Scale 1:200 Imperial
Measured Depth Log

Well Name:	**NRC 3N-4HZ**		
Location:	**Weld County, CO.**		
License Number:	**05123386080000**	**Region:**	**DJ Basin**
Spud Date:	**02/17/14**	**Drilling Completed:**	**02/25/14**
Surface Coordinates:	**350'FSL, 1950'FWL, Sec 9, T1N-R67W**		
Bottom Hole Coordinates:	**460'FNL, 1850'FWL, Sec 4, T1N-R67W**		
Ground Elevation (ft):	**5067'**	**K.B. Elevation (ft):**	**5083'**
Logged Interval (ft):	**7650' To: 17000'**	**Total Depth (ft):**	**17000'**
Formation:	**Niobrara B**		
Type of Drilling Fluid:	**Water Base Mud / with Master Lube Coat additive**		

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OPERATOR

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

GEOLOGIST

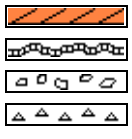
Name: Scott Crozier / Ben Thompson
Company: Great Divide Consulting, Inc.
Address: P.O. Box 630263
Highlands Ranch, CO 80163

Cores

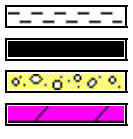
DSTs

Comments

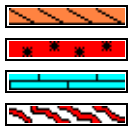
ROCK TYPES



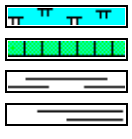
Anhy
Bent
Brec
Cht



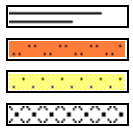
Clyst
Coal
Congl
Dol



Gyp
Igne
Lmst
Meta



Mrlst
Salt
Shale
Shcol



Shgy
Sltst
Ss
Till

ACCESSORIES

MINERAL

Anhy
Arggrn
Arg
Bent
Bit
Brecfrag
Calc
Carb
Chtdk
Chtlt
Dol
Feldspar
Ferrpel
Ferr
Glau

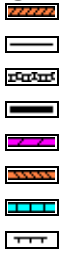
Gyp
Hvymin
Kaol
Marl
Minxl
Nodule
Phos
Pyr
Salt
Sandy
Silt
Sil
Sulphur
Tuff

FOSSIL

Algae
Amph
Belm
Bioclst
Brach
Bryozoa
Cephal
Coral
Crin
Echin
Fish
Foram
Fossil
Gastro
Oolite

Ostra
Pelec
Pellet
Pisolite
Plant
Strom

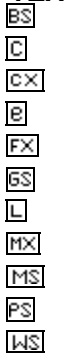
STRINGER



Anhy
Arg
Bent
Coal
Dol
Gyp
Ls
Mrst

Sltstrg
Ssstrg

TEXTURE



Boundst
Chalky
Cryxln
Earthy
Finexln
Grainst
Lithogr
Microxln
Mudst
Packst
Wackest

OTHER SYMBOLS

POROSITY
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

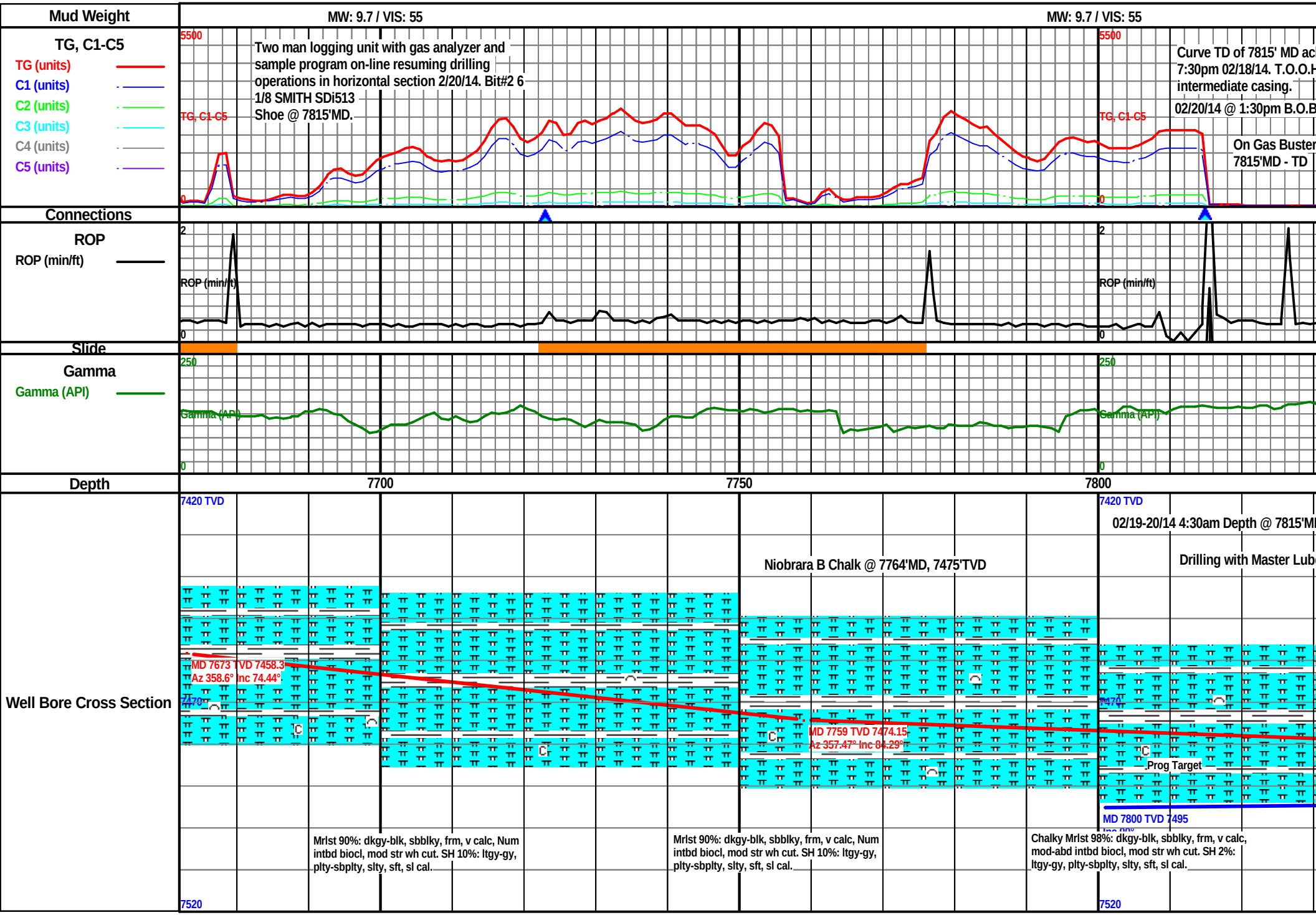
SORTING
- Well
- Moderate
- Poor

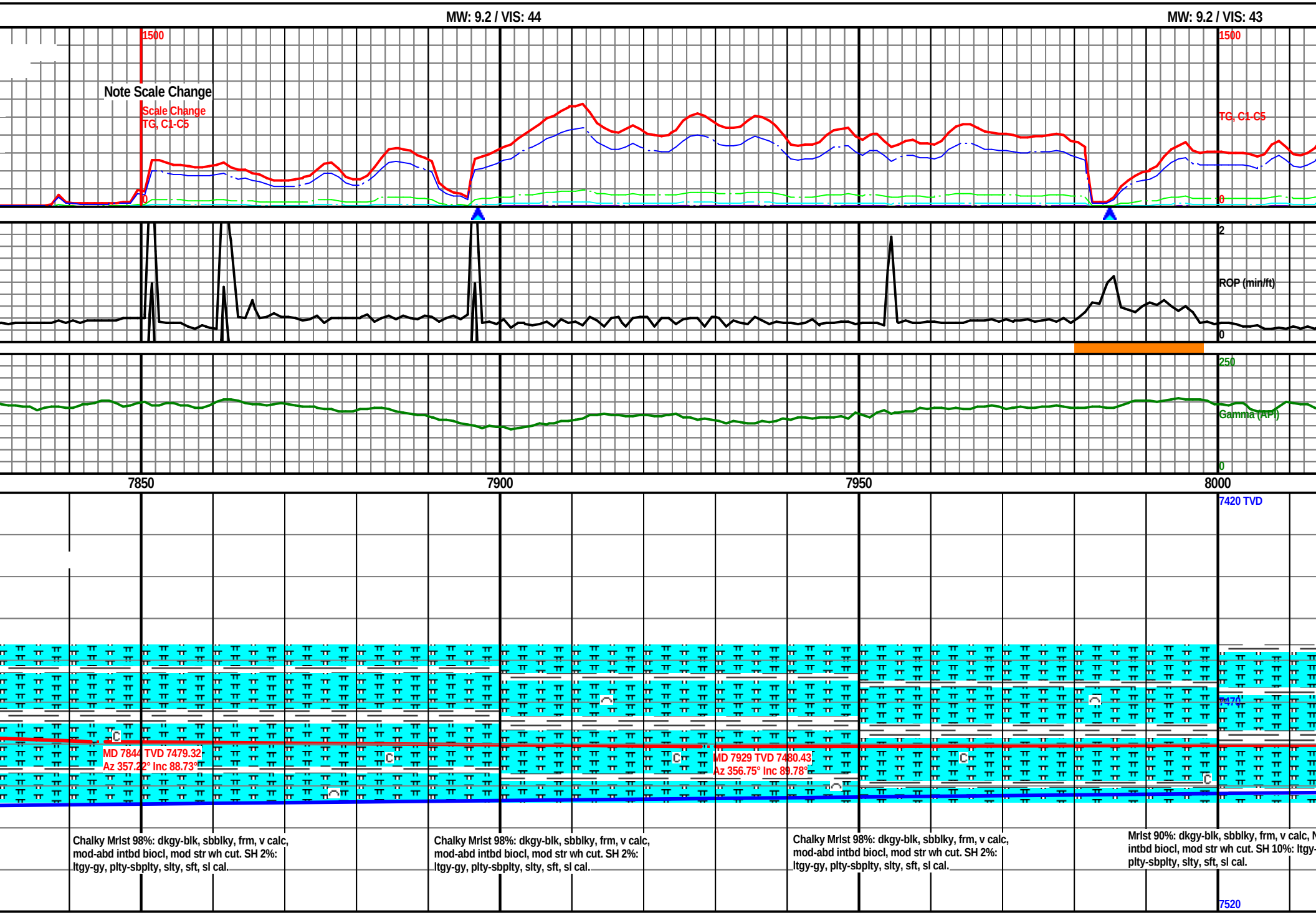
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

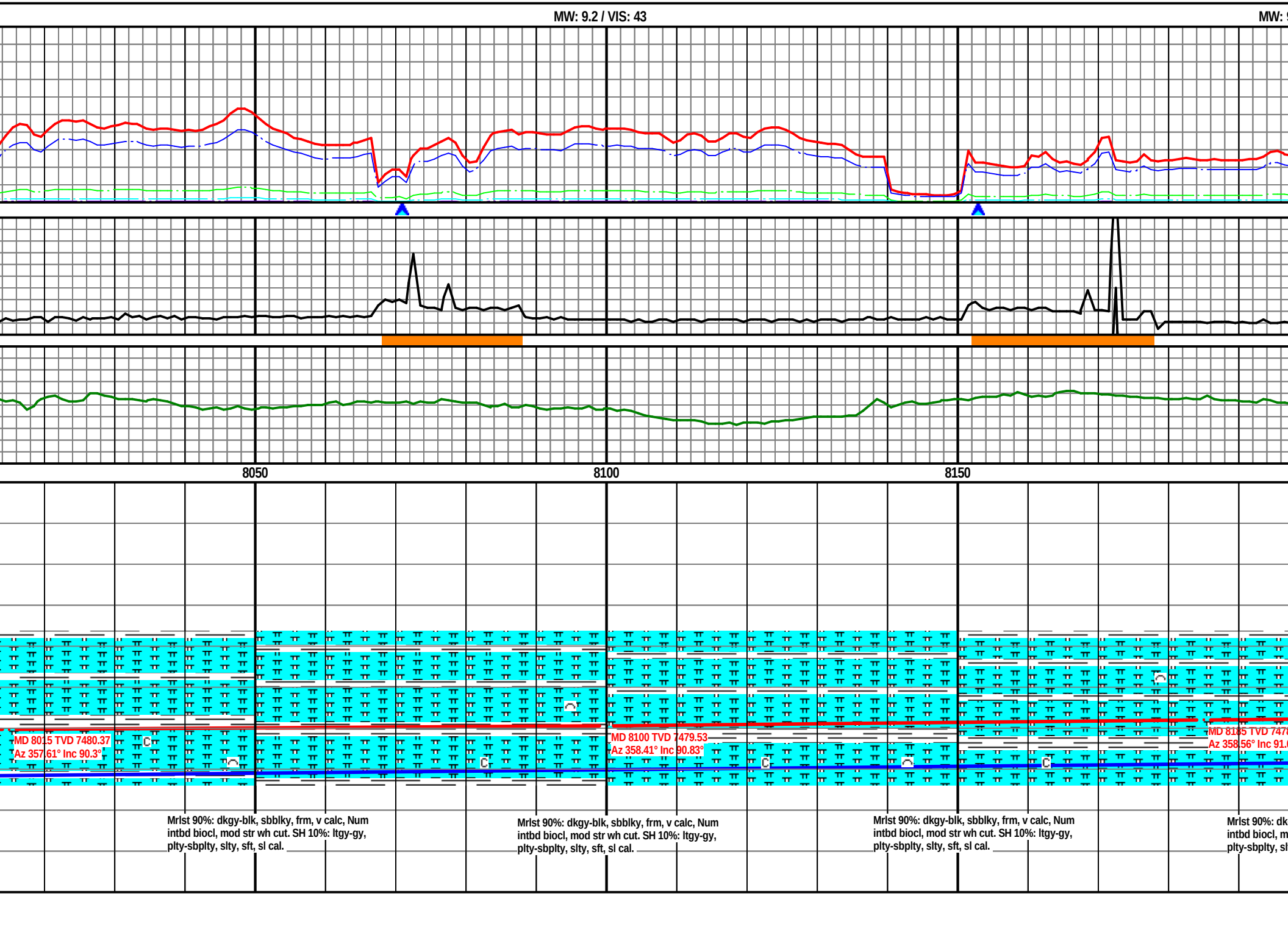
OIL SHOW
- Even
- Spotted
- Ques
- Dead

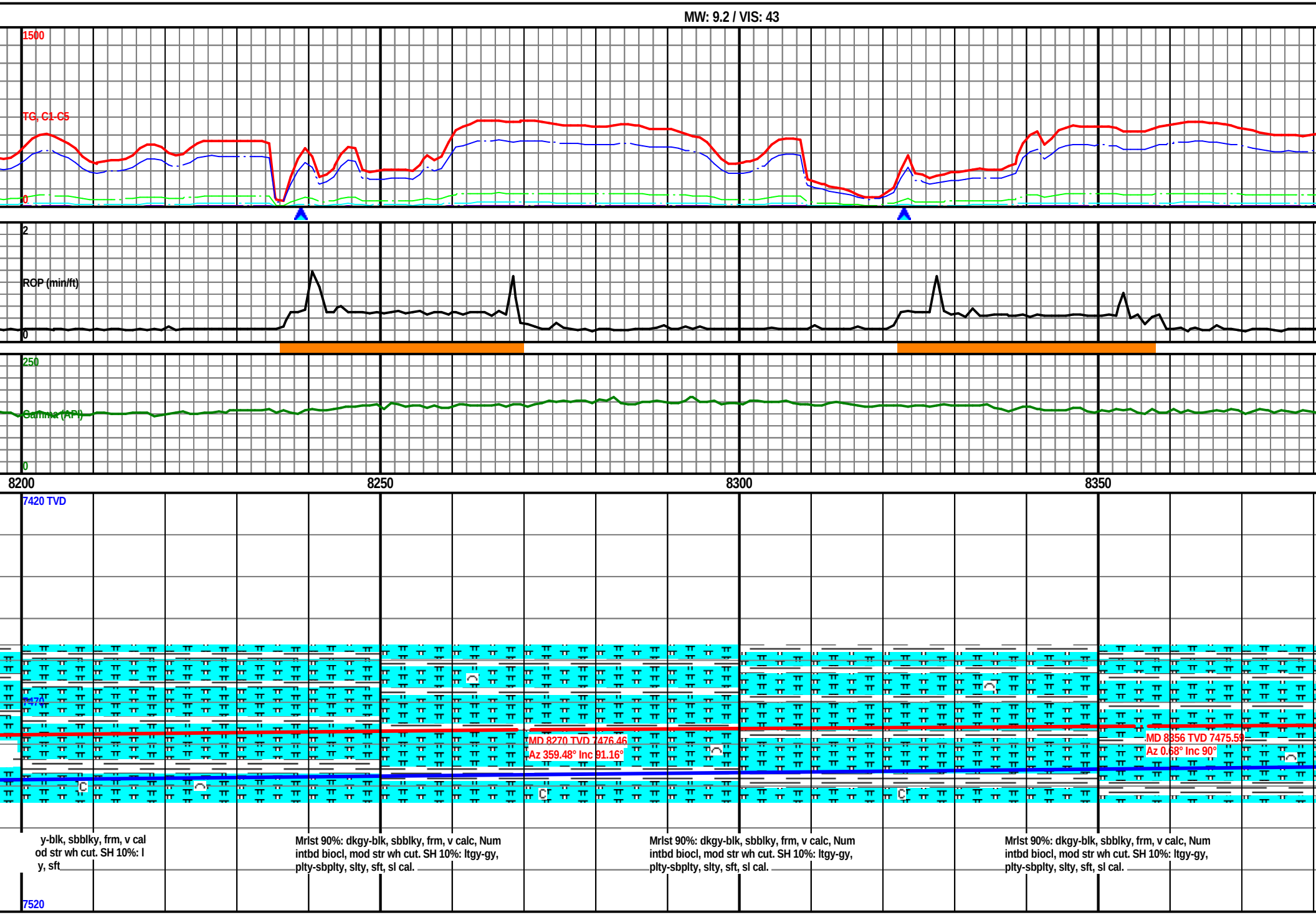
INTERVAL
- Core
- Dst

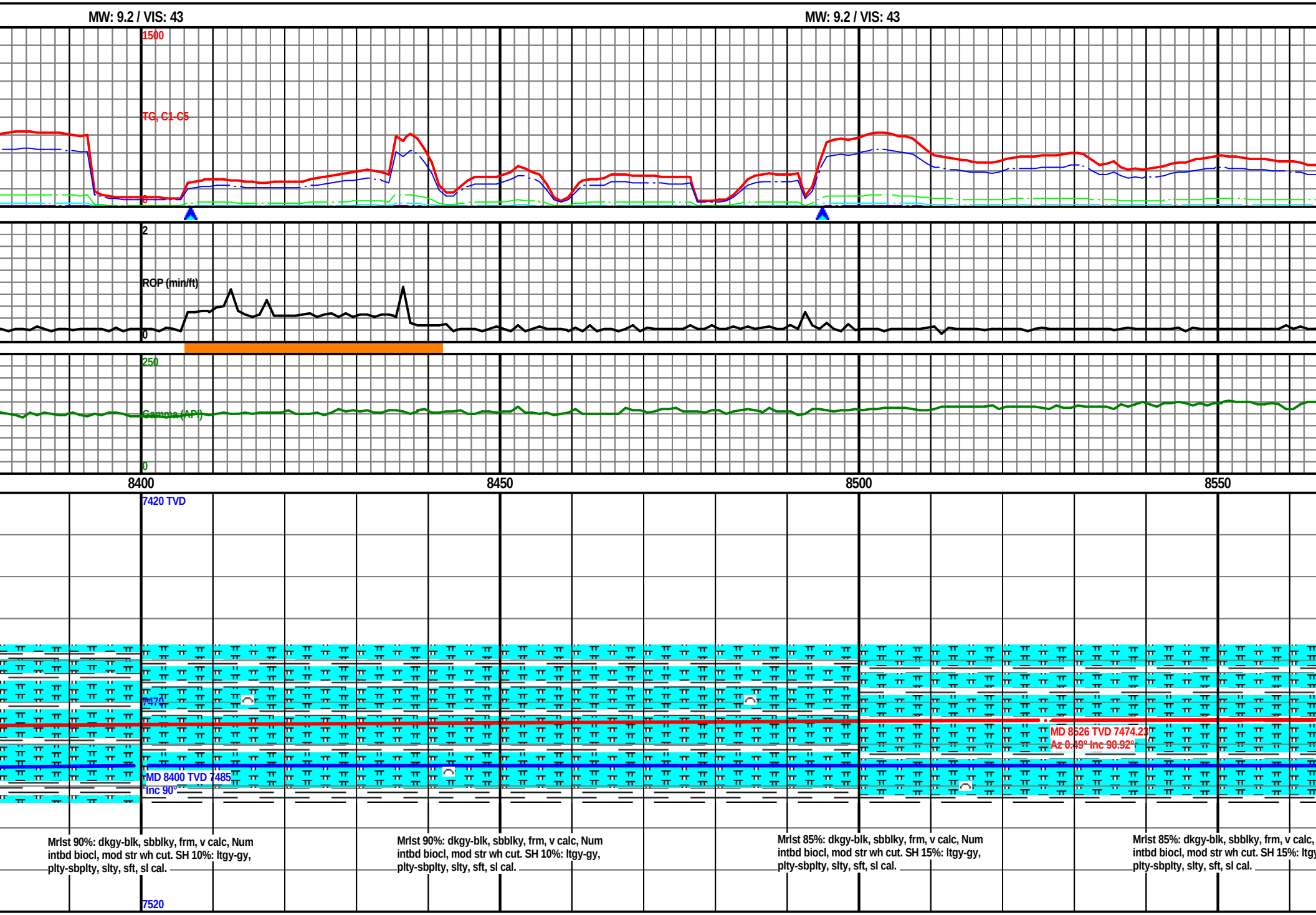
EVENT
- Rft
- Connection

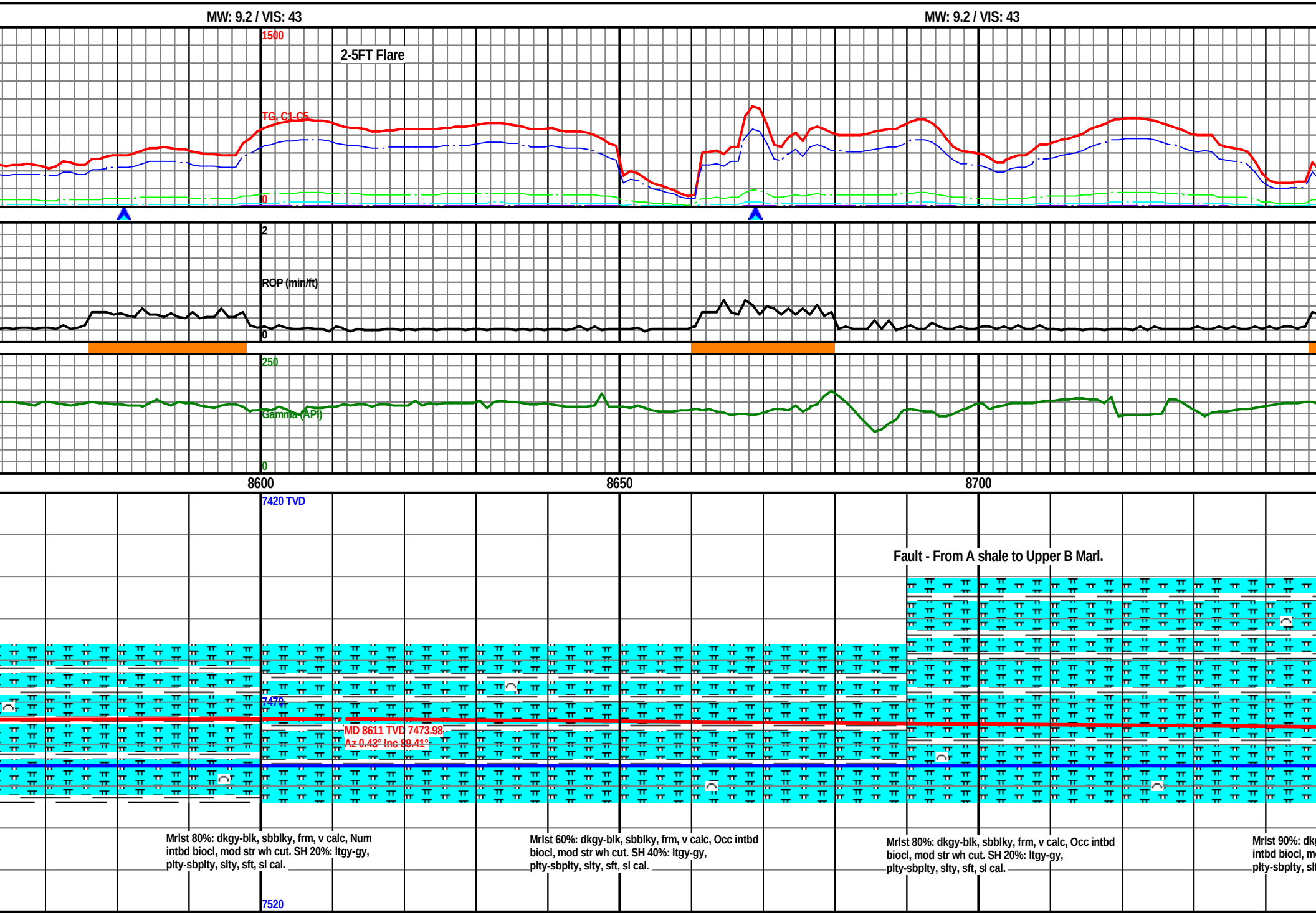

Mud Weight
MW: 9.7 / VIS: 55
MW: 9.7 / VIS: 55
TG, C1-C5
TG (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)
5500
TG, C1-C5
0
Two man logging unit with gas analyzer and sample program on-line resuming drilling operations in horizontal section 2/20/14. Bit#2 6 1/8 SMITH SDi513 Shoe @ 7815'MD.
Curve TD of 7815' MD ac
7:30pm 02/18/14. T.O.O.H
intermediate casing.
02/20/14 @ 1:30pm B.O.B
On Gas Buster
7815'MD - TD
Connections
ROP
ROP (min/ft)
2
0
Slide
Gamma
Gamma (API)
250
0
Depth
7700
7750
7800
Well Bore Cross Section
7420 TVD
MD 7673 TVD 7458.3
Az 358.6° Inc 74.44°
7470
7520
Niobrara B Chalk @ 7764'MD, 7475'TVD
MD 7759 TVD 7474.15
Az 357.47° Inc 84.29°
Prog Target
MD 7800 TVD 7495
02/19-20/14 4:30am Depth @ 7815'MD
Drilling with Master Lub
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 98%: dkgy-blk, sbblky, frm, v calc, mod-abd intbd biocl, mod str wh cut. SH 2%: ltgy-gy, plty-sbplty, slty, sft, sl cal.

