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Tulsa, Oklahoma 74136-6378

phone 918.925.9739

fax 866.534.4559

WWW.HZMUD.COM

Customer Information

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

Geologist: Henry Badra
Noble Energy Inc.

Mud Logging Details

Logger: Ryan Bleess & Nikki Graber

Log Interval: 6518' MD to 10895' MD

Start Date: May 21, 2012

Release Date: May 25, 2012

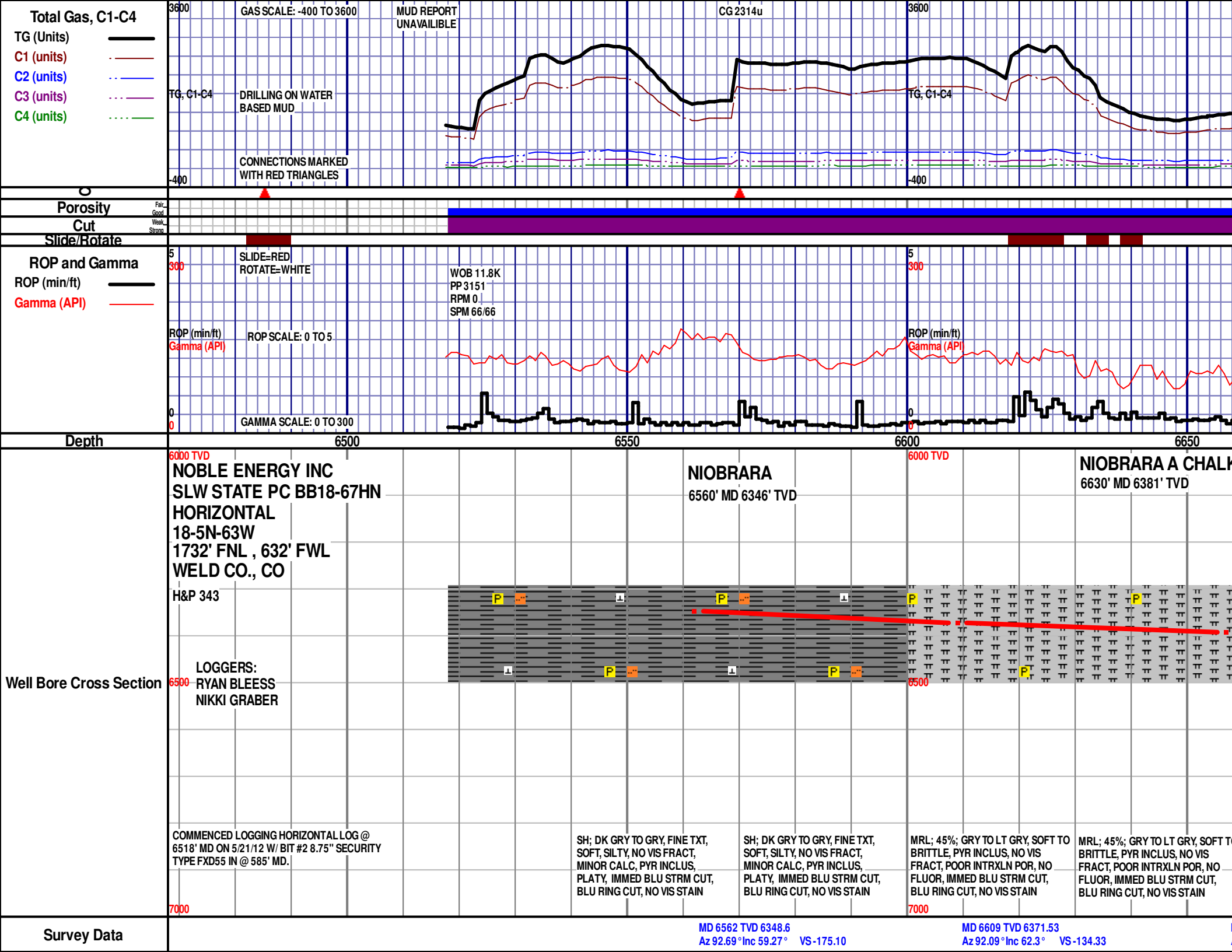
Well Information

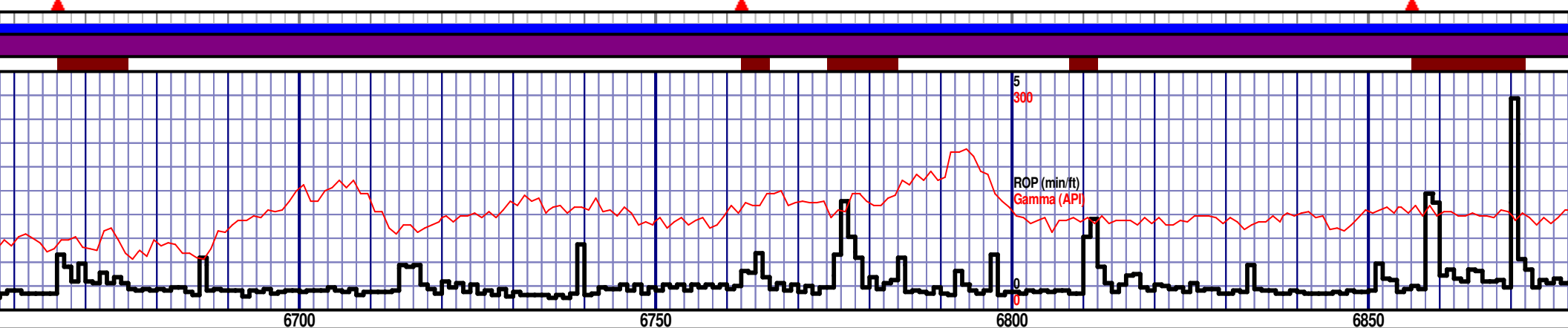
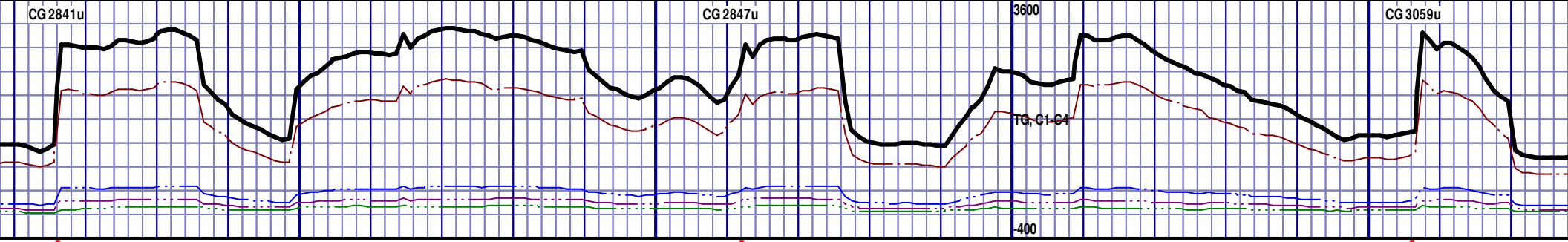
Well Name: SLW State PC BB18-67HN
Horizontal

Location: 18-5N-63W
1732' FNL , 632' FWL

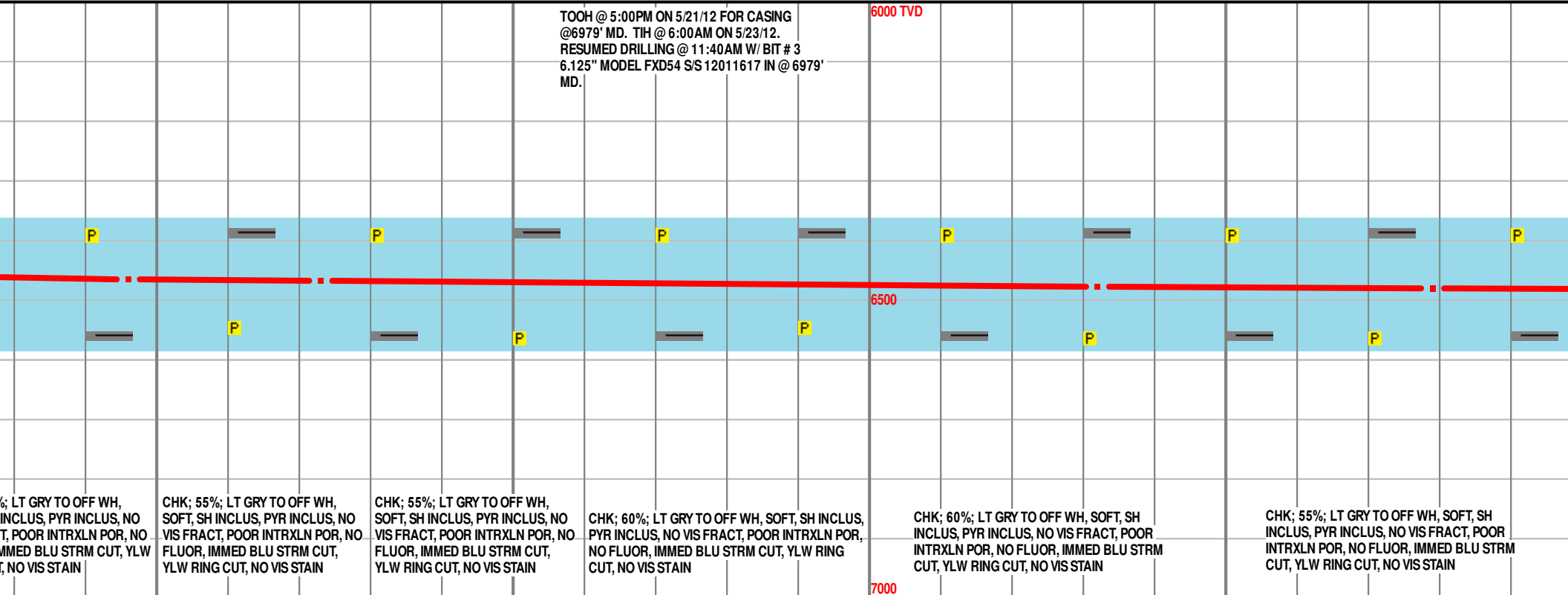
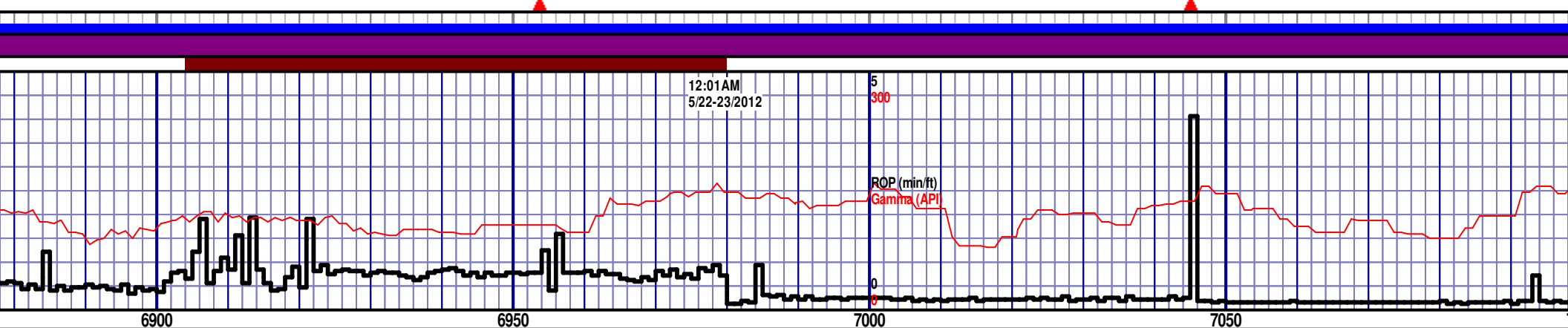
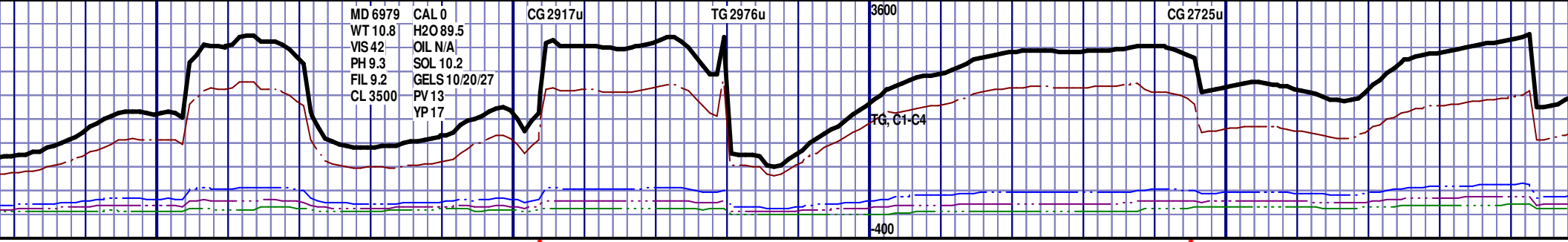
County: Weld
State: Colorado

