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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.

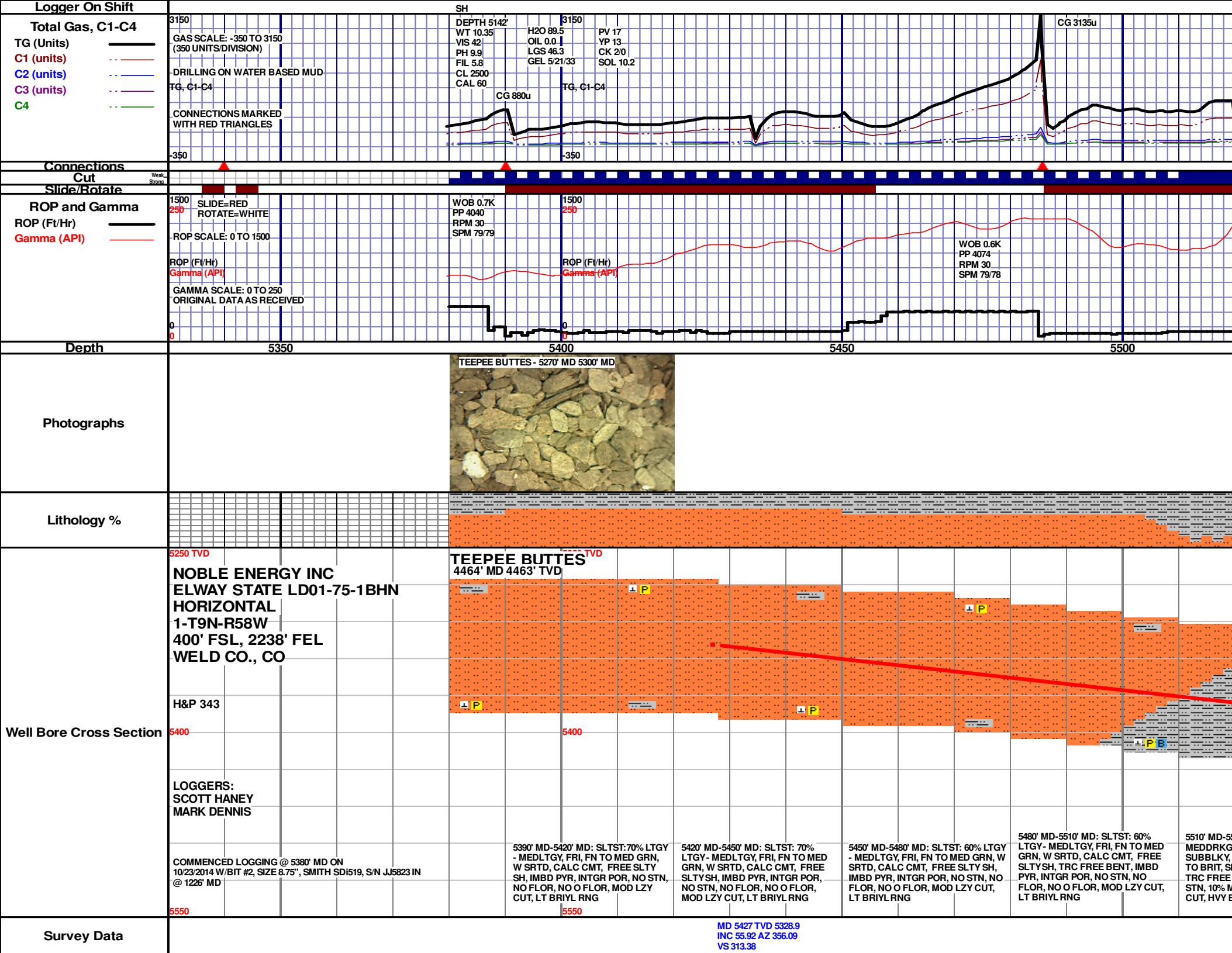
Mud Logging Details

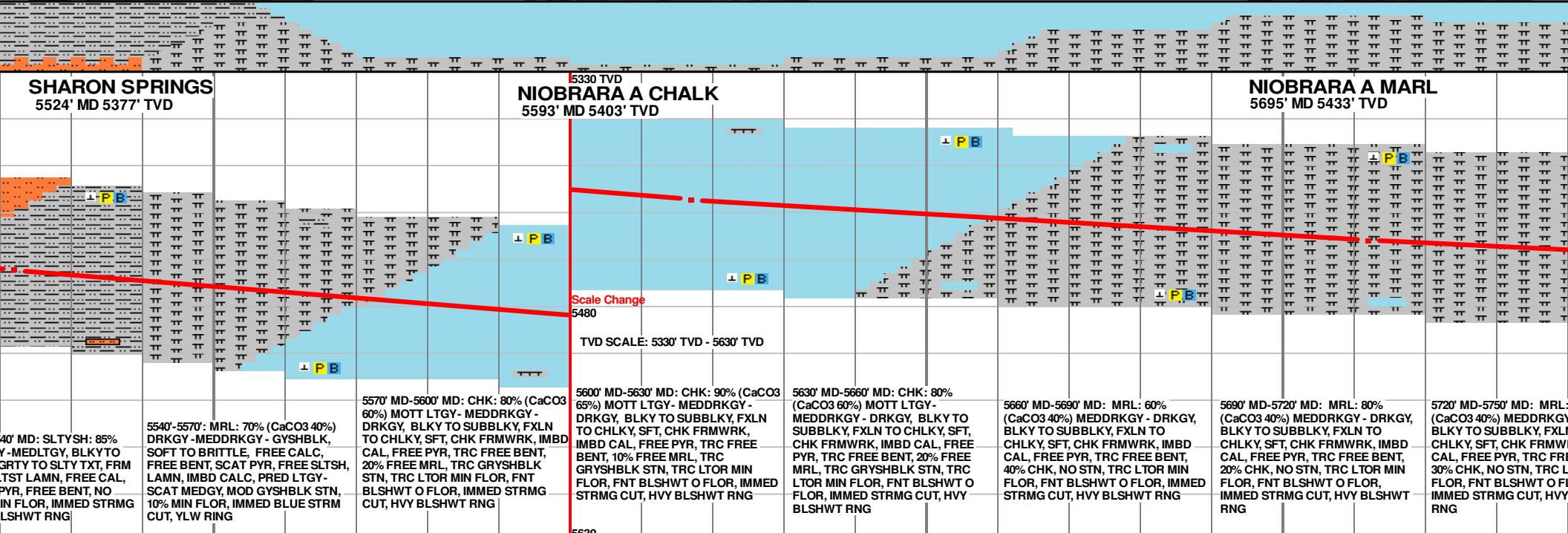
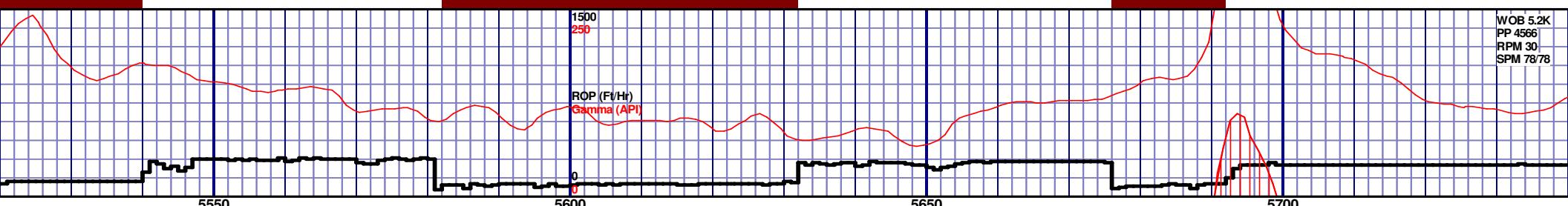
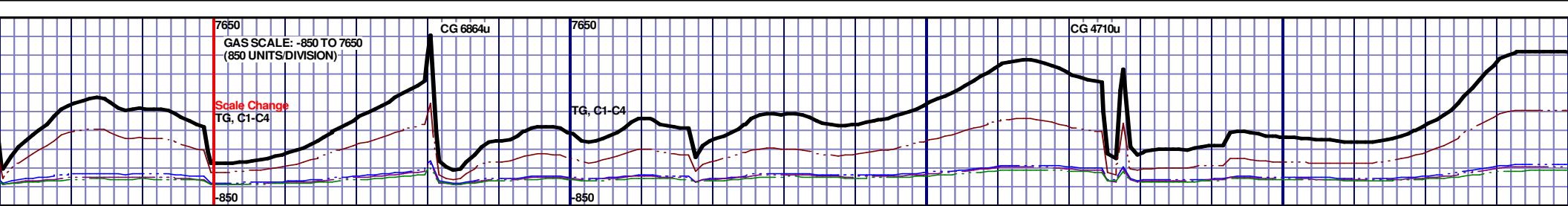
Logger: Scott Haney &
Mark Dennis
Log Interval: 5380' MD to 14601' MD
Start Date: October 23, 2014
Release Date: October 27, 2014

Well Information

Well Name: Elway State LD01-75-1BHN Horizontal
Location: 1-T9N-R58W
400' FSL, 2238' FEL
County: Weld
State: Colorado

Drilling Rig: H&P 343
Total Depth: 14601' MD
TD Date: October 27, 2014
Formation: Niobrara A Marl
KB Elevation: 4657'
GR Elevation: 4633'
API Number: 05-123-39652-0000

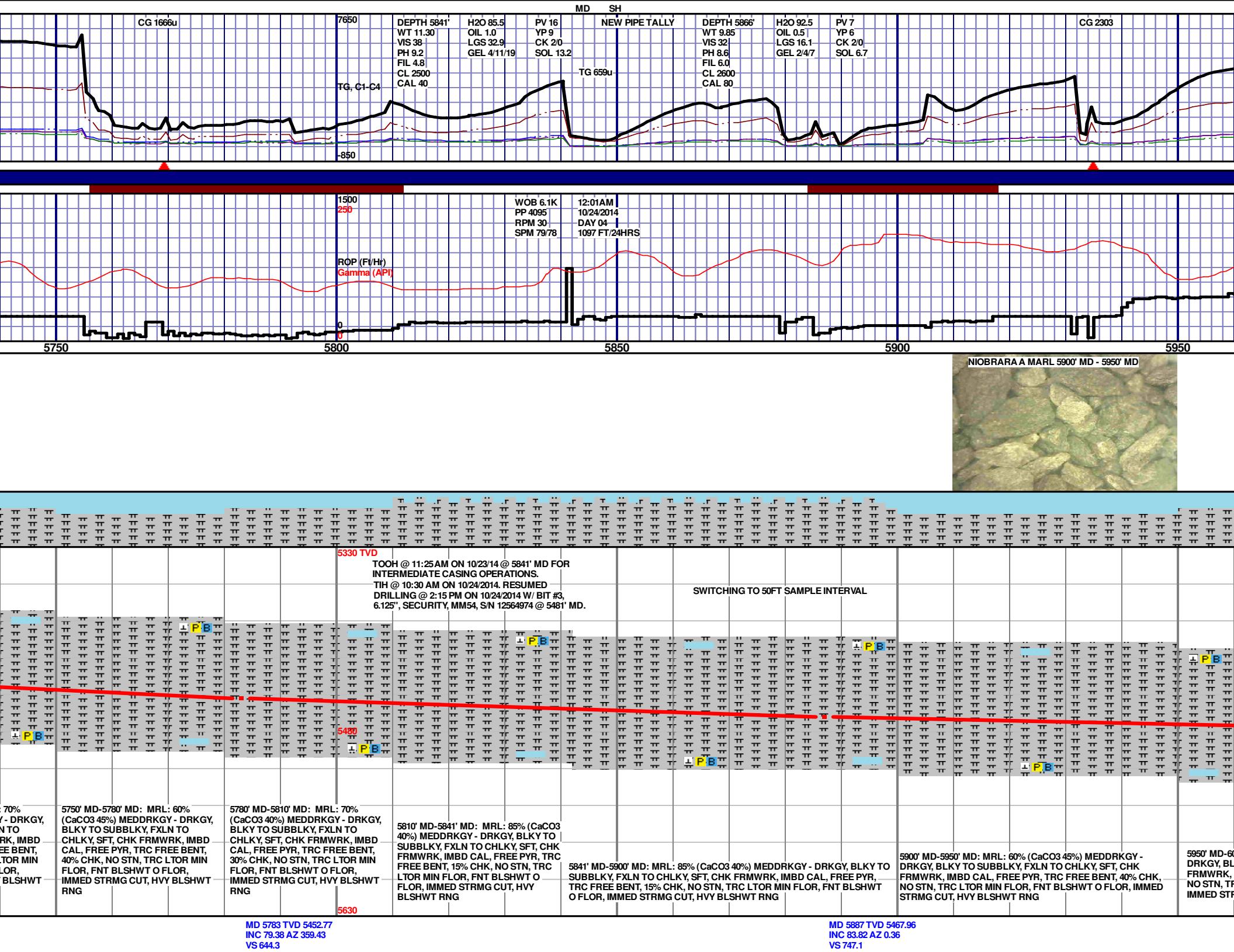


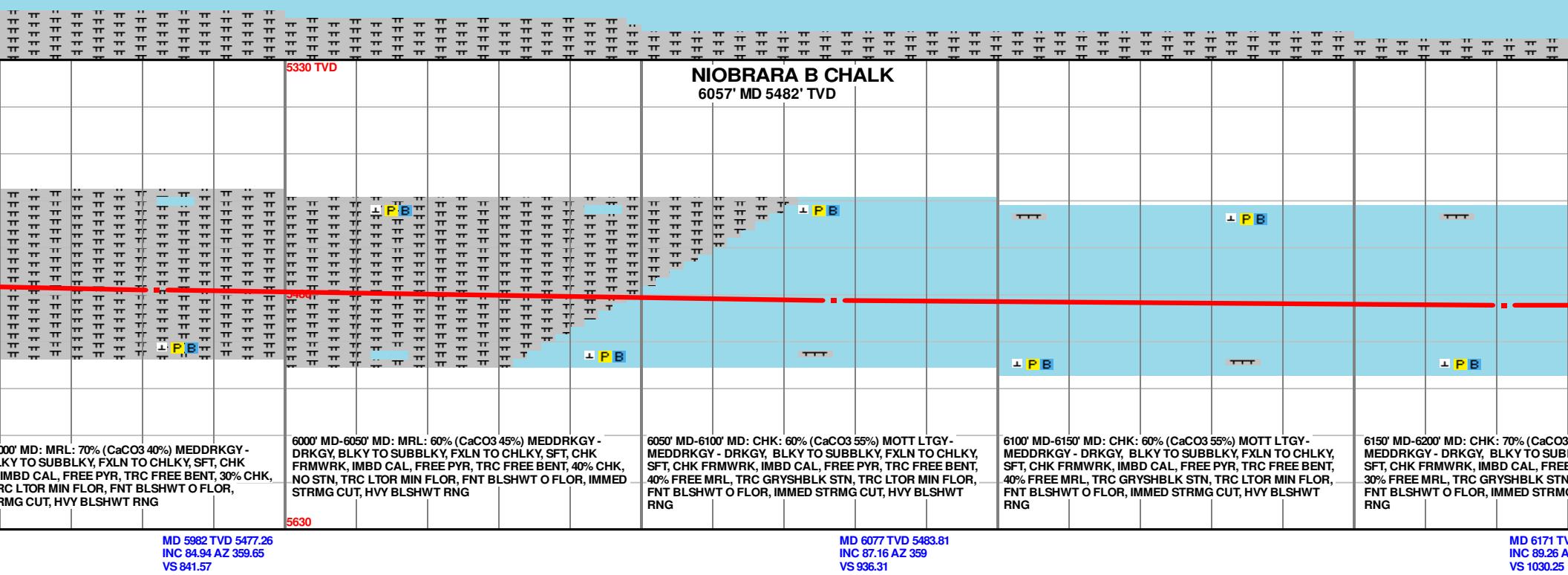
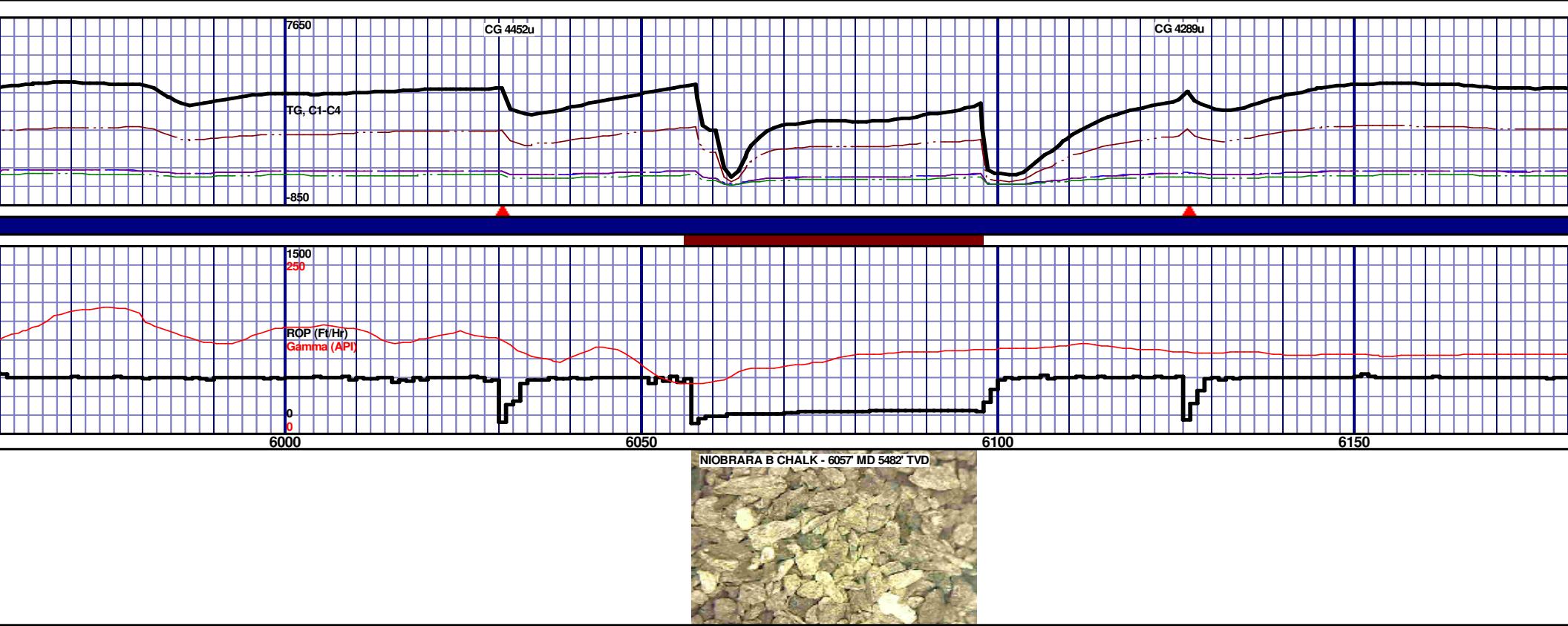


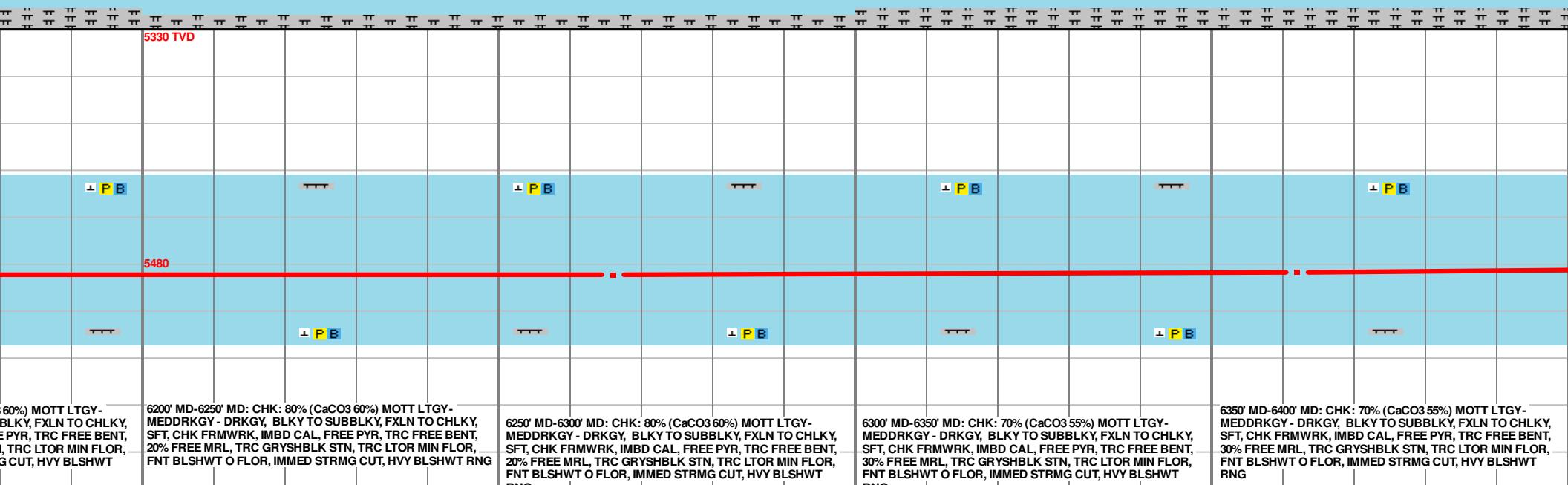
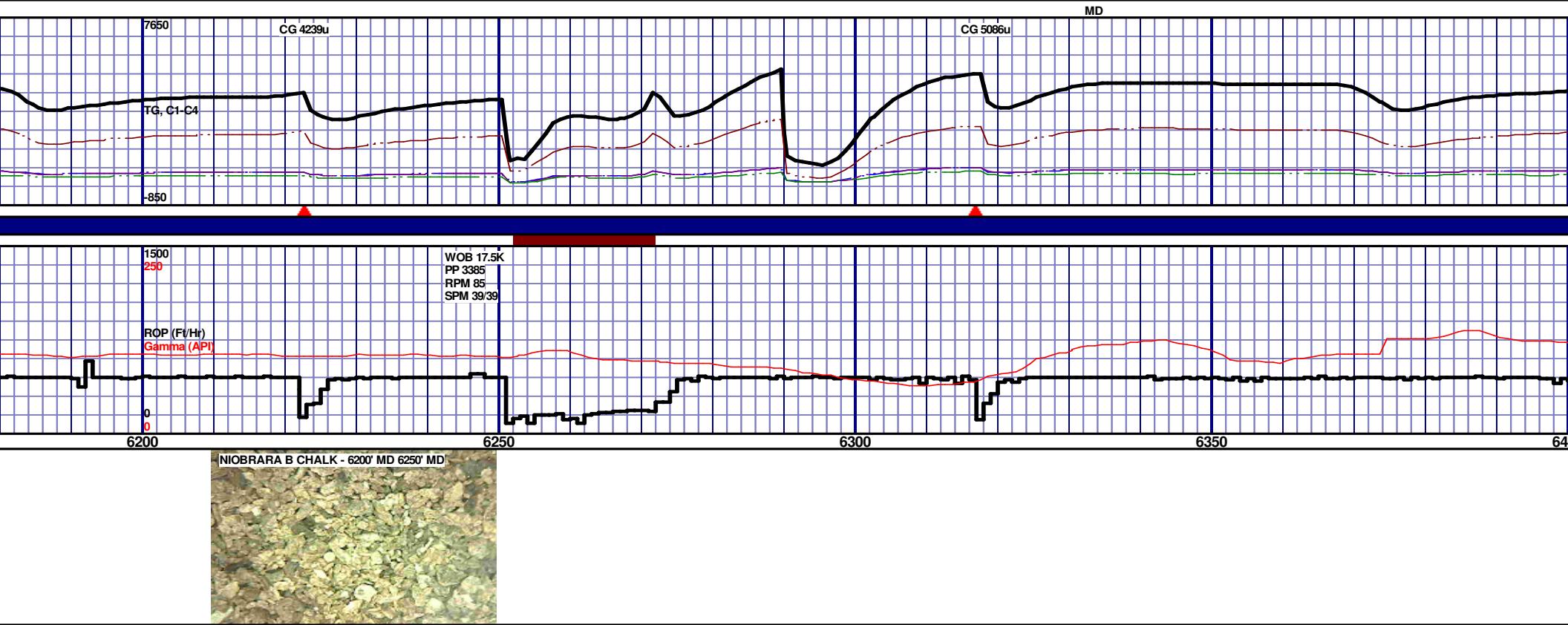
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INC 63.95 AZ 357.48
VS 395.51

