



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

**Well Name:** Grenemyer 36N-3HZ  
**Location:** Weld County, CO.  
**License Number:** 05123384150000  
**Spud Date:** 12/26/13  
**Surface Coordinates:** 638'FNL, 2575'FEL, Sec 34, T1N, R67W  
**Region:** DJ Basin  
**Drilling Completed:** 01/02/14  
**Bottom Hole Coordinates:** 1783'FSL, 2552'FWL, Sec 3, T1S, R67W  
**Ground Elevation (ft):** 5049' **K.B. Elevation (ft):** 5065'  
**Logged Interval (ft):** 6650' **To:** 15163' **Total Depth (ft):** 15163'  
**Formation:** Niobrara B  
**Type of Drilling Fluid:** Water Based Mud Vertical / Oil Based Mud Lateral

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

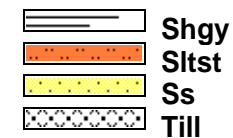
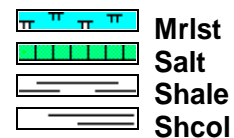
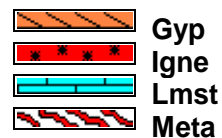
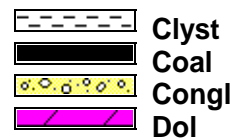
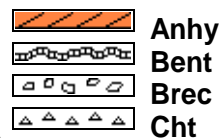
Name: Scott Crozier / Ryan Gall  
Company: Great Divide Consulting, Inc.  
Address: P.O. Box 630263  
Highlands Ranch, CO 80163

## Cores

## DSTs

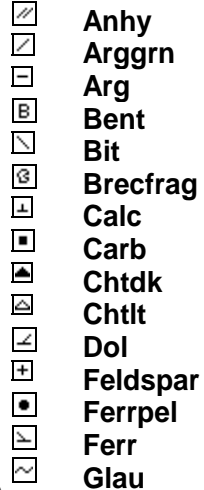
## Comments

## ROCK TYPES

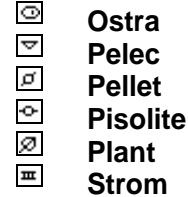
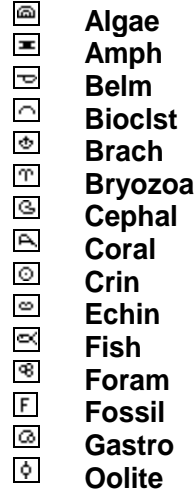


## ACCESSORIES

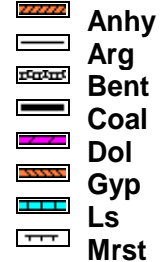
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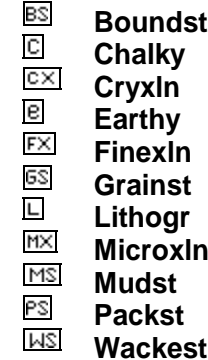
### FOSSIL










### 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**

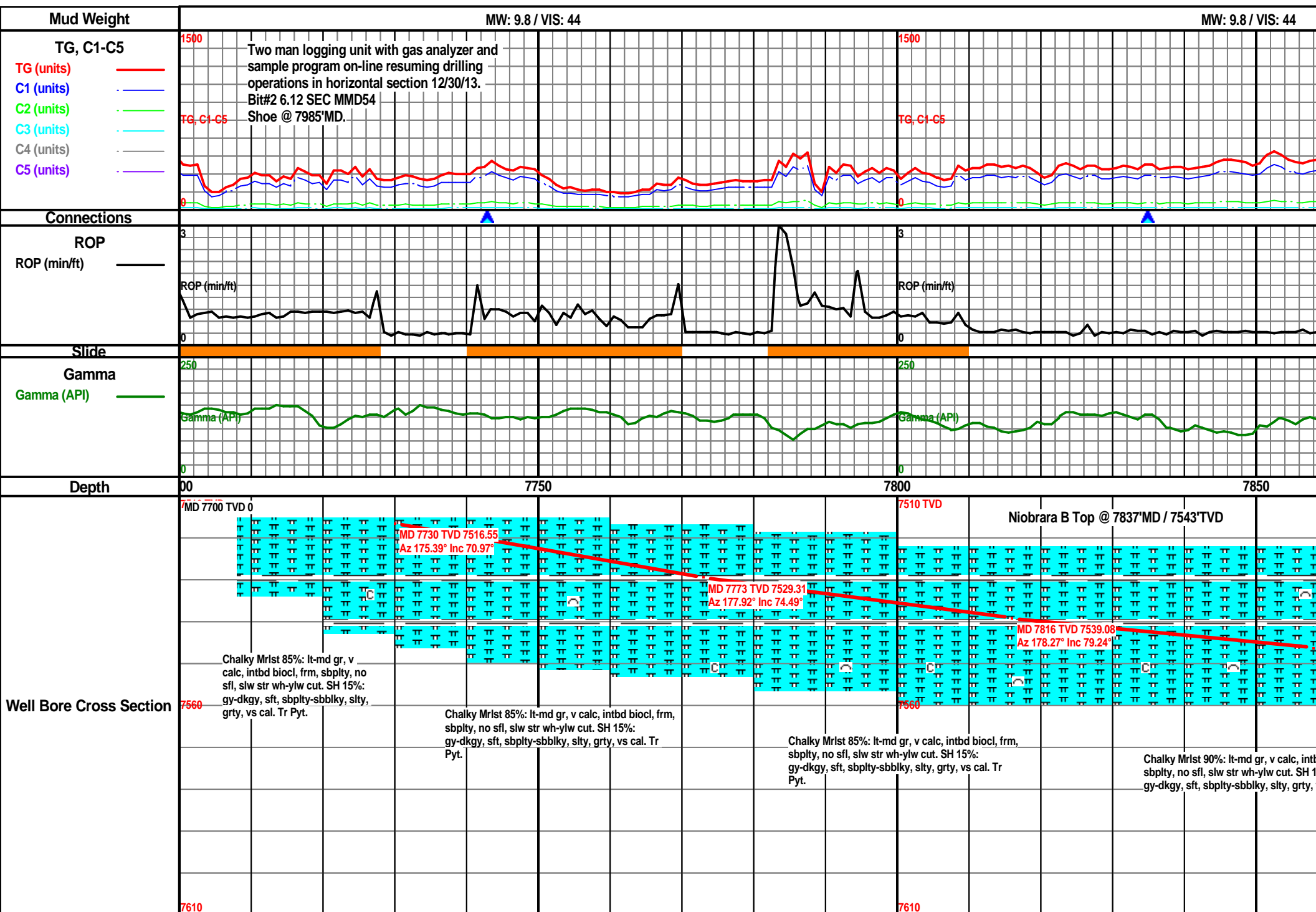
 Ques  
 Dead

**INTERVAL**

 Core  
 Dst

**EVENT**

 Rft  
 Connection



MW: 9.8 / VIS: 44

Curve TD of 7985' MD achieved @  
8:00pm 12/28/13. T.O.O.H. for  
intermediate casing.  
12/30/13 @ 7:00pm B.O.B.

Drilling With Oil Base  
Mud 7985' MD - TD

1500

TG, C1-C5

3

RGP (min/ft)

0

250

Gamma (API)

0

7900

7950

8000

12/29-30/13 4:30am Depth @ 7985' MD

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

7510 TVD

MD 7858 TVD 7546.38  
Az 177.86° Inc 80.75°

MD 7901 TVD 7552.61  
Az 176.87° Inc 82.58°

MD 7927 TVD 7555.52  
Az 176.31° Inc 84.59°

7560

d bic

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

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

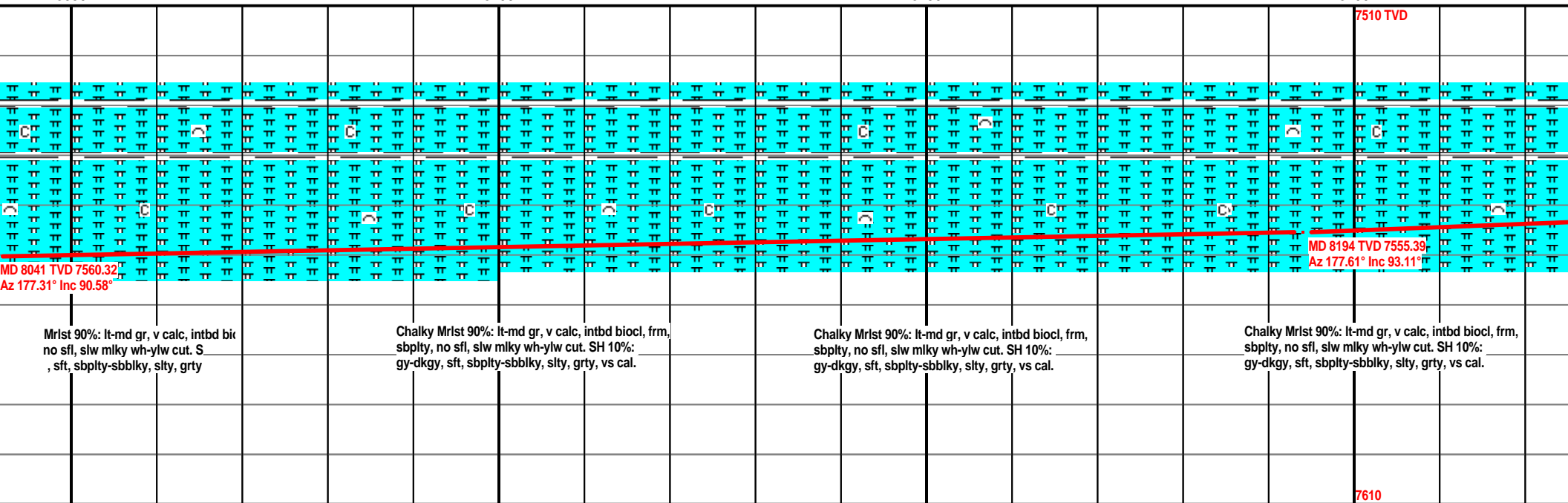
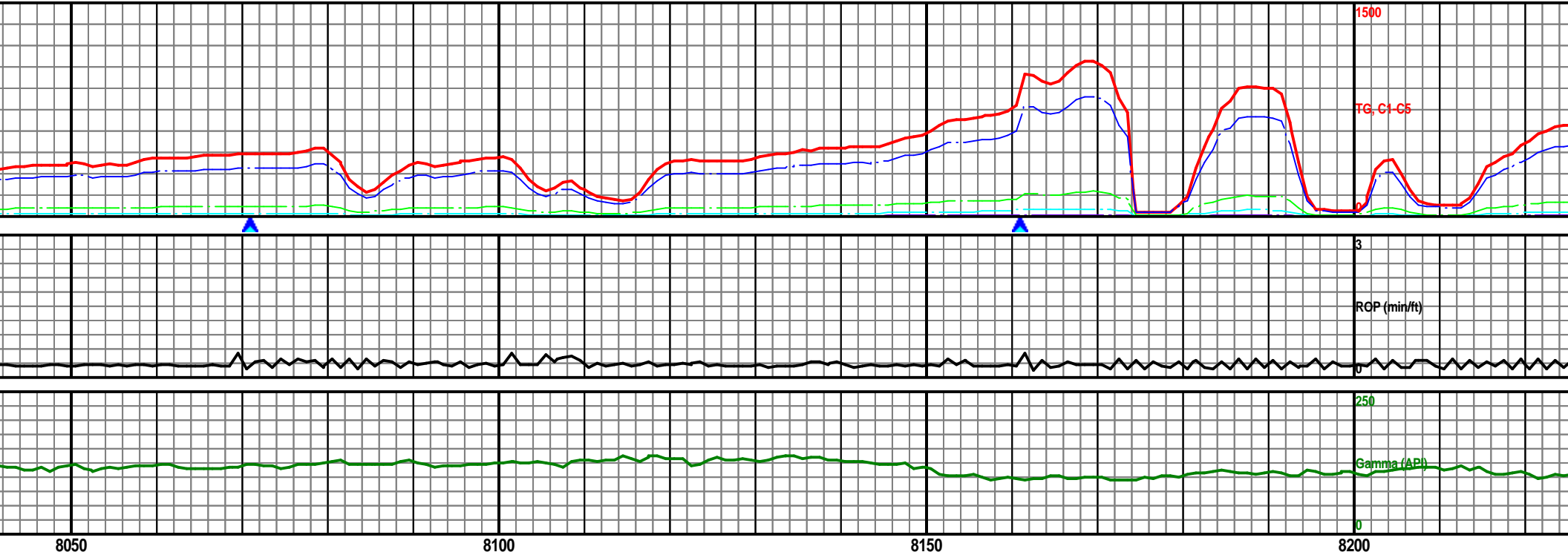
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sbply, no sfl, slw mky wh-ylw cut. SH 10%:  
gy-dkgy, sft, sbply-sbbiky, slty, grty, vs cal.

Chalky  
sbply,  
gy-dkg

7610

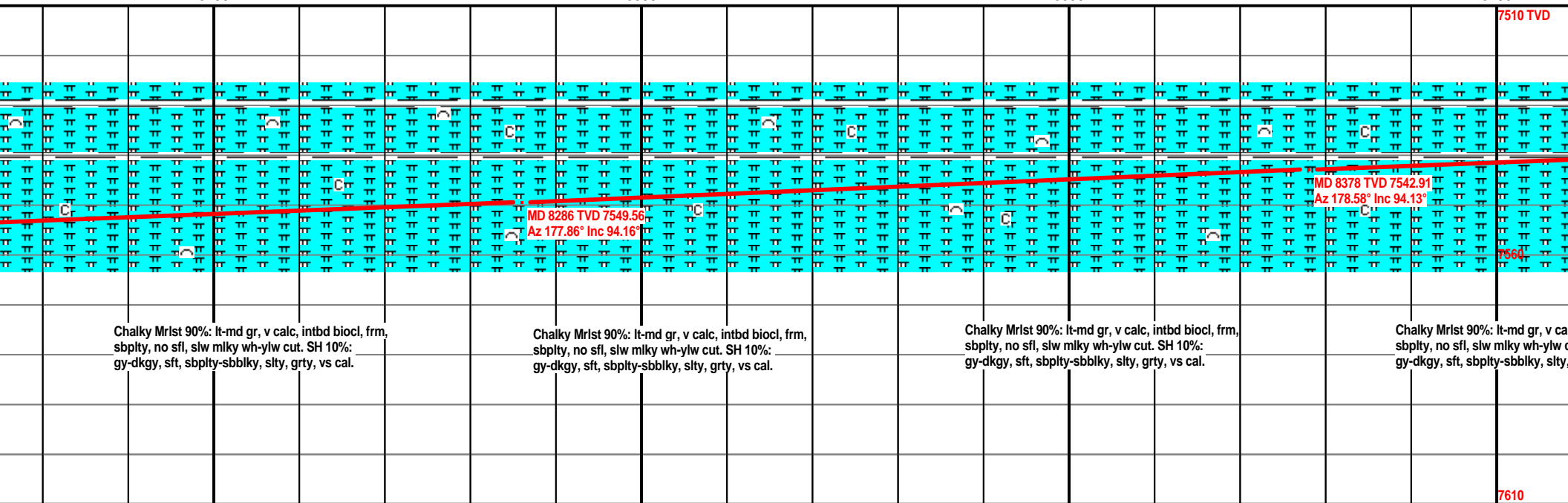
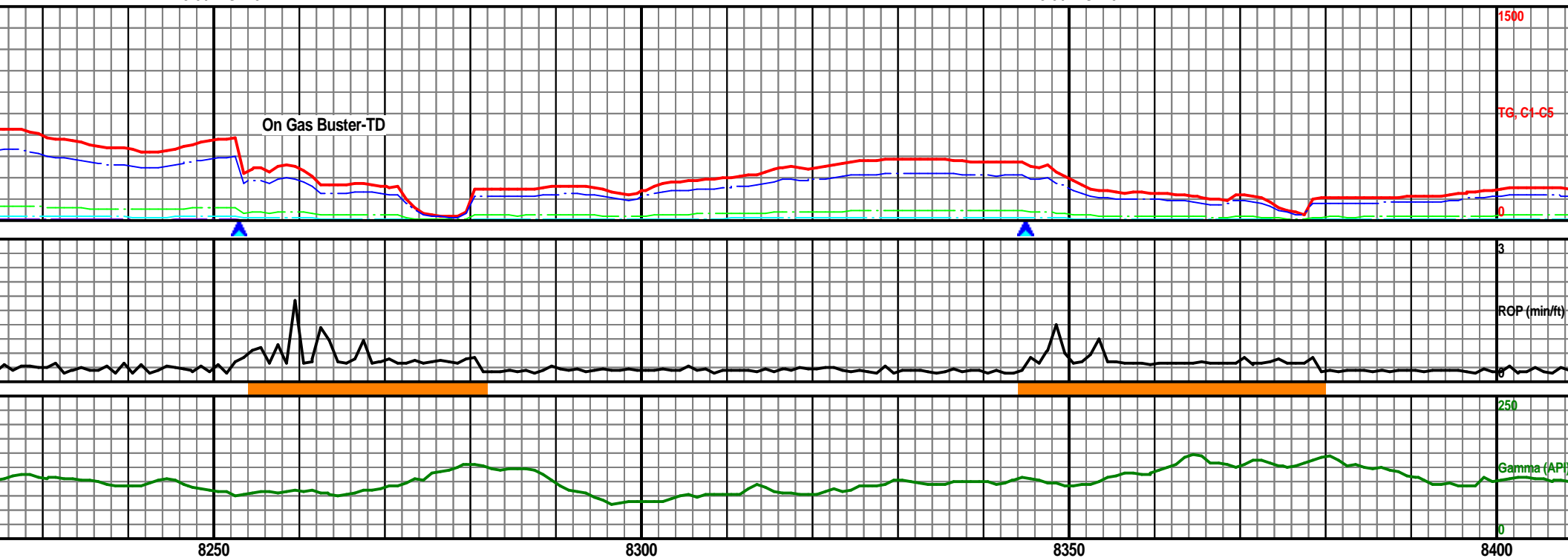
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MW: 9.0 / VIS: 70



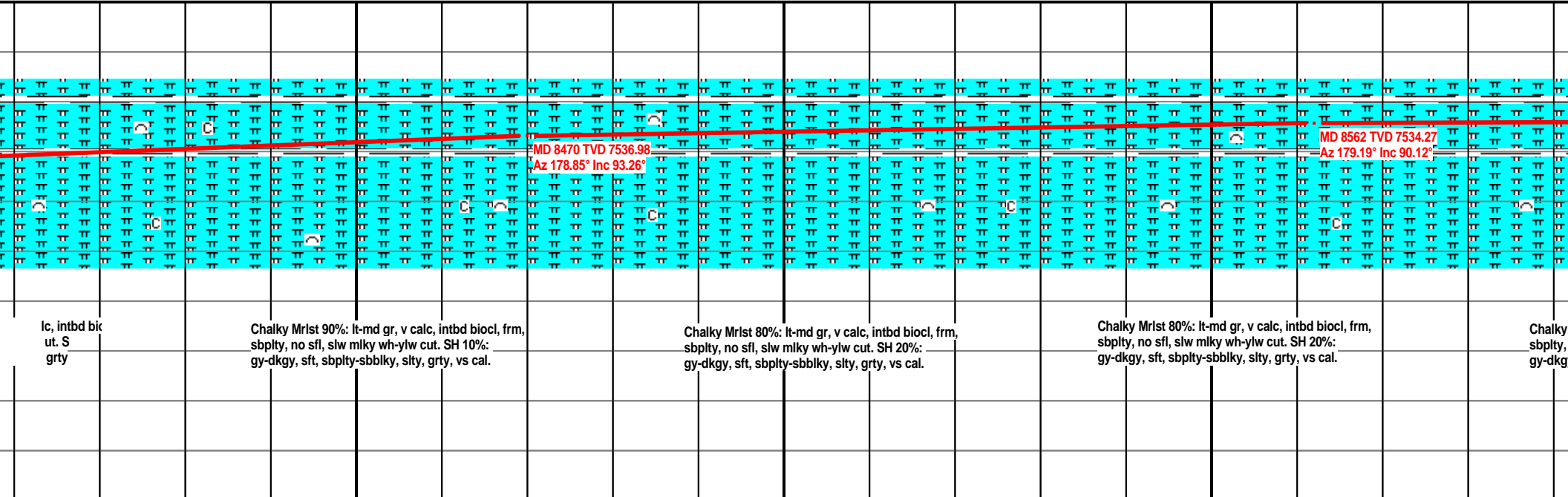
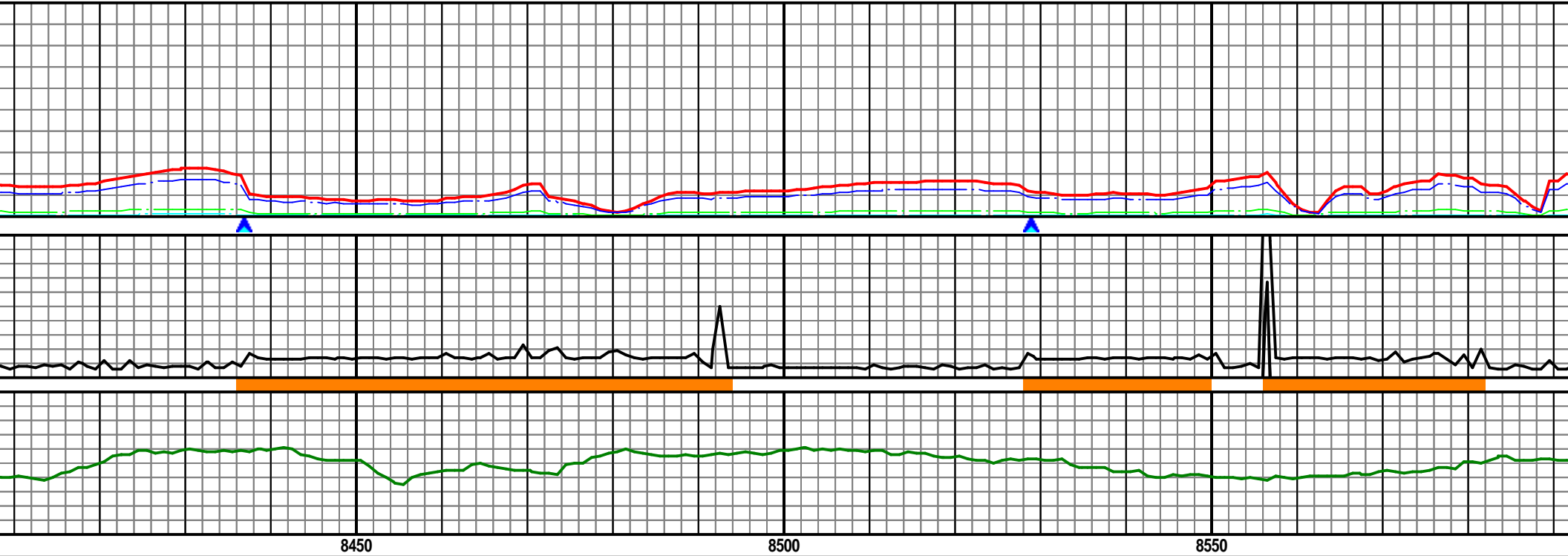
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MW: 9.0 / VIS: 70



