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[WWW.HZMUD.COM/25](http://WWW.HZMUD.COM/25)

### Customer Information

**Operator:** Noble Energy Inc  
1625 Broadway  
Suite 2200  
Denver, Colorado 80202

**Geologist:** Holly Duncan  
Noble Energy Inc.

### Mud Logging Details

**Logger:** Casey Sensecqua &  
Robert Gulliksen  
**Log Interval:** 6700' MD to 11002' MD  
**Start Date:** September 8, 2013  
**Release Date:** September 11, 2013

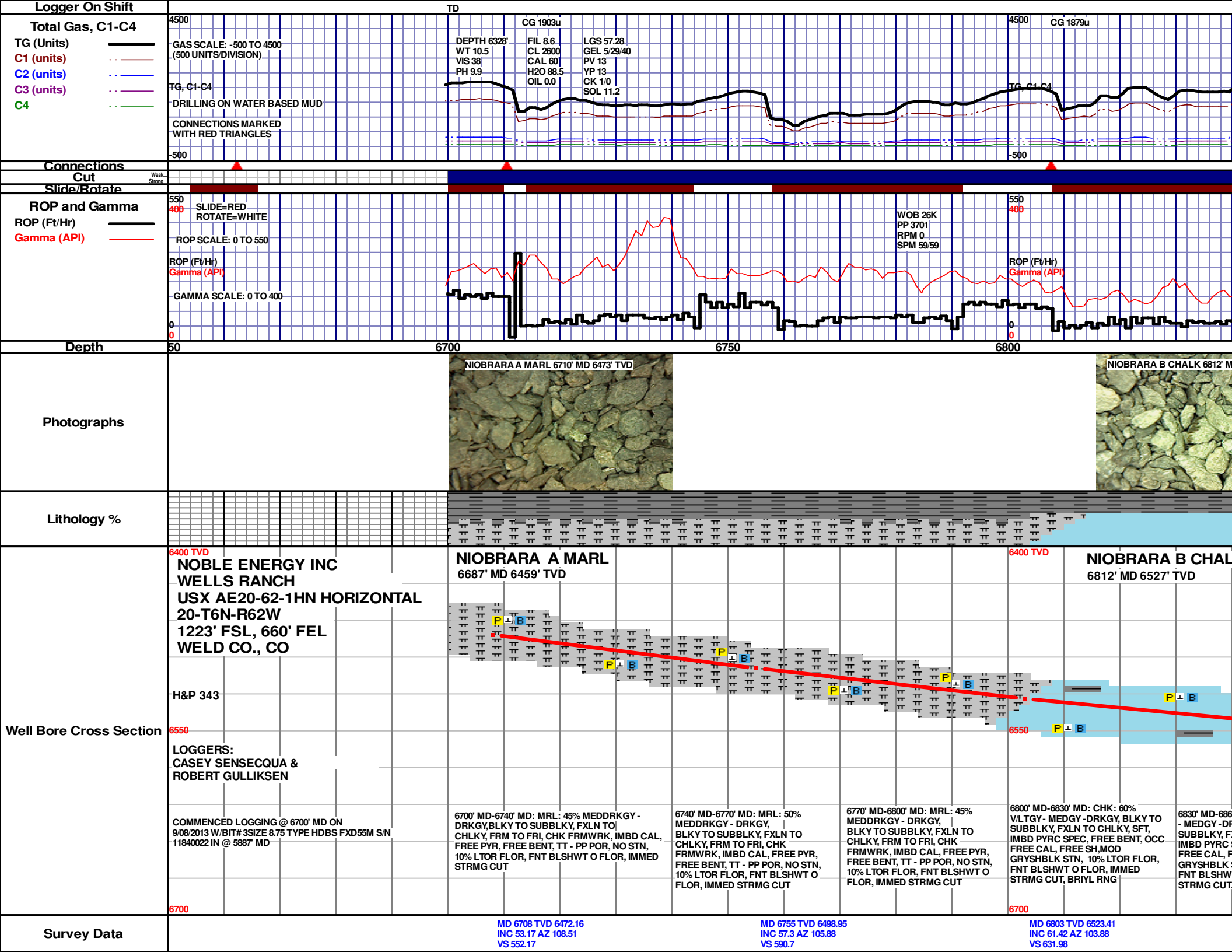
### Well Information

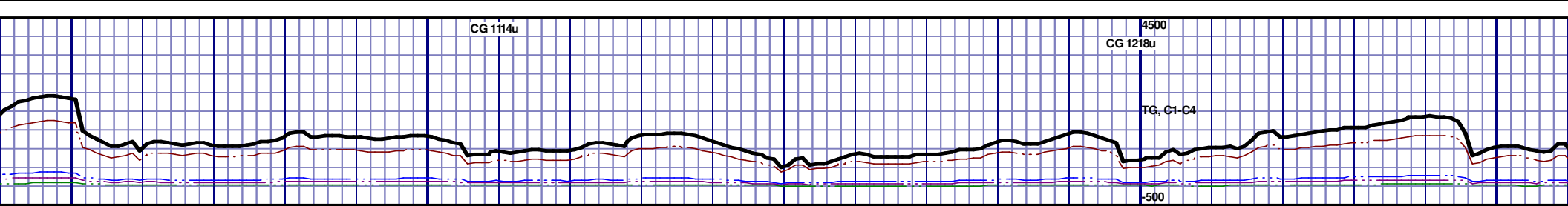
**Well Name:** Wells Ranch USX  
AE20-62-1HN Horizontal

**Location:** 20-T6N-R62W  
1223' FSL, 660' FEL

**County:** Weld  
**State:** Colorado

**Drilling Rig:** H&P 343  
**Total Depth:** 11002' MD  
**TD Date:** September 11, 2013  
**Formation:** Niobrara C Chalk  
**KB Elevation:** 4809'  
**GR Elevation:** 4785'  
**API Number:** 05-123-37209-0000