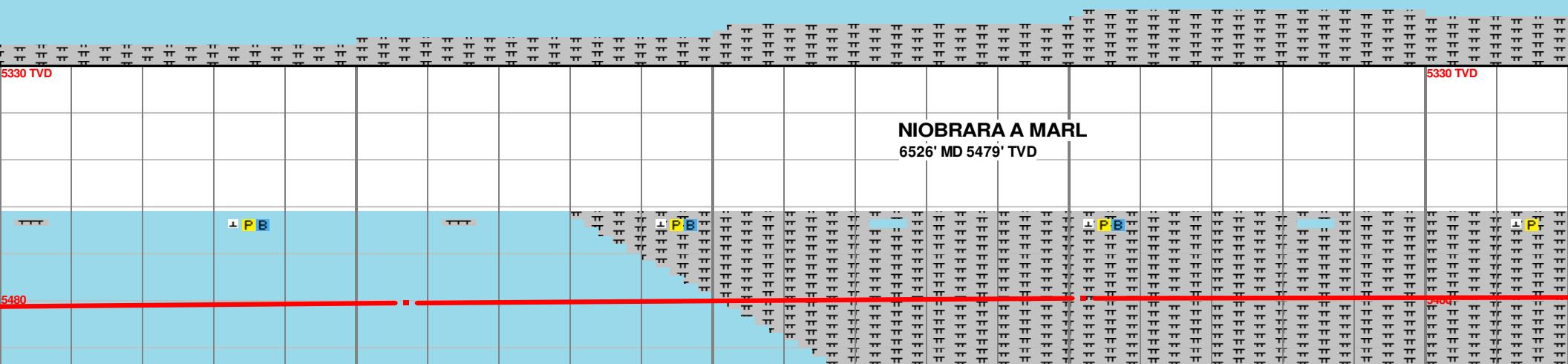
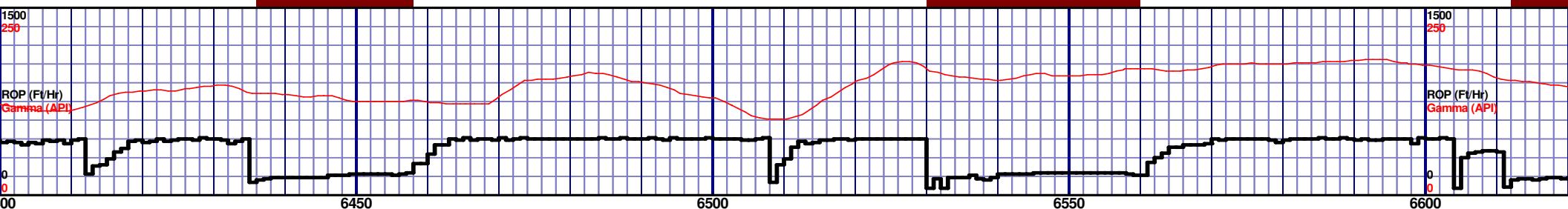
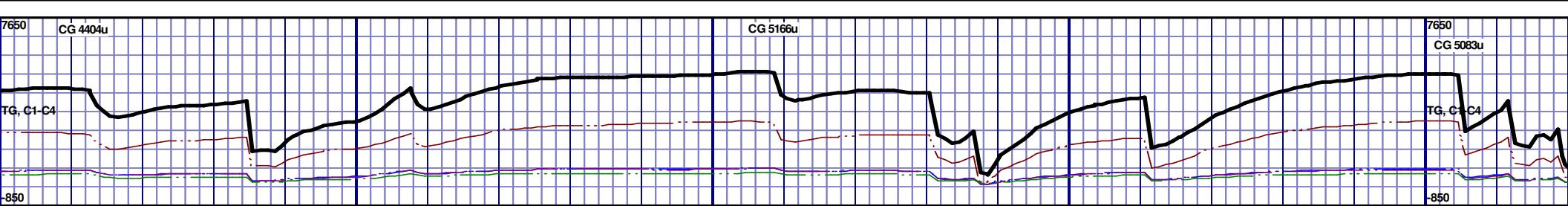
MD 5617 TVD 5412.03
INC 72.03 AZ 357.38
VS 483.51

MD 5712 TVD 5437.87
INC 76.39 AZ 358.14
VS 574.9









6400' MD-6450' MD: CHK: 70% (CaCO₃ 55%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, TRC FREE BENT, 30% FREE MRL, TRC GRYSHBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

6450' MD-6500' MD: CHK: 60% (CaCO₃ 50%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, TRC FREE BENT, 40% FREE MRL, TRC GRYSHBLK STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

6500' MD-6550' MD: MRL: 60% (CaCO₃ 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, TRC FREE BENT, 40% CHK, NO STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

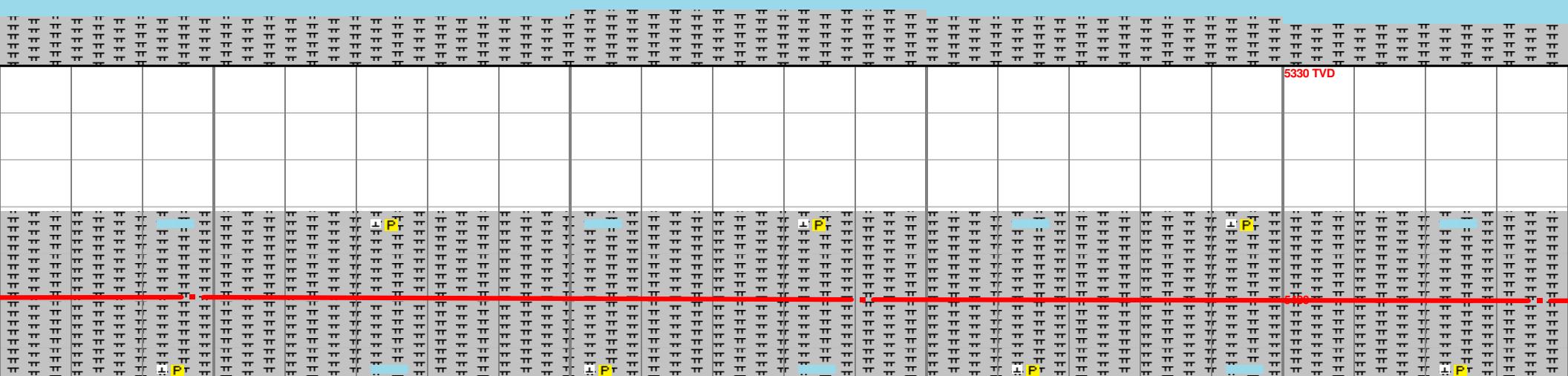
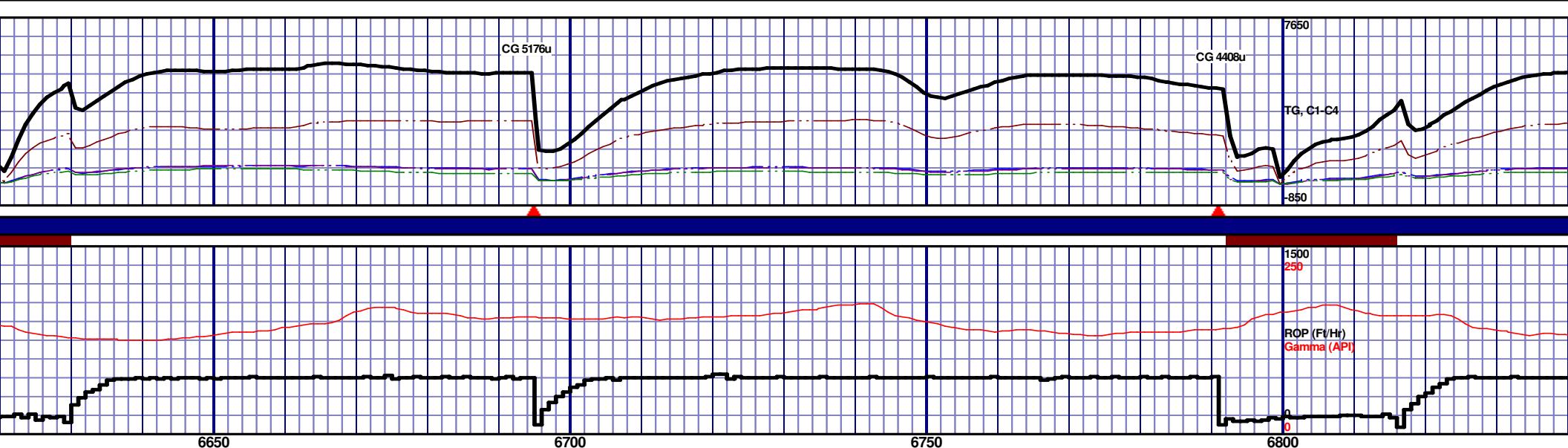
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6550' MD-6600' MD: MRL: 80% (CaCO₃ 35%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, TRC FREE BENT, 20% CHK, NO STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

6600' MD-6650' MD: MRL: DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, TRC FREE BENT, 20% CHK, NO STN, TRC LTOR MIN FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630



70% (CaCO₃ 40%) MEDDRKGY -
CHKY, FXLN TO CHLY, SFT, CHK
FREE PYR, 30% CHK, NO STN, FNT
IMMED STRMG CUT, HVY BLSHWT RNG

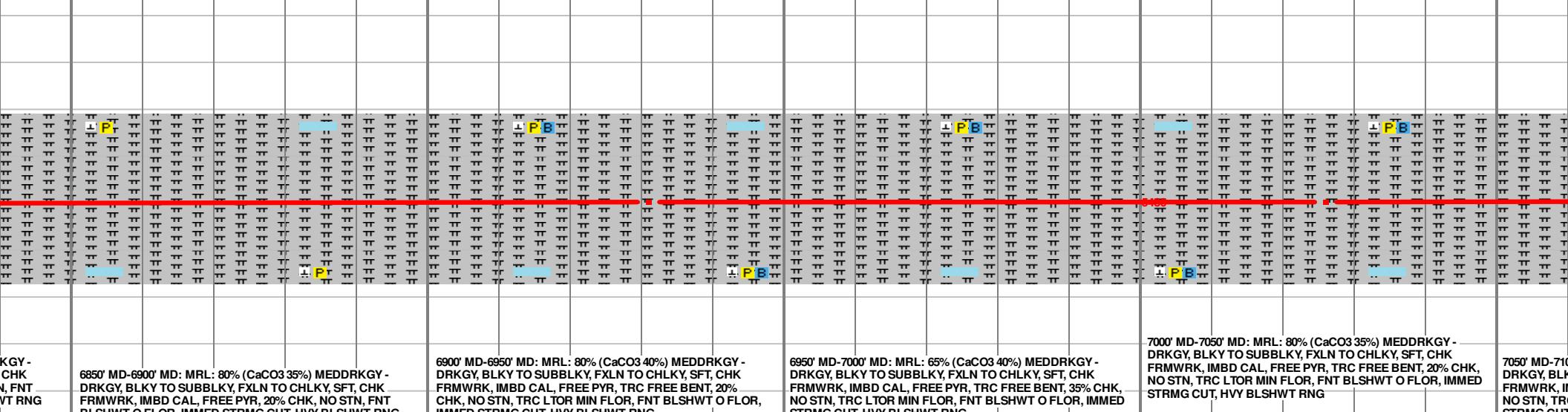
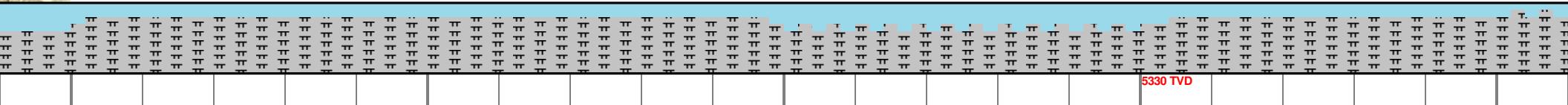
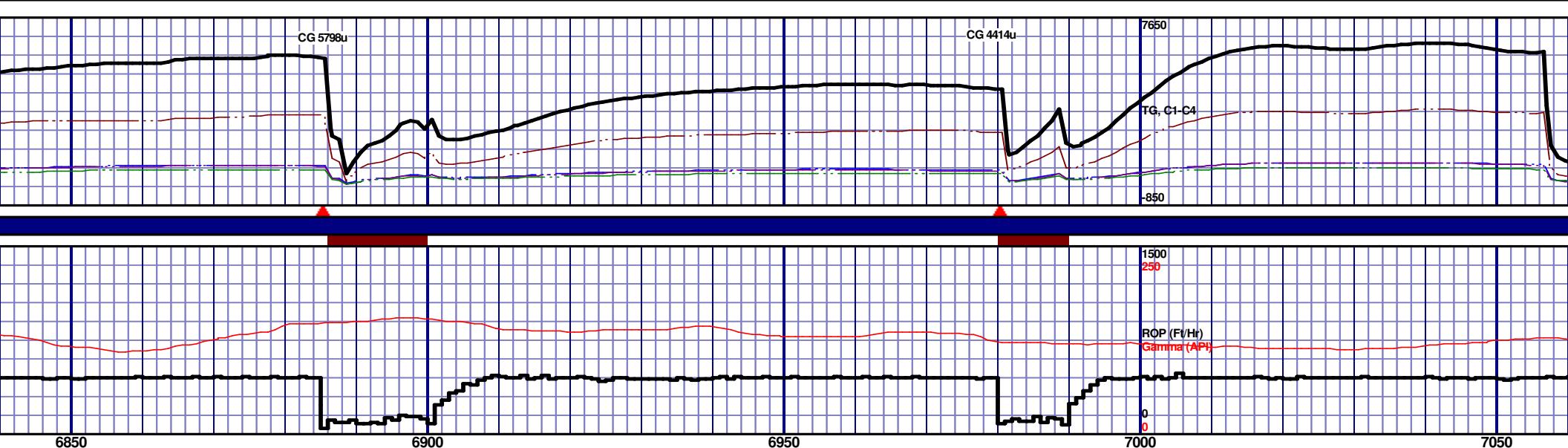
6650' MD-6700' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

6700' MD-6750' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

6750' MD-6800' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

6800' MD-6850' MD: MRL: 60% (CaCO₃ 45%) MEDDR
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLY, SFT,
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

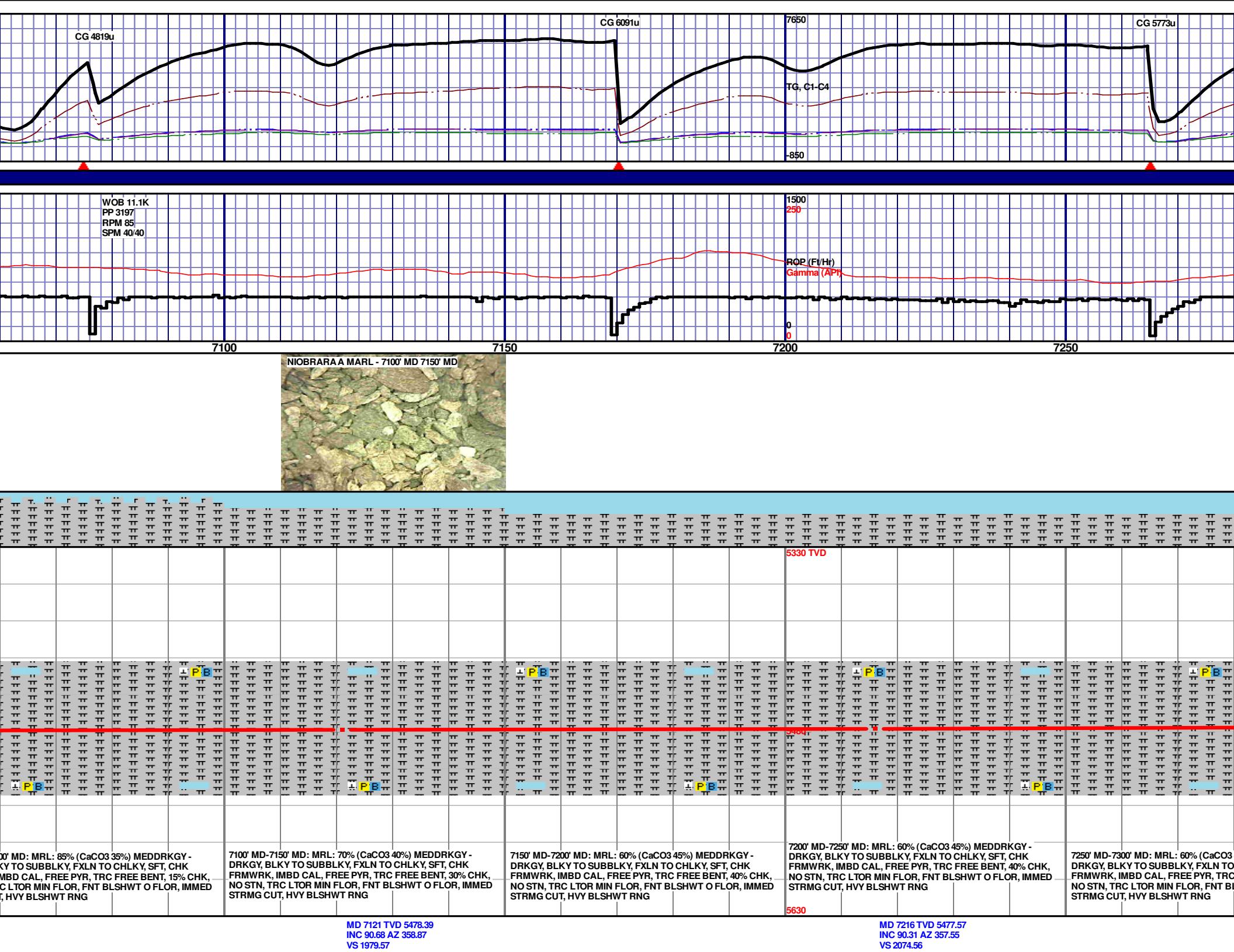
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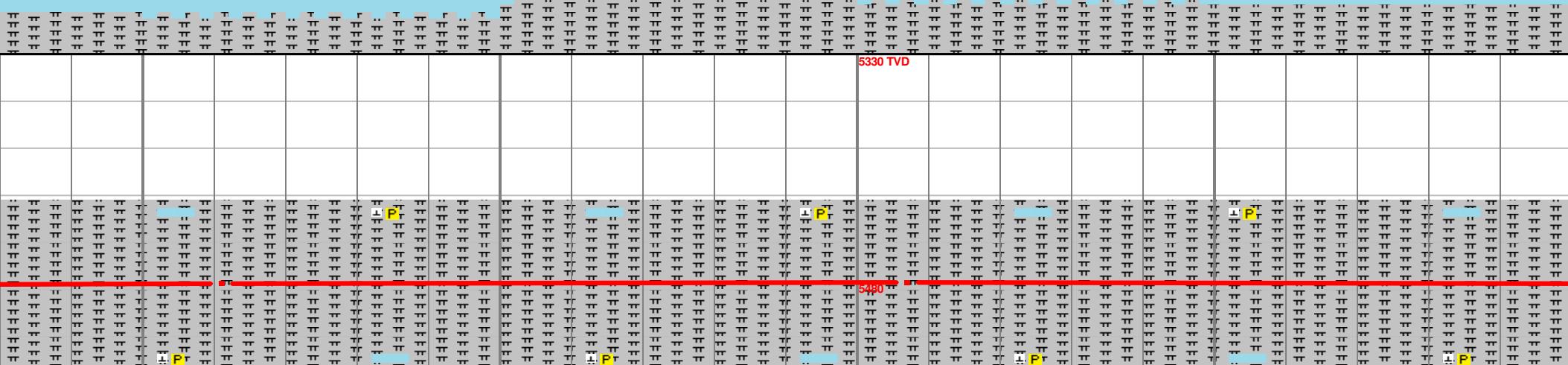
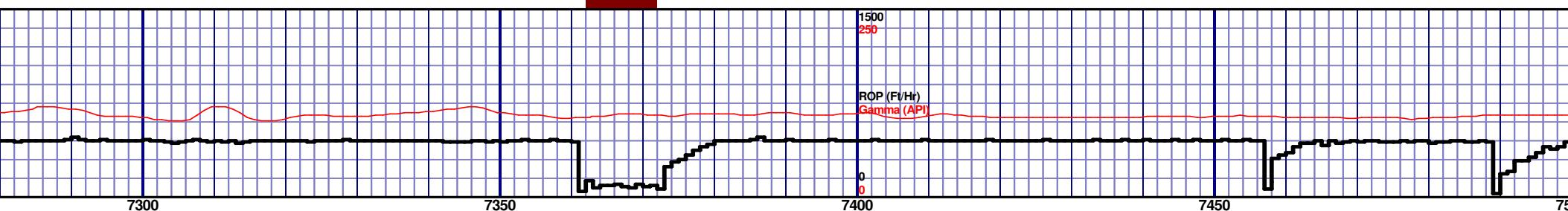
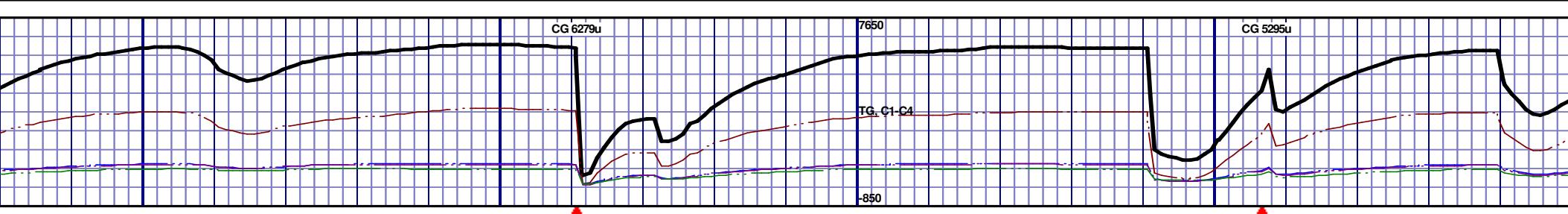


