Scale 1:200 Imperial
Measured Depth Log

Well Name:	**D&C Farms 36C-33HZ**		
Location:	**Weld County, CO.**		
License Number:	**05123378930000**	**Region:**	**Weld County**
Spud Date:	**09/21/13**	**Drilling Completed:**	**9/28/13**
Surface Coordinates:	**767' FSL & 2186' FWL, SEC. 28, T1N-R67W**		
Bottom Hole Coordinates:	**460' FSL & 2450' FWL, SEC. 33, T1N-R67W**		
Ground Elevation (ft):	**5026'**	**K.B. Elevation (ft):**	**5039'**
Logged Interval (ft):	**7890' To: 12952'**	**Total Depth (ft):**	**12952'**
Formation:	**Codell**		
Type of Drilling Fluid:	**Water Based**		

OPERATOR

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

GEOLOGIST

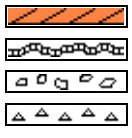
Name: Scott Crozier / Ben Thompson / Pat Hill
Company: Great Divide Consulting, Inc.
Address: P.O. Box 630263
Highlands Ranch, CO 80163

Cores

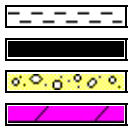
DSTs

Comments

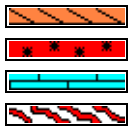
ROCK TYPES



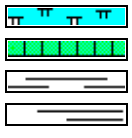
Anhy
Bent
Brec
Cht



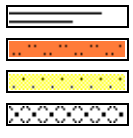
Clyst
Coal
Congl
Dol



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

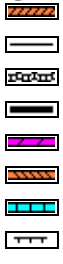
Gyp
Hvymin
Kaol
Marl
Minxl
Nodule
Phos
Pyr
Salt
Sandy
Silt
Sil
Sulphur
Tuff

FOSSIL

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

Ostra
Pelec
Pellet
Pisolite
Plant
Strom

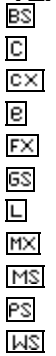
STRINGER



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

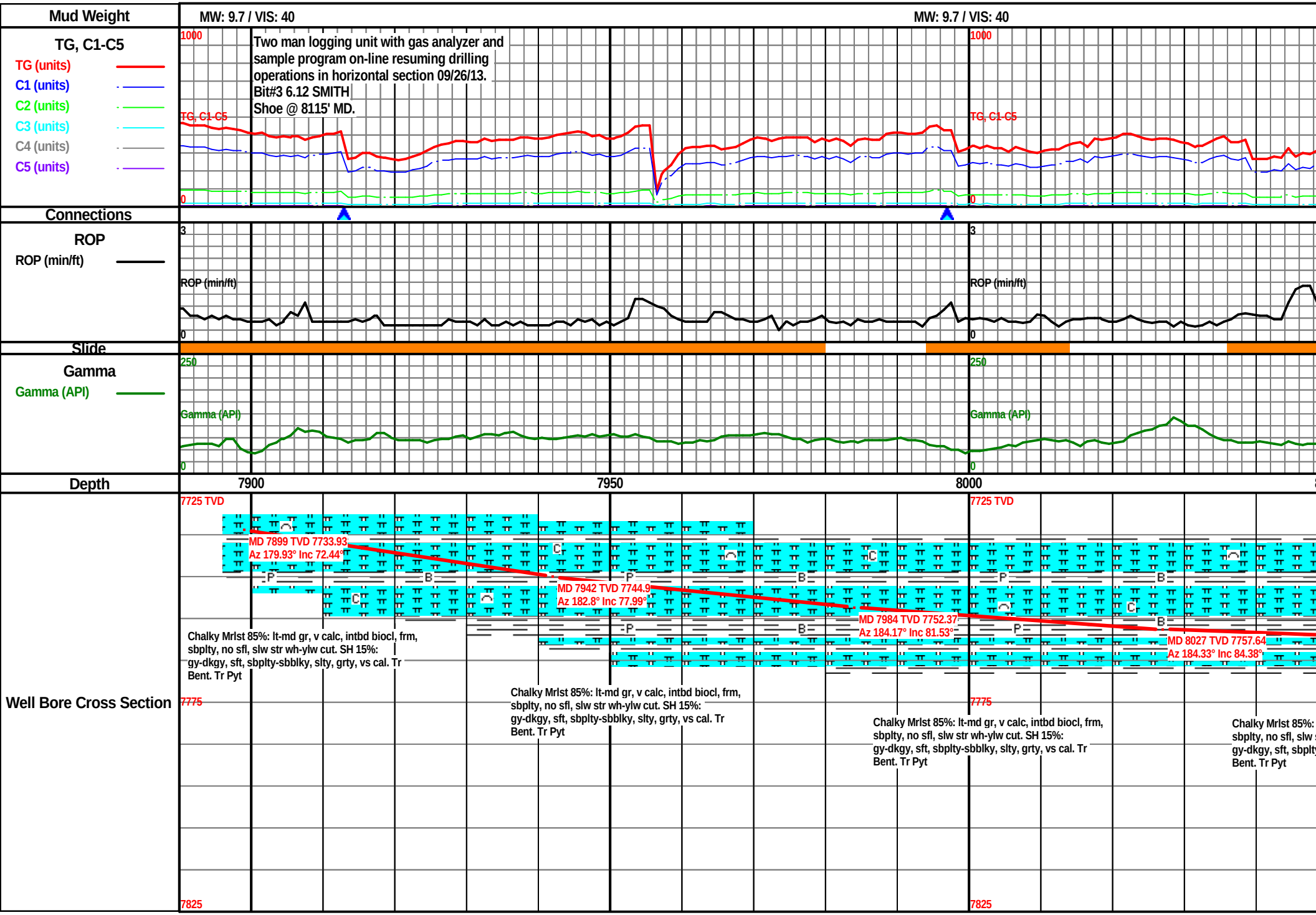
SORTING
- Well
- Moderate
- Poor

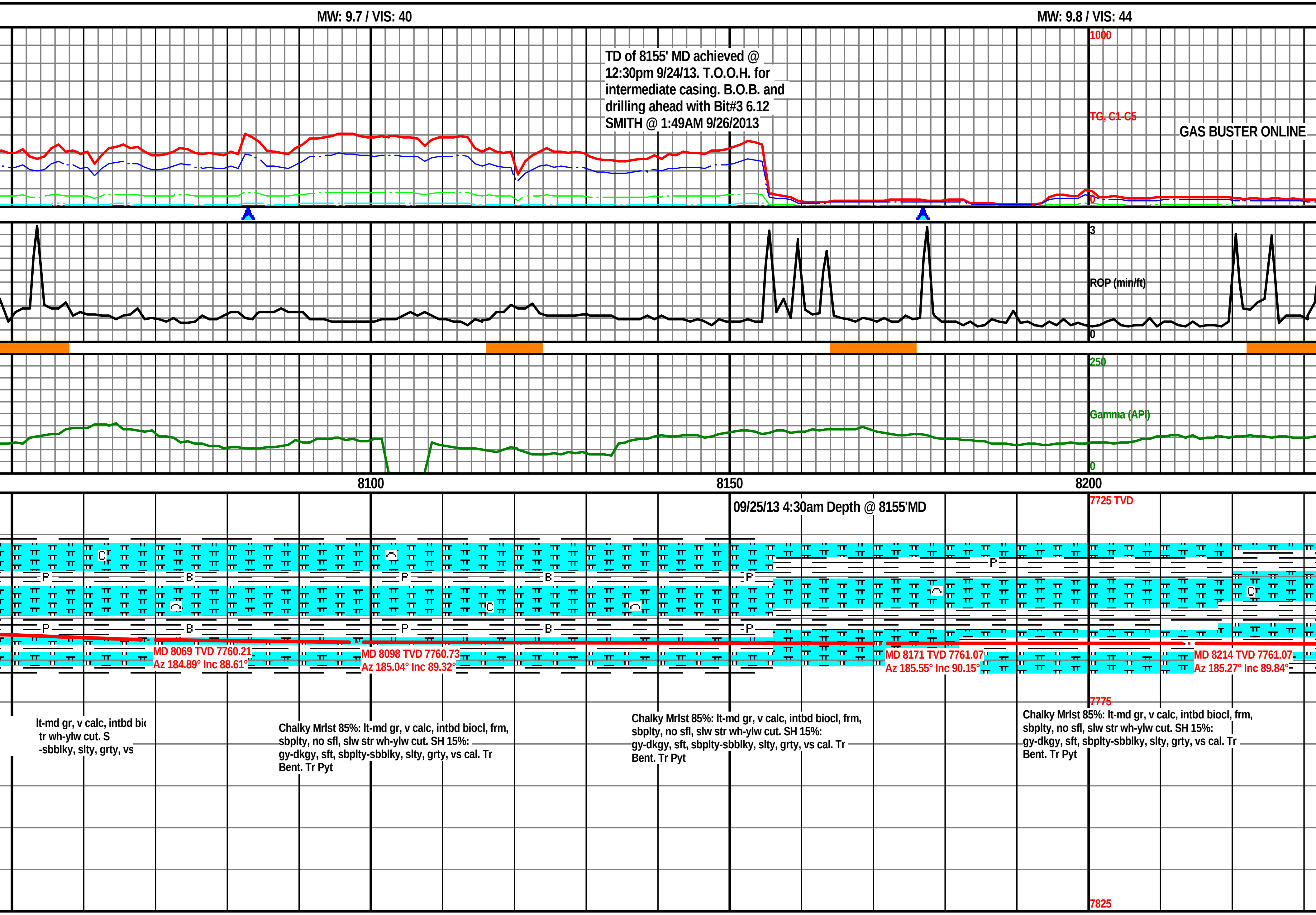
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