MW: 9.1 / VIS: 43

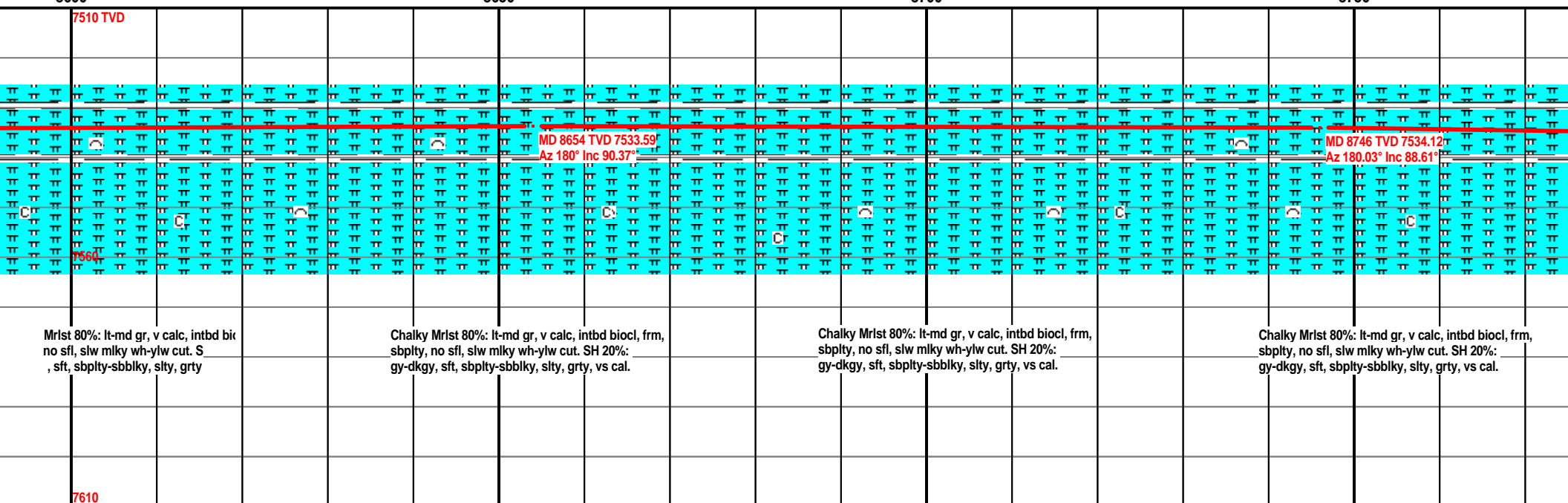
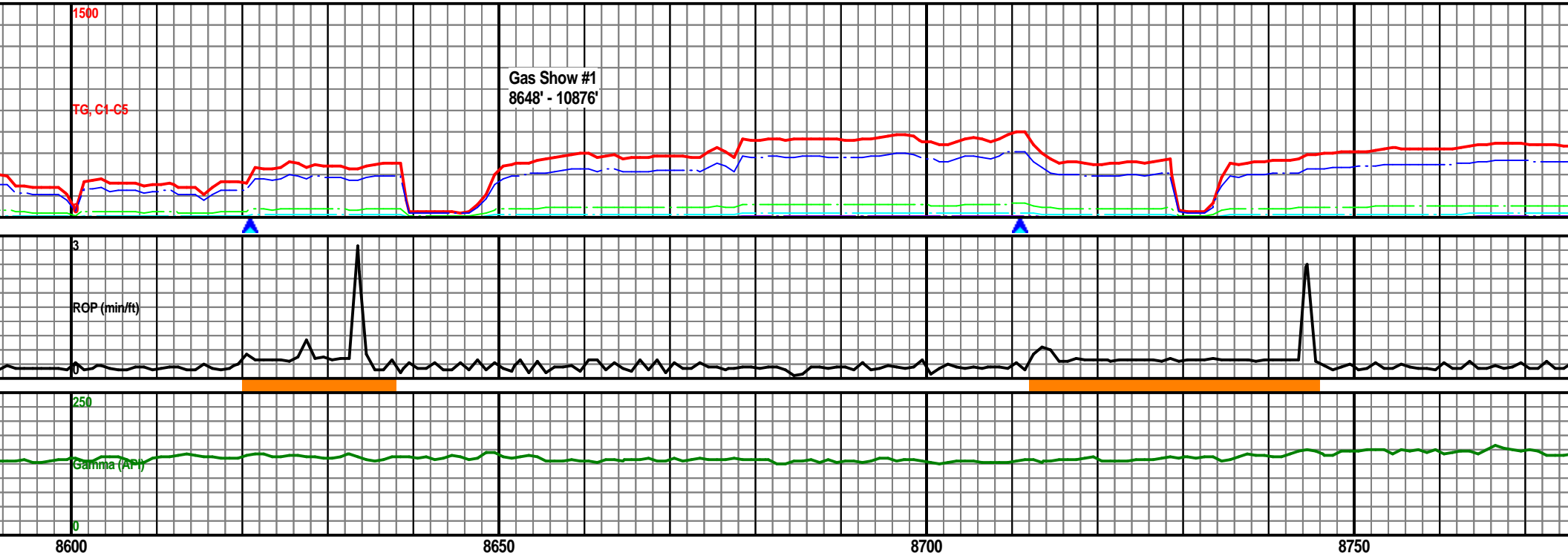
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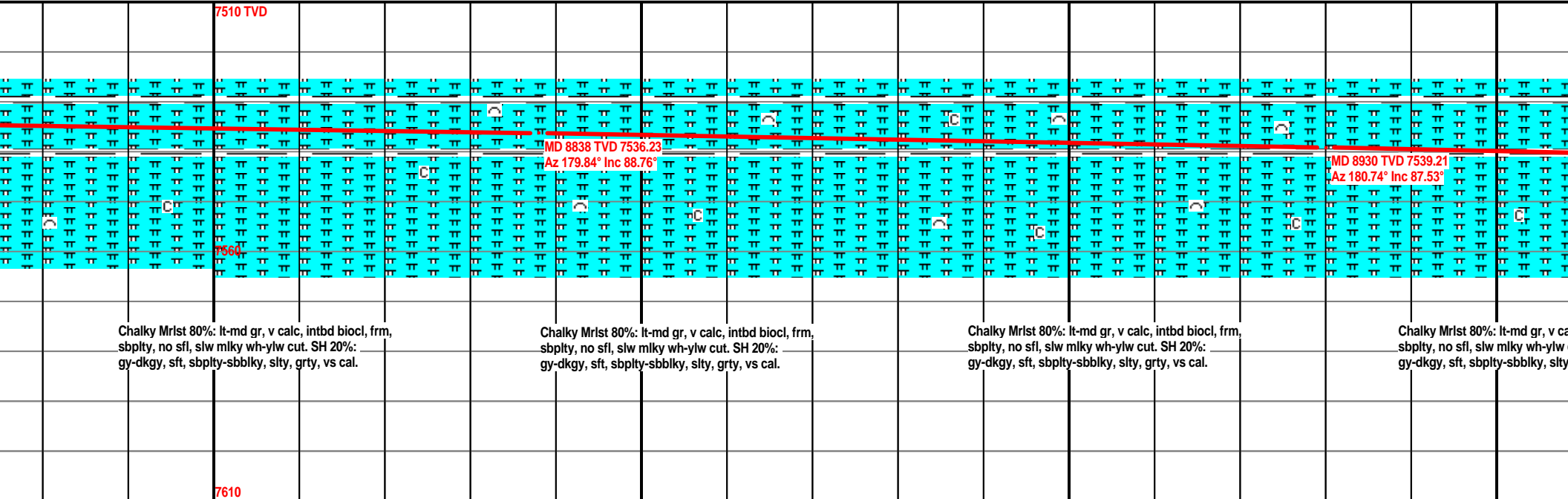
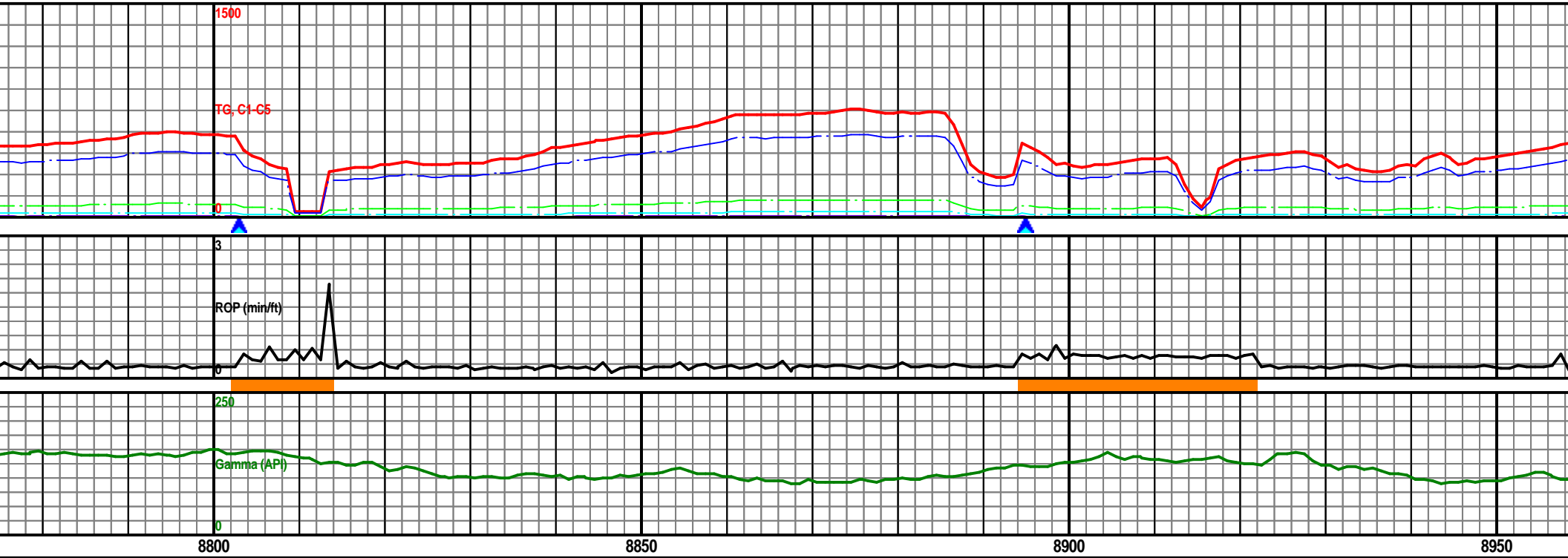
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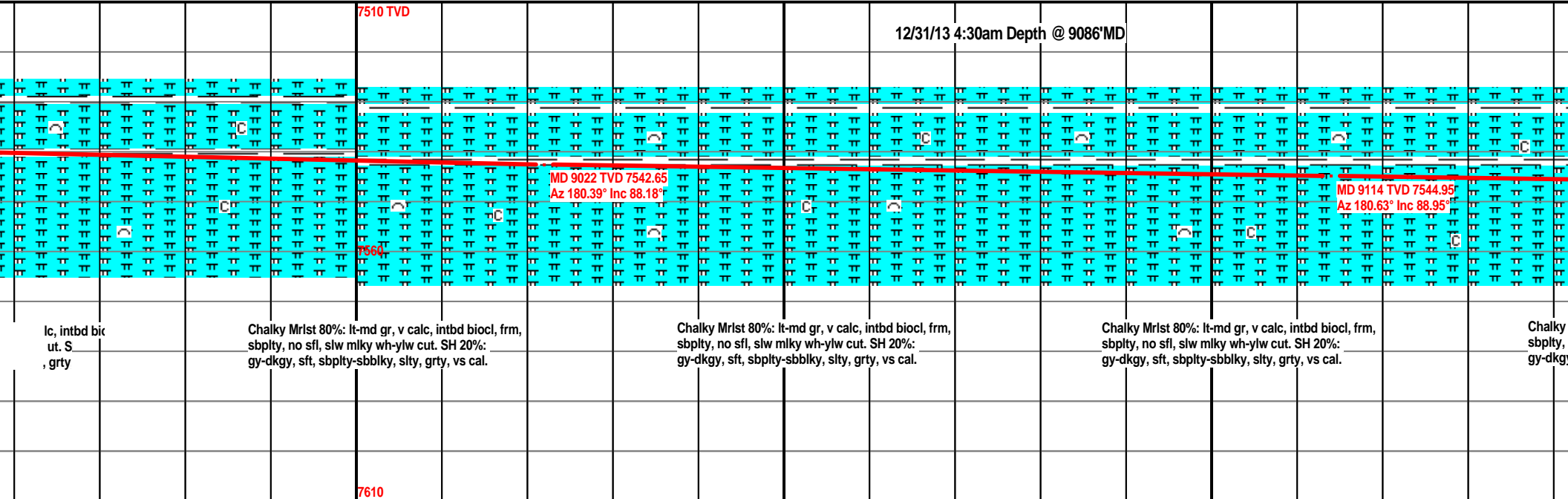
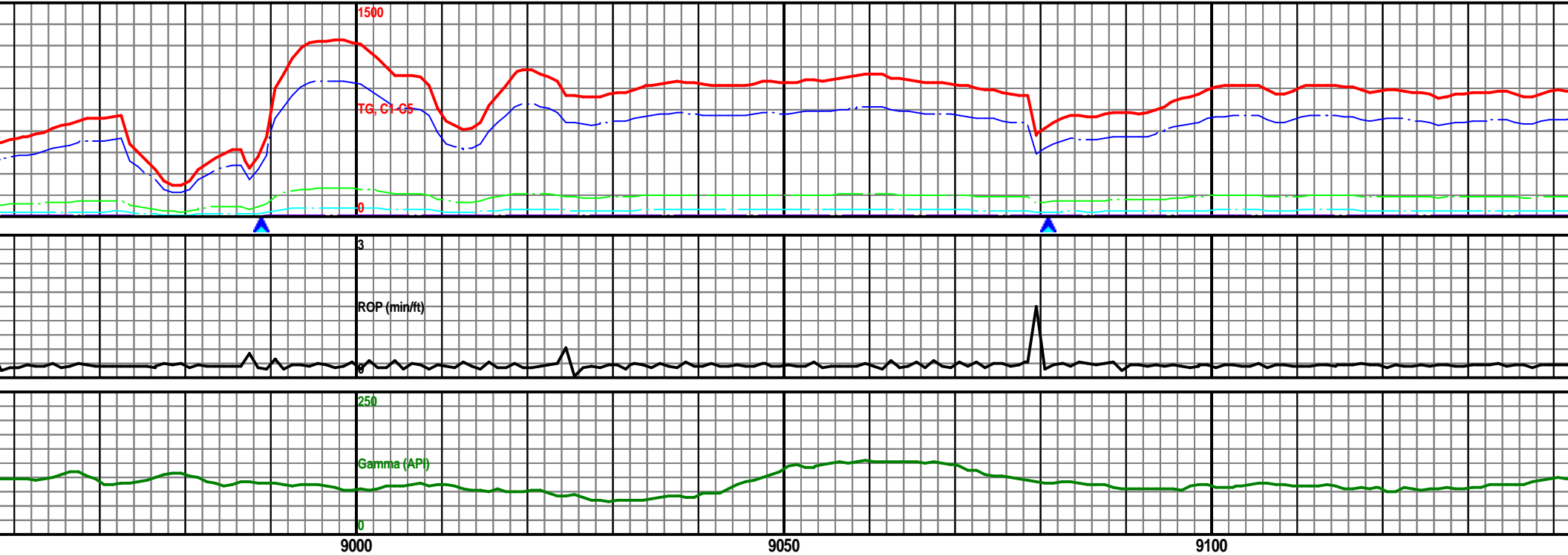


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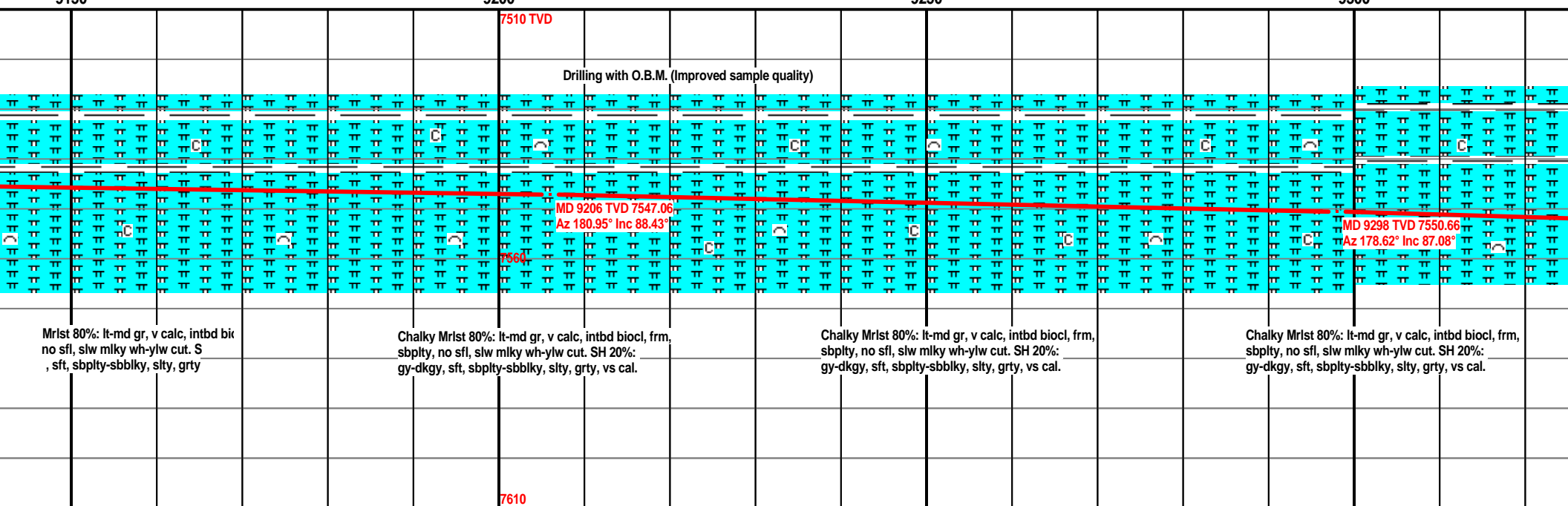
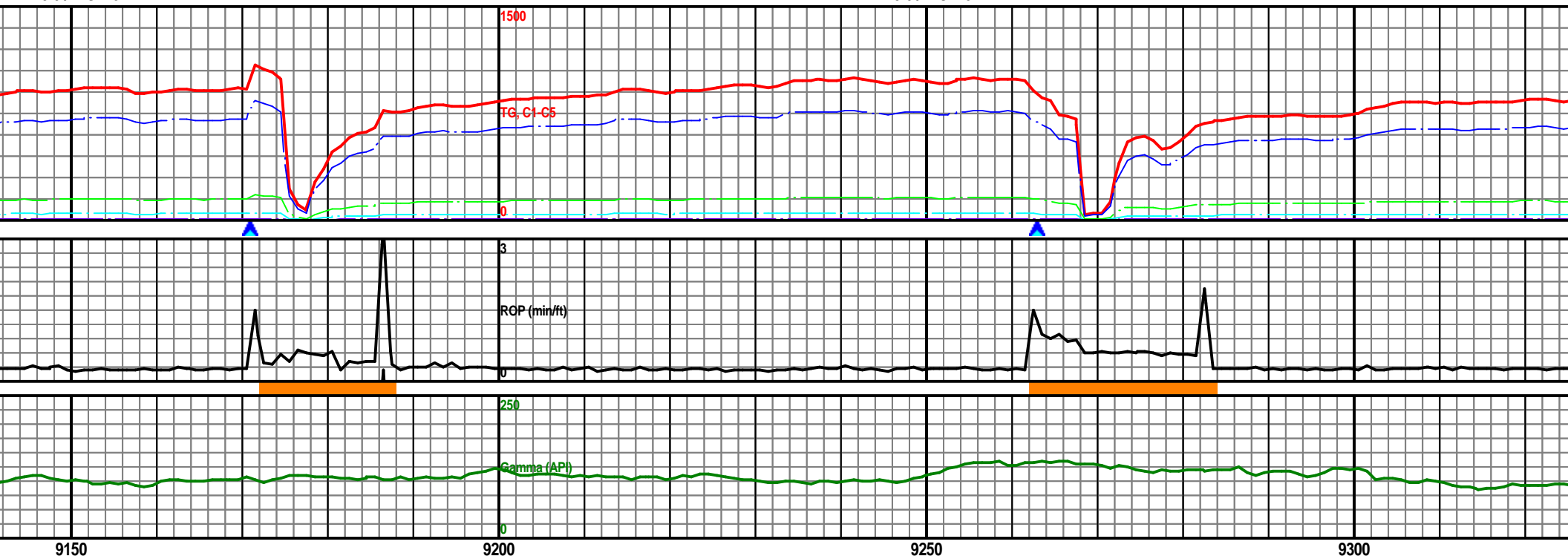


