

# HALLIBURTON

## BOREHOLE VOLUME

KERR-MCGEE OIL & GAS ONSHORE LP							
NORTHGLENN STATE 19-36X							
WATTENBERG		WELD		CO			
COMPANY	KERR-MCGEE OIL & GAS ONSHORE LP	WELL	NORTHGLENN STATE 19-36X	FIELD	WATTENBERG	COUNTY	
WELL	FIELD	COUNTY	WELD	STATE	CO		
COMPANY	WELL	FIELD	COUNTY	STATE	CO		
API No.	05123344690100						
Log measured from Drilling measured from	SURFACE LOCATION: 1,289' FSL & 2,491' FEL SWSE BOTTOM LOCATION: 1,400' FSL & 1,648' FWL NESW LATITUDE: 40.003875° LONGITUDE: -104.951438°						
Permanent Datum GL	KB			Elev. 5119.0 ft	Elev. K.B. D.F. G.L.	5134.0 ft 5133.0 ft 5119.0 ft	
Date	27-Feb-12						
Run No.	ONE						
Depth - Driller	8270.00 ft						
Depth - Logger	8262.0 ft						
Bottom - Logged Interval	8234 ft						
Top - Logged Interval	CASING						
Casing - Driller	8.625 in	@ 1037.0 ft					
Casing - Logger	1037.0 ft						
Bit Size	7.875 in						
Type Fluid in Hole	WATER BASED MUD						
Density	Viscosity	9.0 ppg	50.00 sgt				
PH	Fluid Loss						
Source of Sample							
Rm @ Meas. Temp		@		@	Run No.	Type Log	
Rmf @ Meas. Temp.		@		@	Tool Type & No.	Depth	
Rmc @ Meas. Temp.		@		@	Pad Type	Scale Up Hole	
Source Rmf	Rmc				Tool Pos.	Scale Down Hole	
Rm @ BHT		@		@			
Rmf @ BHT		@		@			
Rmc @ BHT		@		@			
RESISTIVITY EQUIPMENT DATA							
Rm @ Meas. Temp		@		@	Run No.	Type Log	
Rmf @ Meas. Temp.		@		@	Tool Type & No.	Depth	
Rmc @ Meas. Temp.		@		@	Pad Type	Scale Up Hole	
Source Rmf	Rmc				Tool Pos.	Scale Down Hole	
Rm @ BHT		@		@			
Rmf @ BHT		@		@			
Rmc @ BHT		@		@			
EQUIPMENT DATA							
GAMMA			ACOUSTIC		DENSITY		
Run No.	ONE	Run No.		Run No.	ONE	Run No.	
Serial No.	11277436	Serial No.		Serial No.	M335_P470	Serial No.	
Model No.	GTET	Model No.		Model No.	SDLT	Model No.	
Diameter	3.625"	No. of Cenrt.		Diameter	4.5"	Diameter	
Detector Model No.	GTET	Spacing		Log Type	GAM-GAM	Log Type	
Type	SCINT			Source Type	CS-137	Source Type	
Length	8"	LSA [Y/N]		Serial No.	GAM-GAM	Serial No.	
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 CI	Strength	
LOGGING DATA							
GENERAL		GAMMA		ACOUSTIC		DENSITY	
Time Since Circulation							
Time on Bottom	27-Feb-12 12:34						
Max. Rec. Temperature	228.0 degF	@ 8262.0 ft					
Equipment	Location	11454566	BRIGHTON				
Recorded By	B. BENJAMIN		T. GEDAMU				
Witnessed By							

