



Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Horsetail 08B-1712
Well Id: 05-123-41451-00
Location: Sec 8-T10N-R57W
License Number: 05-123-41451-00
Spud Date: 6/9/2016
Surface Coordinates: Lat.: 40.859783 Long.: -103.773097

Region: Redtail Field
Drilling Completed: 6/13/2016

Bottom Hole
Coordinates:
Ground Elevation (ft): 4891
Logged Interval (ft): 5210 To: 15992
Formation: Niobrara B Chalk
Type of Drilling Fluid: Water Based Mud

K.B. Elevation (ft): 4912
Total Depth (ft): 15992

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Whiting Oil & Gas Corp.
Address: 1700 Broadway Suite 2300
Denver, CO 80290

GEOLOGIST

Name: Todd Nakata and Eli DenBesten
Company: Acme Geologic Consulting
Address: 108 Berry Street
Little Rock, AR 72205

Drilling Company

Unit Drilling Company
Rig 409

Gas Detection

Mudlogging Systems, Inc., M Logger, Model TGC, Total Gas and Chromatograph

Comments

Lithologies and tops at drilled depths, not corrected to elogs. Where the well bore gas is 100% methane, the C1 line is moved to 85% for graphical purposes only.

ROCK TYPES

 Anhy
 Bent
 Brec
 Cht
 Clyst

 Coal
 Congl
 Dol
 Gyp
 Igne

 Lmst
 Meta
 Cyan mrlst
 Mrlst
 Salt

 Shale
 Shcol
 Shgy
 Sltst
 Ss







 Till
 Cyan chk
 Chalk

ACCESSORIES

MINERAL
 Anhy
 Arggrn
 Arg
 Bent
 Bit
 Brecfrag
 Calc
 Carb
 Chtdk
 Chtlt
 Dol
 Feldspar
 Ferrpel
 Ferr
 Glau

 Gyp
 Hvymin
 Kaol
 Marl
 Minxl
 Nodule
 Phos
 Pyr
 Salt
 Sandy
 Silt
 Sil
 Sulphur
 Tuff








FOSSIL
 Algae
 Amph
 Belm
 Bioclst
 Brach
 Bryozoa
 Cephal
 Coral
 Crin
 Echin
 Fish
 Foram
 Fossil
 Gastro
 Oolite


 Ostra
 Pelec
 Pellet
 Pisolite
 Plant
 Strom




STRINGER
 Anhy
 Arg
 Bent
 Coal
 Dol
 Gyp
 Ls
 Mrst

 Sltstrg
 Ssstrg





TEXTURE
 Boundst
 Chalky
 Cryxln
 Earthy
 Finexln
 Grainst
 Lithogr
 Microxln
 Mudst
 Packst
 Wackest


POROSITY
 Earthy
 Fenest
 Fracture
 Inter
 Moldic
 Organic
 Pinpoint




 Vuggy



SORTING
 Well
 Moderate
 Poor

OTHER SYMBOLS

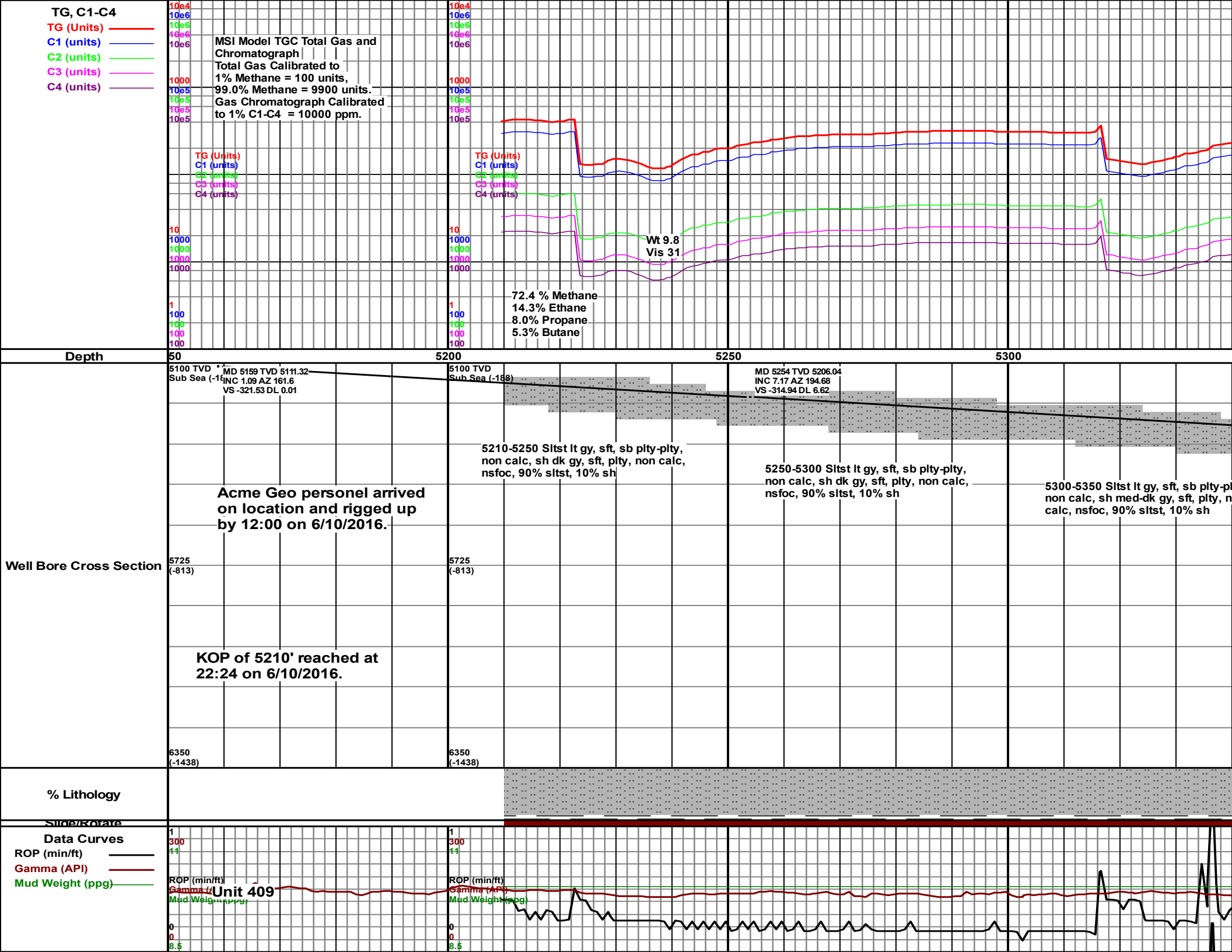
ROUNDING
 Rounded
 Subrnd
 Subang
 Angular

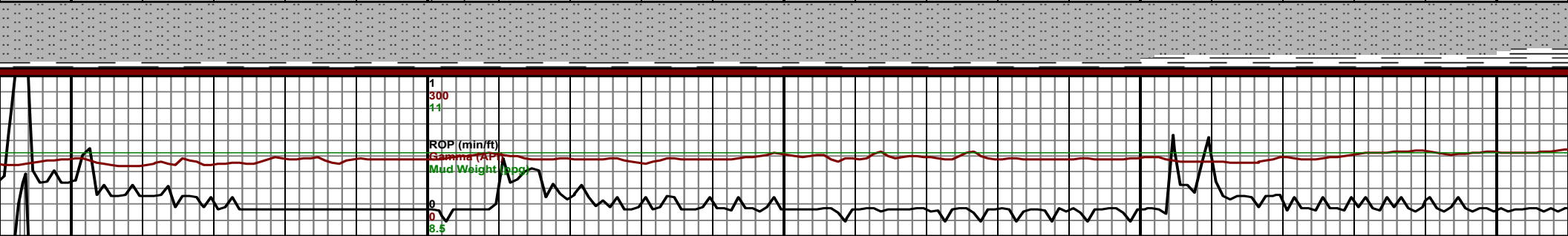
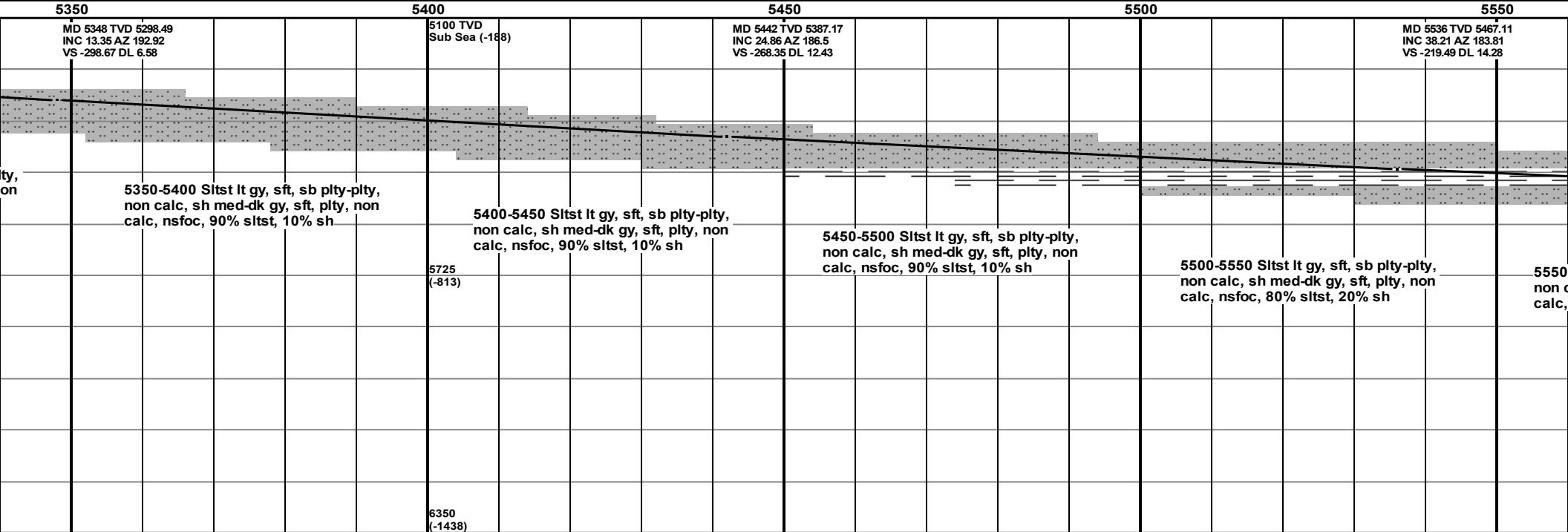
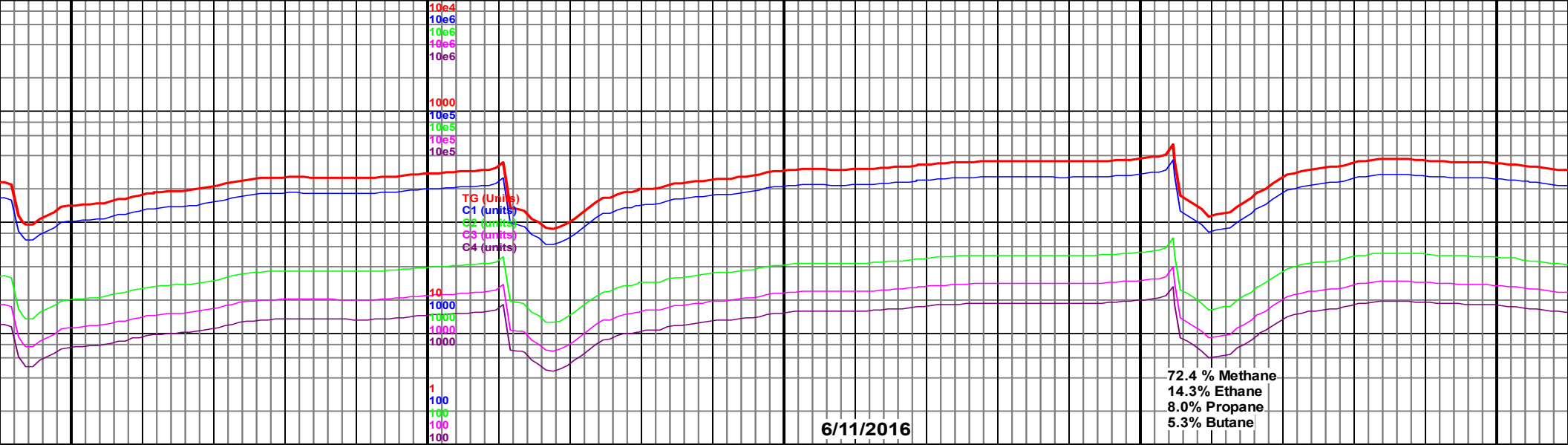
OIL SHOW
 Even

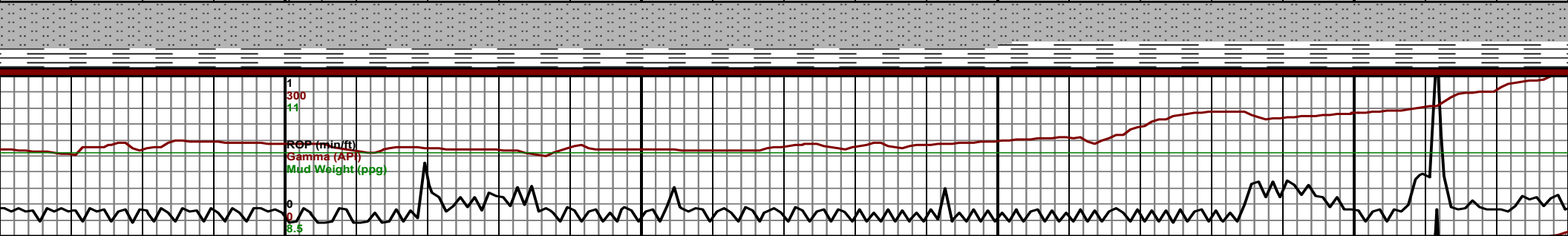
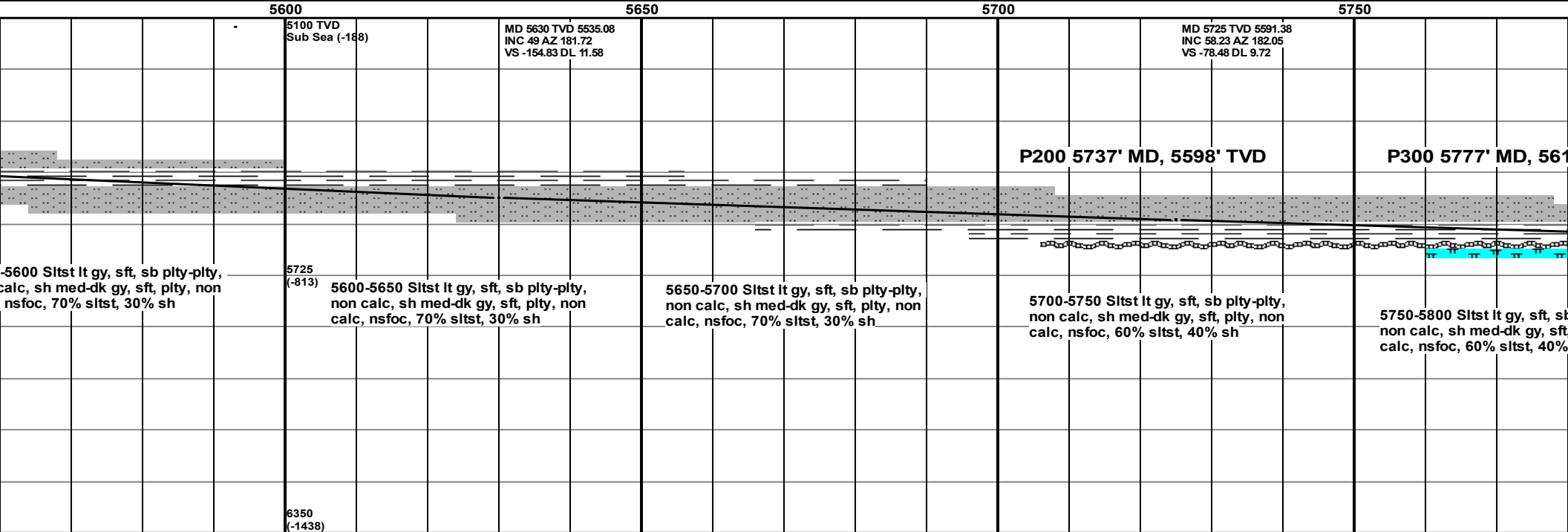
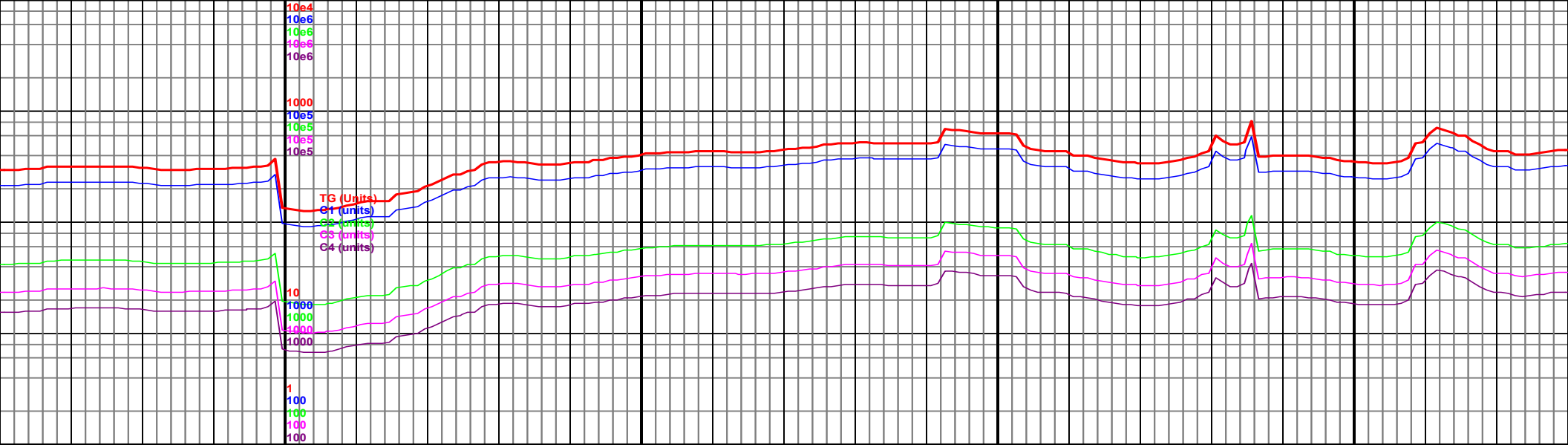
 Spotted
 Ques
 Dead

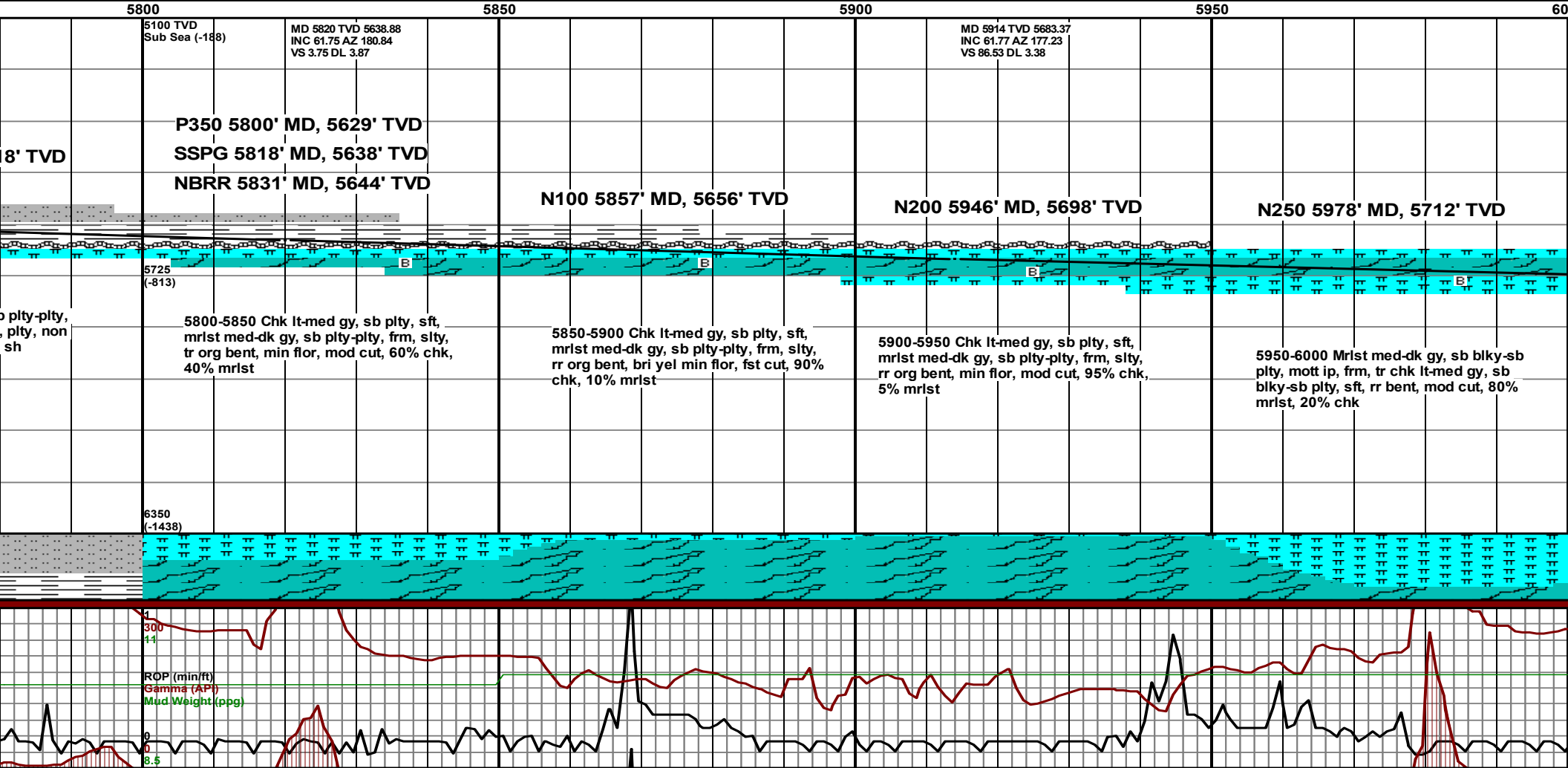
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 Core
 Dst

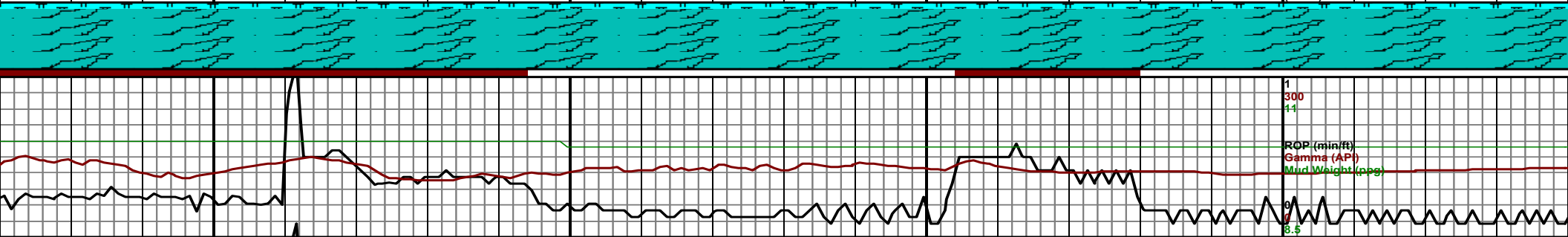
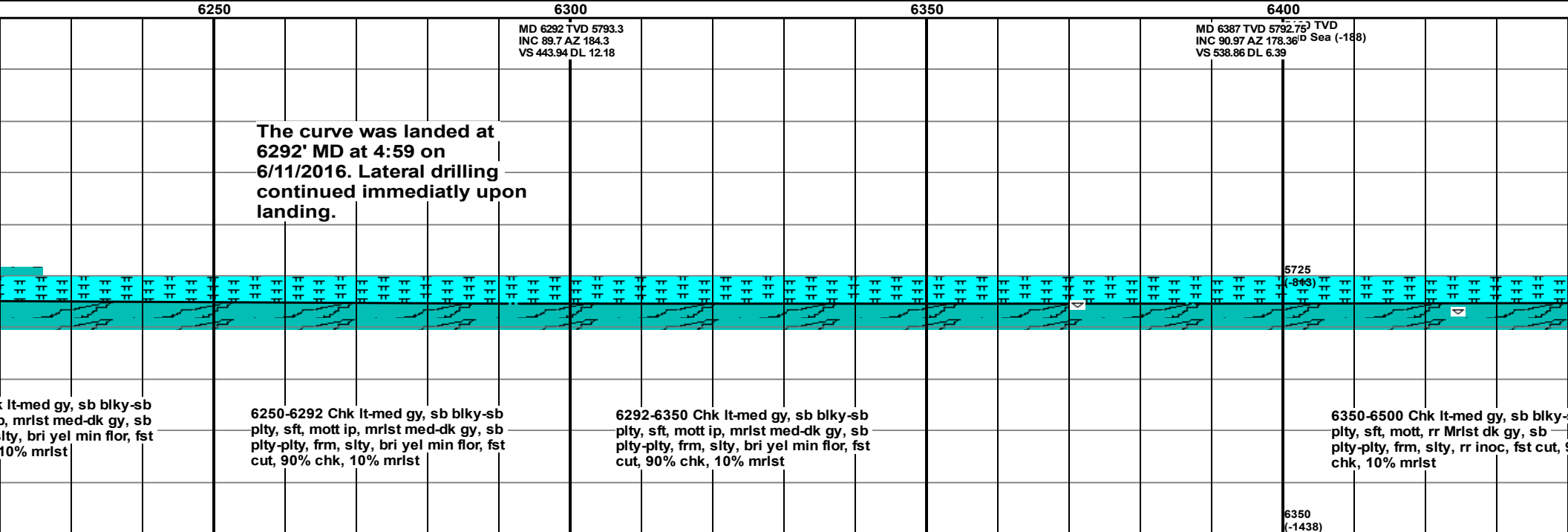
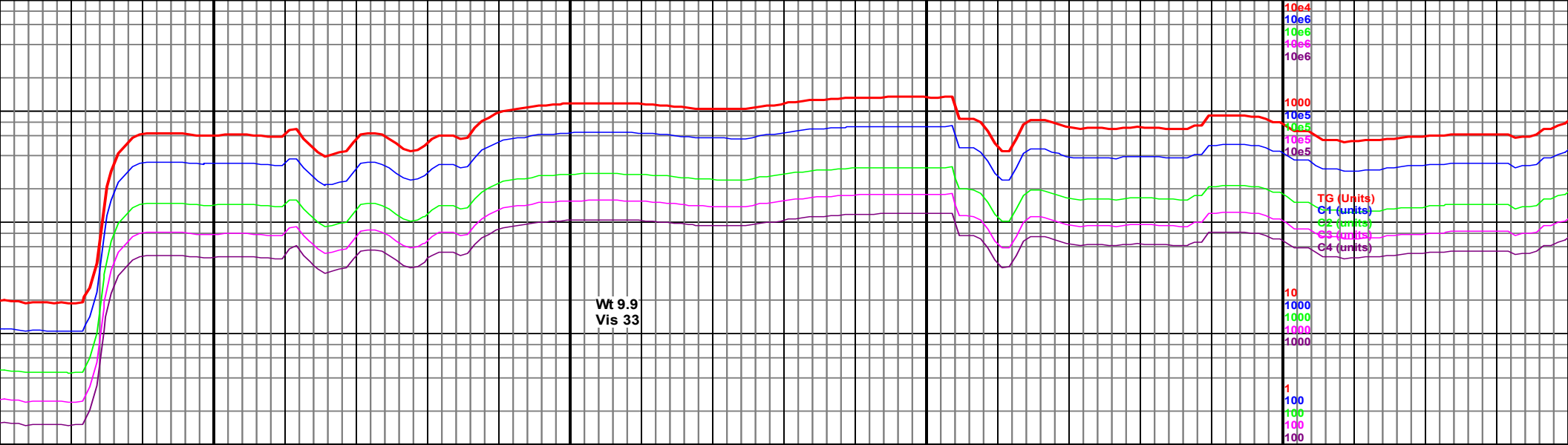
EVENT
 Rft
 Sidewall

