



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

Well Name: Horsetail 08D-1704 side track
Well Id: 05-123-41024-01
Location: NWNW 08-T10N-R57W
License Number: 05-123-41024-01
Spud Date: 4/10/2015
Surface Coordinates: Lat.: 40.859761 Long.: -103.783281

Region: Redtail Field
Drilling Completed: 4/25/2015

Bottom Hole
Coordinates:
Ground Elevation (ft): 4962
Logged Interval (ft): 5280 To: 16045
Formation: Pierre, Sharon Springs, Niobrara
Type of Drilling Fluid: Water Based Mud

K.B. Elevation (ft): 4983
Total Depth (ft): 16045

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, Lauren Roddy
Company: Acme Geologic Consulting
Address: 108 Berry Street
Little Rock, AR 72205

Drilling Company

Unit Drilling Company
Rig 406

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

INTERVAL



Core



Dst

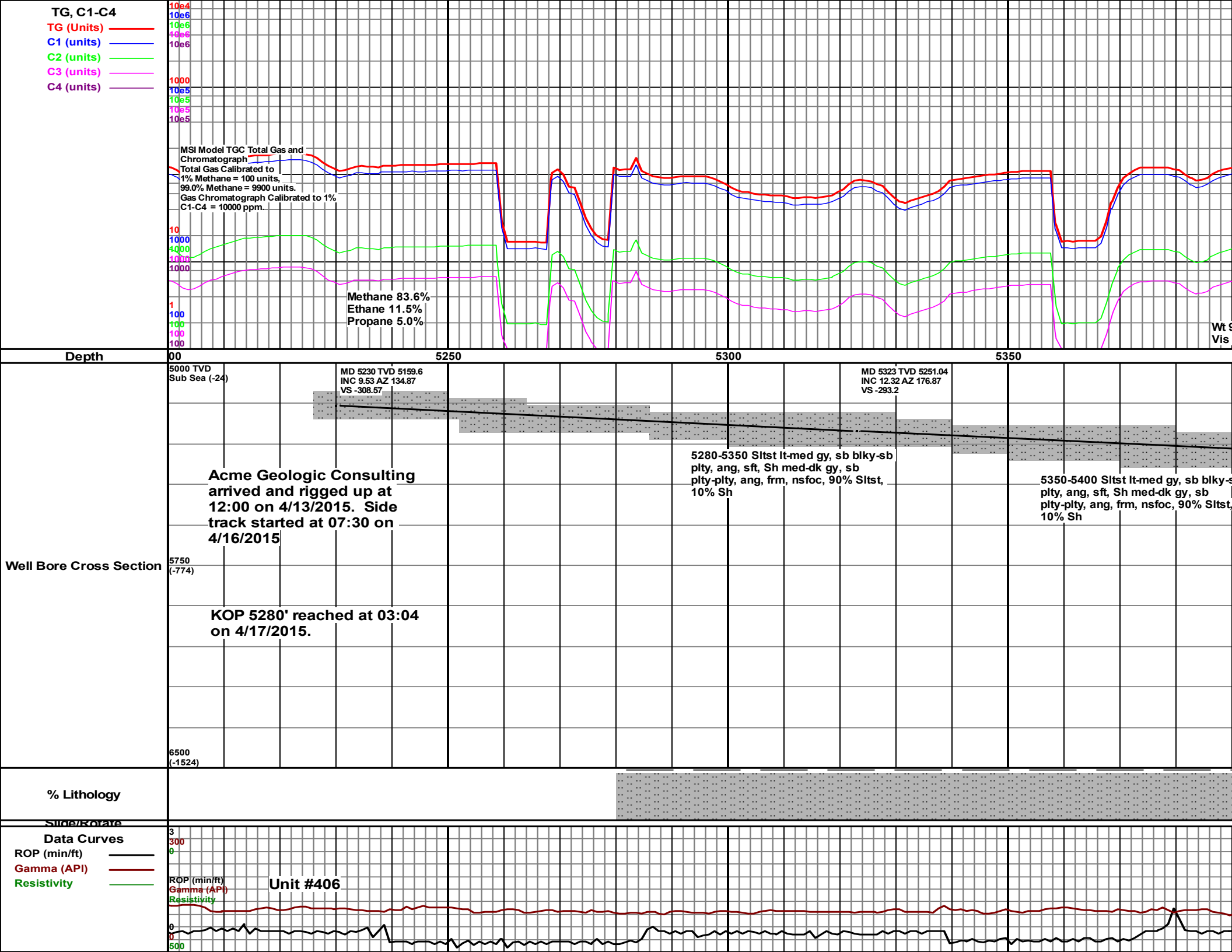
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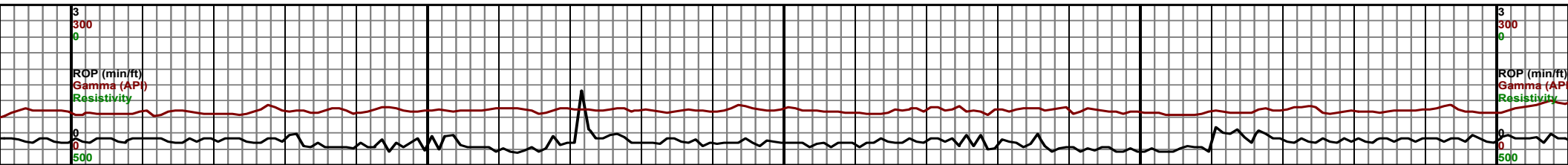
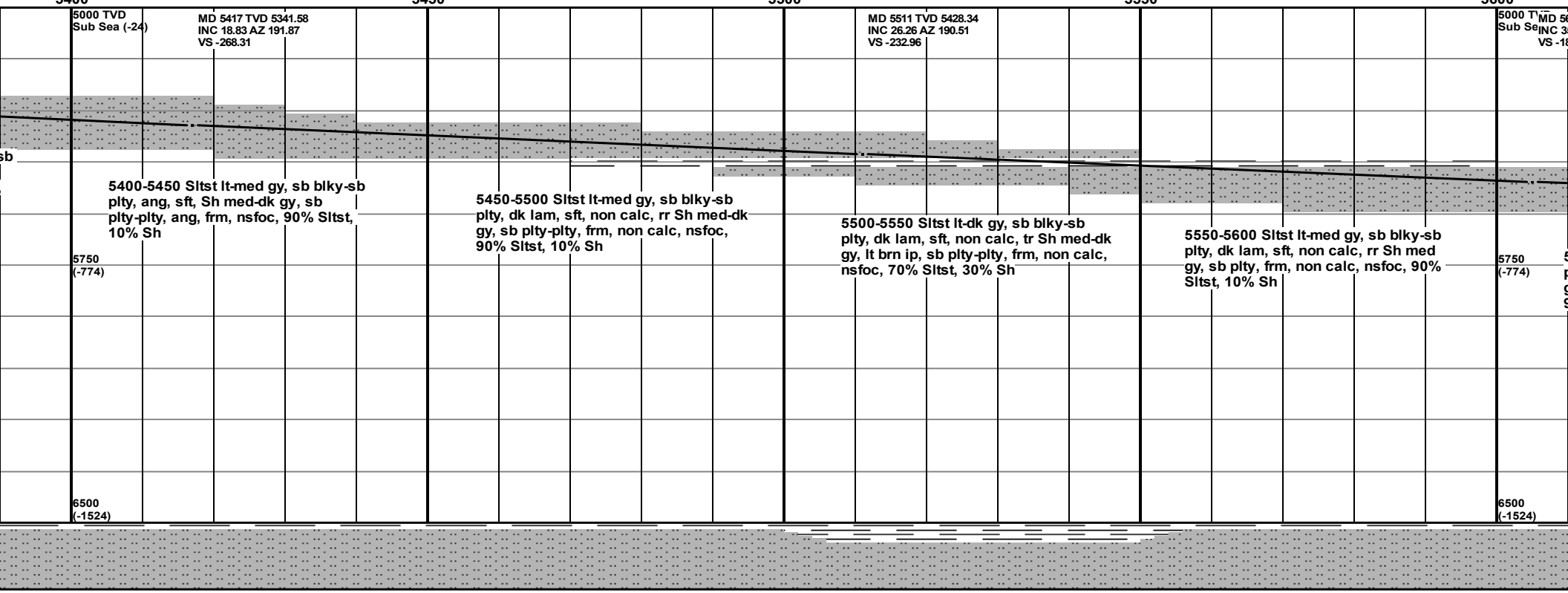
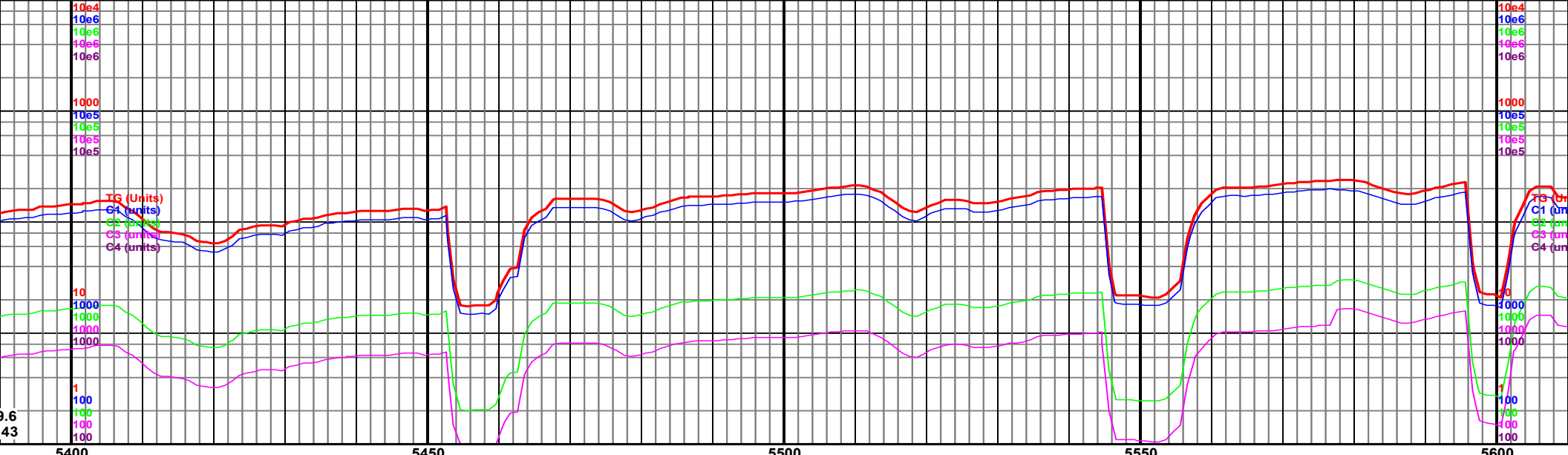


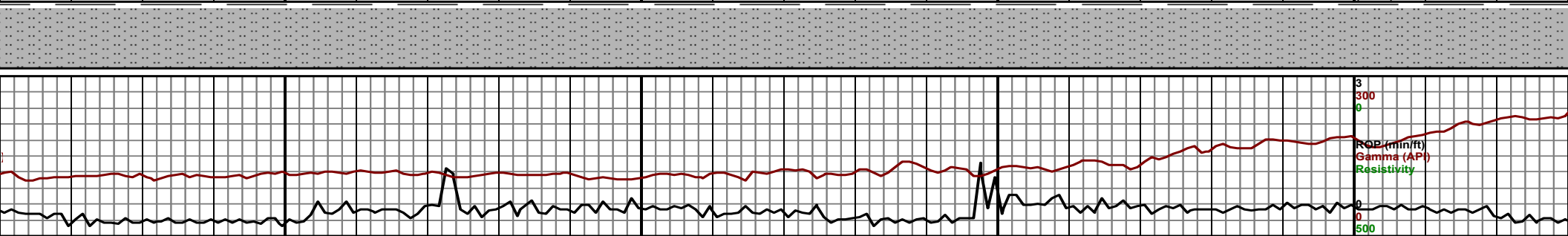
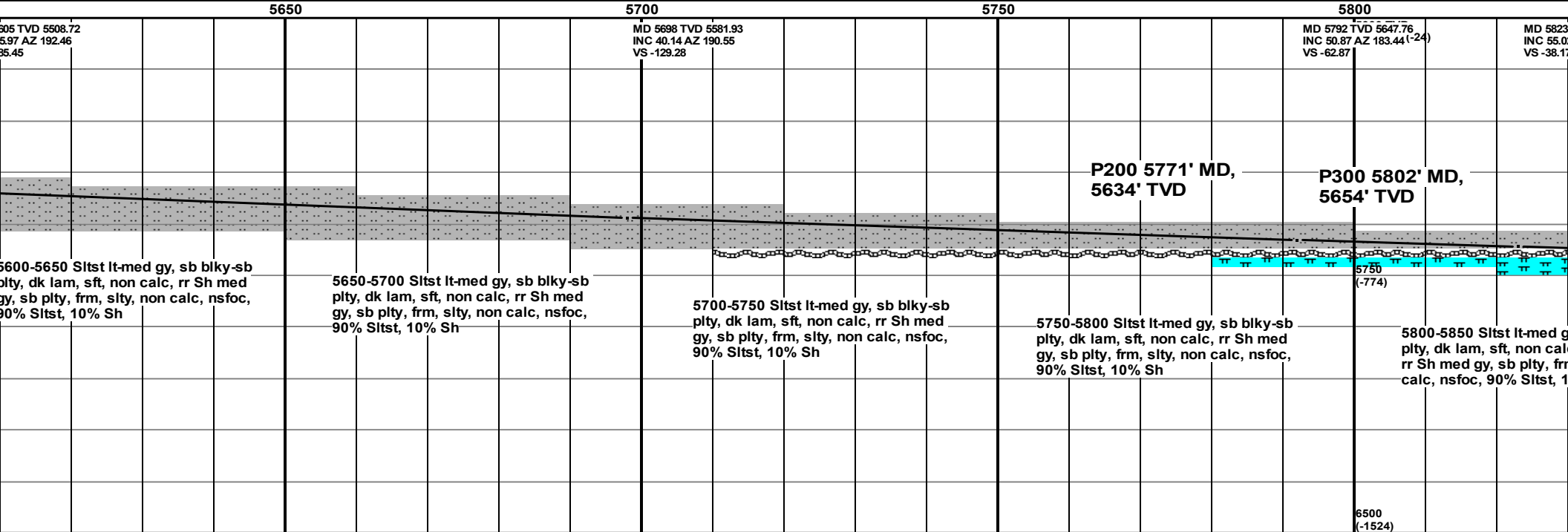
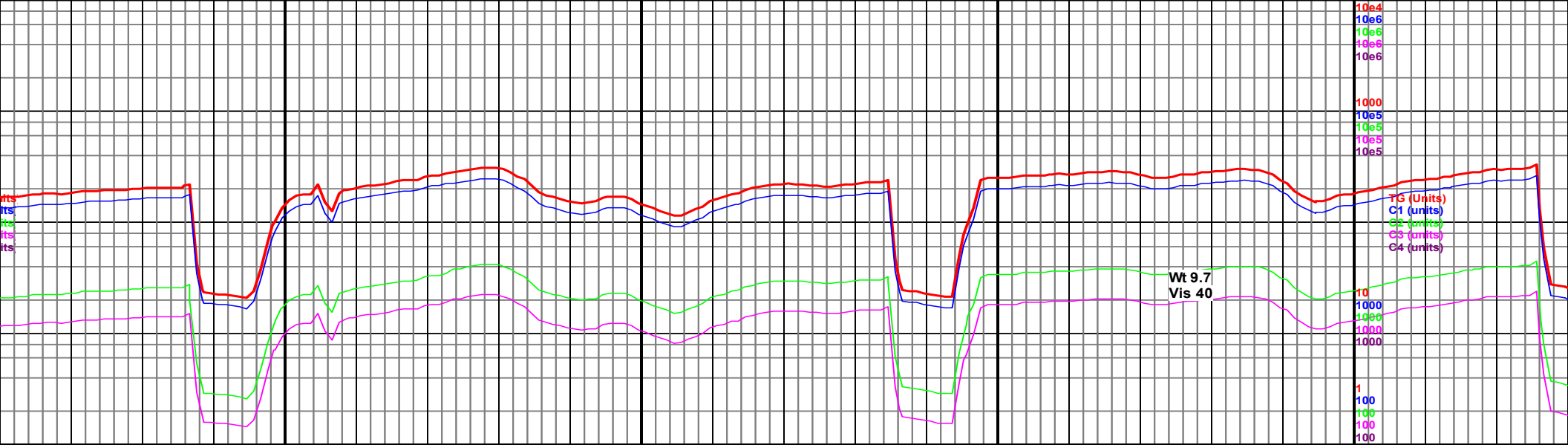
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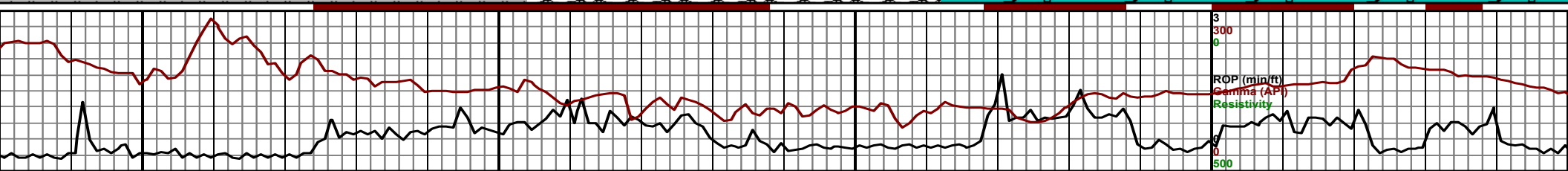
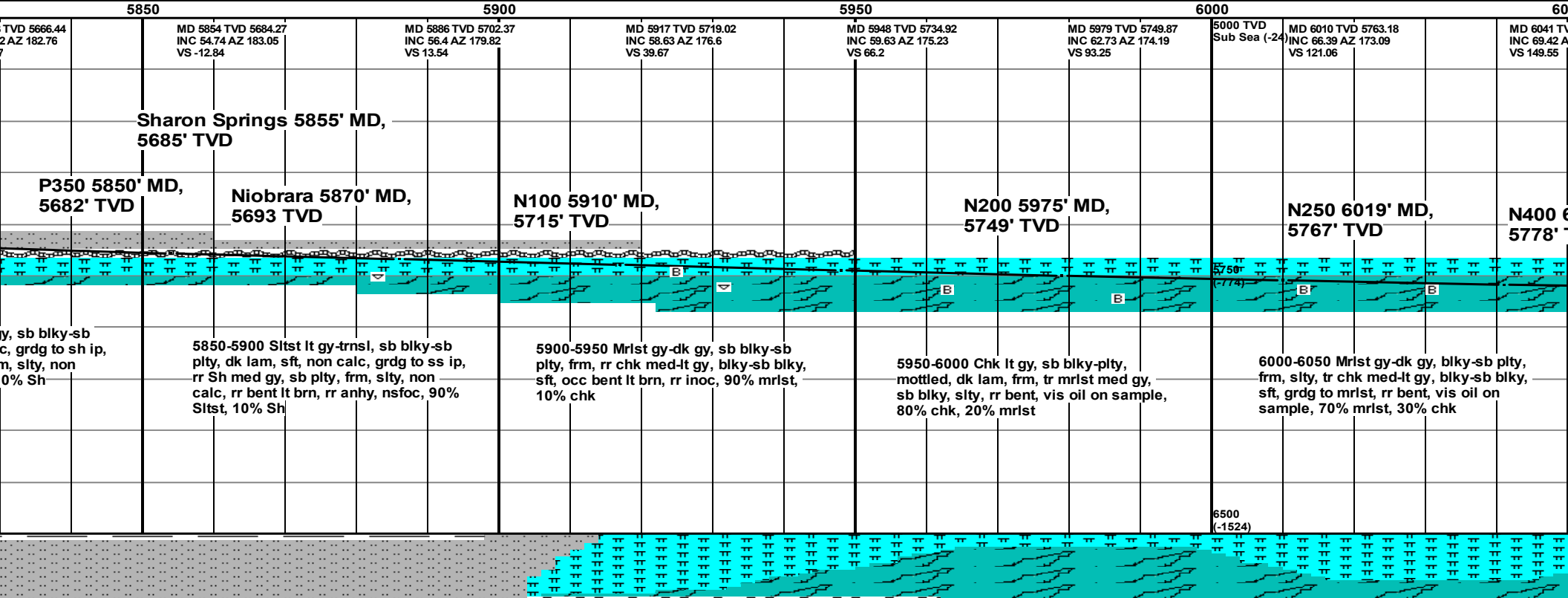
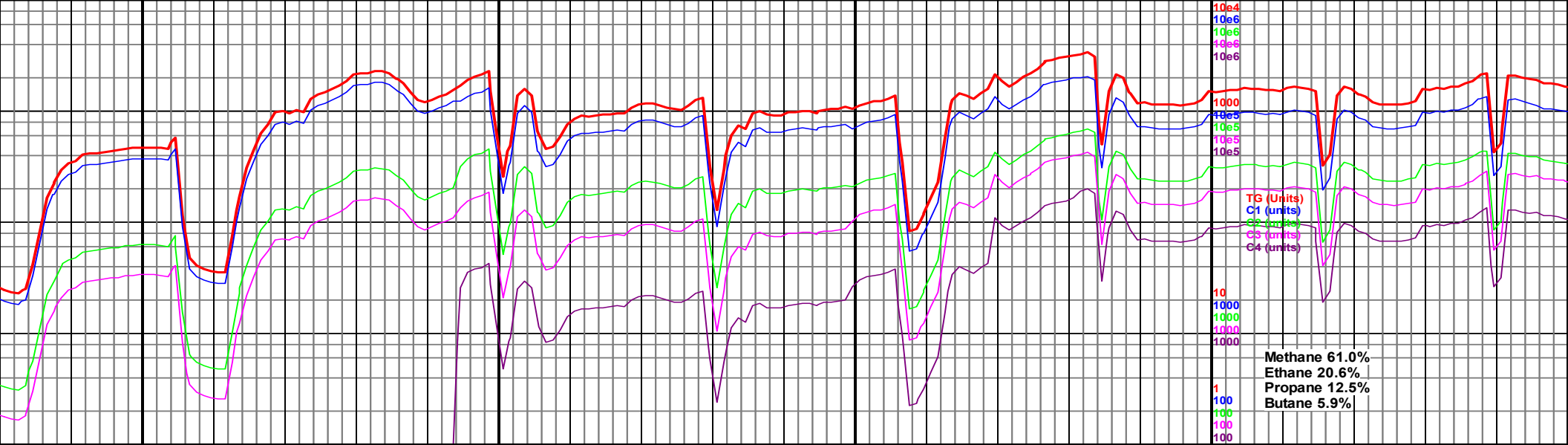


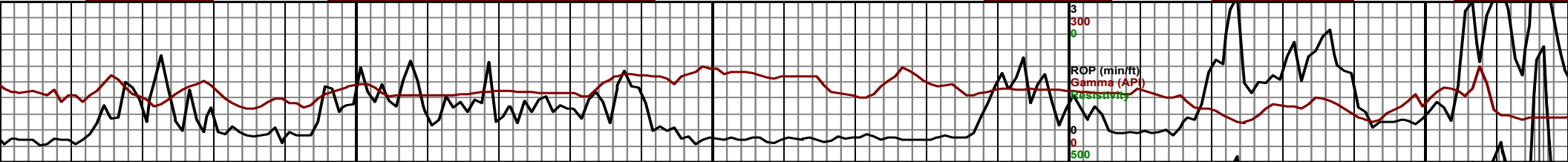
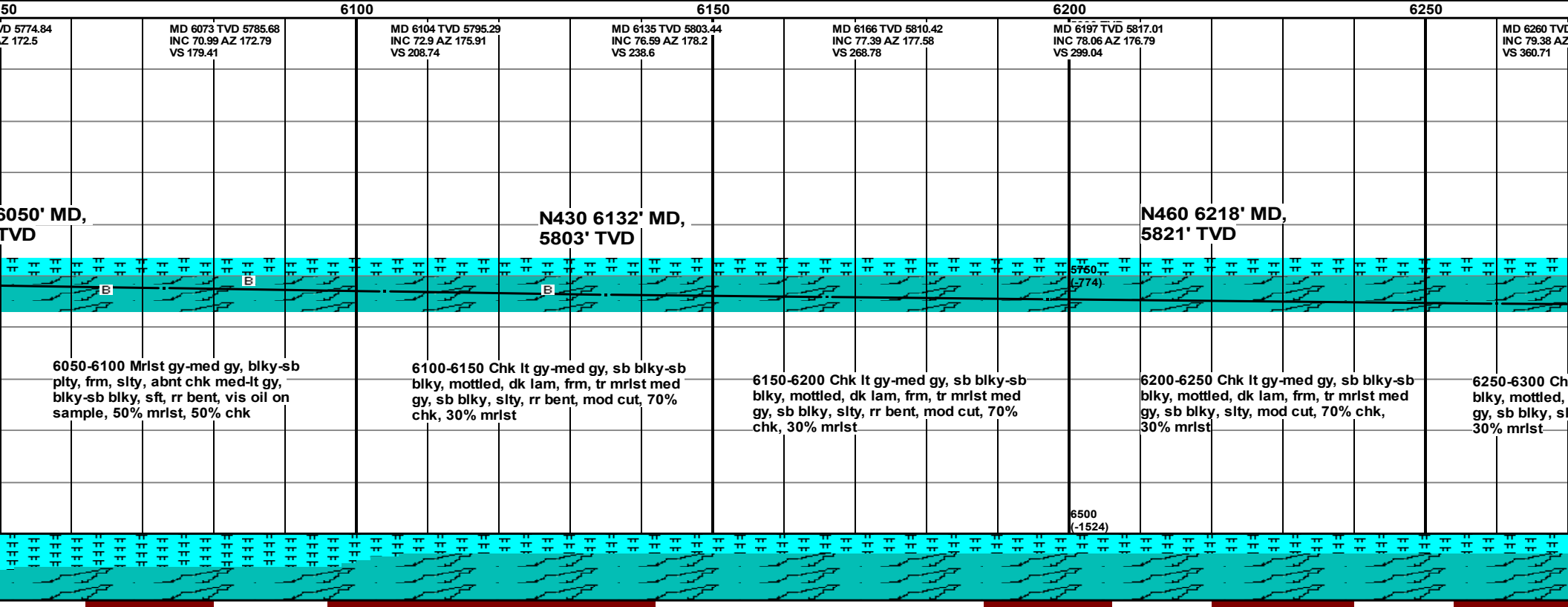
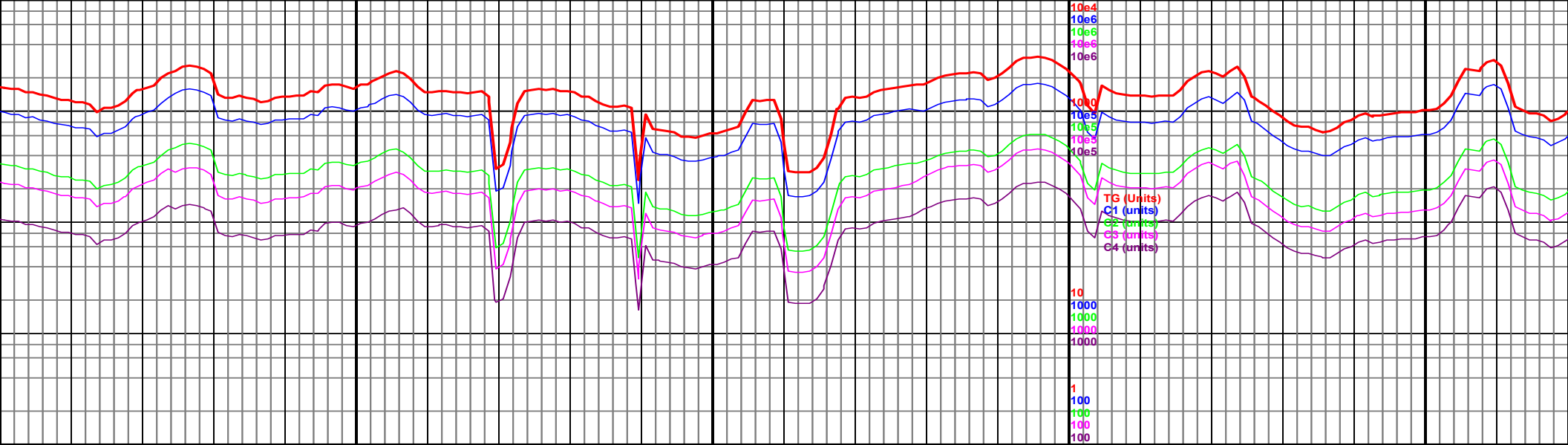
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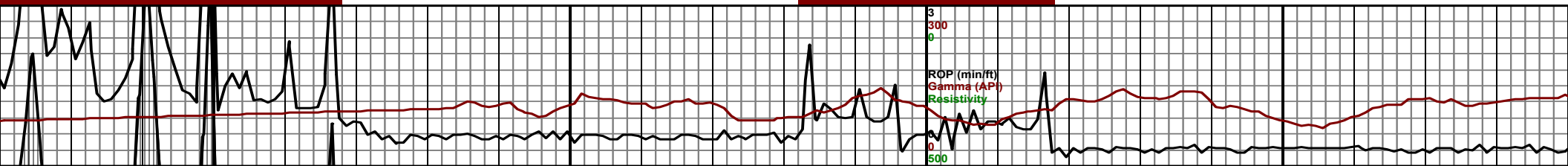
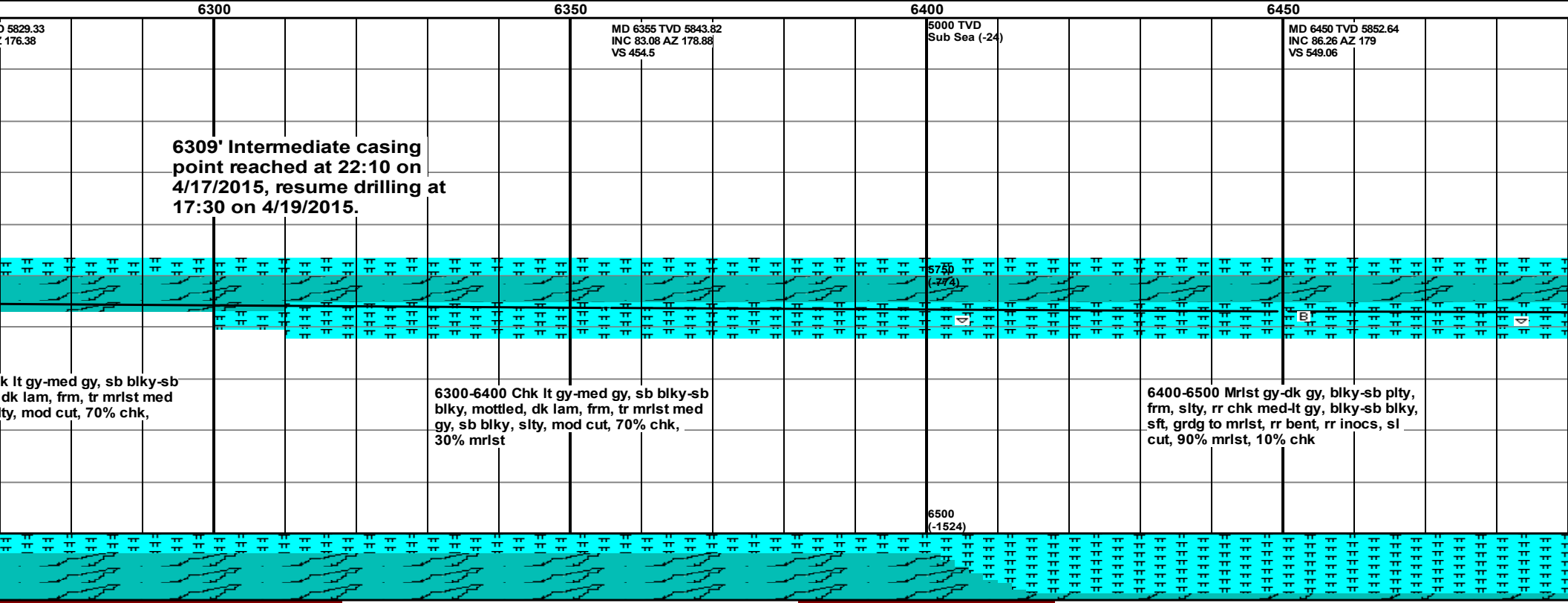
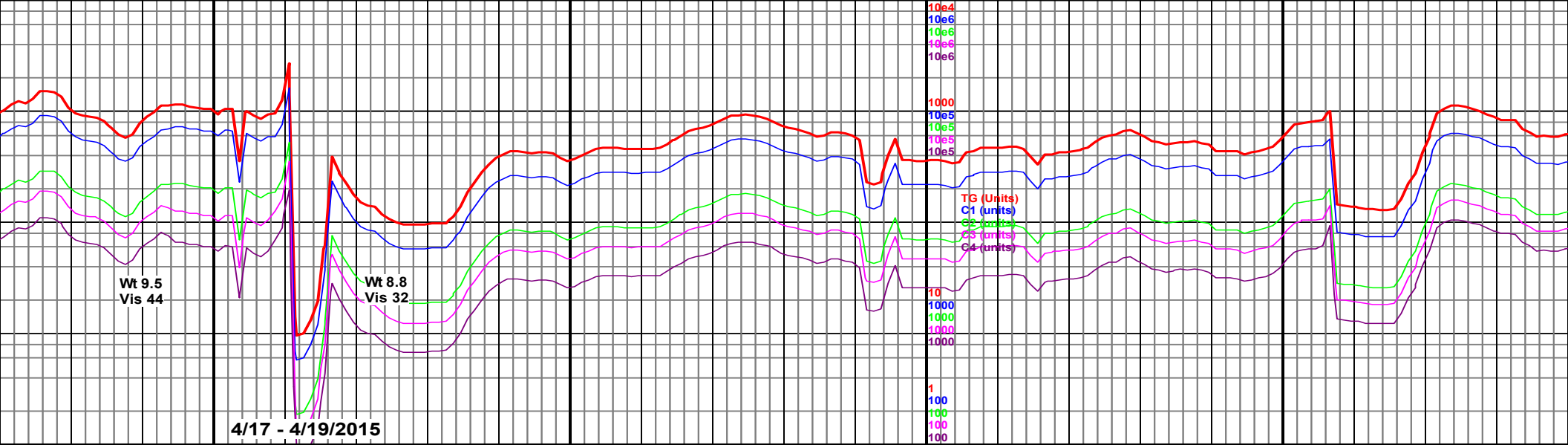


