

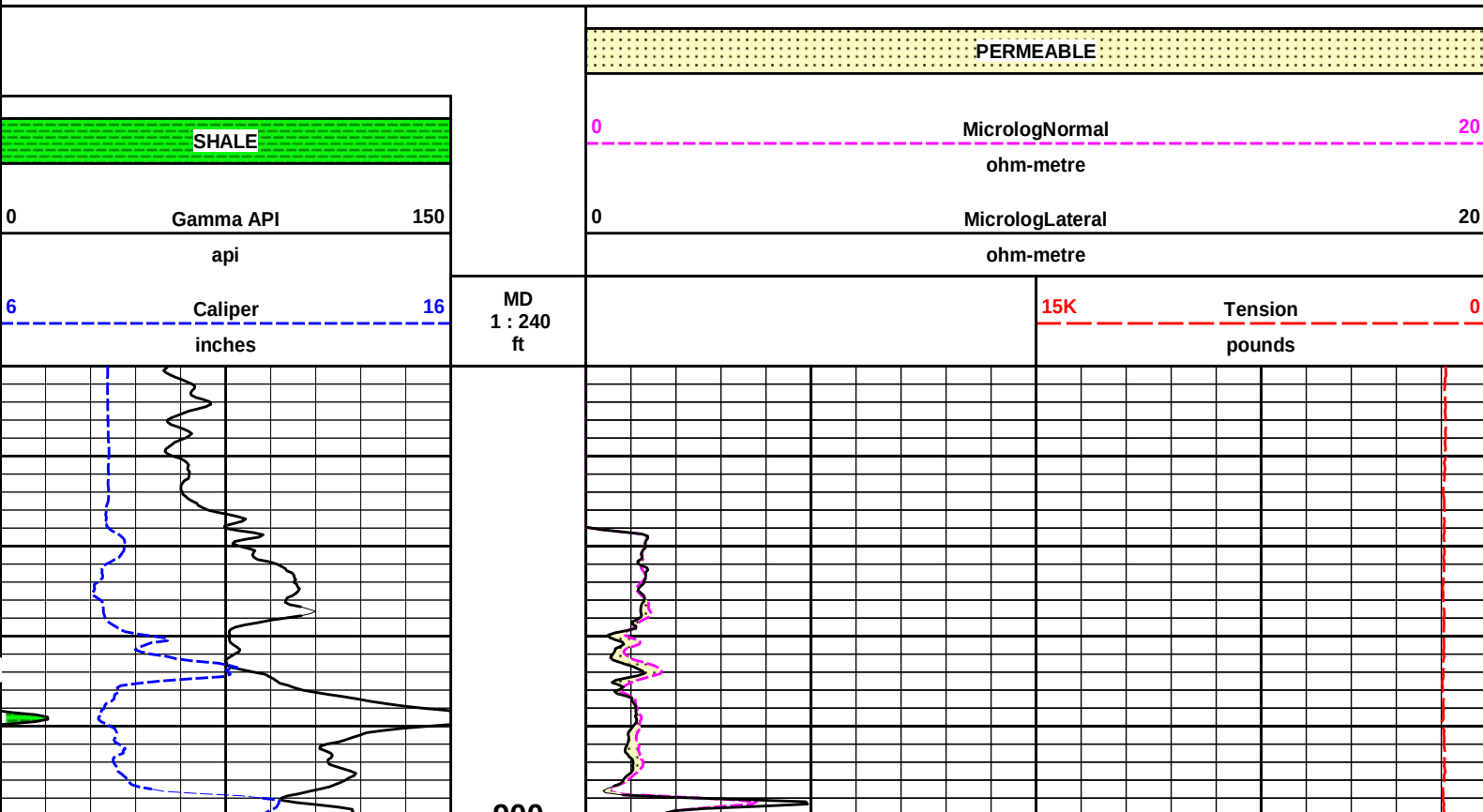
MICROLOG

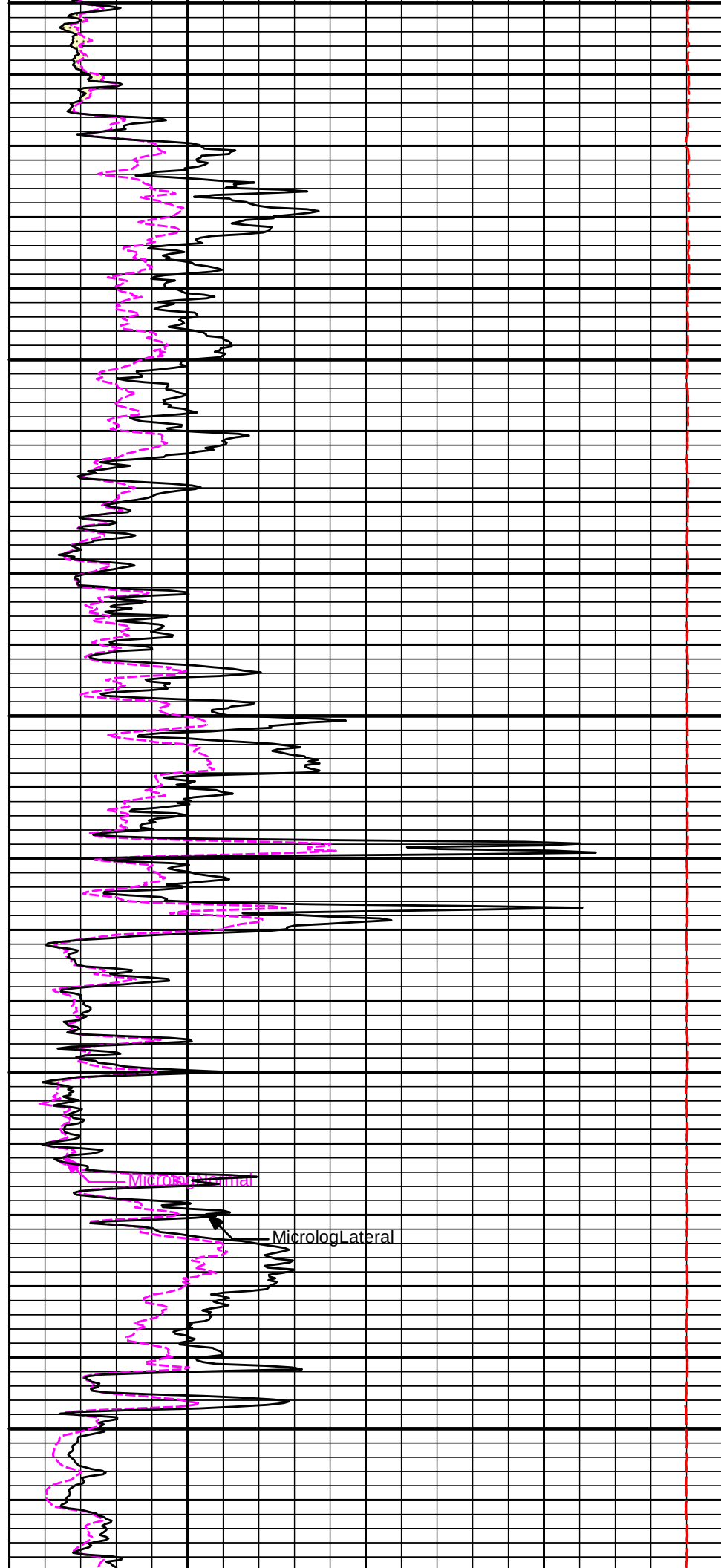
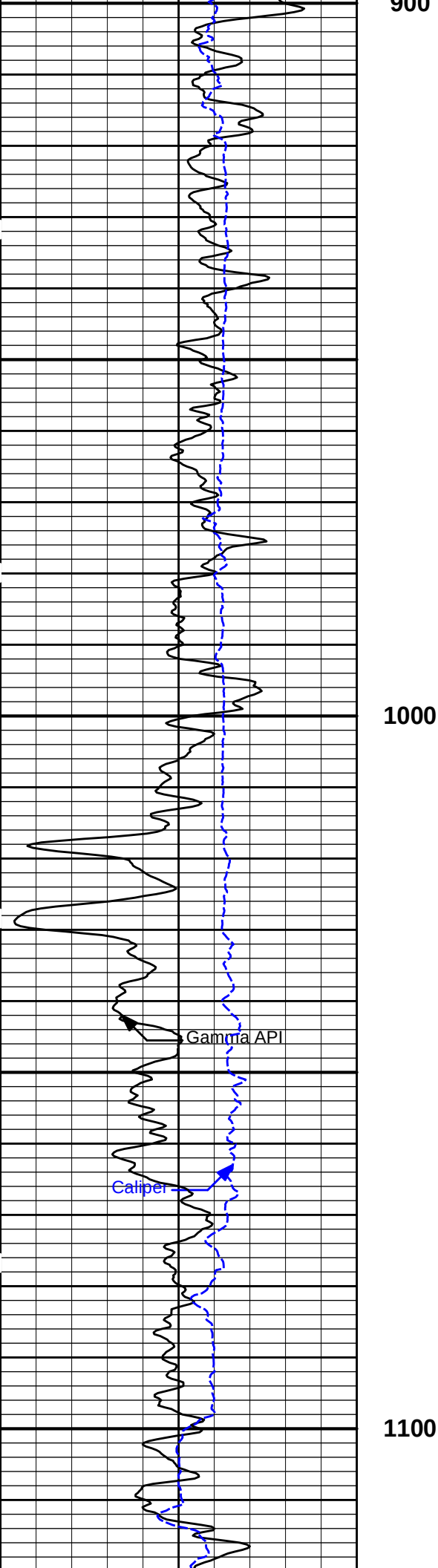
COMPANY	MERIT ENERGY	
WELL	ADAMS ATU N-5	
FIELD/BLOCK	HUGOTON	
COUNTY	GRANT	STATE KANSAS
API No.	15-067-21789-00-00	Other Services: ACRT DSNT, SDLT
Location	(SHL) 350' FNL & 600' FWL SE-NW-NW-NW	
Sect.	30	Twp. 27S
		Rge. 35W

