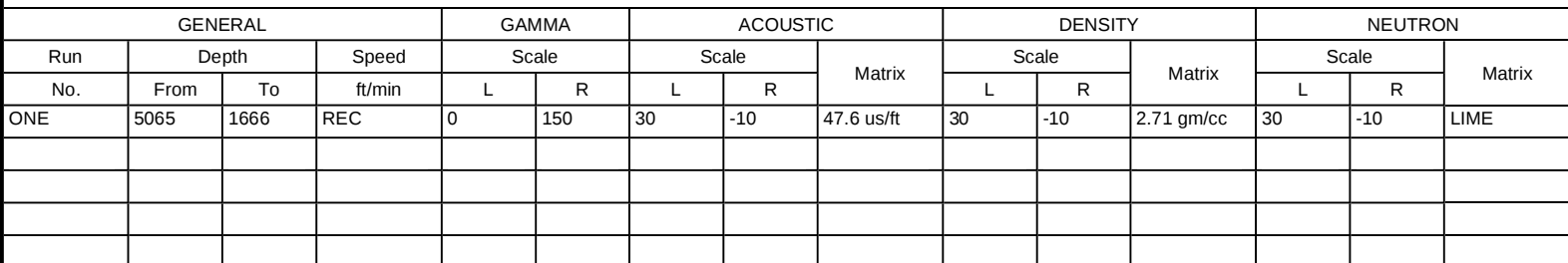
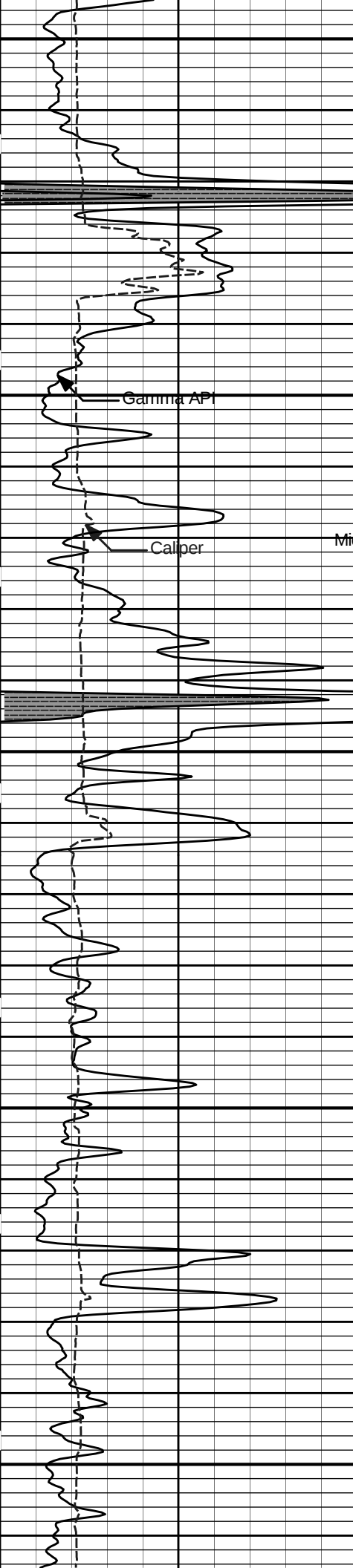