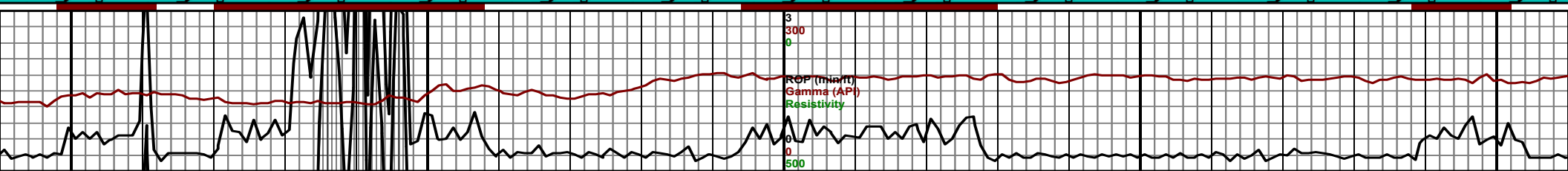
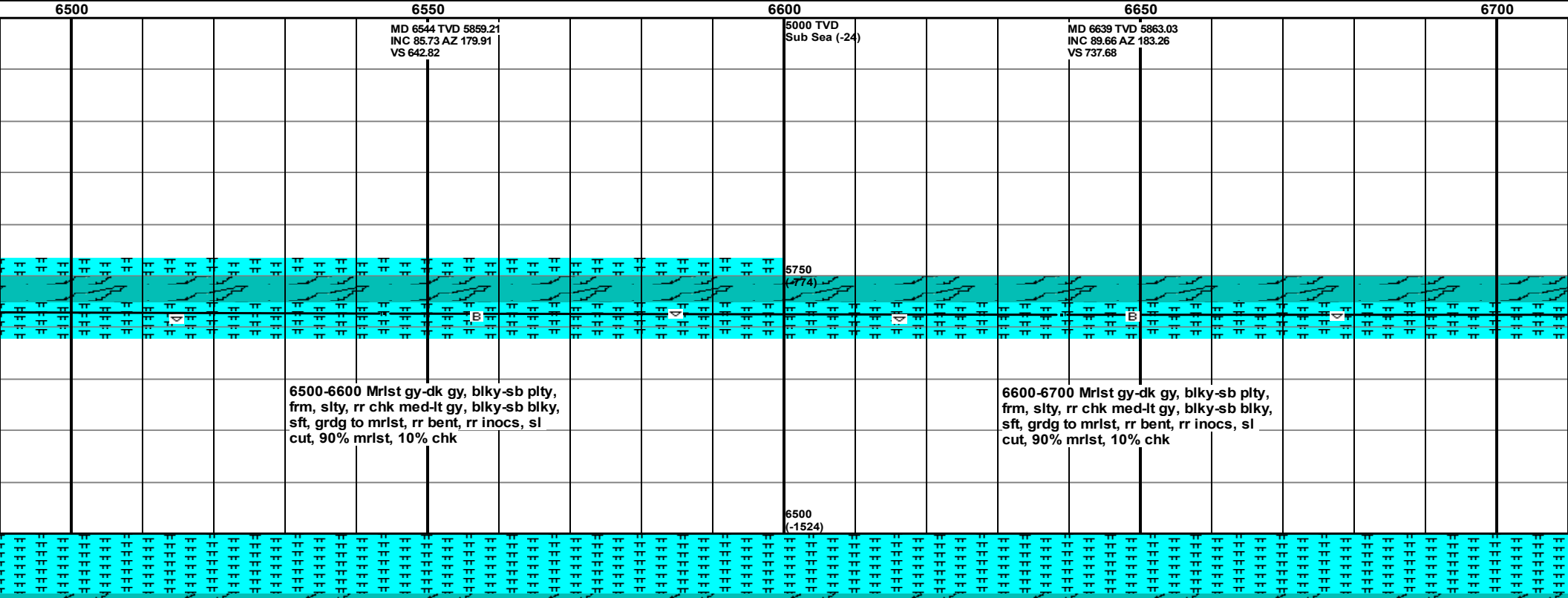
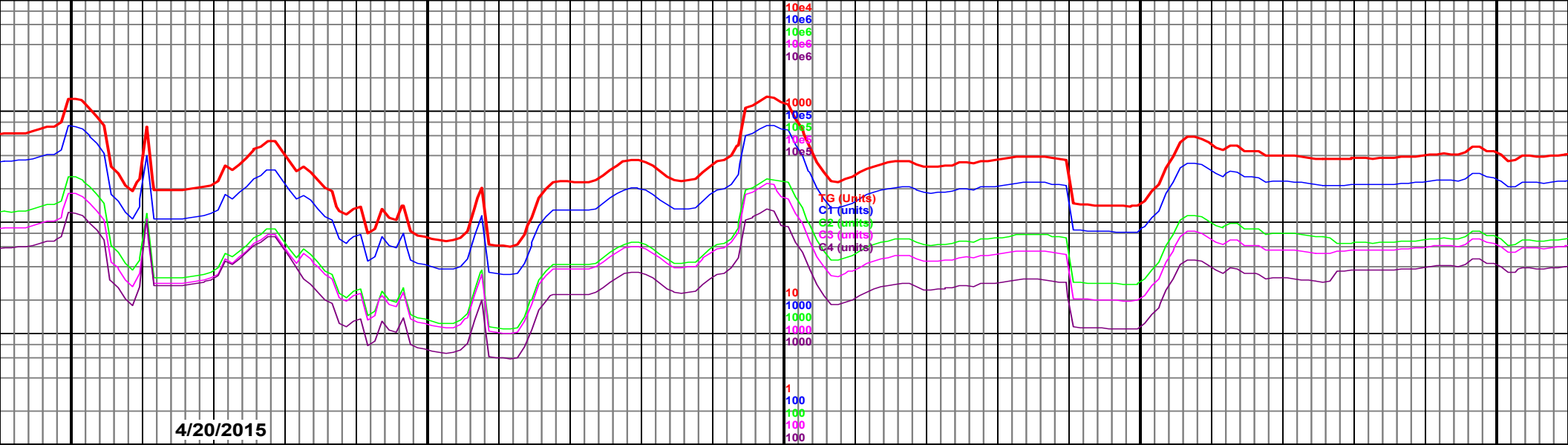


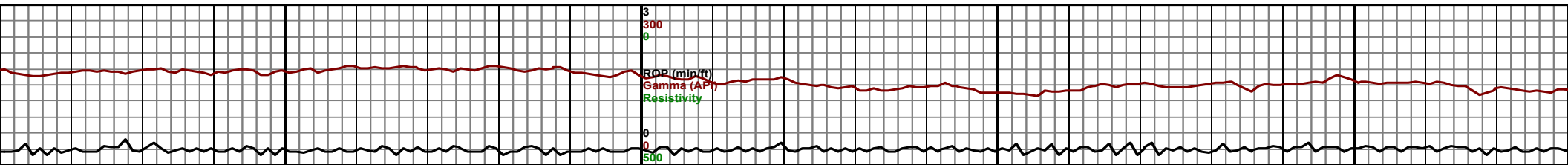
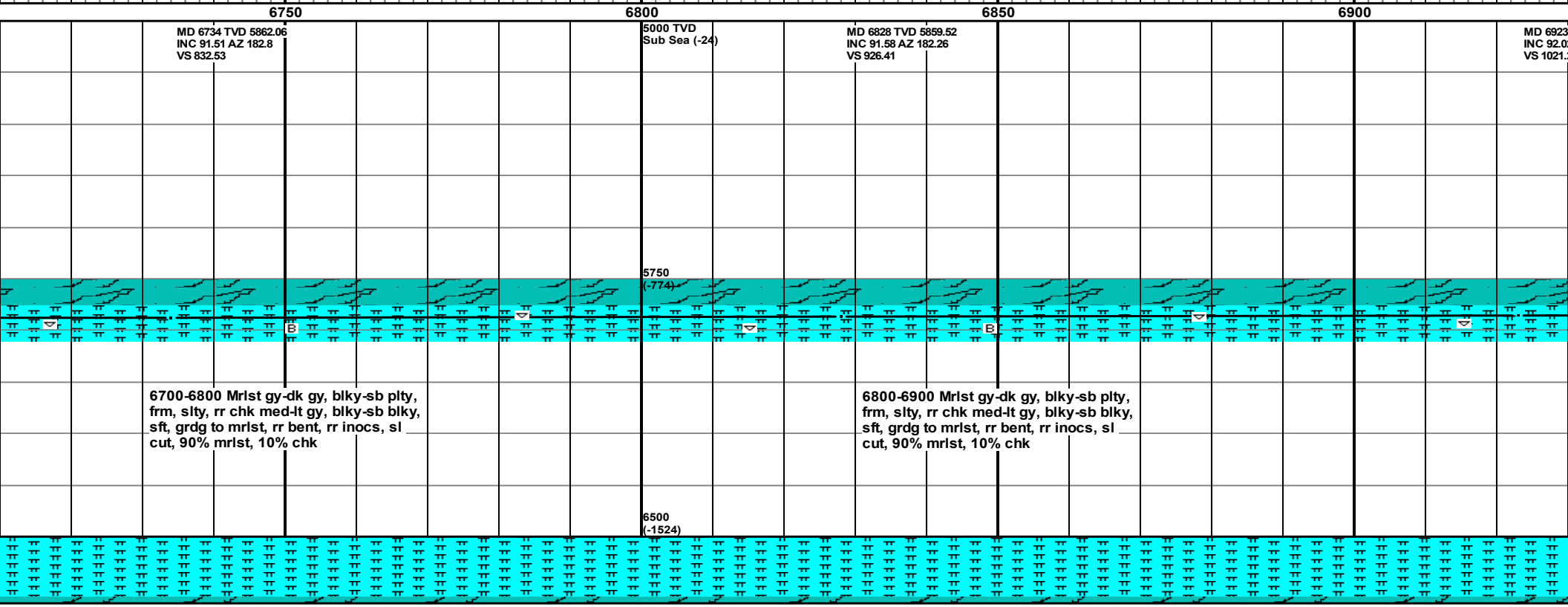
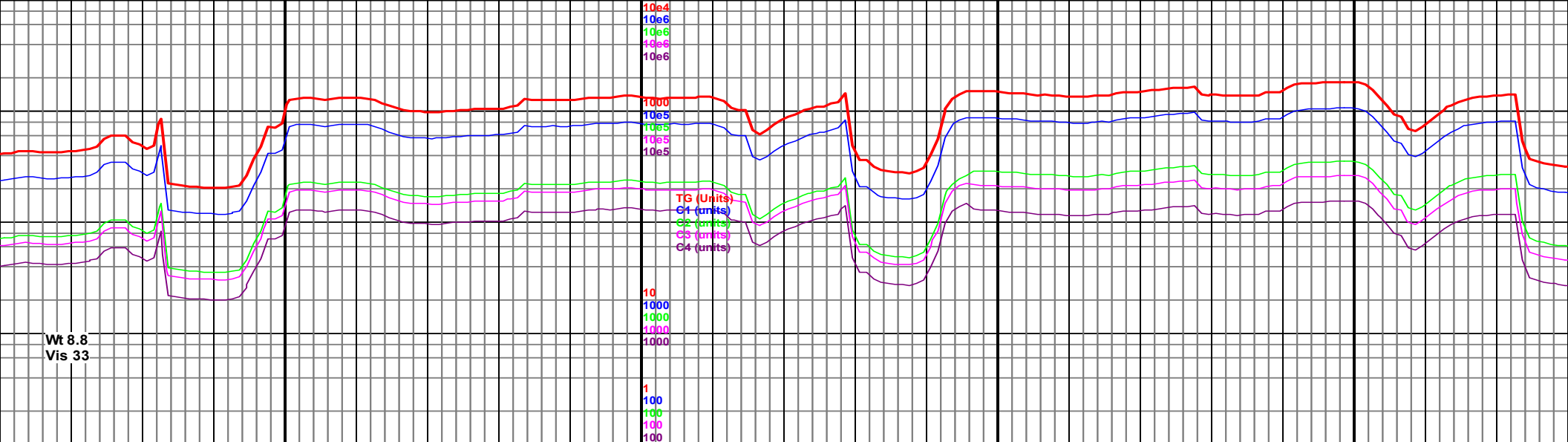


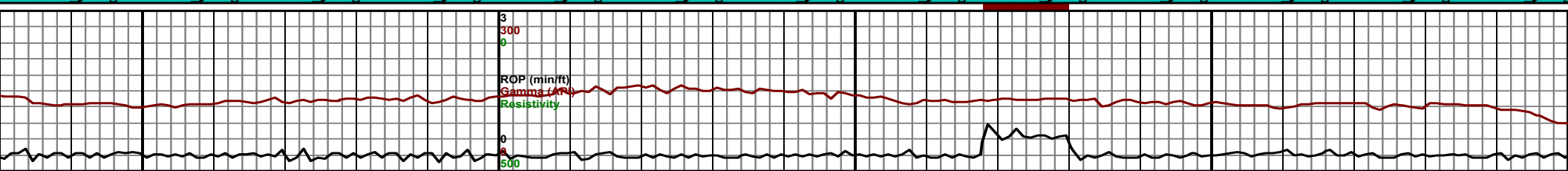
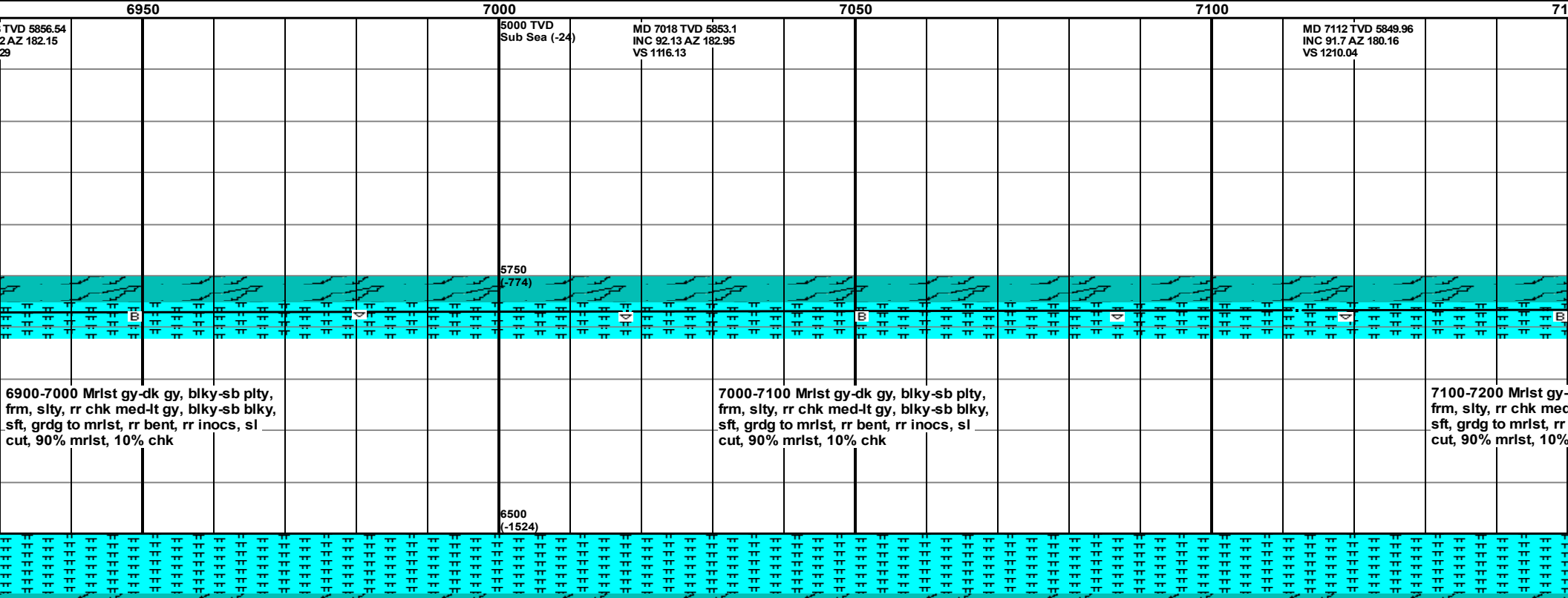
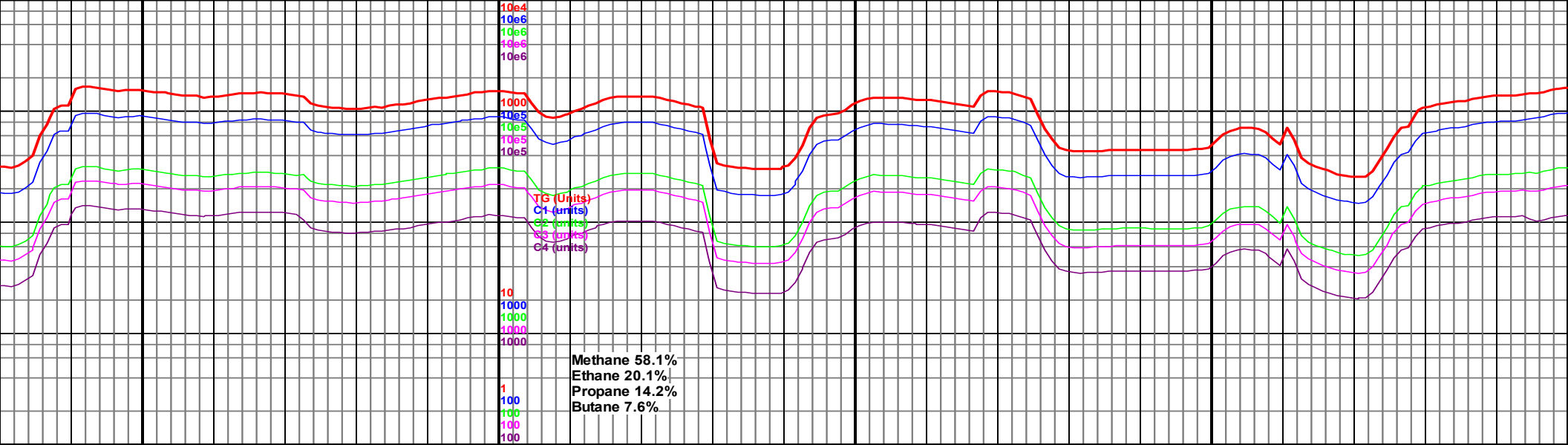


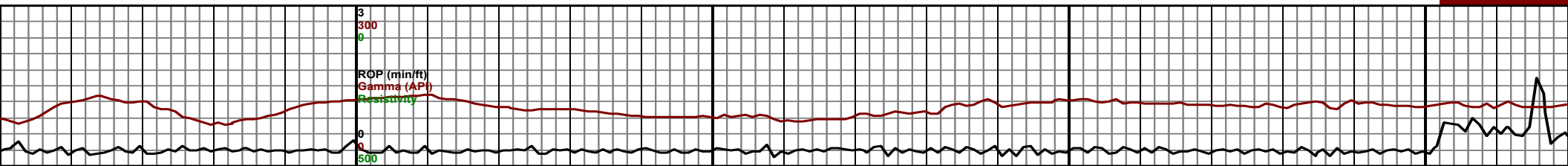
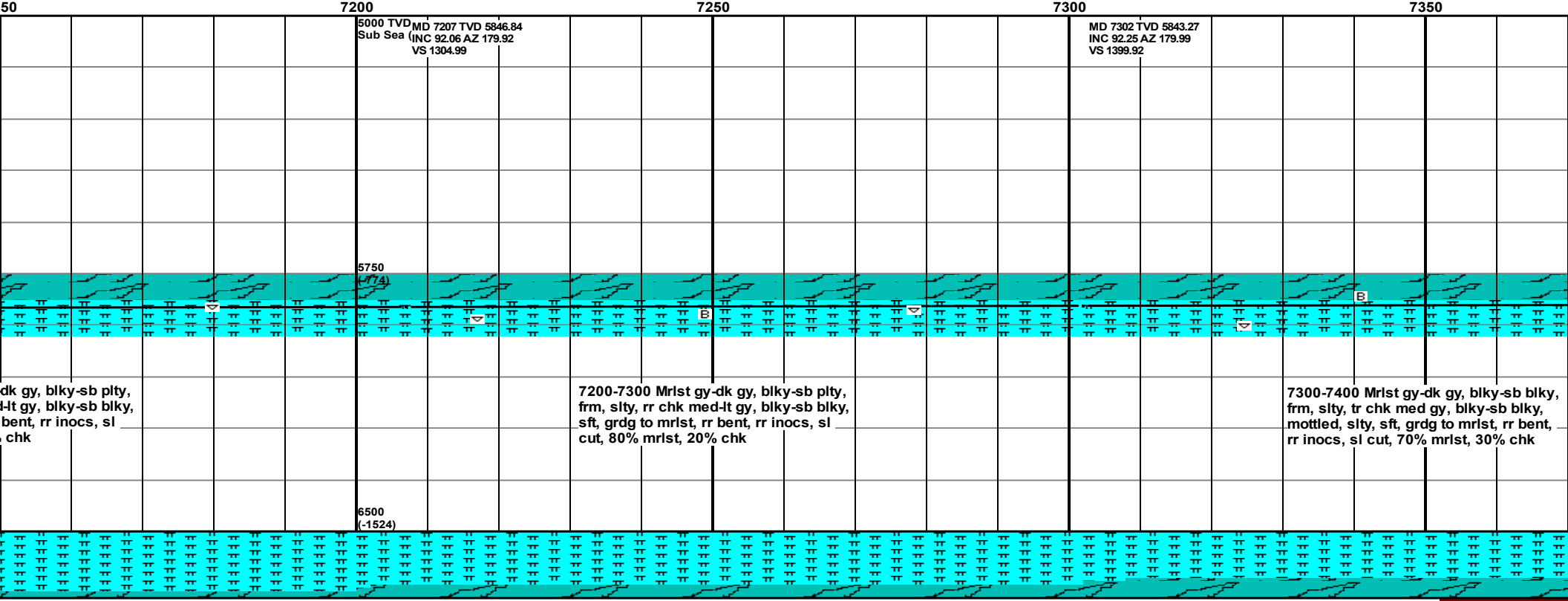
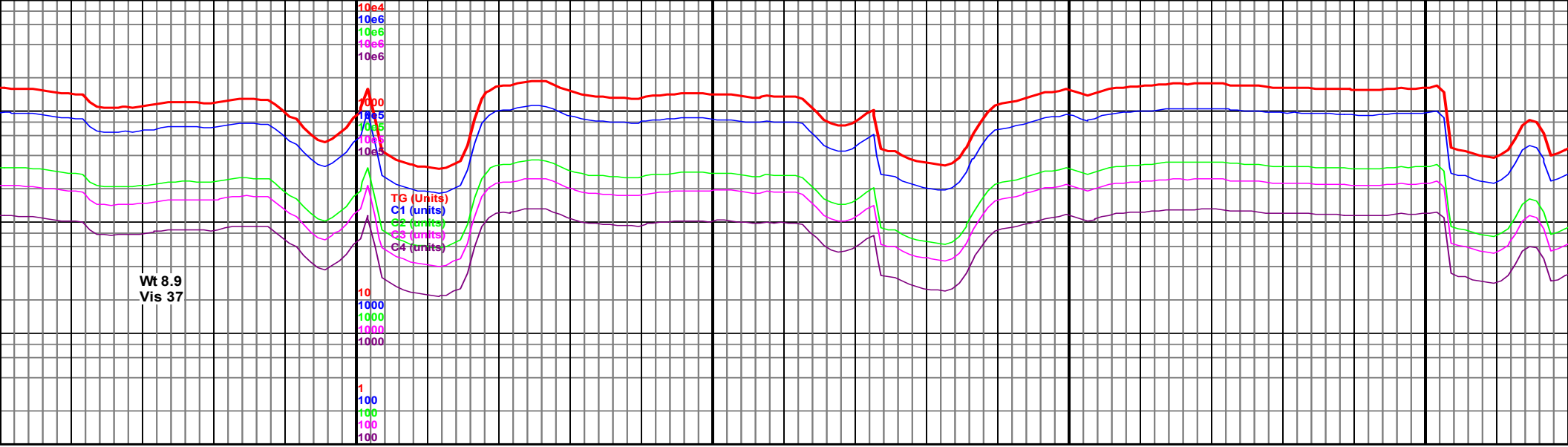


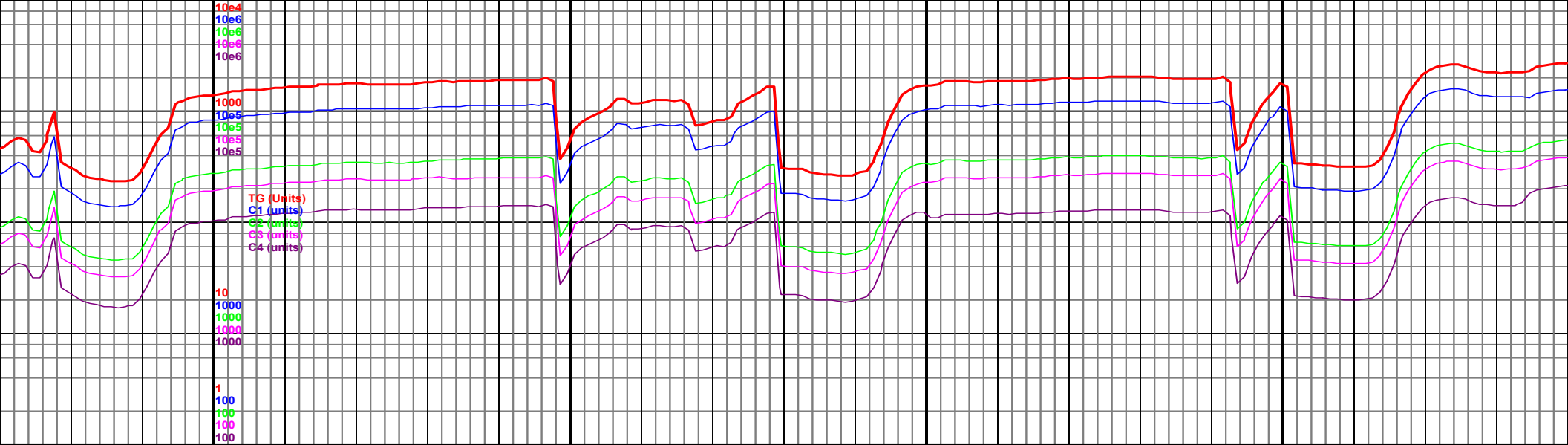












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INC 91.48 AZ 179.48
VS 1494.87