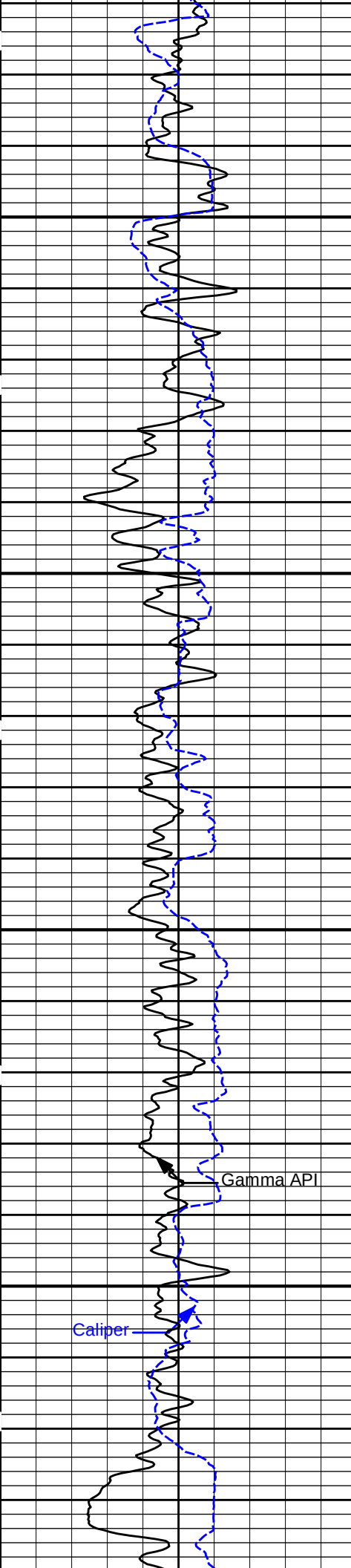
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Service Ticket No.: 901529745				API Serial No.: 15-067-21789-00-00				PGM Version: WL INSITE R4.2.0 (Build 2)			
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES					
Date	Sample No.					Type Log	Depth	Scale Up Hole		Scale Down 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	MICROLOG	RUBBER	ADJ	N/A	
Rmc @ Meas. Temp.		@		@			10673803				
Source Rmf	Rmc										
Rm @ BHT		@		@							
Rmf @ BHT		@		@							
Rmc @ BHT		@		@							
EQUIPMENT DATA											
GAMMA			ACOUSTIC			DENSITY			NEUTRON		
Run No.	ONE		Run No.			Run No.			Run No.		
Serial No.	GTET		Serial No.			Serial No.			Serial No.		
Model No.	10811258		Model No.			Model No.			Model No.		
Diameter	3.625"		No. of Cent.			Diameter			Diameter		
Detector Model No.	T-102		Spacing			Log Type			Log Type		
Type	SCINT					Source Type			Source Type		
Length	8'		LSA [Y/N]			Serial No.			Serial No.		
Distance to Source	10'		FWDA [Y/N]			Strength			Strength		

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	3242	869	REC	0	150											
DIRECTIONAL INFORMATION																
Maximum Deviation								@	KOP							@
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING																
CHLORIDES RERPOTEDAT 4,000 MG/L																
LCM REPORTED AT 4 LB/BBL																
GTET-DSNT-SDLT-ACRT RUN IN COMBINATION																
SP BECOMES NOISY AT 2900'																
TODAY'S CREW: V. JAIME & K. KING																
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.																
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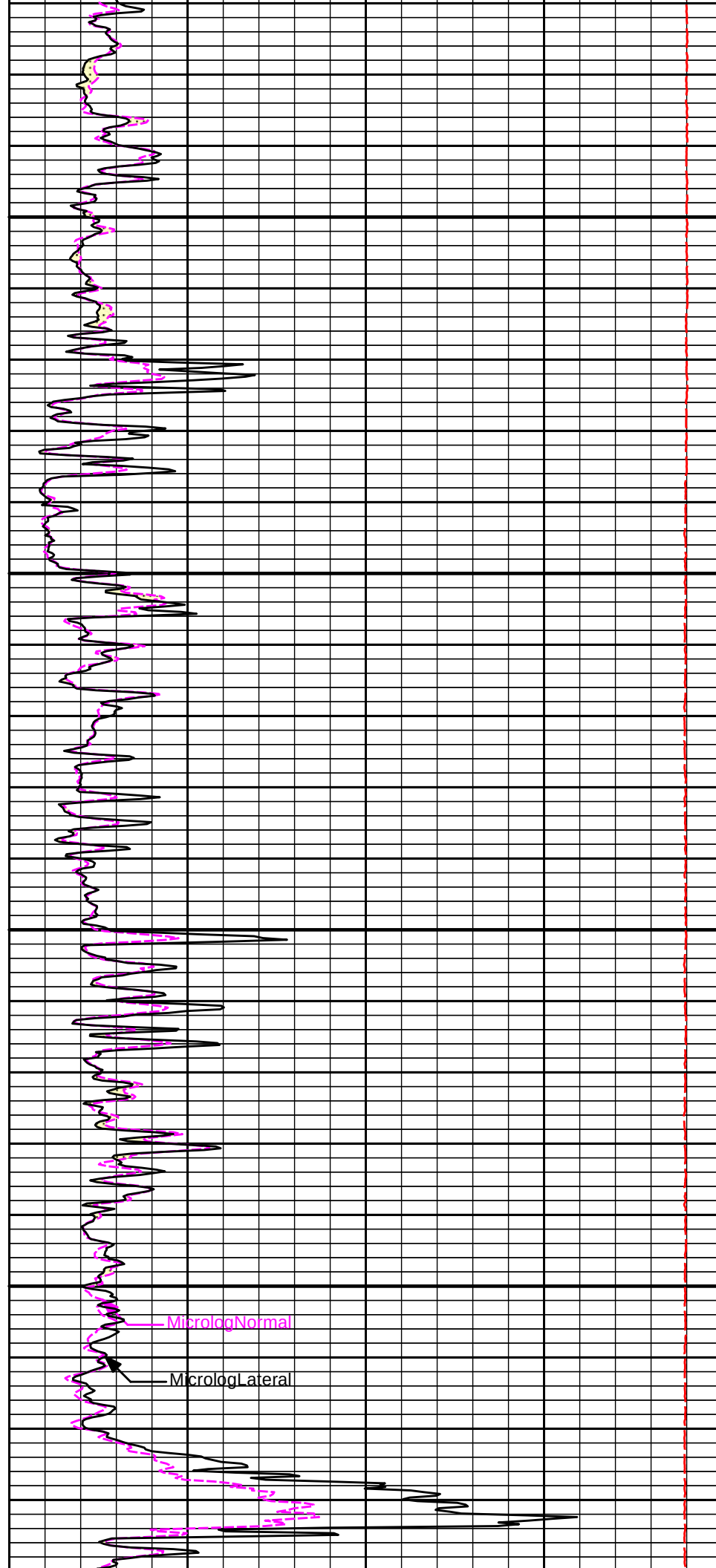