6836 TVD 5480.05
91.02 AZ 0.76
694.77

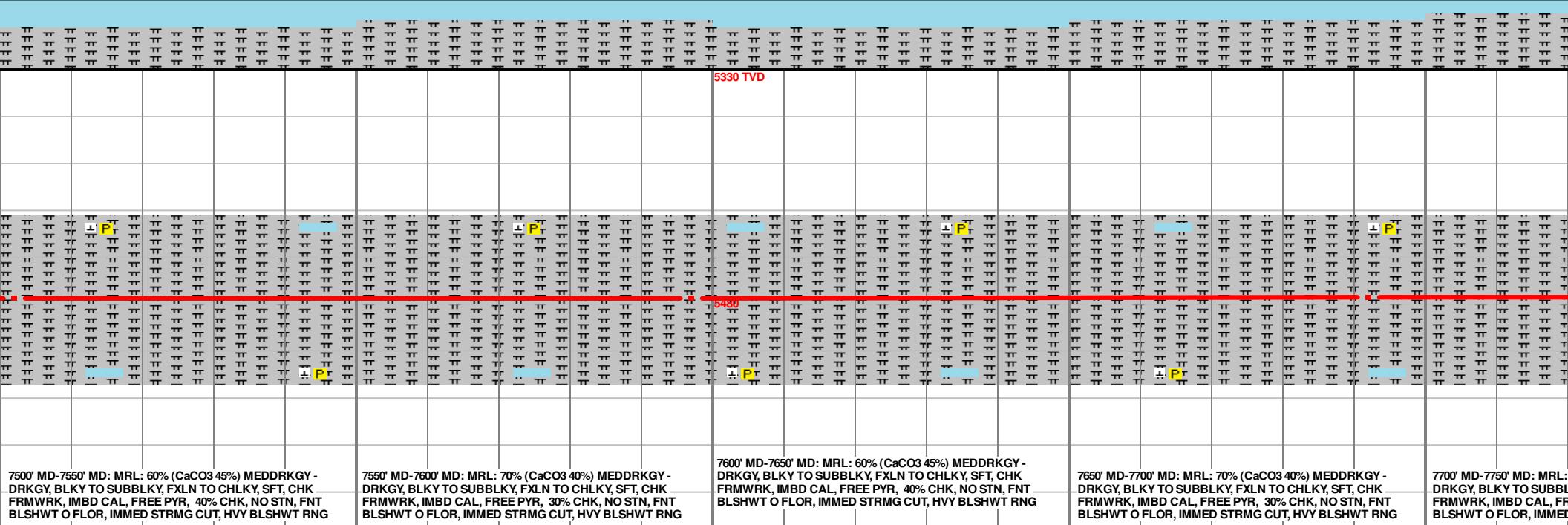
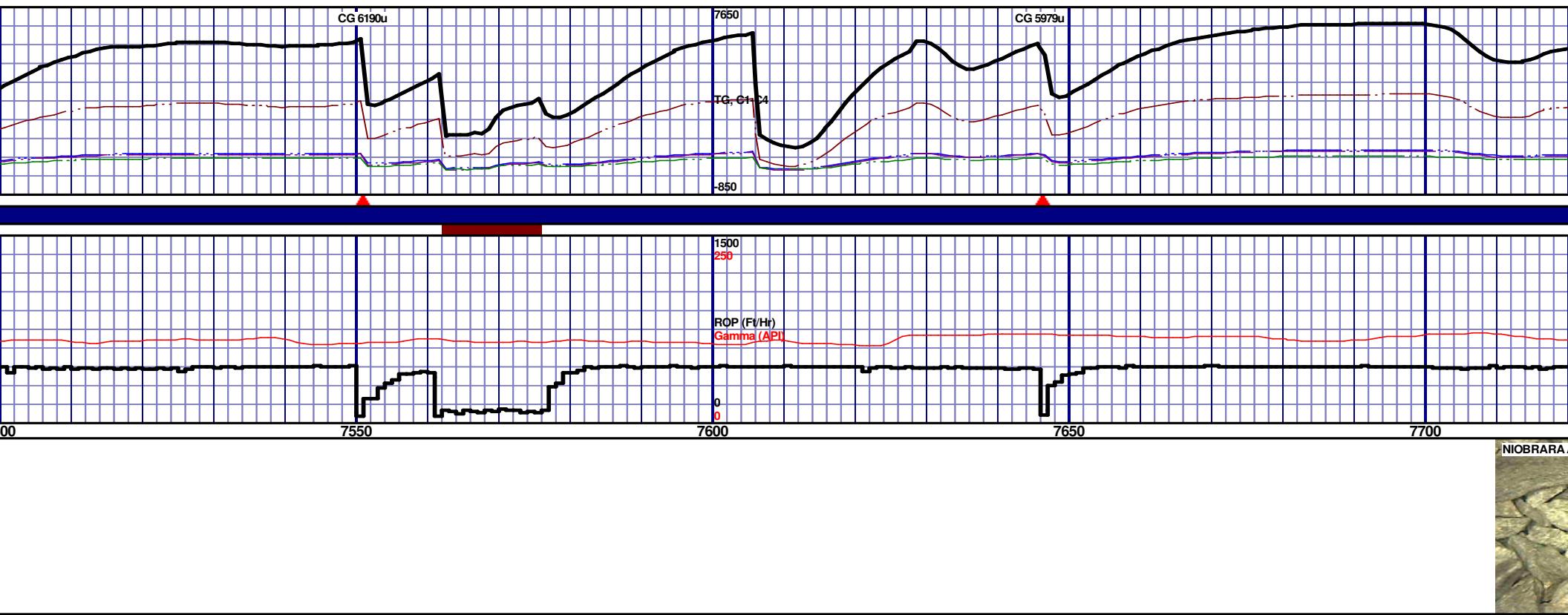
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INC 90.09 AZ 0.72
VS 1789.65

MD 7026 TVD 5479
INC 90.06 AZ 359.03
VS 1884.58





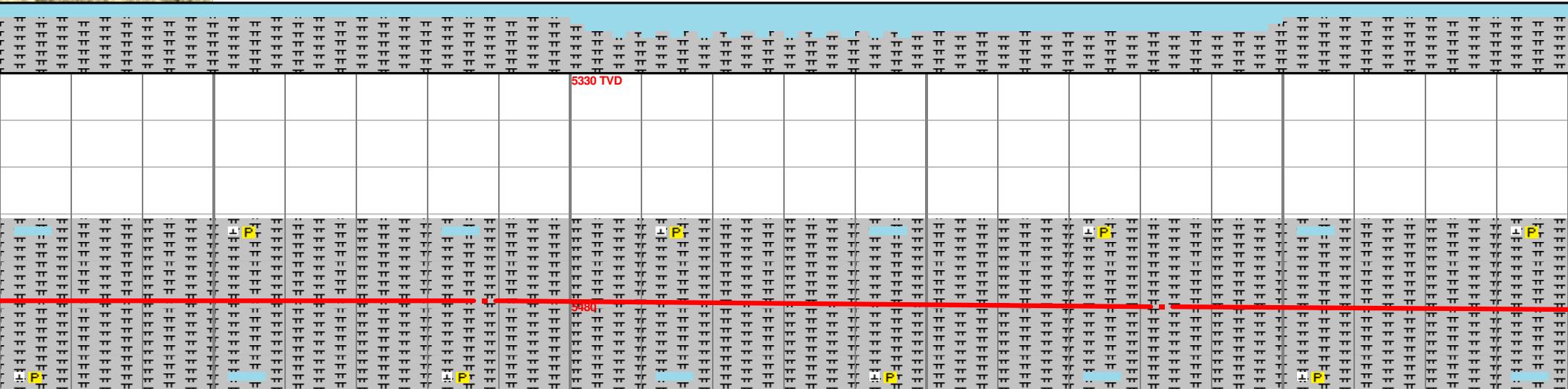
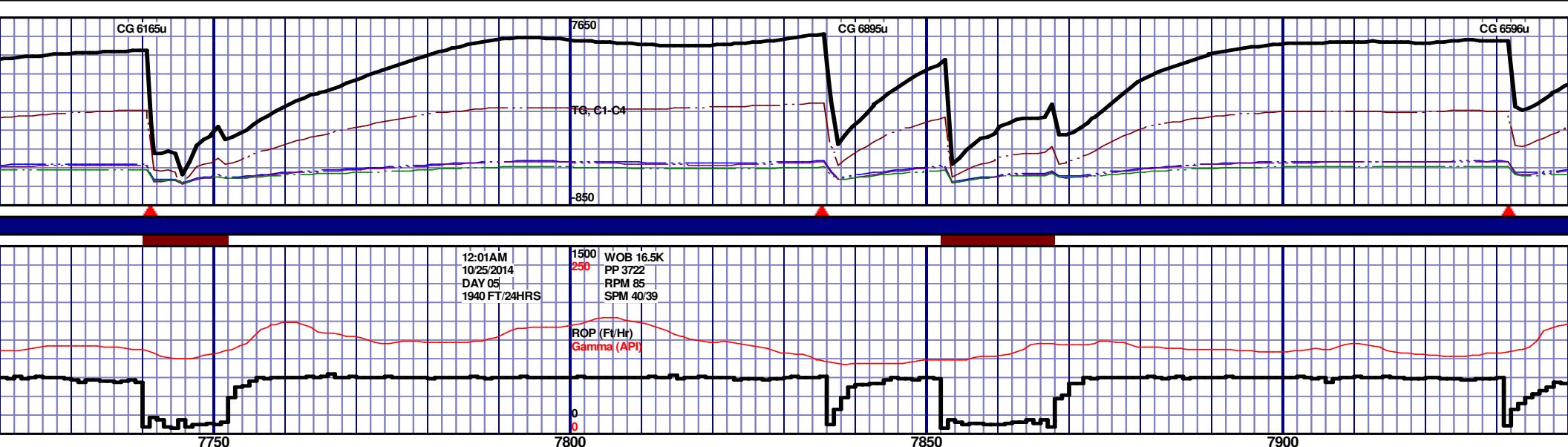
45% MEDDRKGY - CHLKY, SFT, CHK FREE BENT, 40% CHK, BLSHWT O FLOR, IMMED	7300' MD-7350' MD: MRL: 55% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, 45% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	7350' MD-7400' MD: MRL: 80% (CaCO3 35%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	7400' MD-7450' MD: MRL: 75% (CaCO3 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, 25% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	7450' MD-7500' MD: MRL: 70% (CaCO3 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWKR, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG
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MD 7502 TVD 5476.42
INC 89.41 AZ 355.78
VS 2360.5

MD 7592 TVD 5476.47
INC 90.52 AZ 357.24
VS 2455.47

MD 7692 TVD 5475.17
INC 91.05 AZ 358.31
VS 2550.46



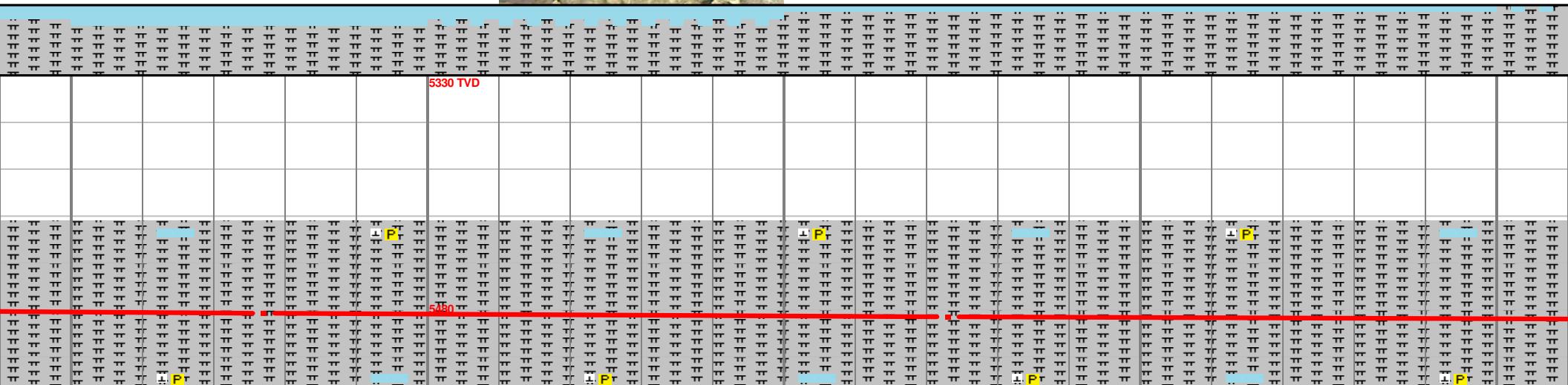
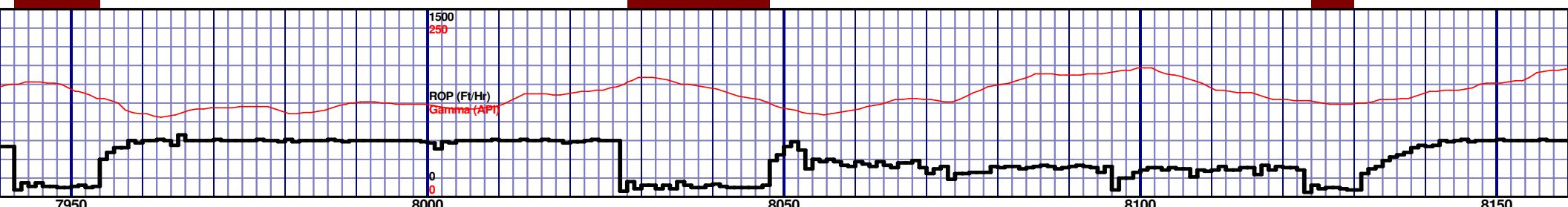
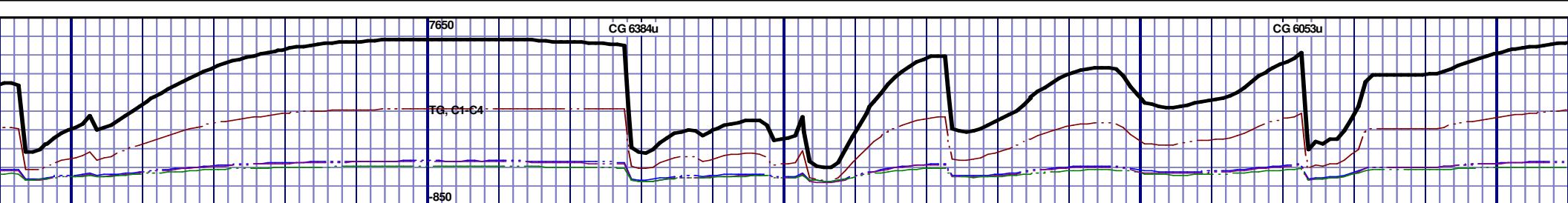
80% (CaCO₃ 35%) MEDDRKGY -
LK, FXLN TO CHLKY, SFT, CHK
FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

7750' MD-7800' MD: MRL: 80% (CaCO₃ 35%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

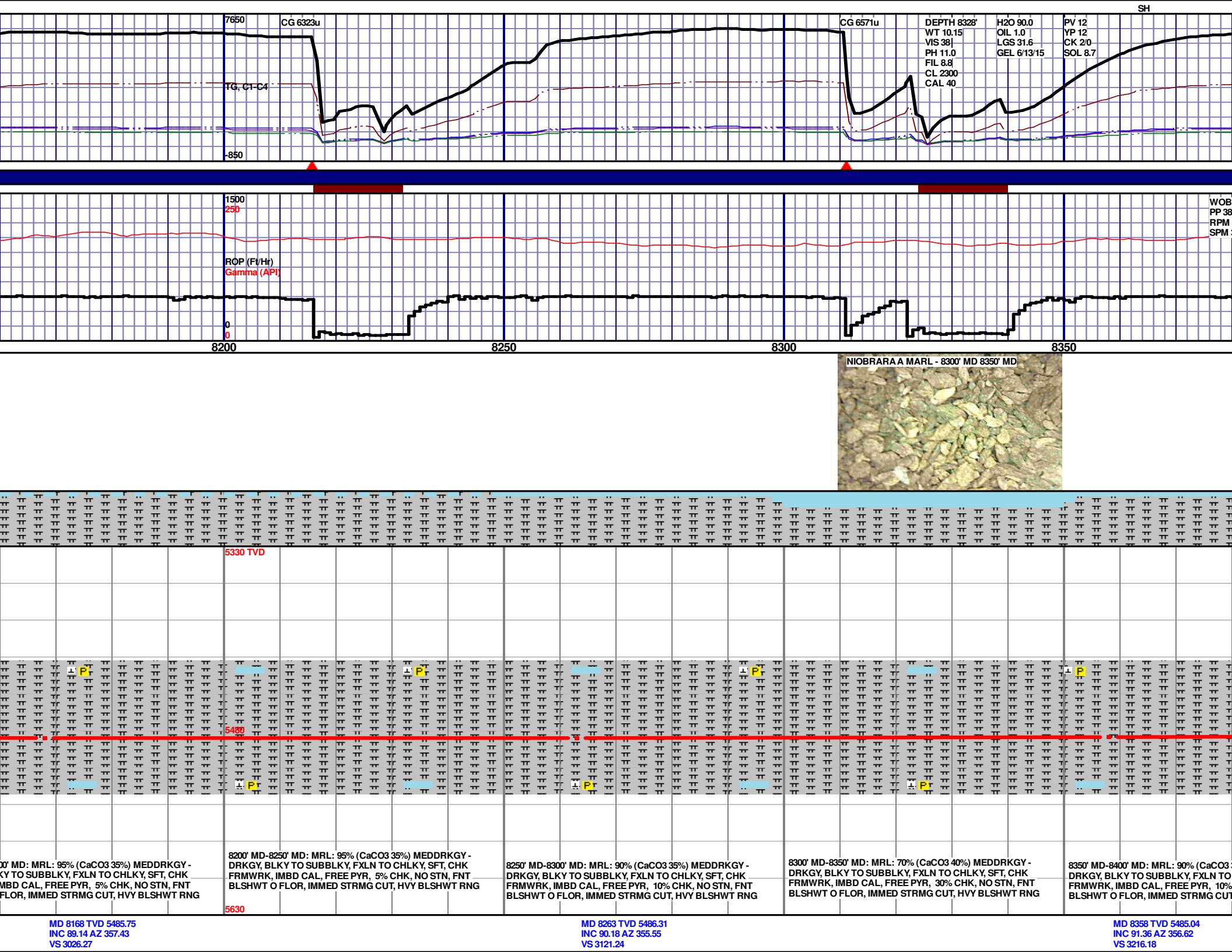
7800' MD-7850' MD: MRL: 55% (CaCO₃ 45%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 45% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

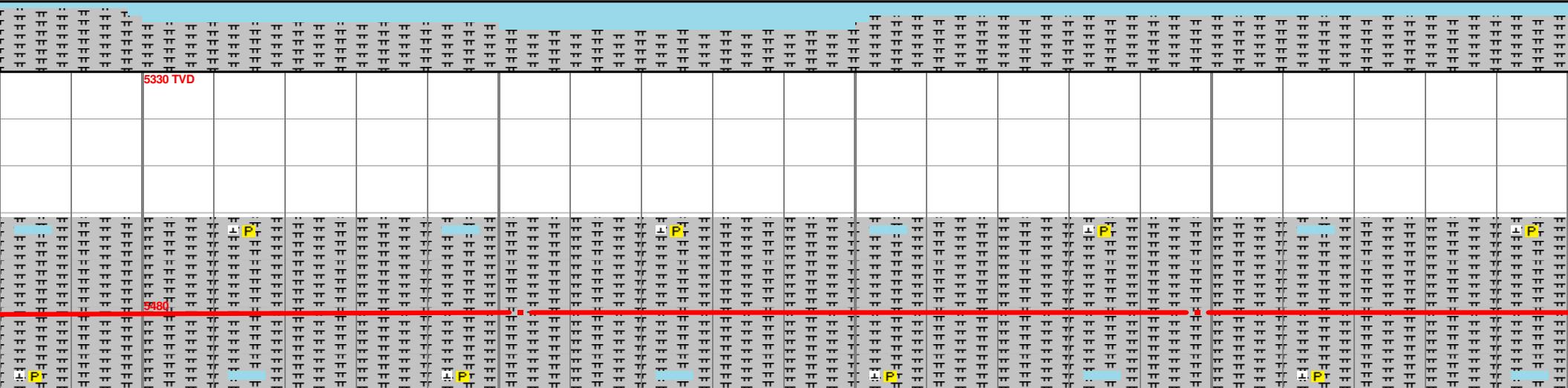
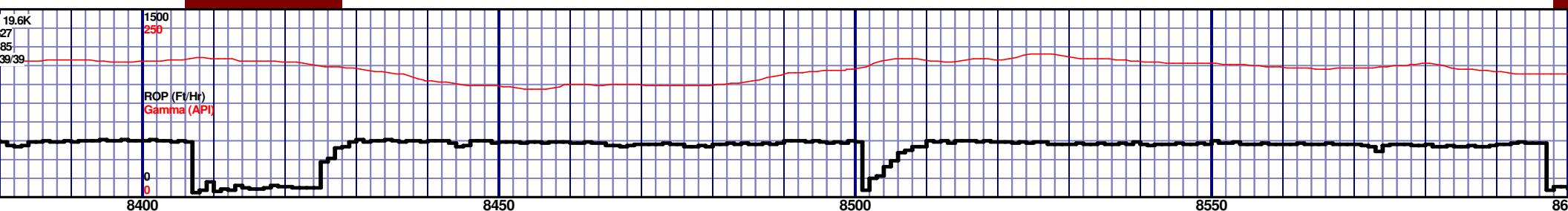
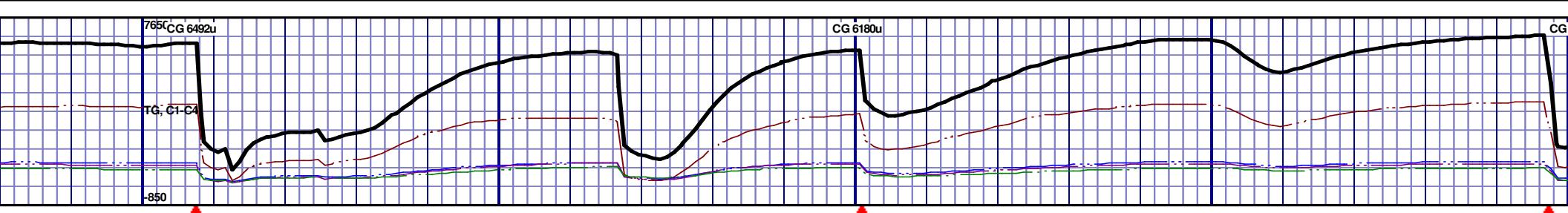
7850' MD-7900' MD: MRL: 60% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

7900' MD-7950' MD: MRL: 80% (CaCO₃ 35%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG



KGY - CHK N, FNT VT RNG	7950' MD-8000' MD: MRL: 70% (CaCO ₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 25% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	8000' MD-8050' MD: MRL: 75% (CaCO ₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 25% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	8050' MD-8100' MD: MRL: 90% (CaCO ₃ 35%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 10% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	8100' MD-8150' MD: MRL: 90% (CaCO ₃ 35%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 10% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG
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35%) MEDDRKGY -
CHLKY, SFT, CHK
CHK, NO STN, FNT
HVV BLSHWT RNG

8400' MD-8450' MD: MRL: 70% (CaCO3 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

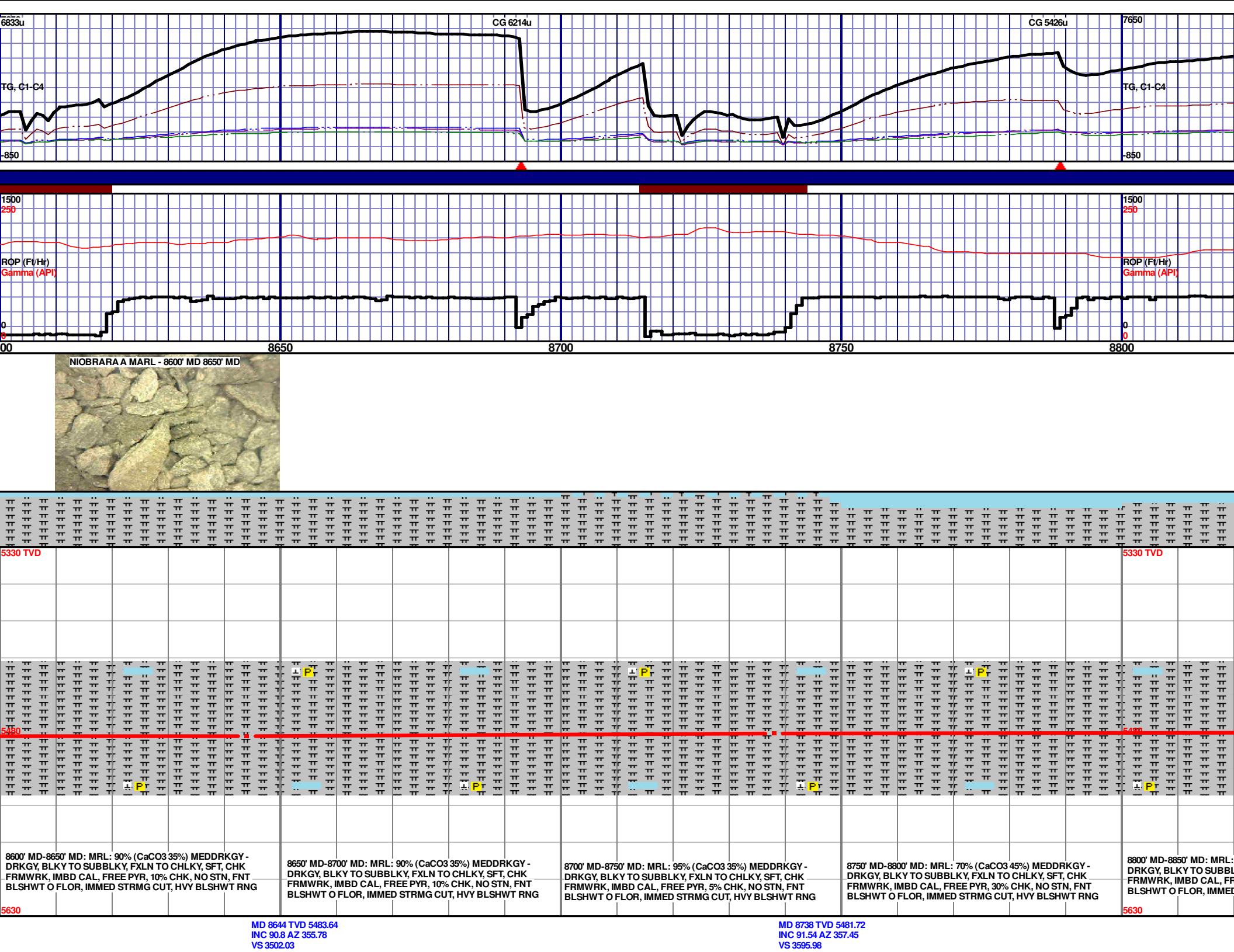
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INC 90.59 AZ 357.54
VS 3311.16

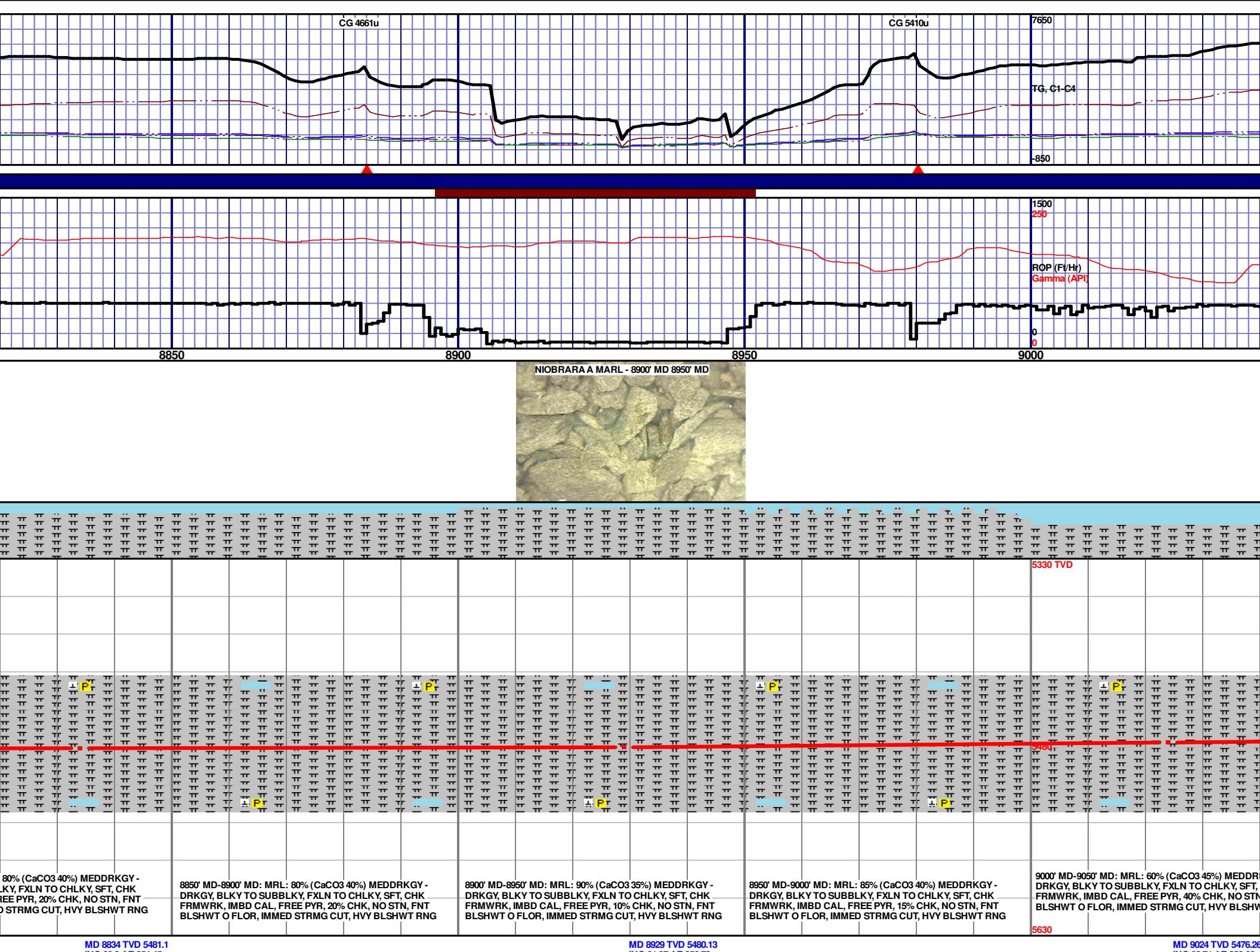
8450' MD-8500' MD: MRL: 60% (CaCO3 45%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

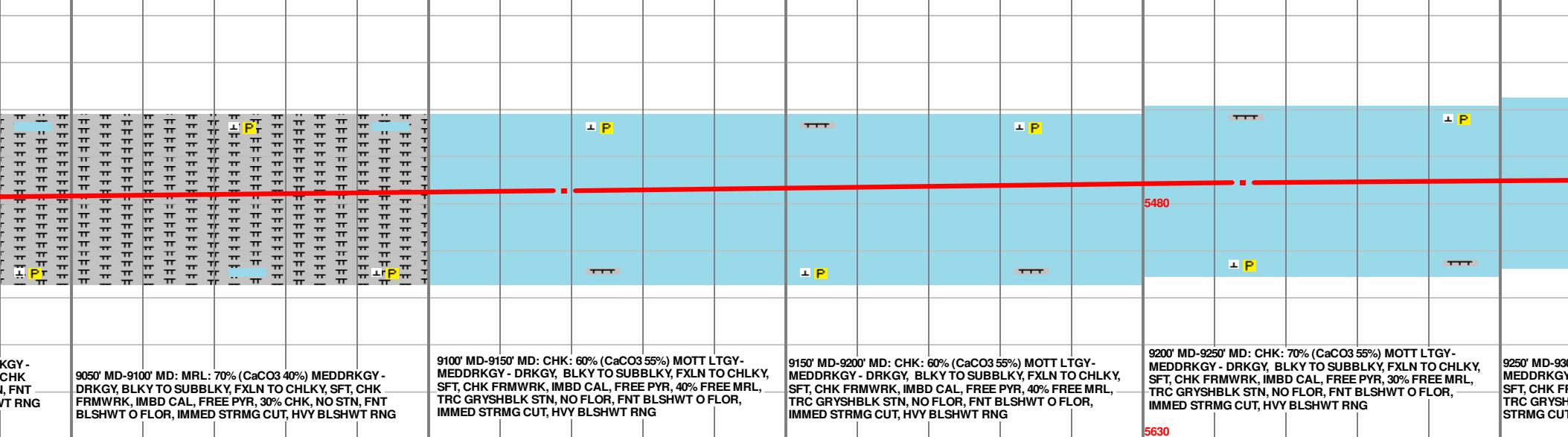
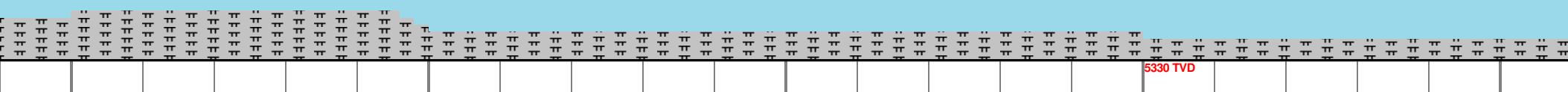
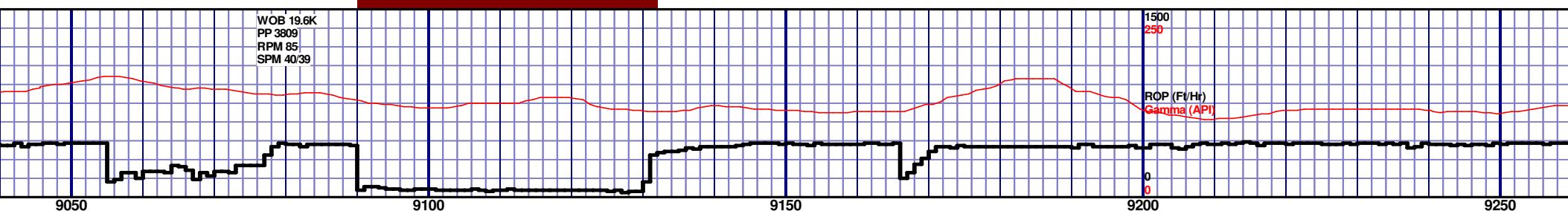
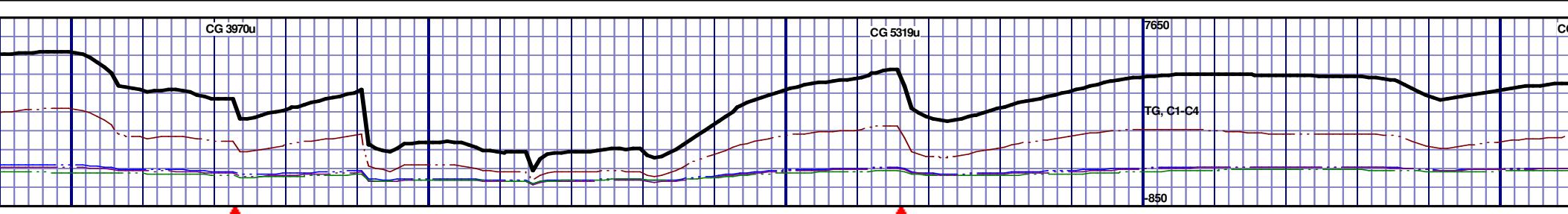
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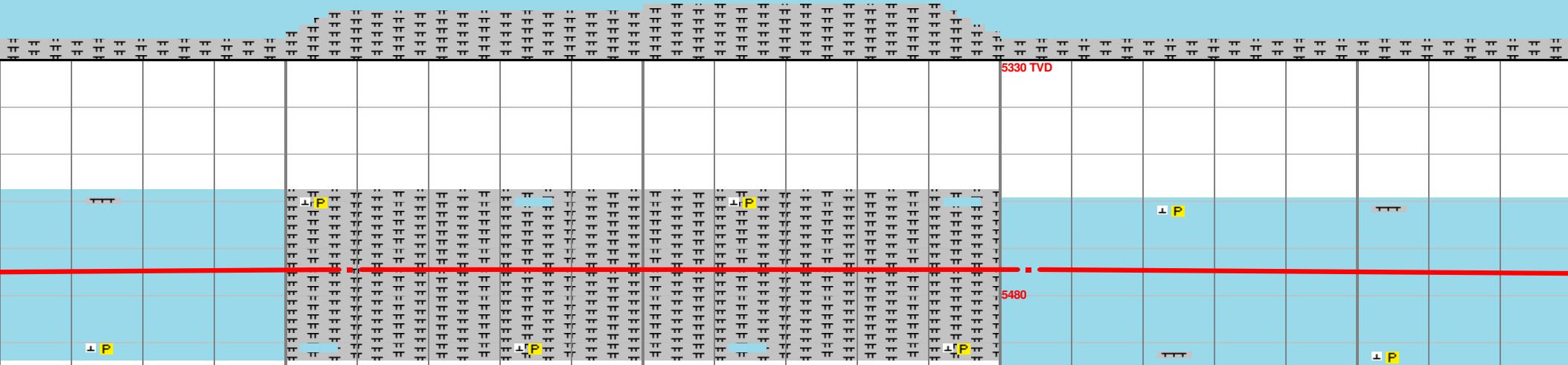
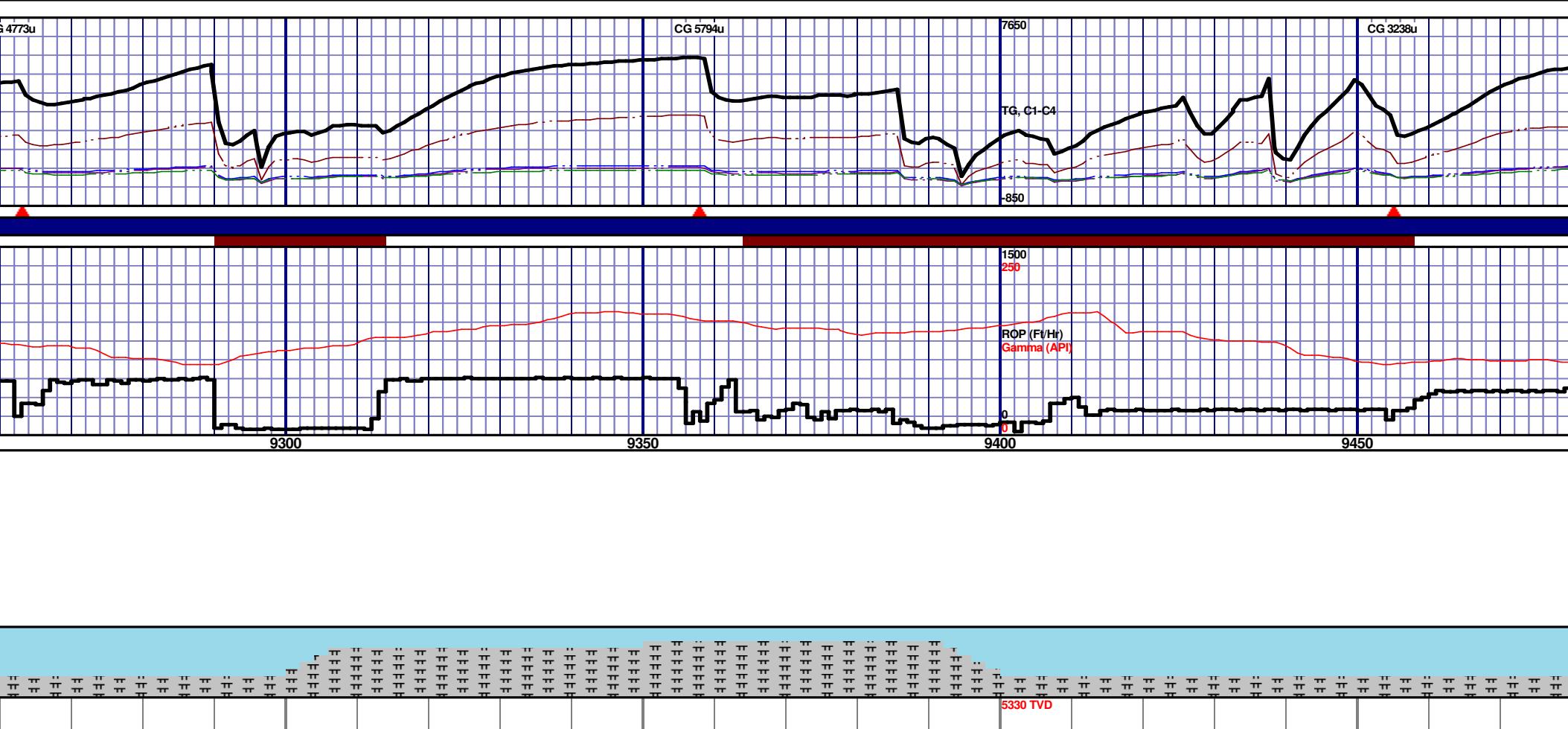
8500' MD-8600' MD: MRL: 80% (CaCO3 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

MD 8548 TVD 5483.62
INC 89.17 AZ 355.26
VS 3406.12









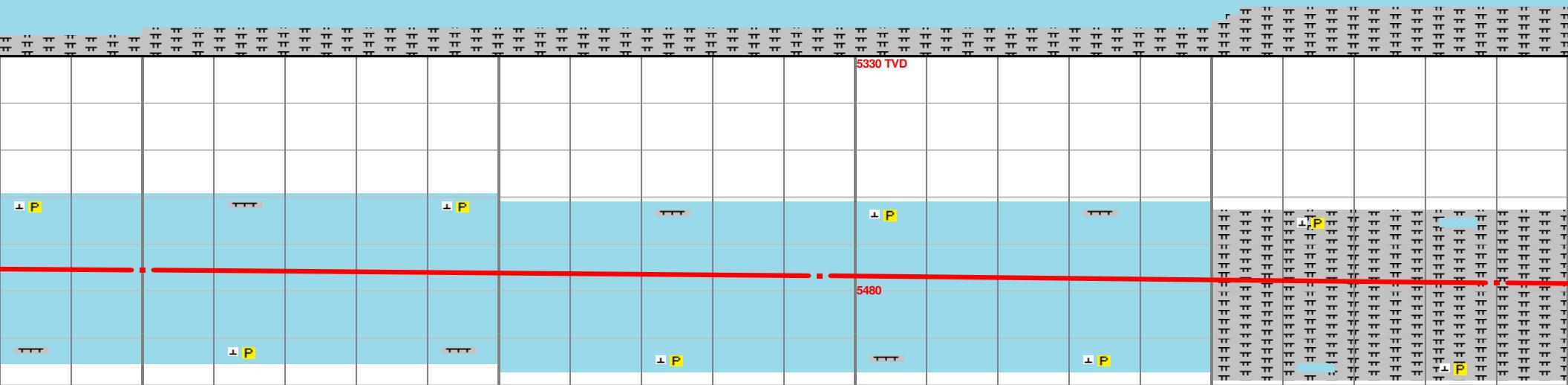
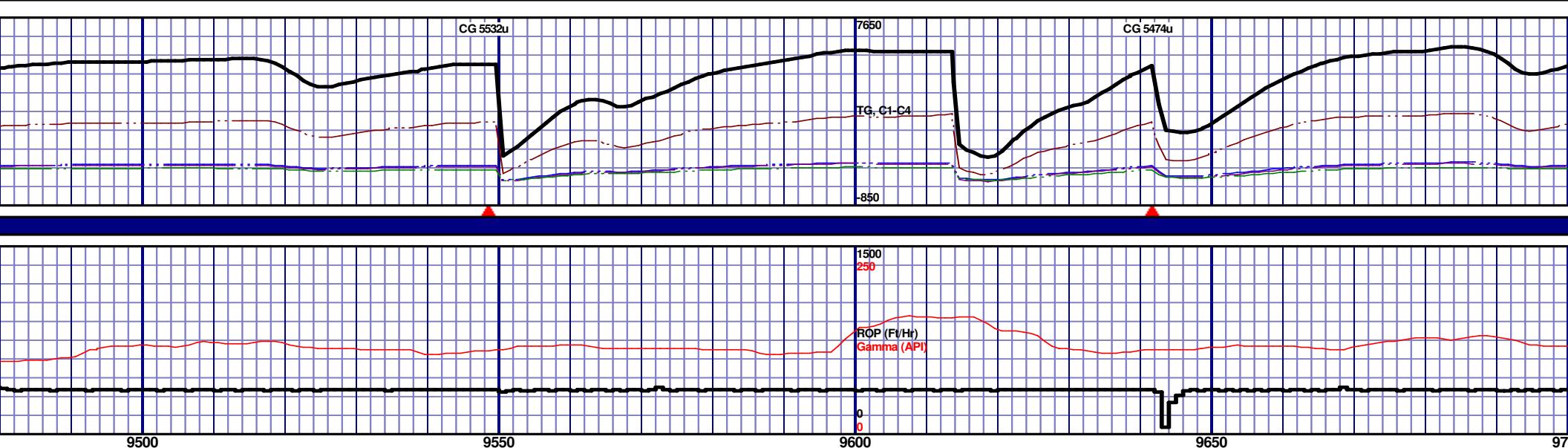
0' MD: CHK: 70% (CaCO₃ 55%) MOTT LTGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, IMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, BLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED HVY BLSHWT RNG

9300' MD-9350' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

9350' MD-9400' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

9400' MD-9450' MD: CHK: 70% (CaCO₃ 55%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

9450' MD-9500' MD: CHK: 70% (CaCO₃ 55%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG



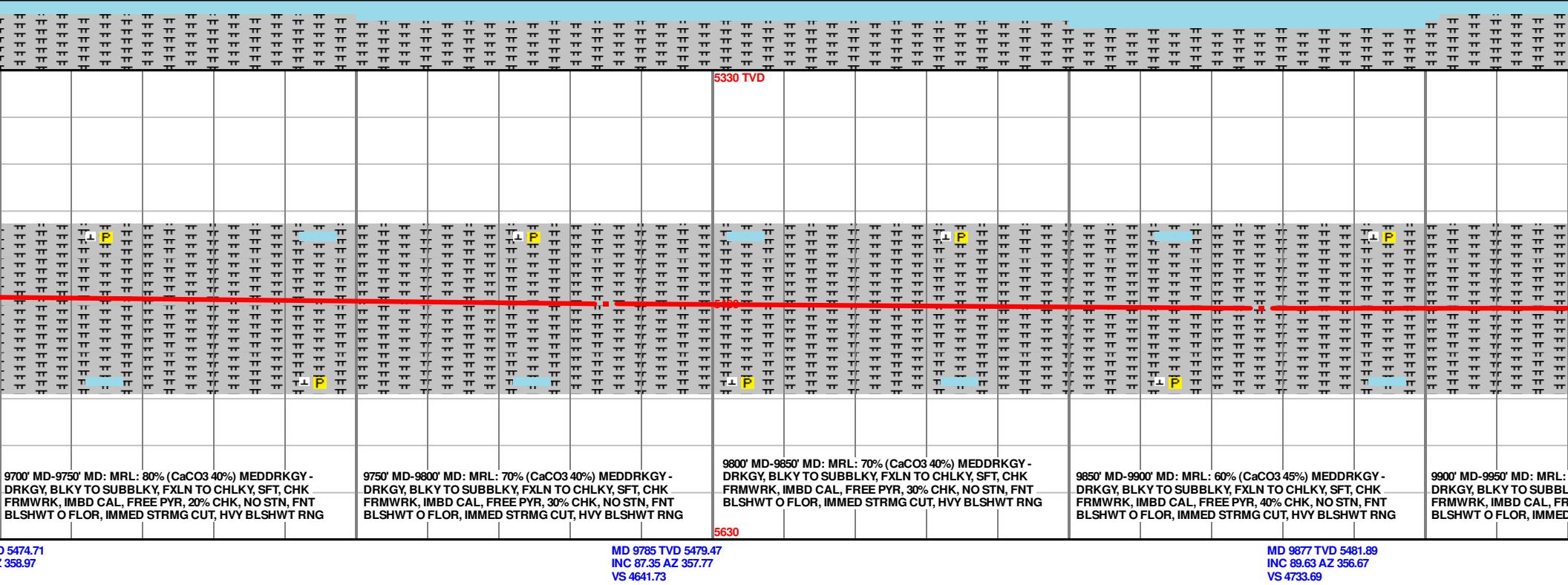
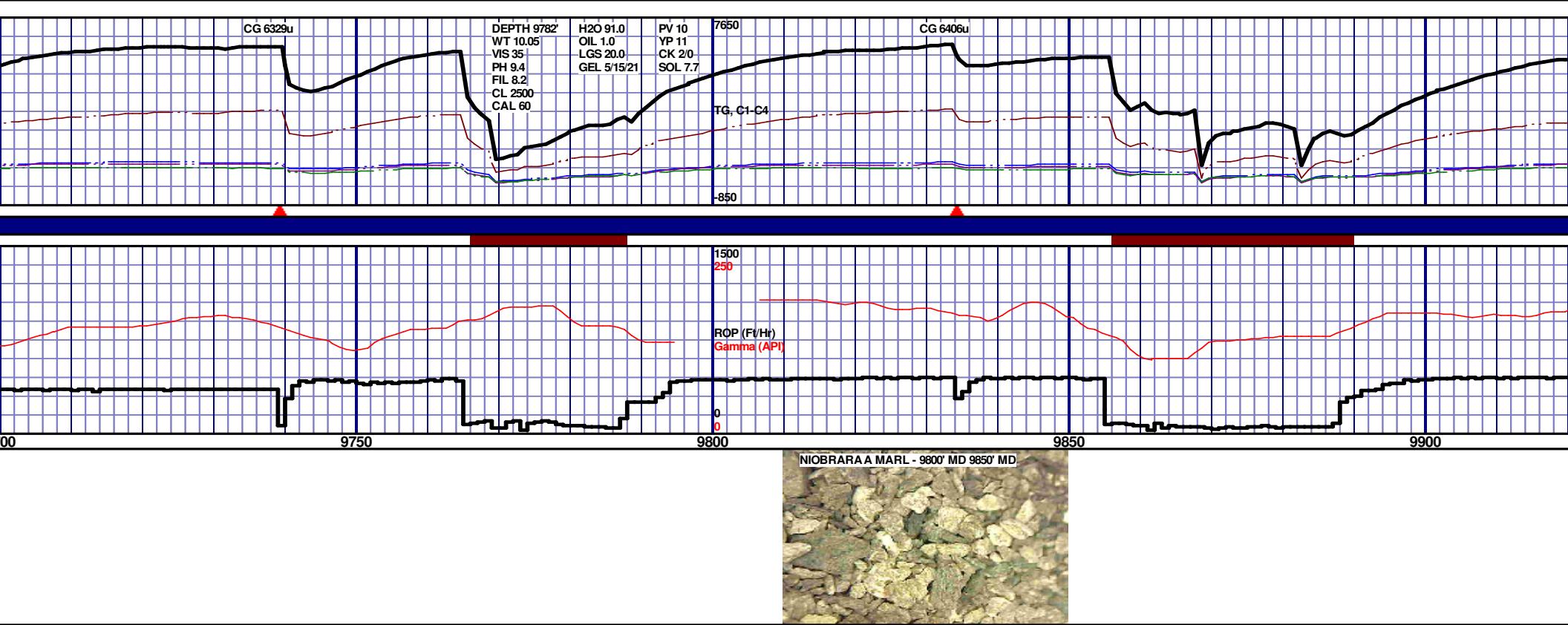
55% MOTT LTGY-BLK, FXLN TO CHLK, PYR, 30% FREE MRL, BLSHWT O FLOR, NG