Drilling Rig: H&P 343
Total Depth: 10895' MD
TD Date: May 24, 2012
Formation: Niobrara
KB Elevation: 4614'
GR Elevation: 4590'
API Number: 05-123-34679





NIOBRARA A MARL 6700' MD 6410' TVD					NIOBRARA B CHALK 6795' MD 6443' TVD				
CHK; 50%; LT GRY TO OFF WH, SOFT, SH INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN	CHK; 50%; LT GRY TO OFF WH, SOFT, SH INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN	MRL; 45%; GRY TO LT GRY, SOFT TO BRITTLE, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, BLU RING CUT, NO VIS STAIN	MRL; 45%; GRY TO LT GRY, SOFT TO BRITTLE, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, BLU RING CUT, NO VIS STAIN	MRL; 45%; GRY TO LT GRY, SOFT TO BRITTLE, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, BLU RING CUT, NO VIS STAIN	CHK; 50%; LT GRY TO OFF WH, SOFT, SH INCLUS, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN	CHK; 50%; LT GRY TO OFF WH, SOFT, SH INCLUS, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN	CHK; 50%; LT GRY TO OFF WH, SOFT, SH INCLUS, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN	CHK; 55% SOFT, SH INCLUS, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN	CHK; 55% SOFT, SH INCLUS, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN



%; LT GRAY TO OFF WH, INCLUS, PYR INCLUS, NO T, POOR INTRXLN POR, NO IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN

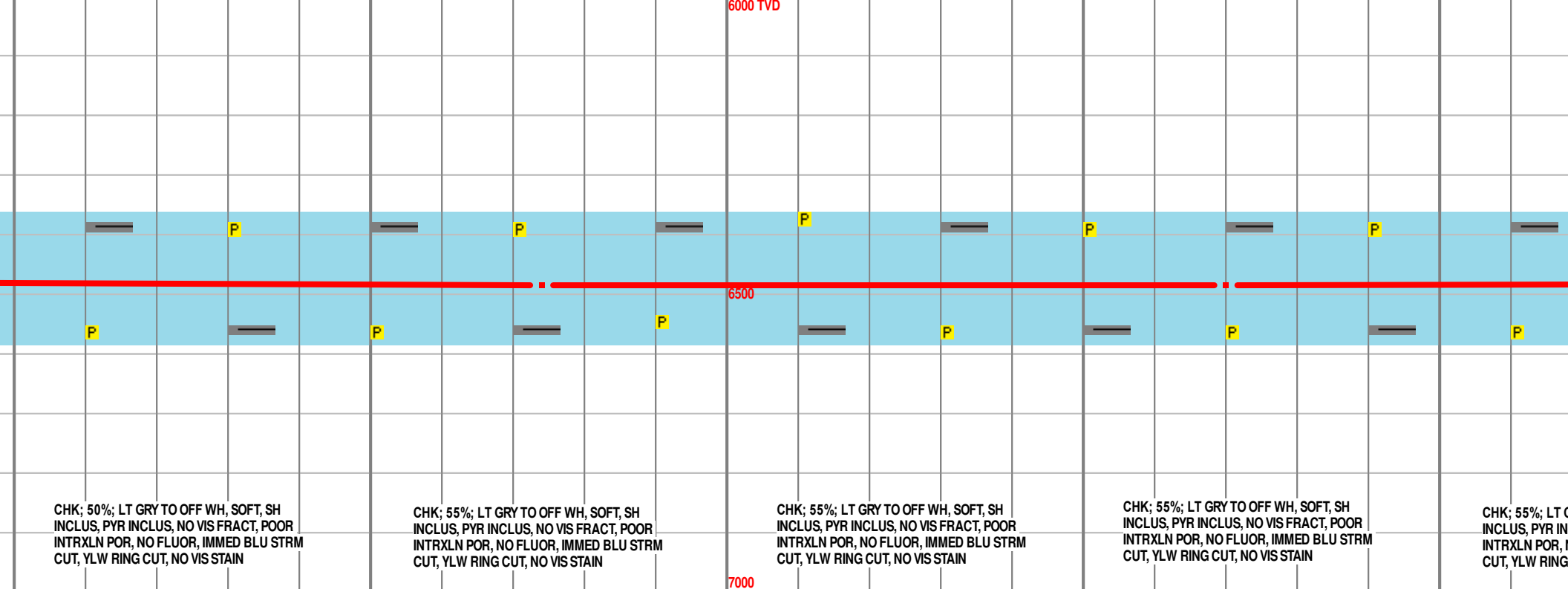
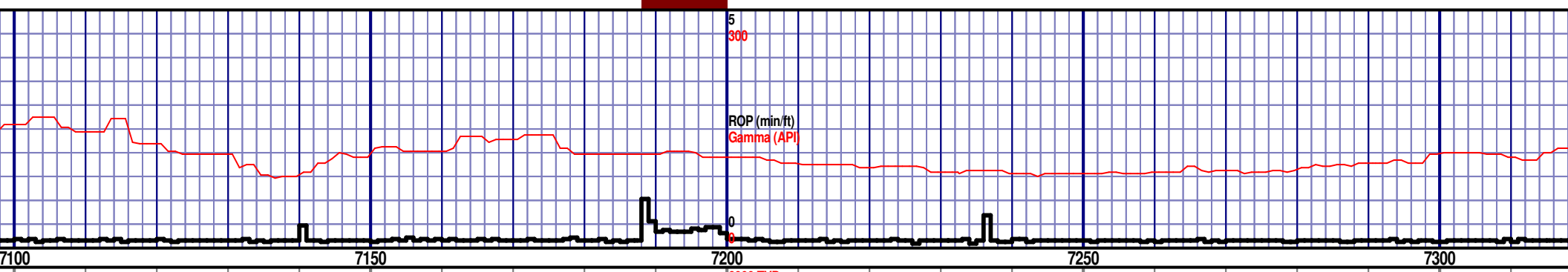
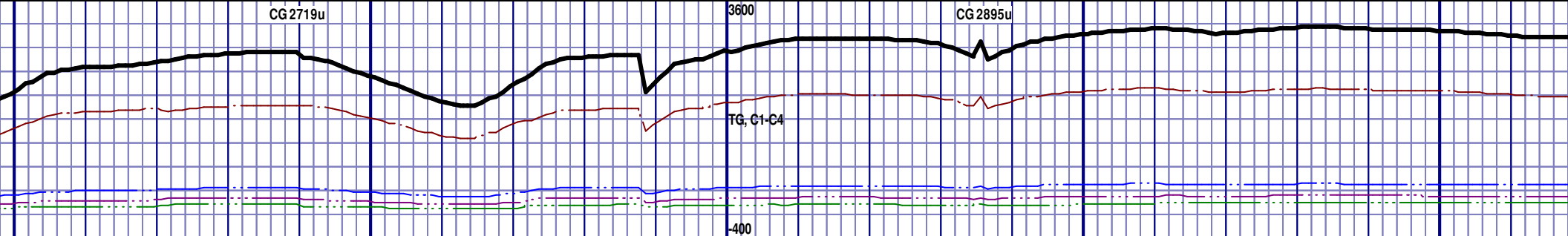
CHK; 55%; LT GRAY TO OFF WH, SOFT, SH INCLUS, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN

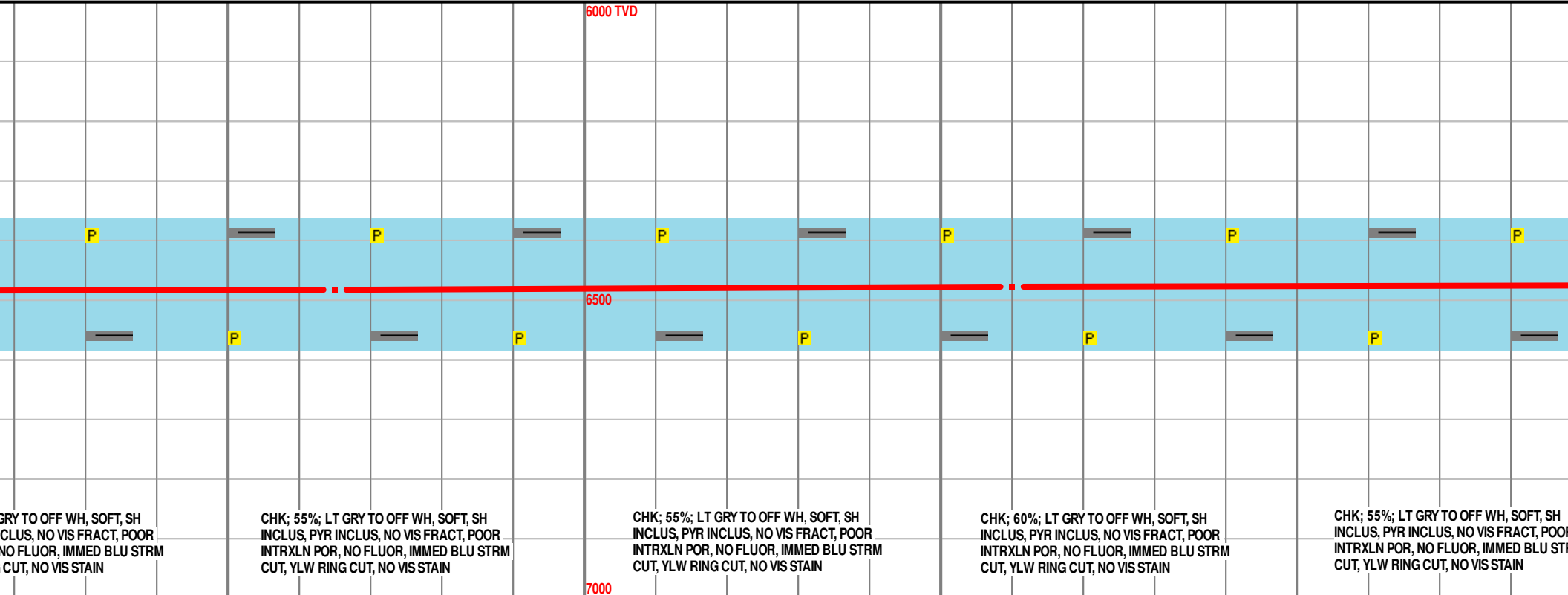
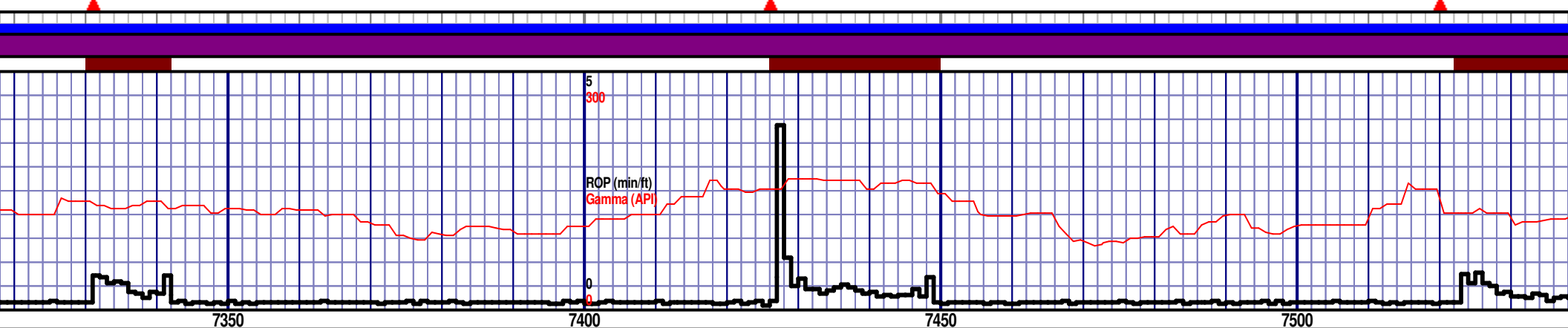
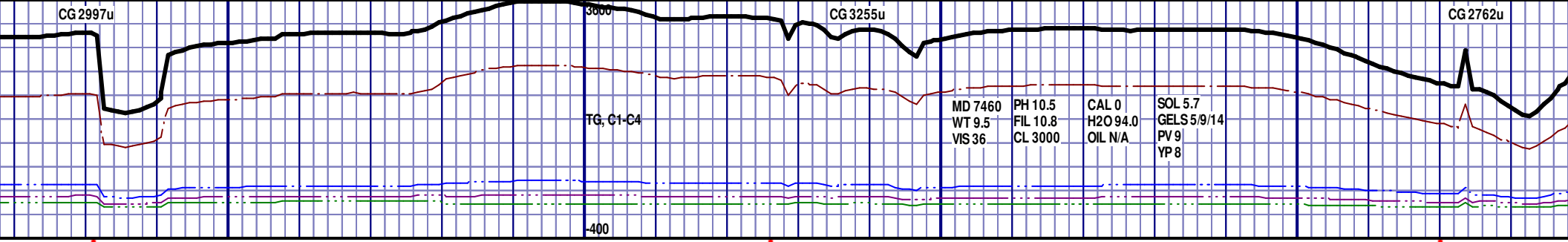
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CHK; 60%; LT GRAY TO OFF WH, SOFT, SH INCLUS, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, YLW RING CUT, NO VIS STAIN

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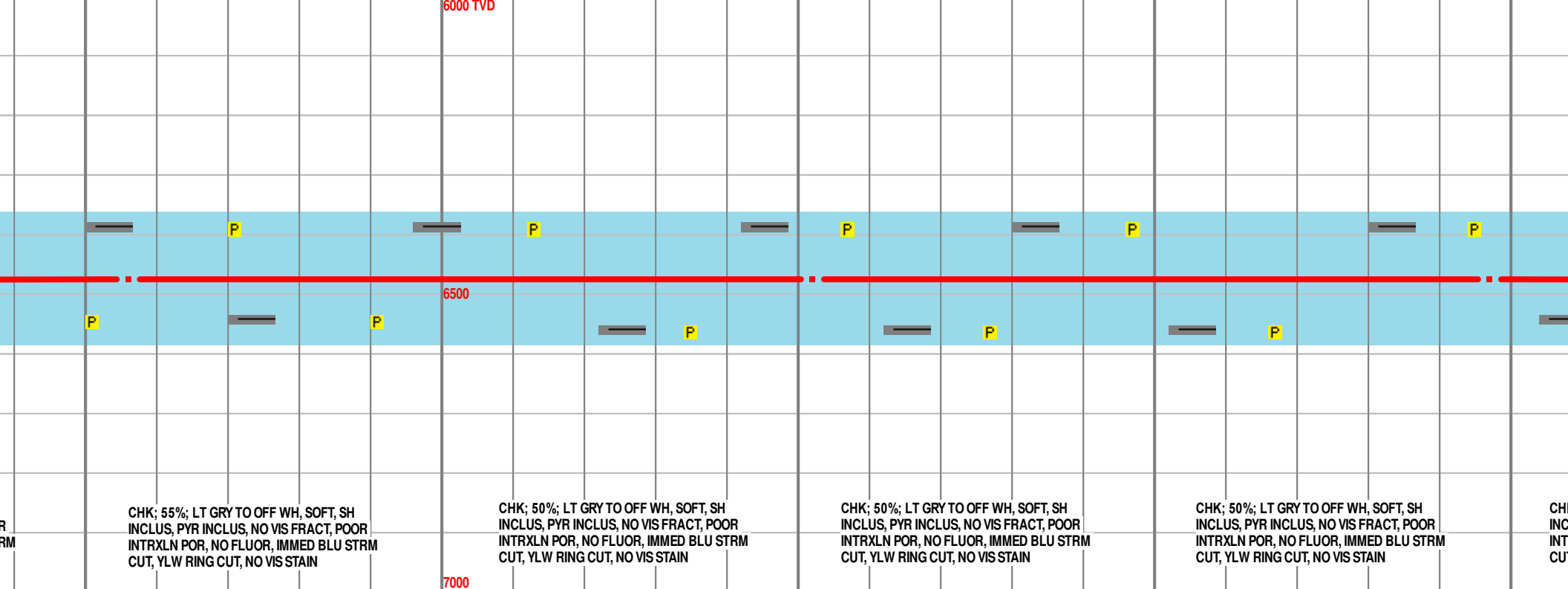
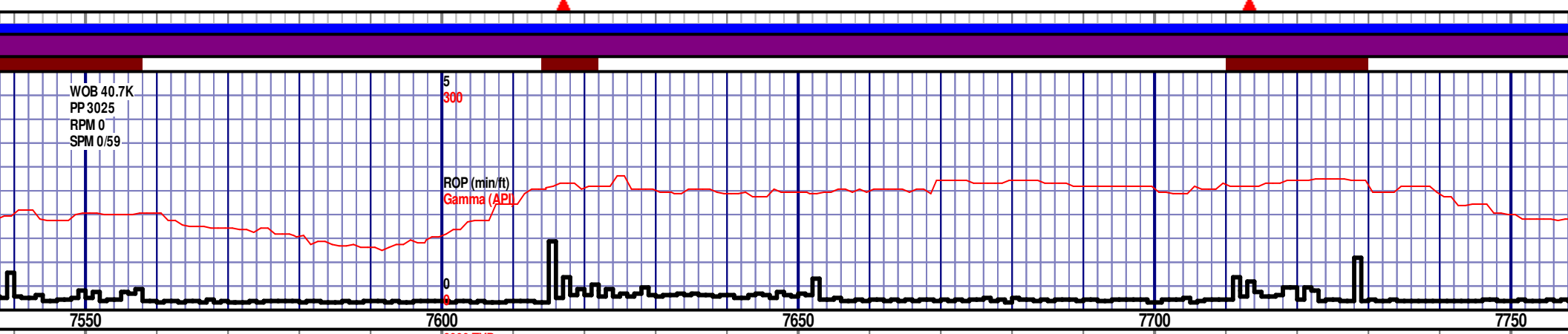
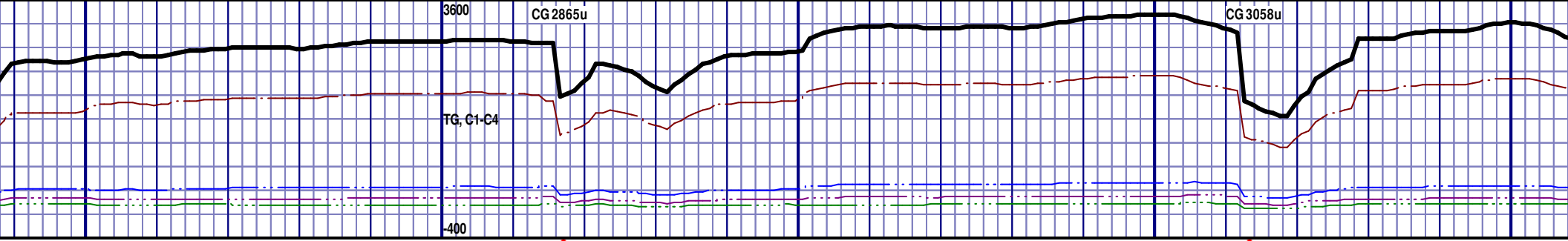
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MD 7365 TVD 6481.8
Az 91.3° Inc 92.19° VS 600.34

