



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

**Well Name:** Benson Farms 12N-23HZ  
**Location:** Weld County, CO.  
**License Number:** 05123393990000  
**Spud Date:** 07/02/14  
**Surface Coordinates:** 2075'FSL & 50'FWL, SEC.24, T3N-R68W  
**Region:** DJ Basin  
**Drilling Completed:** 07/06/14  
**Bottom Hole Coordinates:** 2138'FSL & 50'FWL, SEC.23, T3N-R68W  
**Ground Elevation (ft):** 4957' **K.B. Elevation (ft):** 4973'  
**Logged Interval (ft):** 7250' **To:** 13080' **Total Depth (ft):** 13080'  
**Formation:** Niobrara B CK  
**Type of Drilling Fluid:** Water Base Mud

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

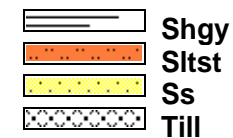
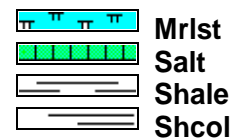
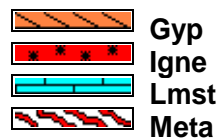
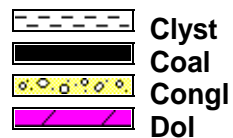
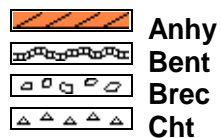
Name: Scott Crozier / Ben Thompson  
Company: Great Divide Consulting, Inc.  
Address: P.O. Box 630263  
Highlands Ranch, CO 80163

## Cores

## DSTs

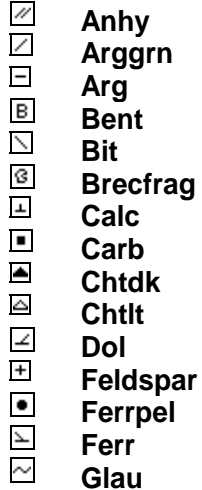
## Comments

## ROCK TYPES

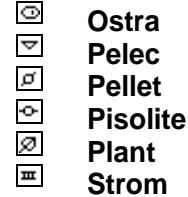
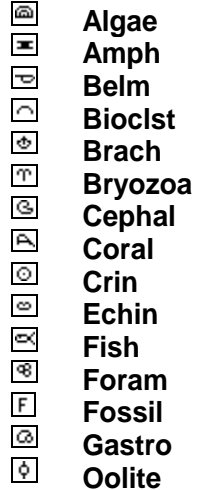


## ACCESSORIES

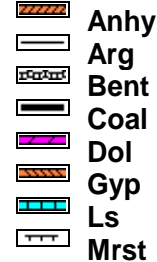
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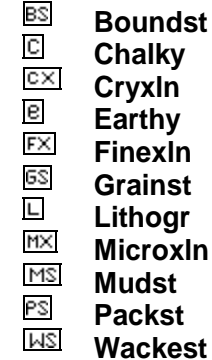
### FOSSIL










### STRINGER




### TEXTURE







**POROSITY**

 Earthy  
 Fenest  
 Fracture  
 Inter  
 Moldic  
 Organic  
 Pinpoint

**Vuggy****SORTING**

 Well  
 Moderate  
 Poor



**OTHER SYMBOLS****ROUNDING**

 Rounded  
 Subrnd  
 Subang  
 Angular

**OIL SHOW**

 Even

**Spotted**

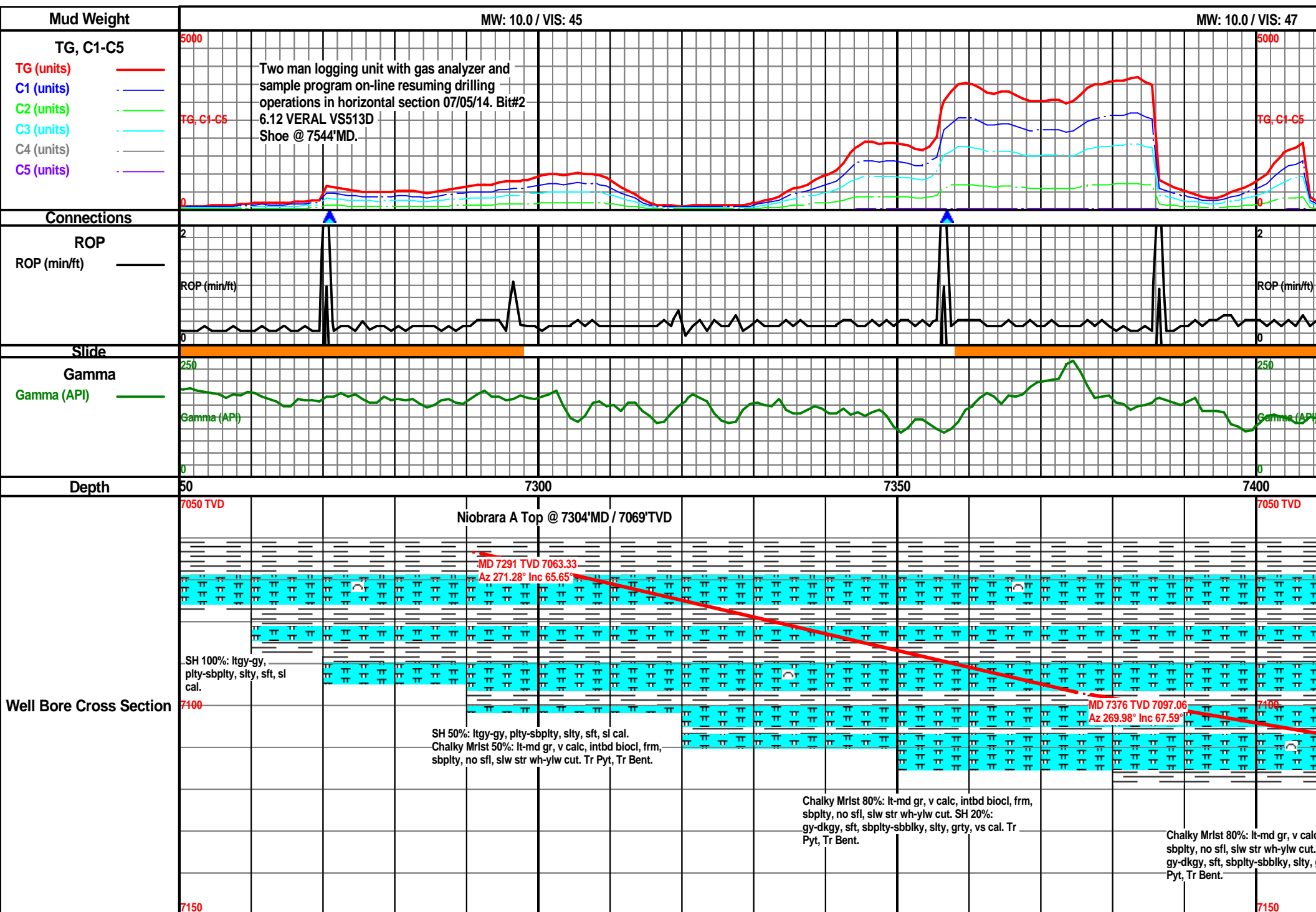
 Ques  
 Dead

**INTERVAL**

 Core  
 Dst

**EVENT**

 Rft  
 Connection



MW: 10.2 / VIS: 50

Curve TD of 7544'MD achieved @  
6:06PM 07/03/14. T.O.O.H. for  
intermediate casing.

07/05/14 B.O.B. @ 9:45am.

2500

Note Scale Change

Scale Change  
TG, C1-C5

On Gas Buster

0

7450

7500

7550

Niobrara B CK Top @ 7480'MD / 7126'TVD

7110 TVD

Note Scale Change

Scale Change

7435'

MD 7460 TVD 7121.73  
Az 268.21° Inc 78.2°

MD 7480 TVD 7125.52  
Az 268.03° Inc 79.96°

Chalky Mrlst 80%: lt-md gr, v calc, intbd biocl, frm,  
sbpty, no sfl, slw str wh-ylw cut. SH 20%: gy-dkgy, sft, sbpty-sbbiky, slty, grty, vs cal. Tr  
Pyt.

Chalky Mrlst 90%: lt-md gr, v calc, intbd biocl, frm,  
sbpty, no sfl, slw str wh-ylw cut. SH 10%: gy-dkgy, sft, sbpty-sbbiky, slty, grty, vs cal. Tr  
Pyt.

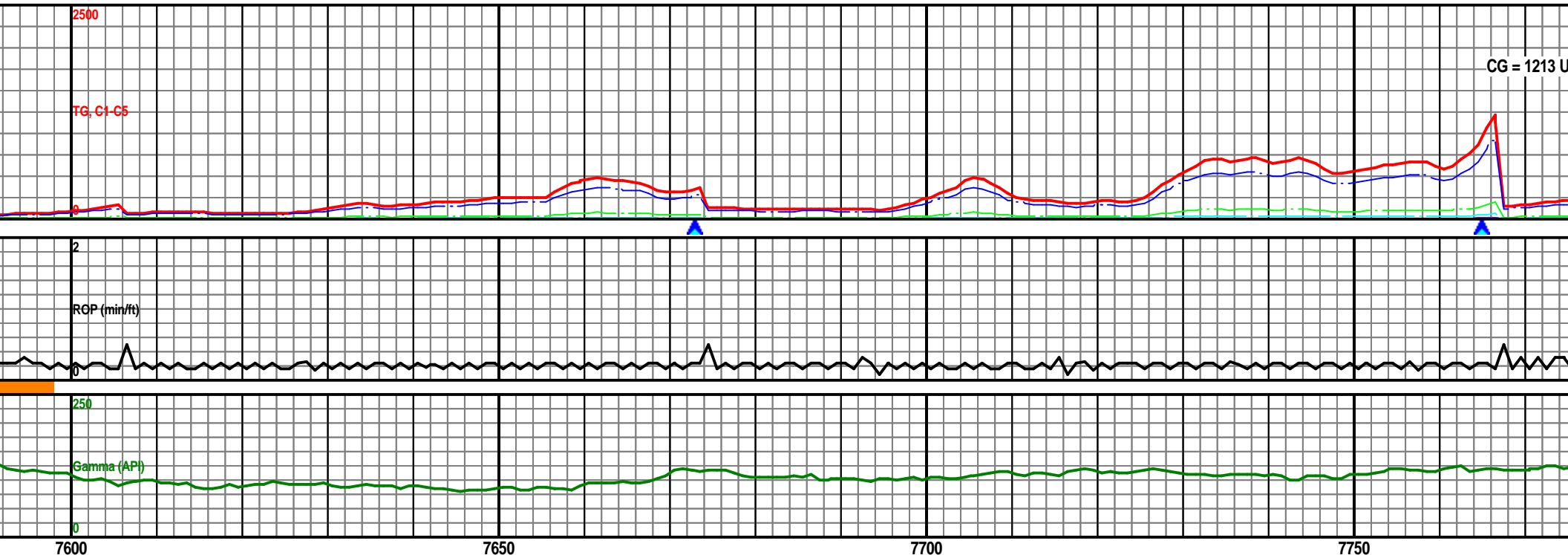
Chalky Mrlst 90%: lt-md gr, v calc, intbd biocl, frm, sbpty,  
no sfl, slw str wh-ylw cut. SH 10%: gy-dkgy, sft,  
sbpty-sbbiky, slty, grty, vs cal. Tr Pyt.

7160

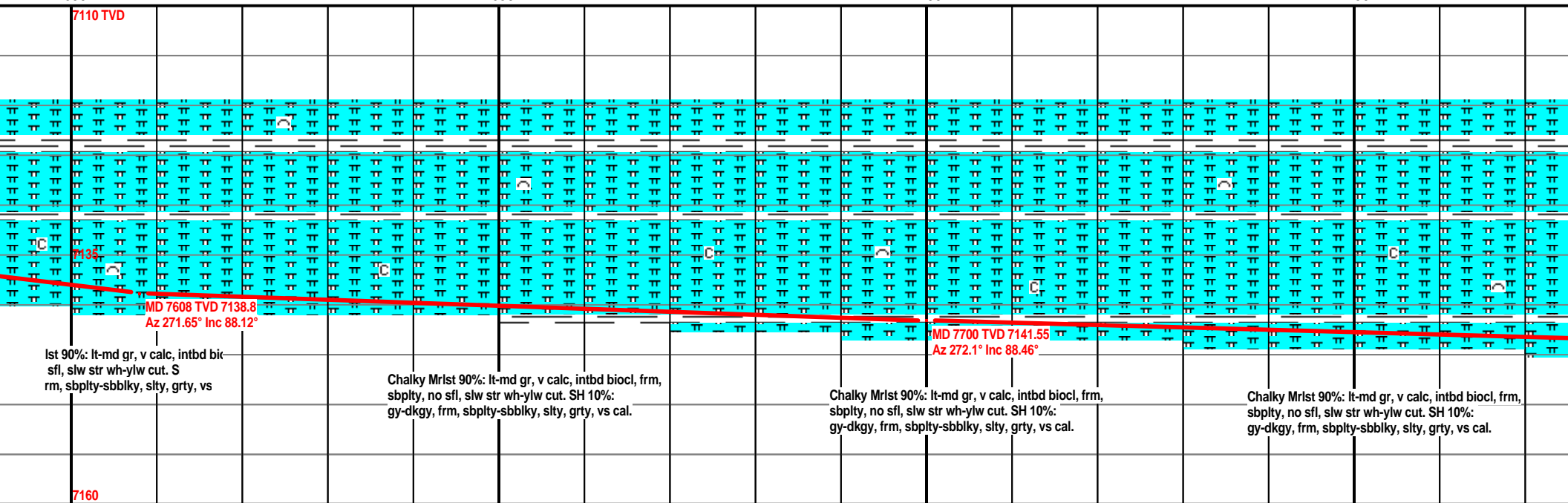
Chalky Mrlst  
sbpty, no sfl,  
gy-dkgy, sft,  
Pyt.

MW: 9.1 / VIS: 35

MW: 9.1+ / VIS: 40

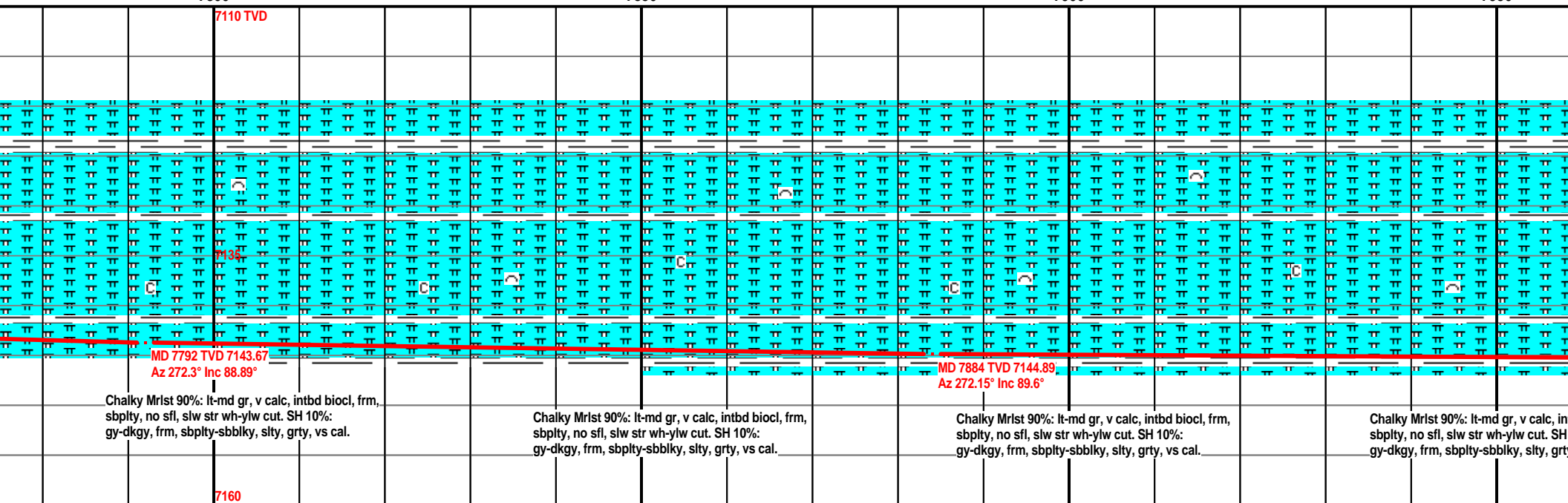
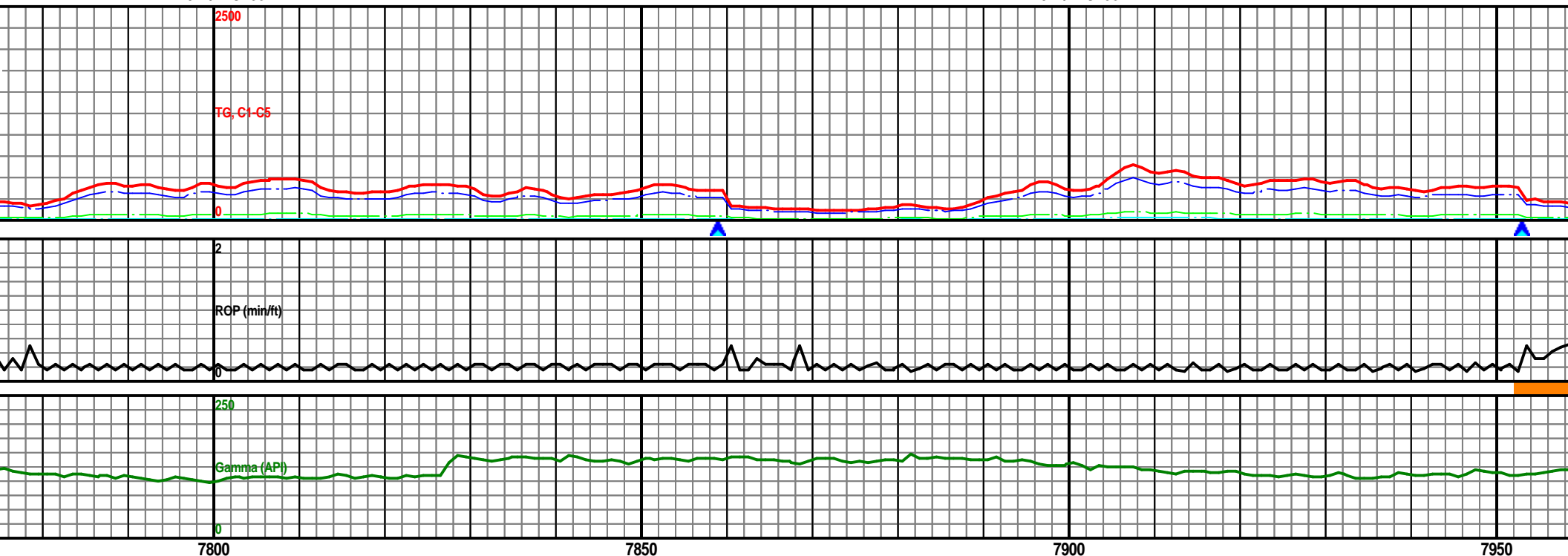


