



OIL & GAS WELL ANALYSIS

1-800-310-1935

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: UTICA SAMPLE MUDLOG

Location:

License Number:

Spud Date:

Surface Coordinates:

Region:

Drilling Completed:

Bottom Hole Coordinates:

Ground Elevation (ft):

Logged Interval (ft):

Formation:

Type of Drilling Fluid:

K.B. Elevation (ft):

To: Total Depth (ft):

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

OPERATOR

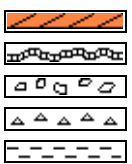
Company:

Address:

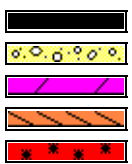
Comments

Mudloggers

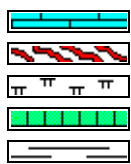
ROCK TYPES



Anhy
Bent
Brec
Cht
Clyst



Coal
Congl
Dol
Gyp
Igne



Lmst
Meta
Mrlst
Salt
Shale

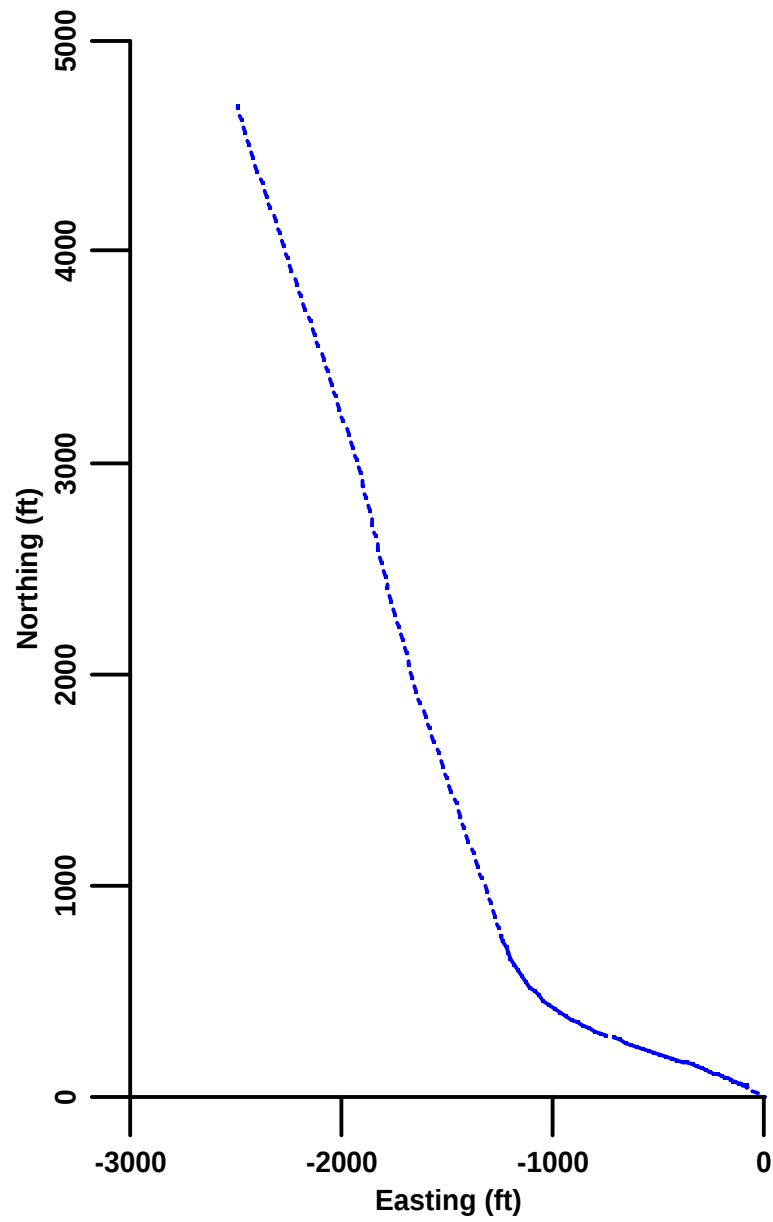


Shcol
Shgy
Sltst
Ss
Till

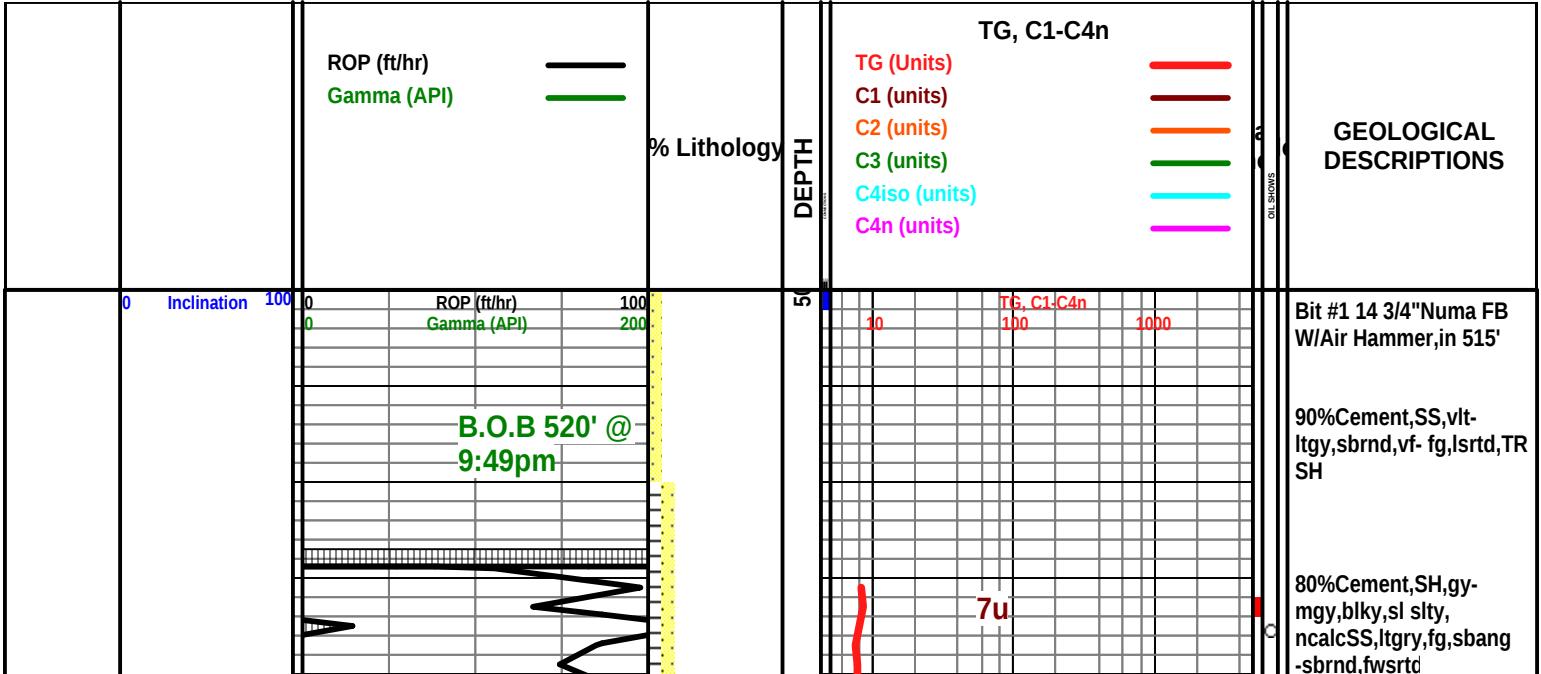
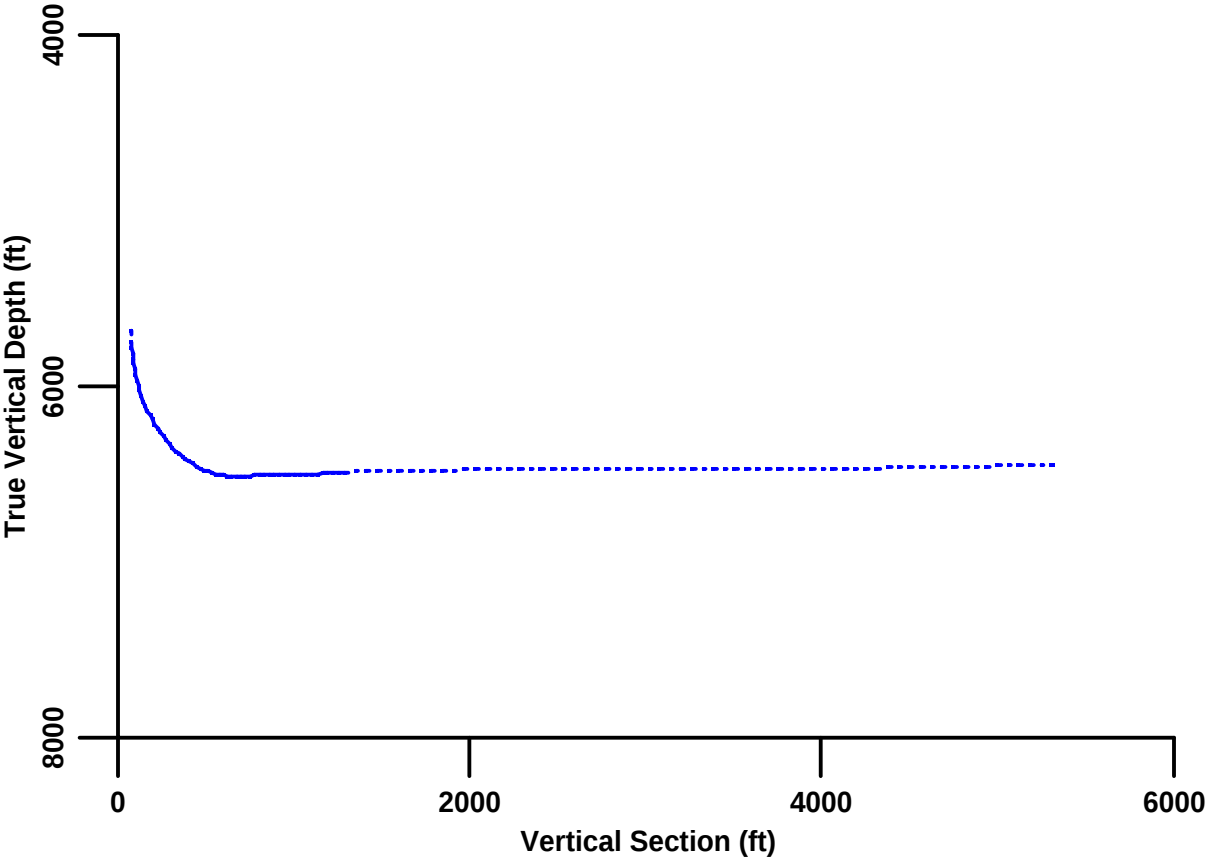