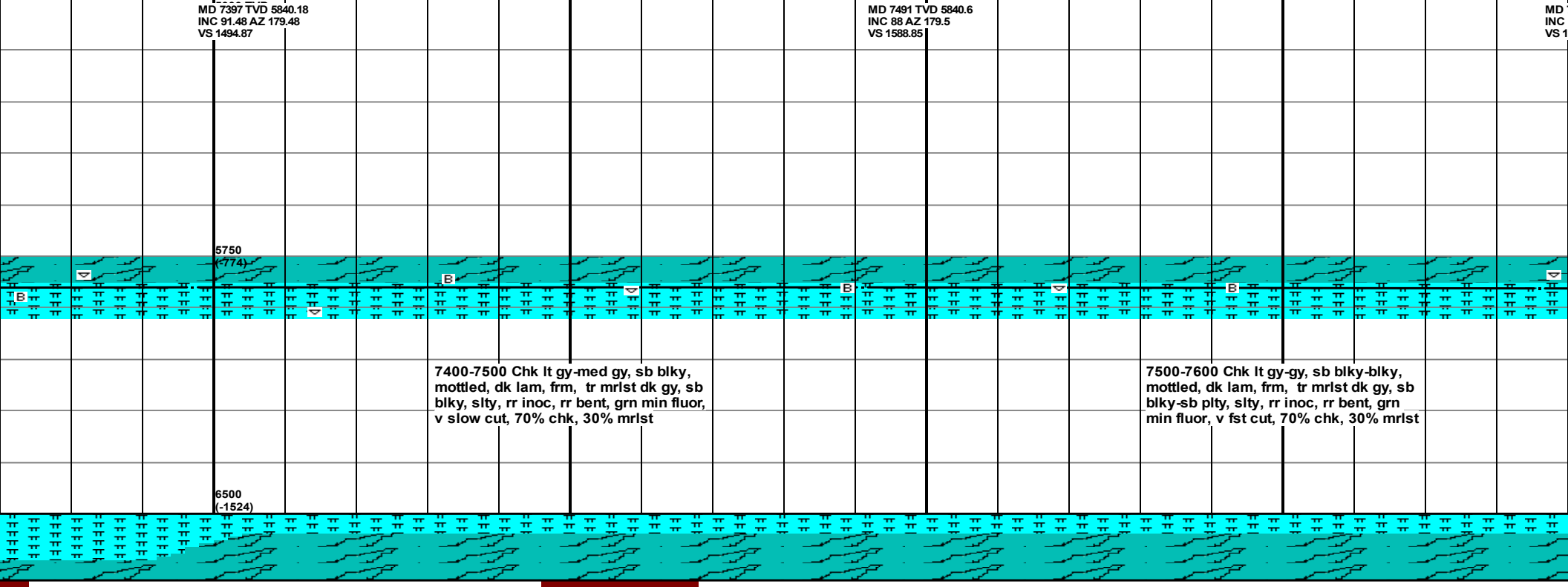
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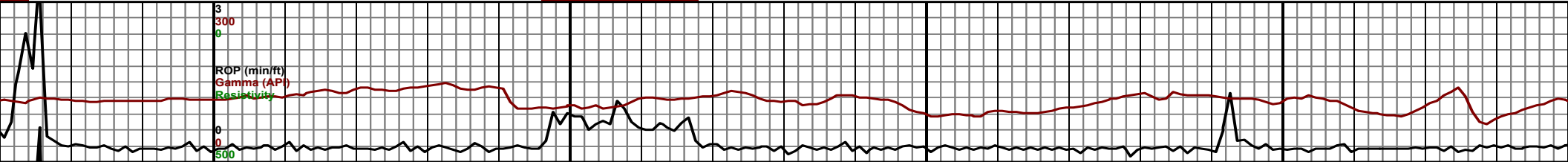
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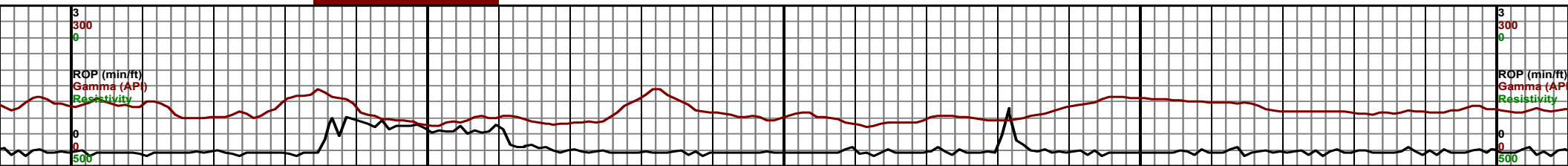
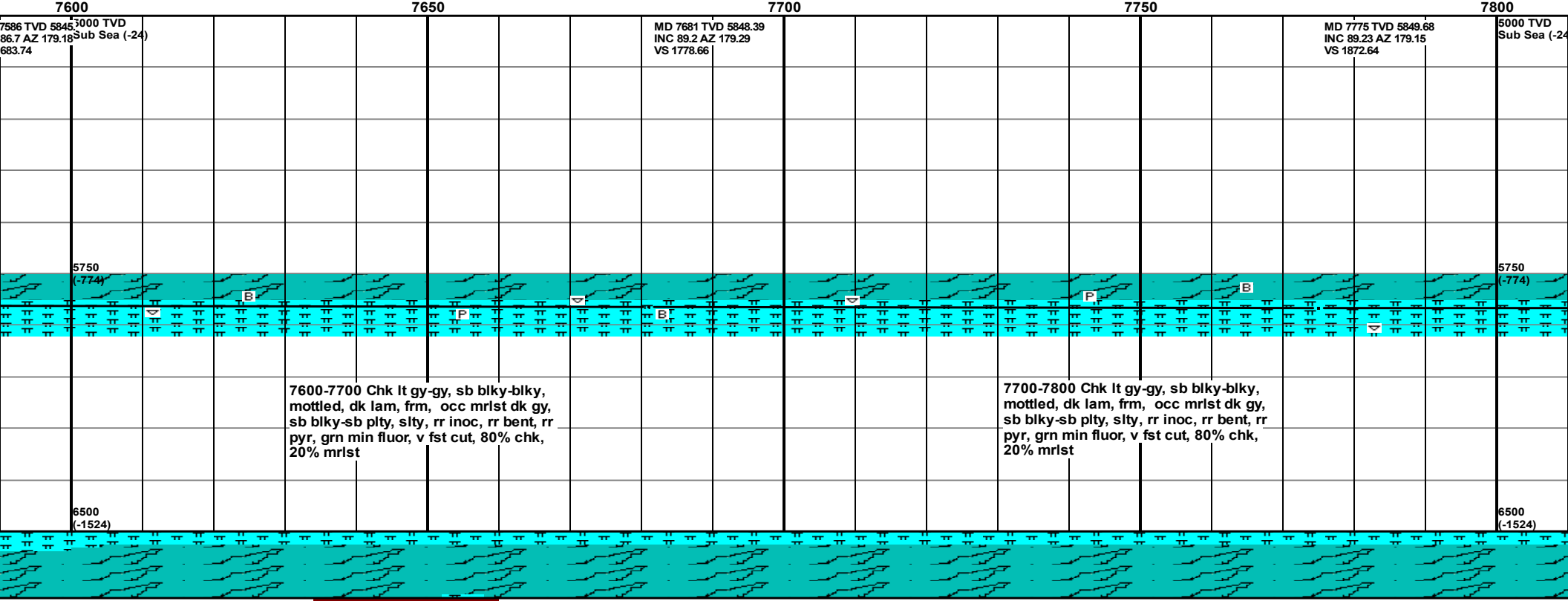
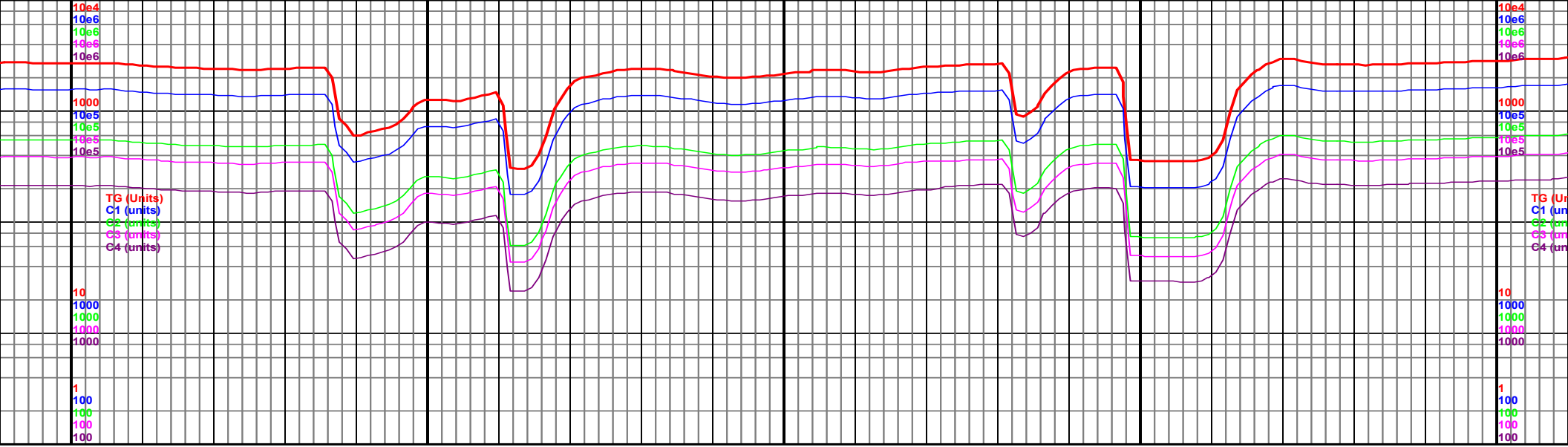
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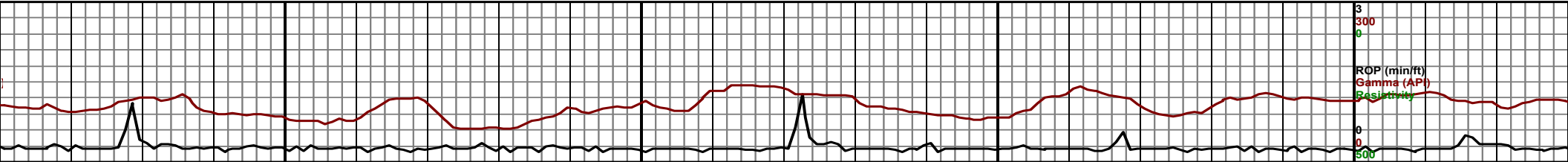
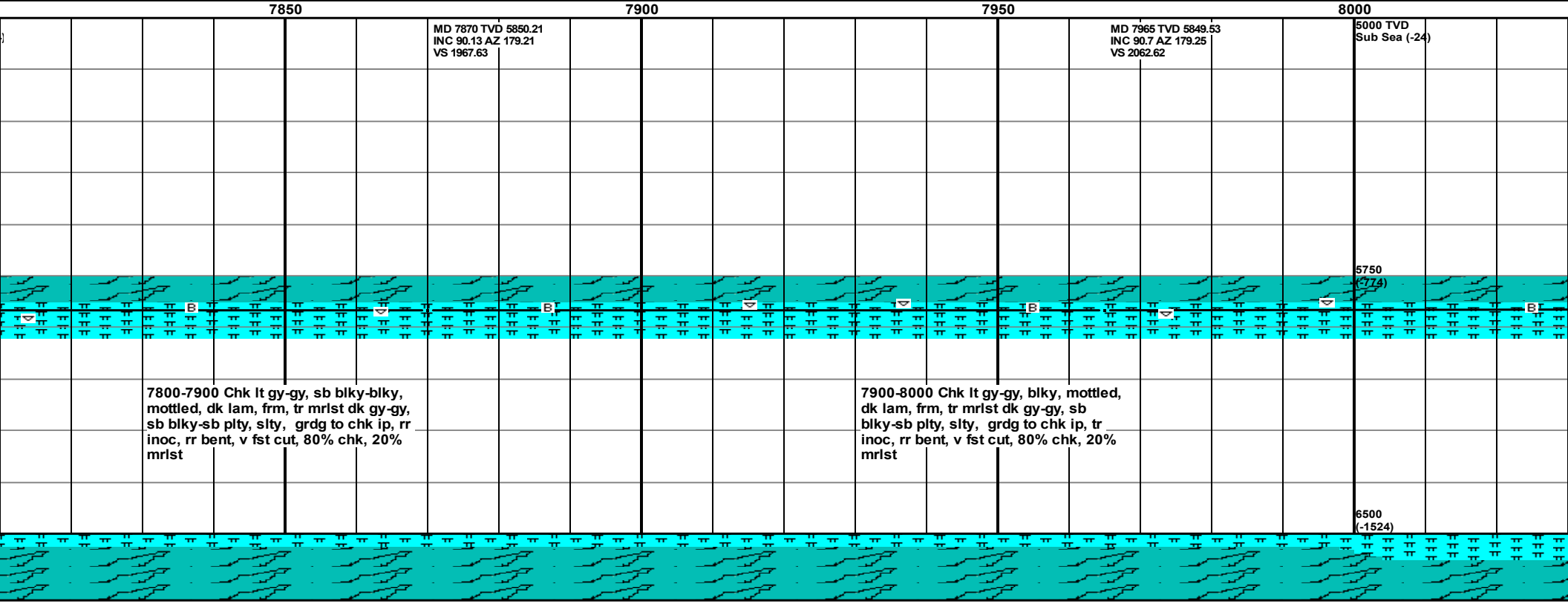
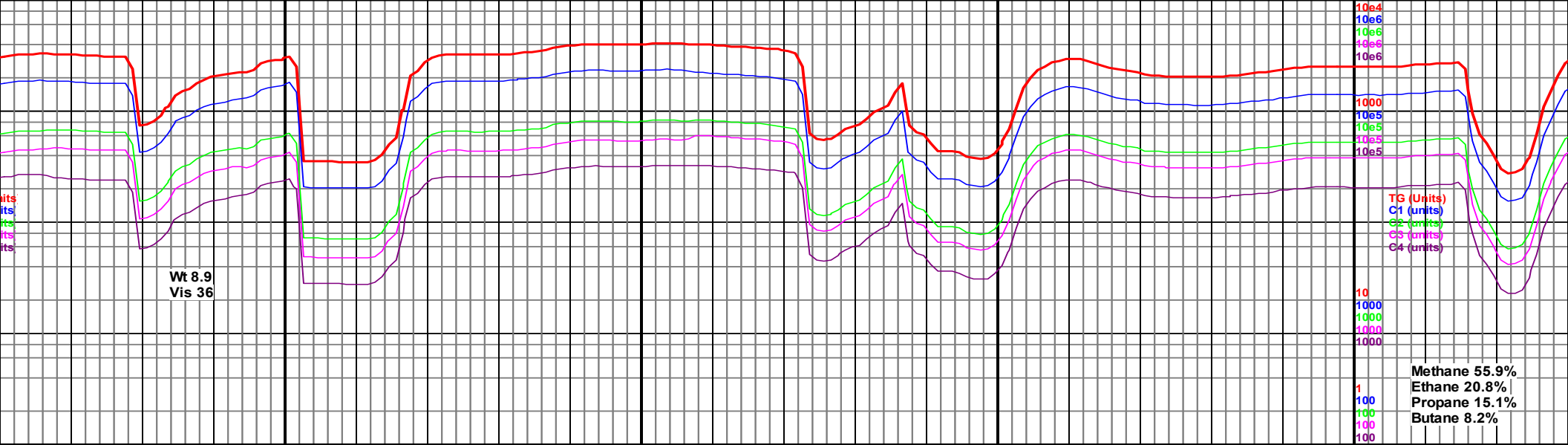


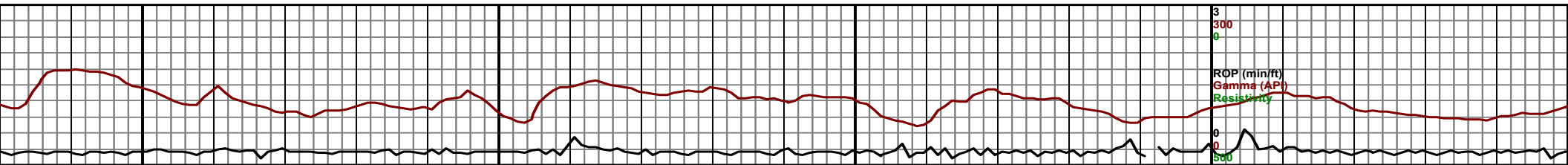
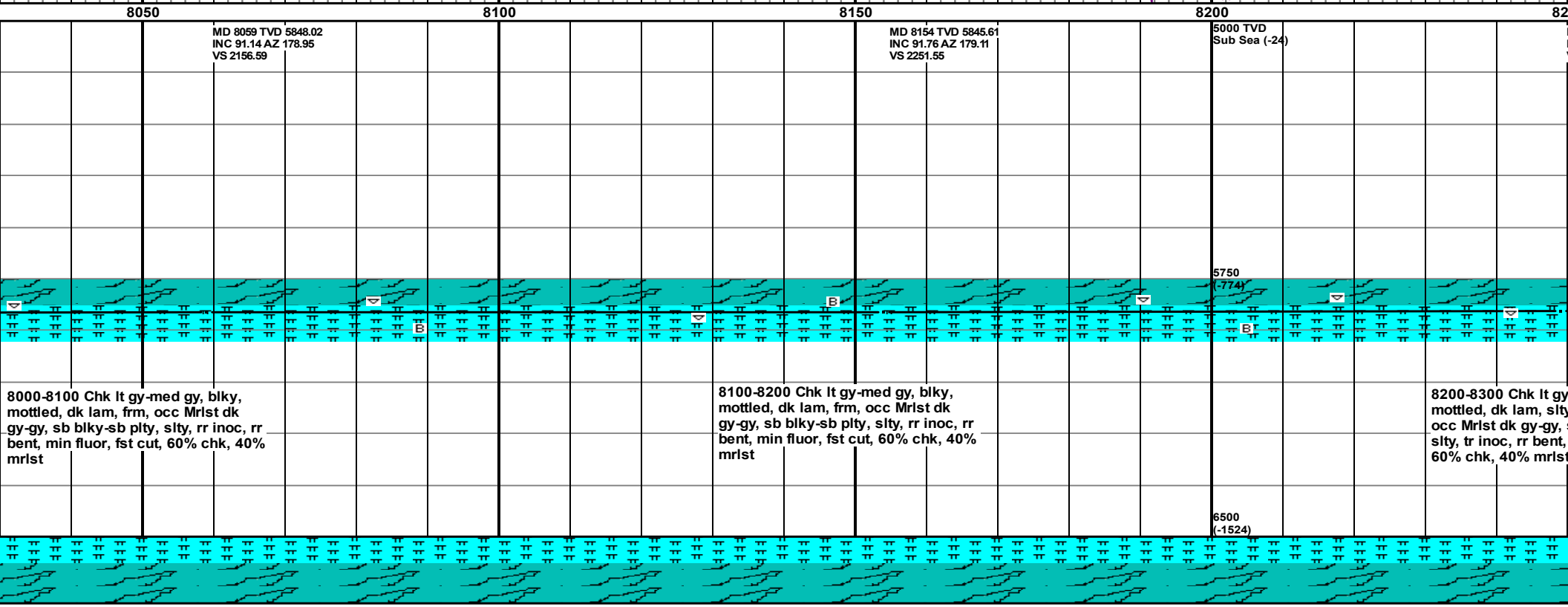
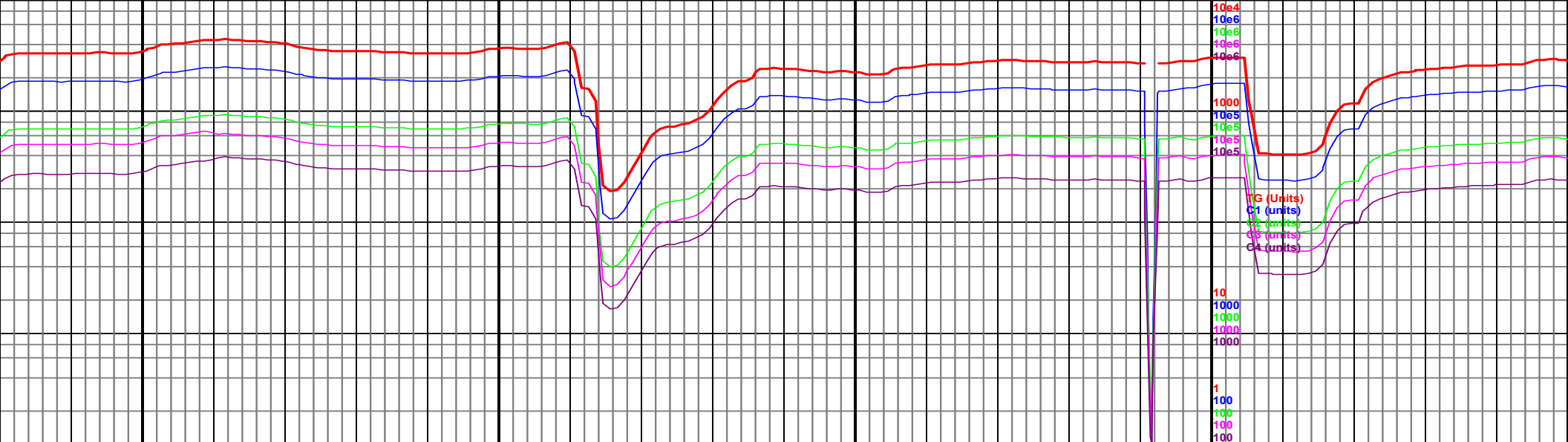
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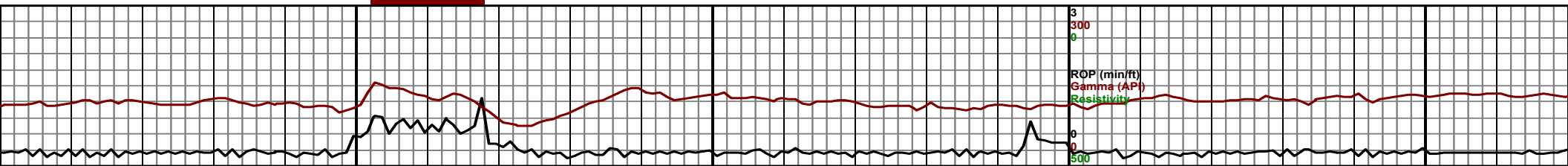
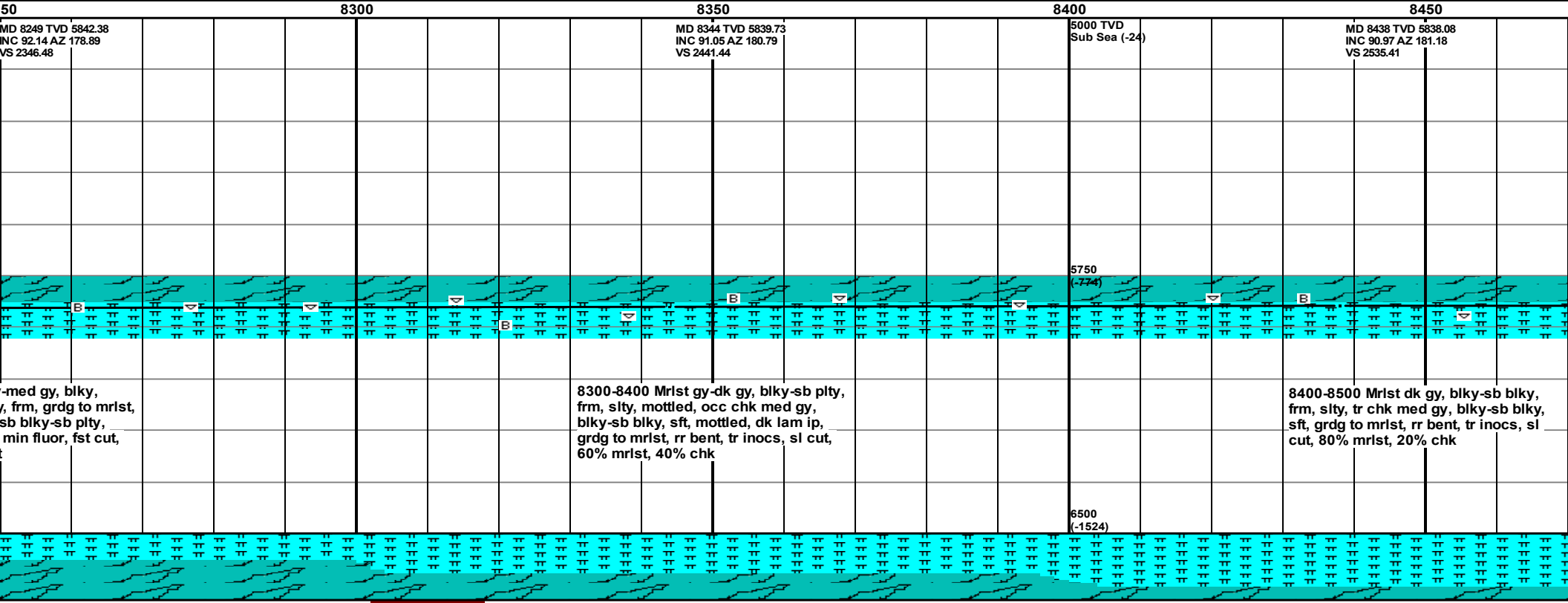
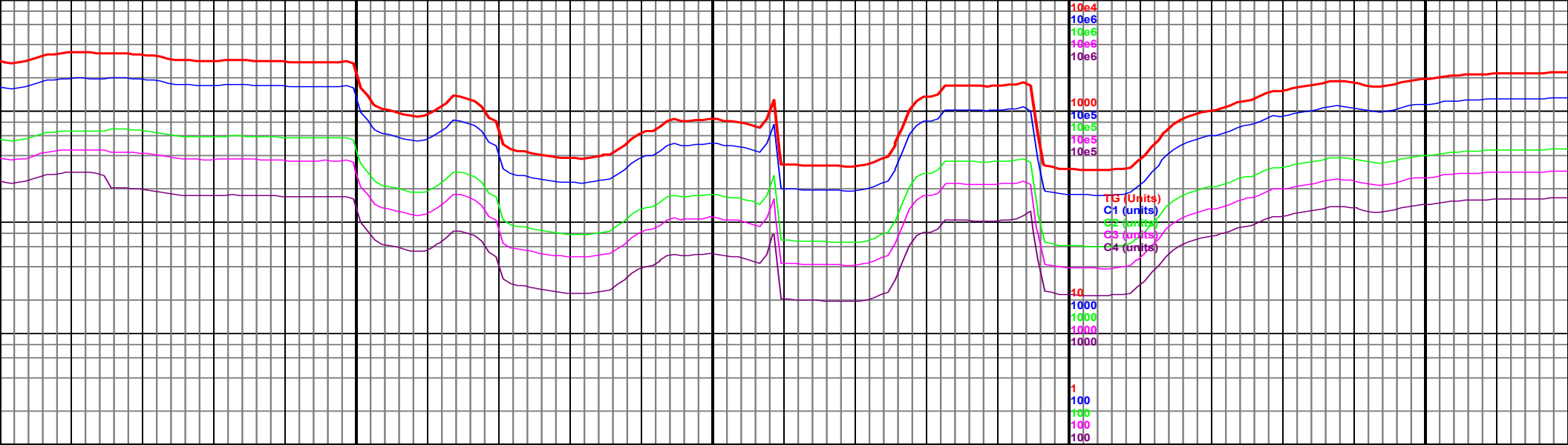
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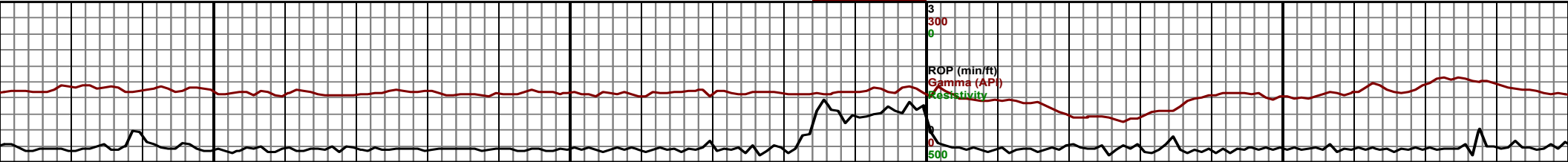
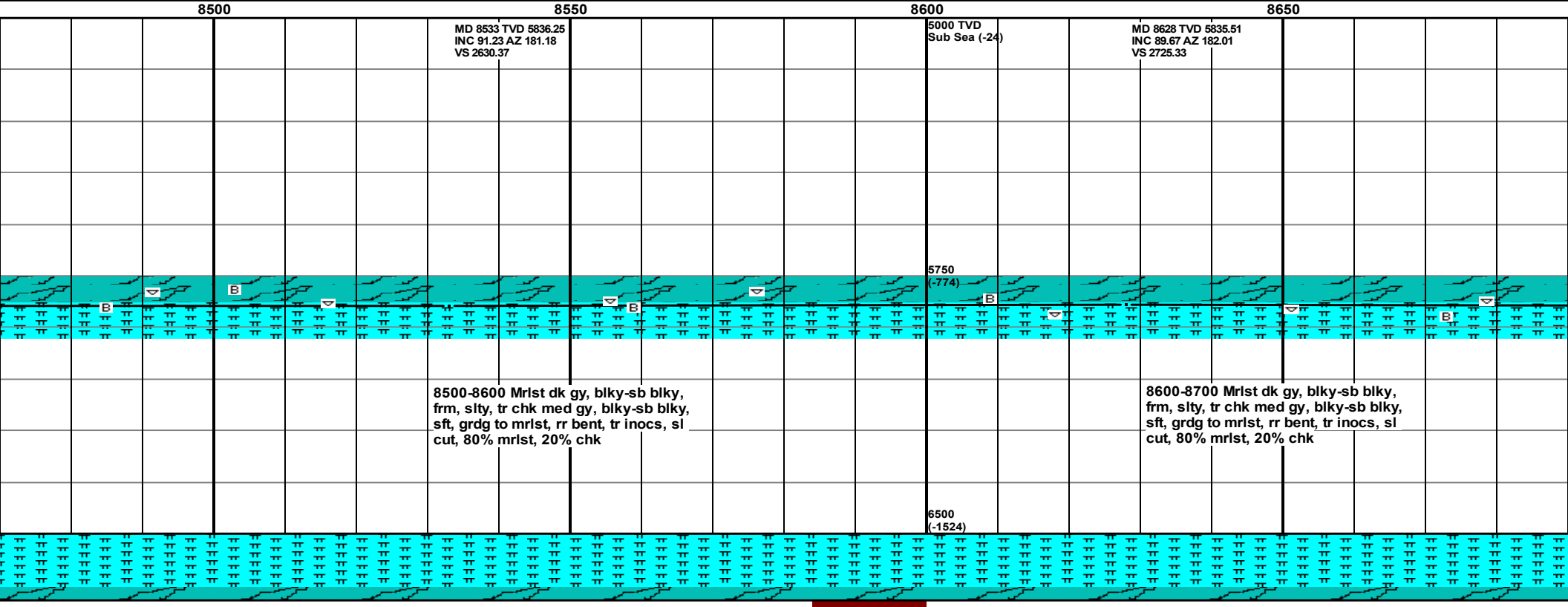
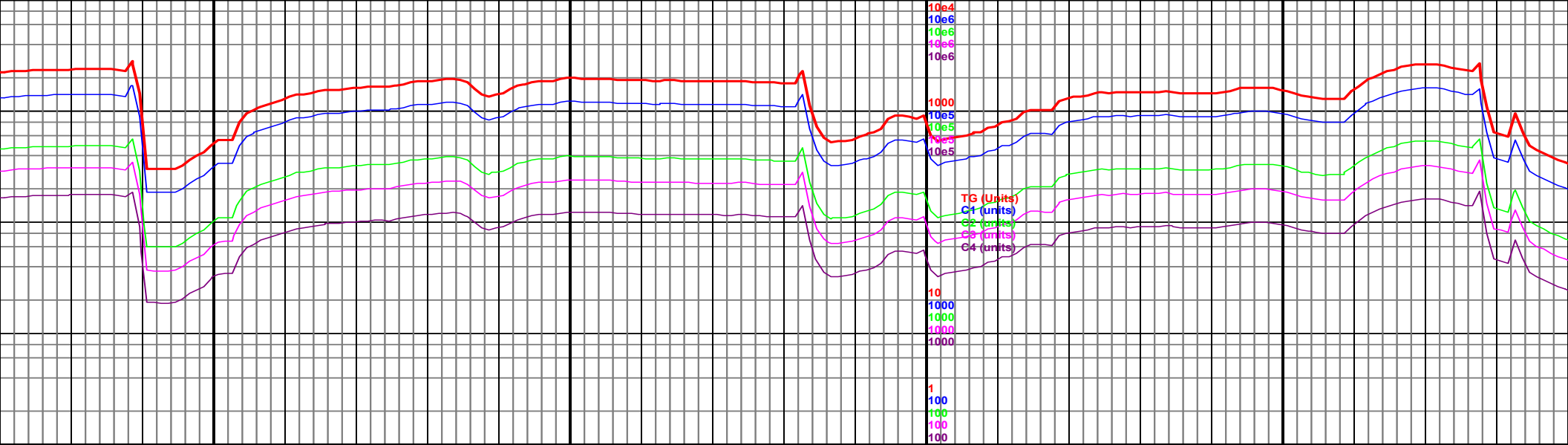


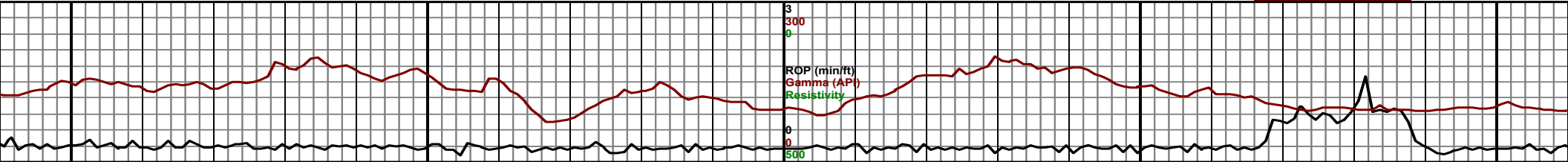
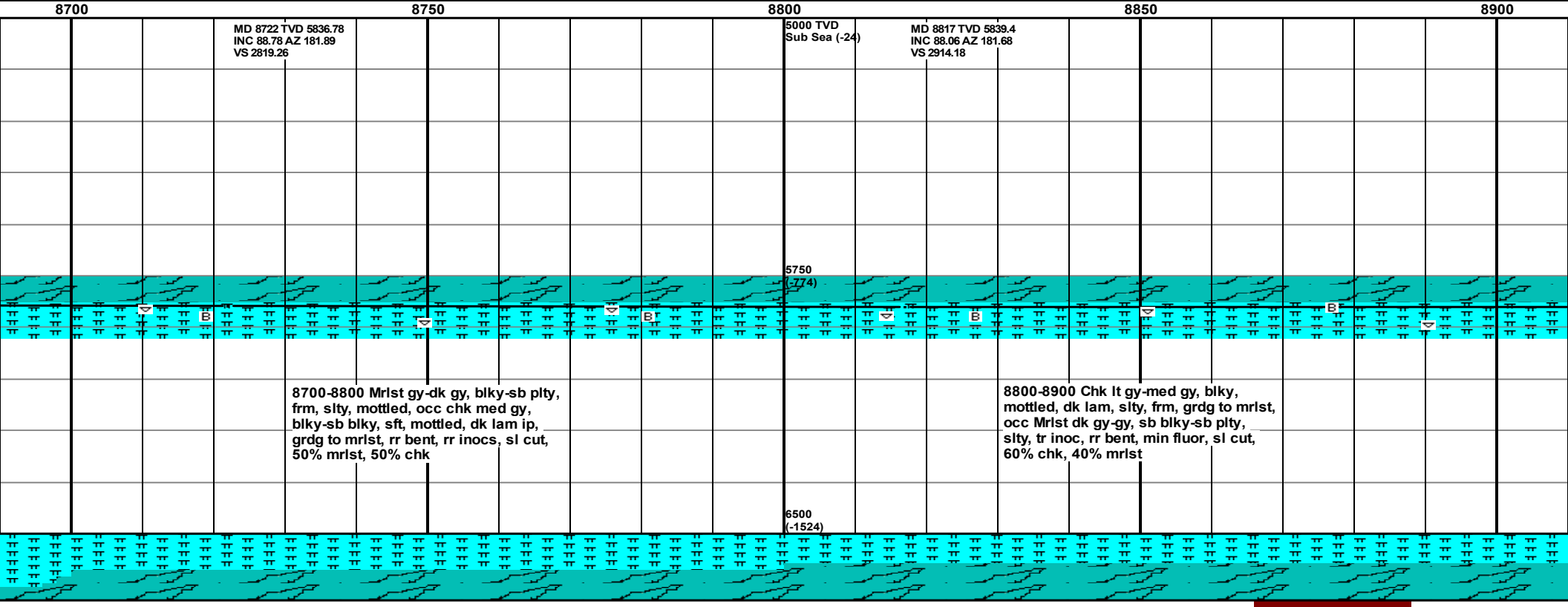
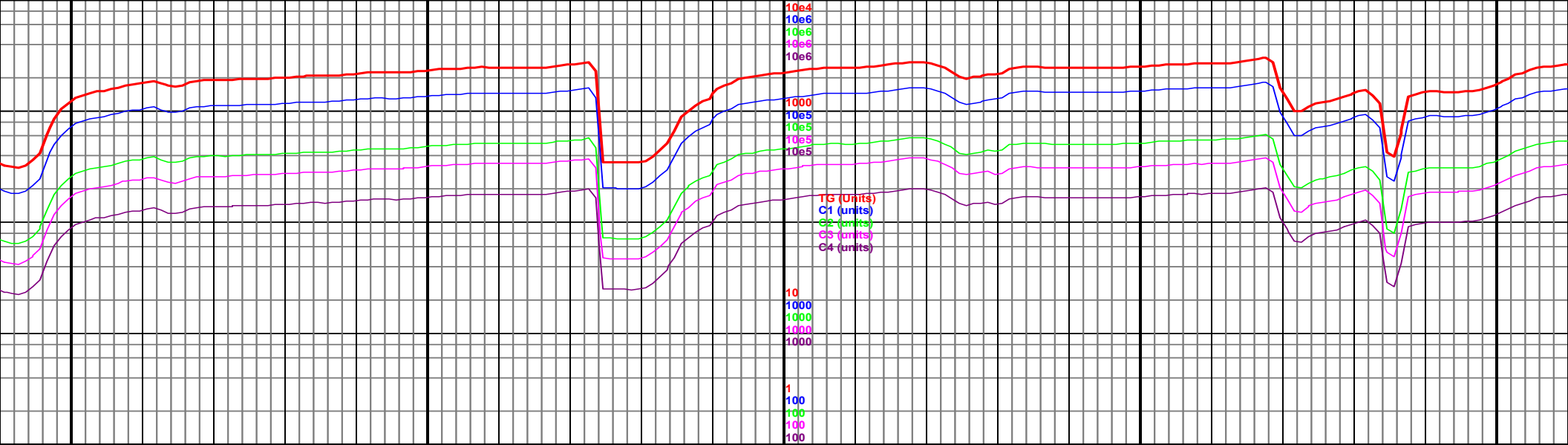