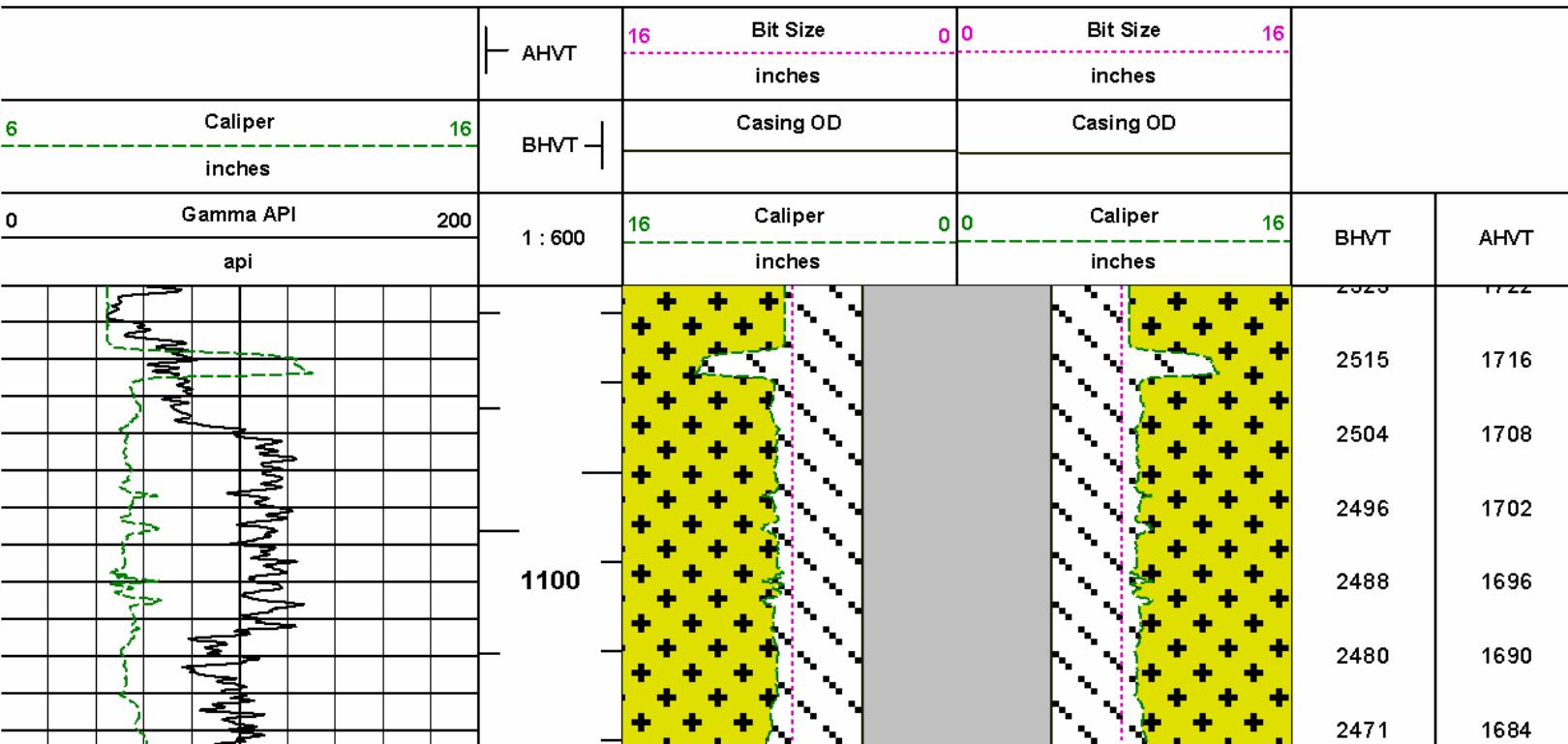
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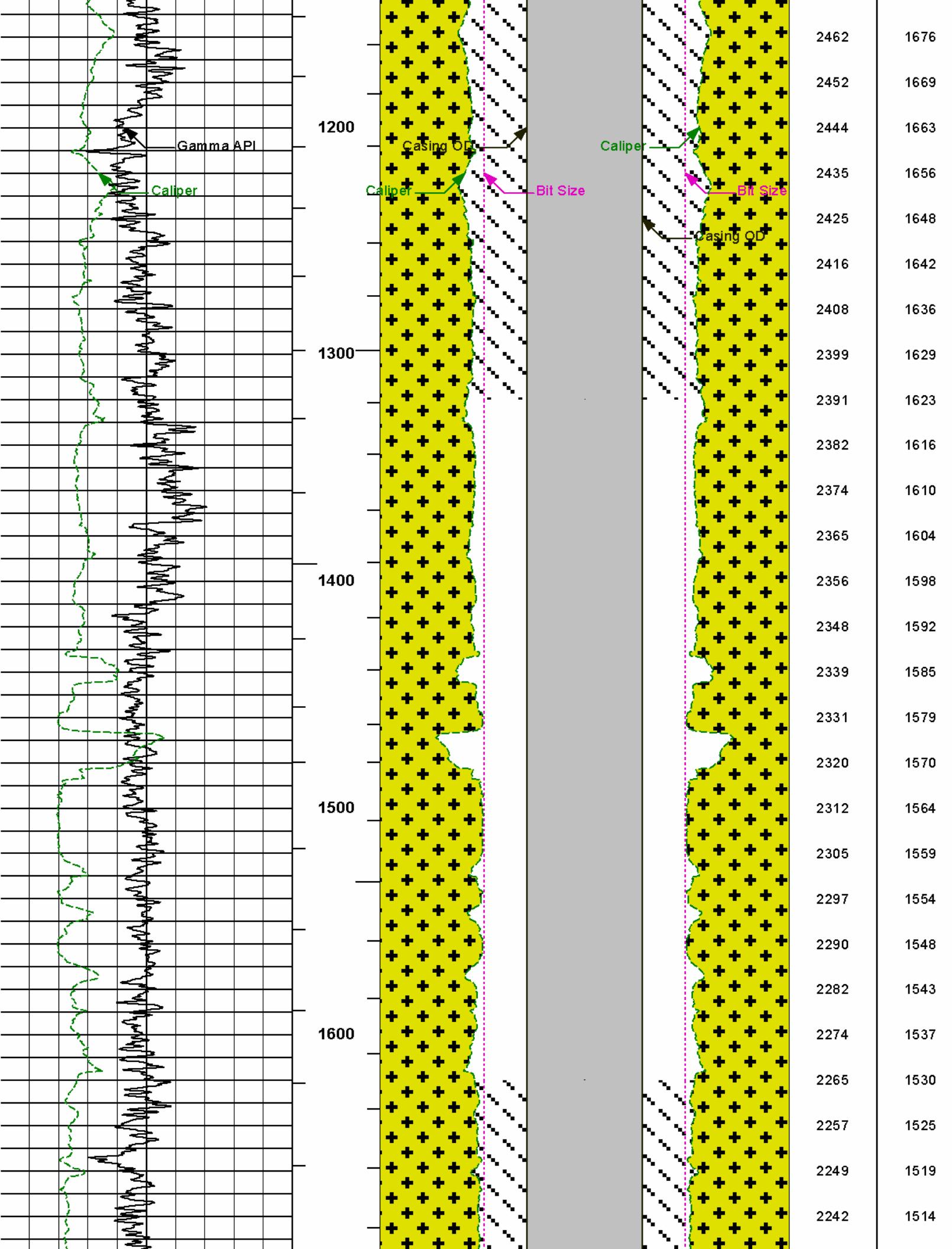
Service Ticket No.: 9302989 API Serial No.: 05123344690100 PGM Version: WL INSITE R3.4.4 (Build 2)								
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES				
Date	Sample No.			Type Log	Depth	Scale Up Hole	Scale Down Hole	
Depth-Driller								
Type Fluid in Hole								
Density	Viscosity							
Ph	Fluid Loss							
Source of Sample								
Rm @ Meas. Temp		@		@	Run No.	Type Log		
Rmf @ Meas. Temp.		@		@	Tool Type & No.	Depth		
Rmc @ Meas. Temp.		@		@	Pad Type	Scale Up Hole		
Source Rmf	Rmc				Tool Pos.	Scale Down Hole		
Rm @ BHT		@		@				
Rmf @ BHT		@		@				
Rmc @ BHT		@		@				
RESISTIVITY EQUIPMENT DATA								
Rm @ Meas. Temp		@		@	Run No.	Type Log		
Rmf @ Meas. Temp.		@		@	Tool Type & No.	Depth		
Rmc @ Meas. Temp.		@		@	Pad Type	Scale Up Hole		
Source Rmf	Rmc				Tool Pos.	Scale Down Hole		
Rm @ BHT		@		@				
Rmf @ BHT		@		@				
Rmc @ BHT		@		@				
EQUIPMENT DATA								
GAMMA			ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE	
Serial No.	11277436	Serial No.		Serial No.	M335_P470	Serial No.	11812167	
Model No.	GTET	Model No.		Model No.	SDLT	Model No.	DSNT	
Diameter	3.625"	No. of Cenrt.		Diameter	4.5"	Diameter	3.625"	
Detector Model No.	GTET	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU	
Type	SCINT			Source Type	CS-137	Source Type	AM241BE	
Length	8"	LSA [Y/N]		Serial No.	GAM-GAM	Serial No.	NEU-NEU	
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI	
LOGGING DATA								
GENERAL		GAMMA		ACOUSTIC		DENSITY		
Time Since Circulation								
Time on Bottom	27-Feb-12 12:34							
Max. Rec. Temperature	228.0 degF	@ 8262.0 ft						
Equipment	Location	11454566	BRIGHTON					
Recorded By	B. BENJAMIN		T. GEDAMU					
Witnessed By								

