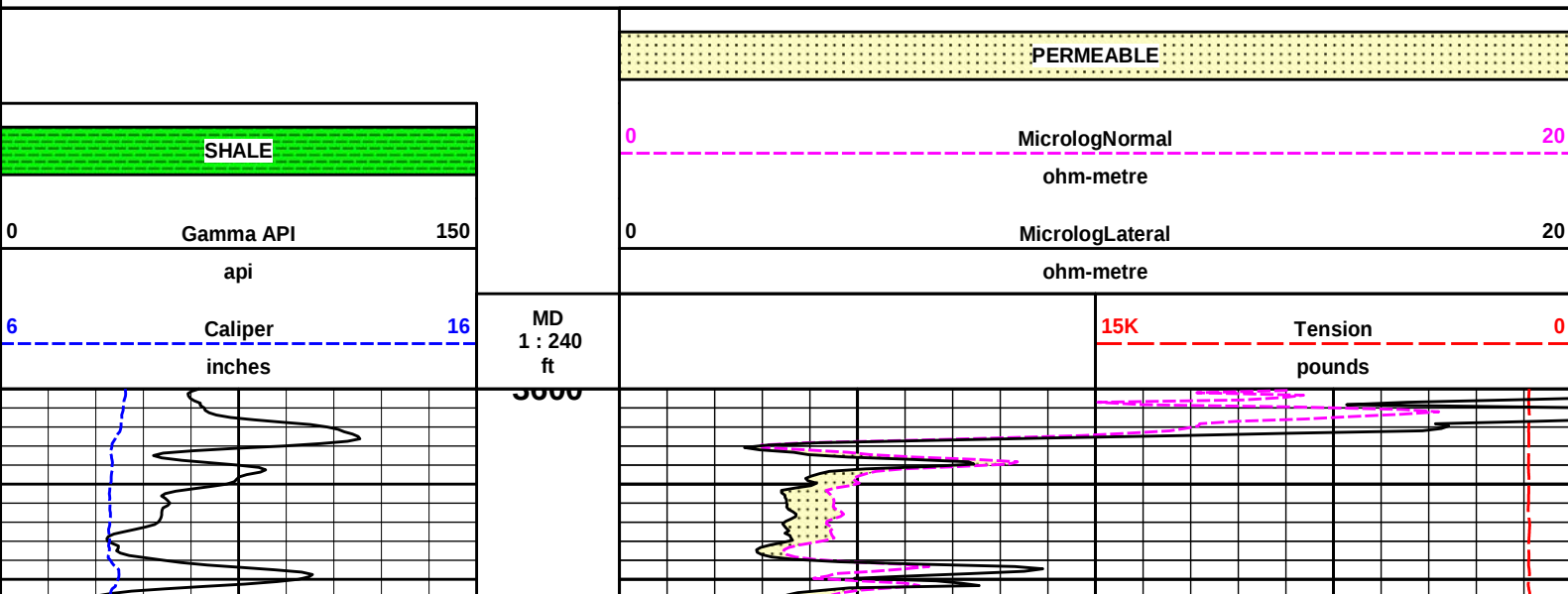


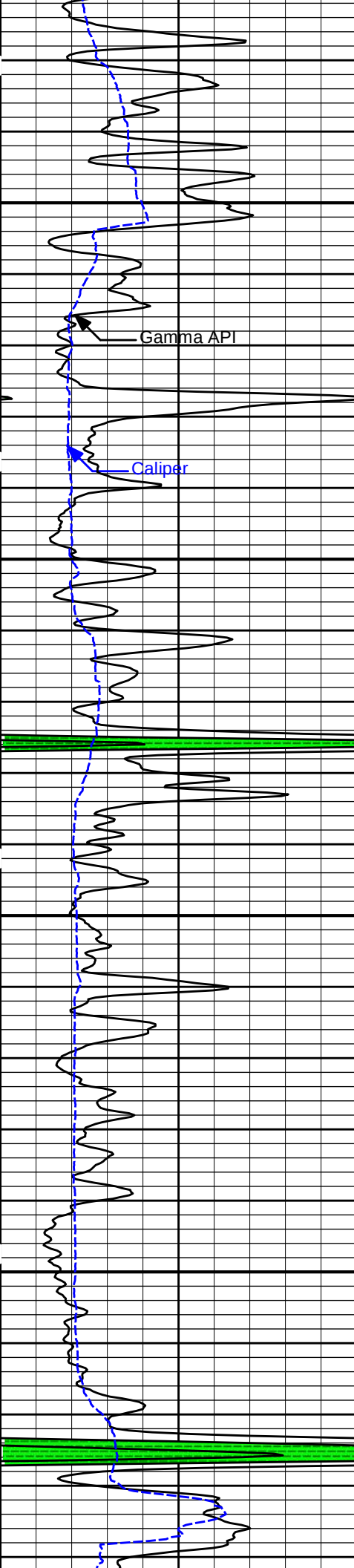
MICROLOG

COMPANY	BEREXCO LLC
WELL	LENA MAI 3-29
FIELD/BLOCK	CONGDON NORTH
COUNTY	FINNEY
	STATE KANSAS
API No.	15-055-22334-00-00
Location	(SHL) 12.44' FNL & 17.43' FEL SW-SE-NW-NE
	Other Services: ACRT DSNT, SDLT BSAT
Sect. 29	Twp. 23S
	Rge. 32W

EQUIPMENT DATA

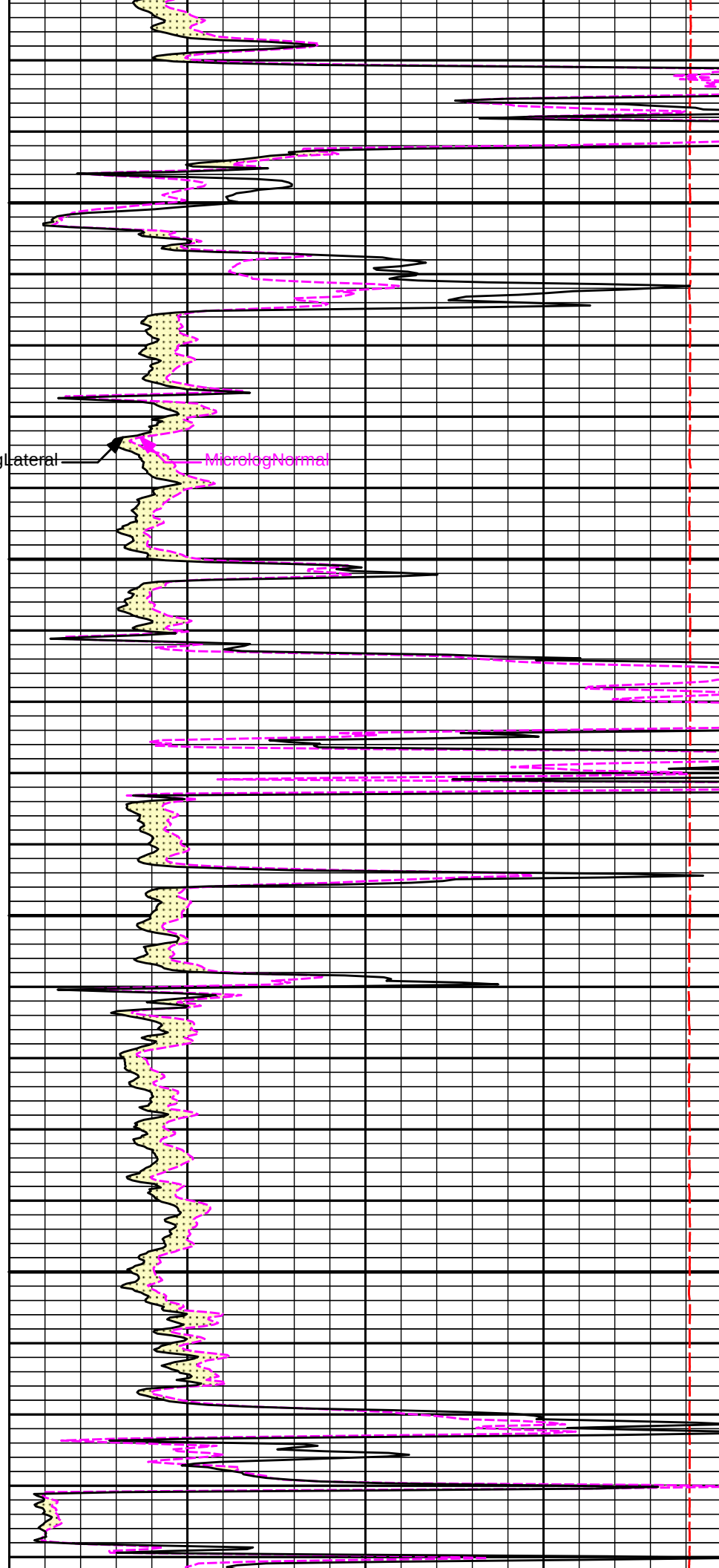
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.		Run No.	
Serial No.	11048627	Serial No.		Serial No.		Serial No.	
Model No.	GTET	Model No.		Model No.		Model No.	
Diameter	3.625"	No. of Cent.		Diameter		Diameter	
Detector Model No.	T-102	Spacing		Log Type		Log Type	
Type	SCINT			Source Type		Source Type	
Length	8'	LSA [Y/N]		Serial No.		Serial No.	
Distance to Source	10'	FWDA [Y/N]		Strength		Strength	