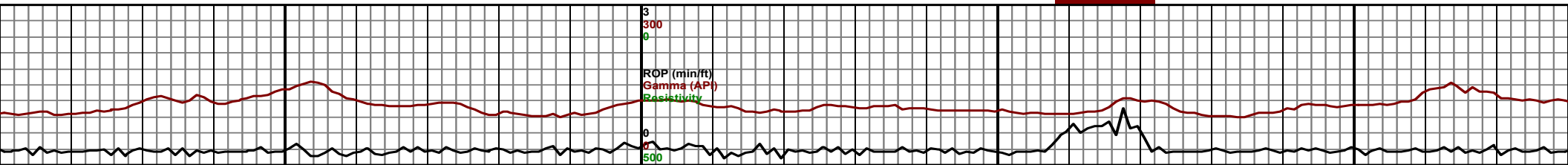
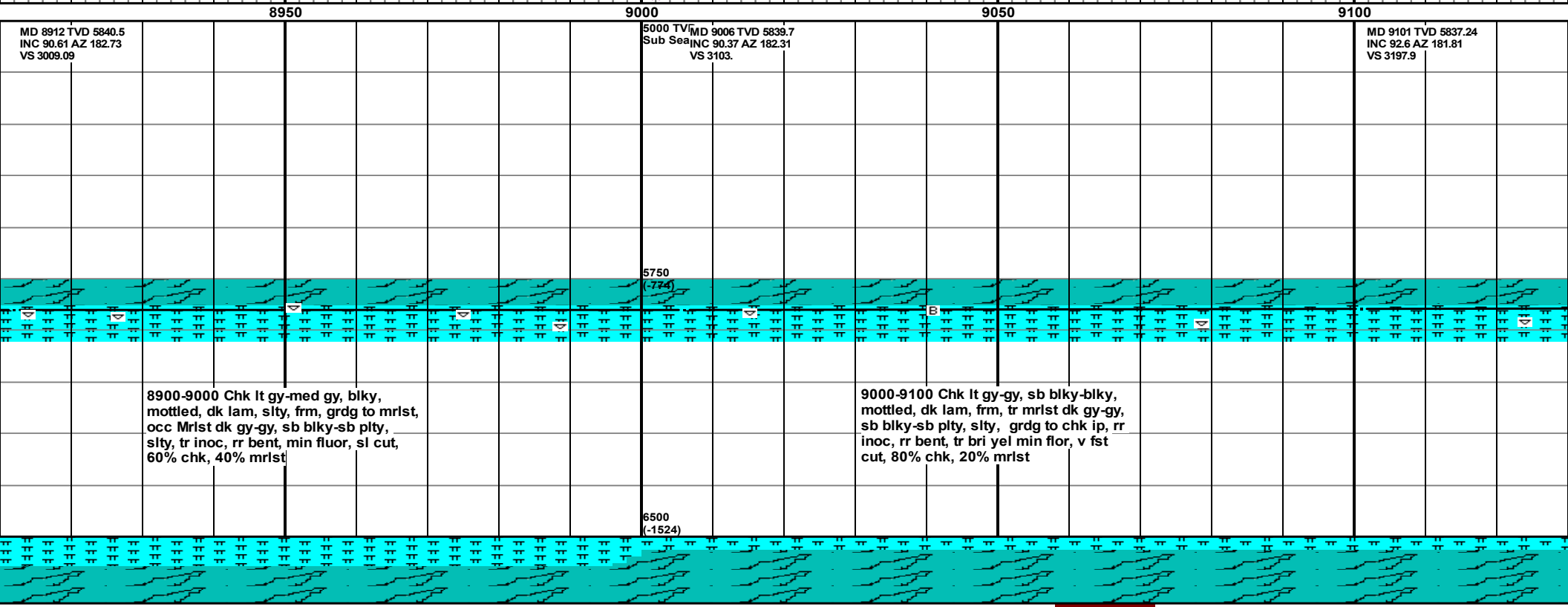
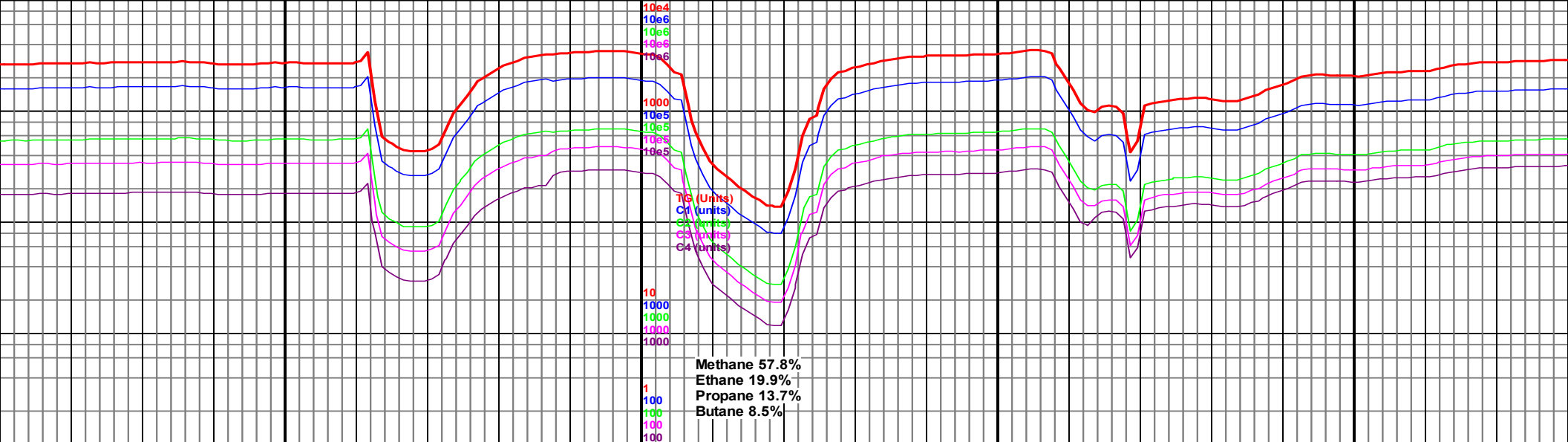


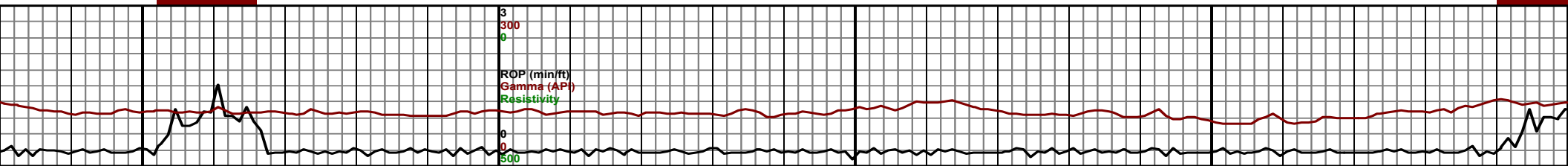
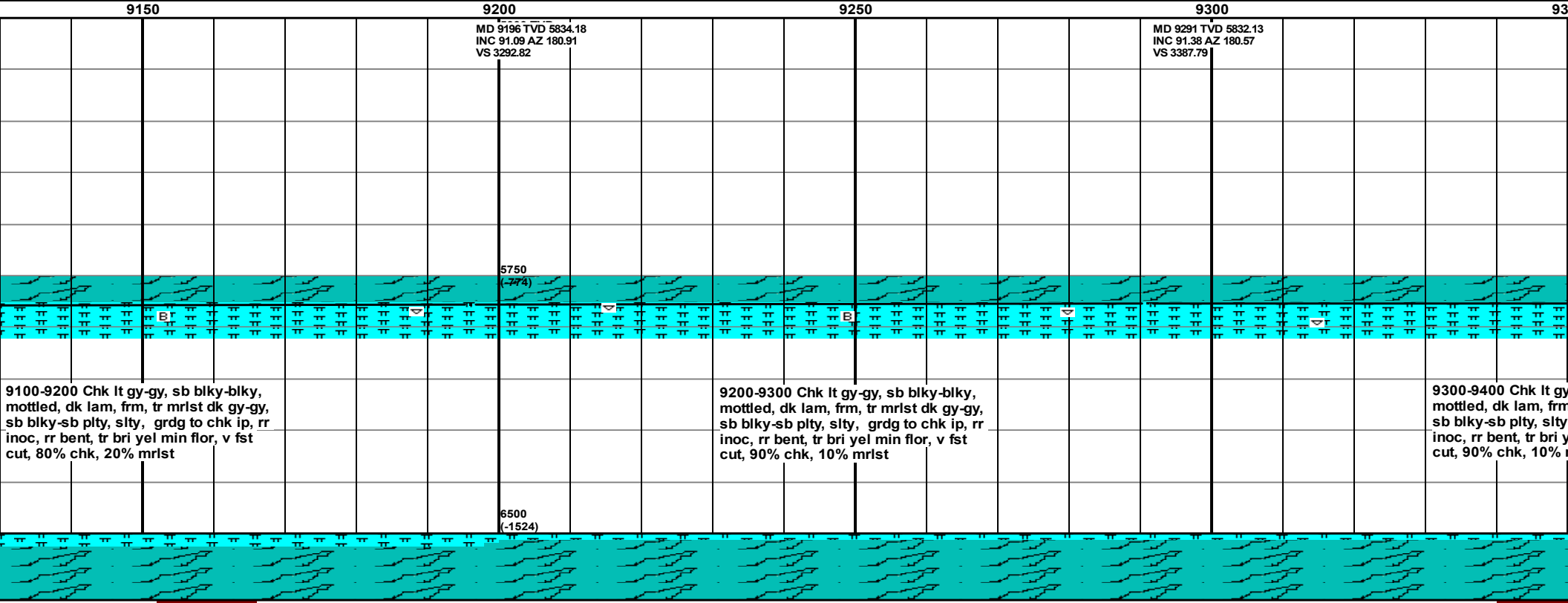
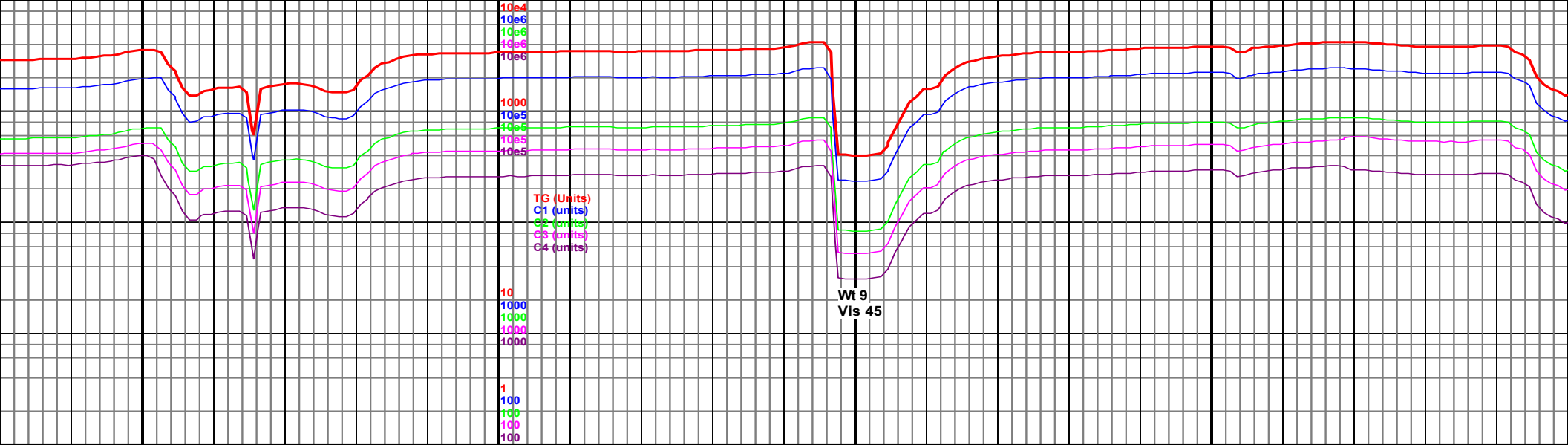


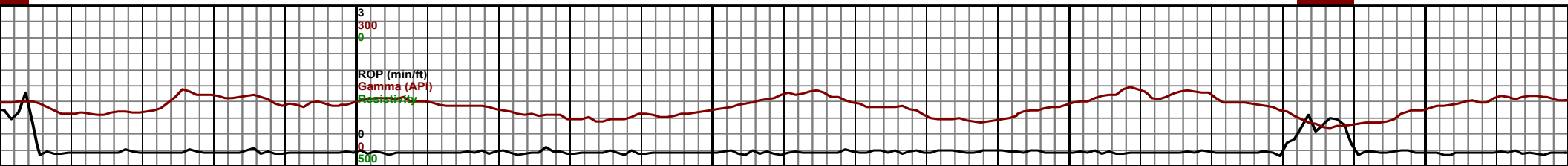
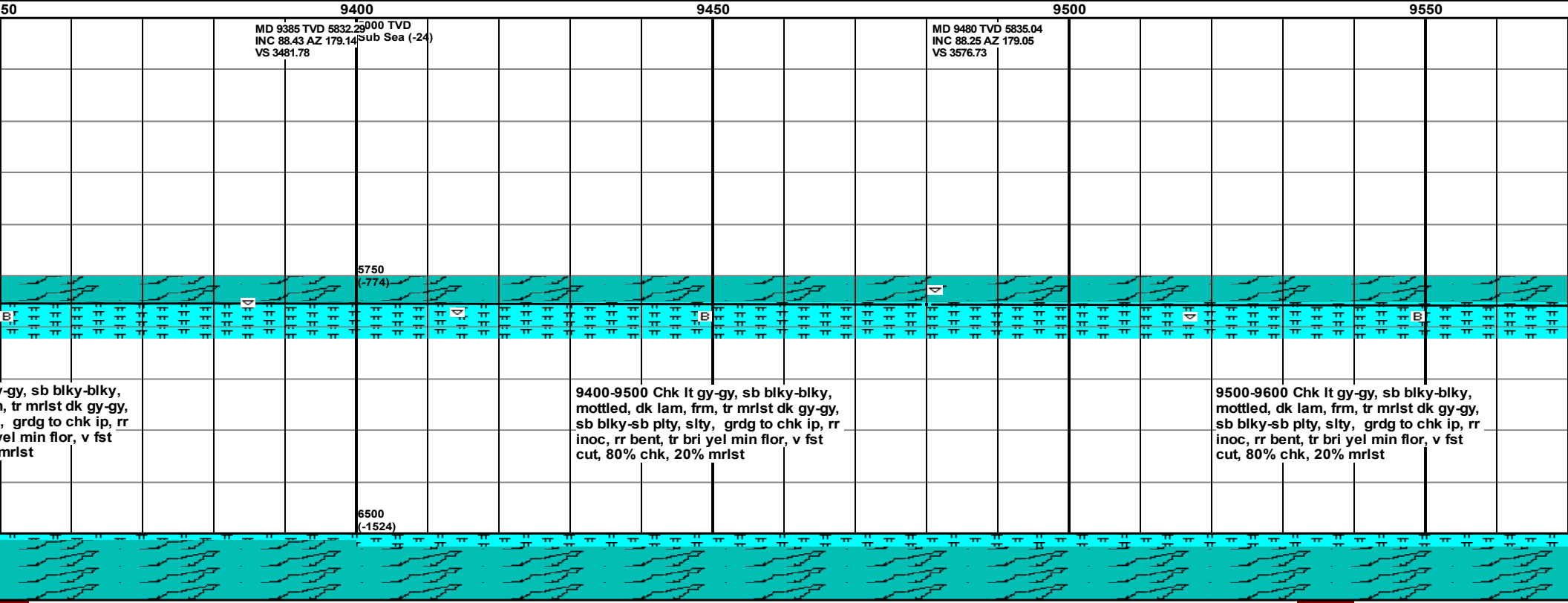
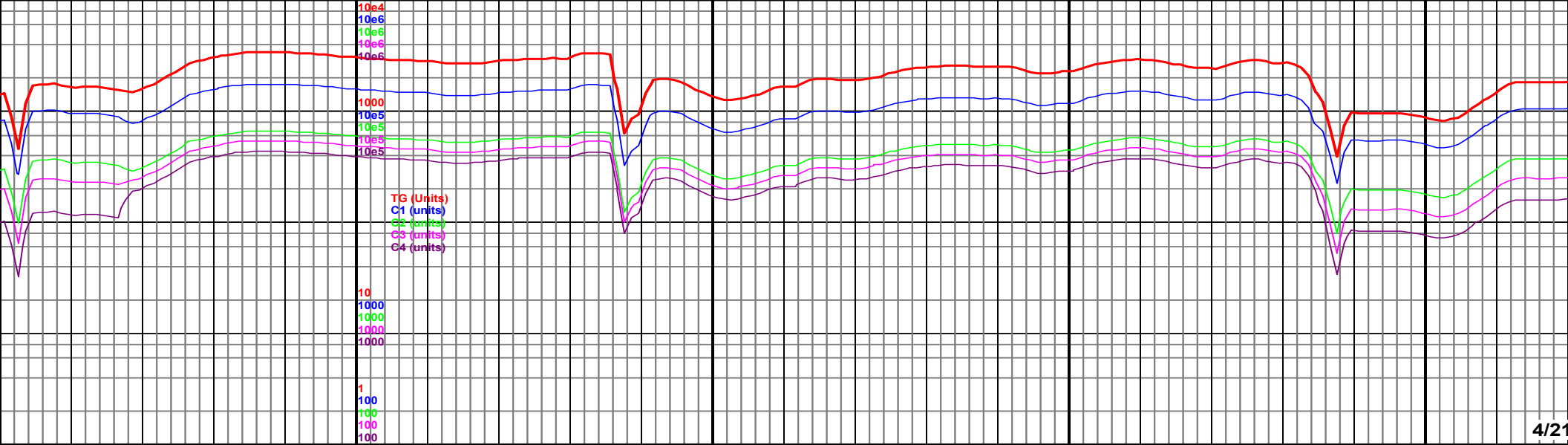


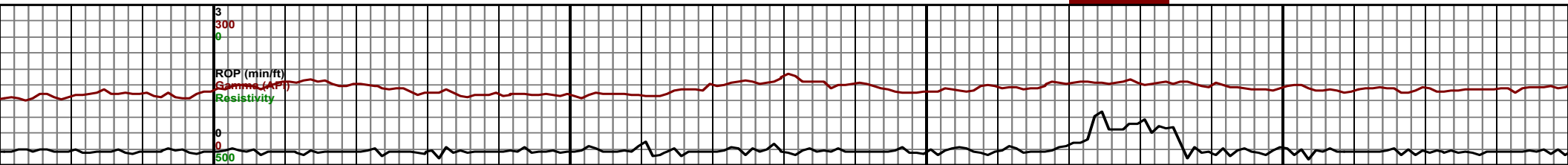
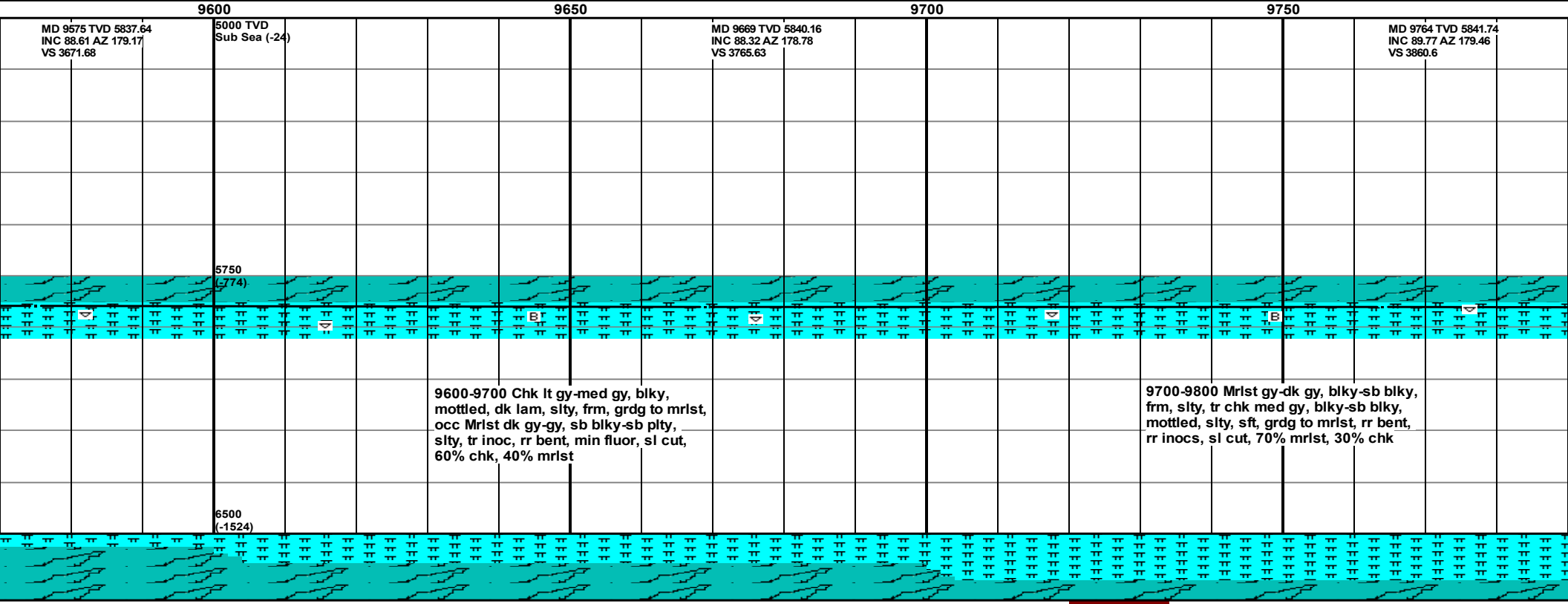
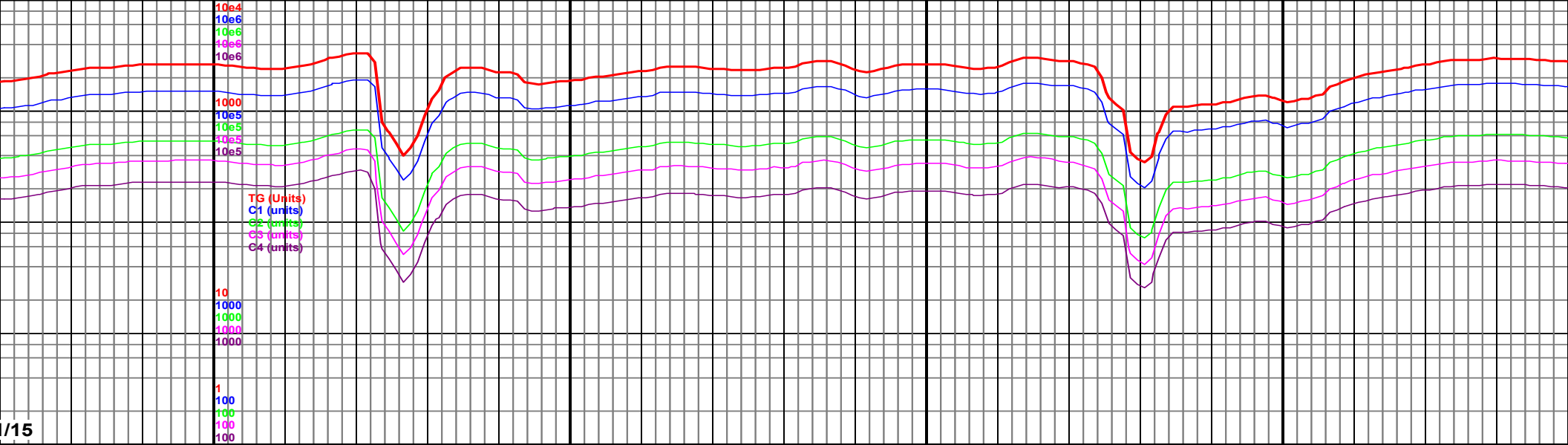


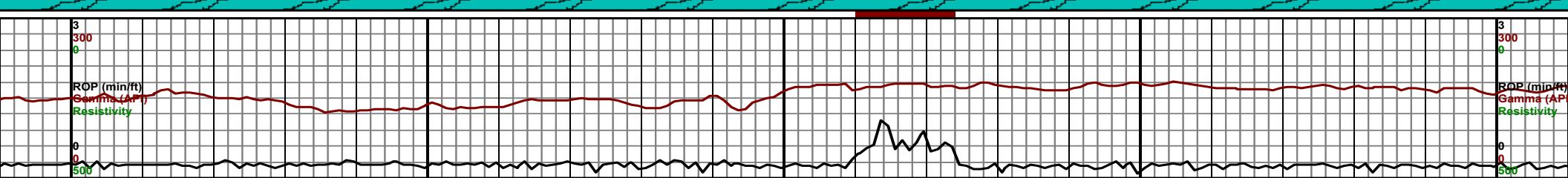
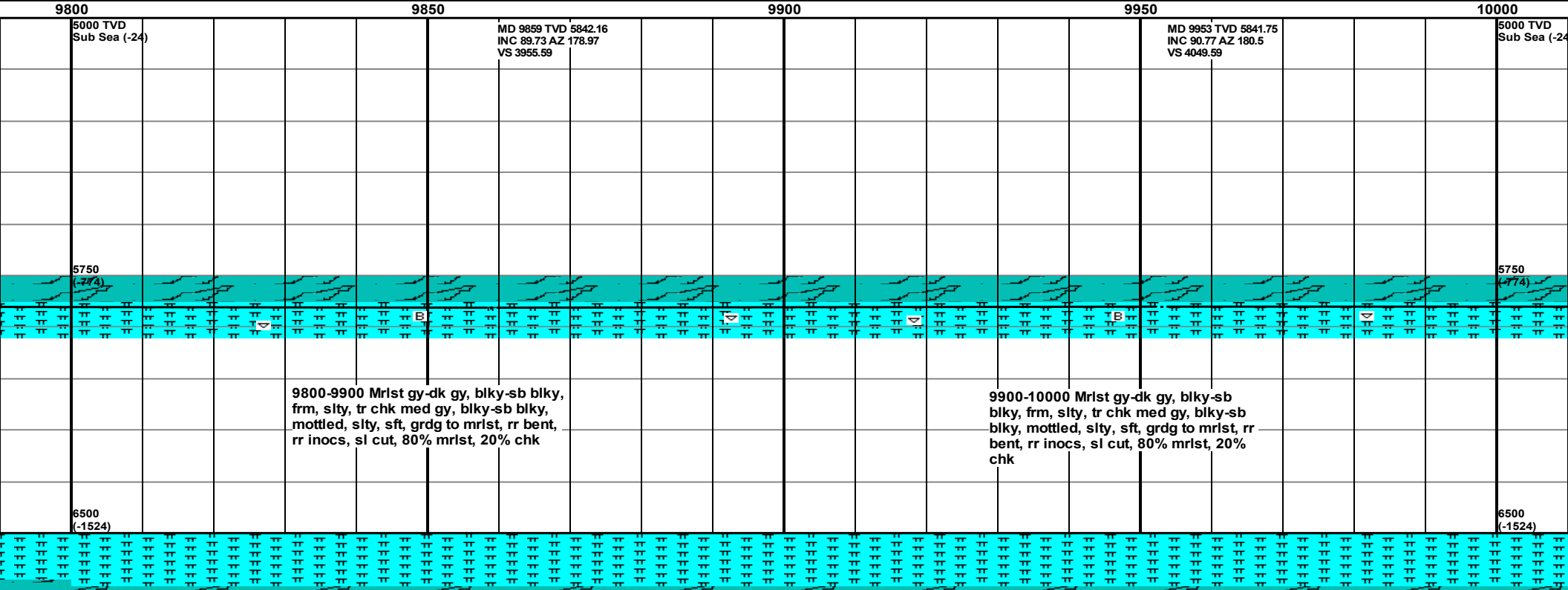
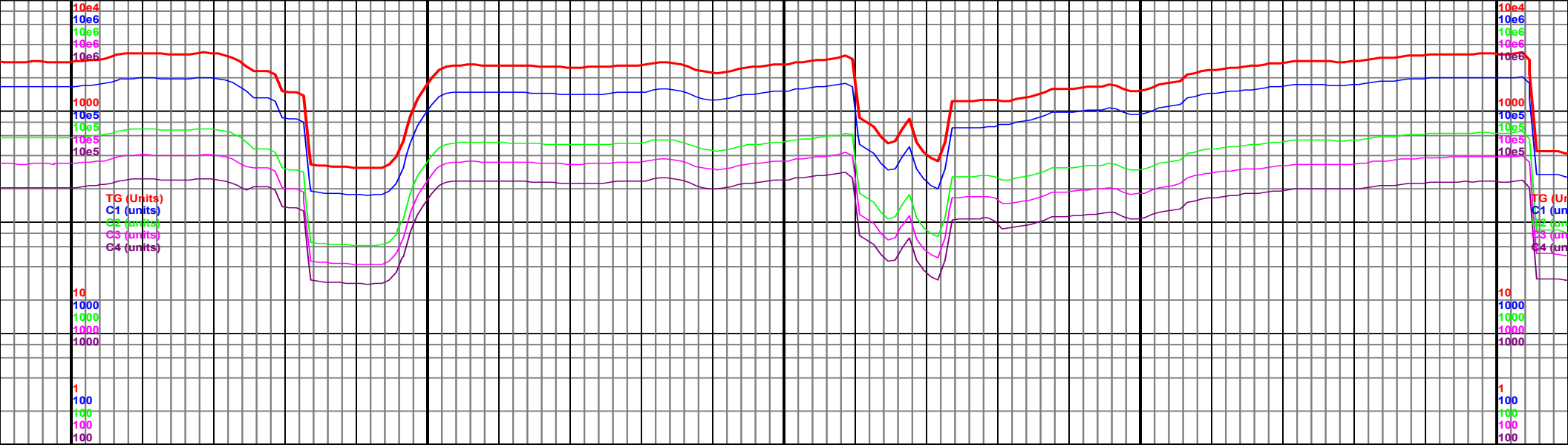


