



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

Well Name:	Crowder 16N-19HZ		
Location:	Weld County, CO		
License Number:	05-123-36718	Region:	DJ Basin
Spud Date:	03/04/13	Drilling Completed:	04/06/13
Surface Coordinates:	504' FNL; 853' FEL Sec 18, T2N, R65W		
Bottom Hole Coordinates:	460' FNL; 958' FEL Sec 19, T2N, R65W		
Ground Elevation (m):	4952'	K.B. Elevation (m):	4969'
Logged Interval (m):	7488'	To:	16620'
Formation:	Niobrara C		
Type of Drilling Fluid:	Oil 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
Company: Great Divide Consulting, Inc.
Address: P.O. Box 630263
 Highlands Ranch, CO 80163

Comments

ROCK TYPES

	Anhy		Clyst		Gyp		Mrlst		Shgy
	Bent		Coal		Igne		Salt		Sltst
	Brec		Congl		Lmst		Shale		Ss
	Cht		Dol		Meta		Shcol		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





POROSITY

 Earthy
 Fenest
 Fracture
 Inter
 Moldic
 Organic
 Pinpoint

**Vuggy****SORTING**

 Well
 Moderate
 Poor



OTHER SYMBOLS**ROUNDING**

 Rounded
 Subrnd
 Subang
 Angular


OIL SHOW

 Even

**Spotted**

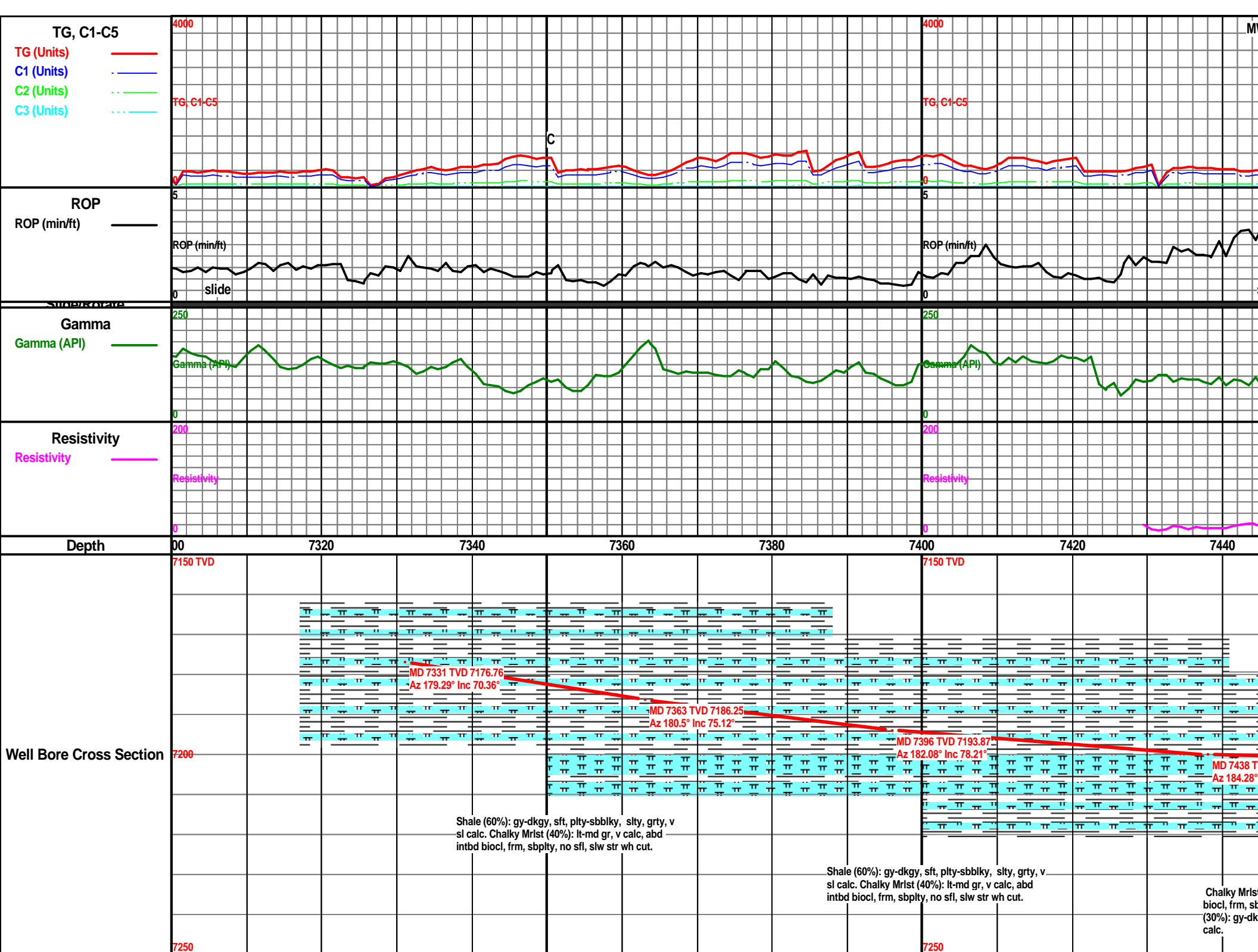
 Ques
 Dead

INTERVAL

 Core
 Dst

EVENT

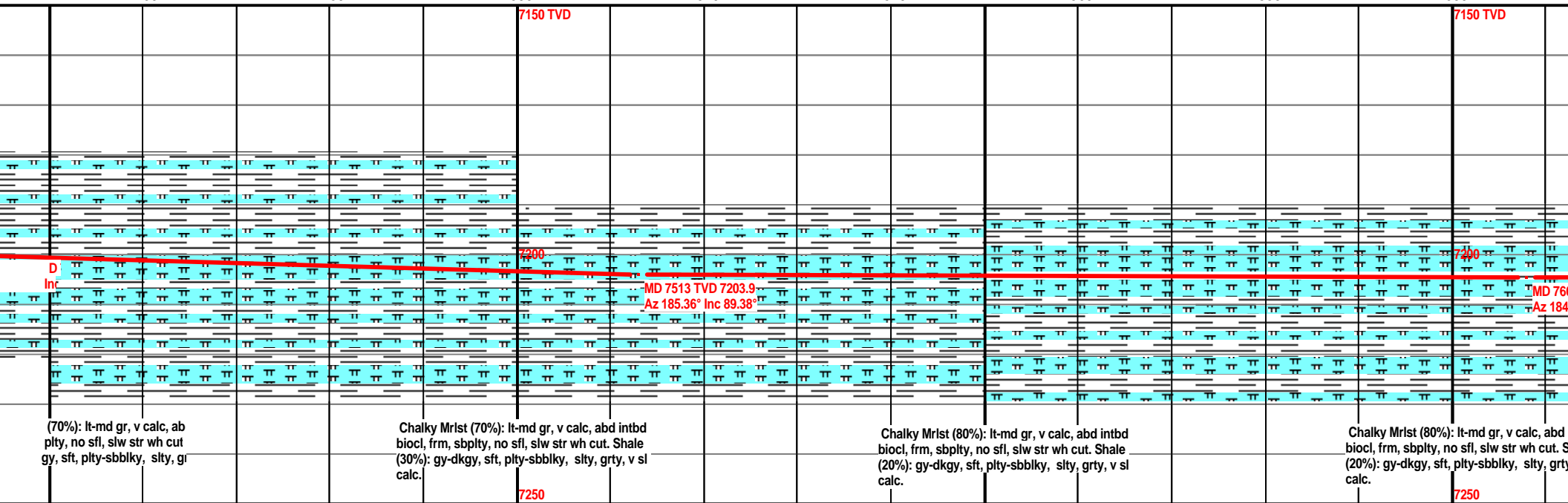
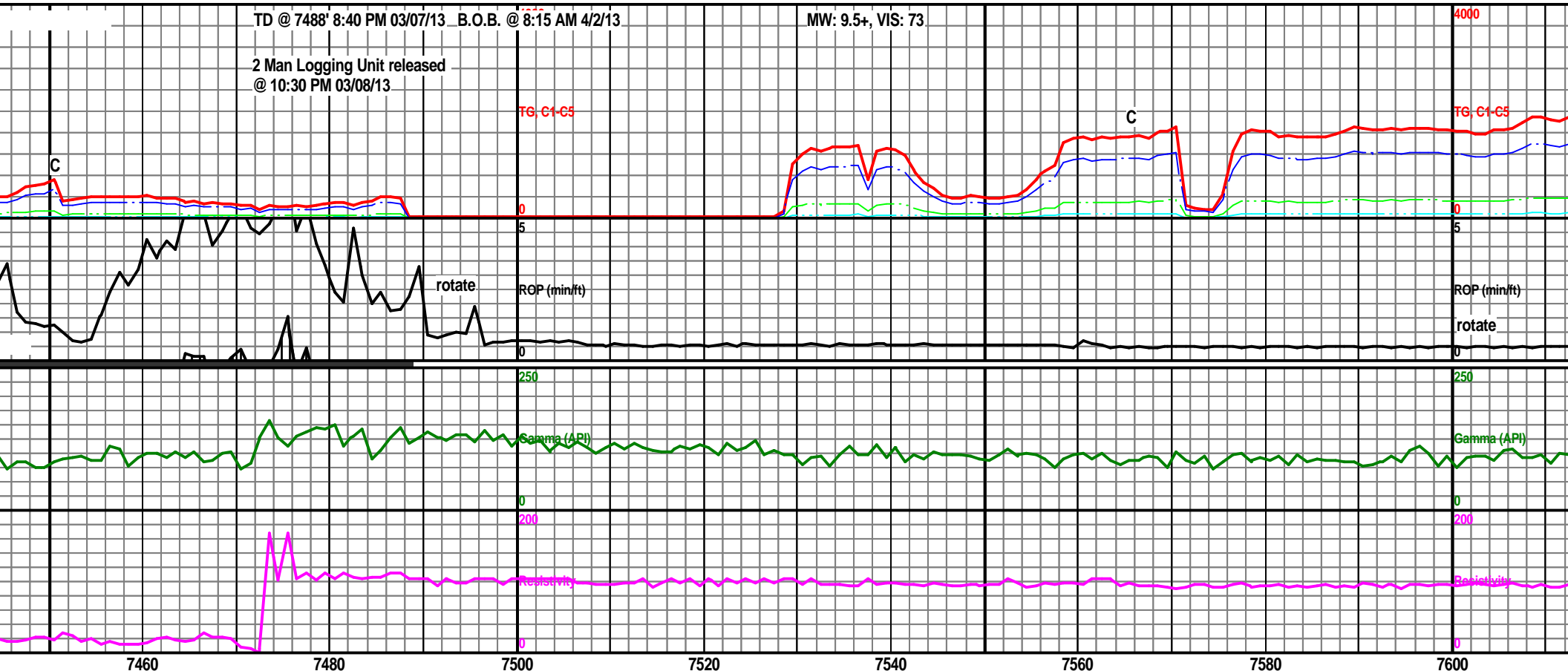
 Rft
 Sidewall



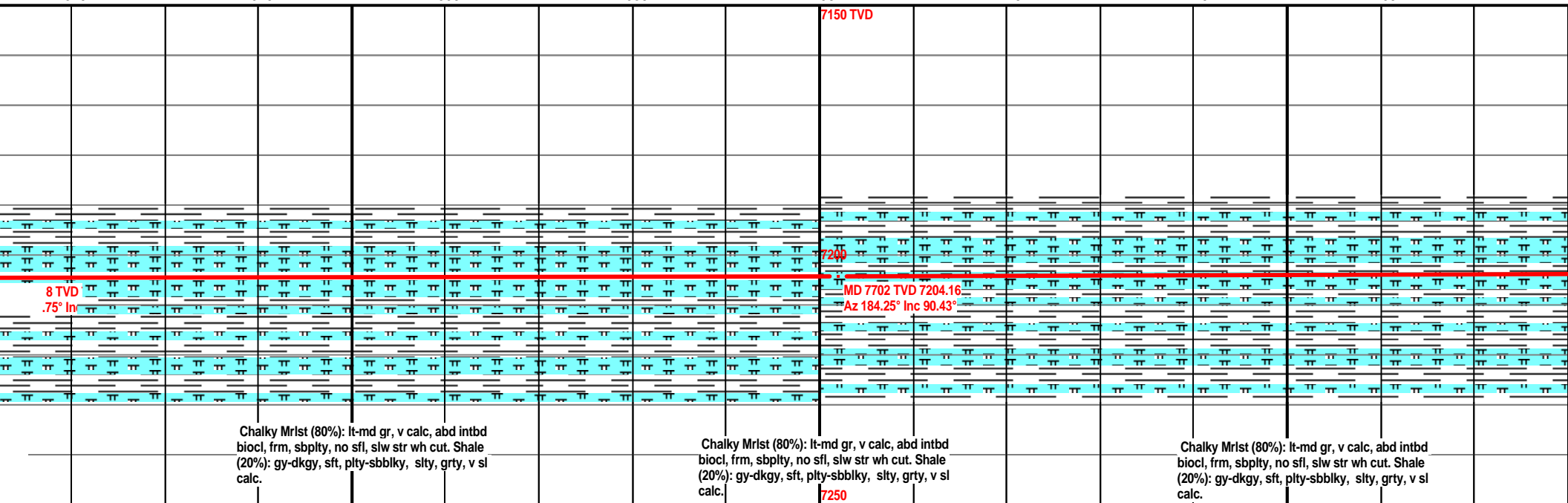
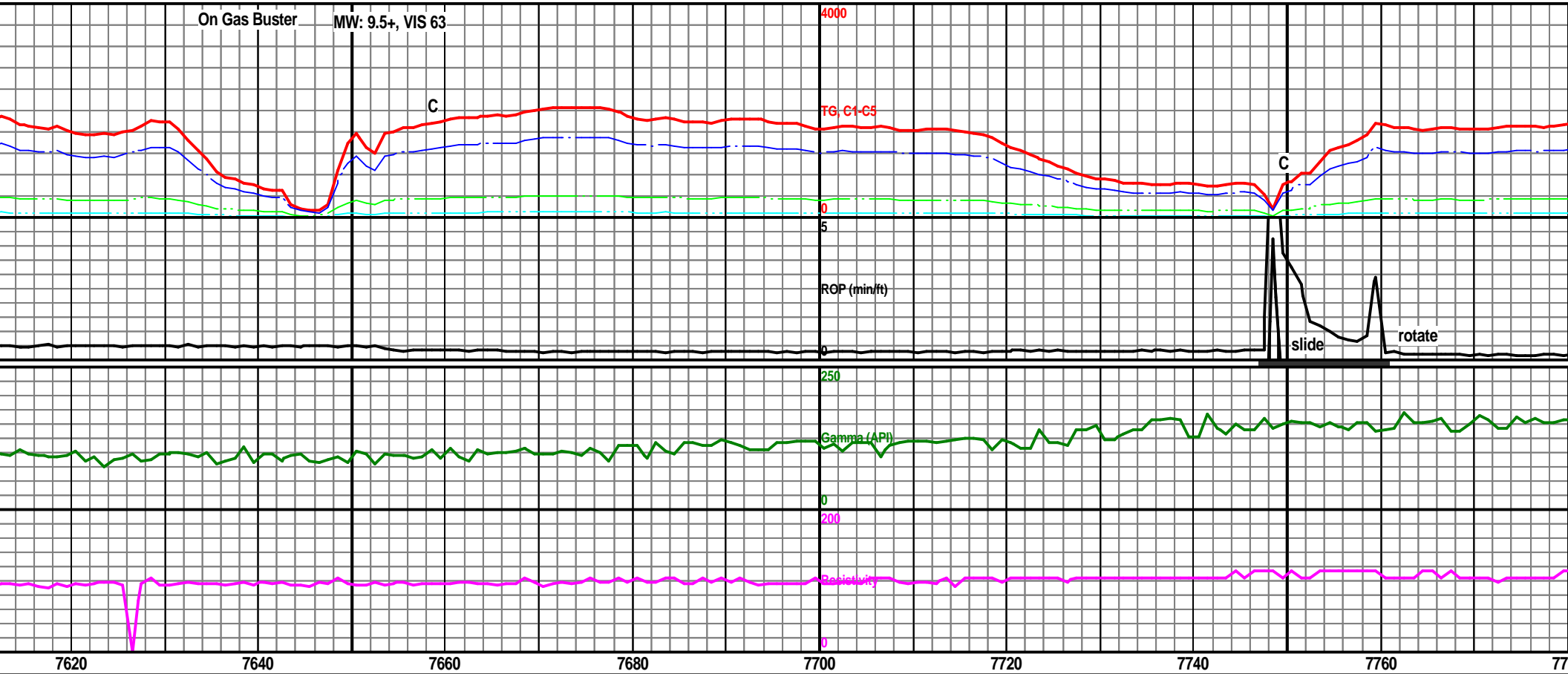
TD @ 7488' 8:40 PM 03/07/13 B.O.B. @ 8:15 AM 4/2/13