MICROLOG

Fold here

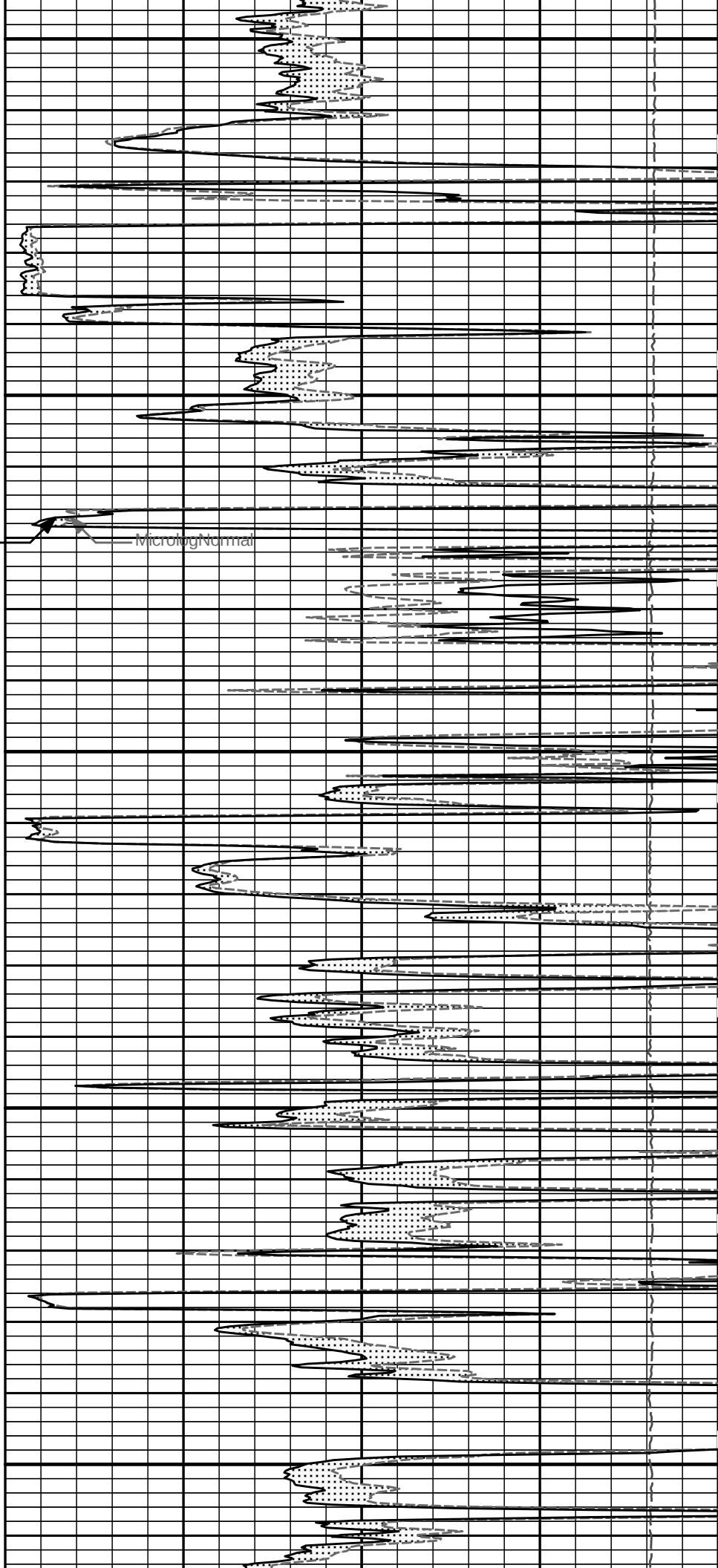
LOGGING DATA

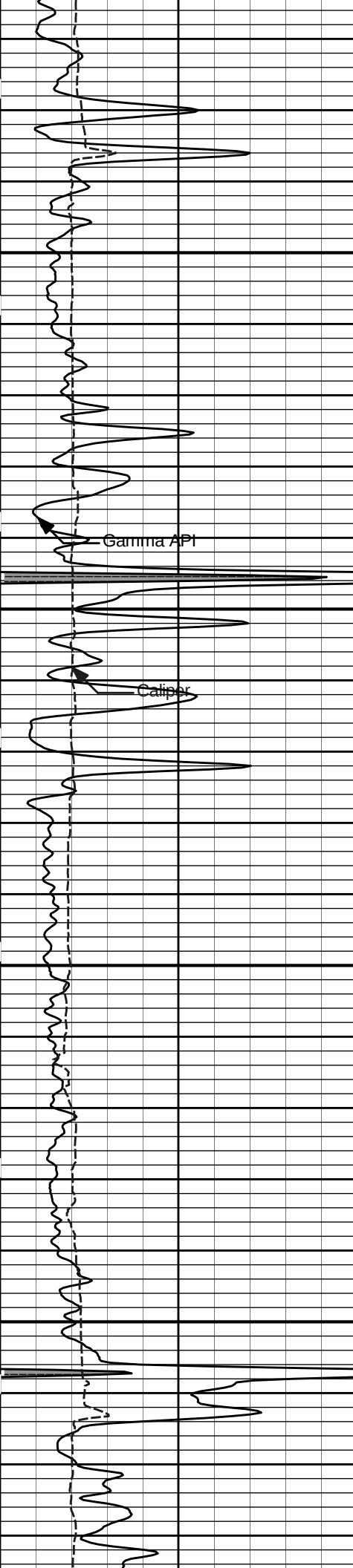




3800

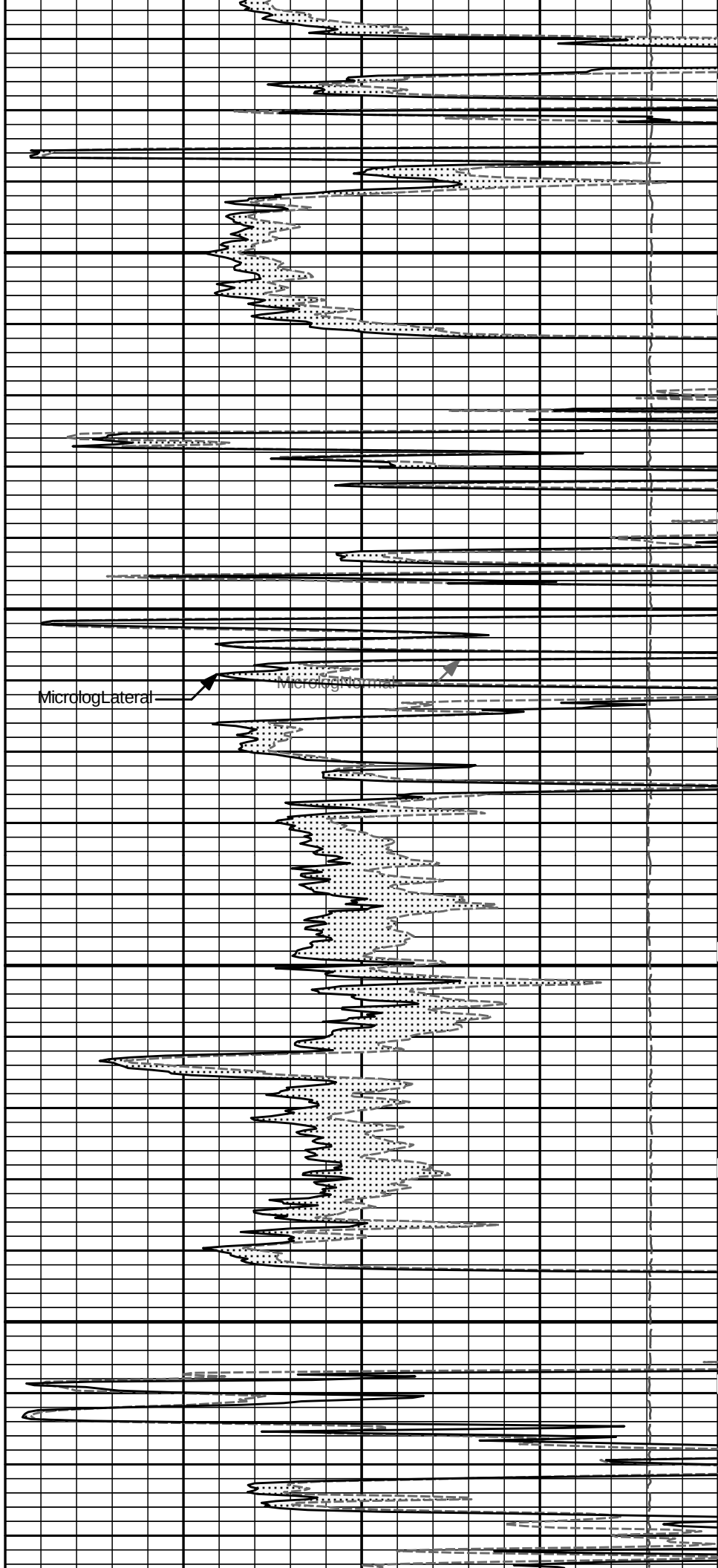
3900

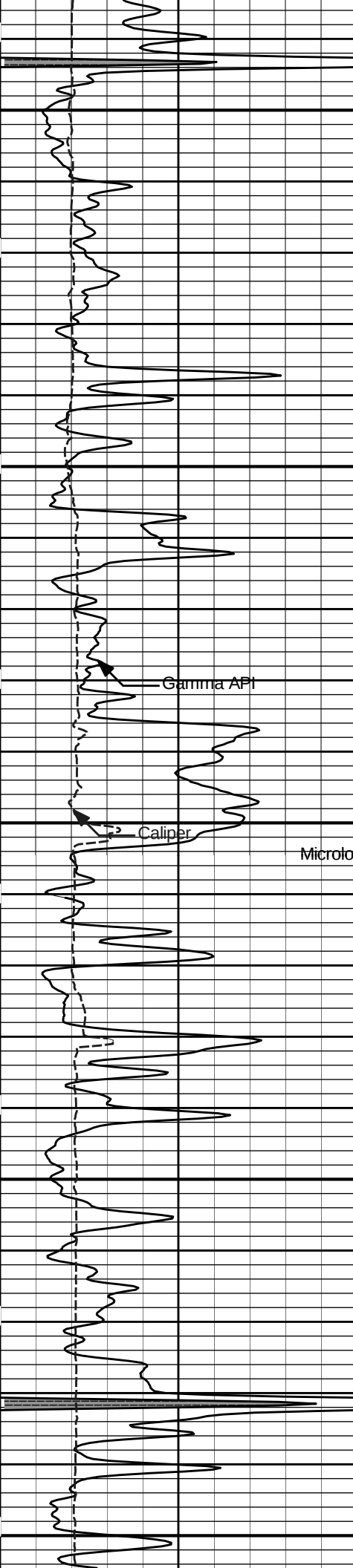




4000

4100





4200

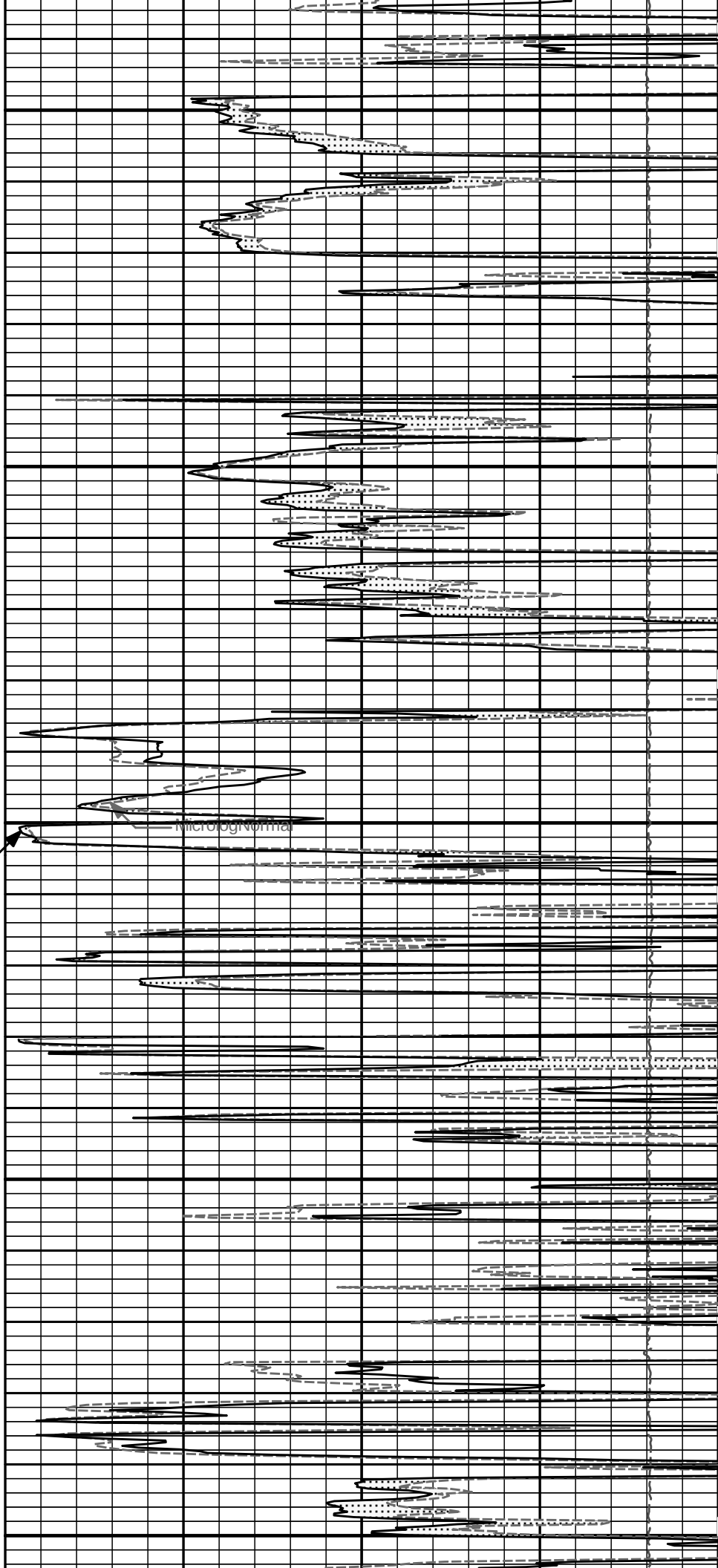
Gamma API

Caliper

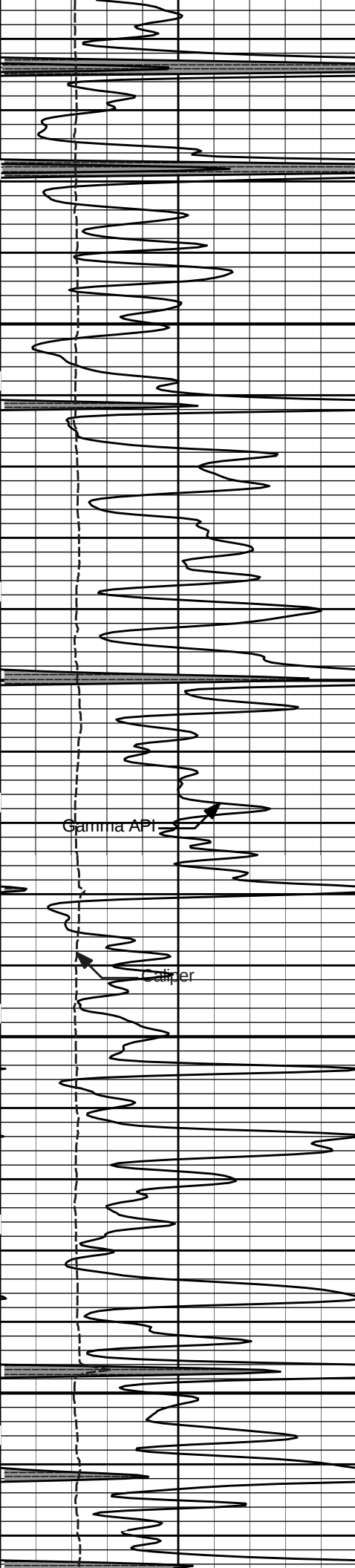
4300

MicrologLateral

4400



MicrologNormal

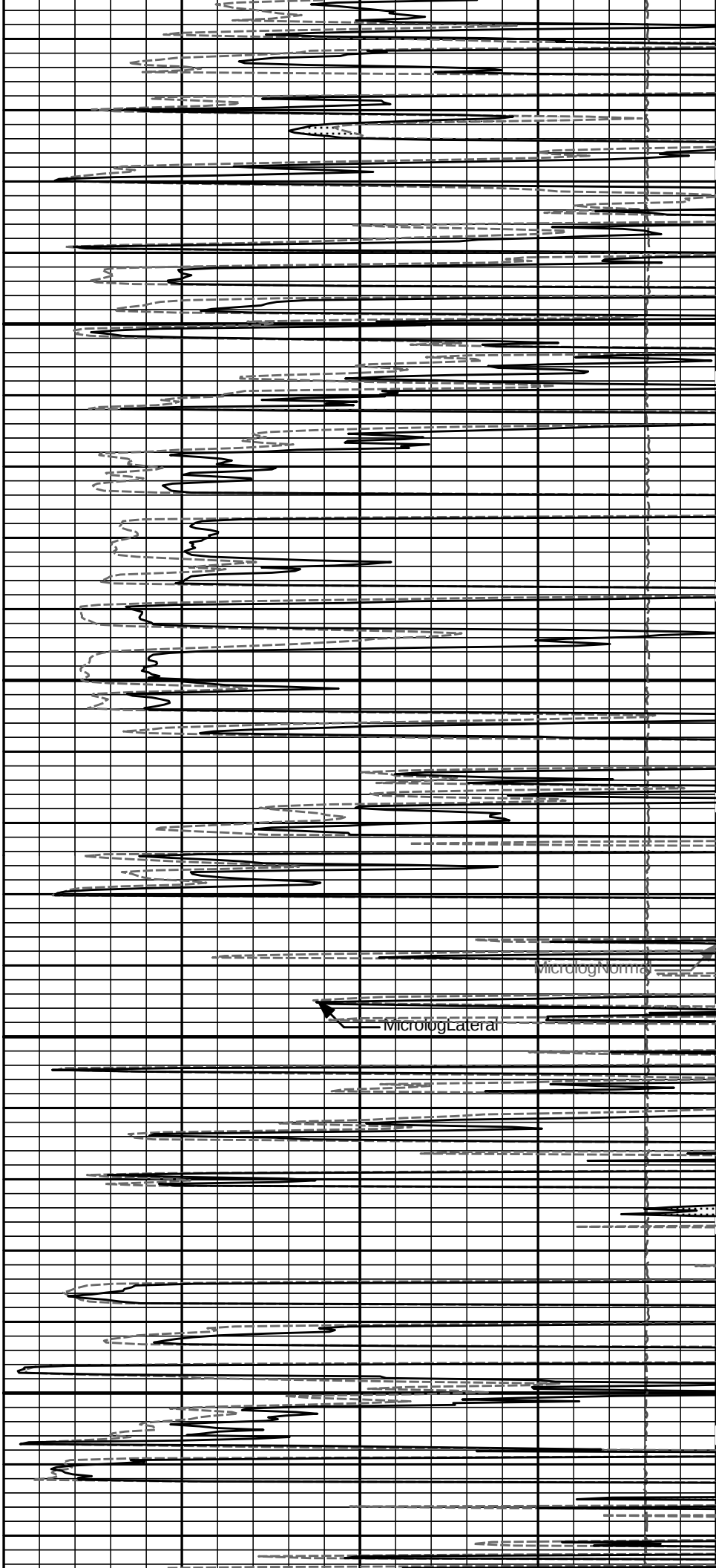


4500

Gamma API