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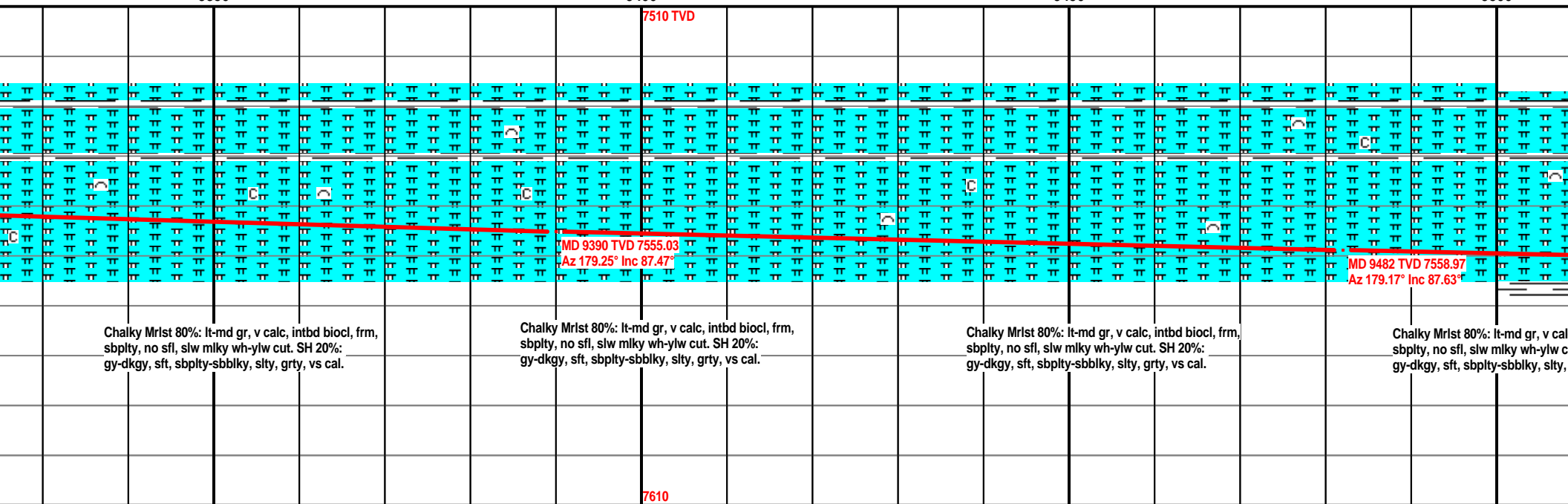
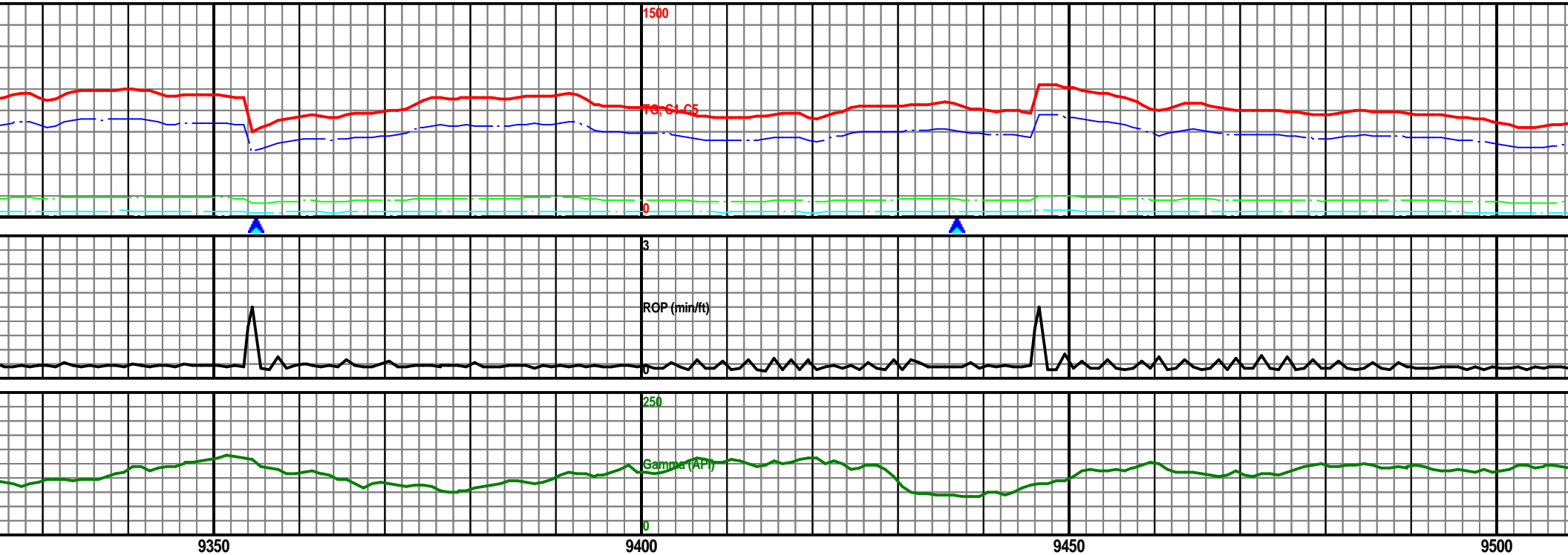
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MW: 9.0 / VIS: 43



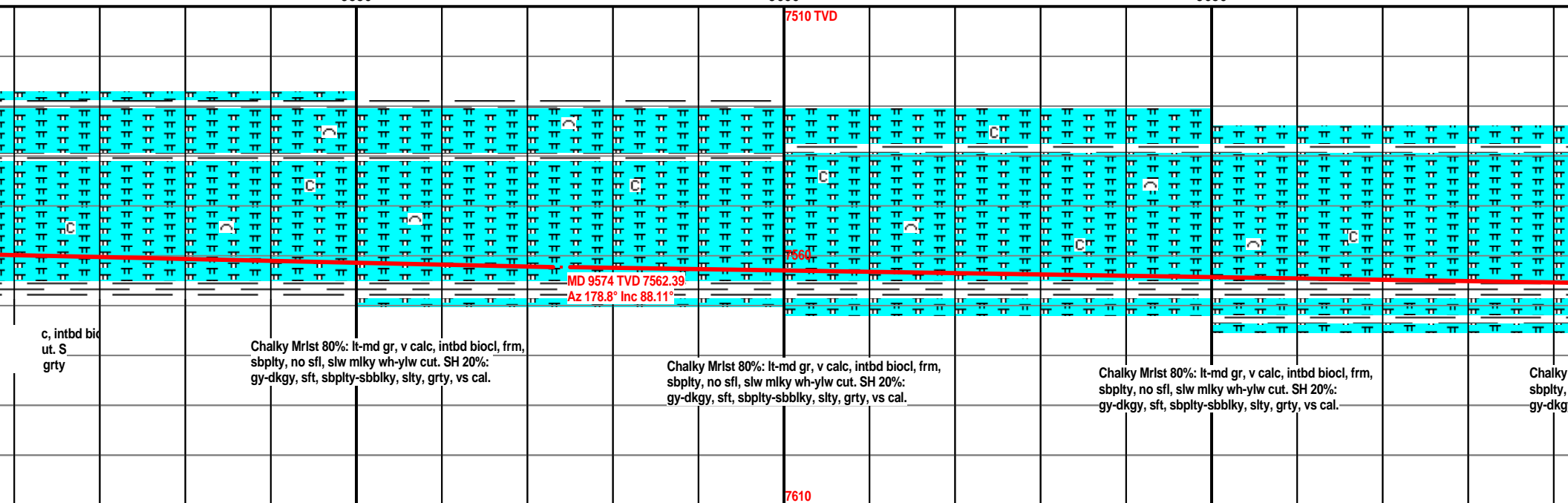
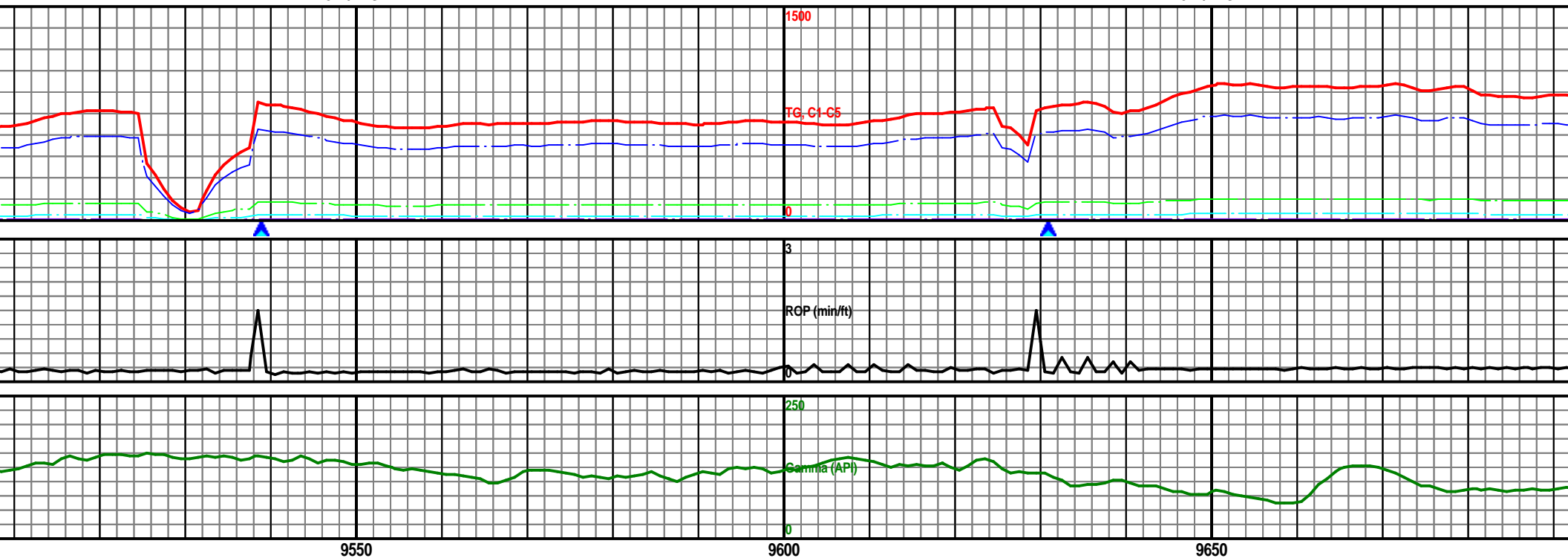
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MW: 9.2 / VIS: 41



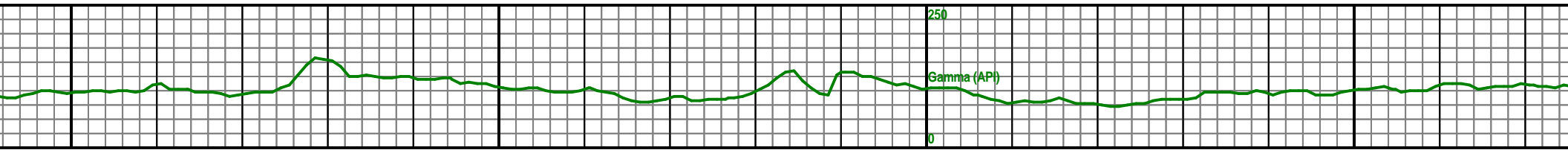
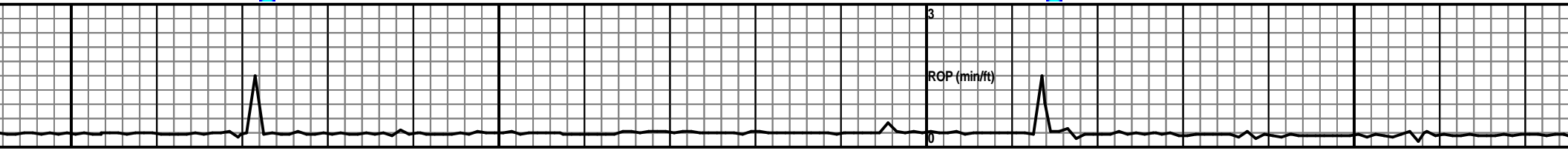
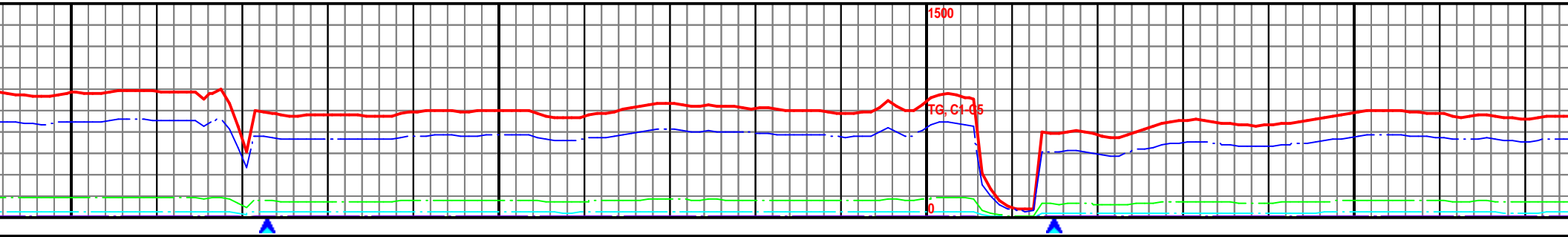
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MW: 9.2 / VIS: 41



MW: 9.2 / VIS: 41

MW: 9.2 / VIS: 41



9700

9750

9800

9850

7510 TVD

Fault - Niobrara Lower B Marl to Upper B Marl

MD 9758 TVD 7567.06  
Az 178.8° Inc 88.98°

Mrst 80%: lt-md gr, v calc, intbd bic  
no sfl, slw mlky wh-ylw cut. S  
, sft, sbplty-sbbiky, slty, grty

Chalky Mrst 80%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw mlky wh-ylw cut. SH 20%:  
gy-dkgy, sft, sbplty-sbbiky, slty, grty, vs cal.

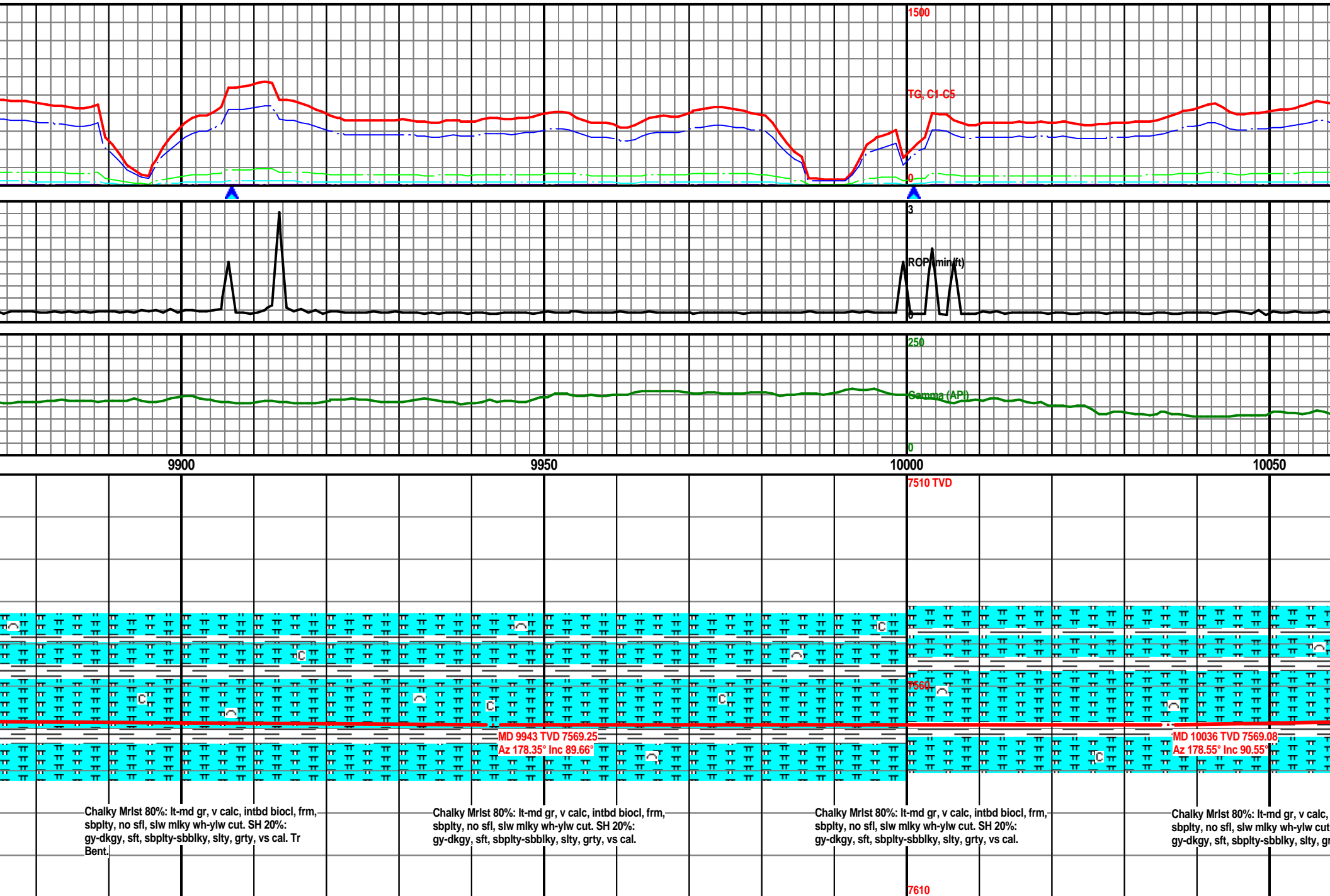
Chalky Mrst 80%: lt-md gr, v calc, intbd biocl, frm,  
sbplty, no sfl, slw mlky wh-ylw cut. SH 20%:  
gy-dkgy, sft, sbplty-sbbiky, slty, grty, vs cal.

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

7610

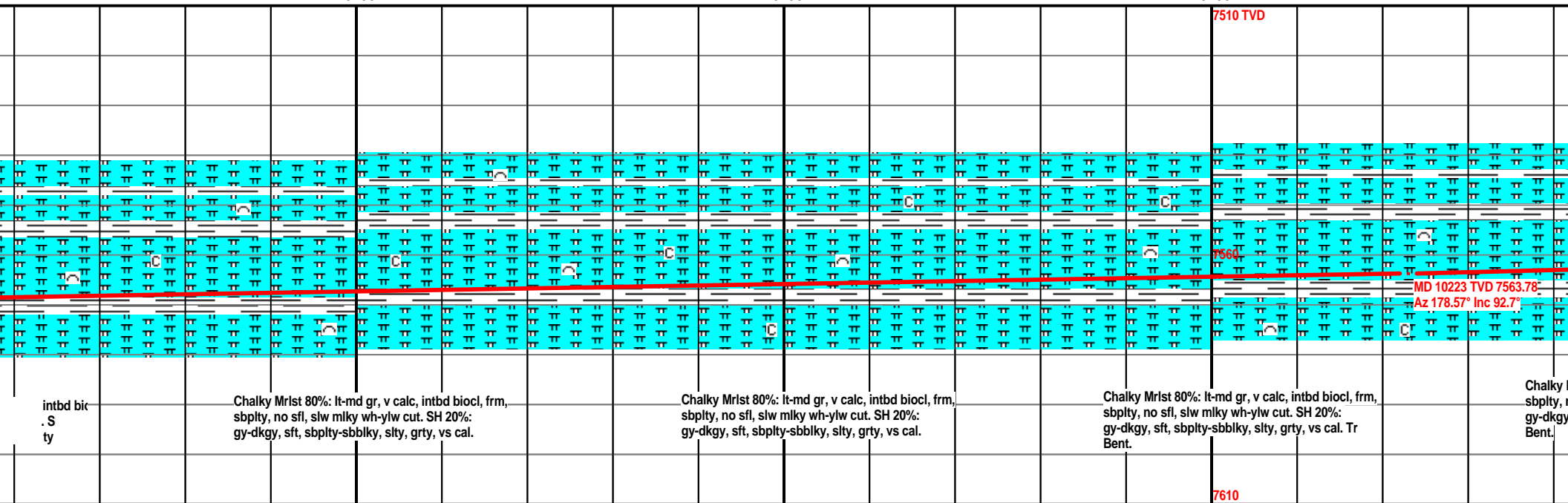
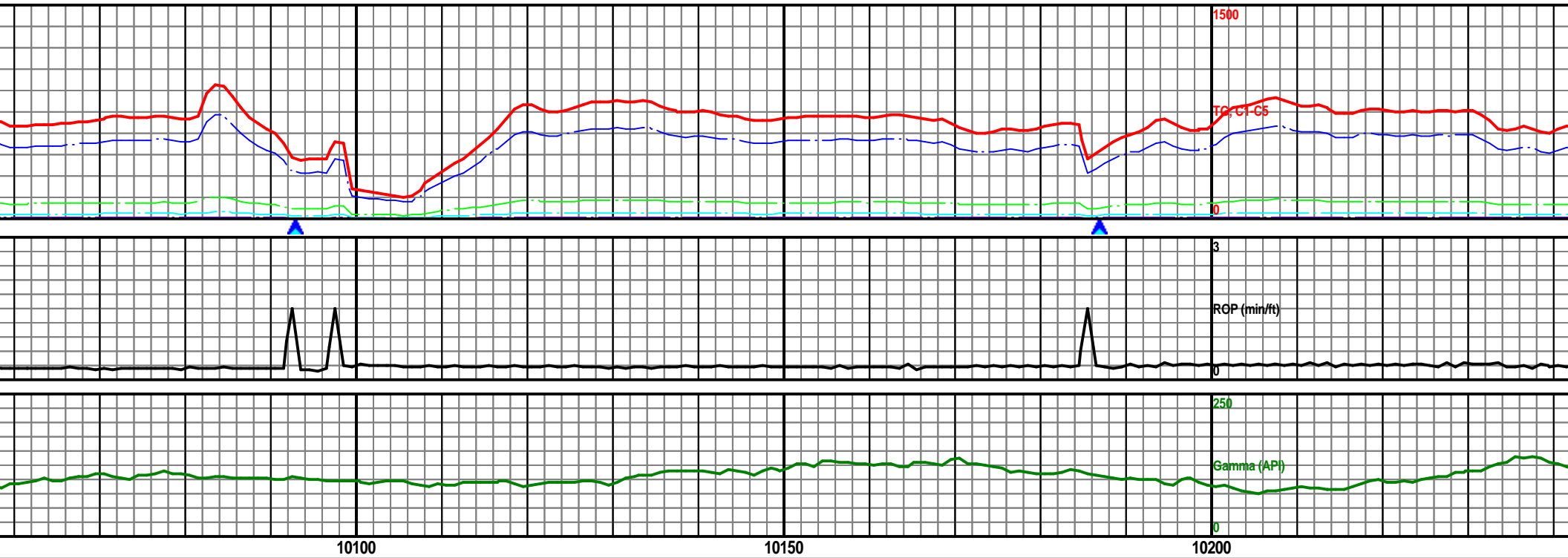
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MW: 9.1 / VIS: 44



