Scale 1:600 (2"=100') Metric
Measured Depth Log

Well Name:	NRC 29N-32HZ		
Location:	Weld County, CO		
License Number:	0512339293	Region:	DJ Basin
Spud Date:	5/9/2014	Drilling Completed:	5/27/2014
Surface Coordinates:	612' FNL 2035' FWL Sec 8, T1N, R67W		
Bottom Hole Coordinates:	1' FNL 1535' FWL Sec 32, T2N, R67W		
Ground Elevation (m):	5035'	K.B. Elevation (m):	5060'
Logged Interval (m):	7700' To: 18522'	Total Depth (m):	18522'
Formation:	Niobrara B		
Type of Drilling Fluid:	Water Based Mud		

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

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

GEOLOGIST

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

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
Spr calc
Pyr
Salt
Sandy
Silt
Sil
Sulphur
Tuff
New symbol
New symbol

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

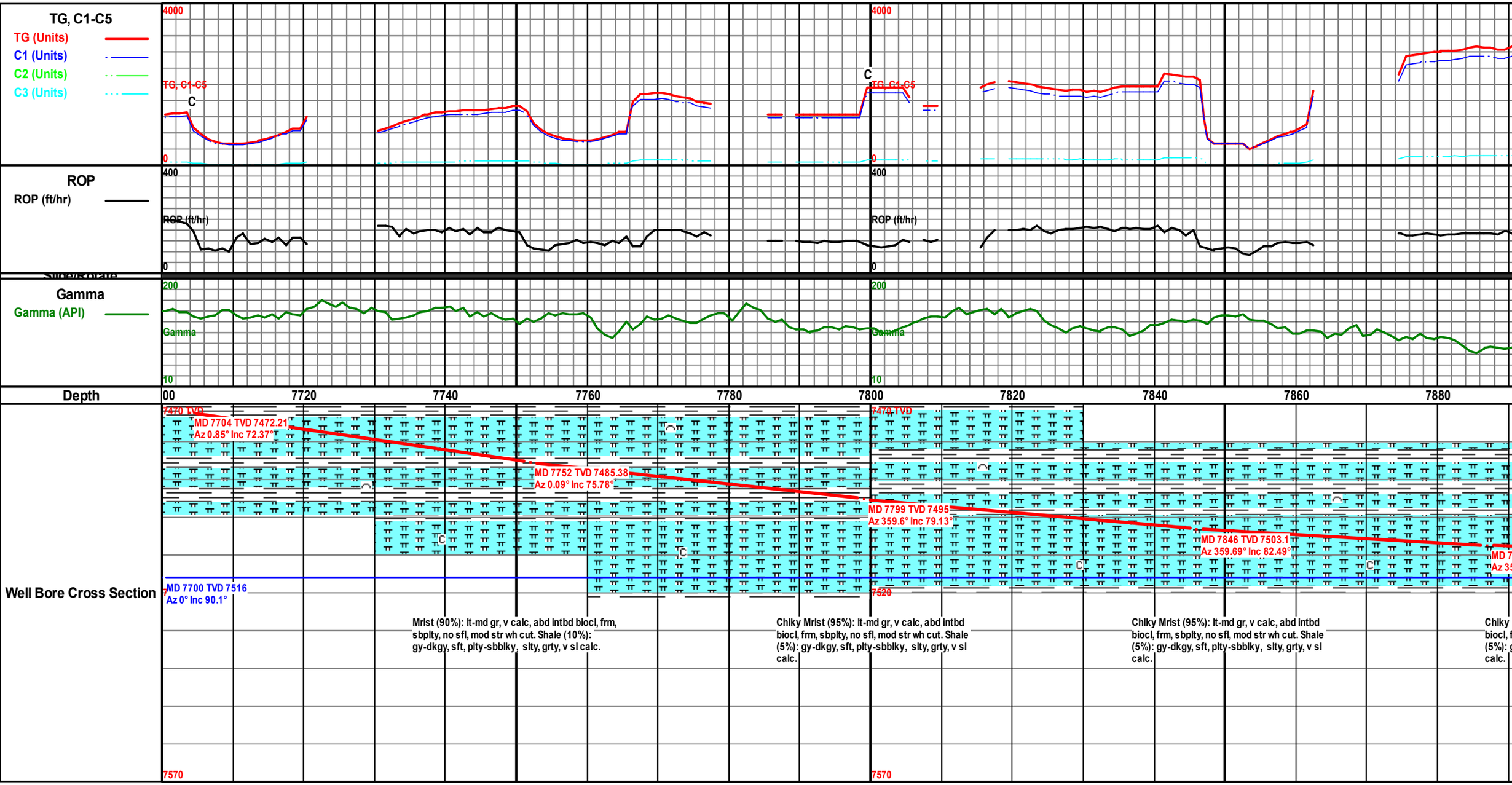
SORTING
- Well
- Moderate
- Poor

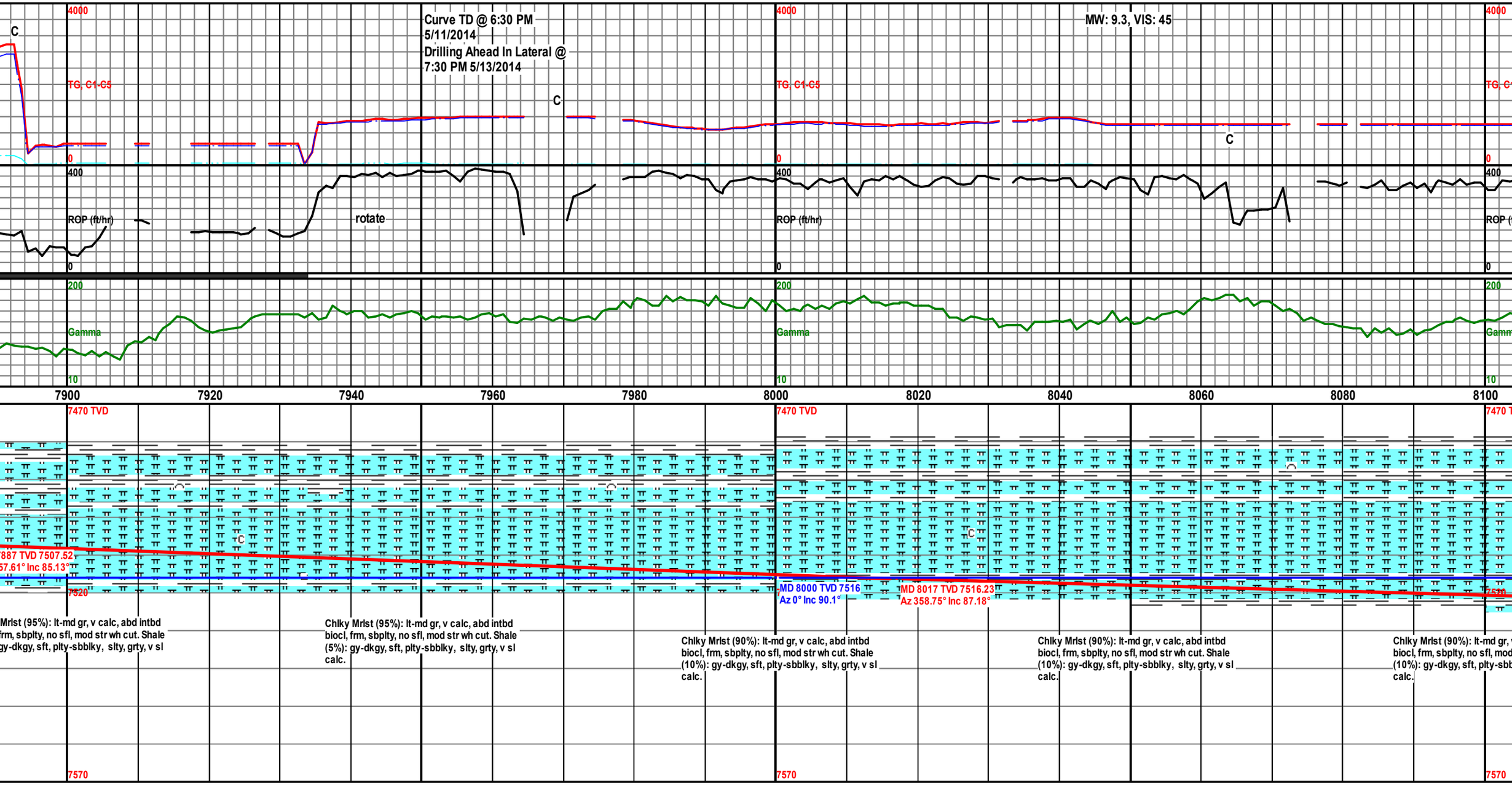
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

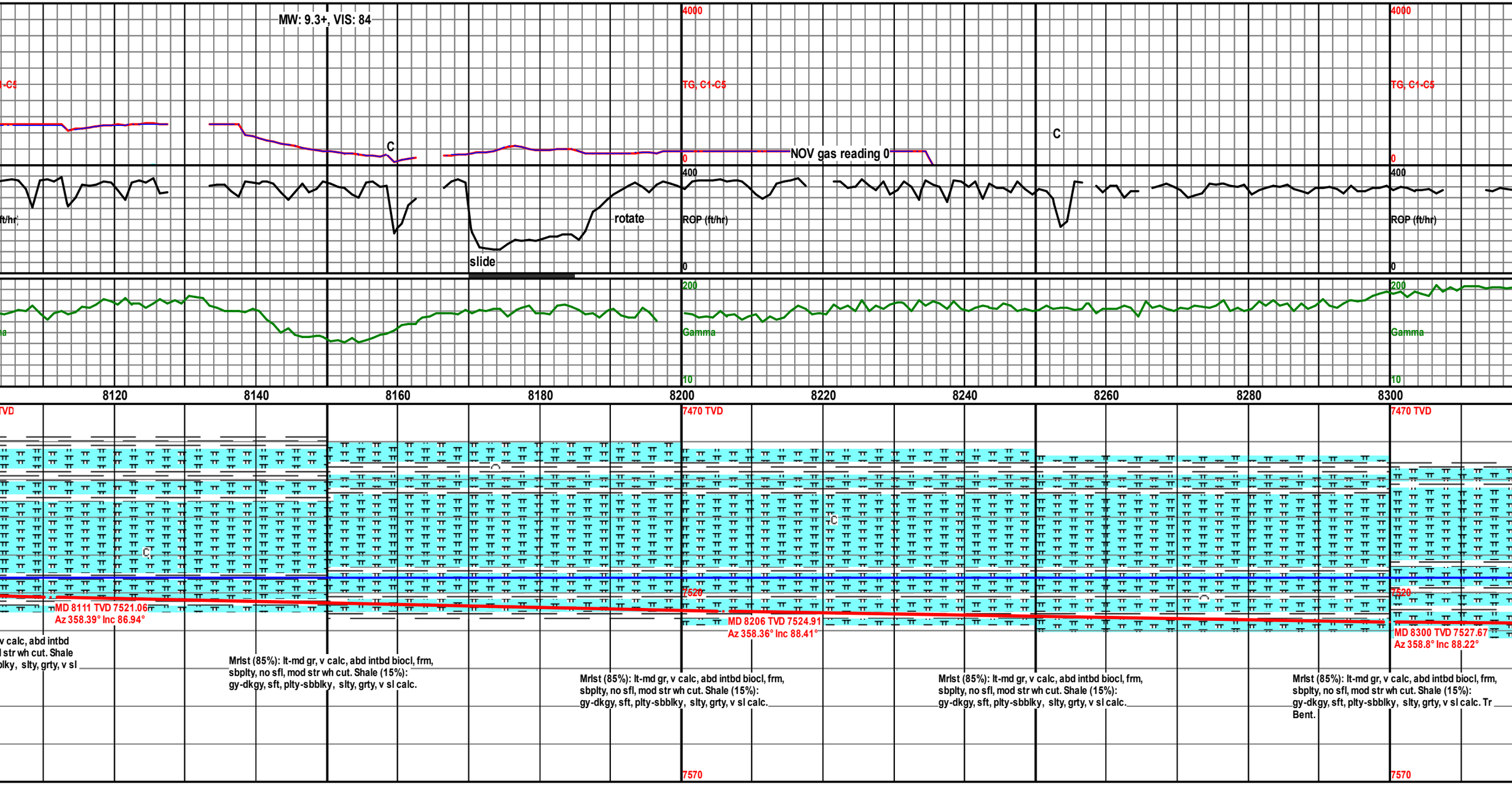
OIL SHOW
- Even
- Spotted
- Ques
- Dead

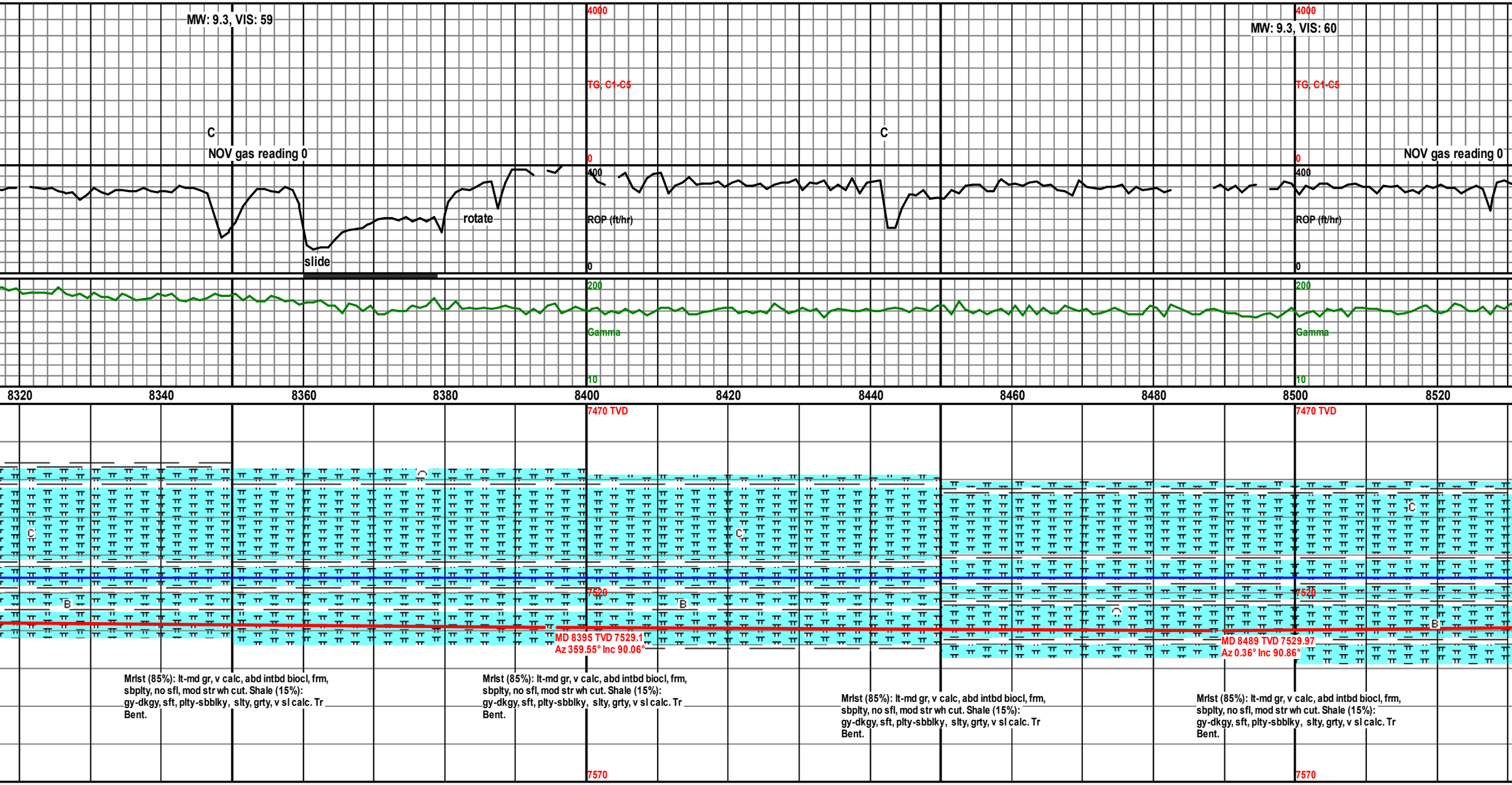
INTERVAL
- Core
- Dst

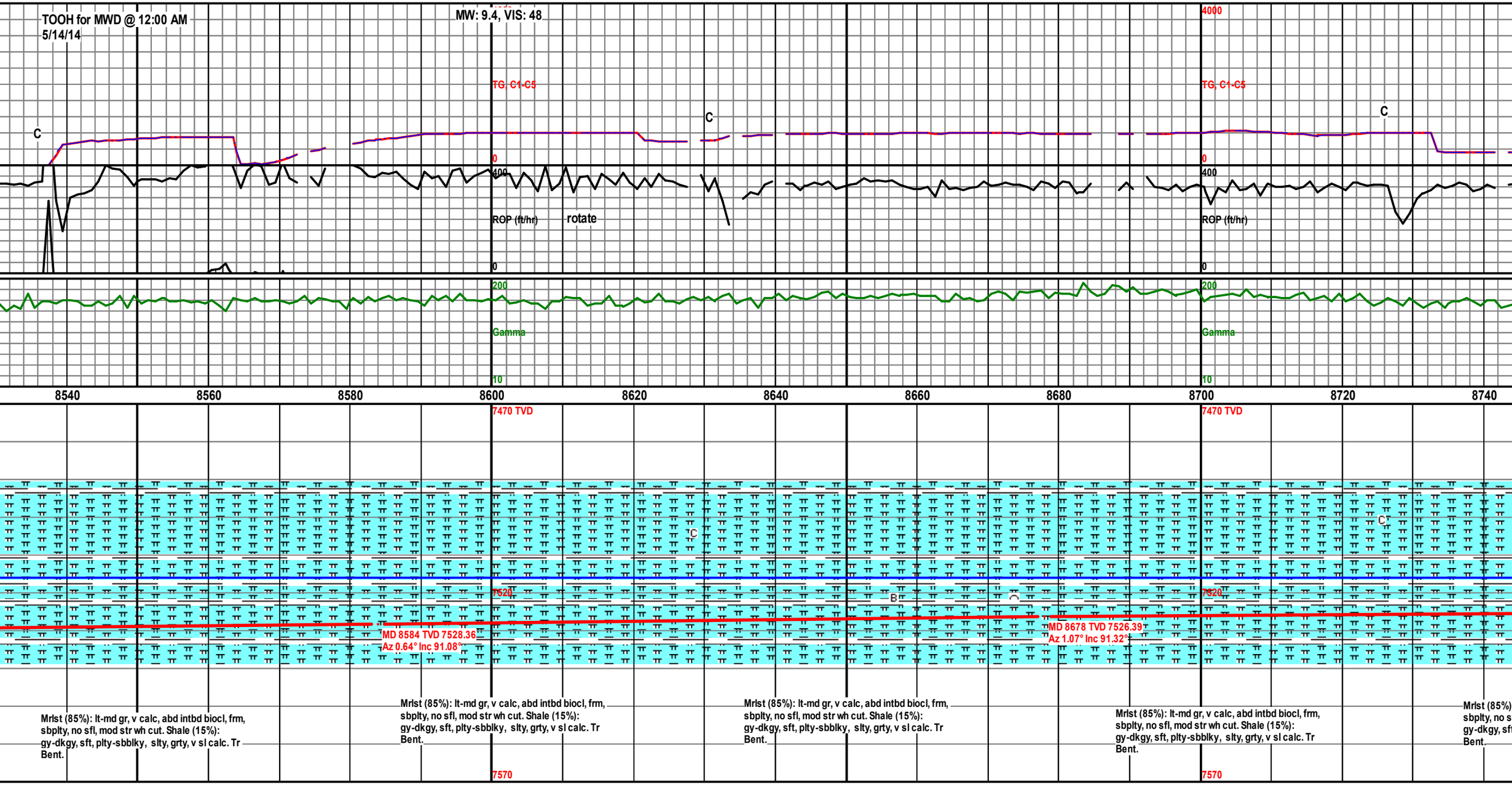
EVENT
- Rft
- Sidewall

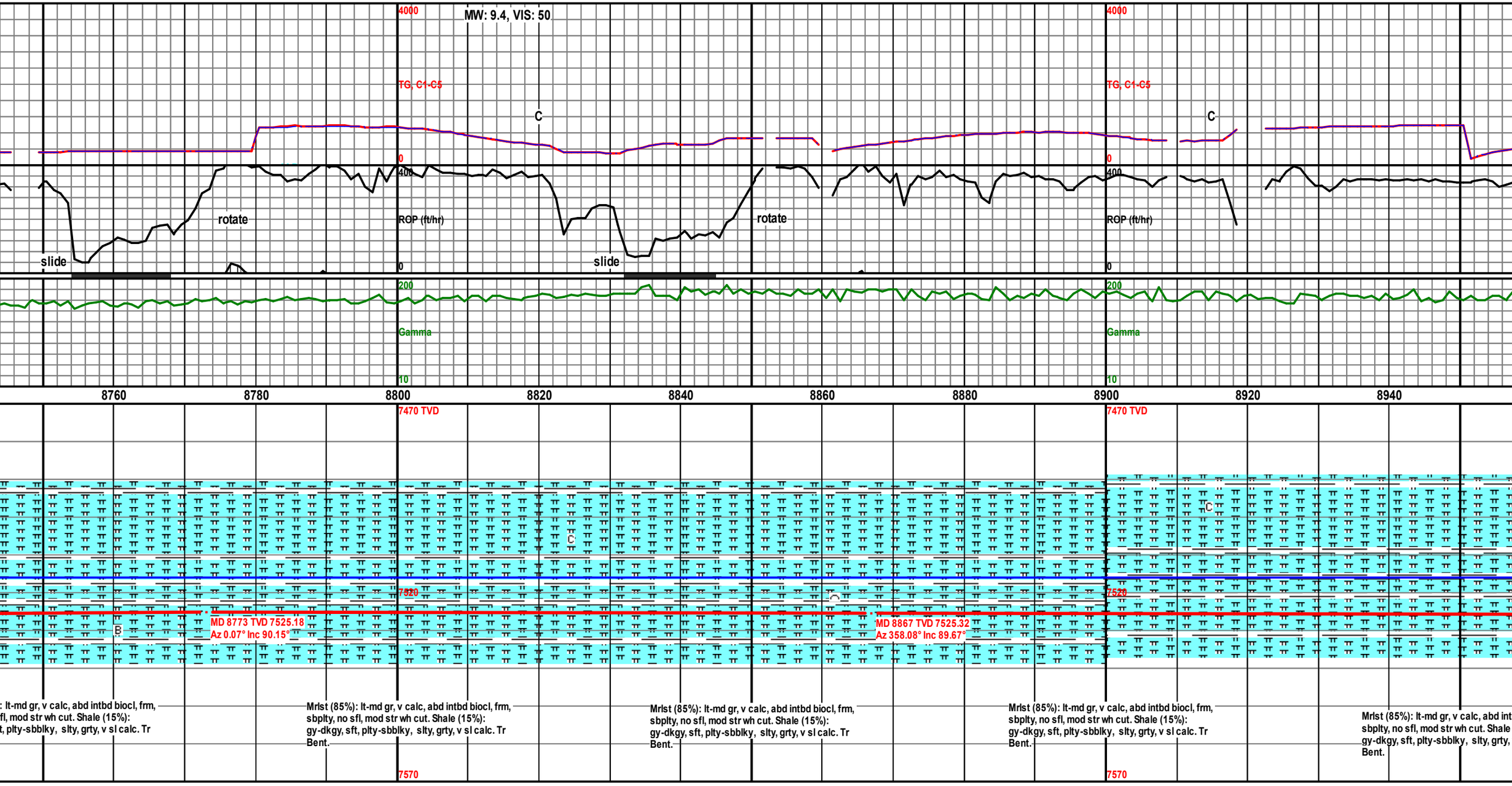

TG, C1-C5
TG (Units)
C1 (Units)
C2 (Units)
C3 (Units)
4000
TG, C1-C5
C
0
ROP
ROP (ft/hr)
400
ROP (ft/hr)
0
Gamma
Gamma (API)
200
Gamma
10
Depth
00
7720
7740
7760
7780
7800
7820
7840
7860
7880
Well Bore Cross Section
7470 TVD
MD 7704 TVD 7472.21
Az 0.85° Inc 72.37°
MD 7752 TVD 7485.38
Az 0.09° Inc 75.78°
MD 7799 TVD 7495
Az 359.6° Inc 79.13°
MD 7846 TVD 7503.1
Az 359.69° Inc 82.49°
MD 7700 TVD 7516
Az 0° Inc 90.1°
7520
7570
Mrlst (90%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (95%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (5%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (95%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (5%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.

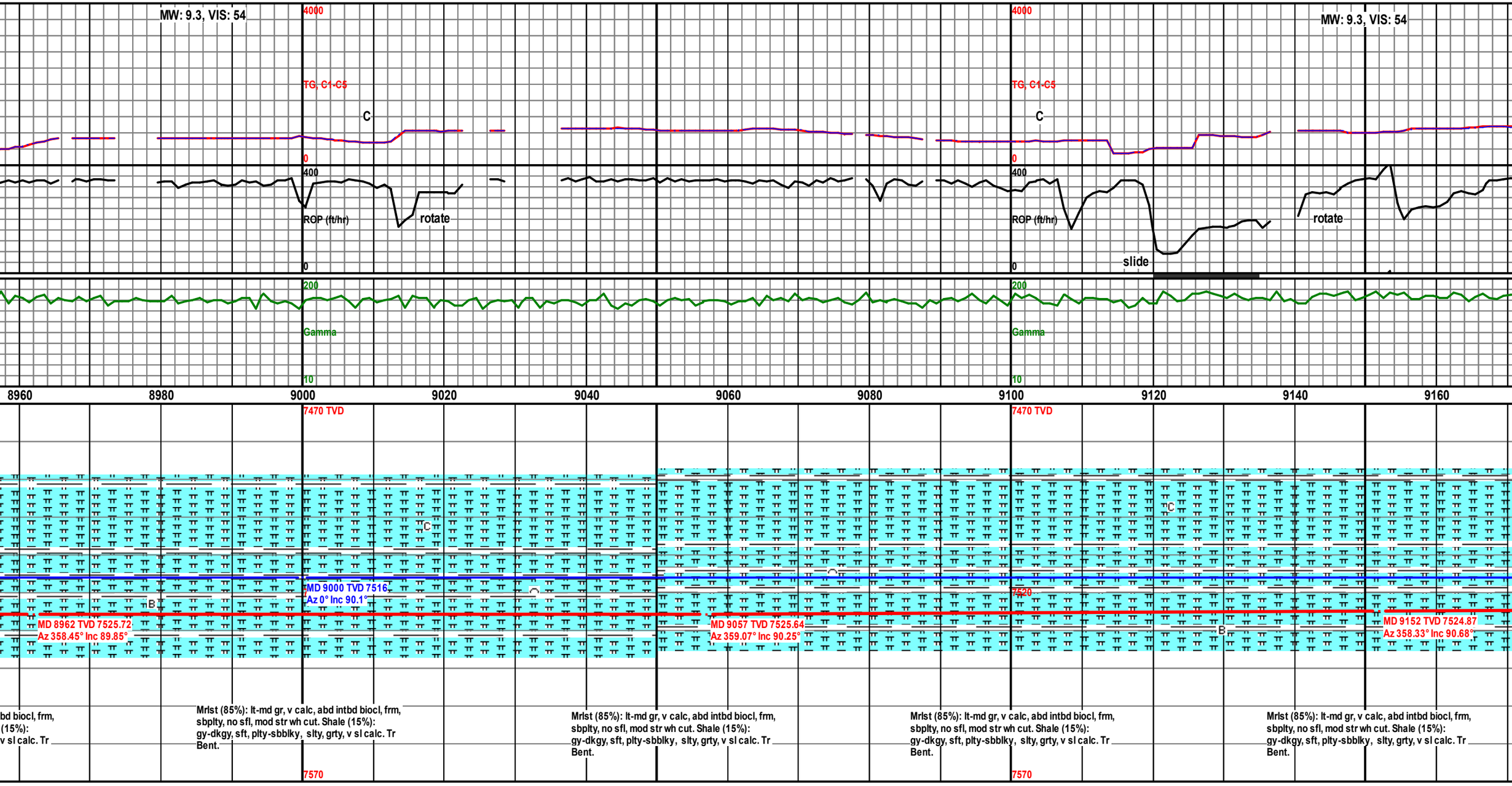

Curve TD @ 6:30 PM
5/11/2014
Drilling Ahead In Lateral @
7:30 PM 5/13/2014
MW: 9.3, VIS: 45
TG, C1-C5
ROP (ft/hr)
rotate
Gamma
7900
7920
7940
7960
7980
8000
8020
8040
8060
8080
8100
7470 TVD
7520
7570
887 TVD 7507.52
57.61° Inc 85.13°
MD 8000 TVD 7516
Az 0° Inc 90.1°
MD 8017 TVD 7516.23
Az 358.75° Inc 87.18°
Mrlst (95%): lt-md gr, v calc, abd intbd
frm, sbplty, no sfl, mod str wh cut. Shale
gy-dkgy, sft, plty-sbblky, slty, grty, v sl
Chlky Mrlst (95%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(5%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (90%): lt-md gr,
biocl, frm, sbplty, no sfl, mod
(10%): gy-dkgy, sft, plty-sbb
calc.