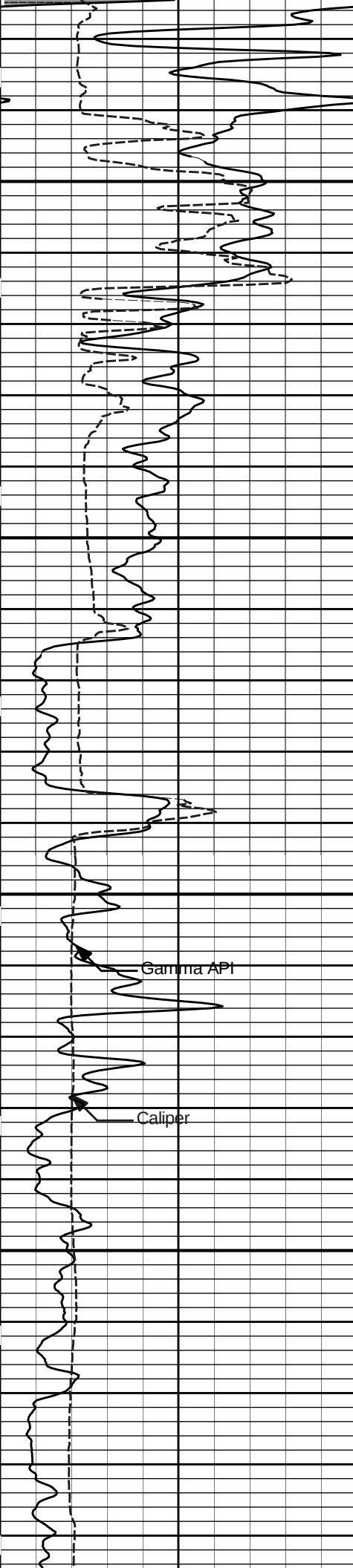
Caliper

4600



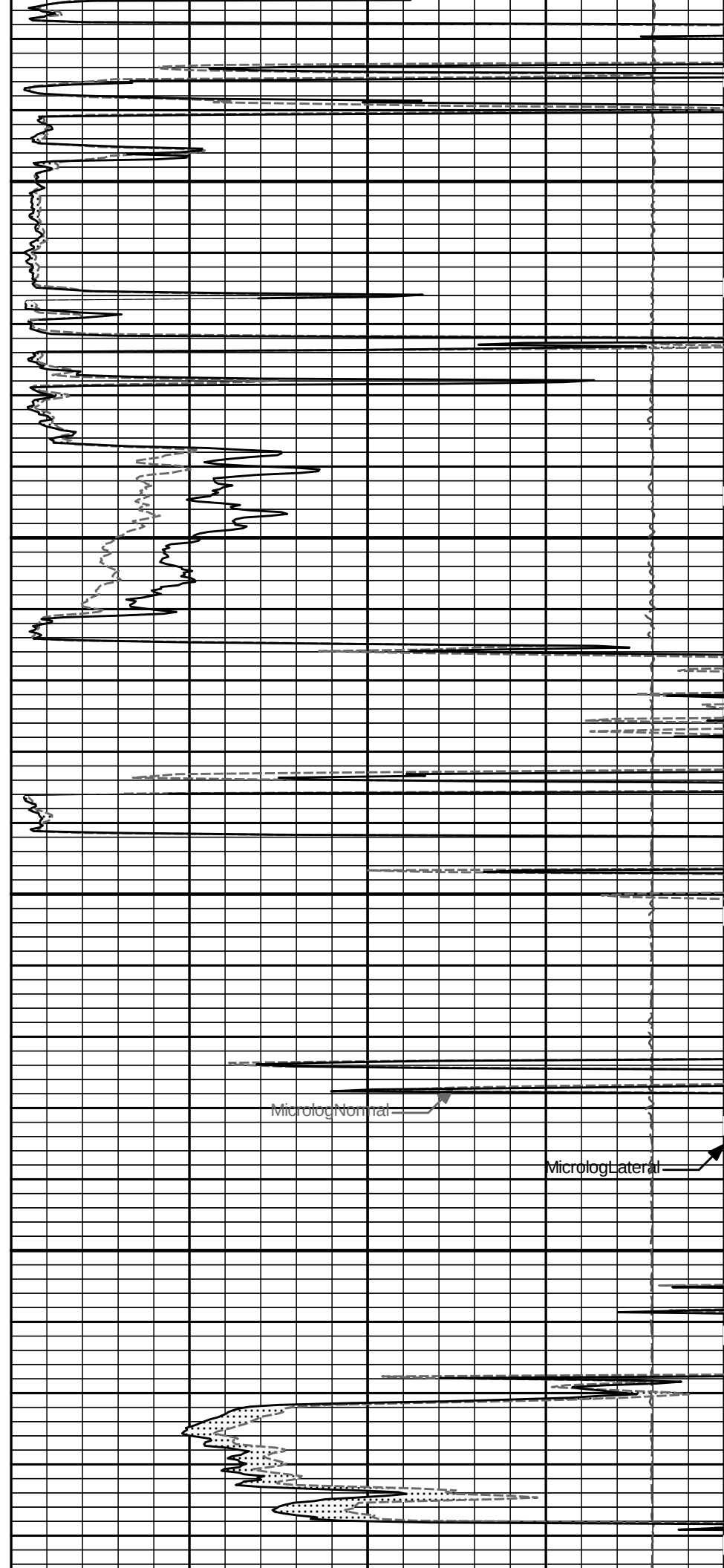
MicrologNormal

MicrologLateral



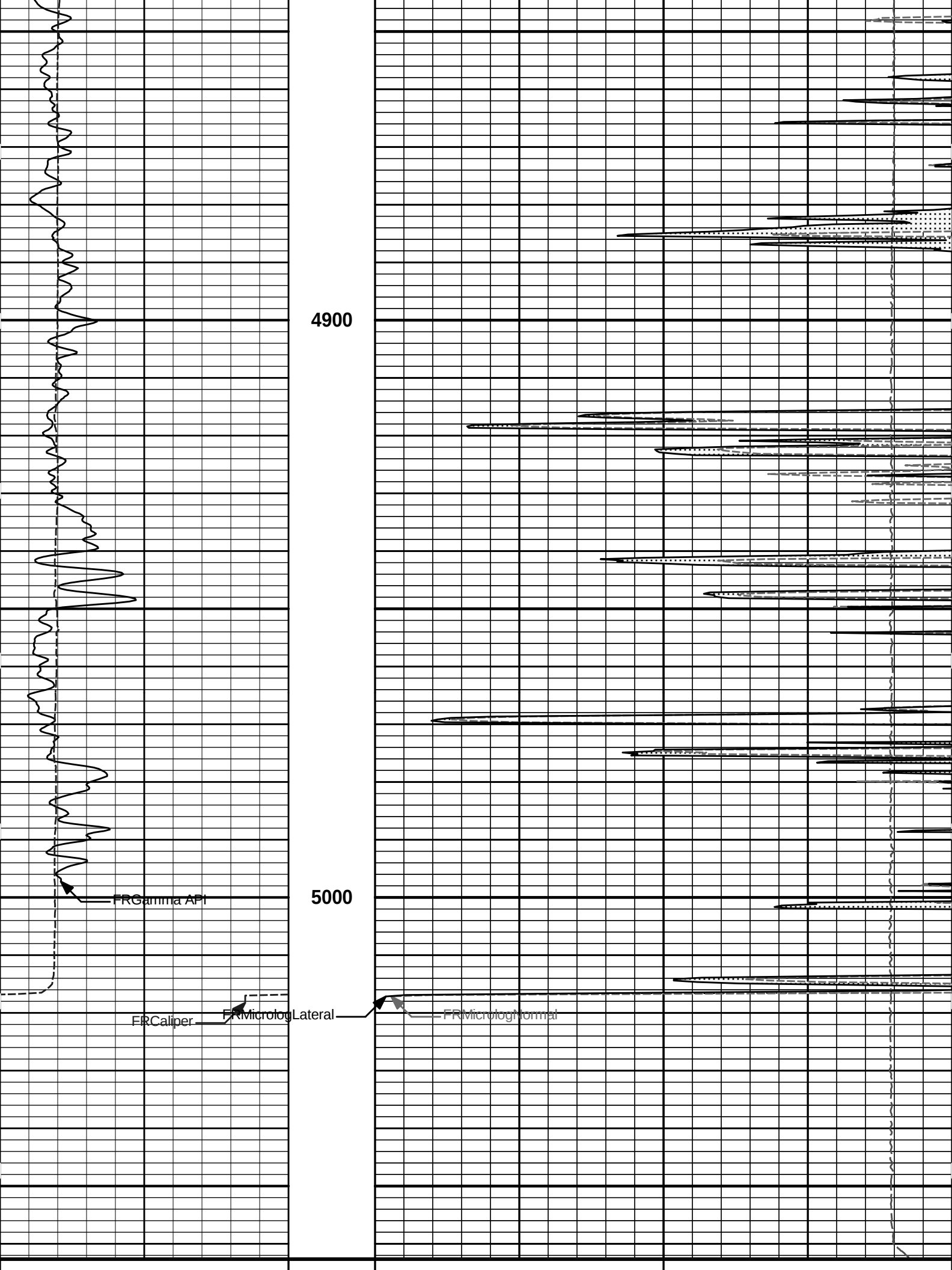
4700

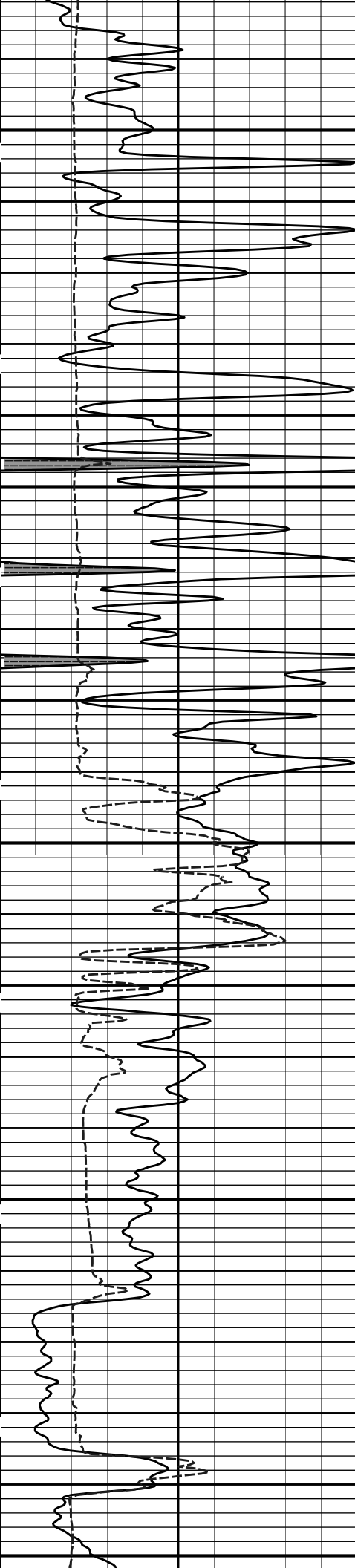
4800



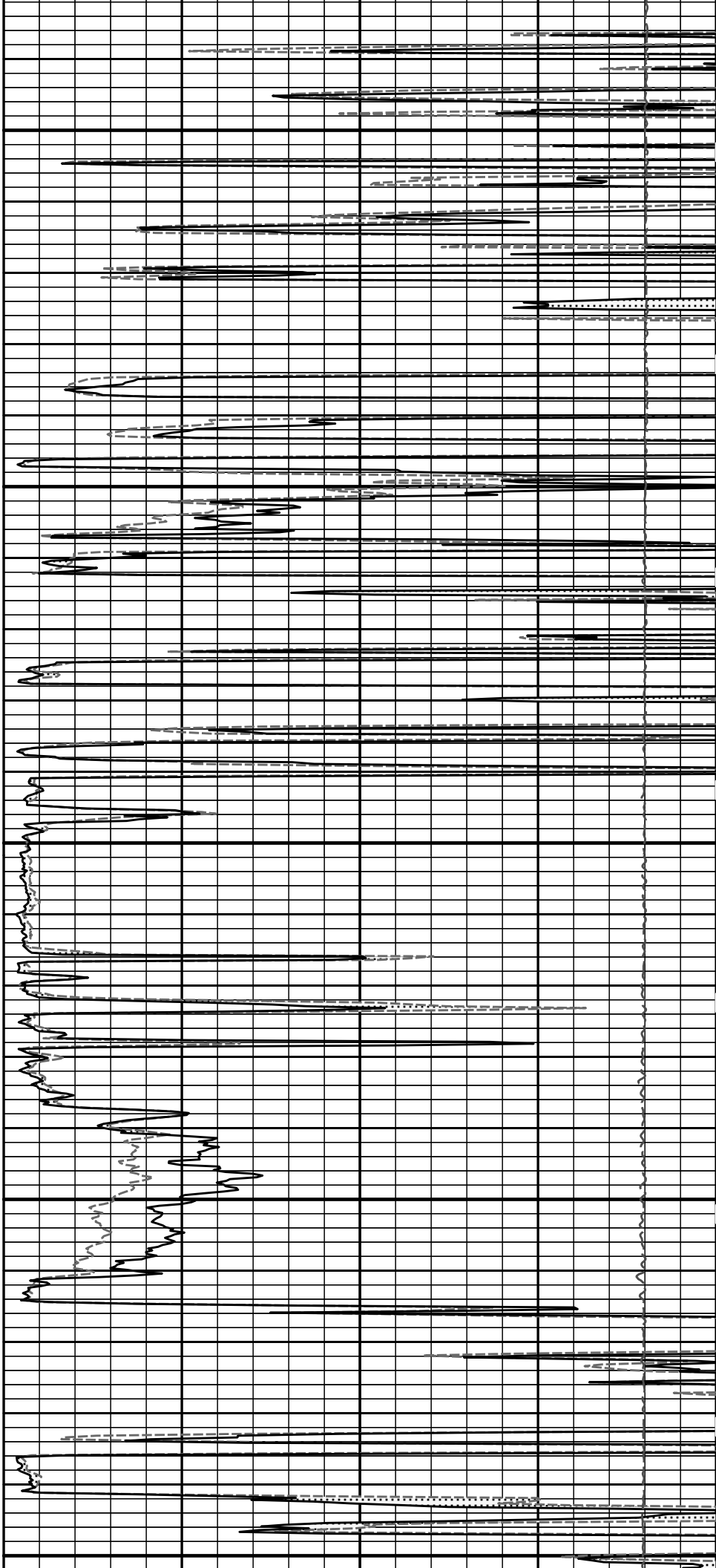
Microlog Normal

Microlog Lateral

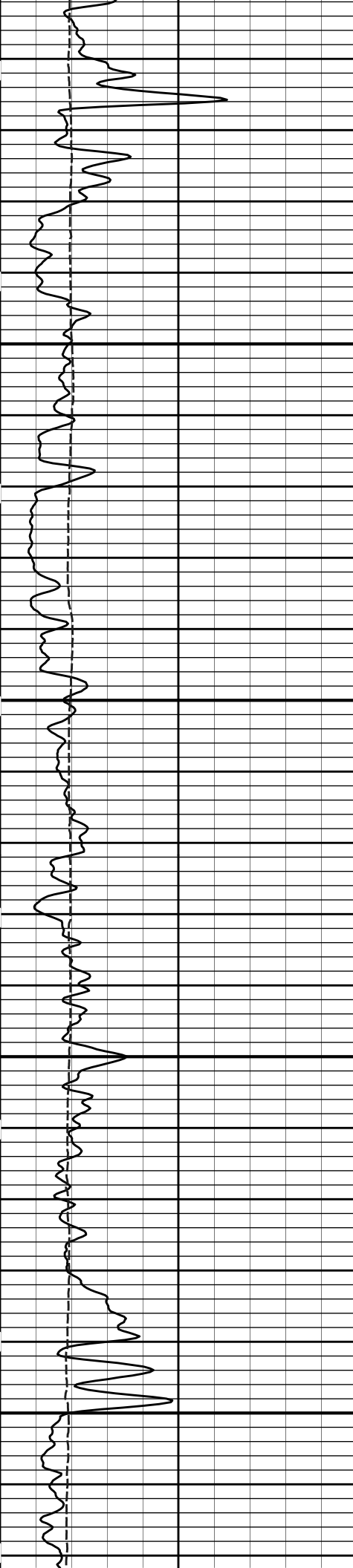




4600

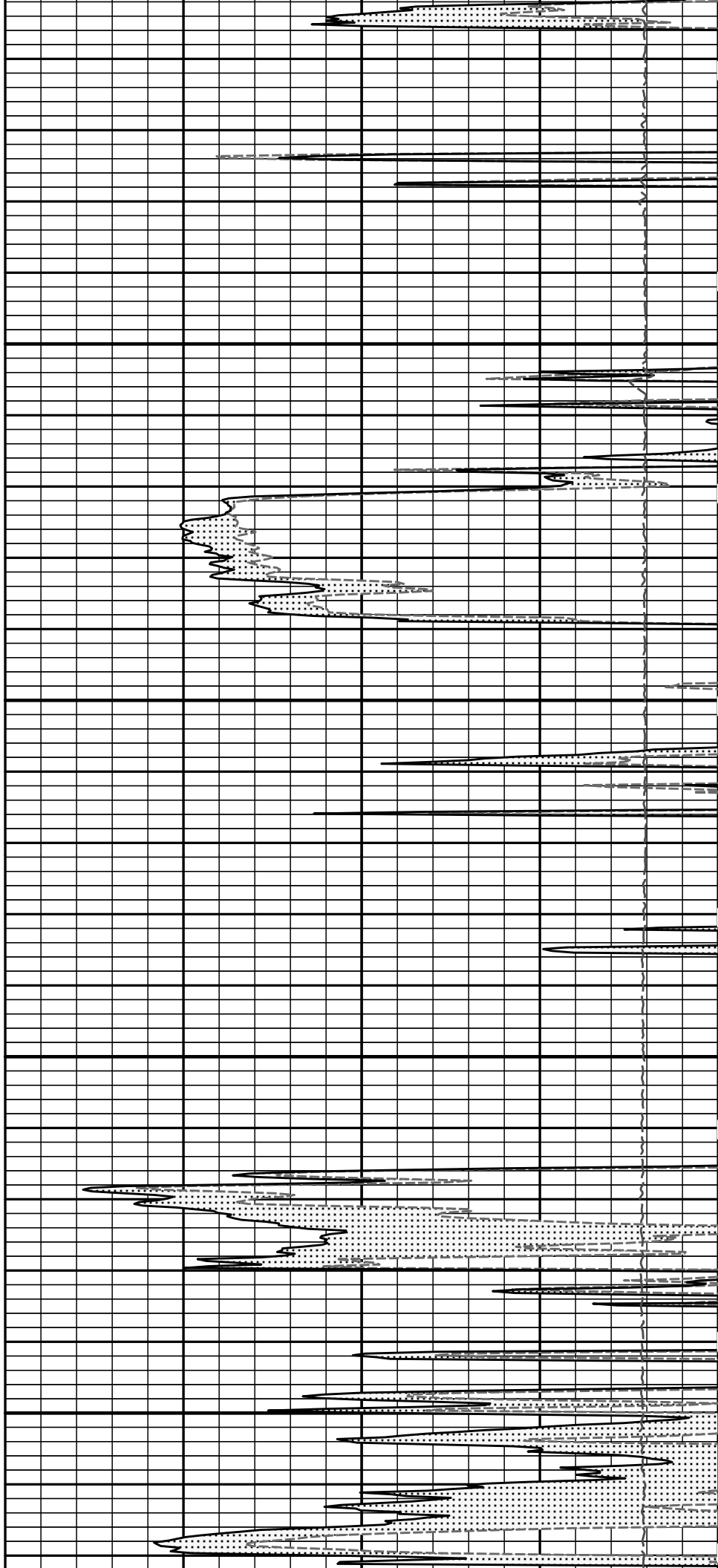


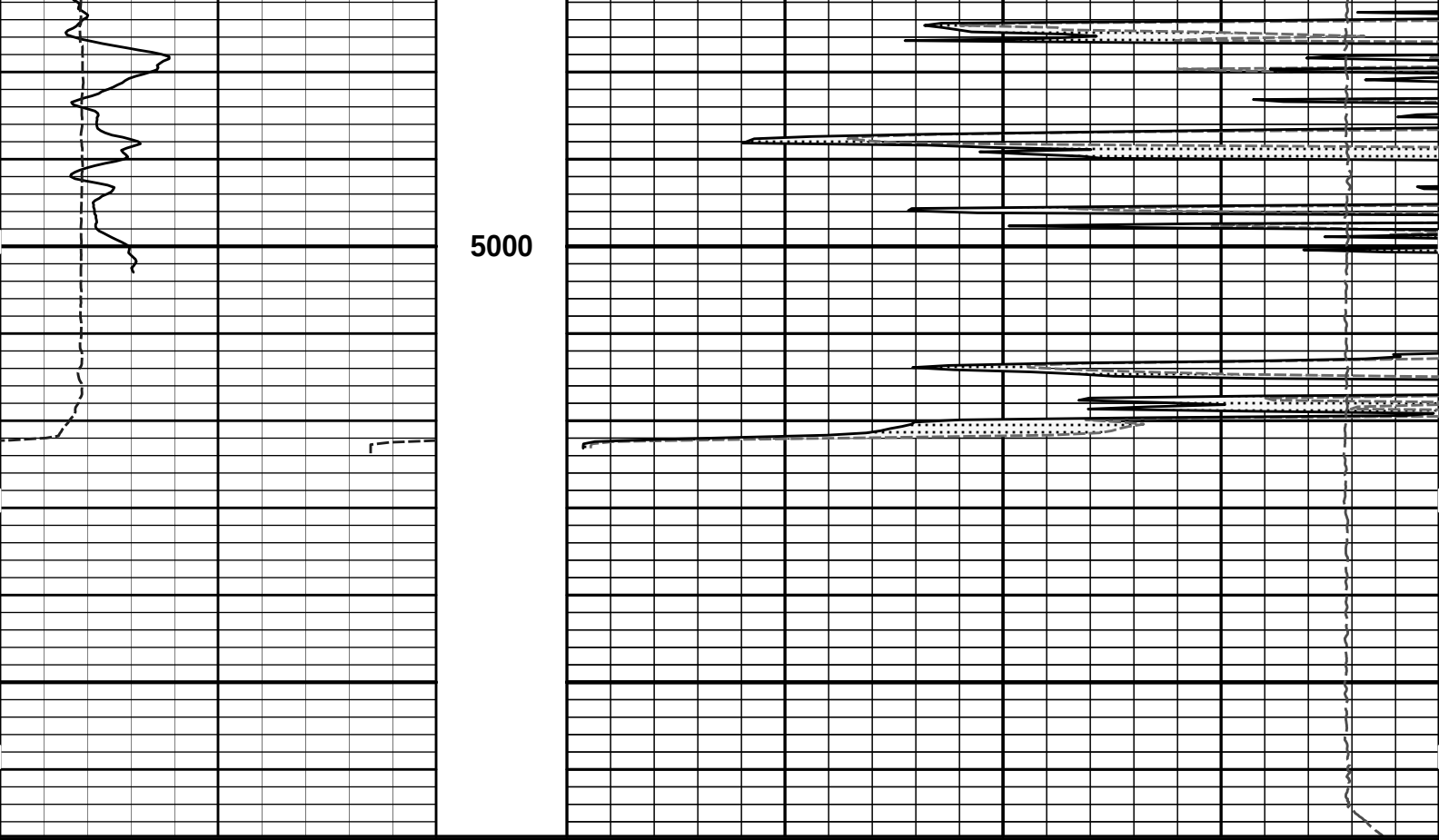