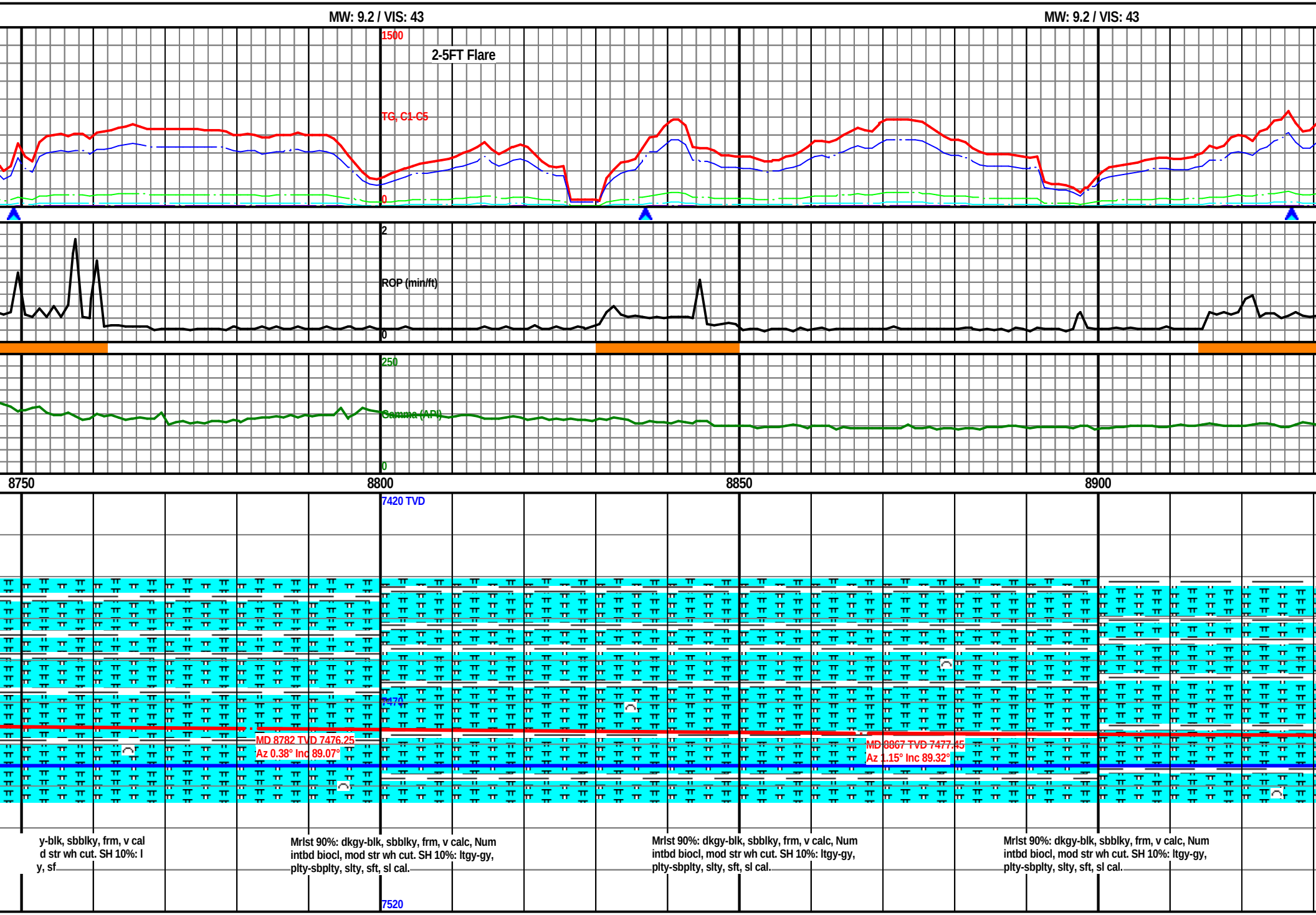

MW: 9.2 / VIS: 44
MW: 9.2 / VIS: 43
1500
Note Scale Change
Scale Change
TG, C1-C5
0
1500
TG, C1-C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
7850
7900
7950
8000
7420 TVD
7470
7520
MD 7844 TVD 7479.32
Az 357.22° Inc 88.73°
MD 7929 TVD 7480.43
Az 356.75° Inc 89.78°
Chalky Mrlst 98%: dkgy-blk, sbblky, frm, v calc, mod-abd intbd biocl, mod str wh cut. SH 2%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 98%: dkgy-blk, sbblky, frm, v calc, mod-abd intbd biocl, mod str wh cut. SH 2%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 98%: dkgy-blk, sbblky, frm, v calc, mod-abd intbd biocl, mod str wh cut. SH 2%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, M
intbd biocl, mod str wh cut. SH 10%: ltgy-
plty-sbplty, slty, sft, sl cal.

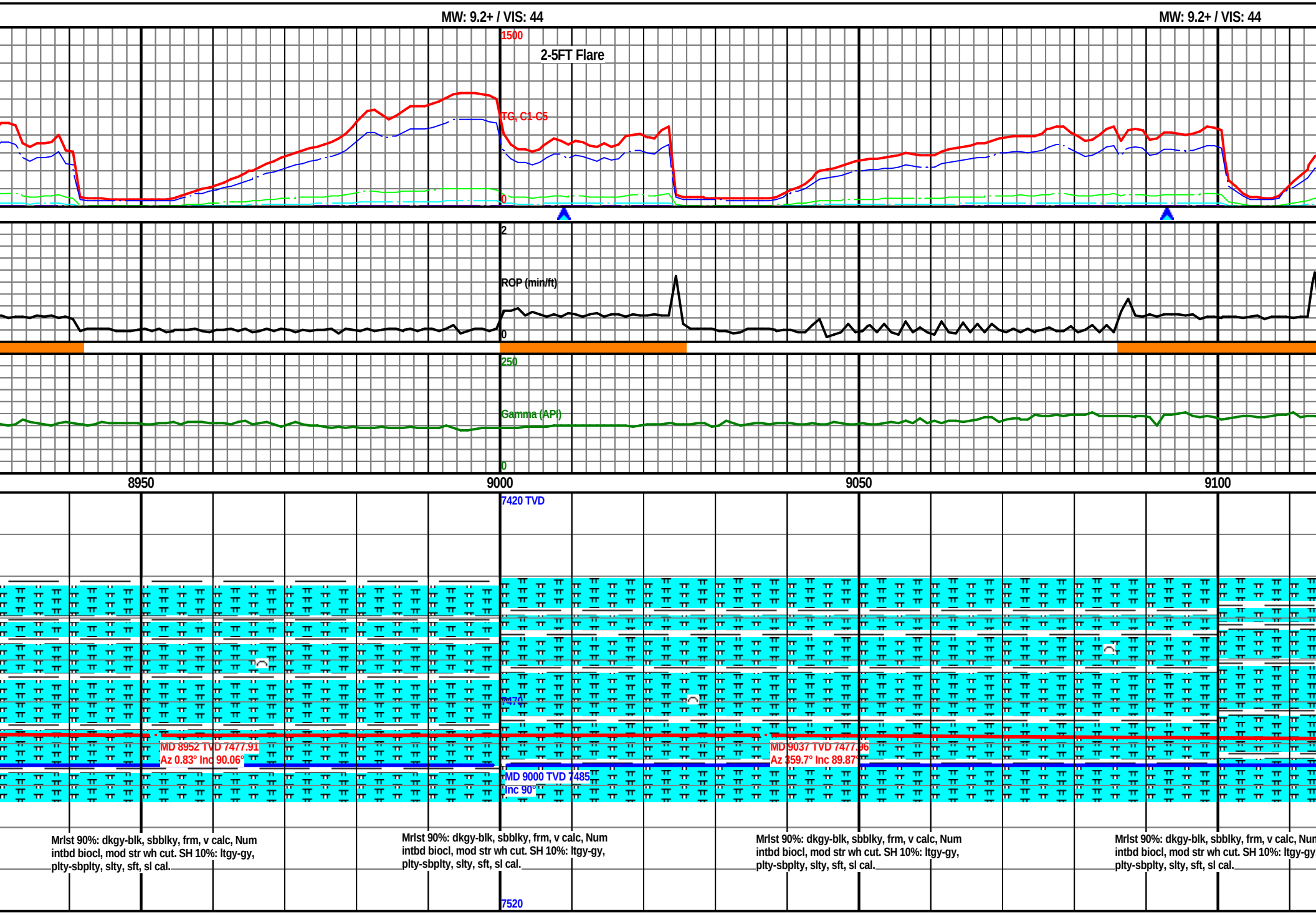

MW: 9.2 / VIS: 43
8050
8100
8150
MD 8015 TVD 7480.37
Az 357.61° Inc 90.3°
MD 8100 TVD 7479.53
Az 358.41° Inc 90.83°
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.

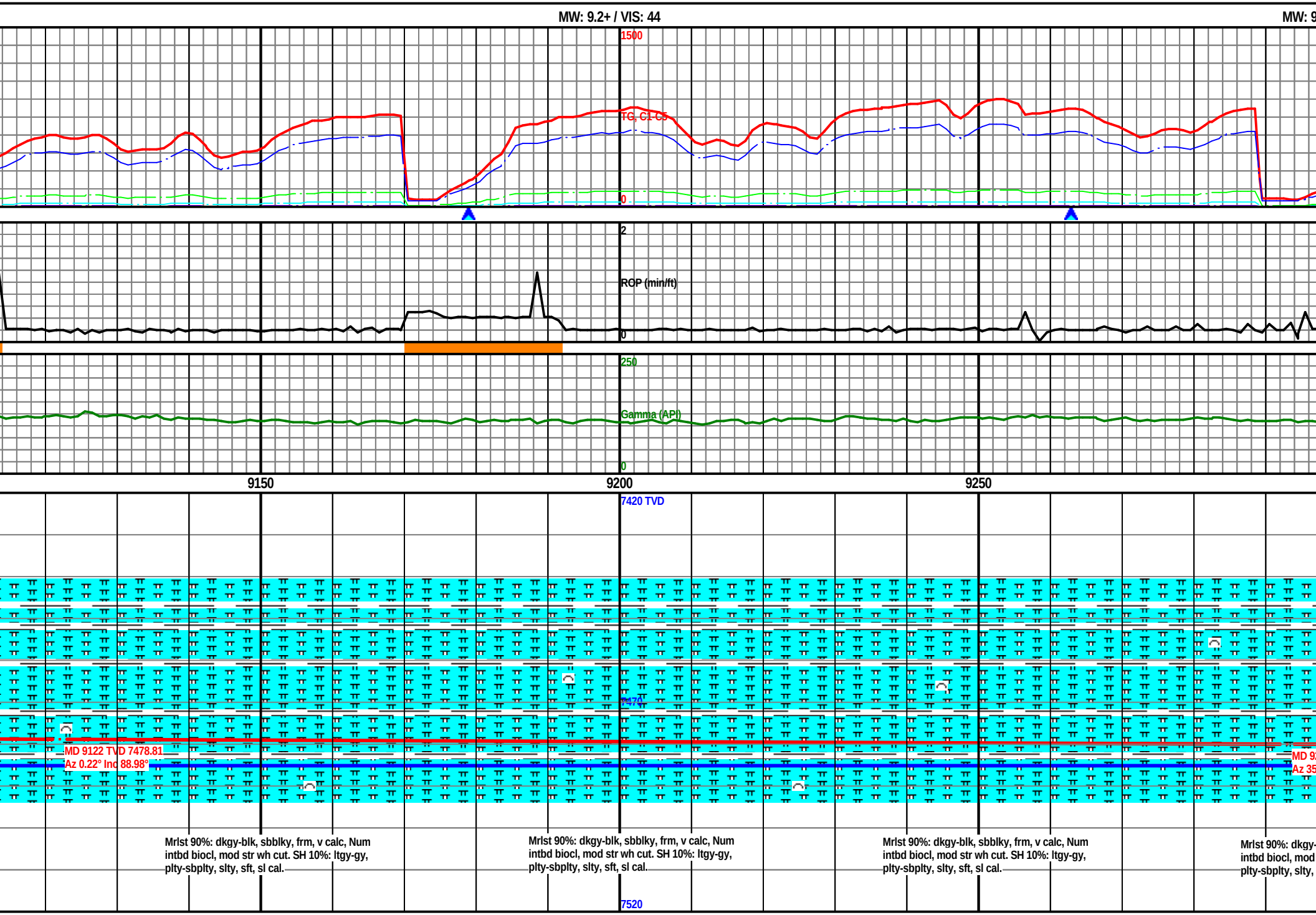

MW: 9.2 / VIS: 43
1500
TG, C1-C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
8200
8250
8300
8350
7420 TVD
7470
7520
MD 8270 TVD 7476.46
Az 359.48° Inc 91.16°
MD 8356 TVD 7475.59
Az 0.68° Inc 90°
y-blk, sbblky, frm, v cal
od str wh cut. SH 10%: l
y, sft
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 10%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 10%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 10%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

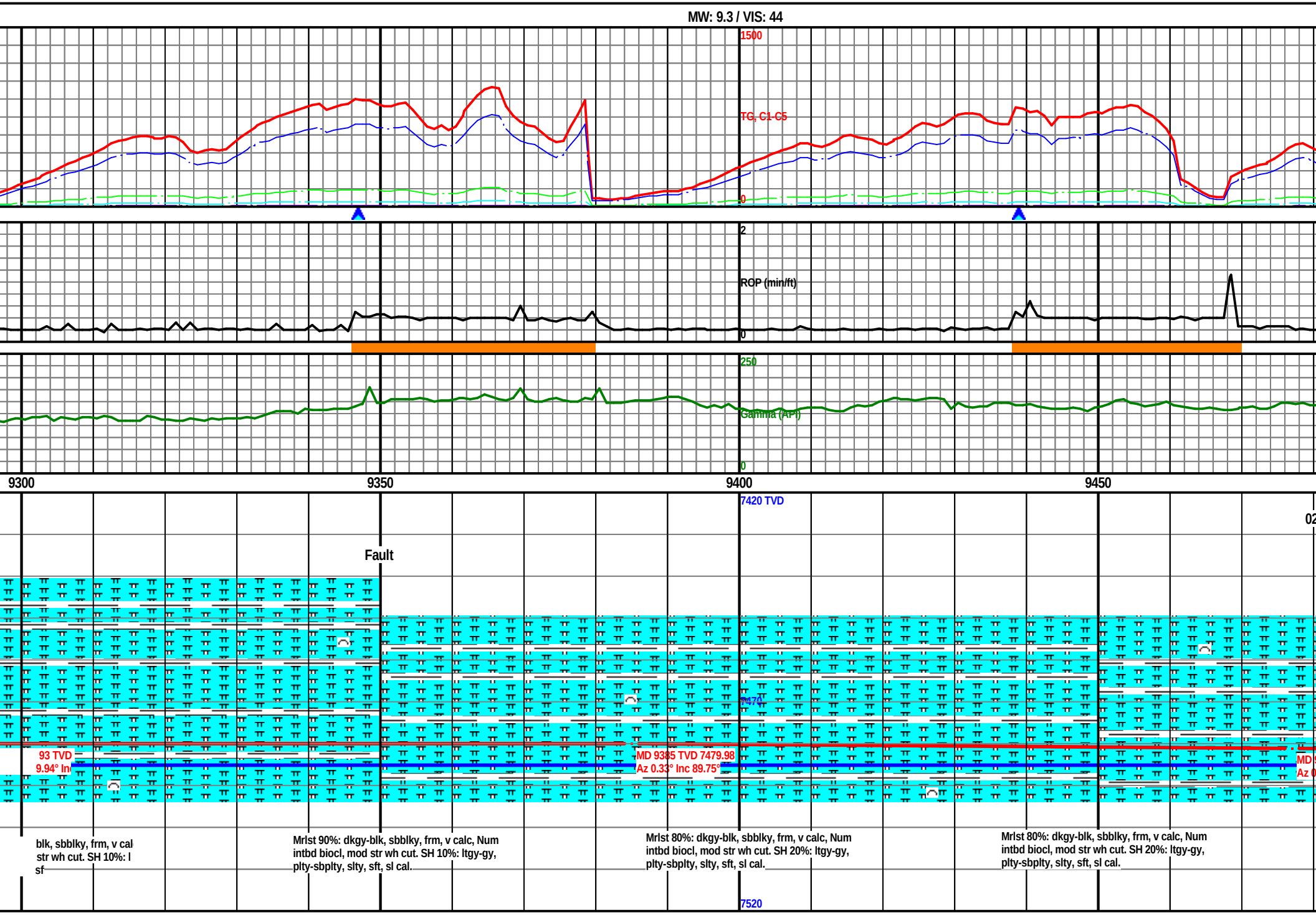

MW: 9.2 / VIS: 43
MW: 9.2 / VIS: 43
1500
TG, C1-C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
8400
8450
8500
8550
7420 TVD
7470
MD 8400 TVD 7485'
Inc 90°
MD 8526 TVD 7474.23'
Az 0.49° Inc 90.92°
7520
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 85%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 15%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 85%: dkgy-blk, sbblky, frm, v calc, intbd biocl, mod str wh cut. SH 15%: ltgy plty-sbplty, slty, sft, sl cal.

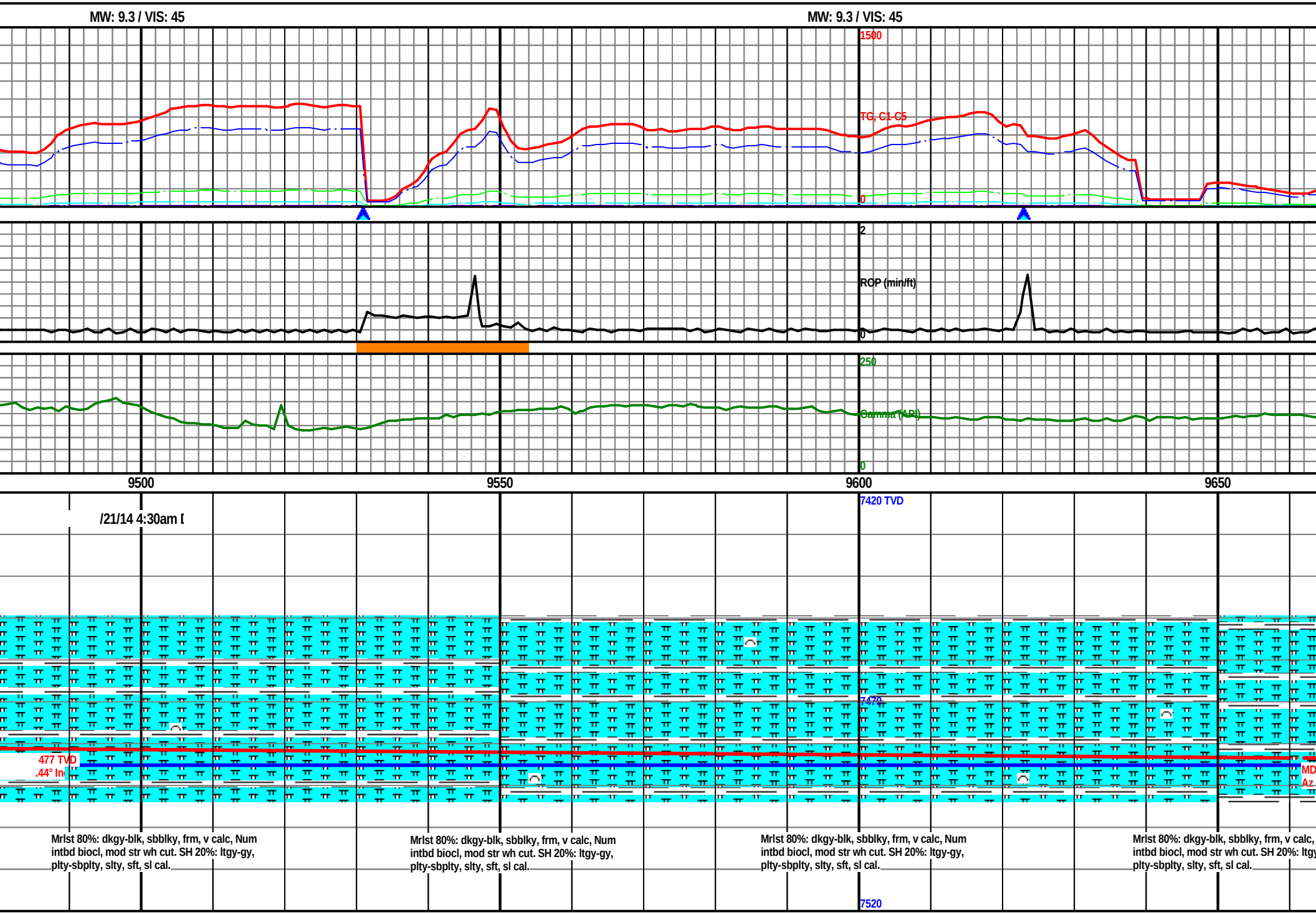

MW: 9.2 / VIS: 43
MW: 9.2 / VIS: 43
1500
2-5FT Flare
TG, C1,C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
8600
8650
8700
7420 TVD
Fault - From A shale to Upper B Marl.
MD 8611 TVD 7473.98
Az 0.43° Inc 89.41°
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
7520

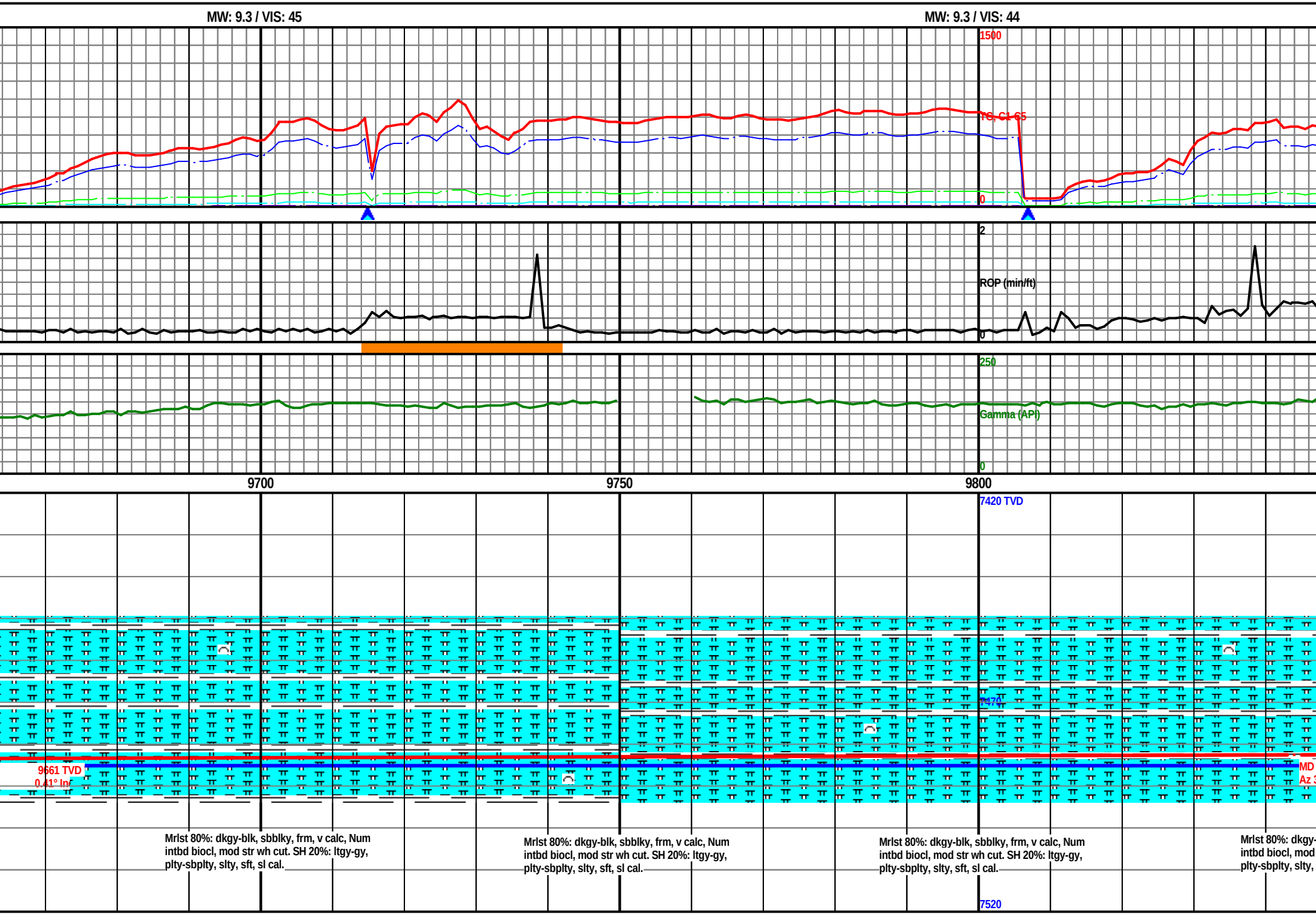

MW: 9.2 / VIS: 43
MW: 9.2 / VIS: 43
1500
2-5FT Flare
TG, C1-C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
8750
8800
8850
8900
7420 TVD
7470
MD 8782 TVD 7476.25
Az 0.38° Inc 89.07°
MD 8867 TVD 7477.45
Az 1.15° Inc 89.32°
7520
y-blk, sbblky, frm, v cal
d str wh cut. SH 10%: l
y, sf
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 10%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 10%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 10%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

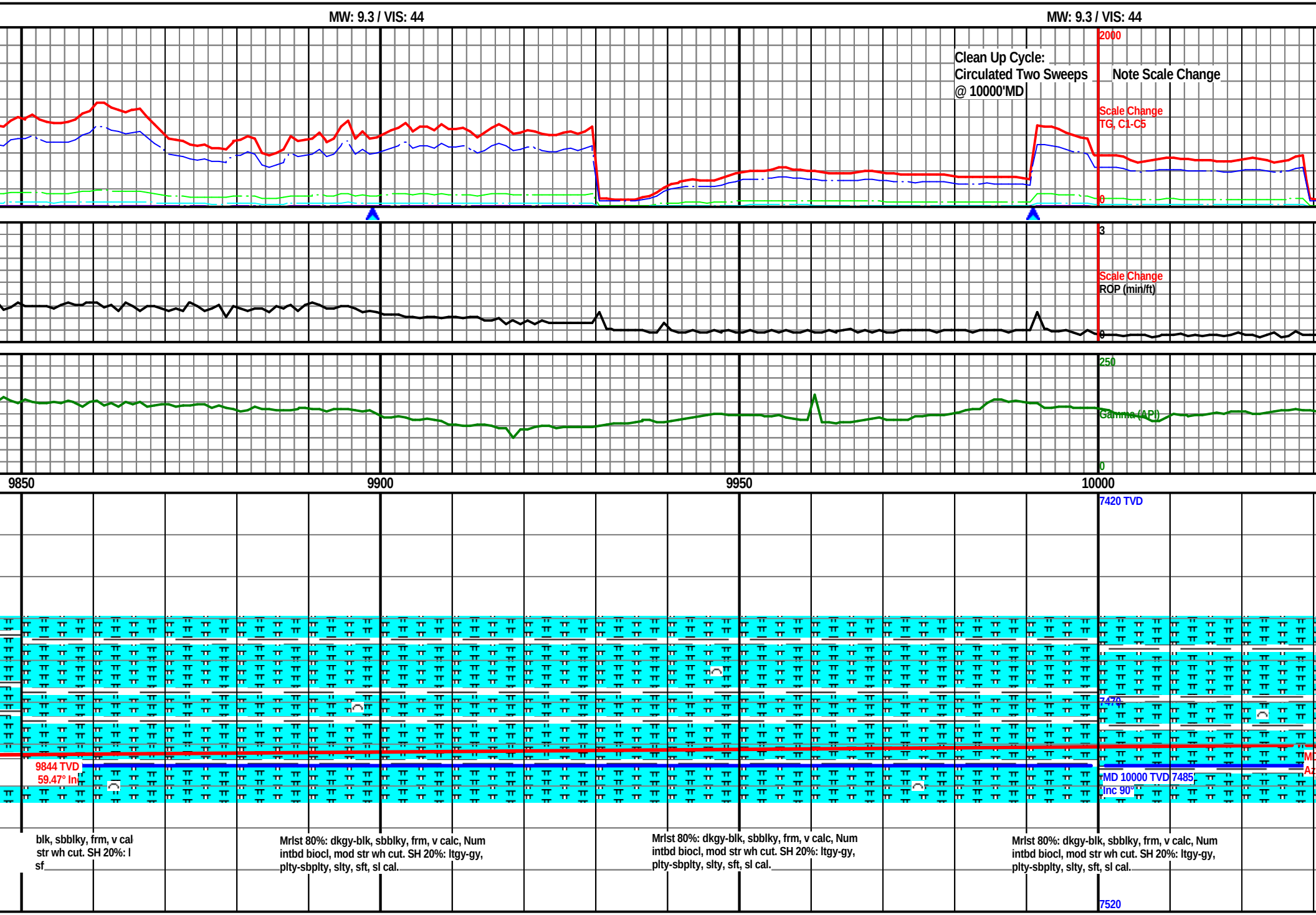

MW: 9.2+ / VIS: 44
MW: 9.2+ / VIS: 44
1500
2-5FT Flare
TG, C1 C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
8950
9000
9050
9100
7420 TVD
7474
7520
MD 8952 TVD 7477.91
Az 0.83° Inc 90.06°
MD 9000 TVD 7485
Inc 90°
MD 9037 TVD 7477.96
Az 359.7° Inc 89.87°
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.