Shslyt

Plan



Elevation



Soaping
WOB 25K
PSI 343
RPM 77

WOB 35
PSI 369
RPM 57

WOB 4-7
PSI 371
RPM 35

Soaping
WOB 3-7
PSI 377
RPM 68

WOB 3-7
PSI 338
RPM 62

Inclination 100

MD 689 TVD 689
Az 0° Inc 0.92°

Midnight
Depth
593'

ROP (ft/hr)
Gamma (API)

30'
connections

9u CG

8u CG

13u CG

9u CG

30'
connections

5u CG

SH,gy,mg,y,mfrm,
blky,sl slty,ncalc
SS,itgry,fg,sbang,
sbrnd,lsrtd -fwsrtd

SH:mdk-dkgy,mfrm,
blky,ncalcSS,off-wht-
wht,fg,wsrtd,COALTR
SLTS

SH,mg,y-mdkgy-dkgy,
mfrm,blky-vf plty,SS,
wht-clr,vffg,sbang,
pyrxls,SLTS,mdkgry-
brn,bcmg arg,musc
bio,pyrxlsTR,COAL

SH,dkgy-mdkgy, mstly
mfrm-vf frm,blky,
ncalc,SS,off wht-clr,
fg,occ slty,sbang-
sbrnd,abnt pyrxls,
vsl calc,TR SLTS

SH:mdkgy-dgy,mfrm,
blkyplty,ncalc,SS,wht-
tan,vfg,sbang,gsph,
vsl calcTR, SLTS

SH,mg,y-mdkgy-dkgy,
mfrm,blky-vf plty,SS,
wht-clr,vffg,sbang,
pyrxls,SLTS,stngr

SH,mg,y-mdkgy-dkgy,
mfrm- vf sft,blky-vf
plty,SS,wht-clr,vfg,
sbang,pyrxls,SLTS,

WOB 2-5
PSI 395
RPM 114

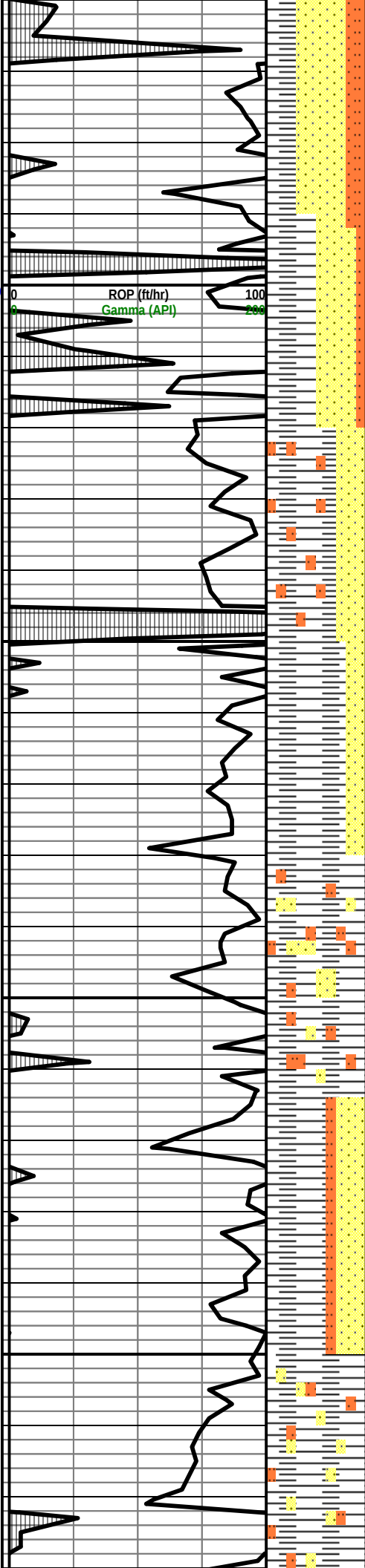
Soaping
WOB1-3
PSI 378
RPM 28

Soaping
WOB 0-1
PSI 395
RPM 31

Soaping
WOB 1-2
PSI 339
RPM 79

Inclination 100

ROP (ft/hr)
Gamma (API)



800
850
900
950

4u

4u

T6, C1-C4n

9u CG

10u CG

30'
connections

8u CG

9u CG

10u CG

8u CG

SS,wht-off wht-clr,
vfg-fg,sbang,gsph,sl
sity,pyrxls,vsl calc
SH,mgly-mdkgy-dkgy,
mfrm- vf sft,blky-vf
plty,SLTS,lt-mgy,mod mv
cmt,occ aer,musc bio

SH,mgly-mdkgy-dkgy,
mfrm,blky-vf plty,SS,
wht-clr,vfg,sbang,
pyrxls,SLTS,stngr

SH,mdkgy-dkgry,
mfrm,blky,vsl-ncalc
SS,wht-off wht-clr,
fg,sbang-sbrnd,sl sity,sl
calcTR,SLTS

SH,mdkgy-dkgy,
mfrm,blky,vsl-ncalc
SS,wht-off wht-clr,
fg,sbang-sbrnd,sl sity,sl
calcTR,SLTS

SH,dkgy-mdkgy,
mfrm,blky,ncalc
TR,SS,TR,SLTS

SS,wht-off wht,vfg
-fg,sbang,gsph,sl
sity,pyrxls,vsl calc
SH,mdkgydkgy,mfrm- vf
sft,blky-vf plty,
SLTS,lt-mgy,mod mv
cmt,occ aer,musc bio

SH,dkgy-mdkgy,
mfrm,mstly blky, s/m
plty, vsl-ncalc
TR,SS,TR,SLTS

Soaping
WOB 0-1
PSI 365
RPM 36

Soaping
WOB 3
PSI 376
RPM 33

Soaping
WOB 2-3
PSI 400
RPM 33

Soaping
WOB 2-3
PSI 400
RPM 45

Inclination 100

ROP (ft/hr)
Gamma (API)

30'
connections

11u CG

9u CG

33u DTG

Rig rew
service
@ 1066'