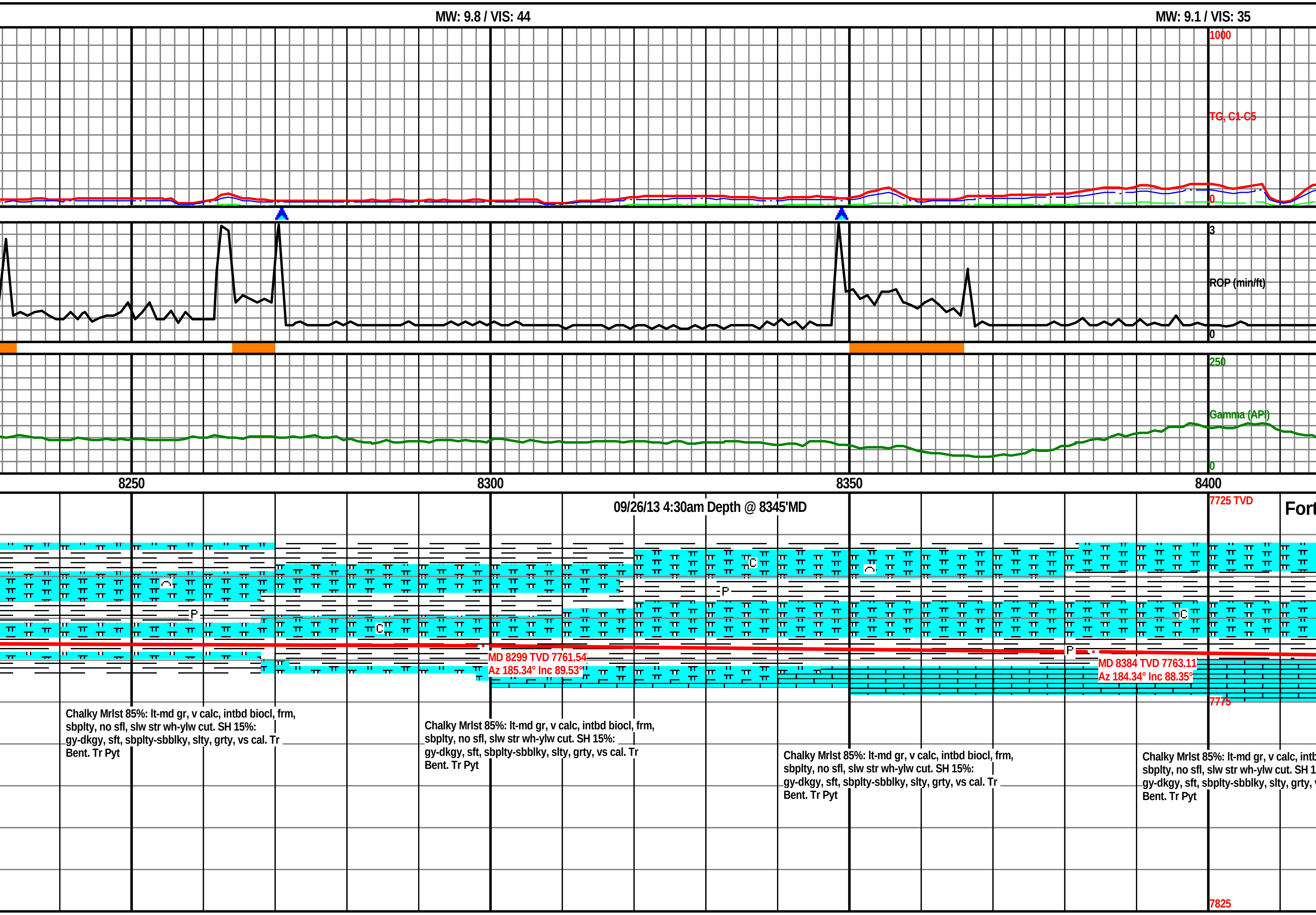
OIL SHOW
- Even
- Spotted
- Ques
- Dead

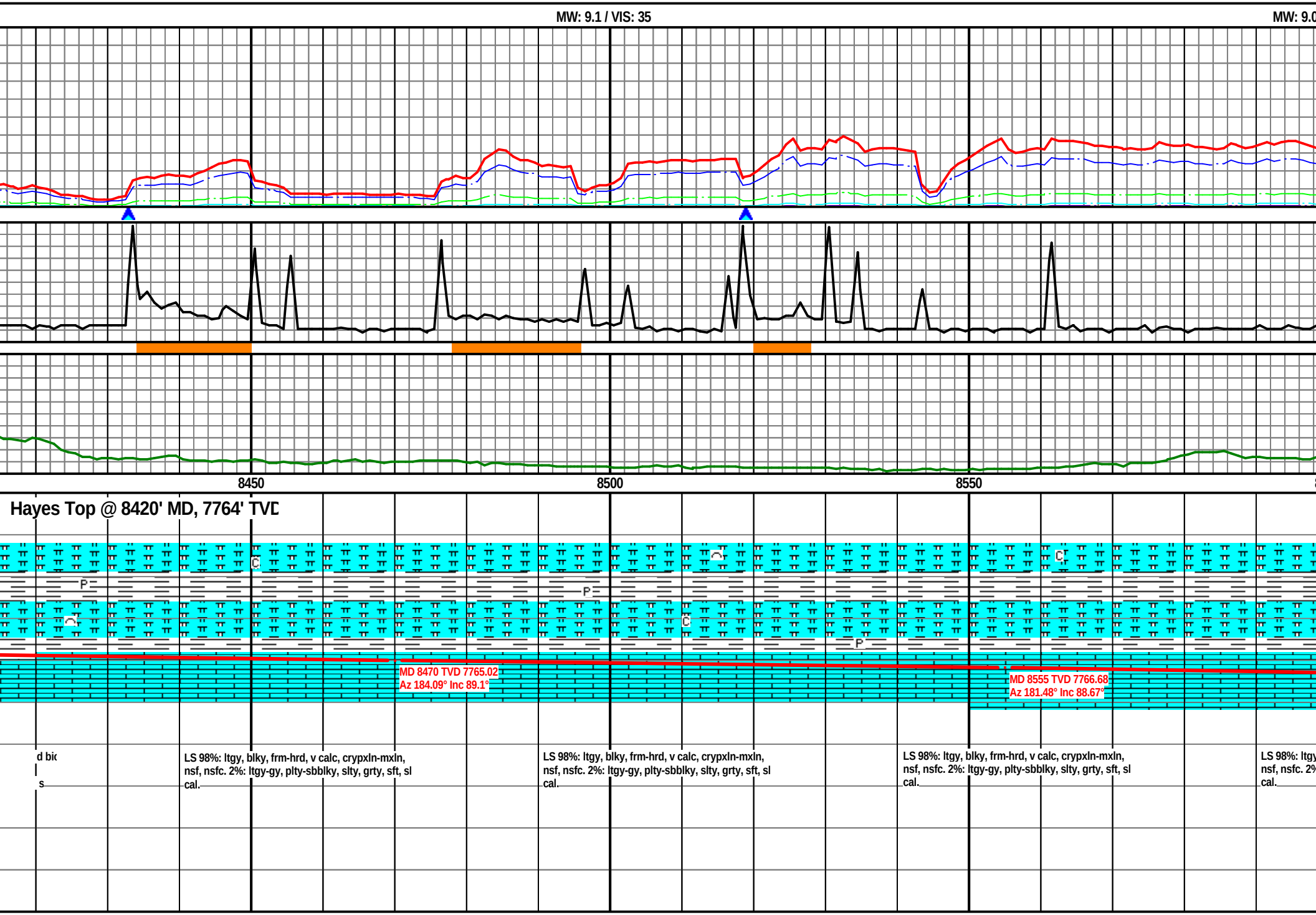
INTERVAL
- Core
- Dst

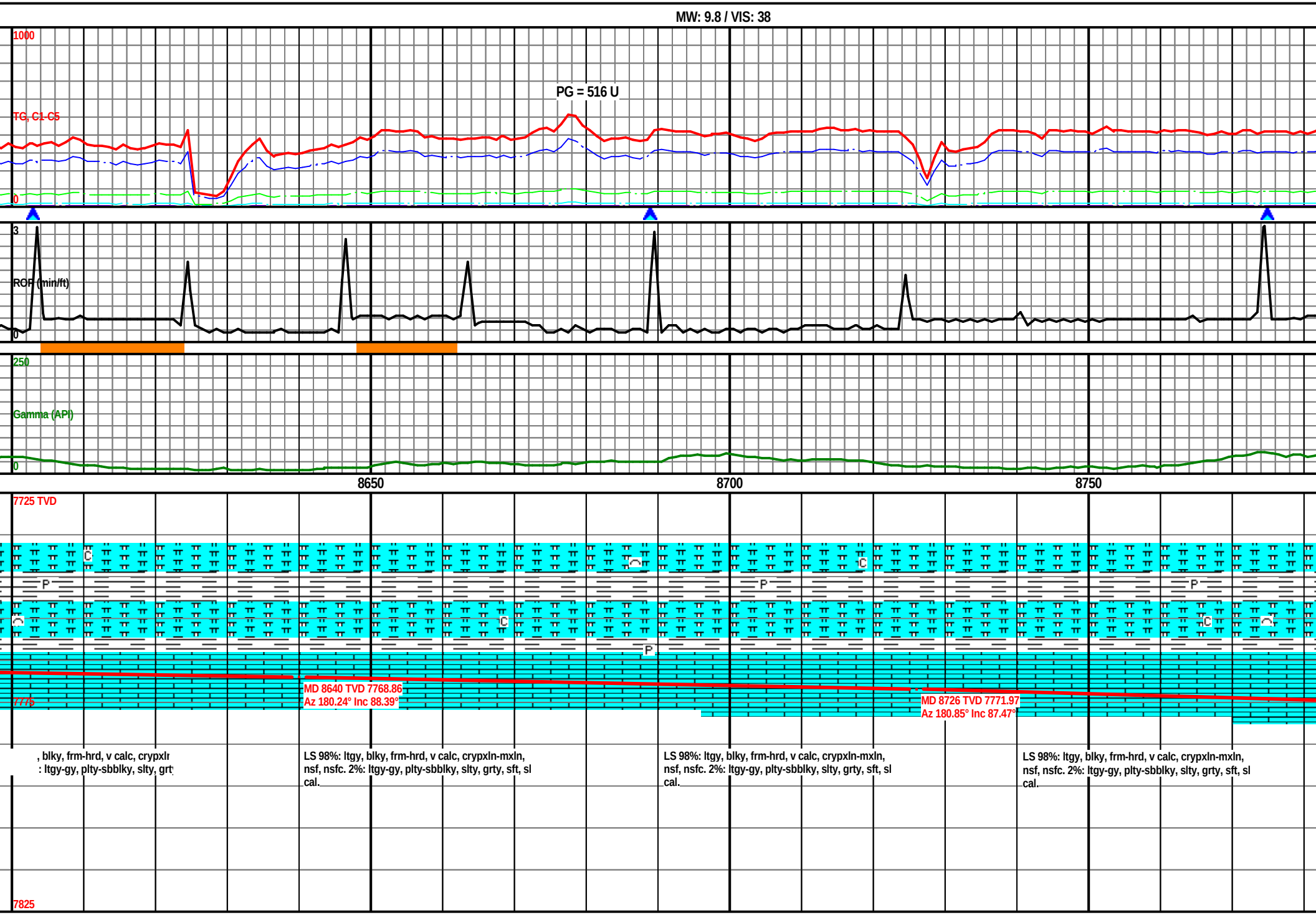
EVENT
- Rft
- Connection

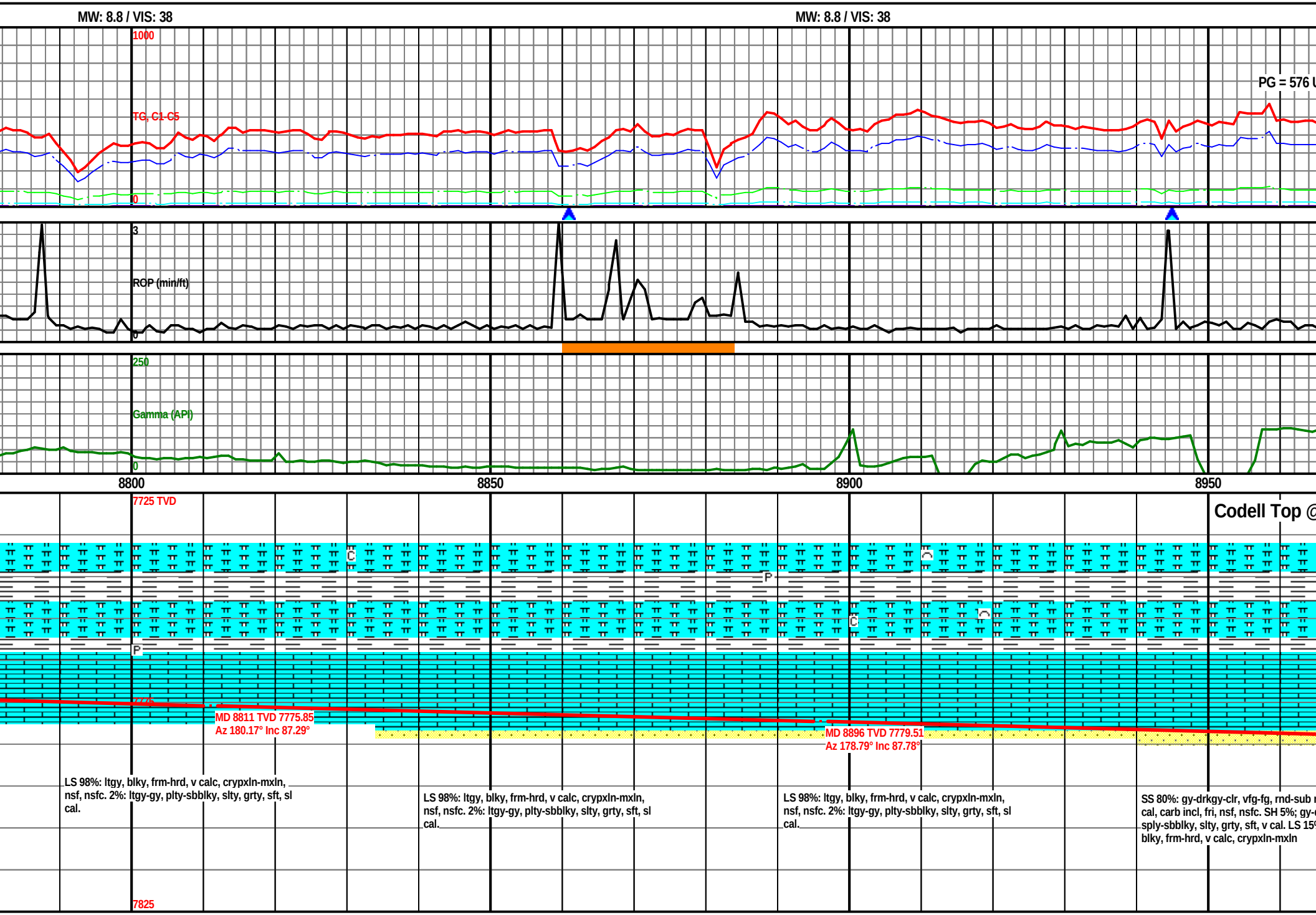

Mud Weight
MW: 9.7 / VIS: 40
MW: 9.7 / VIS: 40
TG, C1-C5
TG (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)
1000
Two man logging unit with gas analyzer and sample program on-line resuming drilling operations in horizontal section 09/26/13.
Bit#3 6.12 SMITH
Shoe @ 8115' MD.
TG, C1-C5
0
Connections
ROP
ROP (min/ft)
3
ROP (min/ft)
0
Slide
Gamma
Gamma (API)
250
Gamma (API)
0
Depth
7900
7950
8000
Well Bore Cross Section
7725 TVD
MD 7899 TVD 7733.93
Az 179.93° Inc 72.44°
MD 7942 TVD 7744.9
Az 182.8° Inc 77.99°
MD 7984 TVD 7752.37
Az 184.17° Inc 81.53°
MD 8027 TVD 7757.64
Az 184.33° Inc 84.38°
Chalky Mrlst 85%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal. Tr Bent. Tr Pyt
7775
7825

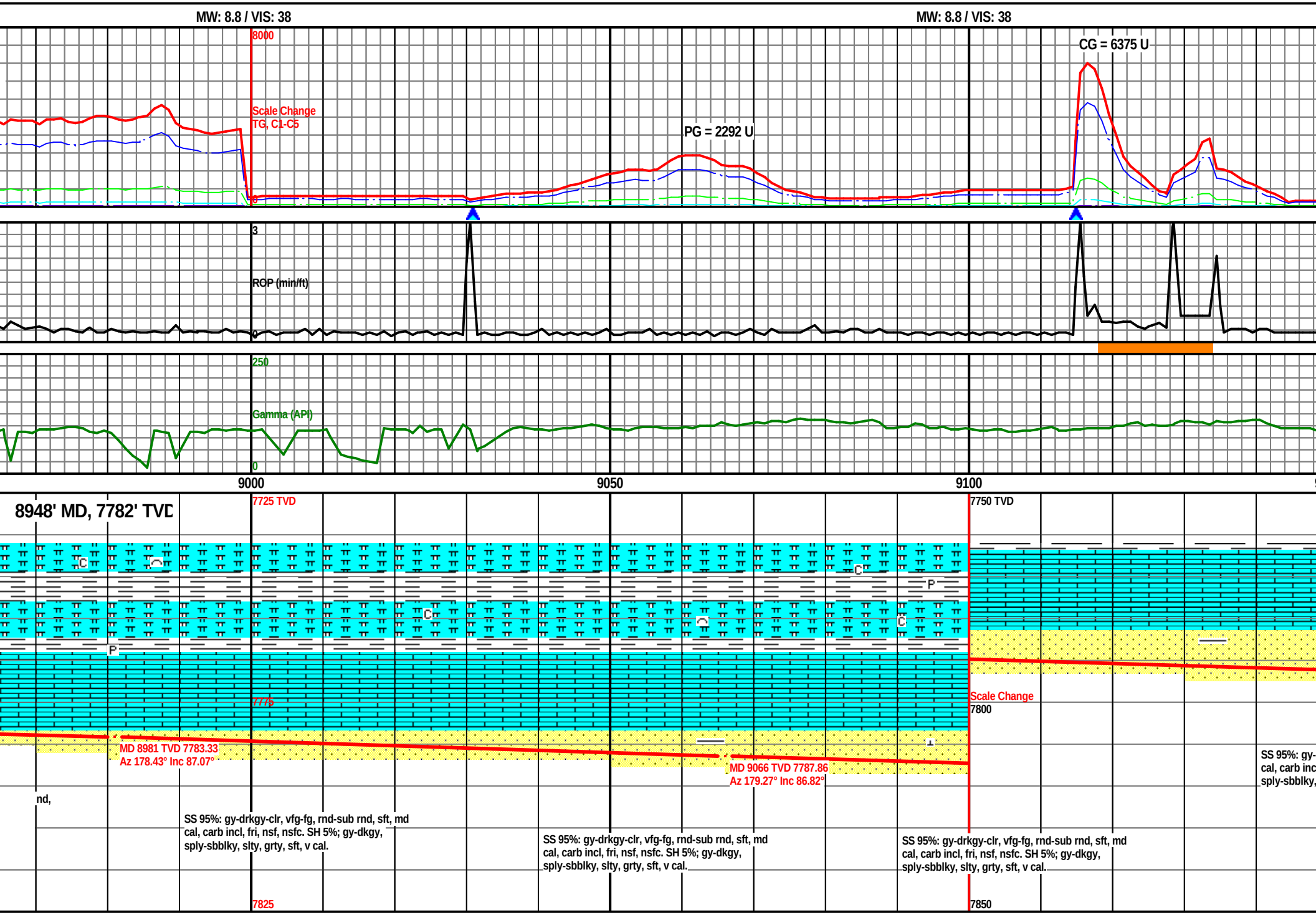

MW: 9.7 / VIS: 40
MW: 9.8 / VIS: 44
TD of 8155' MD achieved @ 12:30pm 9/24/13. T.O.O.H. for intermediate casing. B.O.B. and drilling ahead with Bit#3 6.12 SMITH @ 1:49AM 9/26/2013
GAS BUSTER ONLINE
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
8100
8150
8200
09/25/13 4:30am Depth @ 8155'MD
7725 TVD
MD 8069 TVD 7760.21
Az 184.89° Inc 88.61°
MD 8098 TVD 7760.73
Az 185.04° Inc 89.32°
MD 8171 TVD 7761.07
Az 185.55° Inc 90.15°
MD 8214 TVD 7761.07
Az 185.27° Inc 89.84°
7775
lt-md gr, v calc, intbd bio
tr wh-ylw cut. S
-sbblky, slty, grty, vs
Chalky Mrlst 85%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal. Tr Bent. Tr Pyt
Chalky Mrlst 85%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal. Tr Bent. Tr Pyt
Chalky Mrlst 85%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal. Tr Bent. Tr Pyt
7825