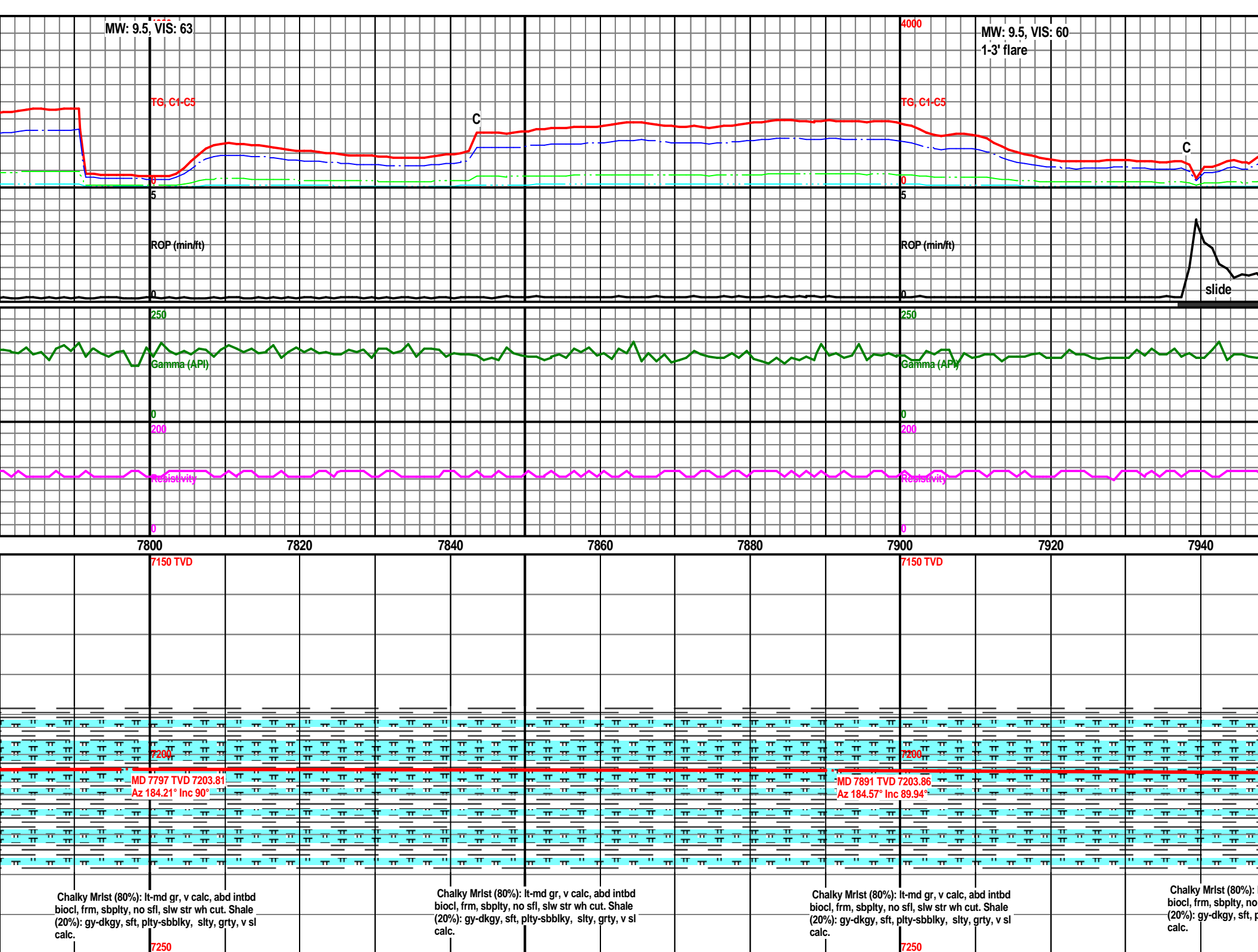
MW: 9.5+, VIS: 73

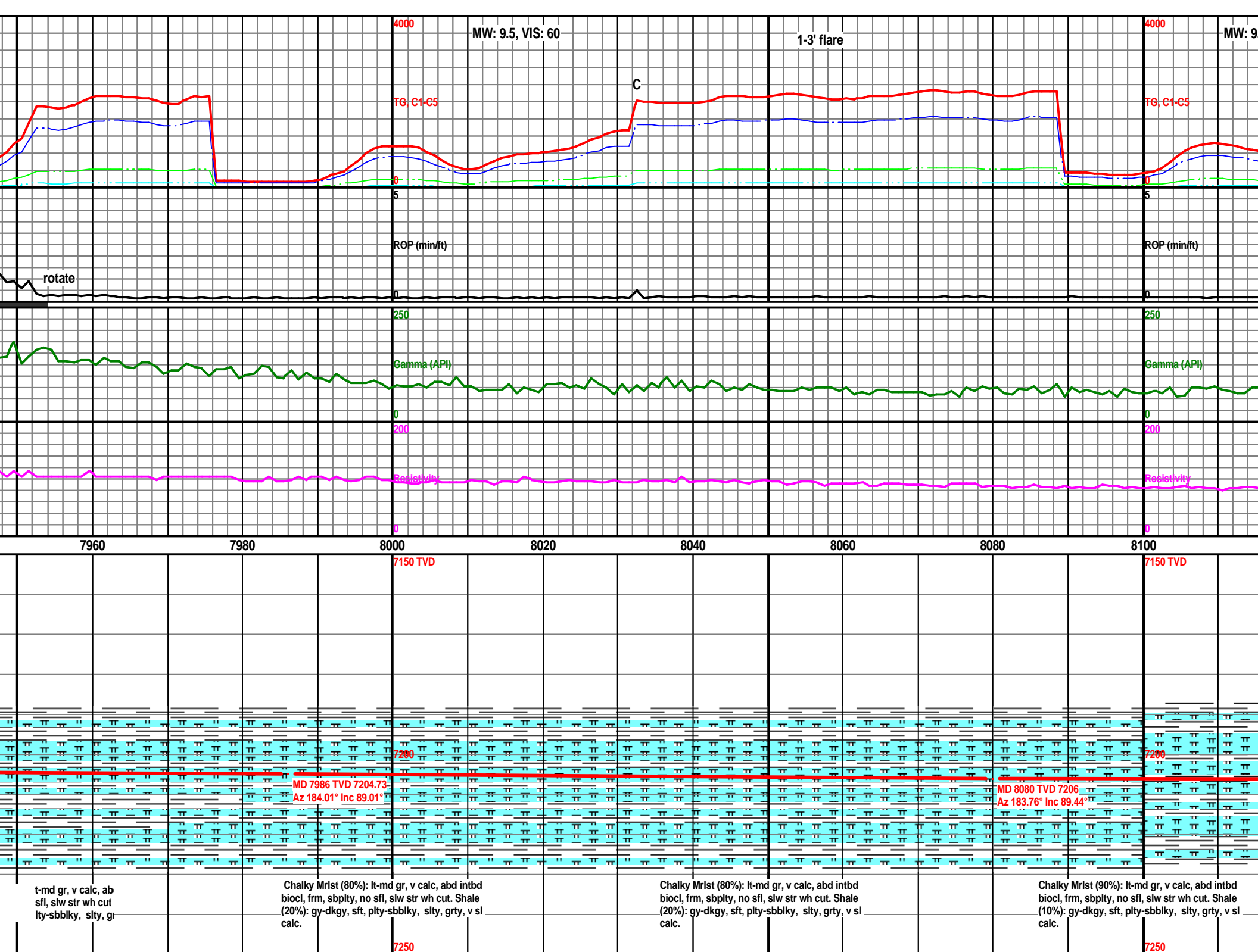
2 Man Logging Unit released
@ 10:30 PM 03/08/13

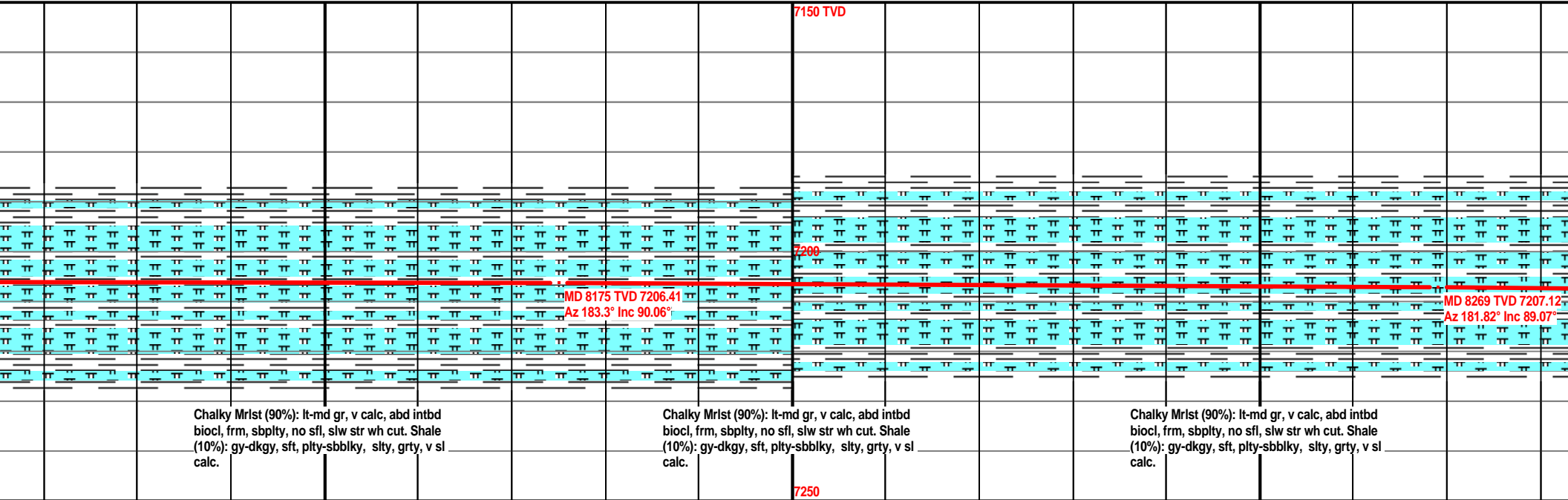
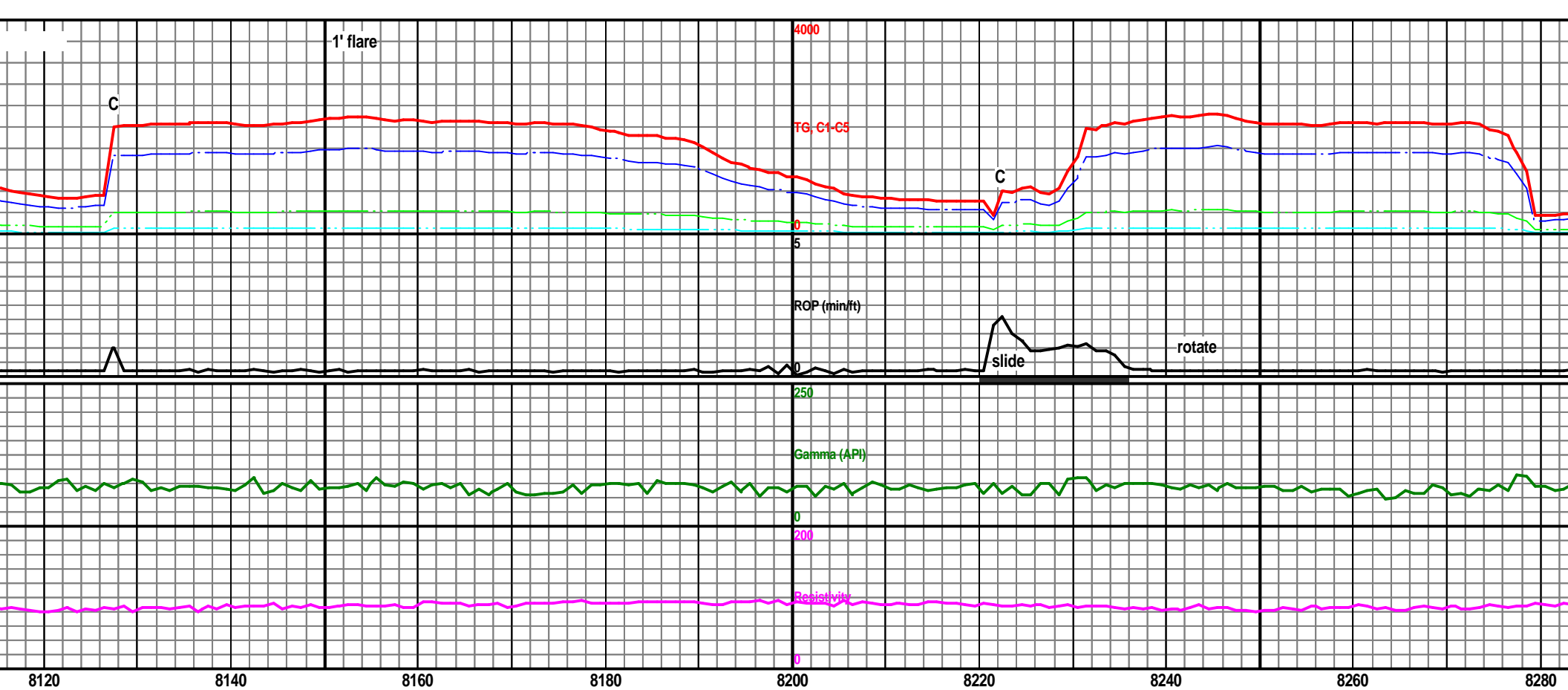


