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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:** Tom Wacholz &  
Sam Stelzer  
**Log Interval:** 6500' MD to 12026' MD  
**Start Date:** May 27, 2014  
**Release Date:** May 29, 2014

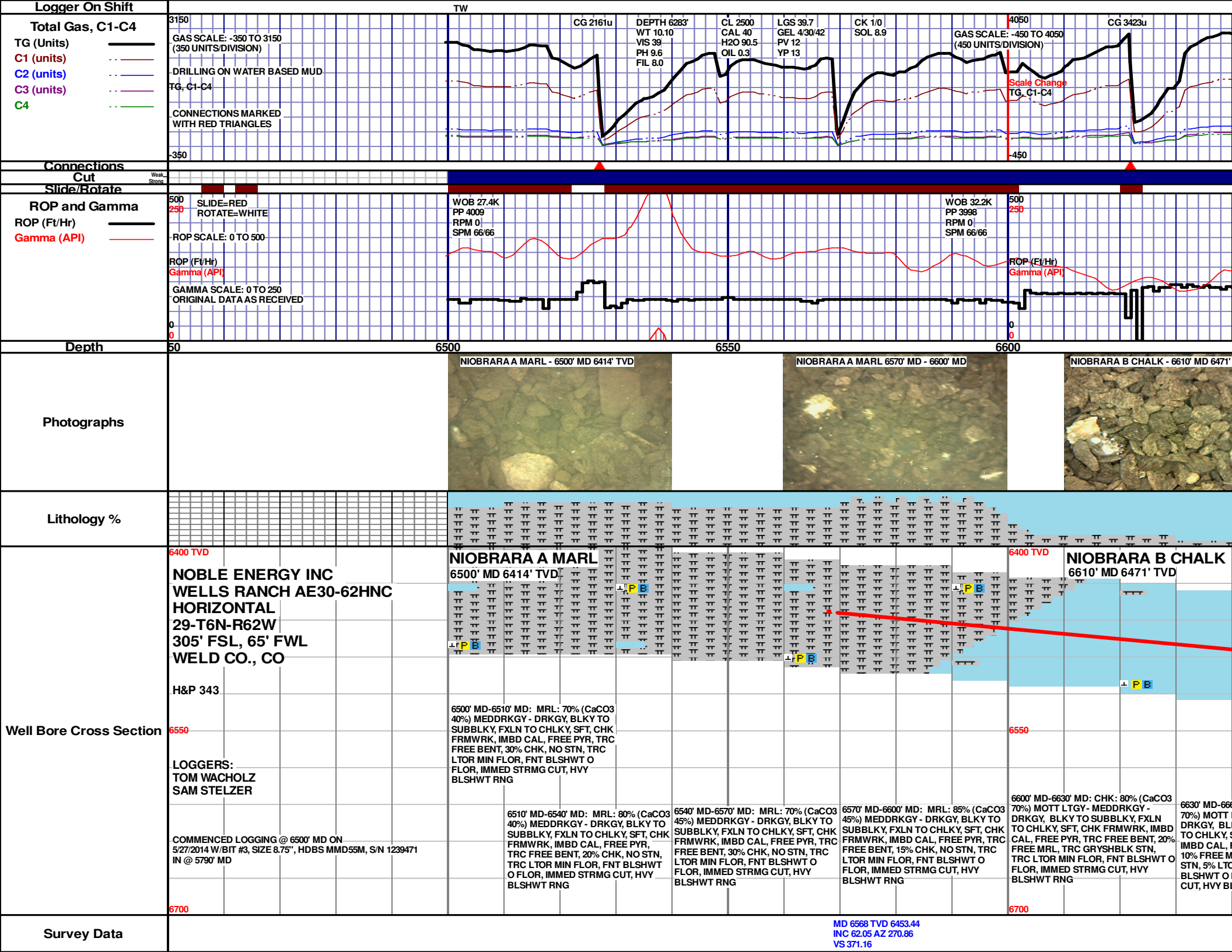
### Well Information

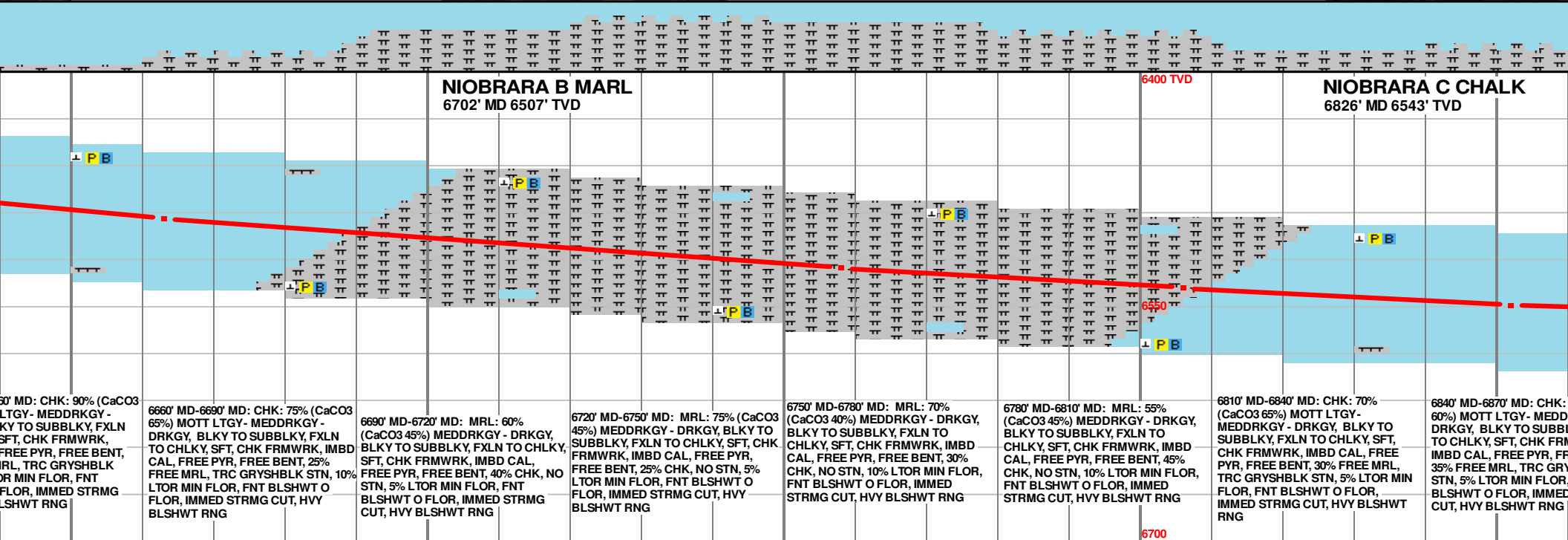
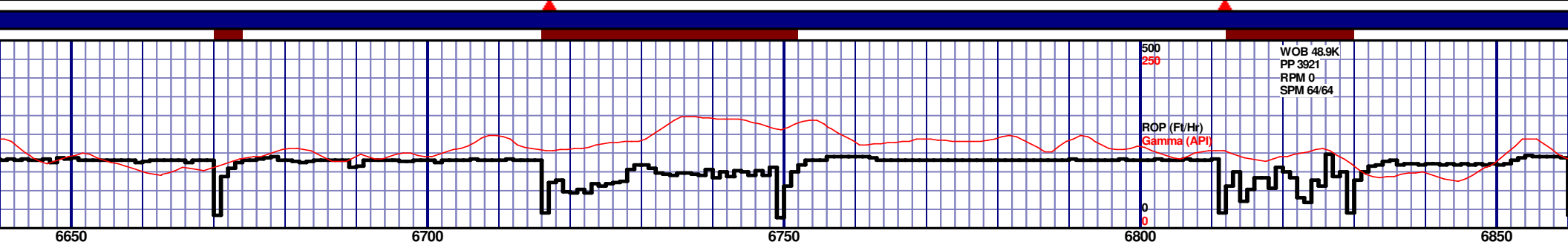
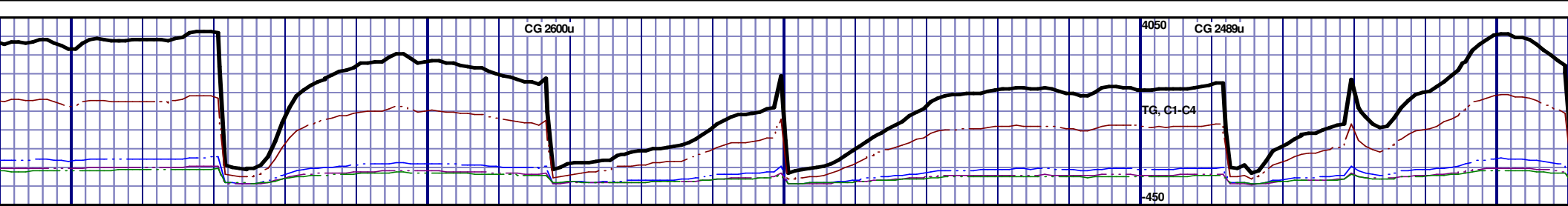
**Well Name:** Wells Ranch AE30-62HNC  
Horizontal

**Location:** 29-T6N-R62W  
305' FSL, 65' FWL

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

**Drilling Rig:** H&P 343  
**Total Depth:** 12026' MD  
**TD Date:** May 29, 2014  
**Formation:** Niobrara C Chalk  
**KB Elevation:** 4772'  
**GR Elevation:** 4748'  
**API Number:** 05-123-38685-0000



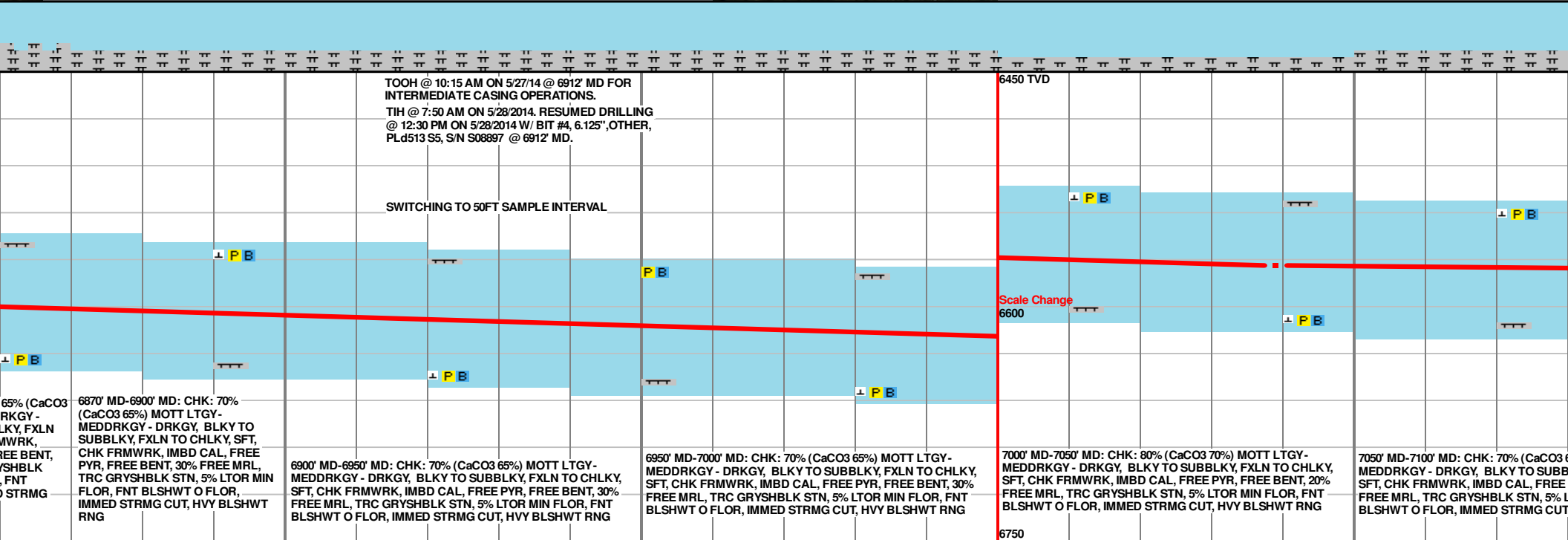
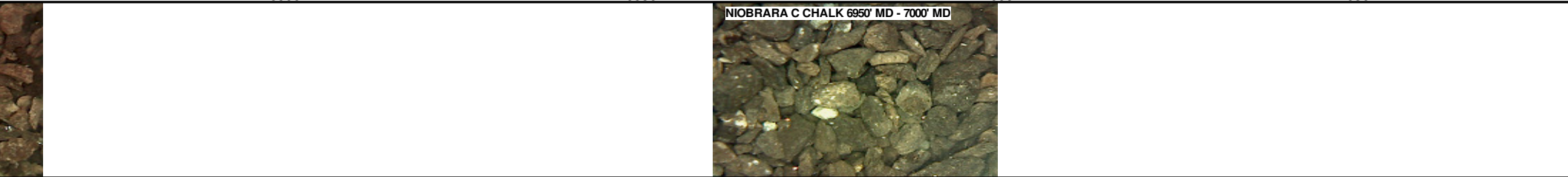
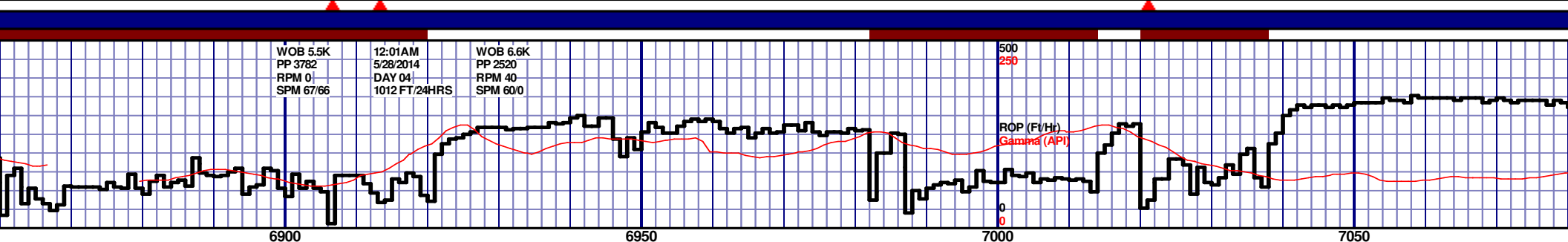
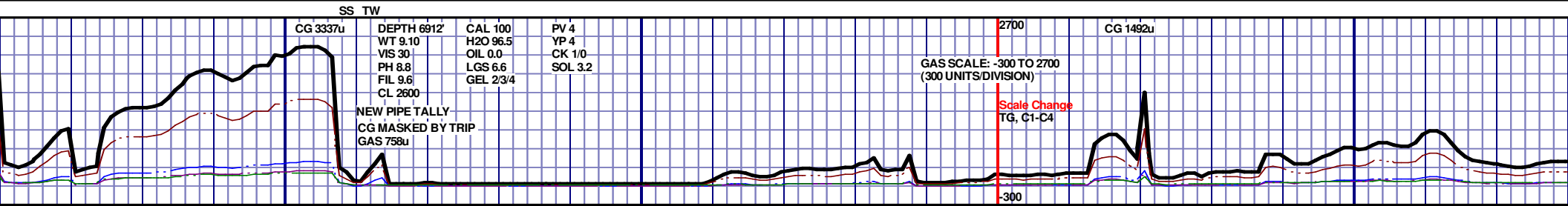