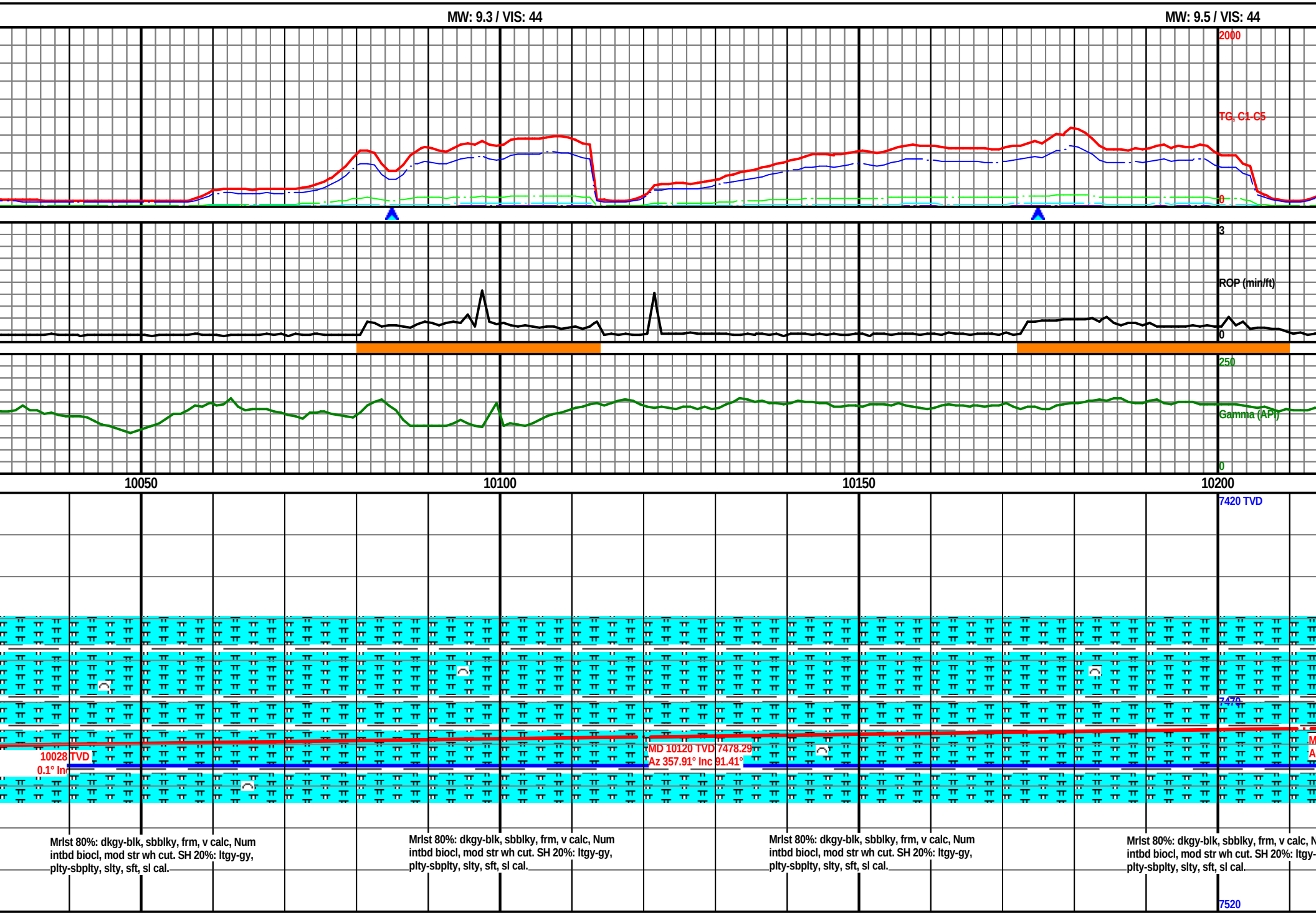

MW: 9.2+ / VIS: 44
MW: 9
1500
TG, C1-C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
9150
9200
9250
7420 TVD
7470
MD 9122 TVD 7478.81
Az 0.22° Inc 88.98°
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 90%: dkgy-
intbd biocl, mod
plty-sbplty, slty,
7520

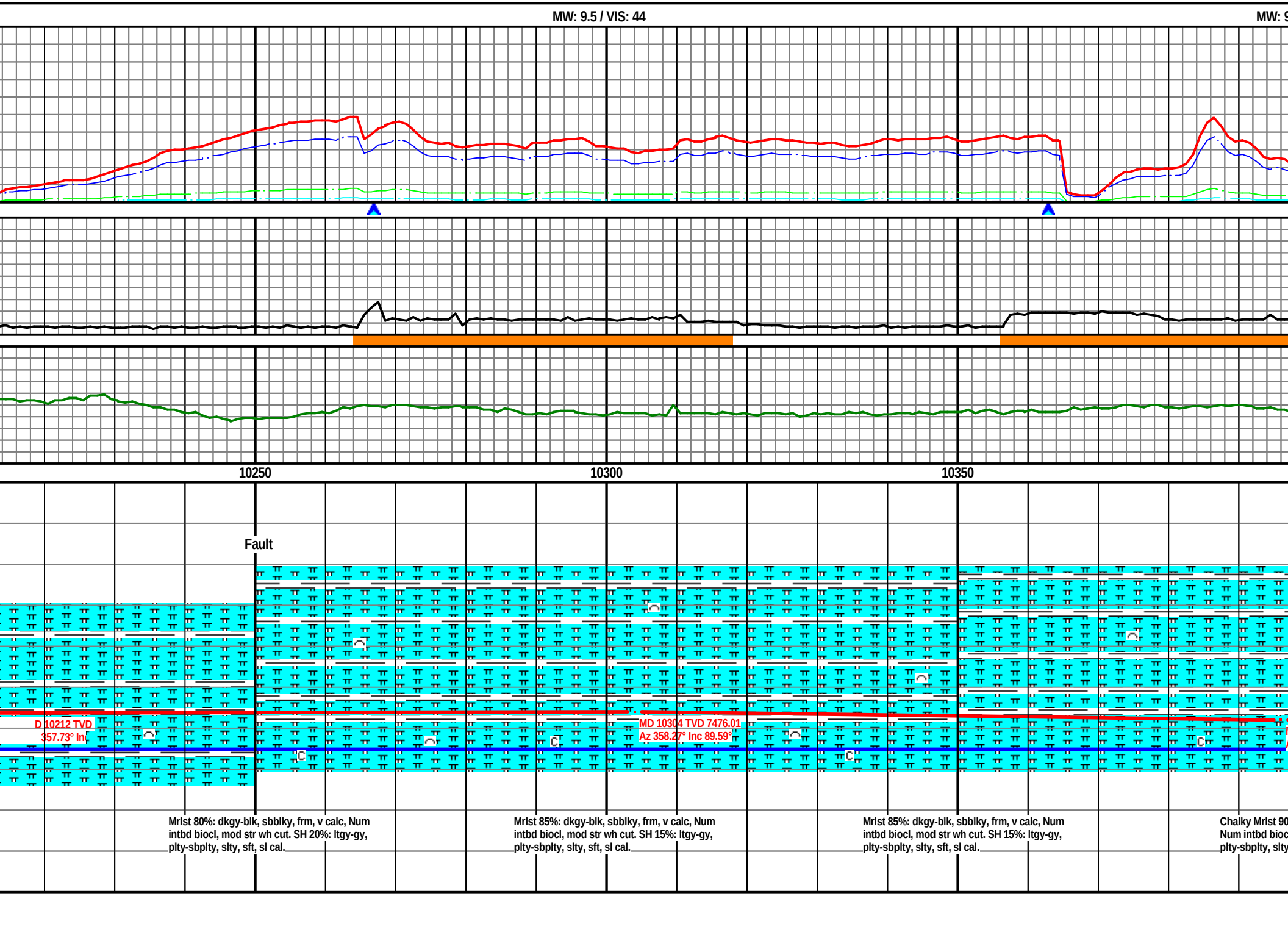

MW: 9.3 / VIS: 44
1500
TG, C1-C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
9300
9350
9400
9450
7420 TVD
Fault
7470
7520
93 TVD
9.94° In
MD 9385 TVD 7479.98
Az 0.33° Inc 89.75°
blk, sbblky, frm, v cal
str wh cut. SH 10%: l
sf
Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 10%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

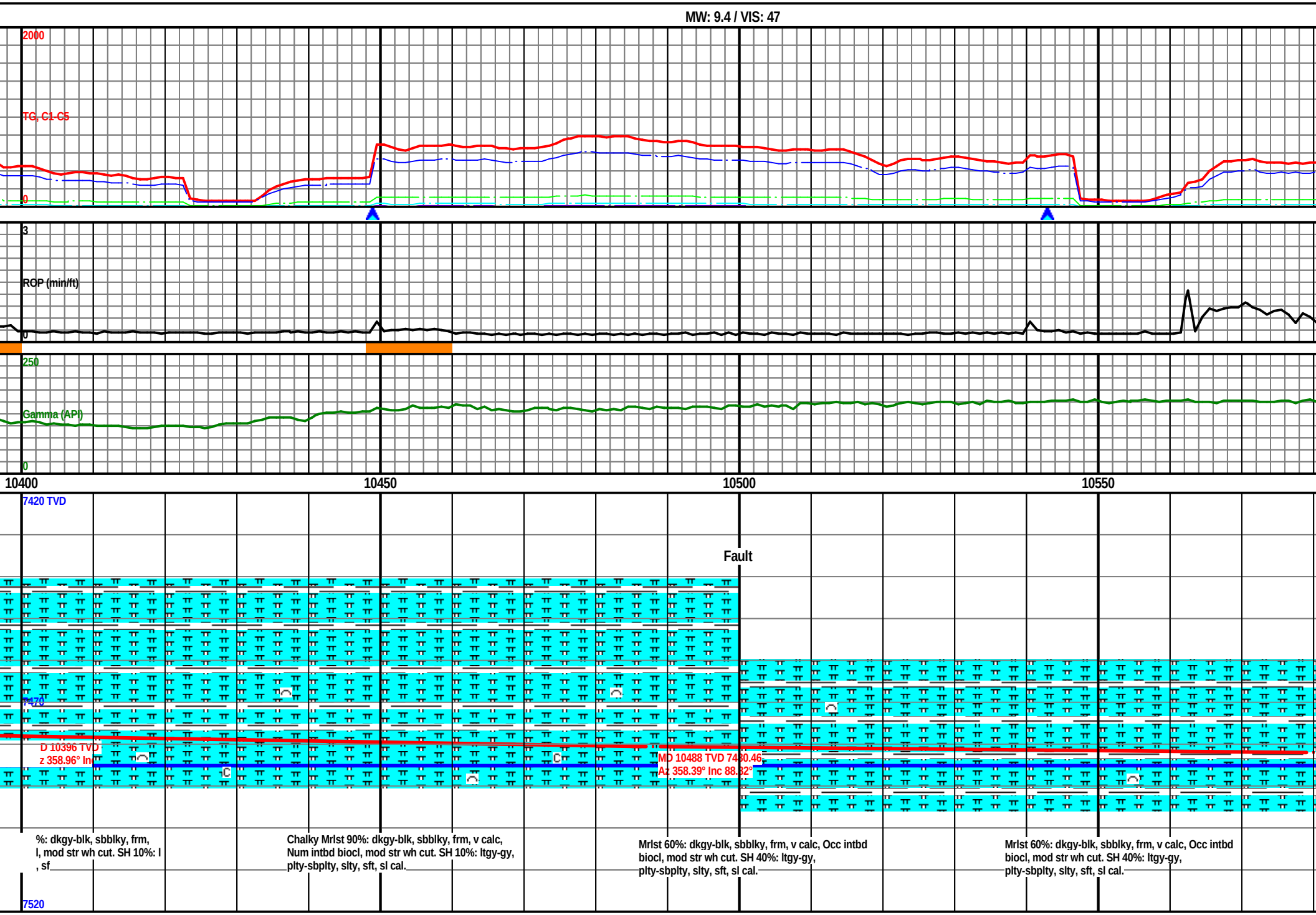

MW: 9.3 / VIS: 45
MW: 9.3 / VIS: 45
1500
TG, C1 C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
9500
9550
9600
9650
/21/14 4:30am I
7420 TVD
7470
477 TVD
.44° In
MD
Az
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, intbd biocl, mod str wh cut. SH 20%: ltgy plty-sbplty, slty, sft, sl cal.
7520

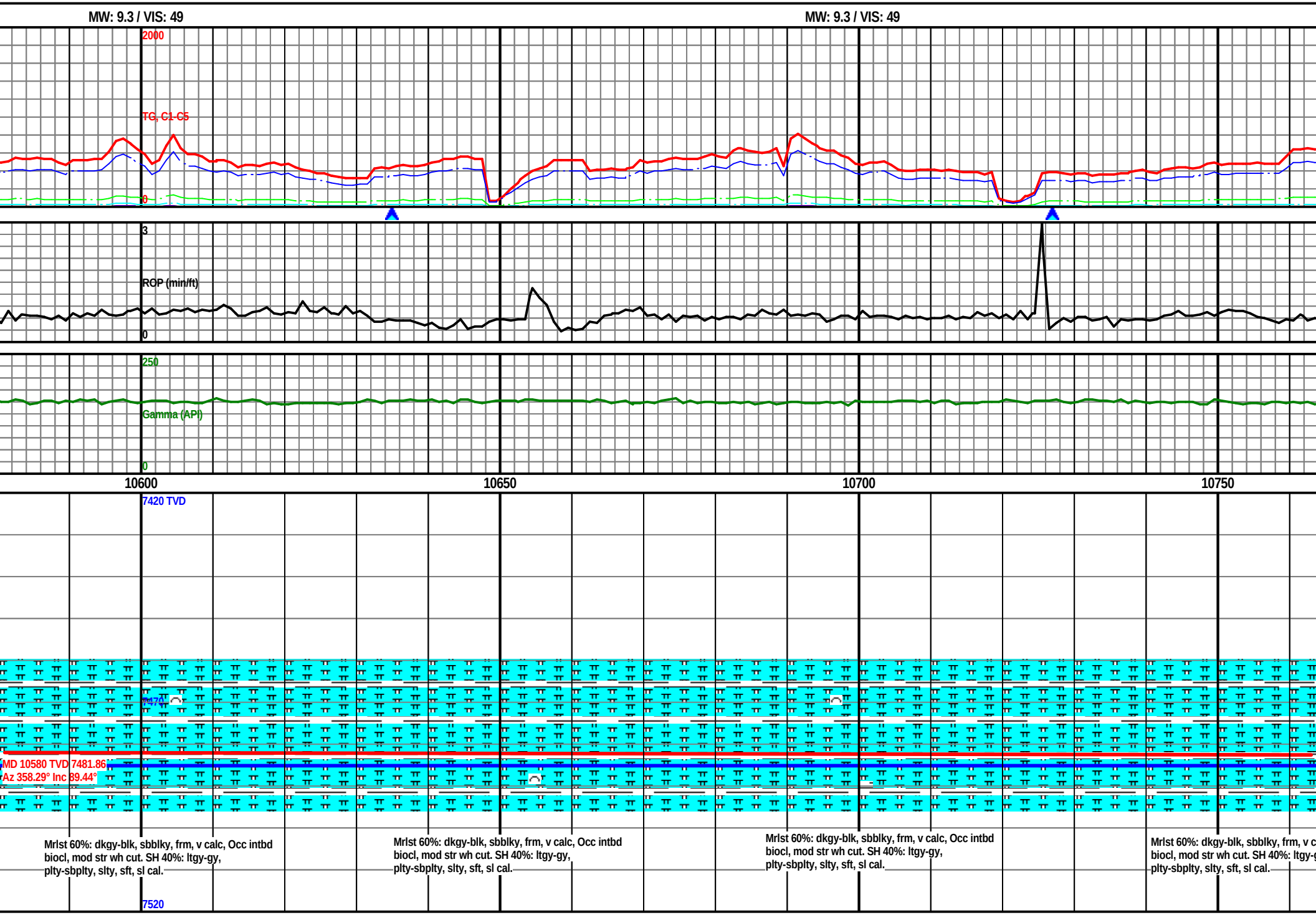

MW: 9.3 / VIS: 45
MW: 9.3 / VIS: 44
1500
TG, C1-C5
0
2
ROP (min/ft)
0
250
Gamma (API)
0
9700
9750
9800
7420 TVD
7470
7520
9661 TVD
0.41° In
MD
Az
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-
intbd biocl, mod
plty-sbplty, slty,

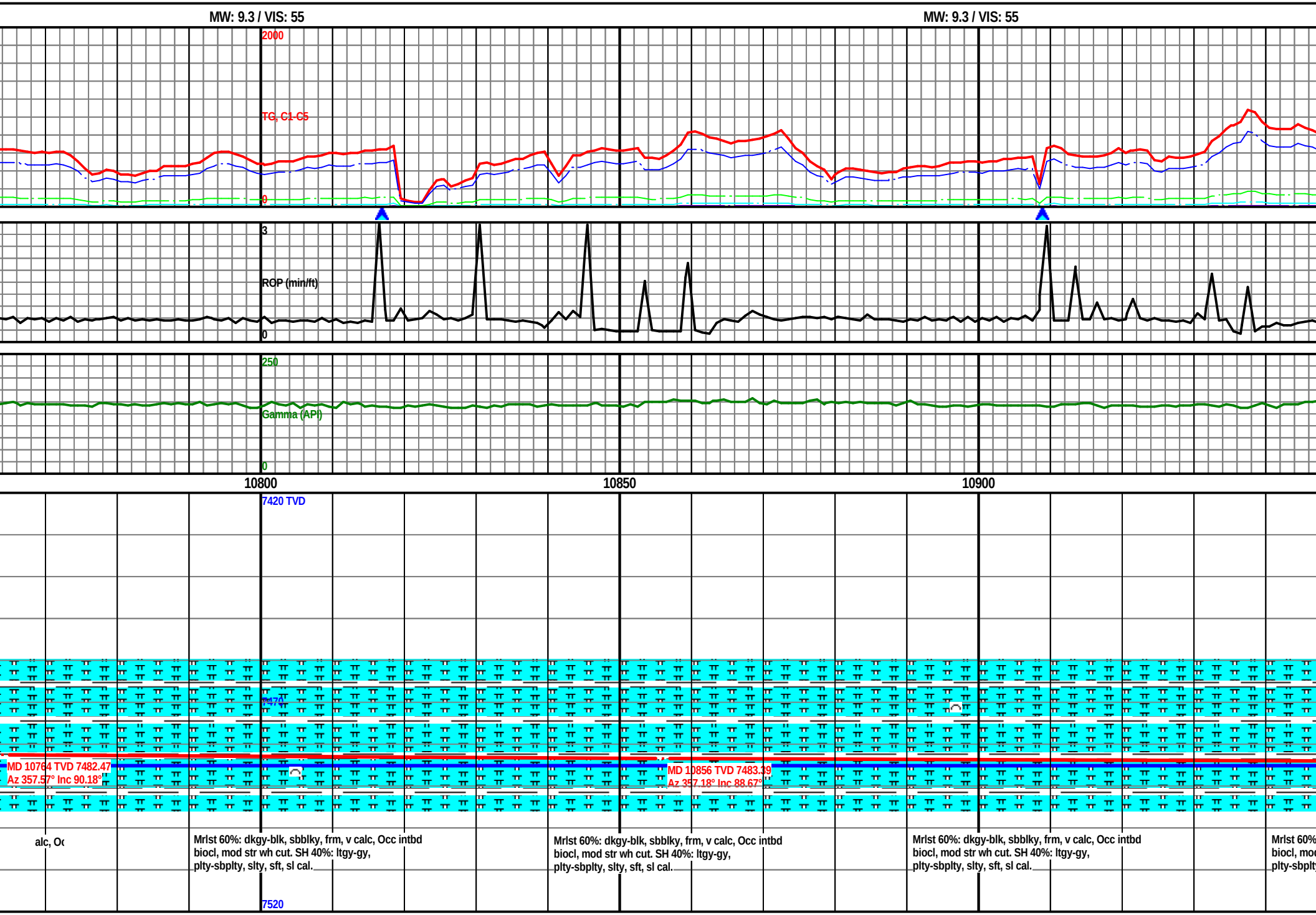

MW: 9.3 / VIS: 44
MW: 9.3 / VIS: 44
Clean Up Cycle:
Circulated Two Sweeps
@ 10000'MD
Note Scale Change
2000
Scale Change
TG, C1-C5
0
3
Scale Change
ROP (min/ft)
0
250
Gamma (API)
0
9850
9900
9950
10000
7420 TVD
9844 TVD
59.47° In
MD 10000 TVD 7485
Inc 90°
7520
blk, sbblky, frm, v cal
str wh cut. SH 20%: l
sf
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

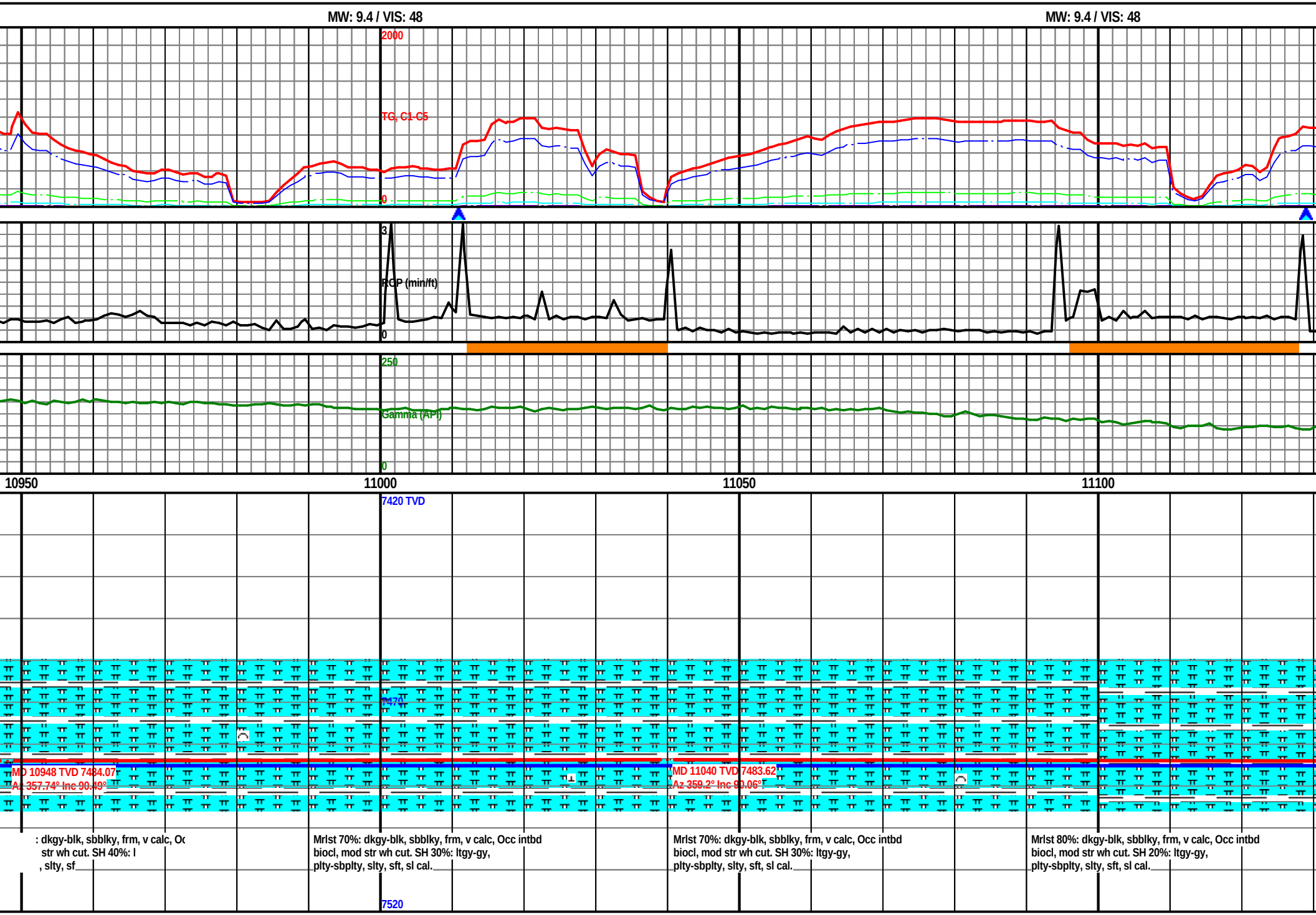

MW: 9.3 / VIS: 44
MW: 9.5 / VIS: 44
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10050
10100
10150
10200
7420 TVD
7470
7520
10028 TVD
0.1° Inc
MD 10120 TVD 7478.29
Az 357.91° Inc 91.41°
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, N intbd biocl, mod str wh cut. SH 20%: ltgy- plty-sbplty, slty, sft, sl cal.