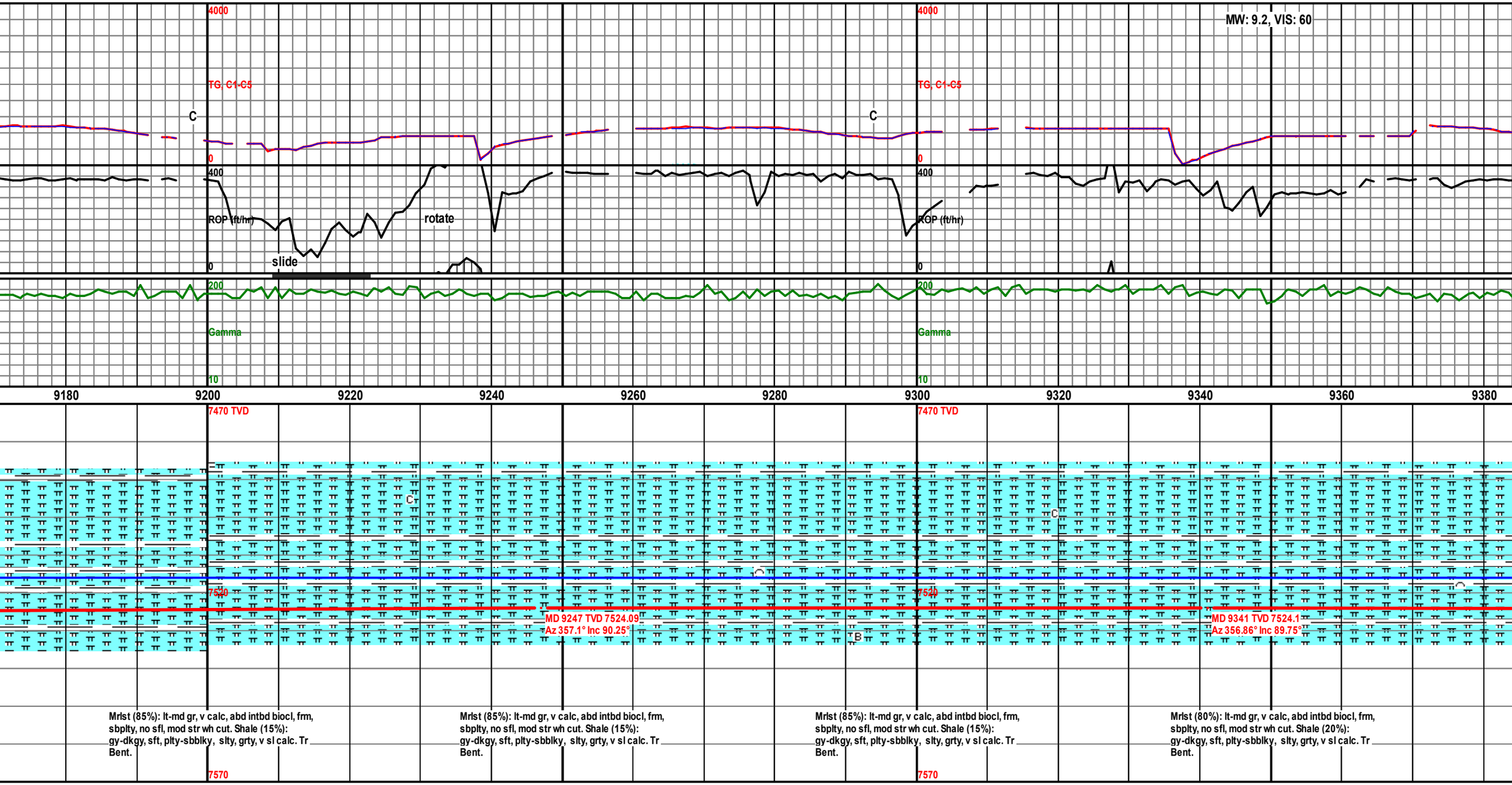

MW: 9.3+, VIS: 84
TG, C1-C5
4000
0
NOV gas reading 0
C
ROP (ft/hr)
400
rotate
slide
Gamma
200
10
8120
8140
8160
8180
8200
8220
8240
8260
8280
8300
7470 TVD
7520
7570
MD 8111 TVD 7521.06
Az 358.39° Inc 86.94°
MD 8206 TVD 7524.91
Az 358.36° Inc 88.41°
MD 8300 TVD 7527.67
Az 358.8° Inc 88.22°
v calc, abd intbd
l str wh cut. Shale
lky, slty, grty, v sl
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.

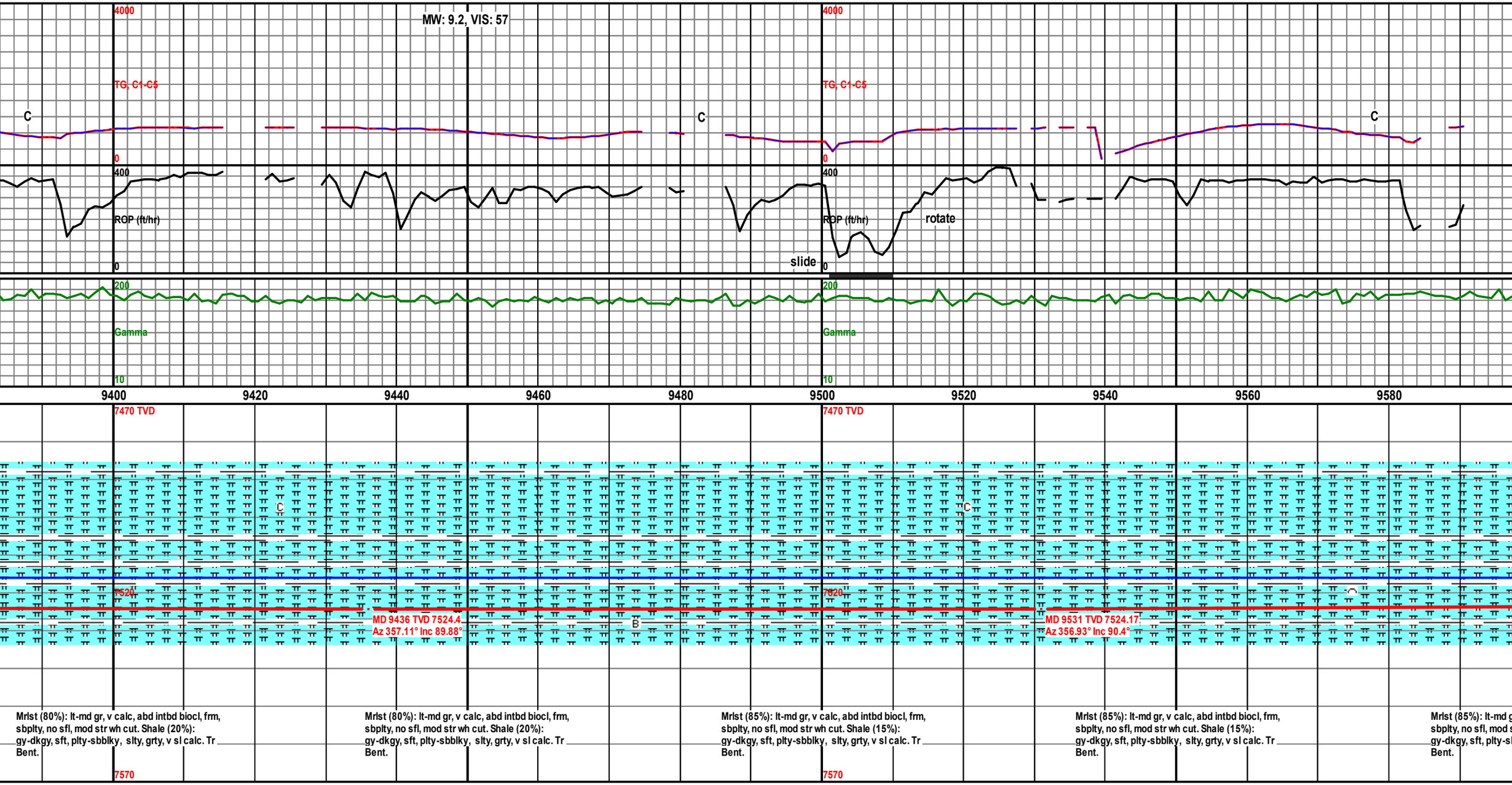

MW: 9.3, VIS: 59
MW: 9.3, VIS: 60
4000
TG, C1-C5
0
C
NOV gas reading 0
400
ROP (ft/hr)
rotate
slide
200
Gamma
10
8320
8340
8360
8380
8400
8420
8440
8460
8480
8500
8520
7470 TVD
7520
7570
B
MD 8395 TVD 7529.1
Az 359.55° Inc 90.06°
MD 8489 TVD 7529.97
Az 0.36° Inc 90.86°
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

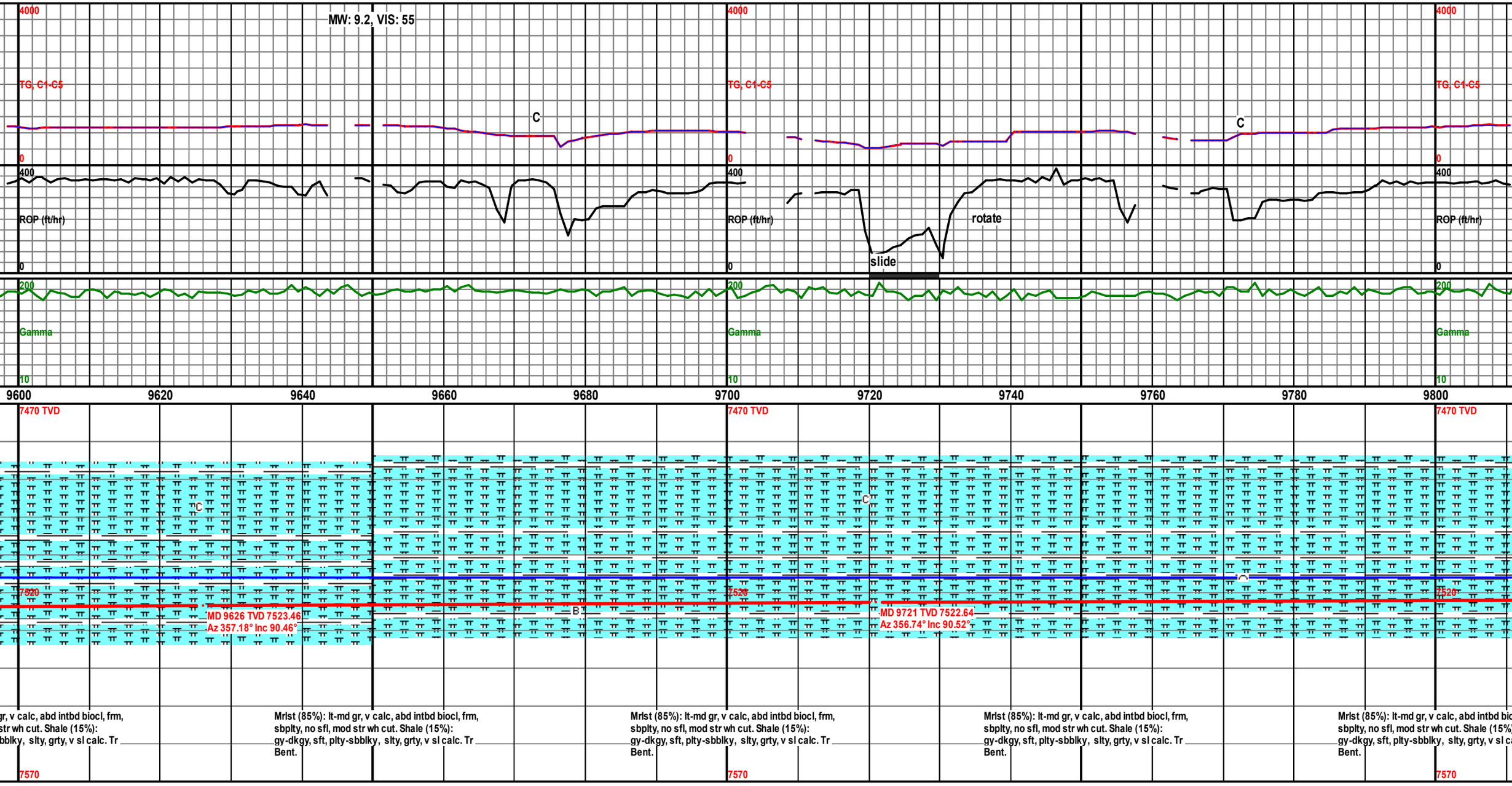

TOOH for MWD @ 12:00 AM
5/14/14
MW: 9.4, VIS: 48
TG, C1-C5
4000
0
400
ROP (ft/hr)
rotate
200
Gamma
10
8540
8560
8580
8600
8620
8640
8660
8680
8700
8720
8740
7470 TVD
7520
7570
MD 8584 TVD 7528.36
Az 0.64° Inc 91.08°
MD 8678 TVD 7526.39
Az 1.07° Inc 91.32°
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

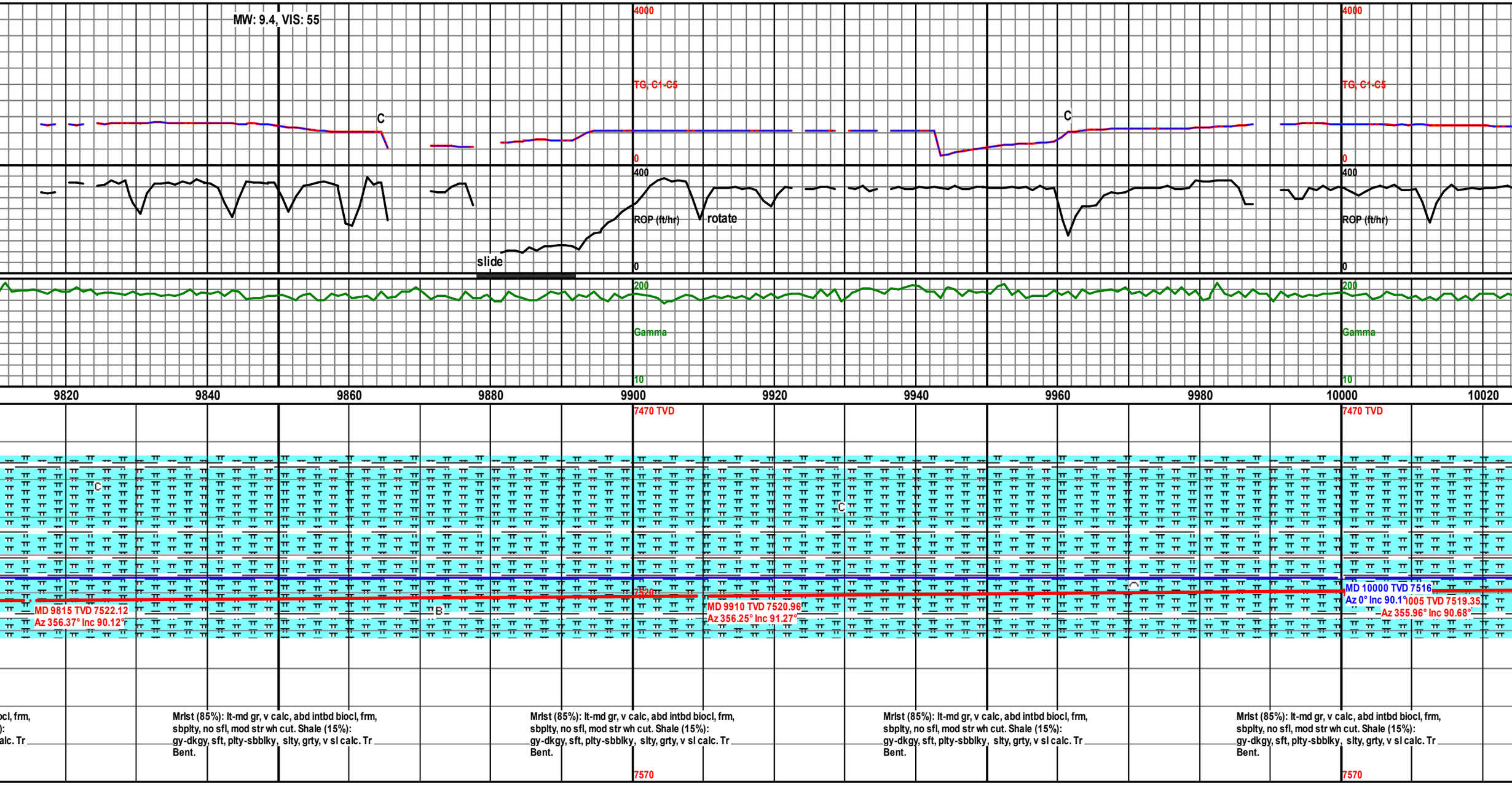

MW: 9.4, VIS: 50
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
C
slide
rotate
slide
rotate
8760
8780
8800
8820
8840
8860
8880
8900
8920
8940
7470 TVD
7520
7570
B
MD 8773 TVD 7525.18
Az 0.07° Inc 90.15°
MD 8867 TVD 7525.32
Az 358.08° Inc 89.67°
: lt-md gr, v calc, abd intbd biocl, frm,
fl, mod str wh cut. Shale (15%):
t, plty-sbblky, slty, grty, v sl calc. Tr
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd int
sbplty, no sfl, mod str wh cut. Shale
gy-dkgy, sft, plty-sbblky, slty, grty,
Bent.

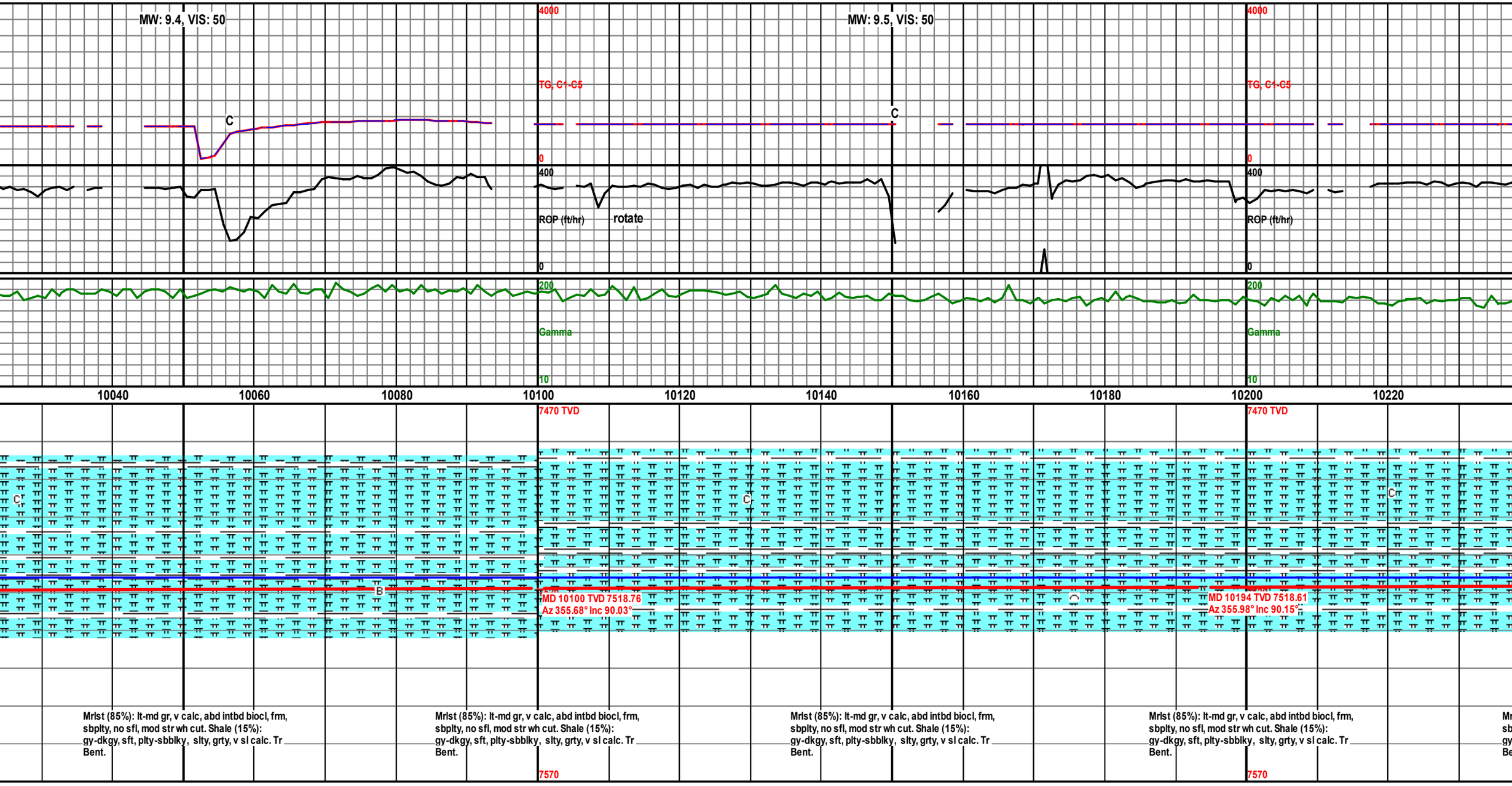

MW: 9.3, VIS: 54
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
rotate
0
200
Gamma
10
8960
8980
9000
9020
9040
9060
9080
9100
9120
9140
9160
7470 TVD
MD 9000 TVD 7516
Az 0° Inc 90.1°
MD 8962 TVD 7525.72
Az 358.45° Inc 89.85°
MD 9057 TVD 7525.64
Az 359.07° Inc 90.25°
MD 9152 TVD 7524.87
Az 358.33° Inc 90.68°
7520
B
7570
slide
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

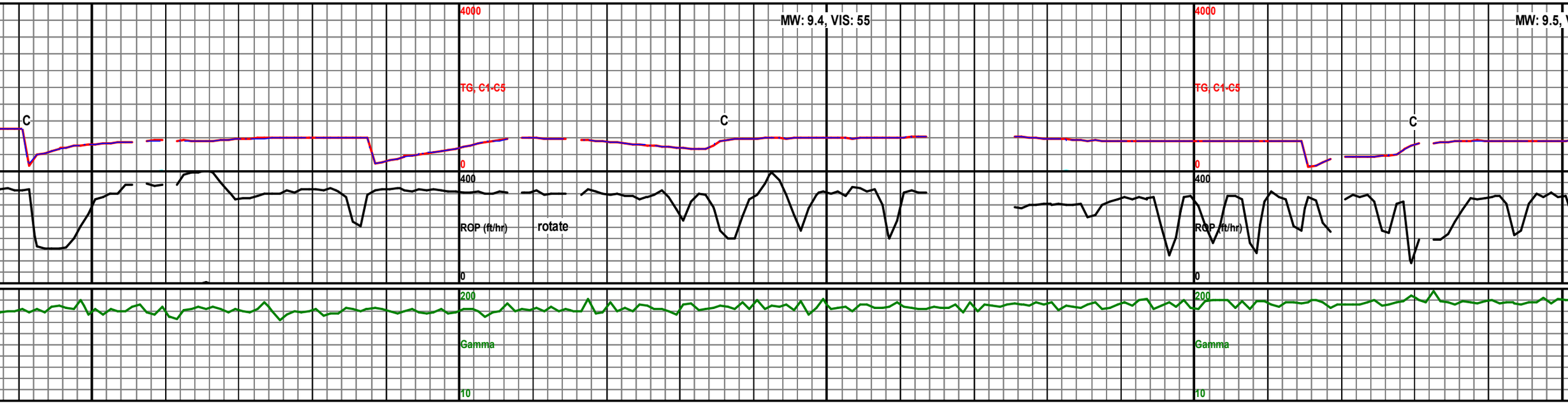

MW: 9.2, VIS: 60
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
slide
rotate
200
Gamma
10
9180
9200
9220
9240
9260
9280
9300
9320
9340
9360
9380
7470 TVD
7520
7570
MD 9247 TVD 7524.09
Az 357.1° Inc 90.25°
MD 9341 TVD 7524.1
Az 356.86° Inc 89.75°
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (80%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (20%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

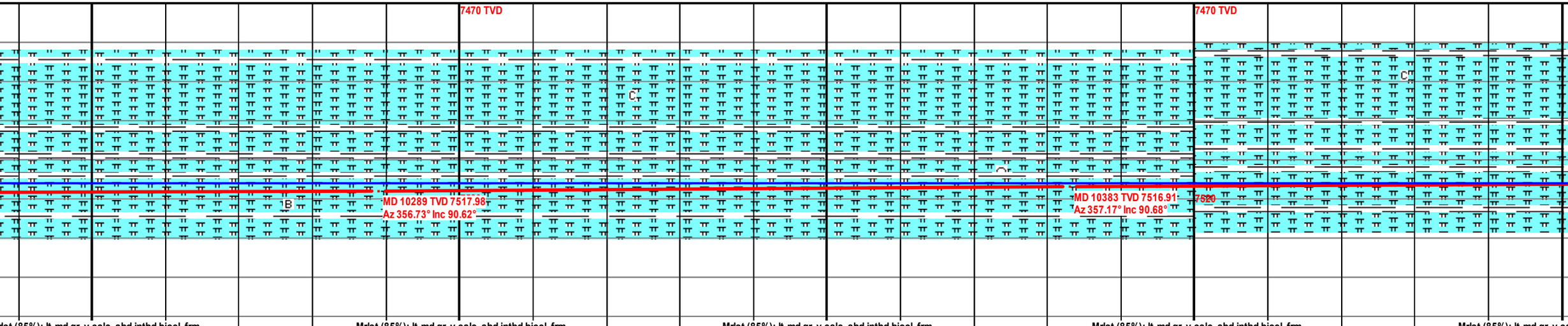

MW: 9.2, VIS: 57
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
0
slide
rotate
200
Gamma
10
9400
9420
9440
9460
9480
9500
9520
9540
9560
9580
7470 TVD
7520
7570
MD 9436 TVD 7524.4
Az 357.11° Inc 89.88°
MD 9531 TVD 7524.17
Az 356.93° Inc 90.4°
Mrlst (80%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (20%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (80%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (20%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md g
sbplty, no sfl, mod s
gy-dkgy, sft, plty-sl
Bent.