CG = 1213 U



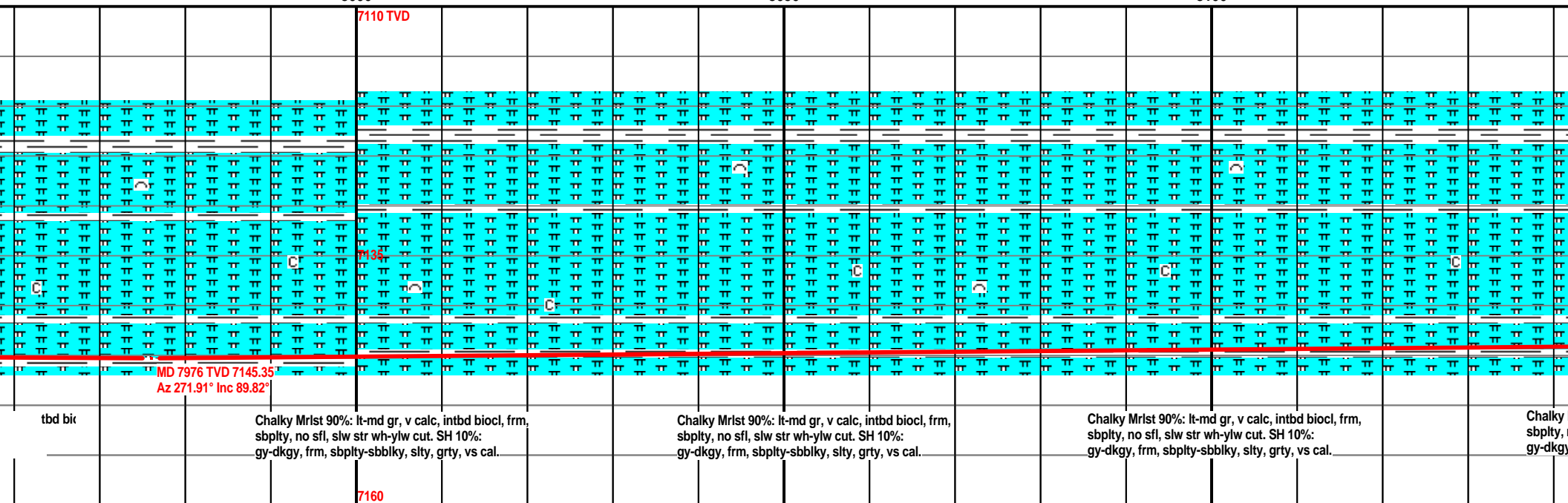
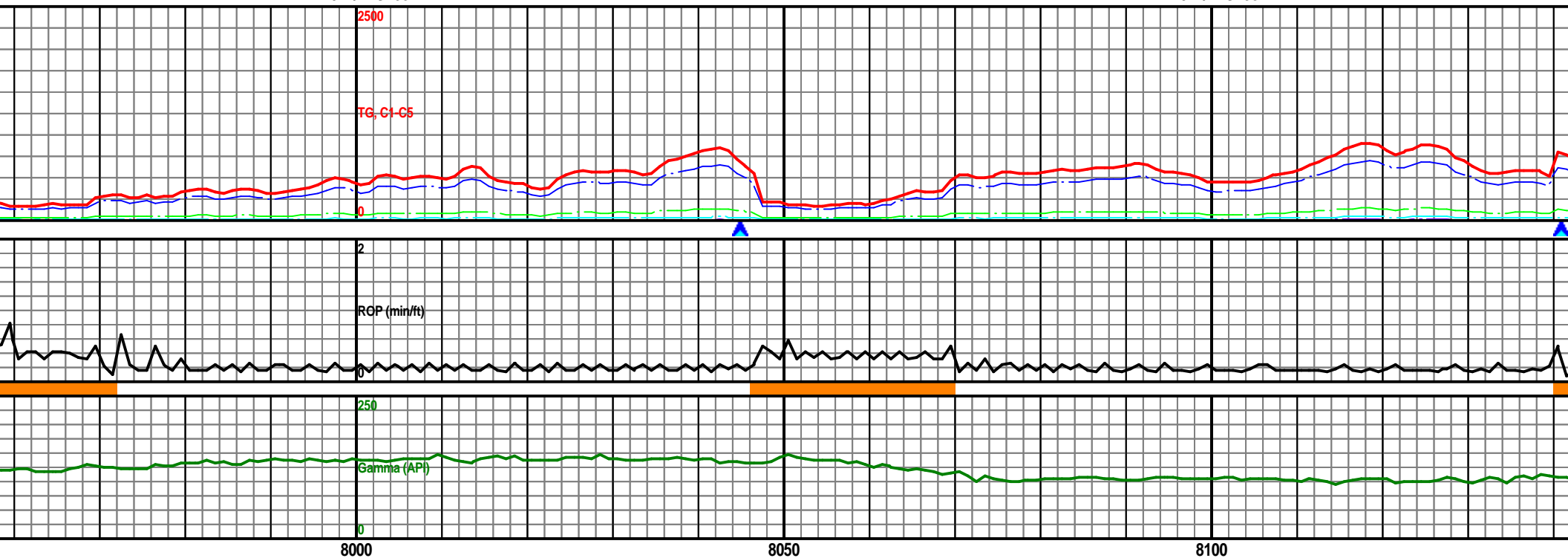
MW: 9.1 / VIS: 38

MW: 9.1 / VIS: 38



MW: 9.1 / VIS: 38

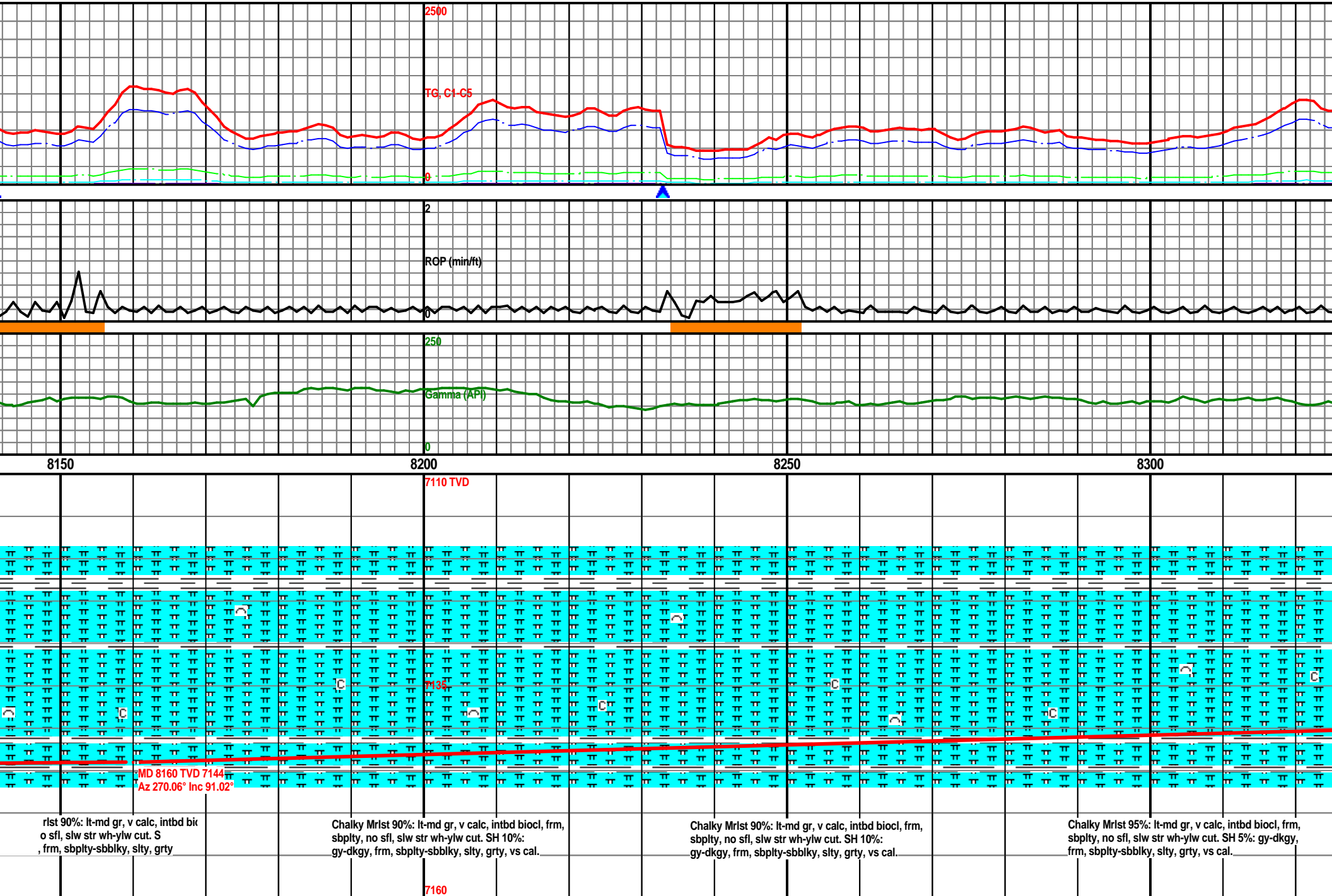
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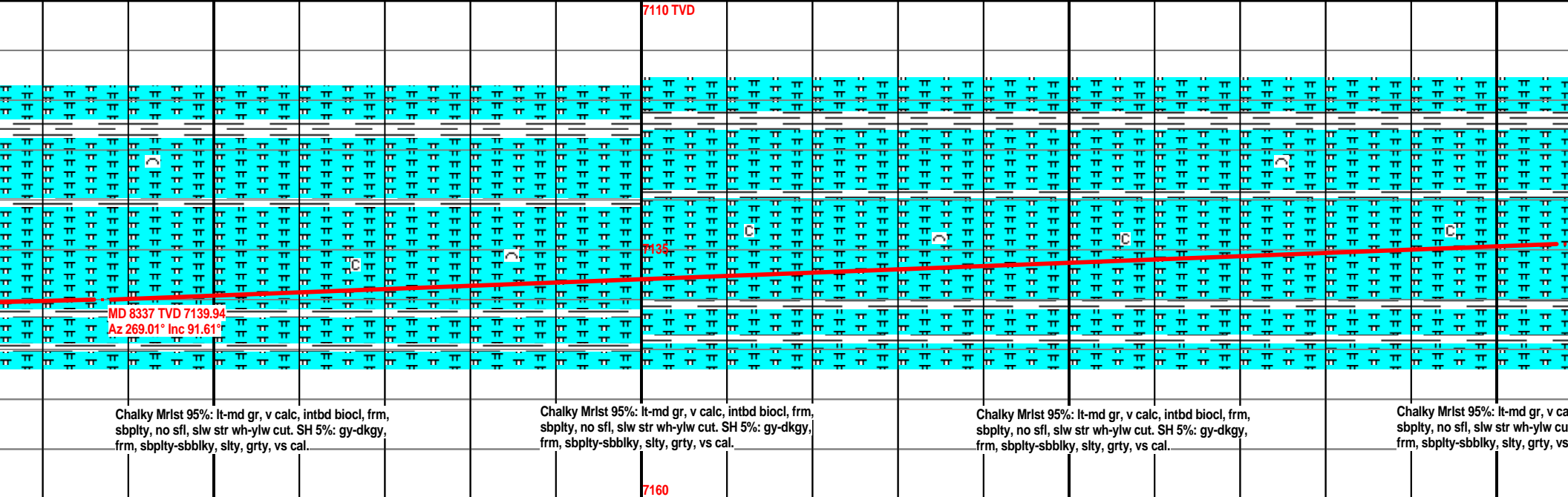
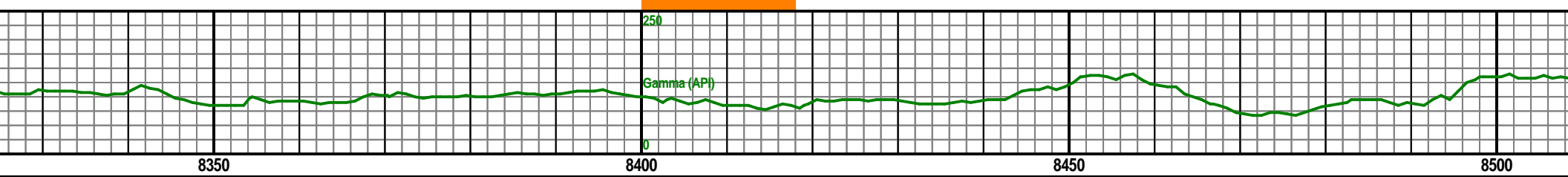
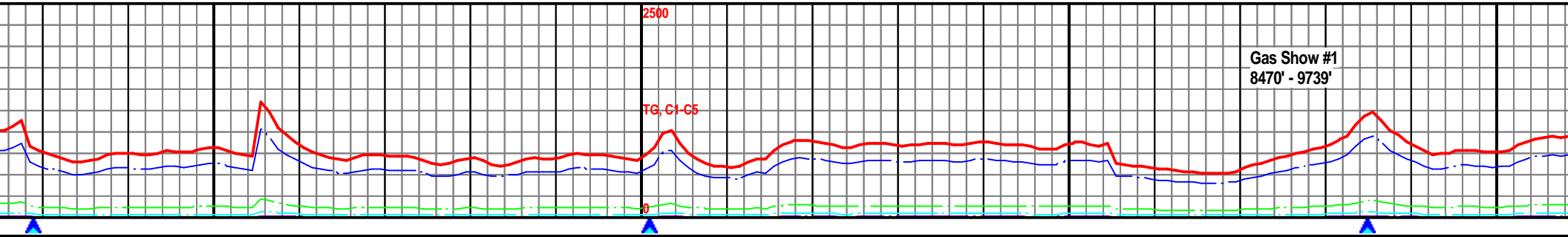
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MW: 9.1 / VIS: 38

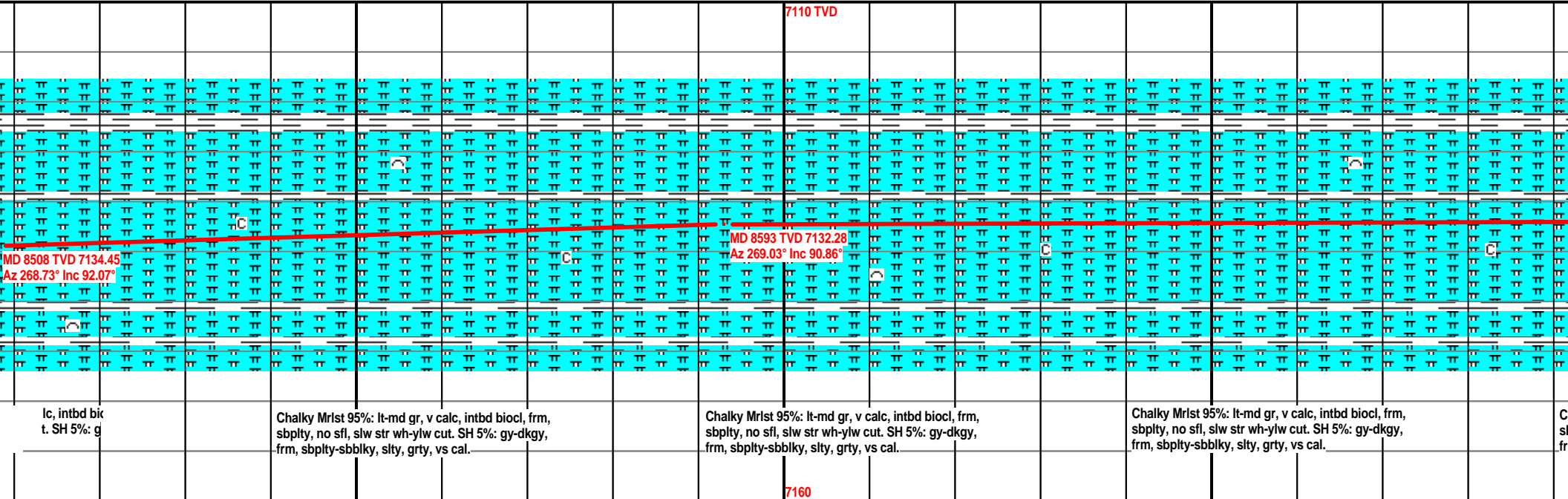
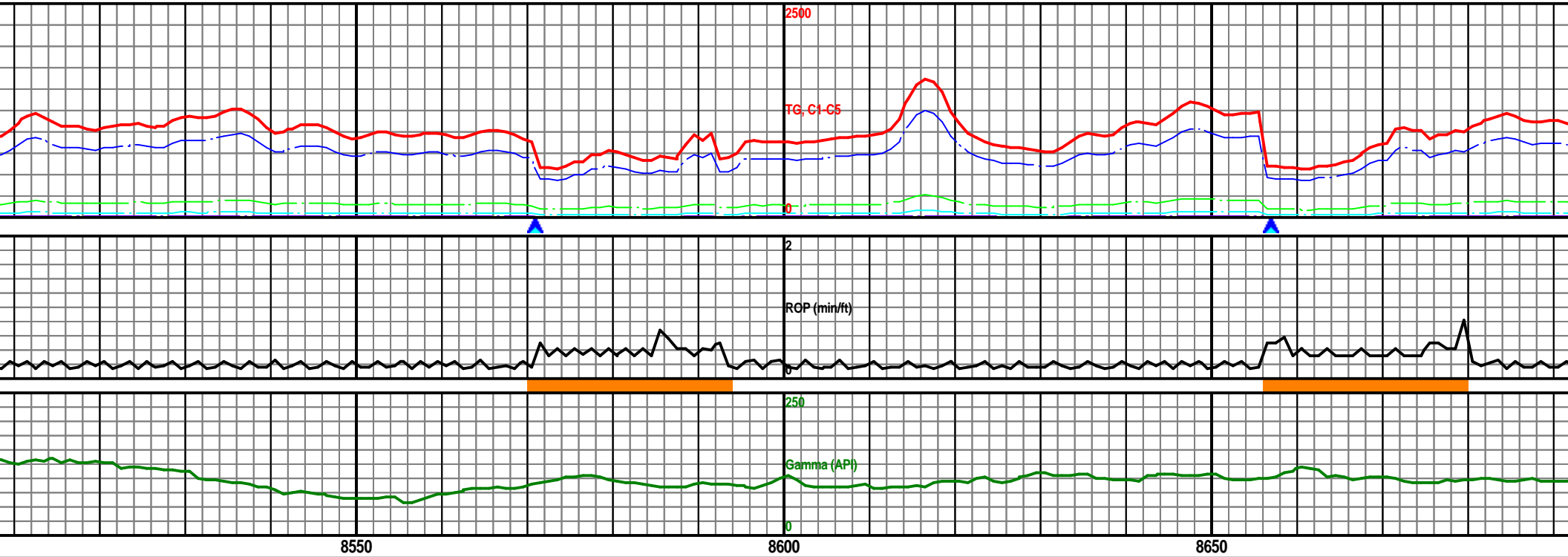


