



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

Well Name: Horsetail 07E-1802  
Well Id: 05-123-41643-00  
Location: SENW 12-T10N-R58W  
License Number: 05-123-41643-00  
Spud Date: 1/13/2016  
Surface Coordinates: Lat.: 40.853958 Long.: -103.801150

Region: Redtail Field  
Drilling Completed: 1/17/2016

Bottom Hole  
Coordinates:  
Ground Elevation (ft): 4937  
Logged Interval (ft): 5323 To: 14199  
Formation: Pierre, Sharon Springs, Niobrara A, Niobrara B, Niobrara C, Codell  
Type of Drilling Fluid: Water Based Mud

K.B. Elevation (ft): 4958  
Total Depth (ft): 14199

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

#### OPERATOR

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

#### GEOLOGIST

Name: Mitch Schneider and Eli Denbesten  
Company: Acme Geologic Consulting  
Address: 108 Berry Street  
Little Rock, AR 72205

## Drilling Company

Unit Drilling Company  
Rig 409


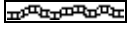
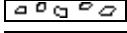
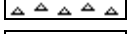
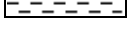
## Gas Detection






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




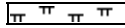

## Comments

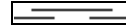




Lithologies and tops at drilled depths, not corrected to elogs. Where the well bore gas is 100% methane, the C1 line is moved to 85% for graphical purposes only.




## 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

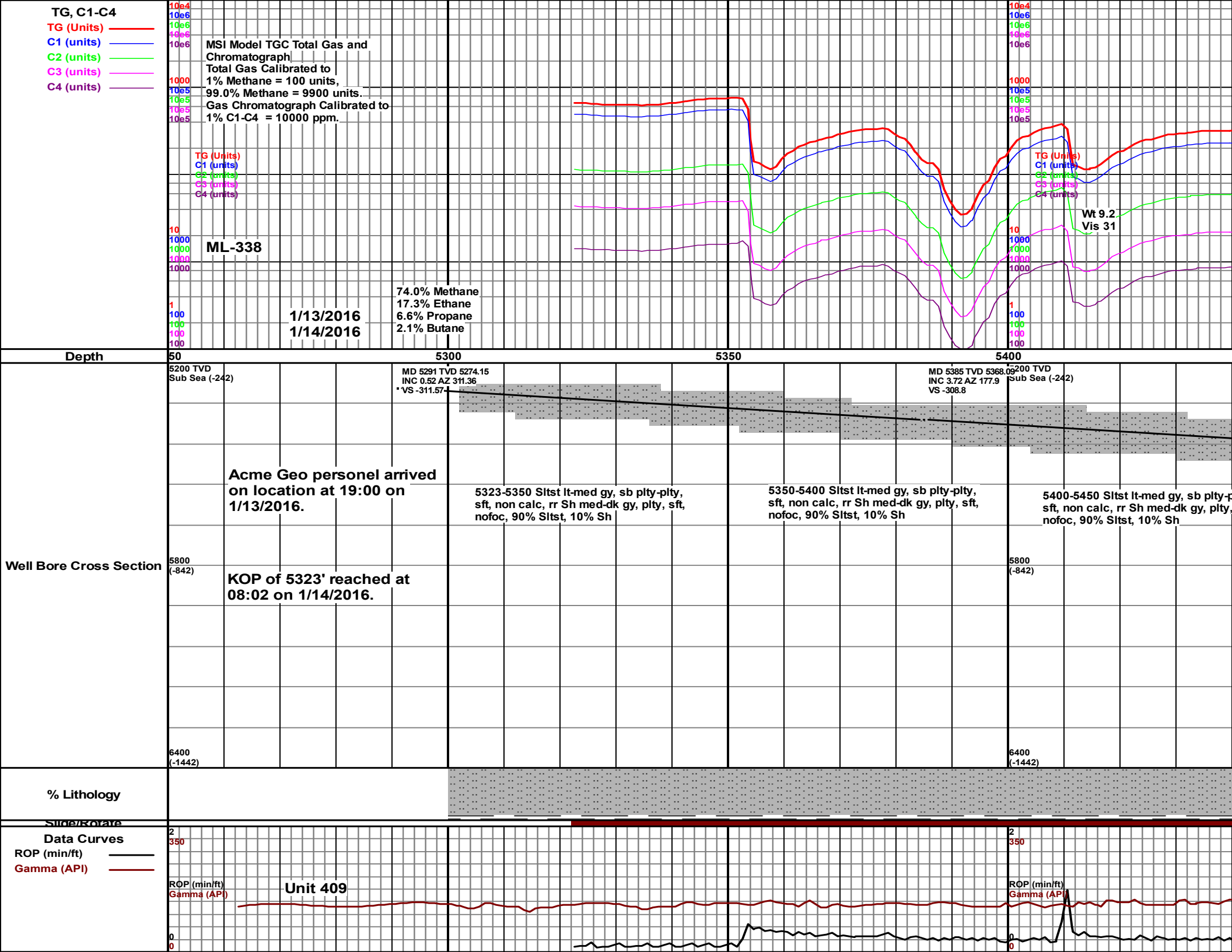
**TEXTURE**  
 Boundst  
 Chalky  
 Cryxln  
 Earthy  
 Finexln  
 Grainst  
 Lithogr  
 Microxln  
 Mudst  
 Packst  
 Wackest

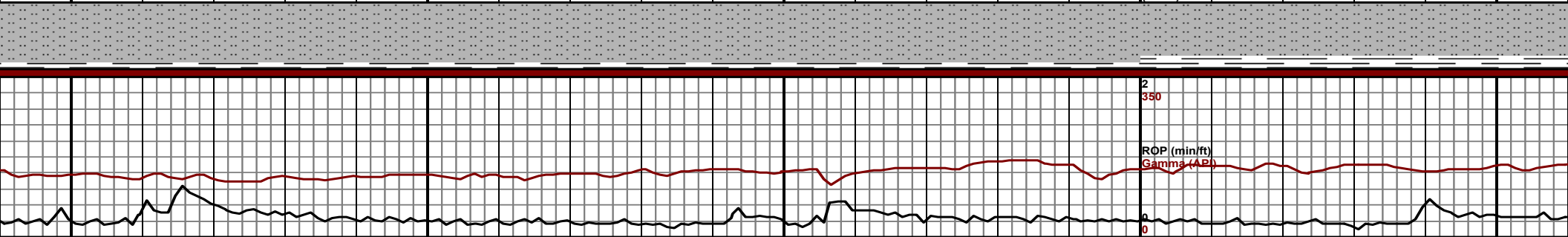
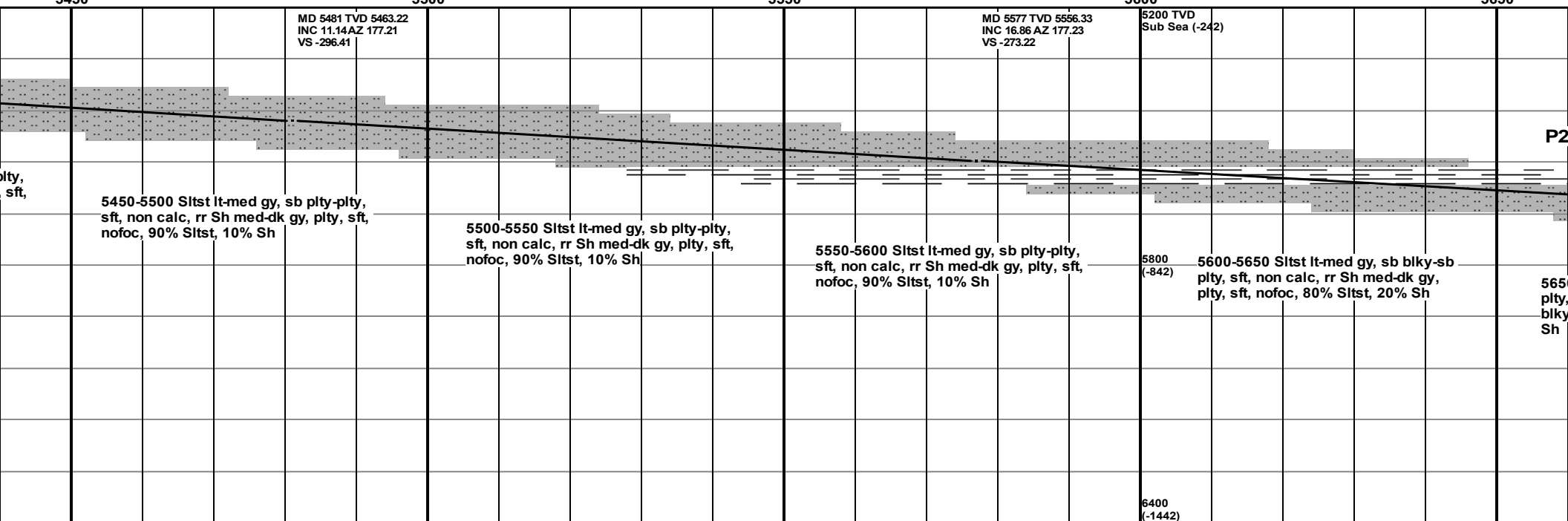
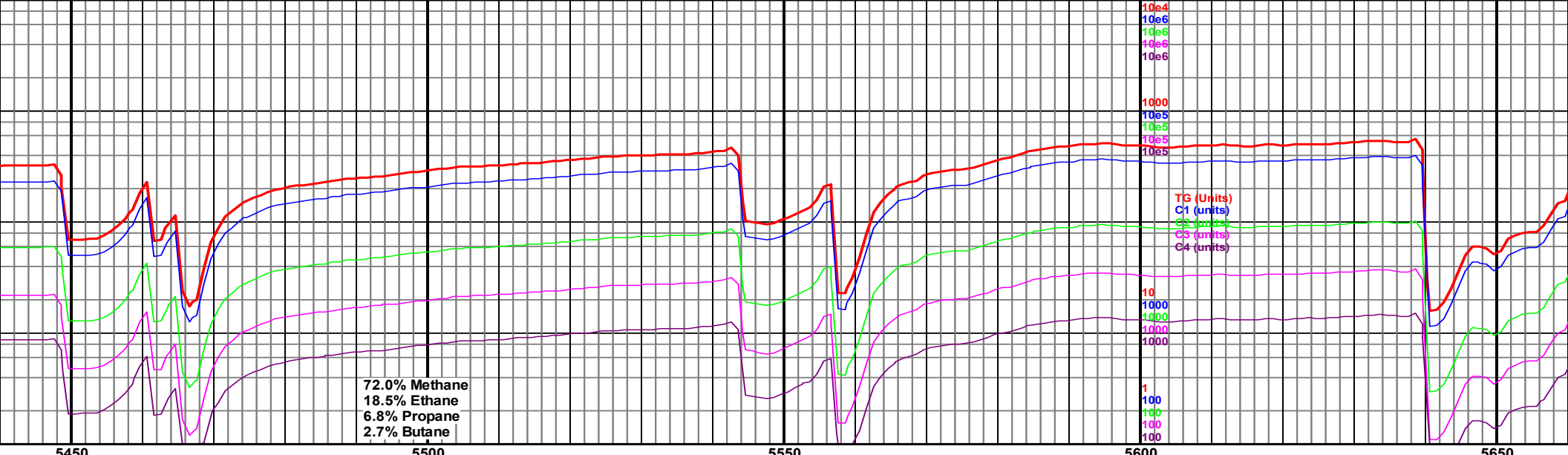
**POROSITY**  
[E] Earthy  
[B] Fenest  
[F] Fracture  
[X] Inter  
[Z] Moldic  
[O] Organic  
[P] Pinpoint

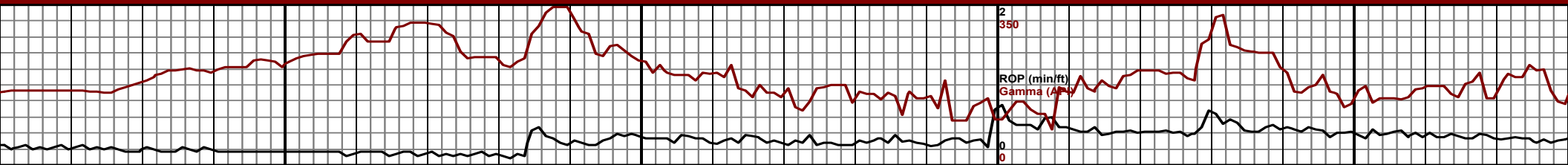
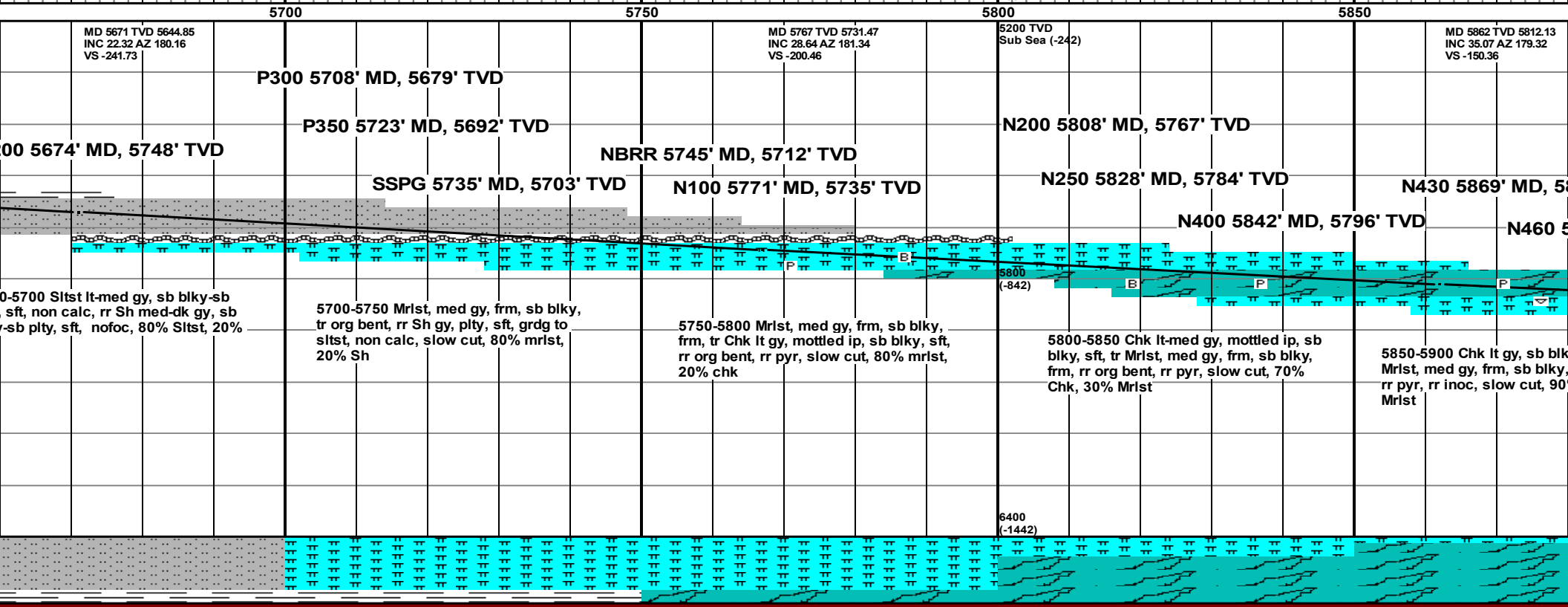
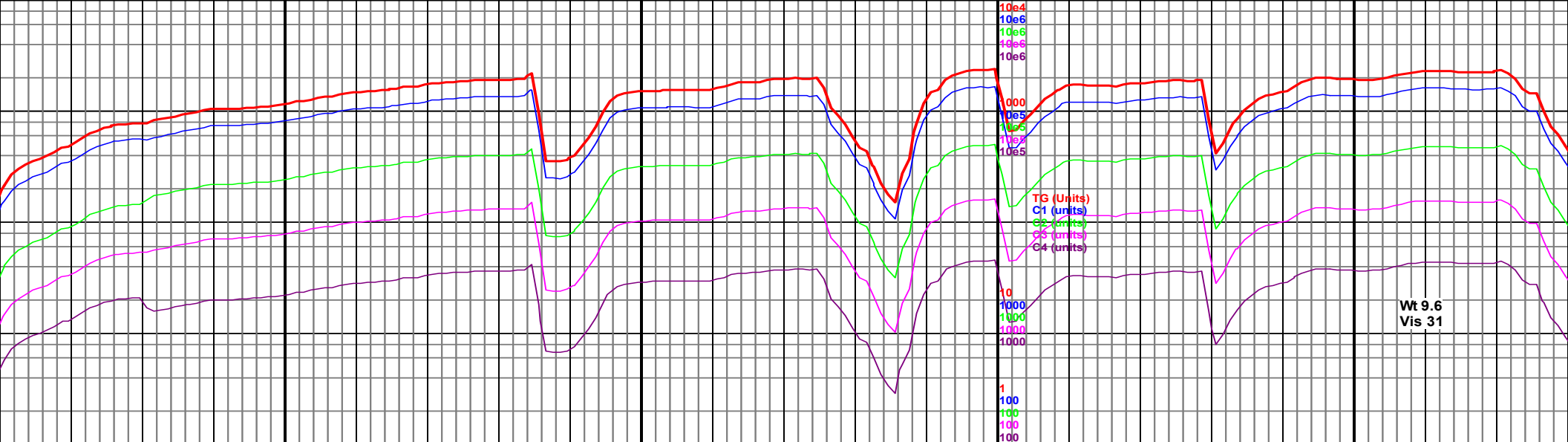
[V] Vuggy  
  
**SORTING**  
[W] Well  
[M] Moderate  
[P] Poor

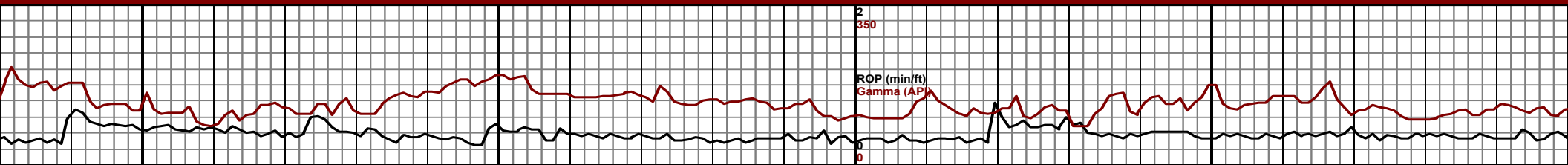
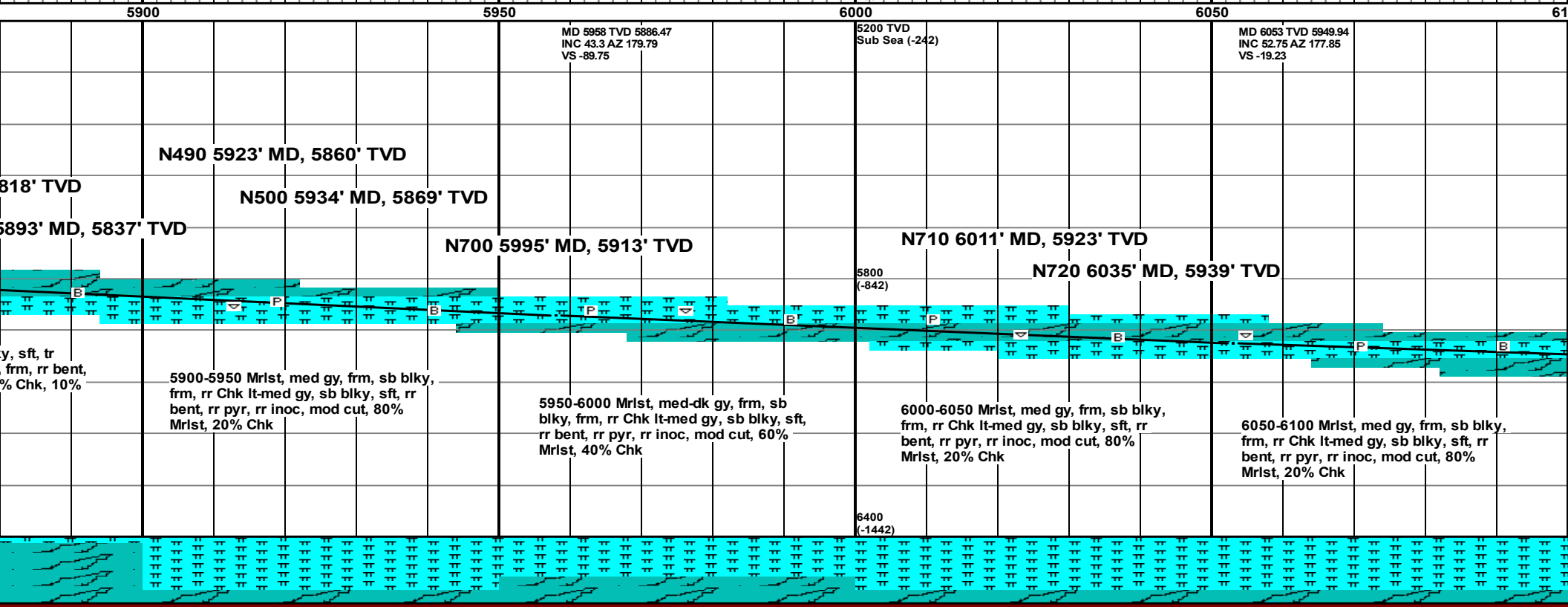
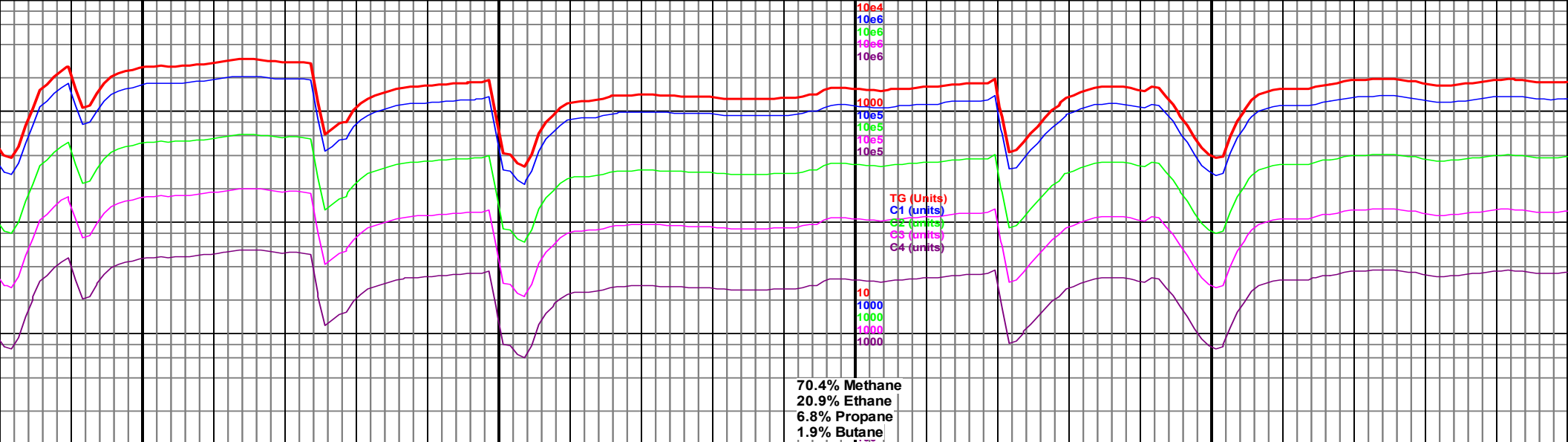
**OTHER SYMBOLS**  
**ROUNDING**  
[R] Rounded  
[r] Subrnd  
[a] Subang  
[A] Angular  
  