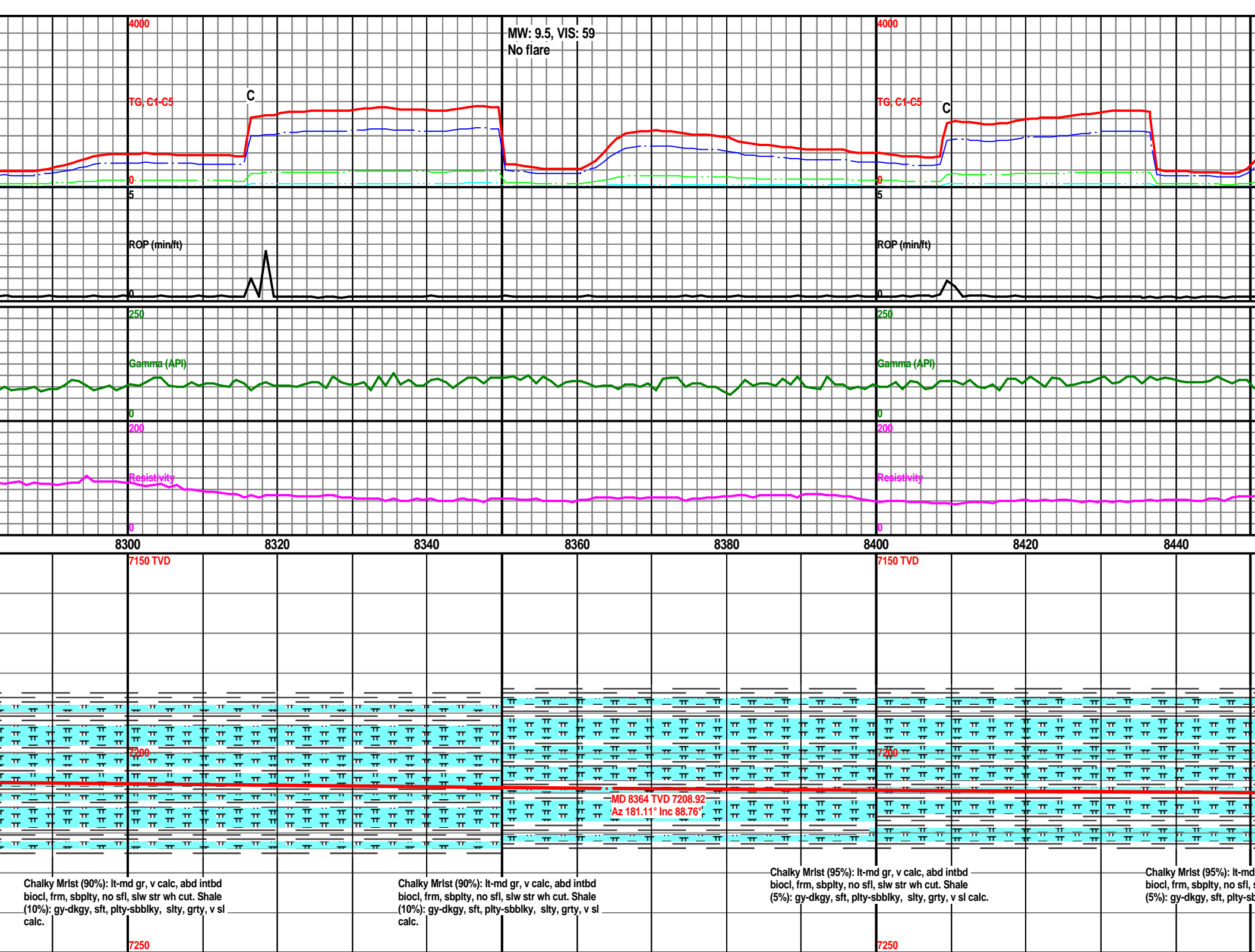
On Gas Buster MW: 9.5+, VIS 63

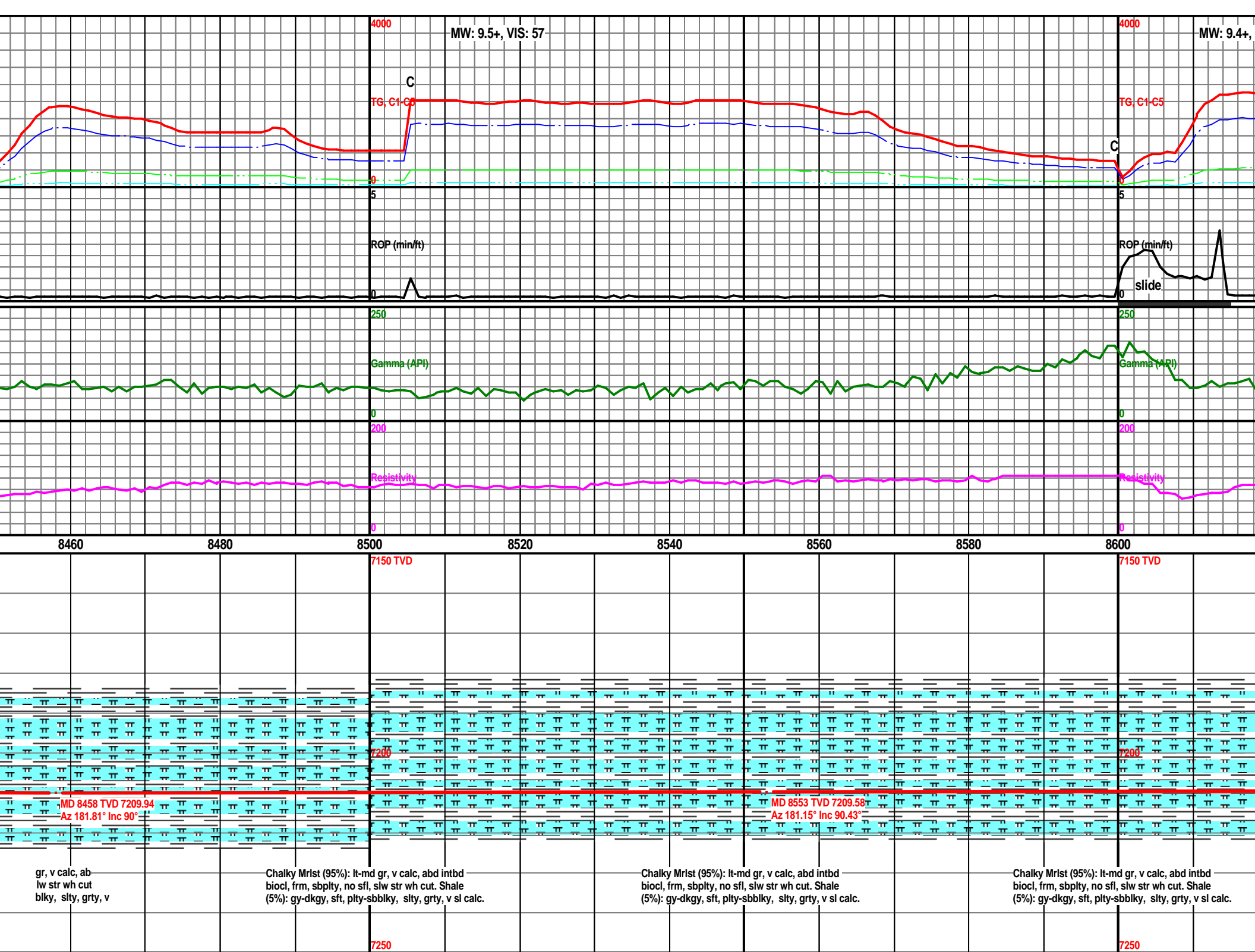


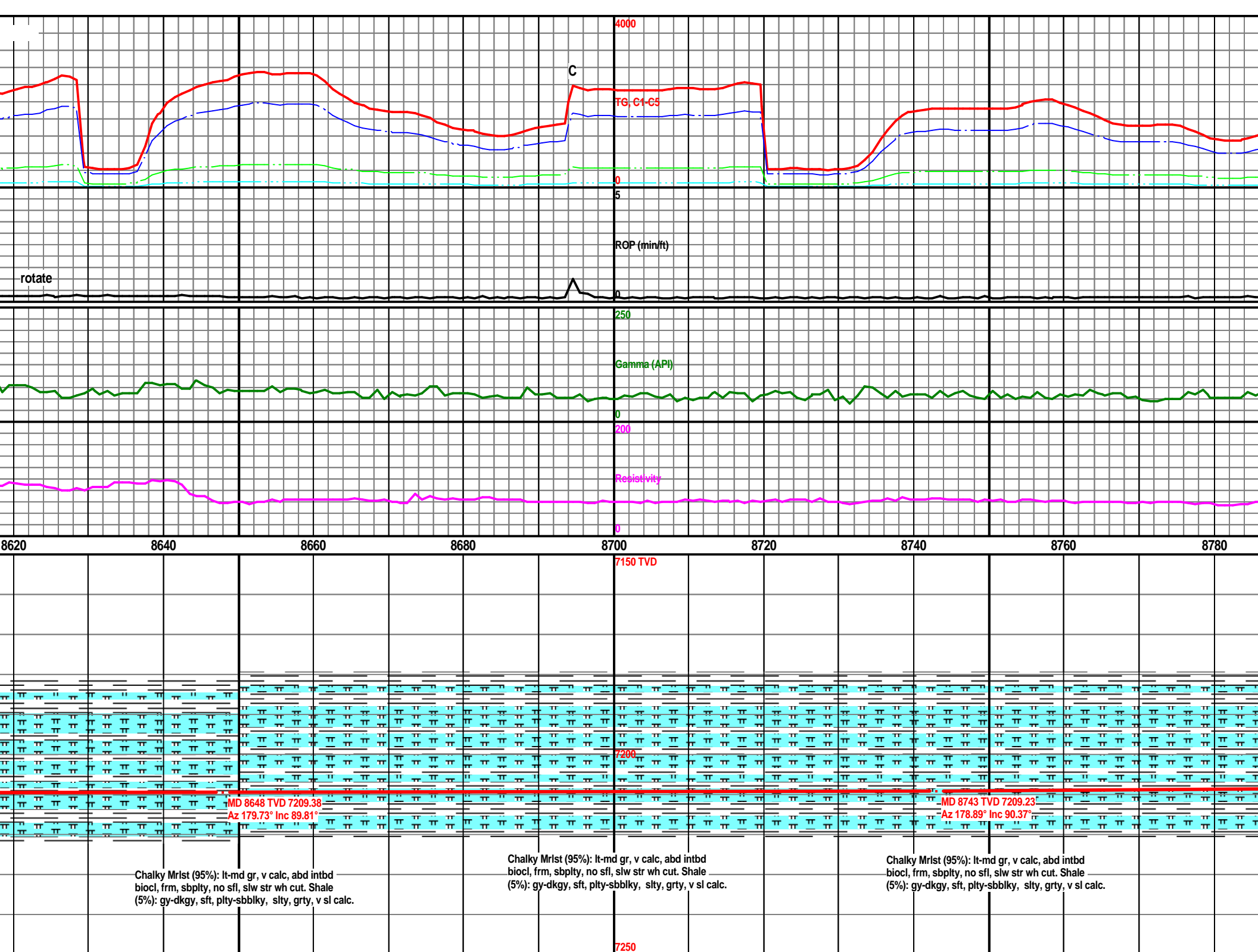


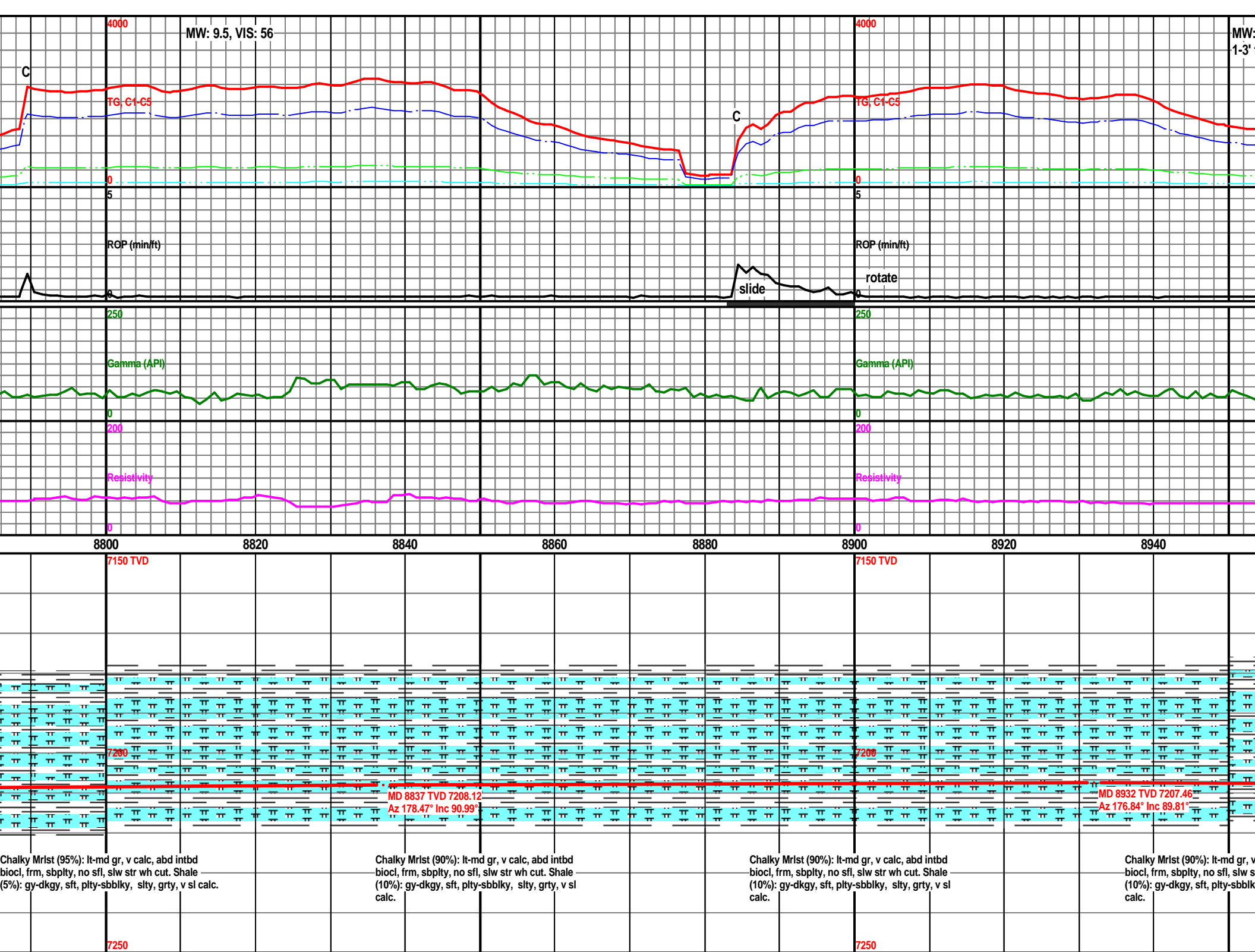


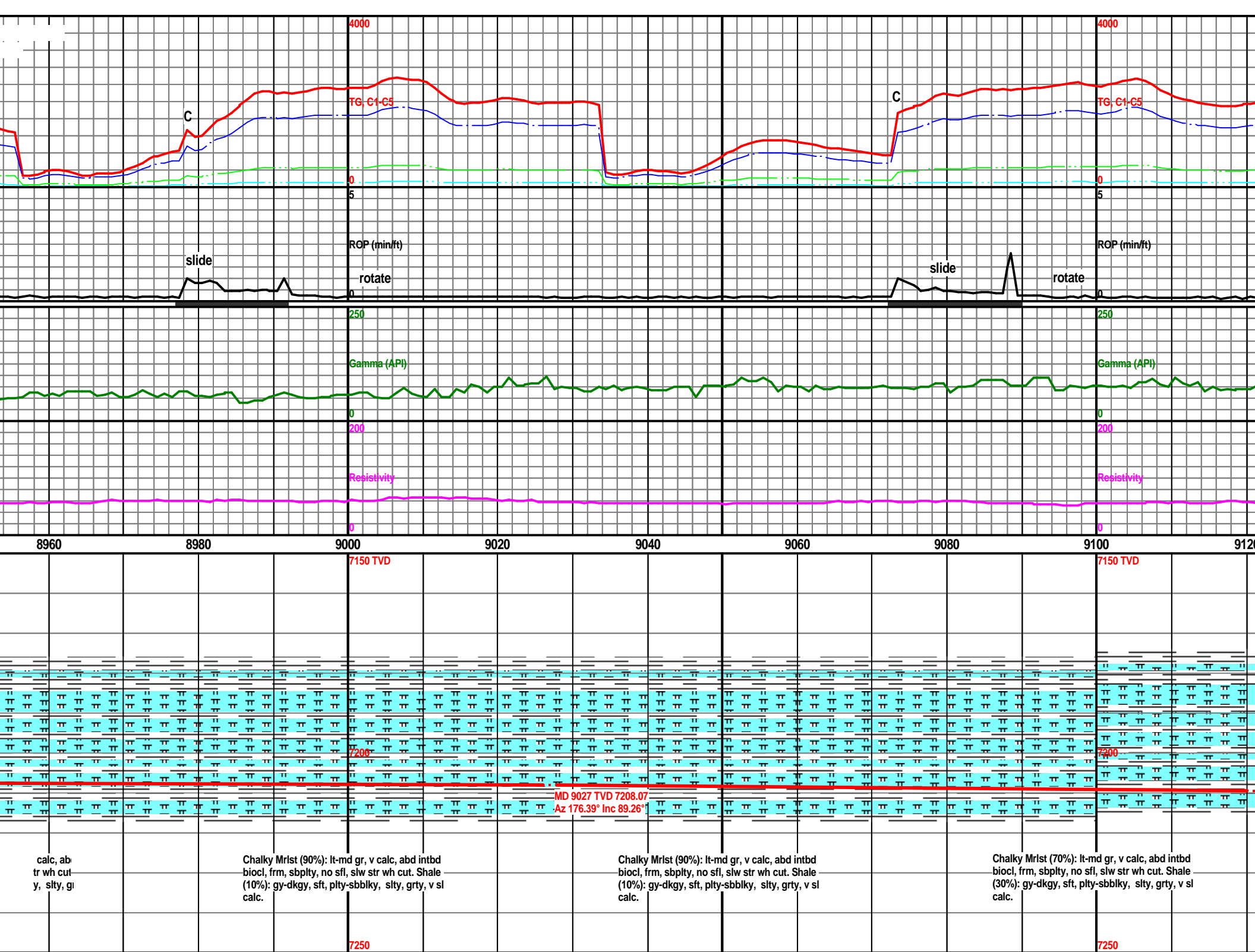


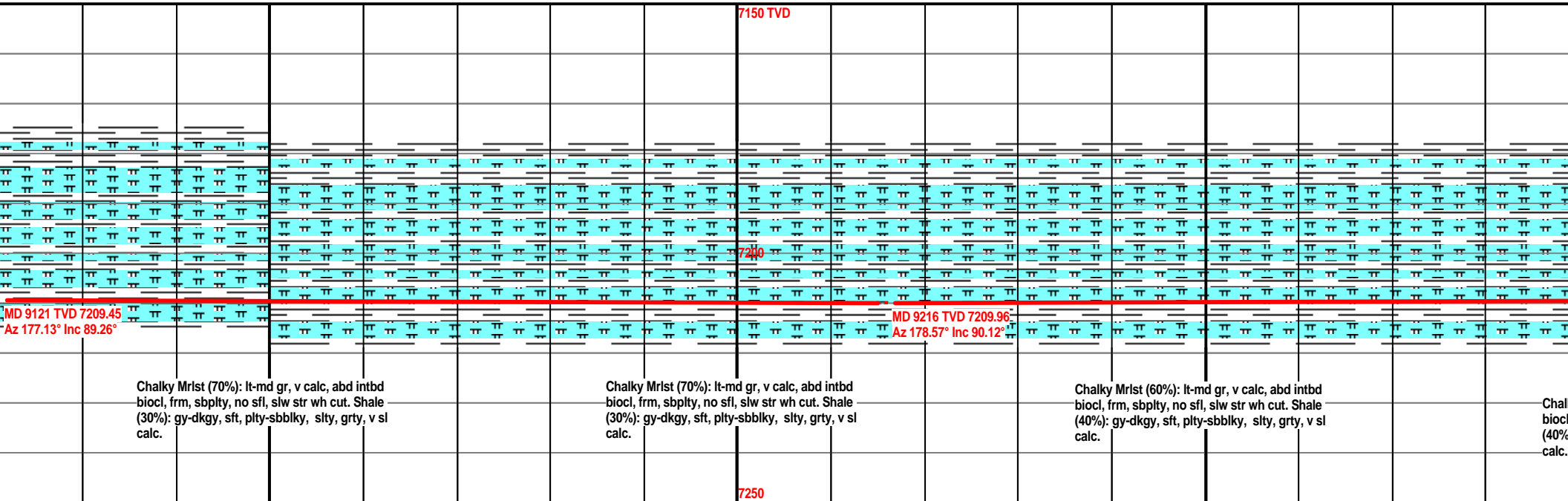
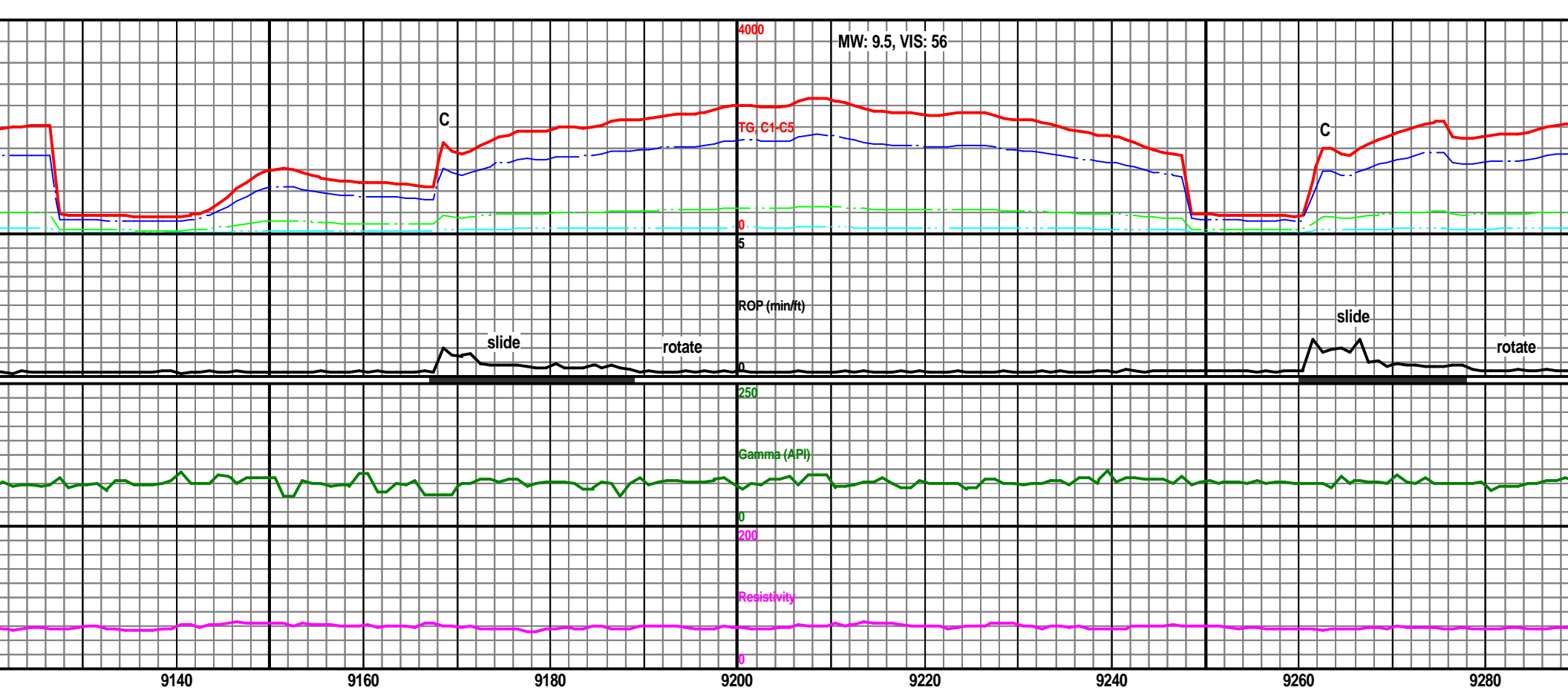


