

**WAVESONIC
MONO DELTA T
LOG**

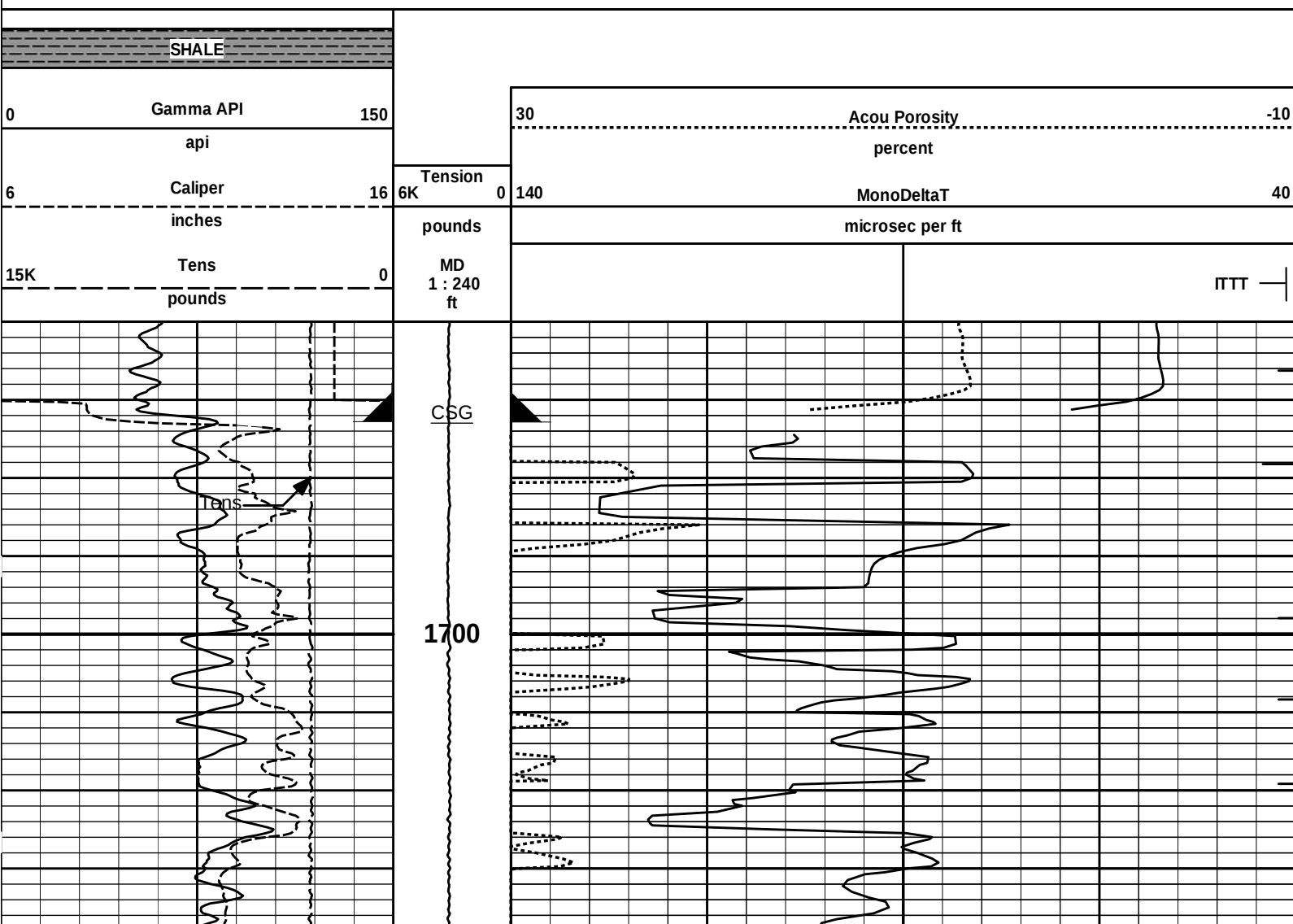
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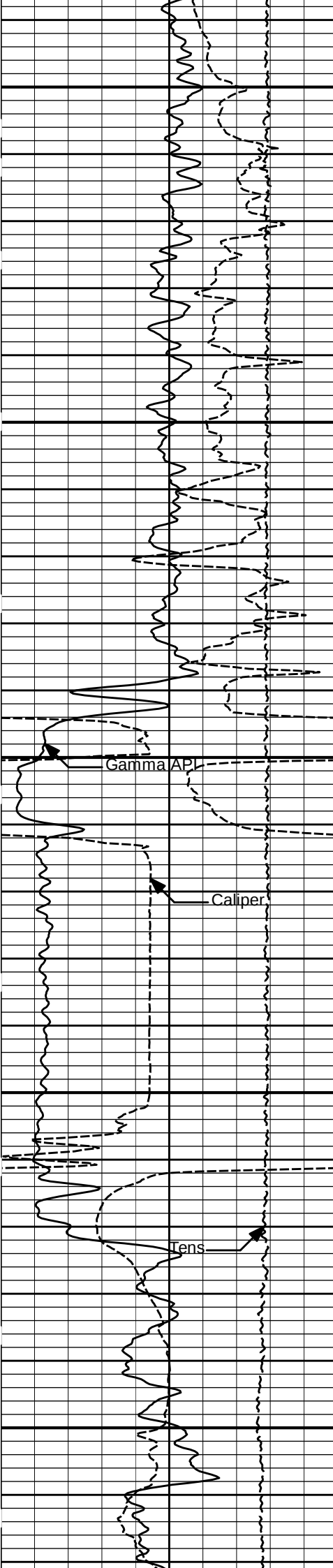
Service Ticket No.: 902658042						API Serial No.: 15-081-22122						PGM Version: WL INSITE R4.6.4 (Build 3)							
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE										RESISTIVITY SCALE CHANGES									
Date		Sample No.								Type Log		Depth		Scale Up Hole		Scale Down Hole			
Depth-Driller																			
Type Fluid in Hole																			
Density		Viscosity																	
Ph		Fluid Loss																	
Source of Sample								RESISTIVITY EQUIPMENT DATA											
Rm @ Meas. Temp				@		@		Run No.		Tool Type & No.		Pad Type		Tool Pos.		Other			
Rmf @ Meas. Temp.				@		@		ONE		ACRT		N/A		1.5" S.O.					
Rmc @ Meas. Temp.				@		@				10800784									
Source Rmf		Rmc						ONE		MICROLOG		RUBBER		ADJACENT					
Rm @ BHT				@		@				10673790									
Rmf @ BHT				@		@		ONE		XRMI				ADJACENT					
Rmc @ BHT				@		@				10967400									
EQUIPMENT DATA																			
GAMMA				ACOUSTIC				DENSITY				NEUTRON							
Run No.		ONE		Run No.		ONE		Run No.		ONE		Run No.		ONE					
Serial No.		10811258		Serial No.		10855599		Serial No.		10673790		Serial No.		10735145					
Model No.		GTET		Model No.		WAVESONIC		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		.5'		Log Type		GAM-GAM		Log Type		NEU-NEU					
Type		SCINT						Source Type		CS-137		Source Type		AM-241BE					
Length		8"		LSA [Y/N]		YES		Serial No.		5073GW		Serial No.		DSN-436					
Distance to Source		N/A		FWDA [Y/N]		YES		Strength		1.5 CI		Strength		15 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 gm/cc		30	-10	LIME		

[illegible]**HALLIBURTON**

Plot Time: 08-Sep-15 22:44:30
Plot Range: 1660 ft to 5563.25 ft
Data: K&G_1-29\Well Based\R1 CASING\
Plot File: \\WAVE MDTWSTT MONO 5 MAIN LIB

