



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

Well Name: Razor 12F-0104B  
Well Id: 05-123-38723-00  
Location: SENW 12-T10N-R58W  
License Number: 05-123-38723-00  
Spud Date: 8/18/2015  
Surface Coordinates: Lat.: 40.854661 Long.: -103.817683

Region: Redtail Field  
Drilling Completed: 8/23/2015

Bottom Hole  
Coordinates:  
Ground Elevation (ft): 4937  
Logged Interval (ft): 5350 To: 13402  
Formation: Pierre, Sharon Springs, Niobrara B  
Type of Drilling Fluid: Water Based Mud

K.B. Elevation (ft): 4958  
Total Depth (ft): 13402

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: Lauren Roddy and Todd Nakata  
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

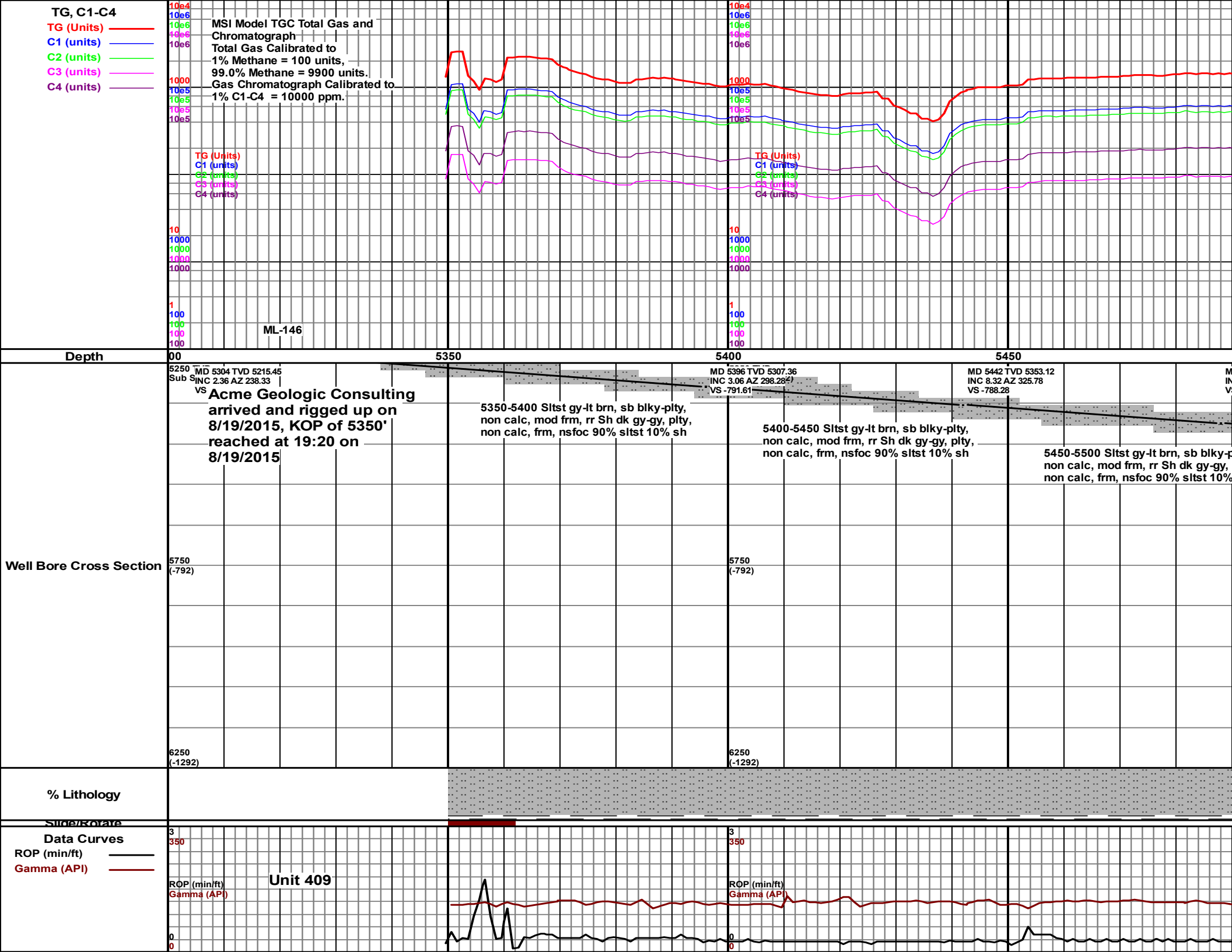
**TEXTURE**  
 Boundst  
 Chalky  
 Cryxln  
 Earthy  
 Finexln  
 Grainst  
 Lithogr  
 Microxln  
 Mudst  
 Packst  
 Wackest

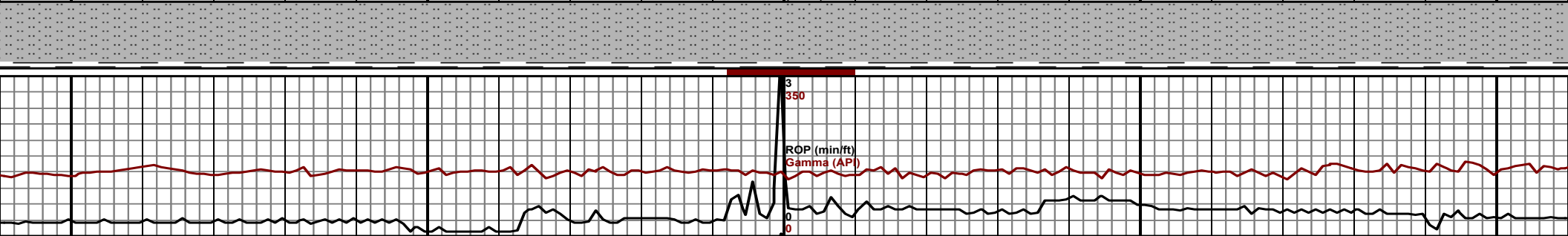
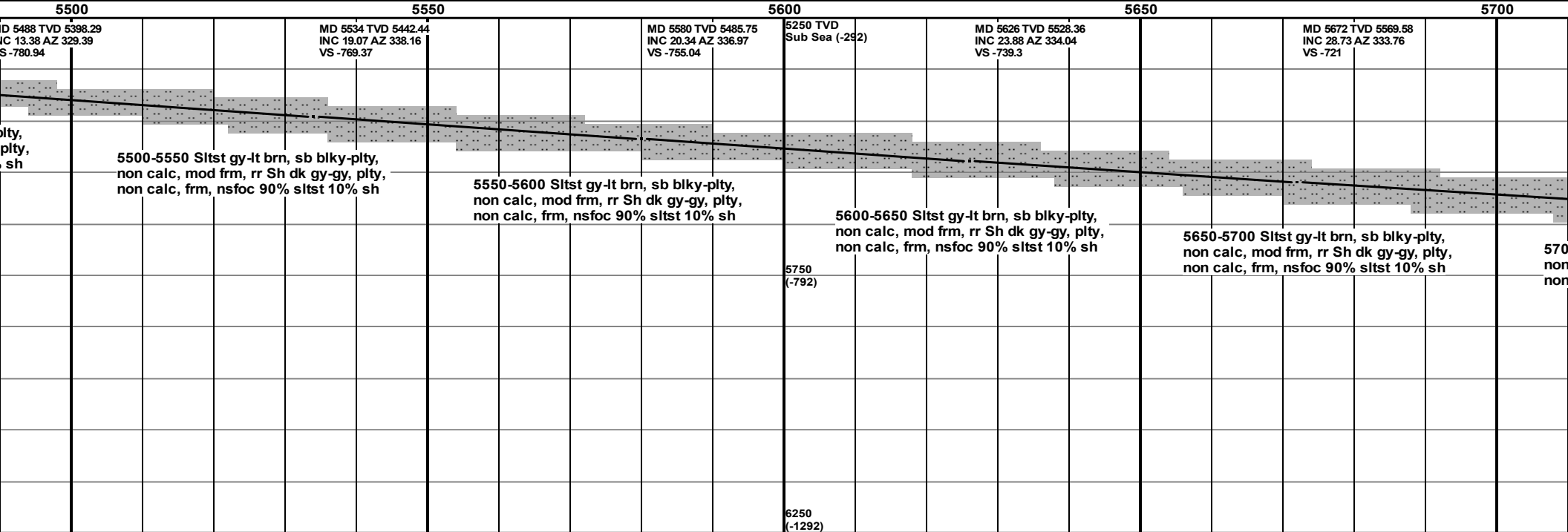
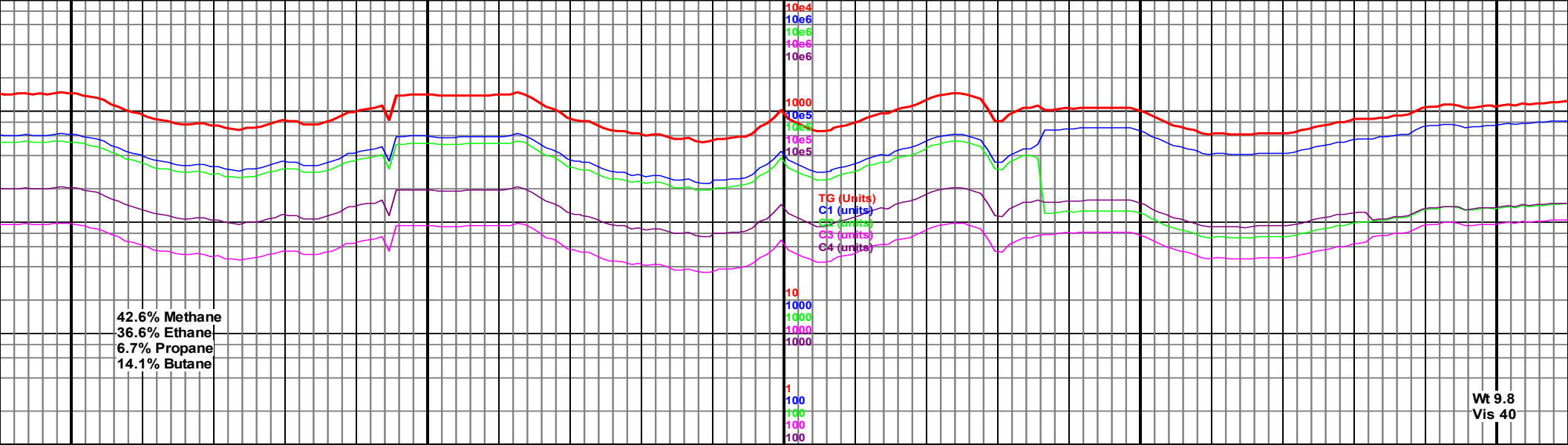
**POROSITY**  
[E] Earthy  
[B] Fenest  
[F] Fracture  
[X] Inter  
[Z] Moldic  
[O] Organic  
[P] Pinpoint

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

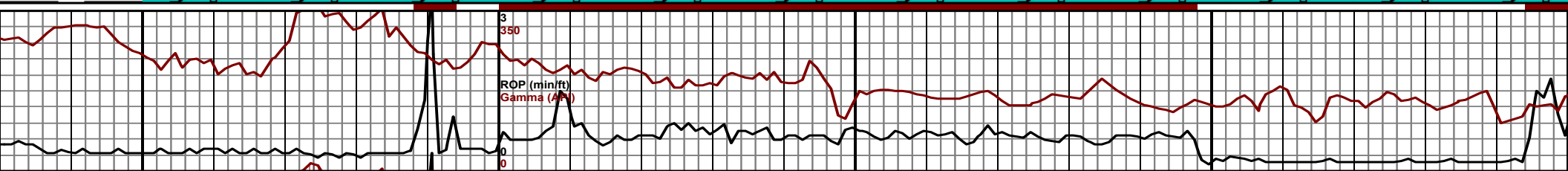
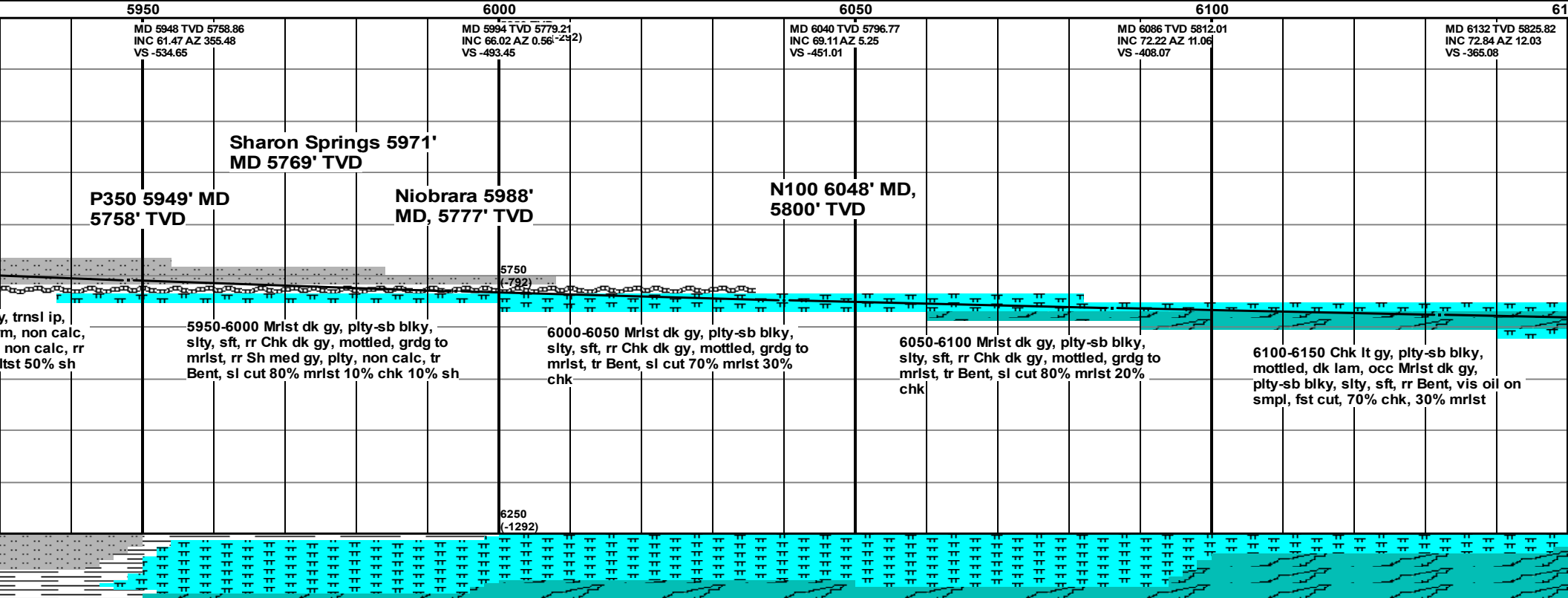
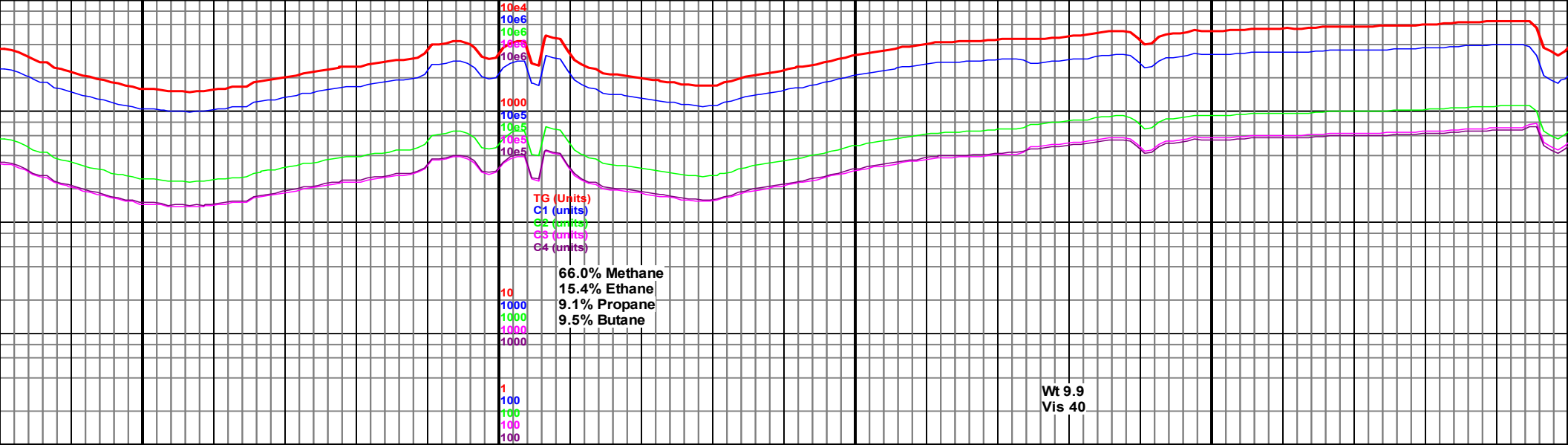
**OTHER SYMBOLS**  
**ROUNDING**  
[R] Rounded  
[r] Subrnd  
[a] Subang  
[A] Angular  
  
**OIL SHOW**  
[•] Even  
  
[•] Spotted  
[○] Ques  
[D] Dead  
  
**INTERVAL**  
[■] Core  
[◻] Dst

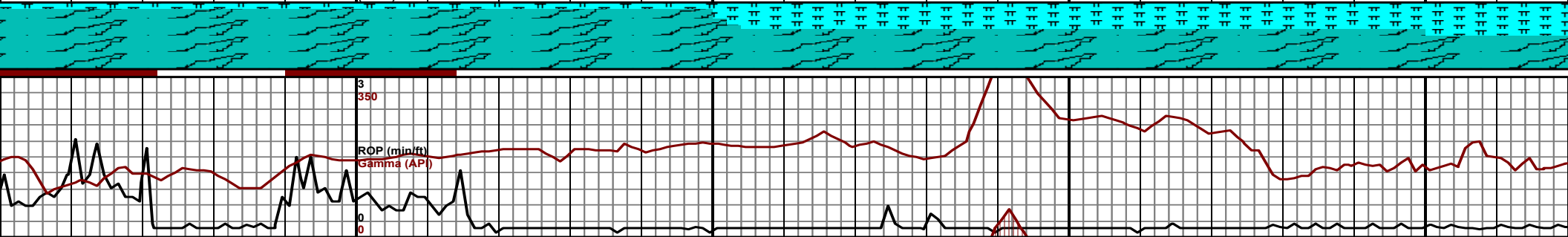
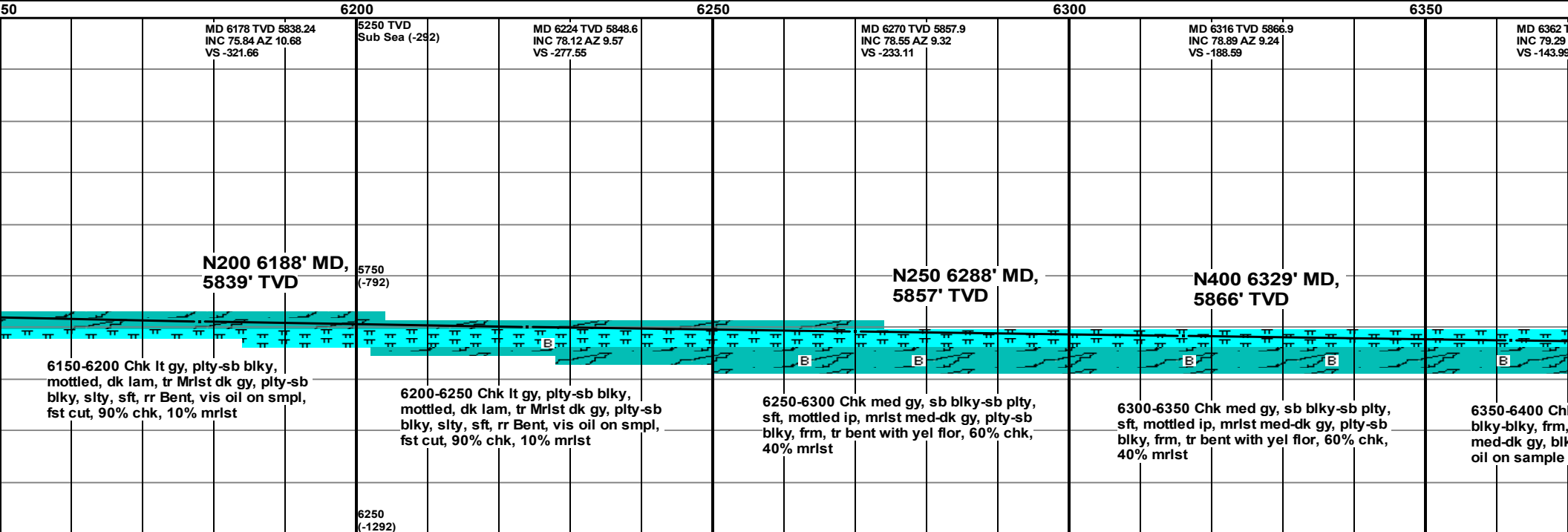
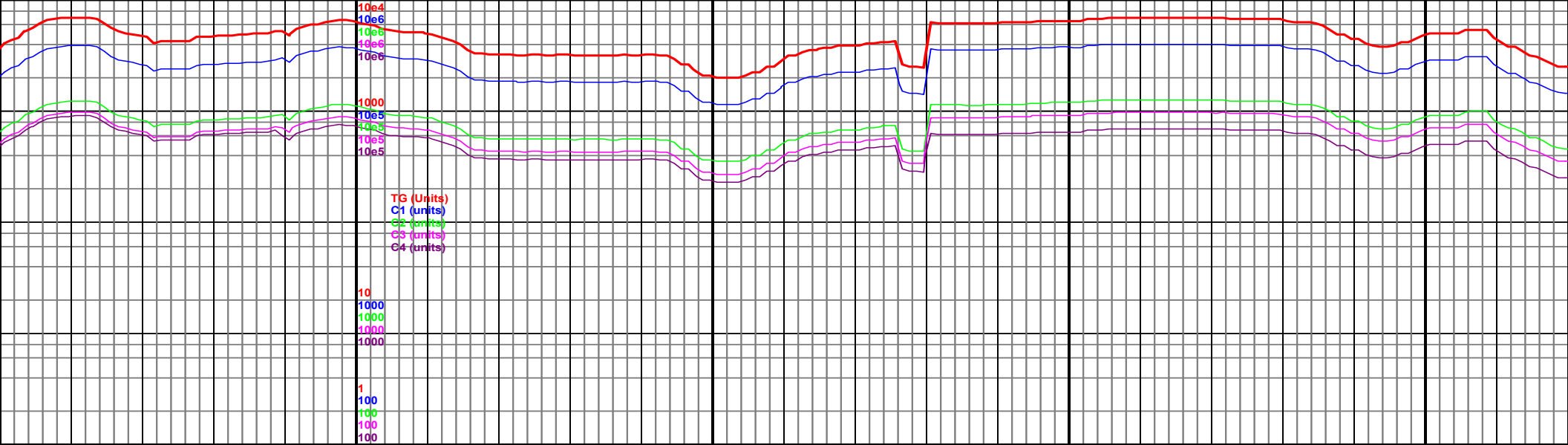
**EVENT**  
[▽] Rft  
[▶] Sidewall



