



# Weatherford®

## Surface Logging Systems

Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Tooke Rockies, Inc.  
(A Weatherford Company)

884 Implement Dr.  
Dickinson, ND 58601  
701-227-4408

717 West Platte  
PO BOX 435  
Casper, WY 82601  
307-265-2124

Well Name: State North Platte 24-21-26HNB  
Location: SW/SE Sec. 26-T5N-R63W  
License Number: API 05-123-38311-00(Build/Lateral)  
Spud Date: 11/22/2013  
Surface Coordinates: 499 FSL & 2382 FEL

Region: DJ BASIN  
Drilling Completed: 12/1/2013

Bottom Hole Coordinates: 470 FNL & 1959 FWL  
Ground Elevation (ft): 4550  
Logged Interval (ft): 6000 To: 10876  
Formation: NIOBRARA  
Type of Drilling Fluid: WATER BASE

K.B. Elevation (ft): 4567  
Total Depth (ft): 10876

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

### OPERATOR

Company: Bonanza Creek Energy Inc.  
Address: 410 17th Street, Suite 1500  
Denver, CO 80202

### GEOLOGIST

Name: Gabriel Genitempo, Douglas Bower  
Company: WEATHERFORD SLS/TOOKE ROCKIES  
Address: PO BOX 435  
CASPER, WY 82602  
307.265.2124

## Supervision

Company men: Joe Savage, John Bradley  
Geologist: Paul McKay

## Other Information

### ROCK TYPES

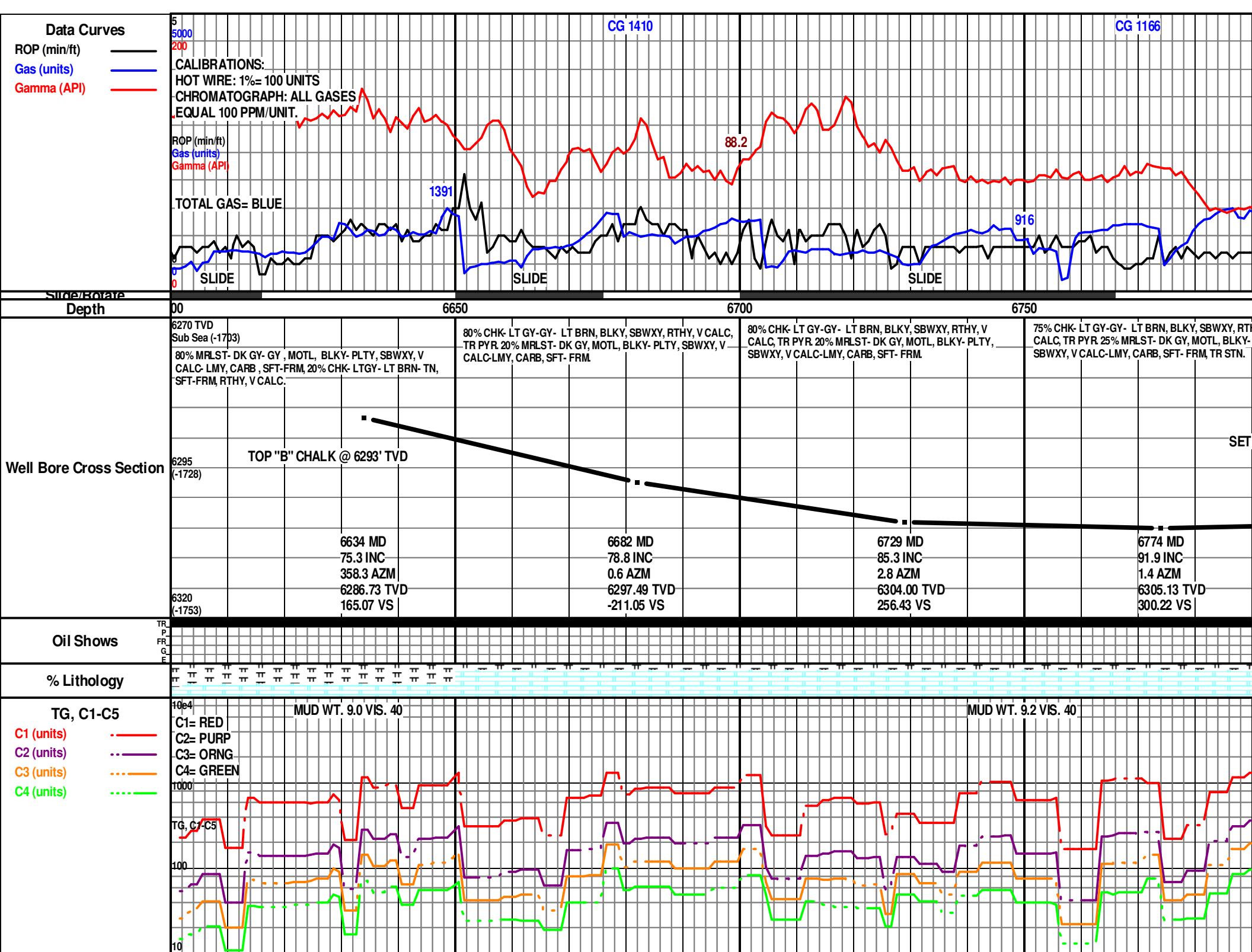
	Anhy		Coal		Lmst		Shcol		Chlk
	Bent		Congl		Meta		Shgy		
	Brec		Dol		Mrlst		Sltst		
	Cht		Gyp		Salt		Ss		
	Clyst		Igne		Shale		Till		

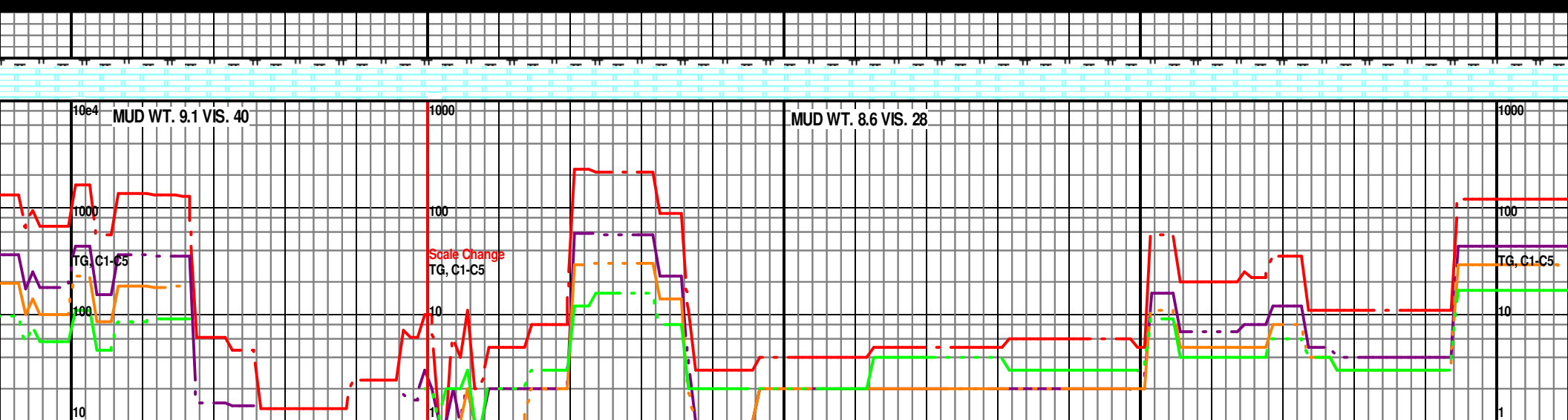
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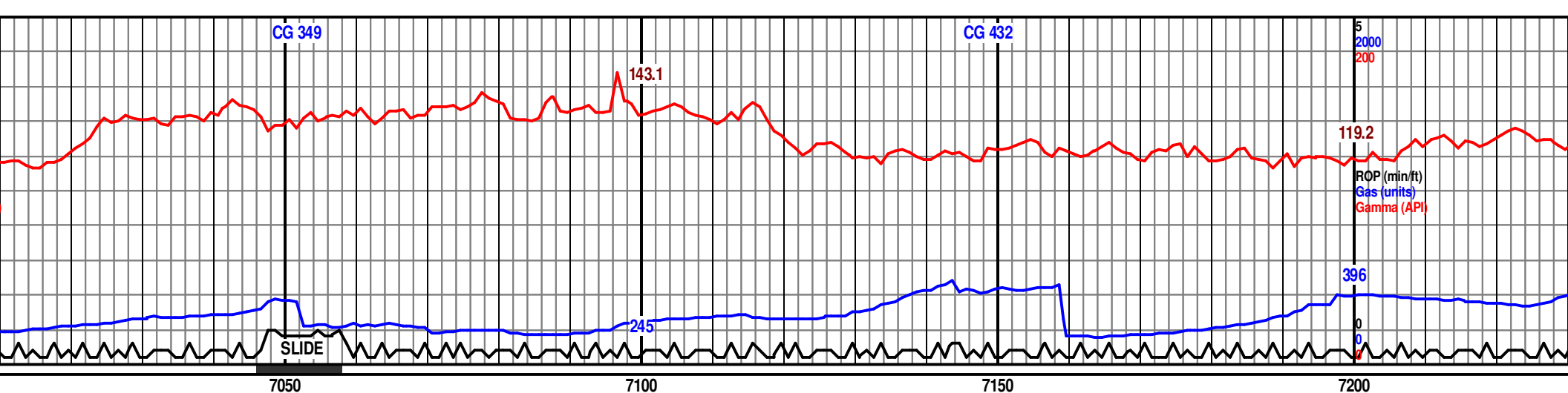
<b>FOSSIL</b>		Ostra		Chtdk		Sandy		Ssstrg
		Algae		Chtlt		Silt		
		Amph		Dol		Sil		
		Belm		Feldspar		Sulphur		
		Pisolite		Ferrpel		Tuff		
		Plant		Ferr				
		Strom		Glau	<b>STRINGER</b>			
				Gyp		Anhy		
	<b>MINERAL</b>			Hvymin		Arg		
		Anhy		Kaol		Bent		
		Arggrn		Marl		Coal		
		Arg		Minxl		Dol		
		Bent		Nodule		Gyp		
		Bit		Phos		Ls		
		Brecfrag		Pyr		Mrst		
		Calc		Salt		Sltstrg		
		Carb					<b>TEXTURE</b>	
								Boundst
								Chalky
								Cryxln
								Earthy
								Finexln
								Grainst
								Lithogr
								Microxln
								Mudst
								Packst
								Wackest