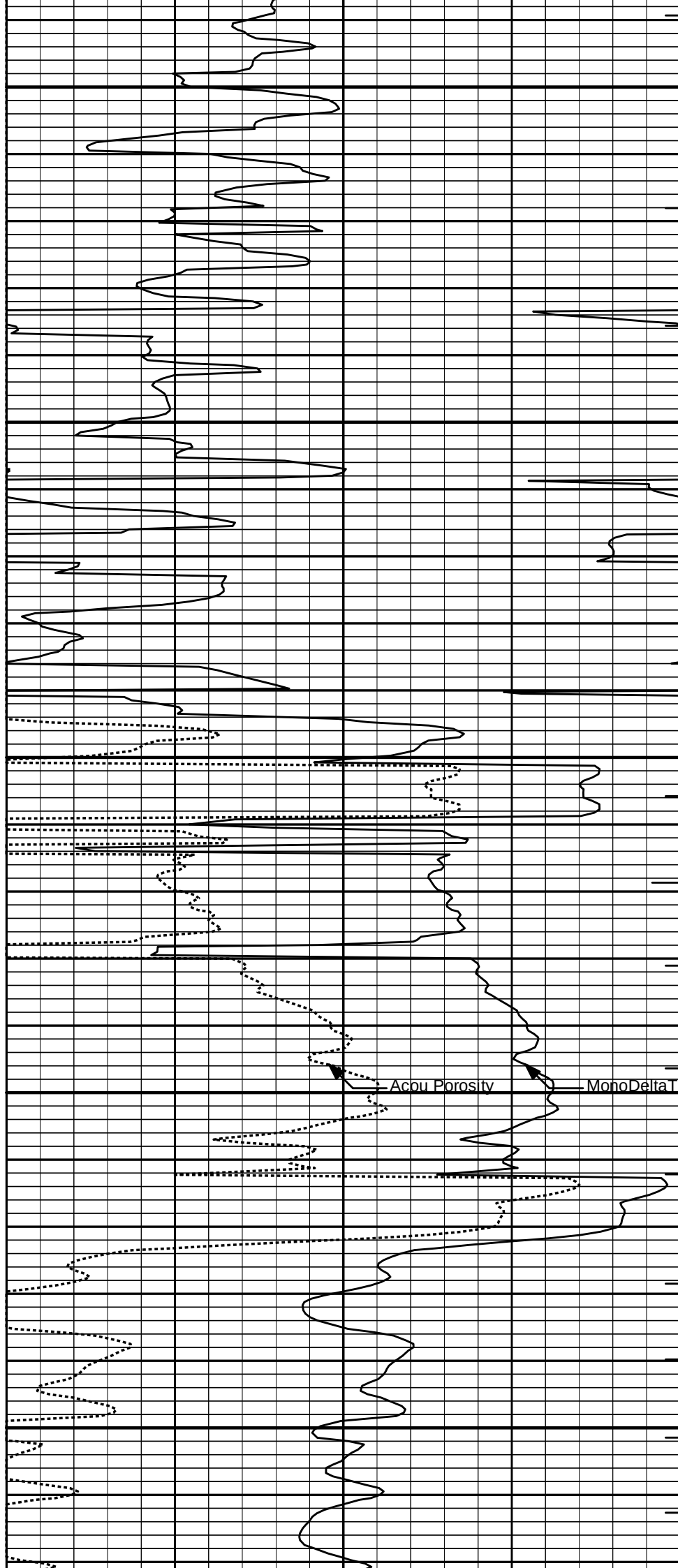
5 INCH MAIN LOG

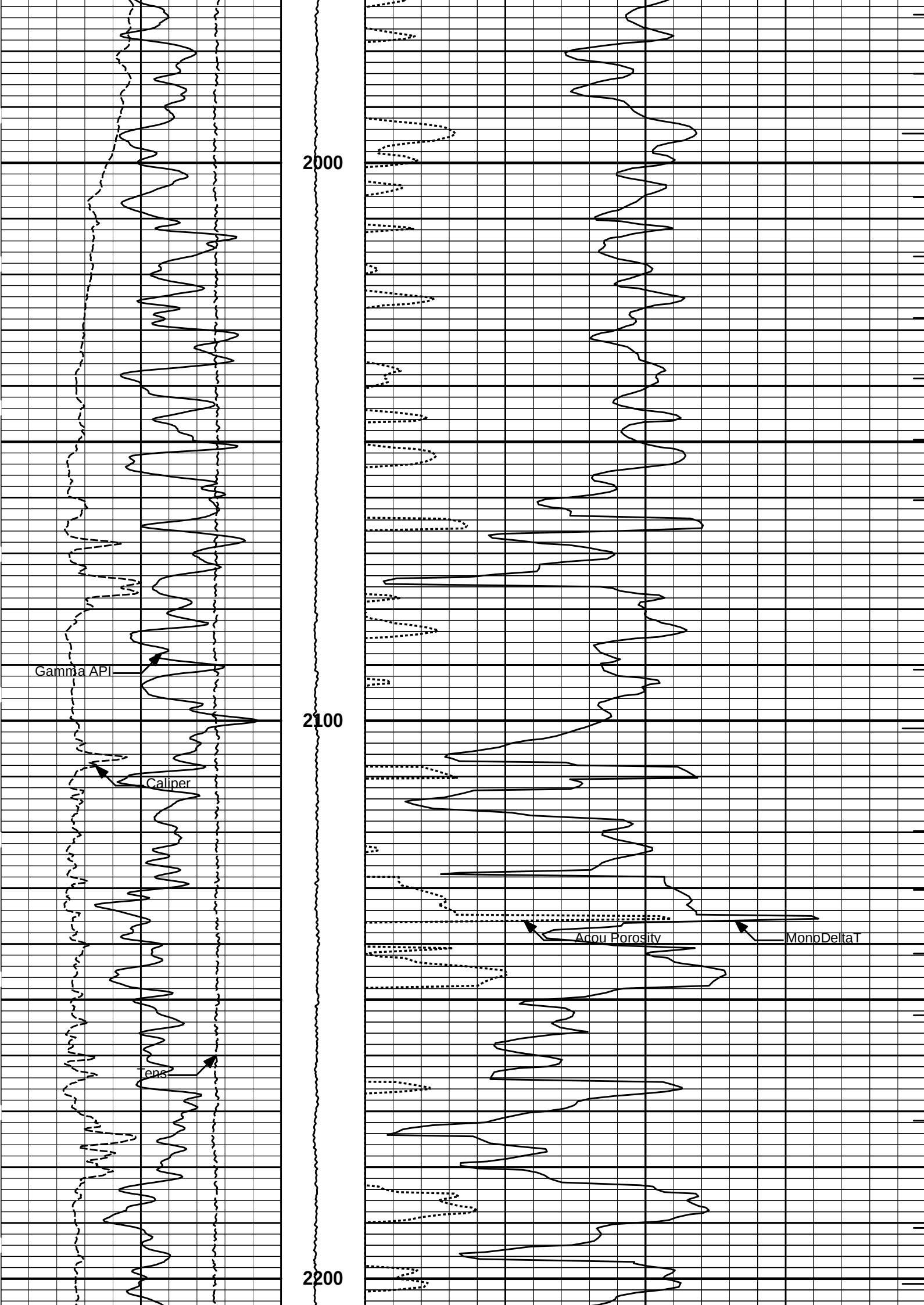


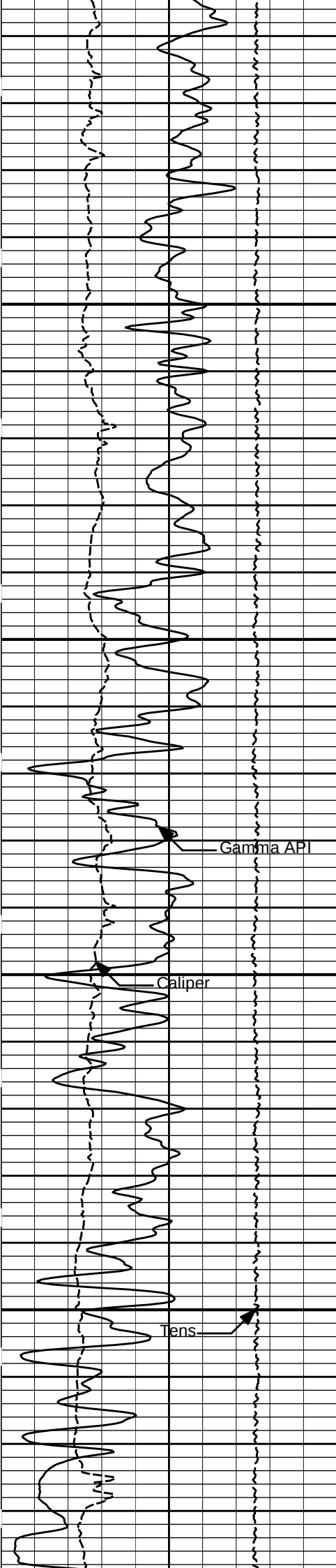


1800

1900

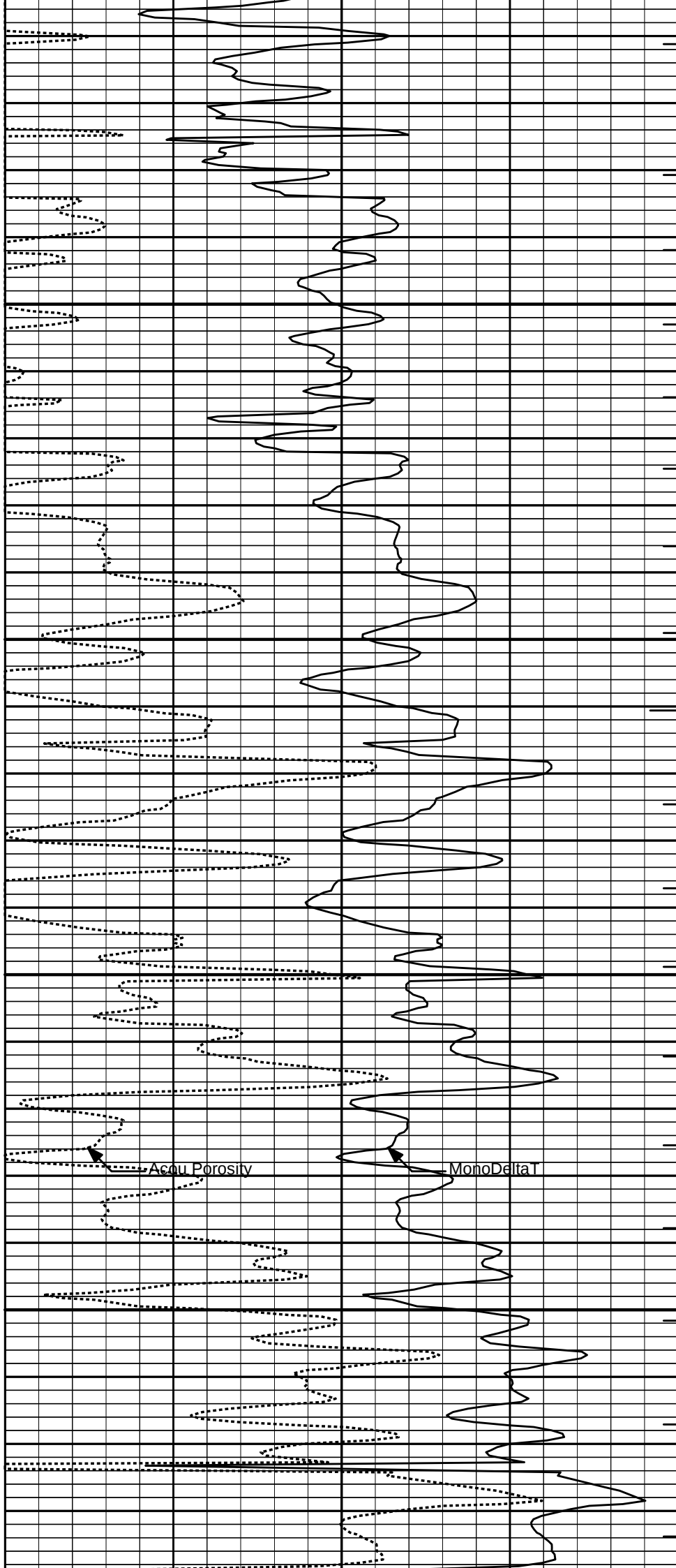


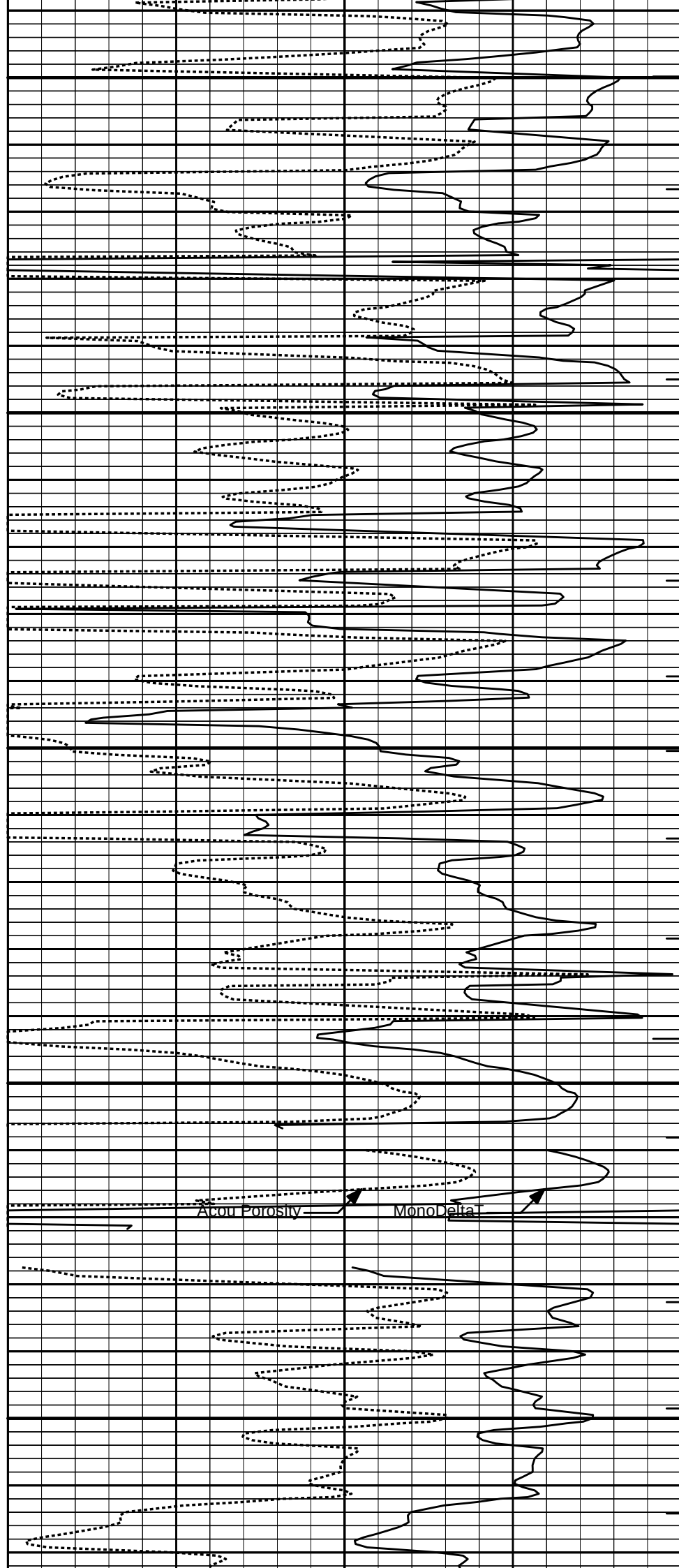
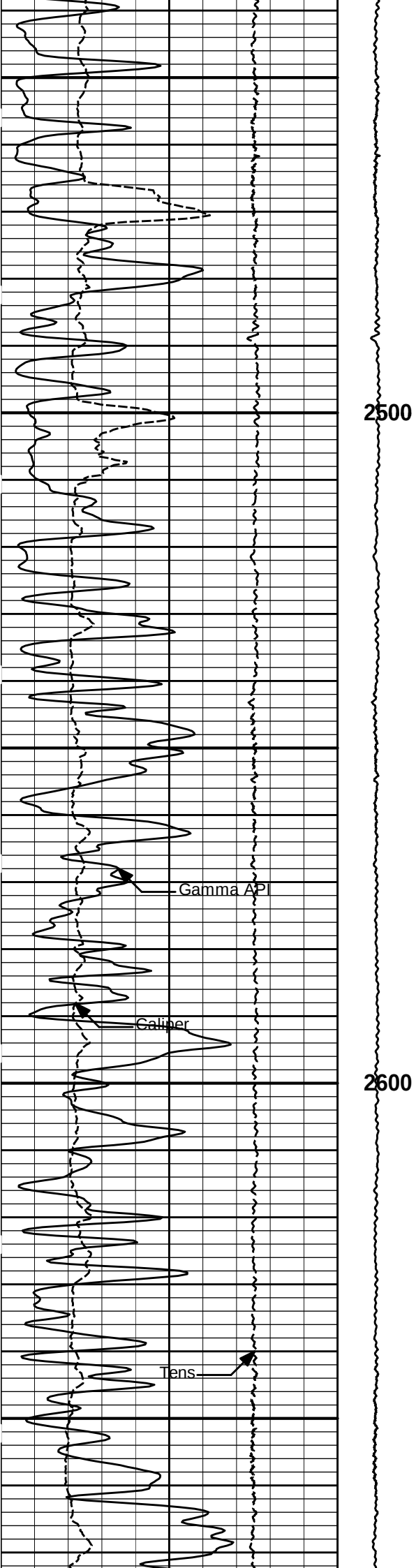


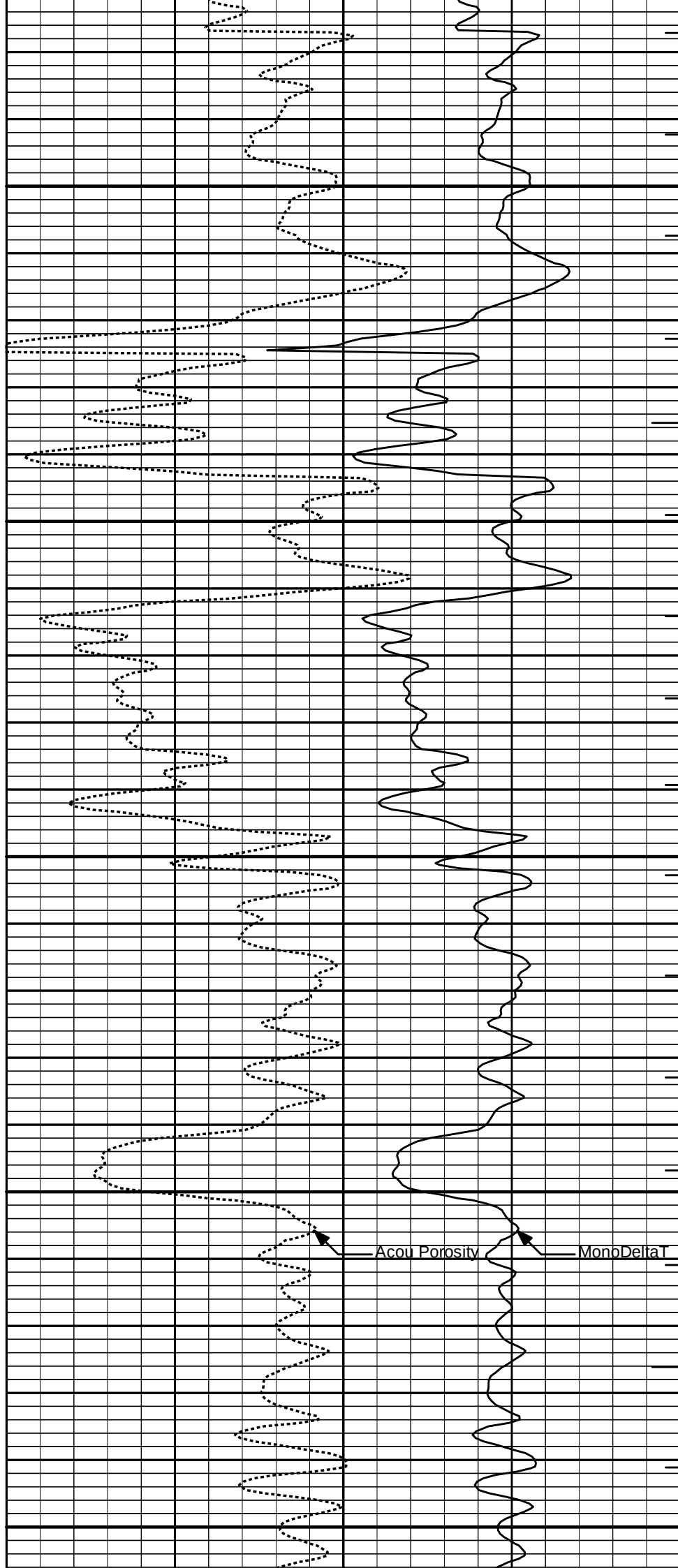
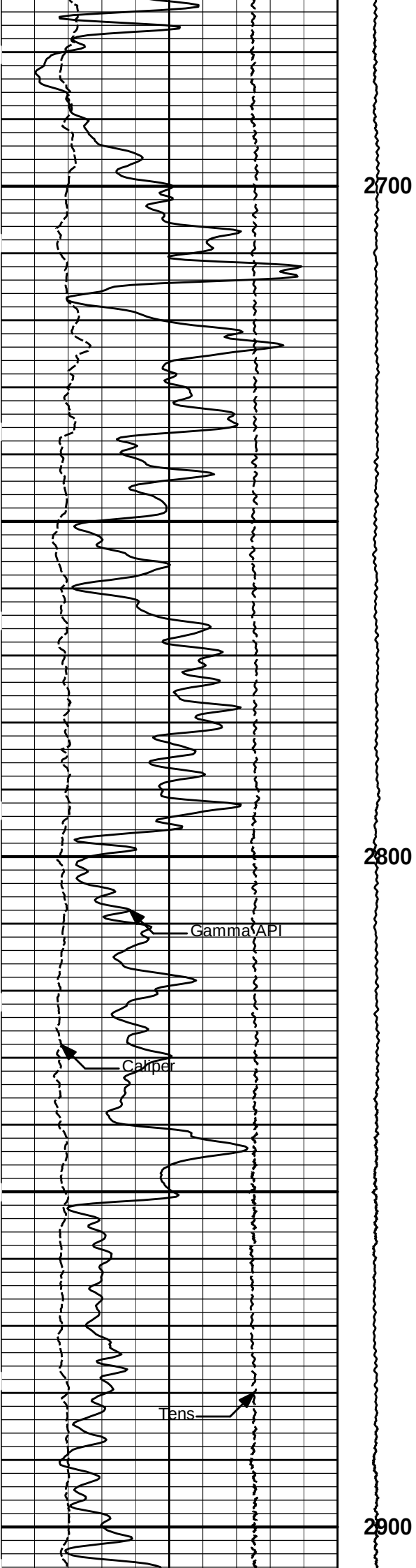


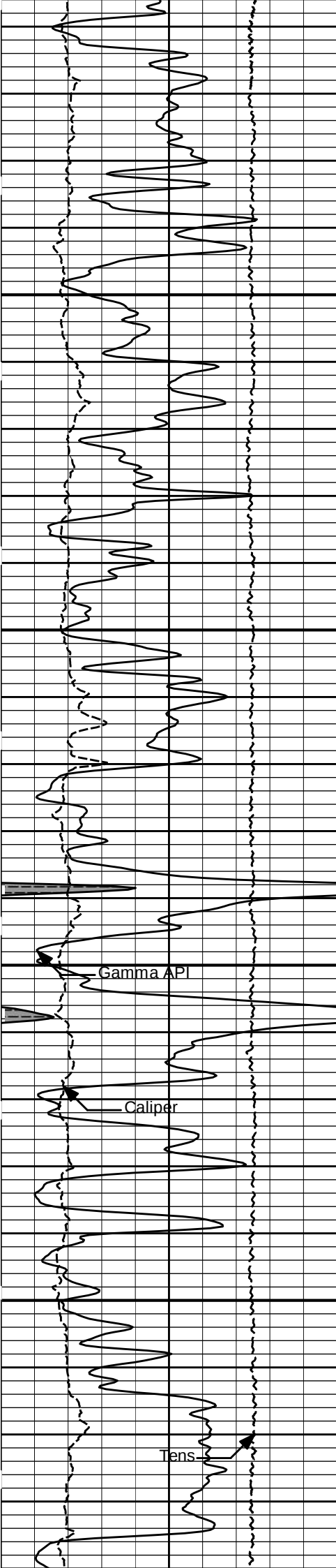
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2400