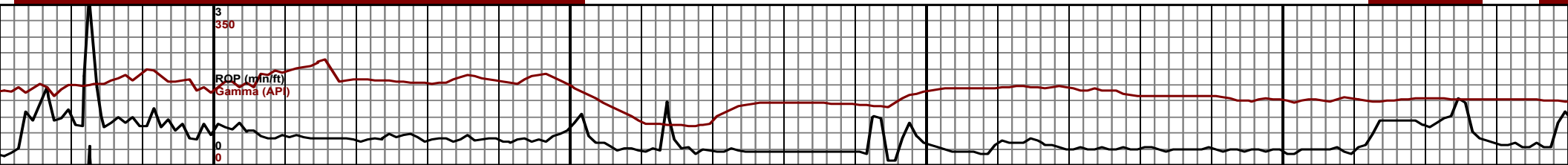
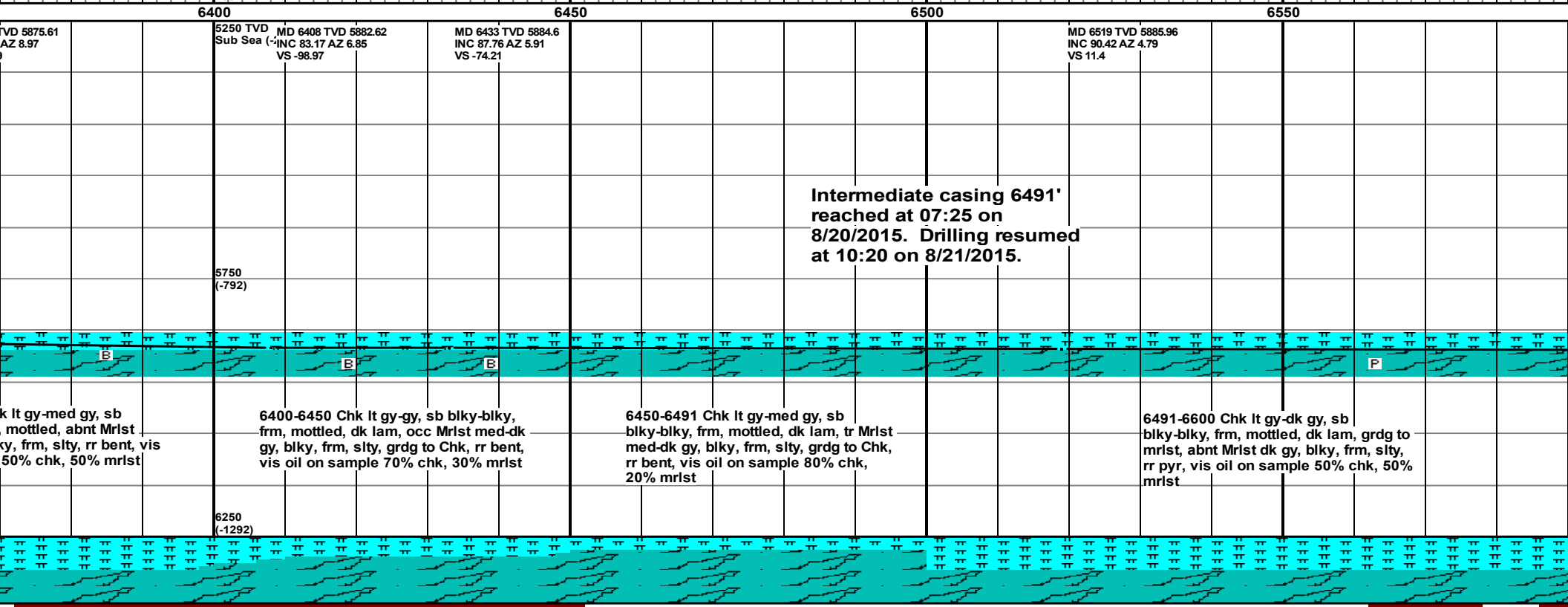
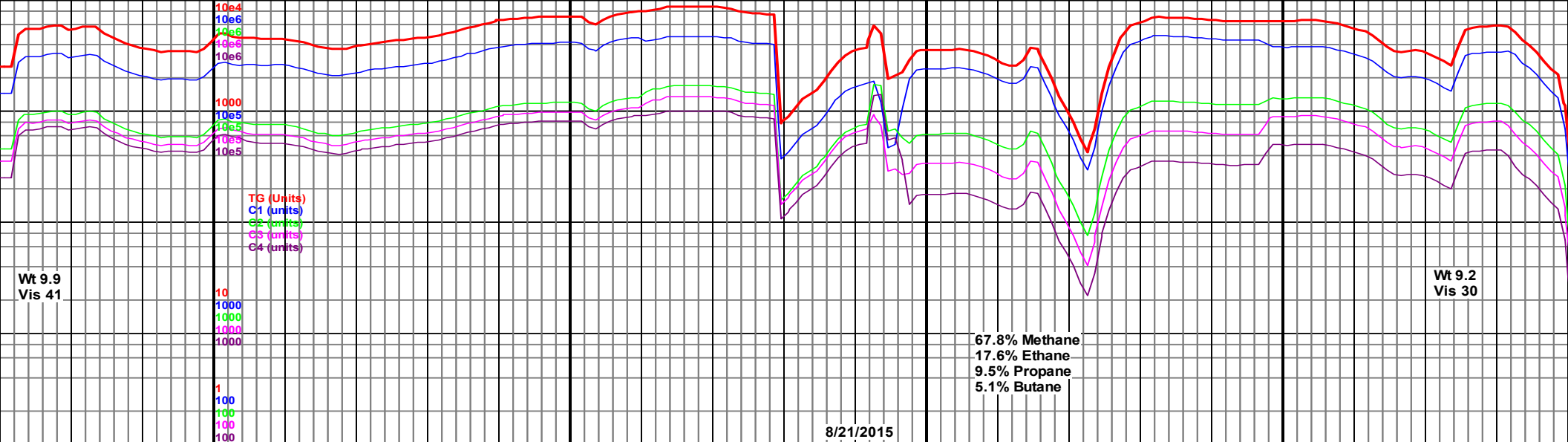


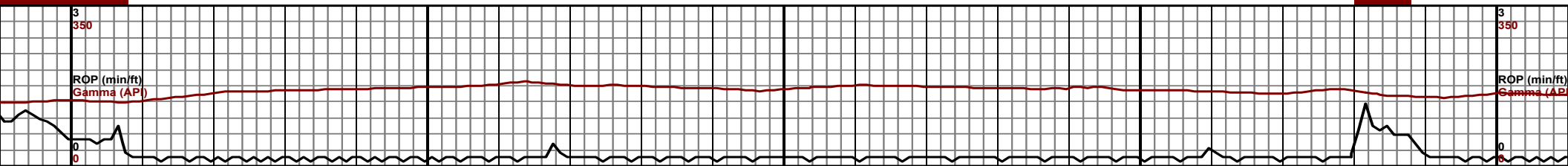
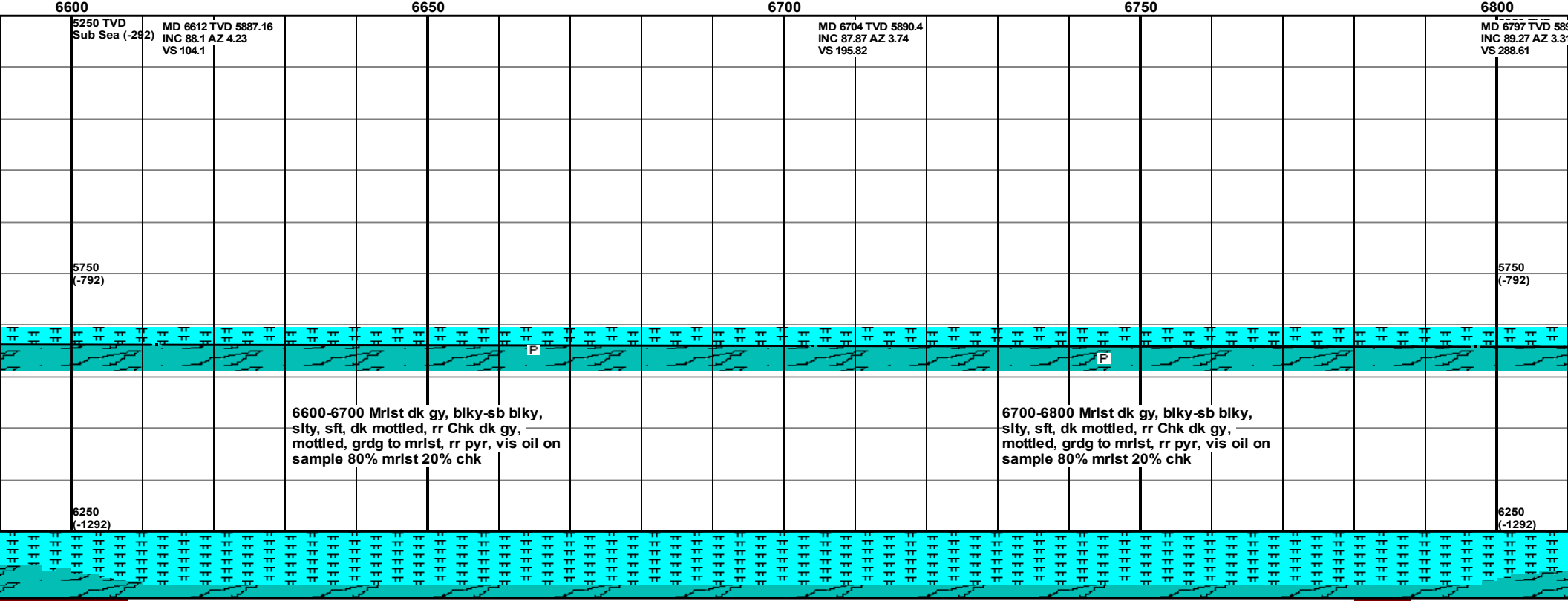
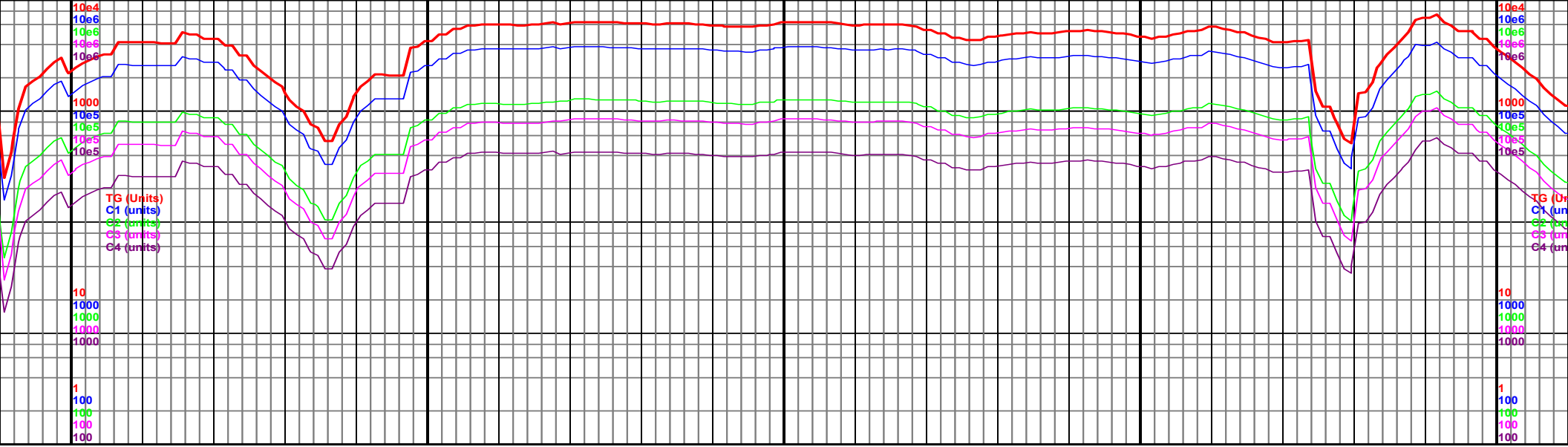


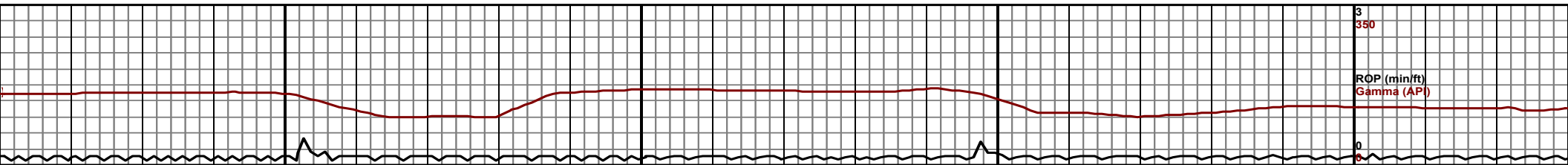
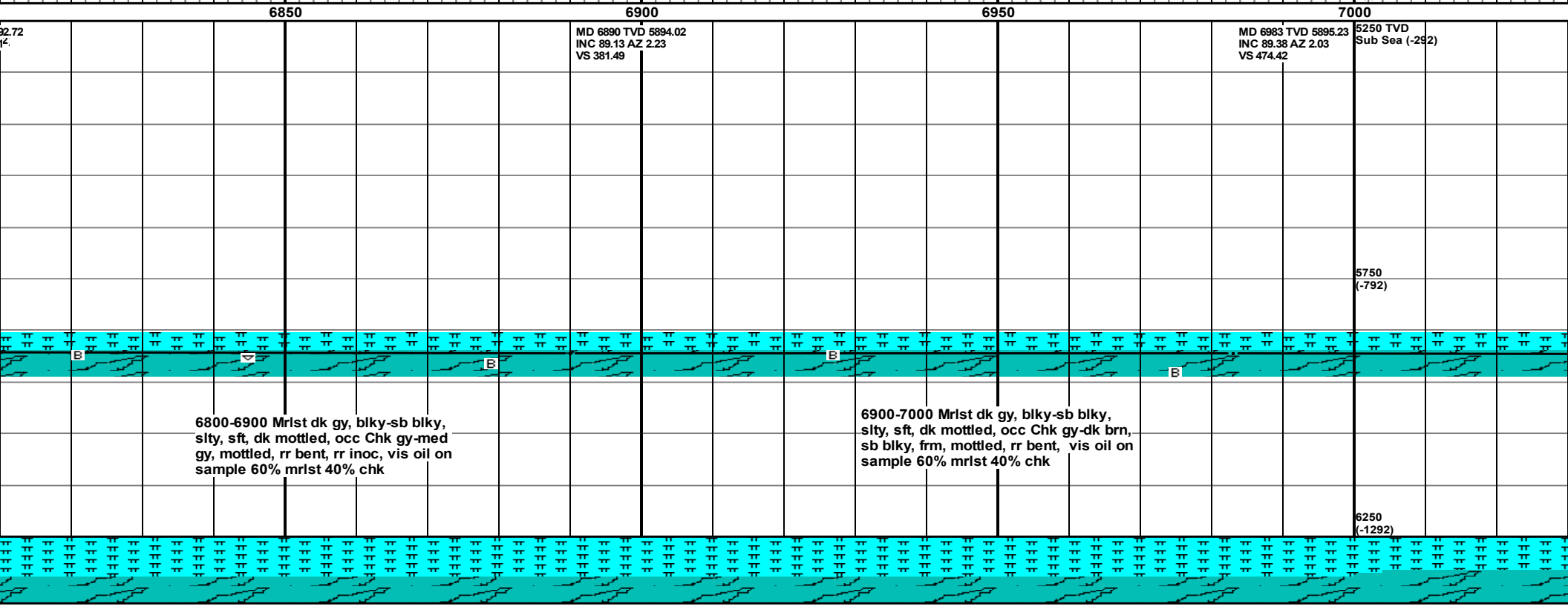
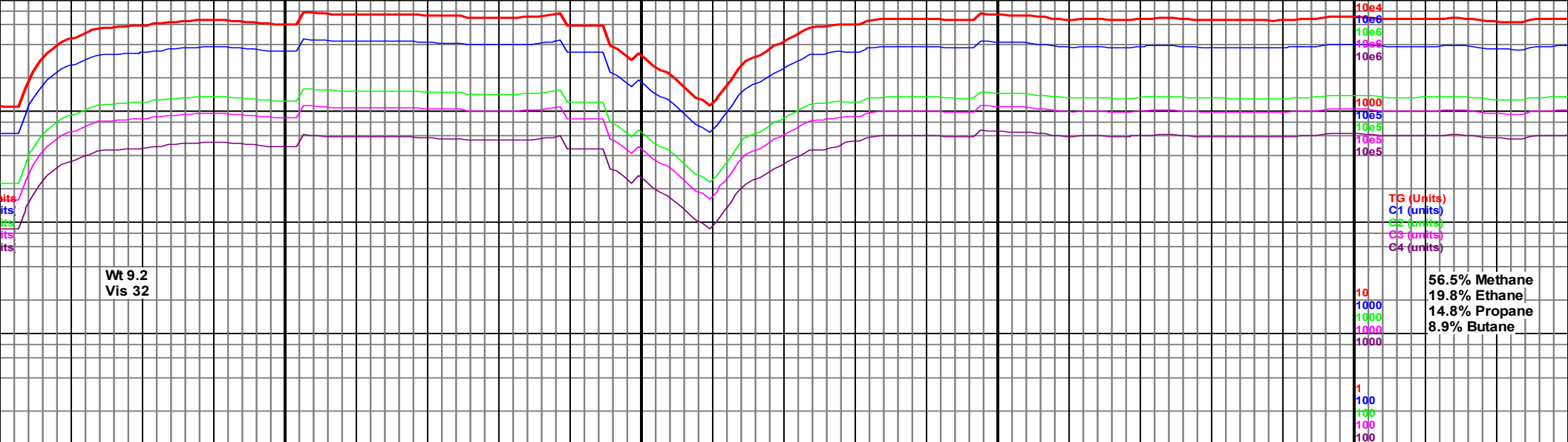


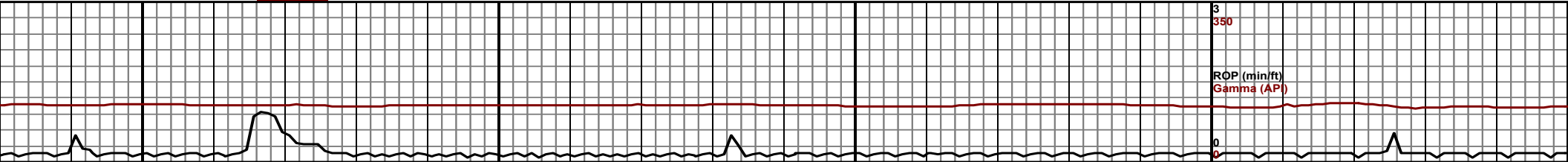
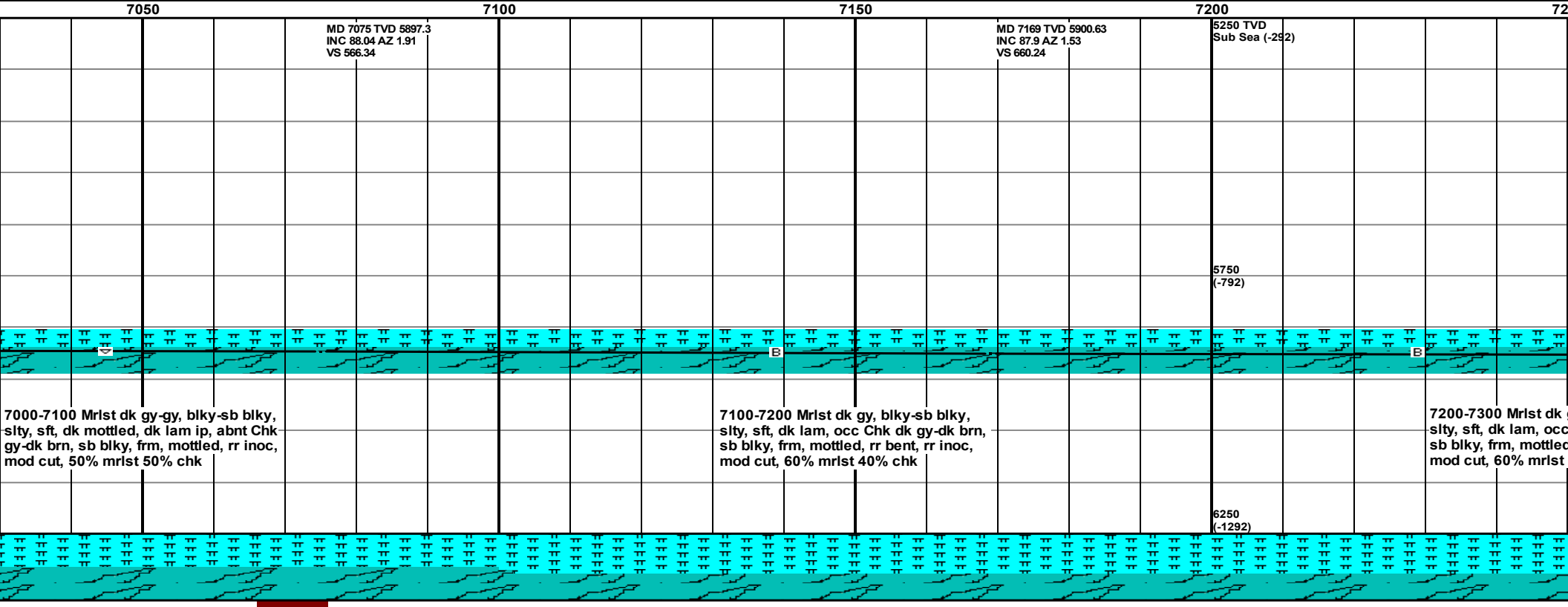
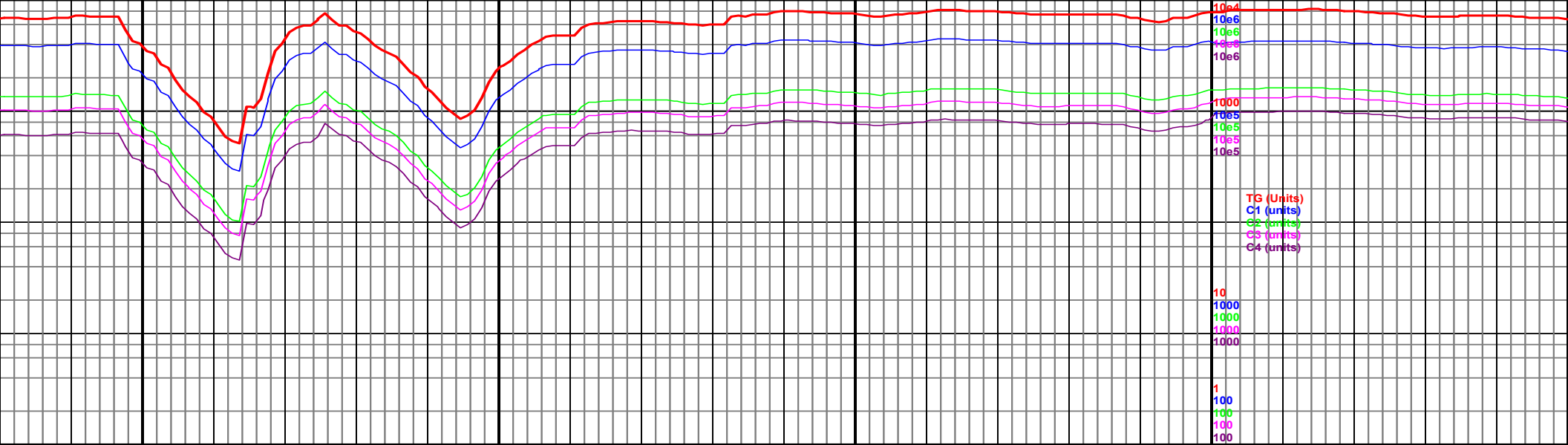


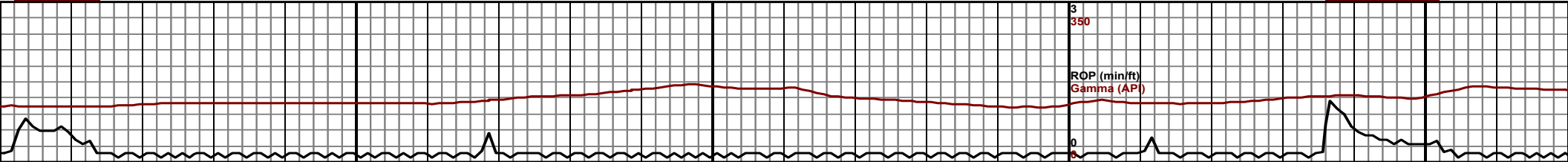
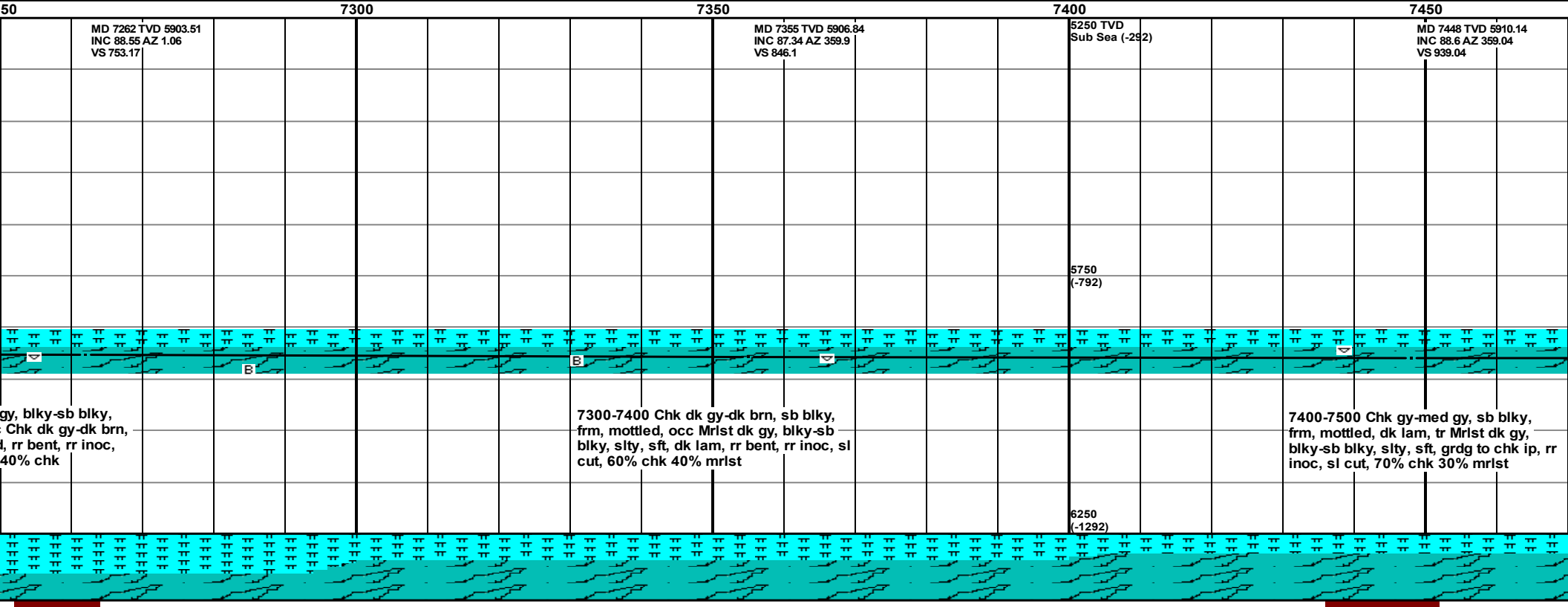
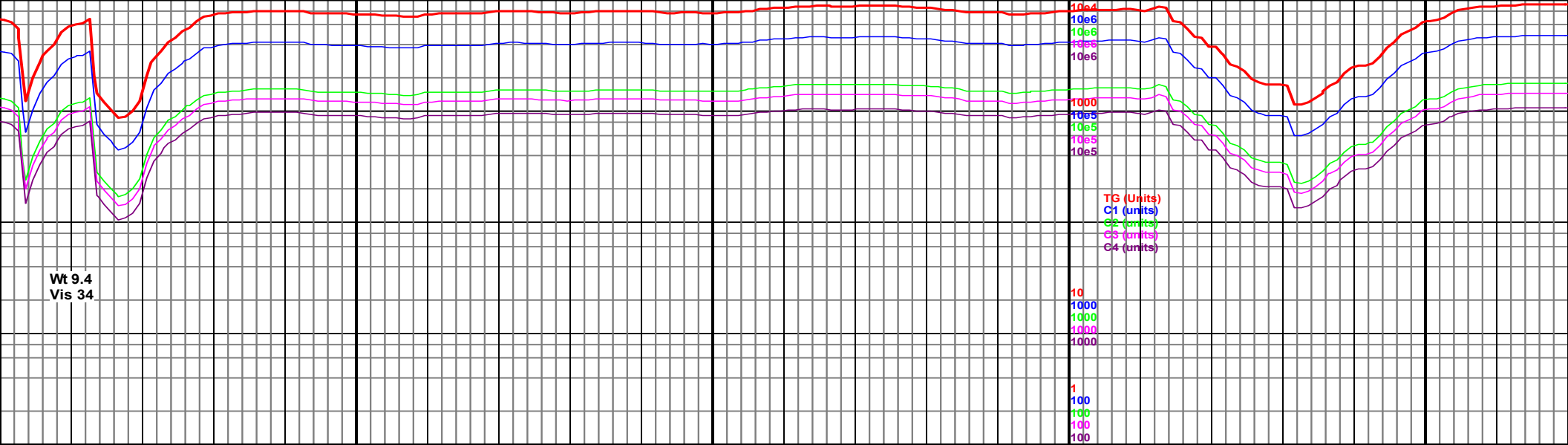