### OTHER SYMBOLS

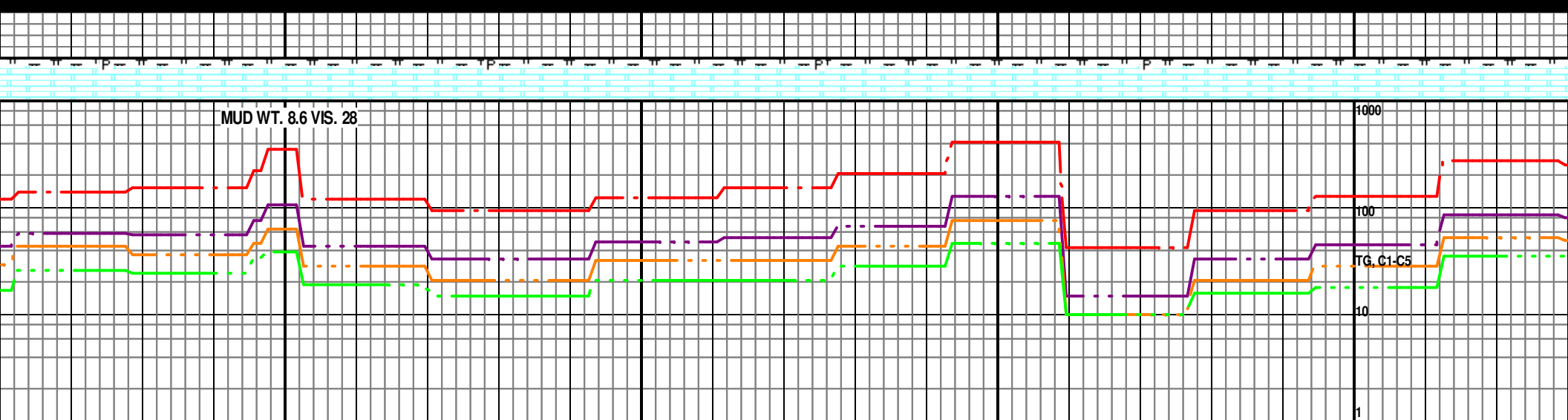
<b>INTERVALS</b>	<b>OIL SHOWS</b>	<b>POROSITY TYPE</b>		Pinpoint		Angular
				Vuggy		
					<b>SORTING</b>	
<b>EVENTS</b>						Well
			<b>ROUNDING</b>			Moderate
				Rounded		Poor
				Subrnd		
				Subang		

