



**Scale 1:200 Imperial  
Measured Depth Log**

**Well Name:** NRC 29C-4HZ  
**Location:** Weld County, CO.  
**License Number:** 05123386100000  
**Spud Date:** 2/14/13  
**Surface Coordinates:** 350'FSL, 1920'FWL, Sec 9, T1N-R67W  
**Region:** DJ Basin  
**Drilling Completed:** 3/30/14  
**Bottom Hole Coordinates:** 460'FNL, 1260'FWL, Sec 4, T1N-R67W  
**Ground Elevation (ft):** 5053' **K.B. Elevation (ft):** 5069'  
**Logged Interval (ft):** 6600' **To:** 17344 **Total Depth (ft):** 17344  
**Formation:** Codell  
**Type of Drilling Fluid:** Water Base Vertical / Oil Base Horizontal

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

**OPERATOR**

**Company:** Anadarko Petroleum Corporation  
**Address:** Granite Tower  
1099 18th St., Suite 1800  
Denver, CO 80202

## GEOLOGIST

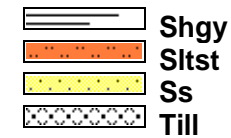
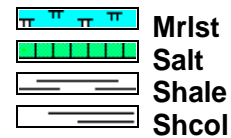
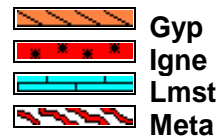
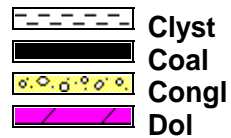
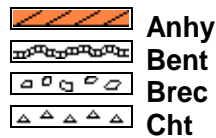
Name: Scott Crozier / Ben Thompson  
Company: Great Divide Consulting, Inc.  
Address: P.O. Box 630263  
Highlands Ranch, CO 80163

## Cores

## DSTs

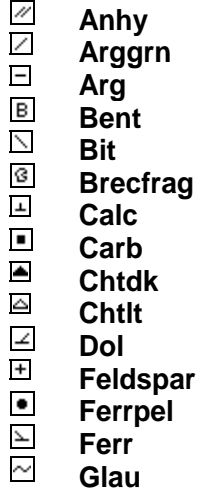
## Comments

## ROCK TYPES

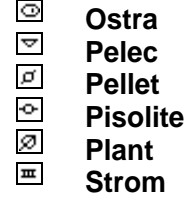
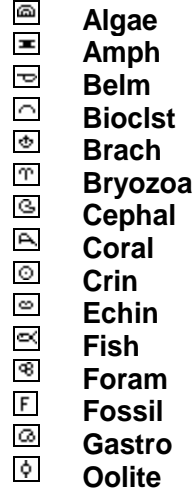


## ACCESSORIES

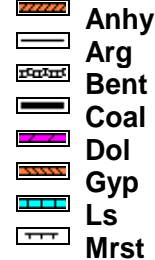
### MINERAL



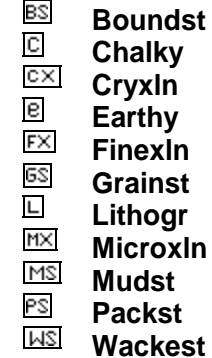
### FOSSIL



### STRINGER










### TEXTURE







OTHER SYMBOLS

POROSITY

 Earthy  
 Fenest  
 Fracture  
 Inter  
 Moldic  
 Organic  
 Pinpoint

 Vuggy

**SORTING**  
 Well  
 Moderate  
 Poor

**ROUNDING**  
 Rounded  
 Subrnd  
 Subang  
 Angular

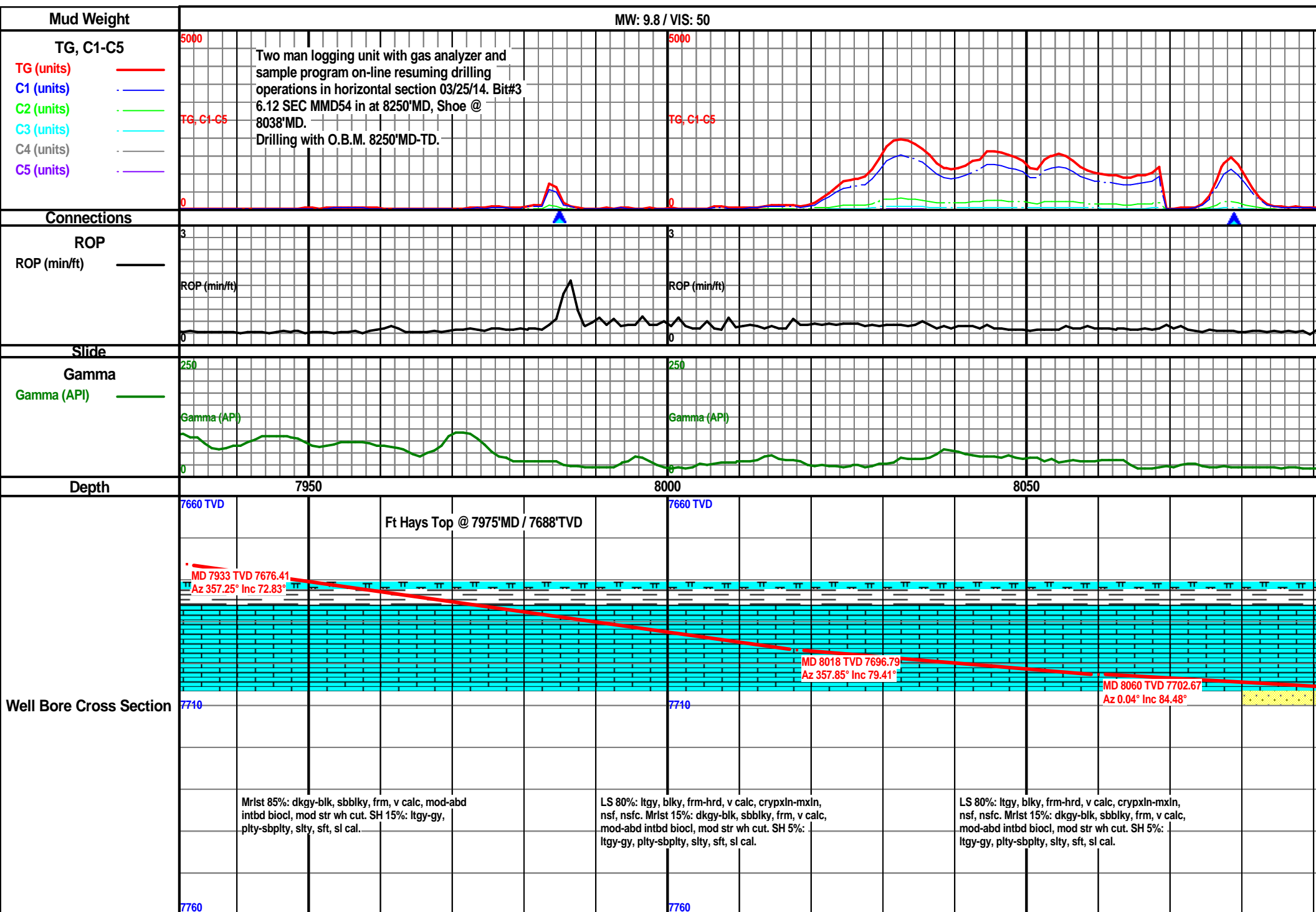
**OIL SHOW**  
 Even

 Spotted  
 Ques  
 Dead

**INTERVAL**  
 Core  
 Dst

EVENT

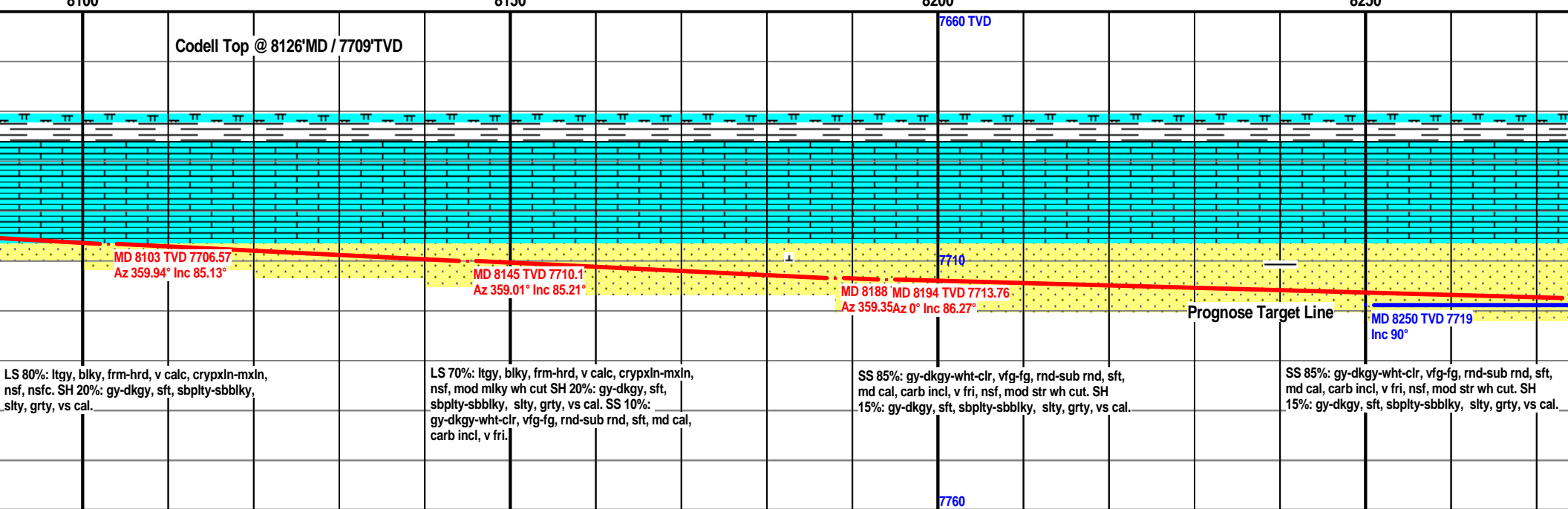
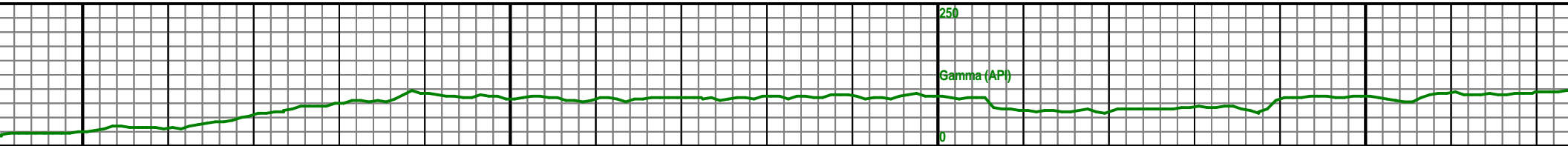
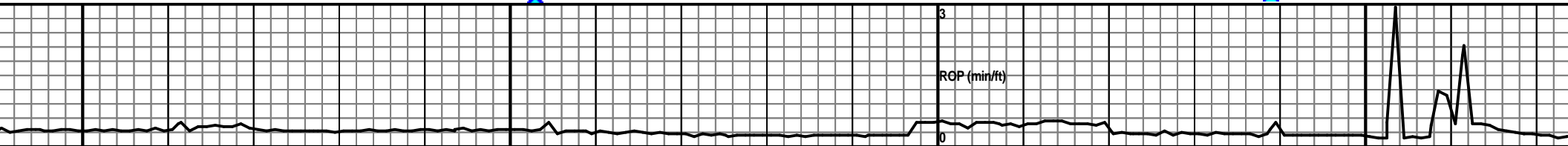
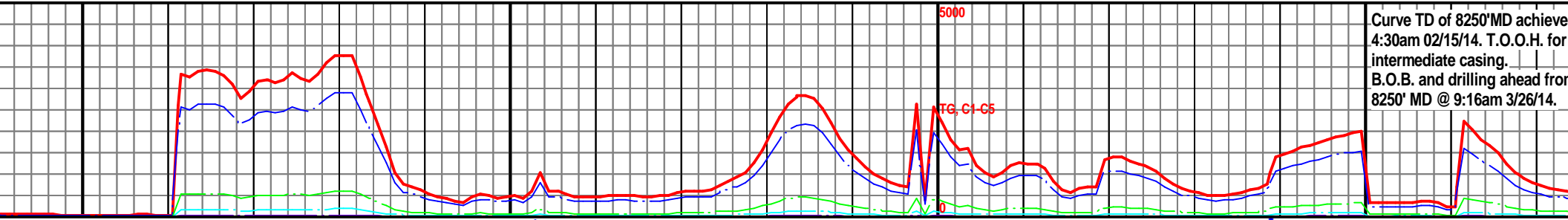
 Rft  
 Connection



MW: 9.8 / VIS: 50

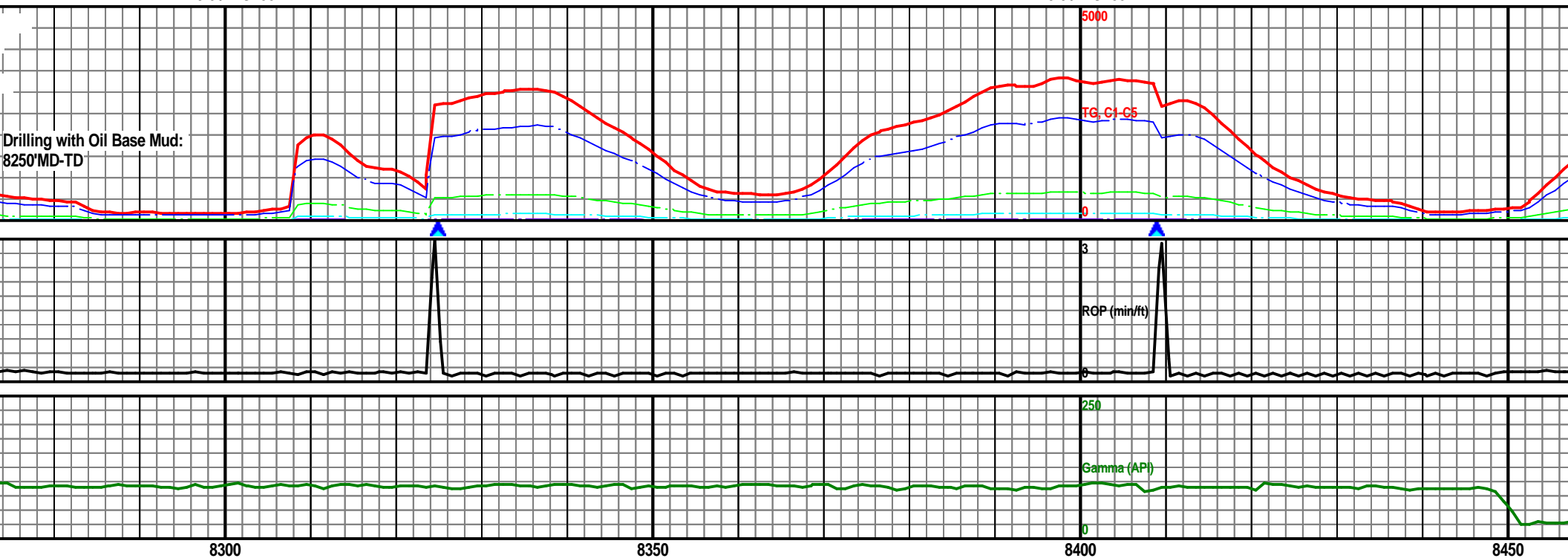
MW: 9.8 / VIS: 50

Curve TD of 8250' MD achieve  
4:30am 02/15/14. T.O.O.H. for  
intermediate casing.  
B.O.B. and drilling ahead from  
8250' MD @ 9:16am 3/26/14.



MW: 9.0 / VIS: 55

MW: 9.0 / VIS: 55

Drilling with Oil Base Mud:  
8250' MD-TD

8300

8350

8400

8450

Drilling with O.B.M. (sample quality moderate)

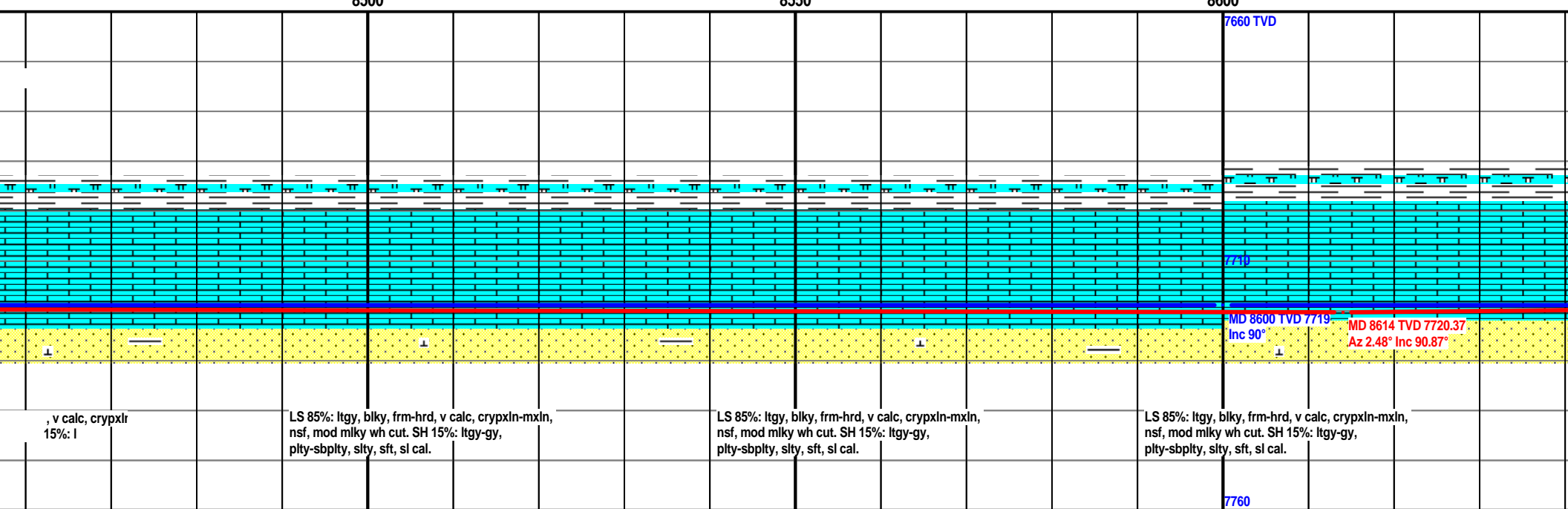
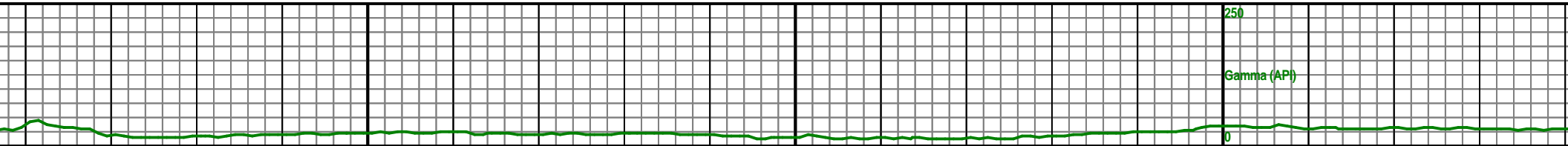
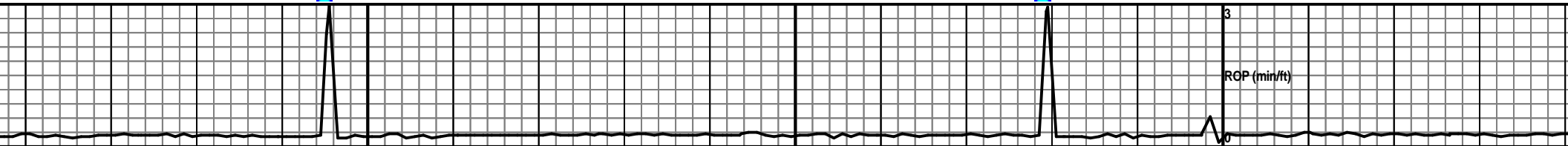
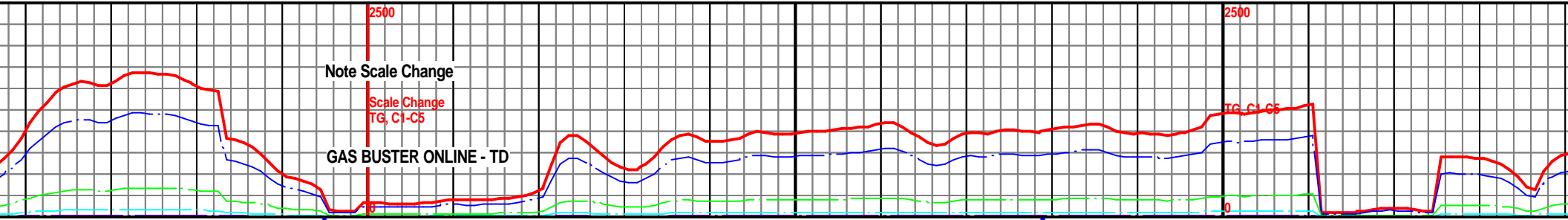
Fault Codell

MD 8274 TVD 7717.45  
Az 1.08° Inc 88.45°MD 8359 TVD 7719.53  
Az 1.1° Inc 88.75°MD 8400 TVD 7719  
Inc 90°SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.LS 85%: ltgy, blkly, frm-hr  
nsf, mod milky wh cut. SH  
ply-sbply, slty, sft, sl cal

7760

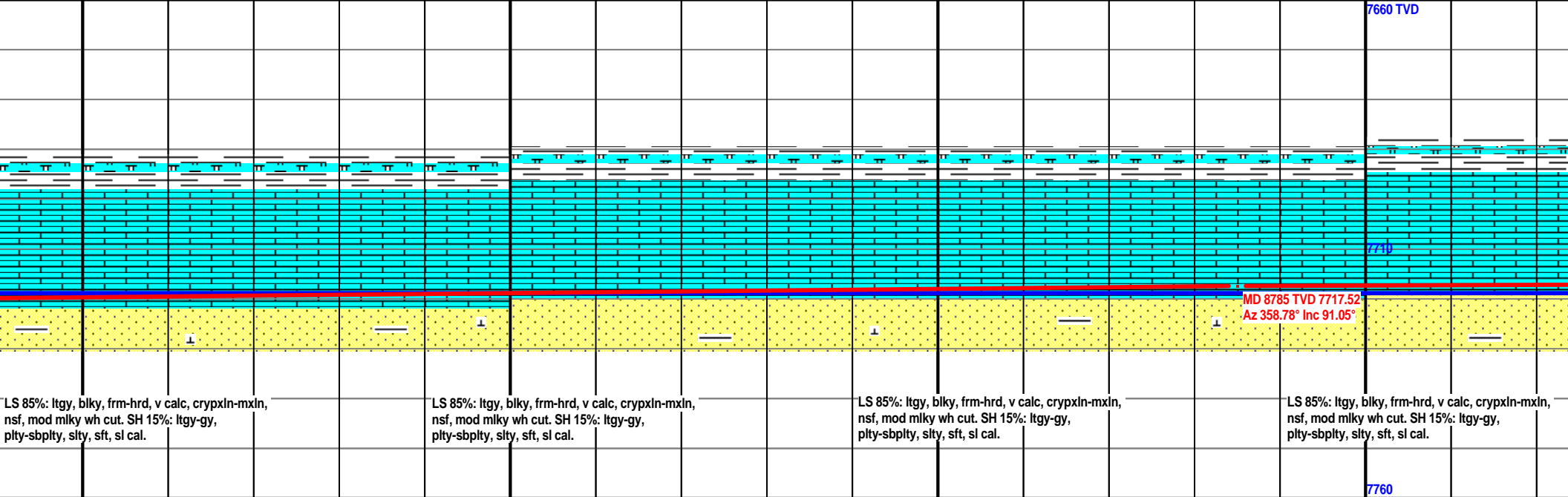
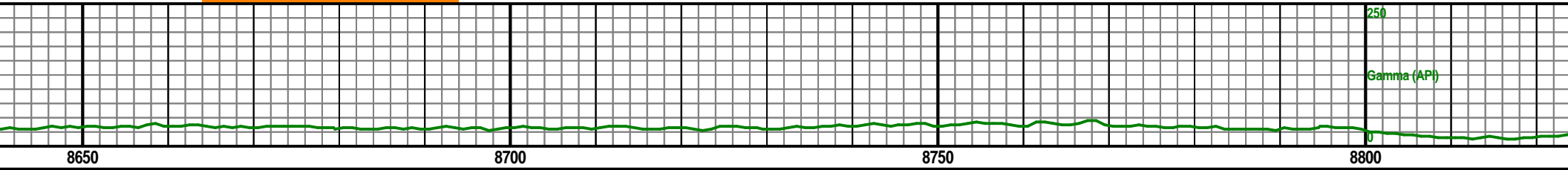
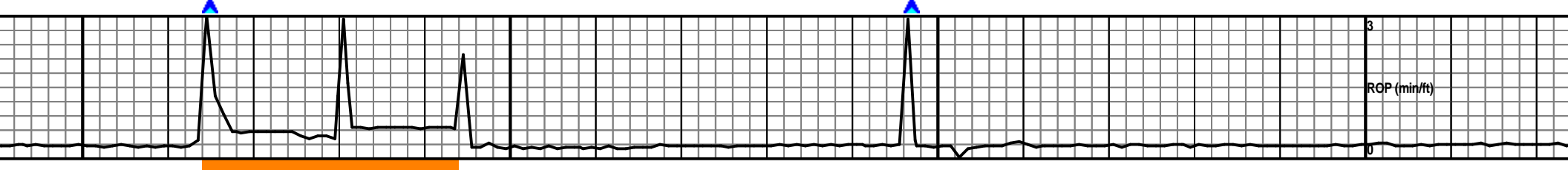
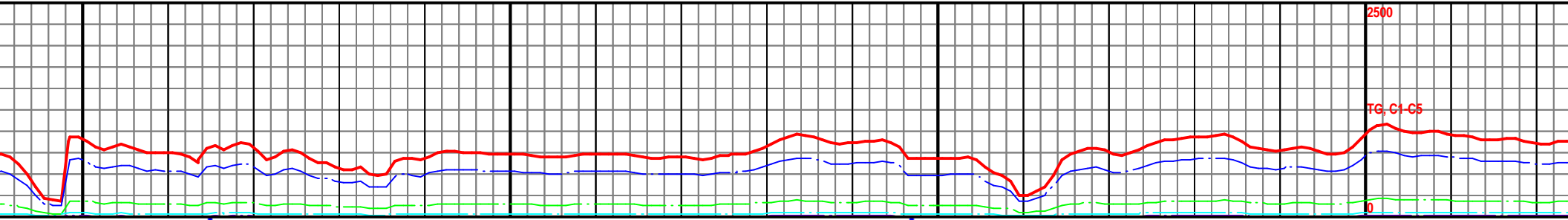
MW: 9.0 / VIS: 55

MW: 9.0 / VIS: 55



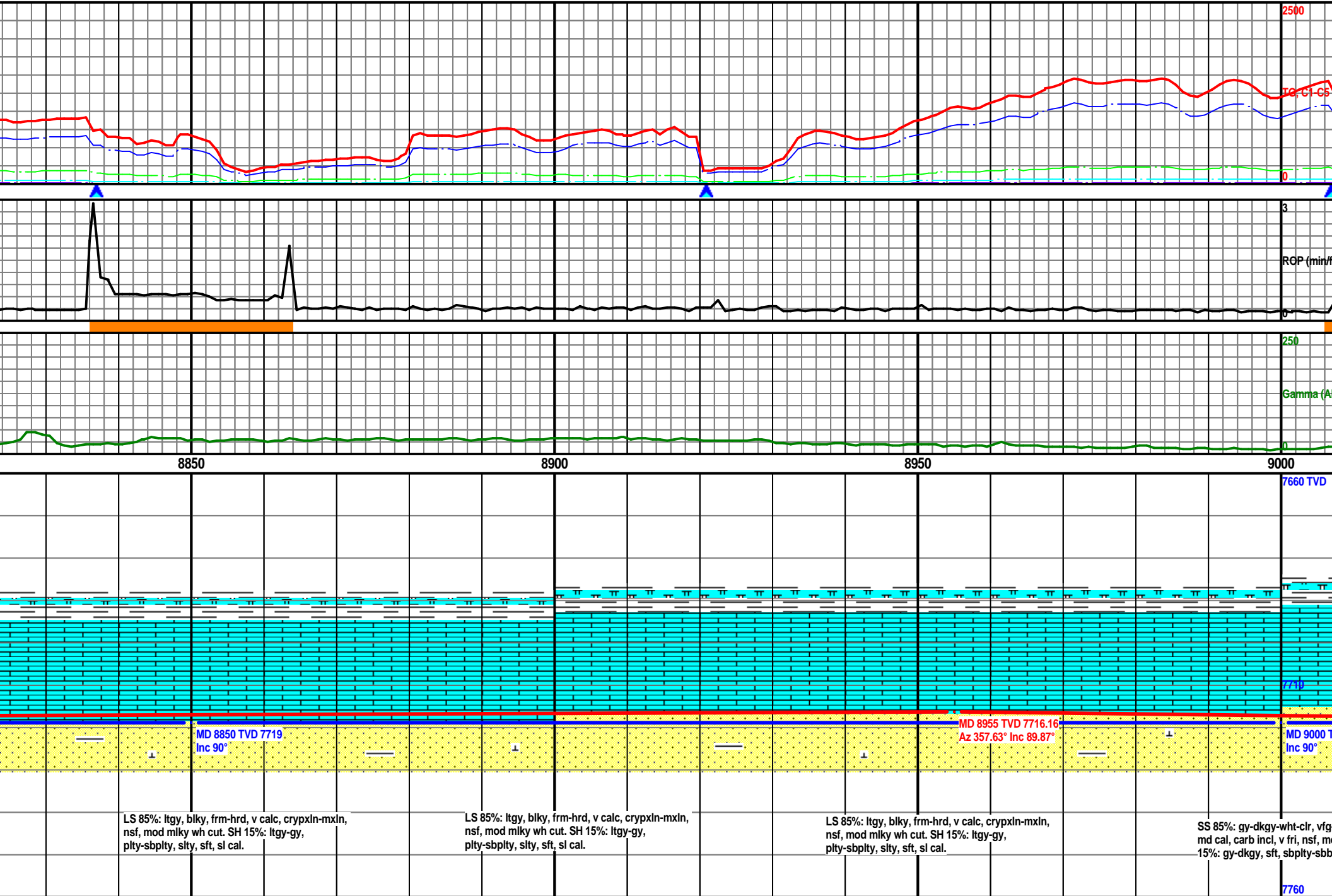
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MW: 8.9 / VIS: 55