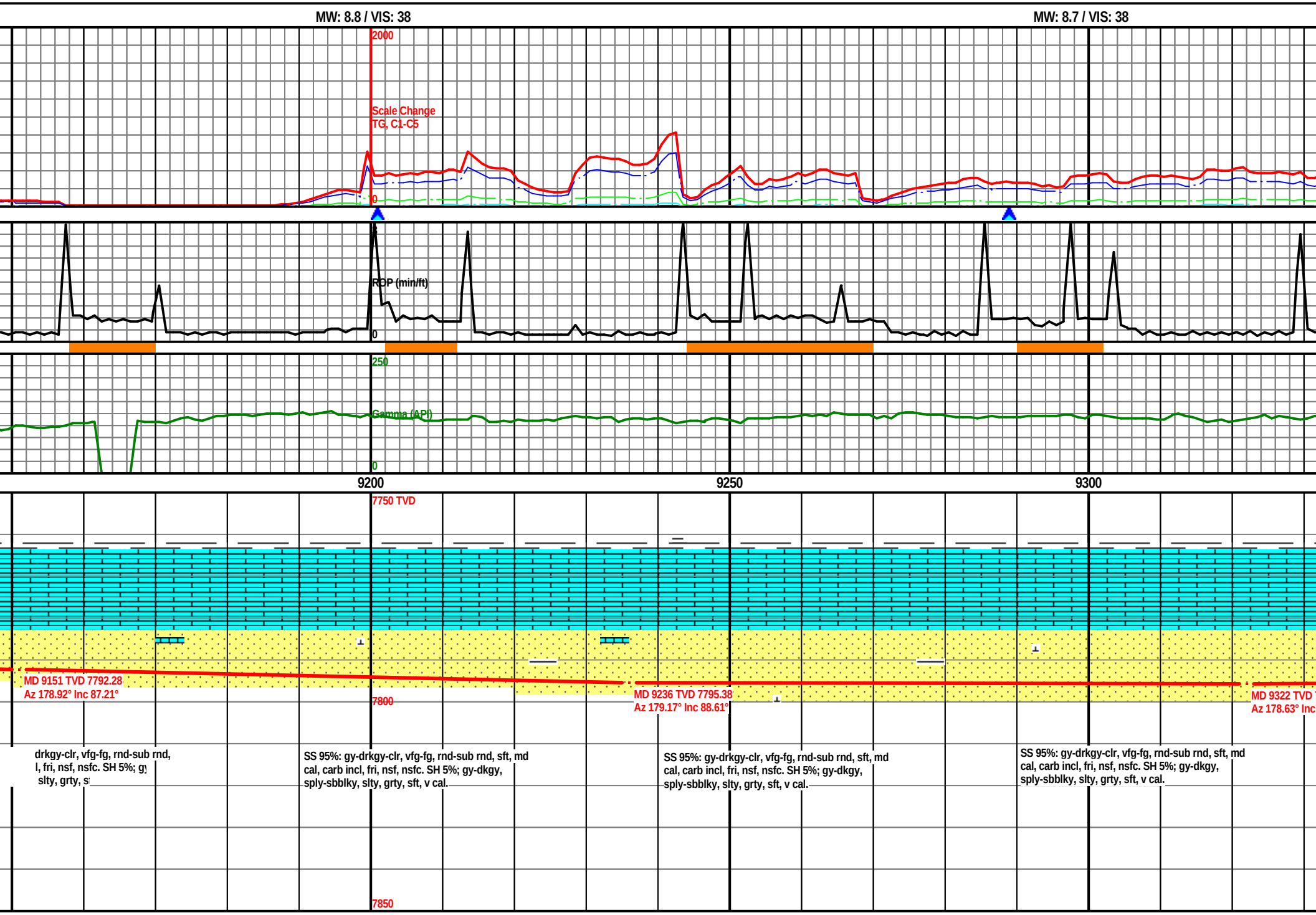

MW: 9.8 / VIS: 44
MW: 9.1 / VIS: 35
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
8250
8300
8350
8400
09/26/13 4:30am Depth @ 8345'MD
7725 TVD
Fort
MD 8299 TVD 7761.54
Az 185.34° Inc 89.53°
MD 8384 TVD 7763.11
Az 184.34° Inc 88.35°
7775
7825
Chalky Mrlst 85%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal. Tr Bent. Tr Pyt
Chalky Mrlst 85%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal. Tr Bent. Tr Pyt
Chalky Mrlst 85%: lt-md gr, v calc, intbd biocl, frm, sbplty, no sfl, slw str wh-ylw cut. SH 15%: gy-dkgy, sft, sbplty-sbblky, slty, grty, vs cal. Tr Bent. Tr Pyt
Chalky Mrlst 85%: lt-md gr, v calc, intb sbplty, no sfl, slw str wh-ylw cut. SH 1 gy-dkgy, sft, sbplty-sbblky, slty, grty, v Bent. Tr Pyt

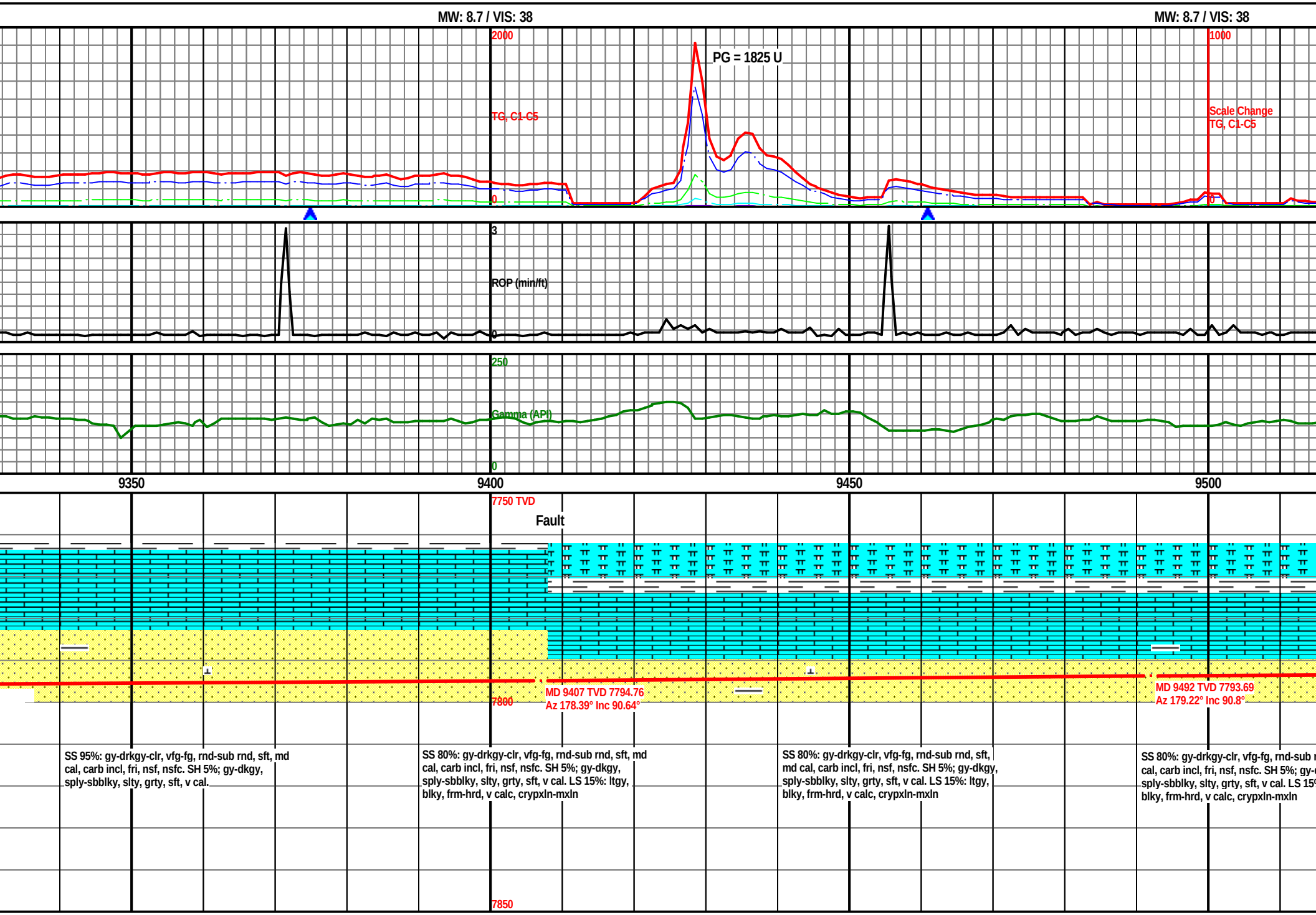

MW: 9.1 / VIS: 35
MW: 9.0
8450
8500
8550
Hayes Top @ 8420' MD, 7764' TVD
MD 8470 TVD 7765.02
Az 184.09° Inc 89.1°
MD 8555 TVD 7766.68
Az 181.48° Inc 88.67°
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.

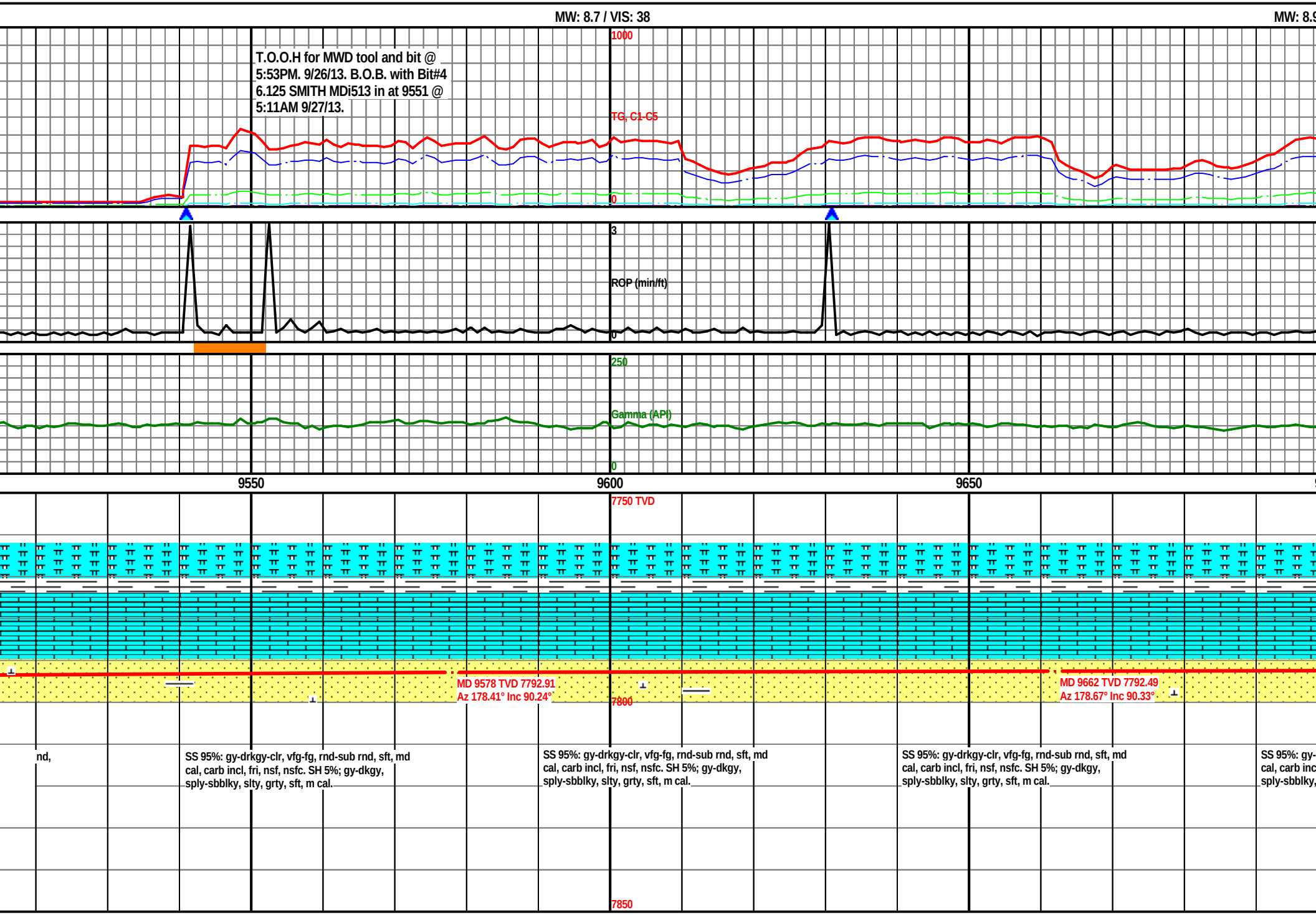

MW: 9.8 / VIS: 38
1000
PG = 516 U
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
8650
8700
8750
7725 TVD
MD 8640 TVD 7768.86
Az 180.24° Inc 88.39°
MD 8726 TVD 7771.97
Az 180.85° Inc 87.47°
, blky, frm-hrd, v calc, crypxln
: ltgy-gy, plty-sbblky, slty, grt
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.
7825

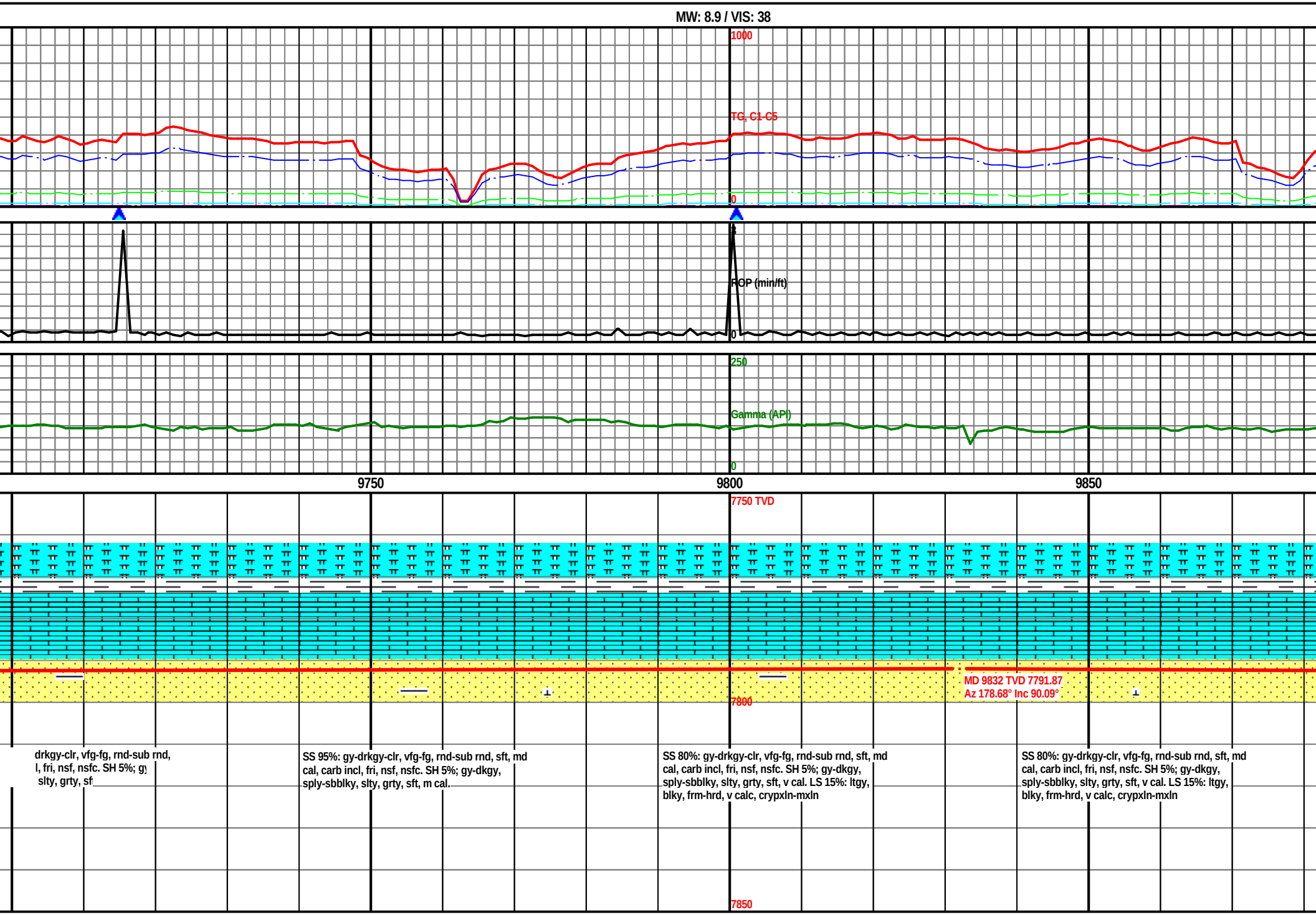

MW: 8.8 / VIS: 38
MW: 8.8 / VIS: 38
1000
TG, C1-C5
0
PG = 576 U
3
ROP (min/ft)
0
250
Gamma (API)
0
8800
8850
8900
8950
7725 TVD
Codell Top @
C
P
C
C
C
P
MD 8811 TVD 7775.85
Az 180.17° Inc 87.29°
MD 8896 TVD 7779.51
Az 178.79° Inc 87.78°
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.
LS 98%: ltgy, blky, frm-hrd, v calc, crypxln-mxln, nsf, nsfc. 2%: ltgy-gy, plty-sbblky, slty, grty, sft, sl cal.
SS 80%: gy-drkgy-clr, vfg-fg, rnd-sub
cal, carb incl, fri, nsf, nsfc. SH 5%; gy-
sply-sbblky, slty, grty, sft, v cal. LS 15
blky, frm-hrd, v calc, crypxln-mxln
7825

