD		ITTT
	pounds		1 : 240		
			ft		
6	Caliper	16	Tension Pull	140	Delta-T
	inches		10		microsec per ft
0	Gamma API	150	Tension Pull	30	Acou Porosity
	api				percent

SHALE

**HALLIBURTON**

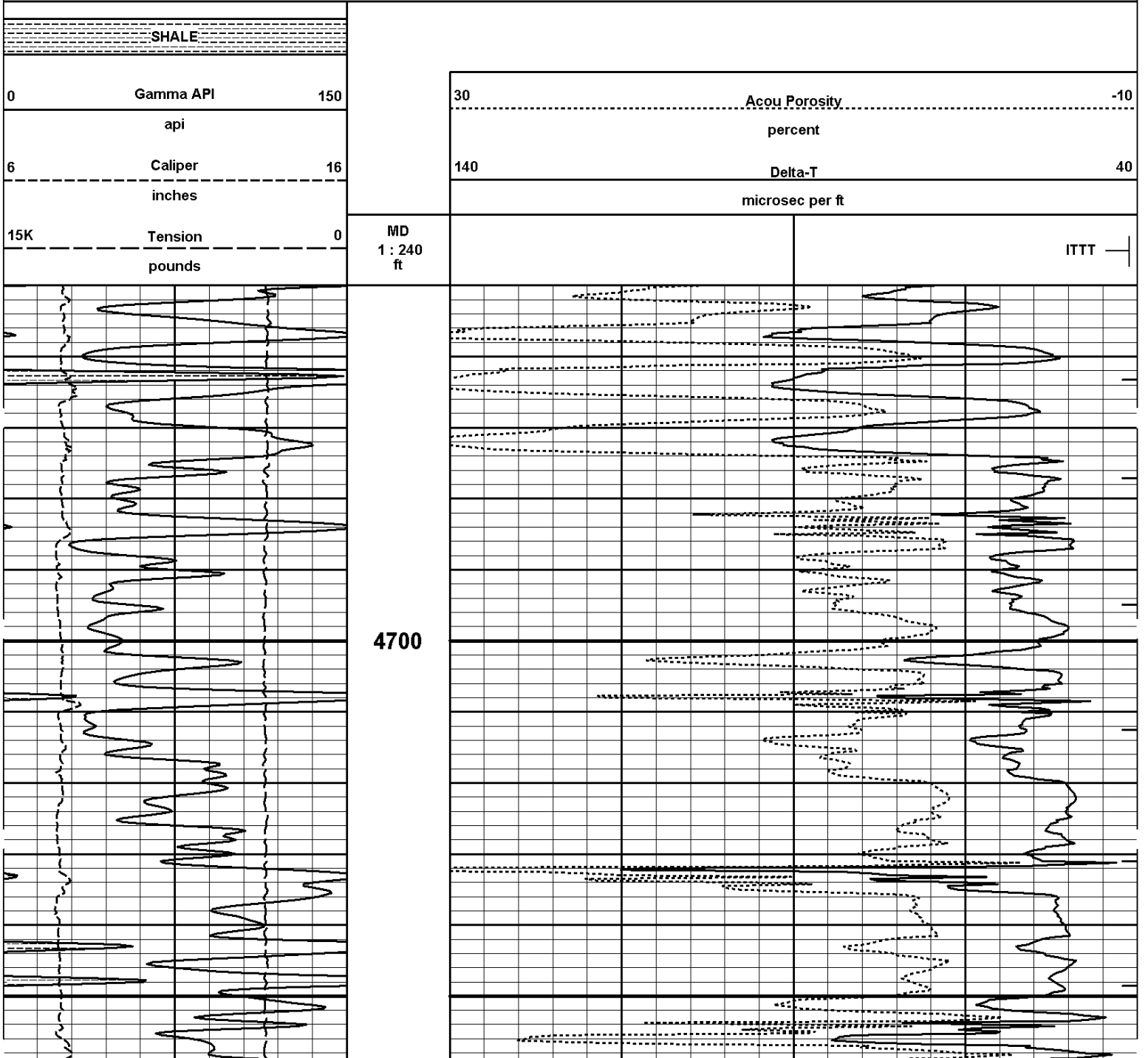
Plot Time: 31-May-13 15:58:03  
Plot Range: 320 ft to 4936.17 ft  
Data: WILKINSON\_3\_22\Well Based\CASING\  
Plot File: \\BSAT\BSAT\_5\_MAIN\_LIB

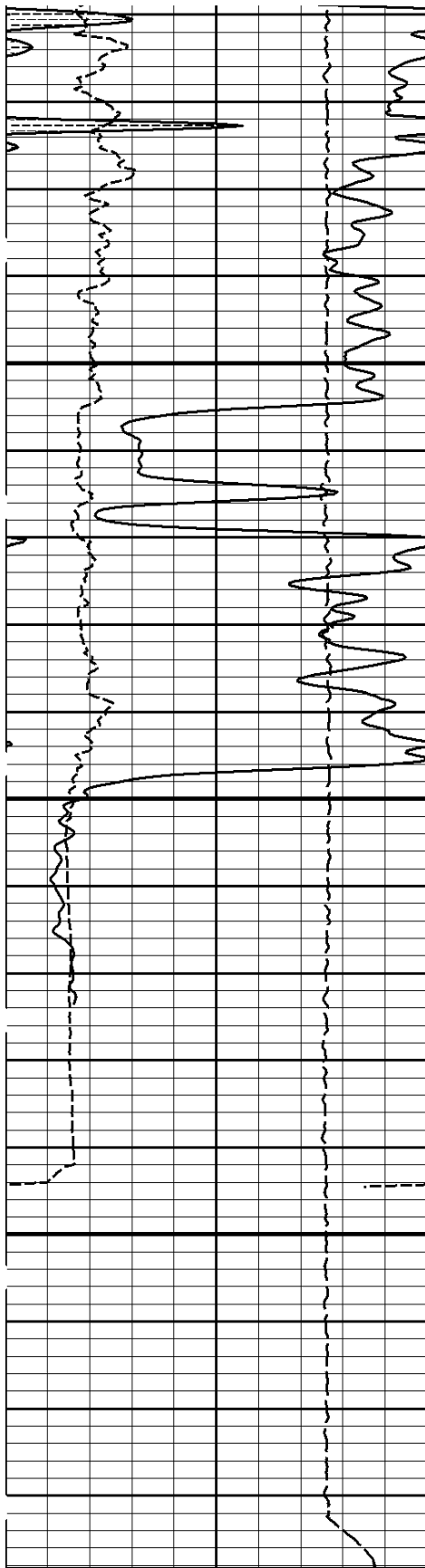
# 5 INCH MAIN LOG

**HALLIBURTON**

Plot Time: 31-May-13 15:58:03  
Plot Range: 4650 ft to 4938.33 ft  
Data: WILKINSON\_3\_22\Well Based\REPEAT\  
Plot File: \\BSAT\BSAT\_5\_REP\_LIB

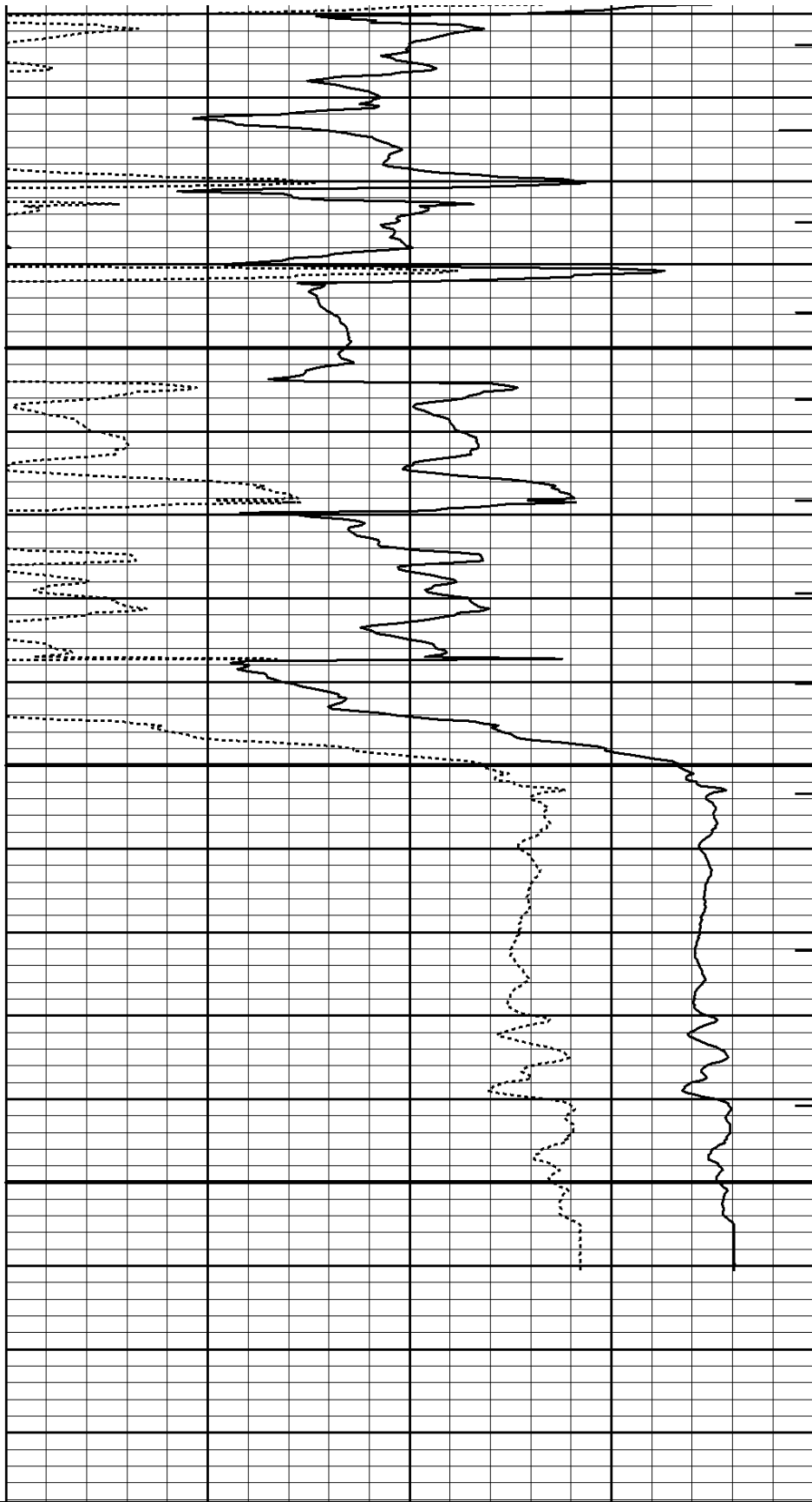
# REPEAT SECTION





4800

4900



15K	Tension	0
	pounds	
6	Caliper	16
	inches	
0	Gamma API	150
	api	

MD 1 : 240 ft		ITTT
140	Delta-T	40
	microsec per ft	
30	Acou Porosity	-10
	percent	

