

COMPANY WELL FIELD COUNTY STATE	<b>VAL ENERGY</b>  <b>HAMMER D V 1-5</b>  <b>WILSON</b>  <b>COWLEY</b>  <b>KANSAS</b>
COMPANY WELL FIELD COUNTY STATE	<b>VAL ENERGY</b>  <b>HAMMER D V 1-5</b>  <b>WILSON</b>  <b>COWLEY</b>  <b>KANSAS</b>
API No. 15-035-24502 Location SE NW NW/SE 2193' FNL & 2193' FWL	Sect. 5 Twp. 33S Rge. 6E  Elev. 1320.0 ft D.F. 1332.0 ft G.L. 1320.0 ft
Other Services: SDLT DSNT ACRT	

Permanent Datum Log measured from Drilling measured from	GL KB KB KB
Date Run No. Depth - Driller Depth - Logger Bottom - Logged Interval Top - Logged Interval Casing - Driller Casing - Logger Bit Size Type Fluid in Hole Density PH Source of Sample Rm @ Meas. Temperature Rmf @ Meas. Temperature Rmc @ Meas. Temperature Source Rmf Rm @ BHT Time Since Circulation Time on Bottom Max. Rec. Temperature Equipment Recorded By Witnessed By	12-Apr-13 ONE 3600.00 ft 3600.0 ft 3600 ft 312 ft 312 ft 8.625 in @ 313.0 ft 312.0 ft 7.875 in WATER BASED 9.4 ppg 11.00 pH FLOW LINE 1.520 ohmm @ 85.00 degF 1.29 ohmm @ 70.00 degF 1.880 ohmm @ 70.00 degF MEASURED 1.19 ohmm @ 110.0 degF 8.0 hr 12-Apr-13 19:23 110.0 degF @ 3600.0 ft 10549592 PVOK JEREMY COTHREN JOE BAKER

Fold here

Service Ticket No.: 900360213		API Serial No.: 15-035-24502		PGM Version: WL INSITE R3.6.0 (Build 3)	
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE			RESISTIVITY SCALE CHANGES		
Date	Sample No.		Type Log	Depth	Scale Up Hole
Depth-Driller			Scale Down Hole		
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
Rmf @ Meas. Temp.	@	@			
Rmc @ Meas. Temp.	@	@			
Source Rmf	Rmc				
Rm @ BHT	@	@			
Rmf @ BHT	@	@			
Rmc @ BHT	@	@			
EQUIPMENT DATA					
GAMMA		ACOUSTIC		DENSITY	
Run No.	ONE	Run No.		Run No.	
Serial No.	113	Serial No.		Serial No.	
Model No.	GTET	Model No.		Model No.	
Diameter	3.625"	No. of Cent.		Diameter	
Detector Model No.	A-102	Spacing		Log Type	
Type	SCINT.			Source Type	
Length	8"	LSA [Y/N]		Serial No.	
Distance to Source	10'	FWDA [Y/N]		Strength	
LOGGING DATA					
GENERAL		GAMMA		ACOUSTIC	

Run No.	GENERAL		Speed ft/min	GAMMA		ACOUSTIC		Matrix	DENSITY		Matrix	NEUTRON		Matrix
	Depth	From		To	Scale		Scale		Scale					
	TD	CSG		REC	L	R	L		R	L		R		
ONE	TD	CSG	REC	0	150									

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@
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Remarks: THANKS FOR USING HALLIBURTON LOGGING SERVICES .  
 ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.  
 CHLORIDES REPORTED AT 900 ppm.

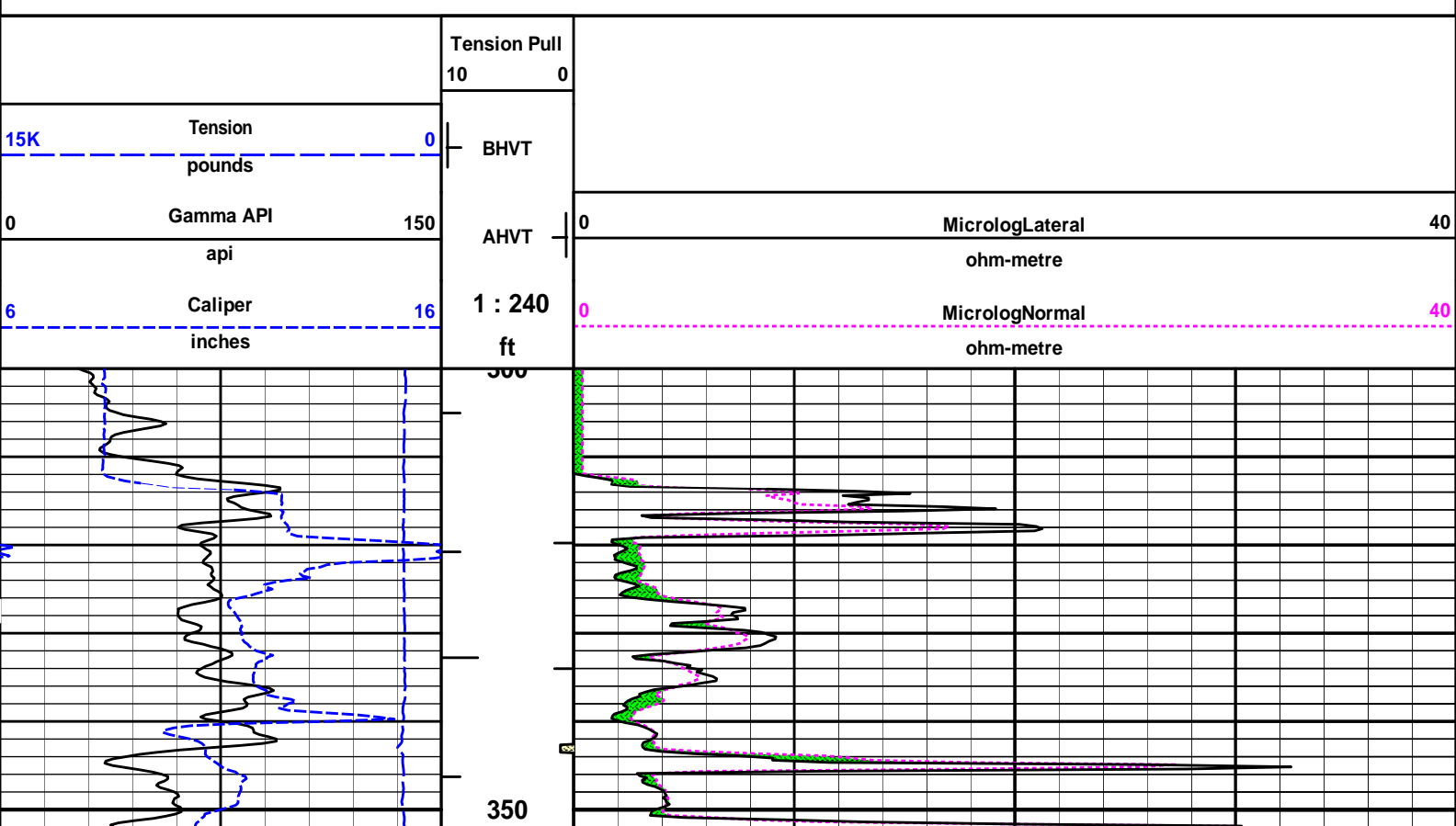
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