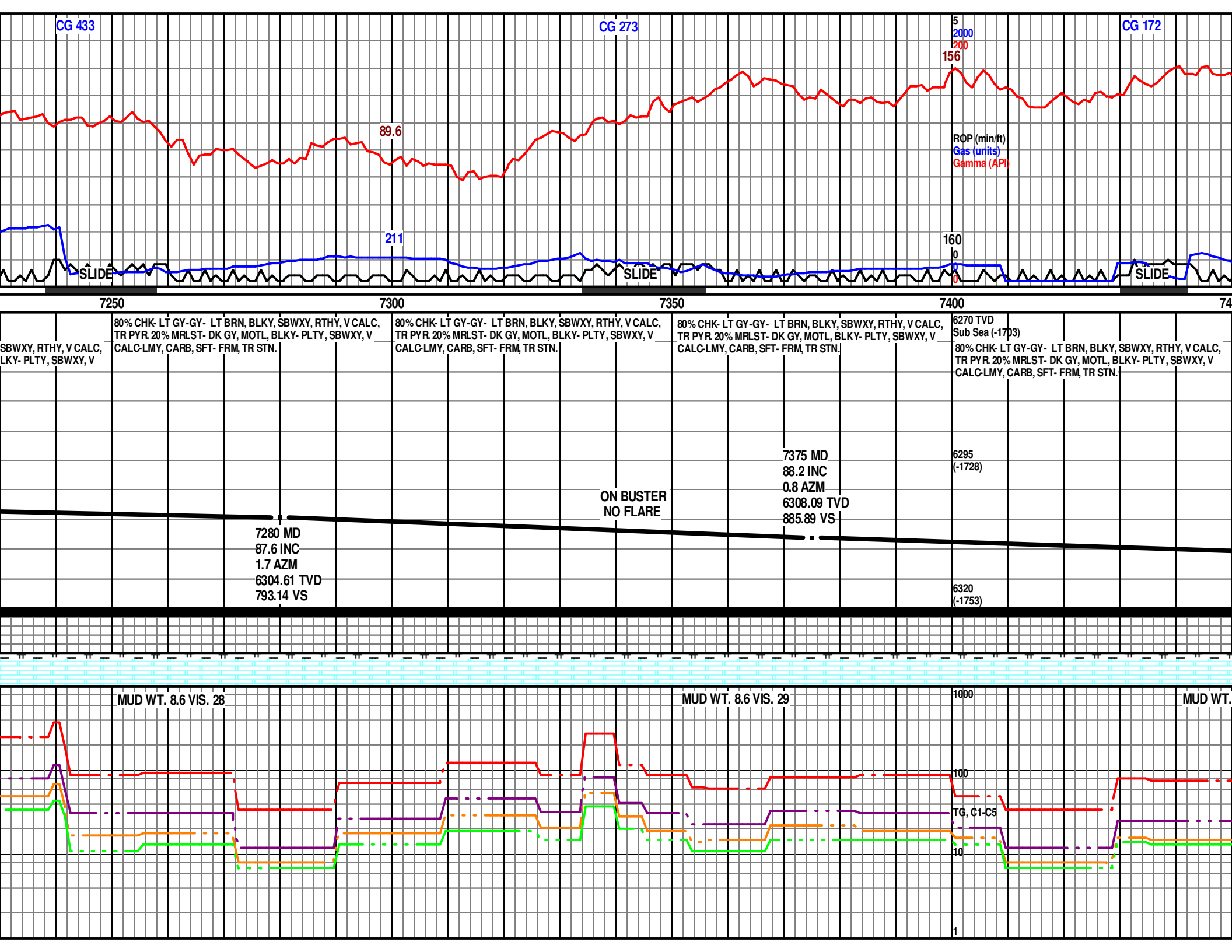


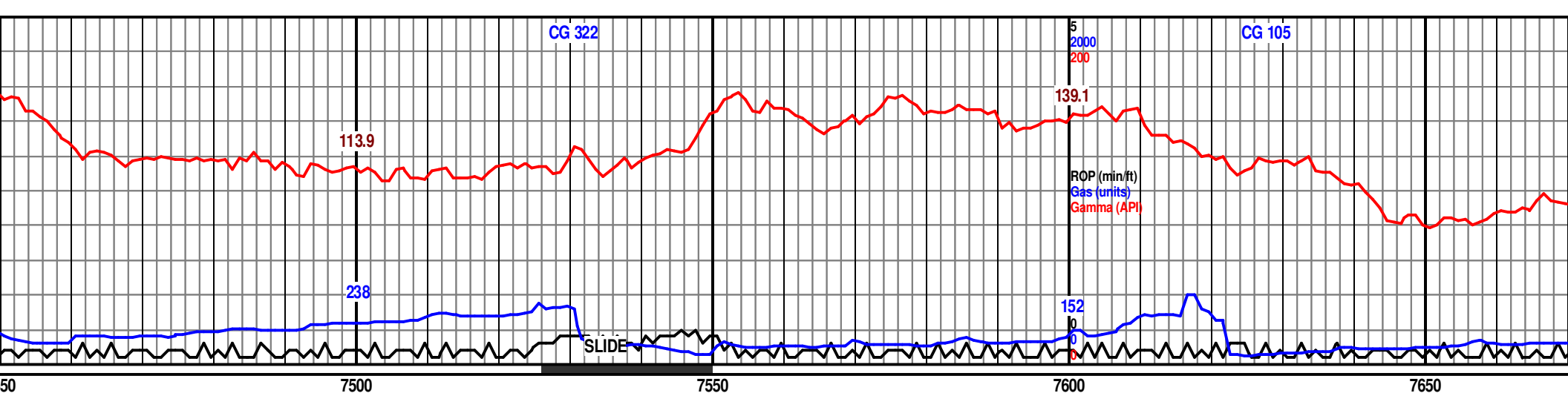
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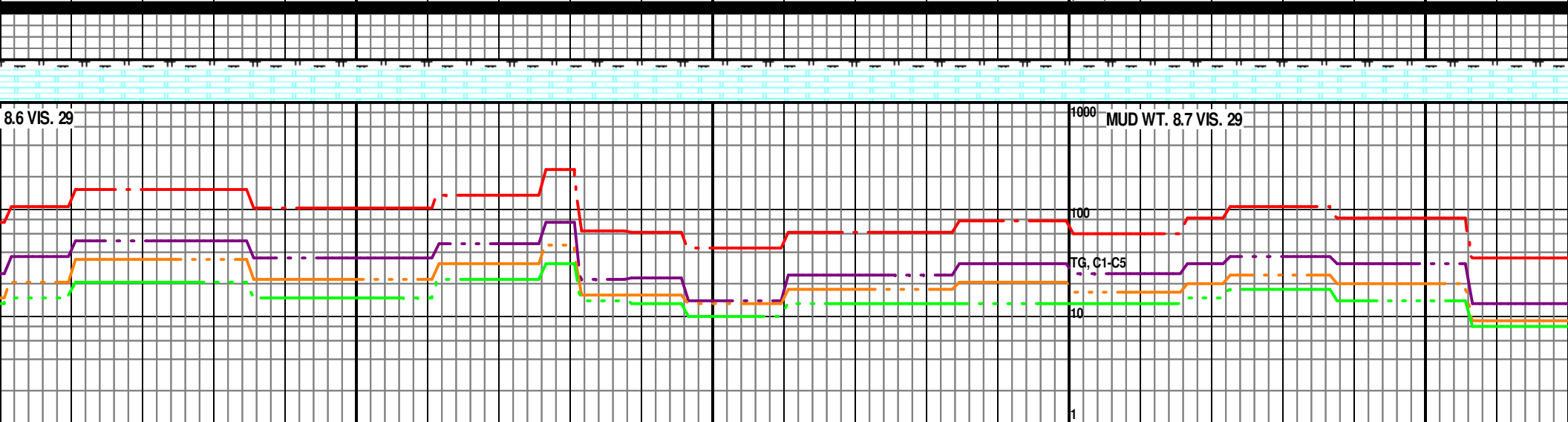
<p>03) T GY- GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, % MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CARB, SFT- FRM, TR PYR, TR STN.</p>	<p>80% CHK- LT GY- GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, TR PYR, 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR PYR, TR STN.</p> <p>7090 MD 89.3 INC 2.0 AZM 6302.30 TVD 607.98 VS</p>	<p>80% CHK- LT GY- GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, TR PYR, 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR PYR, TR STN.</p>	<p>80% CHK- LT GY- GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, TR PYR, 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR PYR, TR STN.</p> <p>7185 MD 90.1 INC 2.0 AZM 6302.74 TVD 700.55 VS</p>	<p>6270 TVD Sub Sea (-1703) 80% CHK- LT GY- GY- LT BRN, BLKY, TR PYR, 20% MRLST- DK GY, MOTL, B CALC-LMY, CARB, SFT- FRM, TR STN.</p> <p>6295 (-1728)</p> <p>6320 (-1753)</p>
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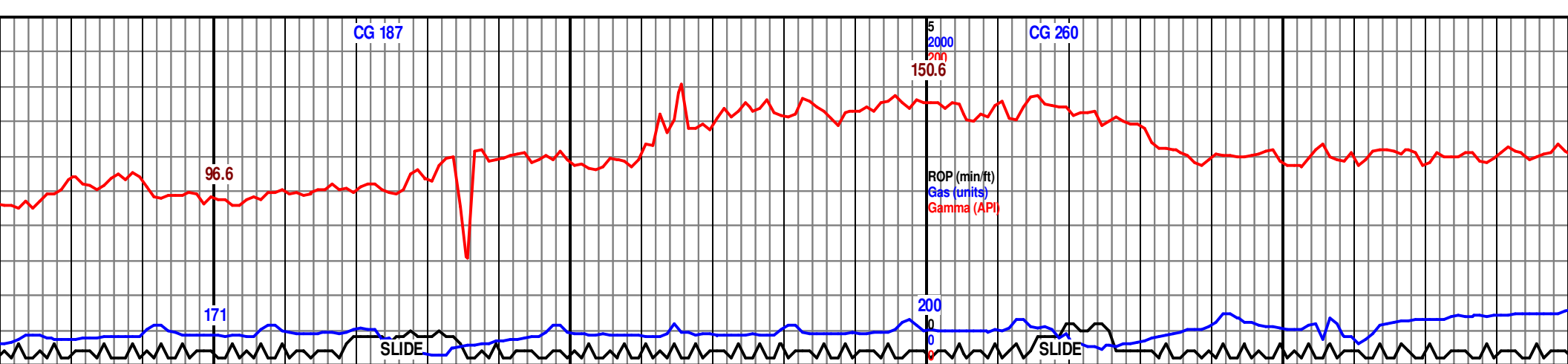