1200

1300



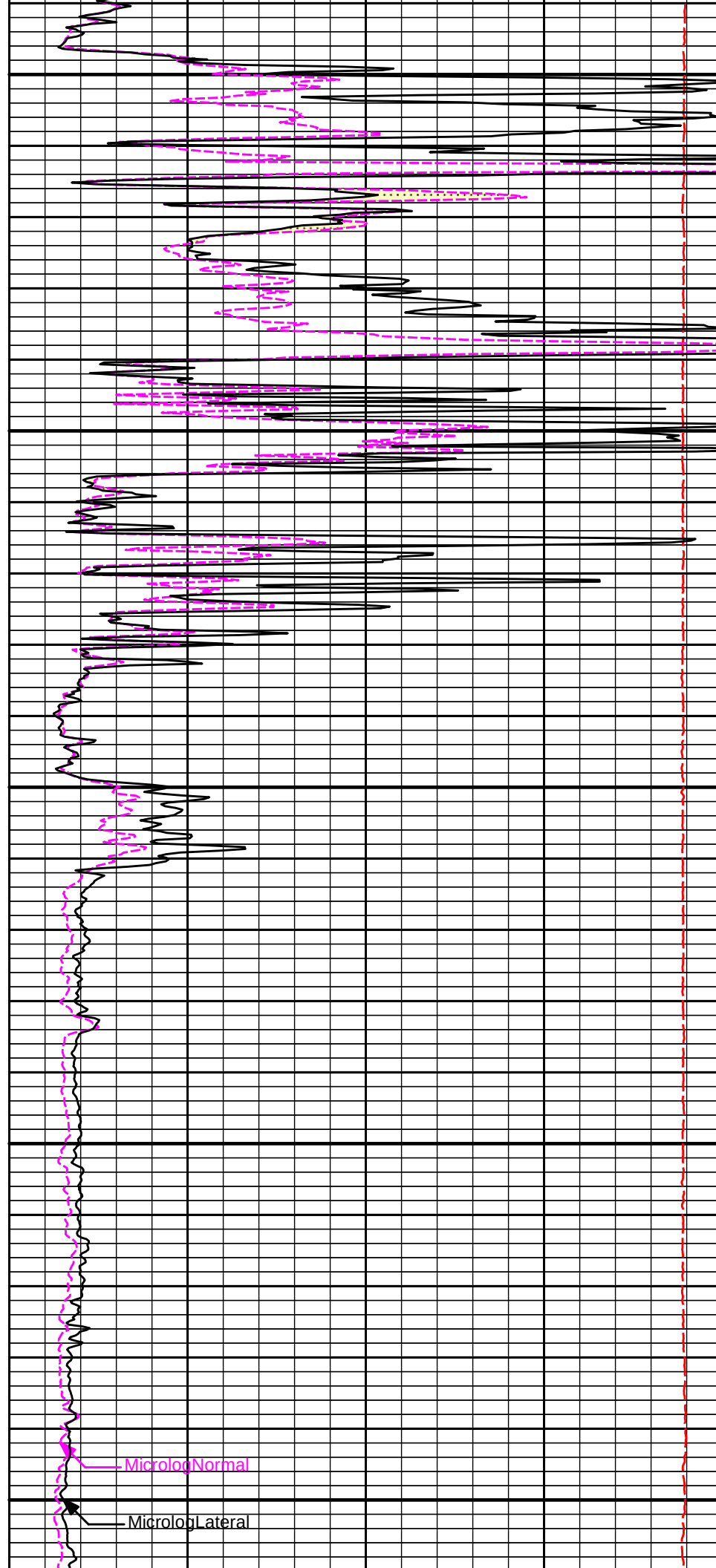
MicrologNormal

MicrologLateral



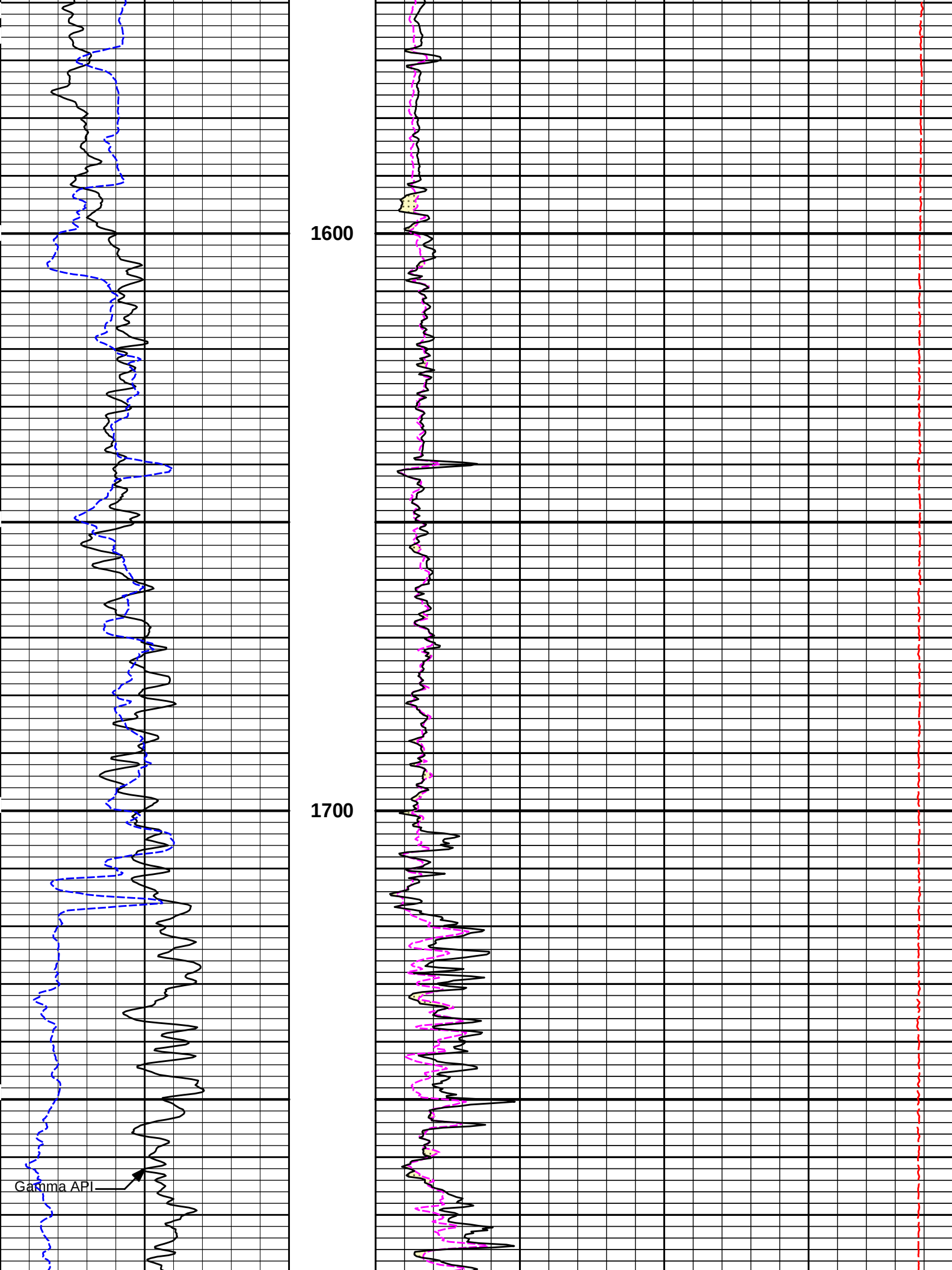
1400

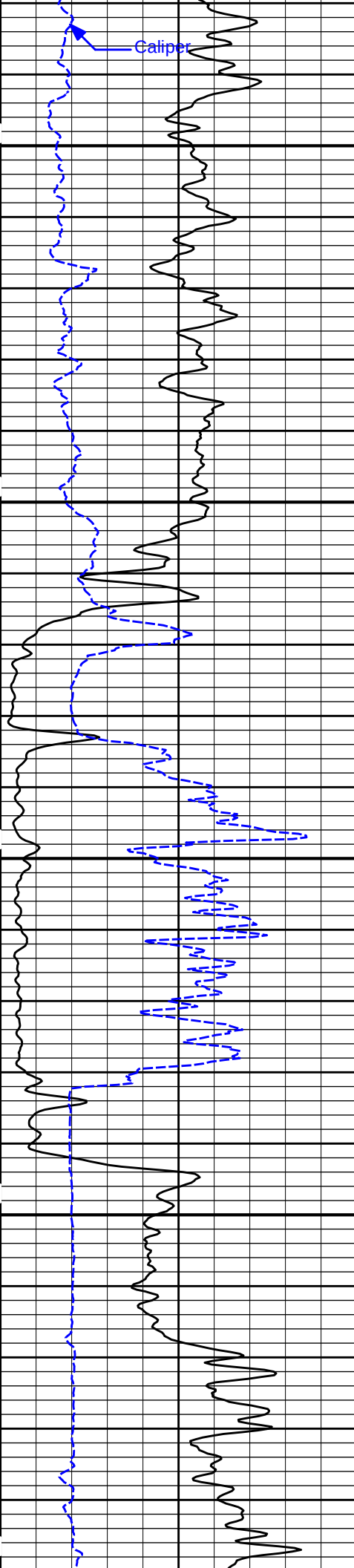
1500



MicrologNormal

MicrologLateral

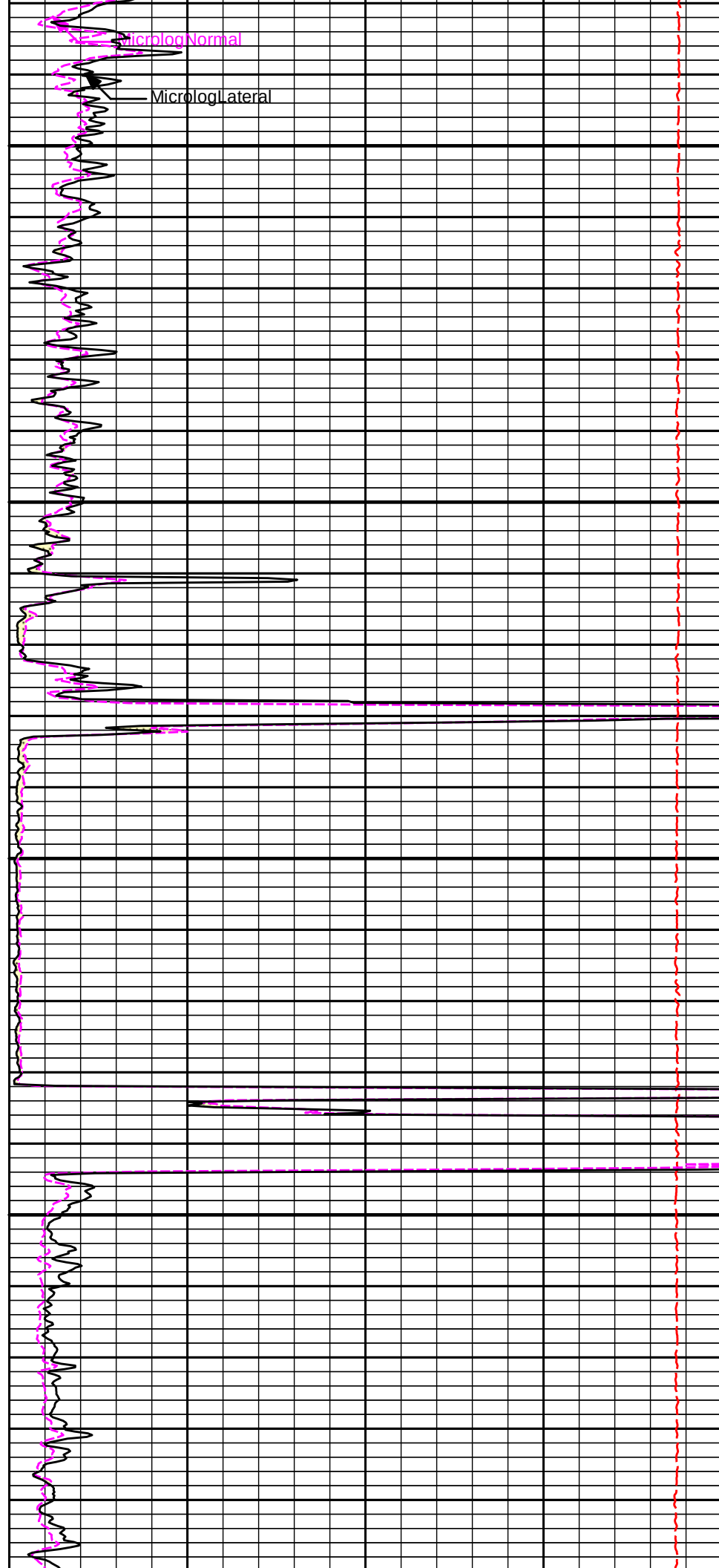