11u CG

13u CG

12u

12u CG

14u CG

SH,lt-mgy vf dkgy,
mfrm-grty,sl slty,vsl
ncalc

SH,mdkgy-dkgy,
mfrm,blky-plty,sl
slty,vsl calc,TR,SS

SLTSTS,vlt-mgy,mod
t-cmt,dsm sh,tr bio,
sl calc,

SH,dkgy-mgy,blky,
slty,grty,aren,tr bio,
drty,

SS,clr,vltgy,offwh,
frost,vfg-mg,sbang
sbrnd,gsph,psrt,
mod vt-cmt,mica,tr pyr,

SS,vlt-mgy,clr,frost,
vfg-mg,occ cg,tr cngl
sbrnd,gsph,psrt,mod
ls cmt,occ unconc,

SLTSTS,vlt-mgy,tn,lt
mbrn,mod vt cmt,
dsm sh,abnt bio,
occ v aren,

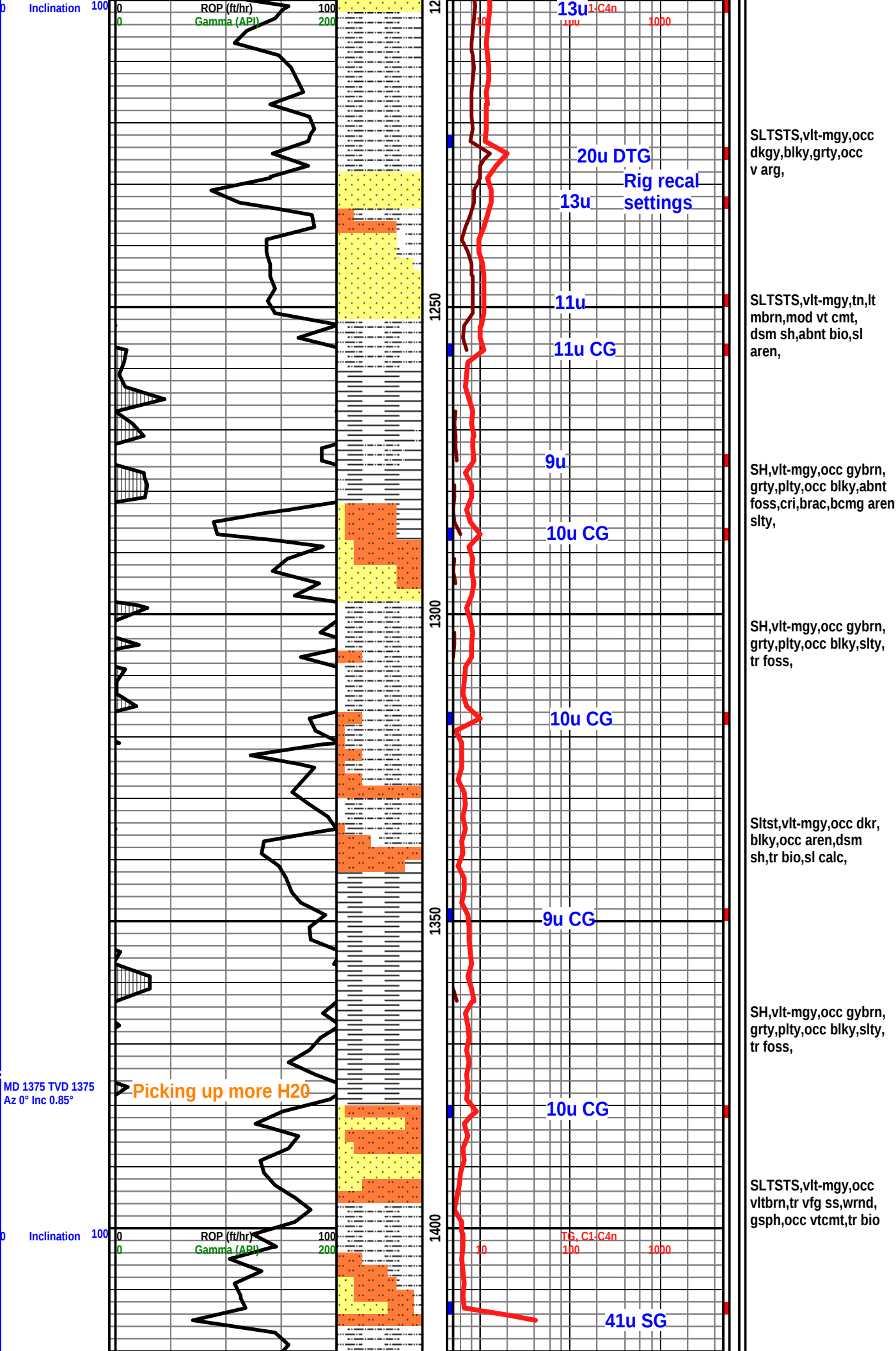
SS,clr,vltgy,vfg,sbang,
vt-cmt,occ slty,psrt,
bio,tr pyr,