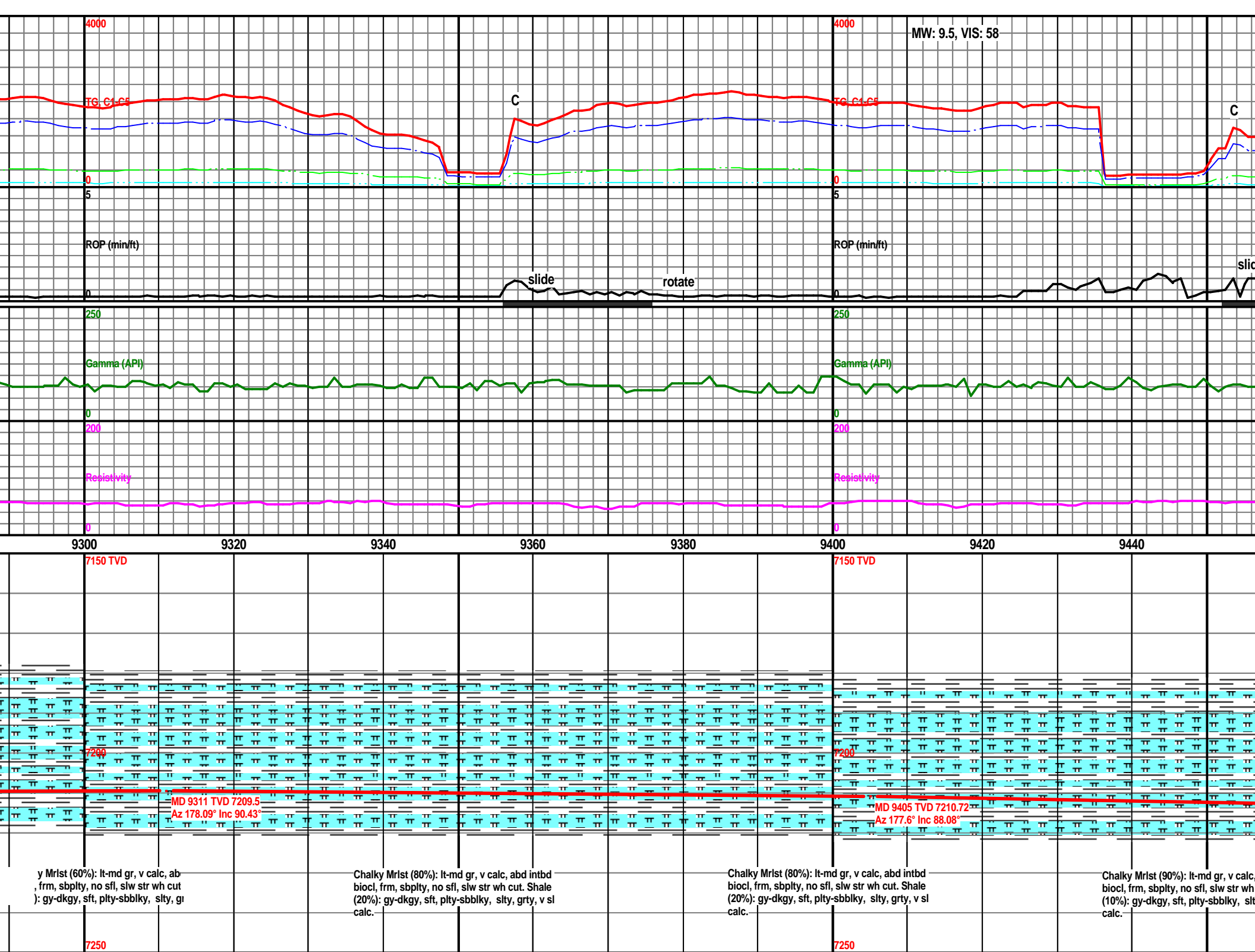


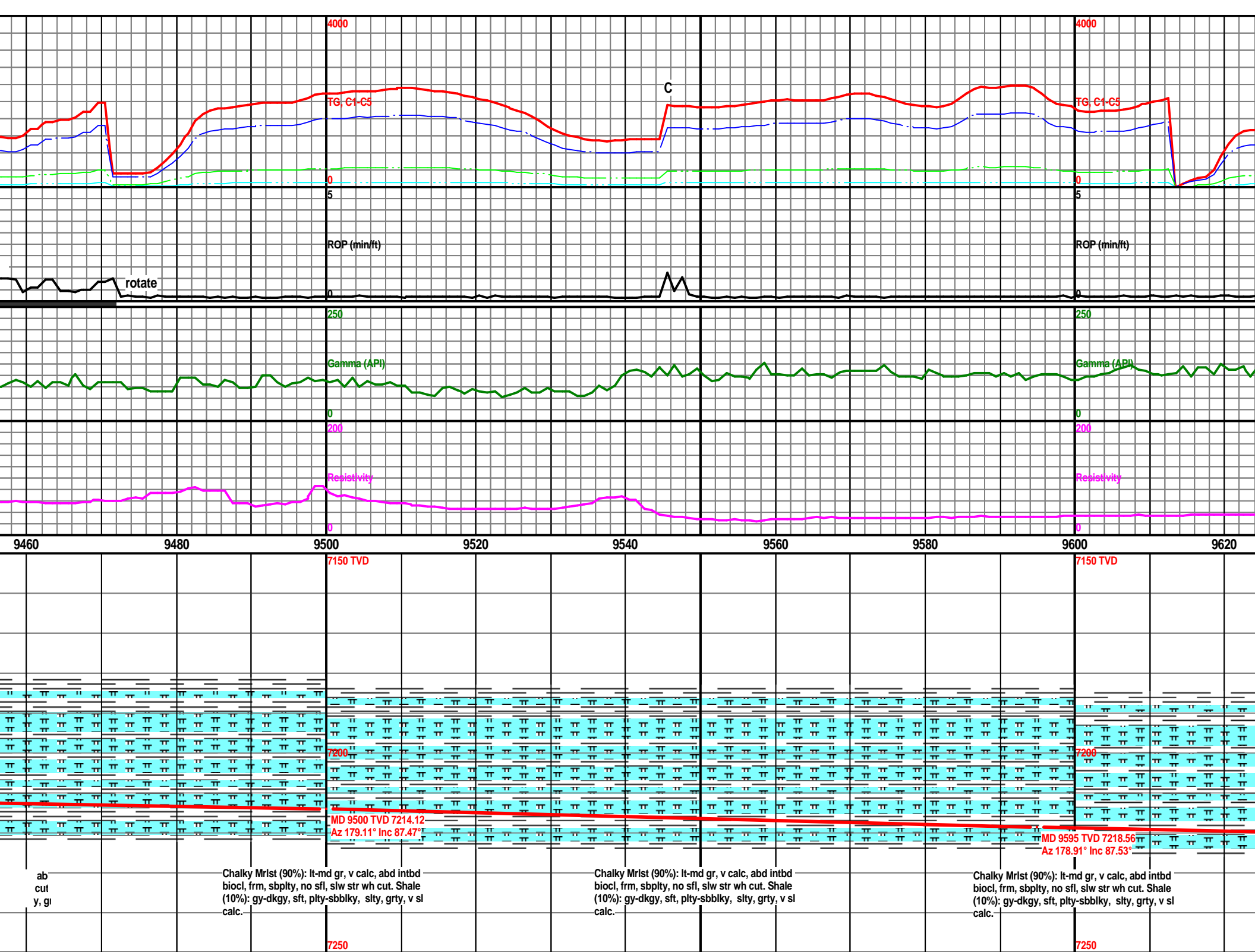


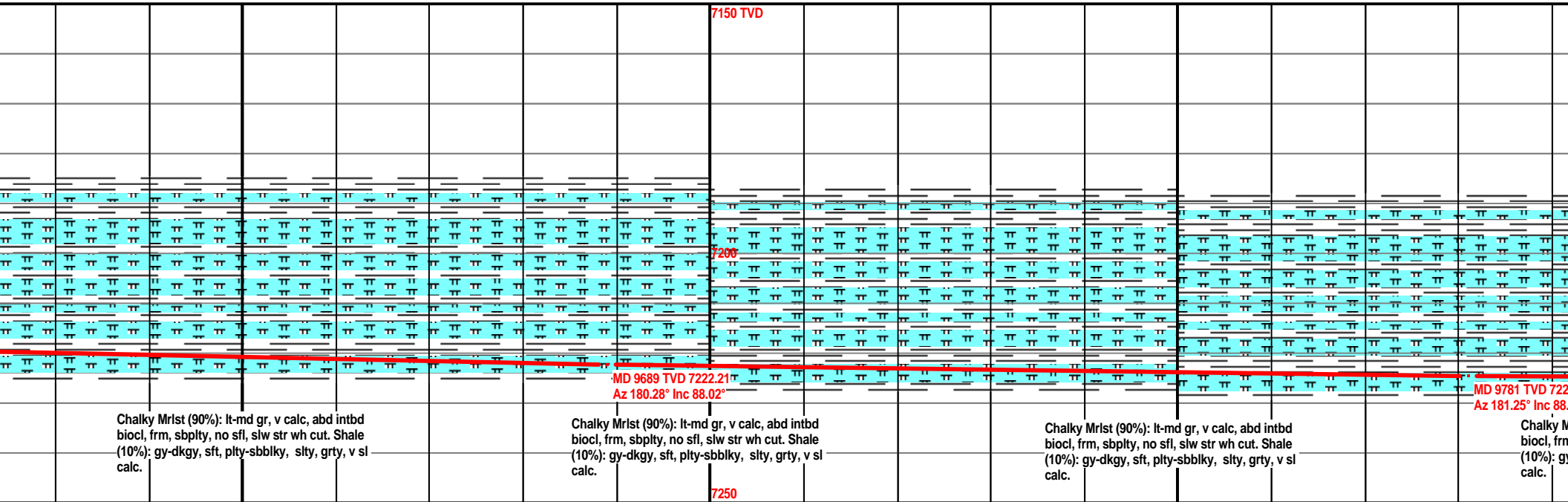
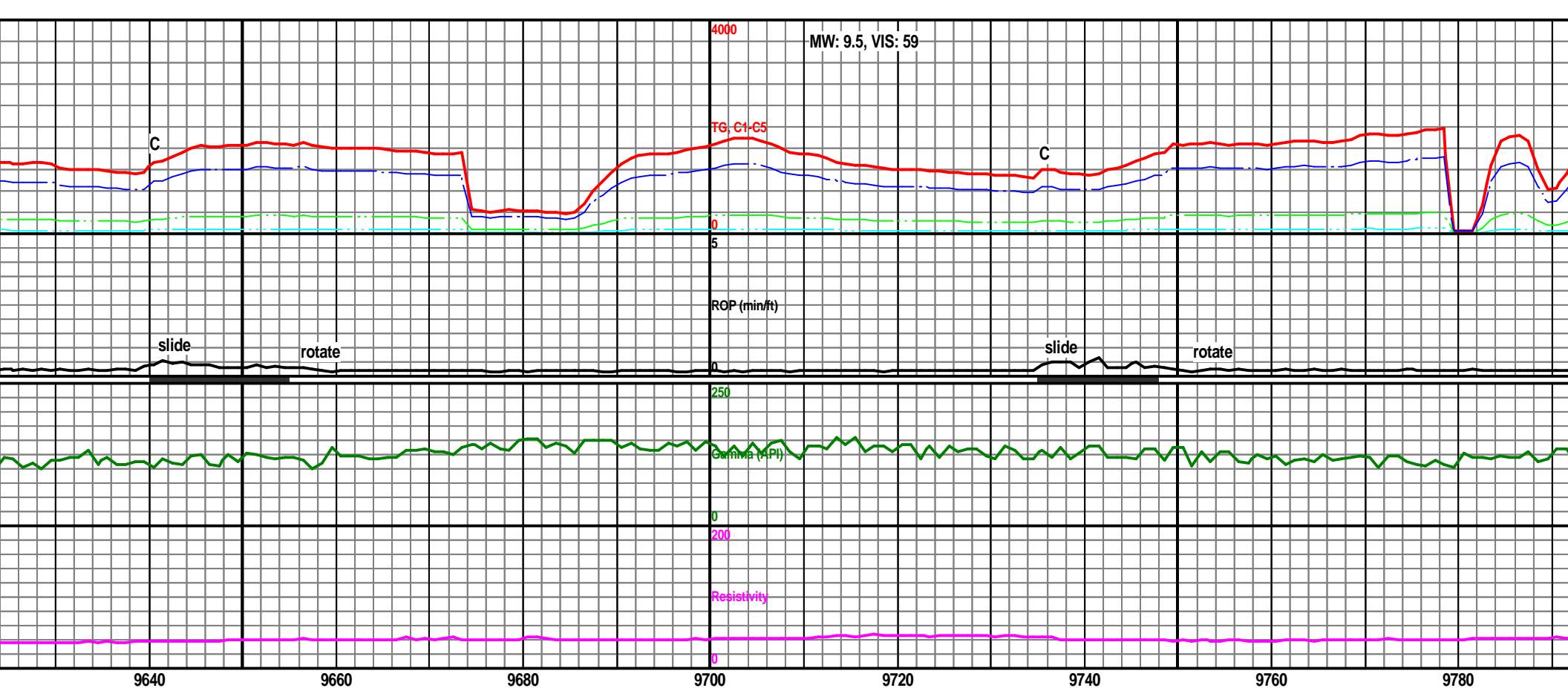












MW: 9.5, VIS: 57

TG, C1-C5

C

TG, C1-C5

C

ROP (min/ft)

slide

rotate

ROP (min/ft)

Gamma (API)

Gamma (API)

Resistivity

Resistivity

9800

9820

9840

9860

9880

9900

9920

9940

9960

7150 TVD

7150 TVD

7200

7200

MD 9873 TVD 7225.48
Az 181.88° Inc 90.12°

rist (90%): lt-md gr, v calc, ab
, sbplty, no sfl, slw str wh cut
-dkgy, sft, plty-sbbiky, slty, gr

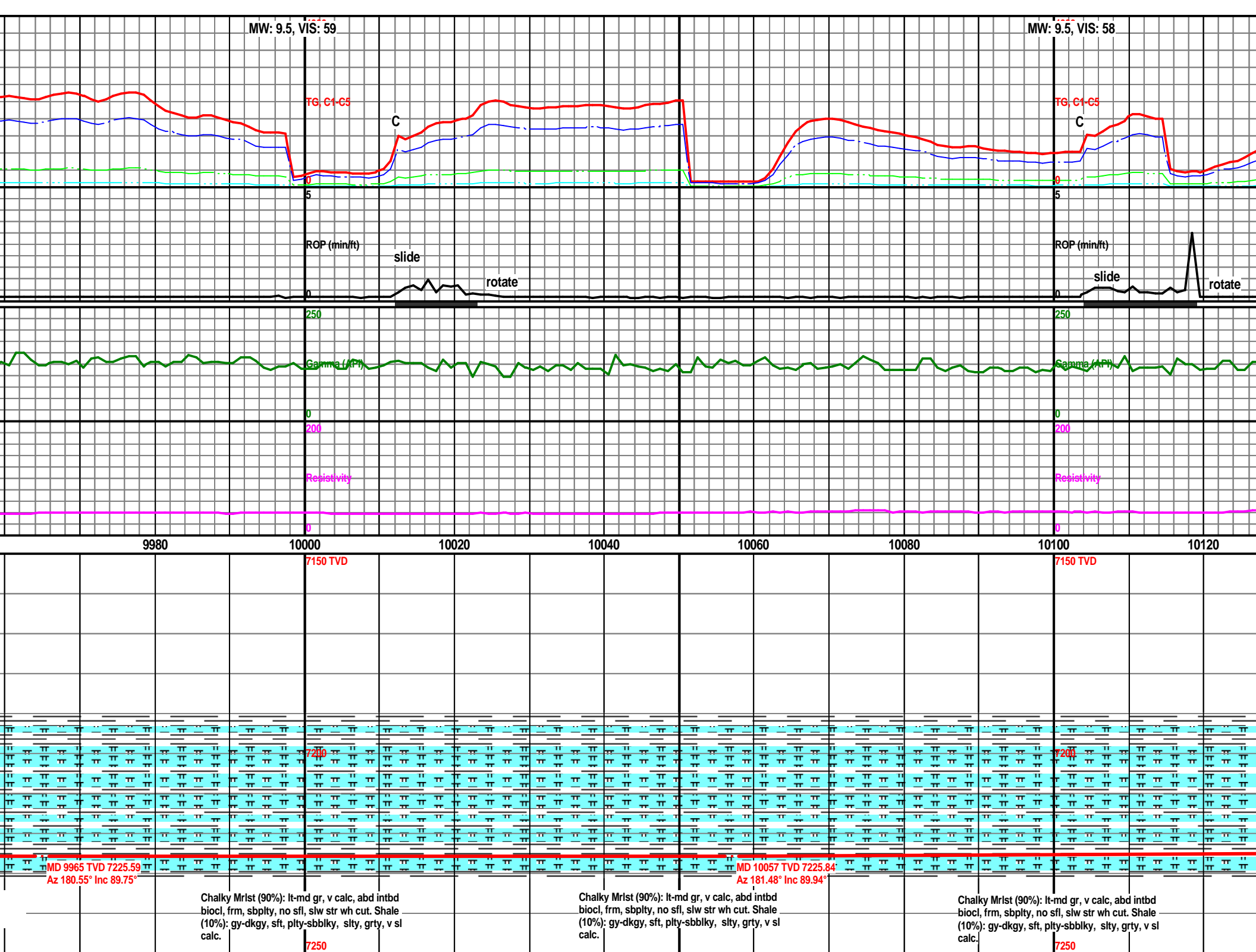
Chalky Mrist (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, slw str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbbiky, slty, grty, v sl
calc.

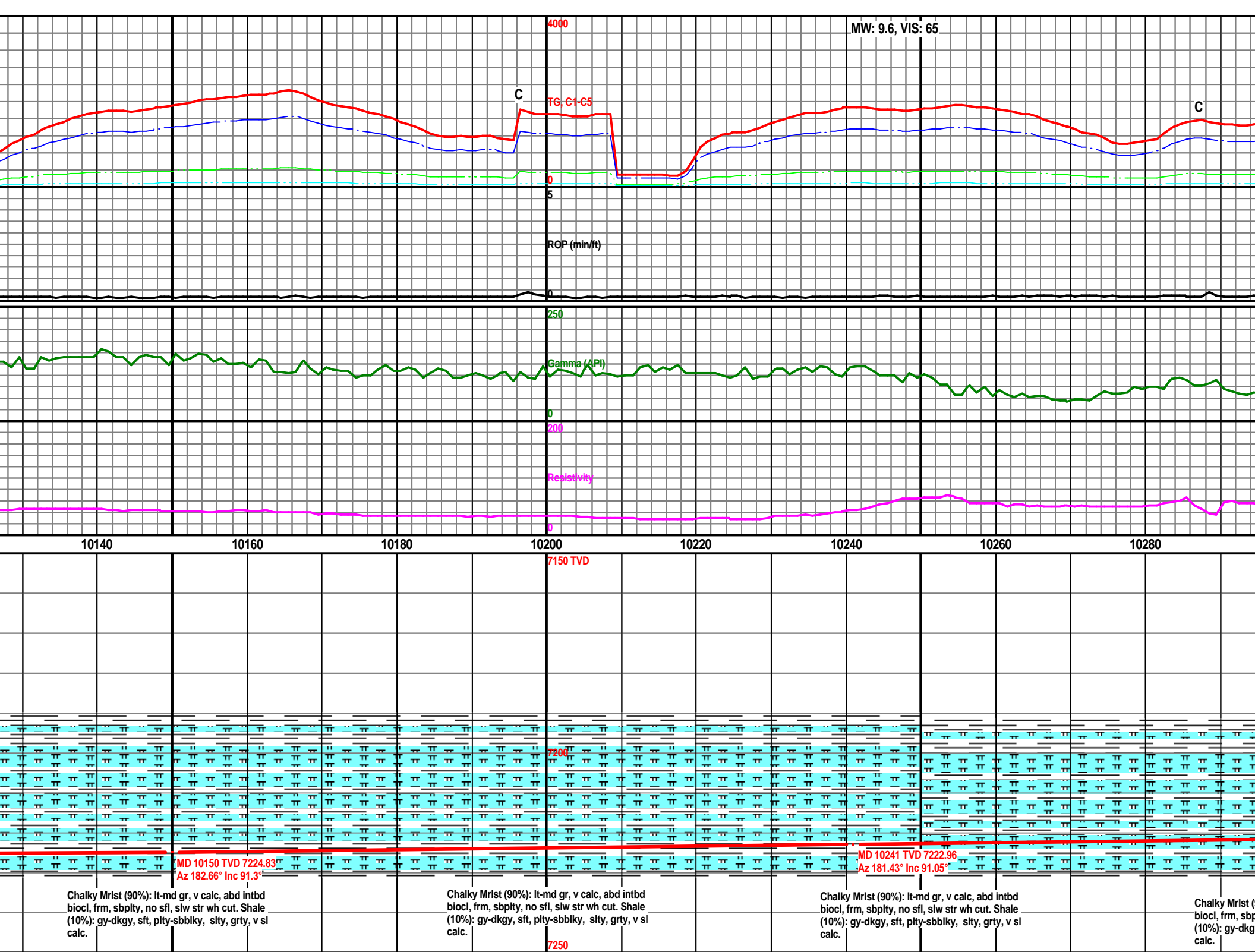
Chalky Mrist (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbplty, no sfl, slw str wh cut. Shale
(10%): gy-dkgy, sft, plty-sbbiky, slty, grty, v sl
calc.

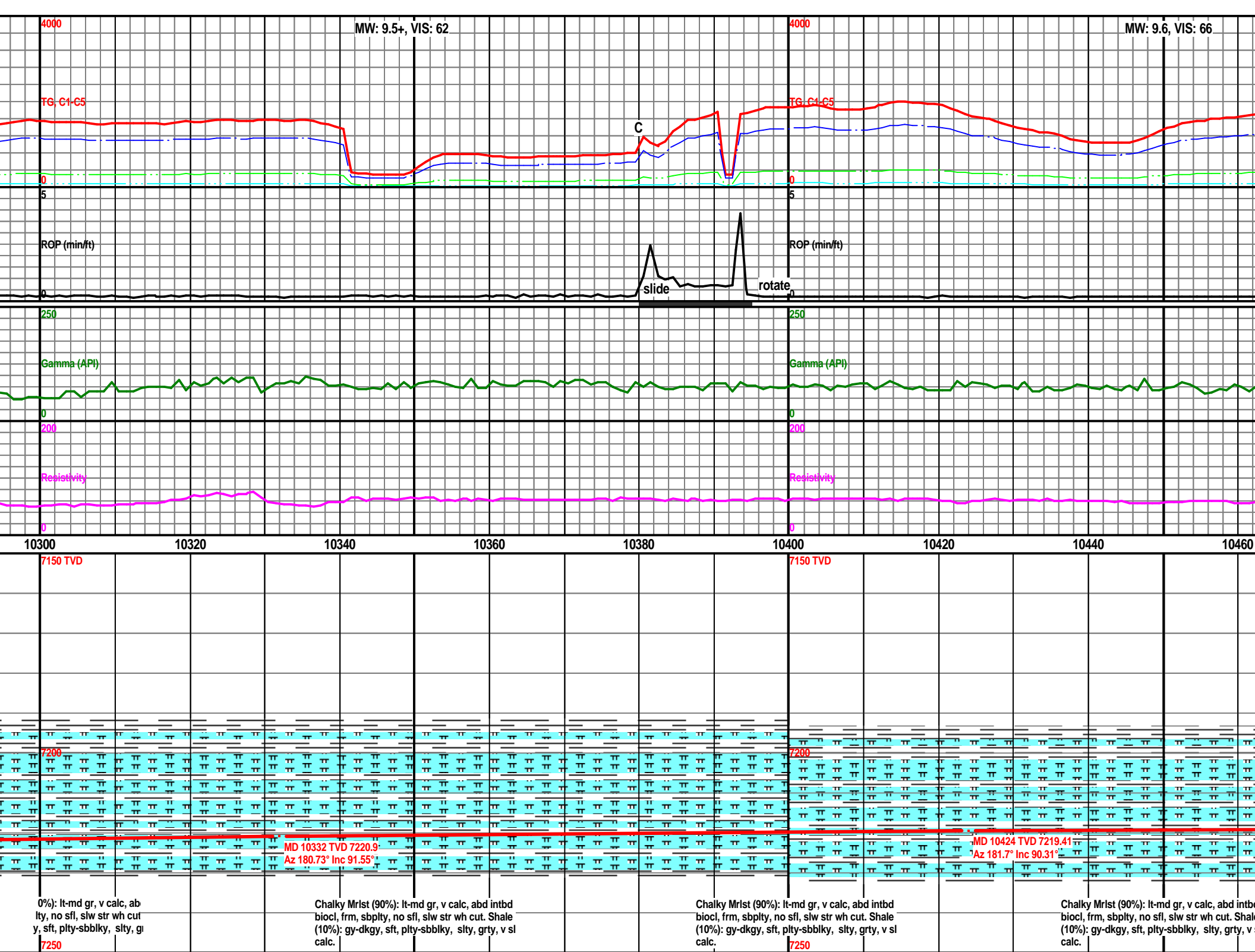
Chalky Mrist (90%): lt-md gr, v calc, abd
biocl, frm, sbplty, no sfl, slw str wh cut.
(10%): gy-dkgy, sft, plty-sbbiky, slty, gr
calc.