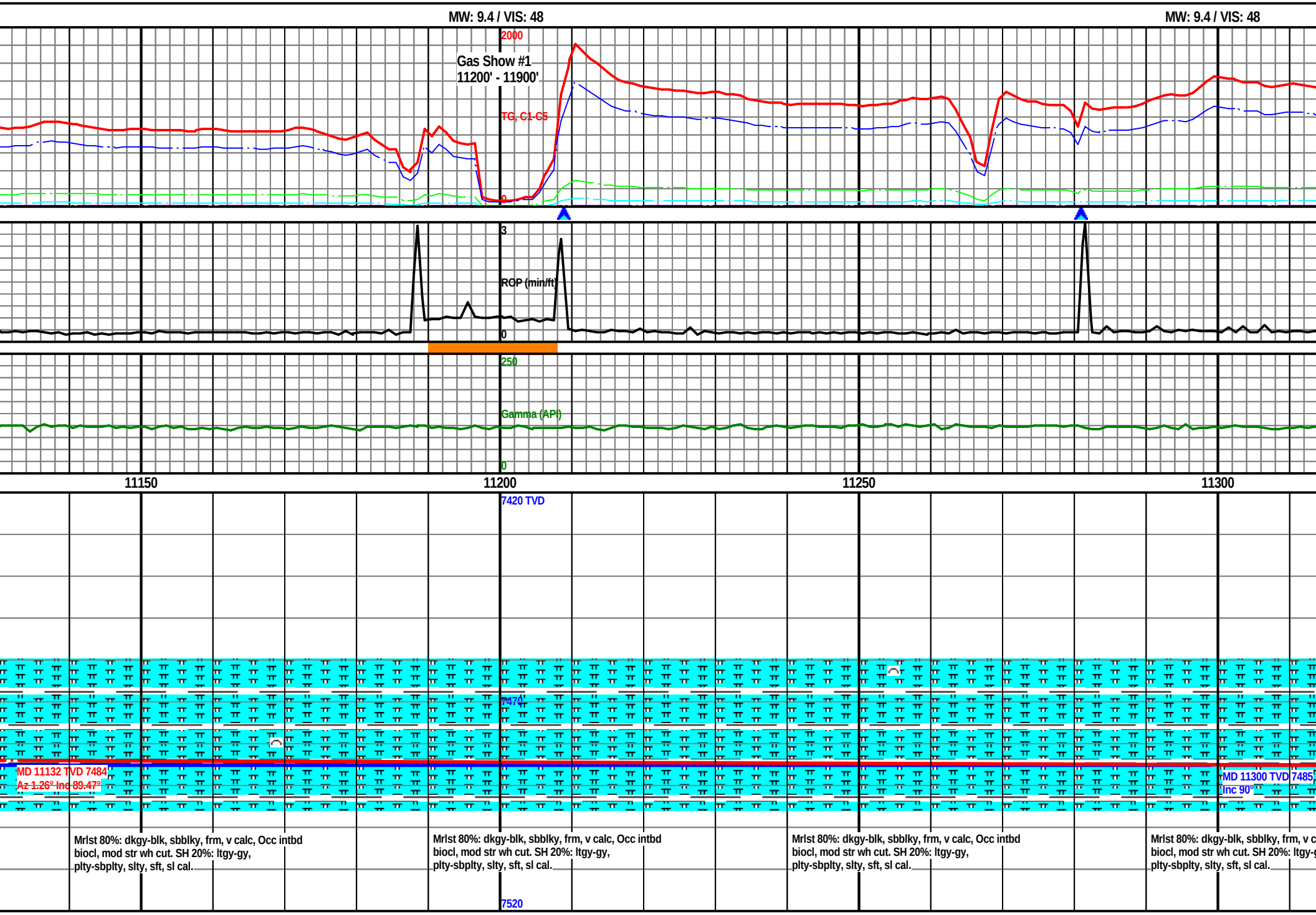

MW: 9.5 / VIS: 44
MW: 9
10250
10300
10350
Fault
D 10212 TVD
357.73° Inc
MD 10304 TVD 7476.01
Az 358.27° Inc 89.59°
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 85%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 15%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 85%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 15%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90
Num intbd bioc
plty-sbplty, slty

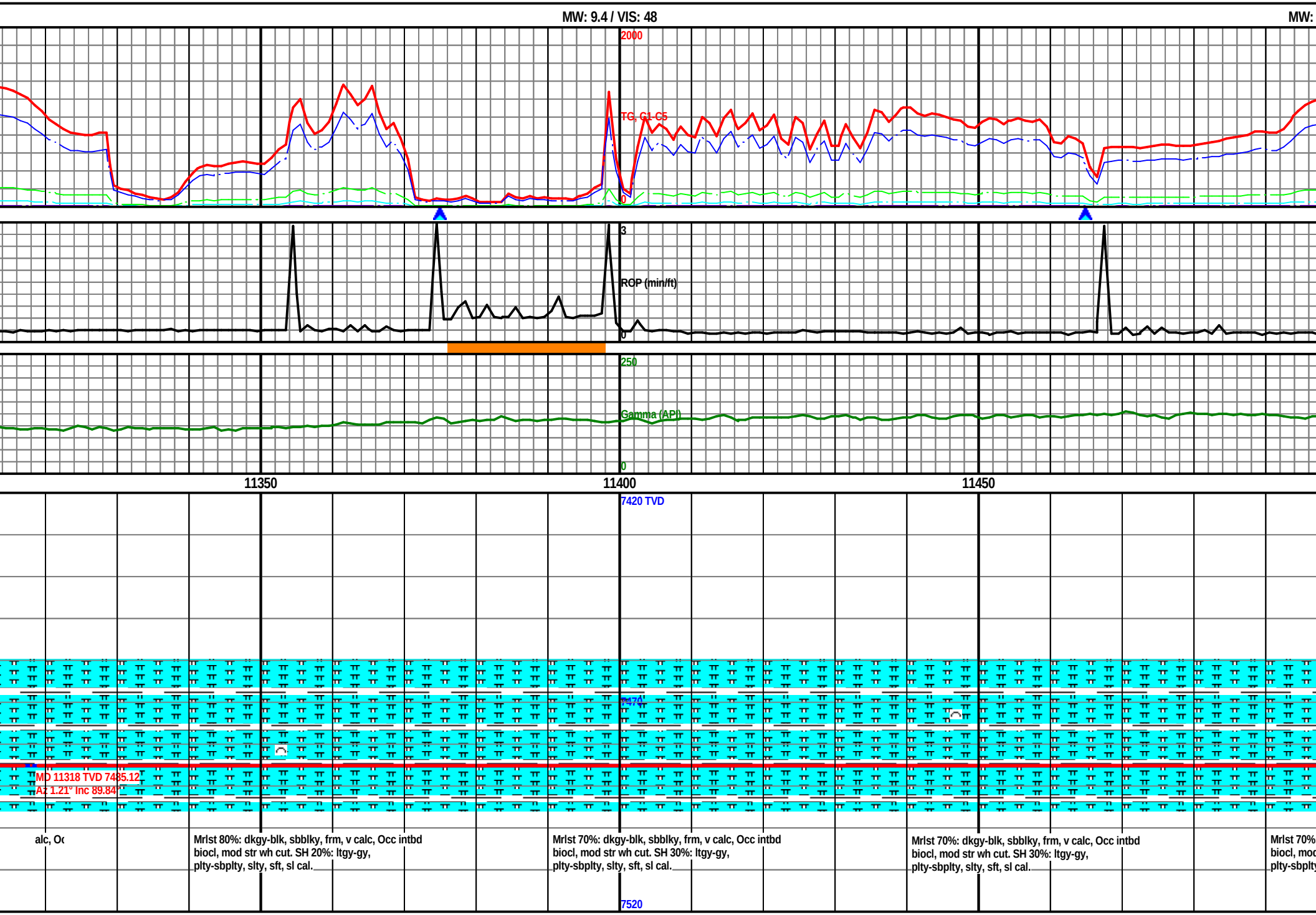

MW: 9.4 / VIS: 47
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10400
10450
10500
10550
7420 TVD
Fault
7470
D 10396 TVD
z 358.96° In
MD 10488 TVD 7480.46
Az 358.39° Inc 88.32°
%: dkgy-blk, sbblky, frm,
l, mod str wh cut. SH 10%: l
, sf
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc,
Num intbd biocl, mod str wh cut. SH 10%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
7520

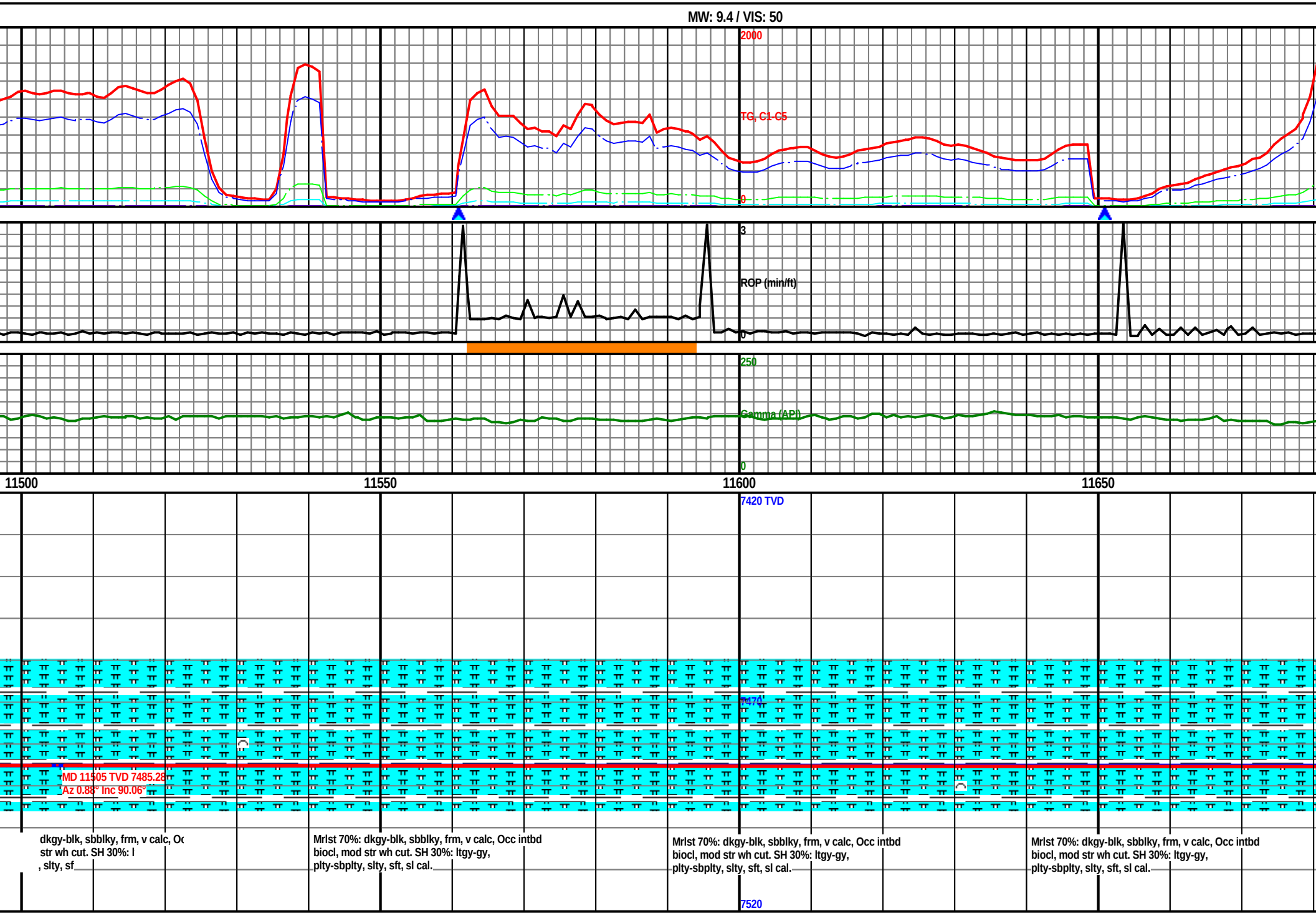

MW: 9.3 / VIS: 49
MW: 9.3 / VIS: 49
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10600
10650
10700
10750
7420 TVD
7470
MD 10580 TVD 7481.86
Az 358.29° Inc 89.44°
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v c
biocl, mod str wh cut. SH 40%: ltgy-
plty-sbplty, slty, sft, sl cal.
7520

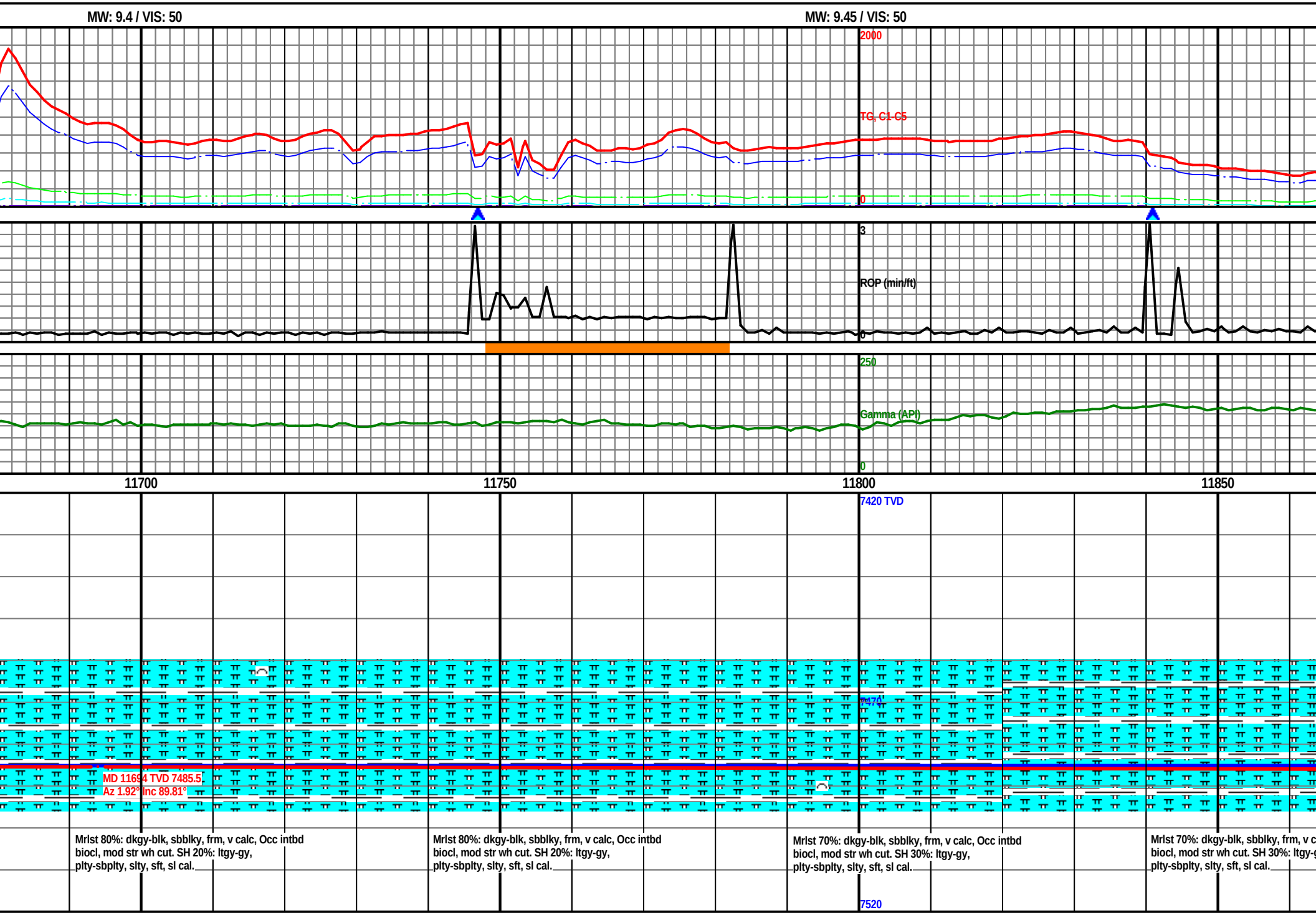

MW: 9.3 / VIS: 55
MW: 9.3 / VIS: 55
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10800
10850
10900
7420 TVD
7470
MD 10764 TVD 7482.47
Az 357.57° Inc 90.18°
MD 10856 TVD 7483.39
Az 357.18° Inc 88.67°
alc, Oc
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%
biocl, mod
plty-sbplt
7520

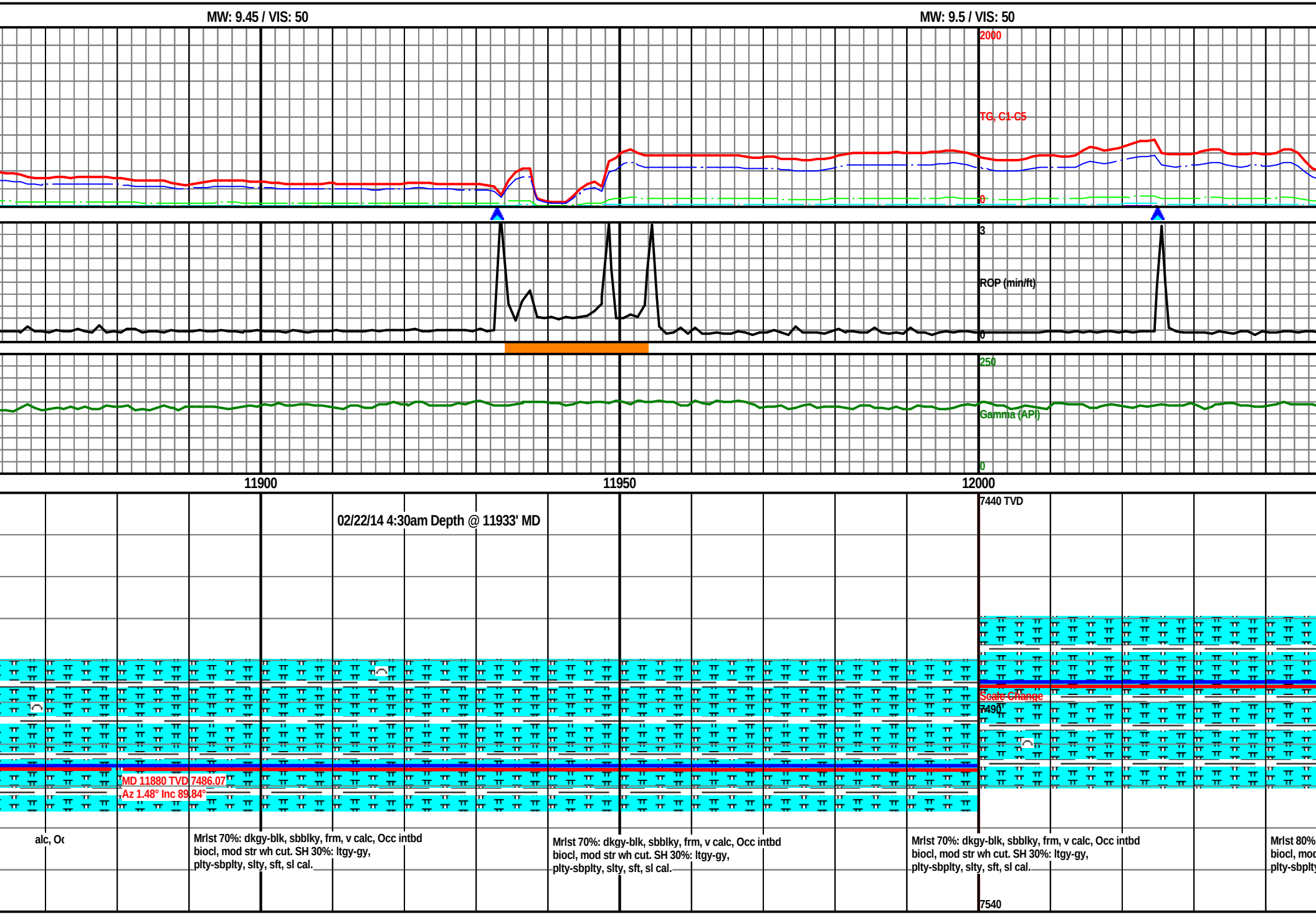

MW: 9.4 / VIS: 48
MW: 9.4 / VIS: 48
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10950
11000
11050
11100
7420 TVD
7470
7520
MD 10948 TVD 7484.07
Az: 357.74° Inc 90.40°
MD 11040 TVD 7483.62
Az 359.2° Inc 90.06°
: dkgy-blk, sbblky, frm, v calc, Oc
str wh cut. SH 40%: l
, slty, sf
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

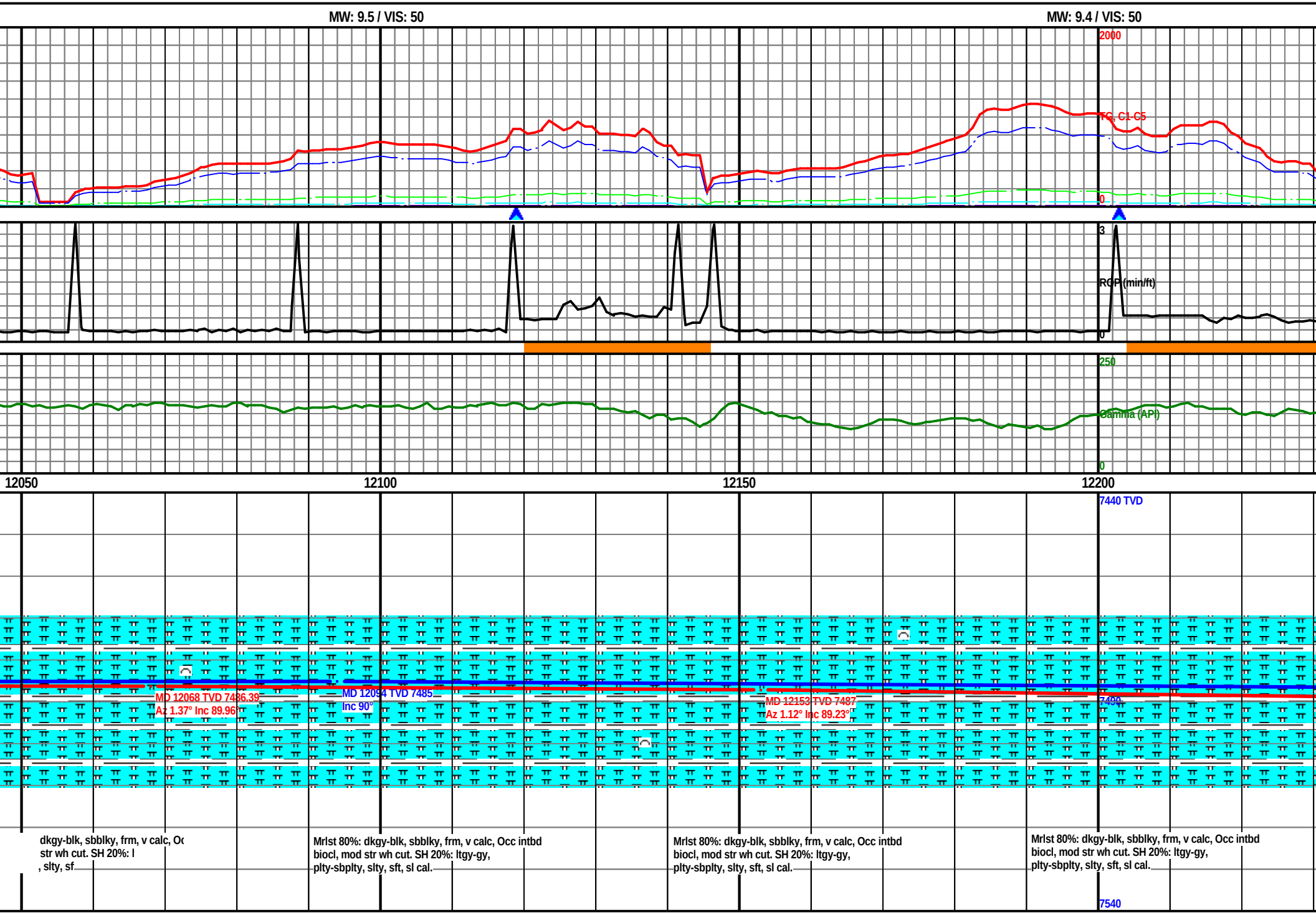

MW: 9.4 / VIS: 48
MW: 9.4 / VIS: 48
2000
Gas Show #1
11200' - 11900'
TG, C1 C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11150
11200
11250
11300
7420 TVD
7474
7520
MD 11132 TVD 7484
Az 1.26° Inc 89.47°
MD 11300 TVD 7485
Inc 90°
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v c
biocl, mod str wh cut. SH 20%: ltgy-
plty-sbplty, slty, sft, sl cal.