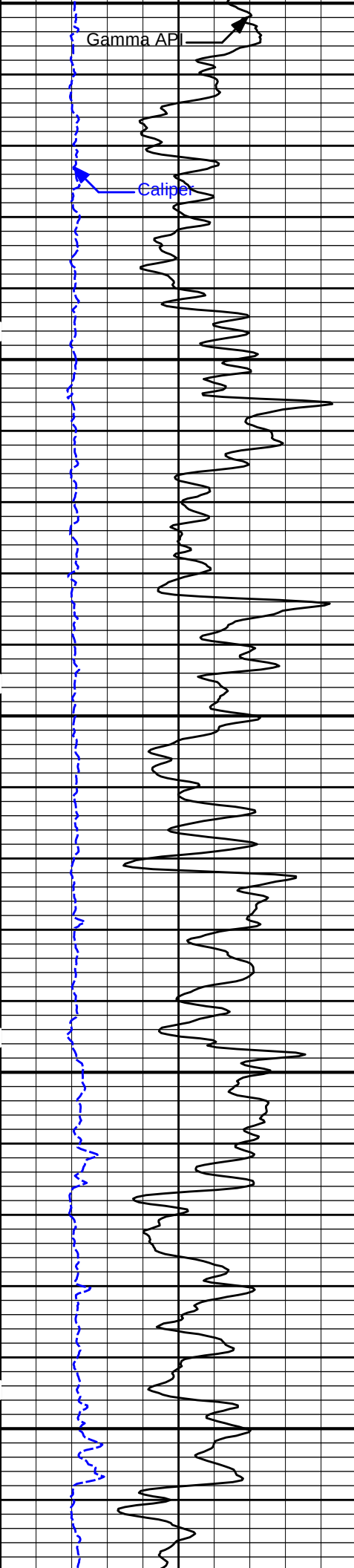


1800

1900

2000

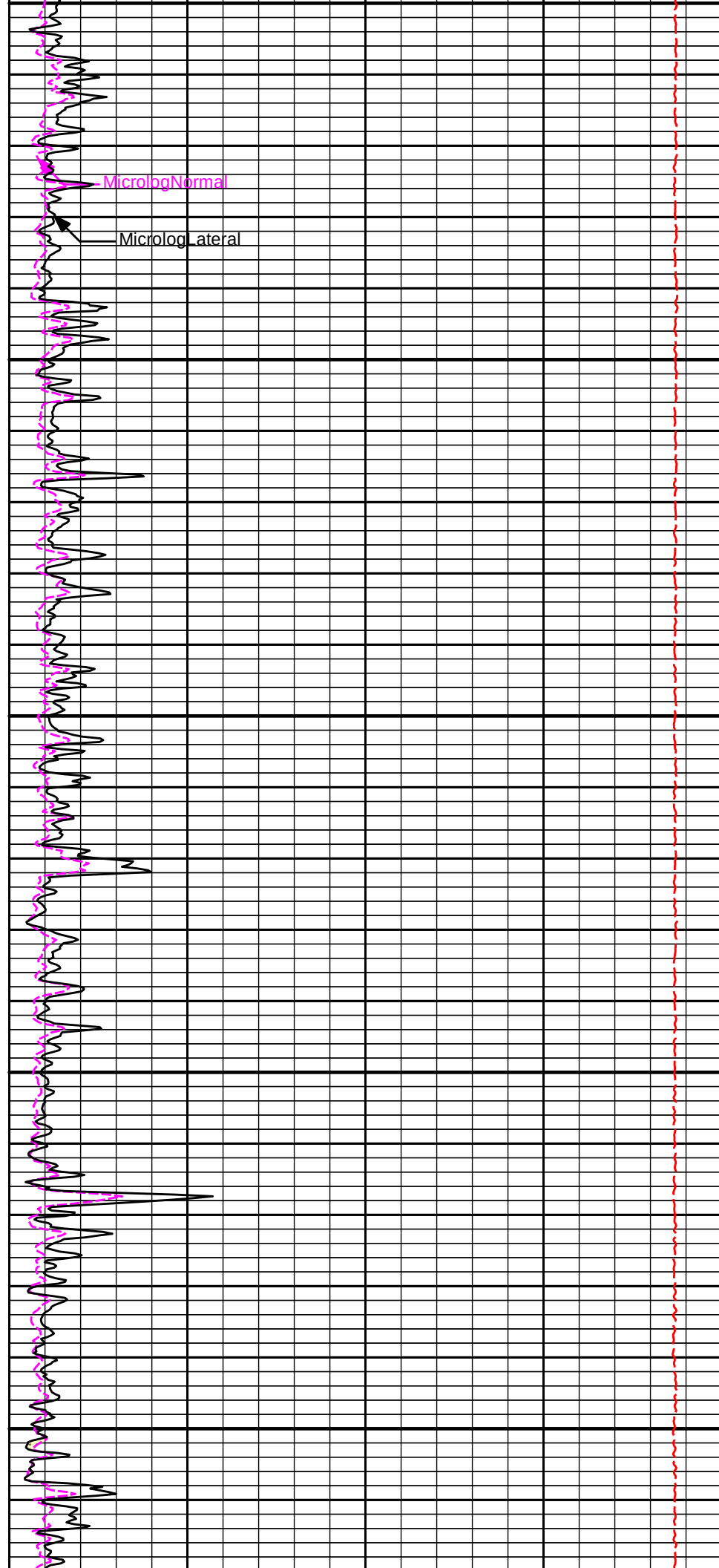


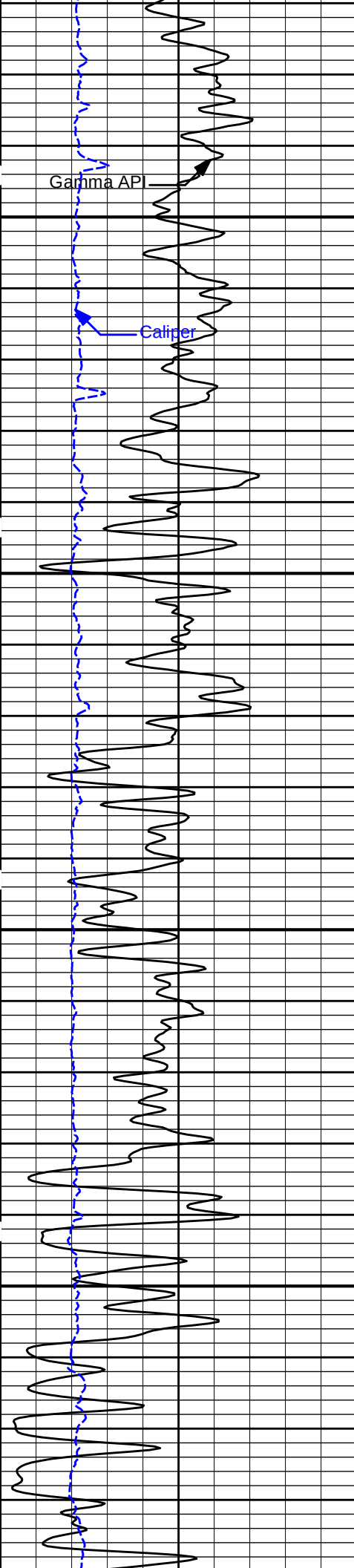


2000

2100

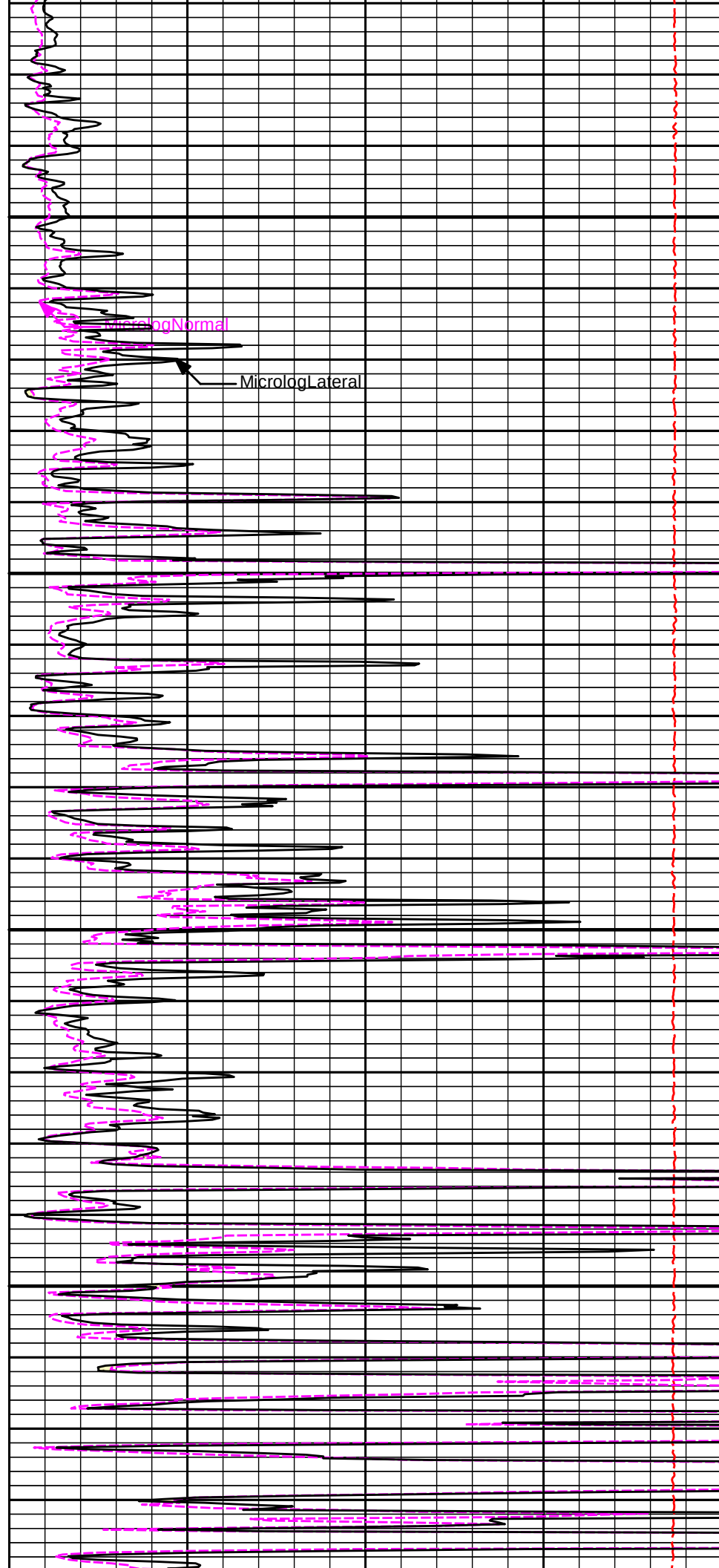
2200

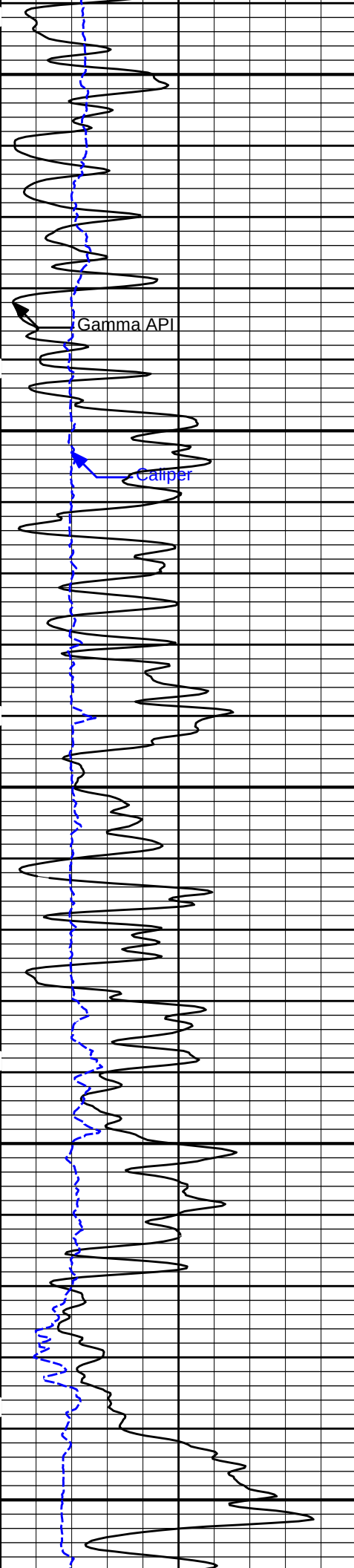




2300

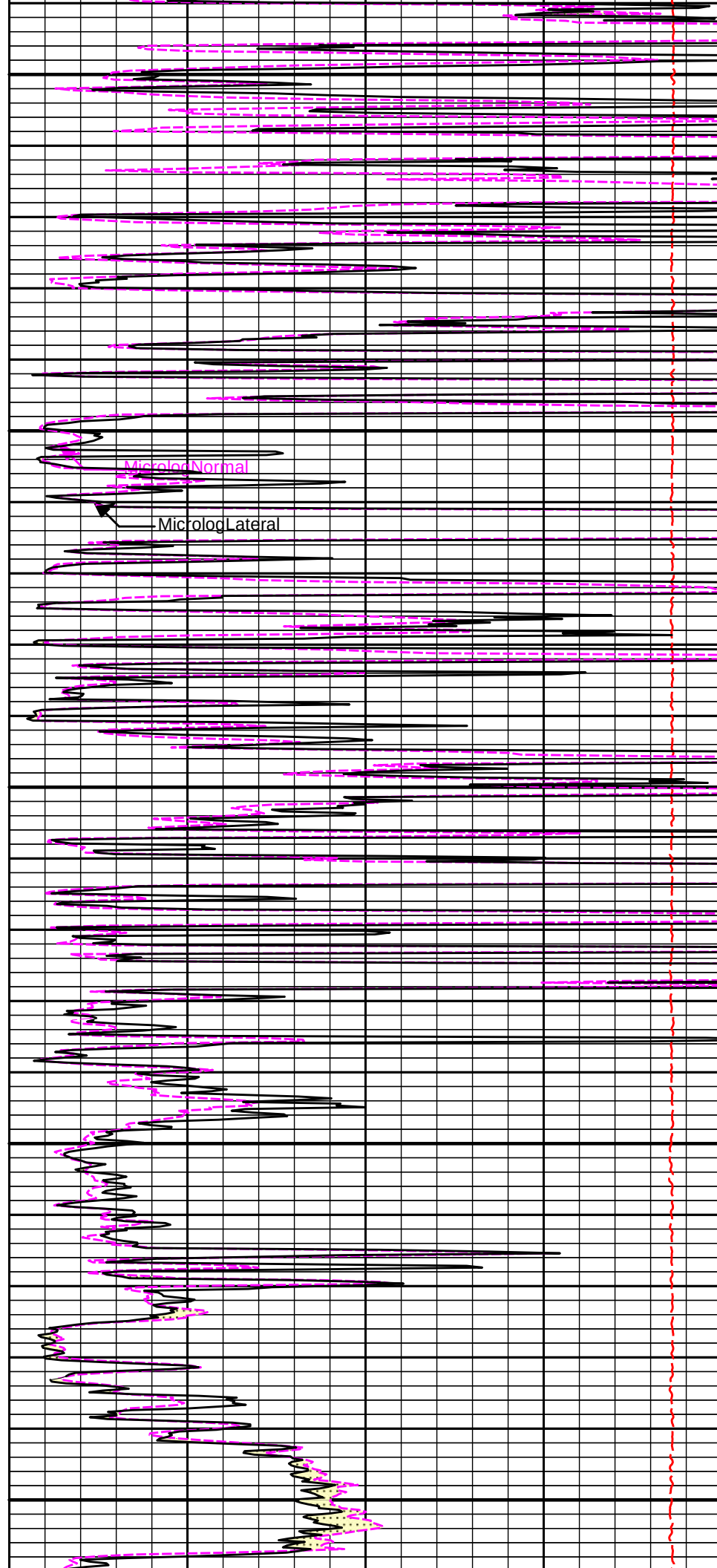