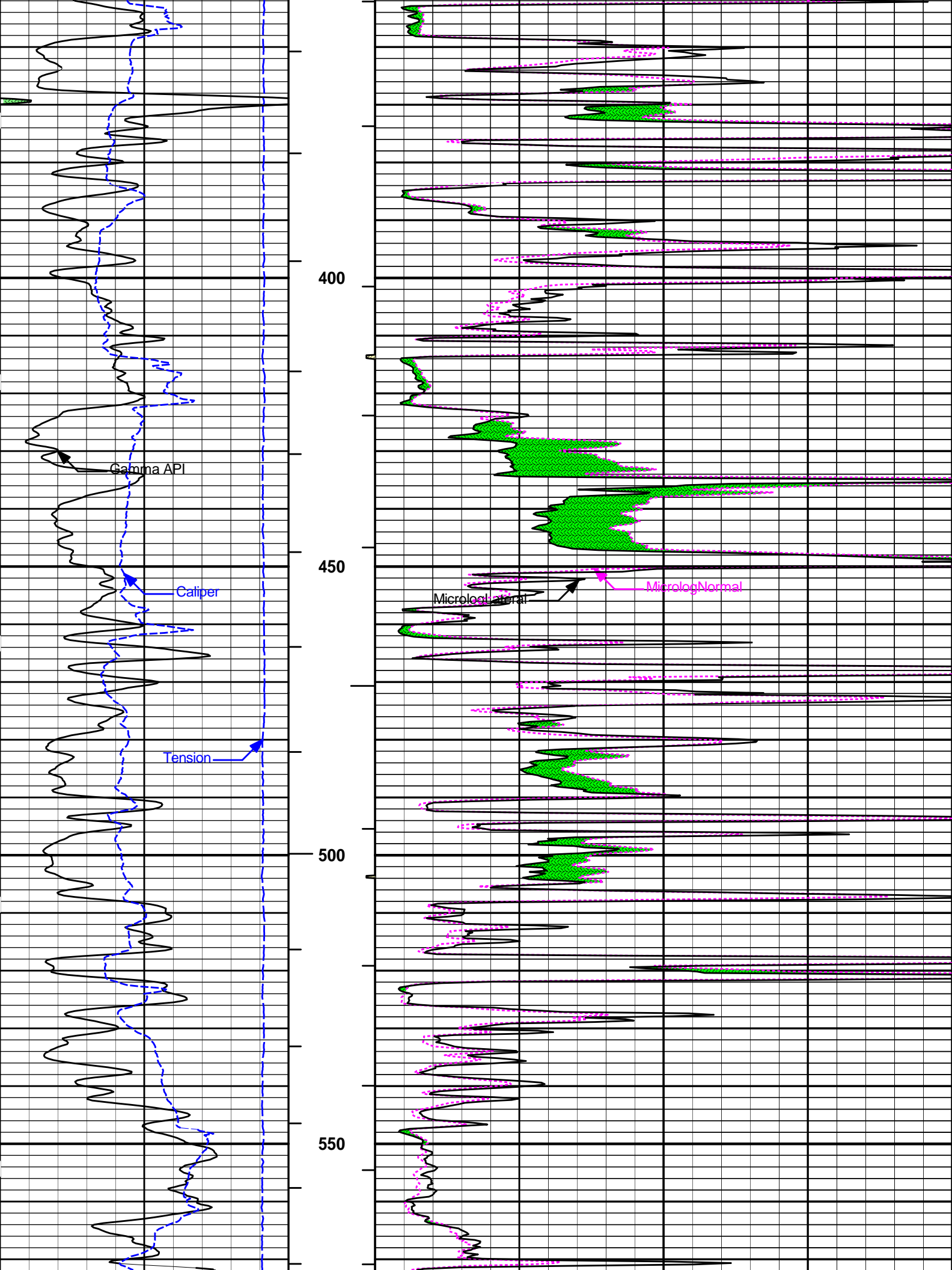
HALLIBURTON

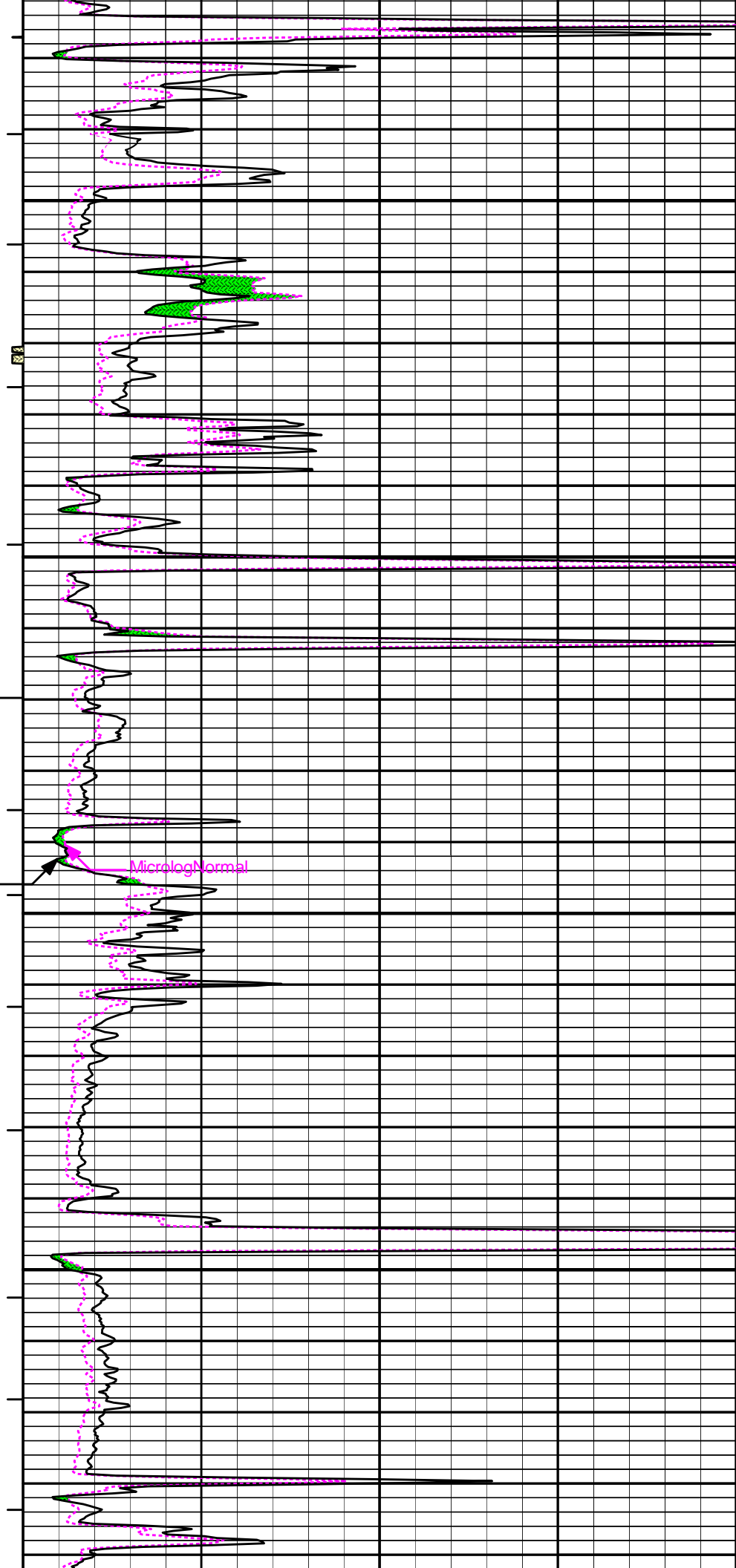
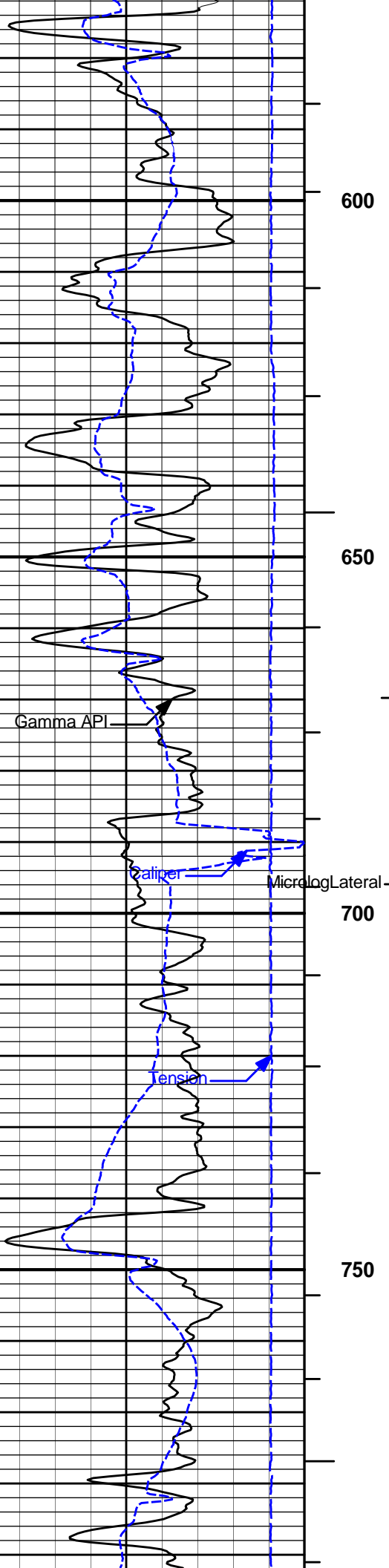