Soaping
WOB 2-3
PSI 410
RPM 45

Soaping
WOB 2-3
PSI 420
RPM 40

Soaping
WOB 3
PSI 360
RPM 46

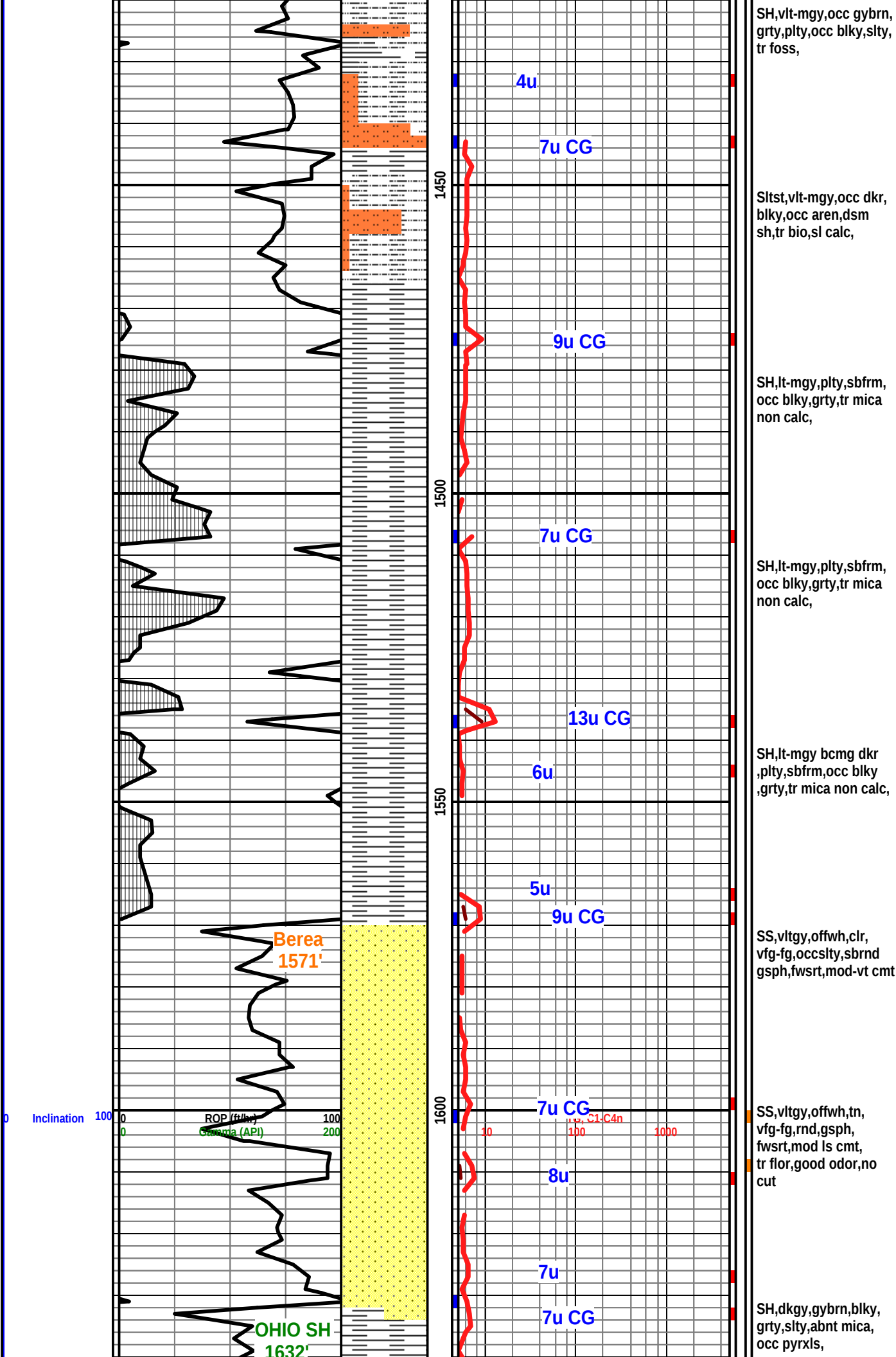
Soaping
WOB 3
PSI 380
RPM 46



SOAPING
WOB 2
PSI 370
RPM 45

Soaping
WOB 4-5
RPM 33
PSI 403

Soaping
WOB 4-5
PSI 394
RPM 45

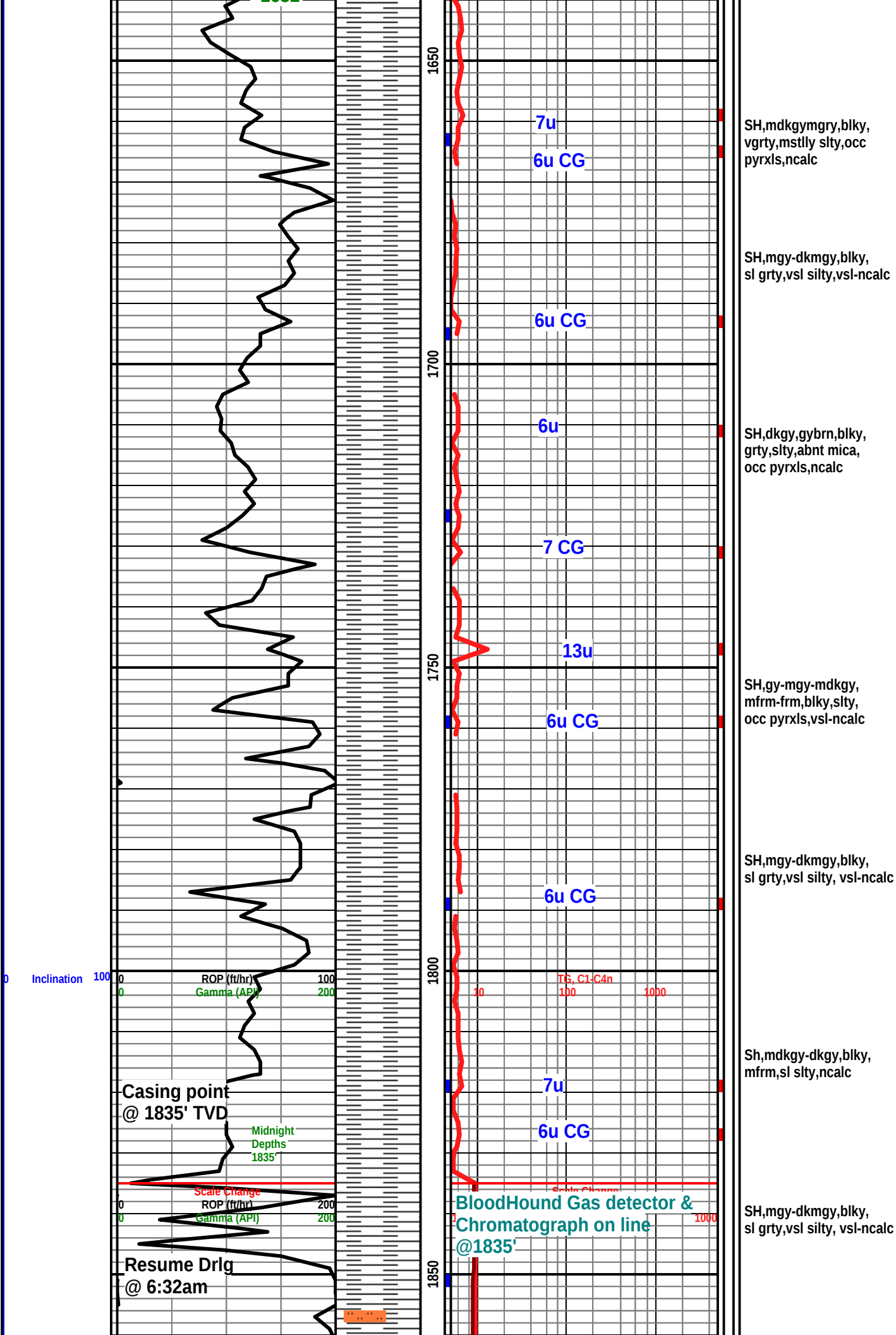


Soaping
WOB 3-5
PSI 387
RPM 37

Soaping
WOB 3-6
PSI 426
RPM 34

Soaping
WOB 2-9
PSI 397
RPM 36

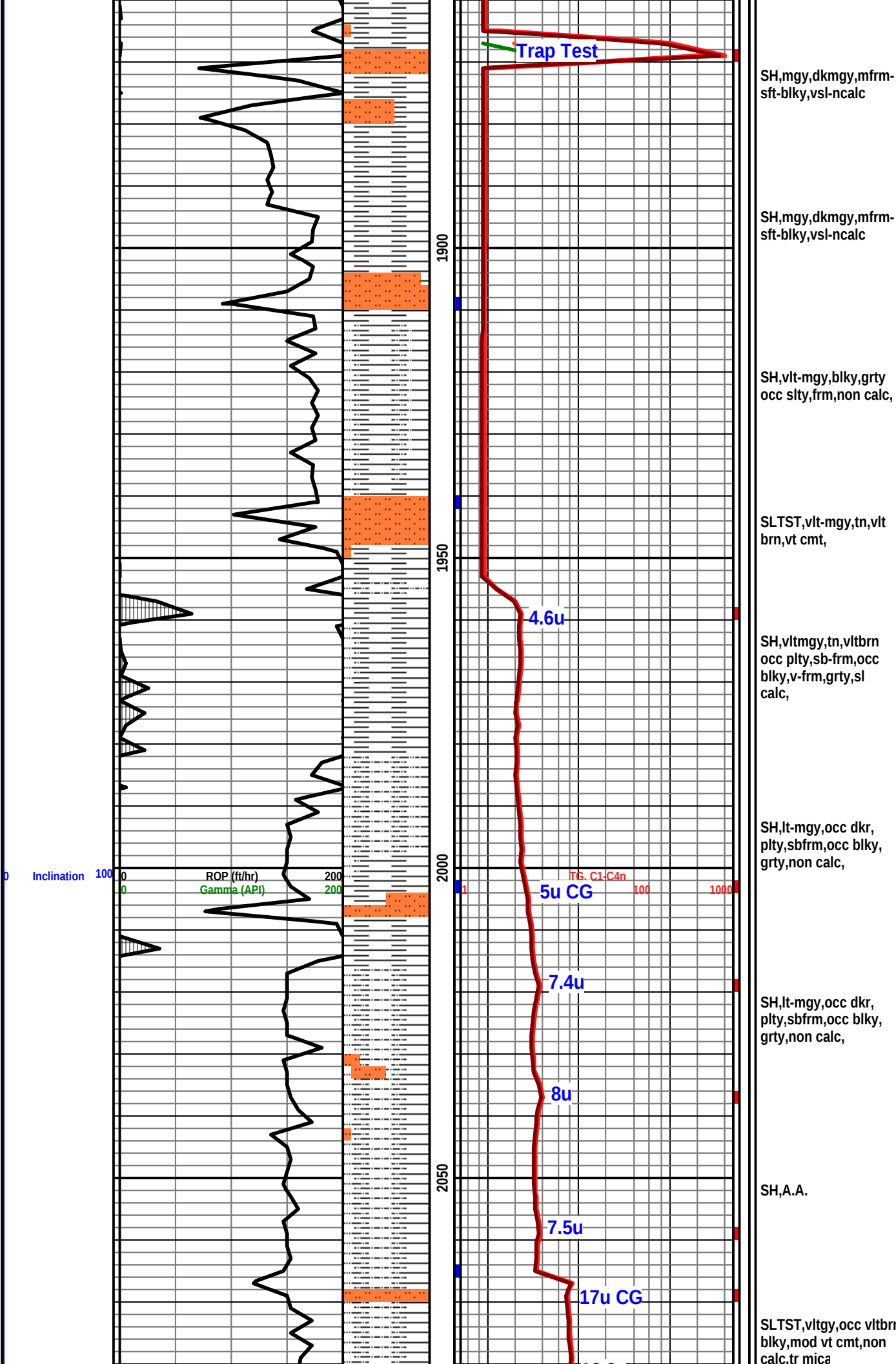
Dusting



Dusting
WOB 2
Rpm 45
PSI 358

Dusting
