

HALLIBURTON

ANNULAR HOLE VOLUME LOG

COMPANY		MERIT ENERGY COMPANY, LLC	
WELL		LCSLU 108 (WSW)	
FIELD/BLOCK		BIG SKY	
COUNTY		GRANT	
STATE		KANSAS	
Permanent Datum	GL	Sect. 10	Twp. 29S
Log measured from	KB		Rge. 38W
Drilling measured from	KB		Elev. 3112.0 ft
Date	17-Oct-17		D.F. 3125.0 ft
Run No.	ONE		G.L. 3112.0 ft
Depth - Driller	6603.0 ft		
Depth - Logger	6601.0 ft		
Bottom - Logged Interval	6601.0 ft		
Bottom - Logged Interval	1448.0 ft		
Casing - Driller	8.625 in	@	
Casing - Logger	1448.0 ft	@	
Bit Size	7.875 in	@	
Type Fluid in Hole	Water Based Mud		
Density	9.1 ppg	50.00	s/qt
PH	10.50	5.6	cp/m
Source of Sample	FLOWLINE		
Rm @ Meas. Temperature	0.88 ohmm	@	75.00 degF
Rmf @ Meas. Temperature	0.68 ohmm	@	75.00 degF
Rmc @ Meas. Temperature	1.01 ohmm	@	75.00 degF
Source Rmf	MEAS		MEAS
Rm @ BHT	0.64 ohmm	@	144.0 degF
Time Since Circulation	05:52 hr		
Time on Bottom	18-Oct-17 02:07		
Max. Rec. Temperature	144.00 degF	@	6601.0 ft
Equipment Location	12156883		EL RENO, OK
Recorded By	MICHAEL RICHTER		
Witnessed By	MARTIN LANGE		TROY FOWLER

Fold here

Service Ticket No.: 904370552		API No.: 15067218410000		PGM Version: WL INSITE R5.0.5 (Build 8)		
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.	@	@	ONE	ACRT	NONE	
Rmc @ Meas. Temp.	@	@		I-11055059		
Source Rmf	Rmc			S-11038385		
Rm @ BHT	@	@				
Rmf @ BHT	@	@				
Rmc @ BHT	@	@				
EQUIPMENT DATA						
GAMMA		ACOUSTIC		DENSITY		
Run No.	ONE	Run No.	ONE	Run No.	ONE	
Serial No.	11021139	Serial No.	10939049	Serial No.	10809130	
Model No.	GTET	Model No.	BSAT	Model No.	SDLT	
Diameter	3.625"	No. of Cent.	2	Diameter	6.0"	
Detector Model No.	GTET	Spacing	0.5"	Log Type	GAM-GAM	
Type	SCINT			Source Type	Cs-137	
Length	8"	LSA [Y/N]		Serial No.	5155GW	
Distance to Source	N/A	FWDA [Y/N]		Strength	1.5 Ci	
LOGGING DATA						
GENERAL			GAMMA		ACOUSTIC	
Run	Depth		Scale		Scale	
No.	From	To	L	R	L	R
ONE	TD	CSG	0	150	30	-10
		REC			47.6 us/ft	
					30	-10
					2.71 g/cc	
					30	-10
						LIME

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @
 CLIENT REPORTED VERTICAL WELL
 Remarks: GTET-DSNT-SDLT-BSAT-ACRT
 ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING
 DETAILED SECTION LOGGED TO 3,630 FT AS PER CLIENT REQUEST
 CHLORIDES REPORTED AT 1000 PPM
 NO POST-CALS COMPLETED AS PER CLIENT REQUEST
 RIG: DUKE DRILLING RIG 9
 CREW: K. FITZPATRICK, R. BLANKENSHIP
 THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES -- EL RENO, OK -- 405.278.9685

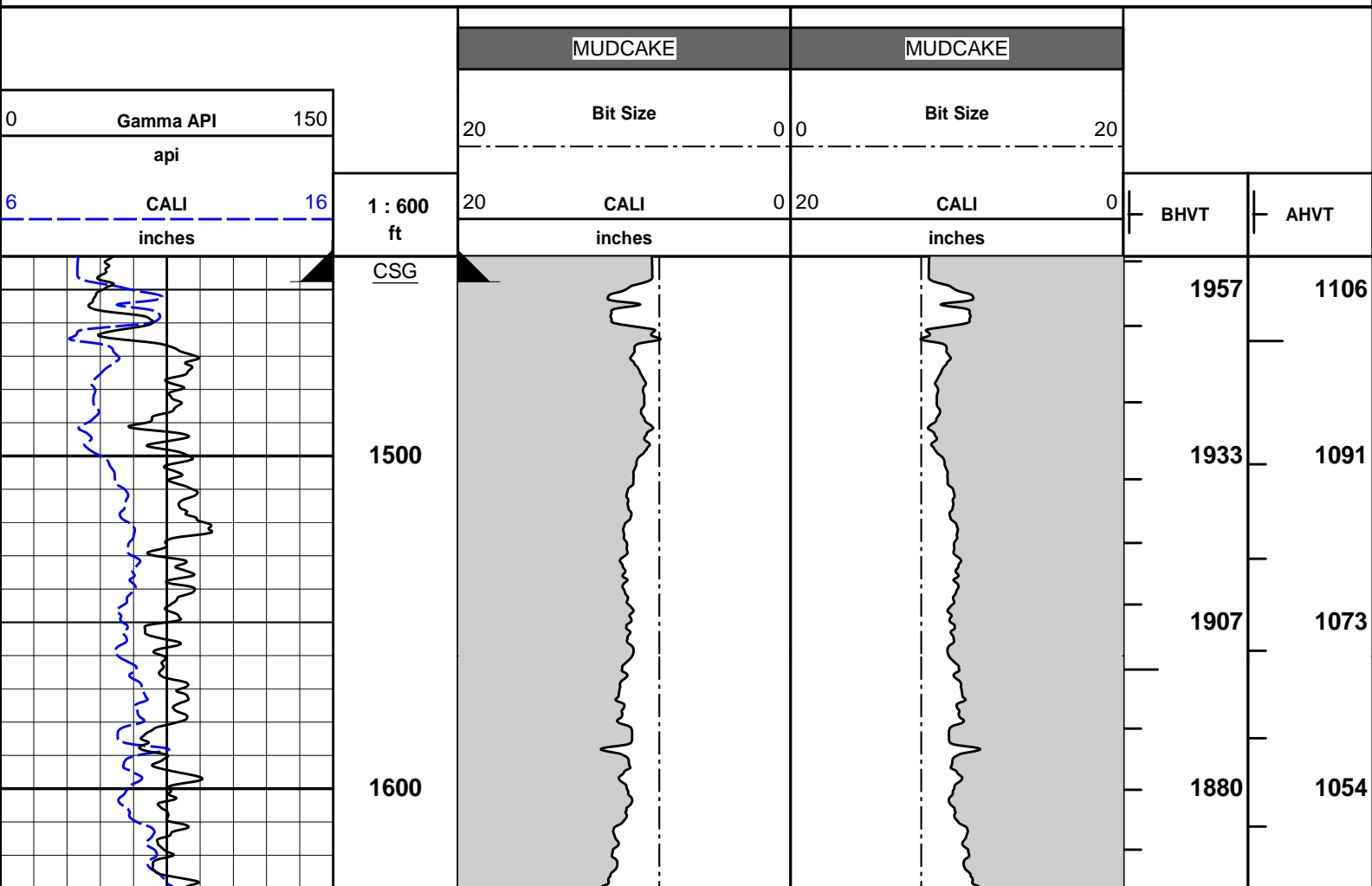
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR 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.