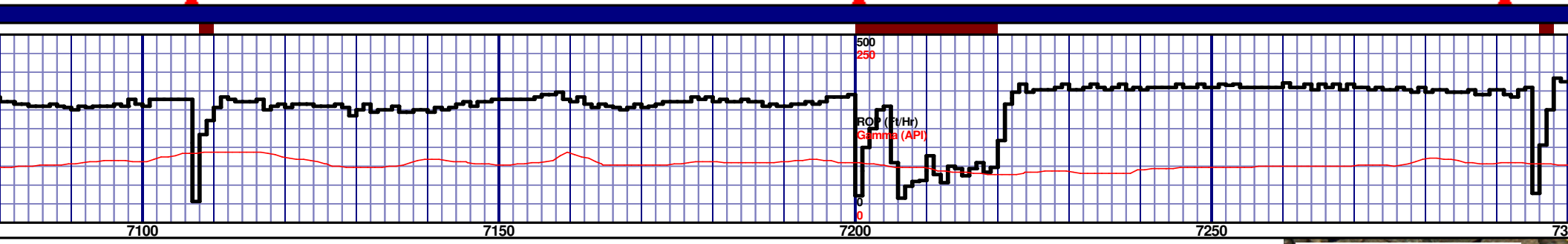
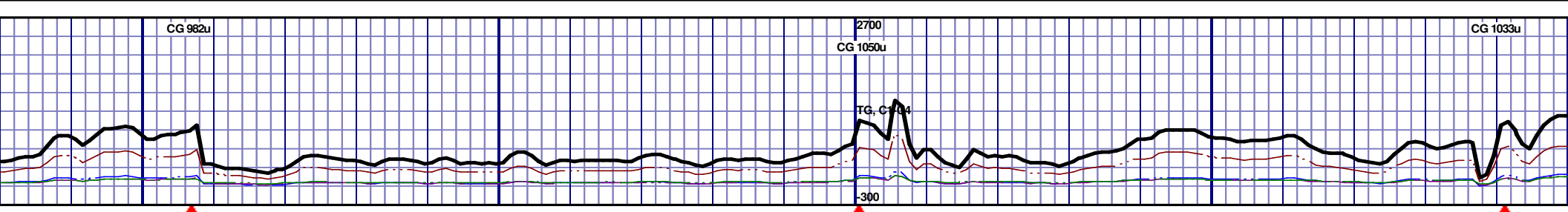
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INC 67.9 AZ 267.72  
VS 457.1

MD 6758 TVD 6525.08  
INC 73.41 AZ 266.58  
VS 546.4

MD 6806 TVD 6538.14  
INC 75 AZ 266.5  
VS 592.39

MD 6852  
INC 77.26  
VS 636.82

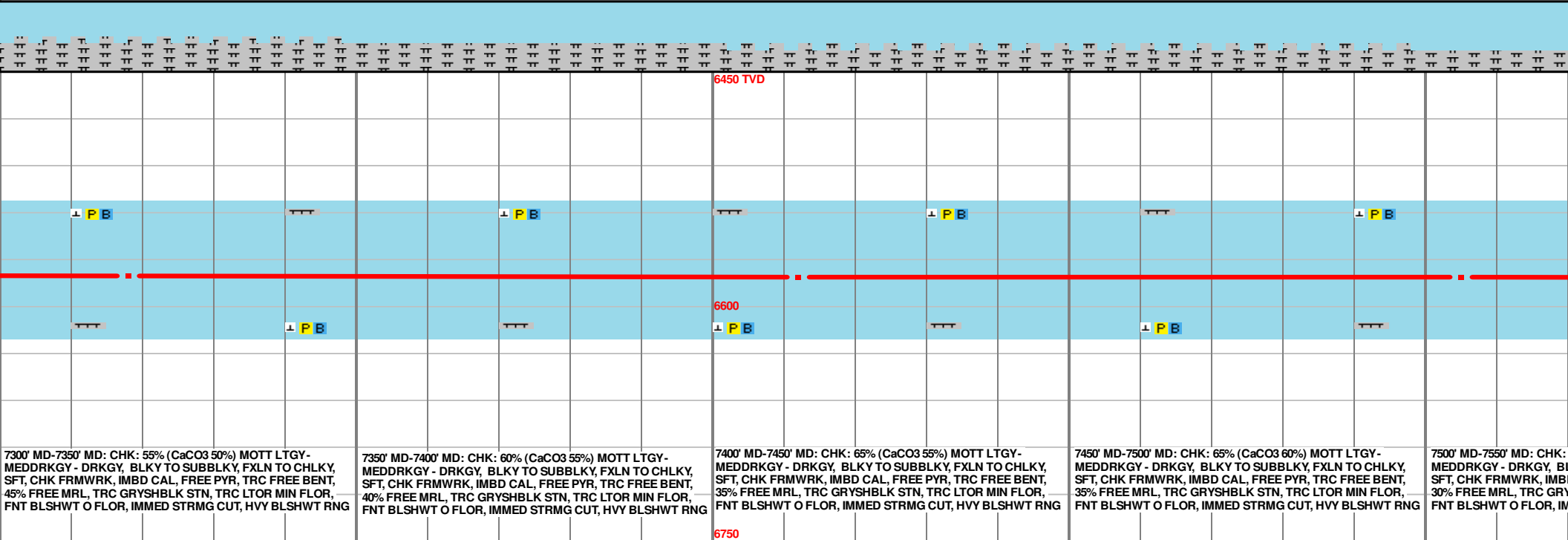
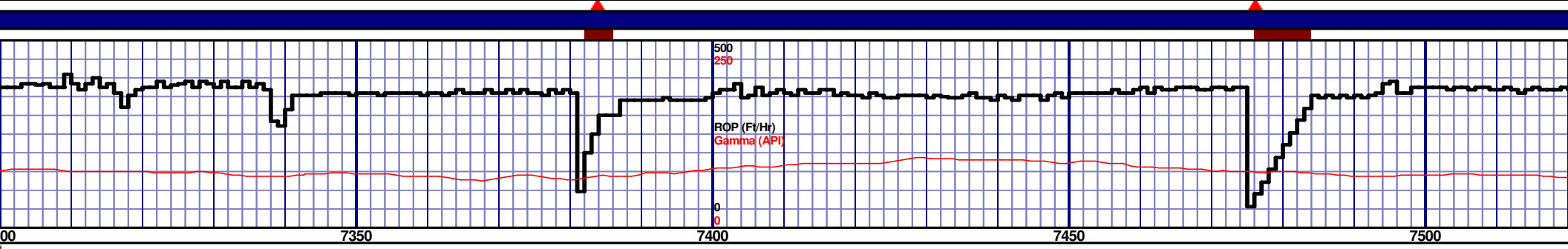
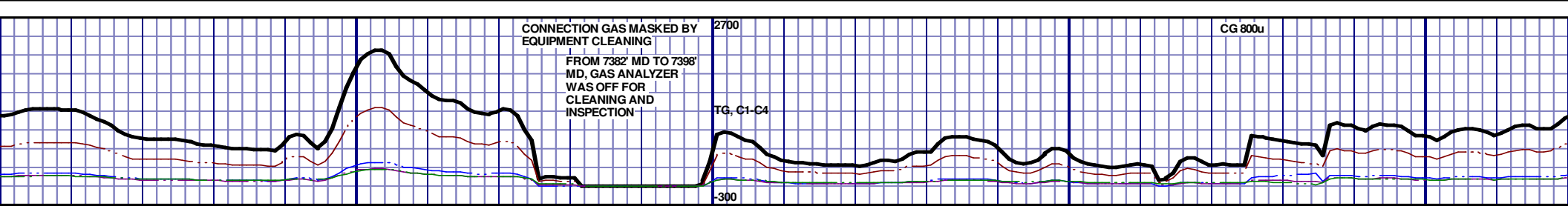




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MD 7132 TVD 6577.47  
INC 87.57 AZ 267.84  
VS 913.87

MD 7225 TVD 6579.59  
INC 89.82 AZ 268.09  
VS 1006.63



7300' MD-7350' MD: CHK: 55% (CaCO3 50%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, TRC FREE BENT, 45% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

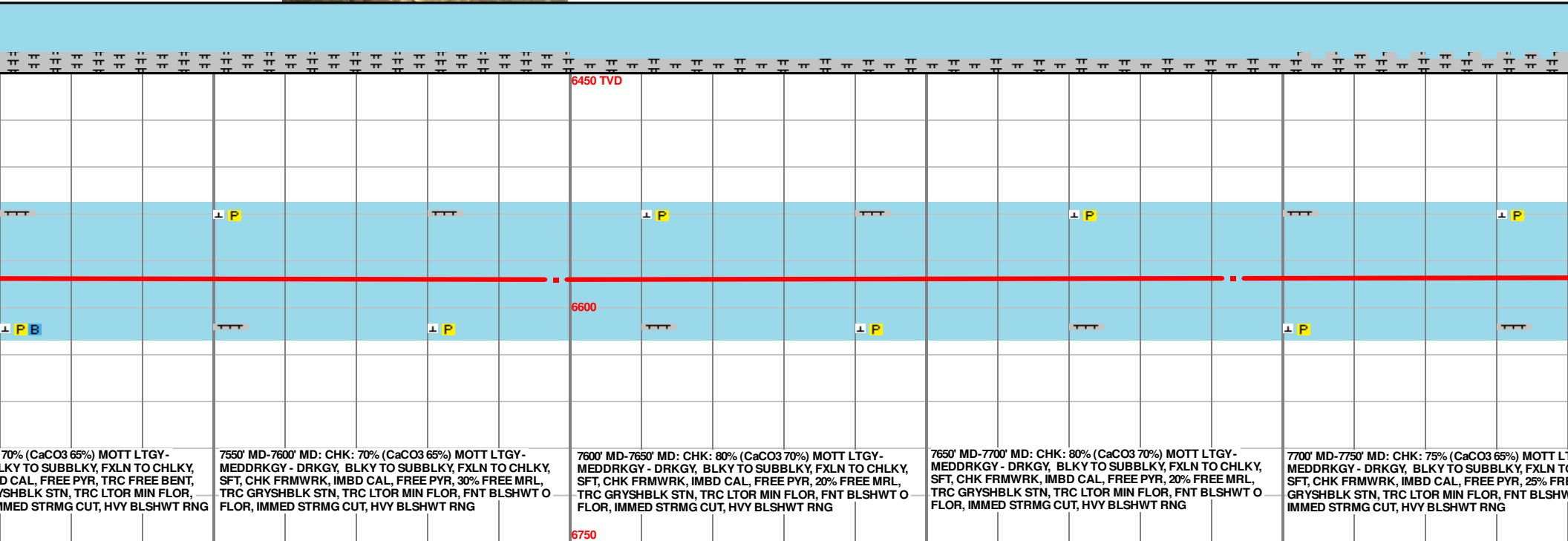
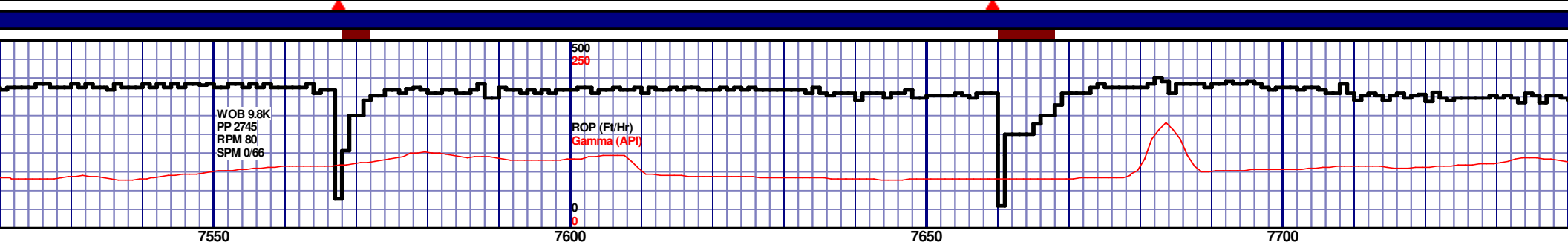
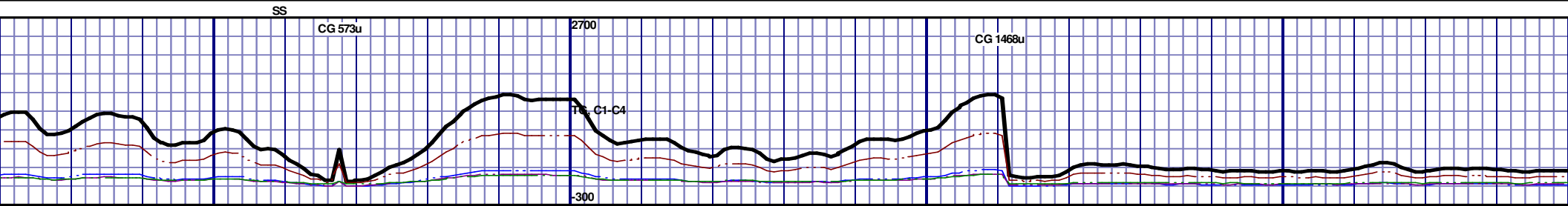
7350' MD-7400' MD: CHK: 60% (CaCO3 55%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, TRC FREE BENT, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

