

MICRO LOG

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LOGGING DATA

GENERAL	GAMMA	ACQUSTIC	PERCUTAN	NEUTRON
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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	4778	3300	REC	0	150				30	-10	2.71	30	-10	LIME
DIRECTIONAL INFORMATION														
Maximum Deviation @									KOP @					
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 4.5 INCH CASING														
CLIENT REQUEST NO POST CALIBRATIONS														
LCM 3 #/BBL														
CHLORIDES 8400 MG/L														
TODAY'S CREW A. VAQUERA B. TERRELL														
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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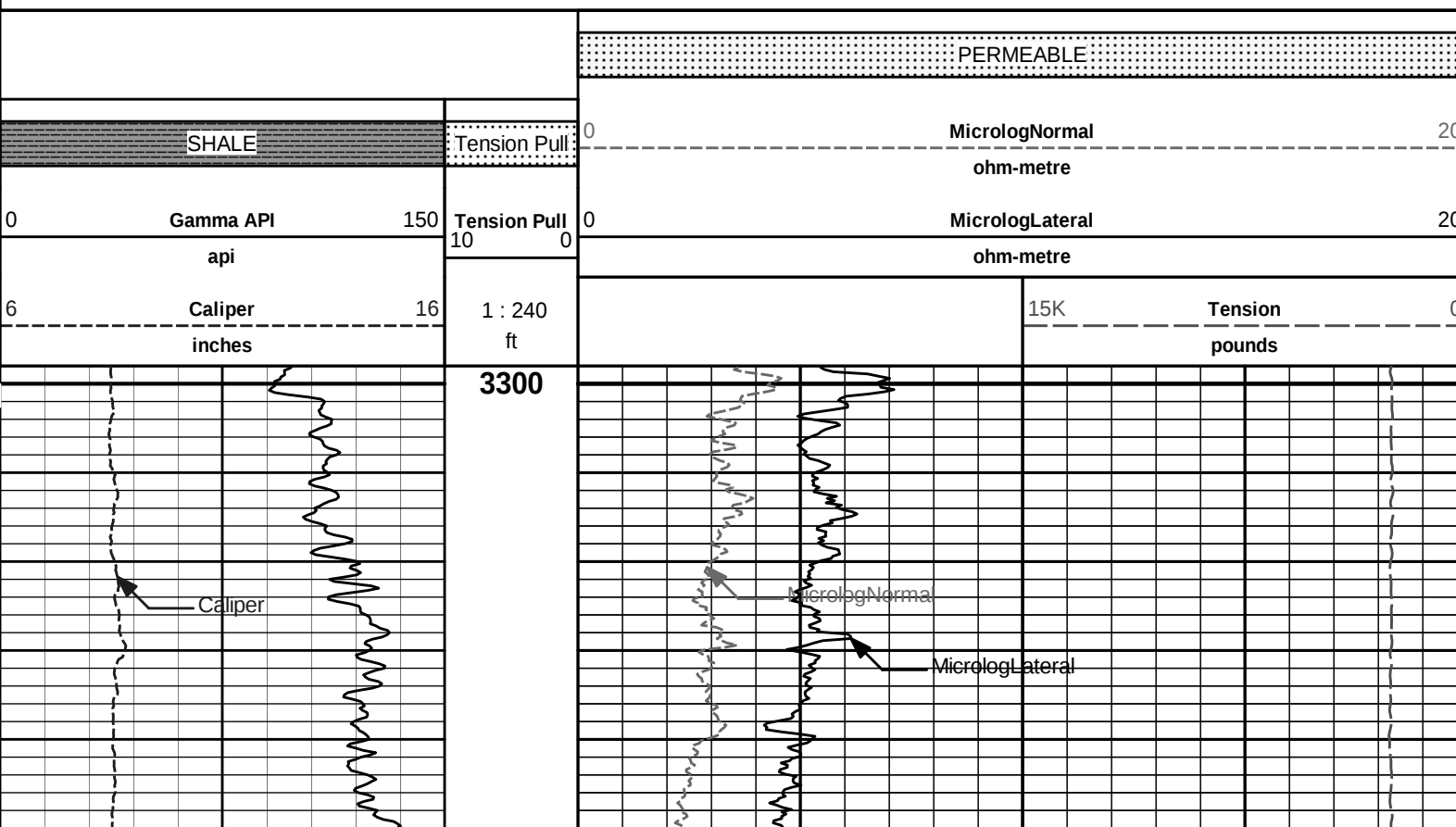
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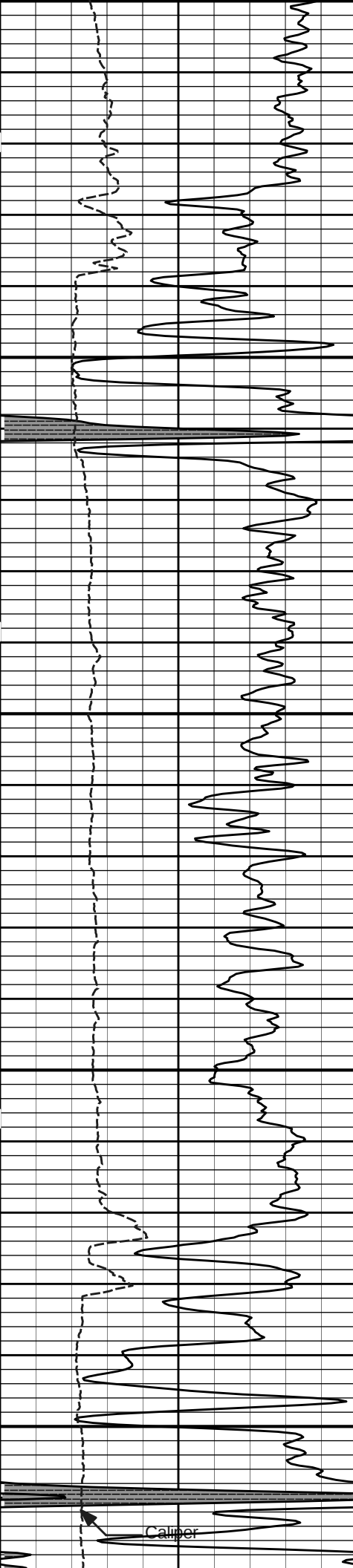
Plot Range: 3298 ft to 4784.67 ft

Data: WHELAN_1_32\Well Based\SDL\

Plot File: \\-LOCAL-\\WHELAN_1_32\\0001 SP-GTET-DSNT-SDLT-ACRT-CH\\MICRO\\Microlog_IQ_5_main.lib