MW: 9.2, VIS: 55
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
0
rotate
slide
200
Gamma
10
9600
9620
9640
9660
9680
9700
9720
9740
9760
9780
9800
7470 TVD
7520
7570
MD 9626 TVD 7523.46
Az 357.18° Inc 90.46°
MD 9721 TVD 7522.64
Az 356.74° Inc 90.52°
B
gr, v calc, abd intbd biocl, frm,
str wh cut. Shale (15%):
bblky, slty, grty, v sl calc. Tr
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd bio
sbplty, no sfl, mod str wh cut. Shale (15%)
gy-dkgy, sft, plty-sbblky, slty, grty, v sl ca
Bent.


MW: 9.4, VIS: 55
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
rotate
slide
0
200
Gamma
10
9820
9840
9860
9880
9900
9920
9940
9960
9980
10000
10020
7470 TVD
7520
7570
MD 9815 TVD 7522.12
Az 356.37° Inc 90.12°
MD 9910 TVD 7520.96
Az 356.25° Inc 91.27°
MD 10000 TVD 7516
Az 0° Inc 90.1
005 TVD 7519.35
Az 355.96° Inc 90.68°
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.


MW: 9.4, VIS: 50
MW: 9.5, VIS: 50
4000
TG, C1-C5
0
400
ROP (ft/hr)
rotate
0
200
Gamma
10
10040
10060
10080
10100
10120
10140
10160
10180
10200
10220
7470 TVD
MD 10100 TVD 7518.76
Az 355.68° Inc 90.03°
MD 10194 TVD 7518.61
Az 355.98° Inc 90.15°
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.





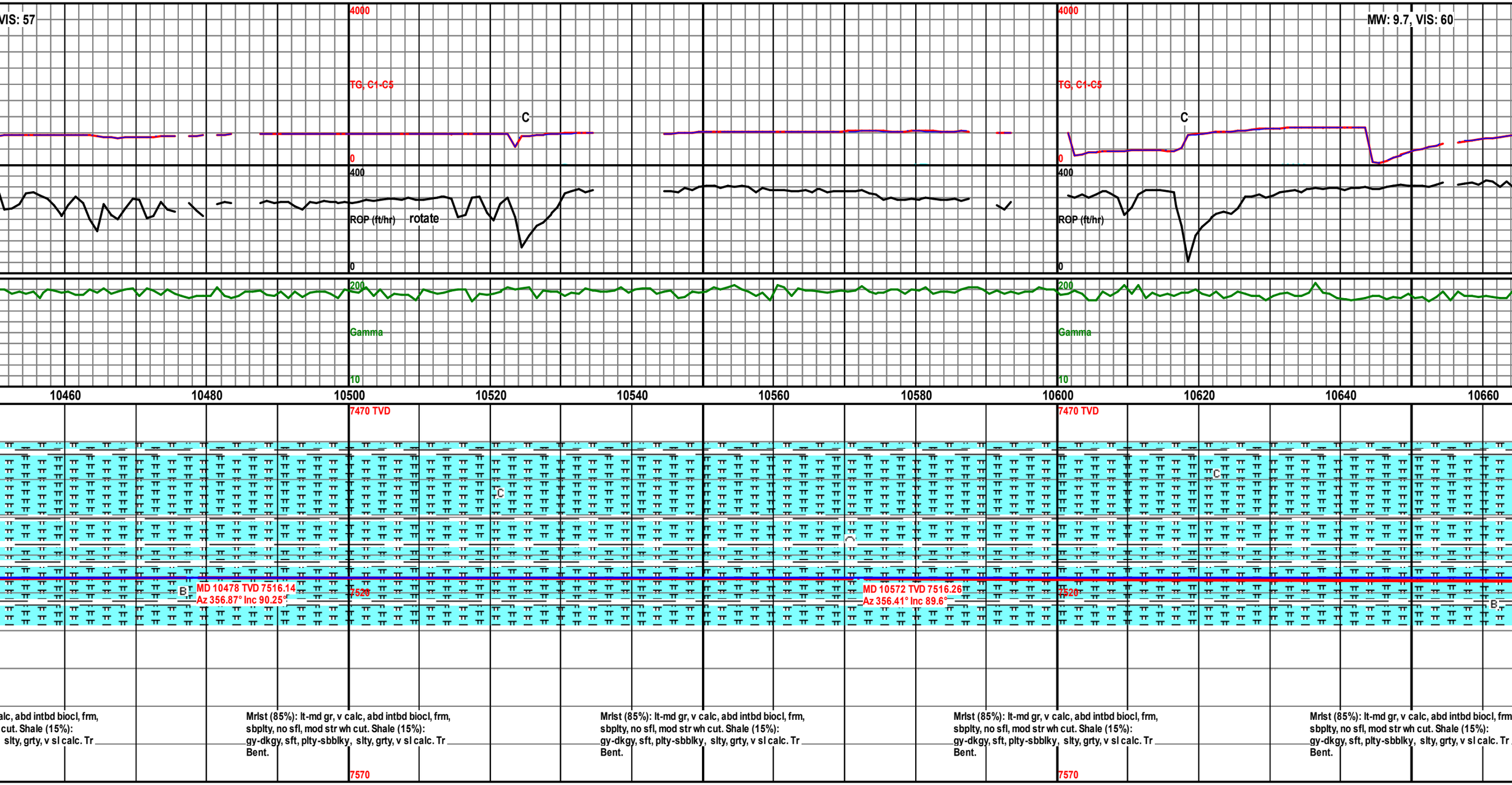
rlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): y-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr ent.

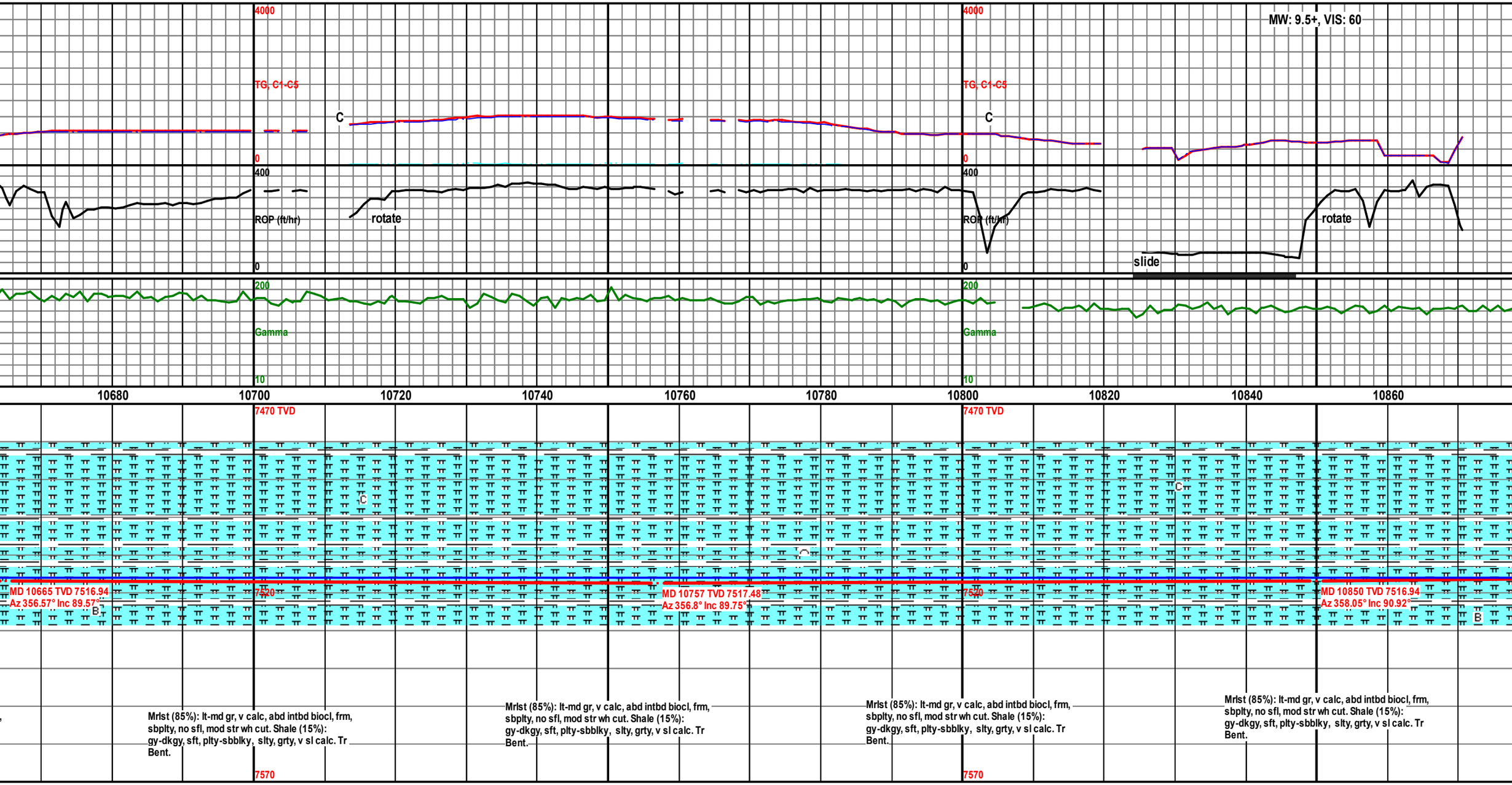
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

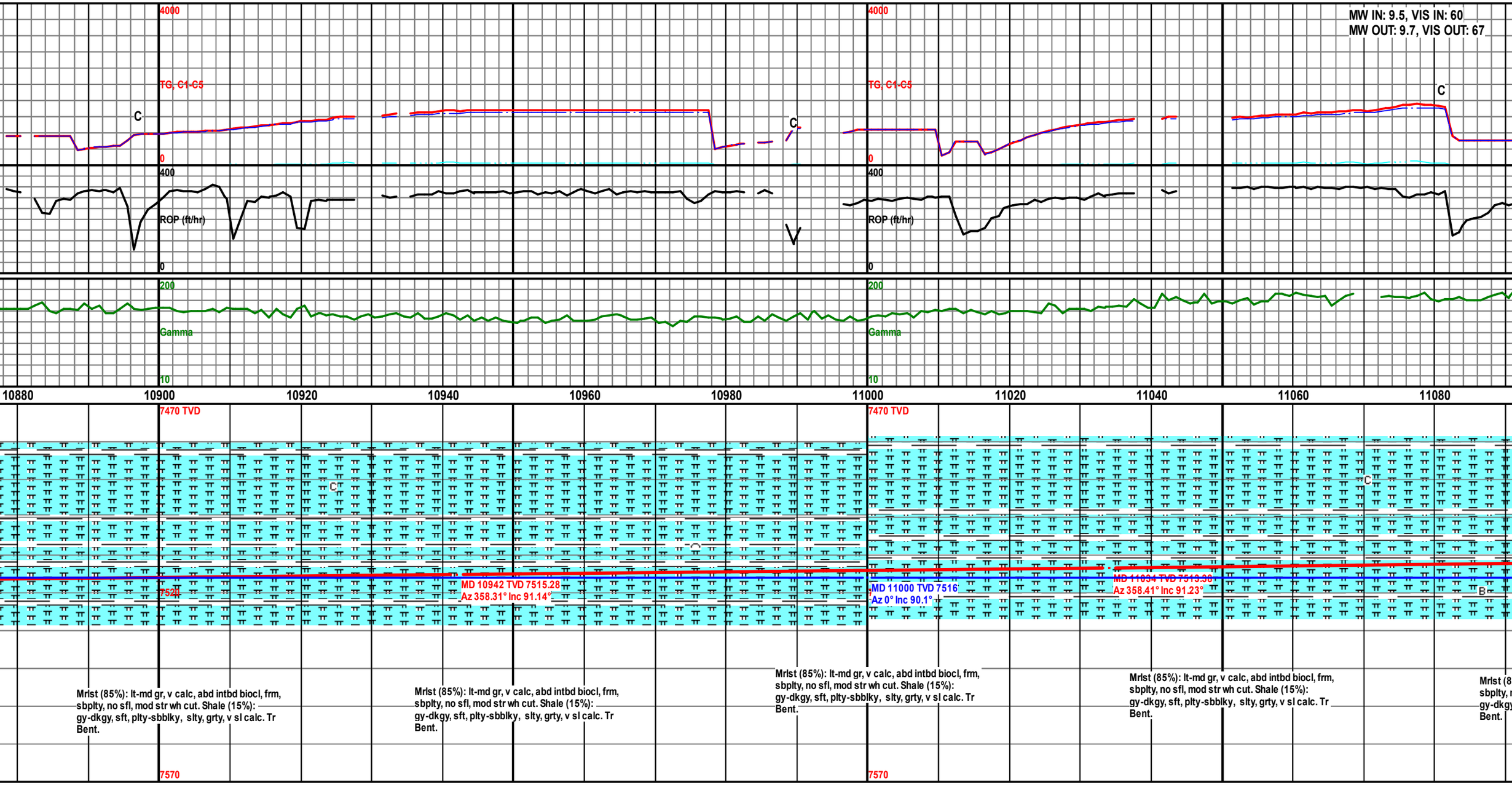
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

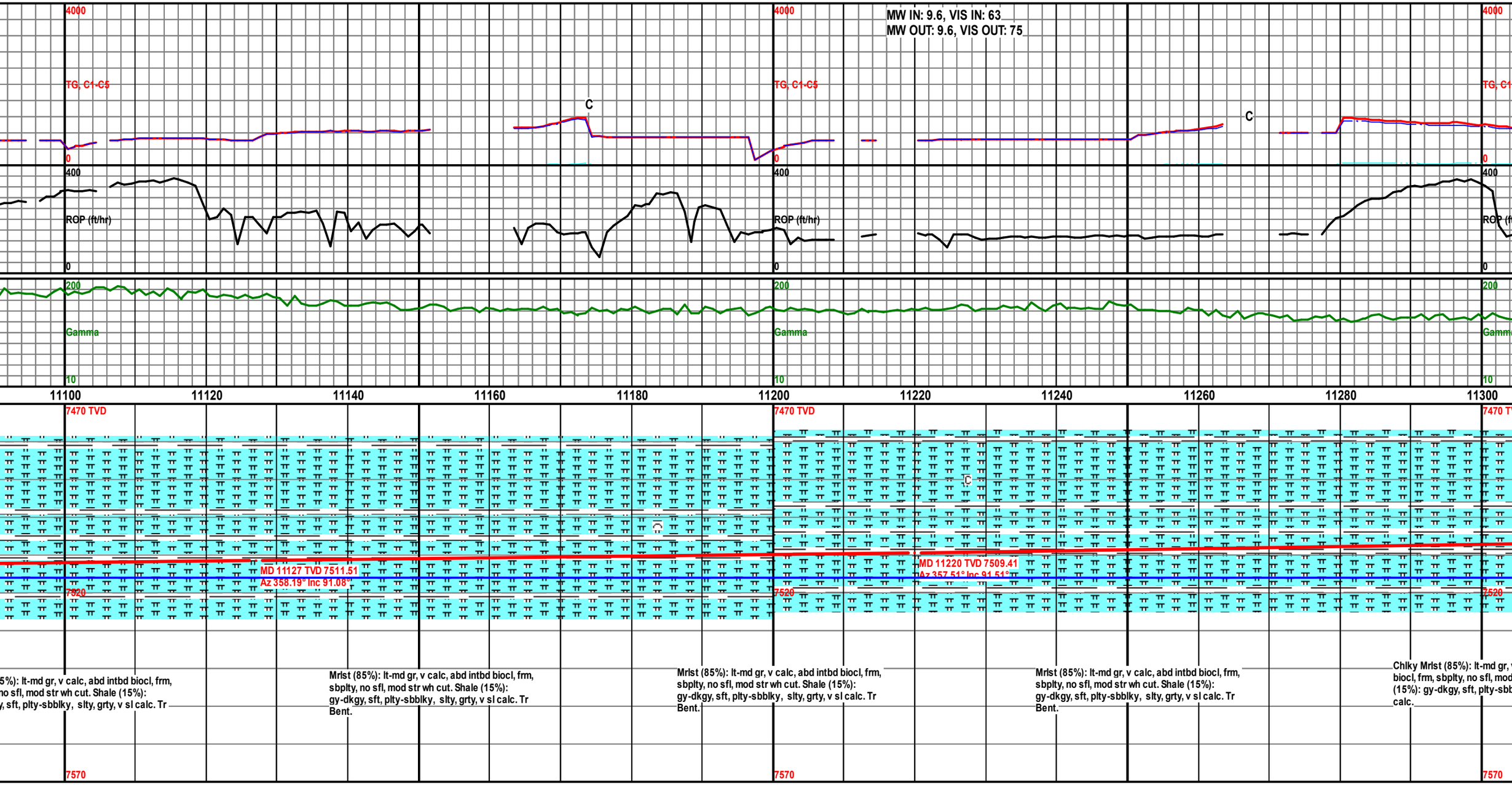
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

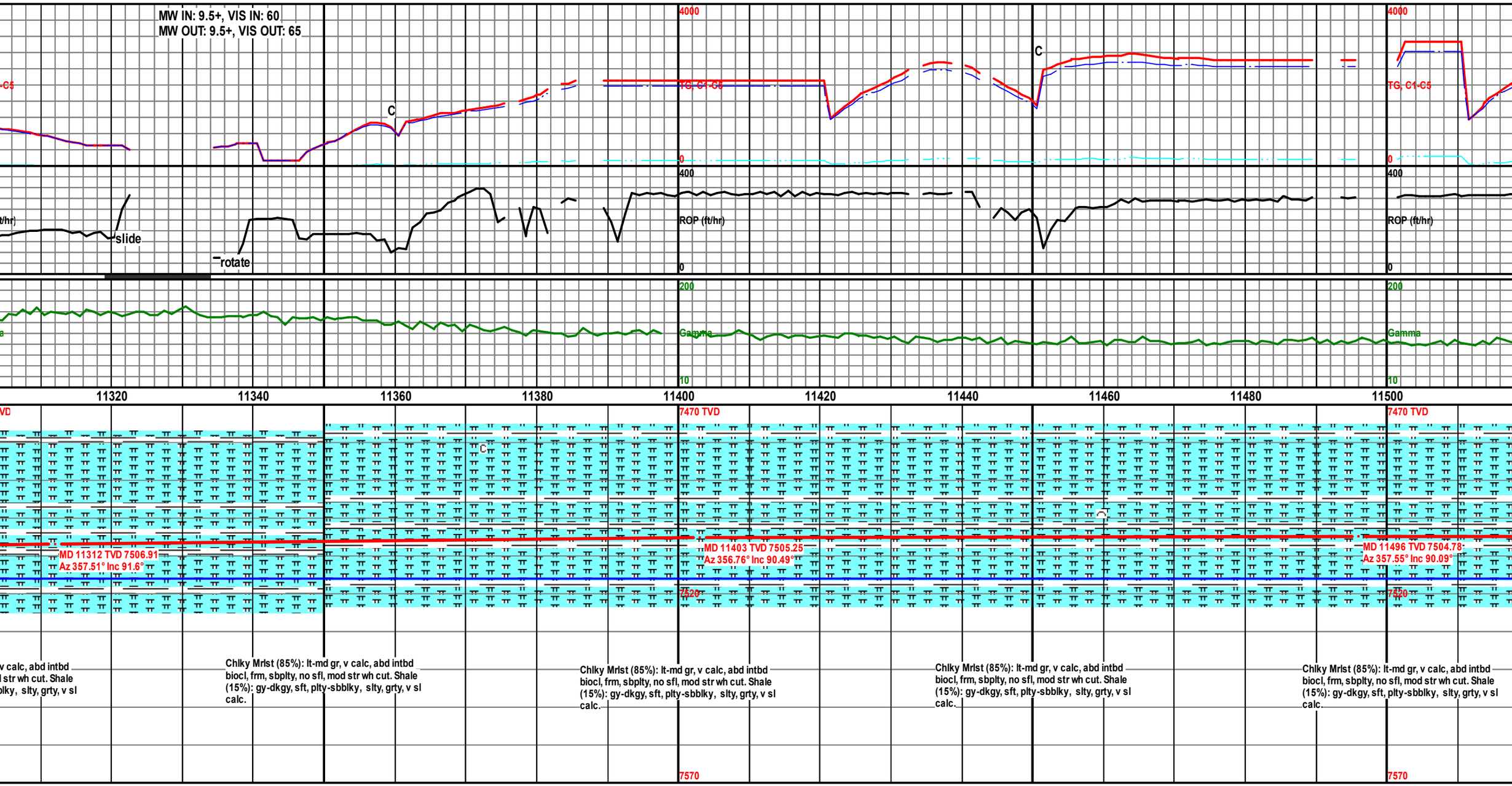
Mrlst (85%): lt-md gr, v ca sbplty, no sfl, mod str wh gy-dkgy, sft, plty-sbblky, Bent.

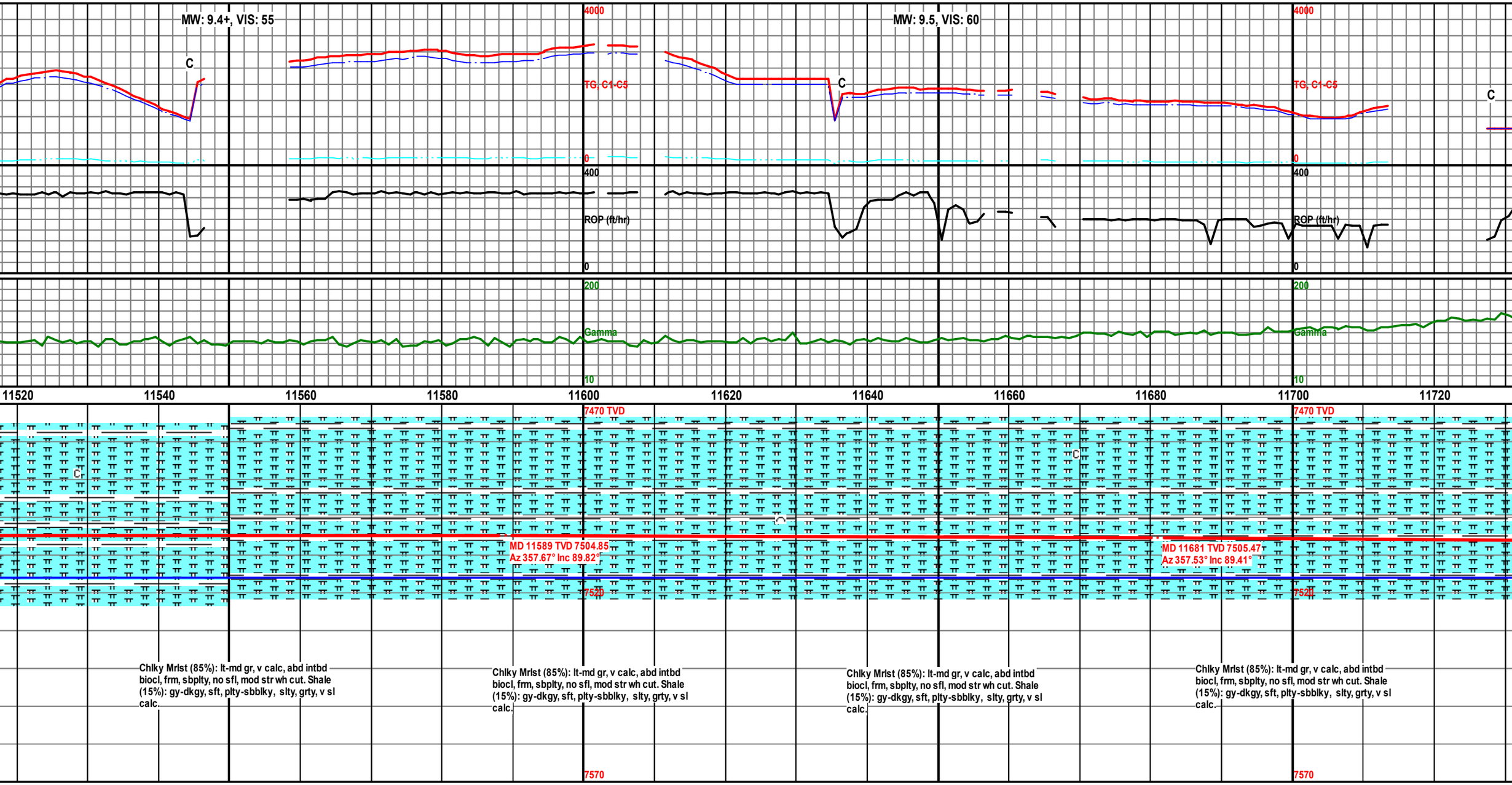

VIS: 57
MW: 9.7, VIS: 60
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
rotate
200
Gamma
10
10460
10480
10500
10520
10540
10560
10580
10600
10620
10640
10660
7470 TVD
MD 10478 TVD 7516.14
Az 356.87° Inc 90.25°
MD 10572 TVD 7516.26
Az 356.41° Inc 89.6°
7520
7570
alc, abd intbd biocl, frm,
cut. Shale (15%):
slty, grty, v sl calc. Tr
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.