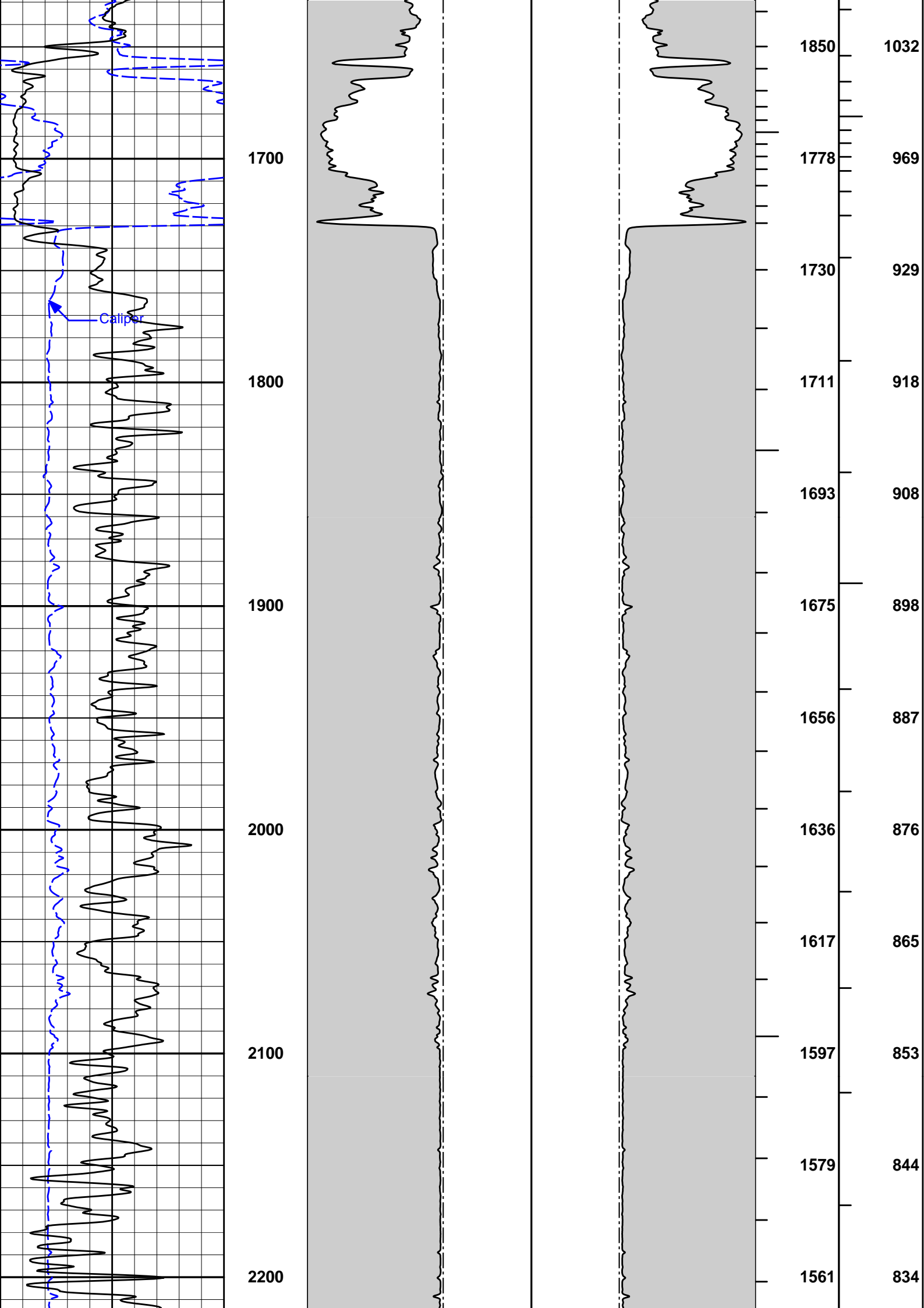
HALLIBURTON

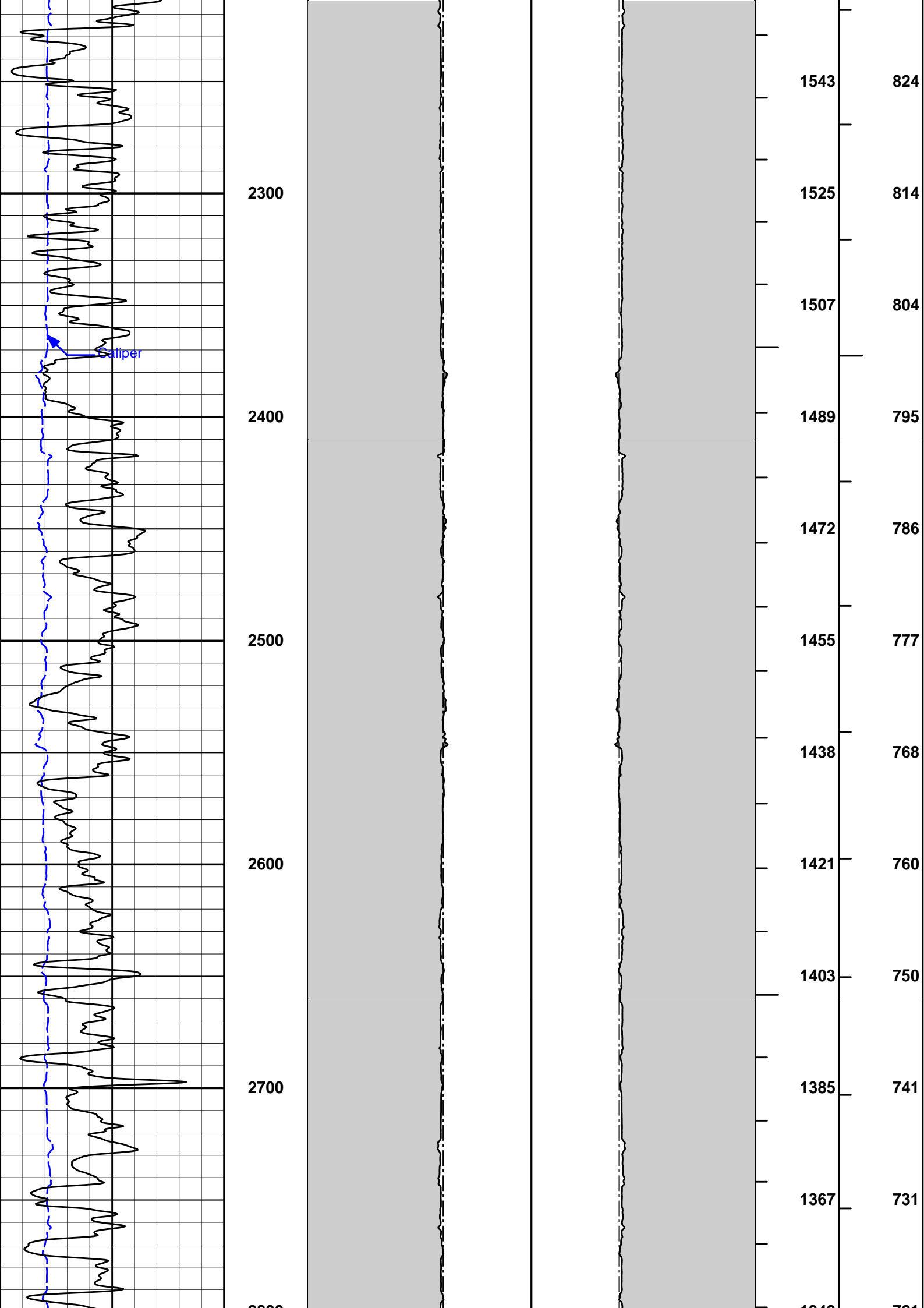


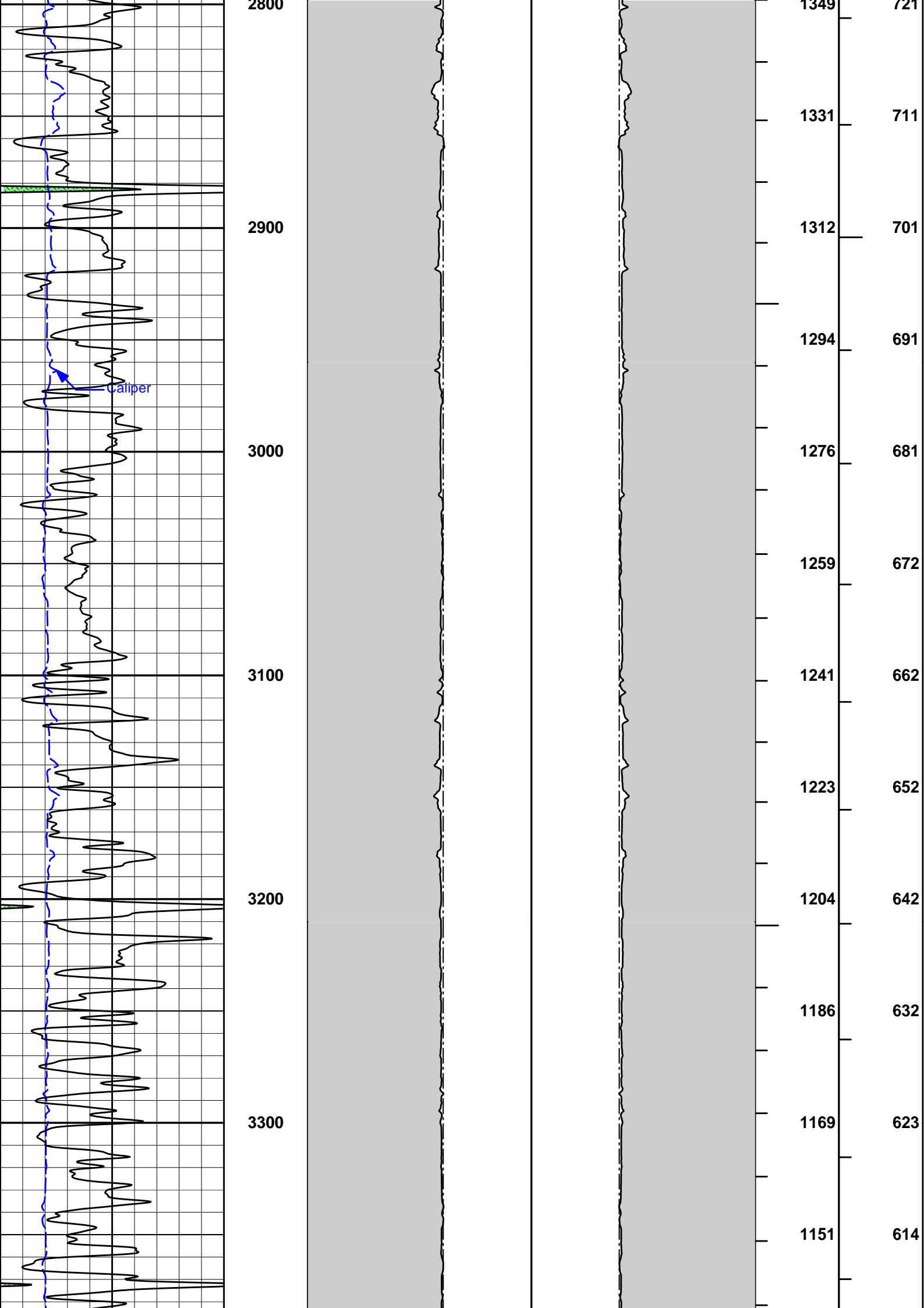
Plot Time: 18-Oct-17 04:37:52
 Plot Range: 1440 ft to 6607.5 ft
 Data: MERIT_LCSLU 108\Well Based\MAIN\
 Plot File: \\-LOCAL-MERIT_LCSLU 108\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\AHV1_AHV Plot_x

