

HALLIBURTON										ANNULAR HOLE VOLUME LOG									
MERIT ENERGY COMPANY										MERIT ENERGY COMPANY									
COMPANY					UNRUH 1-7					COMPANY					MERIT ENERGY COMPANY				
WELL					WILDCAT					WELL					UNRUH 1-7				
FIELD/BLOCK					HASKELL					FIELD/BLOCK					WILDCAT				
COUNTY					KANSAS					COUNTY					HASKELL				
STATE					KANSAS					STATE					KANSAS				
Permanent Datum					GL					API No. 15-081-22170-01					Other Services: GTET DSNT SDLT MICROLOG BSAT ACRT				
Log measured from					KB					Location (SHL) 1883' FSL & 2638' FWL NE SE NE SW					Elev.: K.B. 2961.0 ft D.F. 2961.0 ft G.L. 2949.0 ft				
Drilling measured from					KB					Sect. 7 Twp. 29S Rge. 33W									
Date					23-Jan-18														
Run No.					ONE														
Depth - Driller					5600.0 ft														
Depth - Logger					5602.0 ft														
Bottom - Logged Interval					5564.0 ft														
Top - Logged Interval					1743.0 ft														
Casing - Driller					8.625 in @ 1744.0 ft										@				
Casing - Logger					1743.0 ft														
Bit Size					7.875 in										@				
Type Fluid in Hole					Water Based Mud														
Density		Viscosity		Fluid Loss		9.2 ppg		64.00 s/qt											
PH				11.50 pH		5.6 cpm													