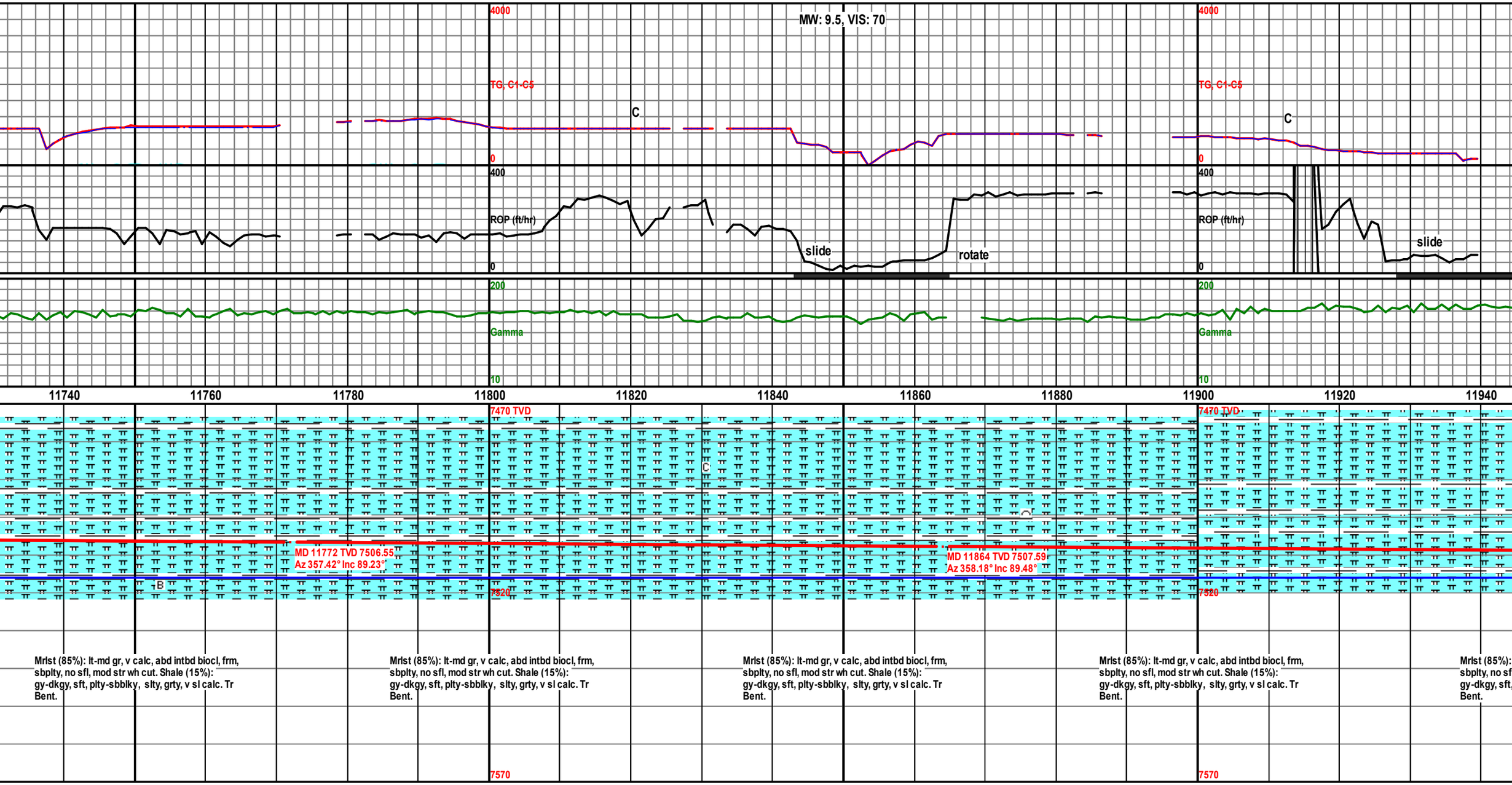

4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
C
rotate
MW: 9.5+, VIS: 60
slide
10680
10700
10720
10740
10760
10780
10800
10820
10840
10860
7470 TVD
7520
7570
MD 10665 TVD 7516.94
Az 356.57° Inc 89.57°
MD 10757 TVD 7517.48
Az 356.8° Inc 89.75°
MD 10850 TVD 7516.94
Az 358.05° Inc 90.92°
B
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

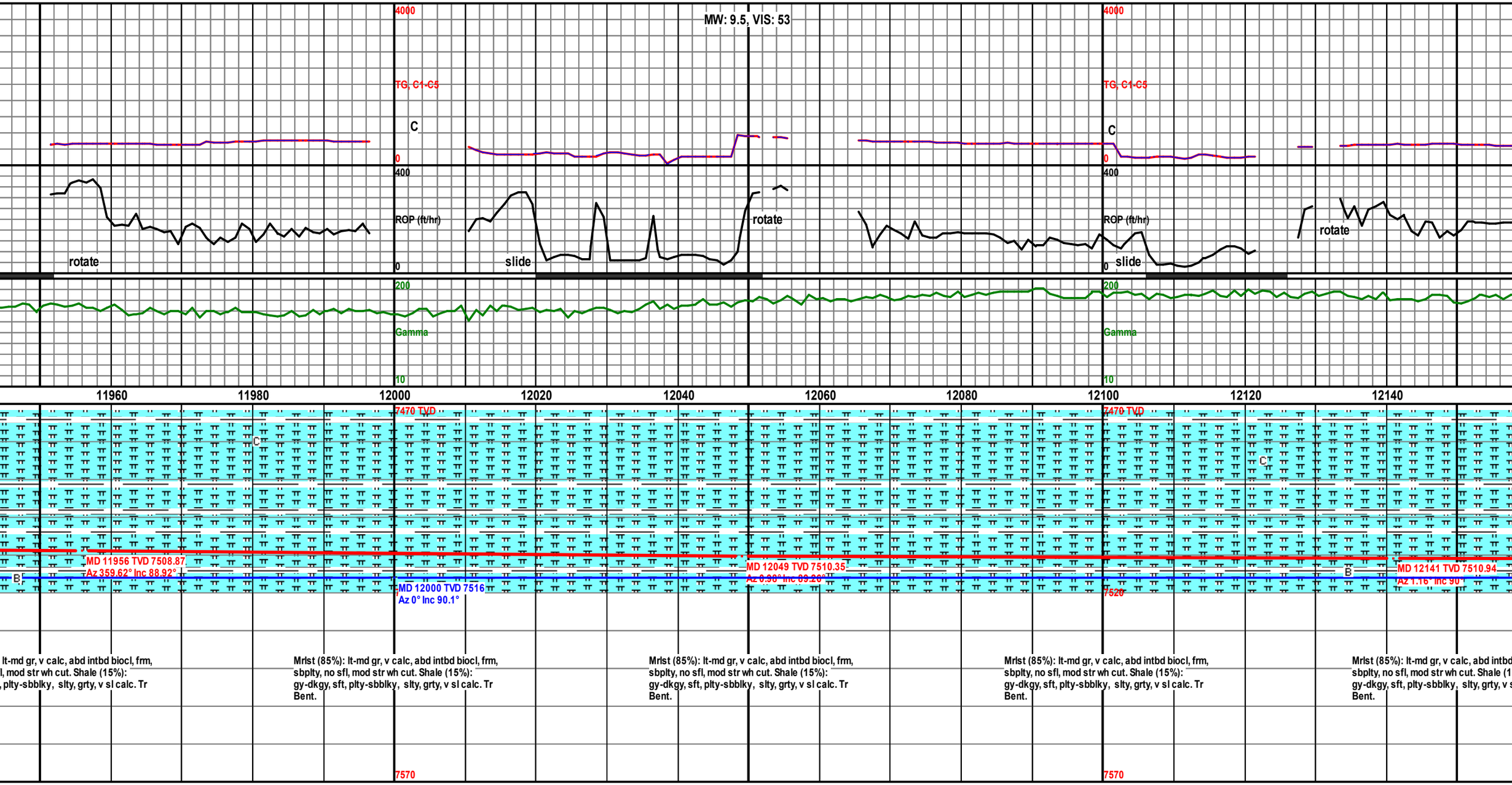

MW IN: 9.5, VIS IN: 60
MW OUT: 9.7, VIS OUT: 67
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
10880
10900
10920
10940
10960
10980
11000
11020
11040
11060
11080
7470 TVD
7520
7570
MD 10942 TVD 7515.28
Az 358.31° Inc 91.14°
MD 11000 TVD 7516
Az 0° Inc 90.1°
MD 11034 TVD 7513.98
Az 358.41° Inc 91.23°
C
B
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

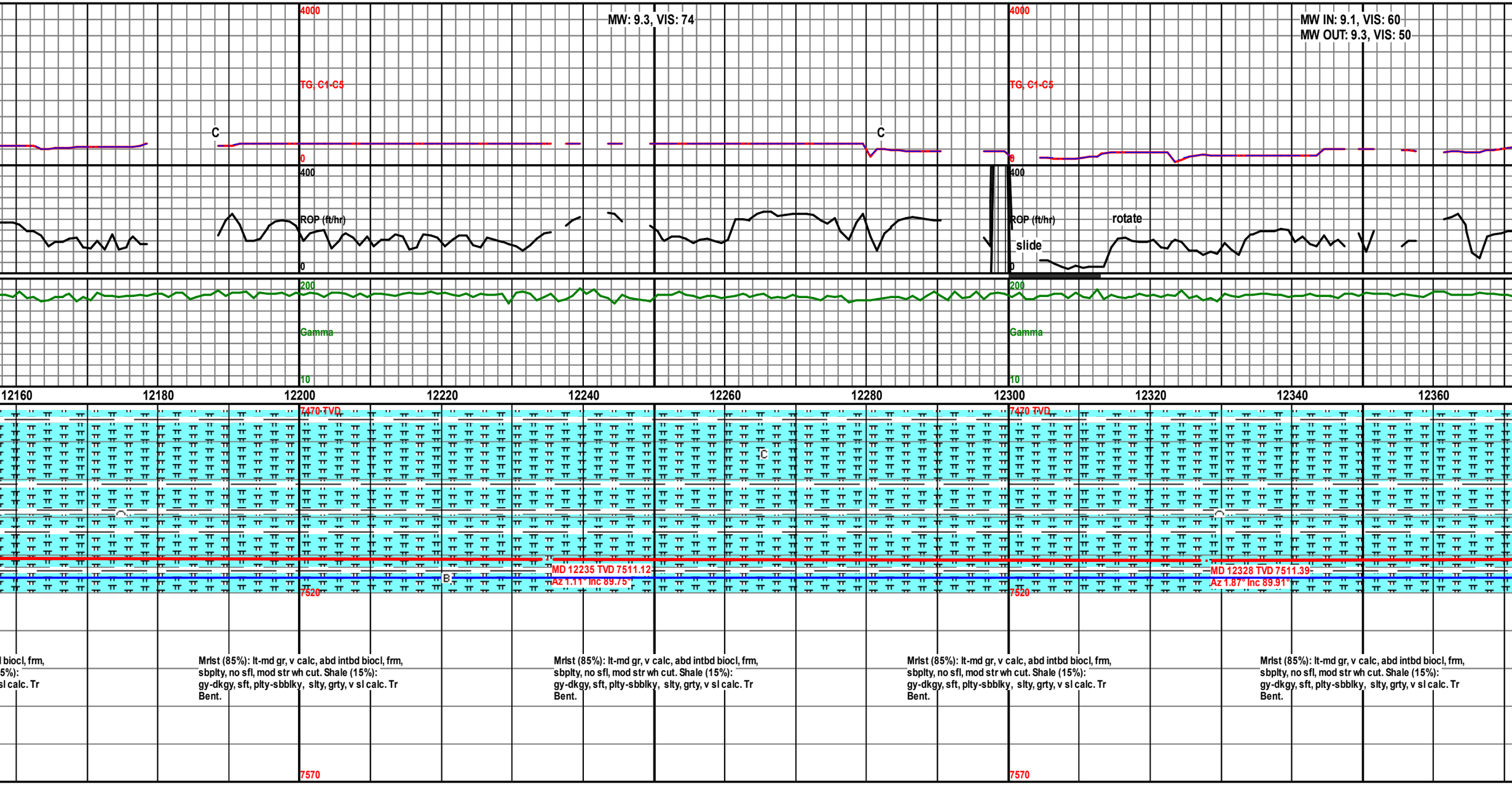

MW IN: 9.6, VIS IN: 63
MW OUT: 9.6, VIS OUT: 75
TG, C1-C5
4000
0
C
ROP (ft/hr)
400
0
Gamma
200
10
11100
11120
11140
11160
11180
11200
11220
11240
11260
11280
11300
7470 TVD
7520
7570
MD 11127 TVD 7511.51
Az 358.19° Inc 91.08°
MD 11220 TVD 7509.41
Az 357.51° Inc 91.51°
5%): lt-md gr, v calc, abd intbd biocl, frm,
no sfl, mod str wh cut. Shale (15%):
y, sft, plty-sbblky, slty, grty, v sl calc. Tr
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Chlky Mrlst (85%): lt-md gr,
biocl, frm, sbplty, no sfl, mod
(15%): gy-dkgy, sft, plty-sbb
calc.

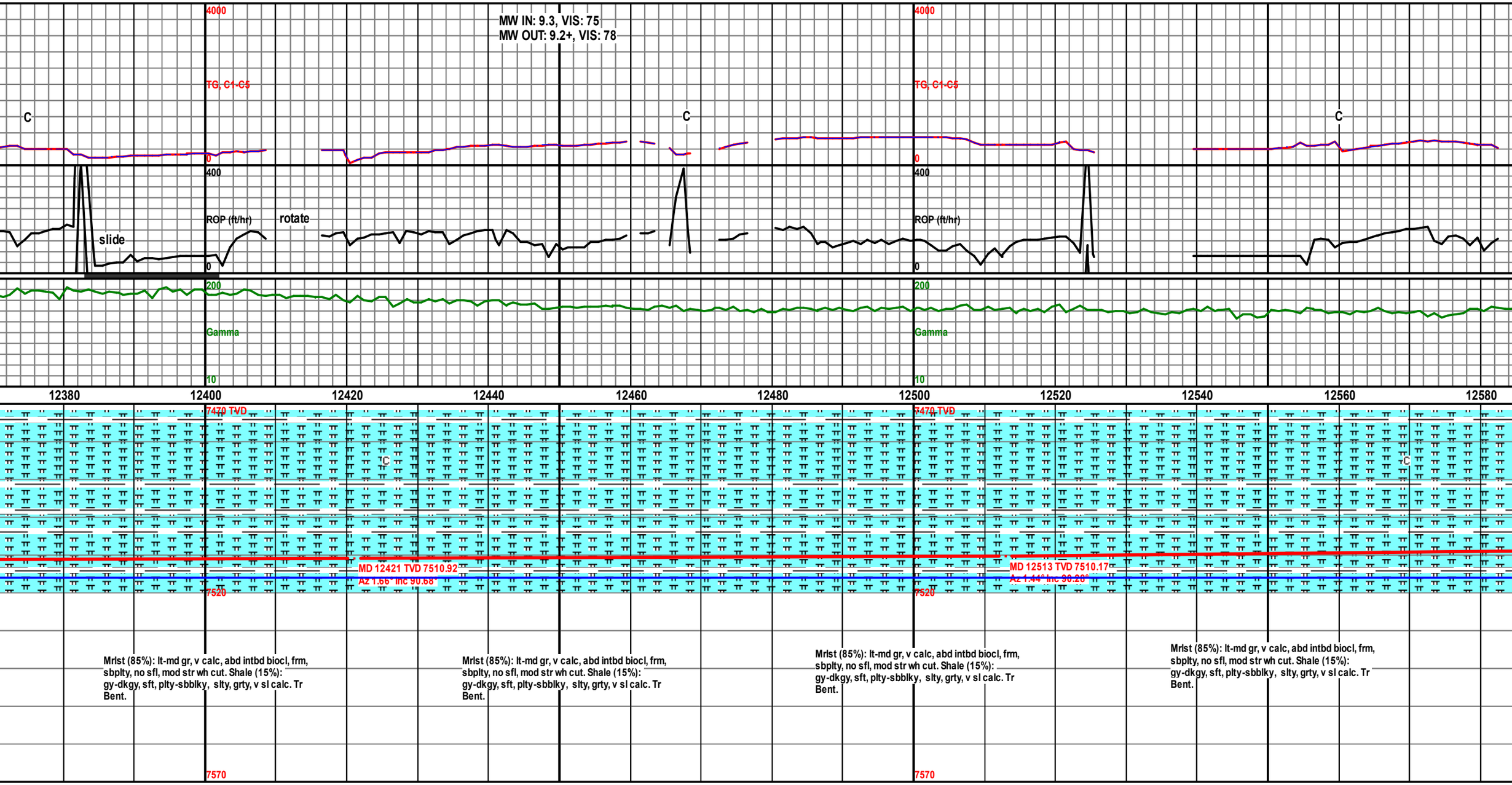

MW IN: 9.5+, VIS IN: 60
MW OUT: 9.5+, VIS OUT: 65
TG, C1-C5
4000
0
ROP (ft/hr)
400
0
slide
rotate
Gamma
200
10
11320
11340
11360
11380
11400
11420
11440
11460
11480
11500
7470 TVD
7520
7570
MD 11312 TVD 7506.91
Az 357.51° Inc 91.6°
MD 11403 TVD 7505.25
Az 356.76° Inc 90.49°
MD 11496 TVD 7504.78
Az 357.55° Inc 90.09°
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.

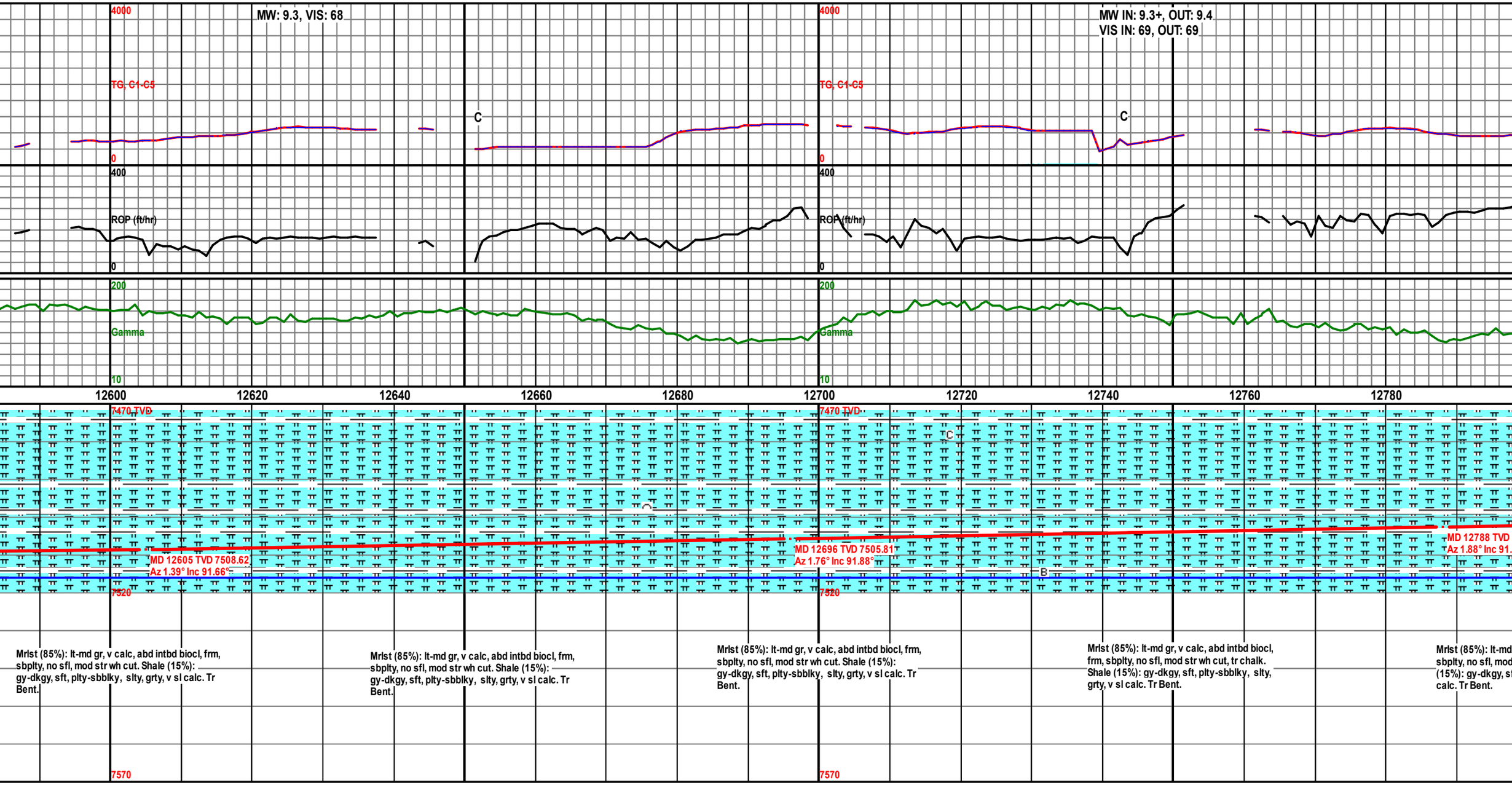

MW: 9.4+, VIS: 55
MW: 9.5, VIS: 60
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
11520
11540
11560
11580
11600
11620
11640
11660
11680
11700
11720
7470 TVD
MD 11589 TVD 7504.85
Az 357.67° Inc 89.82°
MD 11681 TVD 7505.47
Az 357.53° Inc 89.41°
7520
7570
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.

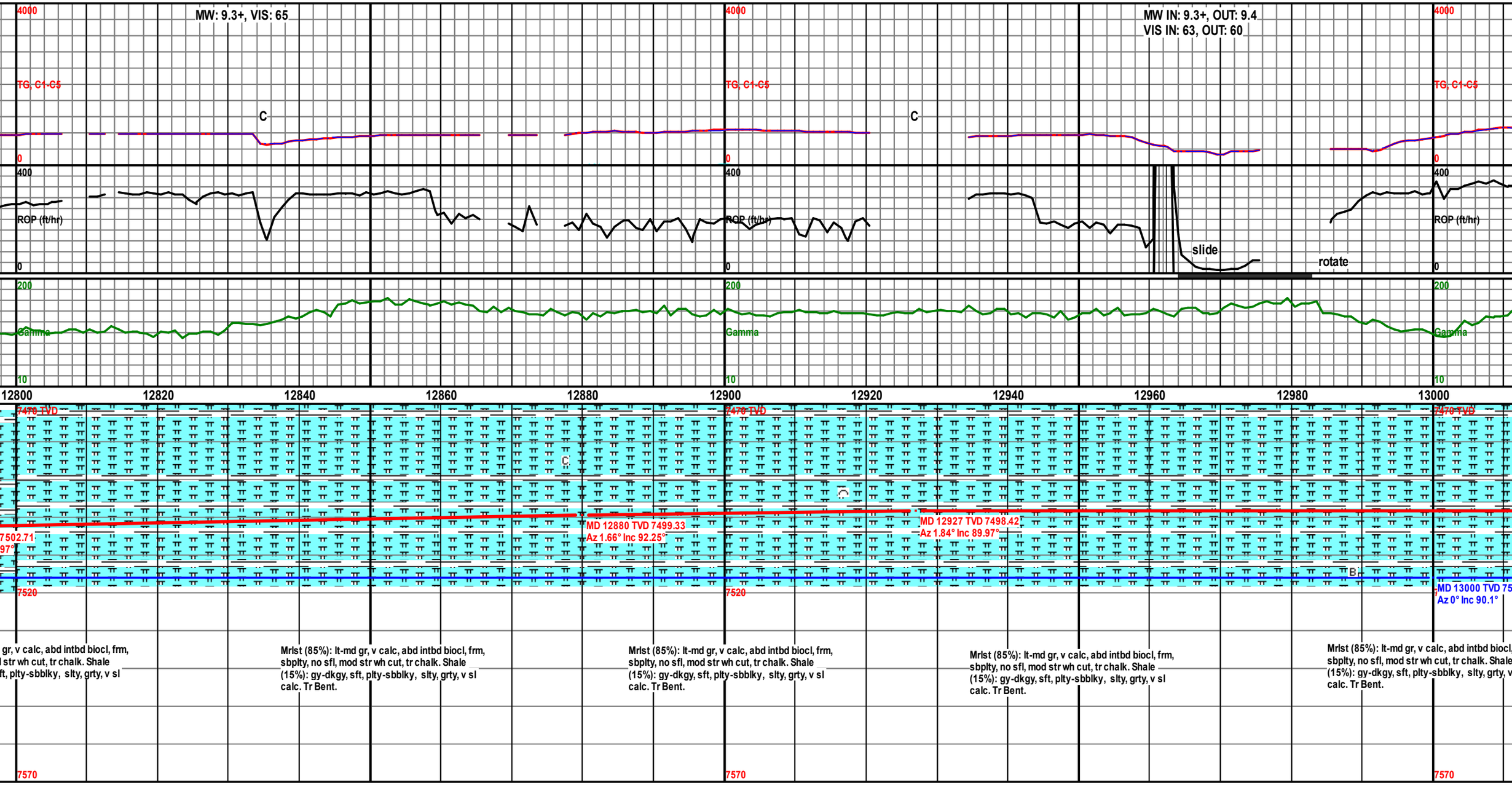

MW: 9.5, VIS: 70
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
0
slide
rotate
200
Gamma
10
11740
11760
11780
11800
11820
11840
11860
11880
11900
11920
11940
7470 TVD
MD 11772 TVD 7506.55
Az 357.42° Inc 89.23°
MD 11864 TVD 7507.59
Az 358.18° Inc 89.48°
B
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

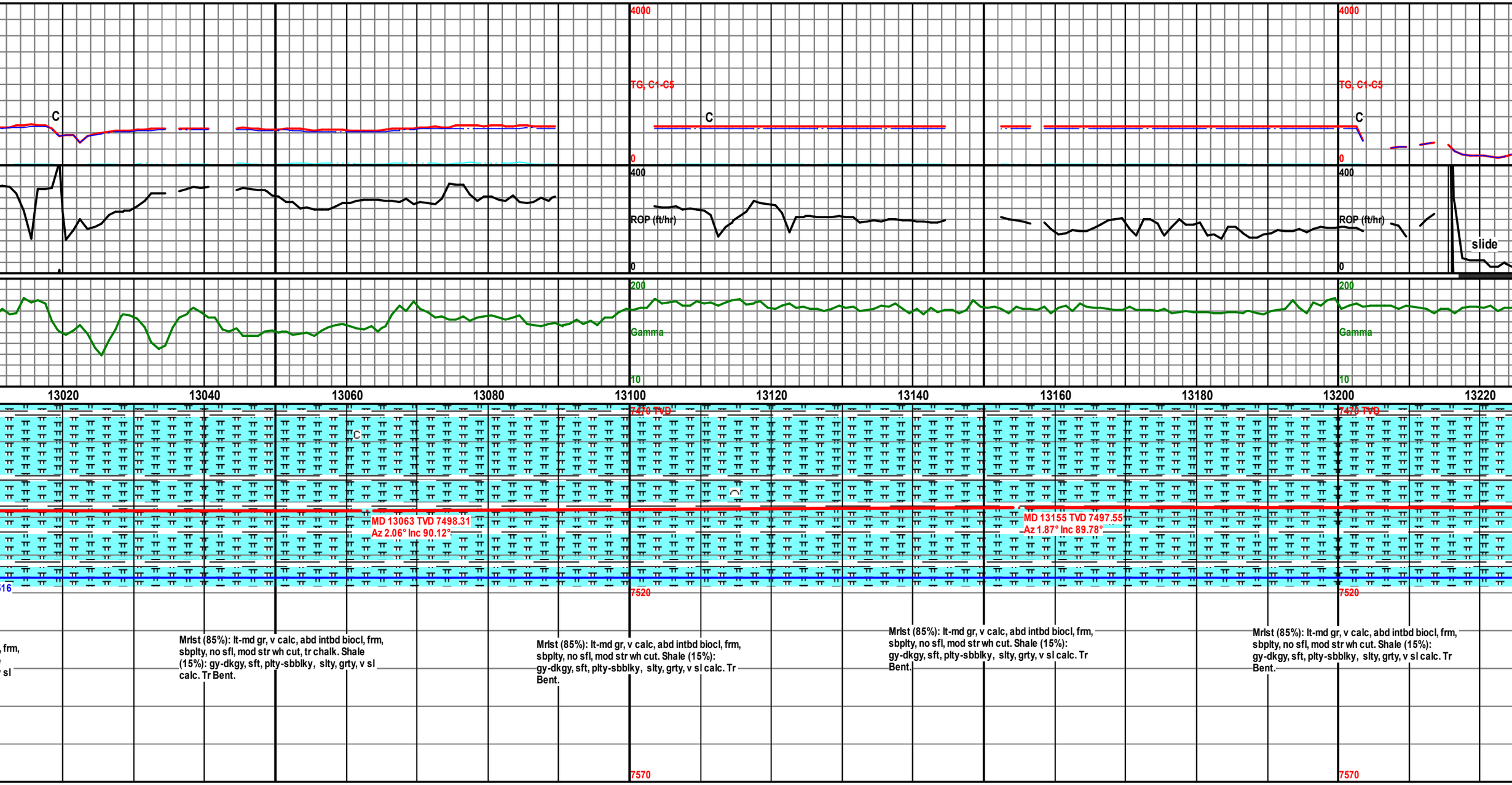

MW: 9.5, VIS: 53
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
0
rotate
slide
rotate
rotate
slide
200
Gamma
10
11960
11980
12000
12020
12040
12060
12080
12100
12120
12140
7470 TVD
MD 11956 TVD 7508.87
Az 359.62° Inc 88.92°
MD 12000 TVD 7516
Az 0° Inc 90.1°
MD 12049 TVD 7510.35
Az 0.30° Inc 89.26°
MD 12141 TVD 7510.94
Az 1.16° Inc 90°
7520
7570
lt-md gr, v calc, abd intbd biocl, frm,
l, mod str wh cut. Shale (15%):
, plty-sbblky, slty, grty, v sl calc. Tr
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd
sbplty, no sfl, mod str wh cut. Shale (1
gy-dkgy, sft, plty-sbblky, slty, grty, v s
Bent.