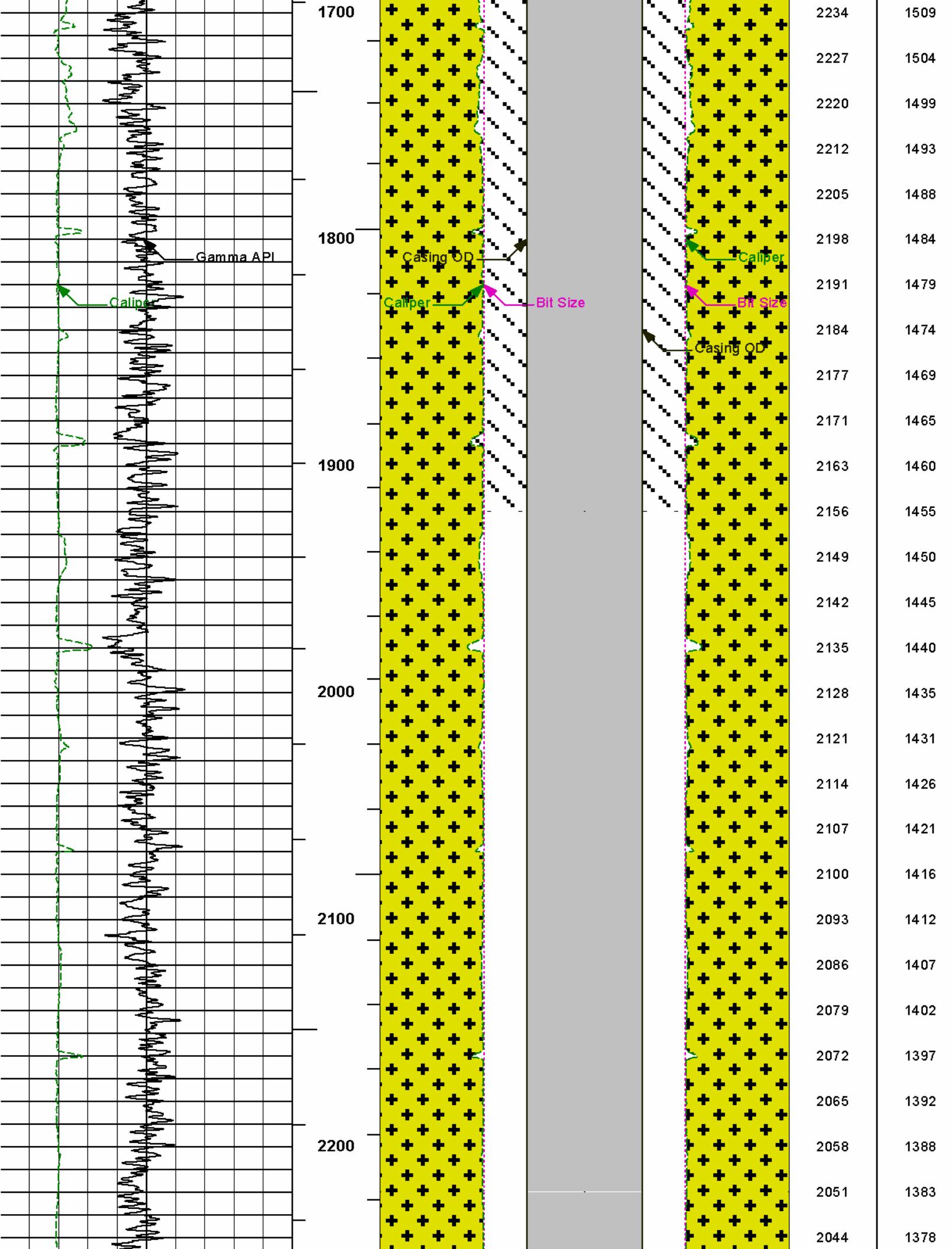
HALLIBURTON

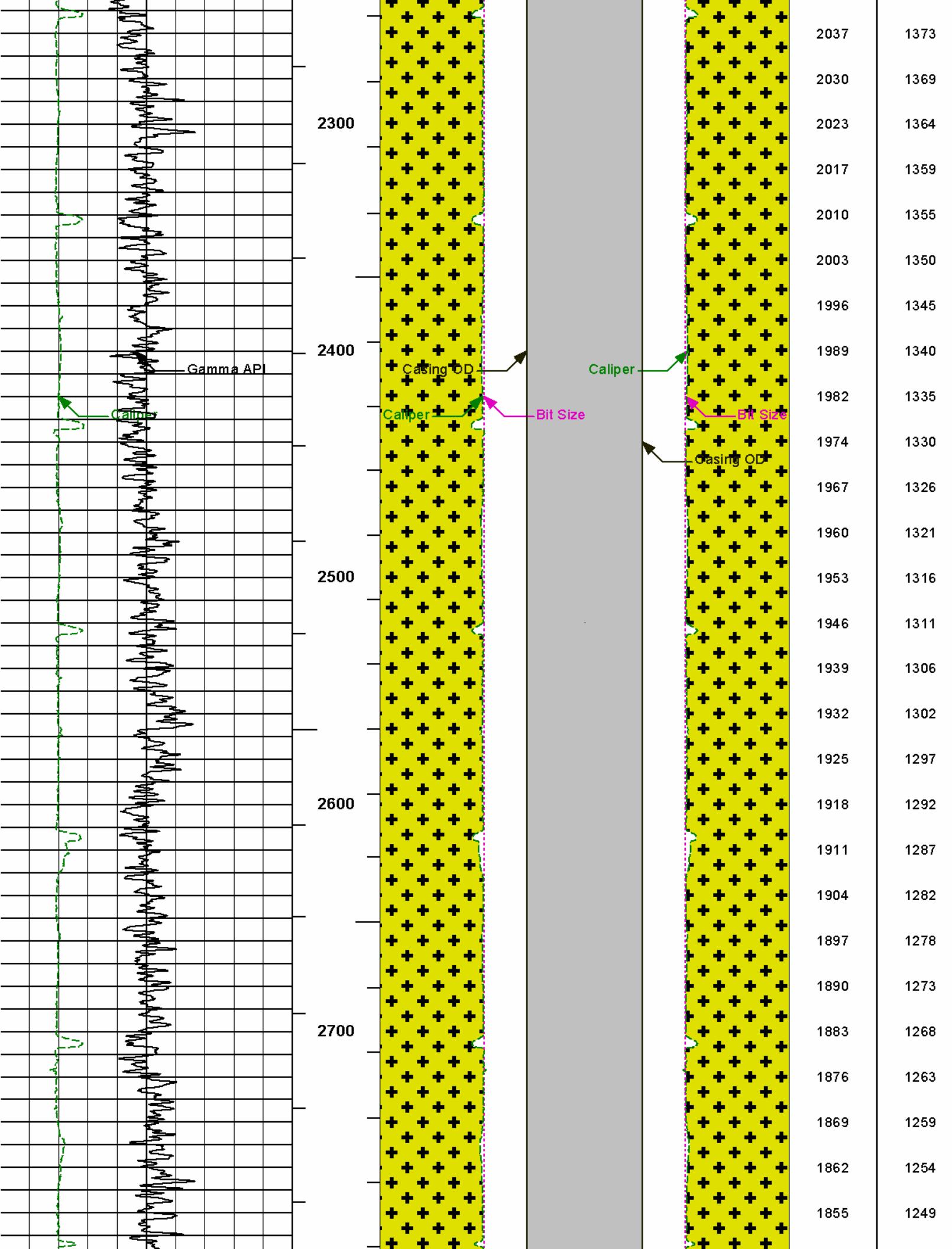
Plot Time: 28-Feb-12 17:08:56  
Plot Range: 1020 ft to 8269.92 ft  
Data: NG\_STATE\_19-36!Well Based!MAIN!\*  
Plot File: IIBHVIQ\_BHV SDL\_RM