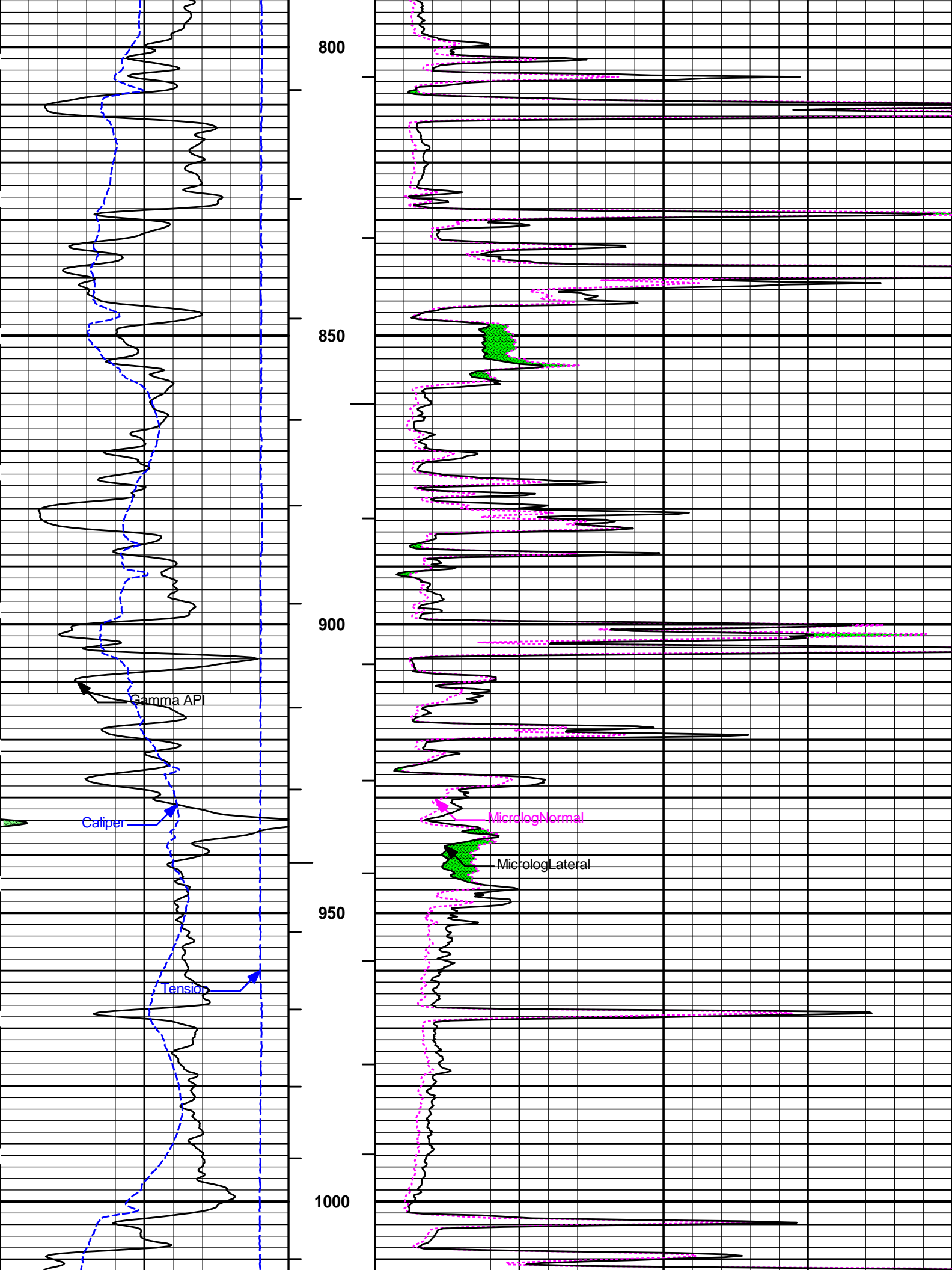
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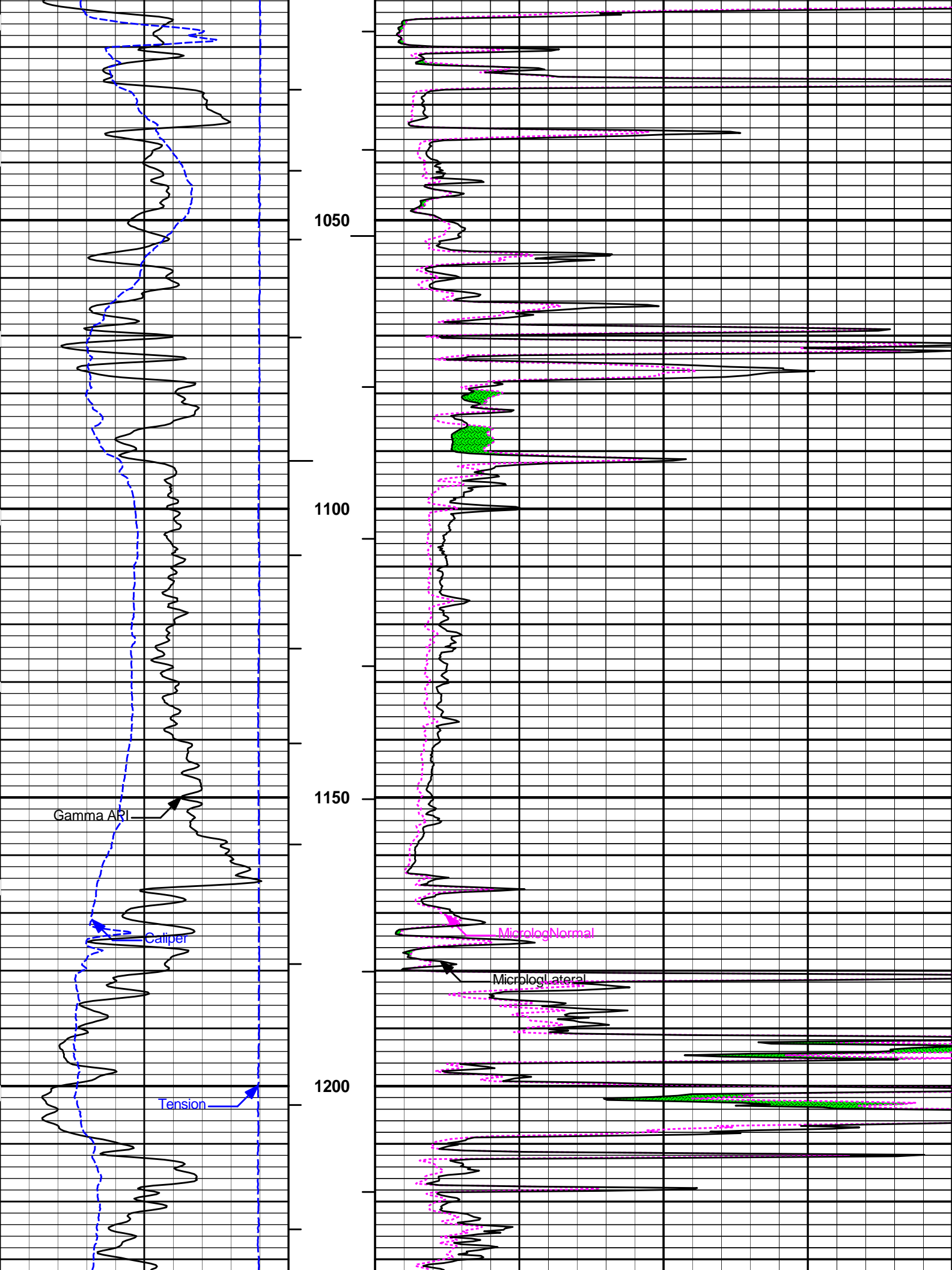
# 5 INCH MAIN LOG