12:01 AM  
9/09/13  
DAY 03  
FT/24HRS 1185

WOB  
PP 36  
RPM  
SPM

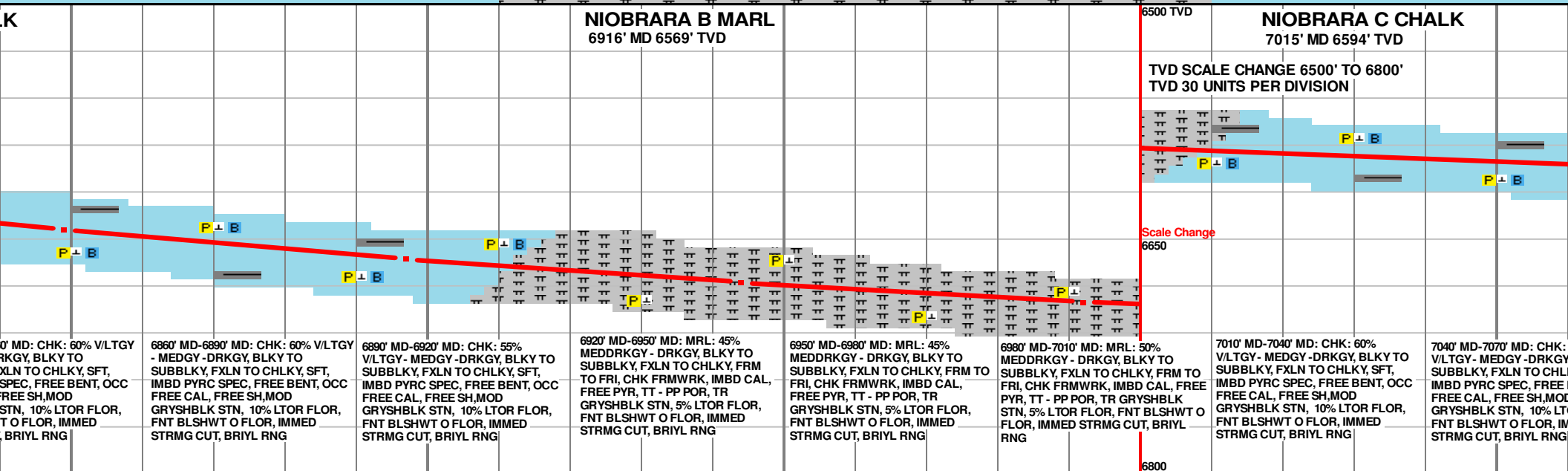
ID 6527' TVD



NIOBARRA B MARL 6916' MD 6569' TVD



NIOBARRA C CHALK 7015' MD 6594' TVD

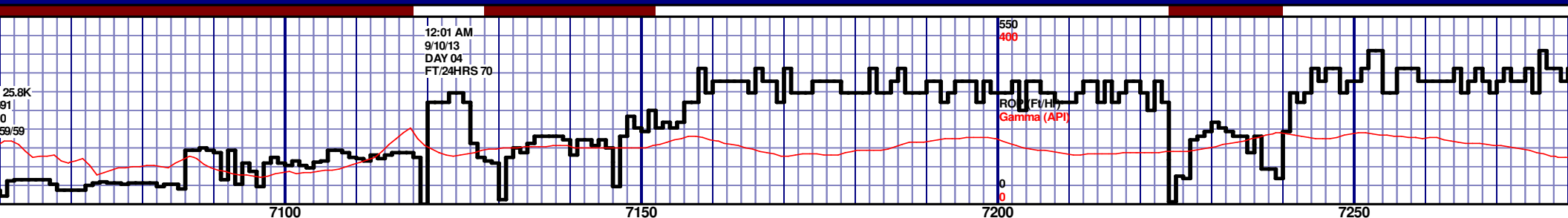


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INC 65.65 AZ 101.34  
VS 673.13

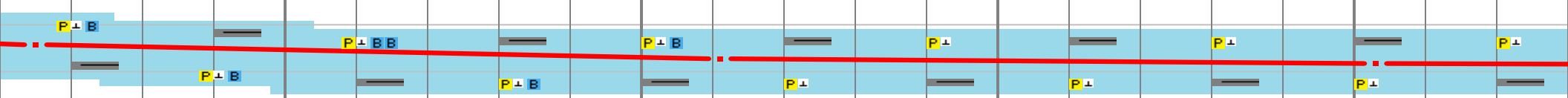
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INC 68.67 AZ 99.79  
VS 717.29

MD 6944 TVD 6578.12  
INC 72.54 AZ 97.74  
VS 761.45

MD 6992 TVD 6590.41  
INC 77.79 AZ 95.48  
VS 807.46



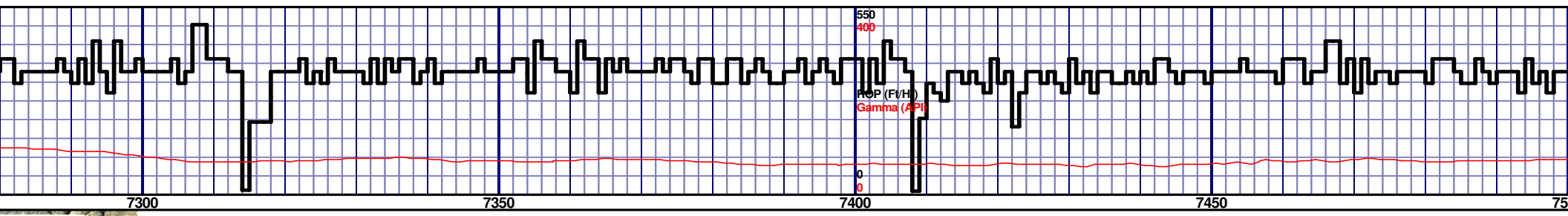
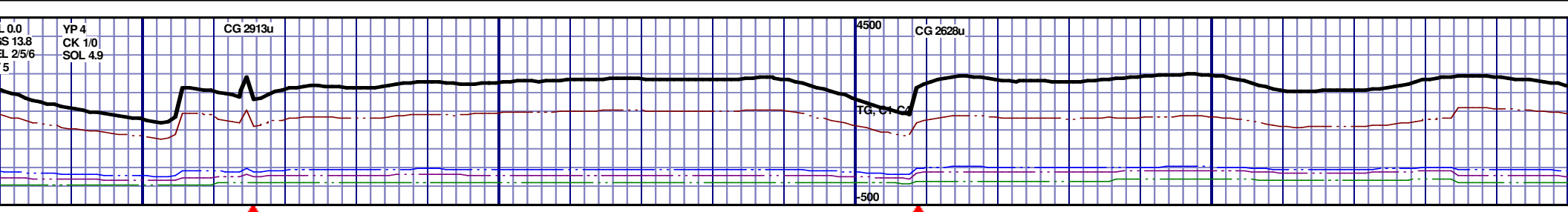
6500 TVD



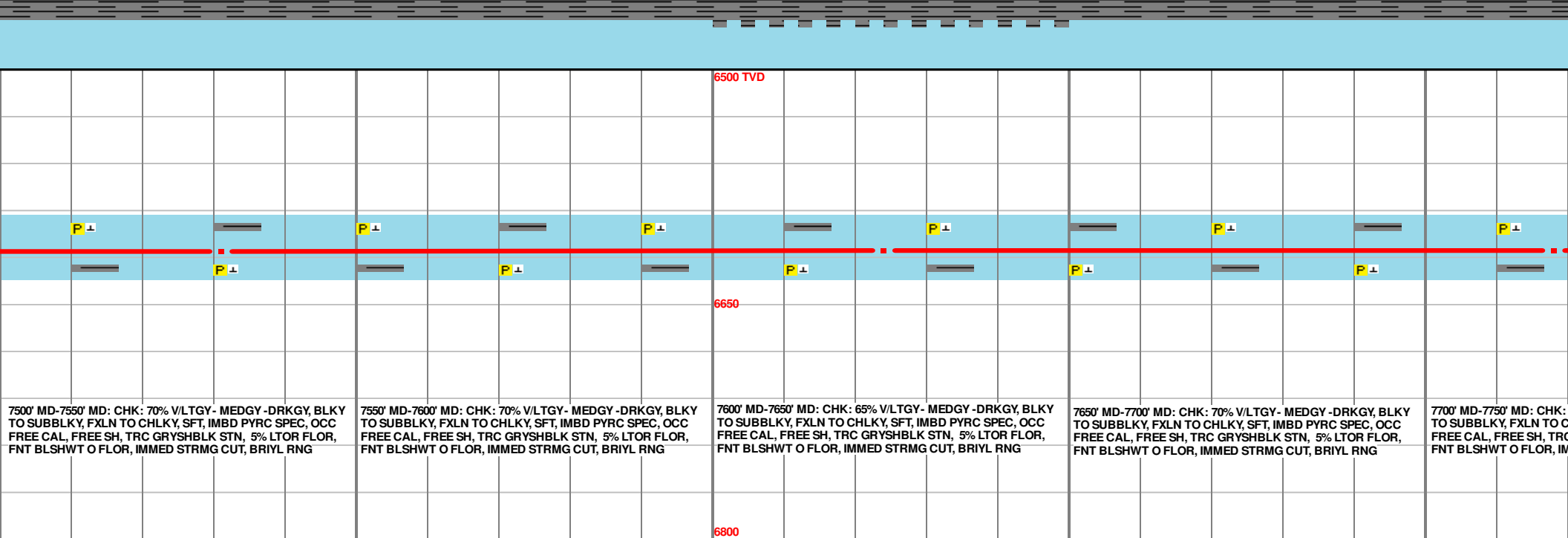
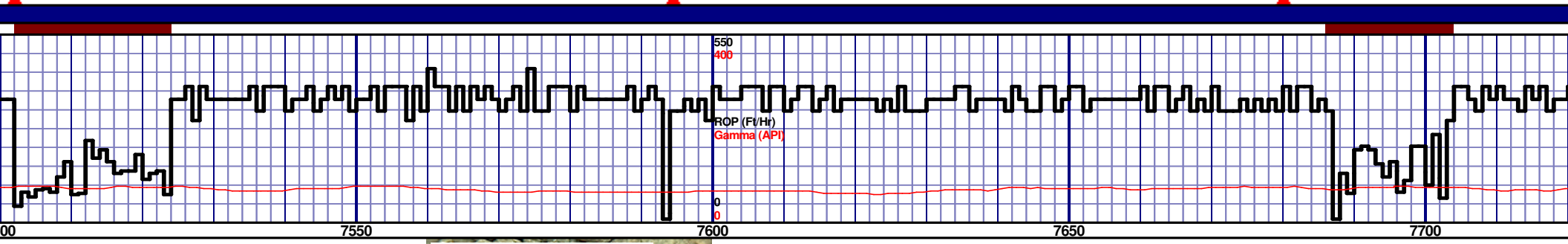
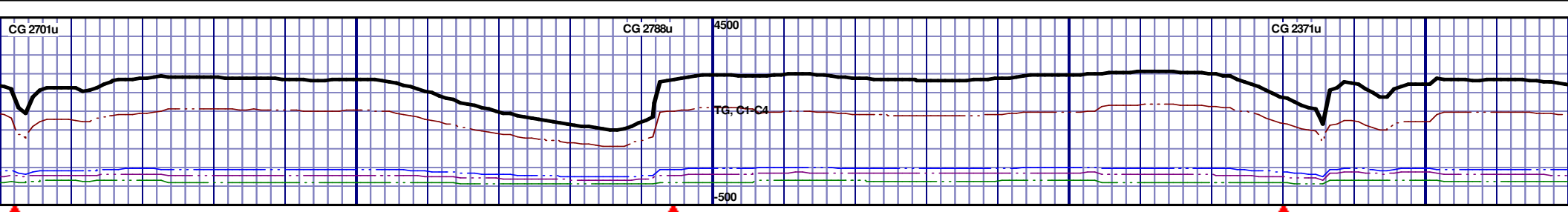
6650