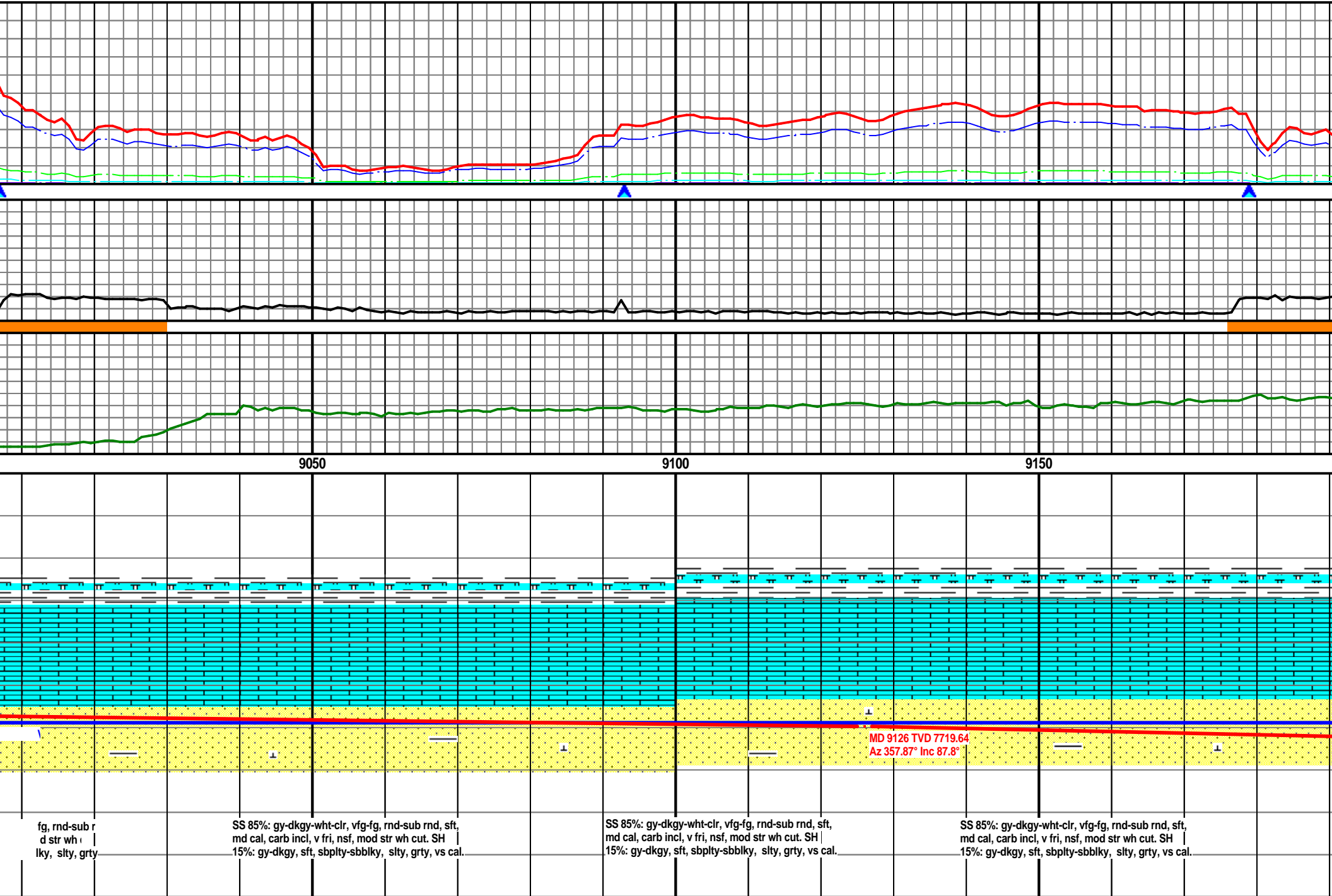




MW: 9.0 / VIS: 52

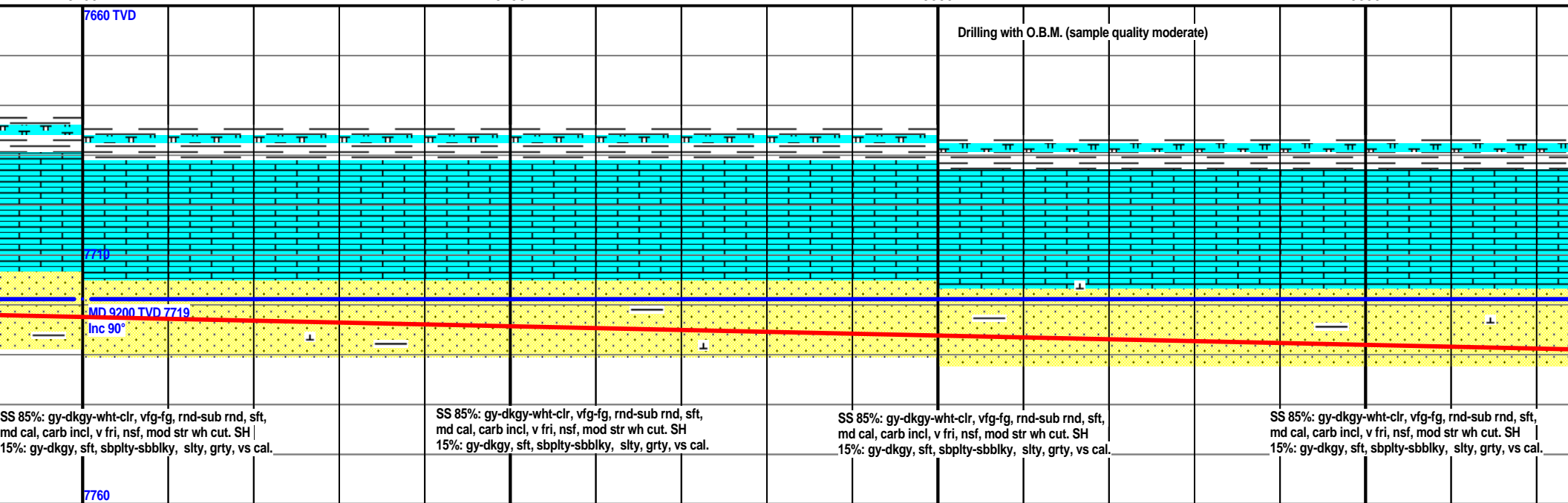
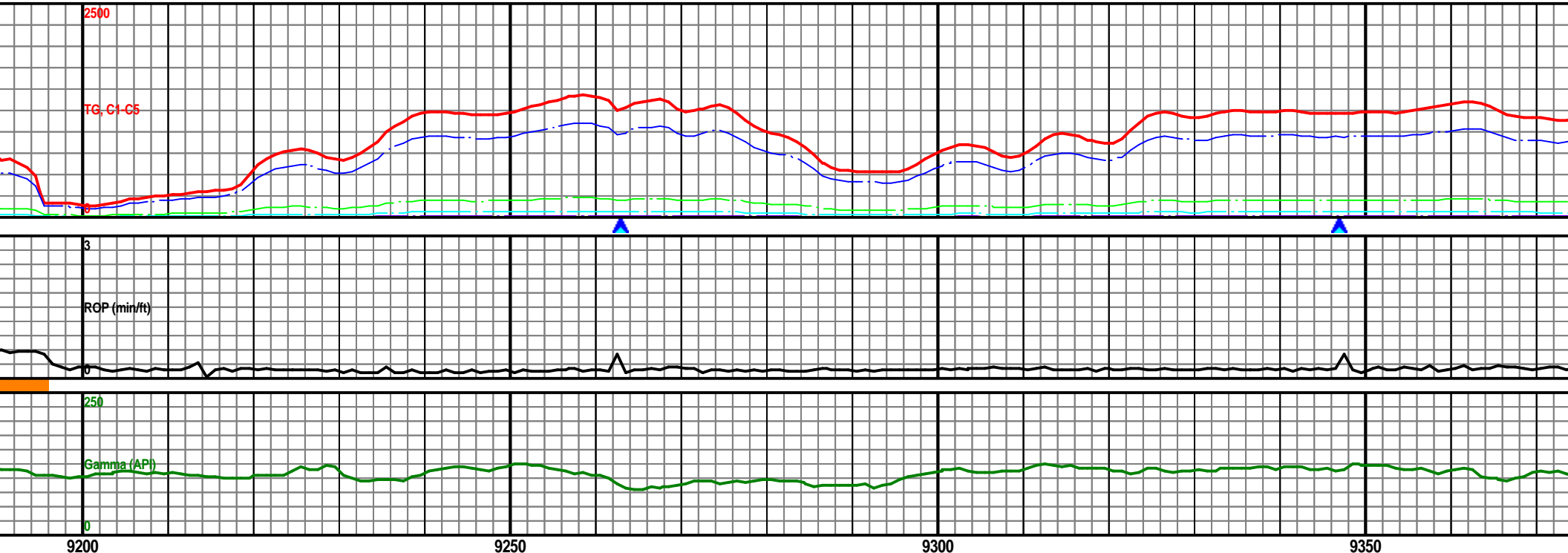


MW: 9.0 / VIS: 52



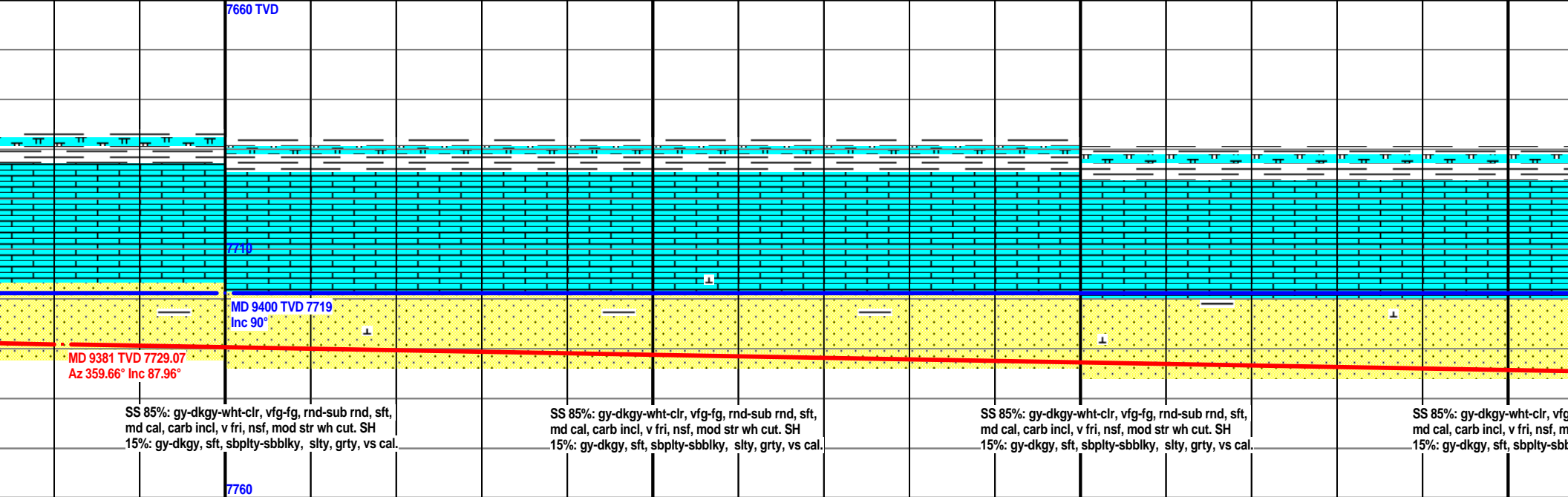
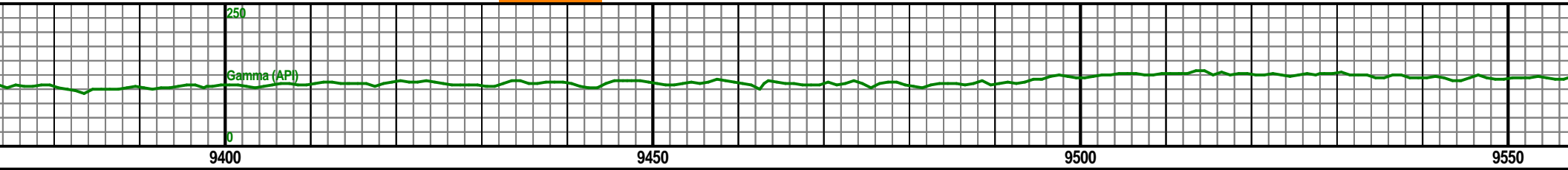
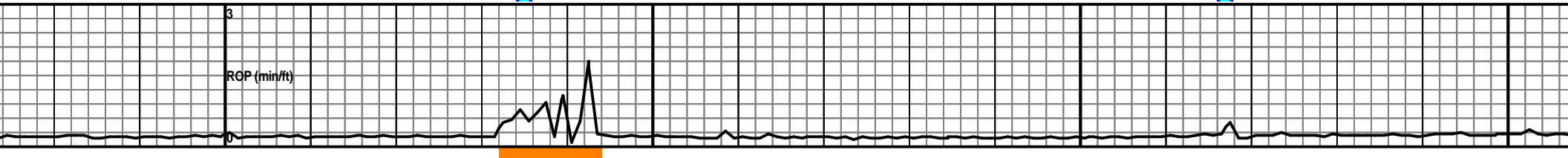
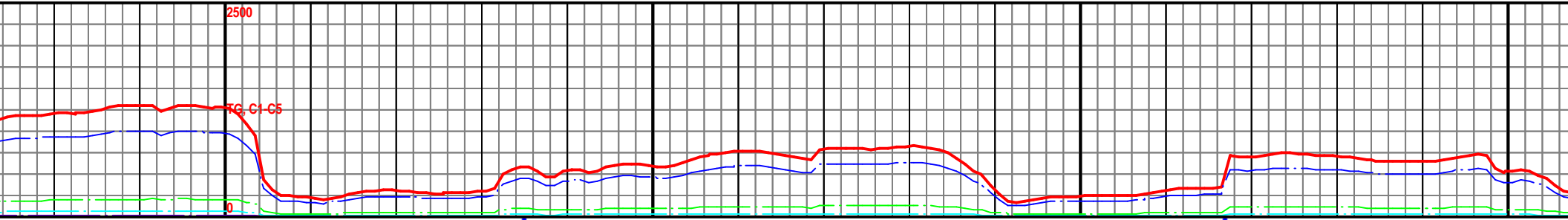
MW: 9.0 / VIS: 52

MW: 9.1 / VIS: 58



MW: 9.1 / VIS: 58

MW: 9.1 / VIS: 58



MW: 9.1 / VIS: 58

MW: 9.1 / VIS: 58

2500

TG, C1-C5

0

3

RGP (min/ft)

250

Gamma (API)

0

9600

9650

9700

7660 TVD

7680 TVD

7710

MD 9600 TVD 7719  
Inc 90°

Scale Change  
7730

MD 9729 TVD 7730  
Az 1.17° Inc 88.5°

7760

7780

-fg, rnd-sub r  
od str wh i  
lky, slty, grty

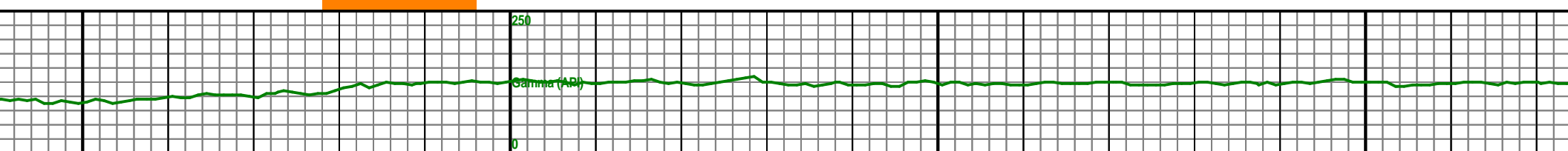
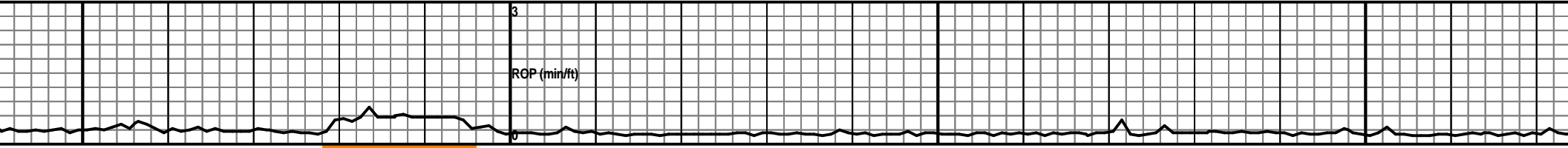
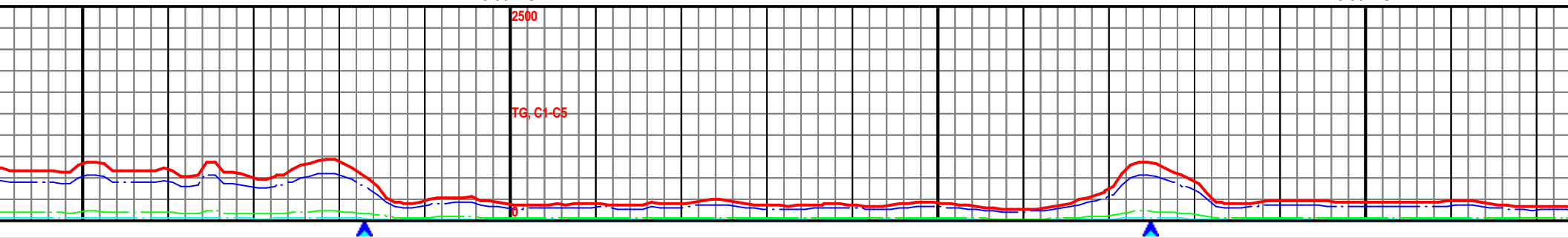
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 60%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
40%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

MW: 9.0 / VIS: 71

MW: 9.0 / VIS: 71

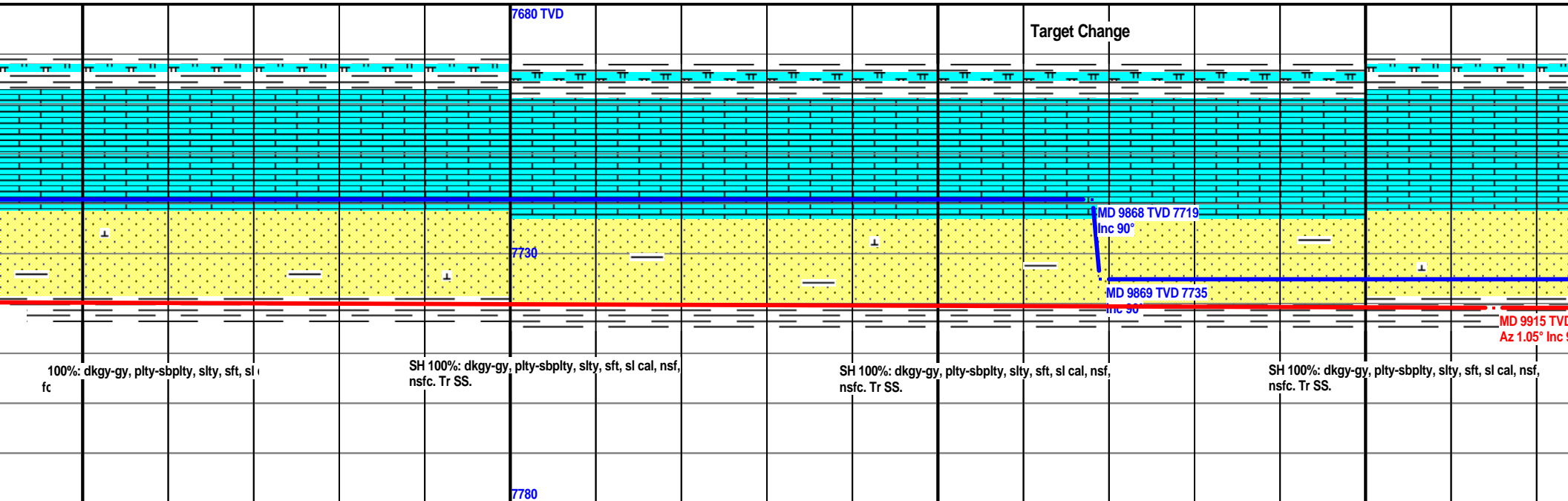


9750

9800

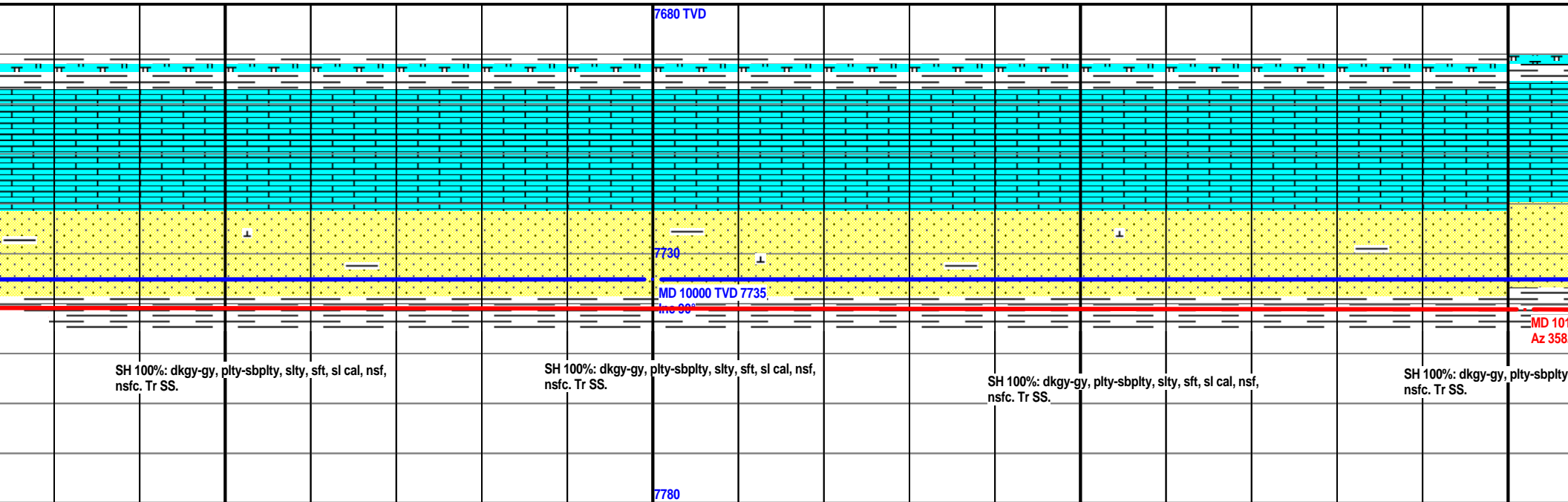
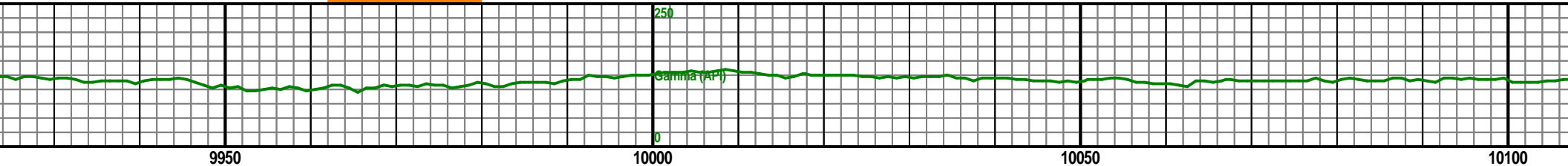
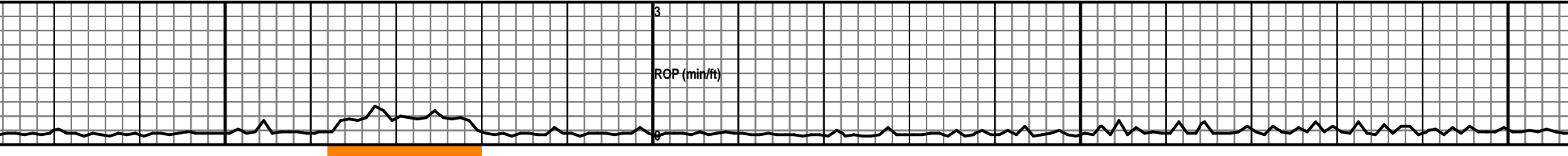
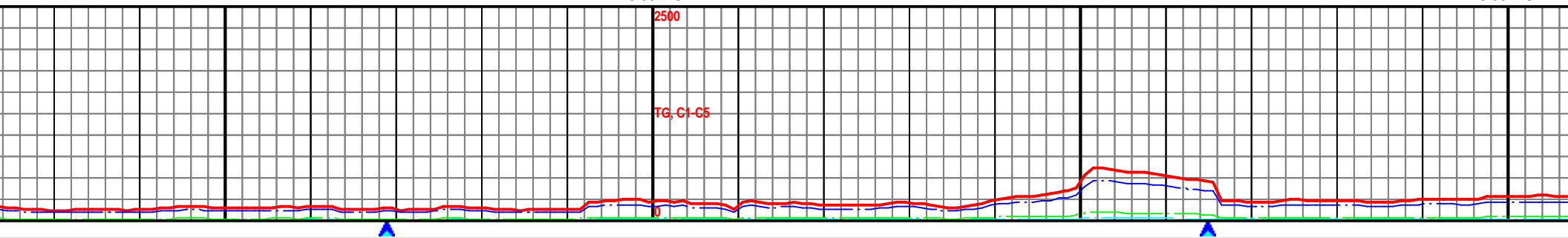
9850