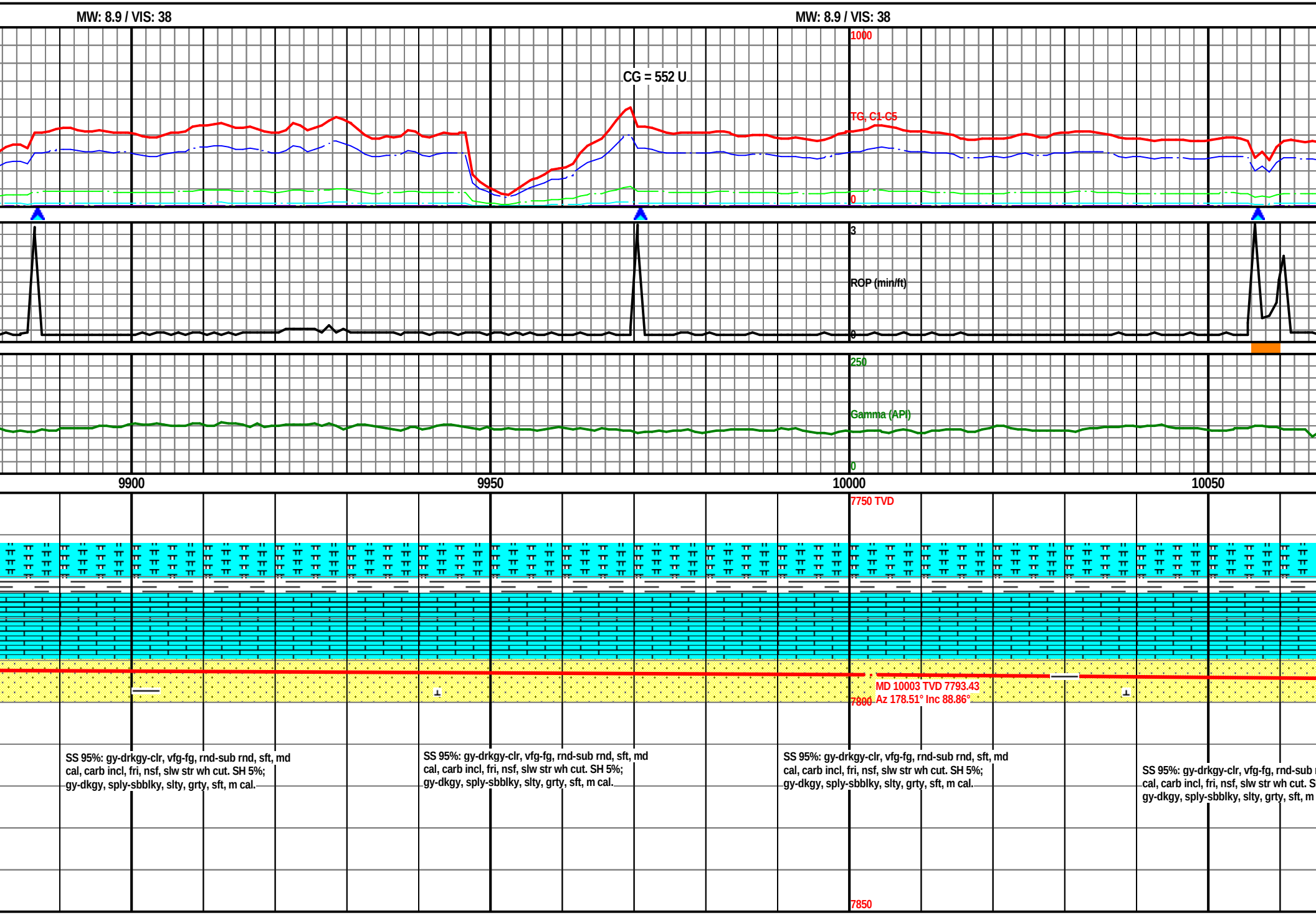

MW: 8.8 / VIS: 38
MW: 8.8 / VIS: 38
8000
Scale Change
TG, C1-C5
0
PG = 2292 U
CG = 6375 U
3
ROP (min/ft)
0
250
Gamma (API)
0
9000
9050
9100
8948' MD, 7782' TVD
7725 TVD
7750 TVD
C
C
C
C
C
C
P
P
MD 8981 TVD 7783.33
Az 178.43° Inc 87.07°
MD 9066 TVD 7787.86
Az 179.27° Inc 86.82°
Scale Change
7800
nd,
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, v cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, v cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, v cal.
SS 95%: gy-
cal, carb inc
sply-sbblky,
7825
7850

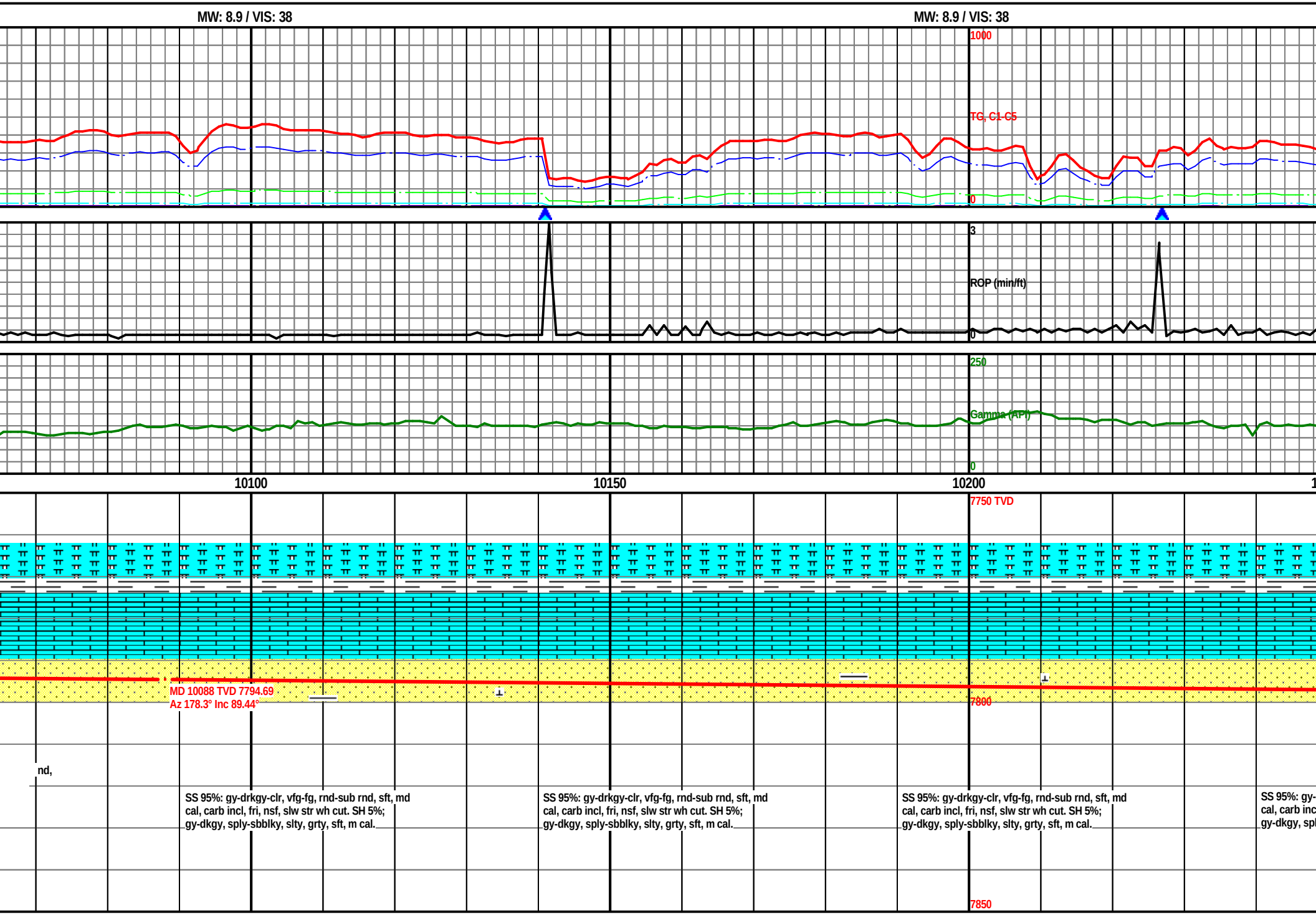

MW: 8.8 / VIS: 38
MW: 8.7 / VIS: 38
2000
Scale Change
TG, C1-C5
0
ROP (min/ft)
0
250
Gamma (API)
0
9200
9250
9300
7750 TVD
7800
7850
MD 9151 TVD 7792.28
Az 178.92° Inc 87.21°
MD 9236 TVD 7795.38
Az 179.17° Inc 88.61°
MD 9322 TVD
Az 178.63° Inc
drkgy-clr, vfg-fg, rnd-sub rnd,
l, fri, nsf, nsfc. SH 5%; g
slty, grty, s
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy,
sply-sbblky, slty, grty, sft, v cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy,
sply-sbblky, slty, grty, sft, v cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy,
sply-sbblky, slty, grty, sft, v cal.

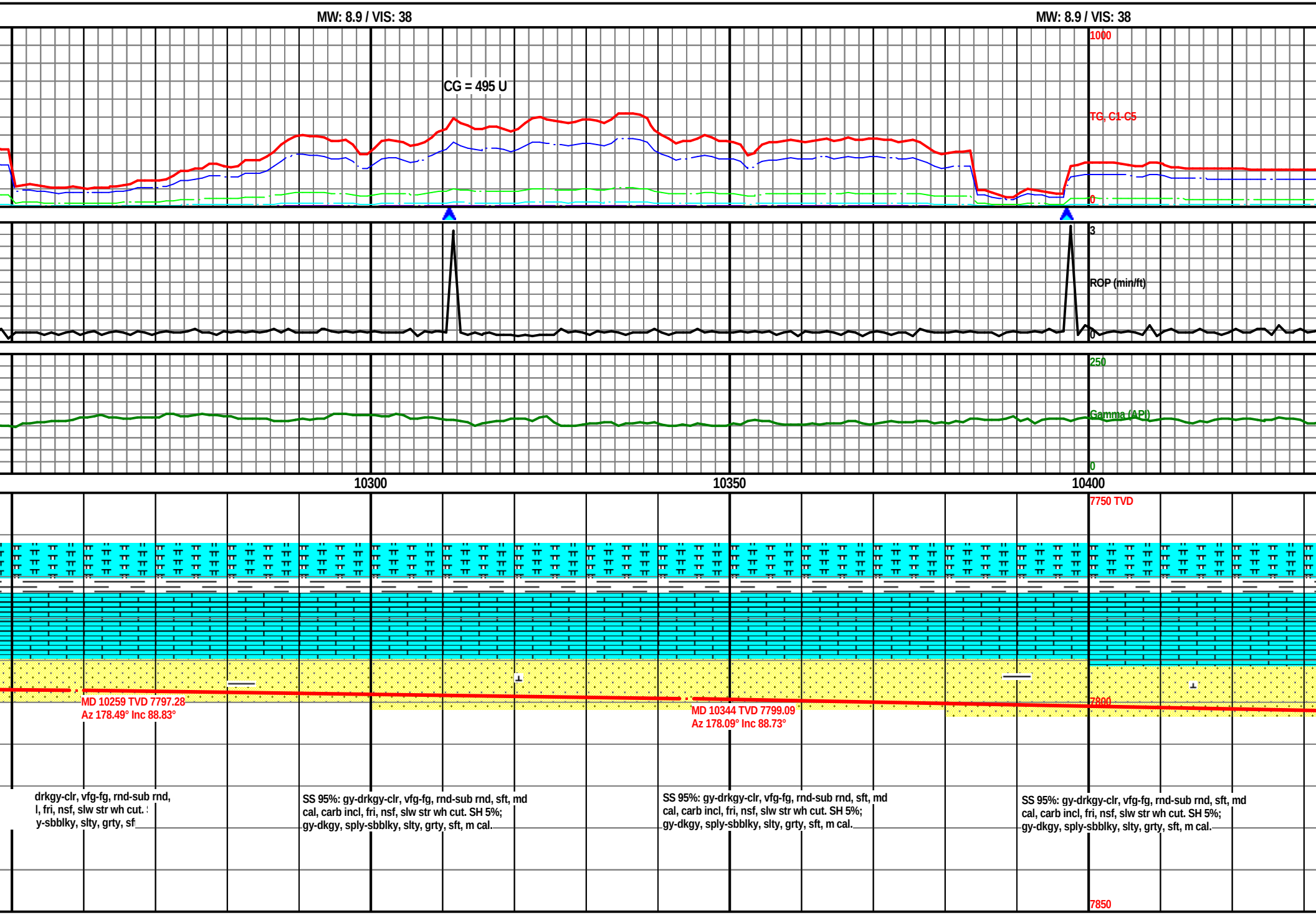

MW: 8.7 / VIS: 38
MW: 8.7 / VIS: 38
2000
PG = 1825 U
TG, C1-C5
0
1000
Scale Change
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
9350
9400
9450
9500
7750 TVD
Fault
MD 9407 TVD 7794.76
Az 178.39° Inc 90.64°
MD 9492 TVD 7793.69
Az 179.22° Inc 90.8°
7800
7850
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, v cal.
SS 80%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, v cal. LS 15%: ltgy, blky, frm-hrd, v calc, crypxln-mxln
SS 80%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, v cal. LS 15%: ltgy, blky, frm-hrd, v calc, crypxln-mxln
SS 80%: gy-drkgy-clr, vfg-fg, rnd-sub r
cal, carb incl, fri, nsf, nsfc. SH 5%; gy-
sply-sbblky, slty, grty, sft, v cal. LS 15
blky, frm-hrd, v calc, crypxln-mxln