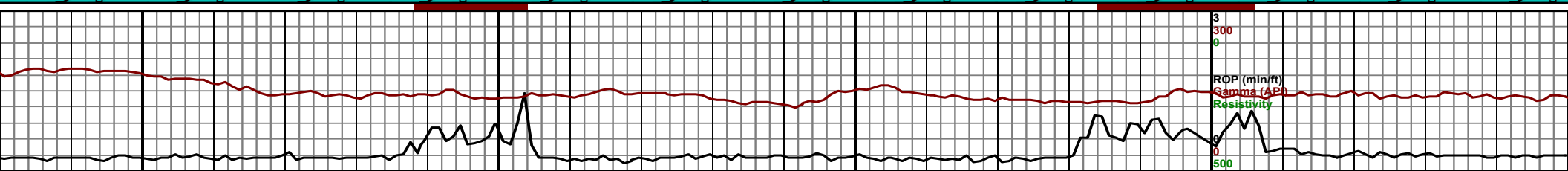
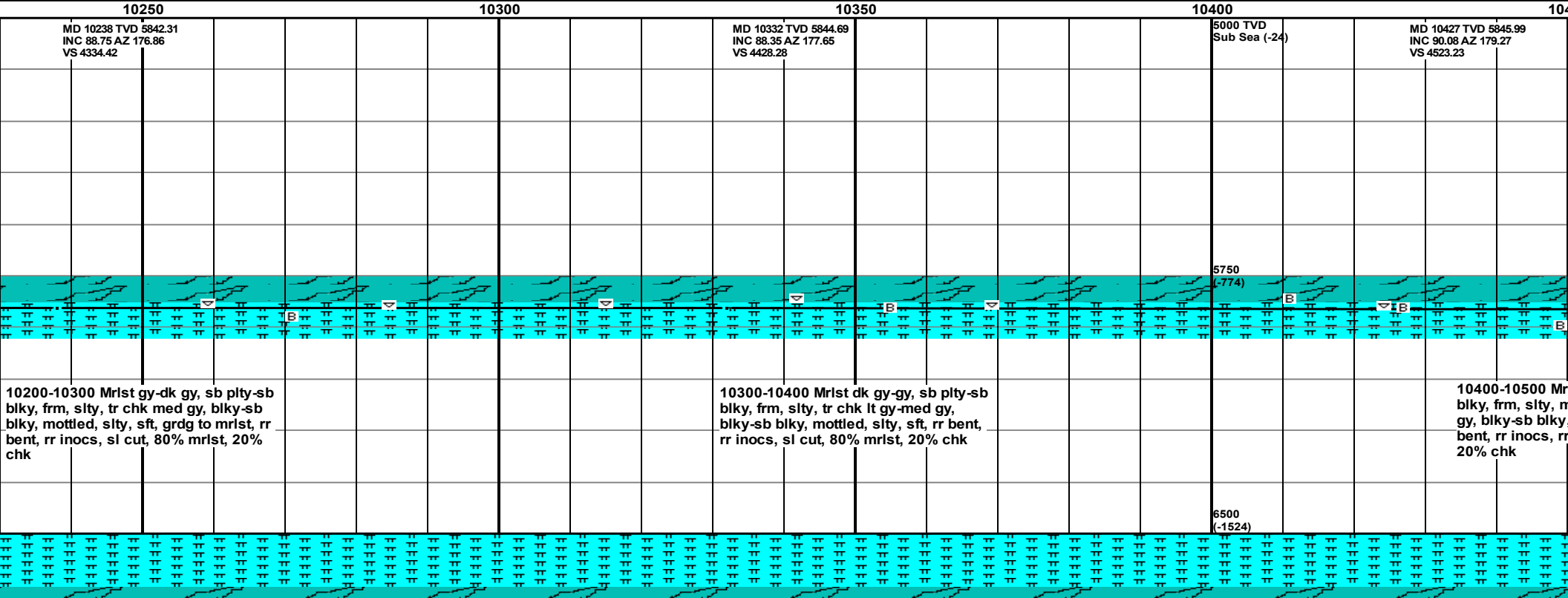
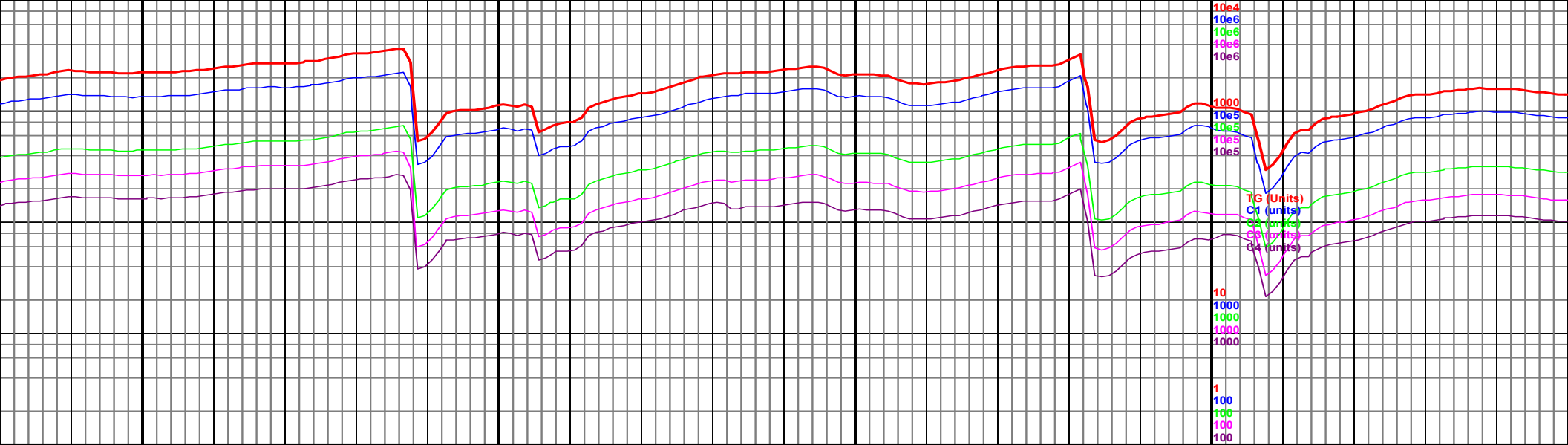


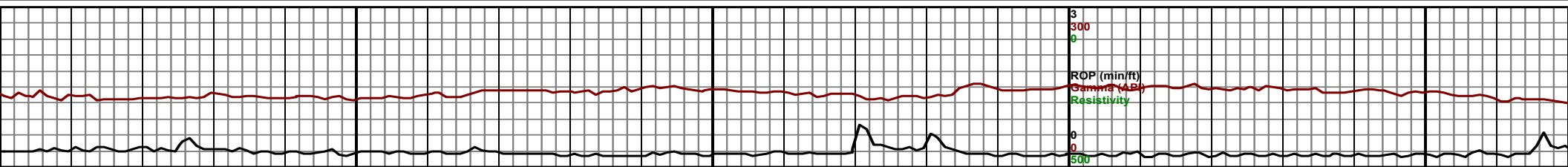
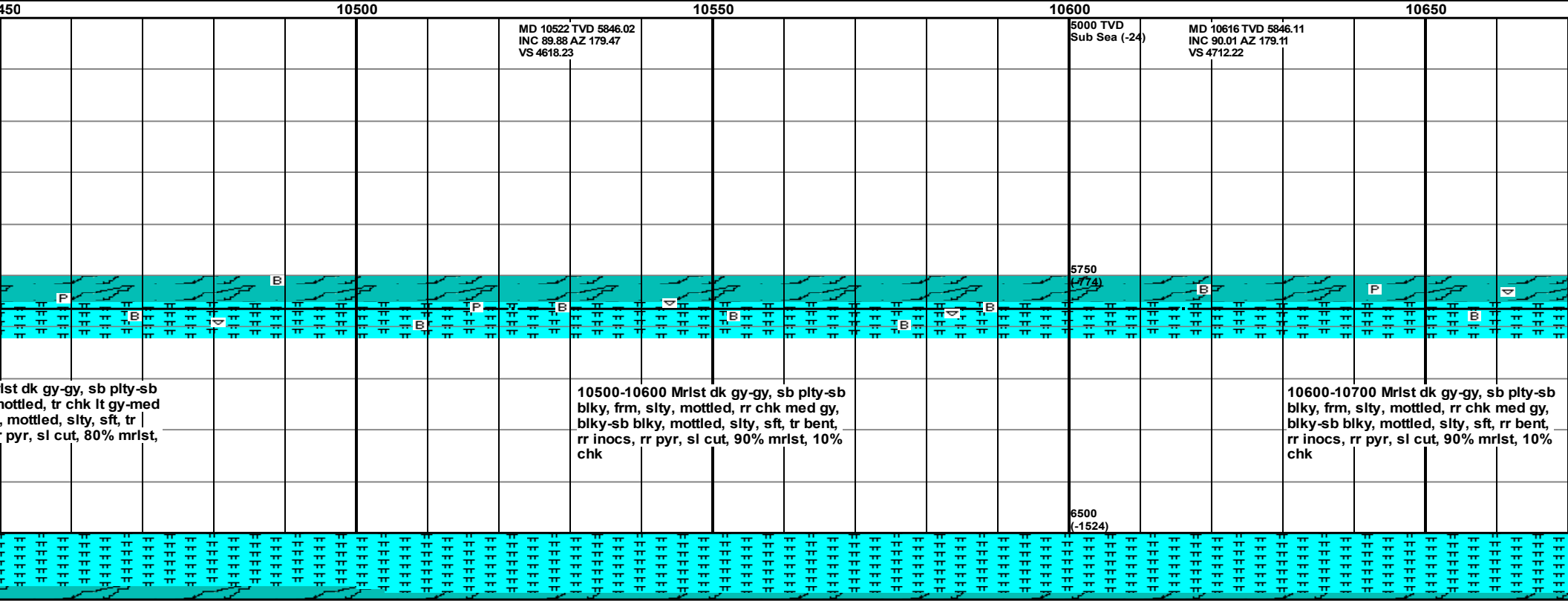
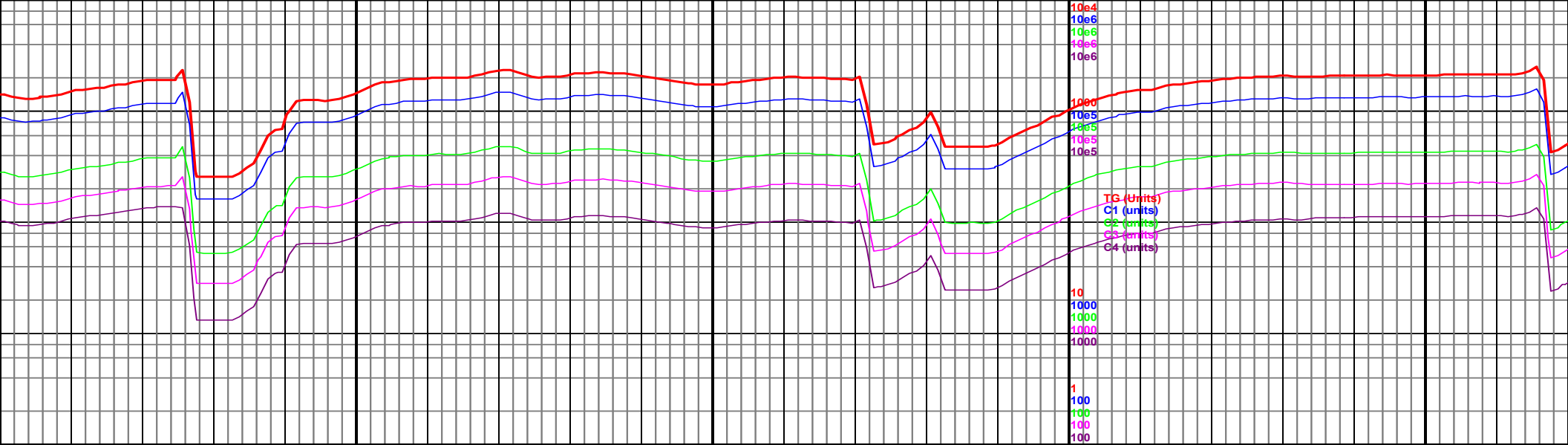


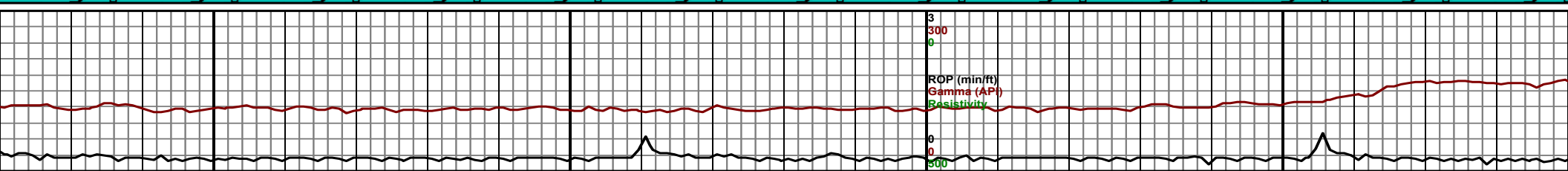
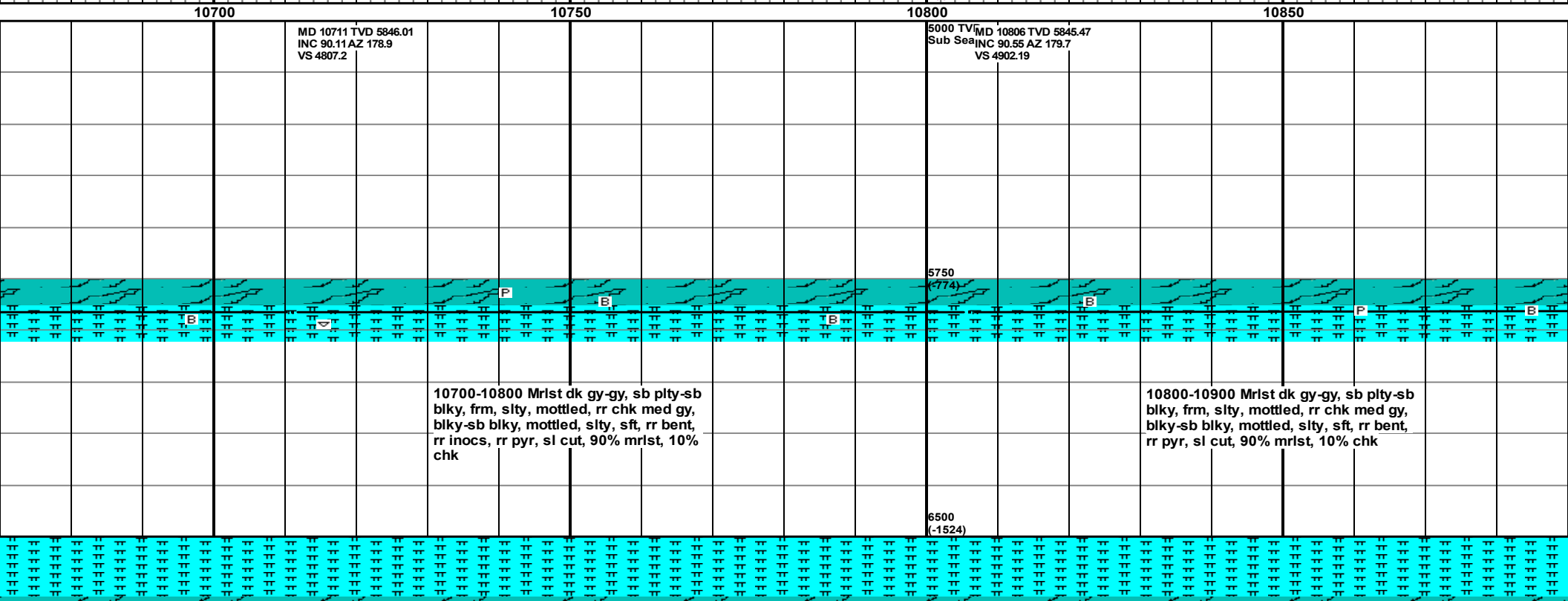
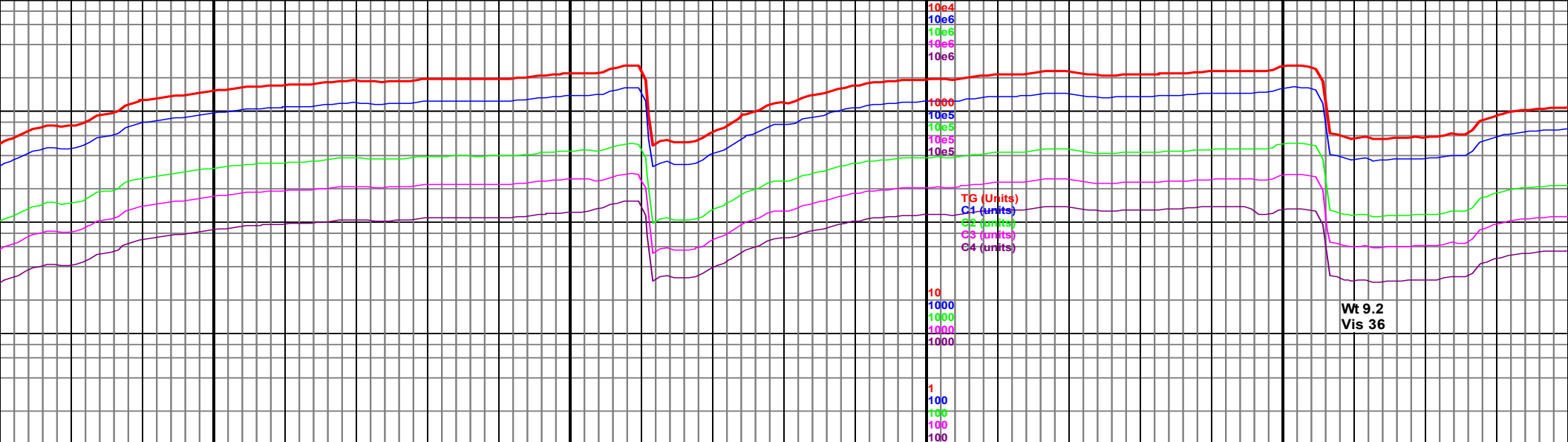


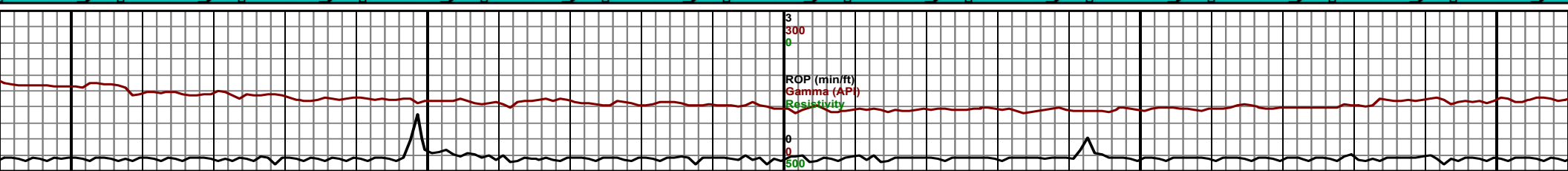
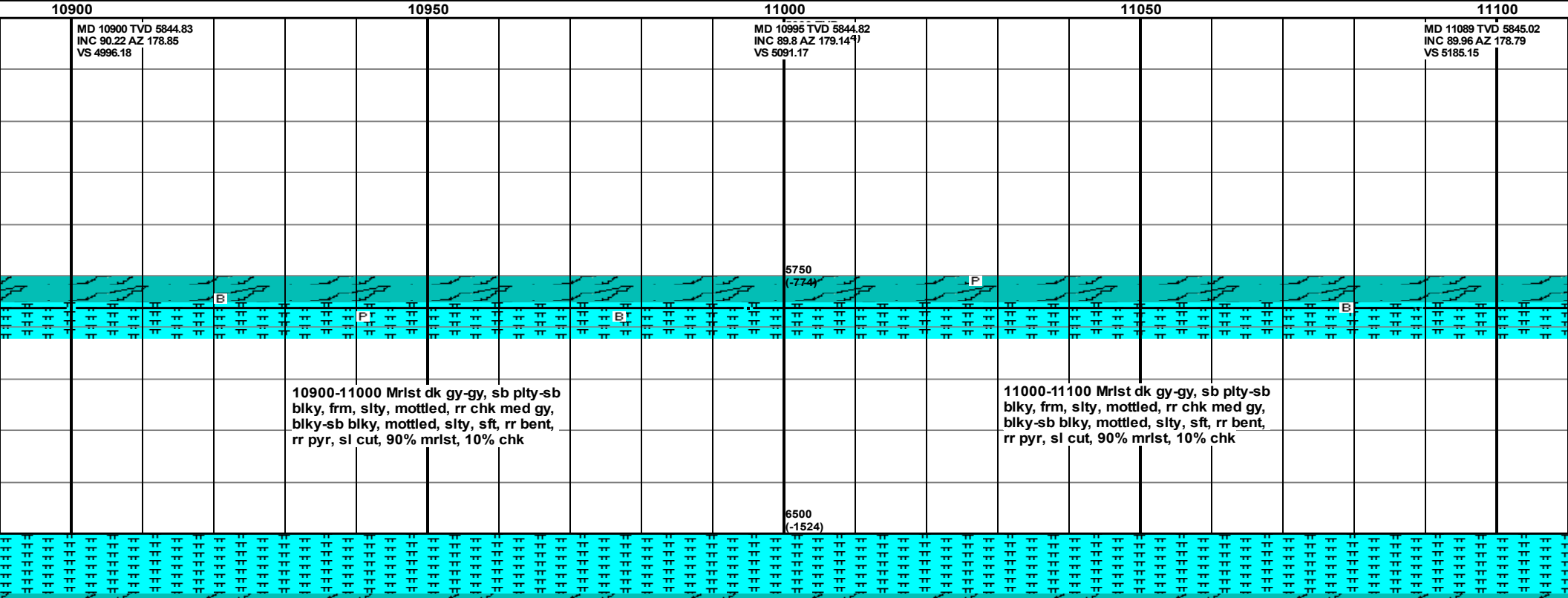
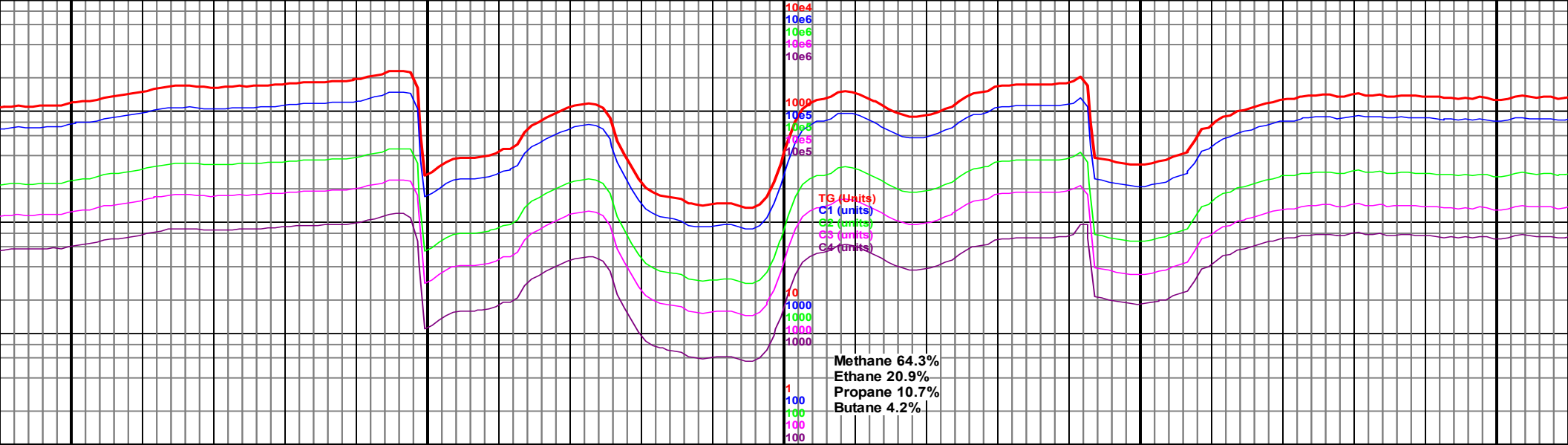


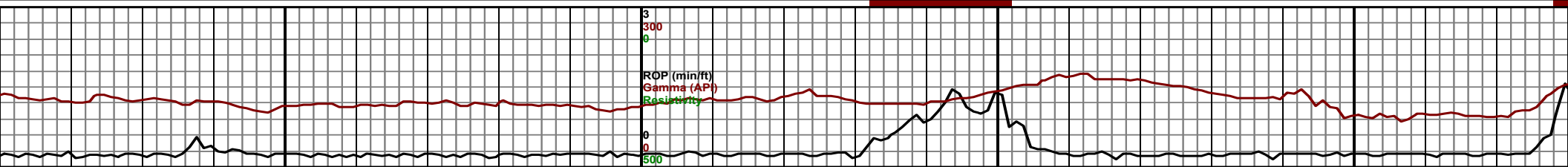
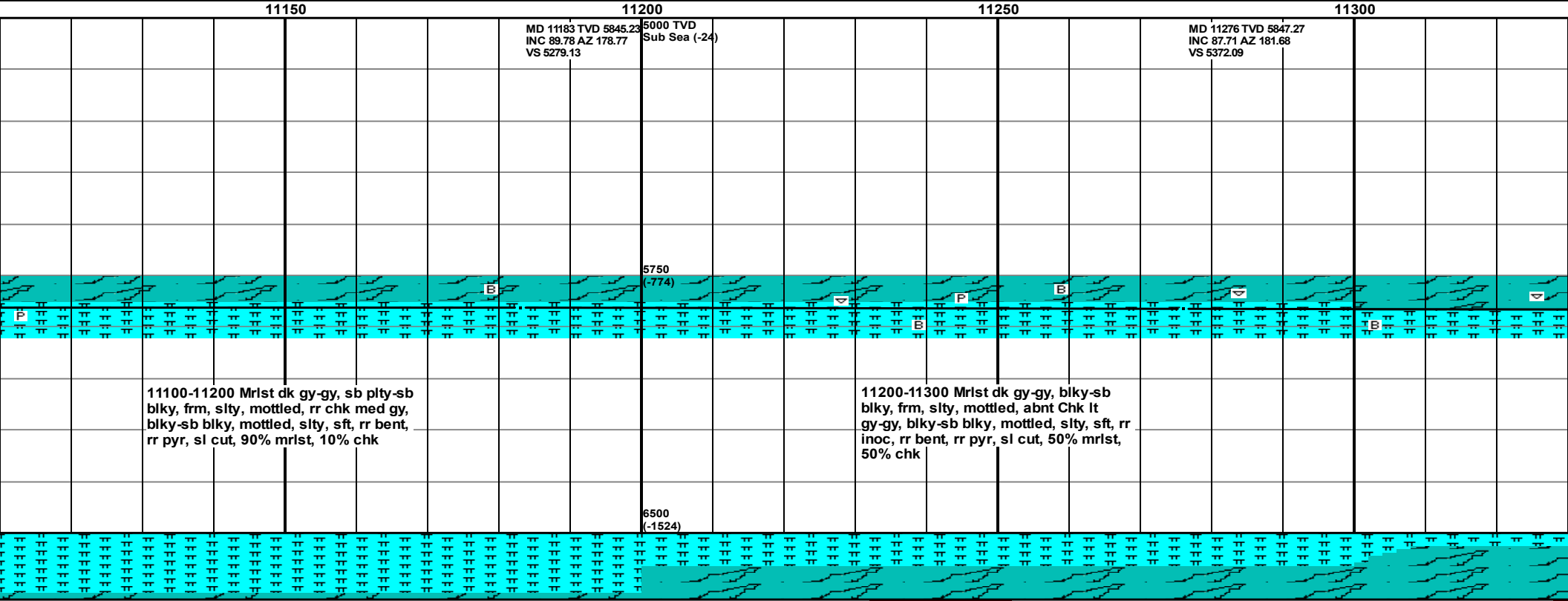
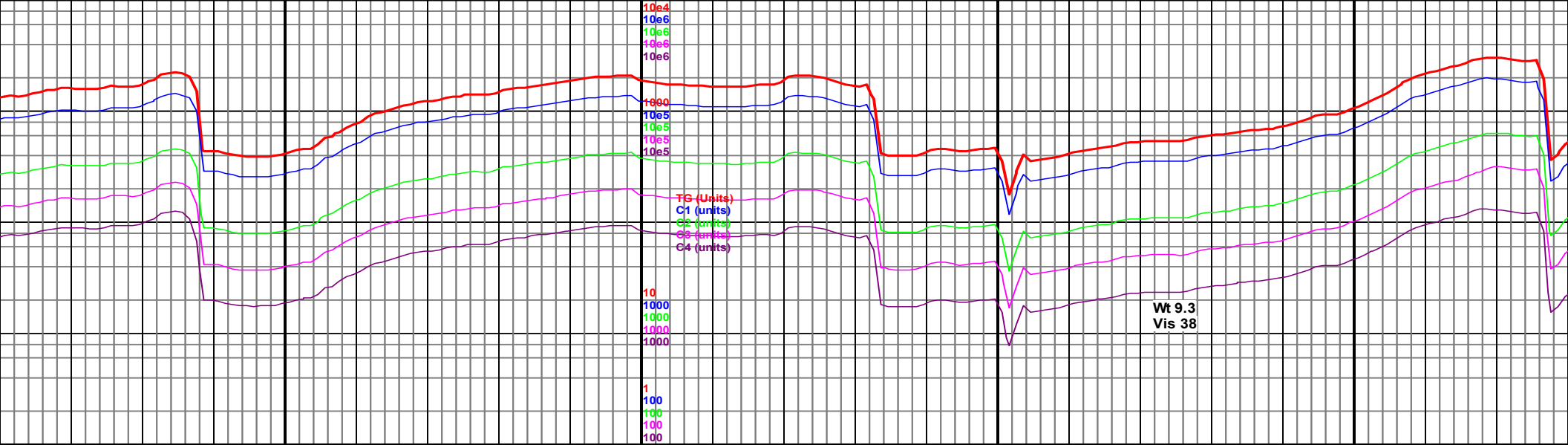