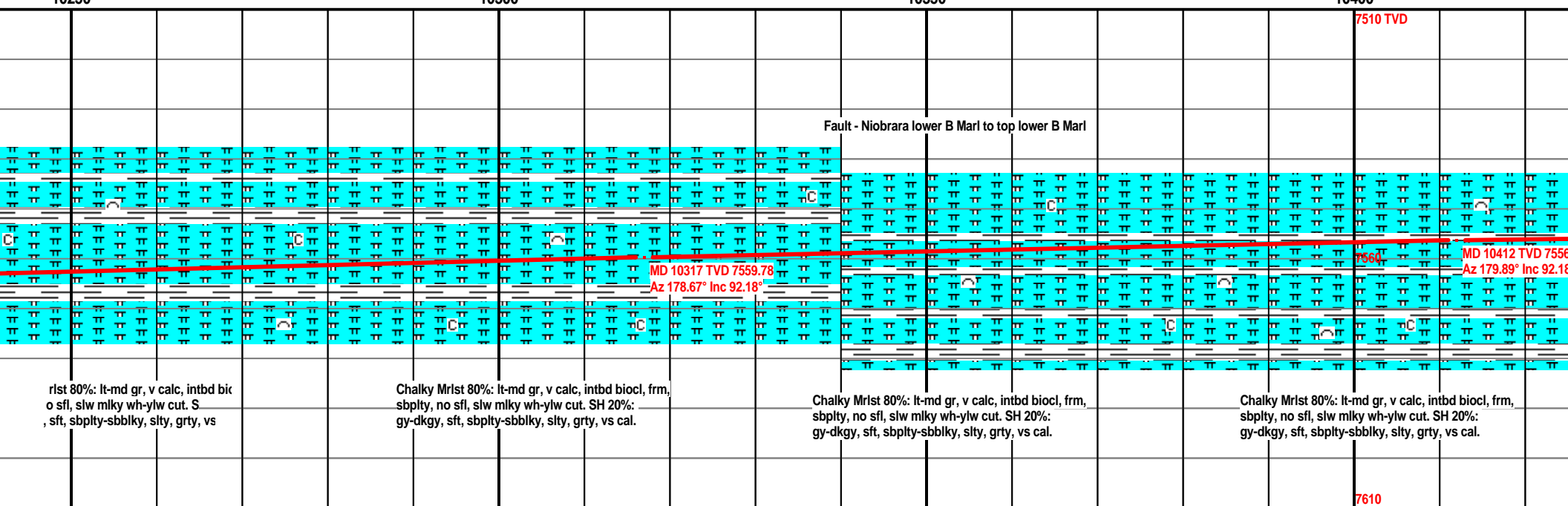
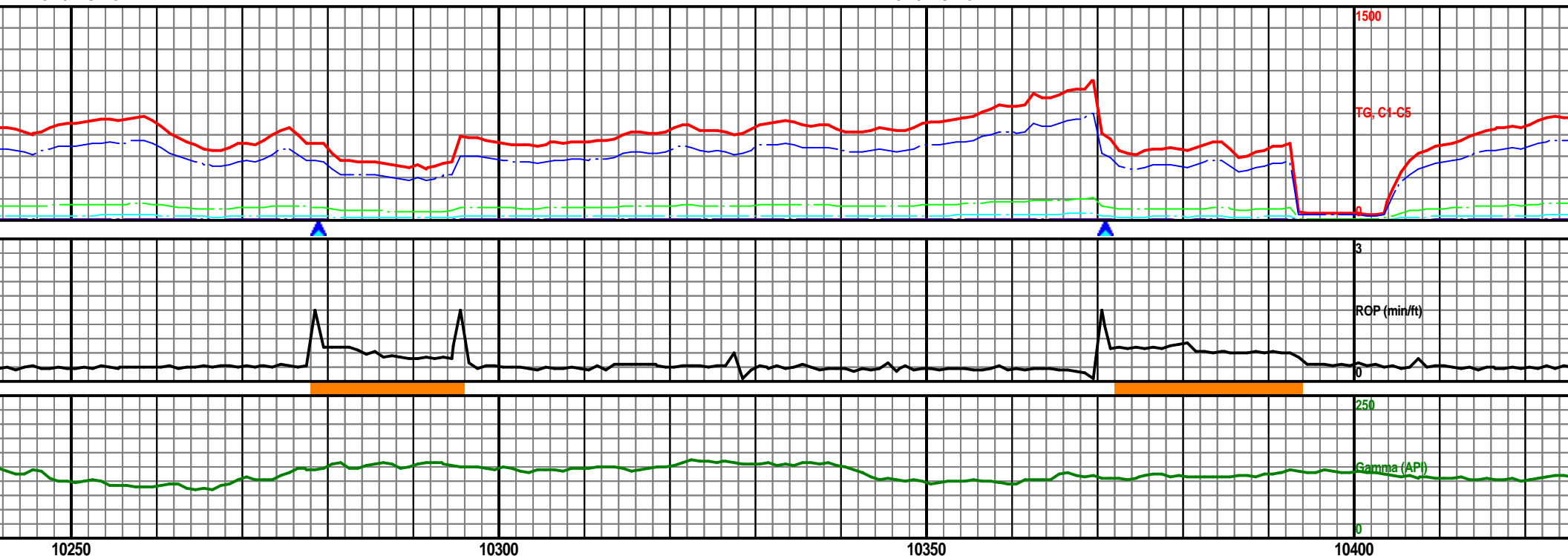


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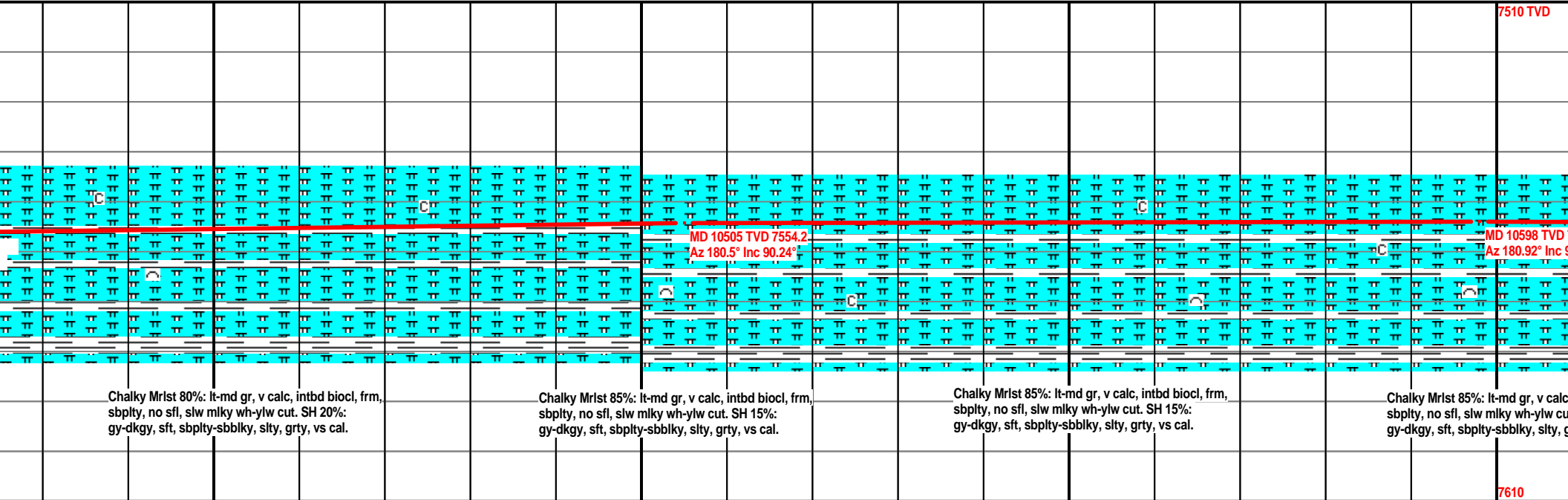
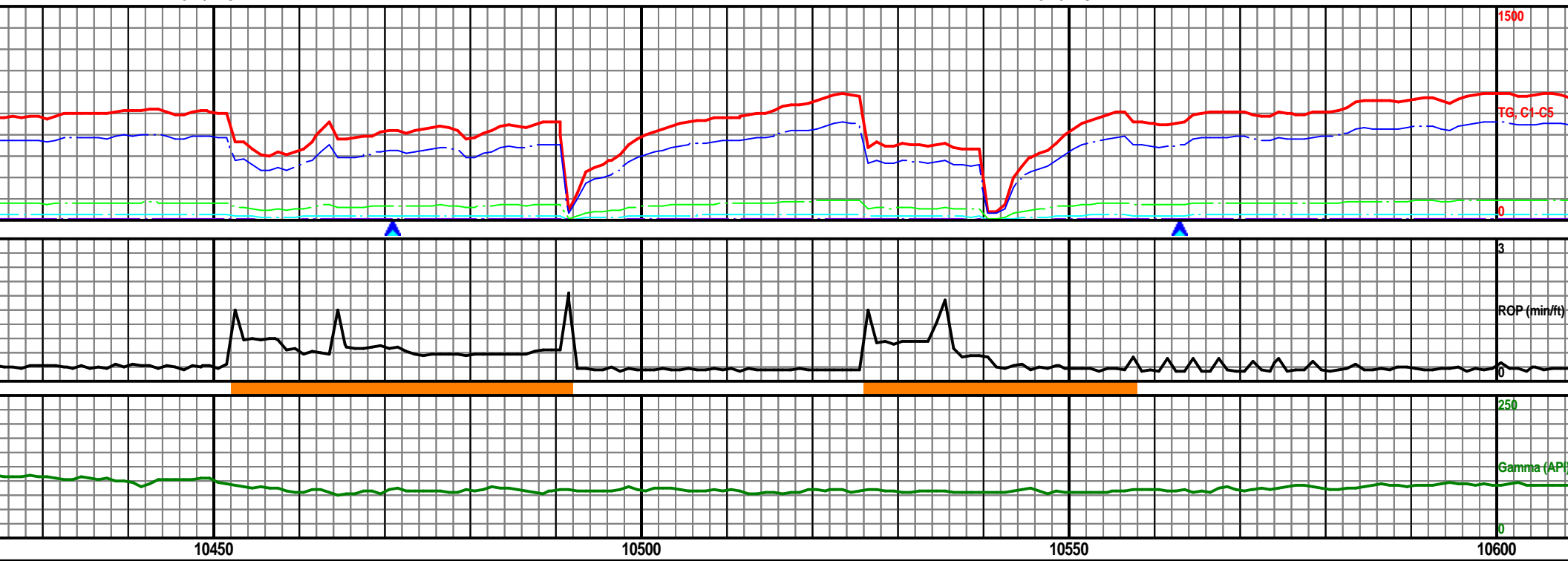
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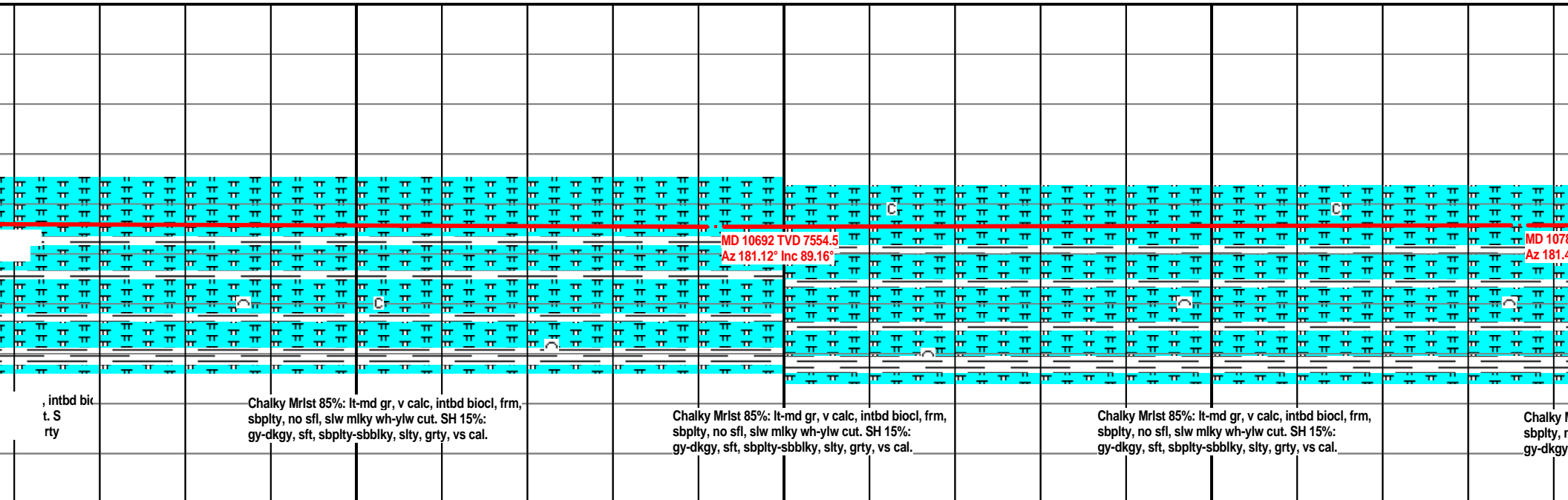


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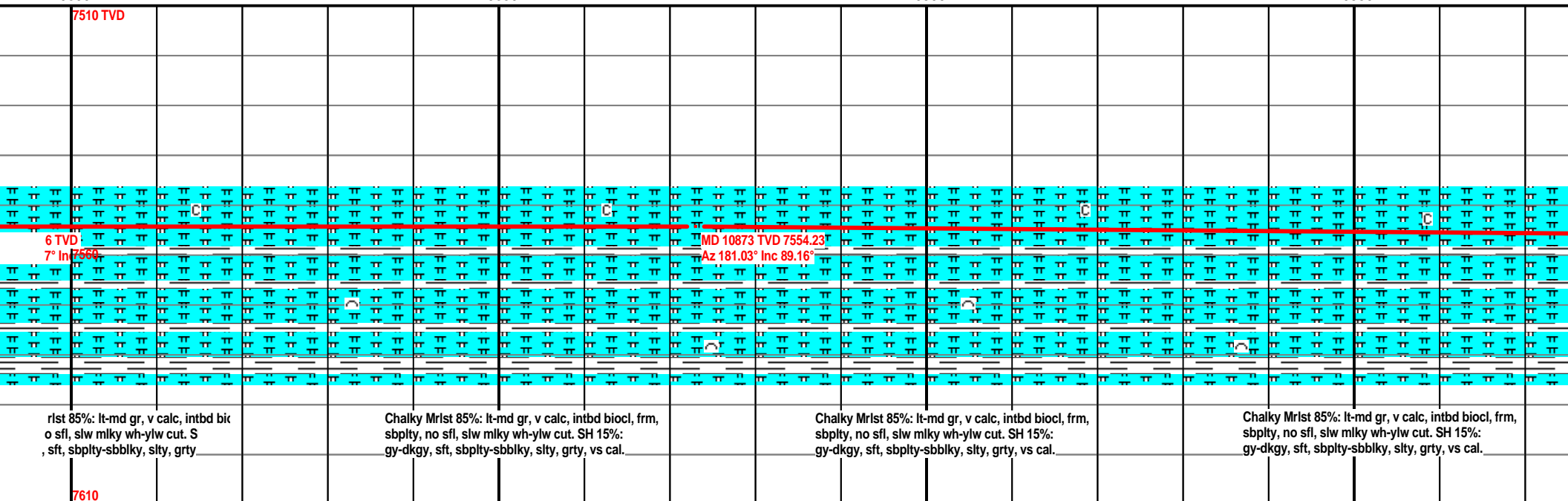
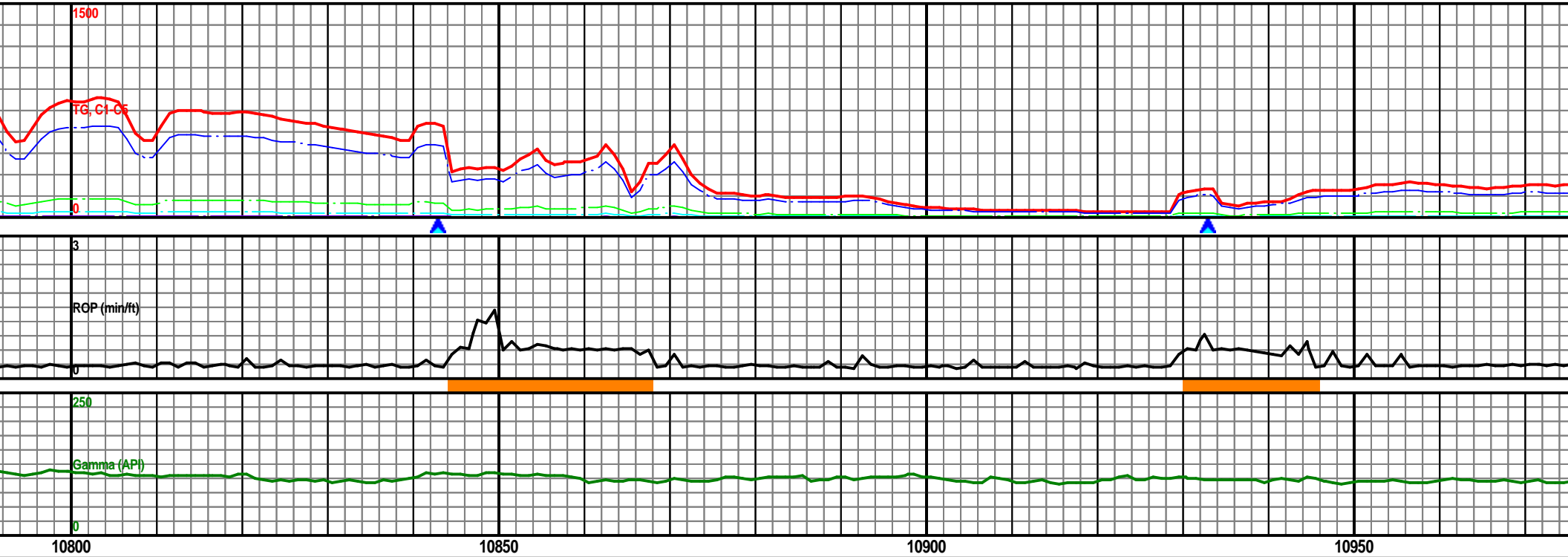


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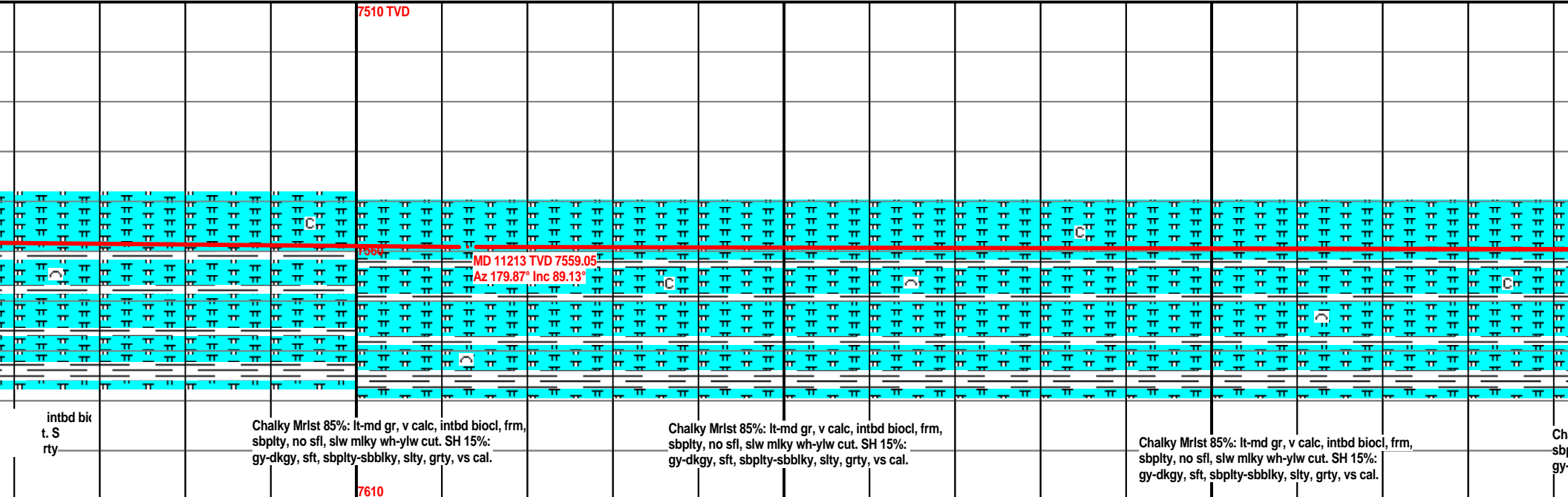
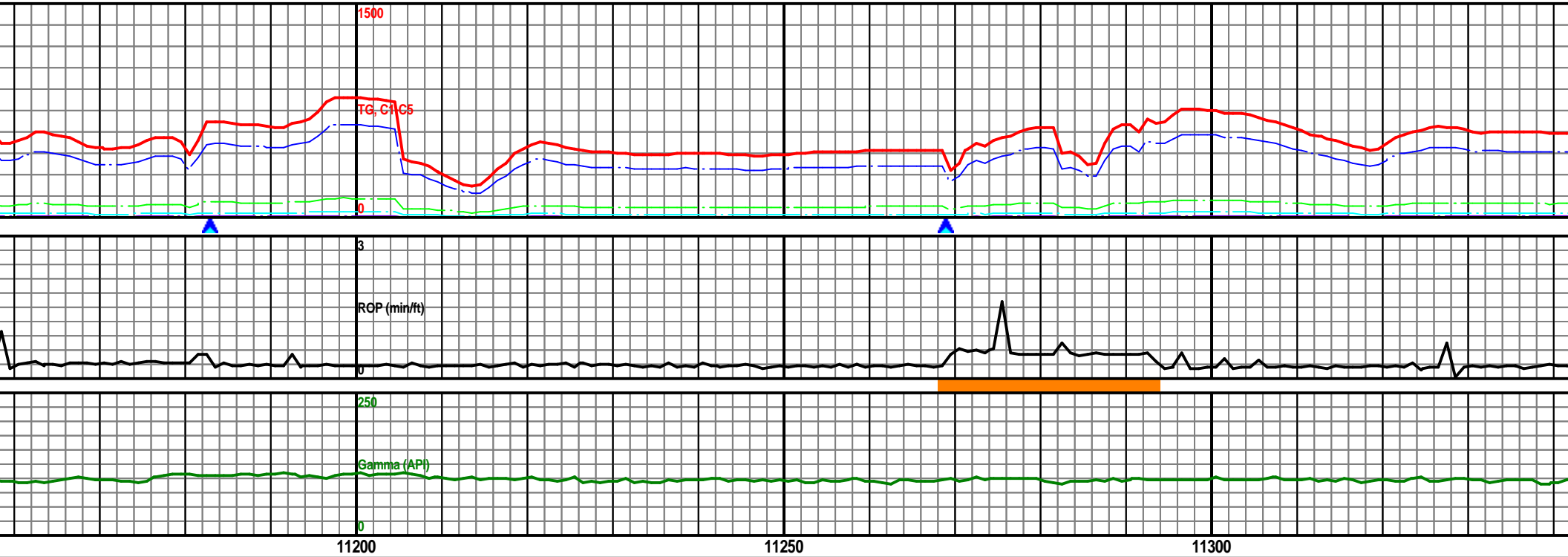
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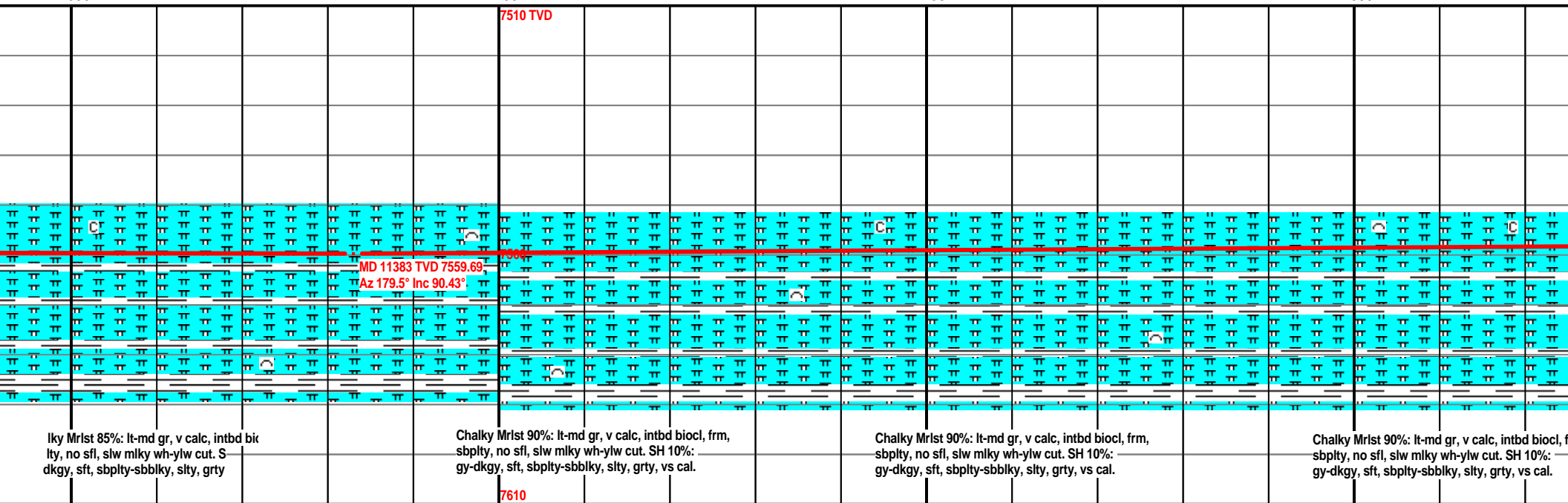
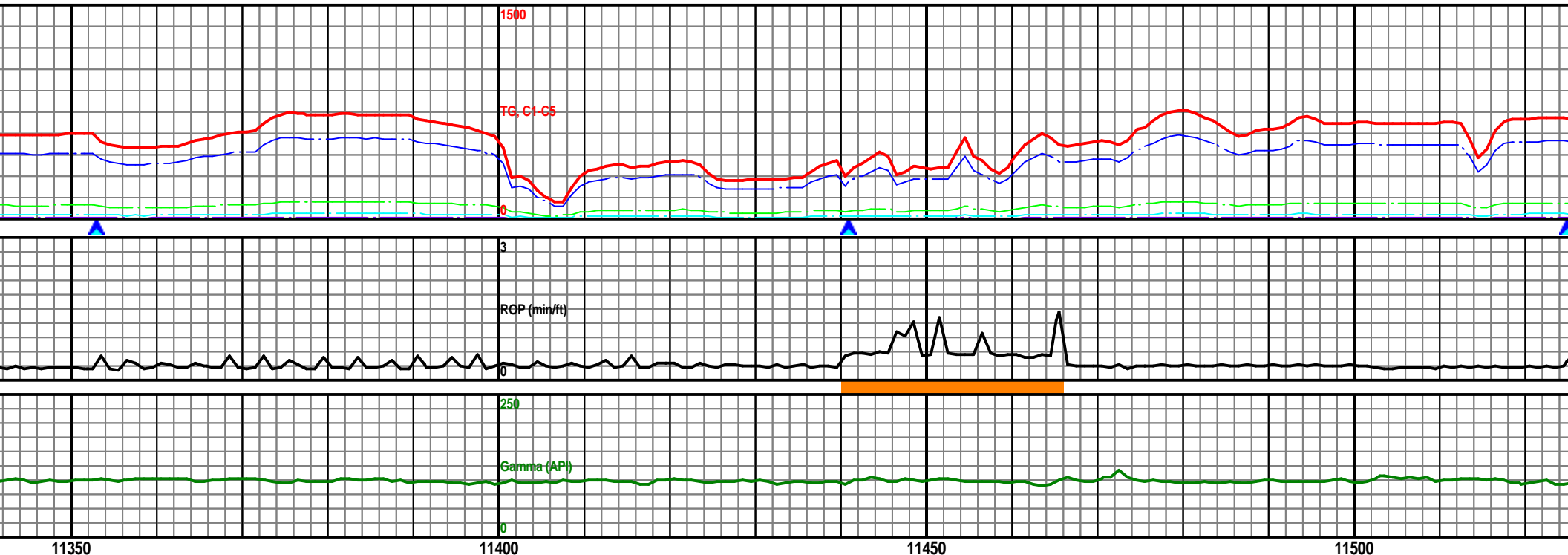