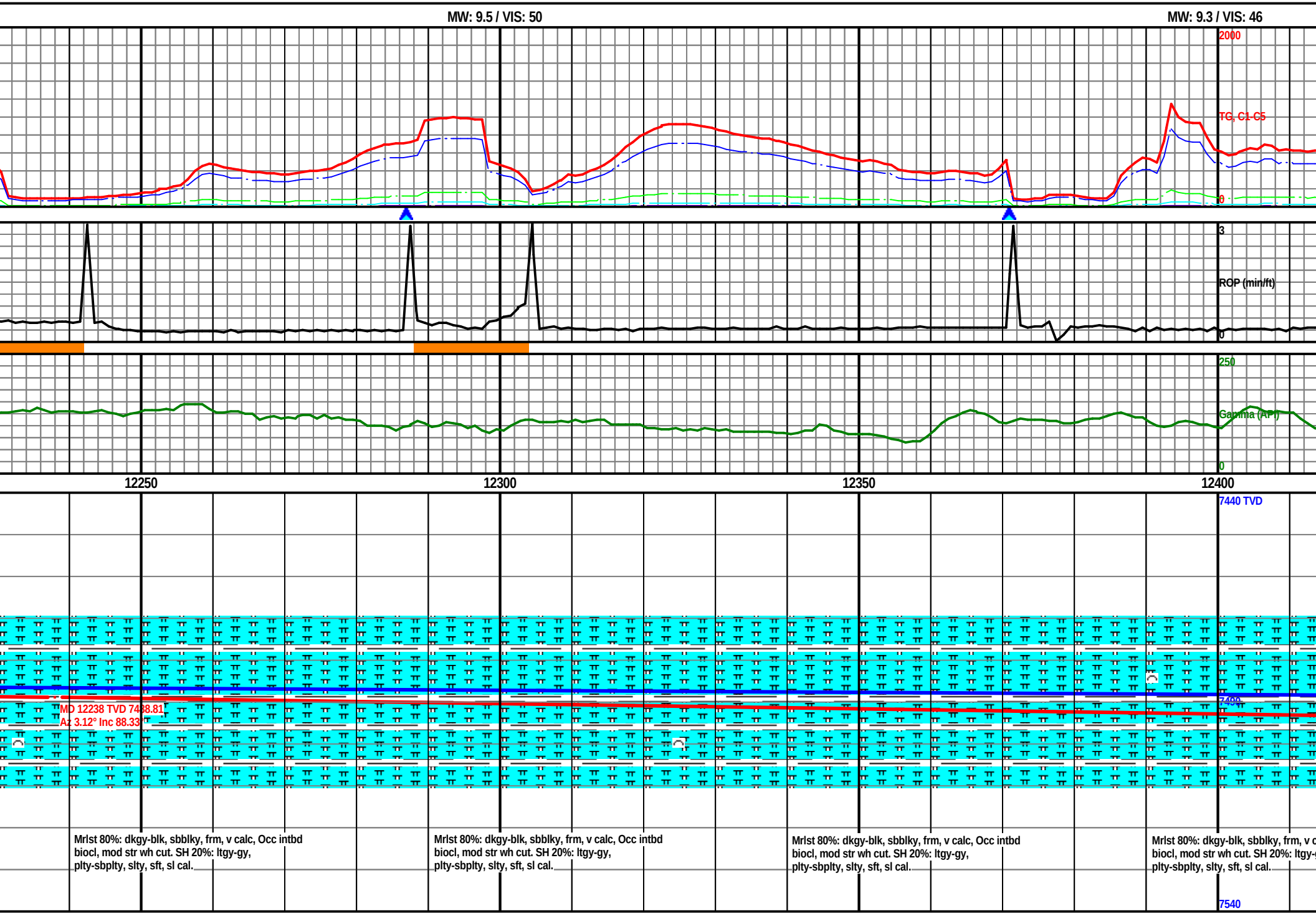

MW: 9.4 / VIS: 48
MW:
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11350
11400
11450
7420 TVD
7470
MD 11318 TVD 7485.12
Az 1.21° Inc 89.84°
alc, Oc
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 70%
biocl, mod
plty-sbplty
7520

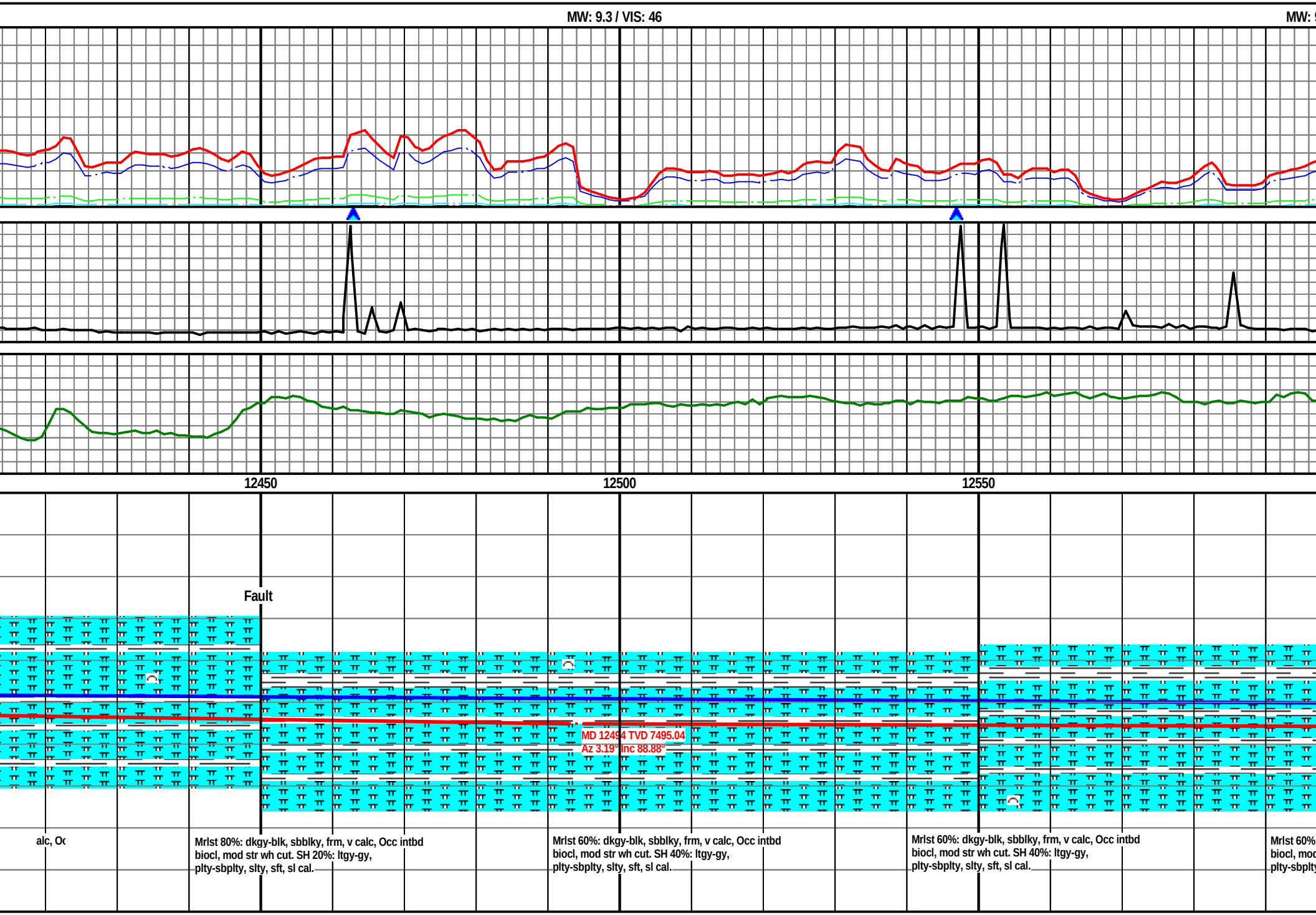

MW: 9.4 / VIS: 50
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11500
11550
11600
11650
7420 TVD
7474
MD 11505 TVD 7485.28
Az 0.88° Inc 90.06°
dkgy-blk, sbblky, frm, v calc, Oc
str wh cut. SH 30%: l
, slty, sf
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
7520
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

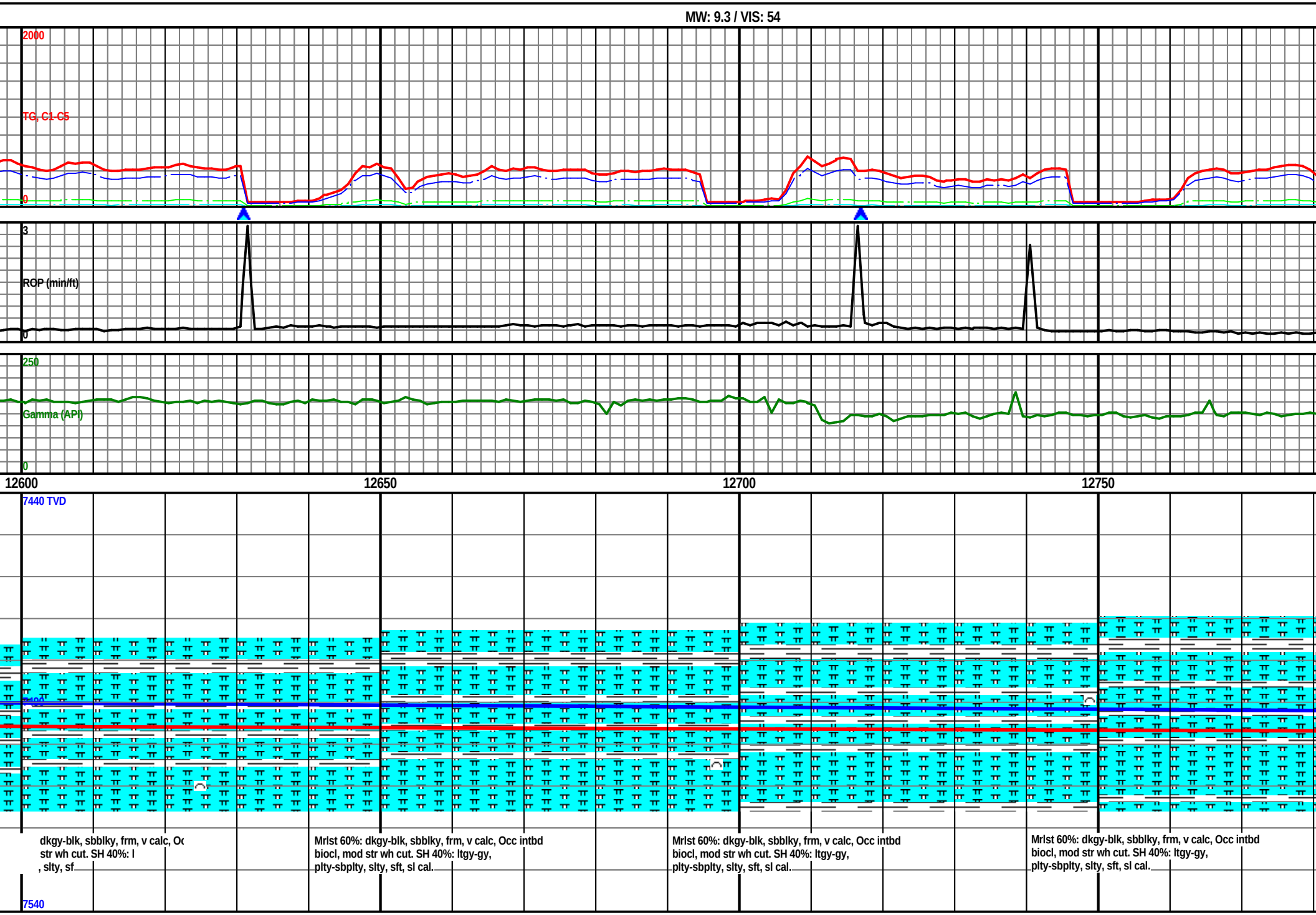

MW: 9.4 / VIS: 50
MW: 9.45 / VIS: 50
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11700
11750
11800
11850
7420 TVD
7470
7520
MD 11694 TVD 7485.5
Az 1.92° Inc 89.81°
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 70%: dkgy-blk, sbblky, frm, v c
biocl, mod str wh cut. SH 30%: ltgy-
plty-sbplty, slty, sft, sl cal.

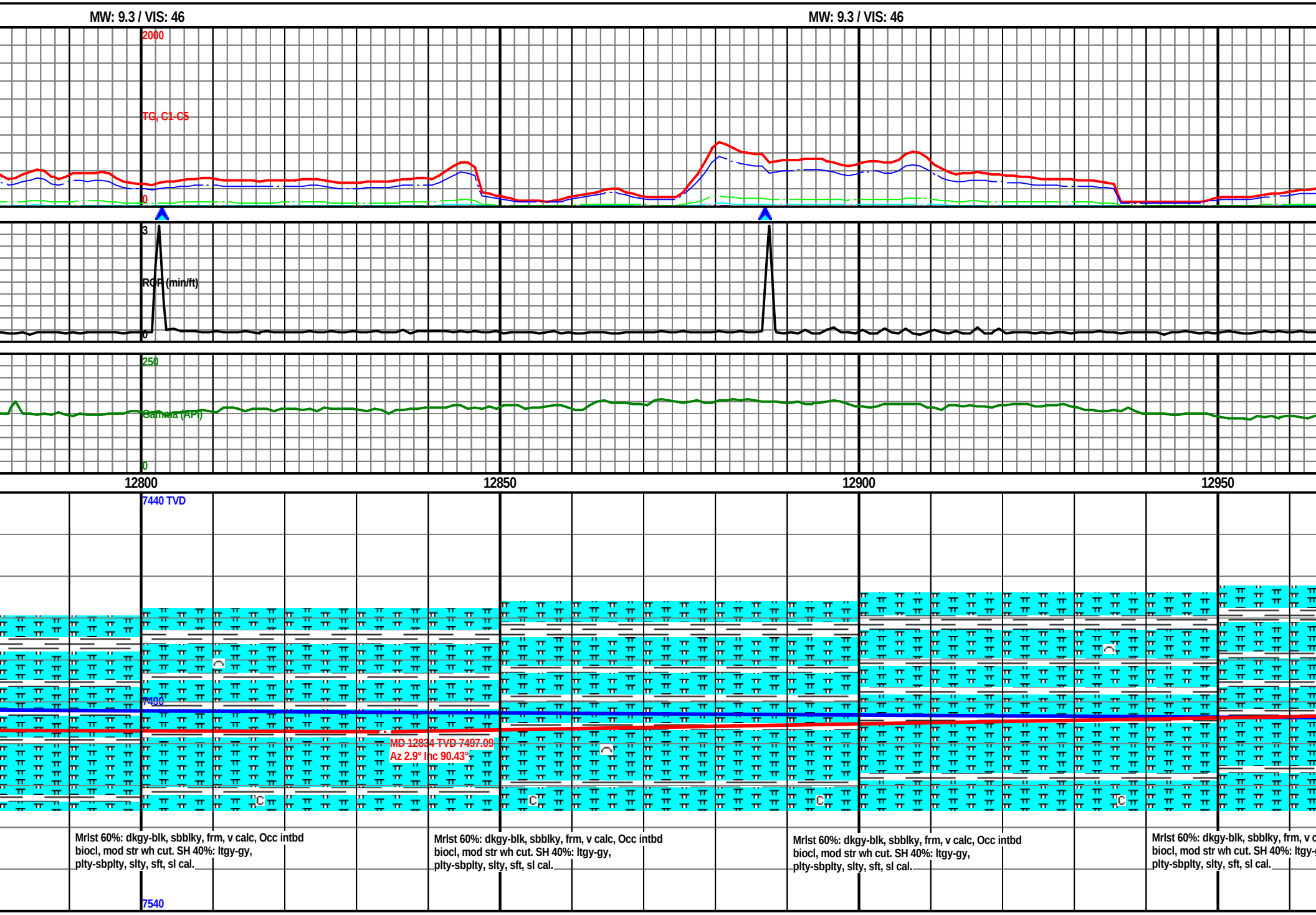

MW: 9.45 / VIS: 50
MW: 9.5 / VIS: 50
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11900
11950
12000
02/22/14 4:30am Depth @ 11933' MD
7440 TVD
Scale Change
7490
MD 11880 TVD 7486.07
Az 1.48° Inc 89.84°
7540
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%
biocl, mod
plty-sbplty

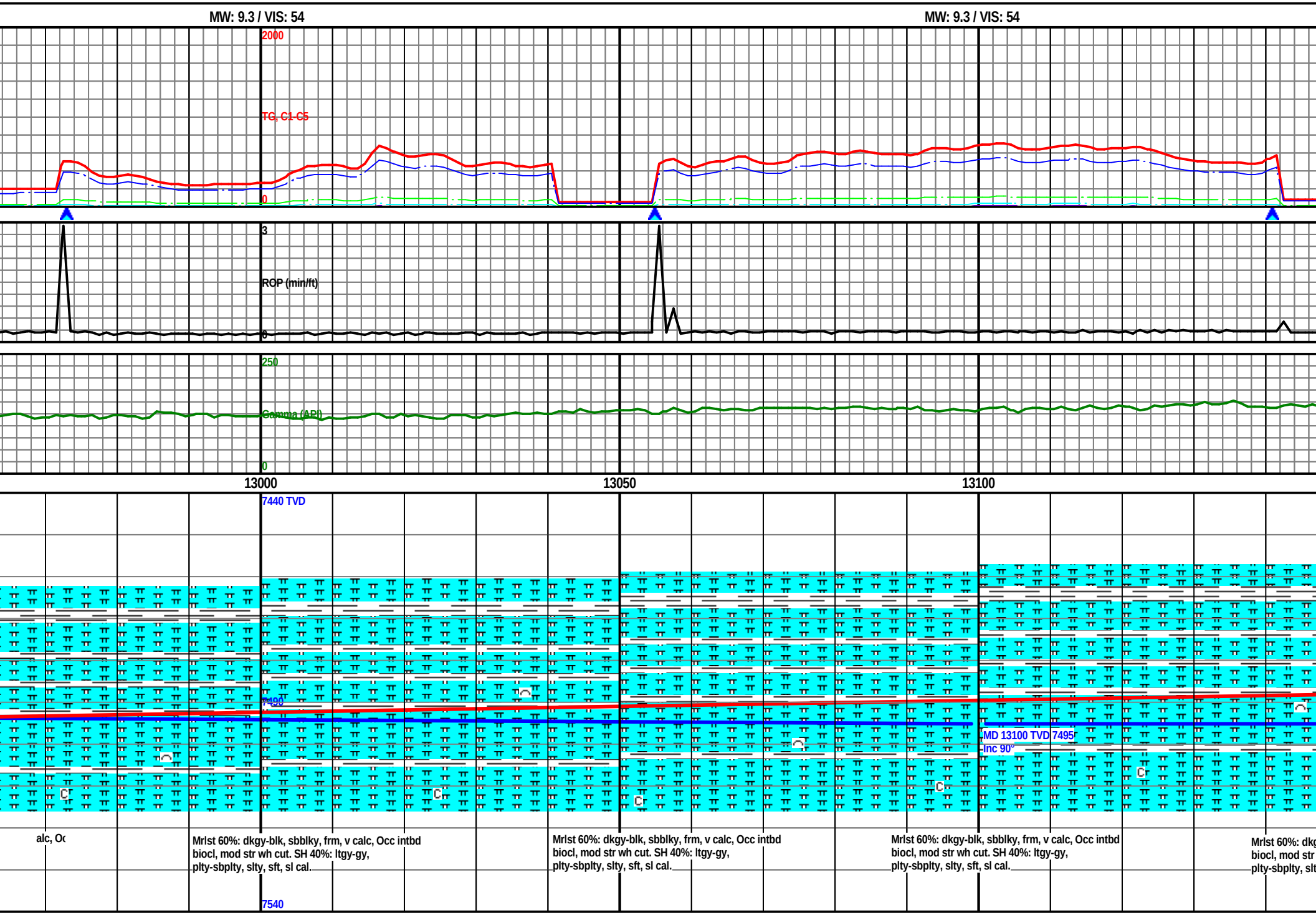

MW: 9.5 / VIS: 50
MW: 9.4 / VIS: 50
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
12050
12100
12150
12200
7440 TVD
MD 12068 TVD 7486.39
Az 1.37° Inc 89.96°
MD 12094 TVD 7485
Inc 90°
MD 12153 TVD 7487
Az 1.12° Inc 89.23°
7490
7540
dkgy-blk, sbblky, frm, v calc, Oc
str wh cut. SH 20%: l
, slty, sf
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

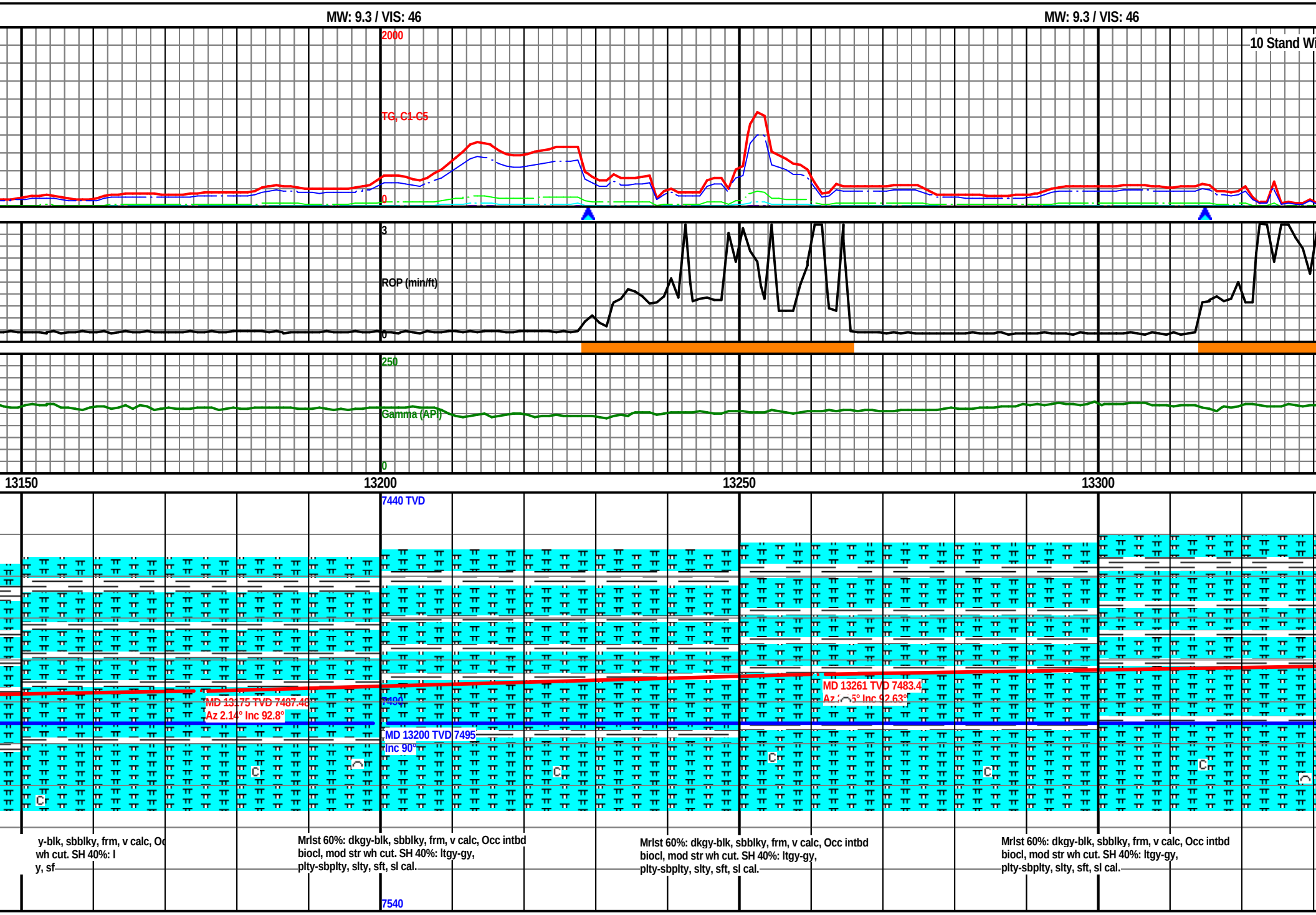

MW: 9.5 / VIS: 50
MW: 9.3 / VIS: 46
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
12250
12300
12350
12400
7440 TVD
7500
7540
MD 12238 TVD 7438.81
Az 3.12° Inc 88.33°
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v c
biocl, mod str wh cut. SH 20%: ltgy-
plty-sbplty, slty, sft, sl cal.

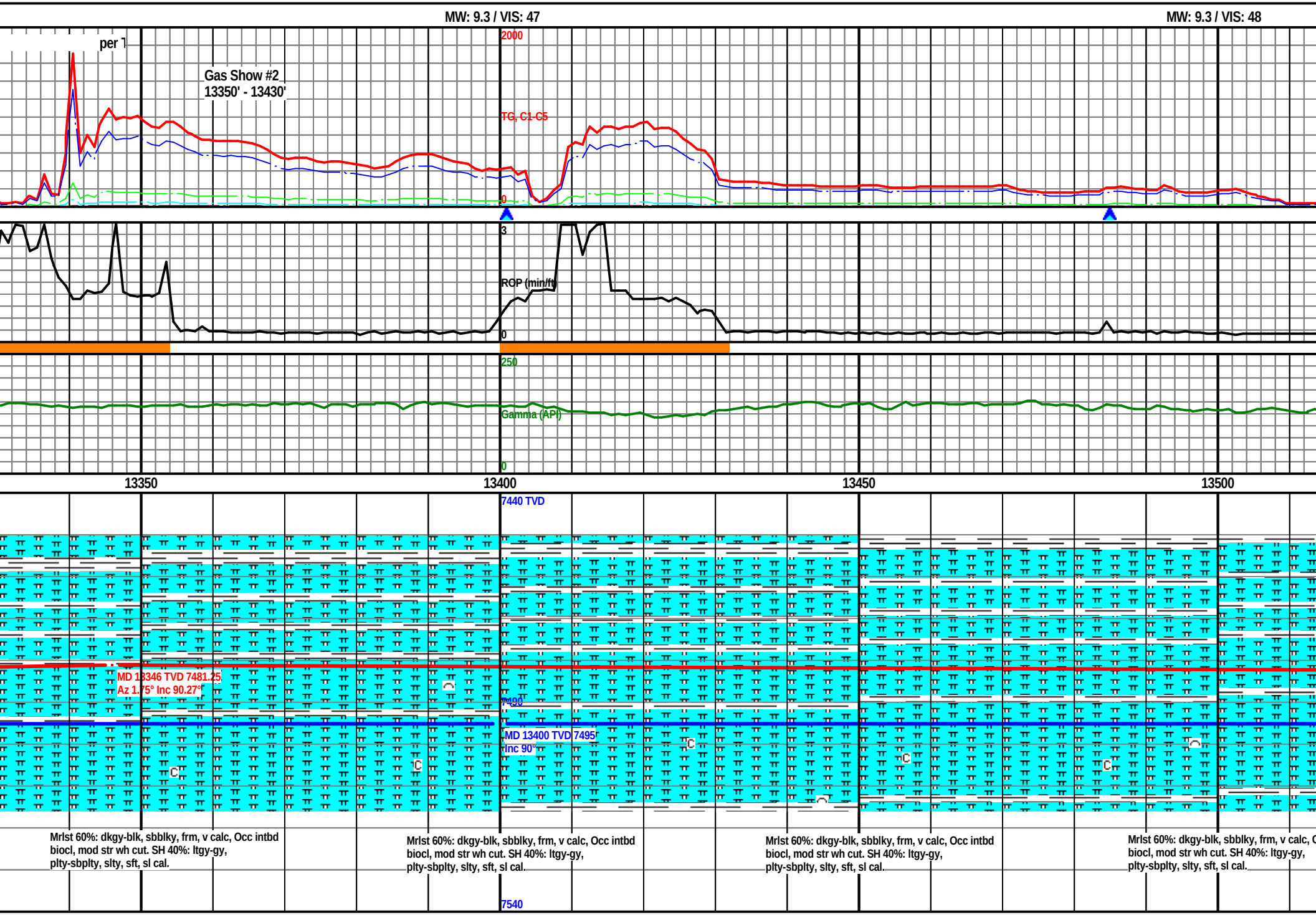

MW: 9.3 / VIS: 46
12450
12500
12550
Fault
MD 12494 TVD 7495.04
Az 3.19° Inc 88.88°
alc, Oc
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.