MW: 9.1 / VIS: 38

MW: 9.1 / VIS: 38

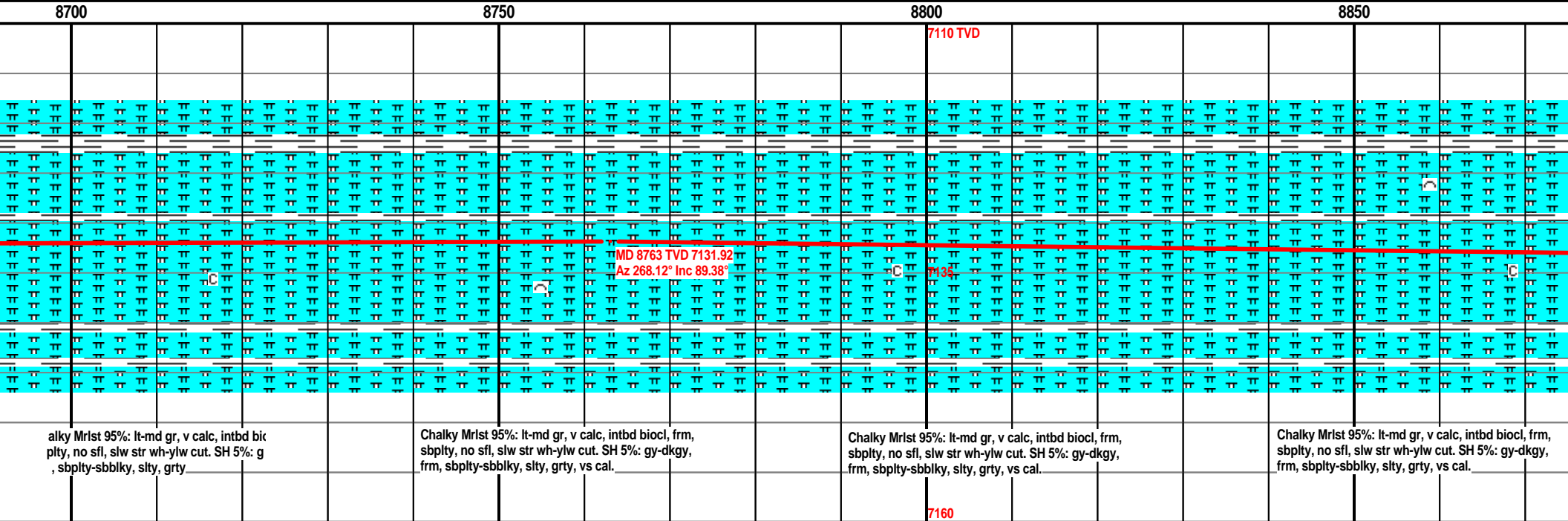
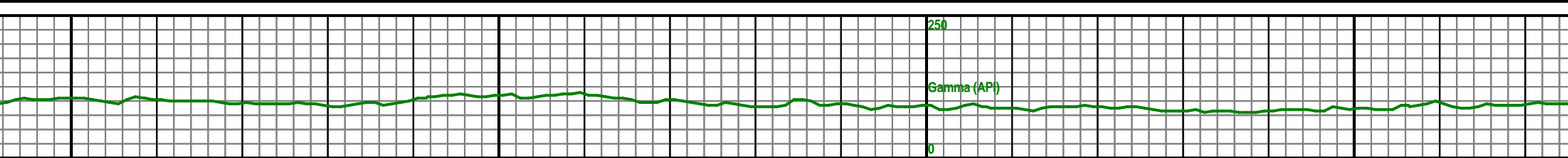
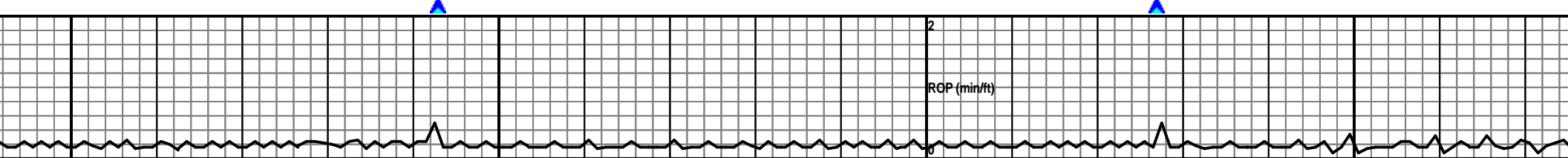
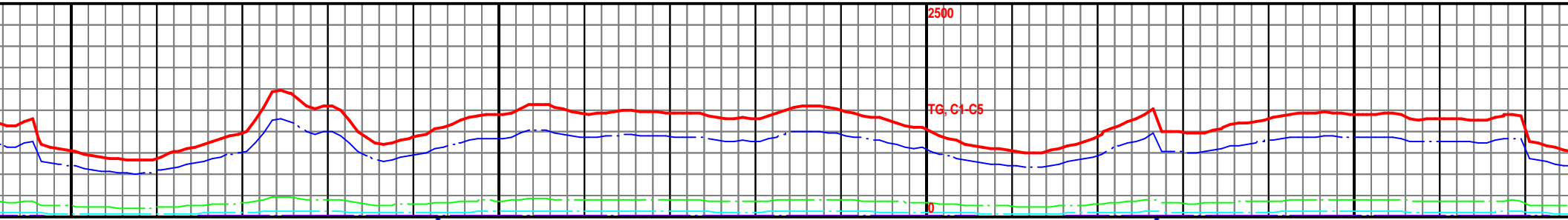


MW: 9.1 / VIS: 38



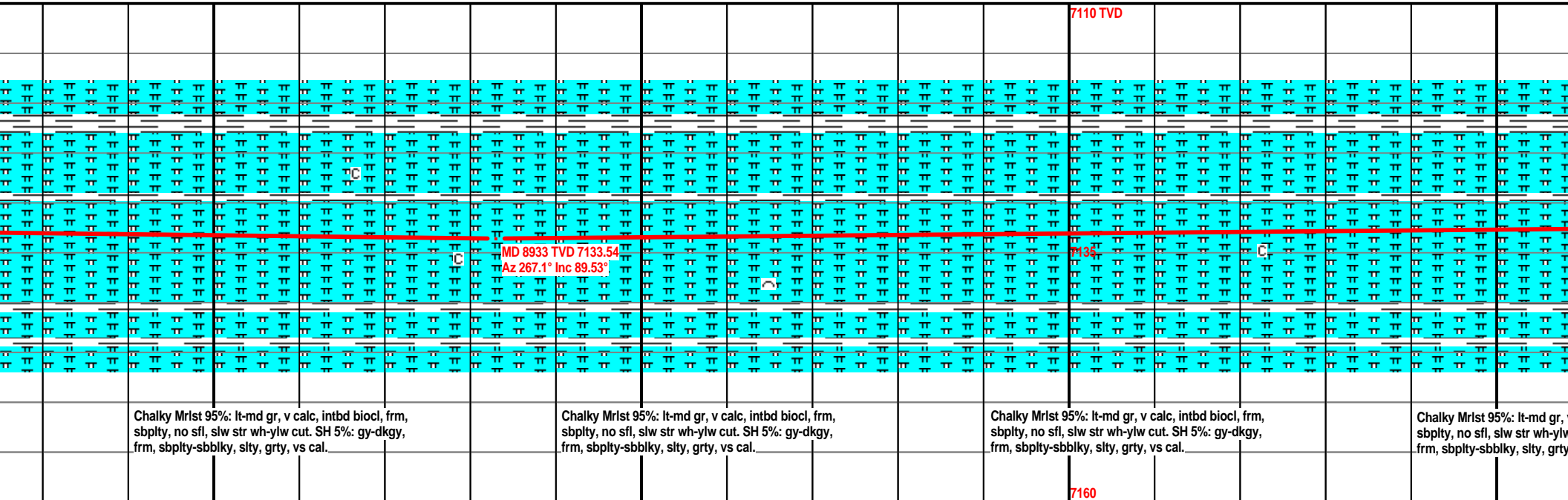
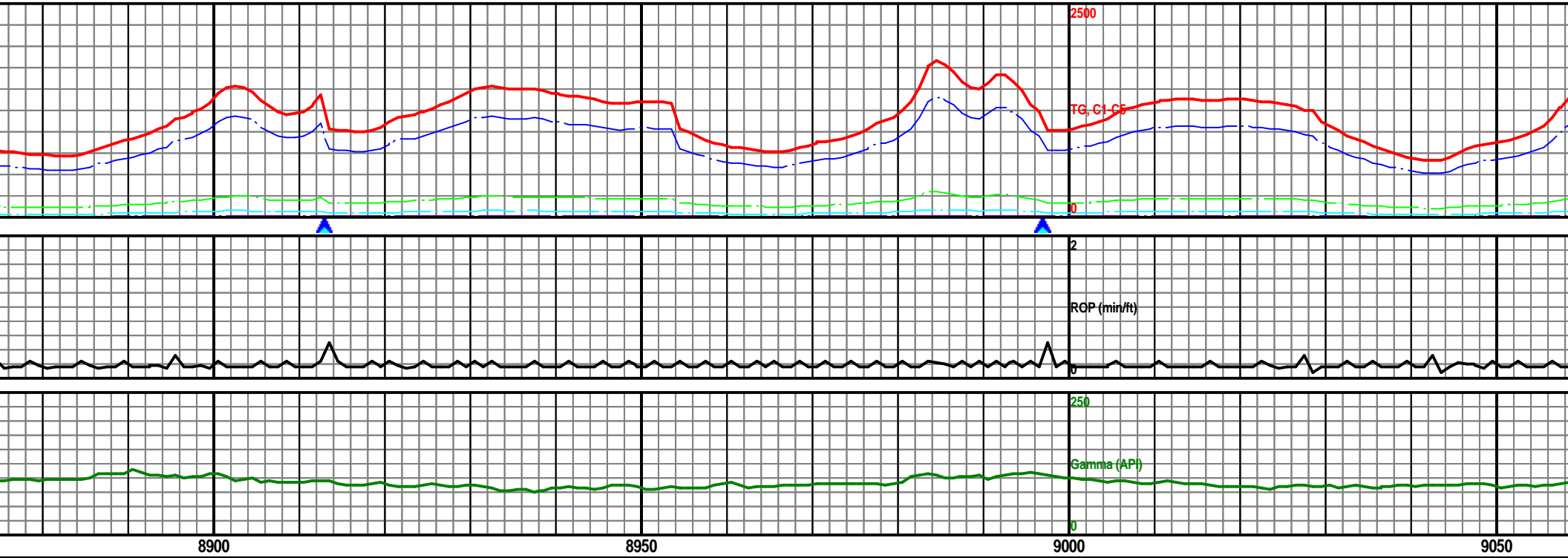
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MW: 9.2 / VIS: 38



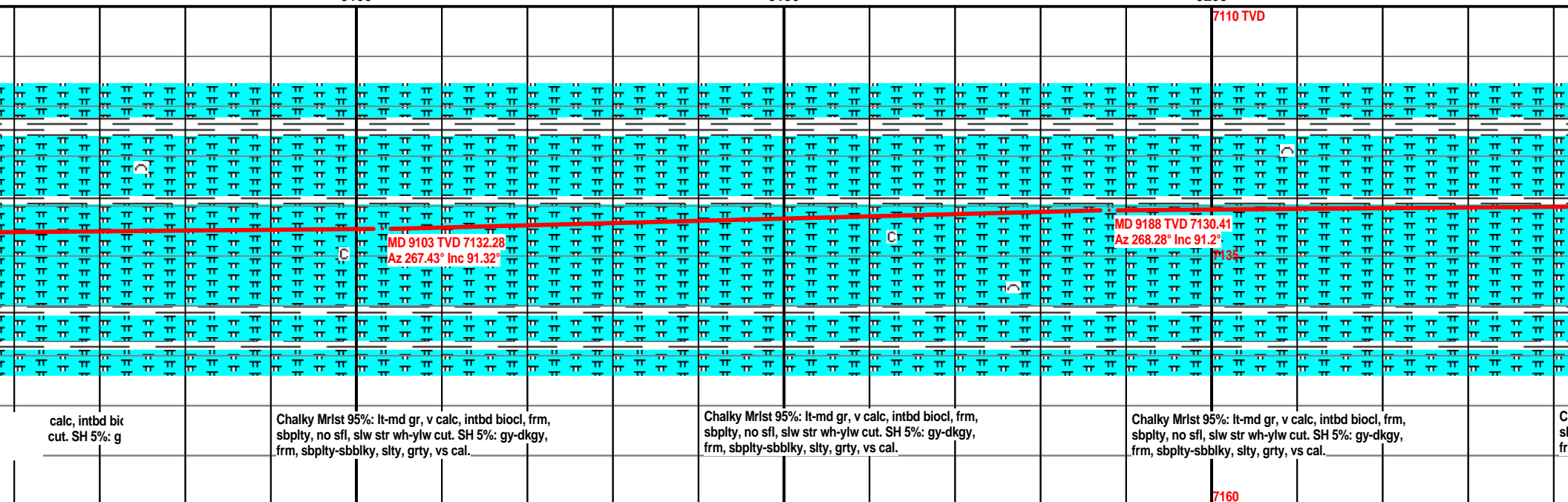
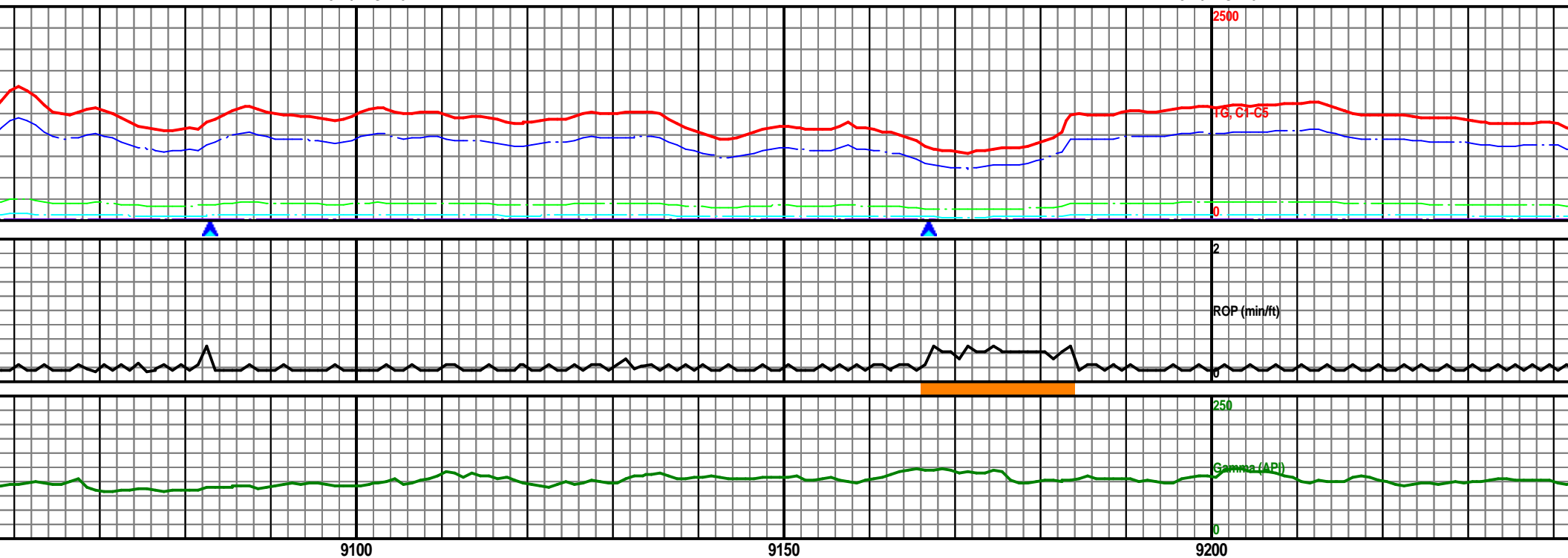
MW: 9.2 / VIS: 38

MW: 9.2 / VIS: 46



MW: 9.2 / VIS: 46

MW: 9.2 / VIS: 46



MW: 9.2 / VIS: 46

MW: 9.2 / VIS: 46

PG = 1984 U

2500

TG, C1-C5

0

2

RGP (min/ft)

250

Gamma (API)

0

9250

9300

9350

9400

7110 TVD

MD 9273 TVD 7129.89

Az 268.02° Inc 89.5°

7135

alky Mrlst 95%: lt-md gr, v calc, intbd bic  
pity, no sfl, slw str wh-yiw cut. SH 5%: g  
, sbpity-sbbiky, slty, grty

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbpity, no sfl, slw str wh-yiw cut. SH 5%: gy-dkgy,  
frm, sbpity-sbbiky, slty, grty, vs cal.

