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WWW.HZMUD.COM/25

Customer Information

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

Geologist: Holly Duncan
Noble Energy Inc.

Mud Logging Details

Logger: Hannah Blatchford &
Joe Klumpstra

Log Interval: 6580' MD to 11169' MD

Start Date: March 09, 2014

Release Date: March 13, 2014

Well Information

Well Name: Wells Ranch
AA35-68-1AHNA Horizontal

Location: 36-T6N-R63W
680' FNL, 164' FWL

County: Weld
State: Colorado

Drilling Rig: H&P 321

Total Depth: 11169' MD

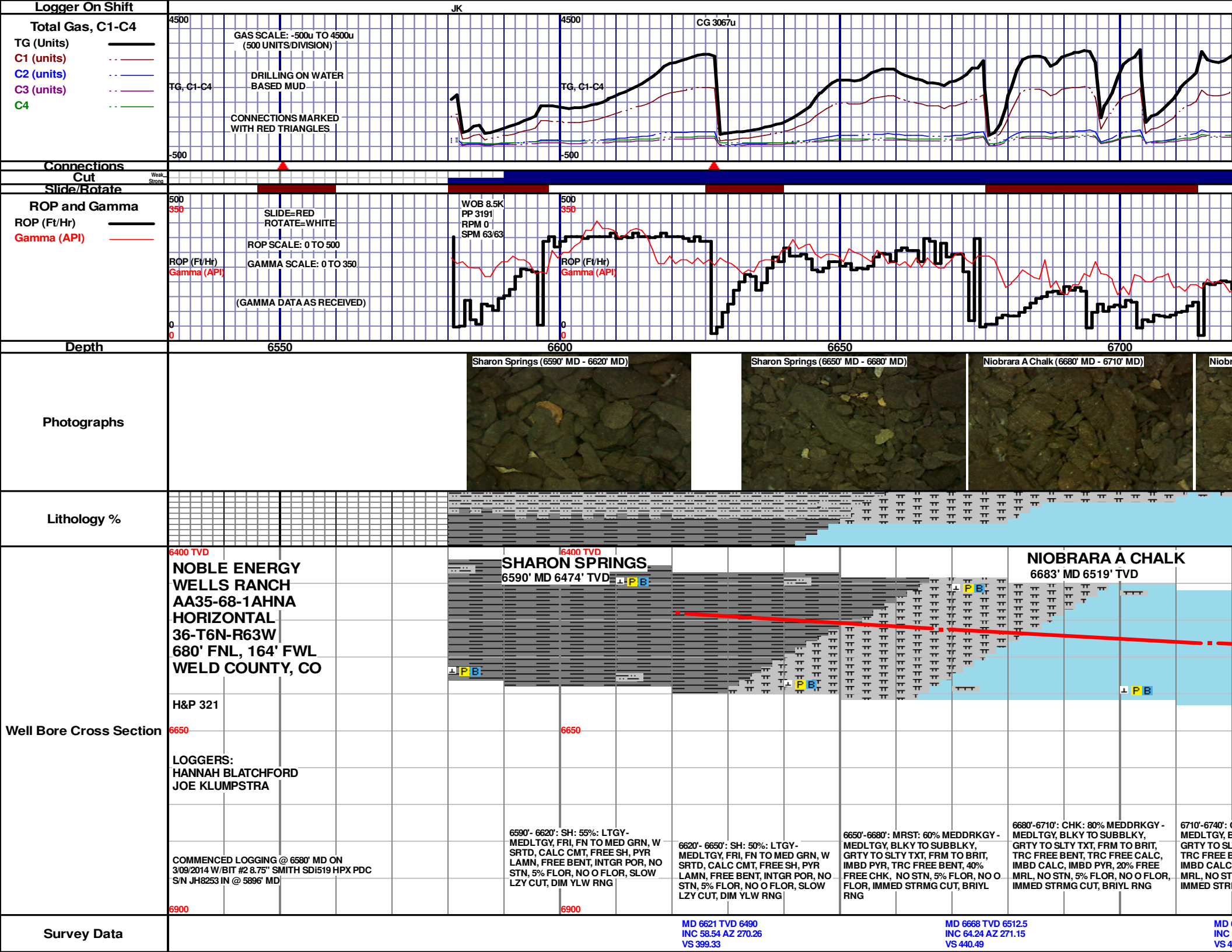
TD Date: March 13, 2014

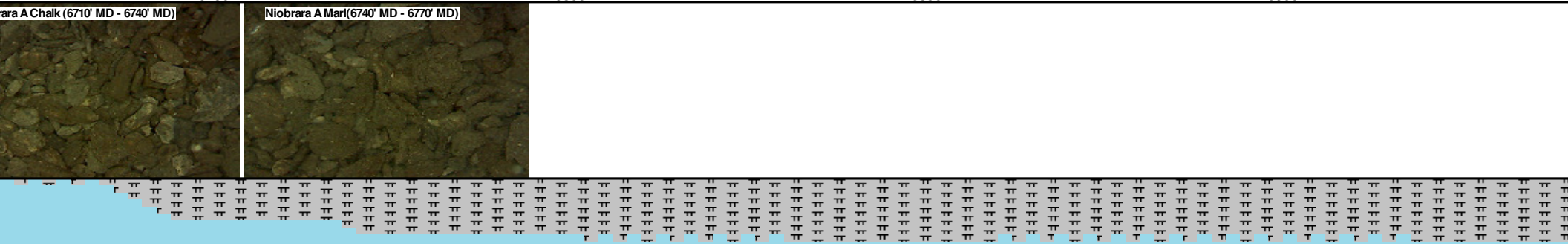
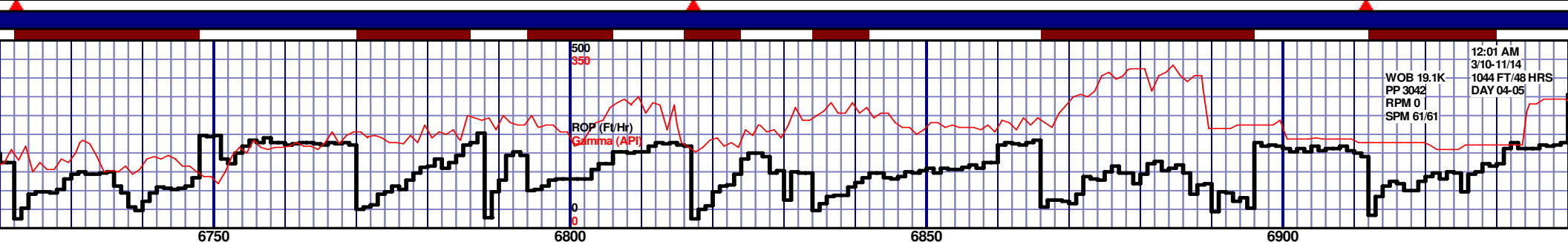
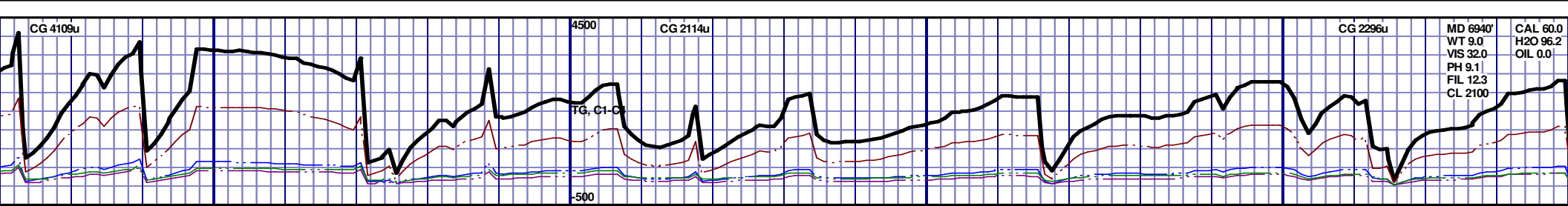
Formation: Niobrara A Marl

KB Elevation: 4838'

GR Elevation: 4808'