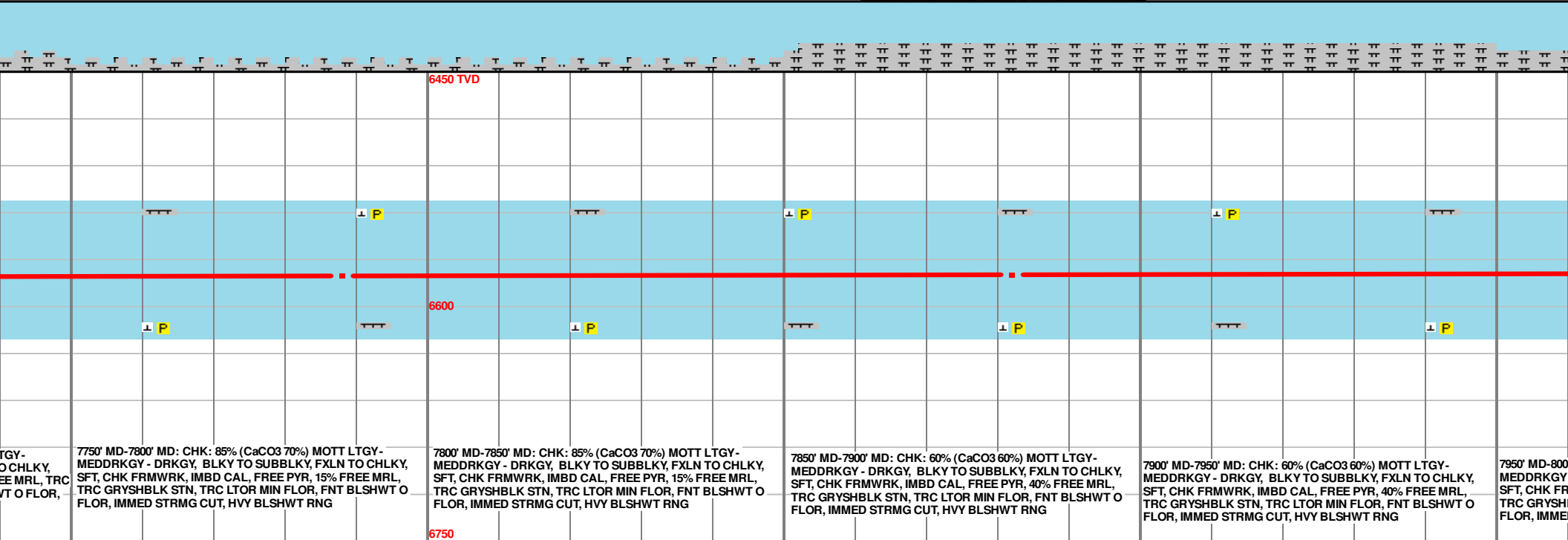
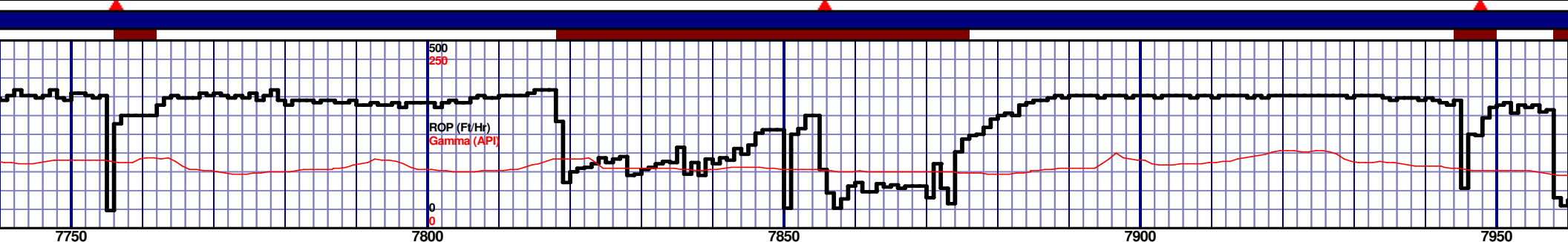
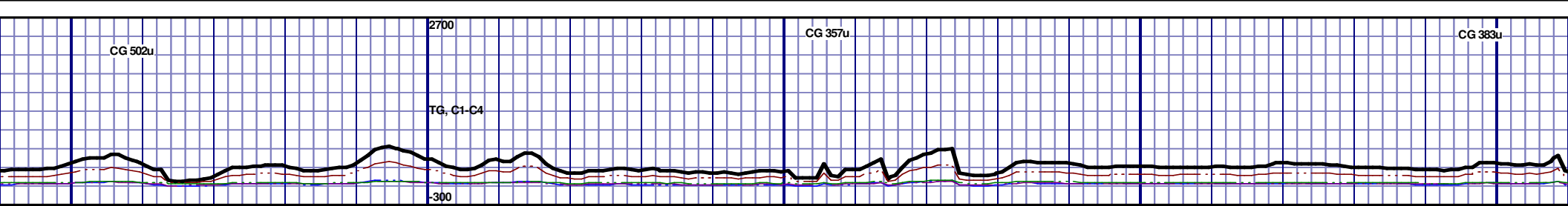
7400' MD-7450' MD: CHK: 65% (CaCO3 55%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, TRC FREE BENT, 35% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

7450' MD-7500' MD: CHK: 65% (CaCO3 60%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, TRC FREE BENT, 35% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

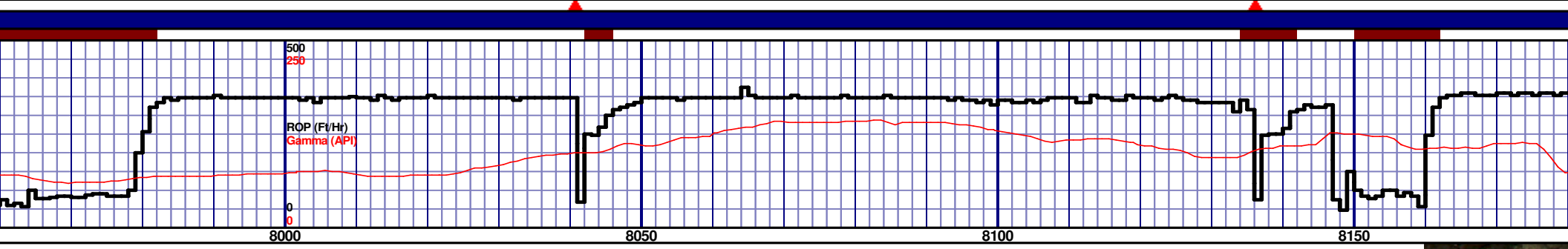
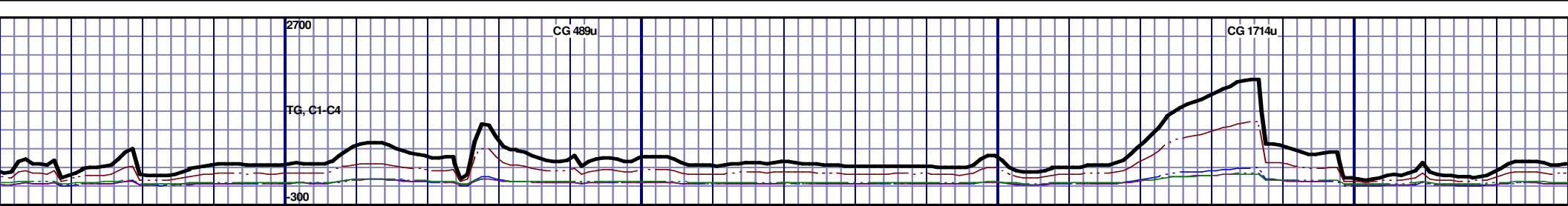
7500' MD-7550' MD: CHK: MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, TRC FREE BENT, 30% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG











NOBRARA C CHALK 81

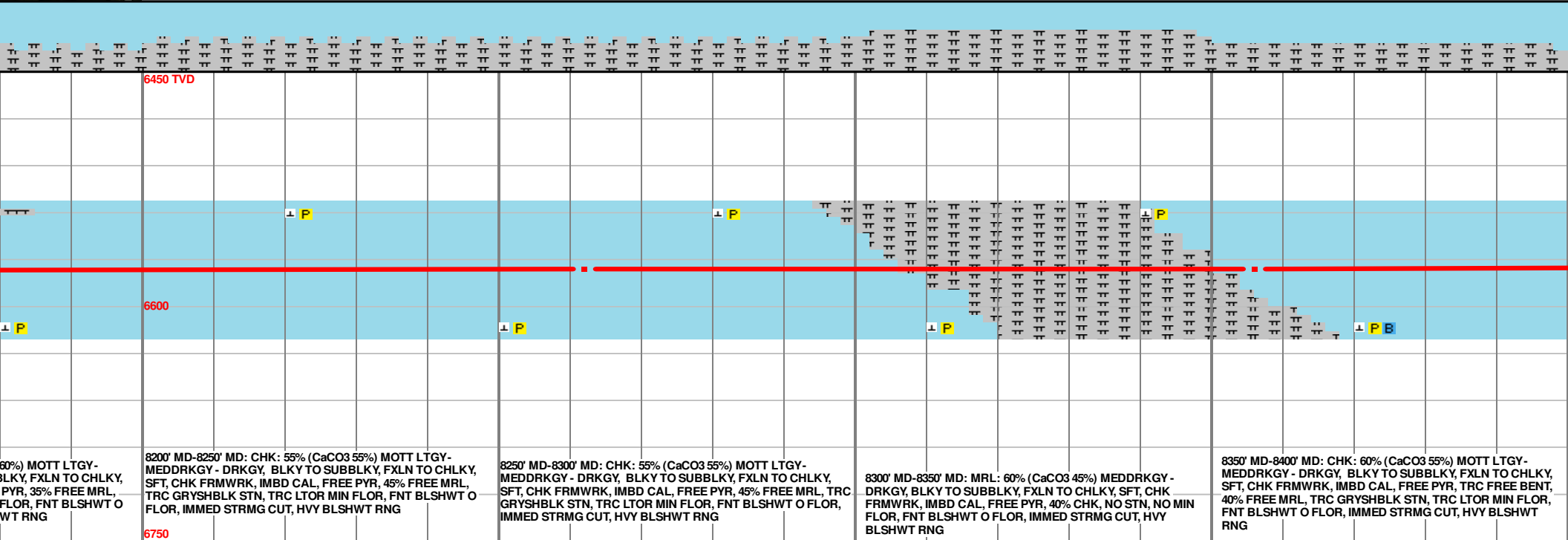
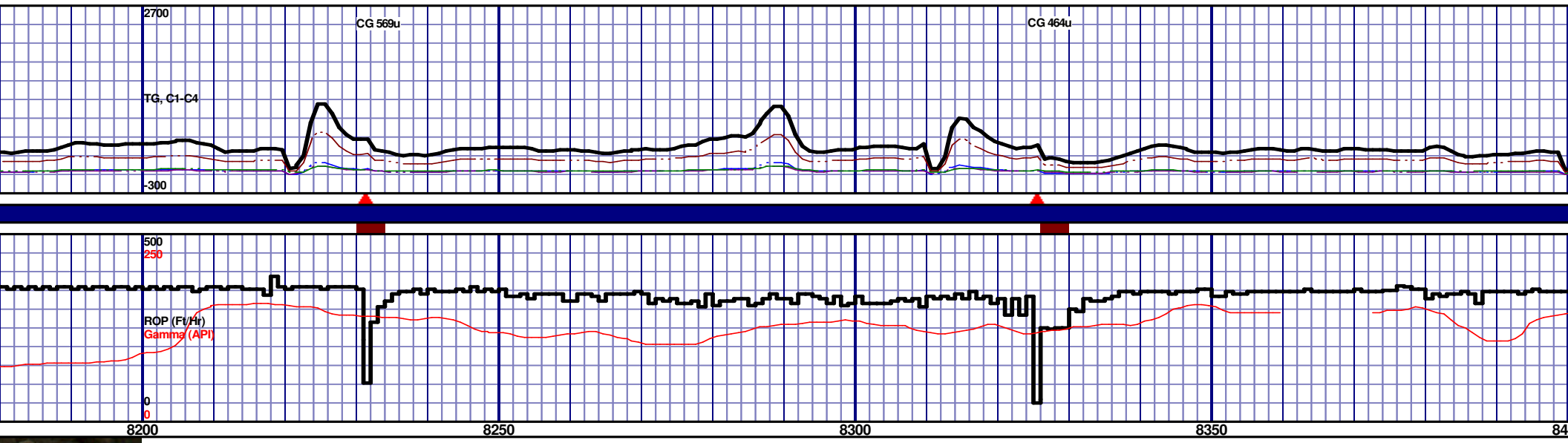