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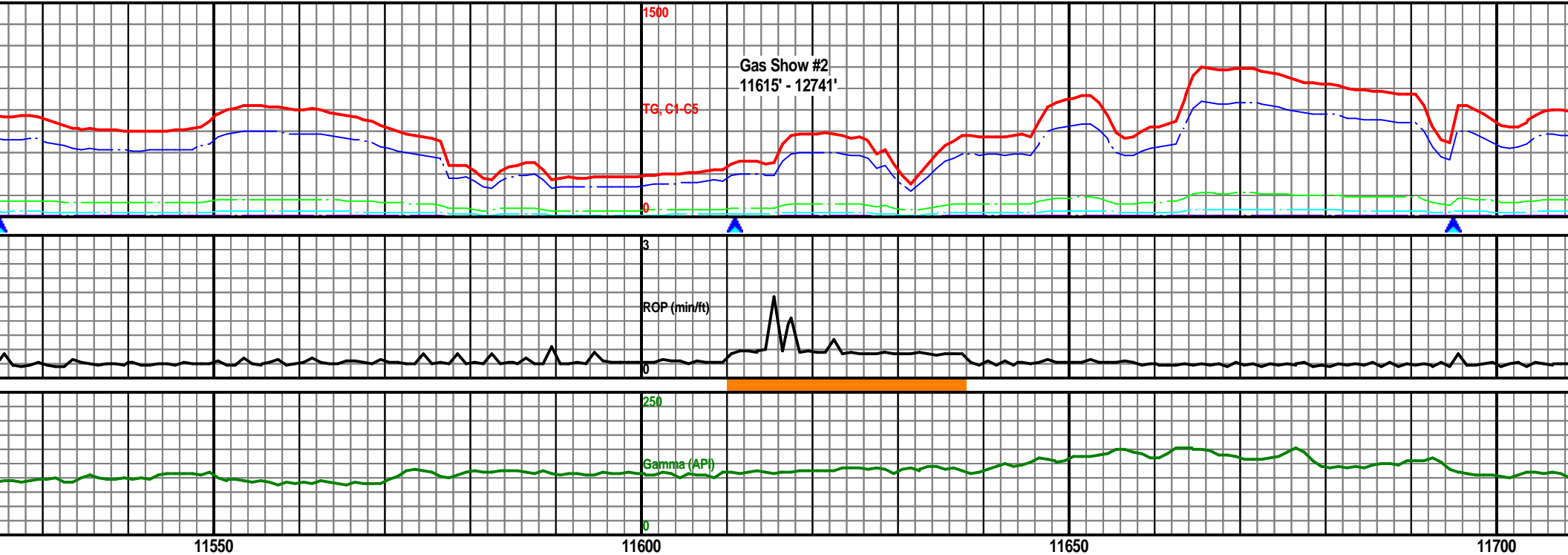
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MW: 9.1 / VIS: 42

MW: 9.1 / VIS: 42



Gas Show #2  
11615' - 12741'

TG, C1-C5

RGP (min/ft)

Gamma (API)

11550

11600

11650

11700

7510 TVD

MD 11554 TVD 7557.96  
Az 179.83° Inc 90.73°

7560

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

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

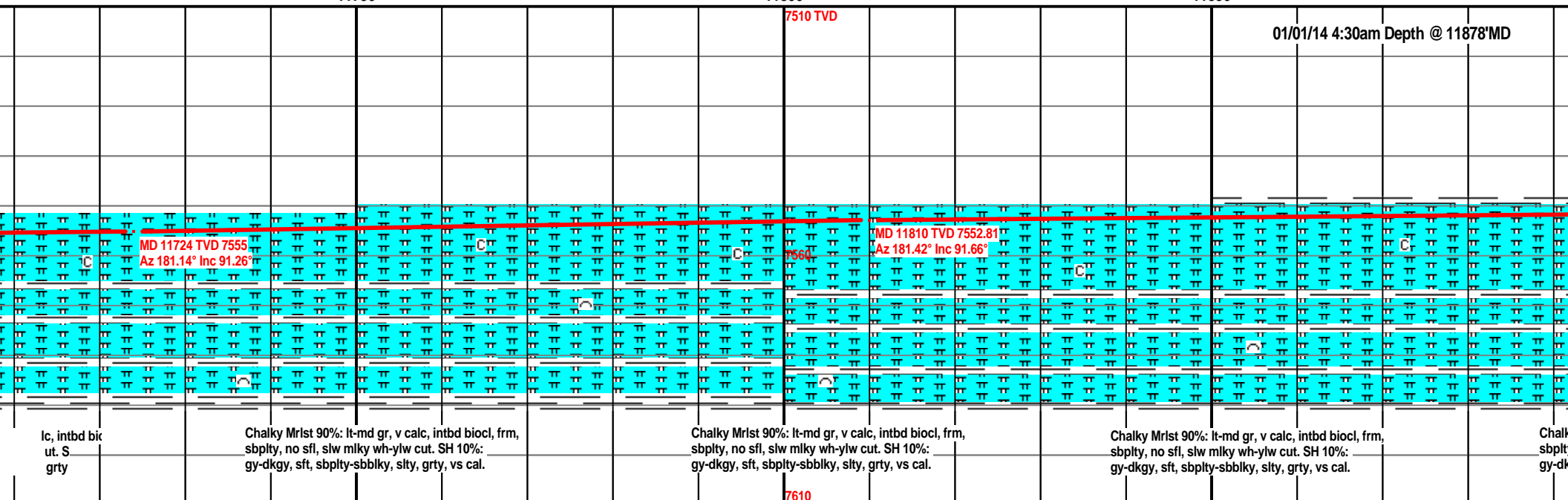
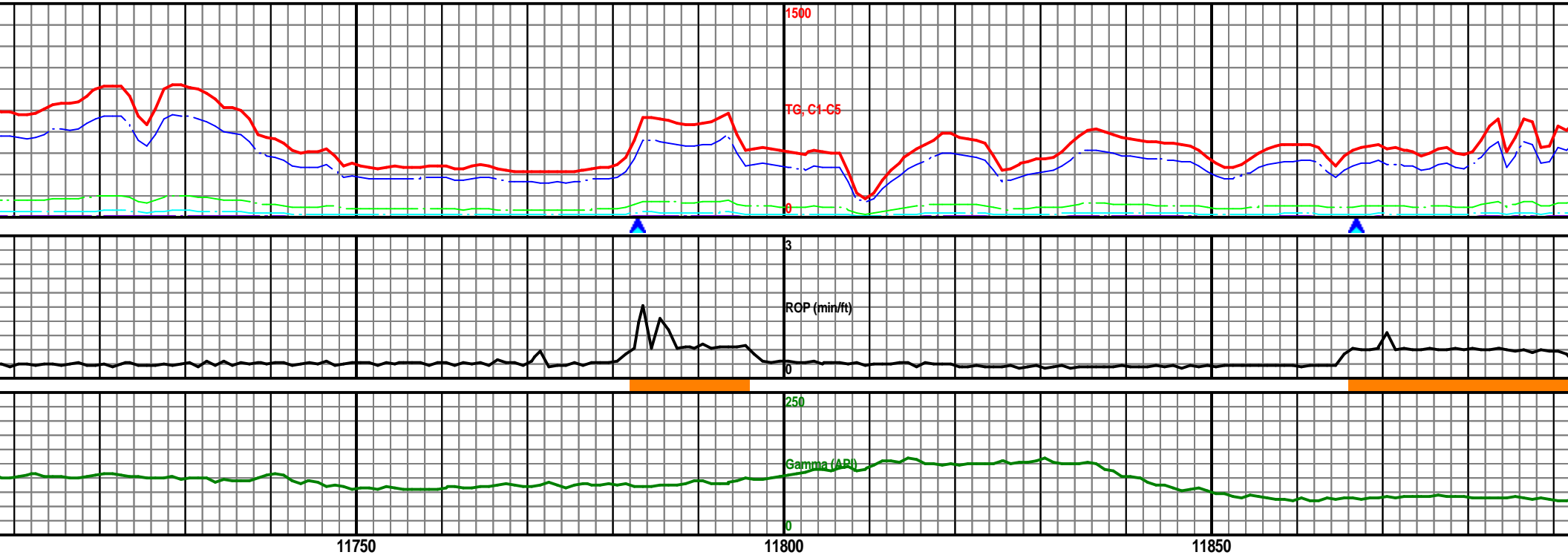
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gy-dkgy, sft, sbplty-sbbiky, slty, grty, vs cal.

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

7610

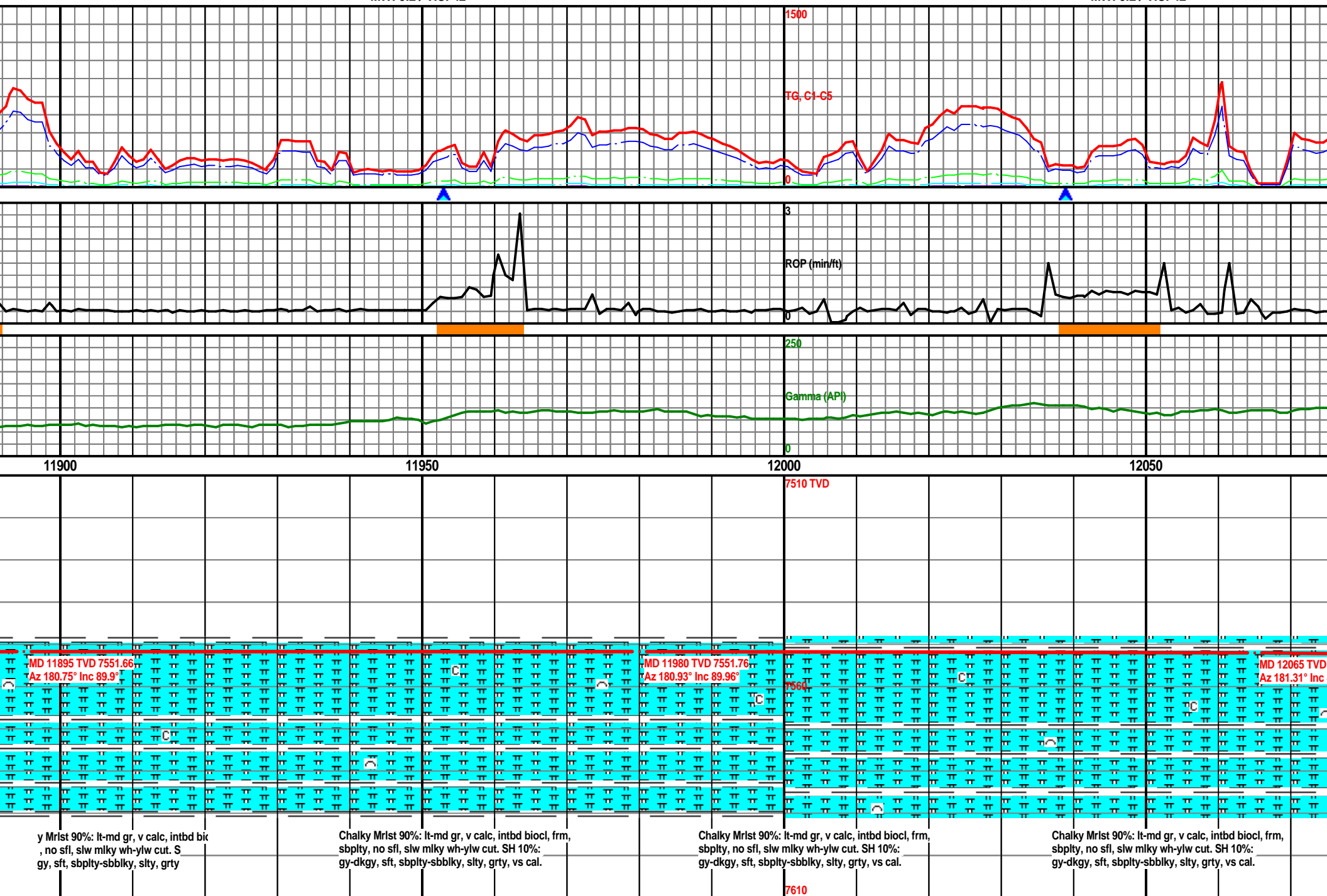
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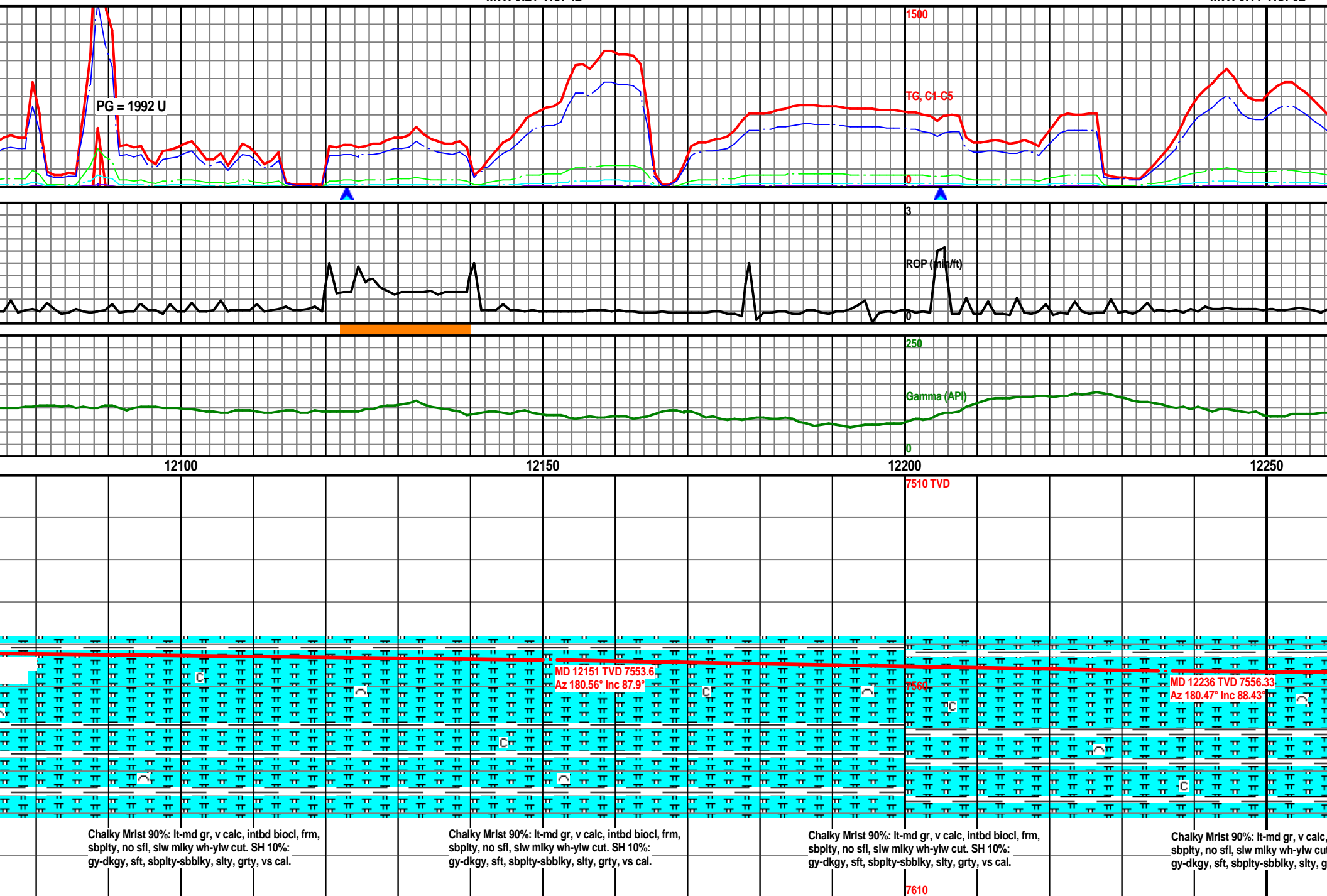
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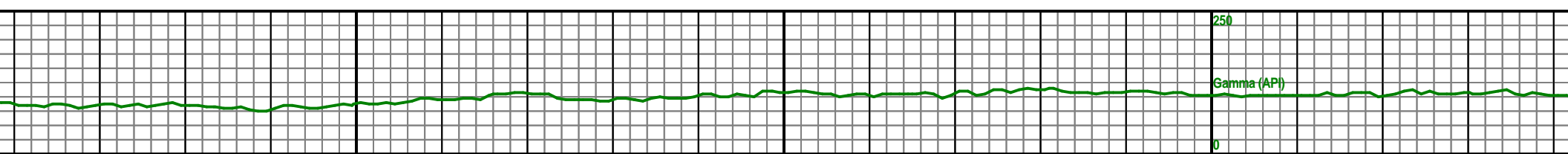
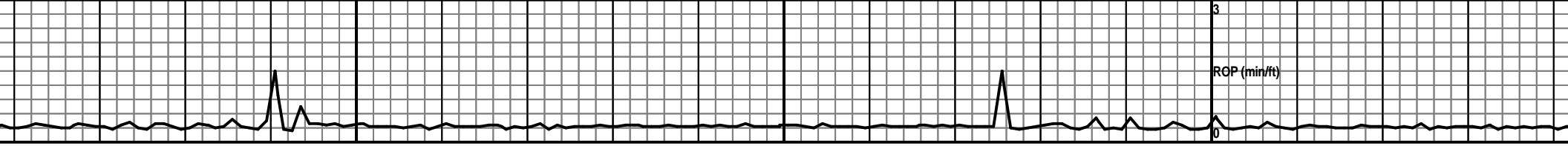
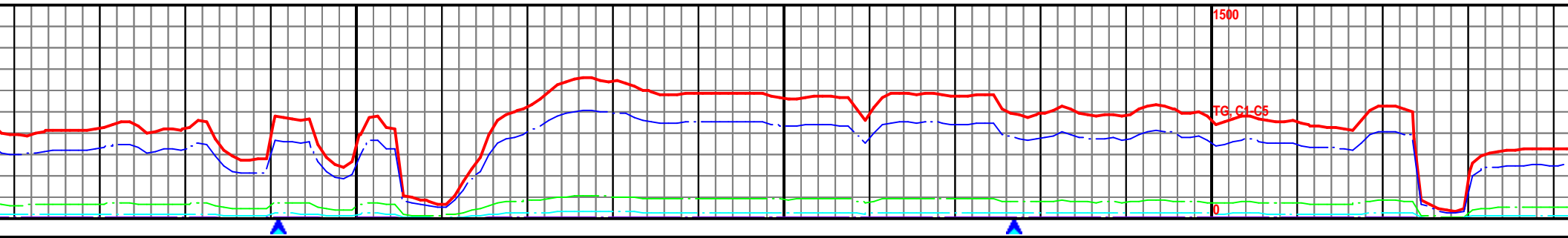


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MW: 9.1 / VIS: 52



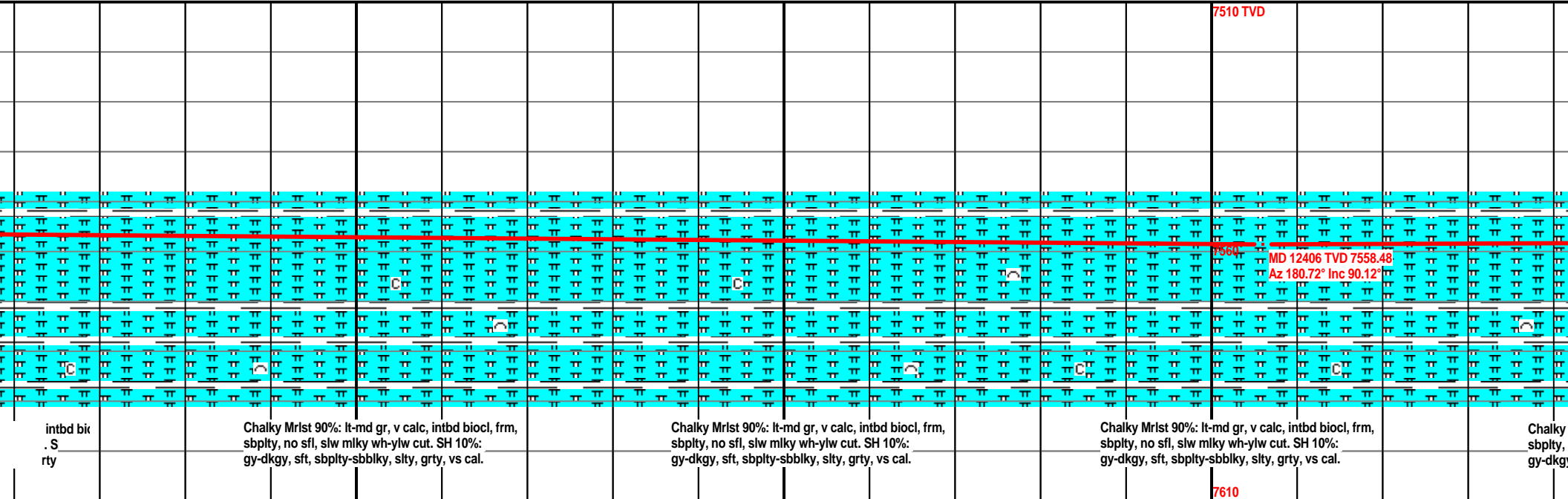
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12300