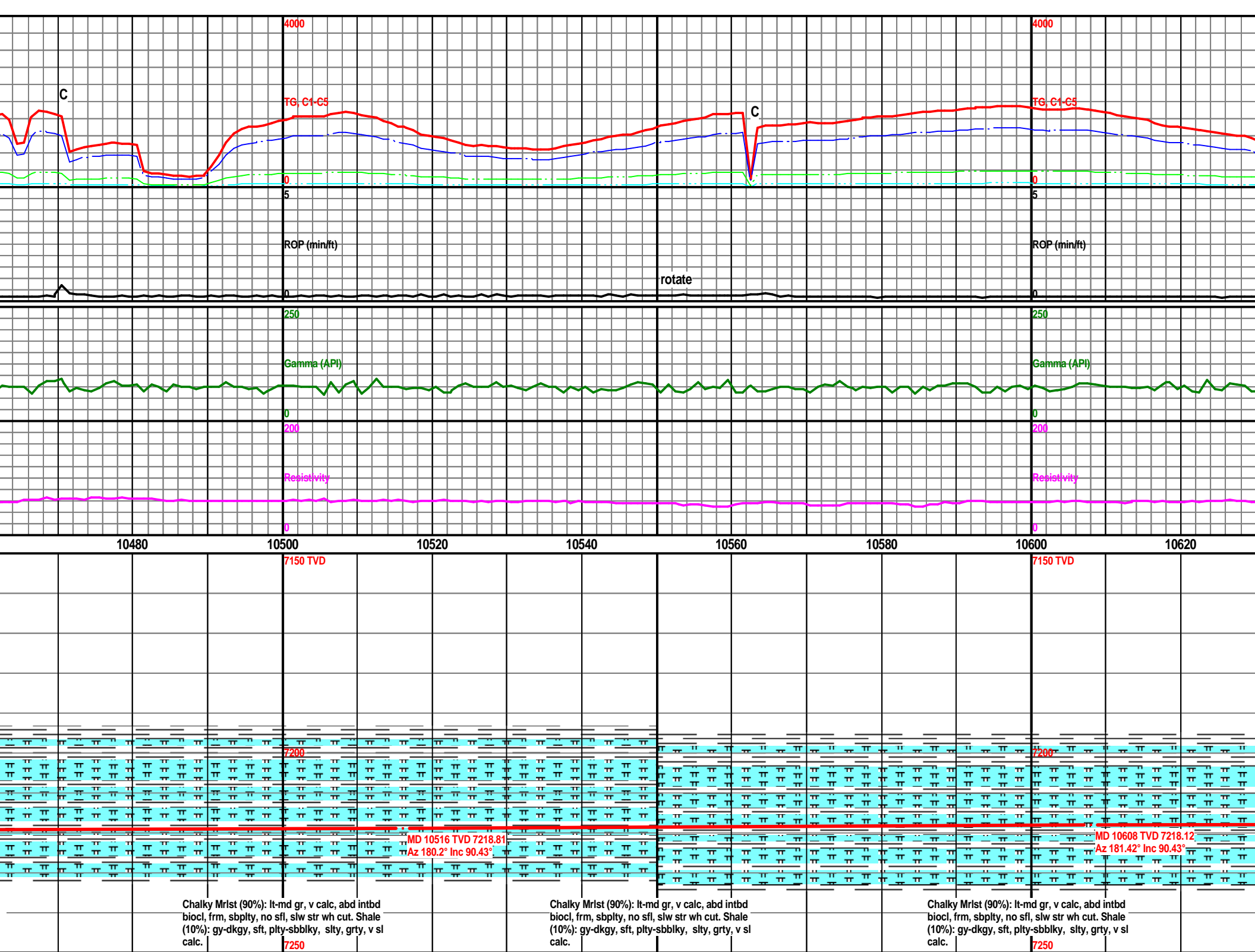
7250

7250



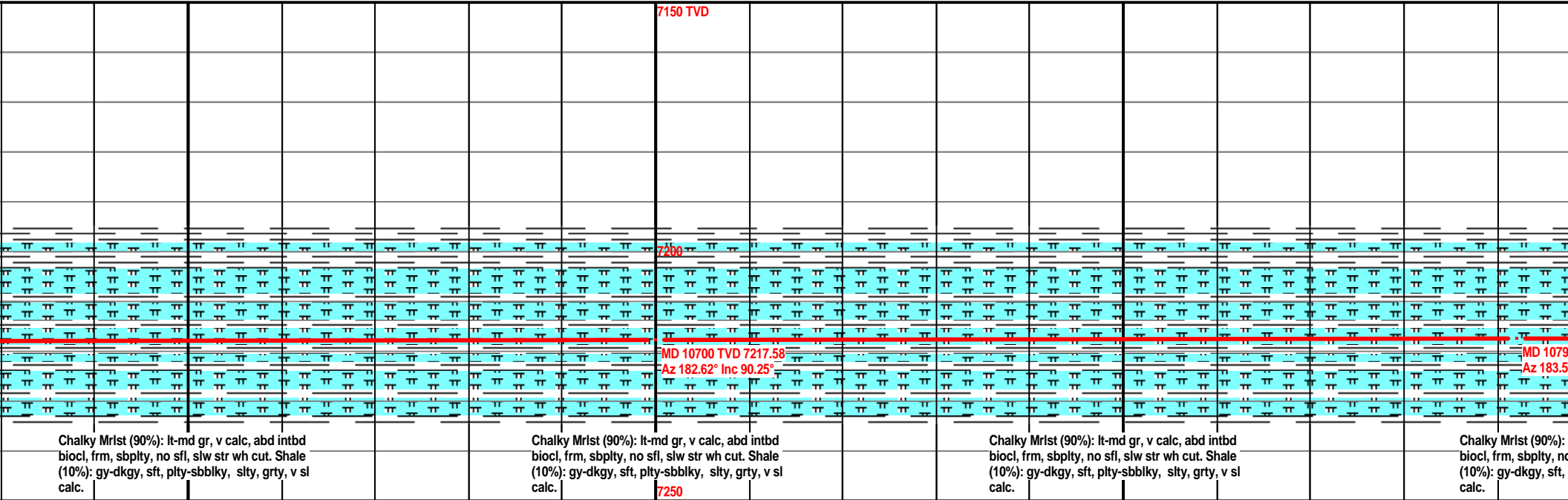
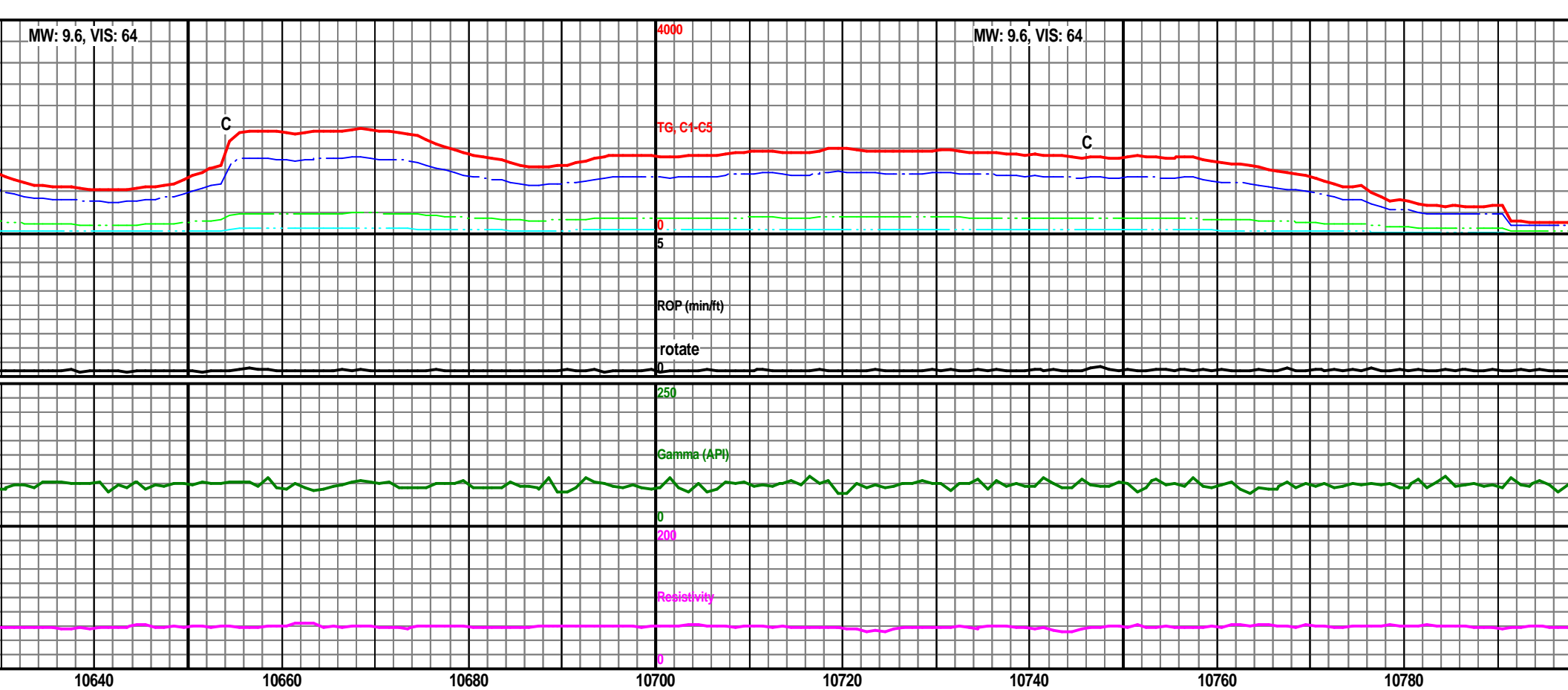


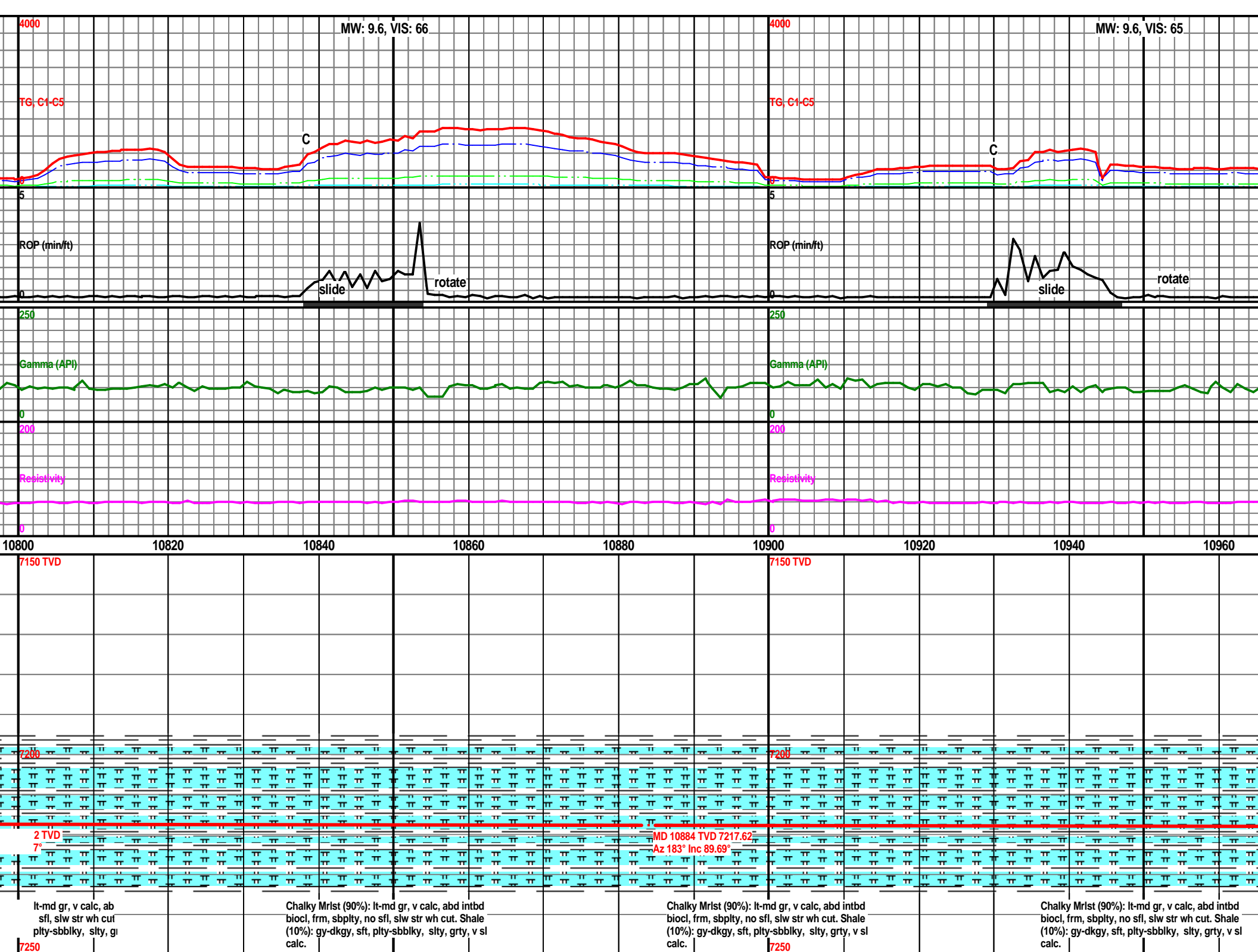


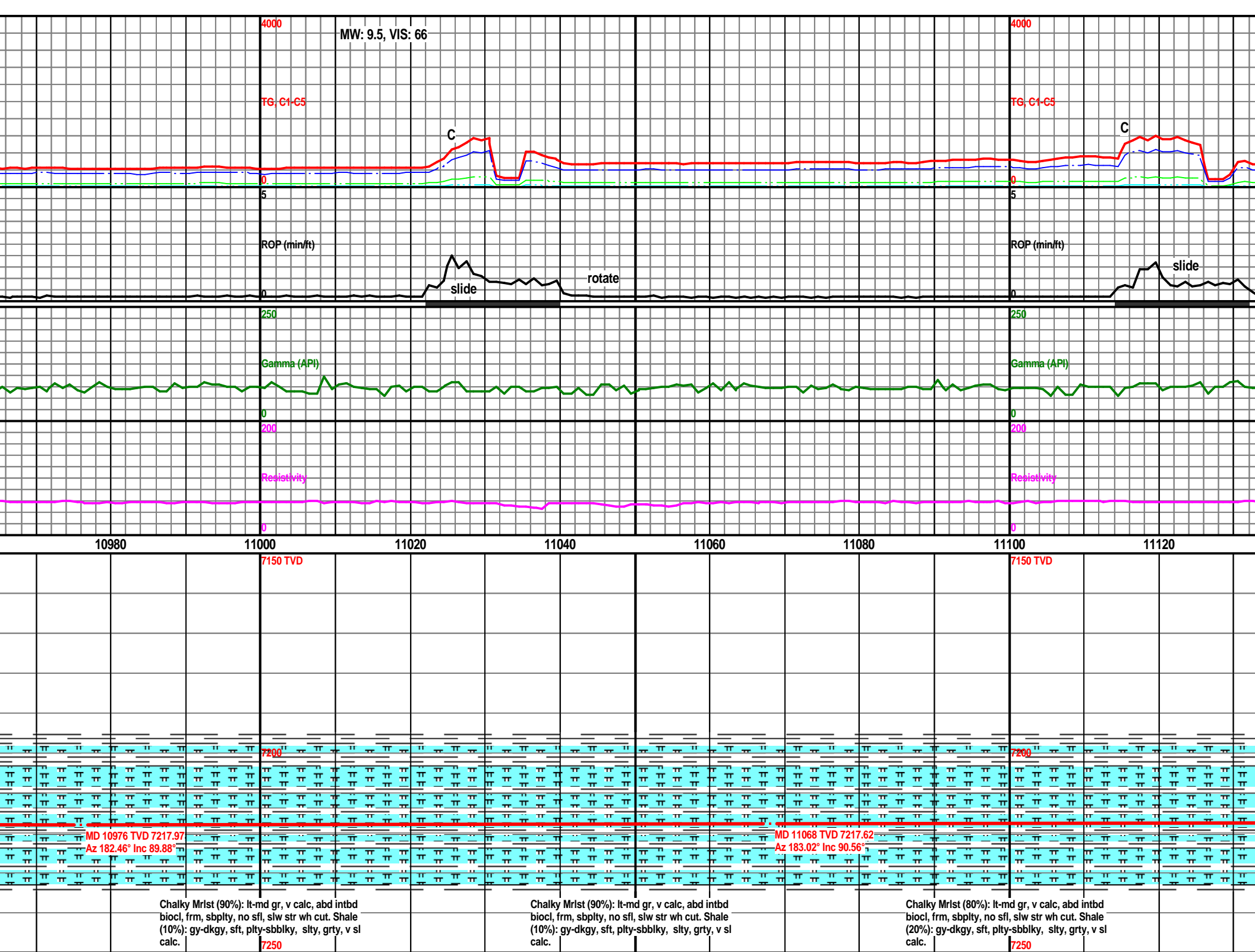


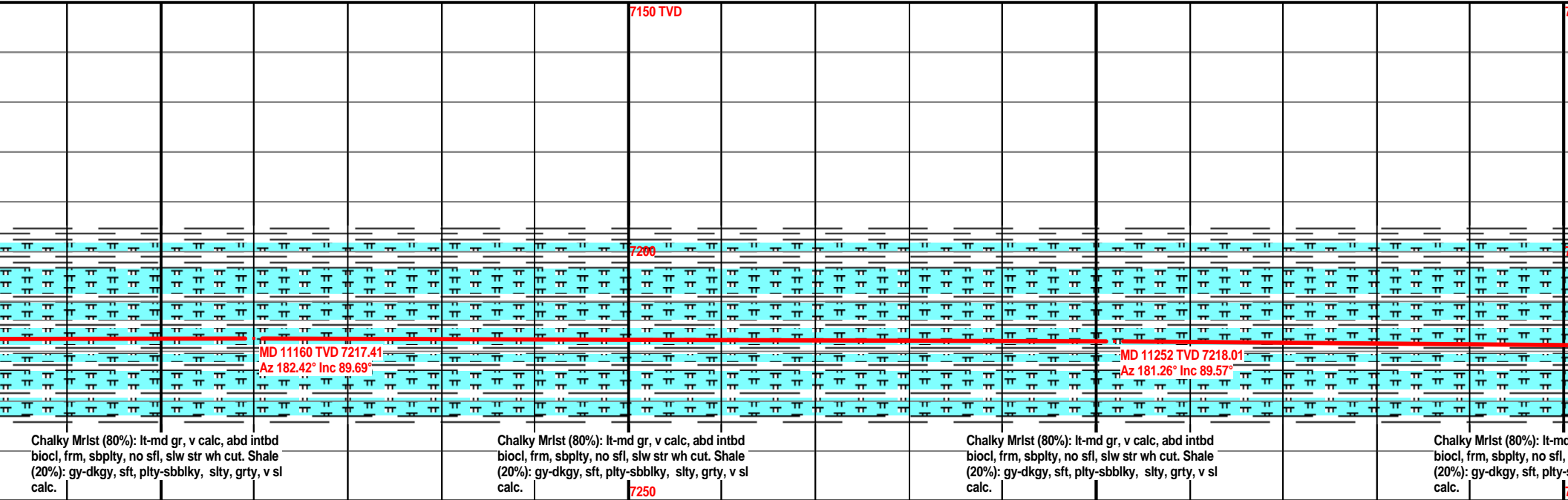
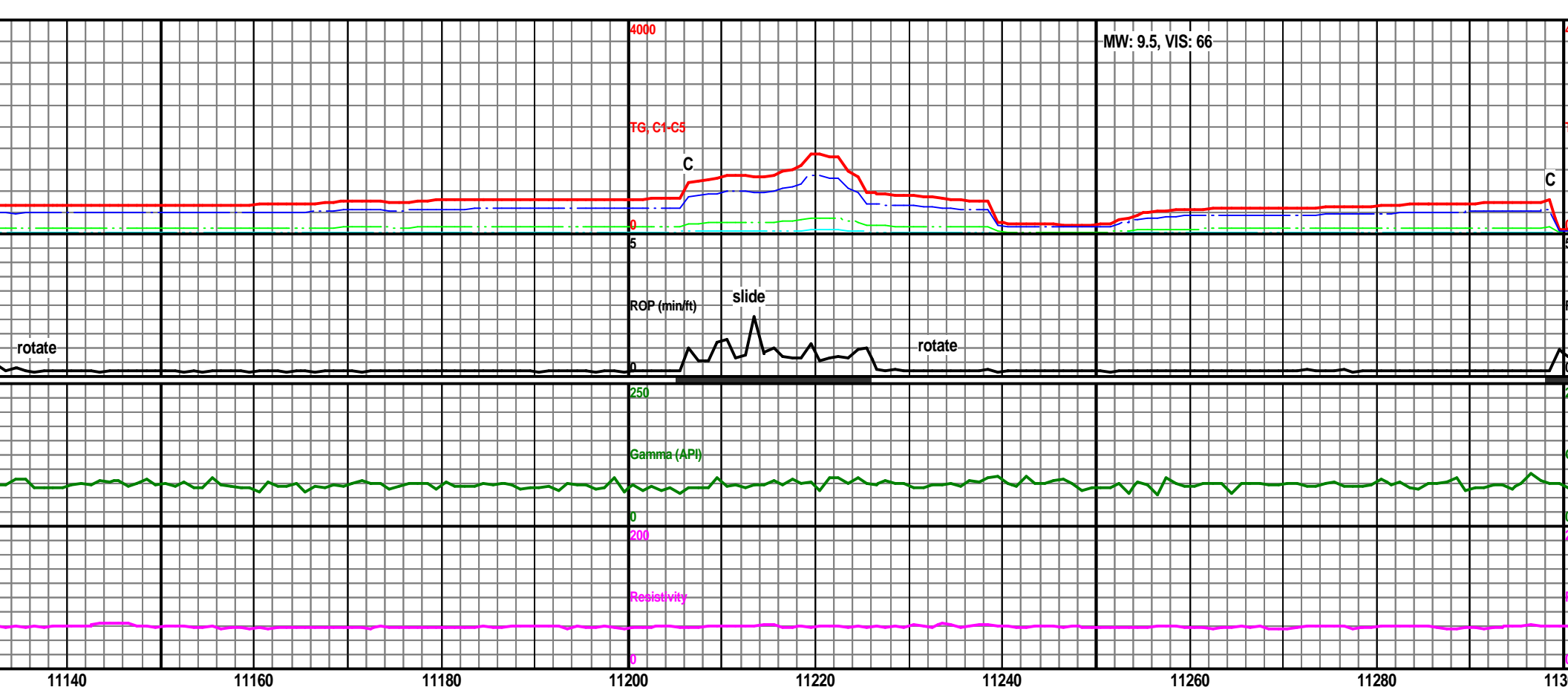
MW: 9.6, VIS: 64

