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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 &
Tom Denney
Log Interval: 6500' MD to 10717' MD
Start Date: September 29, 2013
Release Date: October 2, 2013

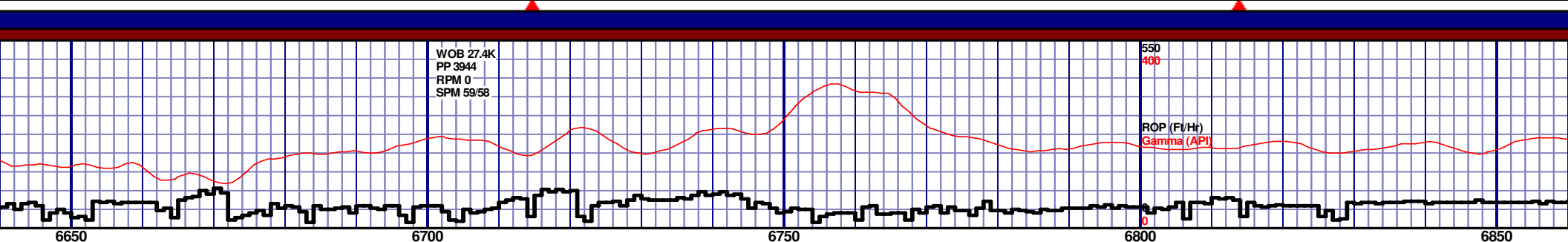
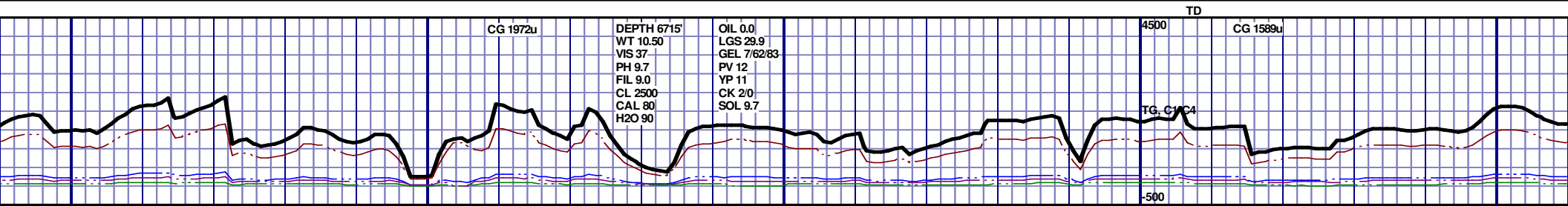
Well Information

Well Name: Wells Ranch AE20-63HN
Horizontal

Location: 20-T6N-R62W
1681' FSL, 215' FWL

County: Weld
State: Colorado

Drilling Rig: H&P 343
Total Depth: 10717' MD
TD Date: October 2, 2013
Formation: Niobrara B Chalk
KB Elevation: 4809'
GR Elevation: 4785'
API Number: 05-123-37222-0000



NIORBARA A MARL 6674' MD 6464' TVD								6380 TVD	TVD SCALE CHANGE 6380' TVD TO 6680' TVD 30 FEET PER DIVISION	
6650' MD: CHK: 60% V/LTGY - MEDGY, OCC DKG, BLKY TO FXLN TO CHALKY, SFT, IMBD PYRC	6660' MD-6690' MD: CHK: 55% V/LTGY - MEDGY, OCC DKG, BLKY TO SUBBLKY, FXLN TO CHALKY, SFT, IMBD PYRC	6690' MD-6720' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, NO STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	6720' MD-6750' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, NO STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	6750' MD-6780' MD: MRL: 50% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, NO STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	6780' MD-6810' MD: MRL: 50% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, NO STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	6810' MD-6840' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, NO STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	6840' MD-6870' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, NO STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	6530	Scale Change	6680

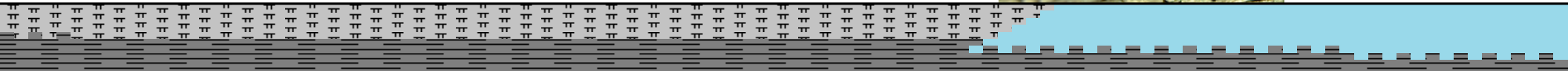
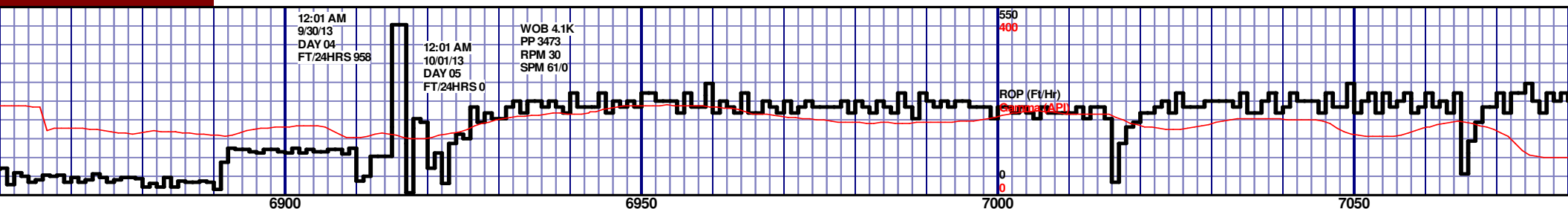
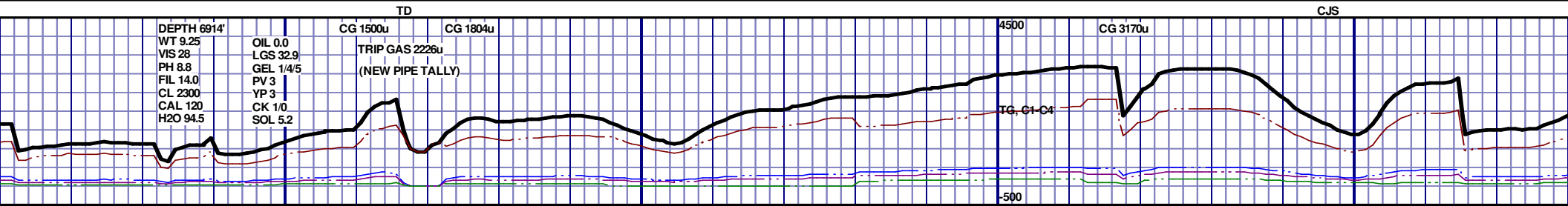
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INC 65.04 AZ 92.06
VS 476.49

MD 6709 TVD 6477.15
INC 65.65 AZ 90.41
VS 520.75

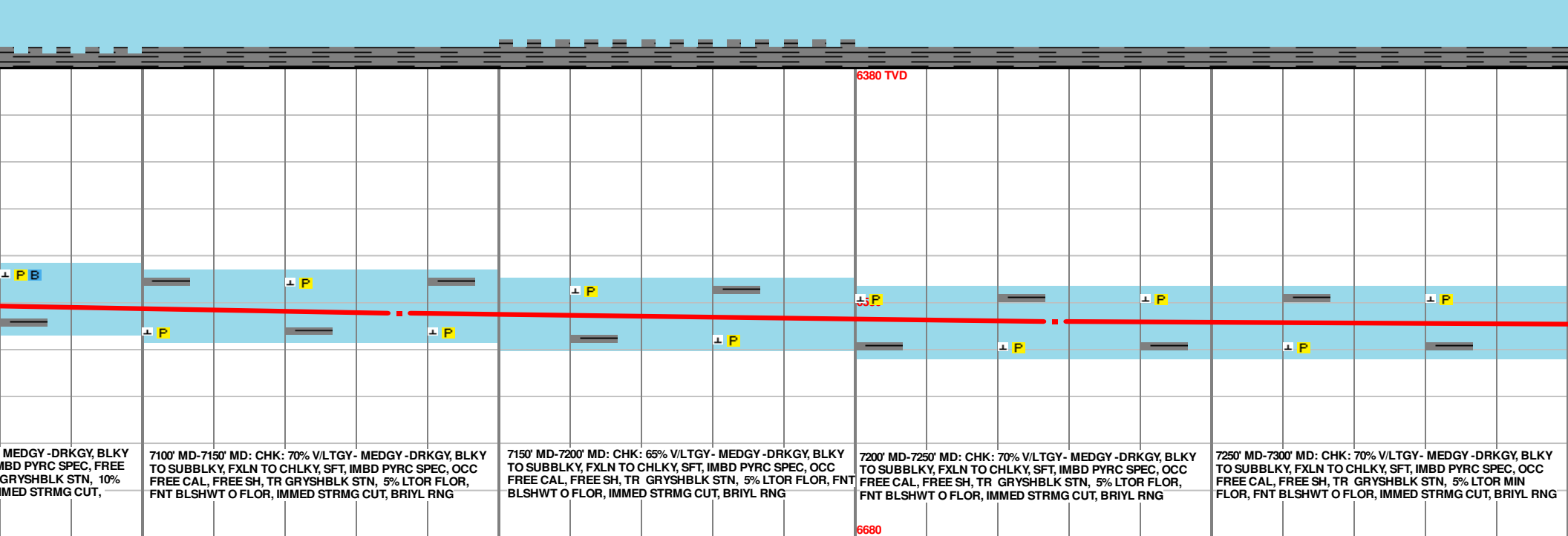
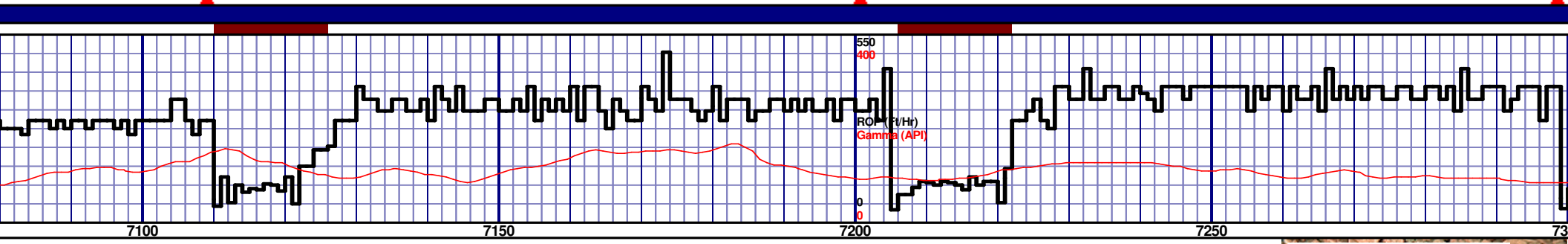
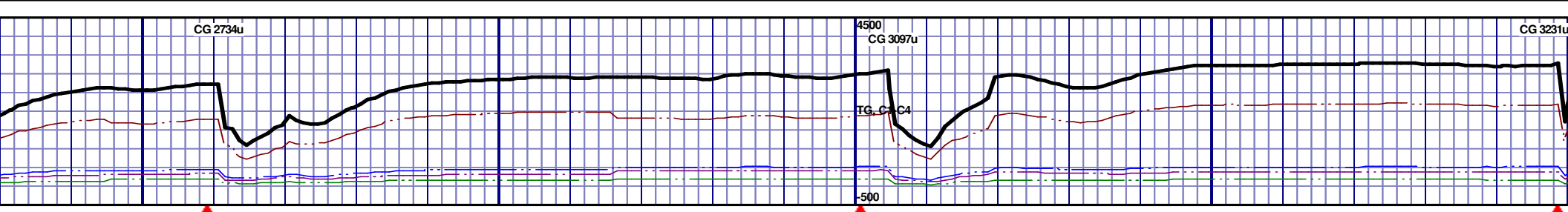
MD 6756 TVD 6491.6
INC 74.53 AZ 91.21
VS 565.6