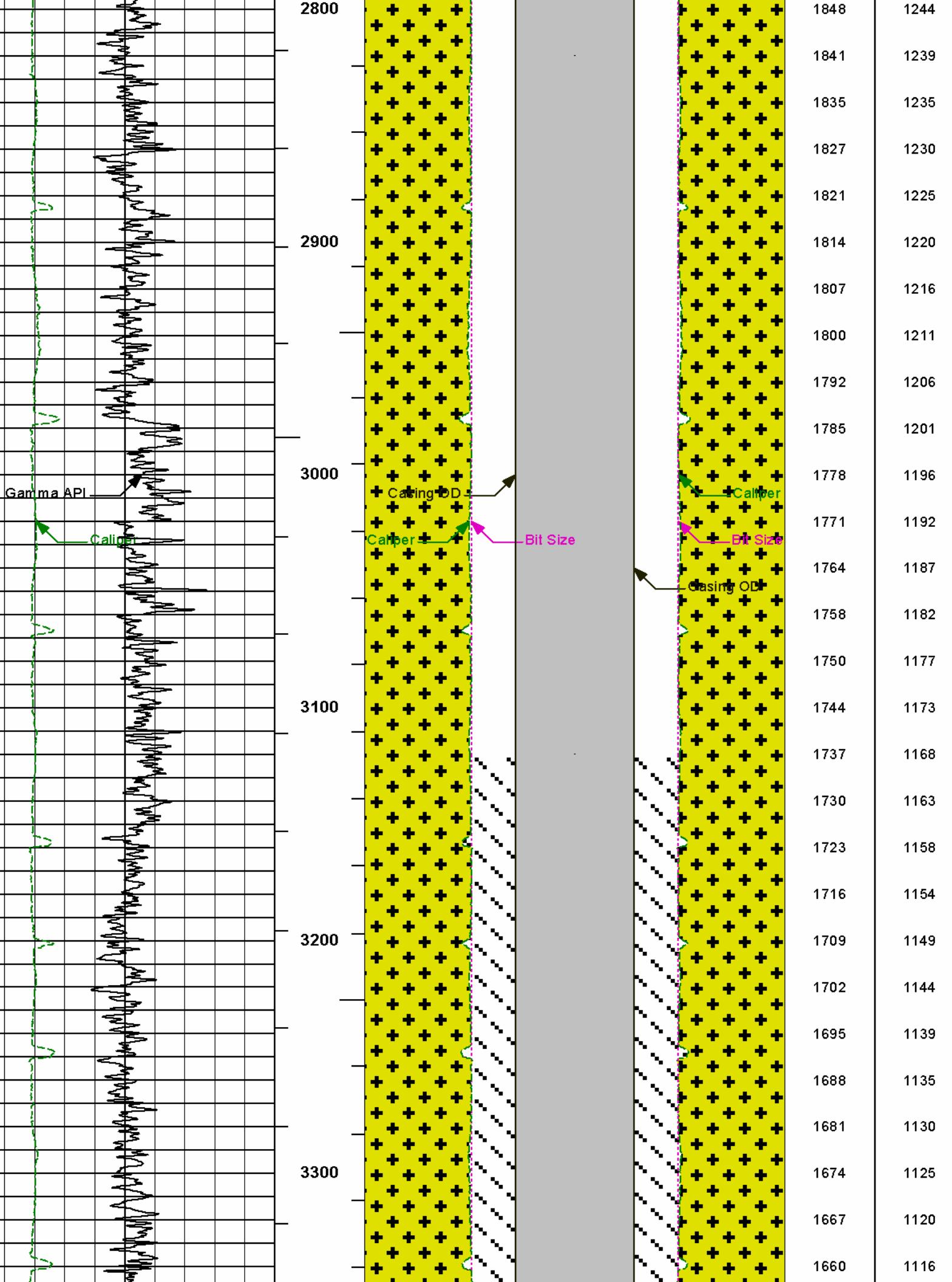
#### AHV USES 4.5" CASING

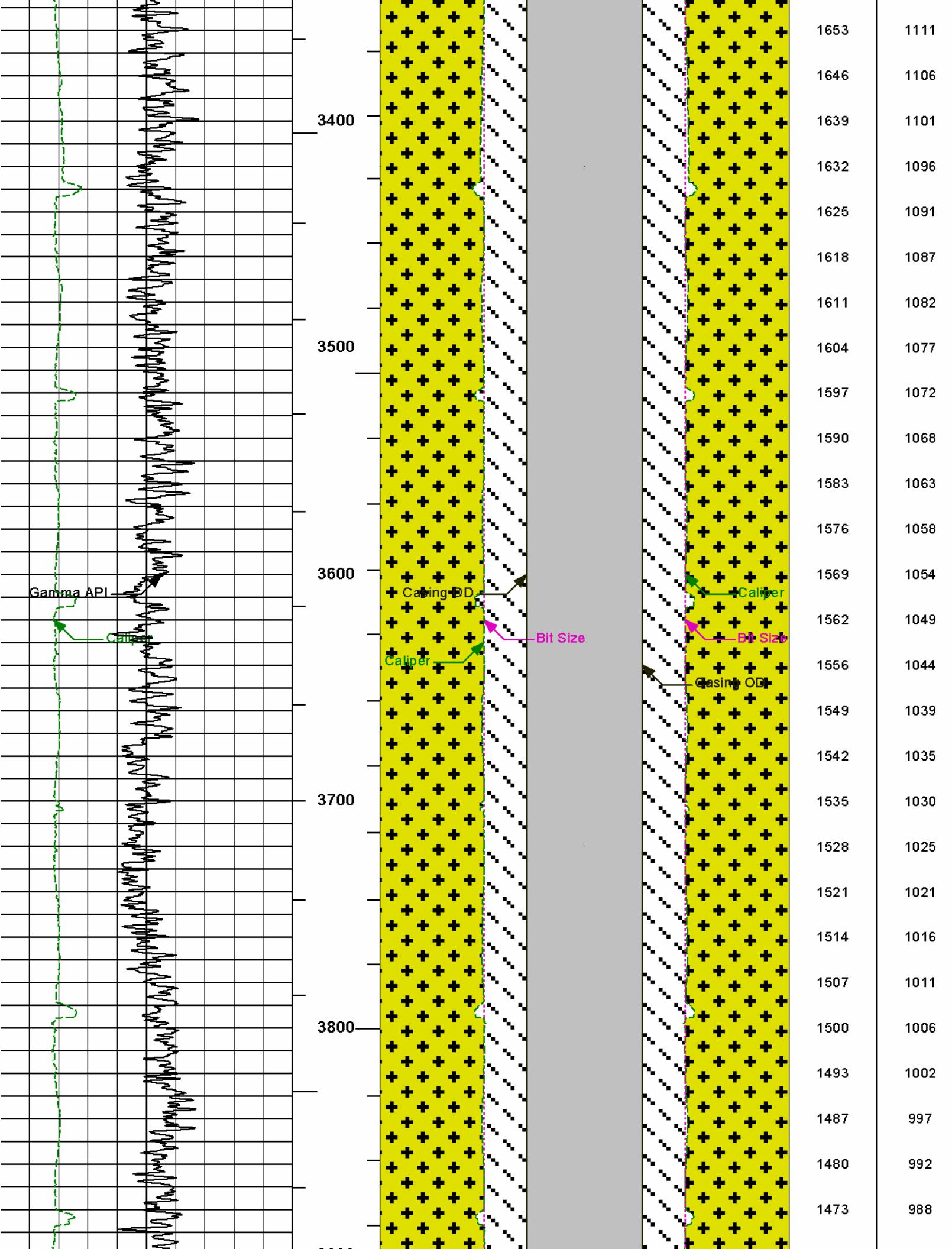


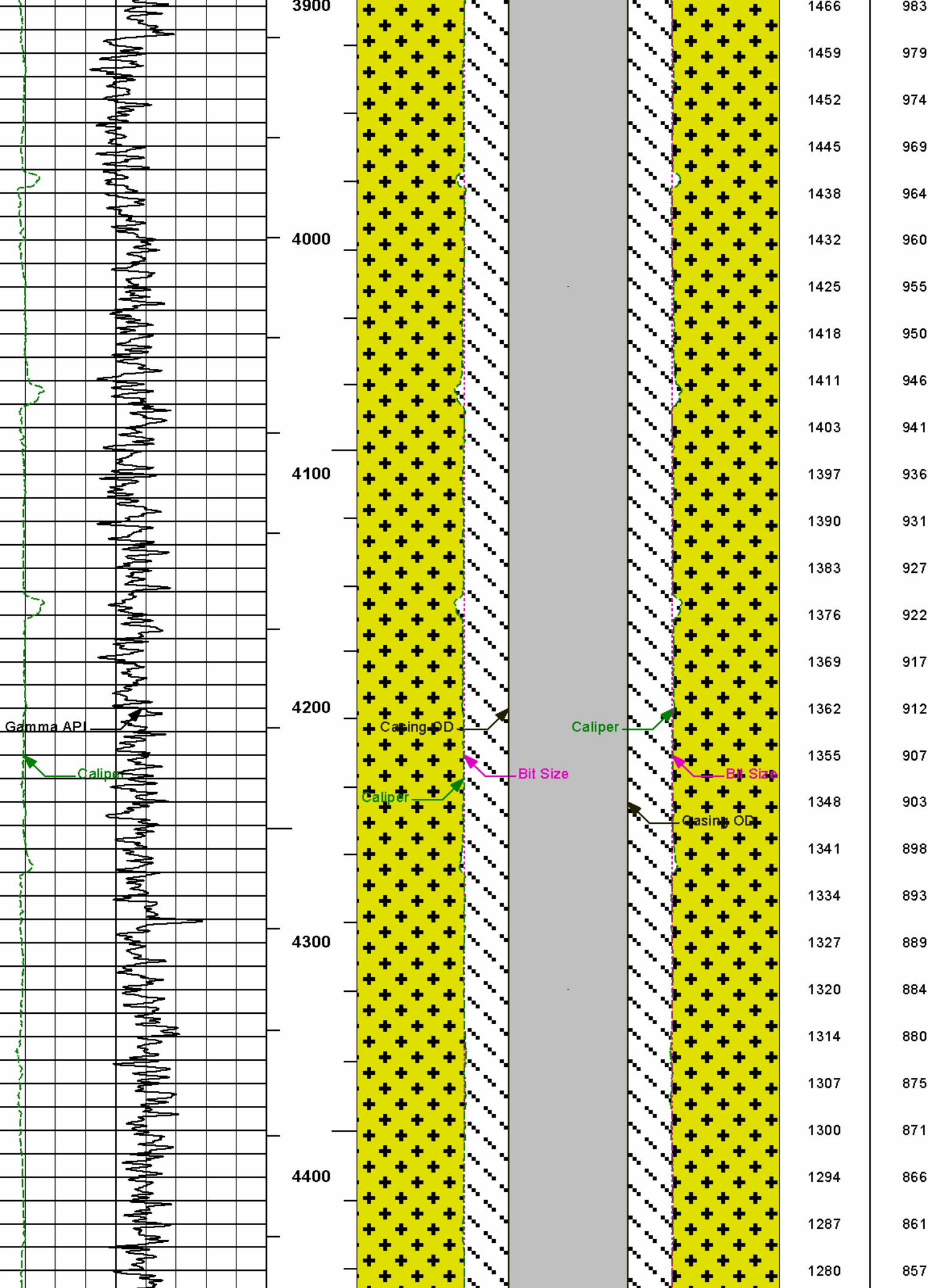


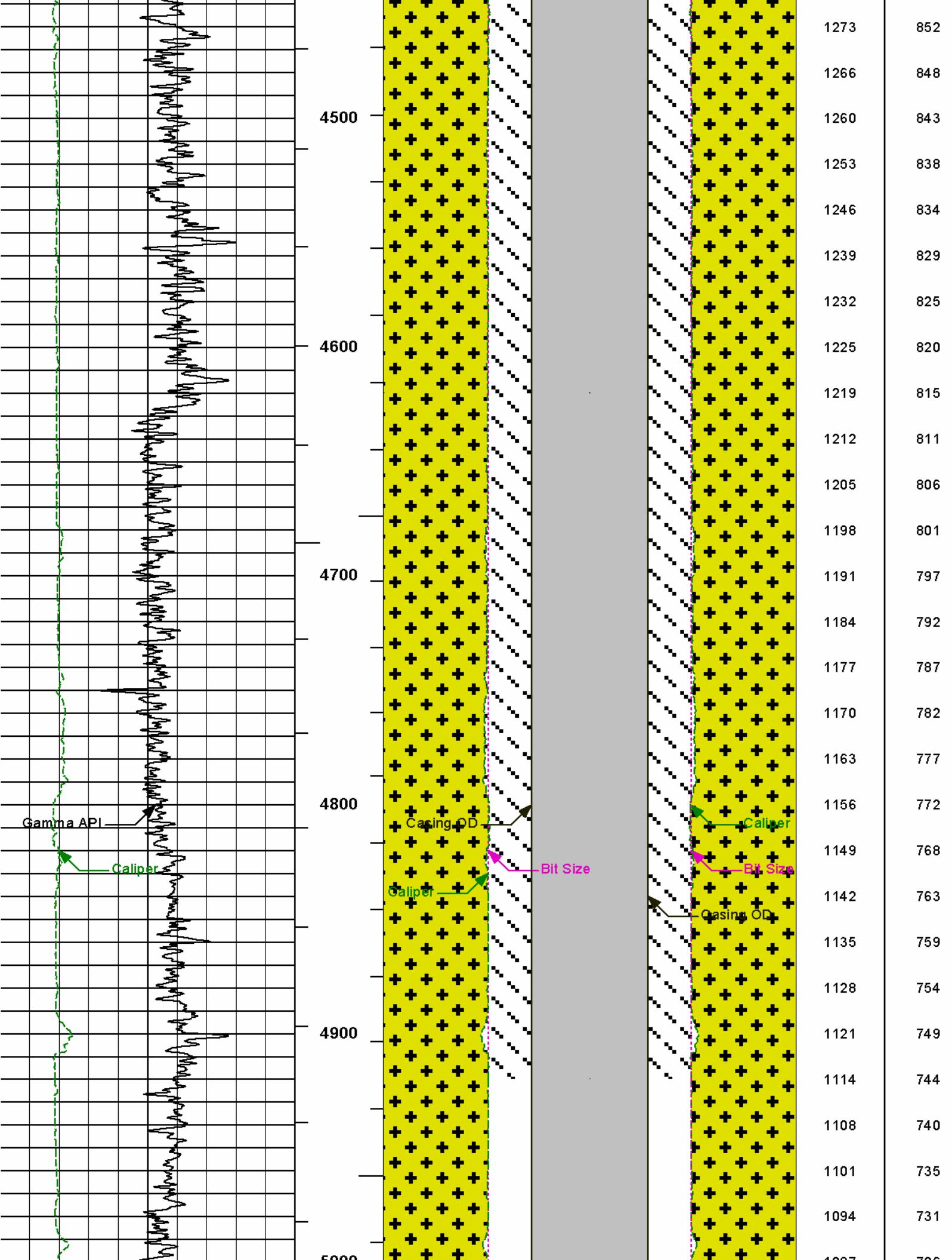