7250' MD-7300' MD: CHK: 60% V/LTGY  
TO SUBBLKY, FXLN TO CHLKY, SFT, I  
FREE CAL, FREE SH, TRC GRYSHBLK  
FNT BLSHWT O FLOR, IMMED STRMO

MD 7253 TVD 6615.11  
INC 88.92 AZ 89.92  
VS 1059.47

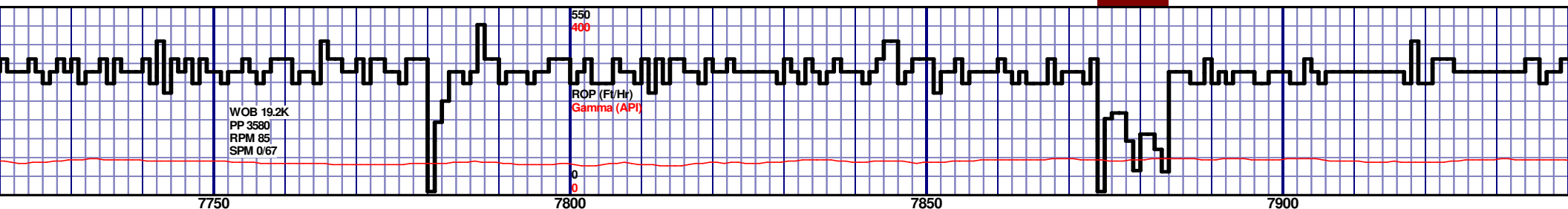
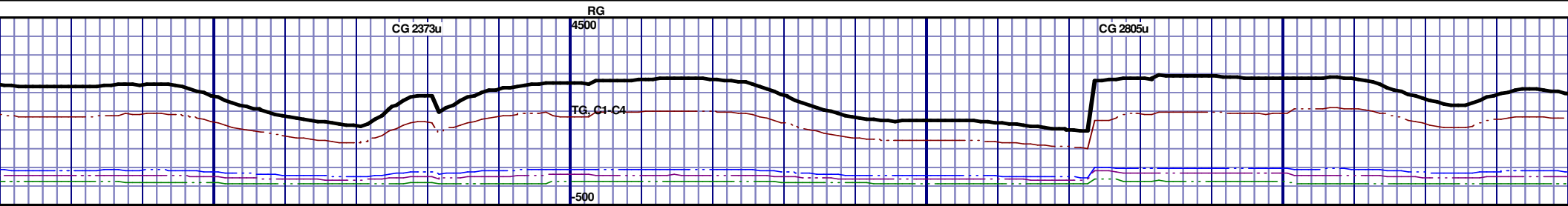


					6500 TVD									
					6650									



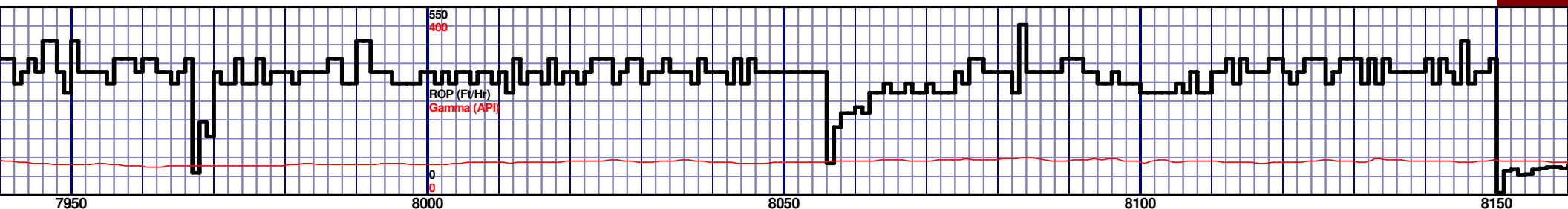
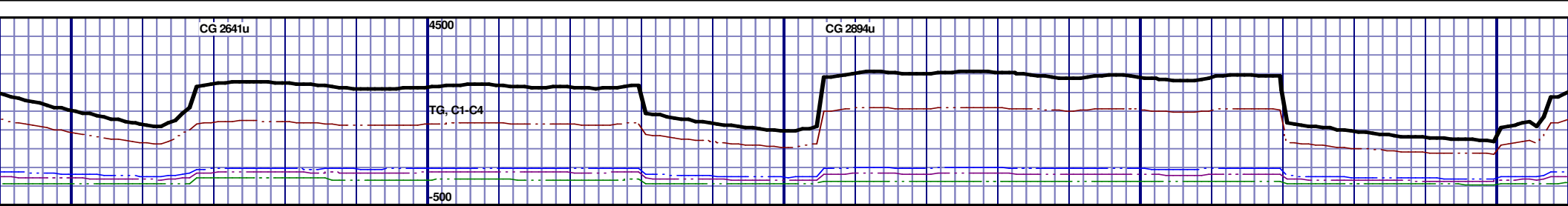
MD 7531 TVD 6615.94  
INC 89.44 AZ 88.4  
VS 1329.74

MD 7624 TVD 6615.56  
INC 91.02 AZ 89.29  
VS 1419.57



					6500 TVD									
					6650									
					6800									
7750' MD-7800' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					7800' MD-7850' MD: CHK: 65% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, TRC IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					7850' MD-7900' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
7900' MD-7950' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG														