4700



4800

4900





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

HALLIBURTON

Plot Time: 23-Nov-13 07:23:03
Plot Range: 4450 ft to 5067.67 ft
Data: GARDEN_CITY_V-5\Well Based\IR1 REPEAT\
Plot File: \\-LOCAL-MICROLOG\Microlog_IQ_5_rep_lib

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-12156658 135.00 lbs		Ø 3.625 in		Load Cell @ 76.60 ft BH Temperature @ 76.03 ft	6.25 ft	80.28 ft 74.03 ft

SP Sub-00000029
60.00 lbs

Ø 3.625 in →

← SP @ 72.26 ft

3.74 ft

70.30 ft

GTET-11021139
165.00 lbs

Ø 3.625 in →

8.52 ft

← GammaRay @ 64.23 ft

61.78 ft

DSN Decentralizer-
11005605
6.60 lbs

DSNT-11055304
174.00 lbs

Ø 5.000 in* →

Ø 3.625 in →

9.69 ft

← DSN Far @ 54.84 ft

← DSN Near @ 54.09 ft

52.09 ft

SDLT-11014296
360.00 lbs

SDLT Pad-10865884
65.00 lbs

Microlog Pad-11014296
8.00 lbs

Ø 4.500 in →

Ø 4.750 in* →

Ø 4.750 in* →

10.81 ft

Microlog @ 44.28 ft