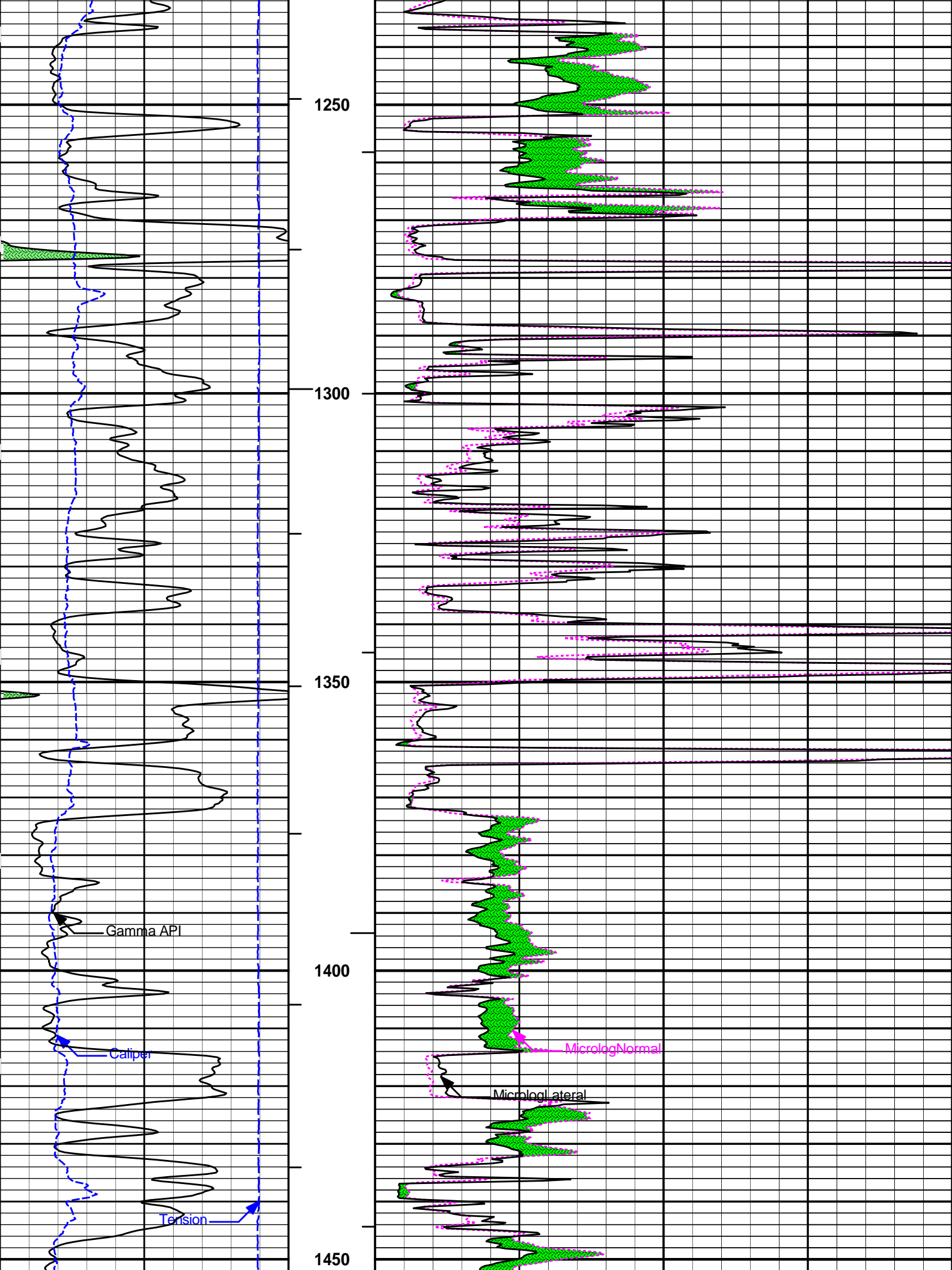


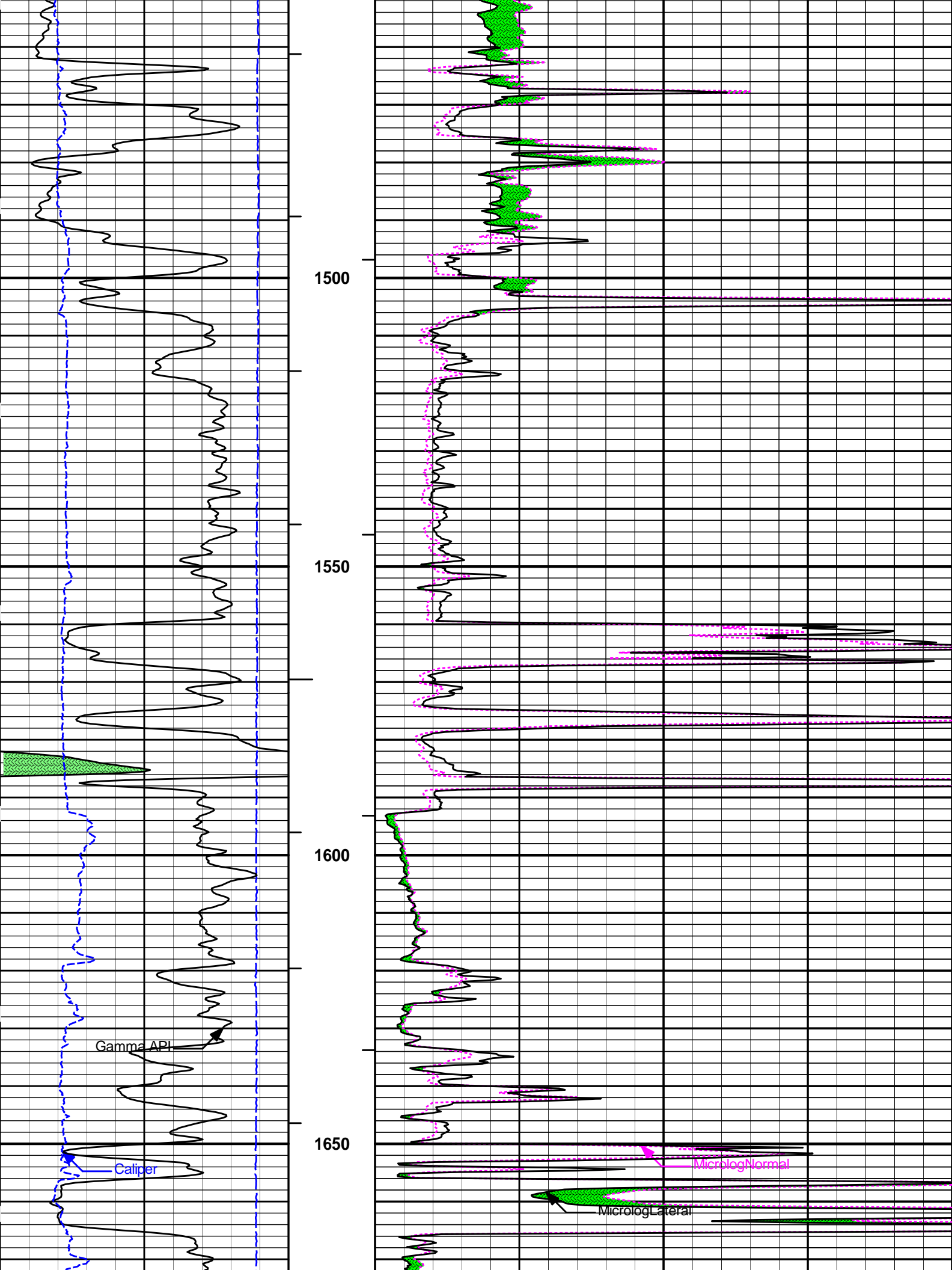












1500

1550

1600

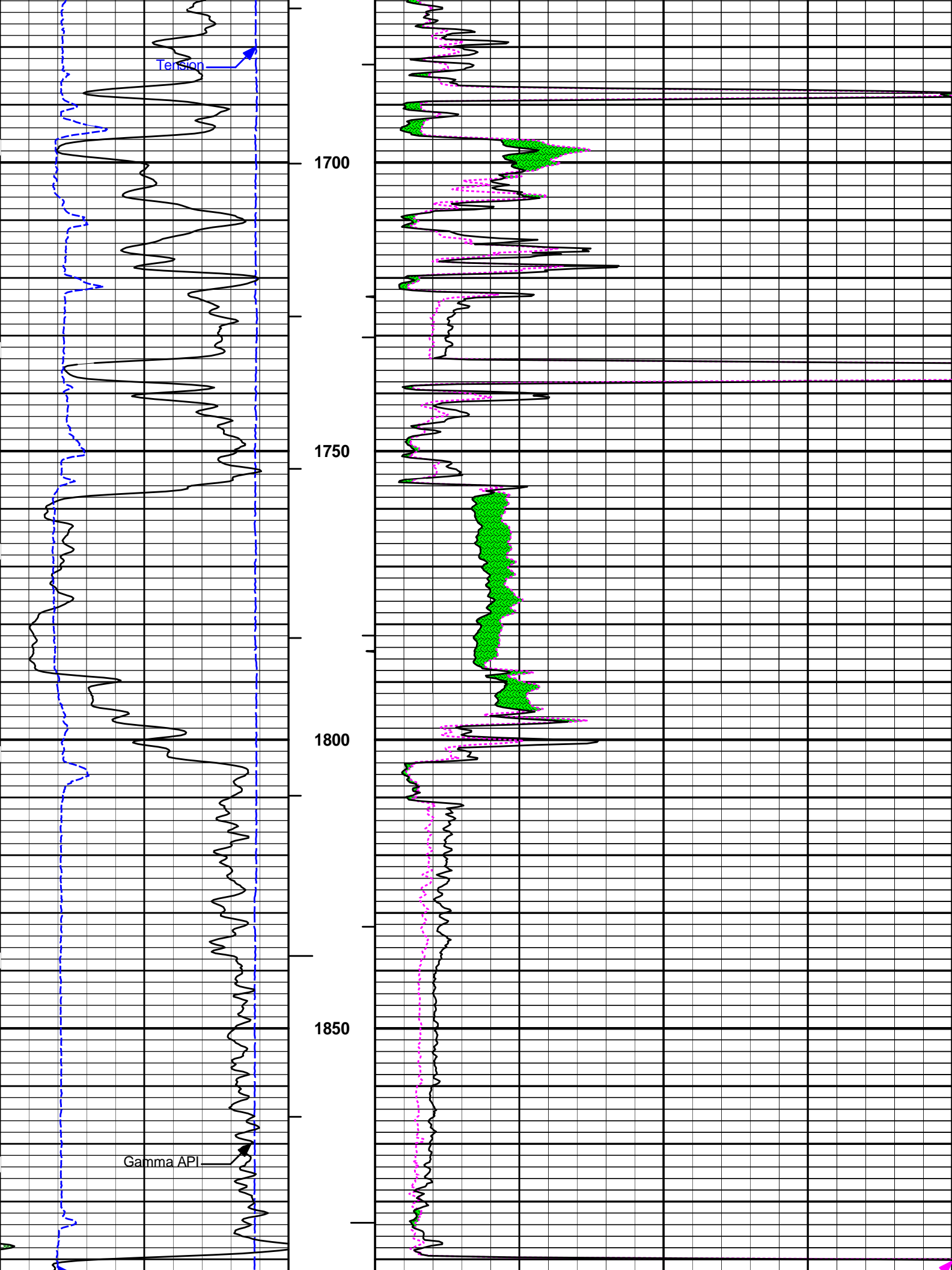
1650

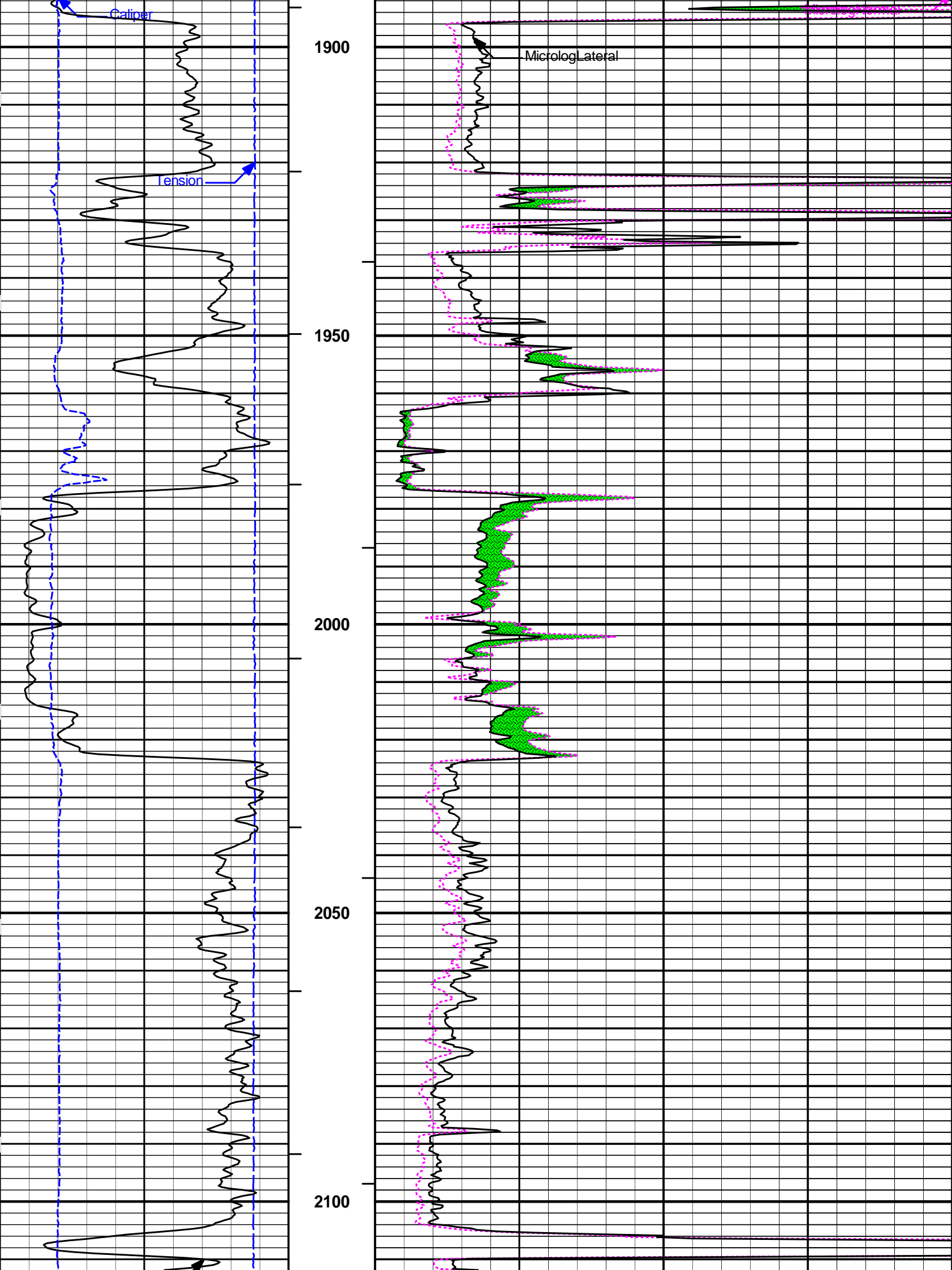
Gamma API