Source of Sample					MUD PIT														
Rm @ Meas. Temperature					1.10 ohmm @ 75.00 degF										@				
Rmf @ Meas. Temperature					0.88 ohmm @ 75.00 degF										@				
Rmc @ Meas. Temperature					1.32 ohmm @ 75.00 degF										@				
Source Rmf		Rmc		CALC		CALC													
Rm @ BHT				0.62 ohmm @ 138.0 degF						@				@					
Time Since Circulation					5.00 hr														
Time on Bottom					23-Jan-18 16:59														
Max. Rec. Temperature		Equipment		Location		139.33 degF @ 5391.2 ft		EL RENO		@				@					
Recorded By				JORGE ORLANDO PEREZ		SEAN WOLTEMATH													
Witnessed By				MARTIN LANGE															

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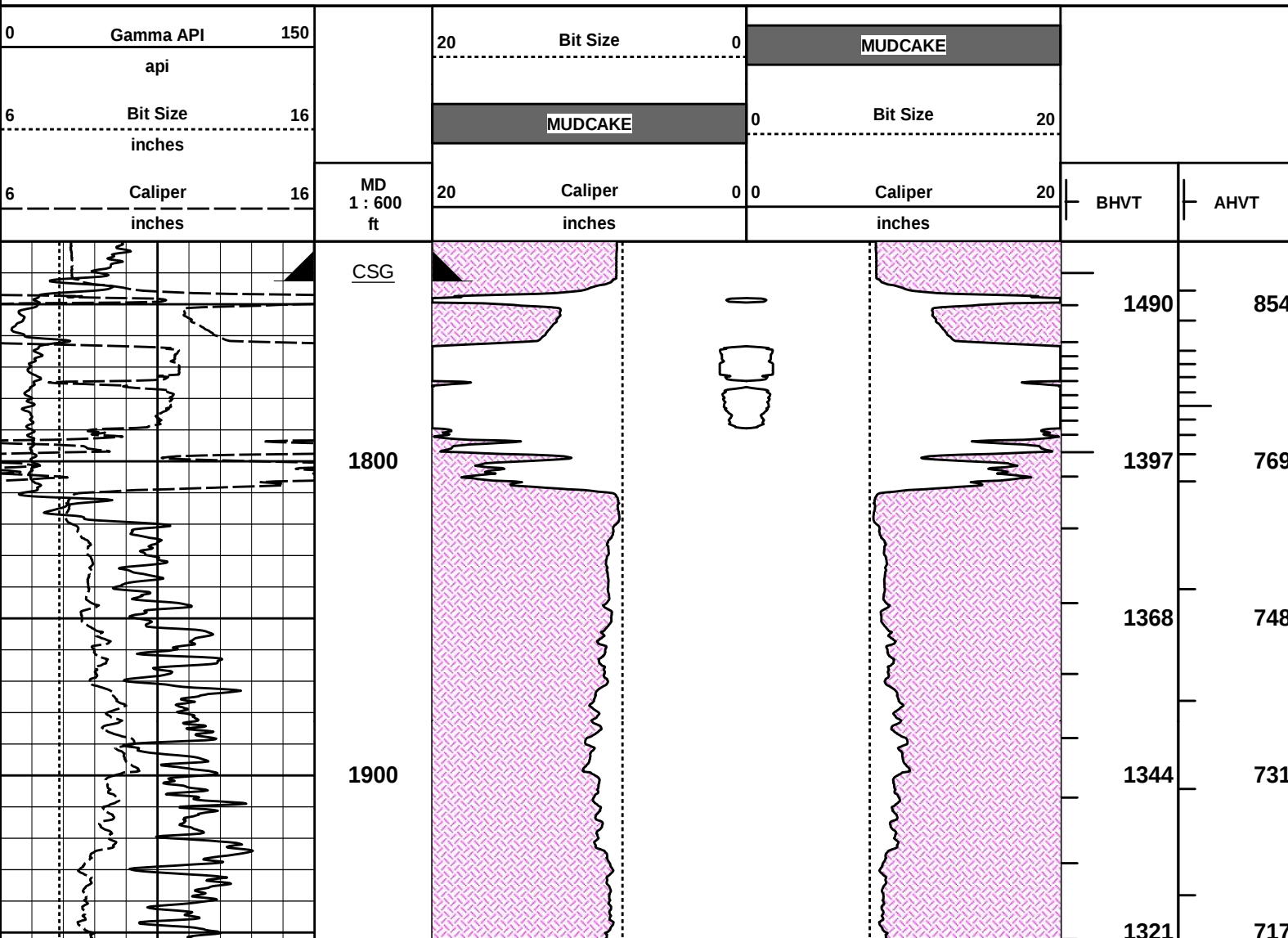
Service Ticket No.: 904583538						API No.: 15-081-22170-01				PGM Version: WL INSITE R5.0.5 (Build 8)							
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE								RESISTIVITY SCALE CHANGES									
Date	Sample No.							Type Log	Depth		Scale Up Hole		Scale Down Hole				
Depth-Driller																	
Type 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.			@		@		ONE		ACRT		N/A		1.50 in S.O.		N/A		
Rmc @ Meas. Temp.			@		@				I-12109517								
Source Rmf	Rmc								S-12109515								
Rm @ BHT			@		@												
Rmf @ BHT			@		@												
Rmc @ BHT			@		@												
EQUIPMENT DATA																	
GAMMA				ACOUSTIC				DENSITY				NEUTRON					
Run No.		ONE		Run No.		ONE		Run No.		ONE		Run No.		ONE			
Serial No.		11958947		Serial No.		10747683		Serial No.		10960494		Serial No.		11055304			
Model No.		GTET		Model No.		BSAT		Model No.		SDLT		Model No.		DSNT			
Diameter		3.625"		No. of Cent.		0		Diameter		5.5"		Diameter		3.625"			
Detector Model No.		T-102		Spacing		N/A		Log Type		GAM-GAM		Log Type		NEU-NEU			
Type		SCINT						Source Type		CS137		Source Type		AM241BE			
Length		8"		LSA [Y/N]				Serial No.		5168GW		Serial No.		DSN-424			
Distance to Source		N/A		FWDA [Y/N]				Strength		1.5 Ci		Strength		15.0 Ci			
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				
ONE	TD	5250	REC	0	150	30	-10	47.6 us/ft	30	-10	2.71 gm/cc	30	-10	LIME			

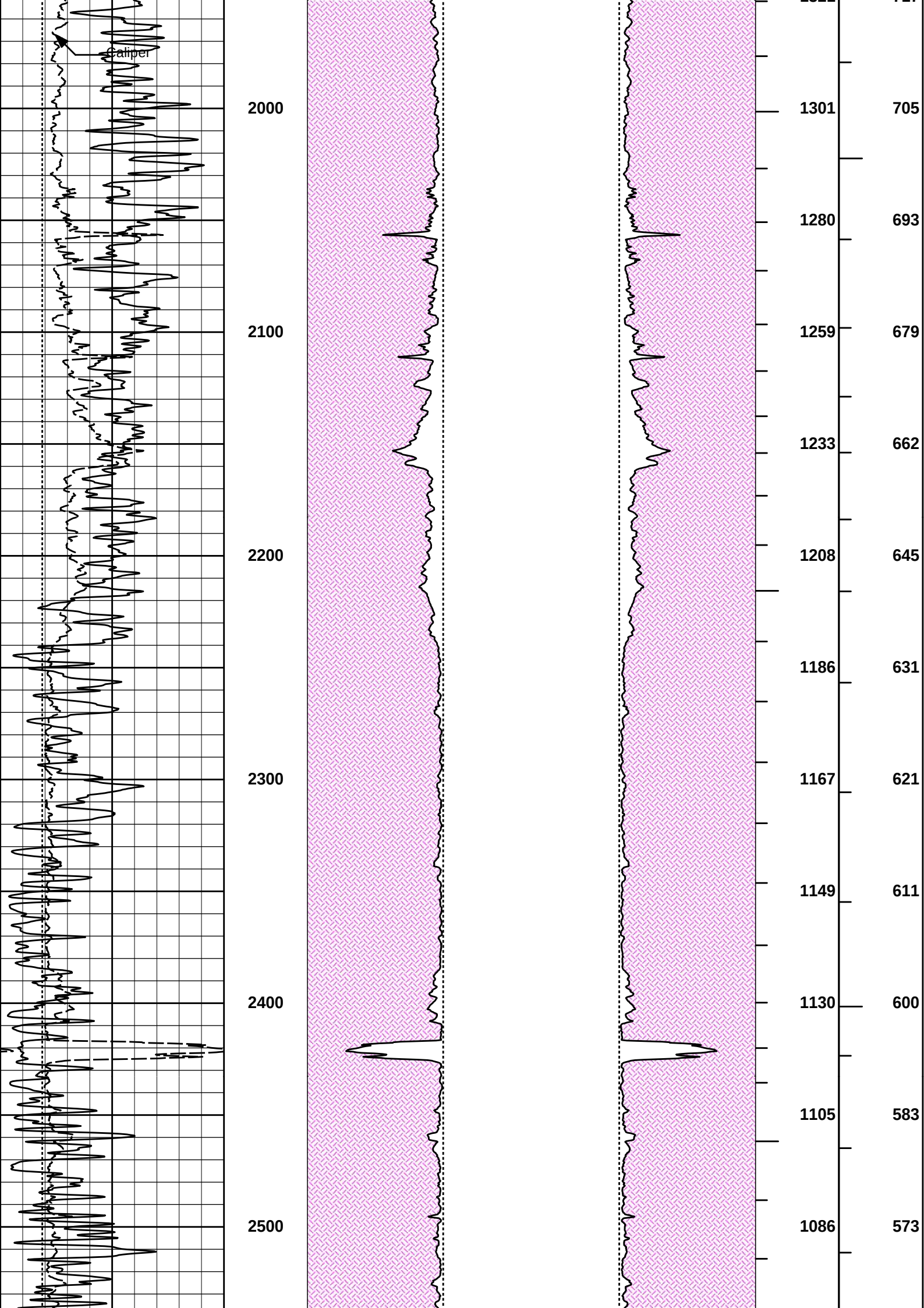
DIRECTIONAL INFORMATION														
Maximum Deviation @								KOP @						
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING														
GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION														
CHLORIDES REPORTED AT 1000 mg/L														