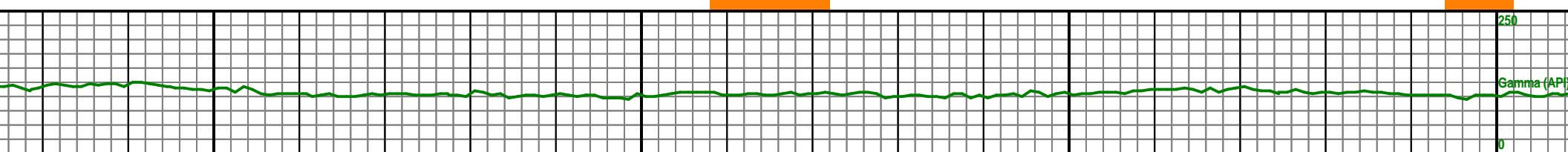
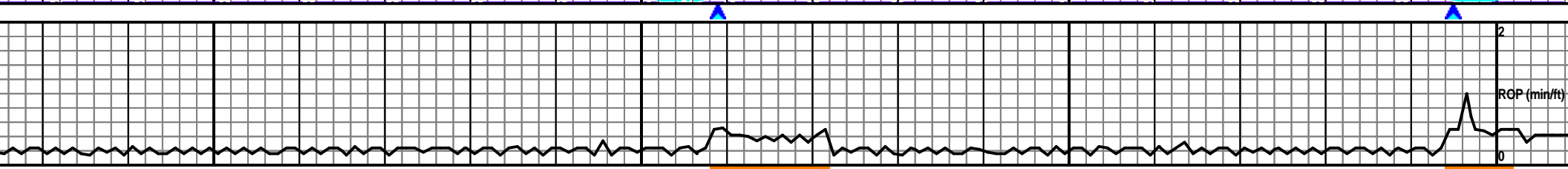
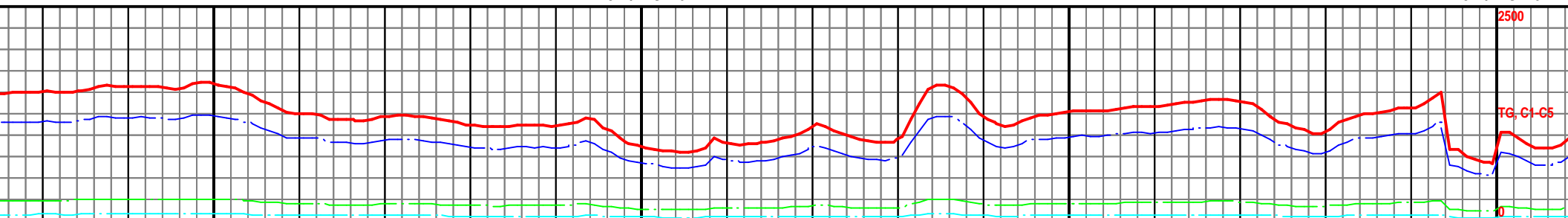
Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbpity, no sfl, slw str wh-yiw cut. SH 5%: gy-dkgy,  
frm, sbpity-sbbiky, slty, grty, vs cal.

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbpity, no sfl, slw str wh-yiw cut. SH 5%: gy-dkgy,  
frm, sbpity-sbbiky, slty, grty, vs cal.

7160

MW: 9.2 / VIS: 46

MW: 9.2 / VIS: 46



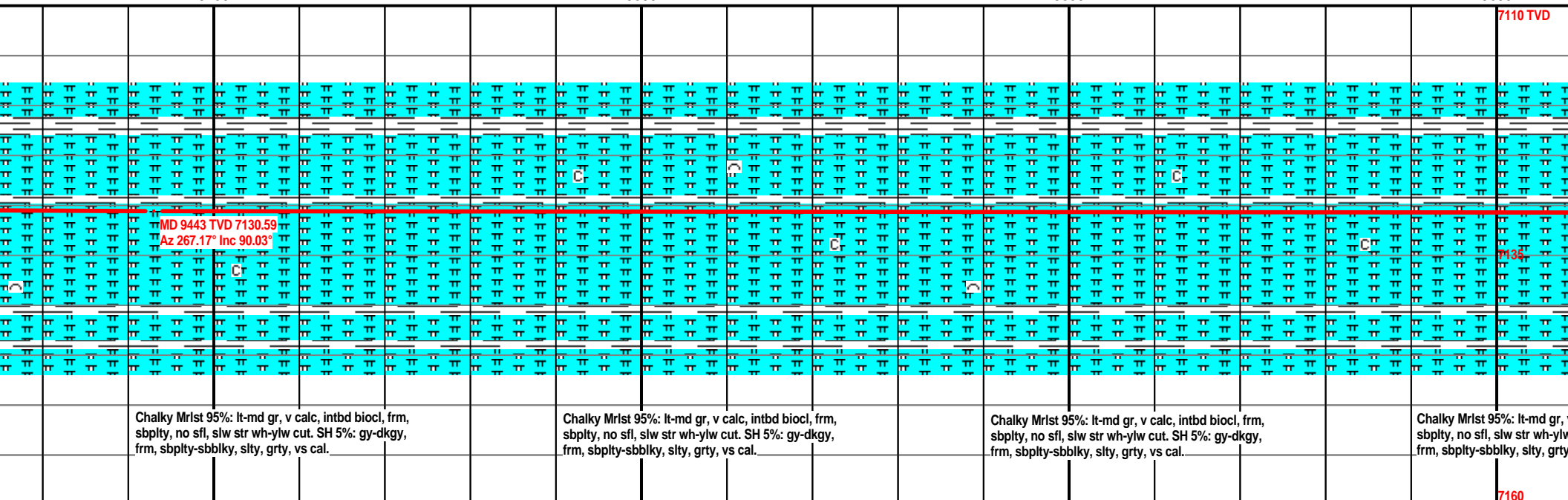
9450

9500

9550

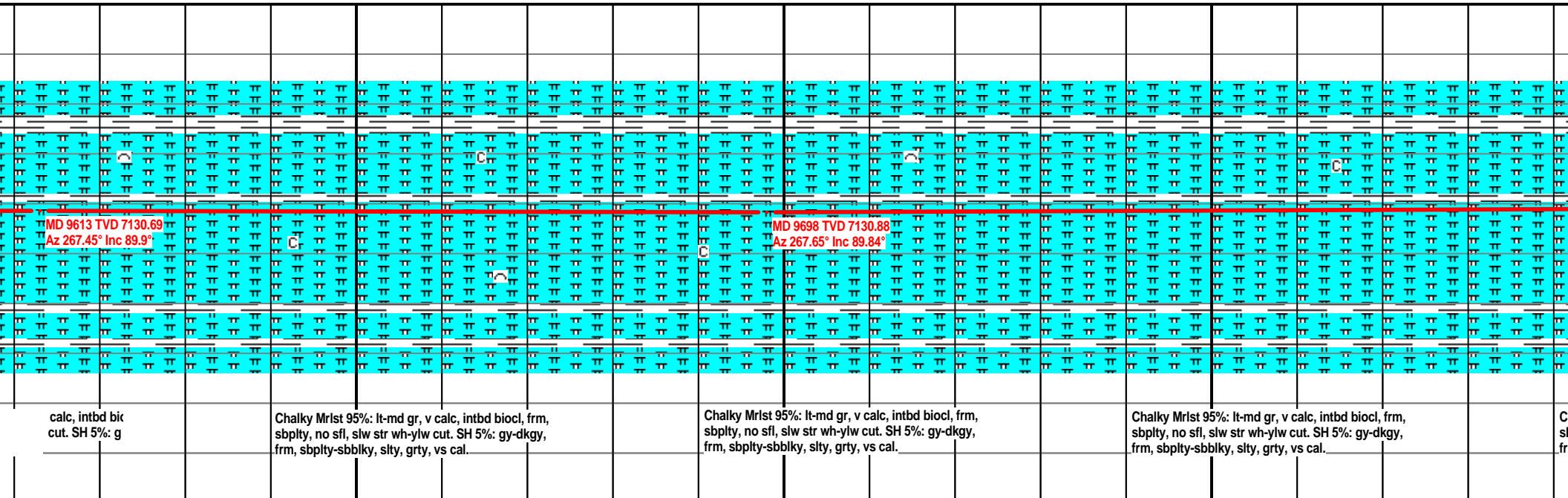
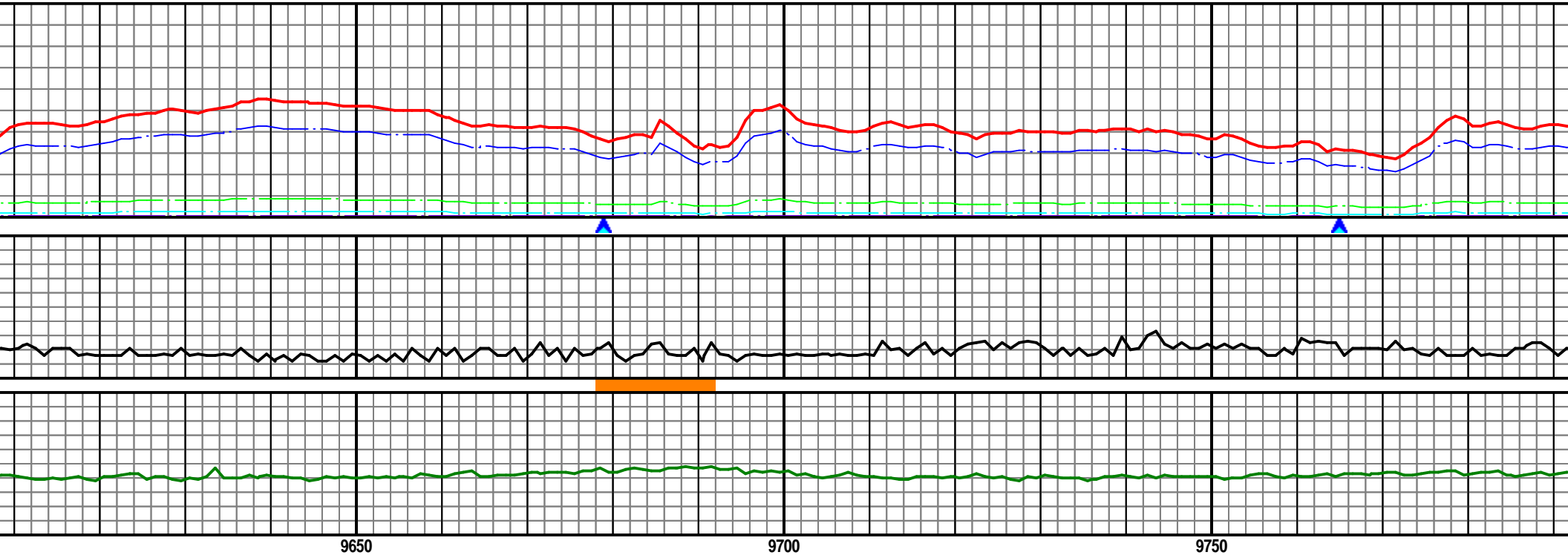
9600

7110 TVD



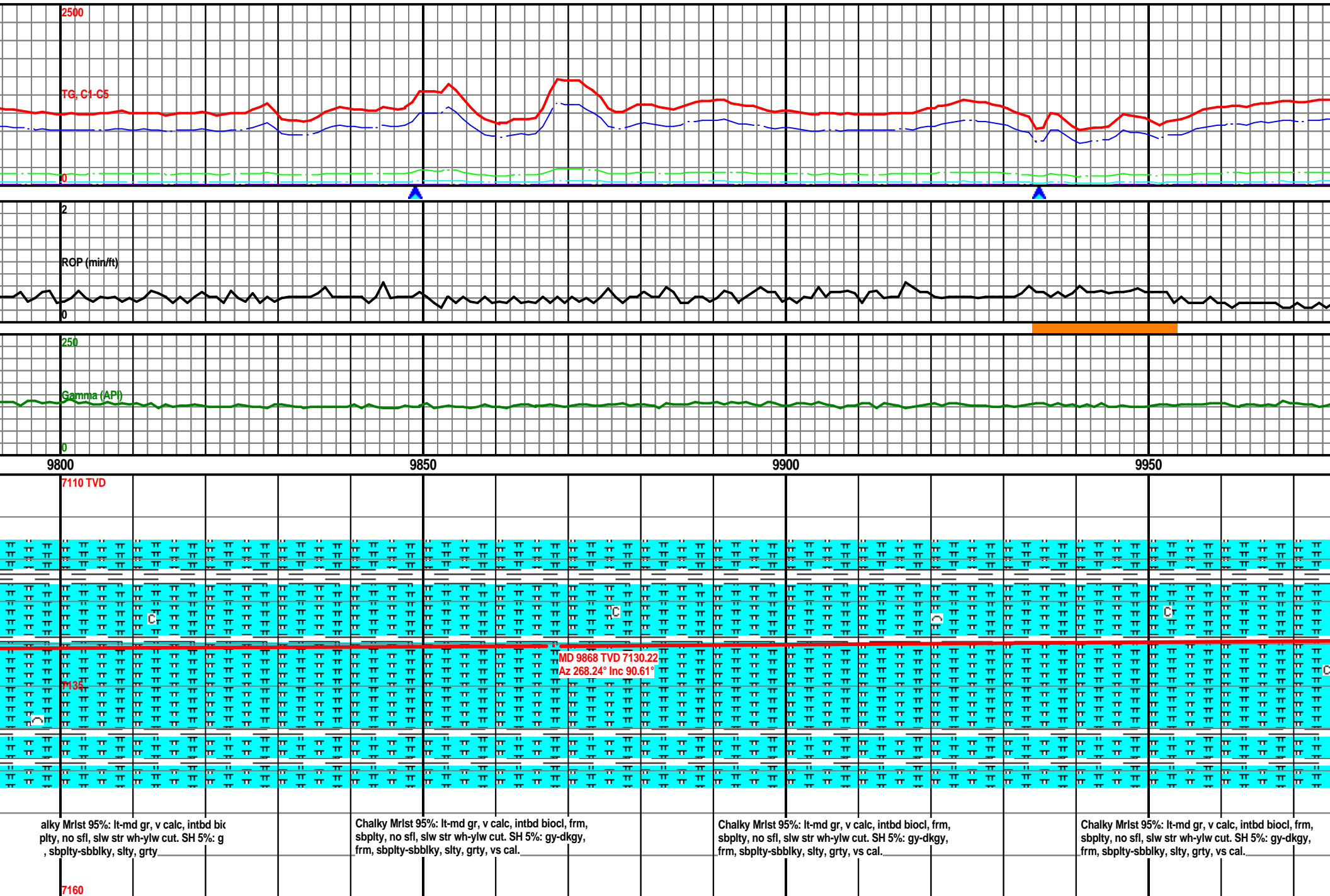


**MW: 9.2 / VIS: 46**



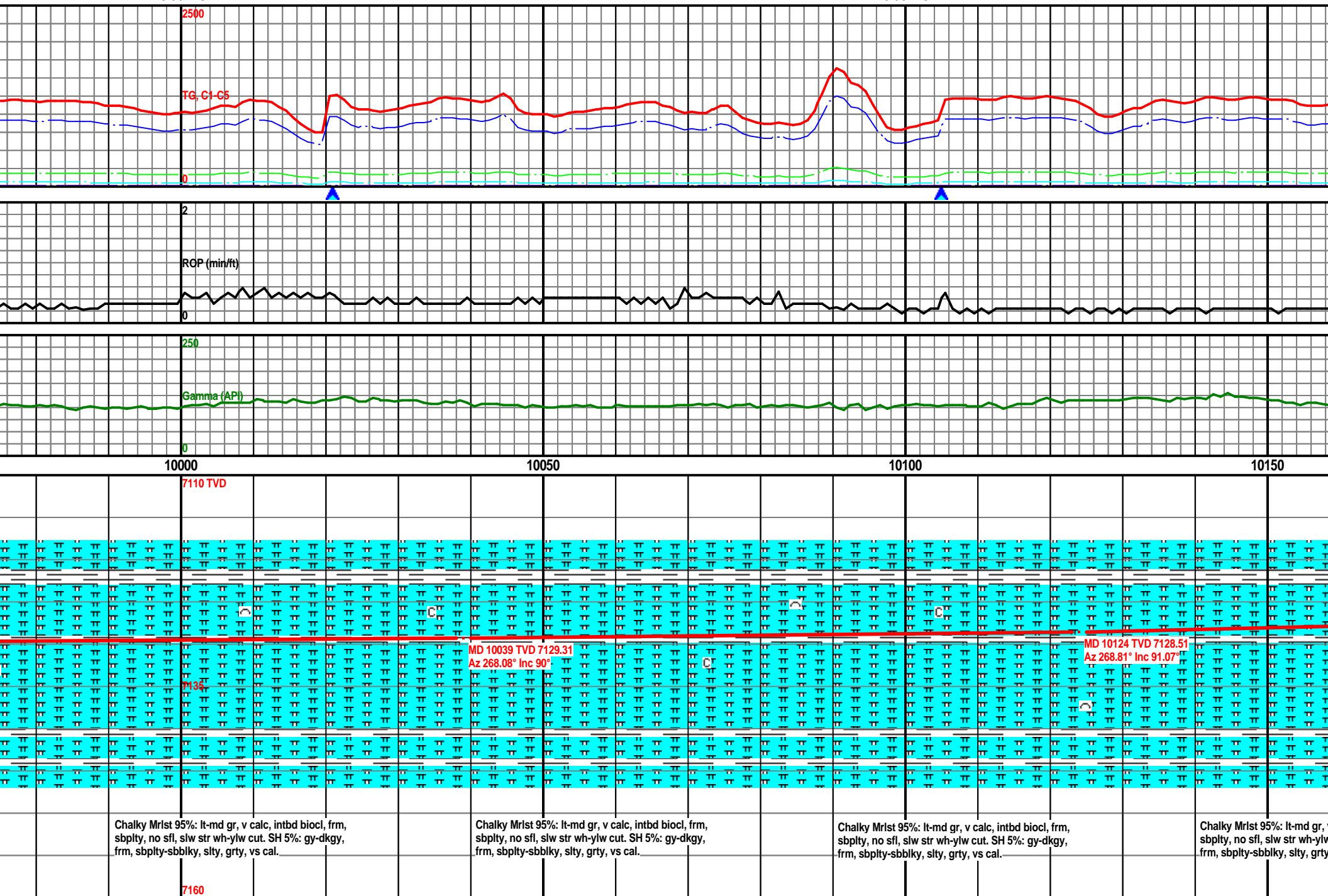
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MW: 9.2 / VIS: 46