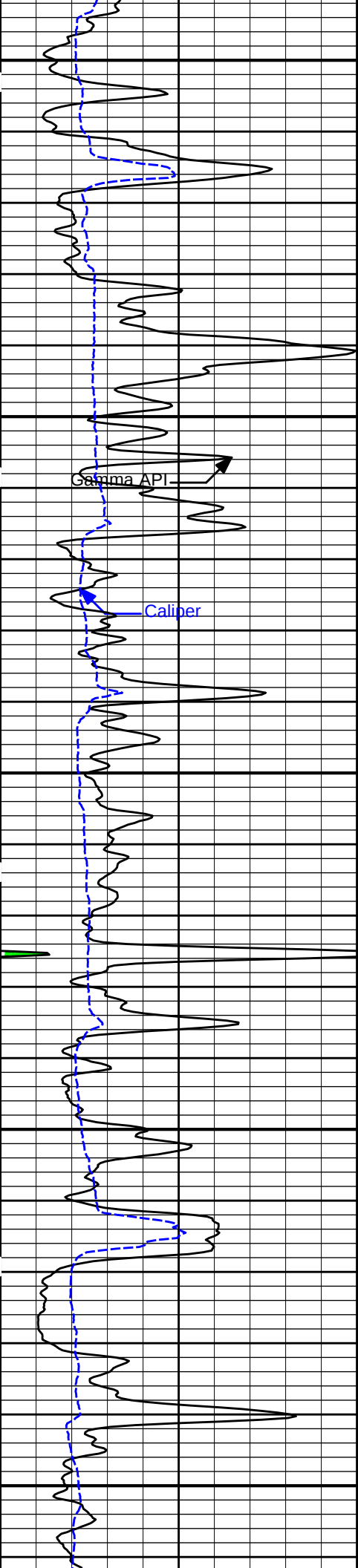




3700

3800



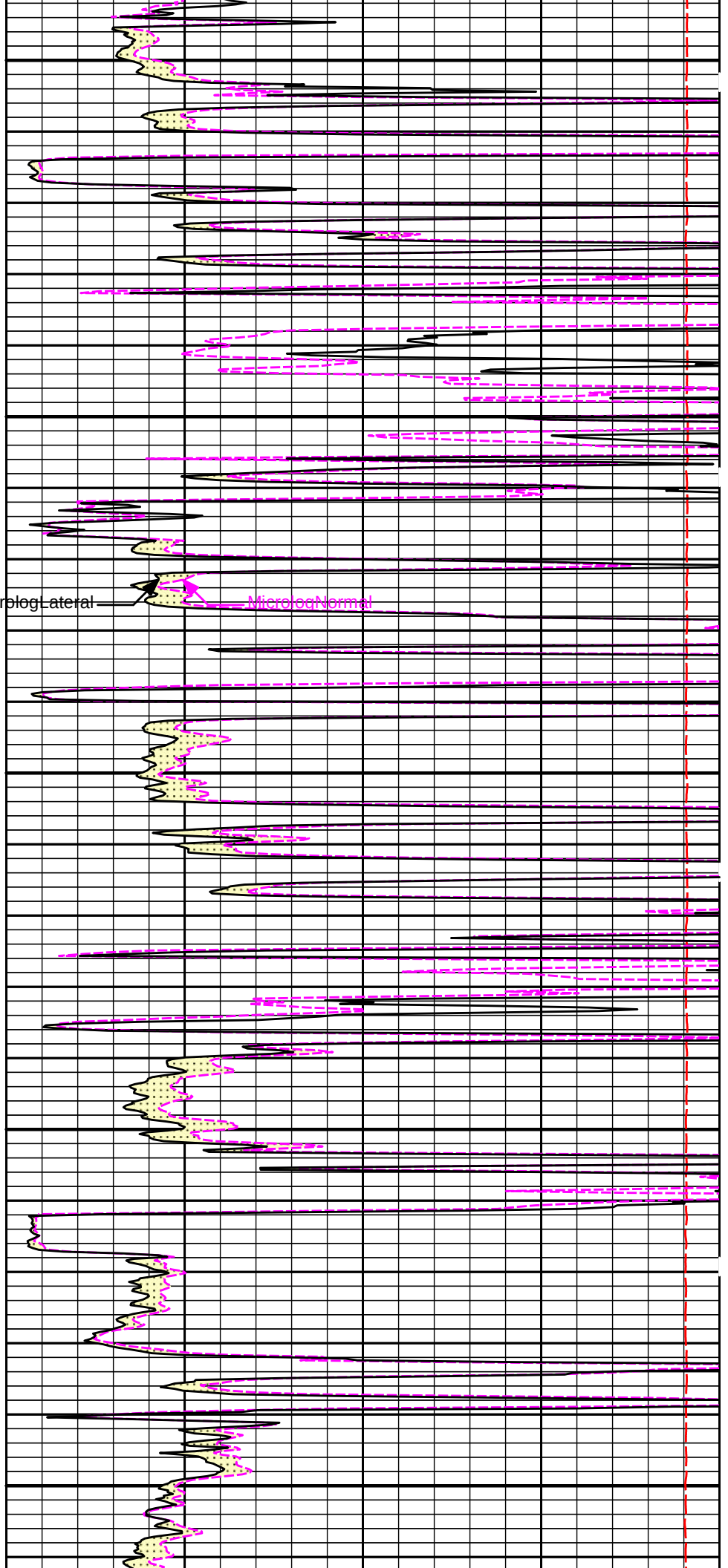


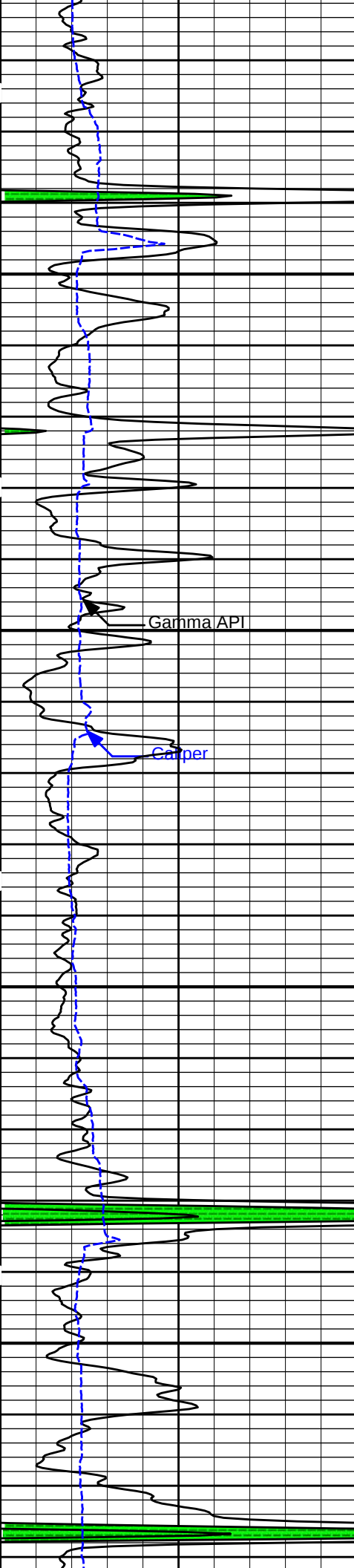
3900

MicrologLateral

MicrologNormal

4000



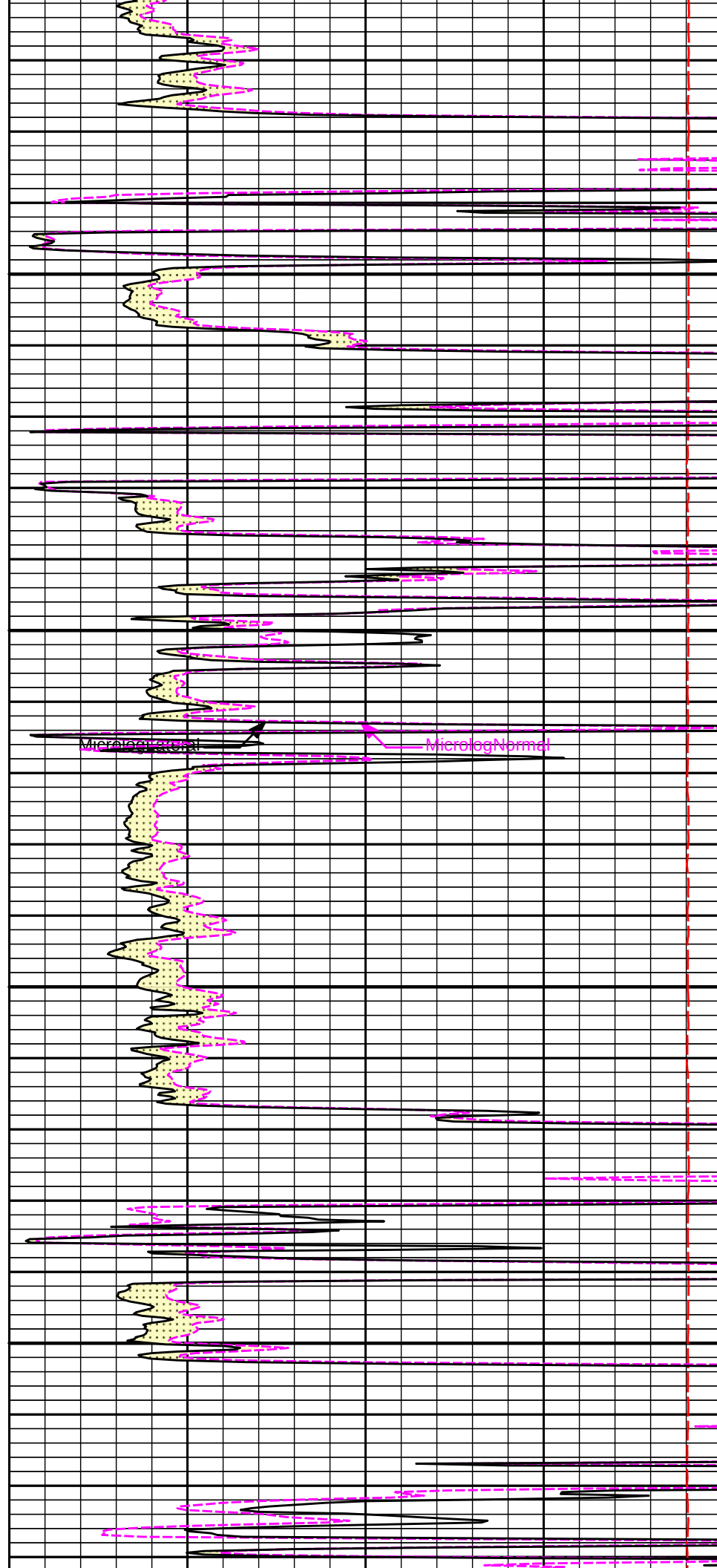


4100

Gamma API

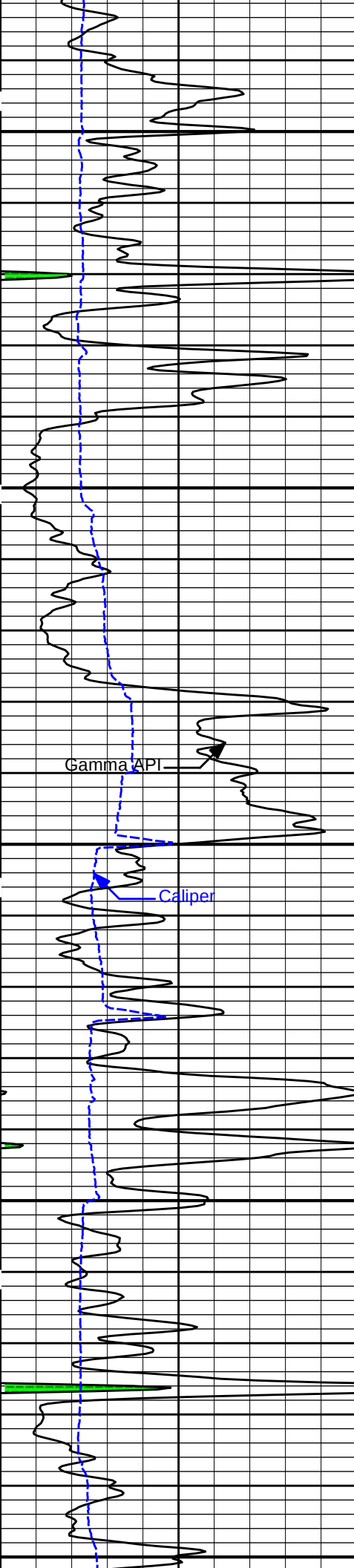
Caliper

4200



MicrologLateral