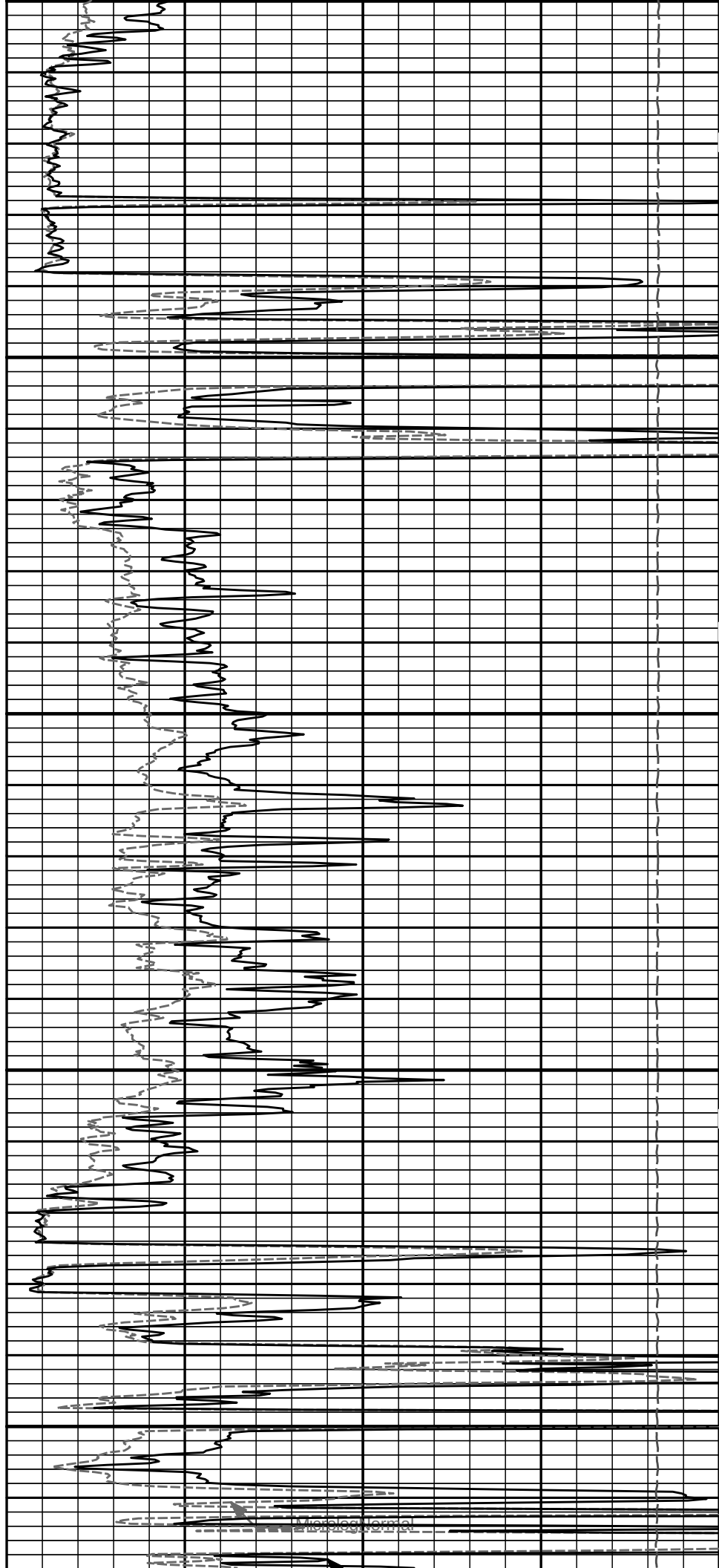
5 INCH MAIN LOG

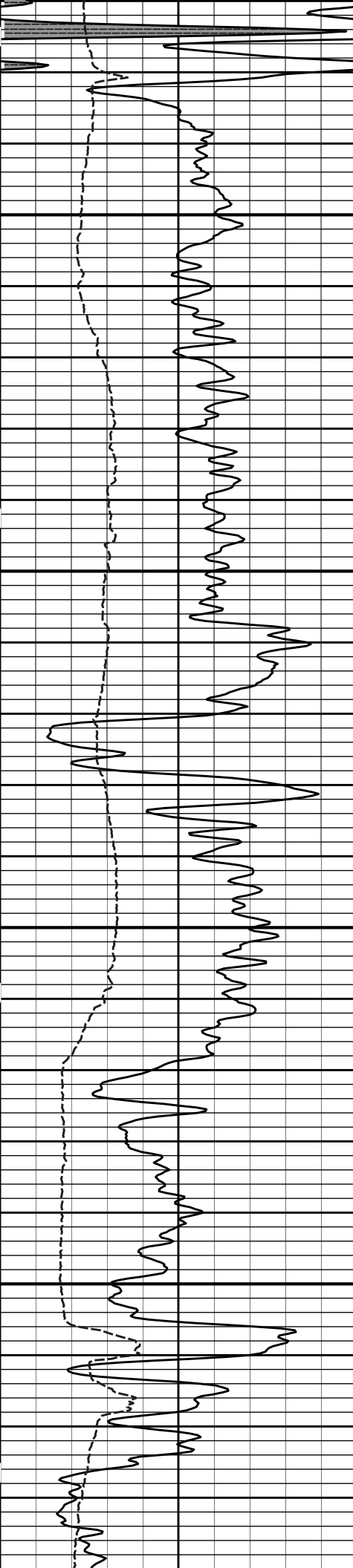




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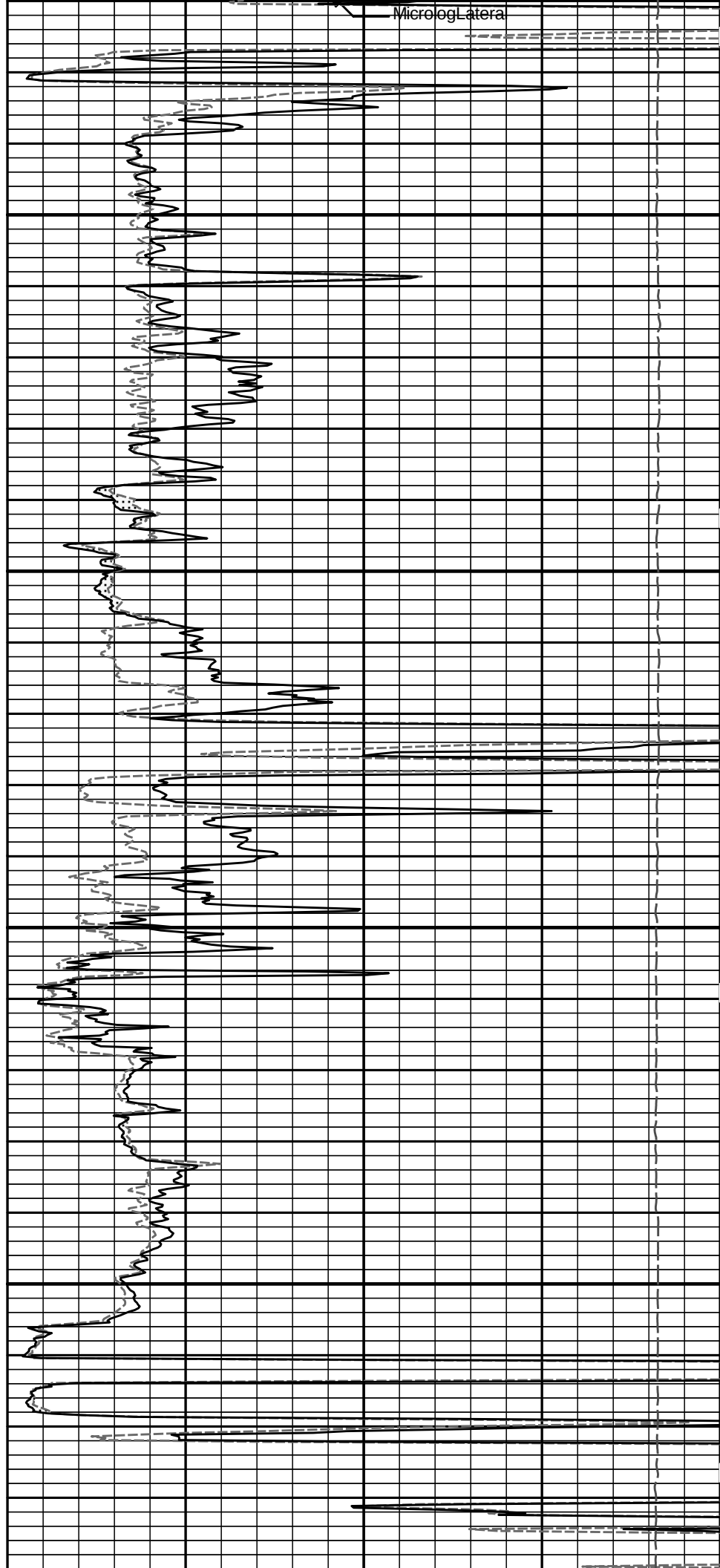
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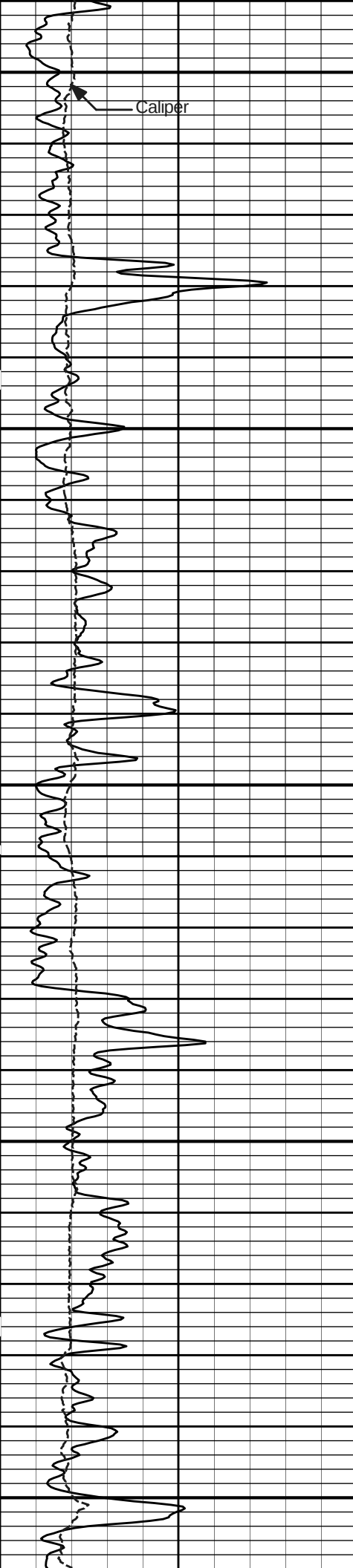