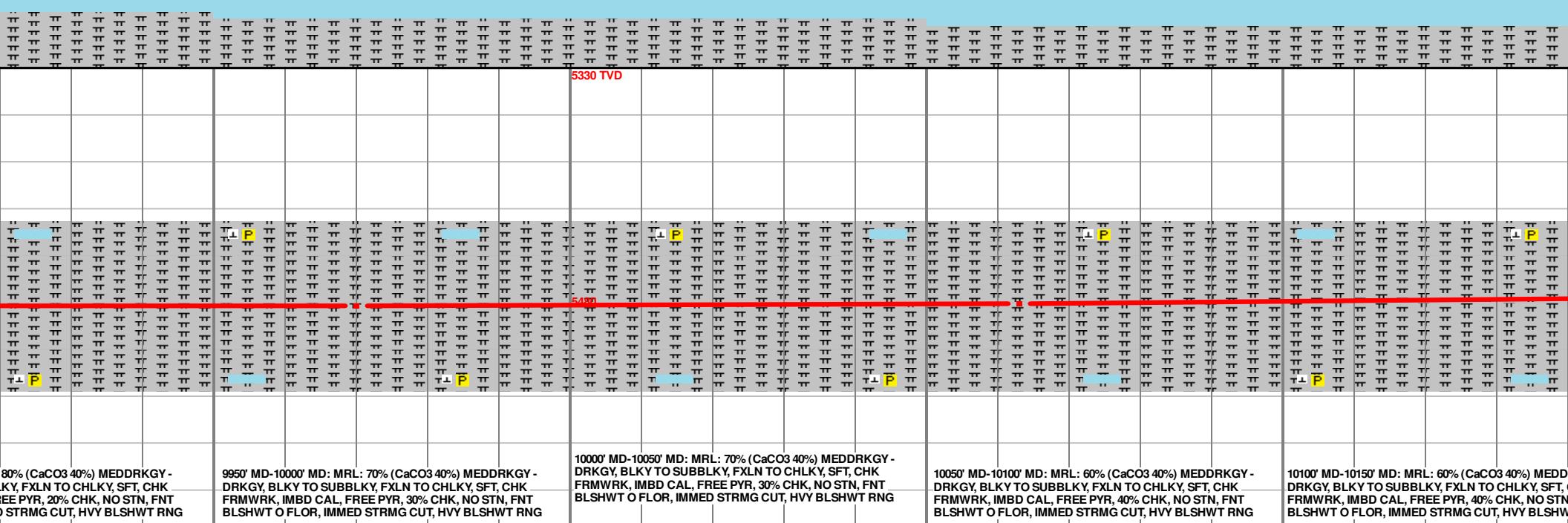
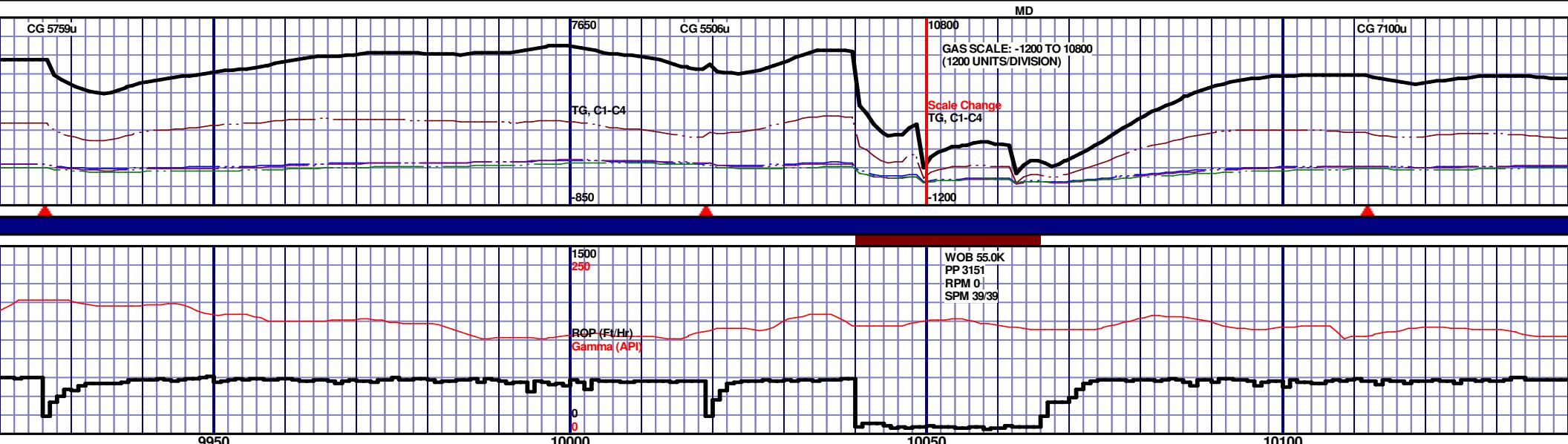
9500' MD-9550' MD: CHK: 60% (CaCO₃ 50%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

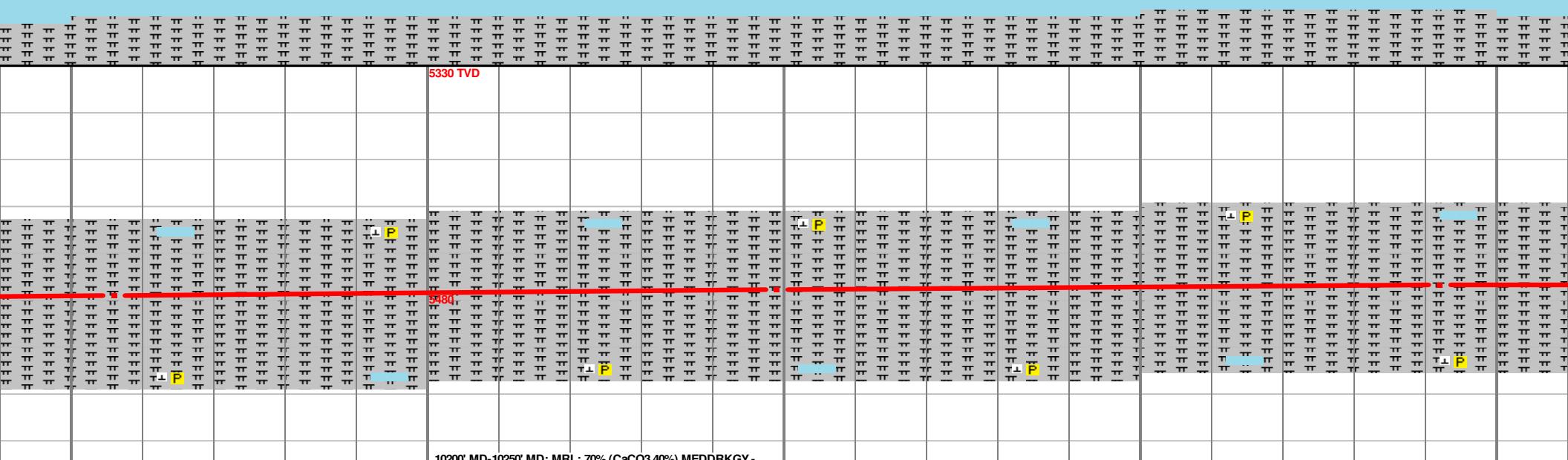
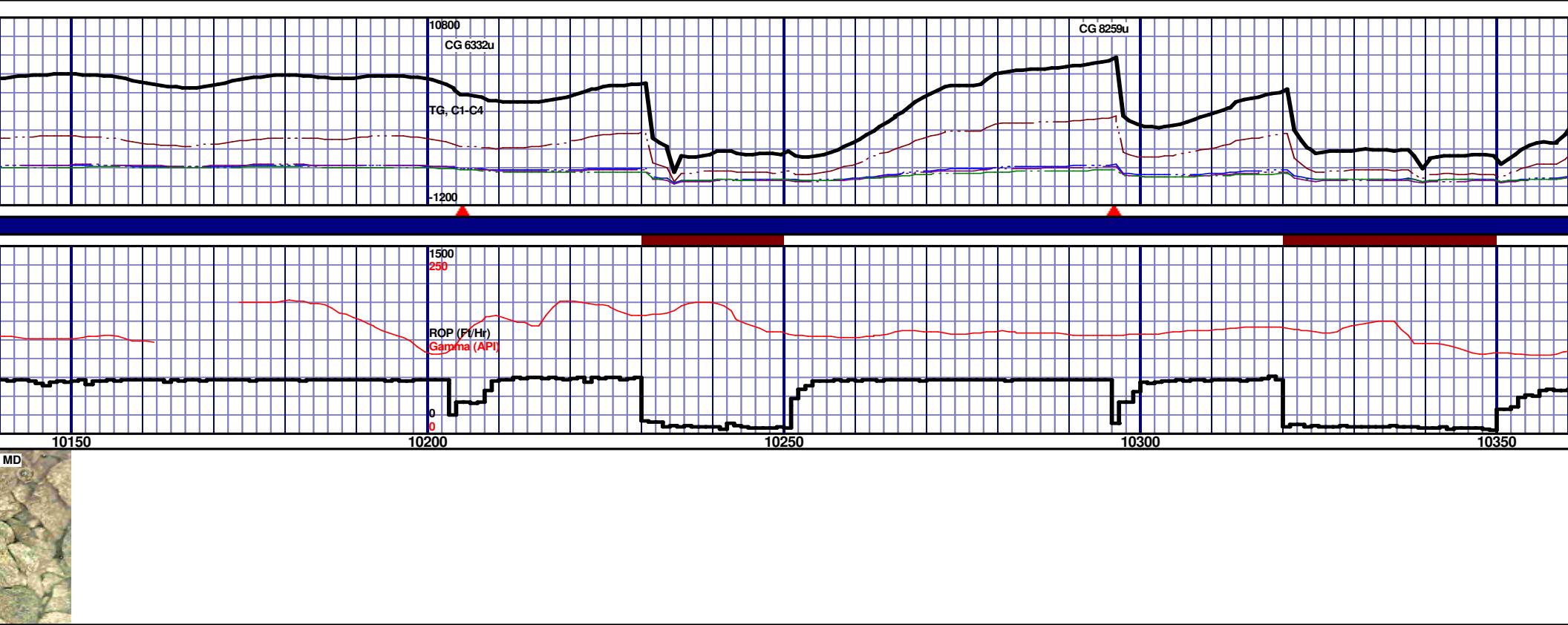
9550' MD-9600' MD: CHK: 60% (CaCO₃ 50%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

9600' MD-9650' MD: CHK: 60% (CaCO₃ 50%) MOTT LTGY-MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

9650' MD-9700' MD: MRL: 70% (CaCO₃ 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

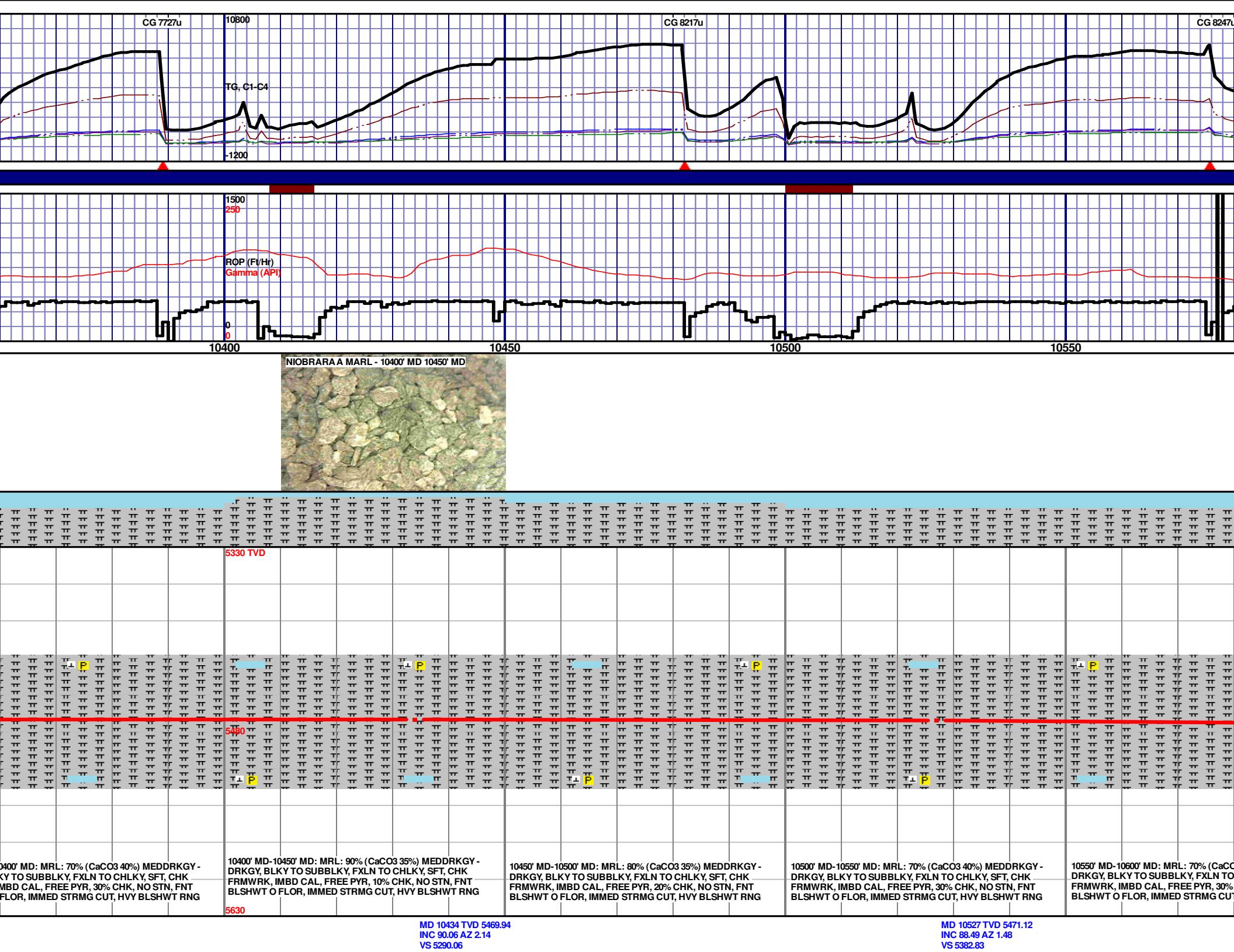


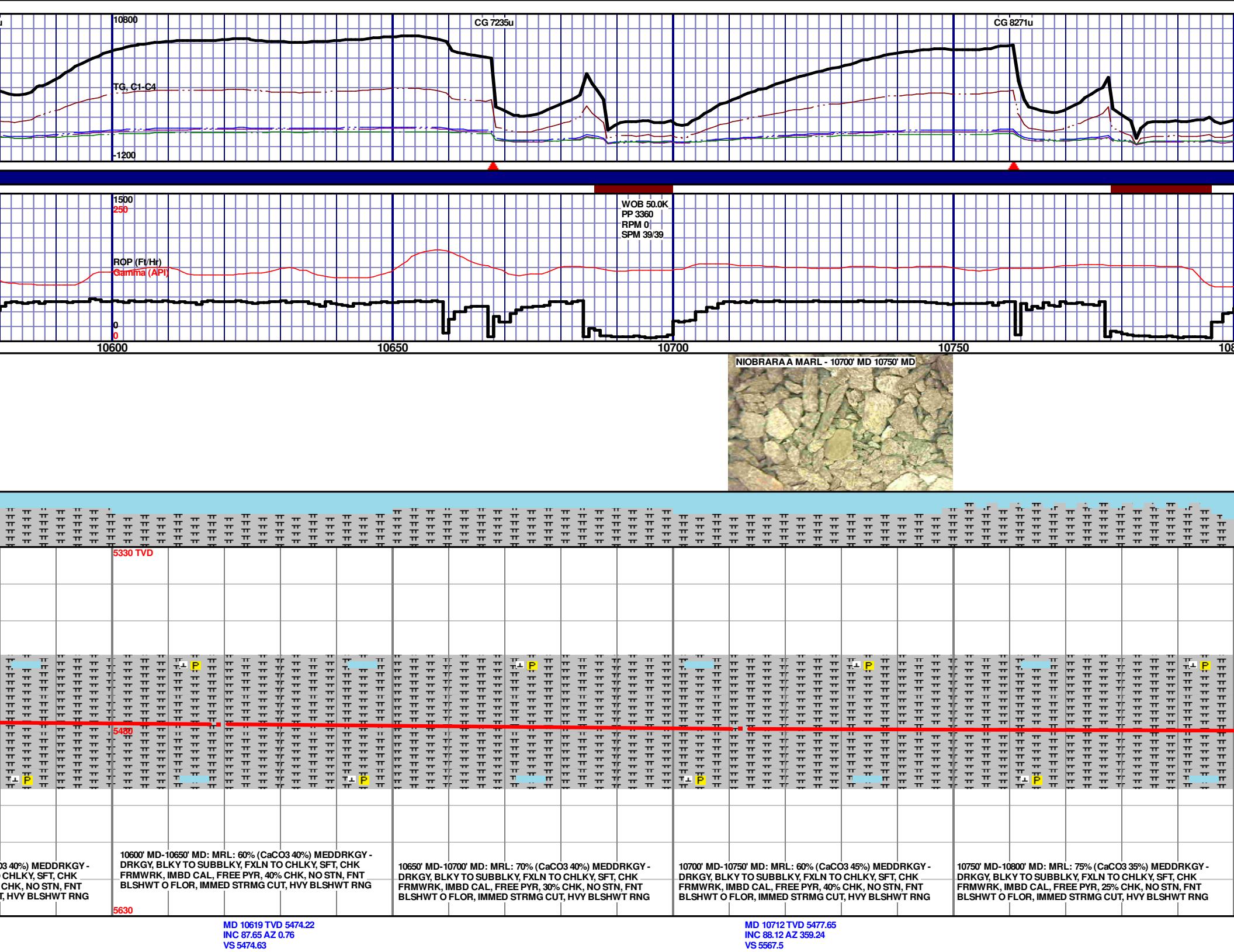


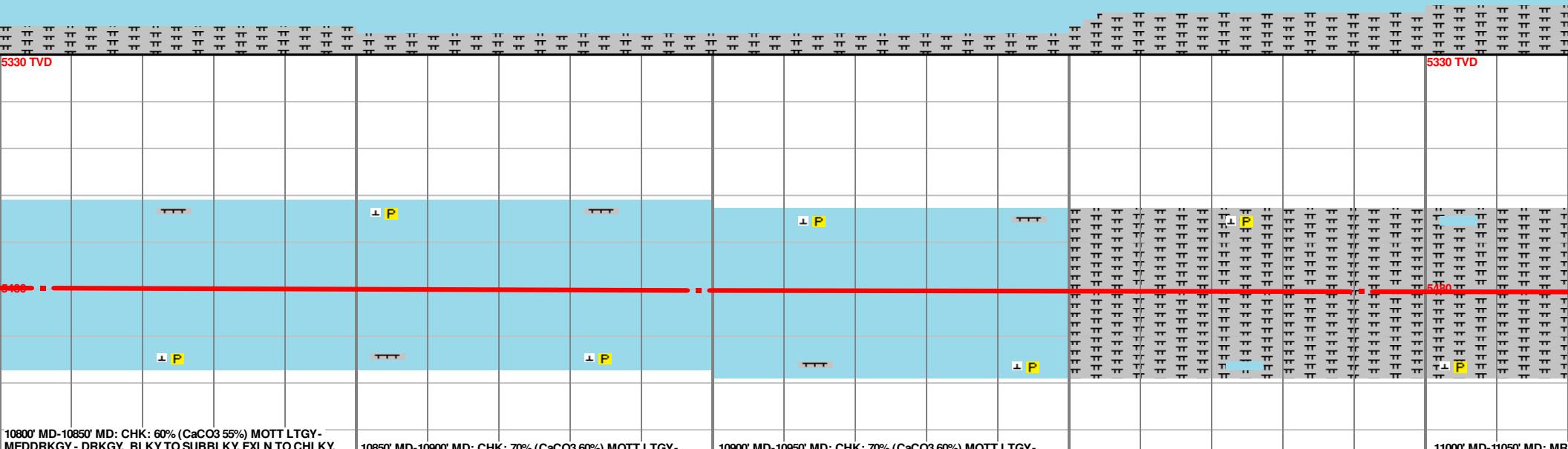
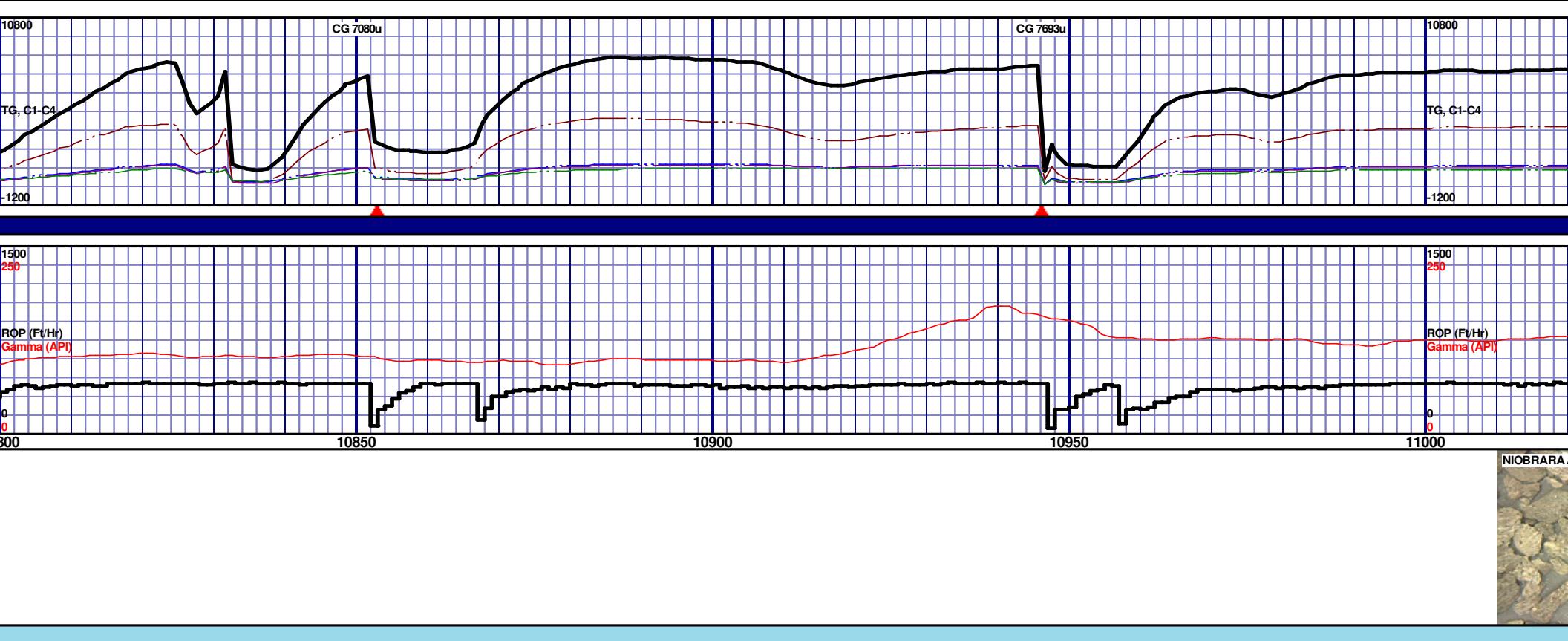