2400

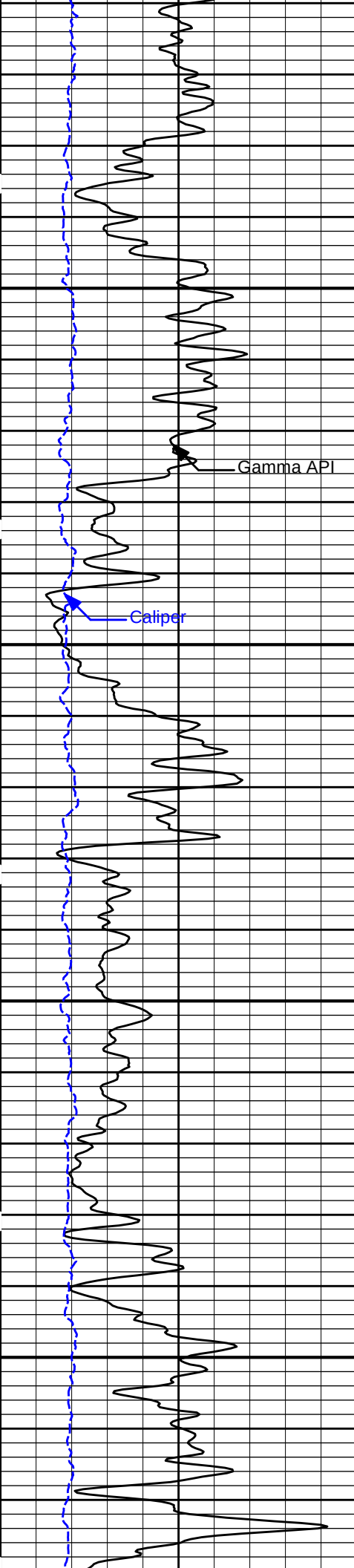




2500

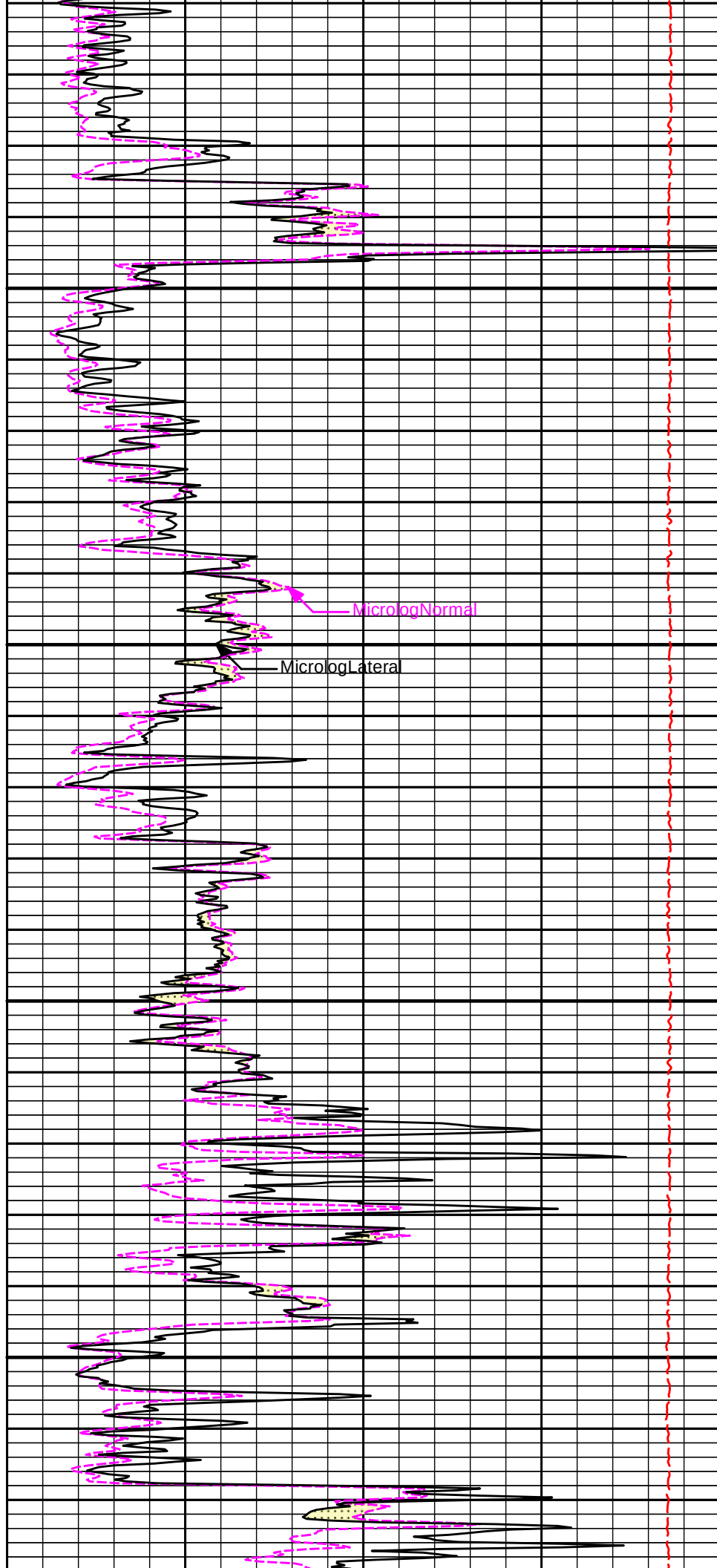
2600

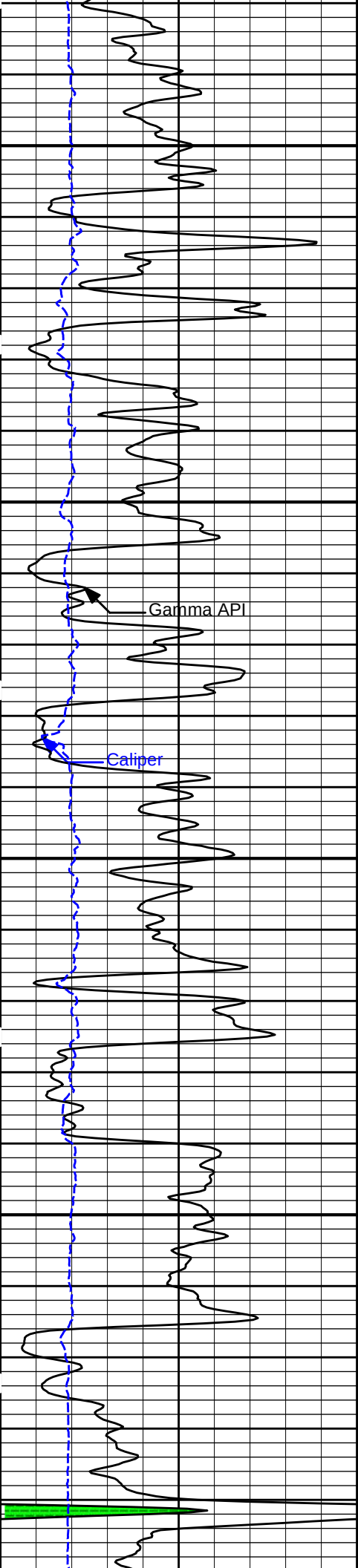




2700

2800





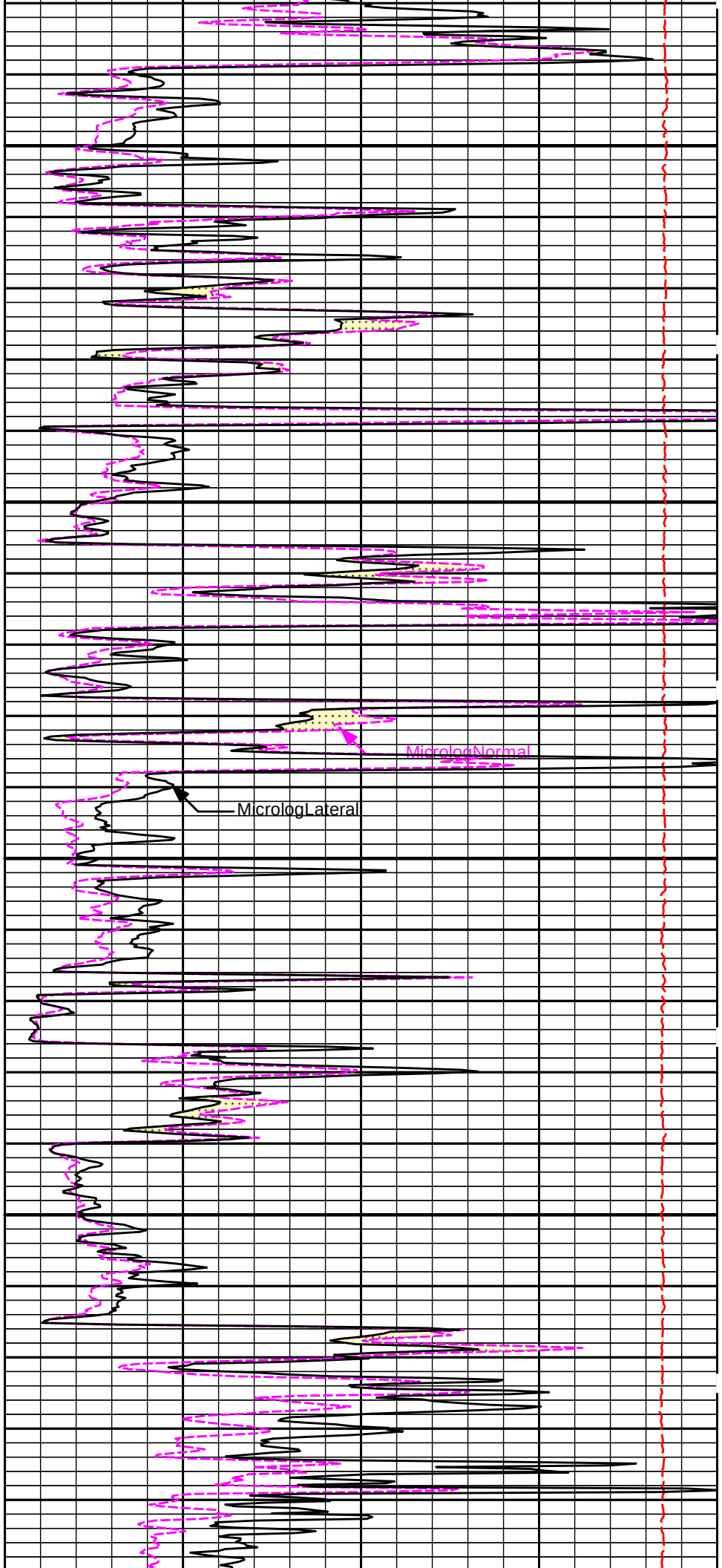
2900

Gamma API

Caliper

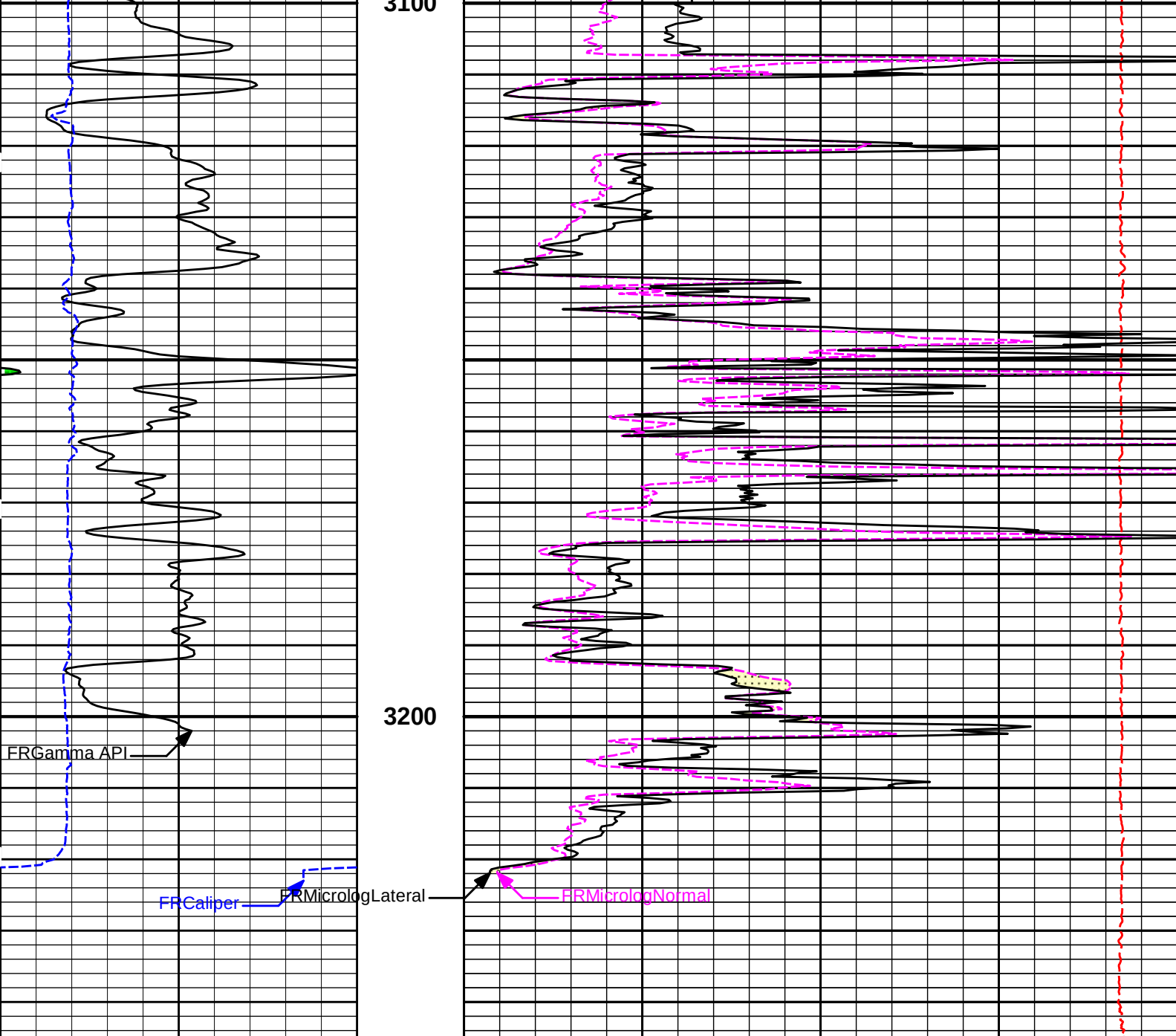