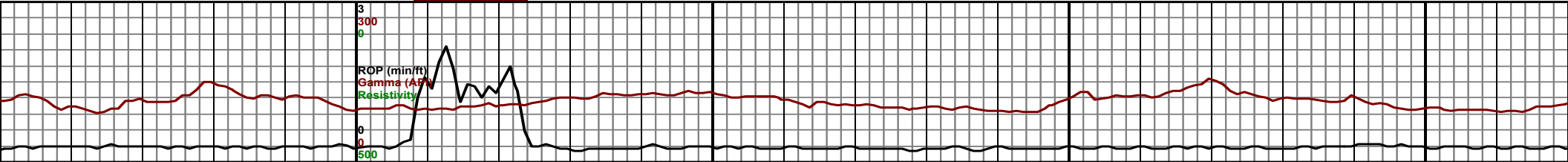
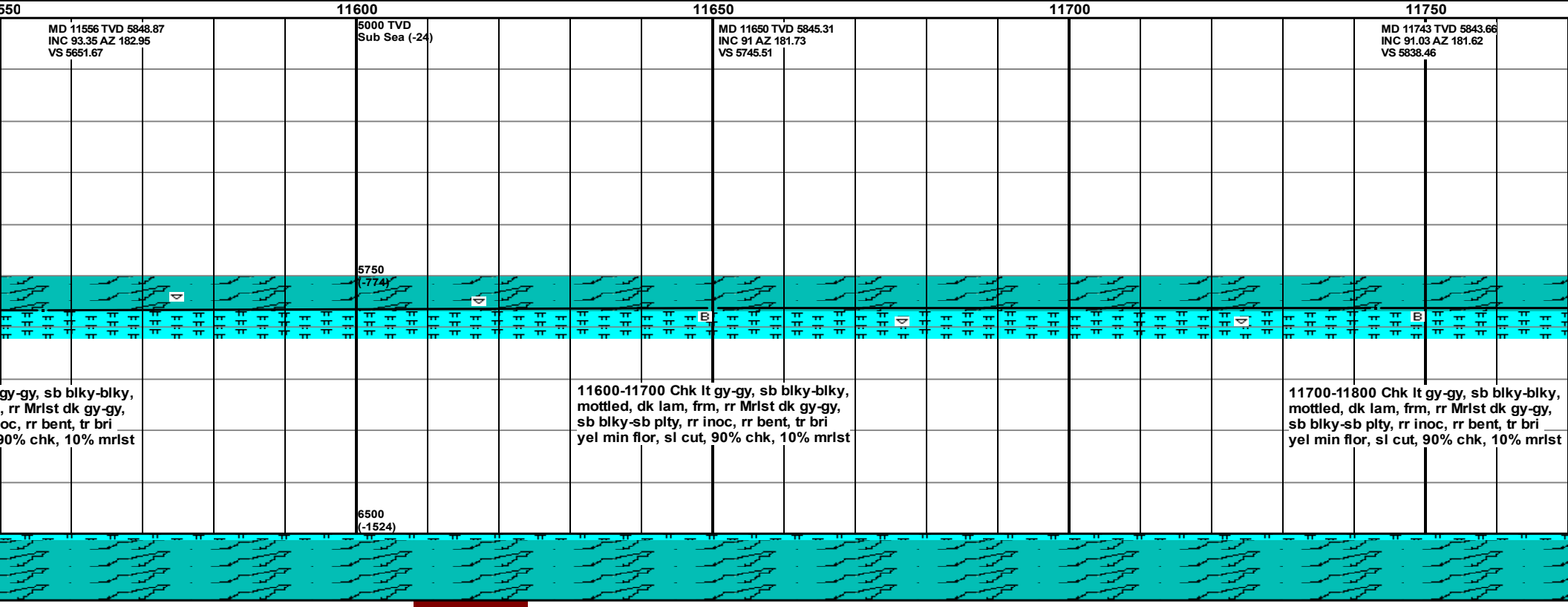
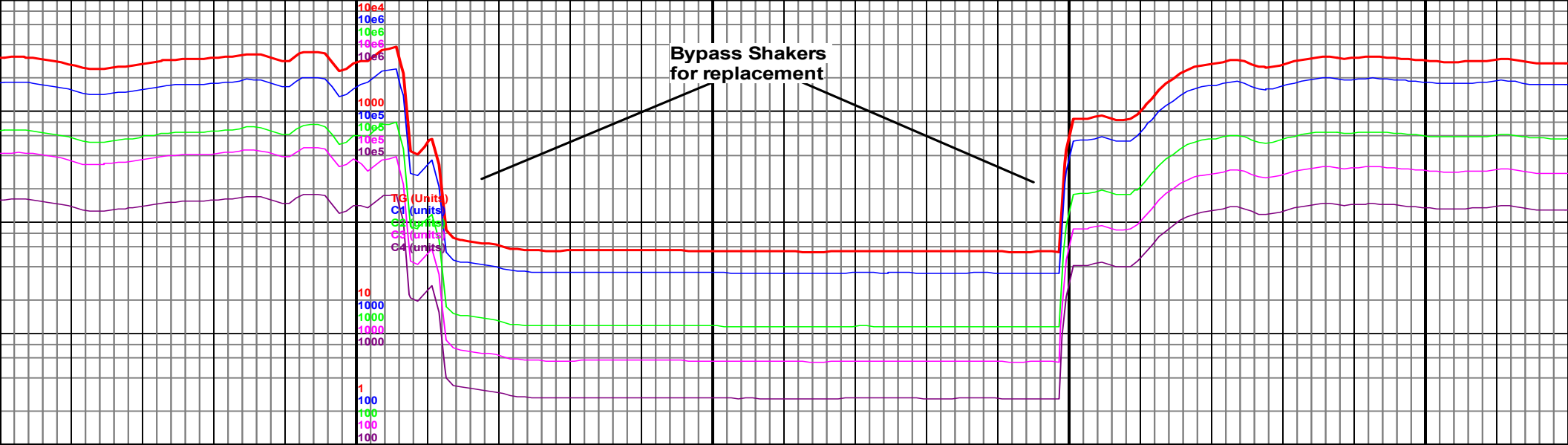


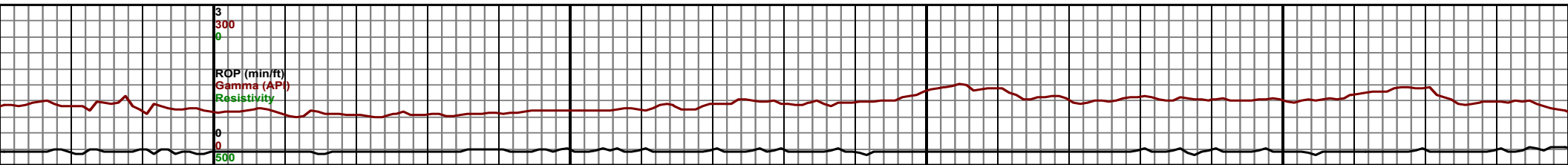
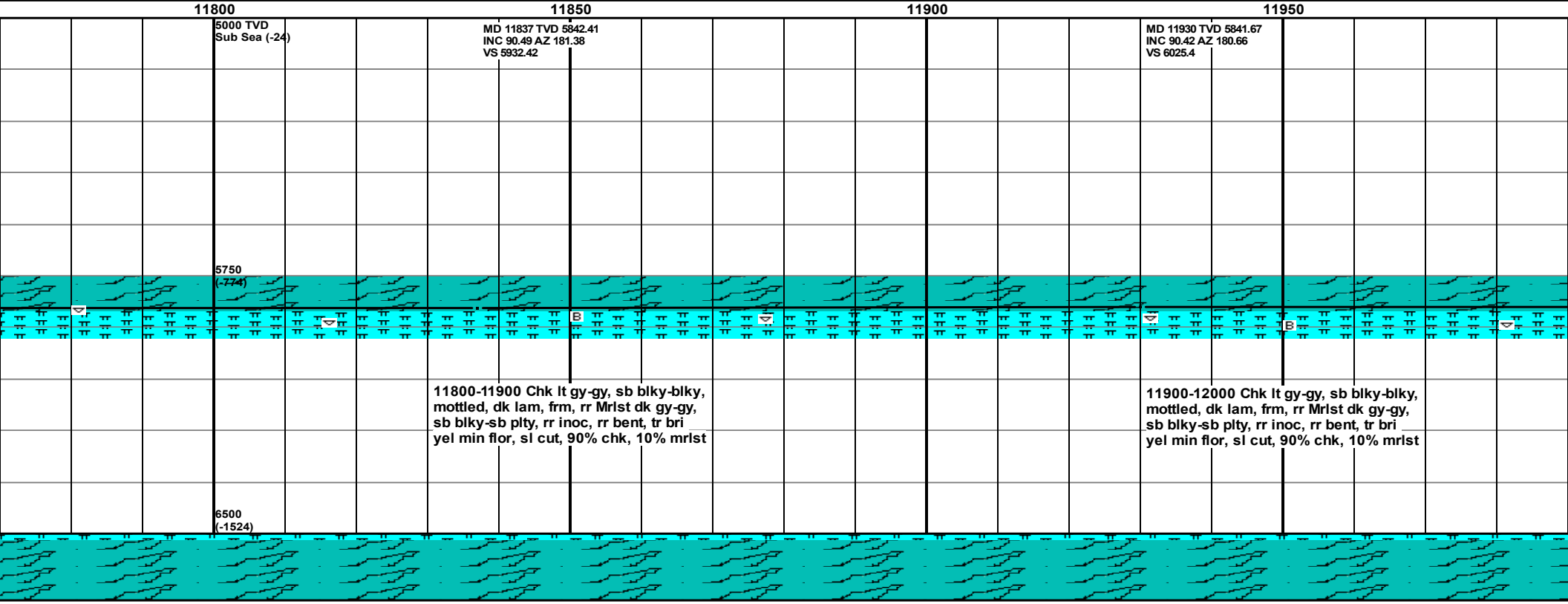
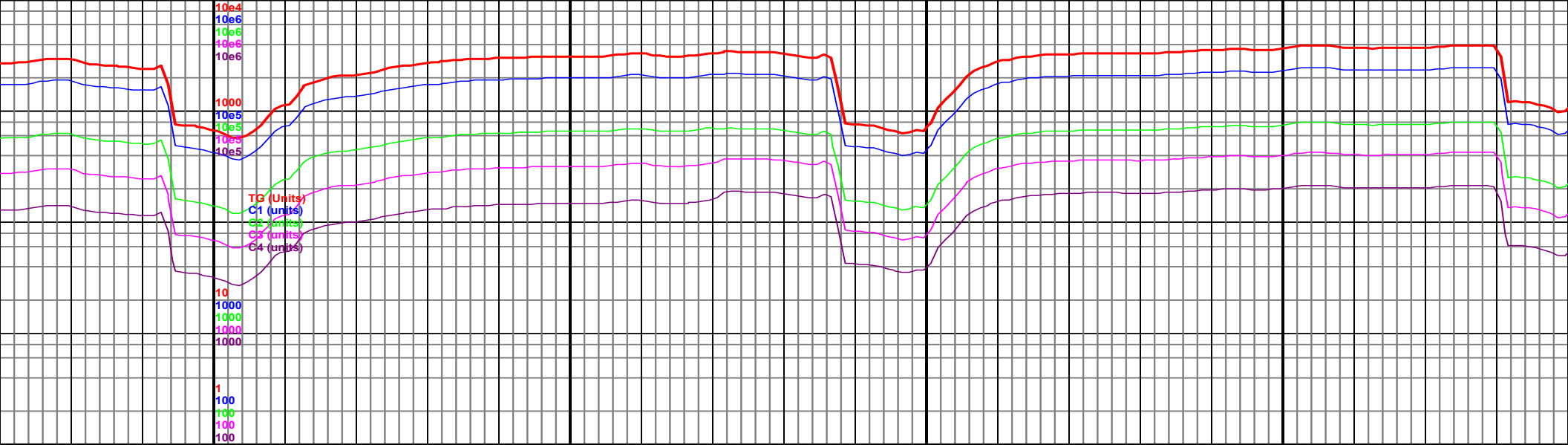


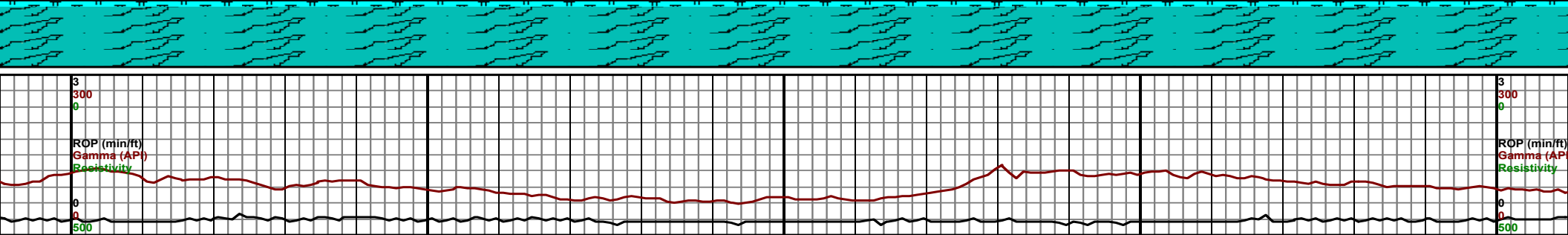
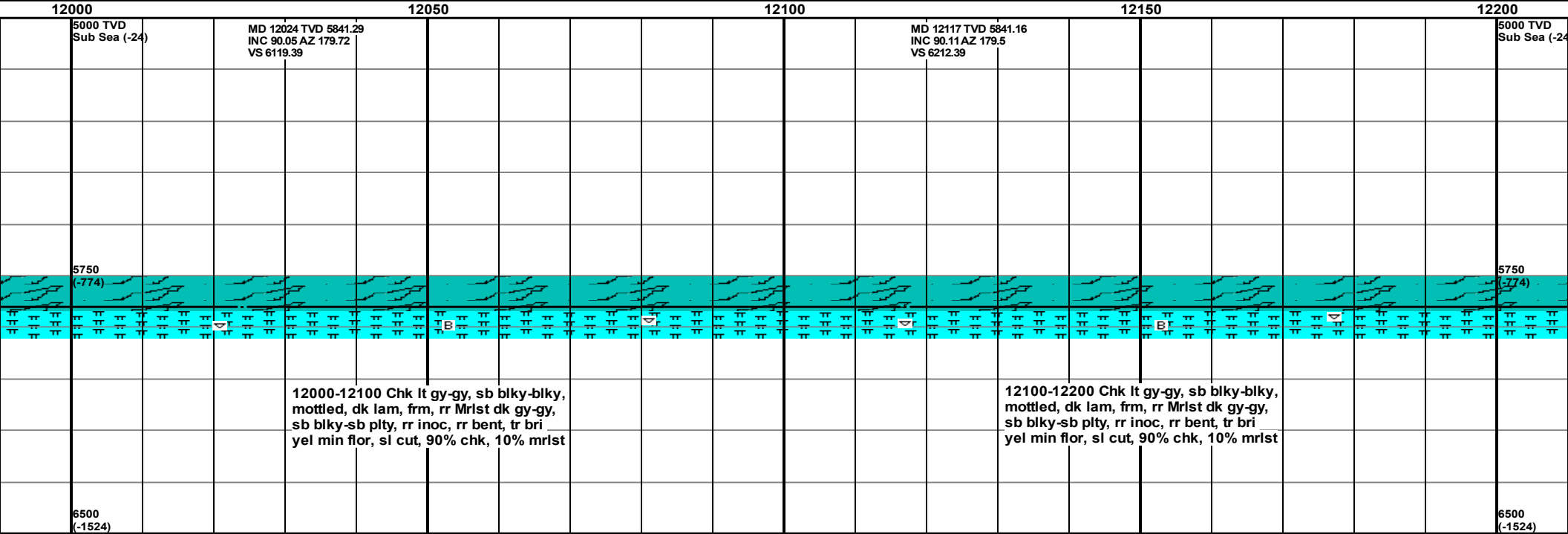
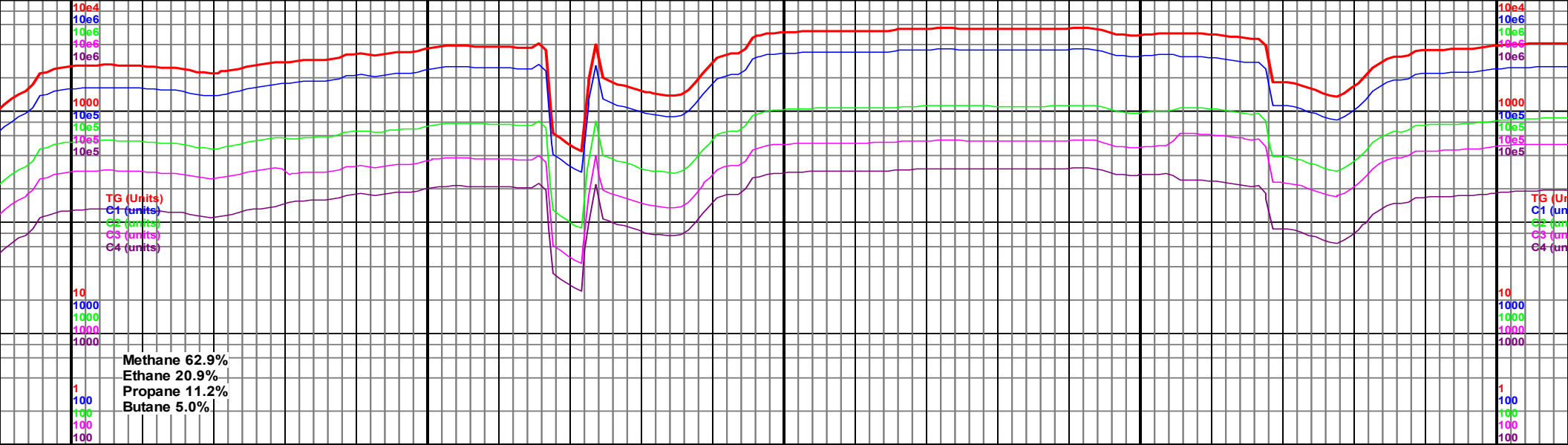


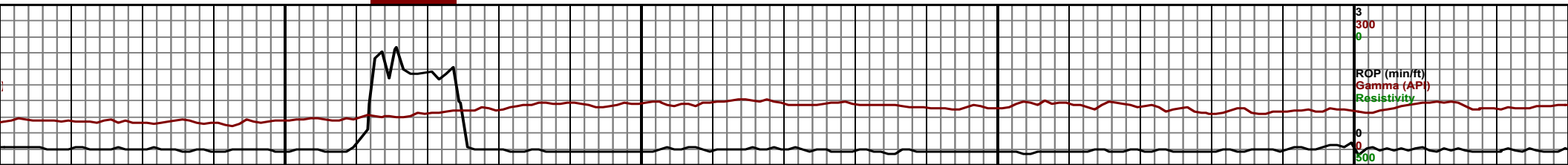
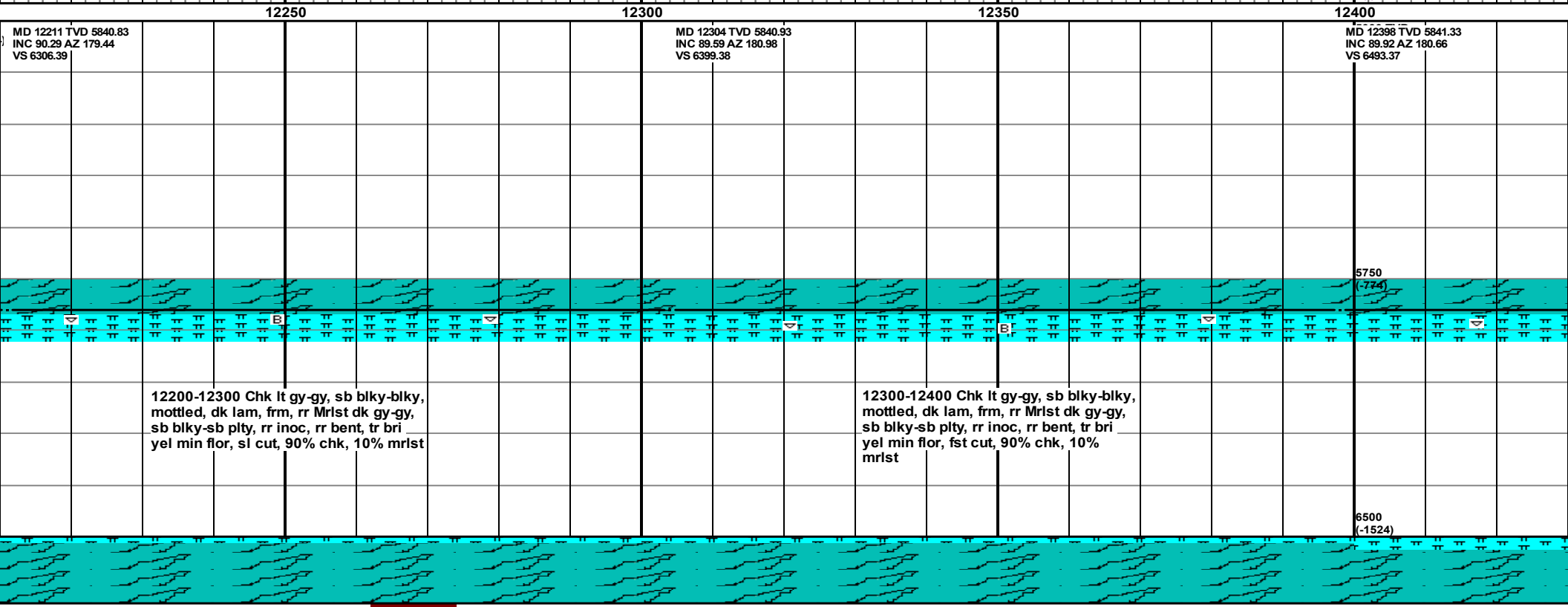
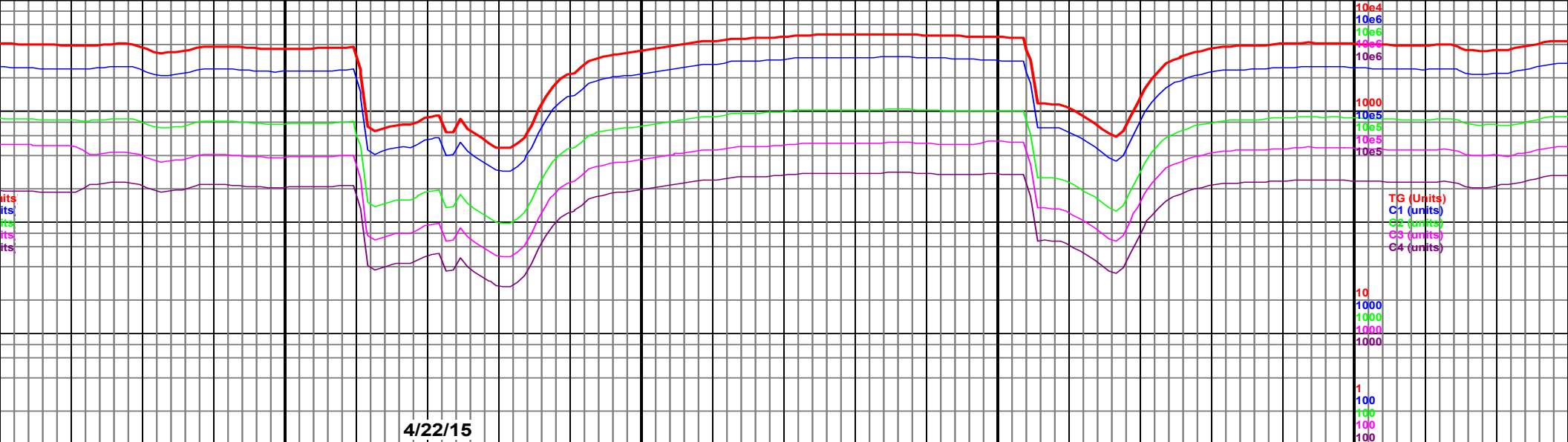


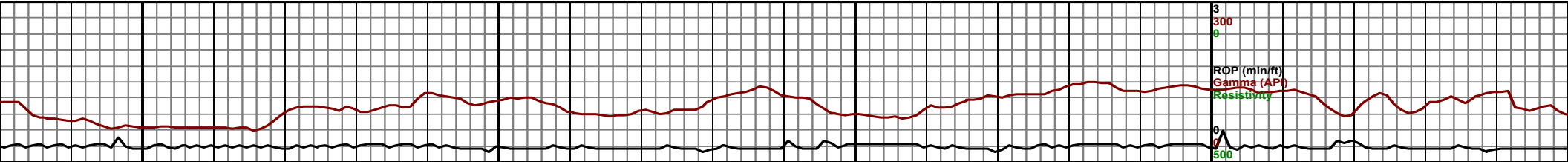
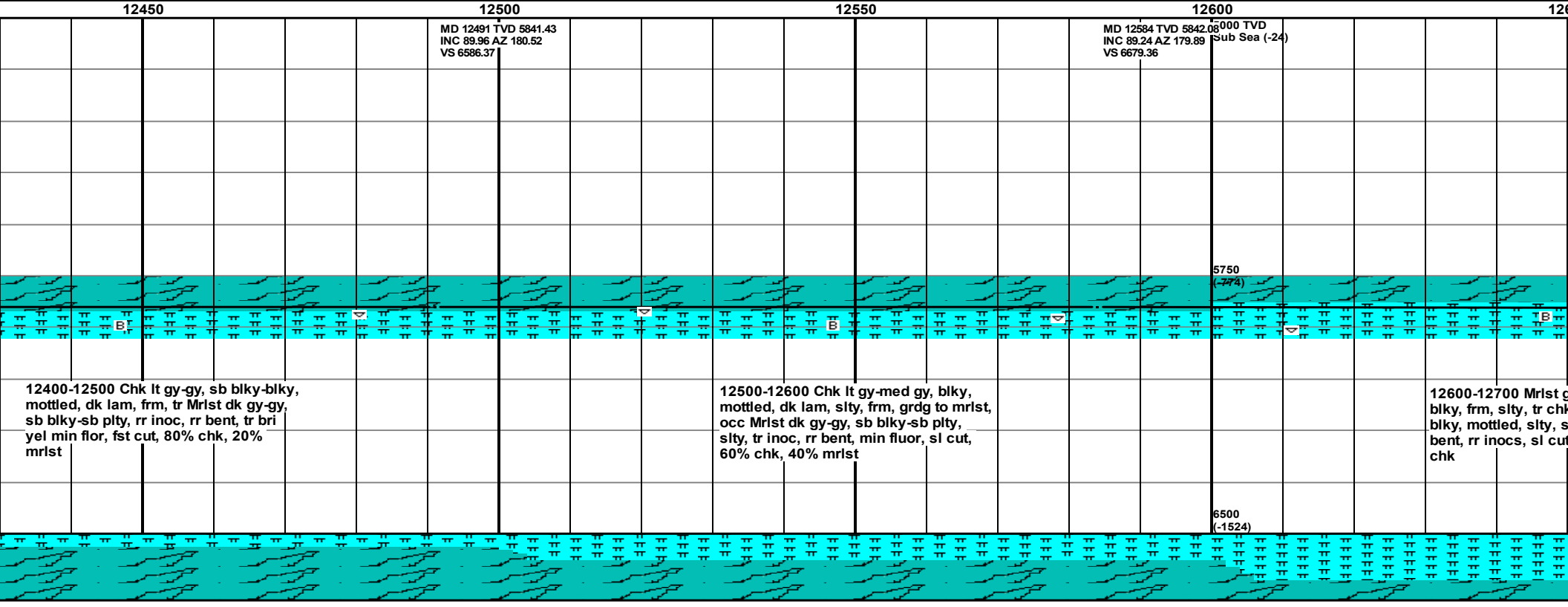
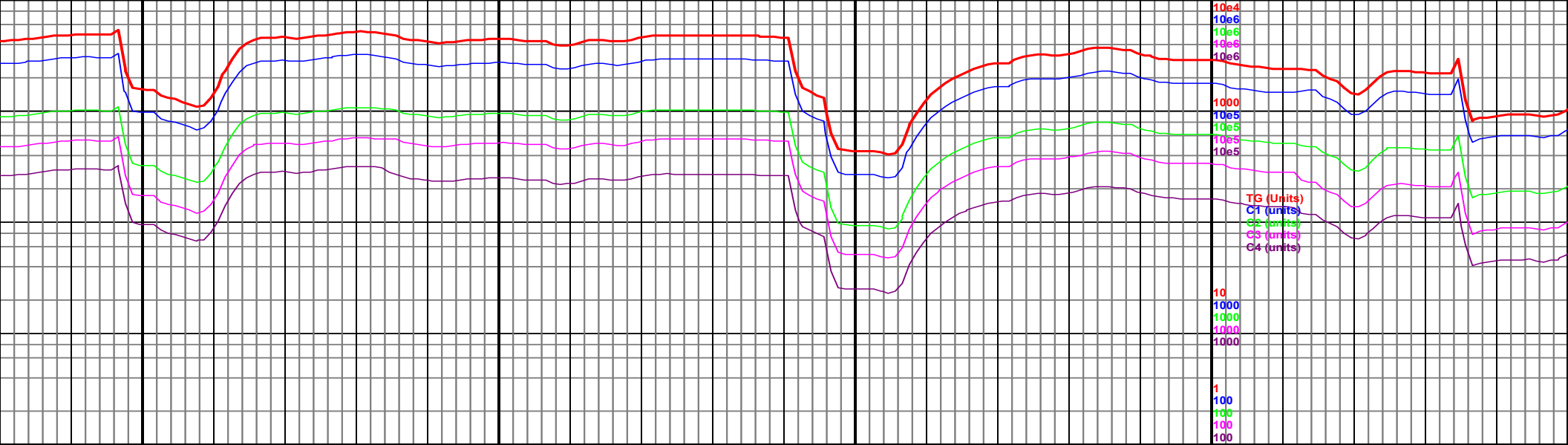


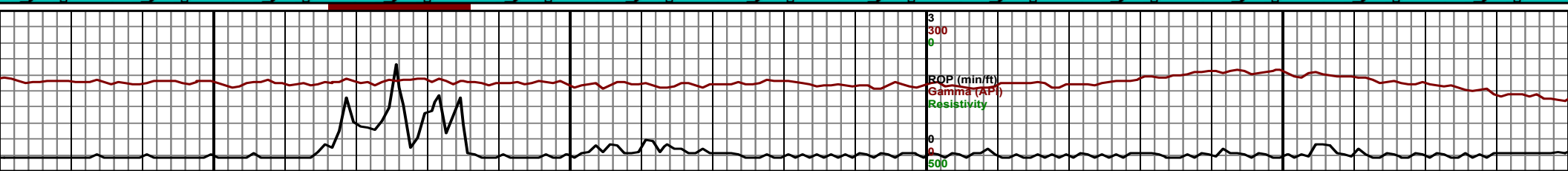
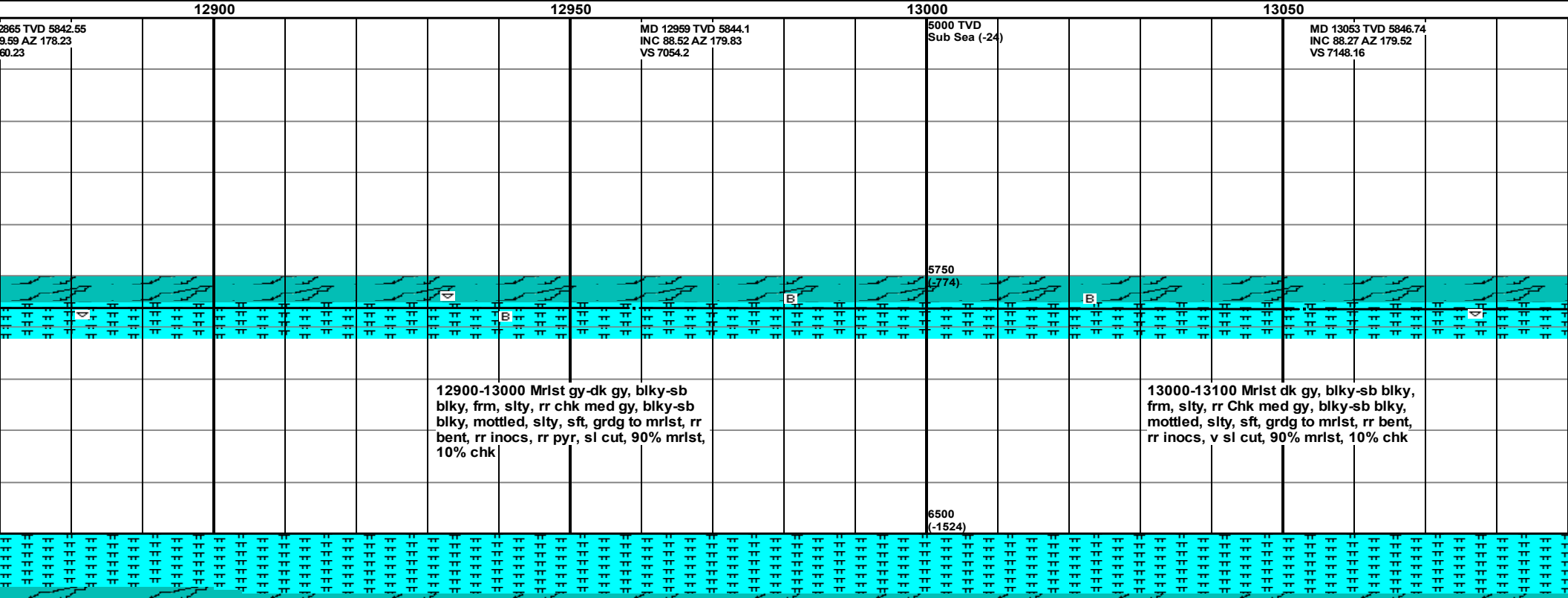
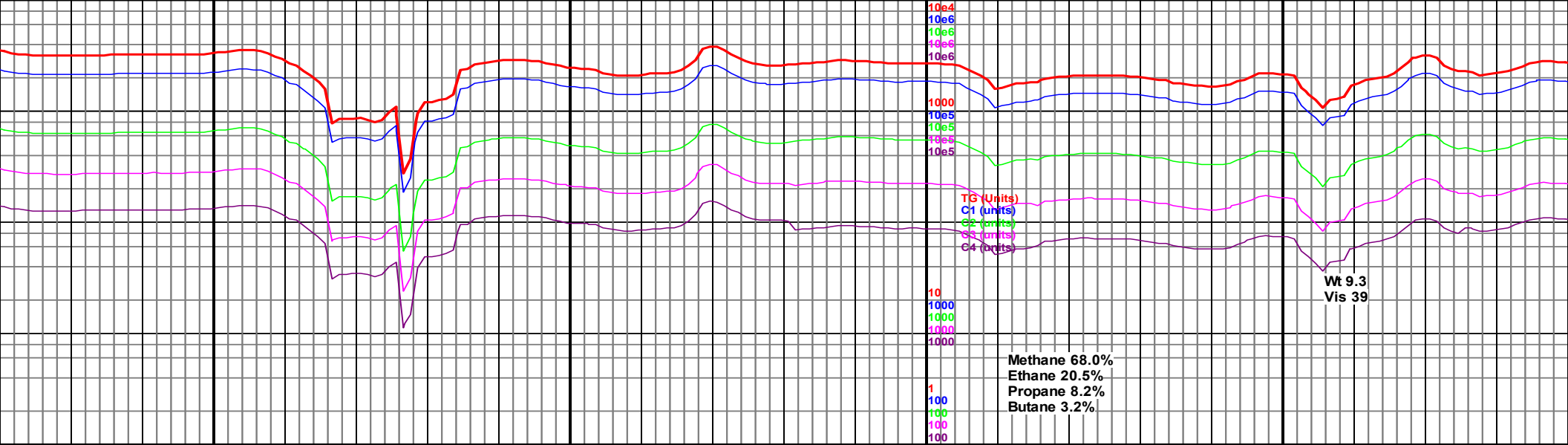