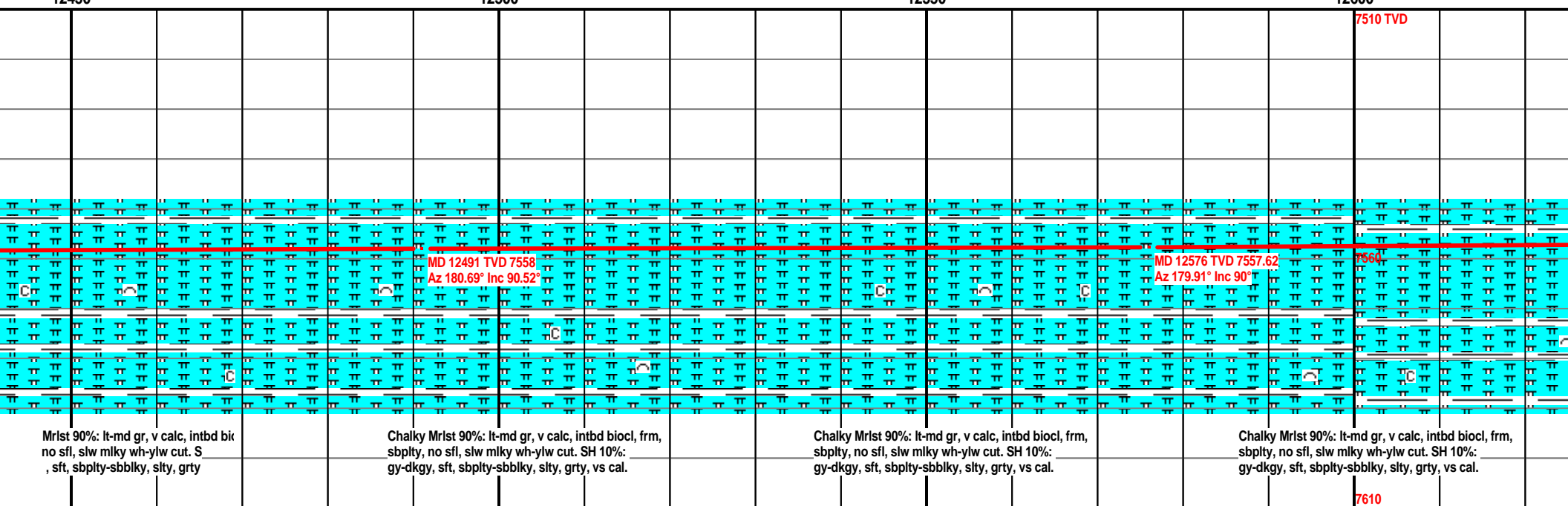
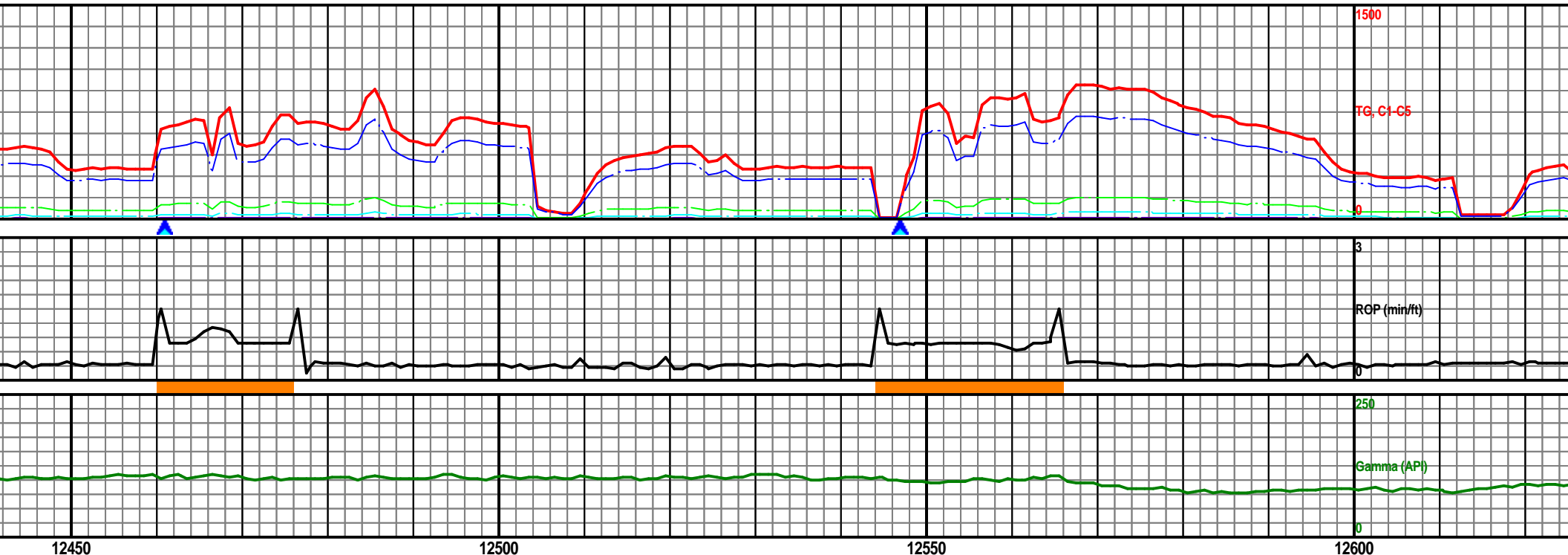
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12400



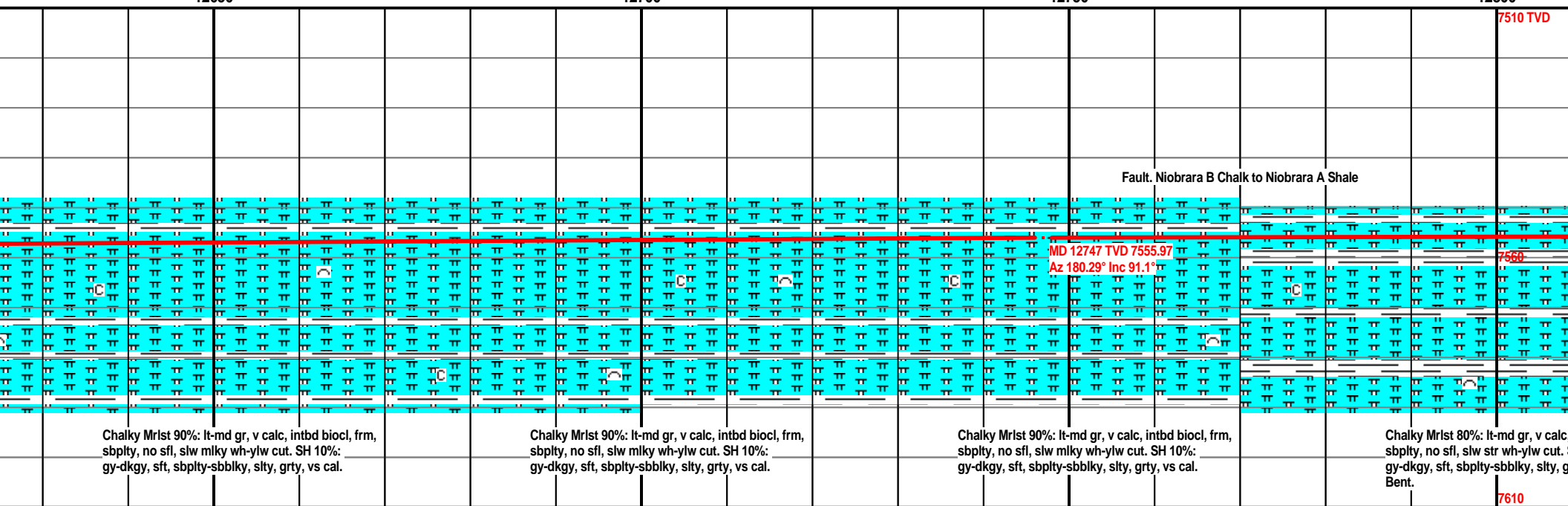
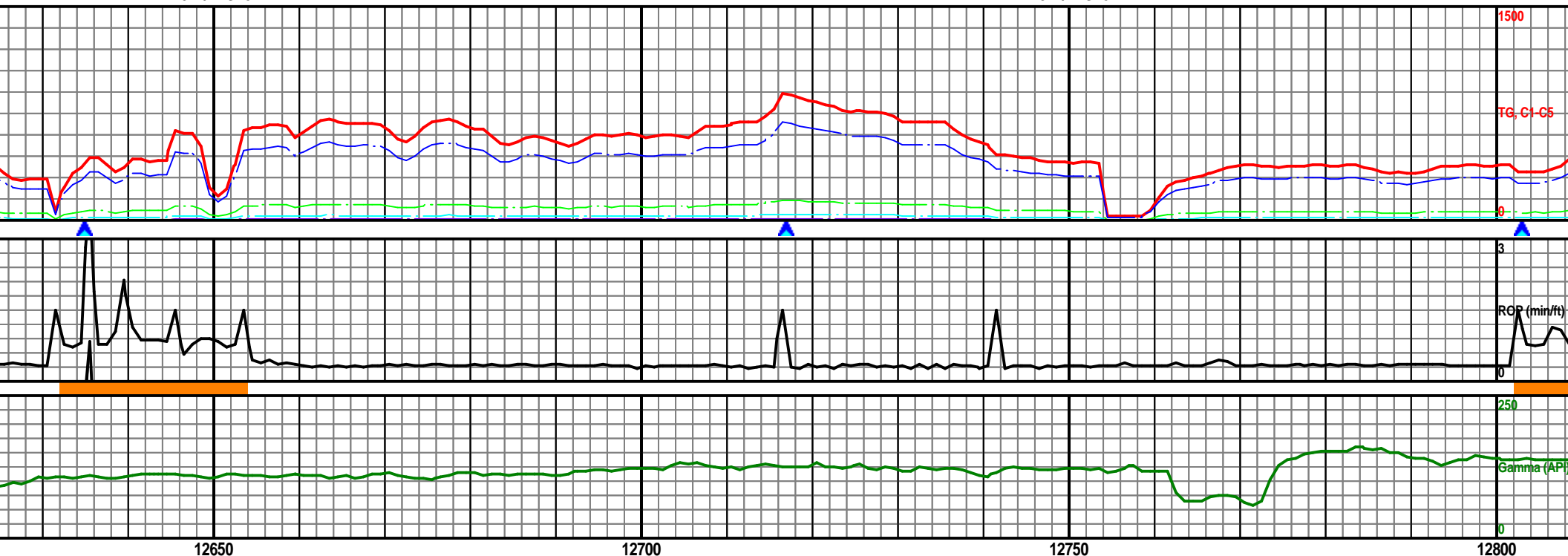
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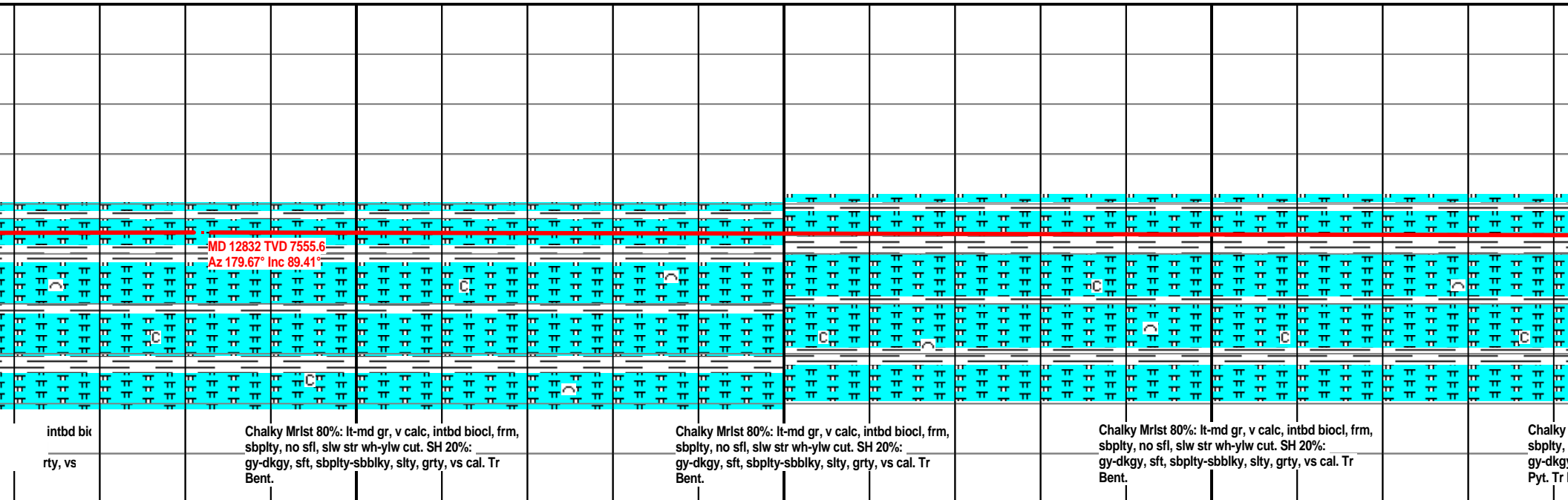


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MW: 9.1 / VIS: 52



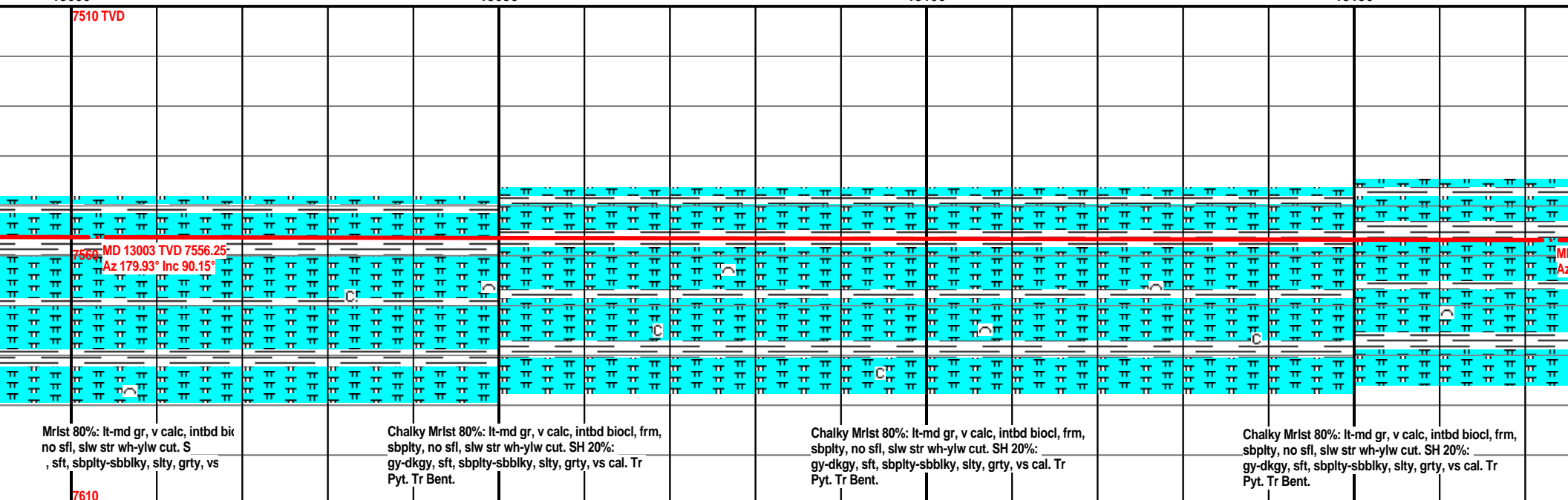
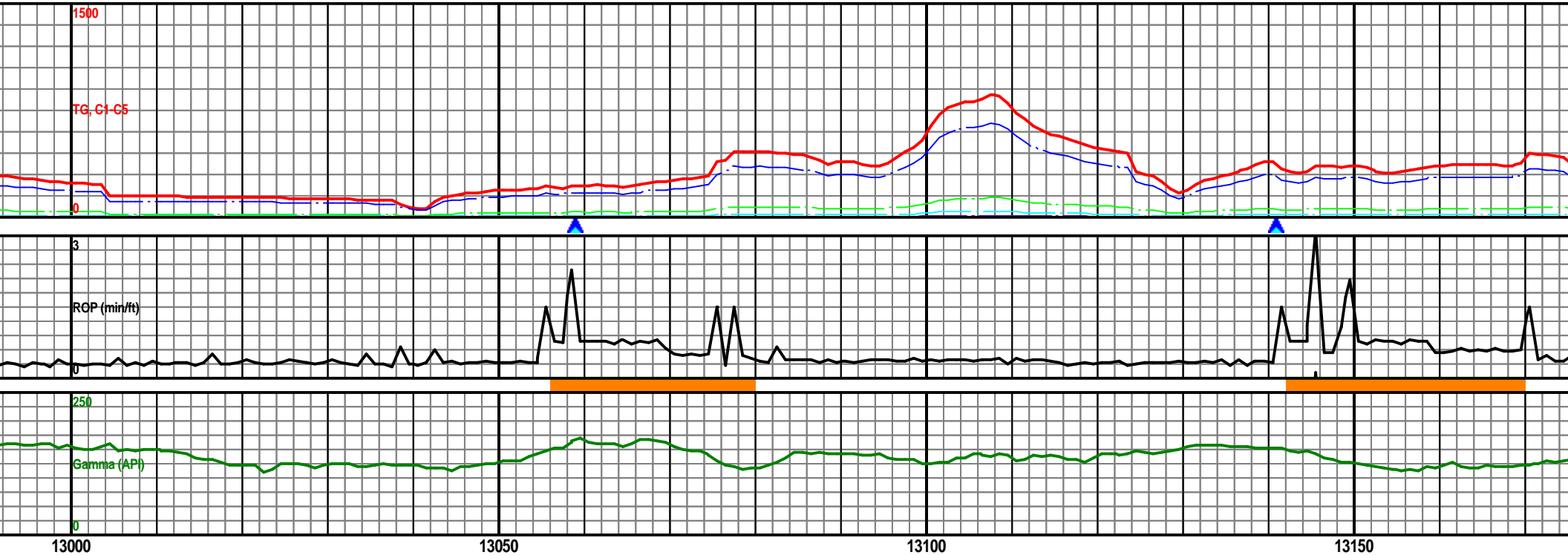
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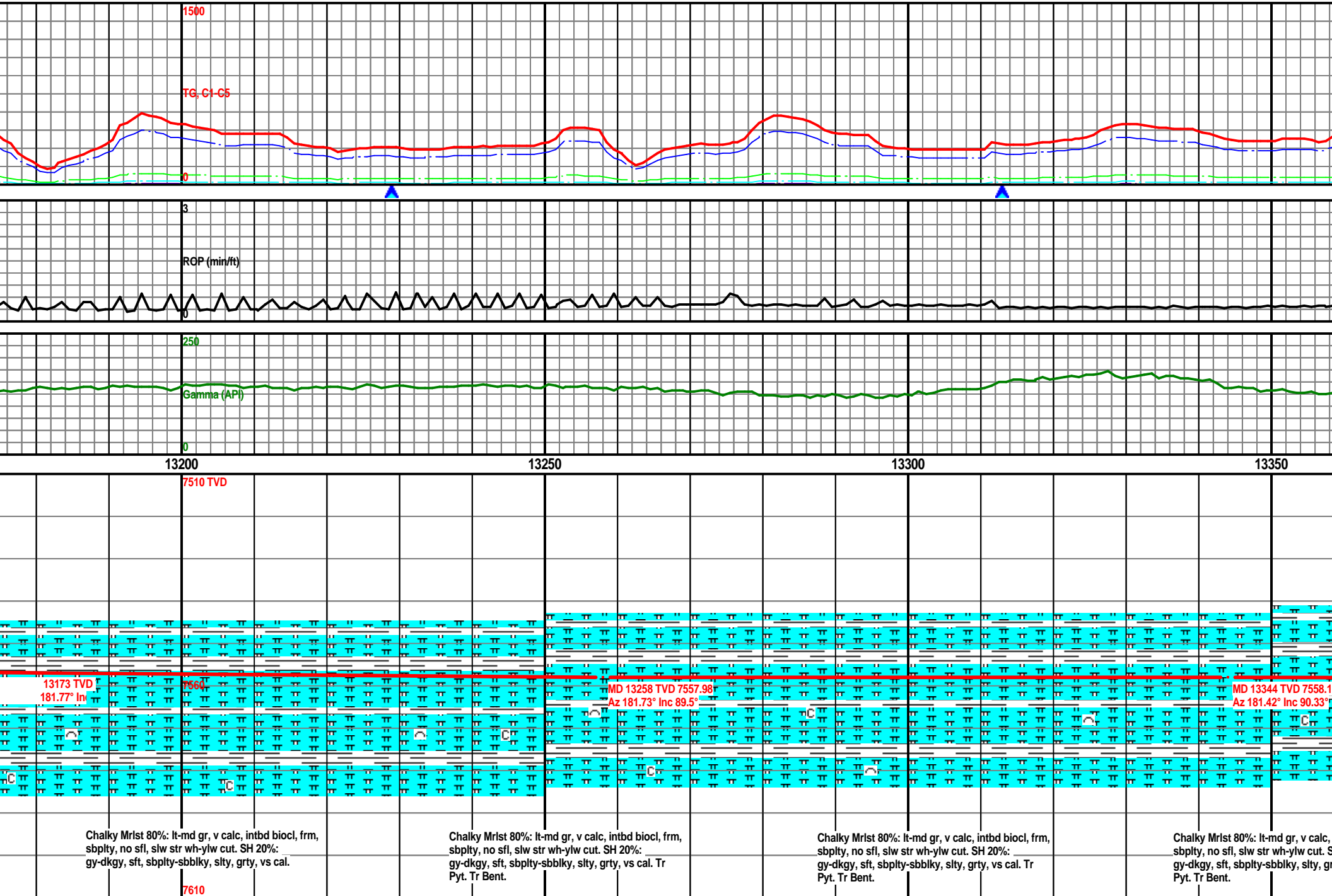
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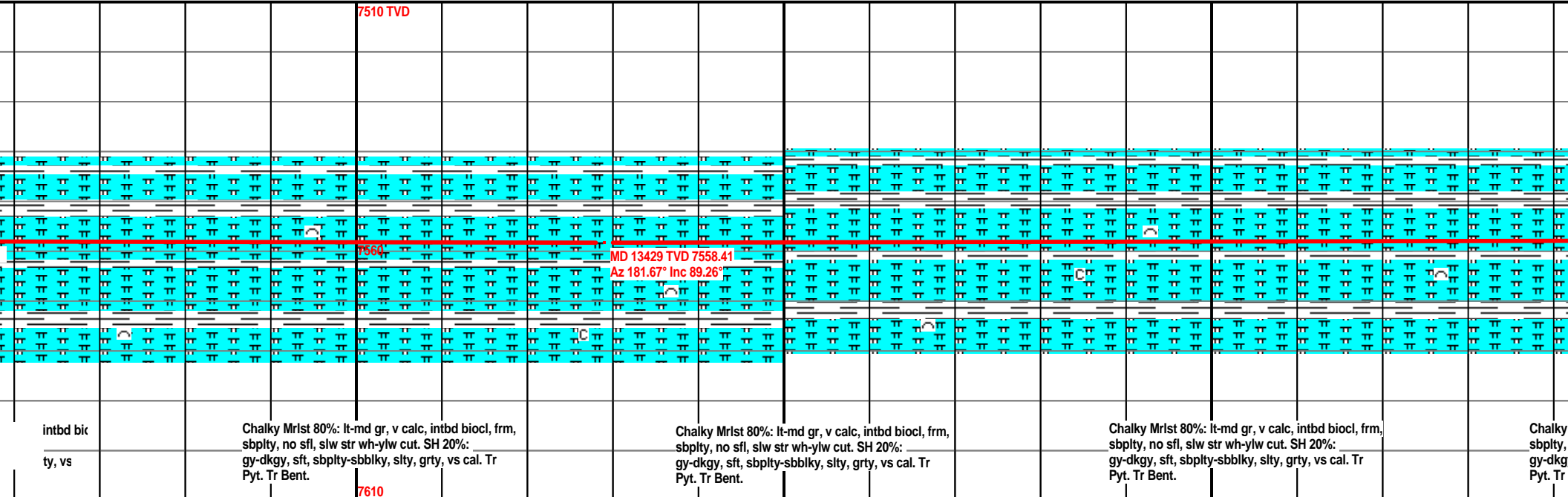
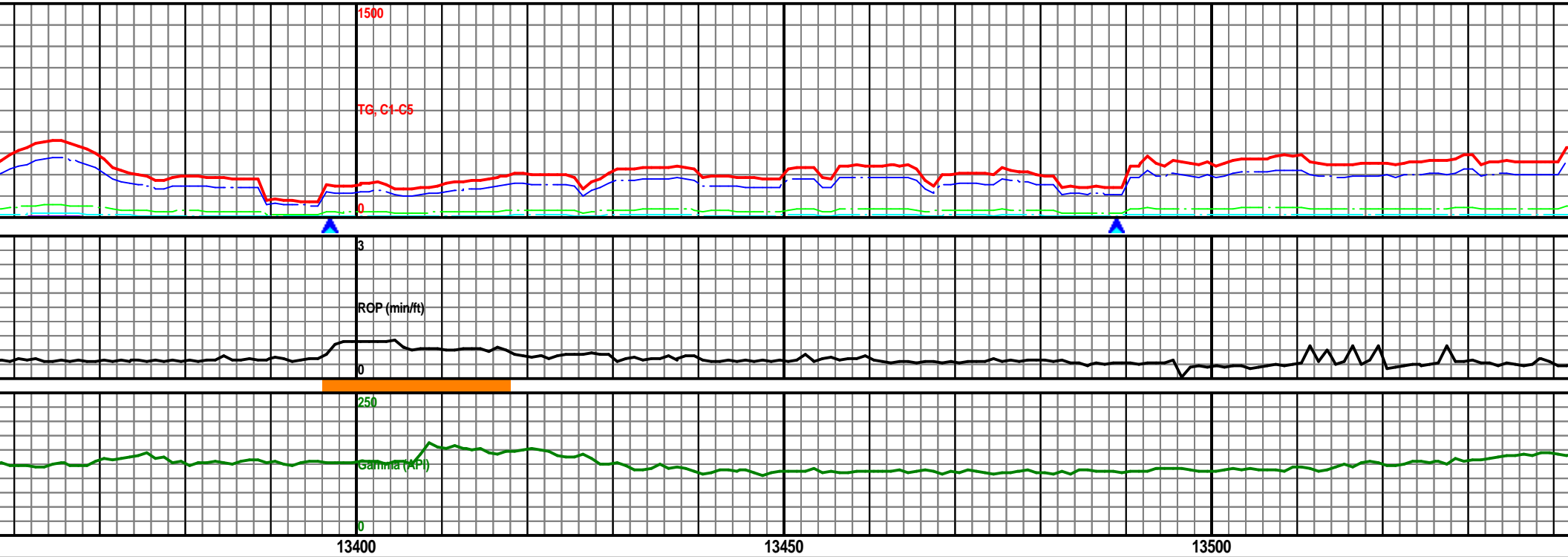