**OIL SHOW**  
[●] Even  
  
[●] Spotted  
[○] Ques  
[D] Dead  
  
**INTERVAL**  
[■] Core  
[◻] Dst

**EVENT**  
[▽] Rft  
[▶] Sidewall



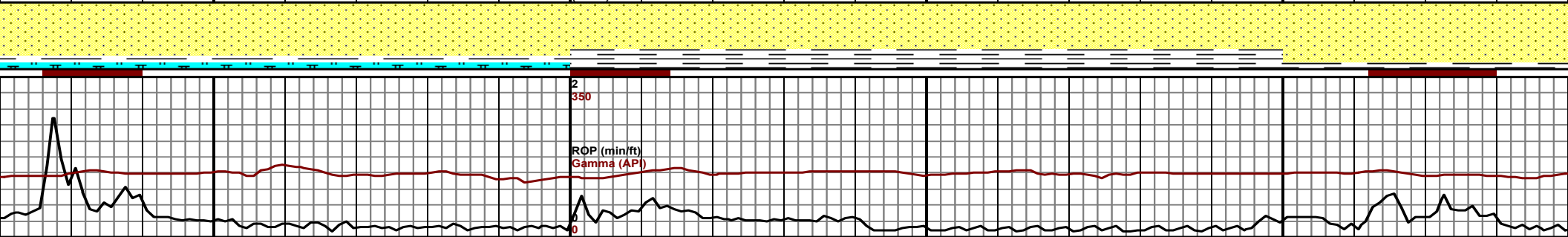
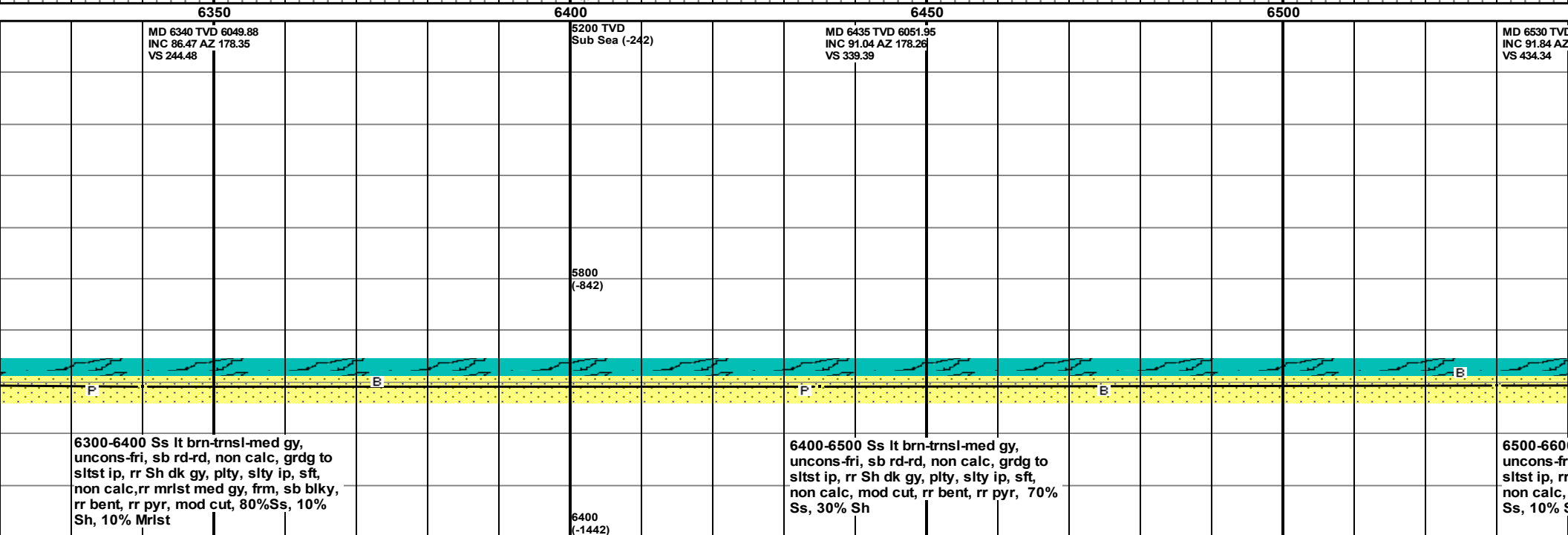
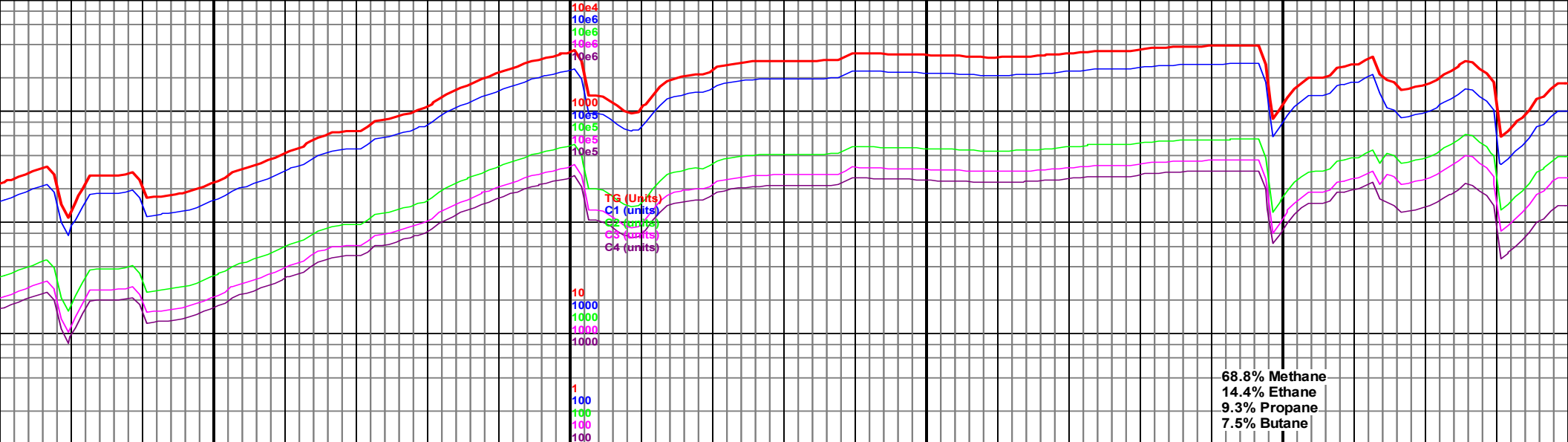




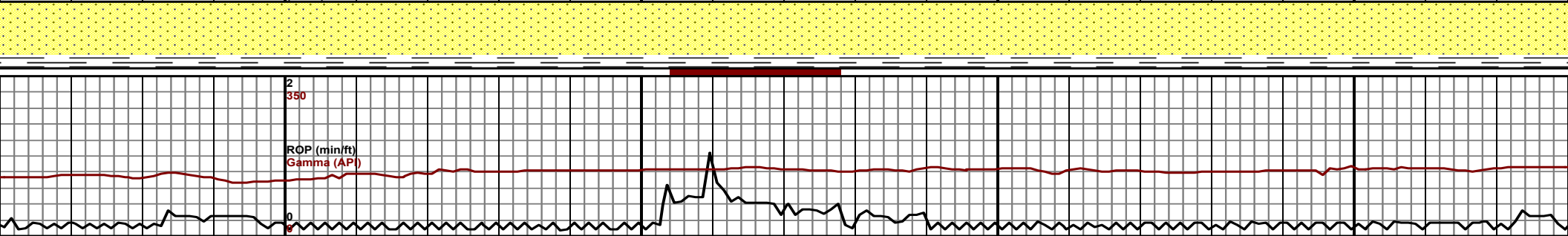
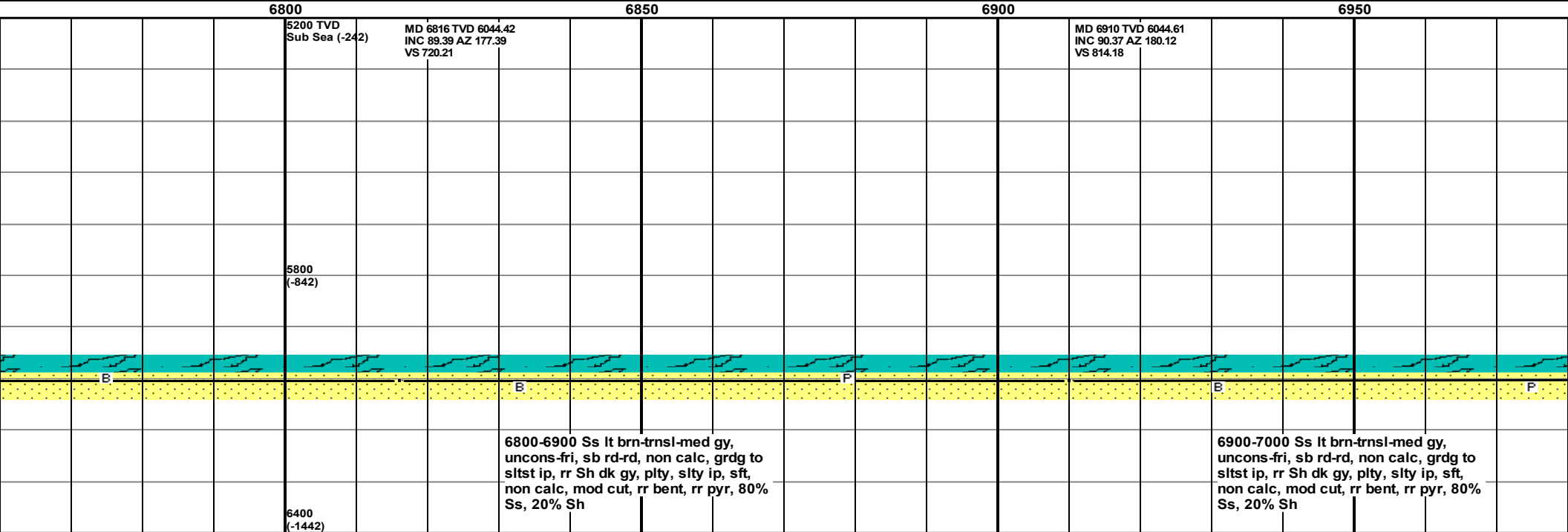
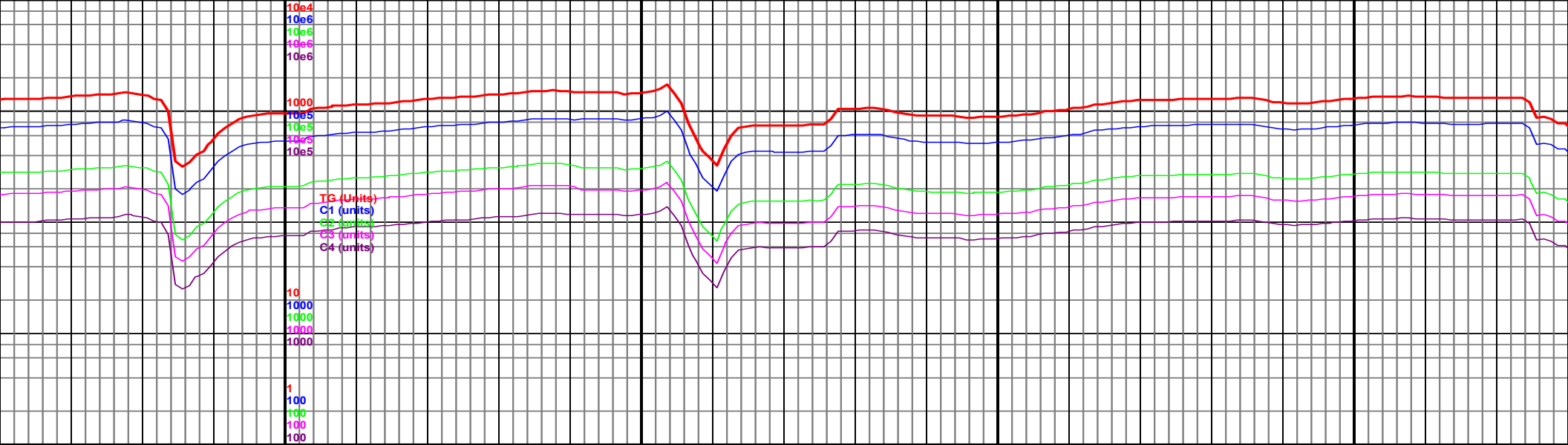


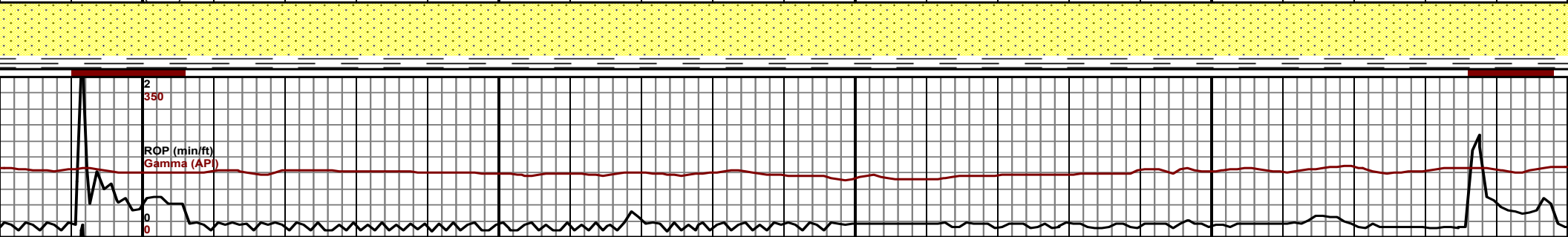
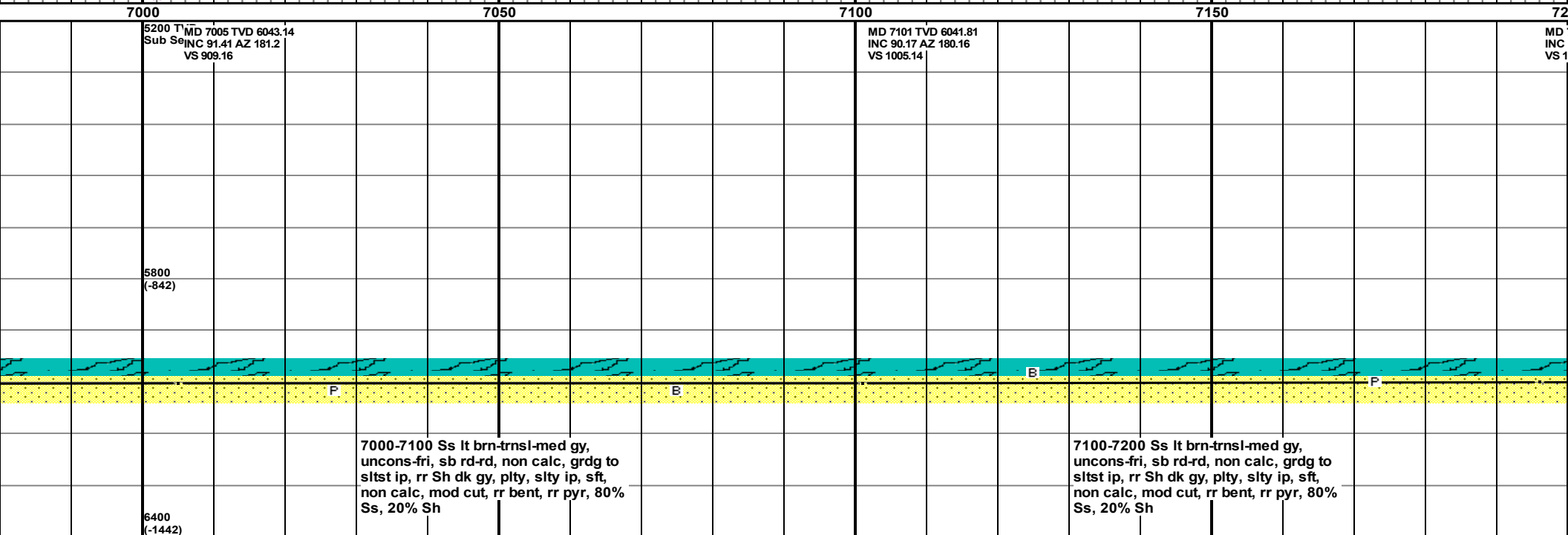
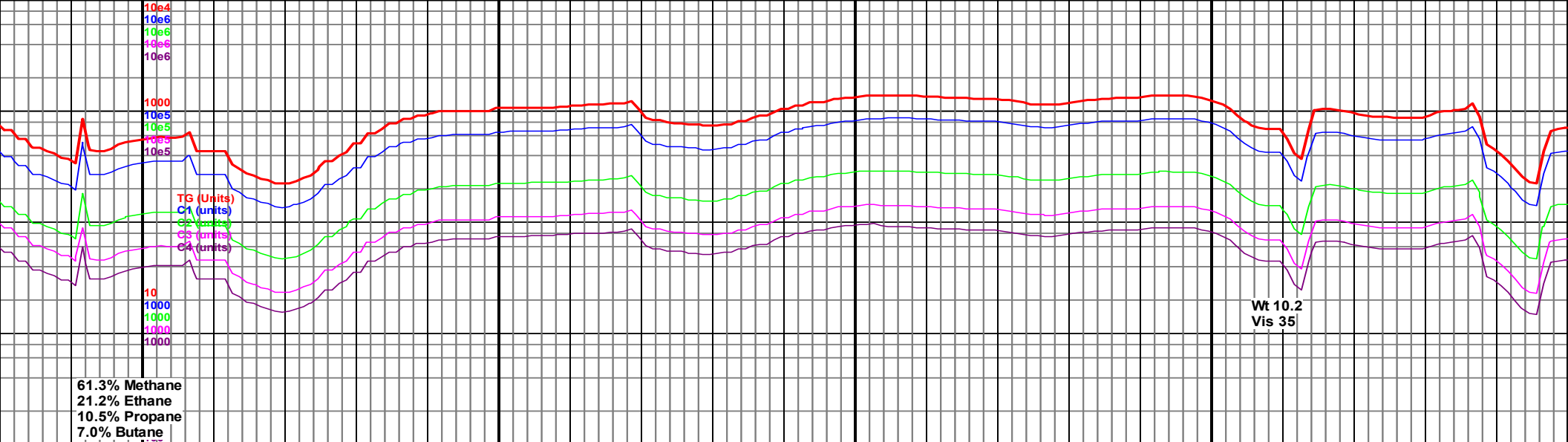


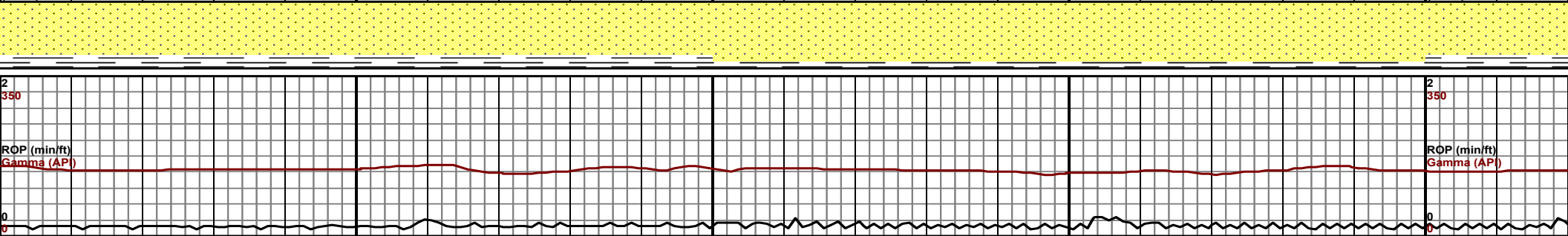
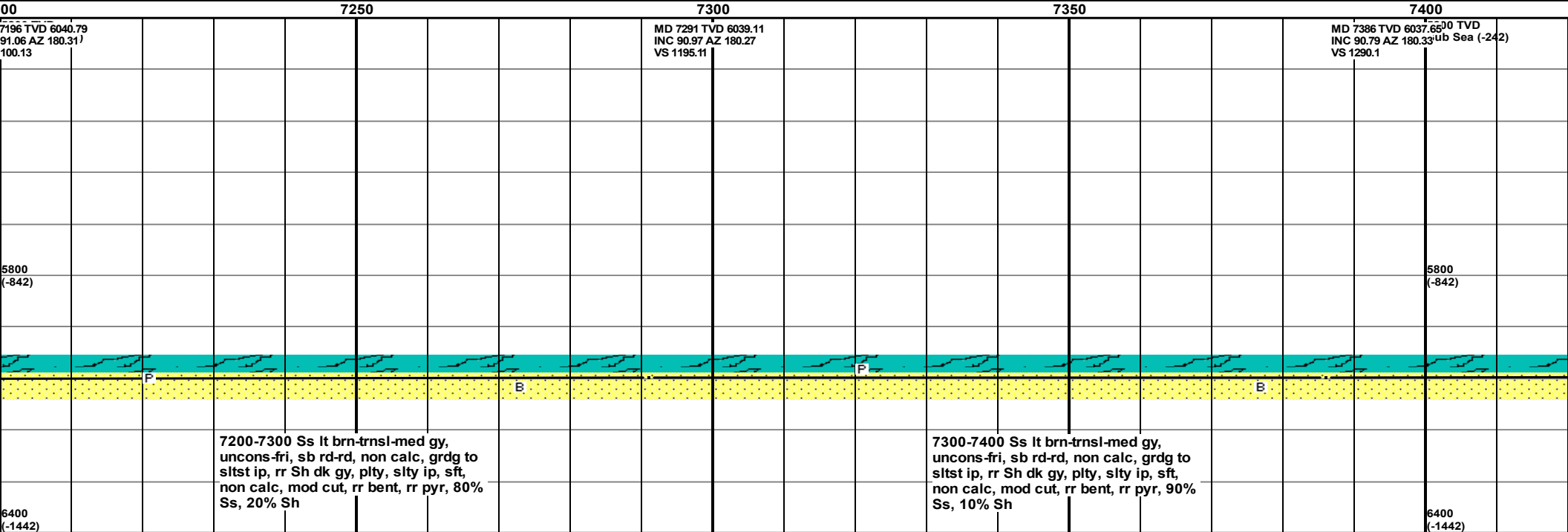
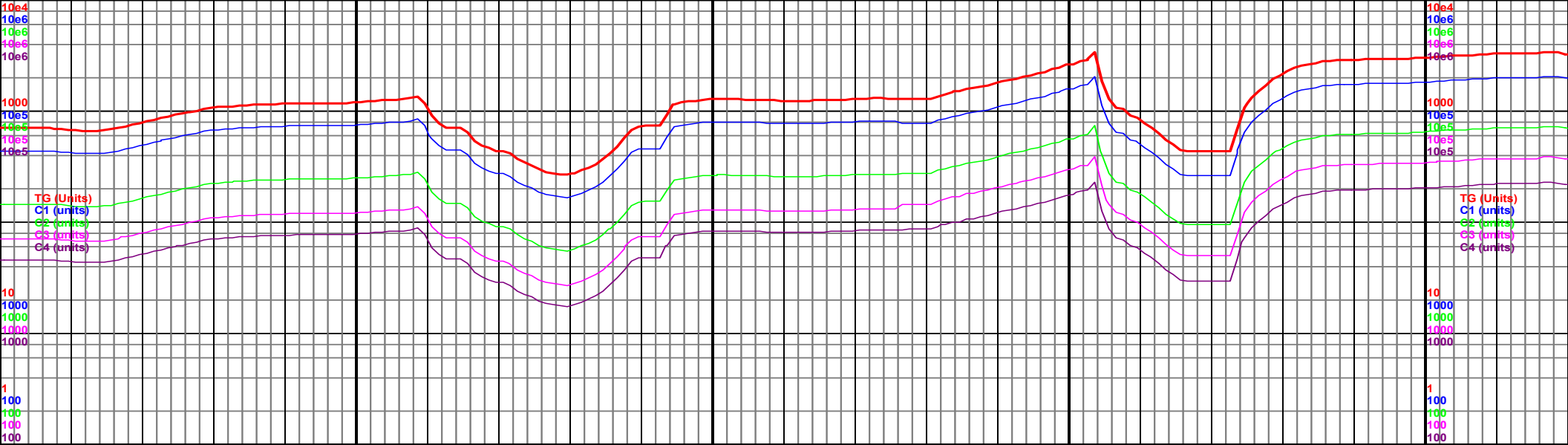