3600

3700

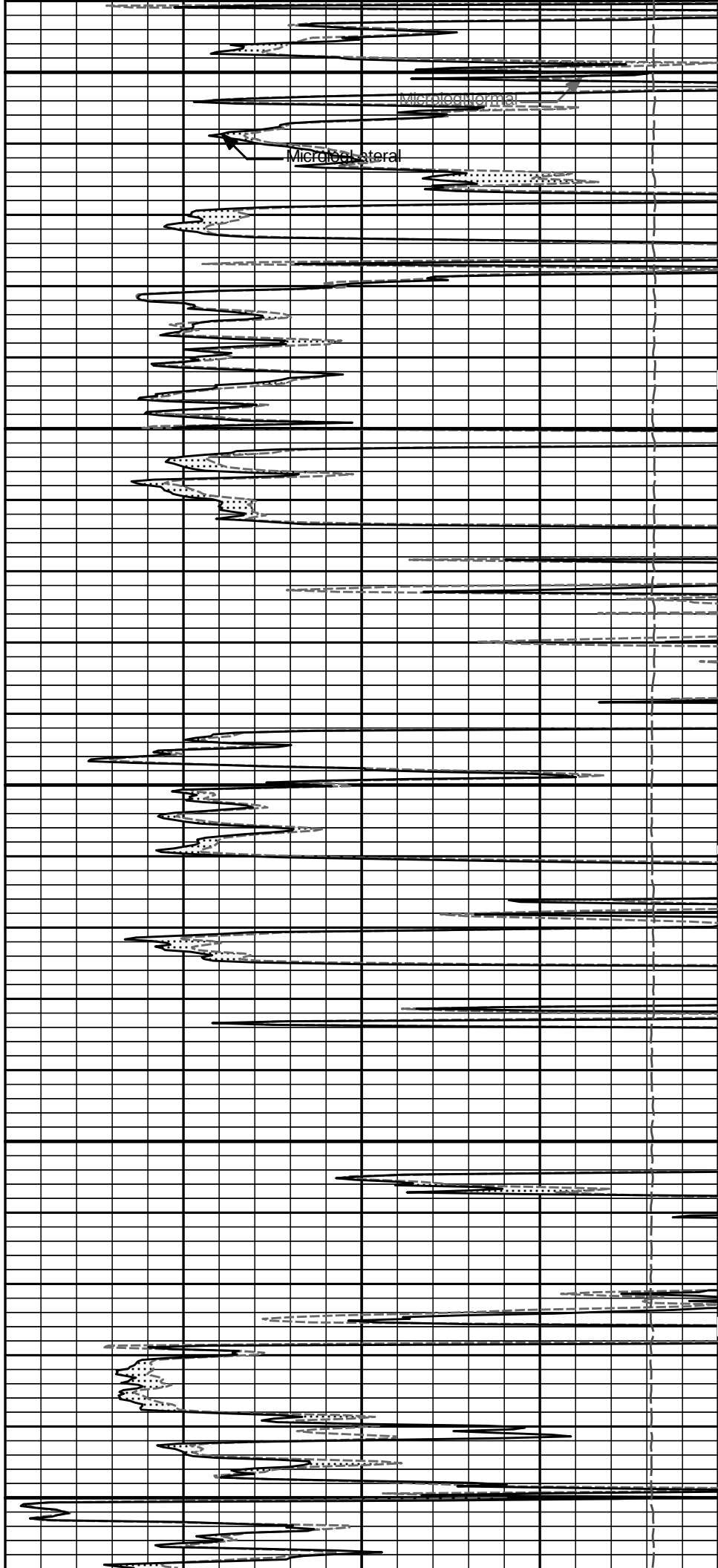


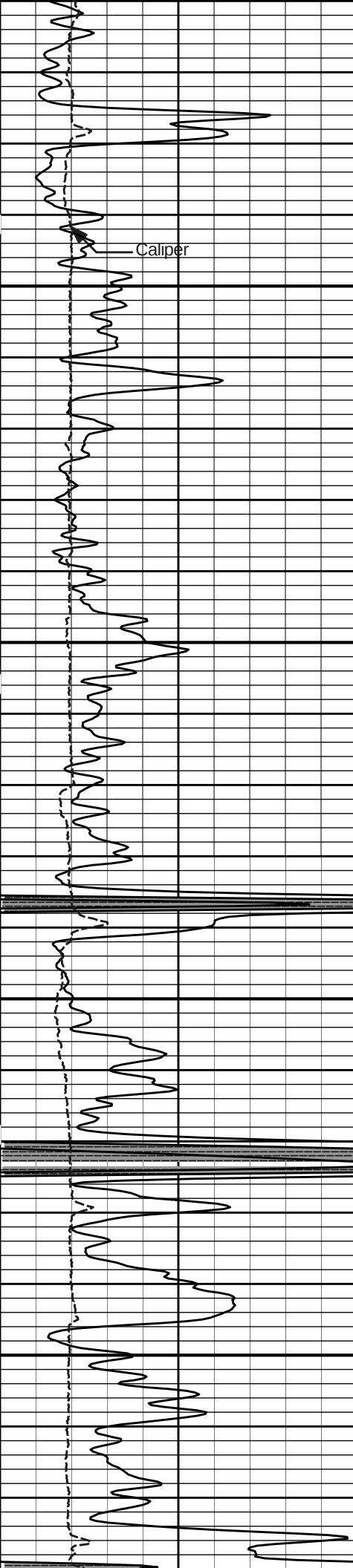


3800

3900

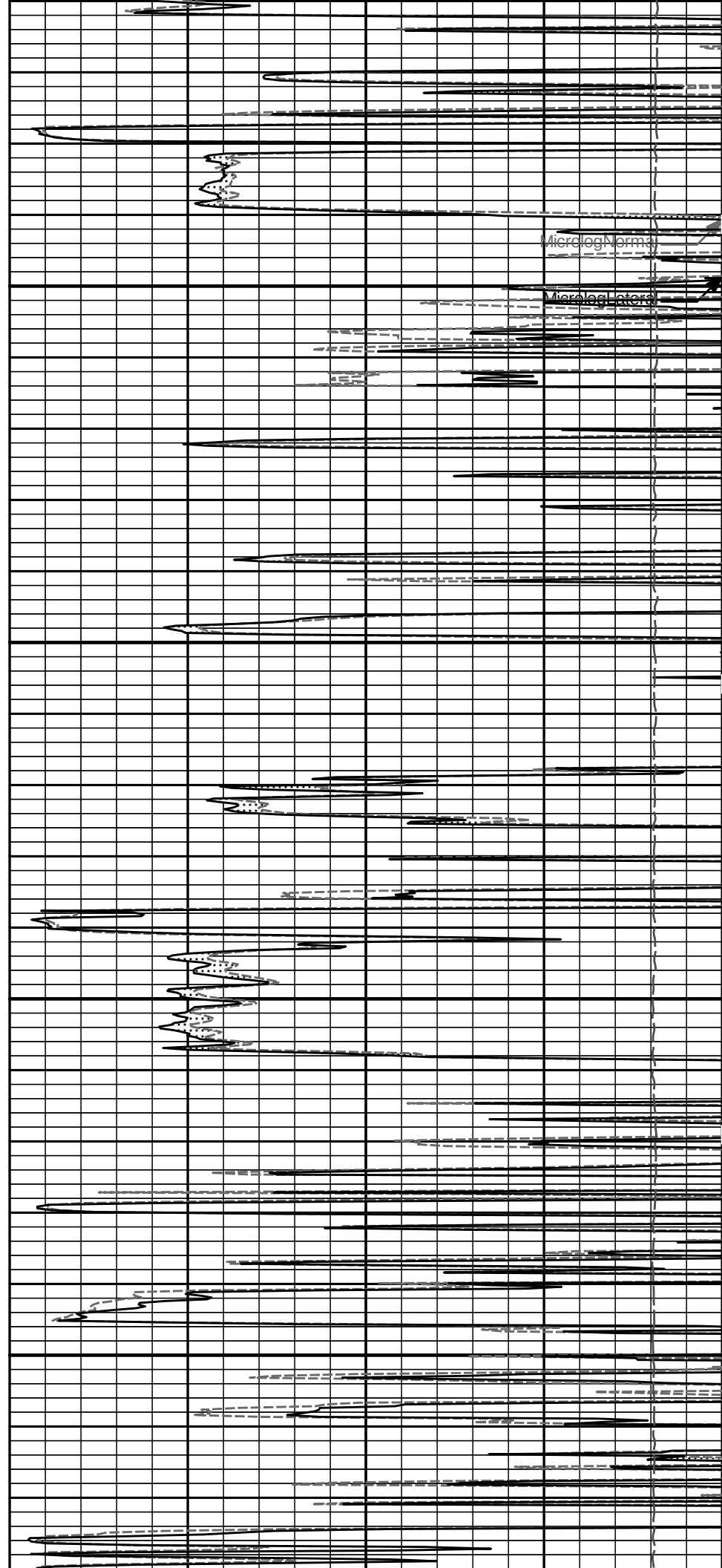
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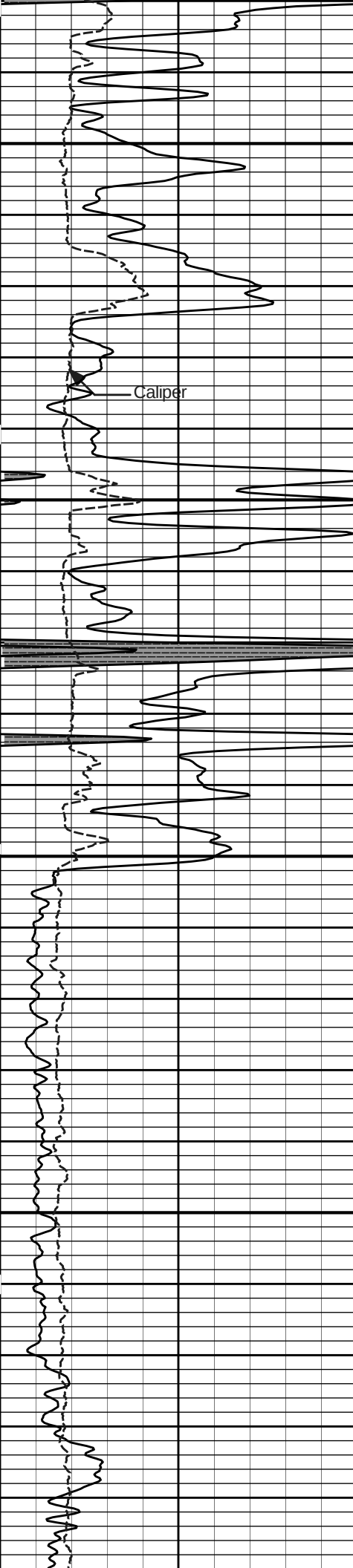