9900

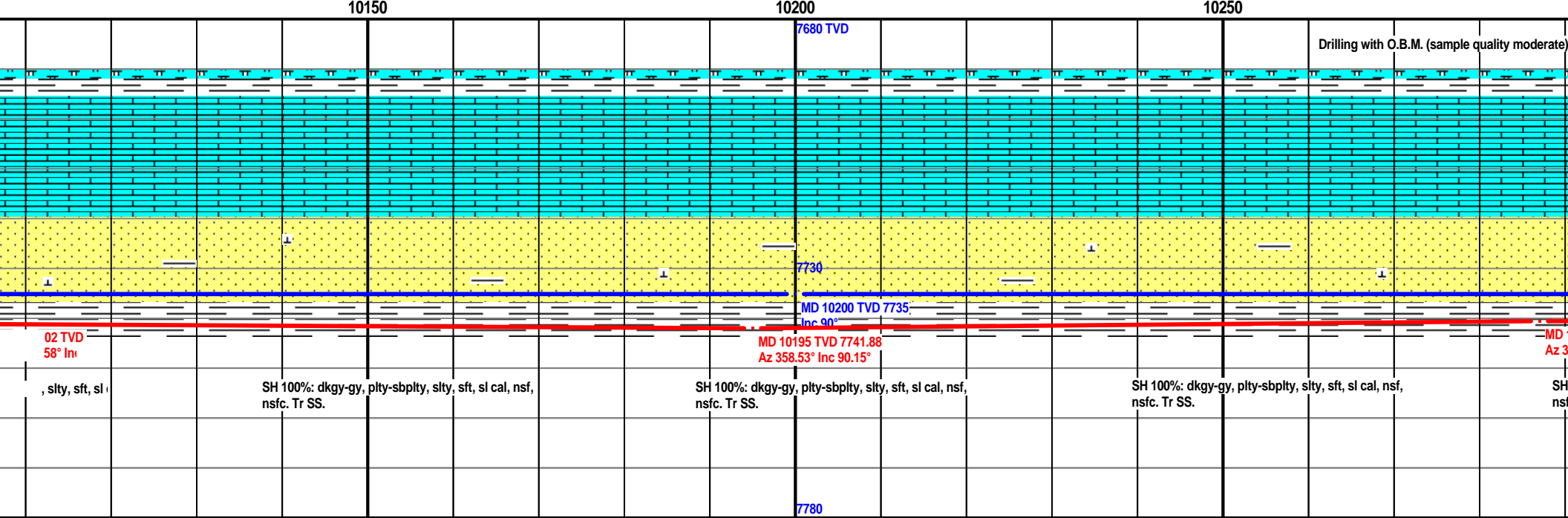
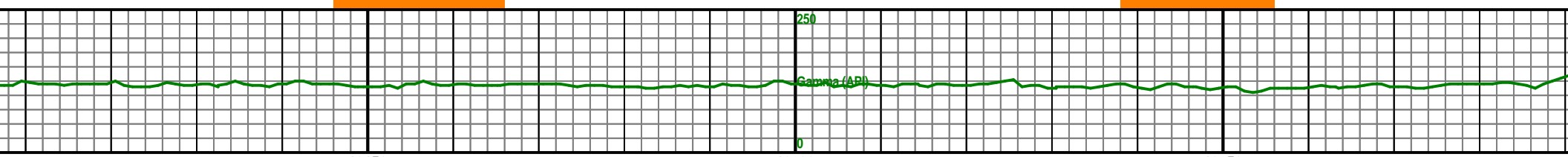
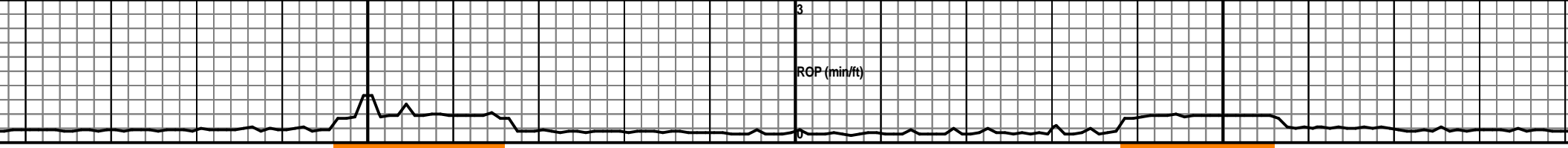
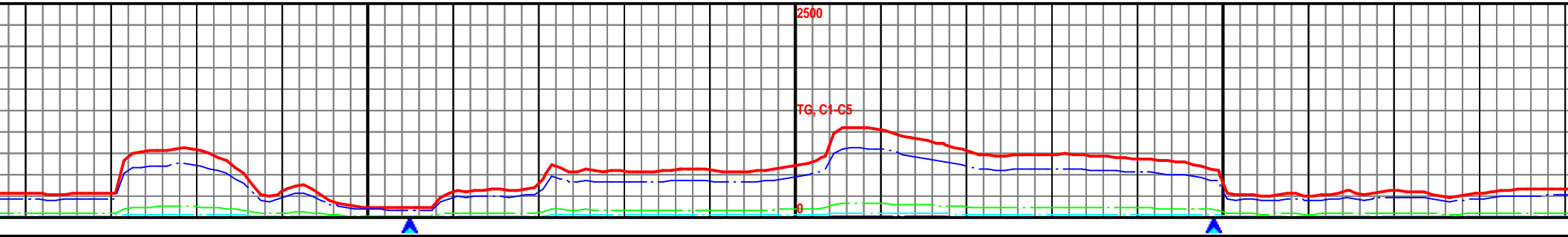


MW: 9.0 / VIS: 71

MW: 9.0 / VIS: 71



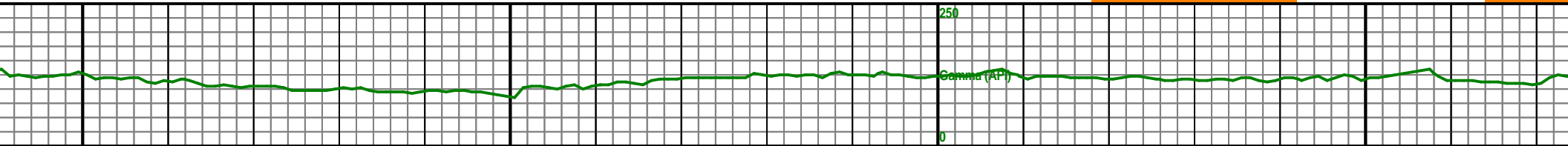
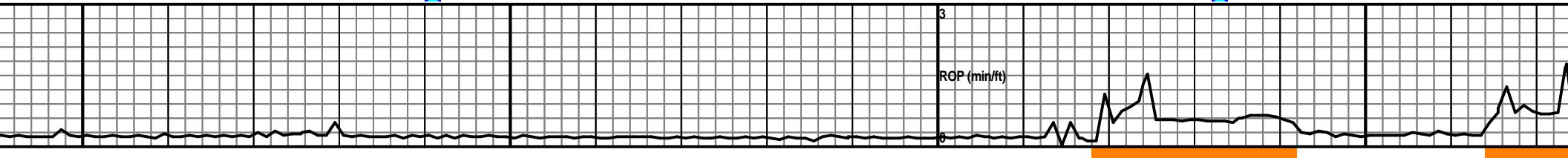
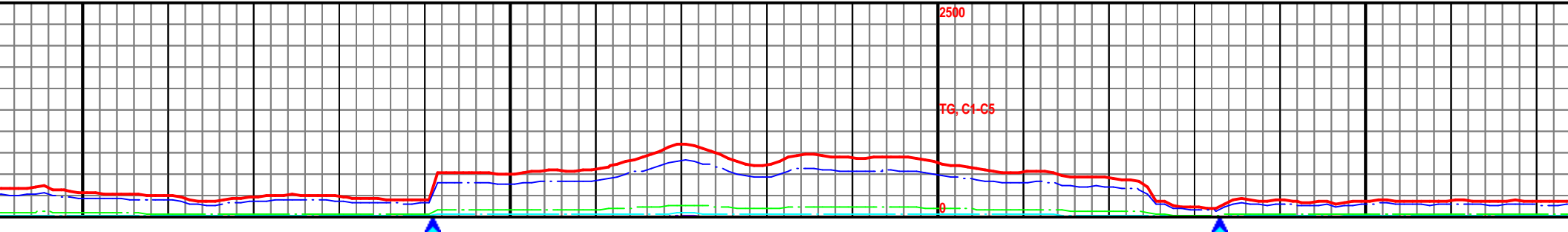
**MW: 9.0 / VIS: 52**



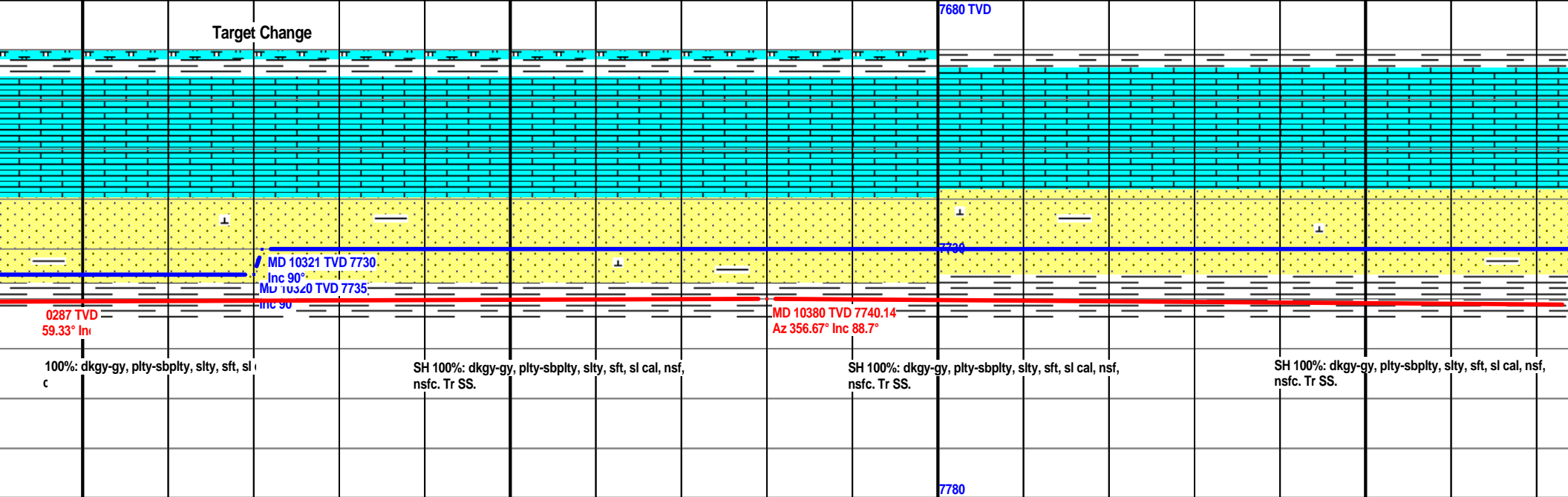


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MW: 9.0 / VIS: 52

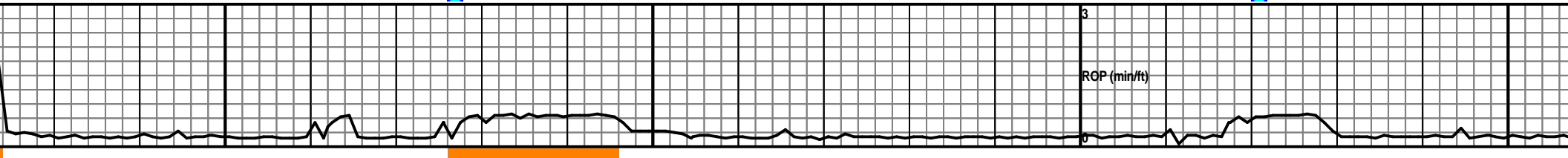
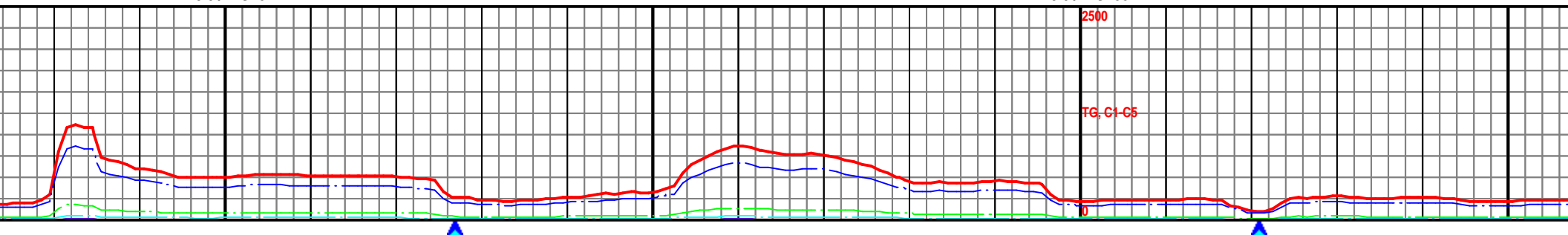


10300 10350 10400 10450



MW: 9.0 / VIS: 52

MW: 9.0 / VIS: 55

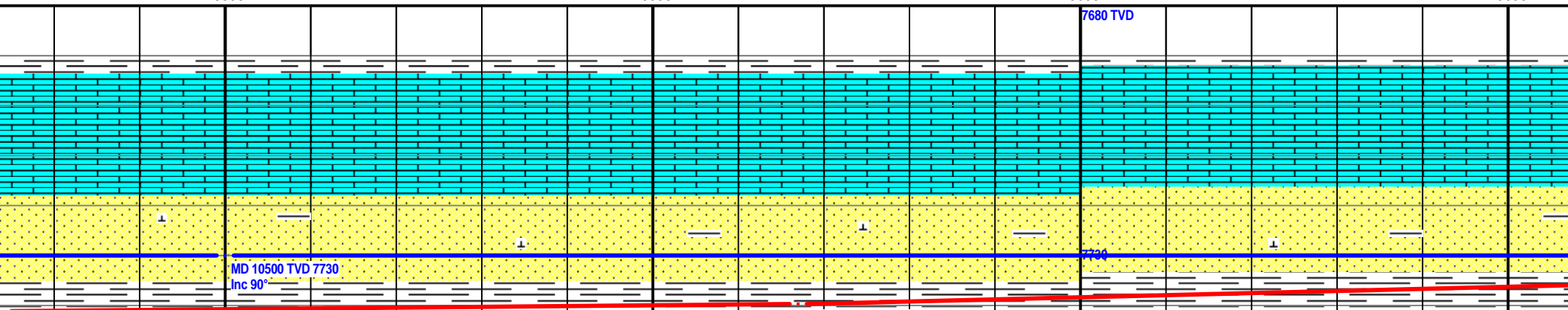


10500

10550

10600

10650



7680 TVD

7730

MD 10474 TVD 7741.16  
Az 357.56° Inc 90.06°

MD 10500 TVD 7730  
Inc 90°

MD 10567 TVD 7739.59  
Az 358.23° Inc 91.87°

SH 100%: dkgy-gy, plty-sbplty, slty, sft, sl cal, nsf, nsfc. Tr SS.

SH 100%: dkgy-gy, plty-sbplty, slty, sft, sl cal, nsf, nsfc. Tr SS.

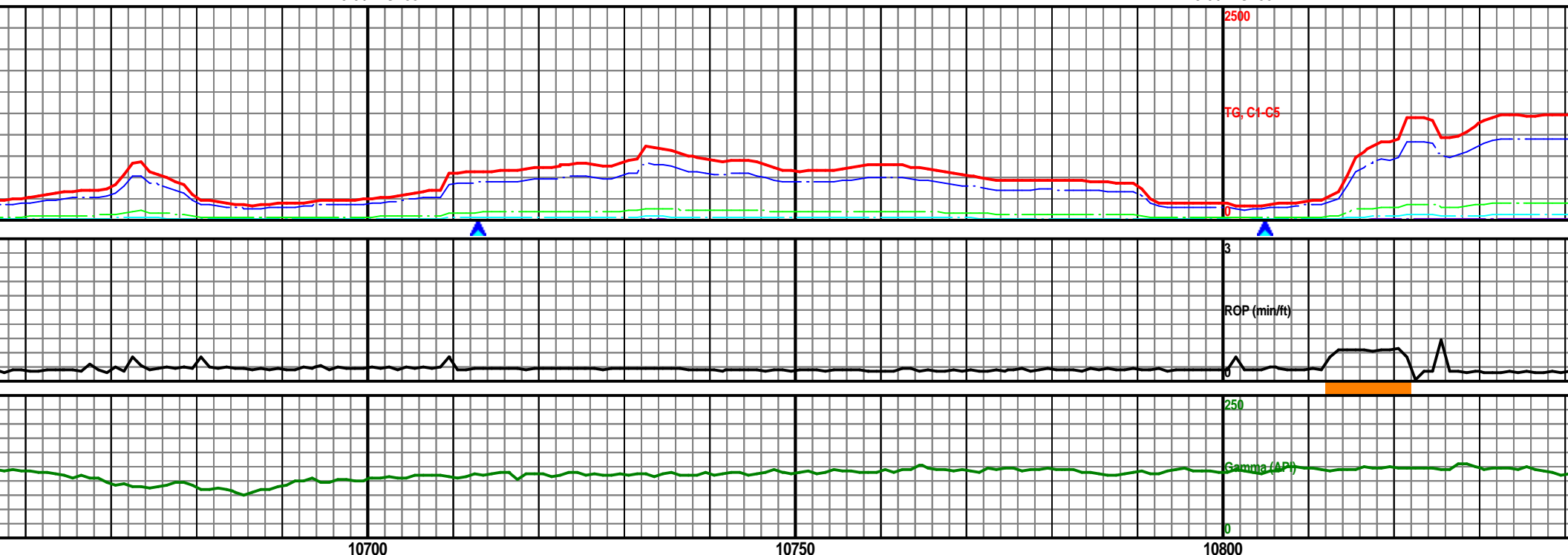
SH 100%: dkgy-gy, plty-sbplty, slty, sft, sl cal, nsf, nsfc.

SH 100%: dkgy-gy, plty-sbplty, slty, sft, sl cal, nsf, nsfc.

7780

MW: 9.0 / VIS: 55

MW: 9.0 / VIS: 55

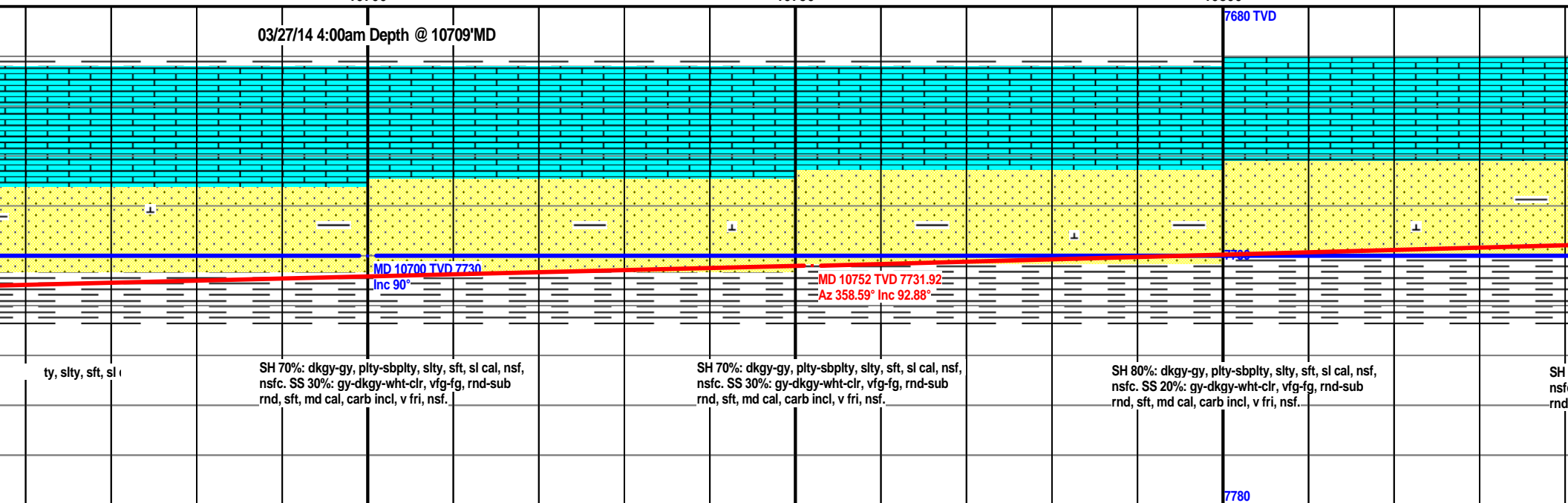


10700

10750

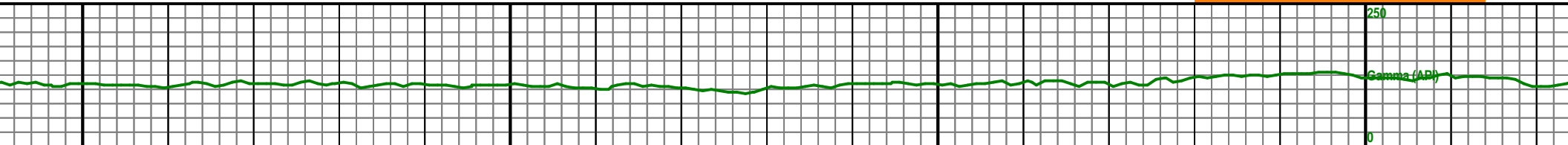
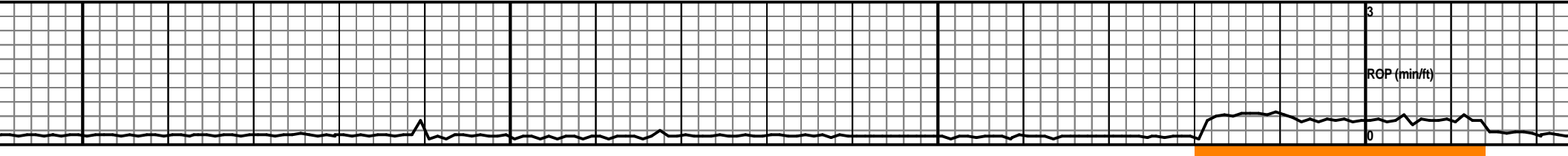
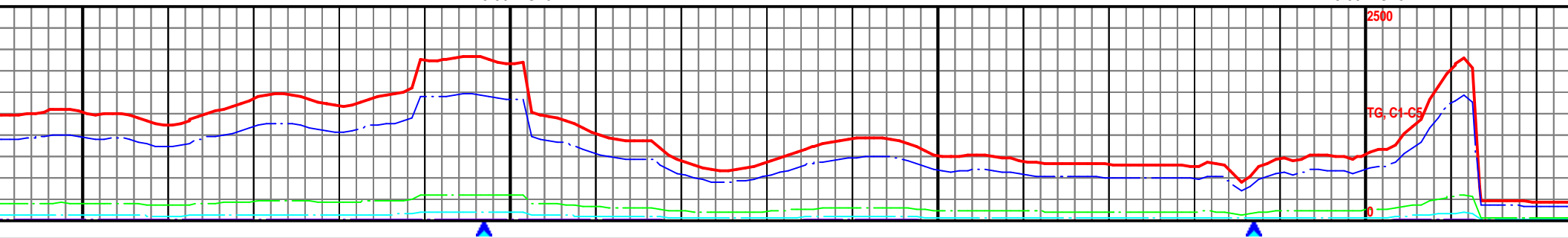
10800

03/27/14 4:00am Depth @ 10709'MD



MW: 9.0 / VIS: 54

MW: 9.0 / VIS: 54

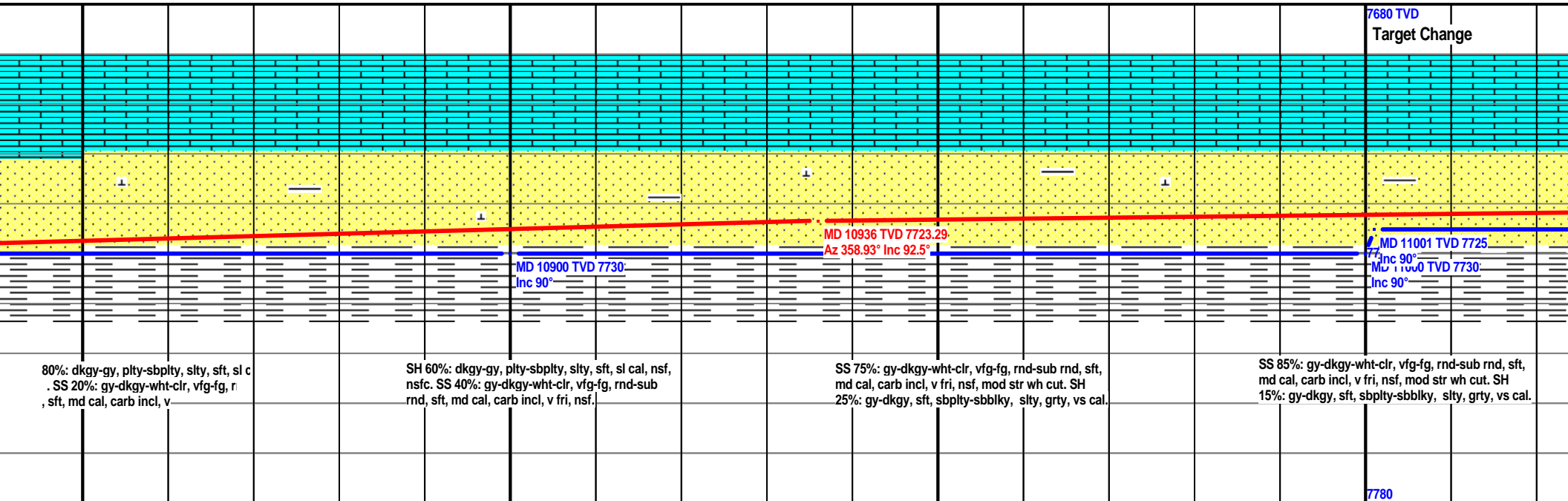


10850

10900

10950

11000



MW: 9.0 / VIS: 54

MW: 9.0 / VIS: 54

Note Scale Change

Scale Change  
TG, C1-C5

TG, C1-C5

3

RGP (min/h)

250

Gamma (A)

0

11050

11100

11150

11200

7680 TVD

MD 11028 TVD 7721.8

Az 358.96° Inc 89.35°

MD 11200

Inc 90°

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

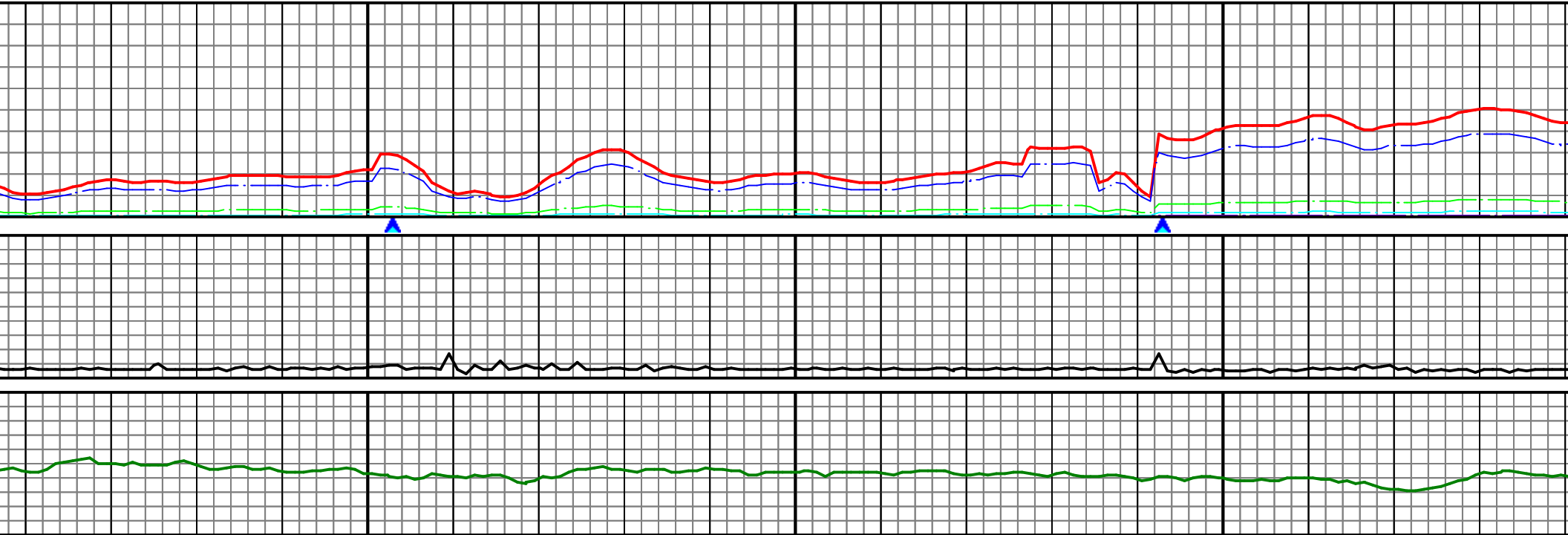
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

7780

MW: 9.0 / VIS: 54

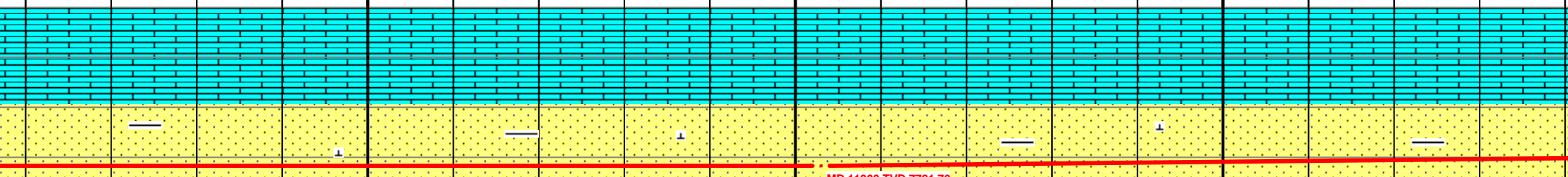


11250

11300

11350

Drilling with O.B.M. (sample quality moderate)