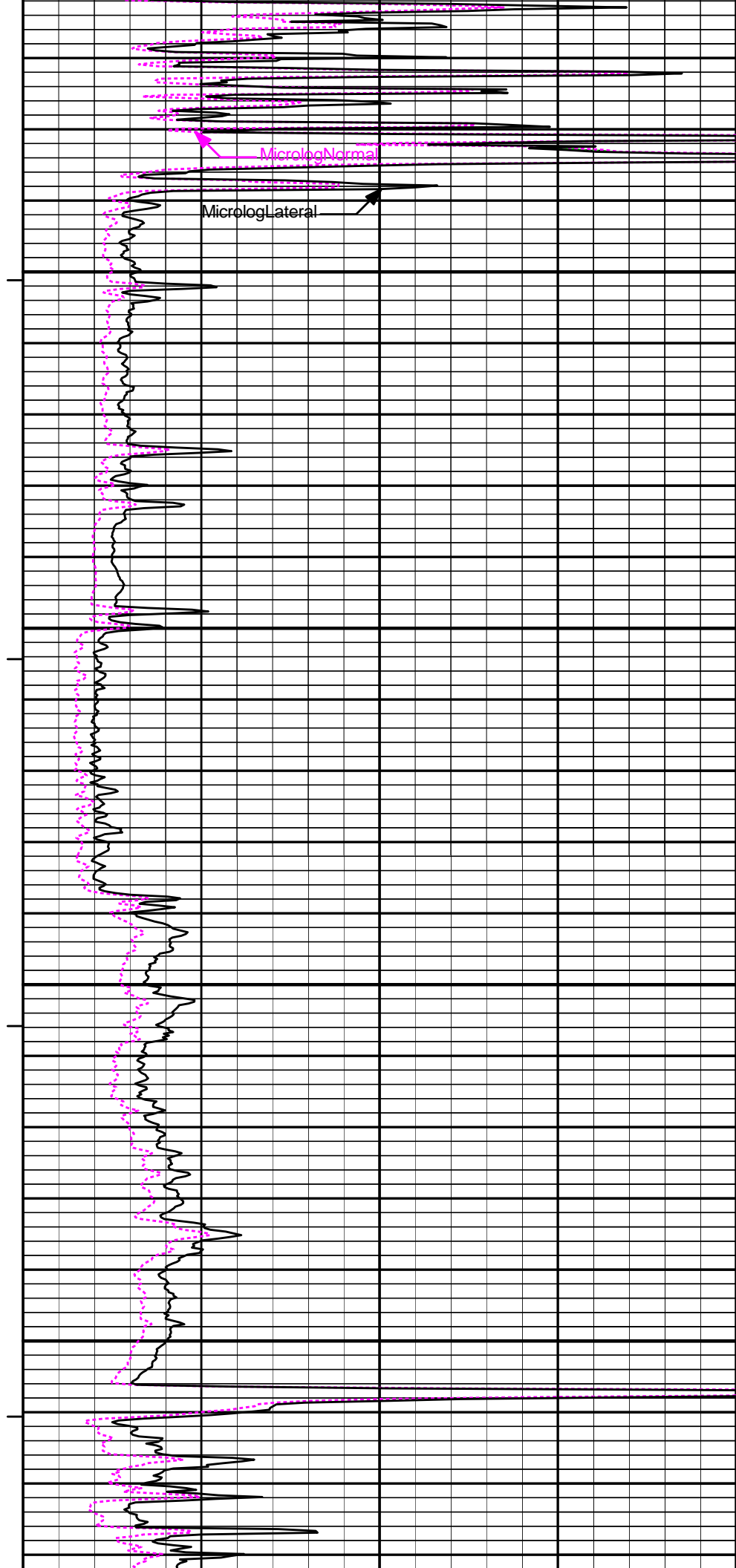
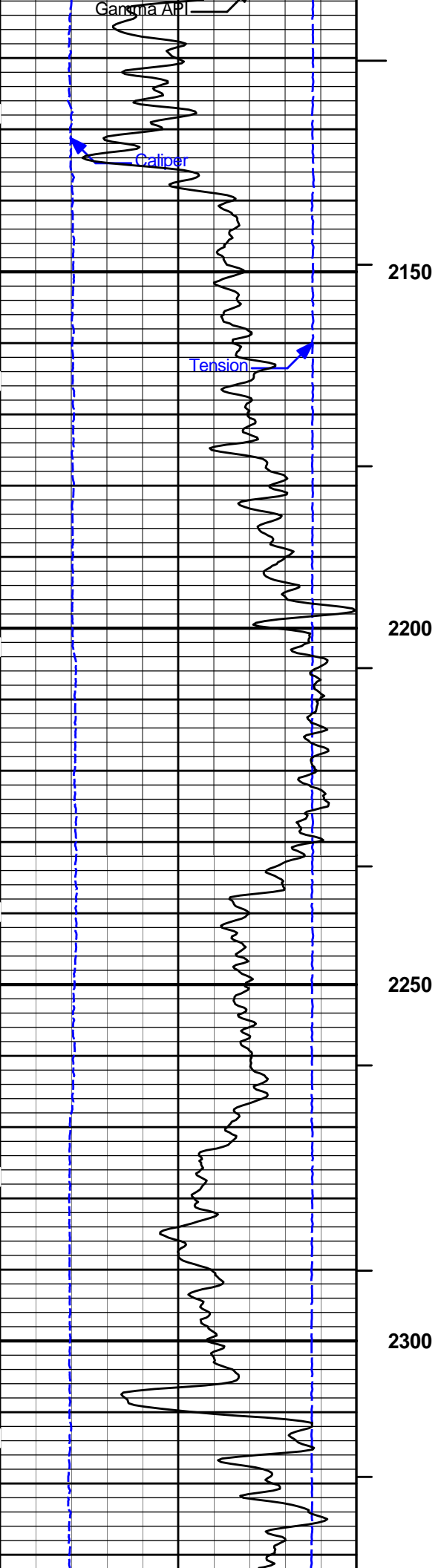
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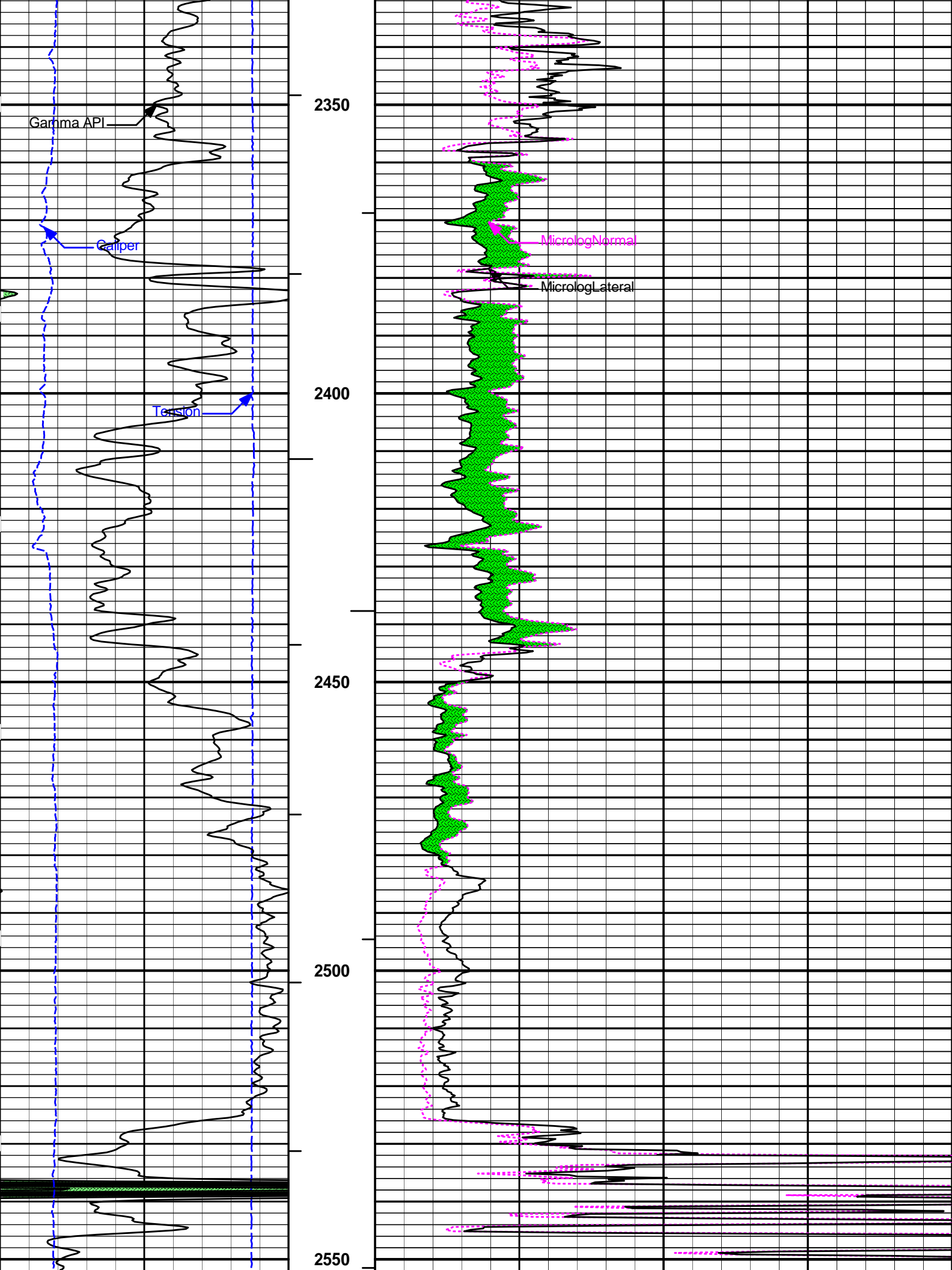
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