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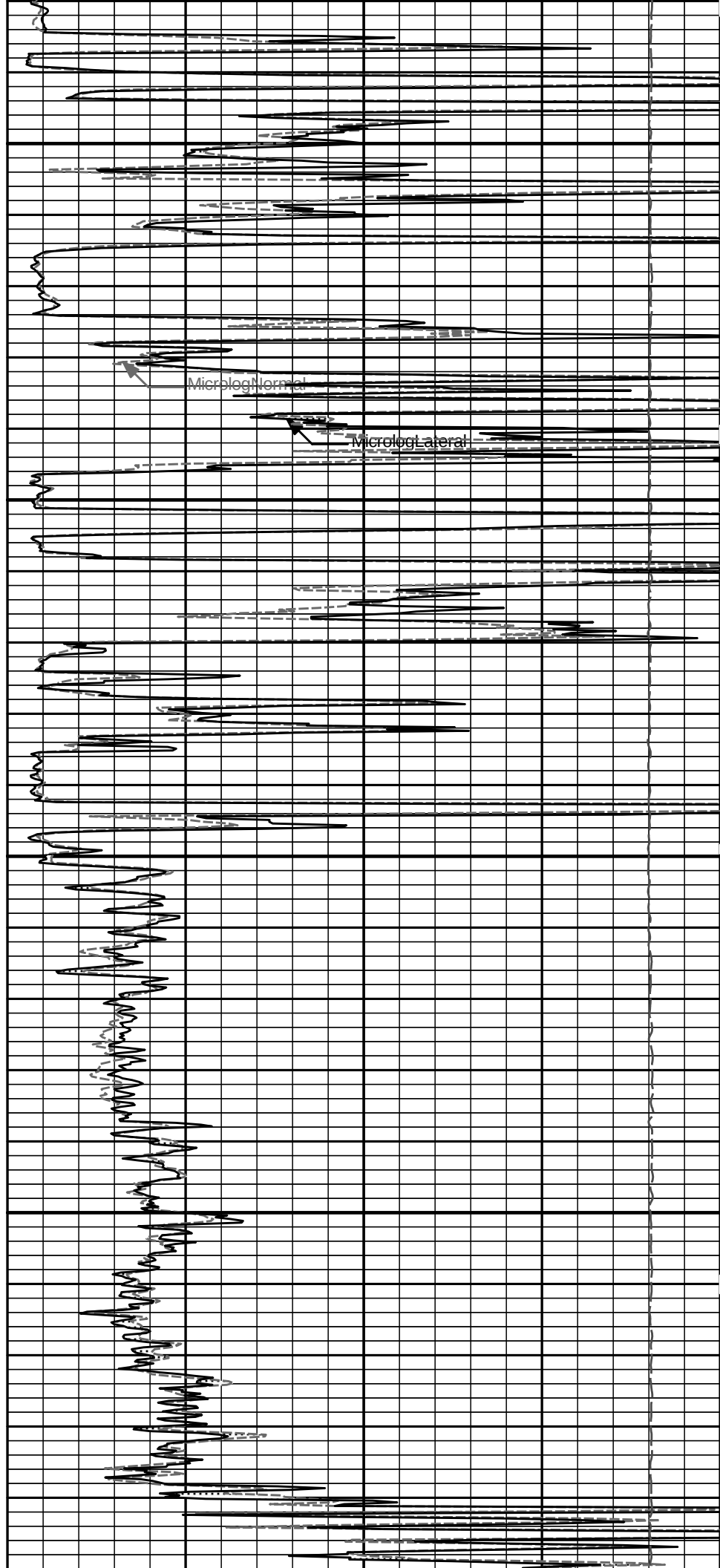
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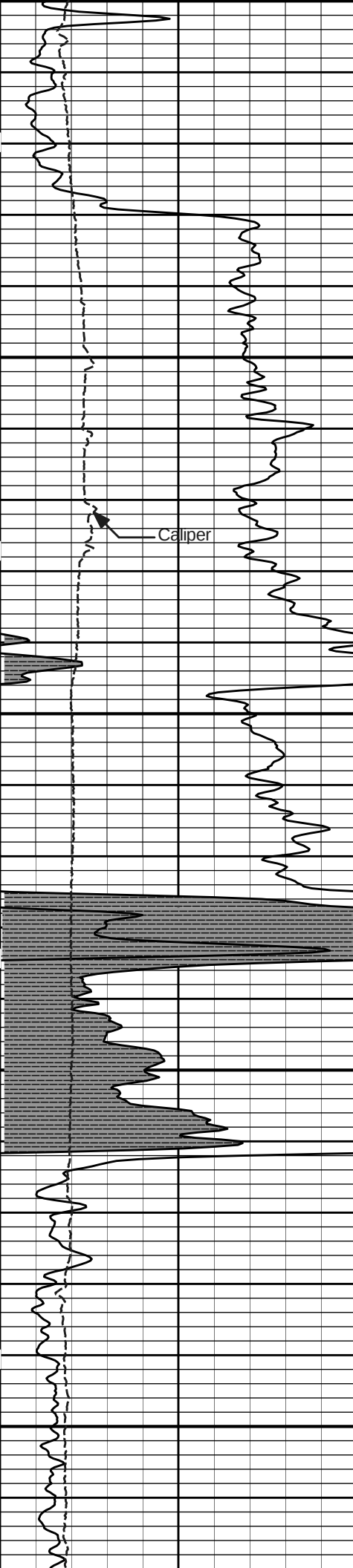