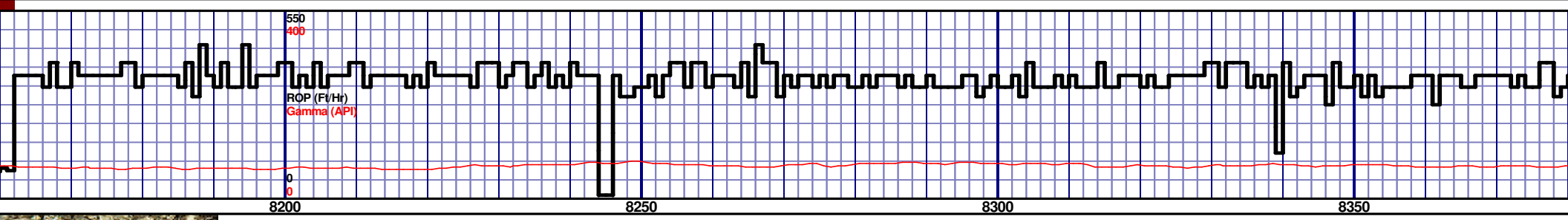
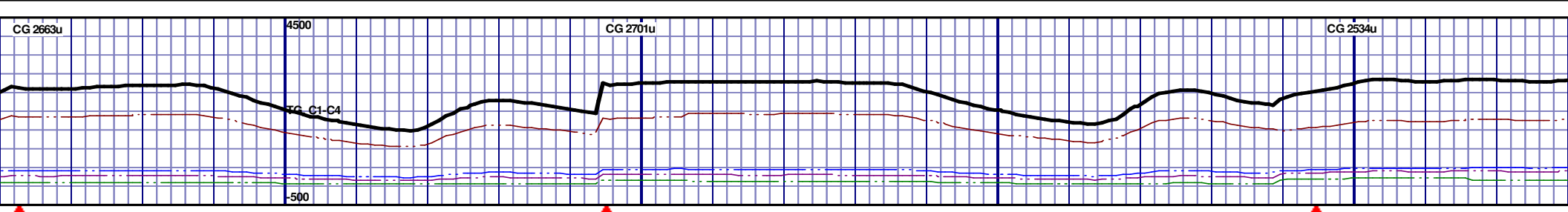


<p>KG, BLKY EC, OCC OR FLOR, RNG</p>	<p>7950' MD-8000' MD: CHK: 55% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8000' MD-8050' MD: CHK: 55% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8050' MD-8100' MD: CHK: 75% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8100' MD-8150' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8150' MD-8200' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>

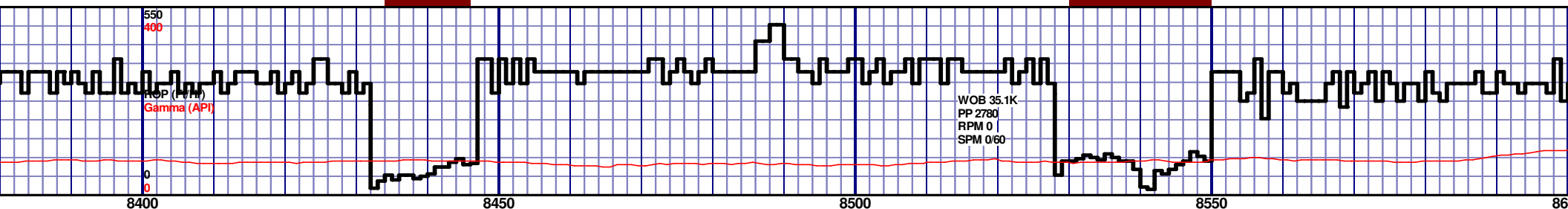
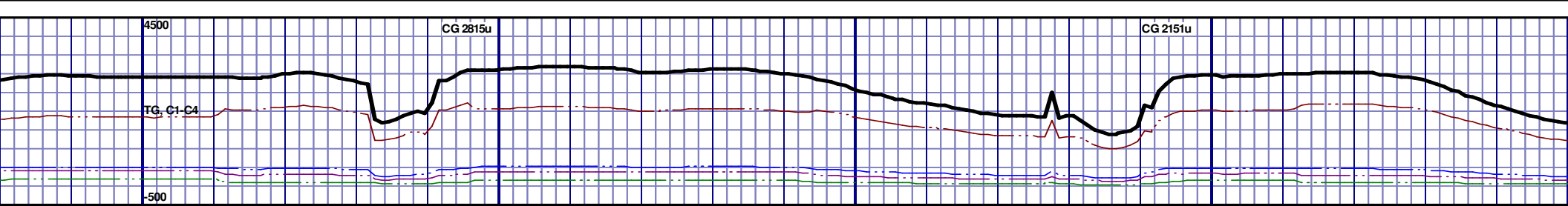
MD 7993 TVD 6613.95  
INC 90.62 AZ 87  
VS 1772.7

MD 8086 TVD 6613.17  
INC 90.34 AZ 85.79  
VS 1861.42

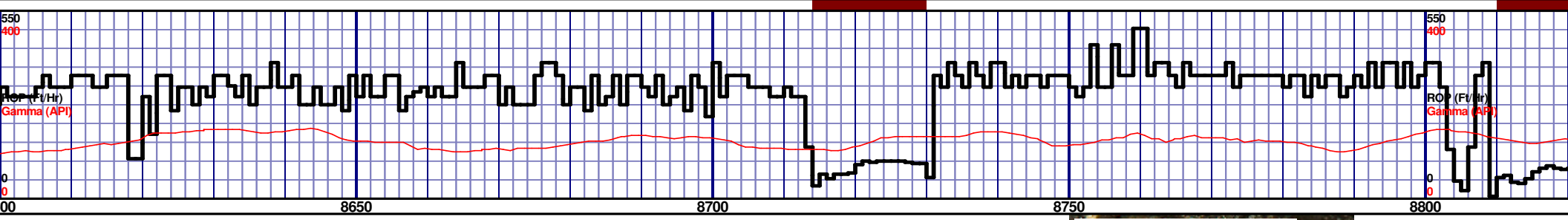
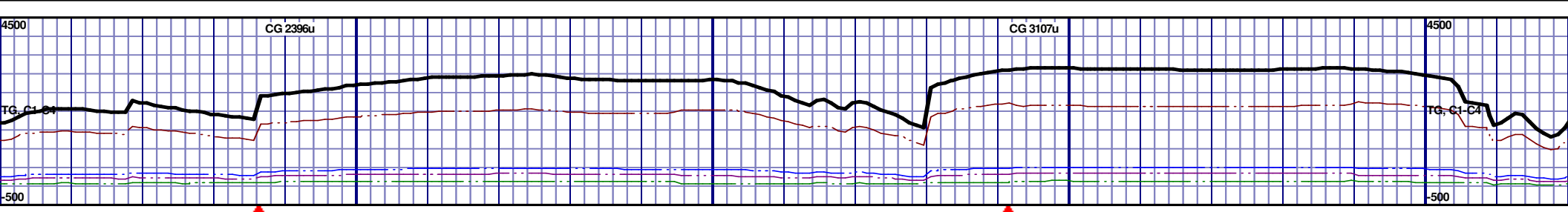




6500 TVD											
<div><div></div><div>P ⊥</div><div></div><div>P ⊥</div><div></div><div>P ⊥</div><div></div><div>P ⊥</div><div></div><div>P ⊥</div><div></div><div>P ⊥</div></div>											
6650											
6800											
<div>00' MD: CHK: 75% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE SH, TRC GRYSHBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div> <div>8200' MD-8250' MD: CHK: 80% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSHBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div> <div>8250' MD-8300' MD: CHK: 75% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSHBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div> <div>8300' MD-8350' MD: CHK: 75% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSHBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div> <div>8350' MD-8400' MD: CHK: 70% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSHBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div>											