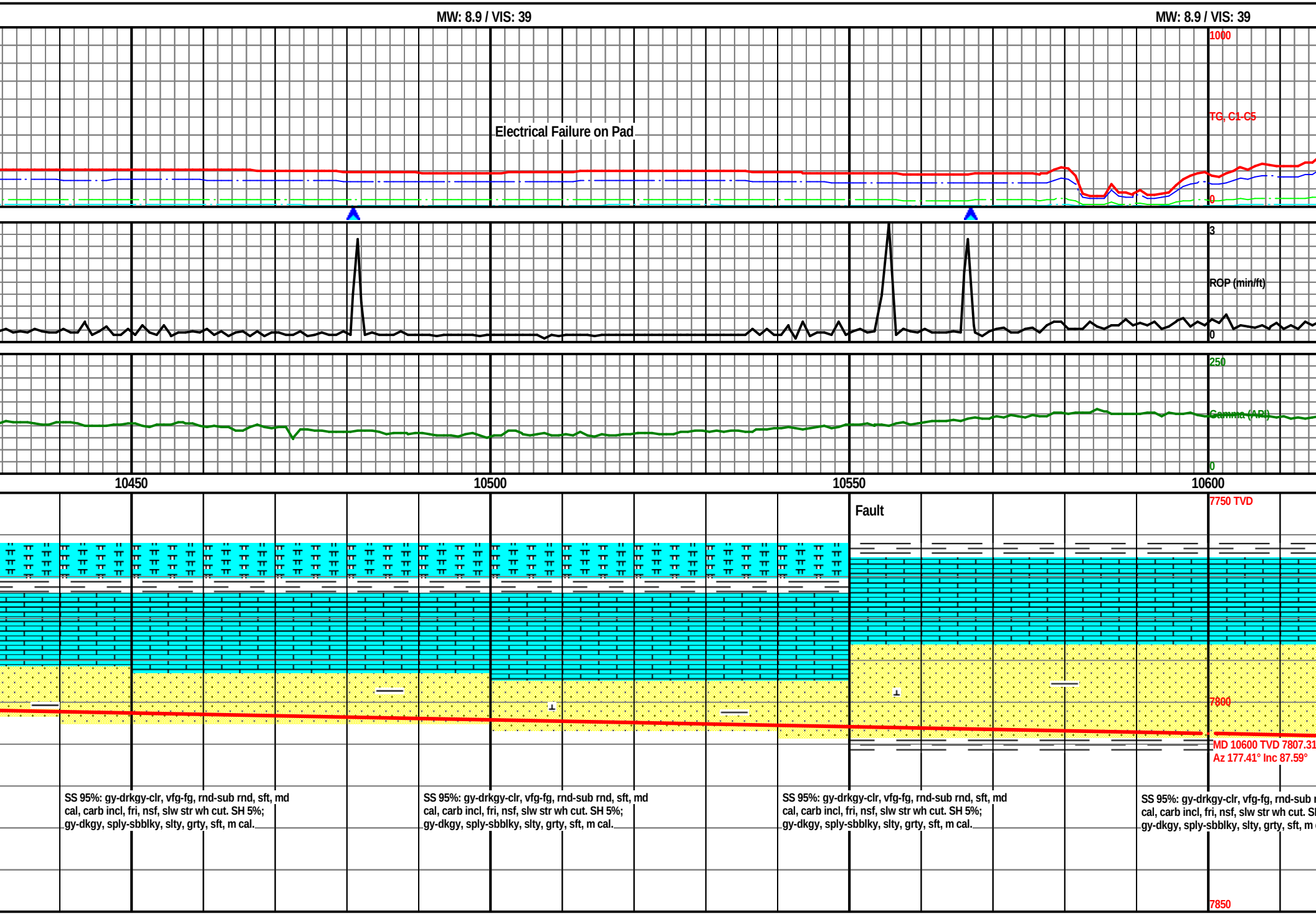

MW: 8.7 / VIS: 38
MW: 8.9
T.O.O.H for MWD tool and bit @ 5:53PM. 9/26/13. B.O.B. with Bit#4 6.125 SMITH MDi513 in at 9551 @ 5:11AM 9/27/13.
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
9550
9600
9650
7750 TVD
MD 9578 TVD 7792.91
Az 178.41° Inc 90.24°
MD 9662 TVD 7792.49
Az 178.67° Inc 90.33°
7800
7850
nd,
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-
cal, carb inc
sply-sbblky,

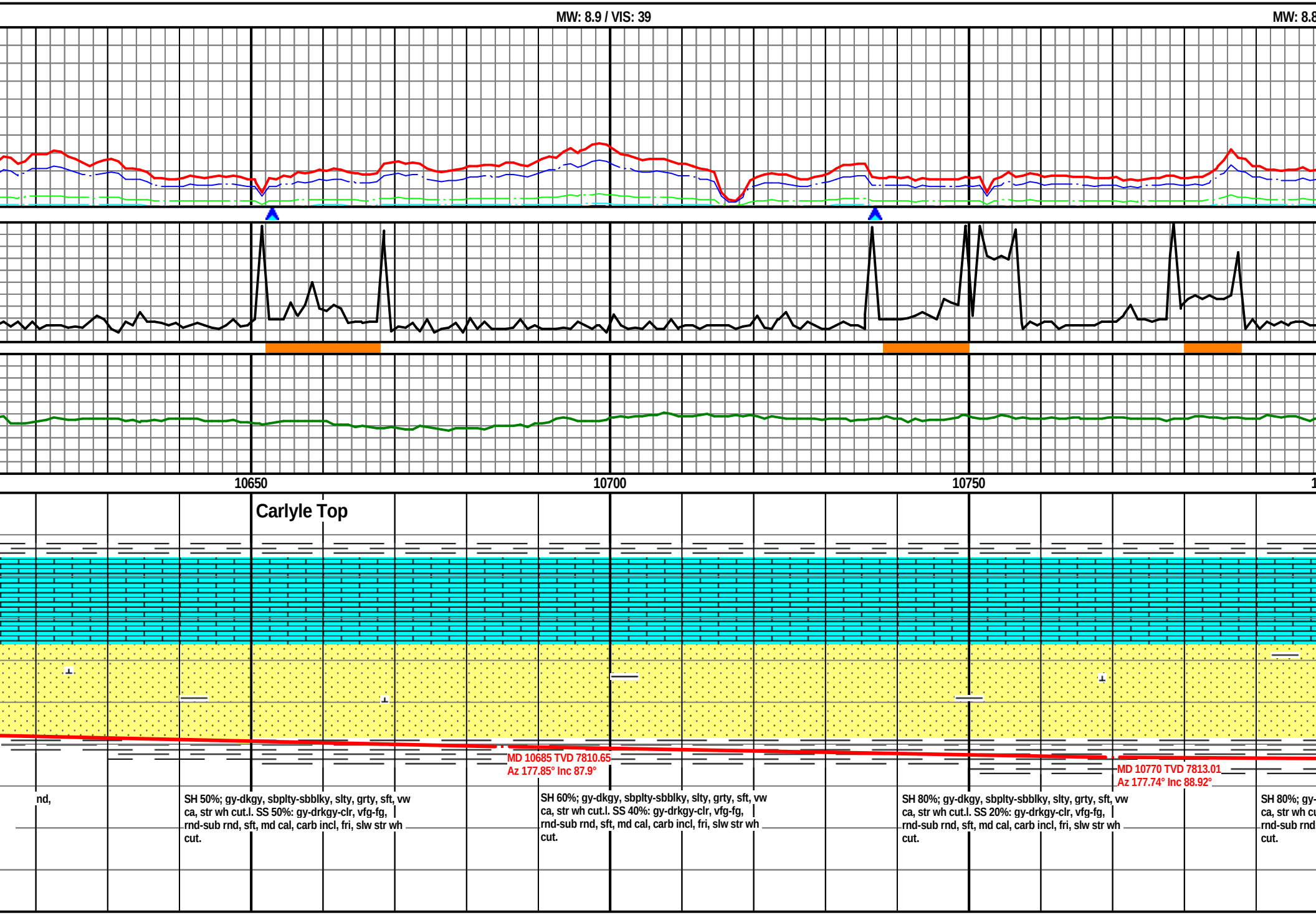

MW: 8.9 / VIS: 38
1000
TG, C1-C5
0
ROP (min/ft)
0
250
Gamma (API)
0
9750
9800
9850
7750 TVD
MD 9832 TVD 7791.87
Az 178.68° Inc 90.09°
7800
7850
drkgy-clr, vfg-fg, rnd-sub rnd,
l, fri, nsf, nsfc. SH 5%; g
slty, grty, sf
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy,
sply-sbblky, slty, grty, sft, m cal.
SS 80%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy,
sply-sbblky, slty, grty, sft, v cal. LS 15%: ltgy,
blky, frm-hrd, v calc, crypxln-mxln
SS 80%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, nsfc. SH 5%; gy-dkgy,
sply-sbblky, slty, grty, sft, v cal. LS 15%: ltgy,
blky, frm-hrd, v calc, crypxln-mxln

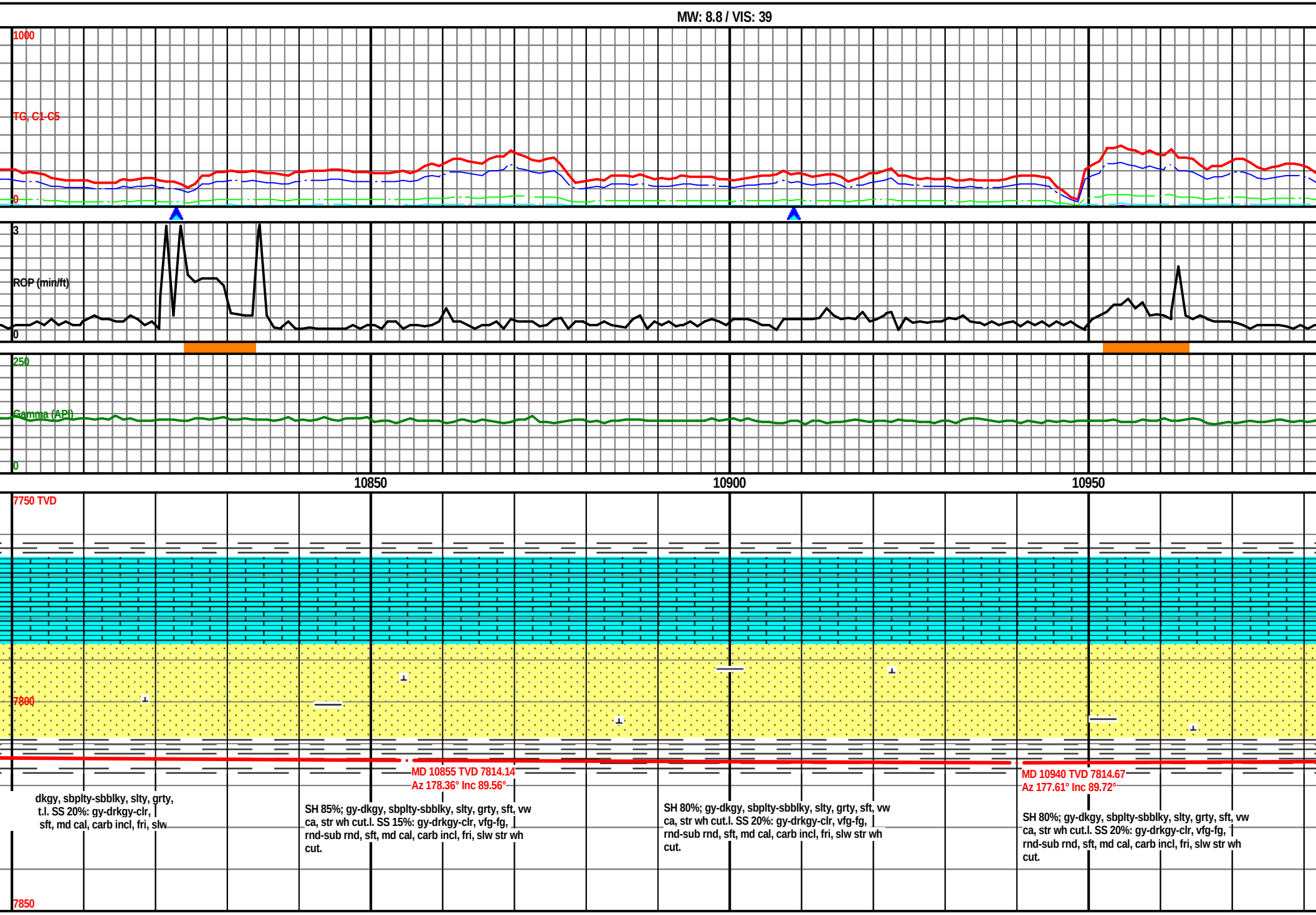

MW: 8.9 / VIS: 38
MW: 8.9 / VIS: 38
CG = 552 U
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
9900
9950
10000
10050
7750 TVD
MD 10003 TVD 7793.43
Az 178.51° Inc 88.86°
7800
7850
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub
cal, carb incl, fri, nsf, slw str wh cut. S
gy-dkgy, sply-sbblky, slty, grty, sft, m

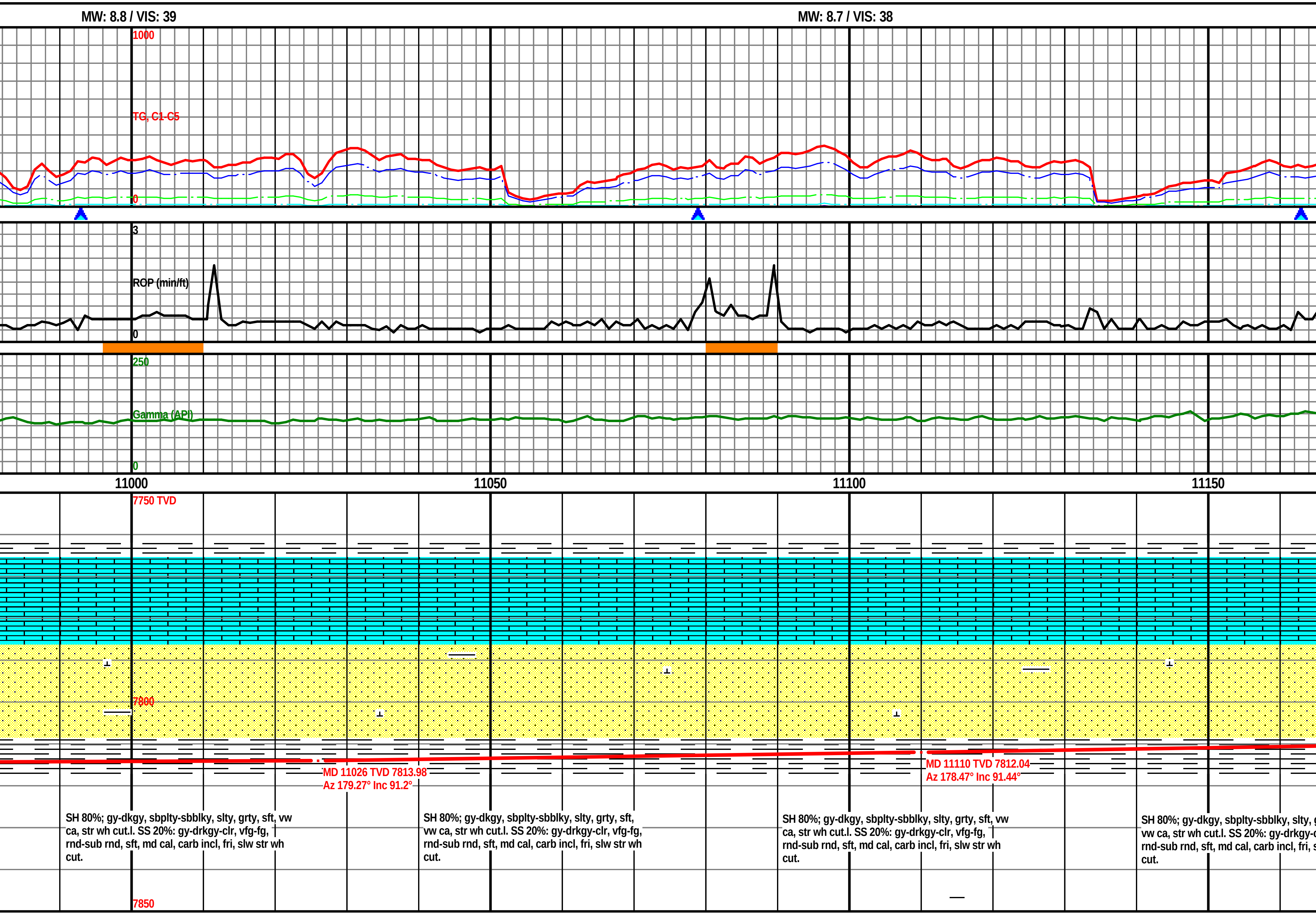

MW: 8.9 / VIS: 38
MW: 8.9 / VIS: 38
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10100
10150
10200
7750 TVD
MD 10088 TVD 7794.69
Az 178.3° Inc 89.44°
7800
7850
nd,
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-
cal, carb inc
gy-dkgy, spl