API Number: 05-123-38664-0000

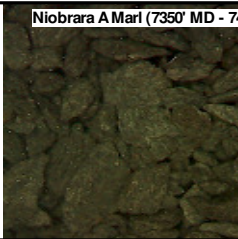




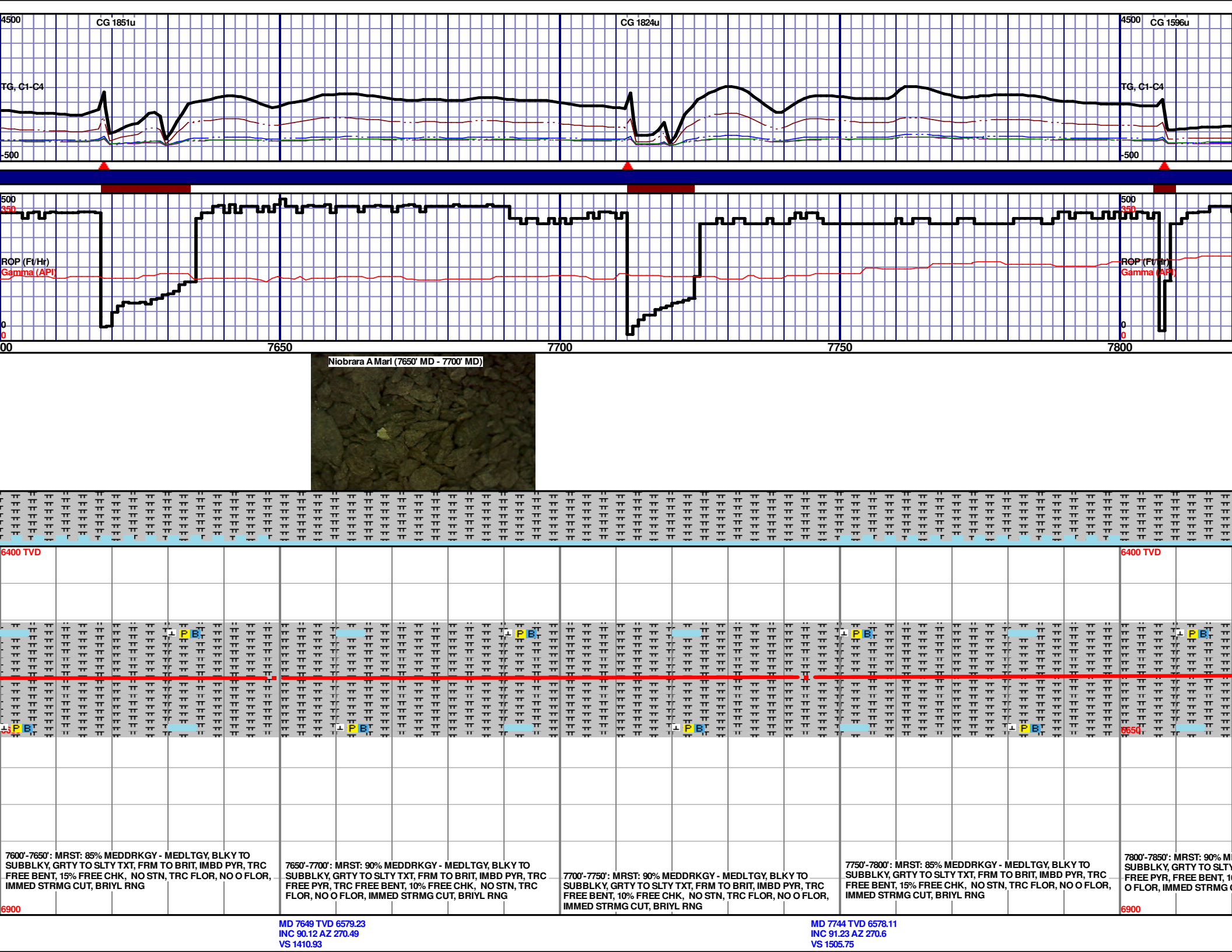
NIOBRARA A MARL										TOOH @ 1:30 AM ON 03/11/14, INTERMEDIATE CASING, 2:30AM ON 03/11/14, D, ON 03/11/14 W/ BIT #3, 12362302 IN @ 6940' MD									
6758' MD 6545' TVD																			
6740'-6770': MRST: 60% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, TRC FREE BENT, 40% FREE CHK, NO STN, 5% FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG																			
6770'-6800': MRST: 80% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, TRC FREE BENT, 20% FREE CHK, NO STN, 5% FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG																			
6800'-6830': MRST: 85% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, TRC FREE BENT, 15% FREE CHK, NO STN, 5% FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG																			
6830'-6860': MRST: 90% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, TRC FREE BENT, 10% FREE CHK, NO STN, 5% FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG																			
6860'-6890': MRST: 85% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, TRC FREE BENT, 15% FREE CHK, NO STN, 10% FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG																			
6890'-6920': MRST: 85% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, TRC FREE BENT, 15% FREE CHK, NO STN, 10% FLOR, NO O FLOR, IMMED STRMG CUT, BRIYL RNG																			
6920'-6950': MRST: 90% MEDDRKGY - MEDLTGY, BLKY TO SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, TRC FREE BENT, 15% FREE CHK, NO STN, 5% FLOR, IMMED STRMG CUT, BRIYL RNG																			