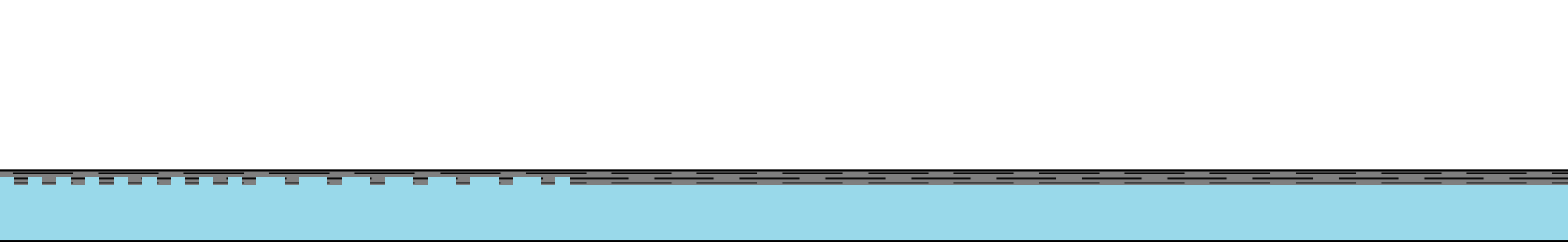
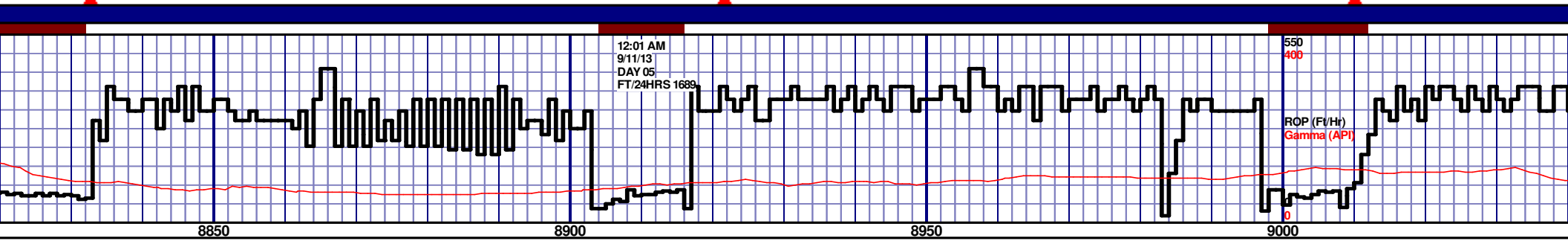
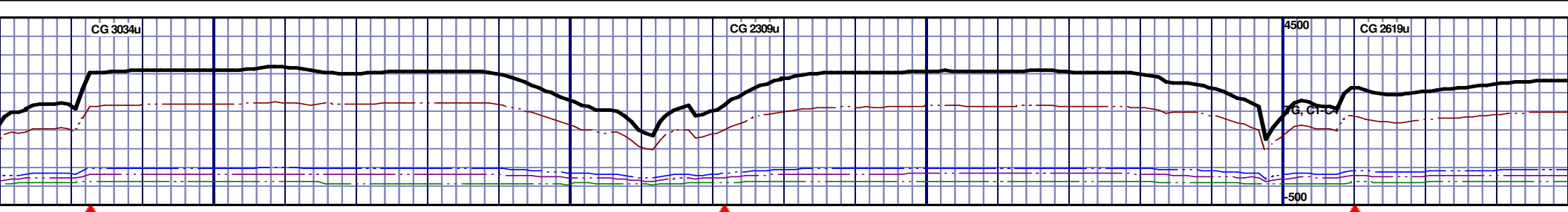
	6500 TVD			
MEDGY - DRKGY, BLKY IMBD PYRC SPEC, OCC STN, 5% LTOR FLOR, CUT, BRIYL RNG	8400' MD-8450' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8450' MD-8500' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8500' MD-8550' MD: CHK: 75% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8550' MD-8600' MD: CHK: 80% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG



6500 TVD					6500 TVD				
6650					6650				
8600' MD-8650' MD: CHK: 80% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					8700' MD-8750' MD: CHK: 75% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
8750' MD-8800' MD: CHK: 70% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					8800' MD-8850' MD: CHK: BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
6800					6800				

MD 8650 TVD 6604.72  
INC 93.27 AZ 89.21  
VS 2401.05

MD 8745 TVD 6599.28  
INC 93.3 AZ 89.02  
VS 2492.78



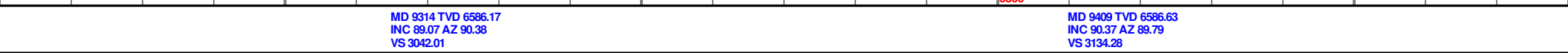
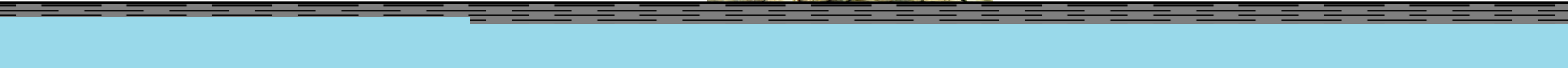
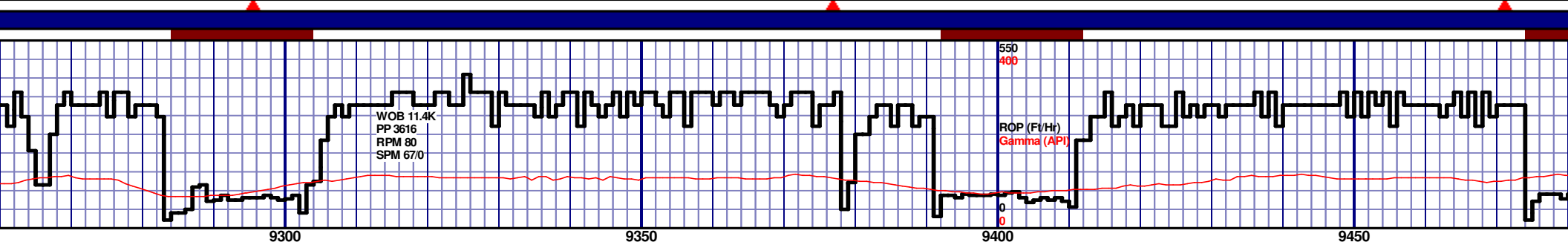
8850' MD-8900' MD: CHK: 88% WHT - VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				8900' MD-8950' MD: CHK: 80% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				8950' MD-9000' MD: CHK: 80% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				9000' MD-9050' MD: CHK: 80% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG			
8850' MD-8900' MD: CHK: 88% WHT - VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				8900' MD-8950' MD: CHK: 80% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				8950' MD-9000' MD: CHK: 80% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				9000' MD-9050' MD: CHK: 80% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG			

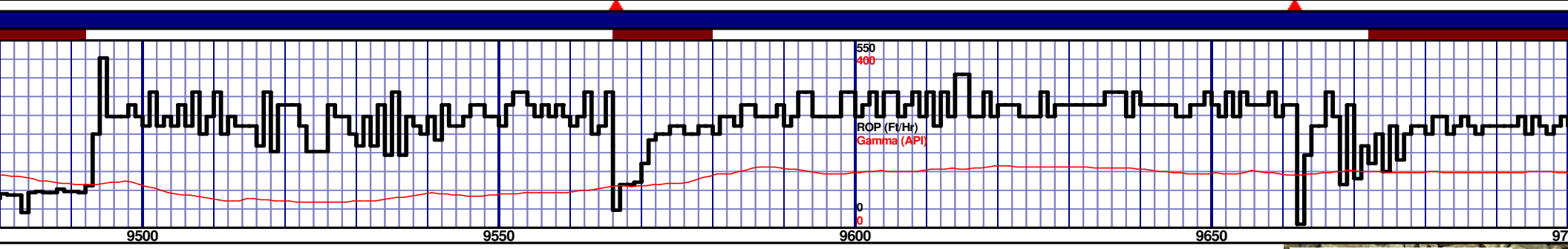
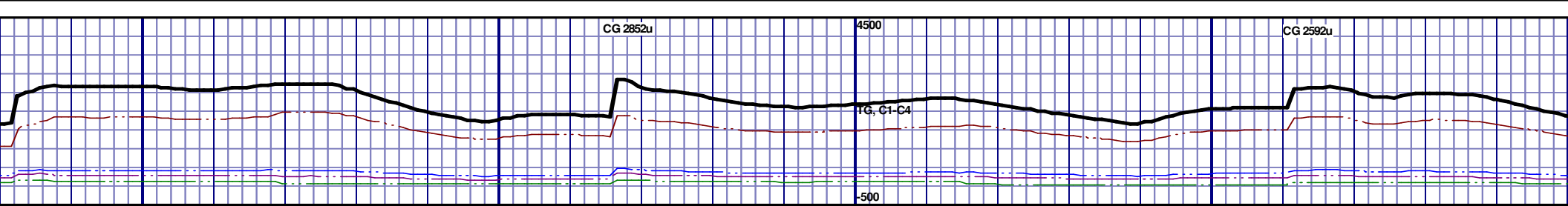
MD 8840 TVD 6594.75  
INC 92.16 AZ 89.32  
VS 2584.57