MD 6804 TVD 6502.43
INC 79.4 AZ 90.1
VS 612.3

MD
INC
VS

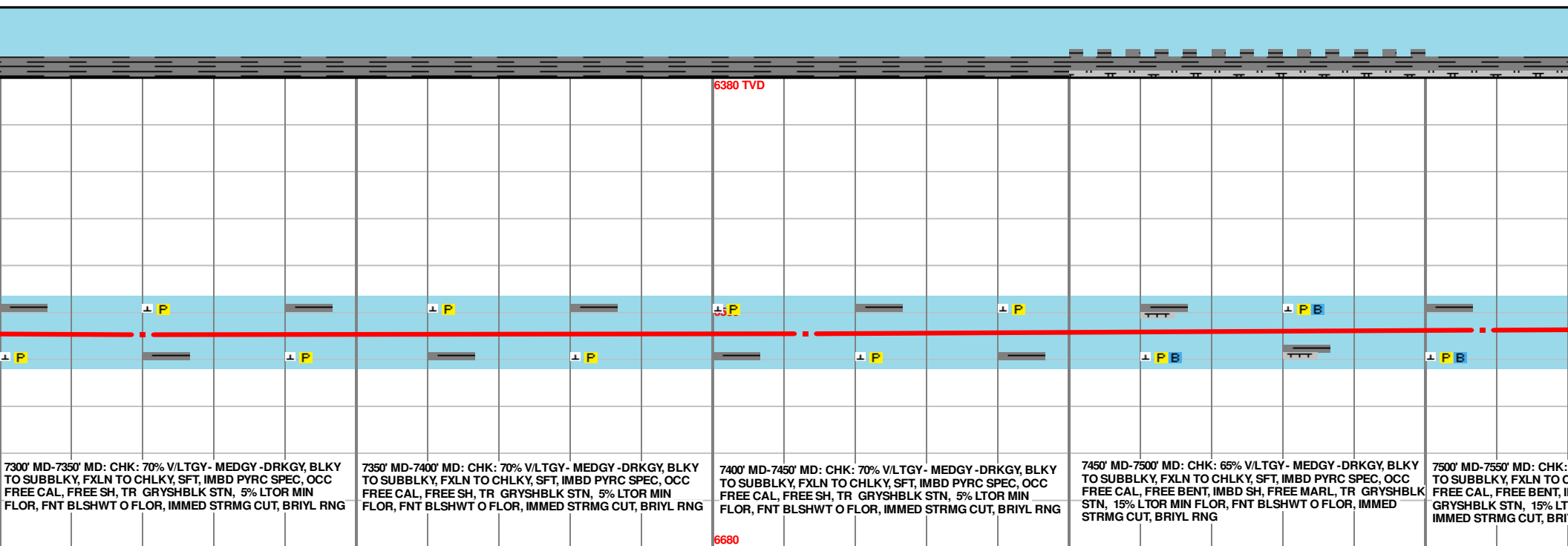
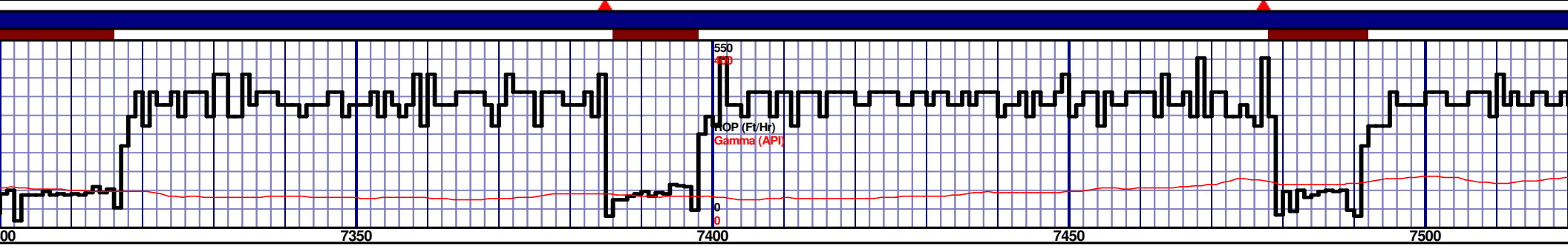
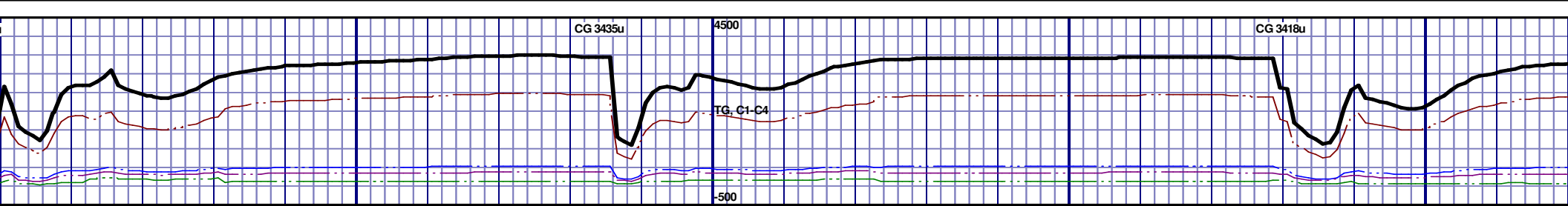


TOOH @ 9:38 PM ON 9/29/2013 @ 6914' MD FOR INTERMEDIATE CASING OPERATIONS. TIH @ 12:22AM ON 10/01/2013. RESUMED DRILLING @ 3:42 AM ON 10/01/2013 W/ BIT # 4, 6.125", HDBS MMD54, S/N 12175680 IN @ 6914' MD				6380 TVD NIOBARRA B CHALK 7000' MD 6526' TVD			
SWITCHING TO 50FT SAMPLE INTERVAL				6530			
45% KY TO KY, SFT, AL, FREE POR, NO FNT STRMG CUT	6870' MD-6900' MD: MRL: 50% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, NO STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	6900' MD-6950' MD: MRL: 50% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, TT - PP POR, NO STN, NO MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	6950' MD-7000' MD: MRL: 50% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, TT - PP POR, NO STN, NO MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT	7000' MD-7050' MD: CHK: 50% VLTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, MOD GRYSHBLK STN, NO MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	7050' MD-7100' MD: CHK: 75% VLTGY - TO SUBBLKY, FXLN TO CHLKY, SFT, IM BENT, OCC FREE CAL, FREE SH, MOD LTOR FLOR, FNT BLSHWT O FLOR, IM BRIYL RNG		



MD 7136 TVD 6536.49
INC 86.14 AZ 87.93
VS 941.5

MD 7228 TVD 6541.67
INC 87.41 AZ 88.13
VS 1033



7300' MD-7350' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TR GRYSBLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

7350' MD-7400' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TR GRYSBLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

7400' MD-7450' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE SH, TR GRYSBLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