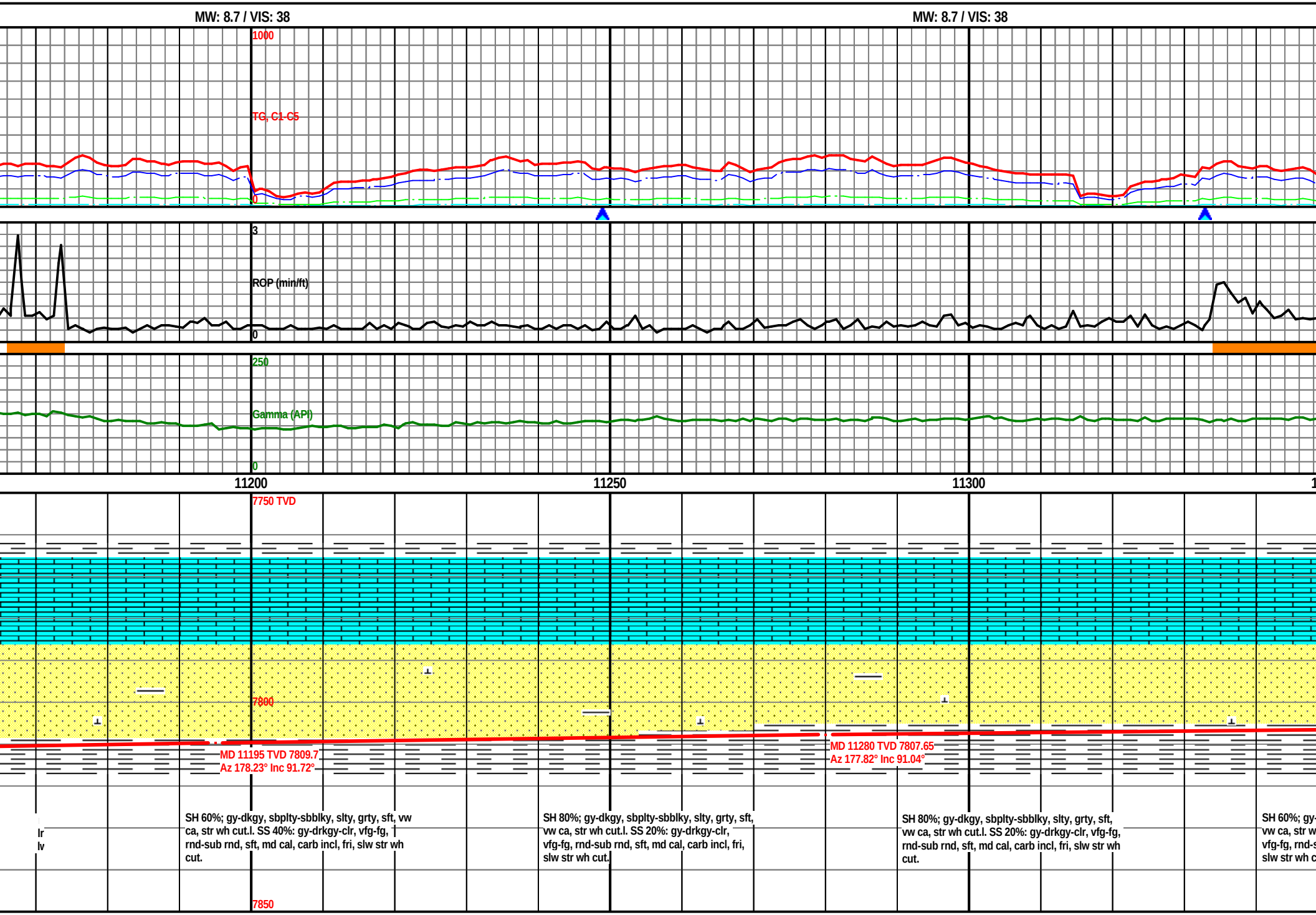

MW: 8.9 / VIS: 38
MW: 8.9 / VIS: 38
CG = 495 U
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10300
10350
10400
7750 TVD
7800
7850
MD 10259 TVD 7797.28
Az 178.49° Inc 88.83°
MD 10344 TVD 7799.09
Az 178.09° Inc 88.73°
drkgy-clr, vfg-fg, rnd-sub rnd,
l, fri, nsf, slw str wh cut.
y-sbblky, slty, grty, sf
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, slw str wh cut. SH 5%;
gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, slw str wh cut. SH 5%;
gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md
cal, carb incl, fri, nsf, slw str wh cut. SH 5%;
gy-dkgy, sply-sbblky, slty, grty, sft, m cal.

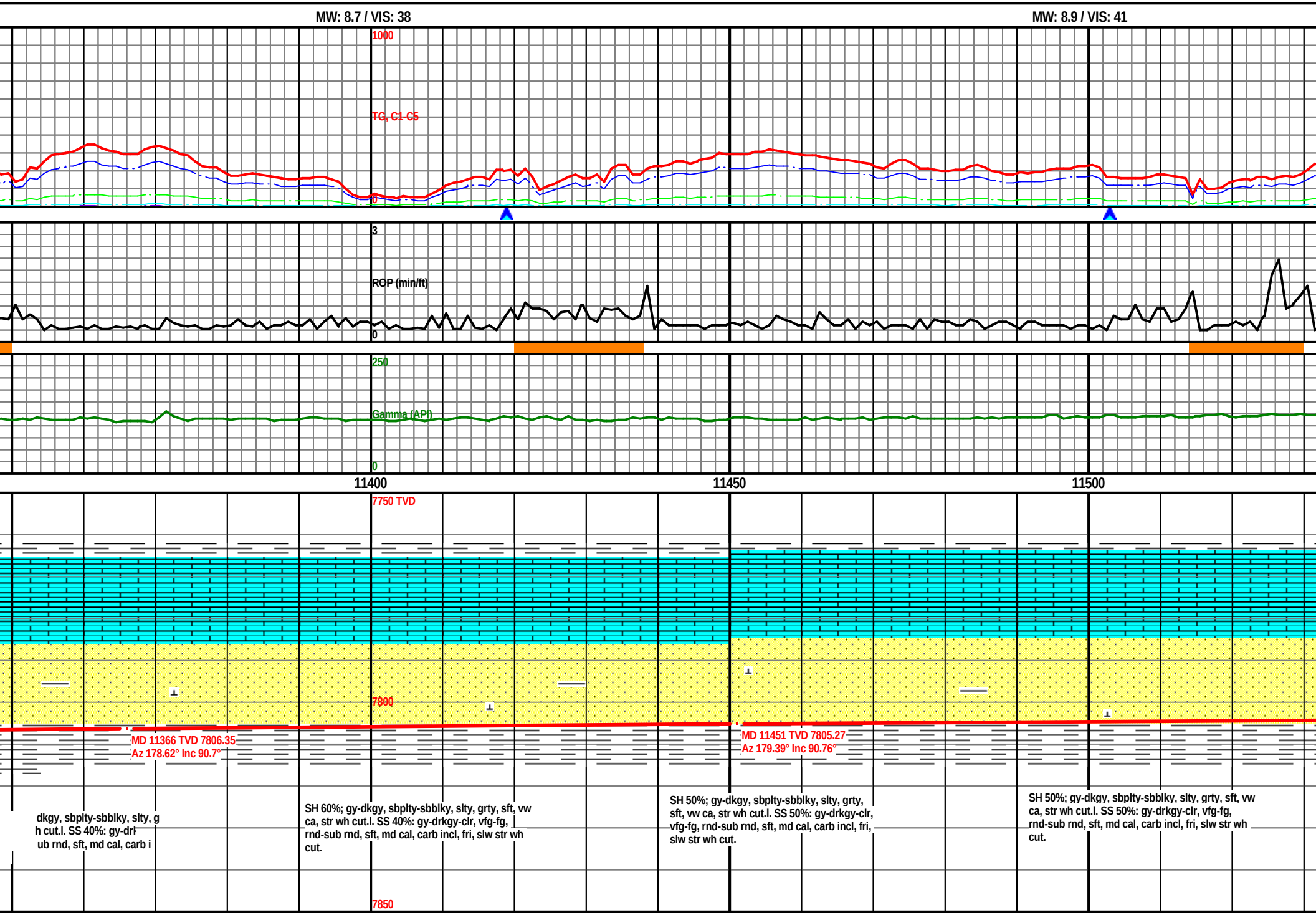

MW: 8.9 / VIS: 39
MW: 8.9 / VIS: 39
1000
TG, C1-C5
Electrical Failure on Pad
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10450
10500
10550
10600
Fault
7750 TVD
7800
MD 10600 TVD 7807.31
Az 177.41° Inc 87.59°
7850
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub r
cal, carb incl, fri, nsf, slw str wh cut. SH
gy-dkgy, sply-sbblky, slty, grty, sft, m

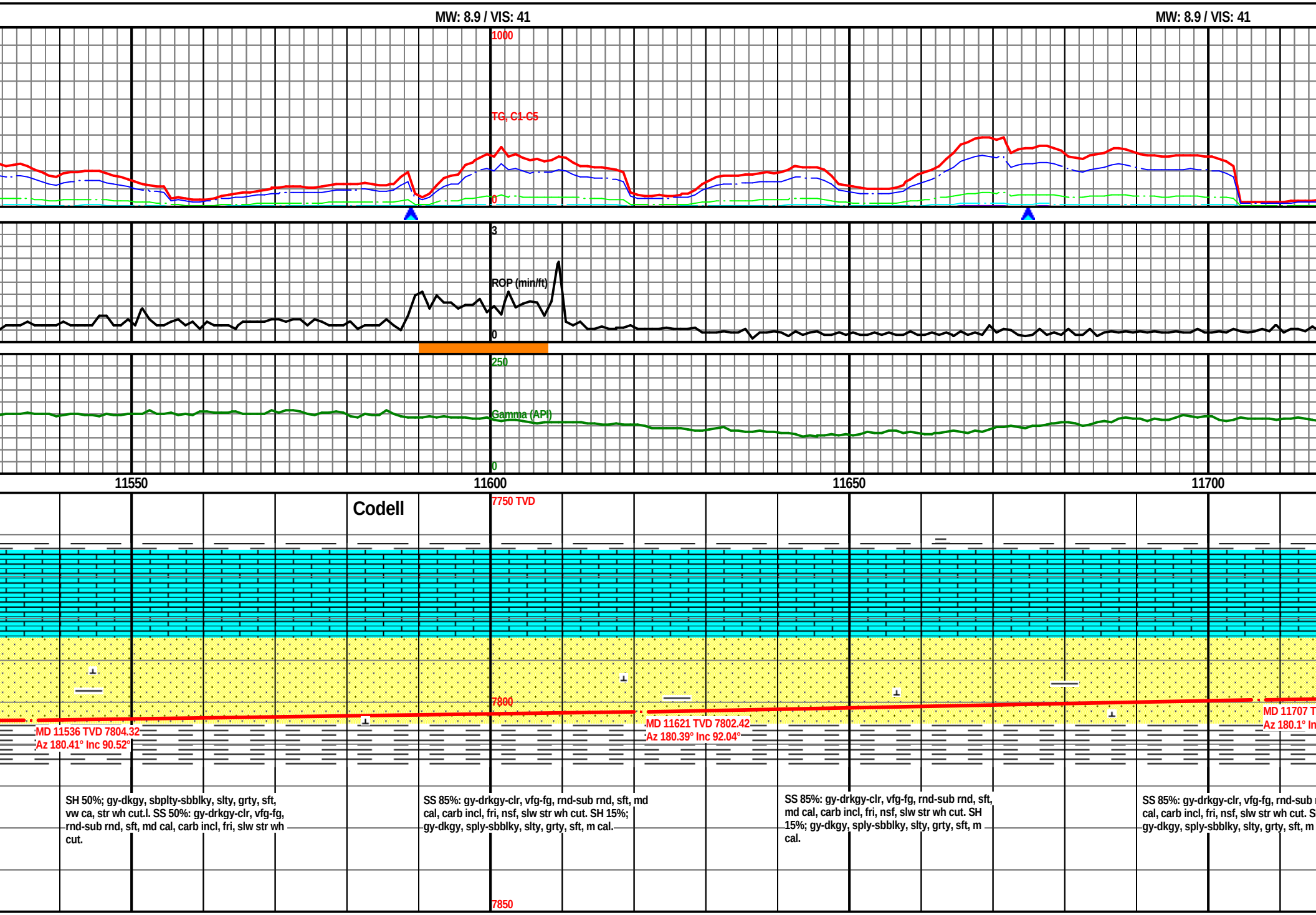

MW: 8.9 / VIS: 39
MW: 8.8
10650
10700
10750
Carlyle Top
MD 10685 TVD 7810.65
Az 177.85° Inc 87.9°
MD 10770 TVD 7813.01
Az 177.74° Inc 88.92°
nd,
SH 50%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 50%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 60%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 40%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 20%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-
ca, str wh cu
rnd-sub rnd
cut.