SDL Caliper @ 44.09 ft

SDL @ 44.08 ft

41.28 ft

IQ Flex-00000696
140.00 lbs

Ø 3.625 in →

5.67 ft

35.61 ft

Centralizer 25-00000027
8.00 lbs

Ø 4.000 in* →

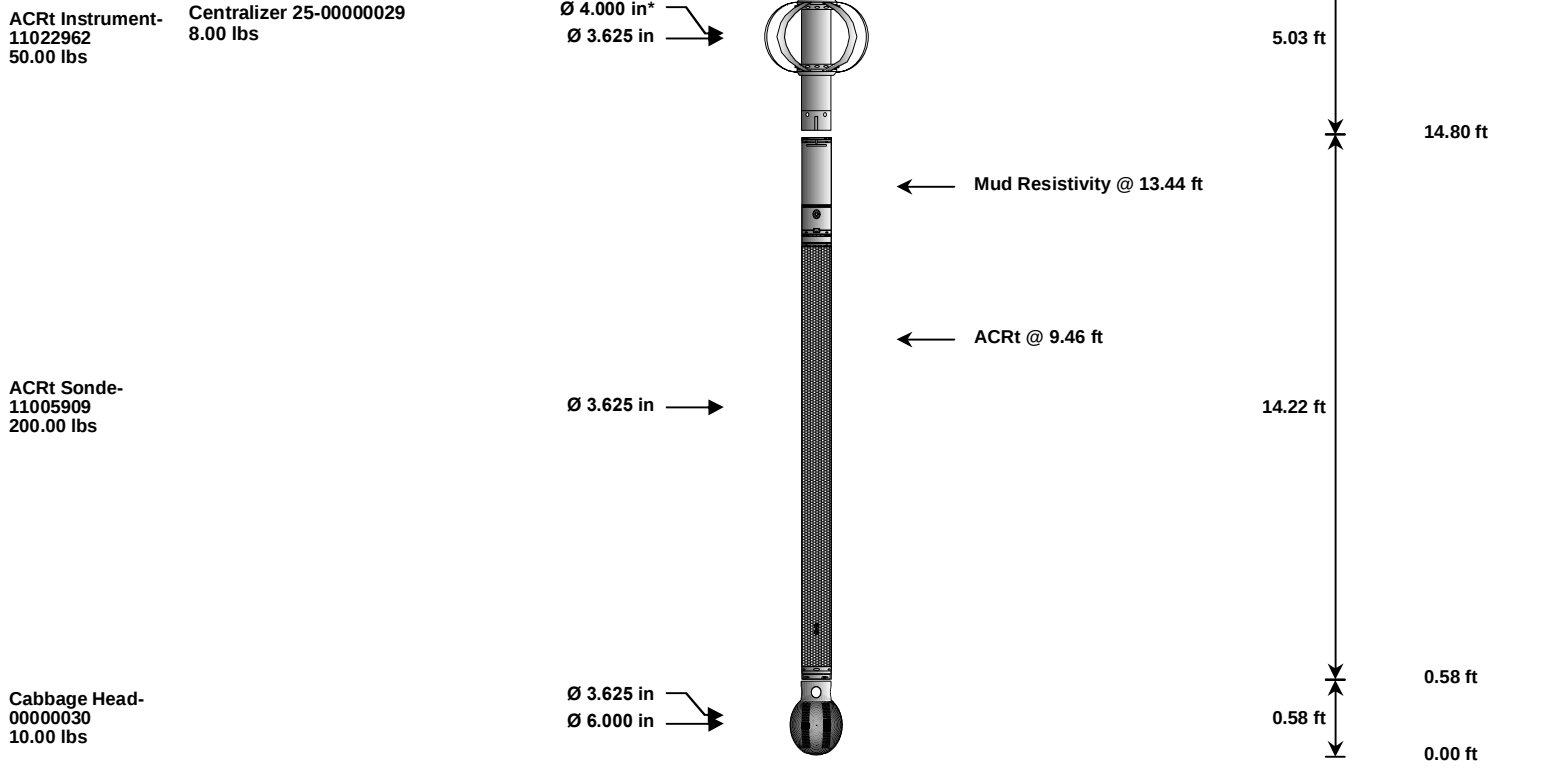
BSAT-10747684
300.00 lbs

Ø 3.625 in →

← Sonic Receivers @ 27.09 ft

15.77 ft

19.83 ft



SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
SHARED	RMUD	Mud Resistivity	1.000	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	5089.00	ft
SHARED	BHT	Bottom Hole Temperature	135.0	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	
Microlog Pad	MLOK	Process MicroLog 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
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 Up	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
BOTTOM				
Data: GARDEN_CITY_V-5I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\007.01 23-Nov-13 06:10 Up				Date: 23-Nov-13 06:31:28