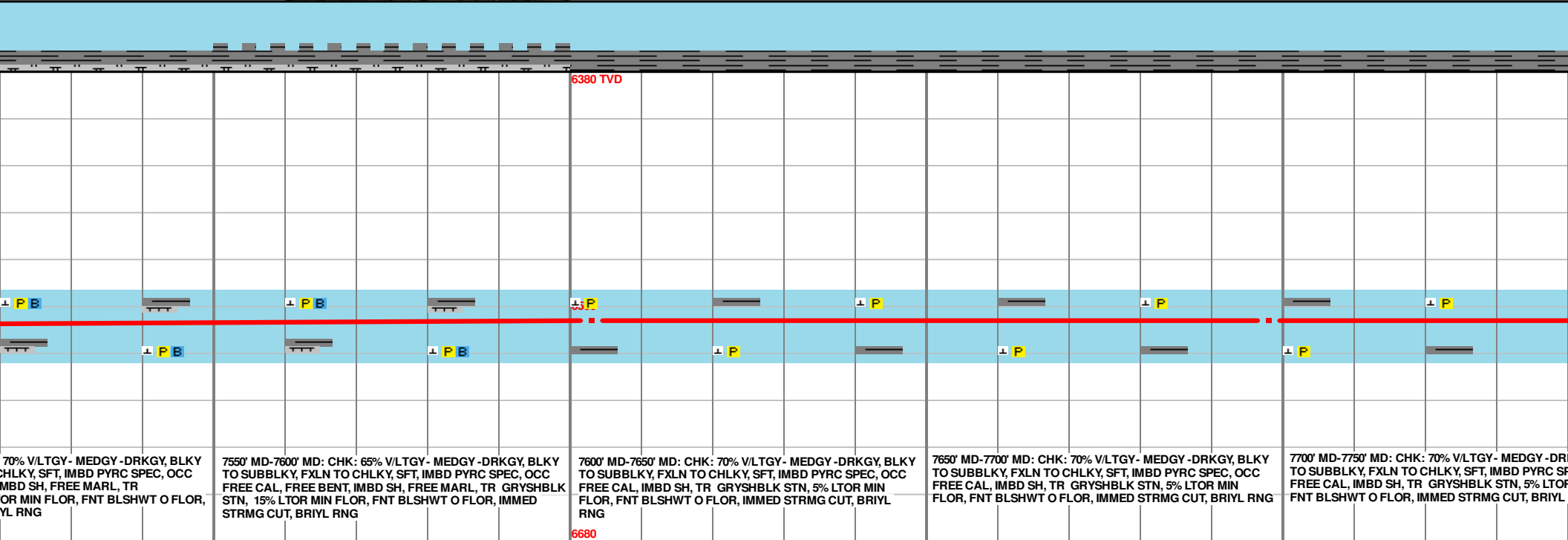
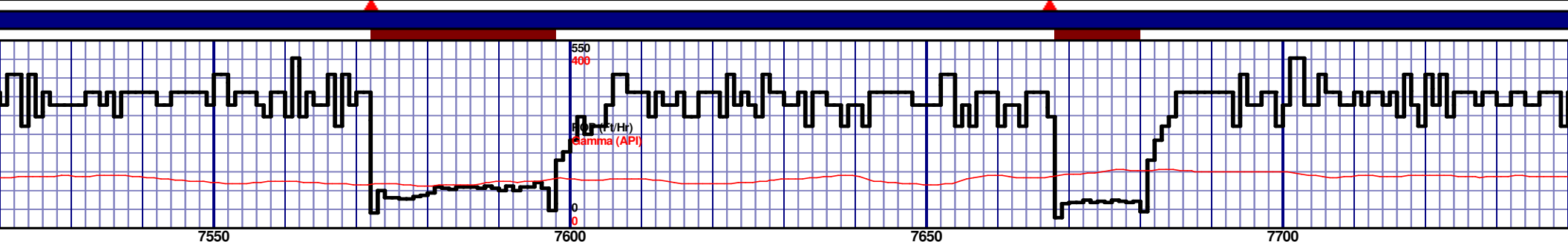
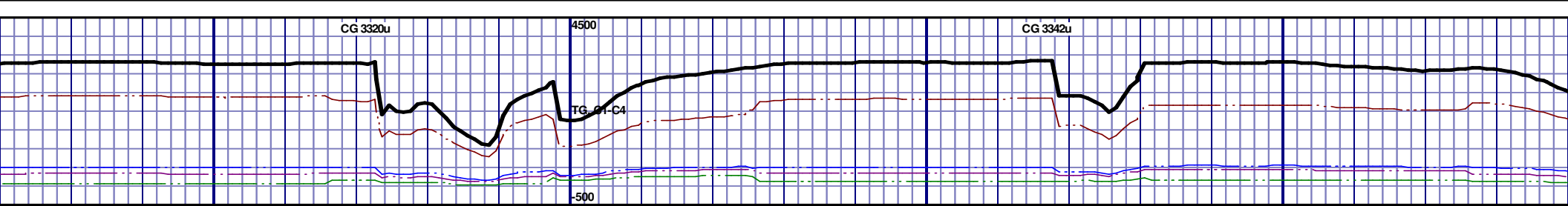
7450' MD-7500' MD: CHK: 65% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, TR GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

7500' MD-7550' MD: CHK: TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, TR GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

MD 7320 TVD 6544.56
INC 88.98 AZ 88.76
VS 1124.65

MD 7413 TVD 6543.86
INC 91.88 AZ 89.45
VS 1217.42

MD 7508 TVD 6543.86
INC 91.67 AZ 90.45
VS 1312.23



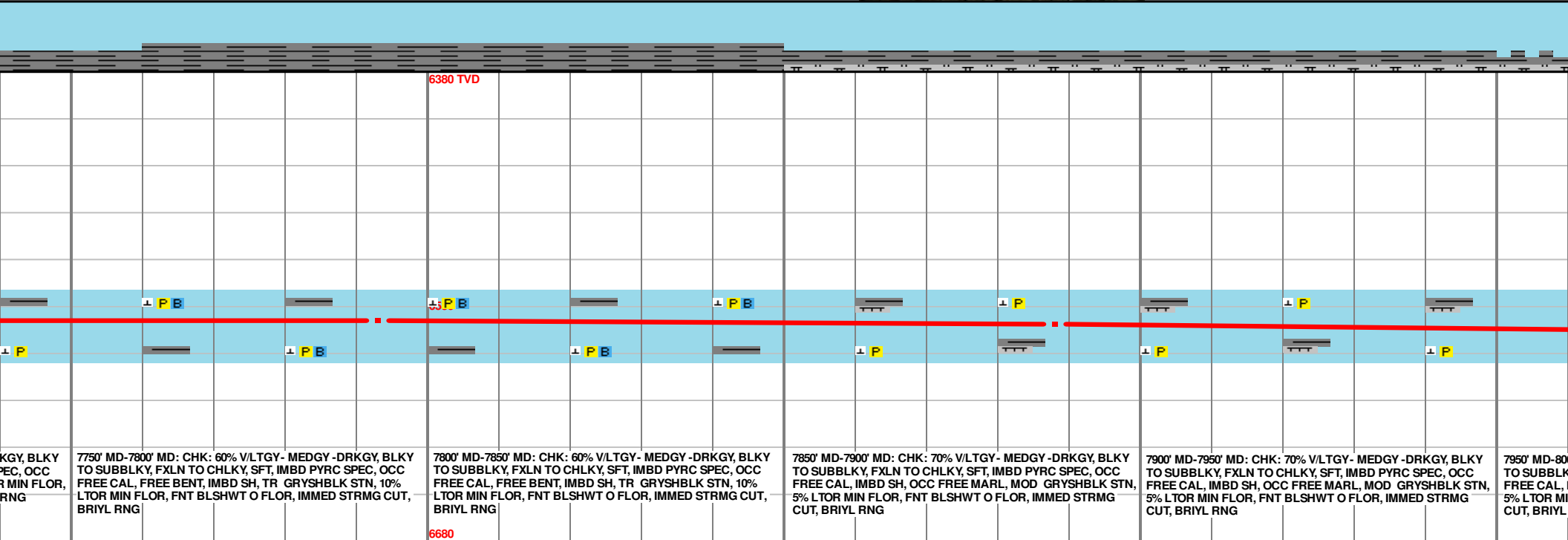
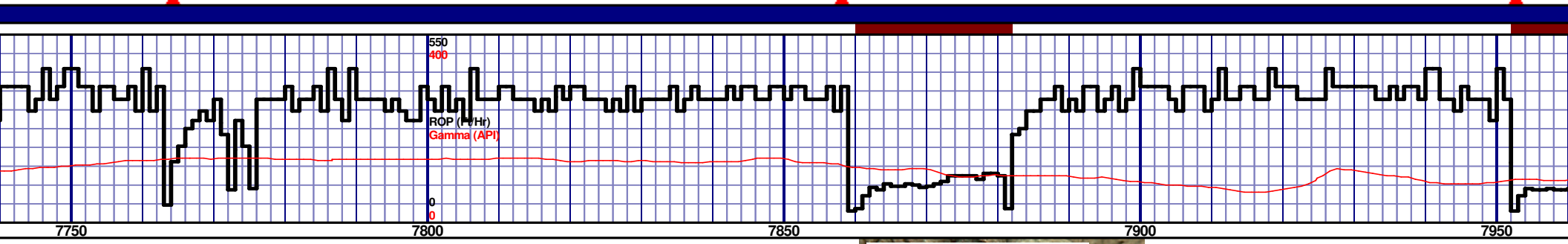
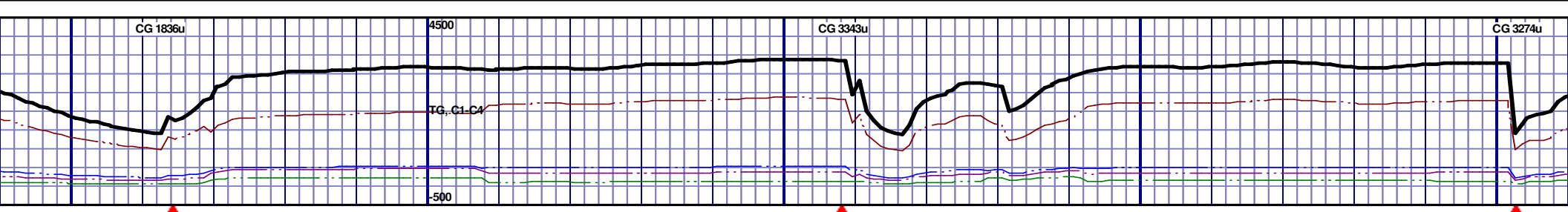
70% V/LTGY - MEDGY - DRKGY, BLKY
CHLKY, SFT, IMBD PYRC SPEC, OCC
FREE CAL, IMBD SH, FREE MARL, TR
GRYSHBLK STN, 5% LTOR MIN
FLOR, FNT BLSHWT O FLOR, IMMED
STRMG CUT, BRIYL RNG

7550' MD-7600' MD: CHK: 65% V/LTGY - MEDGY - DRKGY, BLKY
TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC
FREE CAL, IMBD SH, FREE MARL, TR GRYSHBLK
STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED
STRMG CUT, BRIYL RNG

7600' MD-7650' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY
TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC
FREE CAL, IMBD SH, TR GRYSHBLK STN, 5% LTOR MIN
FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL
RNG

7650' MD-7700' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY
TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC
FREE CAL, IMBD SH, TR GRYSHBLK STN, 5% LTOR MIN
FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL
RNG

7700' MD-7750' MD: CHK: 70% V/LTGY - MEDGY - DRKGY, BLKY
TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC
FREE CAL, IMBD SH, TR GRYSHBLK STN, 5% LTOR MIN
FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL
RNG



7750' MD-7800' MD: CHK: 60% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, TR GRYSHBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

7800' MD-7850' MD: CHK: 60% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, TR GRYSHBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