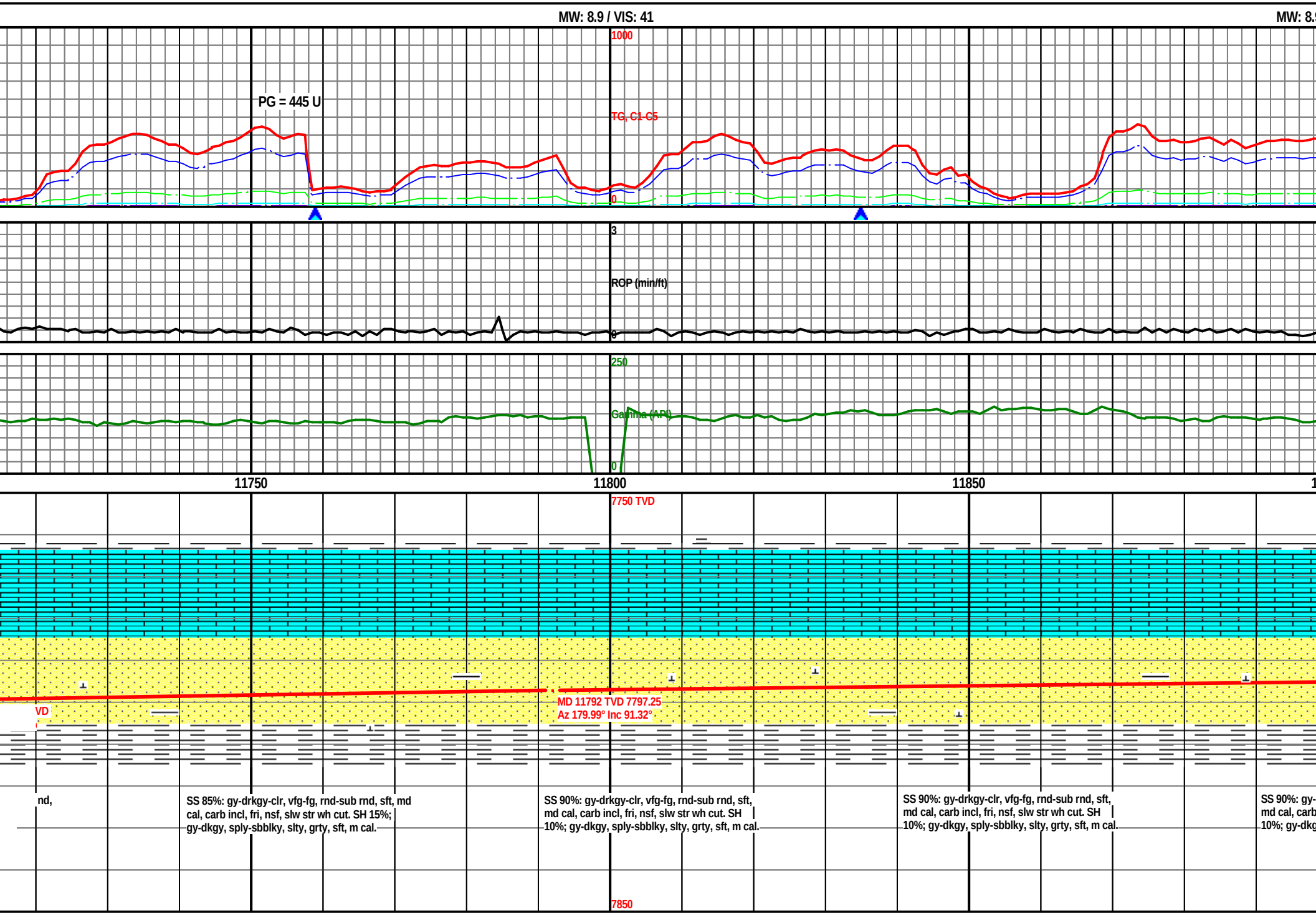

MW: 8.8 / VIS: 39
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
10850
10900
10950
7750 TVD
7800
7850
MD 10855 TVD 7814.14
Az 178.36° Inc 89.56°
MD 10940 TVD 7814.67
Az 177.61° Inc 89.72°
dkgy, sbplty-sbblky, slty, grty, t.l. SS 20%: gy-drkgy-clr, sft, md cal, carb incl, fri, slw
SH 85%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 15%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 20%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 20%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.

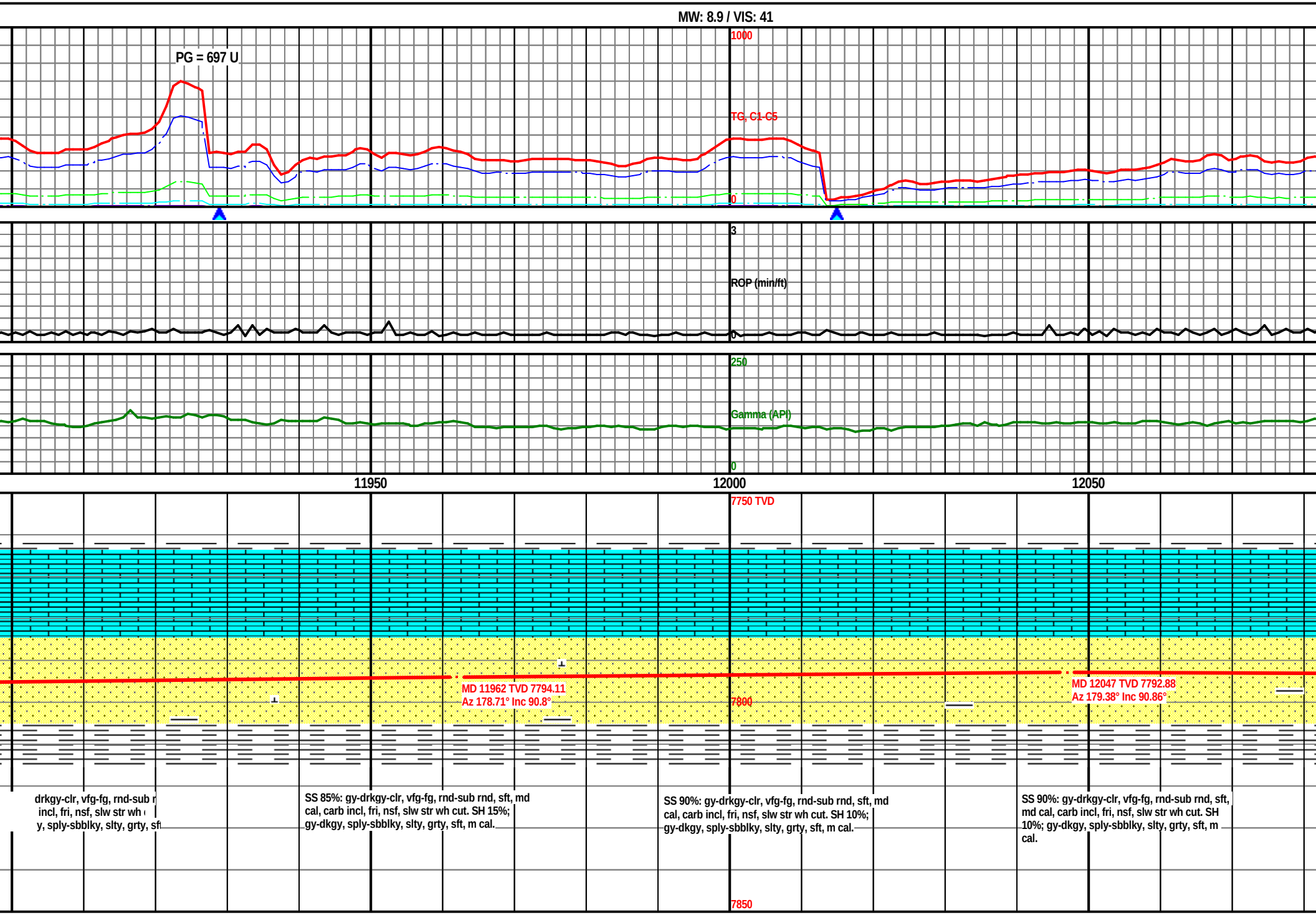

MW: 8.8 / VIS: 39
MW: 8.7 / VIS: 38
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11000
11050
11100
11150
7750 TVD
7800
7850
MD 11026 TVD 7813.98
Az 179.27° Inc 91.2°
MD 11110 TVD 7812.04
Az 178.47° Inc 91.44°
SH 80%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 20%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 20%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 20%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-dkgy, sbplty-sbblky, slty, g
vw ca, str wh cut.l. SS 20%: gy-drkgy-c
rnd-sub rnd, sft, md cal, carb incl, fri, s
cut.

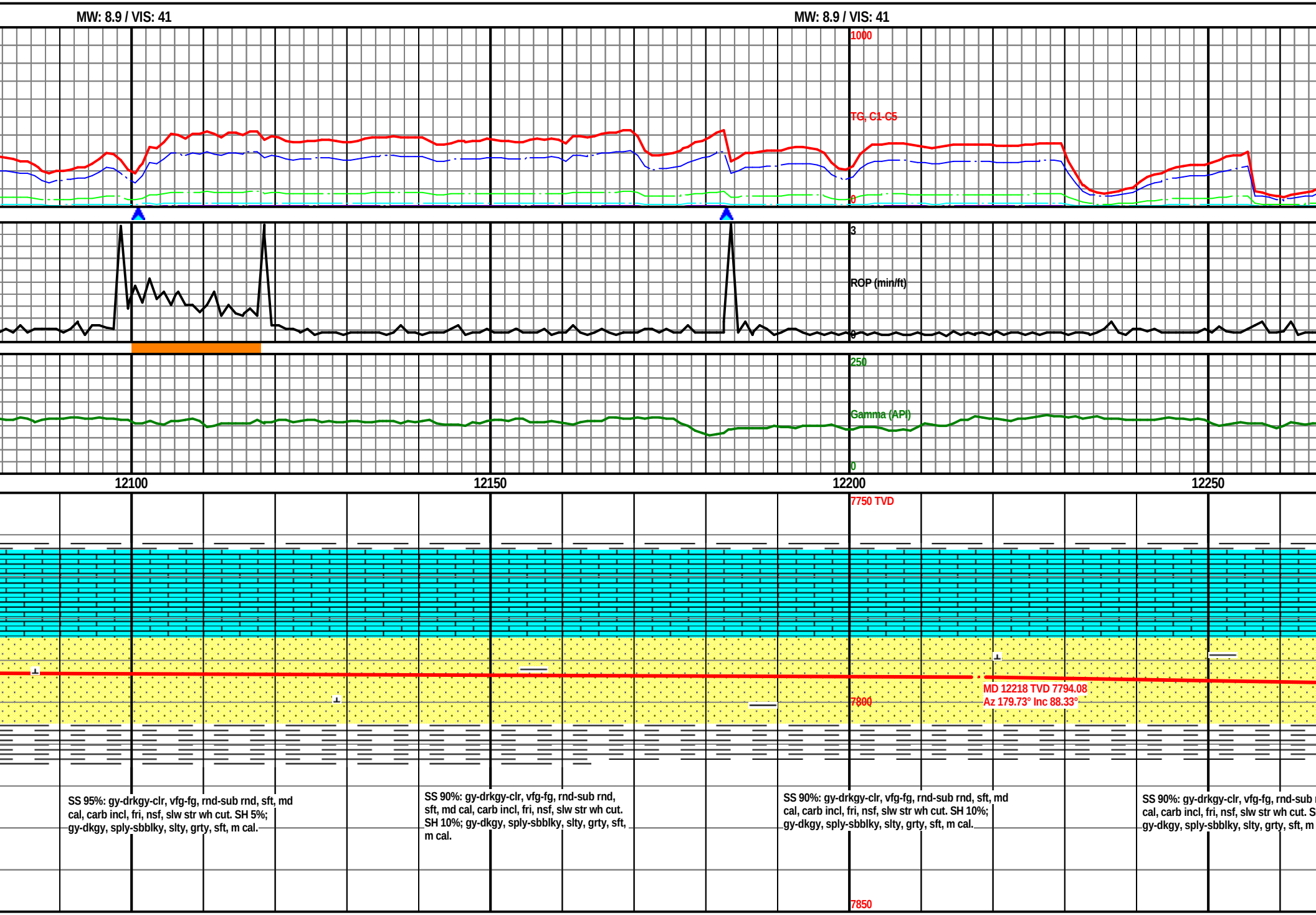

MW: 8.7 / VIS: 38
MW: 8.7 / VIS: 38
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11200
11250
11300
7750 TVD
7800
7850
MD 11195 TVD 7809.7
Az 178.23° Inc 91.72°
MD 11280 TVD 7807.65
Az 177.82° Inc 91.04°
SH 60%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 40%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 20%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 80%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 20%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.

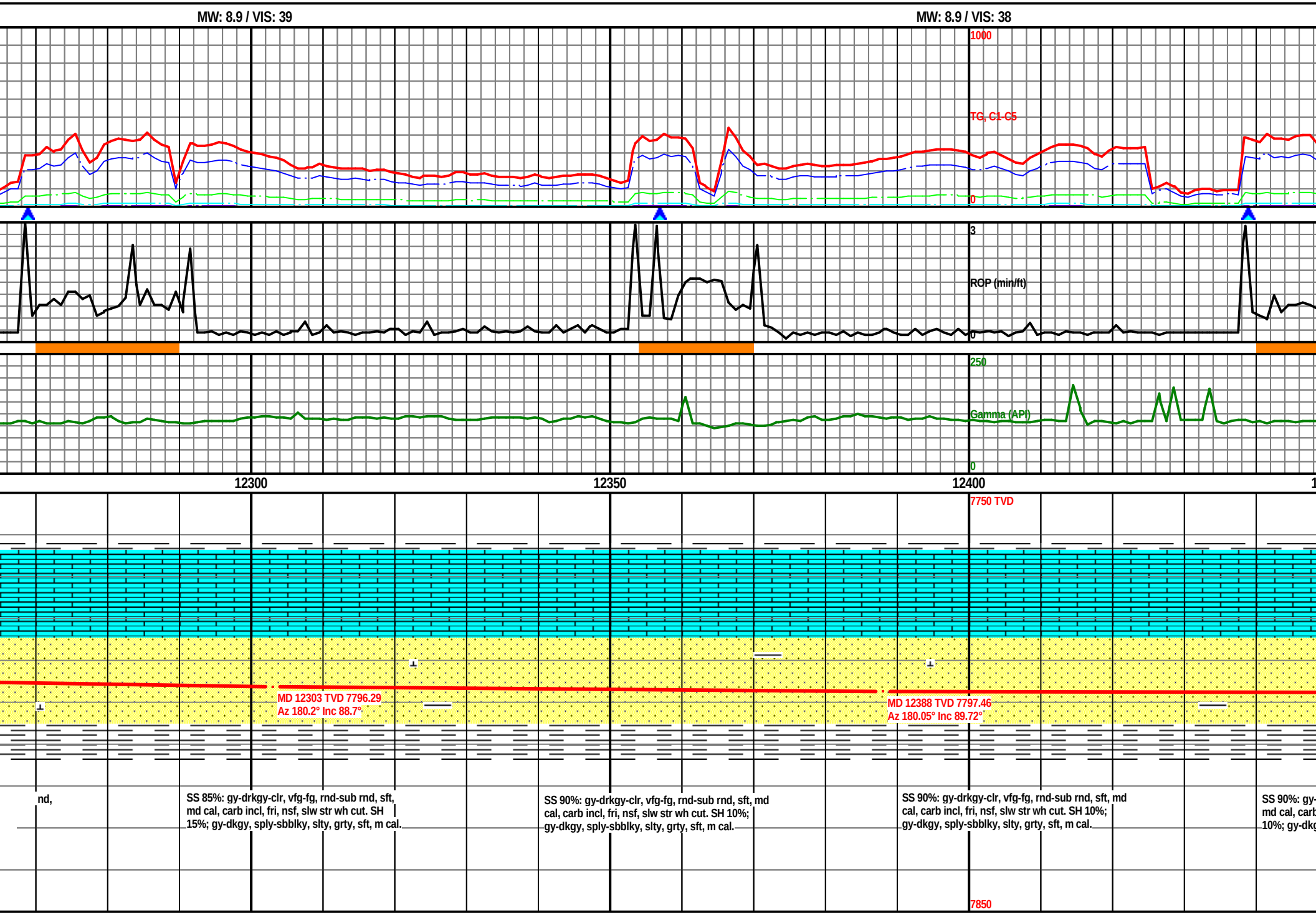

MW: 8.7 / VIS: 38
MW: 8.9 / VIS: 41
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11400
11450
11500
7750 TVD
7800
7850
MD 11366 TVD 7806.35
Az 178.62° Inc 90.7°
MD 11451 TVD 7805.27
Az 179.39° Inc 90.76°
dkgy, sbplty-sbblky, slty, g
h cut.l. SS 40%: gy-drl
ub rnd, sft, md cal, carb i
SH 60%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 40%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 50%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 50%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SH 50%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 50%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.