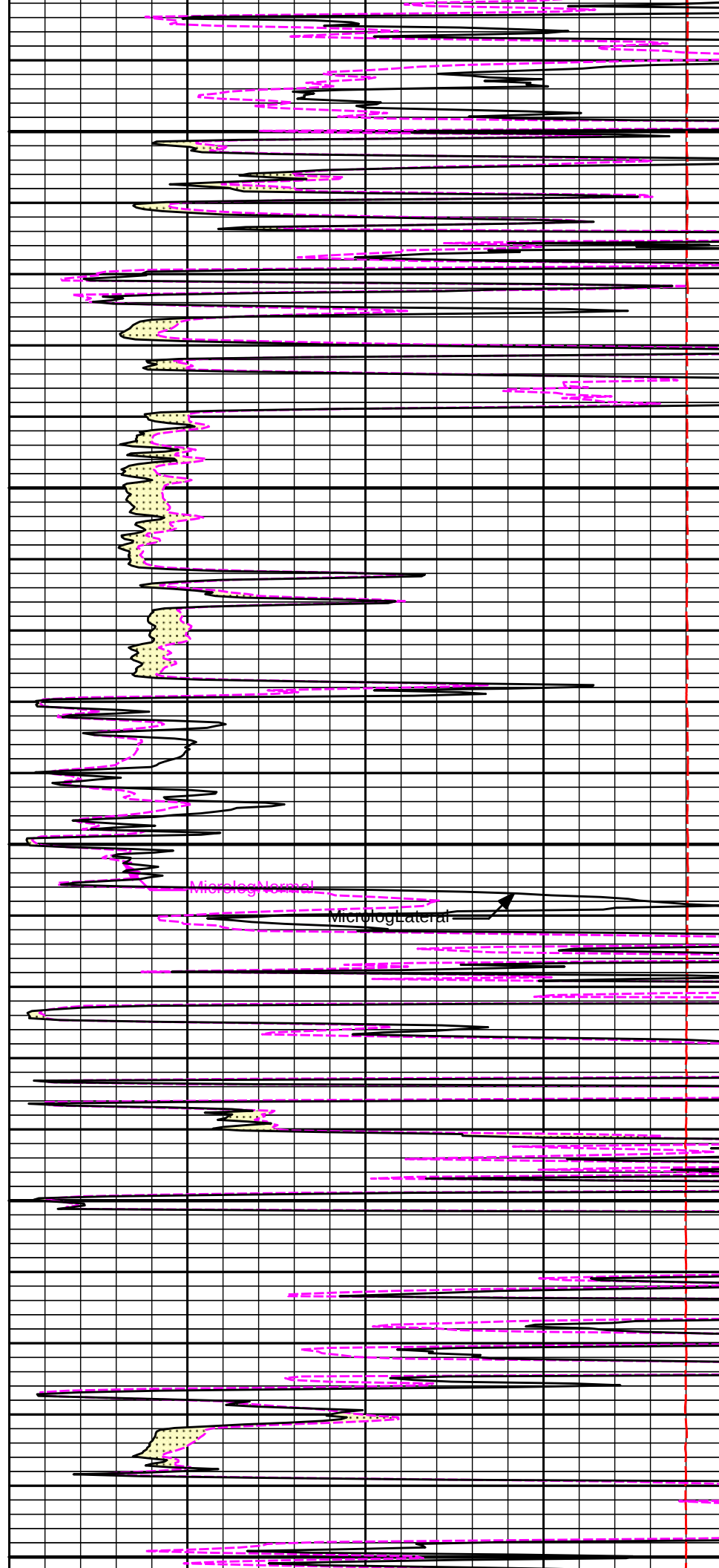
MicrologNormal

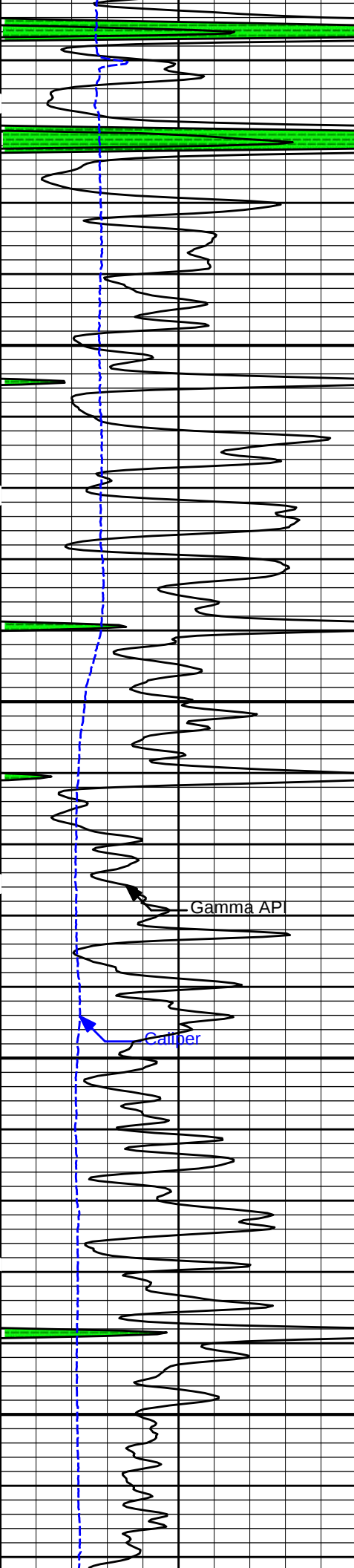


4300

4400

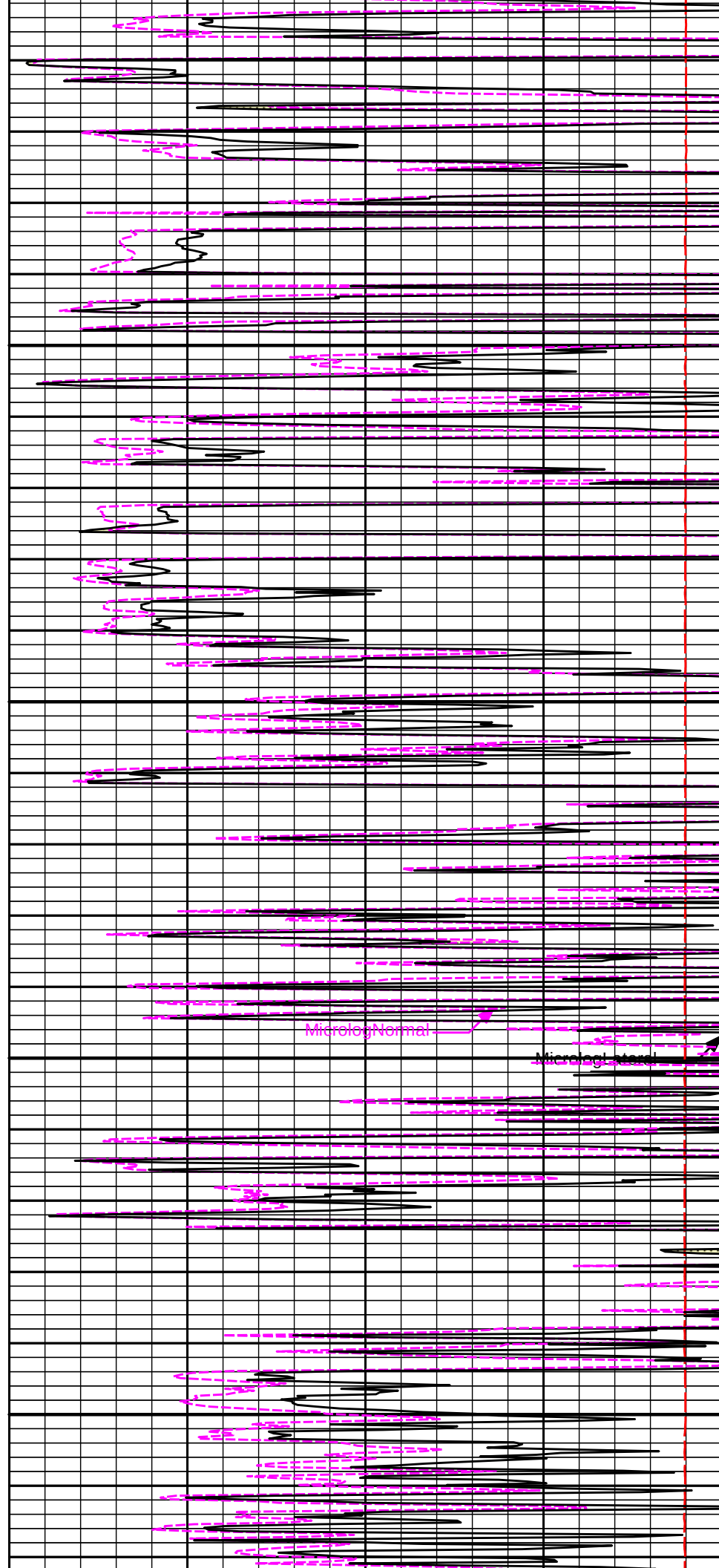
4500

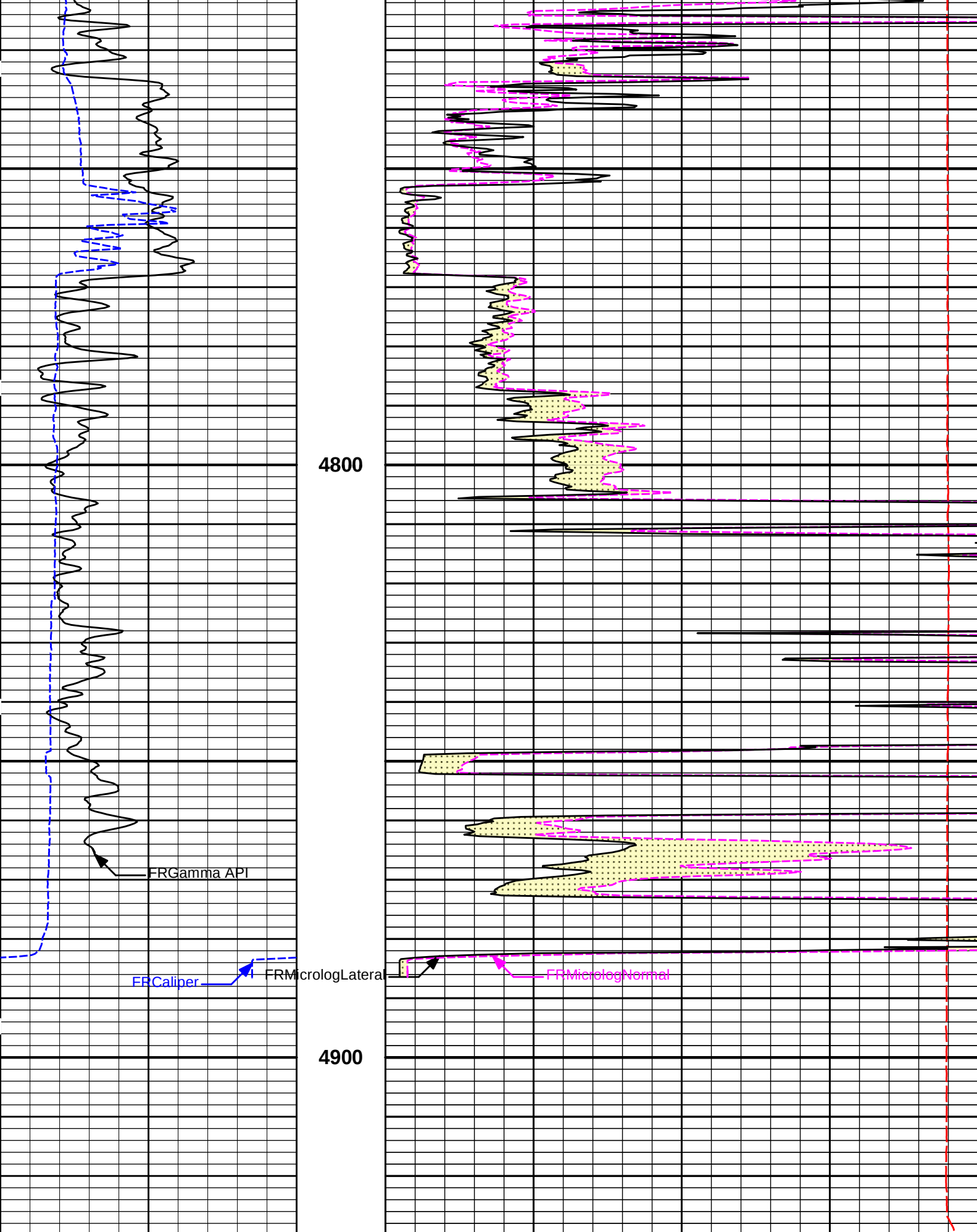




4600

4700





4800

4900

GR Gamma API

FB Caliper

FR Microlog Lateral

FR Microlog Normal

6

Caliper
inches

16

MD
1 : 240
ft

15K

Tension
pounds

0

0	Gamma API	150	0	MicrologLateral	20
	api			ohm-metre	
	SHALE		0	MicrologNormal	20
				ohm-metre	
				PERMEABLE	

HALLIBURTON

Plot Time: 20-Aug-14 18:24:58
Plot Range: 3600 ft to 4929.75 ft
Data: LENA_MAI_3-29\Well Based\DETAIL\
Plot File: \\LOCAL-LENA_MAI_3-29\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNMICRO\Microlog_IQ_5_main_lib