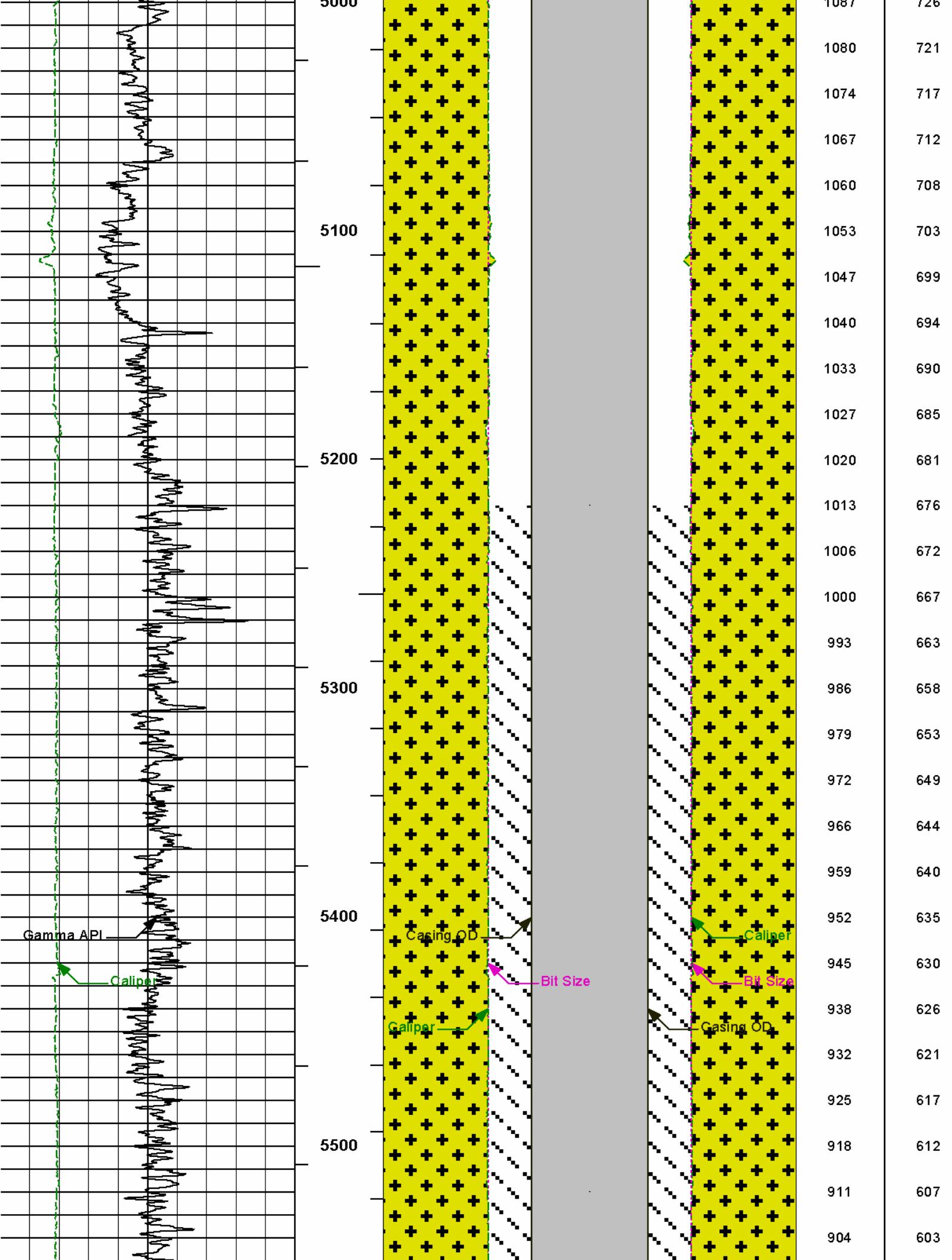


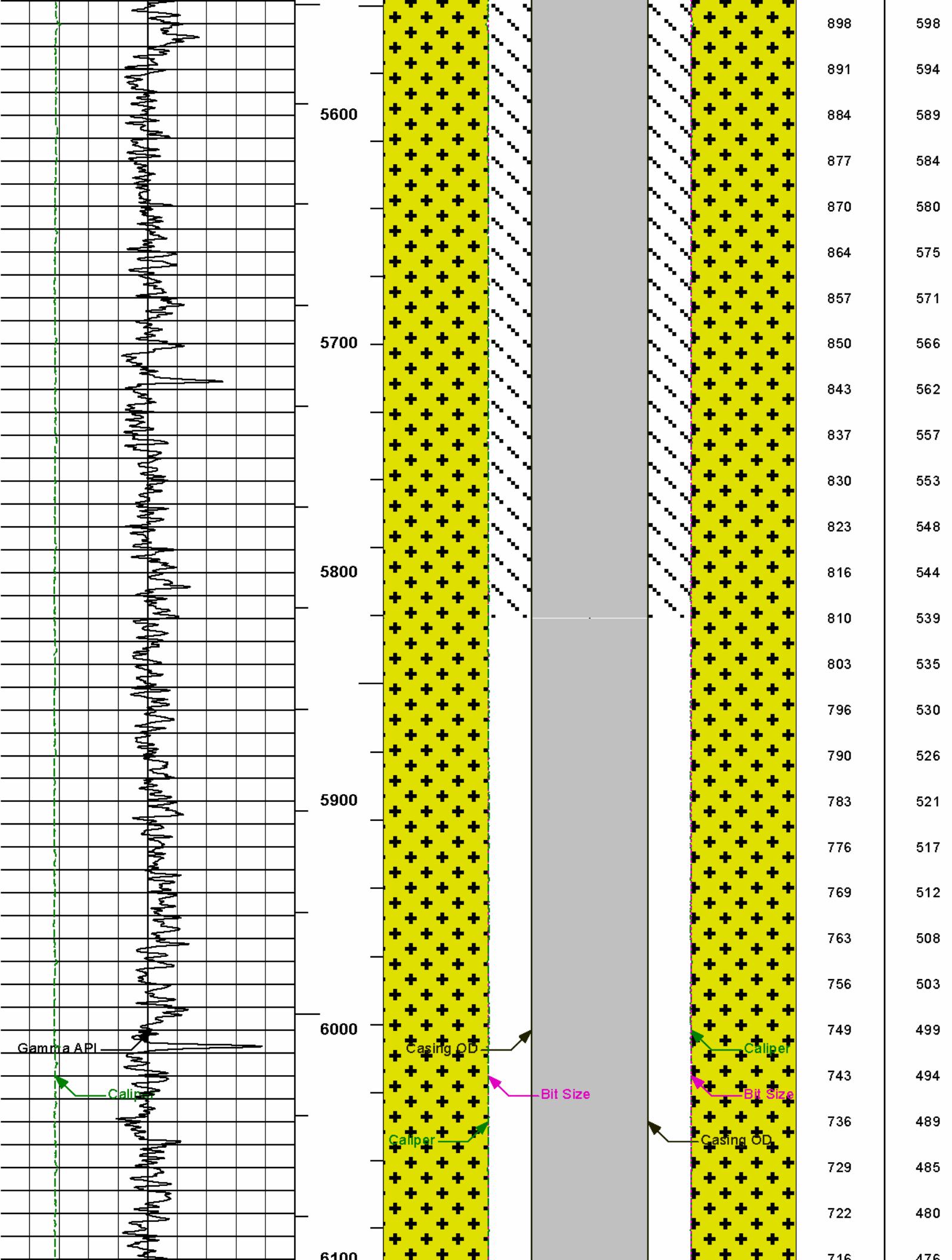


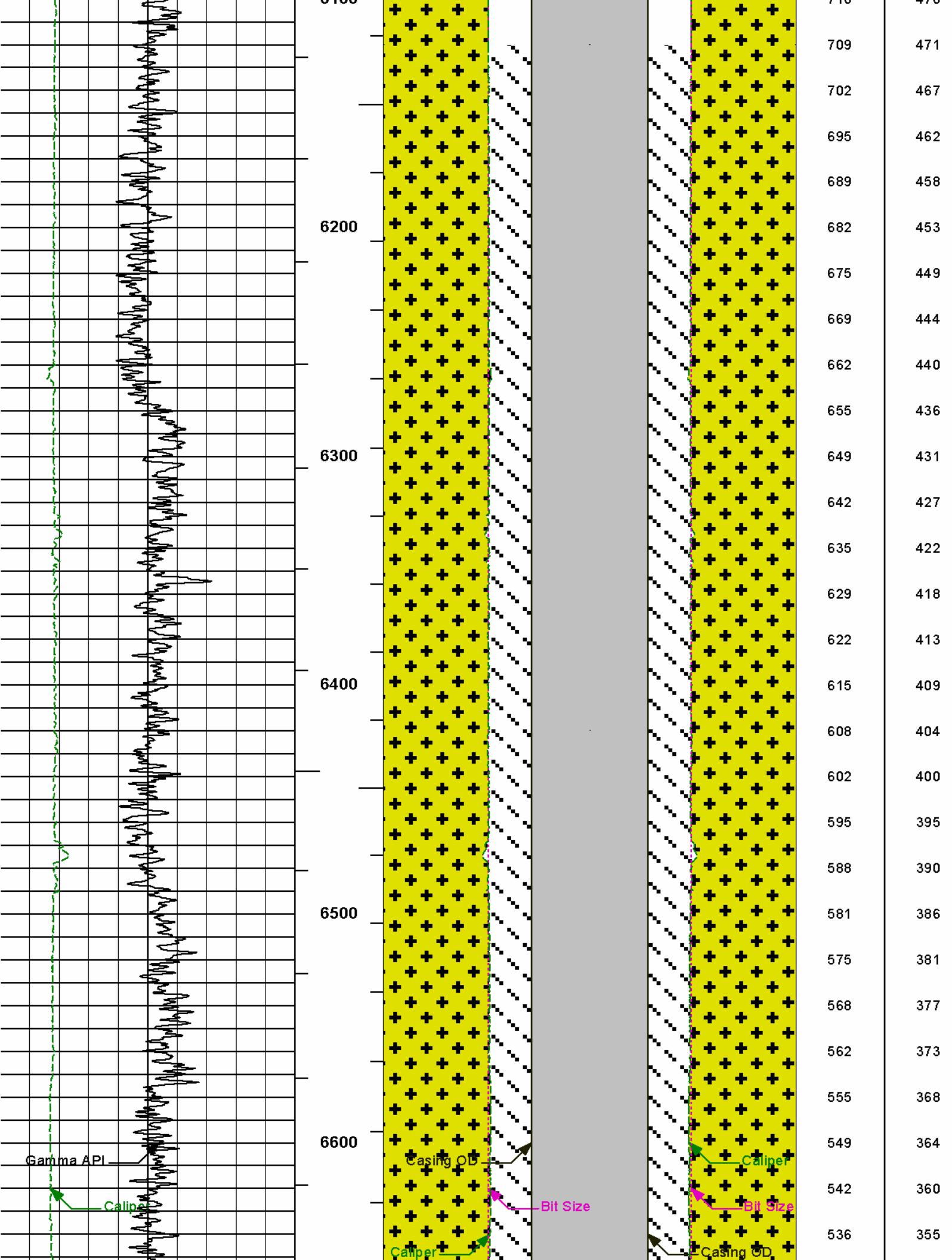


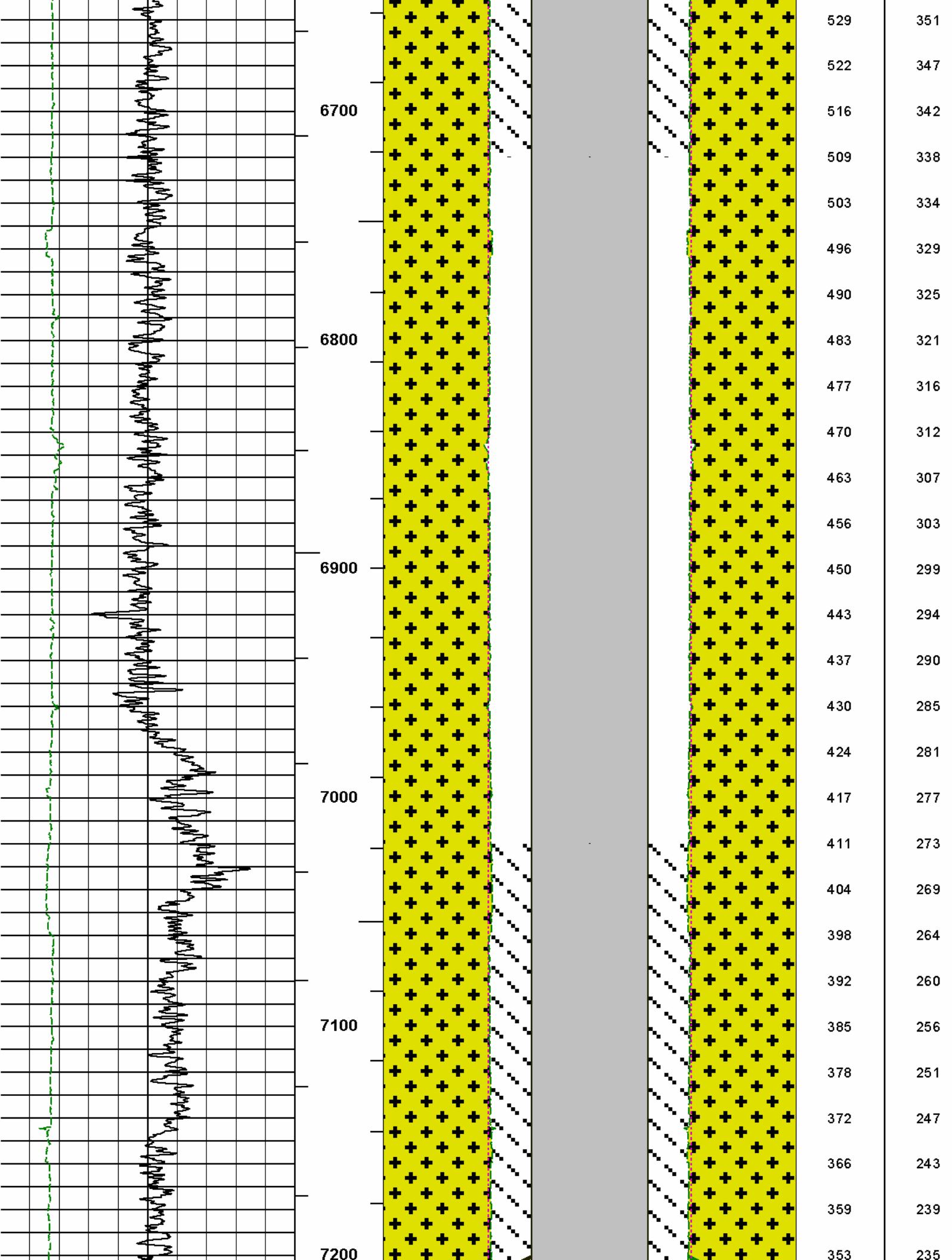


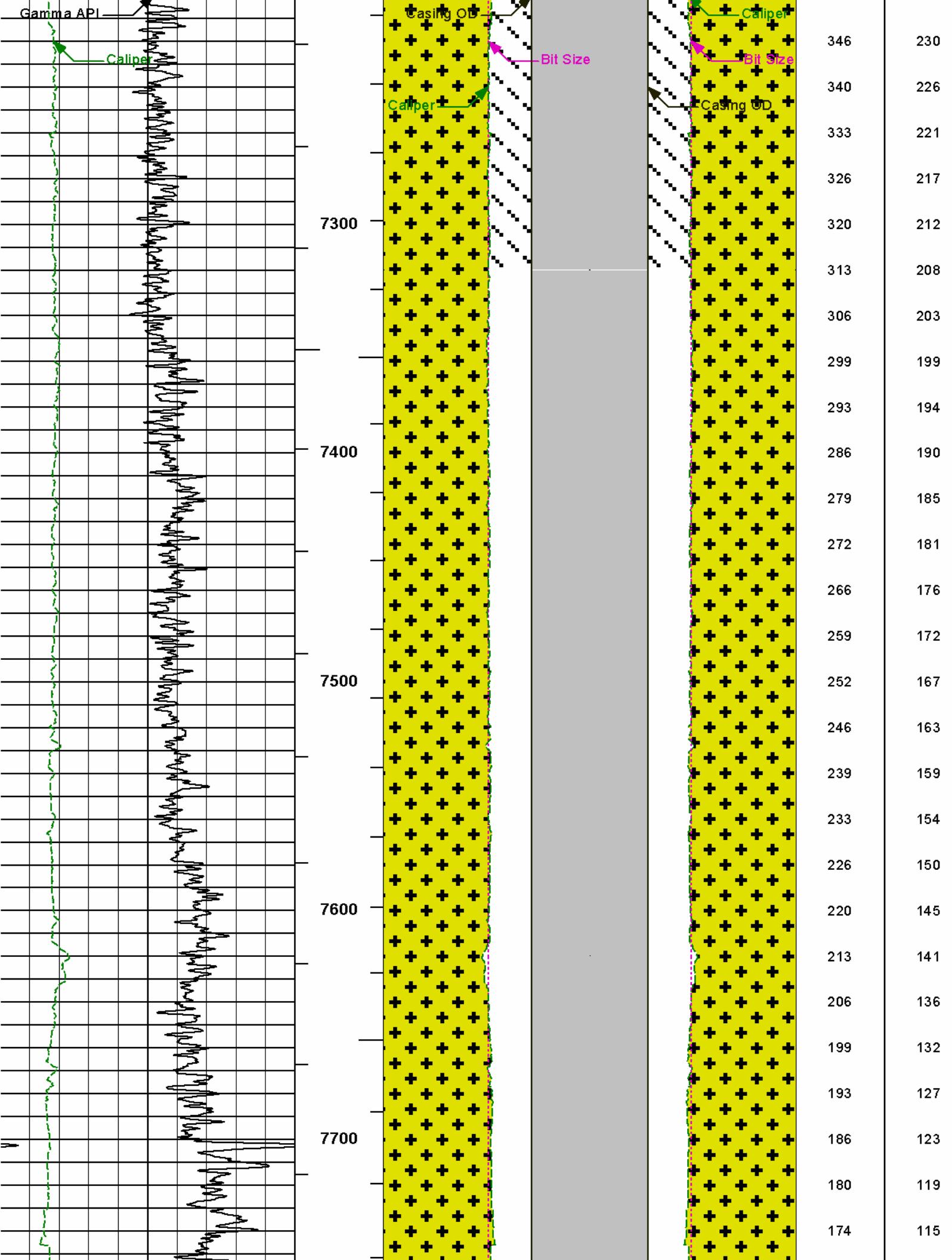