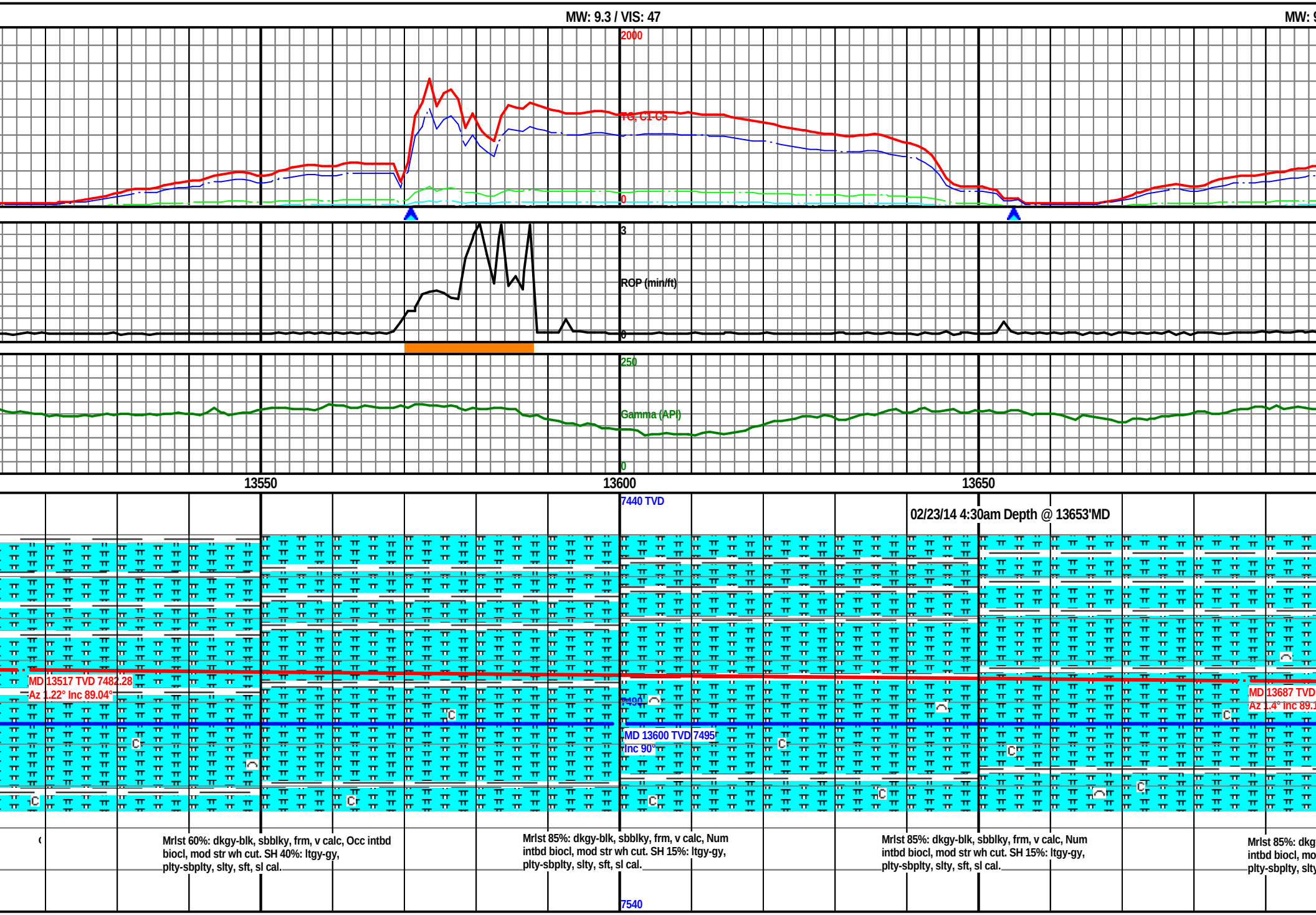

MW: 9.3 / VIS: 54
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
12600
12650
12700
12750
7440 TVD
7540
dkgy-blk, sbblky, frm, v calc, Oc
str wh cut. SH 40%: l
, slty, sf
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

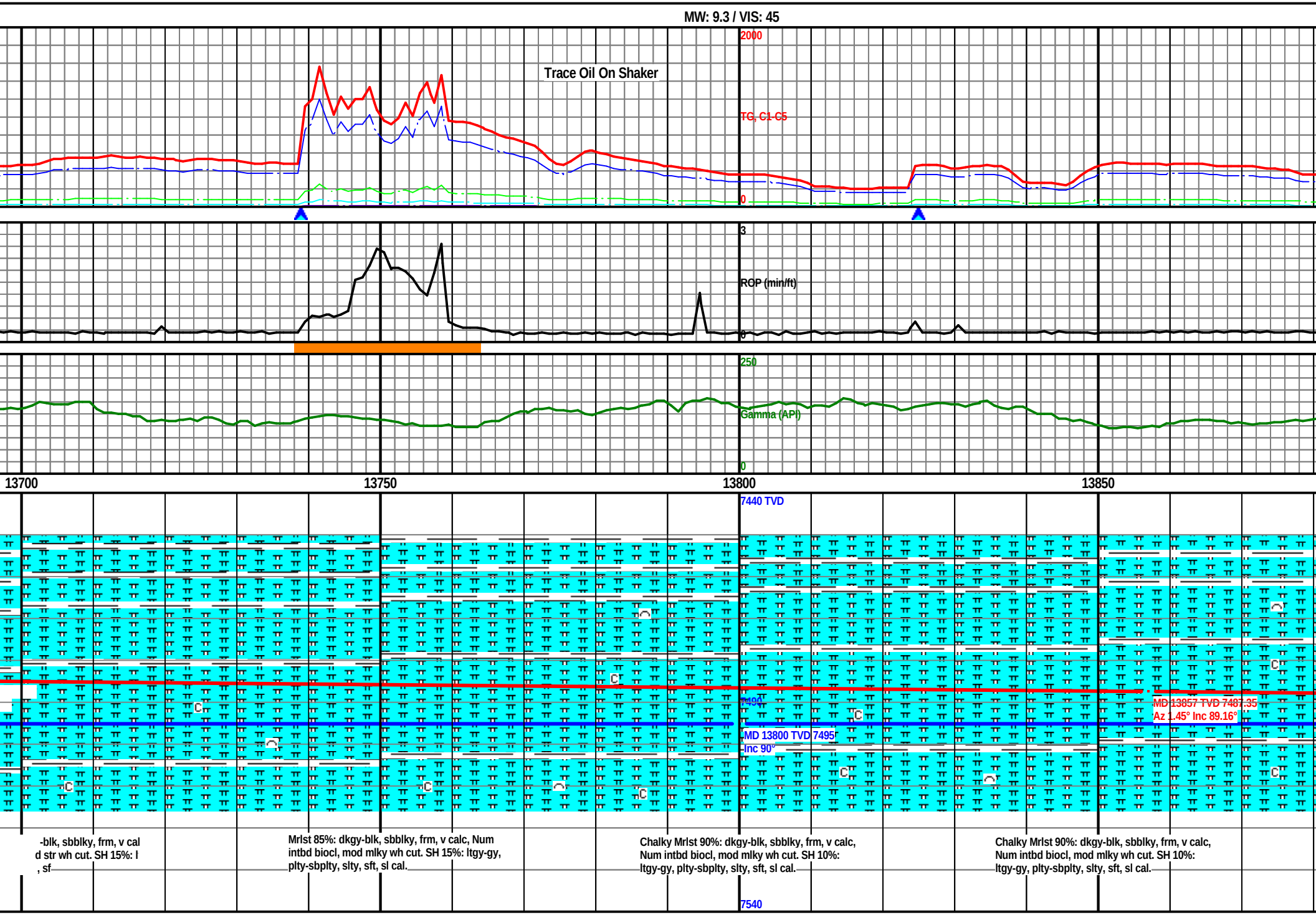

MW: 9.3 / VIS: 46
MW: 9.3 / VIS: 46
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
12800
12850
12900
12950
7440 TVD
7490
7540
MD 12834 TVD 7497.09
Az 2.9° Inc 90.43°
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v c
biocl, mod str wh cut. SH 40%: ltgy-
plty-sbplty, slty, sft, sl cal.

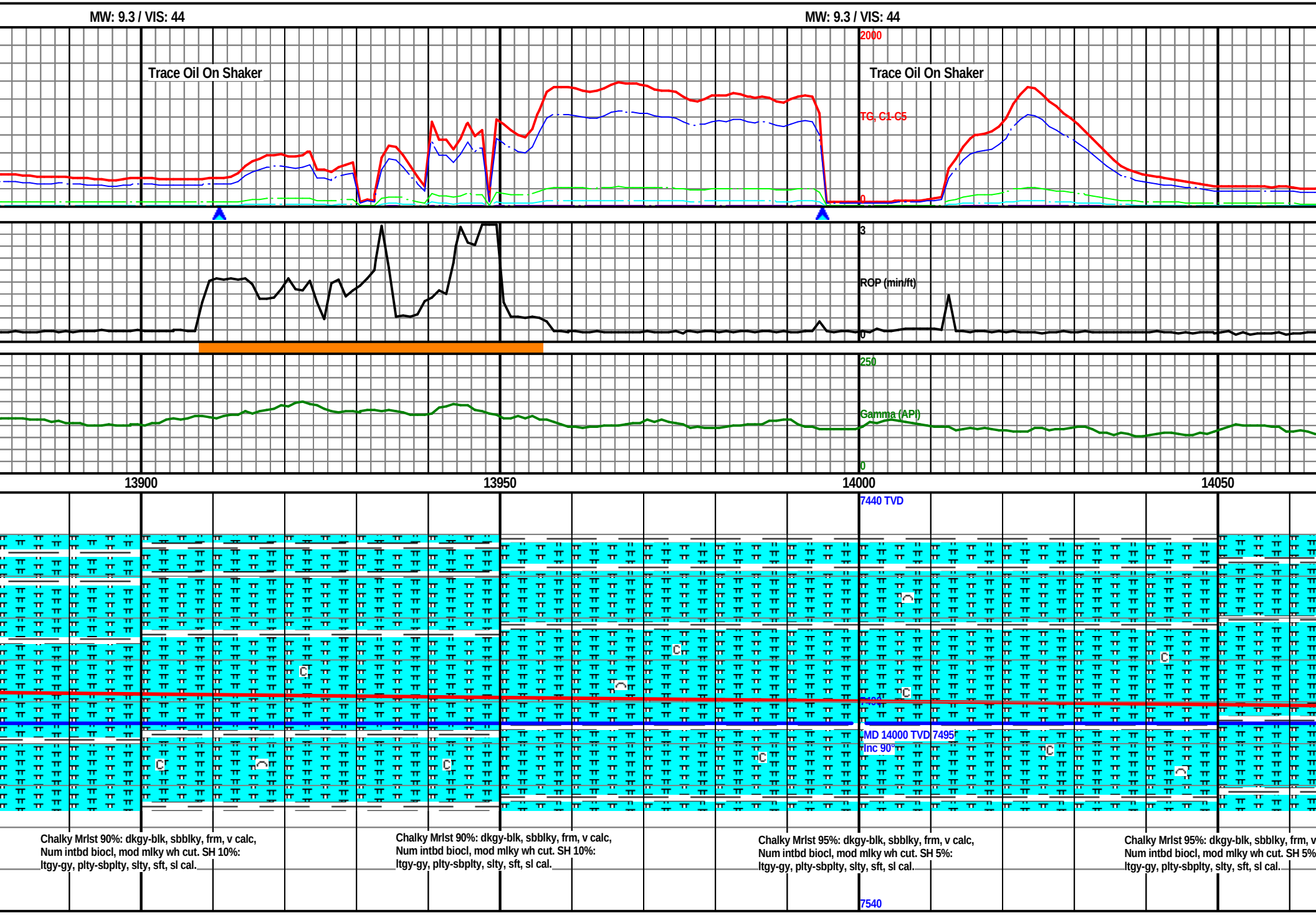

MW: 9.3 / VIS: 54
MW: 9.3 / VIS: 54
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
13000
13050
13100
7440 TVD
7490
7540
MD 13100 TVD 7495
Inc 90°
alc, Oc
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkg
biocl, mod str
plty-sbplty, slt

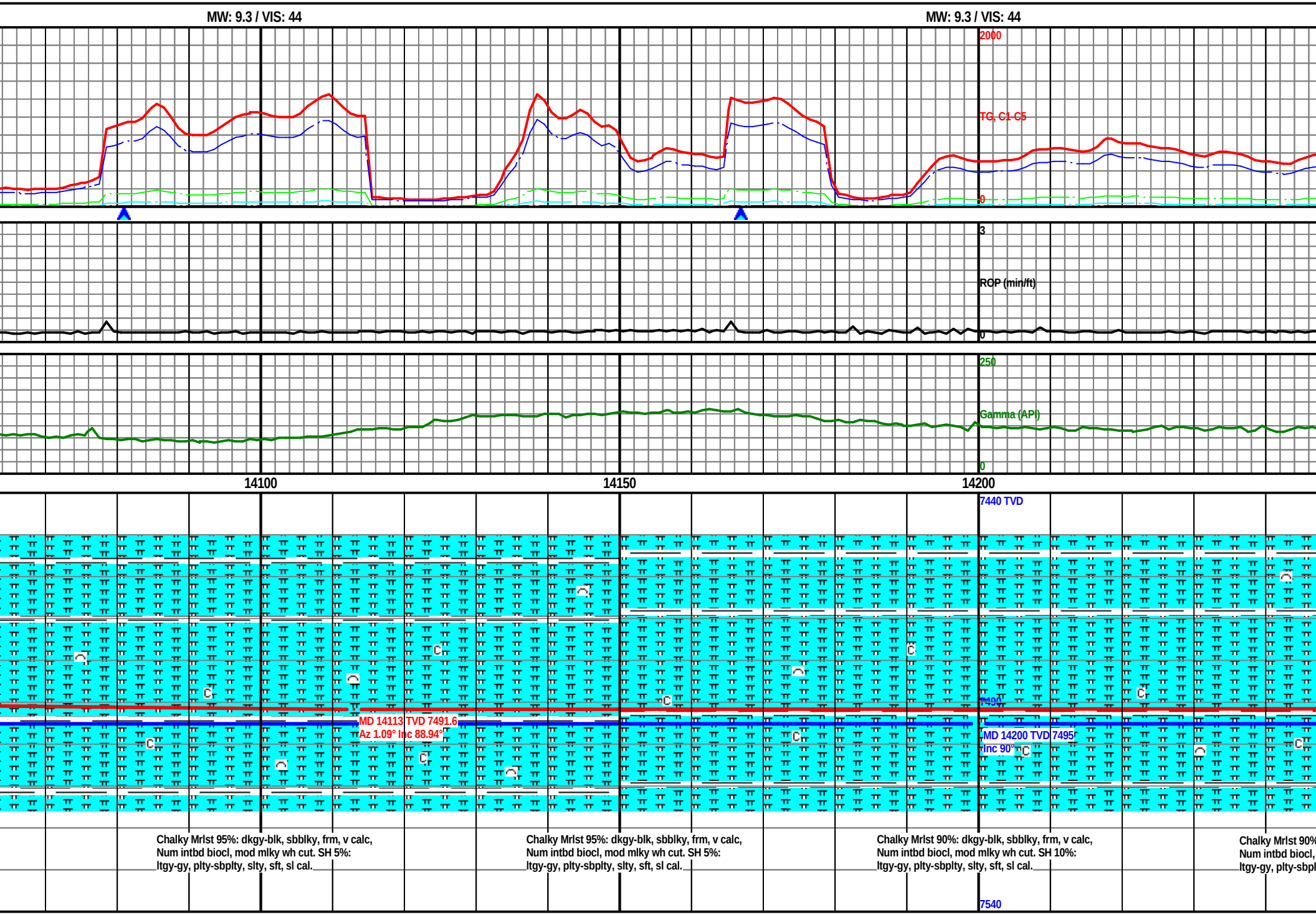

MW: 9.3 / VIS: 46
MW: 9.3 / VIS: 46
10 Stand Wi
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
13150
13200
13250
13300
7440 TVD
MD 13175 TVD 7487.40
Az 2.14° Inc 92.8°
7490
MD 13200 TVD 7495
Inc 90°
MD 13261 TVD 7483.4
Az
Inc 92.63°
7540
y-blk, sbblky, frm, v calc, Oc
wh cut. SH 40%: l
y, sf
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod str wh cut. SH 40%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.

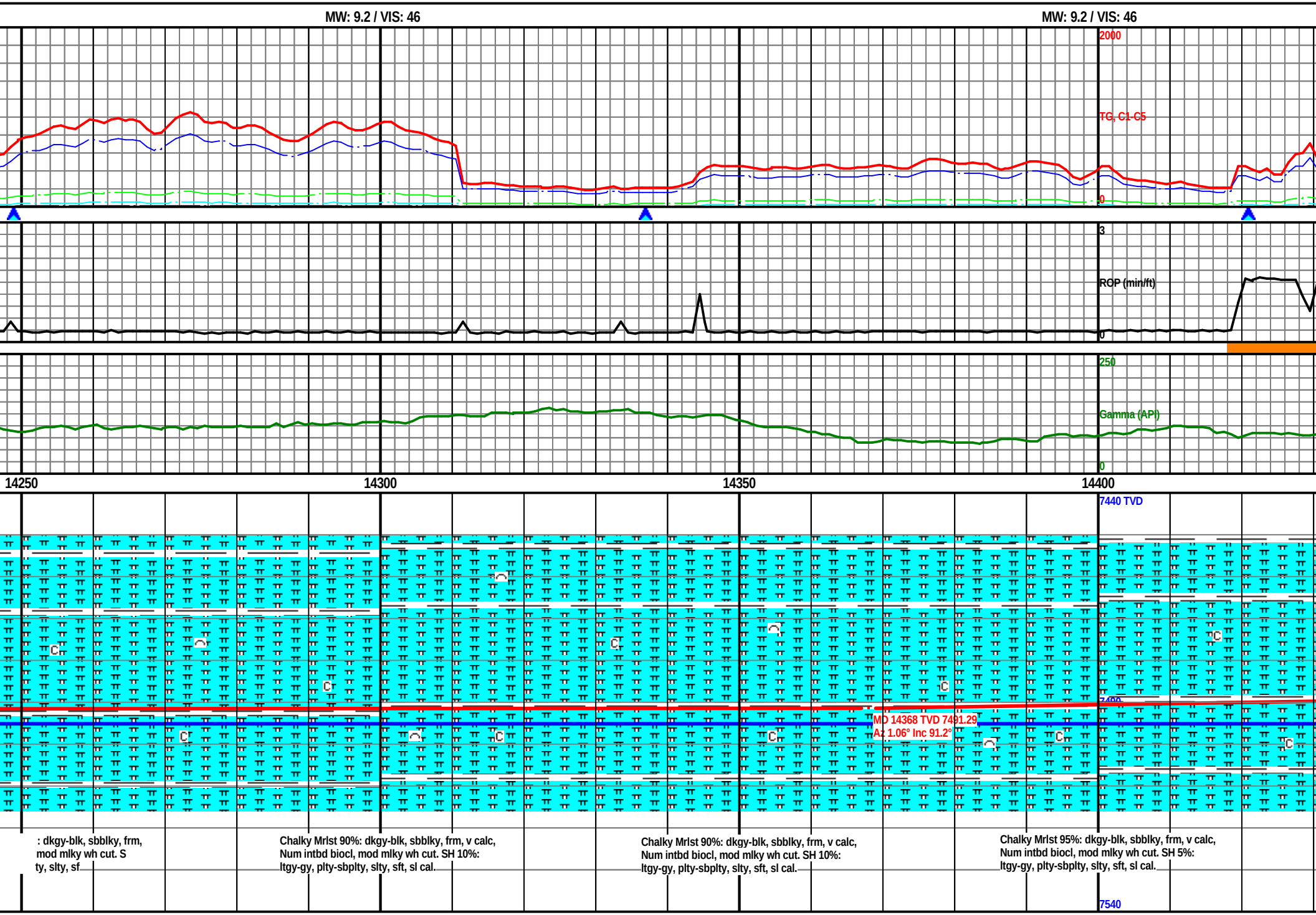

MW: 9.3 / VIS: 47
MW: 9.3 / VIS: 48
per 7
Gas Show #2
13350' - 13430'
2000
TG, C1 C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
13350
13400
13450
13500
7440 TVD
MD 13346 TVD 7481.25
Az 1.75° Inc 90.27°
7490
MD 13400 TVD 7495
Inc 90°
7540
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, O
biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.

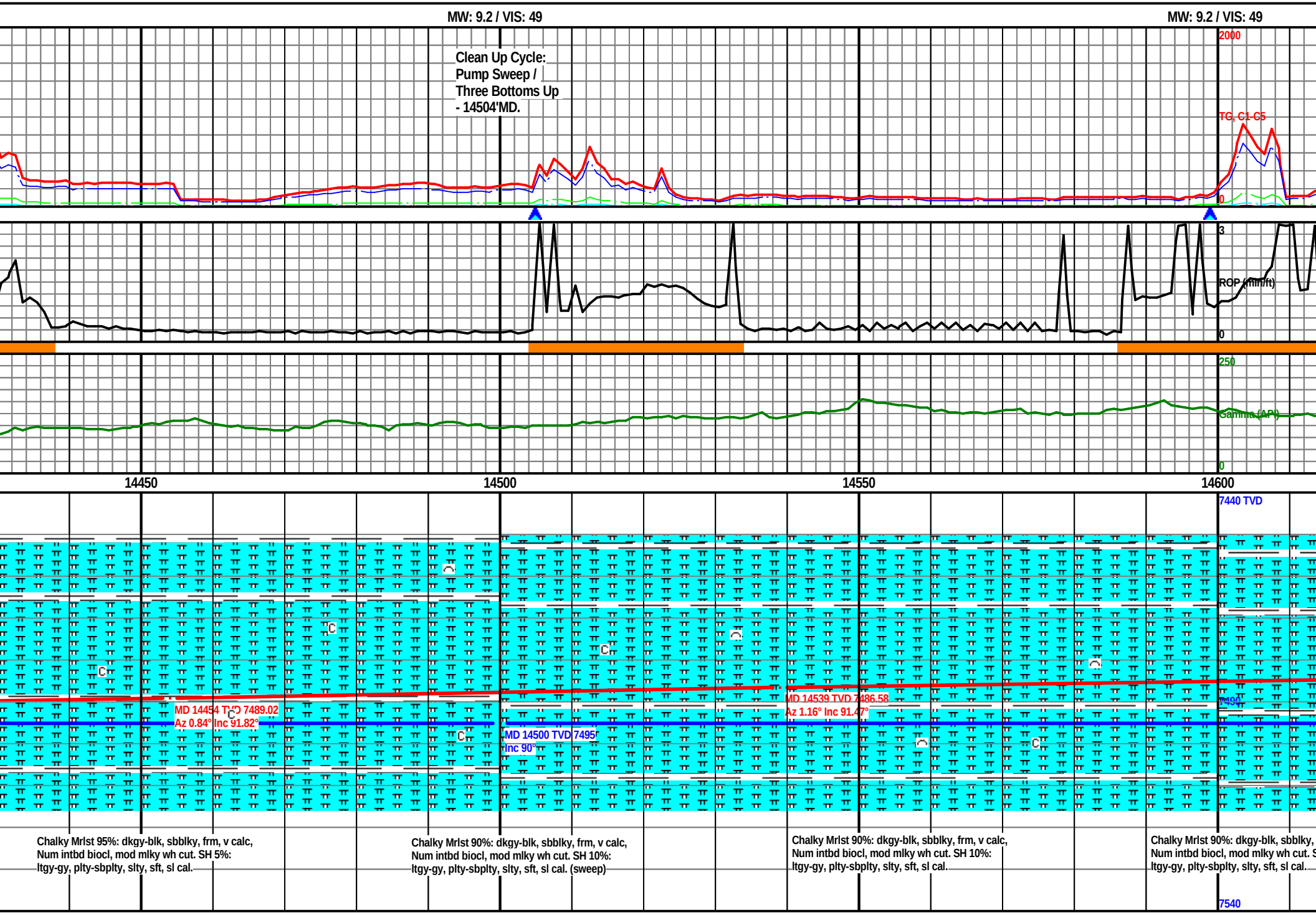

MW: 9.3 / VIS: 47
MW: 9
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
13550
13600
13650
7440 TVD
02/23/14 4:30am Depth @ 13653'MD
MD 13517 TVD 7482.28
Az 1.22° Inc 89.04°
7490
MD 13600 TVD 7495
Inc 90°
MD 13687 TVD
Az 1.4° Inc 89.1
Mrlst 60%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod str wh cut. SH 40%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 85%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 15%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 85%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod str wh cut. SH 15%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 85%: dkg
intbd biocl, mo
plty-sbplty, slty
7540

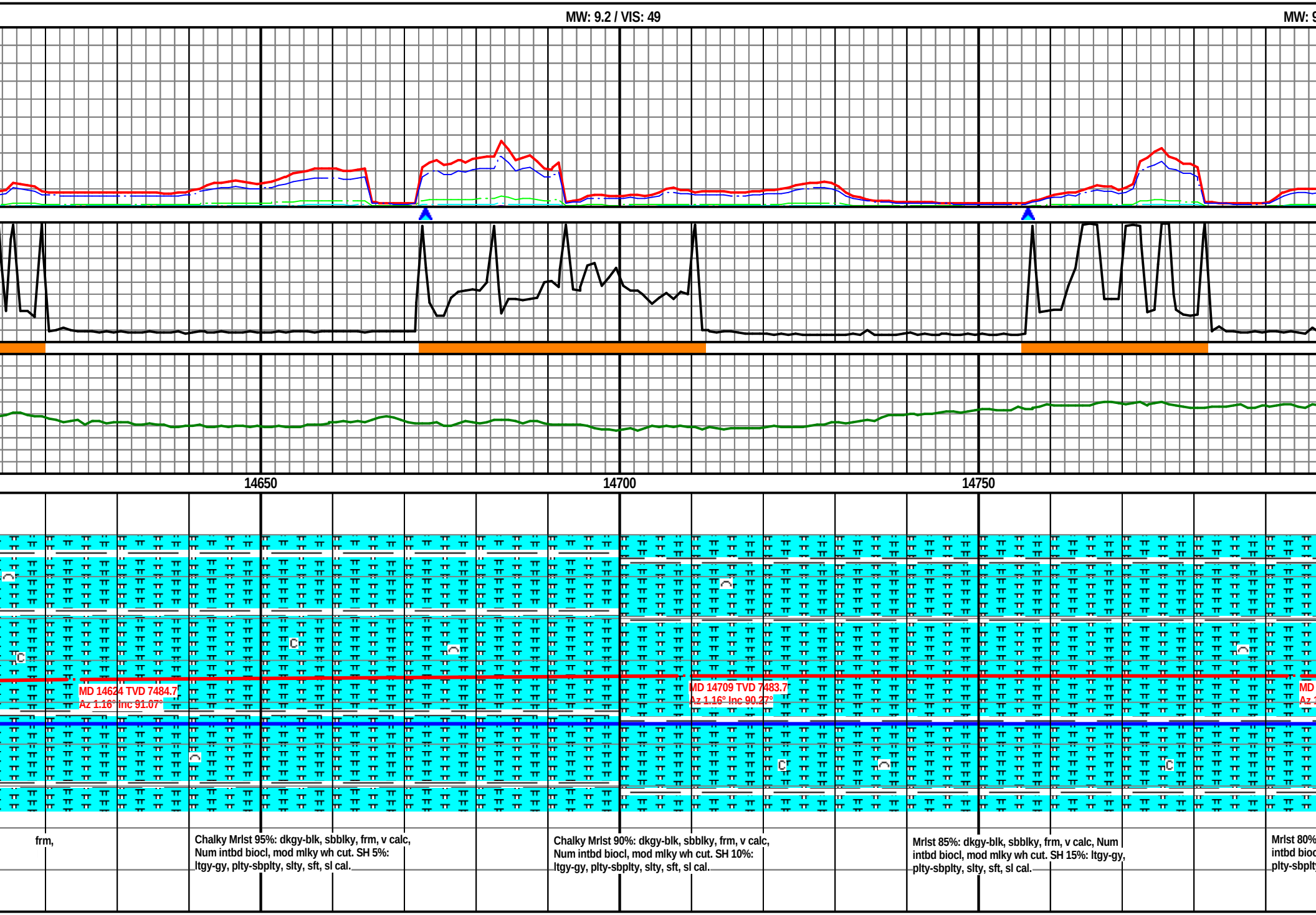

MW: 9.3 / VIS: 45
Trace Oil On Shaker
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
13700
13750
13800
13850
7440 TVD
7490
MD 13800 TVD 7495
Inc 90°
MD 13857 TVD 7487.35
Az 1.45° Inc 89.16°
7540
-blk, sbblky, frm, v cal
d str wh cut. SH 15%: l
, sf
Mrlst 85%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod mlky wh cut. SH 15%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc,
Num intbd biocl, mod mlky wh cut. SH 10%:
ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc,
Num intbd biocl, mod mlky wh cut. SH 10%:
ltgy-gy, plty-sbplty, slty, sft, sl cal.