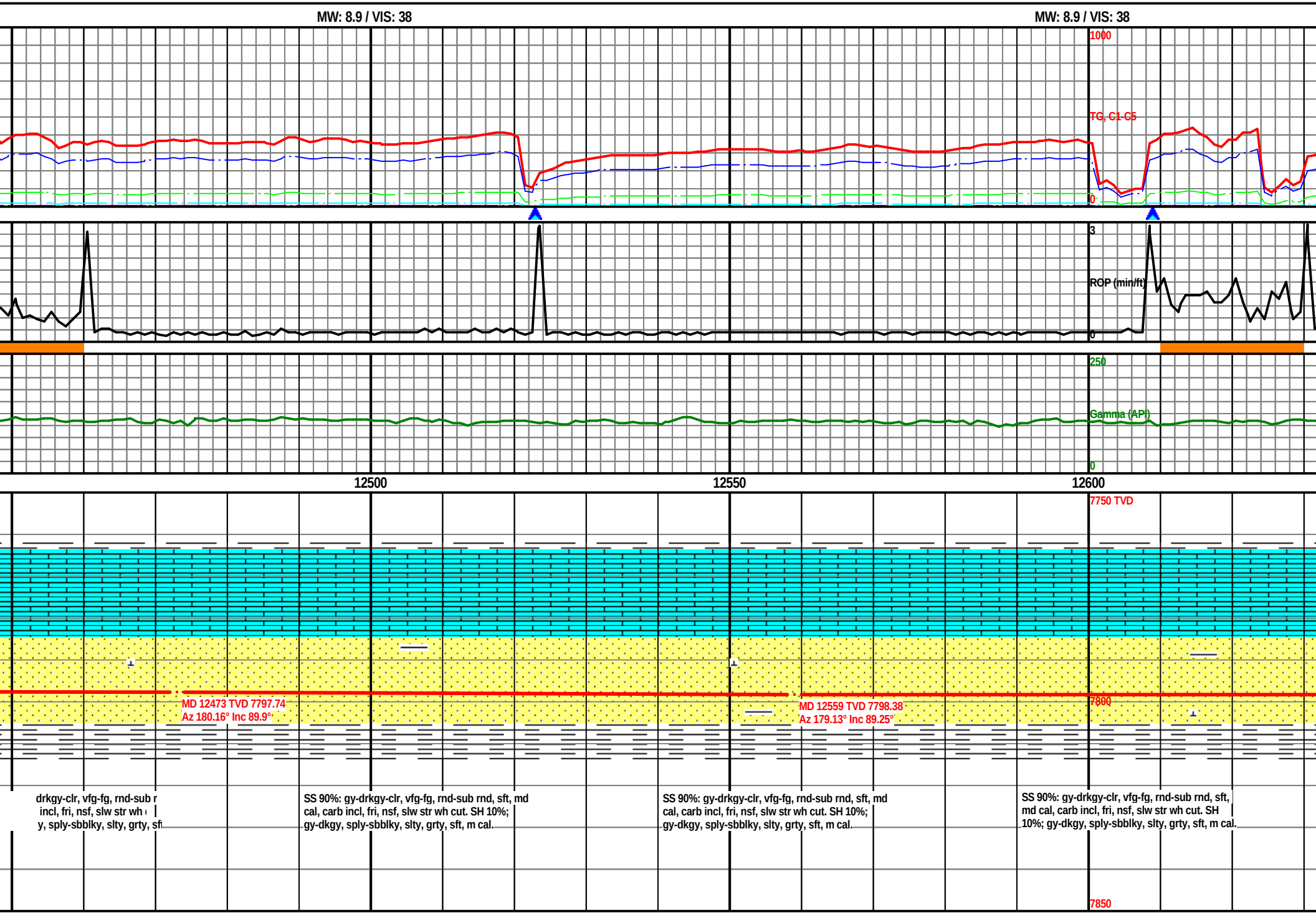

MW: 8.9 / VIS: 41
MW: 8.9 / VIS: 41
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11550
11600
11650
11700
Codell
7750 TVD
7800
7850
MD 11536 TVD 7804.32
Az 180.41° Inc 90.52°
MD 11621 TVD 7802.42
Az 180.39° Inc 92.04°
MD 11707 T
Az 180.1° In
SH 50%; gy-dkgy, sbplty-sbblky, slty, grty, sft, vw ca, str wh cut.l. SS 50%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, slw str wh cut.
SS 85%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 15%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 85%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 15%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 85%: gy-drkgy-clr, vfg-fg, rnd-sub
cal, carb incl, fri, nsf, slw str wh cut. S
gy-dkgy, sply-sbblky, slty, grty, sft, m

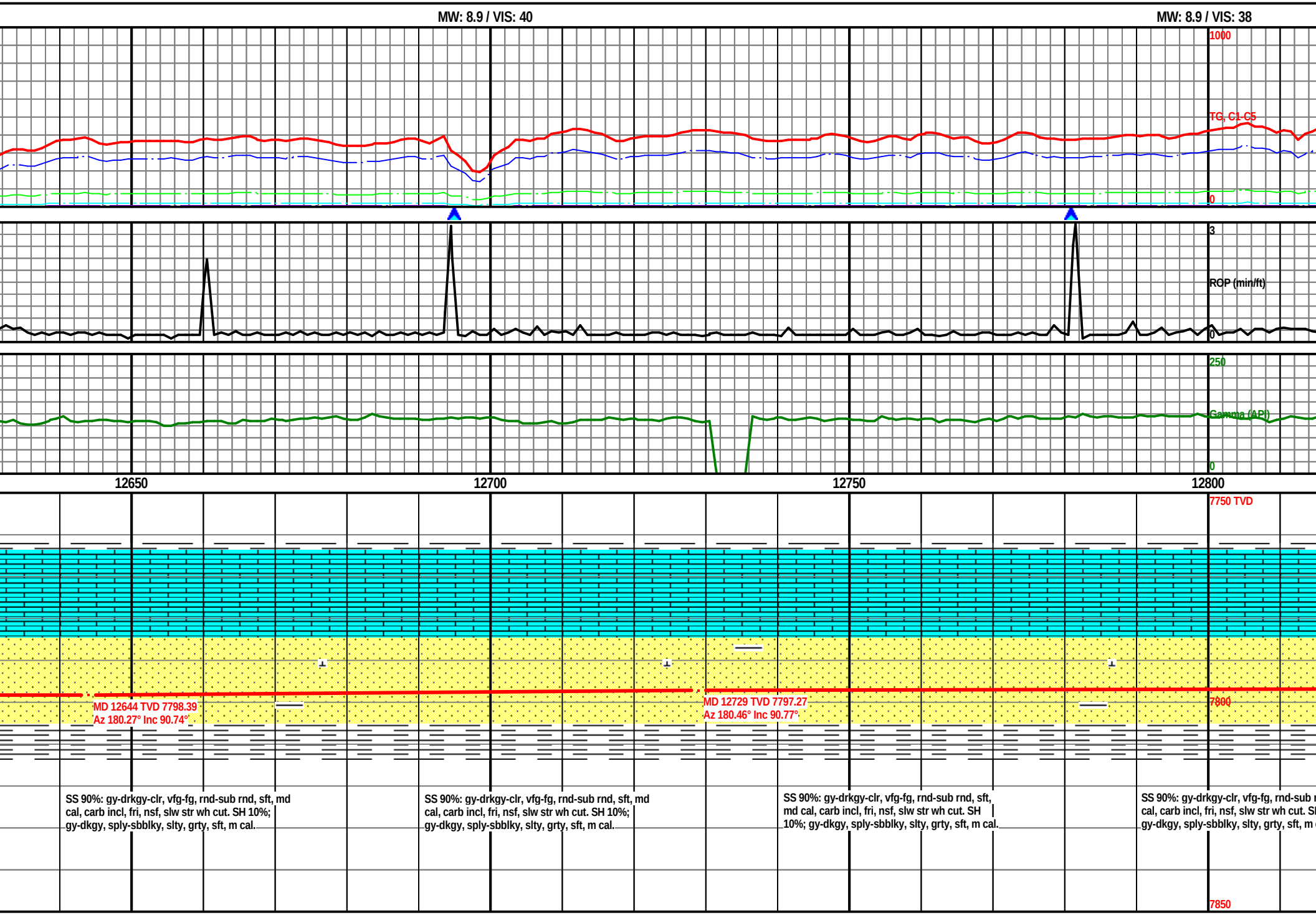

MW: 8.9 / VIS: 41
MW: 8.
PG = 445 U
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11750
11800
11850
7750 TVD
VD
MD 11792 TVD 7797.25
Az 179.99° Inc 91.32°
nd,
SS 85%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 15%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-
md cal, carb
10%; gy-dkg
7850


MW: 8.9 / VIS: 41
PG = 697 U
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
11950
12000
12050
7750 TVD
MD 11962 TVD 7794.11
Az 178.71° Inc 90.8°
MD 12047 TVD 7792.88
Az 179.38° Inc 90.86°
7800
7850
drkgy-clr, vfg-fg, rnd-sub r
incl, fri, nsf, slw str wh
y, sply-sbblky, slty, grty, sf
SS 85%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 15%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.


MW: 8.9 / VIS: 41
MW: 8.9 / VIS: 41
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
12100
12150
12200
12250
7750 TVD
MD 12218 TVD 7794.08
Az 179.73° Inc 88.33°
7800
7850
SS 95%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 5%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub
cal, carb incl, fri, nsf, slw str wh cut. S
gy-dkgy, sply-sbblky, slty, grty, sft, m


MW: 8.9 / VIS: 39
MW: 8.9 / VIS: 38
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
12300
12350
12400
7750 TVD
MD 12303 TVD 7796.29
Az 180.2° Inc 88.7°
MD 12388 TVD 7797.46
Az 180.05° Inc 89.72°
nd,
SS 85%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 15%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-
md cal, carb
10%; gy-dkg
7850


MW: 8.9 / VIS: 38
MW: 8.9 / VIS: 38
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
12500
12550
12600
7750 TVD
MD 12473 TVD 7797.74
Az 180.16° Inc 89.9°
MD 12559 TVD 7798.38
Az 179.13° Inc 89.25°
7800
drkgy-clr, vfg-fg, rnd-sub r
incl, fri, nsf, slw str wh
y, sply-sbblky, slty, grty, sf
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
7850


MW: 8.9 / VIS: 40
MW: 8.9 / VIS: 38
1000
TG, C1-C5
0
3
ROP (min/ft)
0
250
Gamma (API)
0
12650
12700
12750
12800
7750 TVD
7800
7850
MD 12644 TVD 7798.39
Az 180.27° Inc 90.74°
MD 12729 TVD 7797.27
Az 180.46° Inc 90.77°
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
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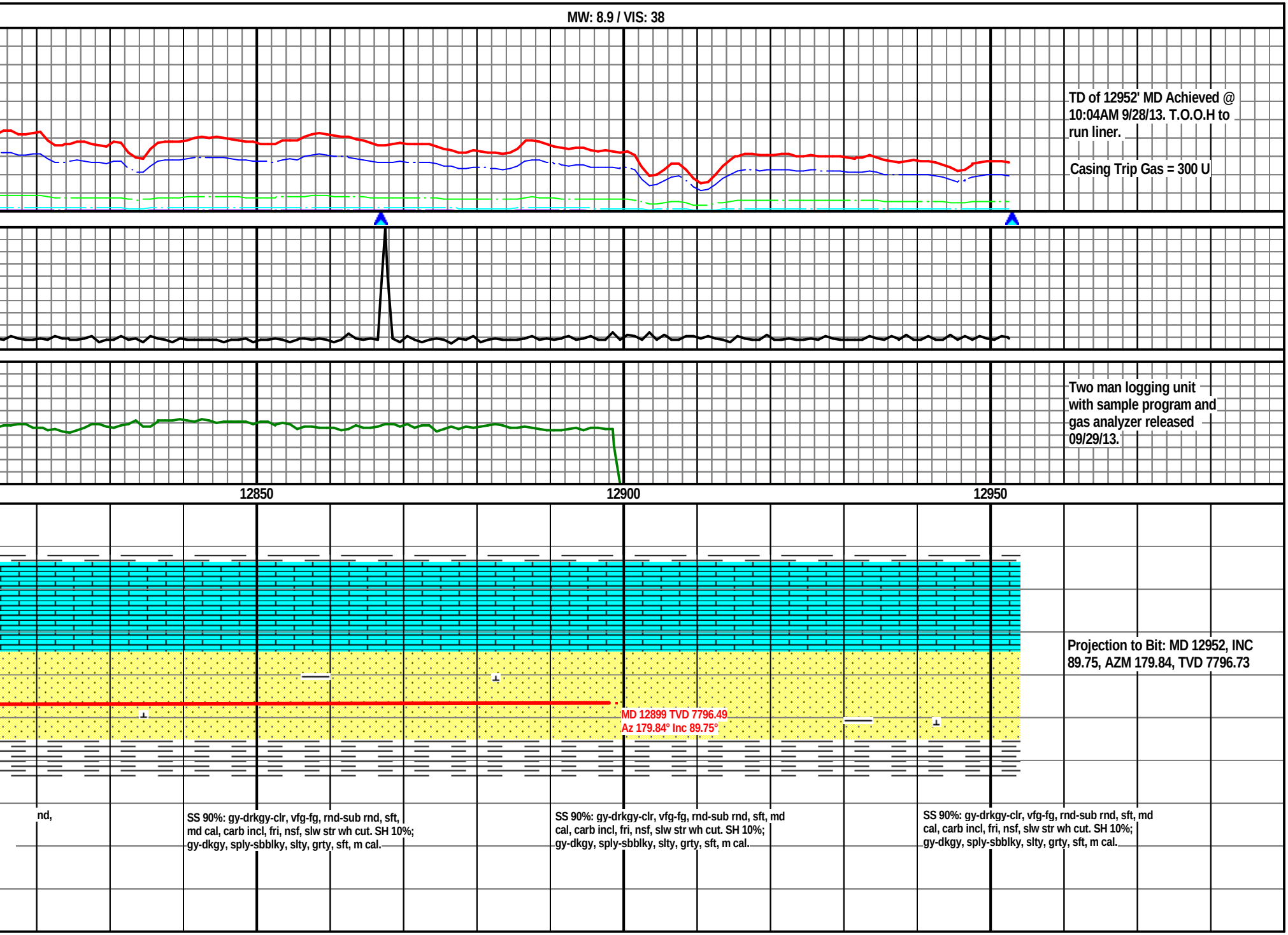
cal, carb incl, fri, nsf, slw str wh cut. SH
gy-dkgy, sply-sbblky, slty, grty, sft, m


MW: 8.9 / VIS: 38
TD of 12952' MD Achieved @ 10:04AM 9/28/13. T.O.O.H to run liner.
Casing Trip Gas = 300 U
Two man logging unit with sample program and gas analyzer released 09/29/13.
12850
12900
12950
MD 12899 TVD 7796.49
Az 179.84° Inc 89.75°
Projection to Bit: MD 12952, INC 89.75, AZM 179.84, TVD 7796.73
nd,
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
SS 90%: gy-drkgy-clr, vfg-fg, rnd-sub rnd, sft, md cal, carb incl, fri, nsf, slw str wh cut. SH 10%; gy-dkgy, sply-sbblky, slty, grty, sft, m cal.
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