WOB 2
Rpm 45
PSI 358

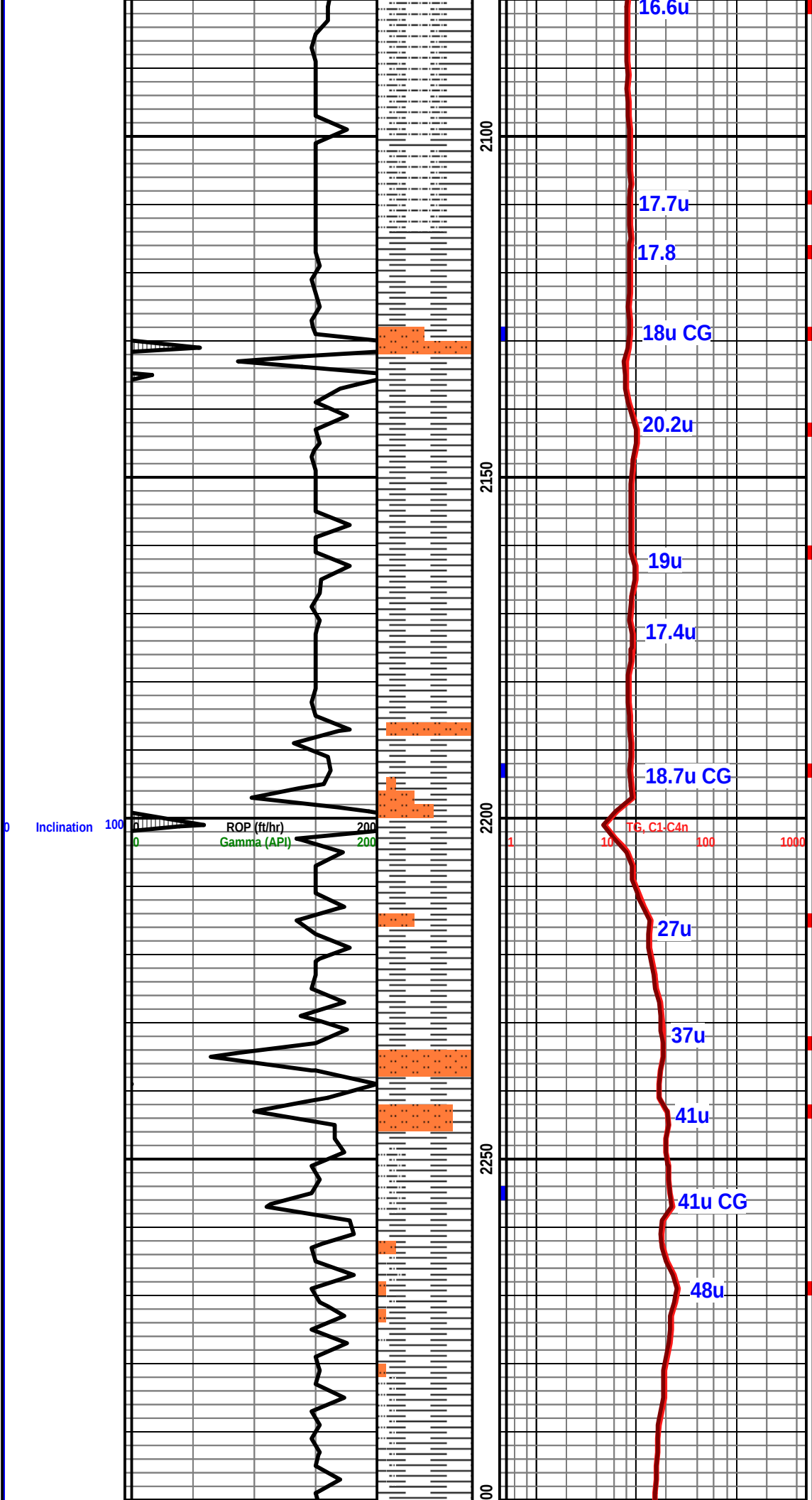
Dusting
WOB 2
Rpm 45
PSI 358



WOB 1.5
PSI 315
RPM 45

Dusting
WOB 2-4
Rpm 45
PSI 358

Dusting
WOB 2-4
Rpm 45
PSI 358



SH,lt-mgy,occ dkr,
plty,sbfrm,occ blk,
grty,non calc,

SH,lt-mgy,occ dkr,
plty,sbfrm,occ blk,
grty,non calc,

SH,lt-mgy,occ dkr,
plty,sbfrm,occ blk,
grty,non calc,

SLTST,vltgy,occ vltbrn
blk,mod vt cmt,non
calc,tr mica

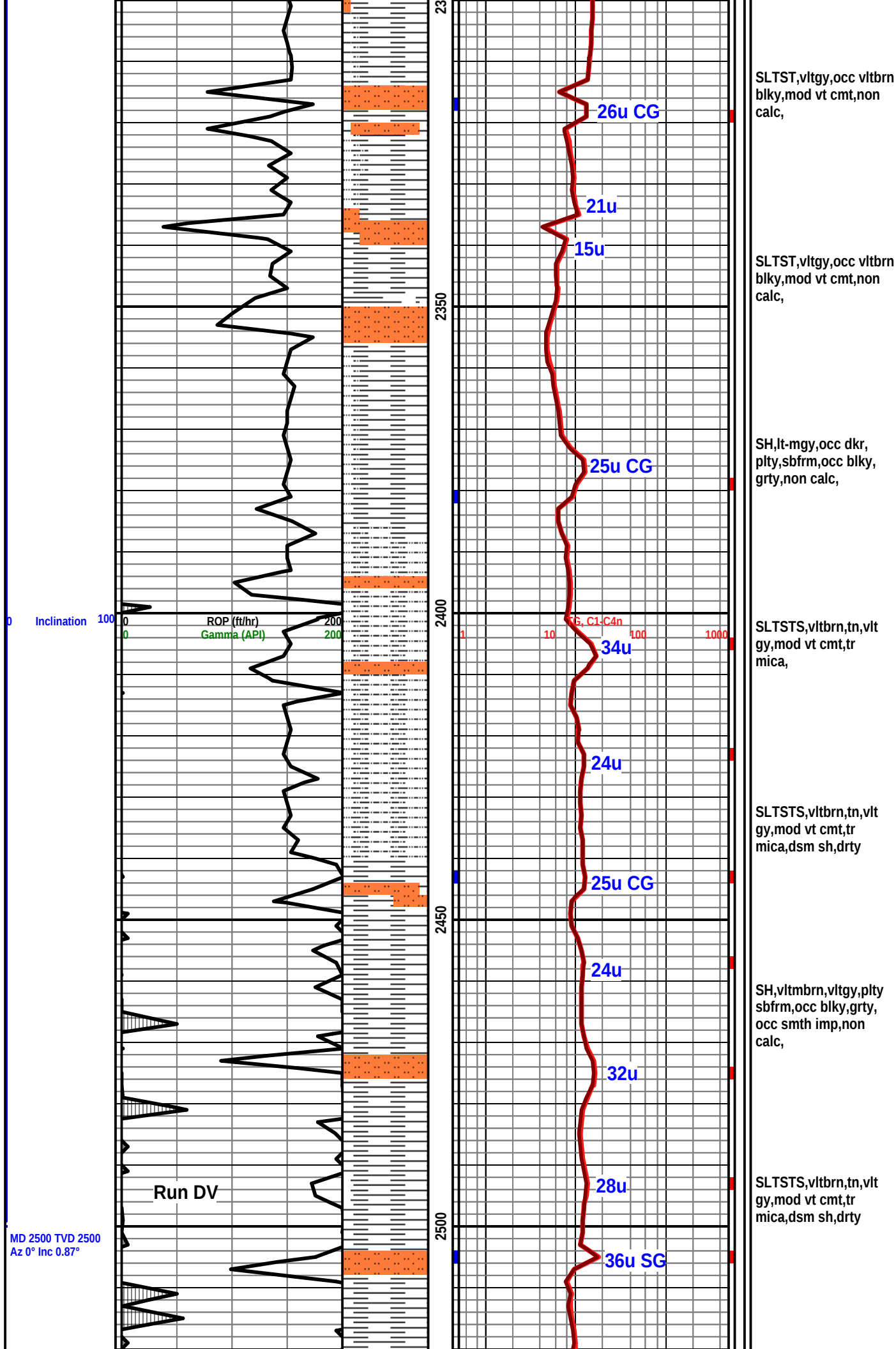
SLTST,vltgy,occ vltbrn
blk,mod vt cmt,non
calc,