MD 8935 TVD 6592.23  
INC 90.89 AZ 88.22  
VS 2676.27

MD 9030 TVD  
INC 92.75 AZ  
VS 2767.81







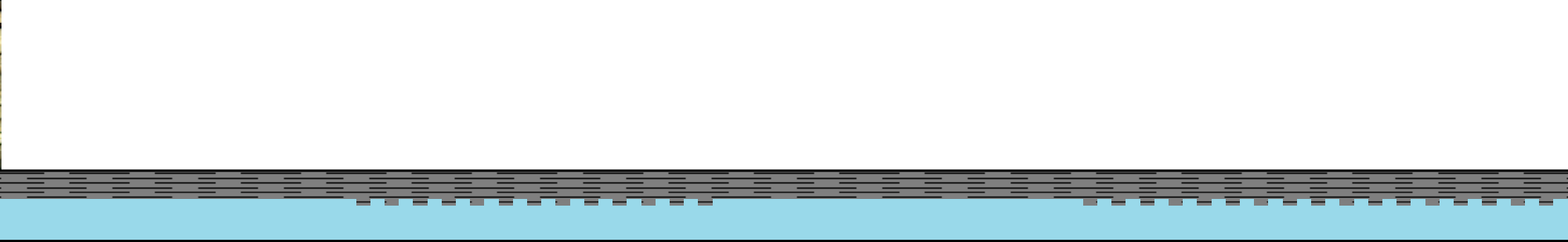
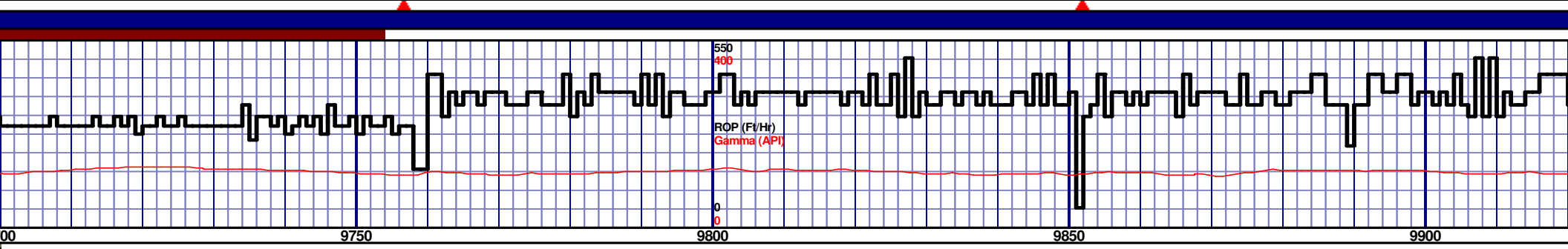
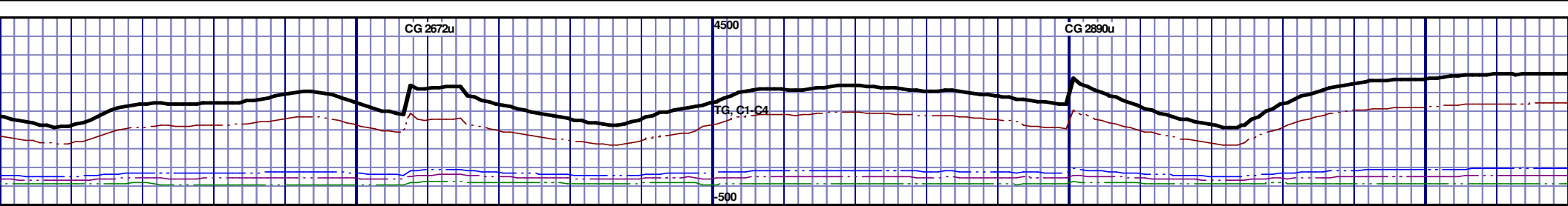
					6500 TVD				
					6650				
					6800				
MEDGY -DRKGY, BLKY IMBD PYRC SPEC, OCC STN, 5% LTOR FLOR, CUT, BRIYL RNG					9500' MD-9550' MD: CHK: 70% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO MICROXLN, BRITTLE, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
9550' MD-9600' MD: CHK: 70% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO MICROXLN, BRITTLE, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9600' MD-9650' MD: CHK: 60% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO MICROXLN, BRITTLE, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
					9650' MD-9700' MD: CHK: 65% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO MICROXLN, BRITTLE, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				

MD 9504 TVD 6587.15  
INC 89.01 AZ 89.89  
VS 3226.45

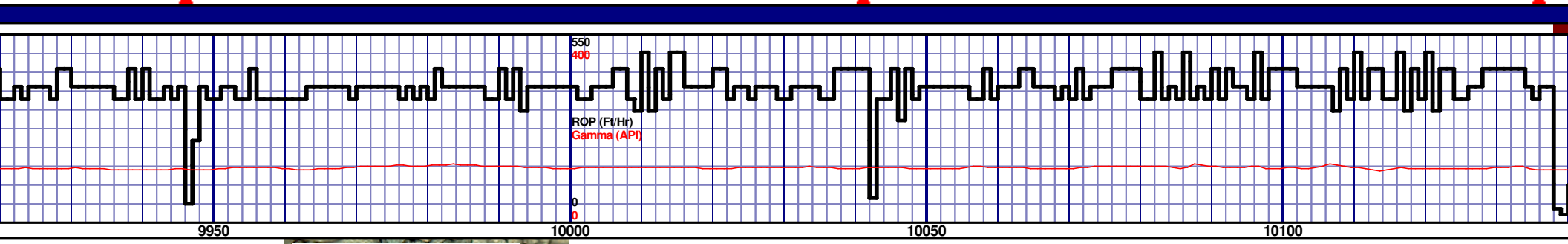
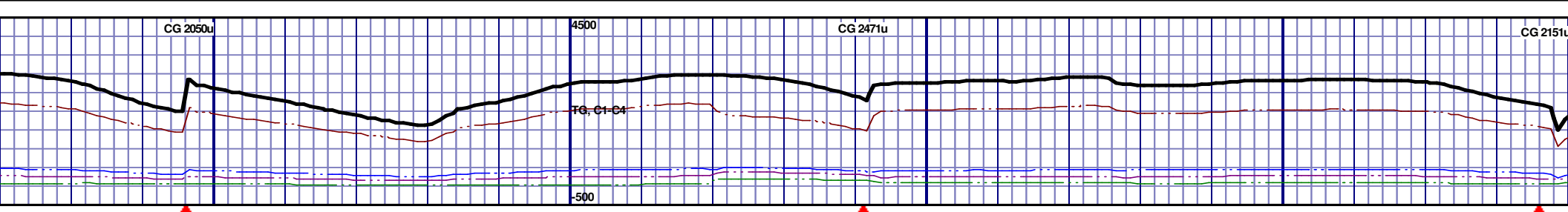
MD 9599 TVD 6588.35  
INC 89.54 AZ 88.8  
VS 3318.42

MD 965  
INC 89.  
VS 3410





9700' MD-9750' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9750' MD-9800' MD: CHK: 55% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9800' MD-9850' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9850' MD-9900' MD: CHK: 55% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9900' MD-9950' MD: CHK: 55% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
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6500 TVD									
6650									
6800									