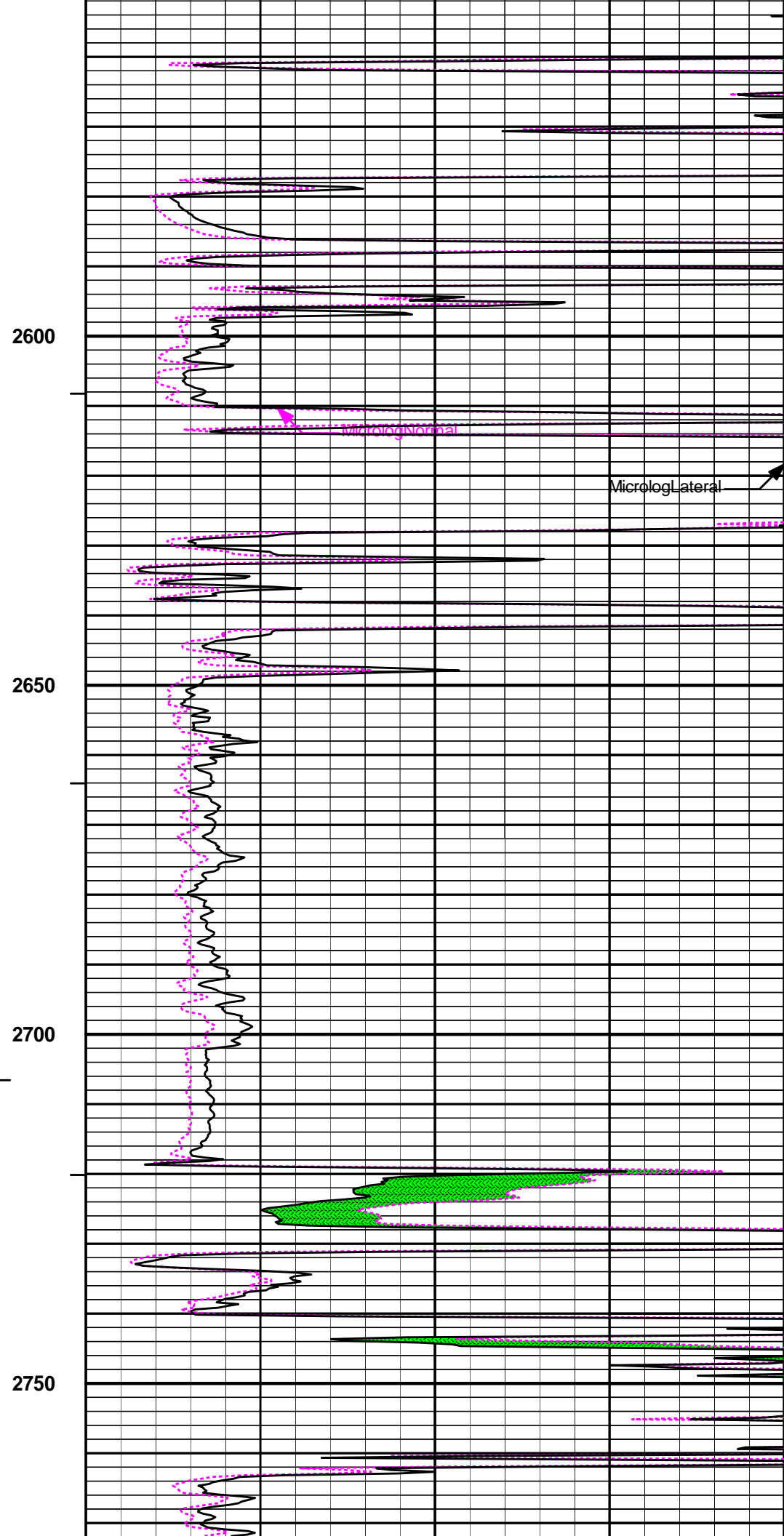
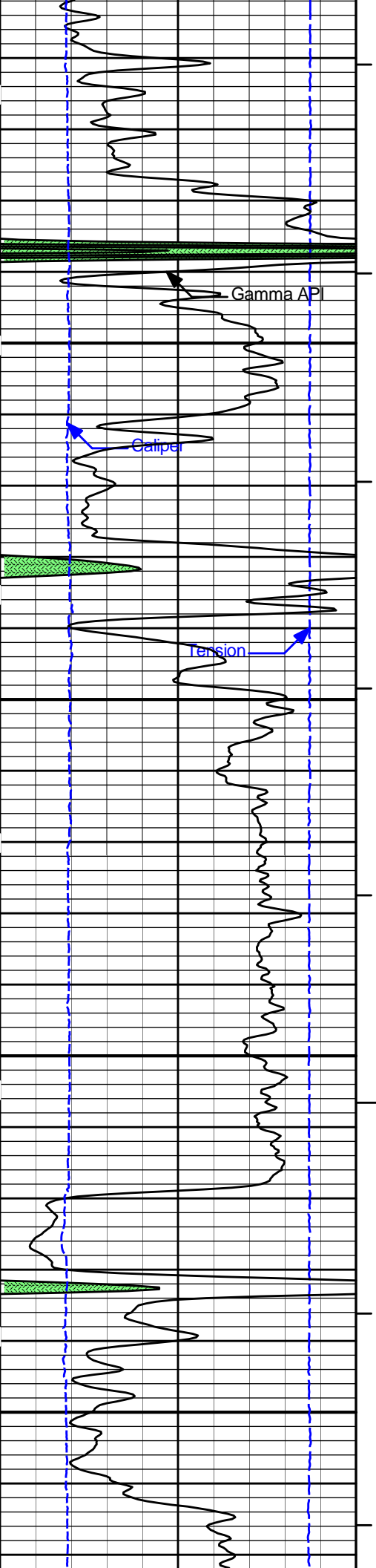
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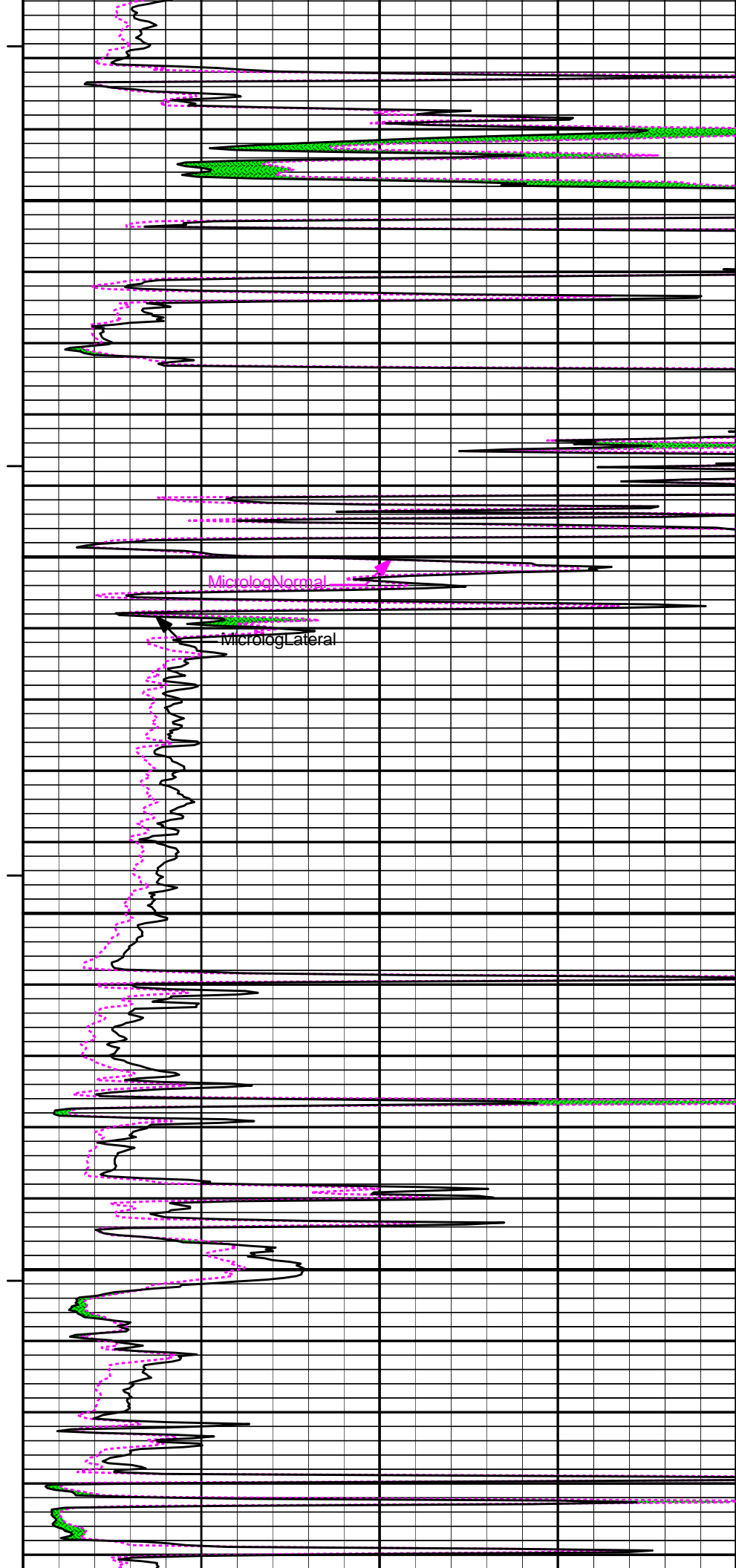
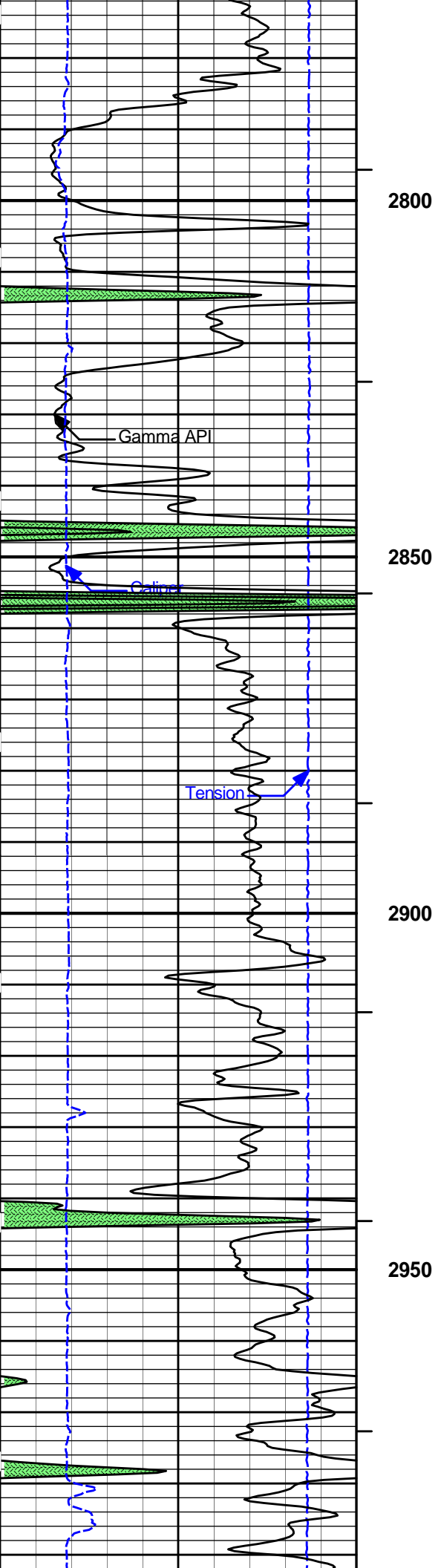