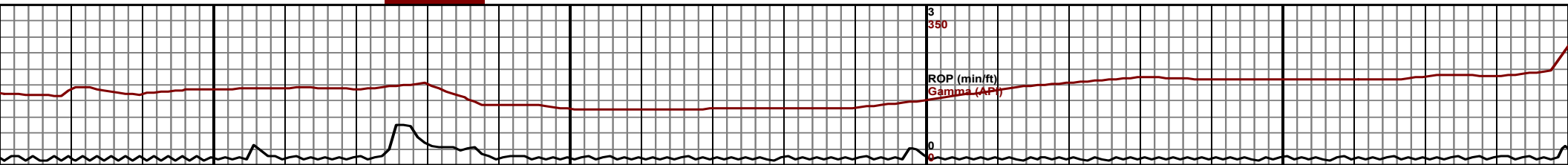
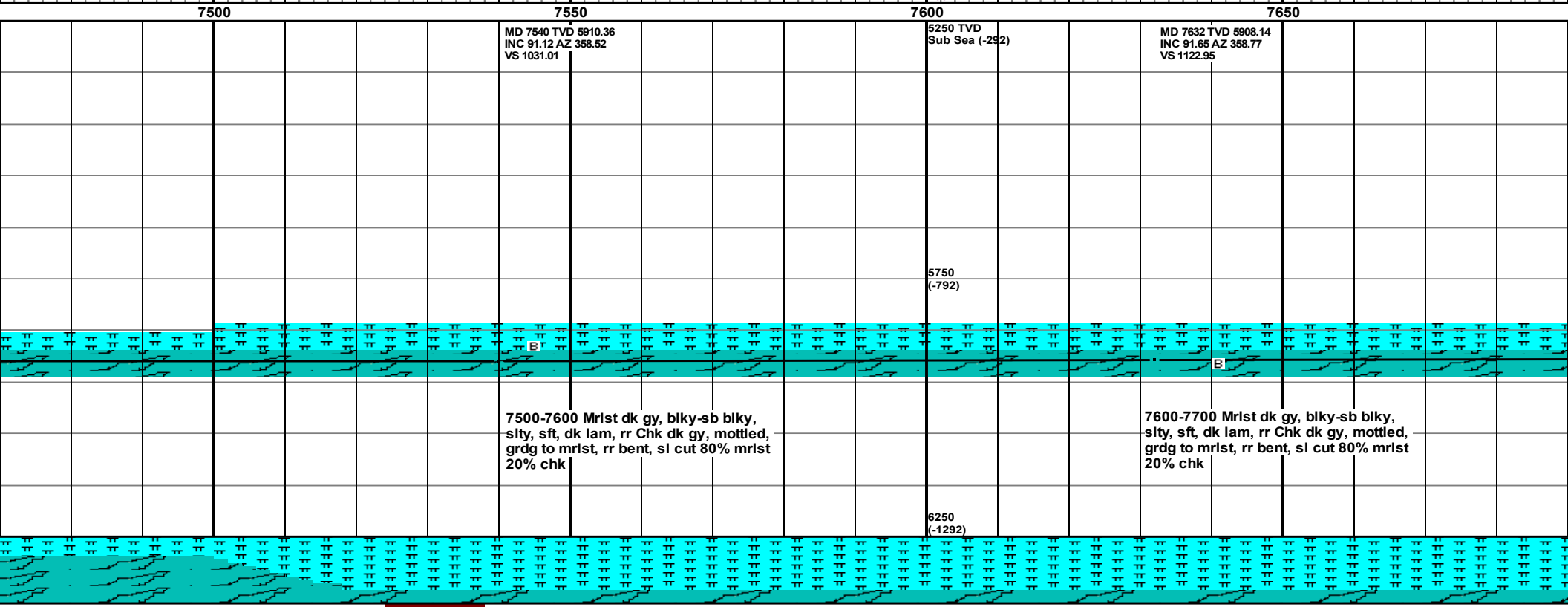
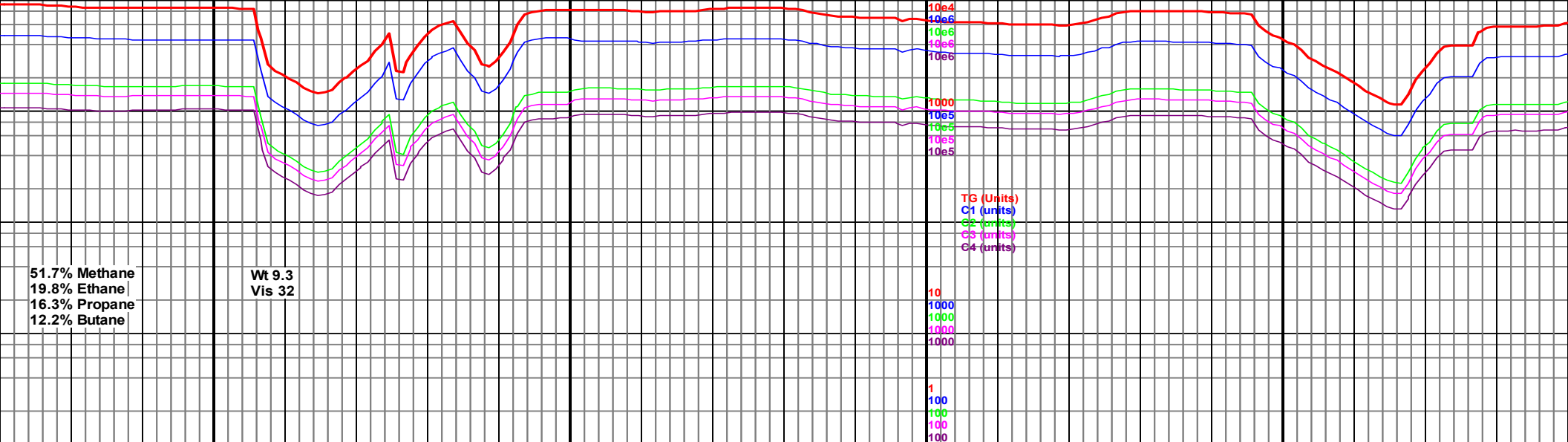


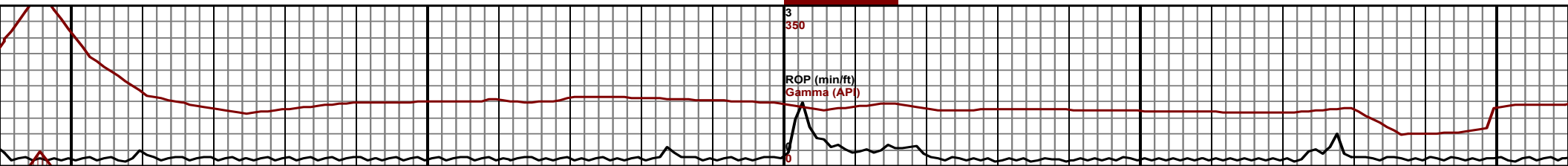
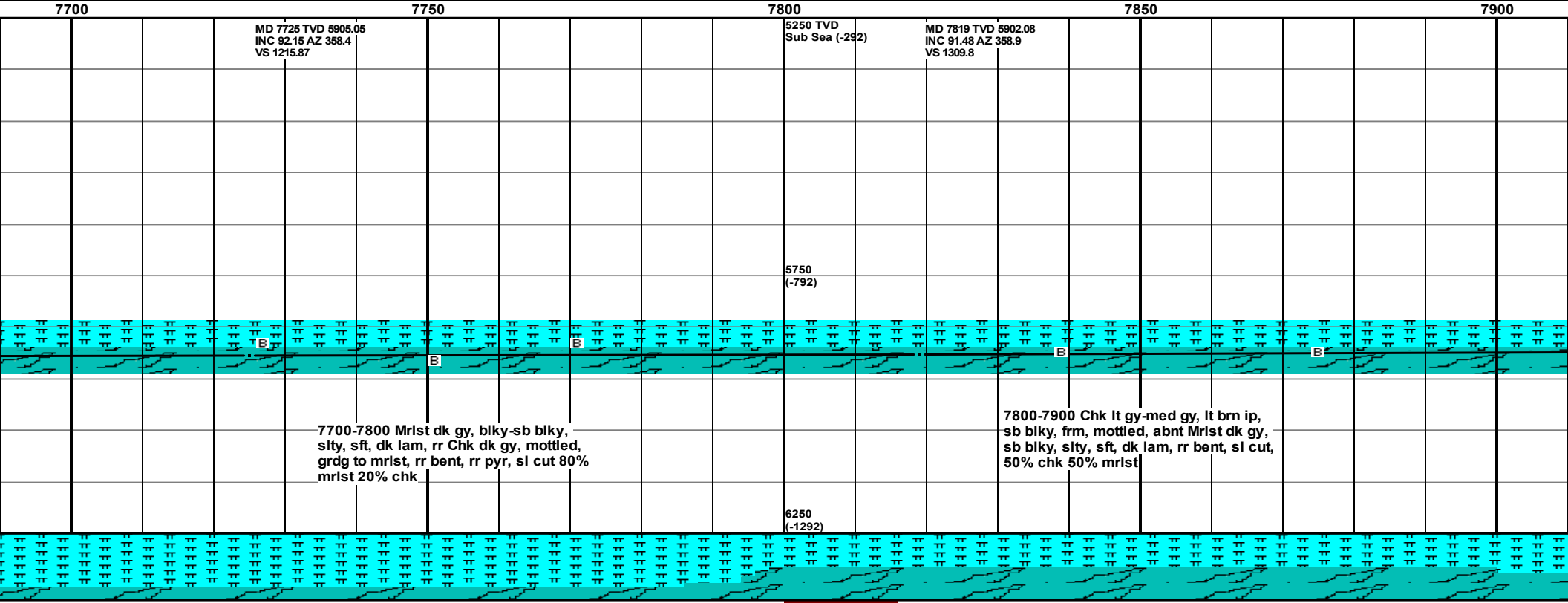
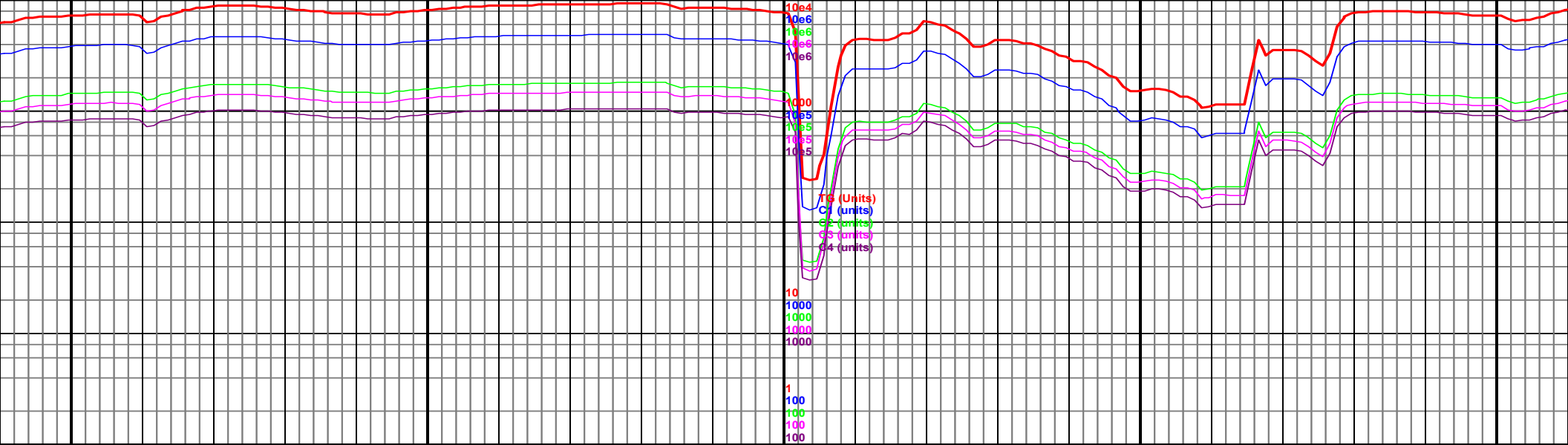


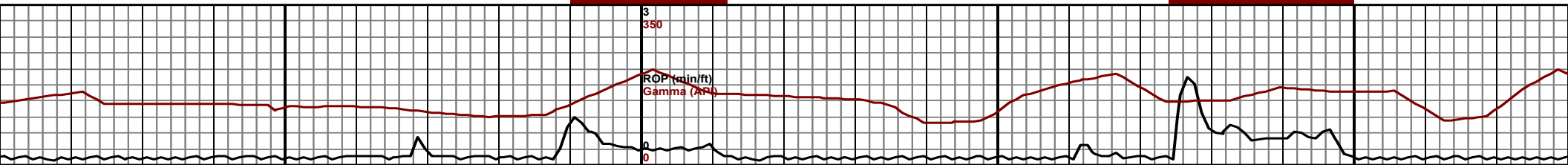
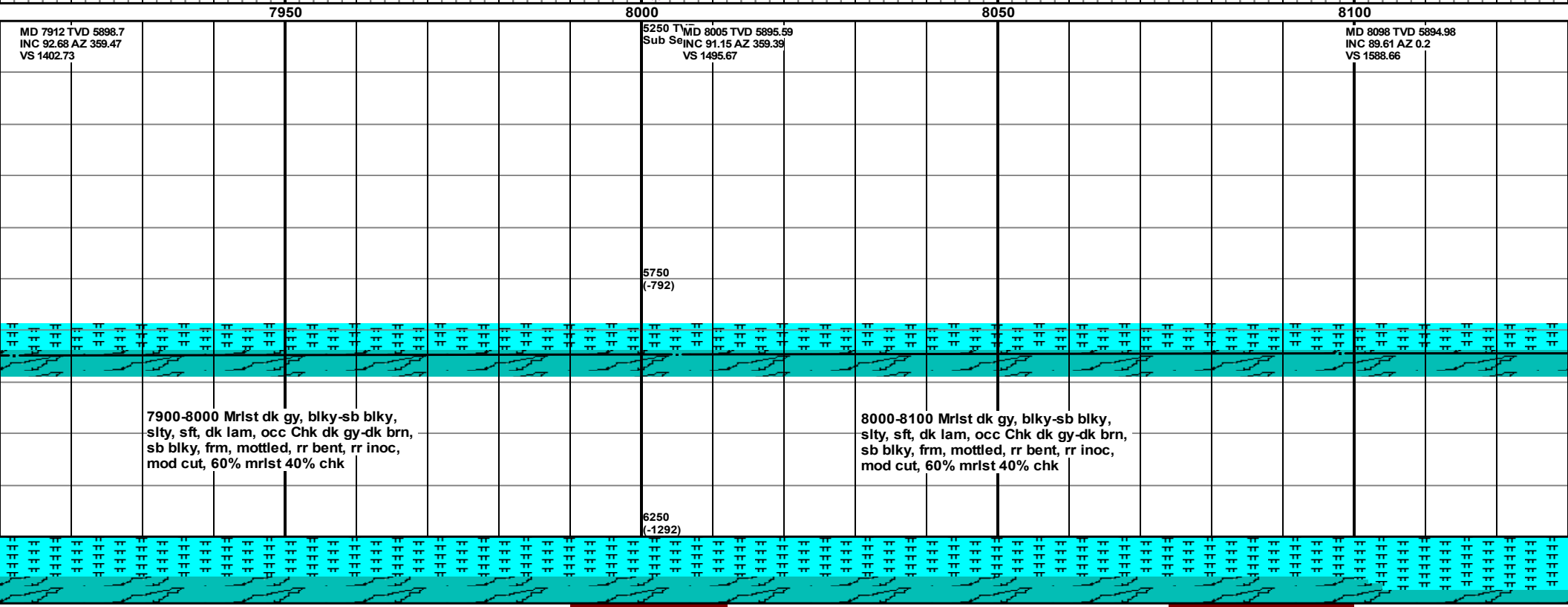
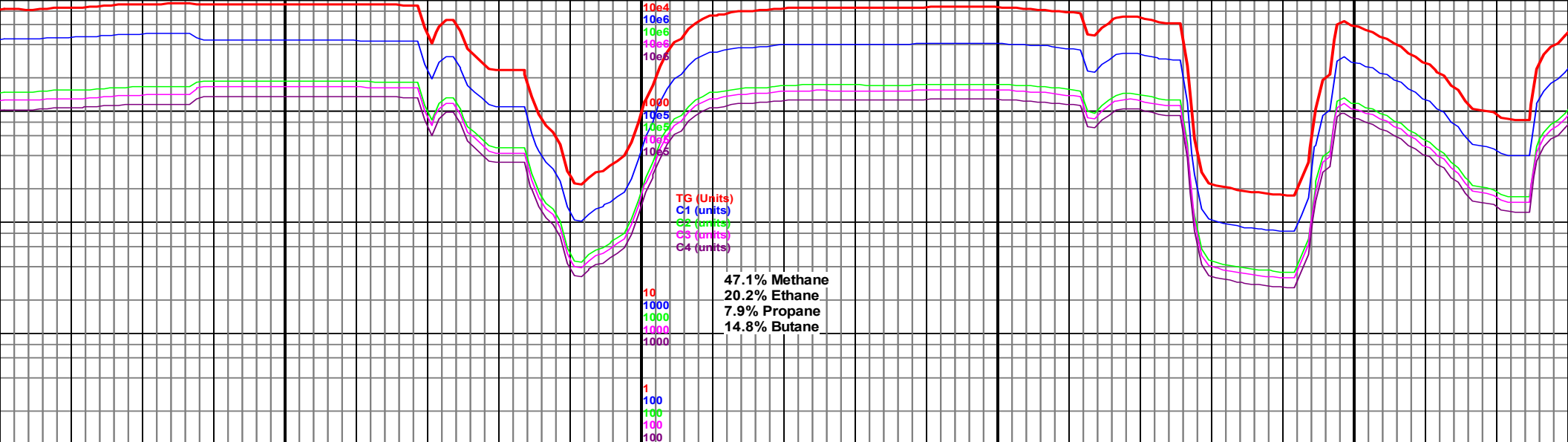




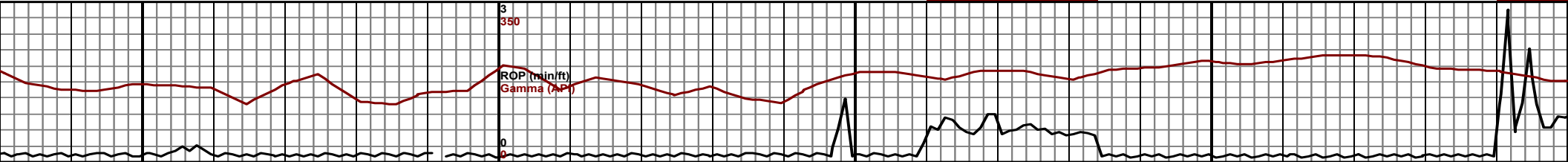
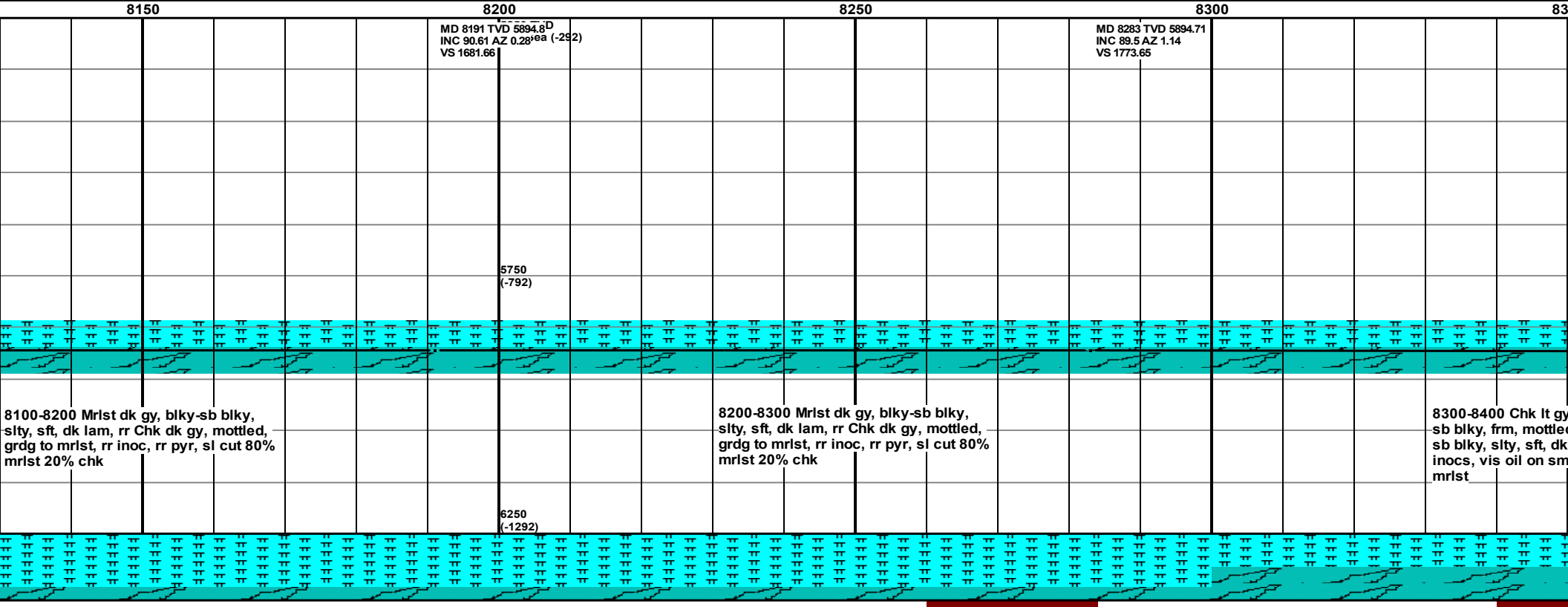
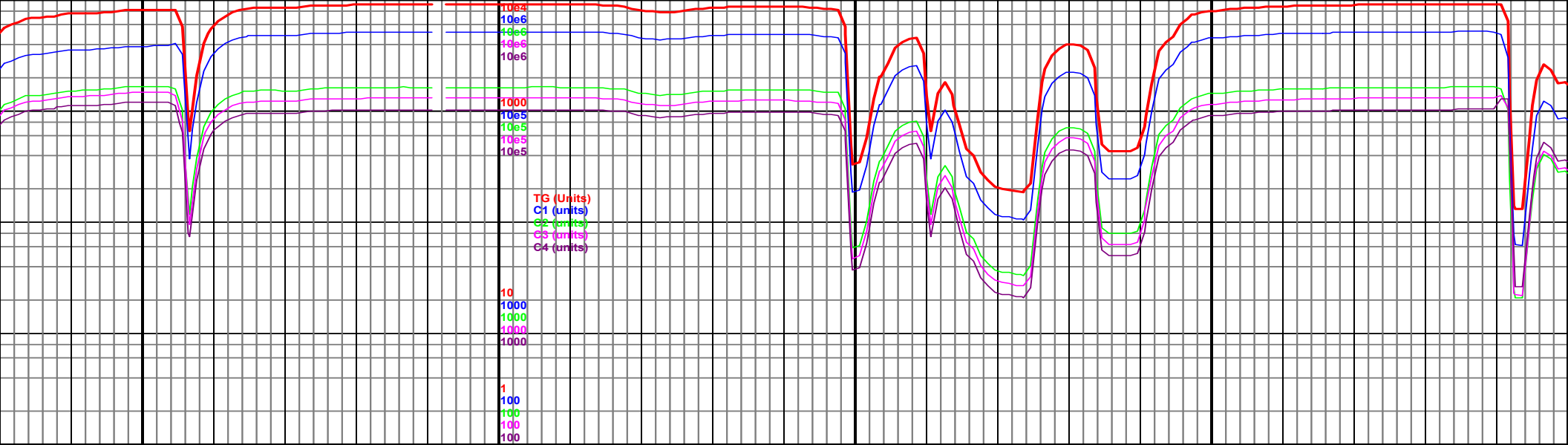