MD 11303 TVD 7721.76  
Az 359.14° Inc 90.67°

fg-fg, rnd-sub r  
mod str wh  
bblky, slty, grty

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

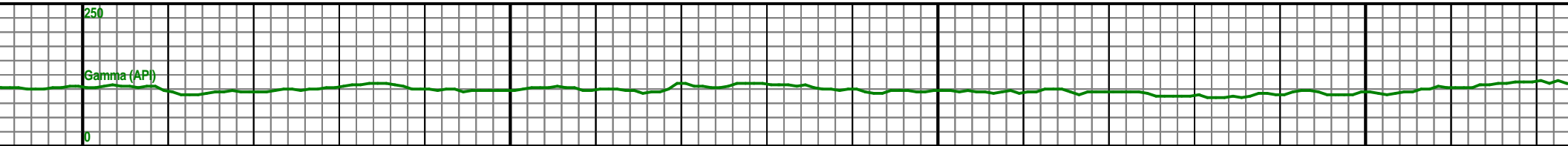
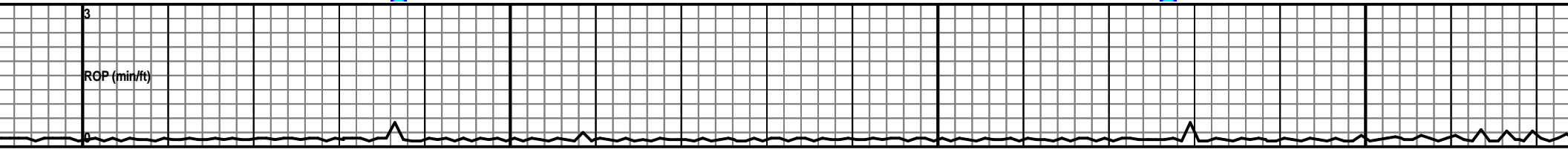
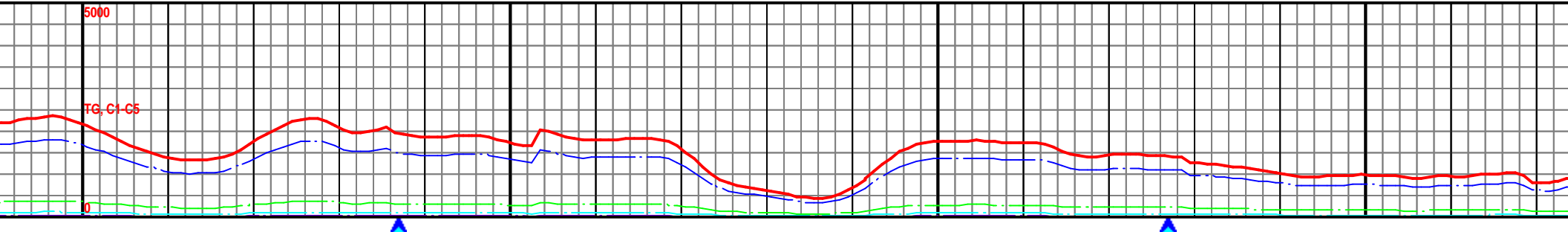
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

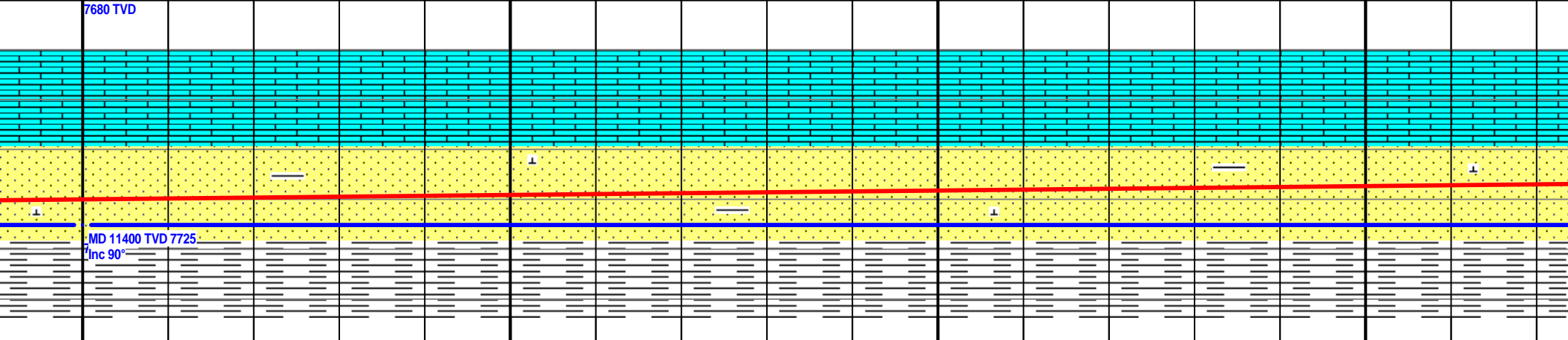
SS  
md  
15%

MW: 9.0 / VIS: 54

MW: 9.1 / VIS: 52



11400 11450 11500 11550



5%: gy-dkgy-wht-clr, vfg-fg, rnd-sub r  
cal, carb incl, v fri, nsf, mod str wh  
: gy-dkgy, sft, sbplty-sbblky, slty, grty

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

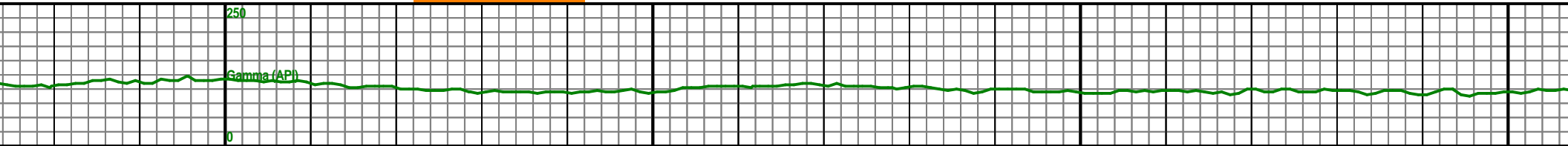
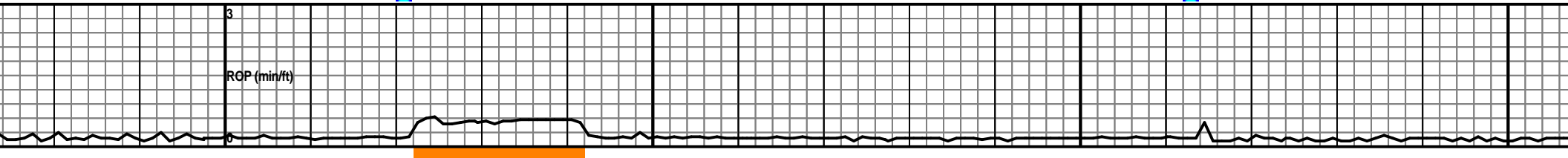
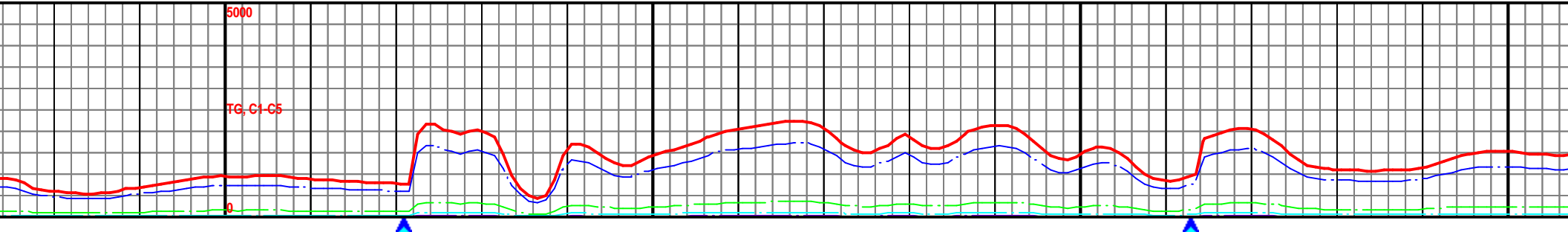
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

7780

MW: 9.1 / VIS: 52

MW: 9.1 / VIS: 52

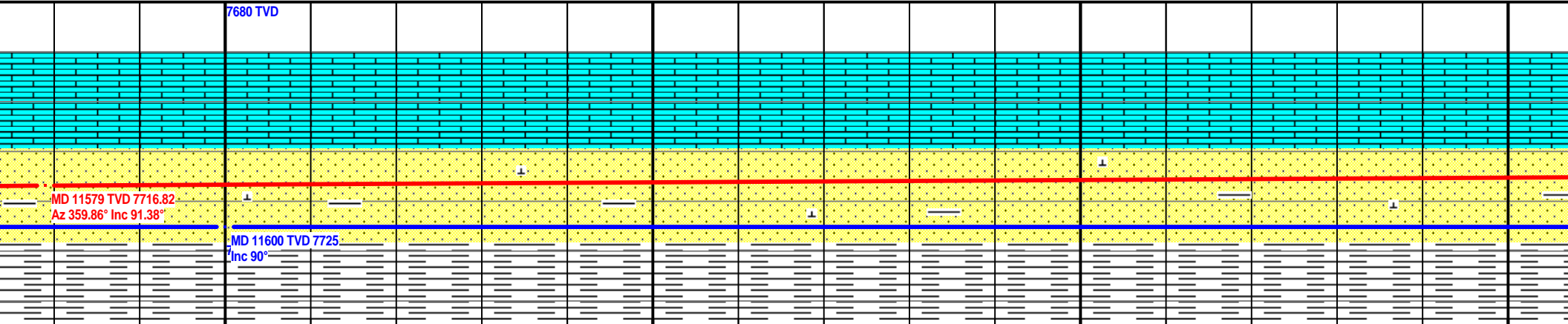


11600

11650

11700

11750



SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

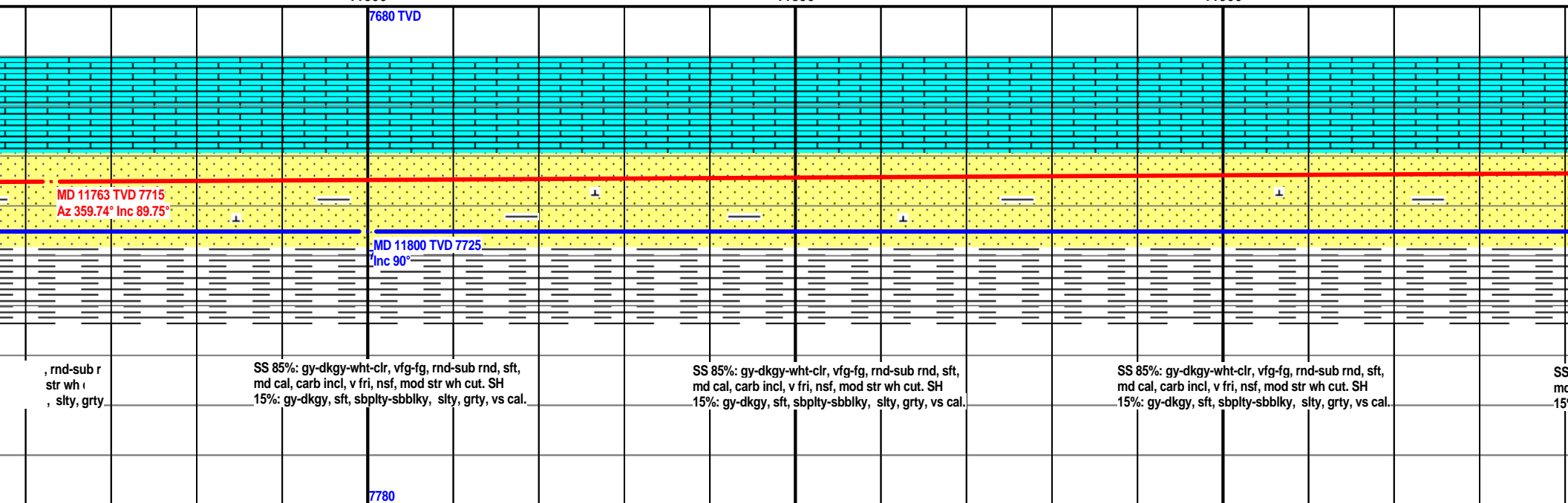
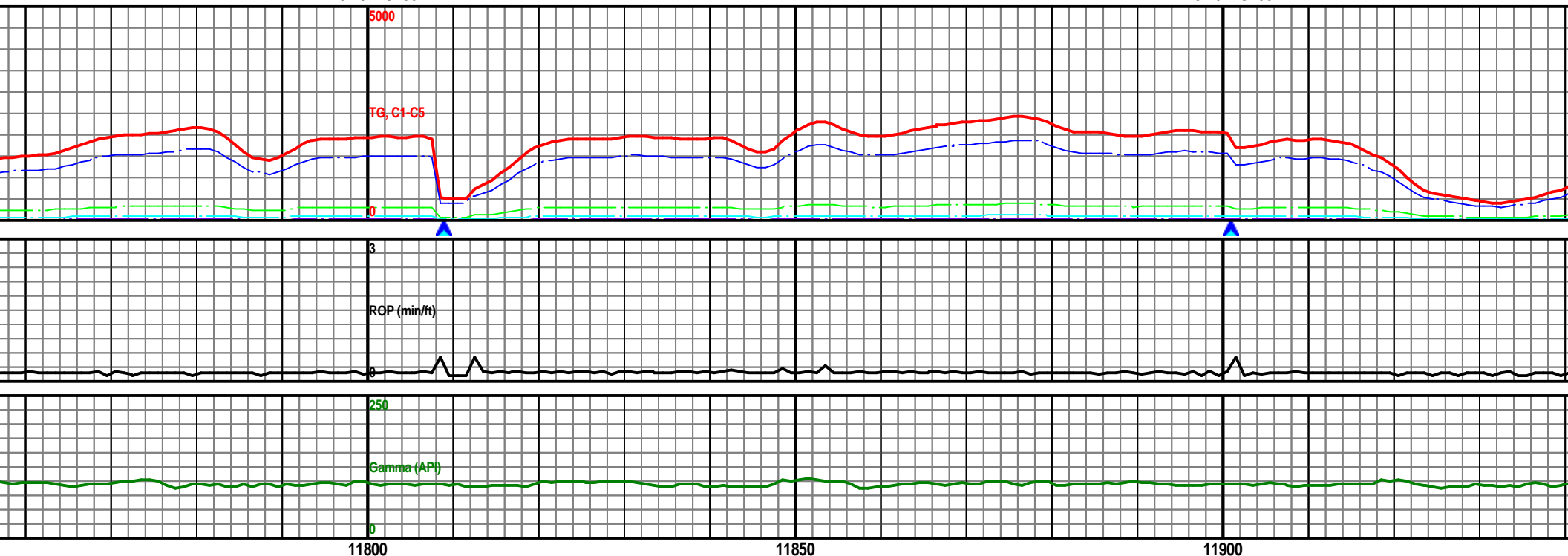
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

7780



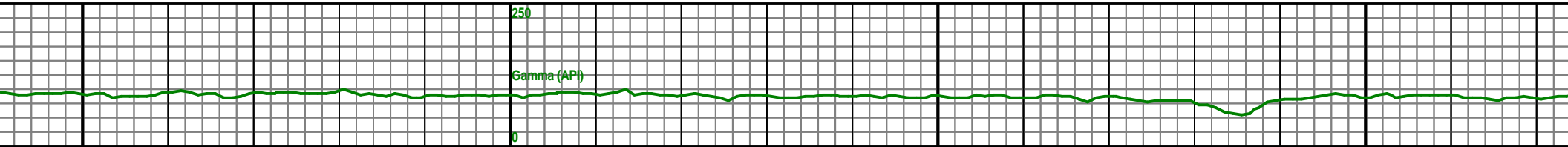
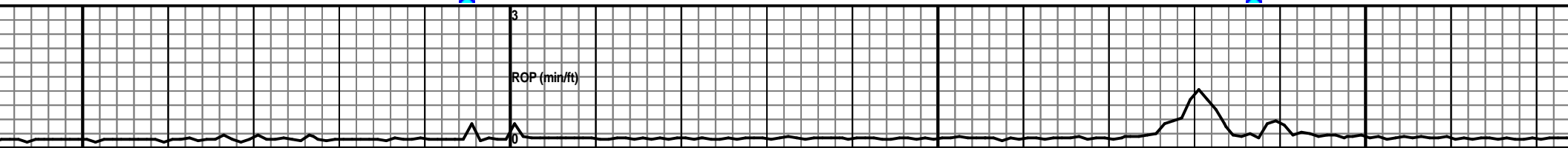
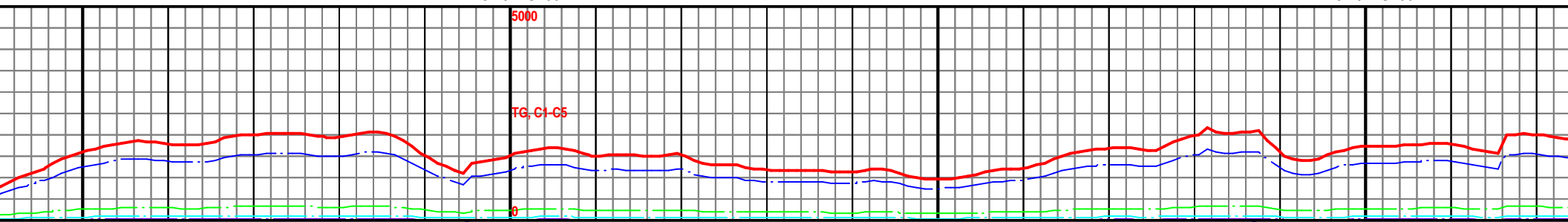
MW: 9.1 / VIS: 55

MW: 9.1 / VIS: 55



MW: 9.1 / VIS: 55

MW: 9.1 / VIS: 55

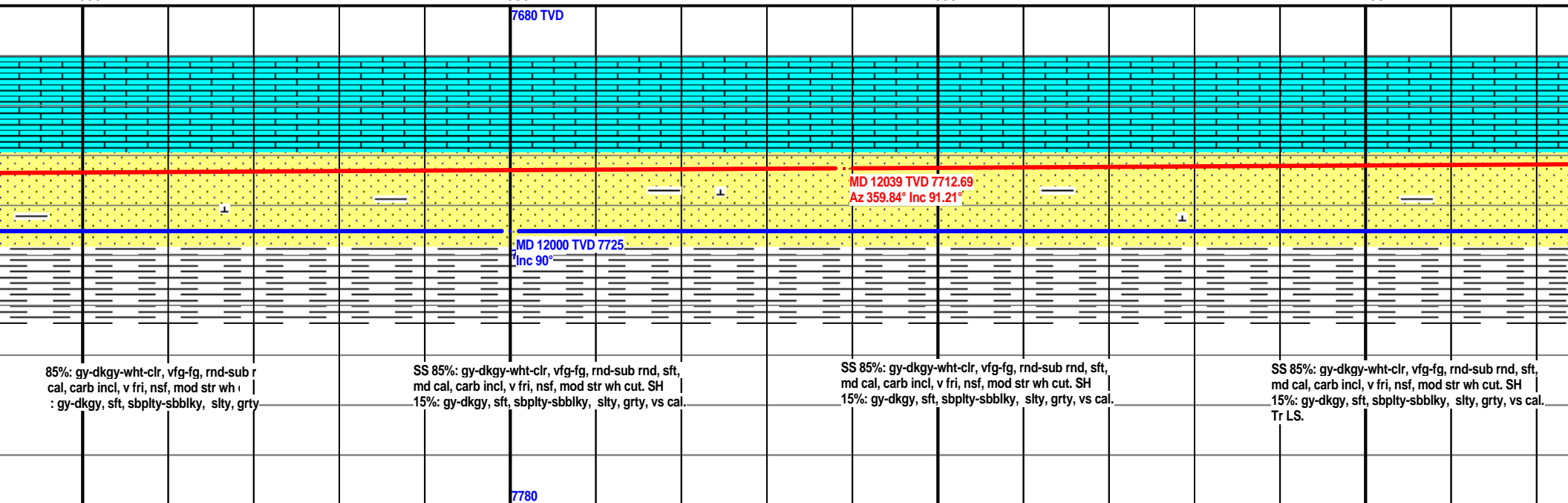


11950

12000

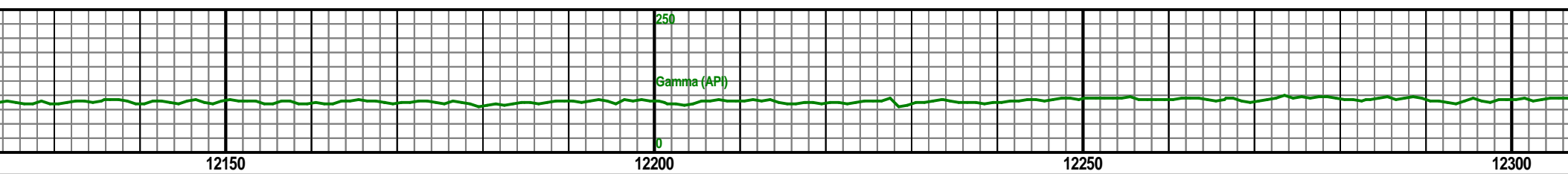
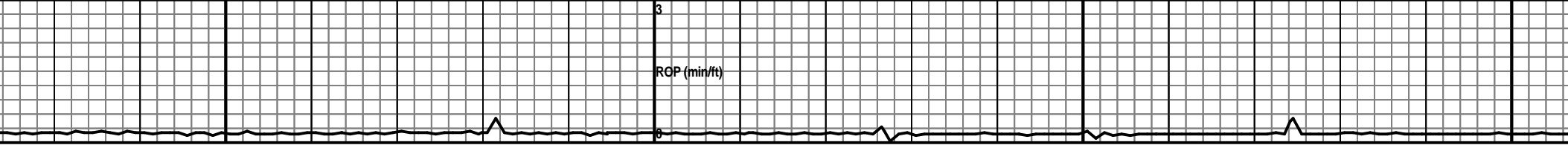
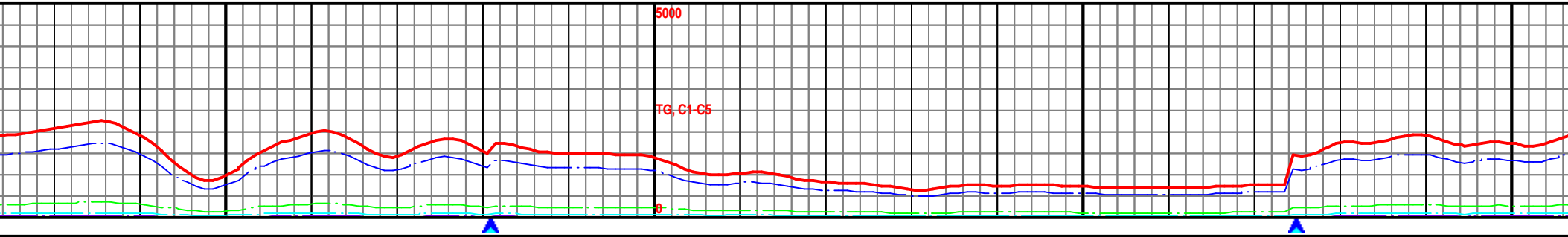
12050

12100



MW: 9.1 / VIS: 55

MW: 9.1 / VIS: 55



12150

12200

12250

12300

7680 TVD

Drilling with O.B.M. (sample quality moderate)

MD 12130 TVD 7711.79  
Az 359.12° Inc 89.93°

7730

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, silty, grty, vs cal.  
Tr LS.

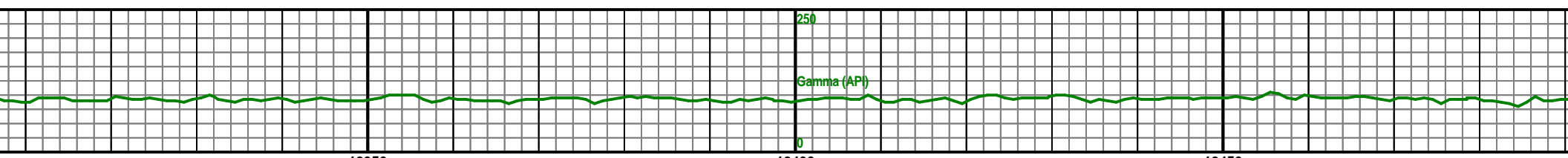
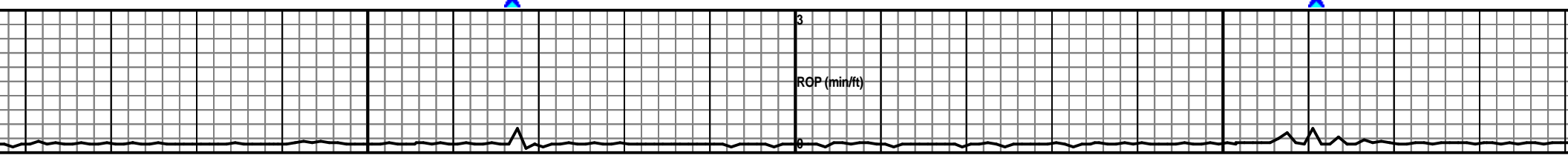
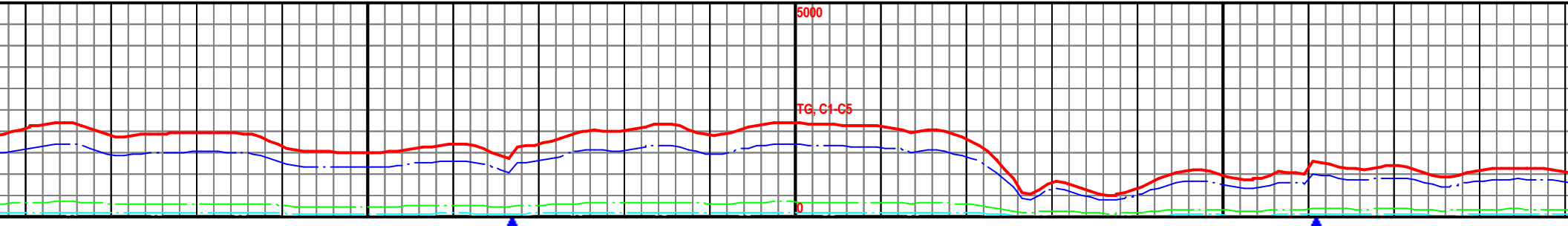
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, silty, grty, vs cal.