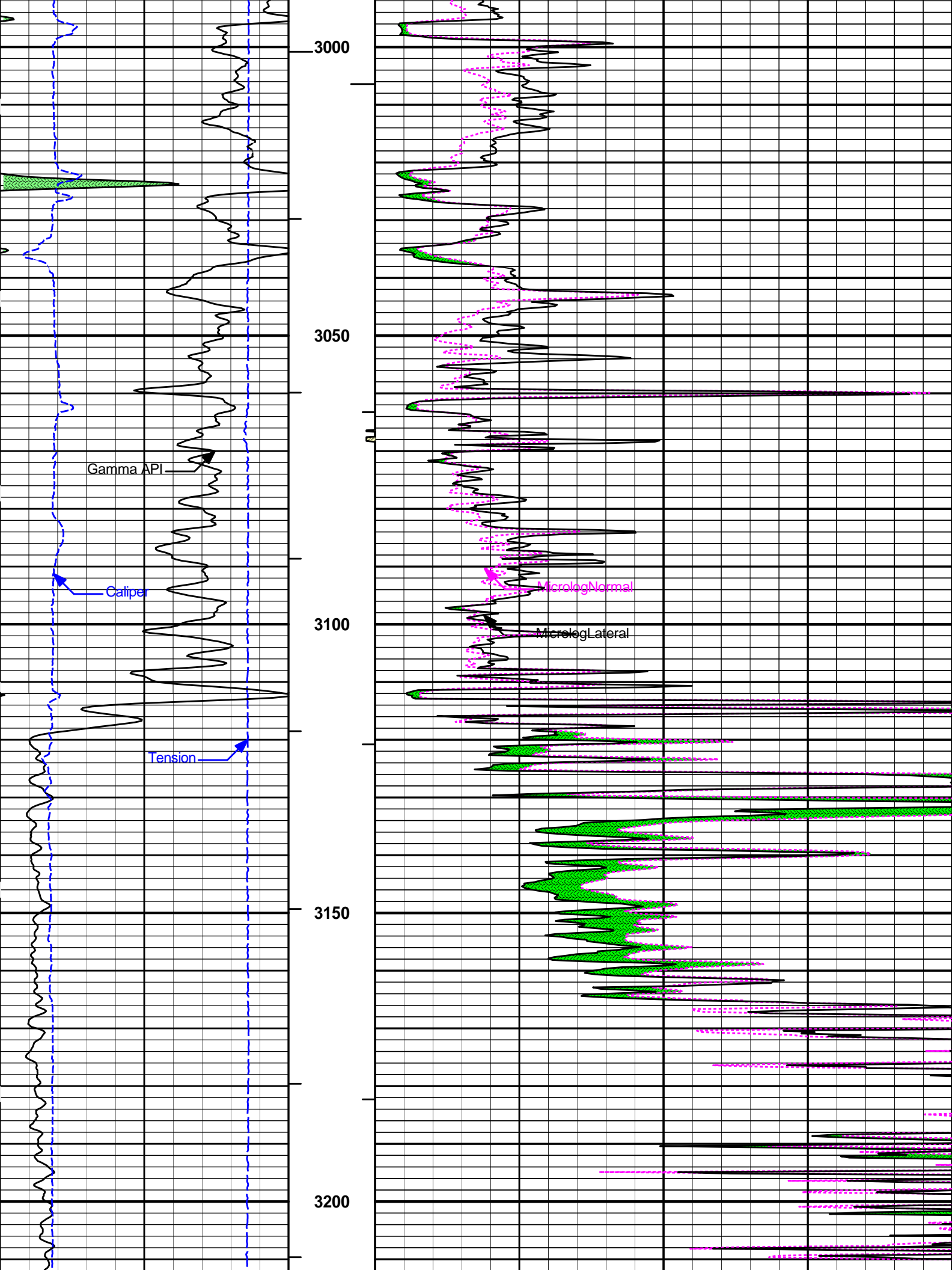


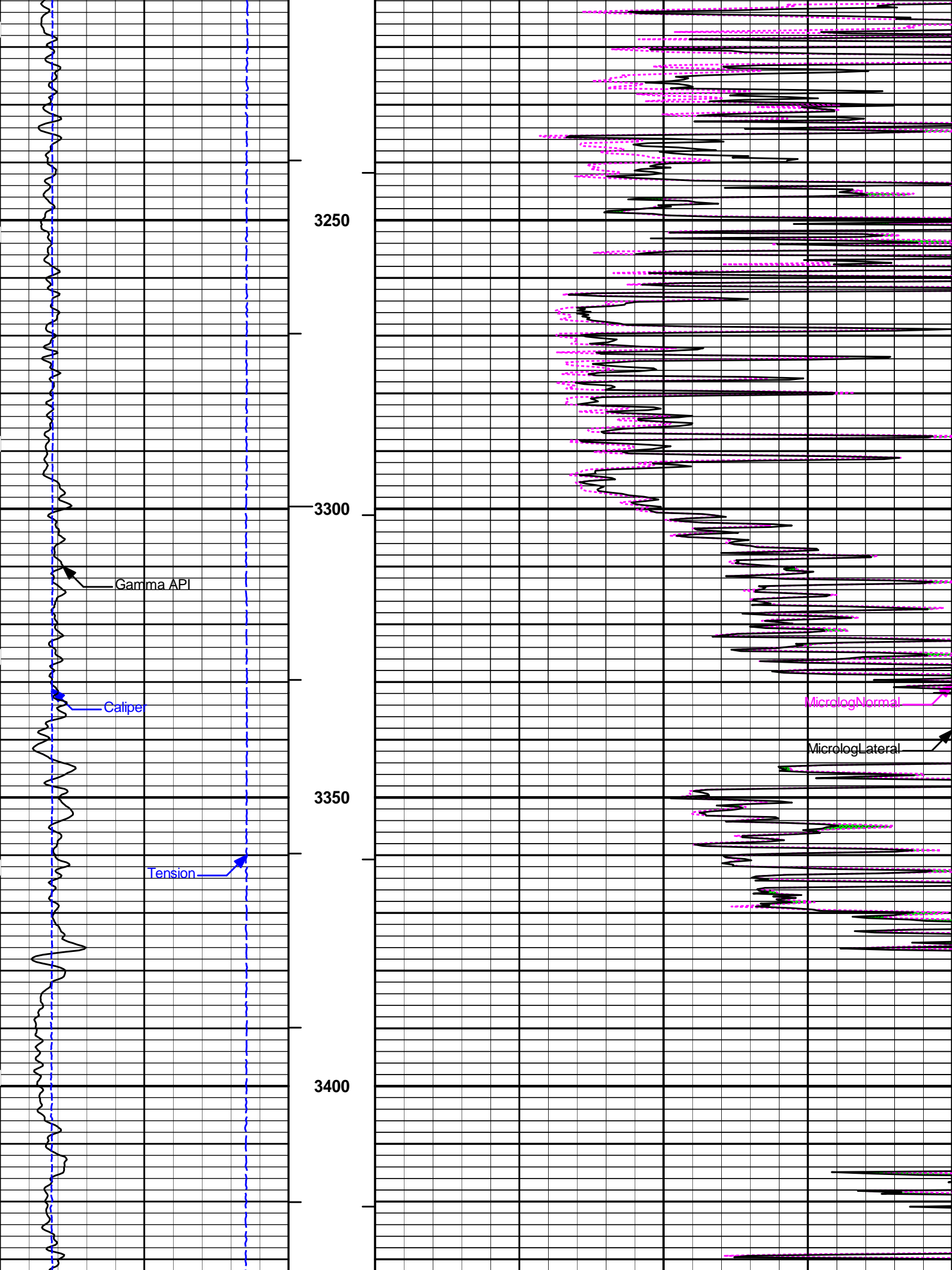


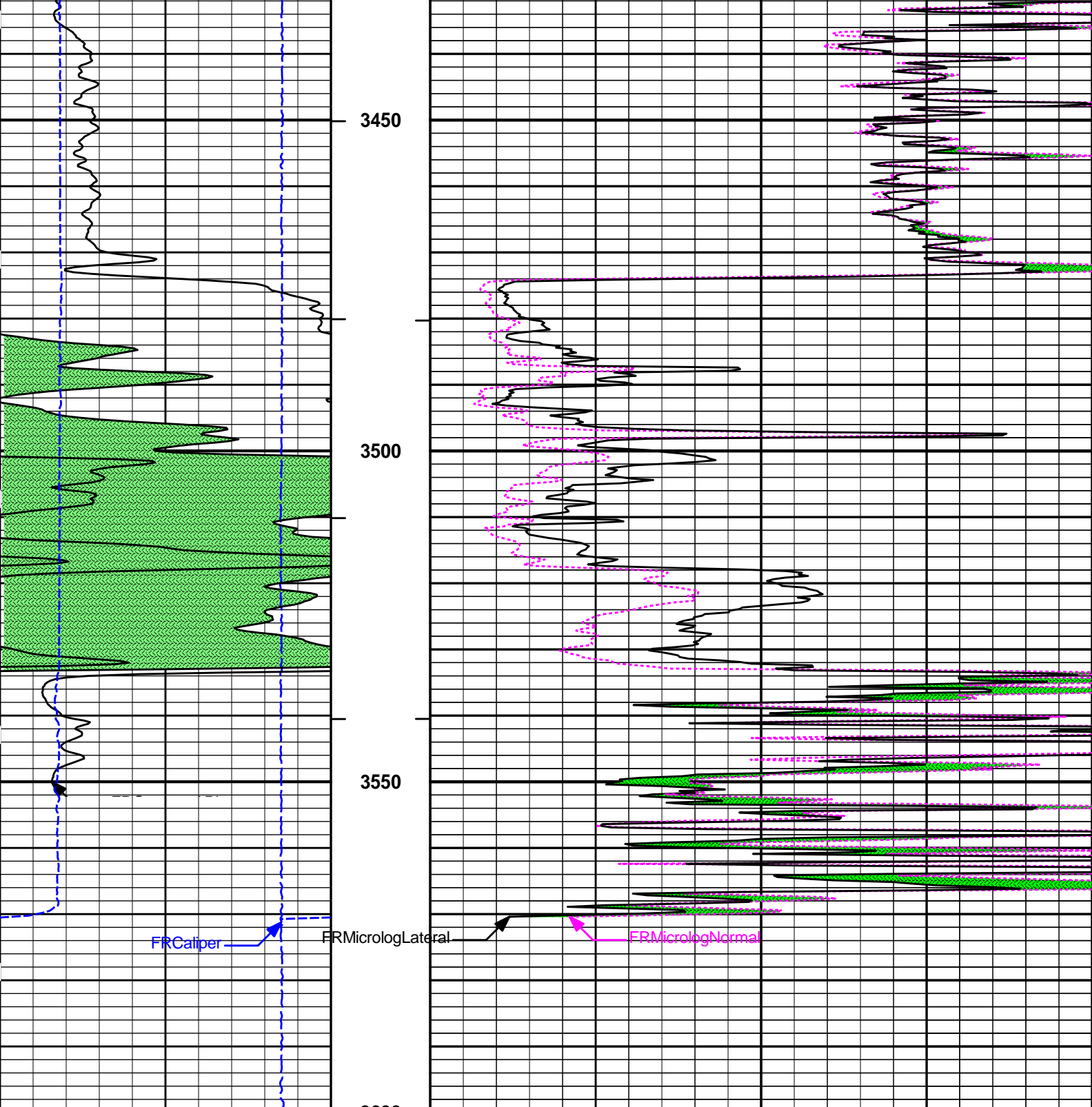












FRCaliper

FRMicrologLateral

FRMicrologNormal

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

1 : 240
ft
AHVT
BHVT
Tension Pull
10 0

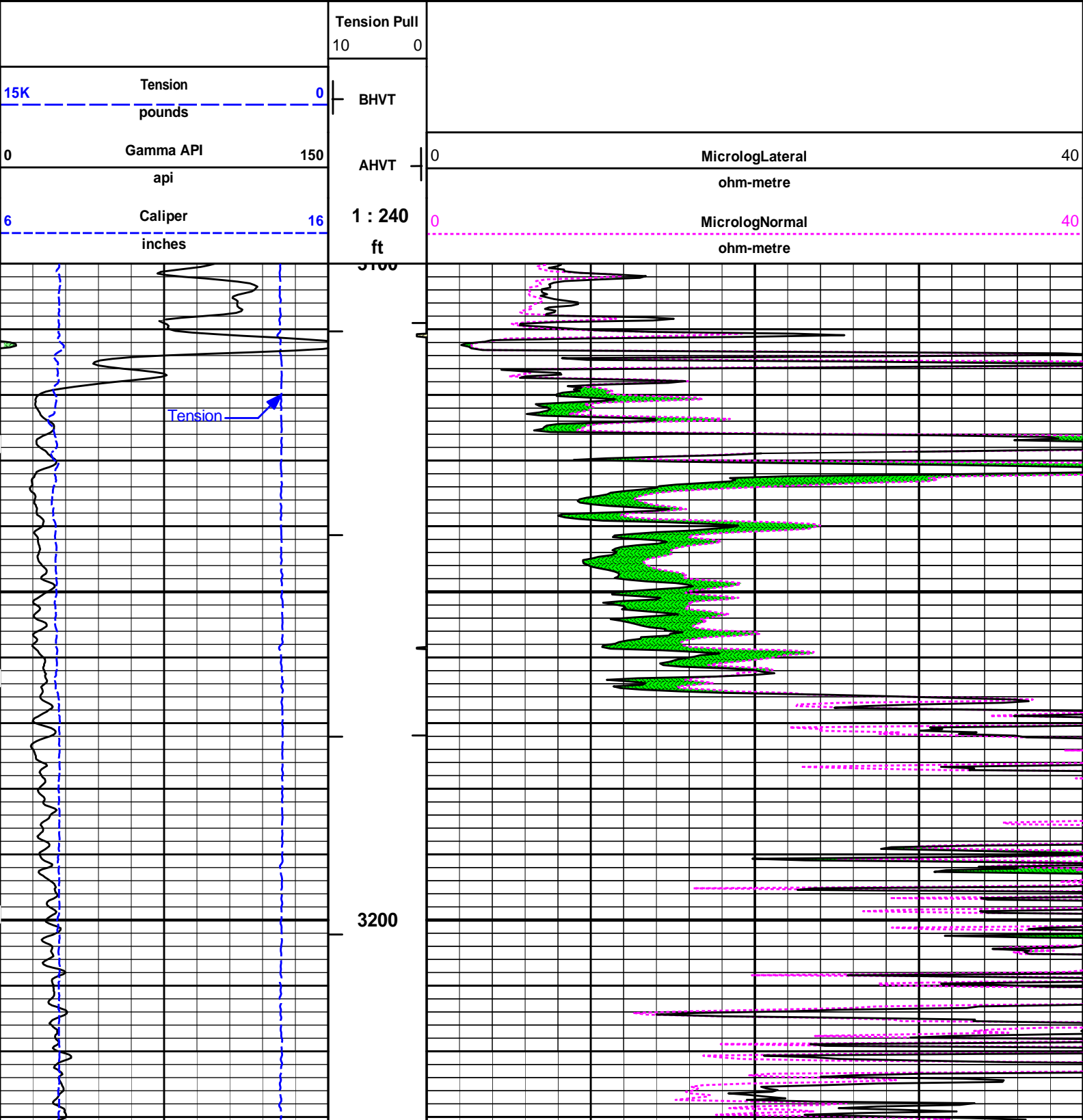
0	MicrologNormal	40
	ohm-metre	
0	MicrologLateral	40
	ohm-metre	