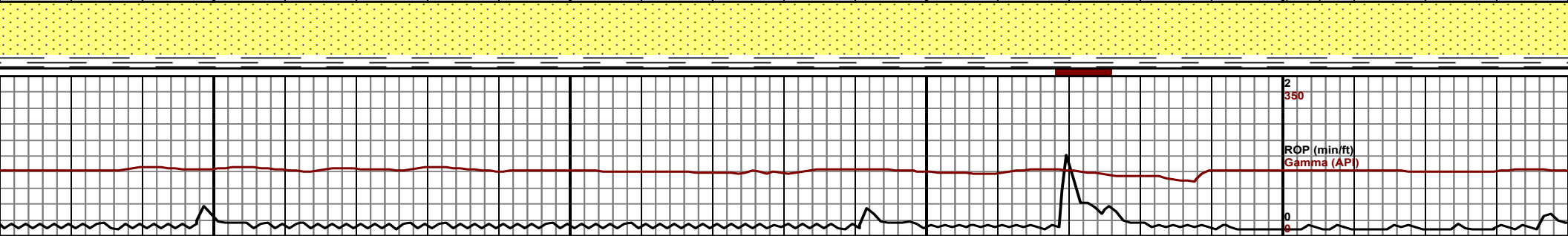
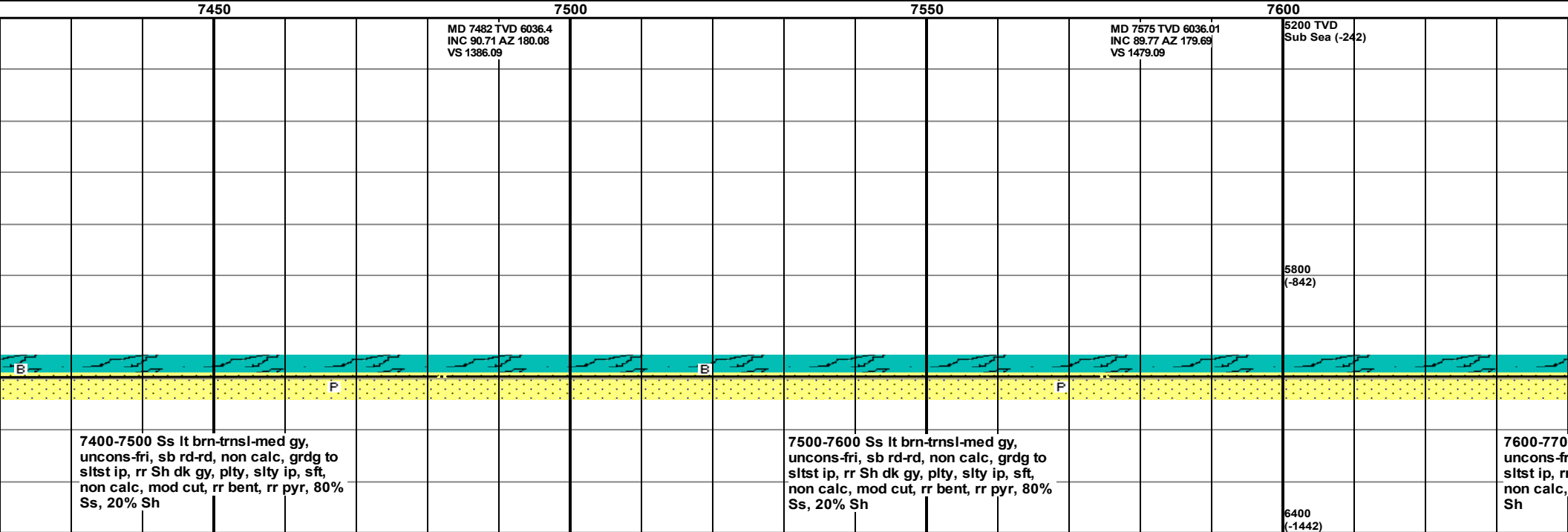
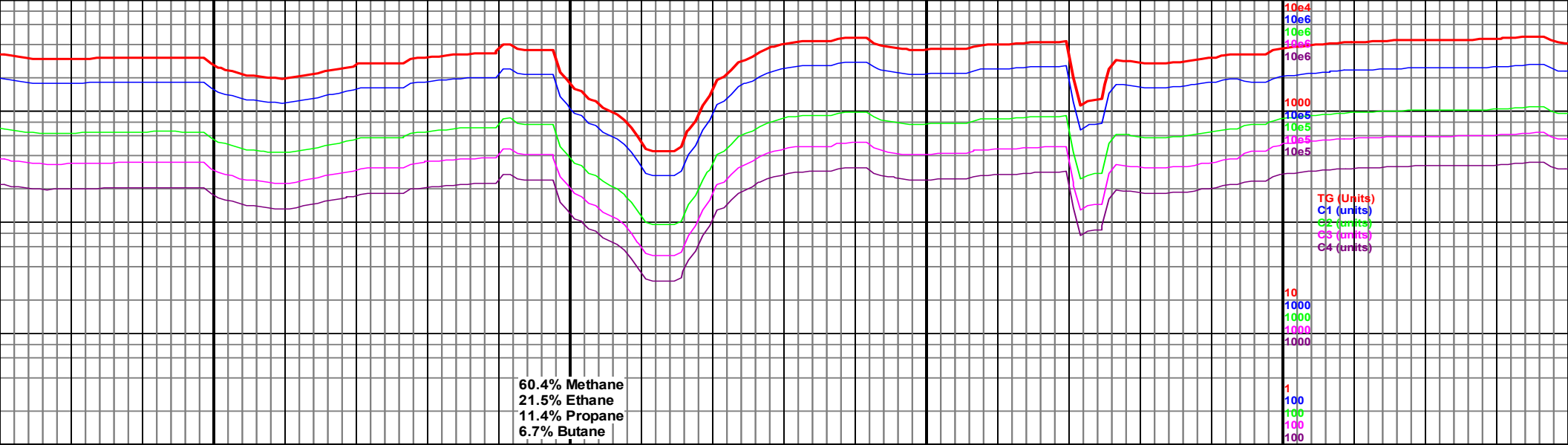


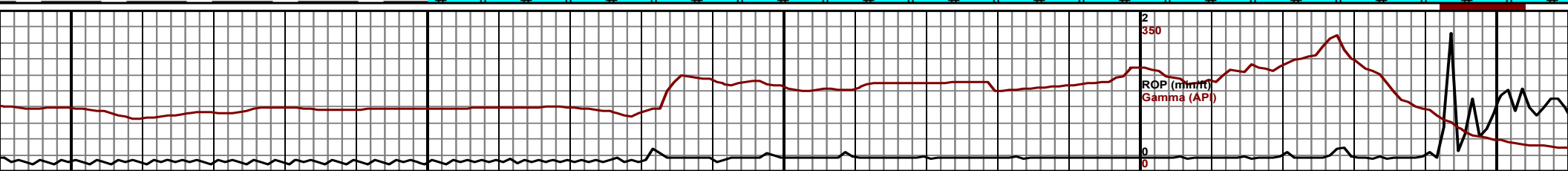
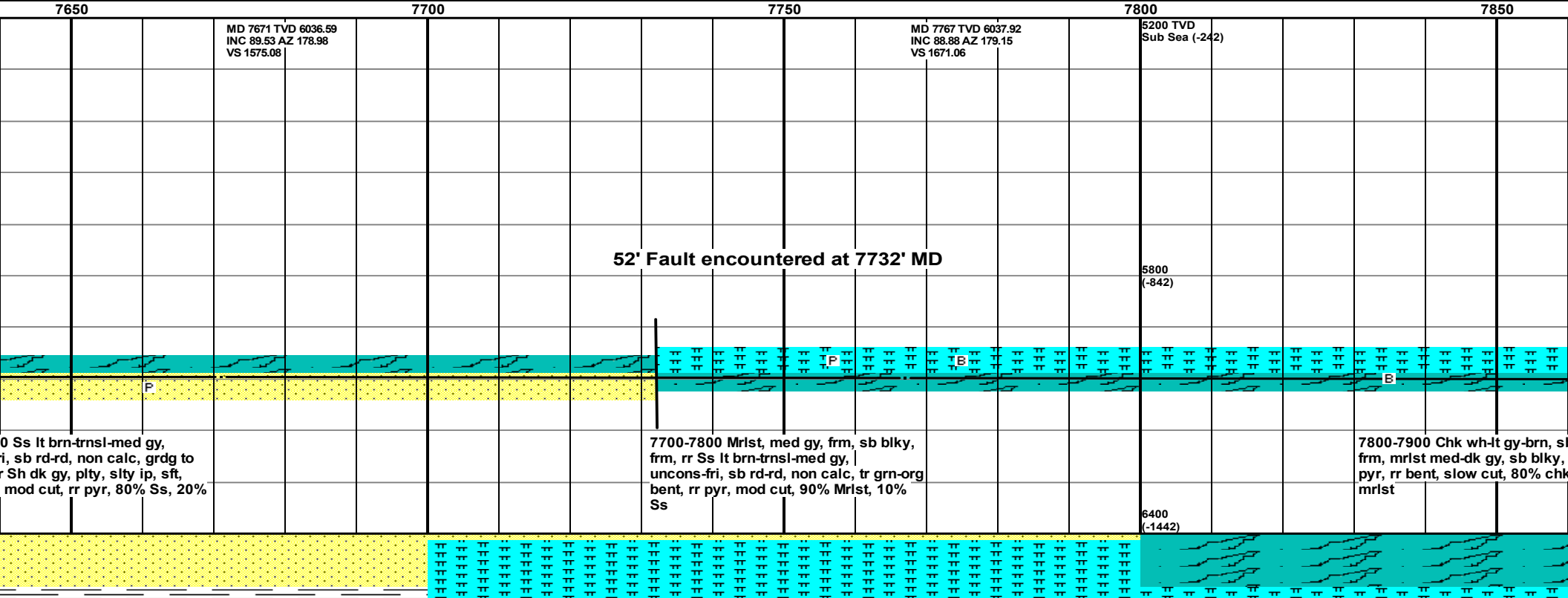
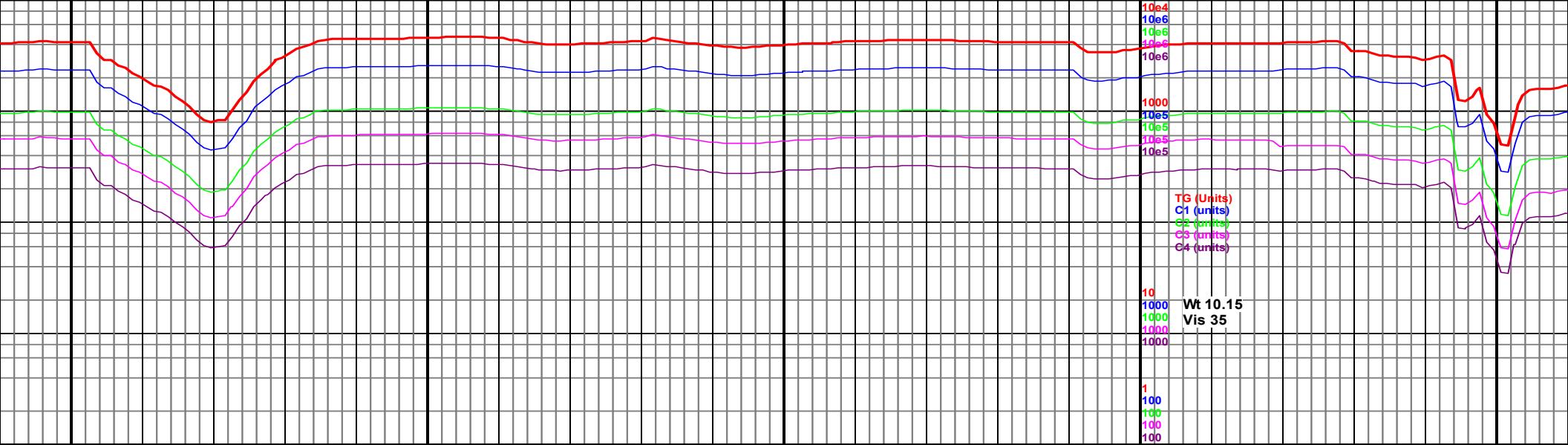


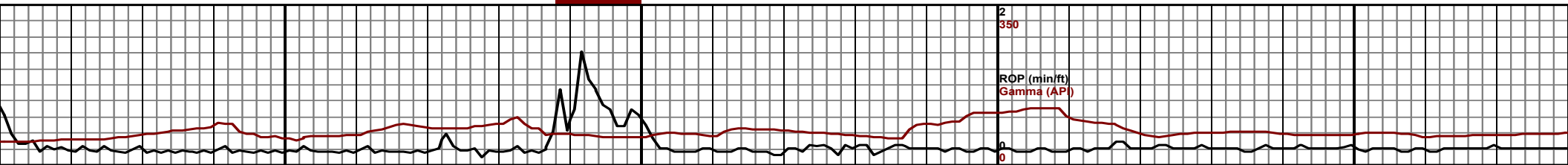
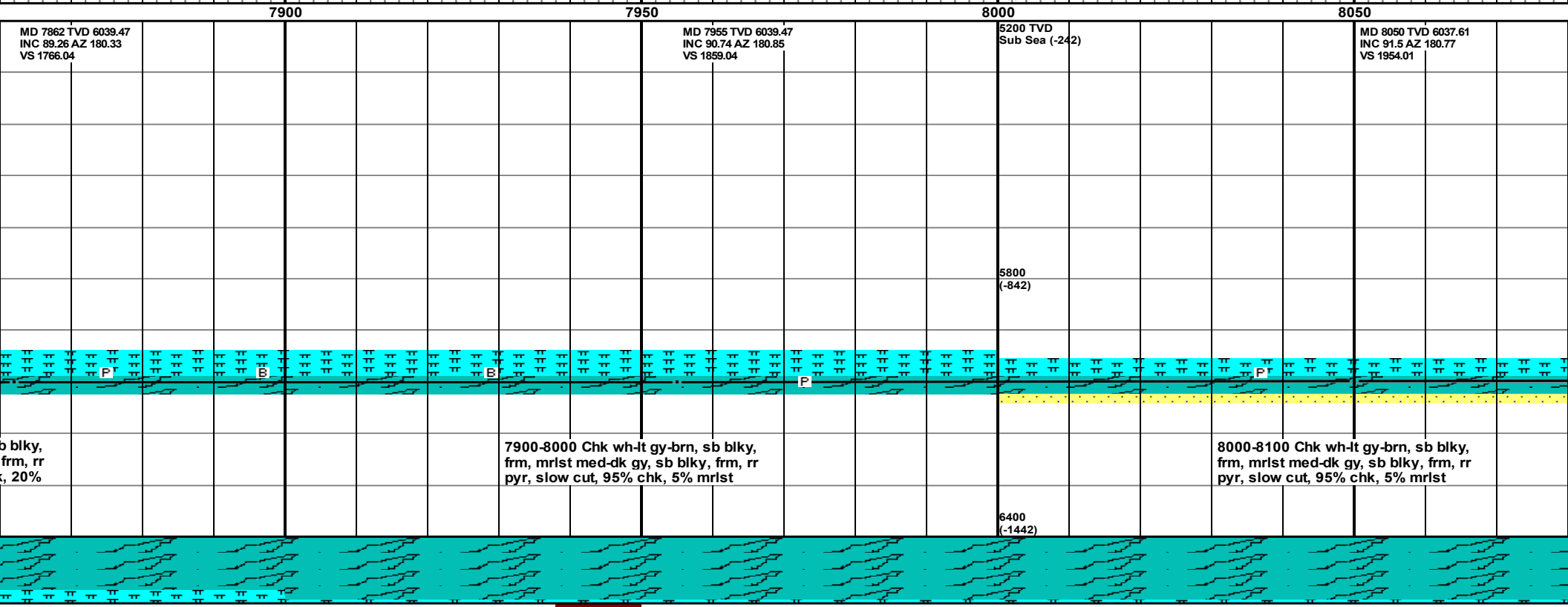
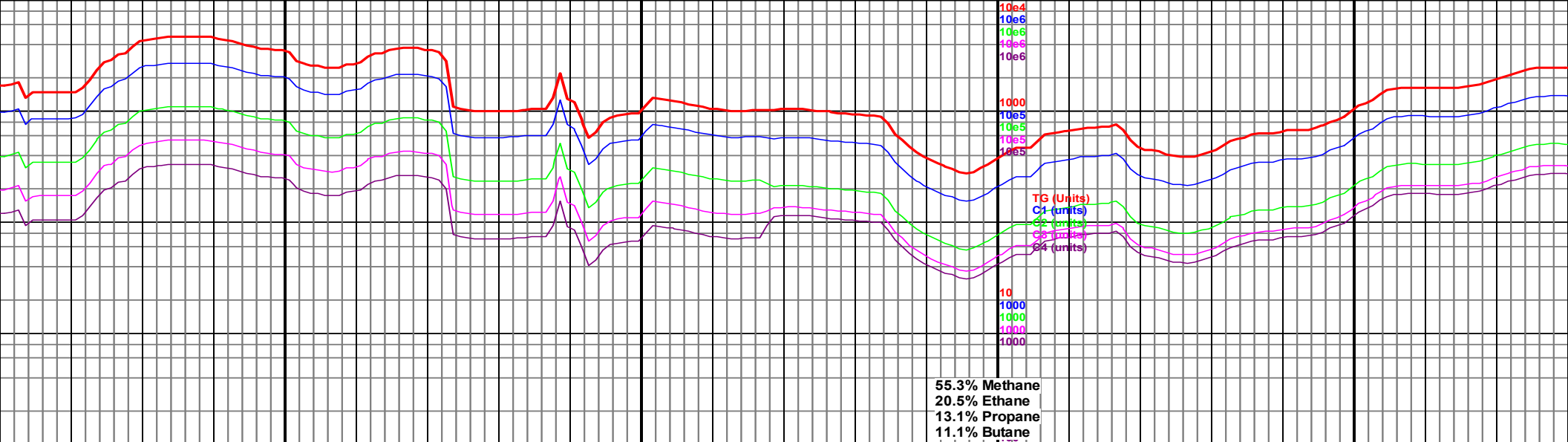




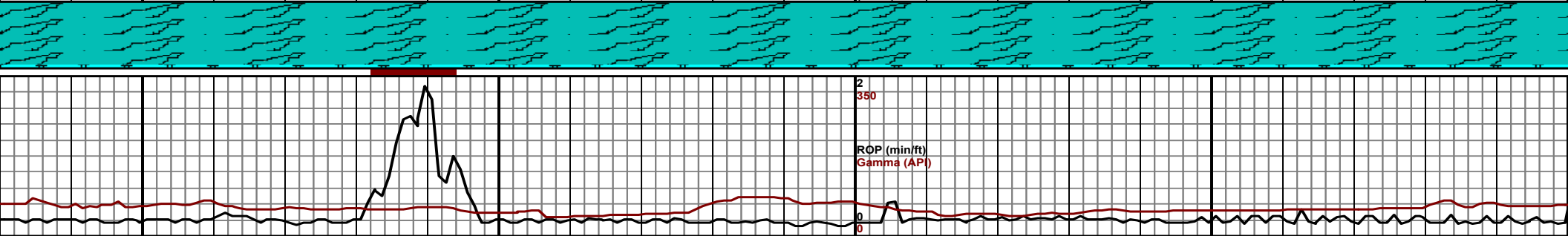
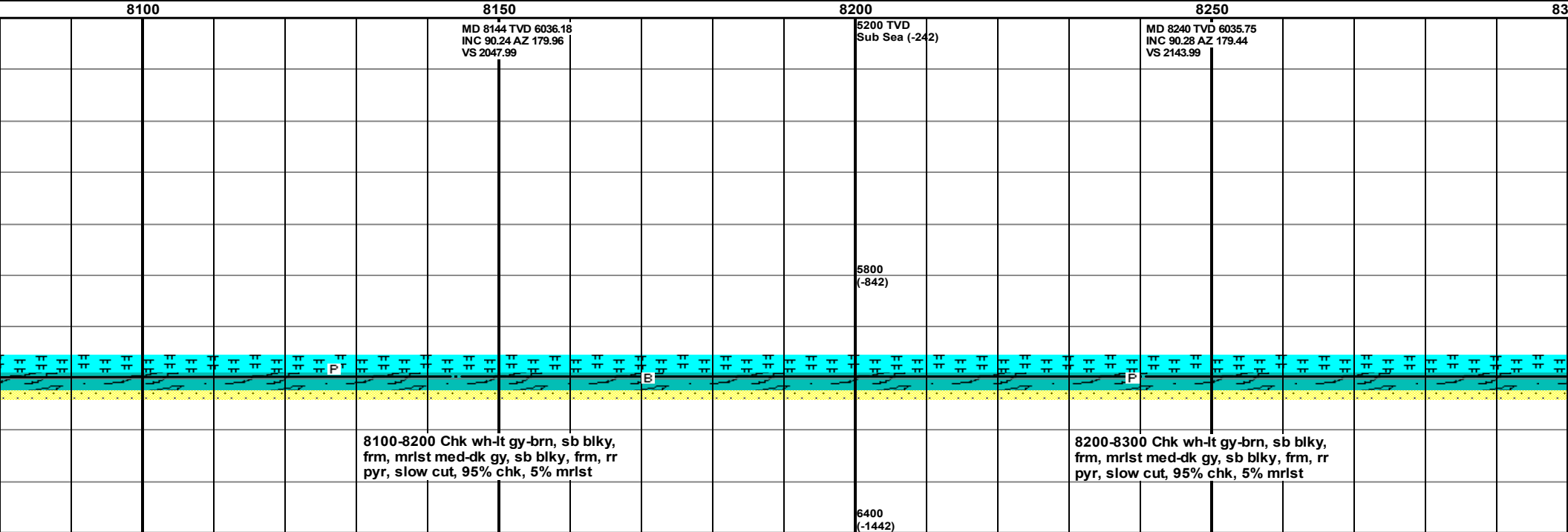
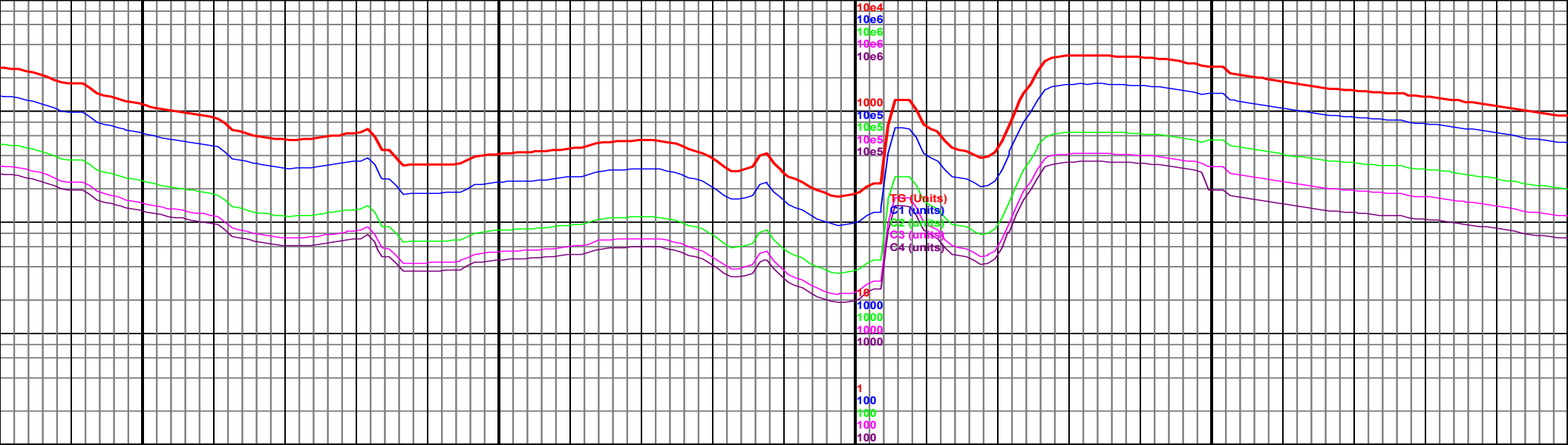


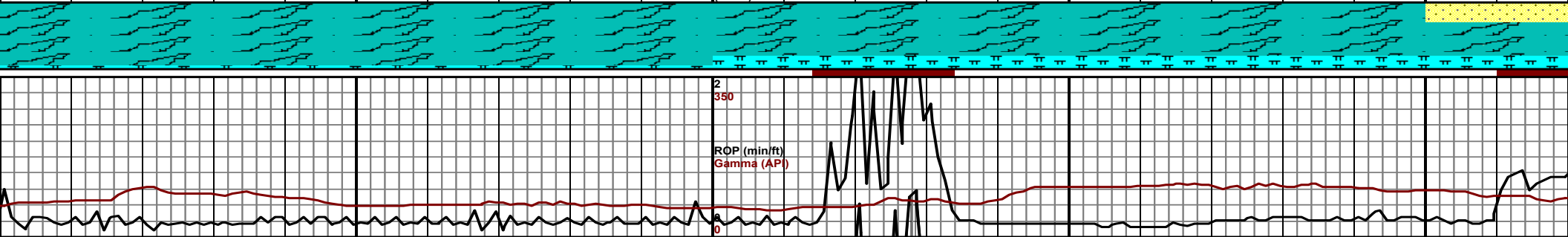
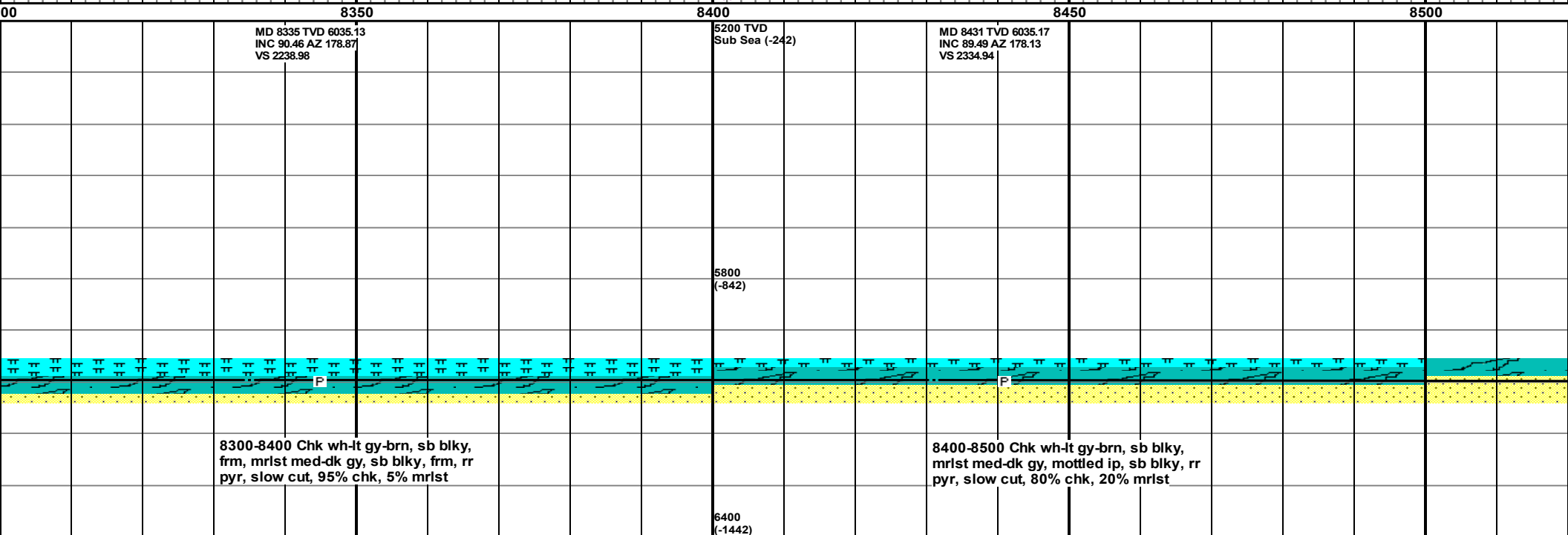
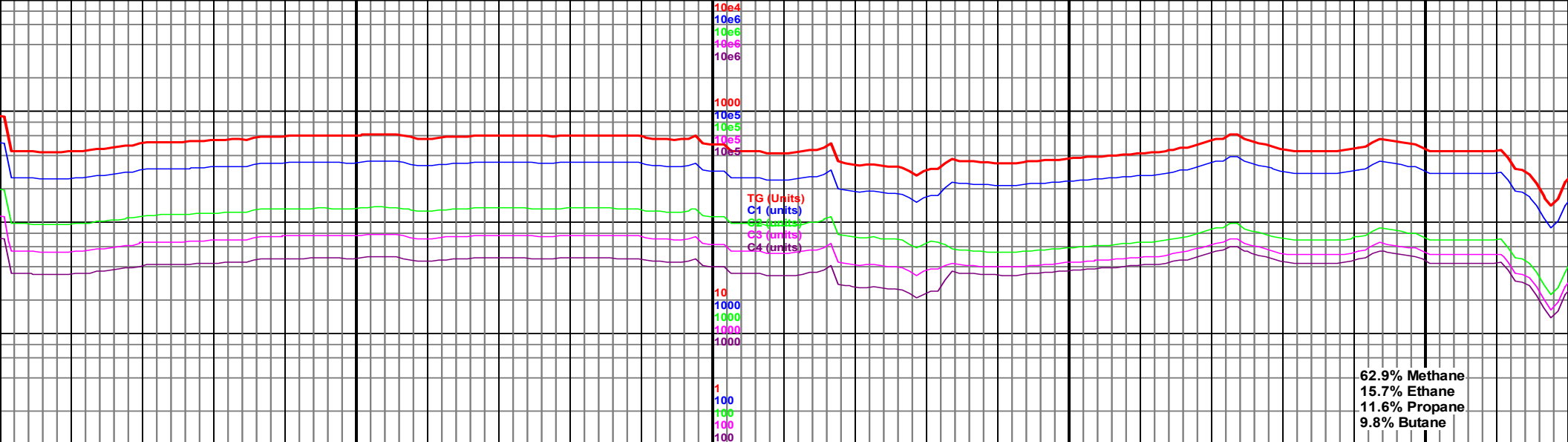


