

**ANNULAR HOLE  
VOLUME  
LOG  
5 1/2" CASING**

K3 OIL & GAS OPERATING COMPANY					K3 OIL & GAS OPERATING COMPANY				
JAMES 6-3					JAMES 6-3				
WILDCAT					WILDCAT				
LINCOLN					LINCOLN				
COLORADO					COLORADO				
COMPANY		WELL			FIELD/BLOCK		COUNTY		
STATE		COUNTY			STATE		COUNTY		
Permanent Datum		GL			Elev.: 5144.0 ft		Elev.: K.B.		
Log measured from		KB			18.0 ft above perm. Datum		D.F.		
Drilling measured from		KB					G.L.		
Date		23-May-18							
Run No.		1							
Depth - Driller		7670.0 ft							
Depth - Logger		7669.0 ft							
Bottom - Logged Interval		7659							
Top - Logged Interval		482							
Casing - Driller		8.625 in @ 484.0 ft					@		
Casing - Logger		482.0 ft							
Bit Size		7.875 in					@		
Type Fluid in Hole		Water Based Mud							
Density		8.90 g/cc			74.00 sg/cc				
PH		9.00 pH			7.2 cplm				
Source of Sample		MUD PIT							
Rm @ Meas. Temperature		1.55 ohmm @ 84.00 degF					@		
Rinf @ Meas. Temperature		1.27 ohmm @ 82.00 degF					@		
Rmc @ Meas. Temperature		1.81 ohmm @ 82.00 degF					@		
Source Rinf		MEAS							
Rm @ BHT		0.77 ohmm @ 177.0 degF					@		
Time Since Circulation		22:00 hr							
Time on Bottom		24-May-18 03:02							
Max. Rec. Temperature		177.00 degF @ 7669.0 ft					@		
Equipment		12156883 EL RENO, OK							
Recorded By		WHITLOCK							
Witnessed By		SUSAN RAINBOLT			RANDY SAY				

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Service Ticket No.: 904838655				API No.: 05-073-06739-00-00				PGM Version: WL INSITE R5.6.3 (Build 4)						
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.		@		@										
Rmc @ Meas. Temp.		@		@										
Source Rmf	Rmc													
Rm @ BHT		@		@										
Rmf @ BHT		@		@										
Rmc @ BHT		@		@										
EQUIPMENT DATA														
GAMMA			ACOUSTIC			DENSITY			NEUTRON					
Run No.				Run No.				Run No.						
Serial No.				Serial No.				Serial No.						
Model No.				Model No.				Model No.						
Diameter				No. of Cent.				Diameter						
Detector Model No.				Spacing				Log Type						
Type						Source Type				Source Type				
Length				LSA [Y/N]				Serial No.						
Distance to Source				FWDA [Y/N]				Strength						
LOGGING DATA														
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	

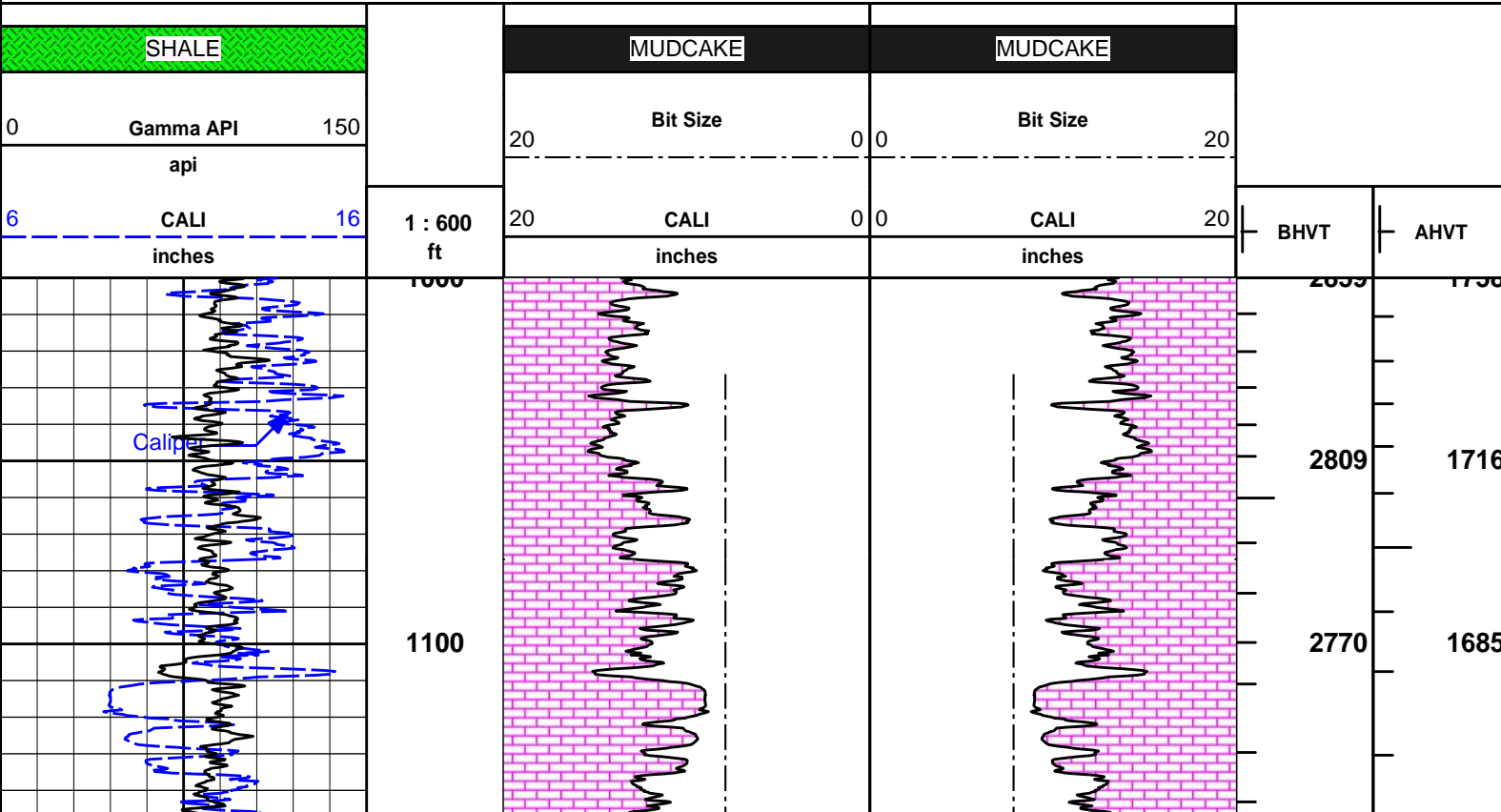
DIRECTIONAL INFORMATION														
Maximum Deviation @								KOP @						
Remarks: 5 1/2" CASING USED FOR ANNULAR HOLE VOLUME														
MICROLOG EFFECTED BY HEAVY MUD CAKING ON AND AROUND THE MICROLOG PAD														
CREW: WHITLOCK, RICHARDSON, MANLEY, LANCASTER														
HALLIBURTON DOES 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														