3000

3100



MicrologLateral

MicrologNormal



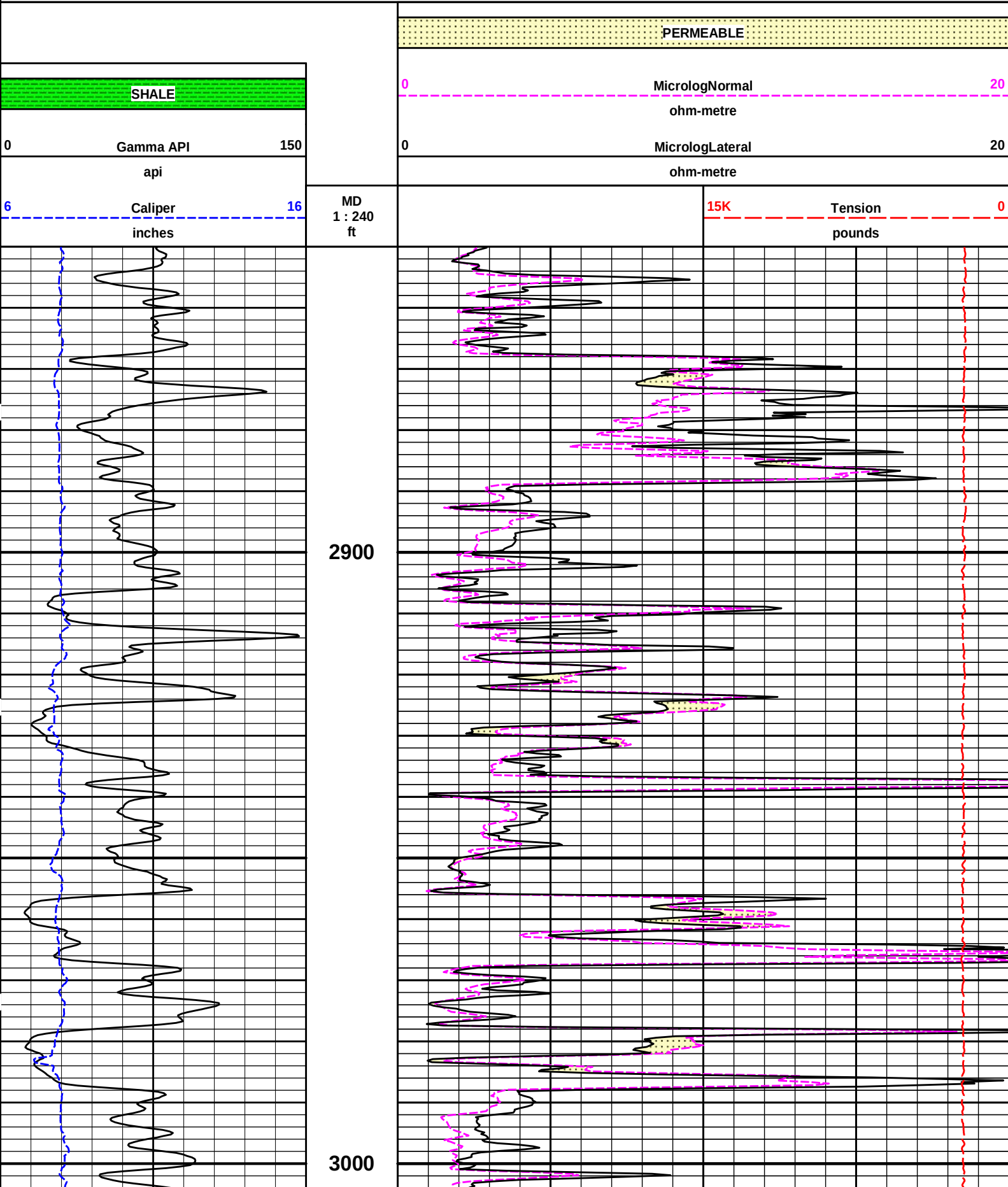
6 Caliper 16		MD 1 : 240 ft	15K Tension 0	
inches			pounds	
0 Gamma API 150			0 MicrologLateral 20	
api			ohm-metre	
SHALE			0 MicrologNormal 20	
			ohm-metre	
			PERMEABLE	