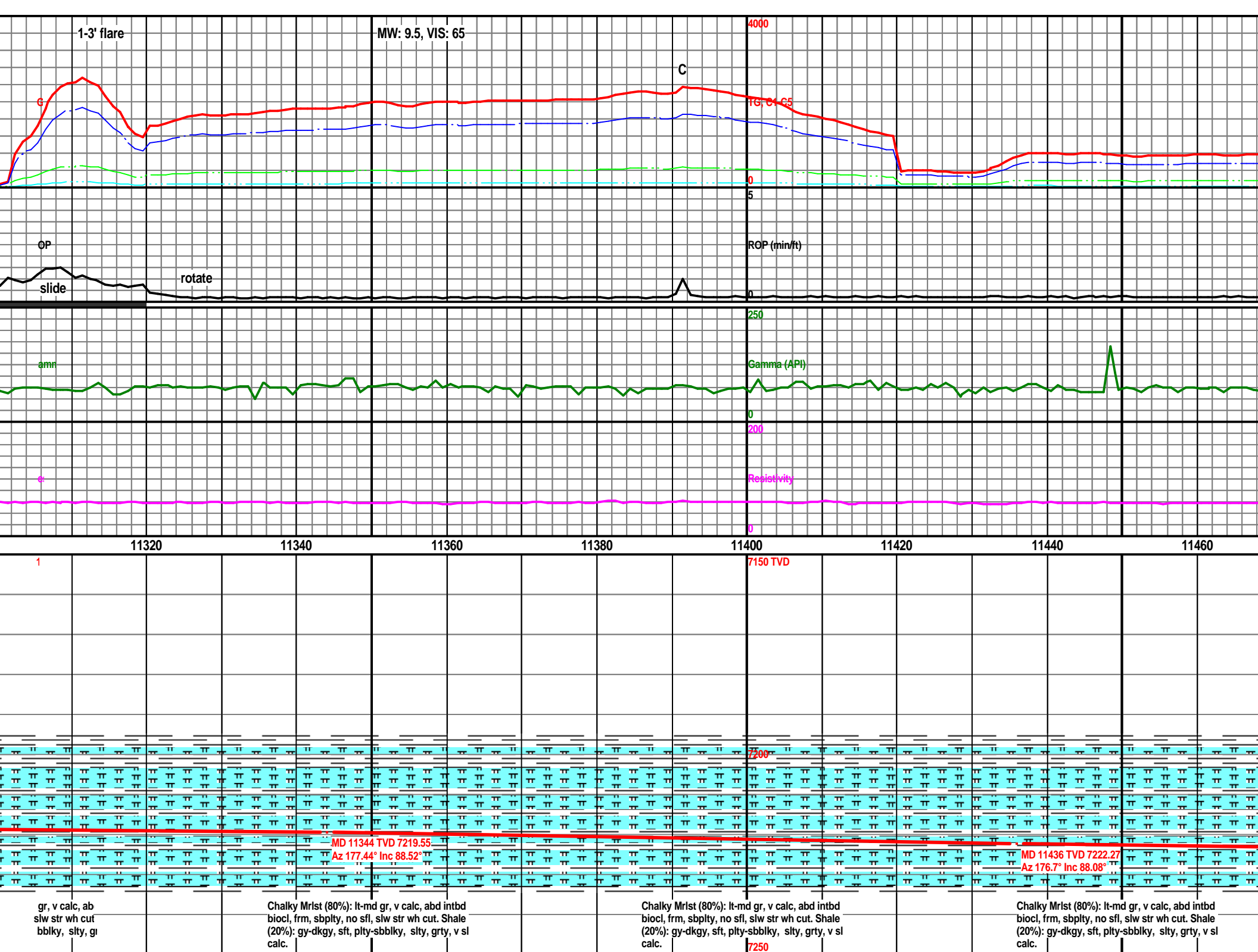
MW: 9.6, VIS: 64

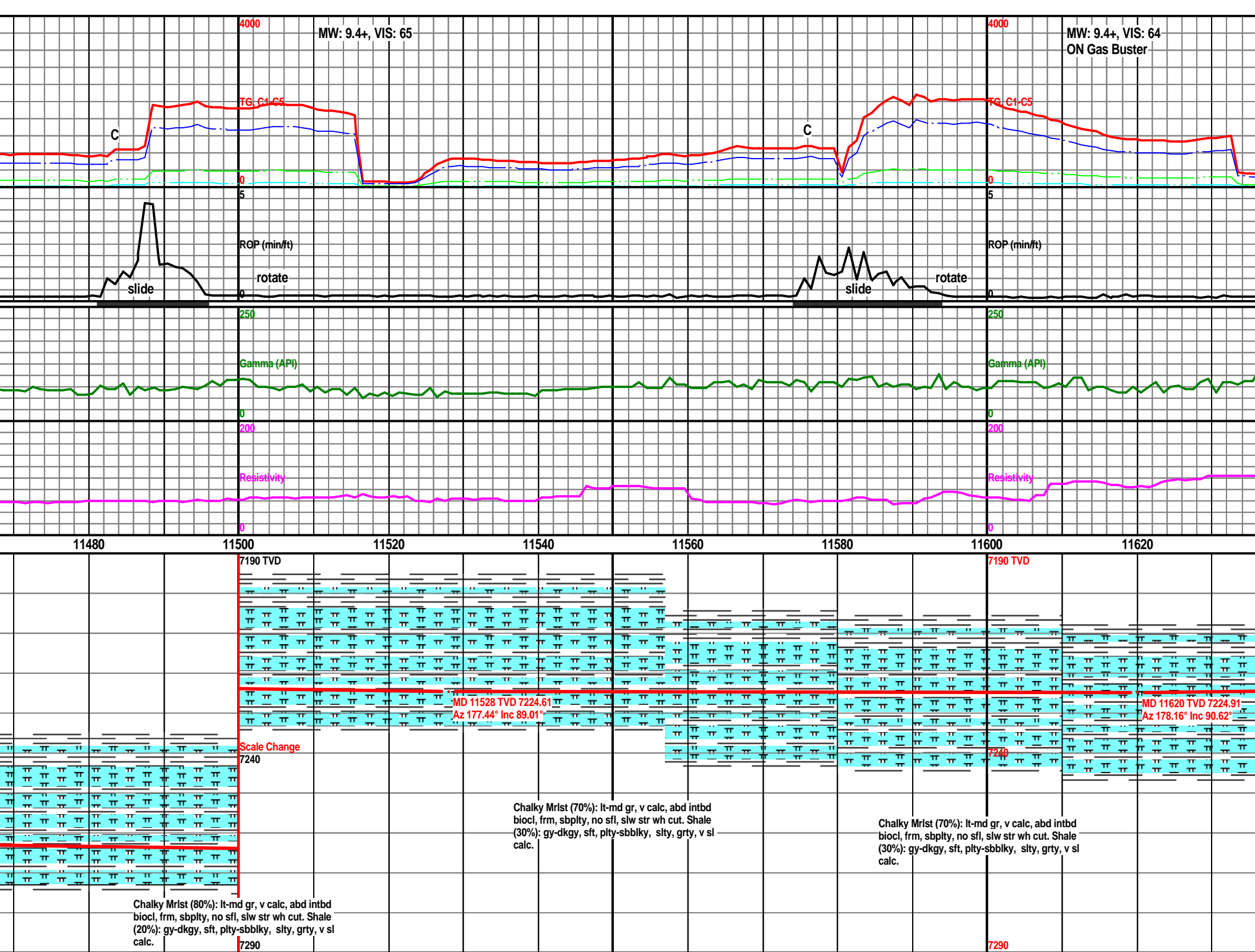


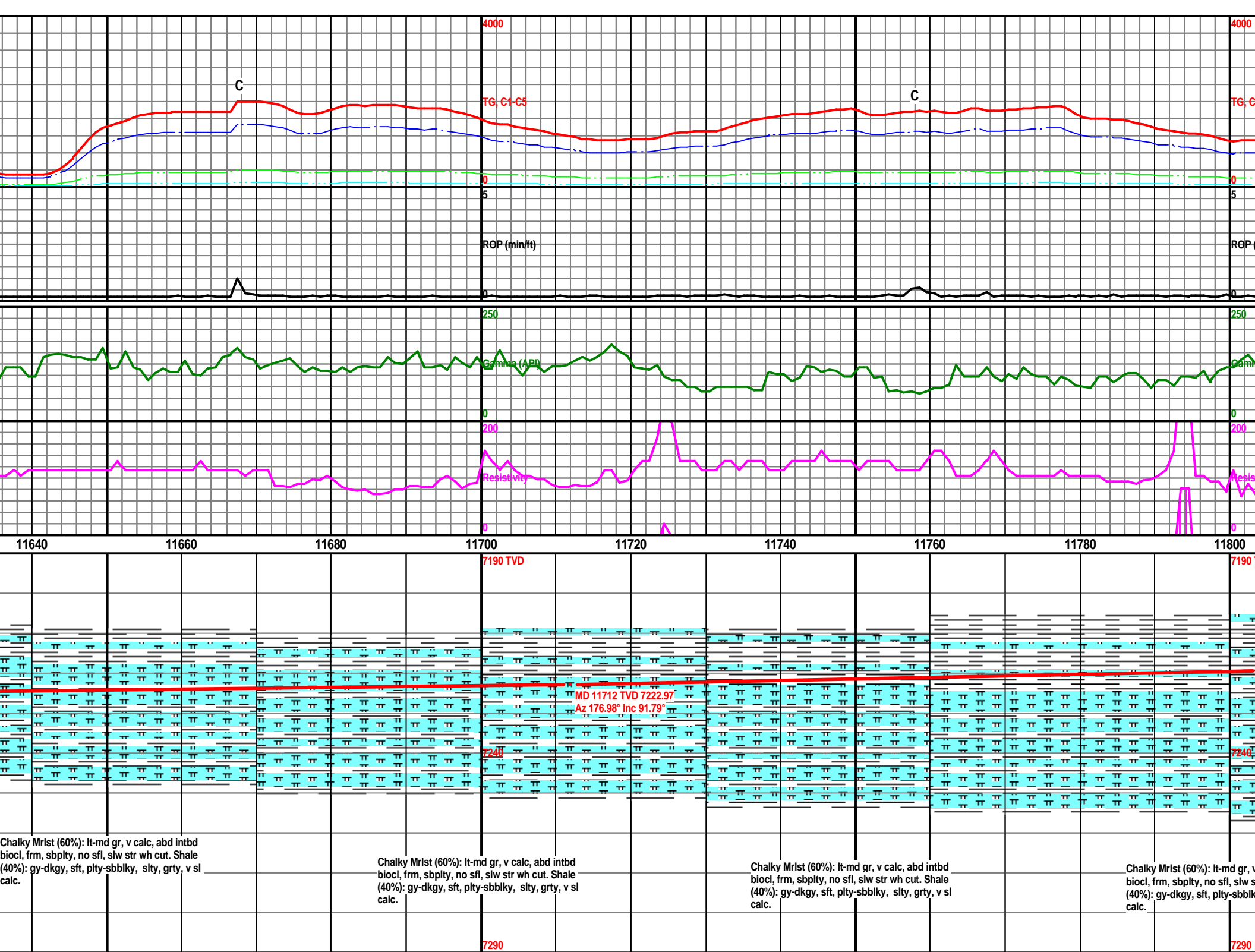


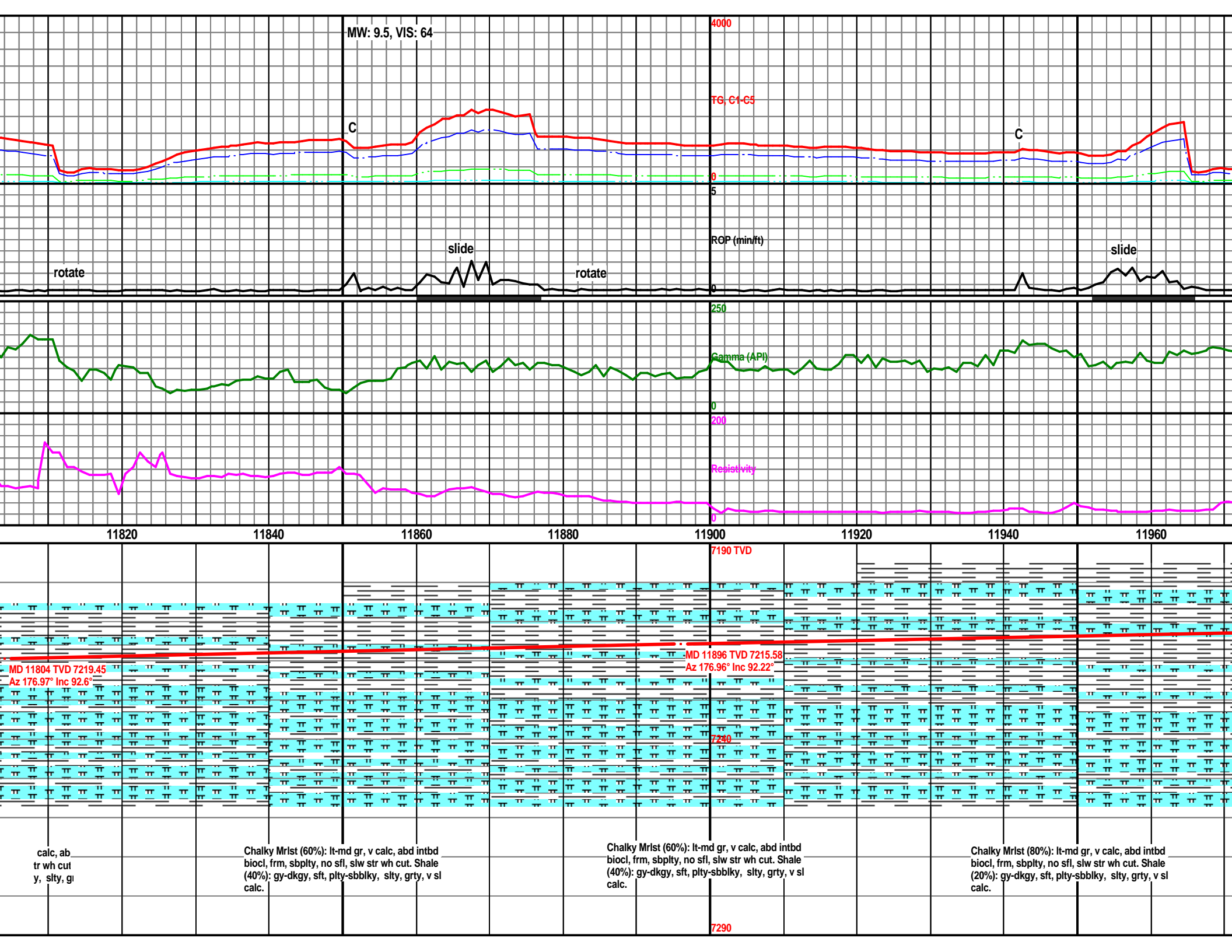


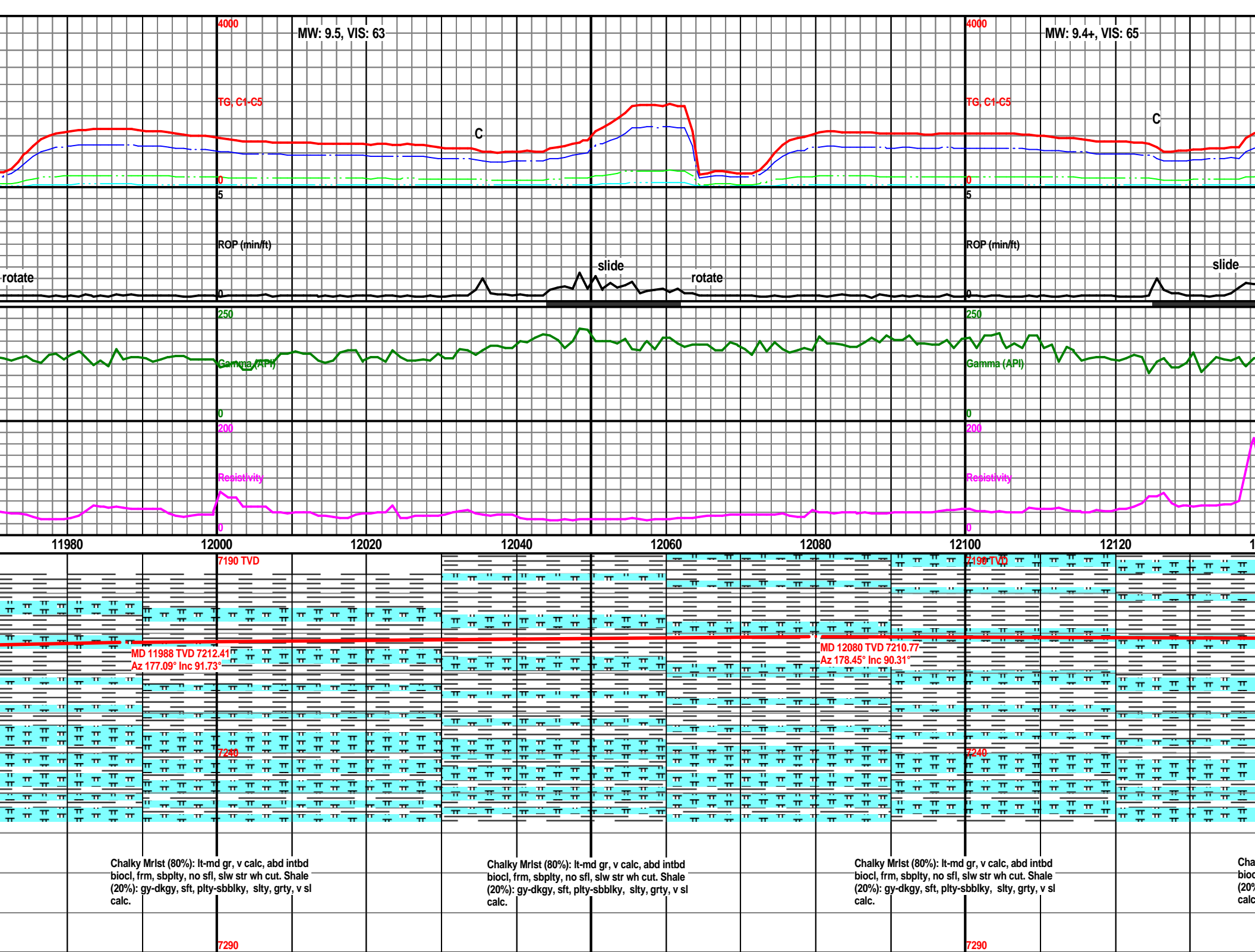


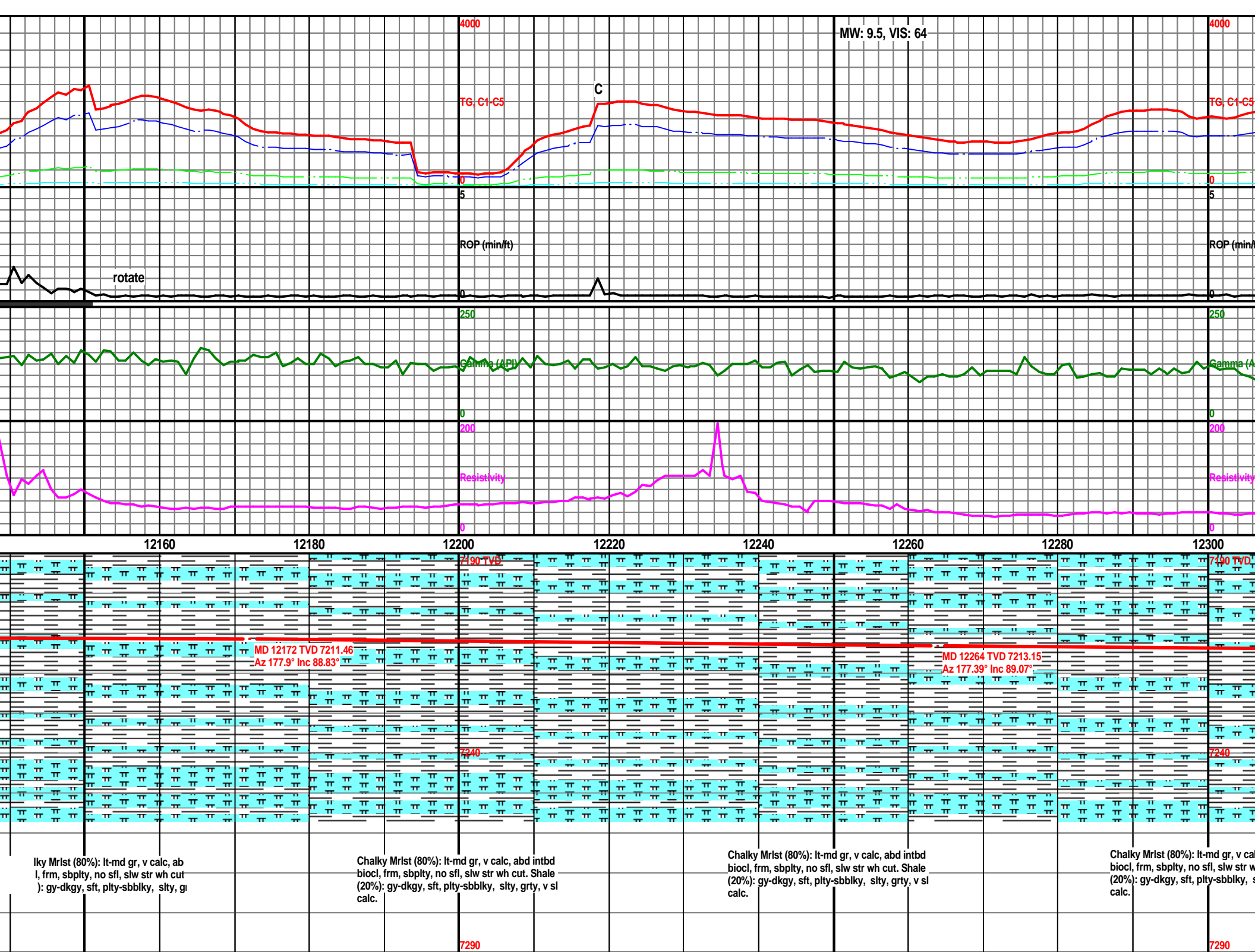


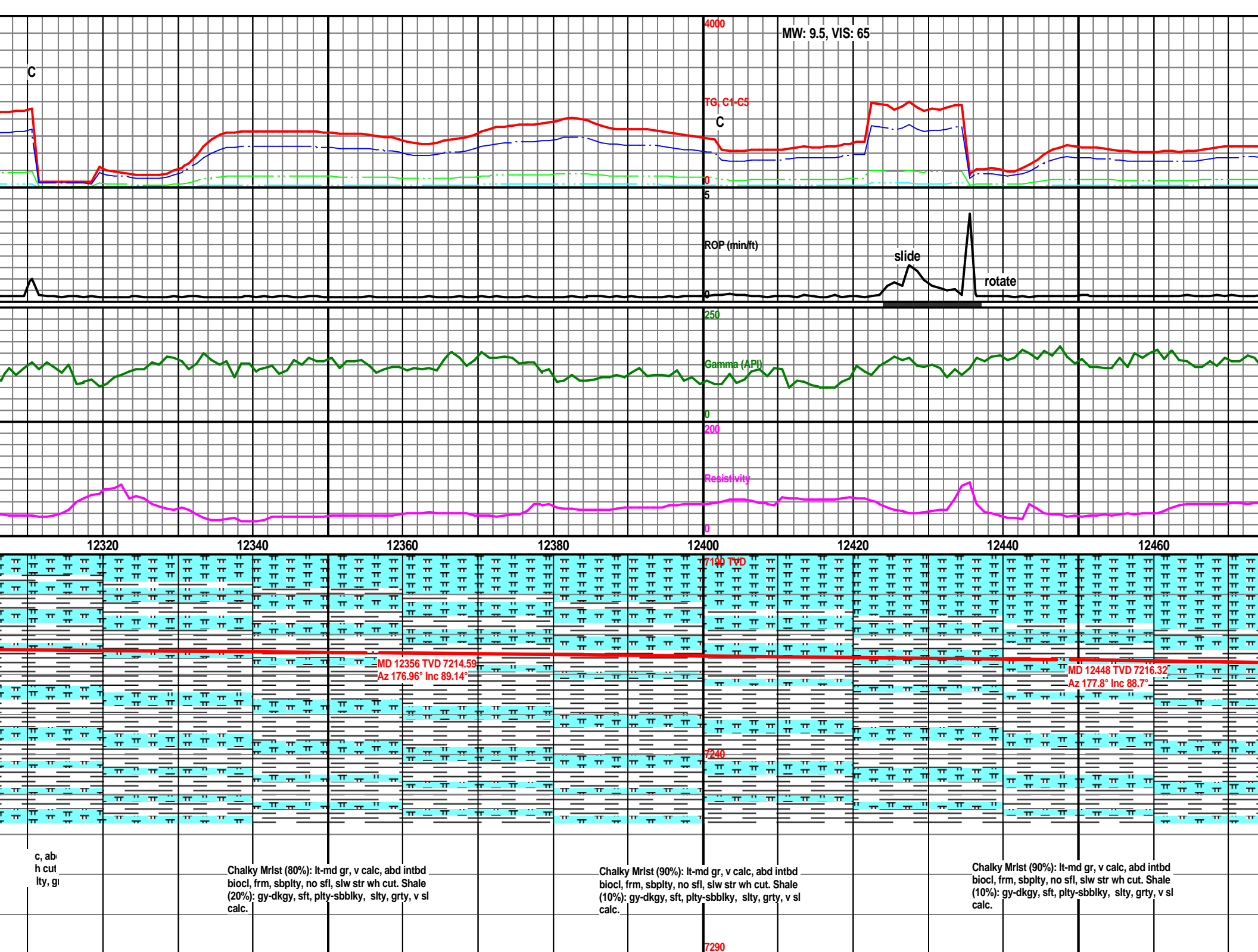












MW: 9.5, VIS: 65

TG, C1-C5

C

ROP (min/ft)

slide

rotate

Gamma (API)

Resistivity

12320

12340

12360

12380

12400

12420

12440

12460

MD 12356 TVD 7214.59
Az 176.96° Inc 89.14°