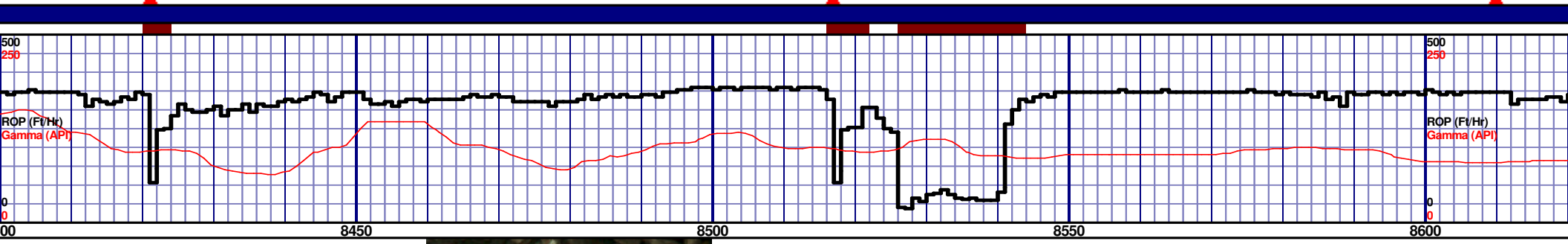
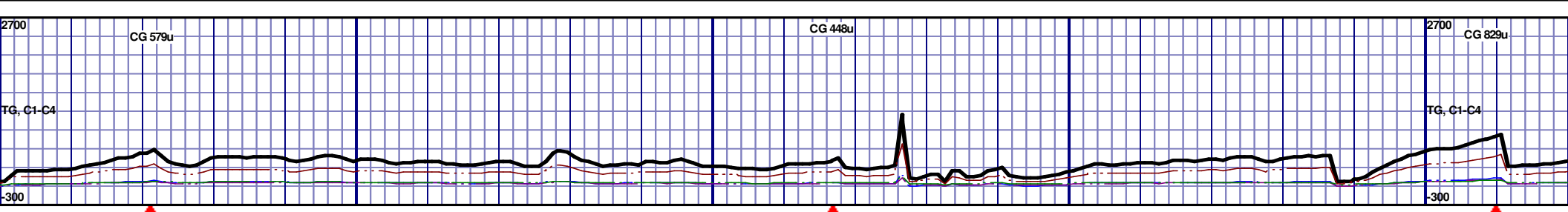
6450 TVD									
6600									
6750									
8000' MD-8050' MD: MRL: 60% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWK, IMBD CAL, FREE PYR, 40% CHK, NO STN, NO MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									
8050' MD-8100' MD: MRL: 70% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWK, IMBD CAL, FREE PYR, 30% CHK, NO STN, NO MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									
8100' MD-8150' MD: MRL: 60% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWK, IMBD CAL, FREE PYR, 40% CHK, NO STN, NO MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									
8150' MD-8200' MD: CHK: 65% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWK, IMBD CAL, FREE PYR, 40% CHK, NO STN, NO MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									

MD 7977 TVD 6579.13  
INC 90.65 AZ 269.29  
VS 1755.85

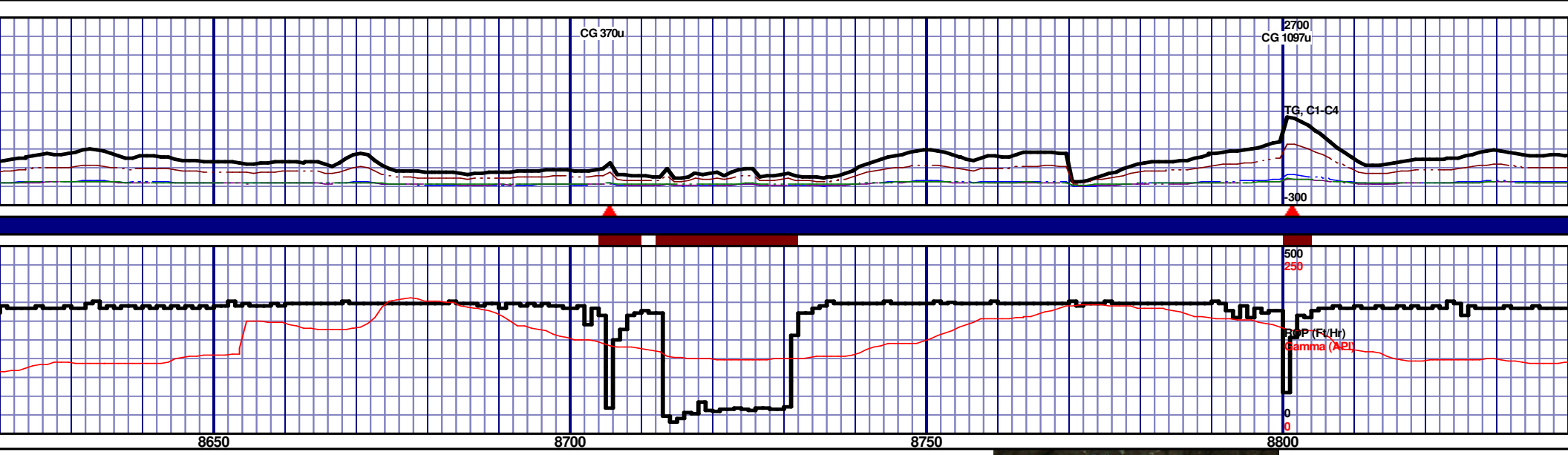
MD 8072 TVD 6577.75  
INC 91.02 AZ 269.35  
VS 1850.75

MD 8167 TVD 6577.75  
INC 90.4 AZ 269.29  
VS 1945.66





6450 TVD										6450 TVD														
6600										6600														
8400' MD-8450' MD: CHK: 75% (CaCO3 65%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 25% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG					8450' MD-8500' MD: CHK: 75% (CaCO3 65%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 25% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG					8500' MD-8550' MD: CHK: 80% (CaCO3 65%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG					8550' MD-8600' MD: CHK: 60% (CaCO3 60%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG					8600' MD-8650' MD: MRL: DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG				
6750															6750									



6450 TVD									
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6750									
6800 MD-8850' MD: CHK: 70% (CaCO3 60%) MOTT L MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 45% FREE CHK, NO STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									

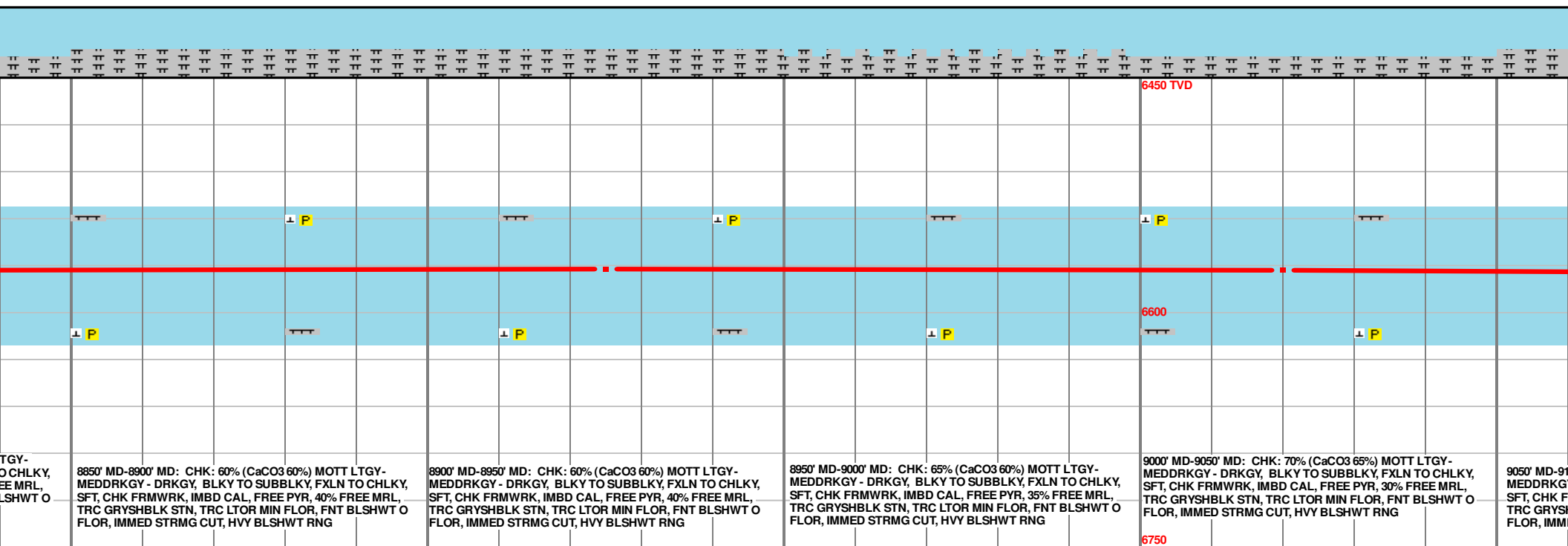
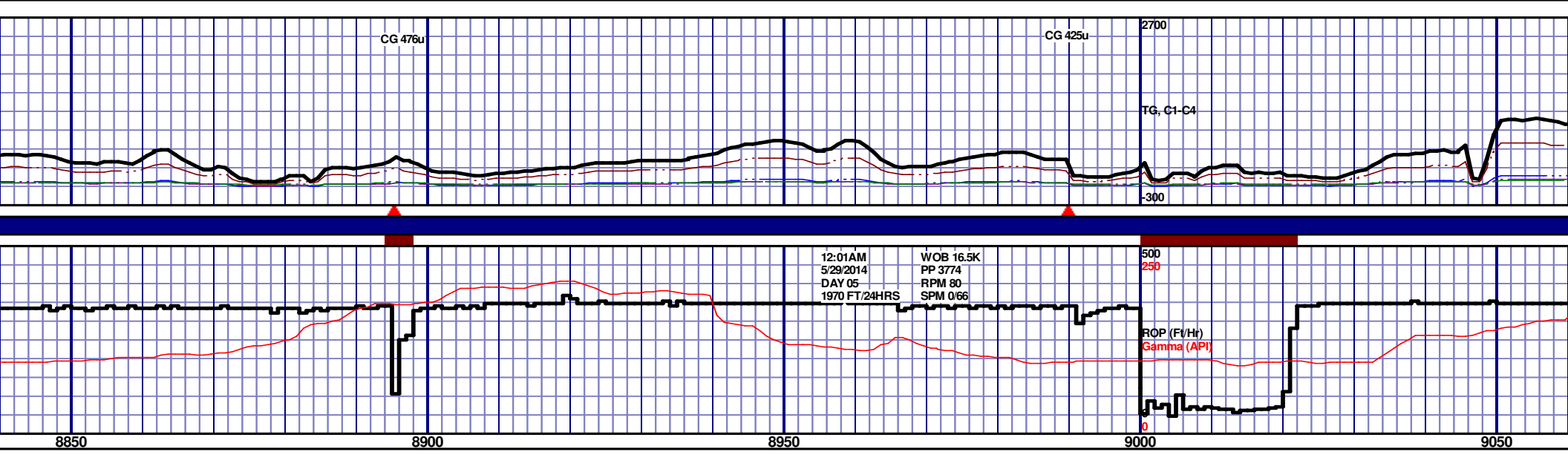
60% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE CHK, NO STN, NO MIN FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