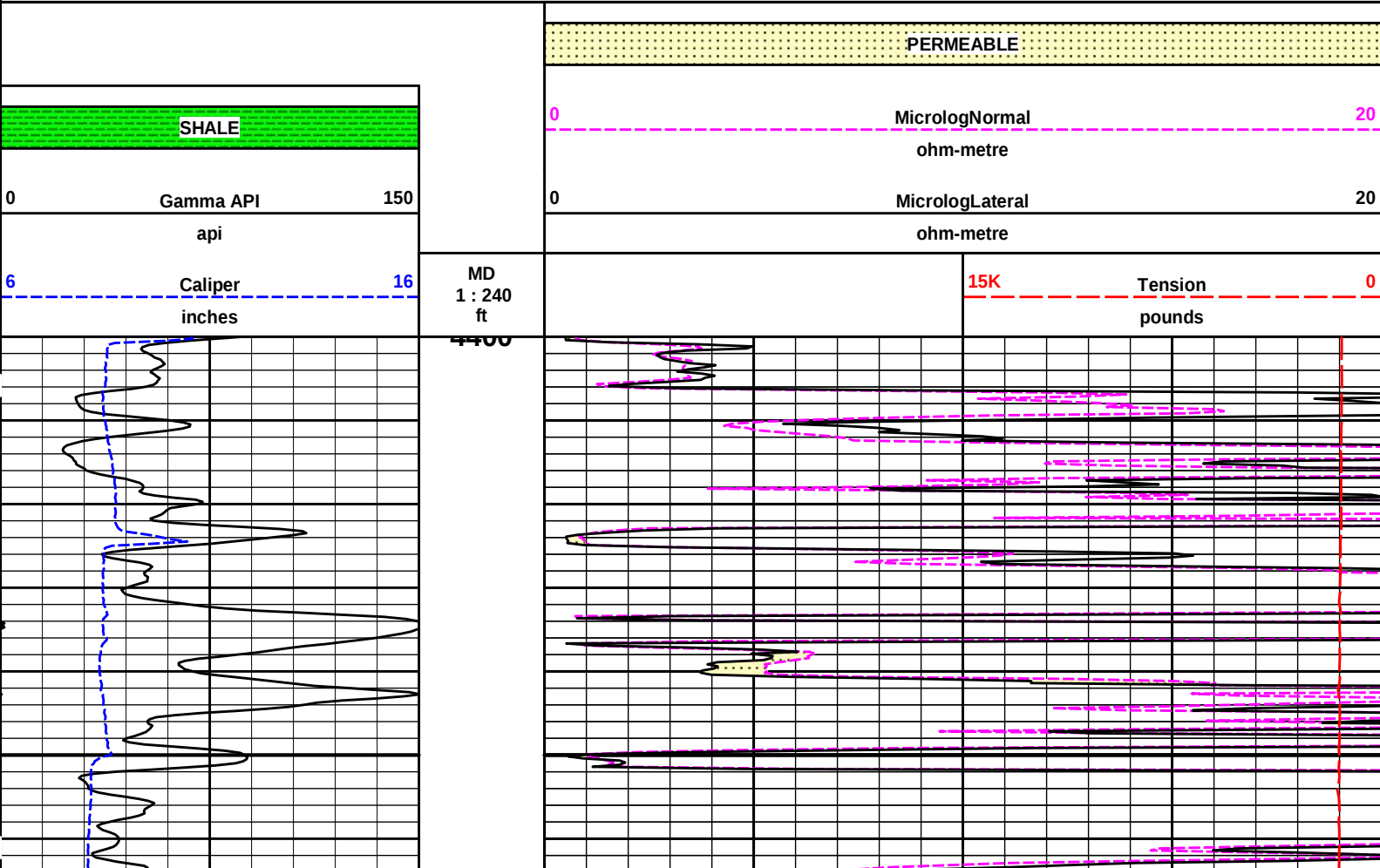
5 INCH MAIN LOG

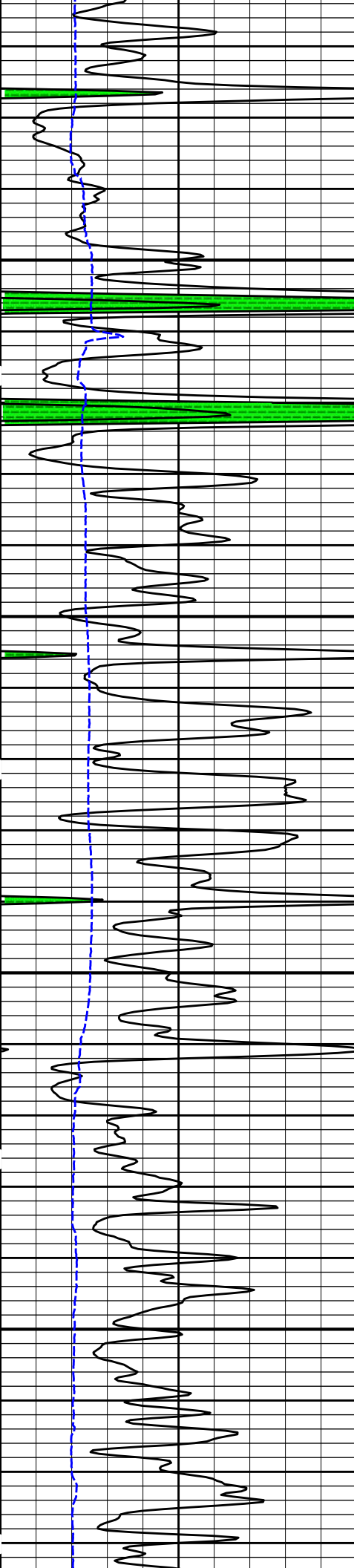
MEASURED DEPTH
MAIN LOG 5" PER 100'

HALLIBURTON

Plot Time: 20-Aug-14 18:24:58
Plot Range: 4400 ft to 4932.25 ft
Data: LENA_MAI_3-29\Well Based\REPEAT\
Plot File: \\LOCAL-LENA_MAI_3-29\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNMICRO\Microlog_IQ_5_rep_lib