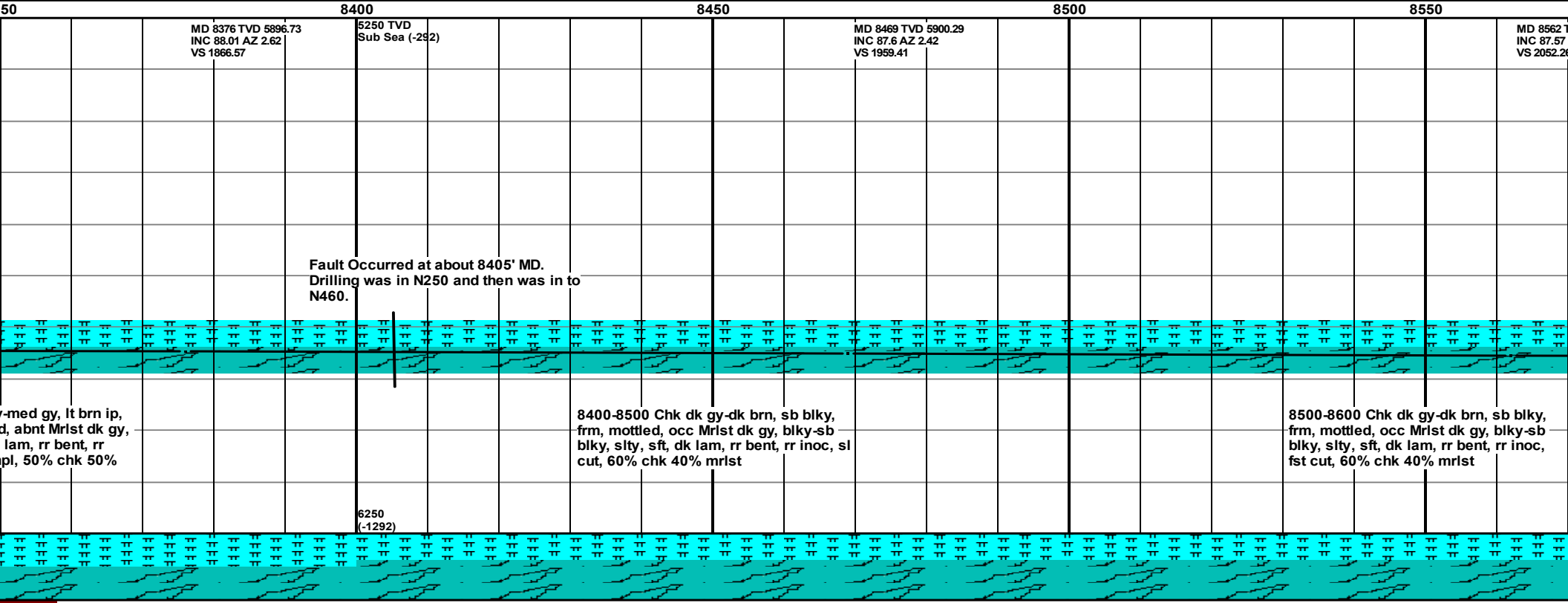
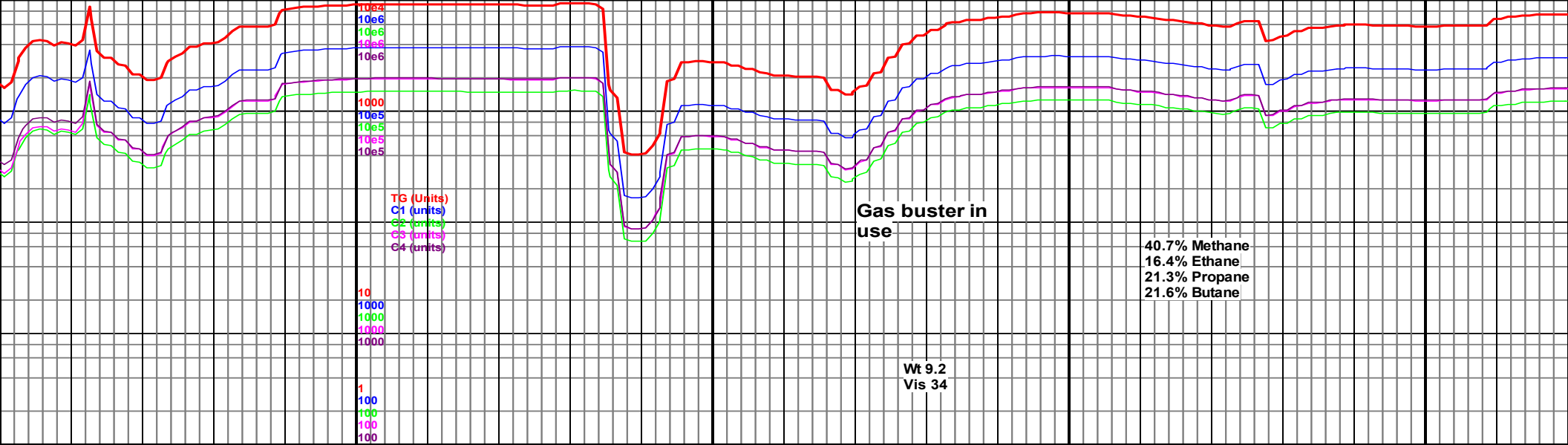


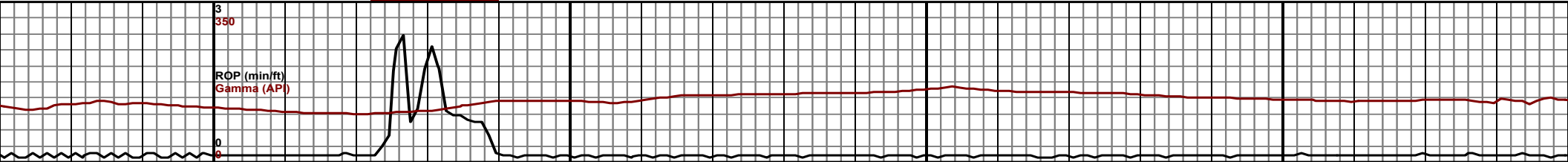
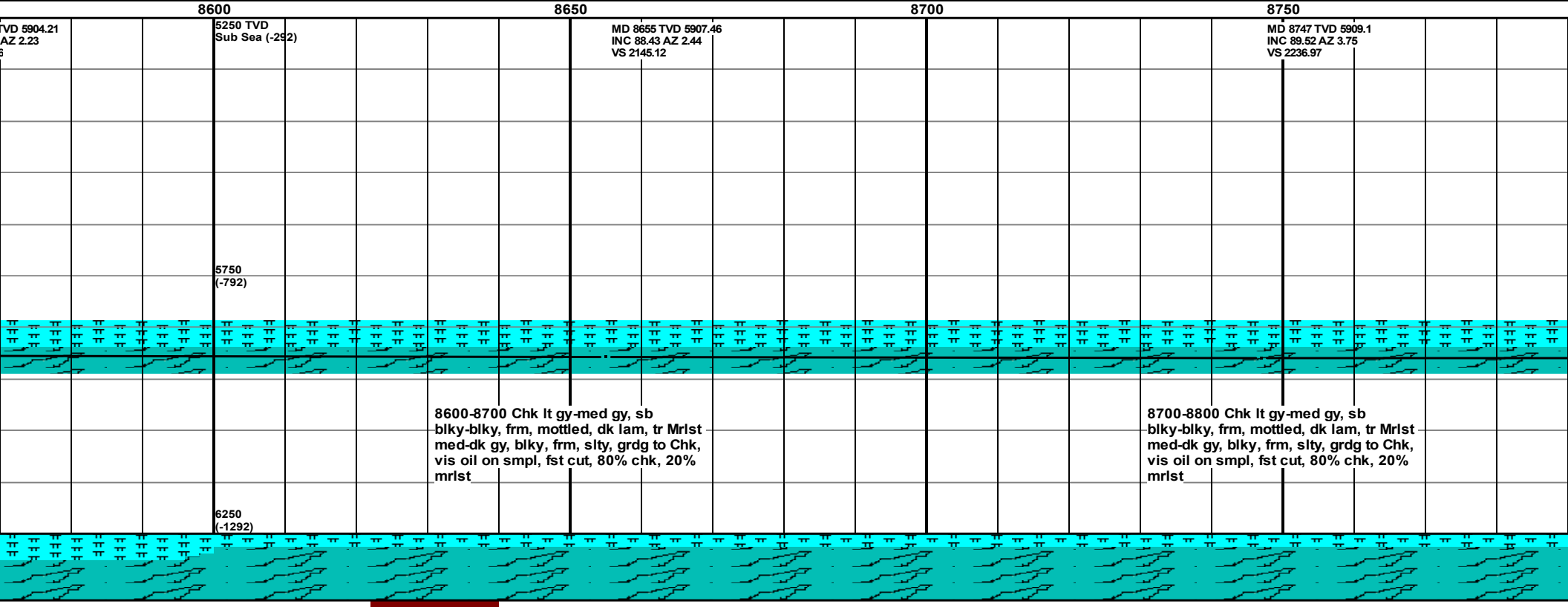
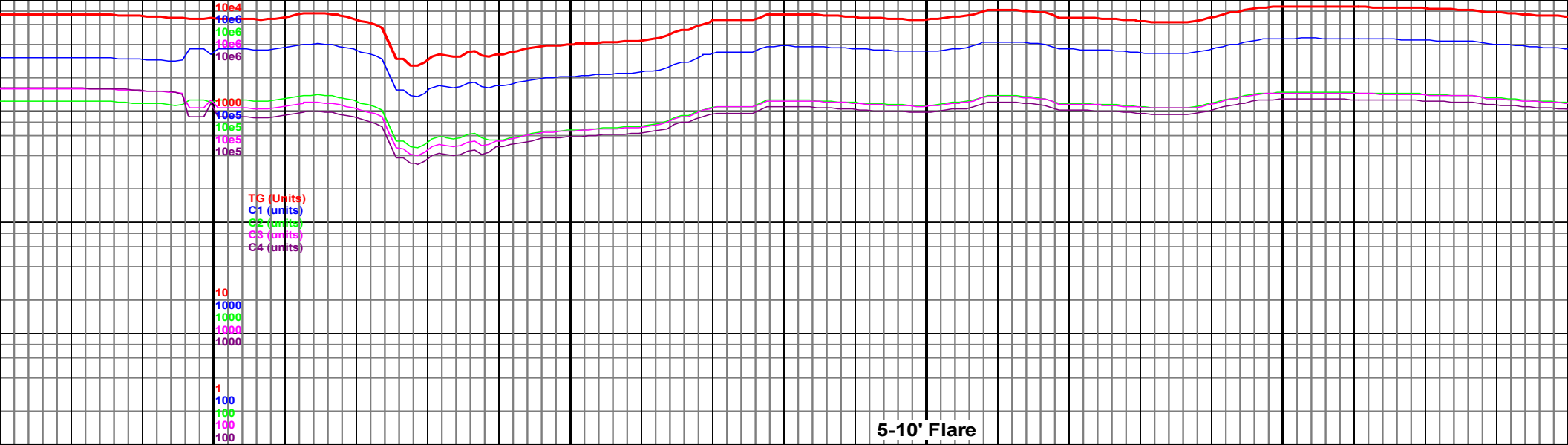


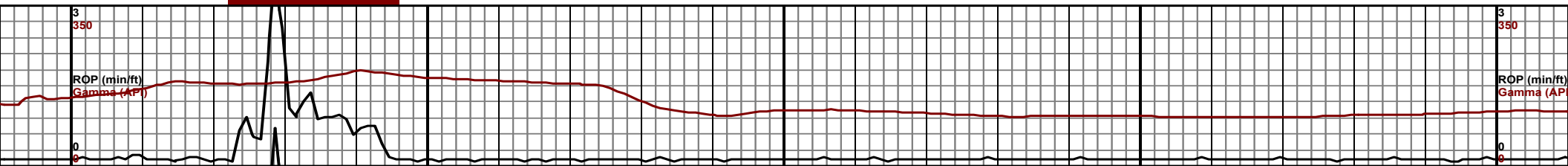
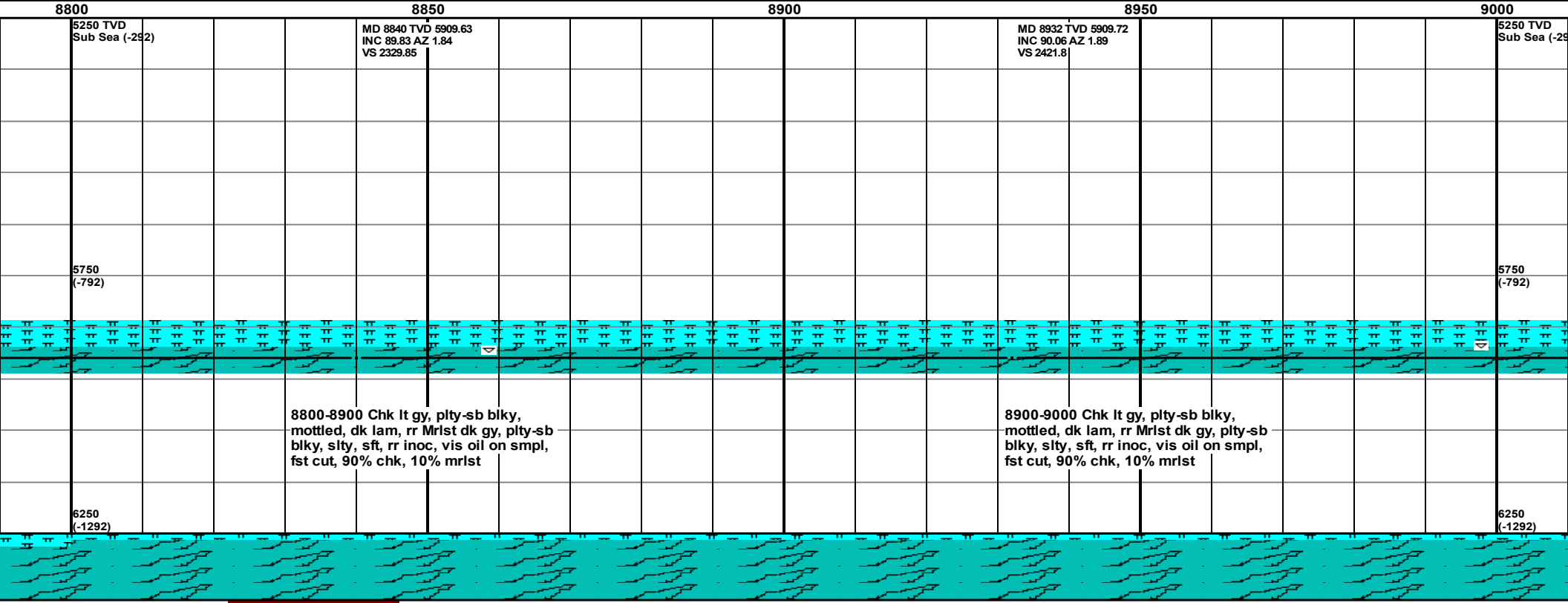


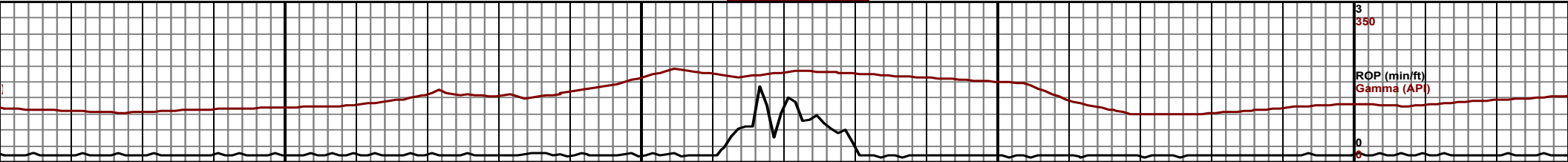
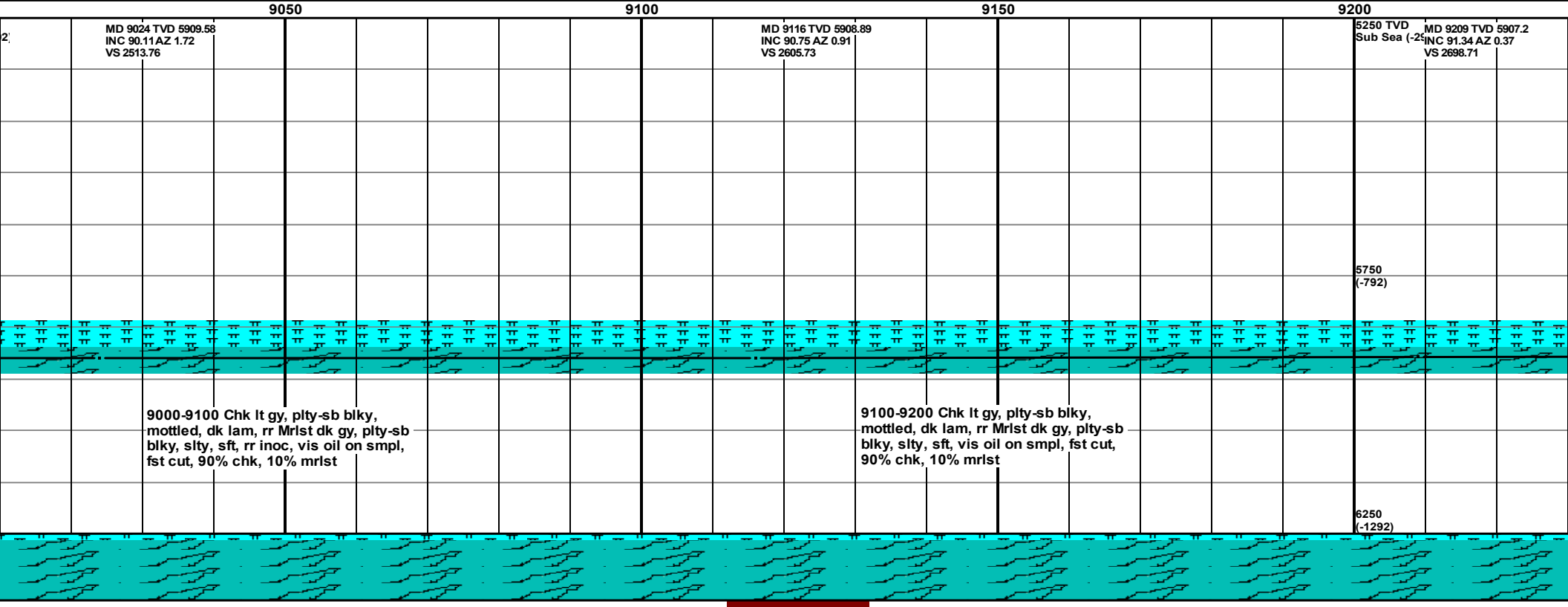
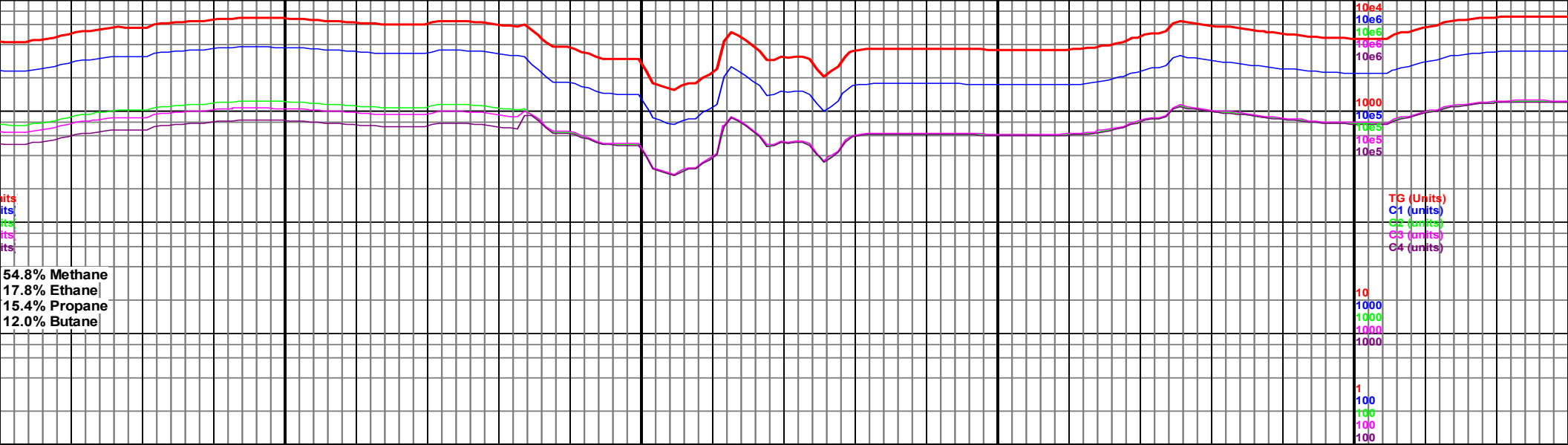


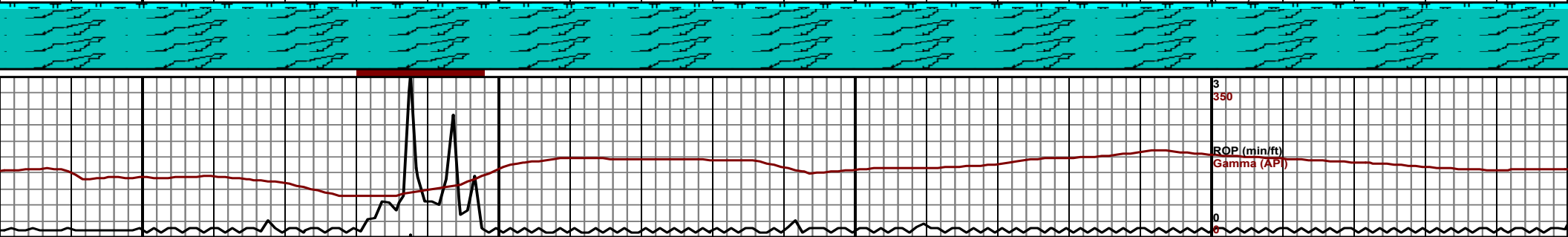
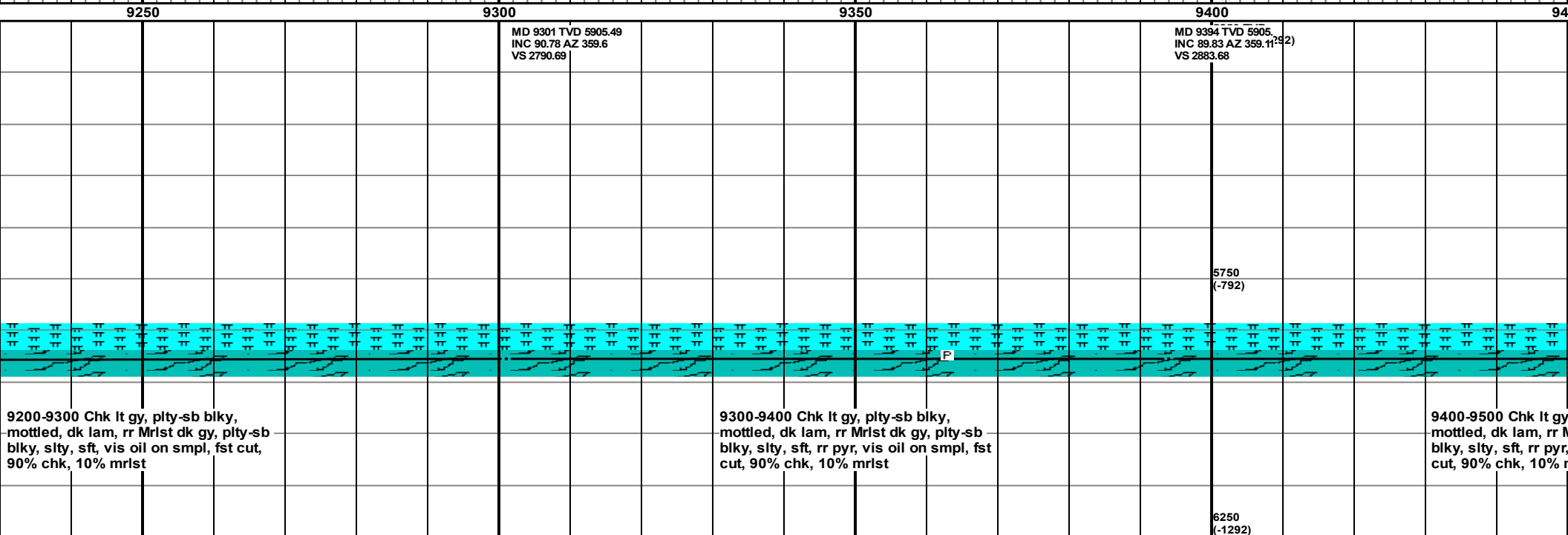
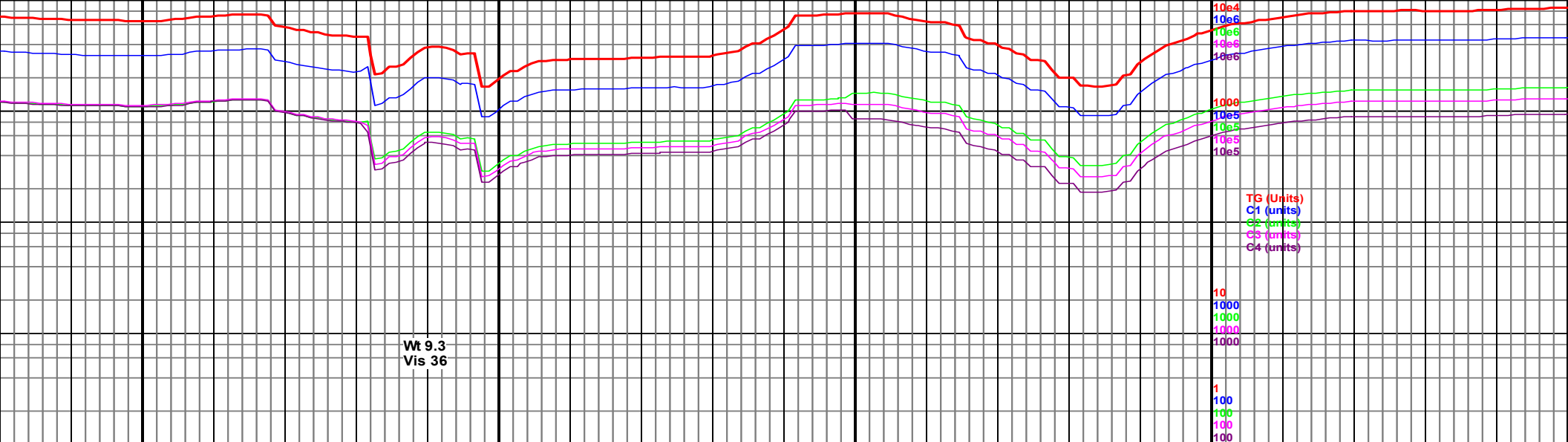


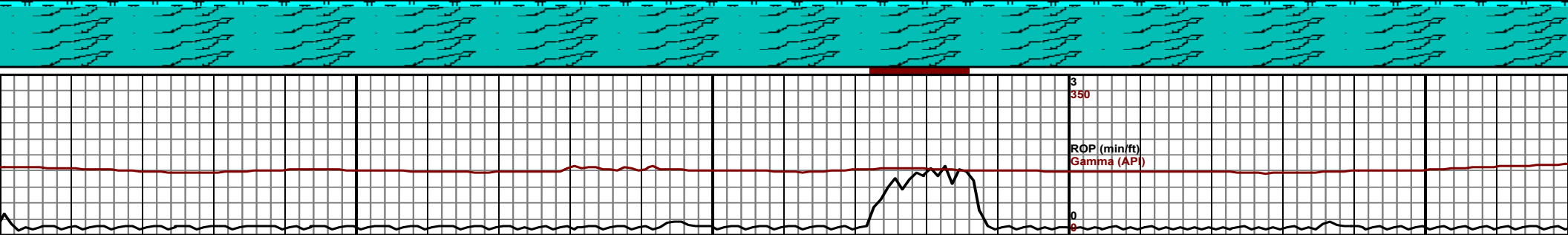
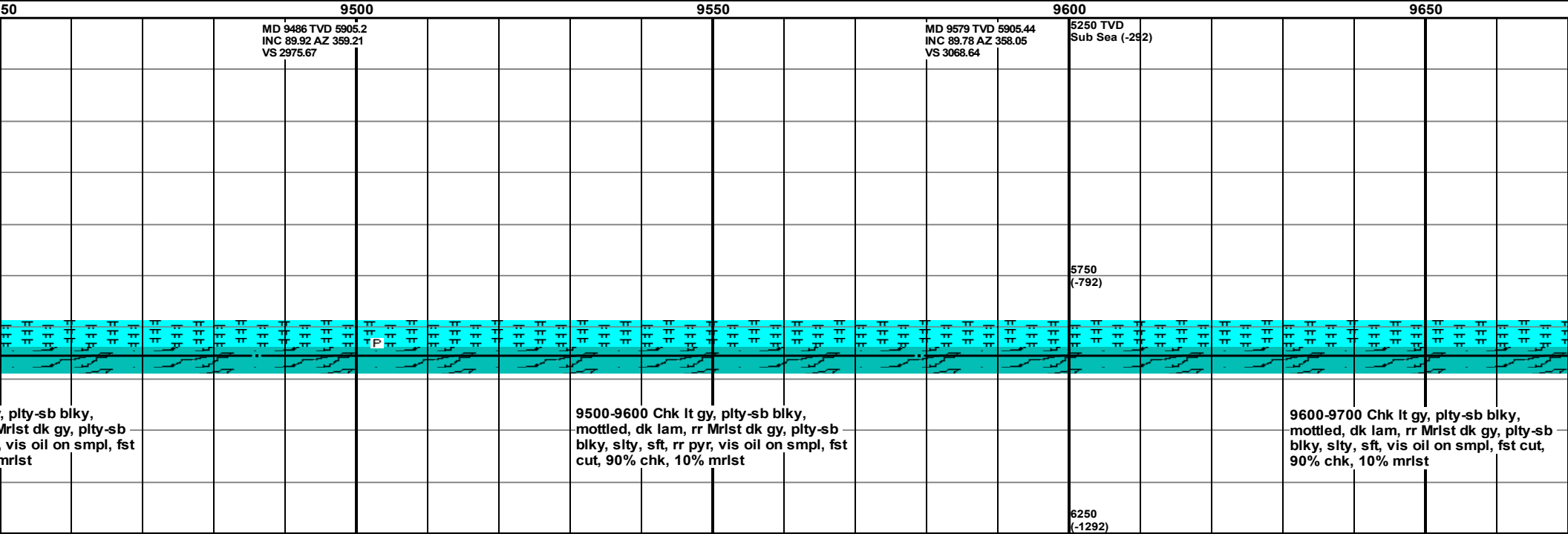
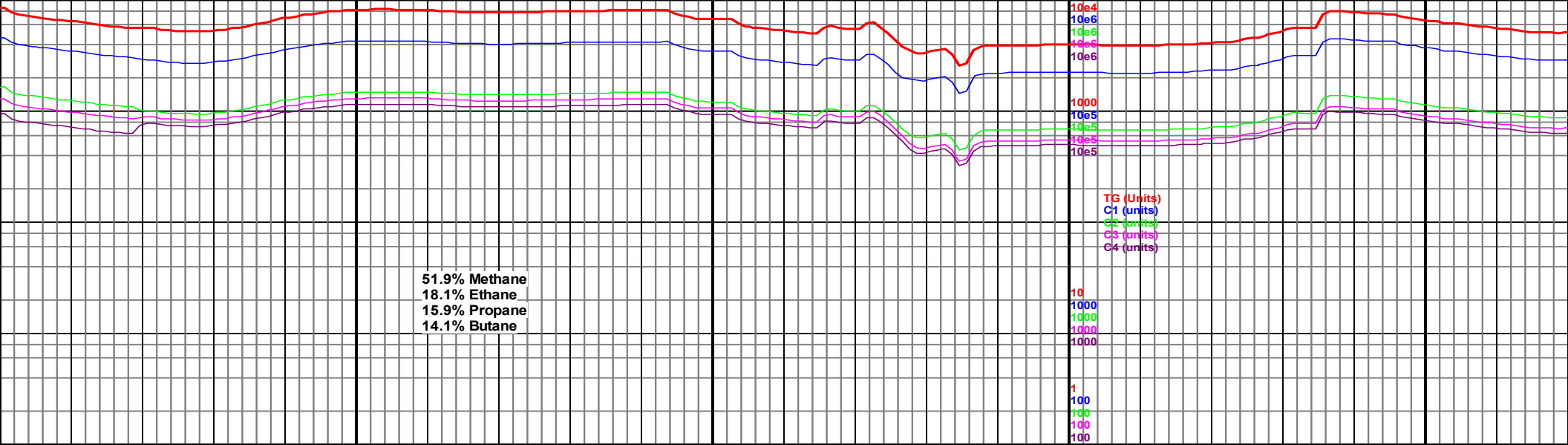






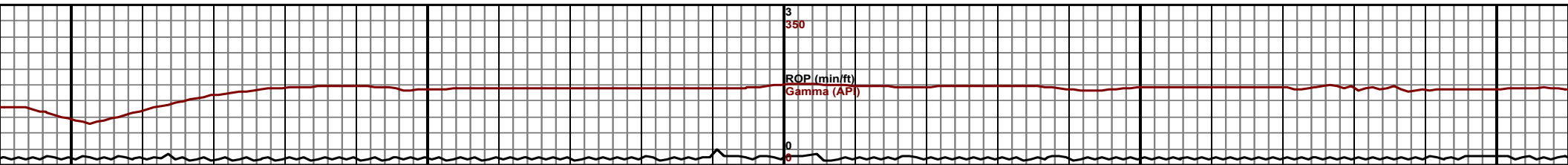
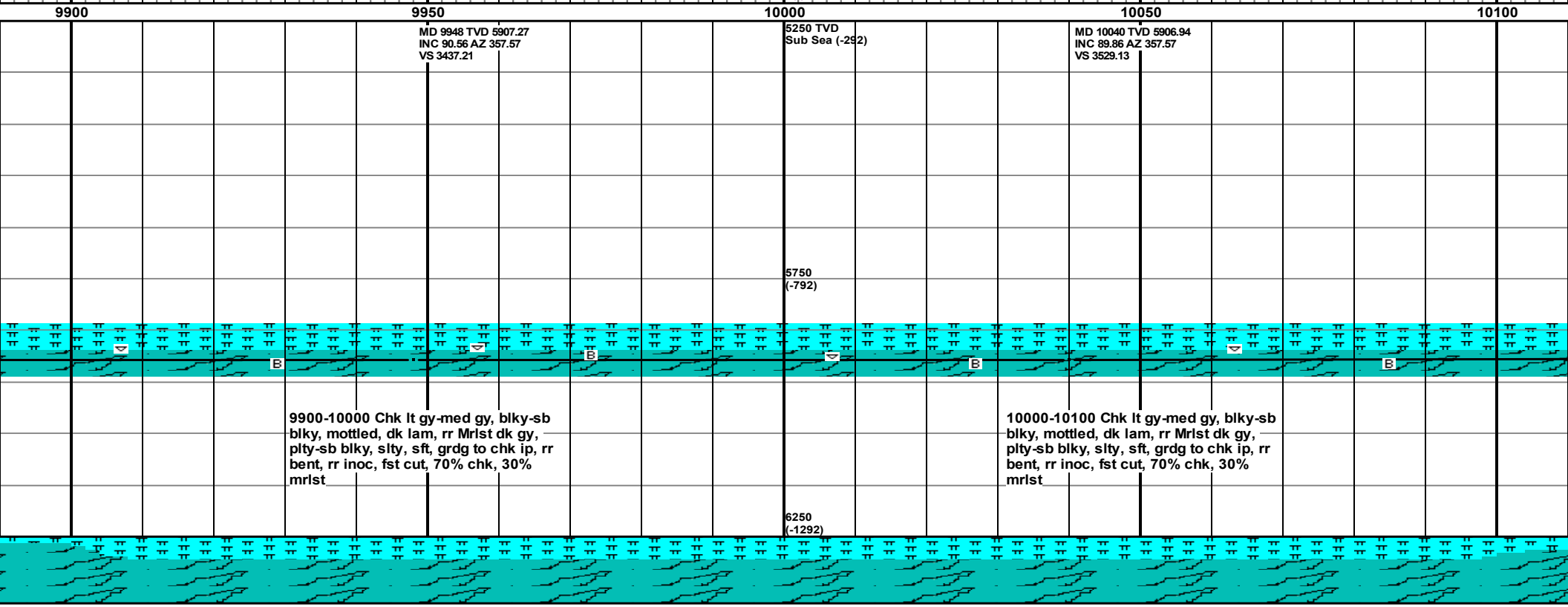
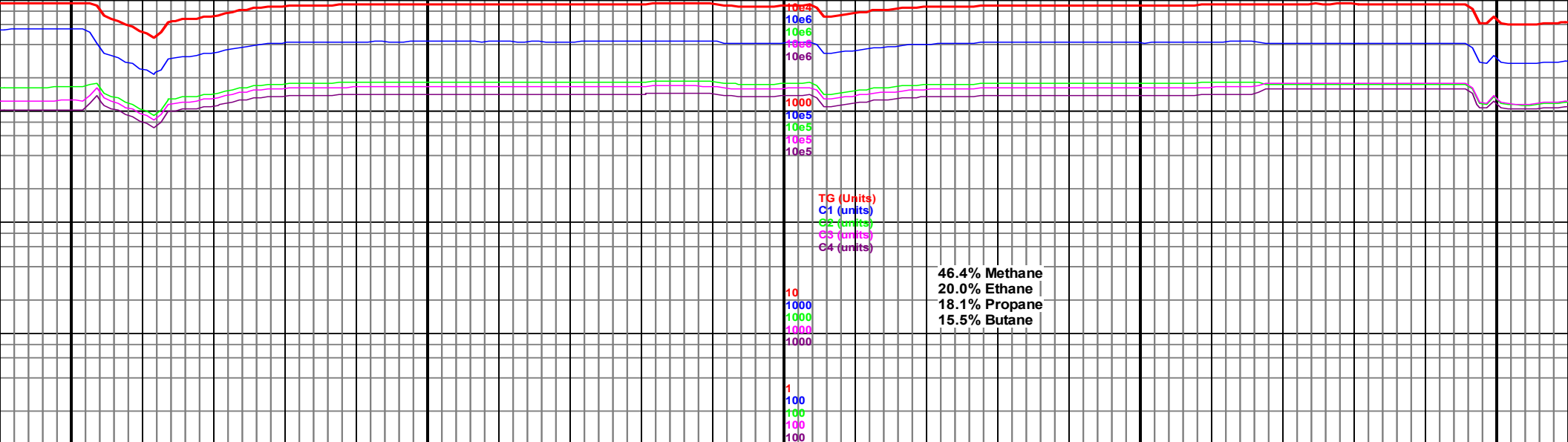


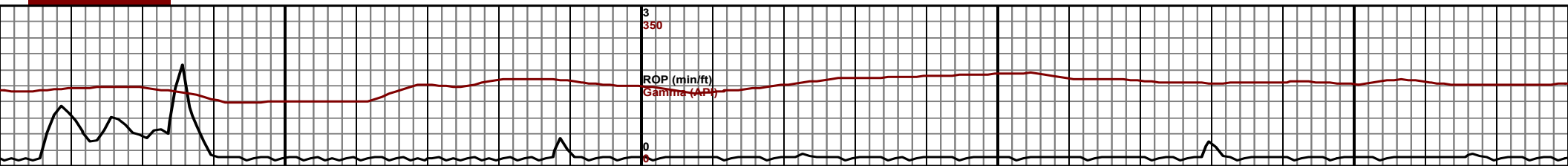
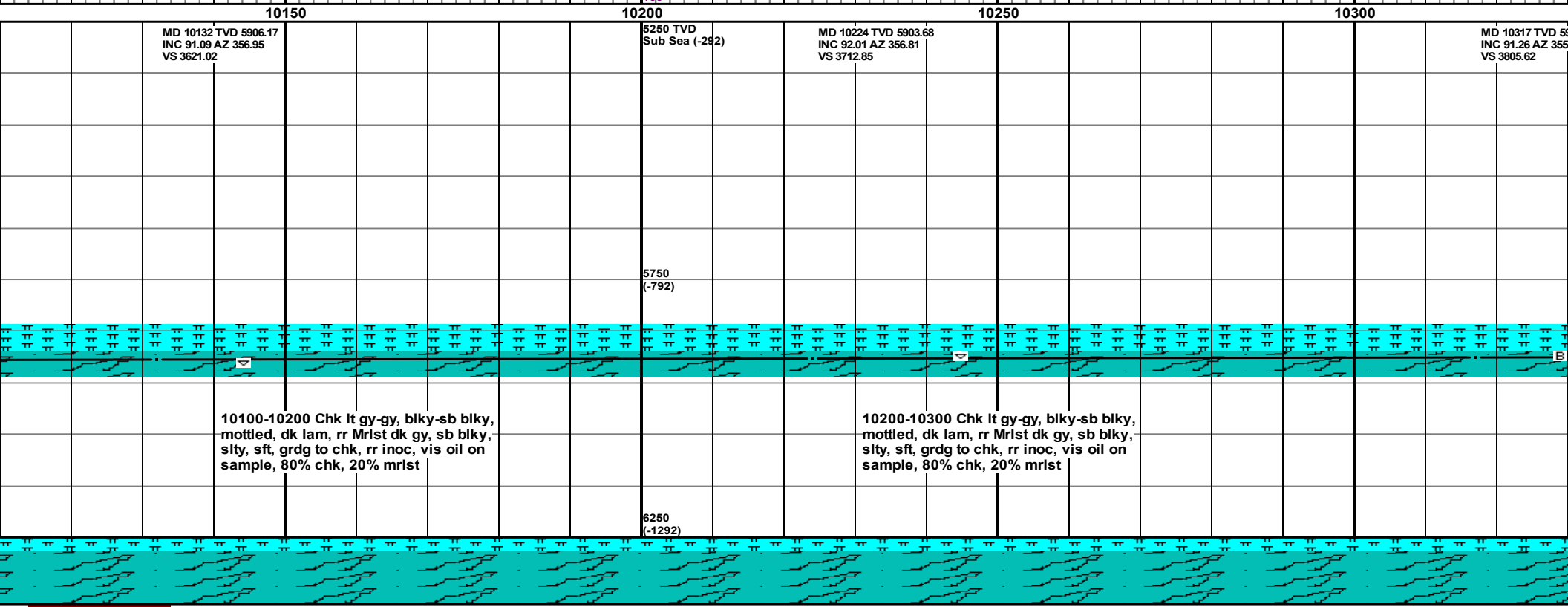
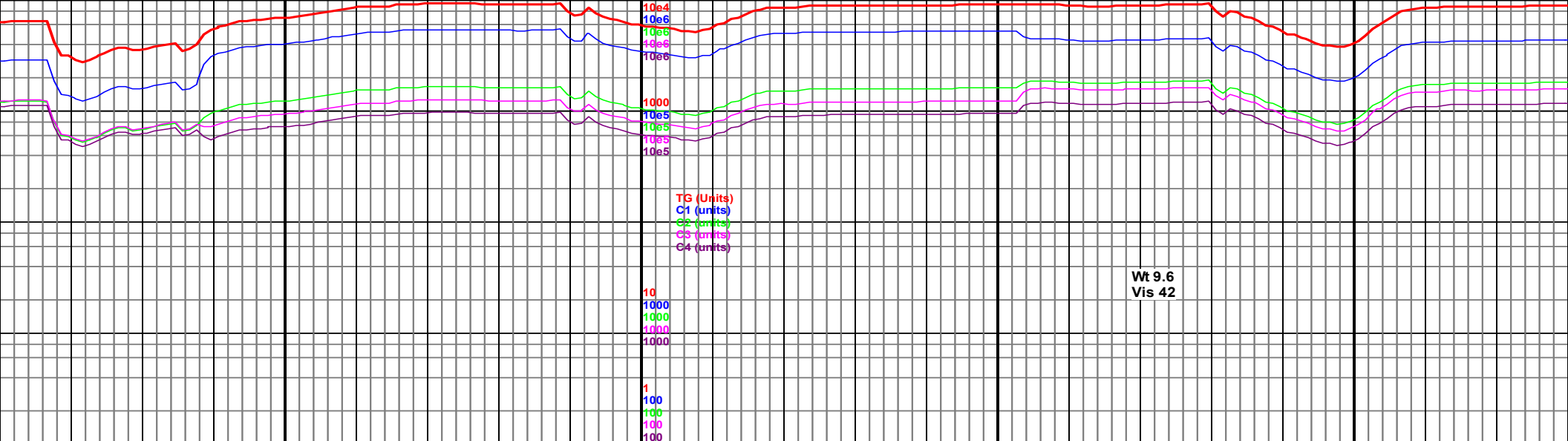


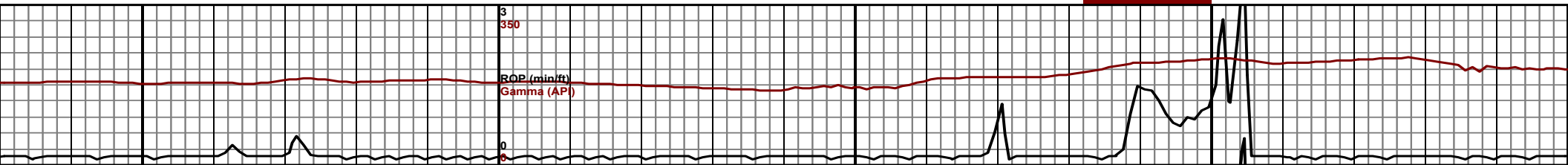
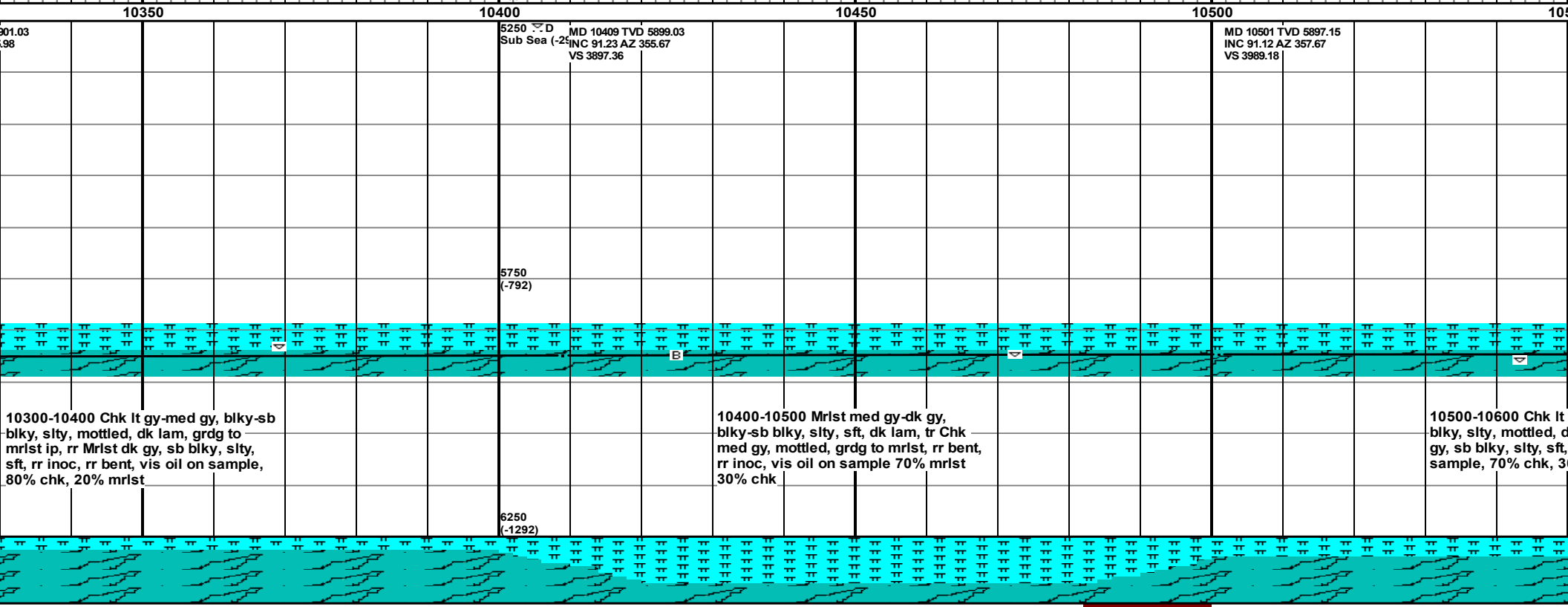
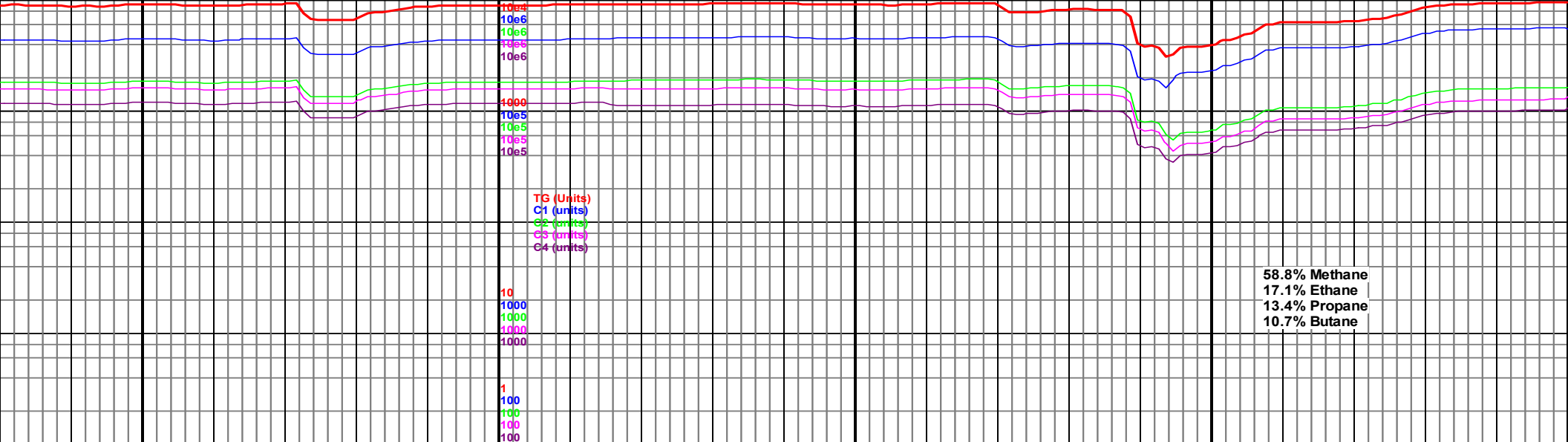