7780

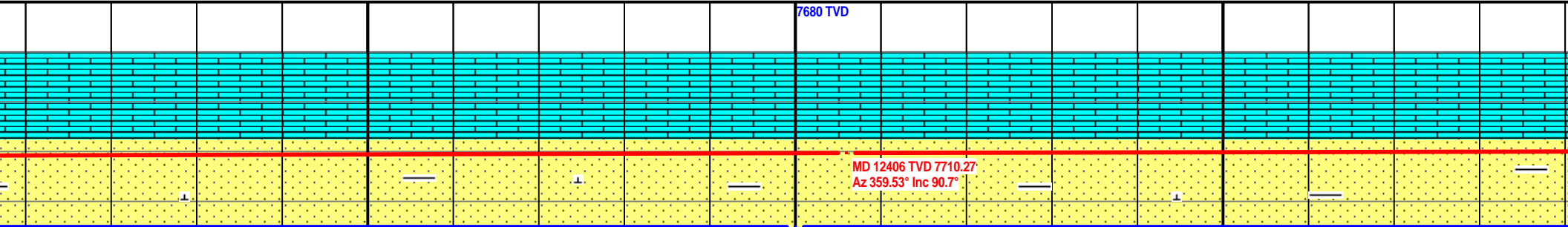
MW: 9.1 / VIS: 55



12350

12400

12450



fg, rnd-sub r  
d str wh i  
ky, slty, grty

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

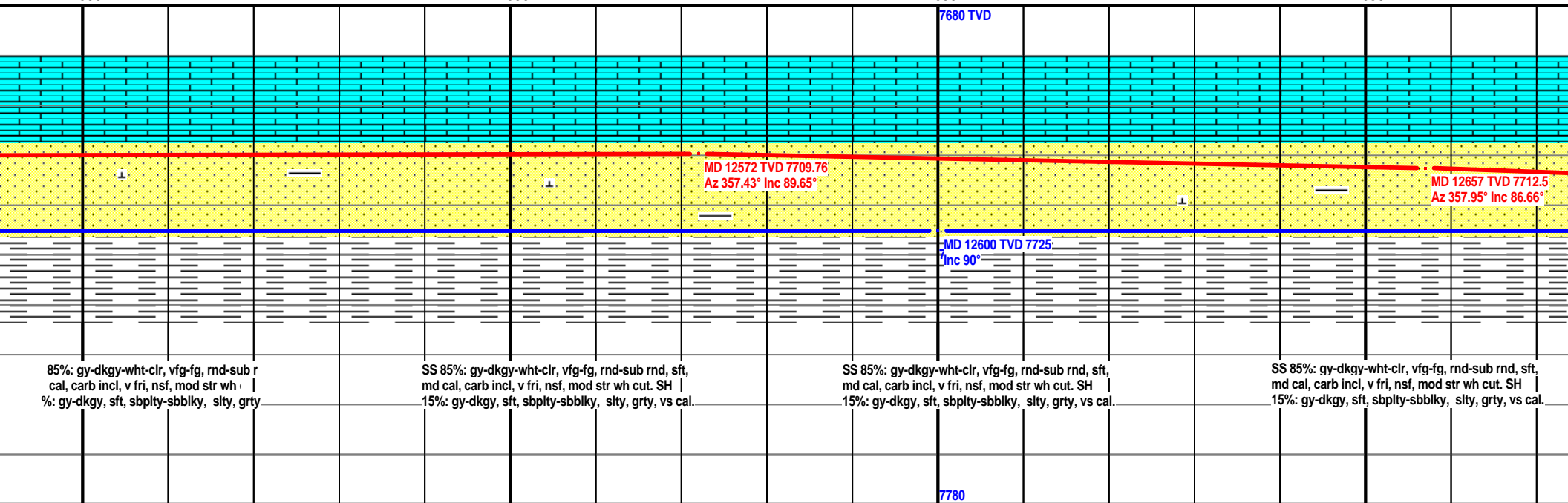
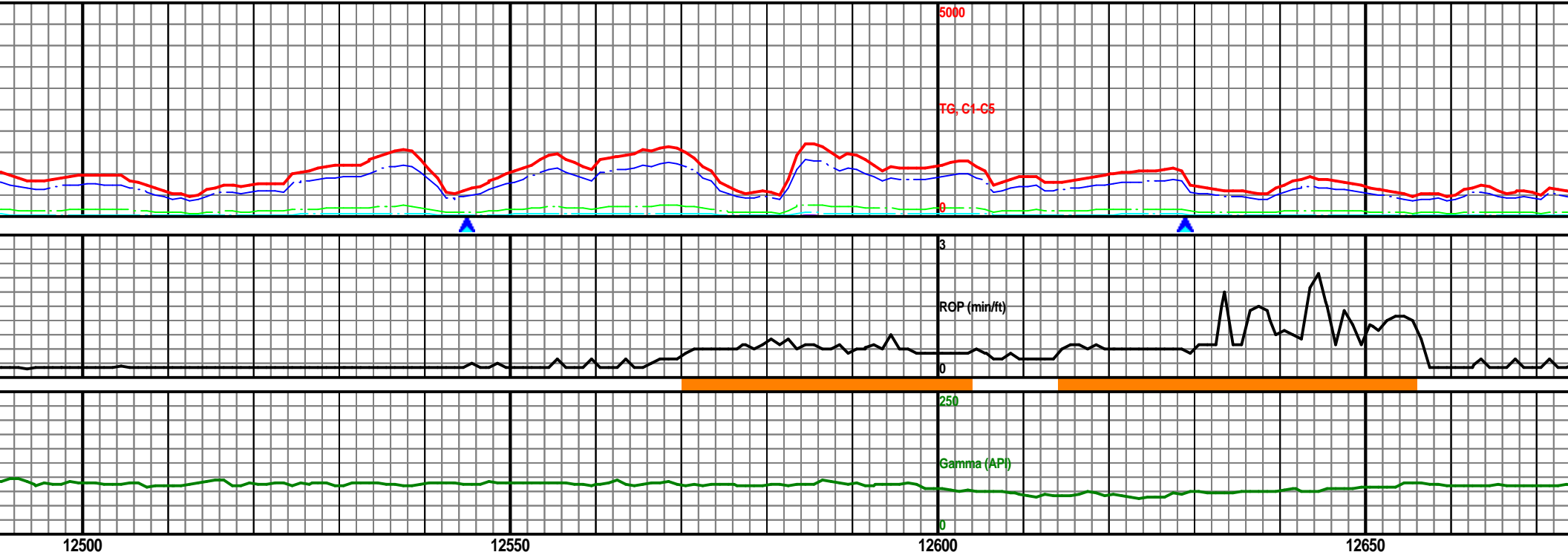
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS  
me  
15%

7780

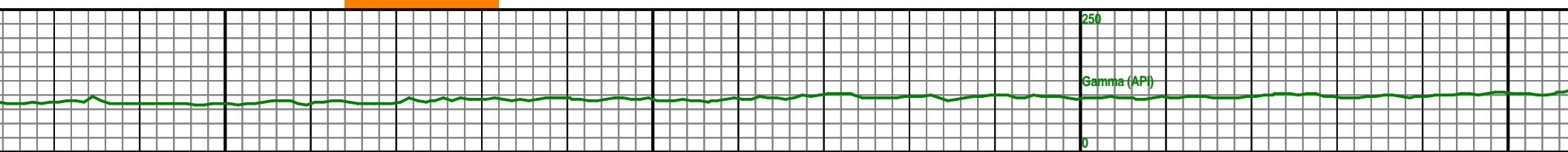
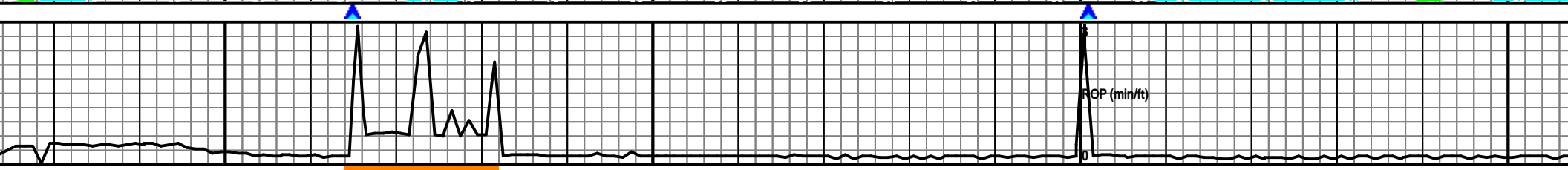
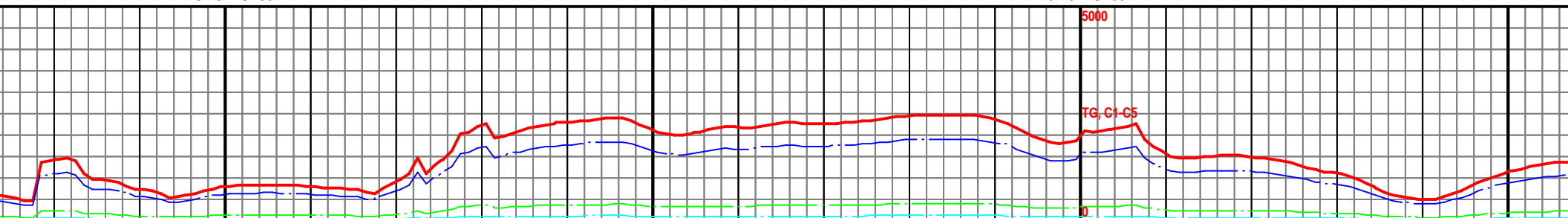
MW: 9.1 / VIS: 55

MW: 9.2 / VIS: 53



MW: 9.1 / VIS: 53

MW: 9.1 / VIS: 53

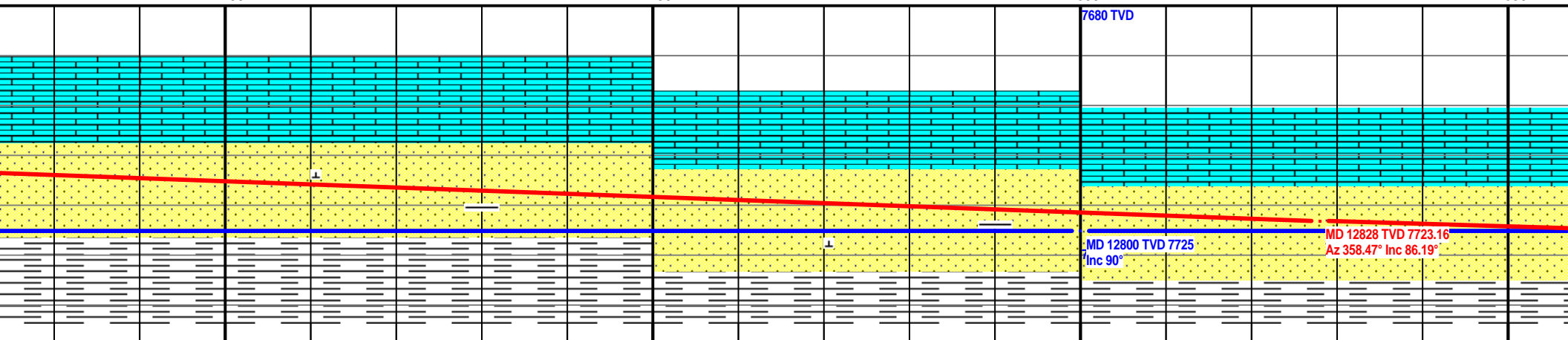


12700

12750

12800

12850



7680 TVD

MD 12800 TVD 7725

Inc 90°

MD 12828 TVD 7723.16  
Az 358.47° Inc 86.19°

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, silty, grty, vs cal.

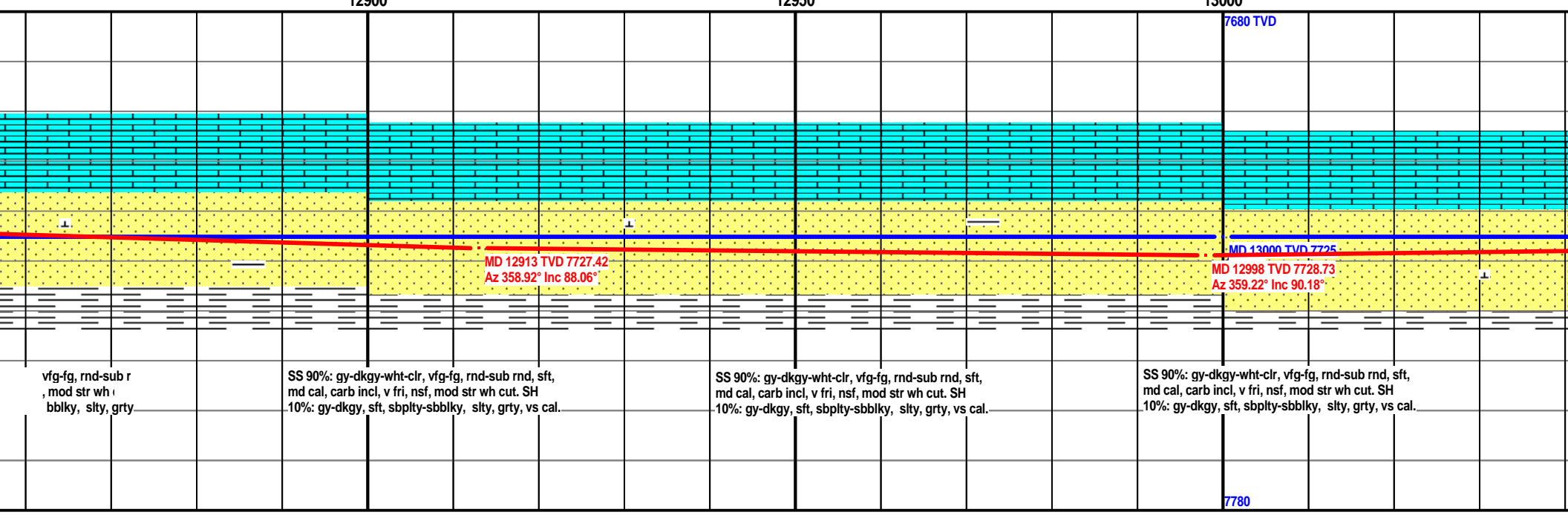
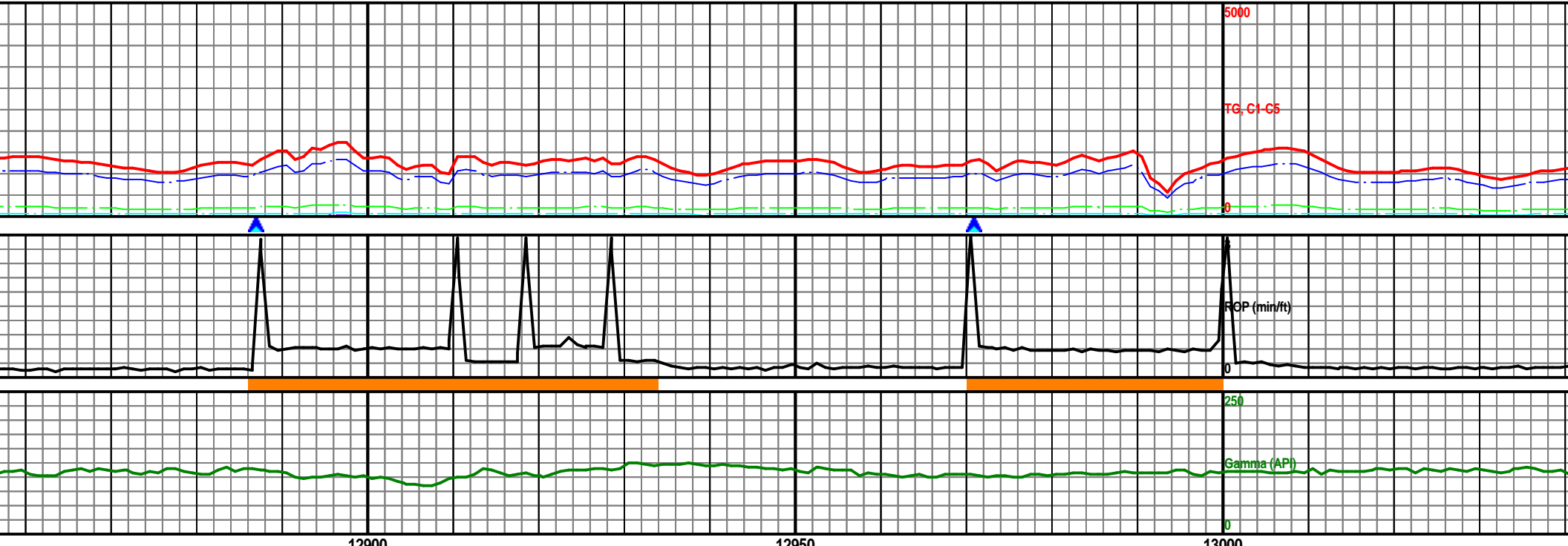
SS 90%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
10%: gy-dkgy, sft, sbply-sbblky, silty, grty, vs cal.

SS 90%: gy-dkgy-wht-clr,  
md cal, carb incl, v fri, nsf,  
10%: gy-dkgy, sft, sbply-

7780

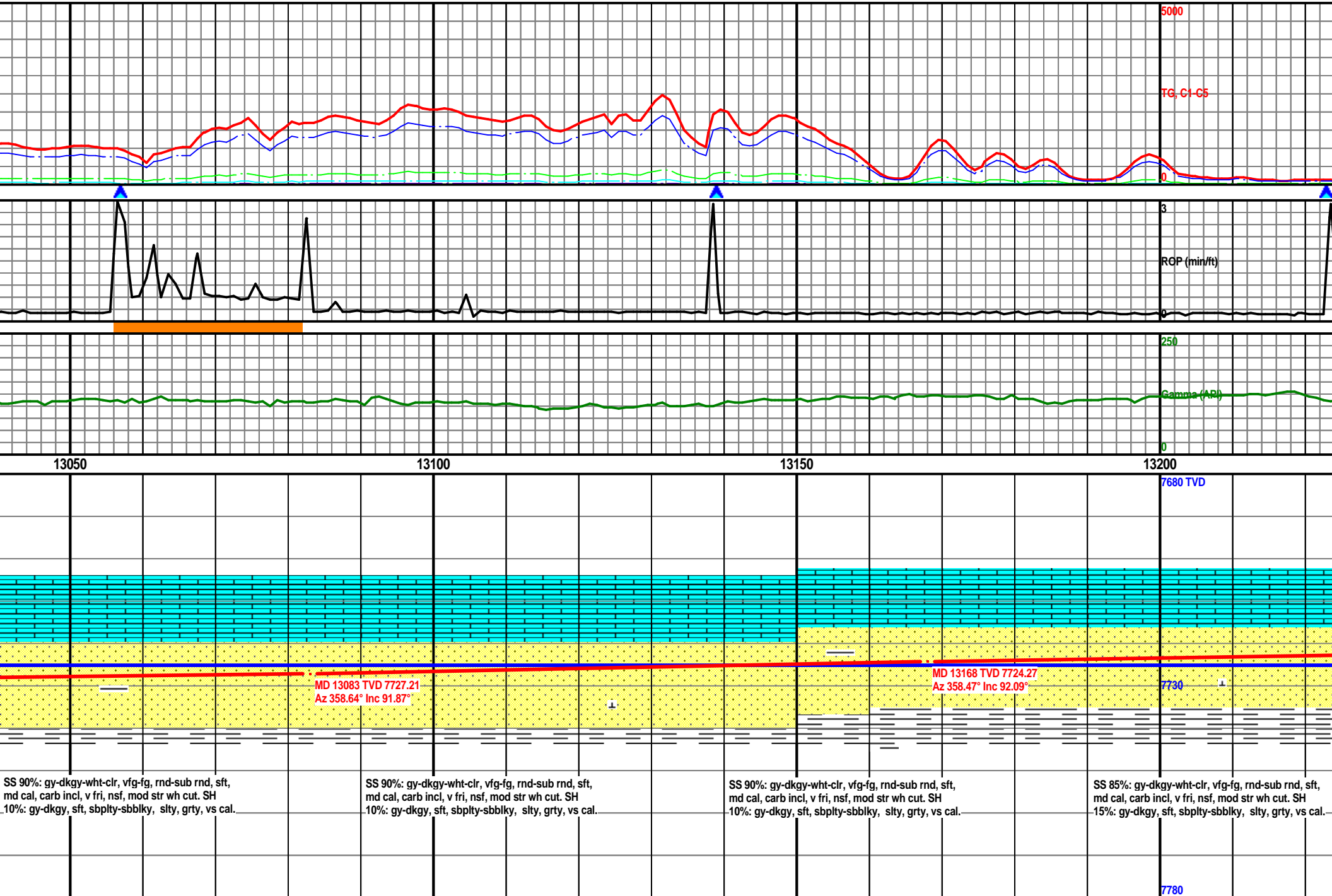
MW: 9.1 / VIS: 53

MW: 9.1 / VIS: 53



MW: 9.1 / VIS: 53

MW: 9.1 / VIS: 53





MW: 9.2 / VIS: 54

MW: 9.2 / VIS: 54

5000

TG, C1-C5

3

RGP (min/h)

250

Gamma (A)

0

7680 TVD

MD 13400

Inc 90°

7780

Changed Shaker  
Screens - Bypass  
Possum Belly

13250

13300

13350

13400

MD 13254 TVD 7721.95

Az 359.6° Inc 91.01°

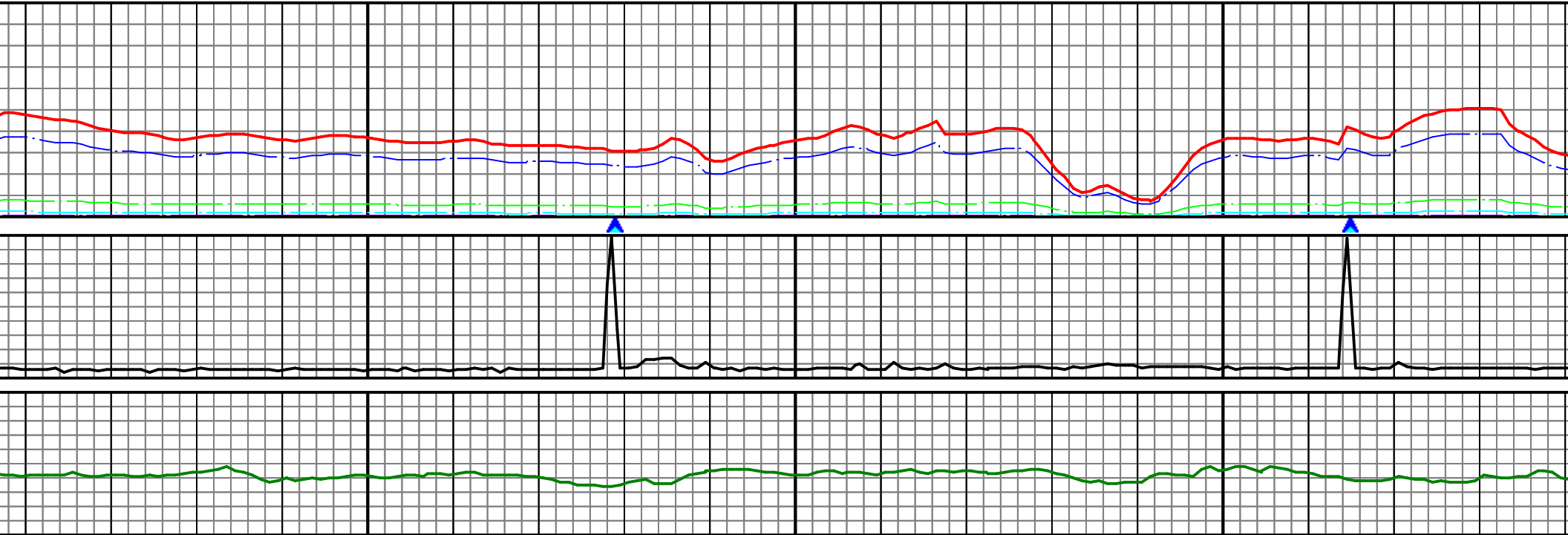
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

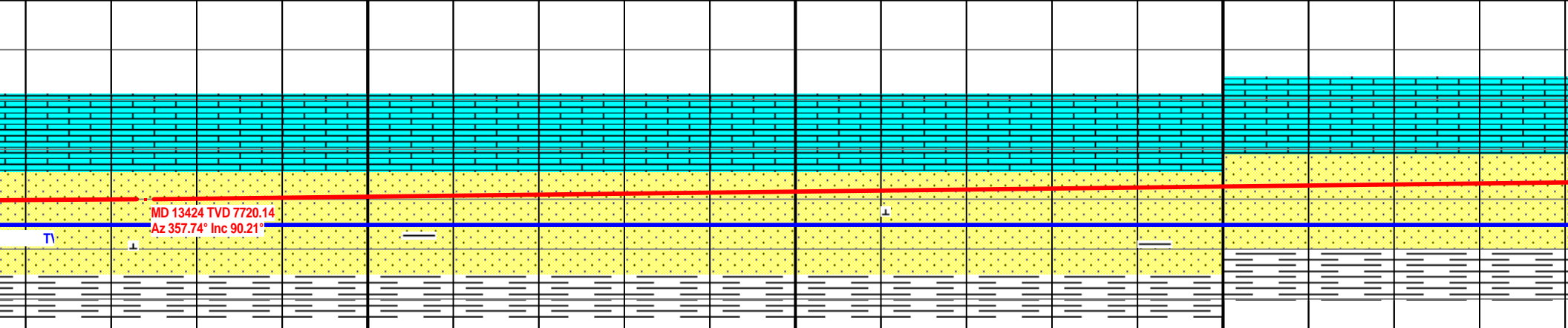
MW: 9.2 / VIS: 54



13450

13500

13550



MD 13424 TVD 7720.14  
Az 357.74° Inc 90.21°

vfg-fg, rnd-sub r  
, mod str wh  
bblky, slty, grty

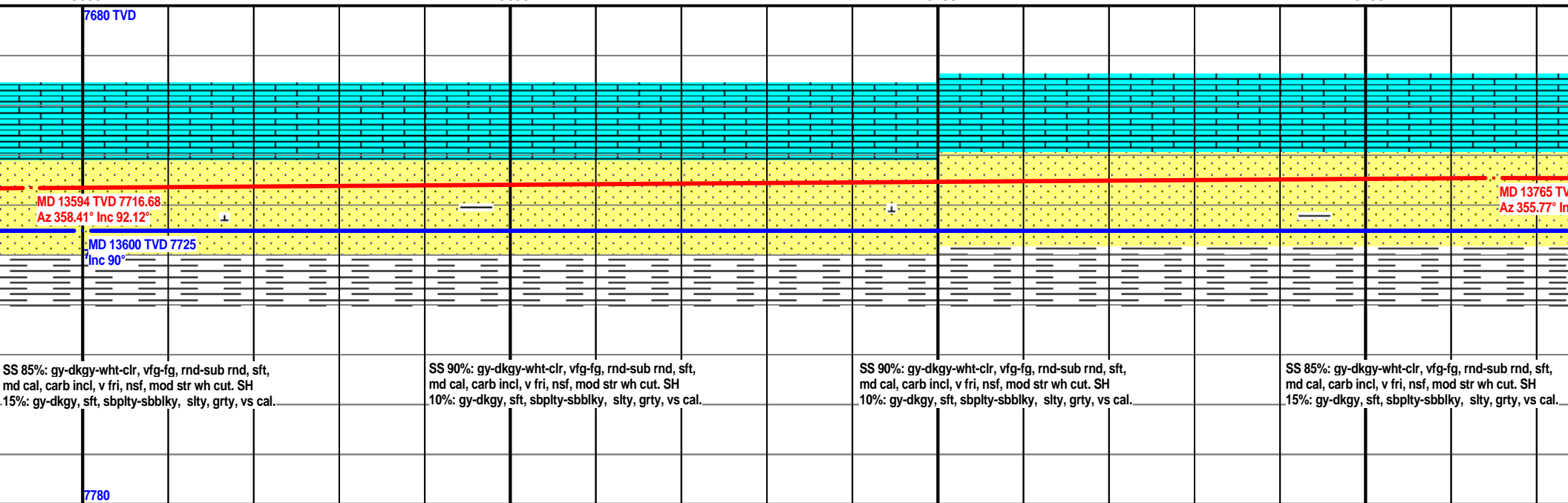
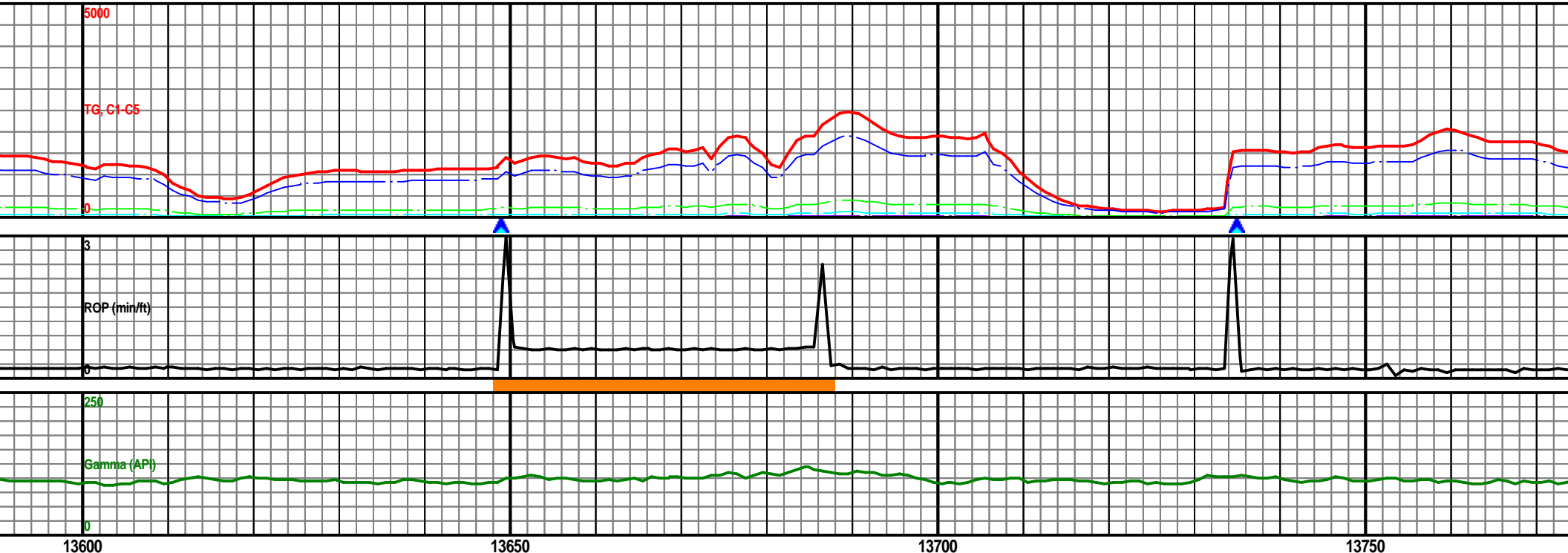
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