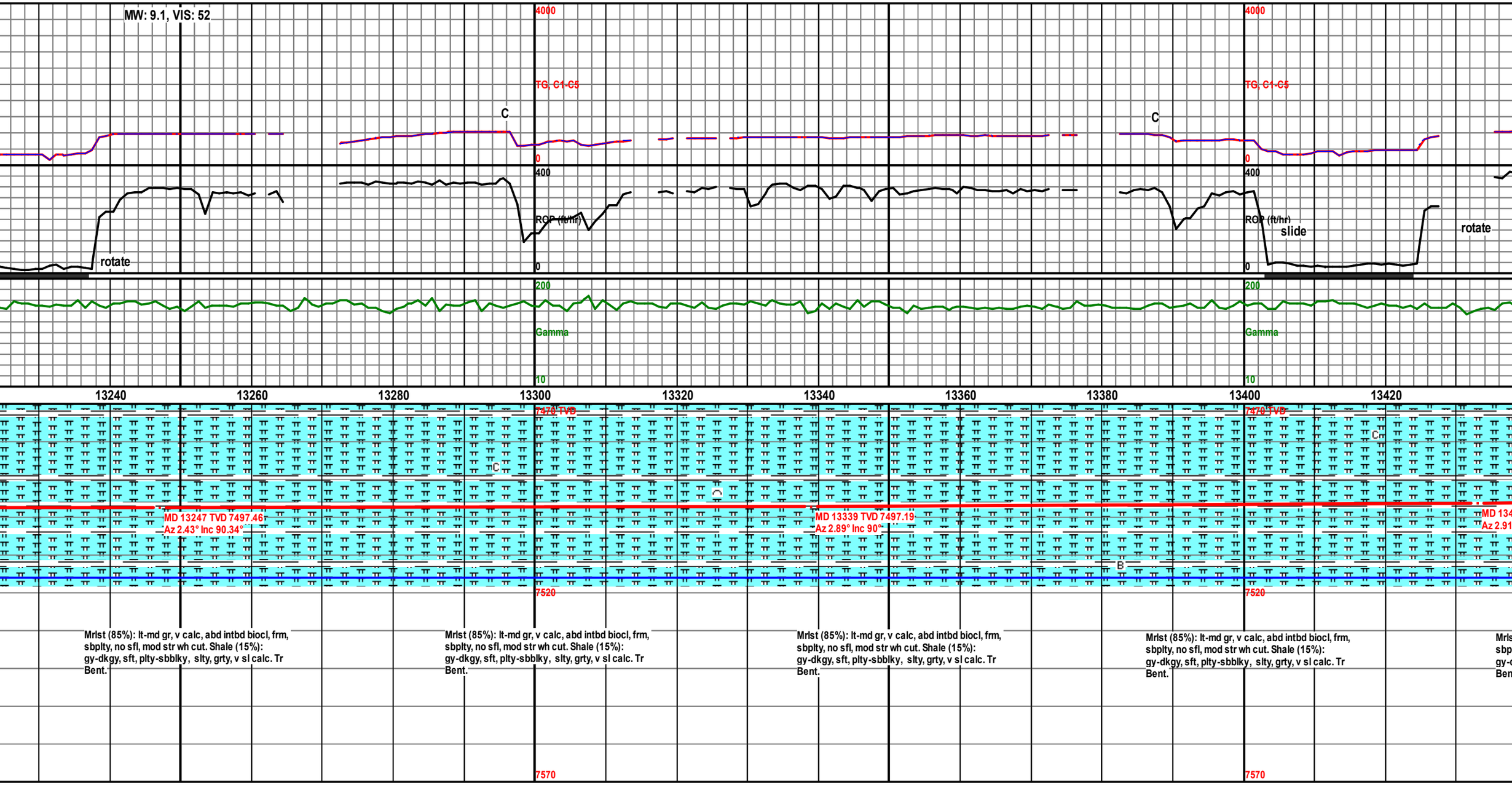

MW: 9.3, VIS: 74
MW IN: 9.1, VIS: 60
MW OUT: 9.3, VIS: 50
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
0
slide
rotate
200
Gamma
10
12160
12180
12200
12220
12240
12260
12280
12300
12320
12340
12360
7470 TVD
MD 12235 TVD 7511.12
Az 1.11° Inc 89.75°
MD 12328 TVD 7511.39
Az 1.87° Inc 89.91°
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

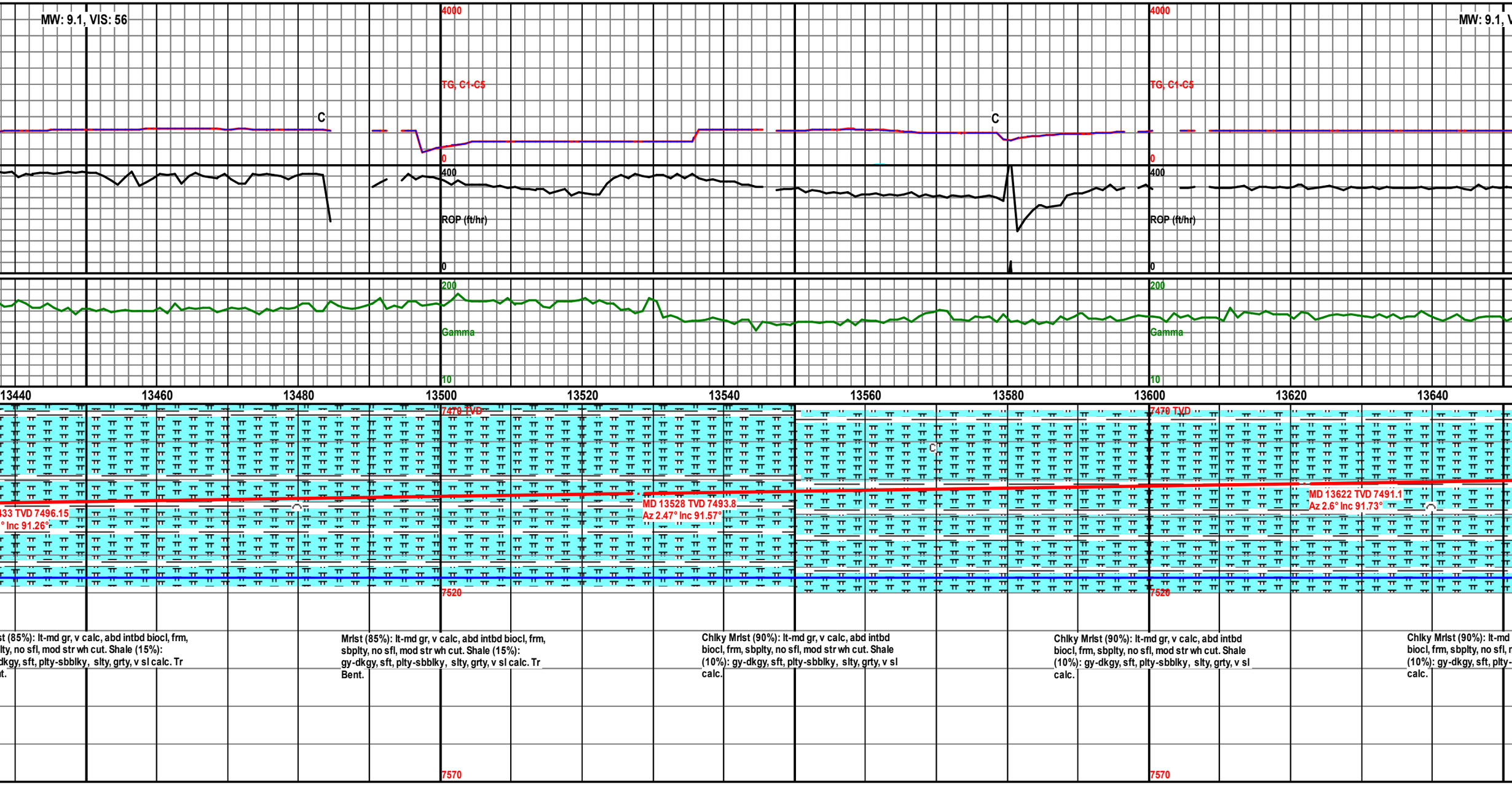

MW IN: 9.3, VIS: 75
MW OUT: 9.2+, VIS: 78
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
slide
rotate
0
200
Gamma
10
12380
12400
12420
12440
12460
12480
12500
12520
12540
12560
12580
7470 TVD
MD 12421 TVD 7510.92
Az 1.66° Inc 90.68°
MD 12513 TVD 7510.17
Az 1.44° Inc 90.28°
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

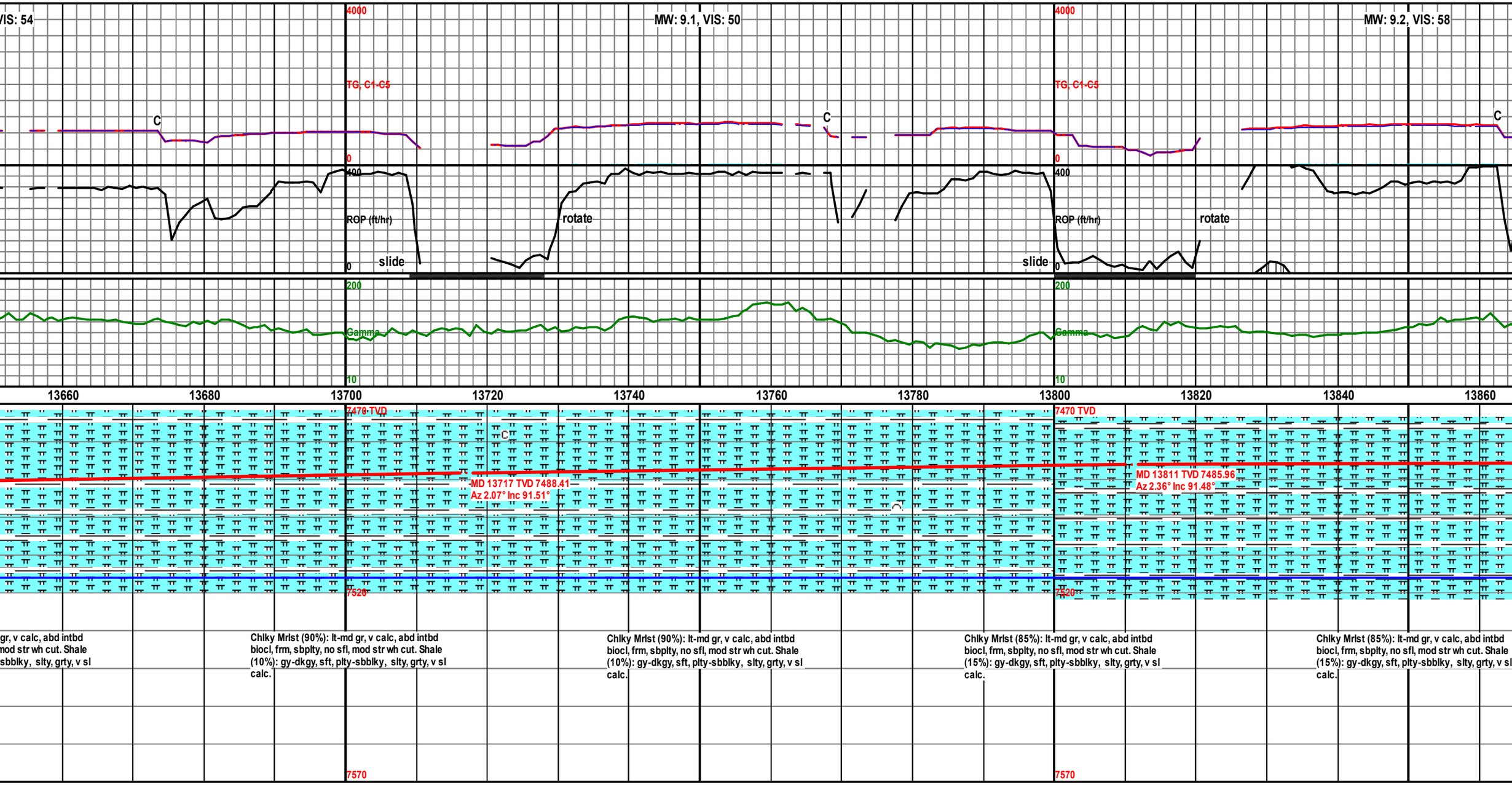

MW: 9.3, VIS: 68
MW IN: 9.3+, OUT: 9.4
VIS IN: 69, OUT: 69
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
12600
12620
12640
12660
12680
12700
12720
12740
12760
12780
7470 TVD
MD 12605 TVD 7508.62
Az 1.39° Inc 91.66°
MD 12696 TVD 7505.81
Az 1.76° Inc 91.88°
MD 12788 TVD
Az 1.88° Inc 91.
7520
7570
C
B
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut, tr chalk. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md
sbplty, no sfl, mod
(15%): gy-dkgy, s
calc. Tr Bent.

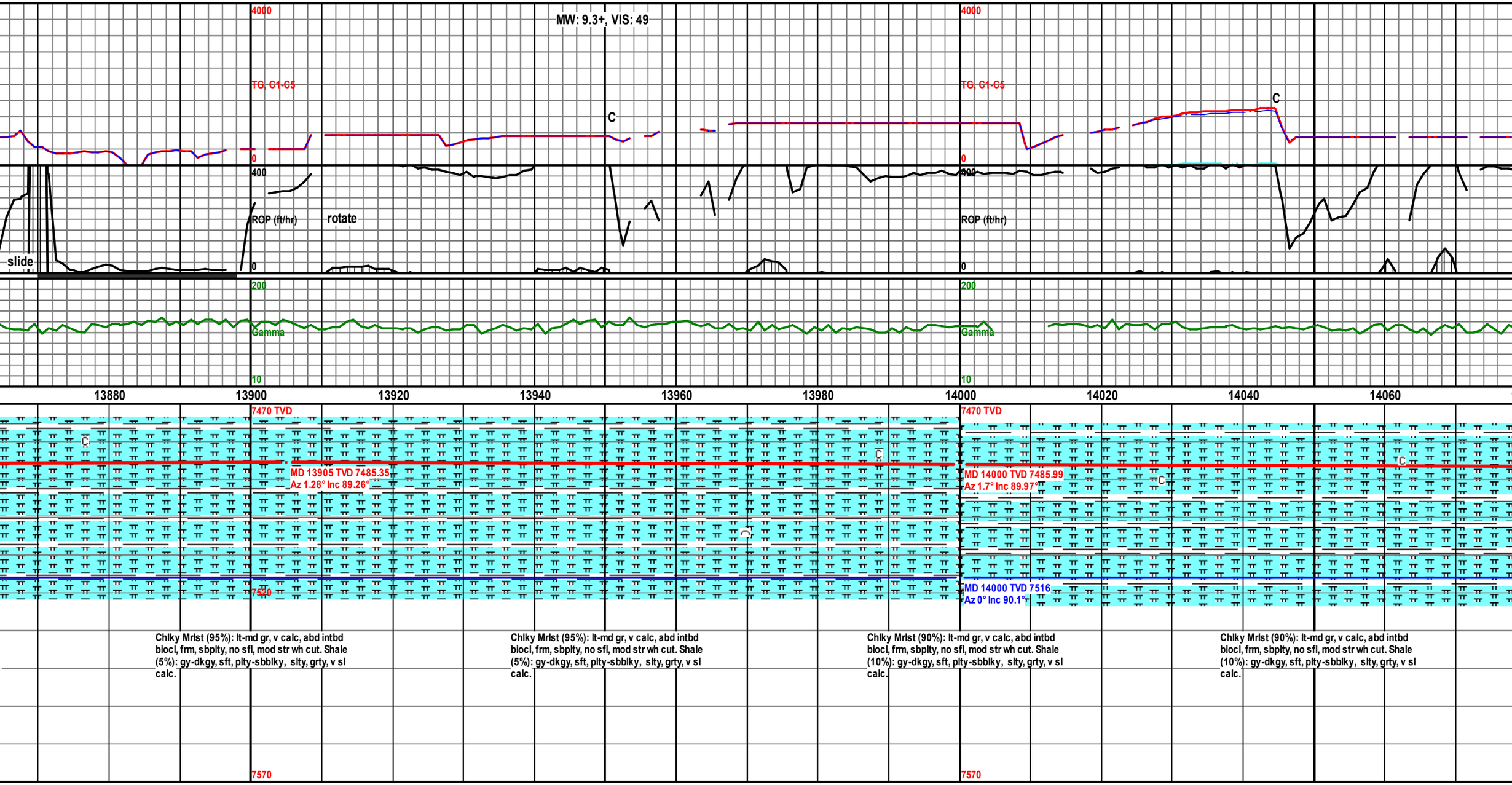

MW: 9.3+, VIS: 65
MW IN: 9.3+, OUT: 9.4
VIS IN: 63, OUT: 60
TG, C1-C5
ROP (ft/hr)
Gamma
slide
rotate
12800
12820
12840
12860
12880
12900
12920
12940
12960
12980
13000
7478 TVD
7502.71
97°
7520
7570
MD 12880 TVD 7499.33
Az 1.66° Inc 92.25°
MD 12927 TVD 7498.42
Az 1.84° Inc 89.97°
MD 13000 TVD 75
Az 0° Inc 90.1°
gr, v calc, abd intbd biocl, frm,
l str wh cut, tr chalk. Shale
ft, plty-sbblky, slty, grty, v sl
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut, tr chalk. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc. Tr Bent.

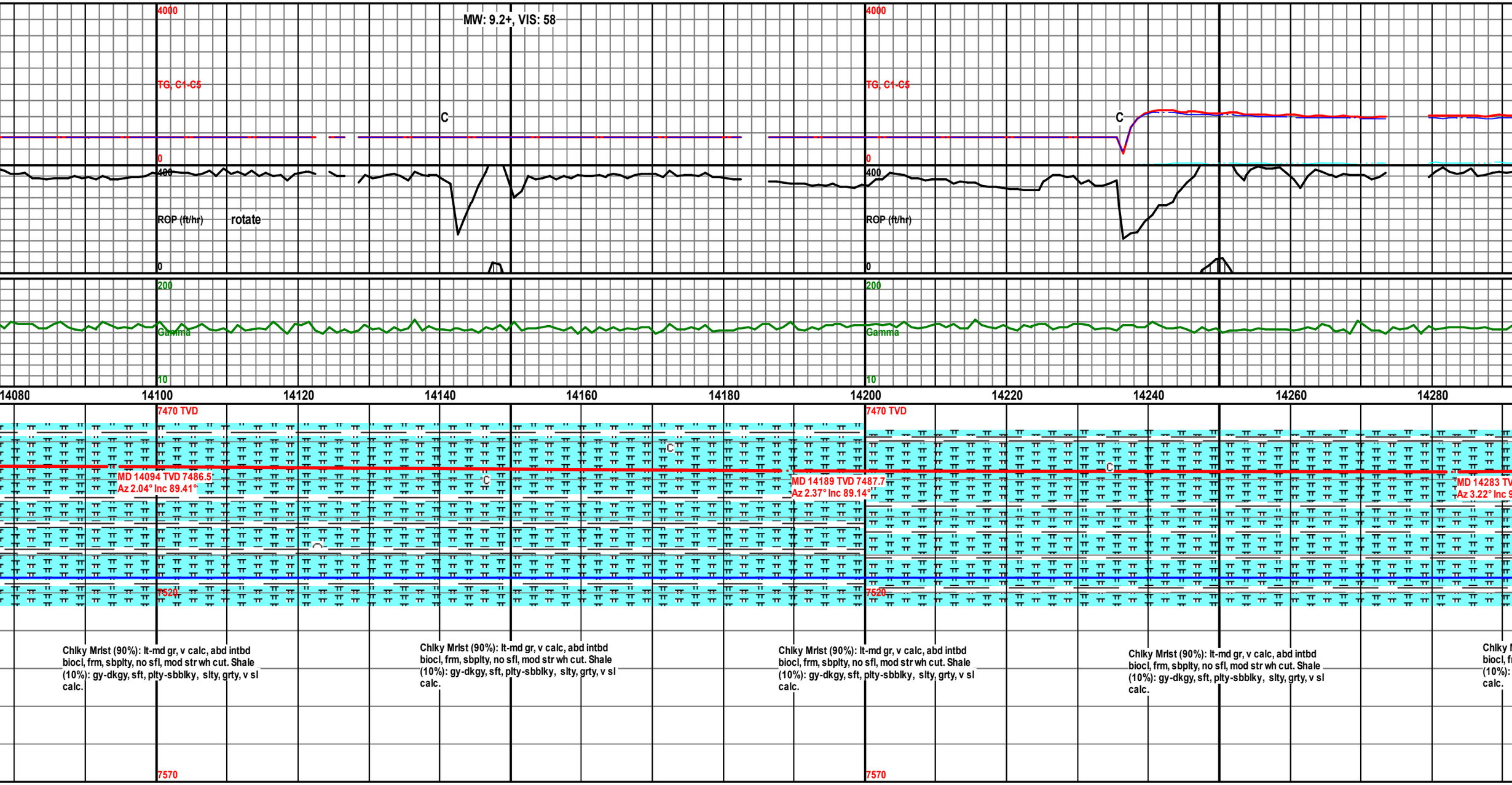

4000
TG, C1-C5
0
C
400
ROP (ft/hr)
0
slide
200
Gamma
10
13020
13040
13060
13080
13100
13120
13140
13160
13180
13200
13220
7470 TVD
MD 13063 TVD 7498.31
Az 2.06° Inc 90.12°
MD 13155 TVD 7497.55
Az 1.87° Inc 89.78°
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut, tr chalk. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

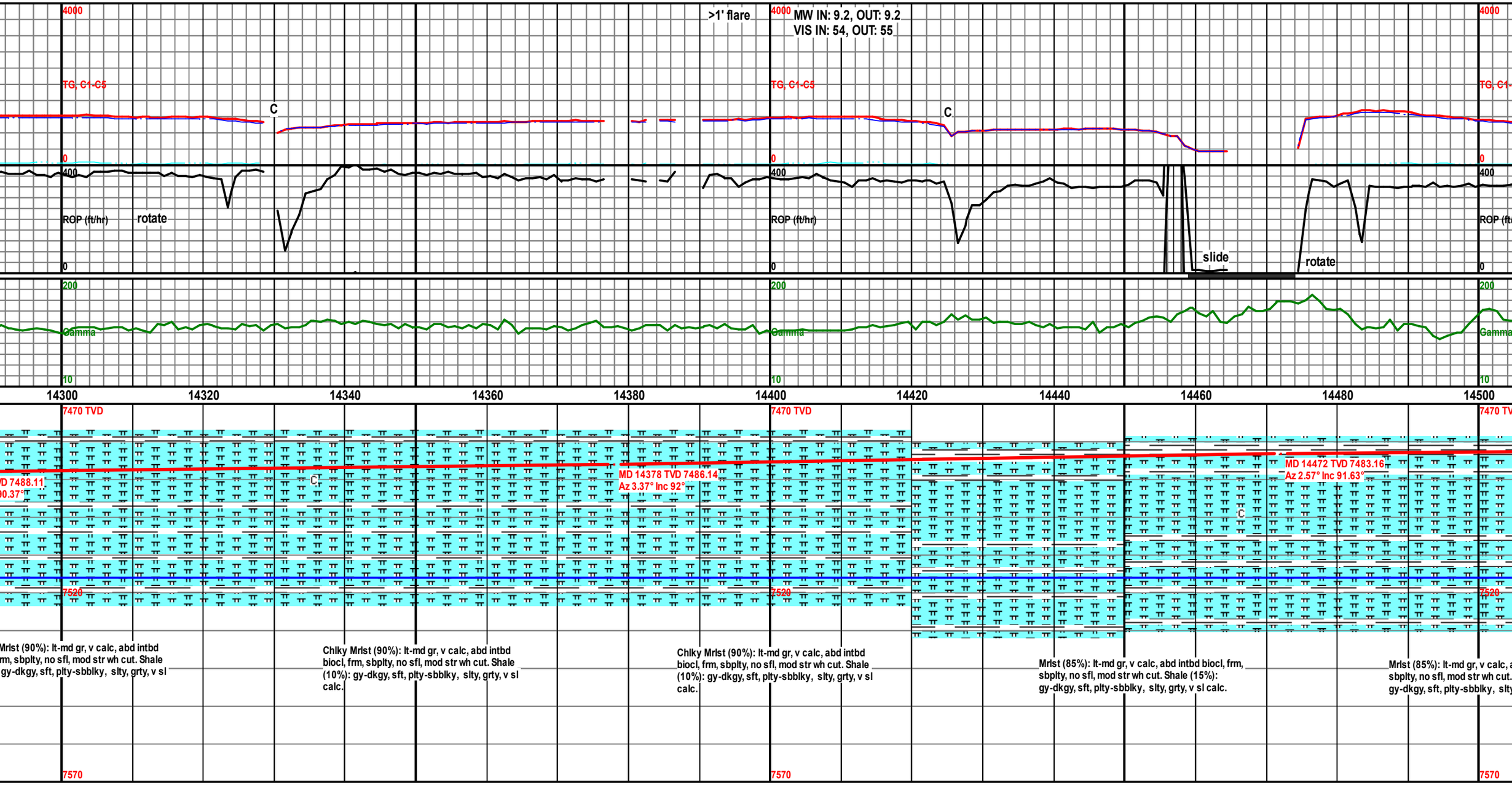

MW: 9.1, VIS: 52
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
rotate
slide
200
Gamma
10
13240
13260
13280
13300
13320
13340
13360
13380
13400
13420
7478 TVD
MD 13247 TVD 7497.46
Az 2.43° Inc 90.34°
MD 13339 TVD 7497.19
Az 2.89° Inc 90°
B
7520
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
7570

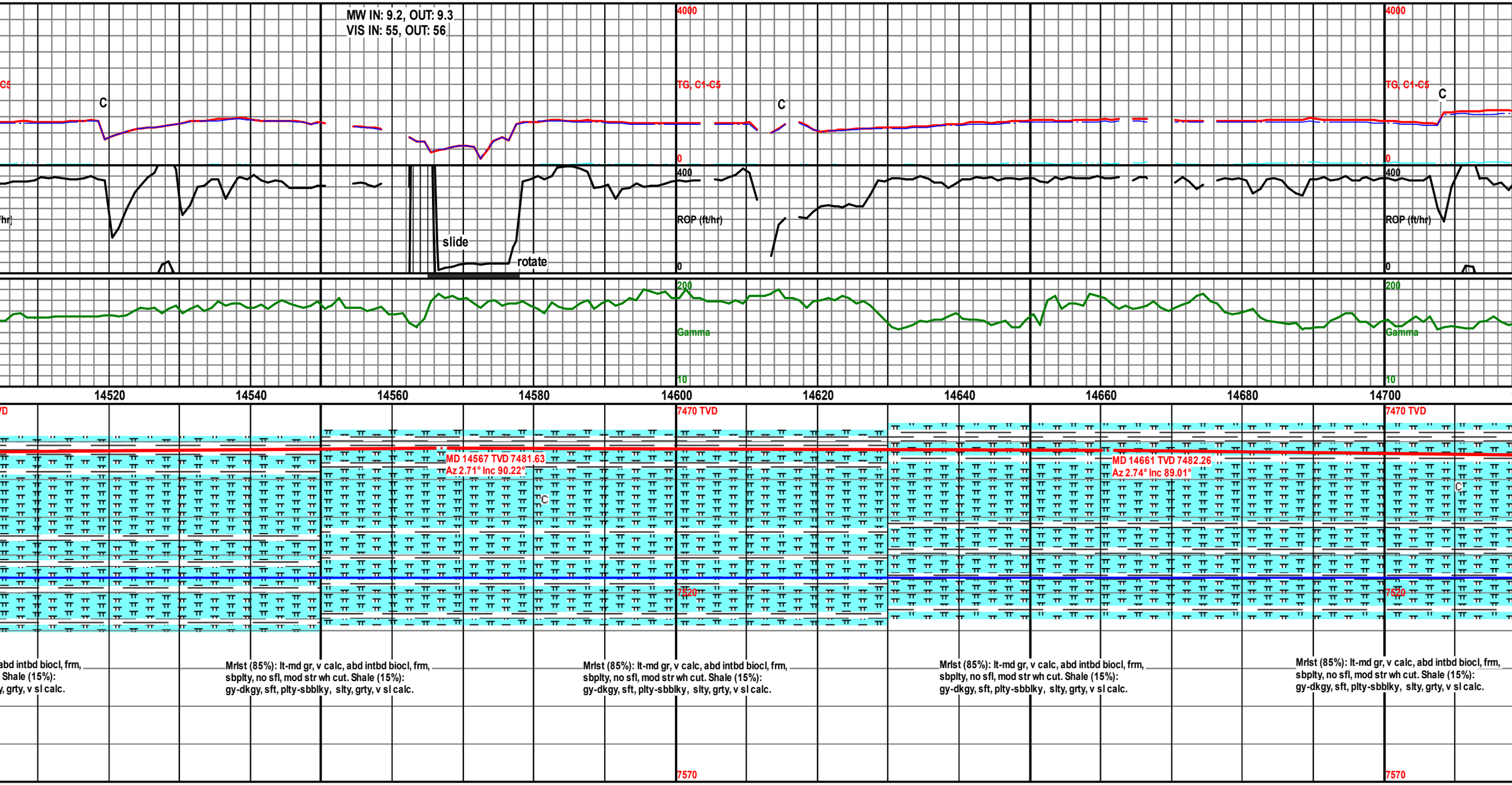

MW: 9.1, VIS: 56
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
0
200
Gamma
10
13440
13460
13480
13500
13520
13540
13560
13580
13600
13620
13640
7470 TVD
433 TVD 7496.15
° Inc 91.26°
MD 13528 TVD 7493.8
Az 2.47° Inc 91.57°
MD 13622 TVD 7491.1
Az 2.6° Inc 91.73°
7520
st (85%): lt-md gr, v calc, abd intbd biocl, frm,
lty, no sfl, mod str wh cut. Shale (15%):
dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
t.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (90%): lt-md
biocl, frm, sbplty, no sfl,
(10%): gy-dkgy, sft, plty-
calc.
7570