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF 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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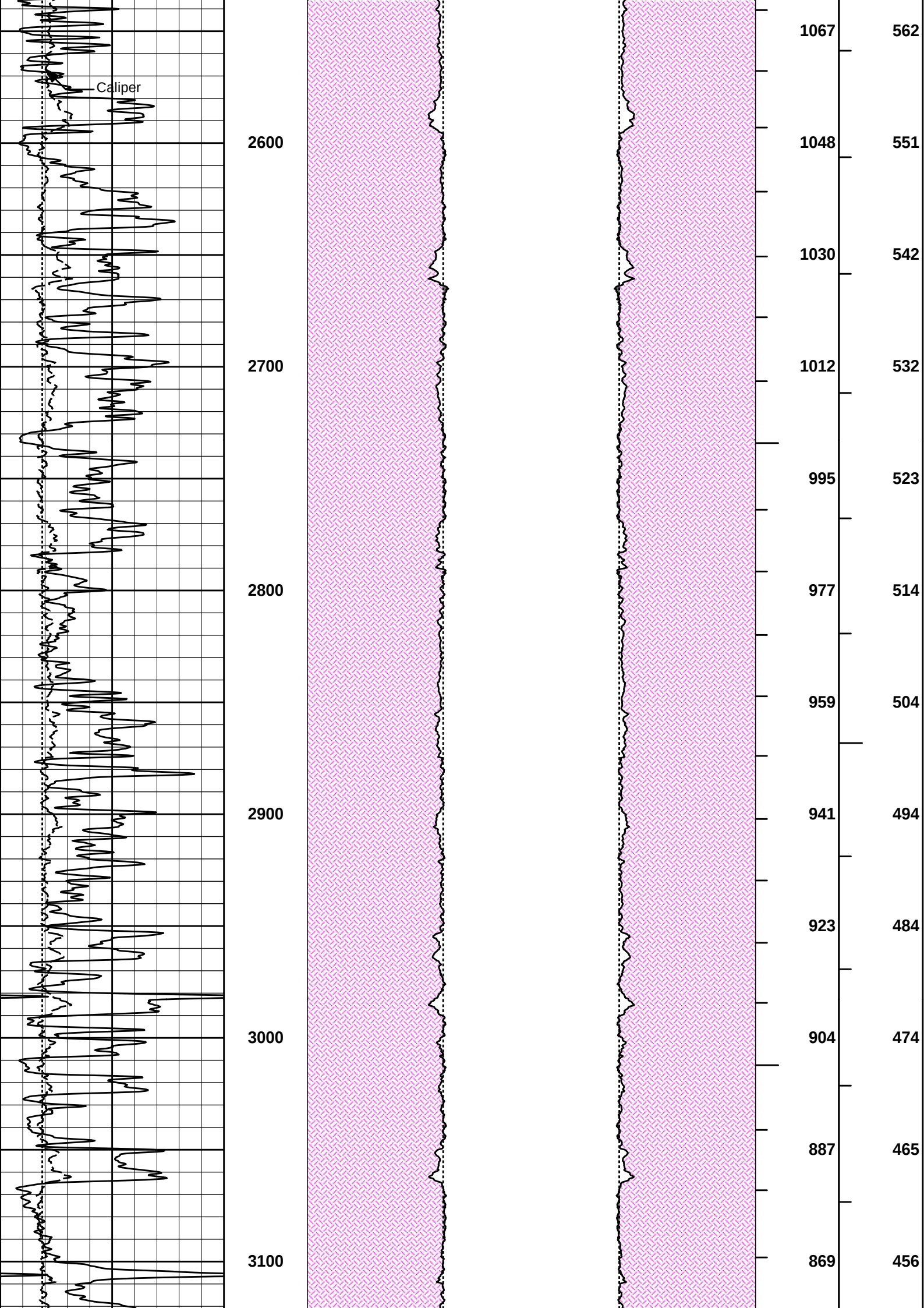
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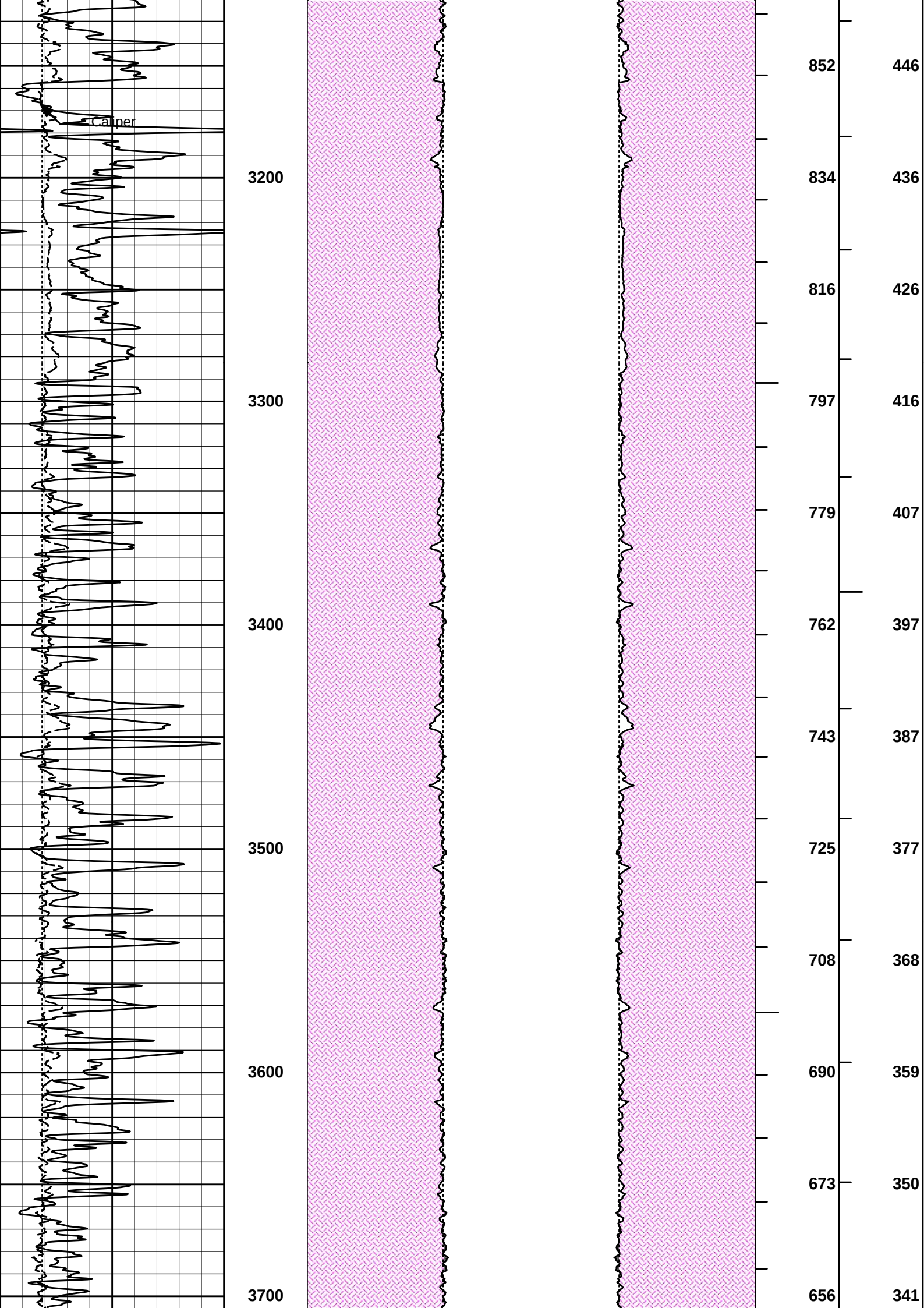
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Plot Range: 1730 ft to 5605.25 ft
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Plot File: \\LOCAL-MERIT_UNRUH1-7\Well Based\AHV\AHV_2_IQ_LIB

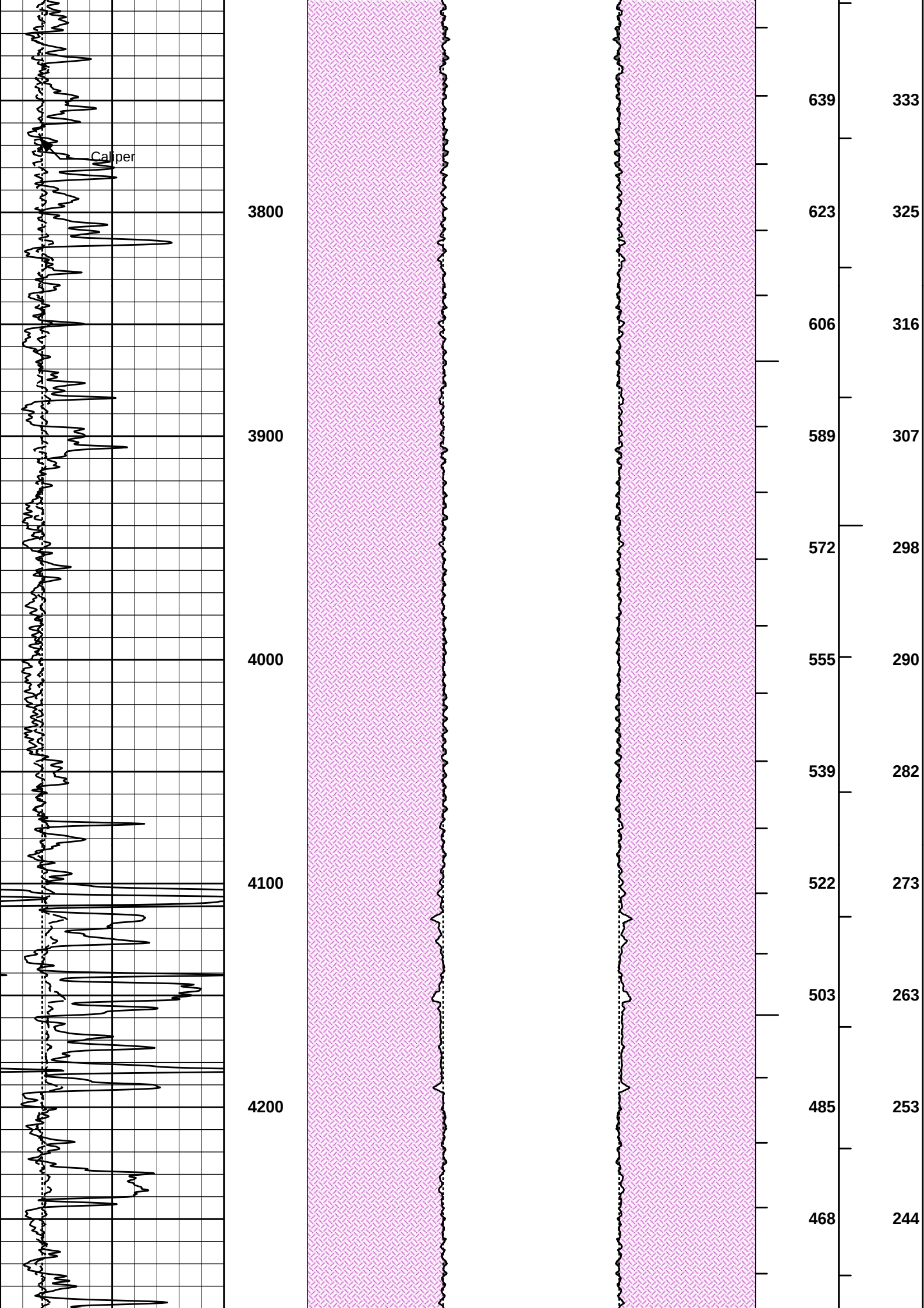
ANNULAR HOLE VOLUME PLOT

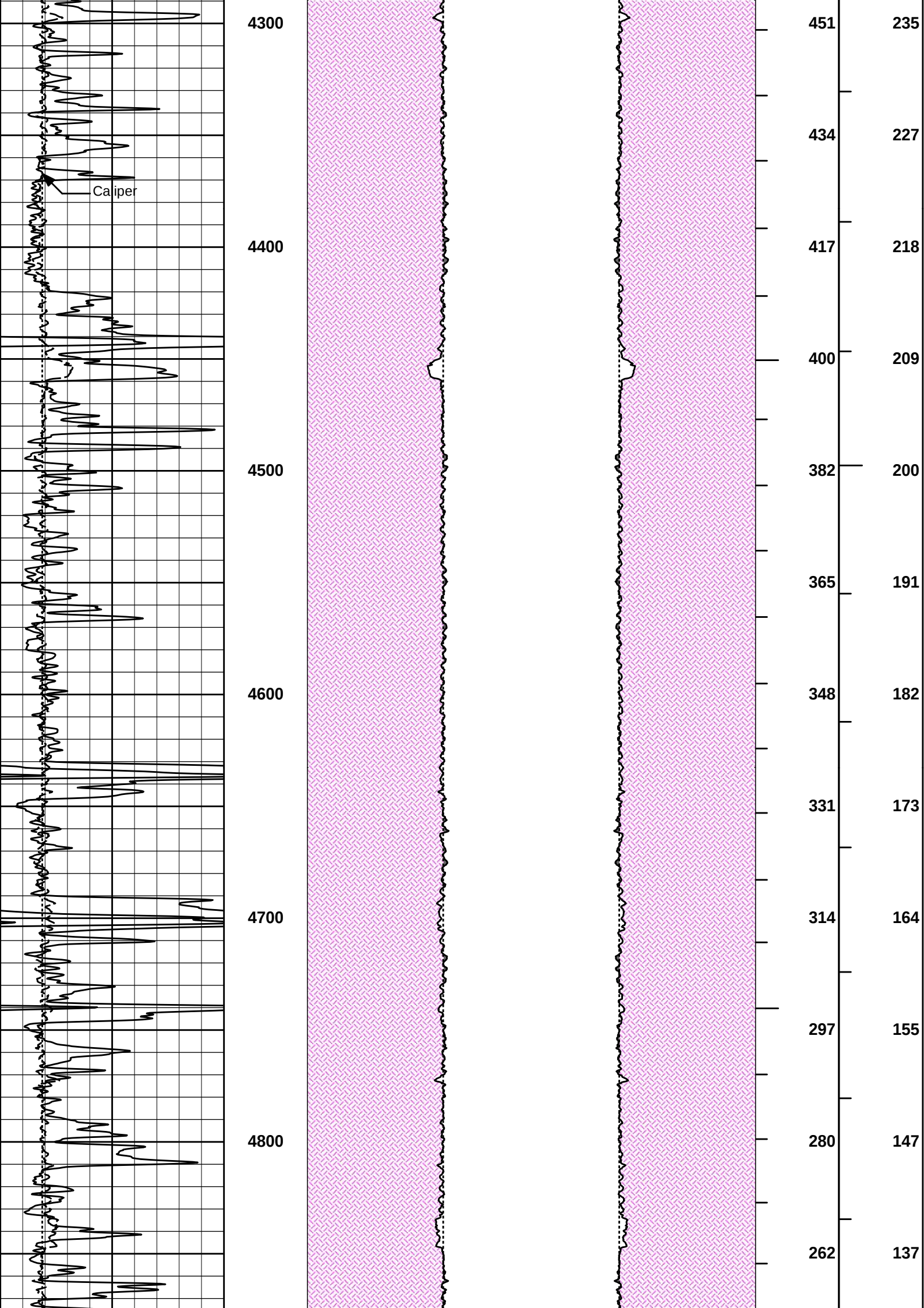


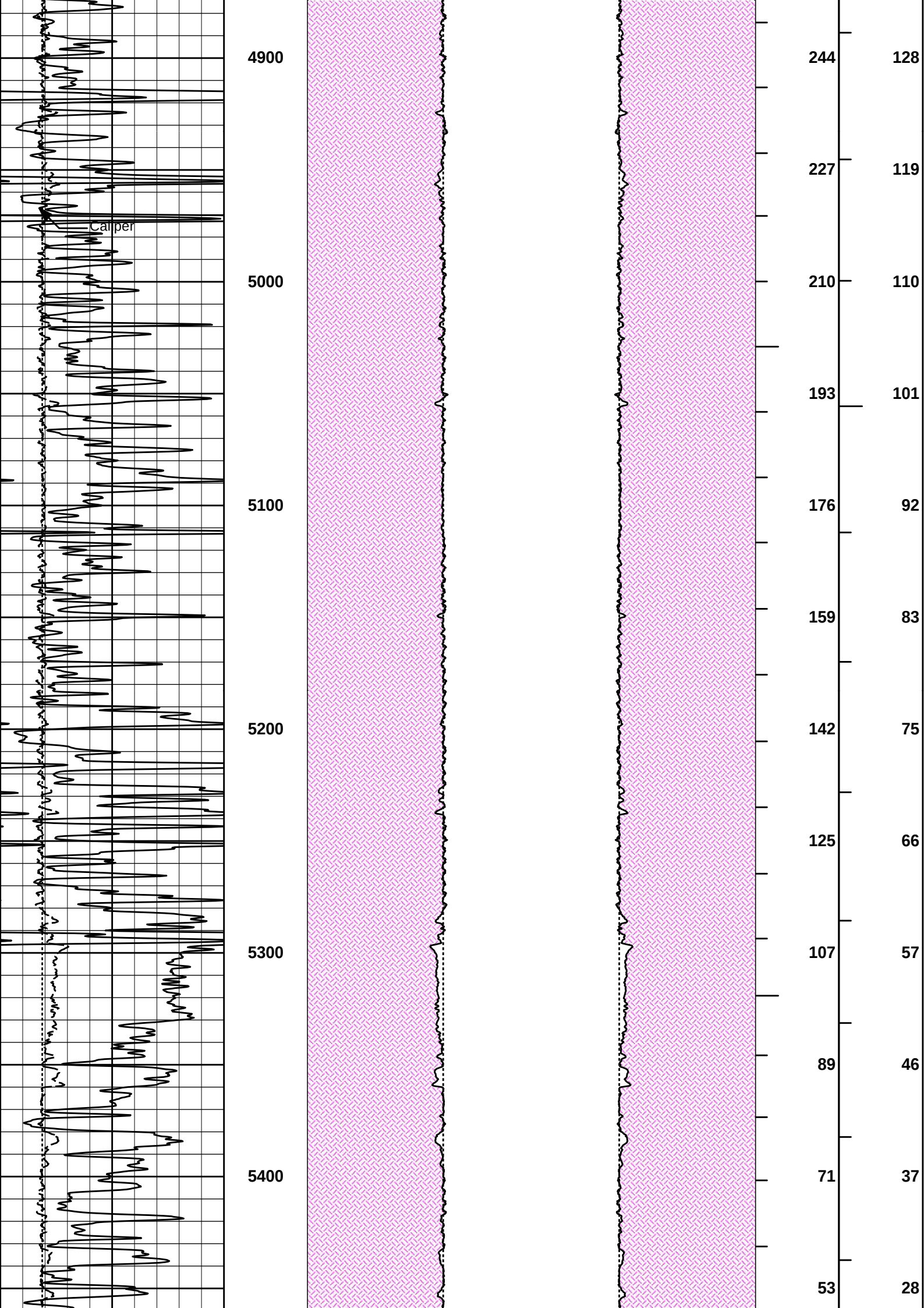


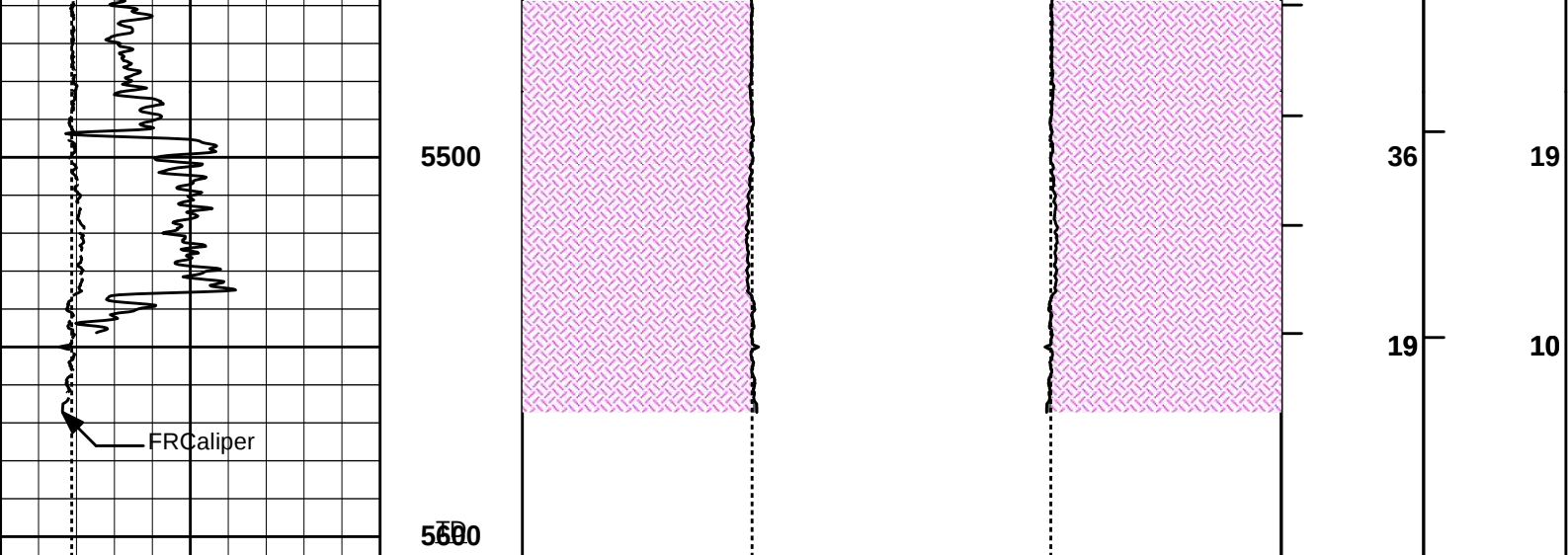












6	Caliper	16	MD	20	Caliper	0	0	Caliper	20	BHVT	AHVT
	inches		1 : 600		inches			inches			
			ft								
6	Bit Size	16			MUDCAKE	0	0	Bit Size	20		
	inches										
0	Gamma API	150		20	Bit Size	0		MUDCAKE			
	api										

HALLIBURTON

Plot Time: 23-Jan-18 19:38:24
Plot Range: 1730 ft to 5605.25 ft
Data: MERIT_UNRUH1-7\Well Based\MAIN
Plot File: \\LOCAL-MERIT_UNRUH1-7\Well Based\AHV\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	MERIT ENERGY COMPANY		
WELL	UNRUH 1-7		
FIELD	WILDCAT		
COUNTY	HASKELL	STATE	KANSAS
HALLIBURTON		ANNULAR HOLE VOLUME LOG	