4300

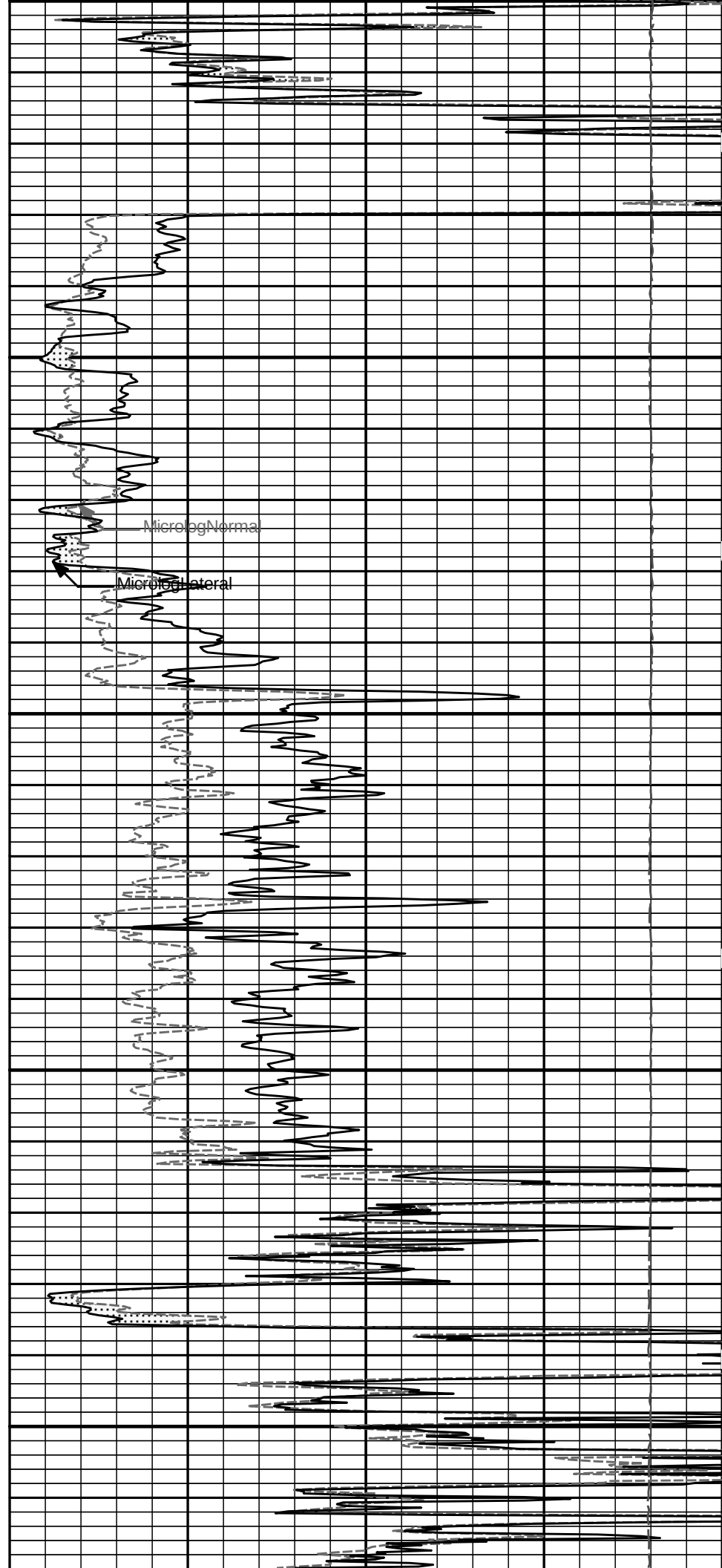
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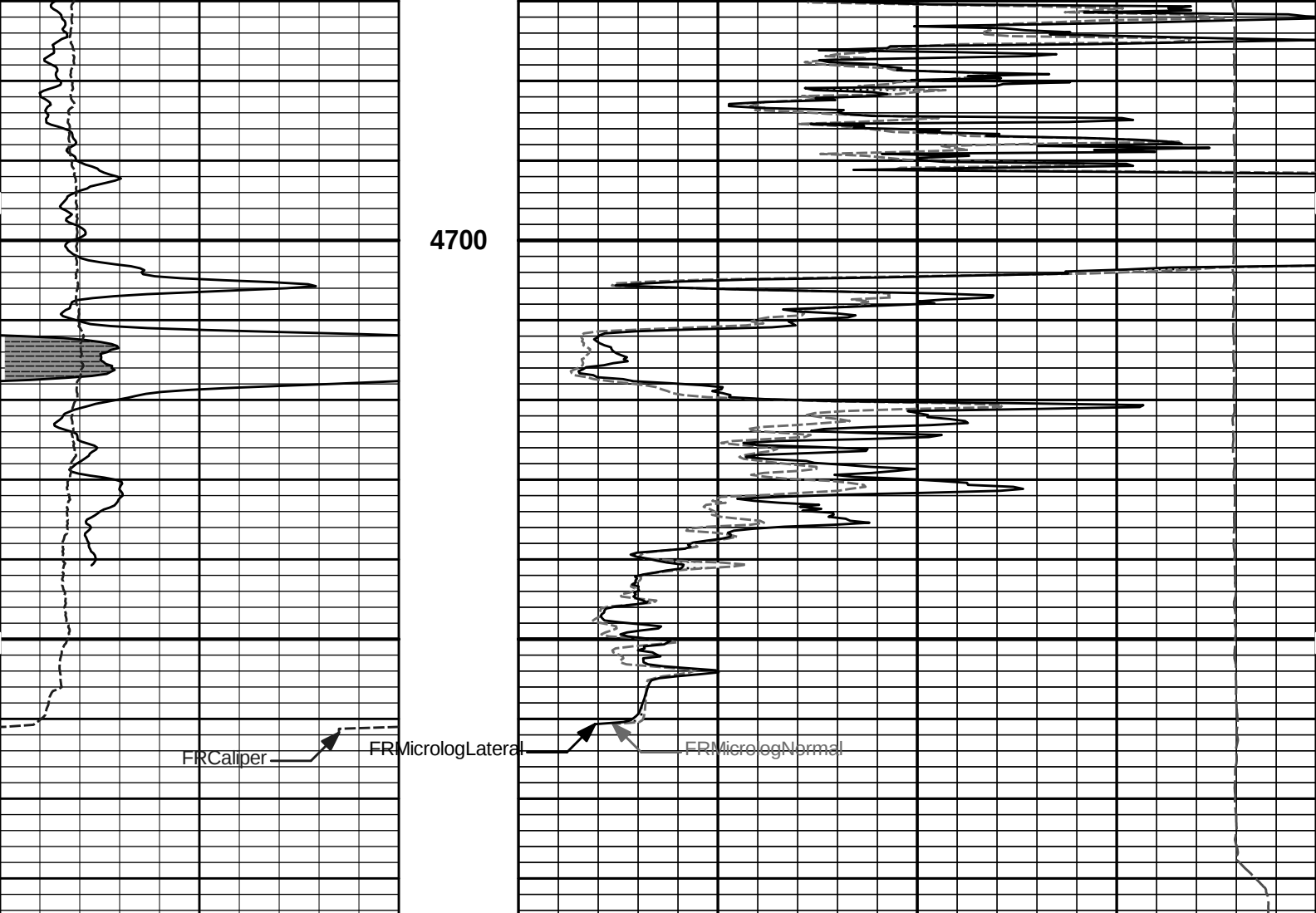




4500

4600





6	Caliper	16	1 : 240	15K	Tension	0
	inches		ft		pounds	
0	Gamma API	150	Tension Pull	0	MicrologLateral	20
	api		10 0		ohm-metre	
	SHALE		Tension Pull	0	MicrologNormal	20
					ohm-metre	
					PERMEABLE	