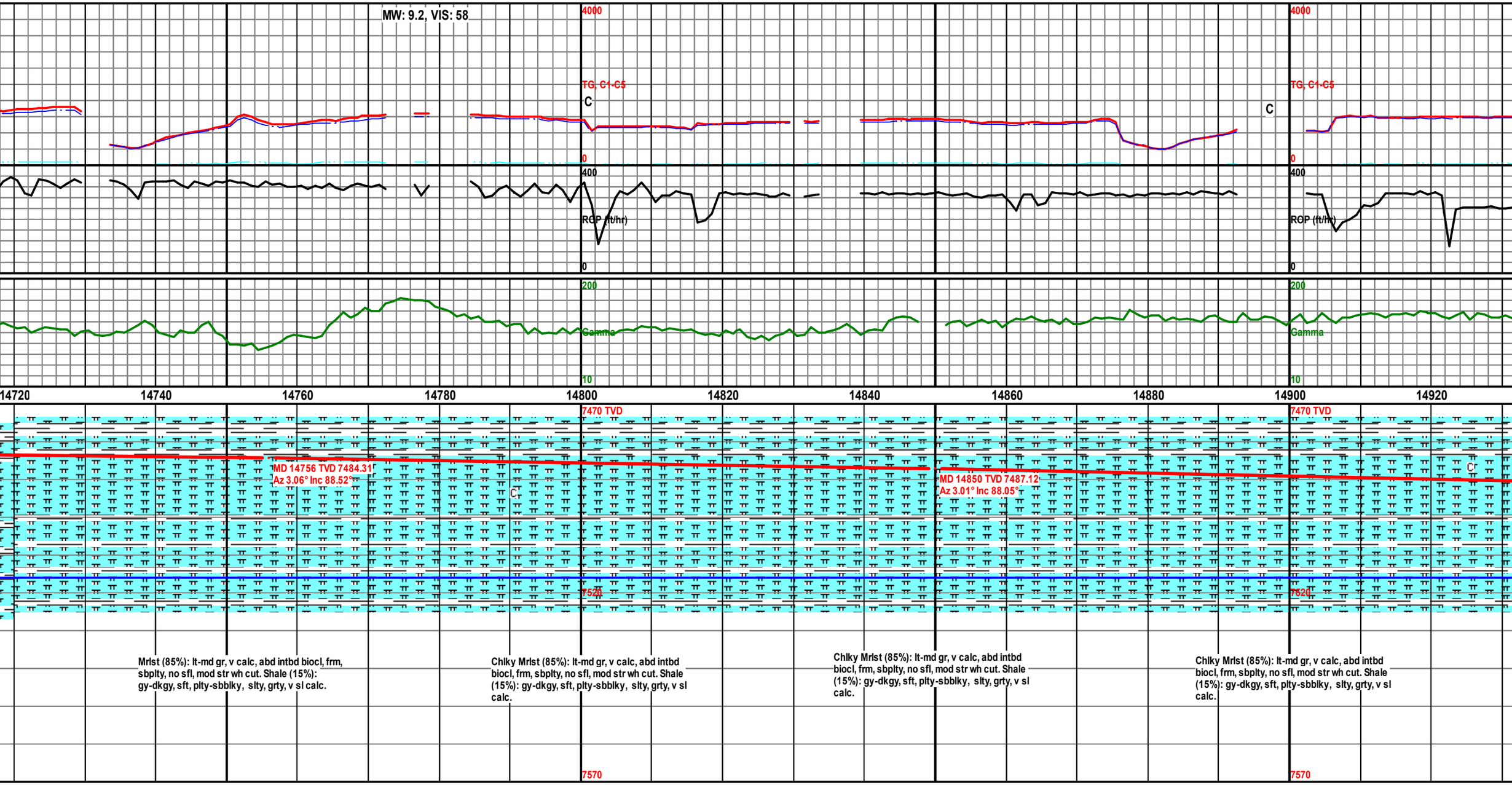

VIS: 54
MW: 9.1, VIS: 50
MW: 9.2, VIS: 58
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
slide
rotate
200
Gamma
10
13660
13680
13700
13720
13740
13760
13780
13800
13820
13840
13860
7470 TVD
MD 13717 TVD 7488.41
Az 2.07° Inc 91.51°
MD 13811 TVD 7485.96
Az 2.36° Inc 91.48°
7520
7570
gr, v calc, abd intbd
mod str wh cut. Shale
sbblky, slty, grty, v sl
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.

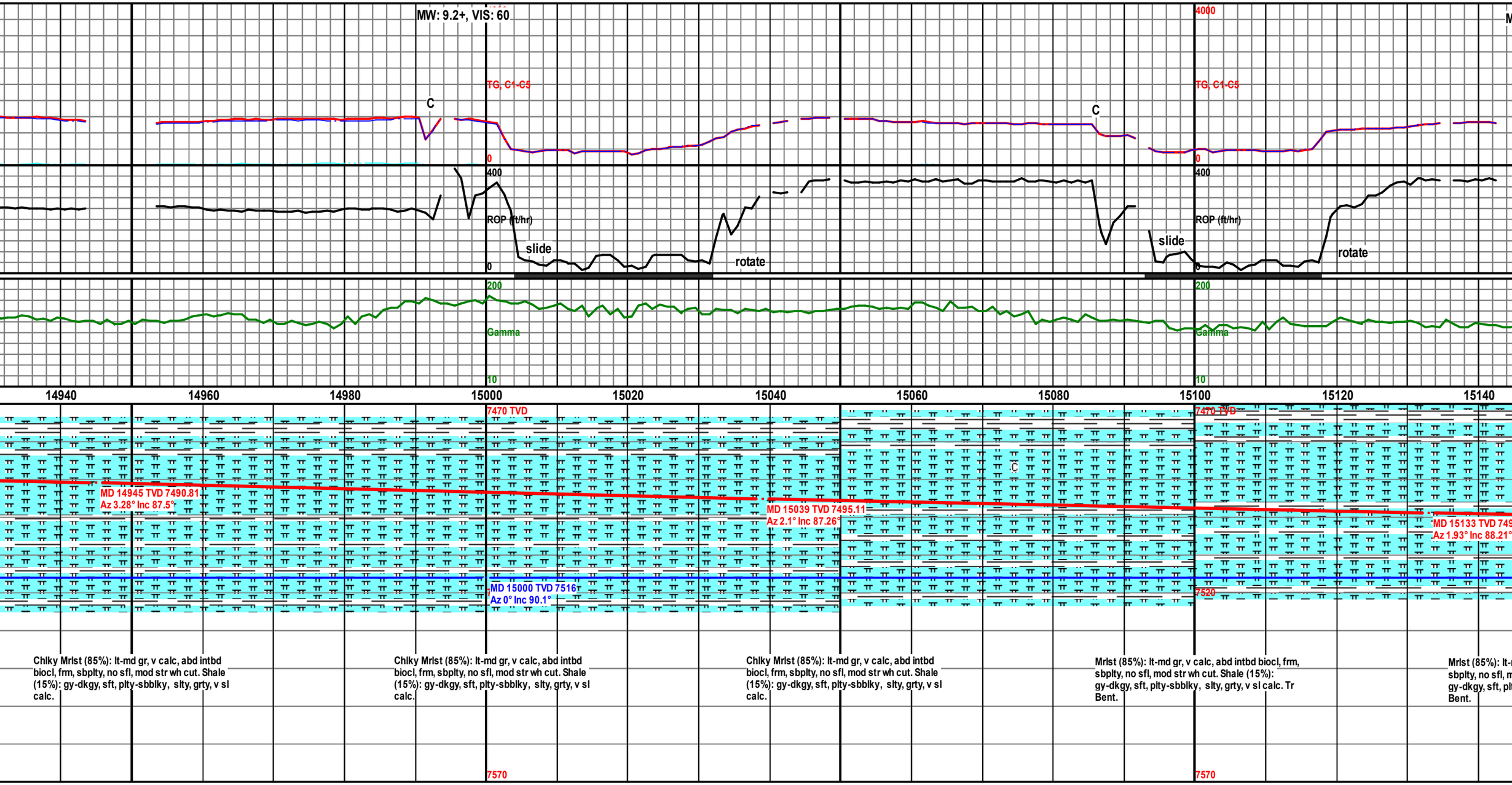

MW: 9.3+, VIS: 49
4000
TG, C1-C5
0
400
ROP (ft/hr)
rotate
slide
200
Gamma
10
13880
13900
13920
13940
13960
13980
14000
14020
14040
14060
7470 TVD
MD 13905 TVD 7485.35
Az 1.28° Inc 89.26°
MD 14000 TVD 7485.99
Az 1.7° Inc 89.97°
MD 14000 TVD 7516
Az 0° Inc 90.1°
7520
7570
C
Chlky Mrlst (95%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (5%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (95%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (5%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.

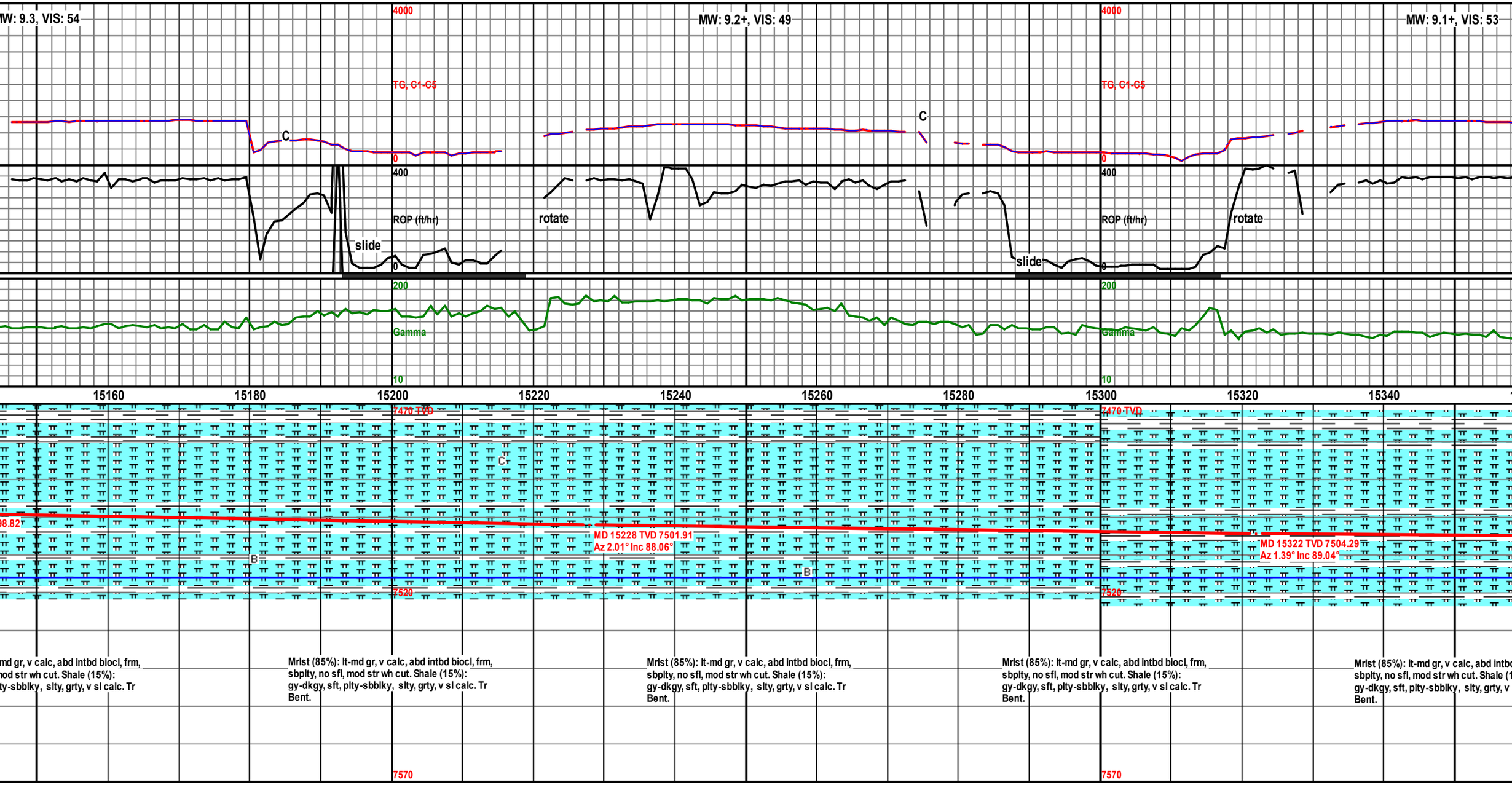

MW: 9.2+, VIS: 58
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
rotate
0
200
Gamma
10
14080
14100
14120
14140
14160
14180
14200
14220
14240
14260
14280
7470 TVD
MD 14094 TVD 7486.5
Az 2.04° Inc 89.41°
MD 14189 TVD 7487.7
Az 2.37° Inc 89.14°
MD 14283 TV
Az 3.22° Inc 9
7520
7570
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky M
biocl, fr
(10%):
calc.

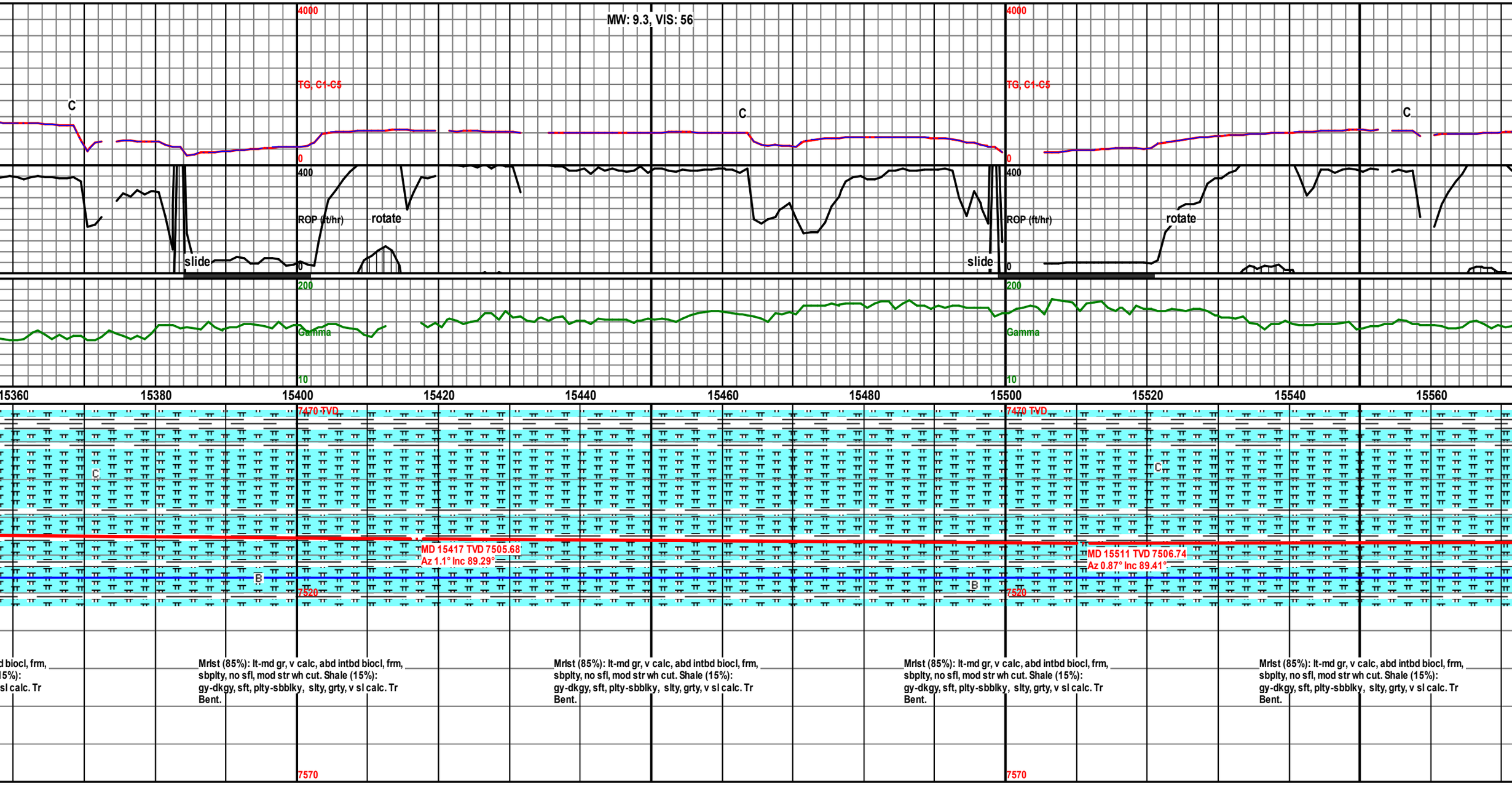

4000
TG, C1-C5
0
400
ROP (ft/hr)
rotate
C
>1' flare
MW IN: 9.2, OUT: 9.2
VIS IN: 54, OUT: 55
slide
200
Gamma
10
14300
14320
14340
14360
14380
14400
14420
14440
14460
14480
14500
7470 TVD
7520
7570
MD 14378 TVD 7486.14
Az 3.37° Inc 92°
MD 14472 TVD 7483.16
Az 2.57° Inc 91.63°
Mrlst (90%): lt-md gr, v calc, abd intbd
rm, sbplty, no sfl, mod str wh cut. Shale
gy-dkgy, sft, plty-sbblky, slty, grty, v sl
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Mrlst (85%): lt-md gr, v calc,
sbplty, no sfl, mod str wh cut.
gy-dkgy, sft, plty-sbblky, slty

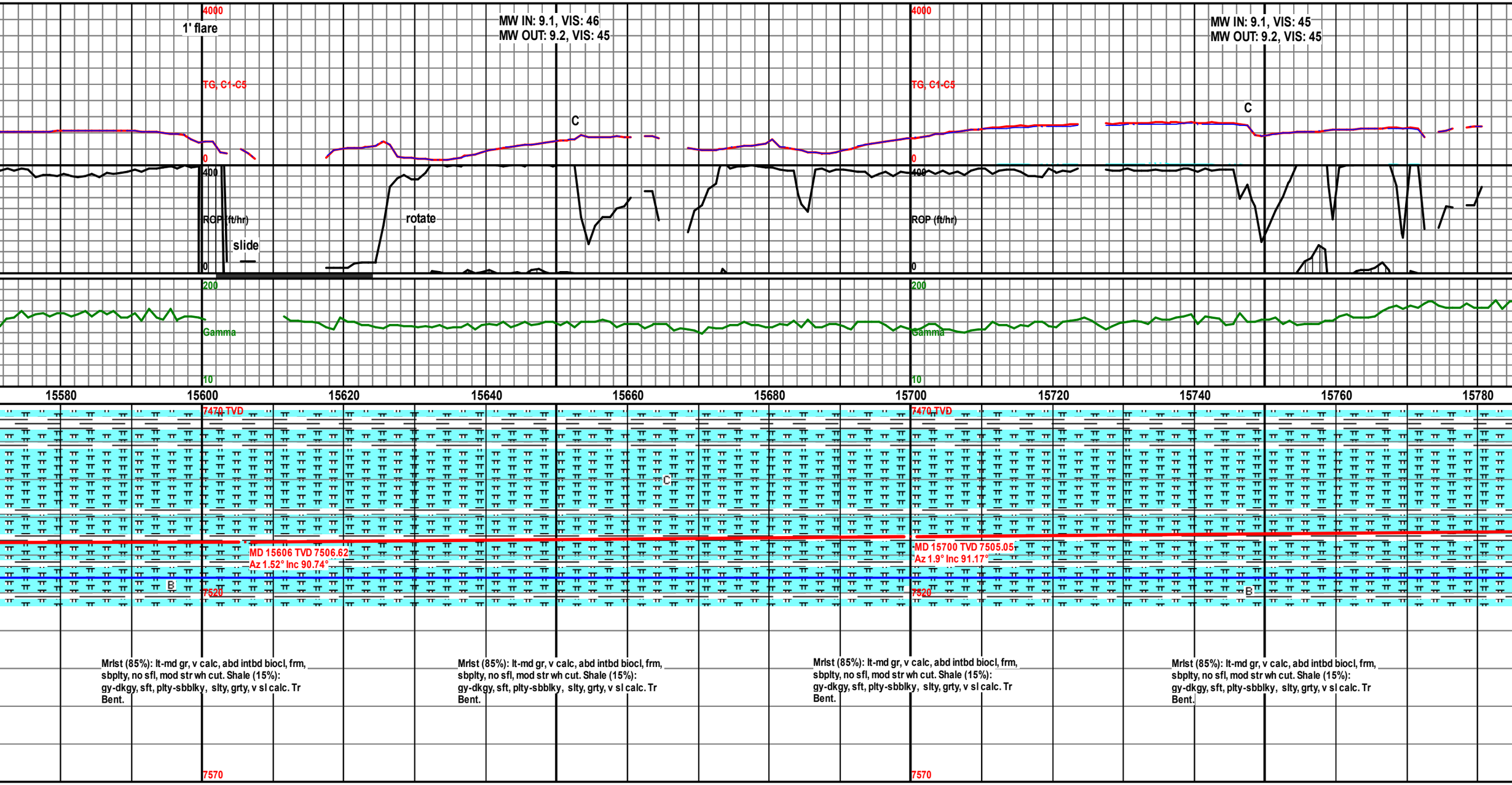

MW IN: 9.2, OUT: 9.3
VIS IN: 55, OUT: 56
TG, C1-C5
4000
0
C
ROP (ft/hr)
400
0
slide
rotate
Gamma
200
10
14520
14540
14560
14580
14600
14620
14640
14660
14680
14700
7470 TVD
7520
7570
MD 14567 TVD 7481.63
Az 2.71° Inc 90.22°
MD 14661 TVD 7482.26
Az 2.74° Inc 89.01°
abd intbd biocl, frm,
Shale (15%):
, grty, v sl calc.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.

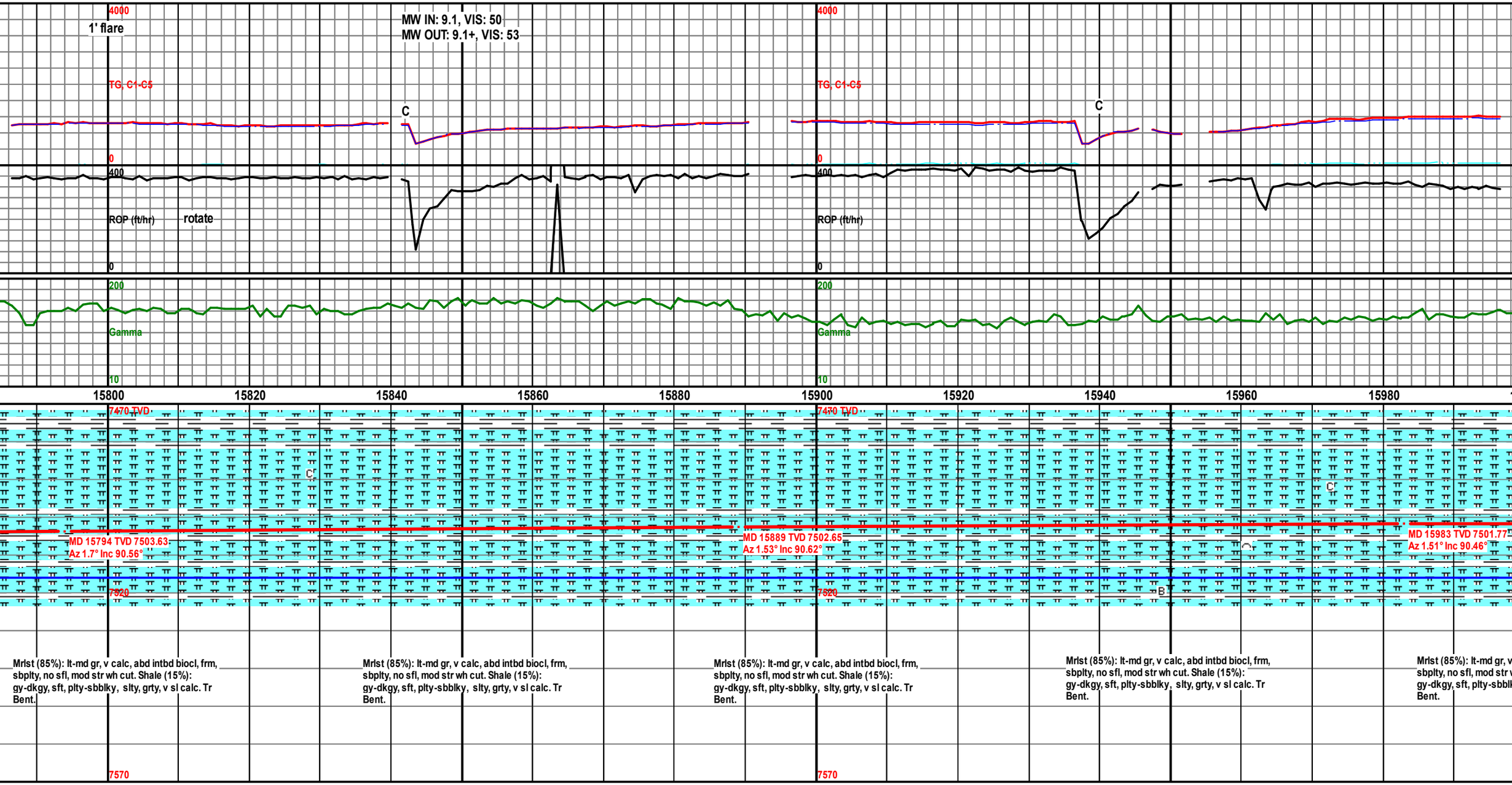

MW: 9.2, VIS: 58
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
0
200
Gamma
10
14720
14740
14760
14780
14800
14820
14840
14860
14880
14900
14920
7470 TVD
MD 14756 TVD 7484.31
Az 3.06° Inc 88.52°
MD 14850 TVD 7487.12
Az 3.01° Inc 88.05°
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.