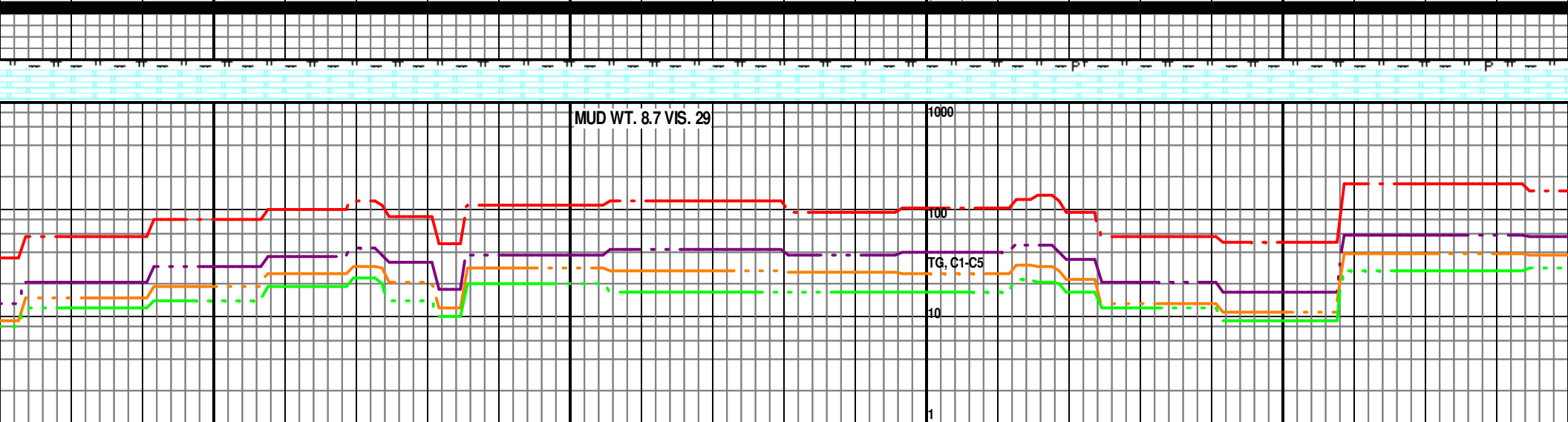


<p>80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, TR PYR 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.</p> <p>7471 MD 88.5 INC 0.5 AZM 6310.91 TVD 979.87 VS</p>	<p>80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, TR PYR 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.</p> <p>7567 MD 91.6 INC 0.9 AZM 6310.91 TVD 1073.87 VS</p>	<p>80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.</p> <p>6270 TVD Sub Sea (-1703)</p> <p>6295 (-1728)</p> <p>6320 (-1753)</p>	<p>80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.</p> <p>7663 MD 91.2 INC 0.1 AZM 6308.57 TVD 1167.91 VS</p>	<p>80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC, 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.</p>
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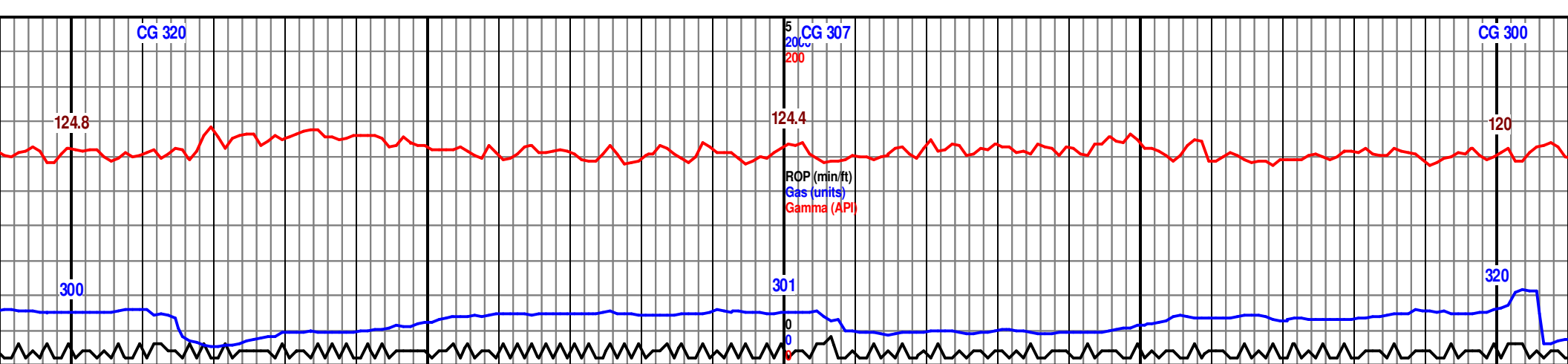




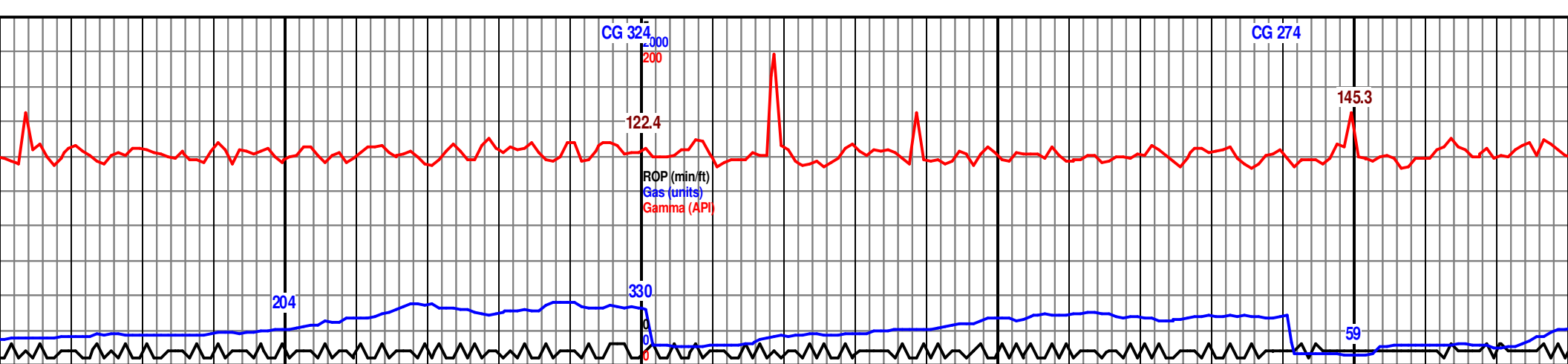
7700				7750				7800				7850			
BRN, BLKY, SBWXY, RTHY, V CALC. L, BLKY- PLTY, SBWXY, V FRM, TR STN.				80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.				80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.				6270 TVD Sub Sea (-1703) 80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR PYR, TR STN.			
				7758 MD 90.4 INC 0.6 AZM 6307.18 TVD 1261.03 VS				6295 (-1728)				7854 MD 89.1 INC 2.5 AZM 6307.57 TVD 1354.73 VS			
								6320 (-1753)				ON BUSTER NO FLARE			