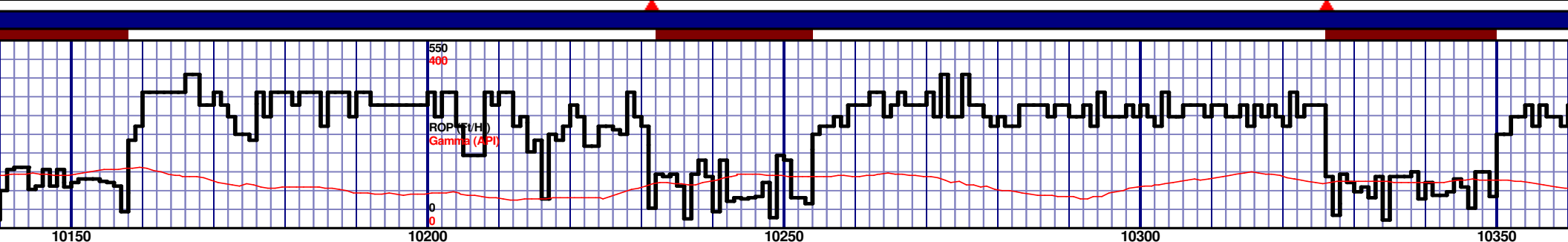
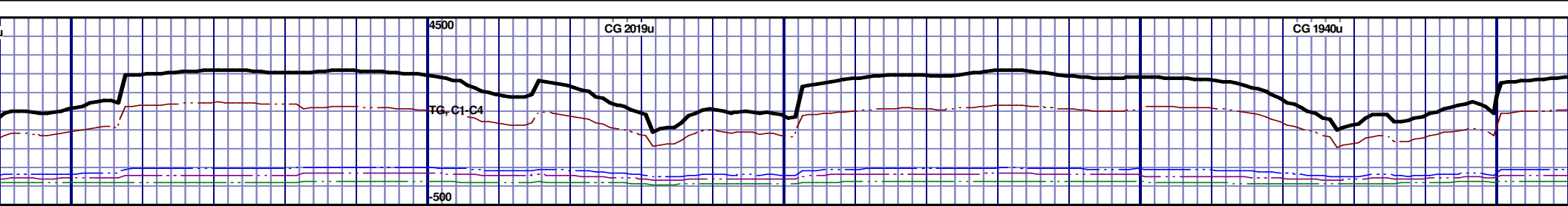
55% V/LTGY - MEDGY - DRKGY, BLKY  
CHLKY, SFT, IMBD PYRC SPEC, OCC  
C GRYSBLK STN, 5% LTOR FLOR,  
IMMED STRMG CUT, BRIYL RNG

9900' MD-10000' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY  
TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC  
FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR,  
FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

10000' MD-10050' MD: CHK: 50% V/LTGY - MEDGY - DRKGY,  
BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC,  
OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR  
FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL  
RNG

10050' MD-10100' MD: CHK: 50% V/LTGY - MEDGY - DRKGY, BLKY  
TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC  
FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR,  
FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

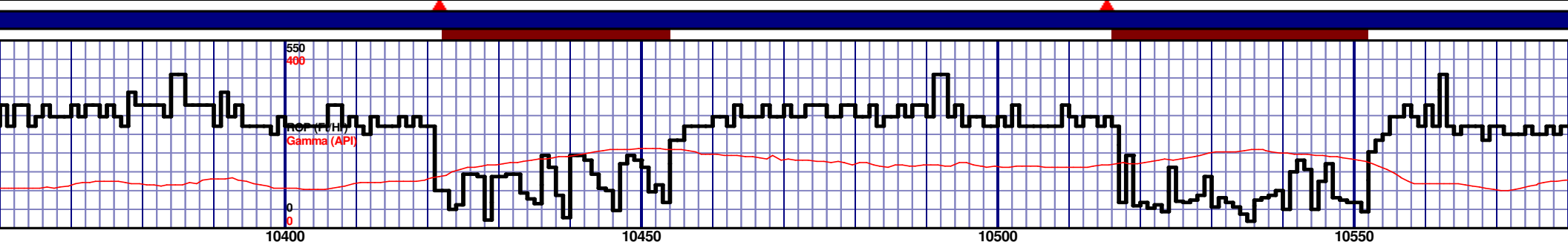
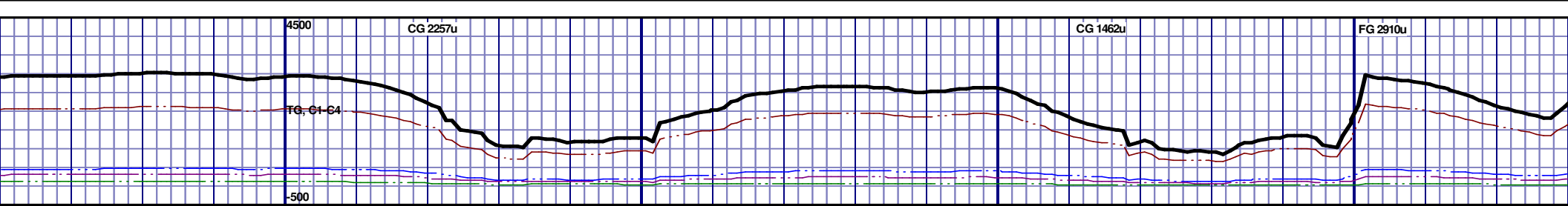
10100' MD-10150' MD: CHK: 65% V/LTGY - MEDGY - DRKGY, BLKY  
TO SUBBLKY, FXLN TO MICROXLN, BRITTL  
PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYS  
5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG



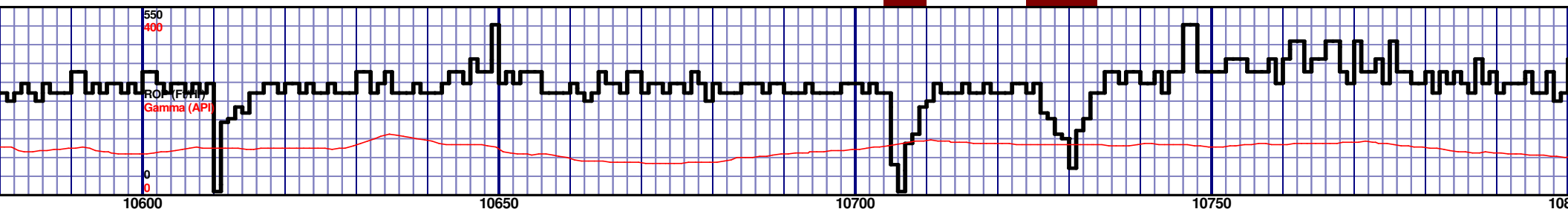
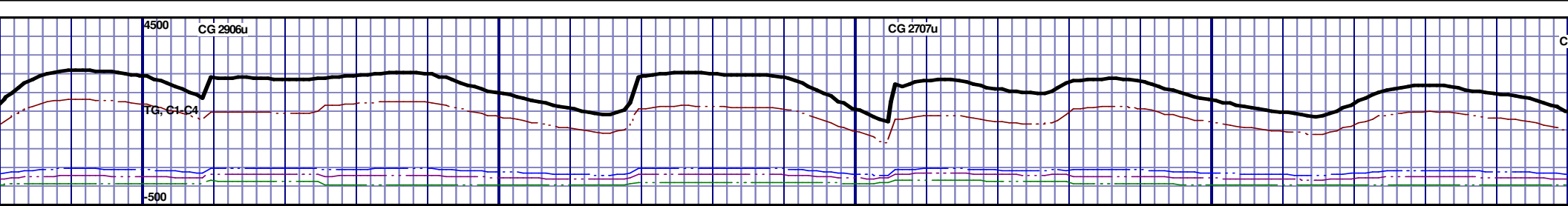
<p>10150' MD-10200' MD: CHK: 65% V/LTGY- MEDGY -DRKGY, BLKY TO SUBBLKY, FXLN TO MICROXLN, BRITTLE, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>10200' MD-10250' MD: CHK: 70% V/LTGY- MEDGY -DRKGY, BLKY TO SUBBLKY, FXLN TO MICROXLN, BRITTLE, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>10250' MD-10300' MD: CHK: 70% V/LTGY- MEDGY -DRKGY, BLKY TO SUBBLKY, FXLN TO MICROXLN, BRITTLE, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>10300' MD-10350' MD: CHK: 60% V/LTGY- MEDGY -DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>10350' MD-10400' MD: CHK: 60% V/LTGY- MEDGY -DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>
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MD 10169 TVD 6584.96  
INC 91.45 AZ 87.44  
VS 3865.76