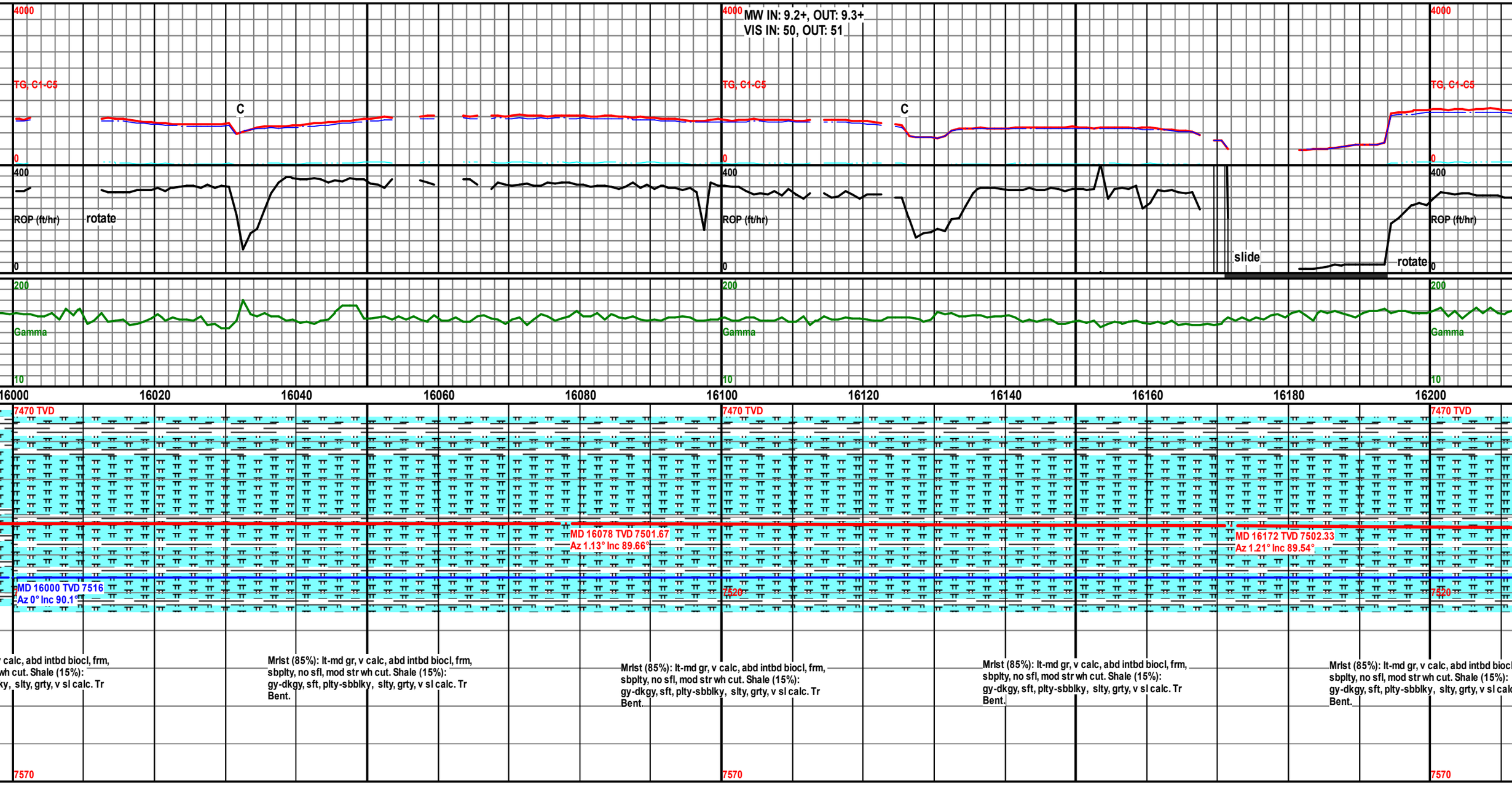

MW: 9.2+, VIS: 60
TG, C1-C5
C
0
400
ROP (ft/hr)
slide
rotate
0
200
Gamma
10
4000
14940
14960
14980
15000
15020
15040
15060
15080
15100
15120
15140
7470 TVD
MD 14945 TVD 7490.81
Az 3.28° Inc 87.5°
MD 15039 TVD 7495.11
Az 2.1° Inc 87.26°
MD 15133 TVD 749
Az 1.93° Inc 88.21°
MD 15000 TVD 7516
Az 0° Inc 90.1°
7520
7570
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-
sbplty, no sfl, m
gy-dkgy, sft, pl
Bent.

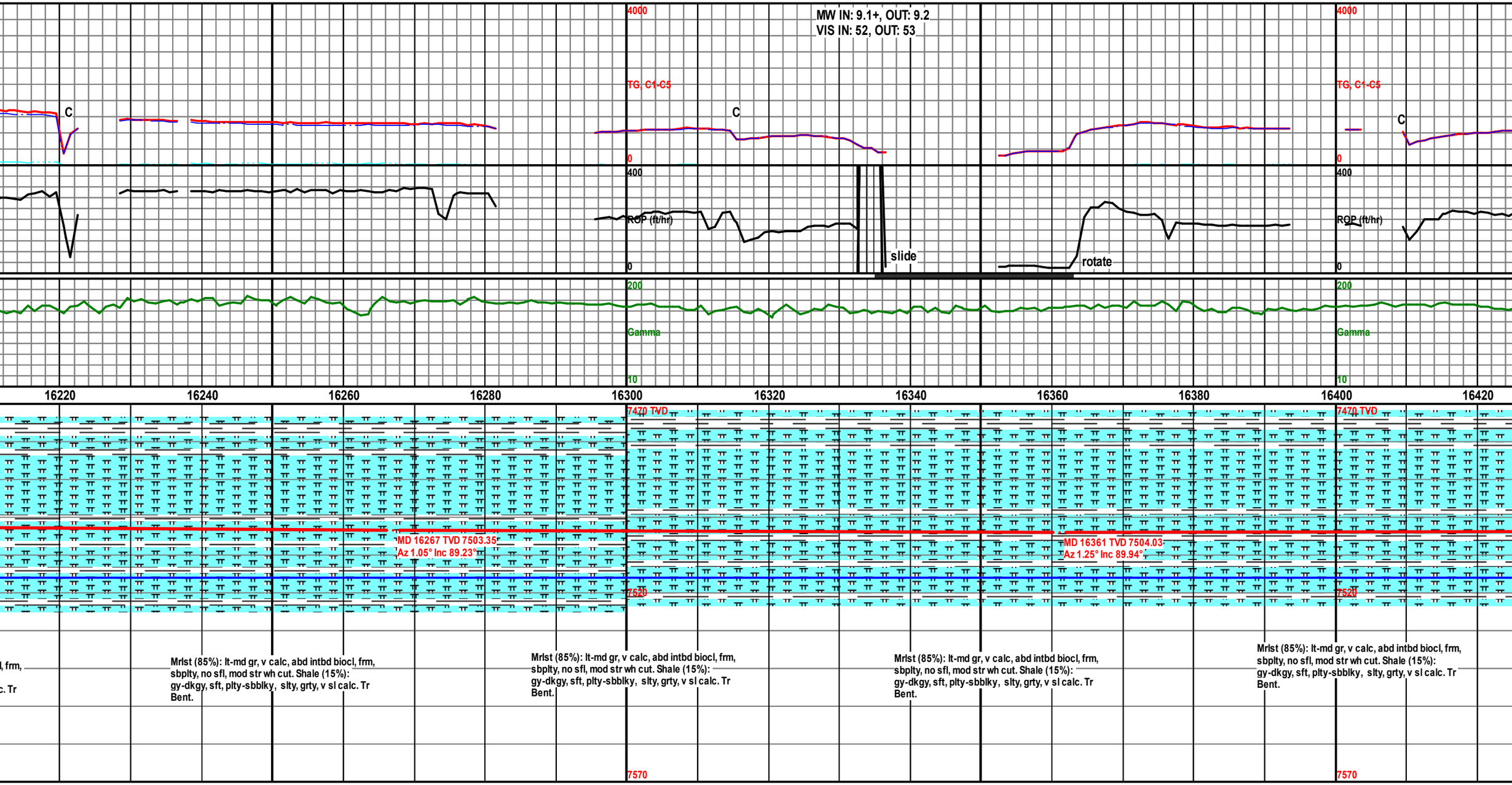

MW: 9.3, VIS: 54
MW: 9.2+, VIS: 49
MW: 9.1+, VIS: 53
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
C
slide
rotate
15160
15180
15200
15220
15240
15260
15280
15300
15320
15340
7470 TVD
7520
7570
B
MD 15228 TVD 7501.91
Az 2.01° Inc 88.06°
MD 15322 TVD 7504.29
Az 1.39° Inc 89.04°
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

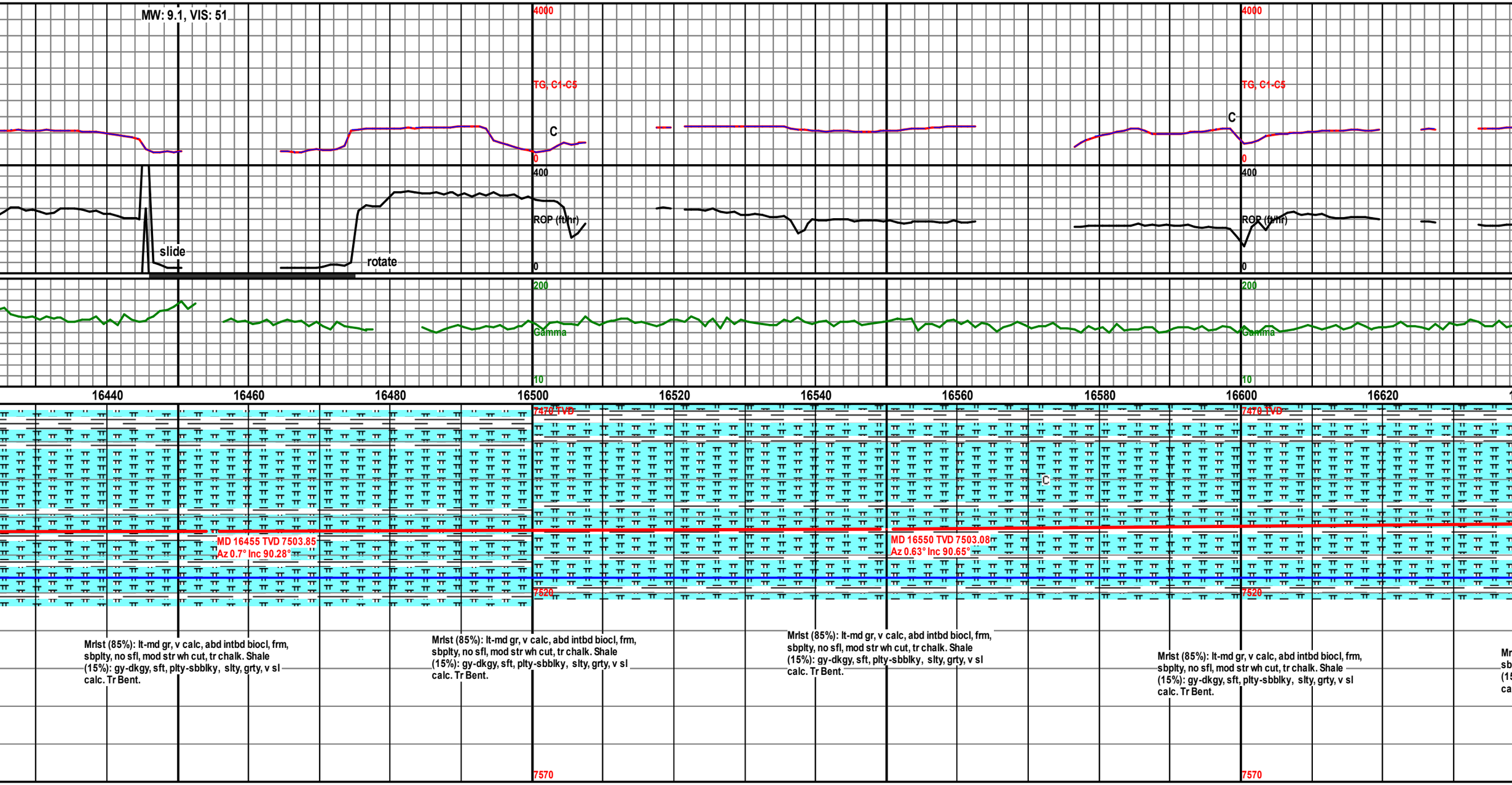

MW: 9.3, VIS: 56
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
C
slide
rotate
15360
15380
15400
15420
15440
15460
15480
15500
15520
15540
15560
7470 TVD
MD 15417 TVD 7505.68
Az 1.1° Inc 89.29°
MD 15511 TVD 7506.74
Az 0.87° Inc 89.41°
B
7520
7570
d biocl, frm,
15%):
sl calc. Tr
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut. Shale (15%):
gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr
Bent.

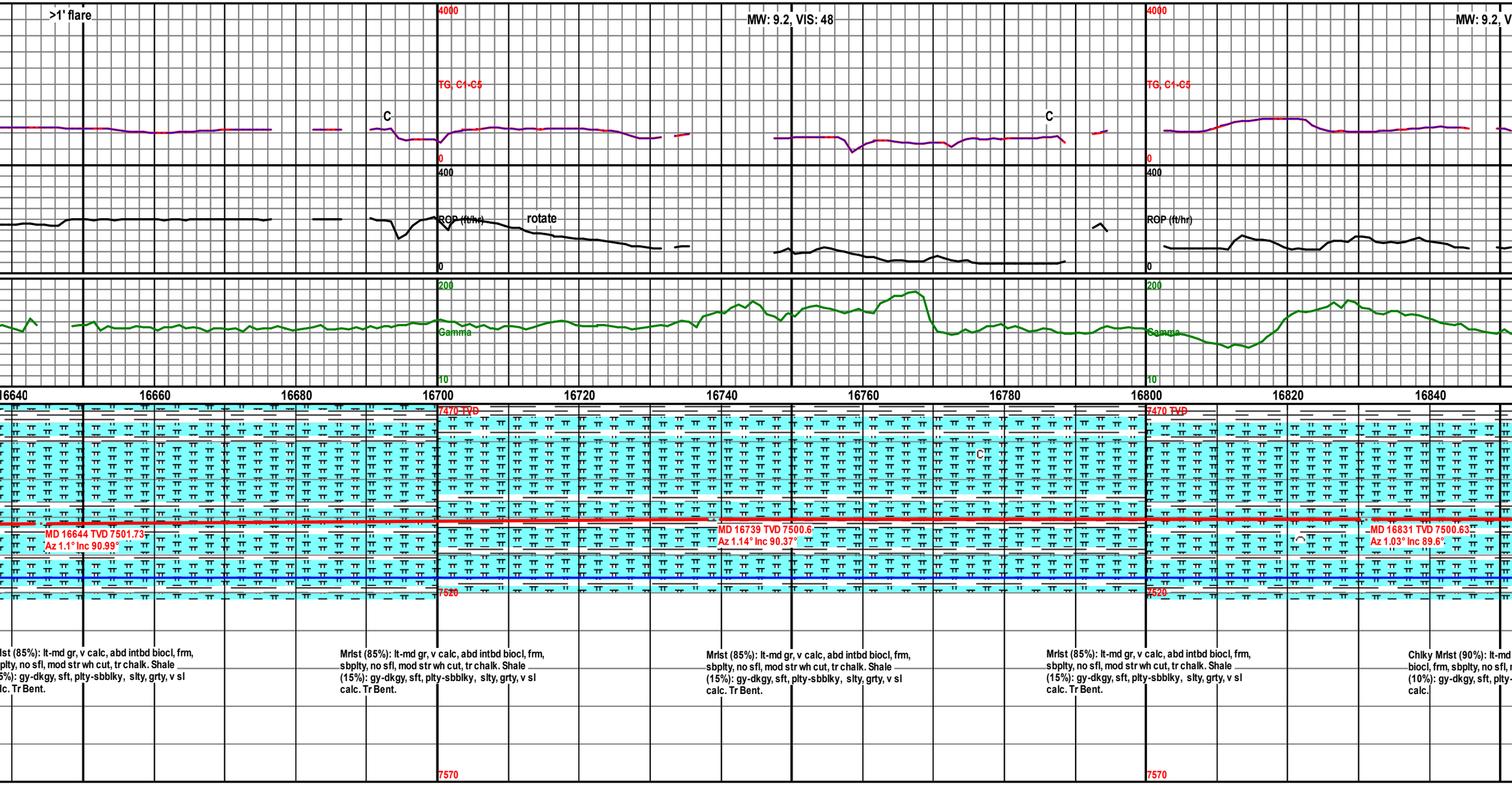

4000
1' flare
MW IN: 9.1, VIS: 46
MW OUT: 9.2, VIS: 45
TG, C1-C5
C
0
400
ROP (ft/hr)
rotate
slide
0
200
Gamma
10
15580
15600
15620
15640
15660
15680
15700
15720
15740
15760
15780
7470 TVD
MD 15606 TVD 7506.62
Az 1.52° Inc 90.74°
B
7520
7570
MD 15700 TVD 7505.05
Az 1.9° Inc 91.17°
MW IN: 9.1, VIS: 45
MW OUT: 9.2, VIS: 45
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

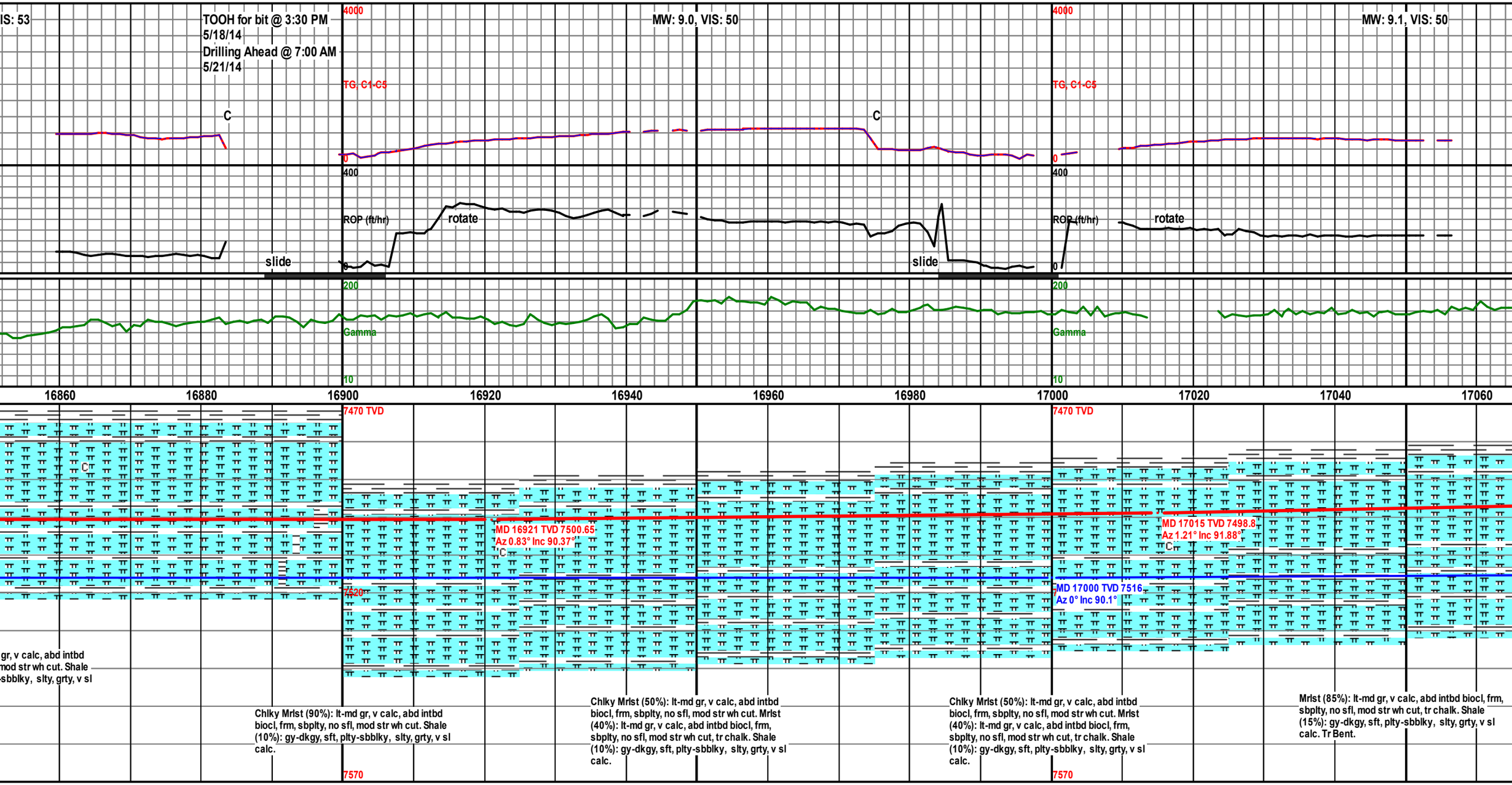

4000
1' flare
MW IN: 9.1, VIS: 50
MW OUT: 9.1+, VIS: 53
TG, C1-C5
C
0
400
ROP (ft/hr)
rotate
0
200
Gamma
10
15800
15820
15840
15860
15880
15900
15920
15940
15960
15980
7470 TVD
C
MD 15794 TVD 7503.63
Az 1.7° Inc 90.56°
MD 15889 TVD 7502.65
Az 1.53° Inc 90.62°
MD 15983 TVD 7501.77
Az 1.51° Inc 90.46°
B
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

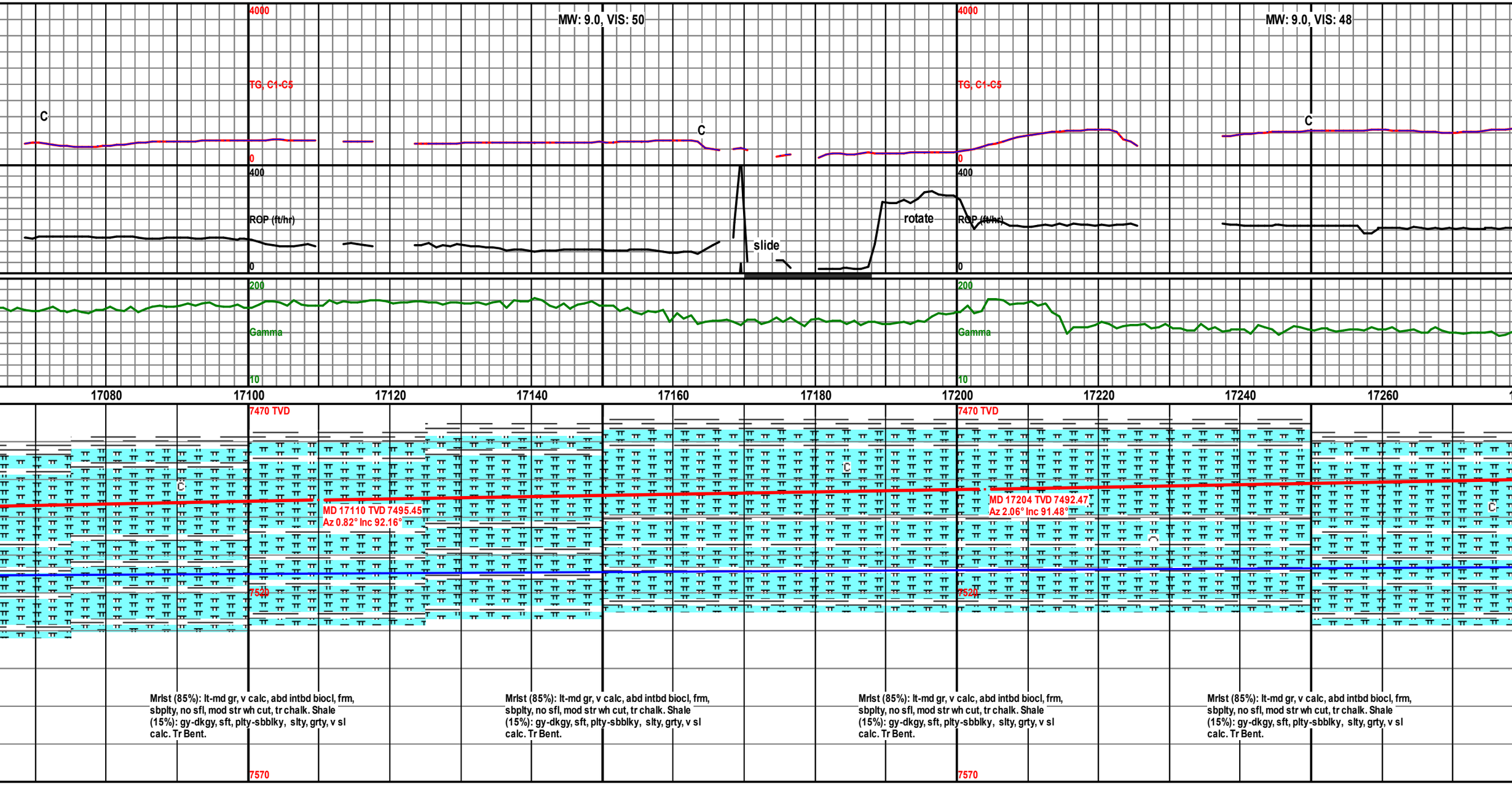

MW IN: 9.2+, OUT: 9.3+
VIS IN: 50, OUT: 51
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
rotate
slide
200
Gamma
10
16000
16020
16040
16060
16080
16100
16120
16140
16160
16180
16200
7470 TVD
MD 16078 TVD 7501.67
Az 1.13° Inc 89.66°
MD 16172 TVD 7502.33
Az 1.21° Inc 89.54°
MD 16000 TVD 7516
Az 0° Inc 90.1°
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