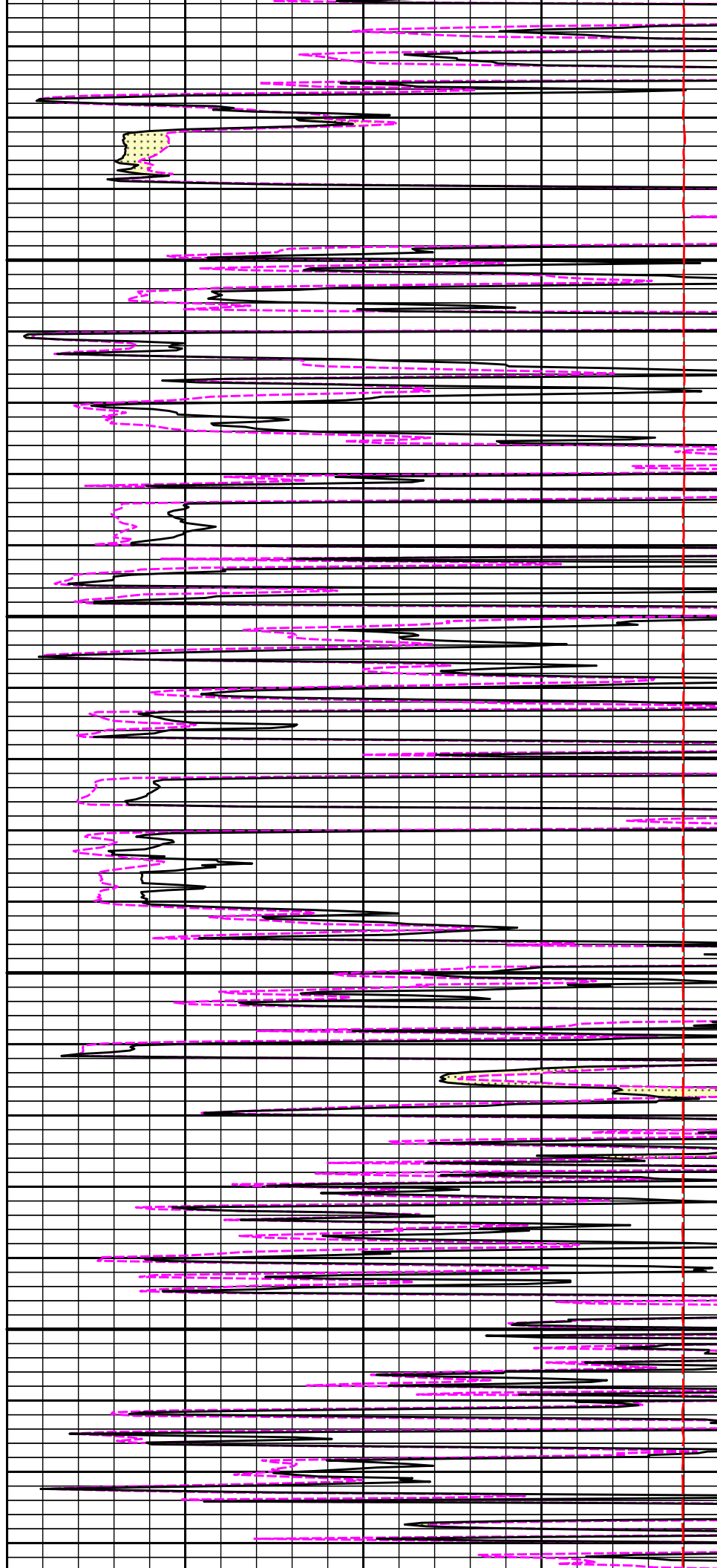
REPEAT SECTION

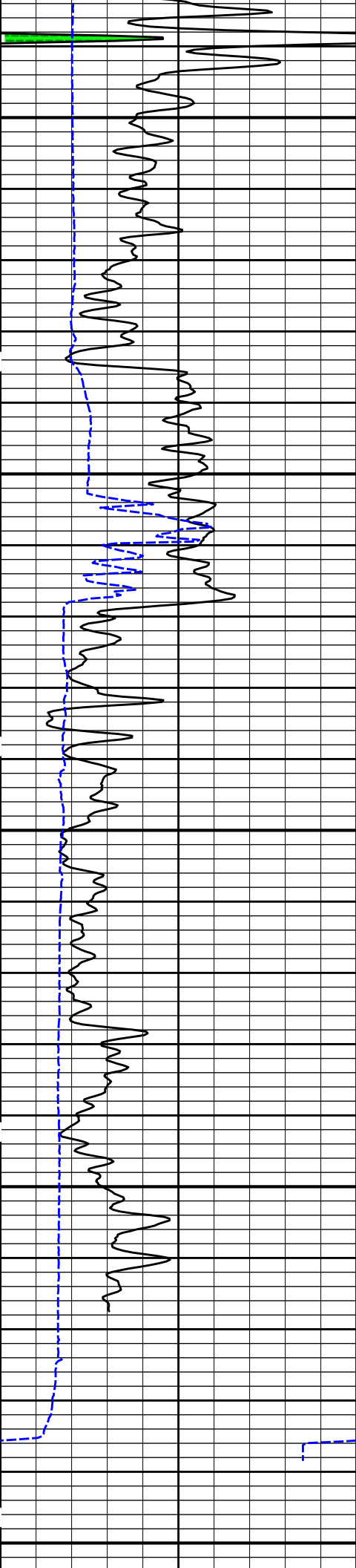




4500

4600

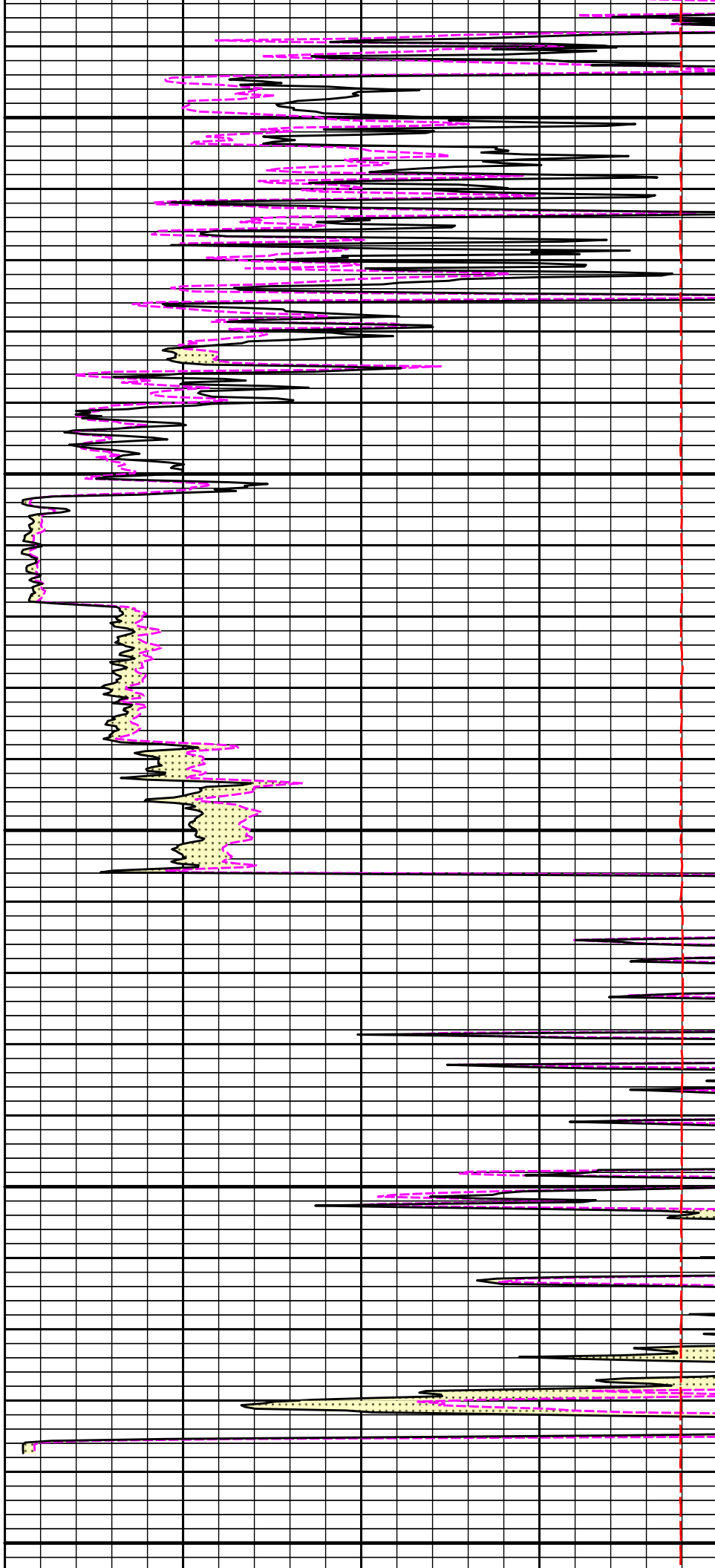


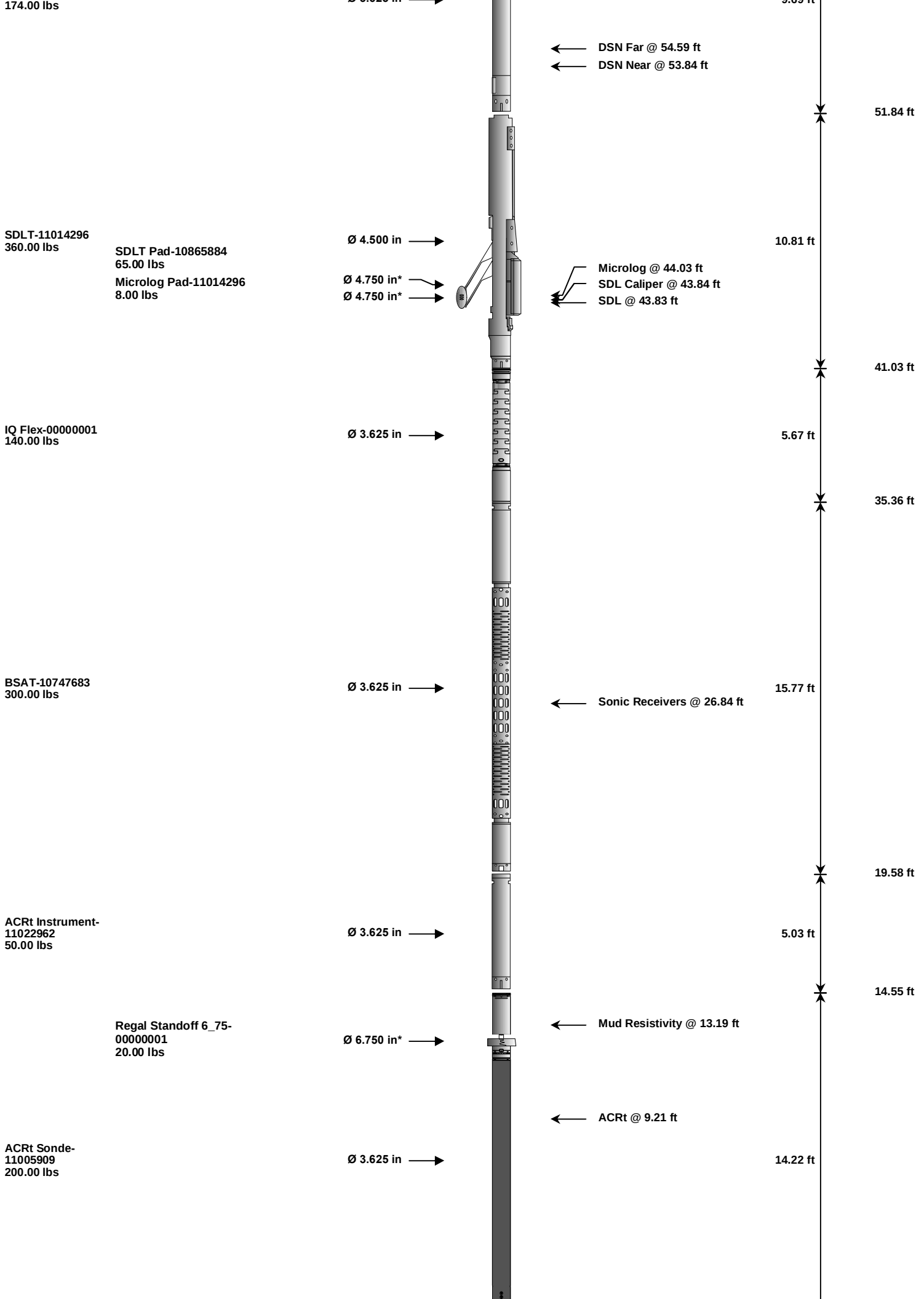


4700

4800

4900





Bull Nose-00000001
5.00 lbs

Ø 2.750 in →



0.33 ft

0.33 ft

0.00 ft

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	73.79	300.00
SP	SP Sub	12345678	60.00	3.74	70.05	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52	61.53	60.00
DSNT	Dual Spaced Neutron	11055304	174.00	9.69	51.84	60.00
SDLT	Spectral Density Tool	11014296	360.00	10.81	41.03	60.00
SDLP	Density Insite Pad	10865884	65.00	2.55	*	43.24
MICP	Microlog Pad	11014296	8.00	1.00	*	43.53
IQF	IQ Flex tool	00000001	140.00	5.67	35.36	300.00
BSAT	Borehole Sonic Array Tool	10747683	300.00	15.77	19.58	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11022962	50.00	5.03	14.55	120.00
ACRt	Array Compensated True Resistivity Sonde Section	11005909	200.00	14.22	0.33	120.00
RSOF	Regal Standoff 6.75in	00000001	20.00	0.52	*	12.25
BLNS	Bull Nose	00000001	5.00	0.33	0.00	300.00

Total

1,682.00

80.04

* Not included in Total Length and Length Accumulation.

Data: LENA_MAI_3-29I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNIDLE

Date: 20-Aug-14 16:29:50

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11048627

Reference Calibration Date: 09-Jul-14 10:31:38

Engineer: SUHAIL BISHTI

Calibration Date: 07-Aug-14 21:30:09

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

Calibration Version: 1

Calibrator Source S/N: Error

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	53.0	53.5	api
Background + Calibrator	319.9	323.2	api
Calibrator	266.9	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11048627

Reference Calibration Date: 07-Aug-14 21:30:09

Engineer: J. BOLLUM

Calibration Date: 18-Aug-14 08:10:26

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

Calibration Version: 1

Calibrator Source S/N: Error

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	53.5	45.2	api