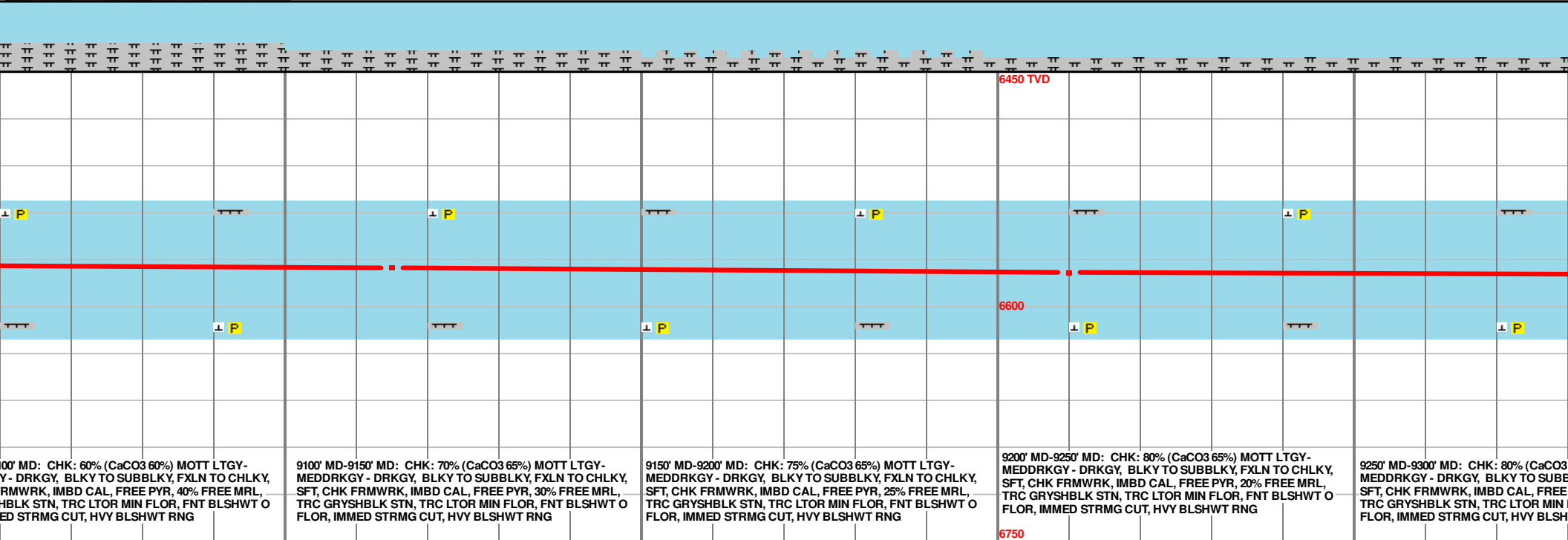
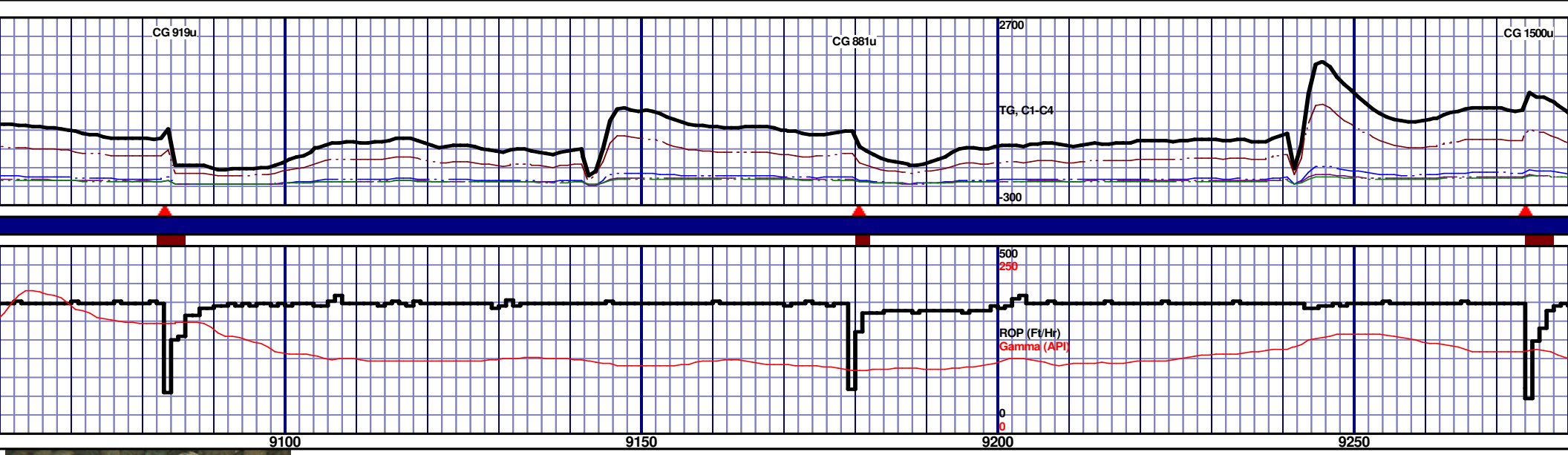
8650' MD-8700' MD: MRL: 70% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, 30% FREE CHK, NO STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

8700' MD-8750' MD: CHK: 60% (CaCO3 60%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

8750' MD-8800' MD: MRL: 55% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, 45% FREE CHK, NO STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

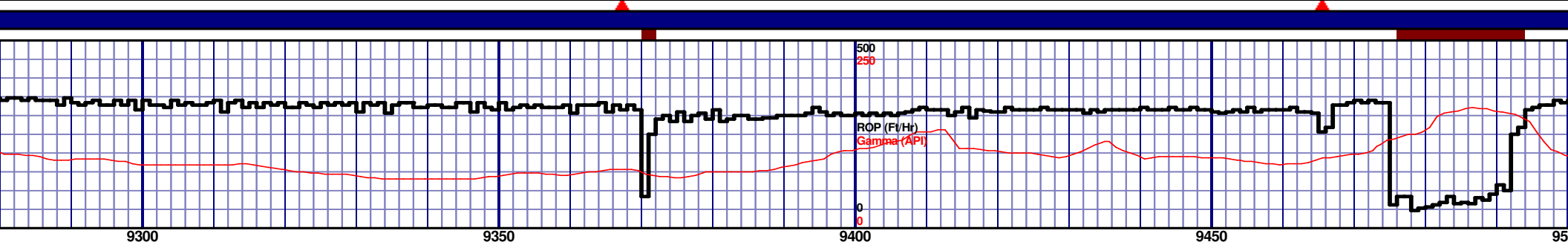
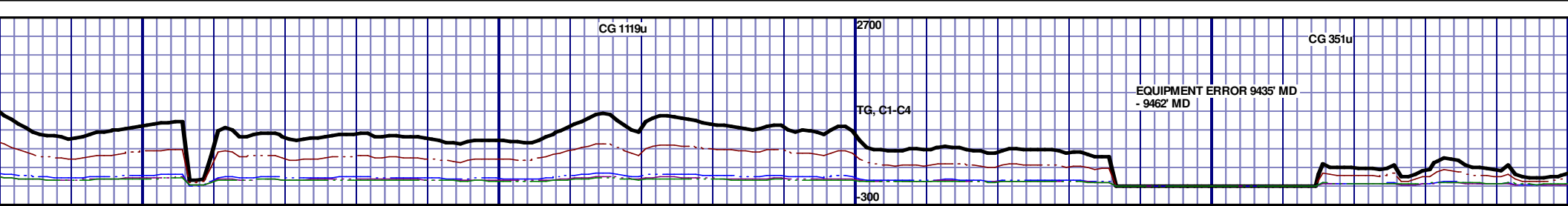
8800' MD-8850' MD: CHK: 70% (CaCO3 60%) MOTT L MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 45% FREE CHK, NO STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG





MD 9115 TVD 6575.4  
INC 88.28 AZ 269.16  
VS 2892.42

MD 9210 TVD 6577.98  
INC 88.61 AZ 269.09  
VS 2967.28



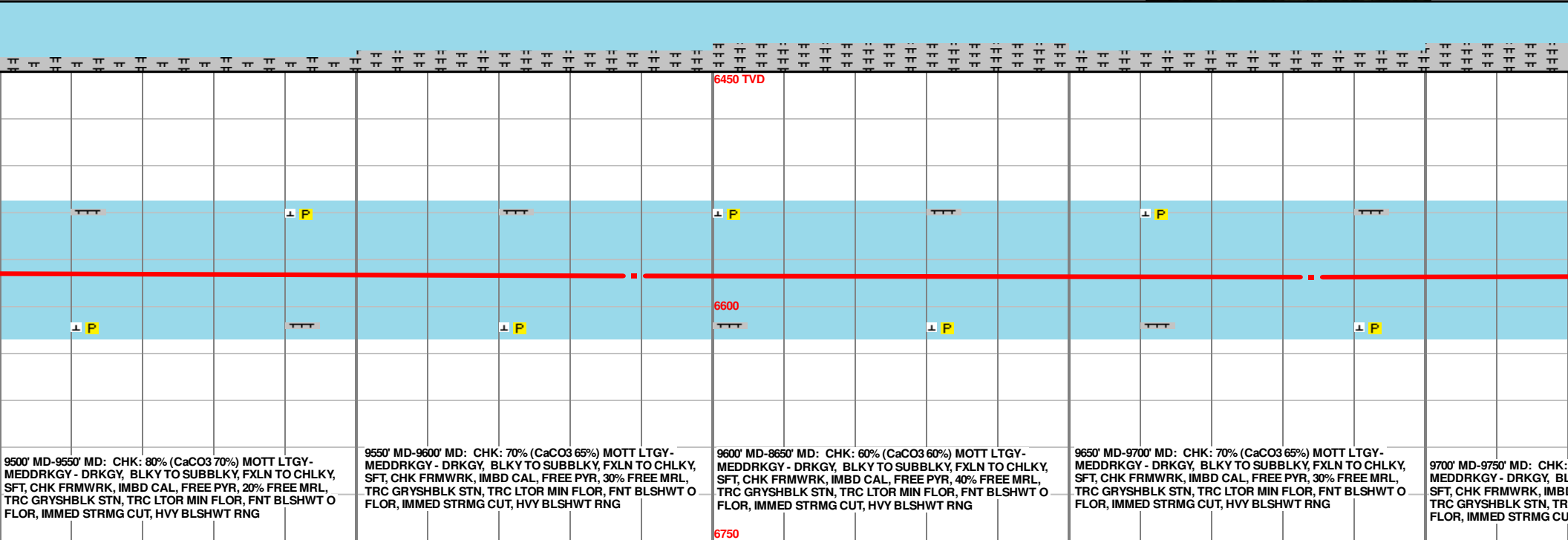
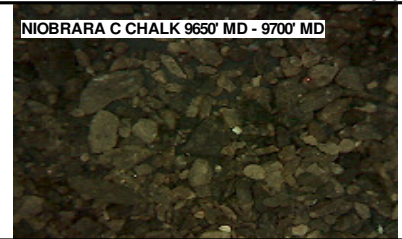
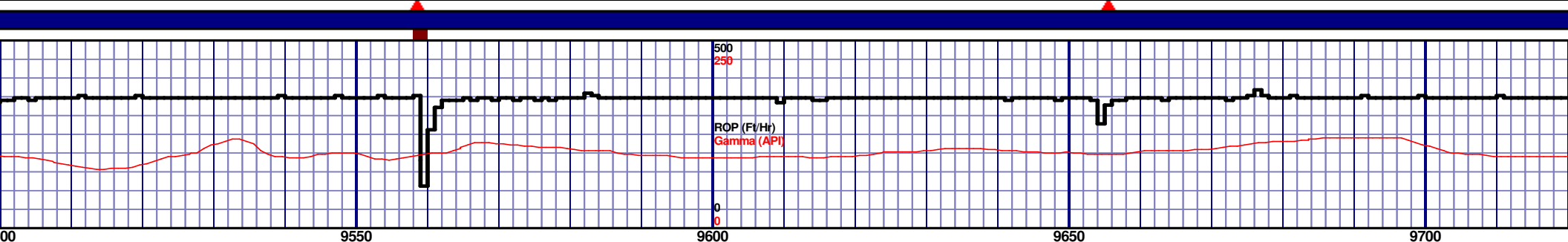
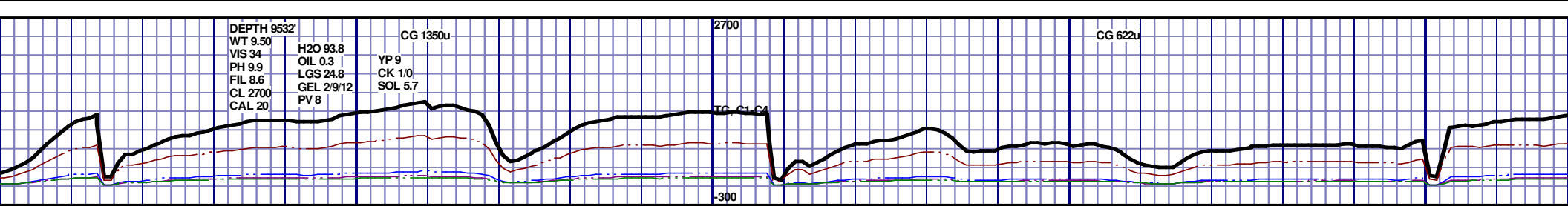
<p>65%) MOTT LTGY- BLKY, FXLN TO CHLKY, PYR, 20% FREE MRL, FLOR, FNT BLSHWT O WT RRG</p>	<p>9300' MD-9350' MD: CHK: 90% (CaCO3 70%) MOTT LTGY- MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 10% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RRG</p>	<p>9350' MD-9400' MD: CHK: 80% (CaCO3 70%) MOTT LTGY- MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RRG</p>	<p>9400' MD-9450' MD: CHK: 70% (CaCO3 65%) MOTT LTGY- MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RRG</p>	<p>9450' MD-9500' MD: CHK: 60% (CaCO3 65%) MOTT LTGY- MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, TRC FREE BENT, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RRG</p>
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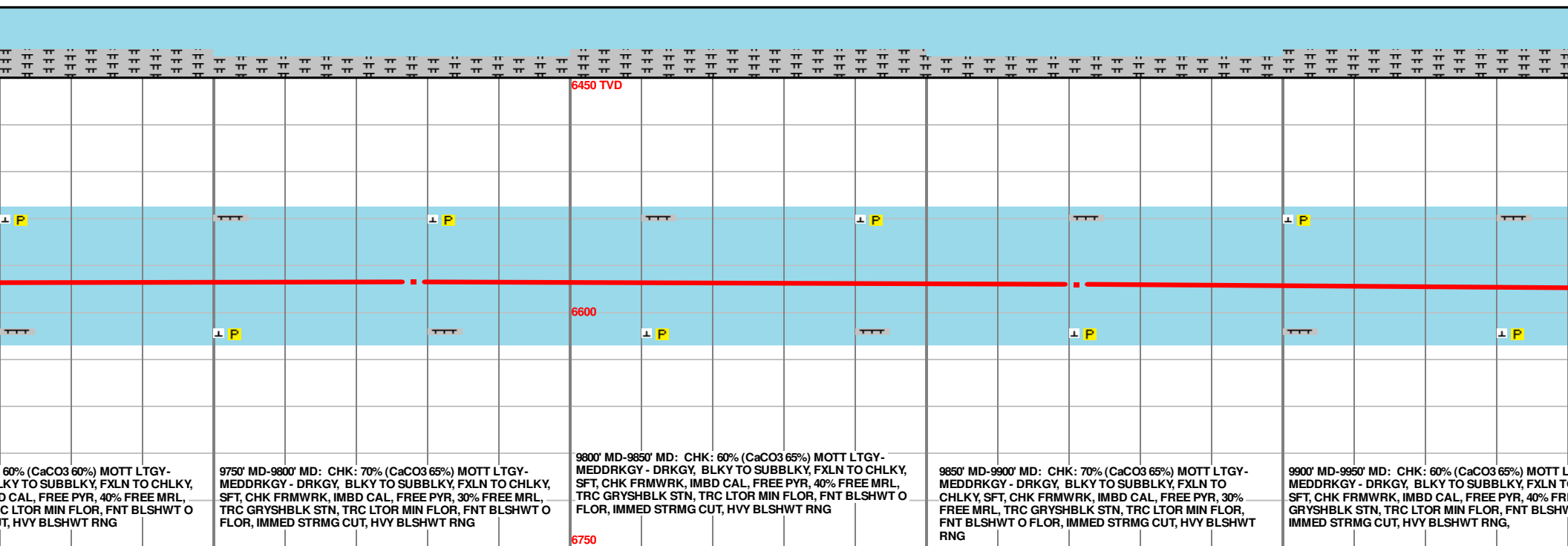
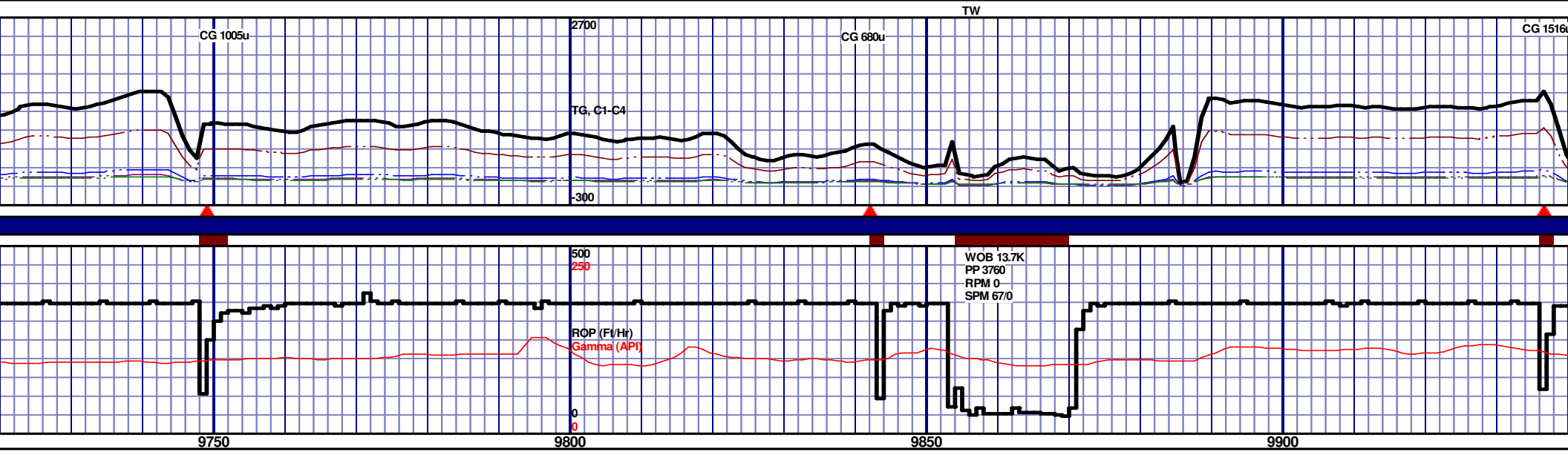
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INC 89.41 AZ 269.22  
VS 3082.16

MD 9399 TVD 6579.57  
INC 90.65 AZ 268.93  
VS 3176.05

MD 9495  
INC 89.41  
VS 3270.05





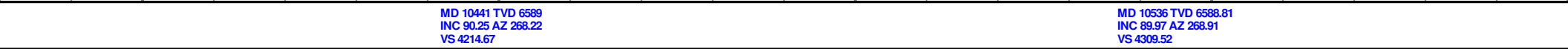
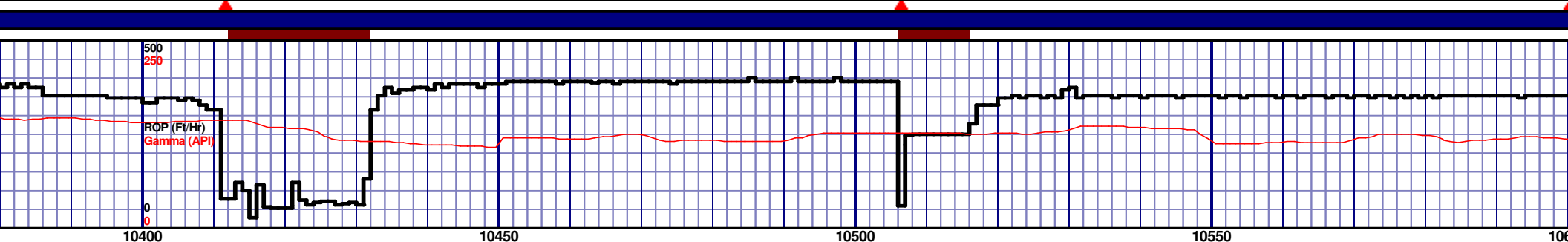


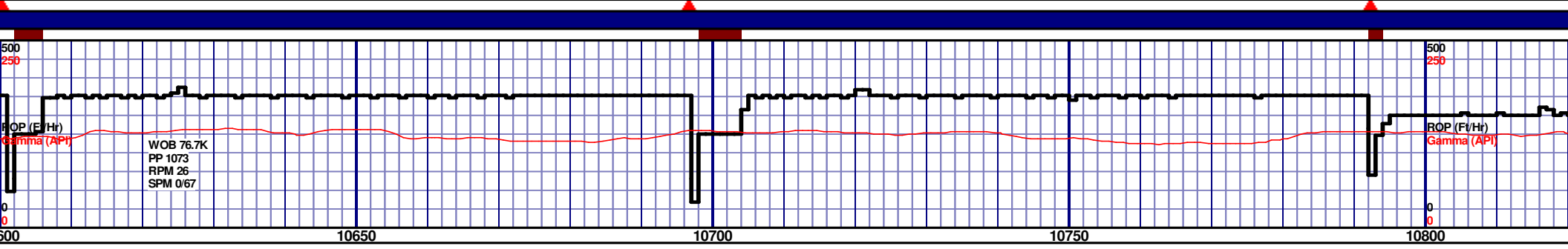
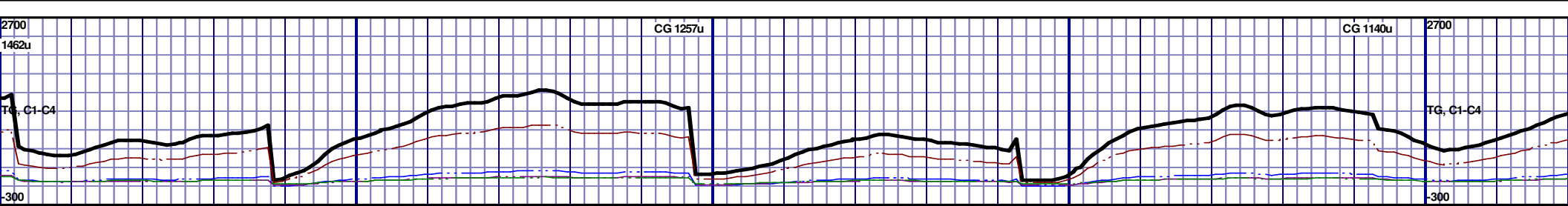
MD 9778 TVD 6590.57  
INC 90.49 AZ 268.9  
VS 3554.26

MD 9871 TVD 6581.77  
INC 88.03 AZ 267.51  
VS 3647.06





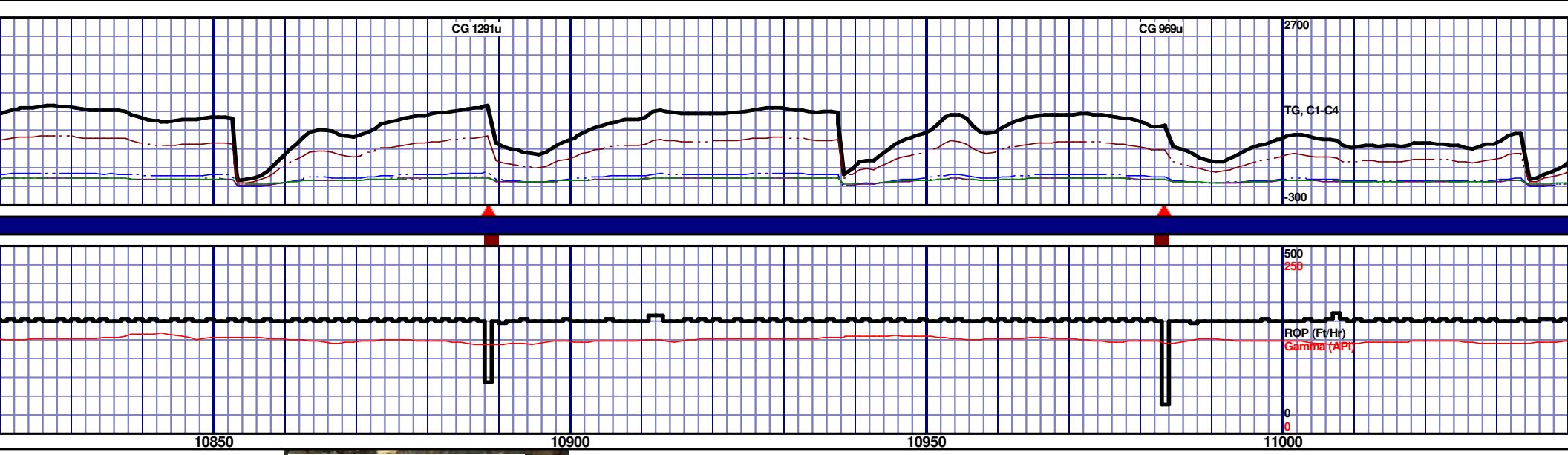




6450 TVD					6450 TVD				
10600' MD-10650' MD: CHK: 60% (CaCO3 60%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG					10650' MD-10700' MD: CHK: 60% (CaCO3 60%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG				
10700' MD-10750' MD: CHK: 65% (CaCO3 60%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 35% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG					10750' MD-10800' MD: CHK: 60% (CaCO3 60%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG				
10800' MD-10850' MD: CHK: 60% (CaCO3 60%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG					10850' MD-10900' MD: CHK: 60% (CaCO3 60%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG				