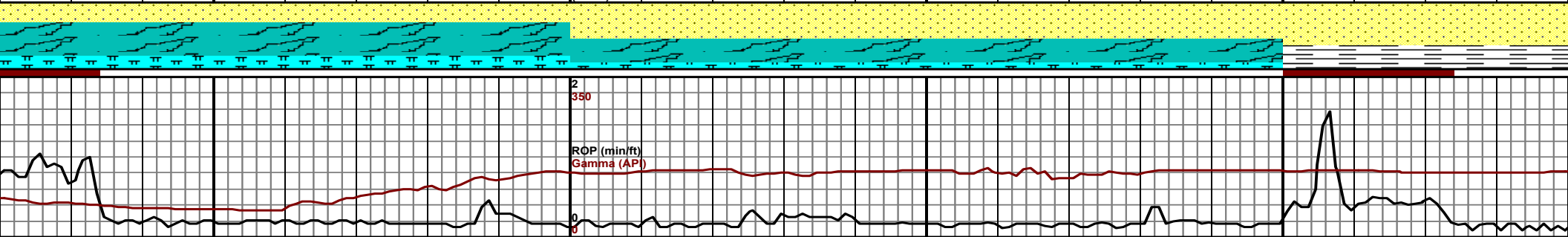
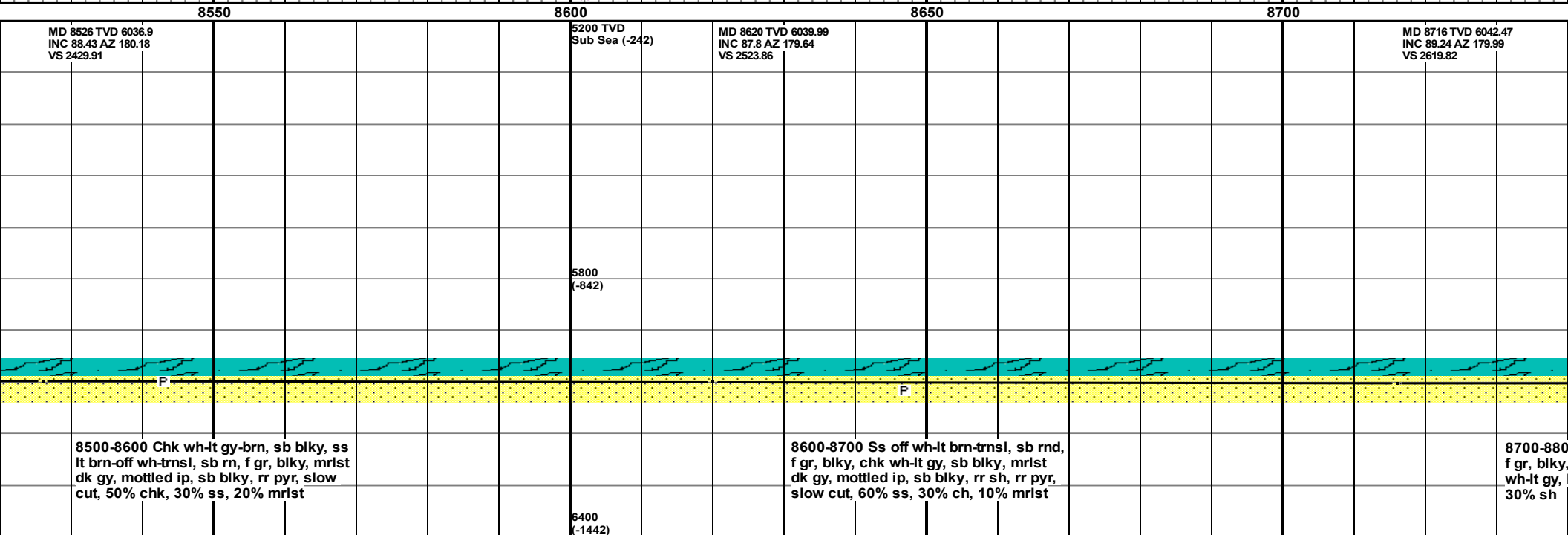
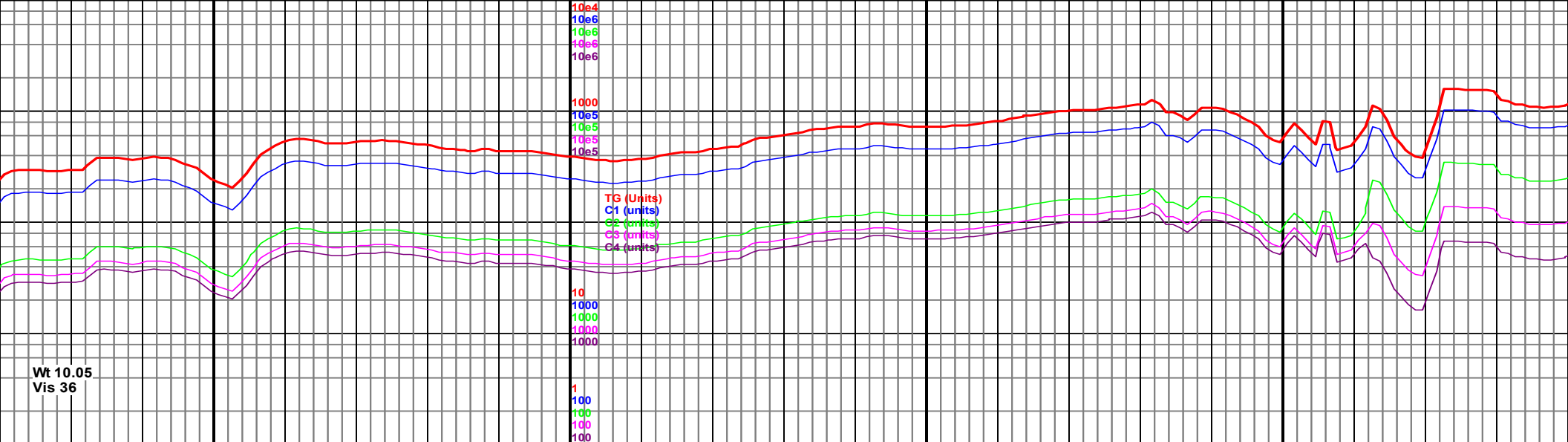


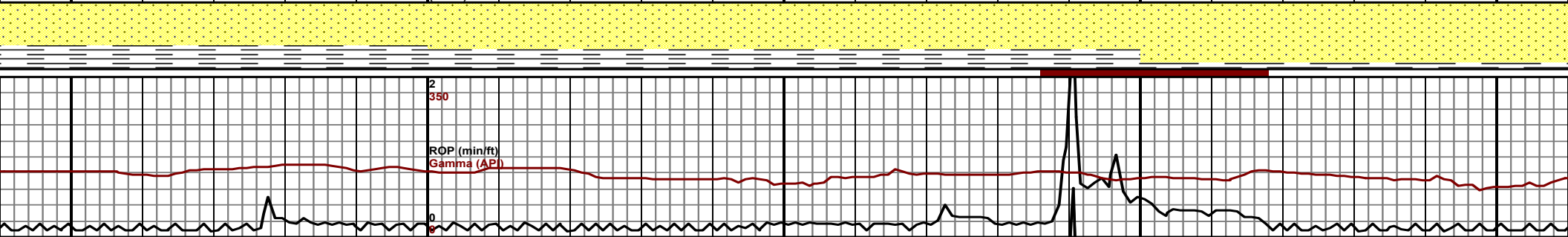
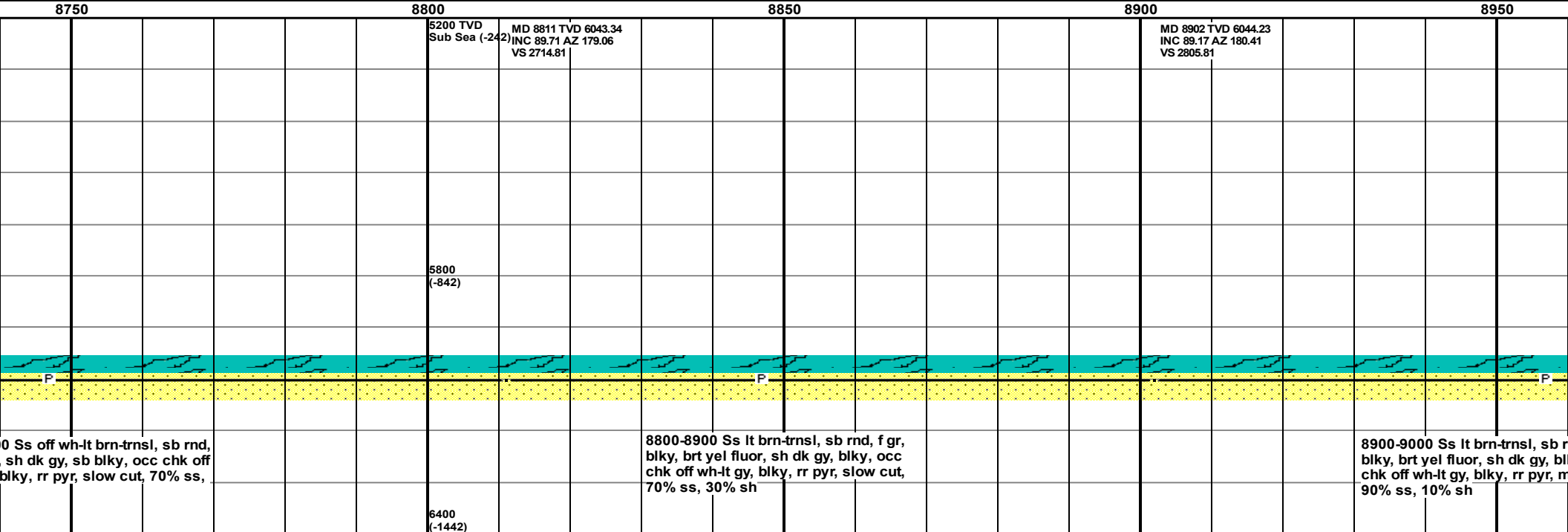
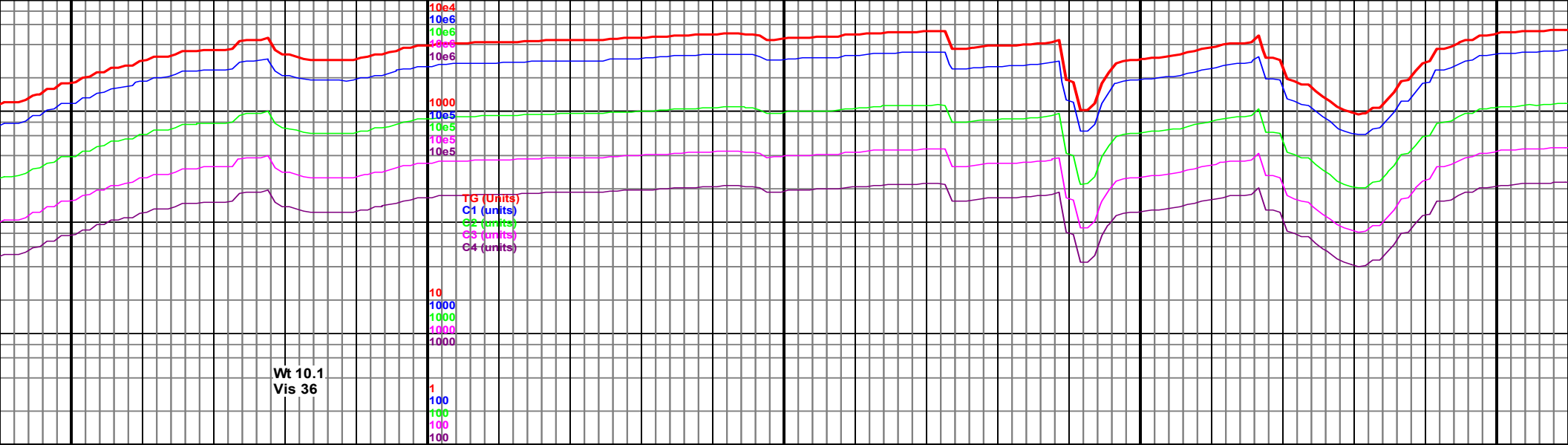




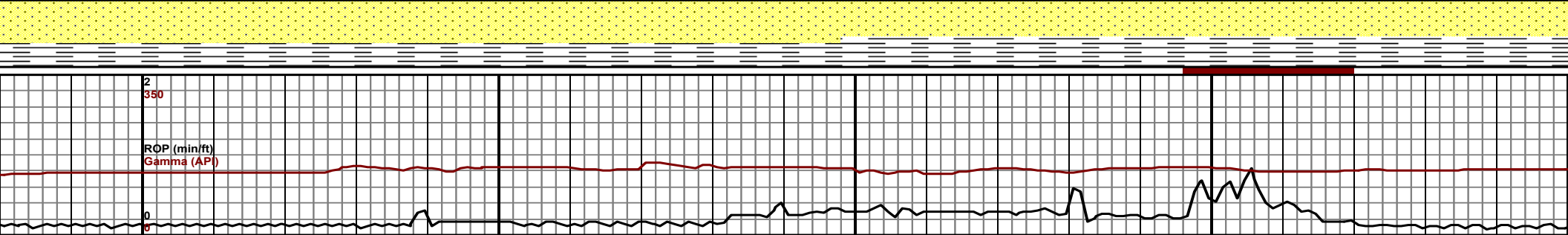
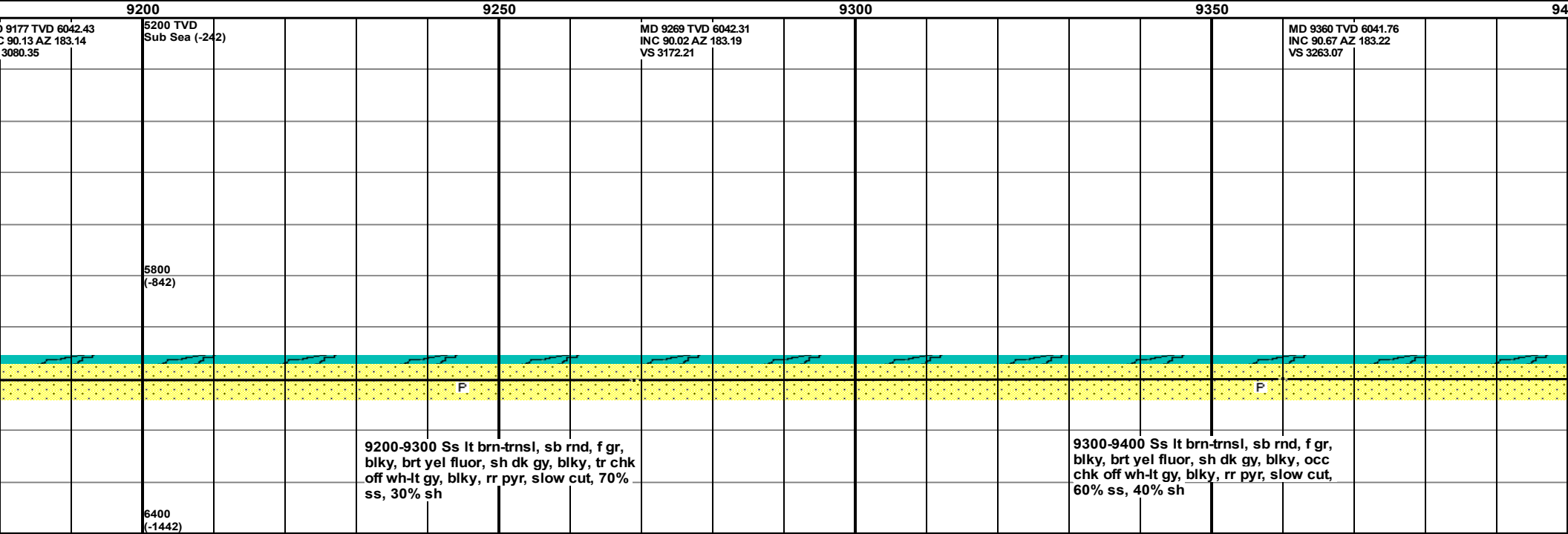
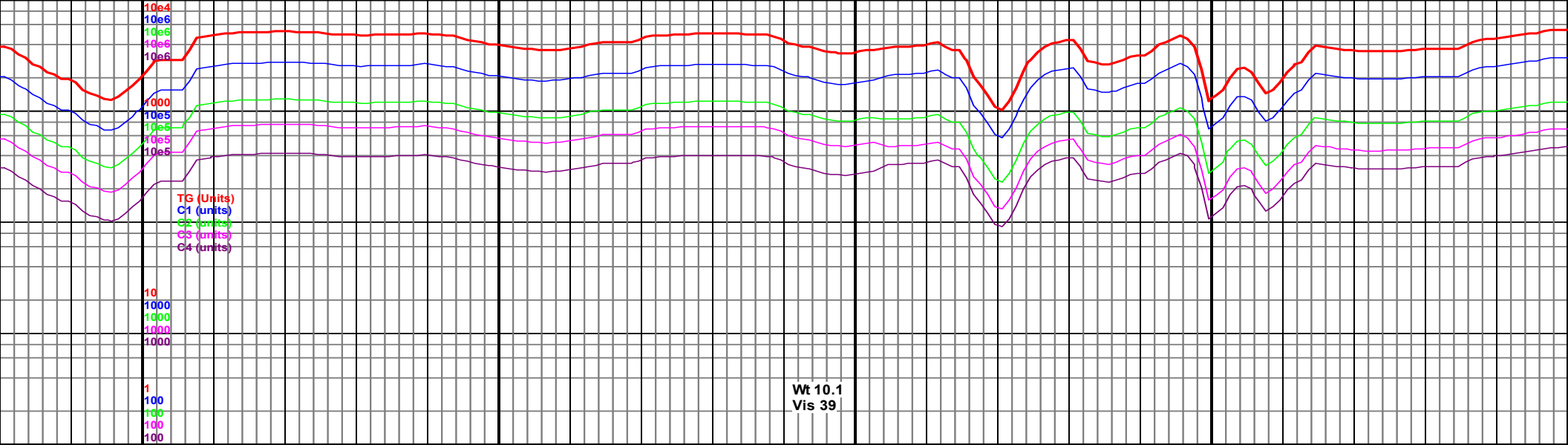


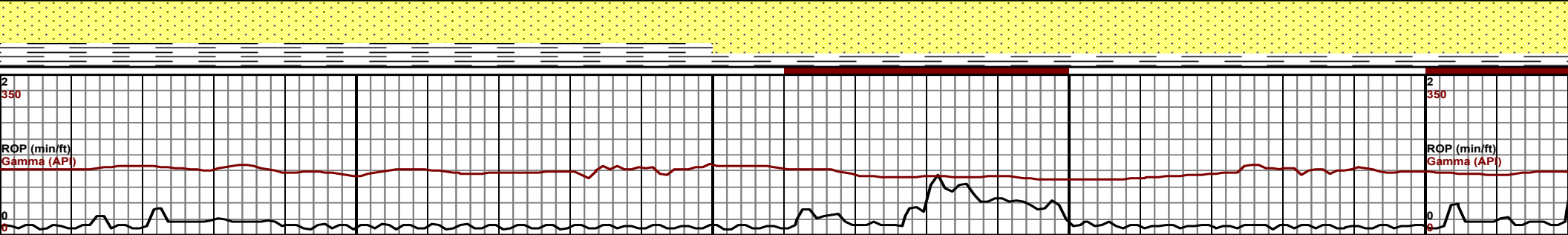
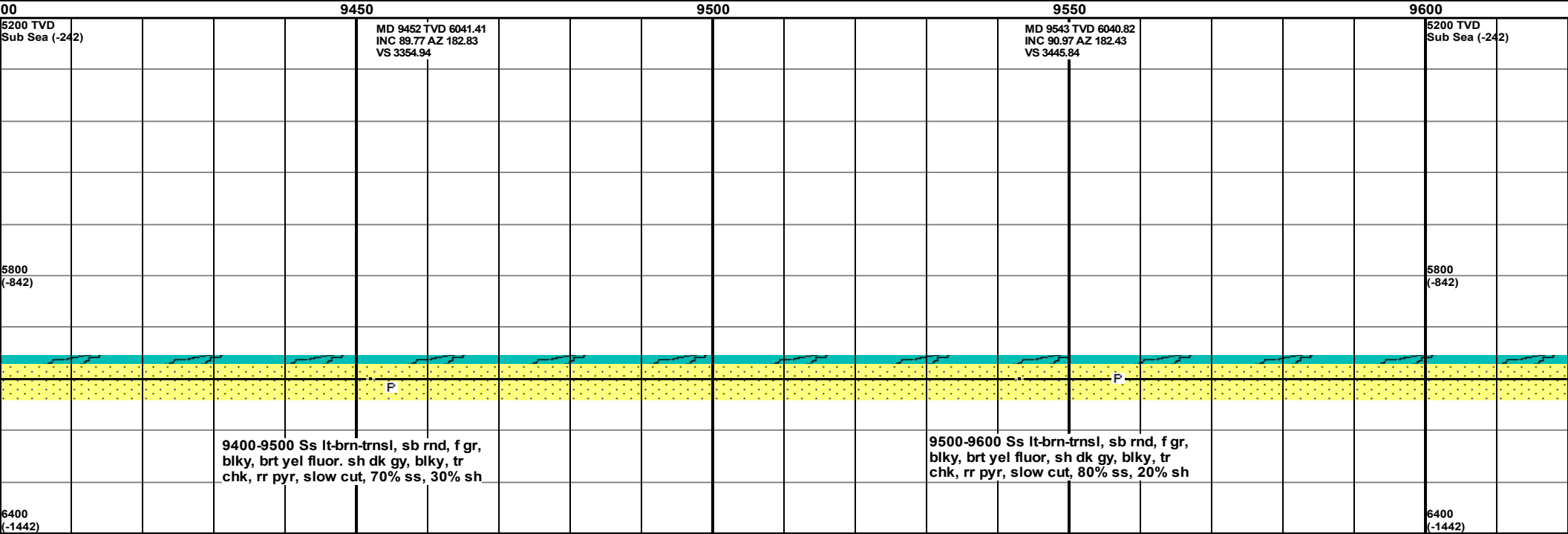
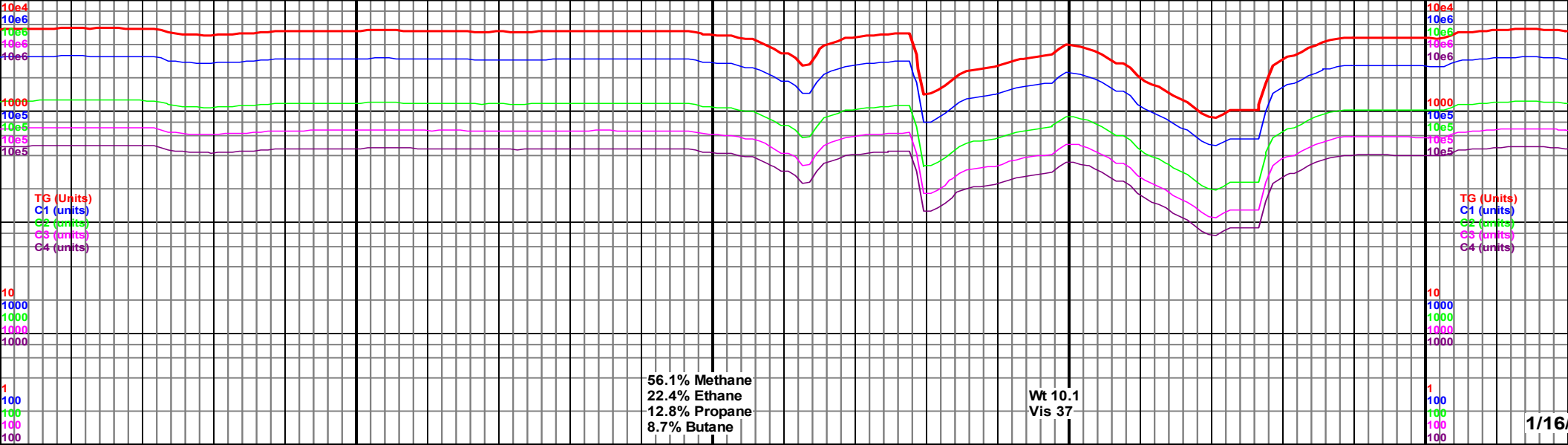