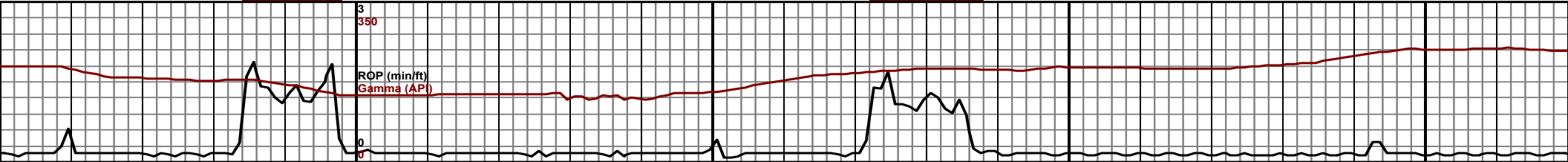
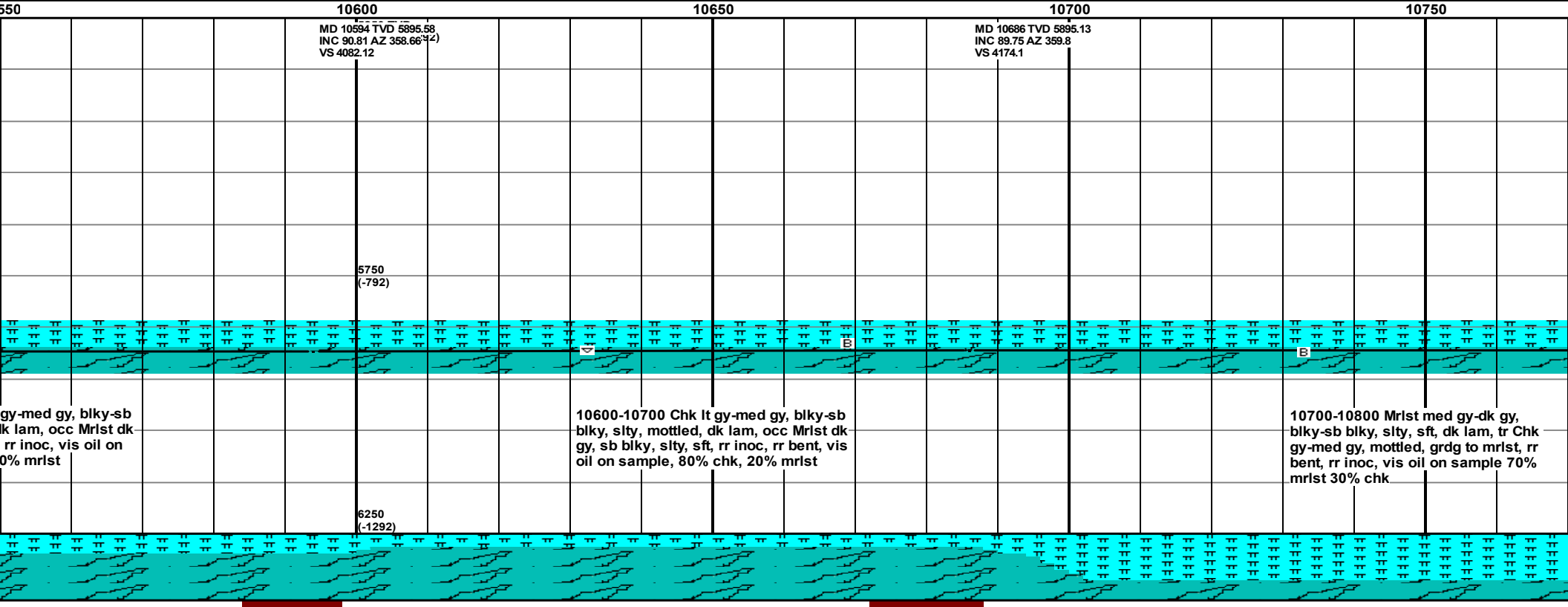
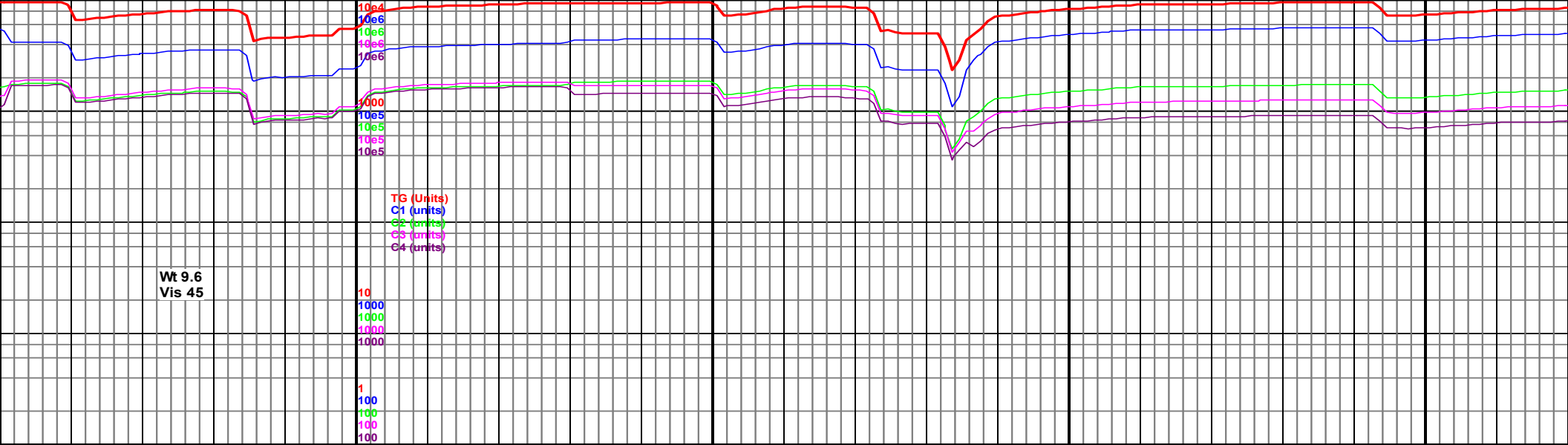


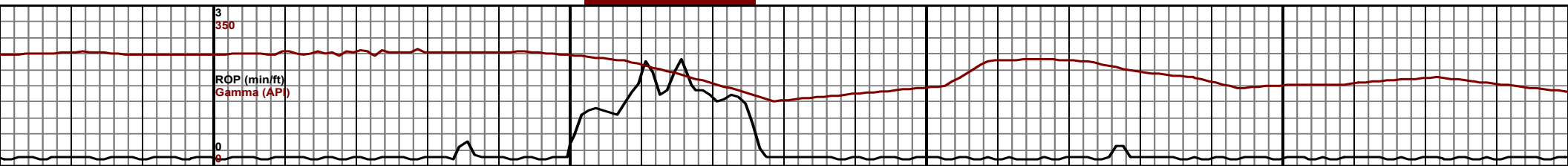
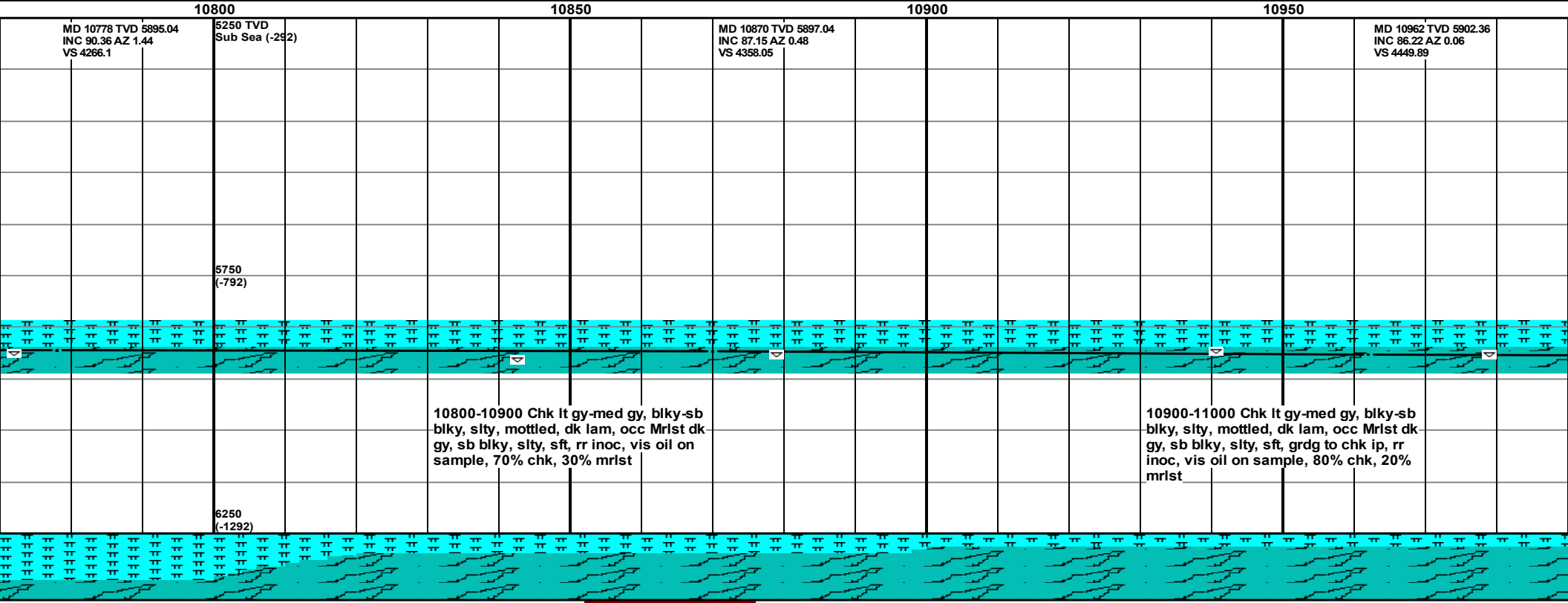
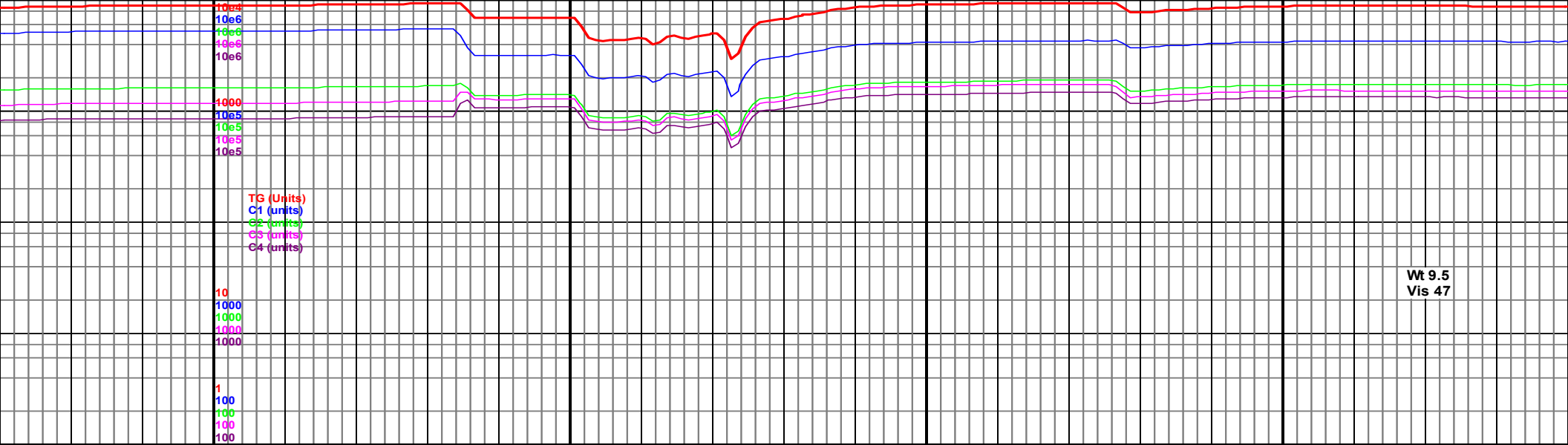


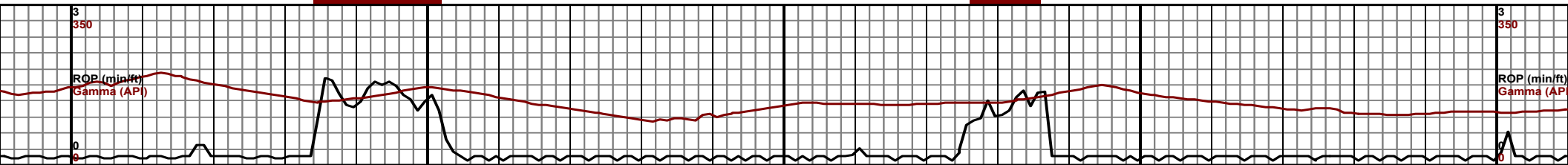
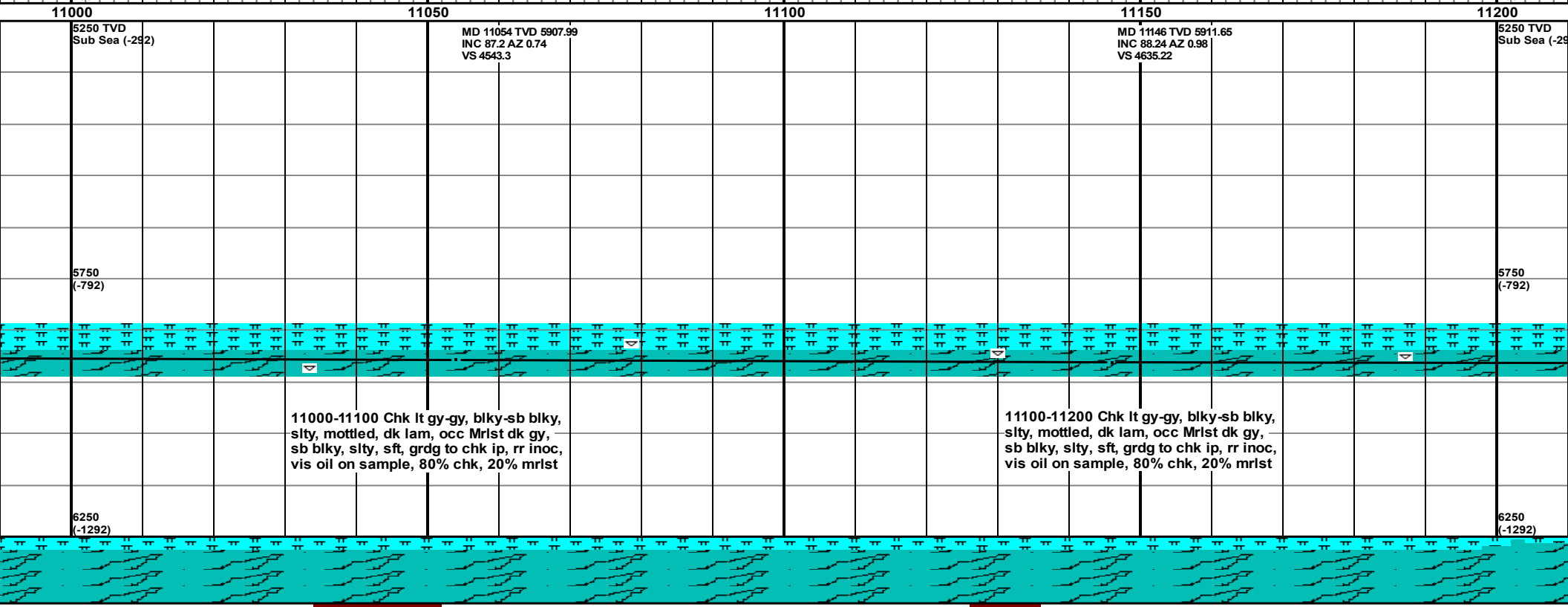
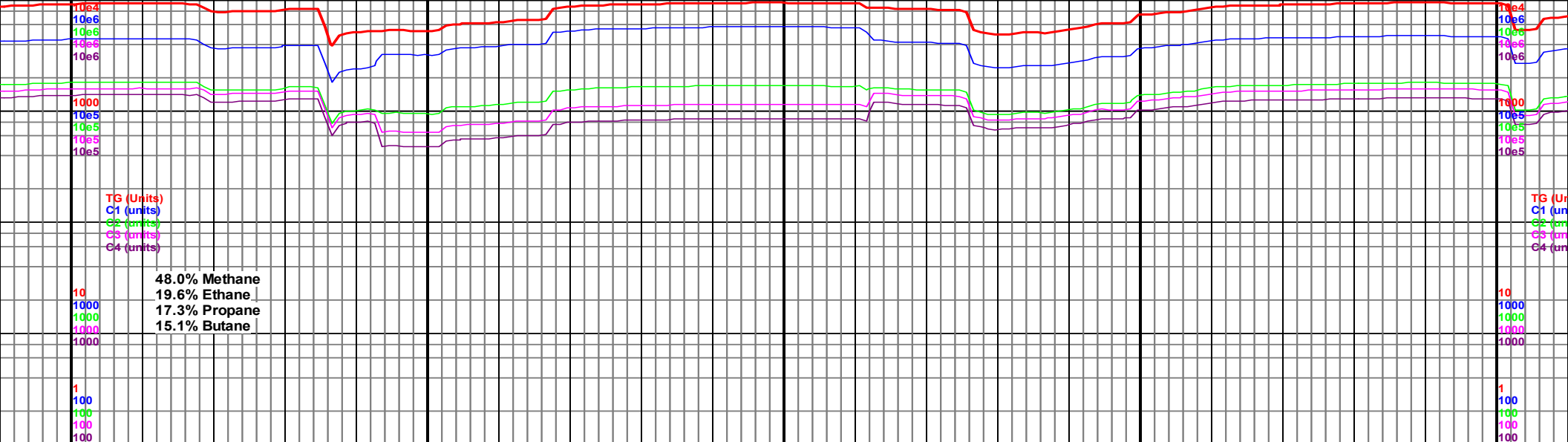


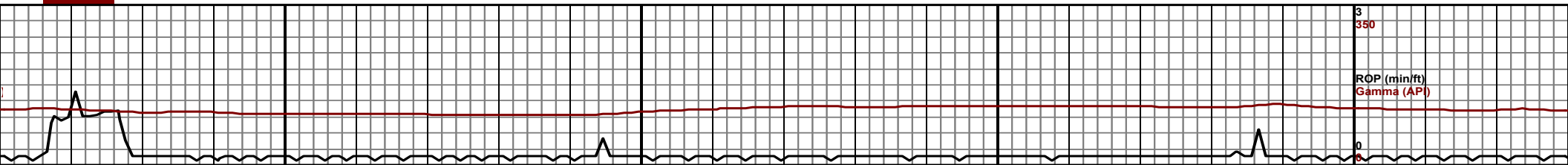
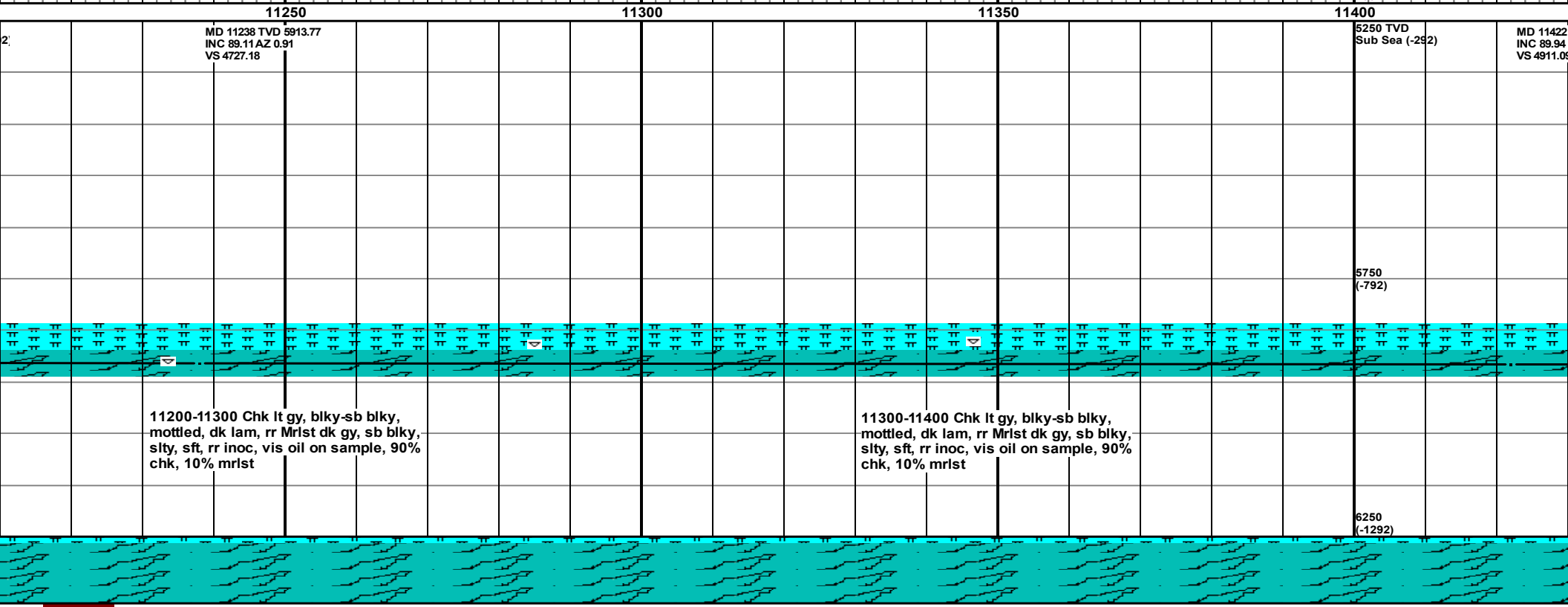
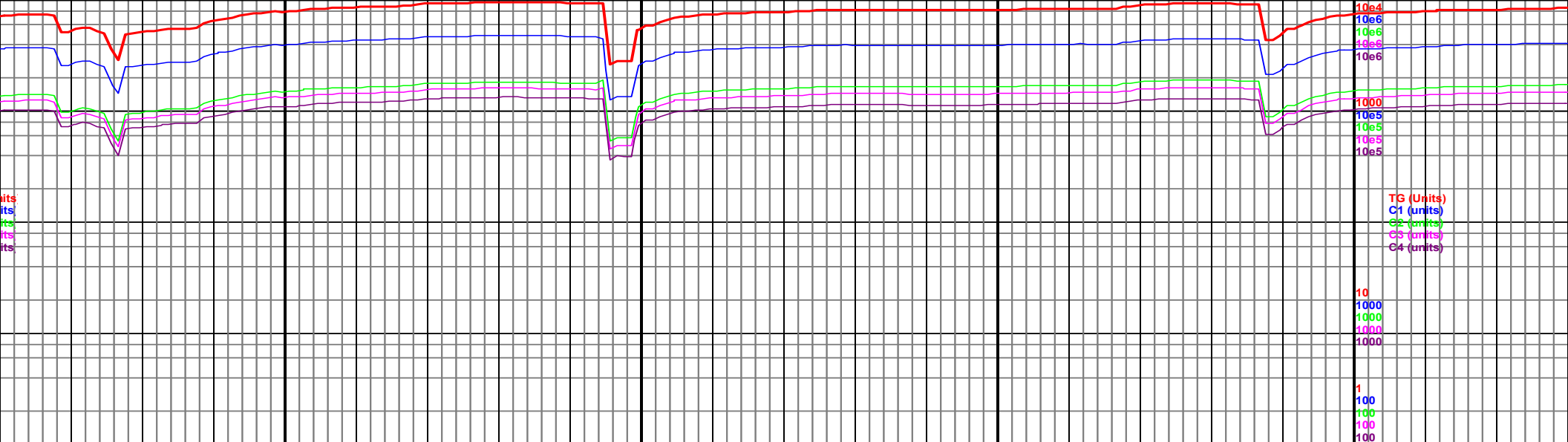