MD 10631 TVD 6589.02  
INC 89.78 AZ 268.99  
VS 4404.4

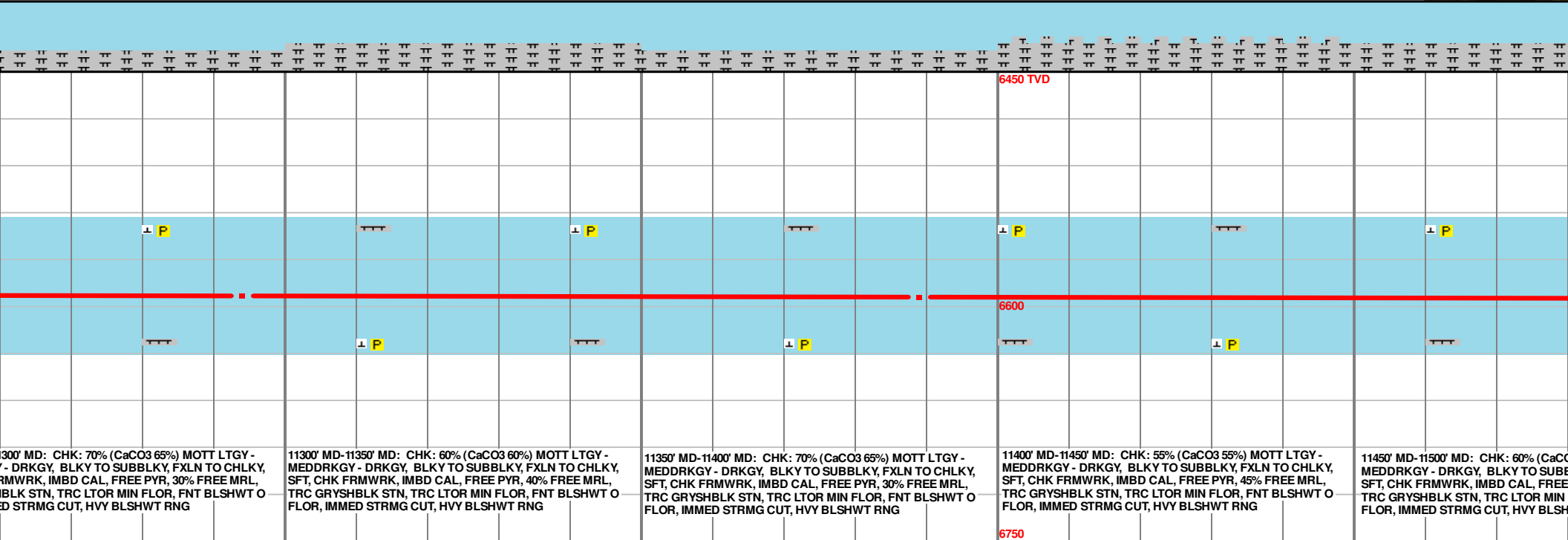
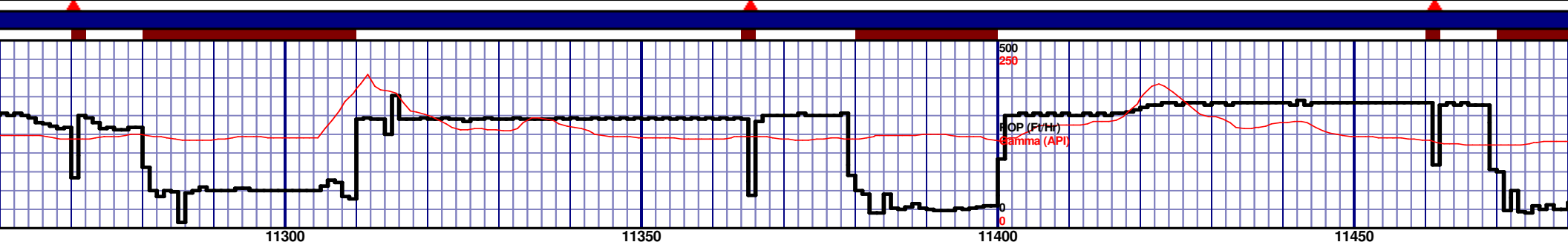
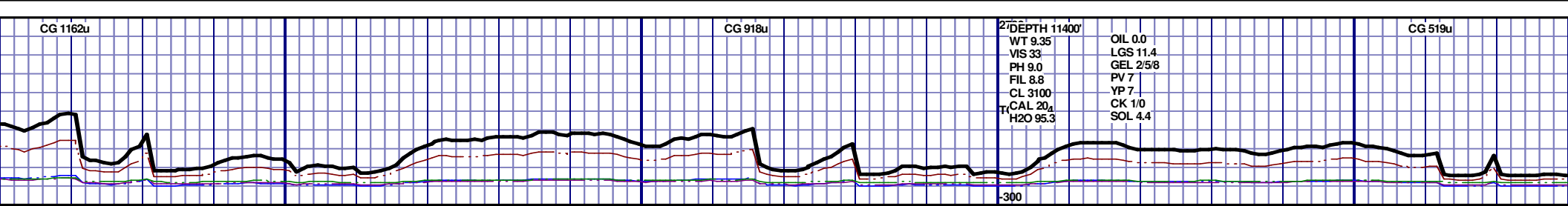
MD 10726 TVD 6589.58  
INC 89.54 AZ 268.77  
VS 4499.27



K: 80% (CaCO3 70%) MOTT LTGY- BLKY TO SUBBLKY, FXLN TO CHLKY, D CAL, FREE PYR, 20% FREE MRL, TRC OR MIN FLOR, FNT BLSHWT O FLOR, BLSHWT RNG									
10850' MD-10900' MD: CHK: 80% (CaCO3 70%) MOTT LTGY- MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									
10900' MD-10950' MD: CHK: 75% (CaCO3 70%) MOTT LTGY- MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 25% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									
10950' MD-11000' MD: CHK: 70% (CaCO3 65%) MOTT LTGY- MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									
11000' MD-11050' MD: CHK: 70% (CaCO3 60%) MOTT MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG									







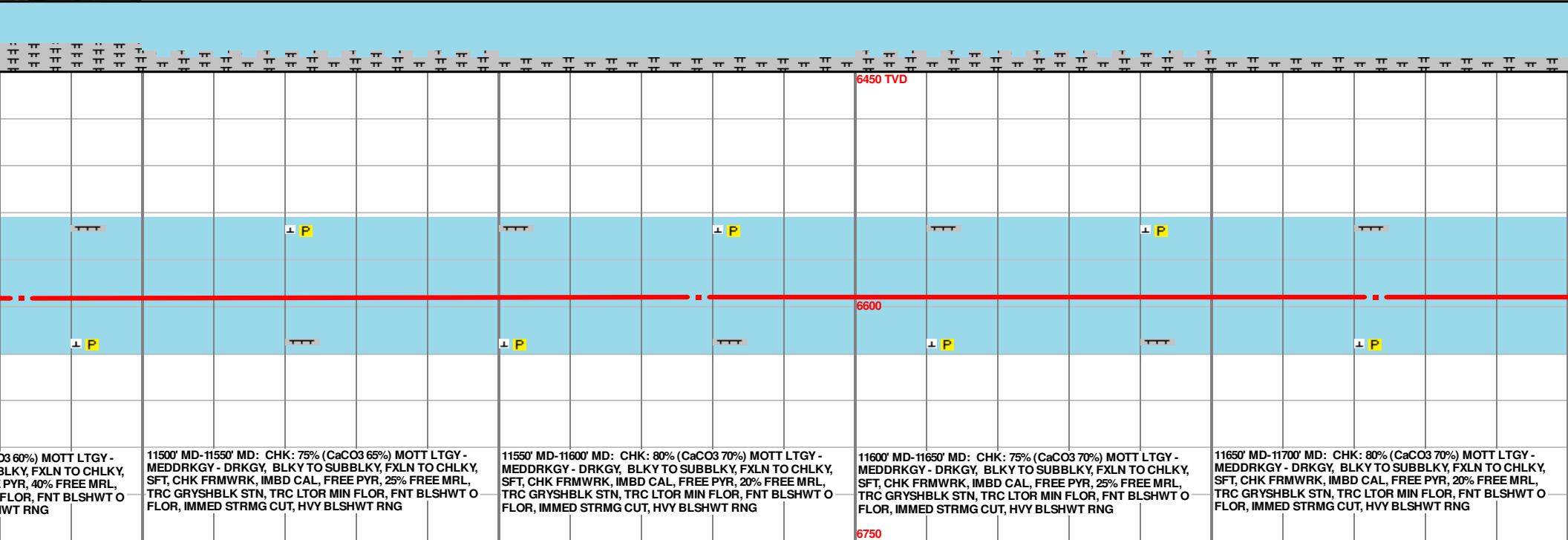
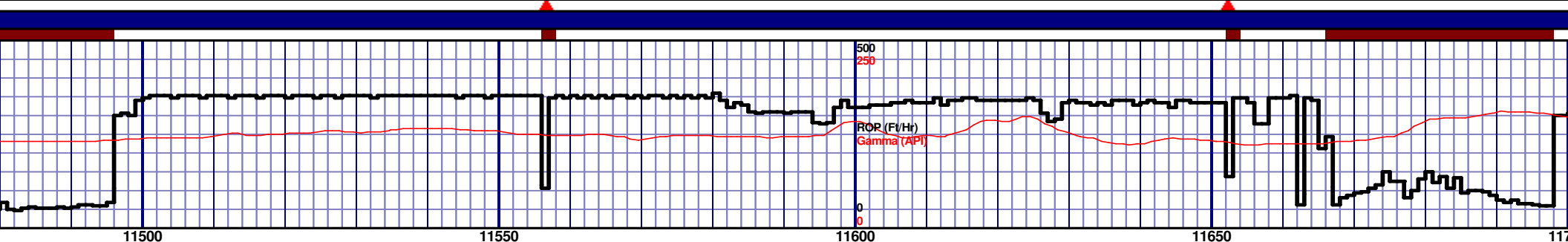
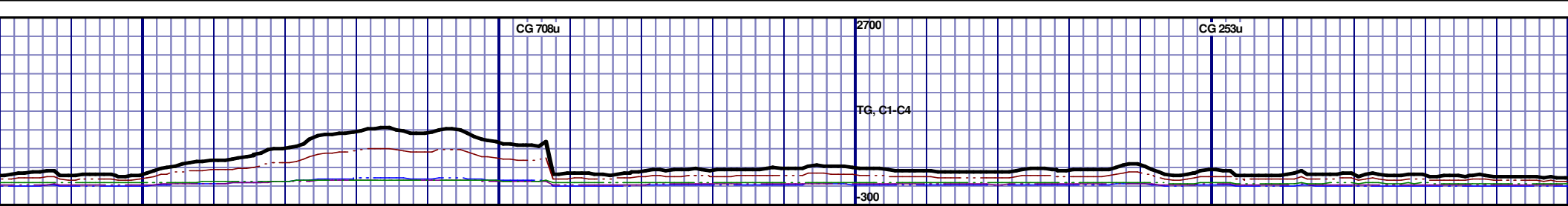
11300' MD: CHK: 70% (CaCO3 65%) MOTT LTGY -  
MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY,  
SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL,  
TRC GRYSHBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O  
FLO, IMMED STRMG CUT, HVY BLSHWT RNG