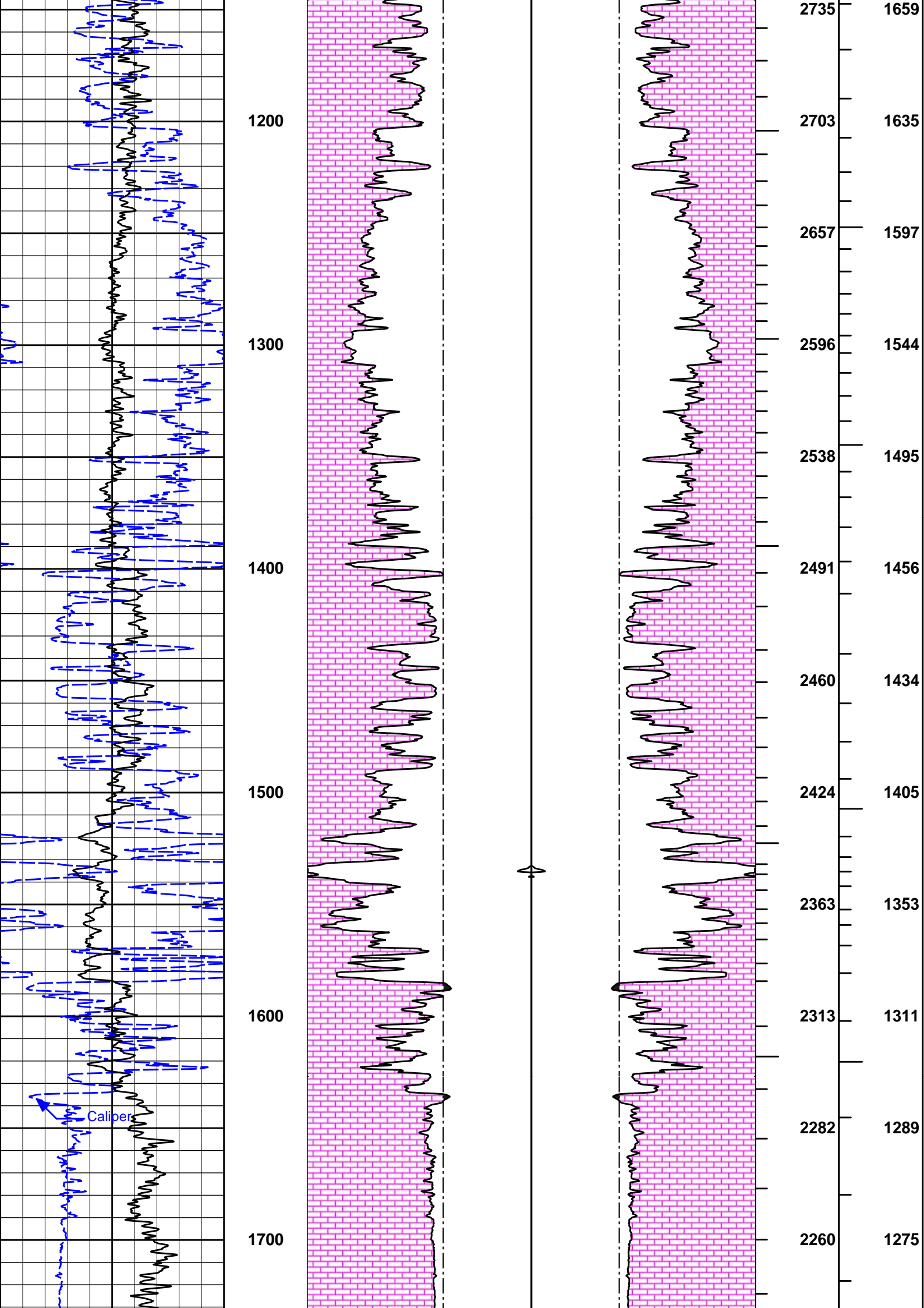
# HALLIBURTON

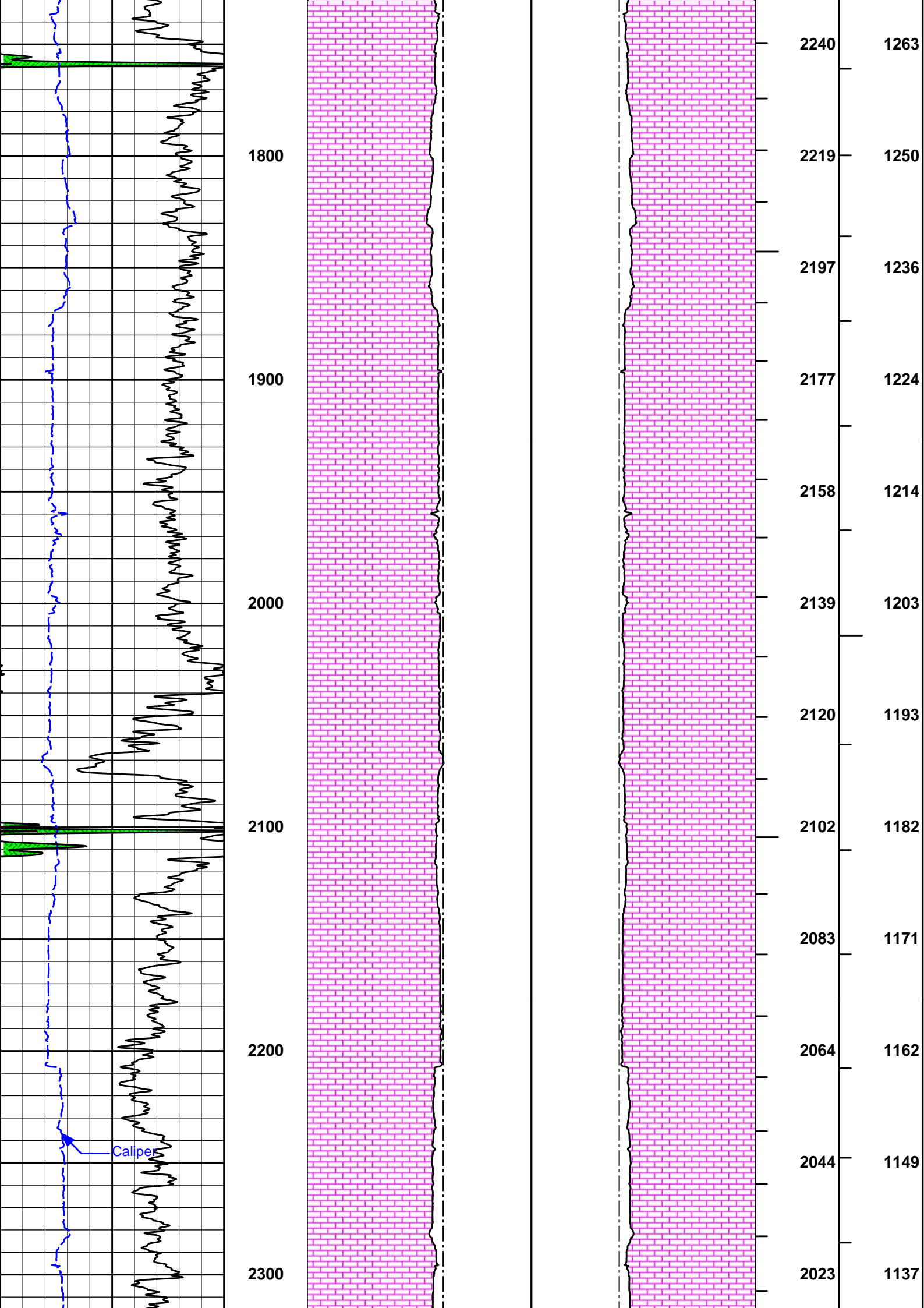
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Plot Range: 1000 ft to 7675.5 ft  
Data: K3\_JAMES\Well Based\DAQ-0001-005\  
Plot File: \\-LOCAL-K3\_JAMES\0001 RWCH\_GTET-DSNT-SDLT-BSAT-ACRT\AHV\AHV Plot INSITE\_IQ

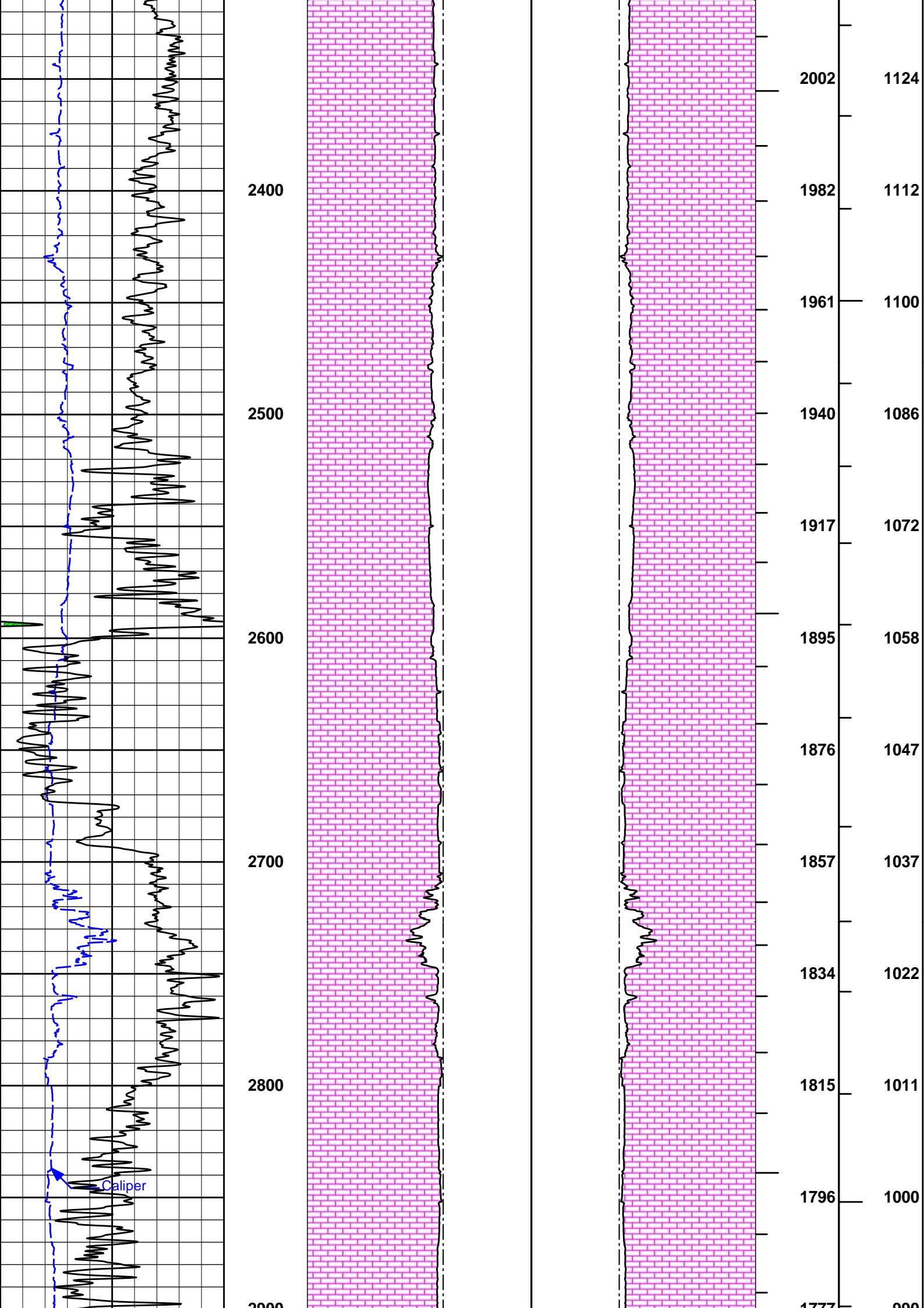
## ANNULAR HOLE VOLUME PLOT

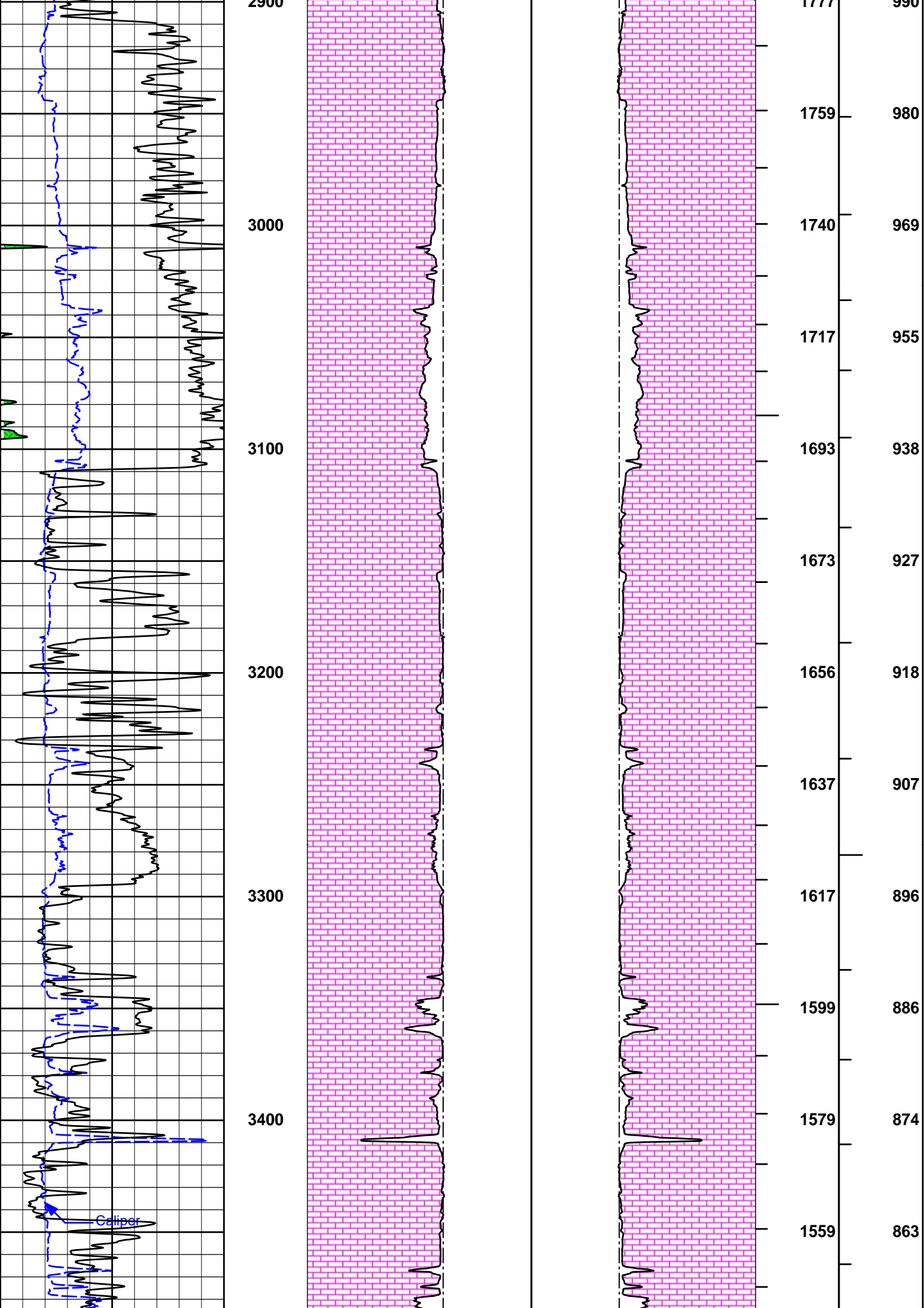
## AHV PLOT CALCULATED FOR 5 1/2" CASING

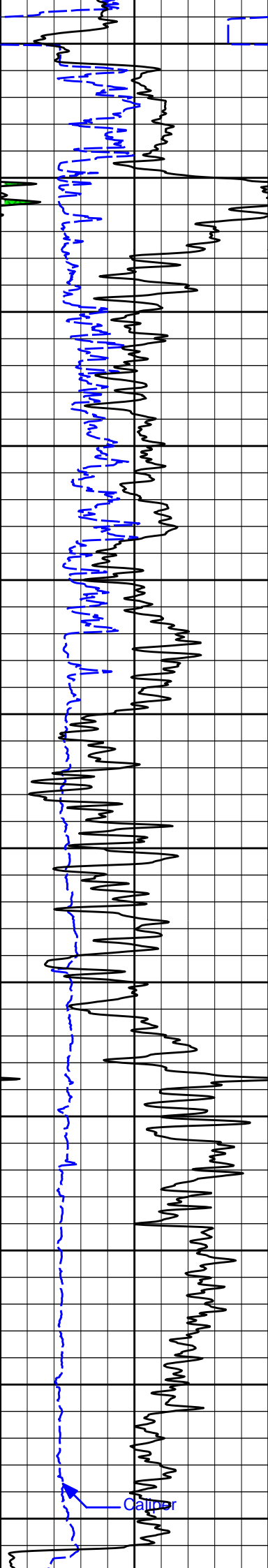












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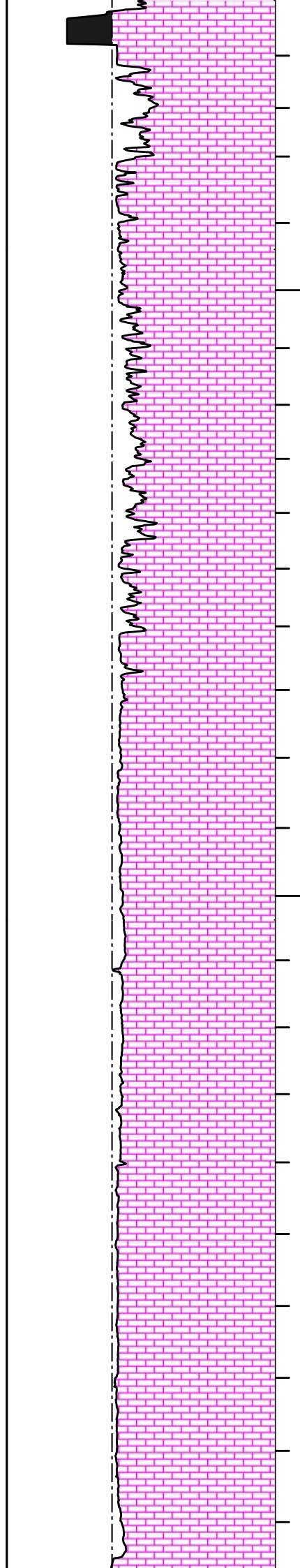
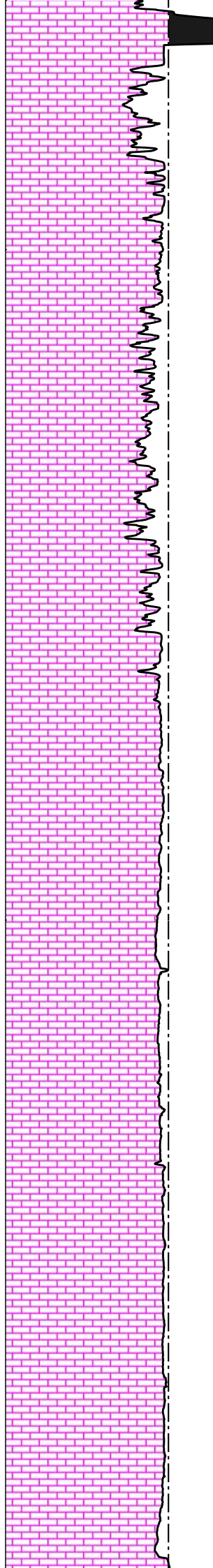
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3900

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779

768

756

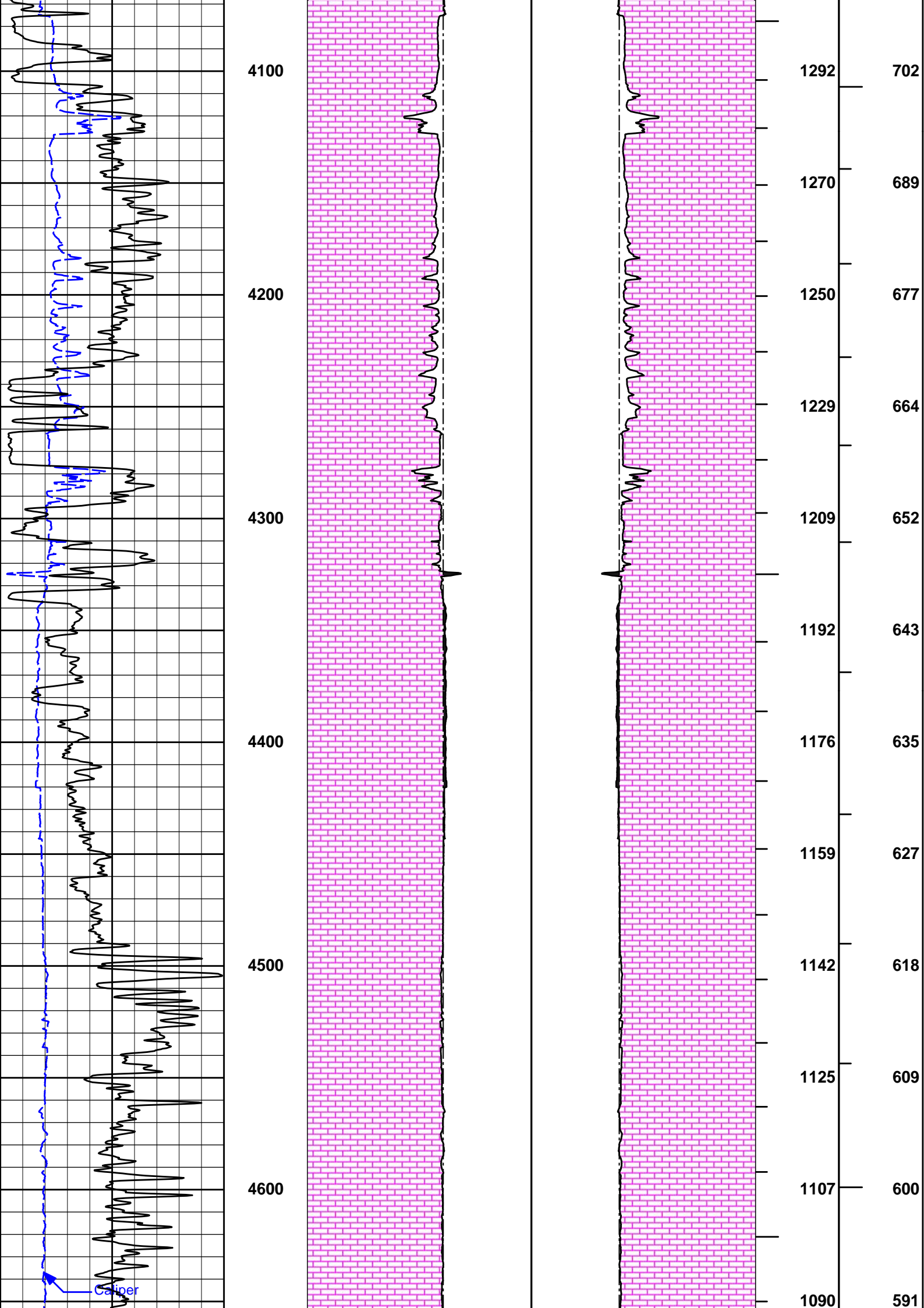
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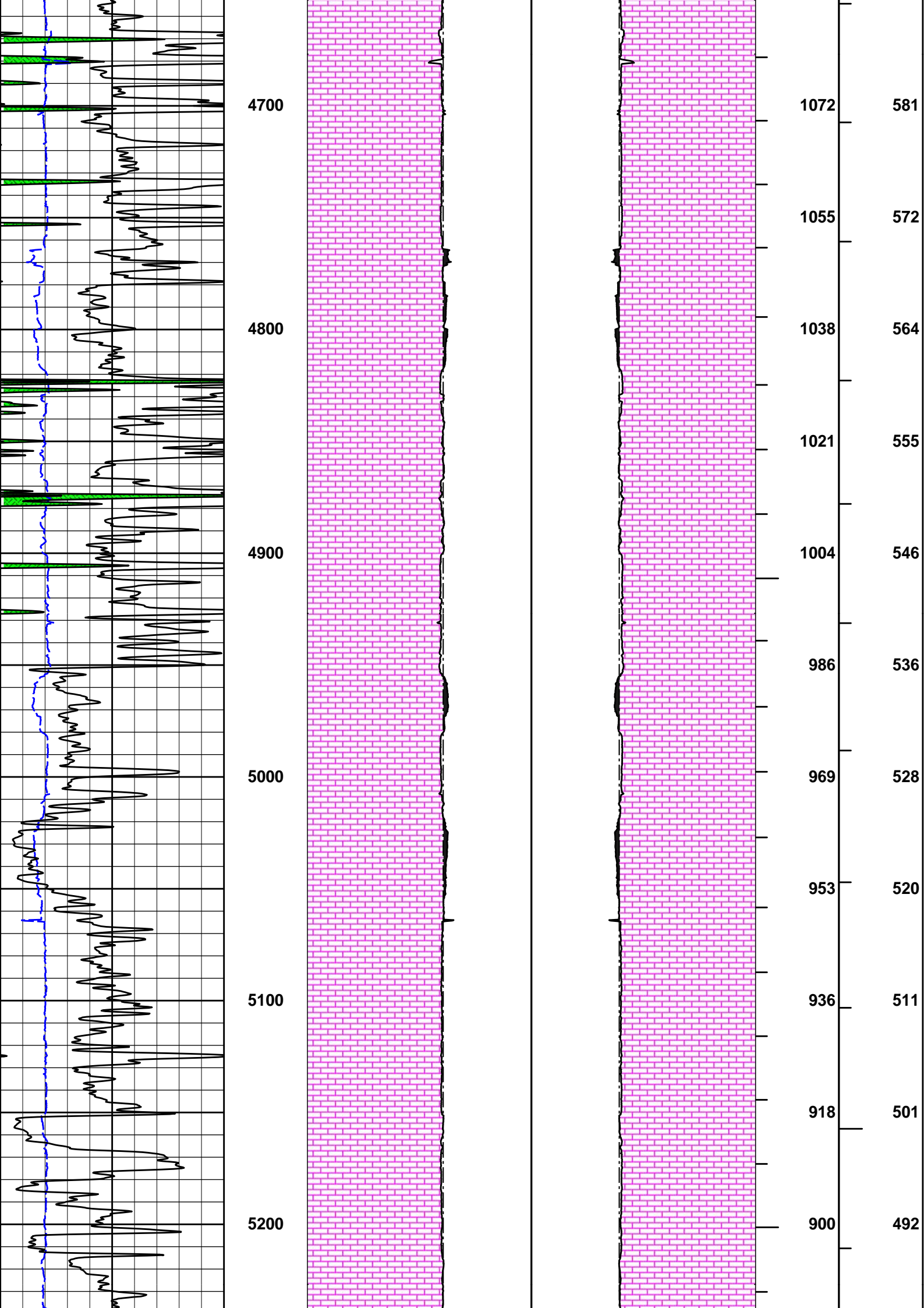
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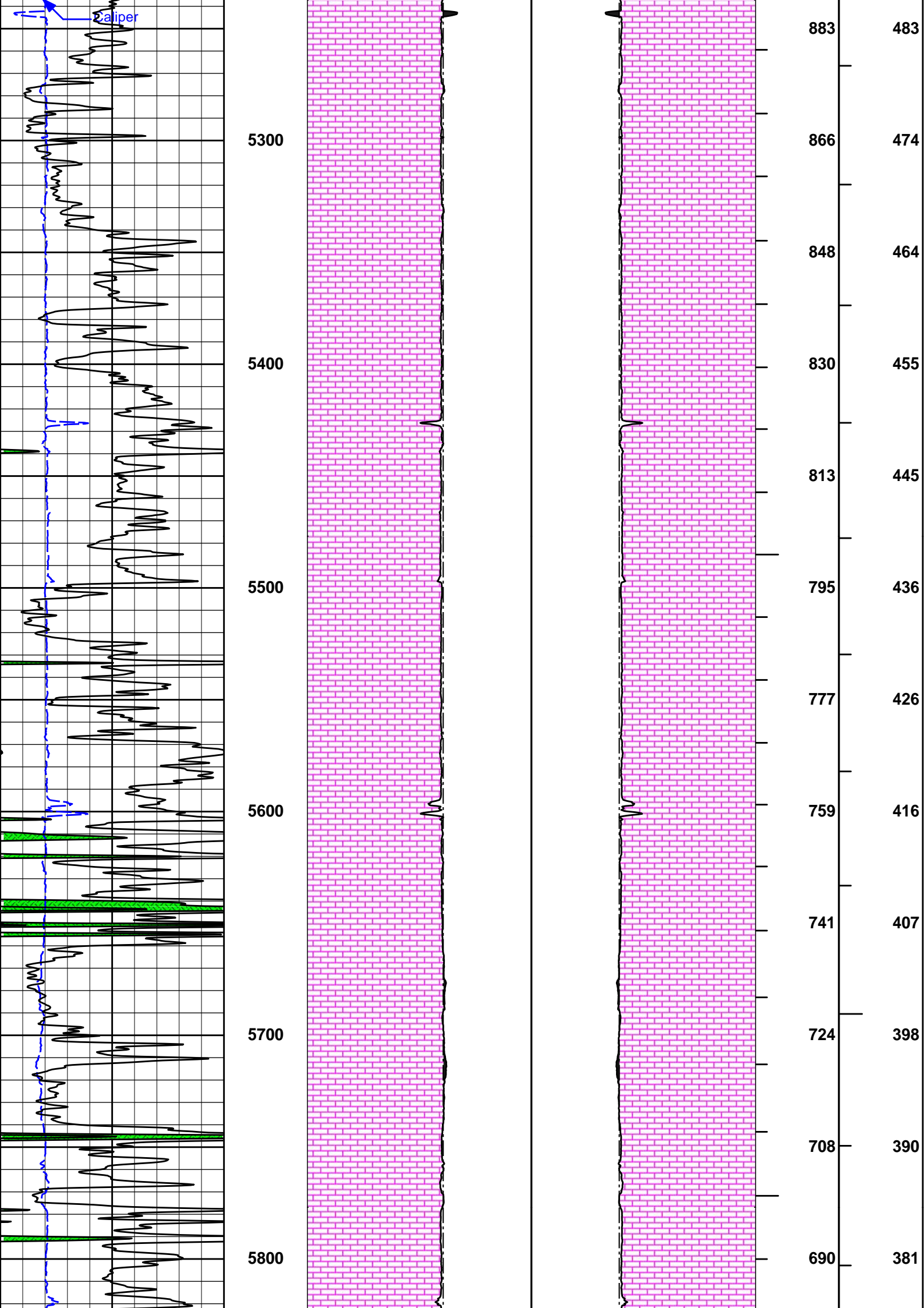
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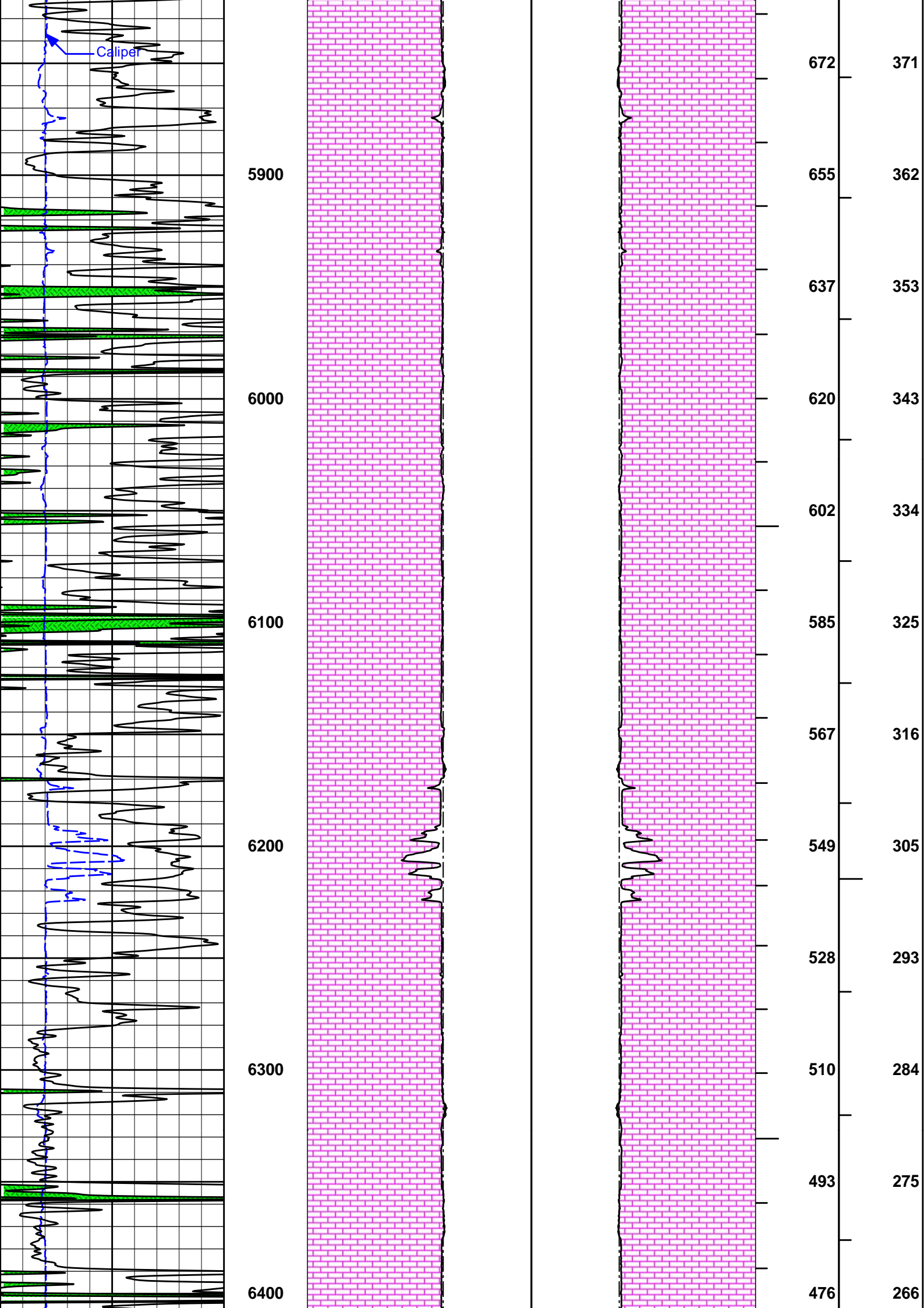


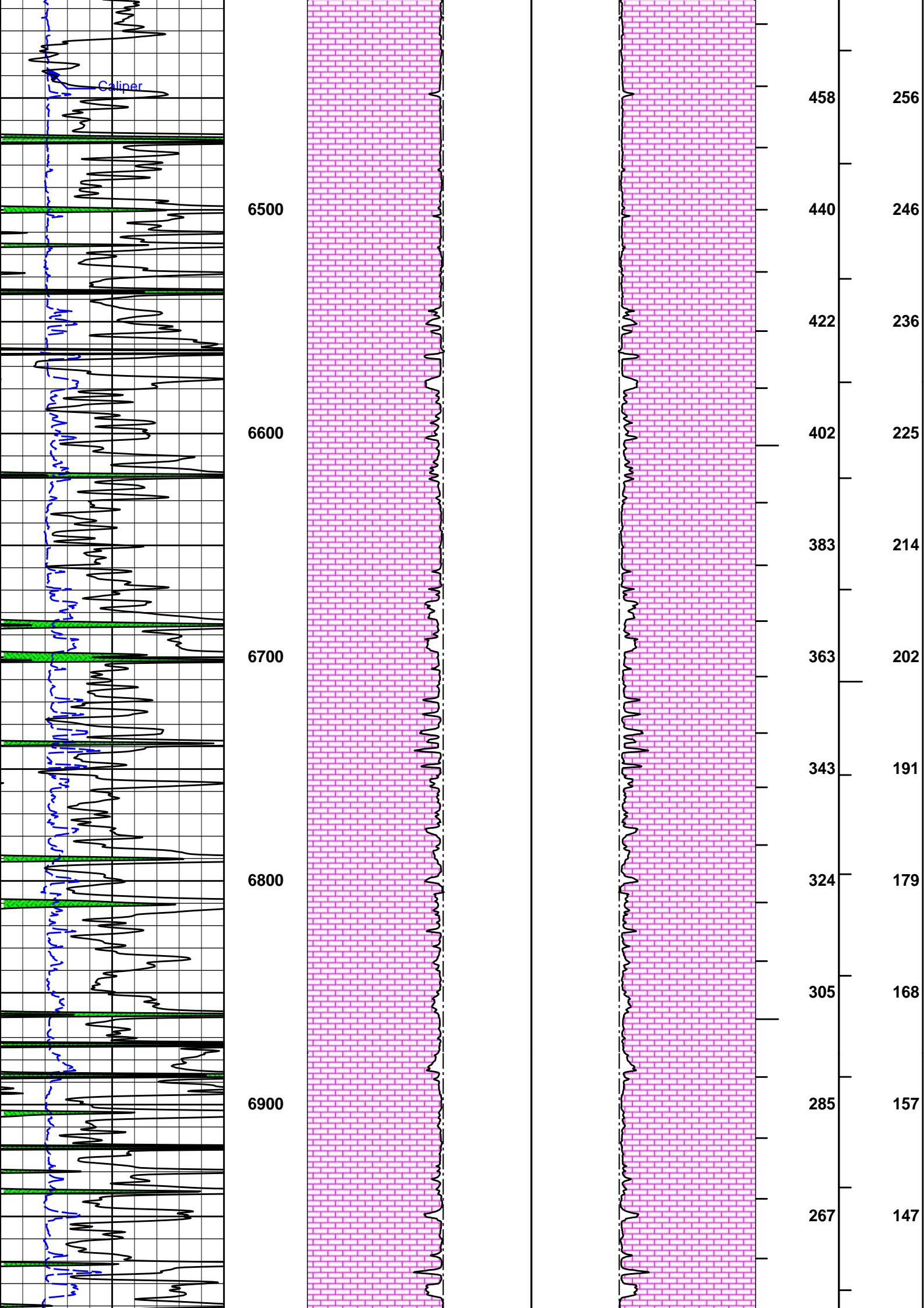


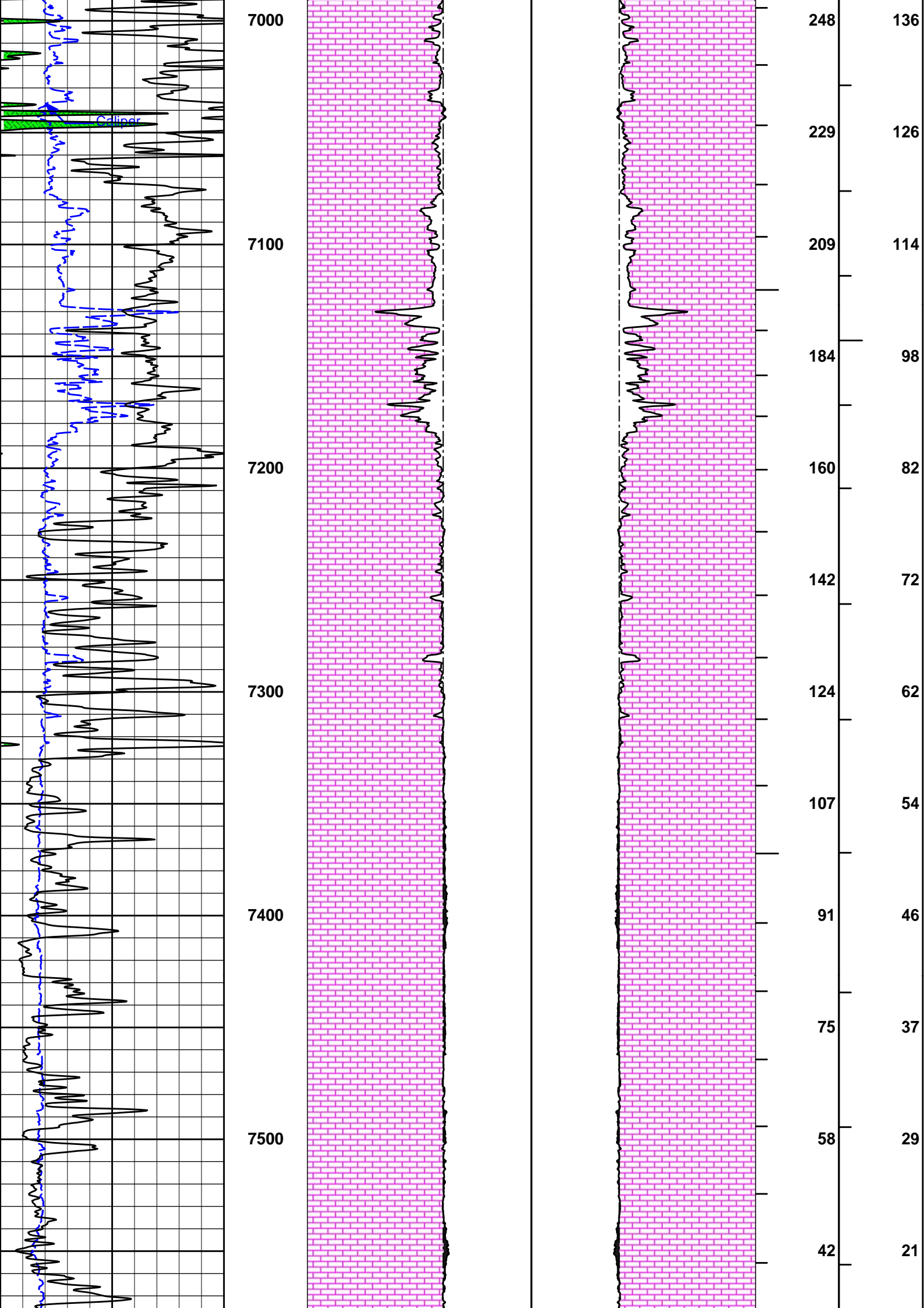


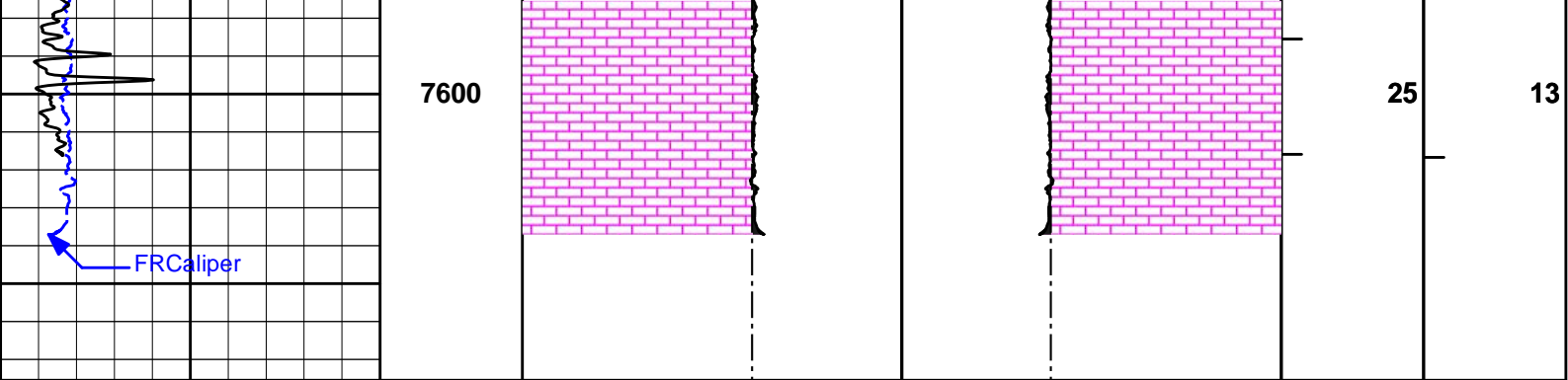












6	CALI	16	1 : 600	20	CALI	0	0	CALI	20	BHVT	AHVT
	inches		ft		inches			inches			
0	Gamma API	150		20	Bit Size	0	0	Bit Size	20		
	api										
	SHALE				MUDCAKE			MUDCAKE			

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ANNULAR HOLE VOLUME PLOT

AHV PLOT CALCULATED FOR 5 1/2" CASING