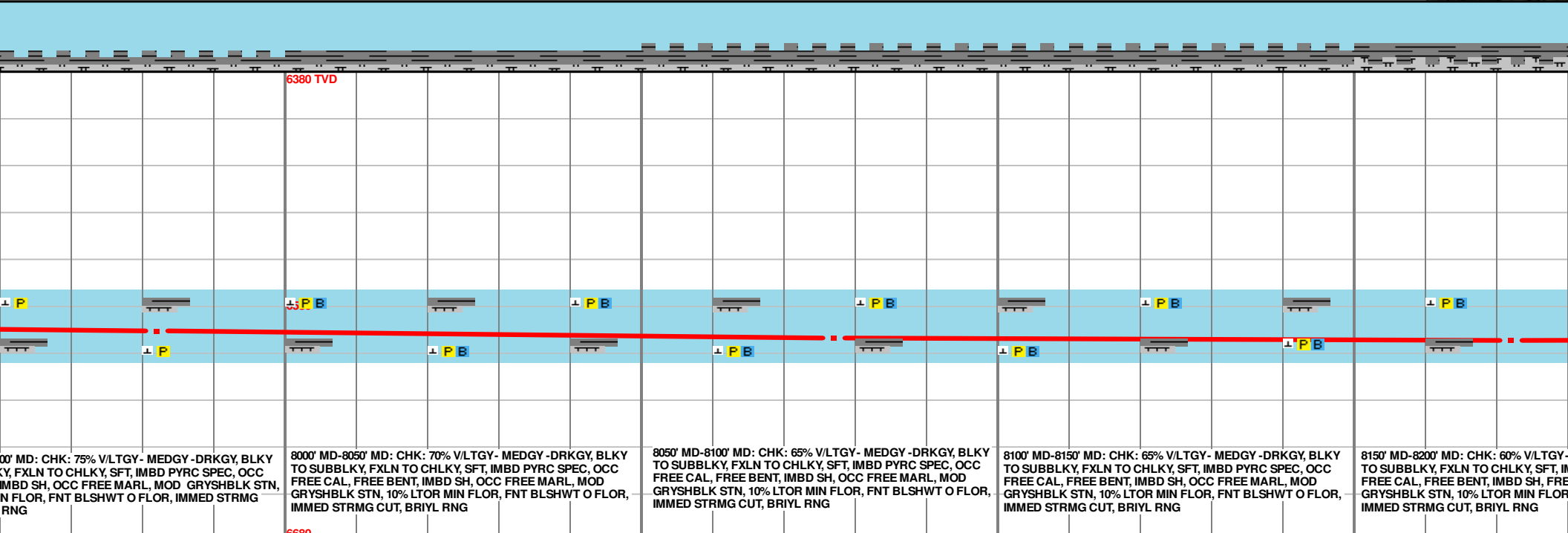
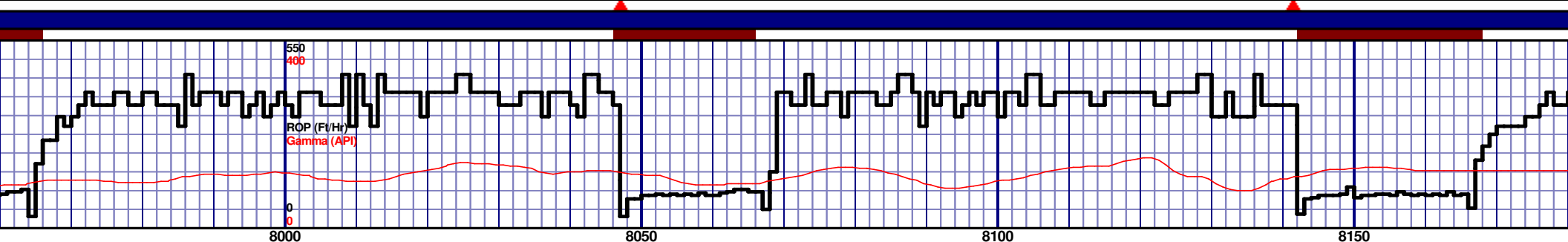
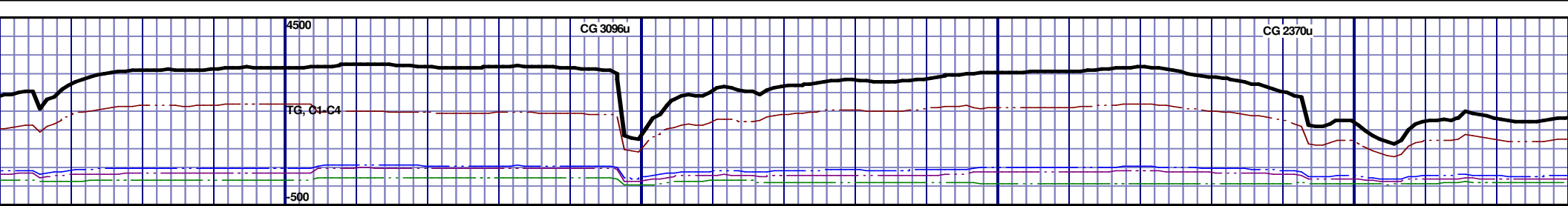
7850' MD-7900' MD: CHK: 70% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, IMBD SH, OCC FREE MARL, MOD GRYSHBLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

7900' MD-7950' MD: CHK: 70% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, IMBD SH, OCC FREE MARL, MOD GRYSHBLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

7950' MD-8000' MD: CHK: 70% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, IMBD SH, OCC FREE MARL, MOD GRYSHBLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG

MD 7793 TVD 6539.14
INC 90.8 AZ 86.65
VS 1596.44

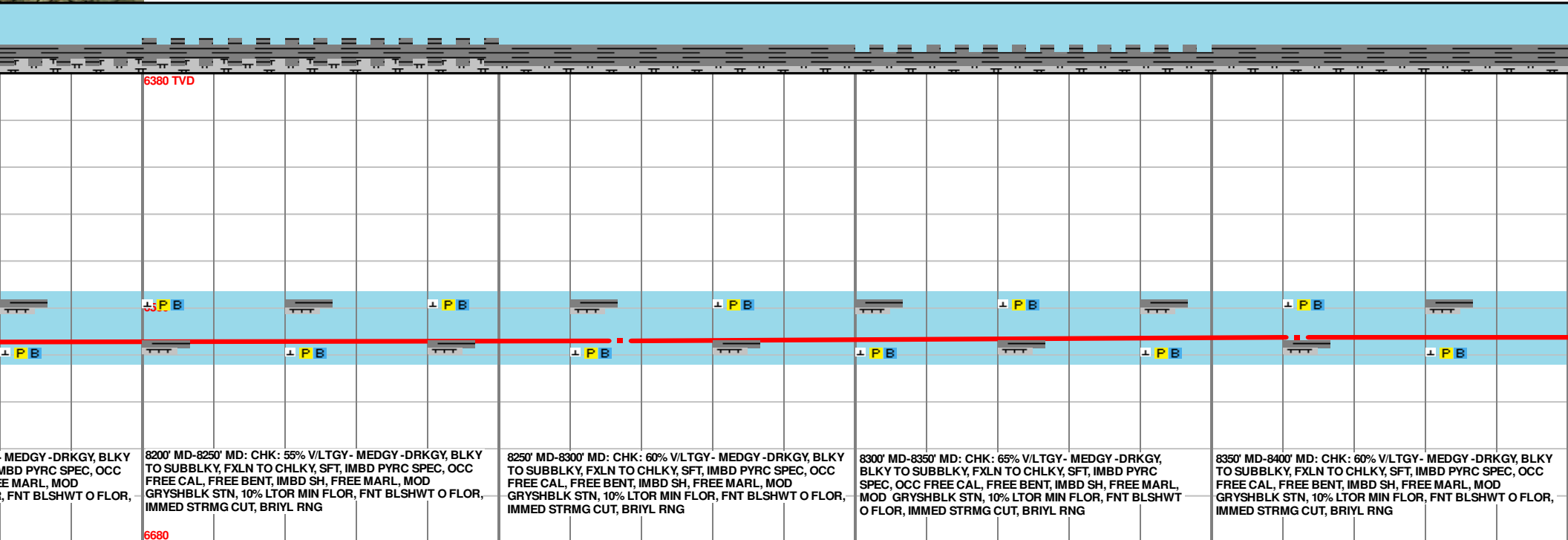
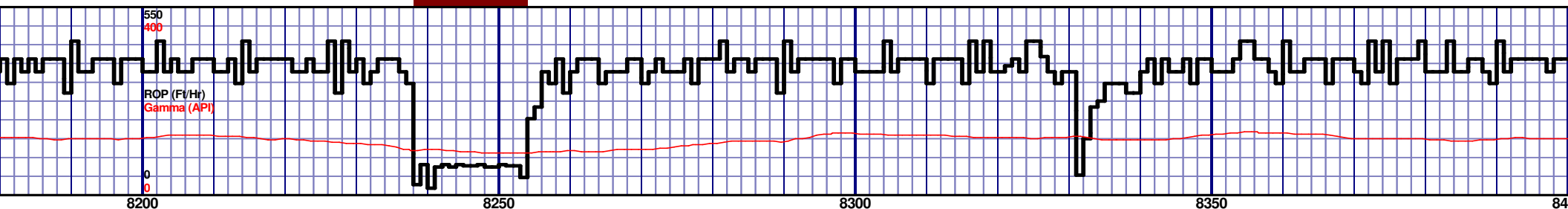
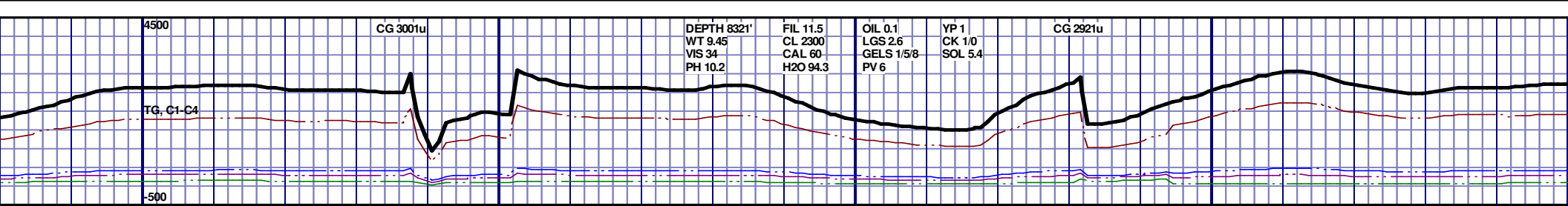
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INC 86.76 AZ 87.39
VS 1691.04