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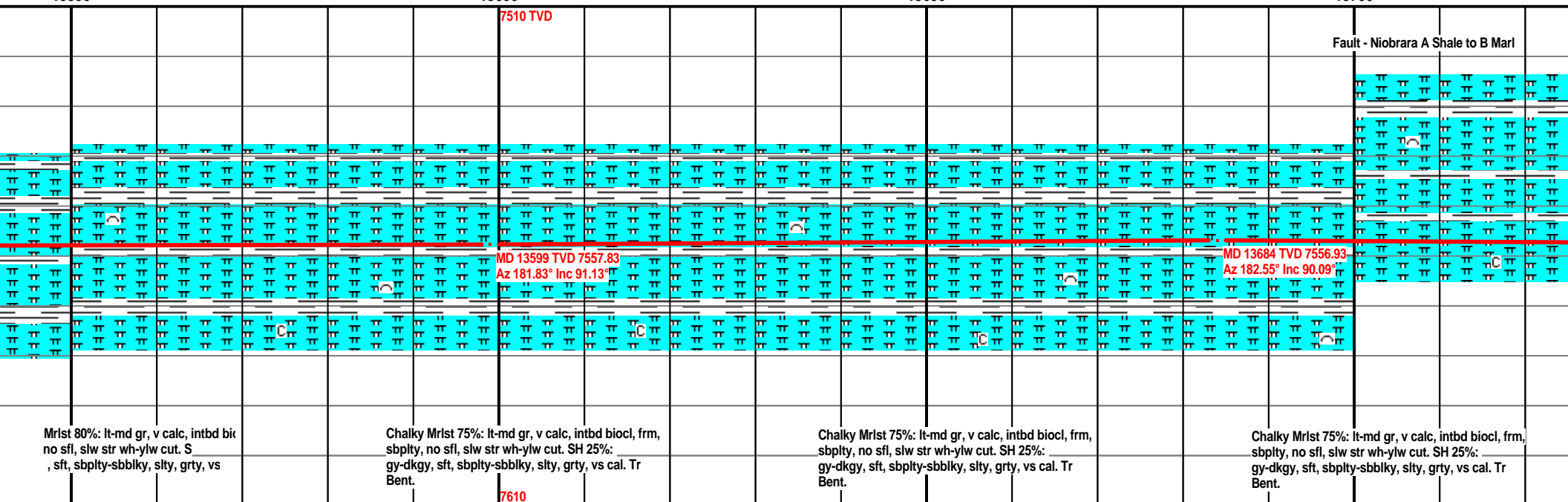
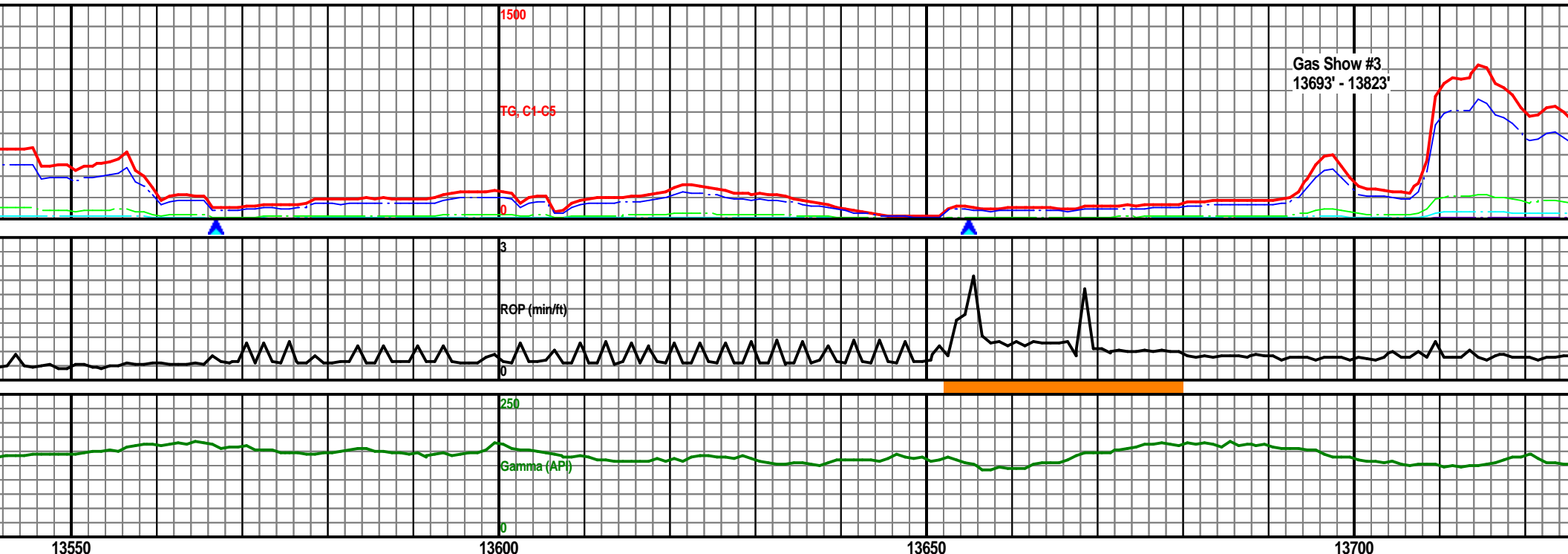


MW: 9.1 / VIS: 52



MW: 9.2 / VIS: 52

MW: 9.2 / VIS: 52



MW: 9.3 / VIS: 52

MW: 9.2 / VIS: 52

2-5FT Flare

1500

TG, C1-C5

0

RGP (min/ft)

0

Gamma (API)

0

7510 TVD

13750

13800

13850

13900

MD 13769 TVD 7557.71  
Az 181.96° Inc 88.86°

7560

MD 13855 TVD 7558.7  
Az 181.82° Inc 89.84°

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

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

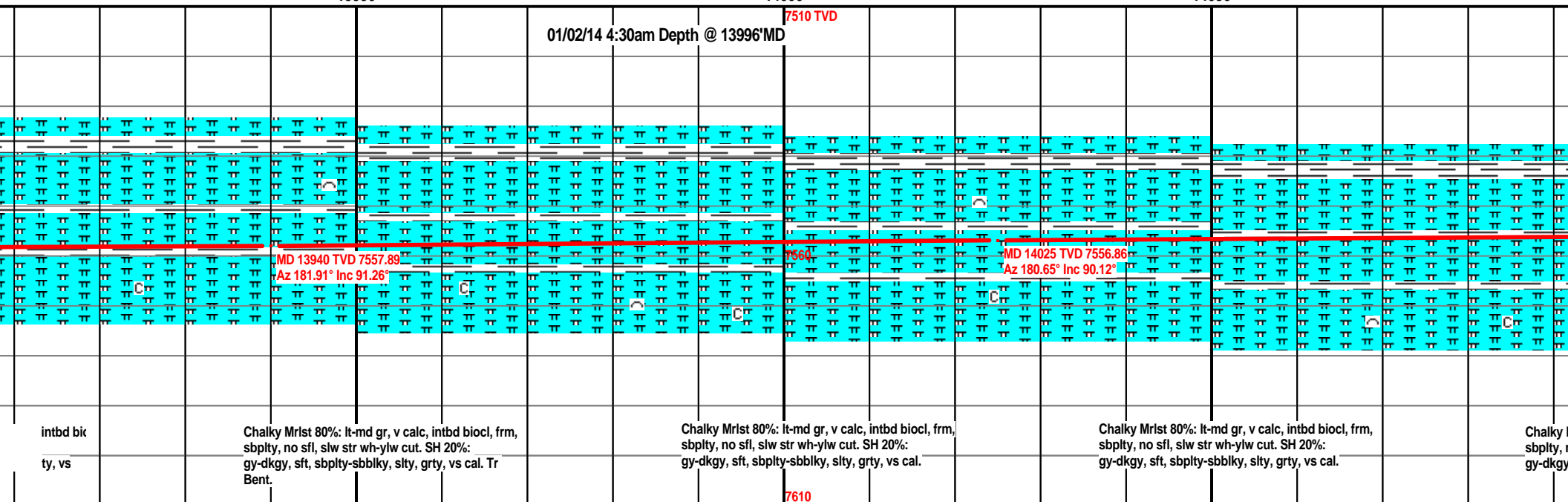
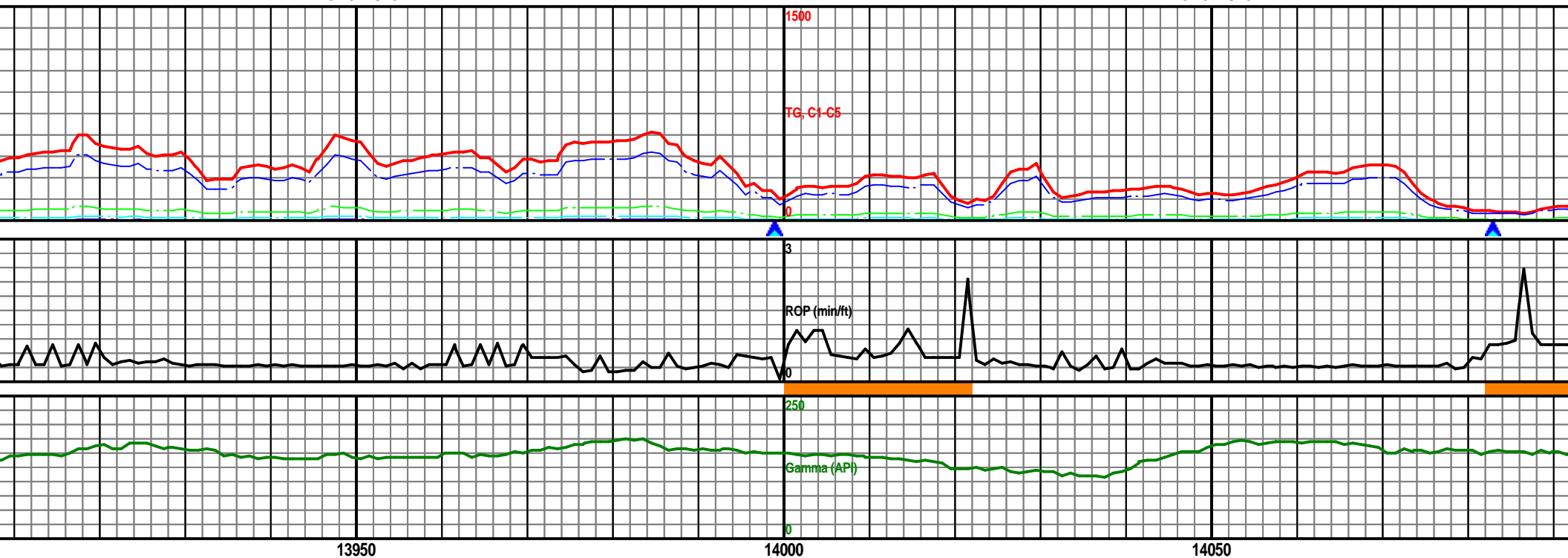
7610

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

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

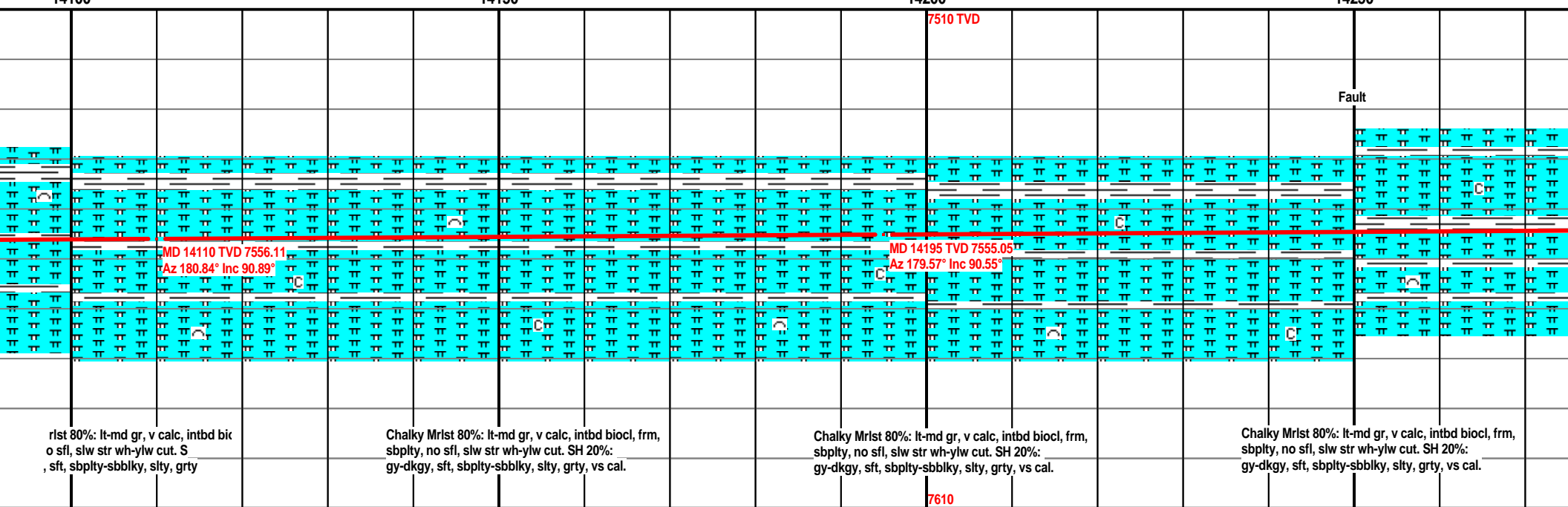
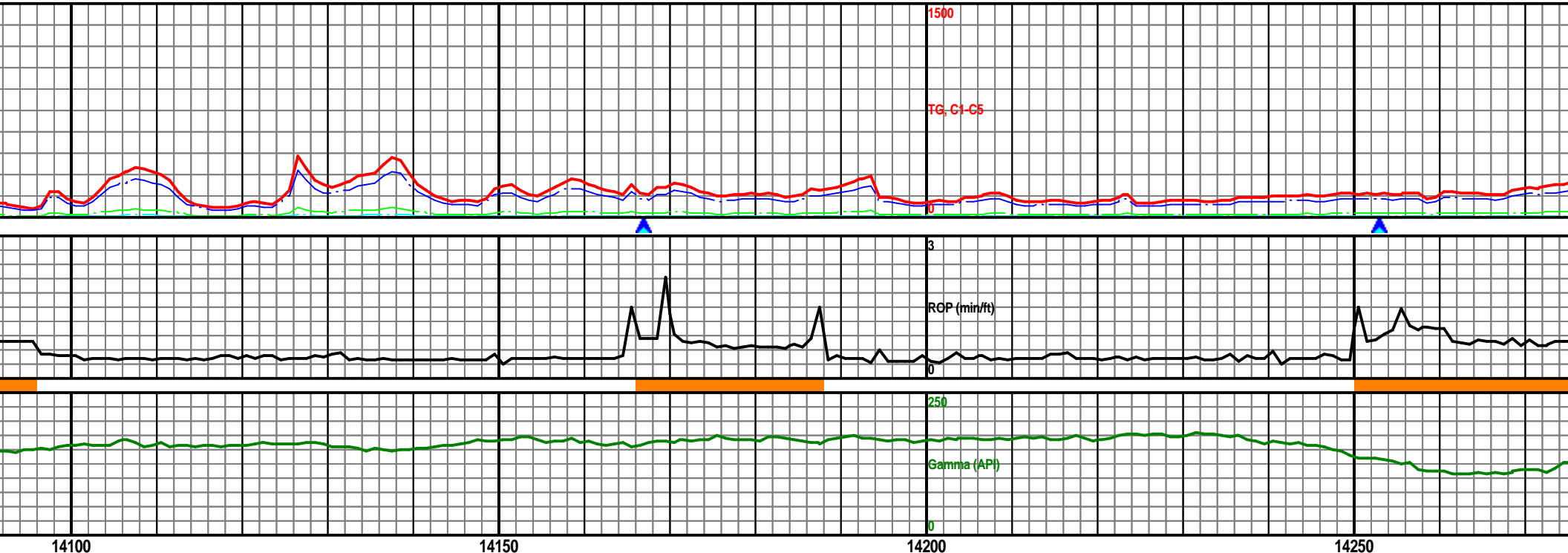
MW: 9.2 / VIS: 52