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Plot Time: 04-Mar-12 15:57:47
Plot Range: 3298 ft to 4784.67 ft
Data: WHELAN_1_32\Well Based\SDL\
Plot File: \\LOCAL-WHELAN_1_32\0001 SP-GTET-DSNT-SDLT-ACRT-CHIMICRO\Microlog_IQ_5_main_lib

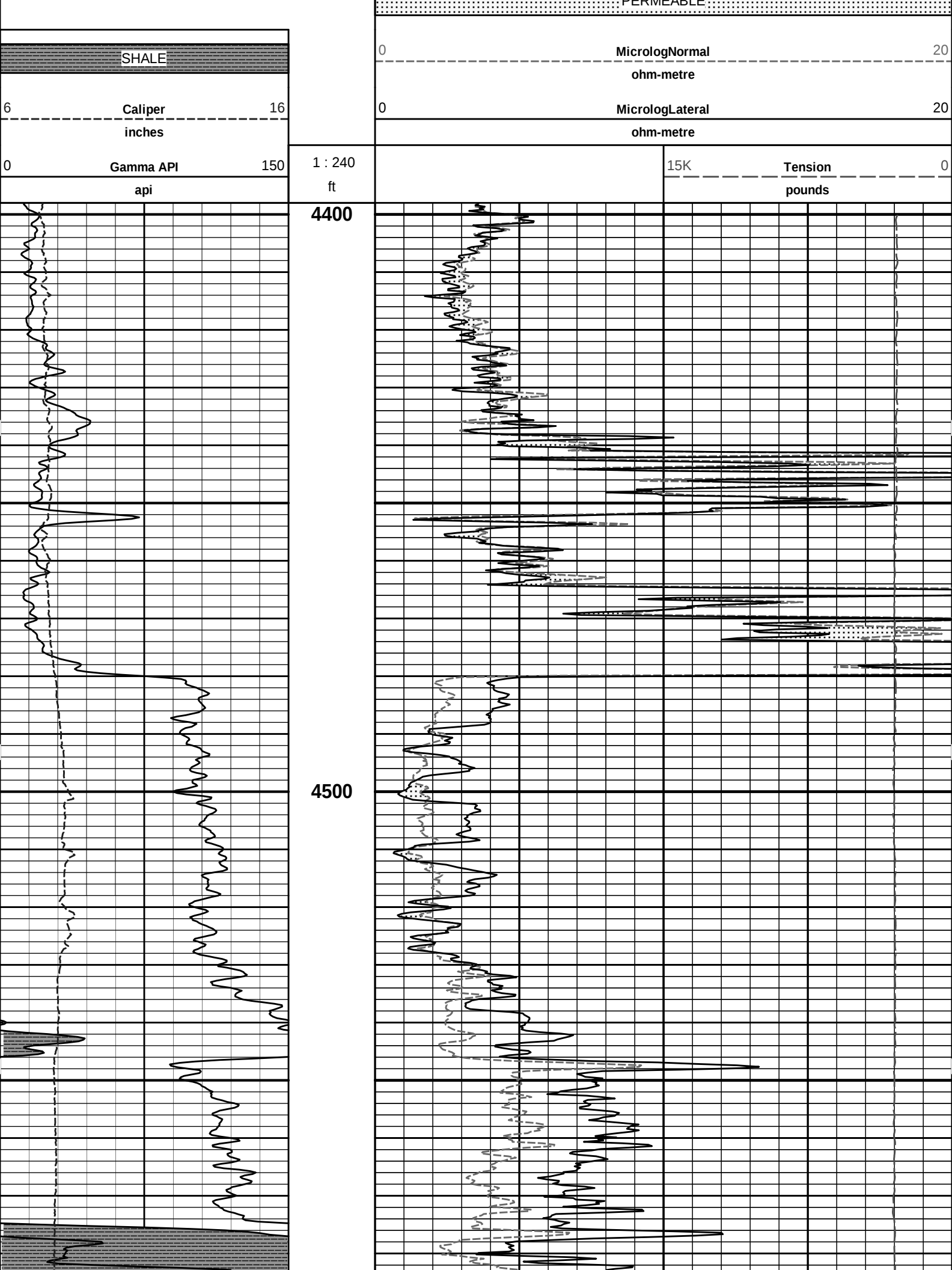
5 INCH MAIN LOG

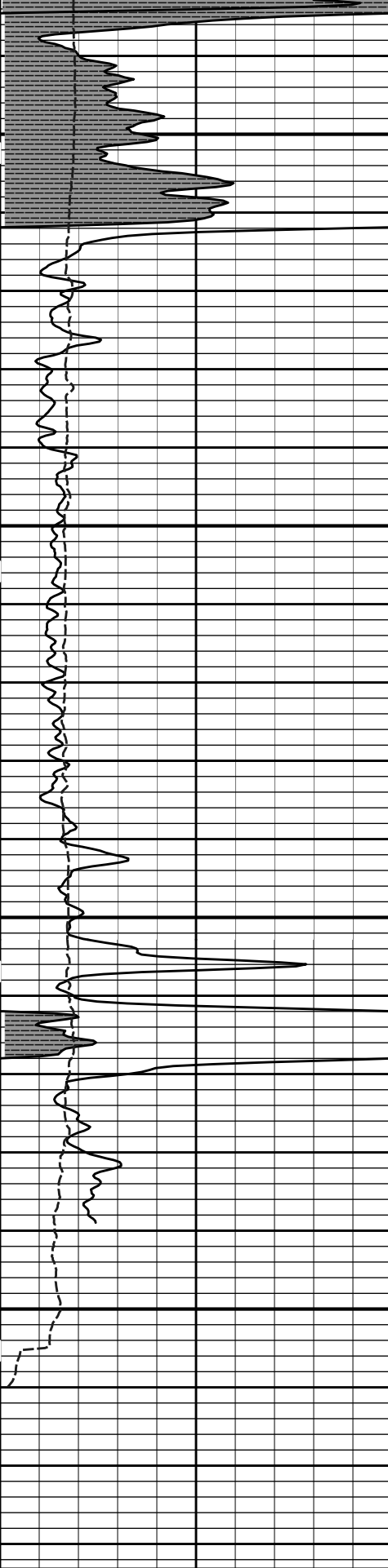
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Plot Time: 04-Mar-12 15:57:47
Plot Range: 4398 ft to 4783.17 ft
Data: WHELAN_1_32\Well Based\REPEAT\
Plot File: \\LOCAL-WHELAN_1_32\0001 SP-GTET-DSNT-SDLT-ACRT-CHIMICRO\Microlog_IQ_5_rep_lib