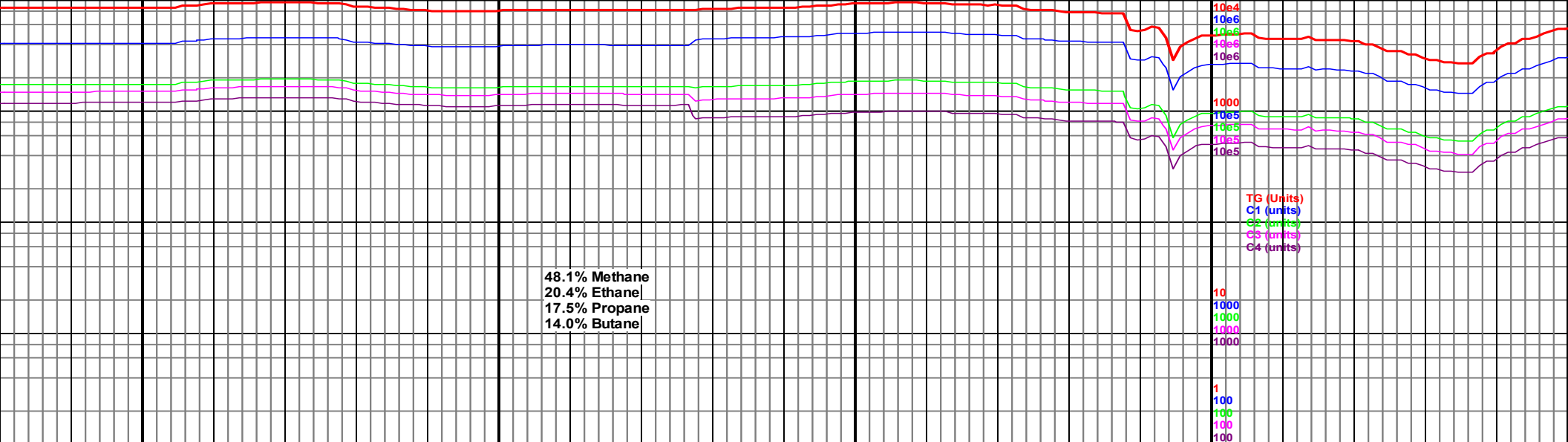




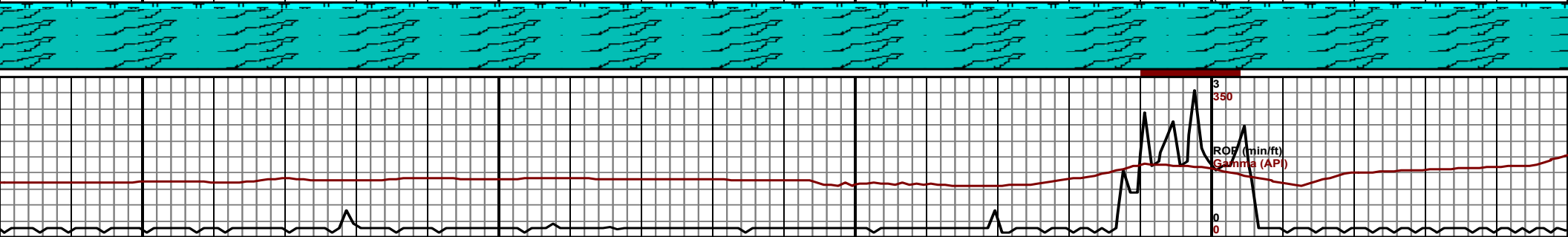




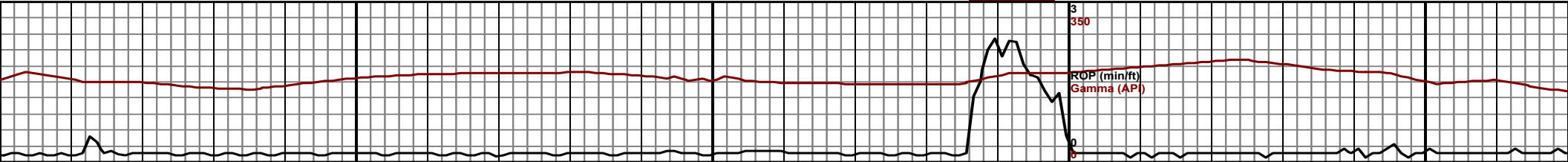
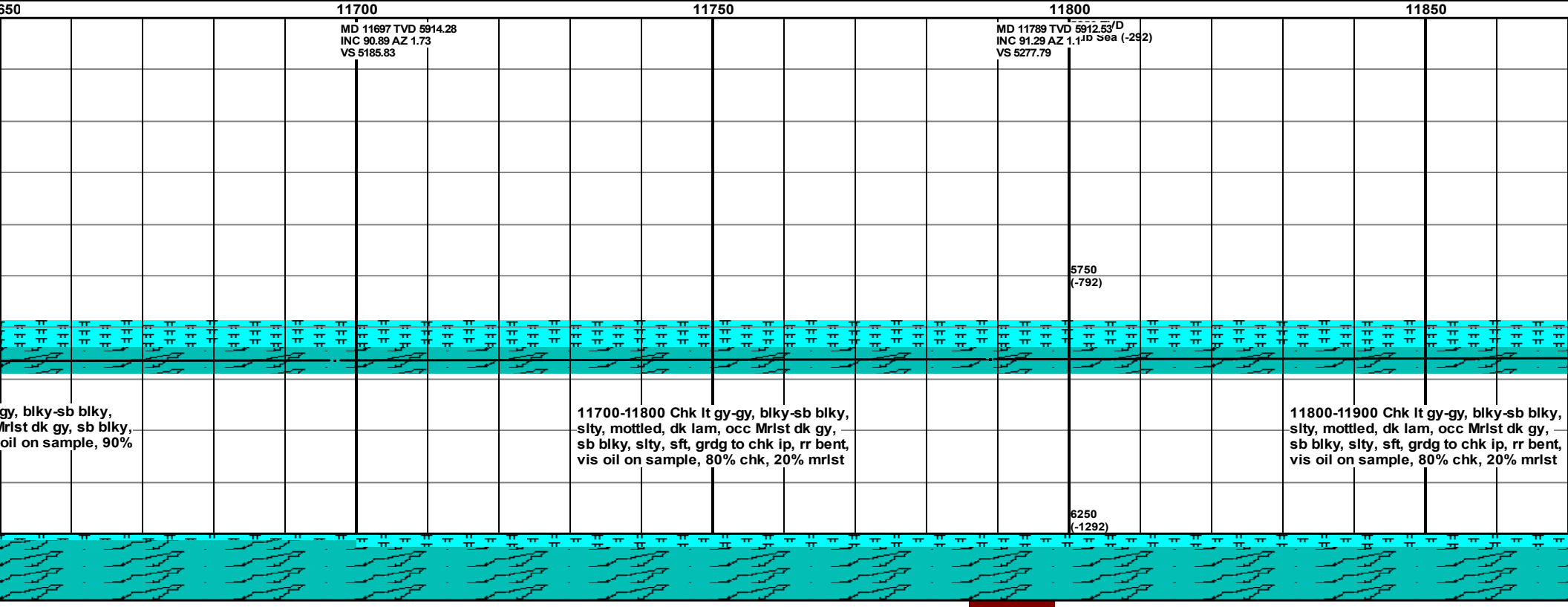
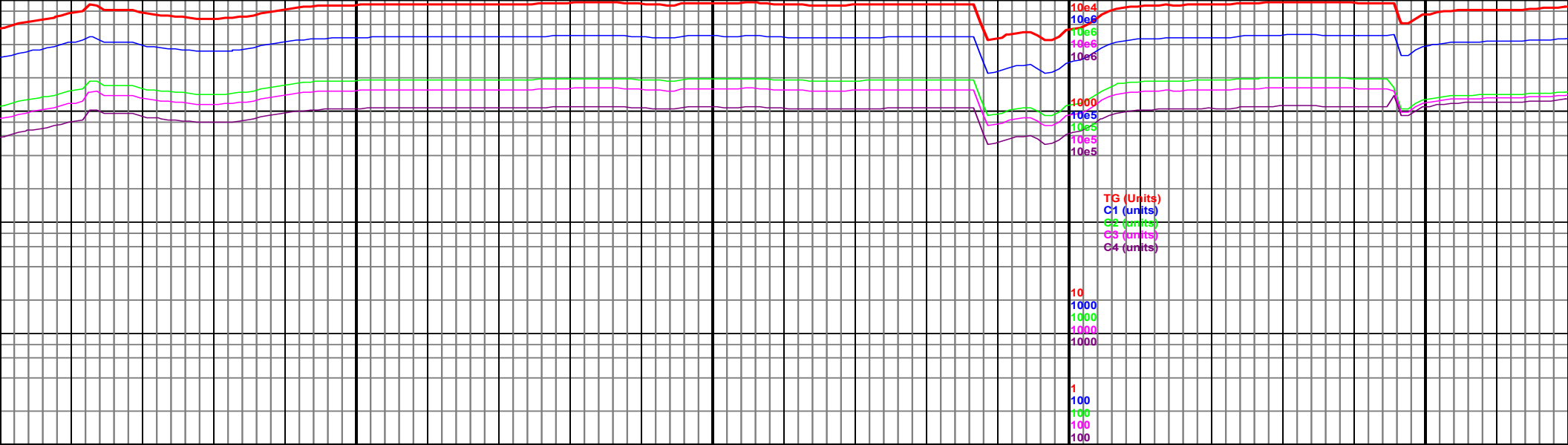


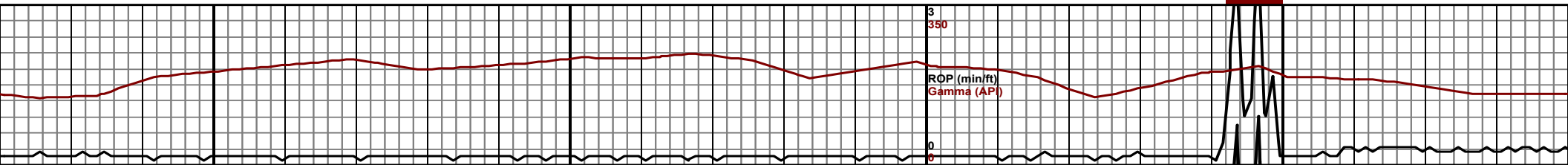
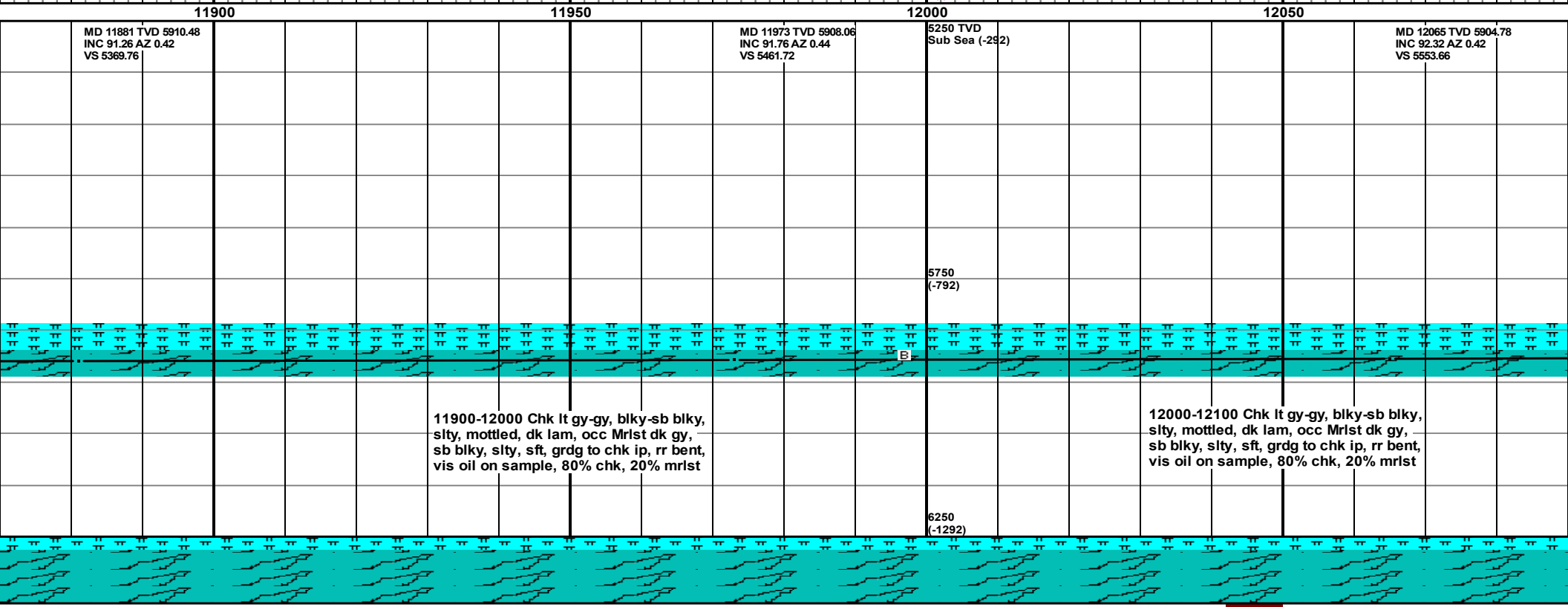
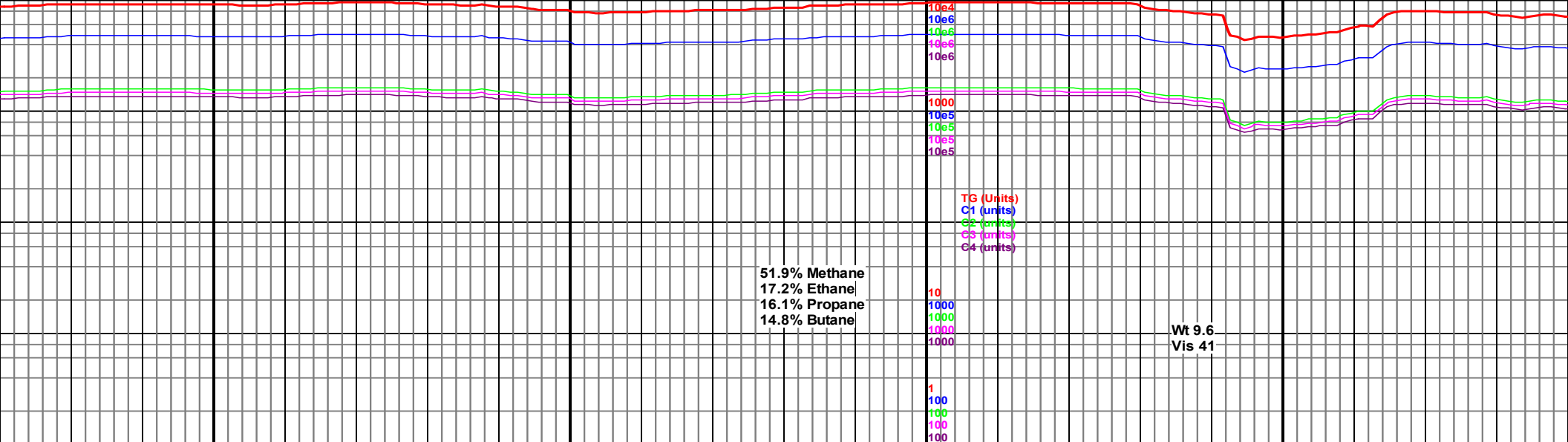


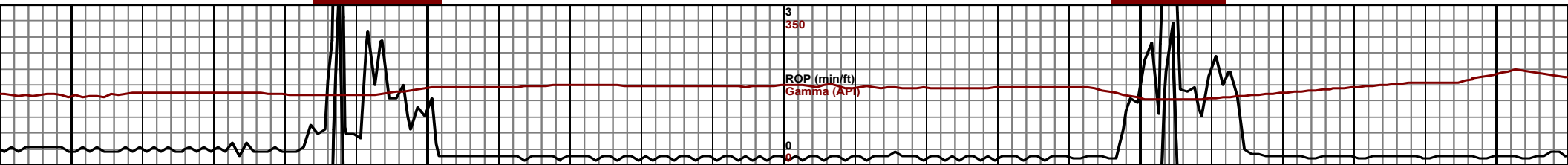
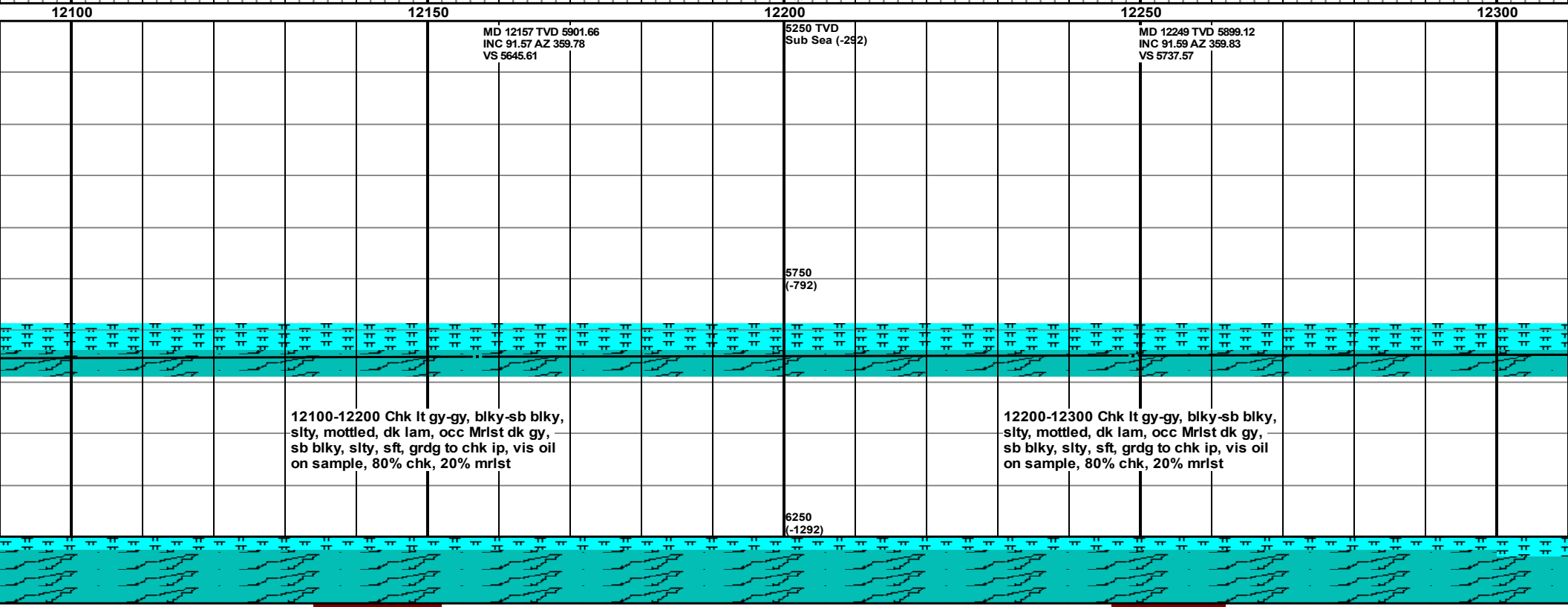
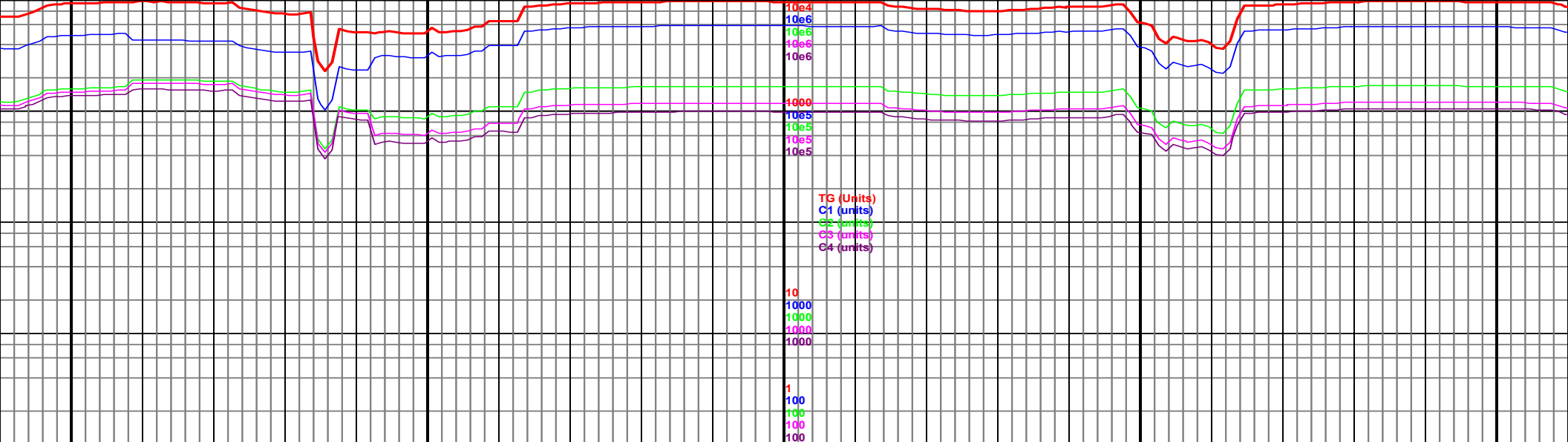
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|---|-------|-------|---|---|---|
| TVD 5915.3<br>AZ 2.47   | 11450 | 11500 | 11550   | 11600   | 11650   |
| MD 11514 TVD 5915.46<br>INC 89.86 AZ 3.36<br>VS 5002.97   |       |       |   | 5250 T MD 11605 TVD 5915.28<br>Sub Se INC 90.36 AZ 1.61<br>VS 5093.88 |   |
|   |       |       |   | 5750<br>(-792)  |   |
| 11400-11500 Chk lt gy, blk-y-sb blk-y,<br>mottled, dk lam, rr Mrst dk gy, sb blk-y,<br>slty, sft, rr inoc, vis oil on sample, 90%<br>chk, 10% mrlst |       |       | 11500-11600 Chk lt gy, blk-y-sb blk-y,<br>mottled, dk lam, rr Mrst dk gy, sb blk-y,<br>slty, sft, rr inoc, vis oil on sample, 90%<br>chk, 10% mrlst |   | 11600-11700 Chk lt gy, blk-y-sb blk-y,<br>mottled, dk lam, rr Mrst dk gy, sb blk-y,<br>slty, sft, rr inoc, vis oil on sample, 90%<br>chk, 10% mrlst |
|   |       |       |   | 6250<br>(-1292)   |   |

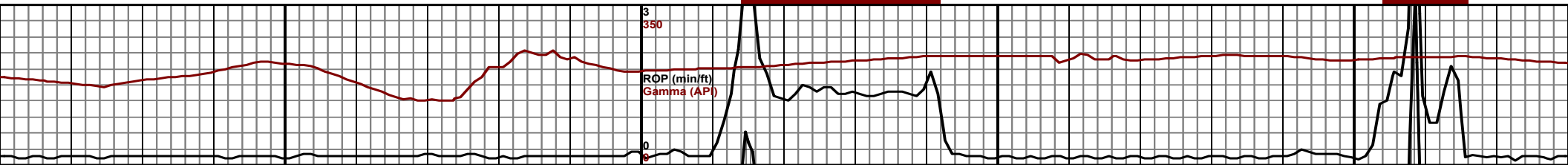
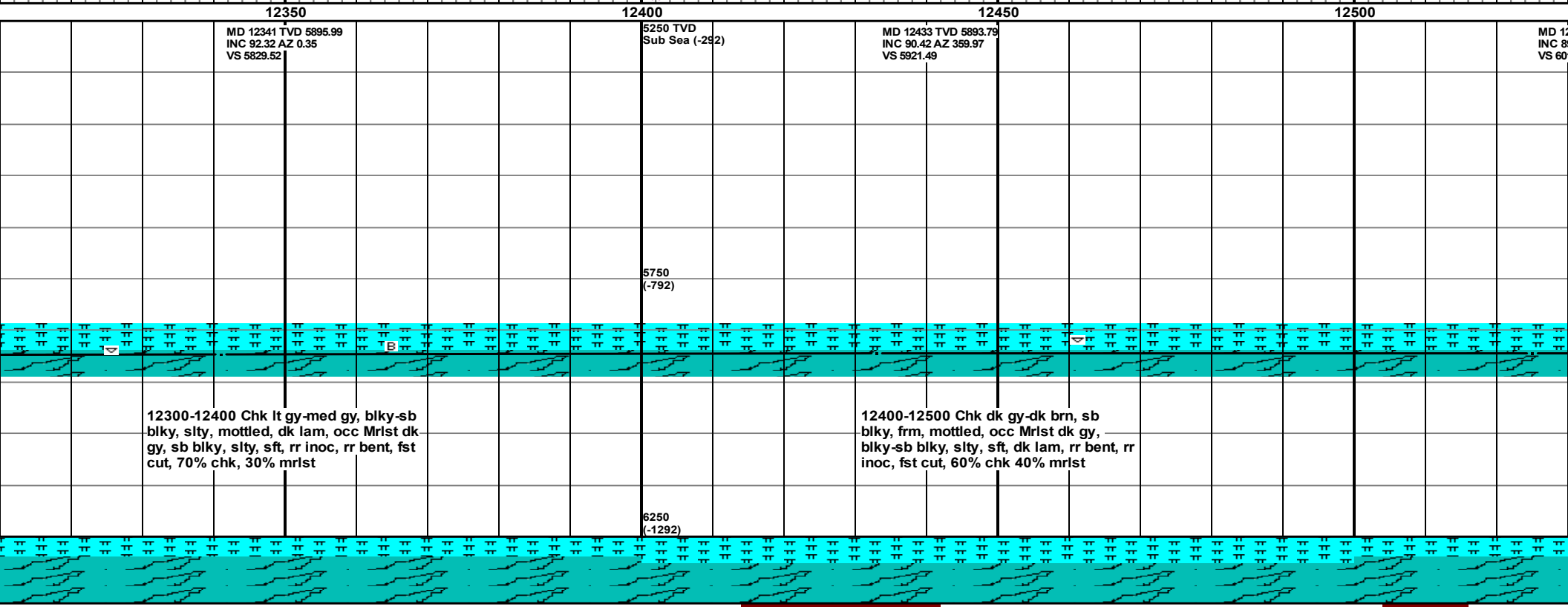
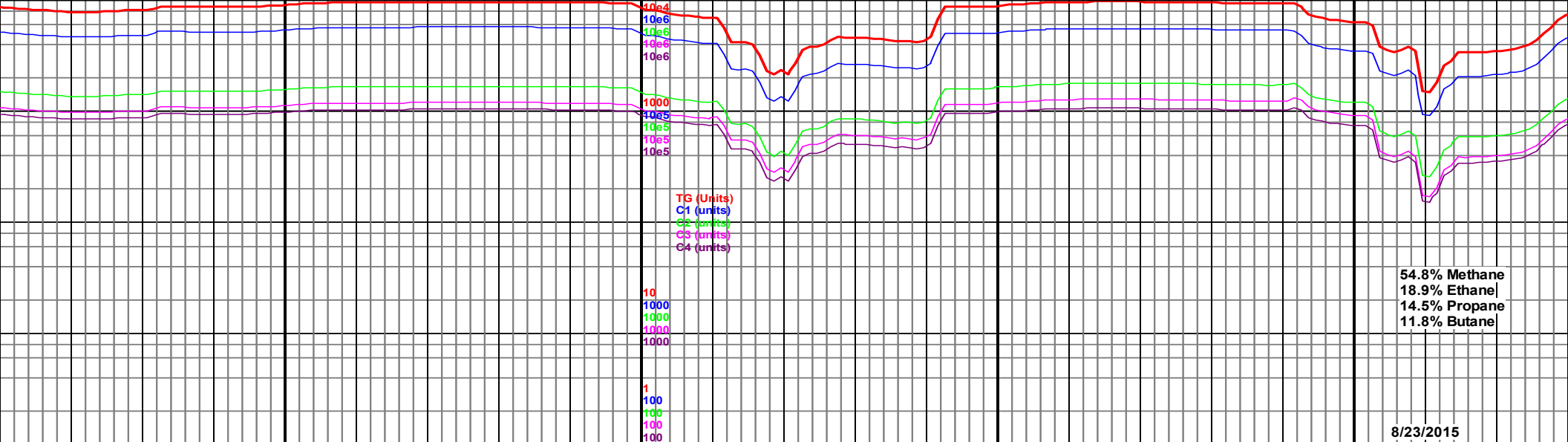