MD 12448 TVD 7216.32
Az 177.8° Inc 88.7°

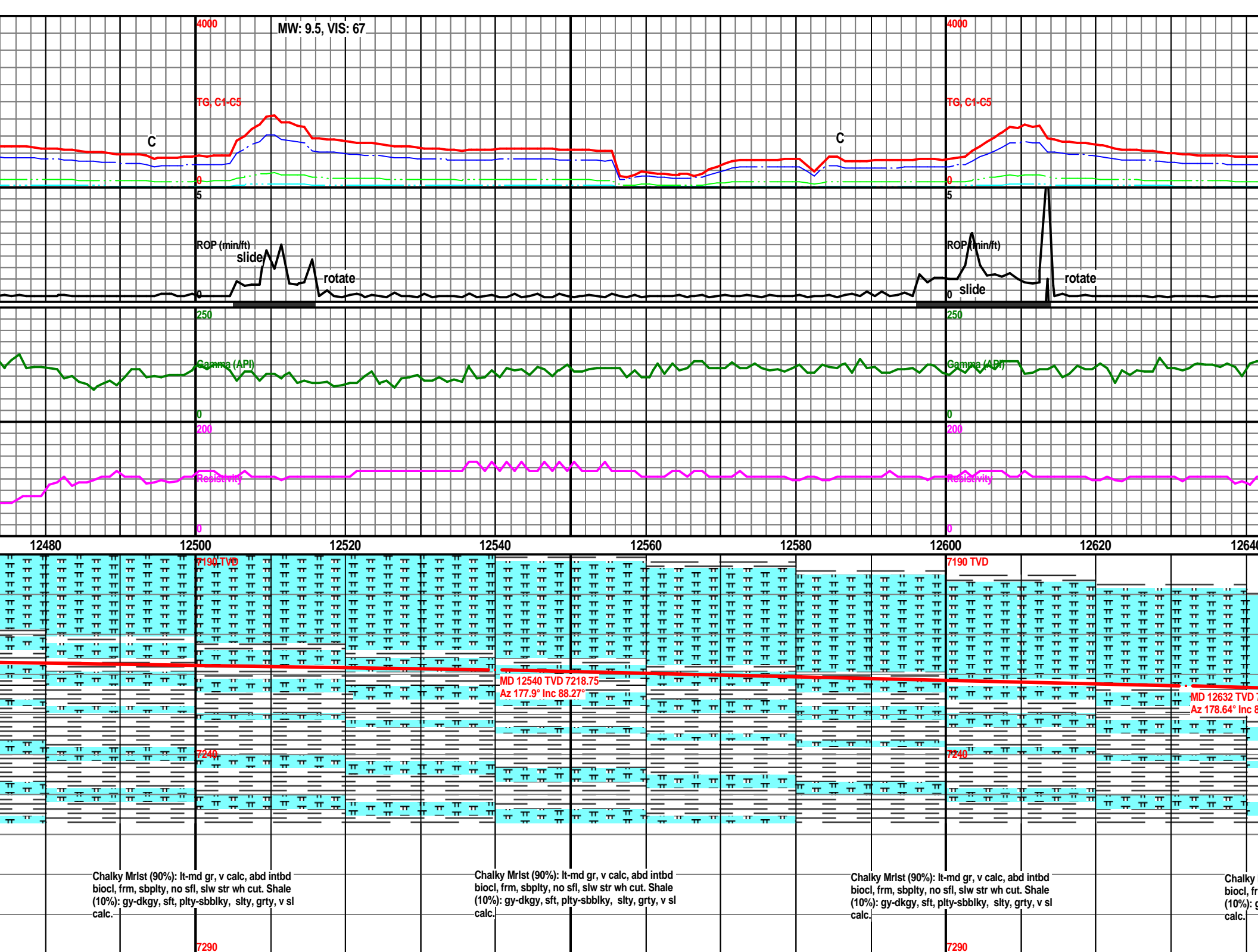
c, ab
h cut
lty, gi

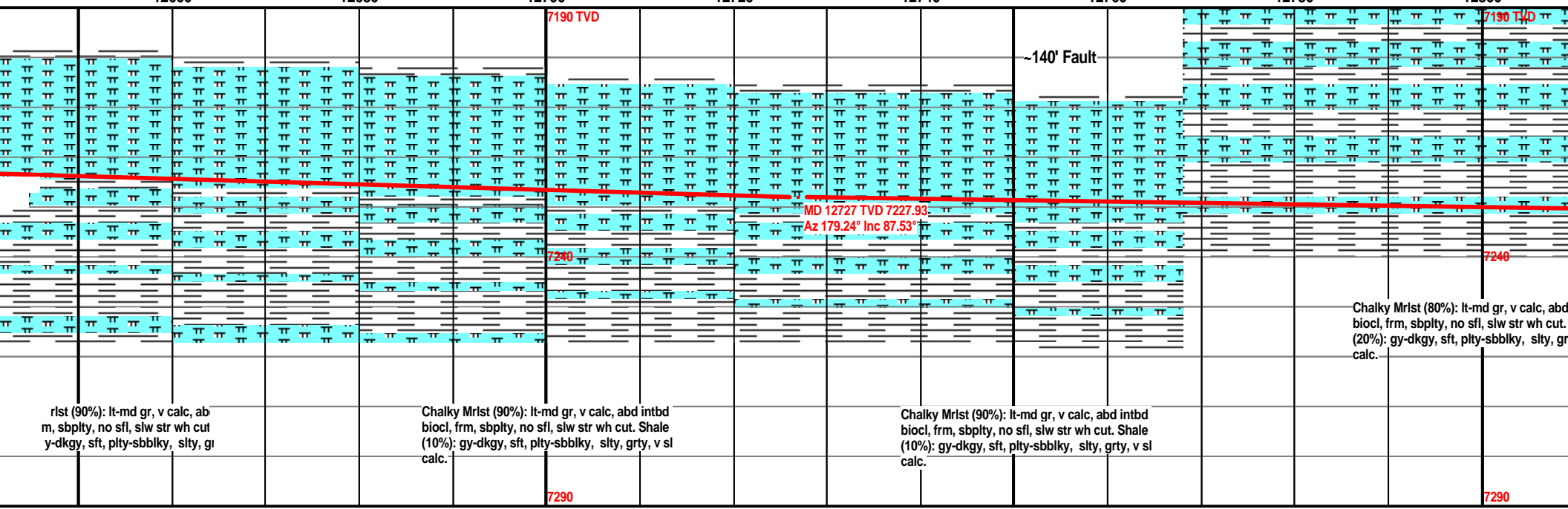
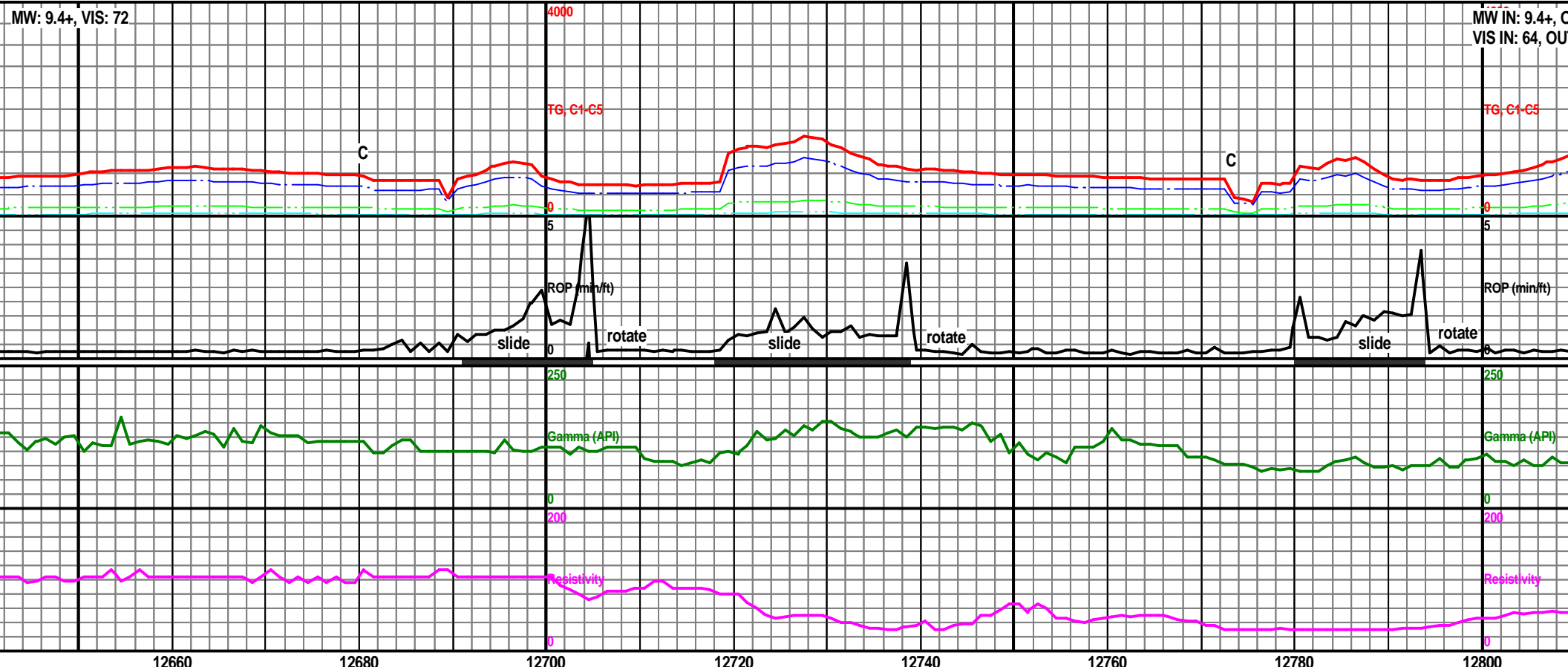
Chalky Mrlst (80%): lt-md gr, v calc, abd intbd
biocl, frm, sbpity, no sfl, slw str wh cut. Shale
(20%): gy-dkgy, sft, pty-sbbiky, slty, grty, v sl
calc.

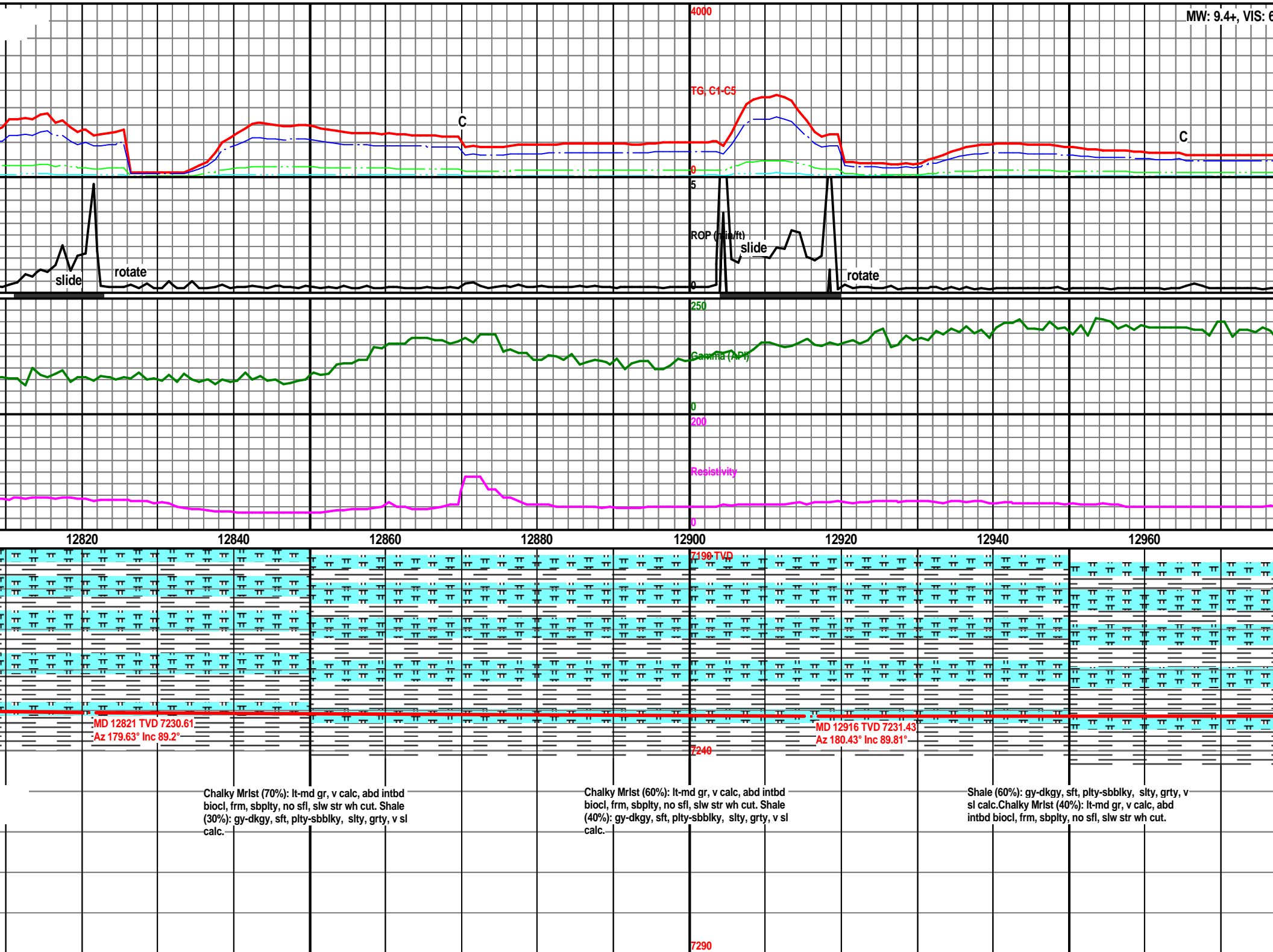
Chalky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbpity, no sfl, slw str wh cut. Shale
(10%): gy-dkgy, sft, pty-sbbiky, slty, grty, v sl
calc.