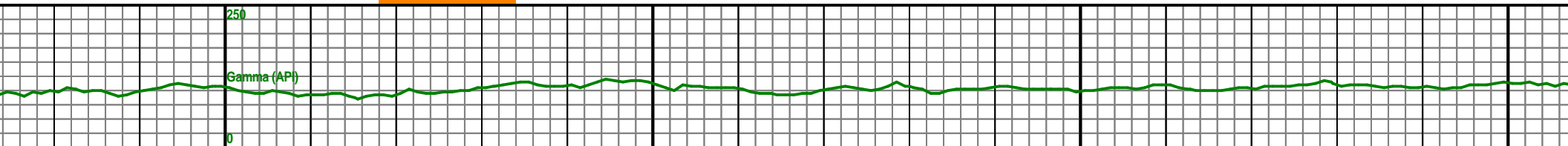
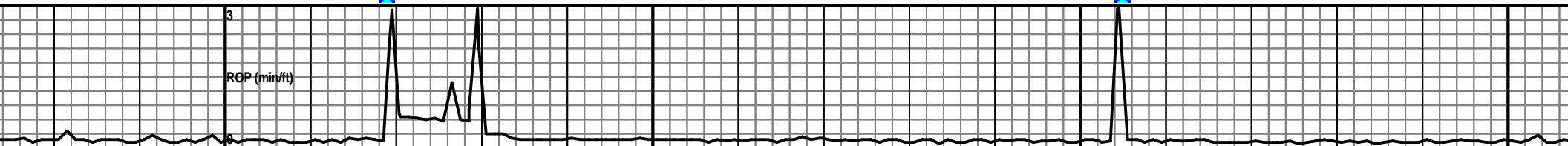
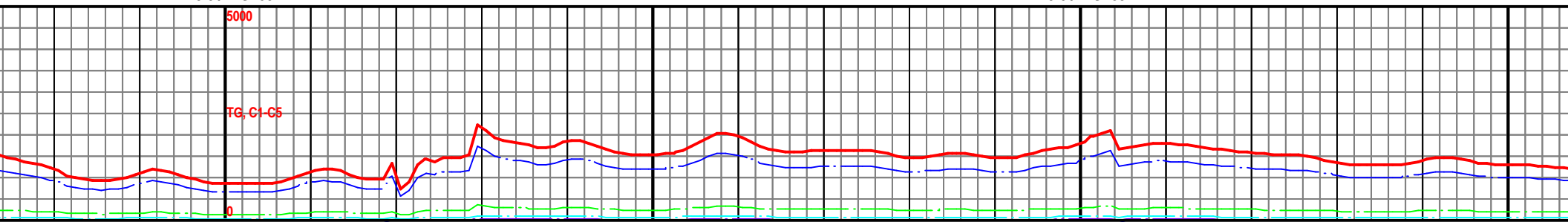
MW: 9.0 / VIS: 59

MW: 9.0 / VIS: 59



MW: 9.0 / VIS: 59

MW: 9.0 / VIS: 59

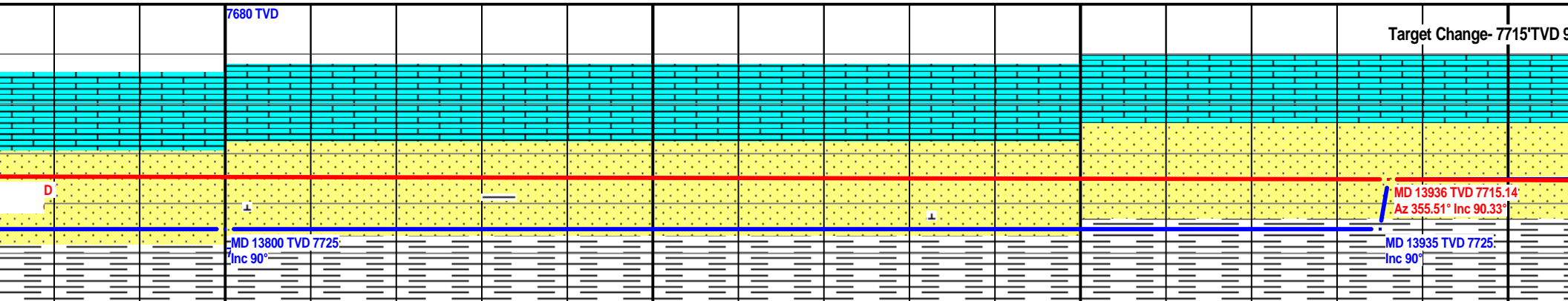


13800

13850

13900

13950



SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr,  
md cal, carb incl, v fri, nsf,  
15%: gy-dkgy, sft, sbplty-

7780

MW: 9.0 / VIS: 55

MW: 9.0 / VIS: 59

T.O.O.H. for motor & bit at  
14042'MD @ 3:25am 3/28/14.  
03/28/14 B.O.B. @ 11:00pm.  
Bit#4 6.12 VM513S

Trip Gas = 4641 U

5000

TG, C1-C5

0

3

RGP (min/ft)

0

250

Gamma (API)

0

14000

14050

14100

7680 TVD

03/28/14 4:00am Depth @ 14042'MD

MD 14000 TVD 7715

Inc 90°

7730

MD 14113 TVD 7716.98

Az 357.2° Inc 88.48°

7780

vfg-fg, rnd-sub r  
, mod str wh  
sbbly, slty, grty

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbply, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbply, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbply, slty, grty, vs cal.

MW: 9.0 / VIS: 59

MW: 9.0 / VIS: 59

T.O.O.H. for MWD tool 14163'MD  
@ 11:55pm 3/28/14.  
03/29/14 B.O.B. @ 3:30pm.  
Bit#4(2) 6.12 VM513S  
Trip Gas = 3403 U

5000

TG, C1-C5

0

3

RGP (min/ft)

0

250

Gamma (API)

0

14150

14200

14250

14300

03/29/14 4:00am Depth @ 14163'MD

7680 TVD

MD 14200 TVD 7715

Inc 90°

7730

7780

S 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub r  
d cal, carb incl, v fri, nsf, mod str wh |  
5%: gy-dkgy, sft, sbply-sbblky, slty, grty

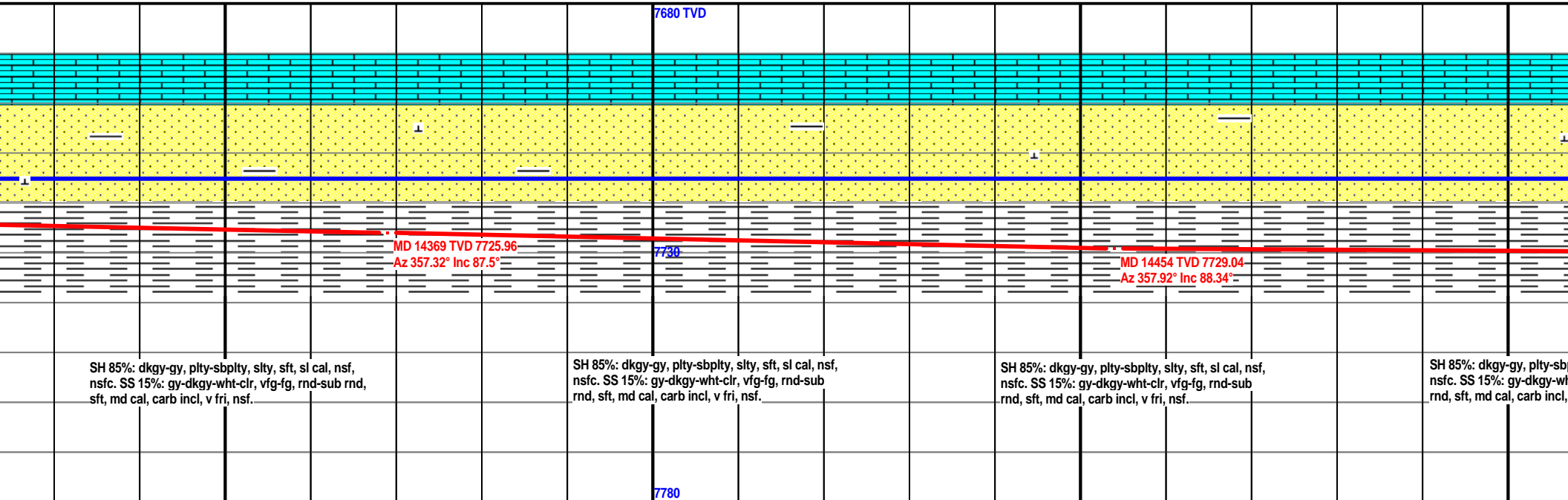
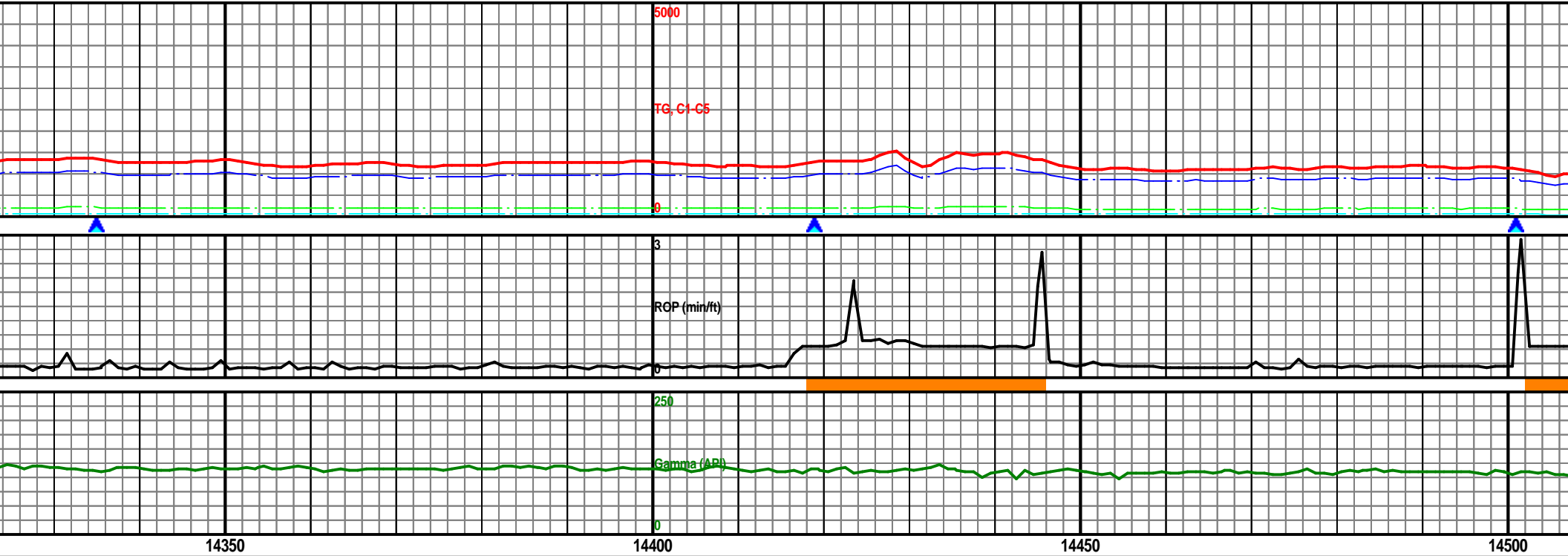
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbblky, slty, grty, vs cal.

SS 65%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
35%: dkgy-gy, plty-sbply, slty, sft, sl cal,

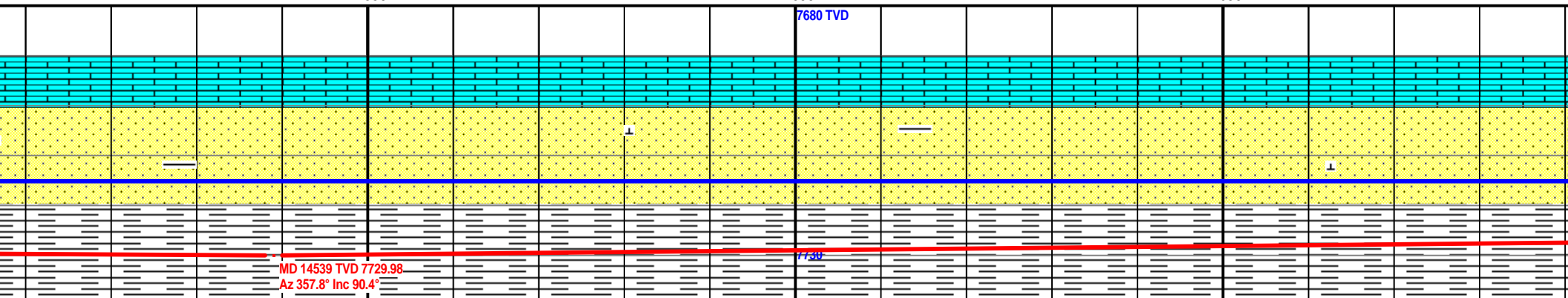
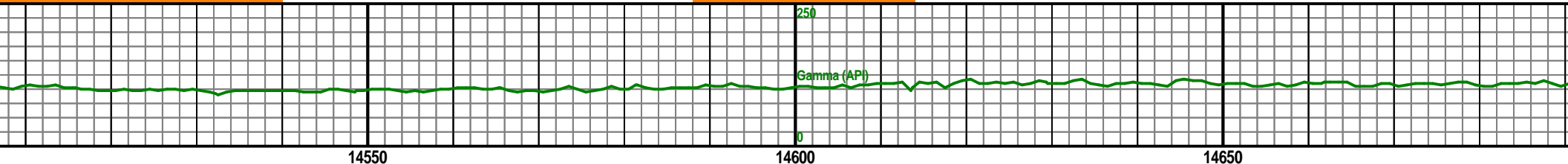
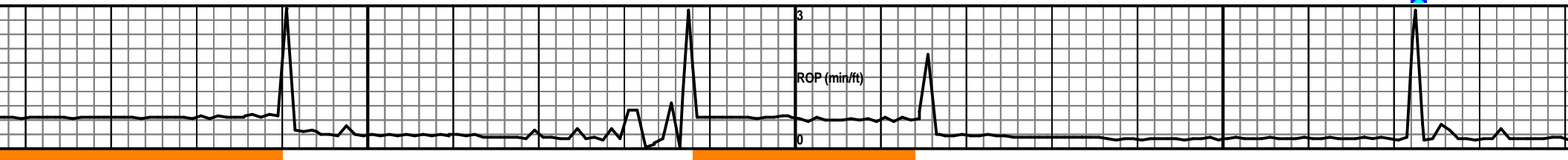
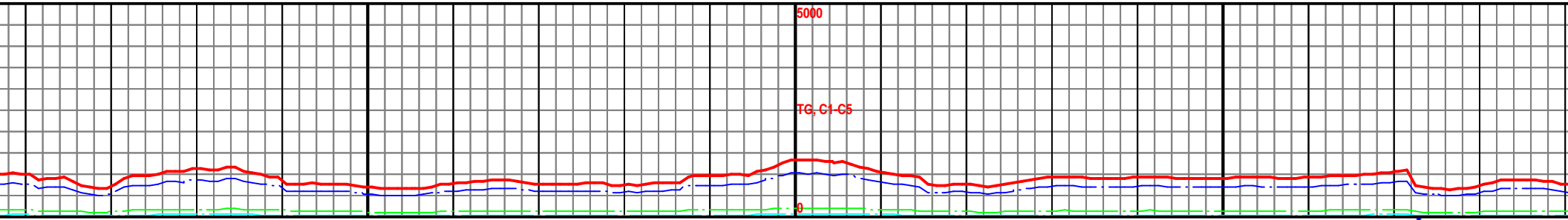
SH 85%: dkgy-gy, plty-sbply, slty, sft, sl cal, nsf, nsfc.  
SS 15%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft, md  
cal, carb incl, v fri, nsf.

MW: 9.0 / VIS: 54

MW: 9.1 / VIS: 50



MW: 8.9 / VIS: 47



lty, slty, sft, sl c  
t-clr, vfg-fg, r  
v

SH 85%: dkgy-gy, plty-sbplty, slty, sft, sl cal, nsf,  
nsfc. SS 15%: gy-dkgy-wht-clr, vfg-fg, rnd-sub  
rnd, sft, md cal, carb incl, v fri, nsf.

SH 85%: dkgy-gy, plty-sbplty, slty, sft, sl cal, nsf,  
nsfc. SS 15%: gy-dkgy-wht-clr, vfg-fg, rnd-sub  
rnd, sft, md cal, carb incl, v fri, nsf.

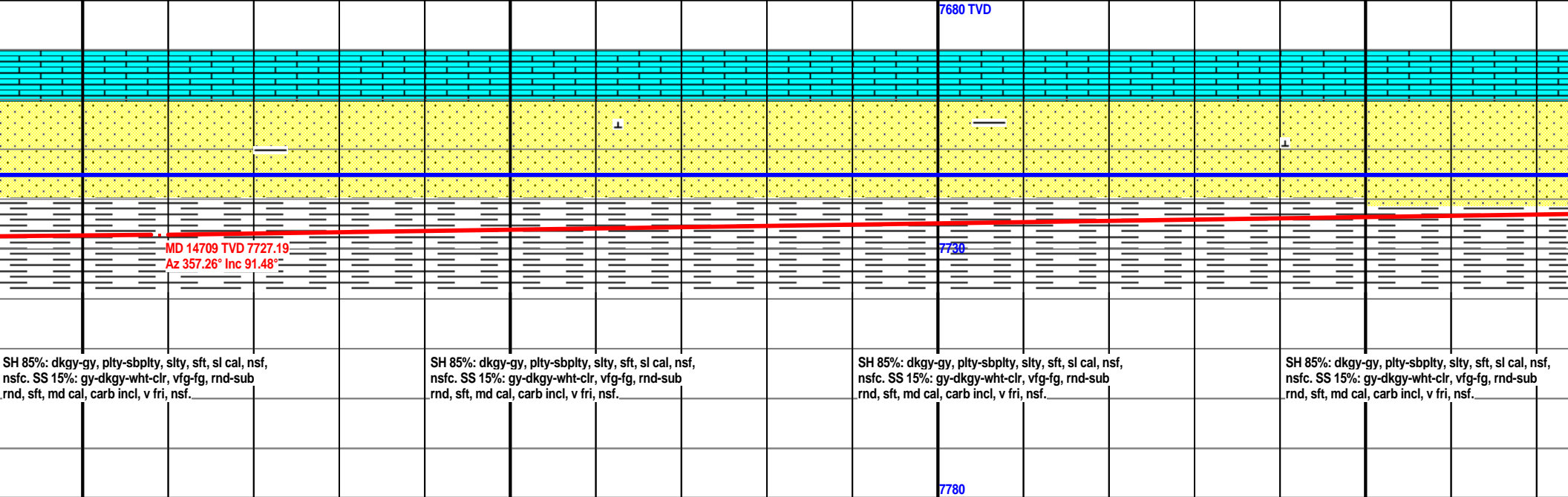
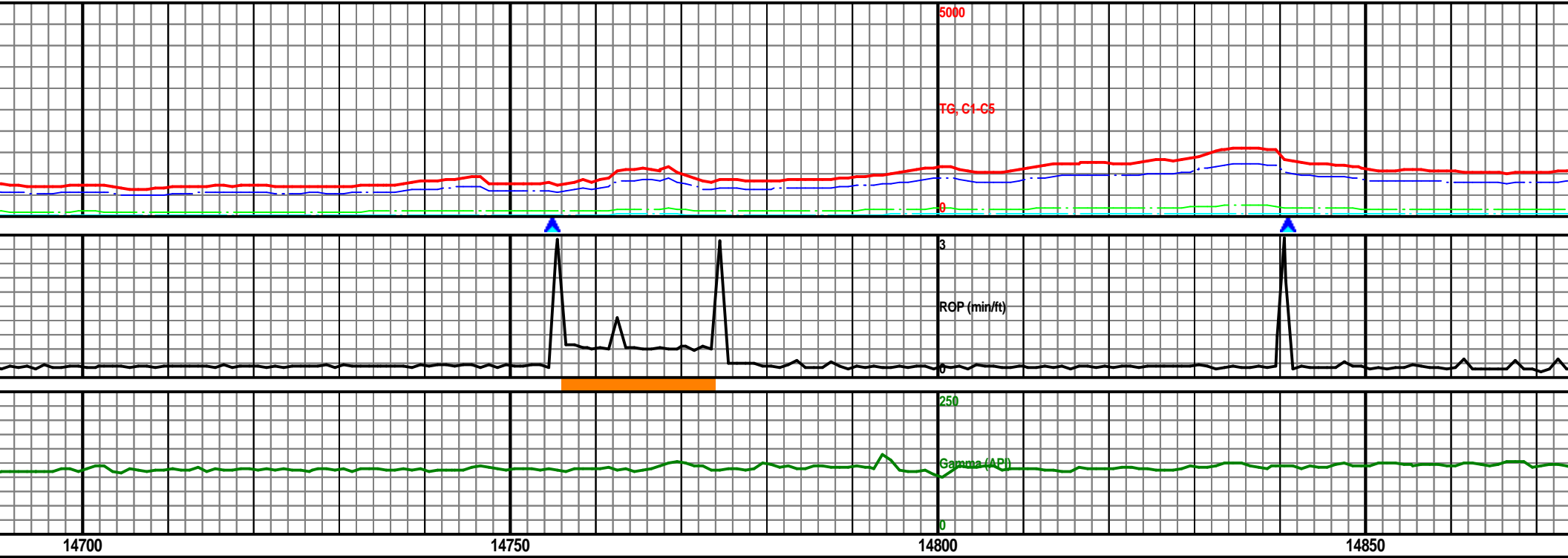
SH 85%: dkgy-gy, plty-sbplty, slty, sft, sl cal, nsf,  
nsfc. SS 15%: gy-dkgy-wht-clr, vfg-fg, rnd-sub  
rnd, sft, md cal, carb incl, v fri, nsf.

7780



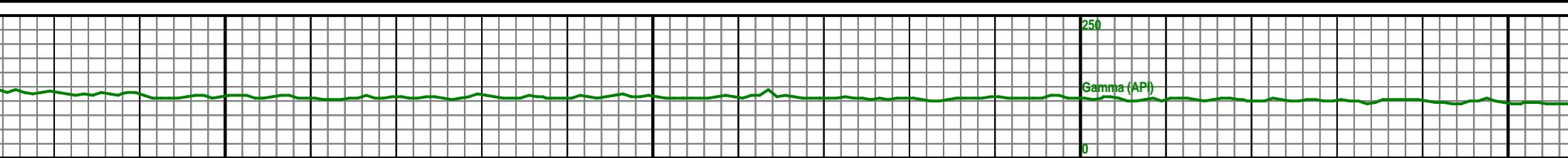
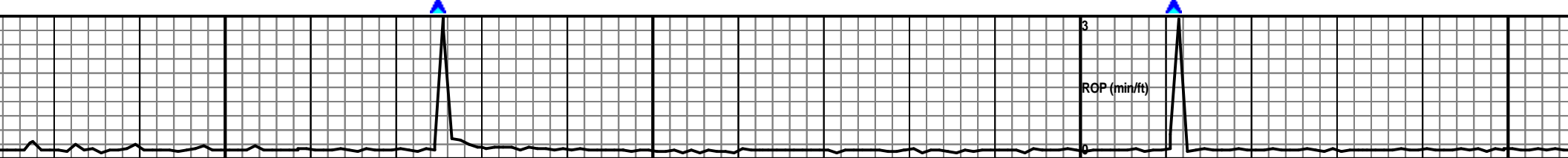
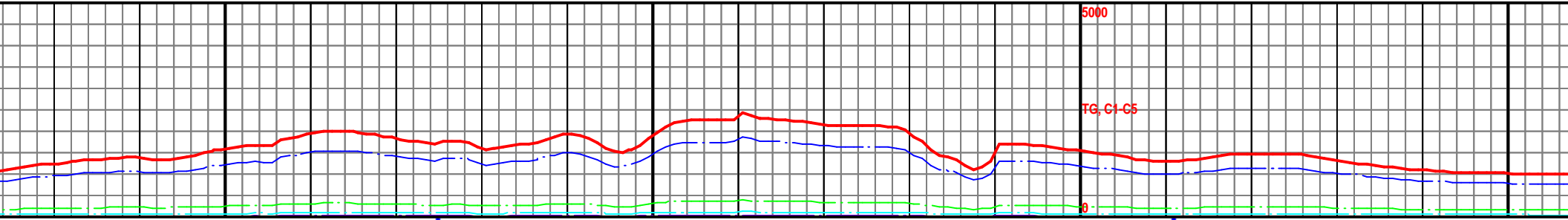
MW: 8.9 / VIS: 47

MW: 8.9 / VIS: 47



MW: 8.9 / VIS: 47

MW: 8.9 / VIS: 47

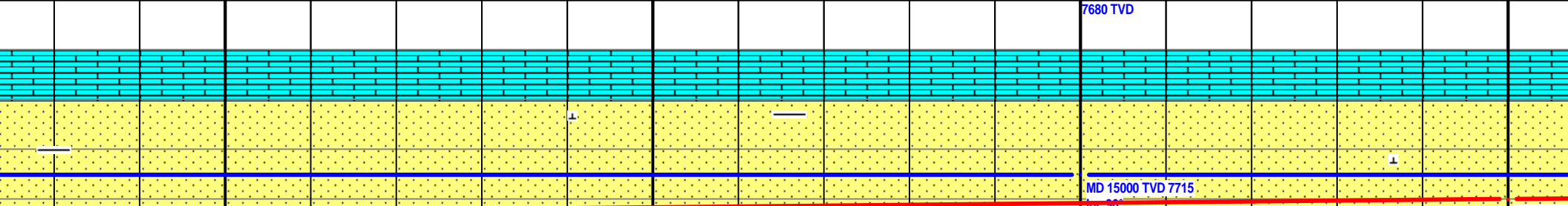


14900

14950

15000

15050



MD 14880 TVD 7722.95  
Az 356.27° Inc 91.36°

MD 15000 TVD 7715  
Inc 30°

MD 15050  
Az 356.46°

SH 85%: dkgy-gy, plty-sbplty, slty, sft, sl cal, nsf, nsfc. SS 15%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, v fri, nsf.

SS 60%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, v fri, nsf, mod str wh cut. SH 40%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

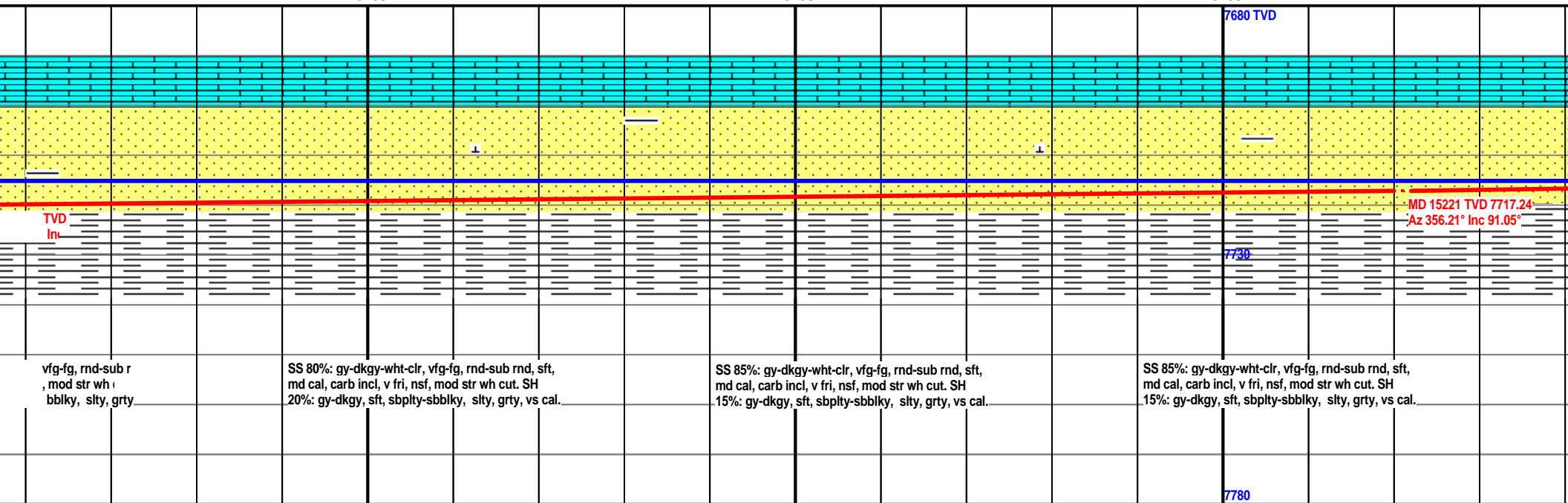
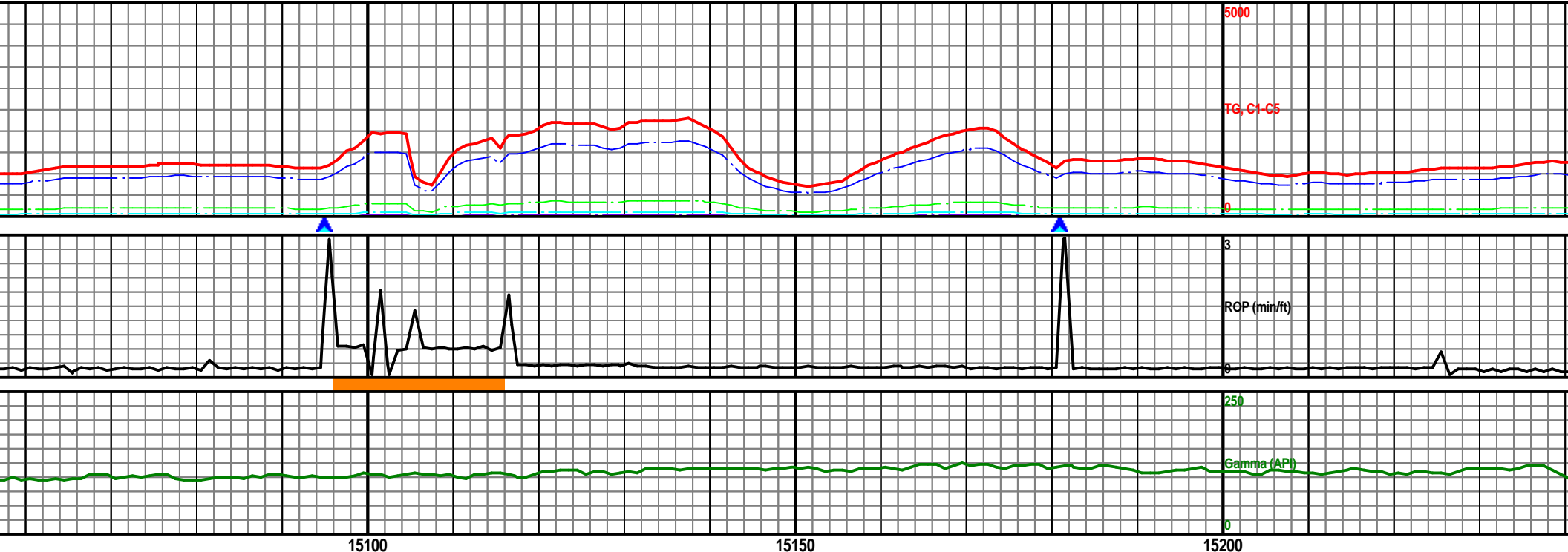
SS 60%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, v fri, nsf, mod str wh cut. SH 40%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.