SLTST,vltgy,tn,mod
vt cmt,tr mica,

SH,lt-mgy,occ dkr,
plty,sbfrm,occ blk,
grty,non calc,

Dusting
WOB 2
RPM 45
PSI 360

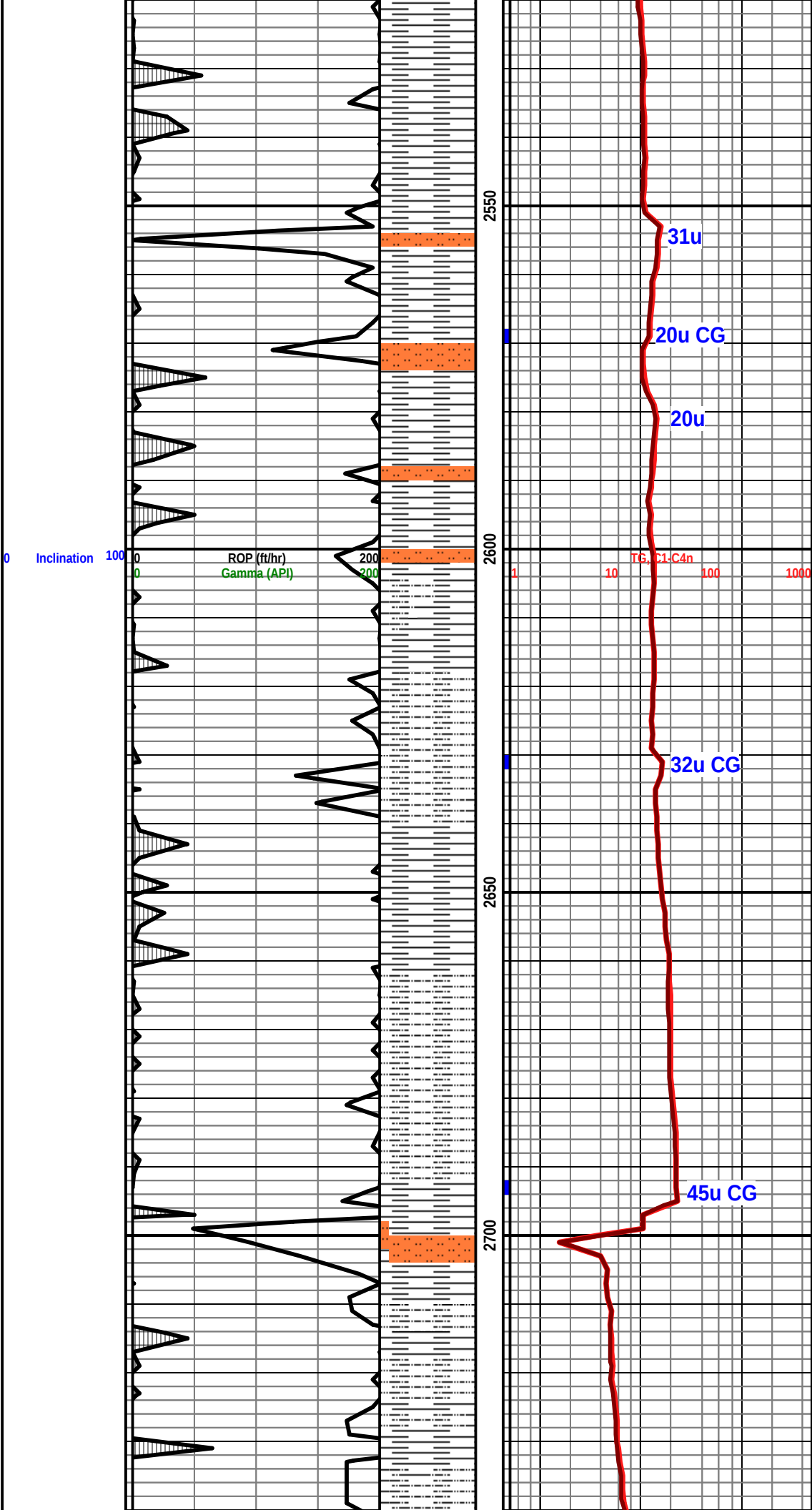
Dusting
WOB 1-2
RPM 45
PSI 385



Dusting
WOB 1-2
RPM 45
PSI 385

Dusting
WOB 1-2
RPM 45
PSI 385

Dusting
WOB 1-2
RPM 45
PSI 385



SH,vltmbrn,vltgy,plty
sbfrm,occ blkgy,grty,
occ smth imp,non
calc,

SLTSTS,vltbrn,tn,vlt
gy,mod vt cmt,tr
mica,dsm sh,drty

SLTSTS,vltbrn,tn,vlt
gy,mod vt cmt,tr
mica,dsm sh,drty

SH,vltmbrn,vltgy,plty
sbfrm,occ blkgy,grty,
occ smth imp

SH,vltmbrn,vltgy,plty
sbfrm,occ blkgy,grty,
occ smth imp

SLTSTS,vltbrn,tn,vlt
gy,mod vt cmt,tr
mica,dsm sh

SH,vlt-mgy,bcmg dkr
occ slty,occ blkgy,sft
non calc,

SH,m-dkgy,mbrm,
occ plty,sbfrm,occ
sft,non calc,

Dusting
WOB 1-2
RPM 45
PSI 385

Dusting
WOB 1-2
RPM 45
PSI 400

Dusting
WOB 1-2
RPM 45
PSI 400

0

Inclination 100

ROP (ft/hr)
Gamma (API)



2750

2800

2850

2900

2950

18u CG

21u

25u

29u

32u

TG, C1-C4n

23u CG

49u

17u

C1 42000 ppm
C2 19000 ppm
C3 24000 ppm
C4 22900 ppm
C5 33000 ppm

18u CG

22u

SH,m-dkbrn,vlt-dkgy
plty,frm,occ grty,v-
frm-hd,non calc,tr
pyrxls,

SH,m-dkgy,dkbrn,occ
ltgy,plty,sbfrm,occ
occ blk,grty,non
calc,tr scatt pyrxls,

SH,m-dkgy,dkbrn,occ
ltgy,plty,sbfrm,occ
occ blk,grty,non
calc,tr scatt pyrxls,

SH,dkbrn,dkgy,plty,
sbfrm-sft,occ grty,
non calc,

SH,m-dkgy,dkbrn,occ
ltgy,plty,sbfrm,occ
occ blk,grty,non
calc,tr scatt pyrxls,

SH,m-dkgy,dkbrn,occ
ltgy,plty,sbfrm,occ
occ blk,grty

SH,lt-mbrn,plty,sbfrm
occ blk,sft,abnt flor
v-fnt cut,

Dusting
WOB 1-2
RPM 45
PSI 400

Dusting
WOB 2.5
RPM 48
PSI 421

Dusting
WOB 2.2
RPM 26
PSI 376

Dusting
WOB 2.6

0

Inclination 100

0

ROP (ft/hr)

200

Gamma (API)

200

Running
Gyro from
3069' con.

3000

3050

3100

3150

34u

48u

55u CG

24u

43u

86u CG

28u

22 u
CG

76 u

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty, non calc,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty, non calc,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty, non calc,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty,frm,

SH,m-dkbrn,plty,
sbfrm,occ blk,
,grty, ncalc,

SH,dkgy-m-dkbrn,
slmd-mfrm-mstly plty-vf
blk,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty,frm,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty,frm,