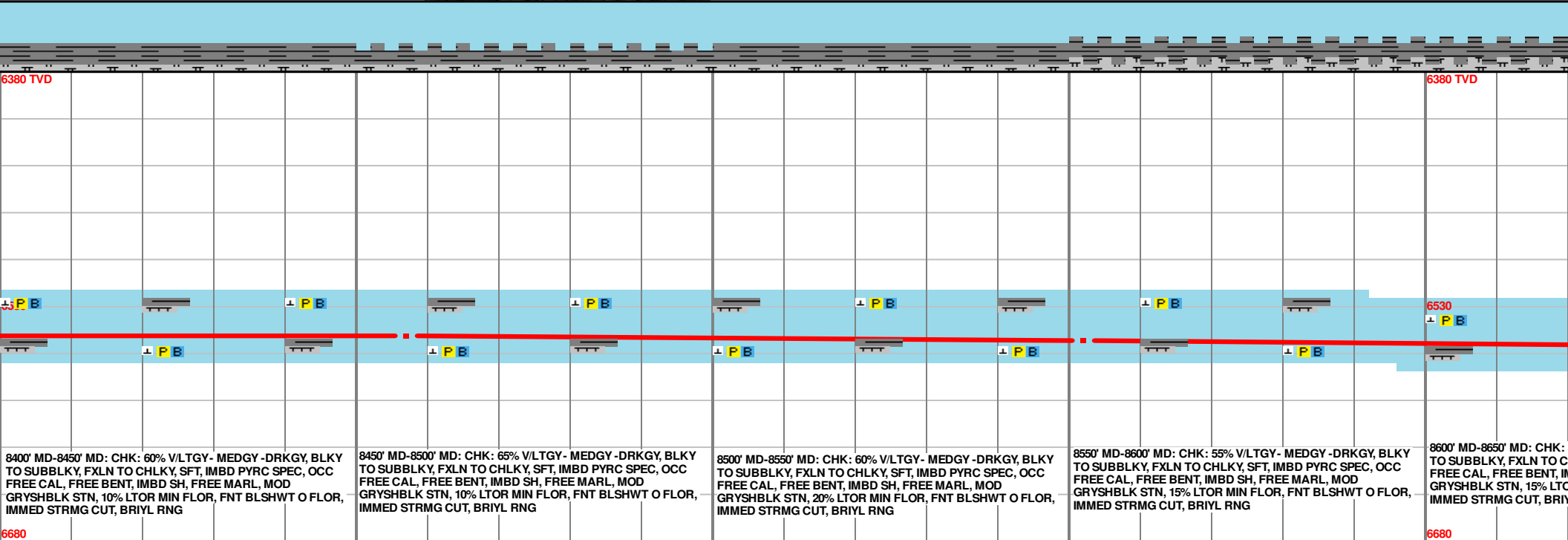
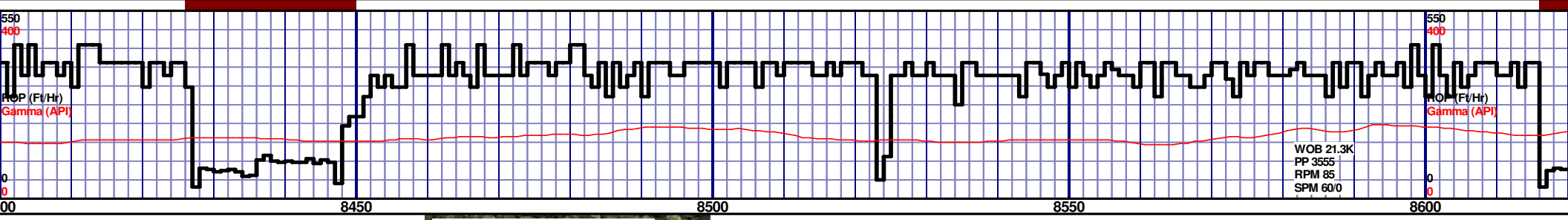
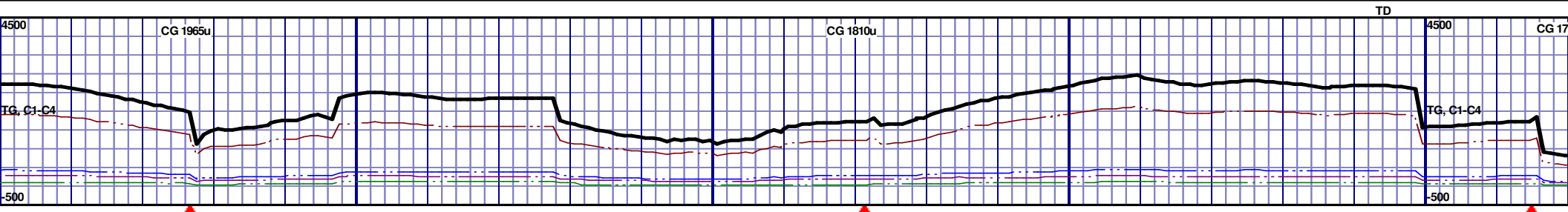


MD 7982 TVD 6545.99
INC 87.35 AZ 86.53
VS 1784.38

MD 8077 TVD 6550.38
INC 87.35 AZ 87.81
VS 1878.78

MD 8172 TVD 6555.38
INC 87.35 AZ 87.81
VS 1973.38

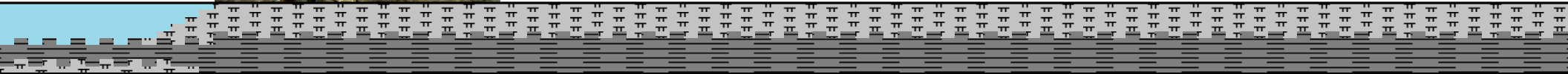
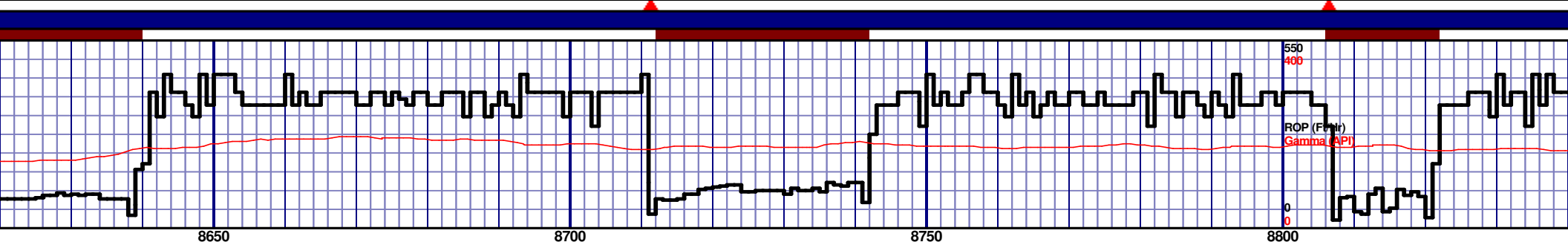
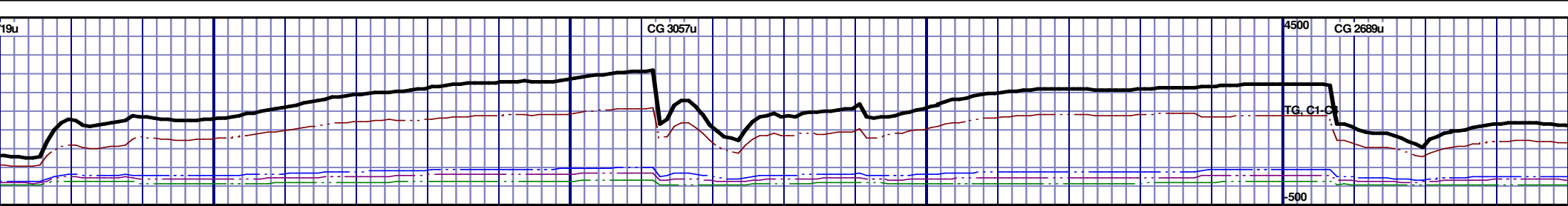




8400' MD-8450' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8450' MD-8500' MD: CHK: 65% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8500' MD-8550' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 20% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8550' MD-8600' MD: CHK: 55% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8600' MD-8650' MD: CHK: TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG
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MD 8457 TVD 6548.56
INC 88.49 AZ 88.57
VS 2257.46