SS 70%: gy-dkgy-wht-clr, md cal, carb incl, v fri, nsf, 30%: gy-dkgy, sft, sbplty-

7780

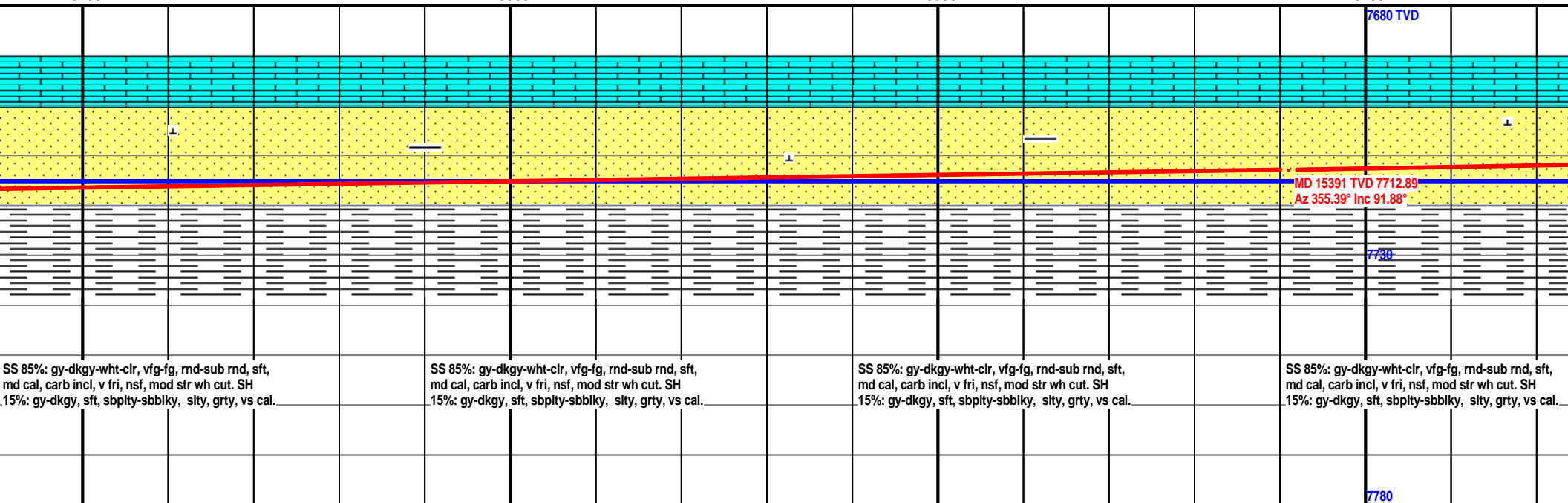
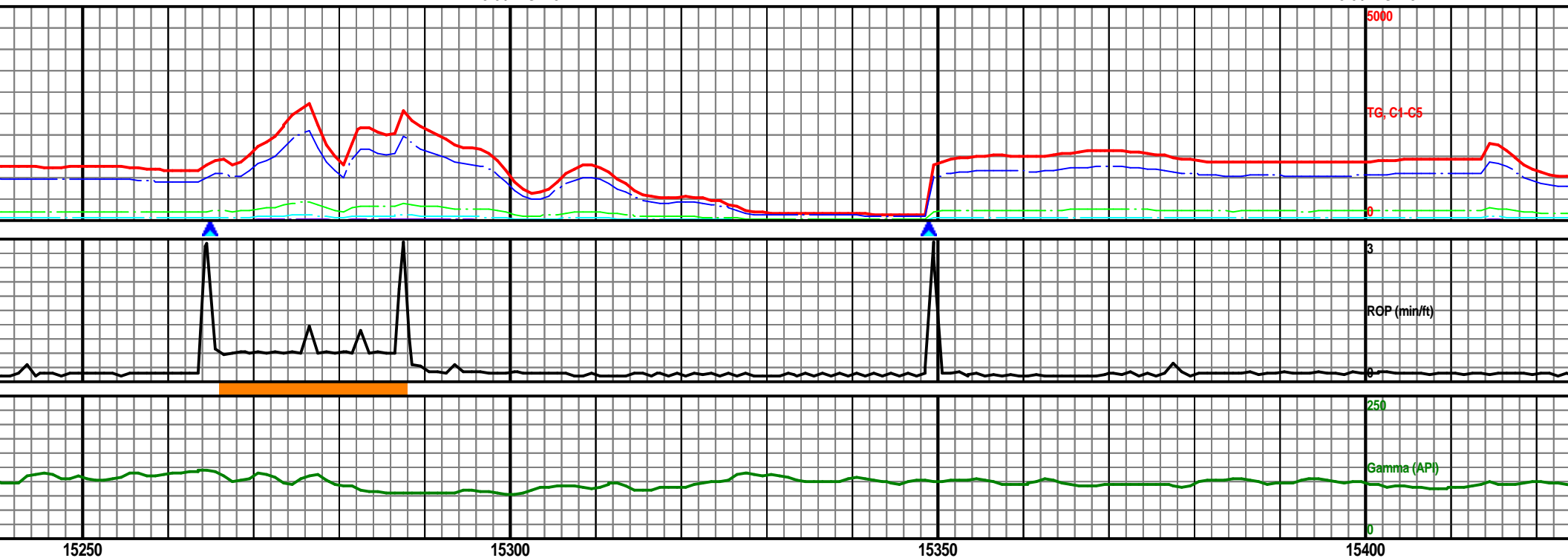
MW: 9.0 / VIS: 49

MW: 9.0 / VIS: 49



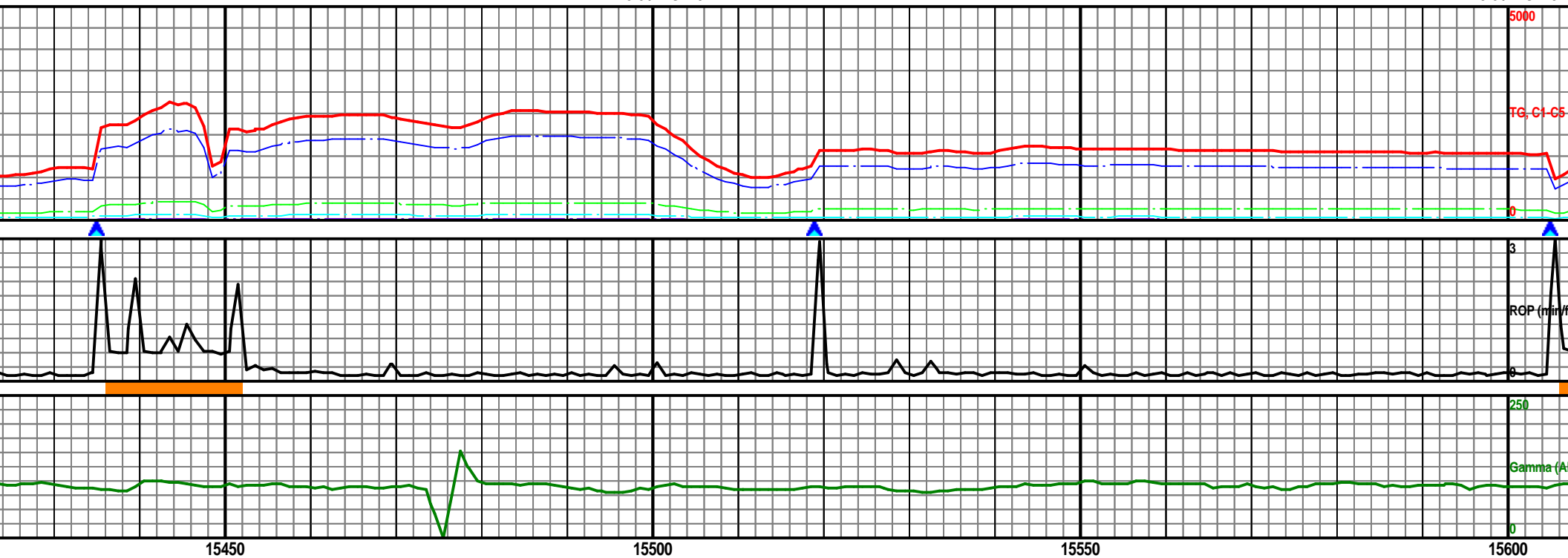
MW: 9.0 / VIS: 49

MW: 9.0 / VIS: 49



MW: 9.0 / VIS: 49

MW: 9.0 / VIS: 49

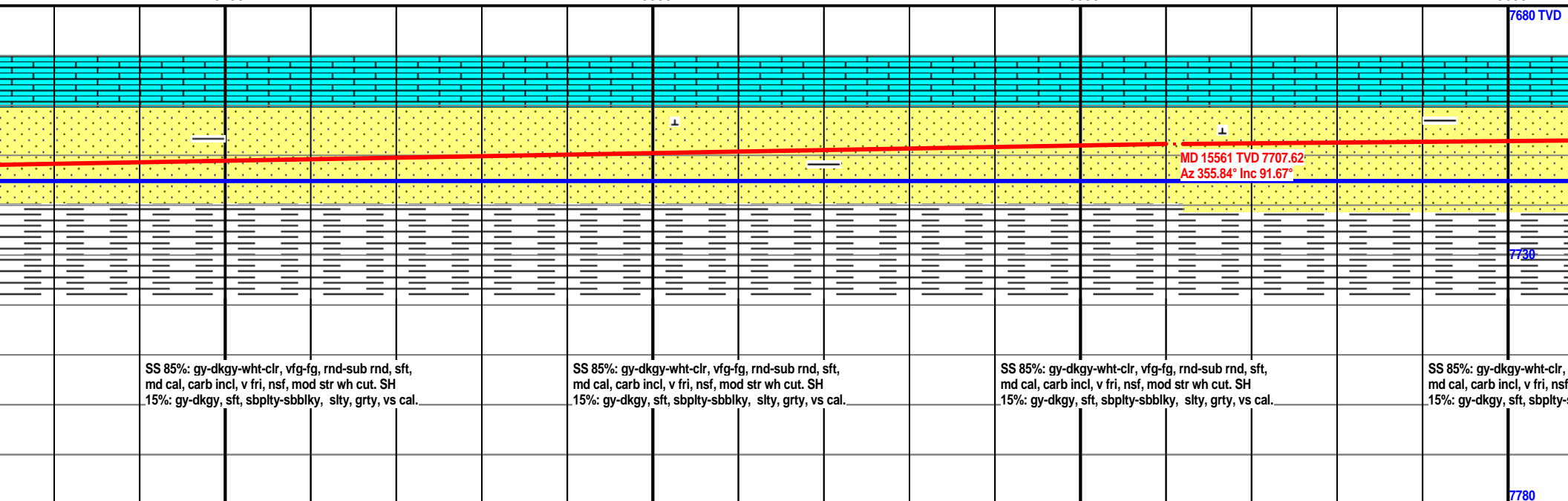


15450

15500

15550

15600



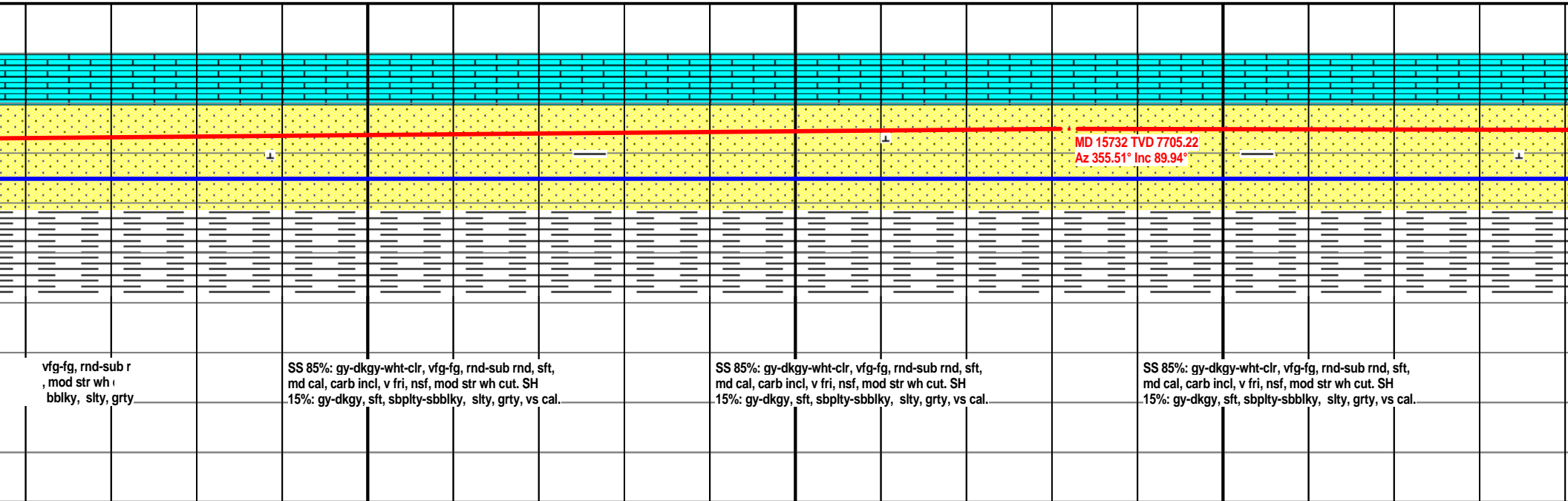
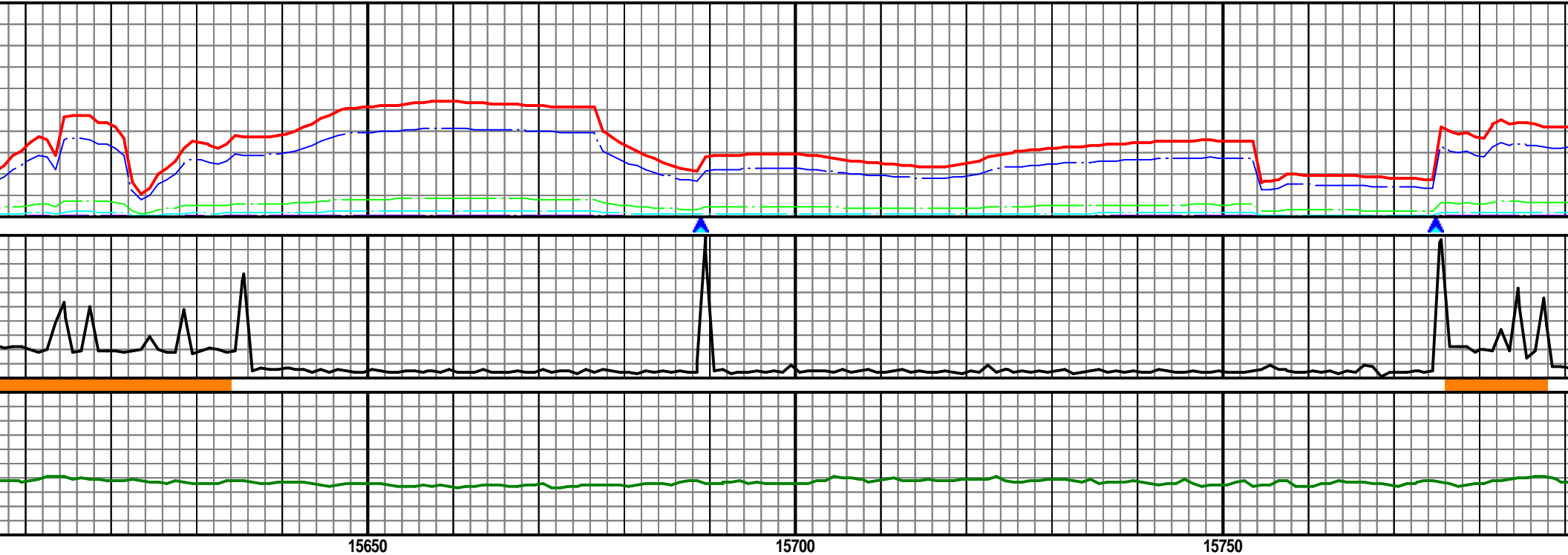
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, silty, grty, vs cal.

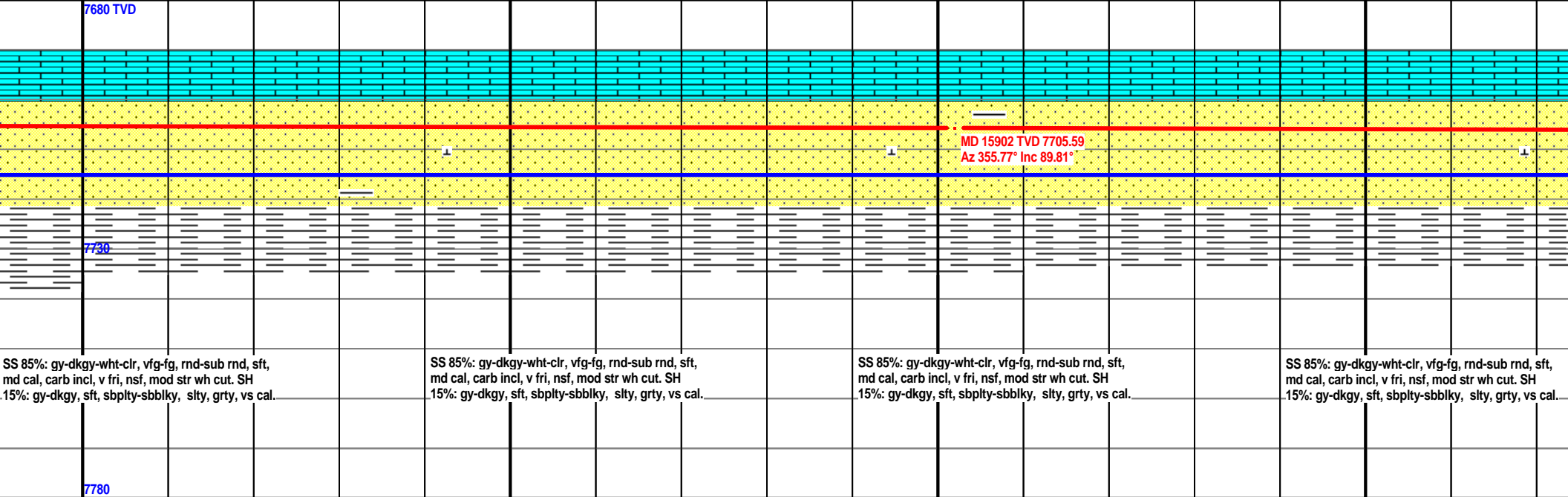
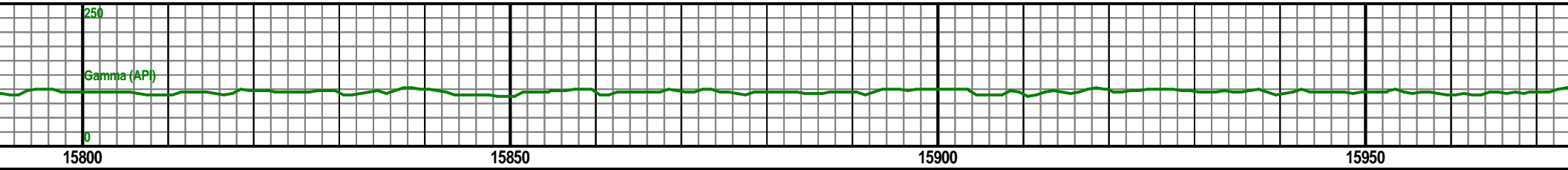
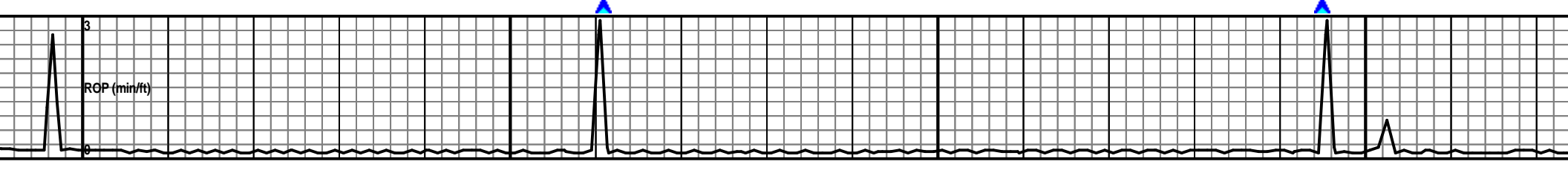
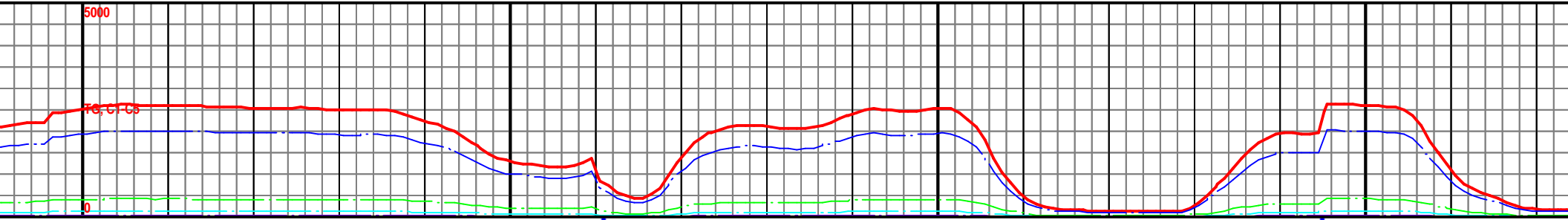
SS 85%: gy-dkgy-wht-clr,  
md cal, carb incl, v fri, nsf,  
15%: gy-dkgy, sft, sbplty-

MW: 9.0 / VIS: 49



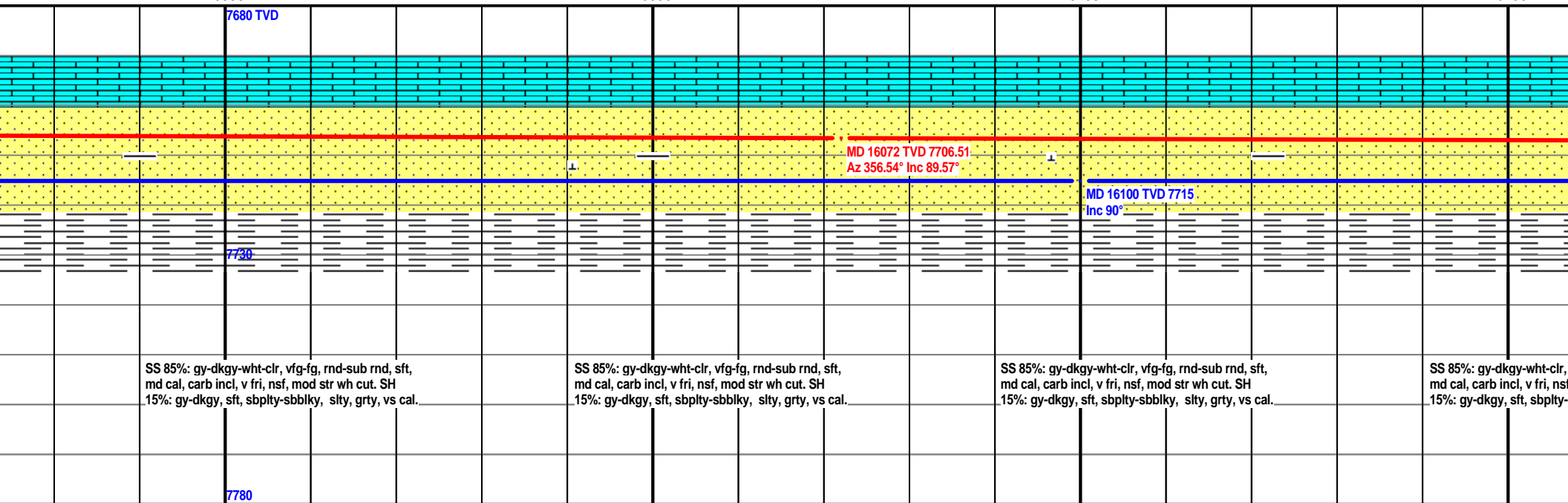
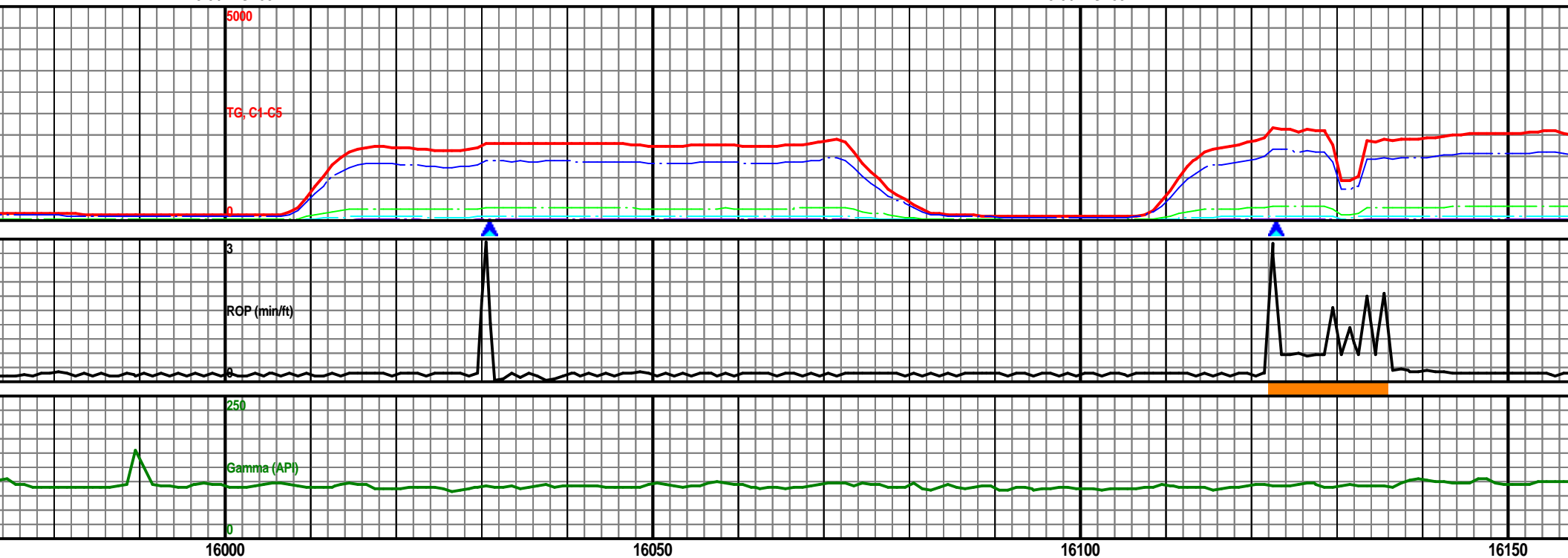
MW: 9.0 / VIS: 59