MD 7460 TVD 6478.04
Az 90.32° Inc 92.35° VS 694.93



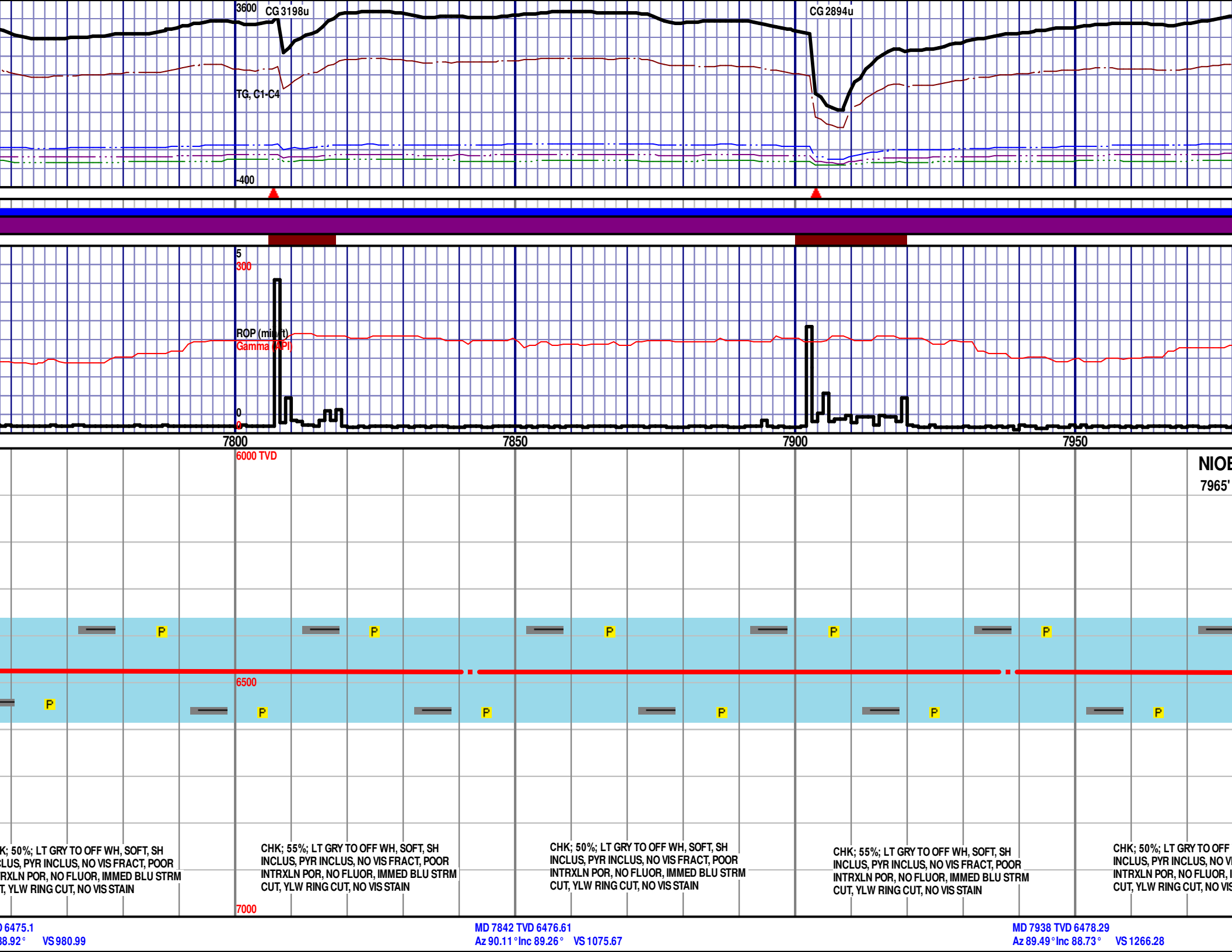
CHK; 55%; LT GRY TO OFF WH, SOFT, SH
INCLUS, PYR INCLUS, NO VIS FRACT, POOR
INTRXLN POR, NO FLUOR, IMMED BLU STRM
CUT, YLW RING CUT, NO VIS STAIN

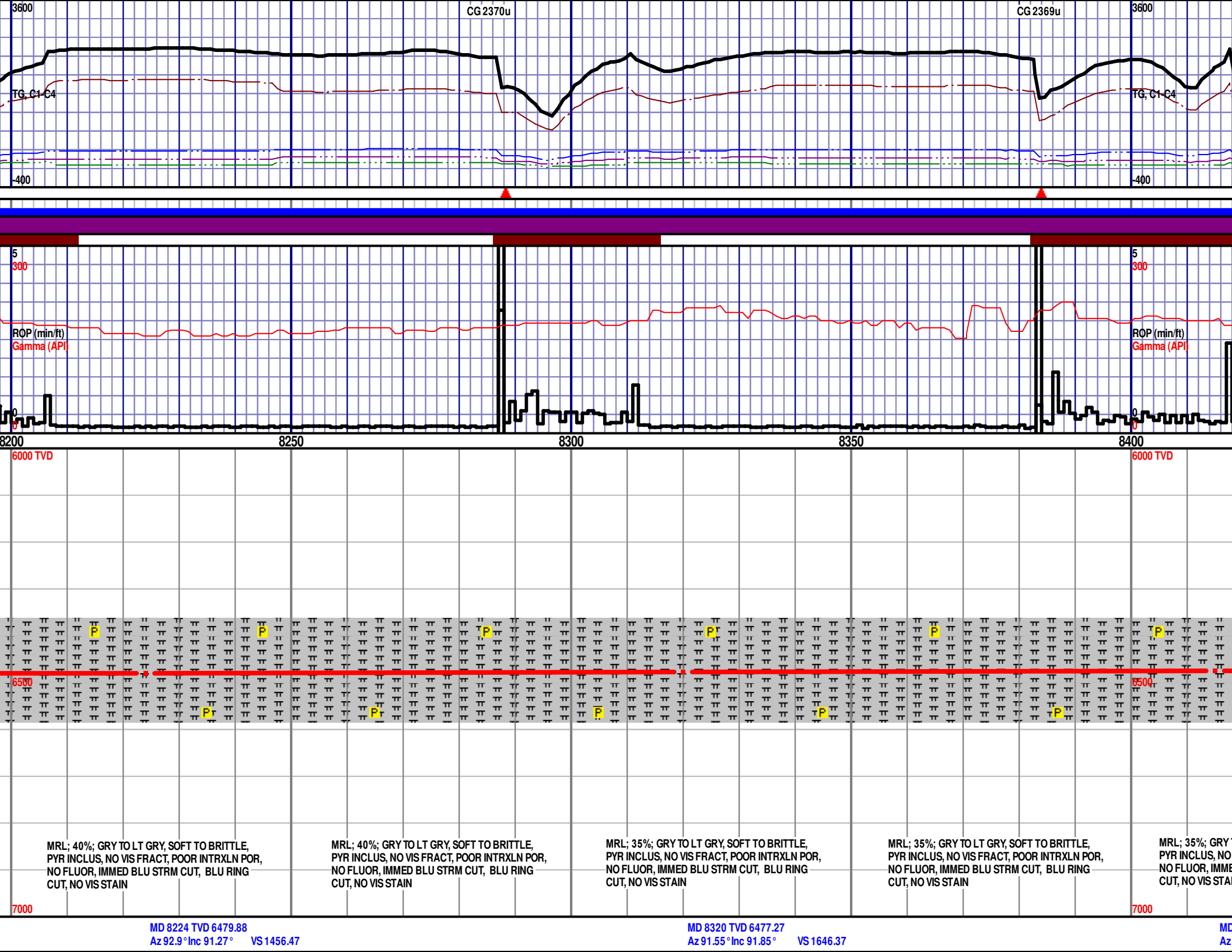
CHK; 50%; LT GRY TO OFF WH, SOFT, SH
INCLUS, PYR INCLUS, NO VIS FRACT, POOR
INTRXLN POR, NO FLUOR, IMMED BLU STRM
CUT, YLW RING CUT, NO VIS STAIN