MD 8552 TVD 6551.86
INC 87.53 AZ 88.24
VS 2352.09



NIOBRARA B MARL
8650' MD 6556' TVD

6380 TVD

<p>55% V/LTGY - MEDGY - DRKGY, BLKY CHLKY, SFT, IMBD PYRC SPEC, OCC IMBD SH, FREE MARL, MOD OR MIN FLOR, FNT BLSHWT O FLOR, YL RNG</p>	<p>8650' MD-8700' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSHBLK STN, 20% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8700' MD-8750' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSHBLK STN, 20% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8750' MD-8800' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSHBLK STN, 20% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</p>	<p>8800' MD-8850' MD: MRL: 45% MEDDRKGY - DRKGY SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRM CAL, FREE PYR, TT - PP POR, TR GRYSHBLK STN, MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG RNG</p>
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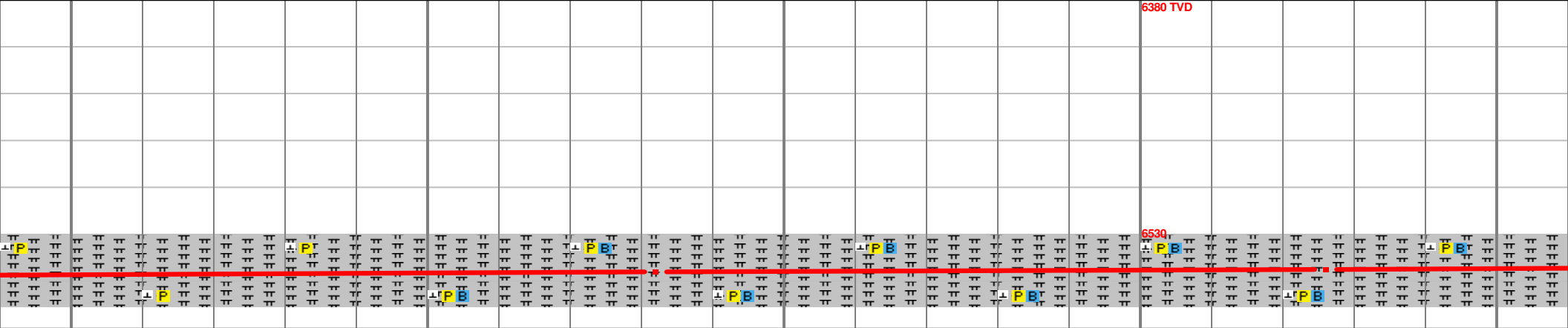
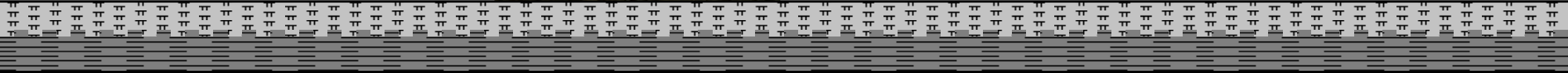
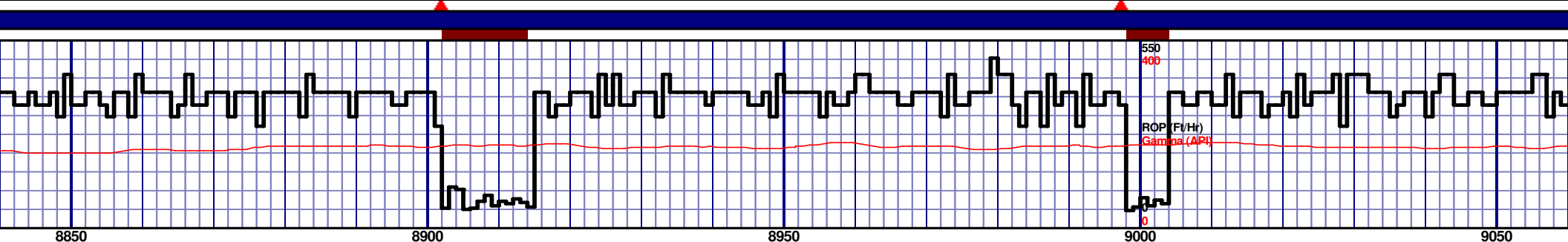
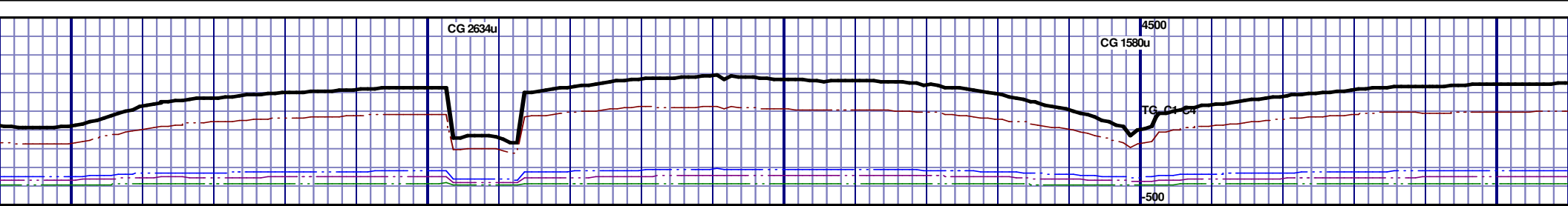
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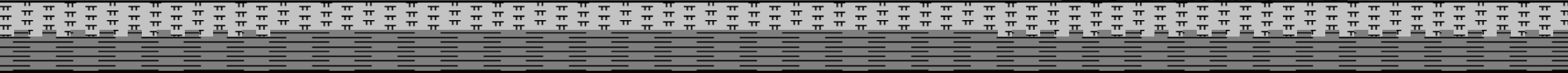
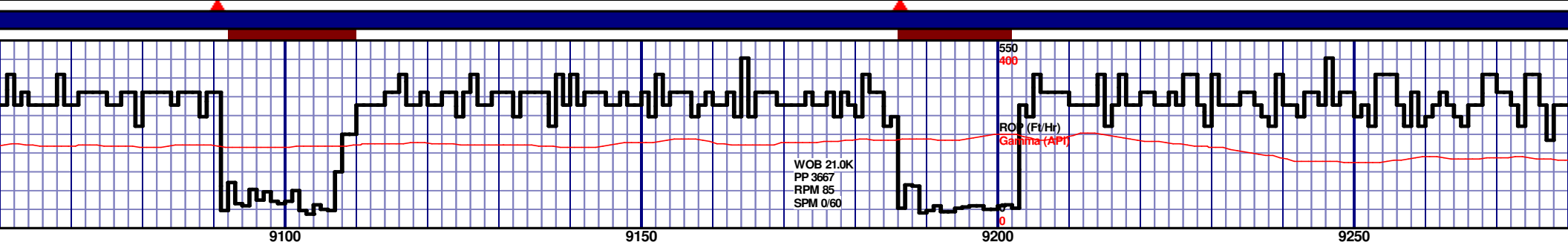
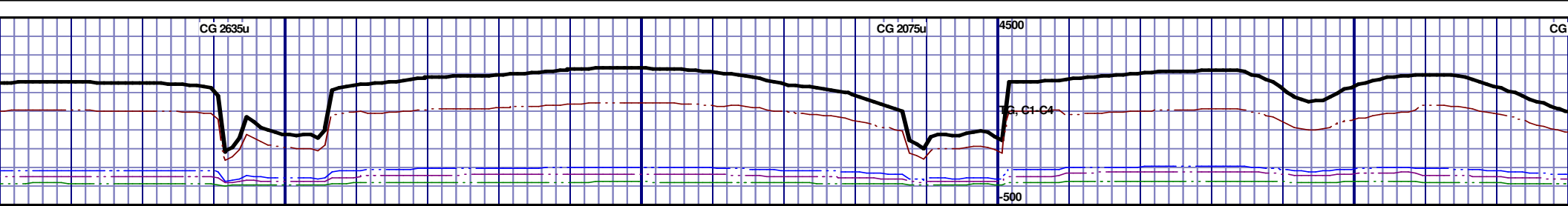
MD 8647 TVD 6555.34
INC 88.27 AZ 88.83
VS 2446.73

MD 8742 TVD 6556.7
INC 90.09 AZ 89.15
VS 2541.48

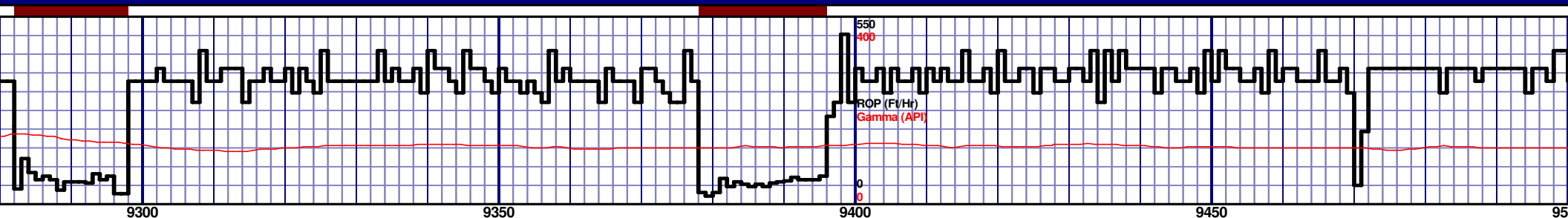
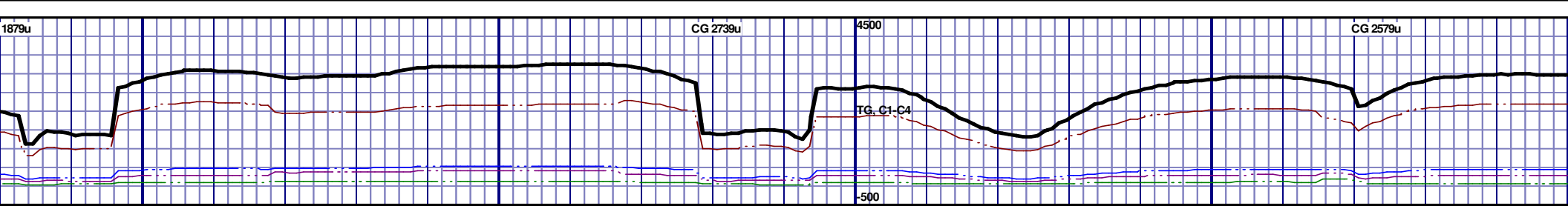
MD
INC
VS



8850' MD-8900' 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 MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8900' MD-8950' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSBLK STN, 20% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	8950' MD-9000' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSBLK STN, 20% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	9000' MD-9050' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG	9050' MD-9100' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG
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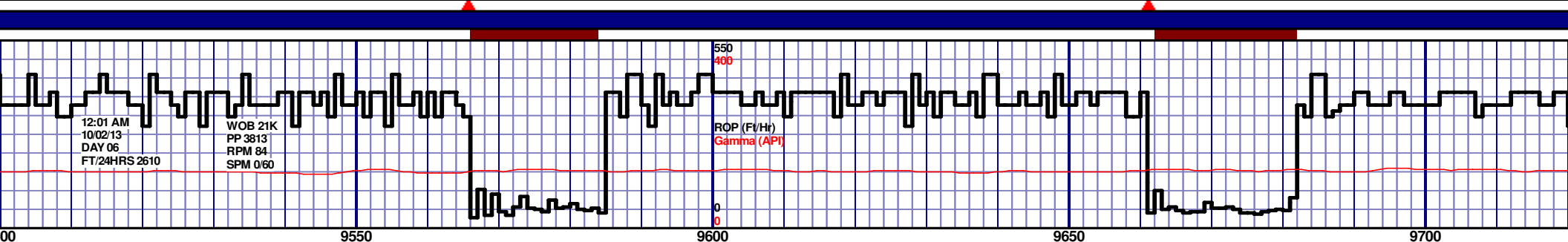
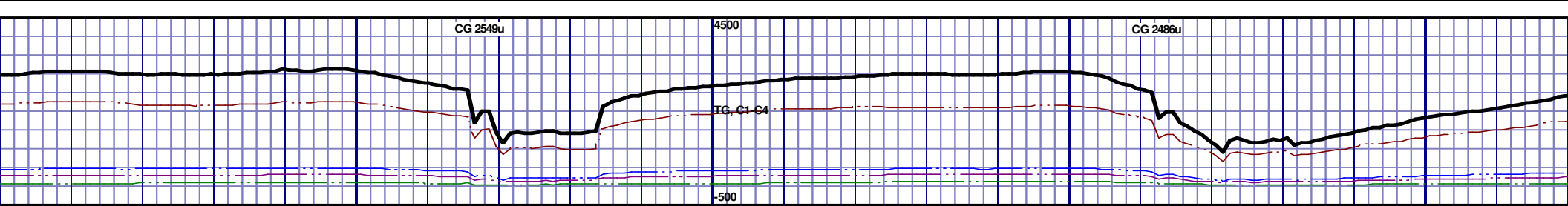
6380 TVD									
<div>00' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD PYR, FREE BENT, TT - PP POR, TR GRYSBLK STN, MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div>									
<div>9100' MD-9150' MD: MRL: 40% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, TT - PP POR, TR GRYSBLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div>									
<div>9150' MD-9200' MD: MRL: 40% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div>									
<div>9200' MD-9250' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div>									
<div>9250' MD-9300' MD: MRL: 45% MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, FRM TO FRI, CHK FRMWRK, IMBD CAL, FREE PYR, FREE BENT, TT - PP POR, TR GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG</div>									
6680									