RPM 27
PSI 398

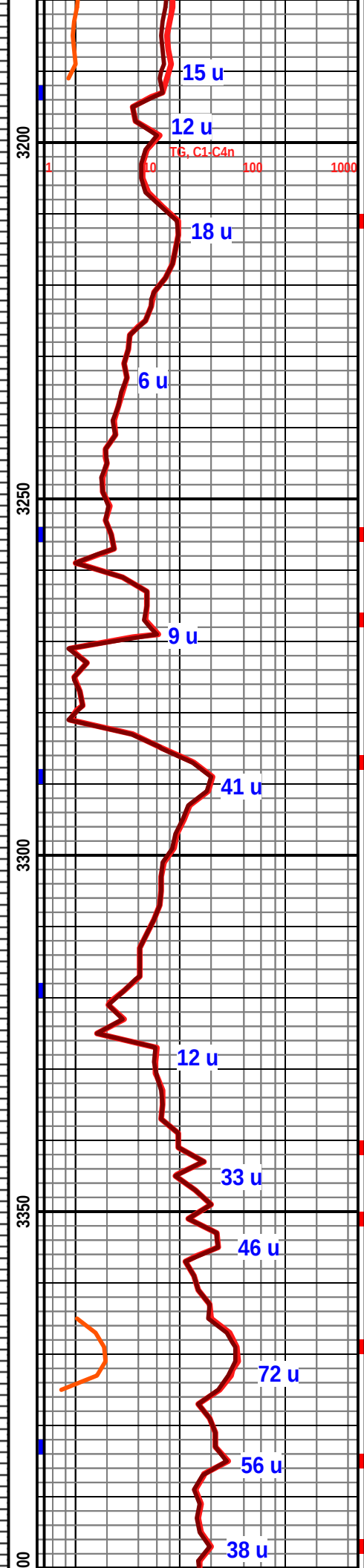
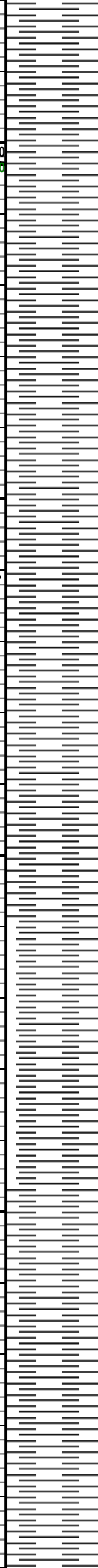
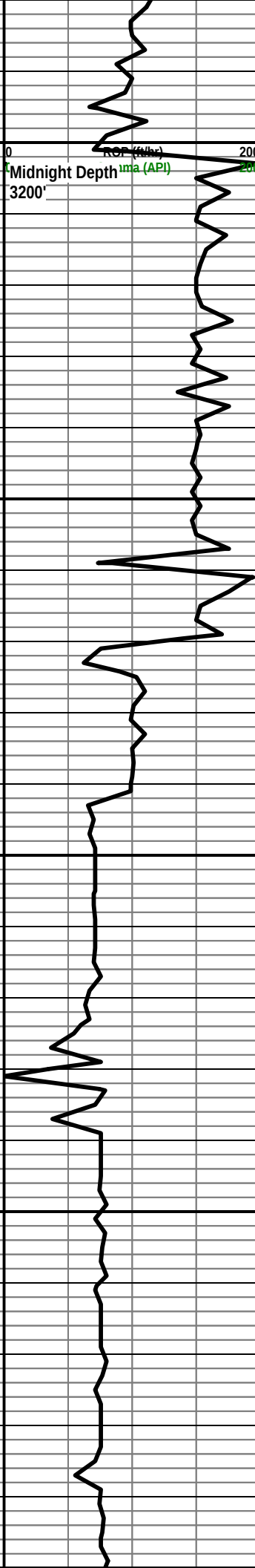
Dusting
WOB 2.5
RPM206
PSI 407

Dusting
WOB 1.2
RPM 31
PSI 281

Dusting
WOB 2.1
RPM 31

Dusting
WOB 0.8
RPM 32

Inclination 100



SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty,frm,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty,frm,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty,frm,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty,frm,

SH,m-dkbrn,plty,
sbfrm,occ blk,gr-
ty,frm,

PSI 298

Inclination 0 100

ROP (ft/hr) 0 200
Gamma (API) 0 200

Wait on AIR
6:20am

Dusting
WOB 0.8
RPM 37
PSI 298

Dusting
WOB 0.8
RPM 38
PSI 408

Midnight Depth
3544'

ONONDAGA
3571'

Inclination 0 100

ROP (ft/hr) 0 200
Gamma (API) 0 200

1 10 100 1000

40 u

54u

40u

22u CG

50u

53u

43u CG

replaced poly-flo line

20u

26u

42u CG

43u

22u

SH,m-dkbrn,plty,
sbfrm,occ blkty,gr-
ty,frm,ncalc

SH,mgy-dkmgry,blkty,
mfrm vf frm, ncalc

SH,dkmgy,dkmgy,
vblkty,mfrm-slfrm,
occ grty cut,ncalc

SH,dkmgy -dkbrn,
blkty,fmr cut,mfrm,
sl grty,vsl calc,TR LS

SH,brn-dkbrn-mdkgy,
mfrm,blkty,sl smthr txt,sl
-mod calc,vry sml

SH,mstly dkbrn,sm brn-tr
of mgy,mfrm
blkty,good cut,sl calc
sl-calc,TR LS

SH,dkgry-mfrm,blkty
blkty-plty,sl grty,sl-mod
calc,LS,off wht-tan-clr,

LS,lt-mbrn,tn,offwh,
cprxln-mcxln,cln,hd
dns,TR, SH

Soaping
WOB 0.9
RPM 38
PSI 432

Dusting
WOB 0.7
RPM 38
PSI 447

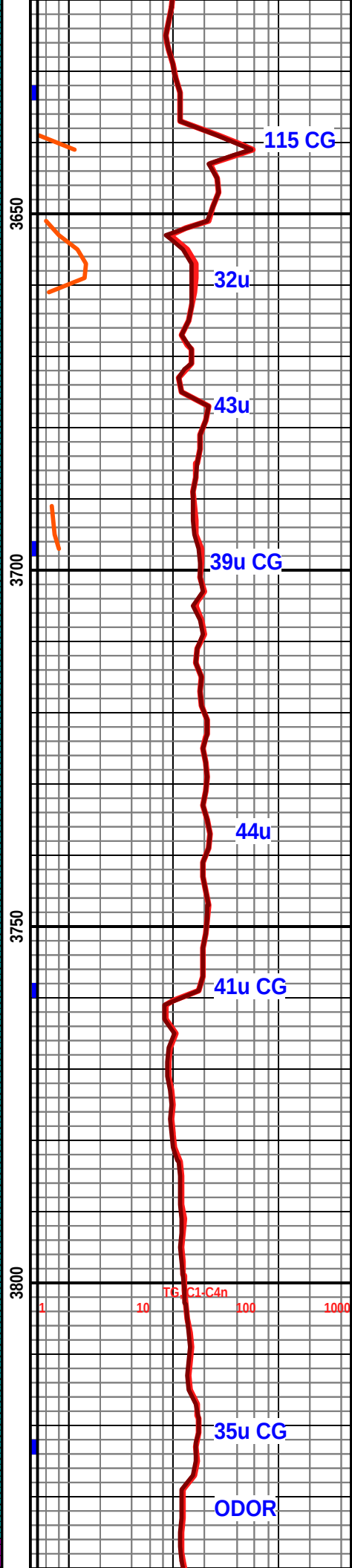
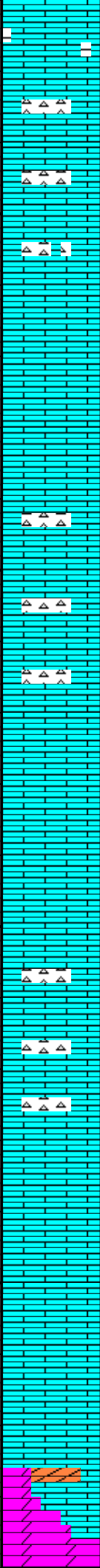
Soaping

Soaping
WOB 0.8
RPM 100
PSI 455

Inclination

ROP (ft/hr)
Gamma (API)

Put Soap
on Hole
3760'



LS,lt-mbrn,tn,offwh,
cprxln-mcxln,cln,hd
dns,tr chert

LS,lt-mbrn,tn,ltgy,
cprxln-mcxln,cln,
hd,dns,mlky,transluc,
vltbrn

LS,lt-mbrn,tn,offwh,
cprxln-mcxln,cln,hd
dns,TR cht

LS,ltbrn-drty-wht,tn
mcxln,fnrct,sl drty,
hd,dns

LS,lt-mbrn,tn,ltgy,
cprxln-mcxln,cln,
hd,dns,TR Cht

LS,lt-brn-offwht-tan-
vf clr,mcxln,mod drty,
frm-hd,dns

LS,ltbrn-drty-wht,tn
mcxln,fnrct,sl drty,
hd,dnsDOL,vlt-mbrn,
tn,vfxln-fxln, occ suc,

Soaping
WOB 0.9
RPM 101
PSI 465

Soaping
WOB 1-2
PSI 465
RPM 37

Soaping
WOB 1-2
PSI 465
RPM 37

0

Inclination

100

ROP (ft/hr)

Gamma (API)