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION				
Tool Name:	GTET - 11021139	Reference Calibration Date:	01-Jan-70 00:00:00	
Engineer:	SHELDON INGERSOLL	Calibration Date:	16-Nov-13 17:40:06	
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1	
Calibrator Source S/N: TB146				
Calibrator API Reference:265.00 api				
Equivalent Calibrator API Reference:269.6 api				
	Measurement	Measured	Calibrated	Units
	Background	47.8	47.8	api
	Background + Calibrator	317.5	317.5	api
	Calibrator	269.6	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION				
Tool Name:	GTET - 11021139	Reference Calibration Date:	16-Nov-13 17:40:06	
Engineer:	SHELDON INGERSOLL	Calibration Date:	22-Nov-13 18:36:29	
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1	
Calibrator Source S/N: TB146				
Calibrator API Reference:265.00 api				
Equivalent Calibrator API Reference:269.6 api				
Field Verification		Shop	Field	Units
Background		47.8	51.8	api
Background + Calibrator		317.5	319.2	api
Calibrator		269.6	267.4	api
Shop		Field	Difference	Tolerance
269.6		267.4	2.2	+/- 9.00

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 11014296	Reference Calibration Date:	19-Sep-13 09:10:42
Engineer:	SHELDON INGERSOLL	Calibration Date:	19-Nov-13 13:55:03
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1
Host Tool Name:	DSNT - 11055304		

CALIBRATION COEFFICIENTS				
Measurement	Previous Value	New Value	Control Limit On New Value	
Bad Offset	4038.27	4114.71	7000.00	1000.00

Pad Offset	-4038.27	-4114.71	-7000.00 - -1000.00
Pad Gain	0.0003784	0.0003832	0.000200 - 0.000600
Arm Offset	-2841.83	-2593.84	-5000.00 - 3000.00
Arm Gain	0.0005152	0.0005041	0.000300 - 0.000700
Arm Power	-0.000004712	-0.000004571	-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)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.73	3.75	0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.45	6.50	0.05	+/- 0.20
Medium Ring (in)	8.24	8.25	0.01	+/- 0.20
Large Ring (in)	15.12	15.00	-0.12	+/- 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 - 11014296	Reference Calibration Date:	19-Nov-13 13:55:03
Engineer:	SHELDON INGERSOLL	Calibration Date:	22-Nov-13 18:48:44
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.74	-0.01	+/- 0.10
Ring Diameter	8.25	8.29	0.04	+/- 0.15
PASS/FAIL SUMMARY				
Pad Extension Check:			Passed	
Diameter Check:			Passed	

MICRO LOG SHOP CALIBRATION			
Tool Name:	Microlog Pad - 11014296	Reference Calibration Date:	19-Sep-13 08:55:21
Engineer:	SHELDON INGERSOLL	Calibration Date:	19-Nov-13 13:46:43
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1
Host Tool Name:	DSNT - 11055304		

CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.07	-0.07	0.01	0.00	ohmm
Calibration Point #1	-0.00	0.00	0.01	0.00	ohmm
Calibration Point #2	19.97	20.00	19.97	20.00	ohmm
Internal Reference	19.91	19.94	19.96	19.99	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
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	Tool Zero	0.05	0.93	V
	Calibration Point #1	17.20	0.83	V
	Calibration Point #2	5291.17	6873.55	V
	Internal Reference	5274.49	6869.55	V

MICRO LOG FIELD CHECK					
Tool Name:	Microlog Pad - 11014296		Reference Calibration Date:	19-Nov-13 13:46:43	
Engineer:	SHELDON INGERSOLL		Calibration Date:	22-Nov-13 18:34:25	
Software Version:	WL INSITE R3.8.4 (Build 5)		Calibration Version:	1	

	Measurement	Micro Log Normal		Micro Log Lateral		
		Shop	Field	Shop	Field	Units
	Tool Zero	-0.07	-0.06	0.00	-0.00	ohmm
	Internal Reference	19.94	19.90	19.99	19.95	ohmm
	Summary					
	Signal	Shop	Field	Difference		Tolerance
	Microlog Normal	19.94	19.90	0.04		+/- 0.80
	Microlog Lateral	19.99	19.95	0.04		+/- 0.80

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11021139						
Gamma Ray Calibrator	269.6	267.4	-----	2.2	+/- 9.00	api
SDLT-11014296						
Pad Extension	3.75	3.74	-----	0.01	+/-0.10	in
Ring Diameter	8.25	8.29	-----	-0.04	+/-0.15	in
Microlog Pad-11014296						
MicroLog Normal	19.94	19.90	-----	0.04	+/-0.80	ohmm
MicroLog Lateral	19.99	19.95	-----	0.04	+/-0.80	ohmm

Data: GARDEN_CITY_V-5I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHI007 23-Nov-13 04:17 Up @5063.3f				Date: 23-Nov-13 05:22:27	
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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	
RWCH				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	72.25	NO	
SP	Spontaneous Potential	72.25	BLK	1.250
SPR	Raw Spontaneous Potential	72.25	NO	
SPO	Spontaneous Potential Offset	72.25	NO	
GTET				
TPUL	Tension Pull	64.23	NO	
GR	Natural Gamma Ray API	64.23	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	64.23	NO	

EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	64.23	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	53.99	NO	
RNDS	Near Detector Telemetry Counts	54.09	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.84	TRI	0.583
DNTT	DSN Tool Temperature	54.09	NO	
DSNS	DSN Tool Status	53.99	NO	
ERND	Near Detector Telemetry Counts EVR	54.09	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.84	BLK	0.000
ENTM	DSN Tool Temperature EVR	54.09	NO	
SDLT				
TPUL	Tension Pull	44.09	NO	
PCAL	Pad Caliper	44.09	TRI	0.250
ACAL	Arm Caliper	44.09	TRI	0.250
BSAT				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
GMOD	Gain processing mode	19.83	NO	
ACRt Sonde				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000

F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Current Raw 12K X Receiver	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	
Microlog Pad				
TPUL	Tension Pull	44.28	NO	
MINV	Microlog Lateral	44.28	BLK	0.750
MNOR	Microlog Normal	44.28	BLK	0.750
SDLT Pad				
TPUL	Tension Pull	44.08	NO	
NAB	Near Above	43.90	BLK	0.920
NHI	Near Cesium High	43.90	BLK	0.920
NLO	Near Cesium Low	43.90	BLK	0.920
NVA	Near Valley	43.90	BLK	0.920
NBA	Near Barite	43.90	BLK	0.920
NDE	Near Density	43.90	BLK	0.920
NPK	Near Peak	43.90	BLK	0.920
NLI	Near Lithology	43.90	BLK	0.920
NBAU	Near Barite Unfiltered	43.90	BLK	0.250
NLIU	Near Lithology Unfiltered	43.90	BLK	0.250
FAB	Far Above	44.26	BLK	0.250
FHI	Far Cesium High	44.26	BLK	0.250
FLO	Far Cesium Low	44.26	BLK	0.250
FVA	Far Valley	44.26	BLK	0.250
FBA	Far Barite	44.26	BLK	0.250
FDE	Far Density	44.26	BLK	0.250
FPK	Far Peak	44.26	BLK	0.250
FLI	Far Lithology	44.26	BLK	0.250
PTMP	Pad Temperature	44.09	BLK	0.920
NHV	Near Detector High Voltage	43.49	NO	
FHV	Far Detector High Voltage	43.49	NO	
ITMP	Instrument Temperature	43.49	NO	

DDHV	Detector High Voltage		43.49	NO
Data: GARDEN_CITY_V-5\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\007 23-Nov-13 04:17 Up @5063.3f				Date: 23-Nov-13 05:20:13
COMPANY	OXY USA INC.			
WELL	GARDEN CITY V-5			
FIELD	SEQUOYAH SOUTH			
COUNTY	FINNEY	STATE	KANSAS	
HALLIBURTON		MICROLOG		