Lithology and Porosity Data:

Depth (MD)	Lithology Description	Porosity (%)
10150' - 10200'	MRL: 70% (CaCO ₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	70%
10200' - 10250'	MRL: 70% (CaCO ₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	70%
10250' - 10300'	MRL: 70% (CaCO ₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	70%
10300' - 10350'	MRL: 80% (CaCO ₃ 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	80%
10350'	DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	80%







10800' MD-10850' MD: CHK: 60% (CaCO₃ 55%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

MD 10806 TVD 5479.6
INC 89.51 AZ 357.83
VS 5661.47

10850' MD-10900' MD: CHK: 70% (CaCO₃ 60%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

MD 10895 TVD 5480.41
INC 89.48 AZ 357.17
VS 5753.46

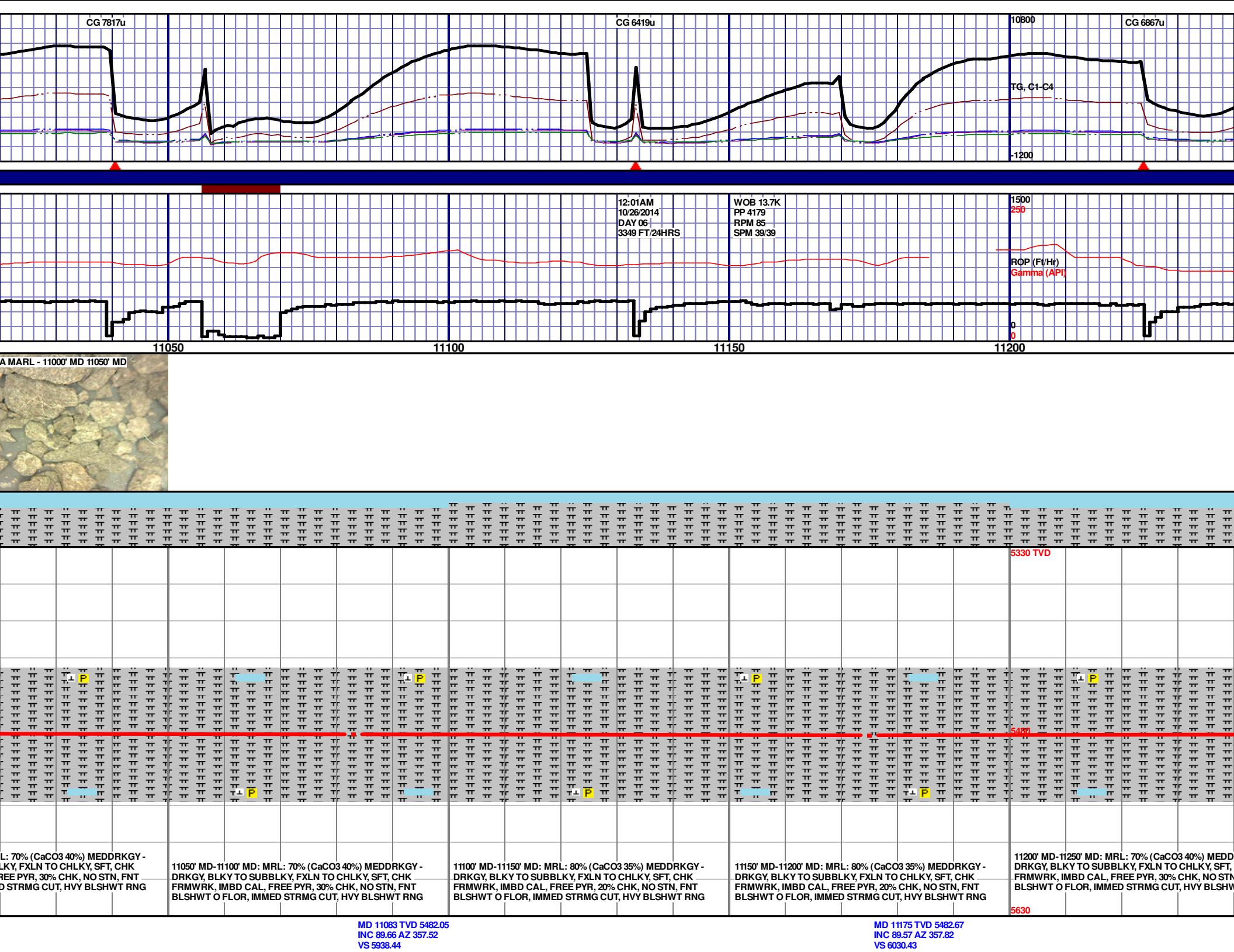
10900' MD-10950' MD: CHK: 70% (CaCO₃ 60%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

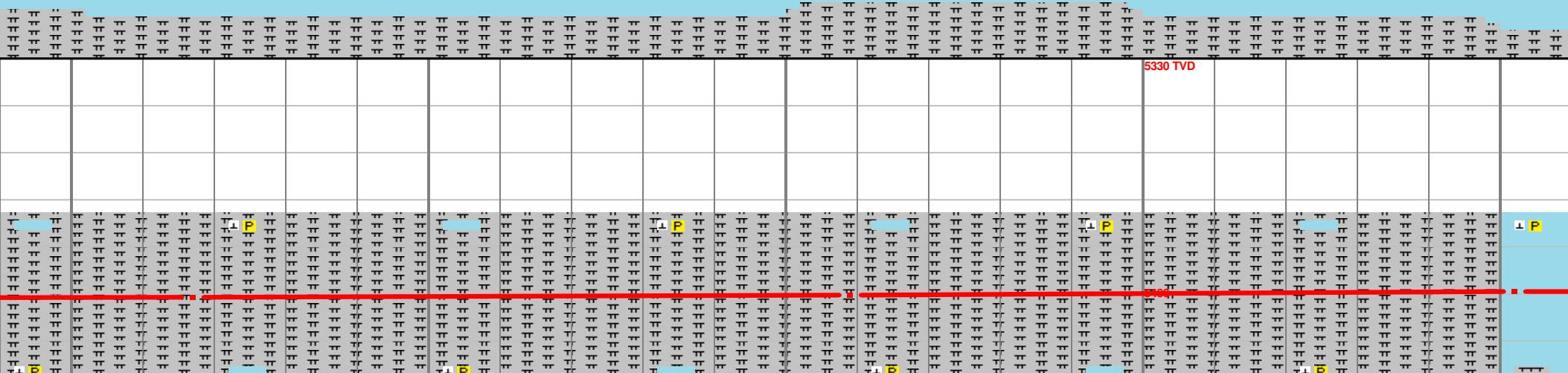
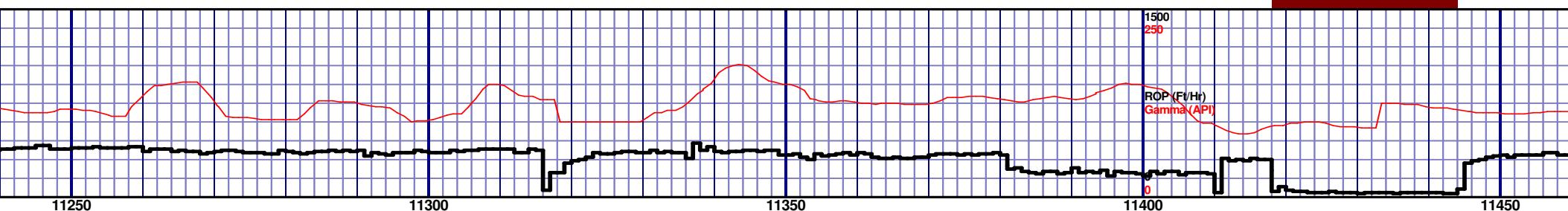
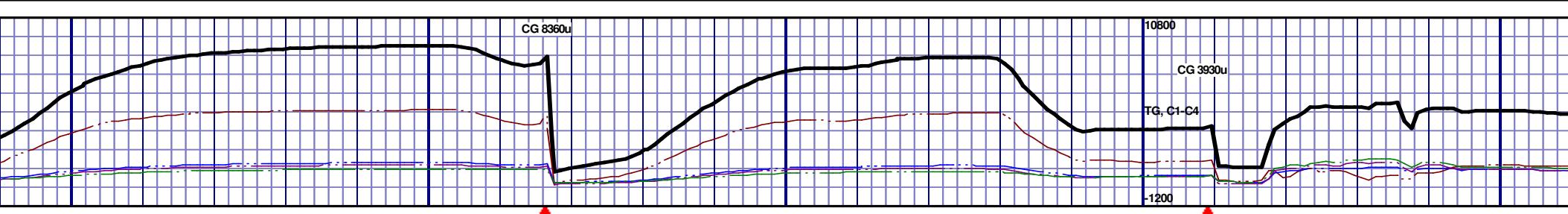
5630

10950' MD-11000' MD: MRL: 60% (CaCO₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

MD 10991 TVD 5481.31
INC 89.41 AZ 356.87
VS 5846.45





RKGY -
CHK
FNT
TFT RNG

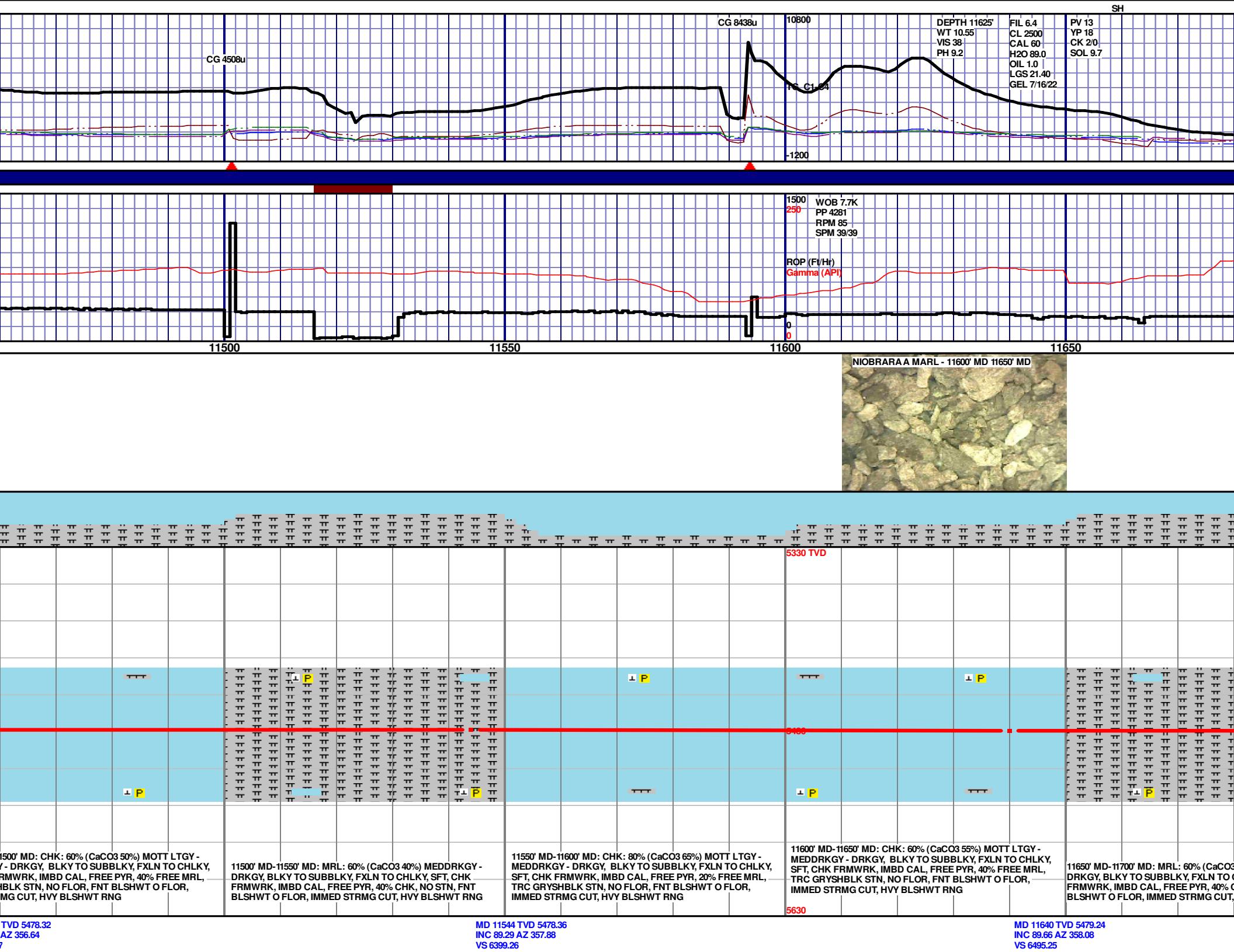
11250' MD-11300' MD: MRL: 60% (CaCO₃ 45%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

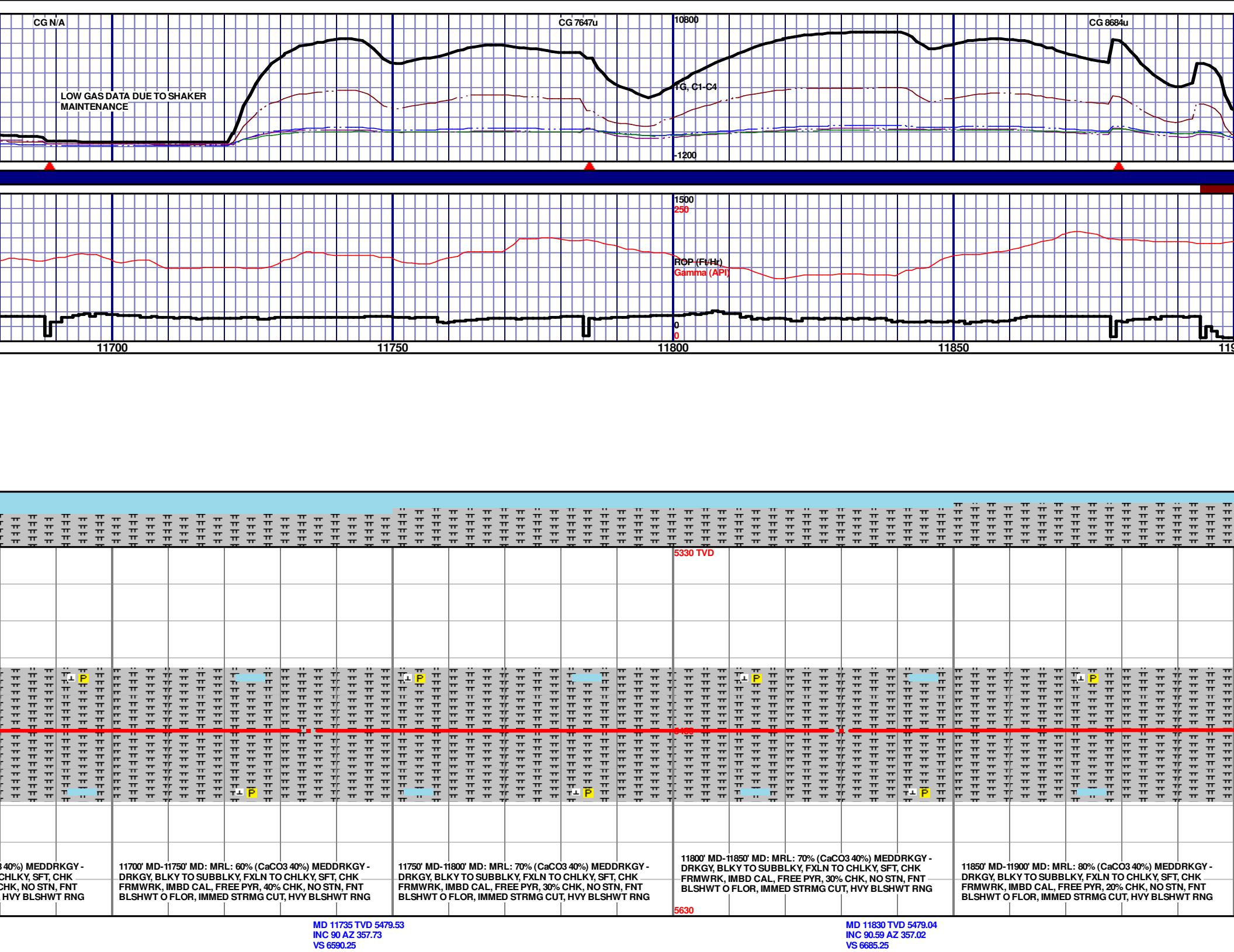
11300' MD-11350' MD: MRL: 60% (CaCO₃ 45%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

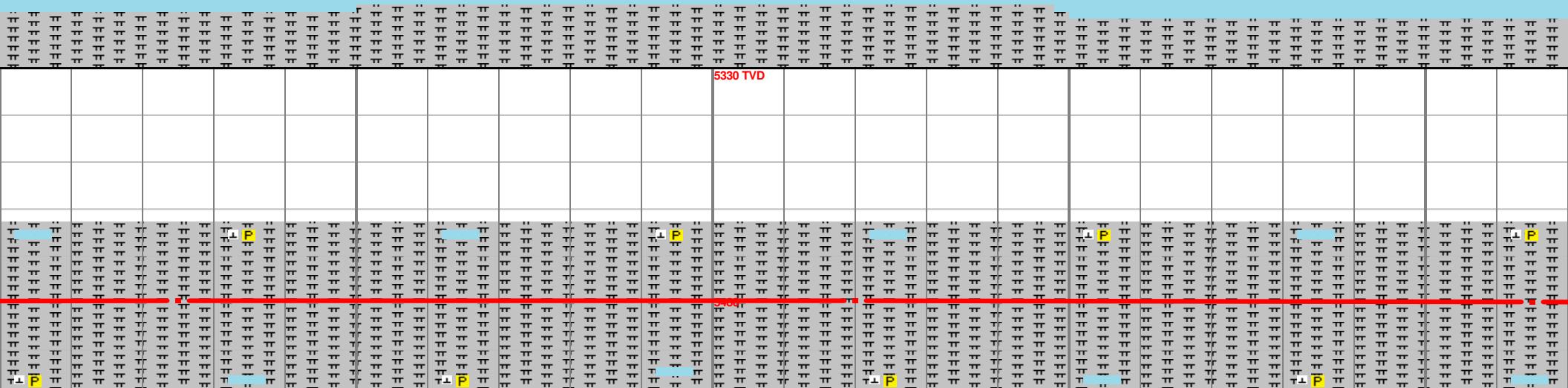
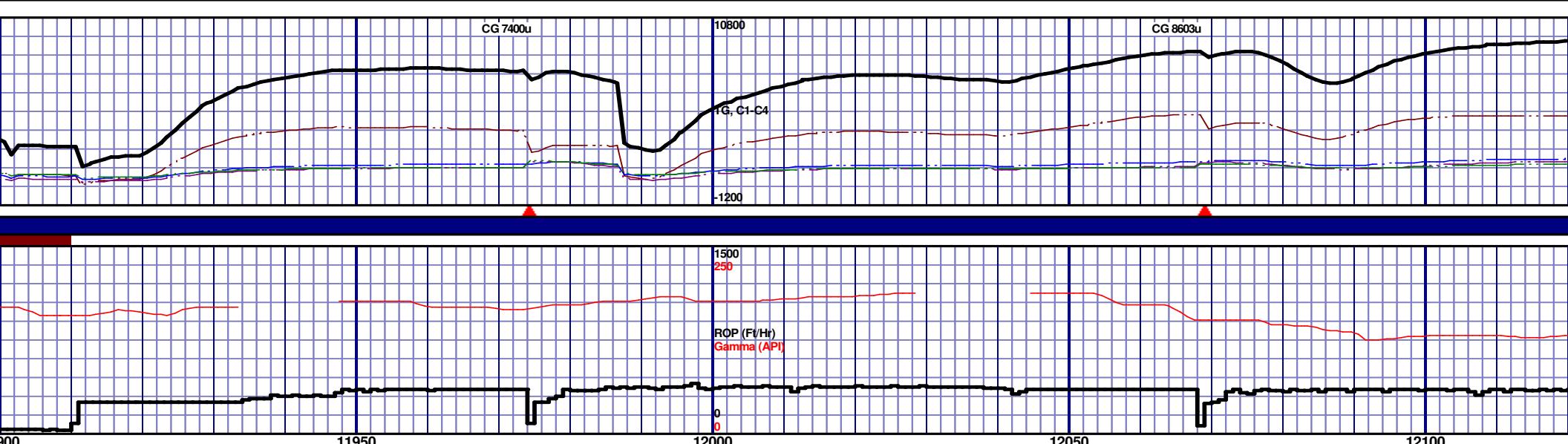
11350' MD-11400' MD: MRL: 80% (CaCO₃ 35%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

11400' MD-11450' MD: MRL: 60% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

11450' MD-11452' MD:
MEDDRKGY -
SFT, CHK F
TRC GRYSH
IMMED STR







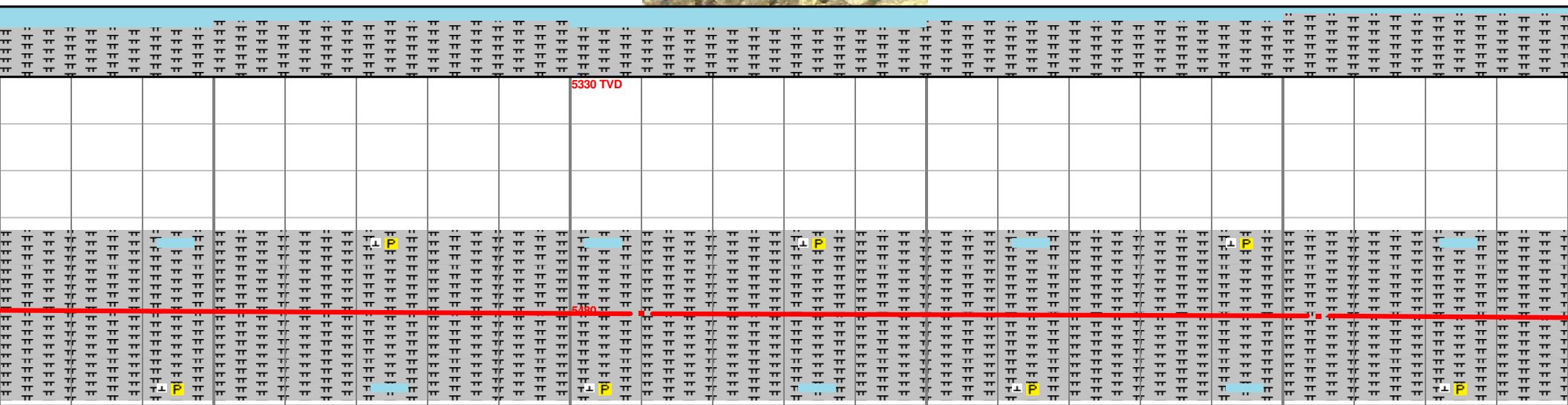
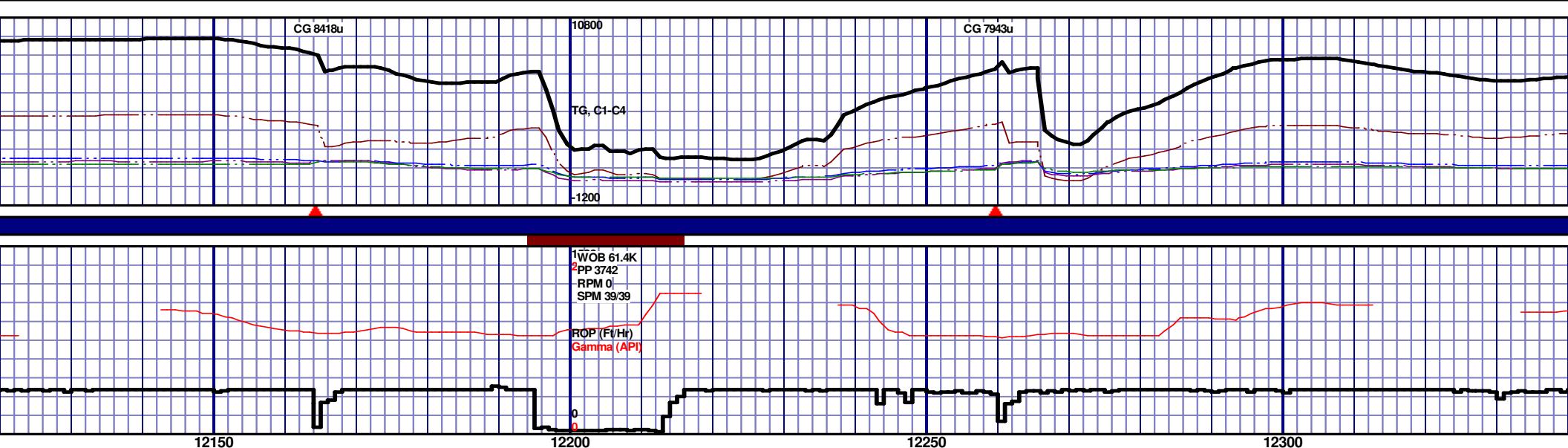
11900' MD-11950' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