MD 10264 TVD 6581.68  
INC 92.5 AZ 88.67  
VS 3957.12



6500 TVD					NIOBRARA B MARL 10450' MD 6575' TVD									
6650														
6800														
0400' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					10400' MD-10450' MD: CHK: 55% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					10450' MD-10500' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, TT - PP POR, TR GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
										10500' MD-10550' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, TT - PP POR, TR GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
										10550' MD-10600' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, TT - PP POR, TR GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				



6500 TVD									
NIOBRARA C CHALK 10650' MD 6578' TVD									
6650									
6800									

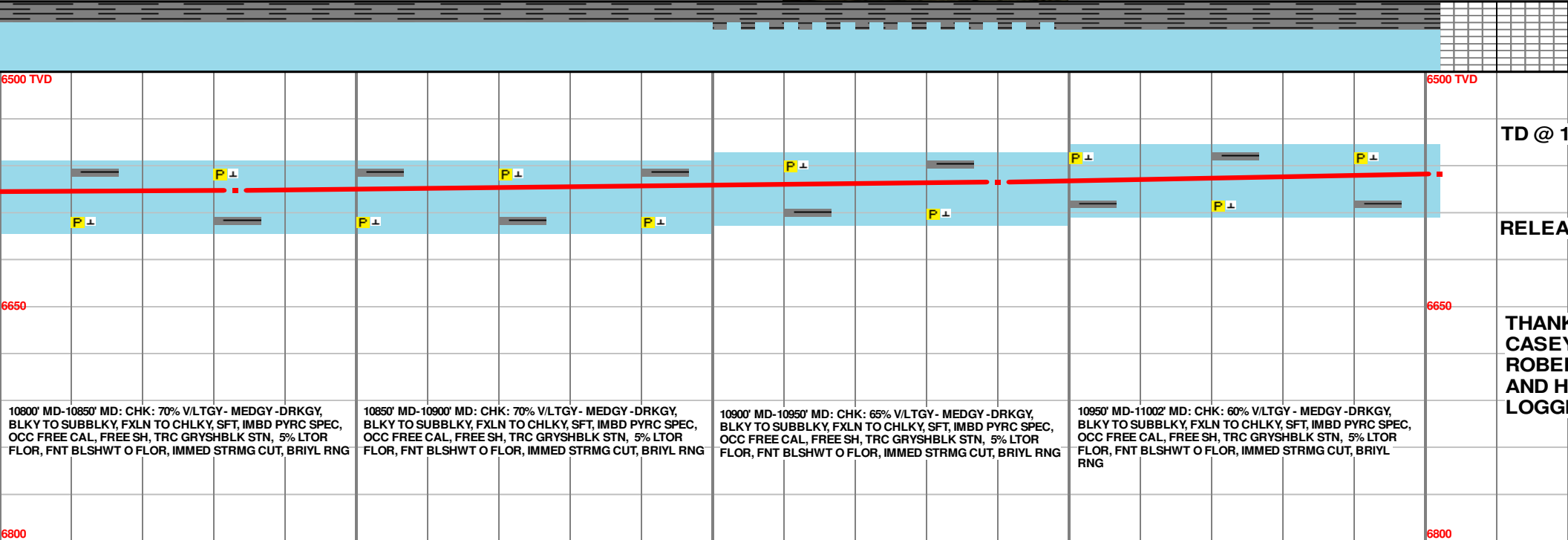
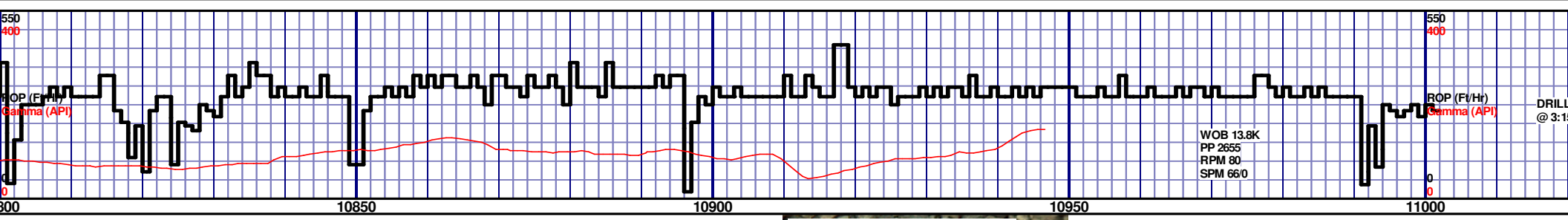
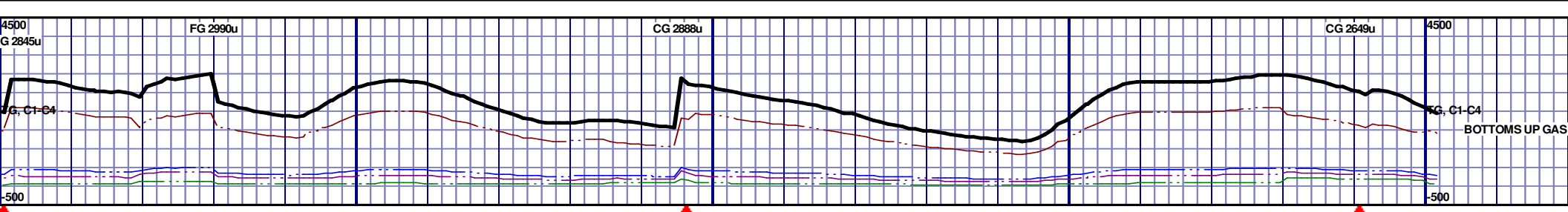
DRKGY - DRKGY, BLKY  
TO FRI, CHK FRMWRK,  
TR GRYSBLK STN, 5%  
IMMED STRMG CUT,

10600' MD-10650' MD: MRL: 50% MEDDRKGY - DRKGY, BLKY  
TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK,  
IMBD CAL, FREE PYR, TT - PP POR, TR GRYSBLK STN, 5%  
LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT,  
BRIYL RNG

10650' MD-10700' MD: CHK: 60% V/LTGY - MEDGY - DRKGY,  
BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC,  
OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR  
FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL  
RNG

10700' MD-10750' MD: CHK: 60% V/LTGY - MEDGY - DRKGY,  
BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC,  
OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR  
FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL  
RNG

10750' MD-10800' MD: CHK: 60% V/LTGY - MEDGY - DRKGY,  
BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC,  
OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR  
FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL  
RNG



10800' MD-10850' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

10850' MD-10900' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

10900' MD-10950' MD: CHK: 65% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

10950' MD-11002' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TRC GRYSBLK STN, 5% LTOR FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

MD 10833 TVD 6575.98  
INC 91.94 AZ 88.24  
VS 4506.62

MD 10940 TVD 6570.14  
INC 94.32 AZ 87.14  
VS 4609.24

MD 11002 TVD 6565.47  
INC 94.32 AZ 87.14  
VS 4668.46  
PTB

1950u

ERS TD @ 11002' MD  
5 PM ON 9/11/2013

1105

1002' MD

SED ON 9/11/2013

K YOU FROM  
Y SENSECQUA,  
RT GULLIKSEN  
ORIZON WELL  
ING, LLC