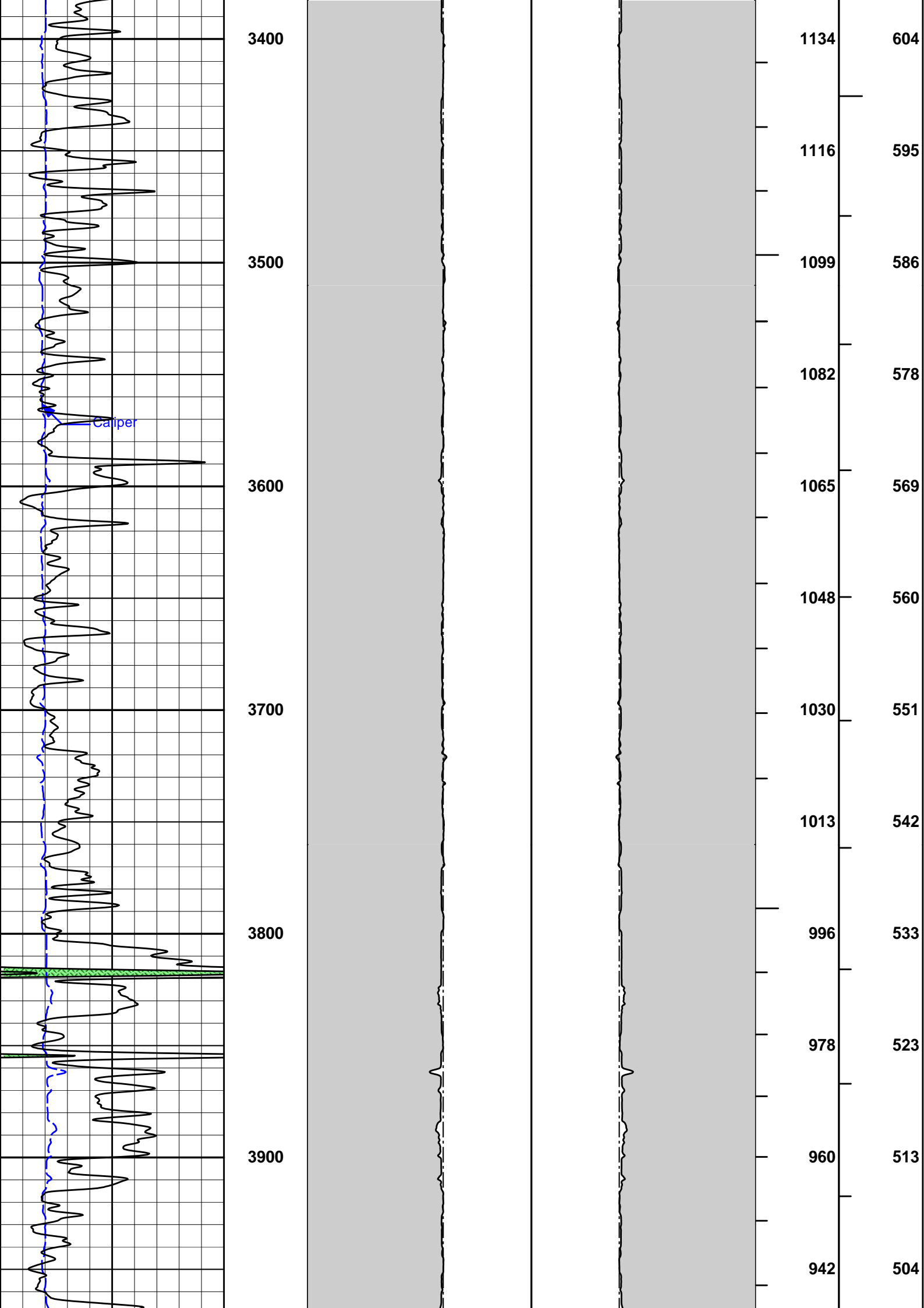
ANNULAR HOLE VOLUME PLOT

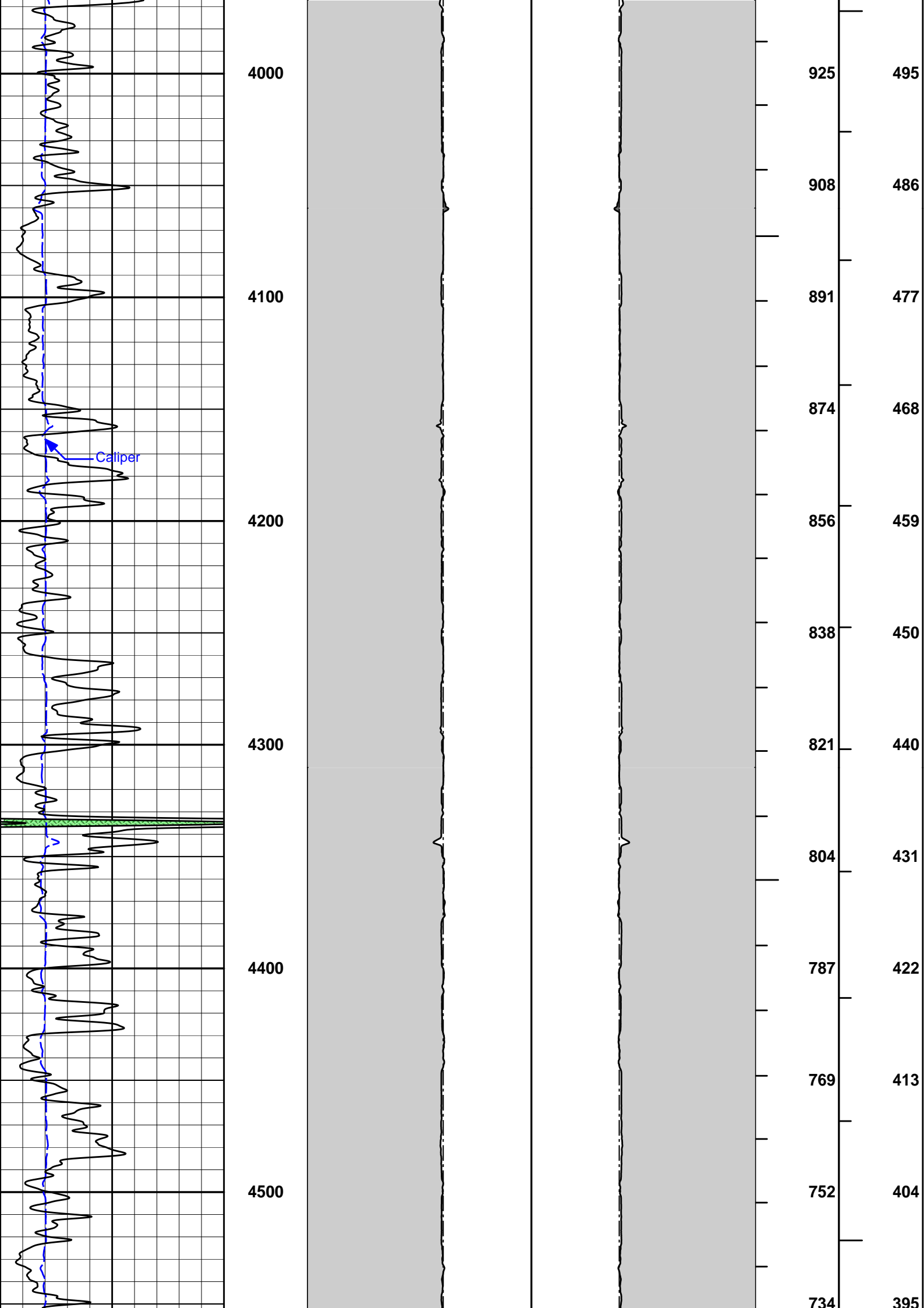


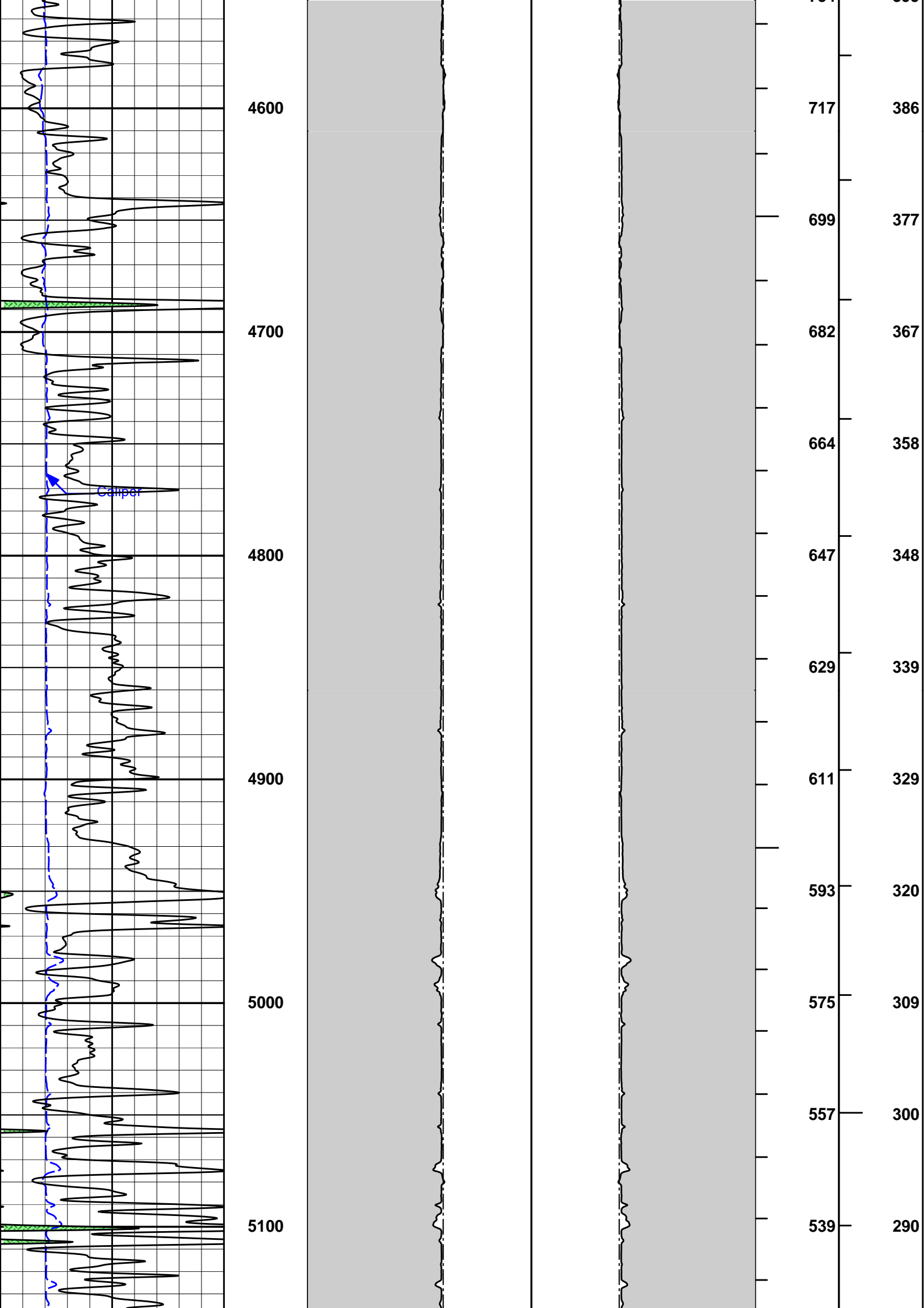


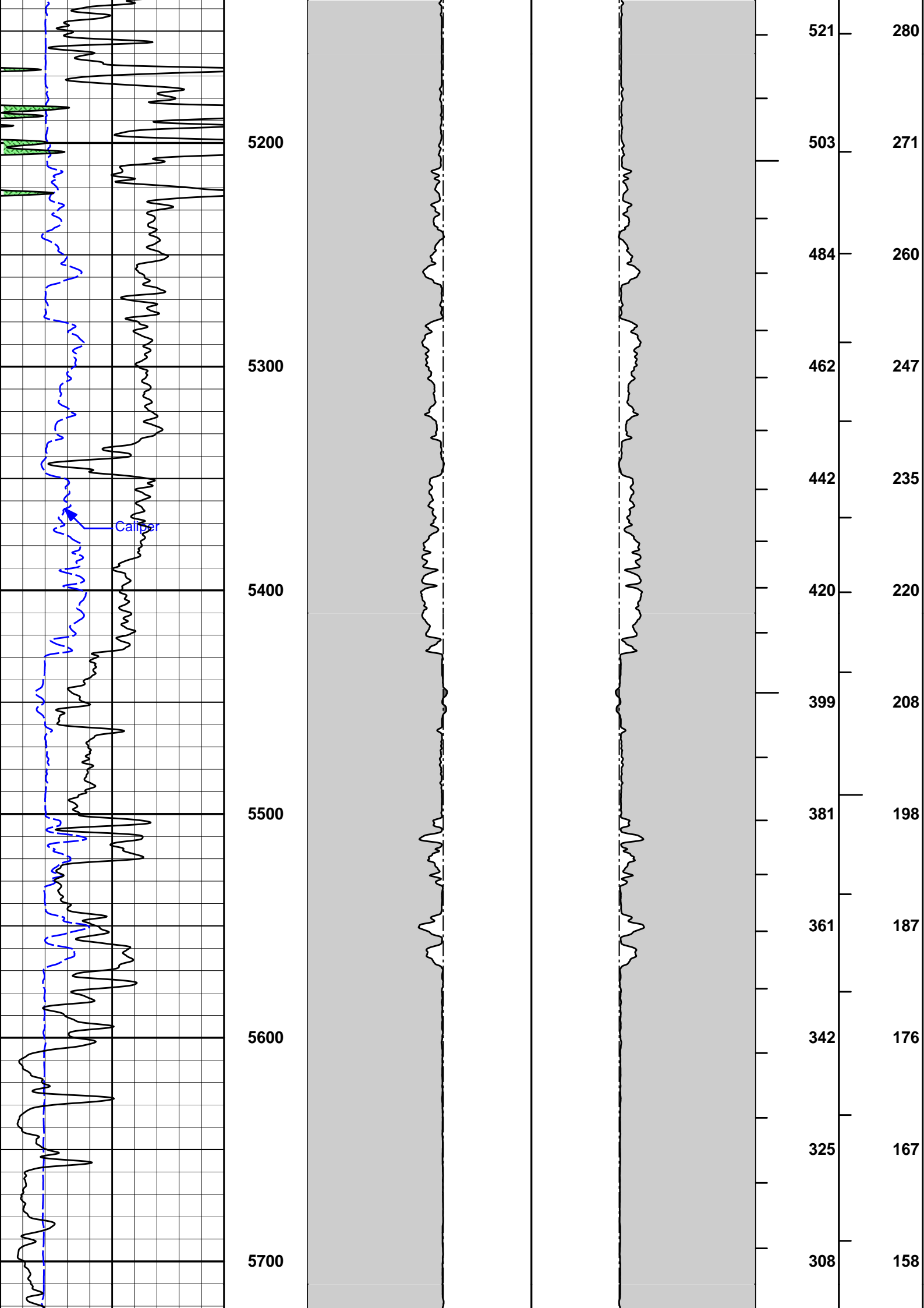