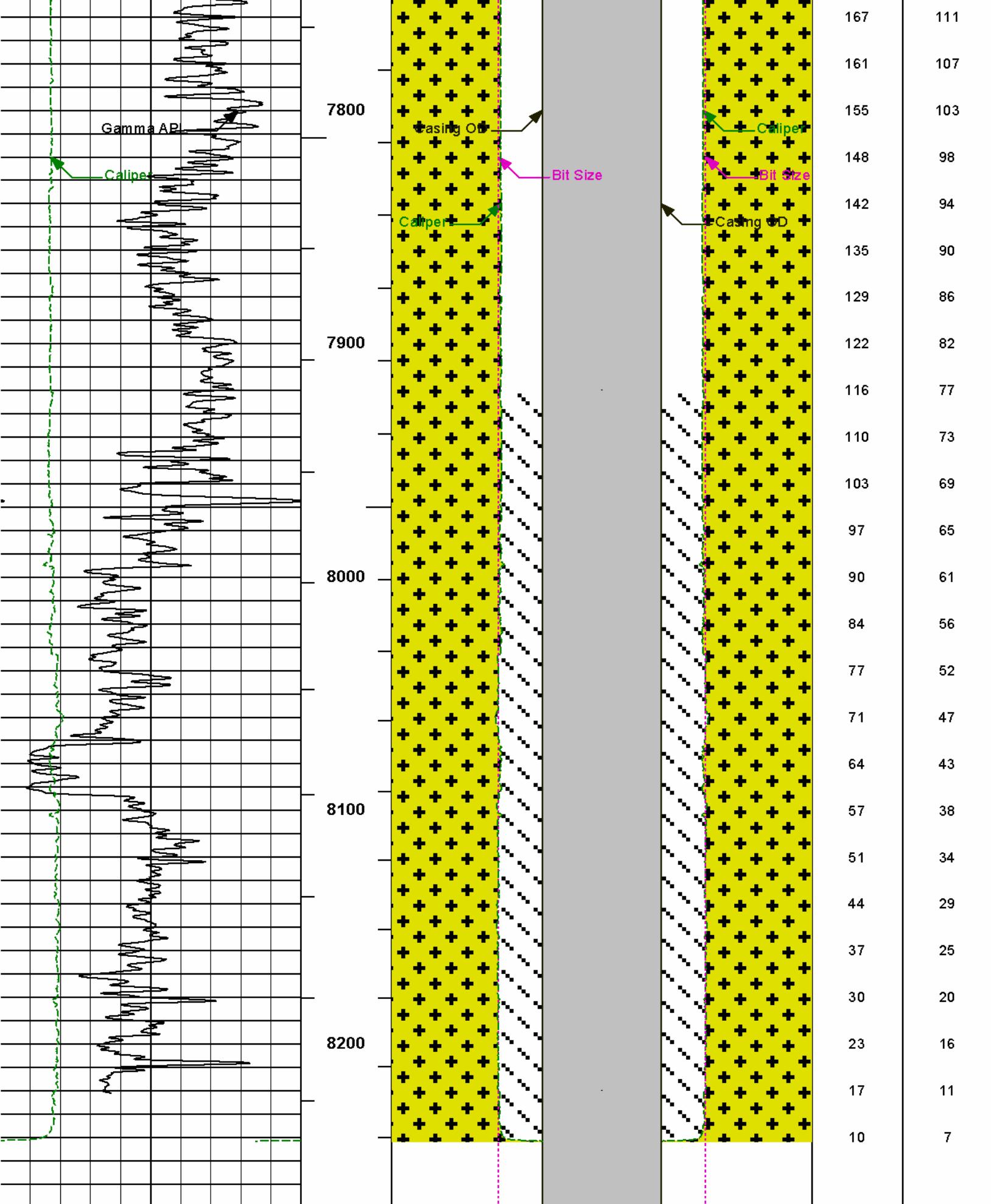












0	Gamma API	200	1 : 600	16	Caliper	0	Caliper	16	BHVT	AHVT
	api				inches		inches			
6	Caliper	16			Casing OD		Casing OD			

inches	BHVT					
	AHVT	16	Bit Size inches	0 0	Bit Size inches	16

**HALLIBURTON**

Plot Time: 28-Feb-12 17:09:00  
 Plot Range: 1020 ft to 8269.92 ft  
 Data: NG\_STATE\_19-36!Well Based!MAIN\*  
 Plot File: \BHV\Q\_BHV\_SDL\_RM

AHV USES 4.5" CASING

COMPANY	<b>KERR-MCGEE OIL &amp; GAS ONSHORE LP</b>		
WELL	<b>NORTHGLENN STATE 19-36X</b>		
FIELD	<b>WATTENBERG</b>		
COUNTY	<b>WELD</b>	STATE	<b>CO</b>
<b>HALLIBURTON</b>		<b>BOREHOLE VOLUME</b>	