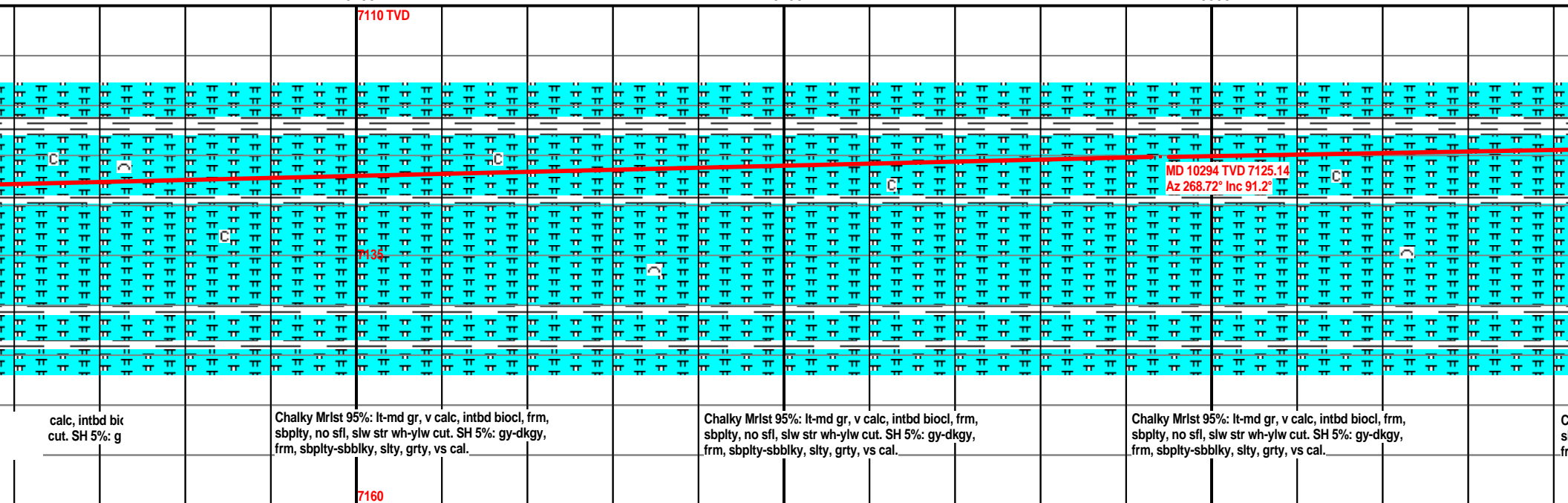
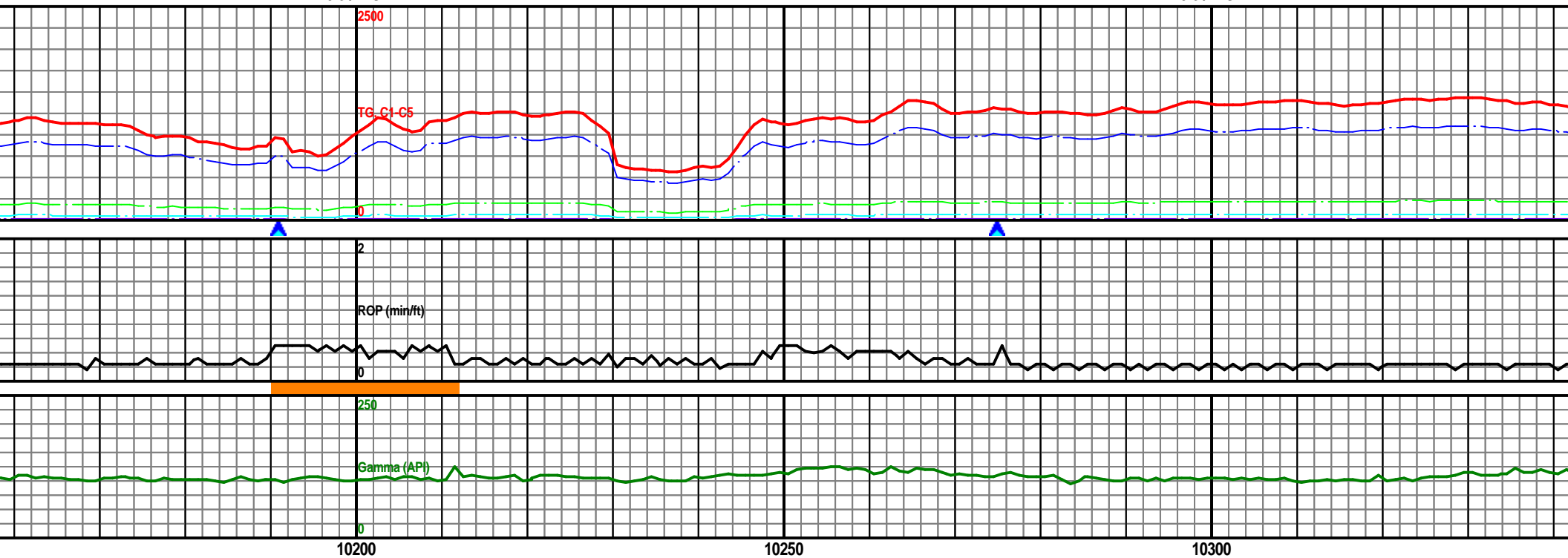
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MW: 9.3 / VIS: 47



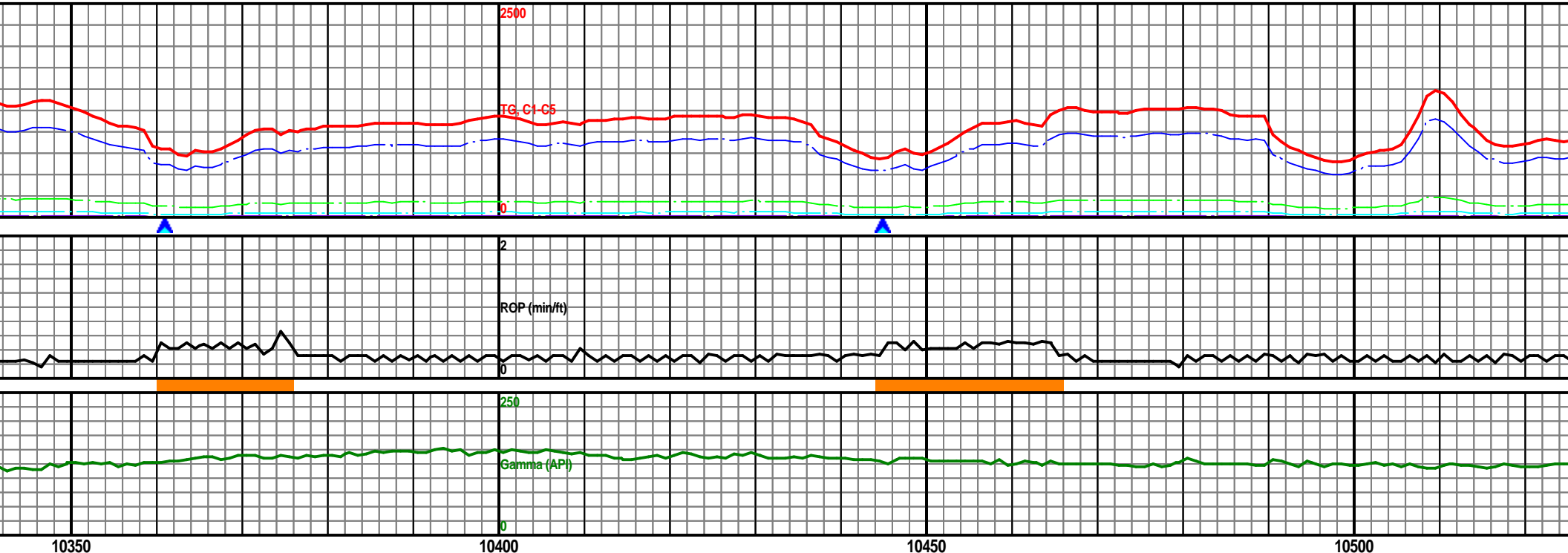
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MW: 9.3 / VIS: 47



MW: 9.3 / VIS: 47

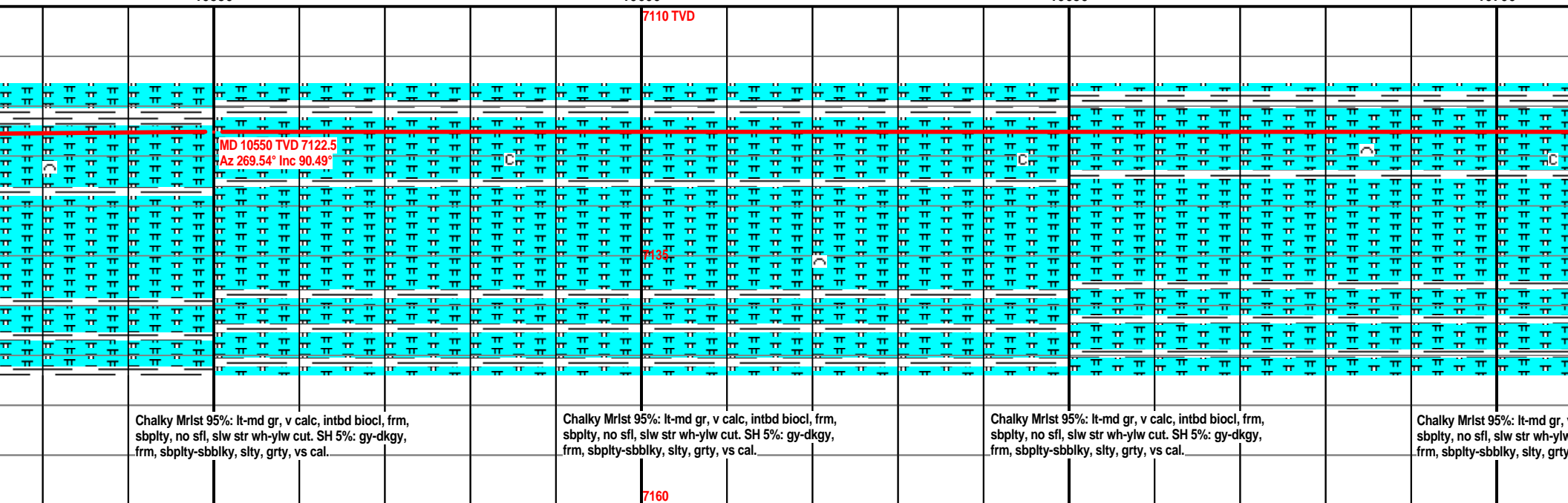
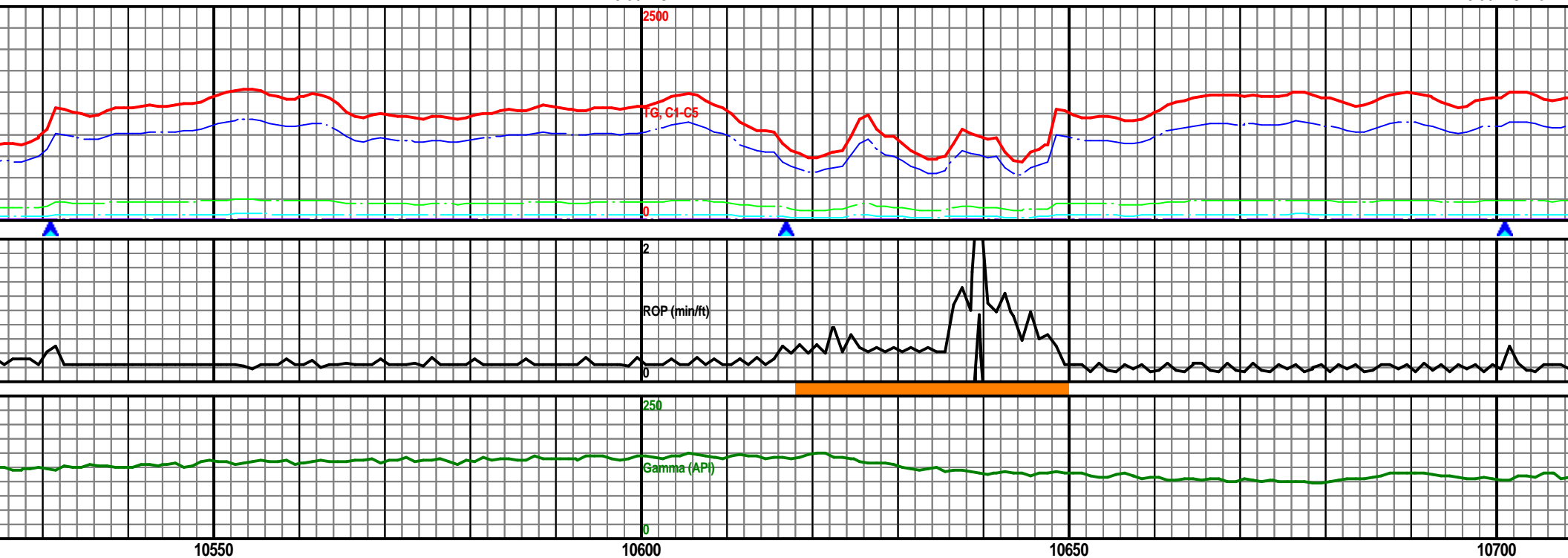
MW: 9.3 / VIS: 47



07/06/14 4:00am Depth @ 10361'MD				7110 TVD												
				MD 10379 TVD 7123.91 Az 269.22° Inc 90.46°												
				7135'												
chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 5%: g m, sbplty-sbbilky, slty, grty.				Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy, frm, sbplty-sbbilky, slty, grty, vs cal.					Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy, frm, sbplty-sbbilky, slty, grty, vs cal.				Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy, frm, sbplty-sbbilky, slty, grty, vs cal.			
				7160												

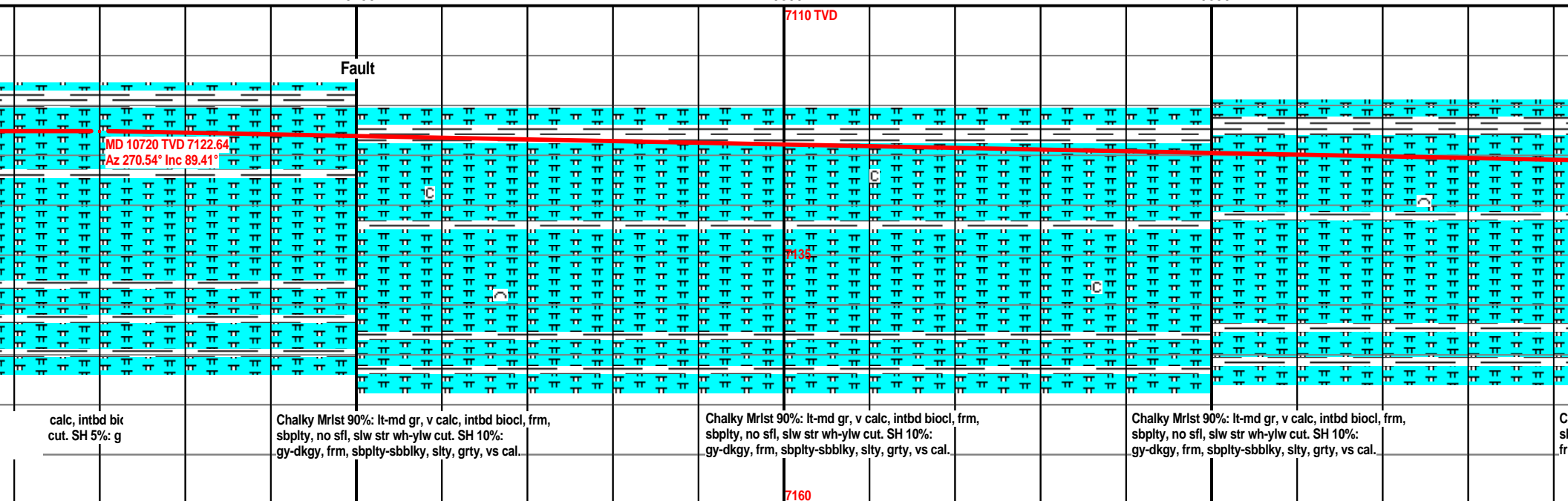
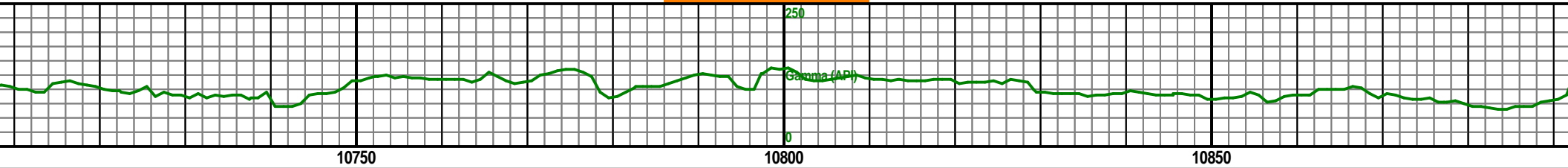
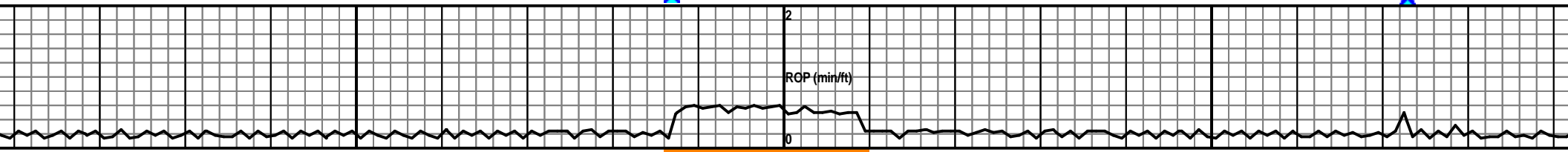
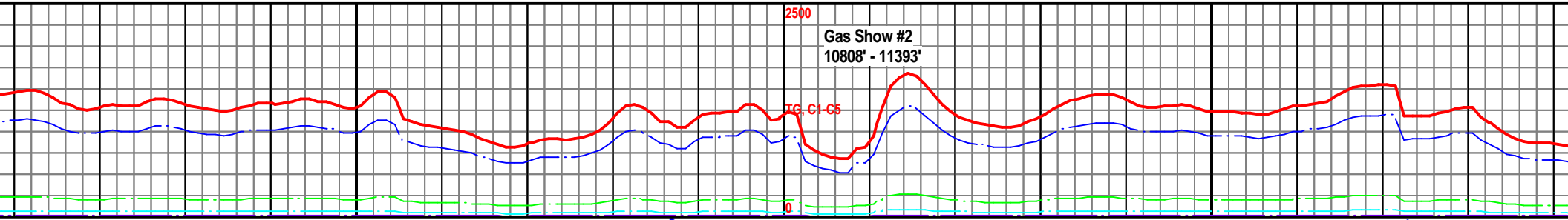
MW: 9.3 / VIS: 47

MW: 9.3 / VIS: 48



7160

MW: 9.25 / VIS: 48



MW: 9.3 / VIS: 49

PG = 2068 U

2500

TG, C1-C5

0

RGP (min/ft)

0

Gamma (API)

0

10900

10950

11000

11050

7110 TVD

MD 10975 TVD 7126.83  
Az 270.27° Inc 88.71°

7135

alky Mrlst 95%: lt-md gr, v calc, intbd bic  
plty, no sfl, slw str wh-ylw cut. SH 5%: g  
, sbplty-sbblky, slty, grty

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbblky, slty, grty, vs cal.

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbblky, slty, grty, vs cal.