SHALE

HALLIBURTON

Plot Time: 31-May-13 15:58:05  
Plot Range: 4650 ft to 4938.33 ft  
Data: WILKINSON\_3\_22\Well Based\REPEAT\  
Plot File: \\BSAT\BSAT\_5\_REP\_LIB

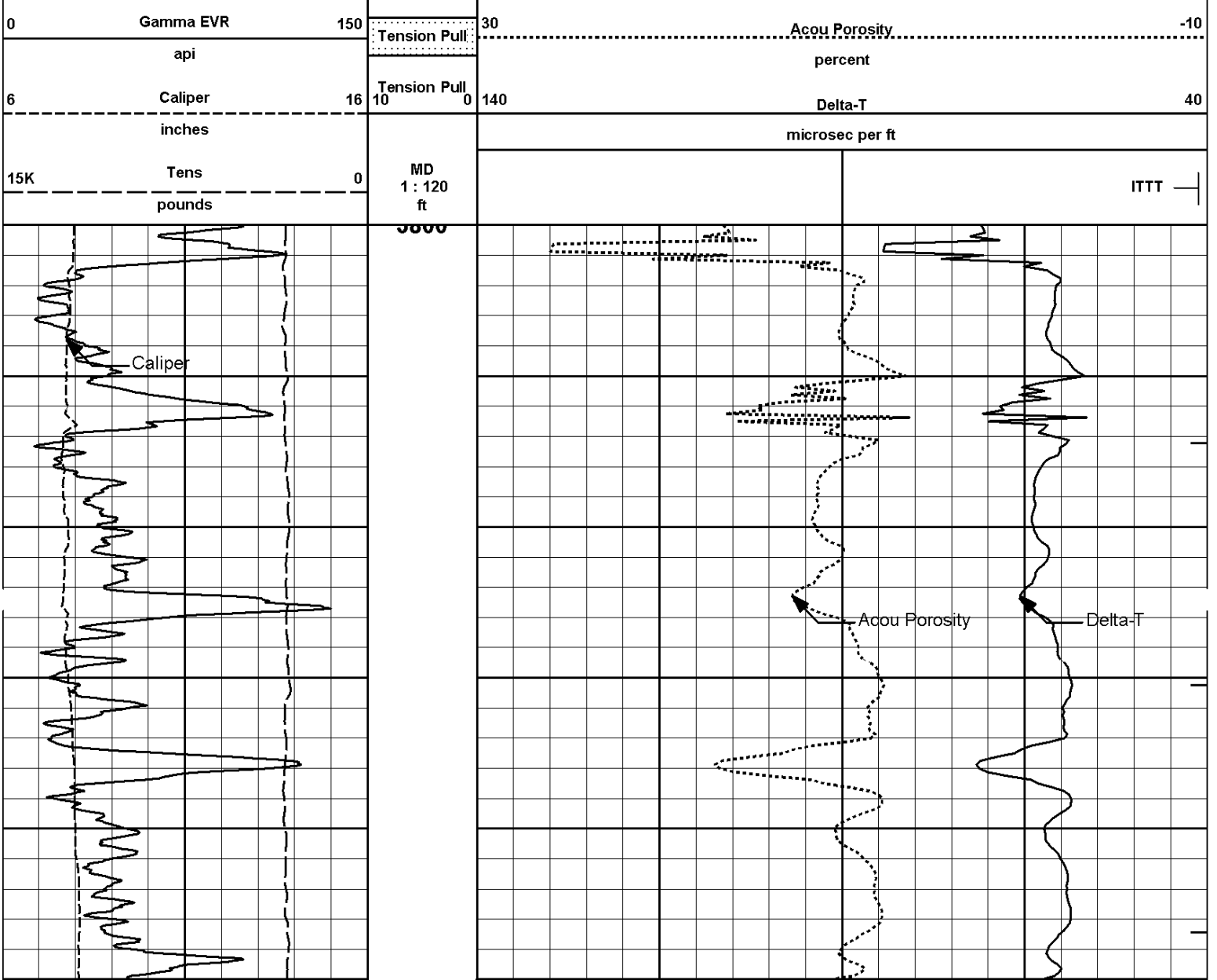
### REPEAT SECTION

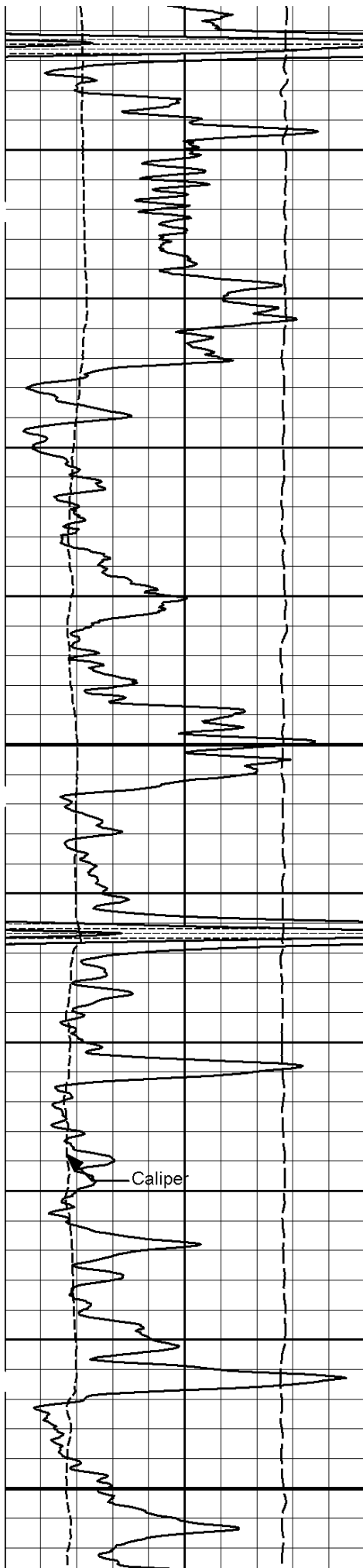
HALLIBURTON

Plot Time: 31-May-13 15:58:06  
Plot Range: 3800 ft to 4936.17 ft  
Data: WILKINSON\_3\_22\Well Based\  
Plot File: \\BSAT\BSAT\_5\_MAIN\_LIB