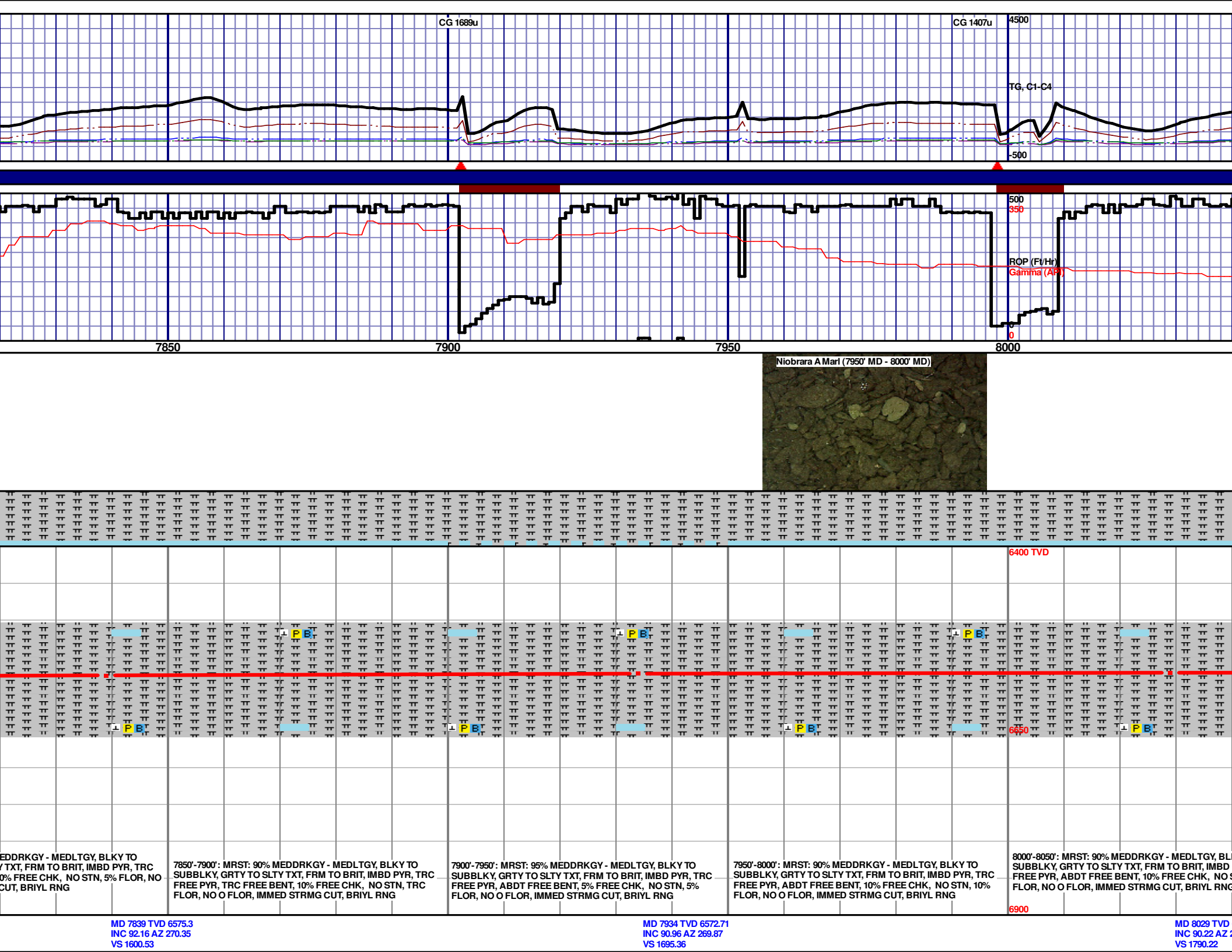
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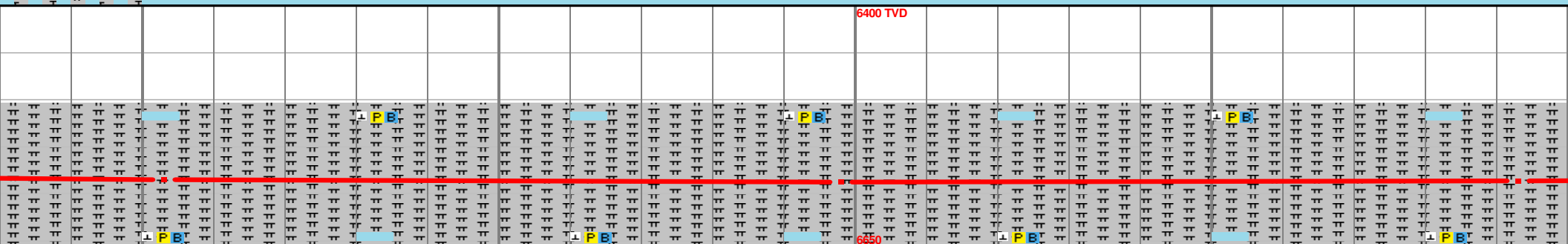
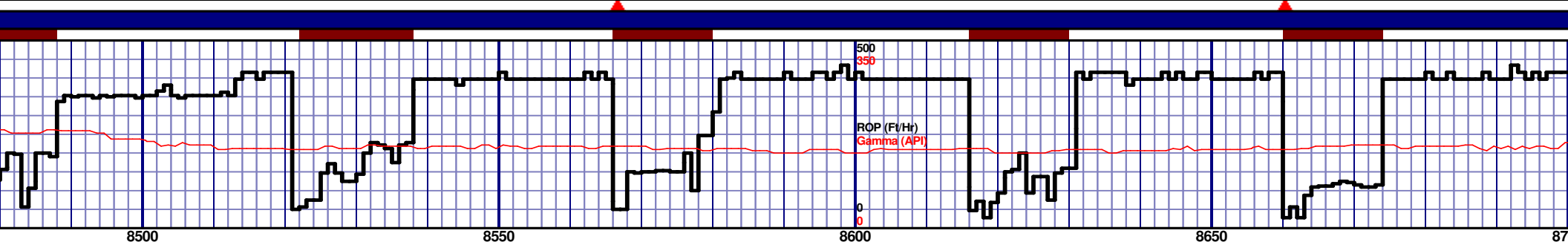
MD 7081 TVD 6578.51
INC 89.88 AZ 270.19
VS 843.58



MD 7176 TVD 6578.94	MD 7270 TVD 6579.72	MD 7365 TVD 6579.67
INC 89.6 AZ 269.66	INC 89.44 AZ 268.75	INC 90.37 AZ 269.42
VS 938.46	VS 1032.39	VS 1127.32

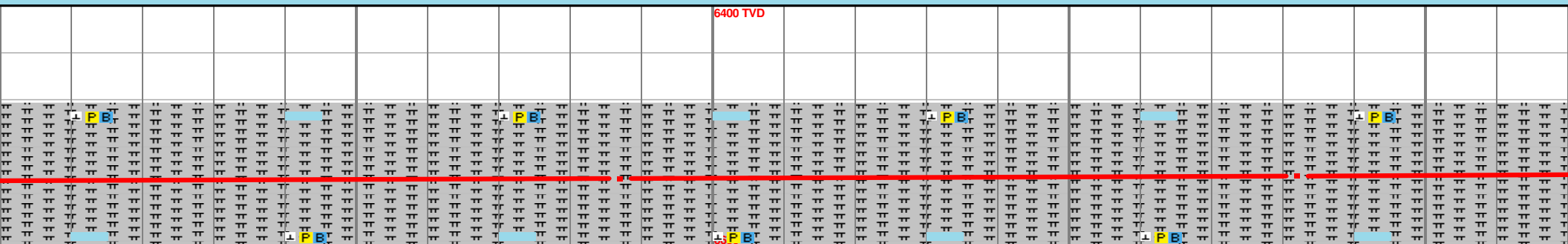
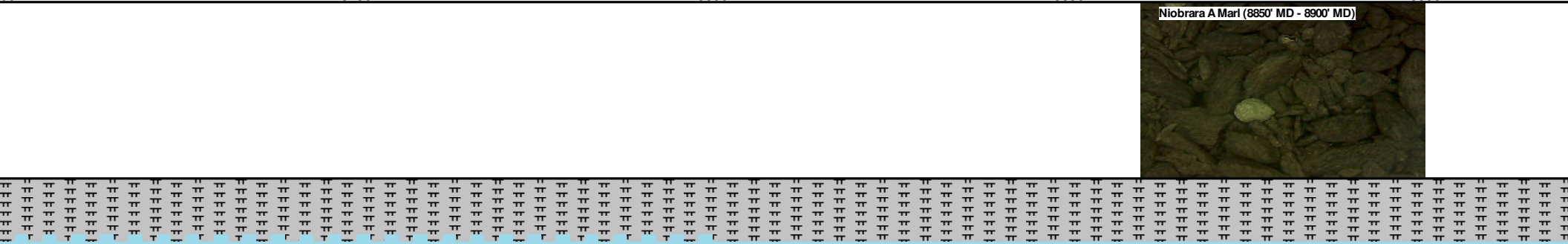




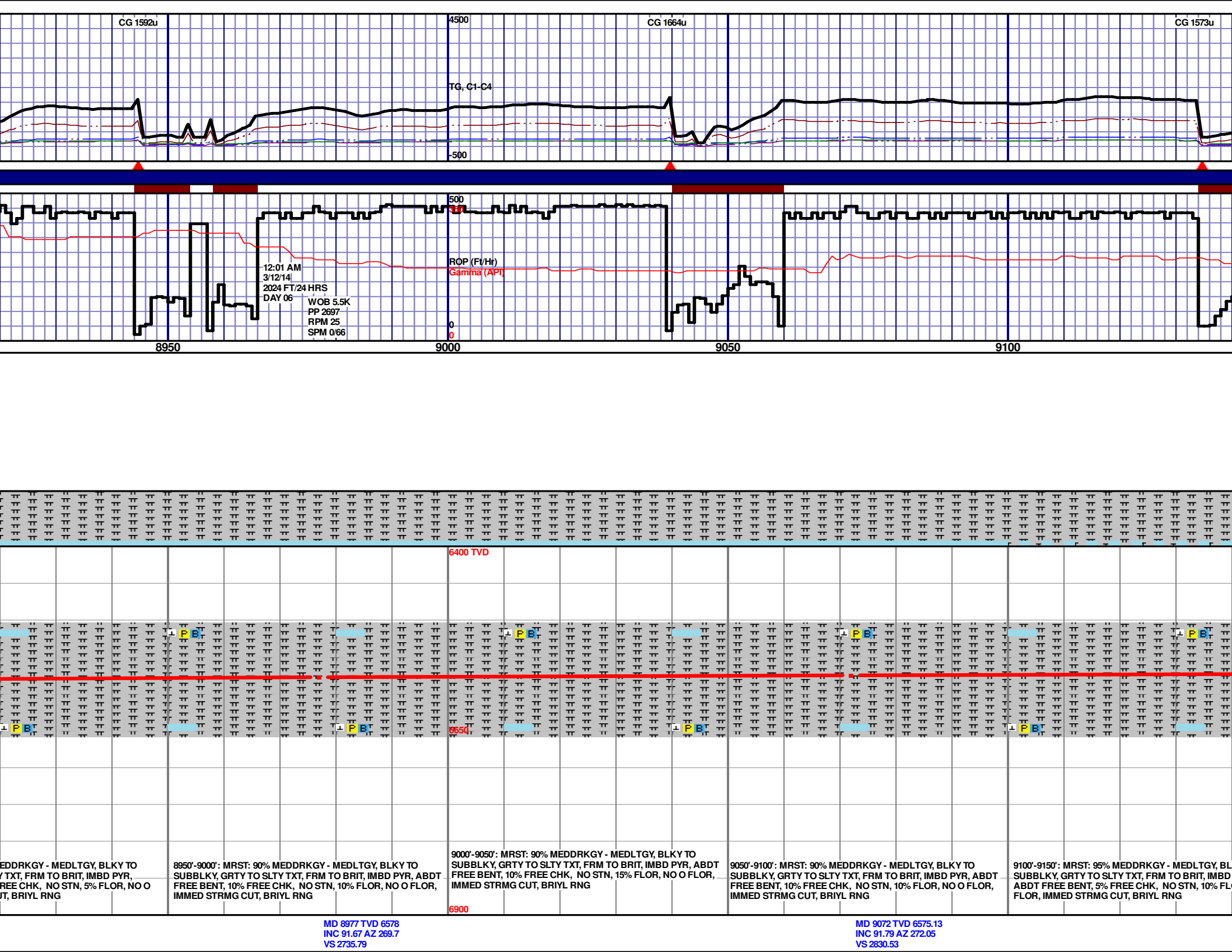


8650'-8700': MRST: 85% MEDDRKGY - MEDLTGY, BLKY TO
SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, ABDT
FREE BENT, 15% FREE CHK, NO STN, 5% FLOR, NO O FLOR,
IMMED STRMG CUT. BRIYL RNG

MD 8693
INC 91.9
VS 2452.0

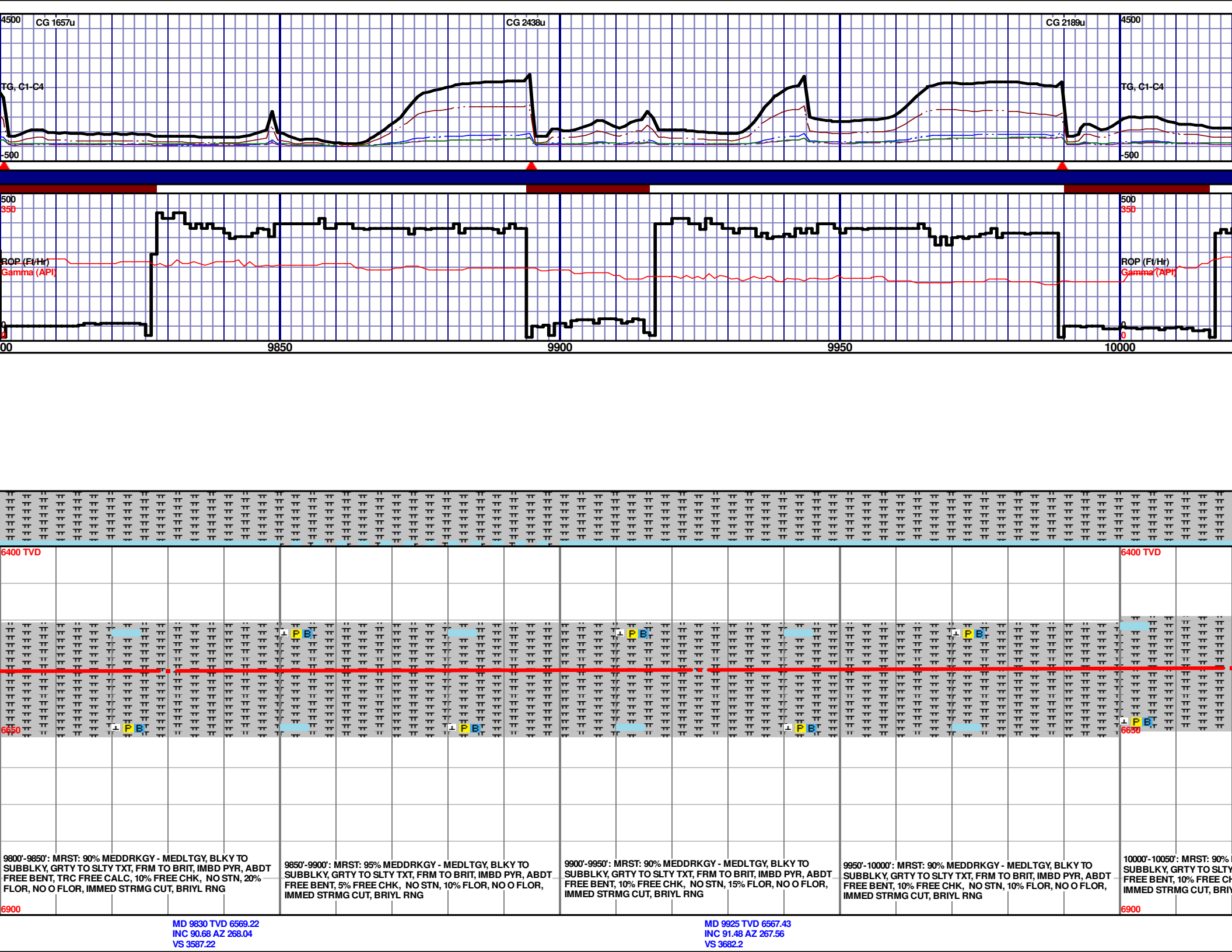


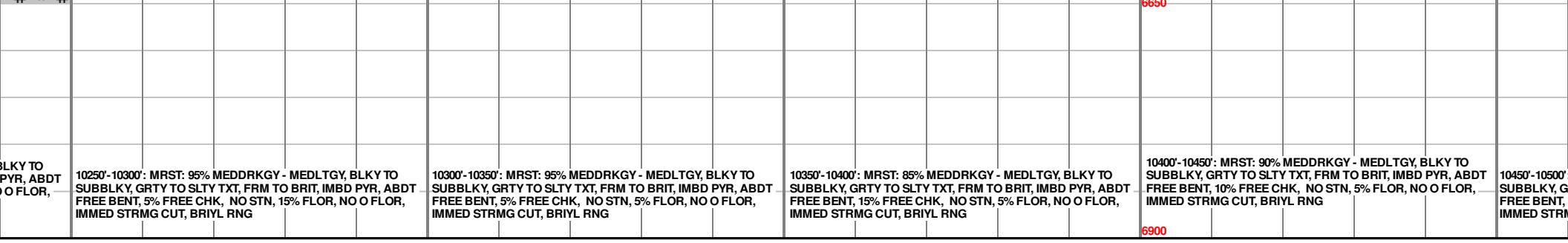
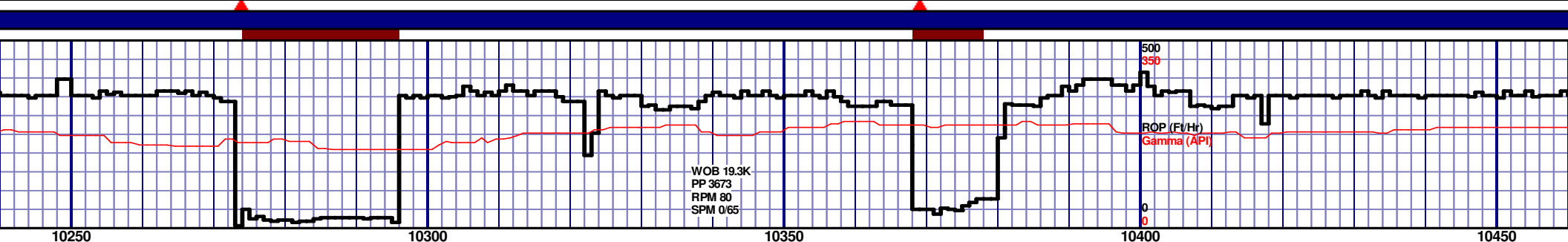
8900'-8950': MRST: 90% M
SUBBLKY, GRTY TO SLTY
ABDT FREE BENT, 10% F
FLOR. IMMED STRMG CU



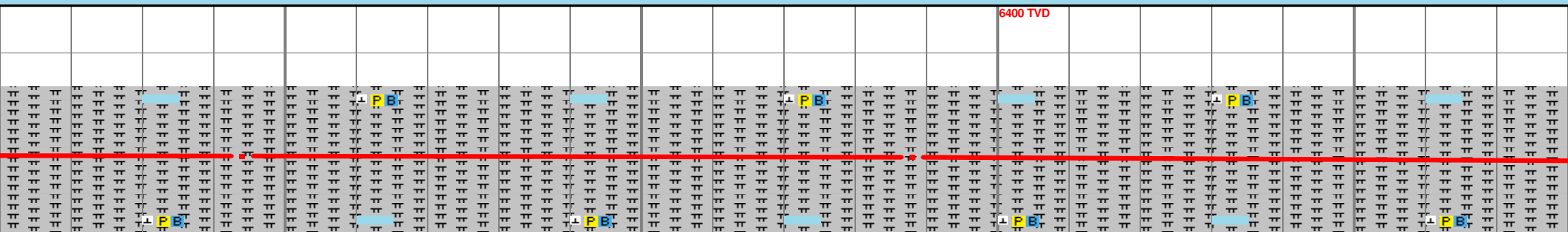
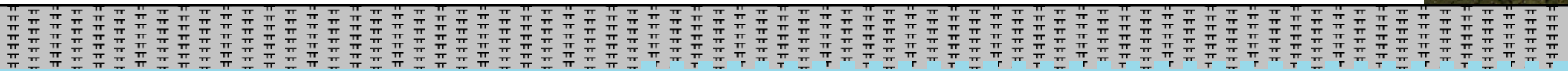
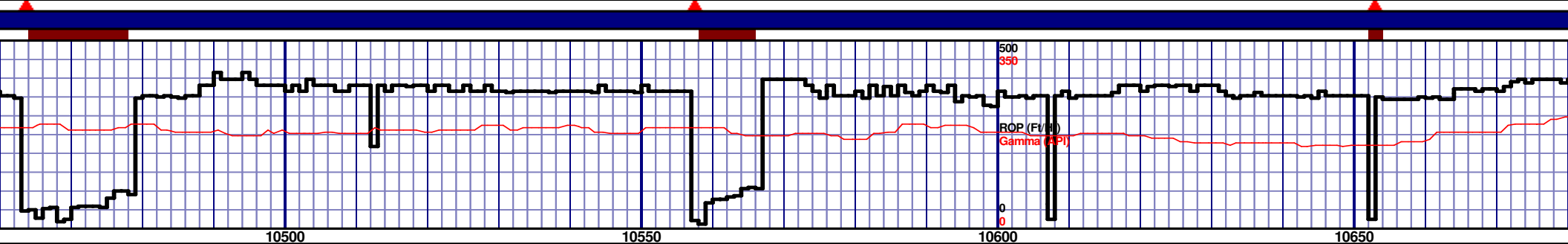
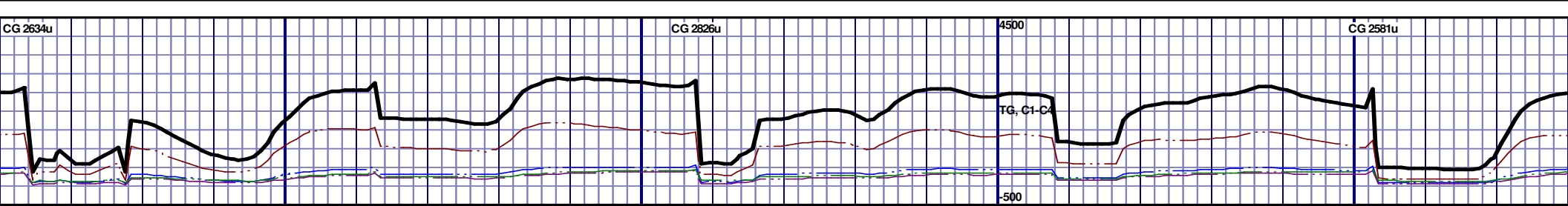


MD 9641 TVD 6569.33	MD 9735 TVD 6569.41
INC 90.37 AZ 267.82	INC 89.54 AZ 265.61
VS 3398.24	VS 3492.23





MD 10304 TVD 6558.46	MD 10399 TVD 6559.05
INC 89.26 AZ 270.28	INC 90.03 AZ 271.24
VS 4060.72	VS 4155.51



MRST: 90% MEDDRKGY - MEDLTGY, BLKY TO
RTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, ABDT
10% FREE CHK, NO STN, 5% FLOR, NO O FLOR,
MG CUT, BRIYL RNG

10500'-10550': MRST: 90% MEDDRKGY - MEDLTGY, BLKY TO
SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, ABDT
FREE BENT, 10% FREE CHK, NO STN, 5% FLOR, NO O FLOR,
IMMED STRMG CUT, BRIYL RNG

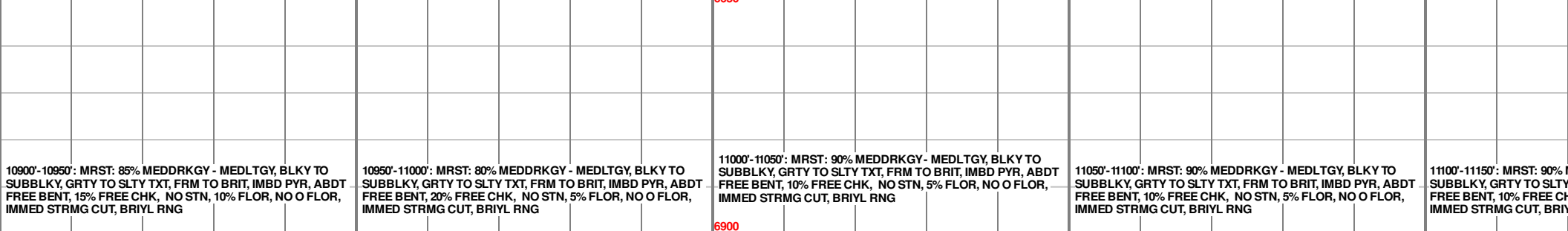
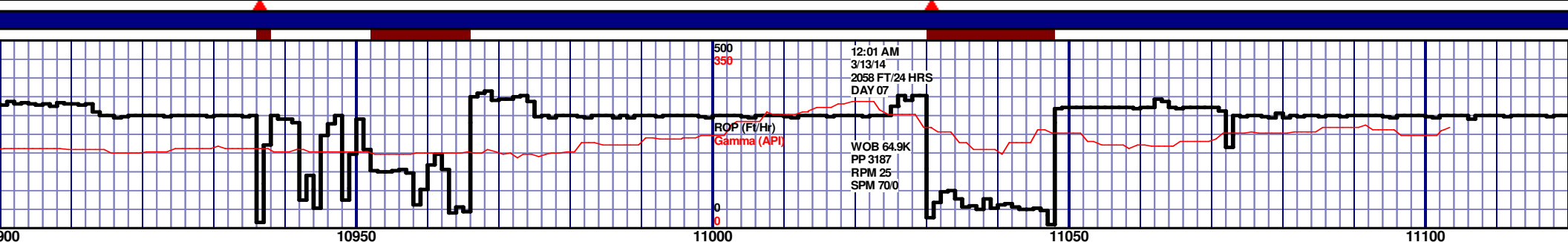
10550'-10600': MRST: 85% MEDDRKGY - MEDLTGY, BLKY TO
SUBBLKY, GRKY TO SLTY TXT, FRM TO BRIT, IMBD PYR, ABDT
FREE BENT, 15% FREE CHK, NO STN, 5% FLOR, NO O FLOR,
IMMED STRMG CUT, BRIYL RNG

10600'-10650': MRST: 85% MEDDRKGY - MEDLTGY, BLKY TO
SUBBLKY, GRTY TO SLTY TXT, FRM TO BRIT, IMBD PYR, ABDT
FREE BENT, 15% FREE CHK, NO STN, 5% FLOR, NO O FLOR,
IMMED STRMG CUT, BRIYL RNG

10650'-10700': MRST: 85% MEDDRKGY.
SUBBLKY, GRTY TO SLTY TXT, FRM TO
FREE BENT, 15% FREE CHK, NO STN,
IMMED STRMG CUT, BRIYL RNG

MD 10494 TVD 6559.54
INC 89.38 AZ 270.96
VS 4250.27

MD 10588 TVD 6561.56
INC 88.15 AZ 271.07
VS 4344.02



MD 11104 TVD 6564.6
INC 92.25 AZ 269.04
VS 4859.41