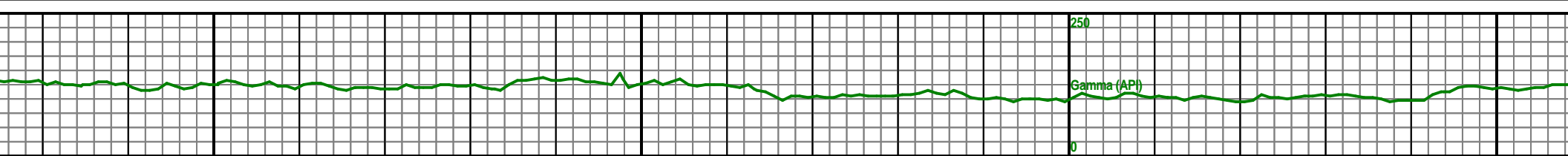
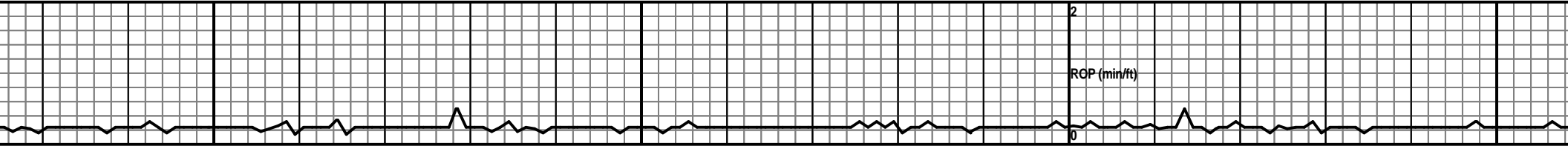
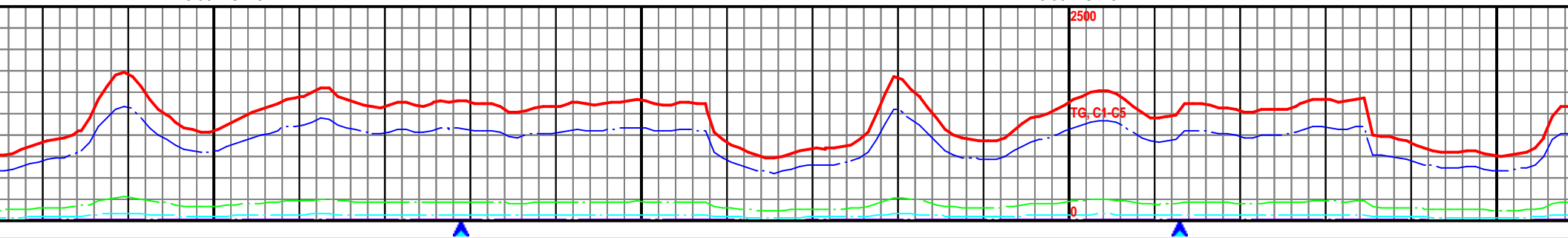
Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
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frm, sbplty-sbblky, slty, grty, vs cal.

7160



MW: 9.3 / VIS: 49

MW: 9.3 / VIS: 49

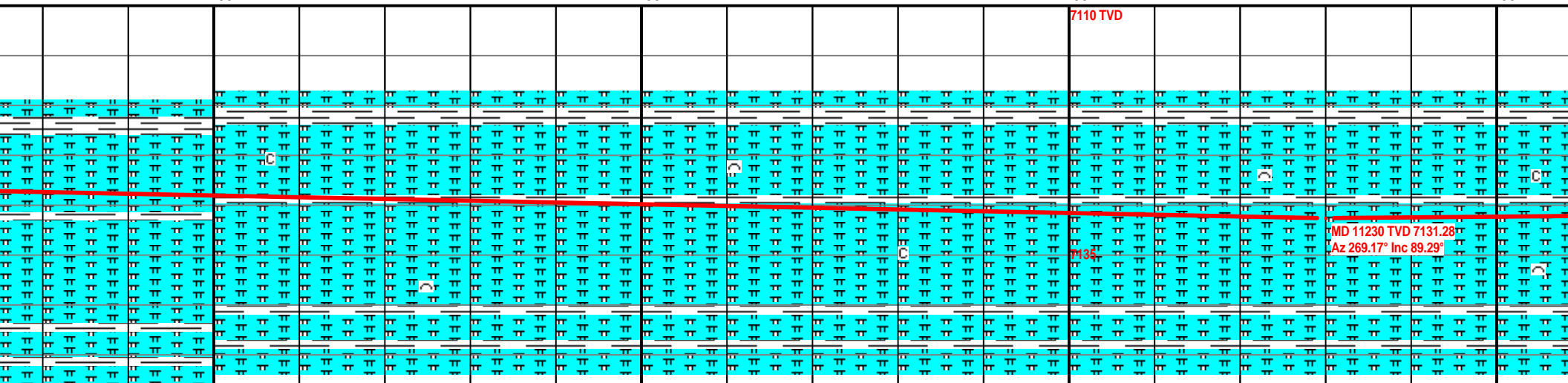


11100

11150

11200

11250



7110 TVD

MD 11230 TVD 7131.28'  
Az 269.17° Inc 89.29°

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbbiky, slty, grty, vs cal.

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
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frm, sbplty-sbbiky, slty, grty, vs cal.

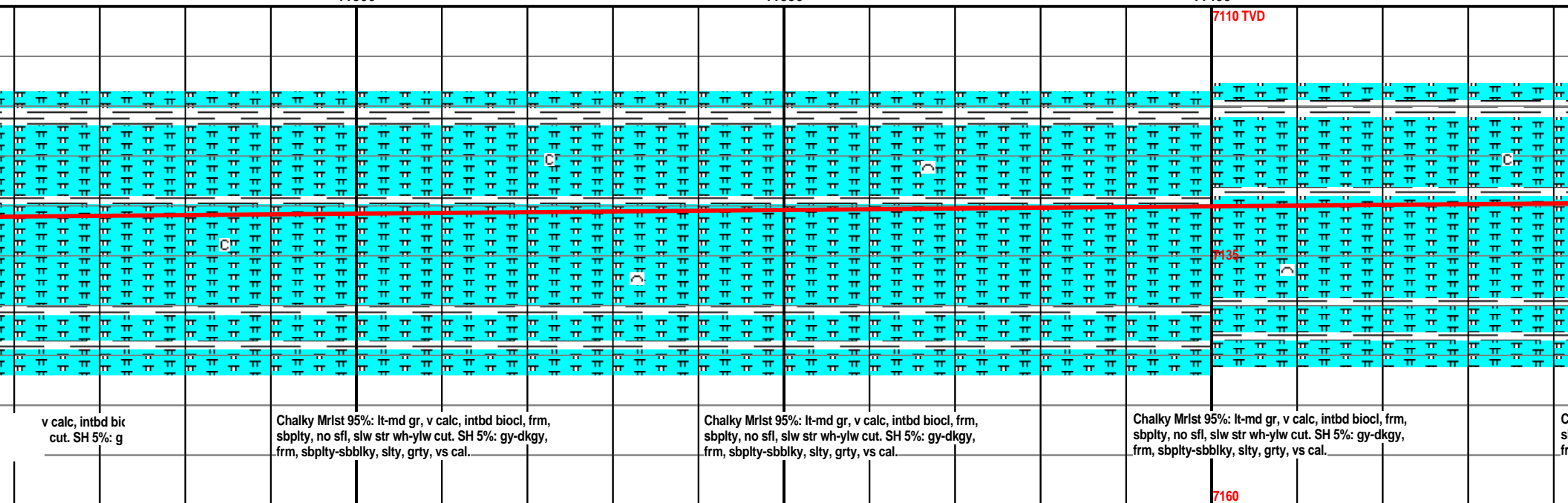
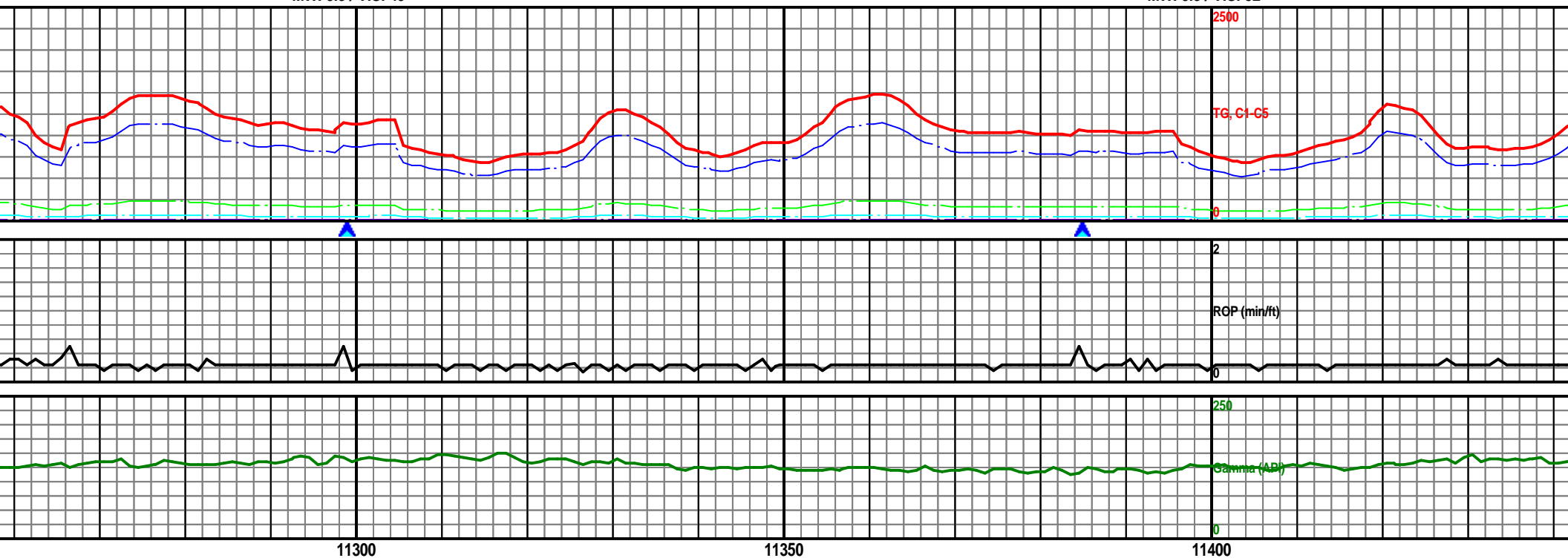
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frm, sbplty-sbbiky, slty, grty, vs cal.

Chalky Mrlst 95%: lt-md gr,  
sbplty, no sfl, slw str wh-ylw  
frm, sbplty-sbbiky, slty, grty

7160

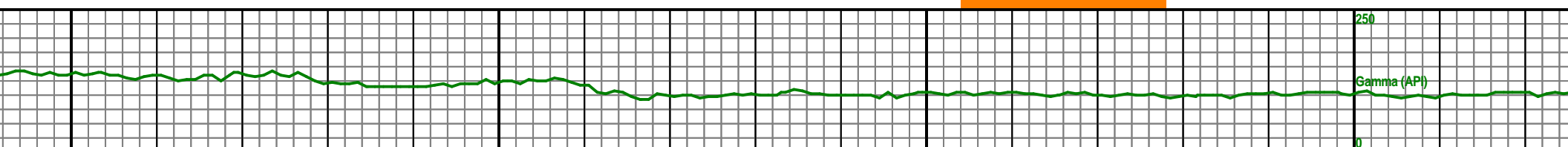
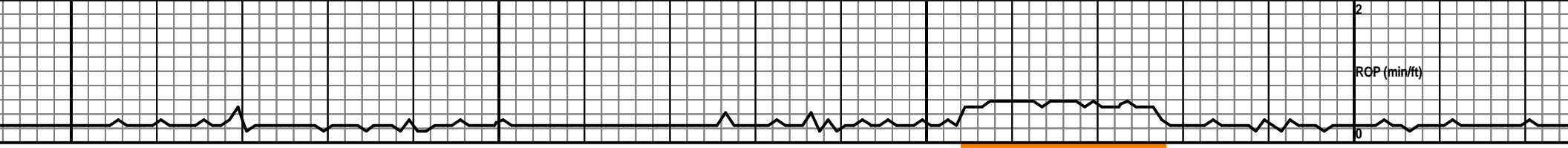
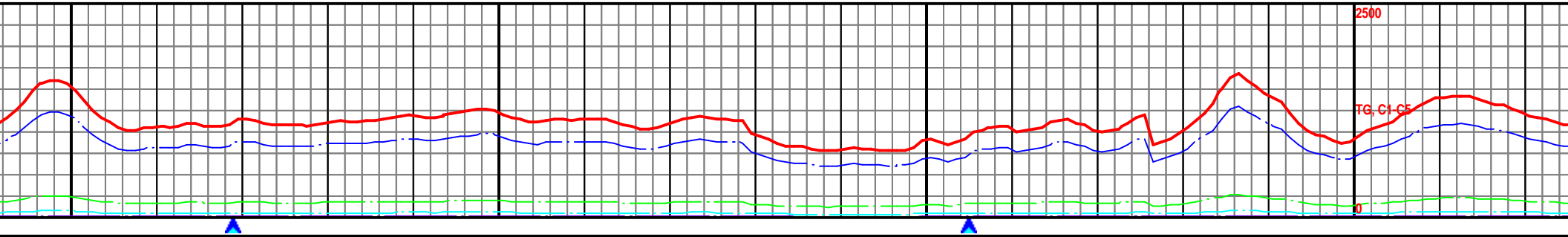
MW: 9.3 / VIS: 49

MW: 9.3 / VIS: 52



MW: 9.3 / VIS: 52

MW: 9.3 / VIS: 52

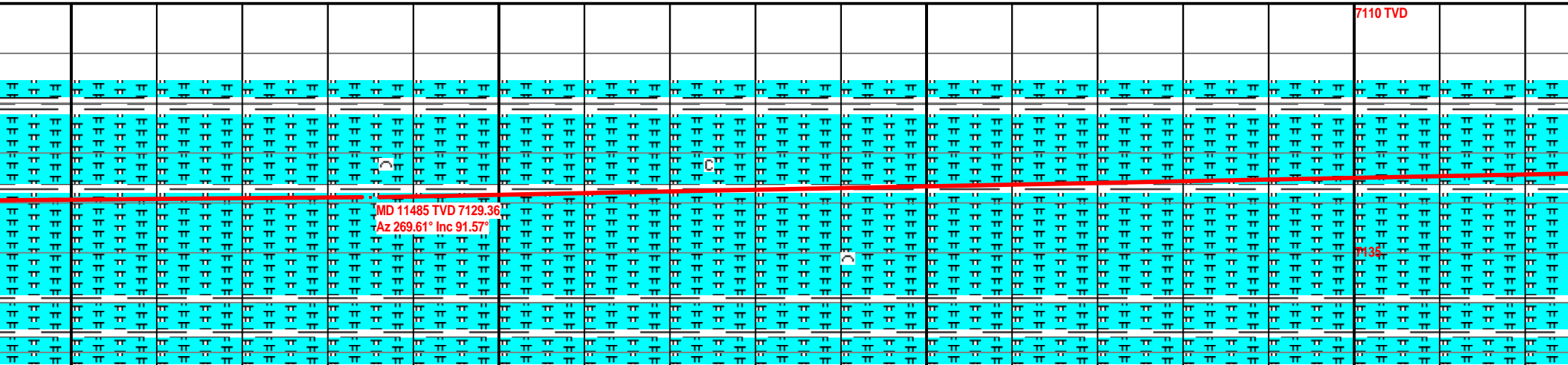


11450

11500

11550

11600



chalky Mrlst 95%: lt-md gr, v calc, intbd bic  
plty, no sfl, slw str wh-ylw cut. SH 5%: g  
m, sbplty-sbblky, slty, grty

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbblky, slty, grty, vs cal.

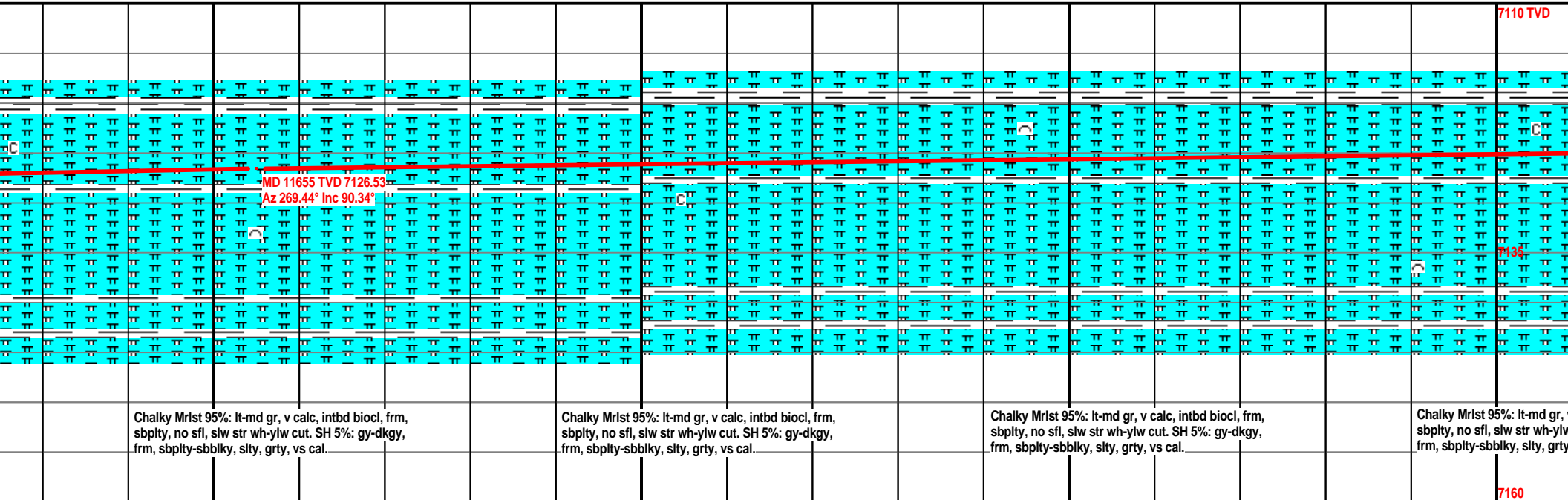
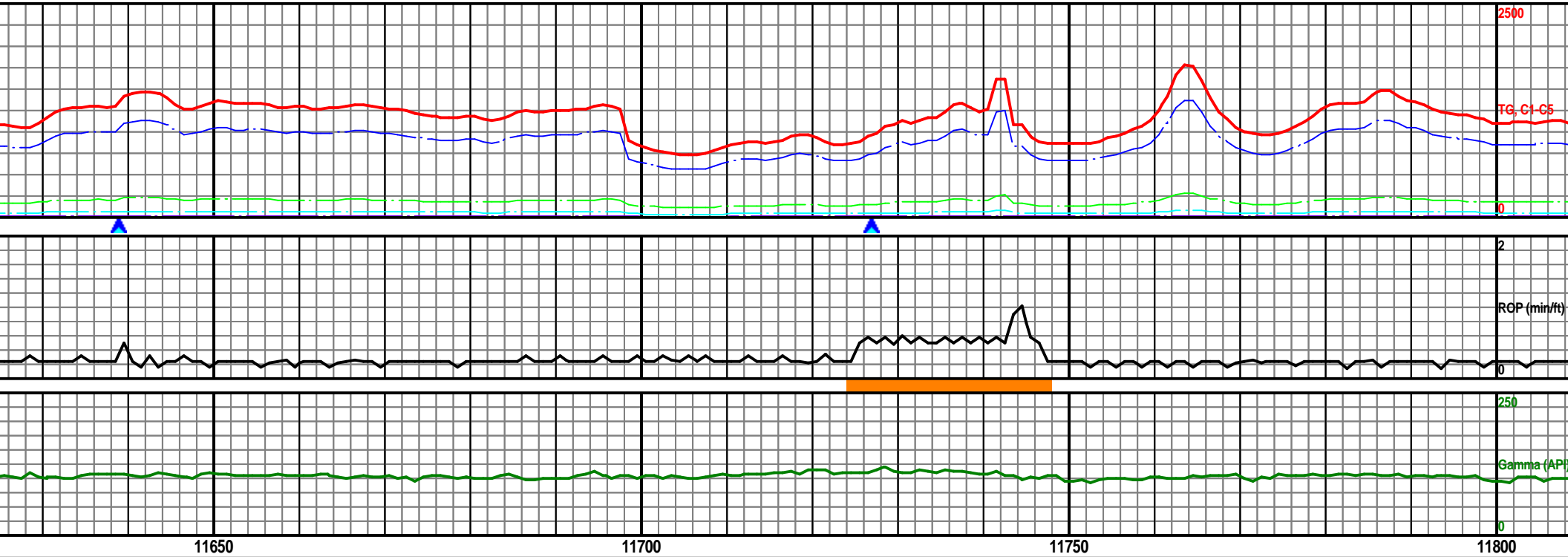
Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbblky, slty, grty, vs cal.