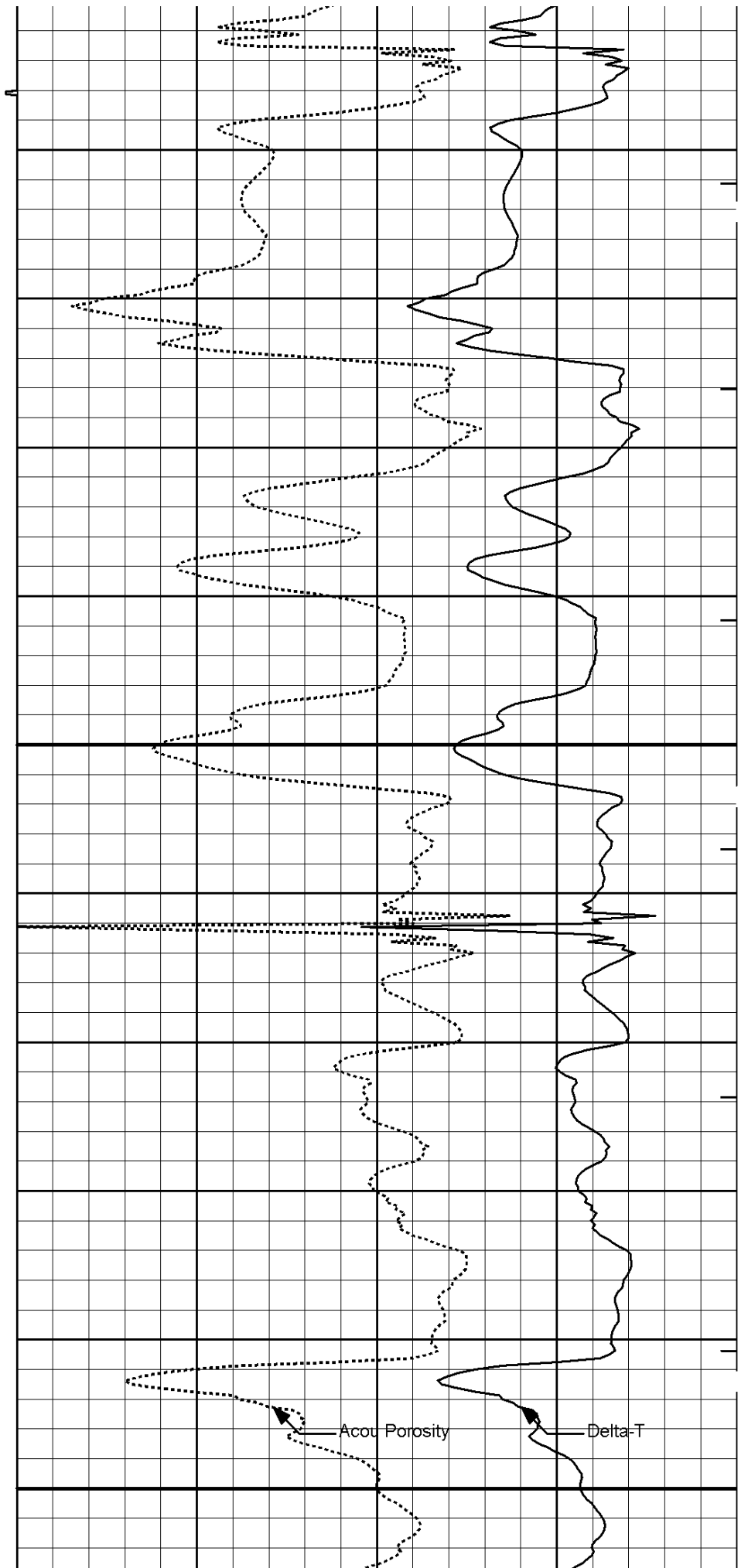
### 10 INCH MAIN LOG

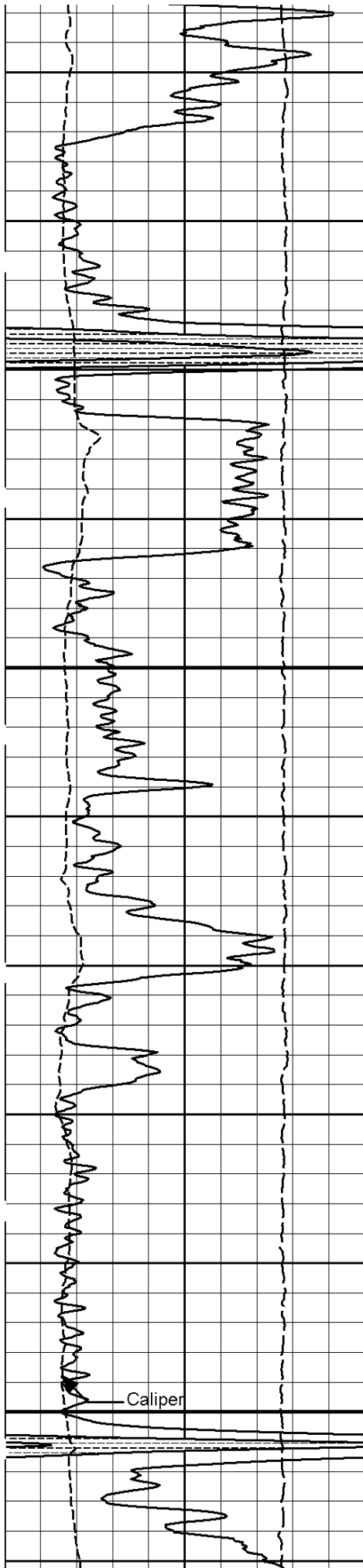
SHALE



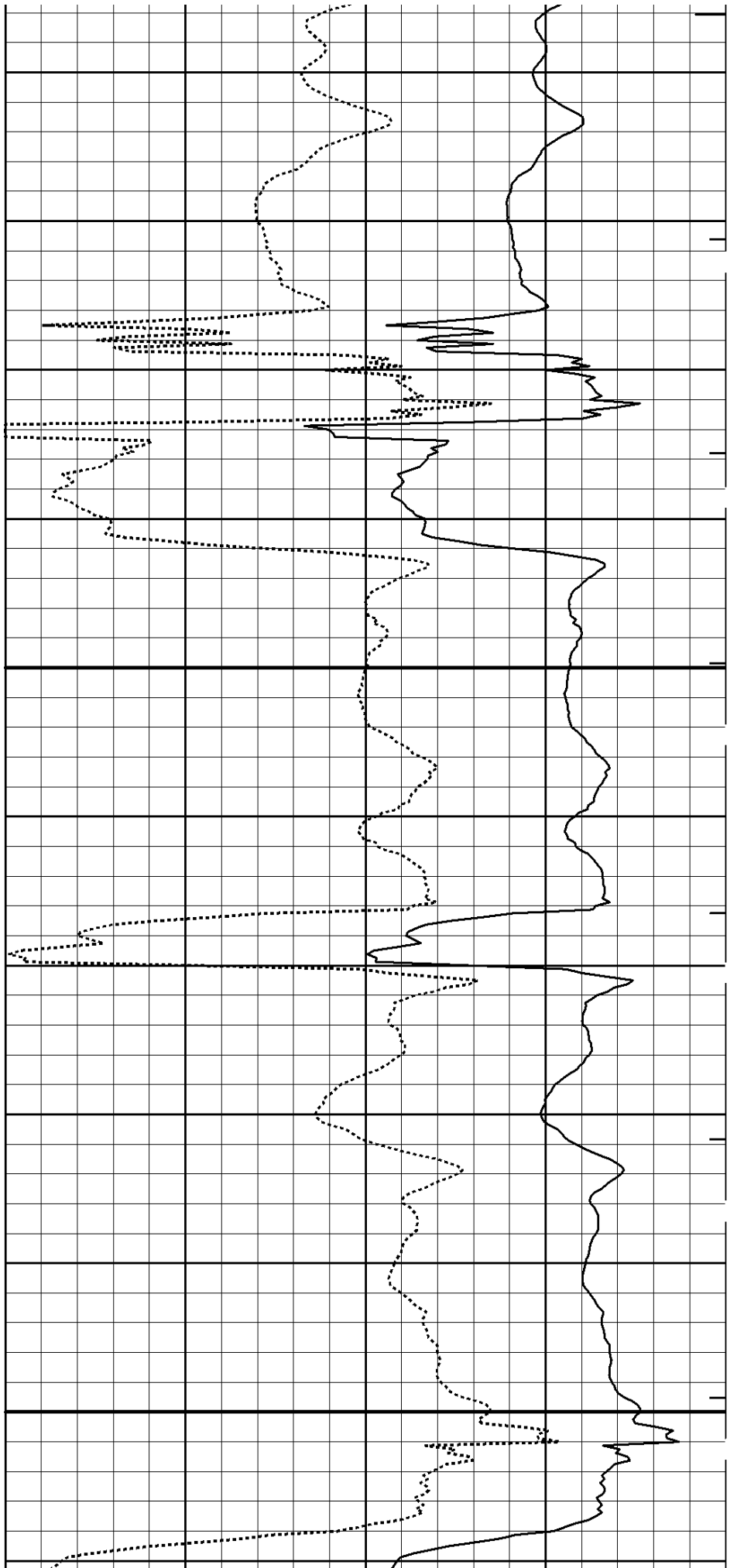


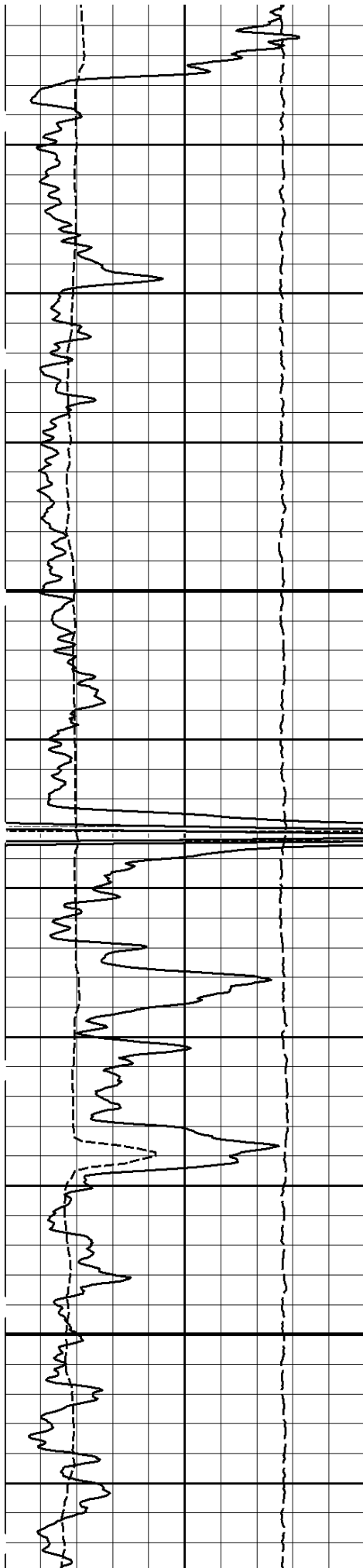
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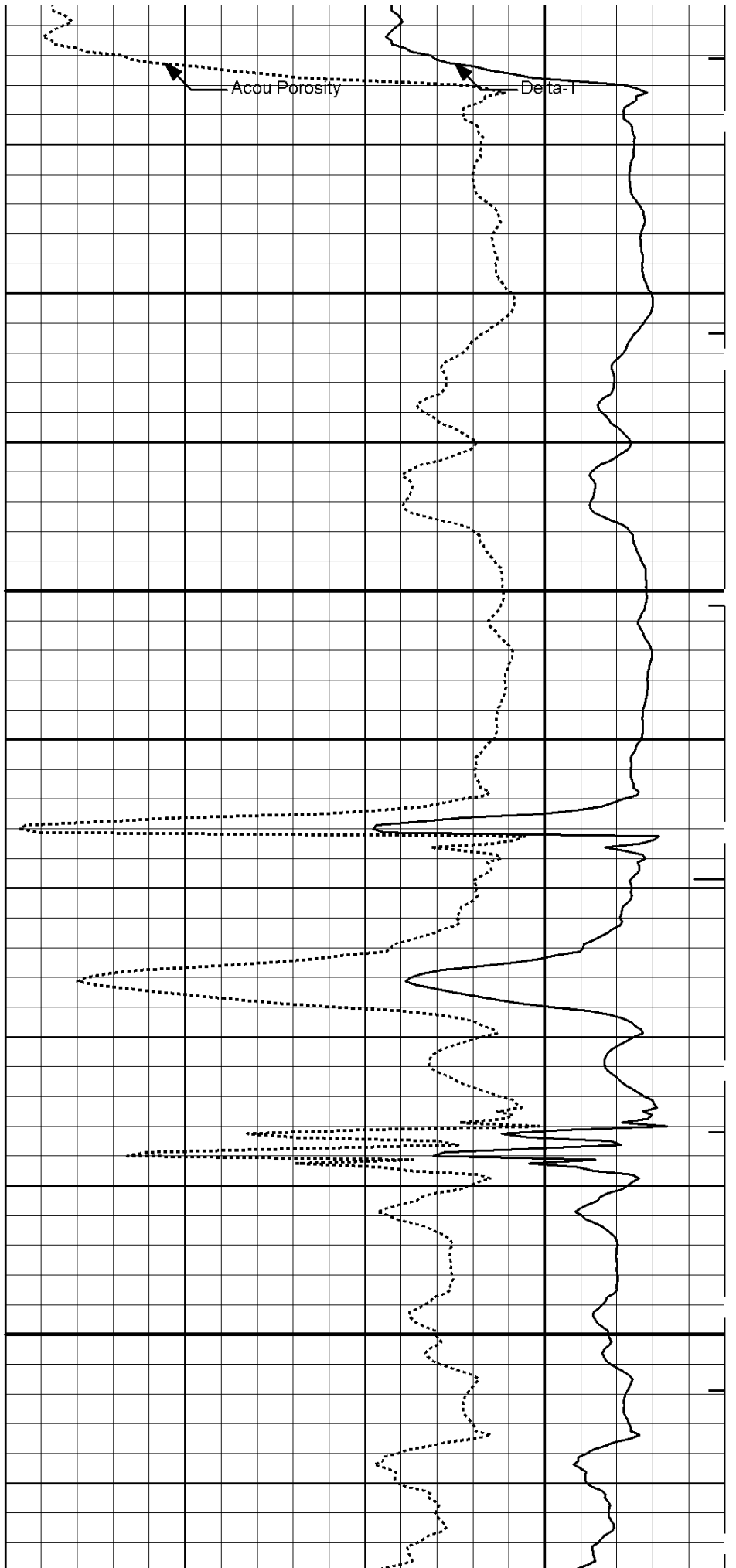


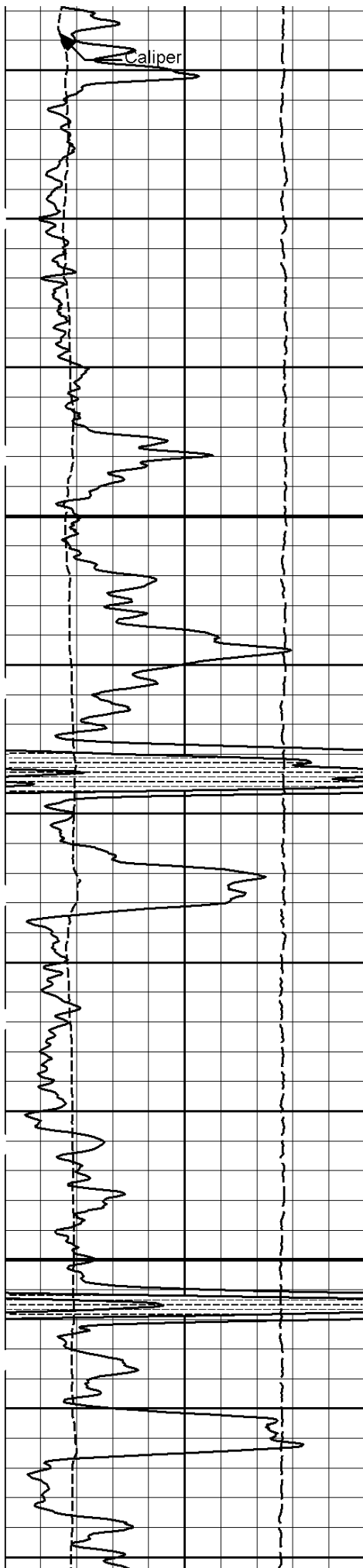
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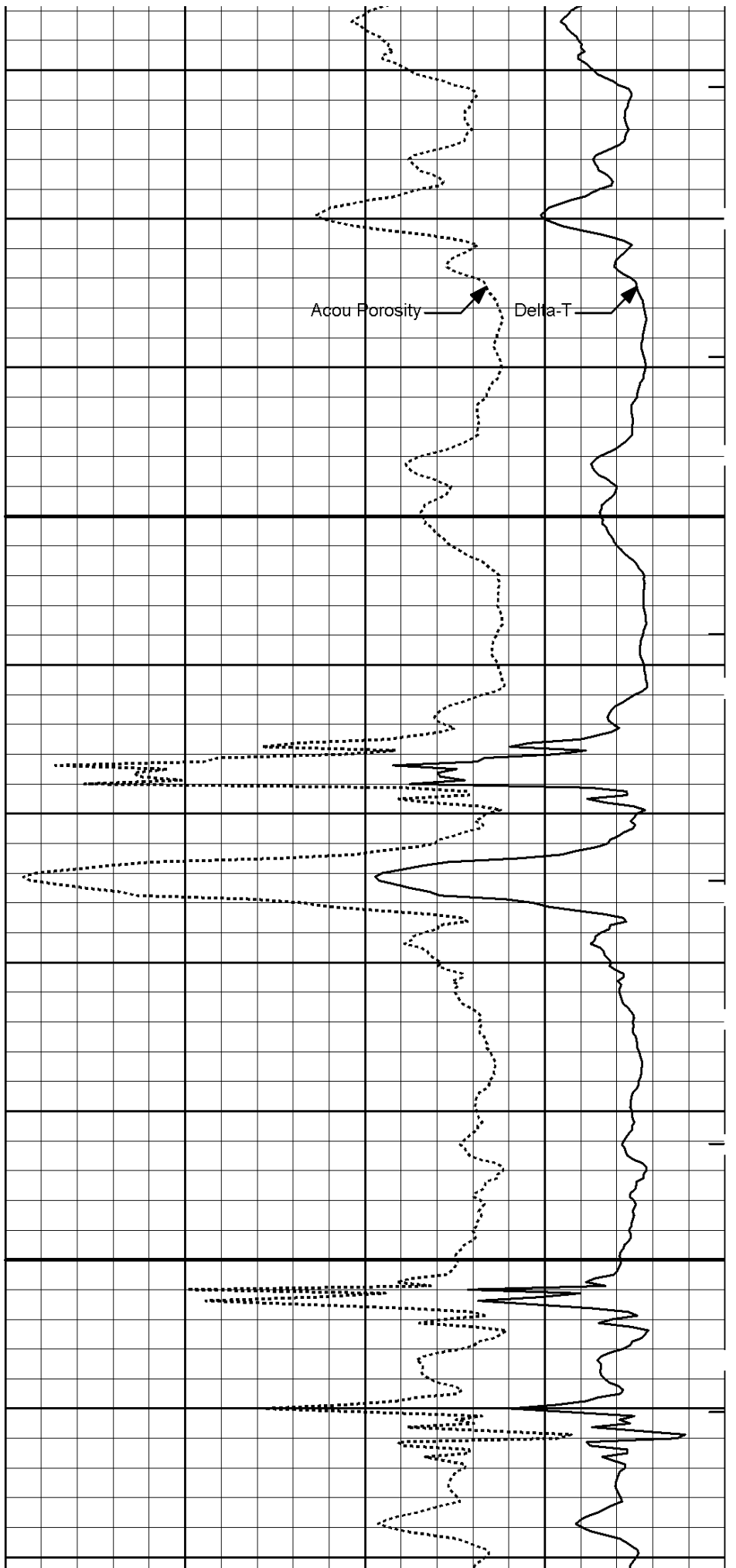


4100



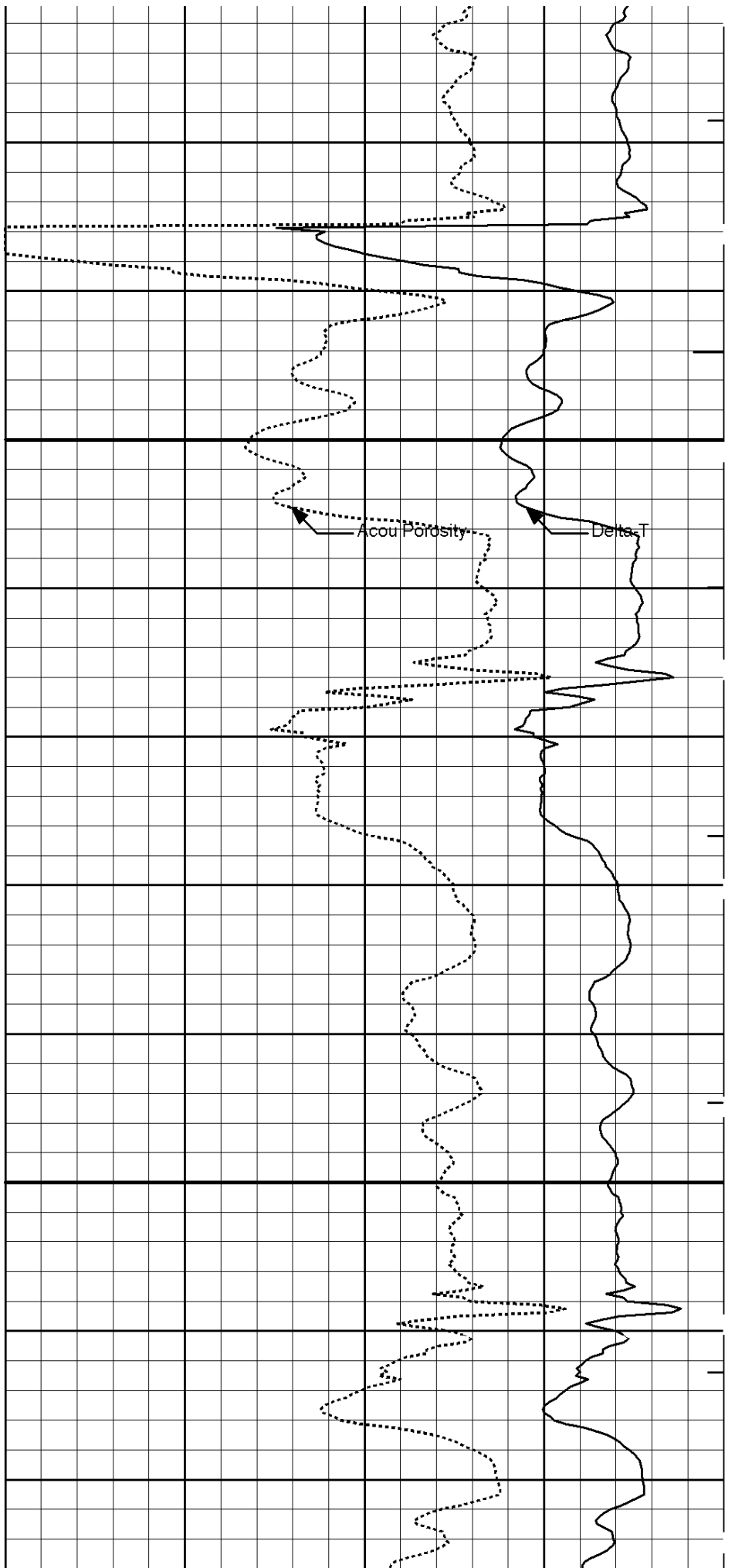


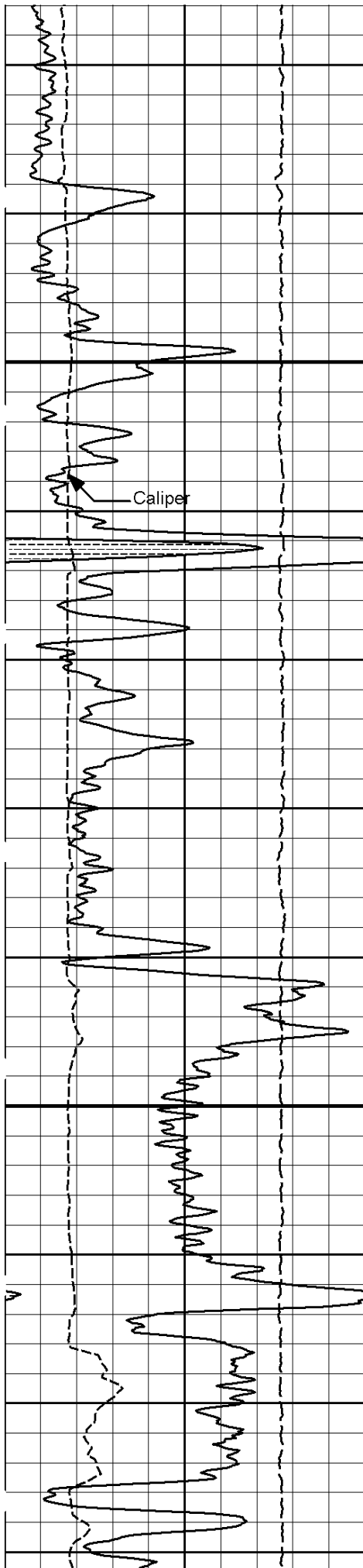
4200



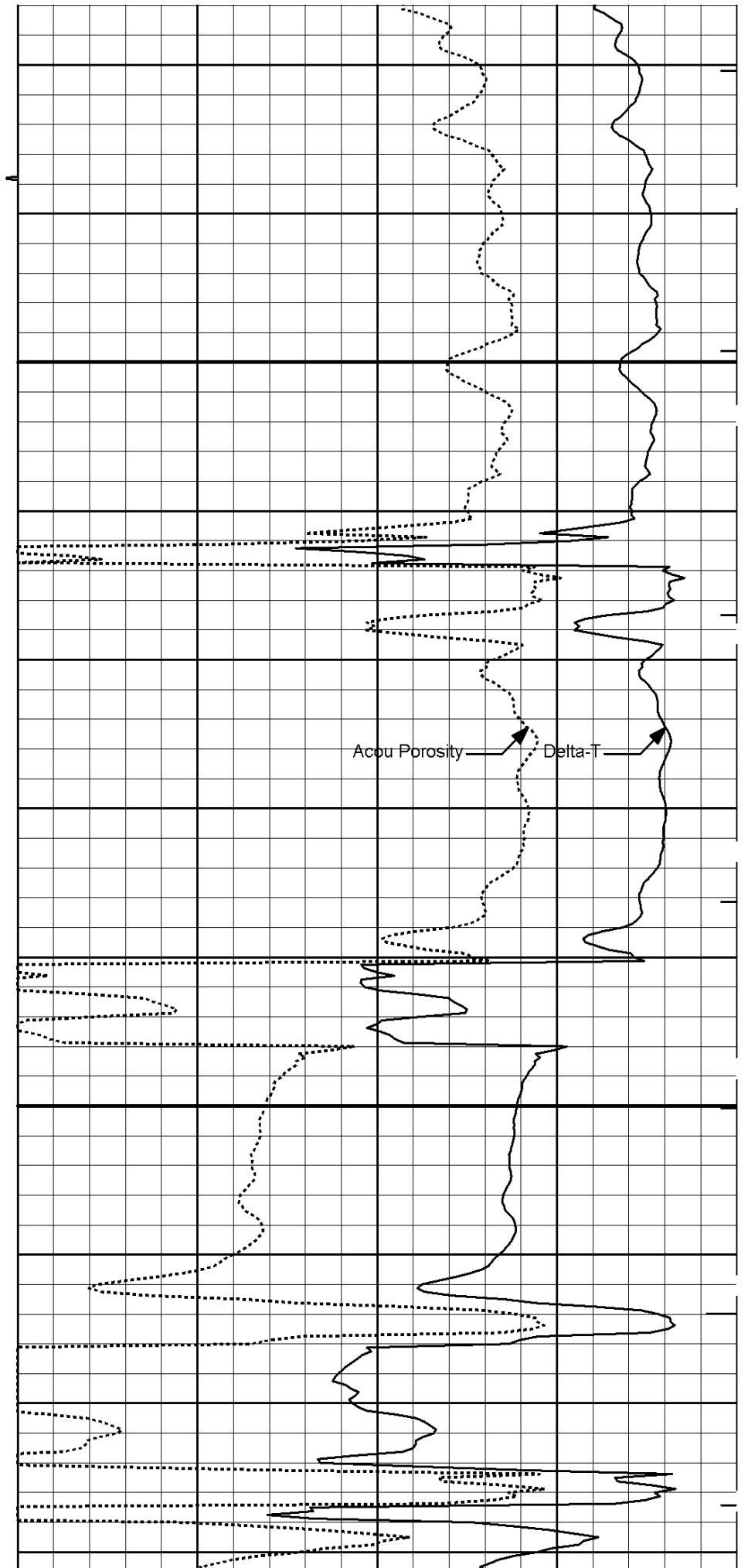


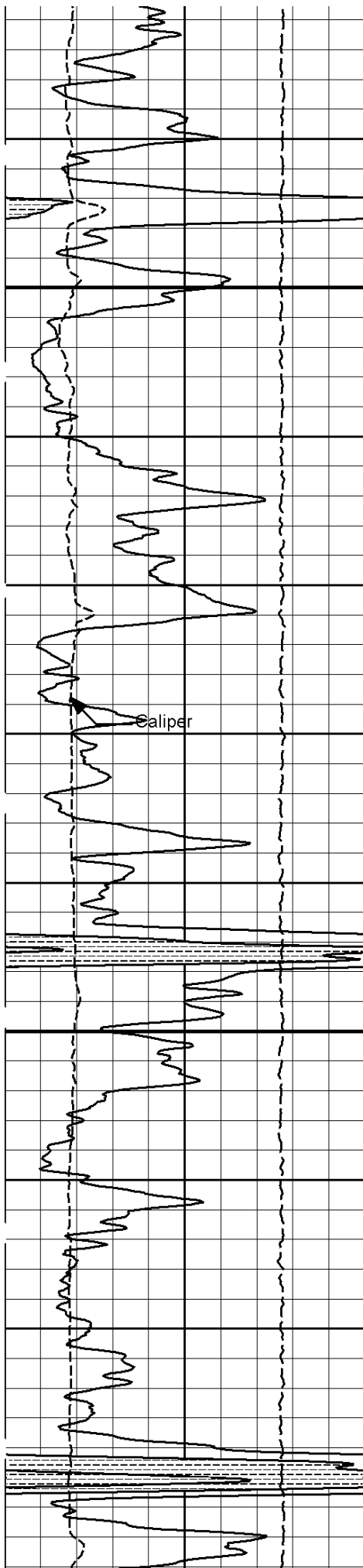
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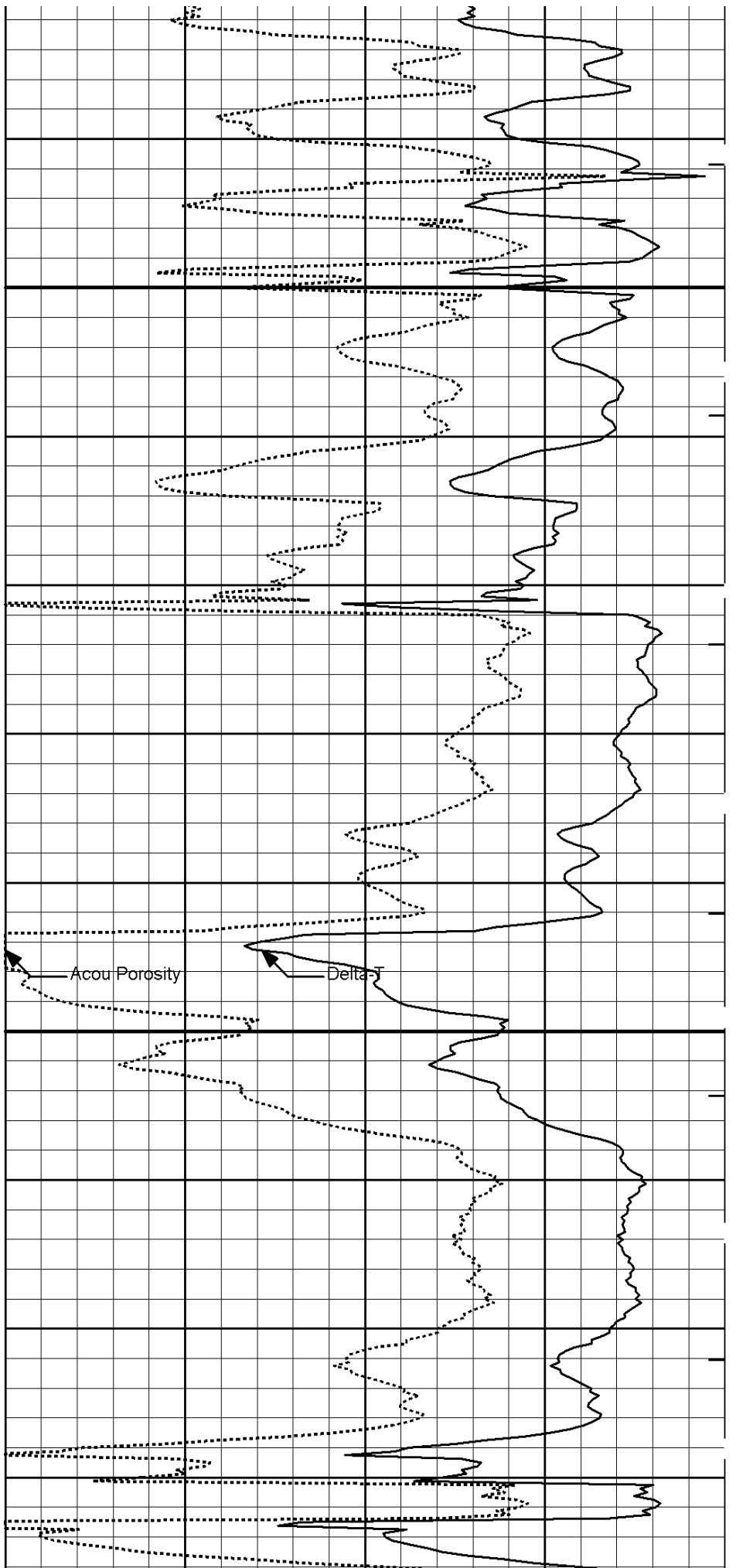


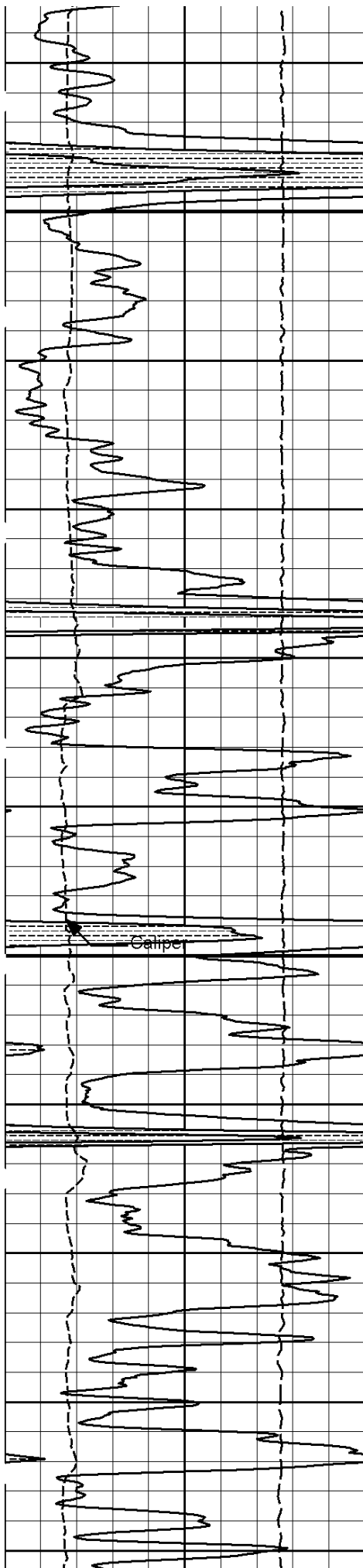
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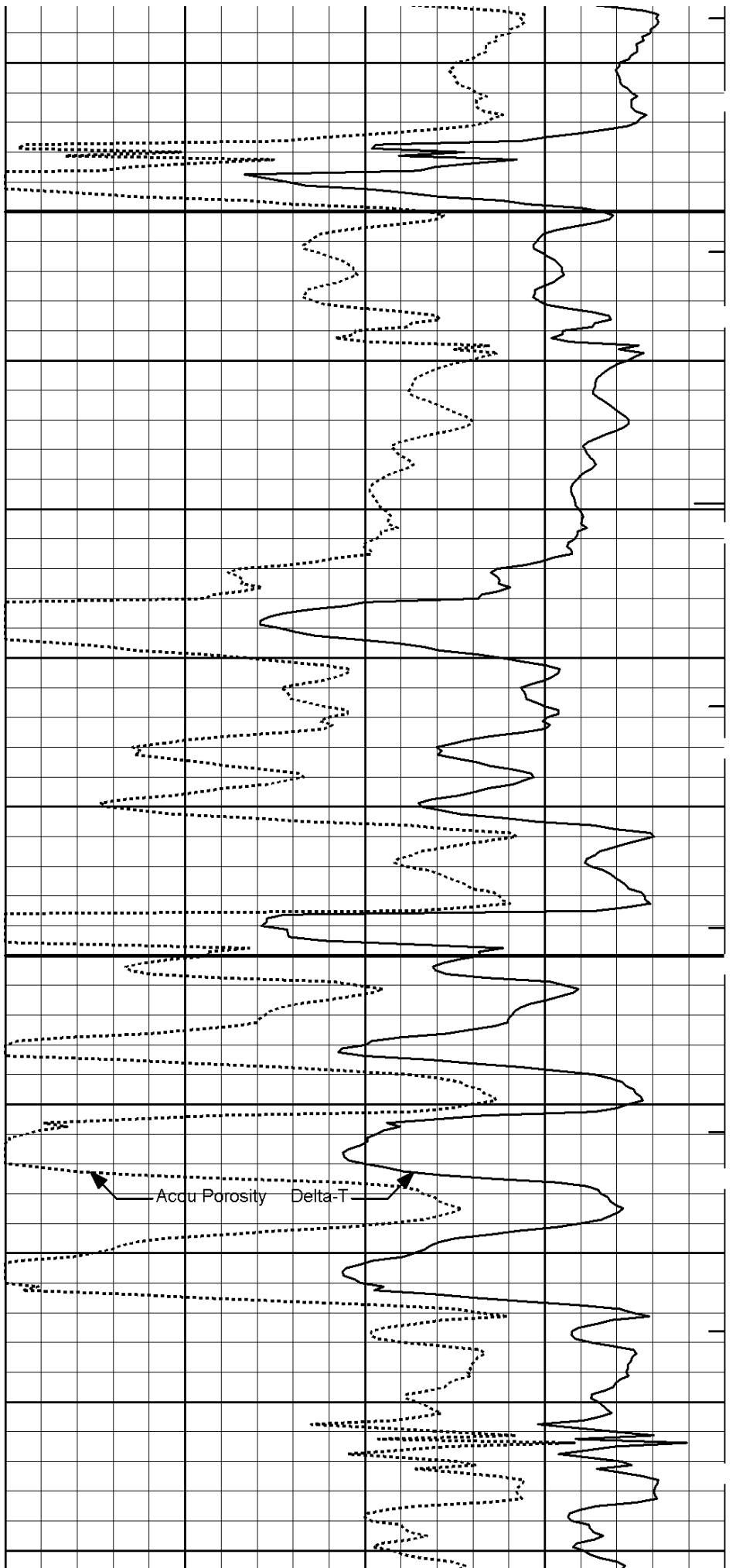


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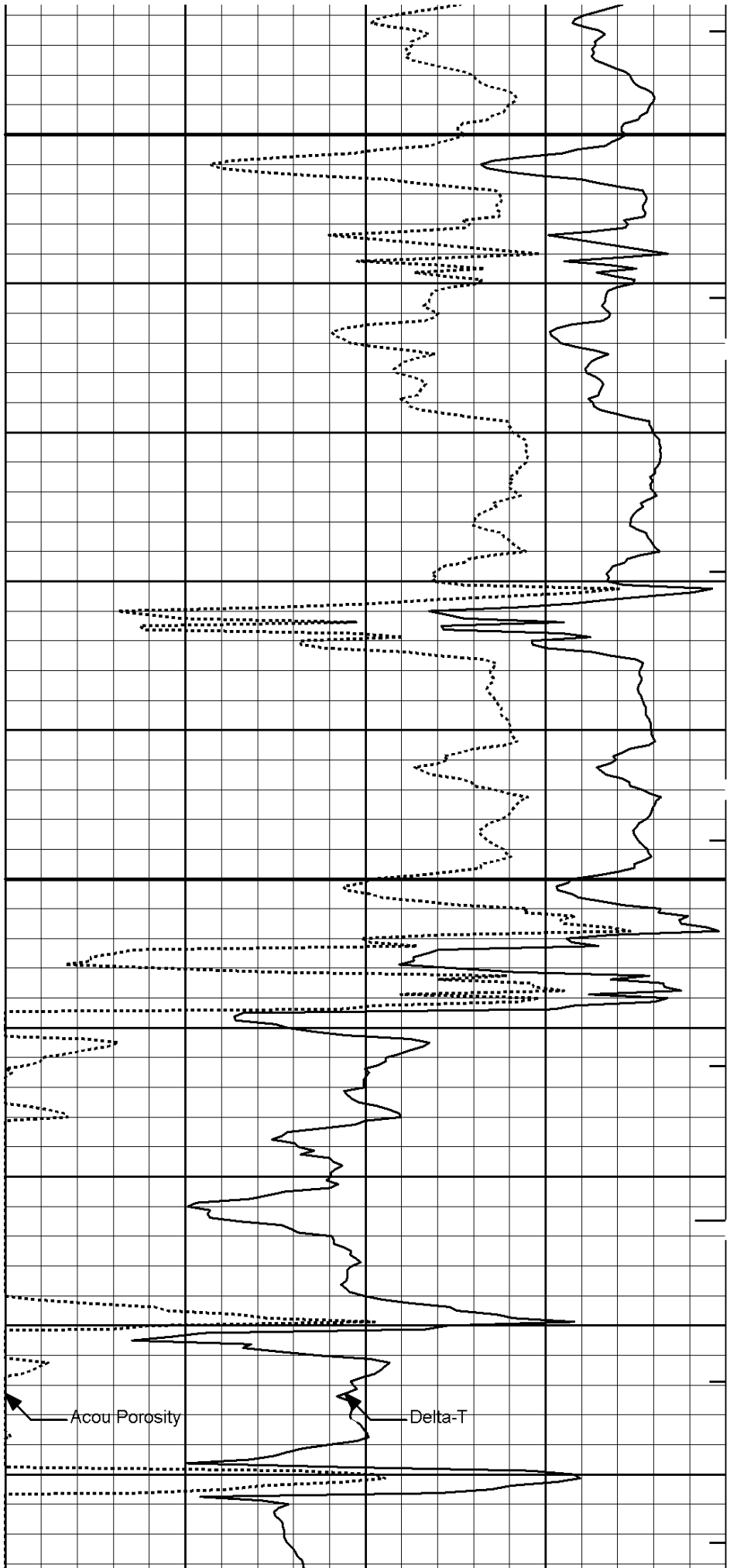
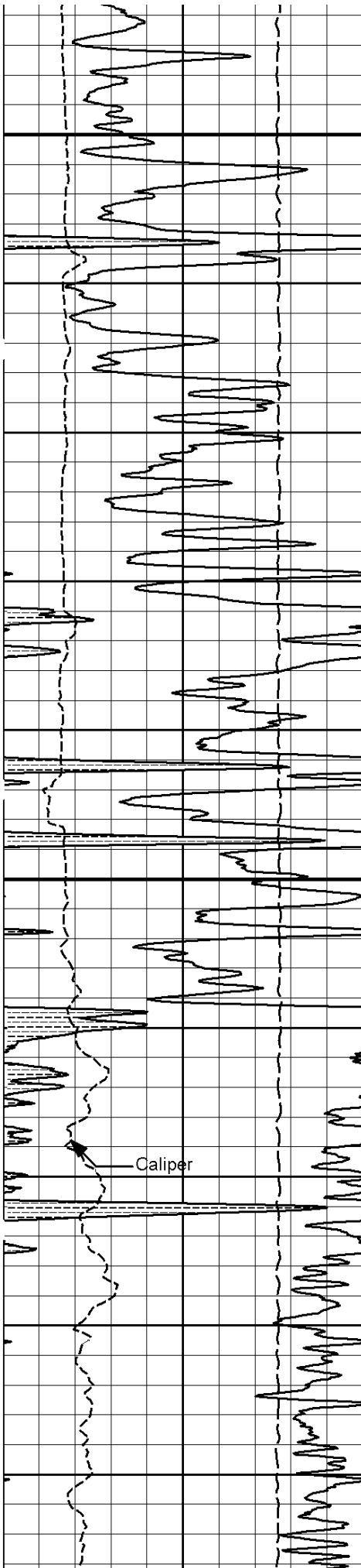


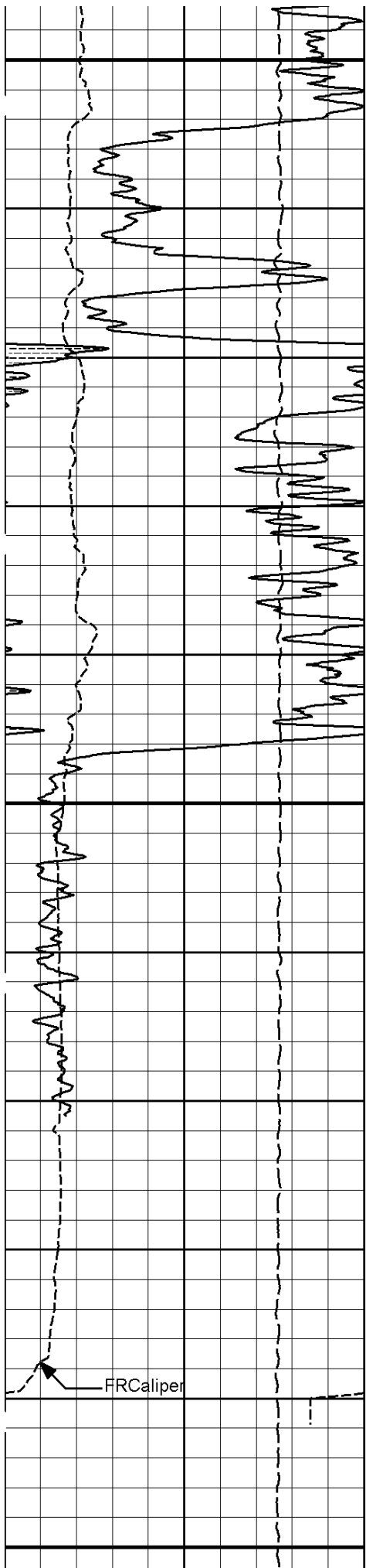


4600



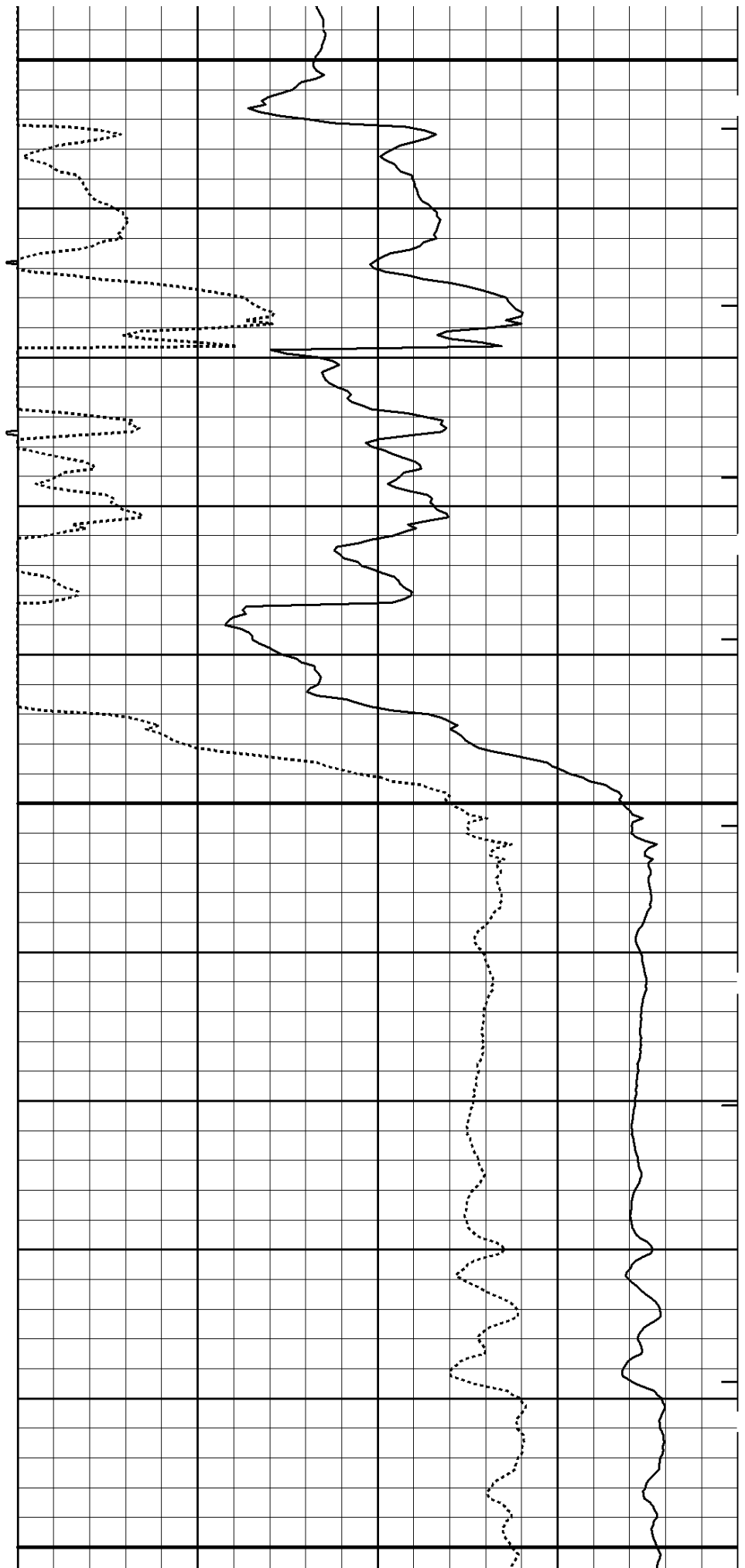
4700





4800

4900





GTET-10811258  
165.00 lbs

Ø 3.625 in →

8.52 ft

← GammaRay @ 64.23 ft

61.78 ft

DSNT-10755066  
174.00 lbs

DSN Decentralizer-  
10755066  
6.60 lbs

Ø 5.000 in\* →

Ø 3.625 in →

9.69 ft

← DSN Far @ 54.84 ft

← DSN Near @ 54.09 ft

52.09 ft

SDLT-10685803  
360.00 lbs

SDLT Pad-10673790  
65.00 lbs  
Microlog Pad-10685803  
8.00 lbs

Ø 4.500 in →

Ø 4.750 in\* →

Ø 4.750 in\* →

10.81 ft

Microlog @ 44.28 ft

SDL Caliper @ 44.09 ft

SDL @ 44.08 ft

41.28 ft

Flex Joint-00000001  
140.00 lbs

Ø 3.625 in →

5.67 ft

35.61 ft

Centralizer 25-00000001  
8.00 lbs

Ø 4.000 in\* →

BSAT-10747684  
300.00 lbs

Ø 3.625 in →

15.77 ft

← Sonic Receivers @ 27.09 ft

19.83 ft

ACRt Instrument-  
10929776  
50.00 lbs

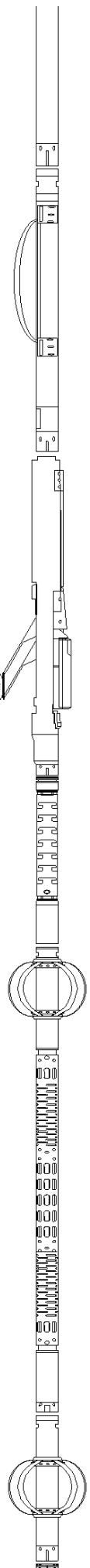
Centralizer 25-00000002  
8.00 lbs

Ø 4.000 in\* →

Ø 3.625 in →

5.03 ft

14.80 ft

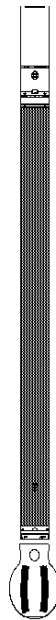


ACRt Sonde-  
10929775  
200.00 lbs

Cabbage Head-  
00000954  
10.00 lbs

Ø 3.625 in →

Ø 3.625 in →  
Ø 6.000 in →



← Mud Resistivity @ 13.44 ft

← ACRt @ 9.46 ft

14.22 ft

0.58 ft  
0.58 ft  
0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max. Log. Speed (fpm)
CH	Standard OH Cable Head	12345678	30.00	1.92	74.98	300.00
XOHD	Hostile to Dits Cross Over	00000001	20.00	0.95	74.03	300.00
SP	SP Sub	12345678	60.00	3.74	70.30	300.00
GTET	Gamma Telemetry Tool	10811258	165.00	8.52	61.78	60.00
DSNT	Dual Spaced Neutron	10755066	174.00	9.69	52.09	60.00
DCNT	DSN Decentralizer	10755066	6.60	5.13 *	55.42	300.00
SDLT	Spectral Density Tool	10685803	360.00	10.81	41.28	60.00
MICP	Microlog Pad	10685803	8.00	1.00 *	43.78	60.00
SDLP	Density Insite Pad	10673790	65.00	2.55 *	43.49	60.00
FLEX	Flex Joint	00000001	140.00	5.67	35.61	300.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77	19.83	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08 *	33.06	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10929776	50.00	5.03	14.80	300.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08 *	16.34	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10929775	200.00	14.22	0.58	300.00
CBHD	Cabbage Head	00000954	10.00	0.58	0.00	300.00
<b>Total</b>			<b>1,604.60</b>	<b>76.90</b>		

\* Not included in Total Length and Length Accumulation.

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# HALLIBURTON

## PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	DEOK	Process DSN EVR?	No	
	SDLT Pad	DNOK	Process Density EVR?	No	
2350.00					
	DSNT	DEOK	Process DSN EVR?	Yes	
	SDLT Pad	DNOK	Process Density EVR?	Yes	
2450.00					
	DSNT	DEOK	Process DSN EVR?	No	

SDLT Pad	DNOK	Process Density EVR?	No	
3800.00				
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	9.100	ppg
SHARED	WAGT	Weighting Agent	Natural	
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	ST	Surface Temperature	75.0	degF
SHARED	TD	Total Well Depth	4930.00	ft
SHARED	BHT	Bottom Hole Temperature	200.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size Master Tool	NONE	
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	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	Yes	
DSNT	NLIT	Neutron Lithology	Limestone	
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	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	Yes	
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	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
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	DFTL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	
BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wyllie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
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	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm

BOTTOM

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## HALLIBURTON

### INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
<b>Depth Panel</b>				
TENS	Tension	0.00	NO	
<b>SP Sub</b>				
PLTC	Plot Control Mask	72.25	NO	
SP	Spontaneous Potential	72.25	BLK	1.250
SPR	Raw Spontaneous Potential	72.25	NO	
SPO	Spontaneous Potential Offset	72.25	NO	
<b>GTET</b>				
TPUL	Tension Pull	64.23	NO	
GR	Natural Gamma Ray API	64.23	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	64.23	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	64.23	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
<b>DSNT</b>				
TPUL	Tension Pull	53.99	NO	
RNDS	Near Detector Telemetry Counts	54.09	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.84	TRI	0.583
DNTT	DSN Tool Temperature	54.09	NO	
DSNS	DSN Tool Status	53.99	NO	
ERND	Near Detector Telemetry Counts EVR	54.09	BLK	0.000

ERFD	Far Detector Telemetry Counts EVR	54.84	BLK	0.000
ENTM	DSN Tool Temperature EVR	54.09	NO	
<b>SDLT</b>				
TPUL	Tension Pull	44.09	NO	
PCAL	Pad Caliper	44.09	TRI	0.250
ACAL	Arm Caliper	44.09	TRI	0.250
<b>BSAT</b>				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
GMOD	Gain processing mode	19.83	NO	
<b>ACRt Sonde</b>				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000

F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Current Raw 12K X Receiver	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	

**SDLT Pad**

TPUL	Tension Pull	44.08	NO	
NAB	Near Above	43.90	BLK	0.920
NHI	Near Cesium High	43.90	BLK	0.920
NLO	Near Cesium Low	43.90	BLK	0.920
NVA	Near Valley	43.90	BLK	0.920
NBA	Near Barite	43.90	BLK	0.920
NDE	Near Density	43.90	BLK	0.920
NPK	Near Peak	43.90	BLK	0.920
NLI	Near Lithology	43.90	BLK	0.920
NBAU	Near Barite Unfiltered	43.90	BLK	0.250
NLIU	Near Lithology Unfiltered	43.90	BLK	0.250
FAB	Far Above	44.26	BLK	0.250
FHI	Far Cesium High	44.26	BLK	0.250
FLO	Far Cesium Low	44.26	BLK	0.250
FVA	Far Valley	44.26	BLK	0.250
FBA	Far Barite	44.26	BLK	0.250
FDE	Far Density	44.26	BLK	0.250
FPK	Far Peak	44.26	BLK	0.250
FLI	Far Lithology	44.26	BLK	0.250
PTMP	Pad Temperature	44.09	BLK	0.920
NHV	Near Detector High Voltage	43.49	NO	
FHV	Far Detector High Voltage	43.49	NO	
ITMP	Instrument Temperature	43.49	NO	
DDHV	Detector High Voltage	43.49	NO	

**Microlog Pad**

TPUL	Tension Pull	44.28	NO	
MINV	Microlog Lateral	44.28	BLK	0.750
MNOR	Microlog Normal	44.28	BLK	0.750

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COMPANY HARTMAN OIL CO., INC.

WELL WILKINSON #3-22

FIELD WILDCAT

COUNTY SCOTT STATE KANSAS

**HALLIBURTON**

BOREHOLE COMPENSATED  
SONIC ARRAY  
LOG