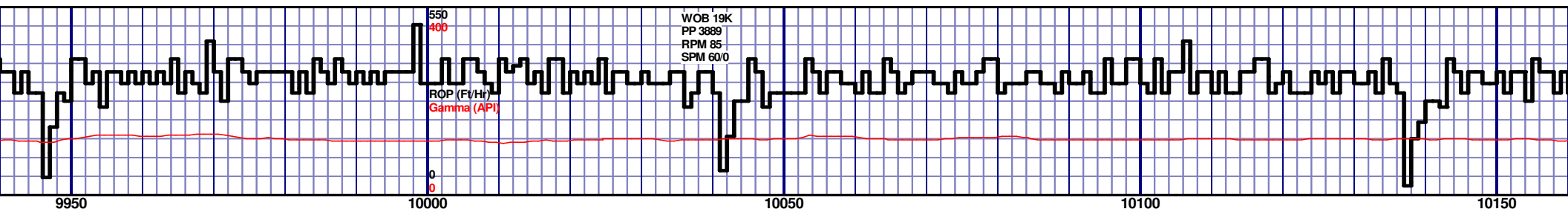
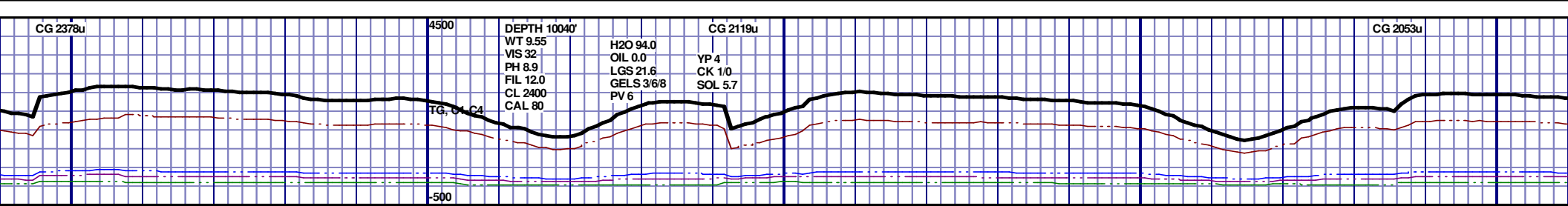
NIORARA B CHALK 9300' MD 6541' TVD											
6380 TVD											
6530											
6680											
9300' MD-9350' MD: CHK: 55% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG											
9350' MD-9400' MD: CHK: 50% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG											
9400' MD-9450' MD: CHK: 50% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 15% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG											
9450' MD-9500' MD: CHK: 55% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG											

MD 9311 TVD 6541.02
INC 92.65 AZ 87.68
VS 3108.58

MD 9406 TVD 6538.52
INC 90.37 AZ 89.44
VS 3203.25



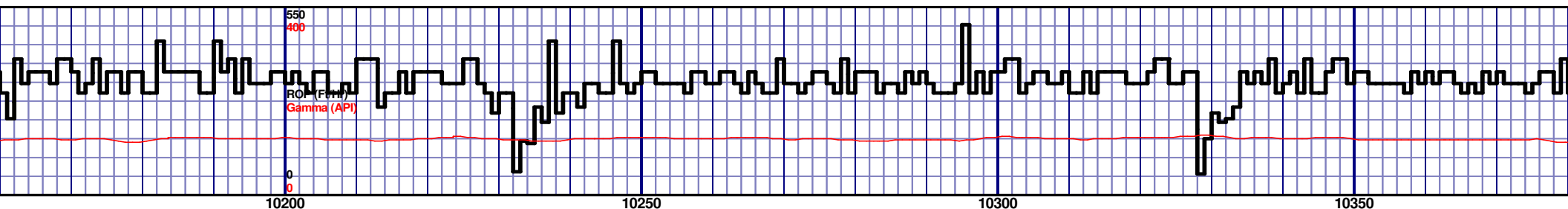
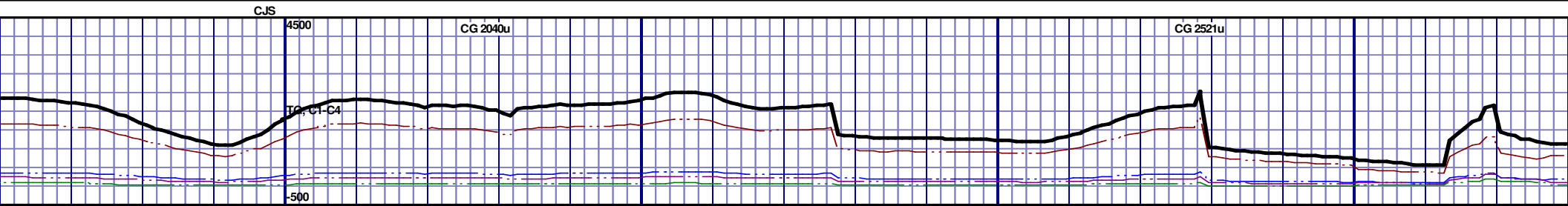
9500' MD-9550' MD: CHK: 55% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSHLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9550' MD-9600' MD: CHK: 55% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSHLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9600' MD-9650' MD: CHK: 55% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSHLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9650' MD-9700' MD: CHK: 55% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSHLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG					9700' MD-9750' MD: CHK: 55% V/LTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSHLK STN, 5% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG				
6380 TVD					6530					6680														



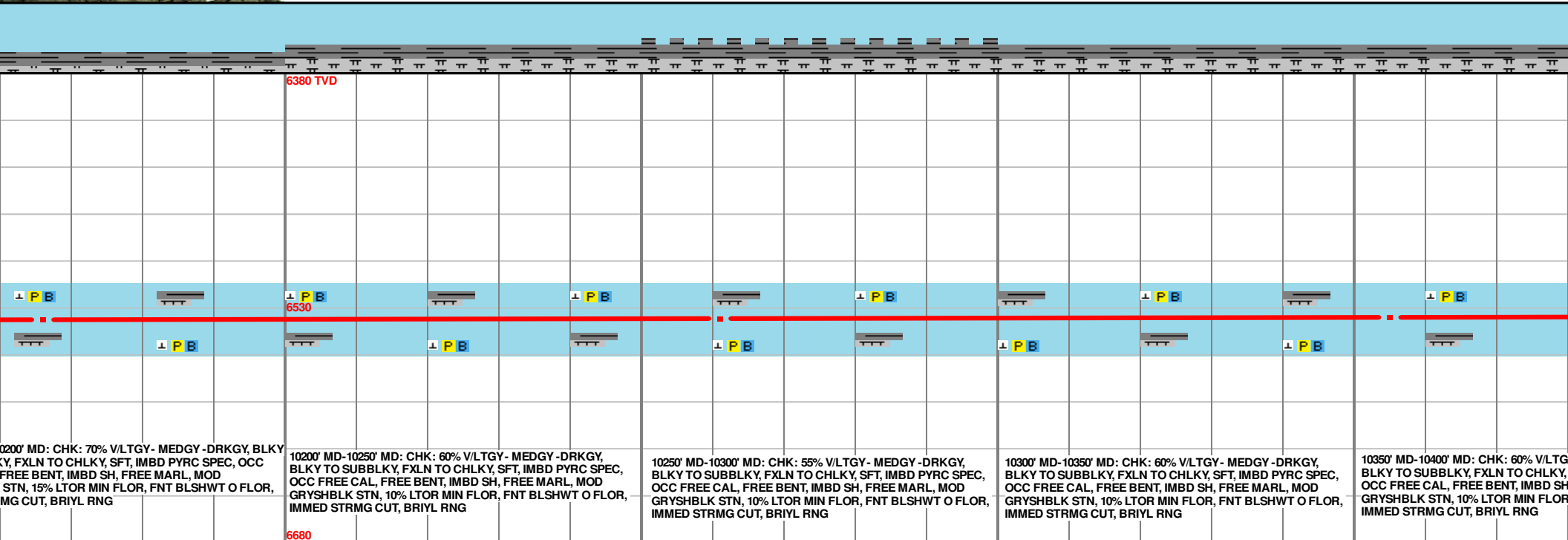
6380 TVD									
6530									
6680									
9950' MD-10000' MD: CHK: 60% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 20% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									
10000' MD-10050' MD: CHK: 65% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 20% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									
10050' MD-10100' MD: CHK: 60% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									
10100' MD-10150' MD: CHK: 55% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									
10150' MD-10150' MD: CHK: 55% VLTGY- MEDGY-DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									