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-ylw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbblky, slty, grty, vs cal.

7160

MW: 9.3 / VIS: 52

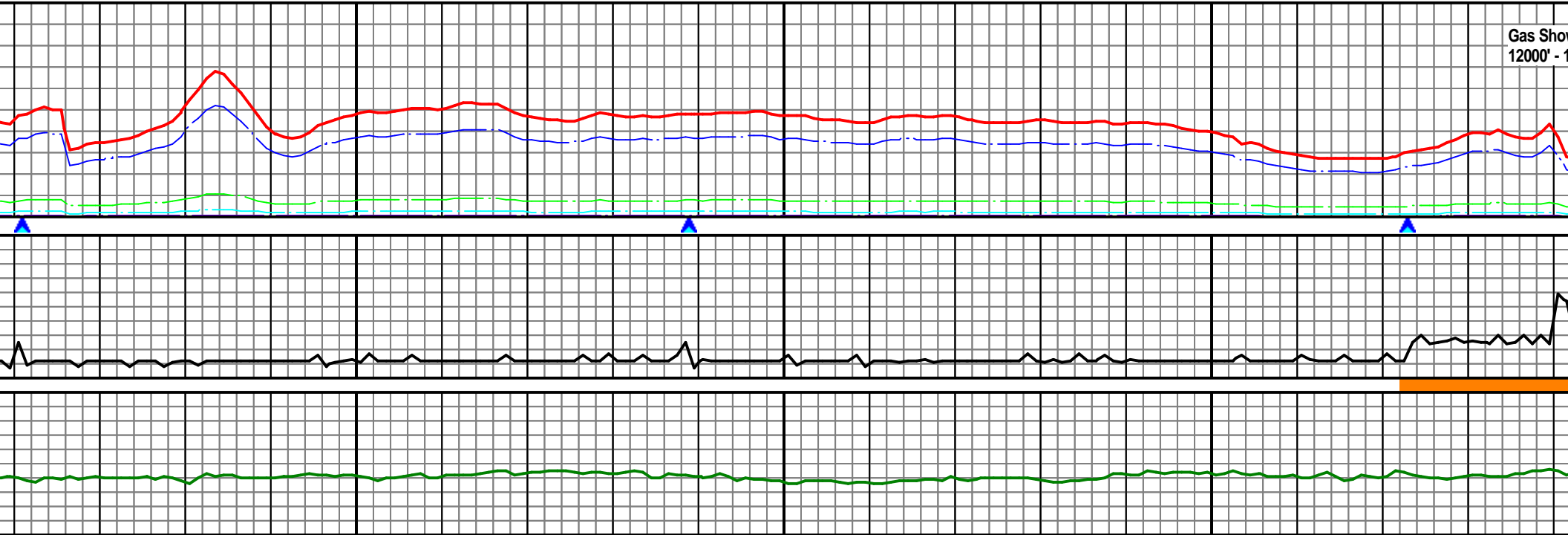
MW: 9.3 / VIS: 50



7160

MW: 9.3 / VIS: 50

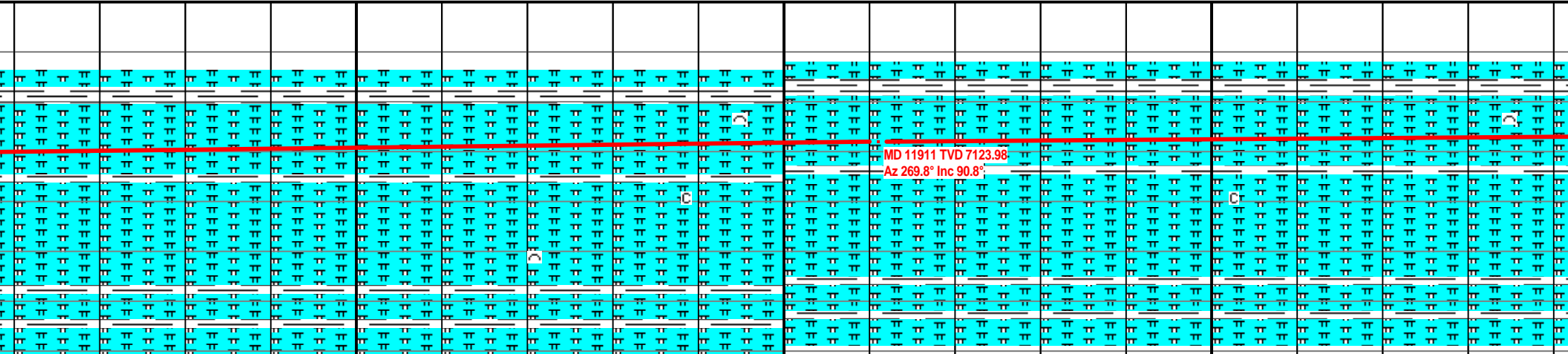
Gas Show  
12000' - 1



11850

11900

11950



MD 11911 TVD 7123.98  
Az 269.8° Inc 90.8°

calc, intbd bic  
cut. SH 5%: g

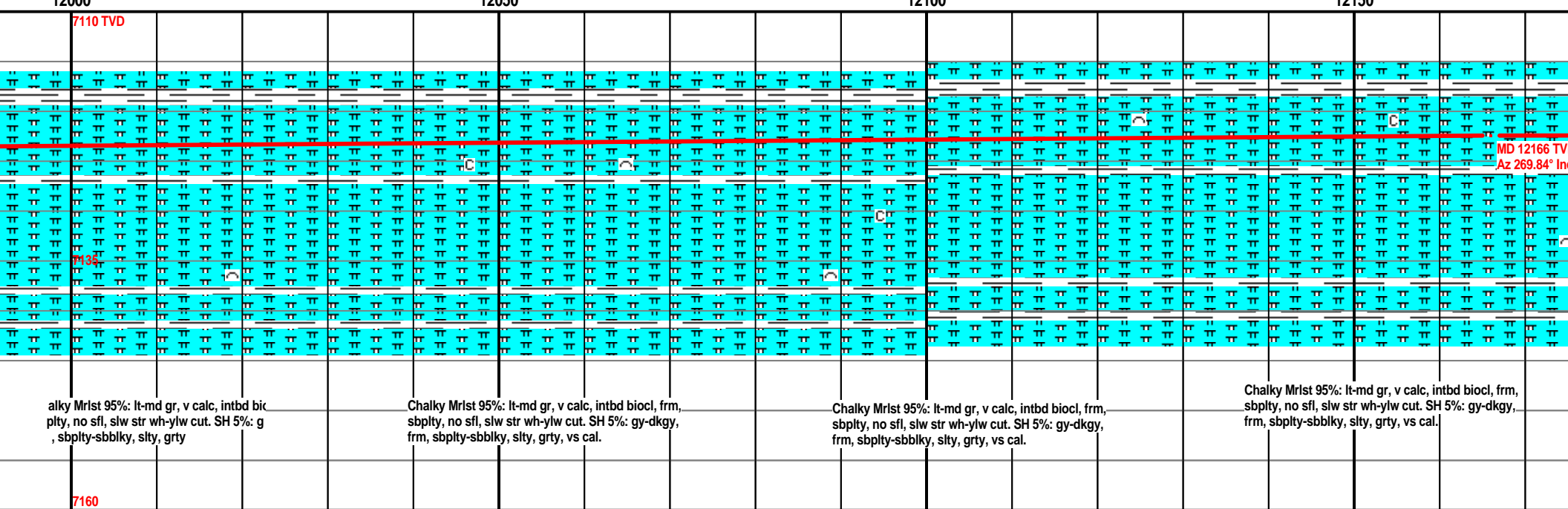
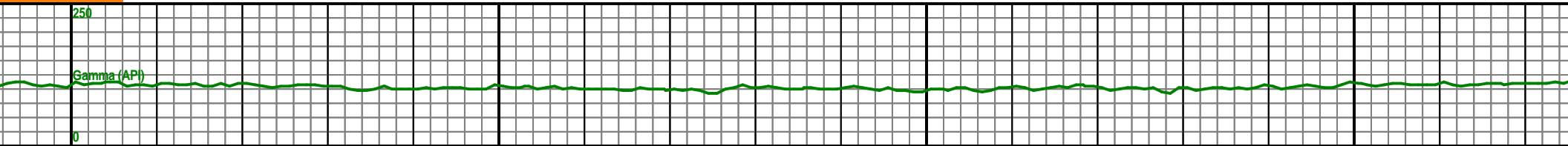
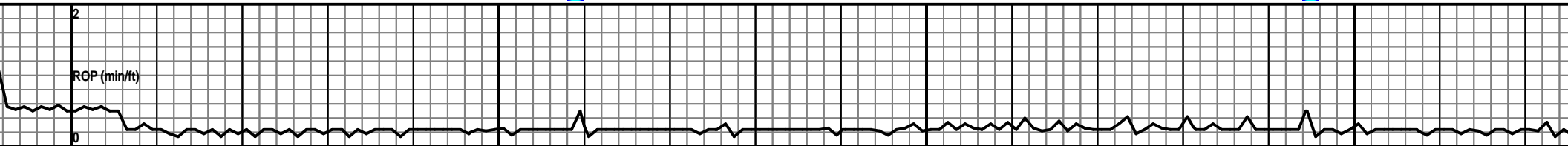
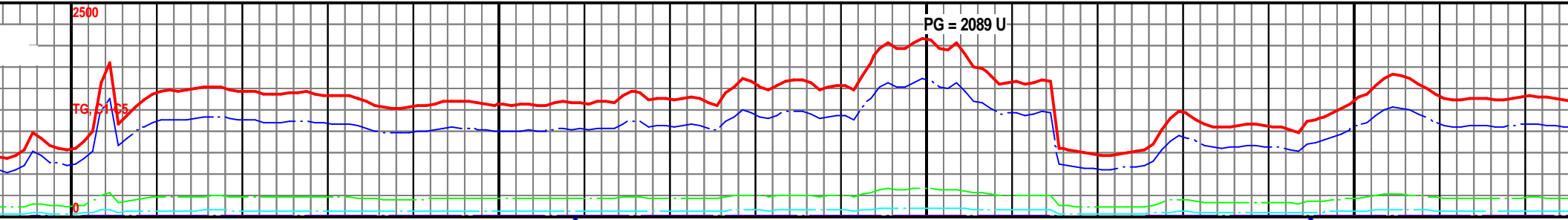
Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-yiw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbbiky, slty, grty, vs cal.

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-yiw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbbiky, slty, grty, vs cal.

Chalky Mrlst 95%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw str wh-yiw cut. SH 5%: gy-dkgy,  
frm, sbplty-sbbiky, slty, grty, vs cal.

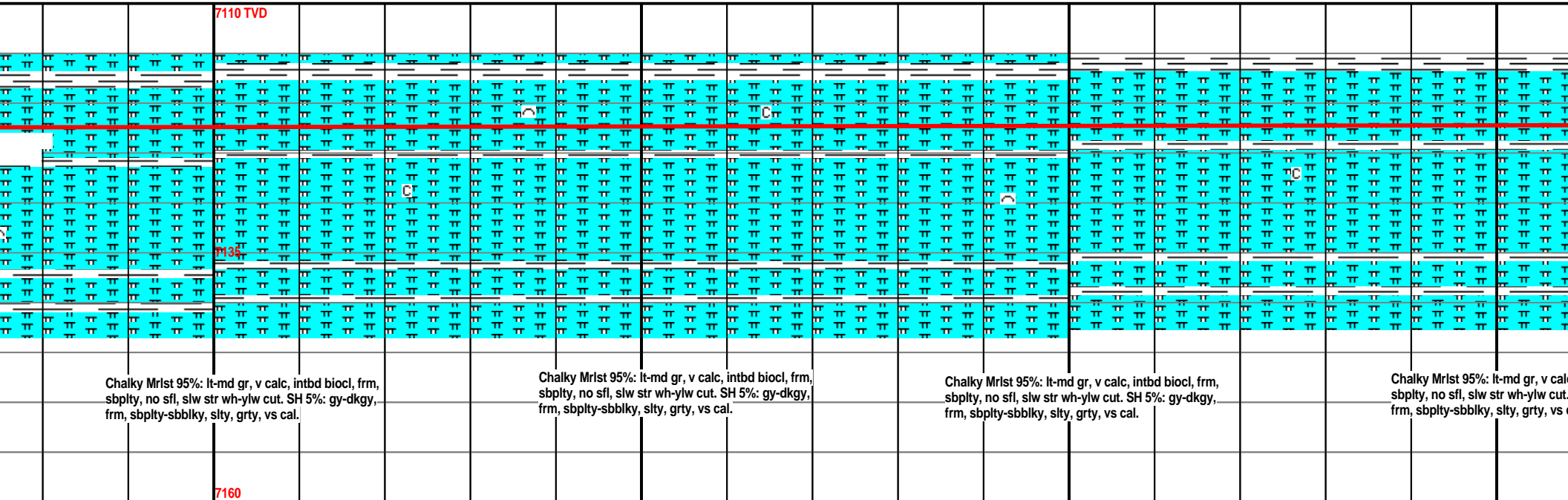
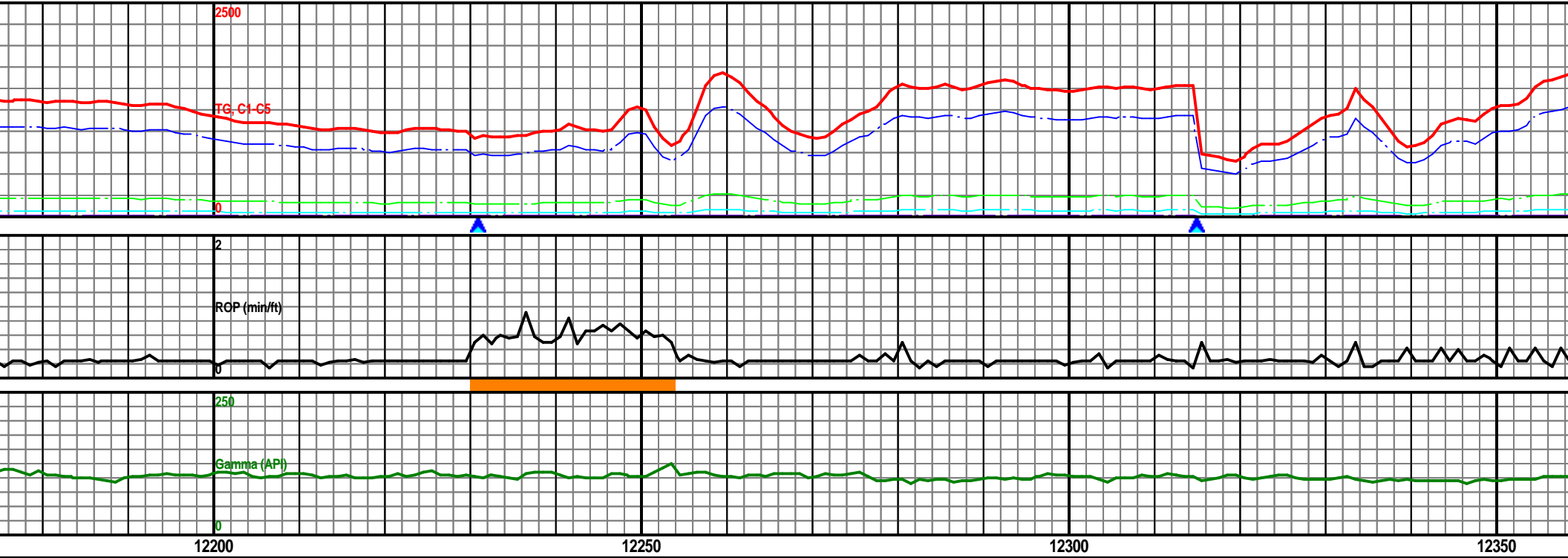
C  
sl  
fr