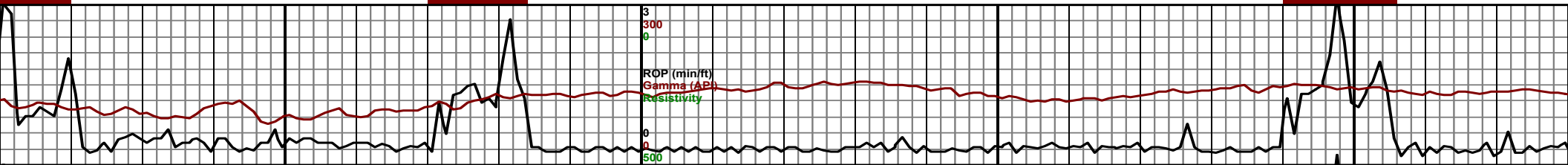
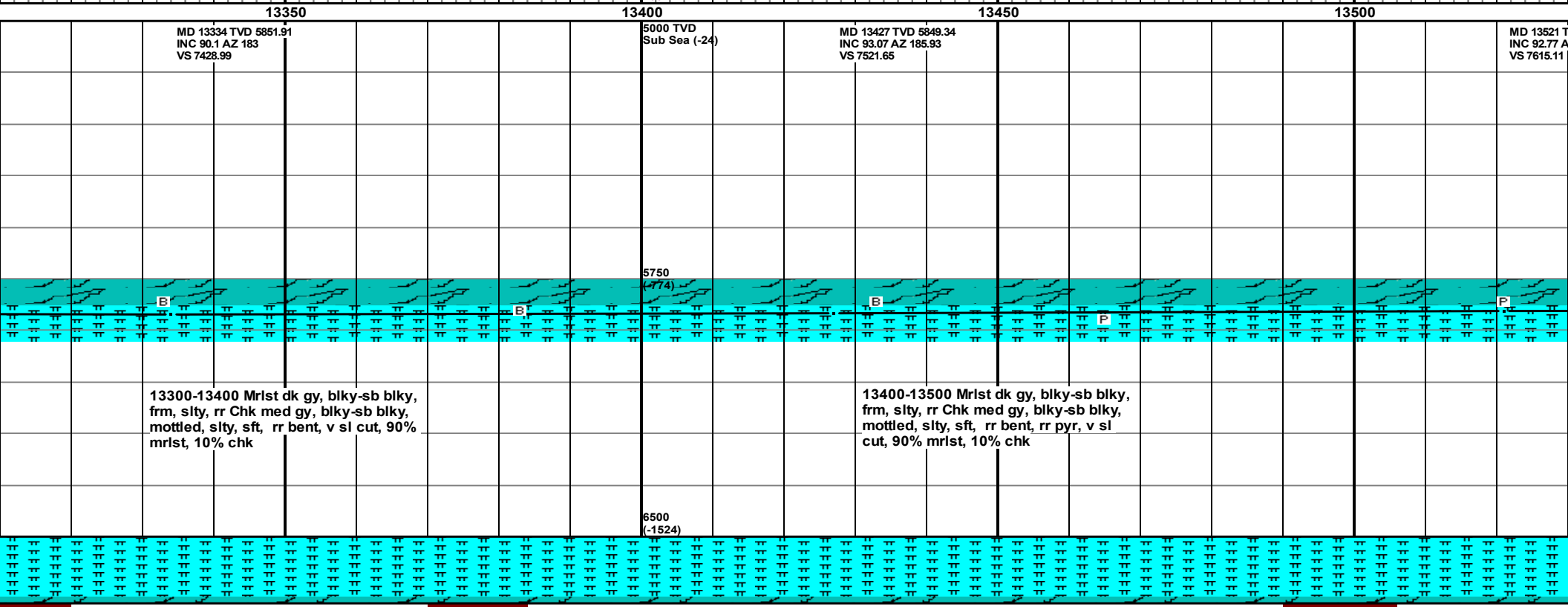
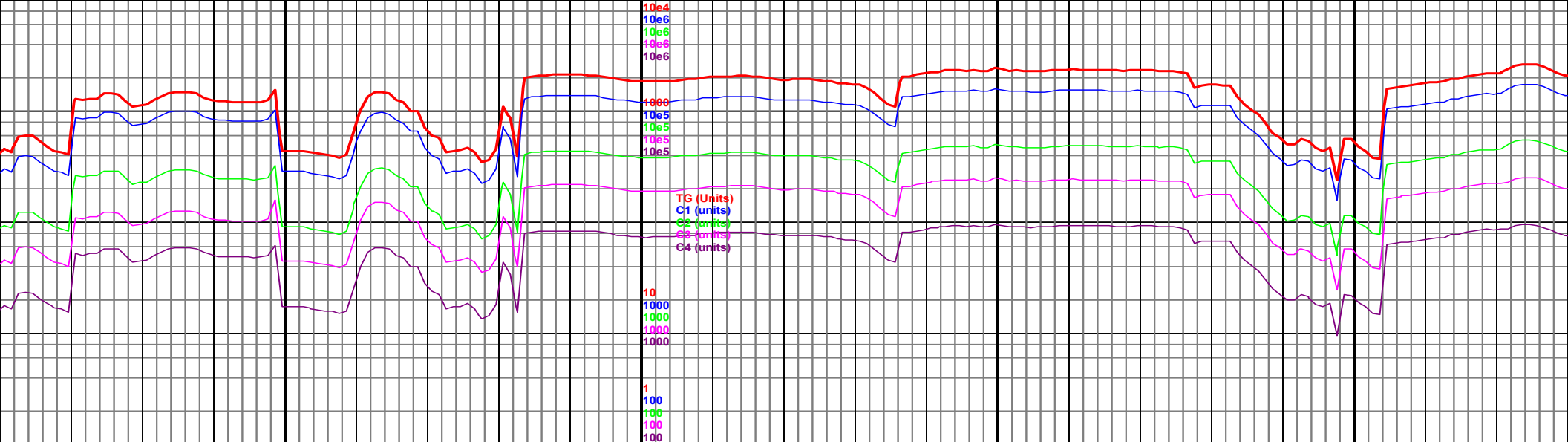


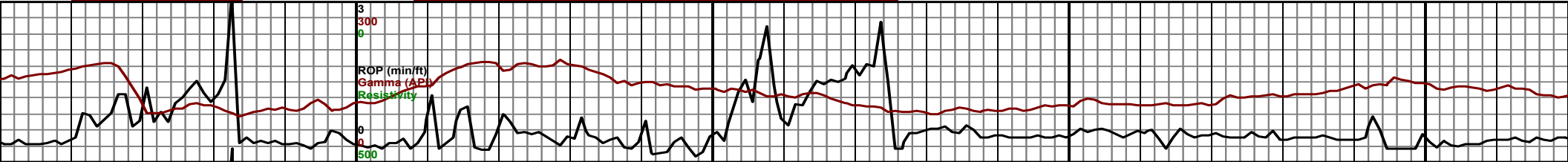
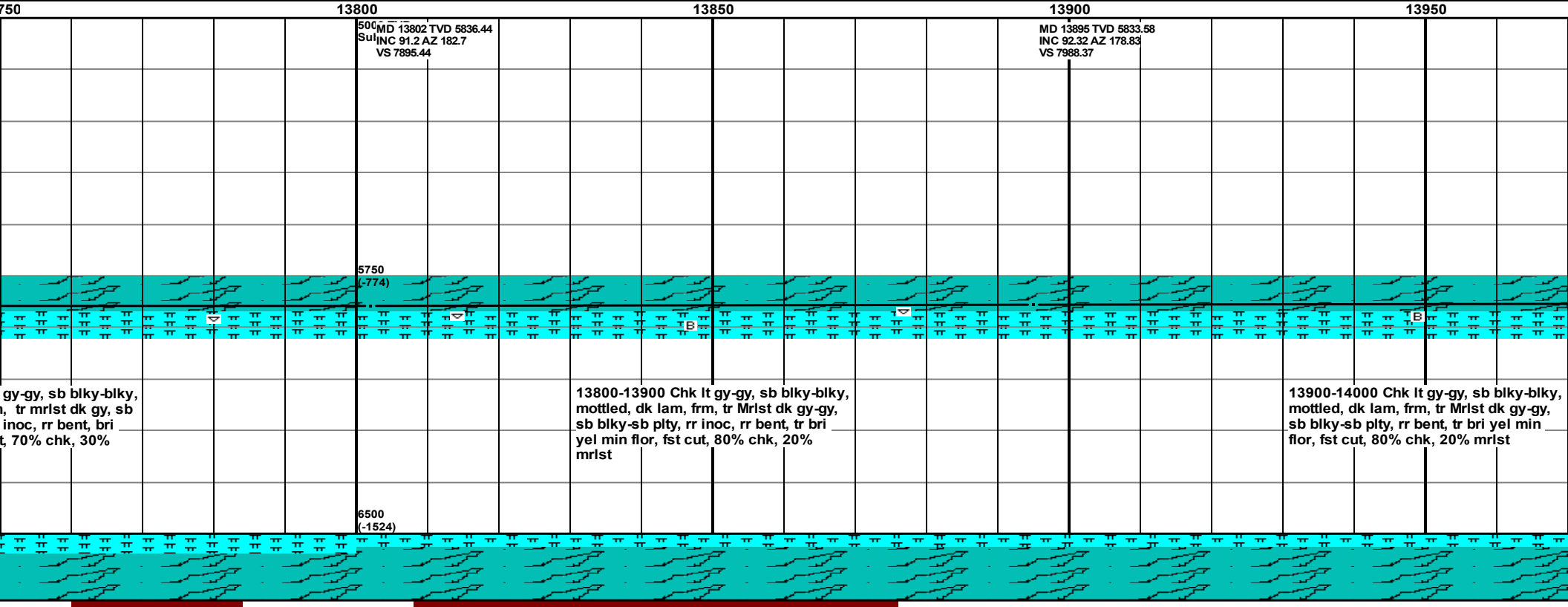
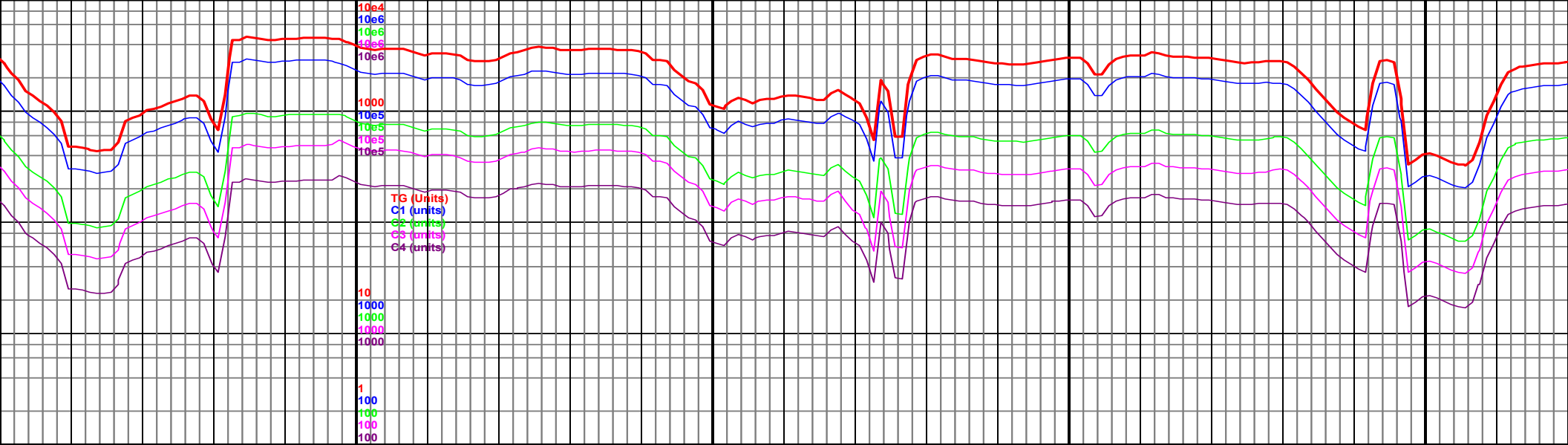


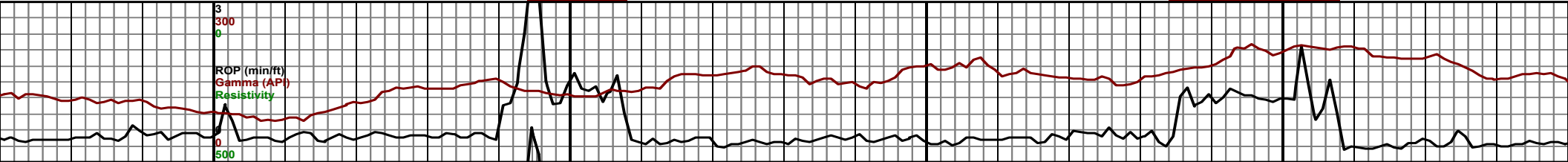
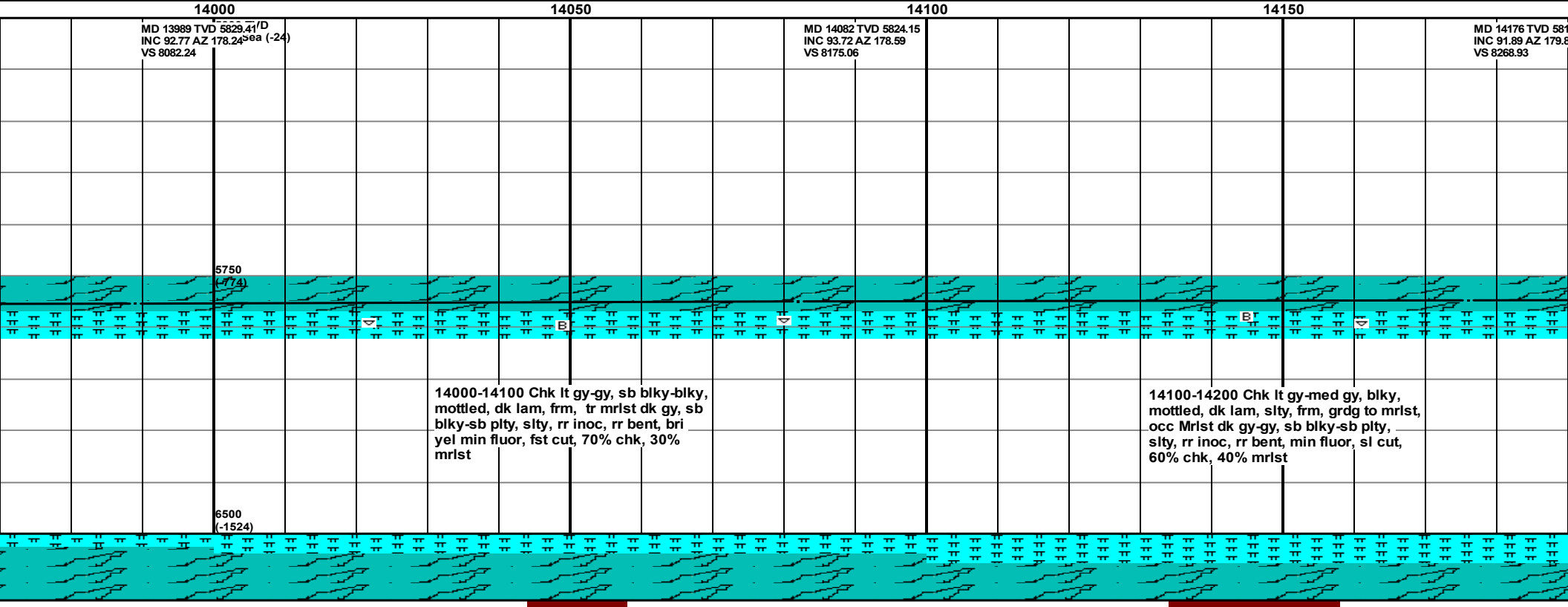
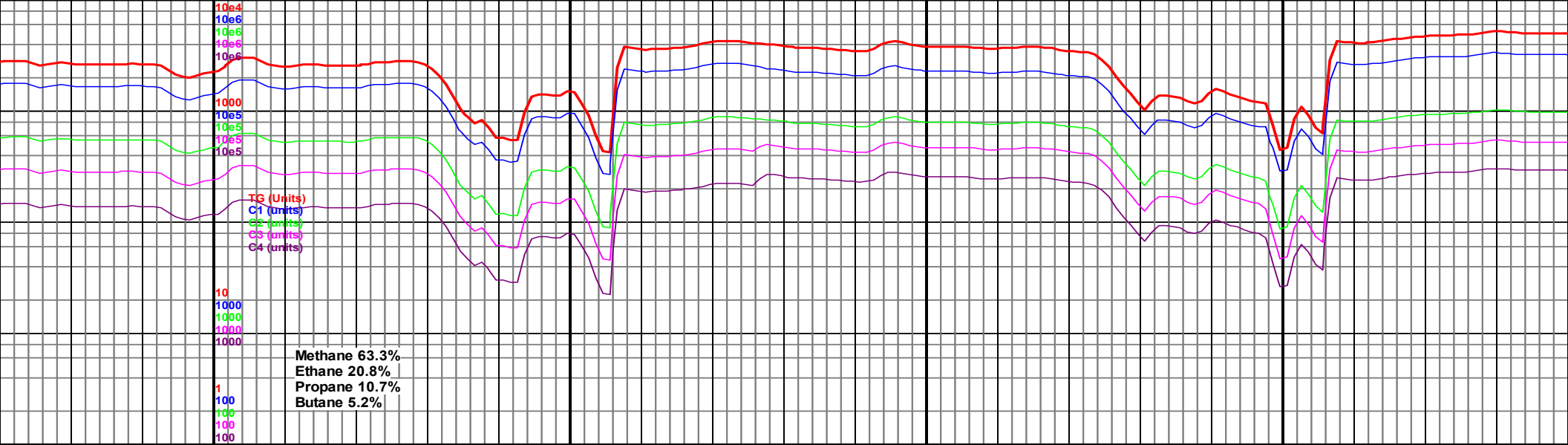


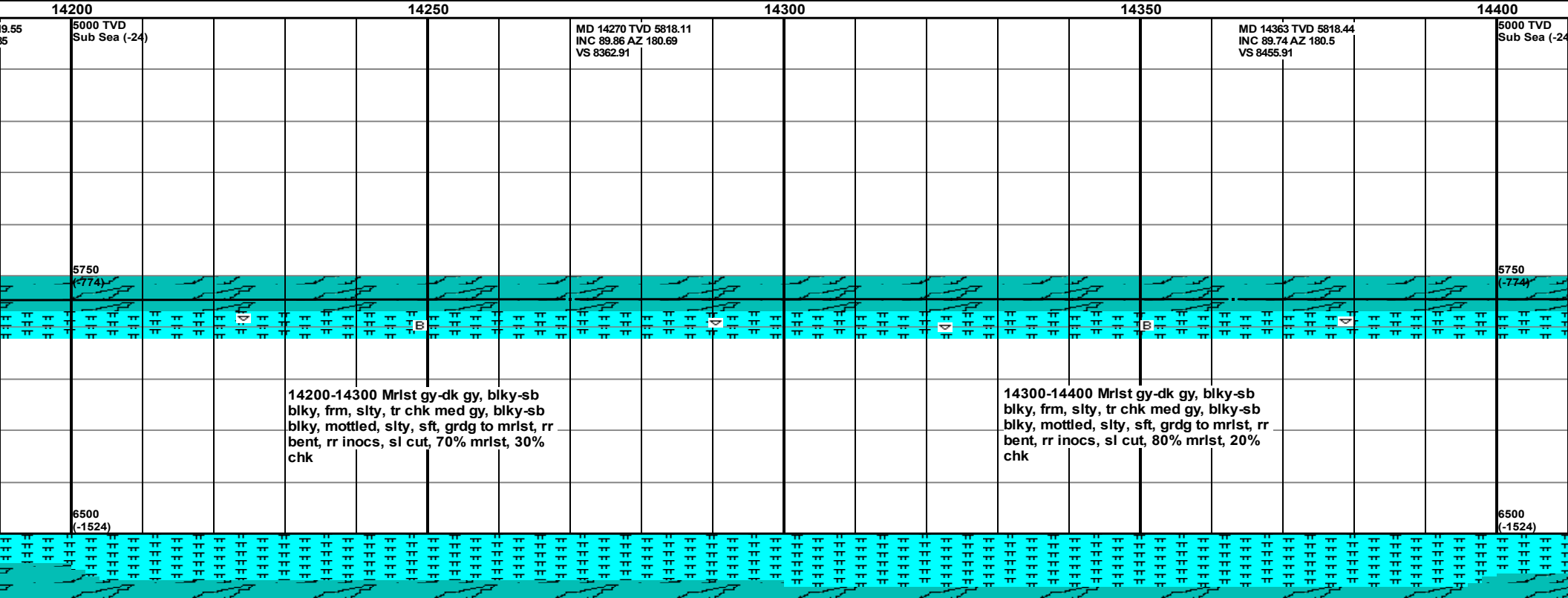
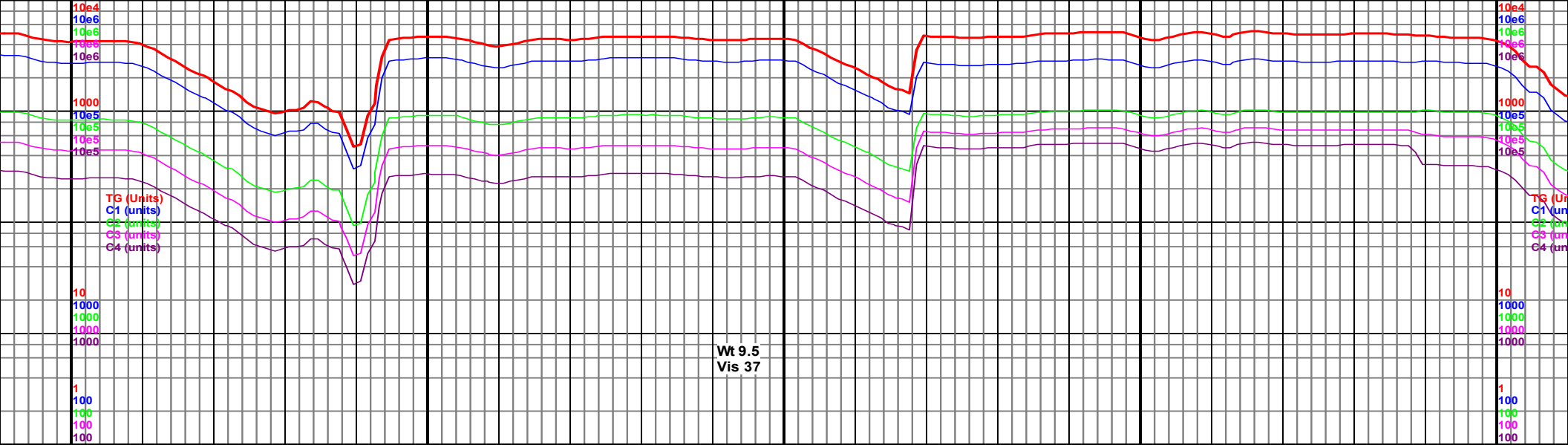


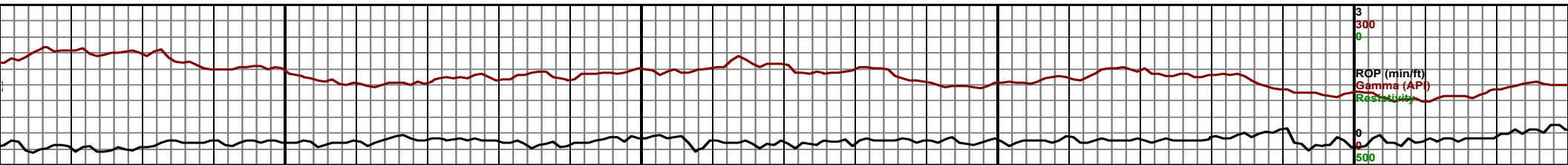
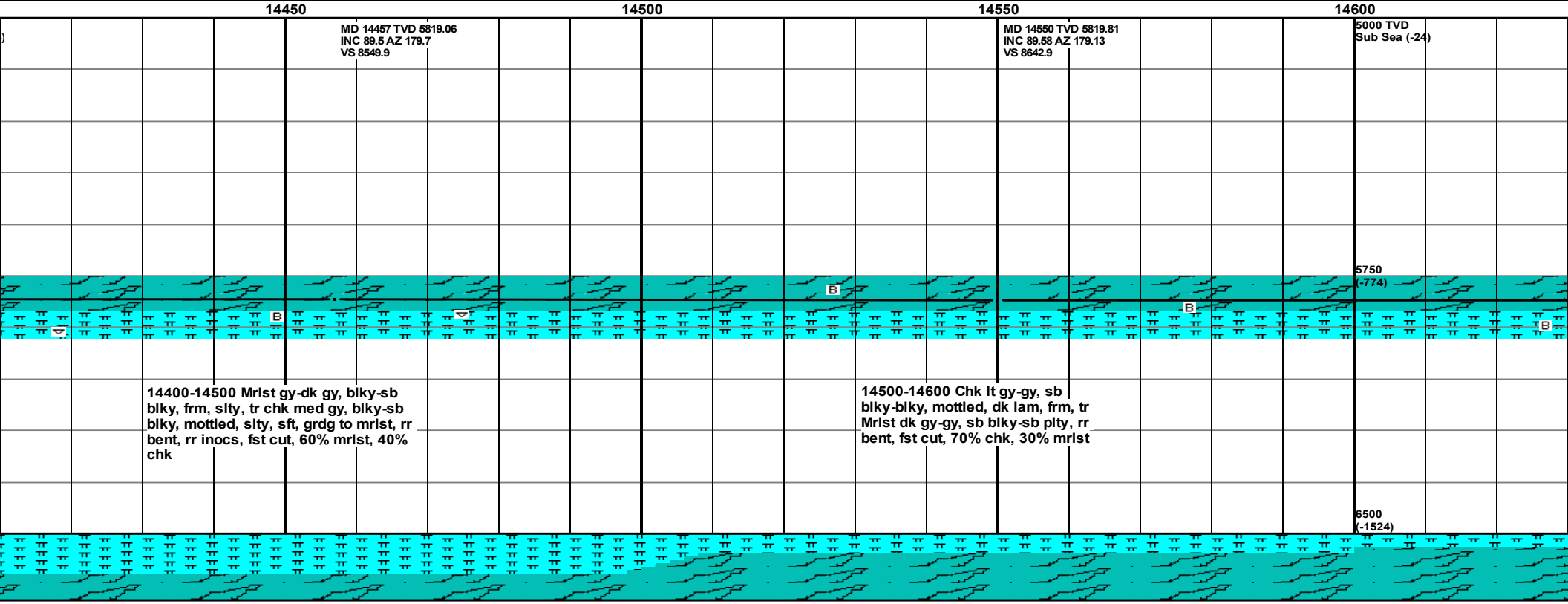
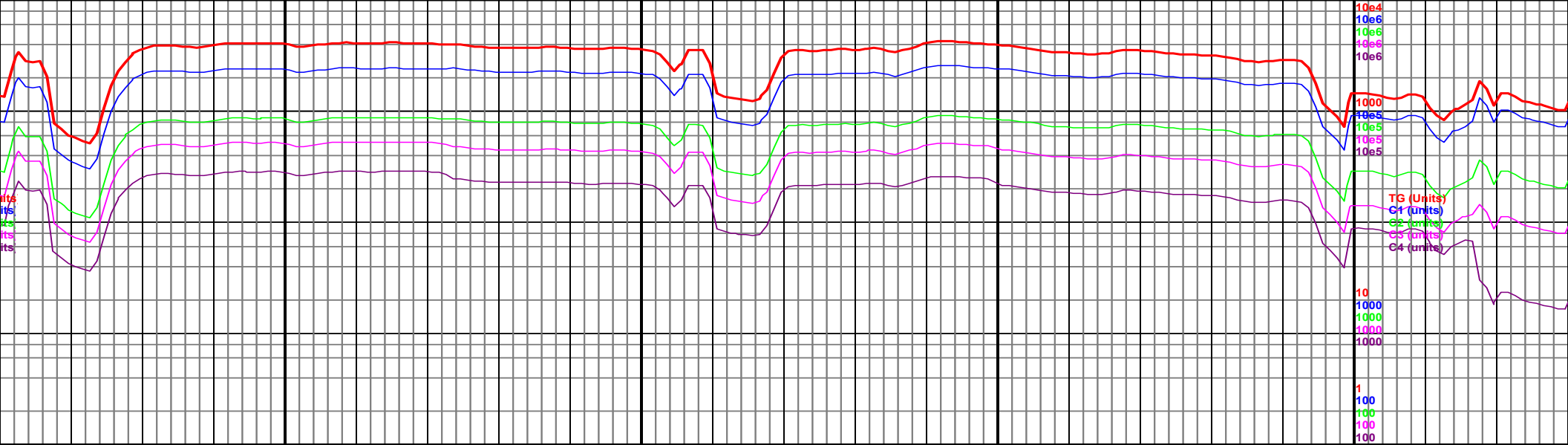