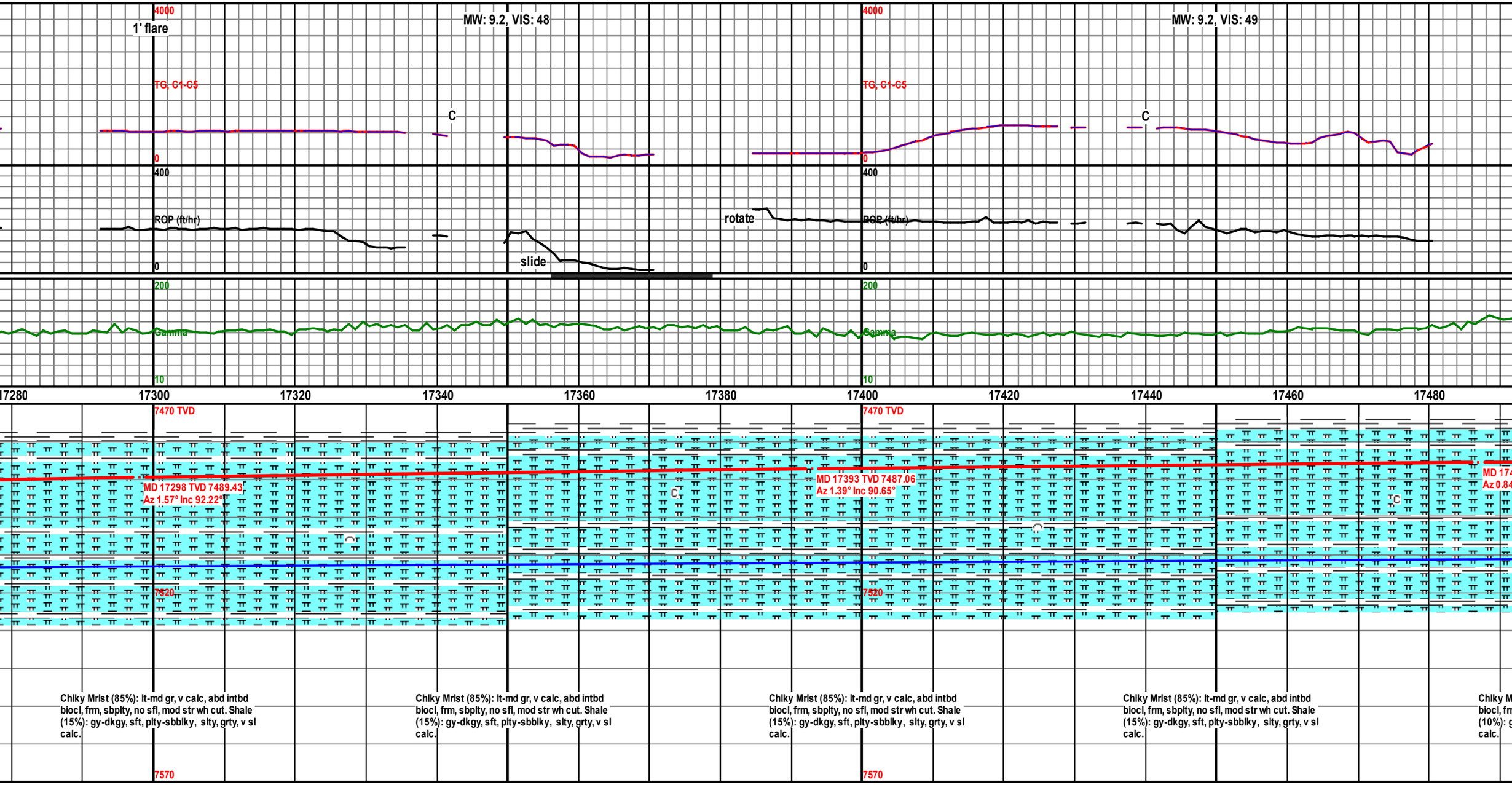

MW IN: 9.1+, OUT: 9.2
VIS IN: 52, OUT: 53
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
0
slide
rotate
200
Gamma
10
16220
16240
16260
16280
16300
16320
16340
16360
16380
16400
16420
7470 TVD
MD 16267 TVD 7503.35
Az 1.05° Inc 89.23°
MD 16361 TVD 7504.03
Az 1.25° Inc 89.94°
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

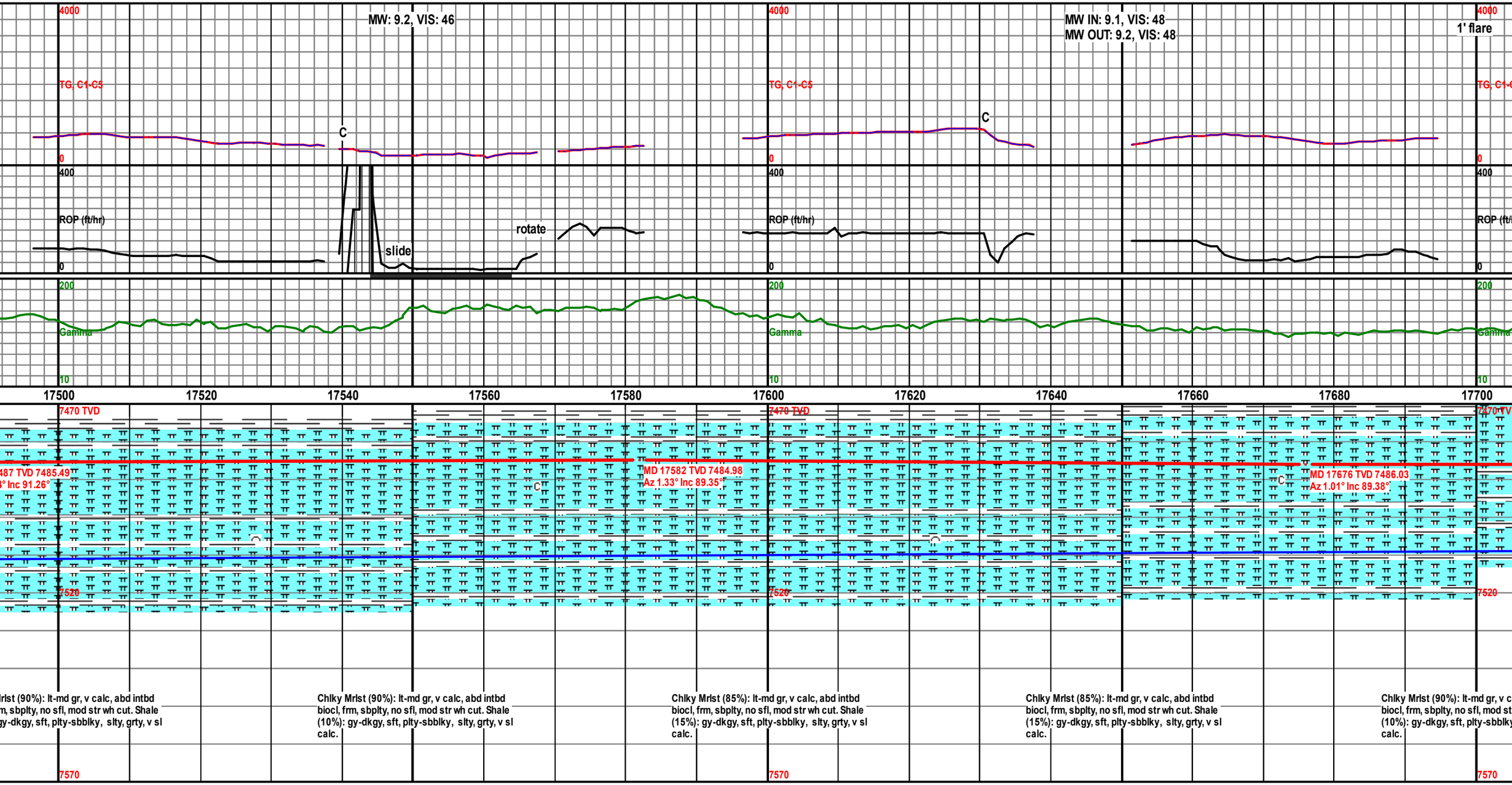

MW: 9.1, VIS: 51
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
slide
rotate
0
200
Gamma
10
16440
16460
16480
16500
16520
16540
16560
16580
16600
16620
7470 TVD
MD 16455 TVD 7503.85
Az 0.7° Inc 90.28°
MD 16550 TVD 7503.08
Az 0.63° Inc 90.65°
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut, tr chalk. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

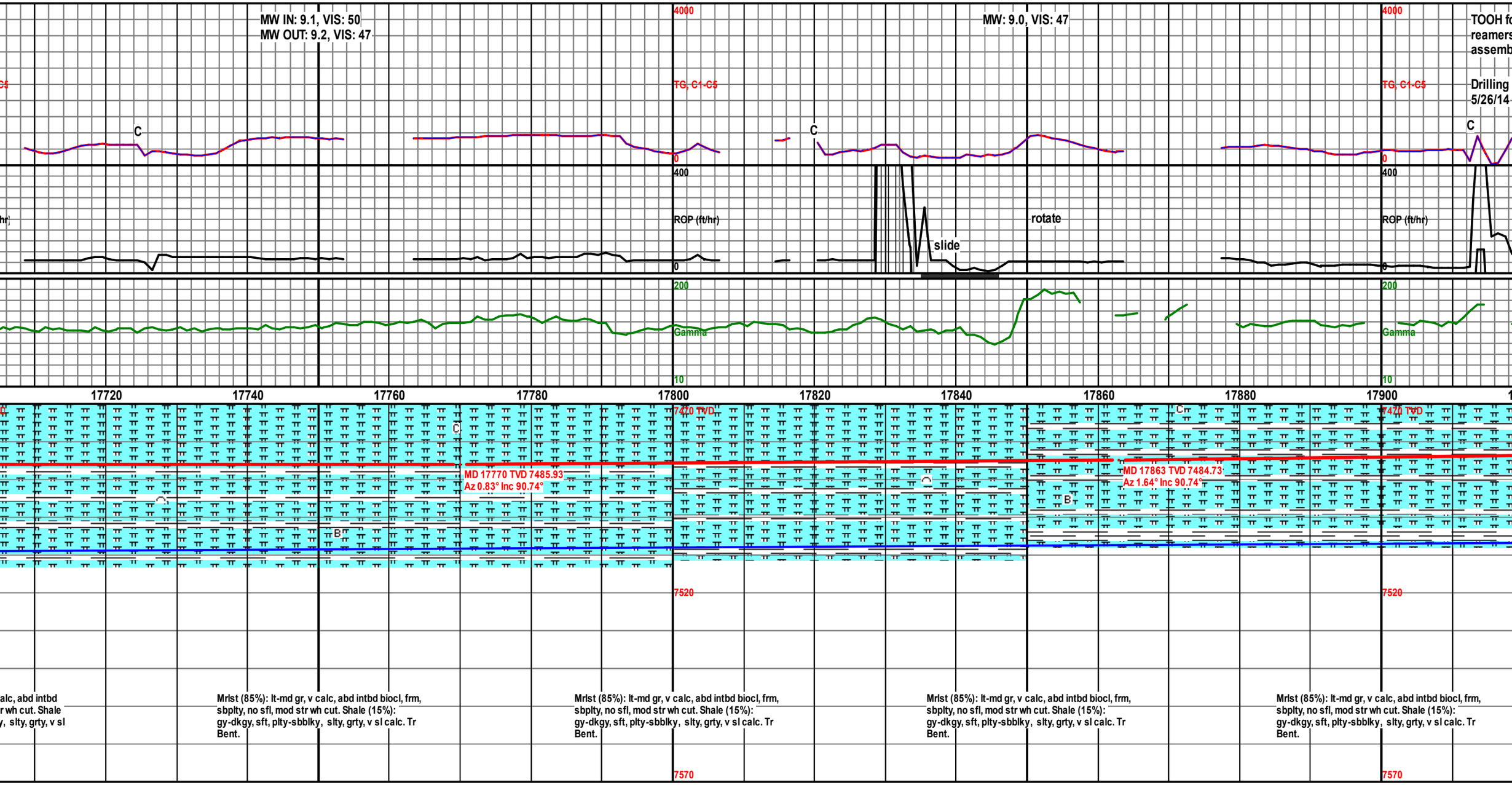

>1' flare
MW: 9.2, VIS: 48
MW: 9.2, V
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
rotate
200
Gamma
10
16640
16660
16680
16700
16720
16740
16760
16780
16800
16820
16840
7470 TVD
MD 16644 TVD 7501.73
Az 1.1° Inc 90.99°
MD 16739 TVD 7500.6
Az 1.14° Inc 90.37°
MD 16831 TVD 7500.63
Az 1.03° Inc 89.6°
7520
7570
lst (85%): lt-md gr, v calc, abd intbd biocl, frm,
plty, no sfl, mod str wh cut, tr chalk. Shale
5%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
lc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut, tr chalk. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut, tr chalk. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm,
sbplty, no sfl, mod str wh cut, tr chalk. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc. Tr Bent.
Chlky Mrlst (90%): lt-md
biocl, frm, sbplty, no sfl,
(10%): gy-dkgy, sft, plty-
calc.

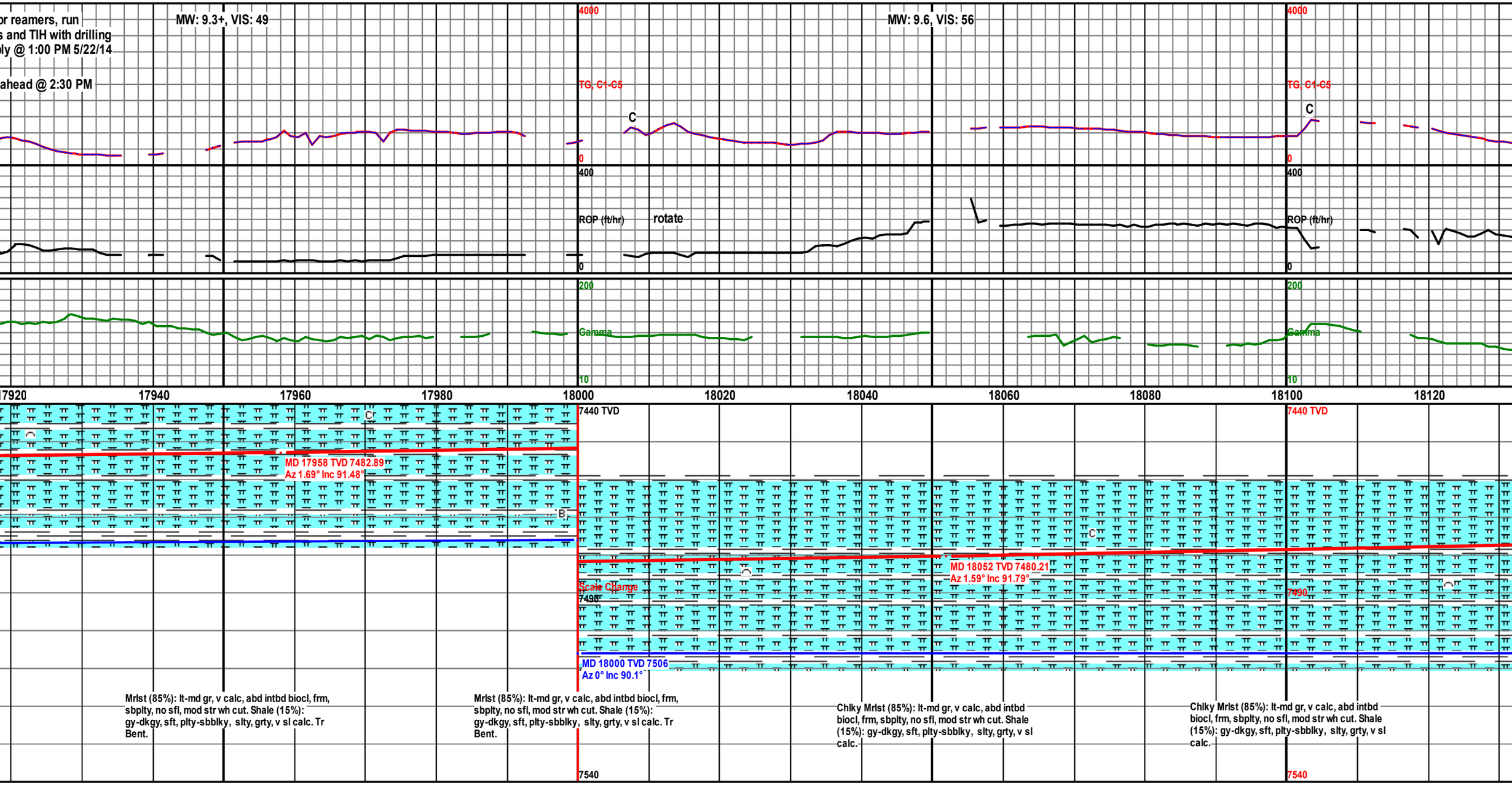

IS: 53
TOOH for bit @ 3:30 PM
5/18/14
Drilling Ahead @ 7:00 AM
5/21/14
MW: 9.0, VIS: 50
MW: 9.1, VIS: 50
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
rotate
slide
200
Gamma
10
16860
16880
16900
16920
16940
16960
16980
17000
17020
17040
17060
7470 TVD
MD 16921 TVD 7500.65
Az 0.83° Inc 90.37°
MD 17015 TVD 7498.8
Az 1.21° Inc 91.88°
MD 17000 TVD 7516
Az 0° Inc 90.1°
7520
7570
gr, v calc, abd intbd
mod str wh cut. Shale
-sbblky, slty, grty, v sl
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (50%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Mrlst (40%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut, tr chalk. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (50%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Mrlst (40%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut, tr chalk. Shale (10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut, tr chalk. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

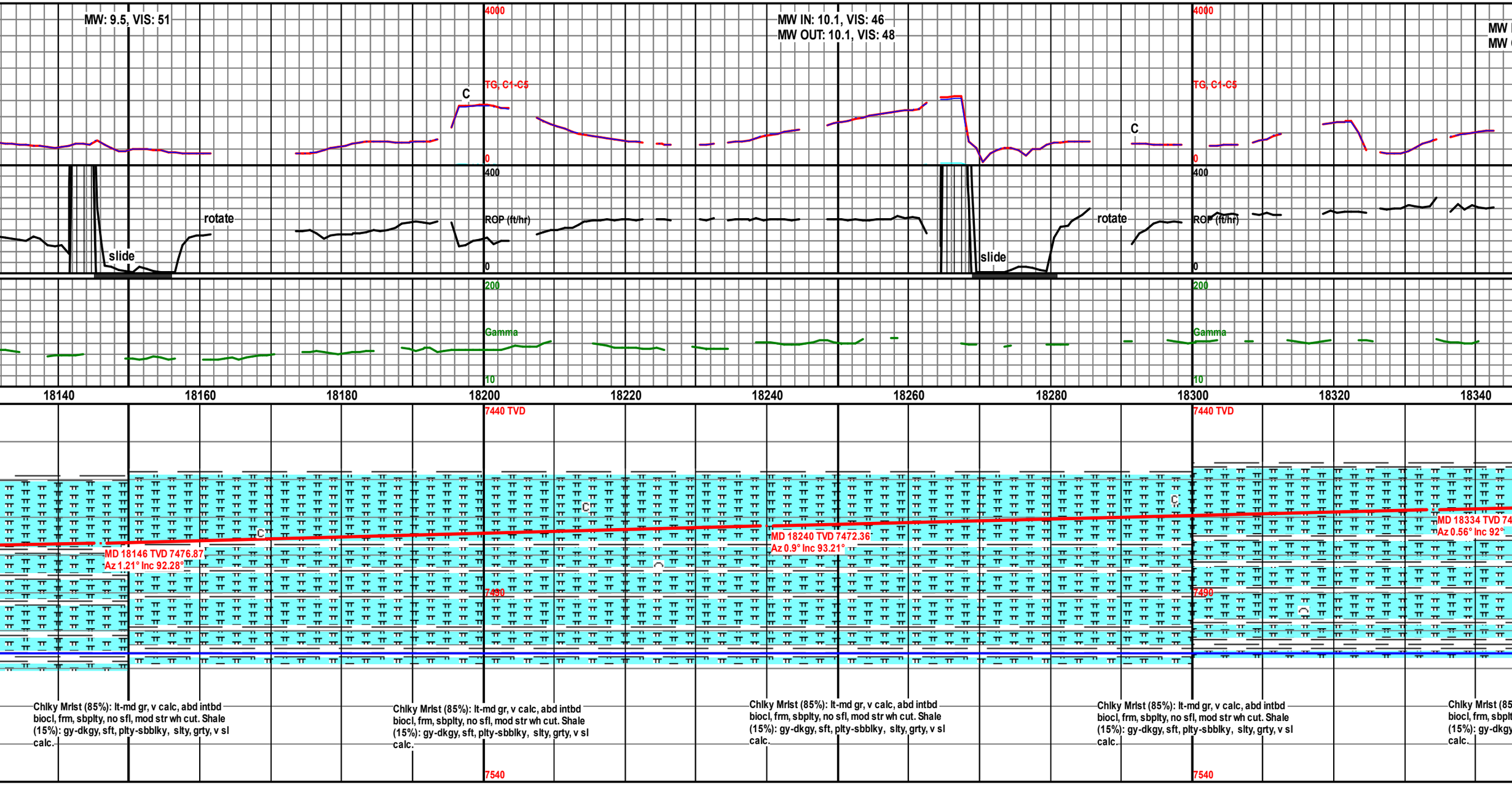

MW: 9.0, VIS: 50
MW: 9.0, VIS: 48
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
C
slide
rotate
17080
17100
17120
17140
17160
17180
17200
17220
17240
17260
7470 TVD
MD 17110 TVD 7495.45
Az 0.82° Inc 92.16°
MD 17204 TVD 7492.47
Az 2.06° Inc 91.48°
7520
7570
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut, tr chalk. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.

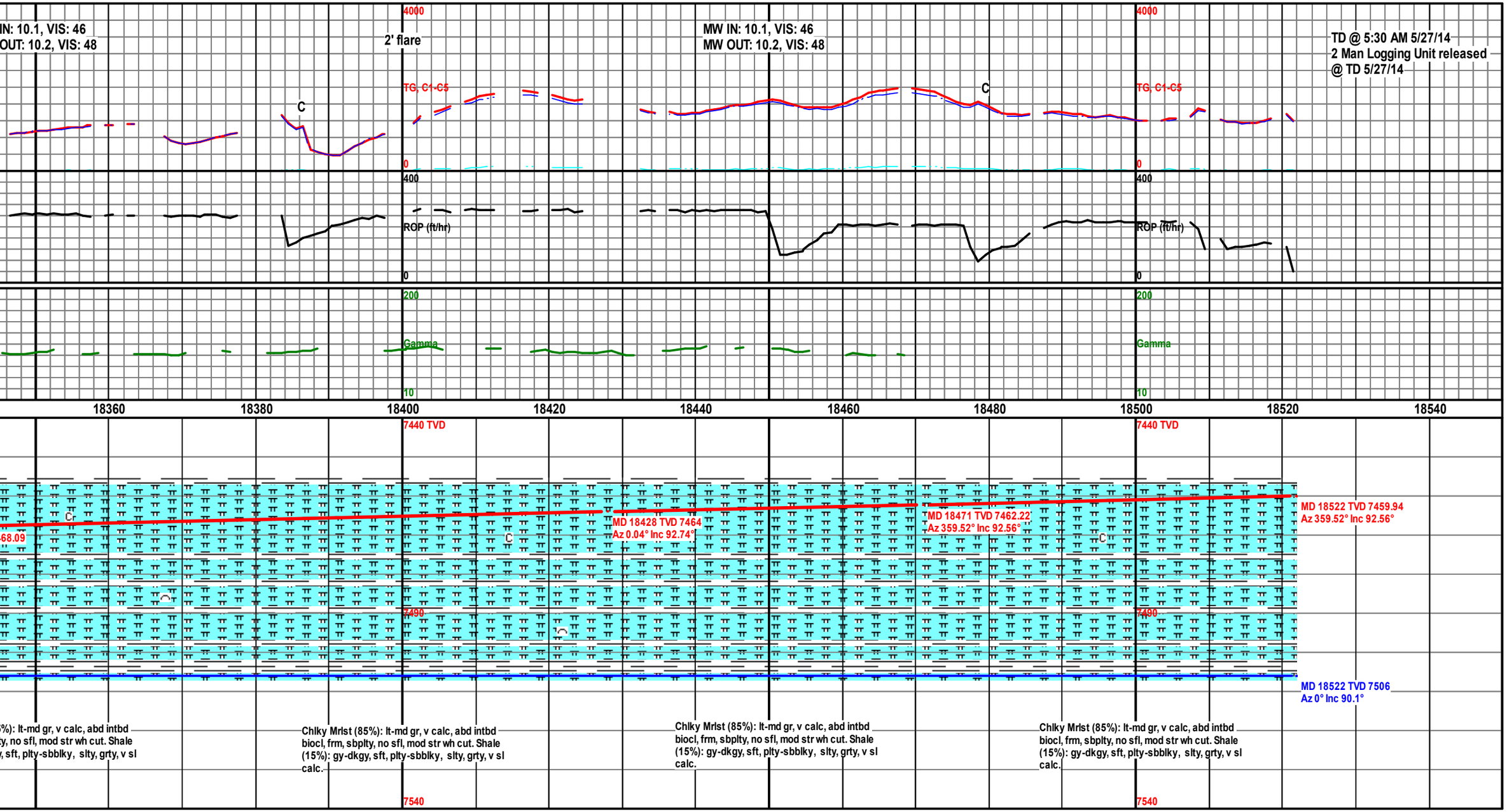

1' flare
MW: 9.2, VIS: 48
MW: 9.2, VIS: 49
TG, C1-C5
4000
0
C
400
ROP (ft/hr)
slide
rotate
200
Gamma
10
17280
17300
17320
17340
17360
17380
17400
17420
17440
17460
17480
7470 TVD
MD 17298 TVD 7489.43
Az 1.57° Inc 92.22°
MD 17393 TVD 7487.06
Az 1.39° Inc 90.65°
7520
7570
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.


MW: 9.2, VIS: 46
MW IN: 9.1, VIS: 48
MW OUT: 9.2, VIS: 48
1' flare
TG, C1-C5
4000
0
C
ROP (ft/hr)
400
slide
rotate
Gamma
200
10
17500
17520
17540
17560
17580
17600
17620
17640
17660
17680
17700
7470 TVD
487 TVD 7485.49
° Inc 91.26°
MD 17582 TVD 7484.98
Az 1.33° Inc 89.35°
MD 17676 TVD 7486.03
Az 1.01° Inc 89.38°
7520
7570
rlst (90%): lt-md gr, v calc, abd intbd
m, sbplty, no sfl, mod str wh cut. Shale
gy-dkgy, sft, plty-sbblky, slty, grty, v sl
Chlky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (90%): lt-md gr, v c
biocl, frm, sbplty, no sfl, mod st
(10%): gy-dkgy, sft, plty-sbblky
calc.


MW IN: 9.1, VIS: 50
MW OUT: 9.2, VIS: 47
MW: 9.0, VIS: 47
TOOH fo
reamers
assemb
Drilling
5/26/14
TG, C1-C5
ROP (ft/hr)
slide
rotate
Gamma
4000
400
200
10
0
17720
17740
17760
17780
17800
17820
17840
17860
17880
17900
7420 TVD
7520
7570
MD 17770 TVD 7485.93
Az 0.83° Inc 90.74°
MD 17863 TVD 7484.73
Az 1.64° Inc 90.74°
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.


or reamers, run
s and TIH with drilling
ly @ 1:00 PM 5/22/14
ahead @ 2:30 PM
MW: 9.3+, VIS: 49
MW: 9.6, VIS: 56
4000
TG, C1-C5
C
0
400
ROP (ft/hr)
rotate
200
Gamma
10
17920
17940
17960
17980
18000
18020
18040
18060
18080
18100
18120
7440 TVD
MD 17958 TVD 7482.89
Az 1.69° Inc 91.48°
MD 18052 TVD 7480.21
Az 1.59° Inc 91.79°
Scale Change
7490
MD 18000 TVD 7506
Az 0° Inc 90.1°
7540
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc. Tr Bent.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.


MW: 9.5, VIS: 51
MW IN: 10.1, VIS: 46
MW OUT: 10.1, VIS: 48
4000
TG, C1-C5
0
C
400
ROP (ft/hr)
0
rotate
slide
200
Gamma
10
18140
18160
18180
18200
18220
18240
18260
18280
18300
18320
18340
7440 TVD
7490
7540
MD 18146 TVD 7476.87
Az 1.21° Inc 92.28°
MD 18240 TVD 7472.36
Az 0.9° Inc 93.21°
MD 18334 TVD 74
Az 0.56° Inc 92°
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd biocl, frm, sbplty, no sfl, mod str wh cut. Shale (15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl calc.


IN: 10.1, VIS: 46
OUT: 10.2, VIS: 48
2' flare
MW IN: 10.1, VIS: 46
MW OUT: 10.2, VIS: 48
TD @ 5:30 AM 5/27/14
2 Man Logging Unit released
@ TD 5/27/14
4000
TG, C1-C5
0
400
ROP (ft/hr)
0
200
Gamma
10
18360
18380
18400
18420
18440
18460
18480
18500
18520
18540
7440 TVD
7490
7540
MD 18428 TVD 7464
Az 0.04° Inc 92.74°
MD 18471 TVD 7462.22
Az 359.52° Inc 92.56°
MD 18522 TVD 7459.94
Az 359.52° Inc 92.56°
MD 18522 TVD 7506
Az 0° Inc 90.1°
%): lt-md gr, v calc, abd intbd
y, no sfl, mod str wh cut. Shale
, sft, plty-sbblky, slty, grty, v sl
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.
Chlky Mrlst (85%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, mod str wh cut. Shale
(15%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.