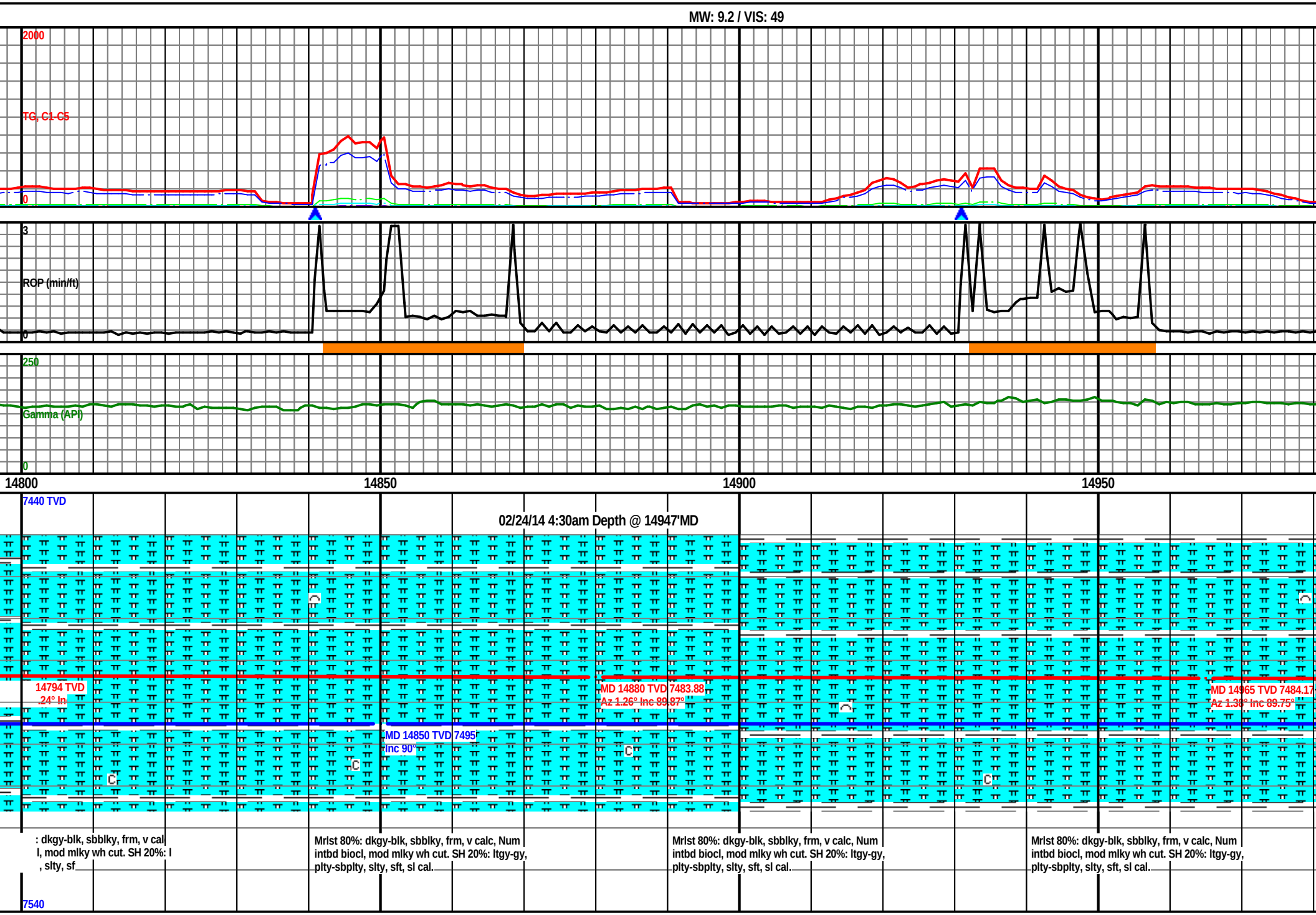

MW: 9.3 / VIS: 44
MW: 9.3 / VIS: 44
Trace Oil On Shaker
Trace Oil On Shaker
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
13900
13950
14000
14050
7440 TVD
MD 14000 TVD 7495
Inc 90°
7540
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 95%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 5%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 95%: dkgy-blk, sbblky, frm, v
Num intbd biocl, mod mlky wh cut. SH 5%
ltgy-gy, plty-sbplty, slty, sft, sl cal.

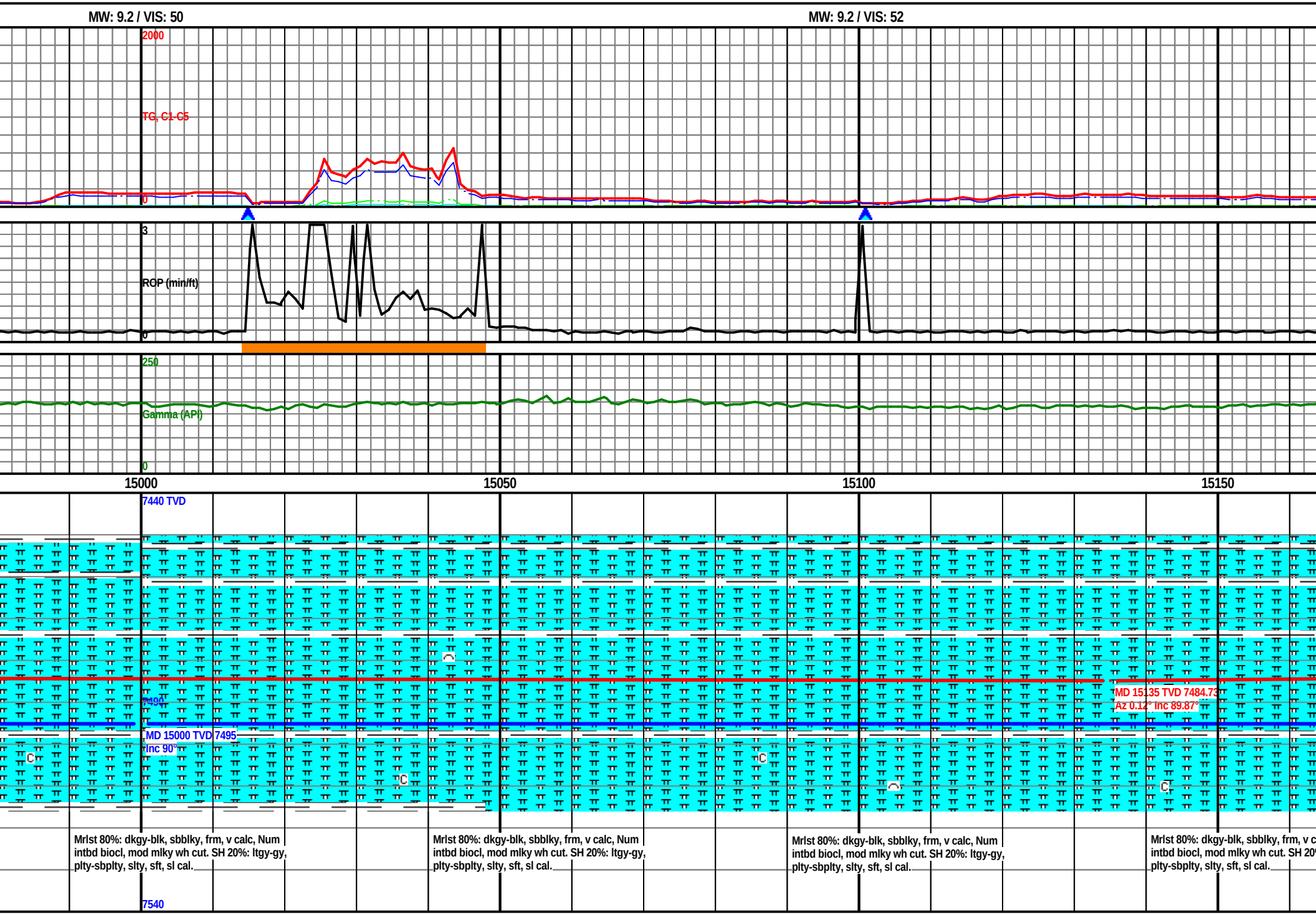

MW: 9.3 / VIS: 44
MW: 9.3 / VIS: 44
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
14100
14150
14200
7440 TVD
7490
MD 14113 TVD 7491.6
Az 1.09° Inc 88.94°
MD 14200 TVD 7495
Inc 90°
7540
Chalky Mrlst 95%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 5%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 95%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 5%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%
Num intbd biocl,
ltgy-gy, plty-sbpl

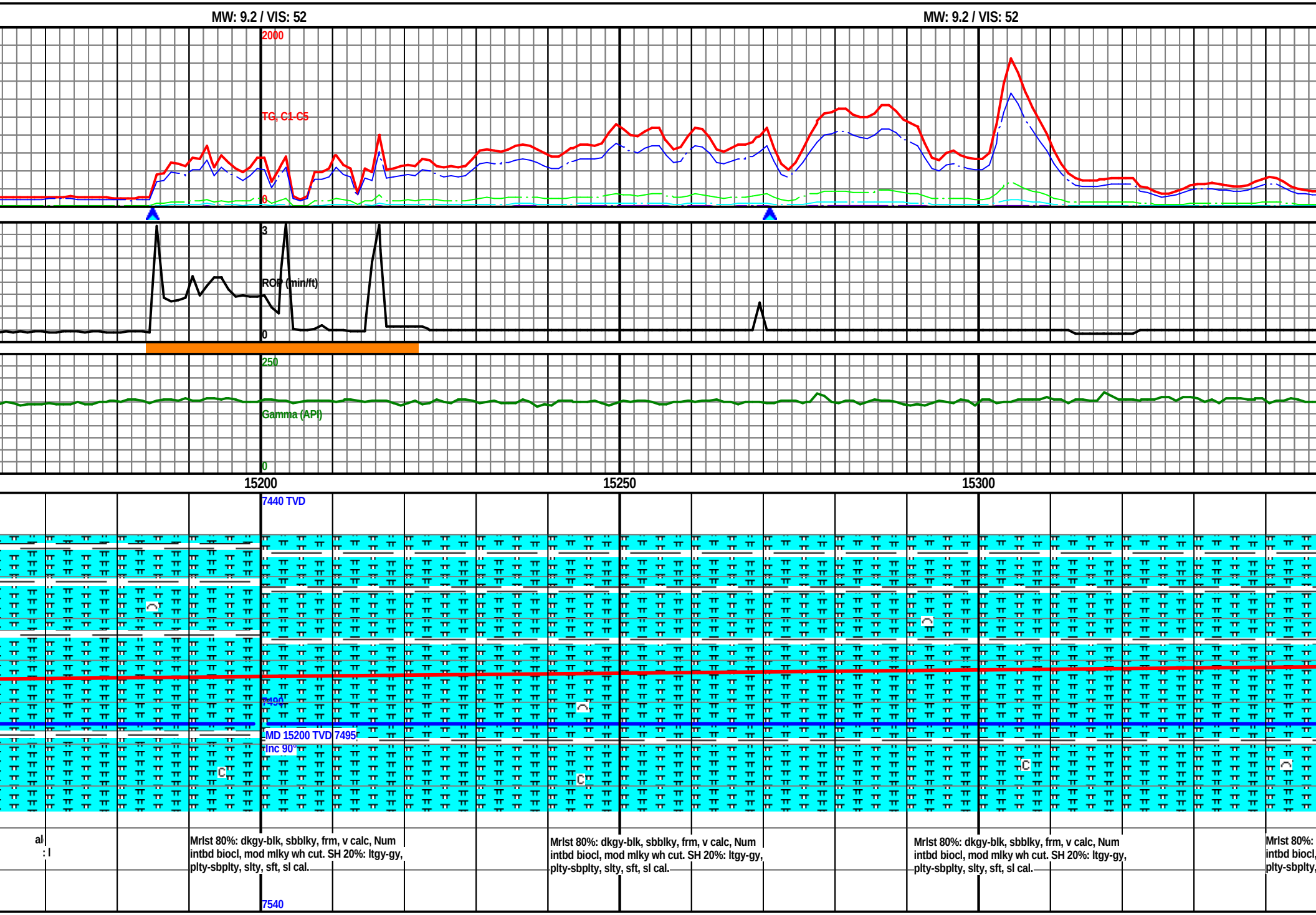

MW: 9.2 / VIS: 46
MW: 9.2 / VIS: 46
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
14250
14300
14350
14400
7440 TVD
MD 14368 TVD 7491.29
Az 1.06° Inc 91.2°
7540
: dkgy-blk, sbblky, frm, mod mlky wh cut. S ty, slty, sf
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 95%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 5%: ltgy-gy, plty-sbplty, slty, sft, sl cal.

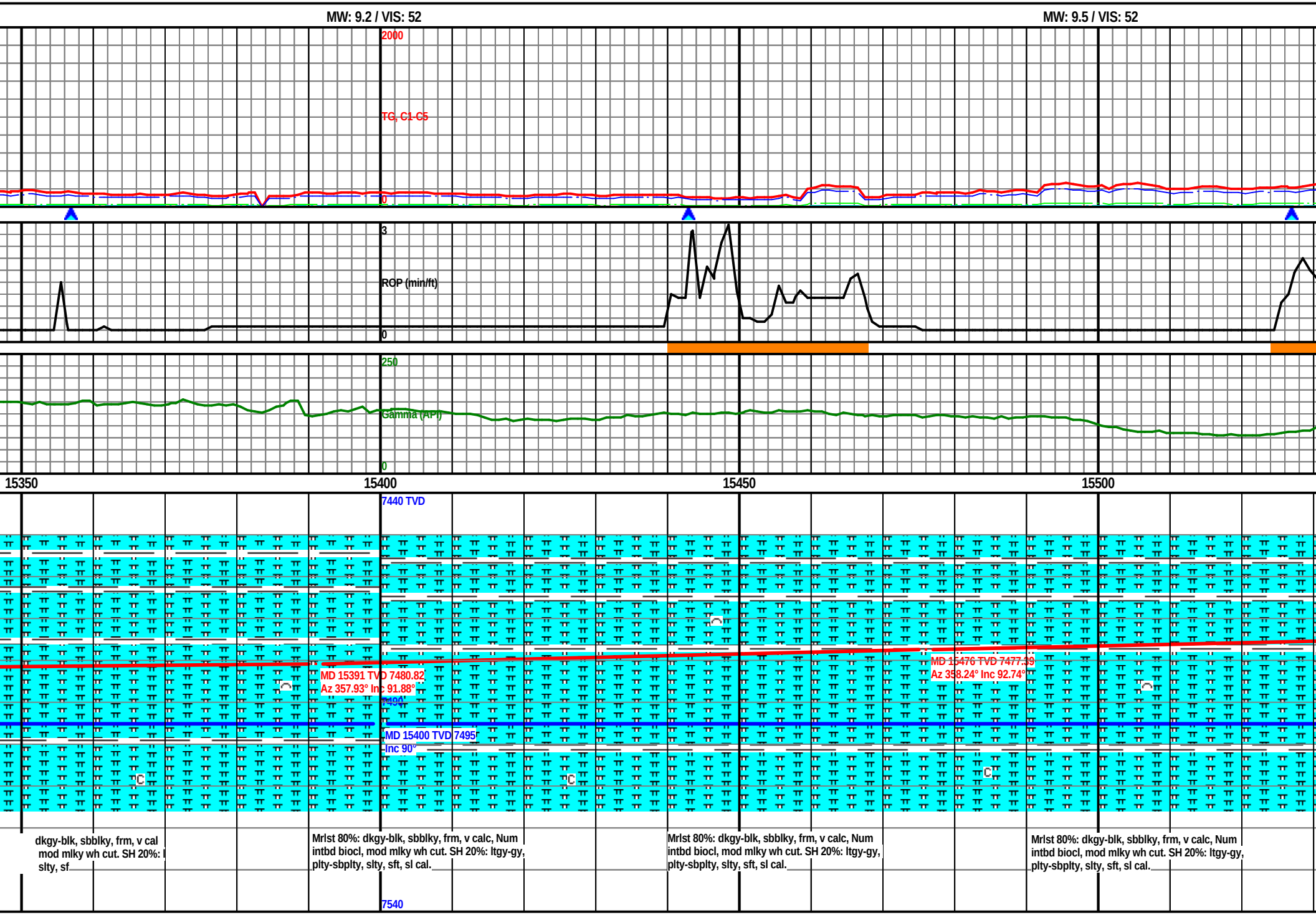

MW: 9.2 / VIS: 49
MW: 9.2 / VIS: 49
Clean Up Cycle:
Pump Sweep /
Three Bottoms Up
- 14504'MD.
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
14450
14500
14550
14600
7440 TVD
7490
7540
MD 14454 TVD 7489.02
Az 0.84° Inc 91.82°
MD 14500 TVD 7495
Inc 90°
MD 14539 TVD 7486.58
Az 1.16° Inc 91.47°
Chalky Mrlst 95%: dkgy-blk, sbblky, frm, v calc,
Num intbd biocl, mod mlky wh cut. SH 5%:
ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc,
Num intbd biocl, mod mlky wh cut. SH 10%:
ltgy-gy, plty-sbplty, slty, sft, sl cal. (sweep)
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc,
Num intbd biocl, mod mlky wh cut. SH 10%:
ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%: dkgy-blk, sbblky,
Num intbd biocl, mod mlky wh cut.
ltgy-gy, plty-sbplty, slty, sft, sl cal.

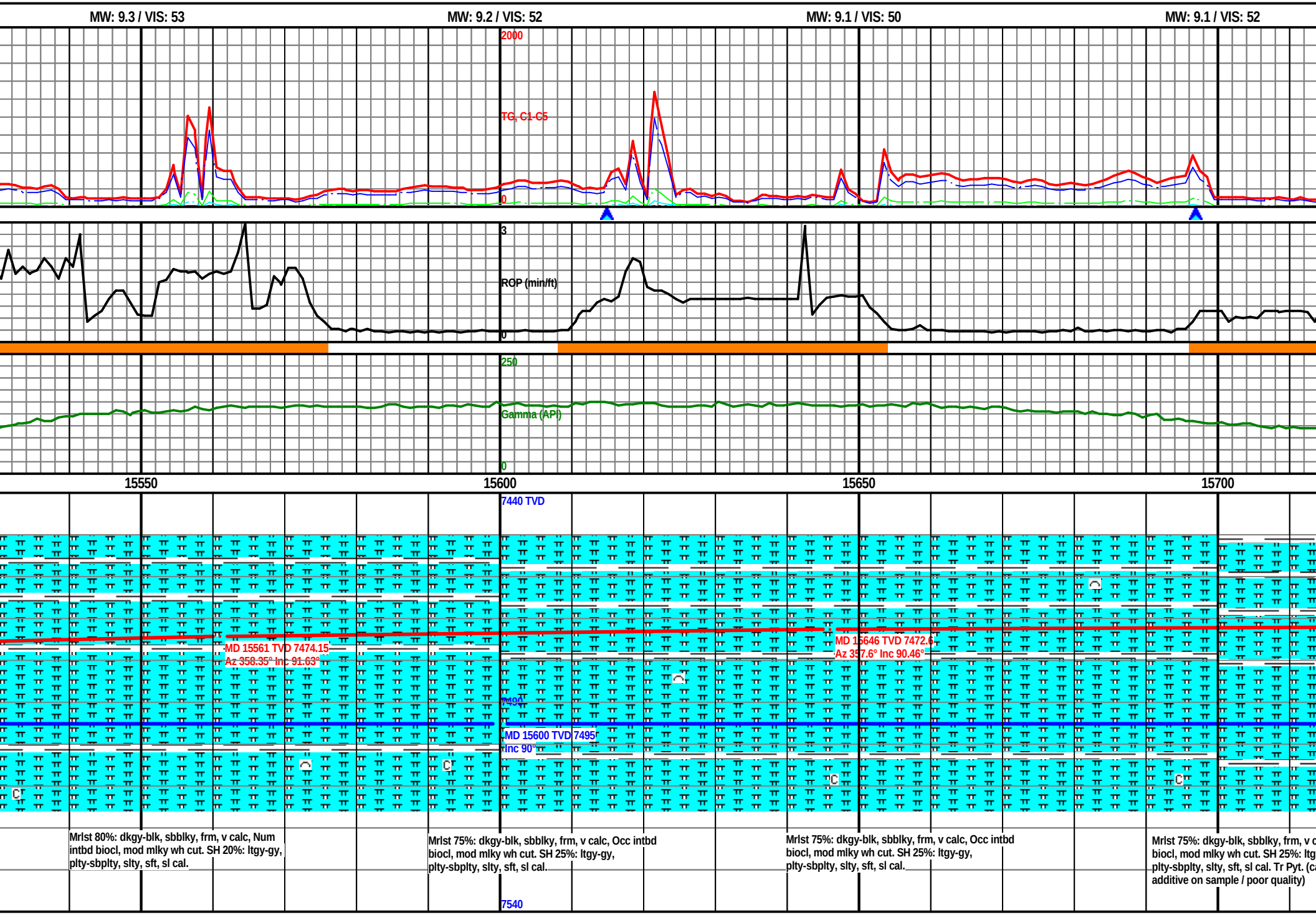

MW: 9.2 / VIS: 49
MW: 9
14650
14700
14750
MD 14624 TVD 7484.7
Az 1.16° Inc 91.07°
MD 14709 TVD 7483.7
Az 1.16° Inc 90.27°
frm,
Chalky Mrlst 95%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 5%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Chalky Mrlst 90%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 10%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 85%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 15%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%
intbd bioc
plty-sbplt

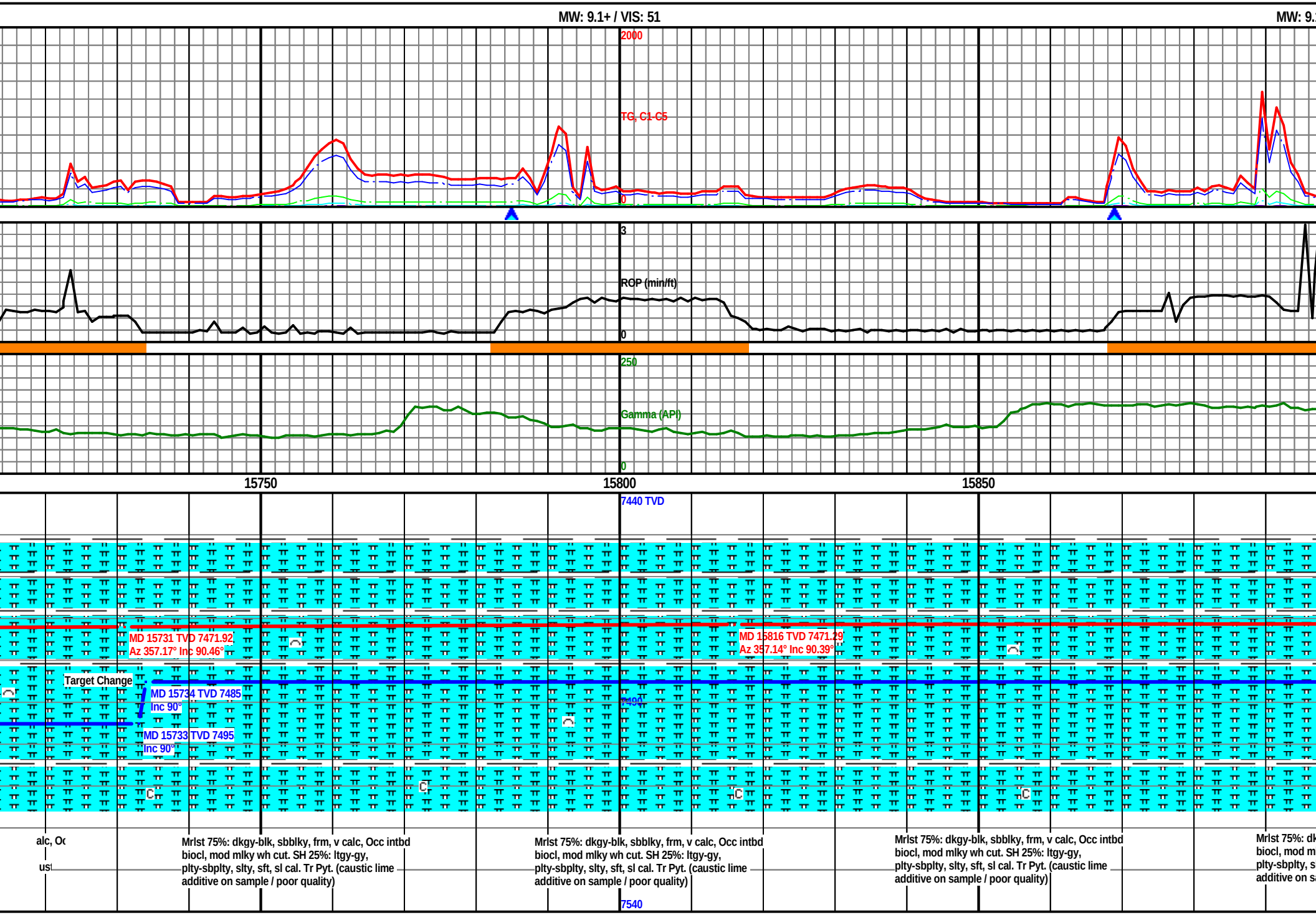

MW: 9.2 / VIS: 49
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
14800
14850
14900
14950
7440 TVD
02/24/14 4:30am Depth @ 14947'MD
14794 TVD
.24° In
MD 14850 TVD 7495'
Inc 90°
MD 14880 TVD 7483.88
Az 1.26° Inc 89.87°
MD 14965 TVD 7484.17
Az 1.38° Inc 89.75°
: dkgy-blk, sbblky, frm, v cal
l, mod mlky wh cut. SH 20%: l
, slty, sf
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
7540

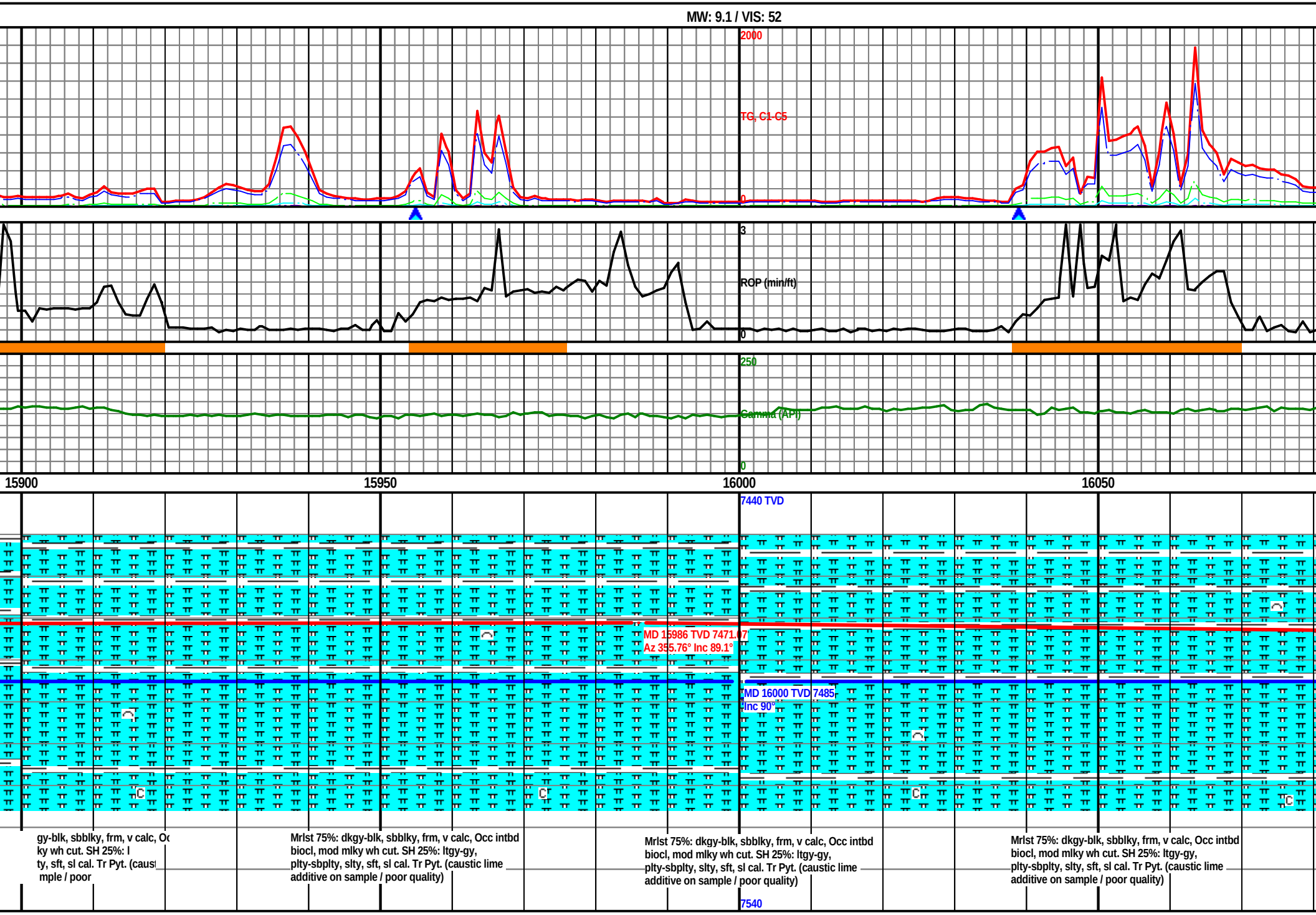

MW: 9.2 / VIS: 50
MW: 9.2 / VIS: 52
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
15000
15050
15100
15150
7440 TVD
7490
MD 15000 TVD 7495
Inc 90°
MD 15135 TVD 7484.73
Az 0.12° Inc 89.87°
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v c
intbd biocl, mod mlky wh cut. SH 20
plty-sbplty, slty, sft, sl cal.
7540