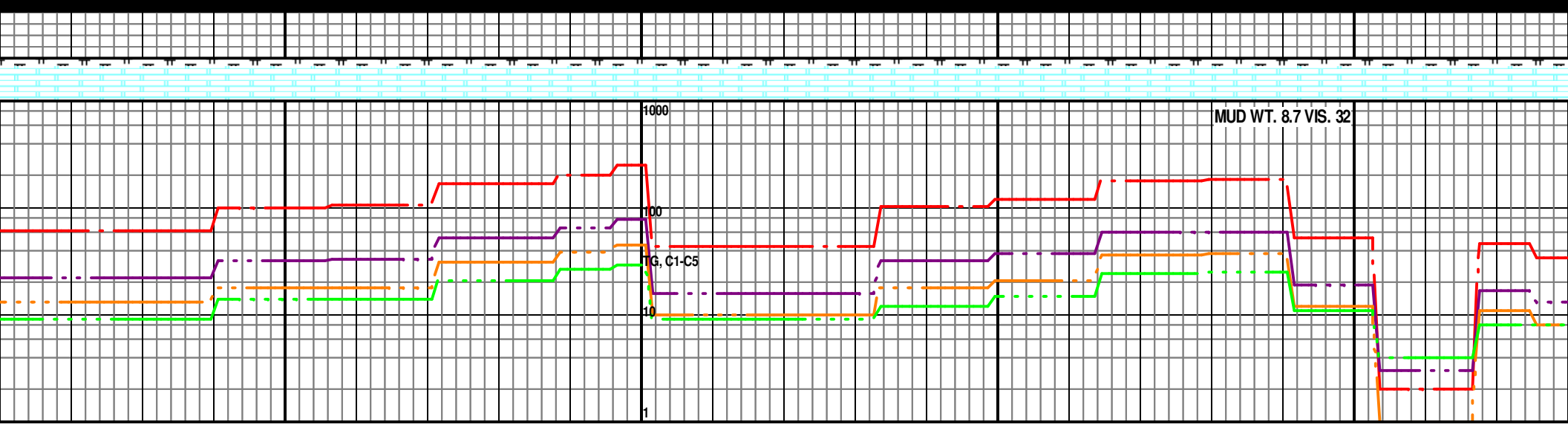


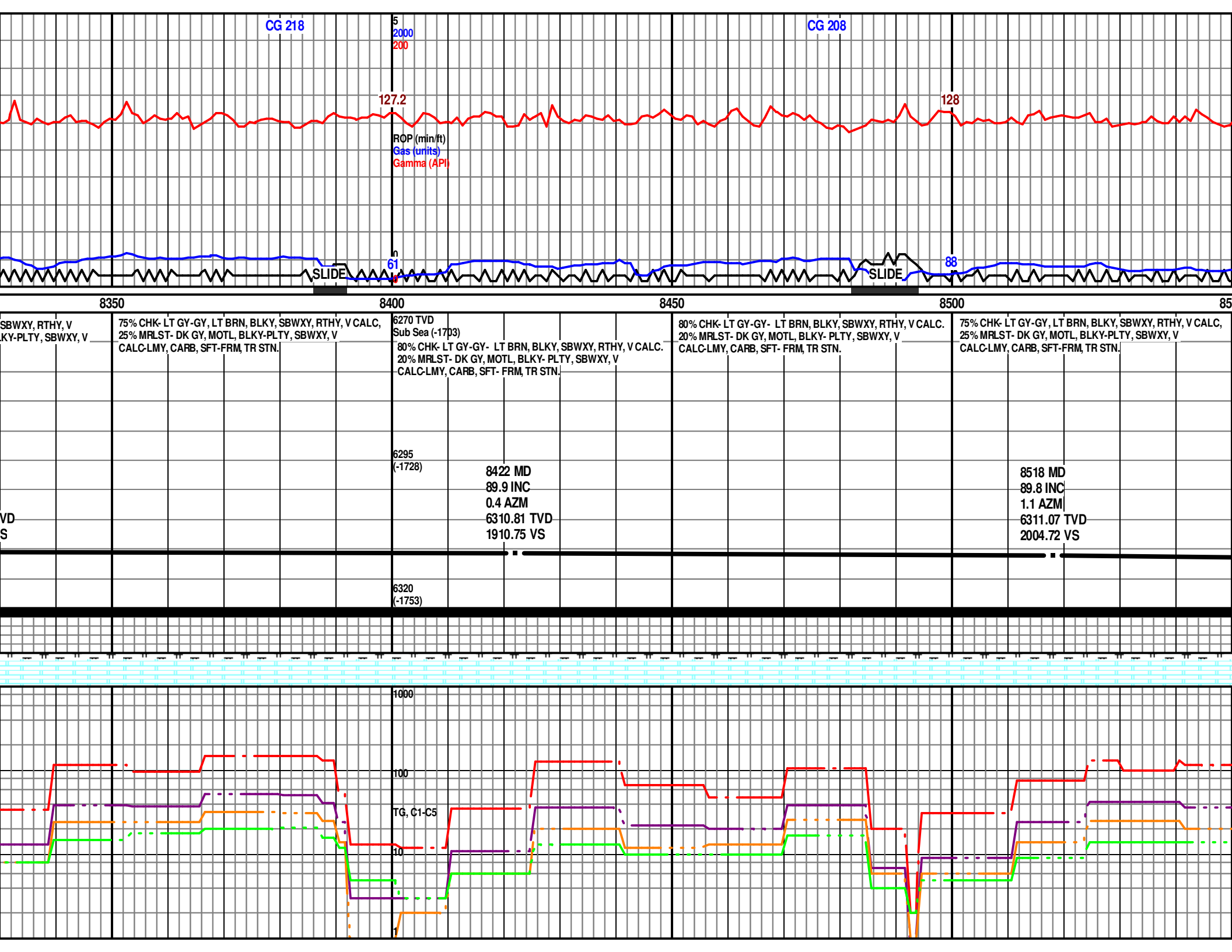


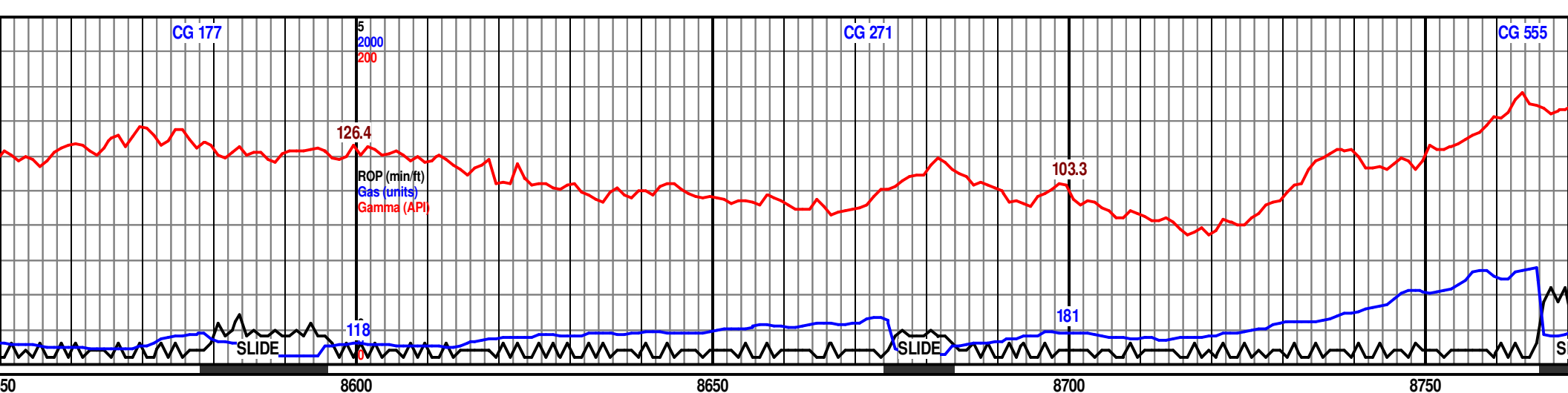
7900				7950				8000				8050				8100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Y, V CALC.				80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR PYR, TR STN.				80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR PYR, TR STN.				6270 TVD Sub Sea (-1703)  80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR PYR, TR STN.				80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.				80% CHK- LT GY-GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY,																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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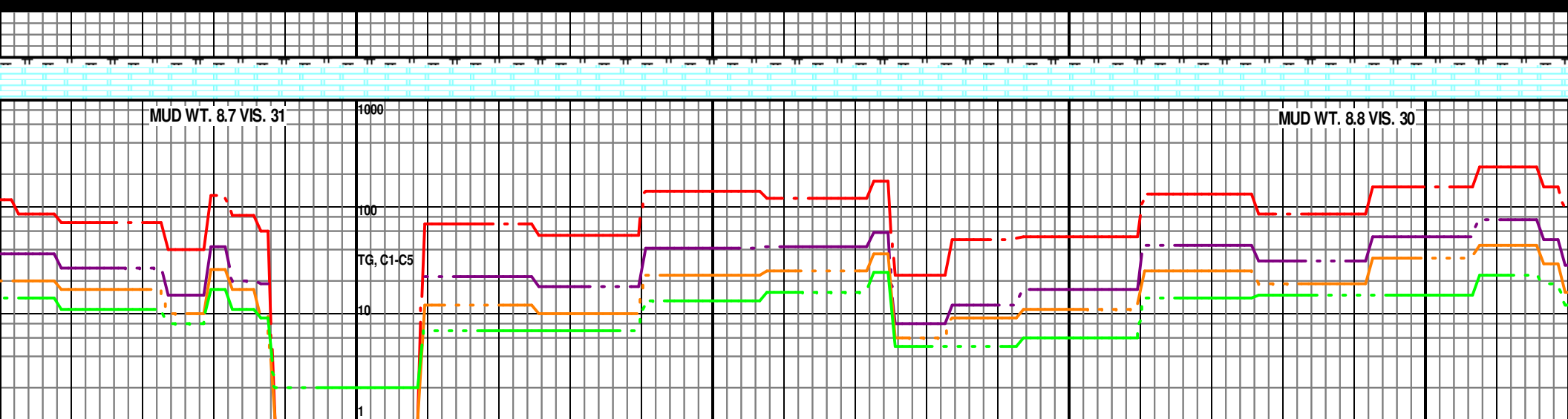
8150	8200	8250	8300
T GY- GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. - DK GY, MOTL, BLKY- PLTY, SBWXY, V CARB, SFT- FRM, TR STN.	80% CHK- LT GY- GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	6270 TVD Sub Sea (-1703) 80% CHK- LT GY- GY- LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	75% CHK- LT GY- GY, LT BRN, BLKY, SBWXY, RTHY, V CALC, 25% MRLST- DK GY, MOTL, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM, TR STN.
8138 MD 89.8 INC 359.9 AZM 6309.76 TVD 1632.36 VS	6295 (-1728)	8232 MD 89.8 INC 0.3 AZM 6310.14 TVD 1724.60 VS	ON BUSTER NO FLARE
	6320 (-1753)		8327 MD 89.8 INC 0.7 AZM 6310.53 T 1817.69 V

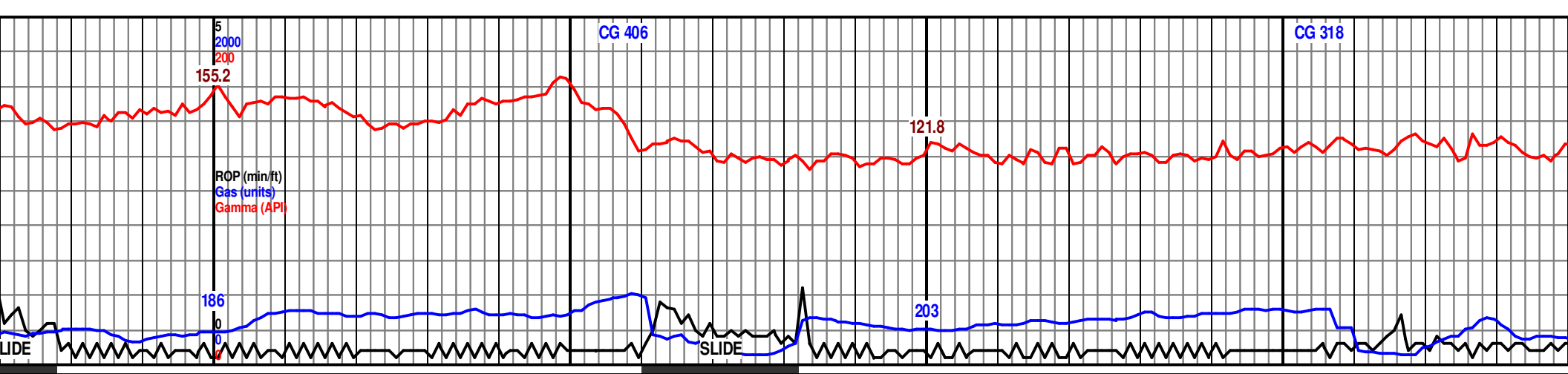






75% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC, 25% MRLST- DK GY, MOTL, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM, TR STN.	6270 TVD Sub Sea (-1703)  75% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC, 25% MRLST- DK GY, MOTL, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM, TR STN.	75% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC, 25% MRLST- DK GY, MOTL, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM, TR STN.	80% CHK- LT GY-GY, SM LT BRN, BLKY, SBWXY, RTHY, V CALC, 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	80% CHK- LT GY-GY, SM LT BRN, BLKY, SBWXY, RTHY, V CALC, 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.
	6295 (-1728)  8614 MD 89.0 INC 1.4 AZM 6312.11 TVD 2098.52 VS	ON BUSTER NO FLARE	8710 MD 88.0 INC 0.9 AZM 6314.68 TVD 2192.33 VS	
	6320 (-1753)			





LT BRN, BLKY, SBWXY, RTHY, V  
GY, MOTL, BLKY- PLTY, SBWXY, V  
FRM, TR STN.