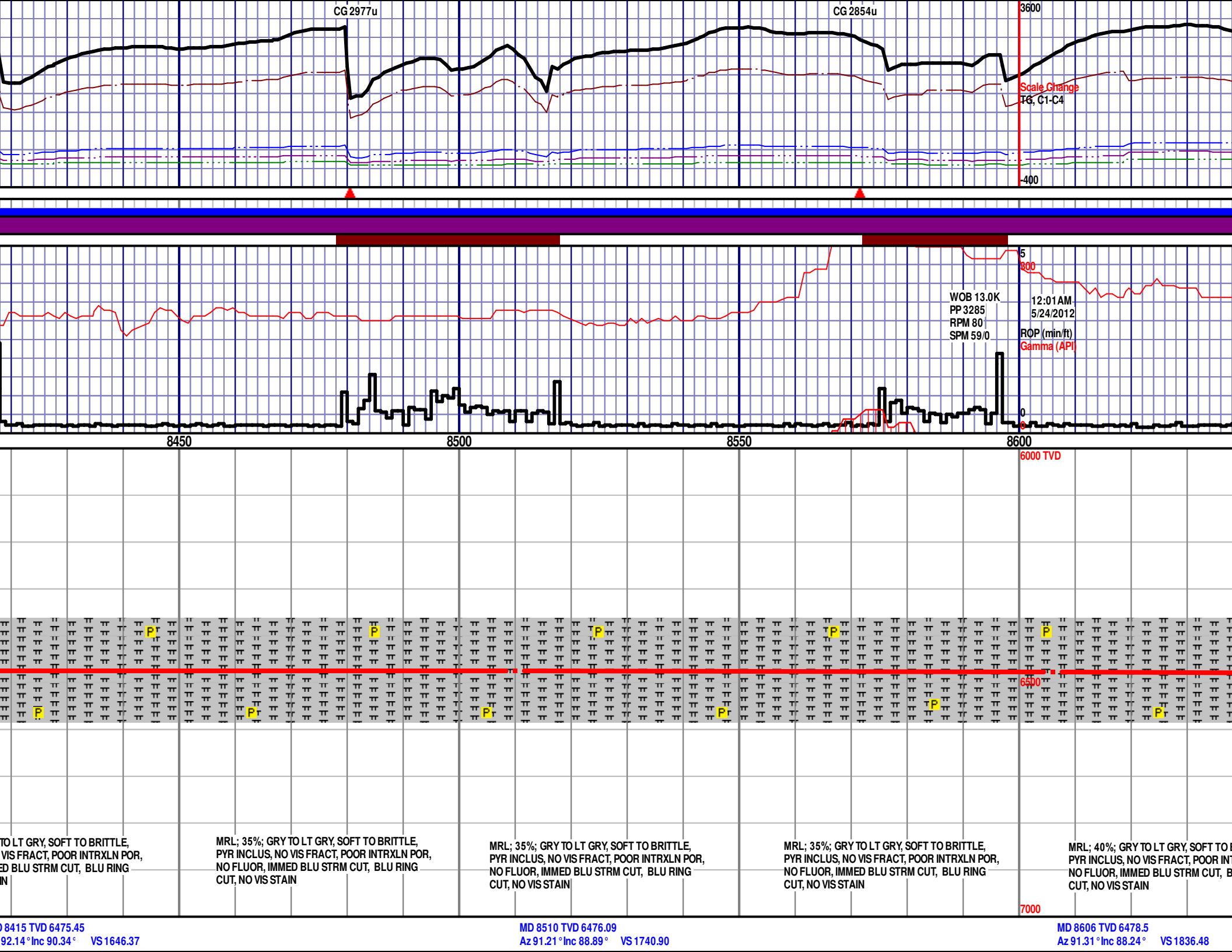
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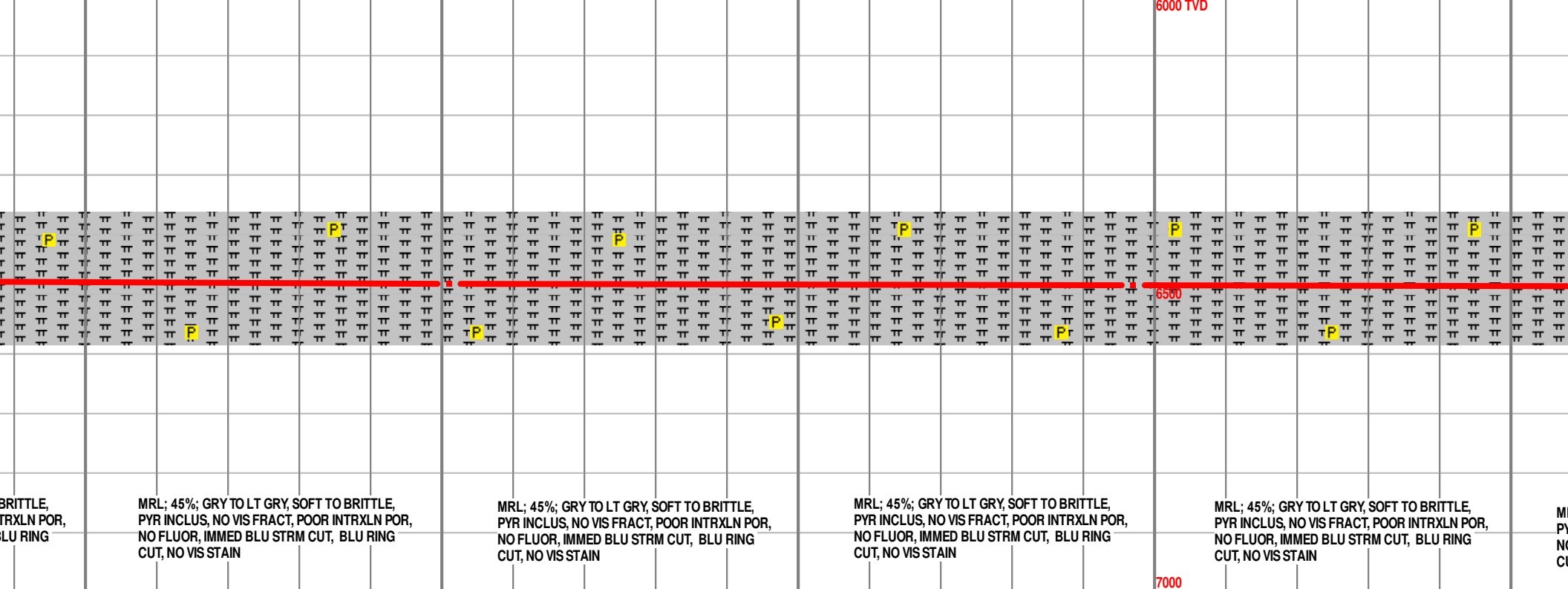
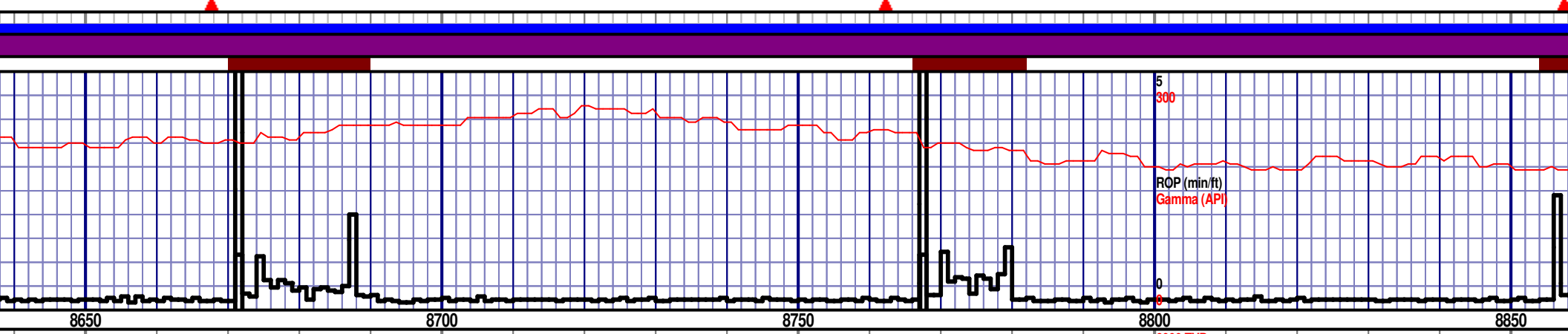
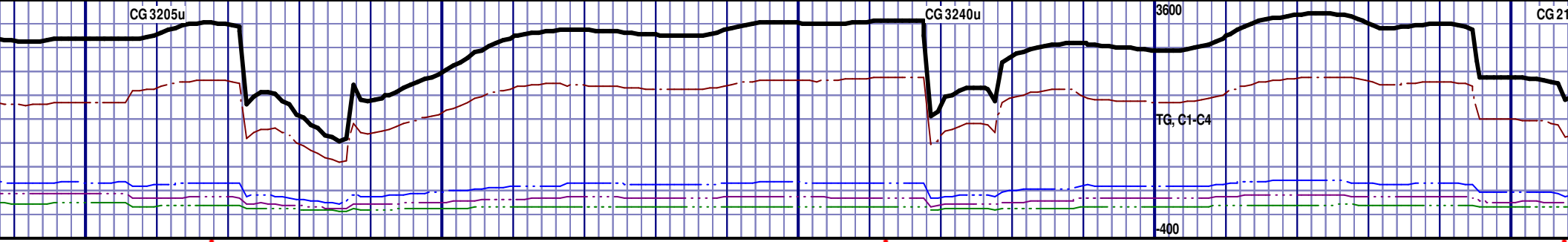
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INCLUS, PYR INCLUS, NO VIS FRACT, POOR
INTRXLN POR, NO FLUOR, IMMED BLU STRM
CUT, YLW RING CUT, NO VIS STAIN

CHK;
INC
INT
CU









BRITTLE, TRXLN POR, BLU RING

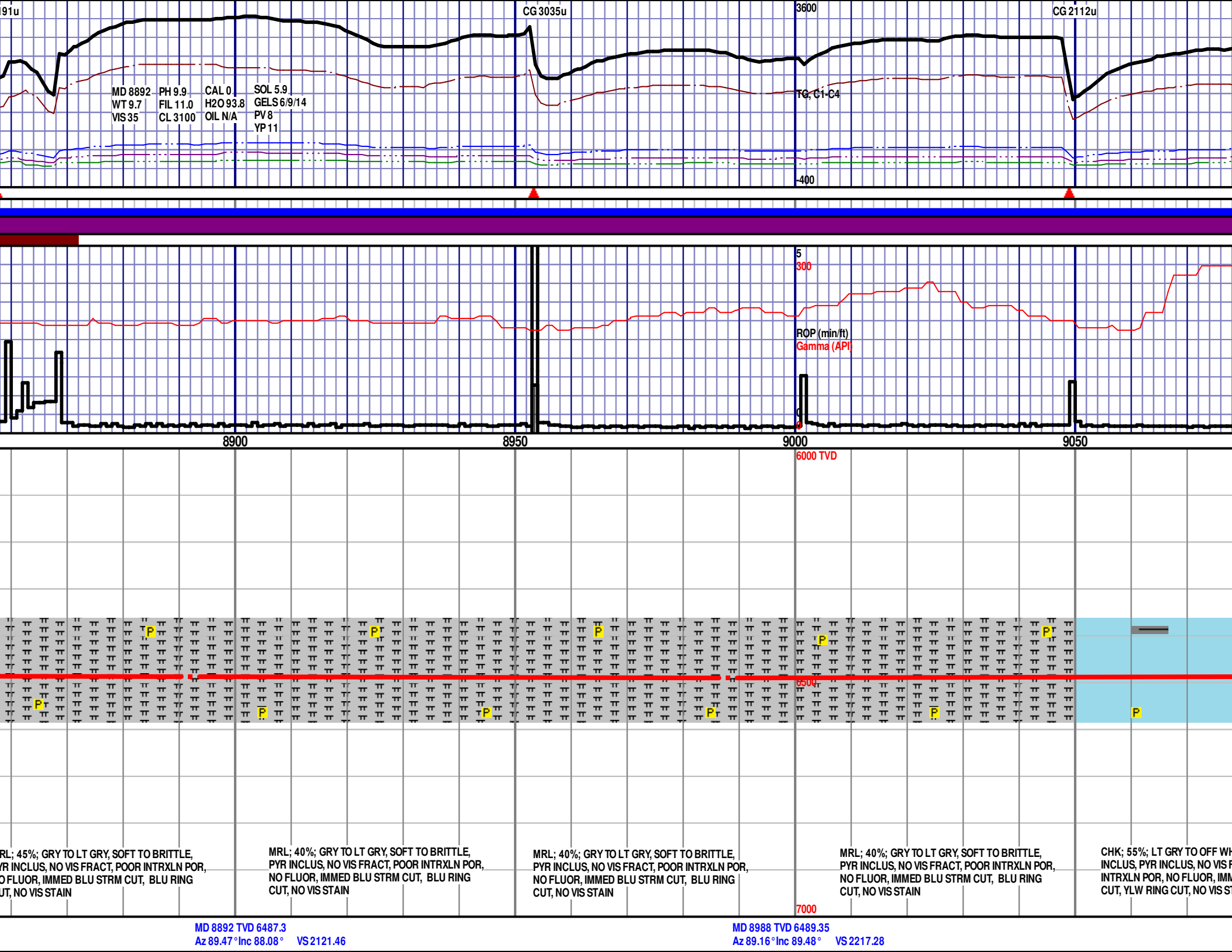
MRL; 45%; GRY TO LT GRY, SOFT TO BRITTLE, PYR INCLUS, NO VIS FRACT, POOR INTRXLN POR, NO FLUOR, IMMED BLU STRM CUT, BLU RING CUT, NO VIS STAIN