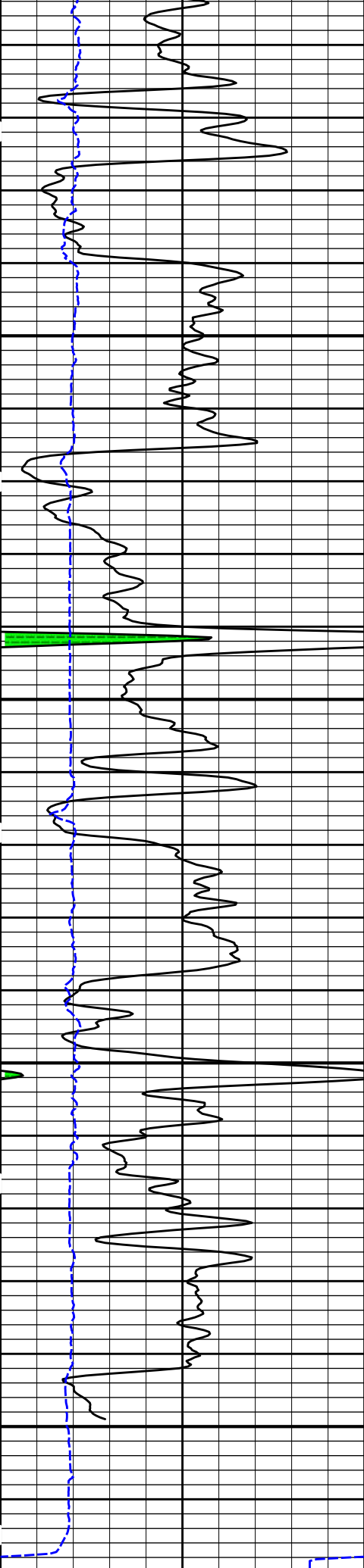
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Plot Time: 24-Jul-14 11:37:42
Plot Range: 850 ft to 3245.42 ft
Data: ADAMS_ATU_N-5\Well Based\CASING\
Plot File: \\LOCAL-ADAMS_ATU_N-5\0001 SP-GTET-DSNT-SDLT-ACRT-BN\MICRO\Microlog_IQ_5_main_lib