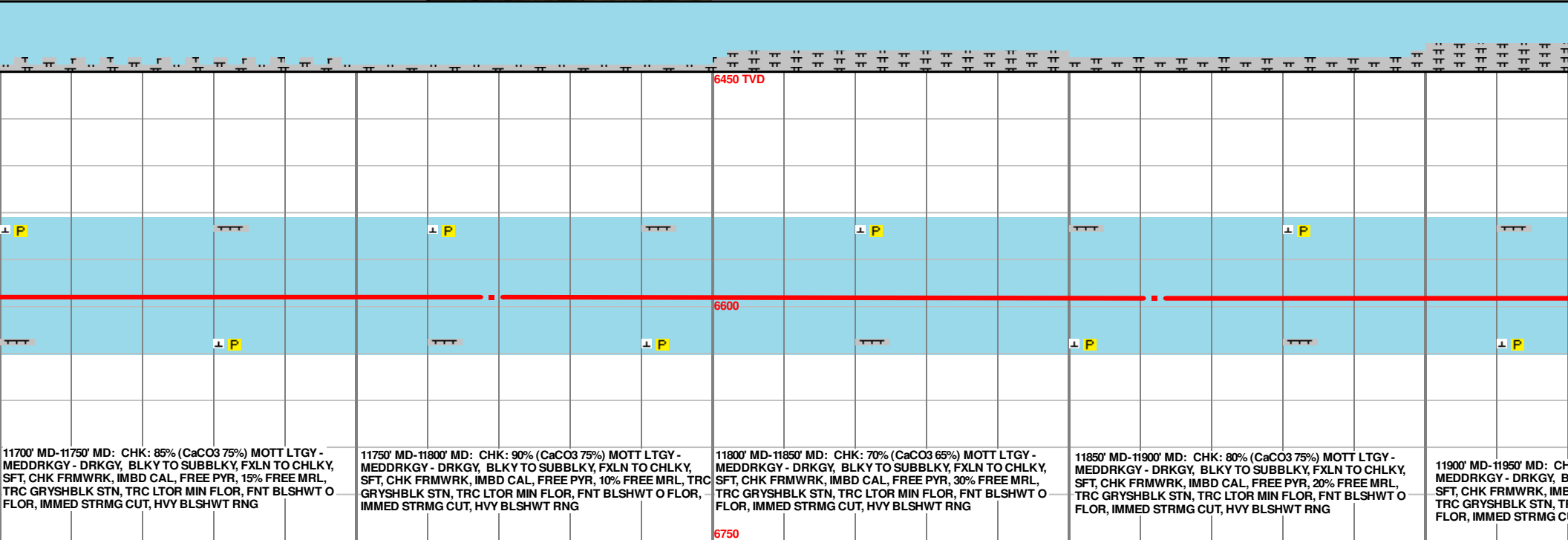
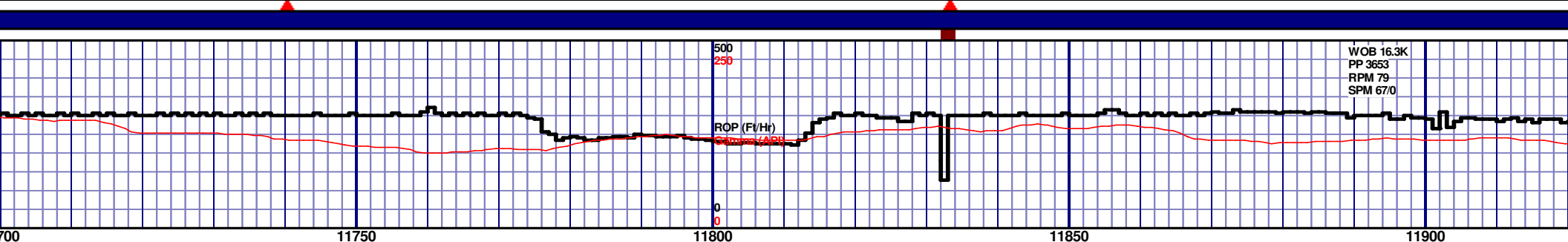
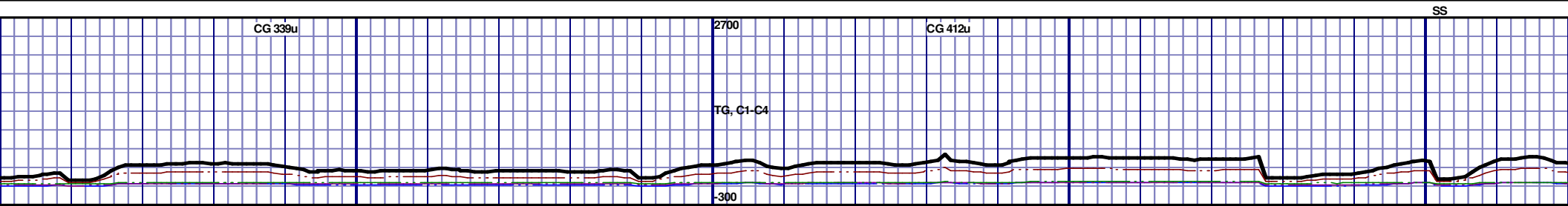
11300' MD-11350' MD: CHK: 60% (CaCO3 60%) MOTT LTGY -  
MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY,  
SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL,  
TRC GRYSHBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O  
FLO, IMMED STRMG CUT, HVY BLSHWT RNG

11350' MD-11400' MD: CHK: 70% (CaCO3 65%) MOTT LTGY -  
MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY,  
SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL,  
TRC GRYSHBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O  
FLO, IMMED STRMG CUT, HVY BLSHWT RNG

11400' MD-11450' MD: CHK: 55% (CaCO3 55%) MOTT LTGY -  
MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY,  
SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 45% FREE MRL,  
TRC GRYSHBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O  
FLO, IMMED STRMG CUT, HVY BLSHWT RNG

11450' MD-11500' MD: CHK: 60% (CaCO3 60%) MOTT LTGY -  
MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY,  
SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL,  
TRC GRYSHBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O  
FLO, IMMED STRMG CUT, HVY BLSHWT RNG





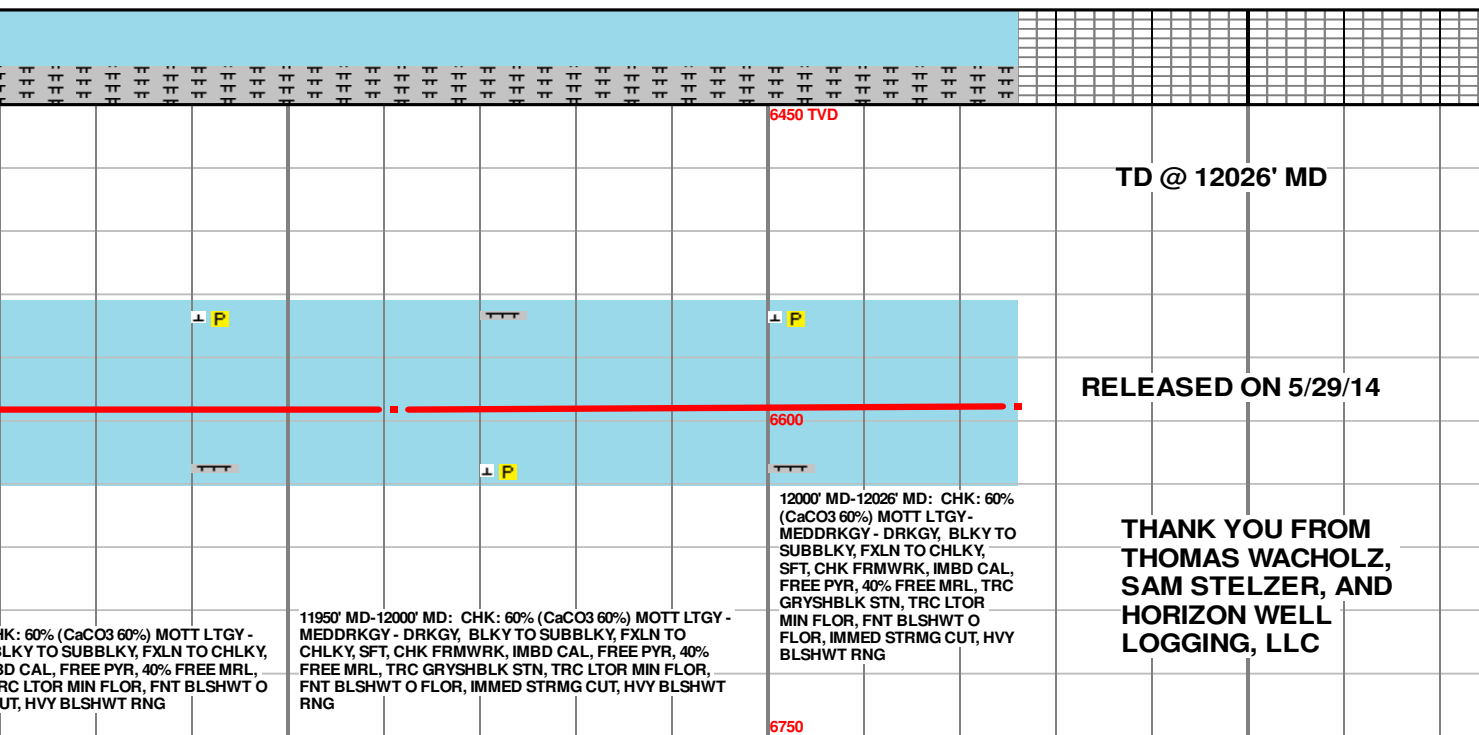
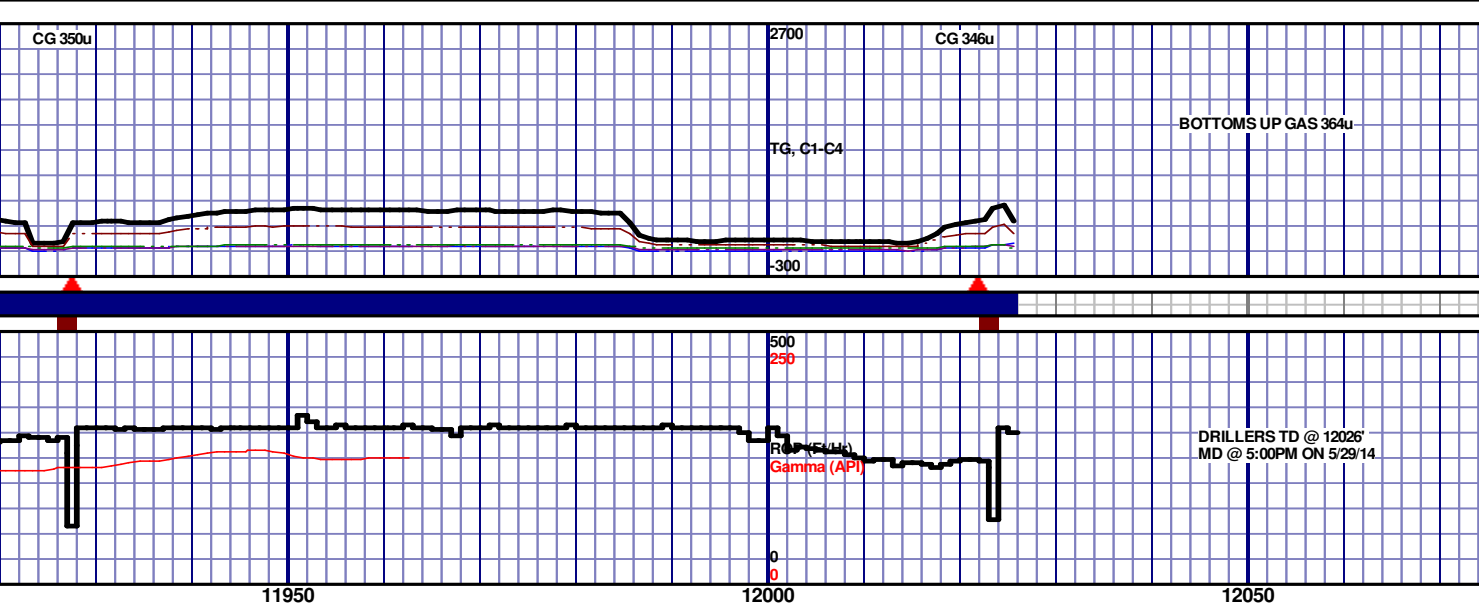
11700' MD-11750' MD: CHK: 85% (CaCO3 75%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 15% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

11750' MD-11800' MD: CHK: 90% (CaCO3 75%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 10% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

11800' MD-11850' MD: CHK: 70% (CaCO3 65%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

11850' MD-11900' MD: CHK: 80% (CaCO3 75%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

11900' MD-11950' MD: CHK: 85% (CaCO3 75%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 15% FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG



CHK: 60% (CaCO3 60%) MOTT LTGY -  
BLKY TO SUBBLKY, FXLN TO CHLKY,  
IMBD CAL, FREE PYR, 40% FREE MRL,  
TRC LTOR MIN FLOR, FNT BLSHWT O  
UT, HVY BLSHWT RNG

11950' MD-12000' MD: CHK: 60% (CaCO3 60%) MOTT LTGY -  
MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO  
CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40%  
FREE MRL, TRC GRYSBLK STN, TRC LTOR MIN FLOR,  
FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT  
RNG

12000' MD-12026' MD: CHK: 60%  
(CaCO3 60%) MOTT LTGY -  
MEDDRKGY - DRKGY, BLKY TO  
SUBBLKY, FXLN TO CHLKY,  
SFT, CHK FRMWRK, IMBD CAL,  
FREE PYR, 40% FREE MRL, TRC  
GRYSBLK STN, TRC LTOR  
MIN FLOR, FNT BLSHWT O  
FLOR, IMMED STRMG CUT, HVY  
BLSHWT RNG

TD @ 12026' MD

RELEASED ON 5/29/14

THANK YOU FROM  
THOMAS WACHOLZ,  
SAM STELZER, AND  
HORIZON WELL  
LOGGING, LLC