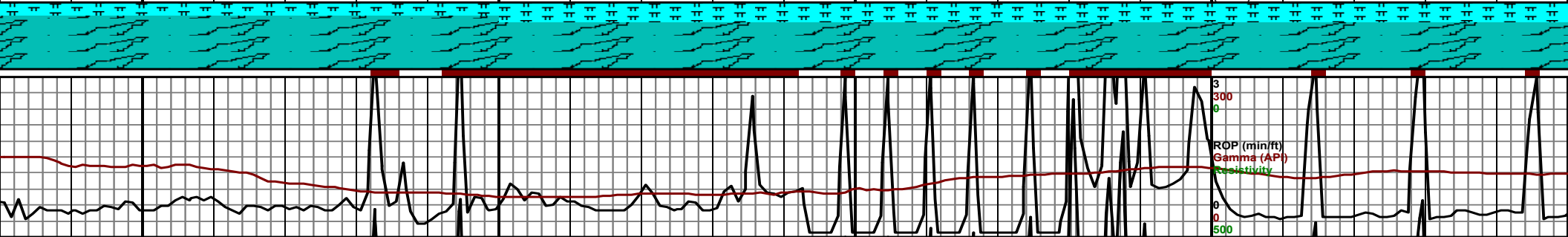
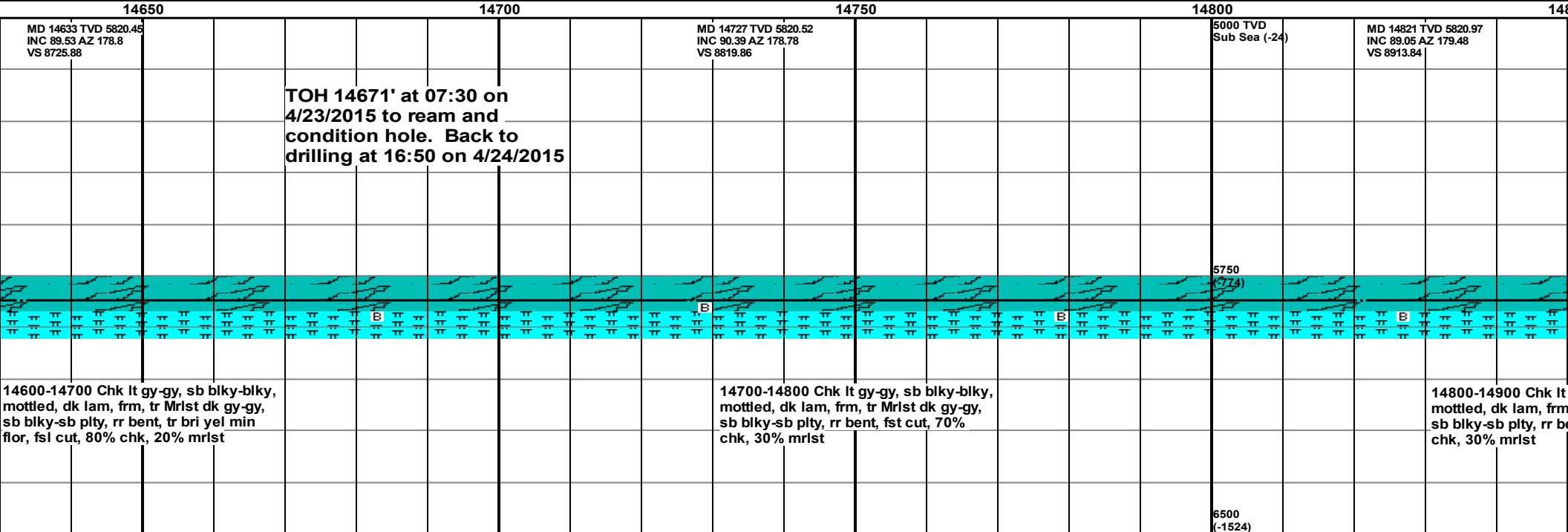
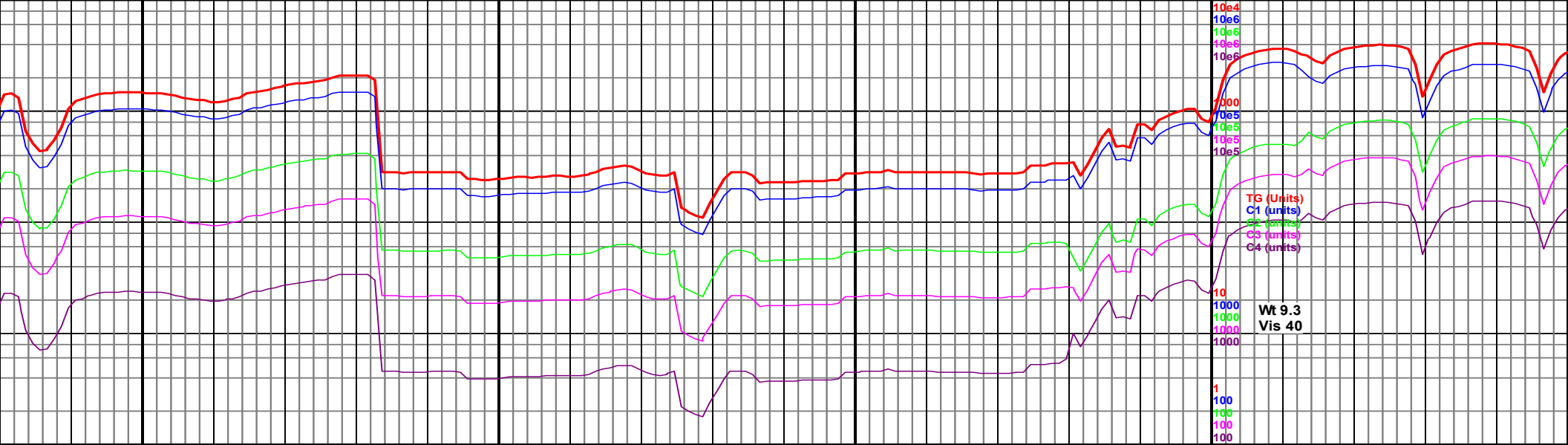


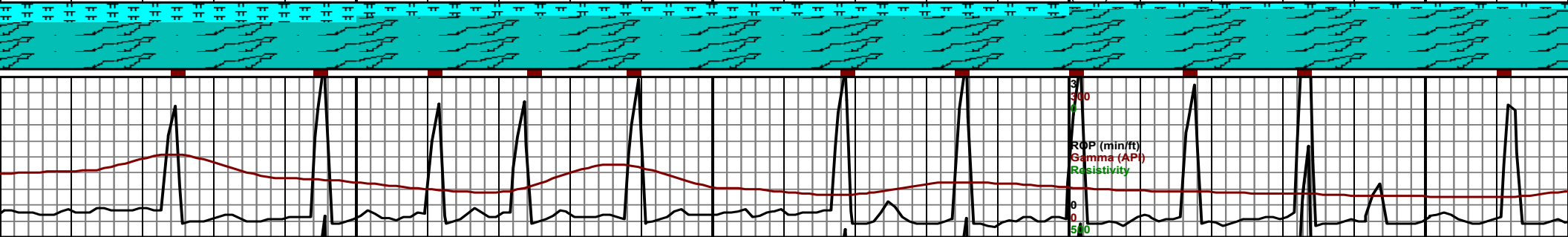
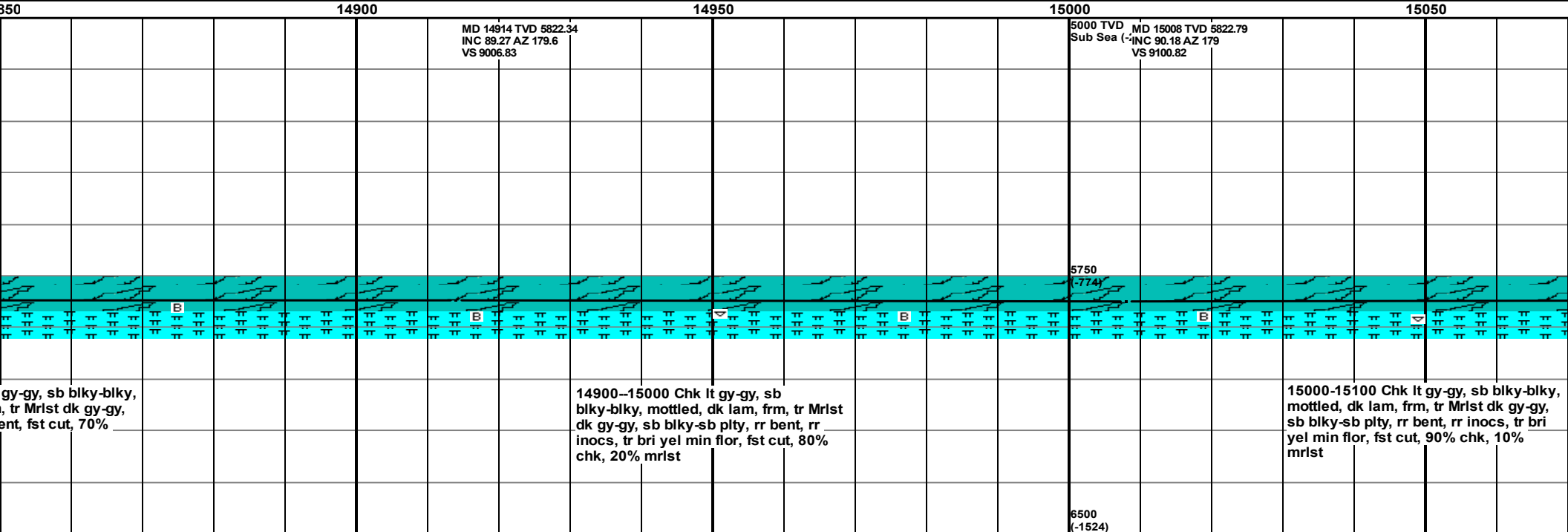
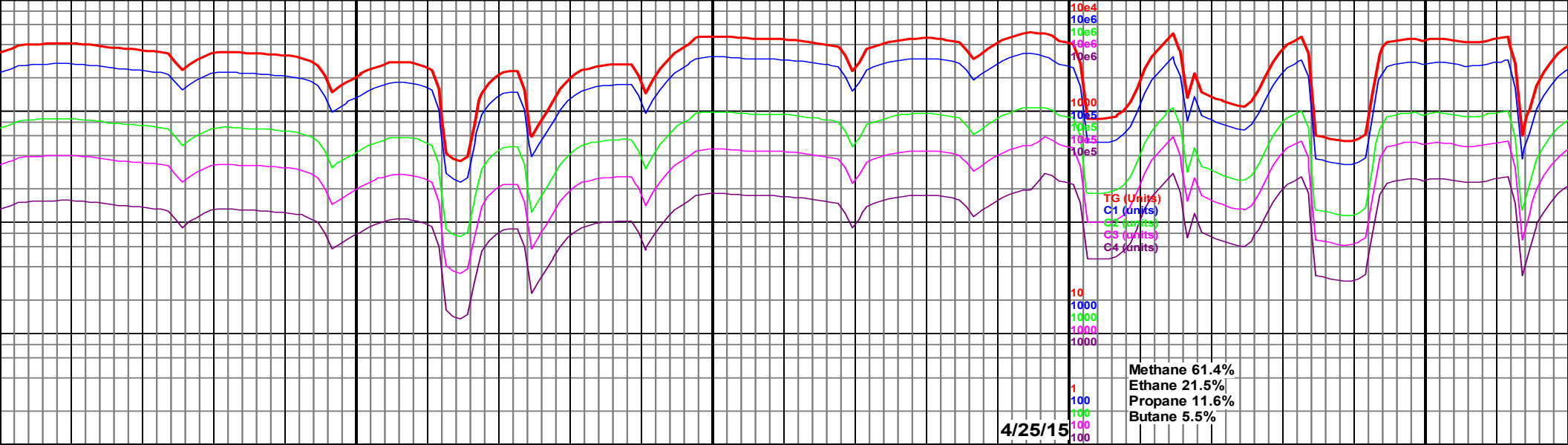


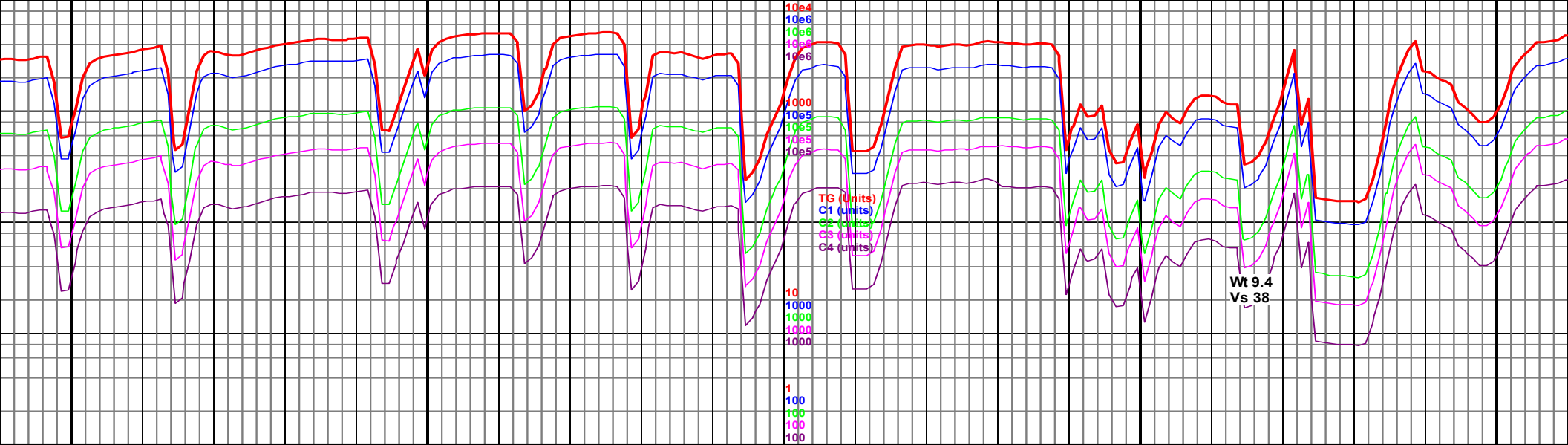












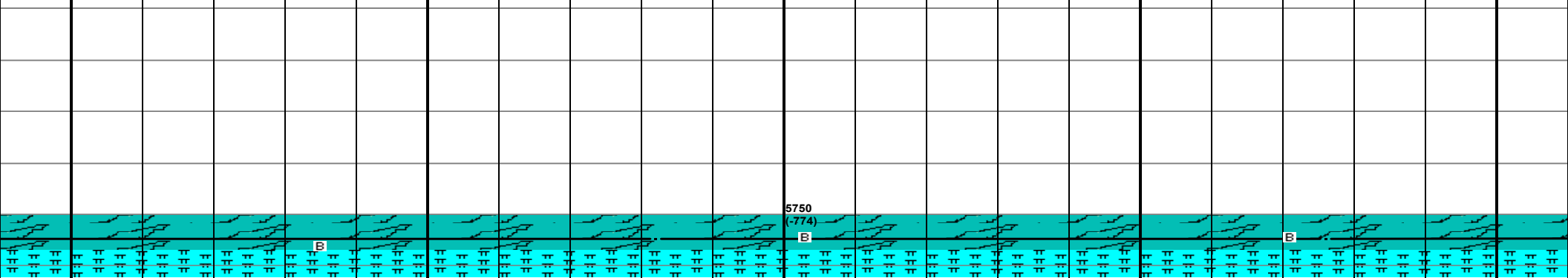
15300 15350 15400 15450 15500

ID 15288 TVD 5821.99
INC 90.24 AZ 179.15
S 9380.77

MD 15382 TVD 5820.89
INC 91.1 AZ 179.39
VS 9474.75

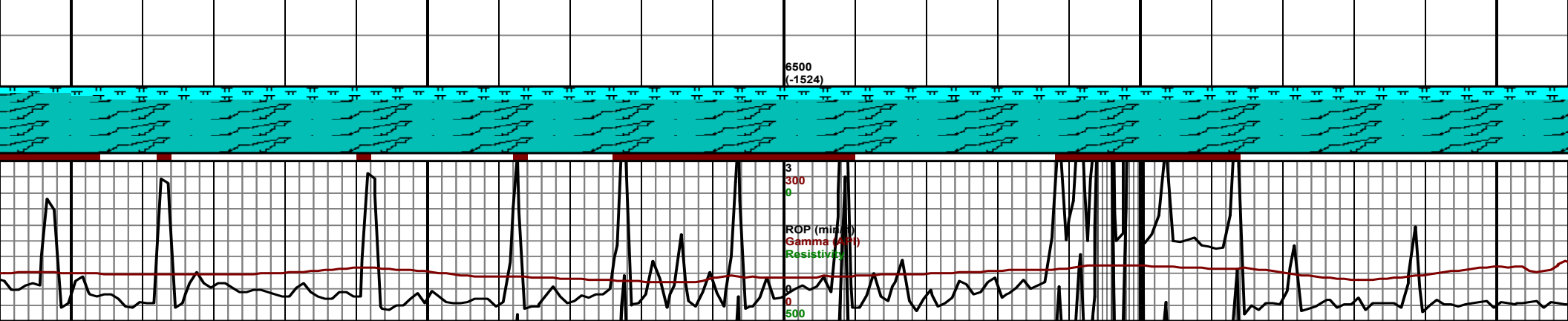
5000 TVD
Sub Sea (-24)

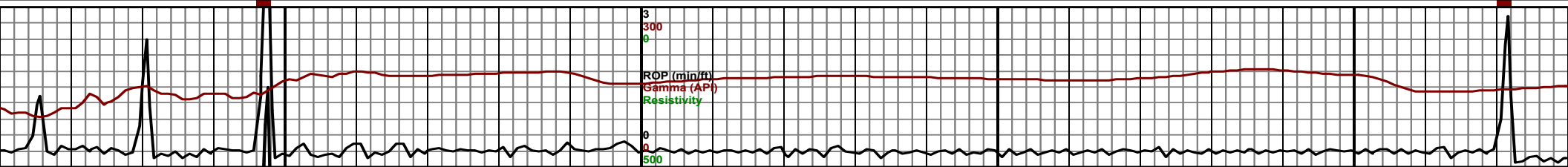
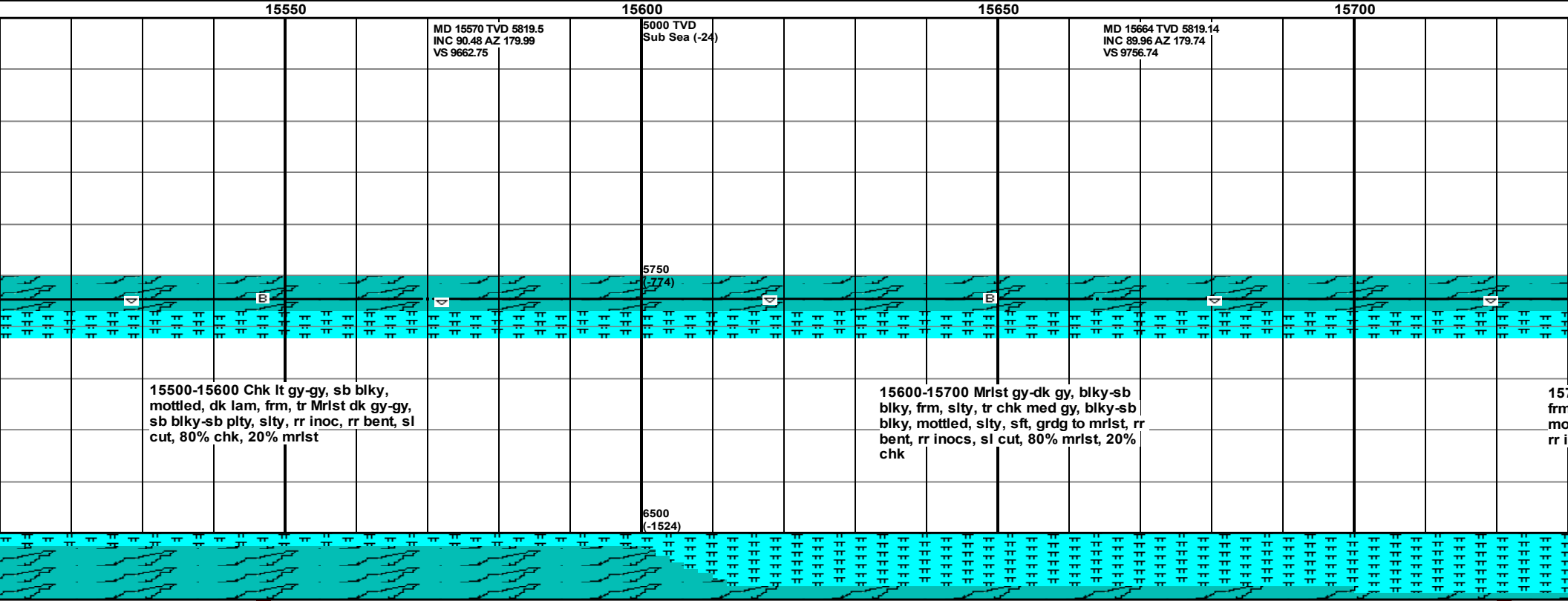
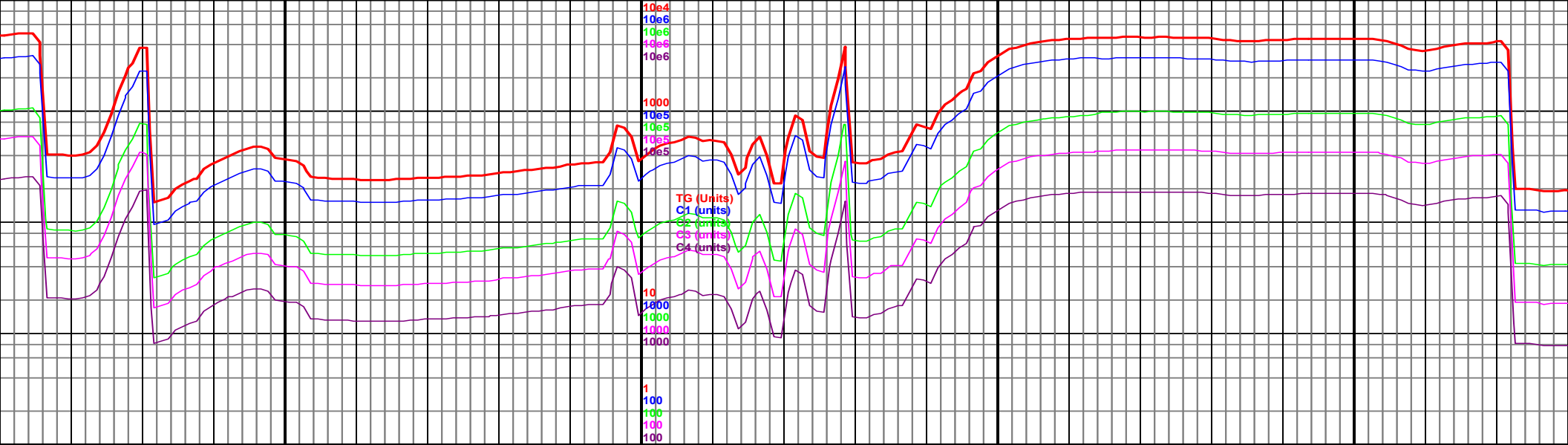
MD 15476 TVD 5819.94
INC 90.06 AZ 180.1
VS 9568.75

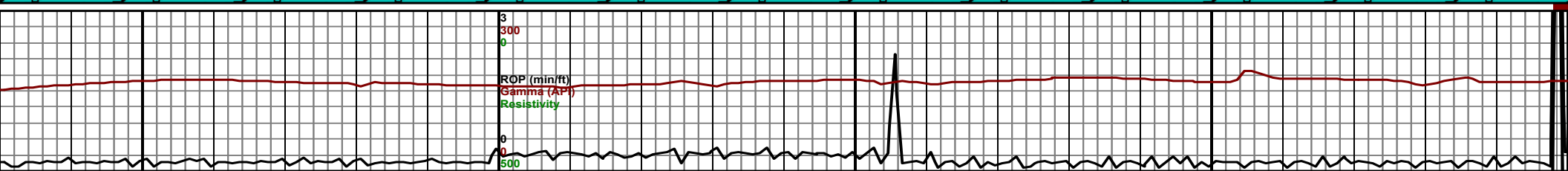
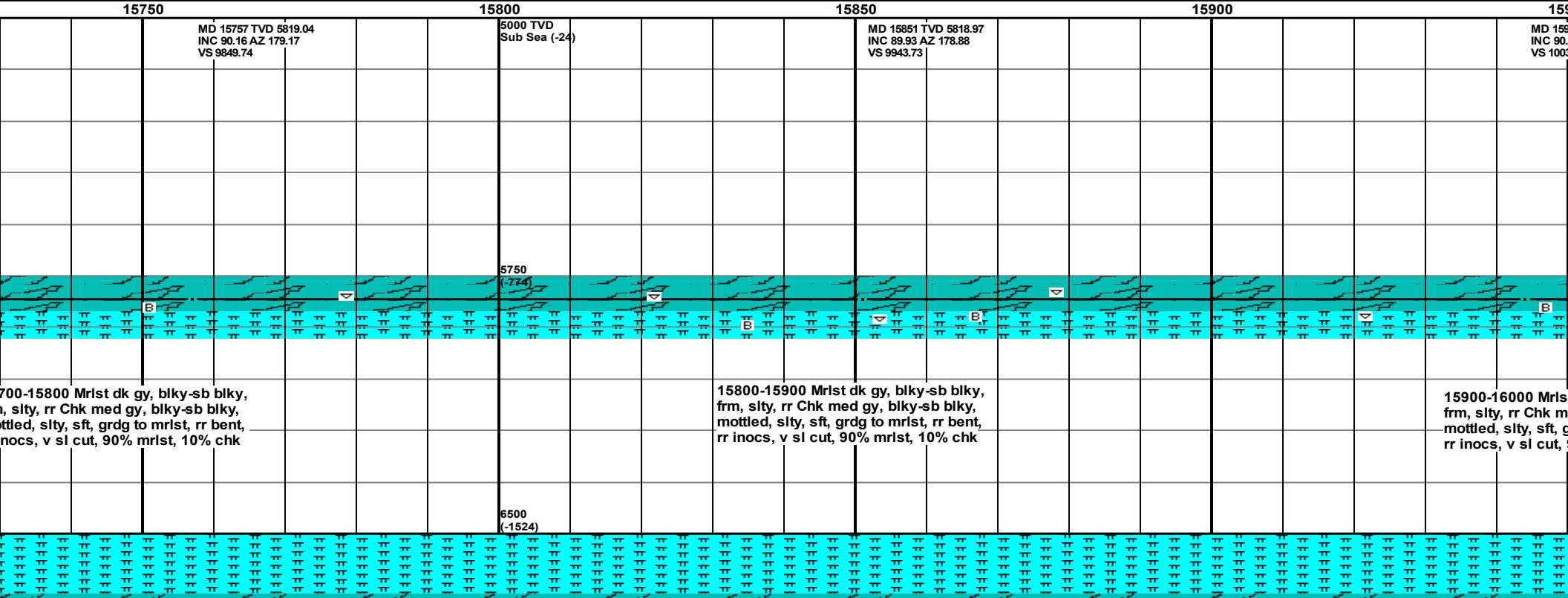
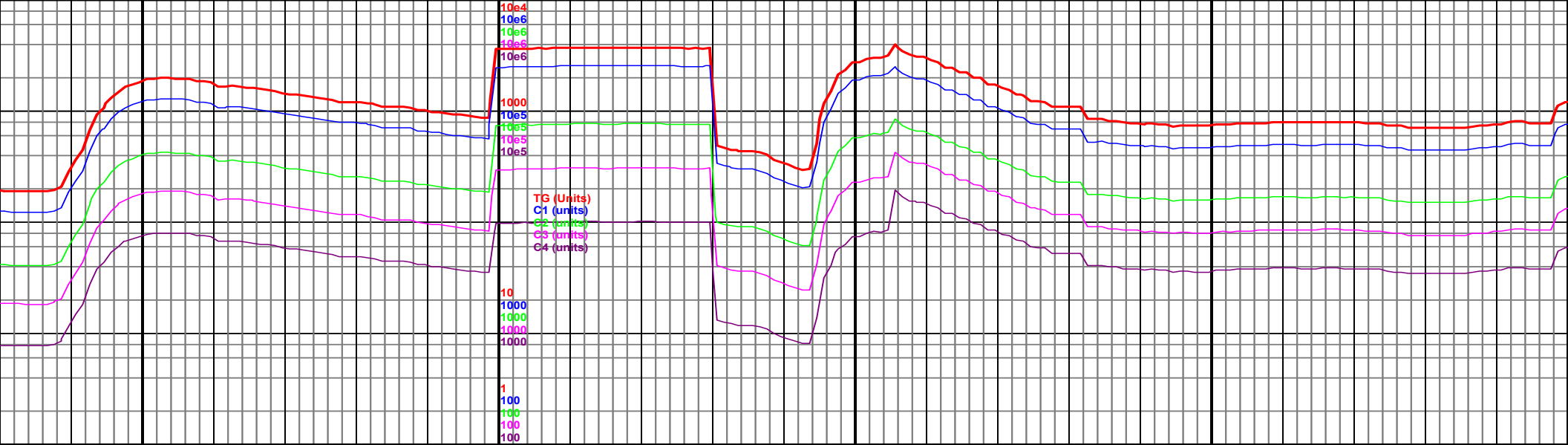


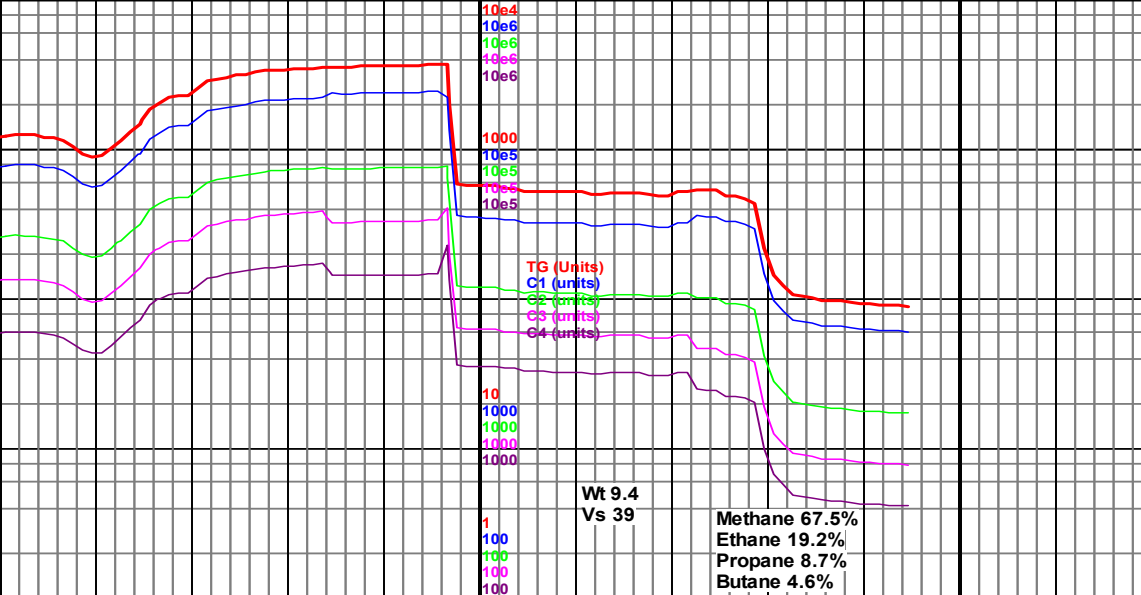
15300-15400 Chk lt gy-gy, sb blkly,
mottled, dk lam, frm, rr Mrlst dk gy-gy,
sb blkly-sb plty, slty, rr bent, sl cut,
80% chk, 20% mrlst

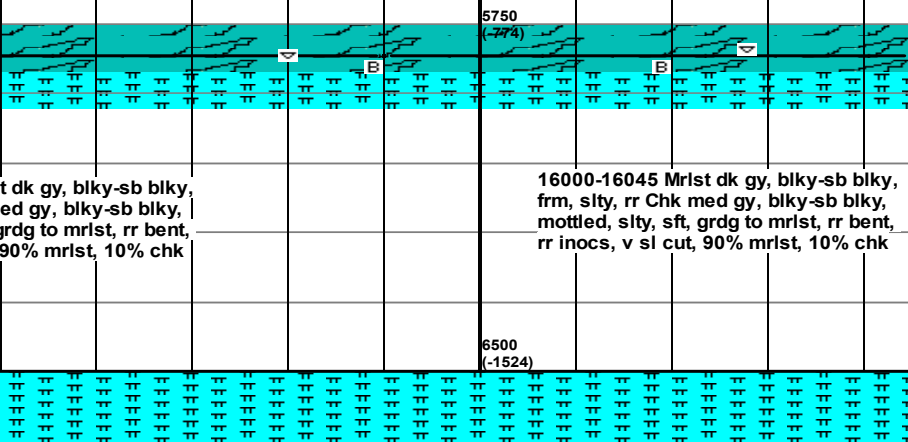
15400-15500 Chk lt gy-gy, sb blkly,
mottled, dk lam, frm, rr Mrlst dk gy-gy,
sb blkly-sb plty, slty, rr bent, sl cut,
80% chk, 20% mrlst









| | | |
|---|--|--|
| 1550 | 16000 | 16050 |
| MD 15990 TVD 5818.54 INC 90.16 AZ 179.82 VS 10082.71 | MD 15990 TVD 5818.23 INC 90.16 AZ 178.18 ^{ea} (-24) VS 10082.71 | MD 16045 TVD 5818.08 INC 90.16 AZ 178.18 VS 10137.68 |
| At 23:27 on 4/25/2015, TD was reached at 16045' MD (5818' TVD). | | |
|  | | |
| 16000-16045 Mrlst dk gy, blk-y-sb blk-y, frm, slty, rr Chk med gy, blk-y-sb blk-y, mottled, slty, sft, grdg to mrlist, rr bent, rr inocs, v sl cut, 90% mrlist, 10% chk | | |