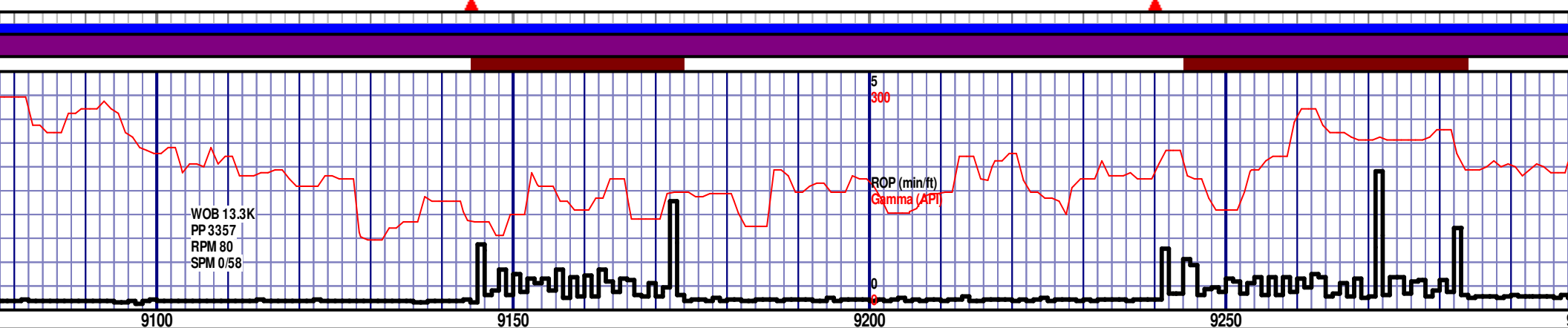
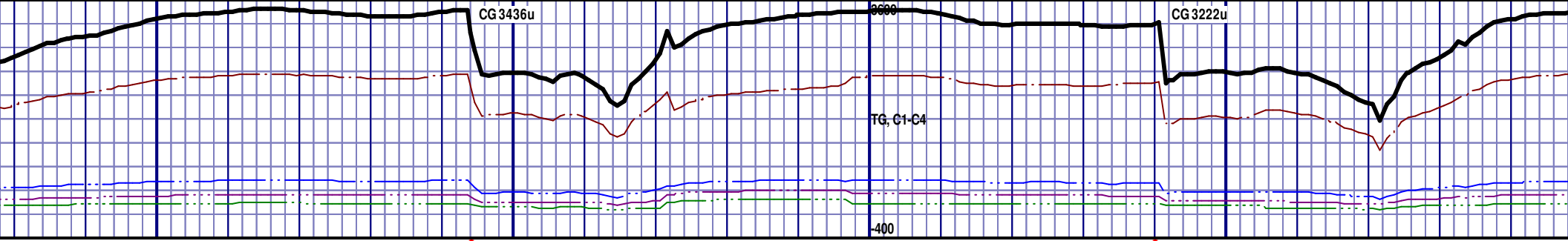
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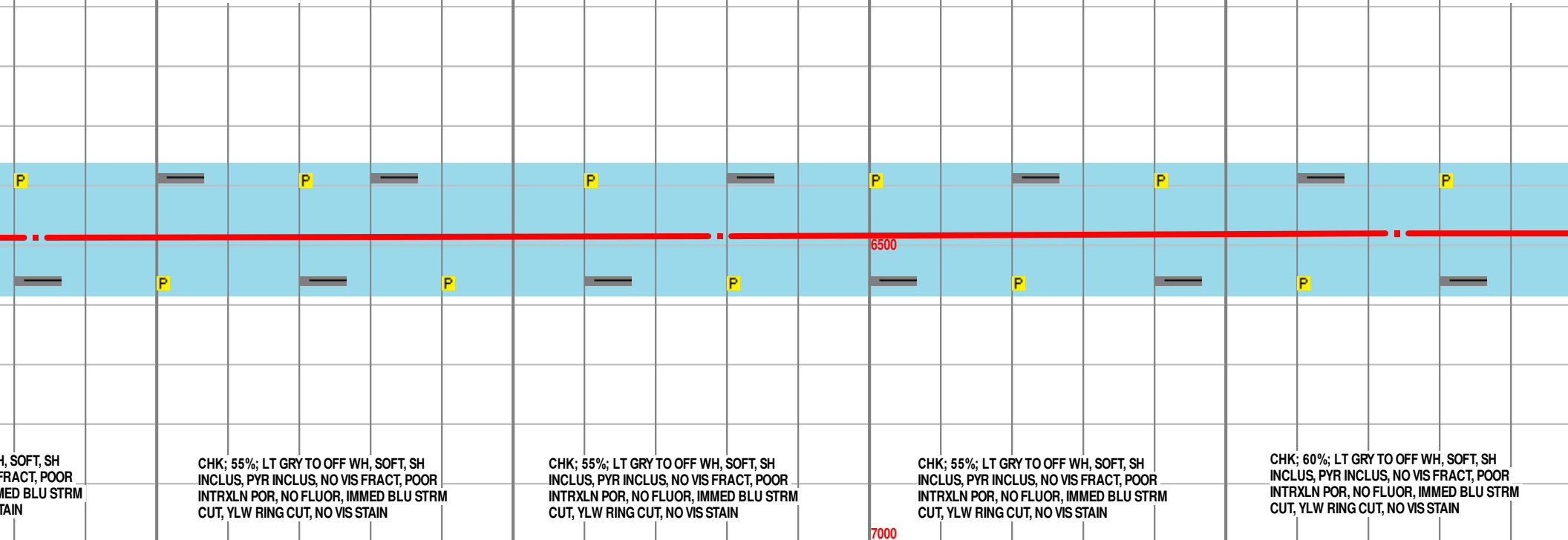
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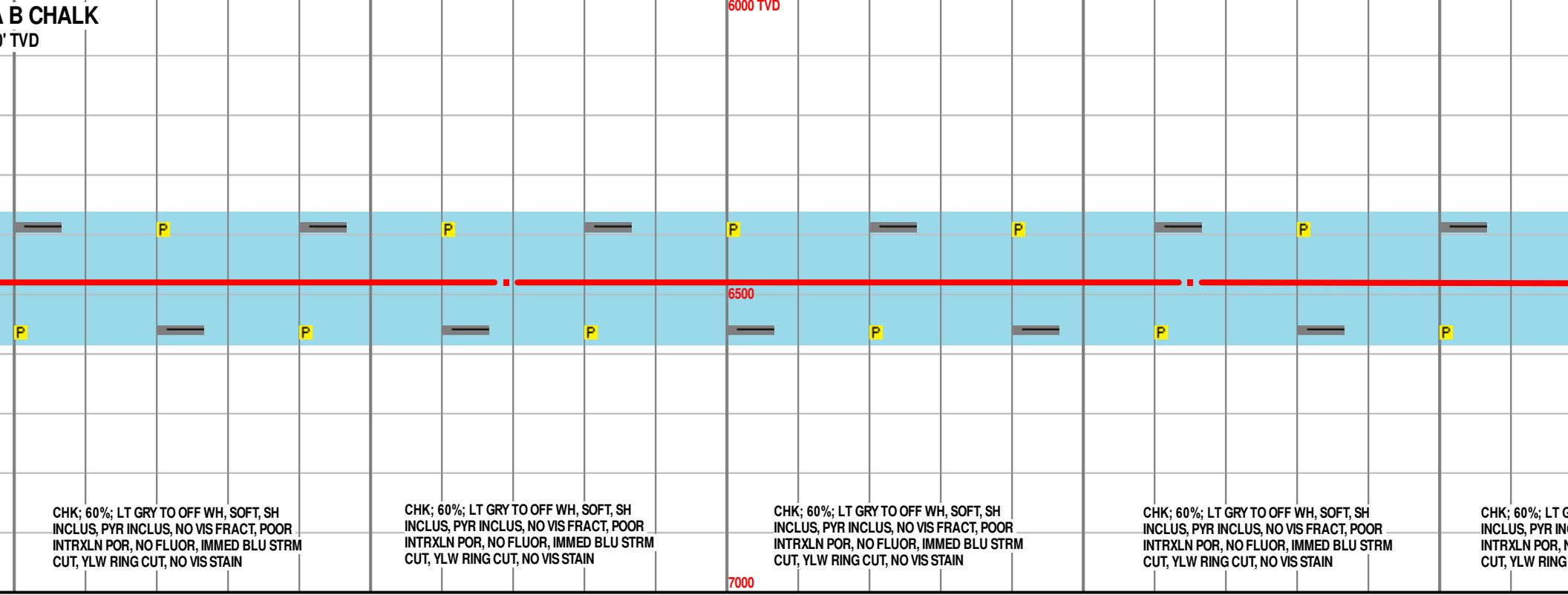
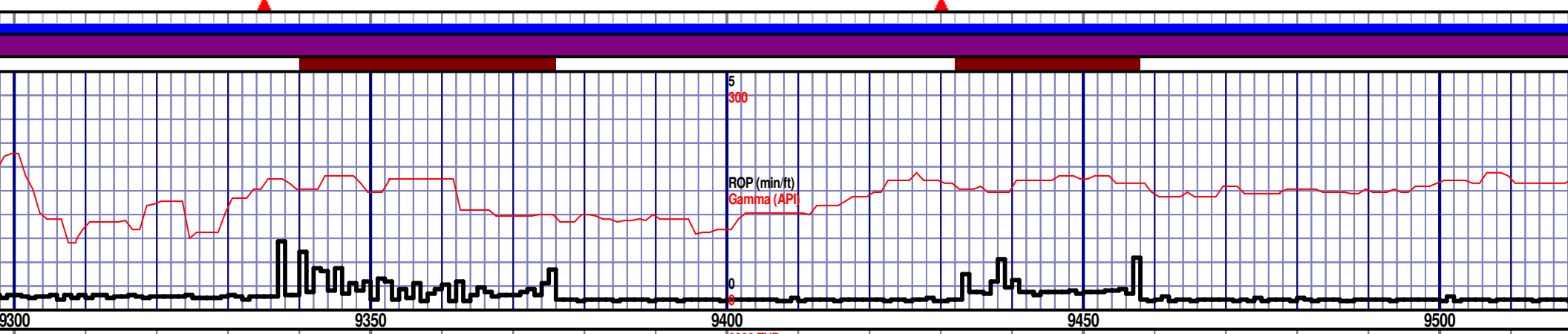
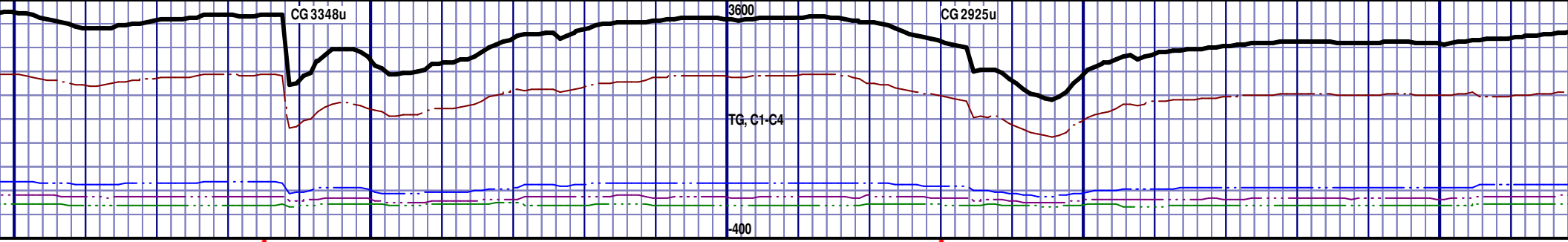
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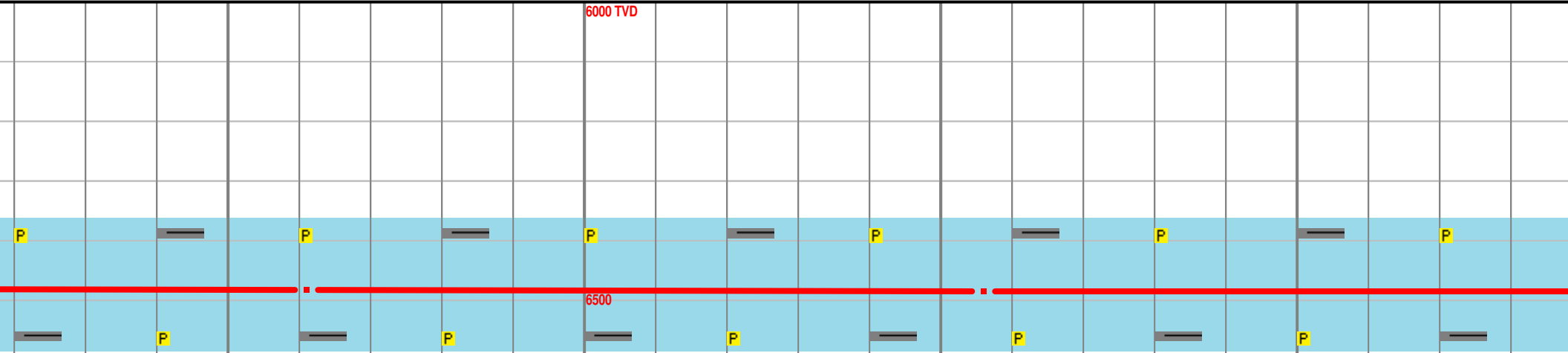
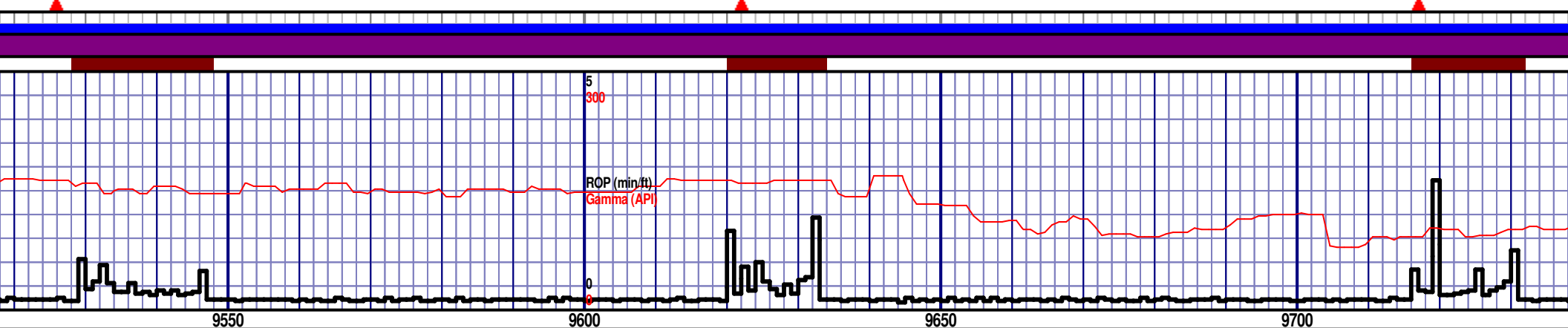
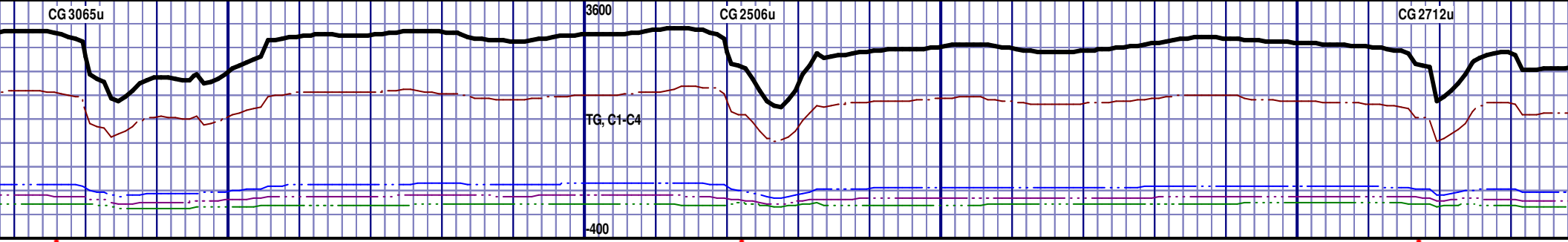