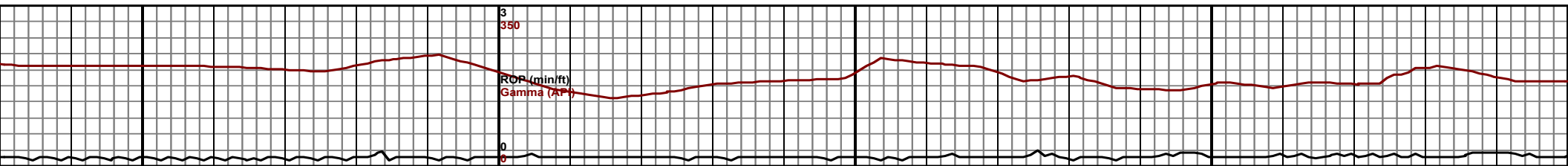
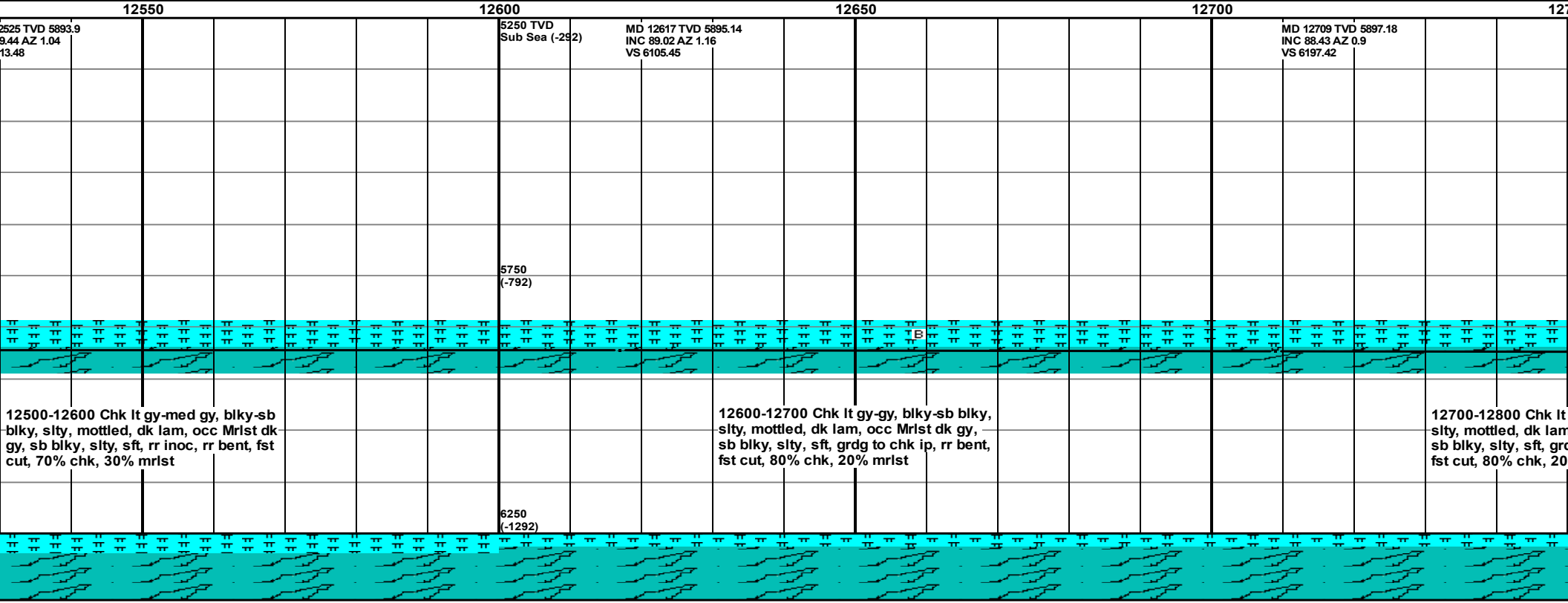
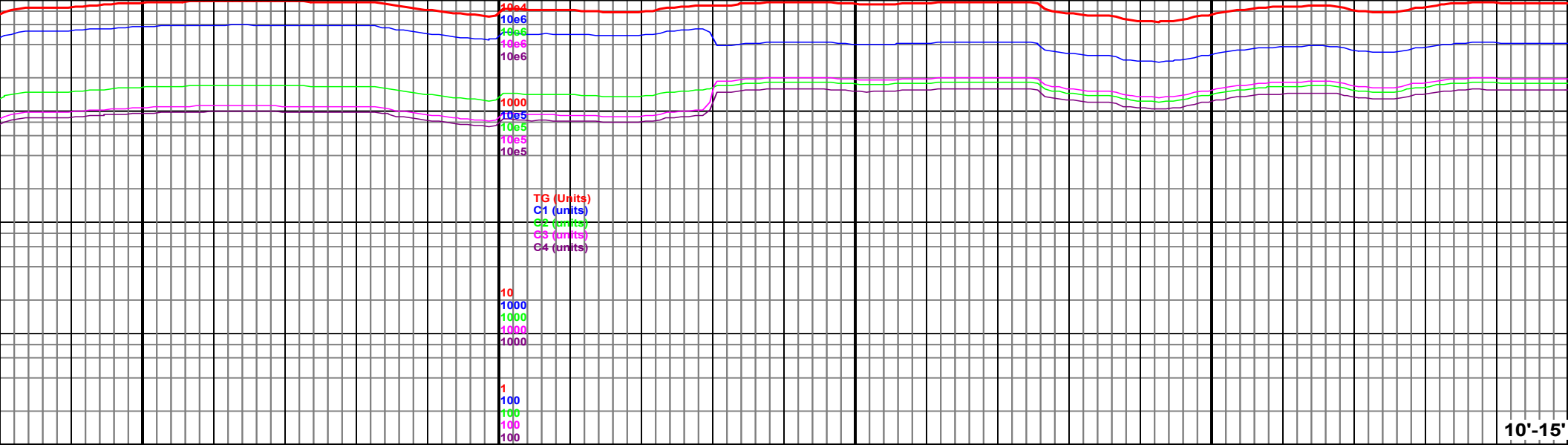


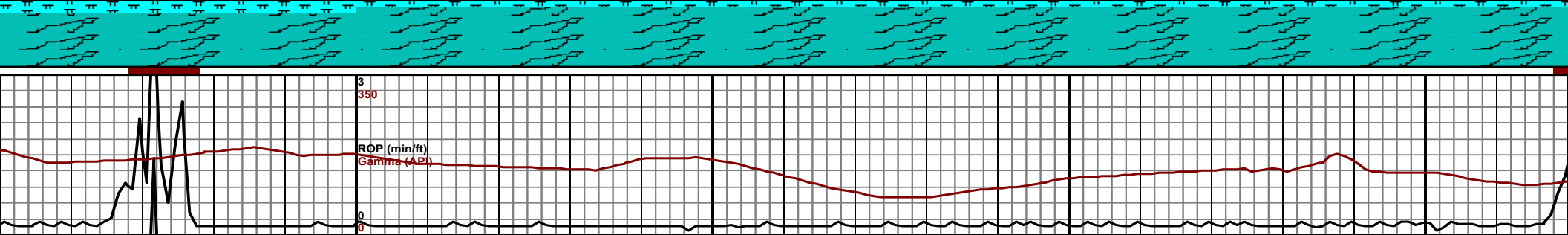
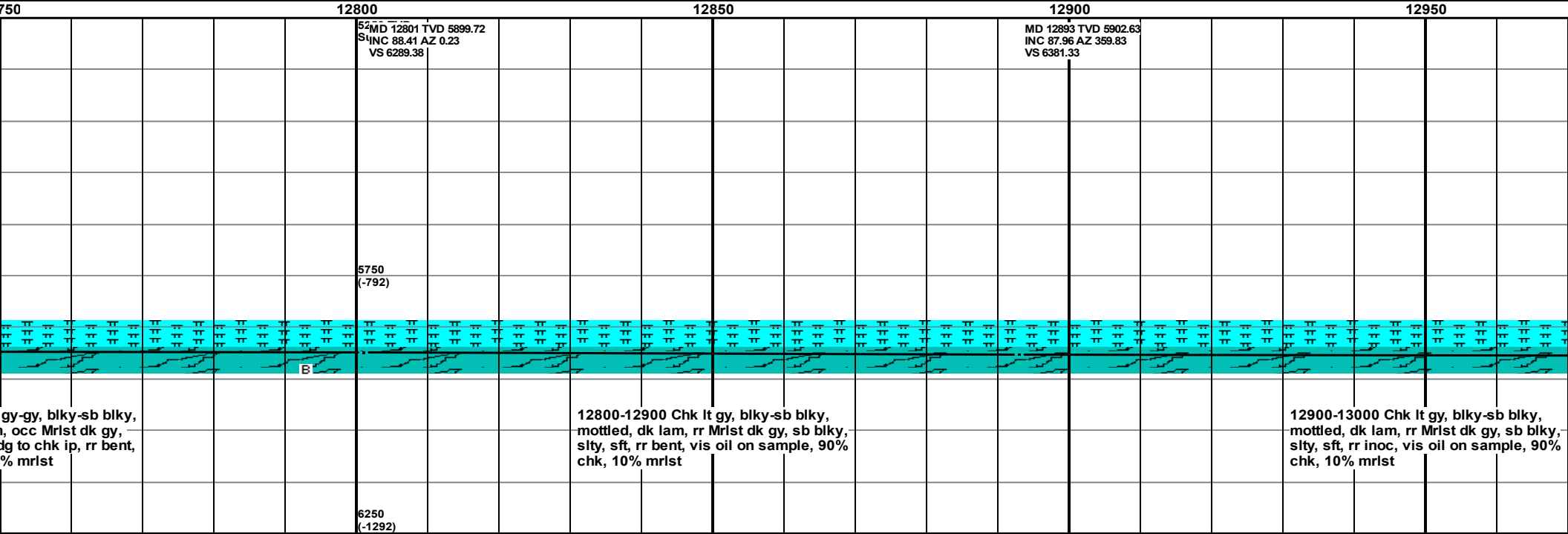
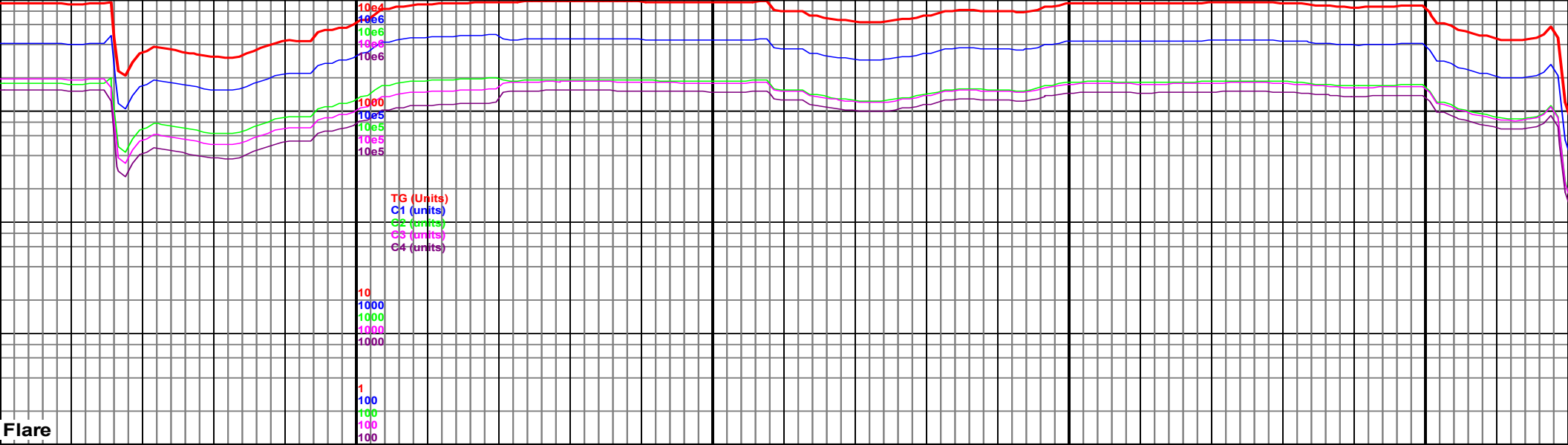


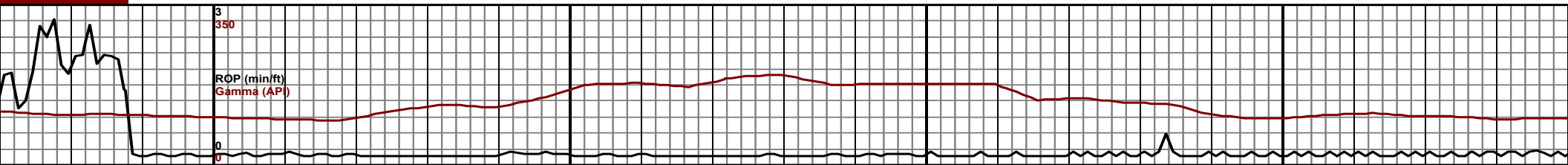
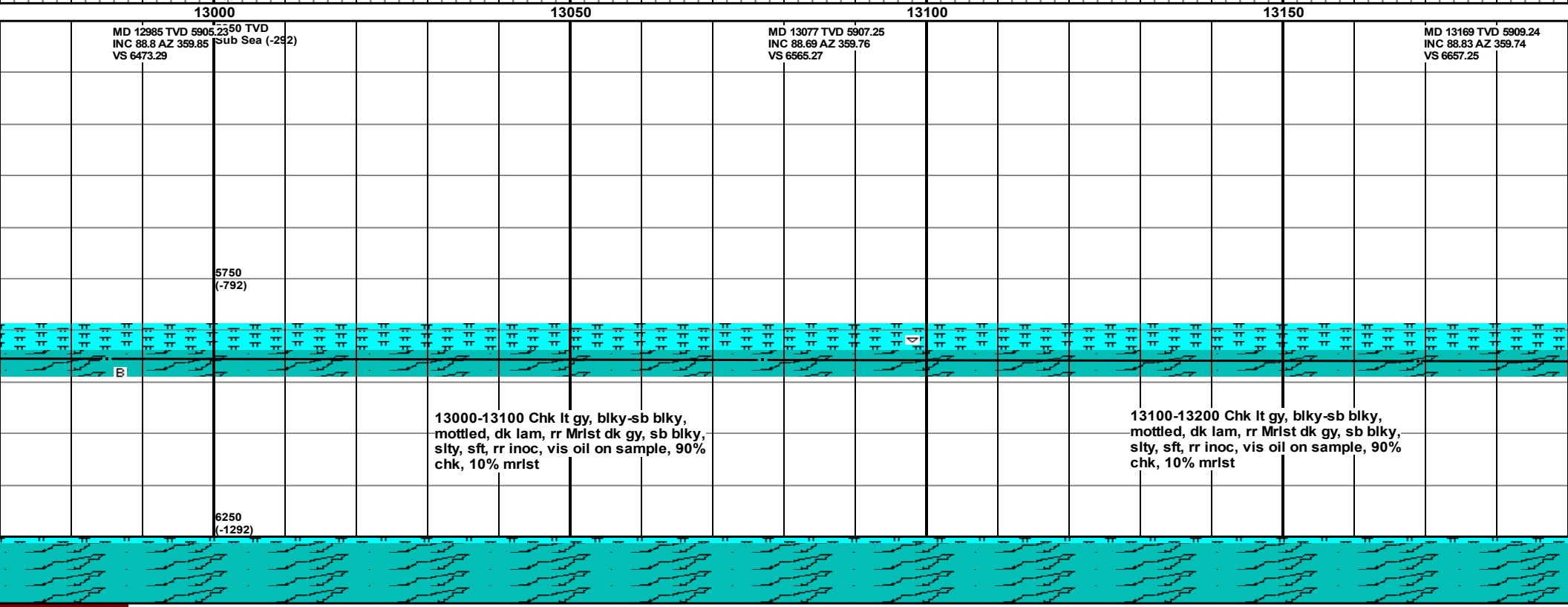
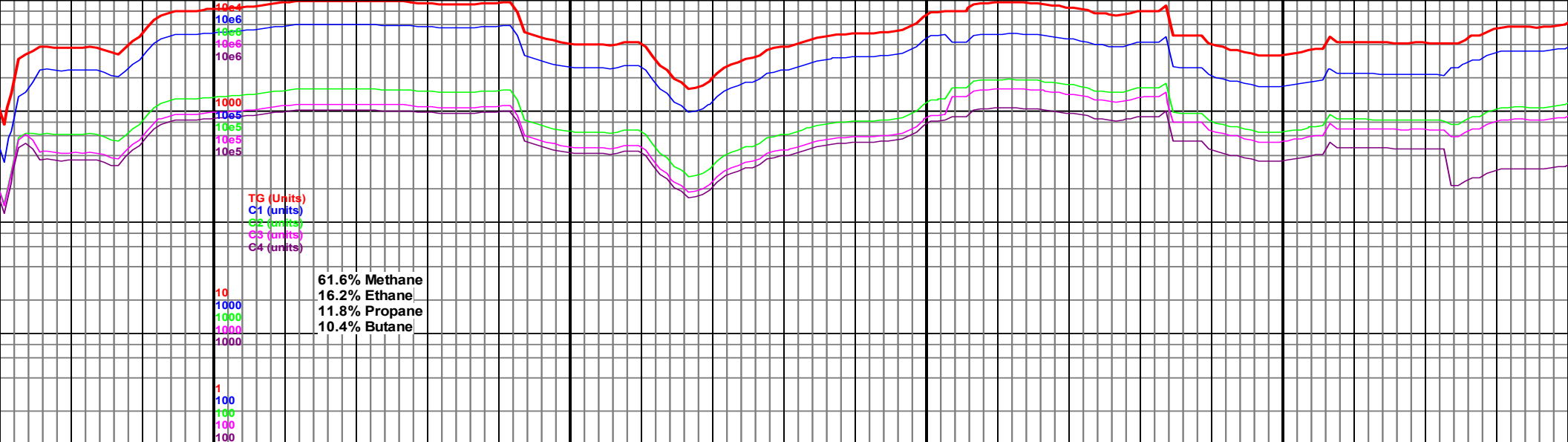


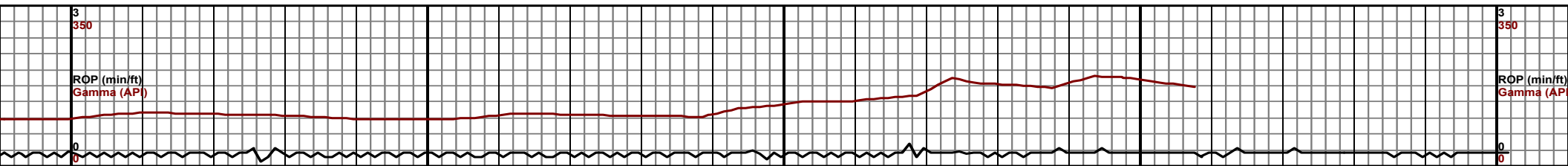
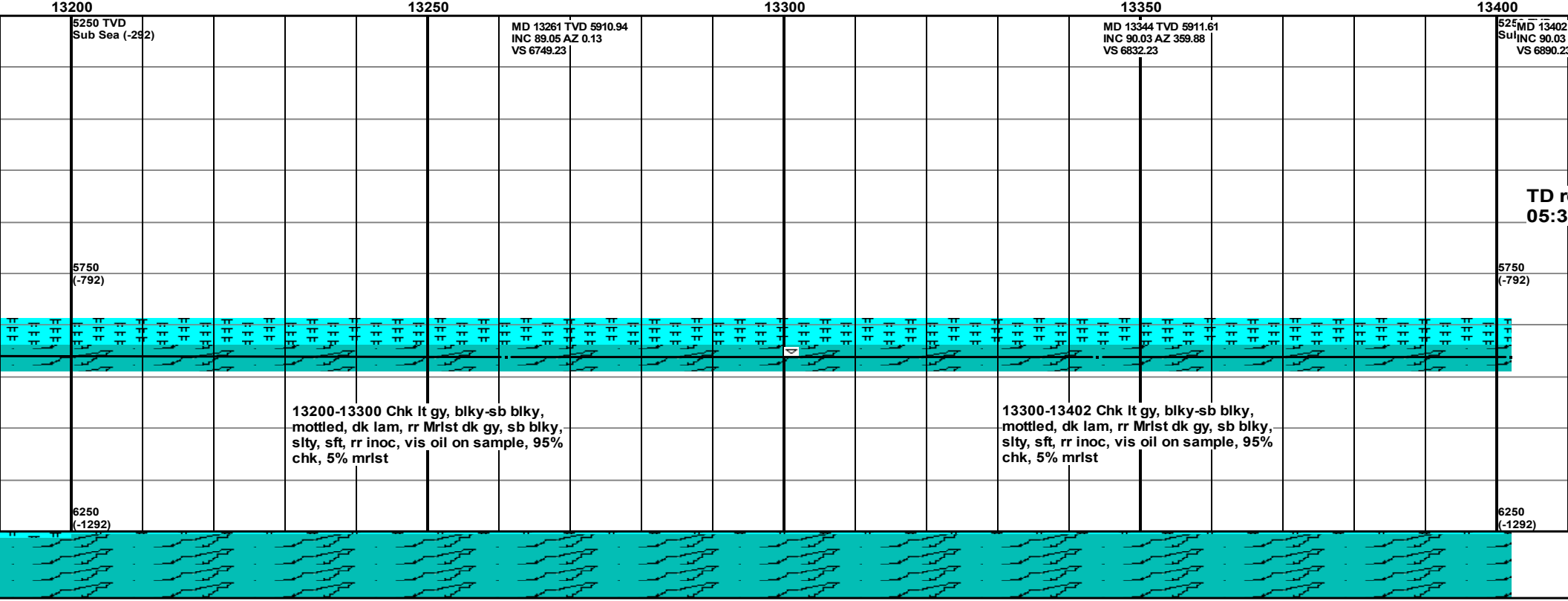
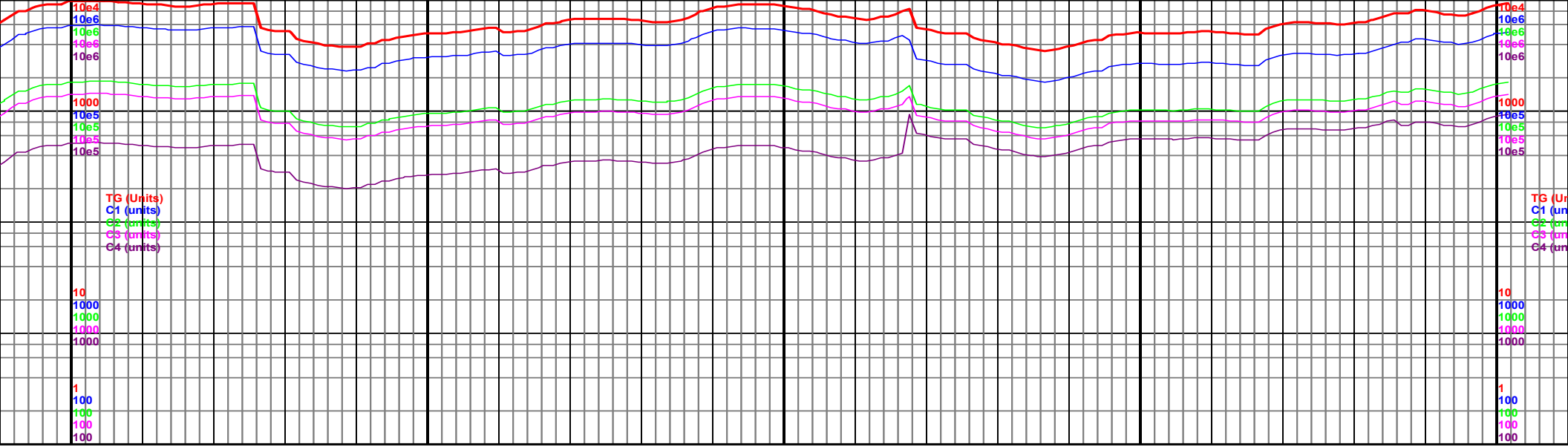














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| TVD 5911.58<br>AZ 359.88<br>3 |  |  |  |
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