11950' MD-12000' MD: MRL: 90% (CaCO₃ 35%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 10% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

12000' MD-12050' MD: MRL: 90% (CaCO₃ 35%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 10% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

12050' MD-12100' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

12100' MD-12150' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

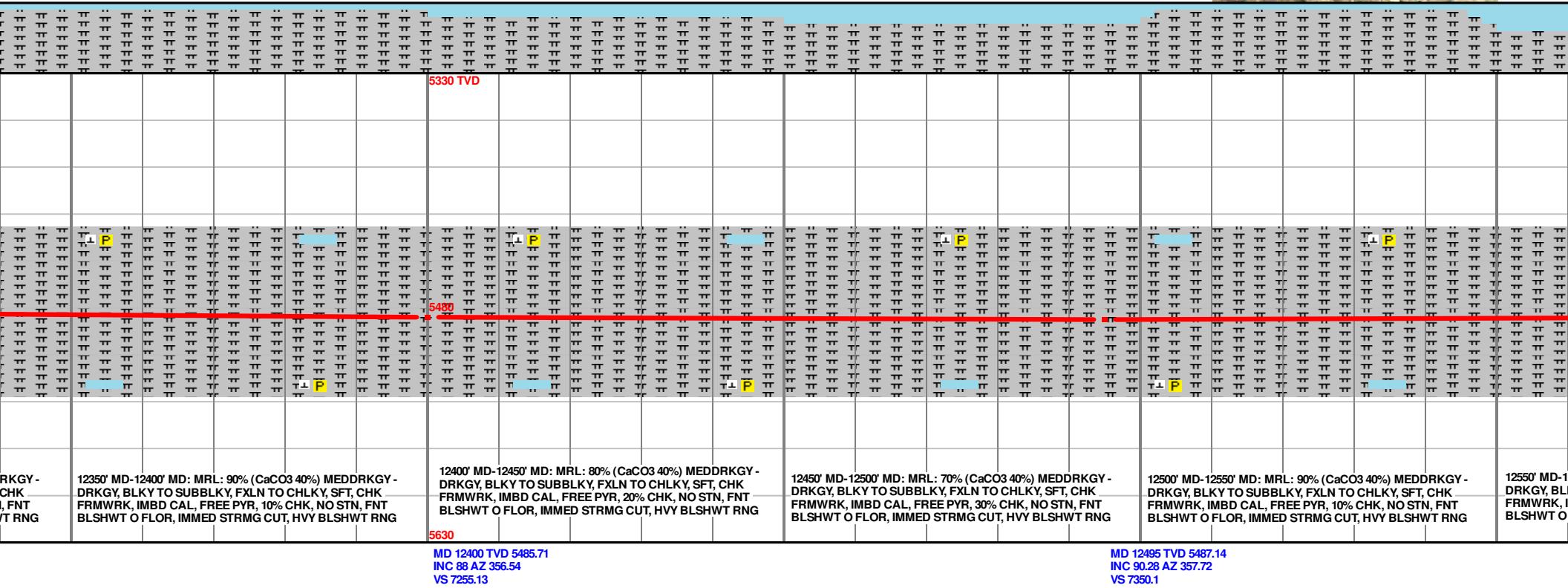
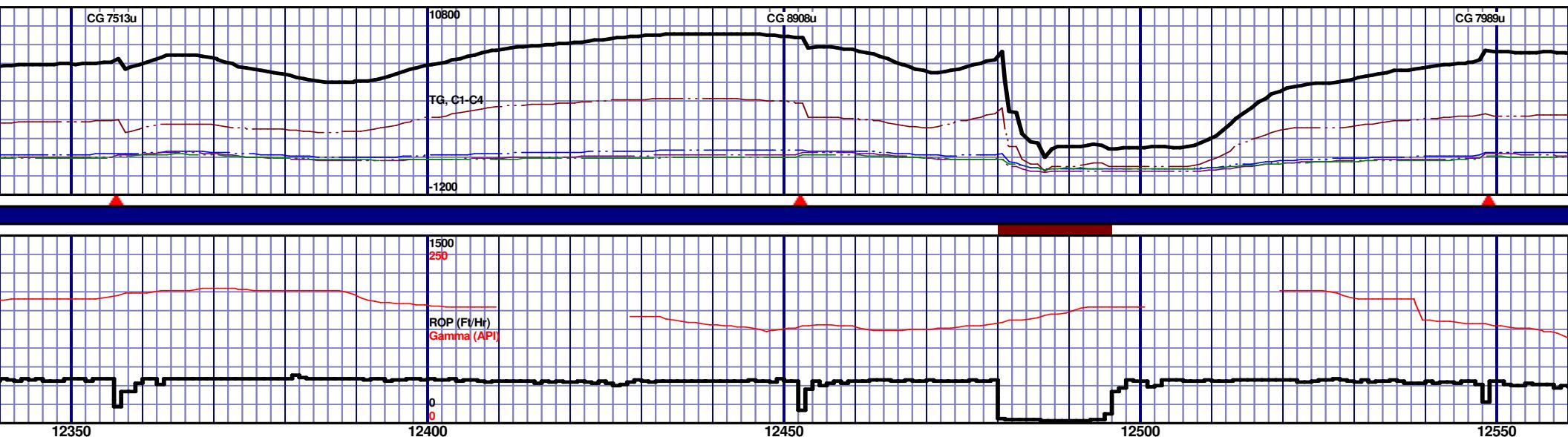


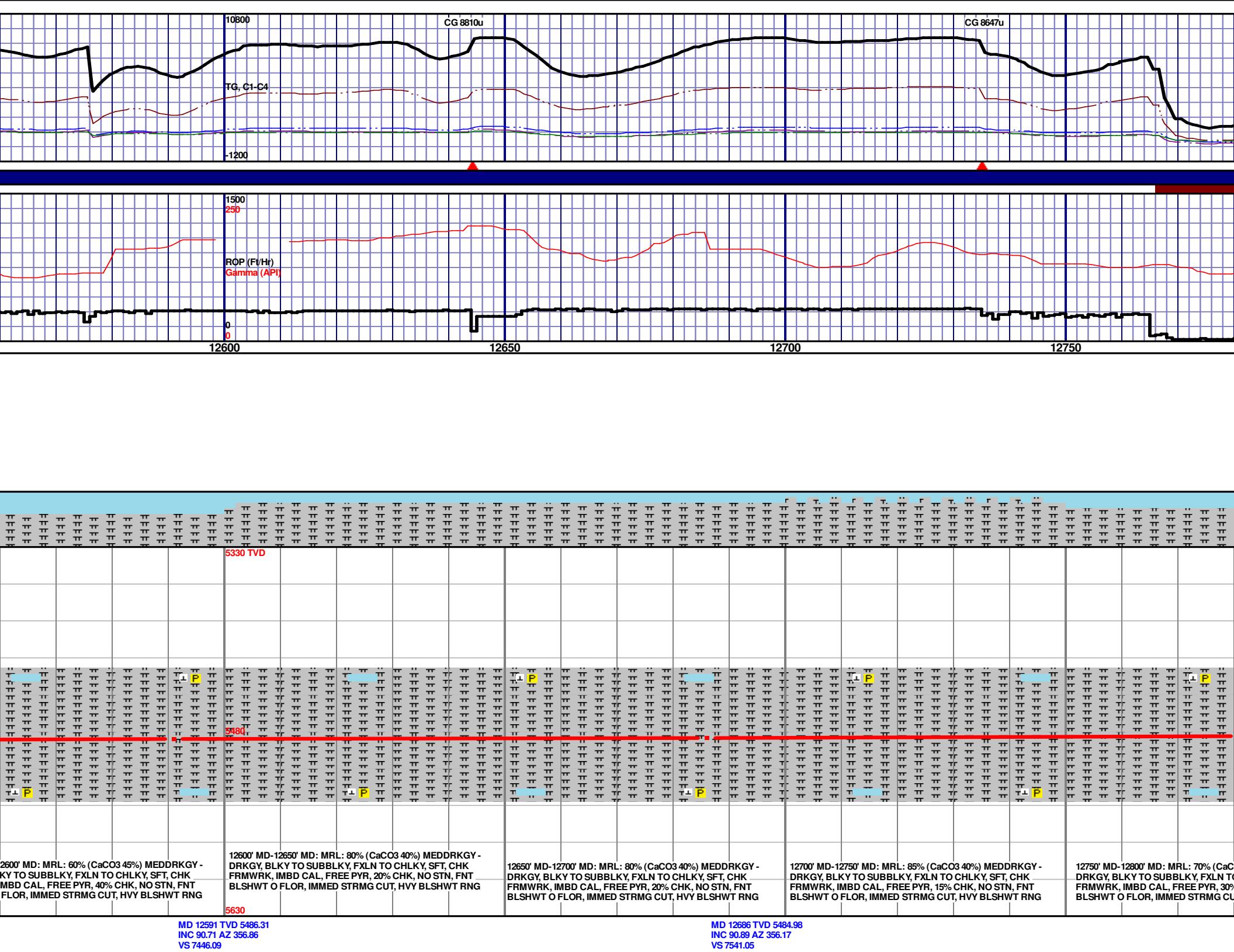
L: 70% (CaCO₃ 40%) MEDDRKGY -
LK, FXLN TO CHLKY, SFT, CHK
FREE PYR, 30% CHK, NO STN, FNT
IMMD STRMG CUT, HVY BLSHWT RNG

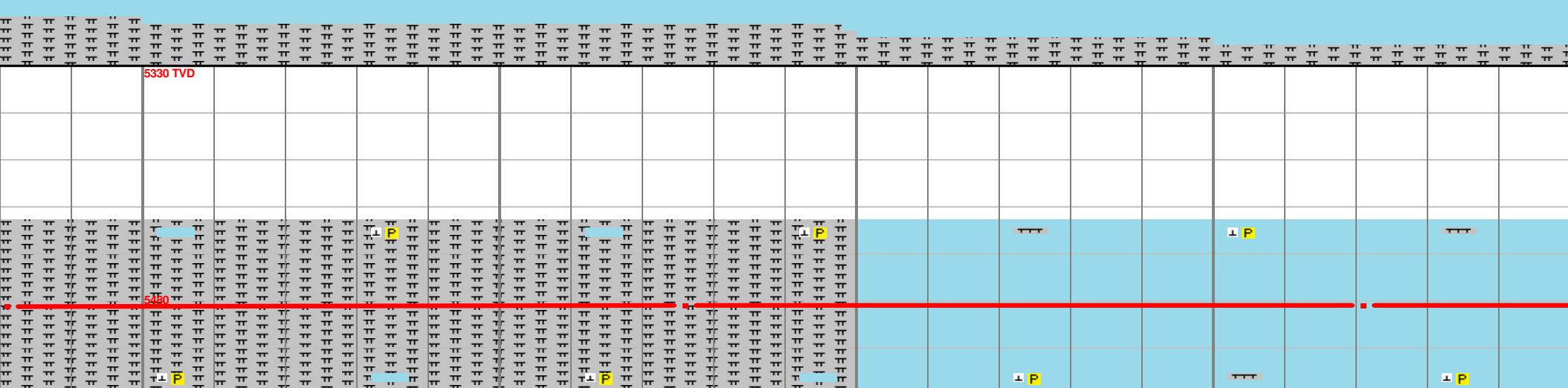
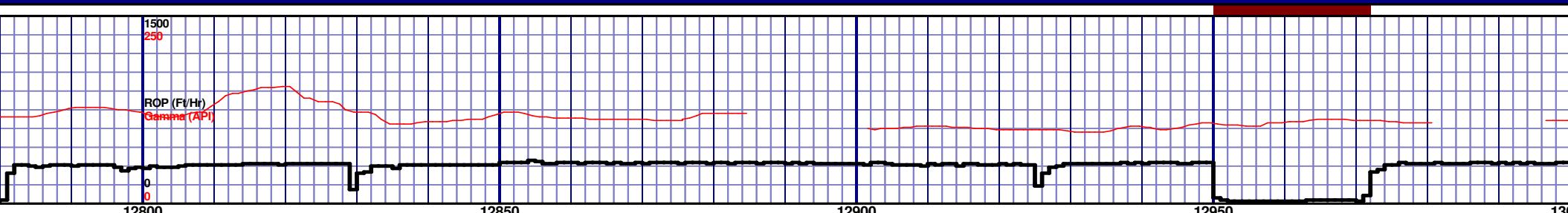
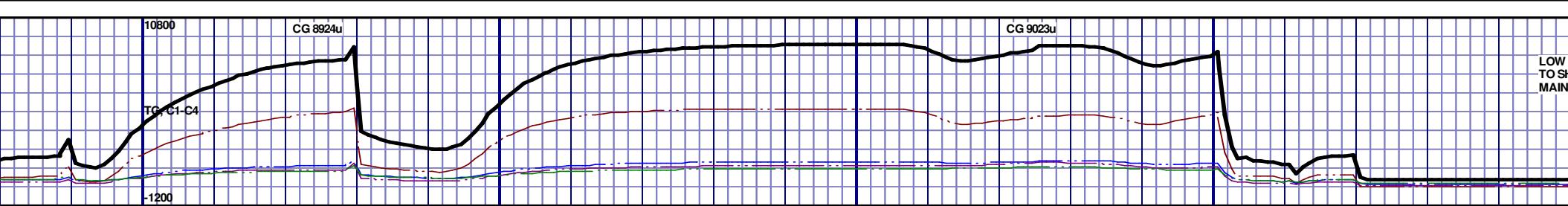
12150' MD-12200' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

12200' MD-12250' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

12250' MD-12300' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 10% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG







O3 40%) MEDDRKGY -
O CHLKY, SFT, CHK
% CHK, NO STN, FNT
JT, HVY BLSHWT RNG

12800' MD-12850' MD: MRL: 60% (CaCO3 45%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

12850' MD-12900' MD: MRL: 60% (CaCO3 45%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

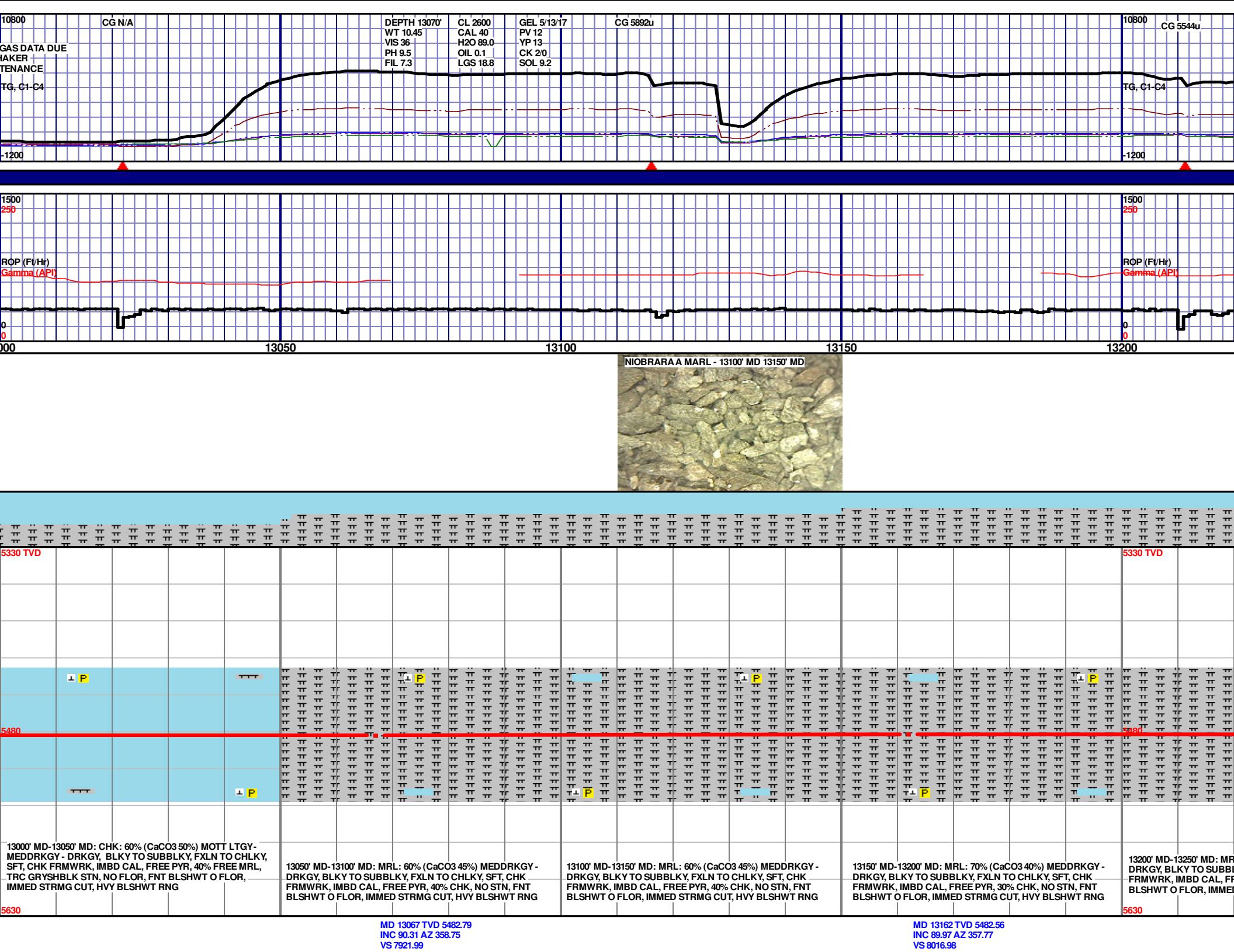
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INC 90.68 AZ 356.5
VS 7731

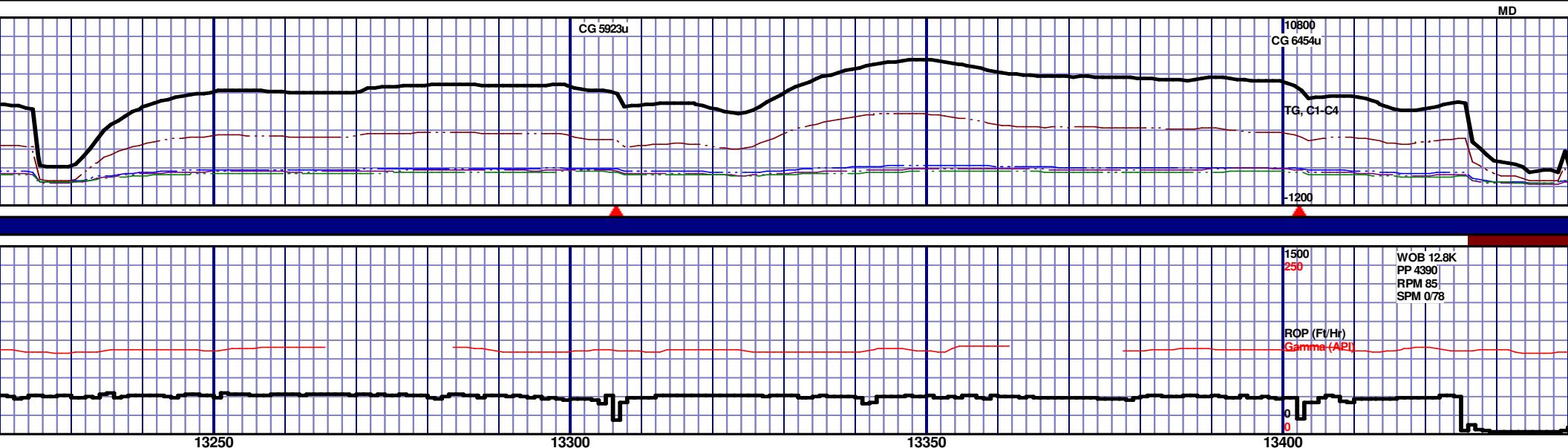
12900' MD-12950' MD: CHK: 60% (CaCO3 50%) MOTT LTGY -
MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY,
SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL,
TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED
STRMG CUT, HVY BLSHWT RNG

12950' MD-13000' MD: CHK: 70% (CaCO3 55%) MOTT LTGY -
MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY,
SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL,
TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR,
IMMED STRMG CUT, HVY BLSHWT RNG

MD 12971 TVD 5482.92
INC 89.85 AZ 358.21
VS 7825.99

MD 12781 TVD 5484.08
INC 90.19 AZ 357.1
VS 7636.02



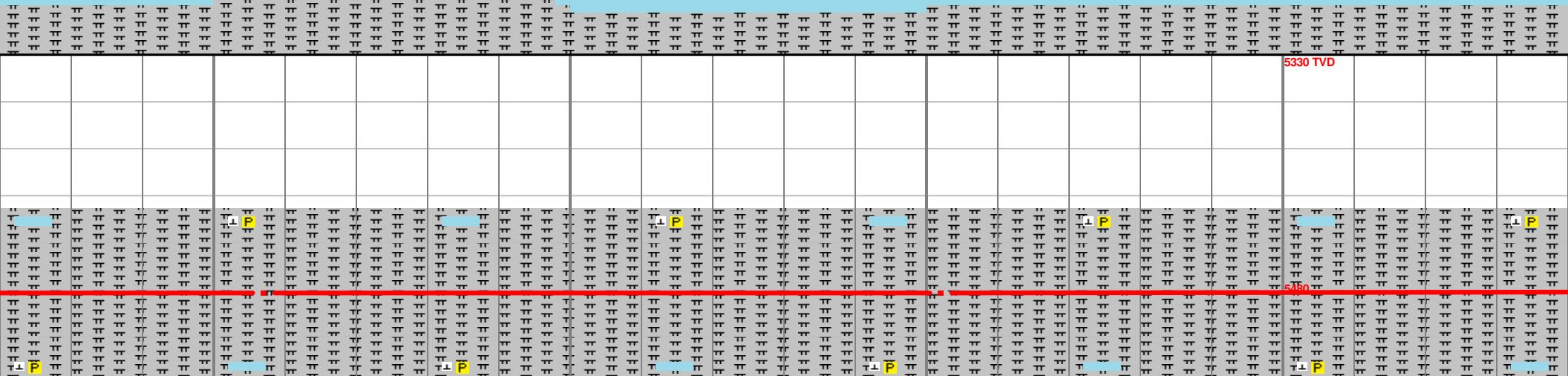


WOB 12.8K
PP 4390'
RPM 85
SPM 0.78



5330 TVD

5480



L: 70% (CaCO₃ 40%) MEDDRKGY -
LK, FXLN TO CHLKY, SFT, CHK
FREE PYR, 30% CHK, NO STN, FNT
IMMED STRMG CUT, HVY BLSHWT RNG

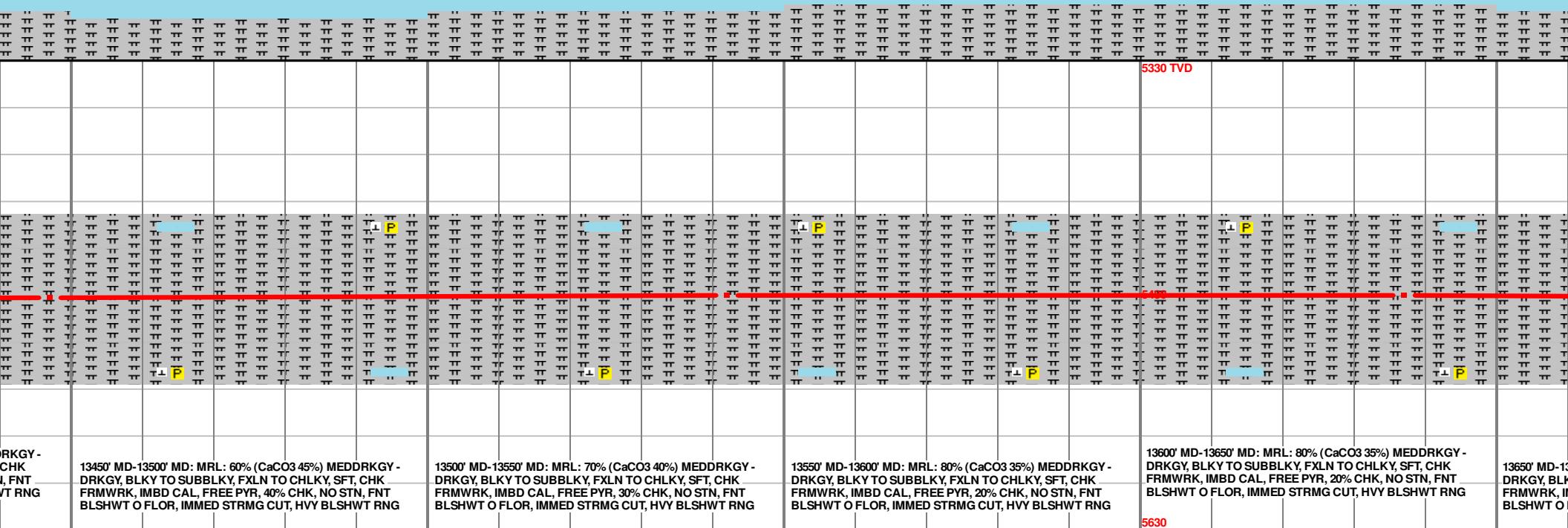
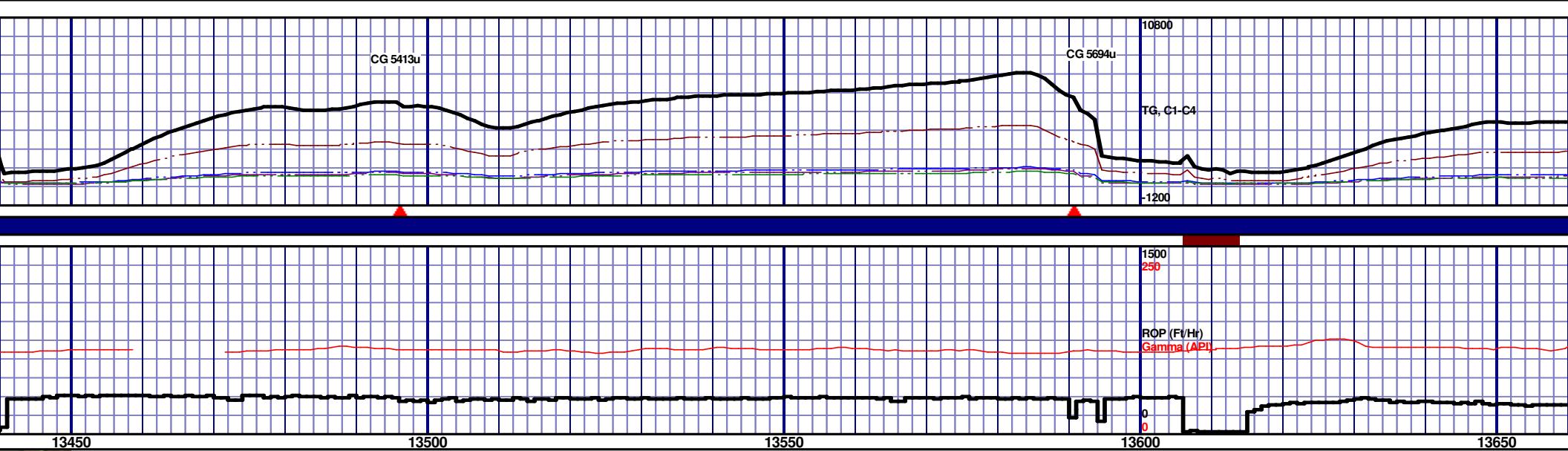
13250' MD-13300' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

13300' MD-13350' MD: MRL: 60% (CaCO₃ 45%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

13350' MD-13400' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

13400' MD-13450' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630



MD 1347 TVD 5481.23

INC 90.71 AZ 359.84

VS 8301.94

MD 13542 TVD 5479.98

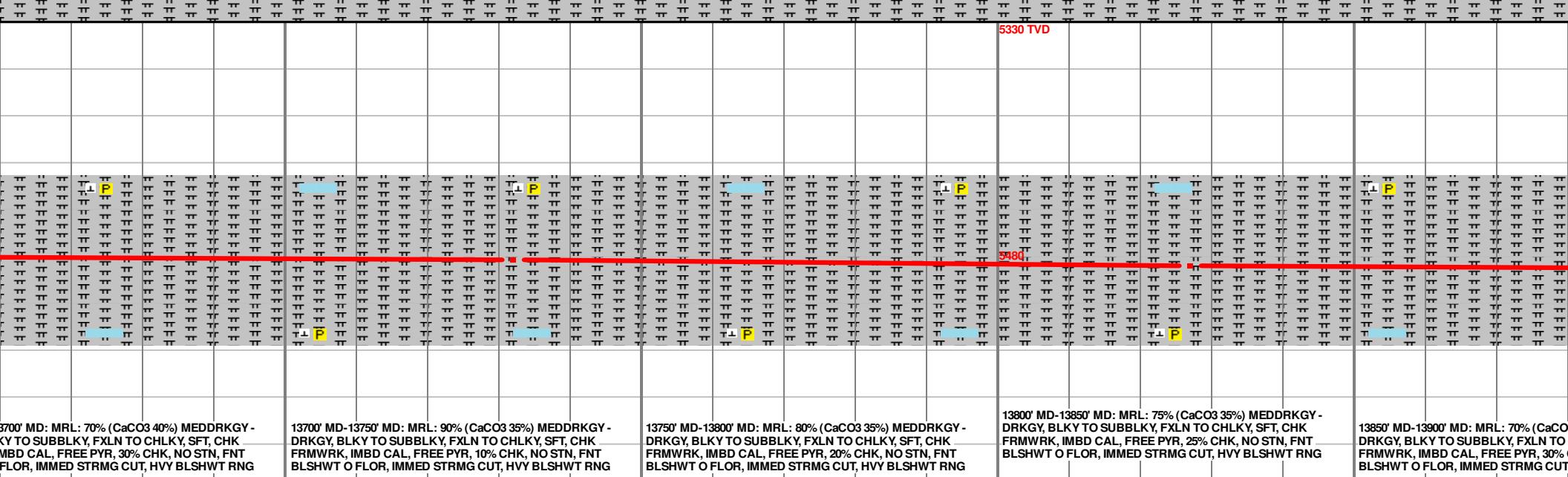
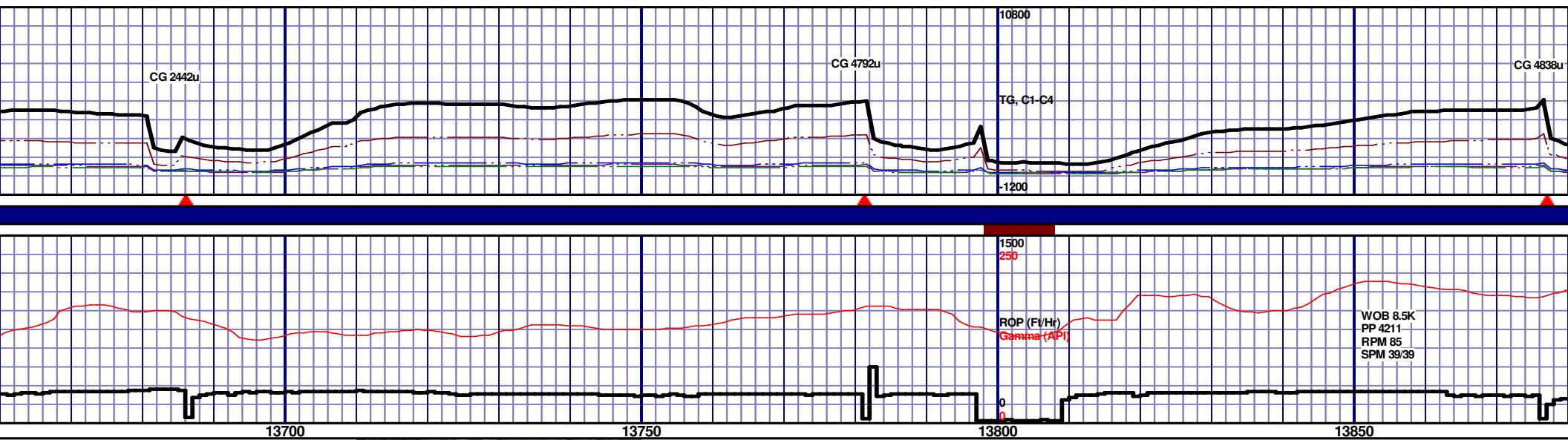
INC 90.8 AZ 0.82

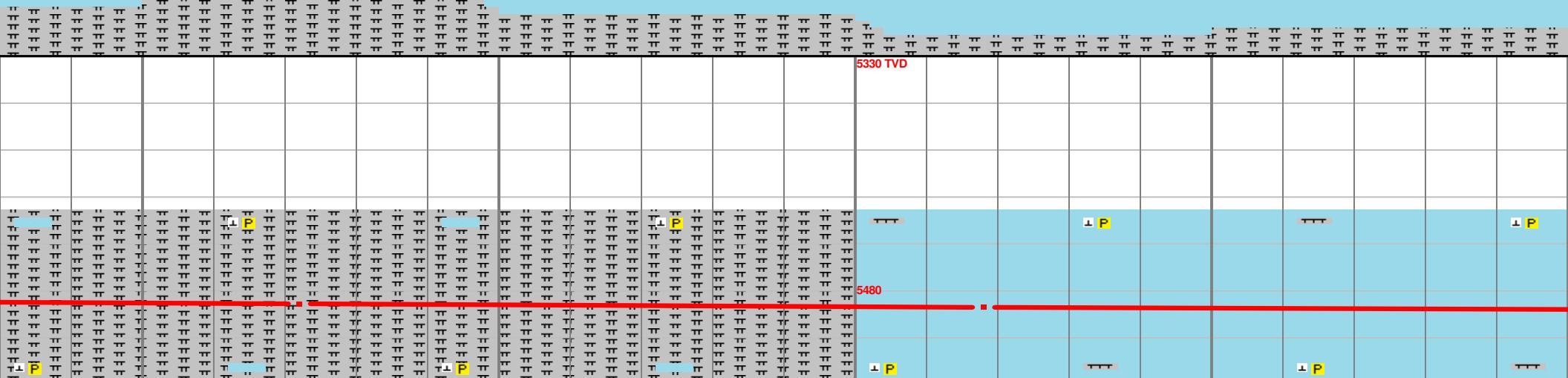
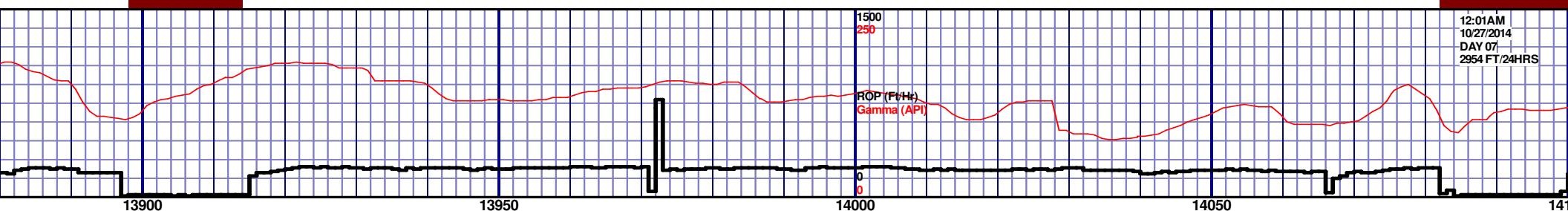
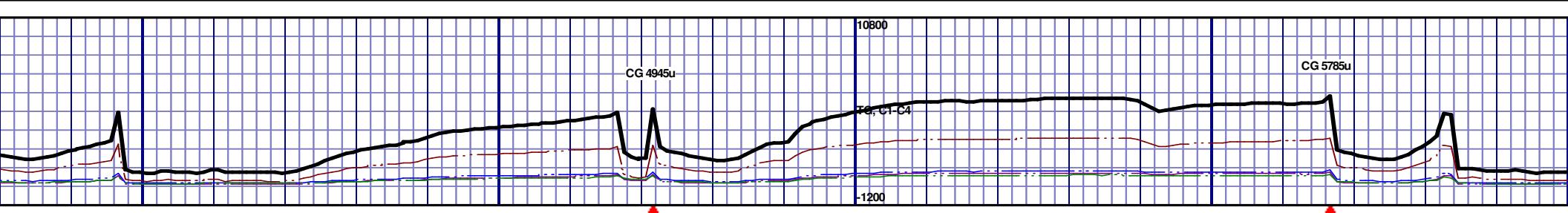
VS 8396.84

MD 13637 TVD 5480.16

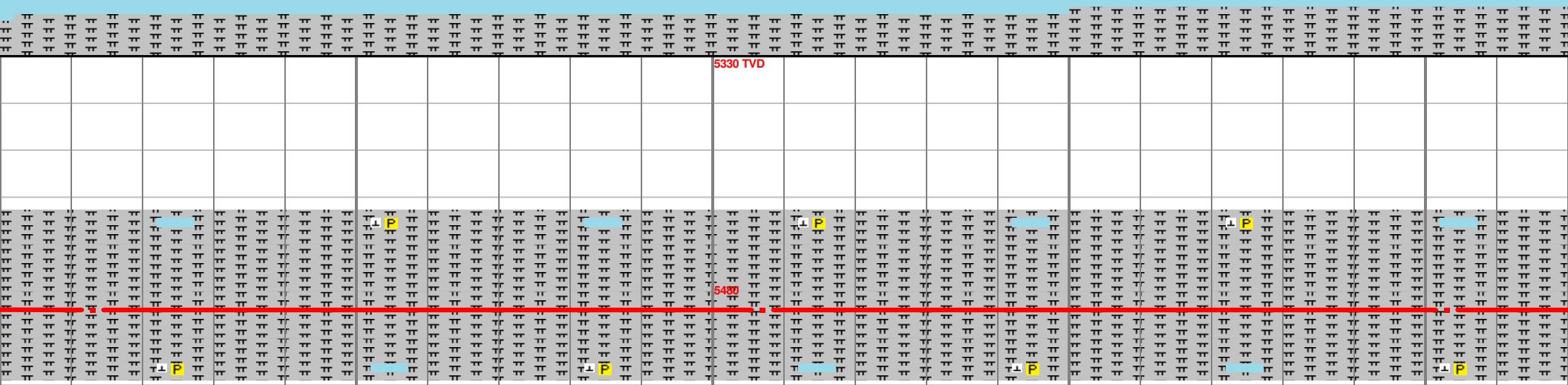
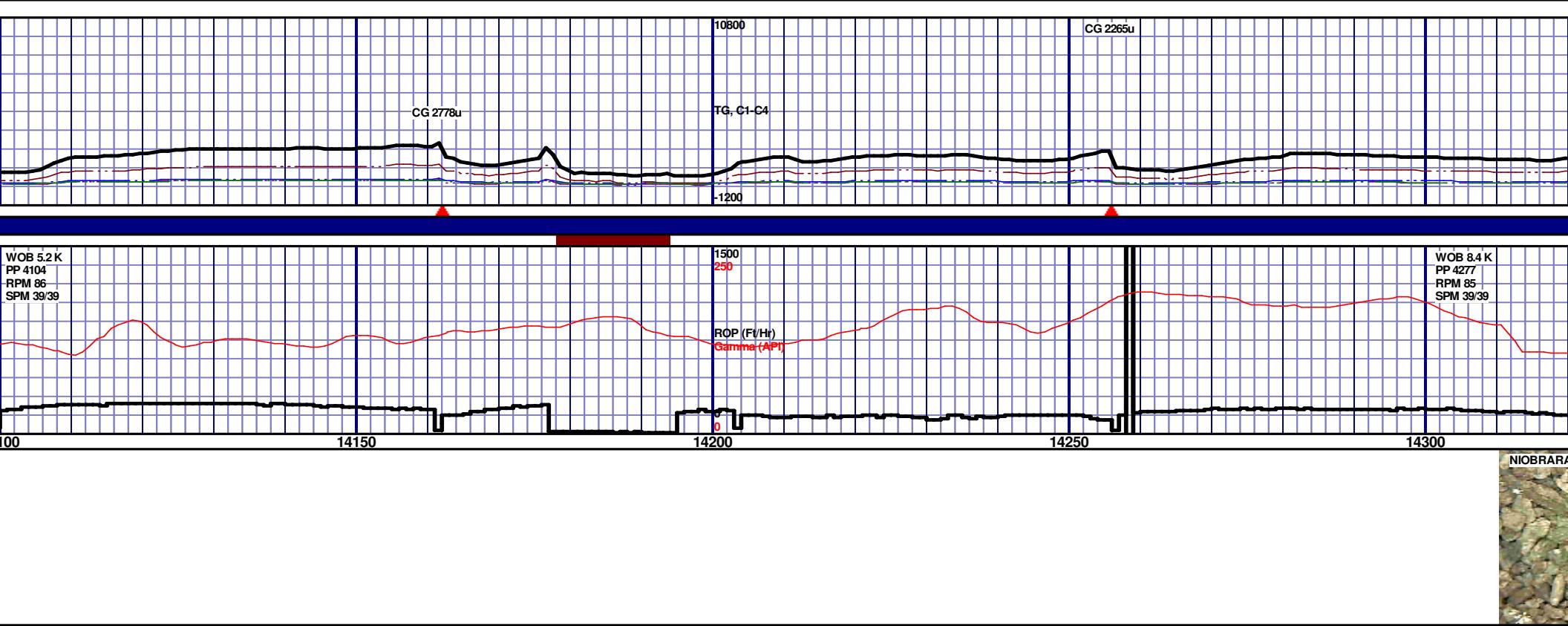
INC 88.98 AZ 359.43

VS 8491.76





3 40% MEDDRKGY - CHLK, SFT, CHK CHK, NO STN, FNT HVY BLSHWT RNG	13900' MD-13950' MD: MRL: 80% (CaCO3 35%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	13950' MD-14000' MD: MRL: 60% (CaCO3 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	14000' MD-14050' MD: CHK: 70% (CaCO3 55%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG	14050' MD-14100' MD: CHK: 60% (CaCO3 45%) MOTT LTGY - MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% FREE MRL, TRC GRYSHBLK STN, NO FLOR, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG
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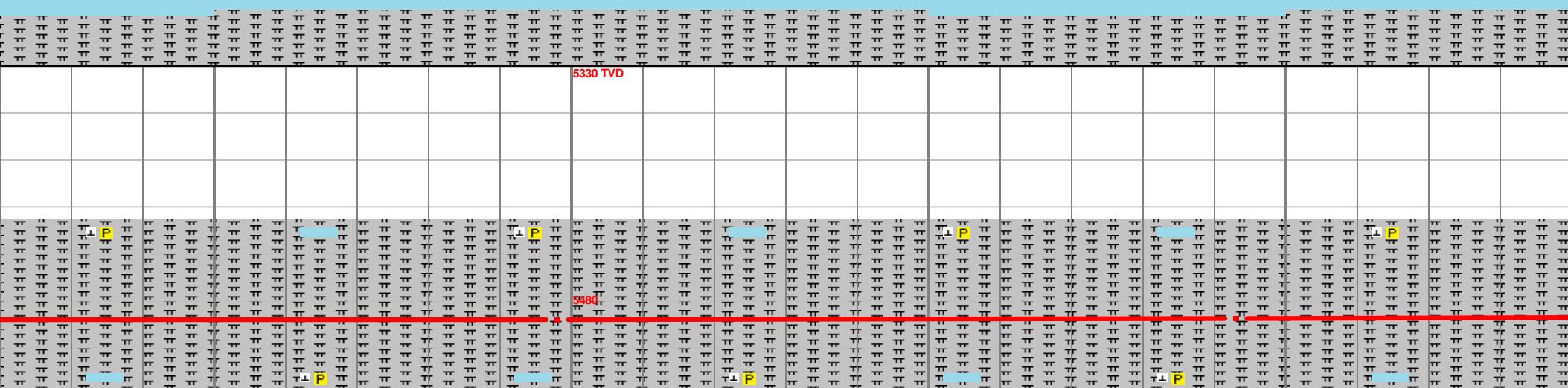
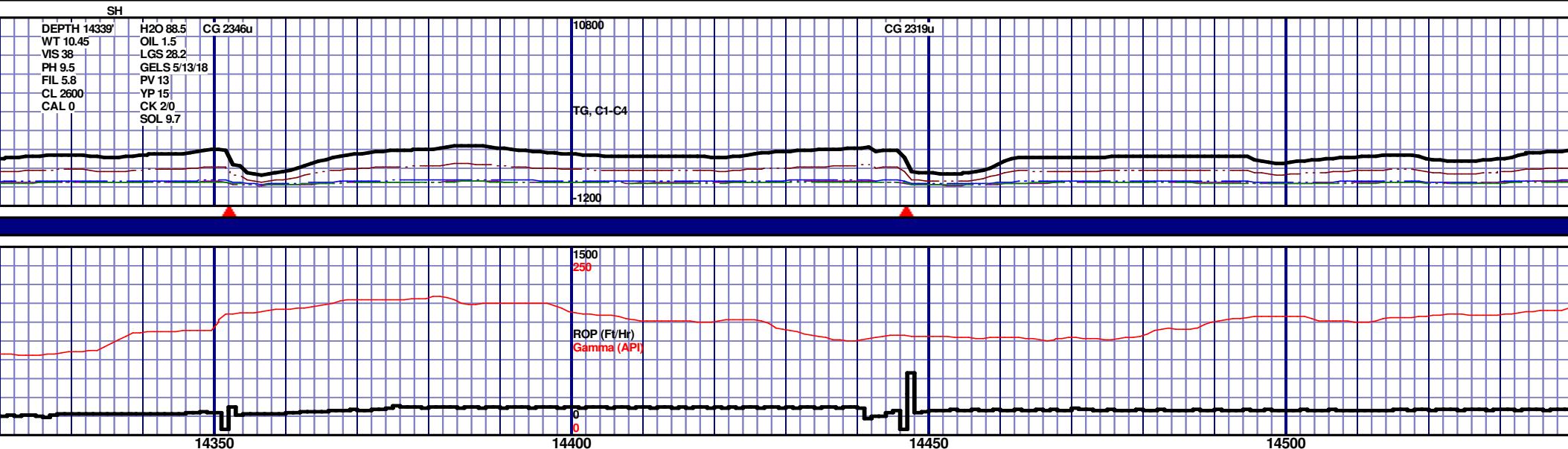
14100' MD-14150' MD: MRL: 60% (CaCO₃ 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

14150' MD-14200' MD: MRL: 60% (CaCO₃ 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

14200' MD-14250' MD: MRL: 60% (CaCO₃ 45%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 40% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

14250' MD-14300' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

14300' MD-14350' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY - DRKGY, BLKY TO SUBBLKY, FXLN TO CHLKY, SFT, CHK FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG



L: 70% (CaCO₃ 40%) MEDDRKGY -
KY, FXLN TO CHLK, SFT, CHK
EE PYR, 30% CHK, NO STN, FNT
STRMG CUT, HVY BLSHWT RNG

14350' MD-14400' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

14400' MD-14450' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

5630

MD 14398 TVD 5492.02
INC 89.75 AZ 357.17
VS 9252.52

14450' MD-14500' MD: MRL: 70% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 30% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

14500' MD-14550' MD: MRL: 80% (CaCO₃ 40%) MEDDRKGY -
DRKGY, BLKY TO SUBBLKY, FXLN TO CHLK, SFT, CHK
FRMWRK, IMBD CAL, FREE PYR, 20% CHK, NO STN, FNT
BLSHWT O FLOR, IMMED STRMG CUT, HVY BLSHWT RNG

MD 14493 TVD 5491.56
INC 90.8 AZ 356.88
VS 9347.51