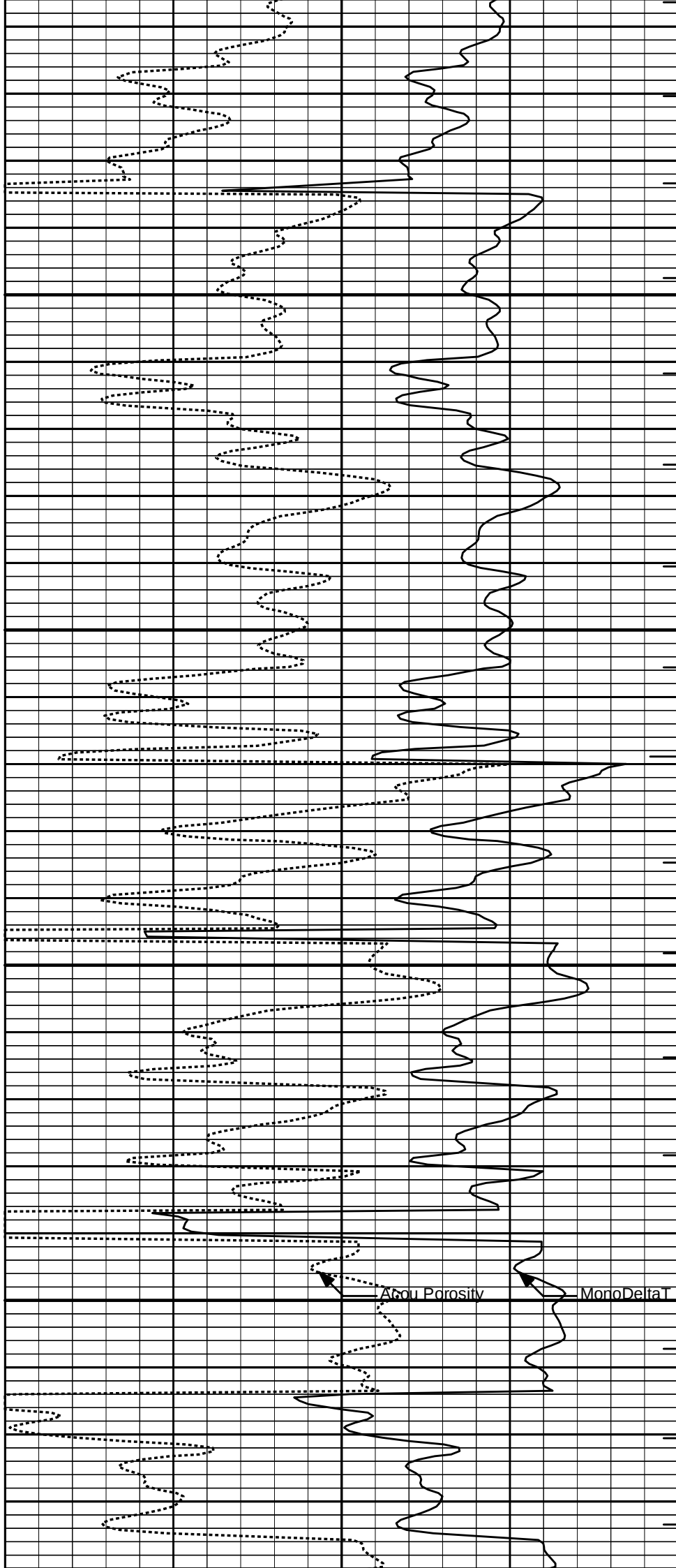






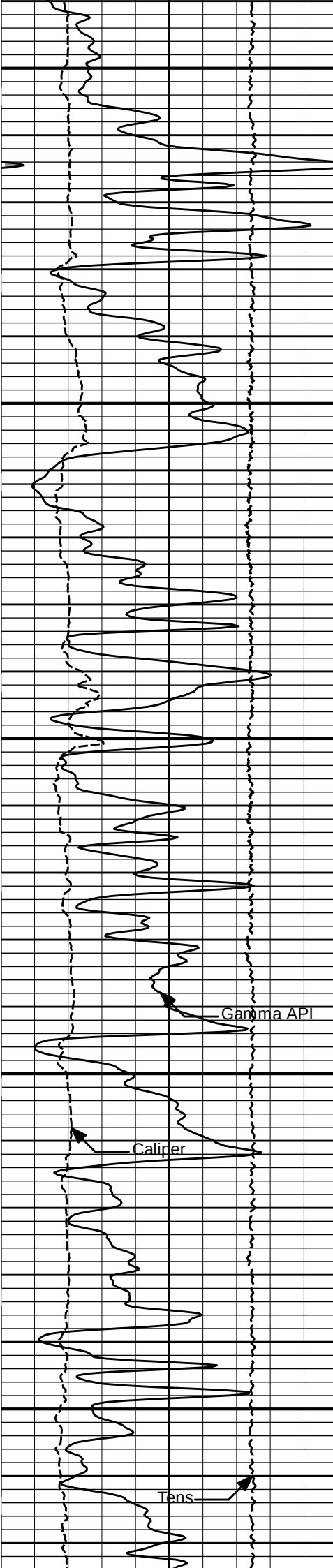
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3100