MW: 9.4 / VIS: 50



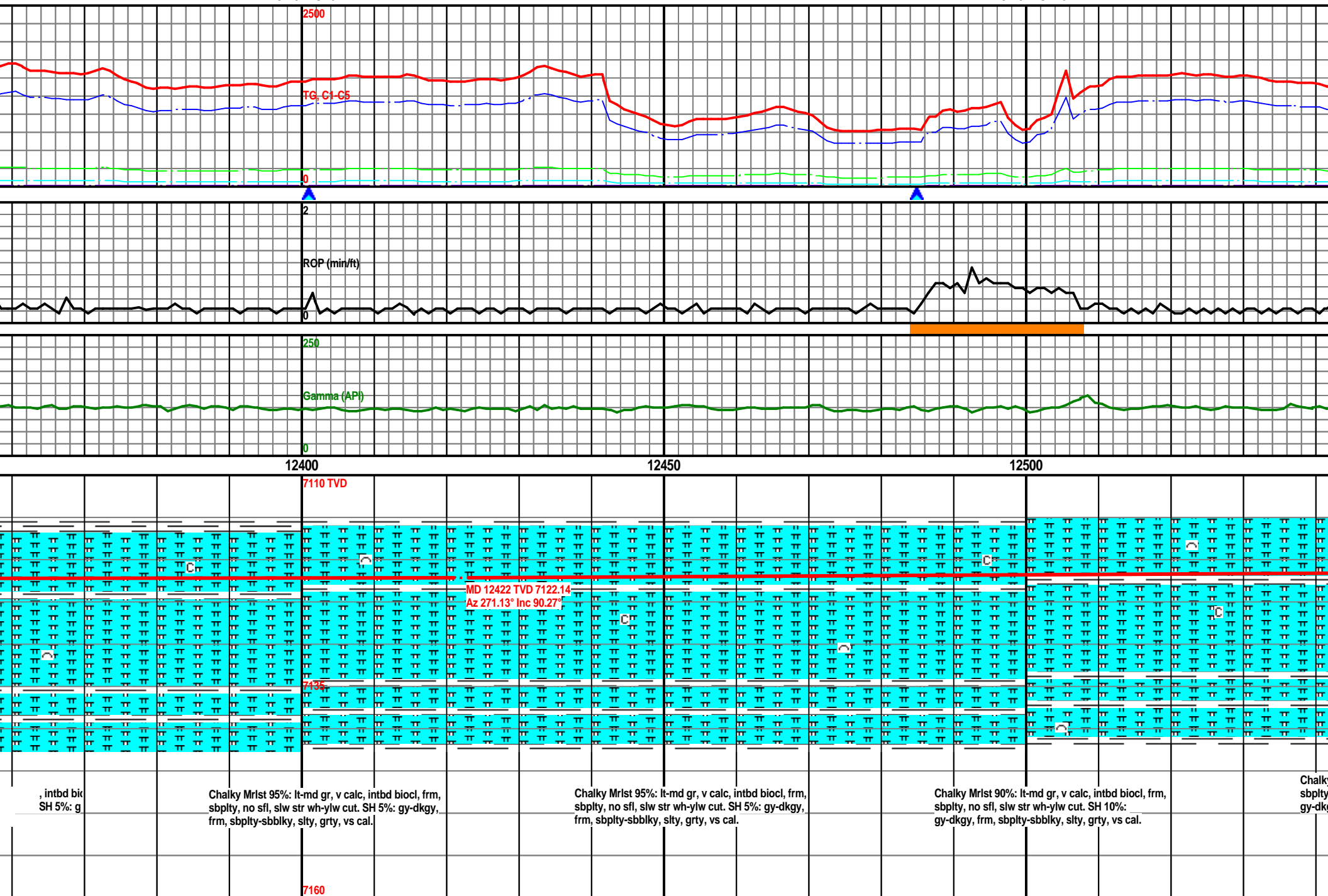
MW: 9.4 / VIS: 50

MW: 9.5 / VIS: 48



MW: 9.4 / VIS: 52

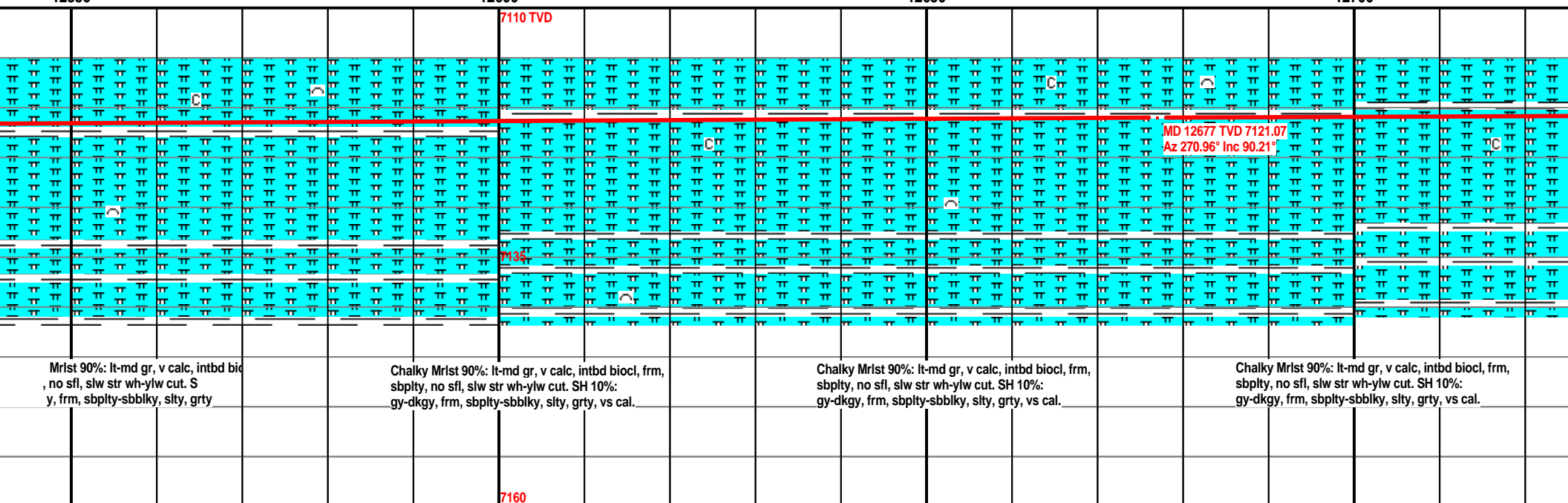
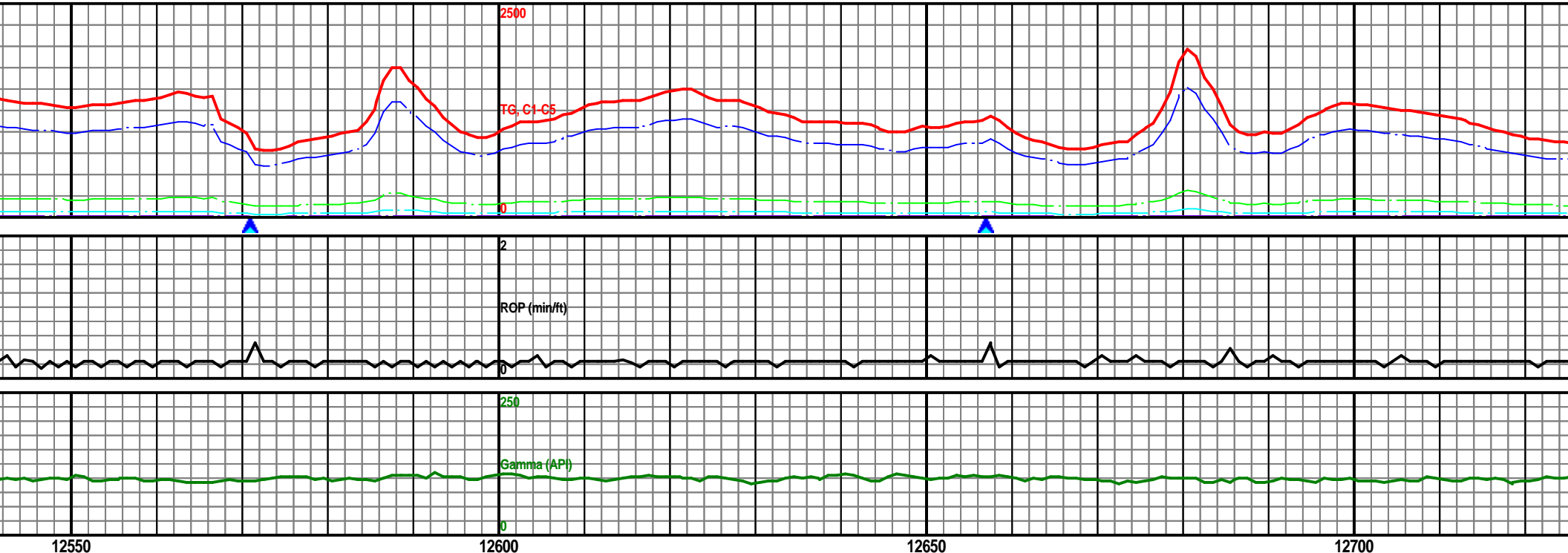
MW: 9.2 / VIS: 48





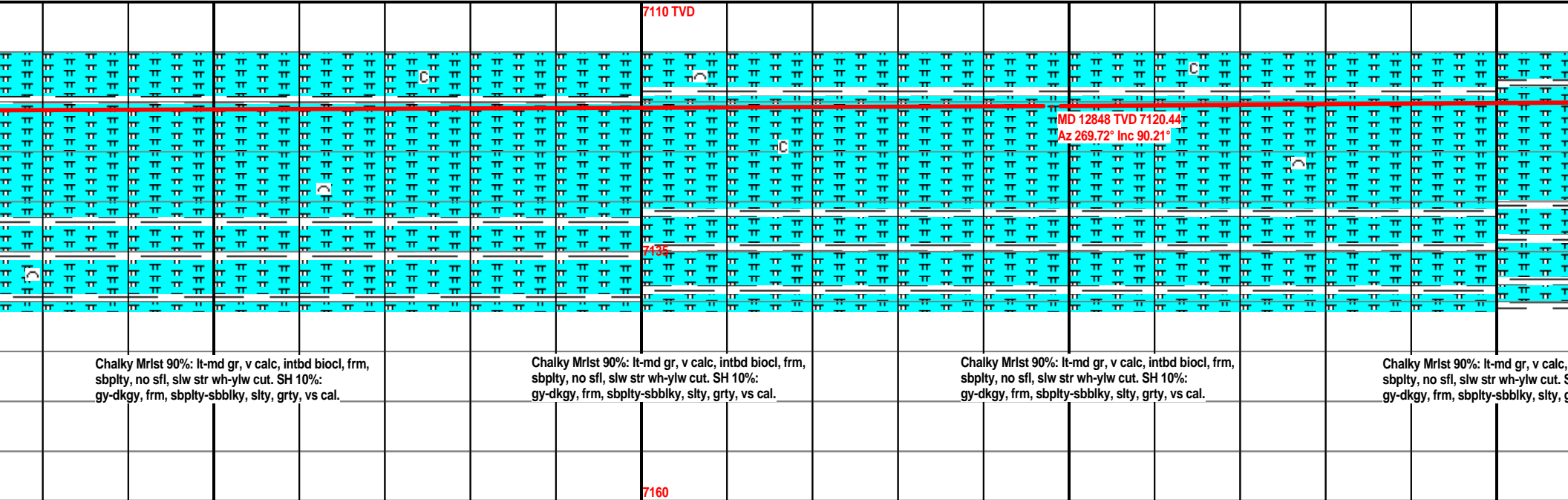
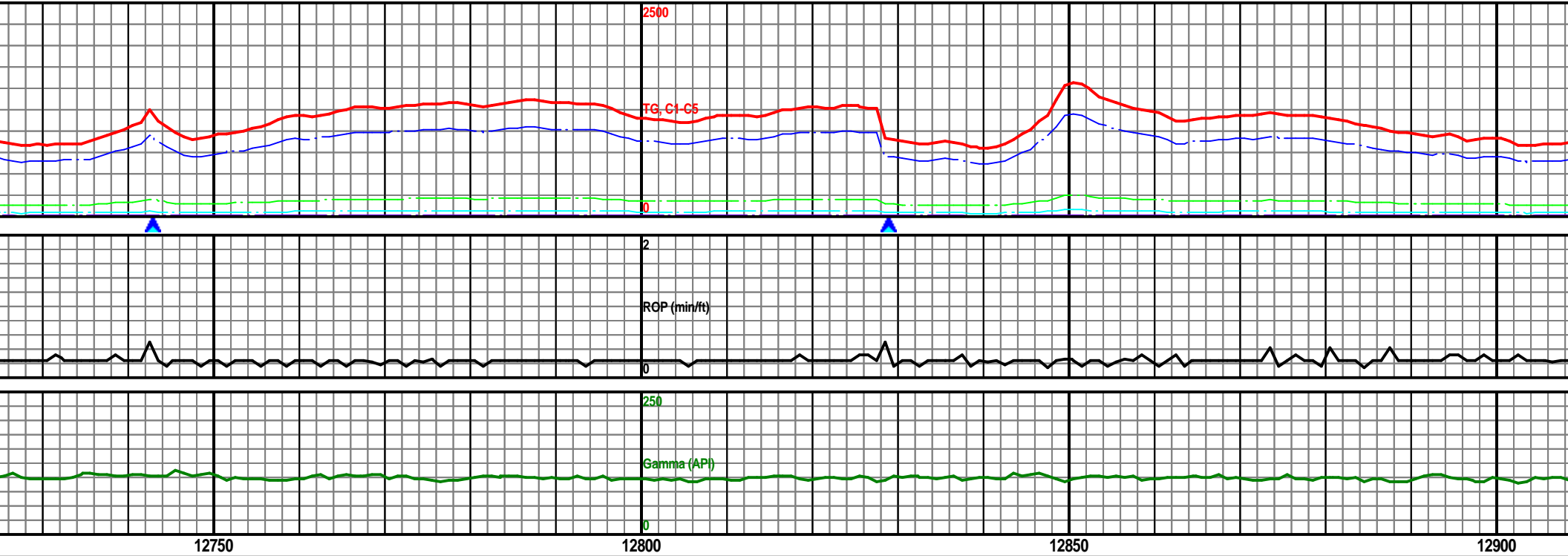
MW: 9.2 / VIS: 48

MW: 9.2 / VIS: 48

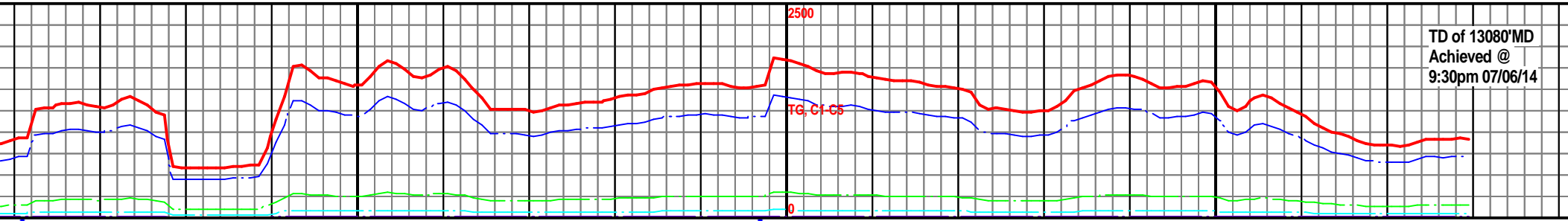


MW: 9.2 / VIS: 48

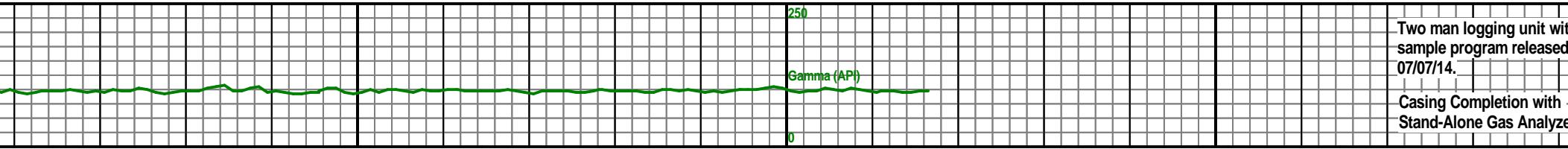
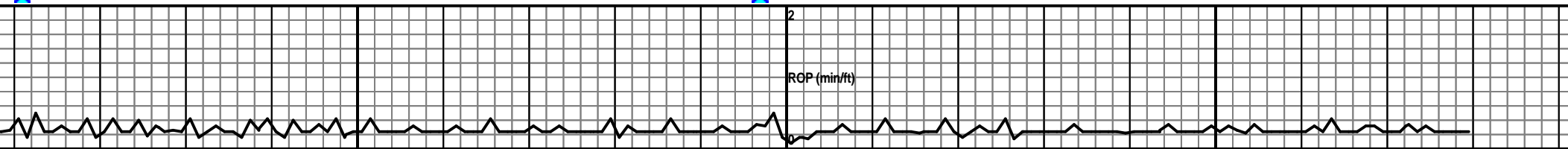
MW: 9.5 / VIS: 47



MW: 9.5 / VIS: 47



TD of 13080' MD  
Achieved @  
9:30pm 07/06/14



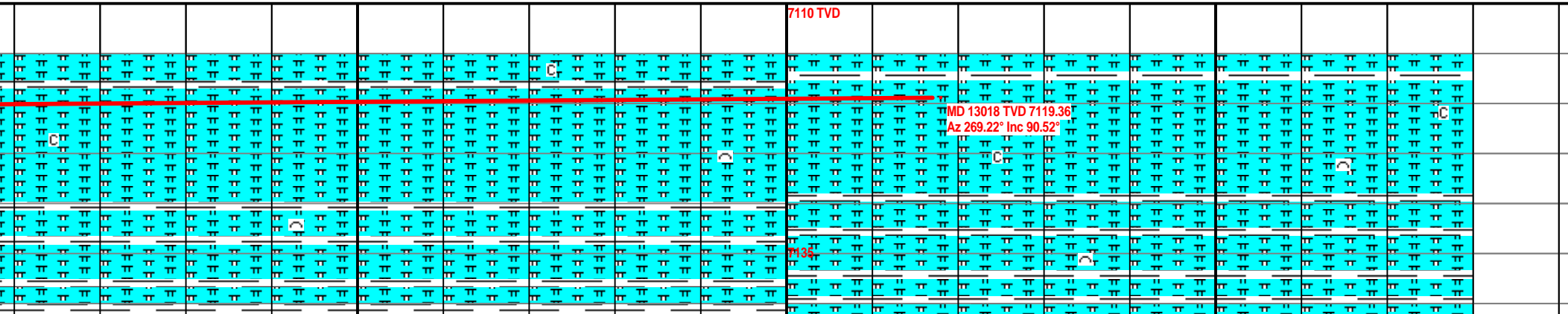
Two man logging unit with  
sample program released  
07/07/14.

Casing Completion with  
Stand-Alone Gas Analyzer

12950

13000

13050



intbd bic  
rty

Chalky Mrist 90%: lt-md gr, v calc, intbd biocl, frm,  
sbply, no sfl, slw str wh-ylw cut. SH 10%:  
gy-dkgy, frm, sbply-sbbly, slty, grty, vs cal.

Chalky Mrist 90%: lt-md gr, v calc, intbd biocl, frm,  
sbply, no sfl, slw str wh-ylw cut. SH 10%:  
gy-dkgy, frm, sbply-sbbly, slty, grty, vs cal.

Chalky Mrist 90%: lt-md gr, v calc, intbd biocl, frm,  
sbply, no sfl, slw str wh-ylw cut. SH 10%:  
gy-dkgy, frm, sbply-sbbly, slty, grty, vs cal.

7160

[illegible]