6270 TVD  
Sub Sea (-1703)  
80% CHK- LT GY-GY, SM LT BRN, BLKY, SBWXY, RTHY, V  
CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V  
CALC-LMY, CARB, SFT- FRM, TR STN.

80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20%  
MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY,  
CARB, SFT- FRM, TR STN.

6290 TVD  
Sub Sea (-1723)  
80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20%  
MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY,  
CARB, SFT- FRM, TR STN.

80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20%  
MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY,  
CARB, SFT- FRM, TR STN.

6295  
(-1728)

8805 MD  
88.1 INC  
1.0 AZM  
6317.93 TVD  
2285.20 VS

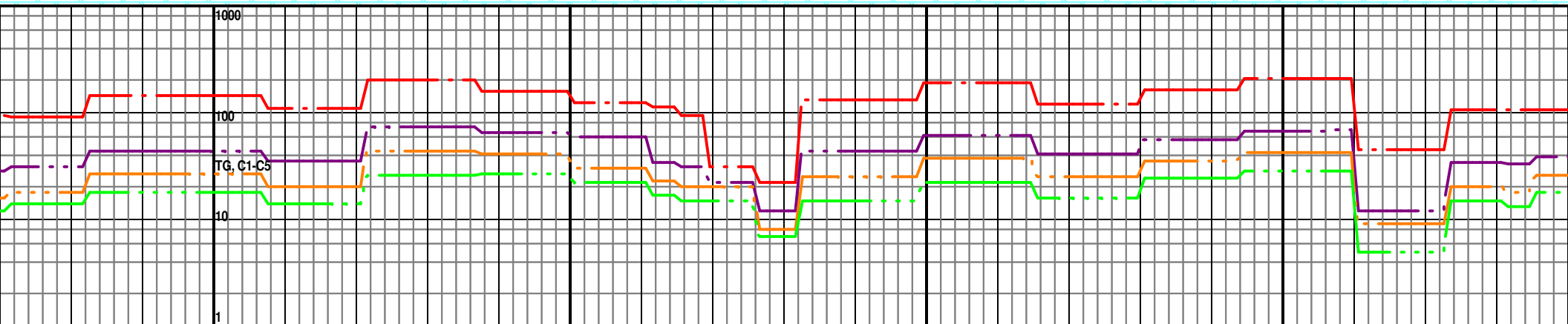
6320  
(-1733)

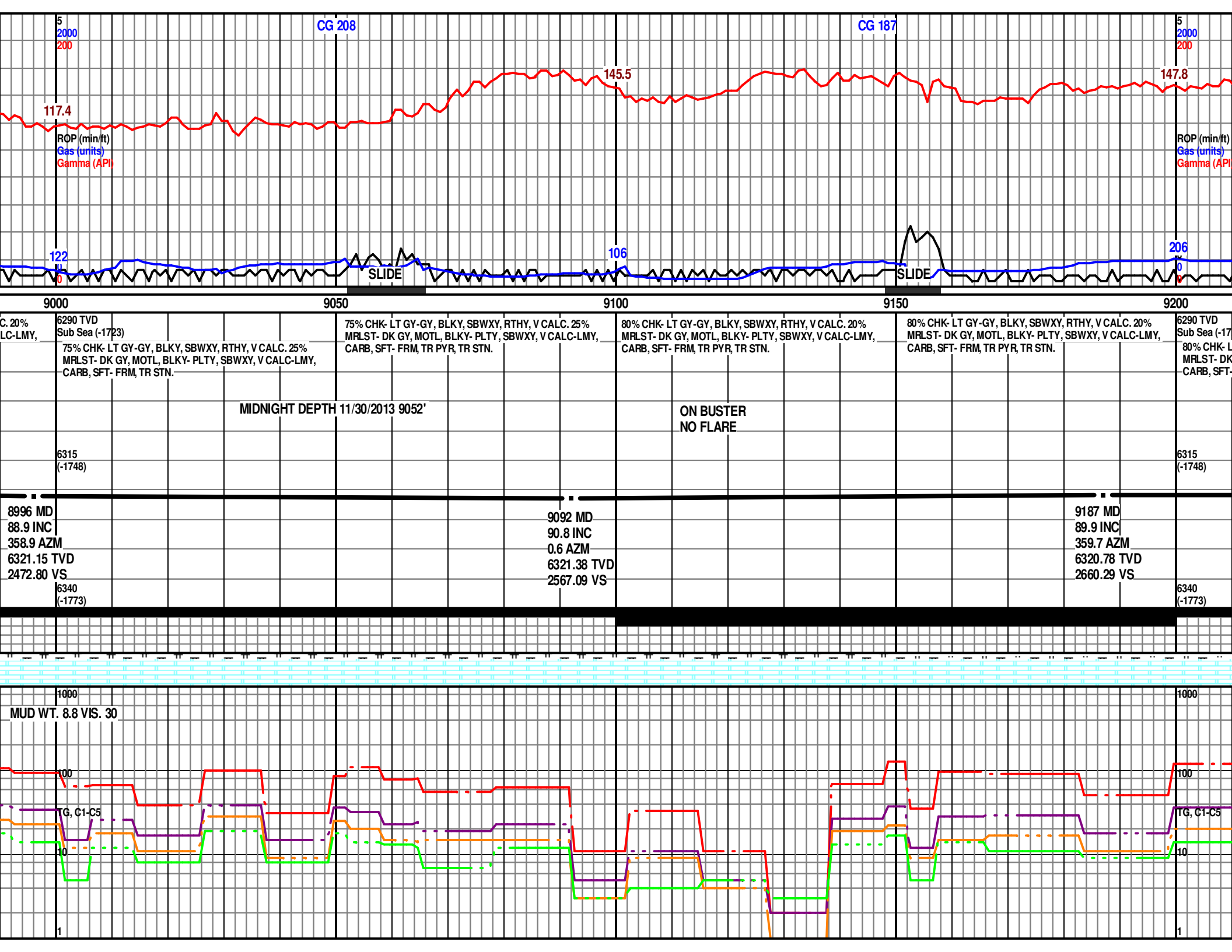
Scale Change

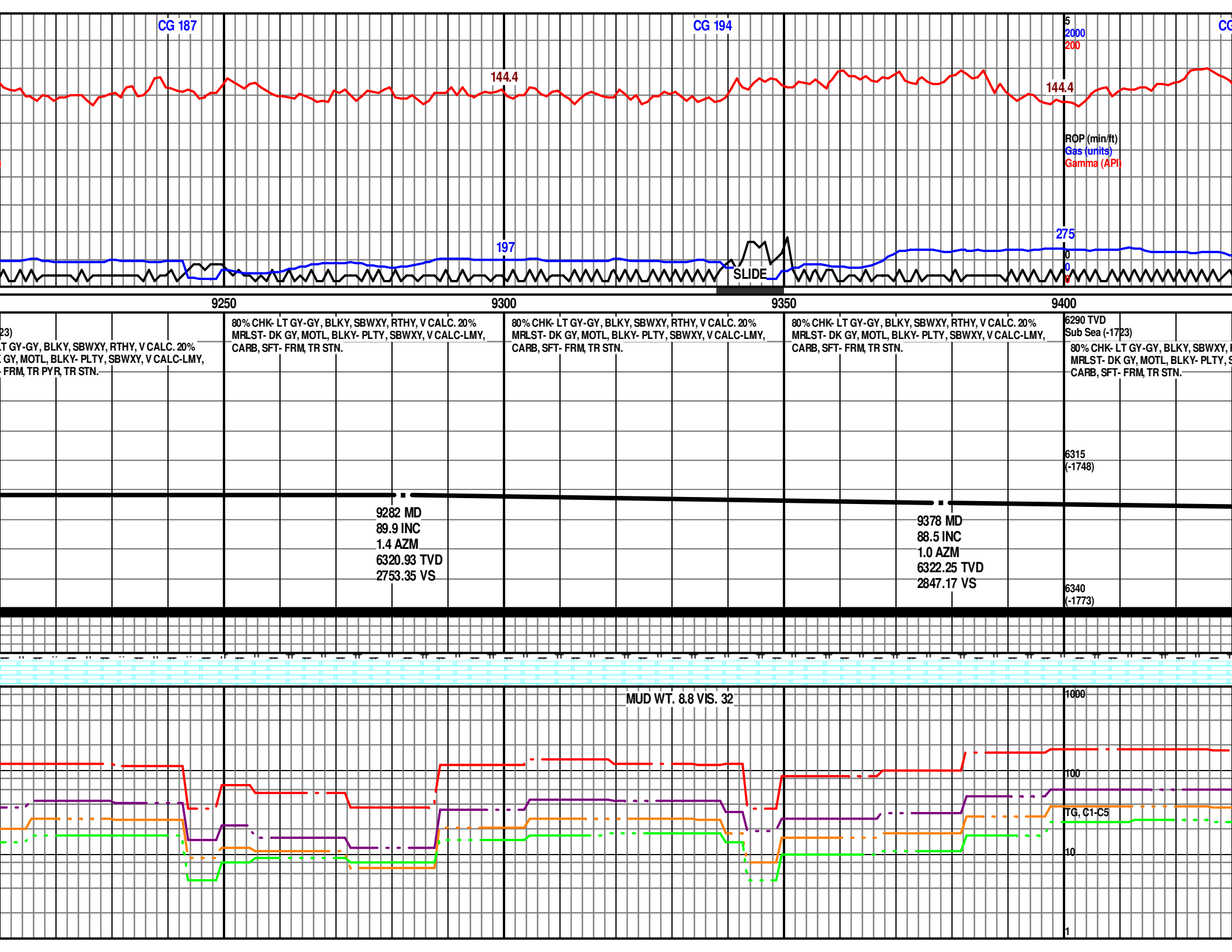
6315  
(-1748)