MW: 9.2 / VIS: 52



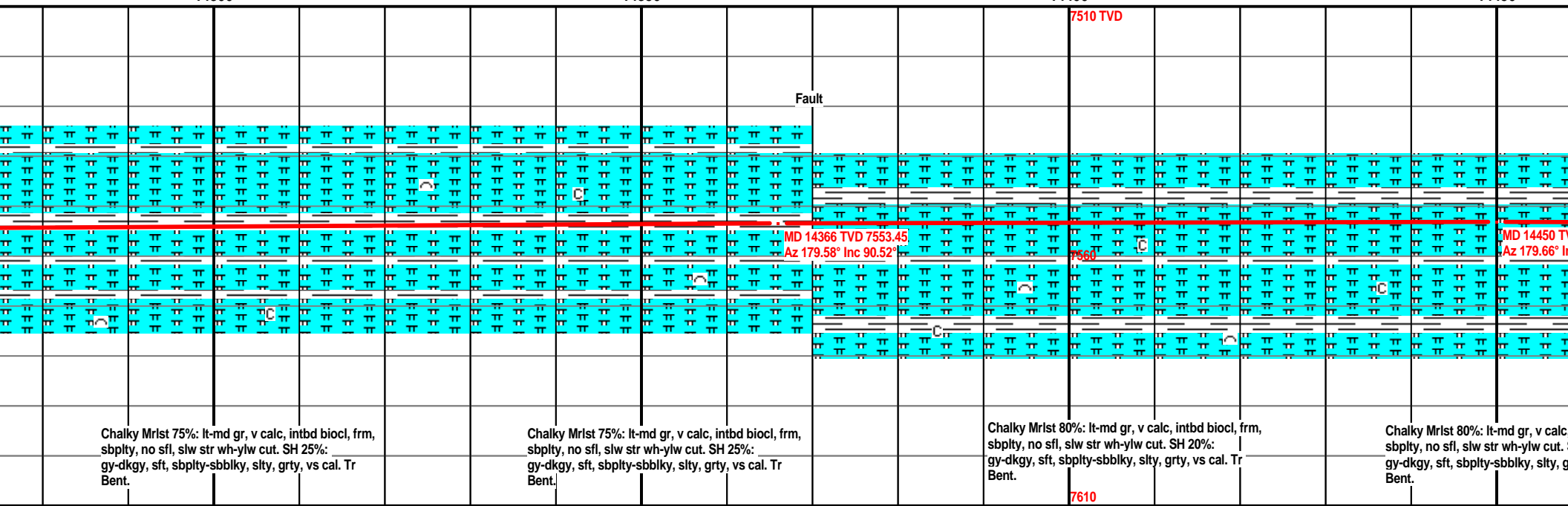
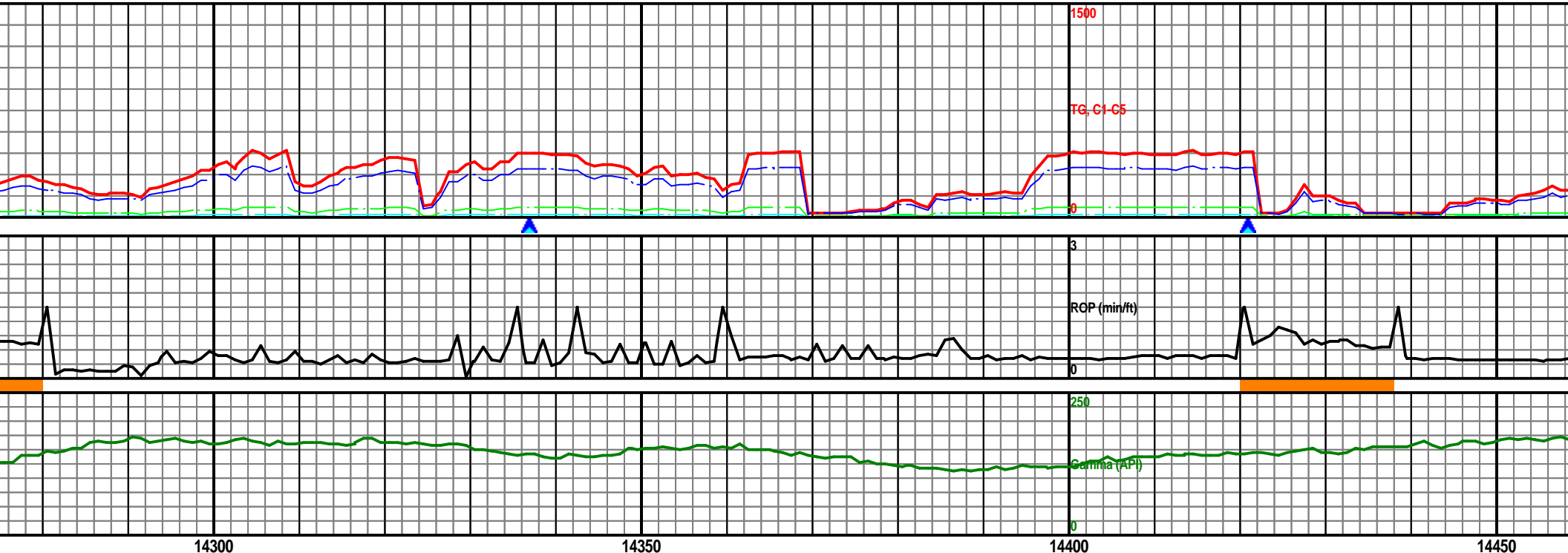
MW: 9.2 / VIS: 52

MW: 9.2 / VIS: 52



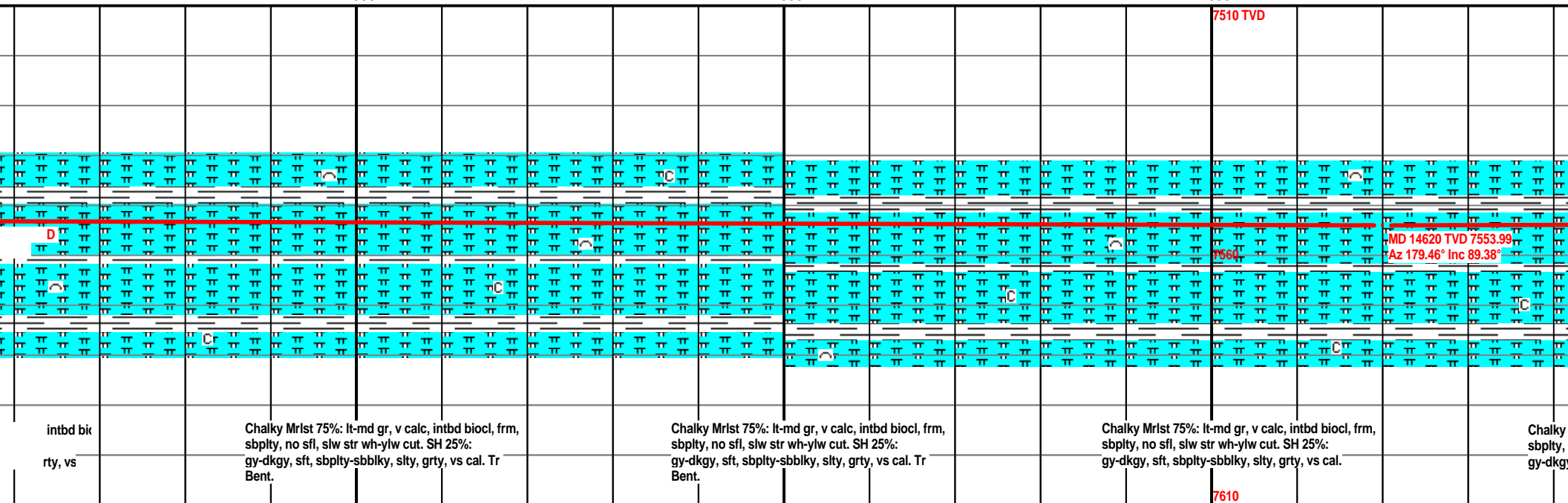
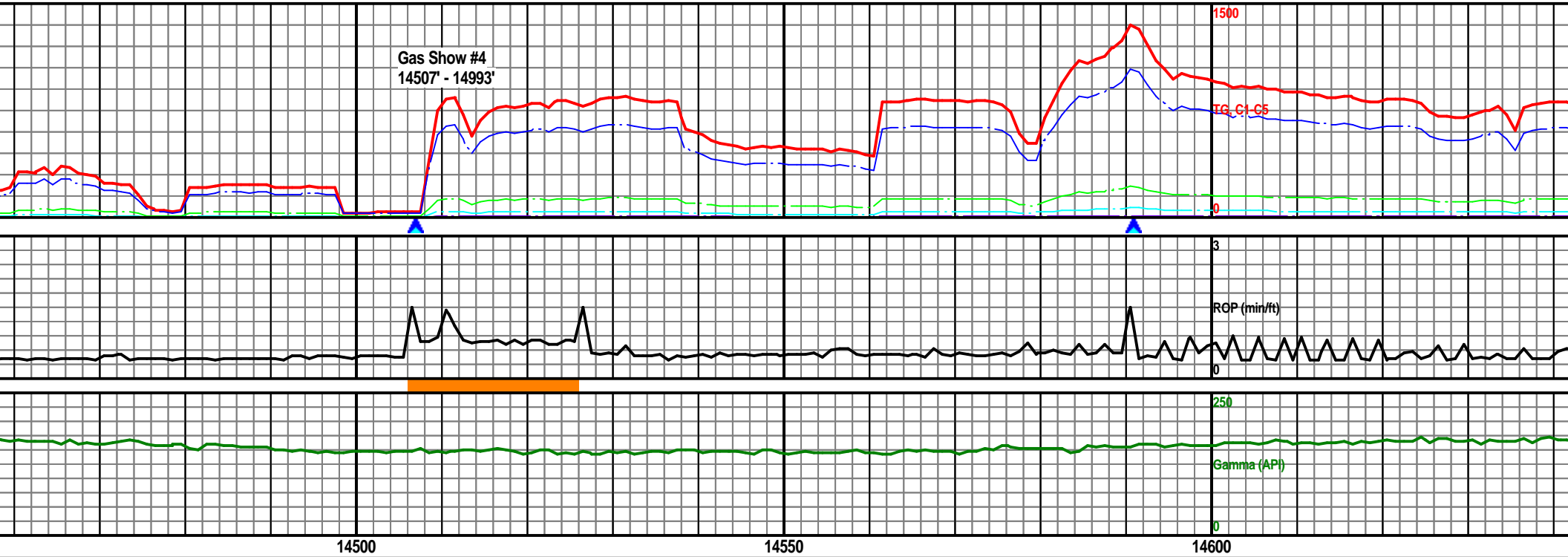
MW: 9.2 / VIS: 52

MW: 9.2 / VIS: 52



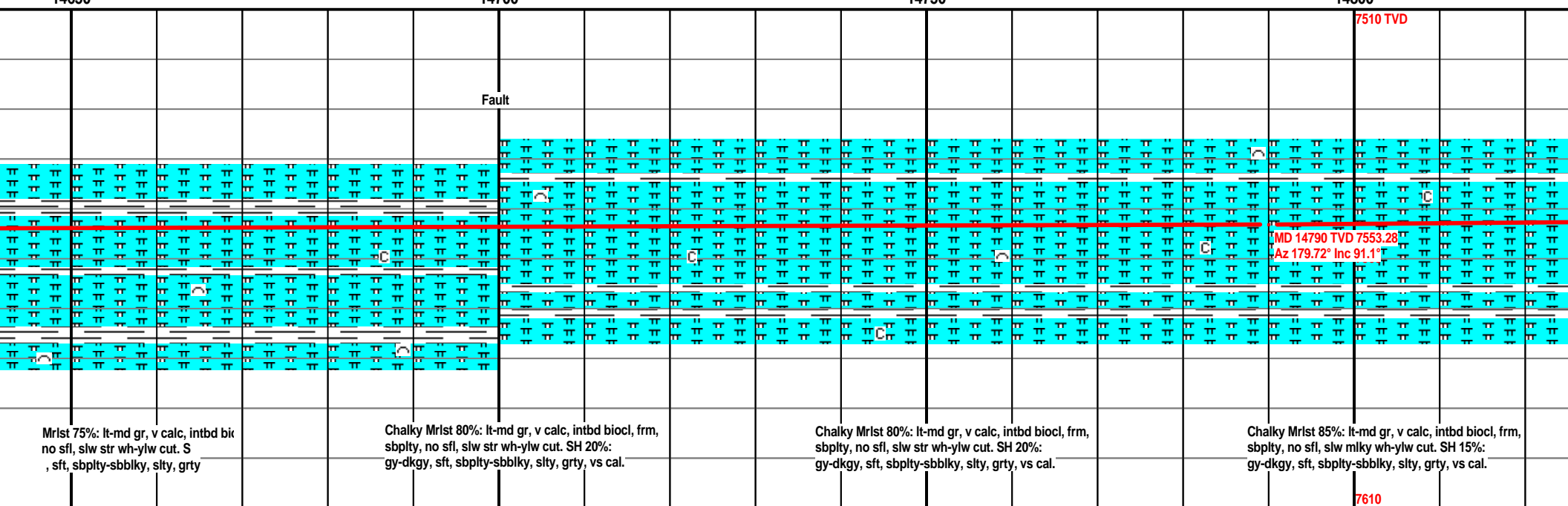
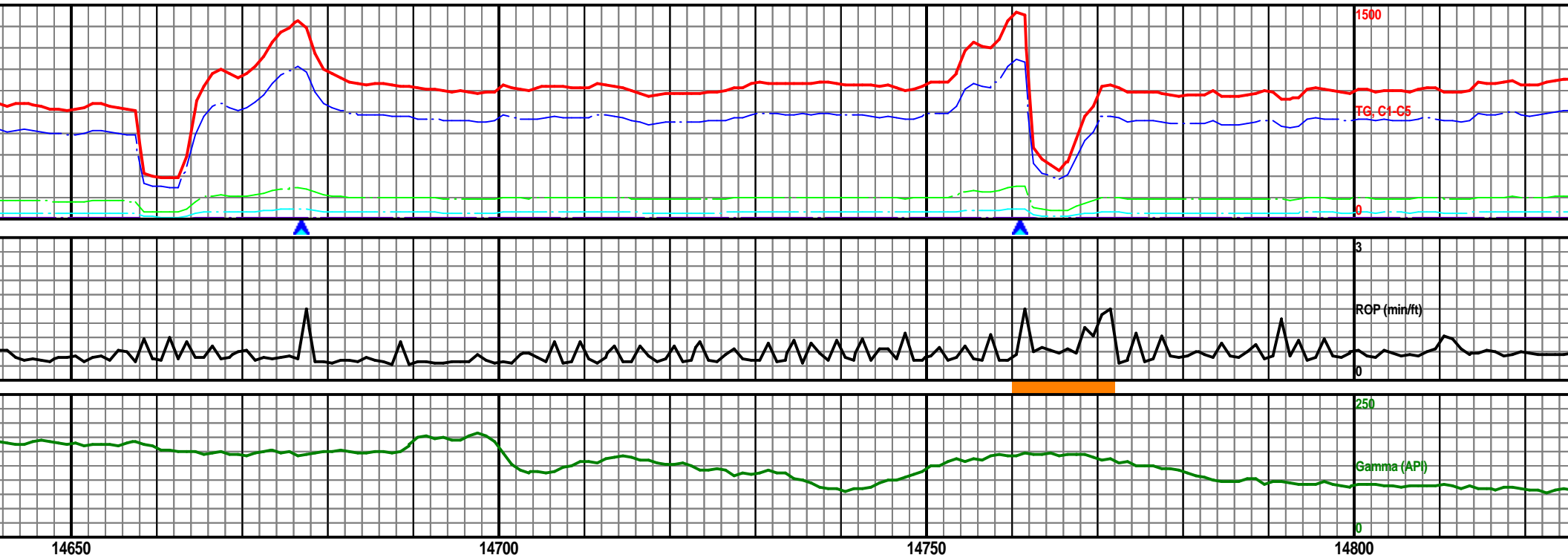


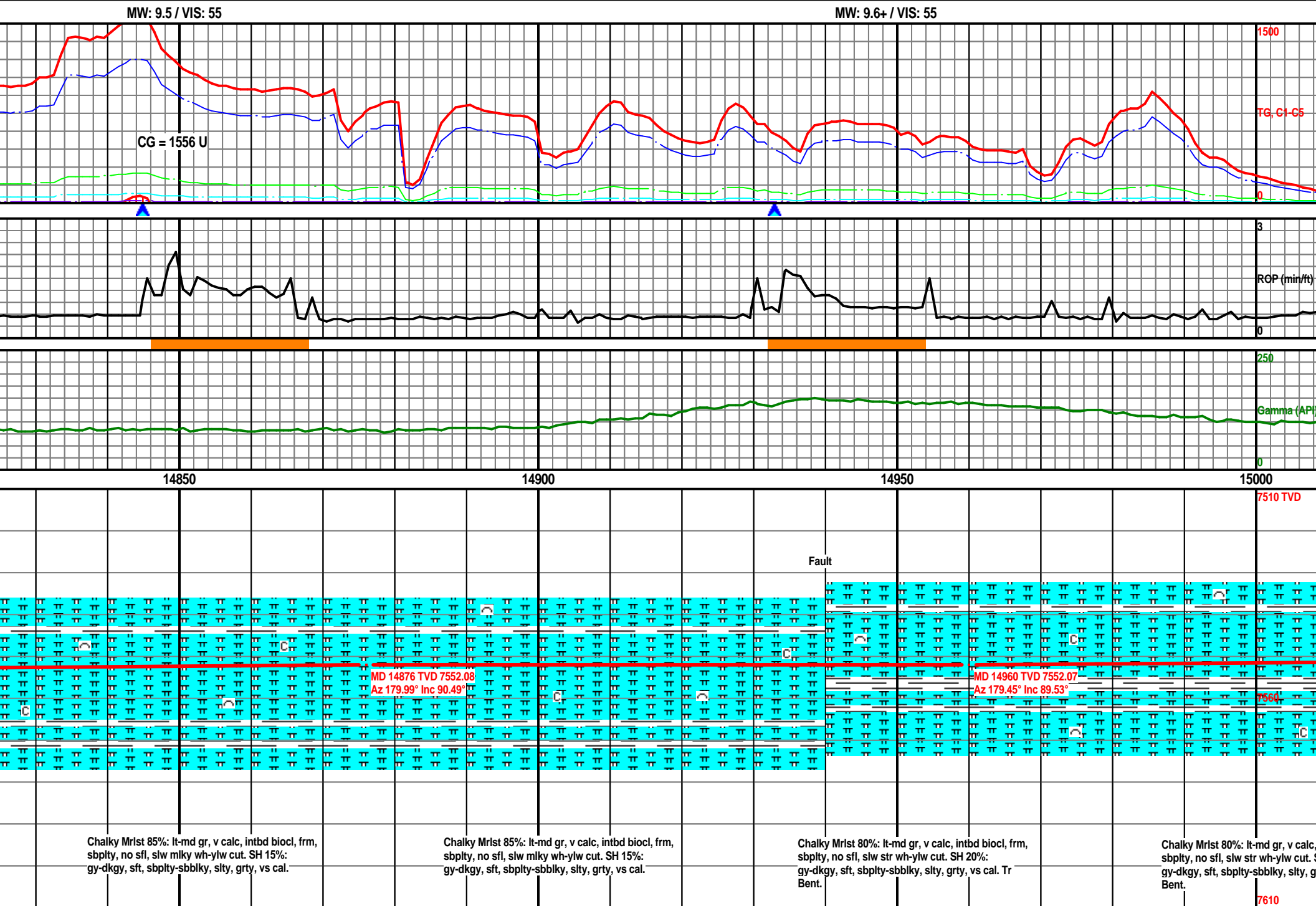
MW: 9.3 / VIS: 54



MW: 9.3 / VIS: 54

MW: 9.4 / VIS: 54



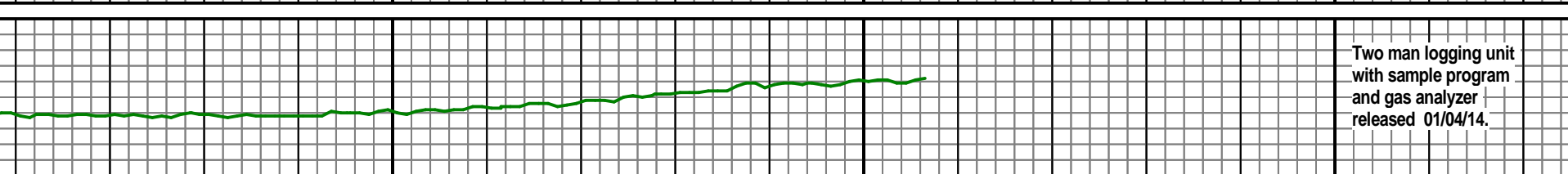
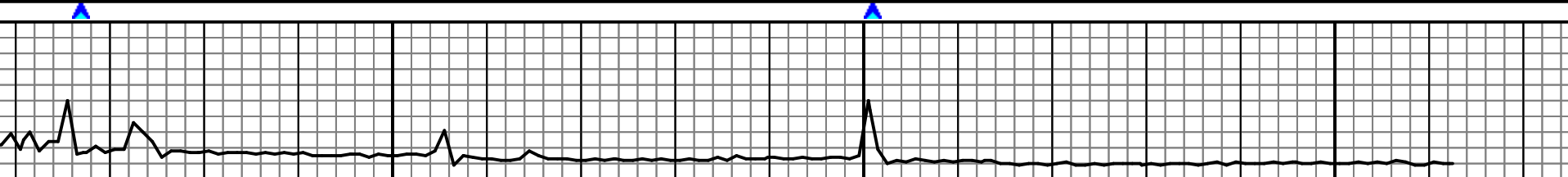
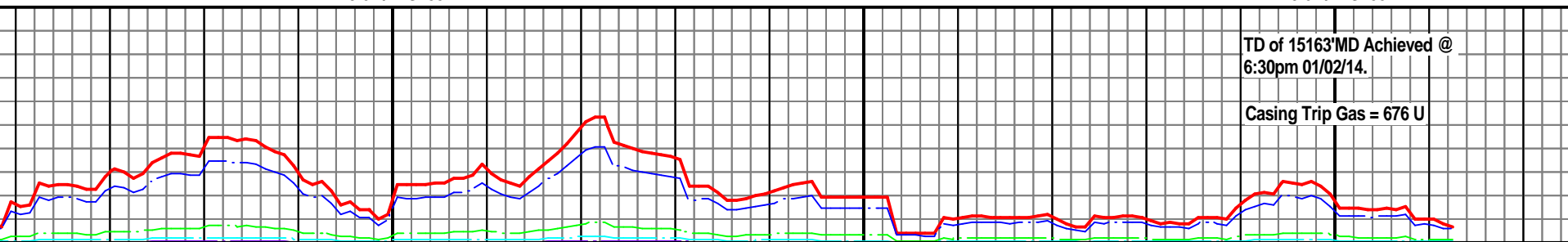


MW: 9.6+ / VIS: 55

MW: 9.6+ / VIS: 55

TD of 15163' MD Achieved @  
6:30pm 01/02/14.

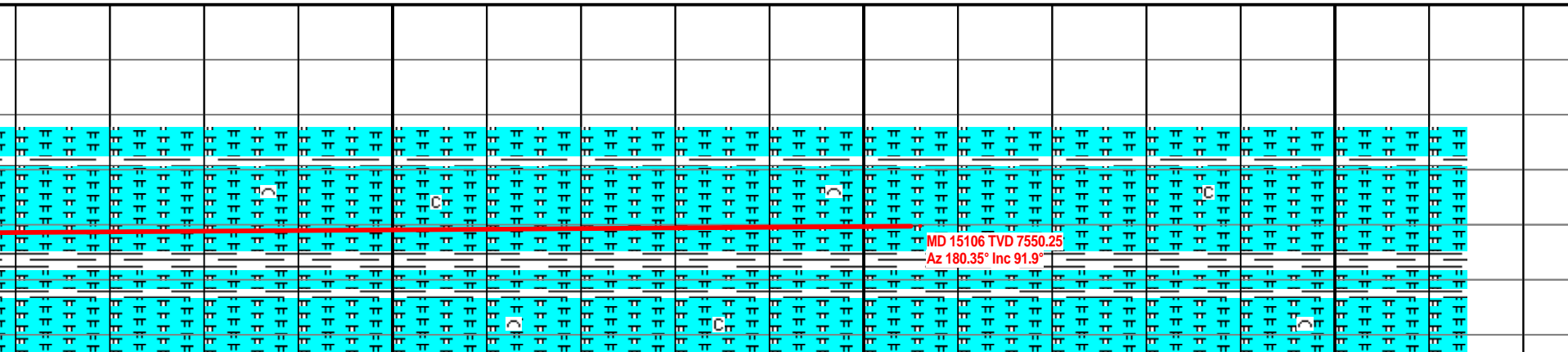
Casing Trip Gas = 676 U

Two man logging unit  
with sample program  
and gas analyzer  
released 01/04/14.

15050

15100

15150

MD 15106 TVD 7550.25  
Az 180.35° Inc 91.9°intbd bic  
rty, vsChalky Mrlst 80%: lt-md gr, v calc, intbd biocl, frm,  
sbply, no sfl, slw str wh-ylw cut. SH 20%:  
gy-dkgy, sft, sbply-sbbiky, slty, grty, vs cal. Tr  
Bent.Chalky Mrlst 80%: lt-md gr, v calc, intbd biocl, frm,  
sbply, no sfl, slw str wh-ylw cut. SH 20%:  
gy-dkgy, sft, sbply-sbbiky, slty, grty, vs cal. Tr  
Bent.Chalky Mrlst 80%: lt-md gr, v calc, intbd biocl, frm,  
sbply, no sfl, slw str wh-ylw cut. SH 20%:  
gy-dkgy, sft, sbply-sbbiky, slty, grty, vs cal. Tr  
Bent.