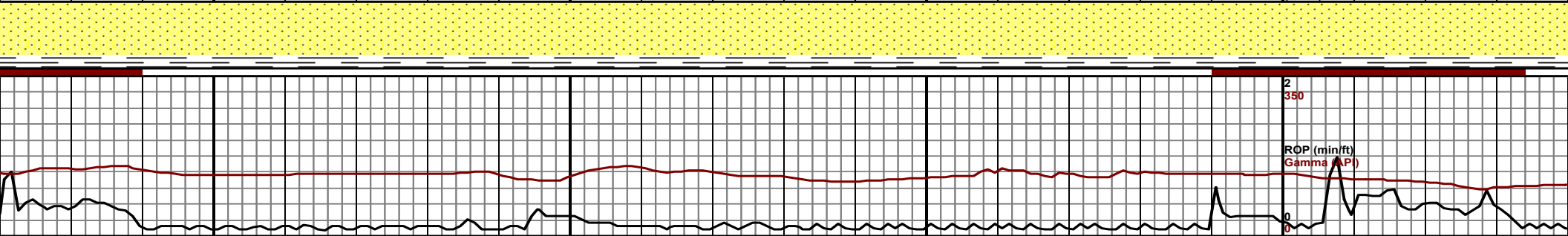
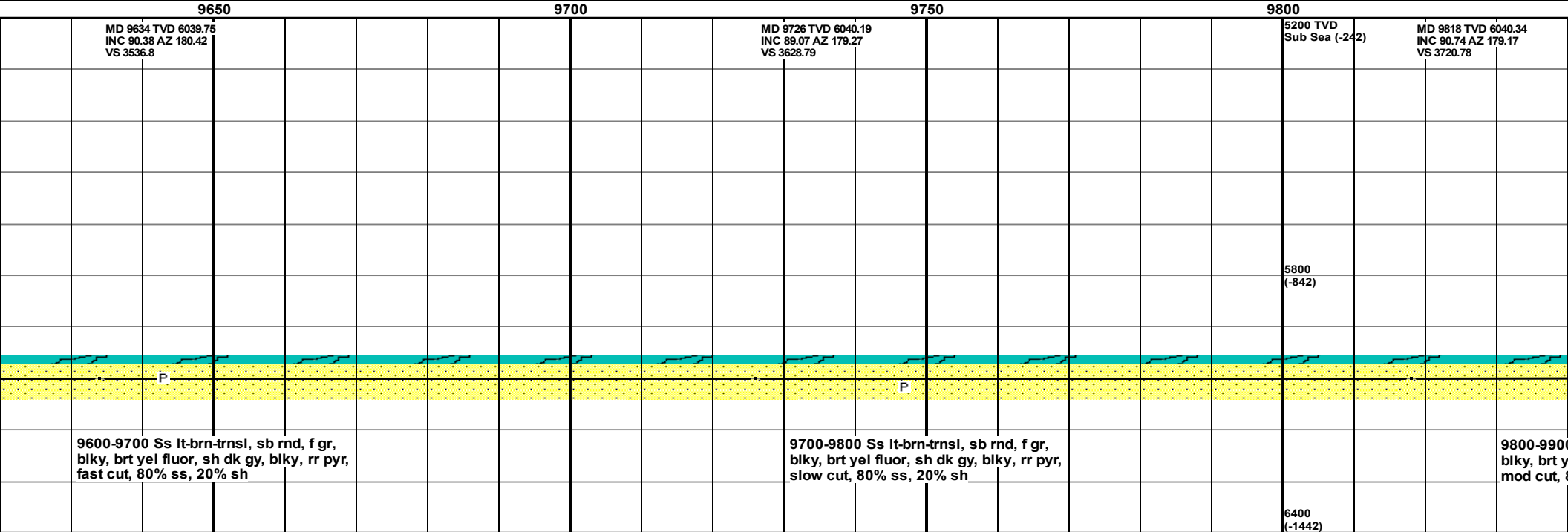
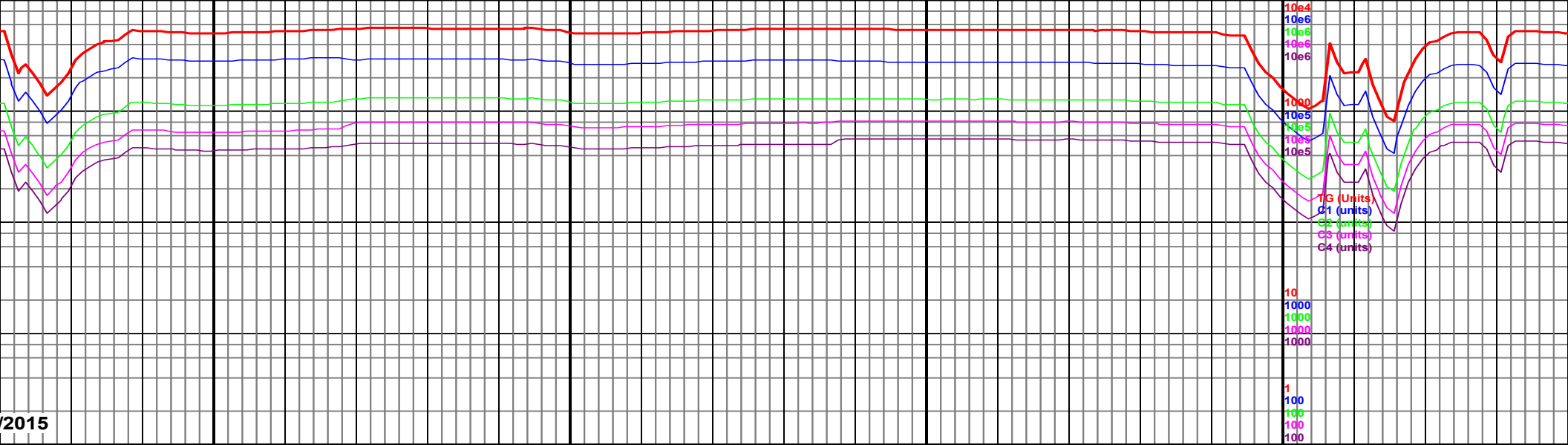




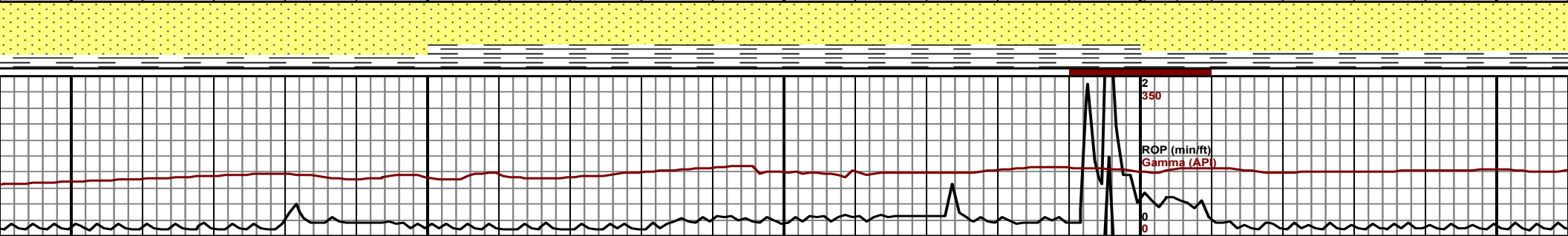
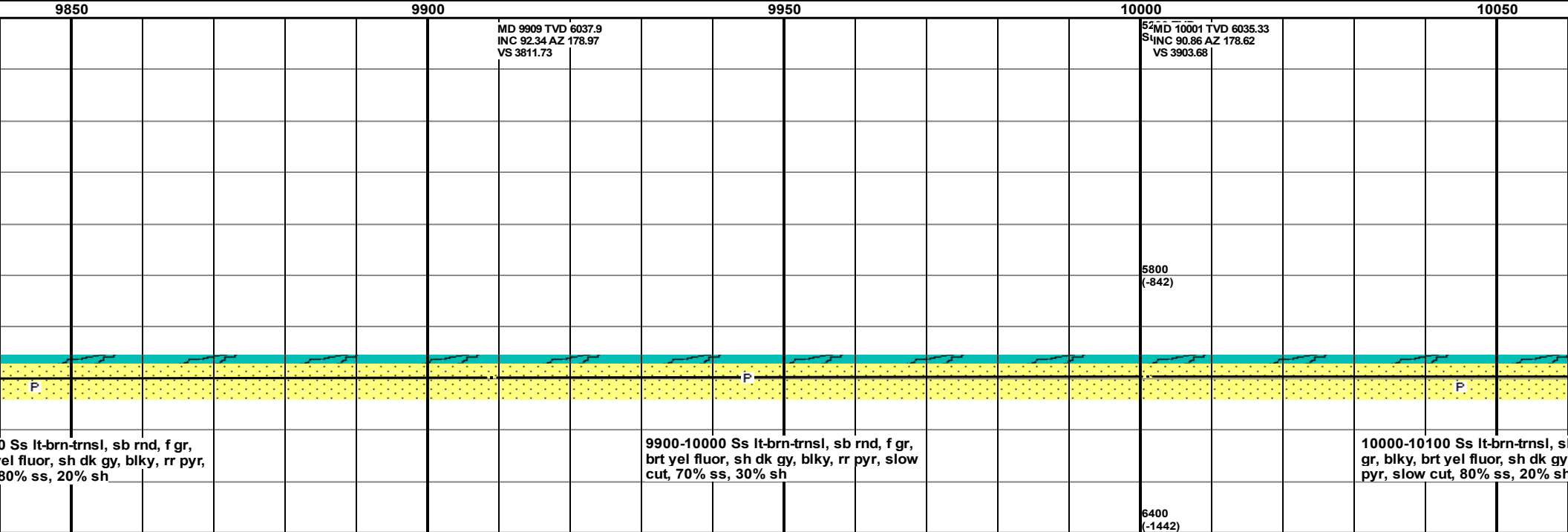
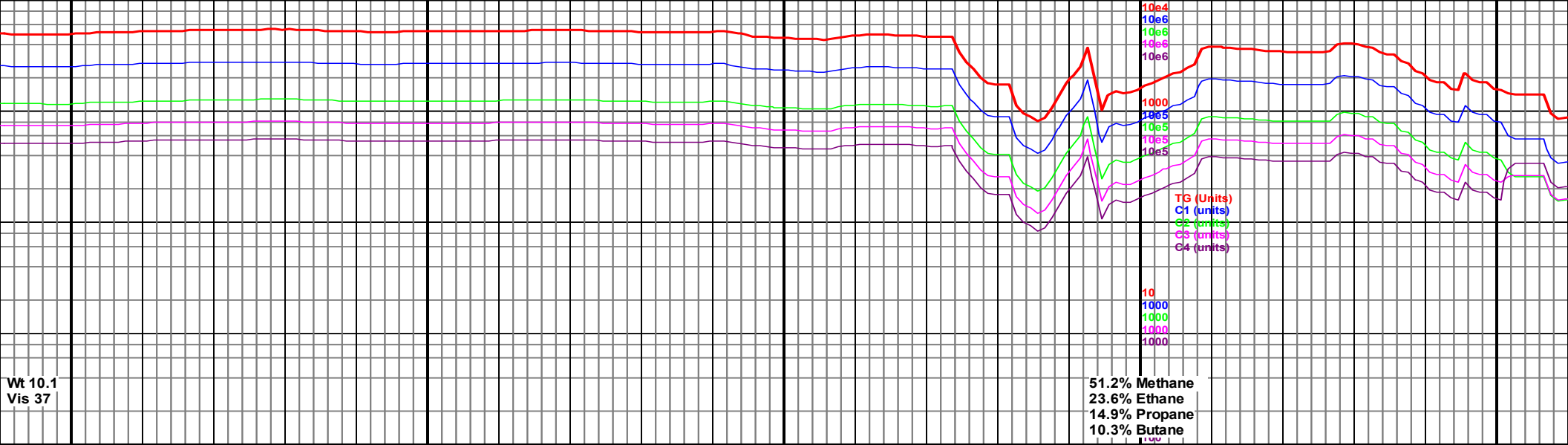


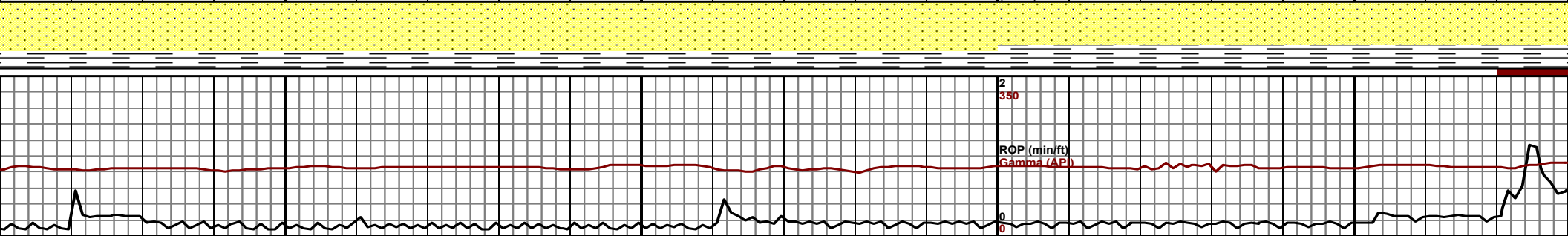
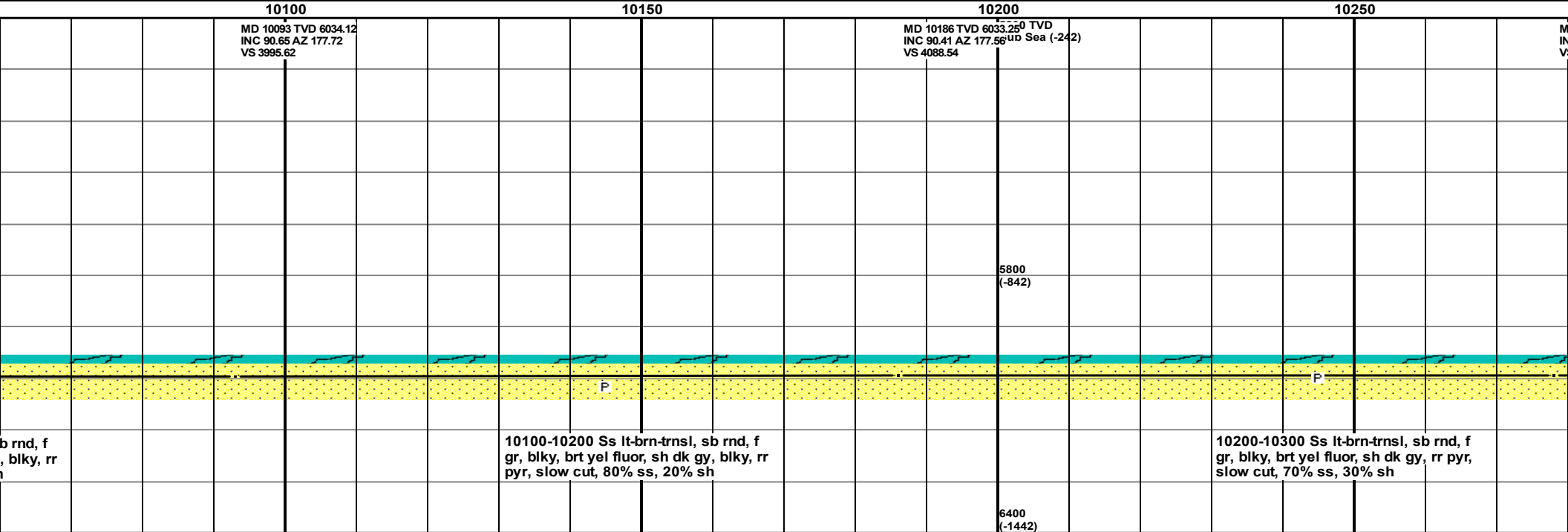
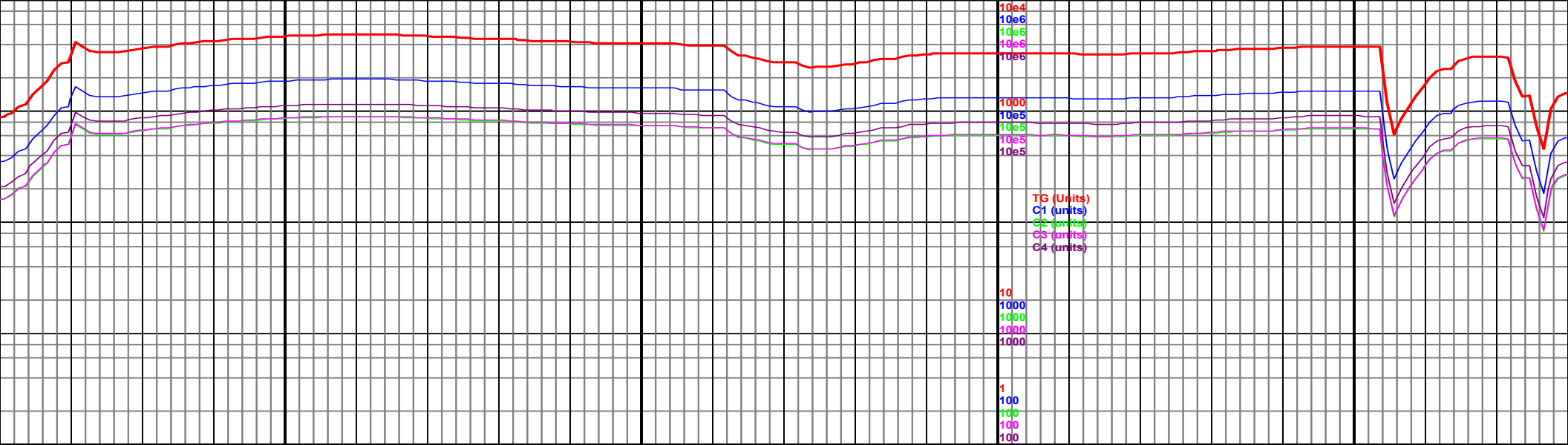


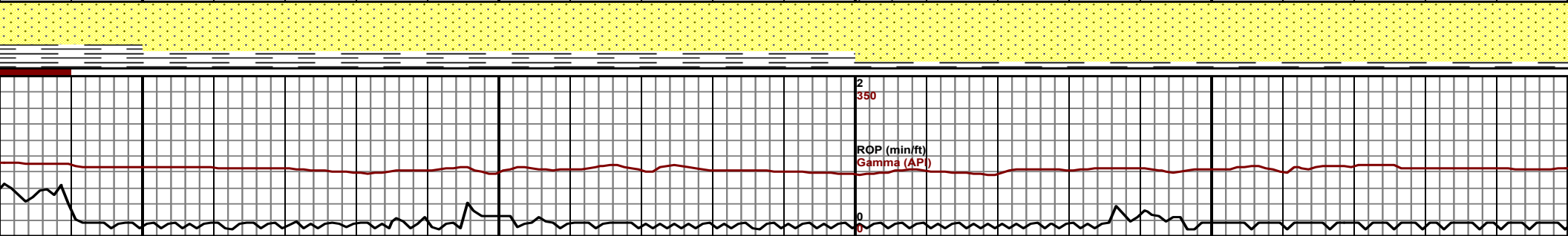
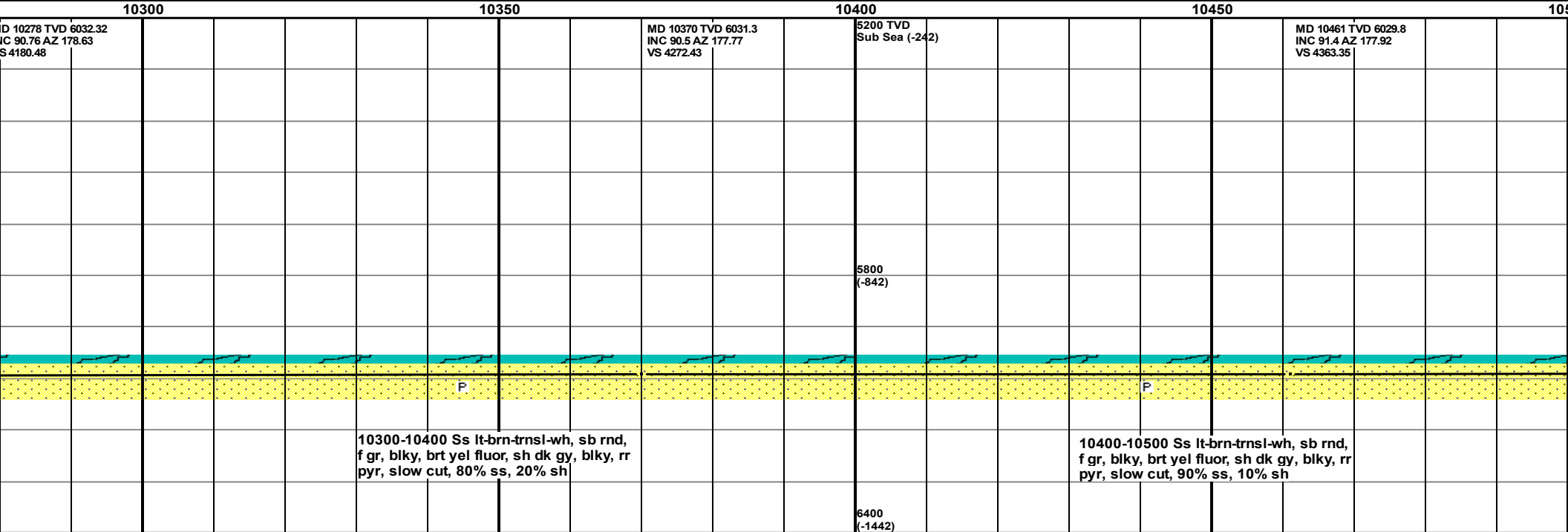
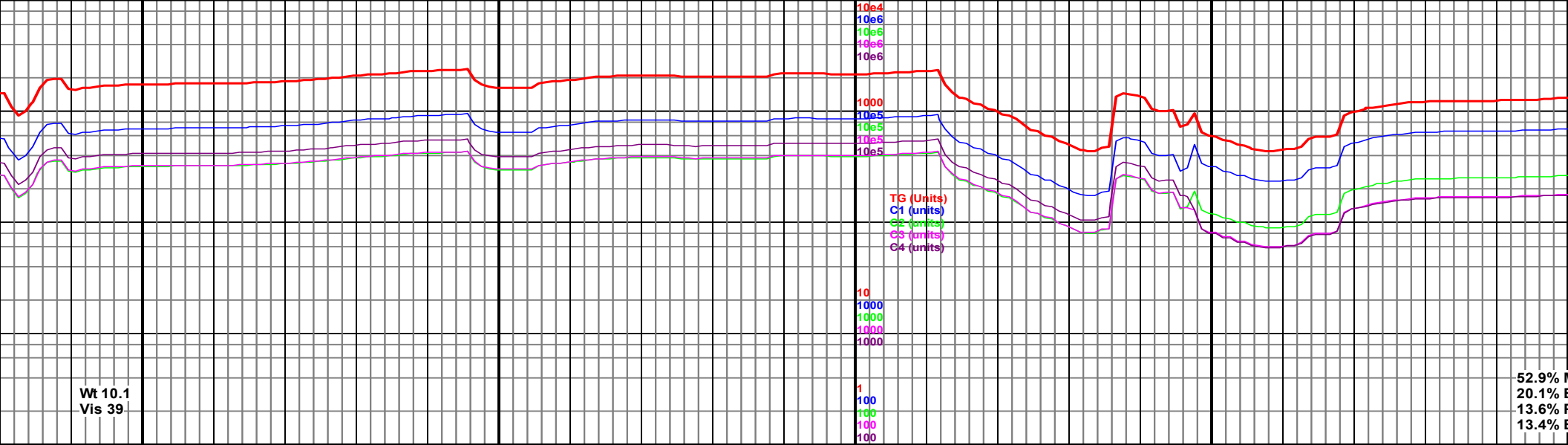




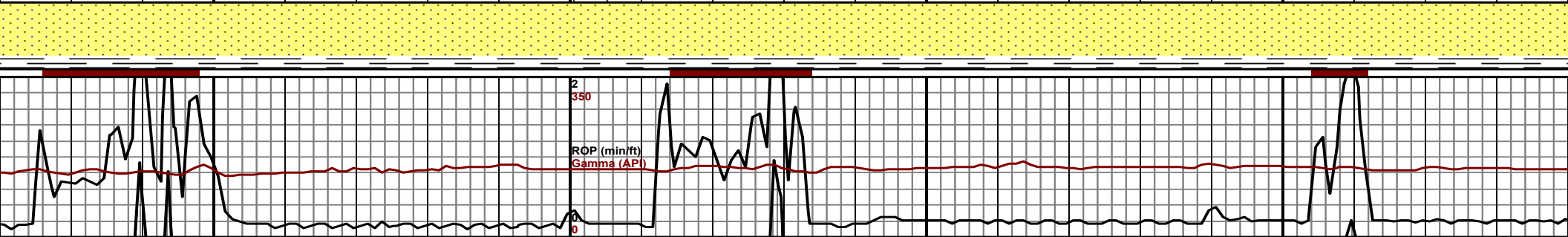
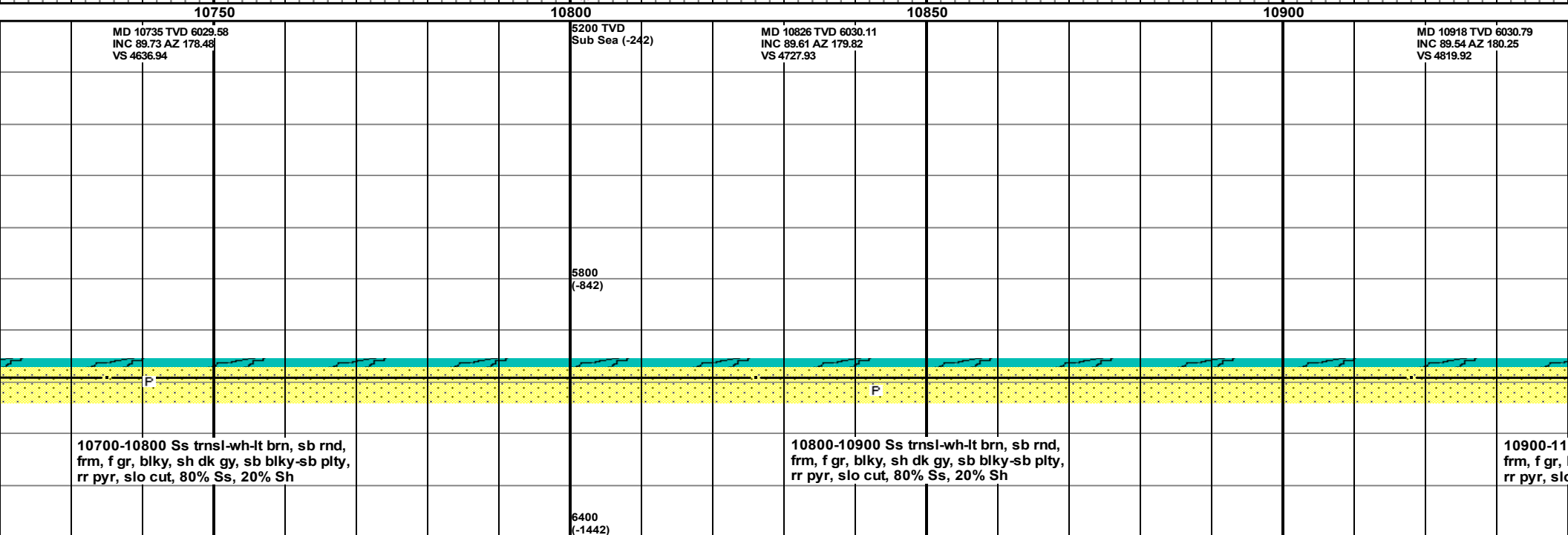
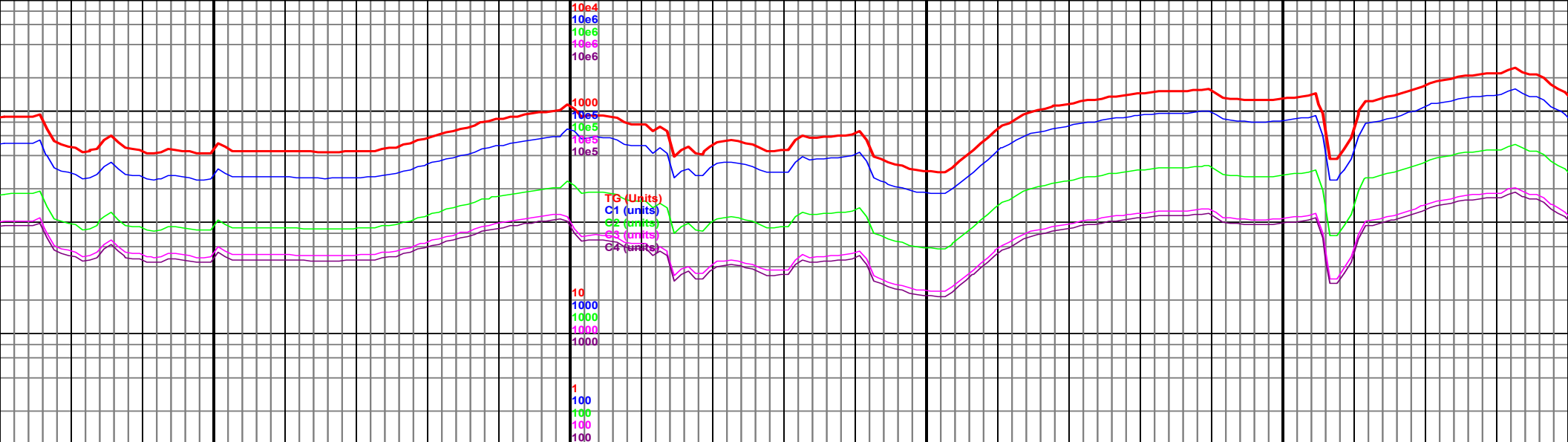


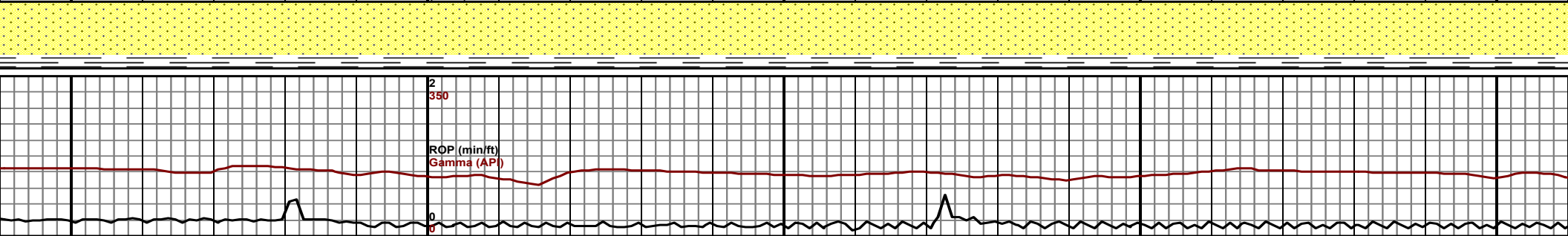
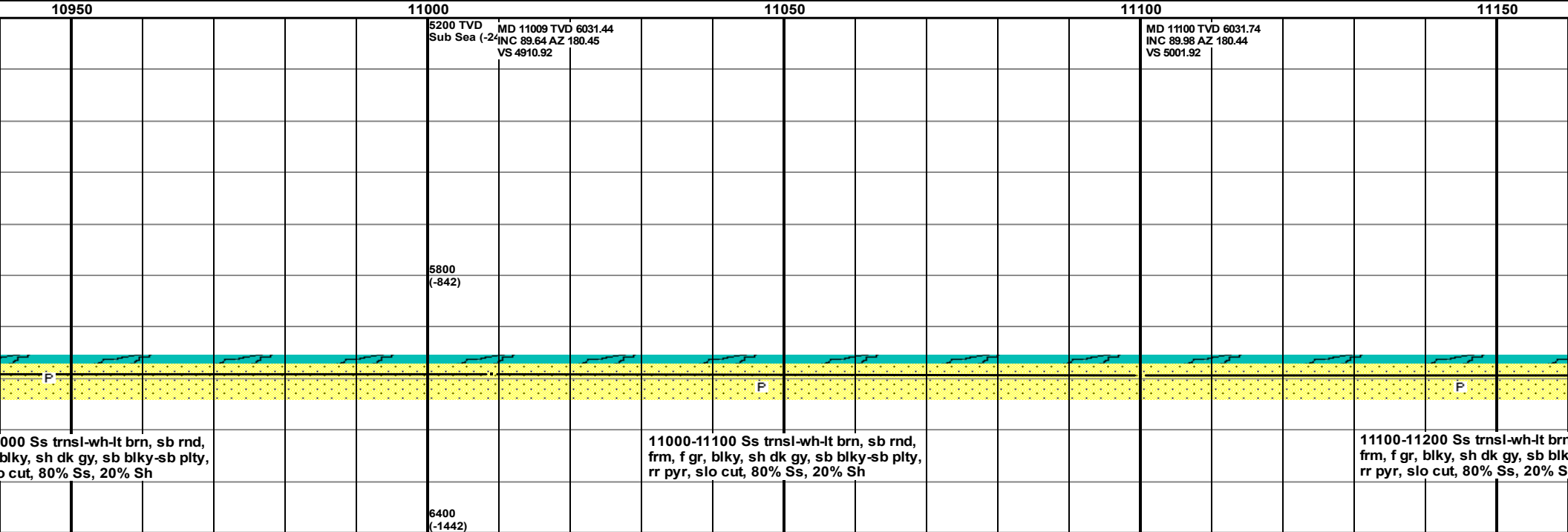
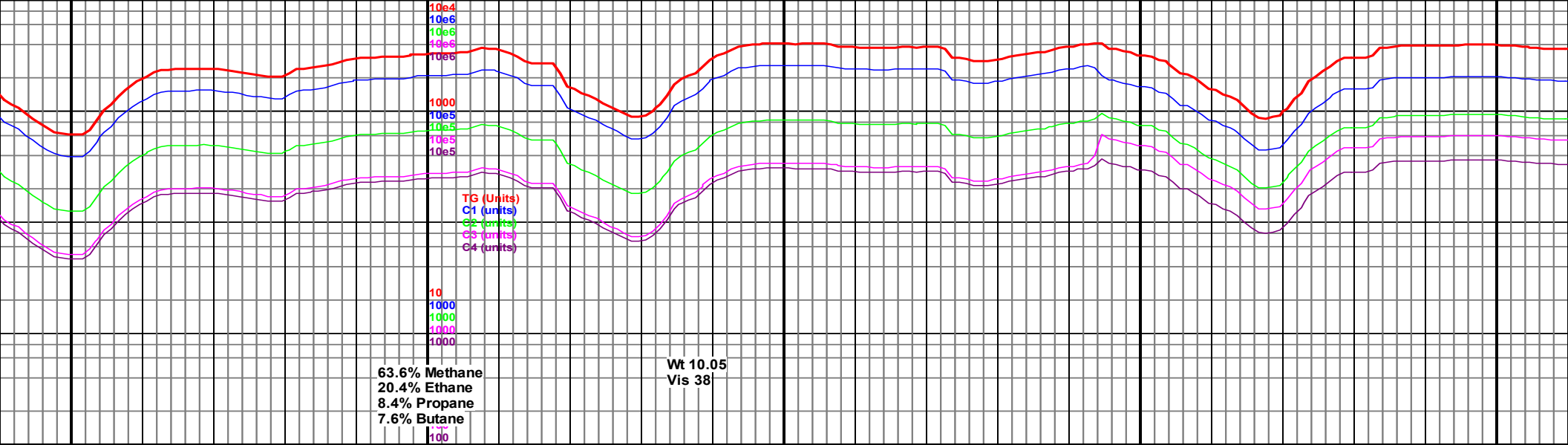


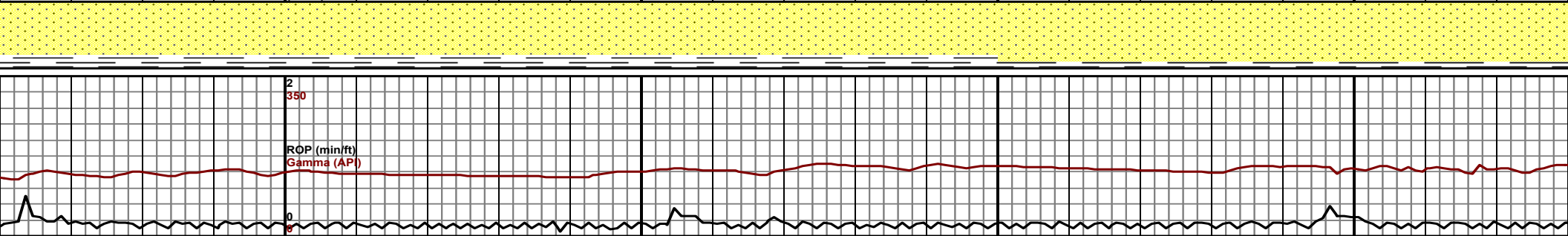
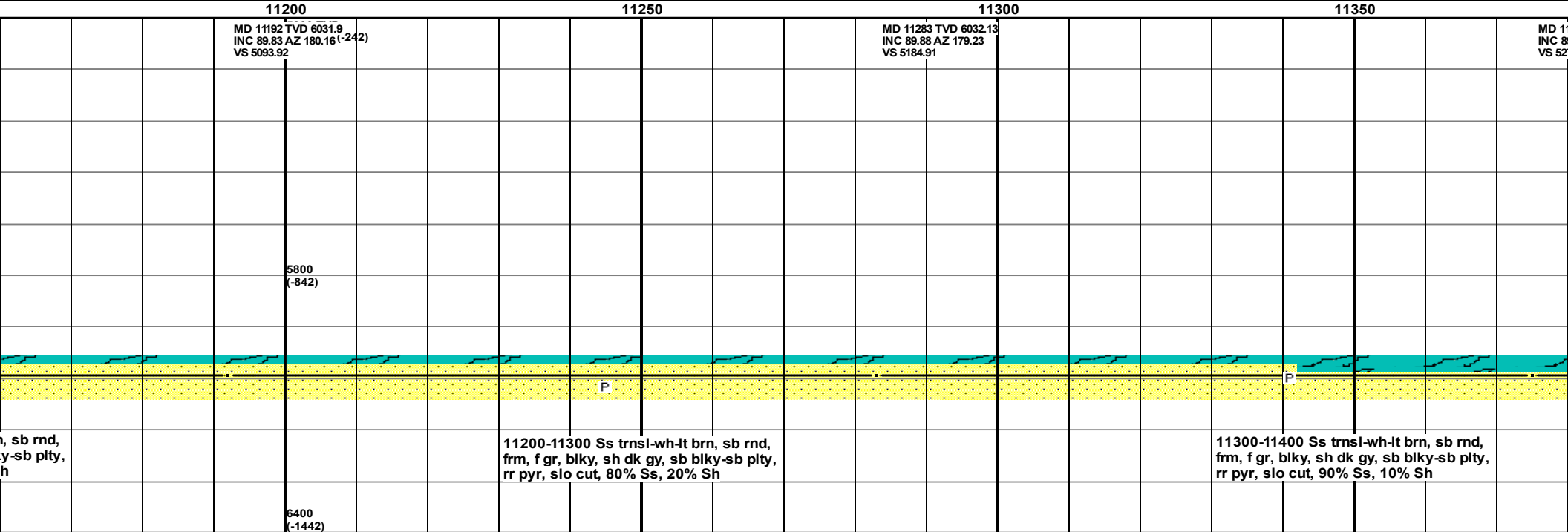
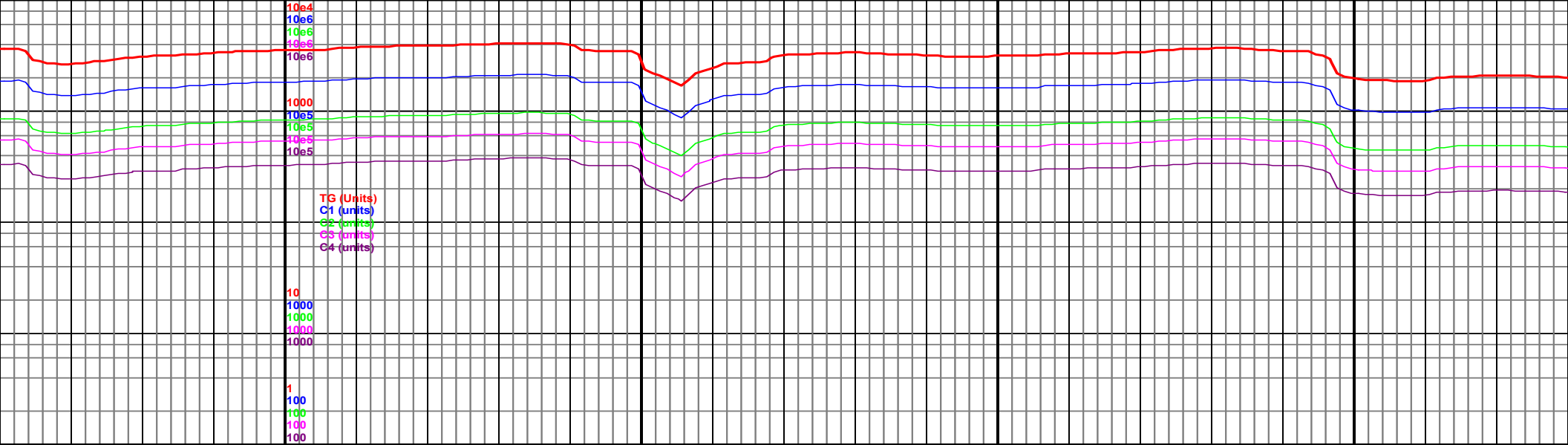


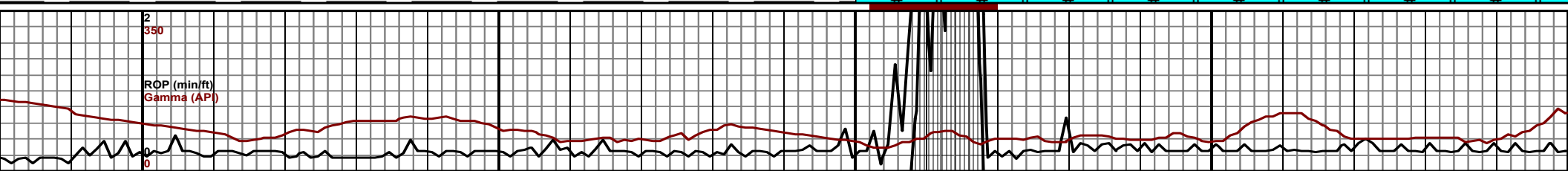
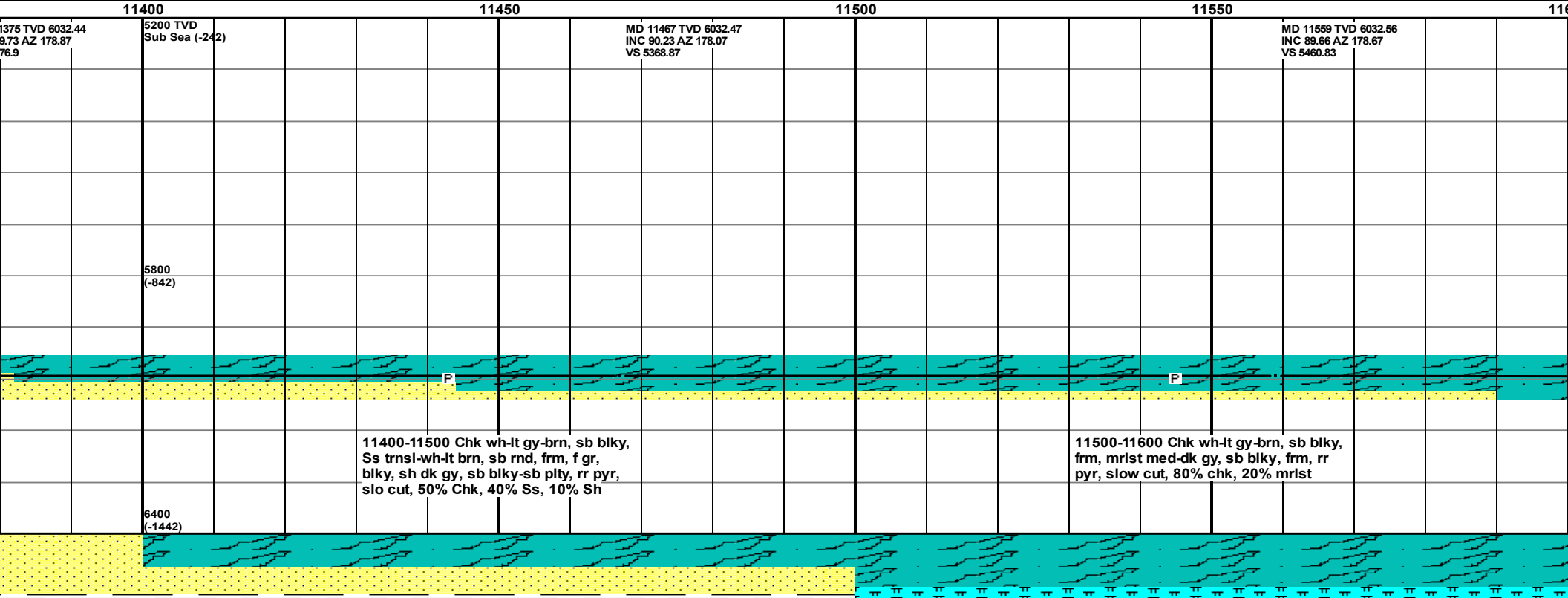
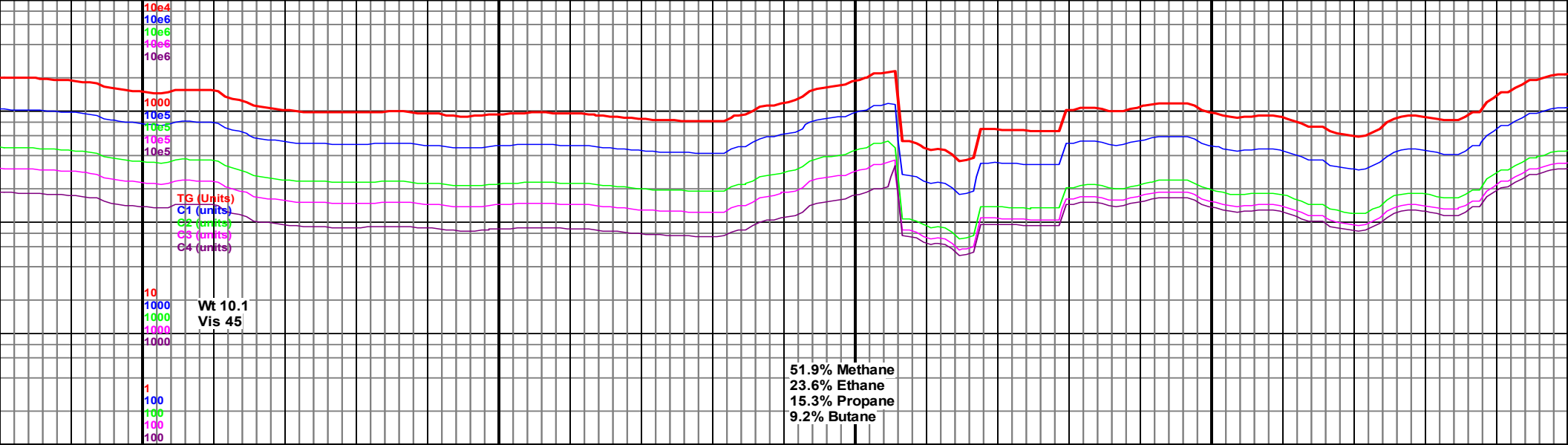




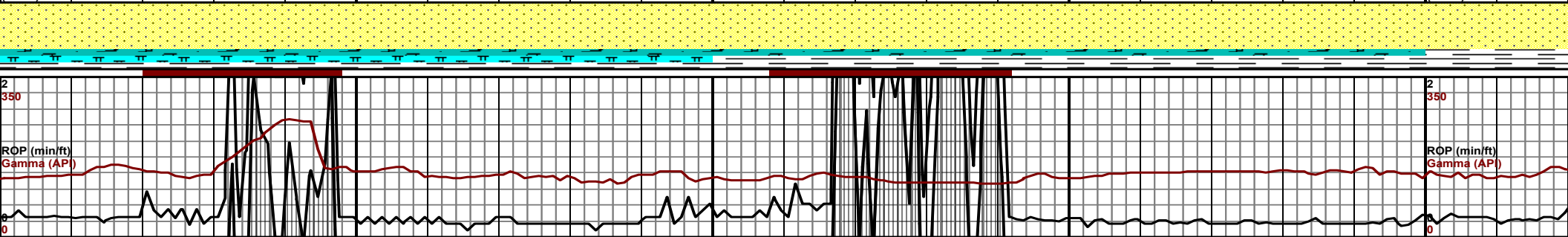
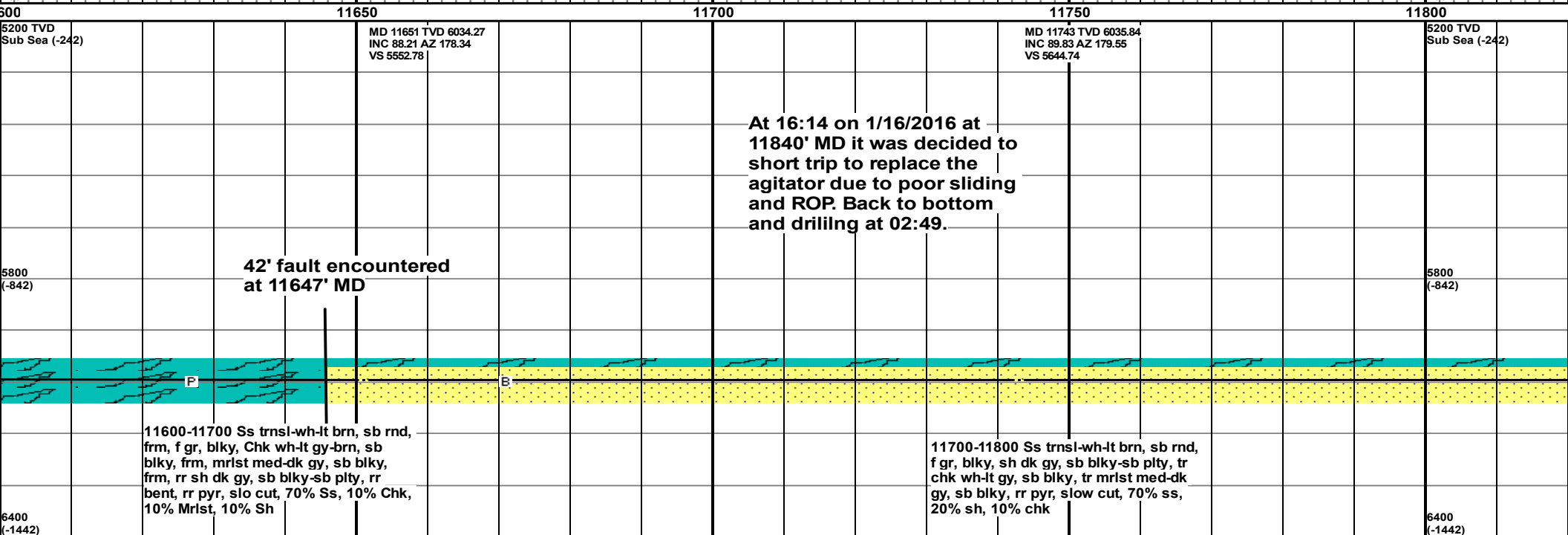
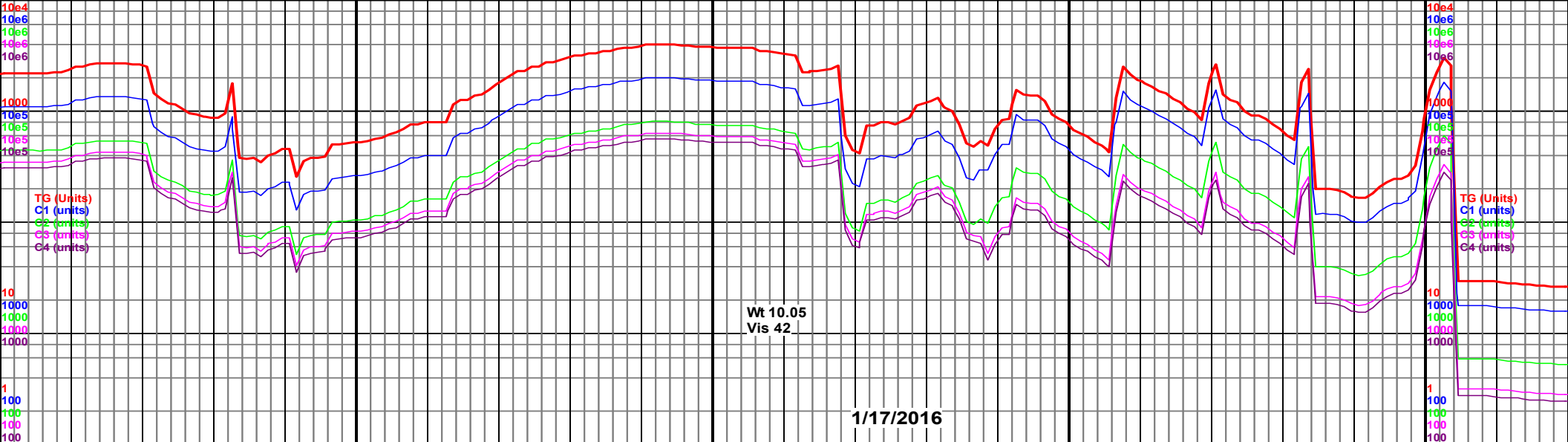




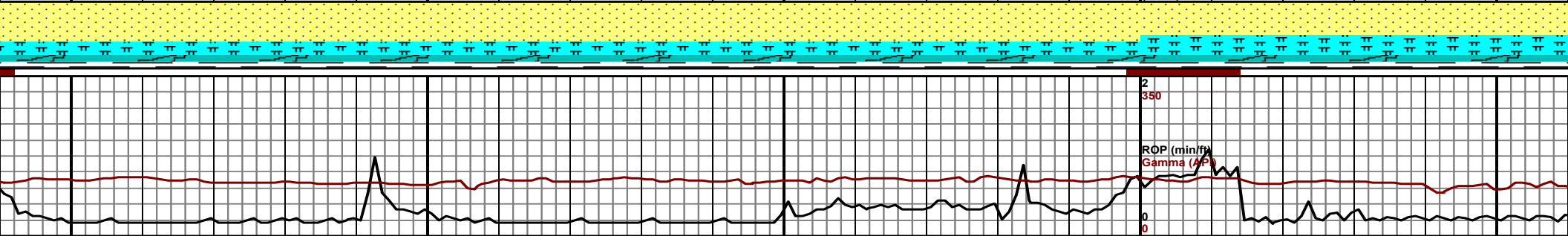
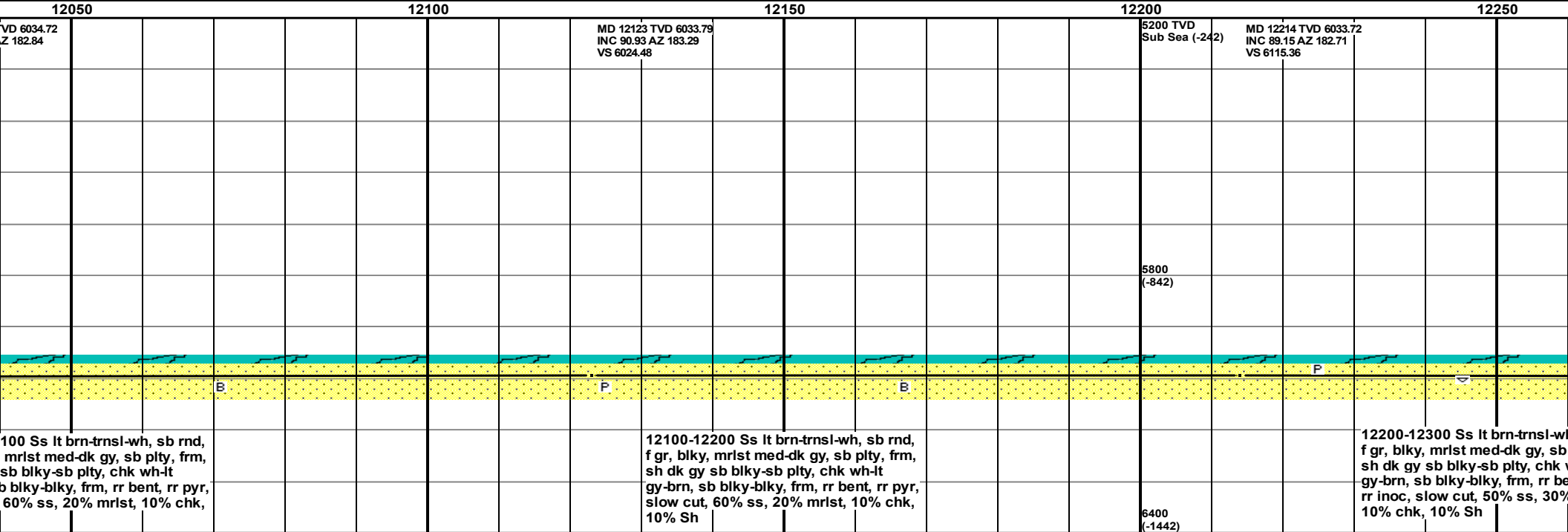
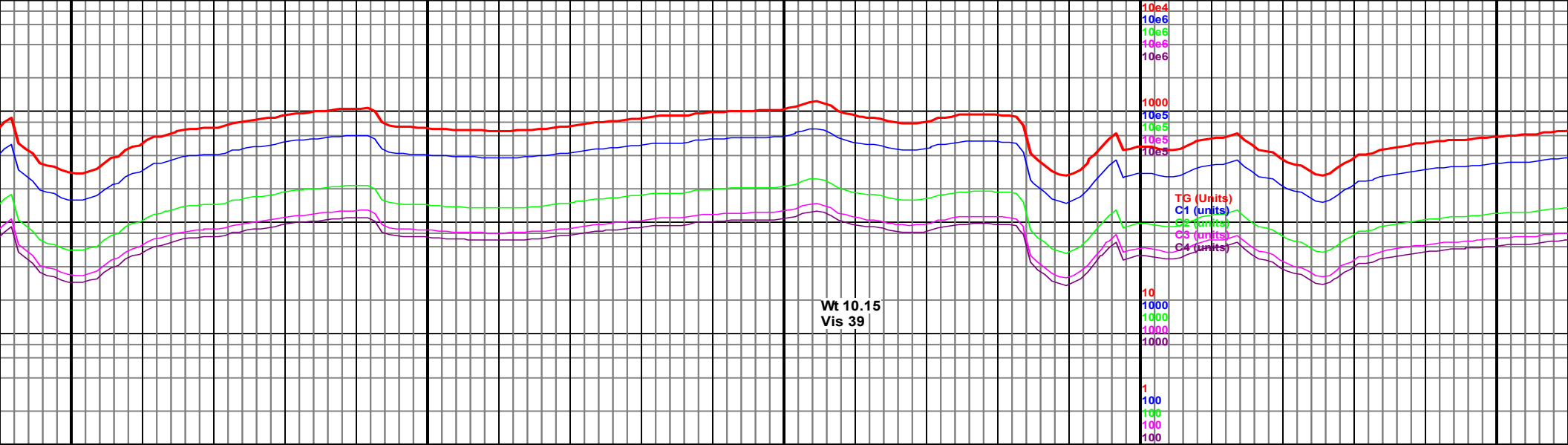




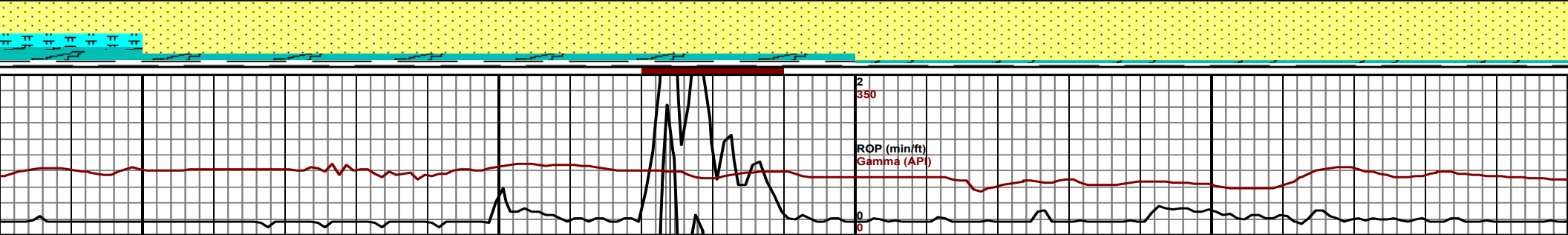
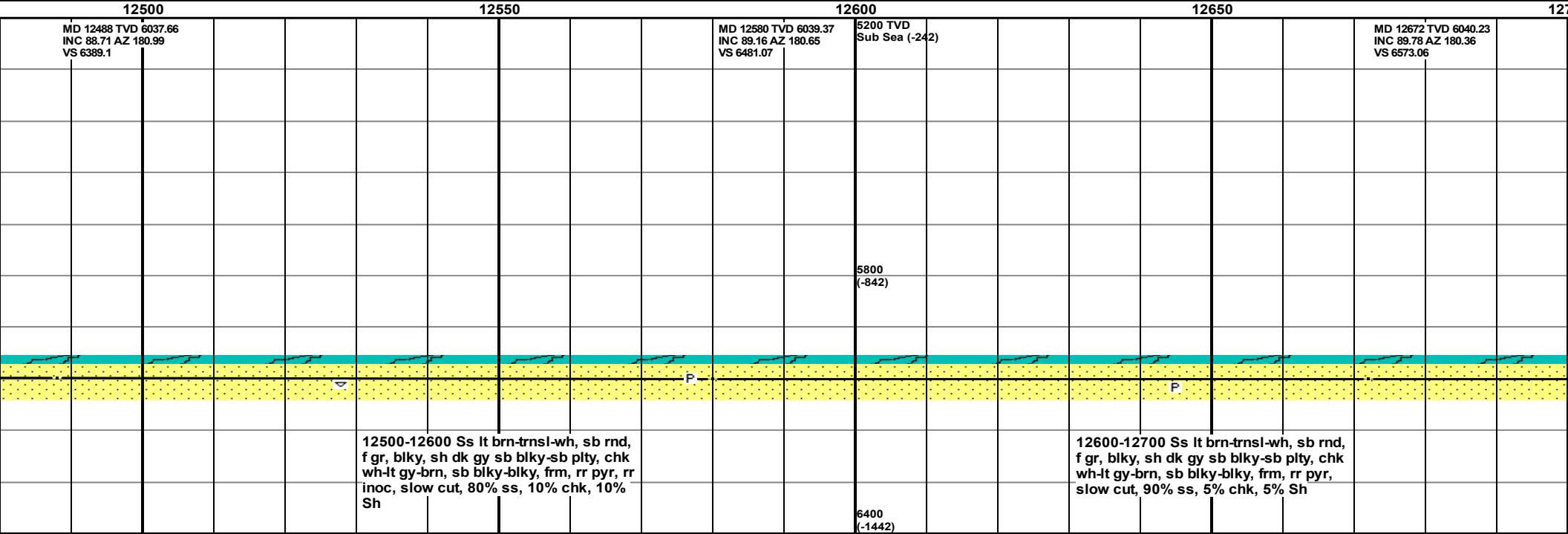
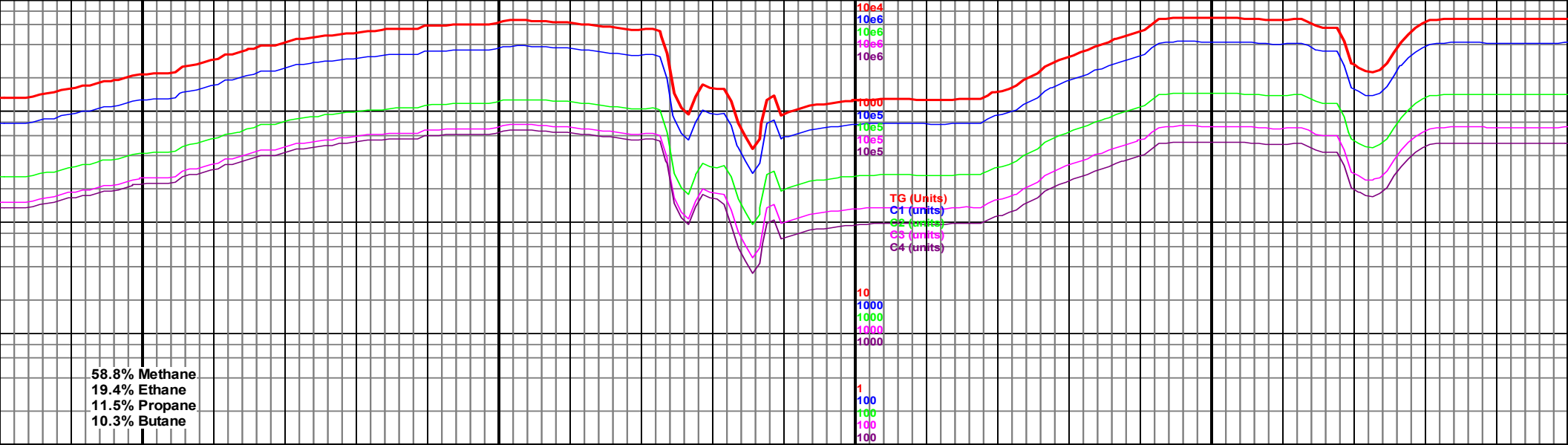


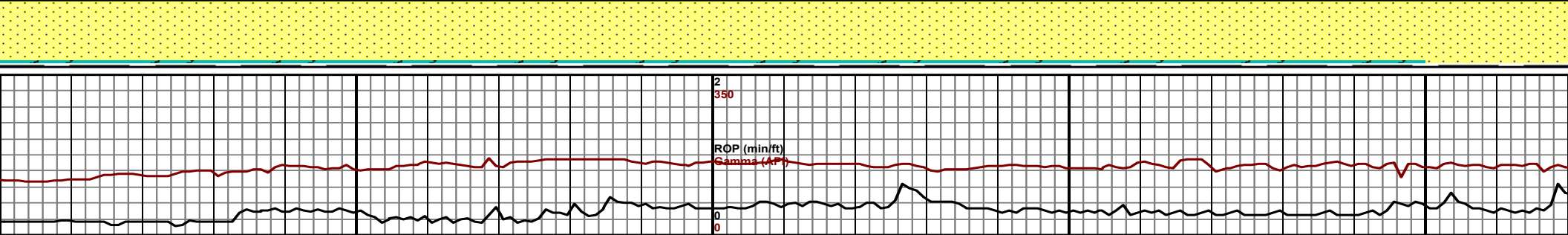
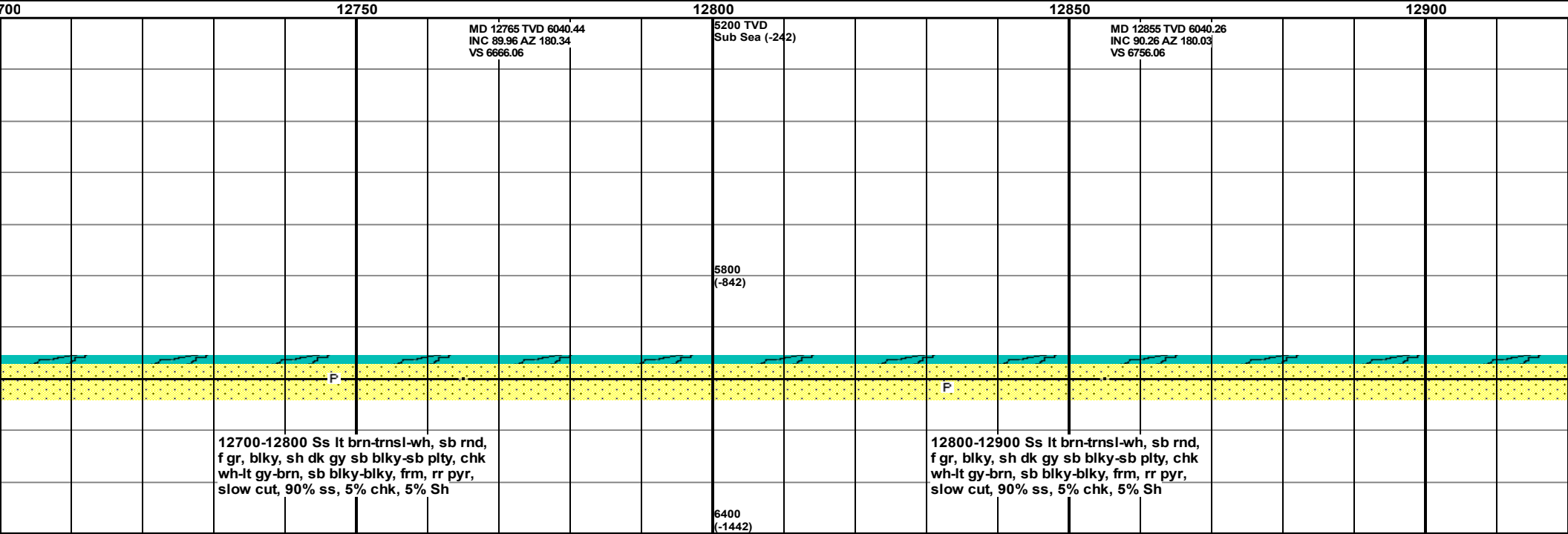
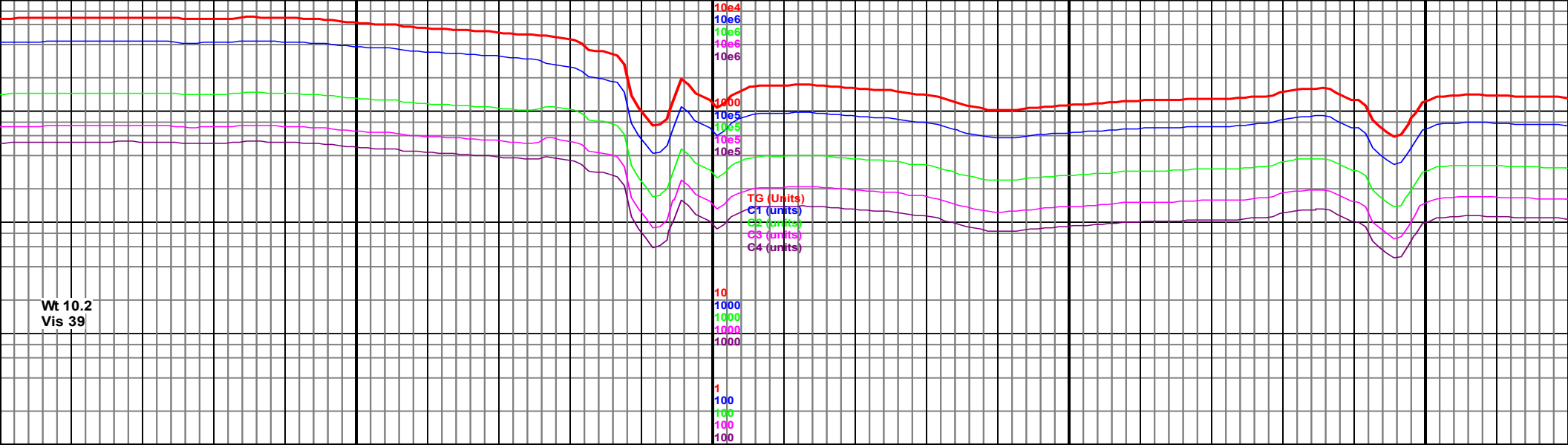