9100 NIORARA A CHALK 9100' MD 6487' TVD 9200 6000 TVD 9250 NIORARA 9283' MD 6480





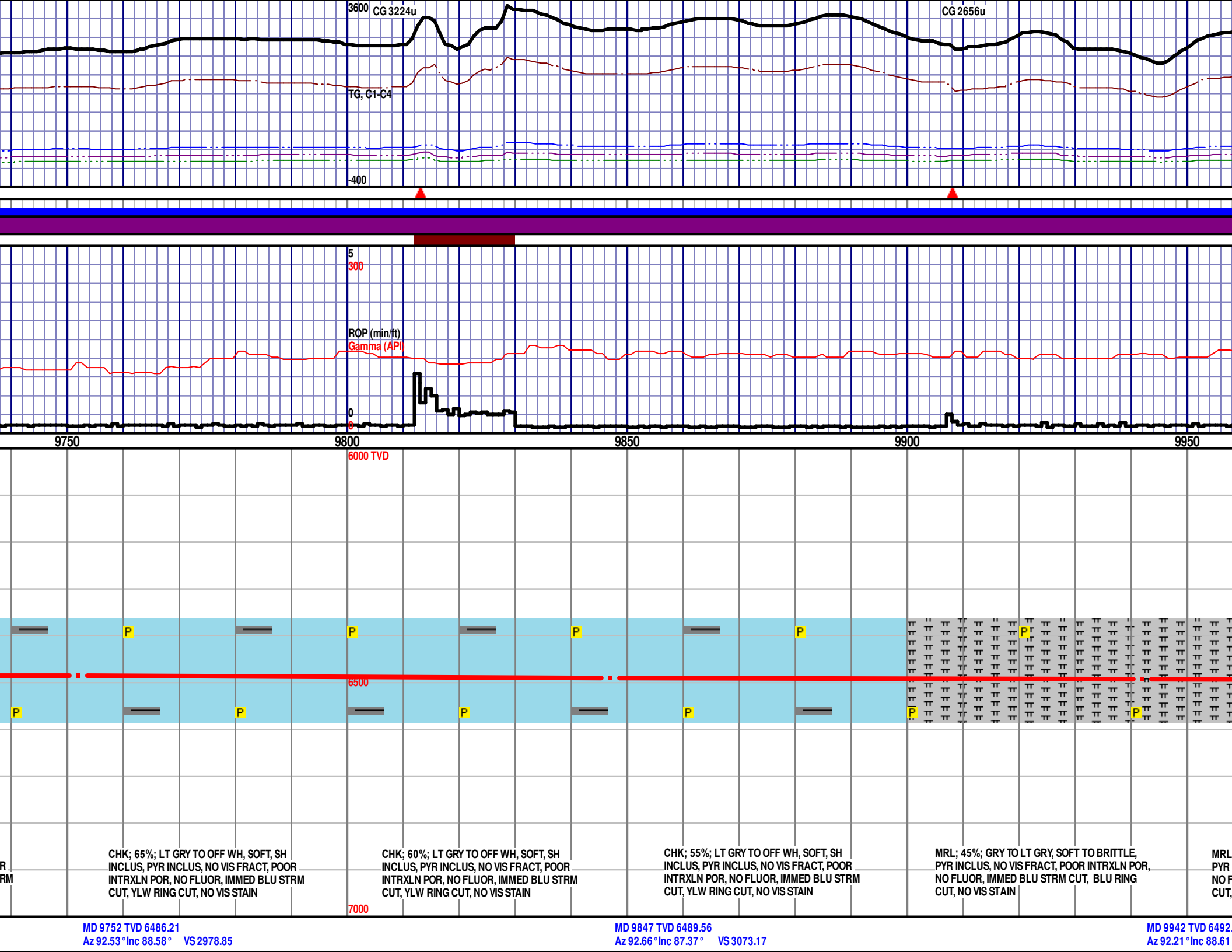


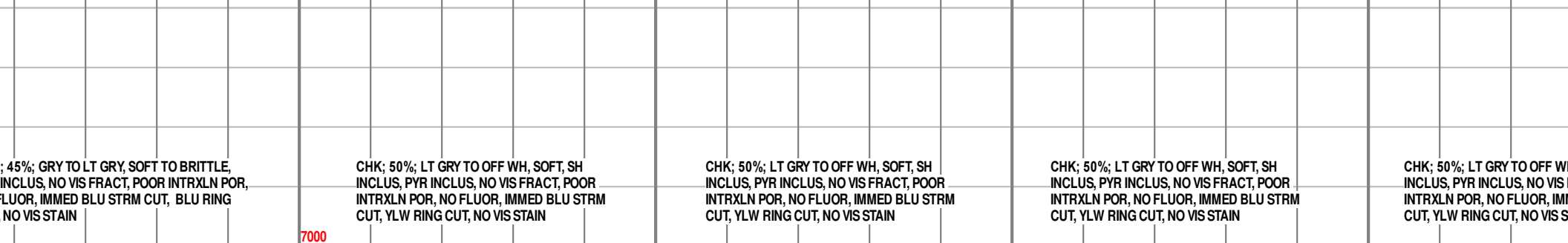
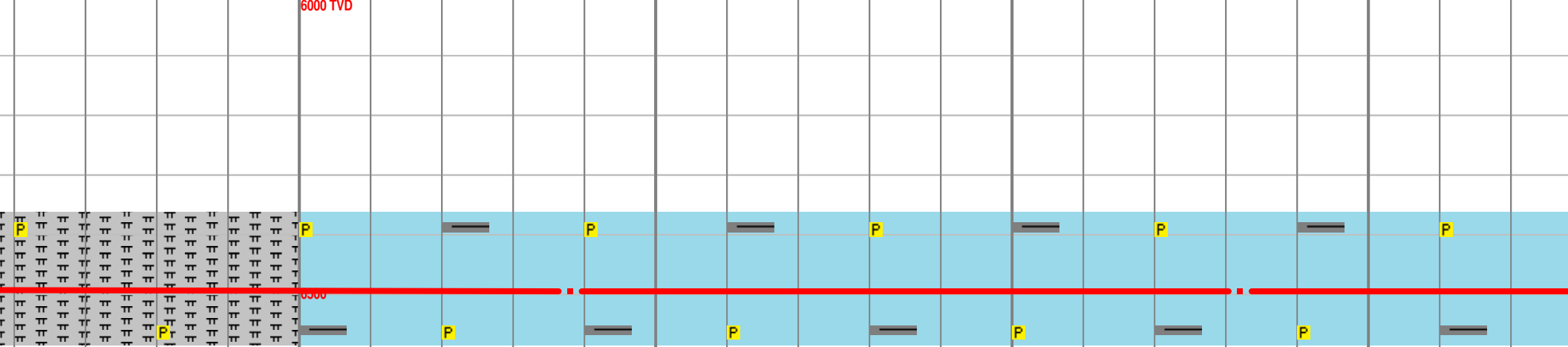
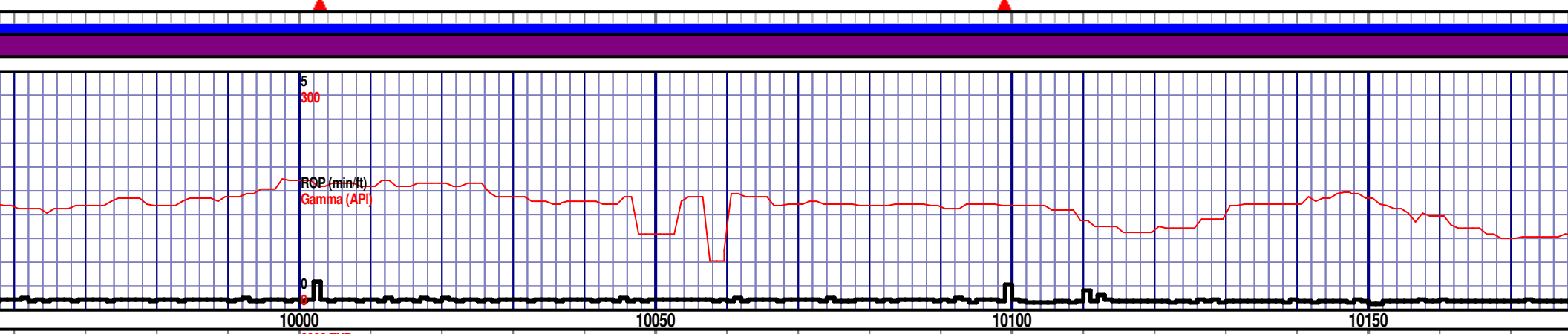
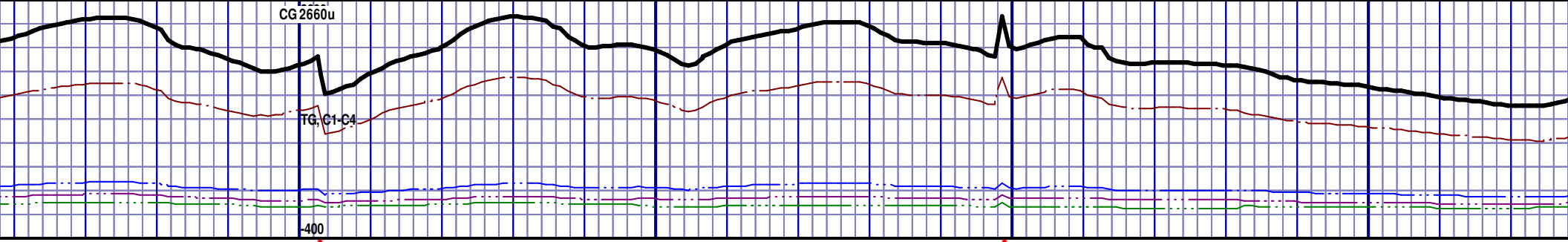
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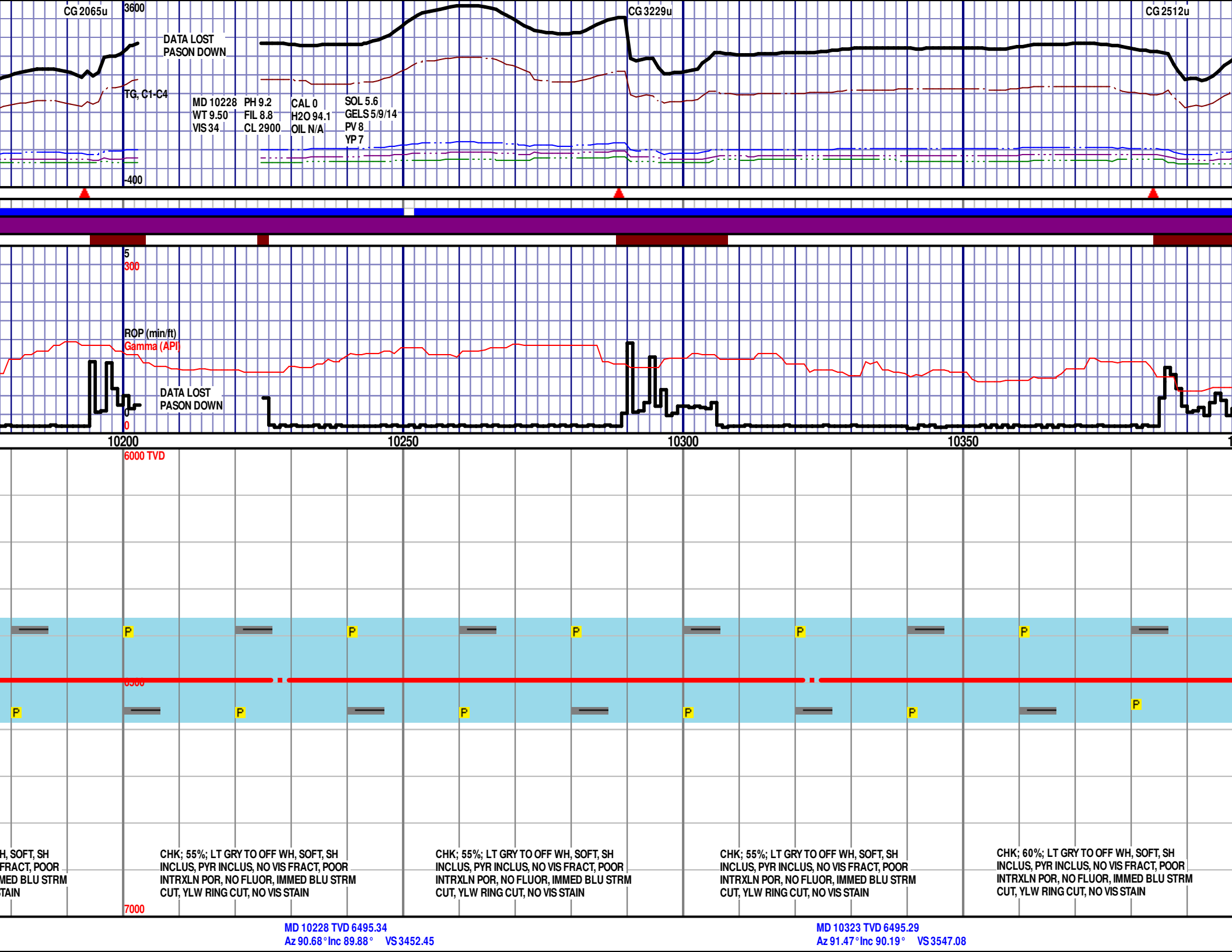
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MD 10228 PH 9.2 CAL 0 SOL 5.6
WT 9.50 FIL 8.8 H2O 94.1 GELS 5/9/14
VIS 34 CL 2900 OIL N/A PV 8
YP 7

ROP (min/ft)
Gamma (API)

DATA LOST
PASON DOWN

6000 TVD

7000

CHK; 55%; LT GRY TO OFF WH, SOFT, SH
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INTRXLN POR, NO FLUOR, IMMED BLU STRM
CUT, YLW RING CUT, NO VIS STAIN

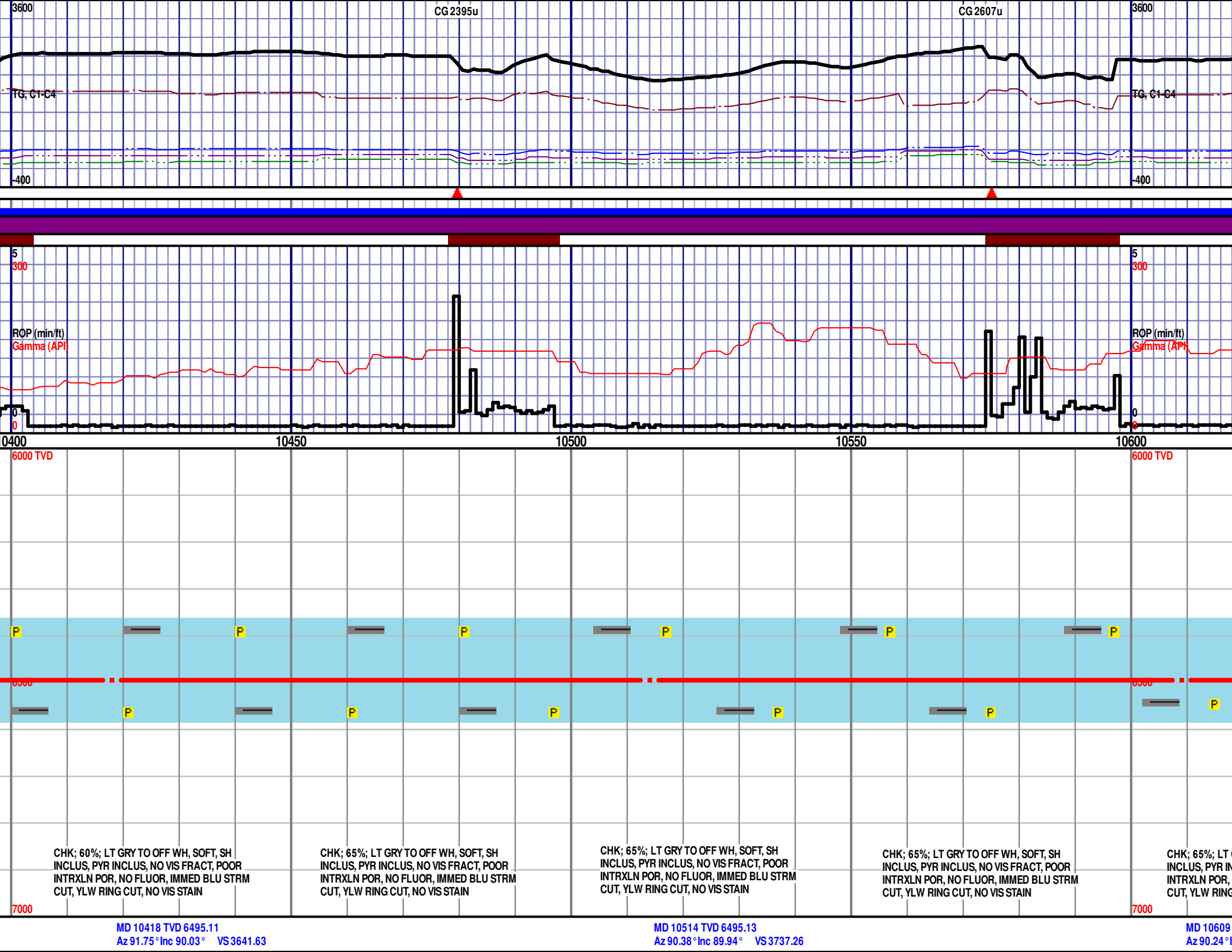
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CUT, YLW RING CUT, NO VIS STAIN

MD 10228 TVD 6495.34
Az 90.68° Inc 89.88° VS 3452.45

MD 10323 TVD 6495.29
Az 91.47° Inc 90.19° VS 3547.08



CG 2355u

BOTTOMS UP GAS 2492u

MD 10895 PH 8.8
WT 9.80 FIL 10.9
VIS 33 CL 2900

CAL 160 SOL 6.1
H2O 93.6 GELS 5/7/11
OIL N/A PV 9
YP 8

WOB 8.2K
PP 3313
RPM 80
SPM 60/0

12:01AM
5/25/2012

DRILLER'S TD @ 10895' MD @
8:00PM ON 5/24/2012

10850

10900

TD @ 10895' MD

RELEASED 5/25/2012

THANK YOU FROM RYAN
BLEESS, NIKKI GRABER
AND HORIZON WELL
LOGGING, LLC