5 INCH MAIN LOG

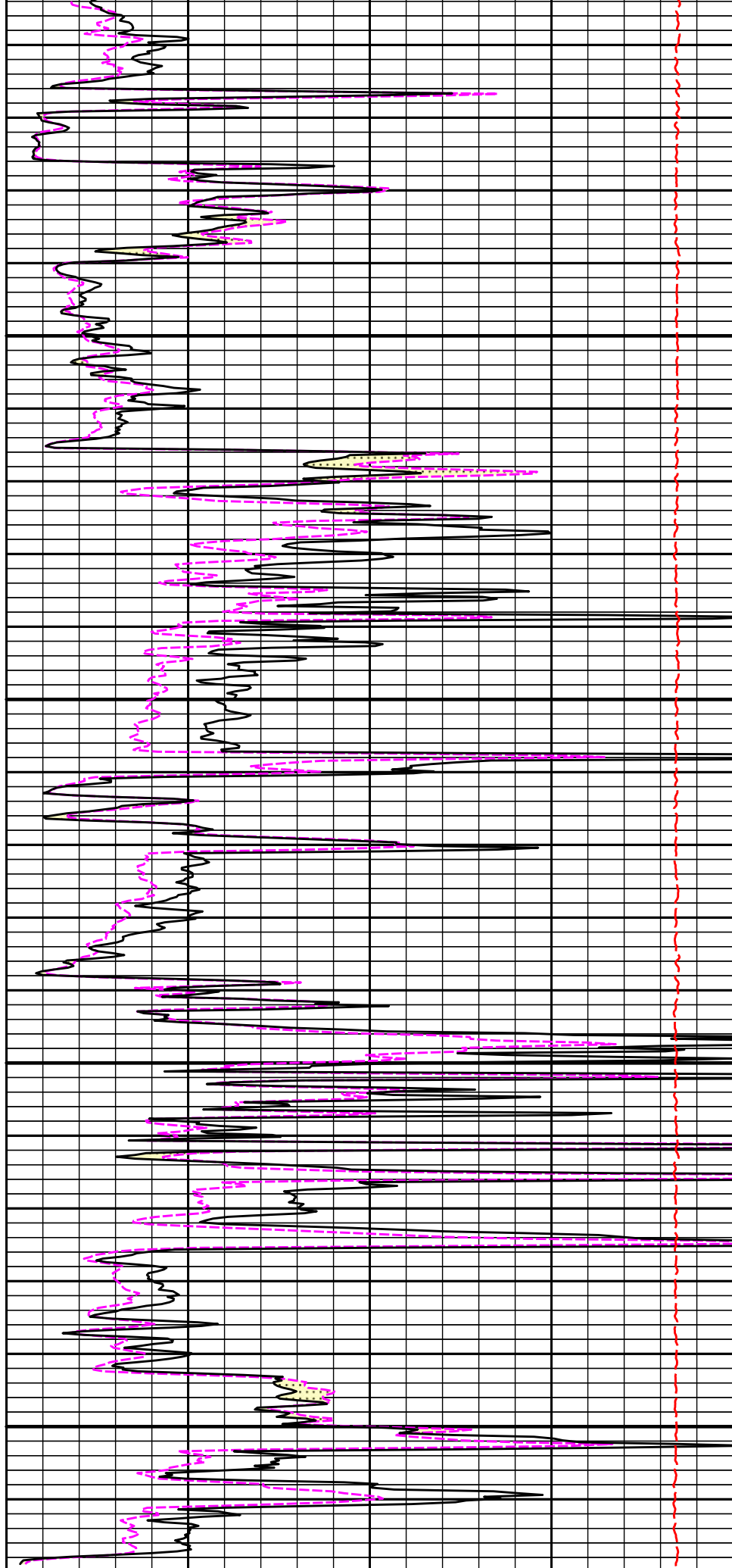
REPEAT SECTION

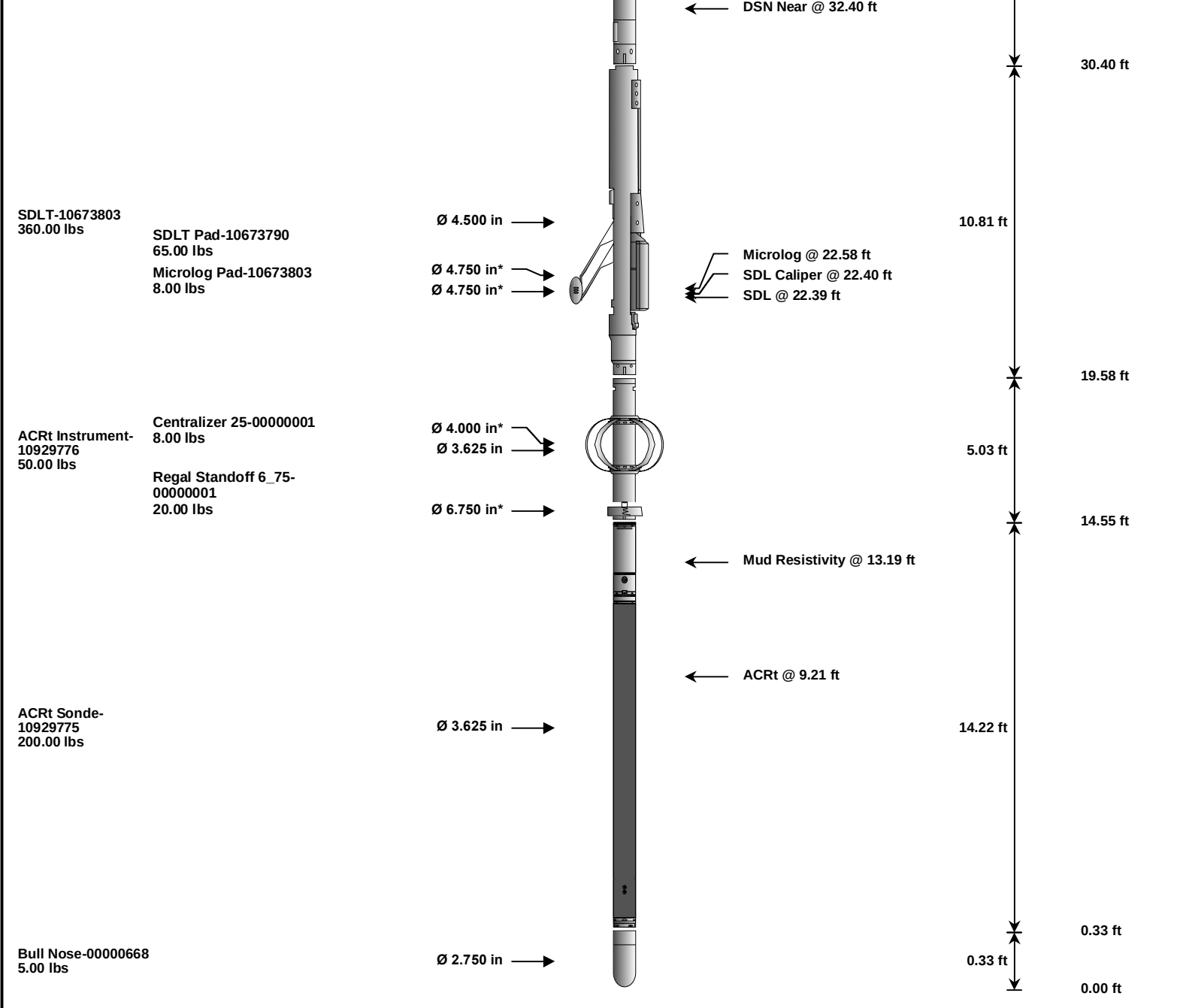




3100

3200





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	52.34	300.00
SP		SP Sub	12345678	60.00	3.74	48.60	300.00
GTET		Gamma Telemetry Tool	10811258	165.00	8.52	40.08	60.00
DSNT		Dual Spaced Neutron	10735145	174.00	9.69	30.40	60.00
DCNT		DSN Decentralizer	10735145	6.60	5.13	* 33.73	300.00
SDLT		Spectral Density Tool	10673803	360.00	10.81	19.58	60.00
SDLP		Density Insite Pad	10673790	65.00	2.55	* 21.79	60.00
MICP		Microlog Pad	10673803	8.00	1.00	* 22.08	60.00
ACRt		Array Compensated True Resistivity Instrument Section	10929776	50.00	5.03	14.55	120.00
RSOF		Regal Standoff 6.75in	00000001	20.00	0.52	* 14.71	300.00
OBCEN		Centralizer - 25 in. Overbody	00000001	8.00	2.08	* 16.19	300.00
ACRt		Array Compensated True Resistivity Sonde Section	10929775	200.00	14.22	0.33	120.00
BLNS		Bull Nose	00000668	5.00	0.33	0.00	300.00
Total				1,256.60	58.59		
* Not included in Total Length and Length Accumulation.							
Data: ADAMS_ATU_N-510001 SP-GTET-DSNT-SDLT-ACRT-BNIDLE							Date: 24-Jul-14 08:55:06

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 10811258

Reference Calibration Date: 25-Apr-14 08:23:37

Engineer: SHELDON INGERSOLL

Calibration Date: 23-Jul-14 09:11:42

Software Version: WL INSITE R4.2.0 (Build 2)

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	42.9	42.8	api
Background + Calibrator	275.2	274.8	api
Calibrator	232.3	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 10811258

Reference Calibration Date: 23-Jul-14 09:11:42

Engineer: SHELDON INGERSOLL

Calibration Date: 23-Jul-14 09:16:16

Software Version: WL INSITE R4.2.0 (Build 2)

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	42.8	43.0	api
Background + Calibrator	274.8	276.4	api
Calibrator	232.0	233.4	api

Shop	Field	Difference	Tolerance
232.0	233.4	-1.4	+/- 9.00

MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - 10673803

Reference Calibration Date: 16-Jul-14 15:25:52

Engineer: SHELDON INGERSOLL

Calibration Date: 17-Jul-14 18:41:52

Software Version: WL INSITE R4.2.0 (Build 2)

Calibration Version: 1

Host Tool Name: DSNT - 10735145

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.09	-0.06	-0.01	-0.01	ohmm
Calibration Point #1	-0.03	0.00	0.01	0.00	ohmm
Calibration Point #2	19.97	20.00	19.95	20.00	ohmm
Internal Reference	19.86	19.90	19.96	20.00	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	1.88	-2.94	V
Calibration Point #1	19.10	0.92	V
Calibration Point #2	5418.92	7017.42	V
Internal Reference	5390.72	7018.42	V

MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - 10673803

Reference Calibration Date: 17-Jul-14 18:41:52

Engineer: SHELDON INGERSOLL			Calibration Date: 23-Jul-14 09:08:29			
Software Version: WL INSITE R4.2.0 (Build 2)			Calibration Version: 1			
	Measurement	Micro Log Normal		Micro Log Lateral		
		Shop	Field	Shop	Field	Units
	Tool Zero	-0.06	-0.06	-0.01	-0.00	ohmm
	Internal Reference	19.90	19.91	20.00	20.01	ohmm
	Summary					
	Signal	Shop	Field	Difference		Tolerance
	Microlog Normal	19.90	19.91	-0.01		+/- 0.80
Microlog Lateral	20.00	20.01	-0.01		+/- 0.80	
CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10811258						
Gamma Ray Calibrator	232.0	233.4	-----	-1.4	+/- 9.00	api
Microlog Pad-10673803						
MicroLog Normal	19.90	19.91	-----	-0.01	+/-0.80	ohmm
MicroLog Lateral	20.00	20.01	-----	-0.01	+/-0.80	ohmm
Data: ADAMS_ATU_N-510001 SP-GTET-DSNT-SDLT-ACRT-BNIDLE				Date: 24-Jul-14 08:59:32		

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	12.250	in
1688.00					
	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	8.400	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	3260.00	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	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	

CrossPlot	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	DSNO	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	
	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	SDLT	
BOTTOM					
Data: ADAMS_ATU_N-510001 SP-GTET-DSNT-SDLT-ACRT-BNIDLE				Date: 24-Jul-14 10:28:18	

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INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
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Depth Panel				
TENS	Tension	0.00	NO	
Rwa / CrossPlot				
TPUL	Tension Pull	58.59	NO	
BS	Bit Size	58.59	NO	
HDIA	Measured Hole Diameter	0.00	NO	
RWCH				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	50.56	NO	
SP	Spontaneous Potential	50.56	BLK	1.250
SPR	Raw Spontaneous Potential	50.56	NO	
SPO	Spontaneous Potential Offset	50.56	NO	
GTET				
TPUL	Tension Pull	42.54	NO	
GR	Natural Gamma Ray API	42.54	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.54	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	42.54	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	32.30	NO	
RNDS	Near Detector Telemetry Counts	32.40	BLK	1.417
RFDS	Far Detector Telemetry Counts	33.15	TRI	0.583
DNTT	DSN Tool Temperature	32.40	NO	
DSNS	DSN Tool Status	32.30	NO	
ERND	Near Detector Telemetry Counts EVR	32.40	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.15	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.40	NO	
HDIA	Measured Hole Diameter	0.00	NO	
SDLT				
TPUL	Tension Pull	22.40	NO	
PCAL	Pad Caliper	22.40	TRI	0.250
ACAL	Arm Caliper	22.40	TRI	0.250
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	22.39	NO	
NAB	Near Above	22.21	BLK	0.920
NHI	Near Cesium High	22.21	BLK	0.920
NLO	Near Cesium Low	22.21	BLK	0.920
NVA	Near Valley	22.21	BLK	0.920
NBA	Near Barite	22.21	BLK	0.920
NDE	Near Density	22.21	BLK	0.920
NPK	Near Peak	22.21	BLK	0.920
NLI	Near Lithology	22.21	BLK	0.920
NBAU	Near Barite Unfiltered	22.21	BLK	0.250
NLIU	Near Lithology Unfiltered	22.21	BLK	0.250
FAB	Far Above	22.56	BLK	0.250
FHI	Far Cesium High	22.56	BLK	0.250
FLO	Far Cesium Low	22.56	BLK	0.250

FVA	Far Valley	22.56	BLK	0.250
FBA	Far Barite	22.56	BLK	0.250
FDE	Far Density	22.56	BLK	0.250
FPK	Far Peak	22.56	BLK	0.250
FLI	Far Lithology	22.56	BLK	0.250
PTMP	Pad Temperature	22.40	BLK	0.920
NHV	Near Detector High Voltage	21.79	NO	
FHV	Far Detector High Voltage	21.79	NO	
ITMP	Instrument Temperature	21.79	NO	
DDHV	Detector High Voltage	21.79	NO	
HDIA	Measured Hole Diameter	0.00	NO	
Microlog Pad				
TPUL	Tension Pull	22.58	NO	
MINV	Microlog Lateral	22.58	BLK	0.750
MNOR	Microlog Normal	22.58	BLK	0.750
Data: ADAMS_ATU_N-5I0001 SP-GTET-DSNT-SDLT-ACRT-BNIIIDLE			Date: 24-Jul-14 08:57:42	

COMPANY	MERIT ENERGY		
WELL	ADAMS ATU N-5		
FIELD	HUGOTON		
COUNTY	GRANT	STATE	KANSAS
HALLIBURTON		MICROLOG	