Background + Calibrator	323.2	313.9	api
Calibrator	269.6	268.7	api

Shop	Field	Difference	Tolerance
269.6	268.7	0.9	+/- 9.00

MICRO LOG SHOP CALIBRATION					
Tool Name:	Microlog Pad - 11014296			Reference Calibration Date:	07-Aug-14 21:52:17
Engineer:	J. BOLLLOM			Calibration Date:	13-Aug-14 11:26:23
Software Version:	WL INSITE R4.2.0 (Build 2)			Calibration Version:	1
Host Tool Name:	DSNT - 11055304				

	CALIBRATION COEFFICIENT SUMMARY					
	Measurement	Micro Log Normal		Micro Log Lateral		
		Measured	Calibrated	Measured	Calibrated	Units
	Tool Zero	-0.06	-0.05	-0.01	-0.01	ohmm
	Calibration Point #1	-0.02	0.00	-0.01	0.00	ohmm
	Calibration Point #2	19.93	20.00	19.93	20.00	ohmm
	Internal Reference	19.90	19.97	19.94	20.01	ohmm
	Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value		Units
	Tool Zero	-0.02		0.11		V
	Calibration Point #1	12.88		2.19		V
	Calibration Point #2	5288.52		6872.84		V
	Internal Reference	5279.58		6875.93		V

MICRO LOG FIELD CHECK					
Tool Name:	Microlog Pad - 11014296			Reference Calibration Date:	13-Aug-14 11:26:23
Engineer:	J. BOLLLOM			Calibration Date:	20-Aug-14 06:28:30
Software Version:	WL INSITE R4.2.0 (Build 2)			Calibration Version:	1

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Shop	Field	Shop	Field	
Tool Zero	-0.05	-0.05	-0.01	-0.00	ohmm
Internal Reference	19.97	19.96	20.01	20.01	ohmm
Summary					
Signal	Shop	Field	Difference		Tolerance
Microlog Normal	19.97	19.96	0.01		+/- 0.80
Microlog Lateral	20.01	20.01	0.00		+/- 0.80

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	268.7	-----	0.9	+/- 9.00	api
Microlog Pad-11014296						
MicroLog Normal	19.97	19.96	-----	0.01	+/-0.80	ohmm
MicroLog Lateral	20.01	20.01	-----	0.00	+/-0.80	ohmm
Data: LENA_MAI_3-29I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\IDLE				Date: 20-Aug-14 16:31:10		

HALLIBURTON PARAMETERS REPORT					
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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	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	4930.00	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	