REPEAT SECTION

					PERMEABLE	
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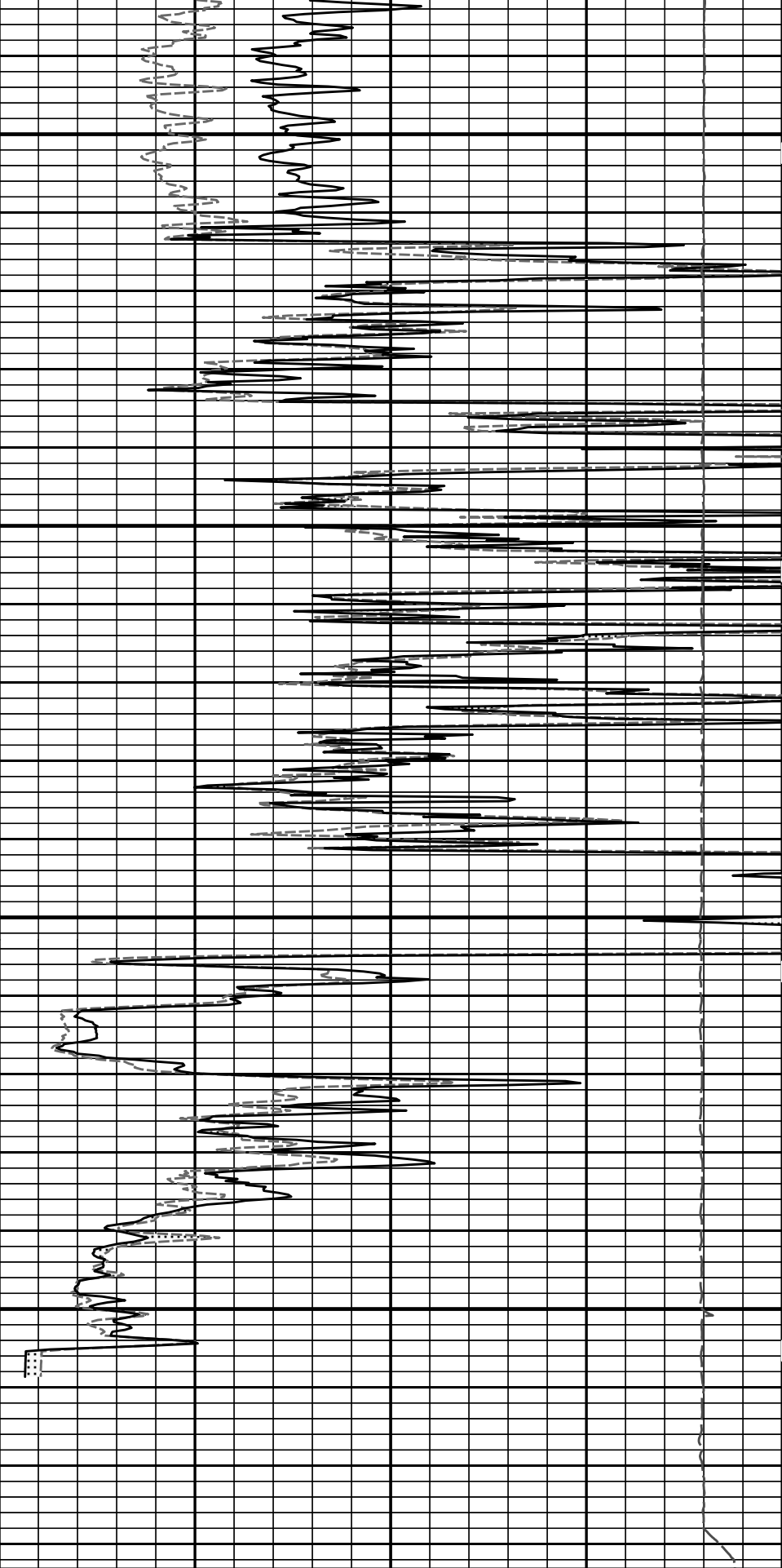


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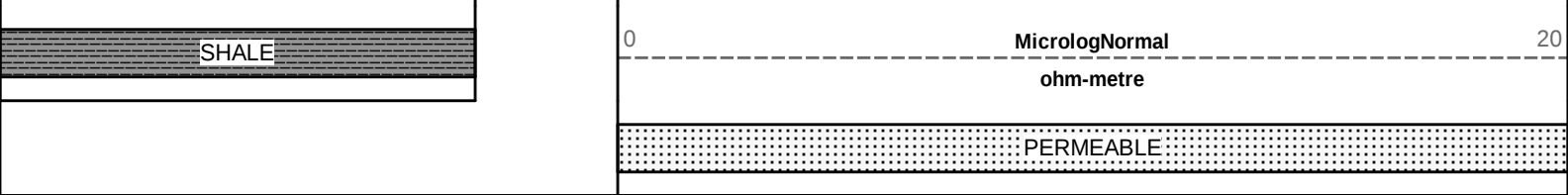
4700

0	Gamma API	150
	api	
6	Caliper	16
	inches	

1 : 240
ft



	15K	Tension	0
		pounds	
0	MicrologLateral		20
	ohm-metre		



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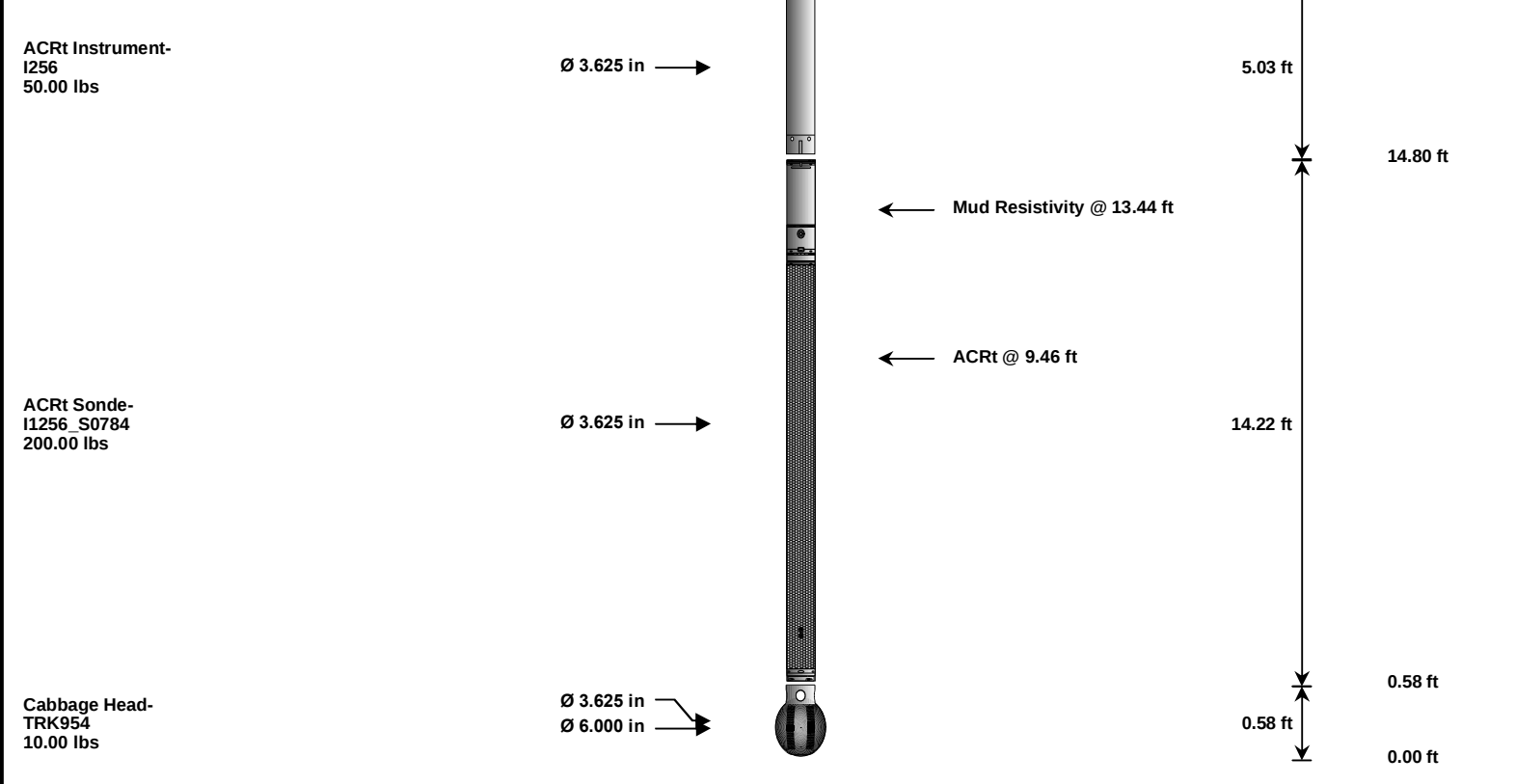
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Data: WHELAN_1_32\Well Based\REPEAT\
Plot File: \\-LOCAL-WHELAN_1_32\0001 SP-GTET-DSNT-SDLT-ACRT-CH\MICRO\Microlog_IQ_5_rep_lib

REPEAT SECTION

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TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head- PROT01 30.00 lbs		Ø 3.625 in →			1.92 ft	54.51 ft
SP Sub-PROT01 60.00 lbs		Ø 3.625 in →		← SP @ 50.81 ft	3.74 ft	52.59 ft
						48.85 ft
GTET-10811258 165.00 lbs		Ø 3.625 in →		← GammaRay @ 42.79 ft	8.52 ft	
						40.33 ft
DSNT-10755066 174.00 lbs	DSN Decentralizer- 10735145 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 33.39 ft ← DSN Near @ 32.64 ft	9.69 ft	
						30.64 ft
SDLT- I066_M85803_P45 360.00 lbs	SDLT Pad-45 65.00 lbs Microlog Pad- I066_M85803_P45 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 22.83 ft SDL Caliper @ 22.65 ft SDL @ 22.64 ft	10.81 ft	
						19.83 ft



Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH	Standard OH Cable Head		PROT01	30.00	1.92	52.59	300.00
SP	SP Sub		PROT01	60.00	3.74	48.85	300.00
GTET	Gamma Telemetry Tool		10811258	165.00	8.52	40.33	60.00
DSNT	Dual Spaced Neutron		10755066	174.00	9.69	30.64	60.00
DCNT	DSN Decentralizer		10735145	6.60	5.13	* 33.97	300.00
SDLT	Spectral Density Tool		I066_M85803_P45	360.00	10.81	19.83	60.00
MICP	Microlog Pad		I066_M85803_P45	8.00	1.00	* 22.33	60.00
SDLP	Density Insite Pad		45	65.00	2.55	* 22.04	60.00
ACRt	Array Compensated True Resistivity Instrument Section		I256	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity		I1256_S0784	200.00	14.22	0.58	300.00
CBHD	Cabbage Head		TRK954	10.00	0.58	0.00	300.00
Total				1,128.60	54.51		
							* Not included in Total Length and Length Accumulation.
Data: WHELAN_1_32I0001 SP-GTET-DSNT-SDLT-ACRT-CHIDLE							Date: 04-Mar-12 13:47:57

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 10811258	Reference Calibration Date:	27-Feb-12 10:42:34
Engineer:	T. HYDE	Calibration Date:	27-Feb-12 10:45:14
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1
Calibrator Source S/N: TB185			
Calibrator API Reference:228.00 api			
Equivalent Calibrator API Reference:232.0 api			
Measurement	Measured	Calibrated	Units
Background	43.9	44.1	api
Background + Calibrator	275.0	276.1	api
Calibrator	231.1	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

NATURAL GAMMA RAY TOOL FIELD CALIBRATION						
Tool Name: GTET - 10811258		Reference Calibration Date: 27-Feb-12 10:45:14				
Engineer: T. HYDE		Calibration Date: 04-Mar-12 08:18:15				
Software Version: WL INSITE R3.4.2 (Build 2)		Calibration Version: 1				
Calibrator Source S/N: TB185 Calibrator API Reference:228.00 api Equivalent Calibrator API Reference:232.0 api						
Field Verification		Shop		Field		Units
Background		44.1		48.7		api
Background + Calibrator		276.1		277.3		api
Calibrator		232.0		228.7		api
Shop		Field		Difference		Tolerance
232.0		228.7		3.3		+/- 9.00
MICRO LOG SHOP CALIBRATION						
Tool Name: Microlog Pad - I066_M85803_P45		Reference Calibration Date: 02-Sep-11 06:03:18				
Engineer: C. MARLOWE		Calibration Date: 31-Jan-12 20:02:12				
Software Version: WL INSITE R3.4.2 (Build 2)		Calibration Version: 1				
CALIBRATION COEFFICIENT SUMMARY						
Measurement	Micro Log Normal		Micro Log Lateral		Units	
	Measured	Calibrated	Measured	Calibrated		
Tool Zero	-0.07	-0.09	0.00	0.00	ohmm	
Calibration Point #1	0.02	0.00	-0.00	0.00	ohmm	
Calibration Point #2	19.97	20.00	19.98	20.00	ohmm	
Internal Reference	19.90	19.93	19.97	19.99	ohmm	
Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value		Units	
Tool Zero	-0.53		3.16		V	
Calibration Point #1	23.08		1.59		V	
Calibration Point #2	5304.32		6881.96		V	
Internal Reference	5284.73		6879.28		V	
MICRO LOG FIELD CHECK						
Tool Name: Microlog Pad - I066_M85803_P45		Reference Calibration Date: 31-Jan-12 20:02:12				
Engineer: T. HYDE		Calibration Date: 04-Mar-12 08:24:00				
Software Version: WL INSITE R3.4.2 (Build 2)		Calibration Version: 1				
Measurement	Micro Log Normal		Micro Log Lateral		Units	
	Shop	Field	Shop	Field		
Tool Zero	-0.09	-0.09	0.00	0.01	ohmm	
Internal Reference	19.93	19.91	19.99	19.97	ohmm	
Summary						
Signal	Shop	Field	Difference		Tolerance	
Microlog Normal	19.93	19.91	0.02		+/- 0.80	
Microlog Lateral	19.99	19.97	0.02		+/- 0.80	
CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10811258						

Gamma Ray Calibrator	232.0	228.7	-----	3.3	+/- 9.00	api
Microlog Pad-I066_M85803_P45						
MicroLog Normal	19.93	19.91	-----	0.02	+/-0.80	ohmm
MicroLog Lateral	19.99	19.97	-----	0.02	+/-0.80	ohmm
Data: WHELAN_1_32\0001 SP-GTET-DSNT-SDLT-ACRT-CH\IDLE						
Date: 04-Mar-12 14:17:32						
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	0.400	ohmm	
	SHARED	TRM	Temperature of Mud	75.0	degF	
	SHARED	CSD	Logging Interval is Cased?	No		
	SHARED	ICOD	AHV Casing OD	4.500	in	
	SHARED	ST	Surface Temperature	75.0	degF	
	SHARED	TD	Total Well Depth	4778.00	ft	
	SHARED	BHT	Bottom Hole Temperature	110.0	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	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	
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 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	
BOTTOM				
Data: WHELAN_1_32\0001 SP-GTET-DSNT-SDLT-ACRT-CH\004 04-Mar-12 14:42 Up @4784.8f				Date: 04-Mar-12 15:16:56

HALLIBURTON				
INPUTS, DELAYS AND FILTERS TABLE				
Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
SP Sub				
PLTC	Plot Control Mask	50.81	NO	
SP	Spontaneous Potential	50.81	BLK	1.250
SPR	Raw Spontaneous Potential	50.81	NO	
SPO	Spontaneous Potential Offset	50.81	NO	
GTET				
TPUL	Tension Pull	42.79	NO	
GR	Natural Gamma Ray API	42.79	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.79	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	42.79	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	32.54	NO	
RNDS	Near Detector Telemetry Counts	32.64	BLK	1.417
RFDS	Far Detector Telemetry Counts	33.39	TRI	0.583
DNTT	DSN Tool Temperature	32.64	NO	
DSNS	DSN Tool Status	32.54	NO	
ERND	Near Detector Telemetry Counts EVR	32.64	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.39	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.64	NO	

SDLT				
TPUL	Tension Pull	22.65	NO	
PCAL	Pad Caliper	22.65	TRI	0.250
ACAL	Arm Caliper	22.65	TRI	0.250
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 Reference 12 KHz Real Signal	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	
SDLT Pad				
TPUL	Tension Pull	22.64	NO	
NAB	Near Above	22.46	BLK	0.920
NHI	Near Cesium High	22.46	BLK	0.920
NLO	Near Cesium Low	22.46	BLK	0.920
NVA	Near Valley	22.46	BLK	0.920
NBA	Near Barite	22.46	BLK	0.920
NDE	Near Density	22.46	BLK	0.920
NPK	Near Peak	22.46	BLK	0.920
NLI	Near Lithology	22.46	BLK	0.920
NBAU	Near Barite Unfiltered	22.46	BLK	0.250
NLIU	Near Lithology Unfiltered	22.46	BLK	0.250
FAB	Far Above	22.81	BLK	0.250
FHI	Far Cesium High	22.81	BLK	0.250
FLO	Far Cesium Low	22.81	BLK	0.250
FVA	Far Valley	22.81	BLK	0.250
FBA	Far Barite	22.81	BLK	0.250
FDE	Far Density	22.81	BLK	0.250
FPK	Far Peak	22.81	BLK	0.250
FLI	Far Lithology	22.81	BLK	0.250
PTMP	Pad Temperature	22.65	BLK	0.920
NHV	Near Detector High Voltage	22.04	NO	
FHV	Far Detector High Voltage	22.04	NO	
ITMP	Instrument Temperature	22.04	NO	
DDHV	Detector High Voltage	22.04	NO	
Microlog Pad				
TPUL	Tension Pull	22.83	NO	
MINV	Microlog Lateral	22.83	BLK	0.750
MNOR	Microlog Normal	22.83	BLK	0.750
Data: WHELAN_1_32\0001 SP-GTET-DSNT-SDLT-ACRT-CH\IDLE			Date: 04-Mar-12 14:19:21	

COMPANY	VAL ENERGY INC.		
WELL	WHELAN 1-32		
FIELD			
COUNTY	BARBER	STATE	KANSAS
HALLIBURTON		MICRO LOG	