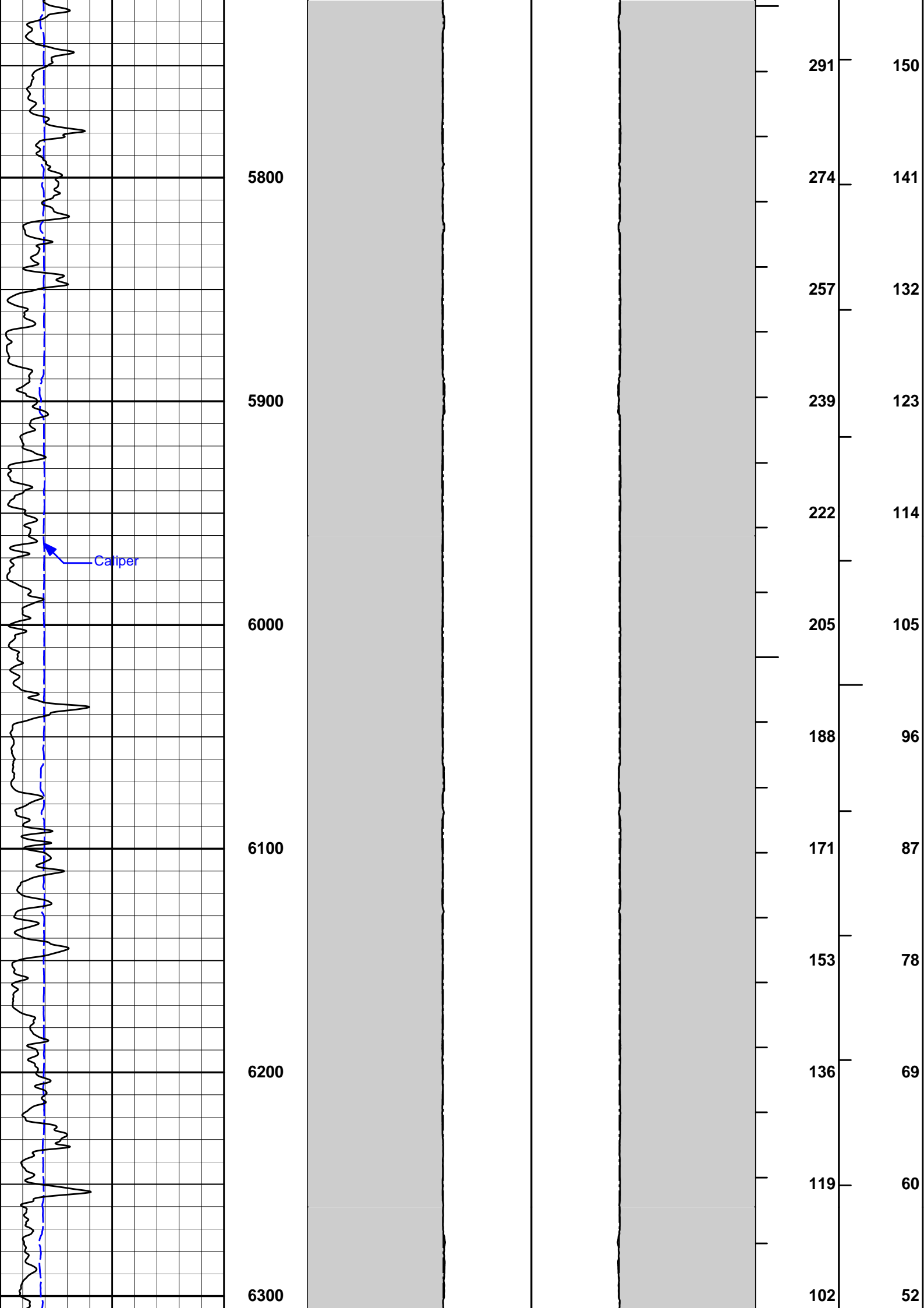


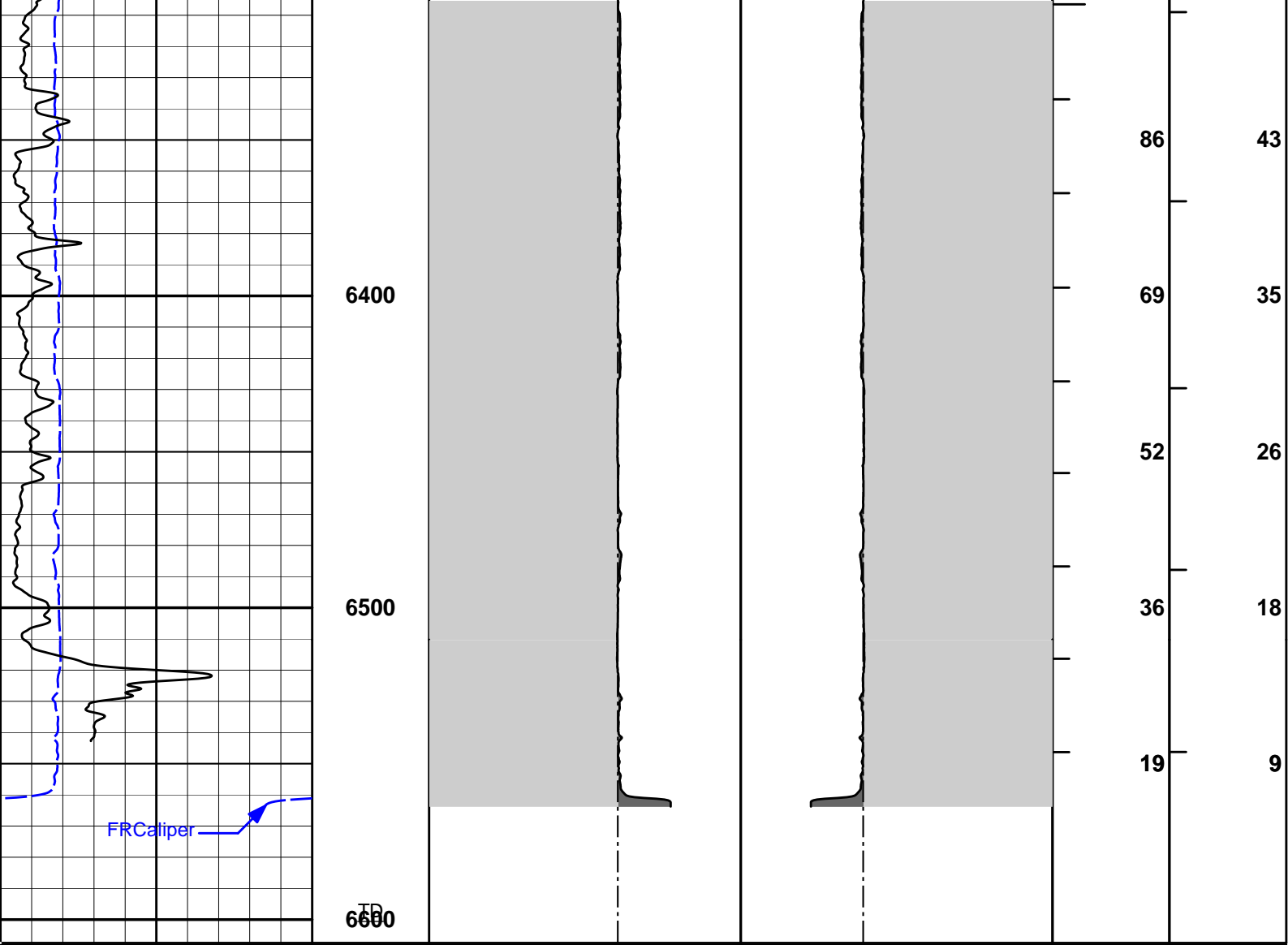












6	CALI	16	1 : 600 ft	20	CALI	0	20	CALI	0	BHVT	AHVT	
	inches					inches						
0	Gamma API	150			20	Bit Size	0	0	Bit Size	20		
	api											
					MUDCAKE			MUDCAKE				

HALLIBURTON Plot Time: 18-Oct-17 04:37:57
 Plot Range: 1440 ft to 6607.5 ft
 Data: MERIT_LCSLU 108\Well Based\MAIN\
 Plot File: \\-LOCAL-MERIT_LCSLU 108\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\AHV1_AHV Plot_x

ANNULAR HOLE VOLUME PLOT

COMPANY	MERIT ENERGY COMPANY, LLC		
WELL	LCSLU 108 (WSW)		
FIELD	BIG SKY		
COUNTY	GRANT	STATE	KANSAS