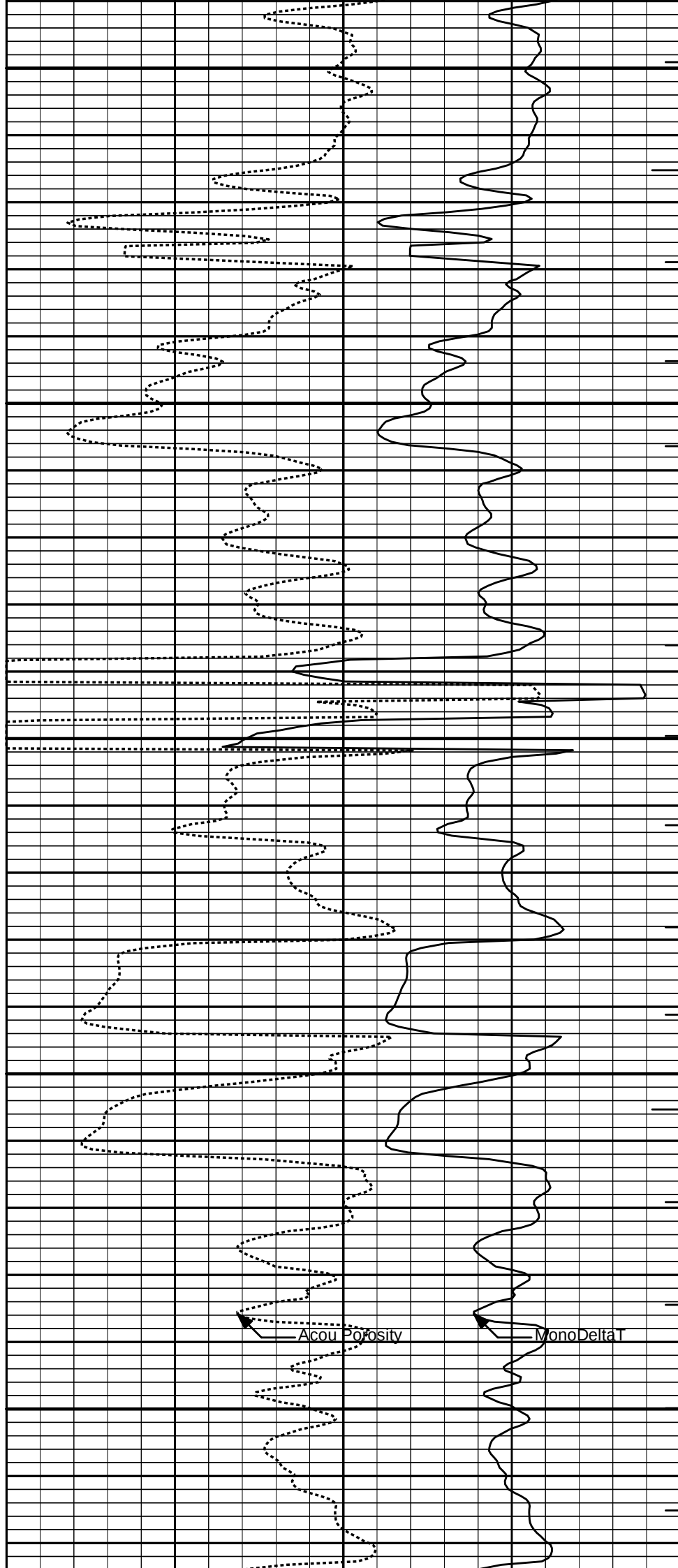
Acou Porosity

MonoDeltaT



3200

3300





3400

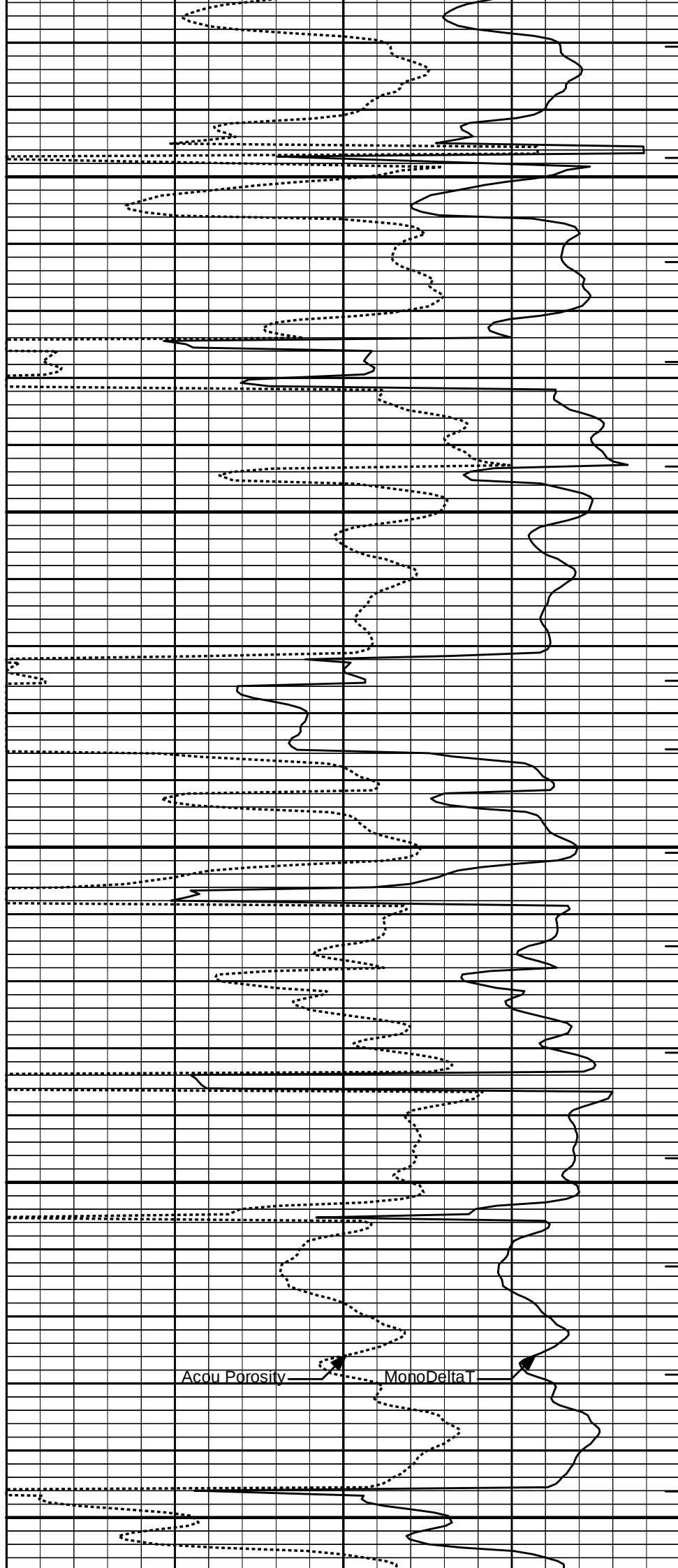
3500

3600

Gamma API

Caliper

Tens



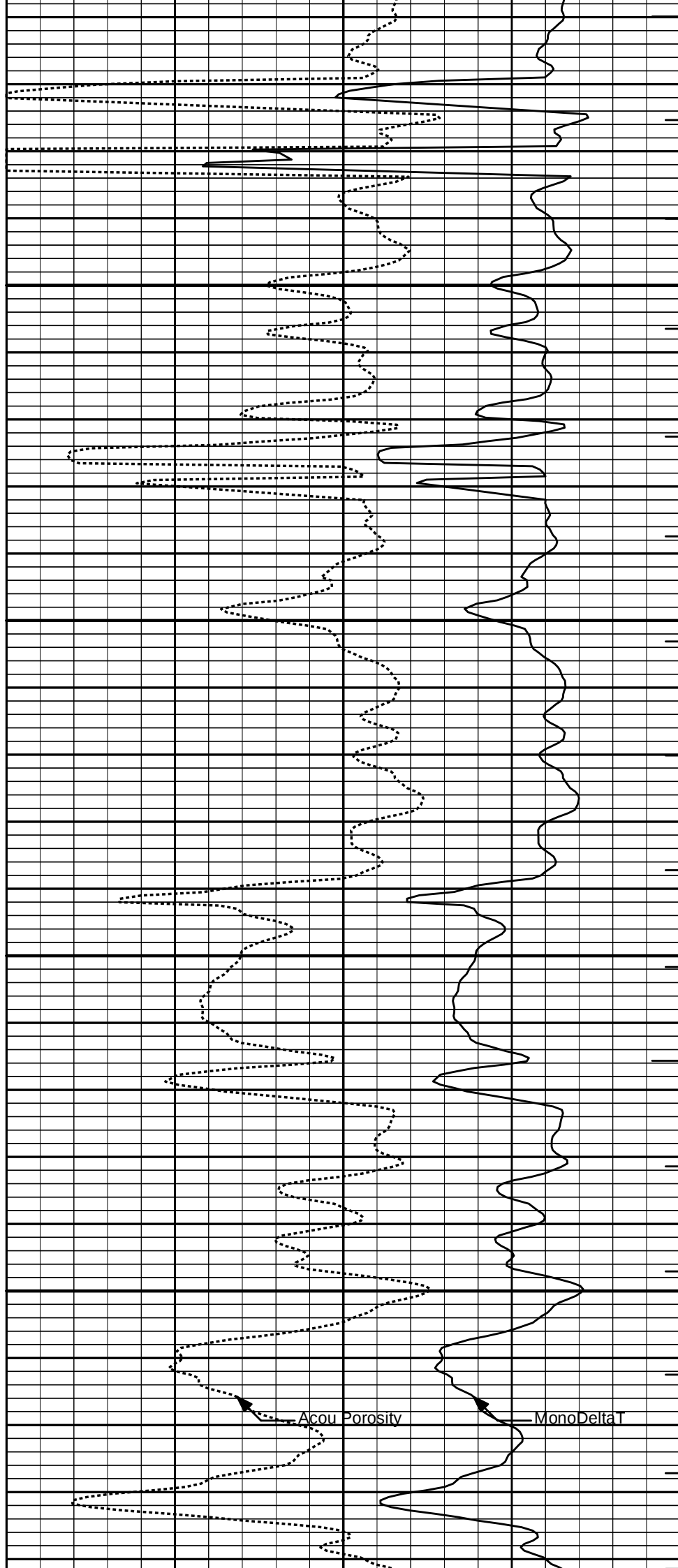
Accu Porosity

MonoDeltaT



3700

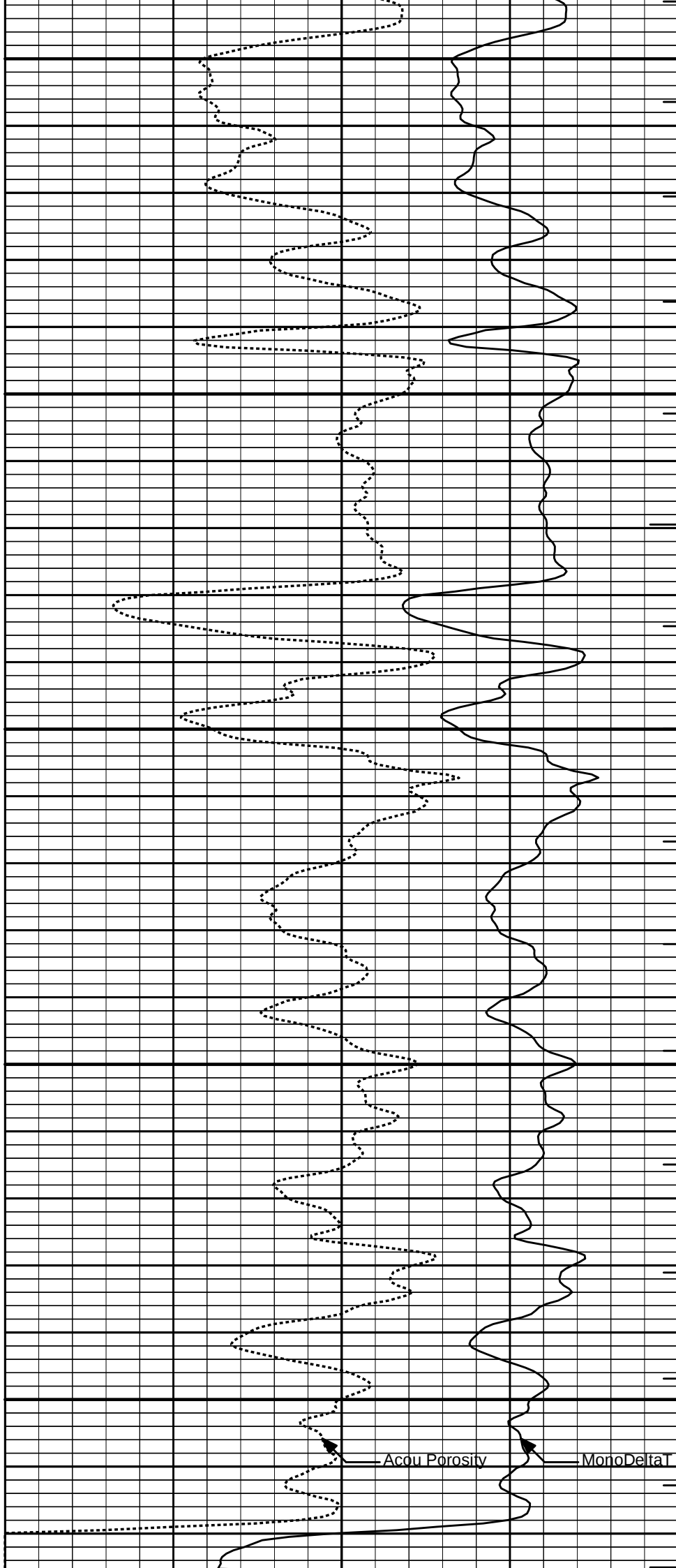
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3900

4000

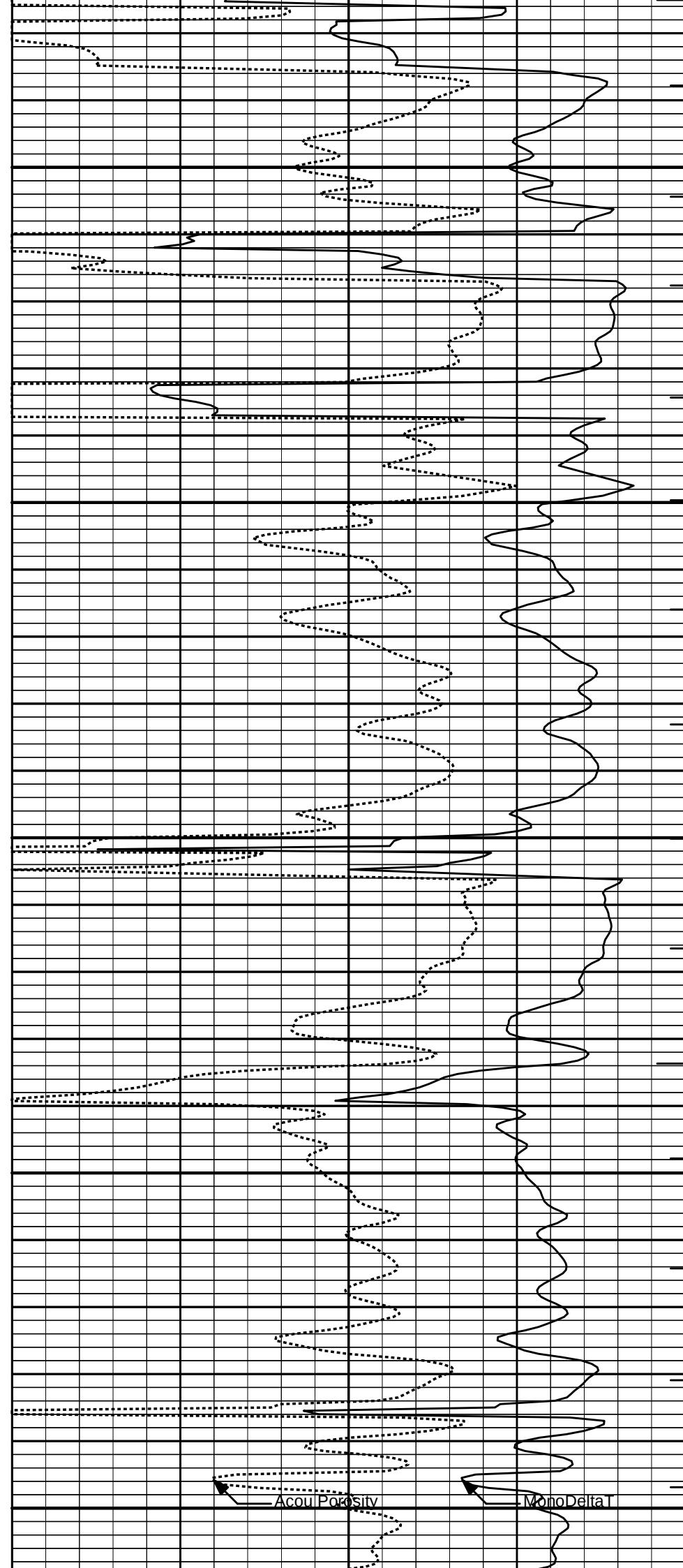




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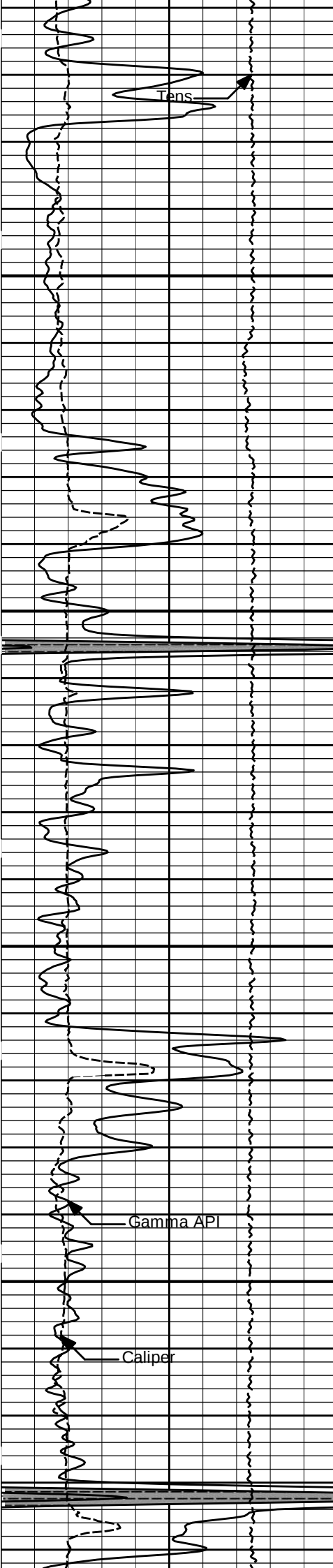
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4300



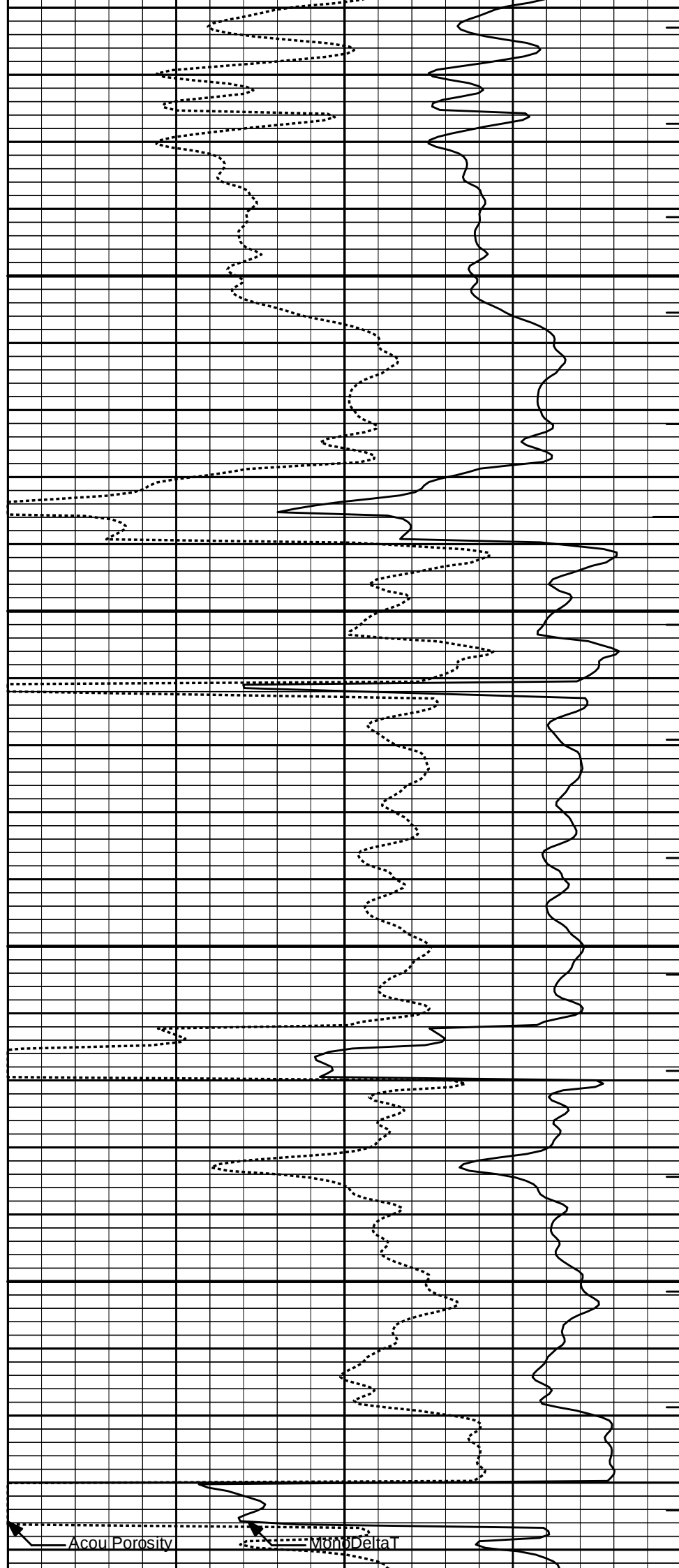
Acou Porosity

MonoDeltaT



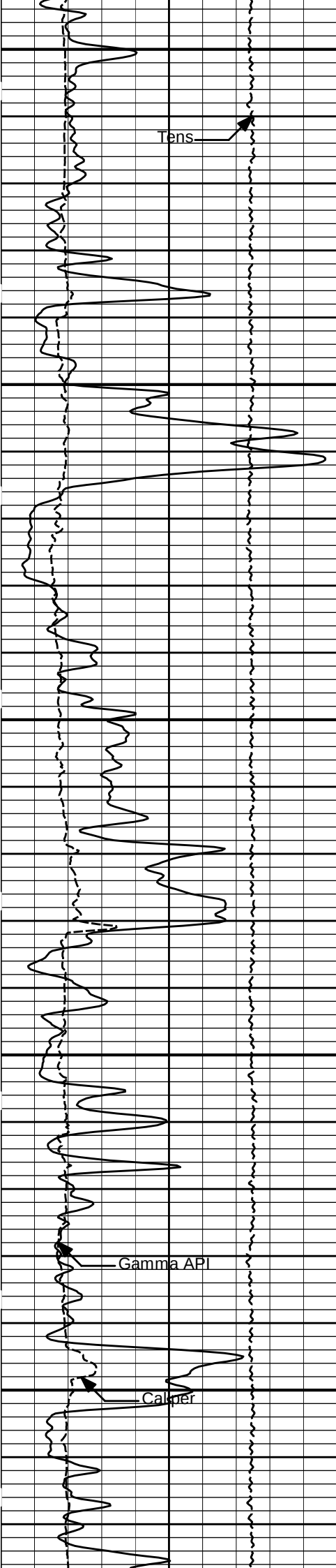
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4500