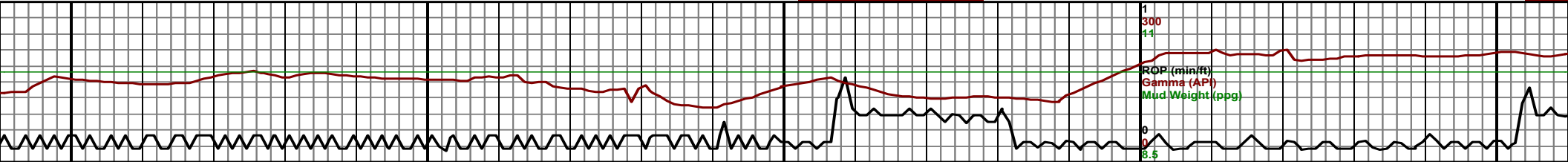
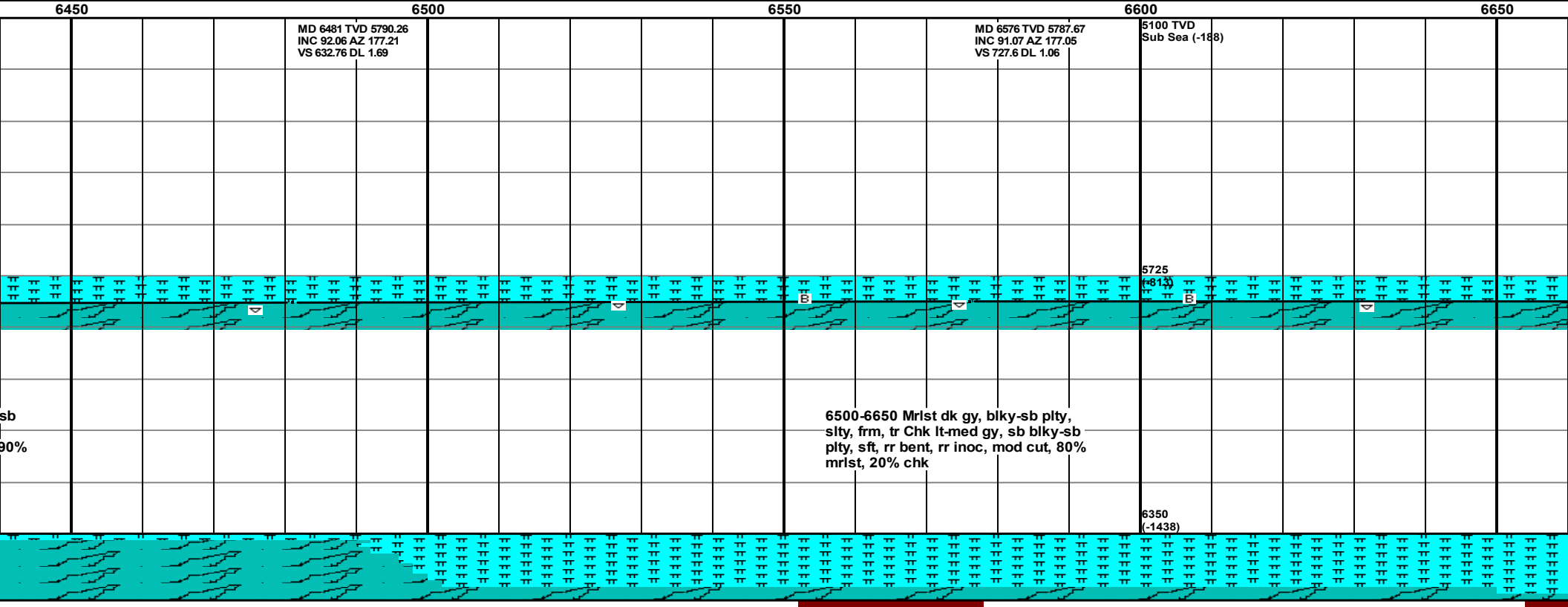
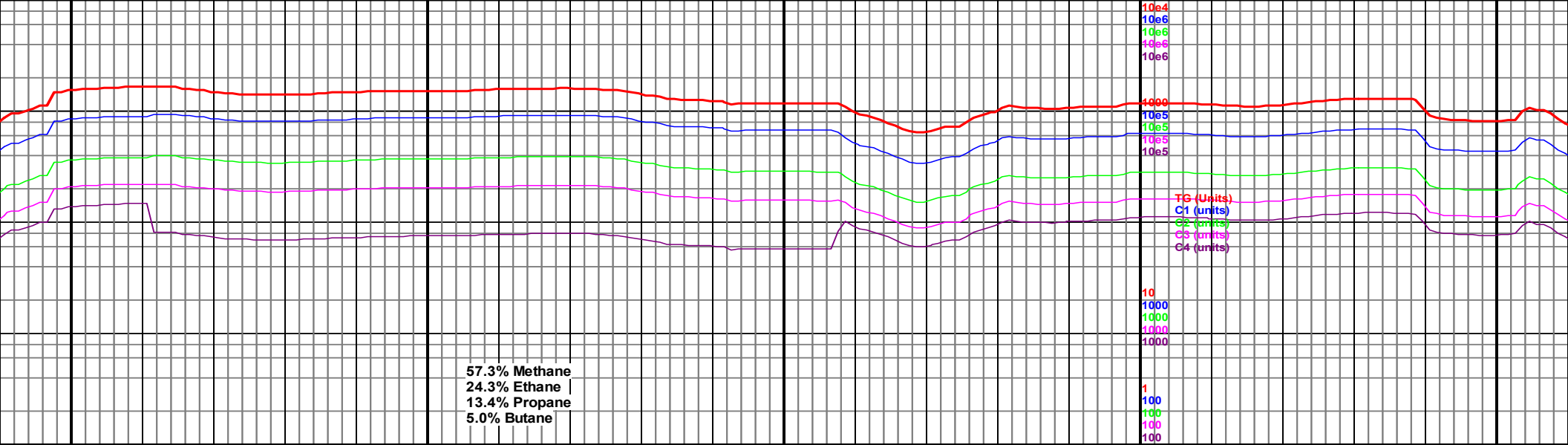


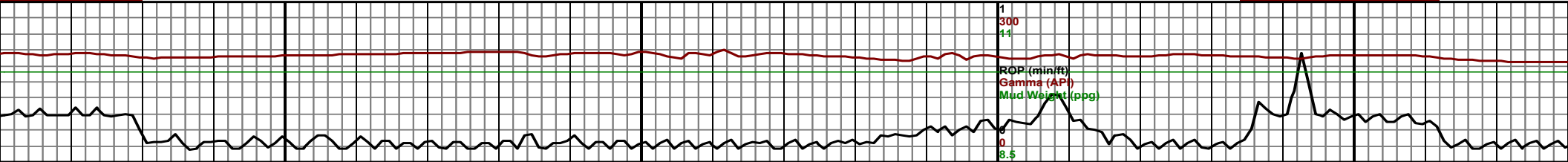
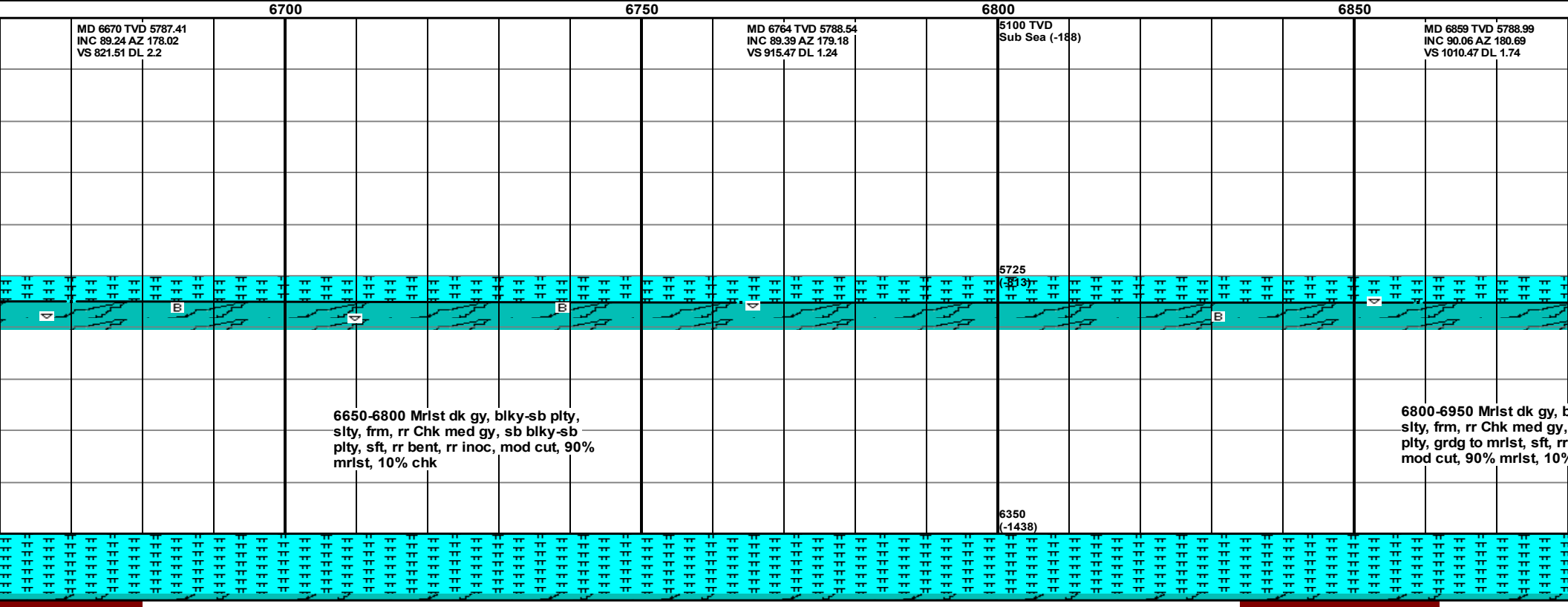
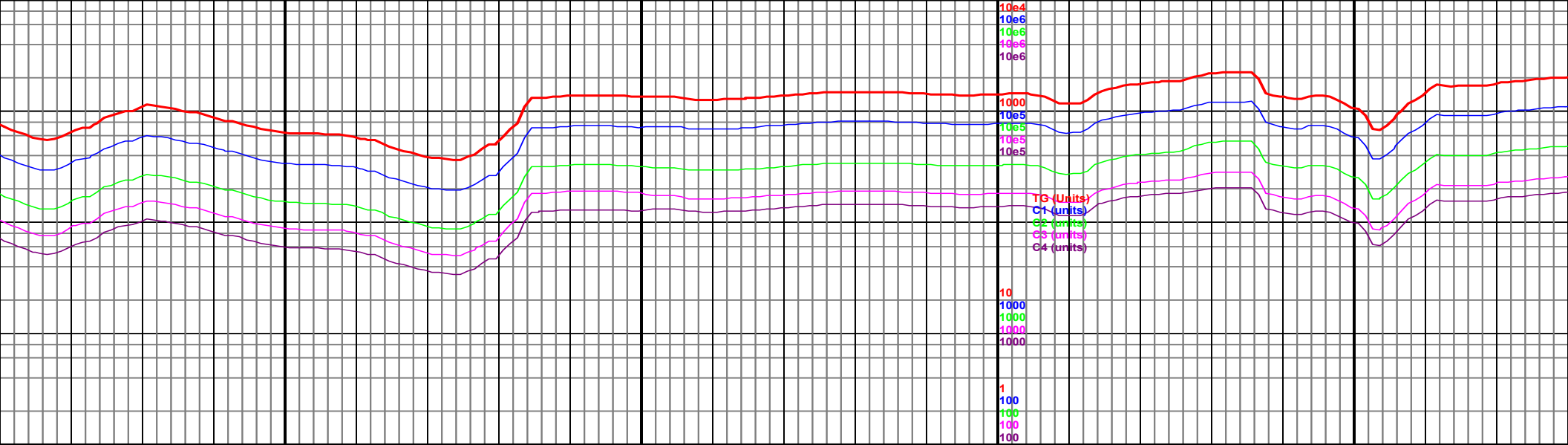


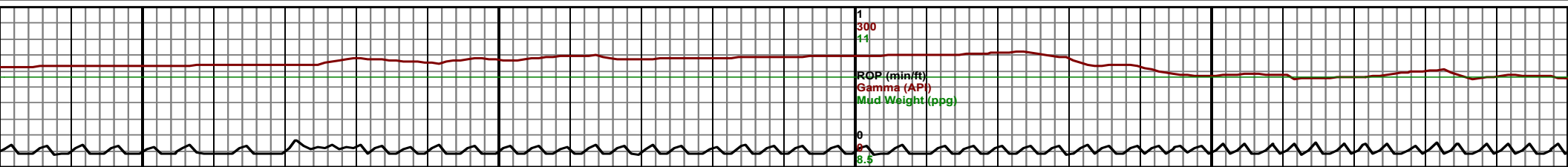
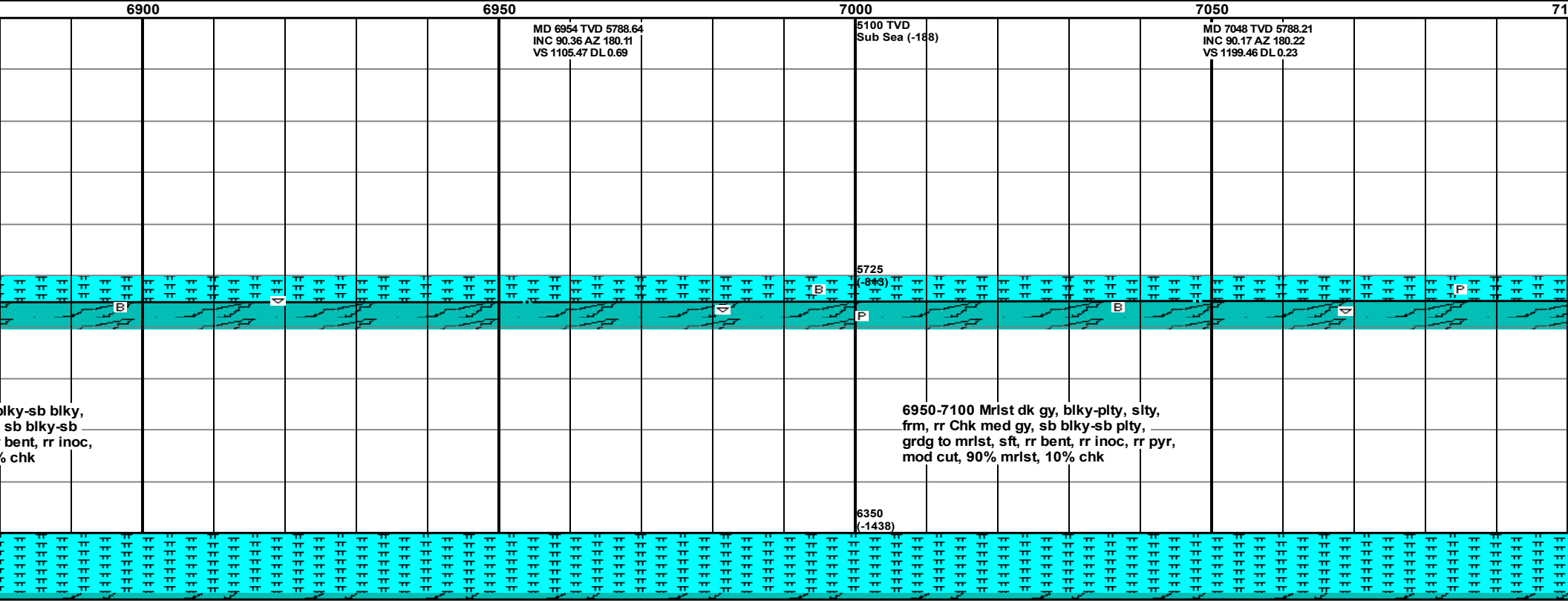
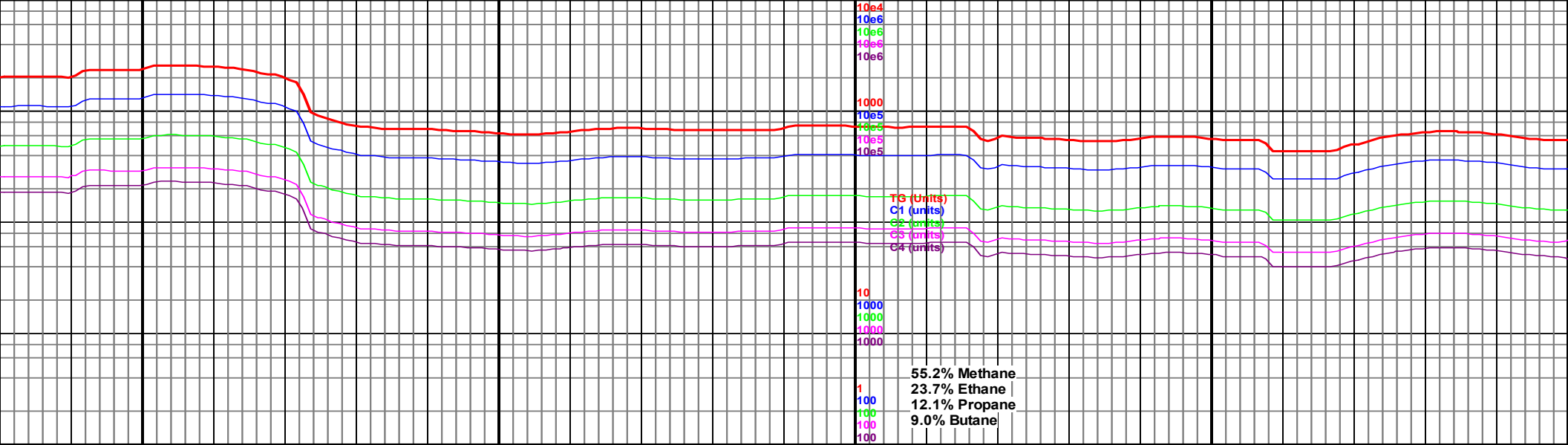


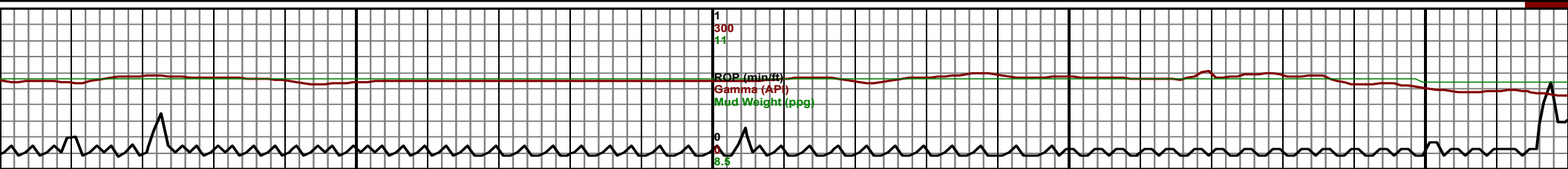
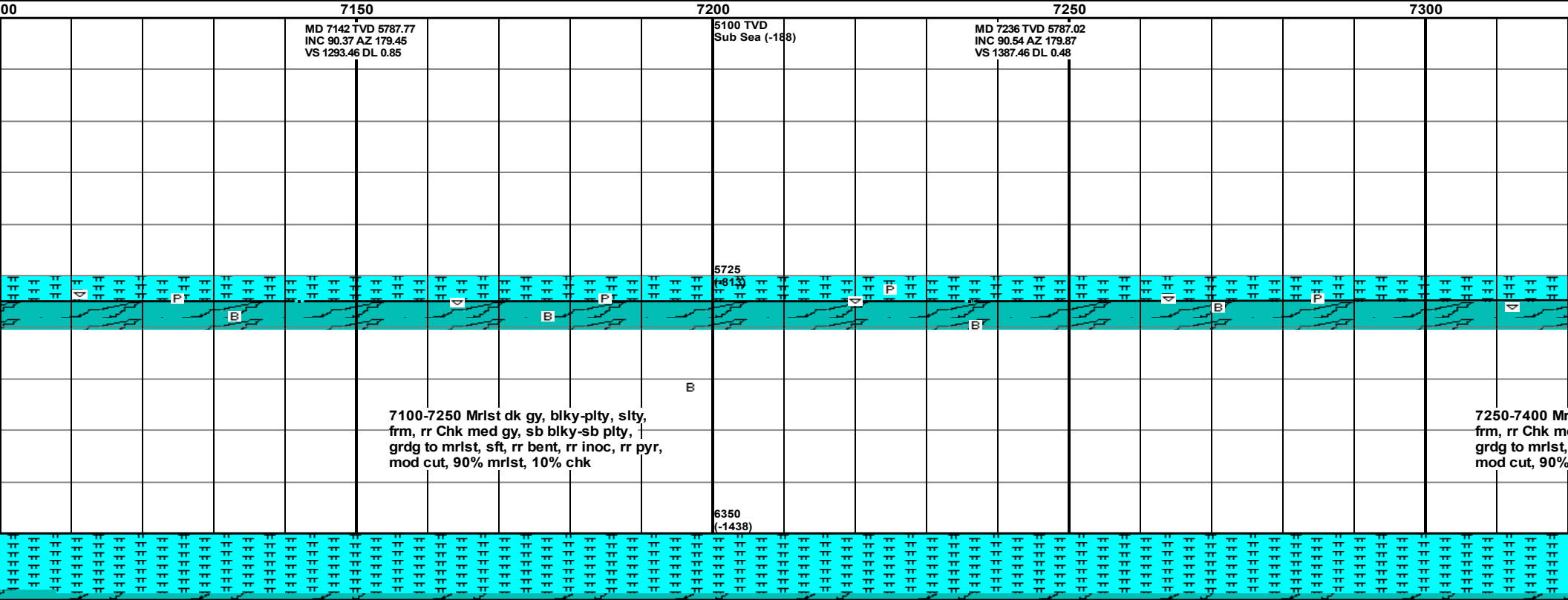
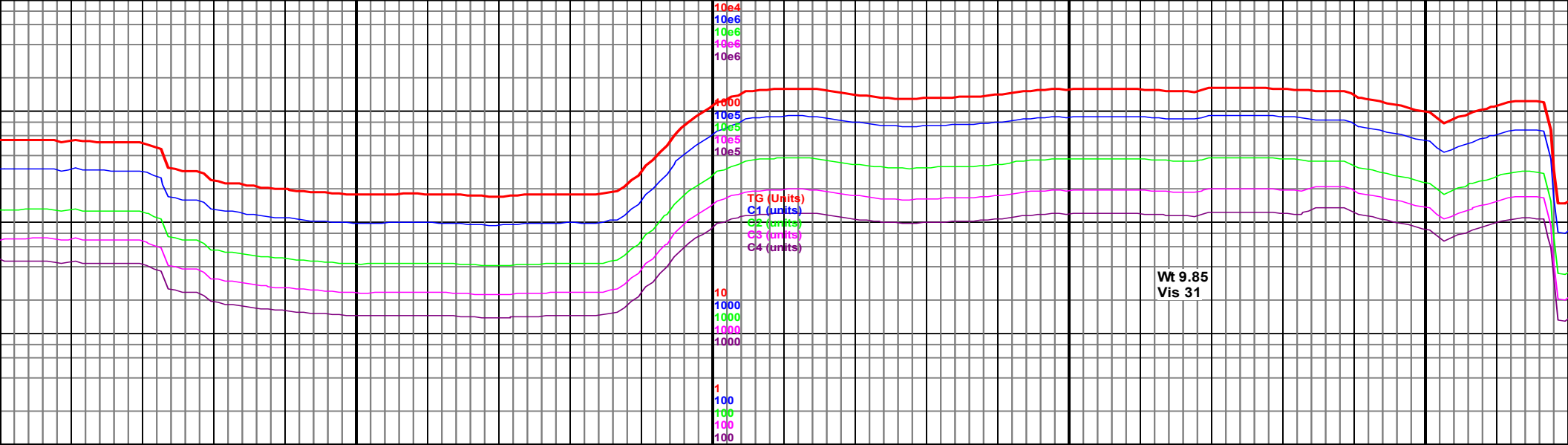


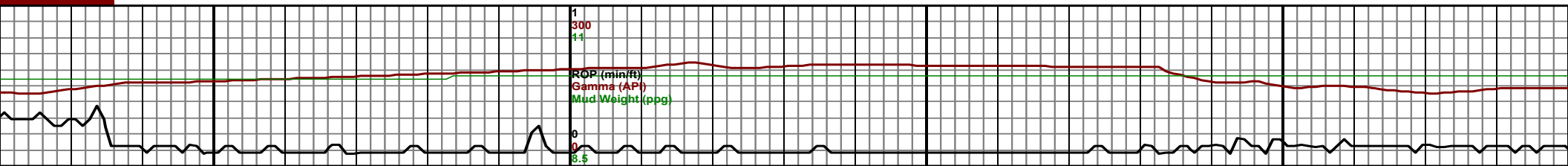
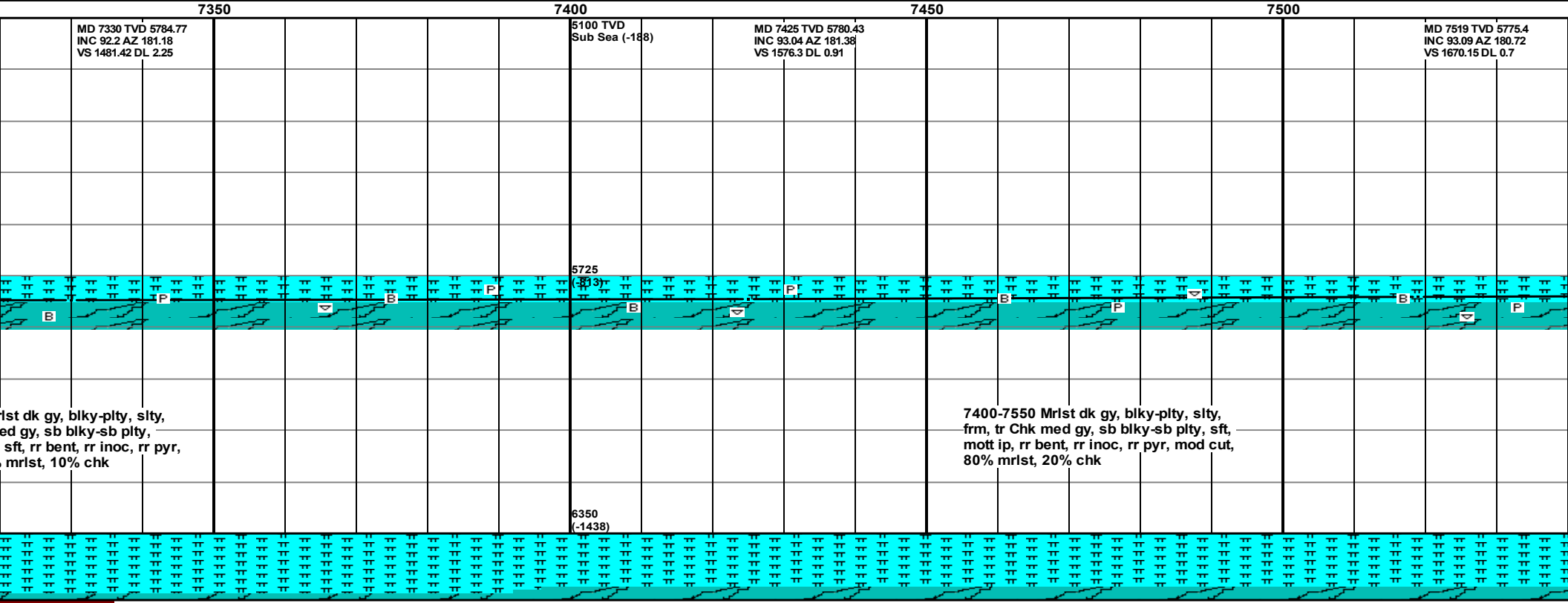
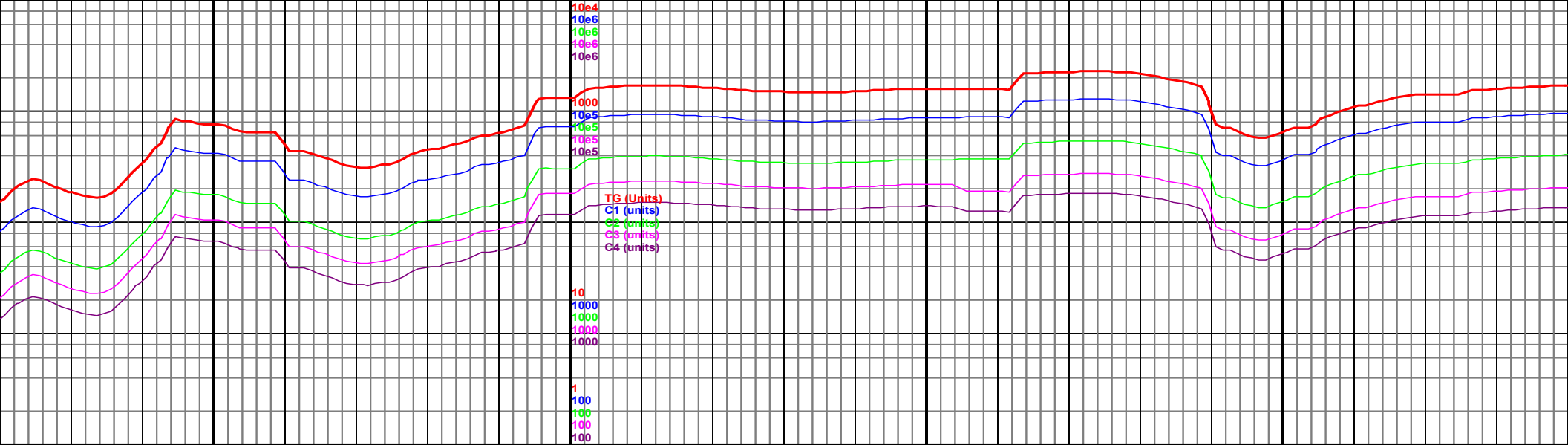


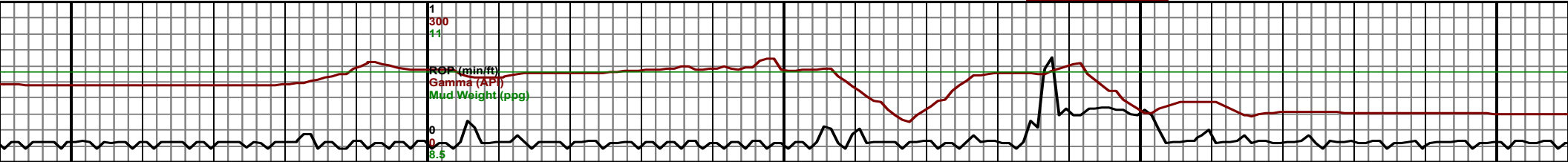
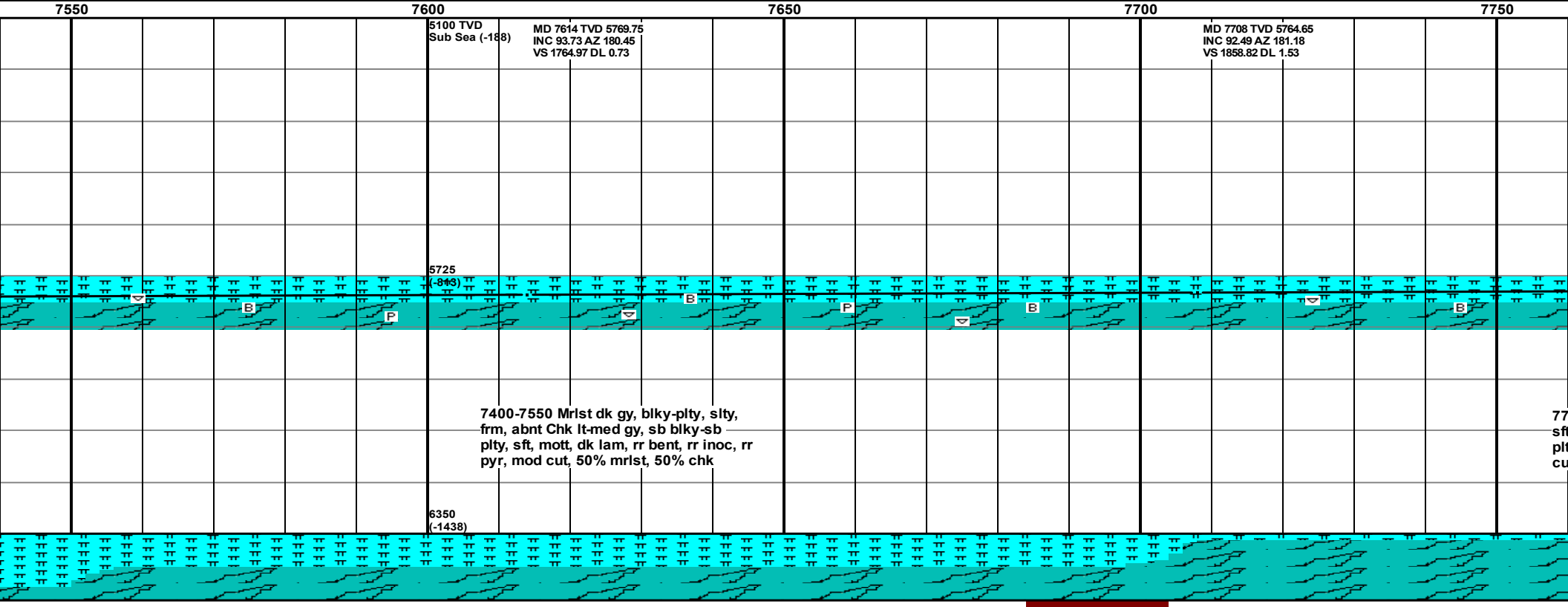
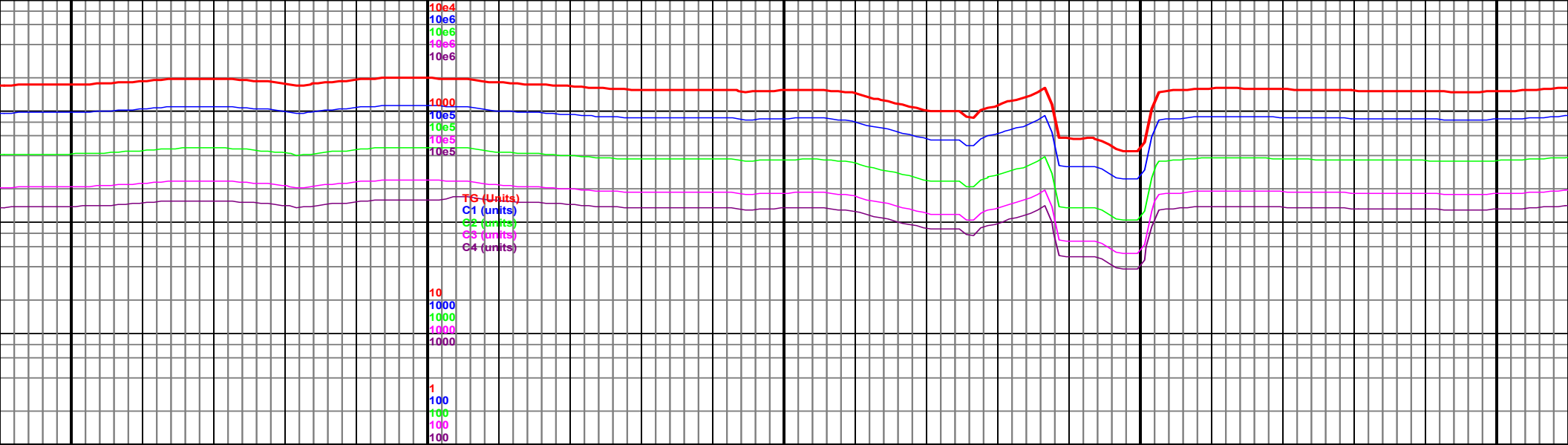


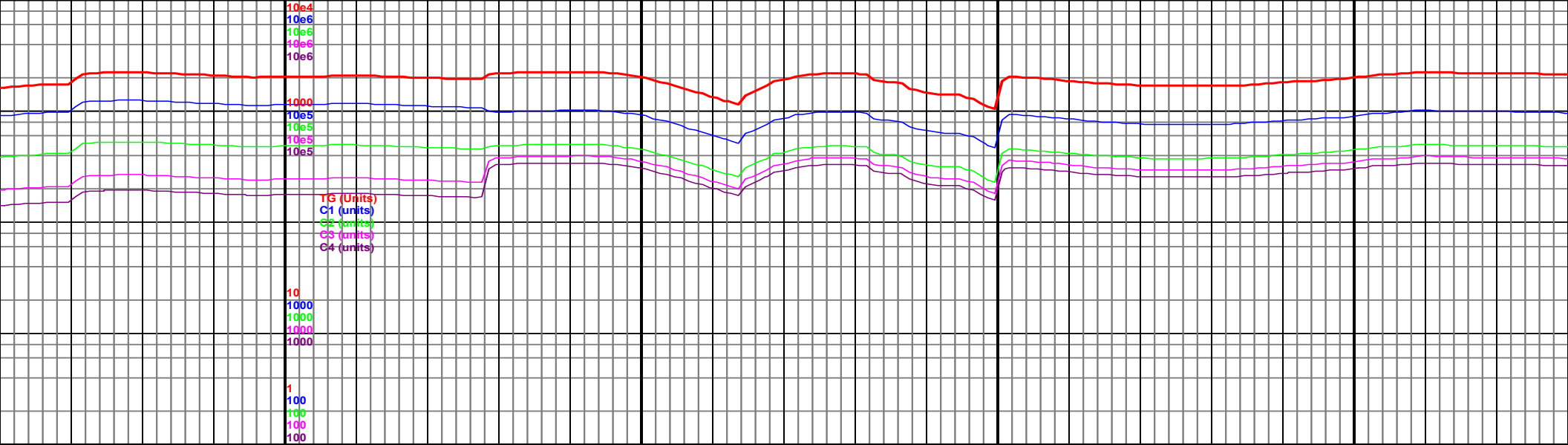












7800

7850

7900

7950

MD 7802 TVD 5759.76
INC 93.48 AZ 181.45
VS 1952.67 DL 1.09

MD 7896 TVD 5754.81
INC 92.56 AZ 181.06
VS 2046.52 DL 1.06

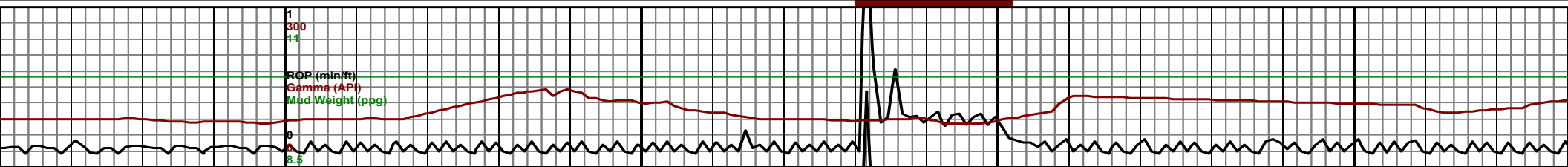
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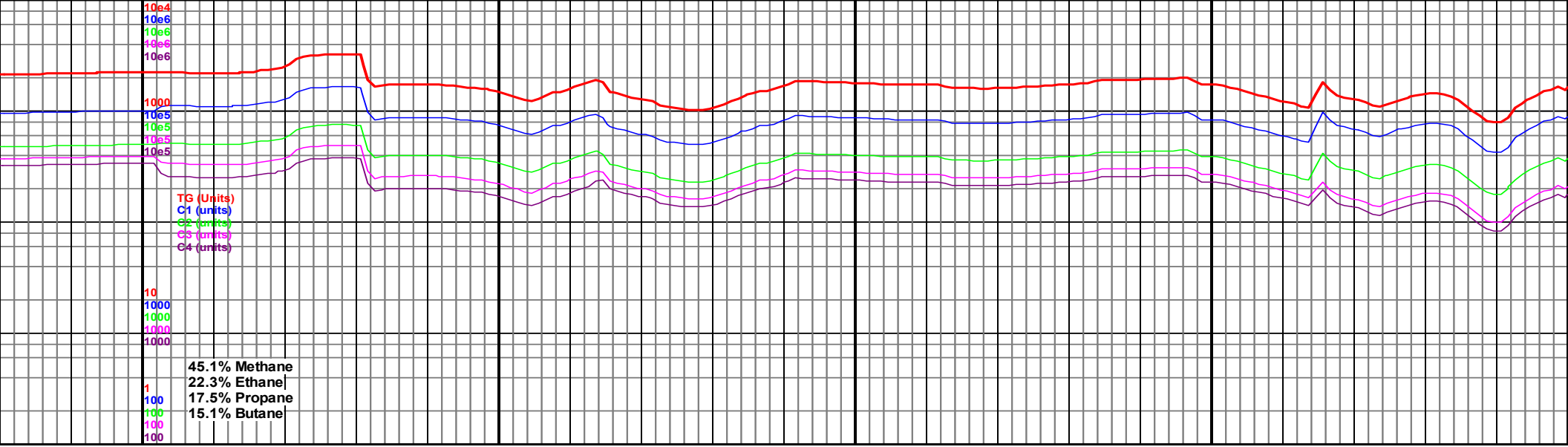
(613)

00-7850 Chk lt gy-gy, blk-y-sb plty,
t, mott, dk lam, rr Mrlst dk gy, sb
y-plty, frm, slty, rr inoc, rr bent, mod
t, 90% chk, 10% mrlist

7850-8000 Chk lt gy-gy, blk-y-sb plty,
stt, mott, dk lam, rr Mrlst dk gy, sb
plty-plty, frm, slty, rr inoc, rr pyr, mod
cut, 90% chk, 10% mrlist

6350
(-1438)





MD 7990 TVD 5749.77^D
INC 93.58 AZ 181.38^{ea} (-188)
VS 2140.36 DL 1.14

MD 8085 TVD 5743.97
INC 93.42 AZ 181.29
VS 2235.15 DL 0.19

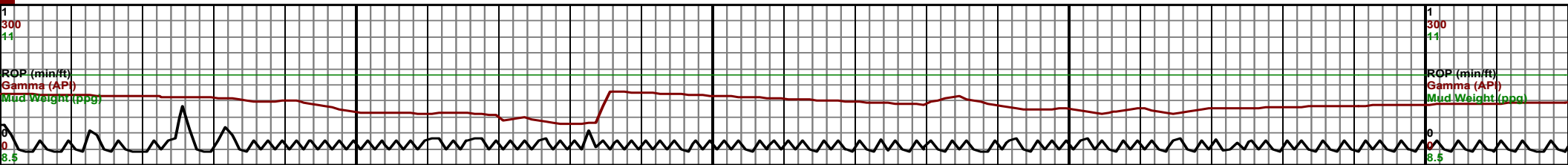
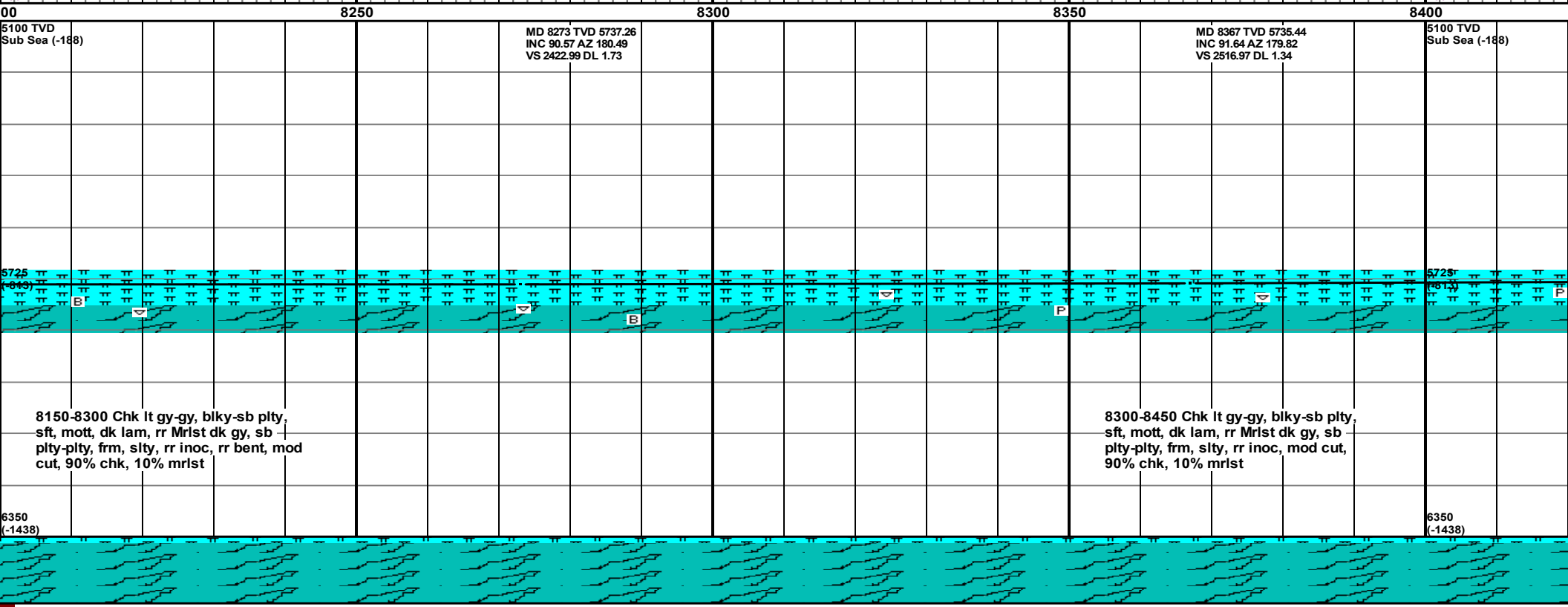
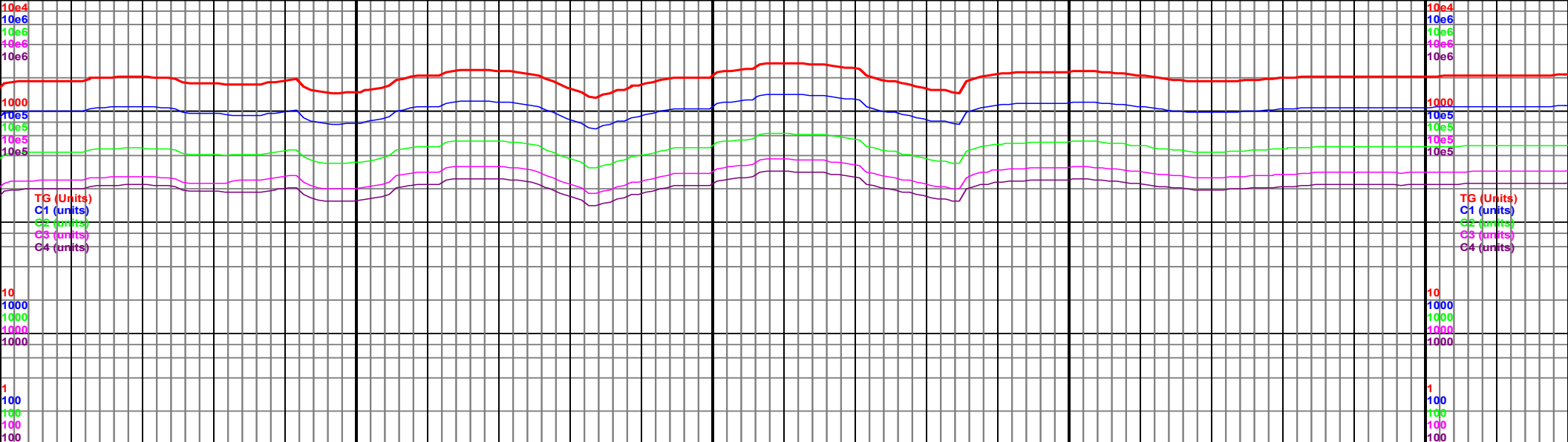
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INC 92.1 AZ 181.03
VS 2329.02 DL 1.43

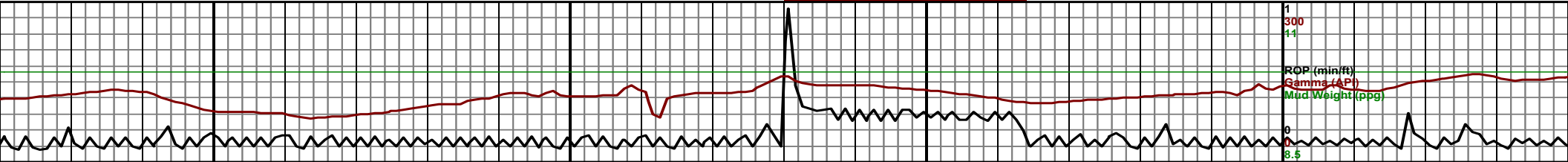
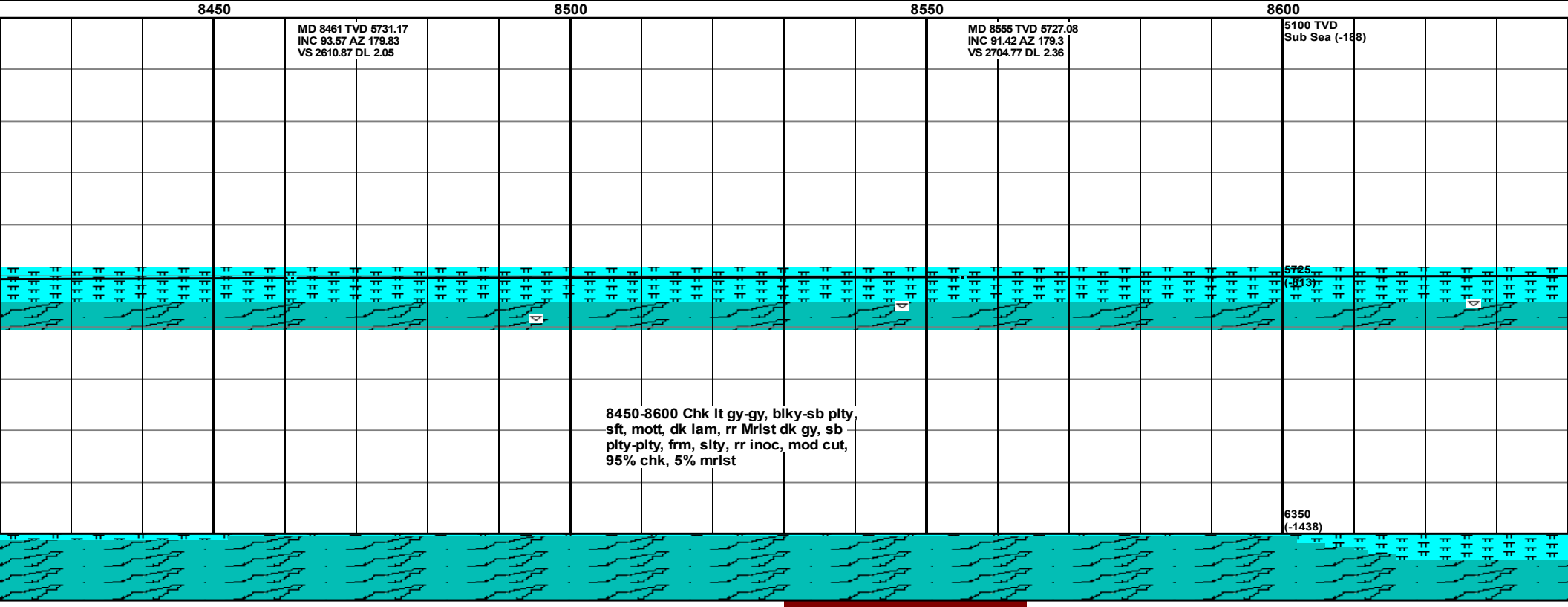
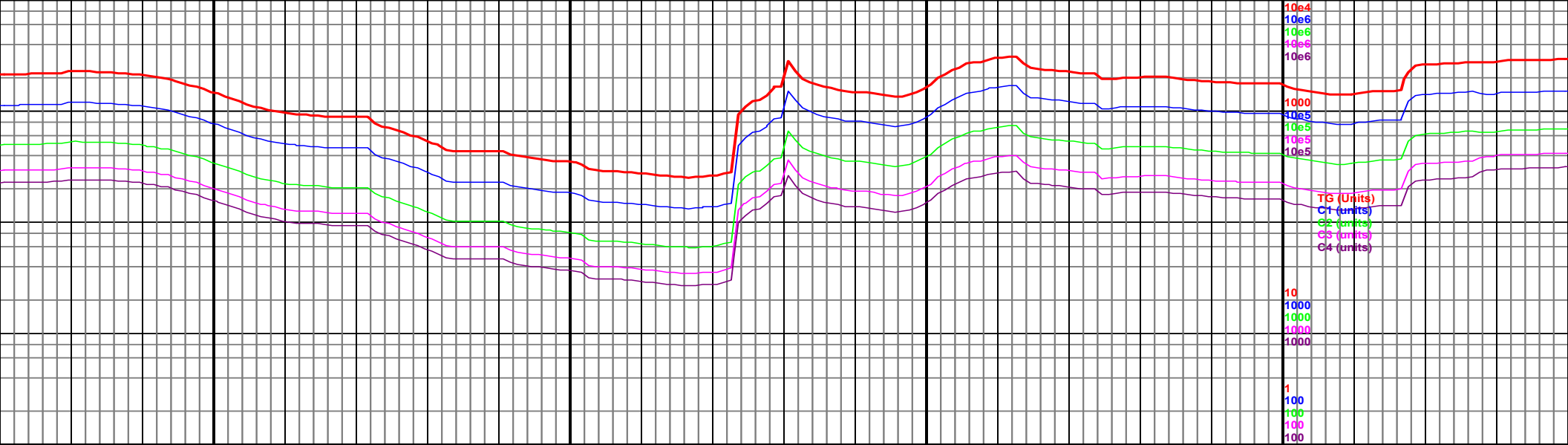
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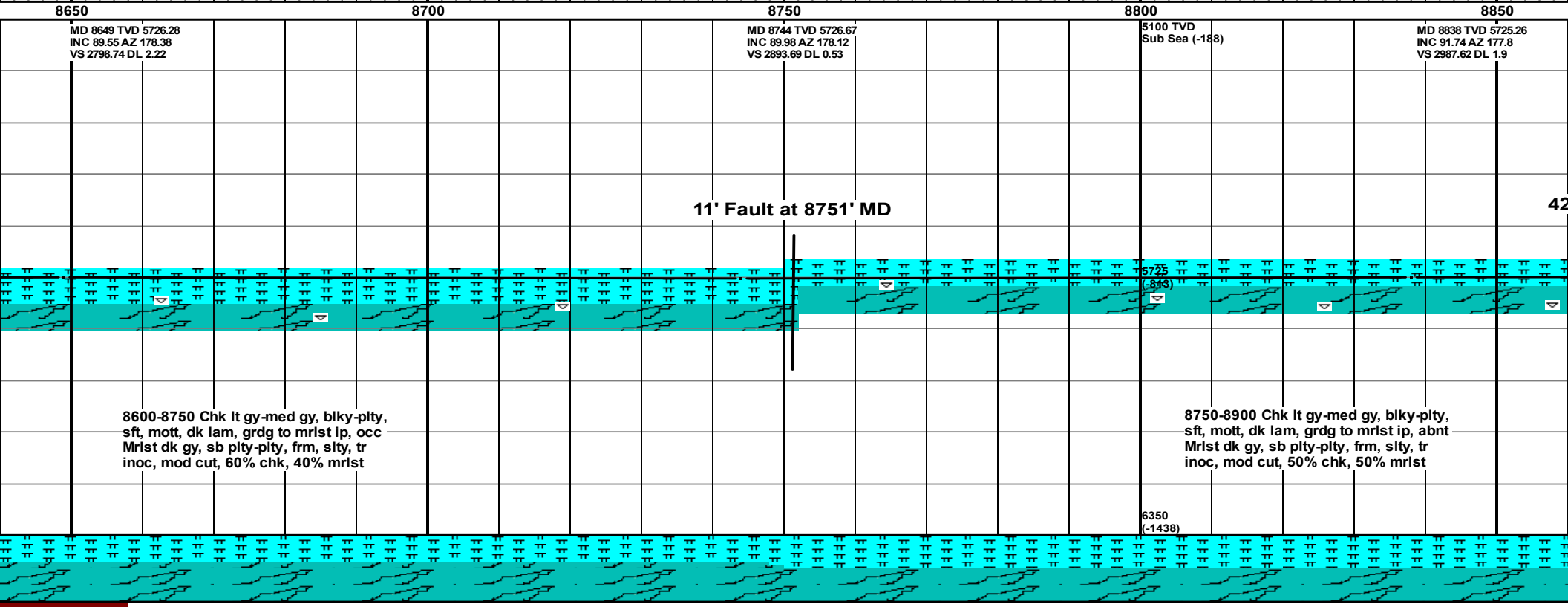
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(-1438)

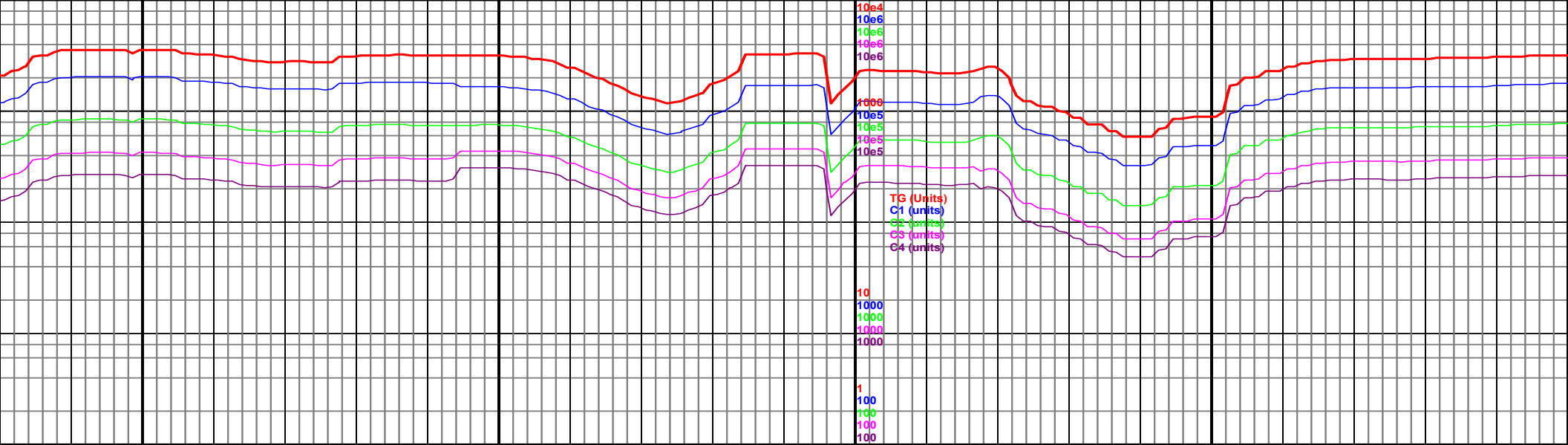
8000-8150 Chk lt gy-gy, blk-sb plty,
sft, mott, dk lam, rr Mrlst dk gy, sb
plty-plty, frm, slty, rr inoc, rr pyr, mod
cut, 90% chk, 10% mrlst

ROP (min/ft)
Gamma (API)
Mud Weight (ppg)









9100

9150

9200

9250

9300

MD 9120 TVD 5719.12
INC 91.52 AZ 181.06
VS 3269.47 DL 1.93

5100 TVD
Sub Sea (-188)

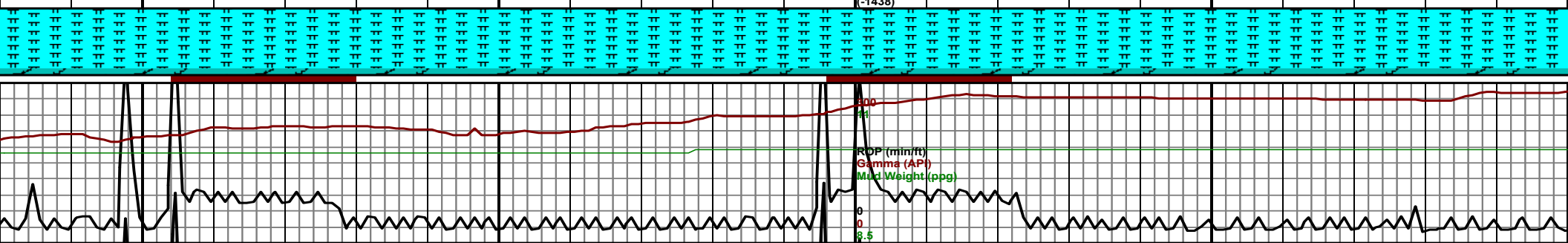
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INC 89.96 AZ 182.33
VS 3363.42 DL 2.14

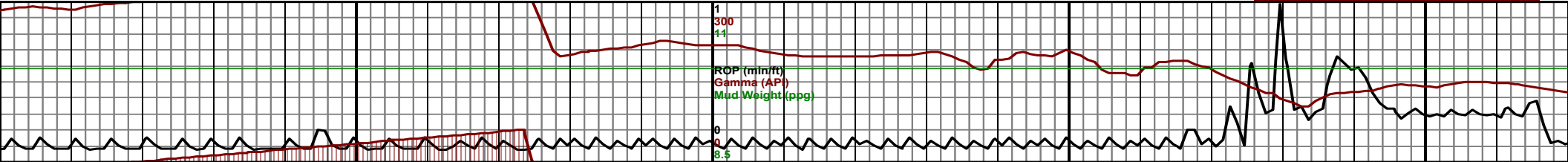
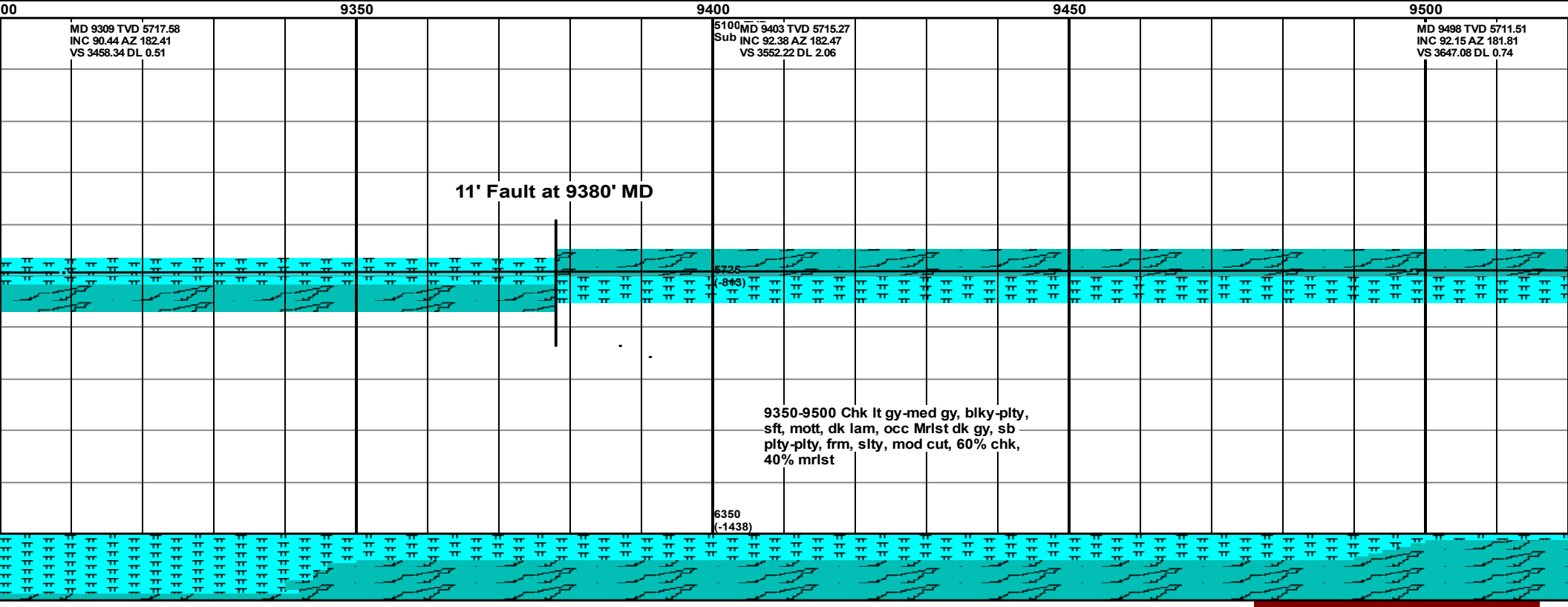
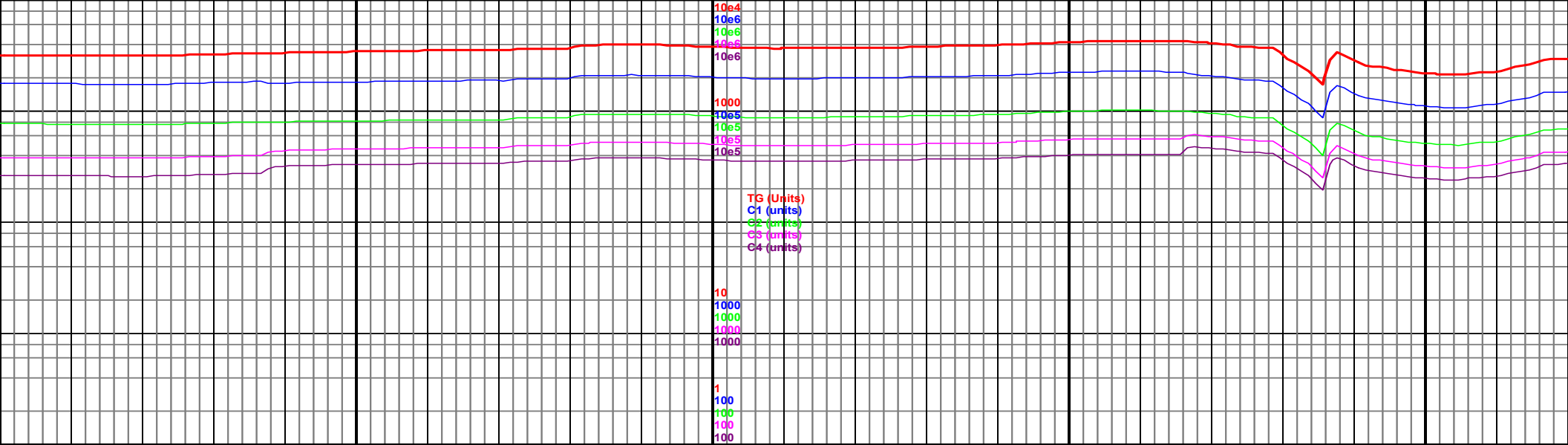
12' Fault at 9112' MD

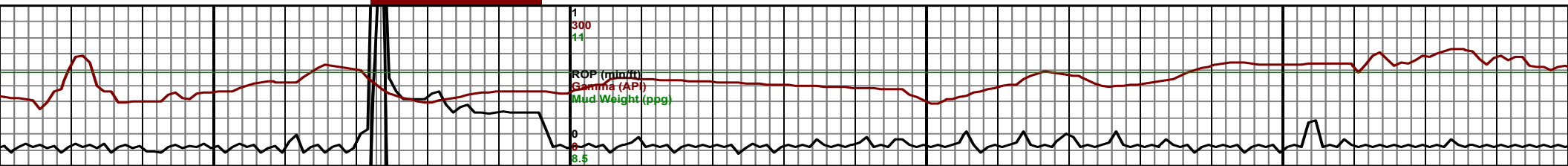
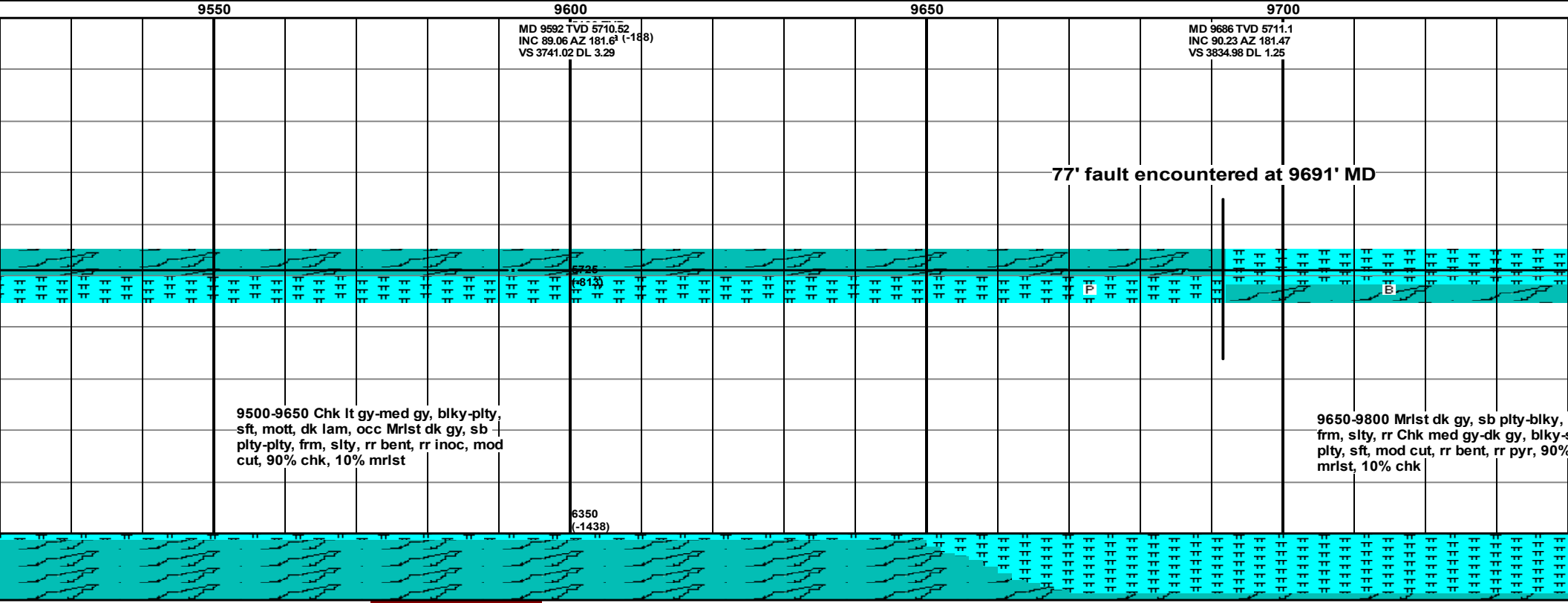
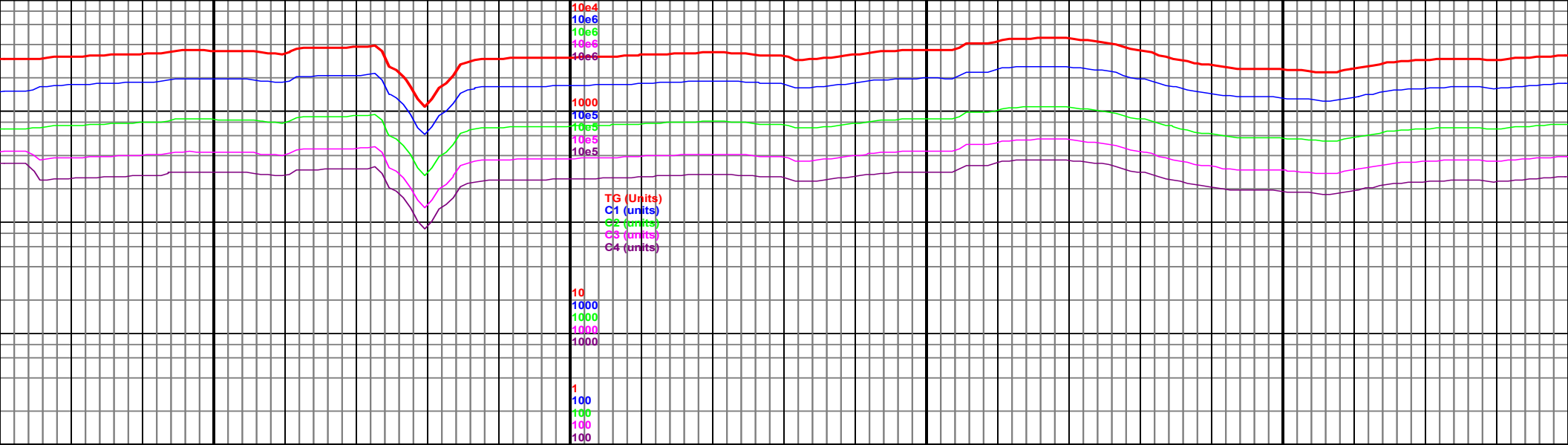
9050-9200 Mrlst dk gy, sb plty-blky,
frm, slty, sb wxy ip, rr Chk med gy-dk
gy, blkly-sb plty, sft, rr inoc, mod cut,
90% mrlst, 10% chk

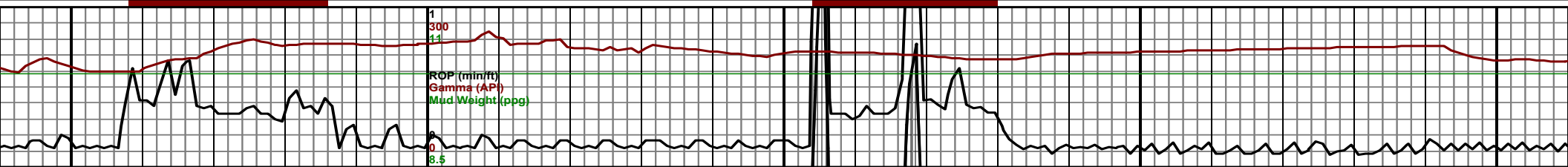
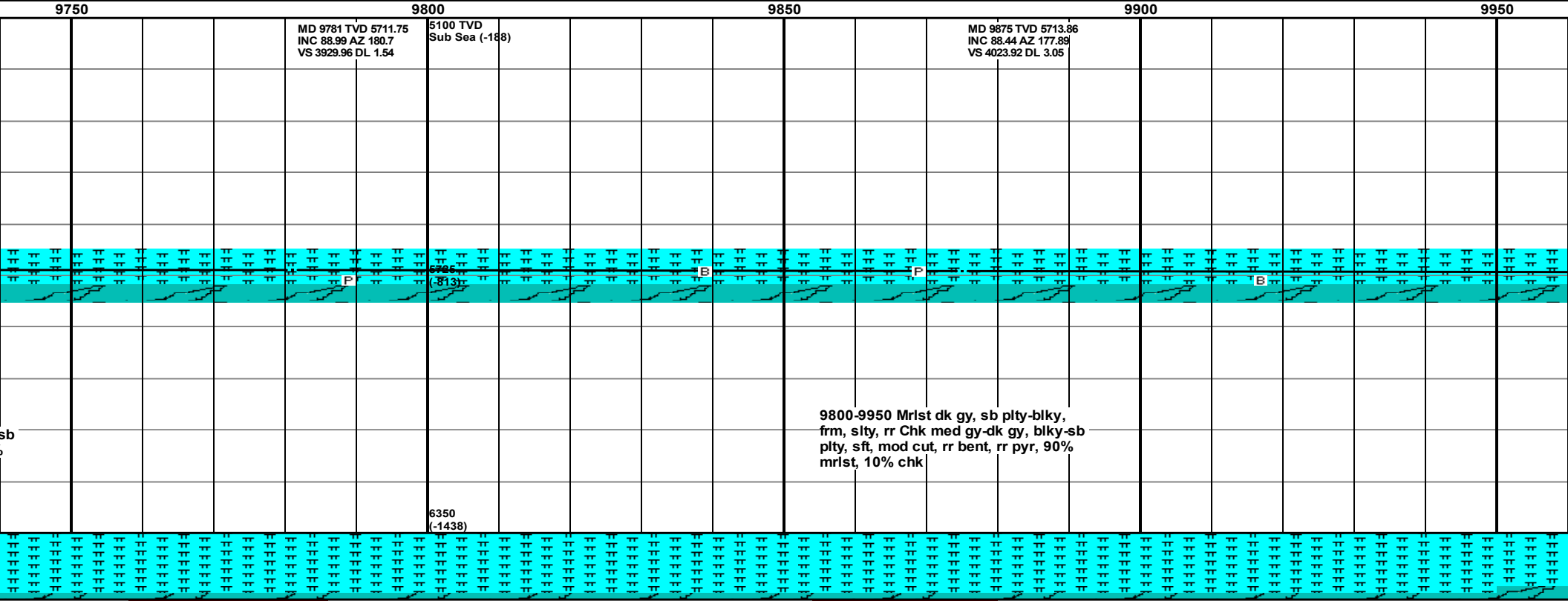
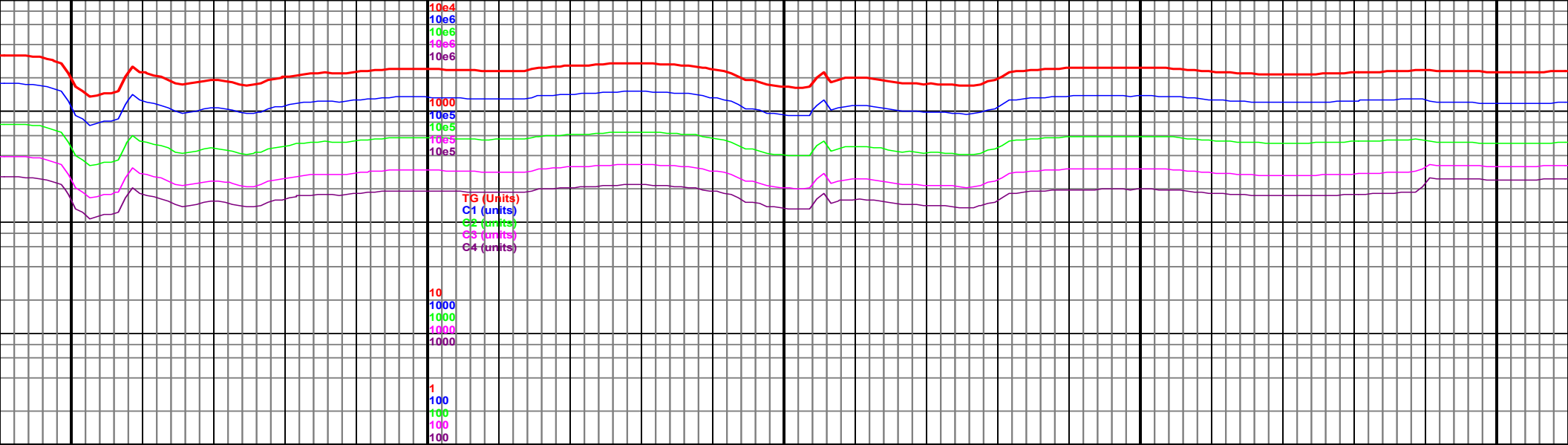
9200-9350 Mrlst dk gy, sb plty-blky,
frm, slty, rr Chk med gy-dk gy, blkly-sb
plty, sft, mod cut, 90% mrlst, 10% chk

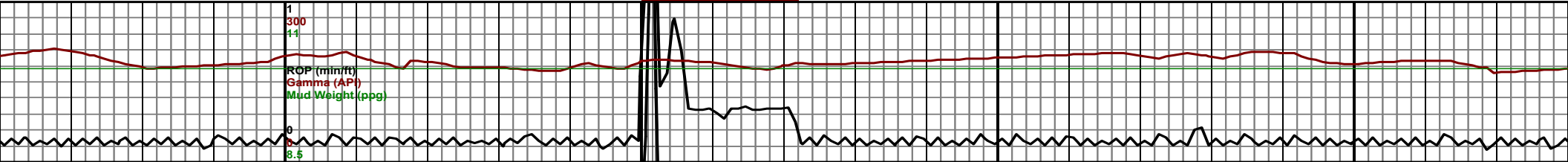
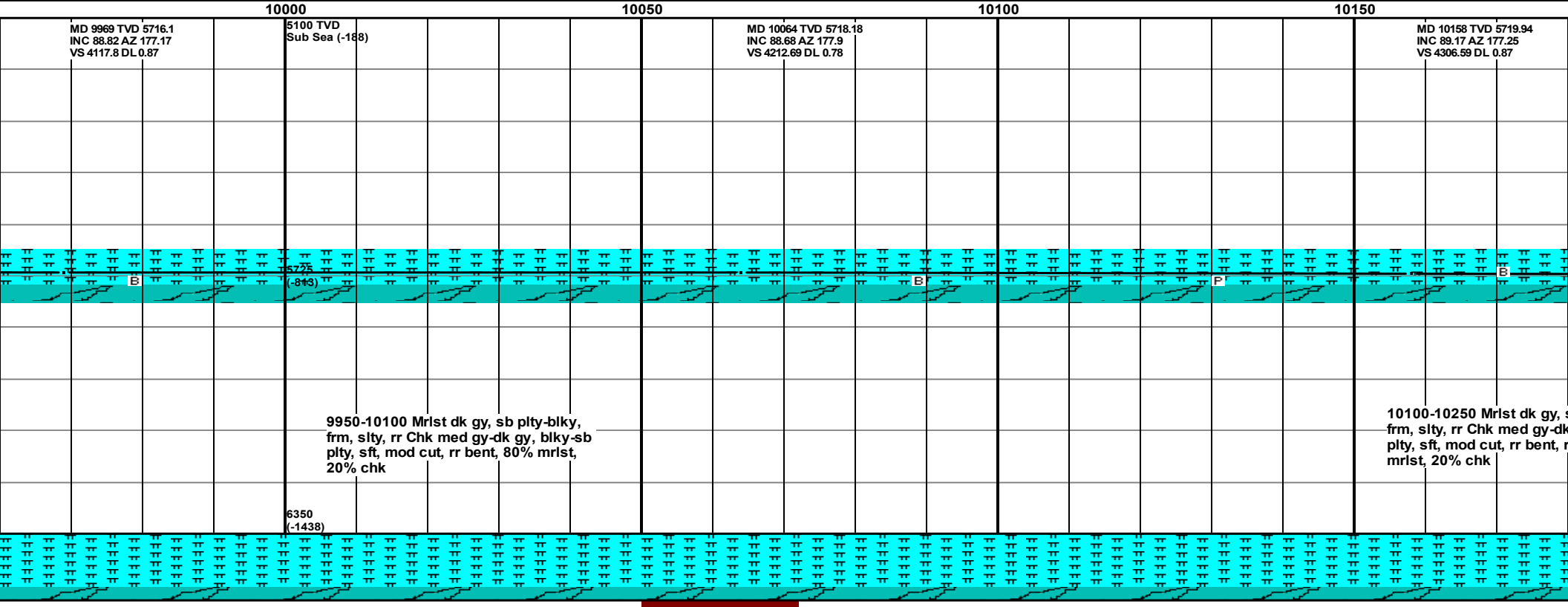
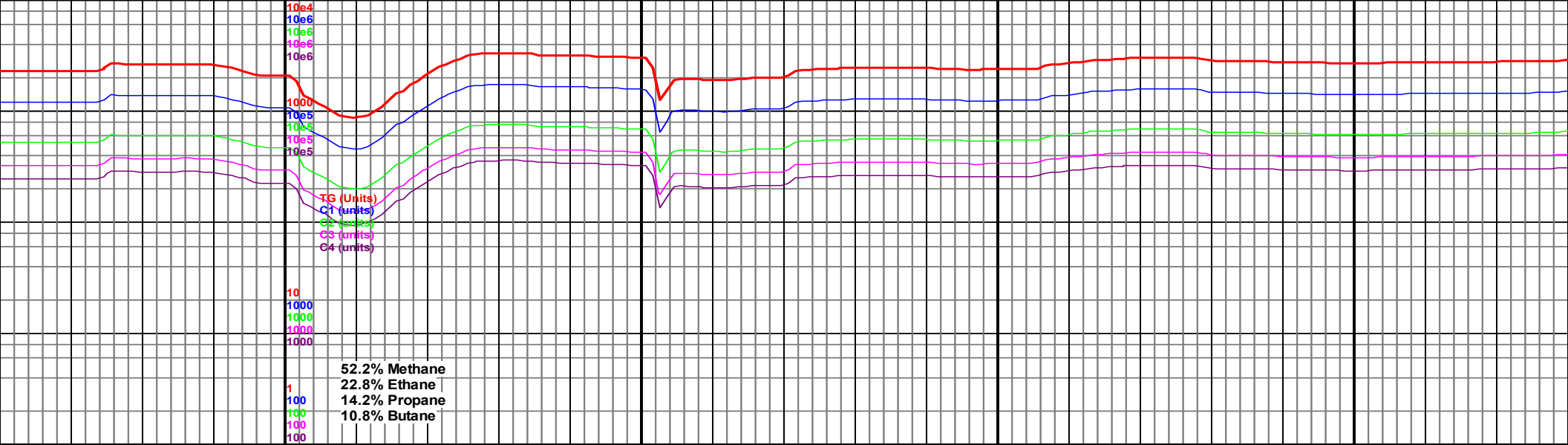
6350
(-1438)

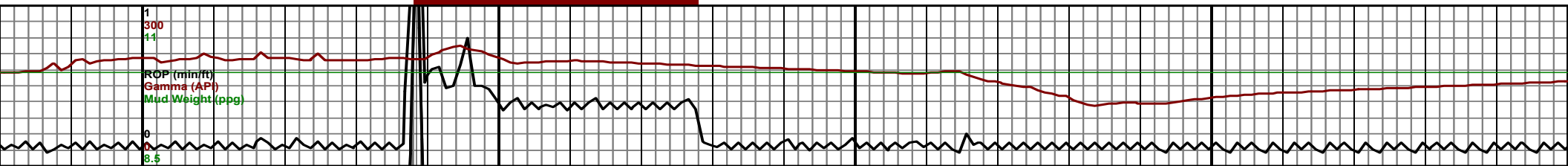
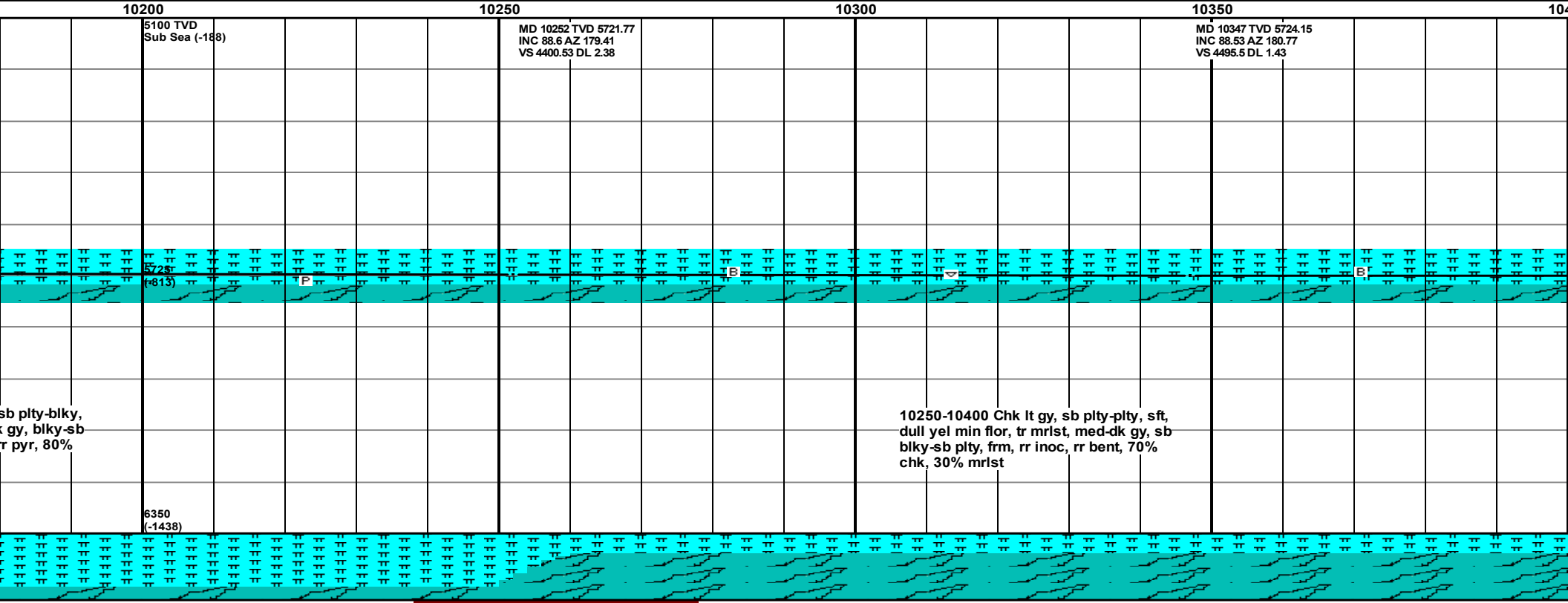
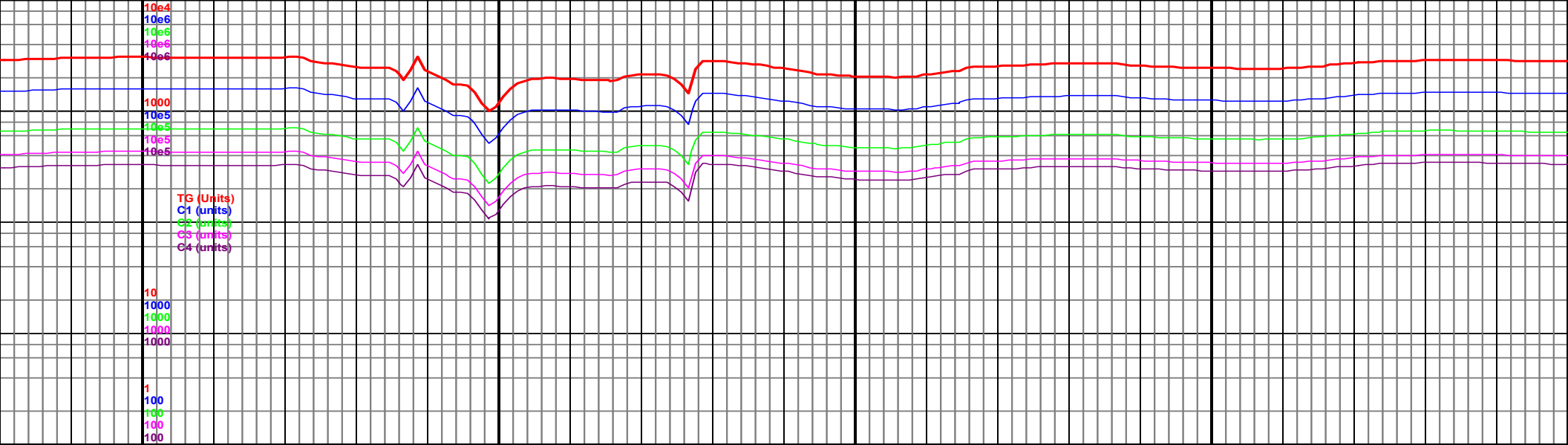


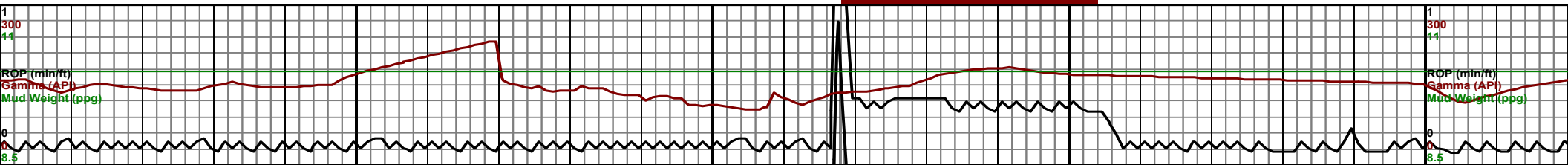
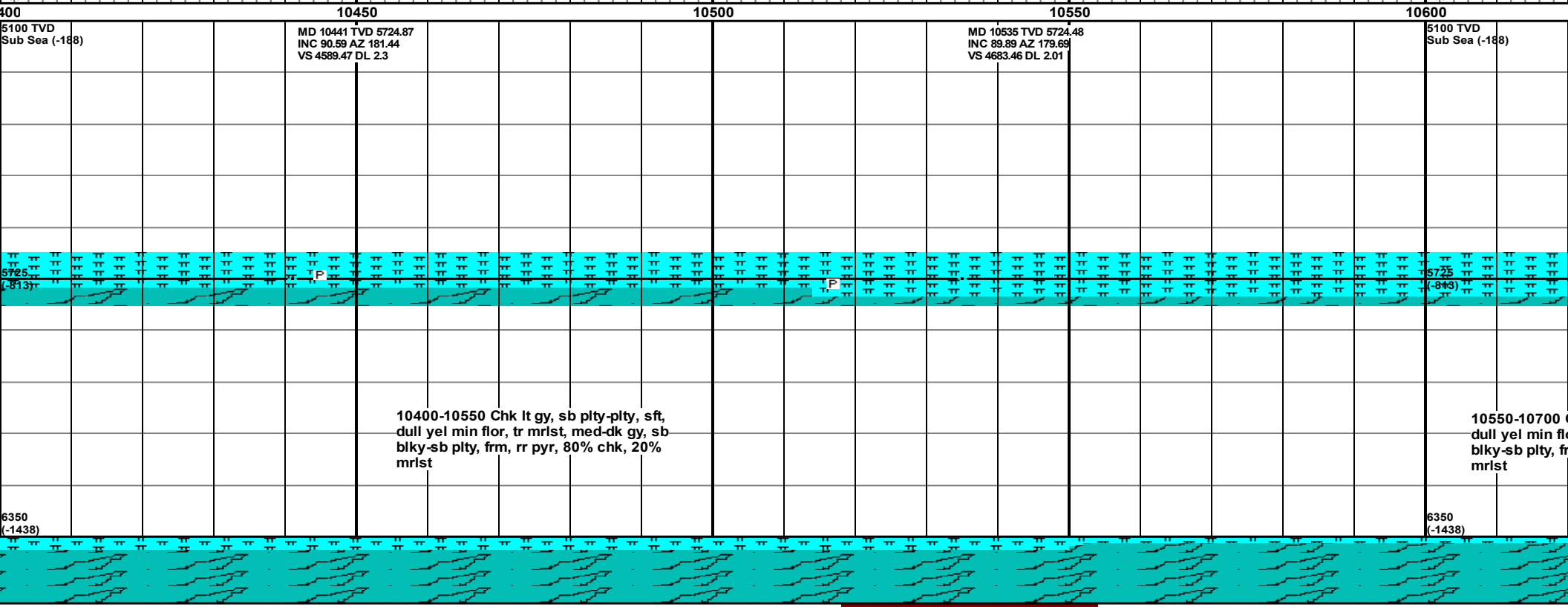
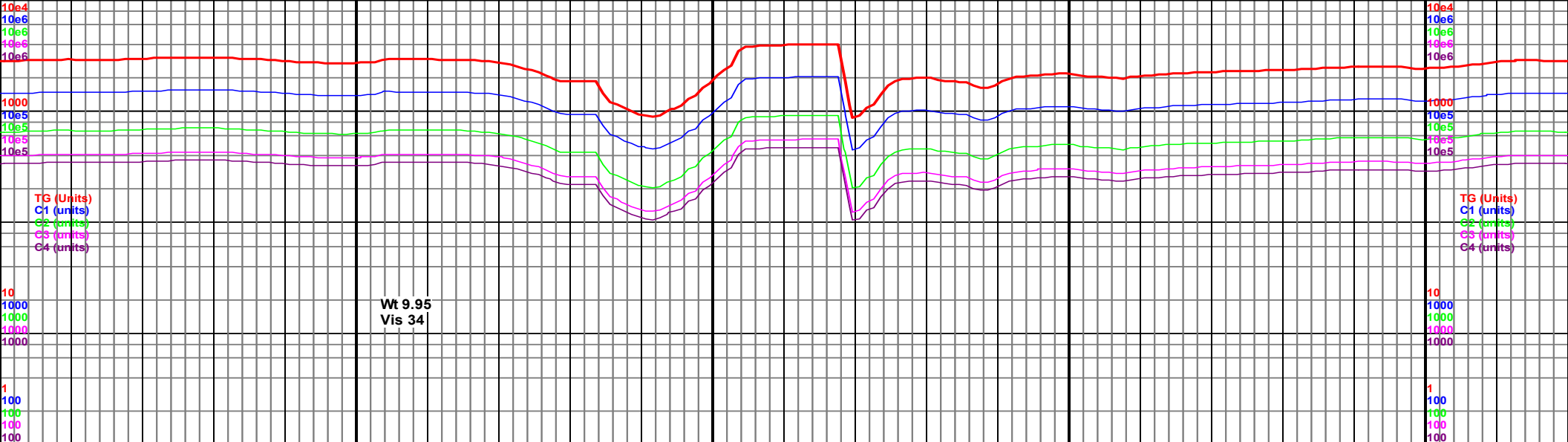


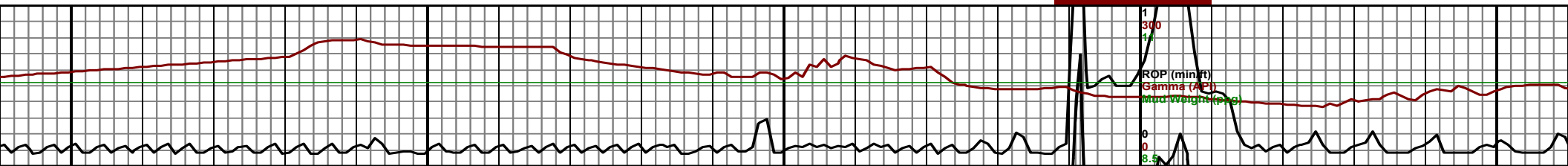
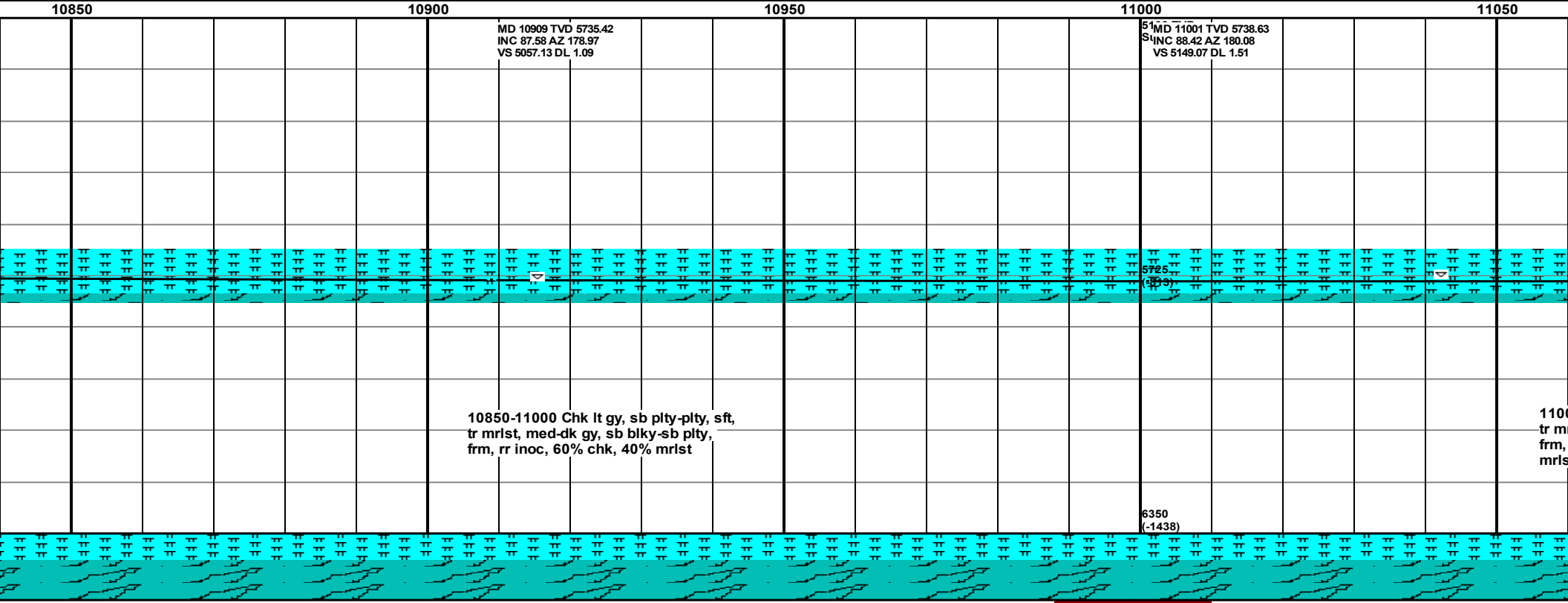
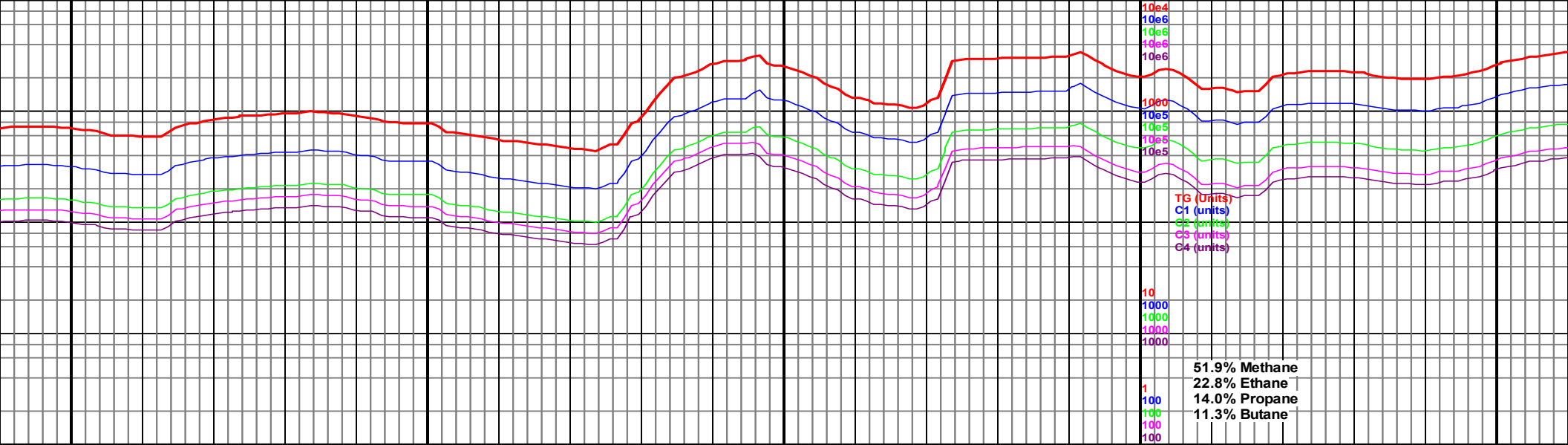


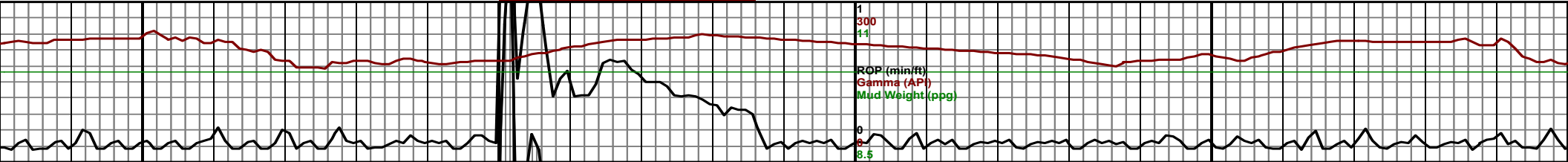
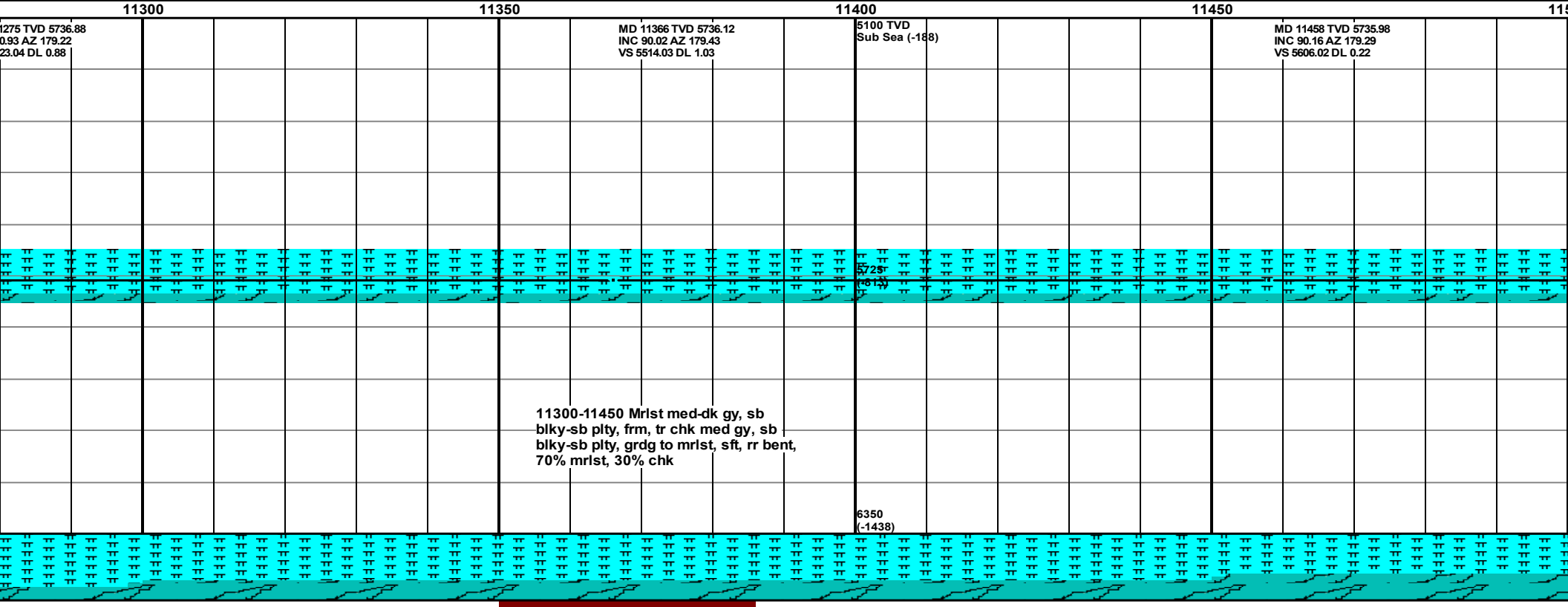
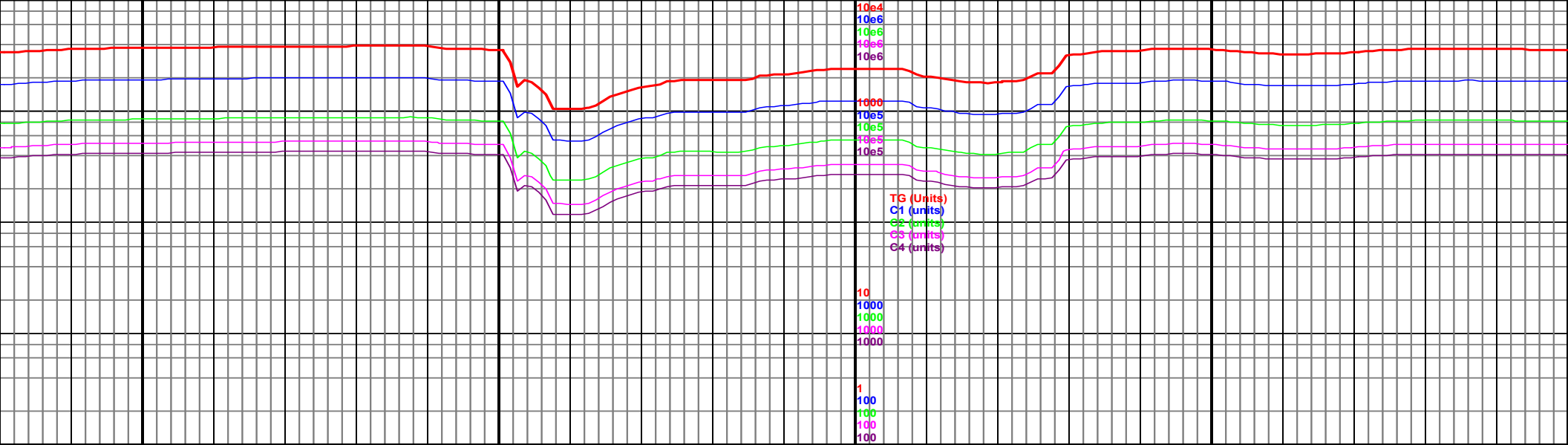


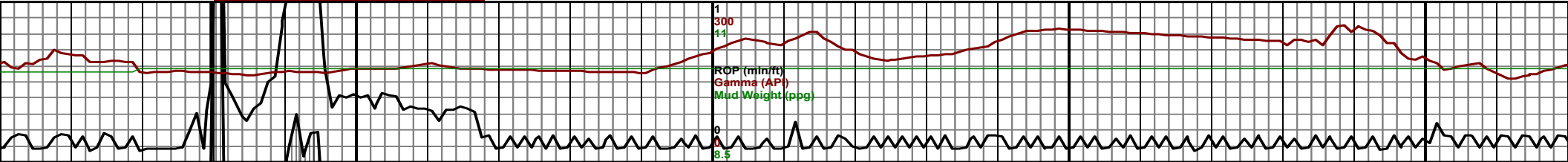
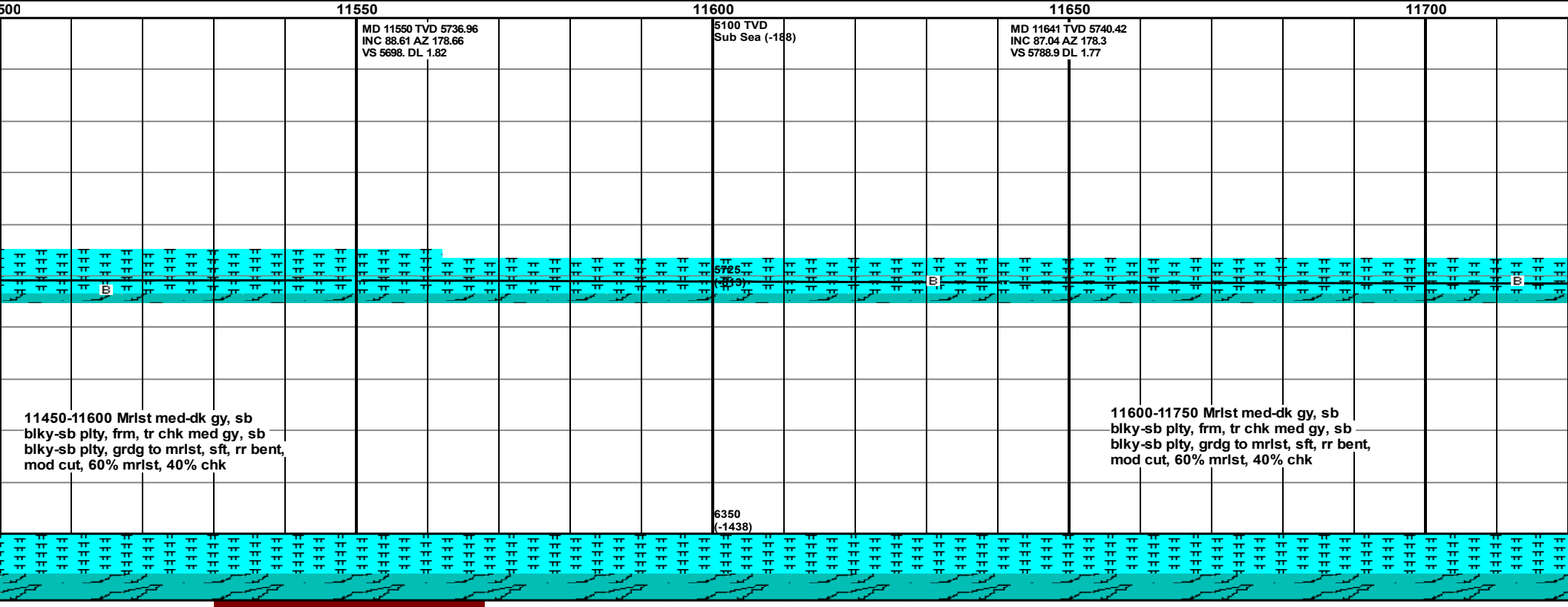
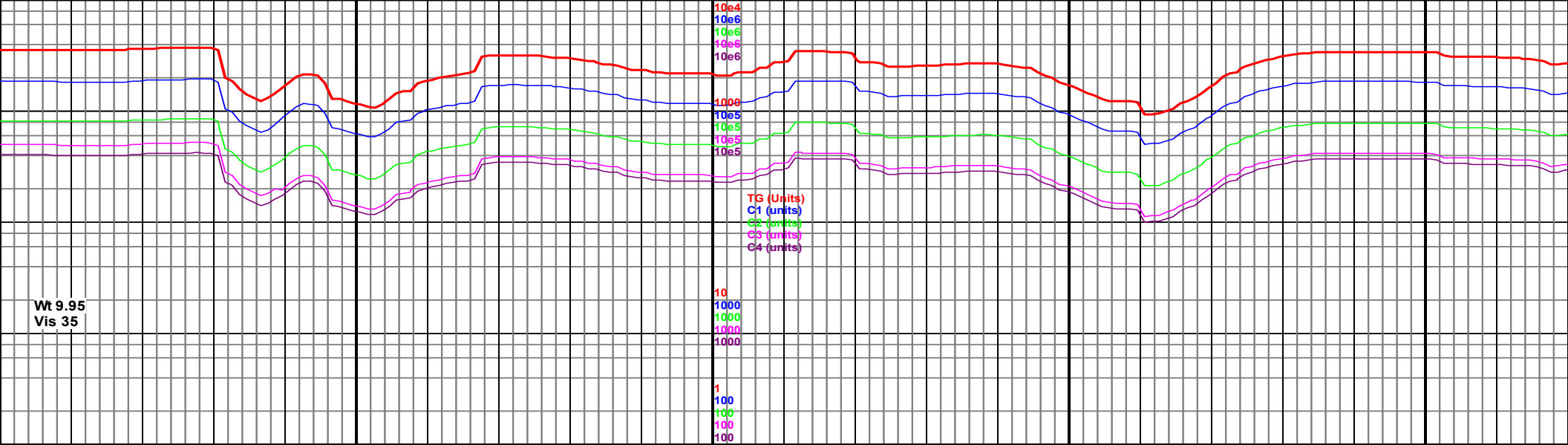


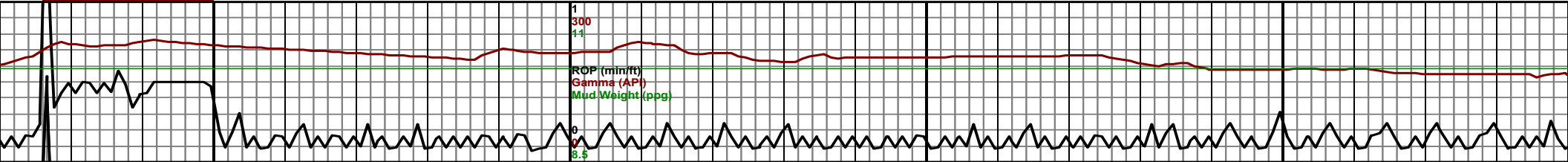
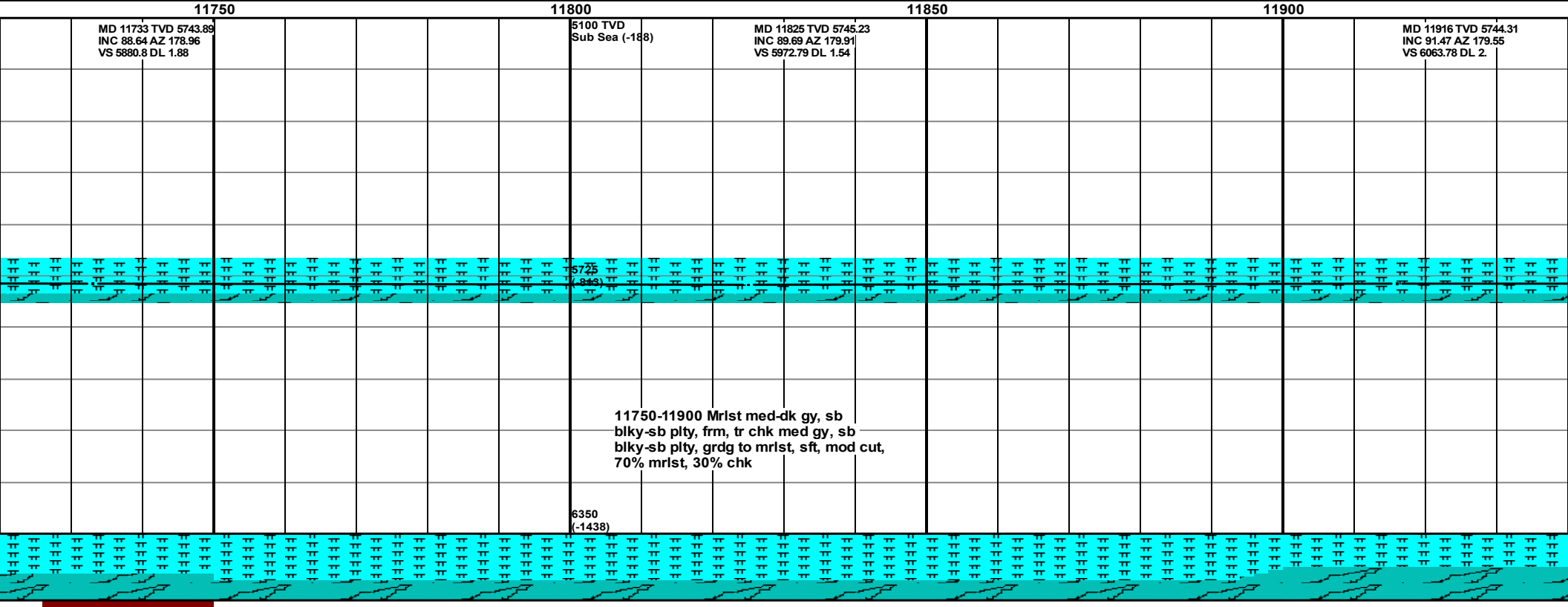
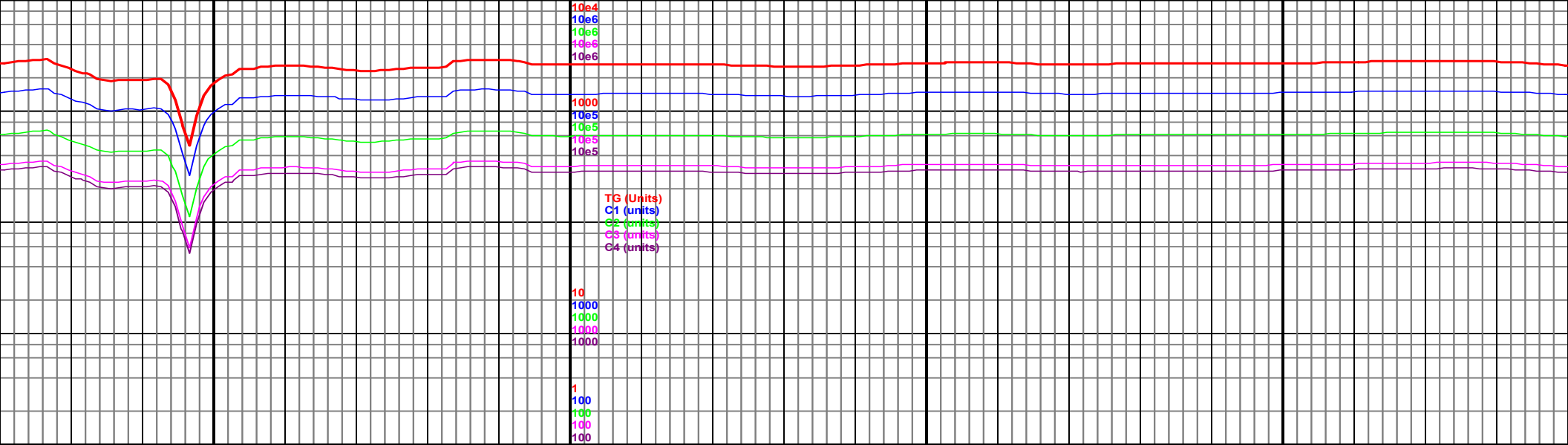


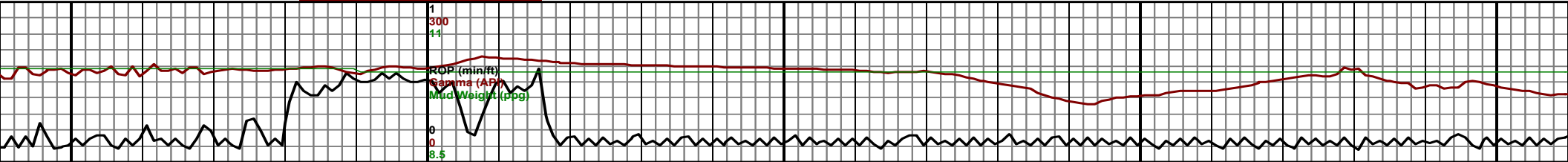
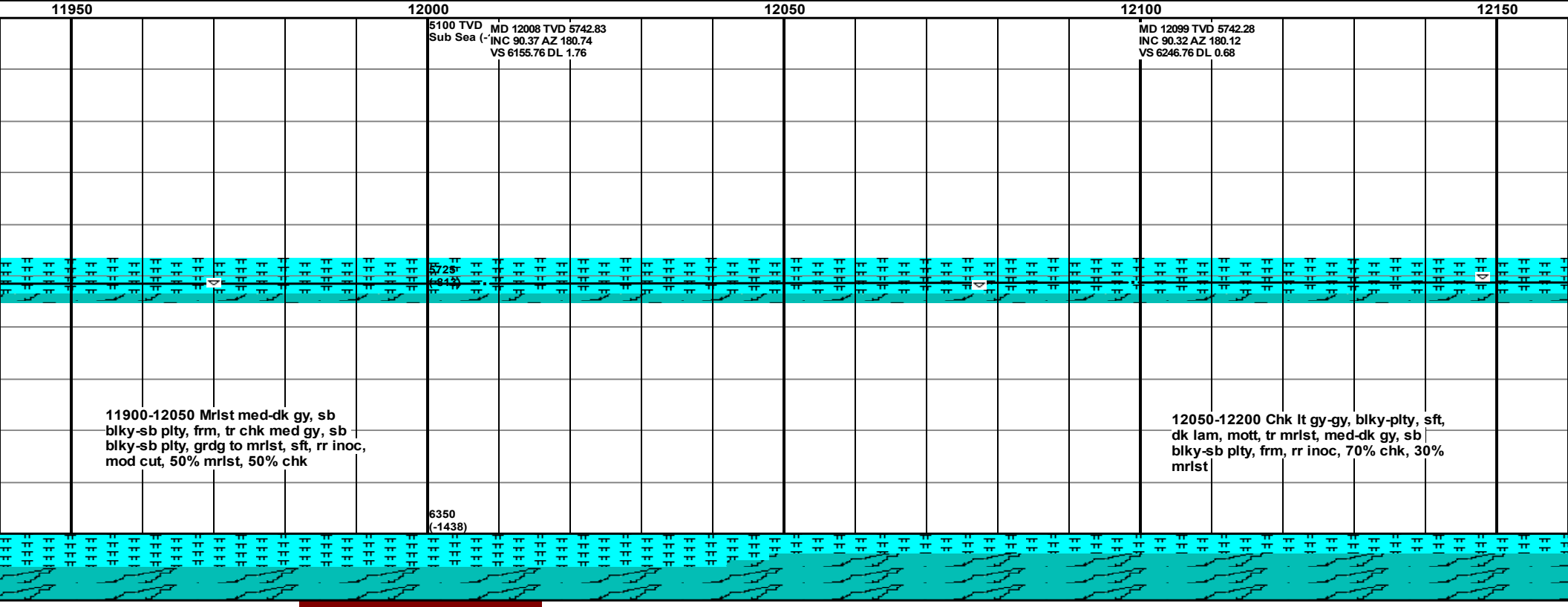
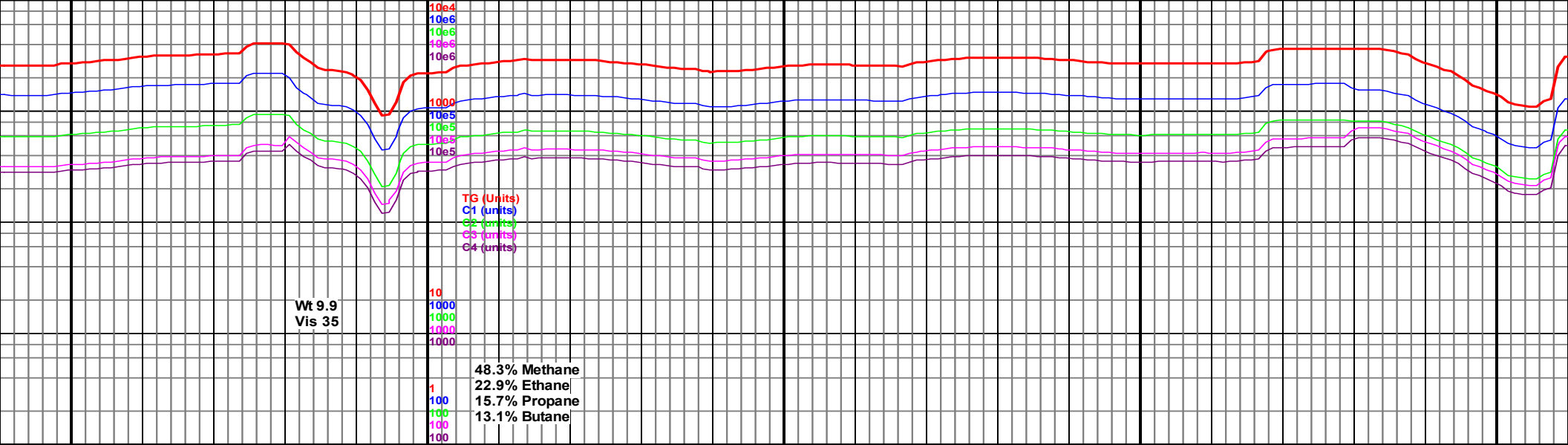


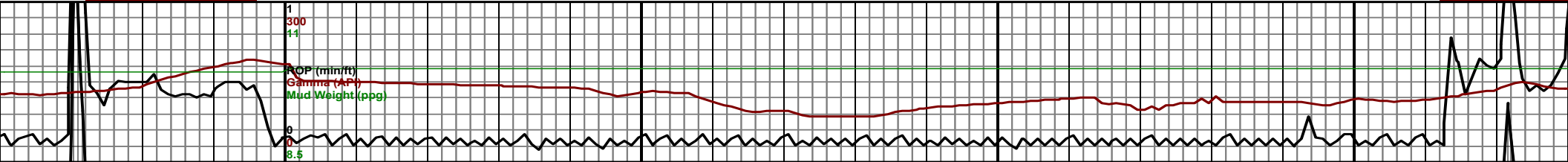
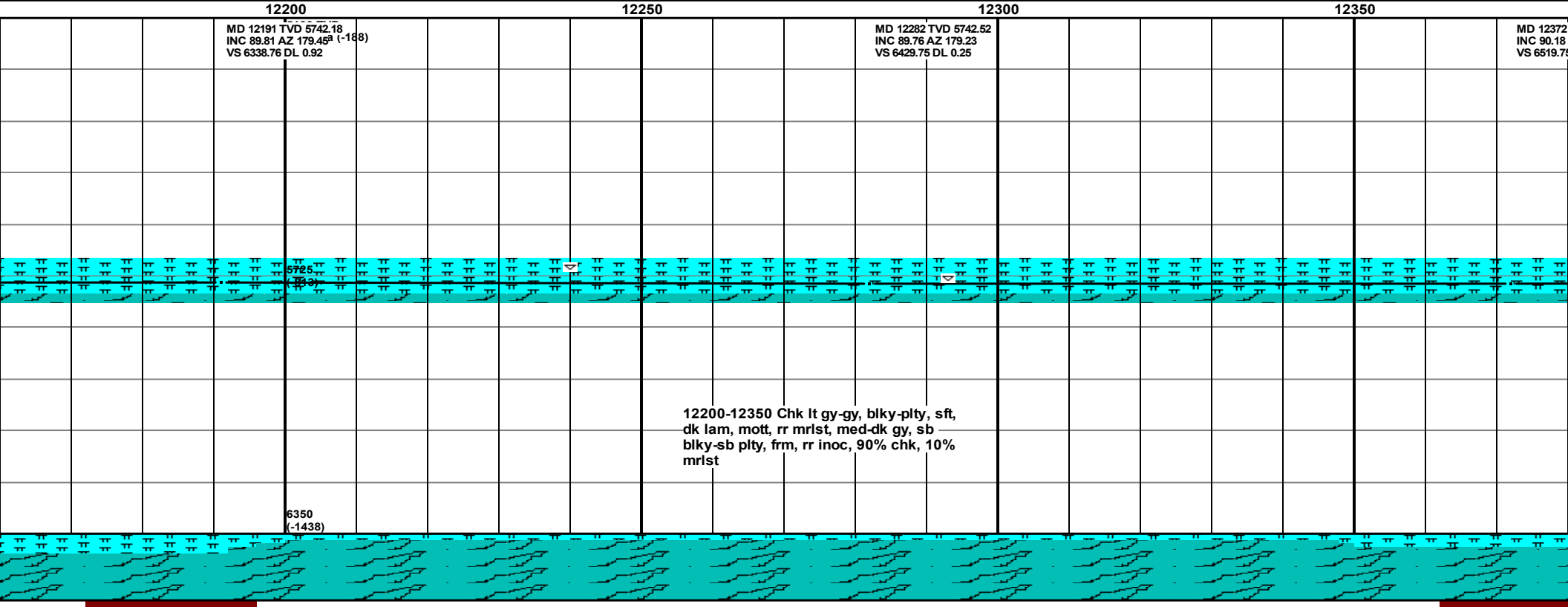
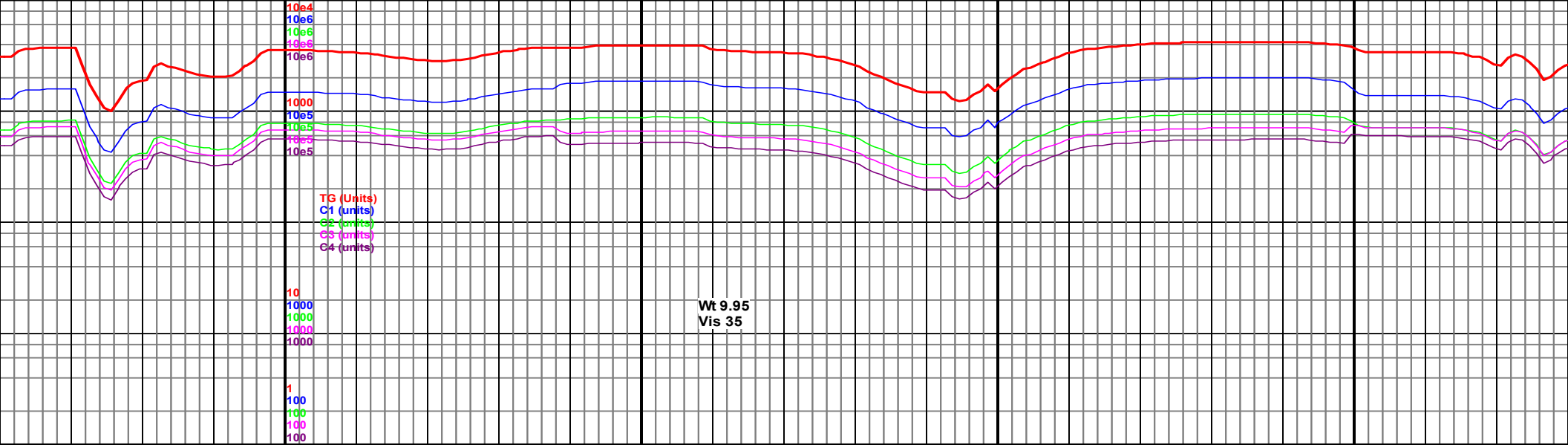


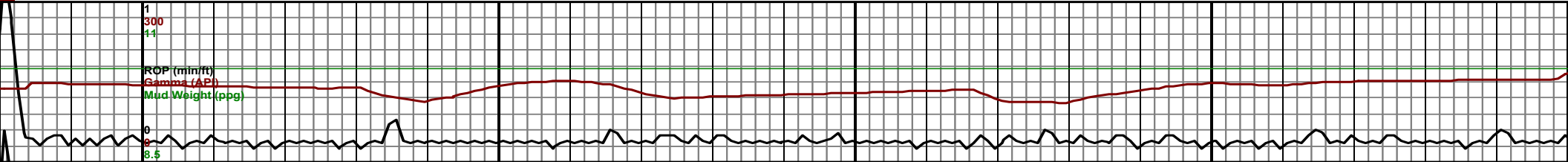
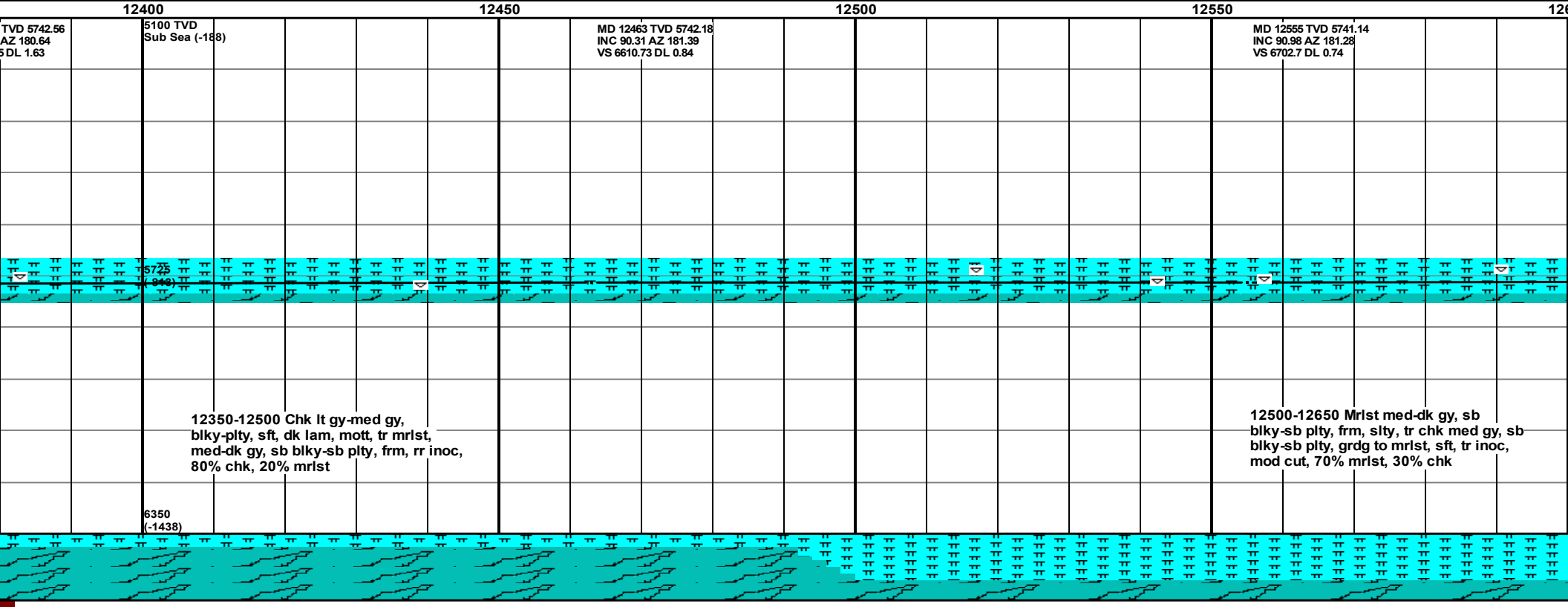
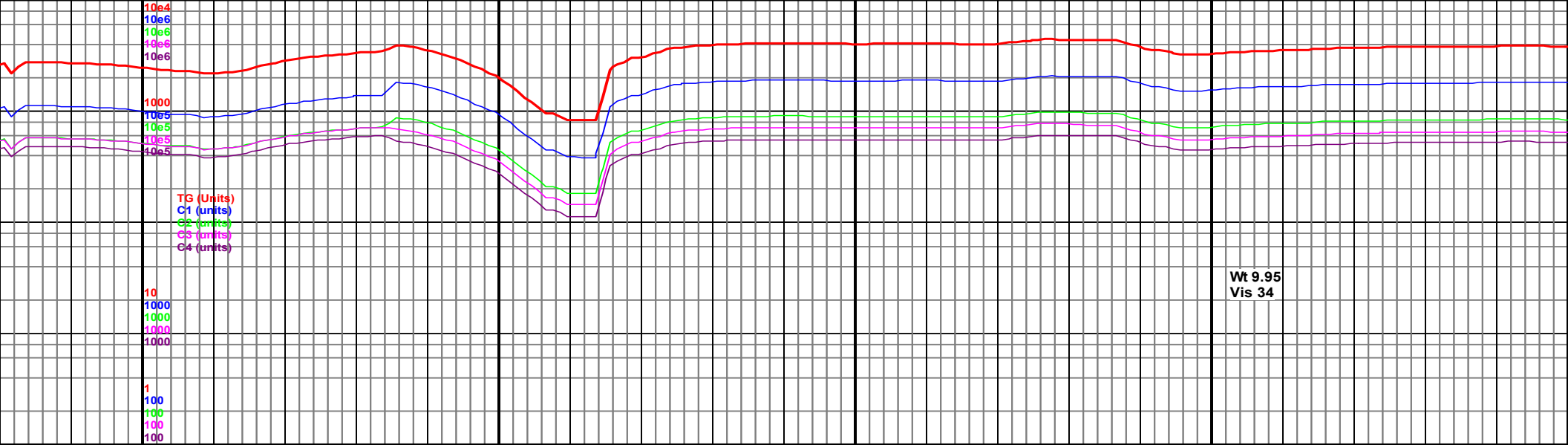


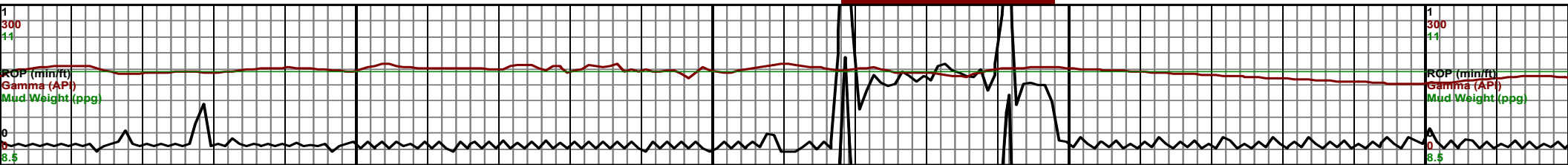
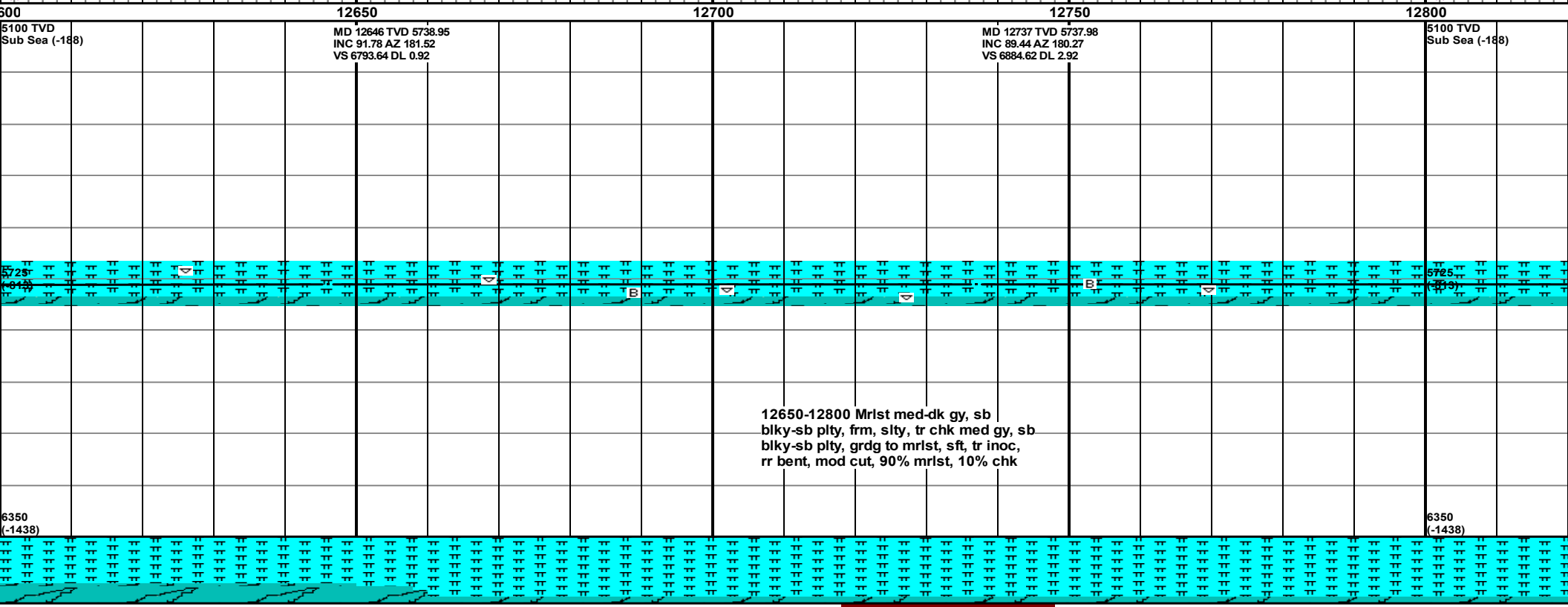
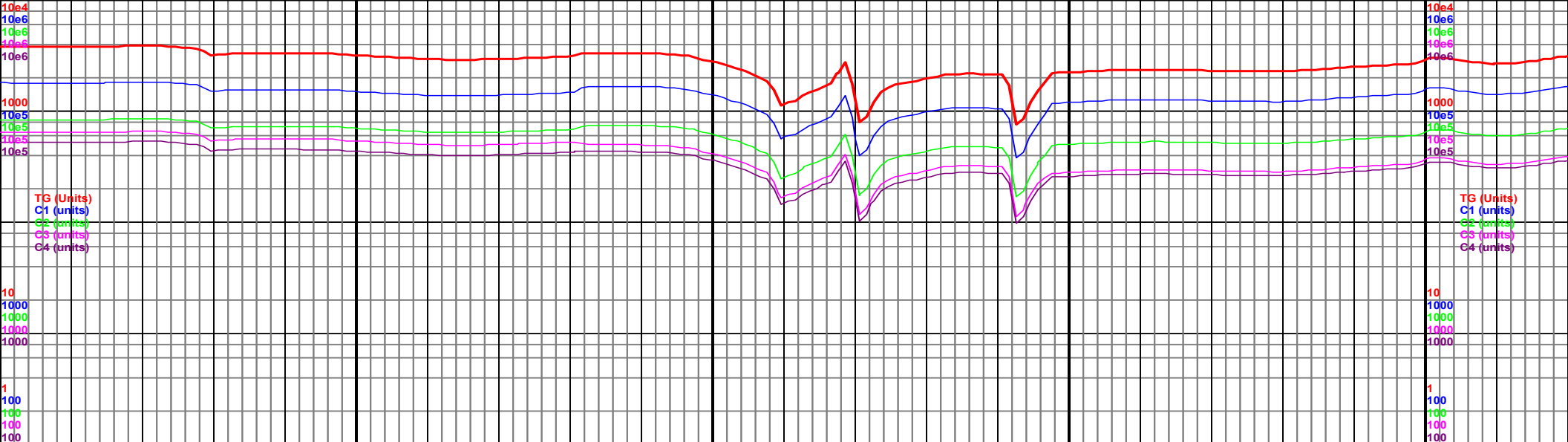


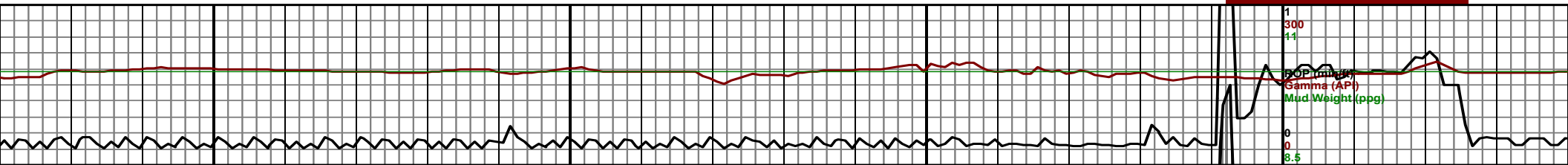
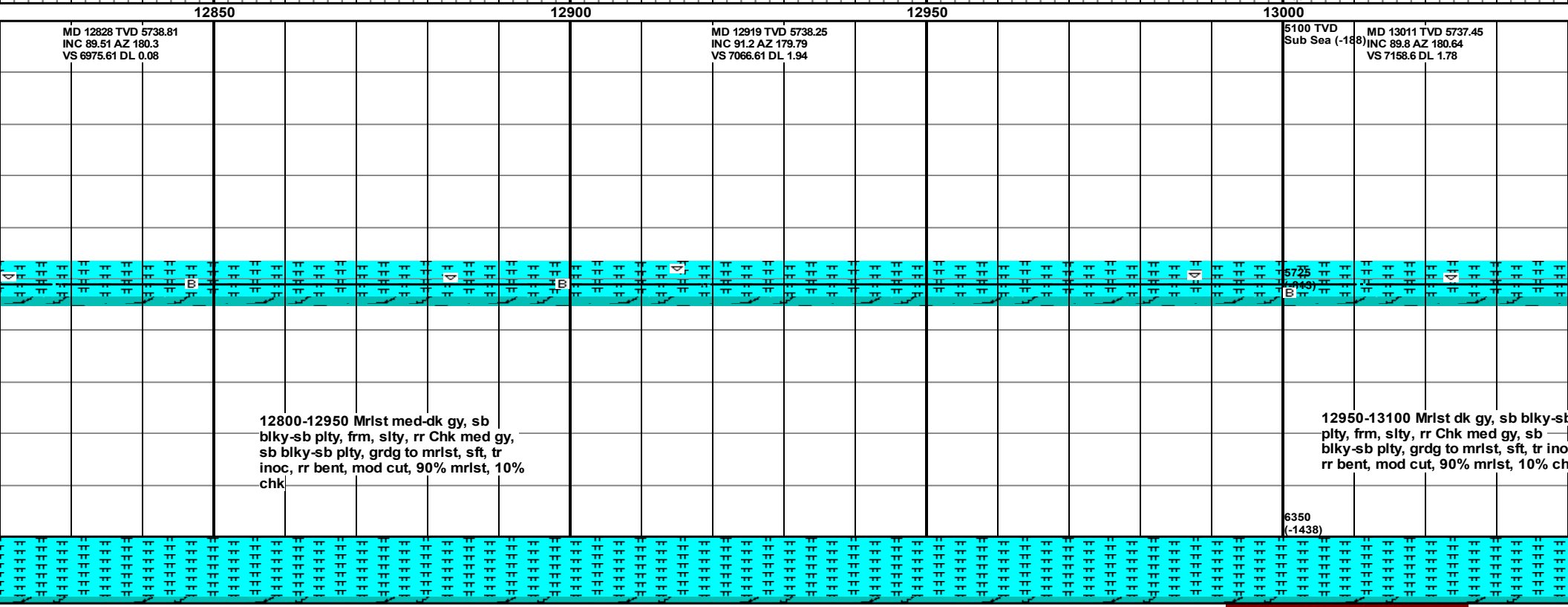
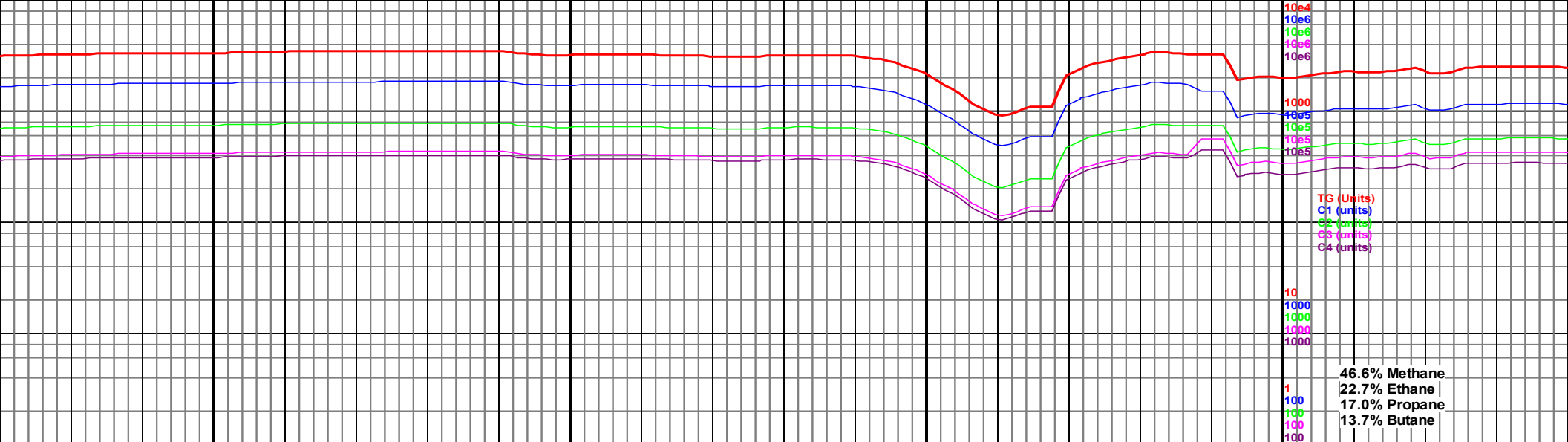


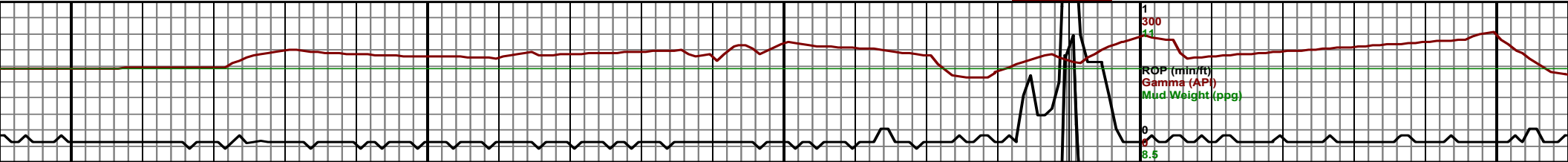
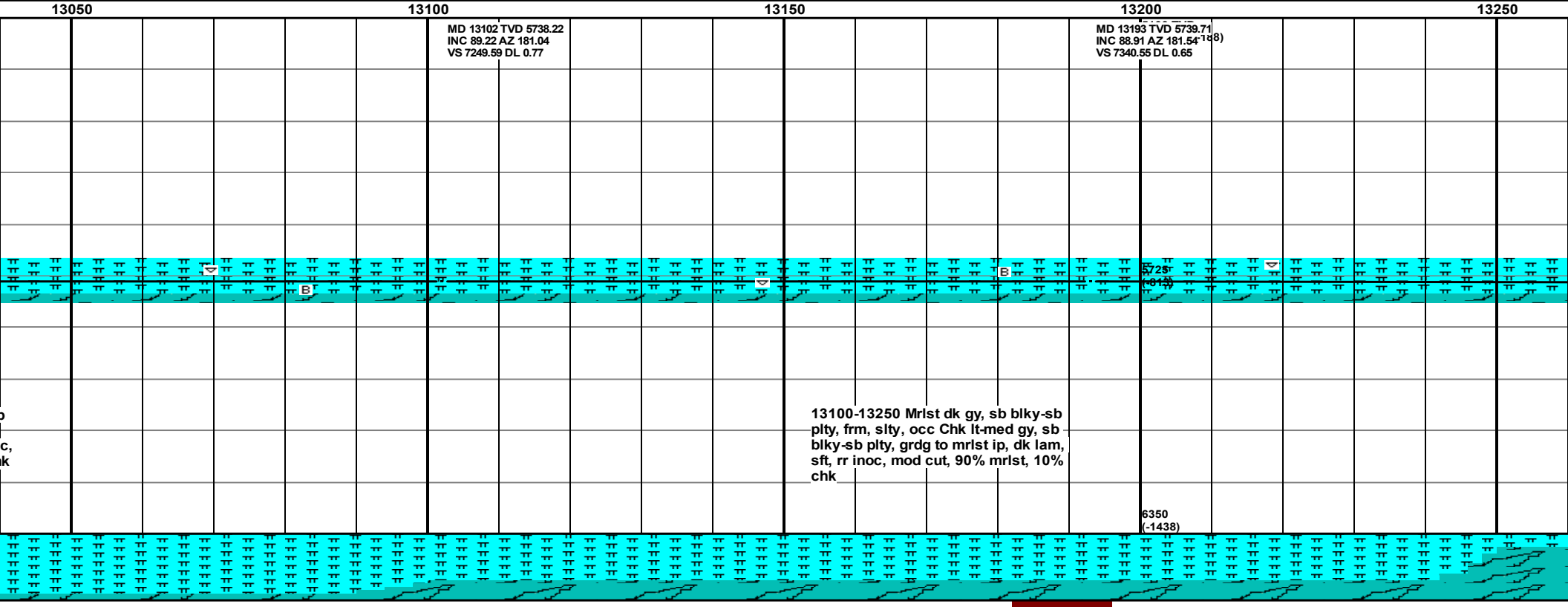
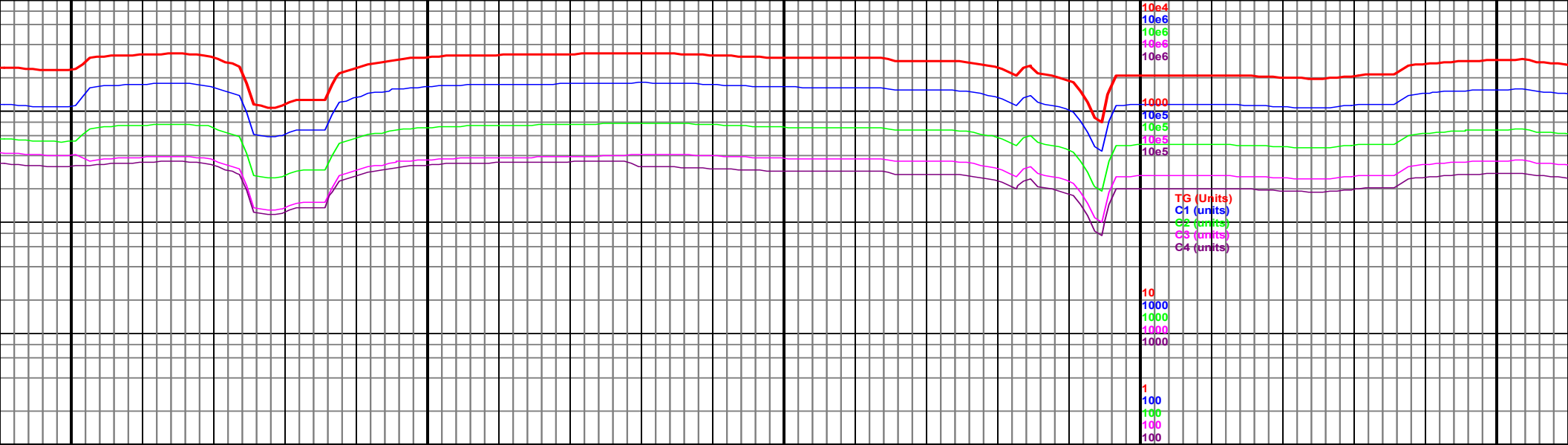


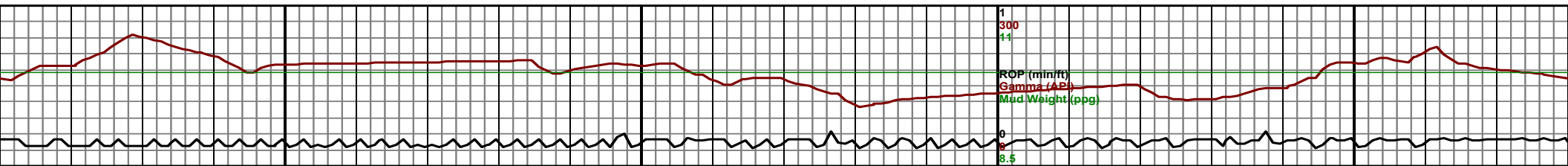
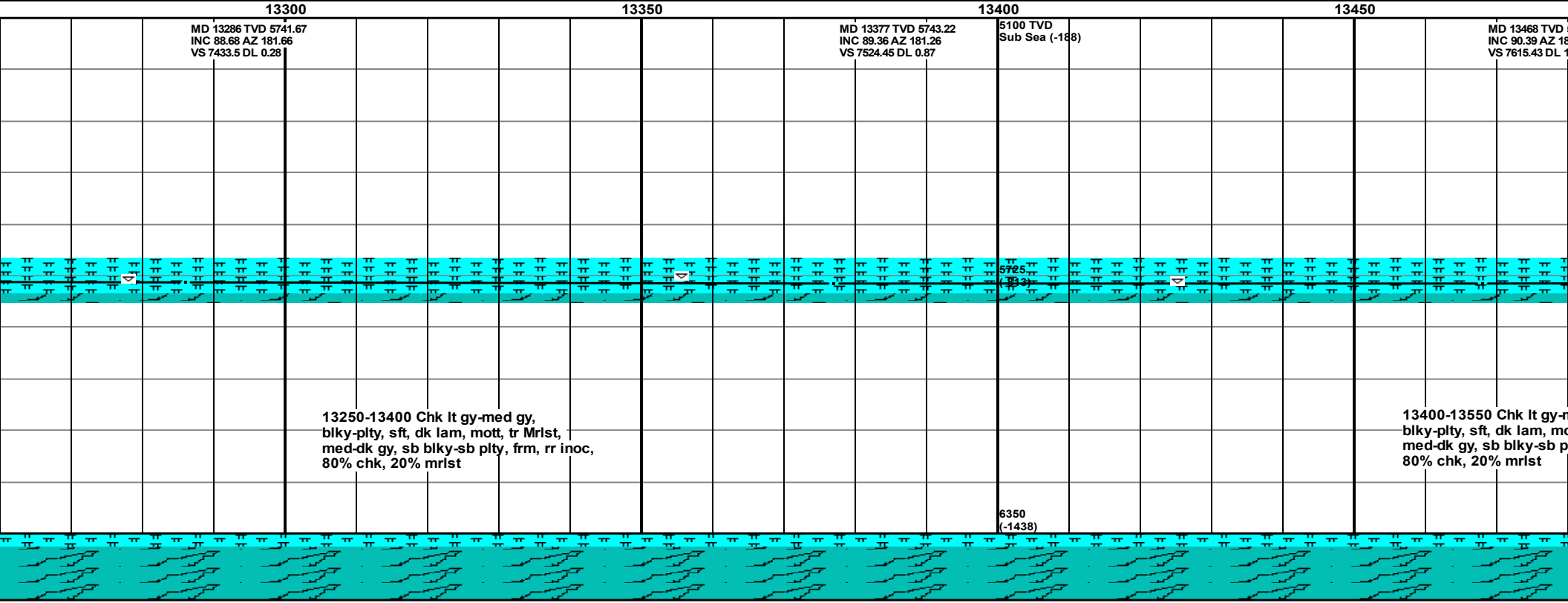
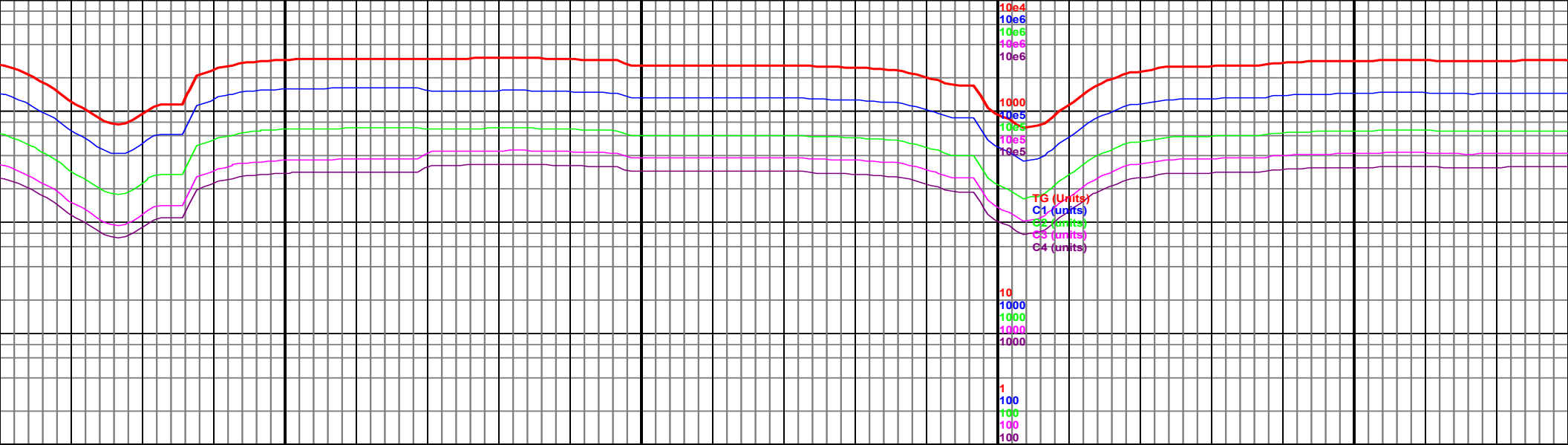


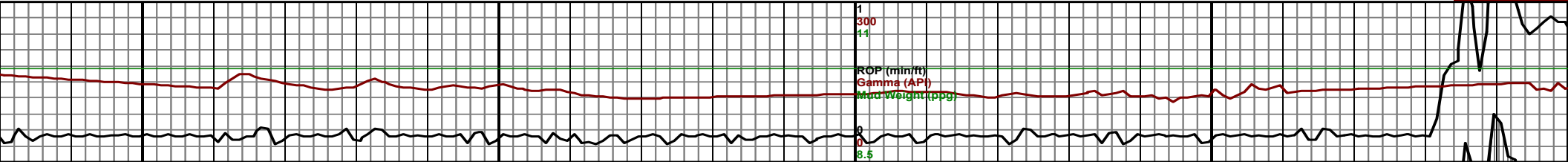
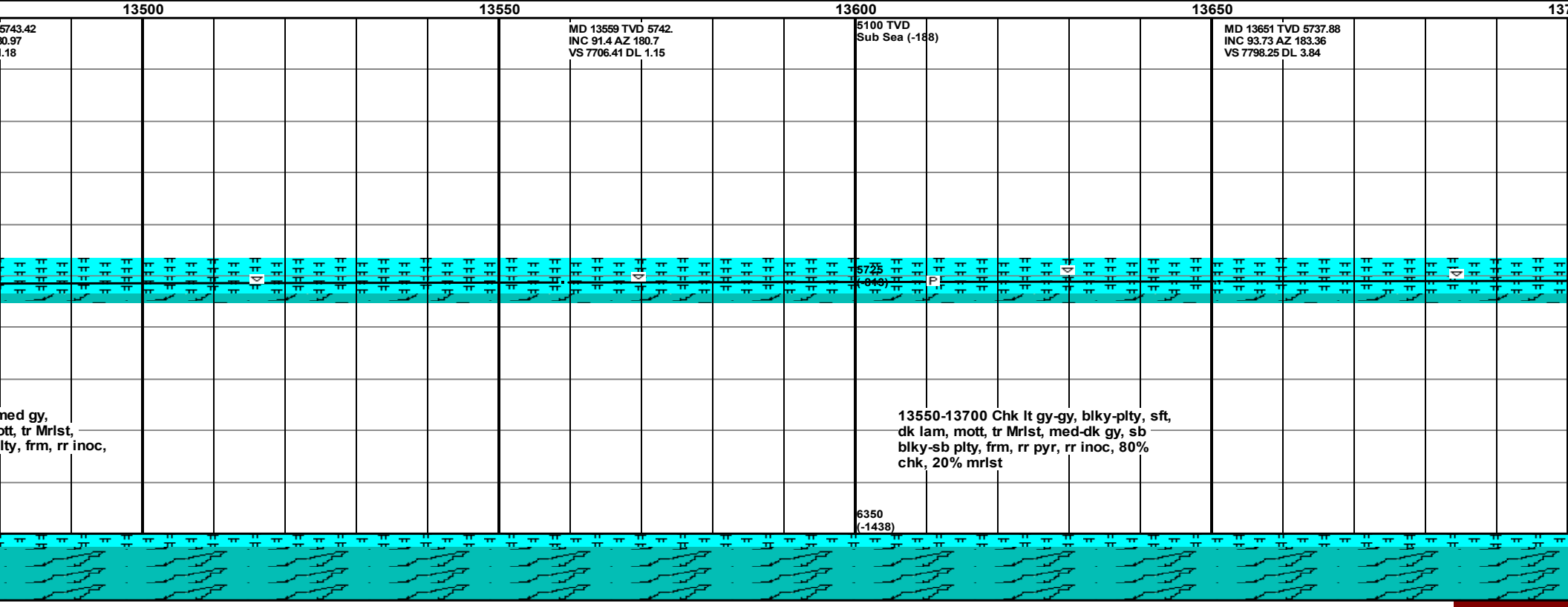
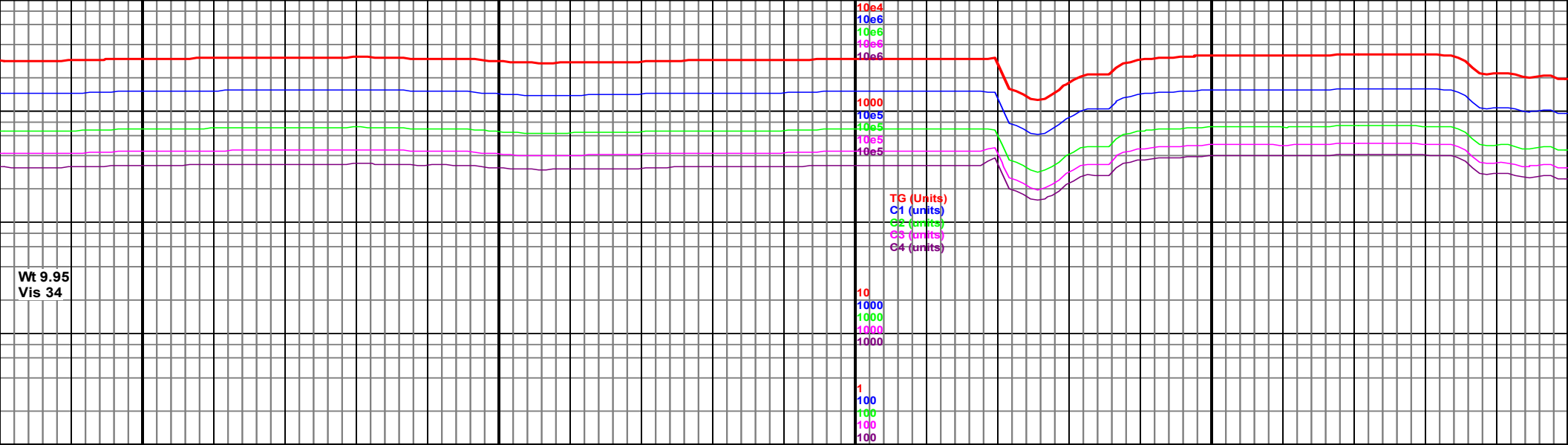


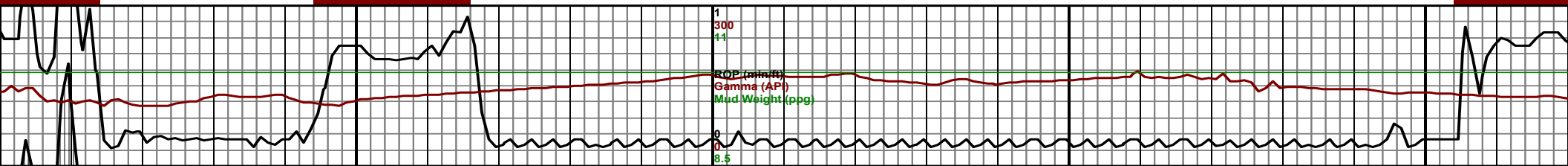
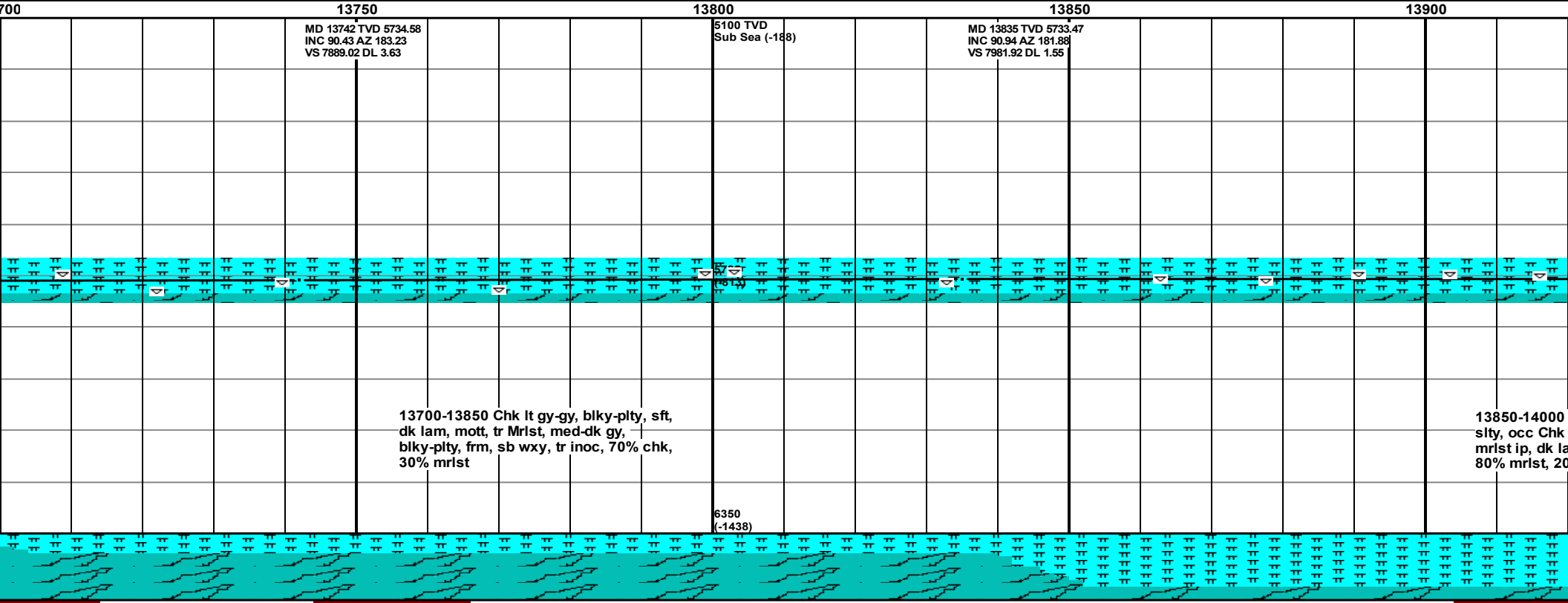
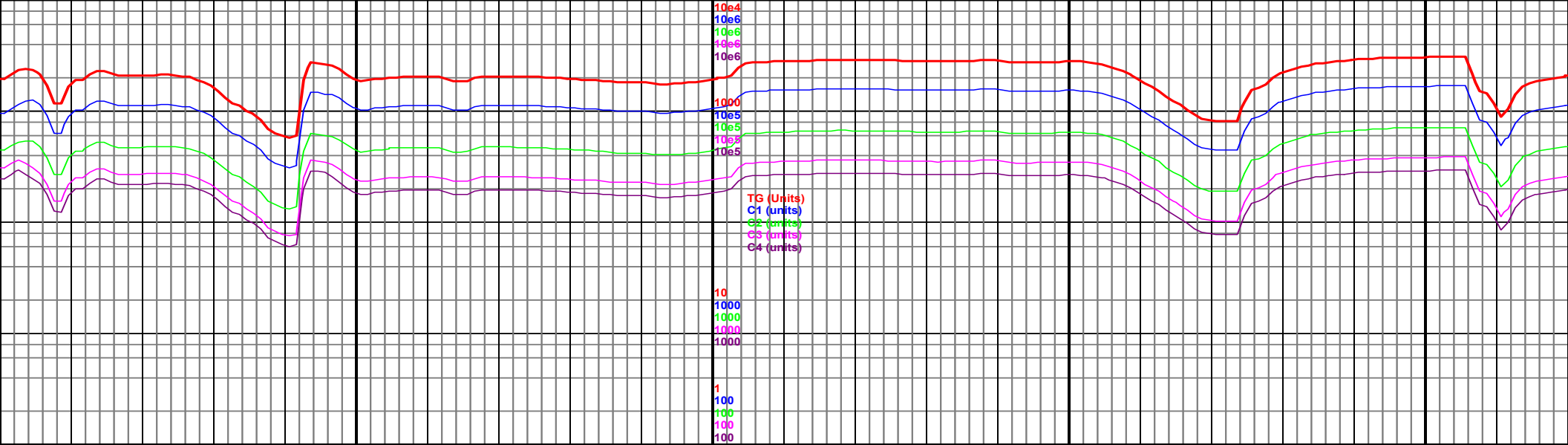


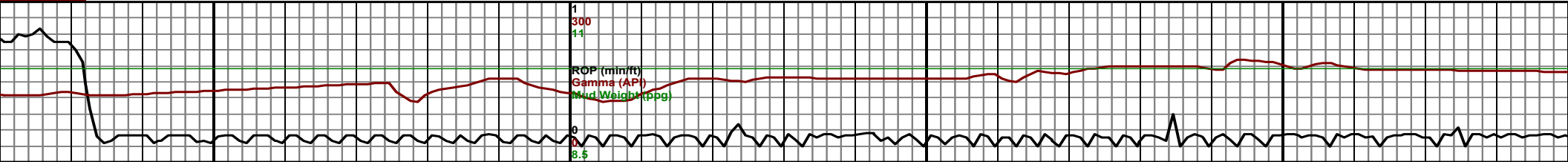
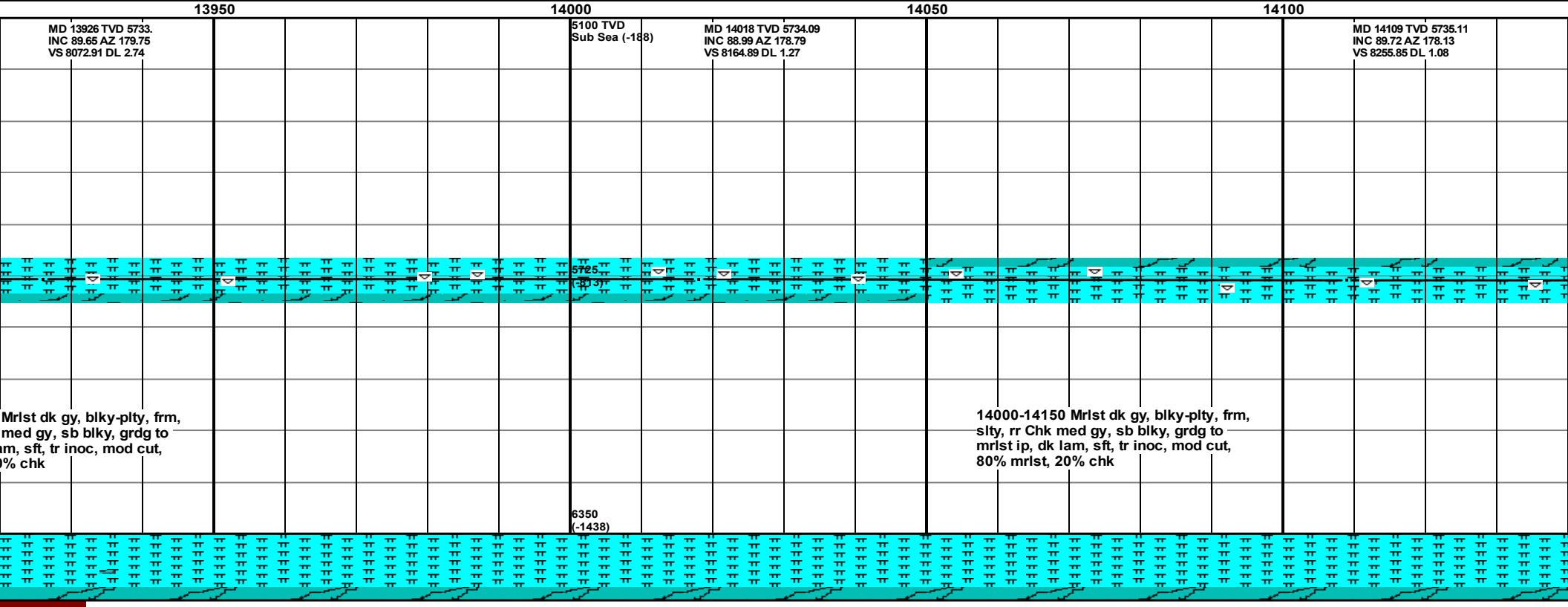
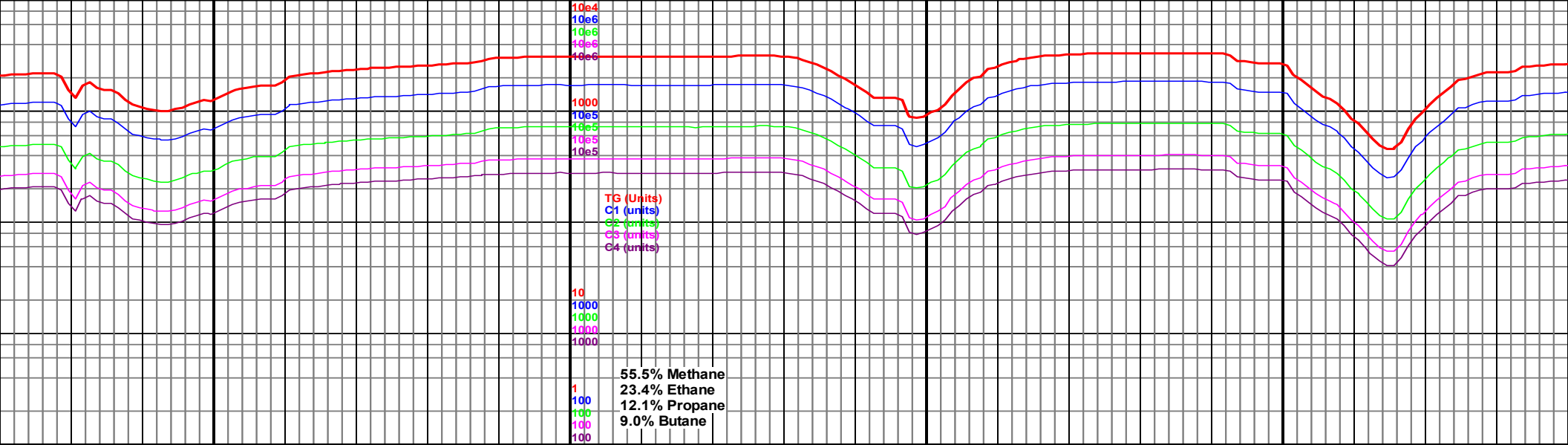


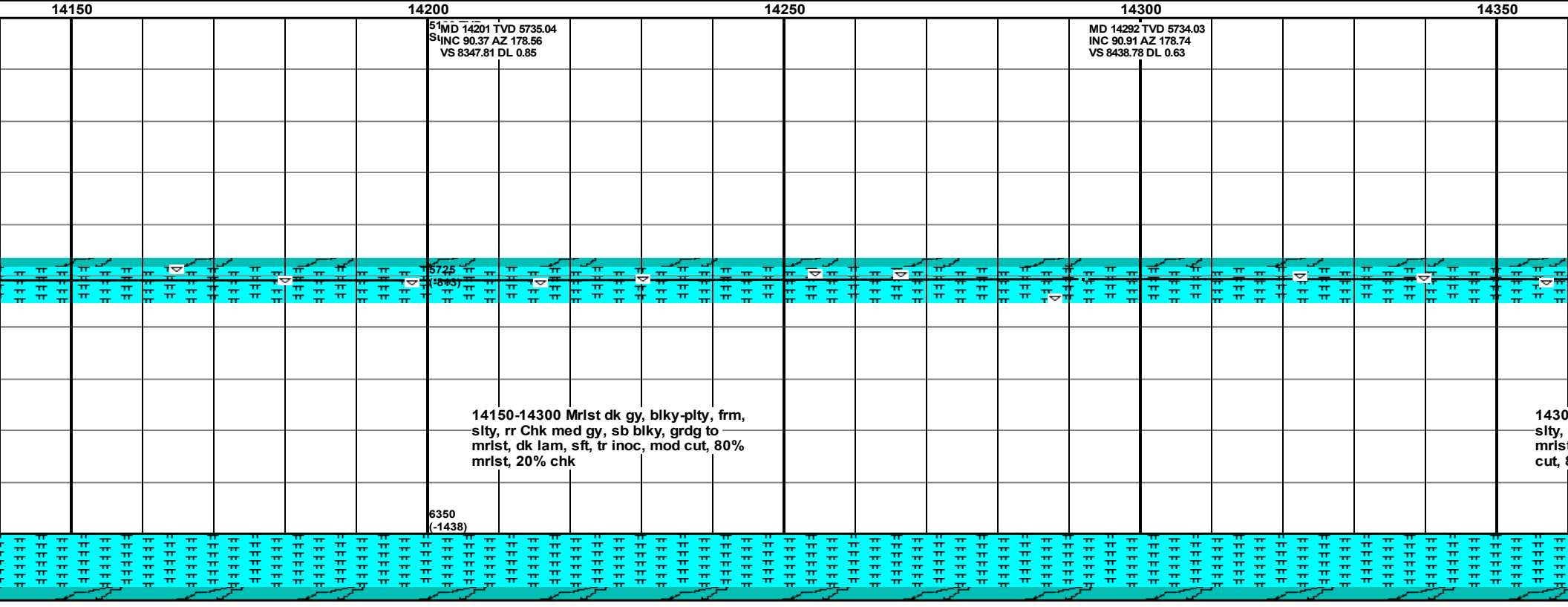
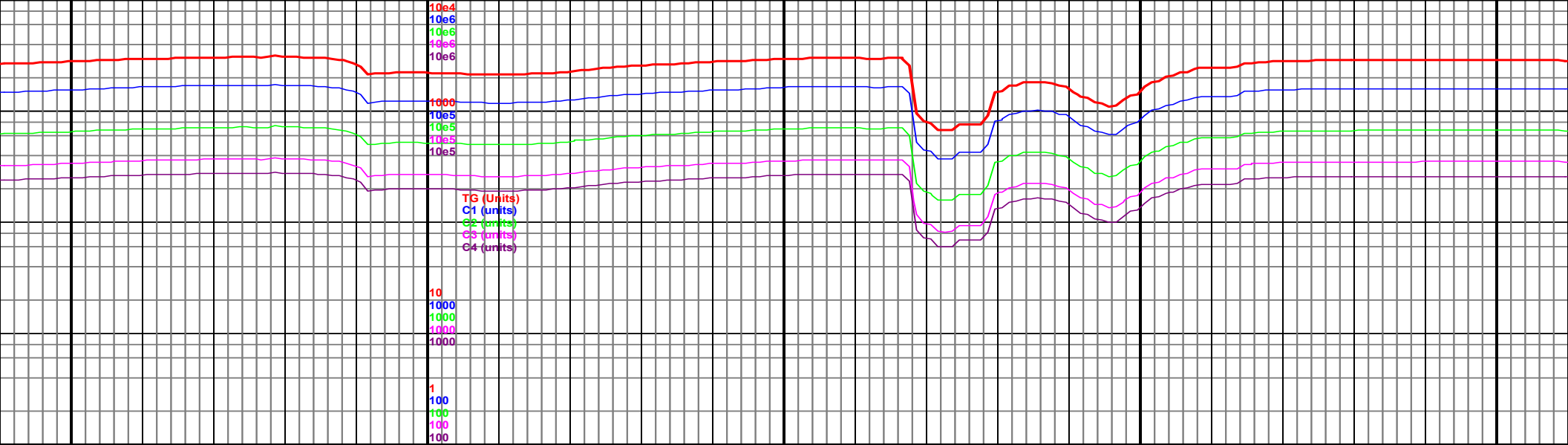






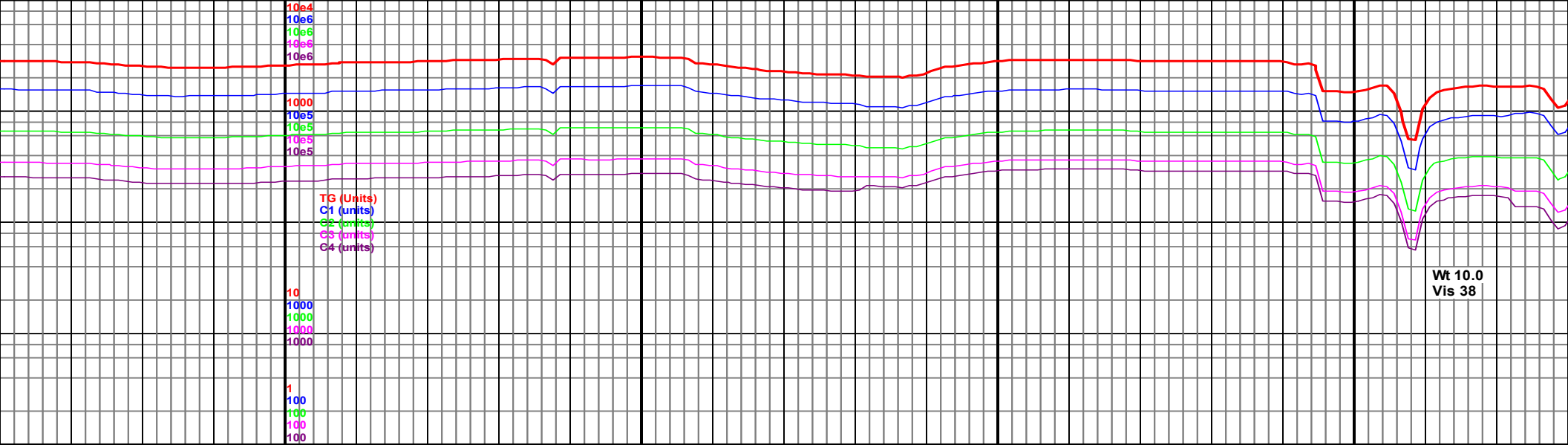






14150-14300 Mrlst dk gy, blkly-plty, frm,
slty, rr Chk med gy, sb blkly, grdg to
mrlst, dk lam, sft, tr inoc, mod cut, 80%
mrlst, 20% chk

14300
slty, mrlst
cut, 80%



MD 14384 TVD 5732.16
INC 91.41 AZ 178.3
VS 8530.73 DL 0.72

MD 14476 TVD 5729.19
INC 92.29 AZ 177.07
VS 8622.6 DL 1.64

MD 14567 TVD 5729.19
INC 90.53 AZ 178.07
VS 8713.5 DL 2.34

14400-14450 Mrlst dk gy, blk-y-pty, frm,
rr Chk med gy, sb blk-y, grdg to
t, dk lam, sft, tr inoc, rr bent, mod
80% mrlst, 20% chk

14450-14600 Mrlst dk gy, blk-y-pty, frm,
sfty, rr Chk med gy-gy, sb blk-y, grdg to
mrlst, dk lam, sft, tr inoc, mod cut, 80%
mrlst, 20% chk

ROP (min/ft)
Gamma (API)
Mud Weight (ppg)