8901 MD  
89.6 INC  
359.5 AZM  
6319.86 TVD  
2379.32 VS

6340  
(-1773)







227

CG 252

5  
2000  
200

CG 252

147.1

ROP (min/ft)  
Gas (units)  
Gamma (API)

207

240

SLIDE

SLIDE

9450

9500

9550

9600

96

RTHY, V CALC. 20% SBWXY, V CALC-LMY,	80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	6290 TVD Sub Sea (-1723) 80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.  ON BUSTER NO FLARE  6315 (-1748)  6340 (-1773)
	9474 MD 90.3 INC 1.8 AZM 6323.30 TVD 2940.91 VS		9569 MD 89.1 INC 359.4 AZM 6323.87 TVD 3033.95 VS	

MUD WT. 8.9 VIS. 32

1000

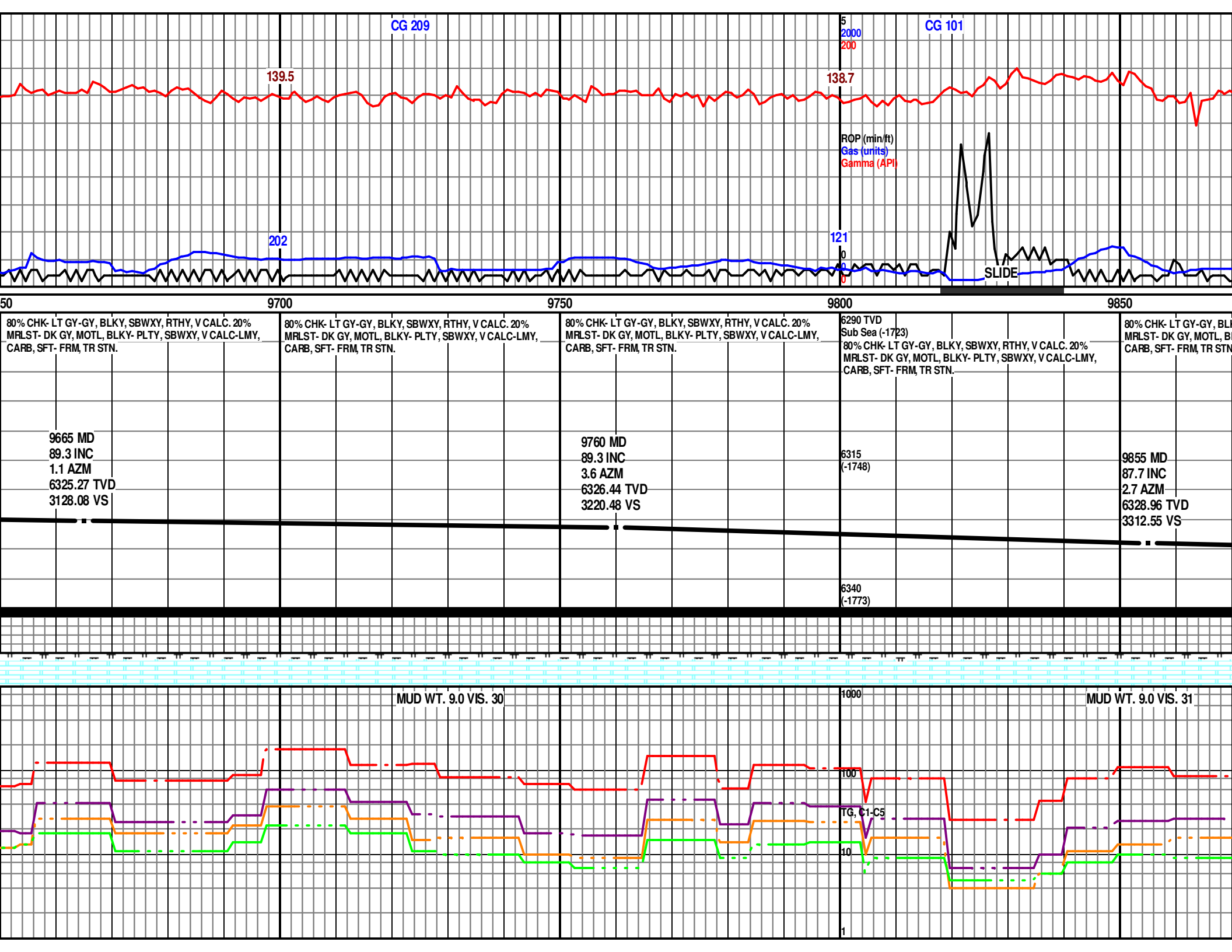
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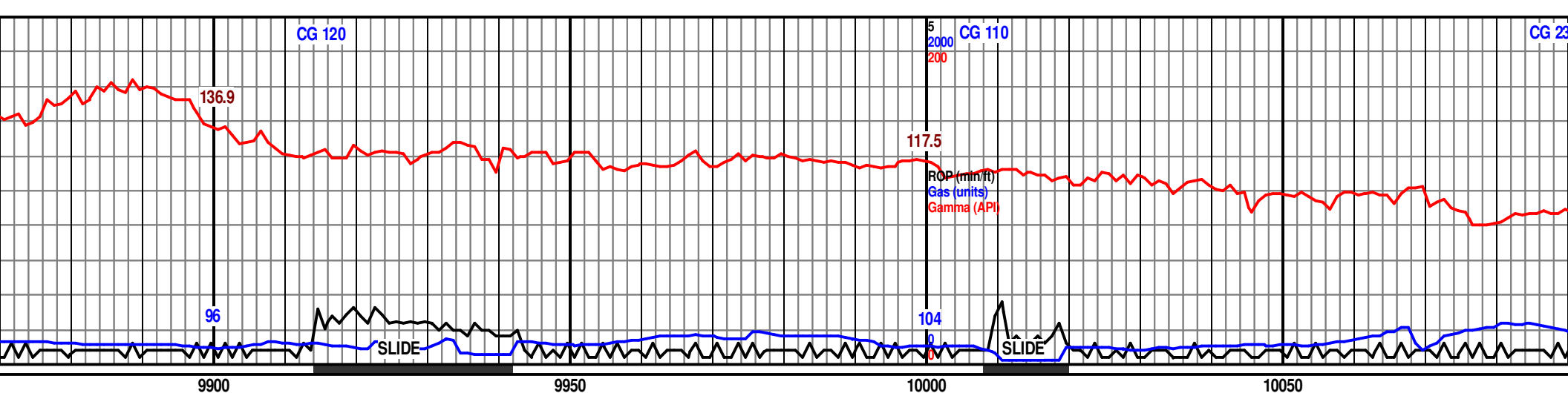
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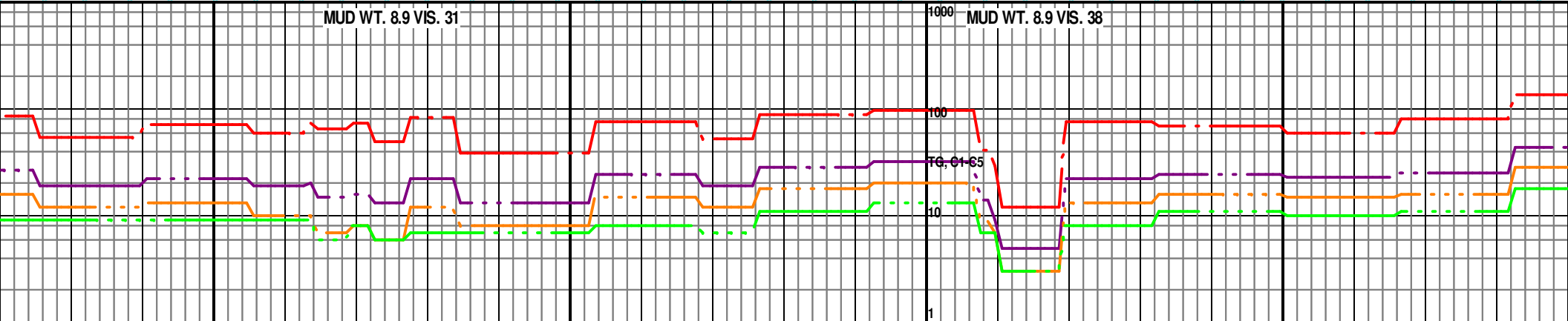
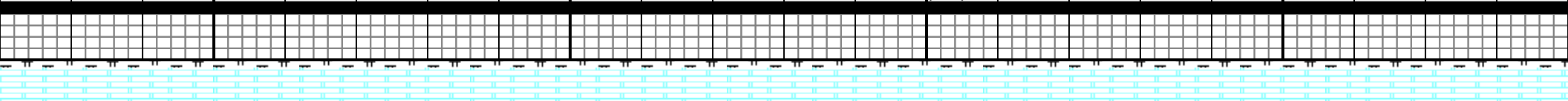
TG, C1-C5