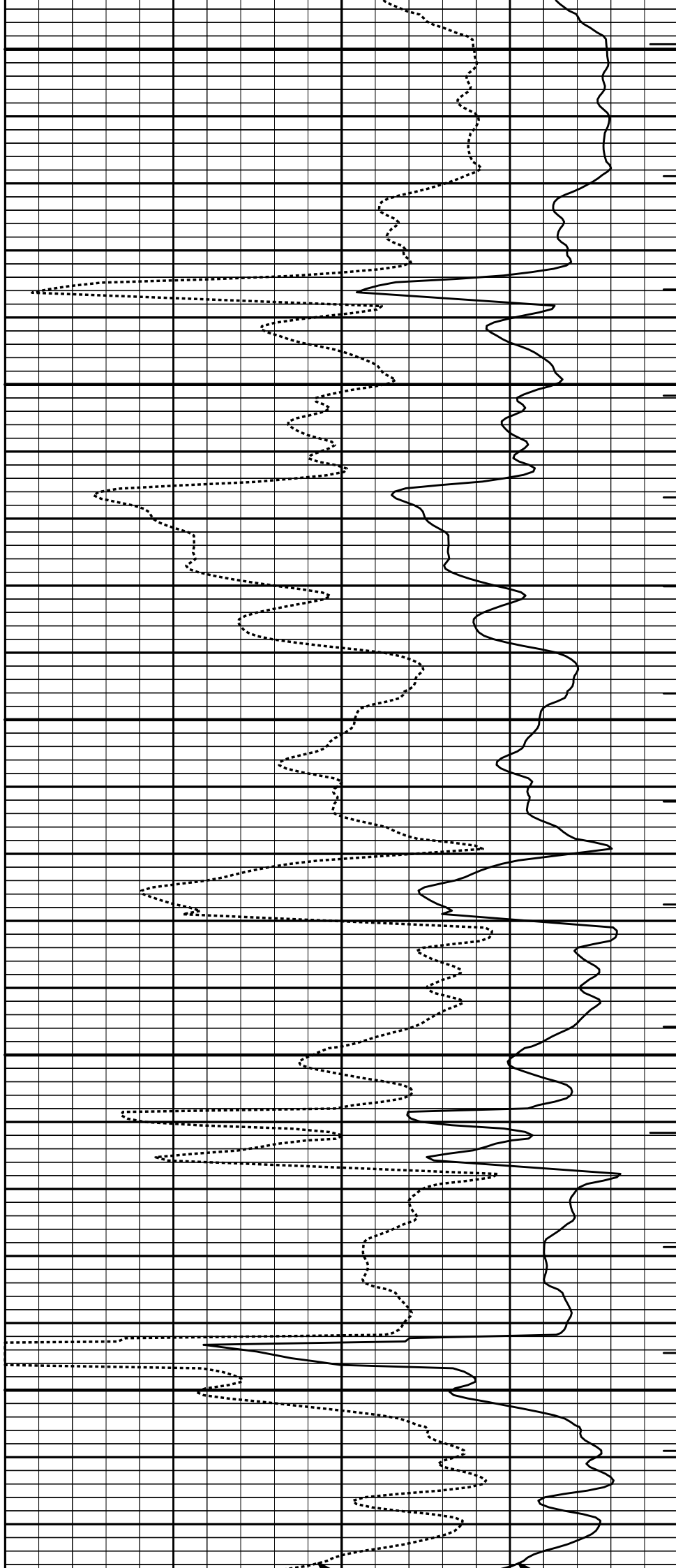
Acou Porosity

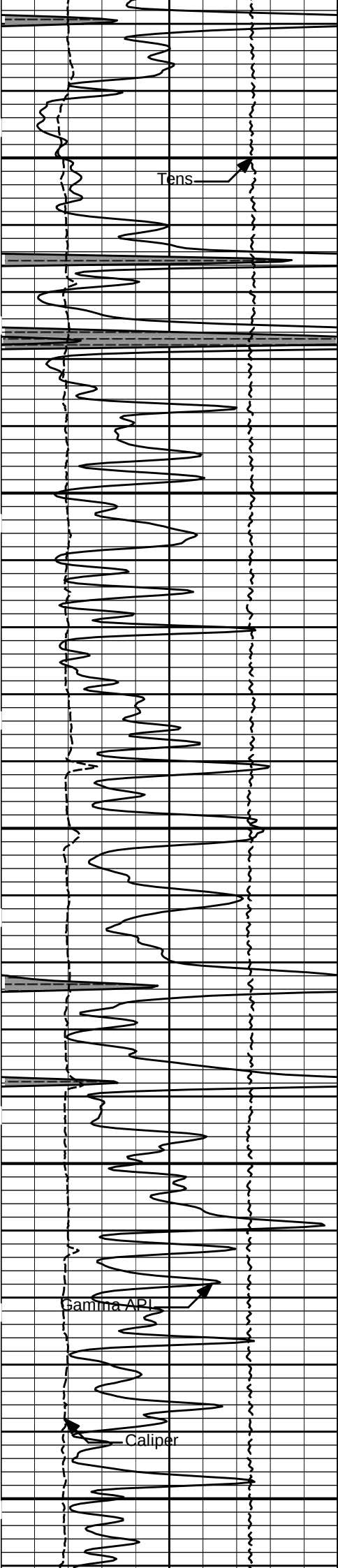
Mono Delta T



4600

4700



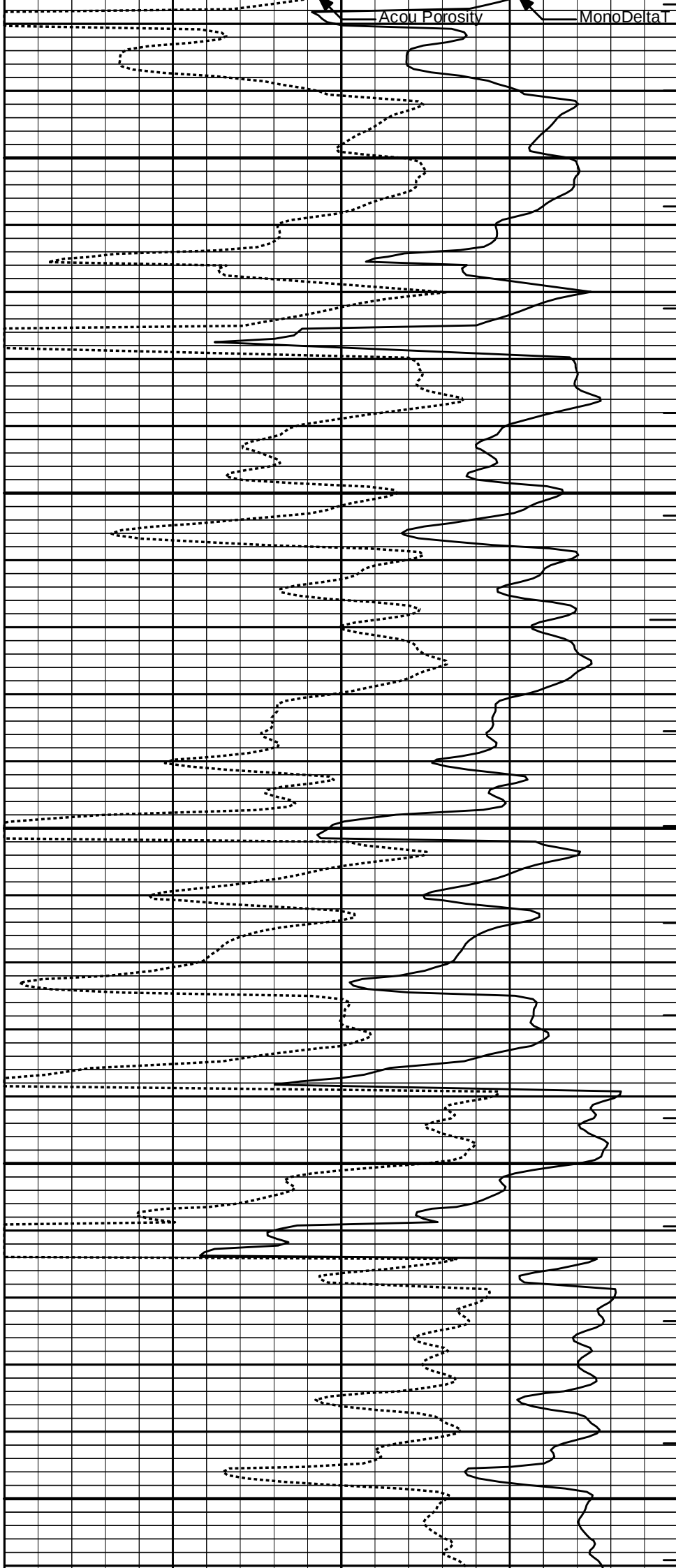


Tens

4800

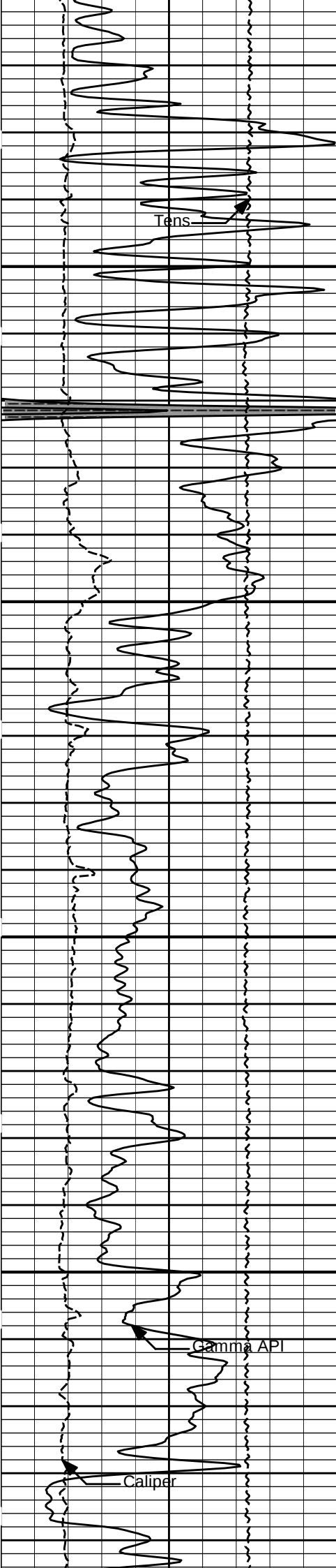
4900

5000



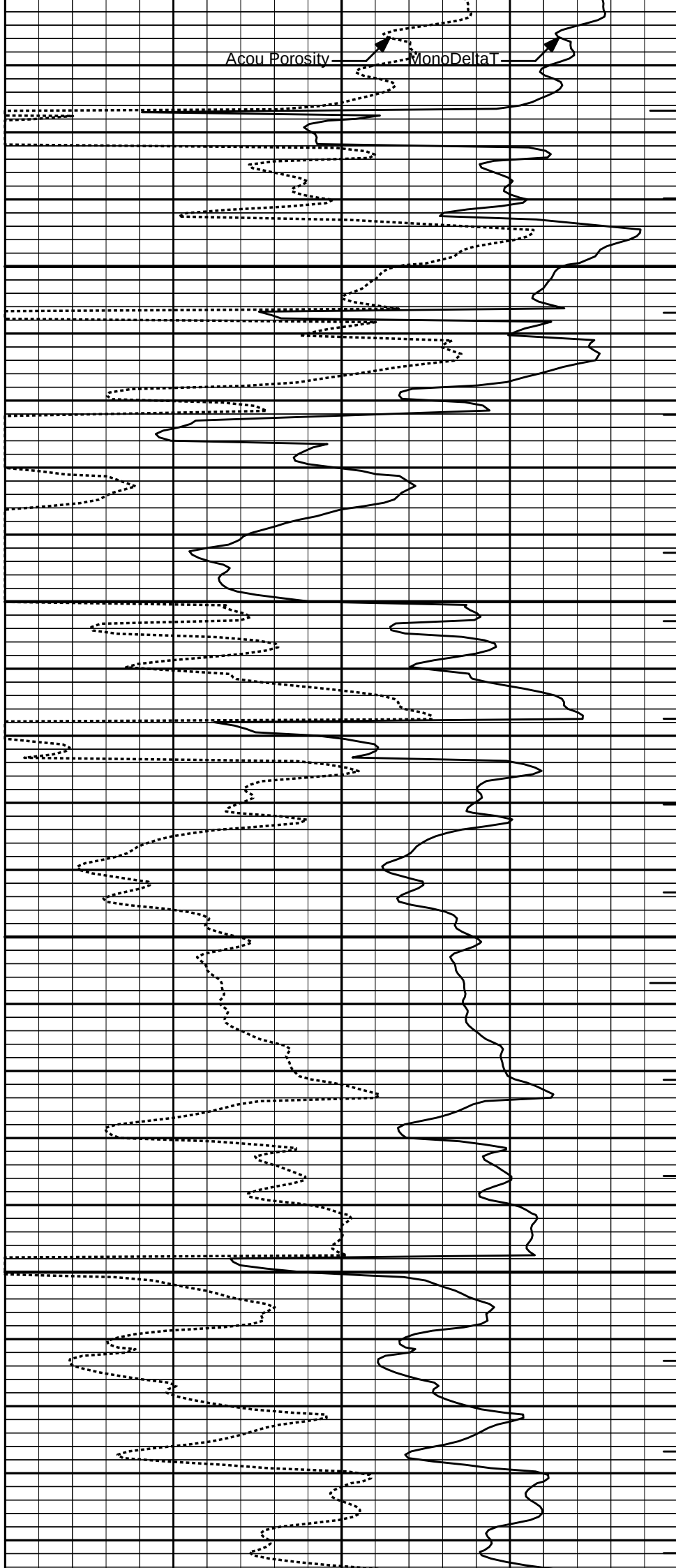
Acou Porosity

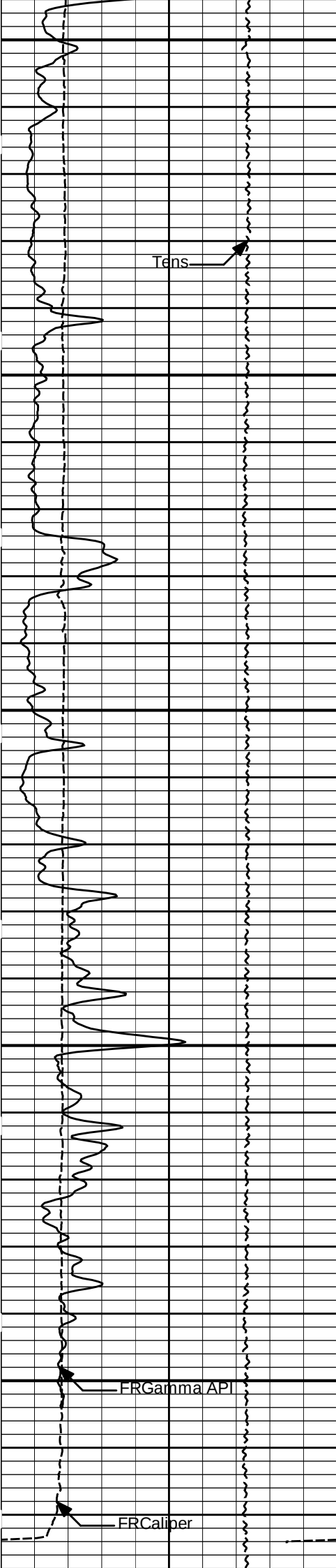
MonoDeltaT



5100

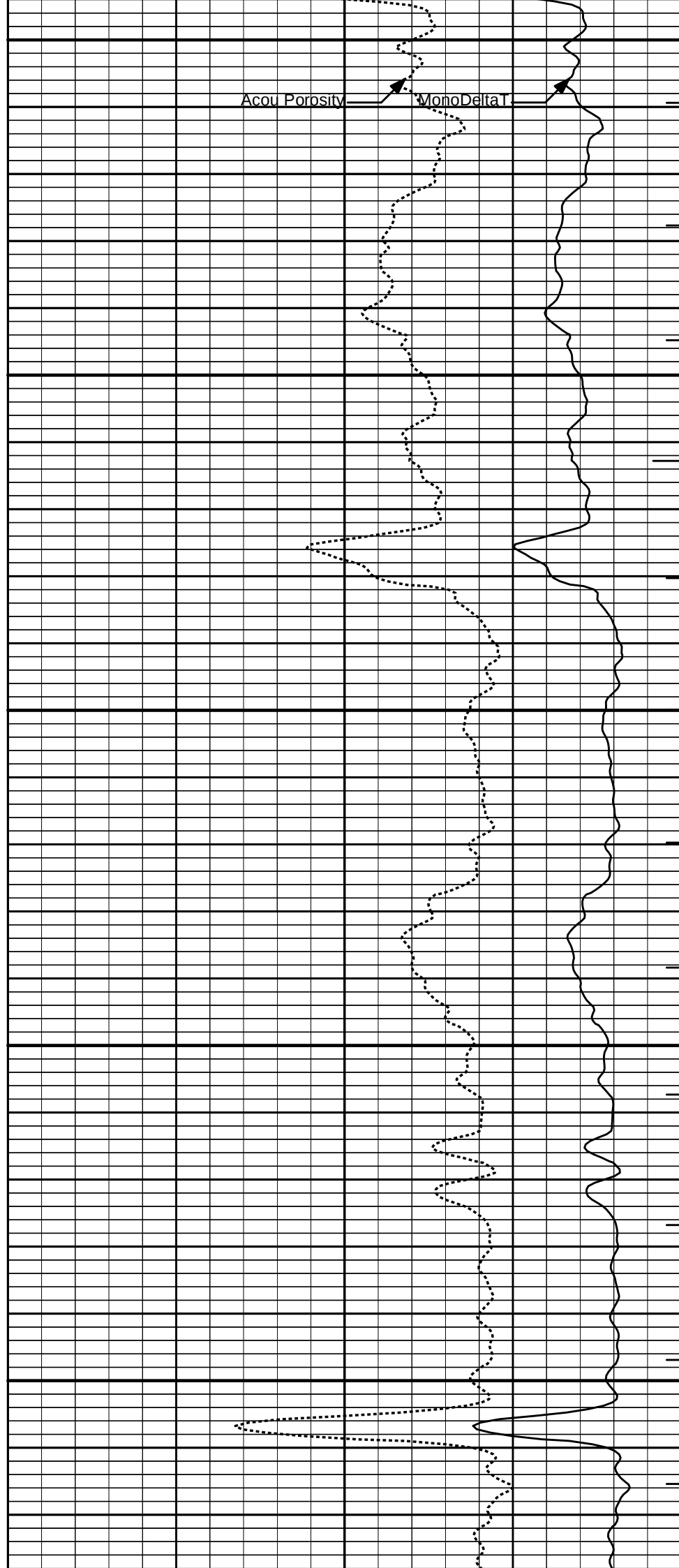
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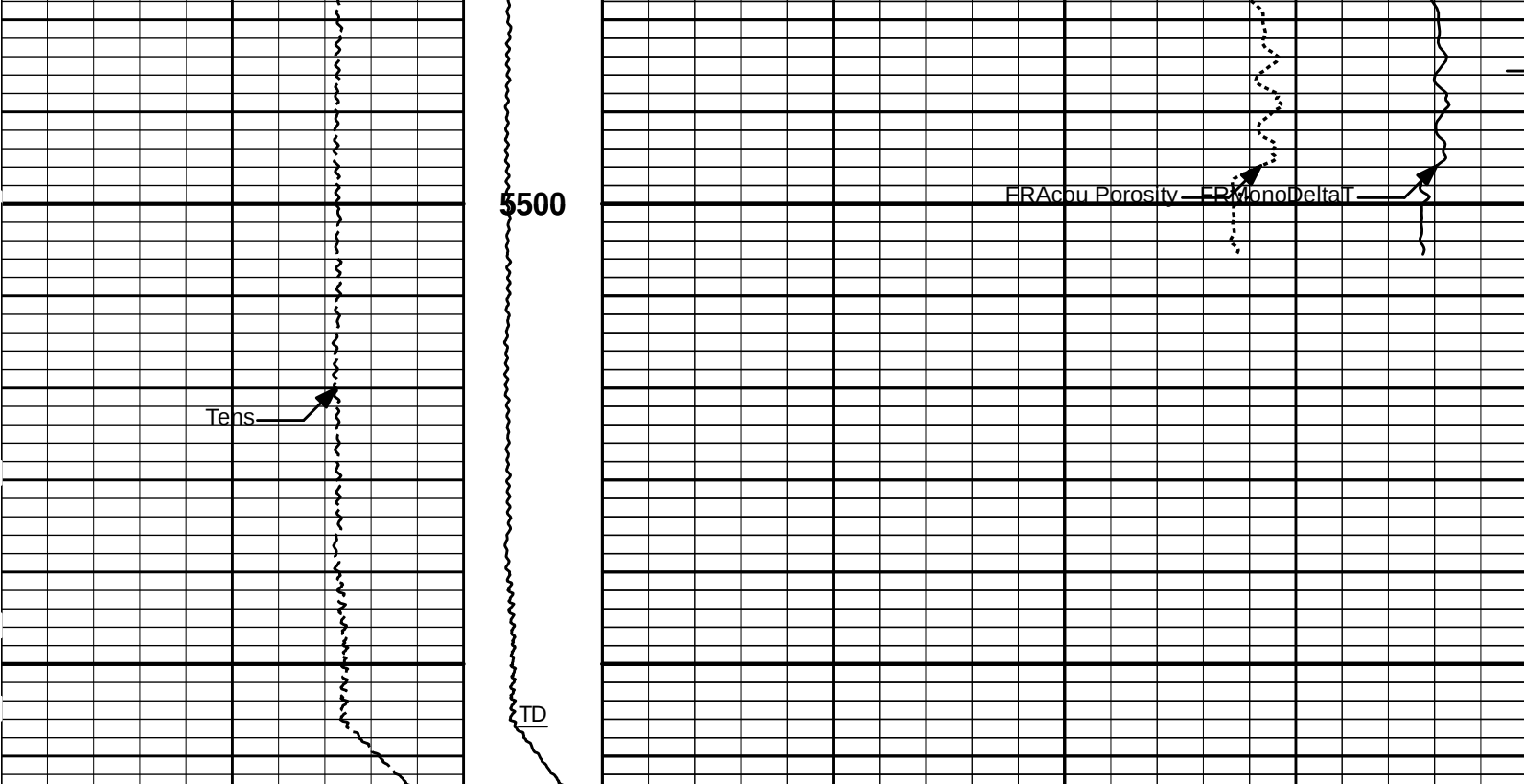




5300

5400





15K	Tens	0	MD		
	pounds		1 : 240		TTT
6	Caliper	16	6K	0	140
	inches		Tension		MonoDeltaT
			pounds		microsec per ft
0	Gamma API	150		30	Acou Porosity
	api				percent
SHALE					

HALLIBURTON

Plot Time: 08-Sep-15 22:44:32
Plot Range: 1660 ft to 5563.25 ft
Data: K&G_1-29\Well Based\IR1 CASING\
Plot File: \\WAVE MDTIWSTT_MONO_5_MAIN_LIB

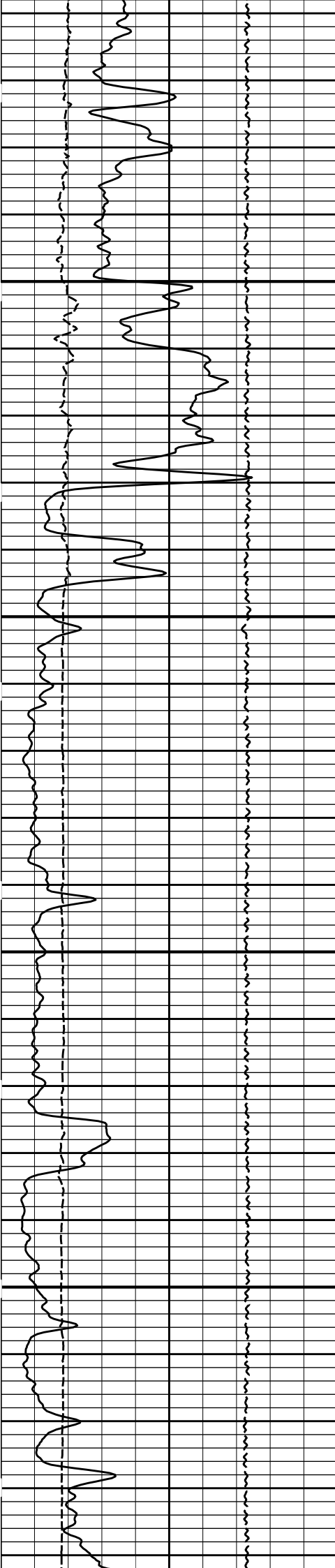
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 08-Sep-15 22:44:32
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Data: K&G_1-29\Well Based\IR1 REPEAT\
Plot File: \\WAVE MDTIWSTT_MONO_5_REP_LIB

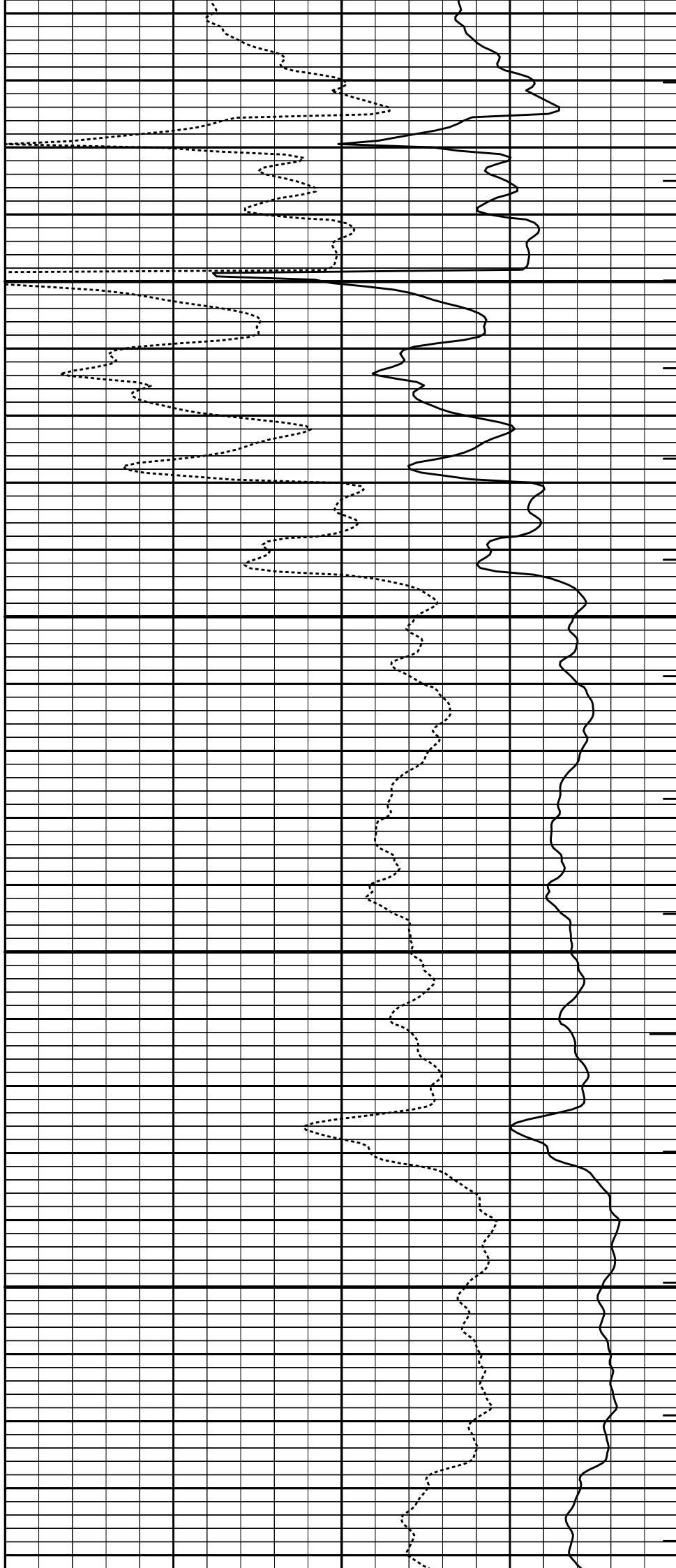
REPEAT SECTION

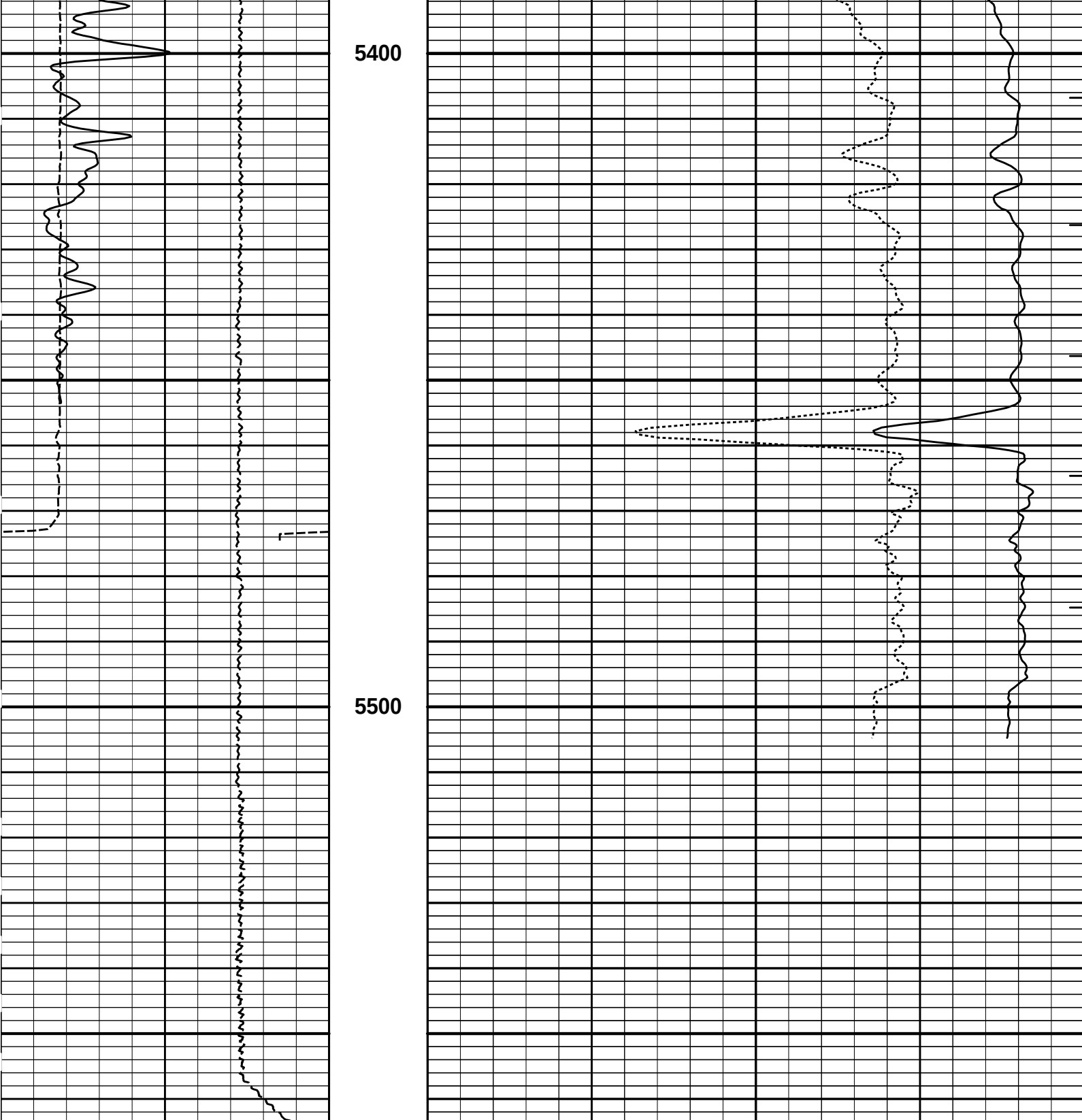
SHALE					
0	Gamma API	150	30	Acou Porosity	-10
	api			percent	
6	Caliper	16	140	MonoDeltaT	40
	inches			microsec per ft	
15K	Tension	0	MD		TTT
	pounds		1 : 240		



5200

5300





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

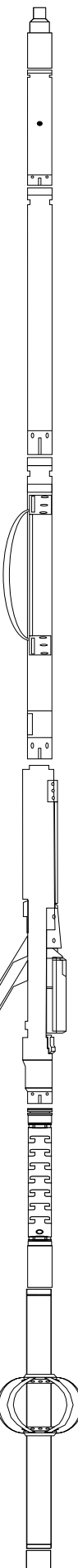
HALLIBURTON

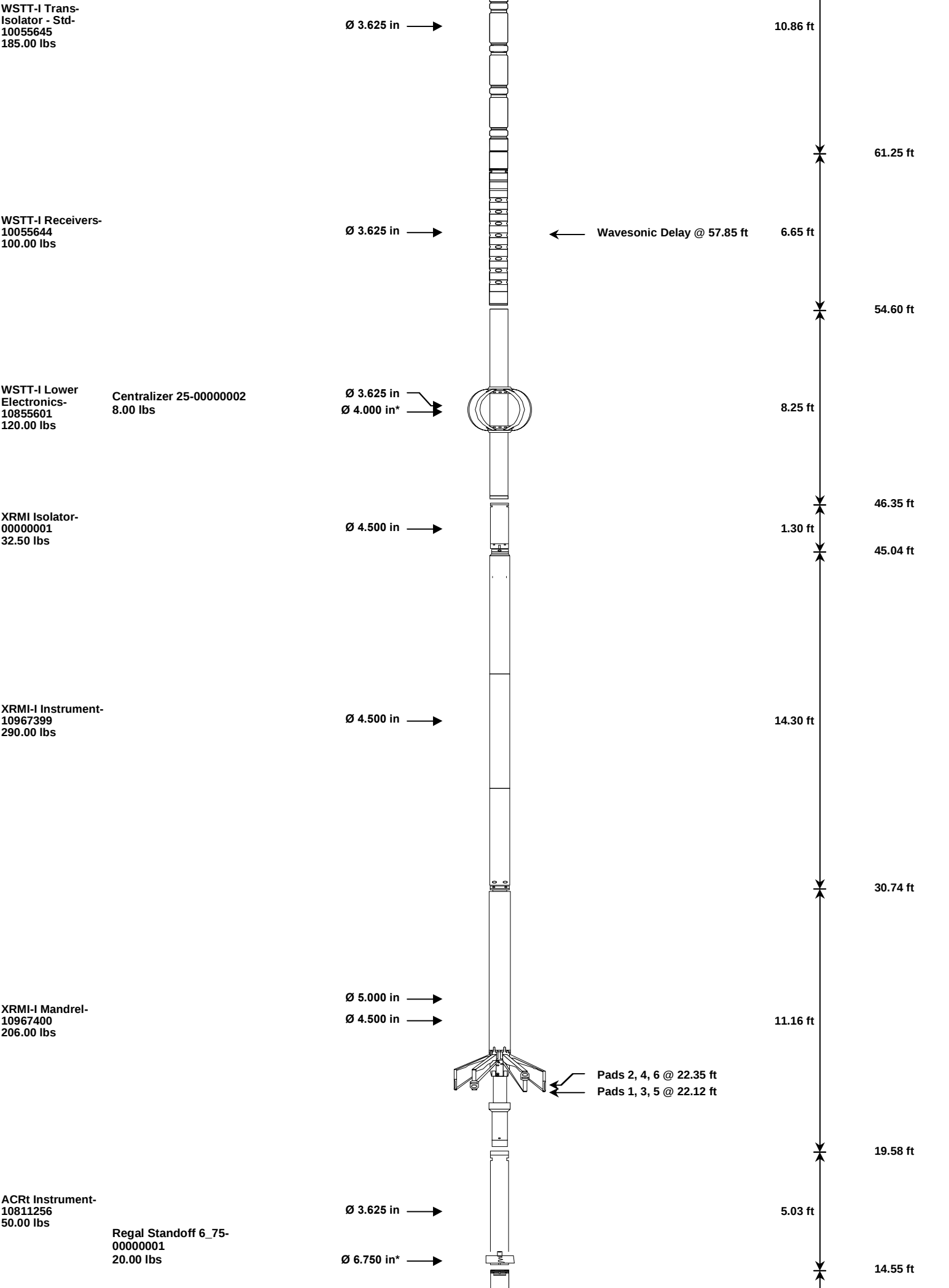
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Data: K&G_1-29\Well Based\IR1 REPEAT\
Plot File: \\WAVE MDTIWSTT_MONO_5_REP_LIB

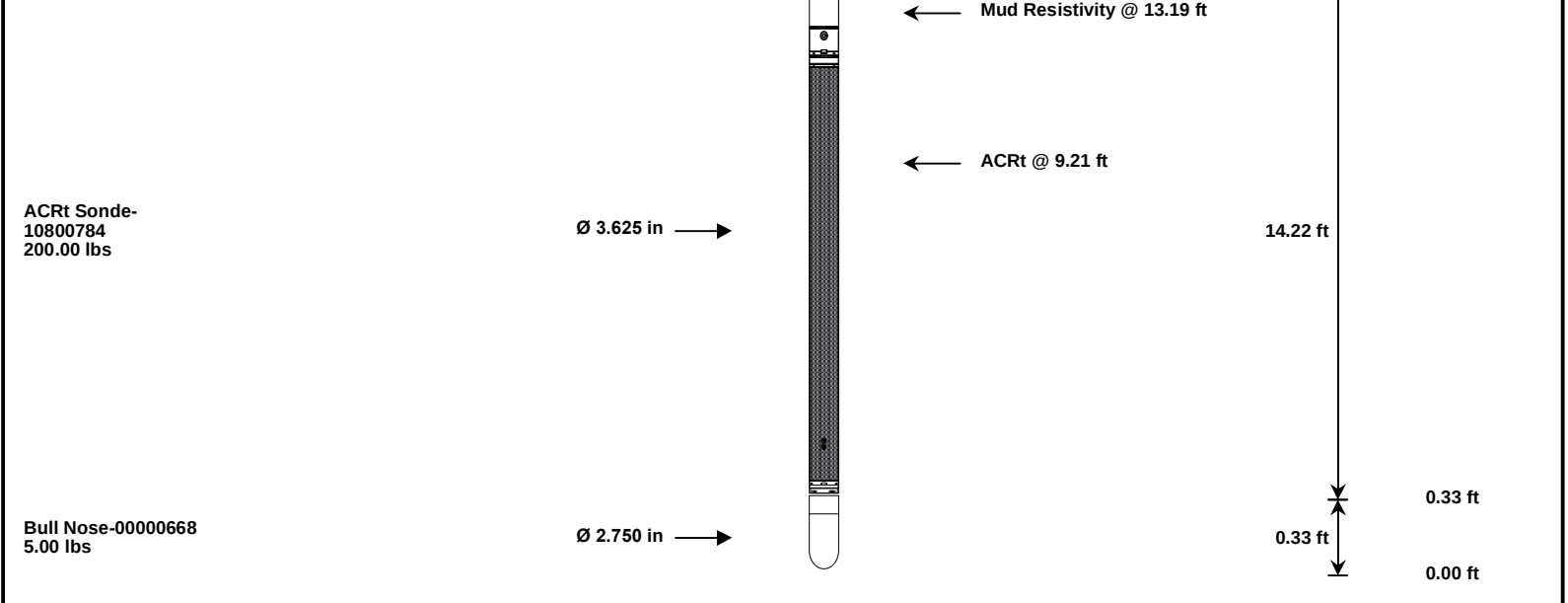
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head-12345678 30.00 lbs		Ø 3.625 in →			1.92 ft	120.77 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in →		← SP @ 117.07 ft	3.74 ft	118.85 ft
GTET-10811258 165.00 lbs		Ø 3.625 in →		← GammaRay @ 109.04 ft	8.52 ft	115.11 ft
DSNT-10735145 174.00 lbs	DSN Decentralizer-10735145 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 99.65 ft ← DSN Near @ 98.90 ft	9.69 ft	106.59 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 @ 89.09 ft SDL Caliper @ 88.90 ft SDL @ 88.89 ft	10.81 ft	96.90 ft
IQ Flex-00000668 140.00 lbs		Ø 3.625 in →			5.67 ft	86.09 ft
WSTT-I Upper Electronics-10855599 115.00 lbs	Centralizer 25-00000001 8.00 lbs	Ø 4.000 in* → Ø 3.625 in →			8.31 ft	80.42 ft
						72.11 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	118.85	300.00
SP	SP Sub		12345678	60.00	3.74	115.11	300.00
GTET	Gamma Telemetry Tool		10811258	165.00	8.52	106.59	60.00
DSNT	Dual Spaced Neutron		10735145	174.00	9.69	96.90	60.00
DCNT	DSN Decentralizer		10735145	6.60	5.13	* 100.23	300.00
SDLT	Spectral Density Tool		10673803	360.00	10.81	86.09	60.00
SDLP	Density Insite Pad		10673790	65.00	2.55	* 88.30	60.00
MICP	Microlog Pad		10673803	8.00	1.00	* 88.59	60.00
IQF	IQ Flex tool		00000668	140.00	5.67	80.42	300.00
WSTT	WaveSonic Insite - Upper Electronics		10855599	115.00	8.31	72.11	100.00
OBCEN	Centralizer - 25 in. Overbody		00000001	8.00	2.08	* 75.54	300.00
WSTT	WaveSonic Insite - Trans-Isolator - Std		10055645	185.00	10.86	61.25	100.00
WSTT	WaveSonic Insite - Receivers		10055644	100.00	6.65	54.60	30.00
WSTT	WaveSonic Insite - Lower Electronics		10855601	120.00	8.25	46.35	100.00
OBCEN	Centralizer - 25 in. Overbody		00000002	8.00	2.08	* 49.27	300.00
	Isolator for the XRMI tool		00000001	32.50	1.30	45.04	300.00
XRMI	XRMI Navigation - Insite		10967399	290.00	14.30	30.74	30.00
XRMI-I	XRMI Imager - Insite		10967400	206.00	11.16	19.58	30.00
ACRt	Array Compensated True Resistivity Instrument Section		10811256	50.00	5.03	14.55	120.00
RSOF	Regal Standoff 6.75in		00000001	20.00	0.52	* 14.71	300.00
ACRt	Array Compensated True Resistivity Sonde Section		10800784	200.00	14.22	0.33	120.00
BLNS	Bull Nose		00000668	5.00	0.33	0.00	300.00
Total				2,348.10	120.77		
* Not included in Total Length and Length Accumulation.							
Data: K&G_1-29I0002 SP-GTET-DSNT-SDLT-FLEX-WAVE-XRMI-ACRT-BNIDLE							
Date: 08-Sep-15 17:27:31							

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	8.900	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	2803.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.040	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	5557.00	ft
SHARED	BHT	Bottom Hole Temperature	135.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	XRMI-I Instrument	
SHARED	AZTM	High Res Z Accelerometer Master Tool	XRMI-I Instrument	
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	XRMI-I Mandrel	
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	XRMI-I Mandrel	
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	XRMI-I Mandrel	
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	
WSTT-I Receivers	WSOK	Process WSTT?	Yes	
WSTT-I Receivers	AFIL	Adaptive Filtering?	No	
WSTT-I Receivers	PINT	Process 1 Sample and Skip	0	
WSTT-I Receivers	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
WSTT-I Receivers	DTSH	Delta -T Shale	100.00	uspf
WSTT-I Receivers	DTMT	Delta -T Matrix Type	User define	
WSTT-I Receivers	DTMA	Delta -T Matrix	47.60	uspf
WSTT-I Receivers	DTFL	Delta -T Fluid	100.00	uspf

Receivers	DTFL	Delta - I Fluid	189.00	uspt
WSTT-I Receivers	RHOM	Matrix Density	2.7100	g/cc
WSTT-I Receivers	RHOF	Fluid Density	1.0000	g/cc
WSTT-I Receivers	SMTH	Semblance Threshold	0.25	
WSTT-I Receivers	VPVS	VPVS Ratio for Porosity	1.40	
WSTT-I Receivers	APEQ	Acoustic Porosity Equation	Wylie	
WSTT-I Receivers	NAVS	Navigation Source Tool	XRMI-I Instrument	
XRMI-I Instrument	WRTI	Survey Writing Interval	30	ft
XRMI-I Instrument	SOPT	Smoothing Option	None	
XRMI-I Mandrel	DIMG	Process XRMI?	Yes	
XRMI-I Mandrel	ALMT	Image Alignment Method	TOOL	
XRMI-I Mandrel	AGN	Use Button Auto Gain?	Yes	
XRMI-I Mandrel	BCLR	Button Auto Gain Color	127	
XRMI-I Mandrel	BFIL	Button Auto Gain Filter	0.020	
XRMI-I Mandrel	BGAN	Button Gain Value	0.001	
XRMI-I Mandrel	BOFF	Button Offset	0	
XRMI-I Mandrel	DIPE	Process Dipmeter Calculations?	Yes	
XRMI-I Mandrel	BHCS	Process Borehole Corrections?	Yes	
XRMI-I Mandrel	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
XRMI-I Mandrel	CLOK	Process Caliper Outputs?	Yes	
XRMI-I Mandrel	CMAX	Caliper Maximum Limit	100.0	in
XRMI-I Mandrel	CMIN	Caliper Mimimum Limit	3.5	in
XRMI-I Mandrel	NAVS	Navigation Source Tool	XRMI-I Instrument	
XRMI-I Mandrel	BHVC	Radius type for borehole volume calcuations	Elliptical	
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
ACRt Sonde	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	
BOTTOM				
Data: K&G_1-29\0002 SP-GTET-DSNT-SDLT-FLEX-WAVE-XRMI-ACRT-BN\007 08-Sep-15 18:58 Up @5566.0f			Date: 08-Sep-15 21:58:42	

HALLIBURTON				
CALIBRATION REPORT				
NATURAL GAMMA RAY TOOL SHOP CALIBRATION				
Tool Name:	GTET - 10811258		Reference Calibration Date:	27-Aug-15 10:08:00
Engineer:	SHELDON INGERSOLL		Calibration Date:	08-Sep-15 09:16:34
Software Version:	WL INSITE R4.6.4 (Build 3)		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	

Measurement	Measured	Calibrated	Units
Background	67.9	69.0	api
Background + Calibrator	296.3	301.0	api
Calibrator	228.3	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION			
Tool Name:	GTET - 10811258	Reference Calibration Date:	08-Sep-15 09:16:34
Engineer:	SHELDON INGERSOLL	Calibration Date:	08-Sep-15 09:21:05
Software Version:	WL INSITE R4.6.4 (Build 3)	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	69.0	70.3	api
Background + Calibrator	301.0	302.9	api
Calibrator	232.0	232.5	api

Shop	Field	Difference	Tolerance
232.0	232.5	-0.5	+/- 9.00

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10673803	Reference Calibration Date:	29-Jul-15 15:46:17
Engineer:	SHELDON INGERSOLL	Calibration Date:	27-Aug-15 11:01:05
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1
Host Tool Name:	DSNT - 10735145		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2347.51	-1630.65	-7000.00 - -1000.00
Pad Gain	0.0004026	0.0003831	0.000200 - 0.000600
Arm Offset	-3093.27	-3715.35	-5000.00 - 3000.00
Arm Gain	0.0005330	0.0005277	0.000300 - 0.000700
Arm Power	-0.000005649	-0.000005650	-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)	1.81	2.00	0.19	+/- 0.20
Medium Ring (in)	3.65	3.75	0.10	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.54	6.50	-0.04	+/- 0.20
Medium Ring (in)	8.30	8.25	-0.05	+/- 0.20
Large Ring (in)	15.06	15.00	-0.06	+/- 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:	27-Aug-15 11:01:05
Engineer:	SHELDON INGERSOLL	Calibration Date:	08-Sep-15 17:16:45
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.76	0.01	+/- 0.10
Ring Diameter	8.25	8.24	-0.01	+/- 0.15
PASS/FAIL SUMMARY				
Pad Extension Check:			Passed	
Diameter Check:			Passed	

WAVE CALIBRATION				
Tool Name:	WSTT-I Receivers - 10055644	Reference Calibration Date:	06-Aug-15 13:31:00	
Engineer:	SHELDON INGERSOLL	Calibration Date:	08-Sep-15 18:14:52	
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1	
Calibration Depth:	2337.29 ft	Calibration Pressure:	0.00 psia	

WAVE RECEIVER CALIBRATION				
Receiver	Verification Gain			
	Limit 0.9 - 1.1			
	A	B	C	D
1	1.03199	1.03048	1.02850	1.02959
2	1.02640	1.02745	1.02446	1.02928
3	1.02596	1.02725	1.02396	1.02519
4	1.02352	1.02451	1.02433	1.02687
5	1.02679	1.02615	1.02841	1.02795
6	1.02512	1.02438	1.02877	1.03018
7	1.02488	1.02850	1.03142	1.03098
8	1.03078	1.02999	1.03074	1.02791

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10811258						
Gamma Ray Calibrator	232.0	232.5	-----	-0.5	+/- 9.00	api
SDLT-10673803						
Pad Extension	3.75	3.76	-----	-0.01	+/-0.10	in
Ring Diameter	8.25	8.24	-----	0.01	+/-0.15	in

Data: K&G_1-29\0002 SP-GTET-DSNT-SDLT-FLEX-WAVE-XRMI-ACRT-BN\007 08-Sep-15 18:58 Up @5566.0f				Date: 08-Sep-15 22:03:15	
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HALLIBURTON				
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	120.76	NO	
BS	Bit Size	120.76	NO	
HDIA	Measured Hole Diameter	0.00	NO	

SP Sub					
PLTC	Plot Control Mask	117.07	NO	1.250	
SP	Spontaneous Potential	117.07	BLK		
SPR	Raw Spontaneous Potential	117.07	NO		
SPO	Spontaneous Potential Offset	117.07	NO		
GTET					
TPUL	Tension Pull	109.04	NO	1.750	
GR	Natural Gamma Ray API	109.04	TRI		
GRU	Unfiltered Natural Gamma Ray API	109.04	NO		
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	109.04	W		1.416 , 0.750
HDIA	Measured Hole Diameter	0.00	NO	0.083	
ACCZ	Accelerometer Z	0.00	BLK		
DEVI	Inclination	0.00	NO		
DSNT					
TPUL	Tension Pull	98.80	NO	1.417	
RNDS	Near Detector Telemetry Counts	98.90	BLK		
RFDS	Far Detector Telemetry Counts	99.65	TRI		0.583
DNTT	DSN Tool Temperature	98.90	NO		
DSNS	DSN Tool Status	98.80	NO	0.000	
ERND	Near Detector Telemetry Counts EVR	98.90	BLK		
ERFD	Far Detector Telemetry Counts EVR	99.65	BLK		0.000
ENTM	DSN Tool Temperature EVR	98.90	NO		
HDIA	Measured Hole Diameter	0.00	NO		
SDLT					
TPUL	Tension Pull	88.90	NO	0.250	
PCAL	Pad Caliper	88.90	TRI		
ACAL	Arm Caliper	88.90	TRI		0.250
WSTT-I Receivers					
TPUL	Tension Pull	57.85	NO		
DPSX	Dipole Source X StructureI	54.60	NO		
DPSY	Dipole Source Y StructureI	54.60	NO		
DPSM	Monopole Source Structure	54.60	NO		
WVST	Wavesonic Compressed Data	57.85	NO		
TPUL	Tension Pull	57.85	NO		
XMS1	Wave Sonic Status Word 1	54.60	NO		
XMS2	Wave Sonic Status Word 2	54.60	NO		
XMS1	Wave Sonic XMITStatus Word 1	54.60	NO		
XMS1	Wave Sonic XMITStatus Word 2	54.60	NO		
F1HA	Dipole 1 HV After	54.60	NO		
F1HB	Dipole 1 HV Before	54.60	NO		
F2HA	Dipole 2 HV After	54.60	NO		
F2HB	Dipole 2 HV Before	54.60	NO		
F3HA	Monopole HV After	54.60	NO		
F3HB	Monopole HV Before	54.60	NO		
INVT	Input Voltage	54.60	NO		
5VOL	5 Volts	54.60	NO		
MI5A	Minus 5 Volts Analog	54.60	NO		
ITMP	Instrument Temperature	54.60	NO		
PL5A	Plus 5 Volts Analog	54.60	NO		
5VD	Plus 5 Volts Digital	54.60	NO		
TCUR	Tool Current	54.60	NO		
SUPV	Supply Voltage	54.60	NO		
PRVT	Preregulated voltage	54.60	NO		
PRVT	Pre-regulated voltage Xmter	54.60	NO		
TEMP	Temperature	54.60	NO		

ACQN	Acquisition Number	54.60	NO
XDP	Delay Reference	57.85	NO
MITM	MIT Mode	57.85	NO
VERS	Version	54.60	NO
D1CT	Dipole 1 Compressed Word Count	57.85	NO
D2CT	Dipole 2 Compressed Word Count	57.85	NO
MCNT	Monopole Compressed Word Count	57.85	NO
SEQN	Sequence Number	54.60	NO
FREV	Firmware Revision	54.60	NO
MSMP	Monopole Sample Rate	54.60	NO
MSMP	Dipole Sample Rate	54.60	NO
MFWF	Monopole Firing Waveform	54.60	NO
MFRQ	Monopole Frequency	54.60	NO
MDLY	Monopole Delay	54.60	NO
DXWF	Dipole X Firing Waveform	54.60	NO
XFRQ	Dipole X Frequency	54.60	NO
XDLY	Dipole X Delay	54.60	NO
DYWF	Dipole Y Firing Waveform	54.60	NO
YFRQ	Dipole Y Frequency	54.60	NO
YDLY	Dipole Y Delay	54.60	NO
DPSX	Dipole Source X Structurel	54.60	NO
DPSY	Dipole Source Y Structurel	54.60	NO
DPSM	Monopole Source Structure	54.60	NO
WVST	Wavesonic Compressed Data	57.85	NO
AUTM	Auto Mode	54.60	NO
SONM	tool mode for sonic - 0 for normal or 3 for calibration	54.60	NO
MSL	Monopole Lower Travel Time	57.85	NO
MSH	Monopole Upper Travel Time	57.85	NO
MLFC	Monopole-1 Lower Filter Bandpass Frequency Cut-off	54.60	NO
MUFC	Monopole-1 Upper Filter Bandpass Frequency Cut-off	54.60	NO
DLTT	Dipole Lower Travel Time	54.60	NO
DUTT	Dipole Upper Travel Time	54.60	NO
DLFC	Dipole Lower Filter Bandpass Frequency Cut-off	54.60	NO
DUFC	Dipole Upper Filter Bandpass Frequency Cut-off	54.60	NO
MUTE	WaveSonic Mute/Enable Channels and Sides map	54.60	NO
MUTS	Mute/Enable Sides	54.60	NO
WSRB	Relative Bearing	57.85	NO
WSAZ	WSX Azimuth Pad 1	57.85	NO
TPUL	Tension Pull	57.85	NO
WMP	Summed array of Monopole for SIDES - A,B,C,D	57.85	NO
WXX	Dipole X for SIDES - A-C	57.85	NO
WYY	Dipole Y for SIDES - B-D	57.85	NO
WXY	Dipole X for SIDES - B-D	57.85	NO
WYX	Dipole Y for SIDES - A-C	57.85	NO
TPUL	Tension Pull	57.85	NO
WMA	Monopole Waveform Side A - Channel 1 to Channel 8 Receivers	57.85	NO
WMB	Monopole Waveform Side B - Channel 1 to Channel 8 Receivers	57.85	NO
WMC	Monopole Waveform Side C - Channel 1 to Channel 8 Receivers	57.85	NO
WMD	Monopole Waveform Side D - Channel 1 to Channel 8 Receivers	57.85	NO
WXA	Dipole X Waveform Side A - Channel 1 to Channel 8 Receivers	57.85	NO
WXB	Dipole X Waveform Side B - Channel 1 to Channel 8 Receivers	57.85	NO
WXC	Dipole X Waveform Side C - Channel 1 to Channel 8 Receivers	57.85	NO
WXD	Dipole X Waveform Side D - Channel 1 to Channel 8 Receivers	57.85	NO
WYA	Dipole Y Waveform Side A - Channel 1 to Channel 8 Receivers	57.85	NO

	Receivers		
WYB	Dipole Y Waveform Side B - Channel 1 to Channel 8 Receivers	57.85	NO
WYC	Dipole Y Waveform Side C - Channel 1 to Channel 8 Receivers	57.85	NO
WYD	Dipole Y Waveform Side D - Channel 1 to Channel 8 Receivers	57.85	NO
GAR1	Gain Side A Receiver 1	54.60	NO
GAR2	Gain Side A Receiver 2	54.60	NO
GAR3	Gain Side A Receiver 3	54.60	NO
GAR4	Gain Side A Receiver 4	54.60	NO
GAR5	Gain Side A Receiver 5	54.60	NO
GAR6	Gain Side A Receiver 6	54.60	NO
GAR7	Gain Side A Receiver 7	54.60	NO
GAR8	Gain Side A Receiver 8	54.60	NO
GBR1	Gain Side B Receiver 1	54.60	NO
GBR2	Gain Side B Receiver 2	54.60	NO
GBR3	Gain Side B Receiver 3	54.60	NO
GBR4	Gain Side B Receiver 4	54.60	NO
GBR5	Gain Side B Receiver 5	54.60	NO
GBR6	Gain Side B Receiver 6	54.60	NO
GBR7	Gain Side B Receiver 7	54.60	NO
GBR8	Gain Side B Receiver 8	54.60	NO
GCR1	Gain Side C Receiver 1	54.60	NO
GCR2	Gain Side C Receiver 2	54.60	NO
GCR3	Gain Side C Receiver 3	54.60	NO
GCR4	Gain Side C Receiver 4	54.60	NO
GCR5	Gain Side C Receiver 5	54.60	NO
GCR6	Gain Side C Receiver 6	54.60	NO
GCR7	Gain Side C Receiver 7	54.60	NO
GCR8	Gain Side C Receiver 8	54.60	NO
GDR1	Gain Side D Receiver 1	54.60	NO
GDR2	Gain Side D Receiver 2	54.60	NO
GDR3	Gain Side D Receiver 3	54.60	NO
GDR4	Gain Side D Receiver 4	54.60	NO
GDR5	Gain Side D Receiver 5	54.60	NO
GDR6	Gain Side D Receiver 6	54.60	NO
GDR7	Gain Side D Receiver 7	54.60	NO
GDR8	Gain Side D Receiver 8	54.60	NO
XRMI-I Mandrel			
TPUL	Tension Pull	22.35	NO
PAD1	XRMI Pad 1 values	22.12	NO
PAD2	XRMI Pad 2 values	22.12	NO
PAD3	XRMI Pad 3 values	22.12	NO
PAD4	XRMI Pad 4 values	22.12	NO
PAD5	XRMI Pad 5 values	22.12	NO
PAD6	XRMI Pad 6 values	22.12	NO
OD1	EMI Odd Button Values Pad 1	22.12	NO
OD2	EMI Odd Button Values Pad 2	22.35	NO
OD3	EMI Odd Button Values Pad 3	22.12	NO
OD4	EMI Odd Button Values Pad 4	22.35	NO
OD5	EMI Odd Button Values Pad 5	22.12	NO
OD6	EMI Odd Button Values Pad 6	22.35	NO
EV1	EMI Even Button Values Pad 1	22.14	NO
EV2	EMI Even Button Values Pad 2	22.32	NO
EV3	EMI Even Button Values Pad 3	22.14	NO
EV4	EMI Even Button Values Pad 4	22.32	NO
EV5	EMI Even Button Values Pad 5	22.14	NO
EV6	EMI Even Button Values Pad 6	22.32	NO
ITMP	Instrument Temperature	19.58	NO

EMIM	Tool Mode	19.58	NO	
HAZI	Hole Azimuth	21.87	NO	
HAZI	Hole Azimuth - Down Delay	22.37	NO	
ZACC	Accelerometer Z	22.12	NO	
RB	Relative Bearing	21.87	NO	
RBD	Relative Bearing Down	22.37	NO	
TPUL	Tension Pull	22.35	NO	
FIR1	Current Button R - Pad 1	22.12	NO	
FIR2	Current Button R - Pad 2	22.35	NO	
FIR3	Current Button R - Pad 3	22.12	NO	
FIR4	Current Button R - Pad 4	22.35	NO	
FIR5	Current Button R - Pad 5	22.12	NO	
FIR6	Current Button R - Pad 6	22.35	NO	
FIX1	Current Button X - Pad 1	22.12	NO	
FIX2	Current Button X - Pad 2	22.35	NO	
FIX3	Current Button X - Pad 3	22.12	NO	
FIX4	Current Button X - Pad 4	22.35	NO	
FIX5	Current Button X - Pad 5	22.12	NO	
FIX6	Current Button X - Pad 6	22.35	NO	
SIR1	Current Slow Button R - Pad 1	22.12	BLK	3.000
SIR2	Current Slow Button R - Pad 2	22.35	BLK	3.000
SIR3	Current Slow Button R - Pad 3	22.12	BLK	3.000
SIR4	Current Slow Button R - Pad 4	22.35	BLK	3.000
SIR5	Current Slow Button R - Pad 5	22.12	BLK	3.000
SIR6	Current Slow Button R - Pad 6	22.35	BLK	3.000
SIX1	Current Slow Button X - Pad 1	22.12	BLK	3.000
SIX2	Current Slow Button X - Pad 2	22.35	BLK	3.000
SIX3	Current Slow Button X - Pad 3	22.12	BLK	3.000
SIX4	Current Slow Button X - Pad 4	22.35	BLK	3.000
SIX5	Current Slow Button X - Pad 5	22.12	BLK	3.000
SIX6	Current Slow Button X - Pad 6	22.35	BLK	3.000
EMMR	Phasor Voltage - Real Part	22.12	NO	
EMMX	Phasor Voltage - Imaginary Part	22.12	NO	
PADV	Pad Voltage	19.58	BLK	0.250
ITMP	Instrument Temperature	19.58	BLK	0.000
CON1	Conductivity Pad 1	22.12	BLK	3.000
CON2	Conductivity Pad 2	22.35	BLK	3.000
CON3	Conductivity Pad 3	22.12	BLK	3.000
CON4	Conductivity Pad 4	22.35	BLK	3.000
CON5	Conductivity Pad 5	22.12	BLK	3.000
CON6	Conductivity Pad 6	22.35	BLK	3.000
UIR2	Current Button R No Delay - Pad 2	22.12	NO	
UIR4	Current Button R No Delay - Pad 4	22.12	NO	
UIR6	Current Button R No Delay - Pad 6	22.12	NO	
UIX2	Current Button X No Delay - Pad 2	22.12	NO	
UIX4	Current Button X No Delay - Pad 4	22.12	NO	
UIX6	Current Button X No Delay - Pad 6	22.12	NO	
HDIA	Measured Hole Diameter	0.00	NO	
TPUL	Tension Pull	22.35	NO	
ARM1	Caliper 1 measurement	22.12	BLK	0.000
ARM2	Caliper 2 measurement	22.12	BLK	0.000
ARM3	Caliper 3 measurement	22.12	BLK	0.000
ARM4	Caliper 4 measurement	22.12	BLK	0.000
ARM5	Caliper 5 measurement	22.12	BLK	0.000
ARM6	Caliper 6 measurement	22.12	BLK	0.000
MOTV	Motor Voltage Monitor 1	22.12	BLK	0.000
PRES	Caliper percentage of total compression of the spring	19.58	BLK	0.000
HAZI	Hole Azimuth	22.12	NO	
RB	Relative Bearing	22.12	NO	

RB	Relative Bearing	22.12	NO	
AZI1	PAD1 Azimuth	22.12	NO	
DEVI	Inclination	22.12	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	88.89	NO	
NAB	Near Above	88.72	BLK	0.920
NHI	Near Cesium High	88.72	BLK	0.920
NLO	Near Cesium Low	88.72	BLK	0.920
NVA	Near Valley	88.72	BLK	0.920
NBA	Near Barite	88.72	BLK	0.920
NDE	Near Density	88.72	BLK	0.920
NPK	Near Peak	88.72	BLK	0.920
NLI	Near Lithology	88.72	BLK	0.920
NBAU	Near Barite Unfiltered	88.72	BLK	0.250
NLIU	Near Lithology Unfiltered	88.72	BLK	0.250
FAB	Far Above	89.07	BLK	0.250
FHI	Far Cesium High	89.07	BLK	0.250
FLO	Far Cesium Low	89.07	BLK	0.250
FVA	Far Valley	89.07	BLK	0.250
FBA	Far Barite	89.07	BLK	0.250
FDE	Far Density	89.07	BLK	0.250
FPK	Far Peak	89.07	BLK	0.250
FLI	Far Lithology	89.07	BLK	0.250
PTMP	Pad Temperature	88.90	BLK	0.920
NHV	Near Detector High Voltage	88.30	NO	
FHV	Far Detector High Voltage	88.30	NO	
ITMP	Instrument Temperature	88.30	NO	
DDHV	Detector High Voltage	88.30	NO	
HDIA	Measured Hole Diameter	0.00	NO	
Microlog Pad				
TPUL	Tension Pull	89.09	NO	
MINV	Microlog Lateral	89.09	BLK	0.750
MNOR	Microlog Normal	89.09	BLK	0.750
Data: K&G_1-29I0002 SP-GTET-DSNT-SDLT-FLEX-WAVE-XRMI-ACRT-BNIDLE			Date: 08-Sep-15 21:58:14	
COMPANY	RAYDON EXPLORATION INC.			
WELL	K&G 1-29			
FIELD	WILDCAT			
COUNTY	HASKELL	STATE	KANSAS	
HALLIBURTON		WAVESONIC MONO DELTA T LOG		