MW: 9.0 / VIS: 59



MW: 9.0 / VIS: 59

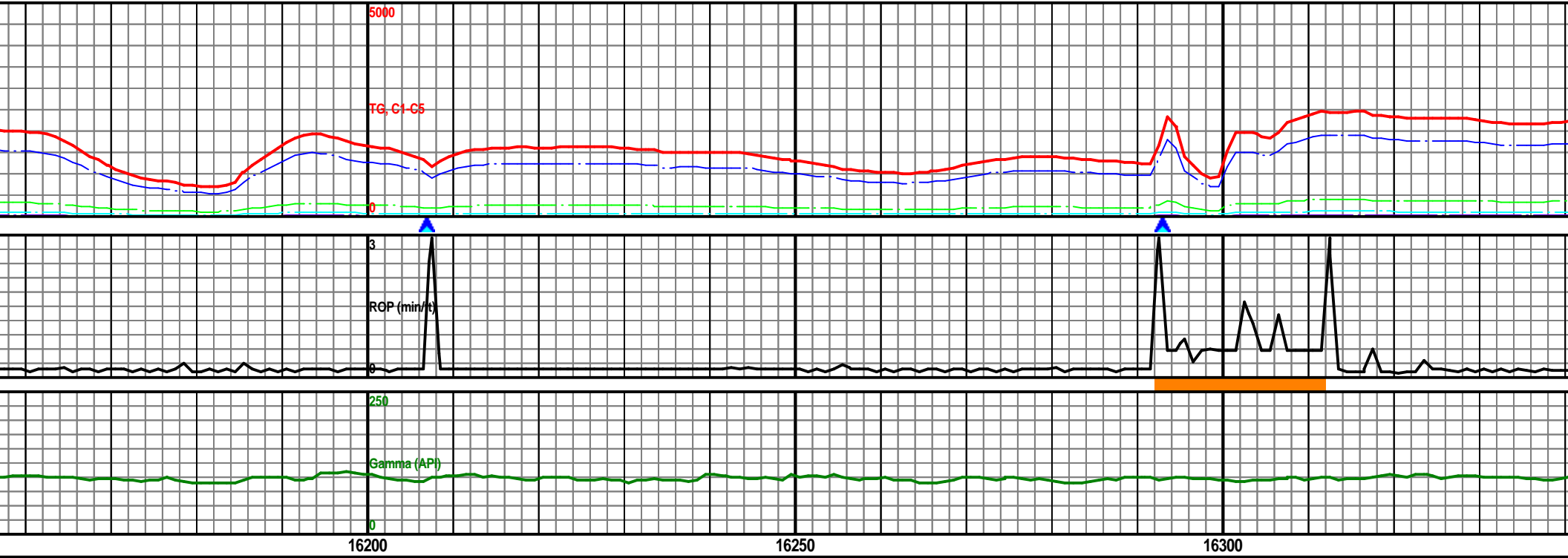
MW: 9.0 / VIS: 59





MW: 9.0 / VIS: 50

MW: 9.0 / VIS: 50



16200

16250

16300

03/30/14 4:00am Depth @ 16296'MD

7680 TVD

MD 16242 TVD 7707.37  
Az 357.46° Inc 89.85°

7730

7780

vfg-fg, rnd-sub r  
, mod str wh  
sbbiky, slty, grty

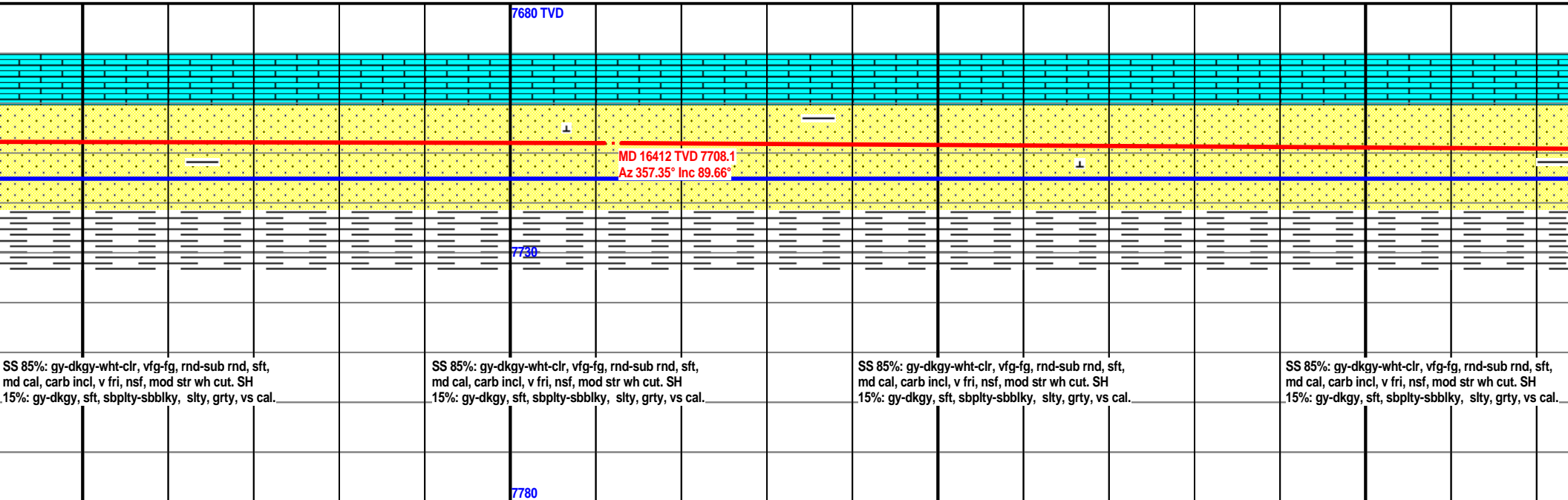
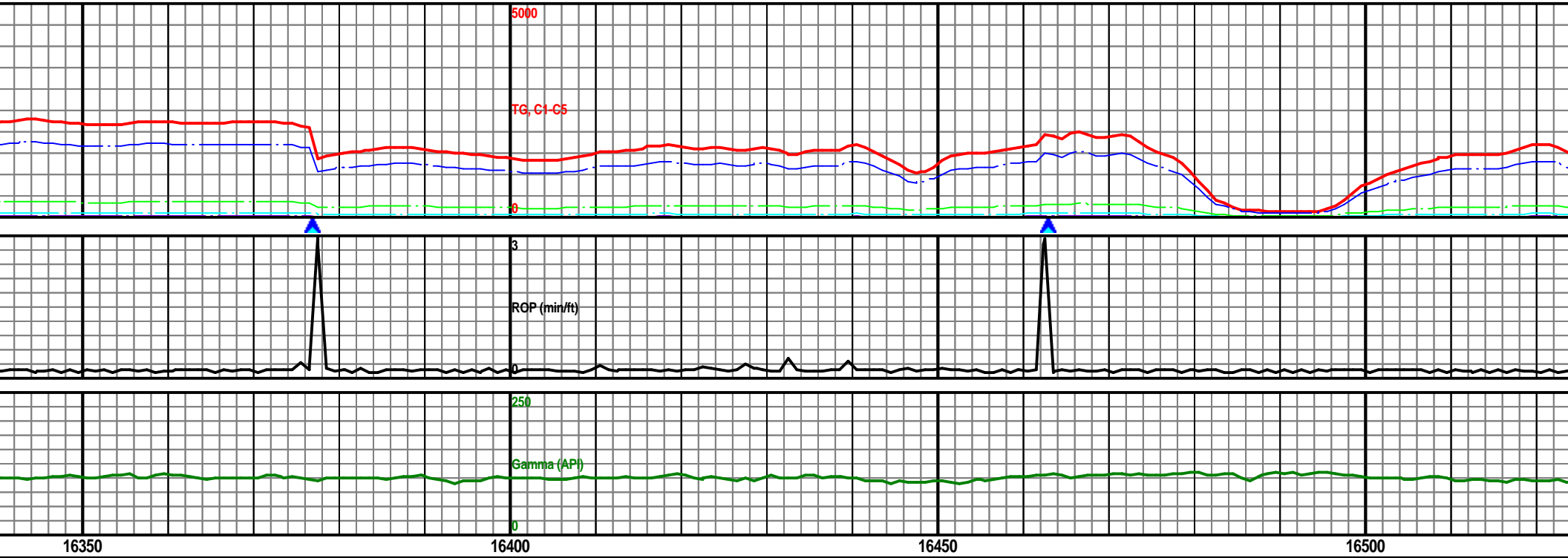
SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbbiky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbbiky, slty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbbiky, slty, grty, vs cal.

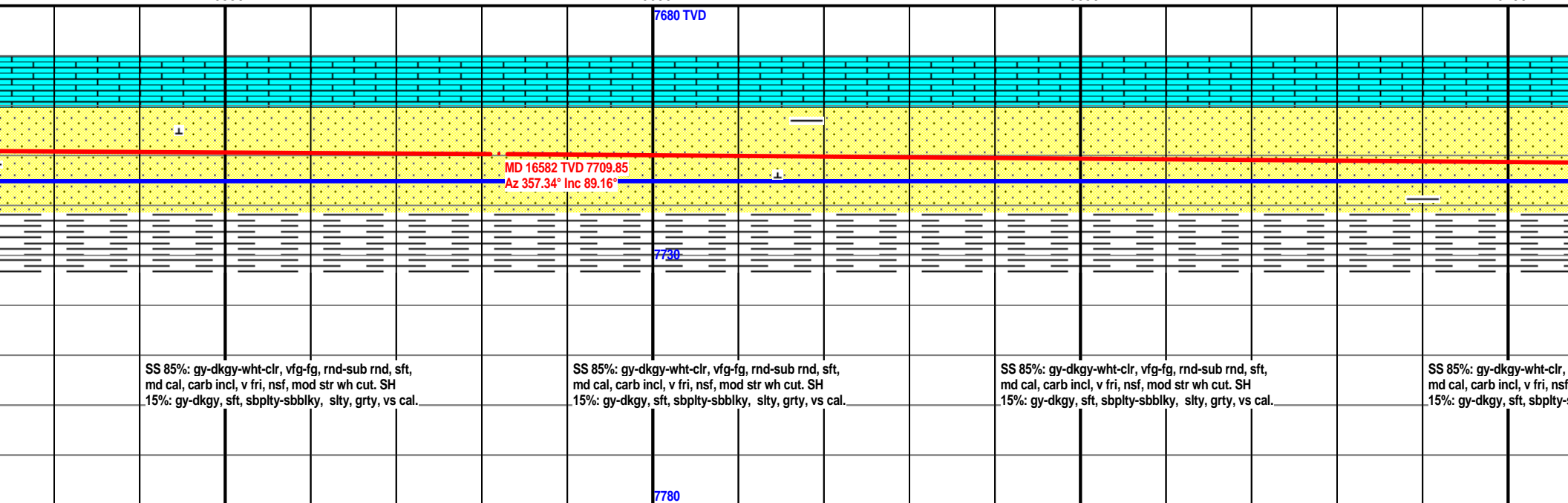
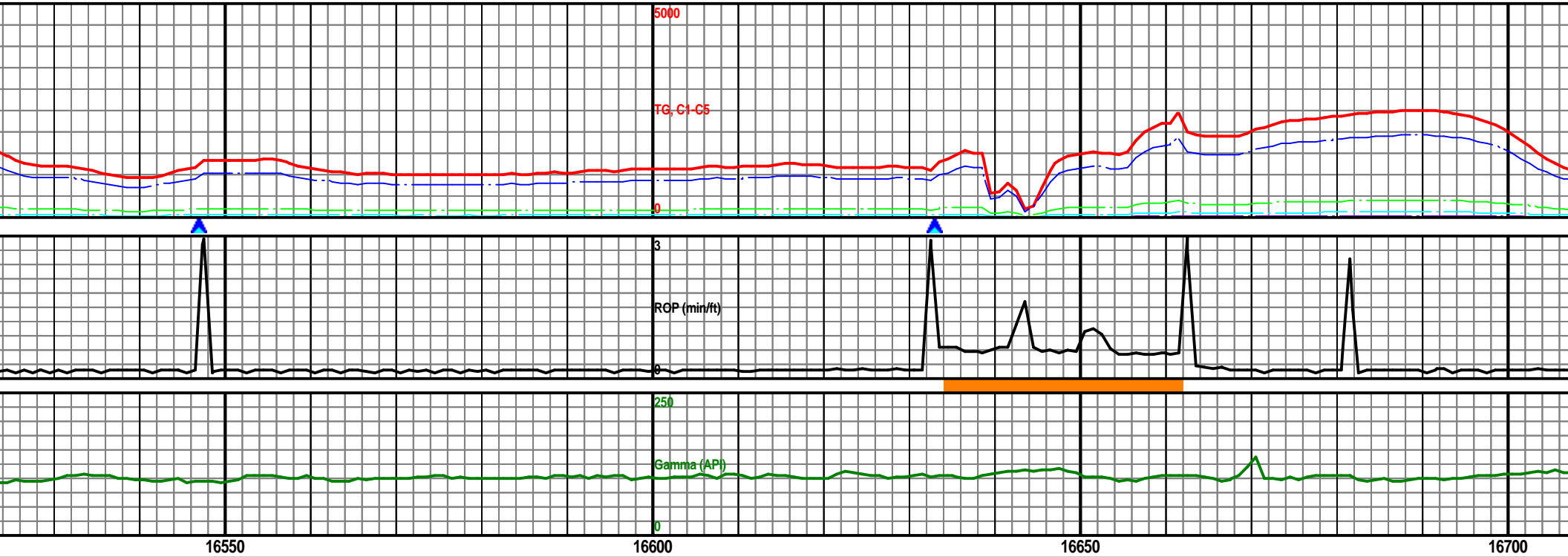
MW: 9.0 / VIS: 50

MW: 9.0 / VIS: 50

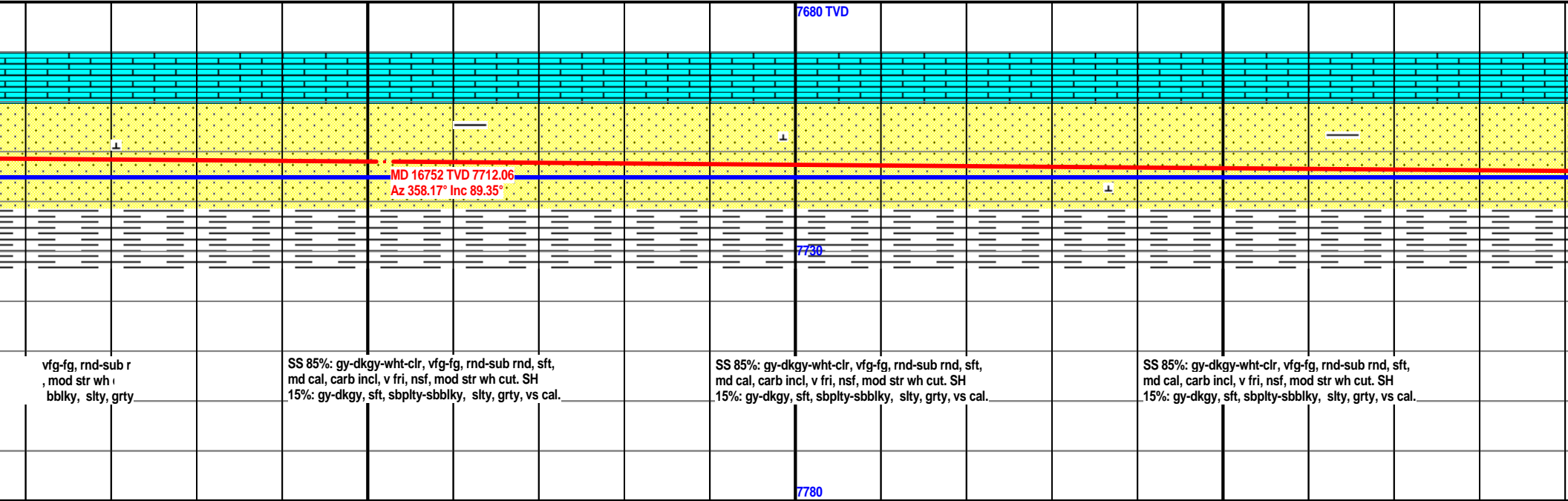
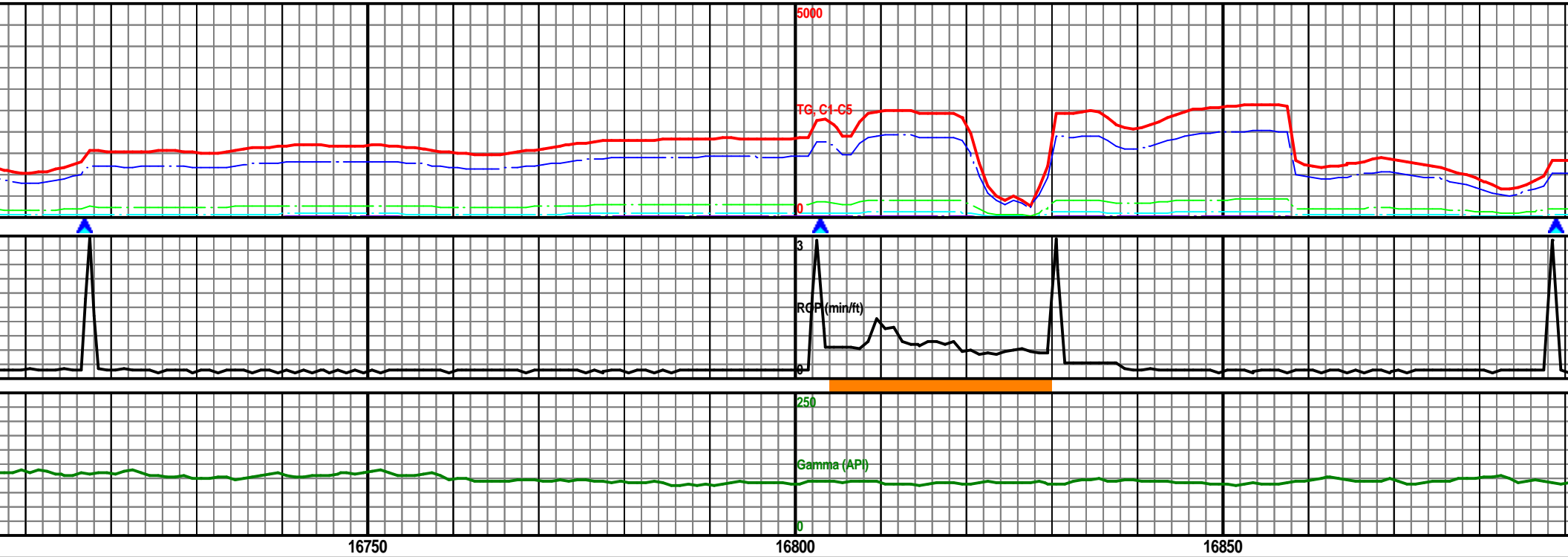


MW: 9.0 / VIS: 53

MW: 9.0 / VIS: 53

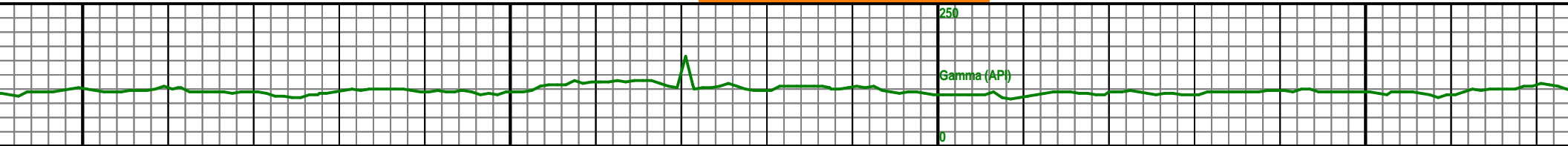
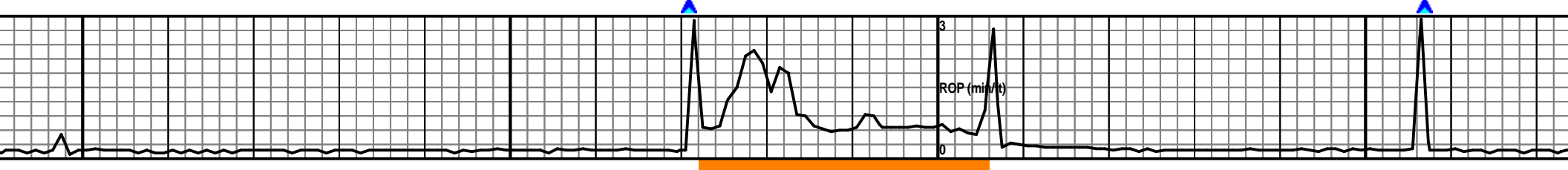
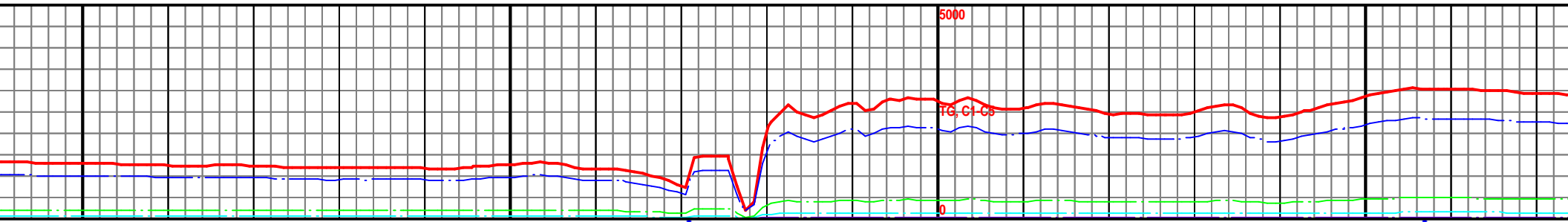


MW: 9.0 / VIS: 53



MW: 9.0 / VIS: 53

MW: 9.0 / VIS: 52

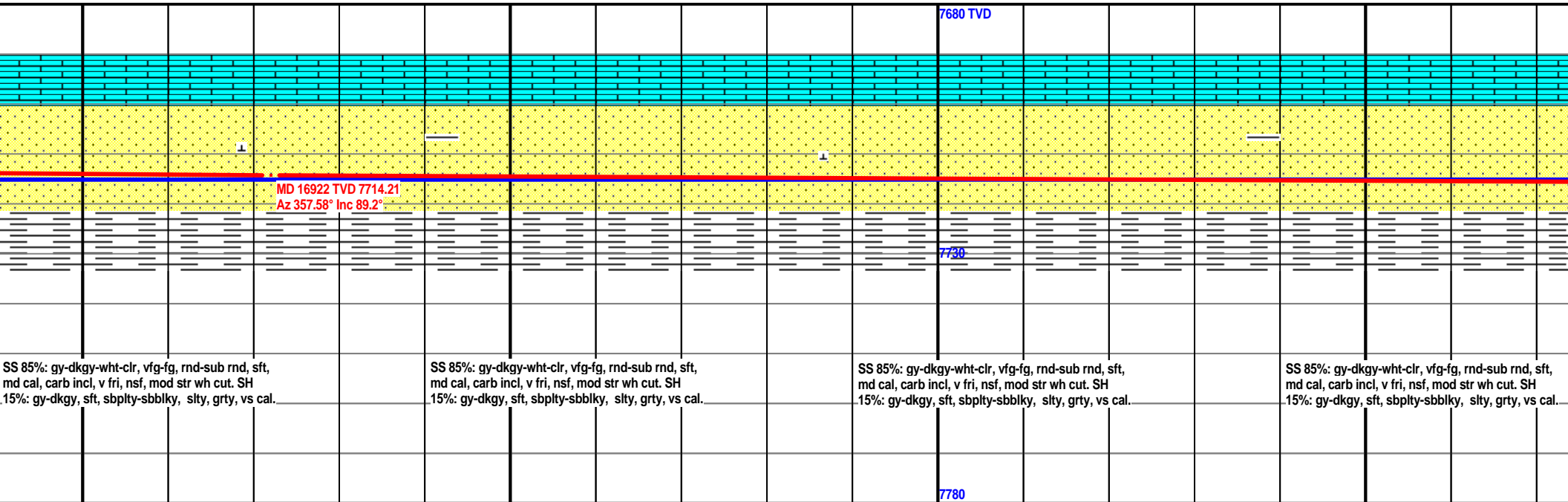


16900

16950

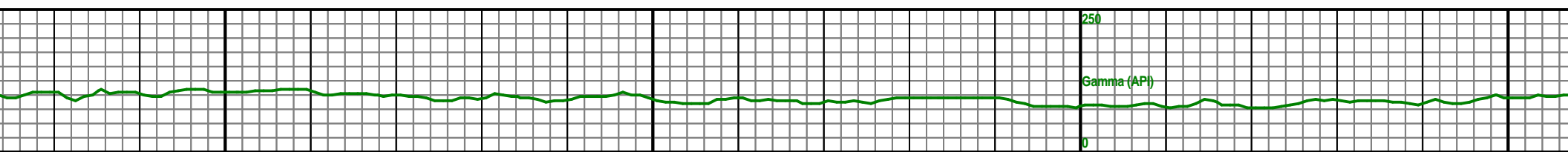
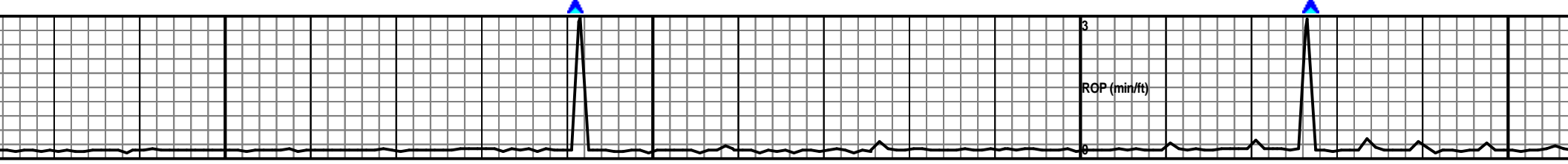
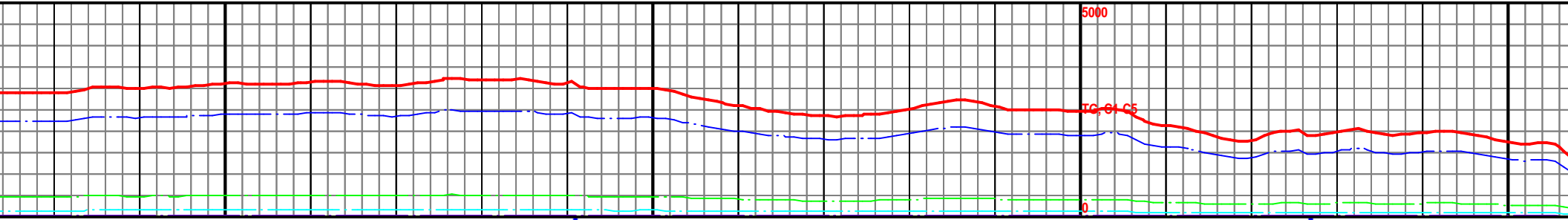
17000

17050



MW: 9.0 / VIS: 52

MW: 9.0 / VIS: 52

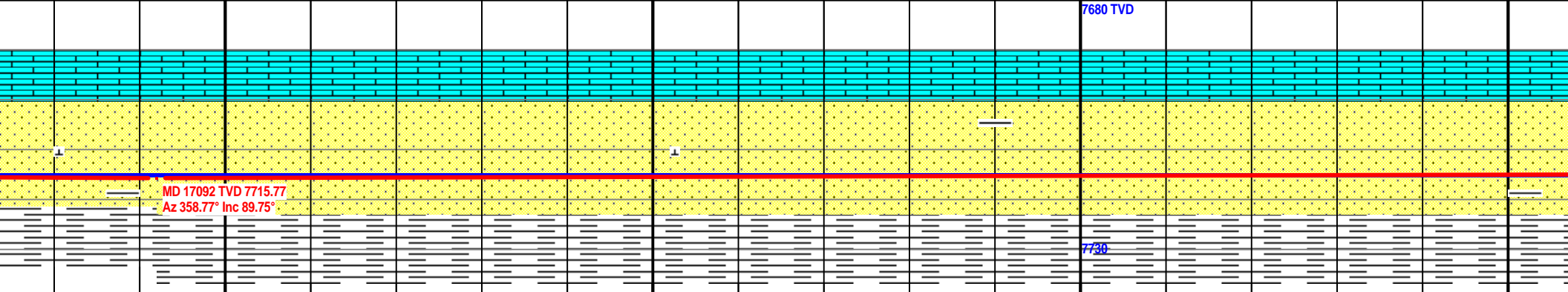


17100

17150

17200

17250



SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbbly, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbbly, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbbly, silty, grty, vs cal.

SS 85%: gy-dkgy-wht-clr, md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbply-sbbly, silty, grty, vs cal.

7780

MW: 9.1 / VIS: 52

TD of 17344' MD achieved @  
10:34AM 3/30/14

Two man logging unit with  
sample program released  
3/30/14. Gas analyzer system  
released 04/01/14.

17300

17350

MD 17293 TVD 7714.86  
Az 358.78° Inc 90.77°

MD 17344 TVD 7715  
Inc 90°

vfg-fg, rnd-sub r  
, mod str wh  
bblky, slty, grty

SS 85%: gy-dkgy-wht-clr, vfg-fg, rnd-sub rnd, sft,  
md cal, carb incl, v fri, nsf, mod str wh cut. SH  
15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal.