HALLIBURTON

BOREHOLE COMPENSATED SONIC ARRAY LOG

COMPANY	VAL ENERGY
WELL	CHRISTINA 1-2
FIELD/BLOCK	WILDCAT
COUNTY	CROWLEY
STATE	COLORADO

COMPANY **VAL ENERGY**
WELL **CHRISTINA 1-2**
FIELD/BLOCK **WILDCAT**
COUNTY **CROWLEY** STATE **COLORADO**

API No. 05-025-06021-00-00
Location (SHL) 1550' FNL & 1010' FEL
SE-NE

Sect. 2 Twp. 20S Rge. 56W

Other Services:
DSNT/SDLT
MICROLOG
BSAT
ACRT
MRIL

Permanent Datum	GL	Elev. 4429.0 ft	Elev.: K.B.	4442.0 ft
Log measured from	KB	, 13.0 ft above perm. Datum	D.F.	4442.0 ft
Drilling measured from	KB		G.L.	4429.0 ft

Date		30-Nov-14				
Run No.		ONE				
Depth - Driller		6725.00 ft				
Depth - Logger		6717.0 ft				
Bottom - Logged Interval		6690.00 ft				
Top - Logged Interval		478.00 ft				
Casing - Driller		8.625 in @ 484.0 ft		@		@
Casing - Logger		478.0 ft				
Bit Size		7.875 in		@		@
Type Fluid in Hole		Water Based Mud				
Density	Viscosity	9.2 ppg	70.00 s/qt			
PH	Fluid Loss	8.00 pH	6.4 cptm			
Source of Sample		MUDPIT				
Rm @ Meas. Temperature		1.560 ohmm @ 75.00 degF		@		@
Rmf @ Meas. Temperature		1.33 ohmm @ 75.00 degF		@		@
Rmc @ Meas. Temperature		1.790 ohmm @ 75.00 degF		@		@
Source Rmf	Rmc	MEASURED	MEASURED			
Rm @ BHT		0.86 ohmm @ 142.0 degF		@		@
Time Since Circulation		5.0000 hr				
Time on Bottom		30-Nov-14 14:03:12.000				
Max. Rec. Temperature		142.0 degF @ 6717.0 ft		@		@
Equipment	Location	11230668	LIBERAL			
Recorded By		JORGE ORLANDO PEREZ				
Witnessed By		ROGER L MARTIN				

Fold here

Service Ticket No.: 901842046 API Serial No.: 05-025-06021-00-00 PGM Version: WL INSITE R4.4.3 (Build 6)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

Date	Sample No.				
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample					
Rm @ Meas. Temp		@		@	
Rmf @ Meas. Temp.		@		@	
Rmc @ Meas. Temp.		@		@	
Source Rmf	Rmc				
Rm @ BHT		@		@	
Rmf @ BHT		@		@	
Rmc @ BHT		@		@	

RESISTIVITY SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
ONE	ACRT	N/A	CENT	N/A
	10929776			

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	10748374	Serial No.	10747684	Serial No.	10673803	Serial No.	10735145
Model No.	GTET	Model No.	BSAT	Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.	2	Diameter	5.3"	Diameter	3.625"
Detector Model No.	T-102	Spacing	0.5'	Log Type	GAM-GAM	Log Type	NEU-NEU
Type	T-102			Source Type	CS-137	Source Type	AM241BE
Length	8"	LSA [Y/N]		Serial No.	5073GW	Serial No.	DSN-436
Distance to Source	N/A	FWDA [Y/N]		Strength	1.5 CI	Strength	15.0 CI

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	TD	CSG	REC	0	150	30	-10	47.6 us/ft	30	-10	2.71 gr/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @	KOP @

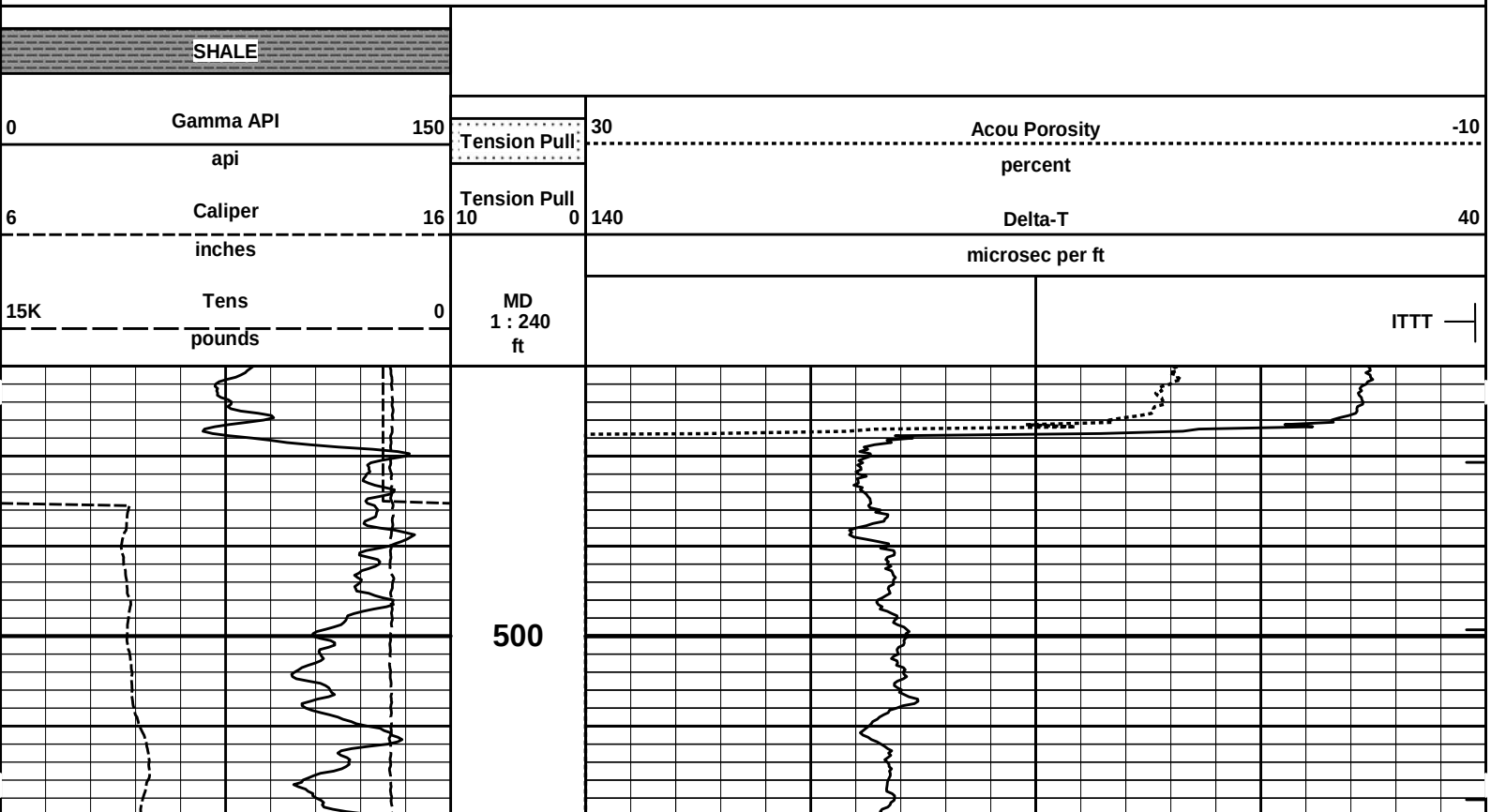
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

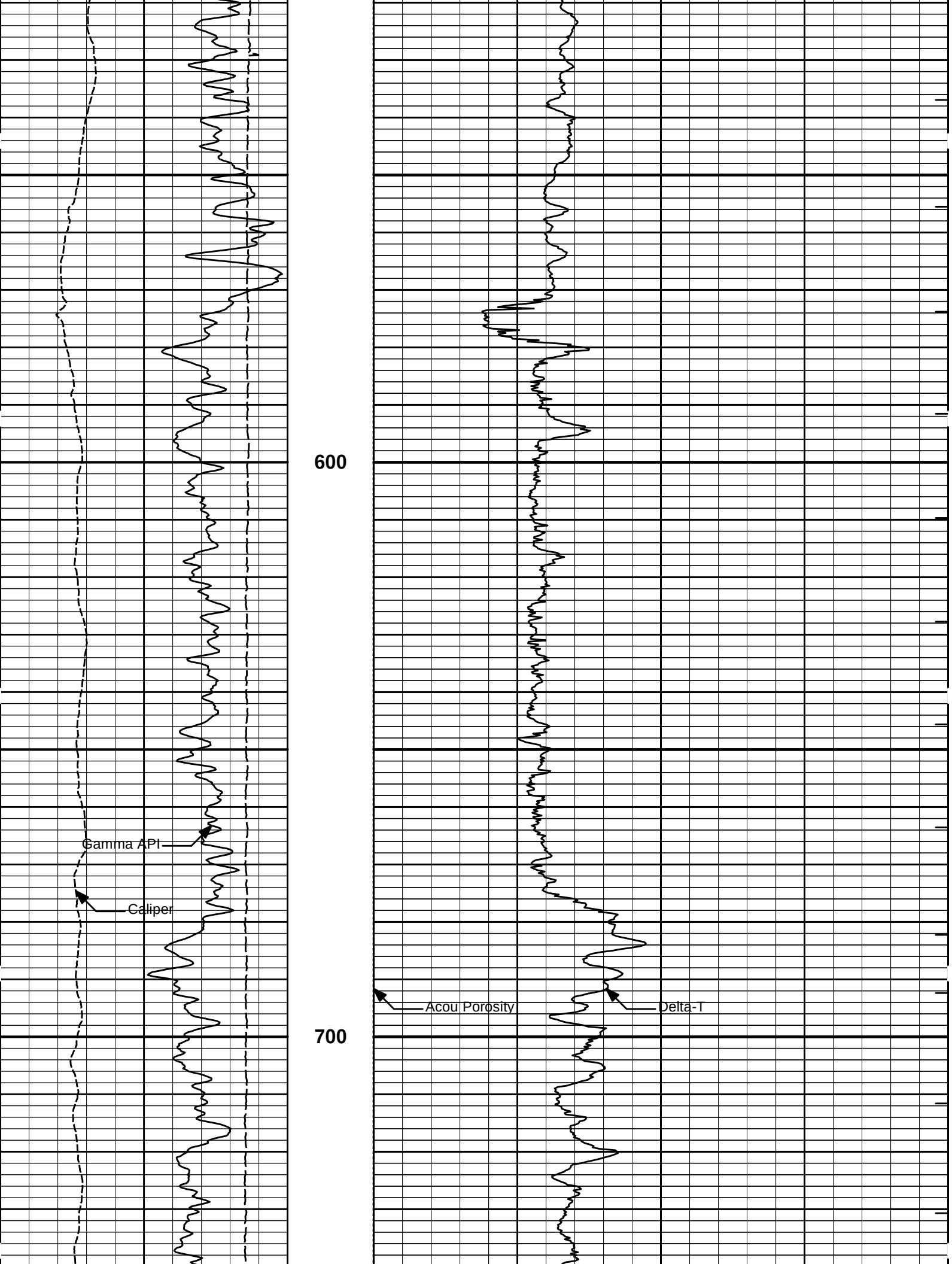
CHLORIDES REPORTED AT 240 ppm

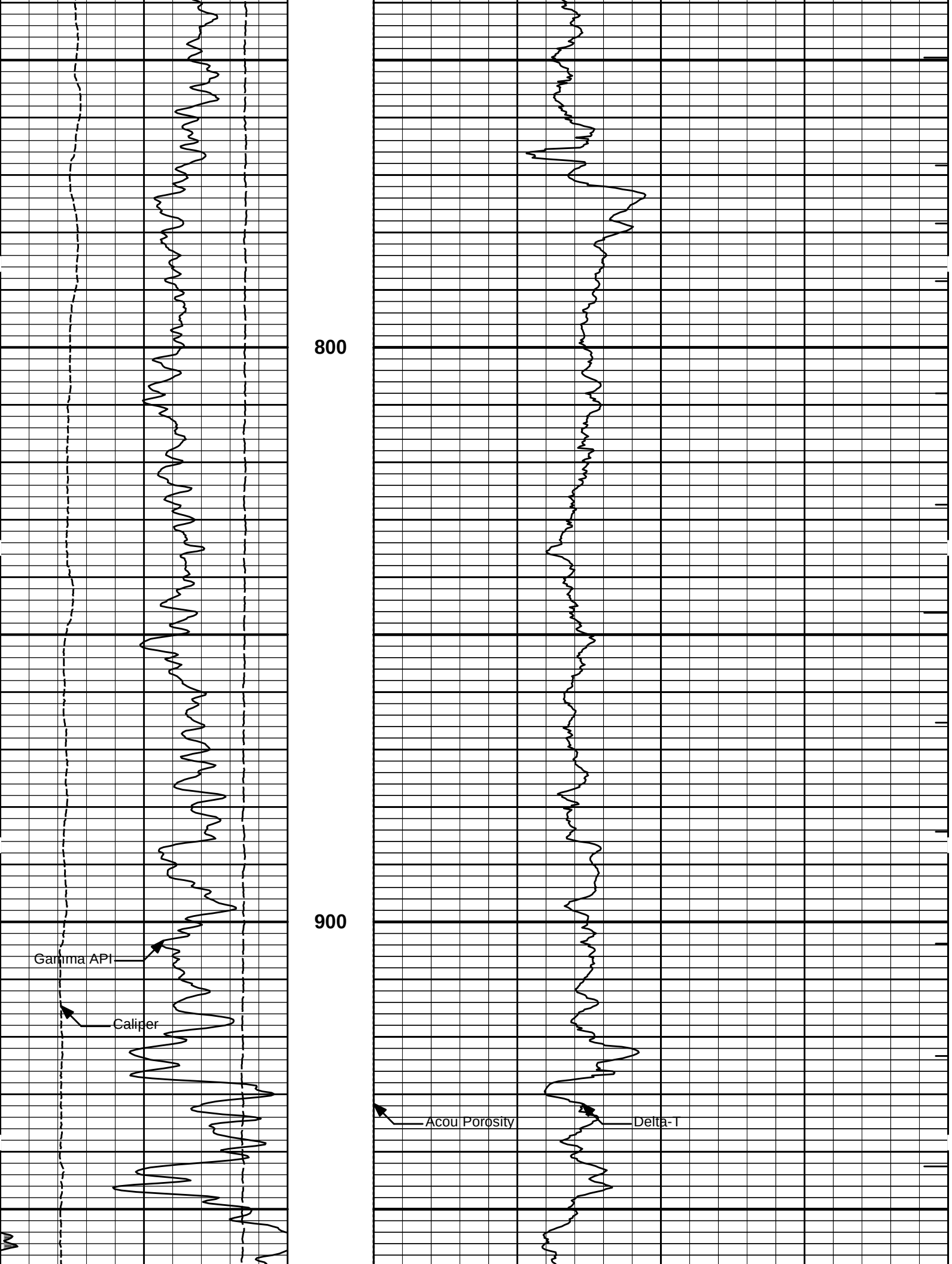
HALLIBURTON

Plot Time: 30-Nov-14 16:31:55
Plot Range: 470 ft to 6728.25 ft
Data: CHRISTINA_1-2\Well Based\MAIN
Plot File: \\BSAT\BSAT_5_MAIN_LIB

5 INCH MAIN LOG




600
700
Gamma API
Caliper
Acou Porosity
Delta-T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900
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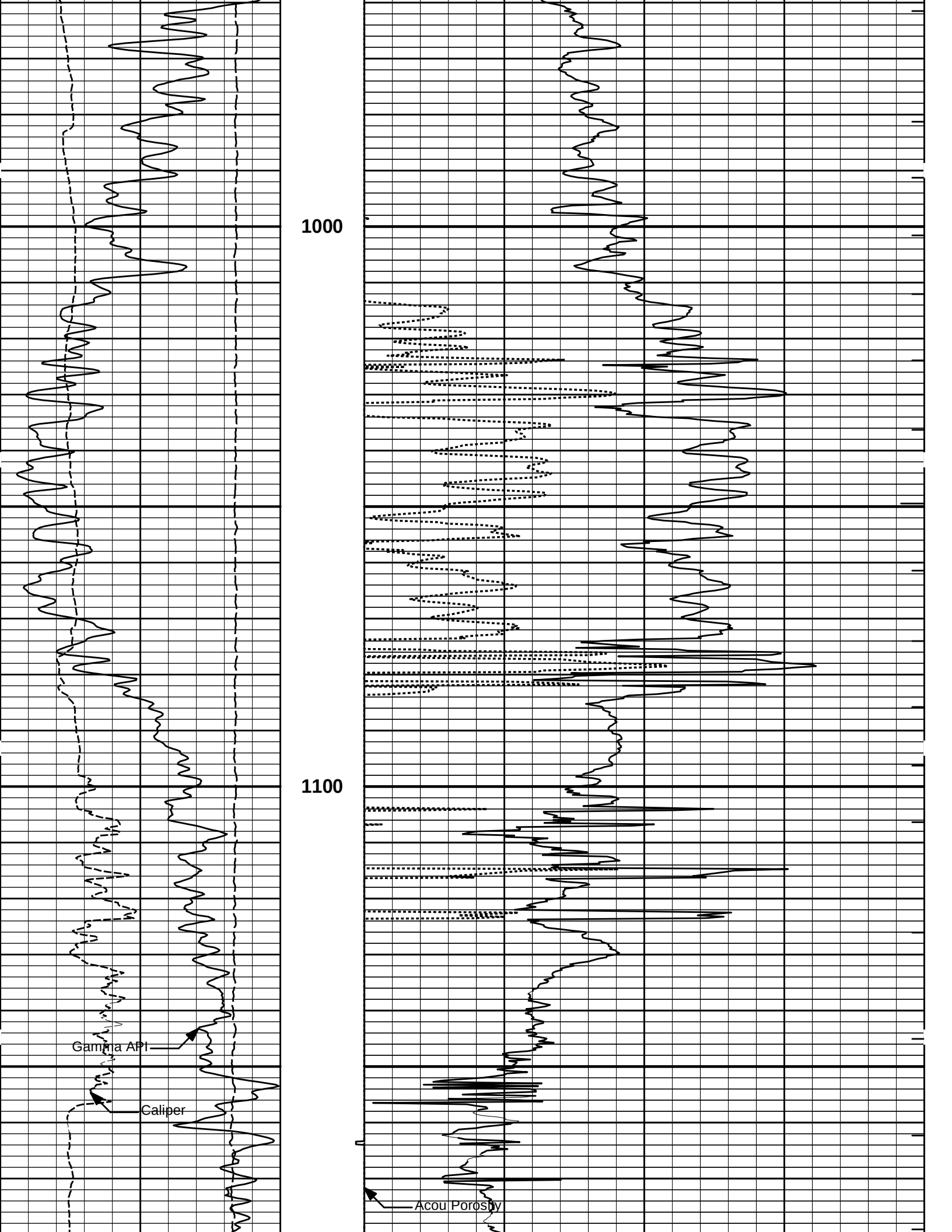
Caliper
Acou Porosity
Delta-T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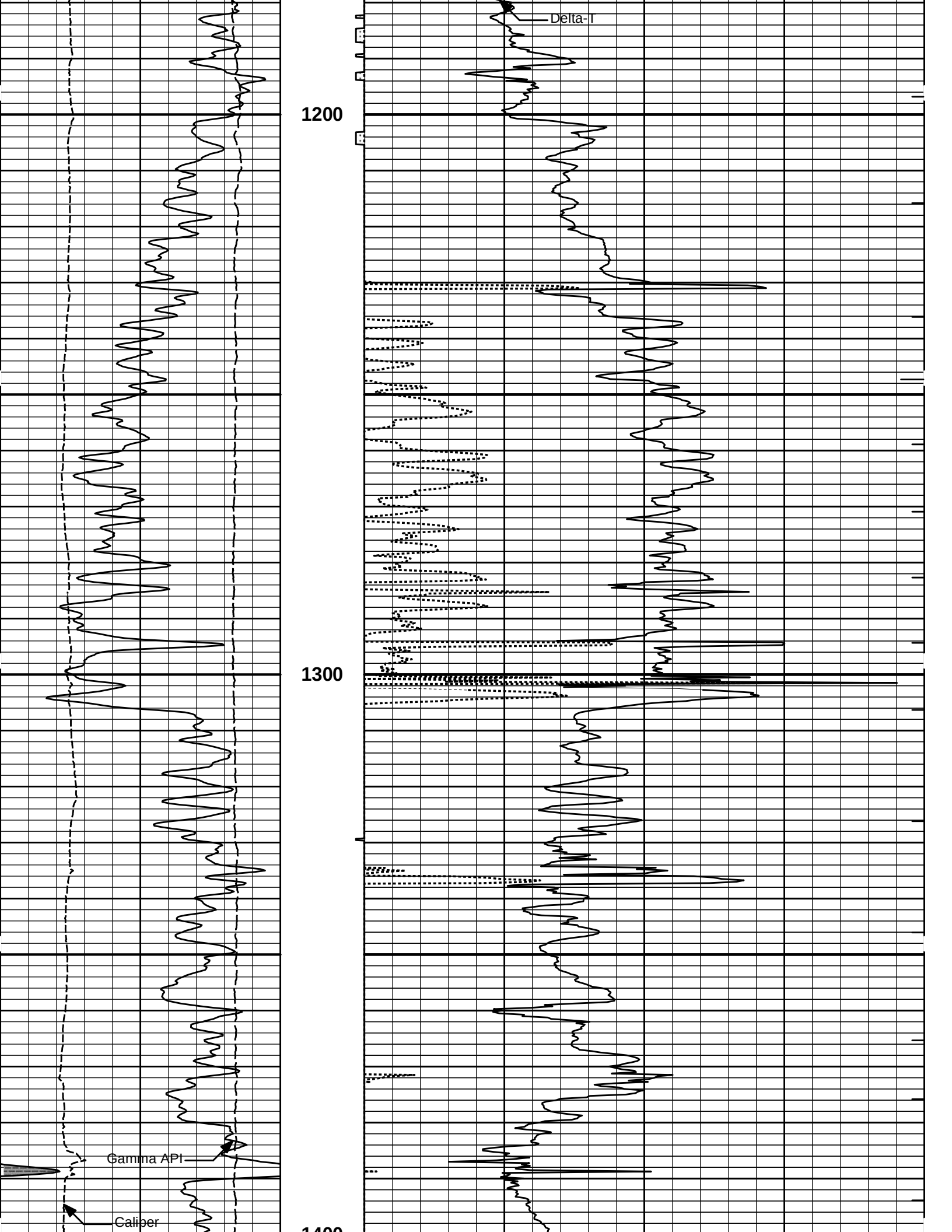
Caliper
Acou Porosity


Delta-T
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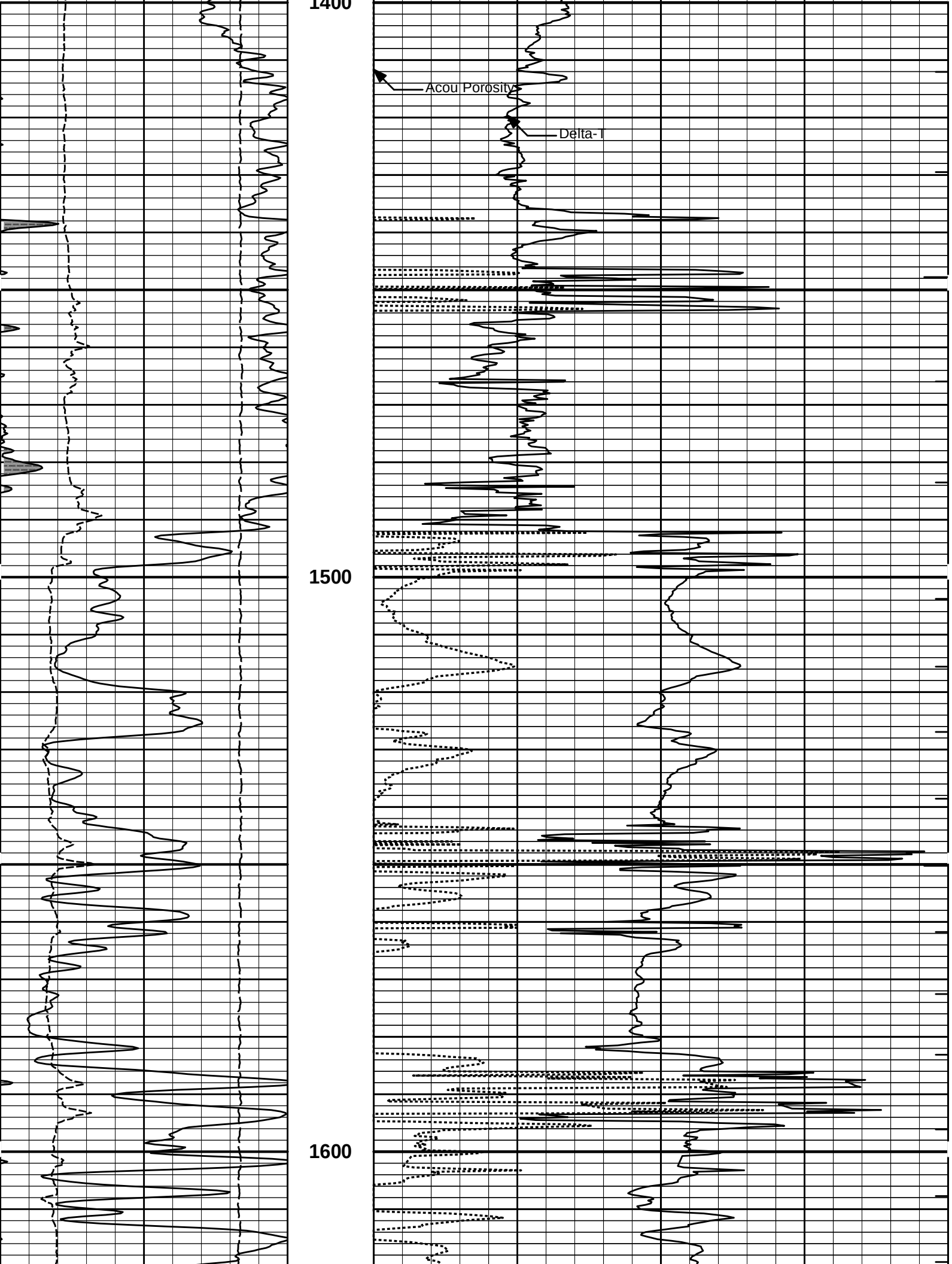
1300
Gamma API
Caliper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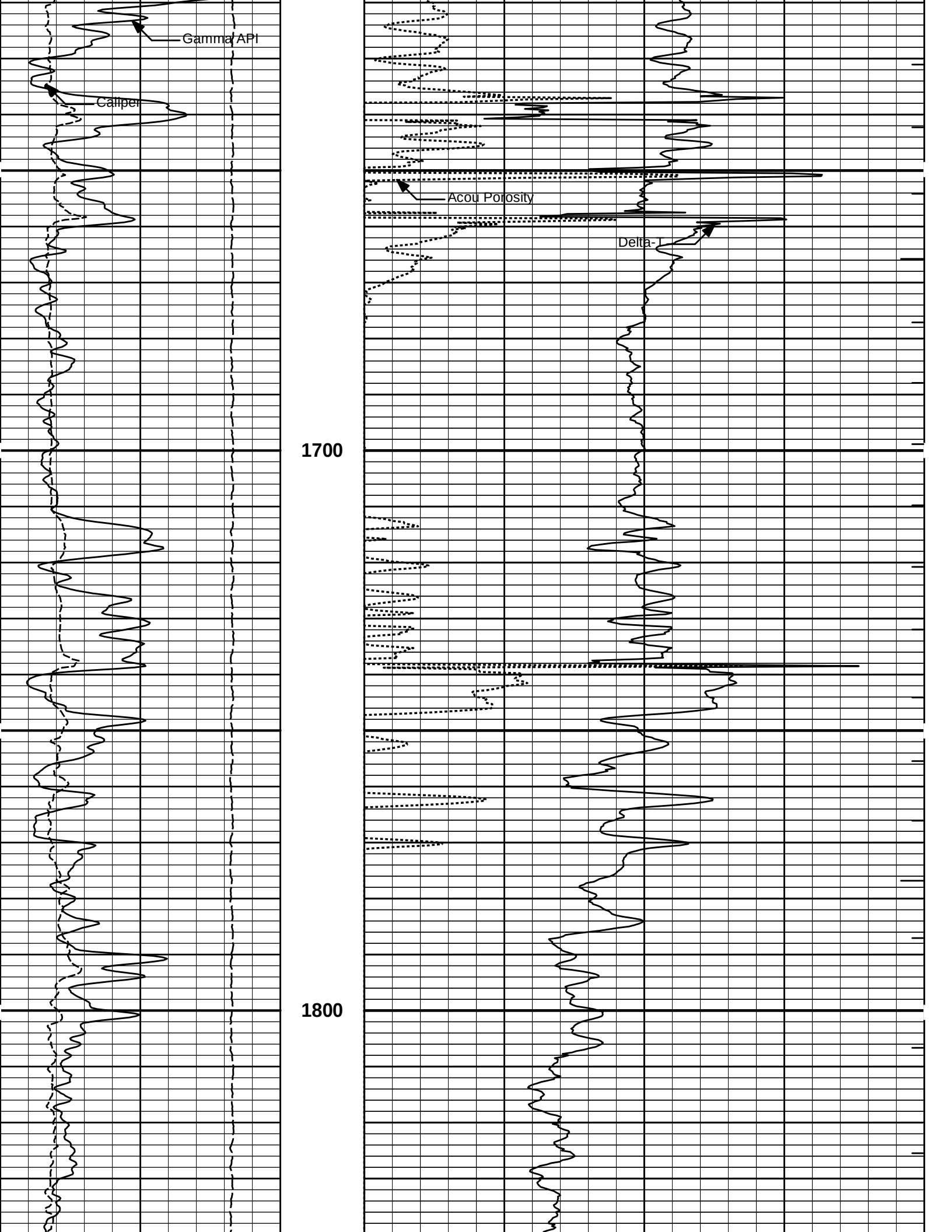
Acou Porosity
Delta-T
1500
1600


Gamma API
Caliper
Acou Porosity
Delta-T
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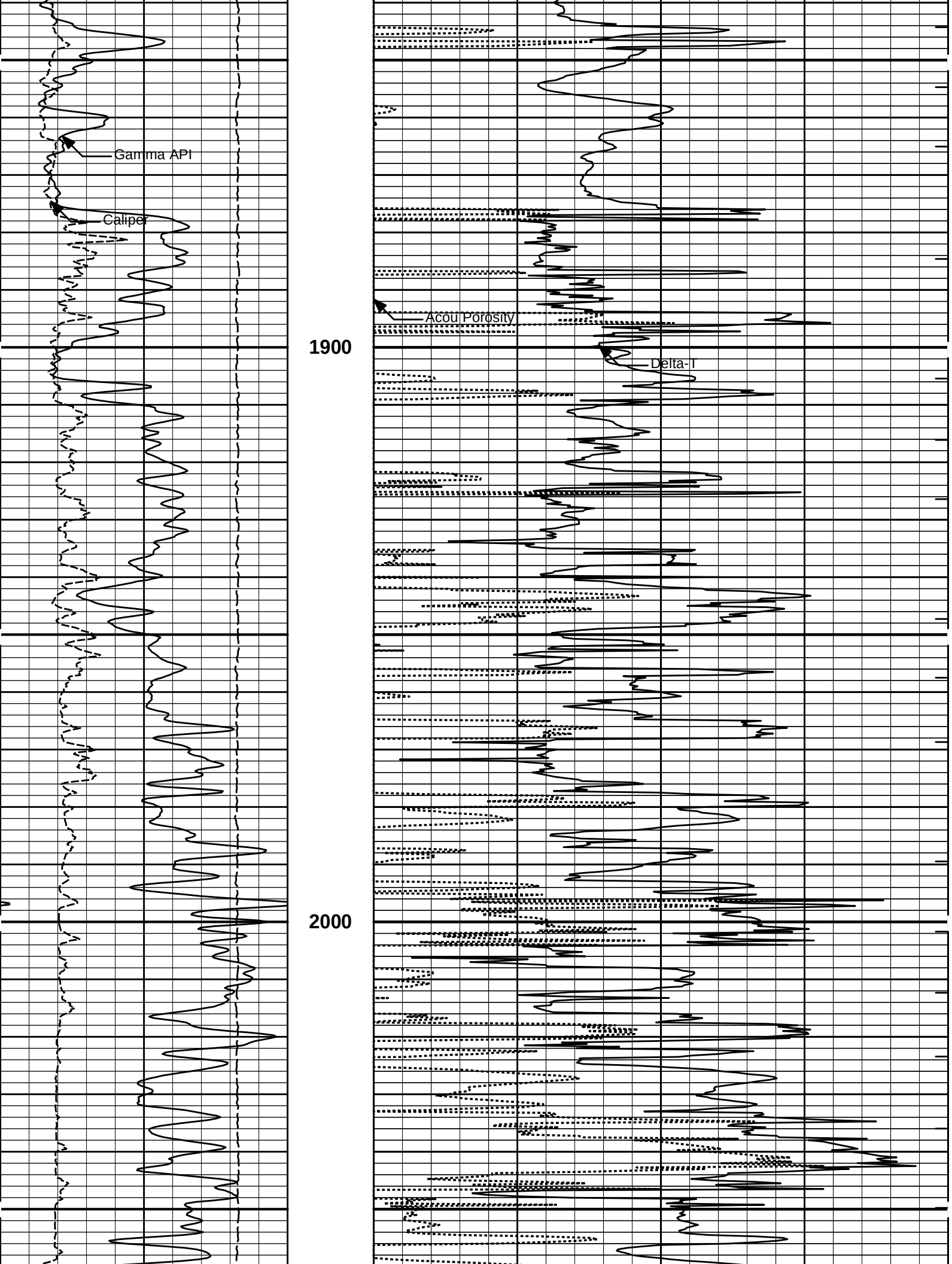
1800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Caliper
Acou Porosity
Delta-T
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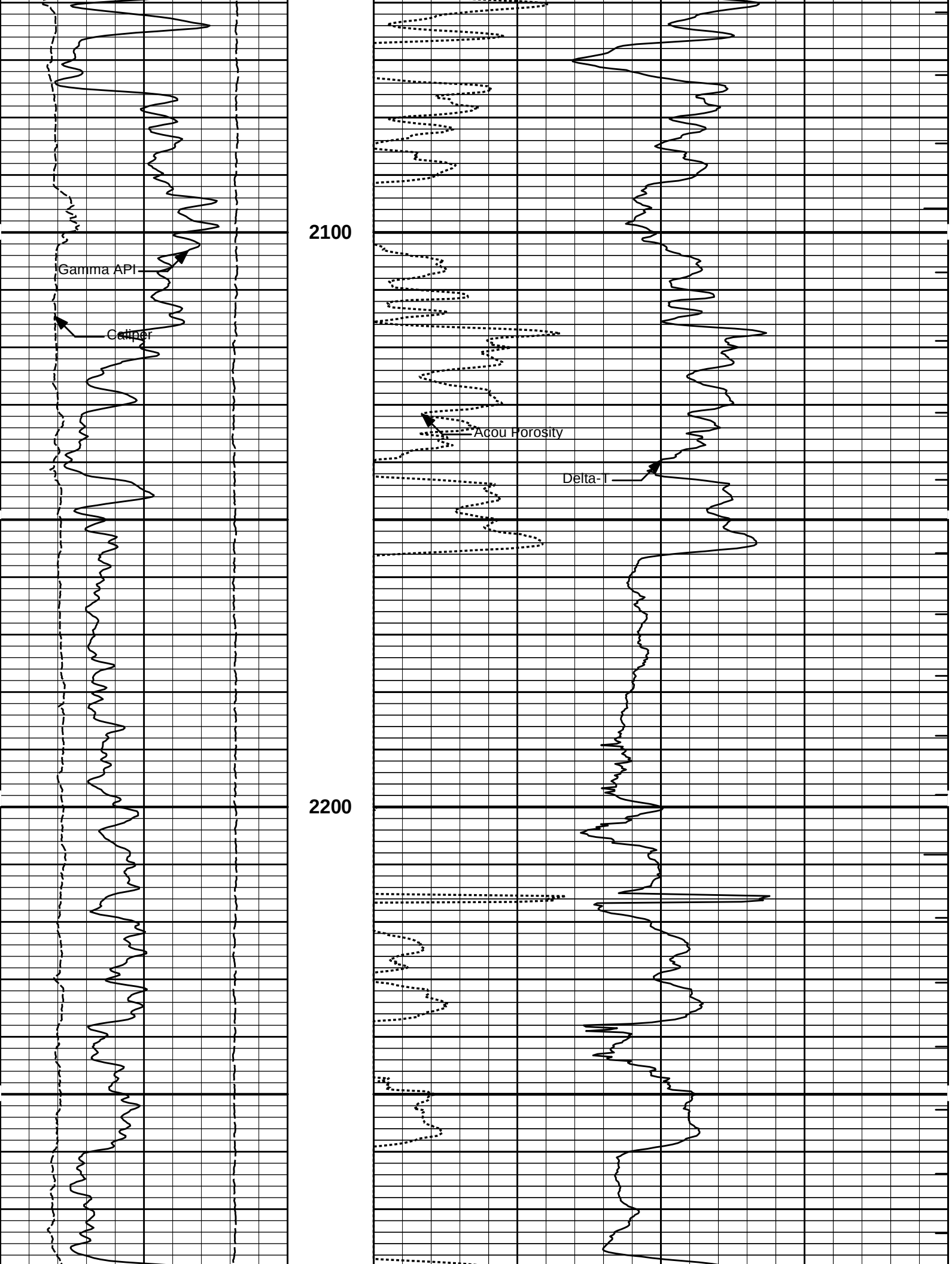
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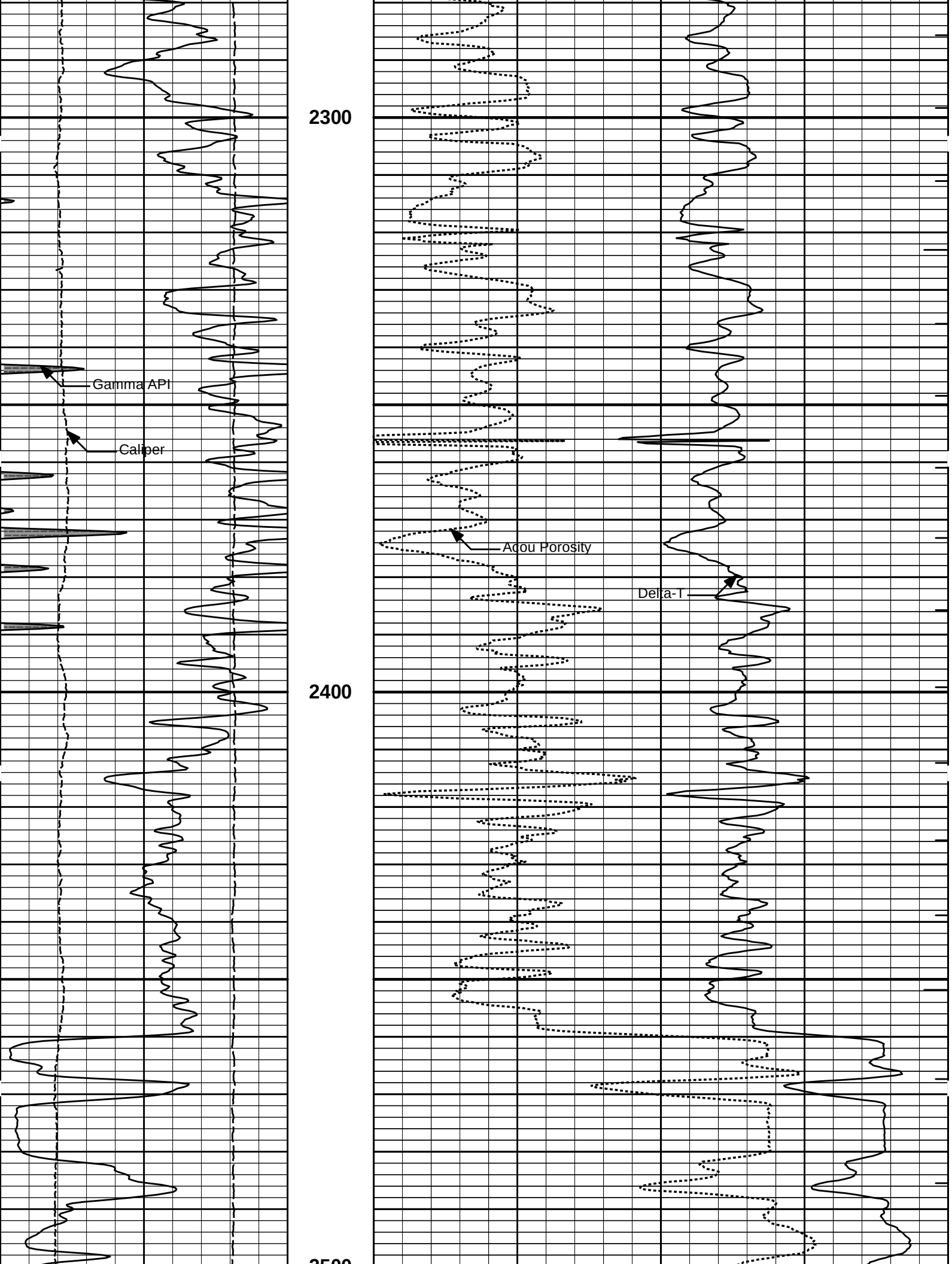
Caliper
Acou Porosity
Delta-T
2200


2300
Gamma API
Caliper
Acou Porosity
Delta-T
2400
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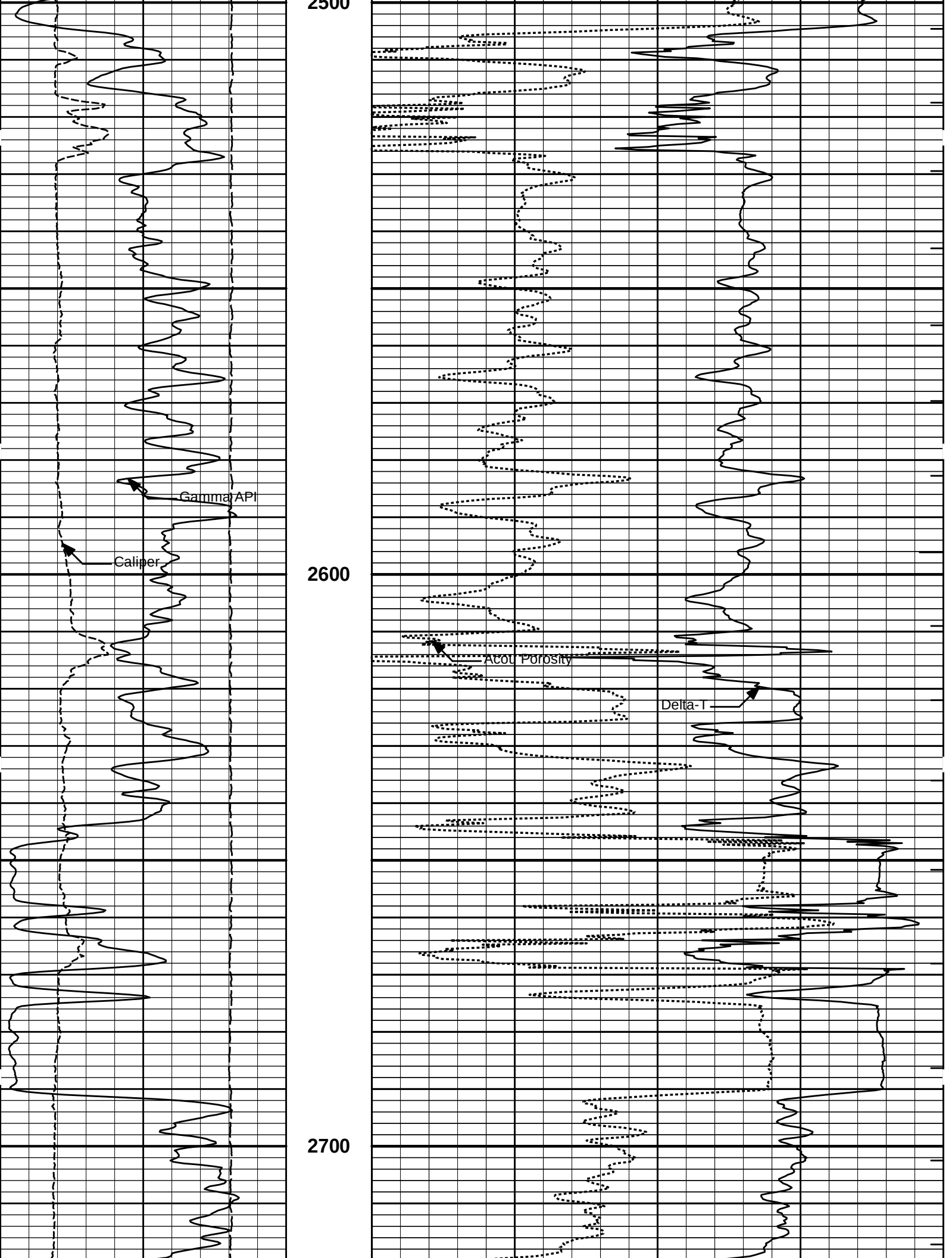
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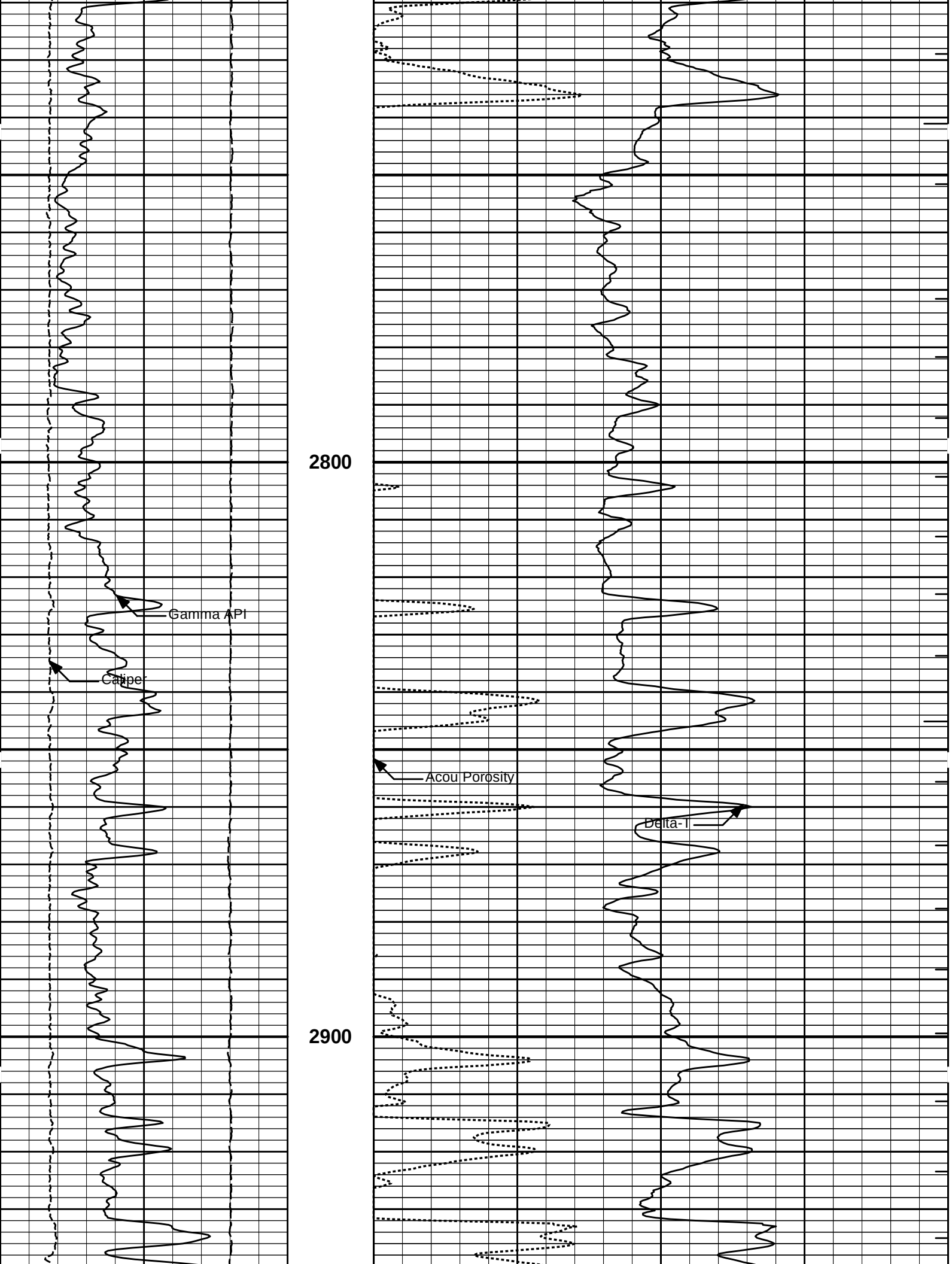
Gamma API
Caliper
2600
Acou Porosity
Delta-T
2700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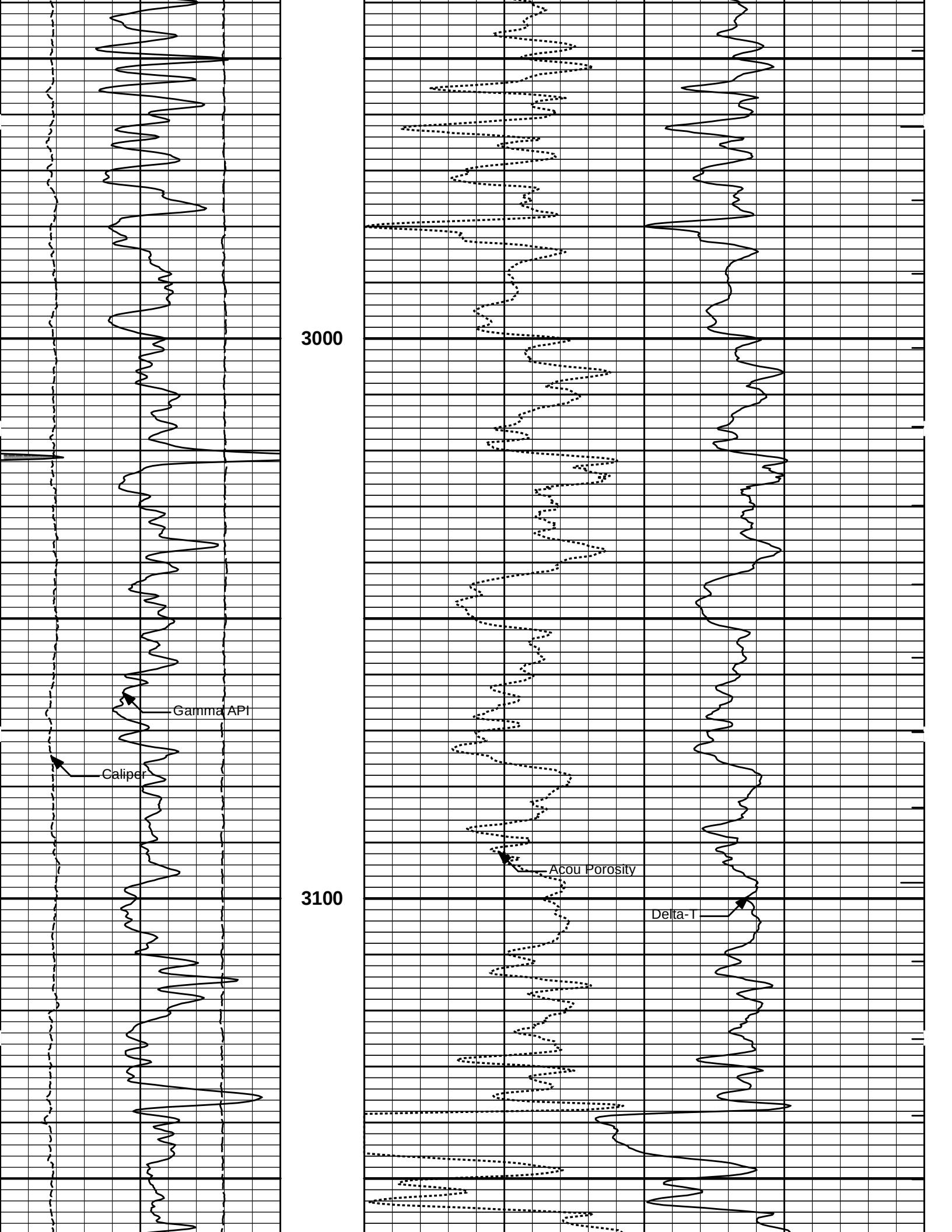
Gamma API
Caliper
Acou Porosity
Delta-T
2900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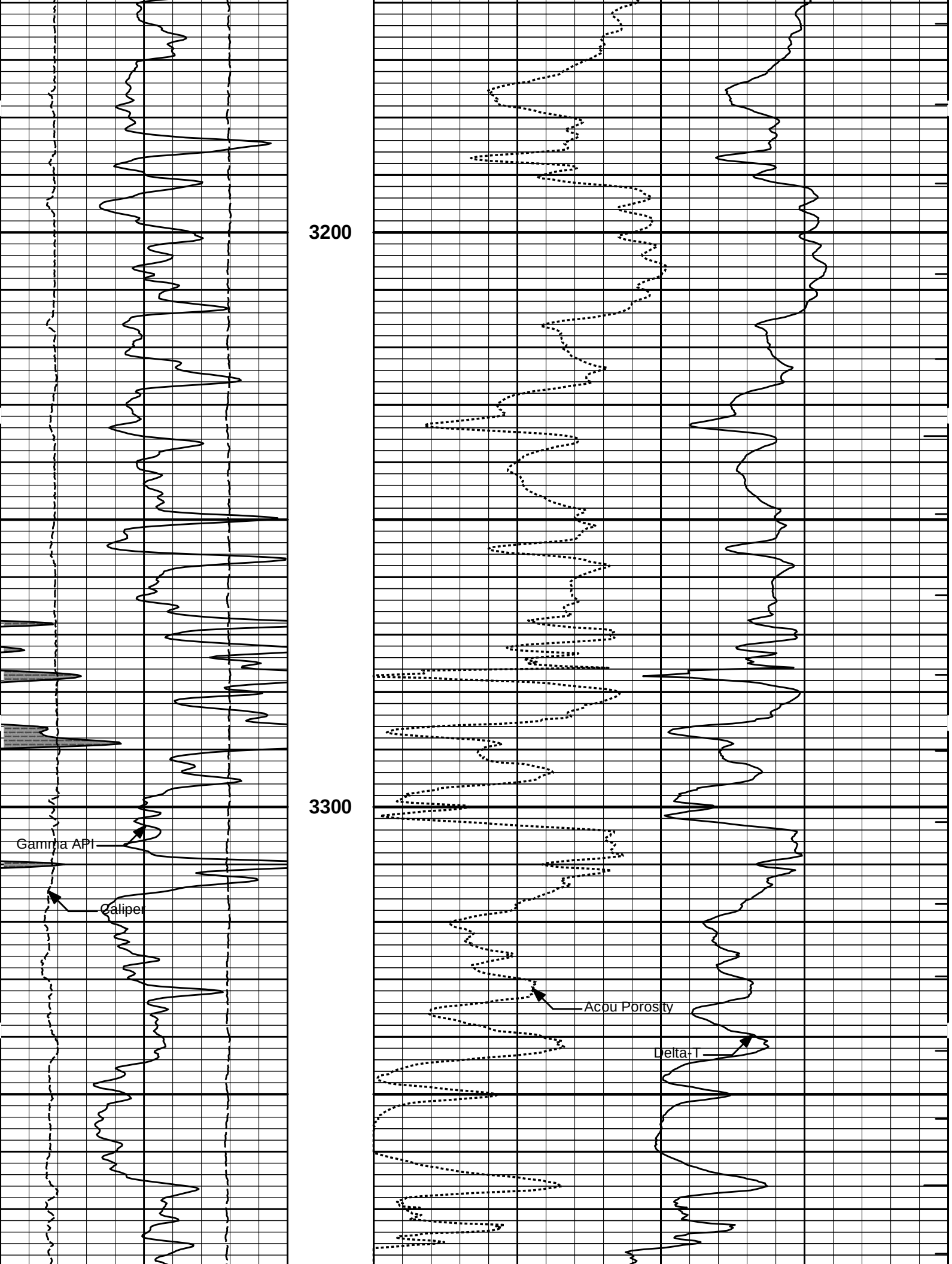
Gamma API
Caliper
Acou Porosity
3100
Delta-T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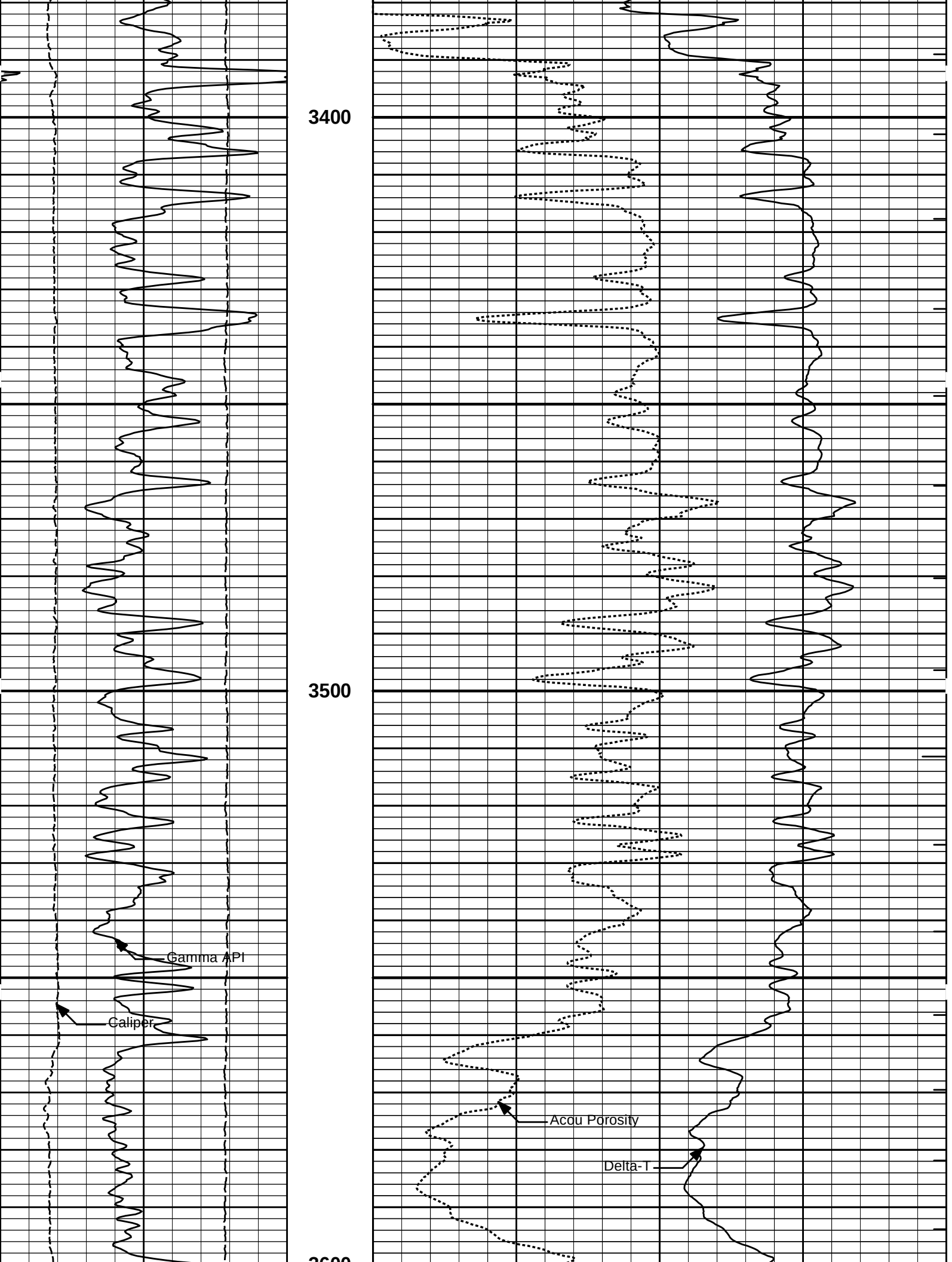
3300
Gamma API
Caliper
Acou Porosity
Delta-T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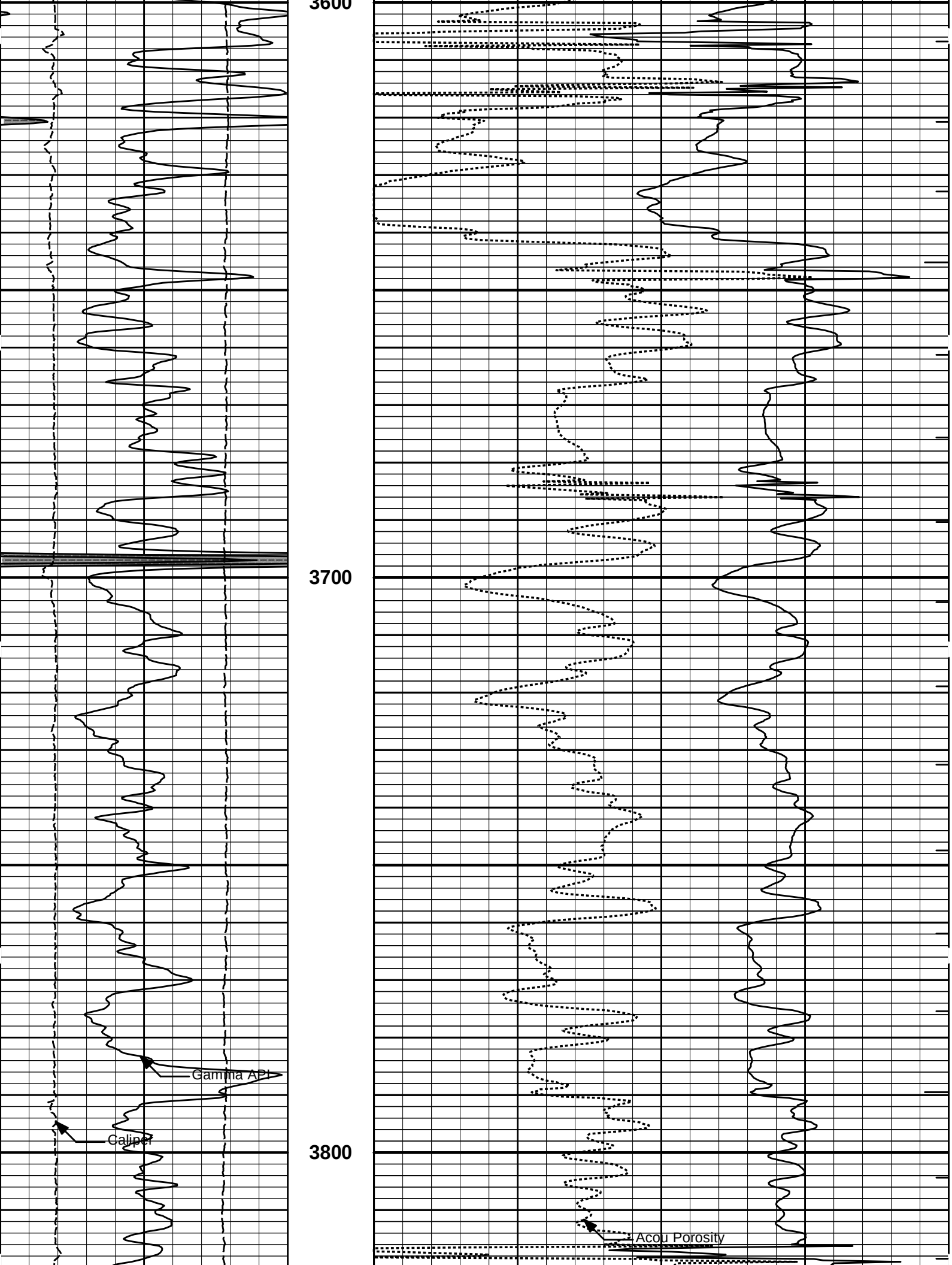
3500
Gamma API
Caliper
Acou Porosity
Delta-T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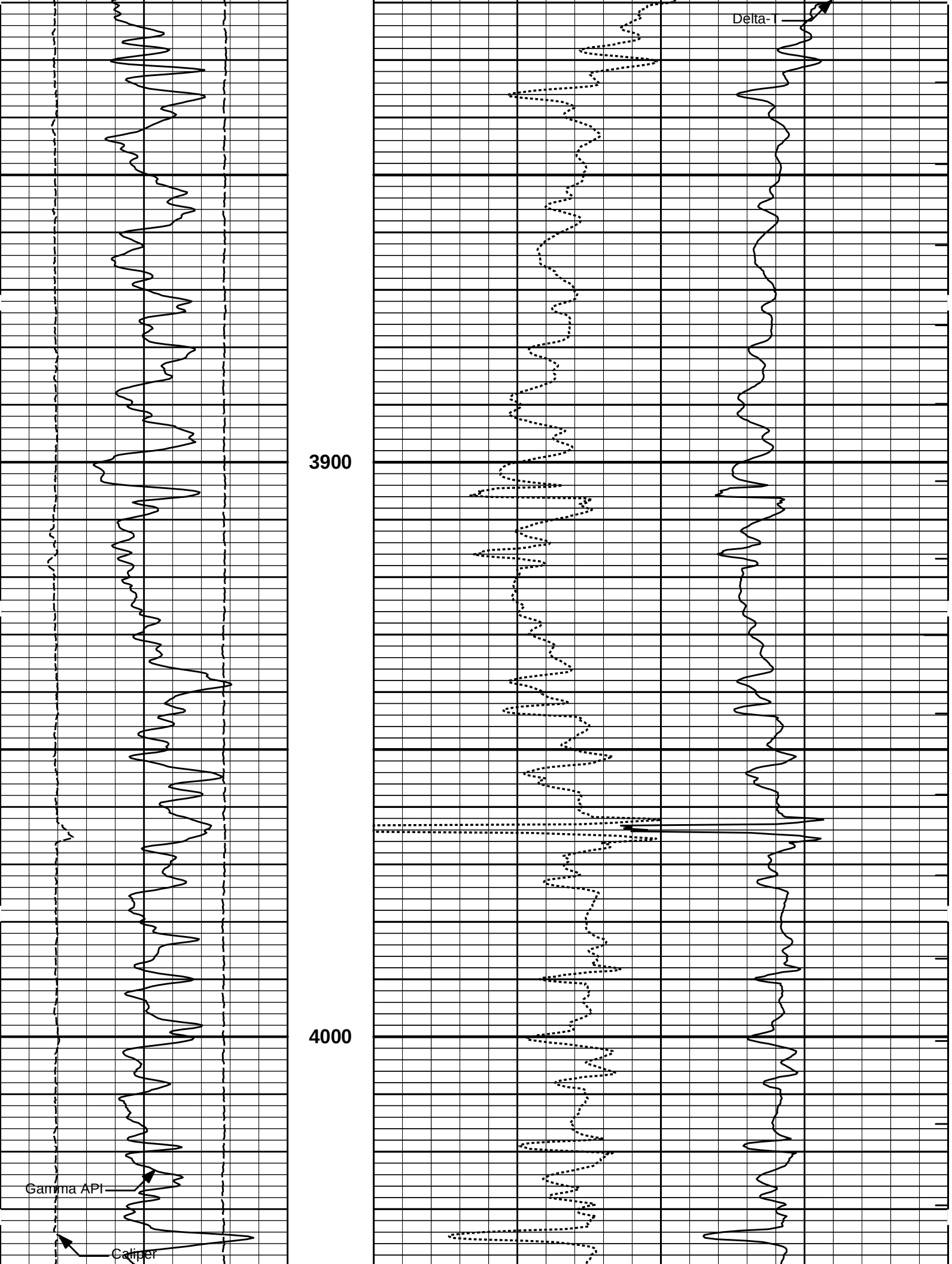
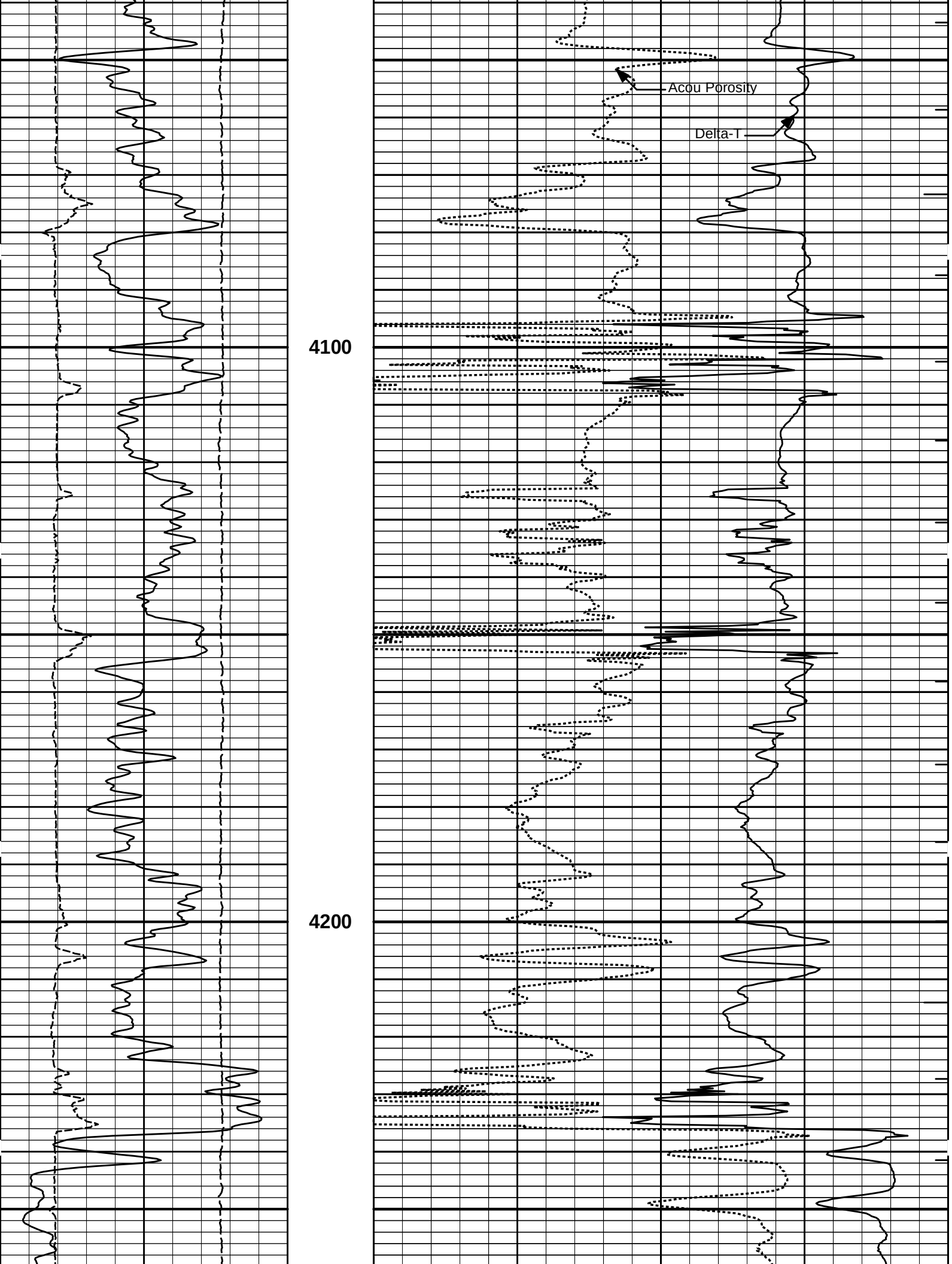
Gamma API
Caliper
Acou Porosity


Delta-T
3900
4000
Gamma API
Caliper


Acou Porosity
Delta-T
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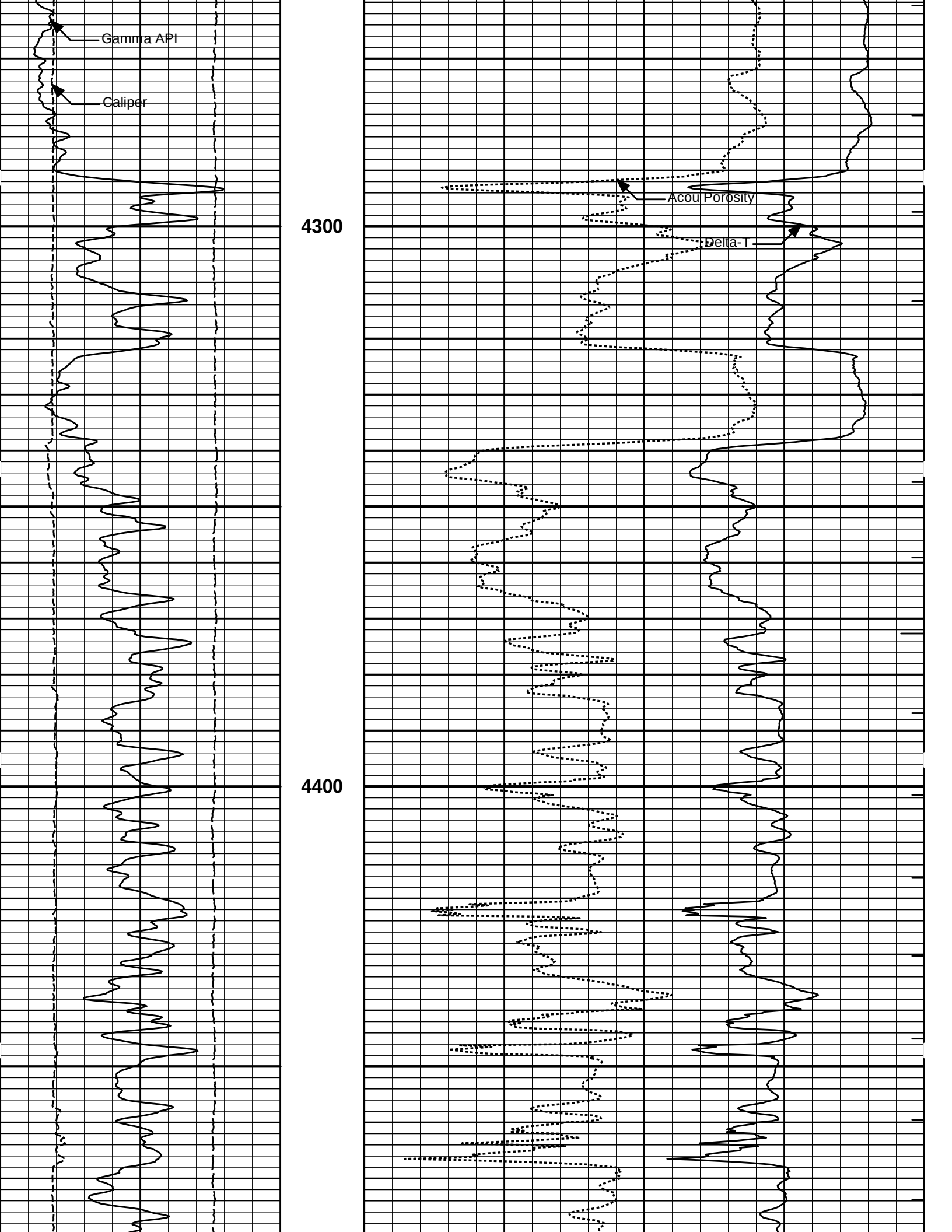
Gamma API
Caliper
Acou Porosity
Delta-T
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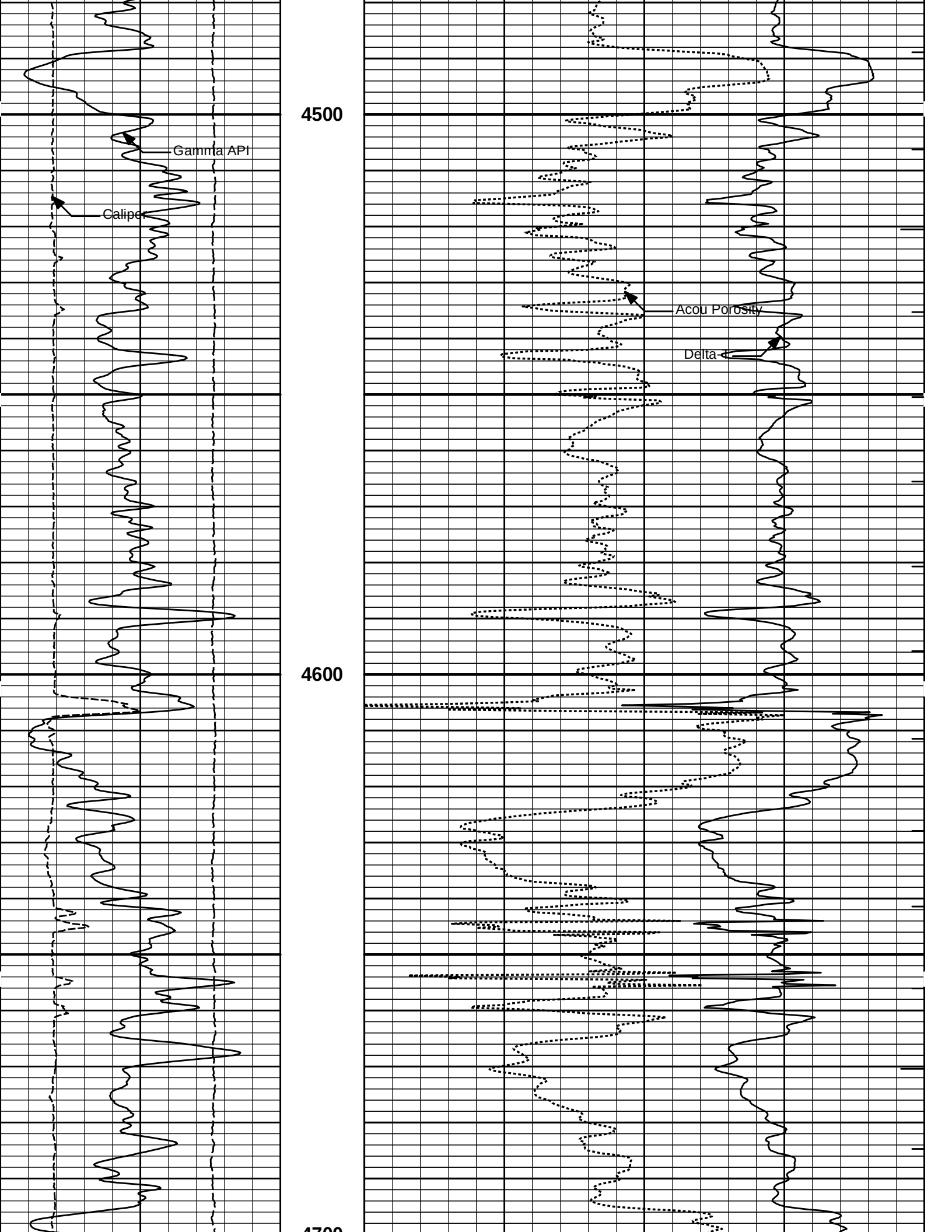
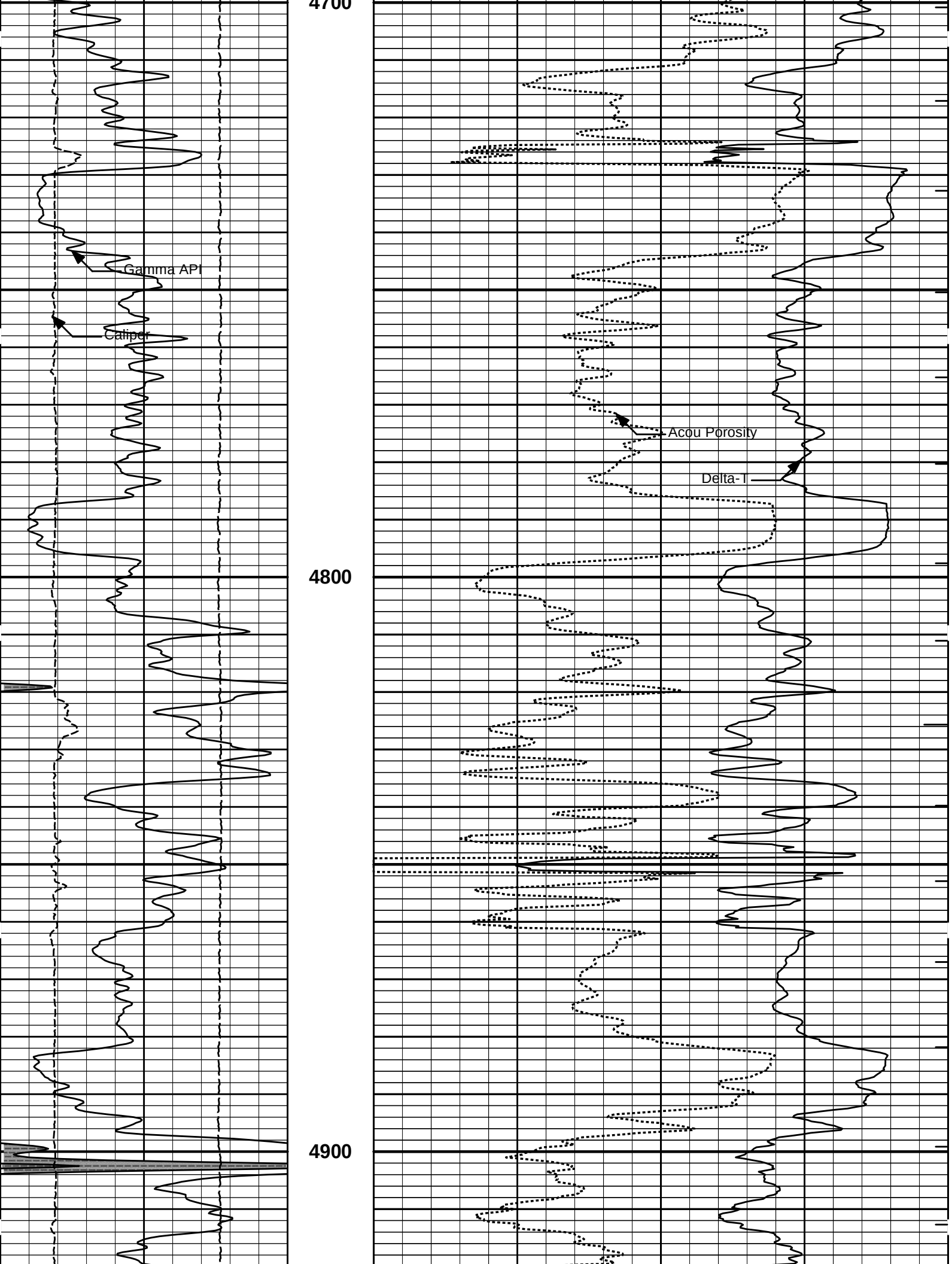
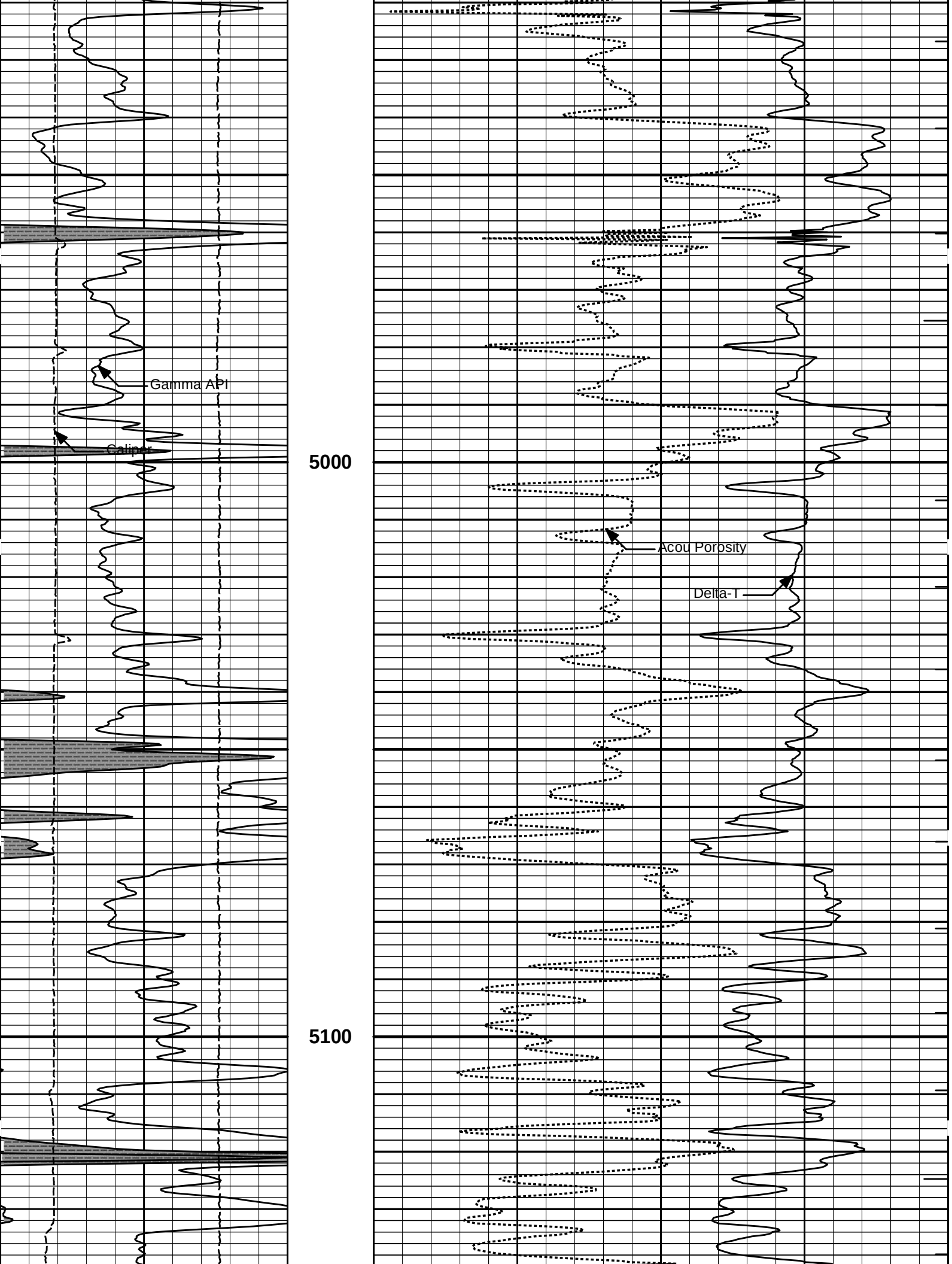

4500
Gamma API
Caliper
Acou Porosity
Delta-t
4600
4700


4700
Gamma API
Caliper
Acou Porosity
Delta-T
4800
4900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Caliper
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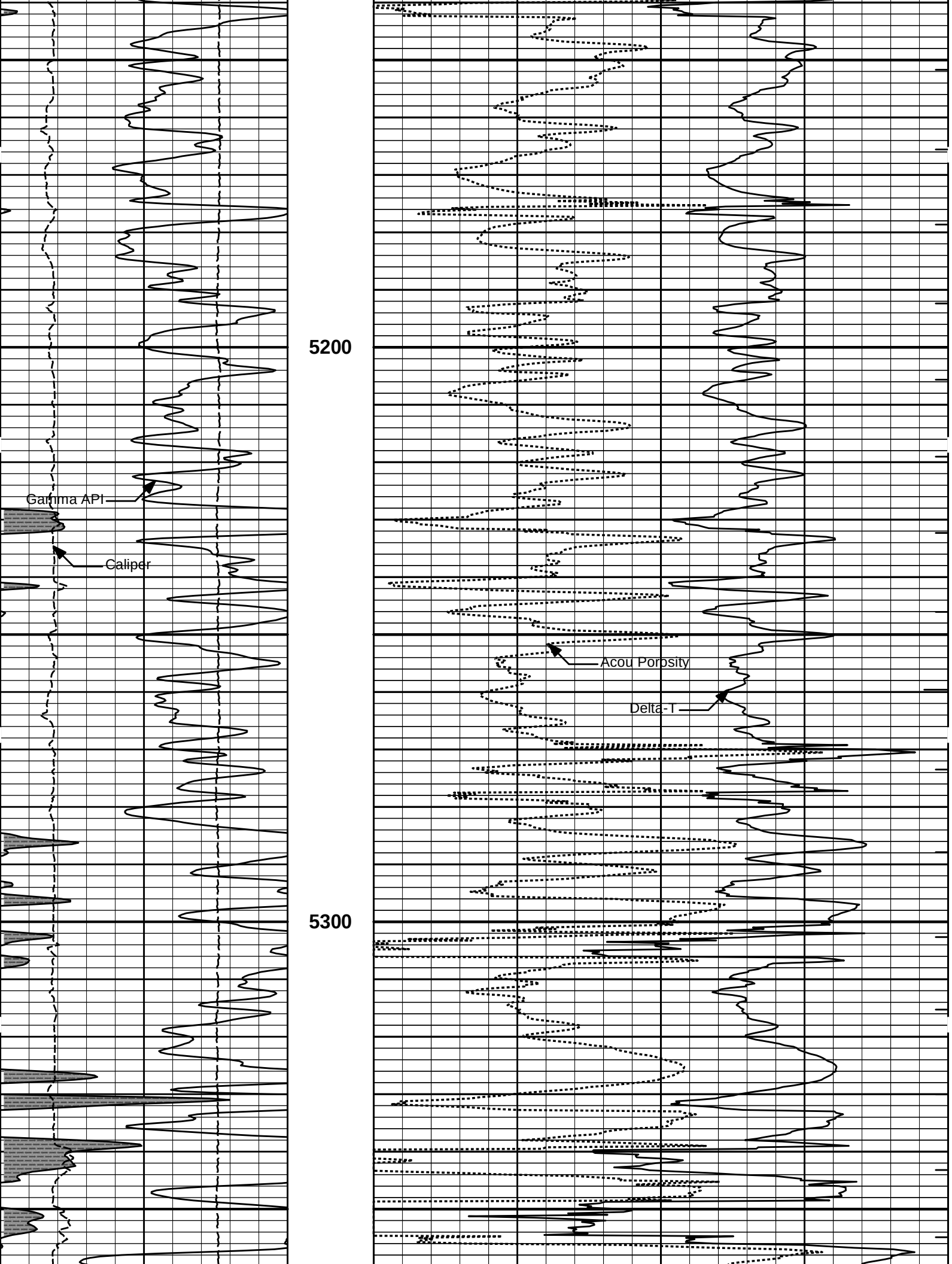
Acou Porosity
Delta-T
5100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Caliper
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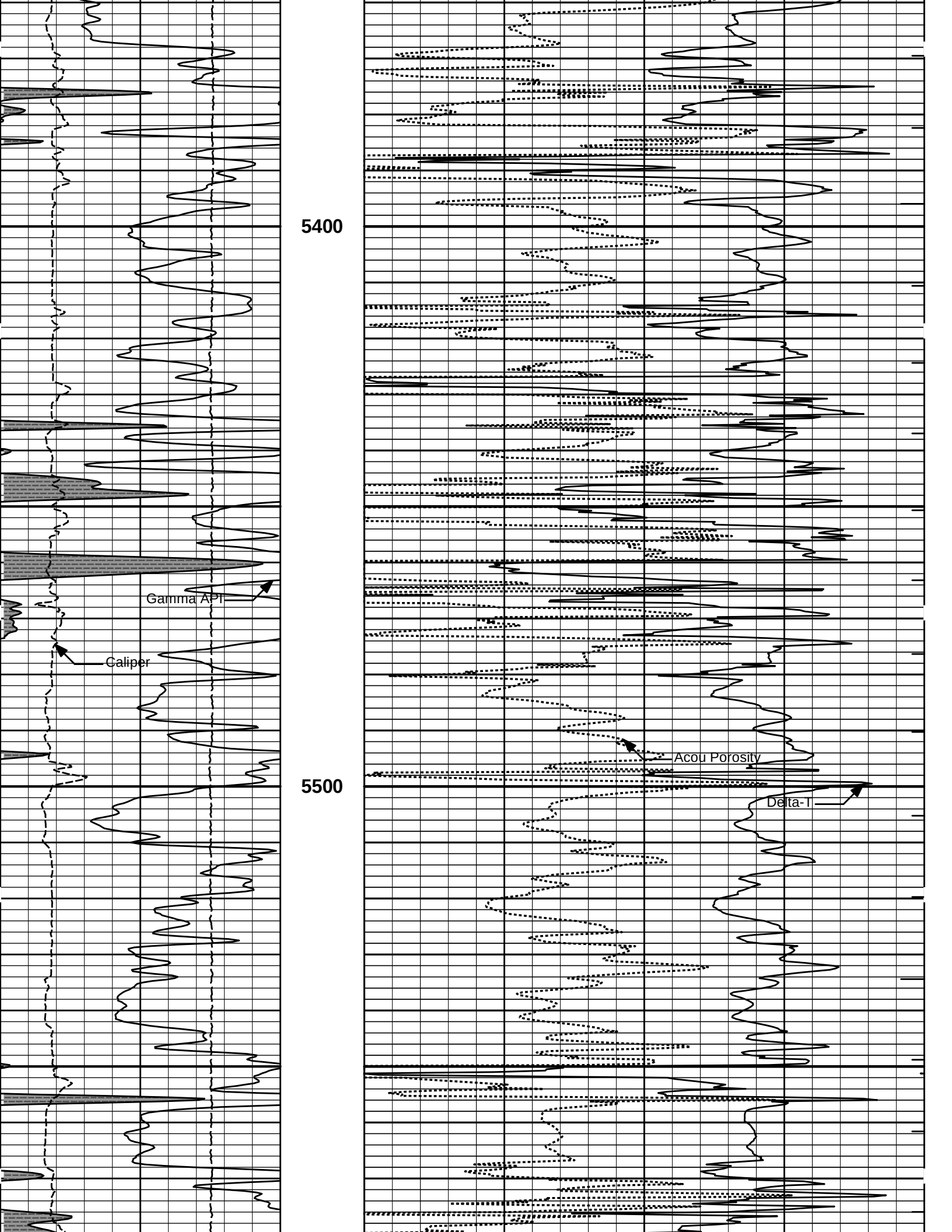
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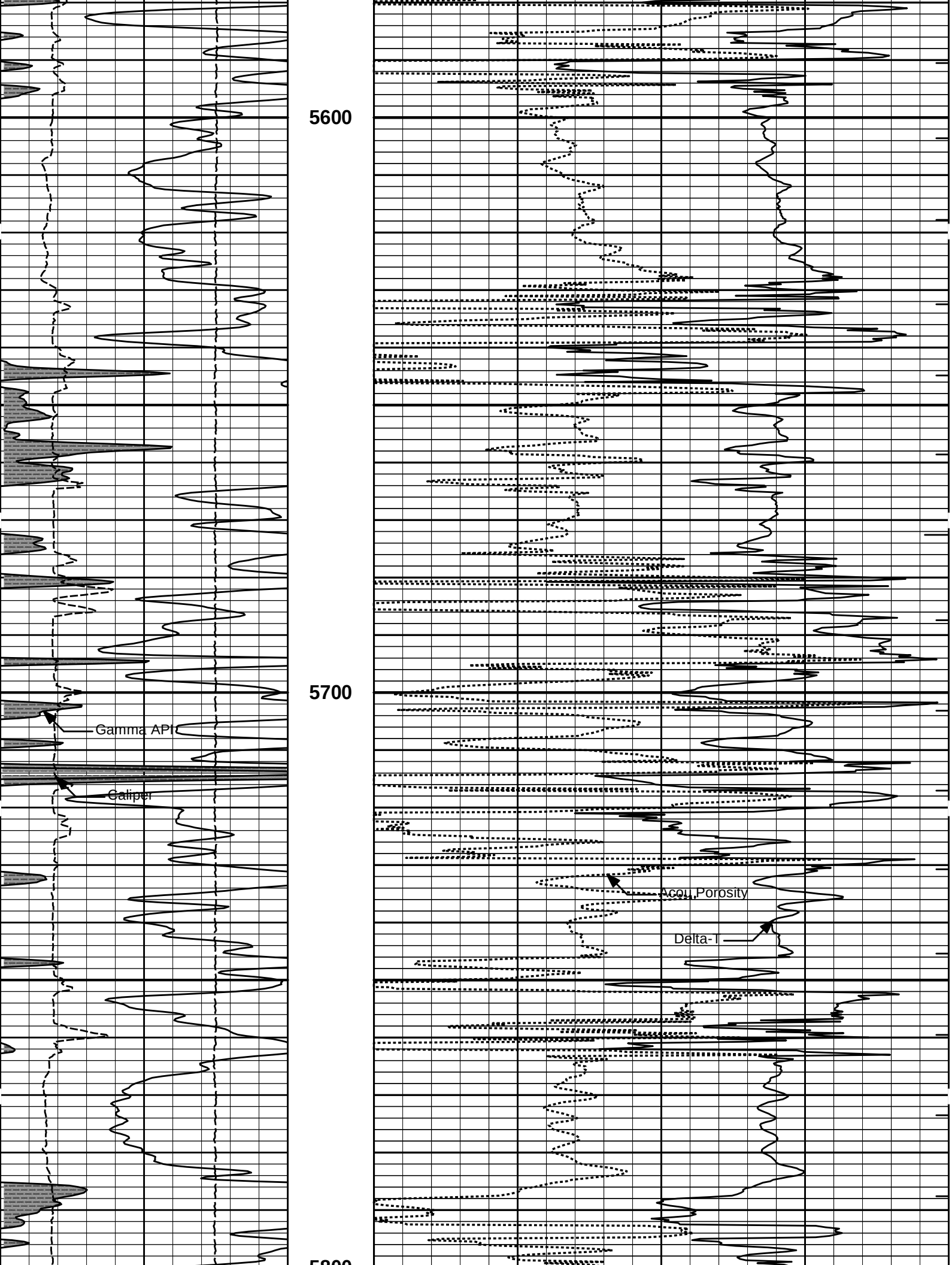
Delta-T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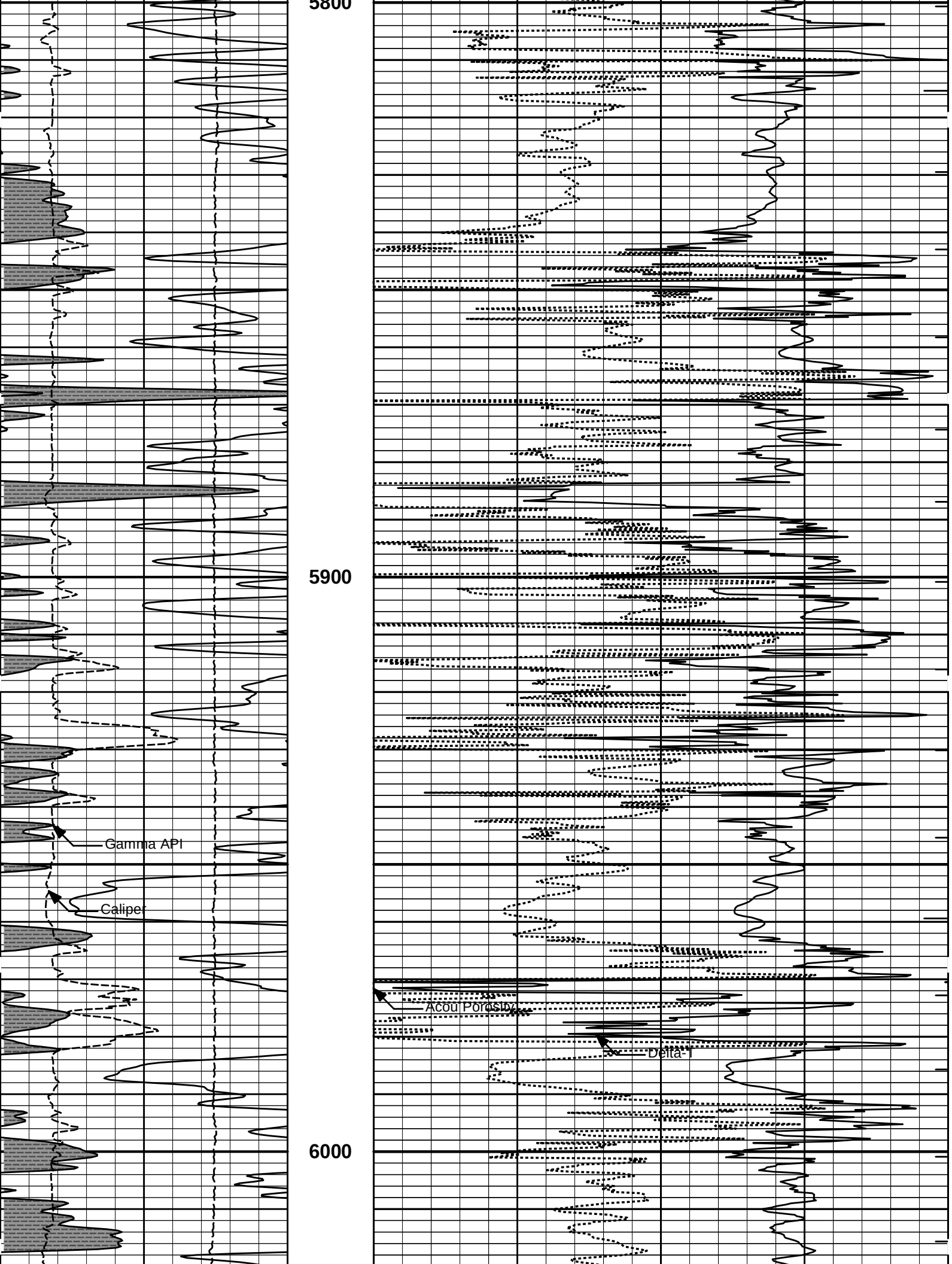
Gamma API
Caliper
Acou.Porosity
Delta-T


5800
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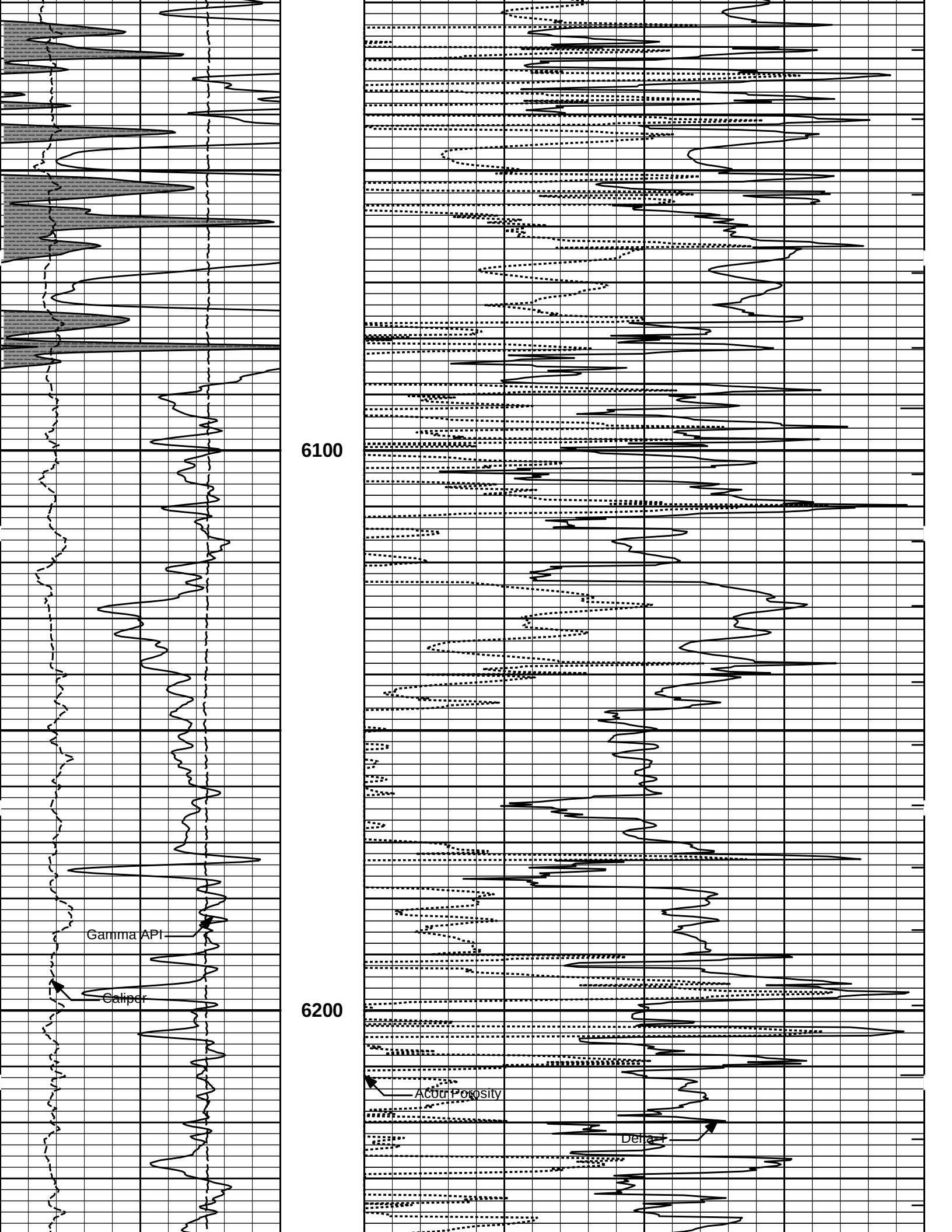
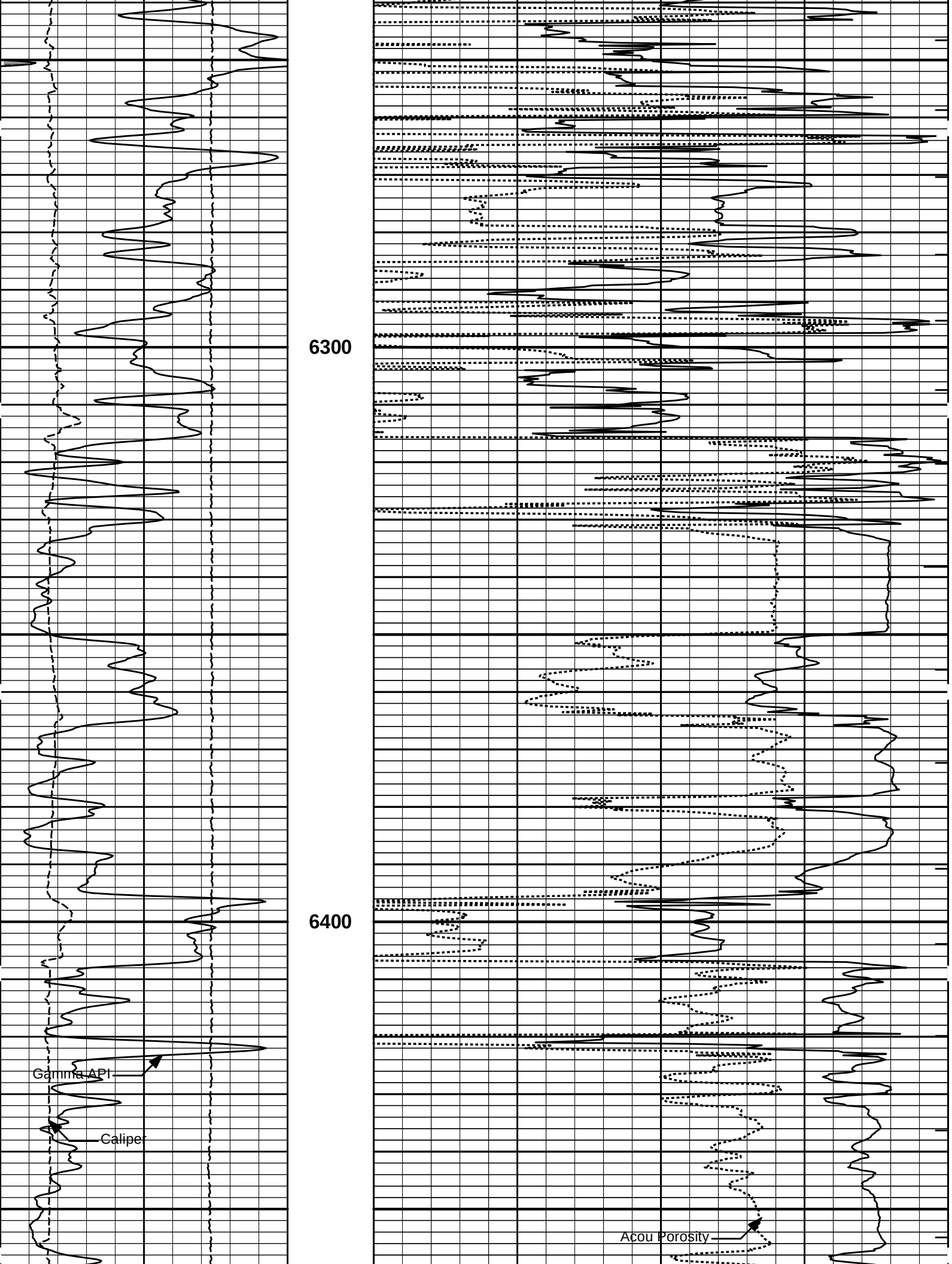
6000
Gamma API
Caliper
Acou Porosity
Delta-T


6100
6200
Gamma API
Caliper
Accu Porosity
Delta T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Caliper
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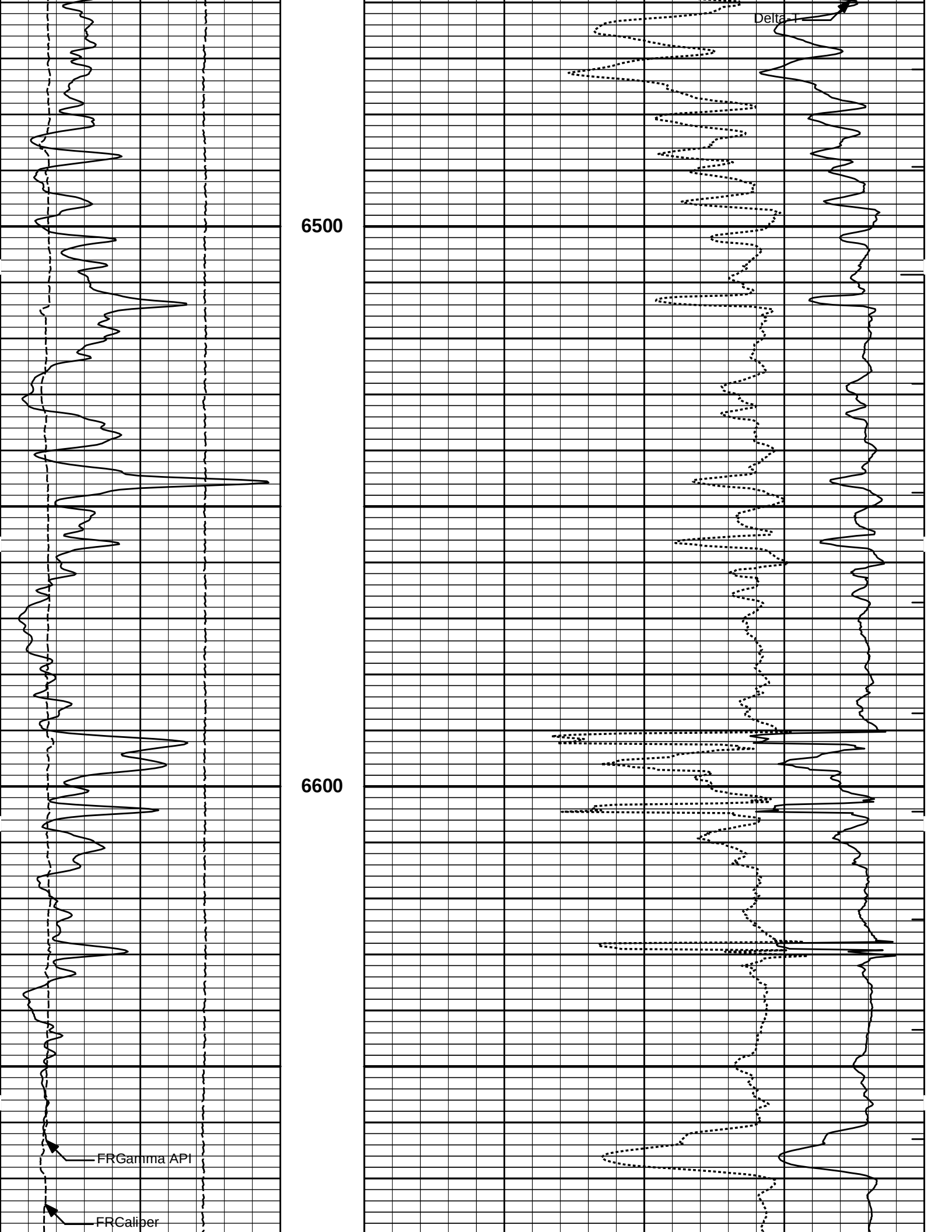
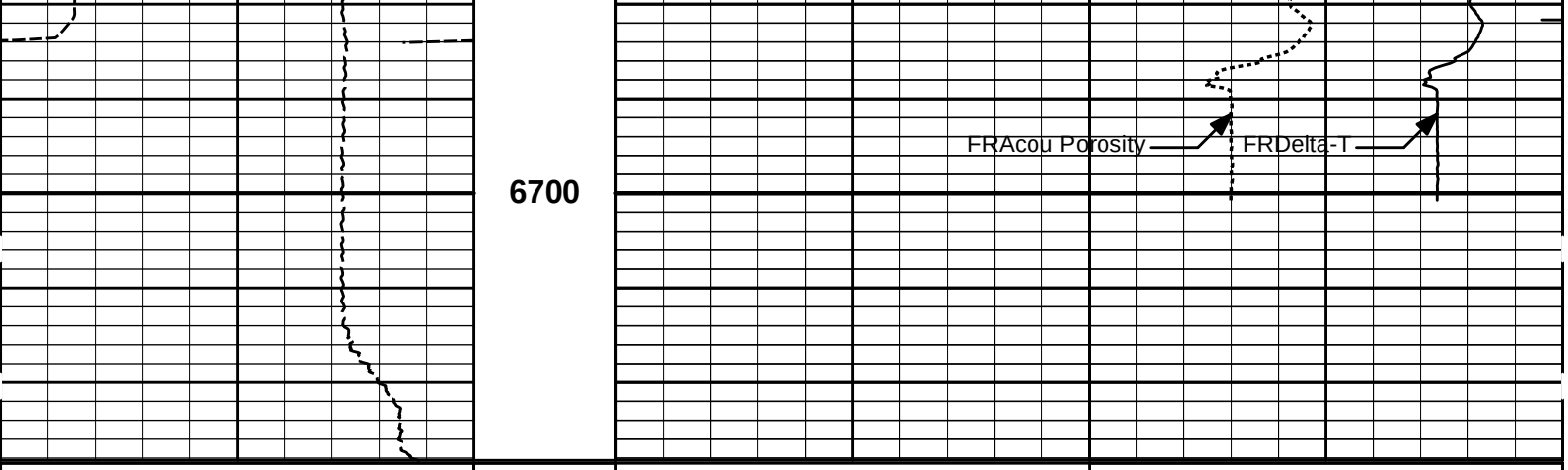

Delta-T
6500
6600
FRGamma API
FRCaliper



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

MD
1 : 240
ft

Tension Pull
10 0

ITTT

140 Delta-T 40
microsec per ft

30 Acou Porosity -10
percent

Tension Pull

HALLIBURTON

Plot Time: 30-Nov-14 16:32:00
Plot Range: 470 ft to 6728.25 ft
Data: CHRISTINA_1-2\Well Based\MAIN\
Plot File: \\BSAT\BSAT_5_MAIN_LIB

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 30-Nov-14 16:32:00
Plot Range: 6298 ft to 6727 ft
Data: CHRISTINA_1-2\Well Based\REPEAT\
Plot File: \\BSAT\BSAT_5_REP_LIB

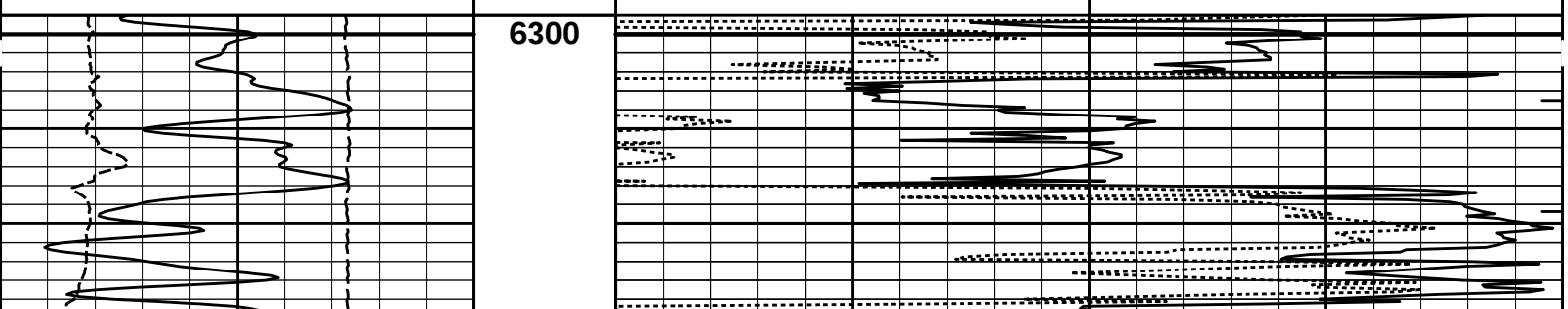
REPEAT SECTION

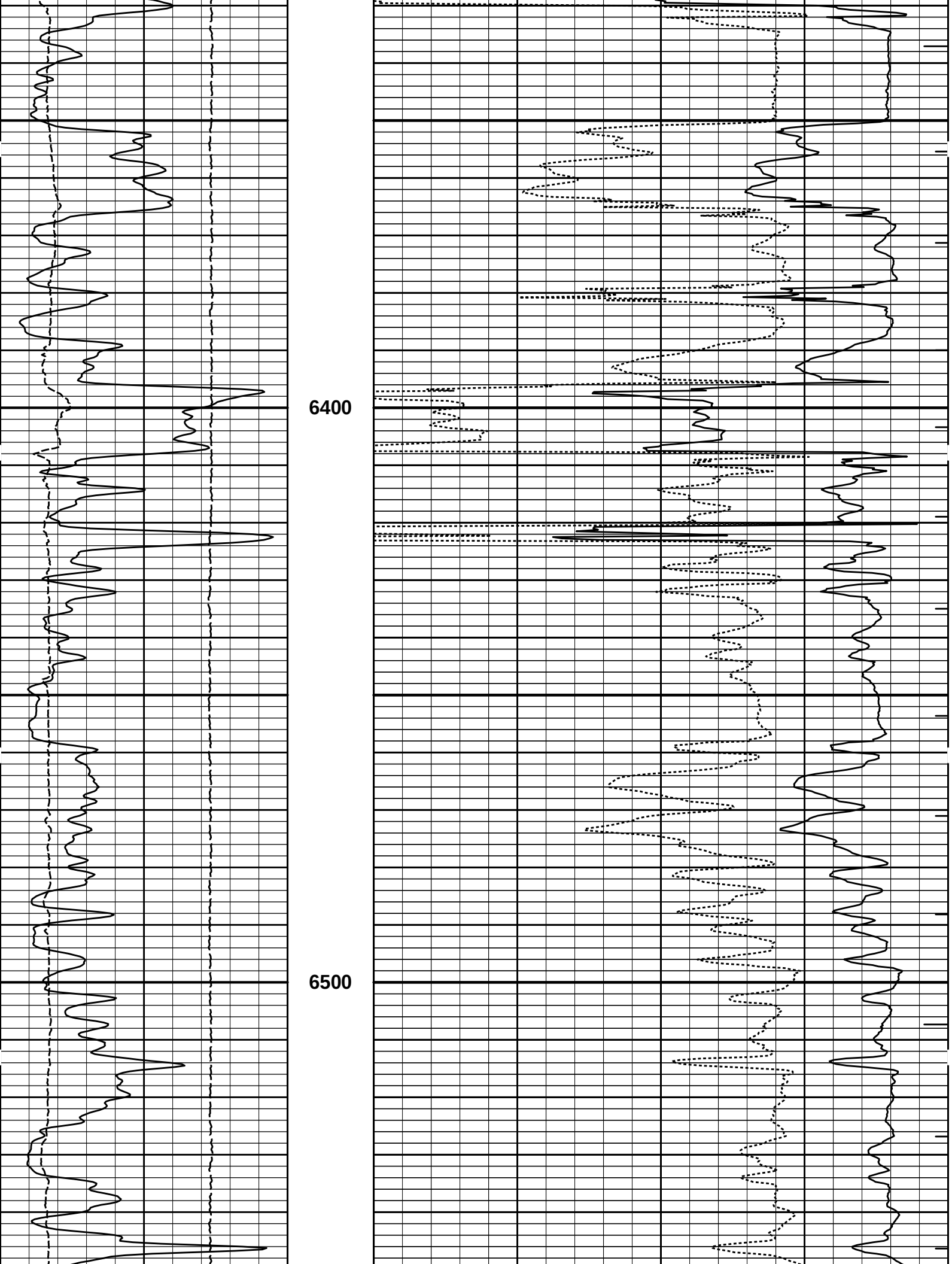
SHALE
0 Gamma API 150
api
6 Caliper 16
inches
15K Tension 0
pounds

30 Acou Porosity -10
percent
140 Delta-T 40
microsec per ft

MD
1 : 240
ft

ITTT




6400
6500

15K Tension 0	MD 1 : 240 ft	ITTT
pounds		
6 Caliper 16		140 Delta-T 40
inches		microsec per ft
0 Gamma API 150		30 Acou Porosity -10
api		percent
SHALE		

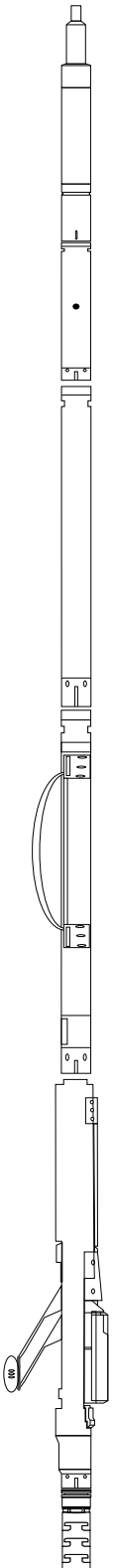
HALLIBURTON

Plot Time: 30-Nov-14 16:32:01
Plot Range: 6298 ft to 6727 ft
Data: CHRISTINA_1-2\Well Based\REPEAT\
Plot File: \\BSAT\BSAT_5_REP_LIB

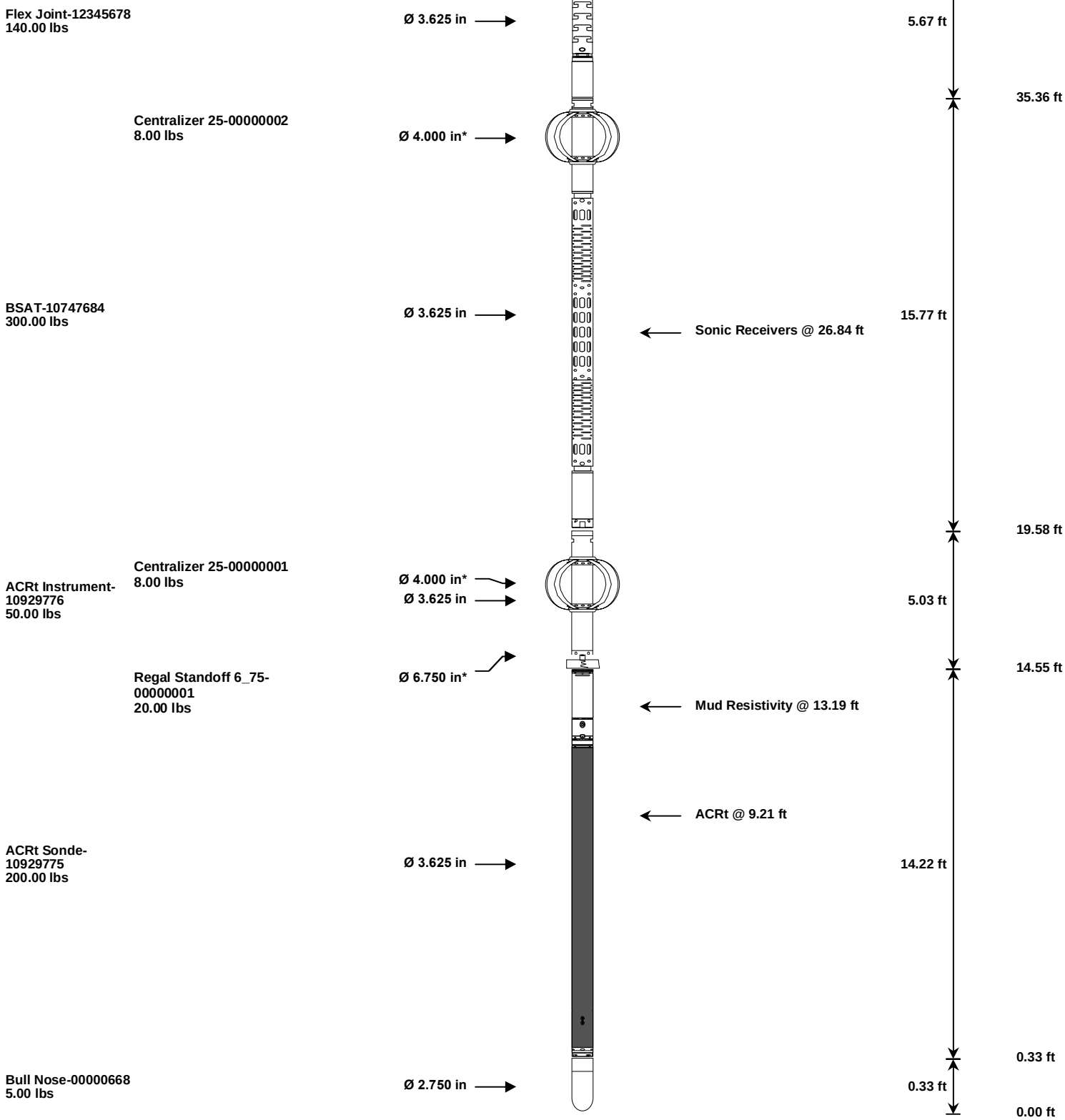
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT



Description	Overbody Description	O.D.	Sensors @ Delays	Length	Accumulated Length
					80.04 ft
RWCH-12156658 135.00 lbs		Ø 3.625 in	Load Cell @ 76.35 ft BH Temperature @ 75.79 ft	6.25 ft	
					73.79 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in	SP @ 72.01 ft	3.74 ft	
					70.05 ft
GTET-10748374 165.00 lbs		Ø 3.625 in	GammaRay @ 63.99 ft	8.52 ft	
					61.53 ft
DSNT-10735145 174.00 lbs	DSN Decentralizer-10735145 6.60 lbs	Ø 5.000 in* Ø 3.625 in	DSN Far @ 54.59 ft DSN Near @ 53.84 ft	9.69 ft	
					51.84 ft
SDLT-10673803 360.00 lbs	SDLT Pad-10673790 65.00 lbs Microlog Pad-10673803 8.00 lbs	Ø 4.500 in Ø 4.750 in* Ø 4.750 in*	Microlog @ 44.03 ft SDL Caliper @ 43.84 ft SDL @ 43.83 ft	10.81 ft	
					41.03 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	12156658	135.00	6.25		73.79	300.00
SP	SP Sub	12345678	60.00	3.74		70.05	300.00
GTET	Gamma Telemetry Tool	10748374	165.00	8.52		61.53	60.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69		51.84	60.00
DCNT	DSN Decentralizer	10735145	6.60	5.13	*	55.17	300.00
SDLT	Spectral Density Tool	10673803	360.00	10.81		41.03	60.00
SDLP	Density Insite Pad	10673790	65.00	2.55	*	43.24	60.00
MICP	Microlog Pad	10673803	8.00	1.00	*	43.53	60.00
FLEX	Flex Joint	12345678	140.00	5.67		35.36	300.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77		19.58	60.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	*	32.89	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10929776	50.00	5.03		14.55	120.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	*	16.57	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10929775	200.00	14.22		0.33	120.00

RSOF	Regal Standoff 6.75in	00000001	20.00	0.52	*	14.53	300.00
BLNS	Bull Nose	00000668	5.00	0.33		0.00	300.00
Total			**1,704.60**	**80.04**			

* Not included in Total Length and Length Accumulation.

Data: CHRISTINA_1-2\0001 SP-GTET-DSNT-SDLT-FLEX-BSAT-ACRT-BN\IDLE **Date: 30-Nov-14 11:53:32**

HALLIBURTON

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	9.200	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	6725.00	ft
	SHARED	BHT	Bottom Hole Temperature	140.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	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	
	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	
	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	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	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
SDLT	CLOK	Process Caliper 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	
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	DTFL	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	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	RMIN	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	
ACRt Sonde	HRFL	High-Resistivity Version (Tar Sand Only)?	No	

BOTTOM

Data: CHRISTINA_1-2\0001 SP-GTET-DSNT-SDLT-FLEX-BSAT-ACRT-BN\IDLE **Date: 30-Nov-14 12:10:00**

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CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 10748374**	**Reference Calibration Date:**	**01-Oct-14 15:40:42**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**18-Nov-14 16:59:40**
Software Version:	**WL INSITE R4.4.3 (Build 6)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	38.0	36.9	api

Background + Calibrator	276.9	268.9	api
Calibrator	238.9	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 10748374 **Reference Calibration Date:** 18-Nov-14 16:59:40

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 26-Nov-14 11:38:50

Software Version: WL INSITE R4.4.3 (Build 6) **Calibration Version:** 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	36.9	75.0	api
Background + Calibrator	268.9	299.8	api
Calibrator	232.0	224.8	api

Shop	Field	Difference	Tolerance
232.0	224.8	7.2	+/- 9.00

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 10673803 **Reference Calibration Date:** 02-Oct-14 11:07:53

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 17-Nov-14 10:23:04

Software Version: WL INSITE R4.4.3 (Build 6) **Calibration Version:** 1

Host Tool Name: DSNT - 10735145

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3759.98	-3053.35	-7000.00 - -1000.00
Pad Gain	0.0004072	0.0003748	0.000200 - 0.000600
Arm Offset	-4259.56	-4973.87	-5000.00 - 3000.00
Arm Gain	0.0005085	0.0005142	0.000300 - 0.000700
Arm Power	-0.000004394	-0.000004974	-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)	1.89	2.00	0.11	+/- 0.20
Medium Ring (in)	3.79	3.75	-0.04	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.55	6.50	-0.05	+/- 0.20
Medium Ring (in)	8.27	8.25	-0.02	+/- 0.20
Large Ring (in)	15.04	15.00	-0.04	+/- 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 - 10673803 **Reference Calibration Date:** 17-Nov-14 10:23:04

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 26-Nov-14 11:26:50

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 26-Nov-14 11:26:30

Software Version: WL INSITE R4.4.3 (Build 6) **Calibration Version:** 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.78	0.03	+/- 0.10
Ring Diameter	8.25	8.31	0.06	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10748374						
Gamma Ray Calibrator	232.0	224.8	----------	7.2	+/- 9.00	api
SDLT-10673803						
Pad Extension	3.75	3.78	----------	-0.03	+/-0.10	in
Ring Diameter	8.25	8.31	----------	-0.06	+/-0.15	in

Data: CHRISTINA_1-2\0001 SP-GTET-DSNT-SDLT-FLEX-BSAT-ACRT-BN\IDLE **Date: 30-Nov-14 11:55:34**

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INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
	Depth Panel			
TENS	Tension	0.00	NO	
	Rwa / CrossPlot			
TPUL	Tension Pull	80.04	NO	
BS	Bit Size	80.04	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	RWCH			
DHTN	DownholeTension	0.00	BLK	0.000
	SP Sub			
PLTC	Plot Control Mask	72.01	NO	
SP	Spontaneous Potential	72.01	BLK	1.250
SPR	Raw Spontaneous Potential	72.01	NO	
SPO	Spontaneous Potential Offset	72.01	NO	
	GTET			
TPUL	Tension Pull	63.99	NO	
GR	Natural Gamma Ray API	63.99	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	63.99	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	63.99	W	1.416 , 0.750
HDIA	Measured Hole Diameter	0.00	NO	
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	53.74	NO	

RNDS	Near Detector Telemetry Counts	53.84	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.59	TRI	0.583
DNTT	DSN Tool Temperature	53.84	NO	
DSNS	DSN Tool Status	53.74	NO	
ERND	Near Detector Telemetry Counts EVR	53.84	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.59	BLK	0.000
ENTM	DSN Tool Temperature EVR	53.84	NO	
HDIA	Measured Hole Diameter	0.00	NO	

SDLT

TPUL	Tension Pull	43.84	NO	
PCAL	Pad Caliper	43.84	TRI	0.250
ACAL	Arm Caliper	43.84	TRI	0.250

BSAT

TPUL	Tension Pull	26.84	NO	
STAT	Status	26.84	NO	
DLYT	Delay Time	26.84	NO	
SI	Sample Interval	26.84	NO	
TXRX	Raw Telemetry 10 Receivers	26.84	NO	
FRMC	Tool Frame Count	26.84	NO	
GMOD	Gain processing mode	19.58	NO	

ACRt Sonde

TPUL	Tension Pull	2.73	NO	
F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000

F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
HDIA	Measured Hole Diameter	0.00	NO	

SDLT Pad

TPUL	Tension Pull	43.83	NO	
NAB	Near Above	43.66	BLK	0.920
NHI	Near Cesium High	43.66	BLK	0.920
NLO	Near Cesium Low	43.66	BLK	0.920
NVA	Near Valley	43.66	BLK	0.920
NBA	Near Barite	43.66	BLK	0.920
NDE	Near Density	43.66	BLK	0.920
NPK	Near Peak	43.66	BLK	0.920
NLI	Near Lithology	43.66	BLK	0.920
NBAU	Near Barite Unfiltered	43.66	BLK	0.250
NLIU	Near Lithology Unfiltered	43.66	BLK	0.250
FAB	Far Above	44.01	BLK	0.250
FHI	Far Cesium High	44.01	BLK	0.250
FLO	Far Cesium Low	44.01	BLK	0.250
FVA	Far Valley	44.01	BLK	0.250
FBA	Far Barite	44.01	BLK	0.250
FDE	Far Density	44.01	BLK	0.250
FPK	Far Peak	44.01	BLK	0.250
FLI	Far Lithology	44.01	BLK	0.250
PTMP	Pad Temperature	43.84	BLK	0.920
NHV	Near Detector High Voltage	43.24	NO	
FHV	Far Detector High Voltage	43.24	NO	
ITMP	Instrument Temperature	43.24	NO	
DDHV	Detector High Voltage	43.24	NO	
HDIA	Measured Hole Diameter	0.00	NO	

Microlog Pad

TPUL	Tension Pull	44.03	NO	
MINV	Microlog Lateral	44.03	BLK	0.750
MNOR	Microlog Normal	44.03	BLK	0.750

COMPANY	**VAL ENERGY**		
WELL	**CHRISTINA 1-2**		
FIELD	**WILDCAT**		
COUNTY	**CROWLEY**	STATE	**COLORADO**

HALLIBURTON	**BOREHOLE COMPENSATED SONIC ARRAY LOG**