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	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	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	
	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 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
	ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
BOTTOM					
Data: LENA_MAI_3-29I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNIDLE				Date: 20-Aug-14 16:30:39	

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	80.04	NO	
BS		Bit Size	80.04	NO	
HDIA		Measured Hole Diameter	0.00	NO	
RWCH					
DHTN		DownholeTension	0.00	BLK	0.000
SP Sub					
PLTC		Plot Control Mask	72.01	NO	
SP		Spontaneous Potential	72.01	BLK	1.250
SPR		Raw Spontaneous Potential	72.01	NO	
SPO		Spontaneous Potential Offset	72.01	NO	
GTET					
TPUL		Tension Pull	63.99	NO	
GR		Natural Gamma Ray API	63.99	TRI	1.750
GRU		Unfiltered Natural Gamma Ray API	63.99	NO	
EGR		Natural Gamma Ray API with Enhanced Vertical Resolution	63.99	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	53.74	NO	
RNDS	Near Detector Telemetry Counts	53.84	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.59	TRI	0.583
DNTT	DSN Tool Temperature	53.84	NO	
DSNS	DSN Tool Status	53.74	NO	
ERND	Near Detector Telemetry Counts EVR	53.84	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.59	BLK	0.000
ENTM	DSN Tool Temperature EVR	53.84	NO	
HDIA	Measured Hole Diameter	0.00	NO	
SDLT				
TPUL	Tension Pull	43.84	NO	
PCAL	Pad Caliper	43.84	TRI	0.250
ACAL	Arm Caliper	43.84	TRI	0.250
BSAT				
TPUL	Tension Pull	26.84	NO	
STAT	Status	26.84	NO	
DLYT	Delay Time	26.84	NO	
SI	Sample Interval	26.84	NO	
TXRX	Raw Telemetry 10 Receivers	26.84	NO	
FRMC	Tool Frame Count	26.84	NO	
GMOD	Gain processing mode	19.58	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

COMPANY	BEREXCO LLC		
WELL	LENA MAI 3-29		
FIELD	CONGDON NORTH		
COUNTY	FINNEY	STATE	KANSAS
HALLIBURTON		MICROLOG	