MD 9976 TVD 6538.58
INC 89.85 AZ 89.54
VS 3771.81

MD 10071 TVD 6538.45
INC 90.31 AZ 89.77
VS 3866.64



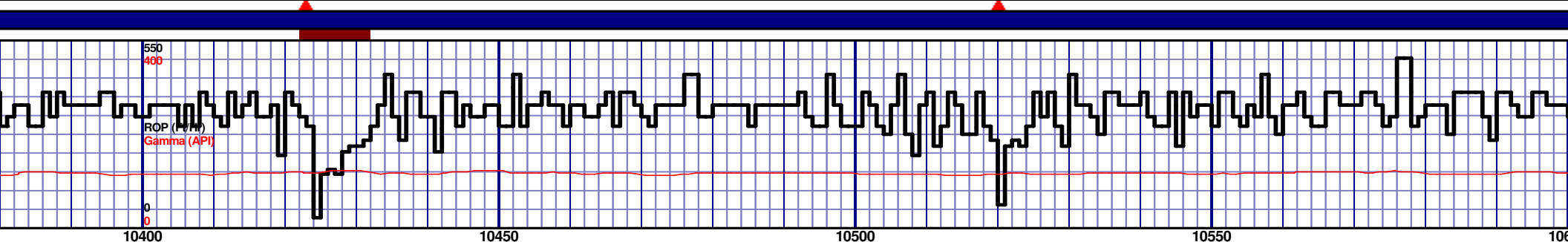
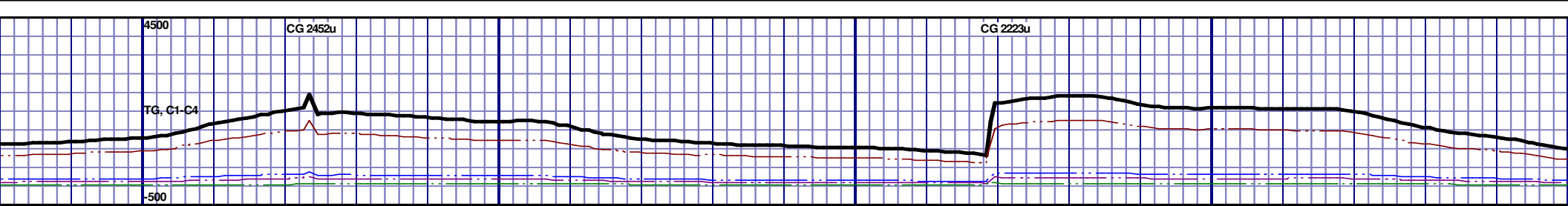
10200 10250 10300 10350



MD 10166 TVD 6537.76
INC 90.52 AZ 89.9
VS 3961.49

MD 10261 TVD 6536.93
INC 90.49 AZ 89.51
VS 4056.33

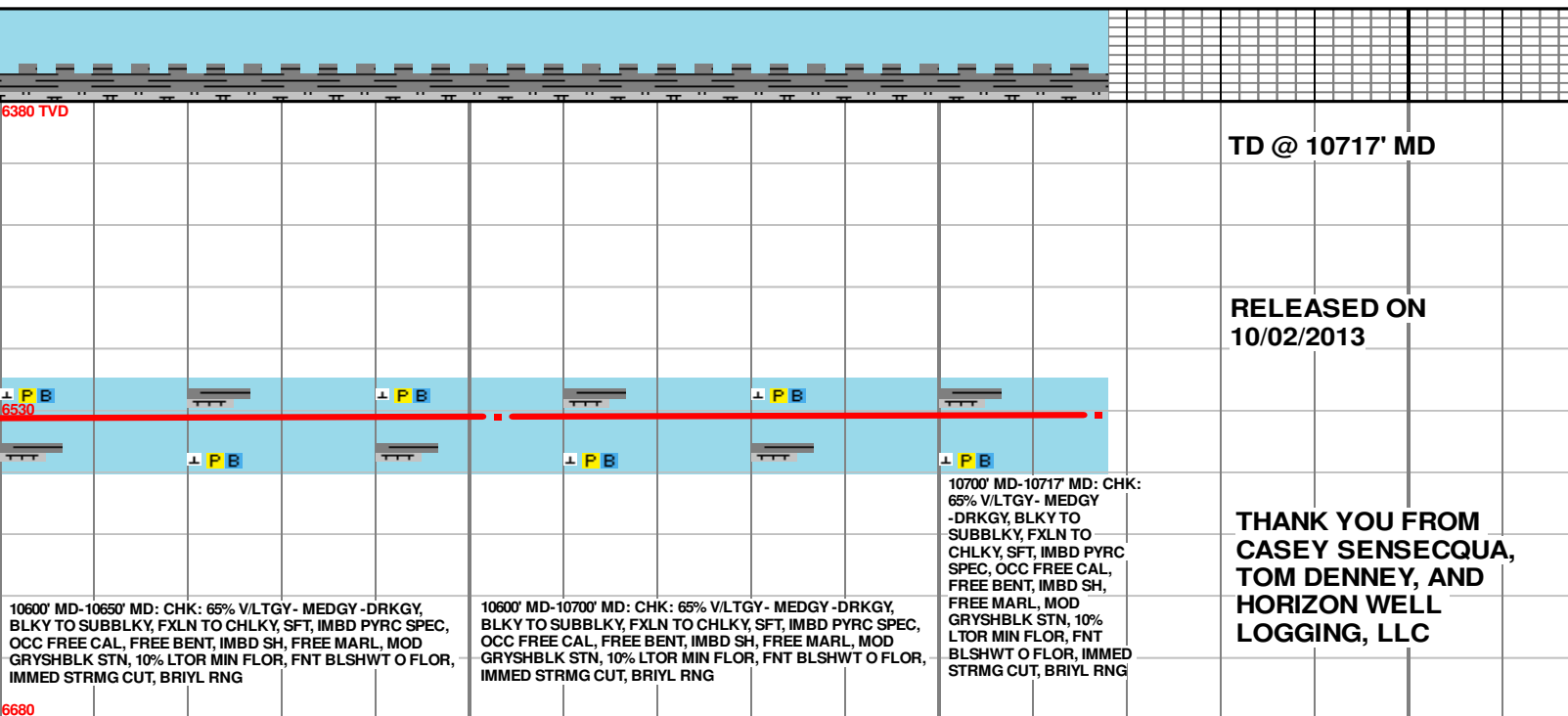
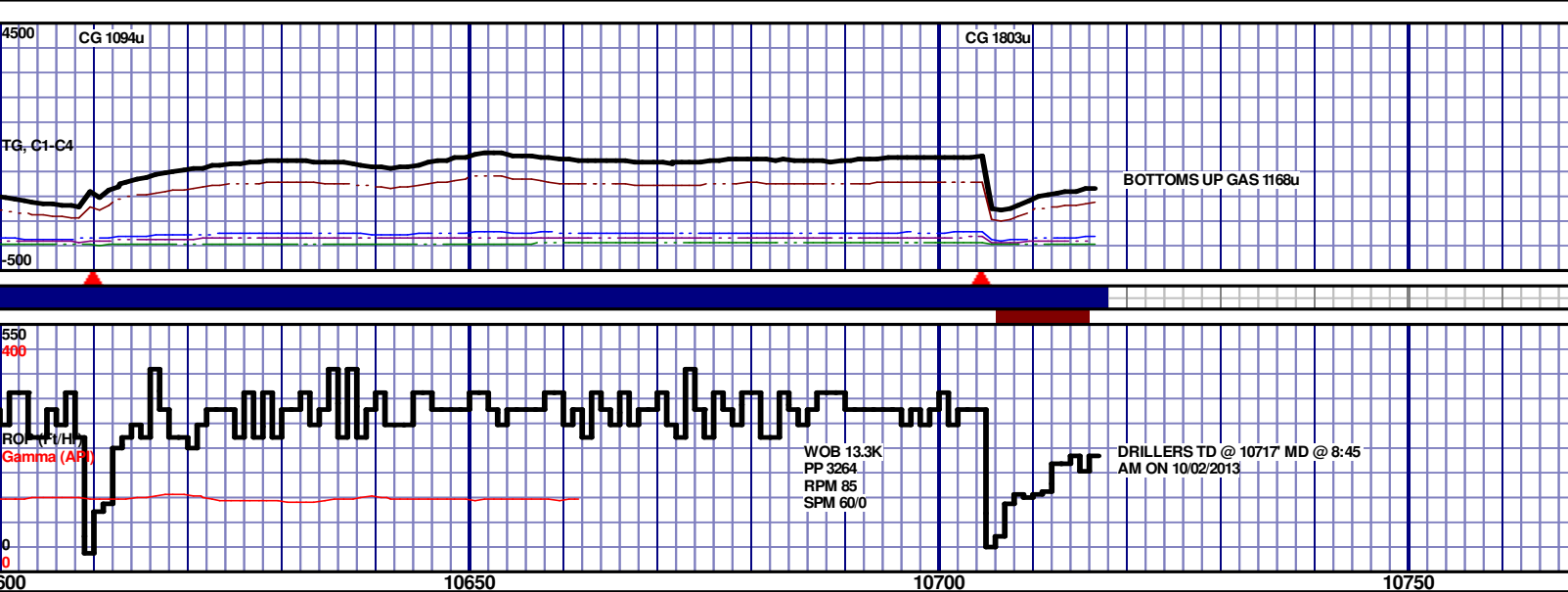
MD 10355 TVD 6536.15
INC 90.46 AZ 88.79
VS 4150.1



6380 TVD									
6530									
6680									
Y - MEDGY - DRKGY, SFT, IMBD PYRC SPEC, FREE MARL, MOD GRYSHBLK STN, 10% LTOR MIN FLOR, FNT 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 BENT, IMBD SH, FREE MARL, MOD GRYSHBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									
10450' MD-10500' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSHBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									
10500' MD-10550' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSHBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									
10550' MD-10600' MD: CHK: 60% V/LTGY - MEDGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, IMBD PYRC SPEC, OCC FREE CAL, FREE BENT, IMBD SH, FREE MARL, MOD GRYSHBLK STN, 10% LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, BRIYL RNG									

MD 10450 TVD 6535.33
INC 90.52 AZ 89.01
VS 4244.85

MD 10545 TVD 6534.36
INC 90.65 AZ 89.06
VS 4339.61



MD 10653 TVD 6533.11
INC 90.68 AZ 89.48
VS 4447.37

MD 10717 TVD 6532.35
PTB INC 90.68 AZ 89.48
VS 4511.24

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CASEY SENSECQUA,
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HORIZON WELL
LOGGING, LLC