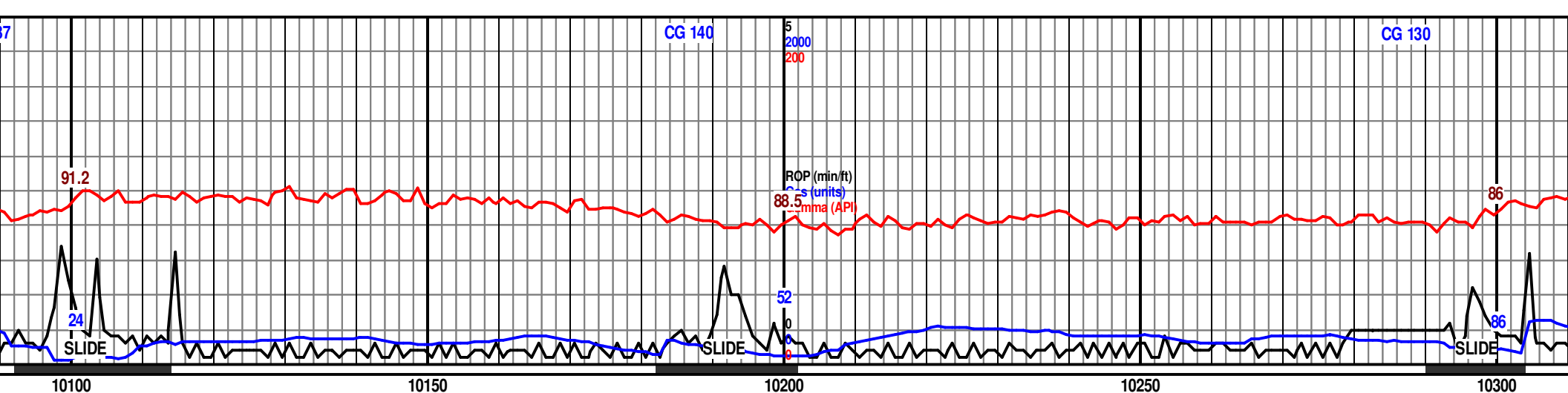




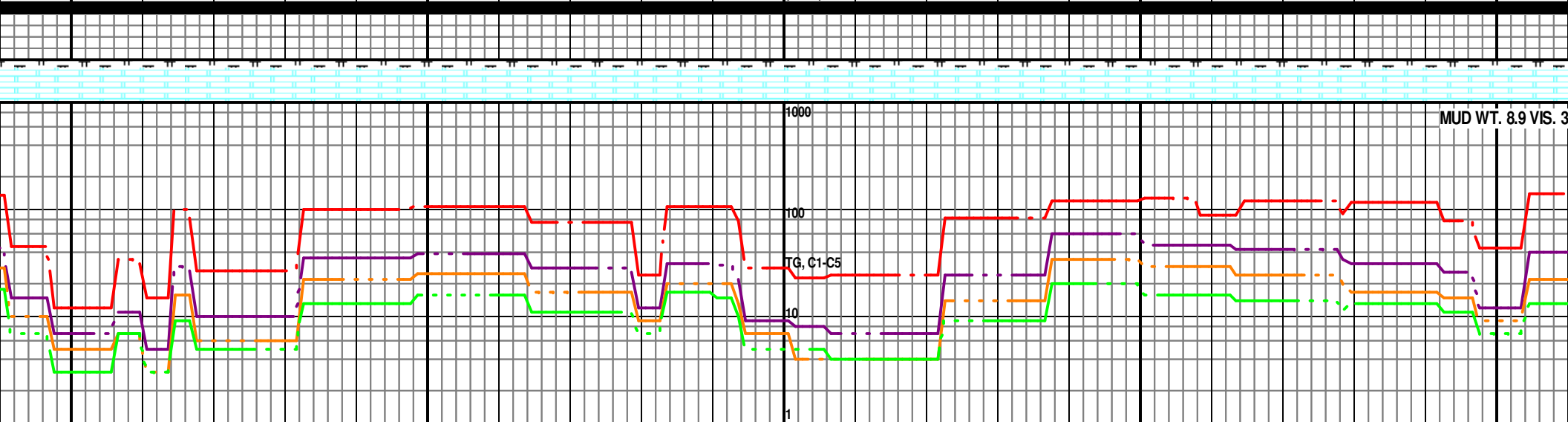


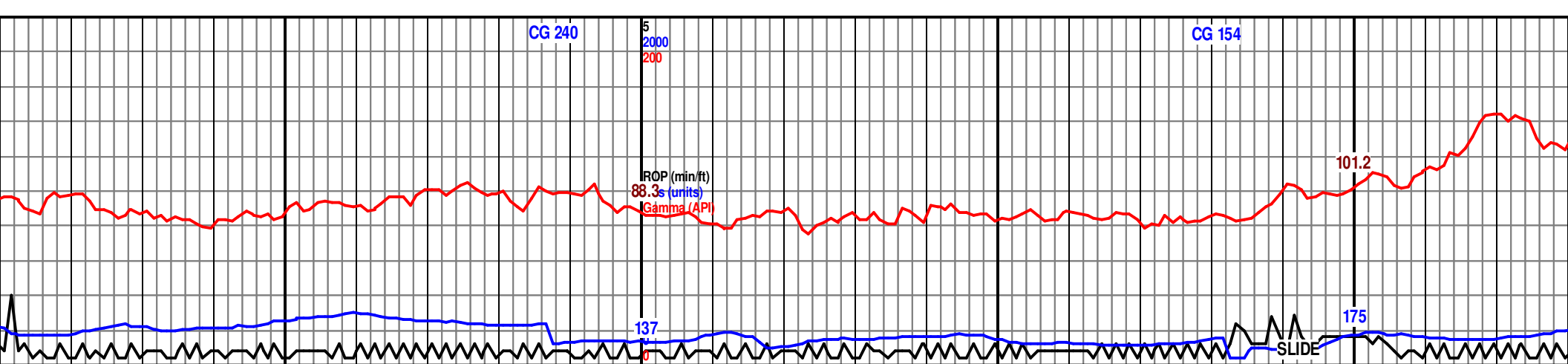
80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	80% CHK- LT GY-GY, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	6290 TVD Sub Sea (-1723) 80% CHK- LT GY-GY, SM LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.  TRIP FOR MWD TOOL AT 10009 Mud Motor is 1.25° Gamma 48.37' BEHIND BIT. SURVEY 51.75' BEHIND BIT.  6315 (-1748)	80% CHK- LT GY-GY, SM LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.
	9951 MD 89.7 INC 1.3 AZM 6331.18 TVD 3406.05 VS			10045 MD 89.0 INC 1.0 AZM 6332.30 TVD 3497.93 VS
			6340 (-1773)	





RTHY, V SBWXY, V	80% CHK- LT GY-GY, SM LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	80% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	6290 TVD Sub Sea (-1723)  80% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	80% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC. 20% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.	85% CHK- L 15% MRLST CALC-LMY,
MIDNIGHT DEPTH 12/1/2013 10200'					
	10141 MD 89.2 INC 359.2 AZM 6333.82 TVD 3592.11 VS		6315 (-1748)	10236 MD 89.4 INC 357.8 AZM 6334.98 TVD 3685.79 VS	
			6340 (-1773)		





10350				10400				10450				10500							
T GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC. F- DK GY, MOTL, BLKY- PLTY, SBWXY, V CARB, SFT- FRM, TR STN.				85% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC. 15% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.				6290 TVD Sub Sea (-1723) 85% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC. 15% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.				85% CHK- LT GY-GY, LT BRN, BLKY, SBWXY, RTHY, V CALC. 15% MRLST- DK GY, MOTL, BLKY- PLTY, SBWXY, V CALC-LMY, CARB, SFT- FRM, TR STN.				80% CHK- LT GY-GY, LT BRN, BLKY, CALC. 20% MRLST- DK GY, MOTL, BL CALC-LMY, CARB, SFT- FRM, TR STN.			
								ON BUSTER NO FLARE											
				6315 (-1748)															
10332 MD 90.2 INC 358.2 AZM 6335.31 TVD 3780.59 VS								10426 MD 89.0 INC 358.3 AZM 6335.97 TVD 3873.36 VS				10522 MD 91.6 INC 359.1 AZM 6335.45 TVD 3967.97 VS							
				6340 (-1773)															