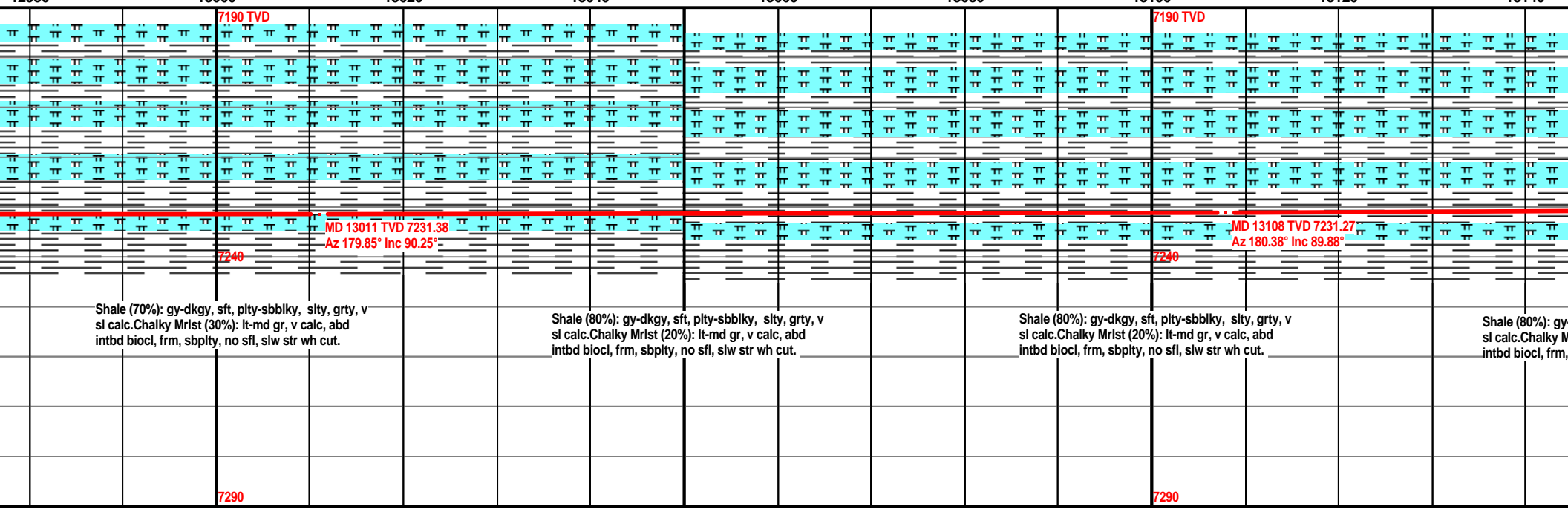
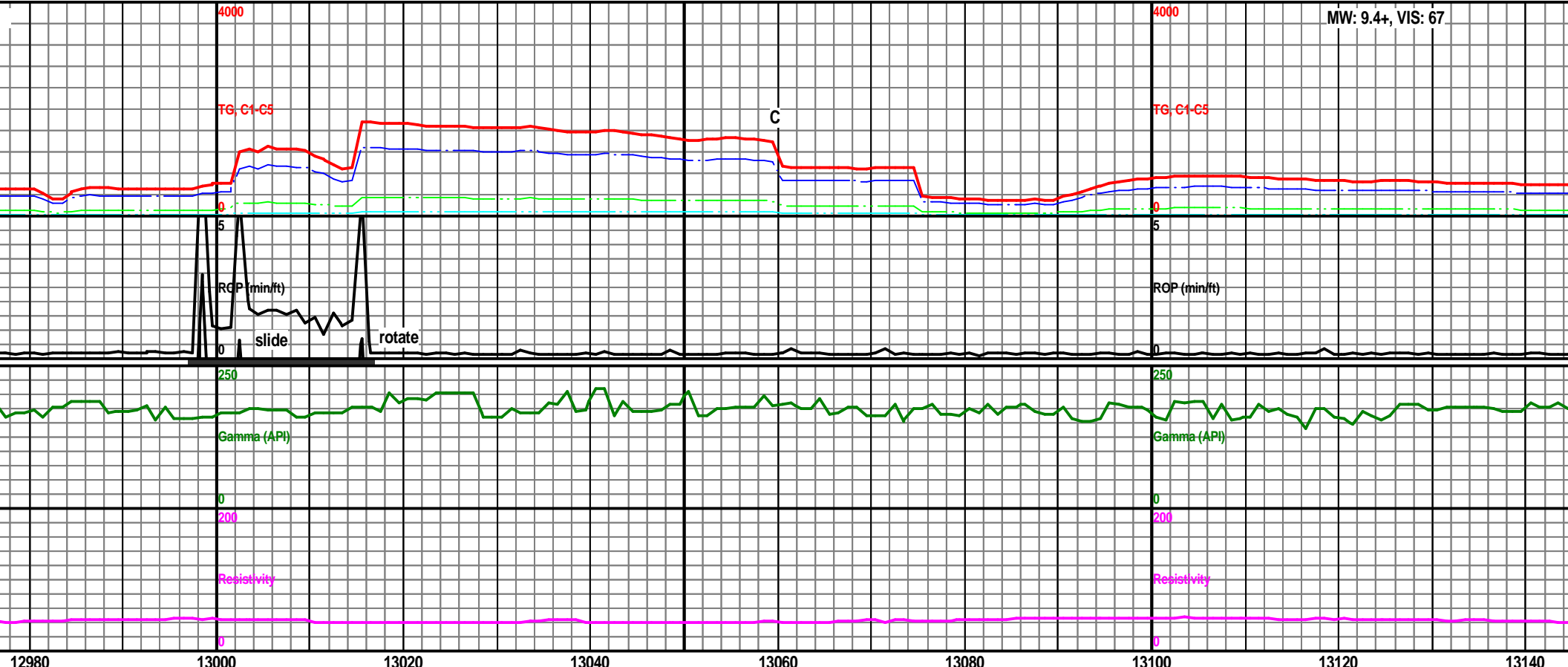
Chalky Mrlst (90%): lt-md gr, v calc, abd intbd
biocl, frm, sbpity, no sfl, slw str wh cut. Shale
(10%): gy-dkgy, sft, pty-sbbiky, slty, grty, v sl
calc.

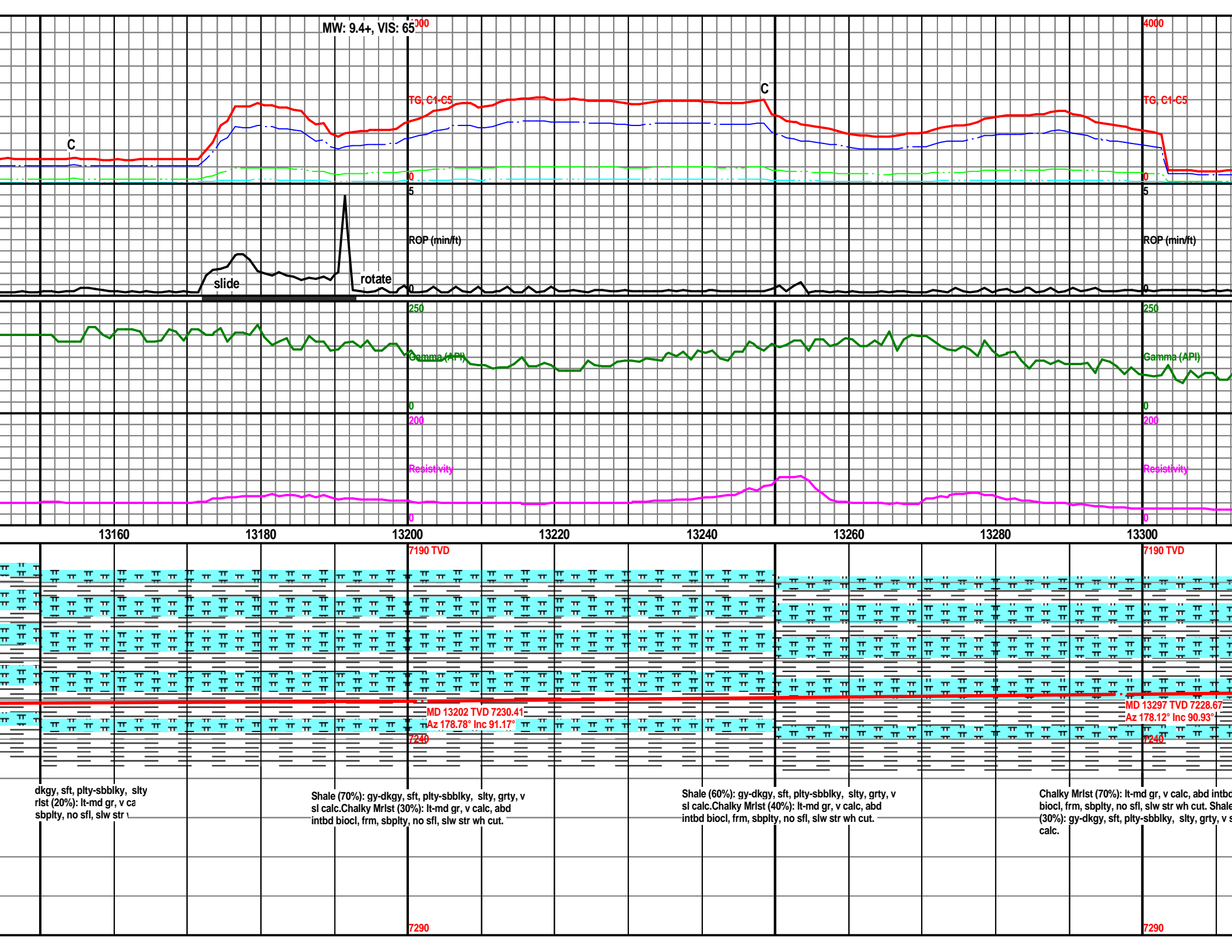
7290

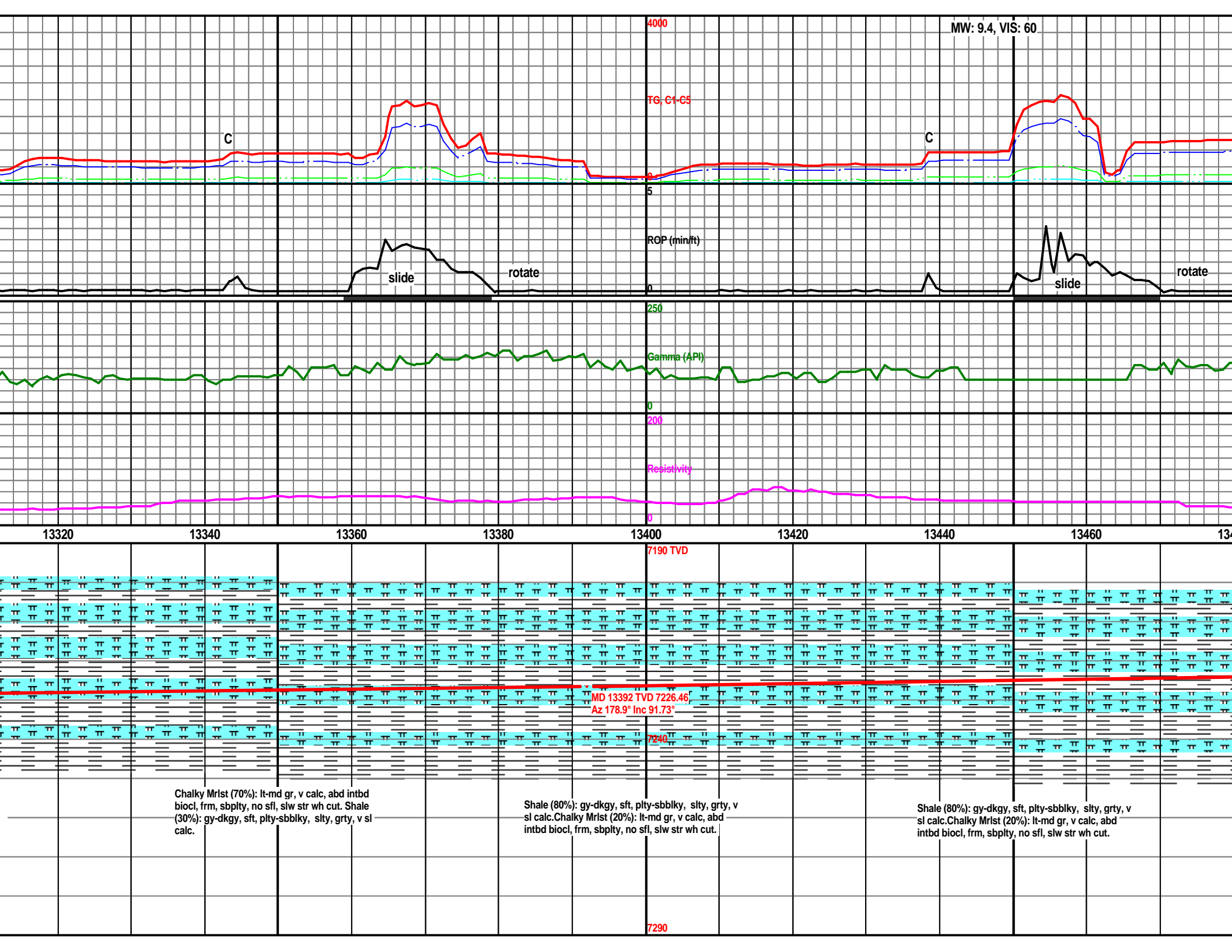


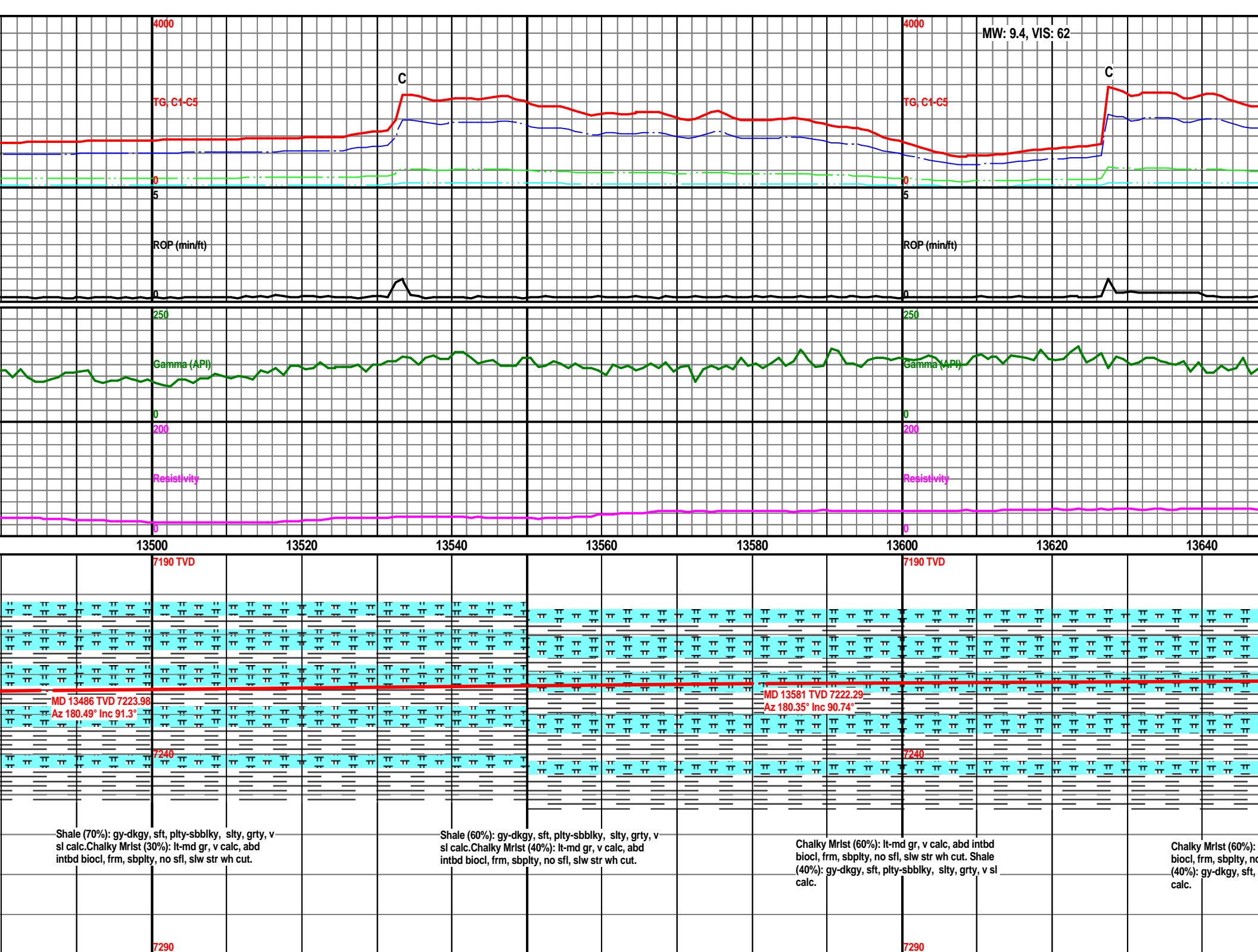


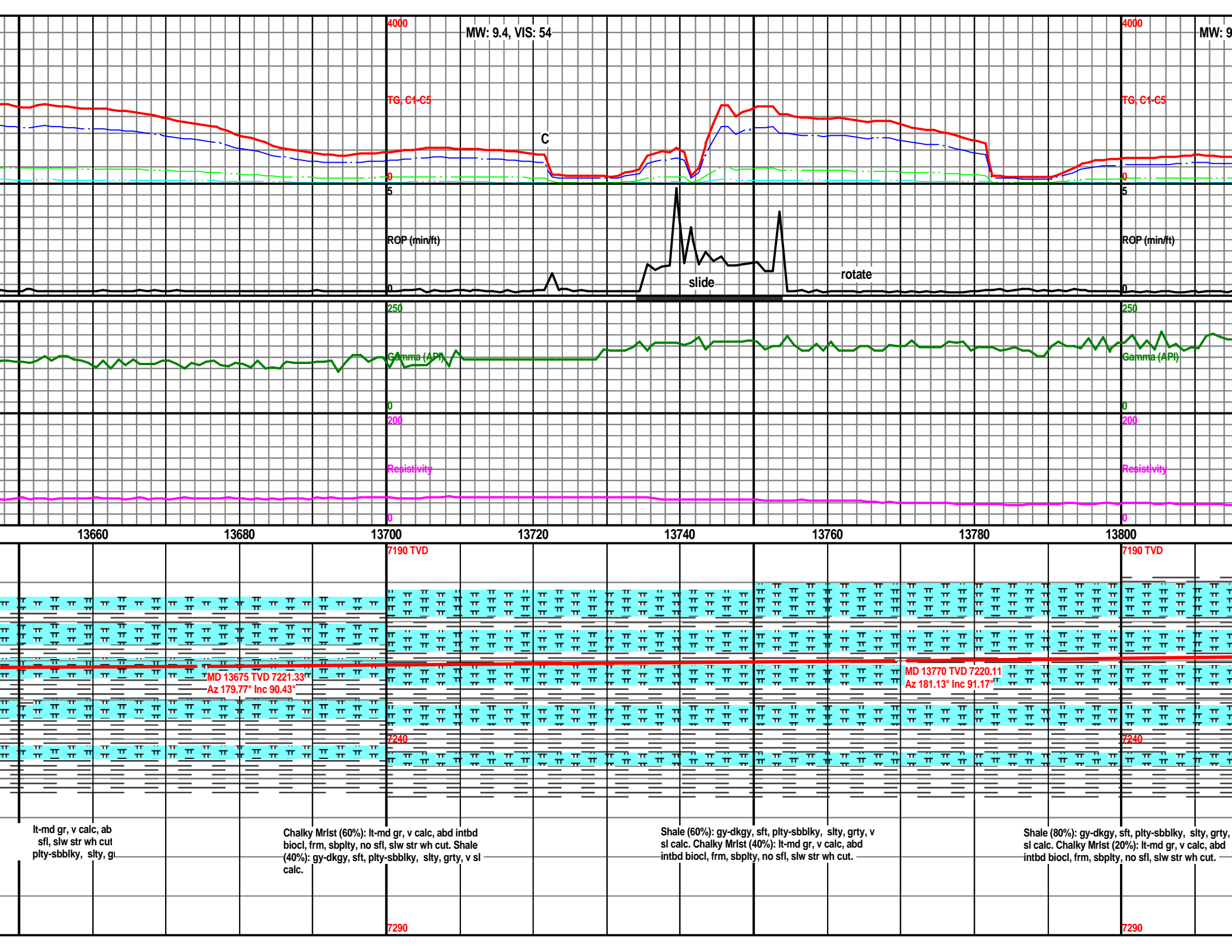












MW: 9.4, VIS: 54

TG, C1-C5

C

ROP (min/ft)

slide

rotate

Gamma (API)

Resistivity

13660

13680

13700

13720

13740

13760

13780

13800

7190 TVD

MD 13675 TVD 7221.33°
Az 179.77° Inc 90.43°

MD 13770 TVD 7220.11°
Az 181.13° Inc 91.17°

7240

7240

lt-md gr, v calc, ab
sfl, slw str wh cut
plty-sbblky, slty, gi

Chalky Mrlst (60%): lt-md gr, v calc, abd intbd
biocl, frm, sbply, no sfl, slw str wh cut. Shale
(40%): gy-dkgy, sft, plty-sbblky, slty, grty, v sl
calc.

Shale (60%): gy-dkgy, sft, plty-sbblky, slty, grty, v
sl calc. Chalky Mrlst (40%): lt-md gr, v calc, abd
intbd biocl, frm, sbply, no sfl, slw str wh cut.

Shale (80%): gy-dkgy, sft, plty-sbblky, slty, grty,
sl calc. Chalky Mrlst (20%): lt-md gr, v calc, abd
intbd biocl, frm, sbply, no sfl, slw str wh cut.

7290

7290