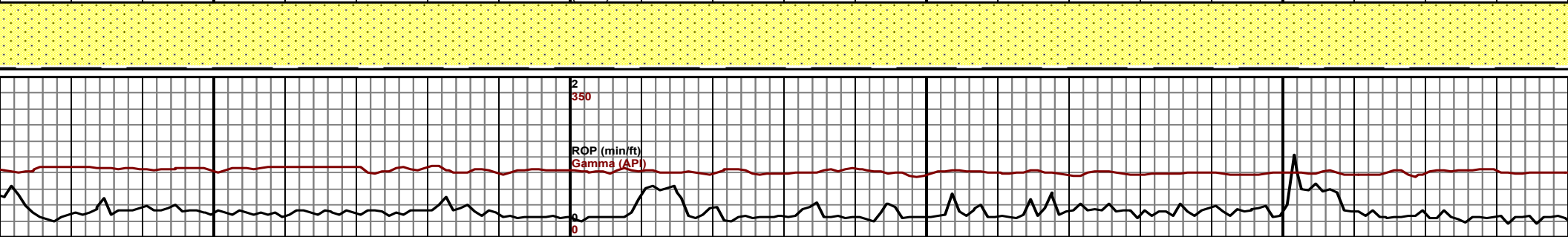
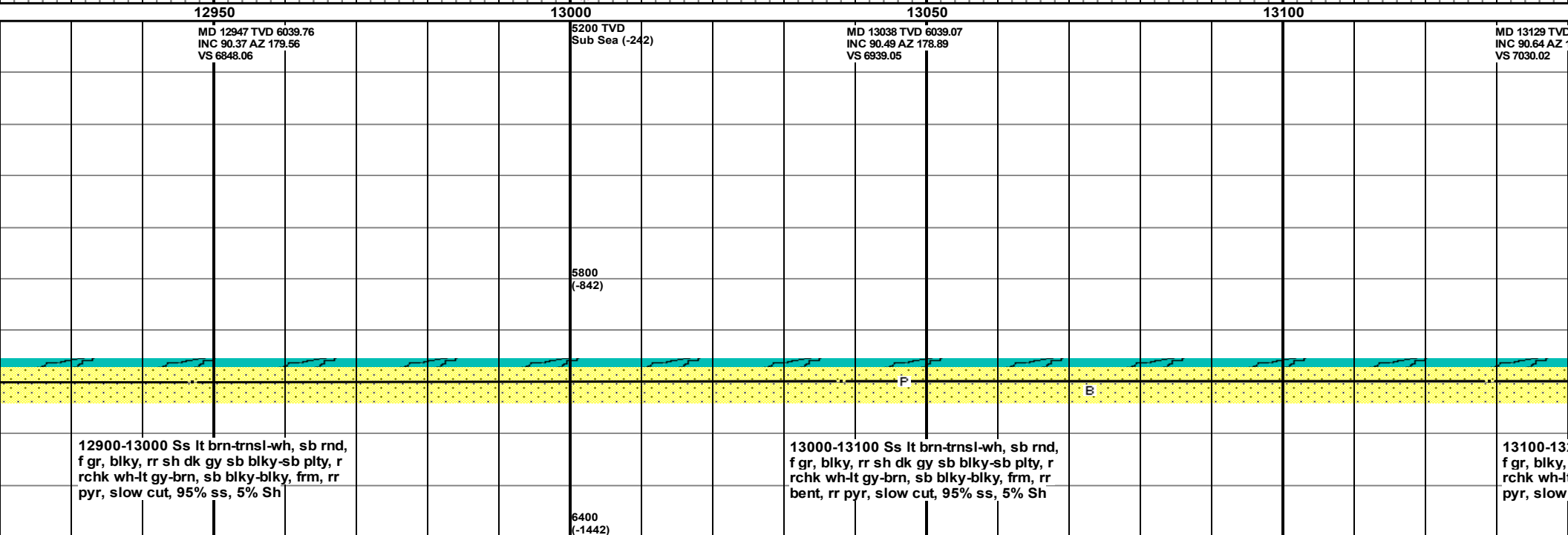
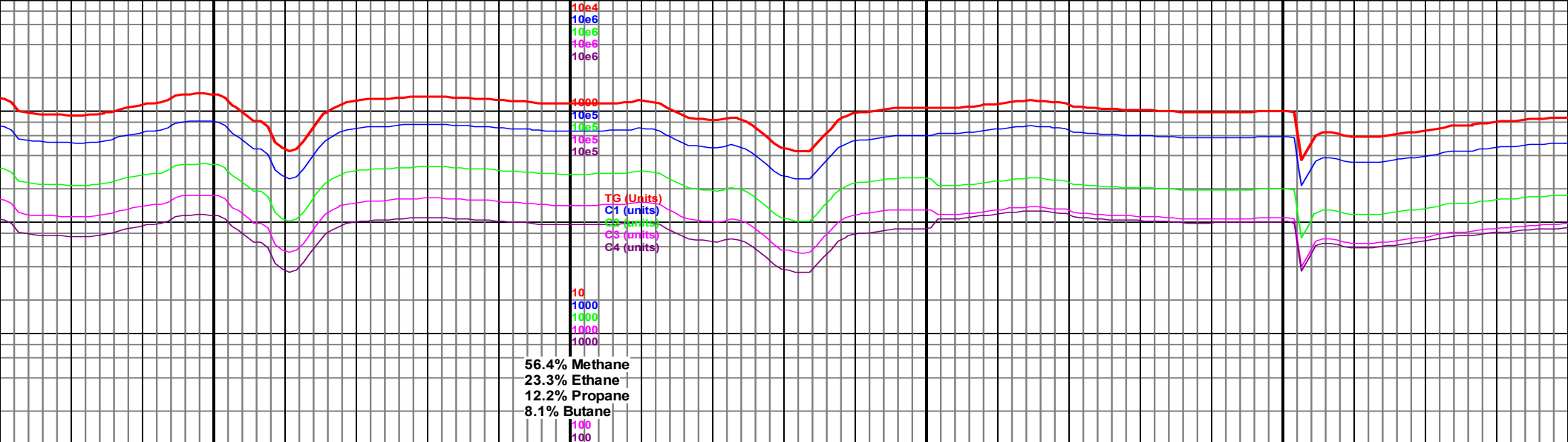


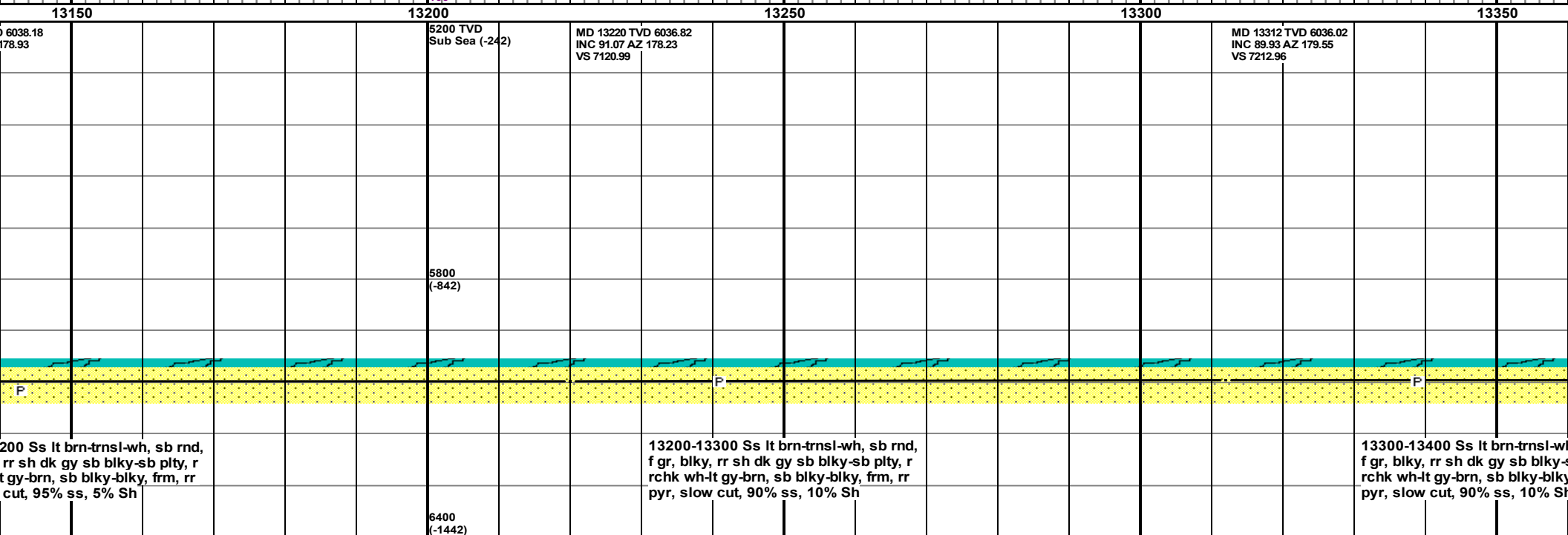




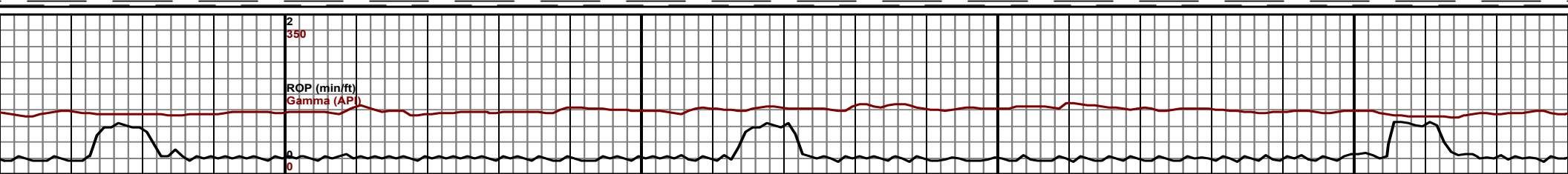
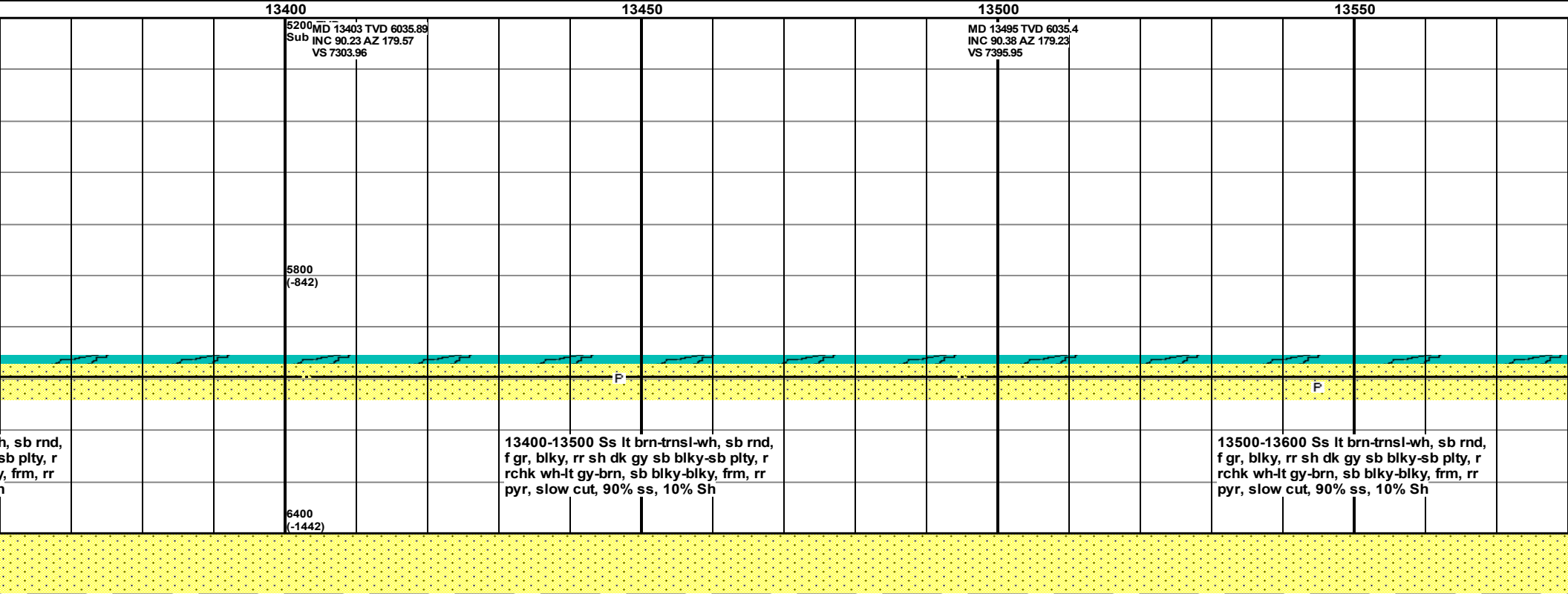
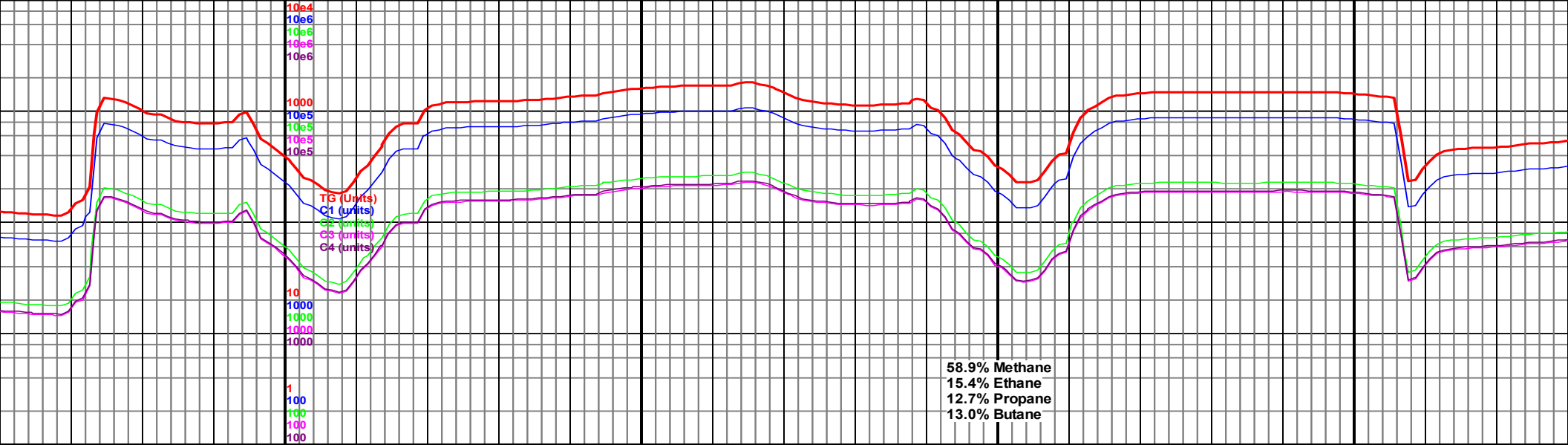




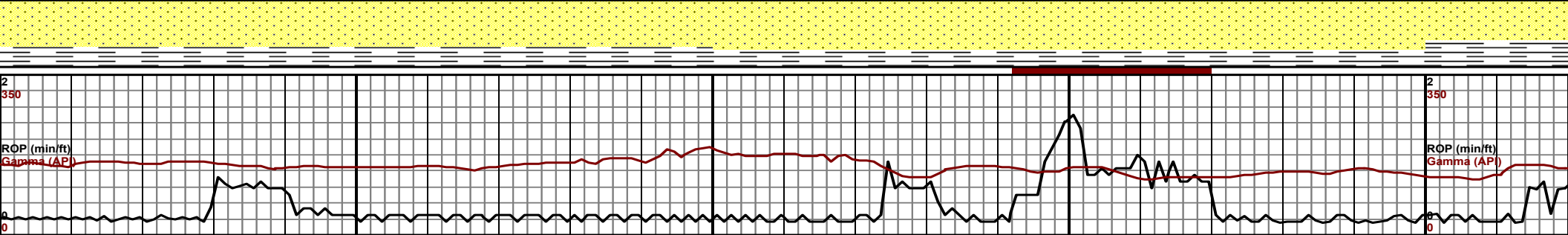
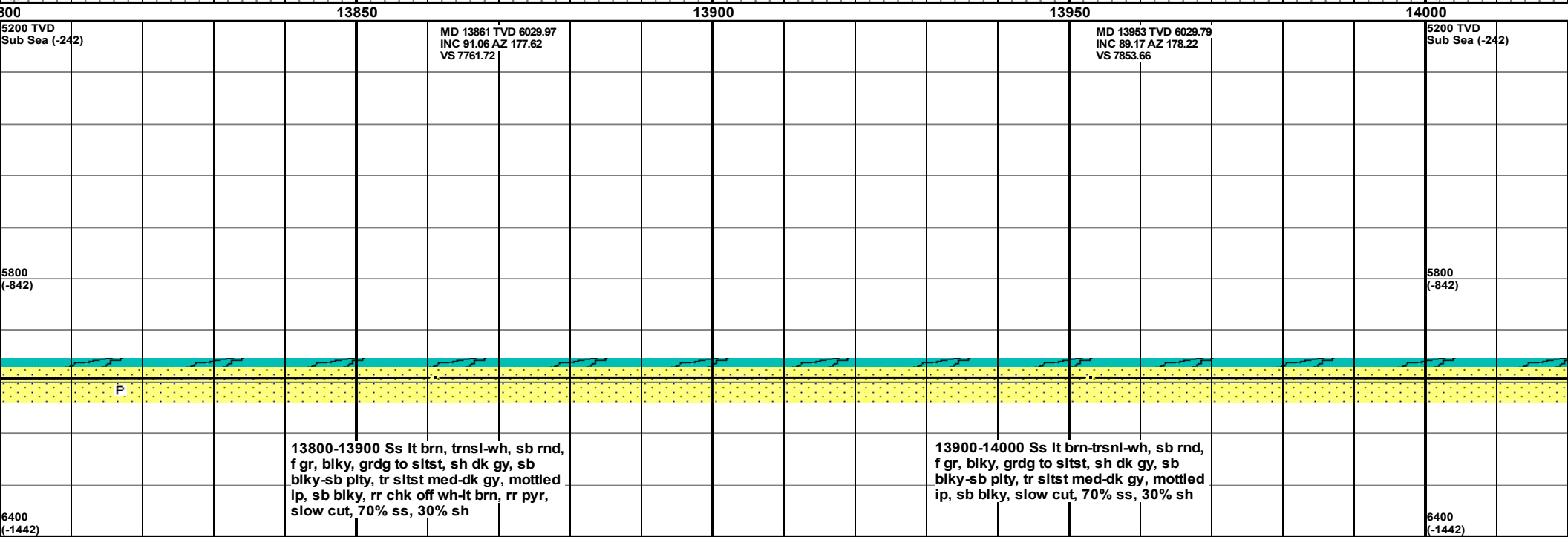
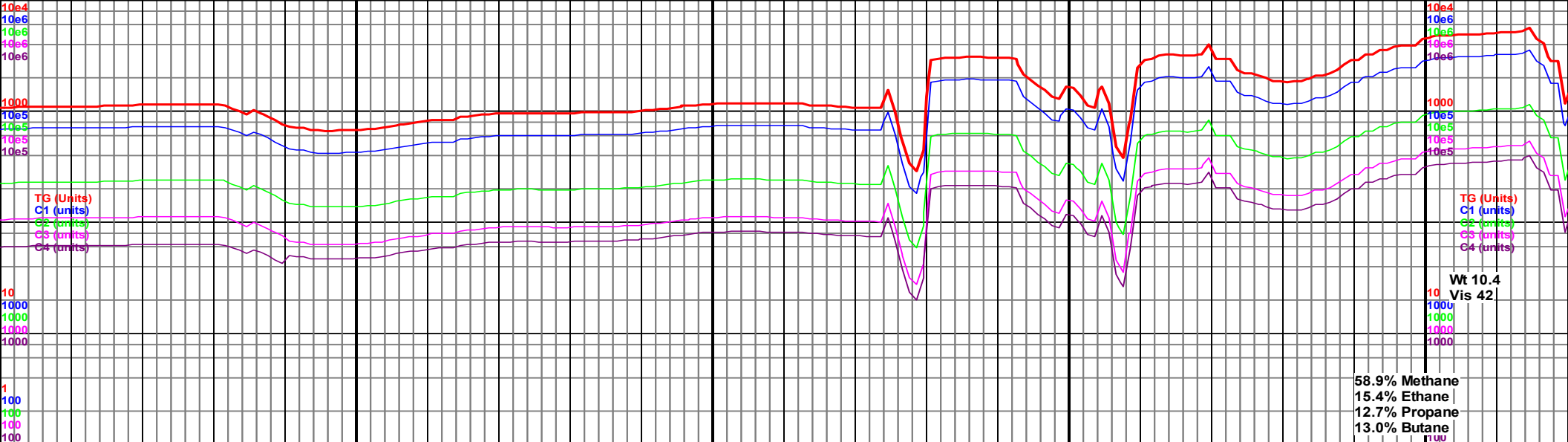


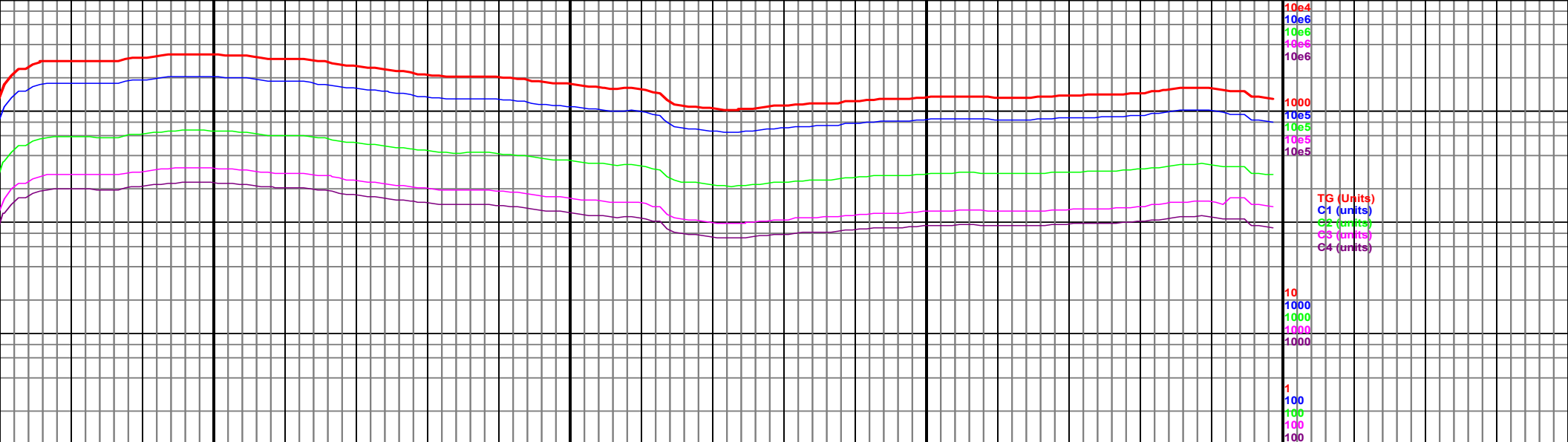












14050

14100

14150

14200

MD 14044 TVD 6031.66  
INC 88.47 AZ 178.61  
VS 7944.6

MD 14136 TVD 6033.69  
INC 89 AZ 178.55  
VS 8036.55

5200 TVD  
Sub Sea (-242)

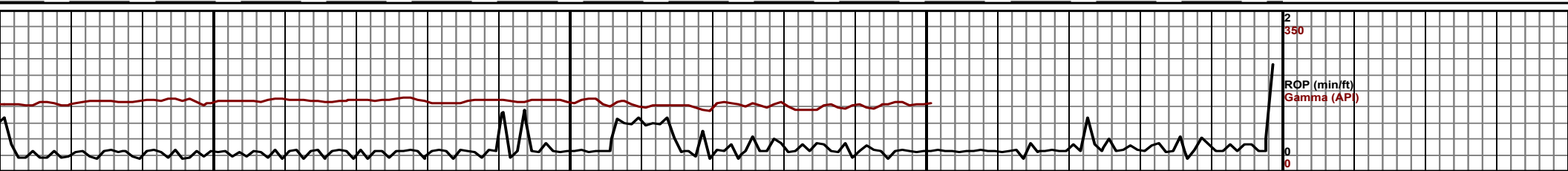
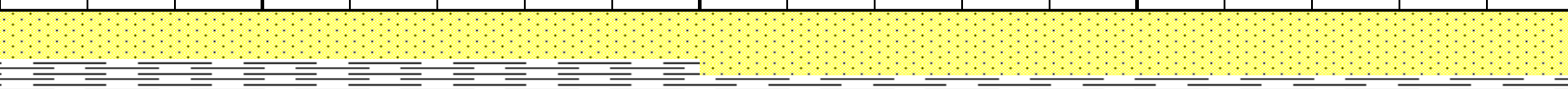
14000-14100 Ss lt brn-trsnl-wh, sb rnd,  
f gr, blk, grdg to sltst, sh dk gy, sb  
blk-sb plty, tr sltst med-dk gy, mottled  
ip, sb blk, slow cut, 60% ss, 40% sh

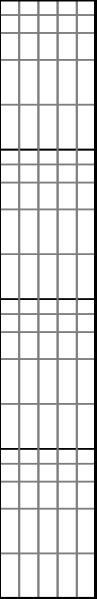
14100-14199 Ss lt brn-trsnl-wh, sb rnd,  
f gr, blk, grdg to sltst, sh dk gy, sb  
blk-sb plty, tr sltst med-dk gy, mottled  
ip, sb blk, slow cut, 80% ss, 20% sh

TD reached at 19:51 at  
14199' MD on 1/17/2015.

5800  
(-842)

6400  
(-1442)





14.


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