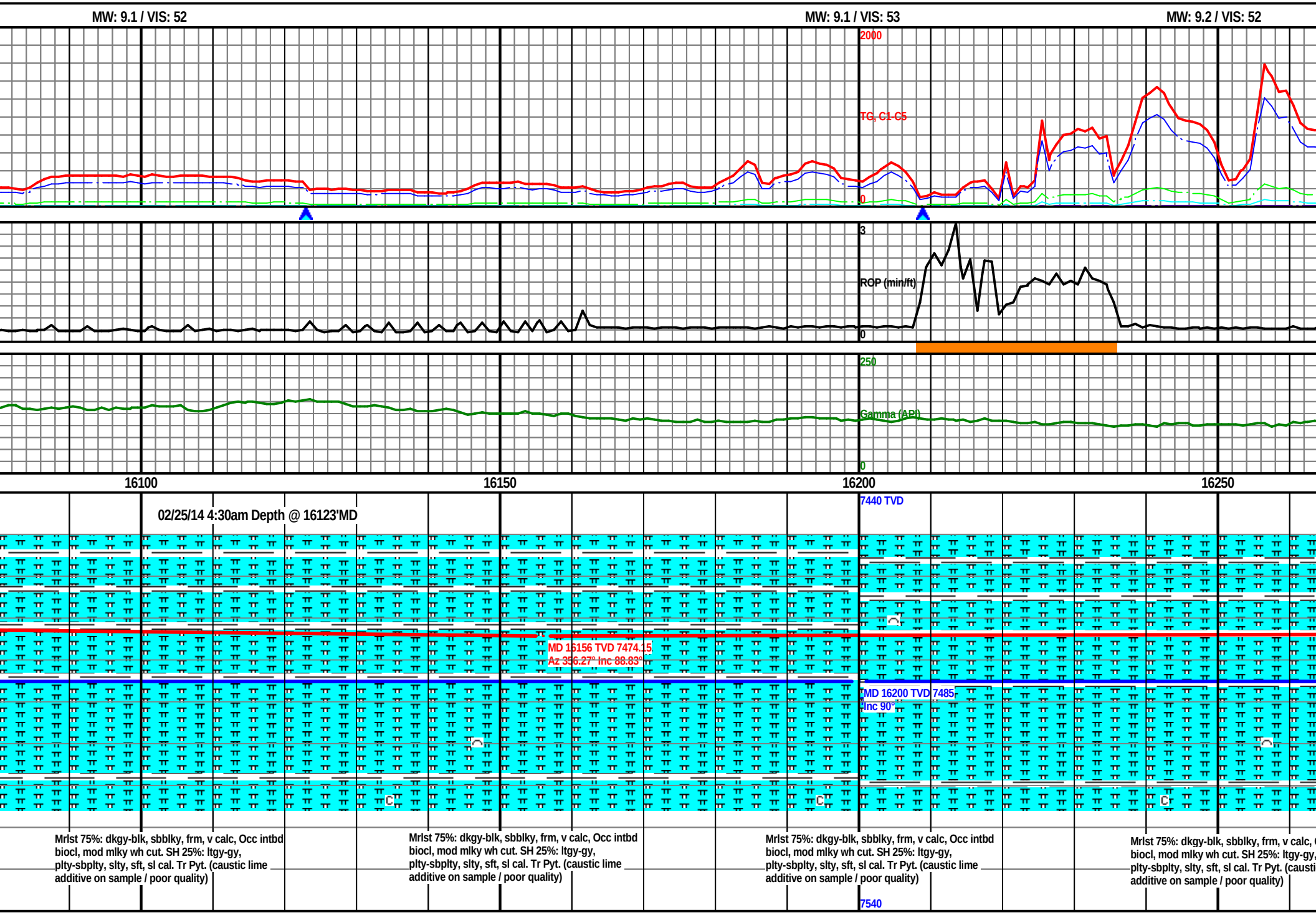

MW: 9.2 / VIS: 52
MW: 9.2 / VIS: 52
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
15200
15250
15300
7440 TVD
7490
MD 15200 TVD 7495
Inc 90°
7540
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.

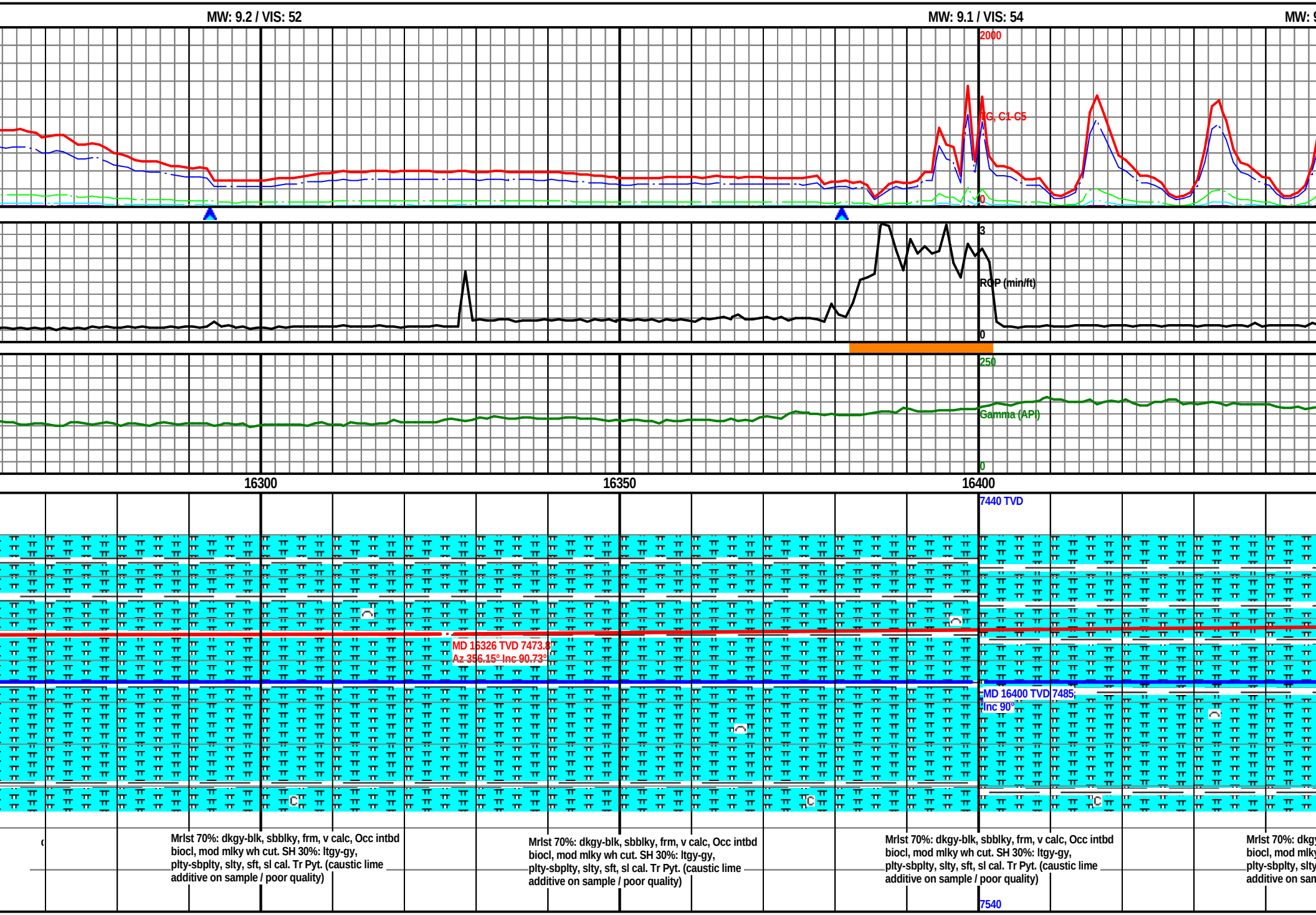

MW: 9.2 / VIS: 52
MW: 9.5 / VIS: 52
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
15350
15400
15450
15500
7440 TVD
MD 15391 TVD 7480.82
Az 357.93° Inc 91.88°
7490
MD 15400 TVD 7495
Inc 90°
MD 15476 TVD 7477.39
Az 358.24° Inc 92.74°
dkgy-blk, sbblky, frm, v cal
mod mlky wh cut. SH 20%:
slty, sf
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num
intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy,
plty-sbplty, slty, sft, sl cal.
7540

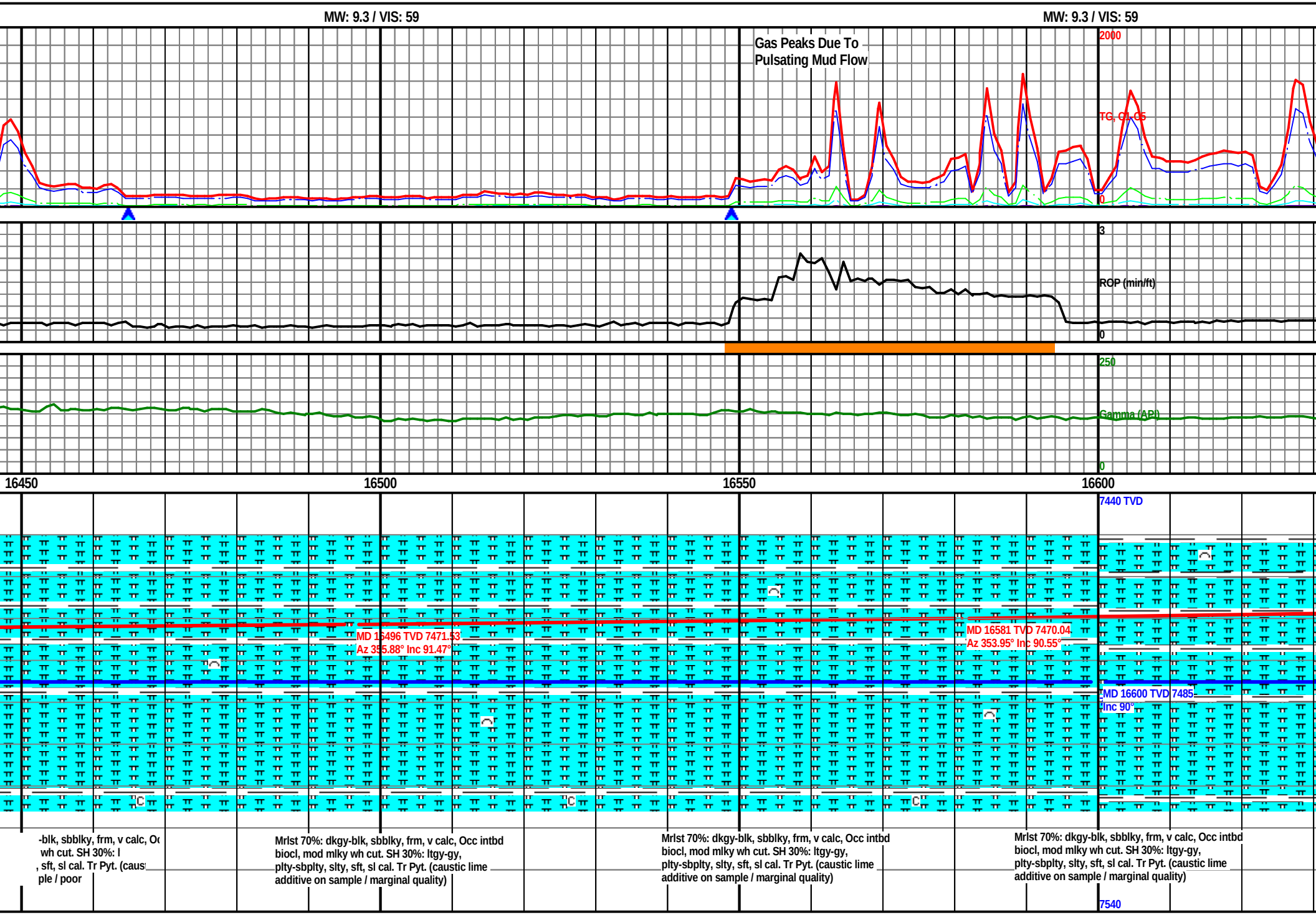

MW: 9.3 / VIS: 53
MW: 9.2 / VIS: 52
MW: 9.1 / VIS: 50
MW: 9.1 / VIS: 52
2000
TG, C1 C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
15550
15600
15650
15700
7440 TVD
MD 15561 TVD 7474.15
Az 358.35° Inc 91.63°
7490
MD 15600 TVD 7495
Inc 90°
MD 15646 TVD 7472.6
Az 357.6° Inc 90.46°
7540
Mrlst 80%: dkgy-blk, sbblky, frm, v calc, Num intbd biocl, mod mlky wh cut. SH 20%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal.
Mrlst 75%: dkgy-blk, sbblky, frm, v c
biocl, mod mlky wh cut. SH 25%: ltg
plty-sbplty, slty, sft, sl cal. Tr Pyt. (c
additive on sample / poor quality)

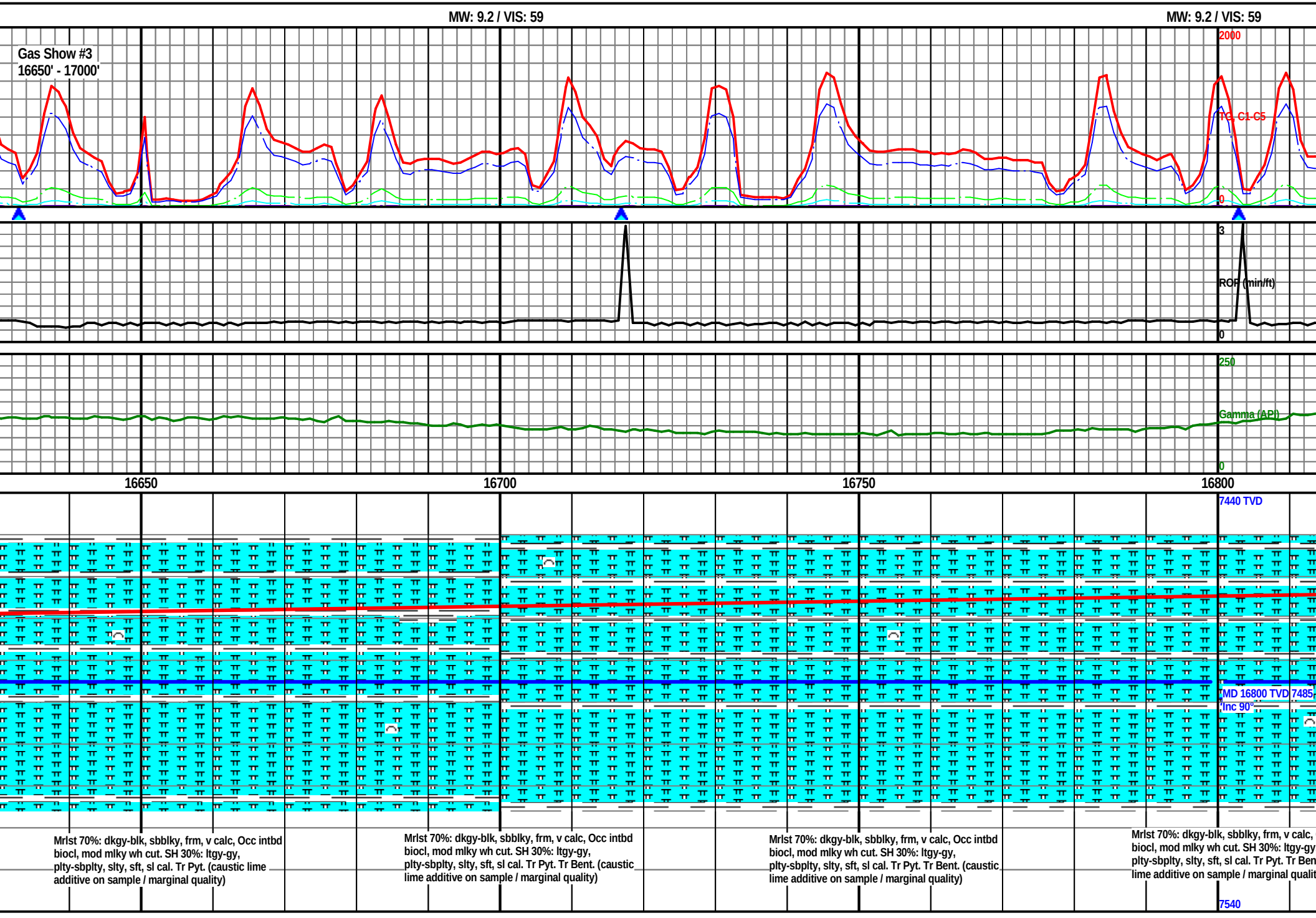

MW: 9.1+ / VIS: 51
MW: 9.
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
15750
15800
15850
7440 TVD
MD 15731 TVD 7471.92
Az 357.17° Inc 90.46°
MD 15816 TVD 7471.29
Az 357.14° Inc 90.39°
Target Change
MD 15734 TVD 7485
Inc 90°
MD 15733 TVD 7495
Inc 90°
7490
7540
alc, Oc
us
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)
Mrlst 75%: dk
biocl, mod m
plty-sbplty, s
additive on s

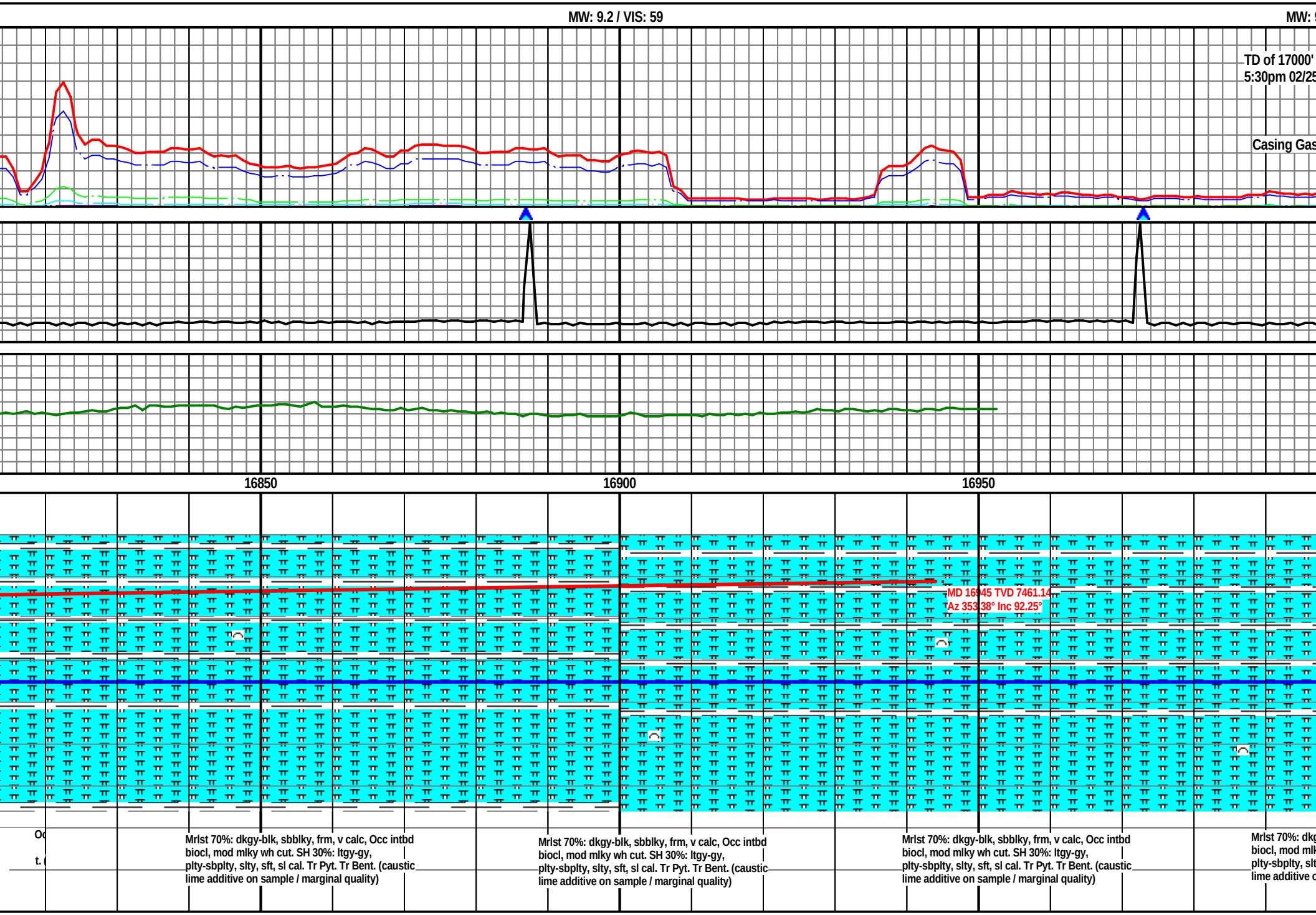

MW: 9.1 / VIS: 52
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
15900
15950
16000
16050
7440 TVD
MD 15986 TVD 7471.07
Az 355.76° Inc 89.1°
MD 16000 TVD 7485
Inc 90°
7540
gy-blk, sbblky, frm, v calc, Oc
ky wh cut. SH 25%: l
ty, sft, sl cal. Tr Pyt. (caus
mple / poor
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod mlky wh cut. SH 25%: ltgy-gy,
plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime
additive on sample / poor quality)
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod mlky wh cut. SH 25%: ltgy-gy,
plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime
additive on sample / poor quality)
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod mlky wh cut. SH 25%: ltgy-gy,
plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime
additive on sample / poor quality)

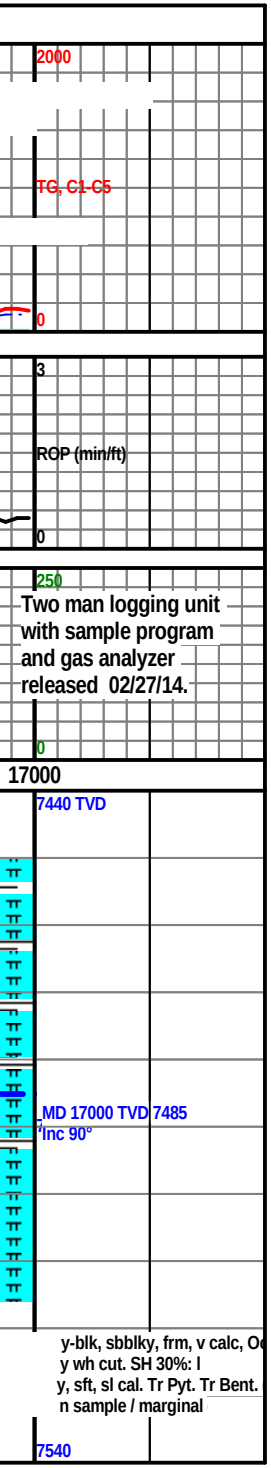

MW: 9.1 / VIS: 52
MW: 9.1 / VIS: 53
MW: 9.2 / VIS: 52
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
16100
16150
16200
16250
02/25/14 4:30am Depth @ 16123'MD
7440 TVD
MD 16156 TVD 7474.15
Az 356.27° Inc 88.83°
MD 16200 TVD 7485
Inc 90°
7540
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)
Mrlst 75%: dkgy-blk, sbblky, frm, v calc, biocl, mod mlky wh cut. SH 25%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caust additive on sample / poor quality)


MW: 9.2 / VIS: 52
MW: 9.1 / VIS: 54
MW: 9
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
16300
16350
16400
7440 TVD
MD 16326 TVD 7473.8'
Az 356.15° Inc 90.73°
MD 16400 TVD 7485'
Inc 90°
7540
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / poor quality)


MW: 9.3 / VIS: 59
MW: 9.3 / VIS: 59
Gas Peaks Due To
Pulsating Mud Flow
2000
TG, C1, C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
16450
16500
16550
16600
7440 TVD
MD 16496 TVD 7471.53
Az 355.88° Inc 91.47°
MD 16581 TVD 7470.04
Az 353.95° Inc 90.55°
MD 16600 TVD 7485
Inc 90°
7540
-blk, sbblky, frm, v calc, Oc
wh cut. SH 30%: l
, sft, sl cal. Tr Pyt. (caus
ple / poor
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod mlky wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime
additive on sample / marginal quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod mlky wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime
additive on sample / marginal quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd
biocl, mod mlky wh cut. SH 30%: ltgy-gy,
plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime
additive on sample / marginal quality)


MW: 9.2 / VIS: 59
MW: 9.2 / VIS: 59
Gas Show #3
16650' - 17000'
2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
16650
16700
16750
16800
7440 TVD
MD 16800 TVD 7485
Inc 90°
7540
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. (caustic lime additive on sample / marginal quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. Tr Bent. (caustic lime additive on sample / marginal quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. Tr Bent. (caustic lime additive on sample / marginal quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, biocl, mod mlky wh cut. SH 30%: ltgy-gy plty-sbplty, slty, sft, sl cal. Tr Pyt. Tr Ben lime additive on sample / marginal qualit


MW: 9.2 / VIS: 59
TD of 17000'
5:30pm 02/25
Casing Gas
16850
16900
16950
MD 16945 TVD 7461.14
Az 353.38° Inc 92.25°
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. Tr Bent. (caustic lime additive on sample / marginal quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. Tr Bent. (caustic lime additive on sample / marginal quality)
Mrlst 70%: dkgy-blk, sbblky, frm, v calc, Occ intbd biocl, mod mlky wh cut. SH 30%: ltgy-gy, plty-sbplty, slty, sft, sl cal. Tr Pyt. Tr Bent. (caustic lime additive on sample / marginal quality)


2000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Two man logging unit
with sample program
and gas analyzer
released 02/27/14.
0
17000
7440 TVD
MD 17000 TVD 7485
Inc 90°
y-blk, sbblky, frm, v calc, Oc
y wh cut. SH 30%: l
y, sft, sl cal. Tr Pyt. Tr Bent.
n sample / marginal
7540