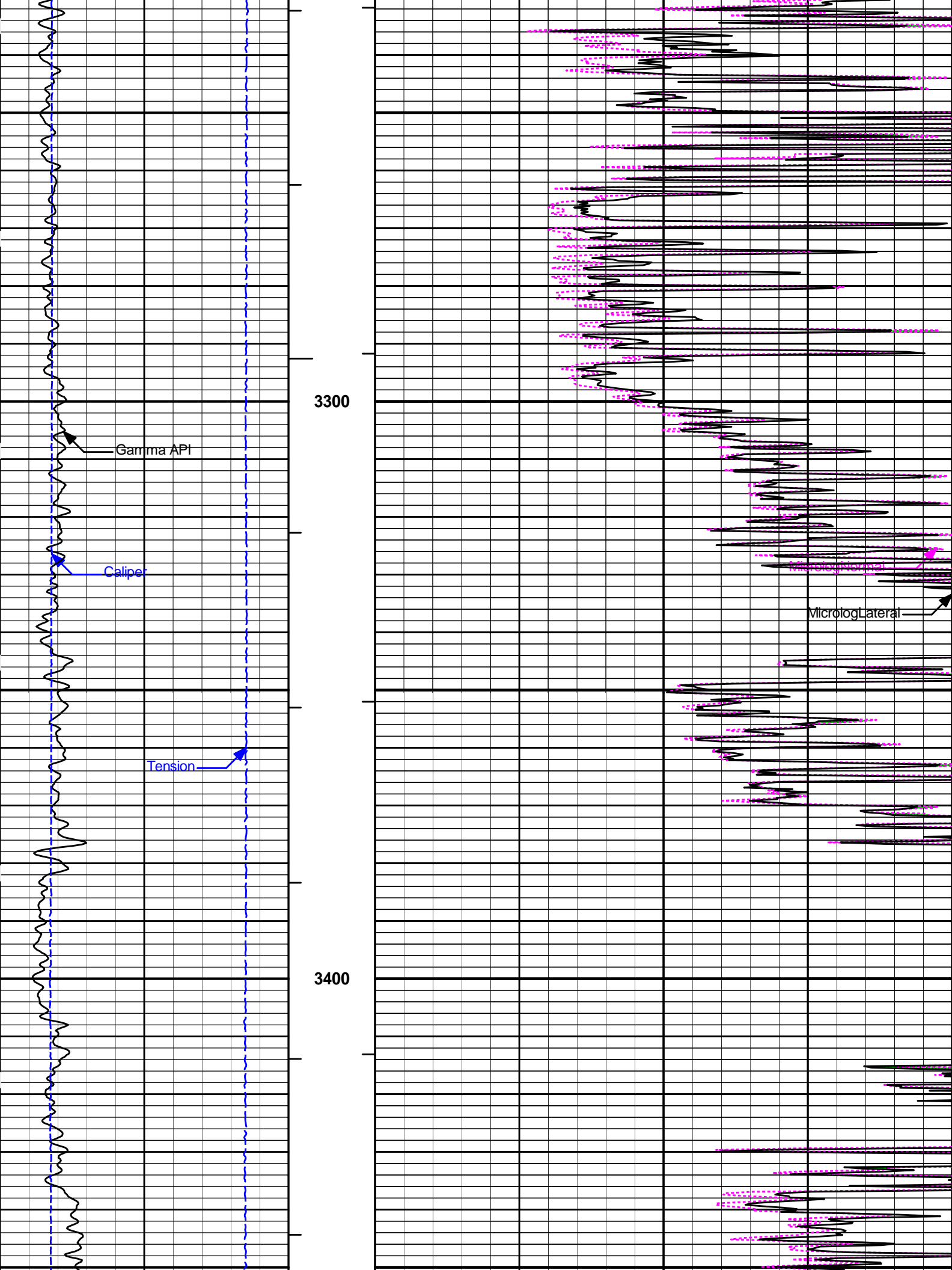
# 5 INCH MAIN LOG

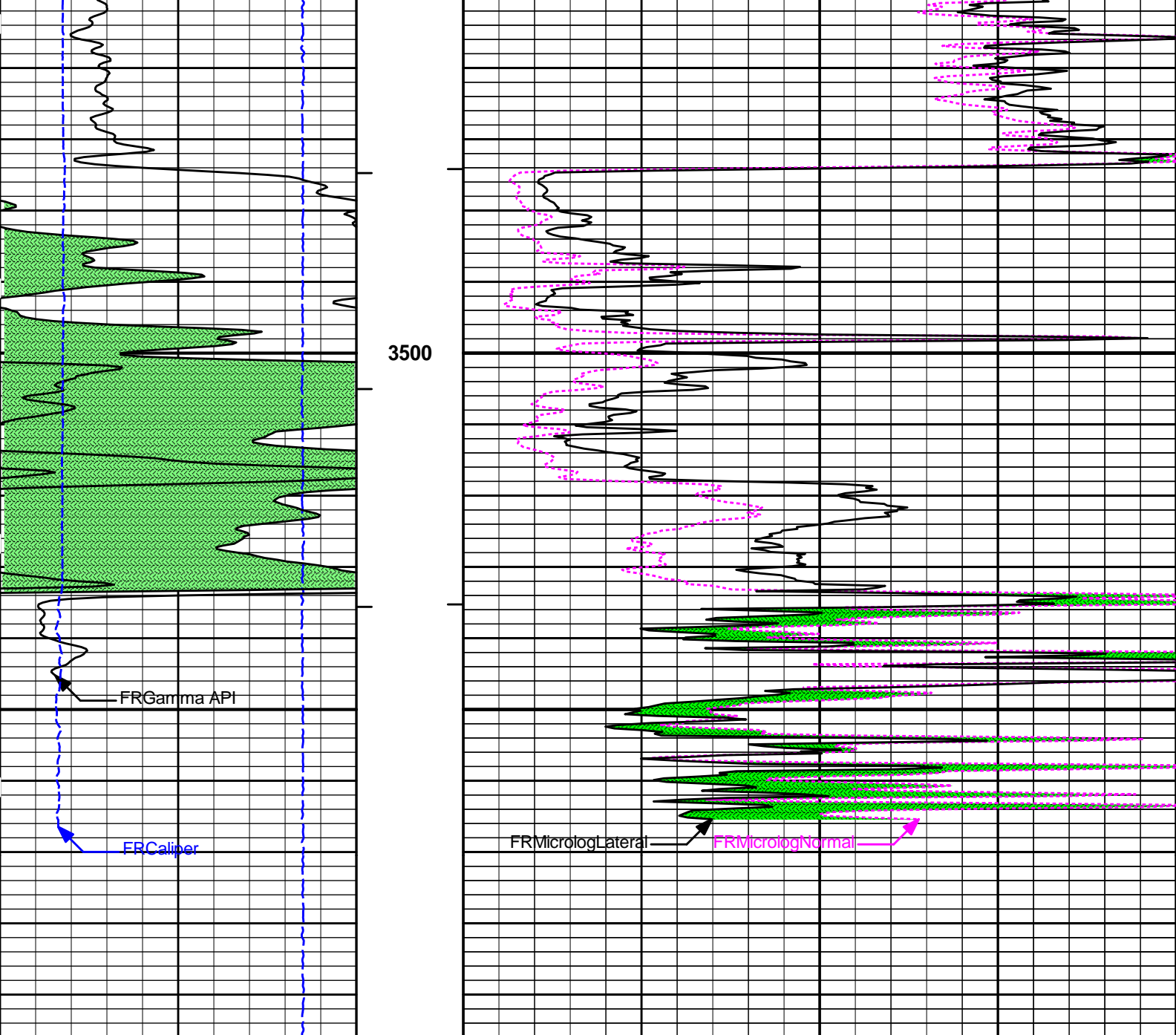
**HALLIBURTON**

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## REPEAT SECTION







6	Caliper	16	1 : 240	0	MicrologNormal	40
	inches		ft		ohm-metre	
0	Gamma API	150	AHVT	0	MicrologLateral	40
	api				ohm-metre	
15K	Tension	0	BHVT			
	pounds					
			Tension Pull			
			10 0			

**HALLIBURTON**

Plot Time: 13-Apr-13 08:36:12  
 Plot Range: 3100 ft to 3596.25 ft  
 Data: {ActiveWell}\Well Based\DAQ-0002-003\  
 Plot File: \\(not saved)\1\_Micro\_5\_RPT

**REPEAT SECTION**

**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	9.400	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	900.00	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	3600.00	ft
	SHARED	BHT	Bottom Hole Temperature	108.0	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?	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	
	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
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
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

BOTTOM

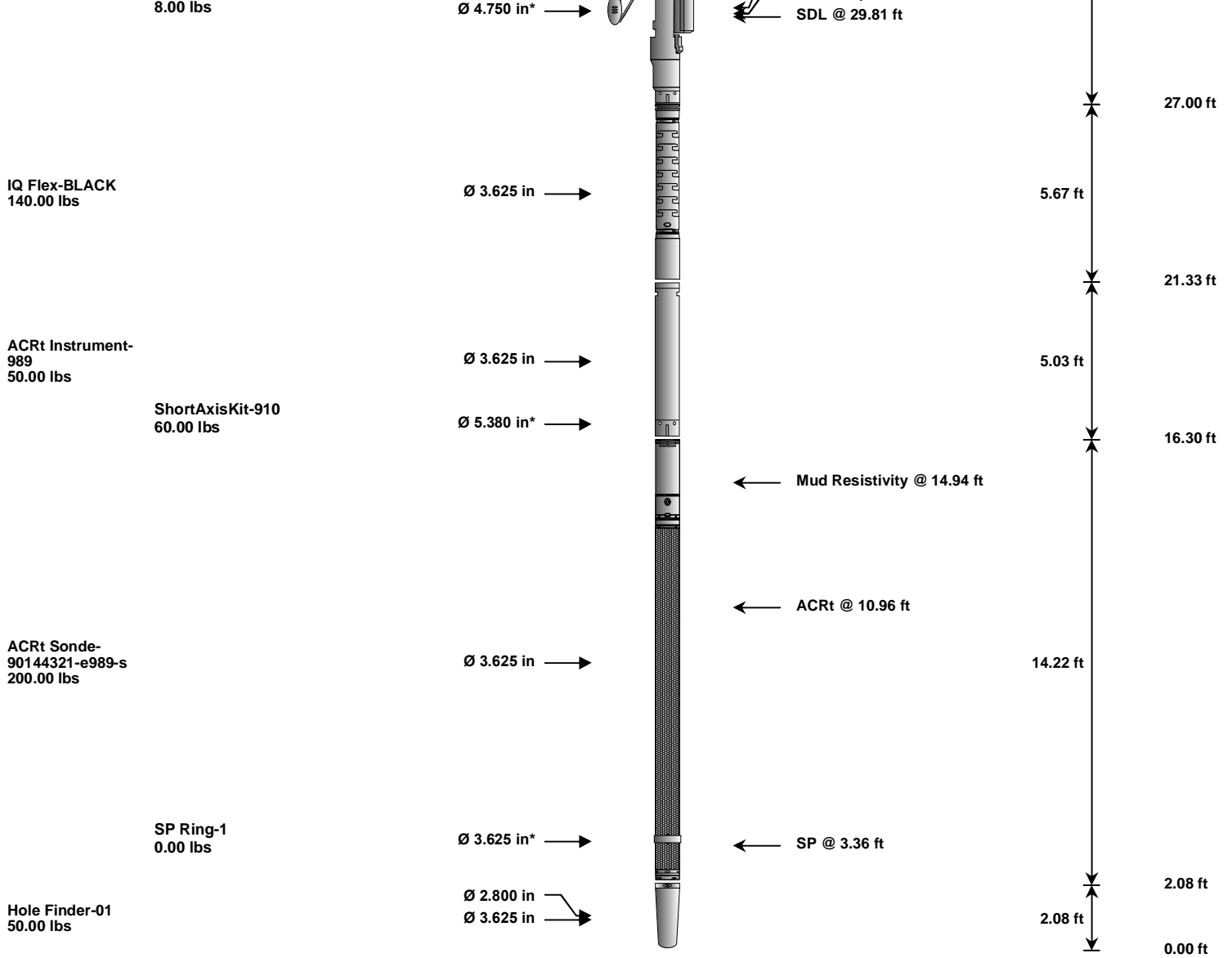
Data: HAMMER\_D\_V\_1\_50002 BLACK\_TRIPLEIDLE

Date: 13-Apr-13 04:59:13

**HALLIBURTON**

### TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-590_RED 37.50 lbs		Ø 2.750 in →		← Temperature @ 58.97 ft	3.03 ft	60.00 ft
XOHD-01 20.00 lbs		Ø 2.750 in → Ø 3.625 in →			0.95 ft	56.97 ft
GTET-11013113 165.00 lbs		Ø 3.625 in →		← GammaRay @ 49.96 ft	8.52 ft	56.02 ft
DSNT-10993115 174.00 lbs		Ø 3.625 in →		← DSN Far @ 40.57 ft ← DSN Near @ 39.82 ft	9.69 ft	47.50 ft
SDLT-10960494 360.00 lbs	SDLT Pad-10865873 65.00 lbs Microlog Pad-115M94P73	Ø 4.500 in → Ø 4.750 in* →		Microlog @ 30.00 ft SDL Caliper @ 29.82 ft	10.81 ft	37.82 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max. Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	590_RED	37.50	3.03	56.97	300.00
XOHD	Hostile to Dits Cross Over	01	20.00	0.95	56.02	300.00
GTET	Gamma Telemetry Tool	11013113	165.00	8.52	47.50	60.00
DSNT	Dual Spaced Neutron	10993115	174.00	9.69	37.82	60.00
SDLT	Spectral Density Tool	10960494	360.00	10.81	27.00	60.00
SDLP	Density Insite Pad	10865873	65.00	2.55	29.21	60.00
MICP	Microlog Pad	I15M94P73	8.00	1.00	29.50	60.00
IQF	IQ Flex tool	BLACK	140.00	5.67	21.33	300.00
ACRt	Array Compensated True Resistivity Instrument Section	989	50.00	5.03	16.30	300.00
SAK	Short Axis Kit for logging short axis of a borehole.	910	60.00	1.02	16.30	300.00
ACRt	Array Compensated True Resistivity Sonde Section	90144321-e989-s	200.00	14.22	2.08	300.00
SP	SP Ring	1	0.00	0.25	3.36	300.00
HFND	Hole Finder	01	50.00	2.08	0.00	300.00
<b>Total</b>			<b>1,329.50</b>	<b>60.00</b>		

\* Not included in Total Length and Length Accumulation.

Data: HAMMER\_D\_V\_1\_5I0002 BLACK\_TRIPLE\002 13-Apr-13 04:41 Dn @-0.3f Date: 13-Apr-13 04:58:36

COMPANY	VAL ENERGY
WELL	HAMMER D V 1-5
FIELD	WILSON

COUNTY

COWLEY

STATE

KANSAS

**HALLIBURTON**

MICROLOG