200

200

3850

3900

3950

4000

4050

28u

49u

39u CG

39u

50u

50u CG

51u

37u

40u

35u CG

44u

38u

38u CG

28u

TG, Oil-C4n

1 10 1000

DOL,vlt-mbrn,tn,
vfxln-fxln,occ suc,
occ intxln,LS,offwht,
mcxln,hd,dns

DOL,vlt-mbrn,vlt-m
gy,vfxln-fxln,scatt
anhy,tr vug,

DOL,m-dkgy,dkbrn
mcxln-vfxln,occ
dsm sh,

DOL,m-dkgy,dkbrn,
mcxln-vfxln,occ fxln,
hd,dns,

DOL,m-dkgy,dkbrn,
mcxln-vfxln,occ fxln,
hd,dns,

DOL,m-dkgy,dkbrn,
mcxln-vfxln,occ fxln,
hd,dns,

DOL,m-dkgy,dkbrn,
mcxln-vfxln,occ fxln,
hd,dns,

DOL,m-dkbrn,offwh,
vf-vxln,mcxln,hd,dns,

Soaping
WOB 1-2
PSI 460
RPM 48

Soaping
WOB 1-2
PSI 465
RPM 45

Soaping
WOB 1-2
PSI 450
RPM 53

0

Inclination

100

ROP (ft/hr)
Gamma (API)

200

200

4100

4150

4200

4250

16u

16u CG

16u CG

25u

20u

20u

18u CG

19u

20u

22u

23u

27u CG

DOL,lt-mbrn,dkbrn,
vf-vxln,cln,hd,dns,
tr anhy,sl-mod calc,

DOL,lt-mbrn,dkbrn,
vf-vxln,cln,hd,dns,
tr anhy,sl calc,

DOL,lt-mbrn,dkbrn,
vf-vxln,occ intxln,
cln,hd,dns,sl calc,

DOL,lt-mbrn,dkbrn,
vf-vxln,occ intxln,
cln,hd,dns,non calc,

DOL,lt-mbrn,dkbrn,
vf-vxln,occ intxln,
cln,hd,dns,non calc,

DOL,m-dkbrn,clr,
vfxln-mcxln,hd,dns,
anhy strng,

DOL,m-dkbrn,clr,
vfxln-mcxln,hd,dns,
anhy strng,

DOL,m-dkgy,dkbrn,
mcxln-fxln,occ hd,
dns,occ anhy,

Soaping
WOB 1
PSI 432
RPM 55

SOAPING
WOB 1.3
PSI 427
RPM 67

Soaping
WOB 1
PSI 432
RPM 60

0

Inclination 100

ROP (ft/hr)
Gamma (API)

200
200

4300

4350

4400

4450

00

39u

30u

38u

34u CG

33u

30u CG

35u

30u CG

36u

DOLm-dkbrg,tn,off
wh,mcxln-vfxln,
hd,dns,

DOL,m-dkbrg,tn,off
wh,mcxln-vfxln,
hd,dns,

DOL,m-dkbrn,tn,
gygrn,mcxln-vfxln,
hd,dns,

DOL,m-dkbrn,tn,
gygrn,mcxln-vfxln,
hd,dns,

DOL,m-dkbrn,lt gy,
mcxln-crpxln,vxln,
hd,dns,

DOL,m-dkgy,dkbrn,
mcxln-fxln,occ hd,
dns,occ anhy,

DOL,m-dkgy,dkbrn,
mcxln,occ hd,
dns,occ anhy,

TG, S1-C4n

1

10

100

1000

Soaping
WOB 1
PSI 432
RPM 60

MD 4515 TVD 4515
Az 1.7° Inc 0.85°

Soaping
WOB 1
PSI 432
RPM 60

Inclination 100

ROP (ft/hr)
Gamma (API)

Soaping
WOB 1
PSI 432
RPM 60

Midnight Depth
4698'

DOL,m-dkgy,dkbrn,
mcxln,occ hd,
dns,occ anhy,

DOL,m-dkgy,dkbrn,
mcxln,occ hd,
dns,occ anhy,

DOL,m-dkgy,dkbrn,
mcxln-fxln,occ hd,
dns,occ anhy

DOL,m-dkbrn,lt gy,
mcxln-crpxln,vxln,
hd,dns,

DOL,m-dkbrn,lt gy,
mcxln-crpxln,vxln,
hd,dns,TR, SH

DOL,m-dkgy,dkbrn,
mcxln-fxln,occ hd,
dns,tr SH

DOL,m-dkgy,occ ltbrn
vfxln-vfxln,occ arg,

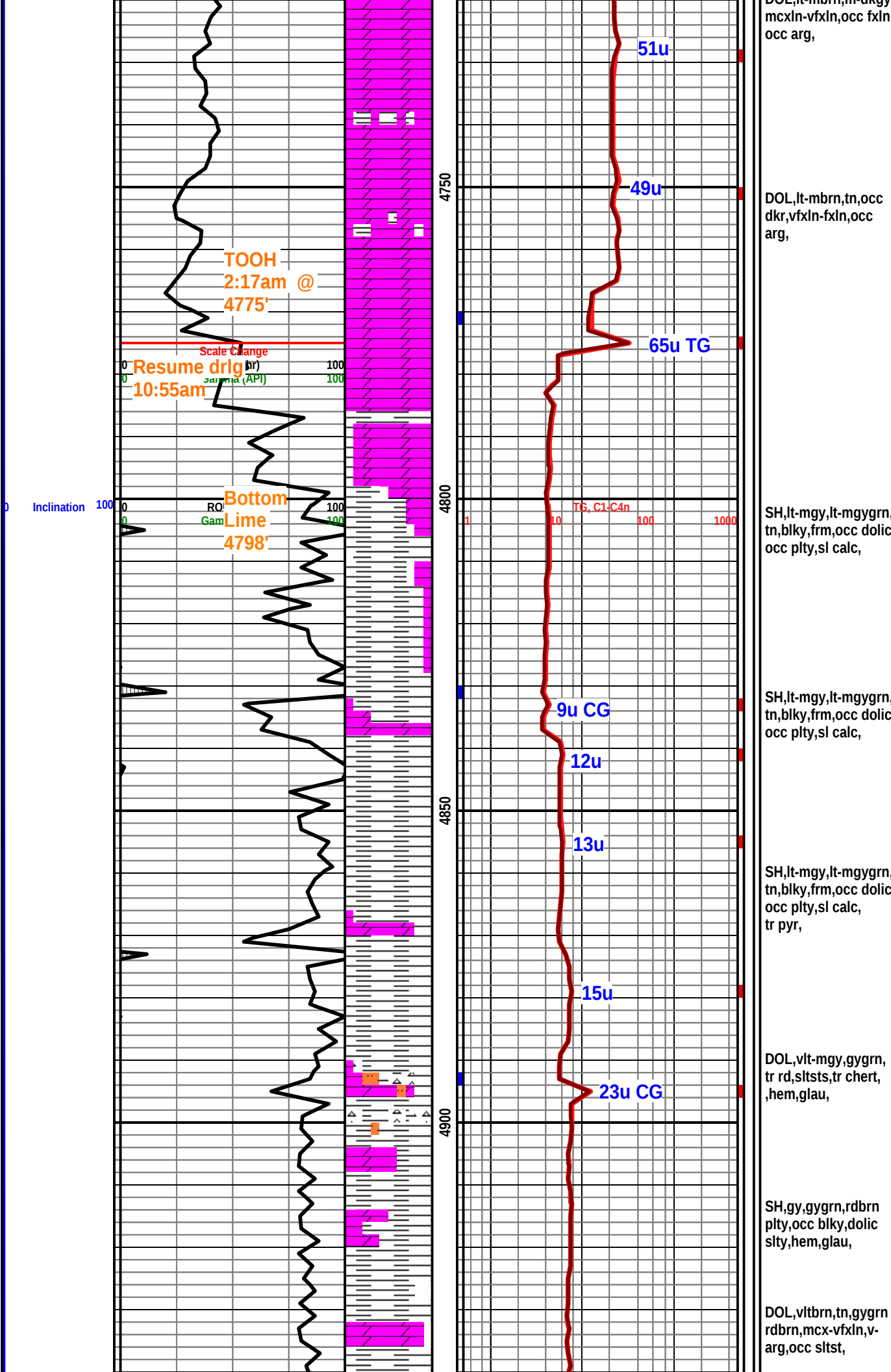
DOL lt-mbrn m-dkgy

Soaping
WOB 2
PSI 431
RPM 57

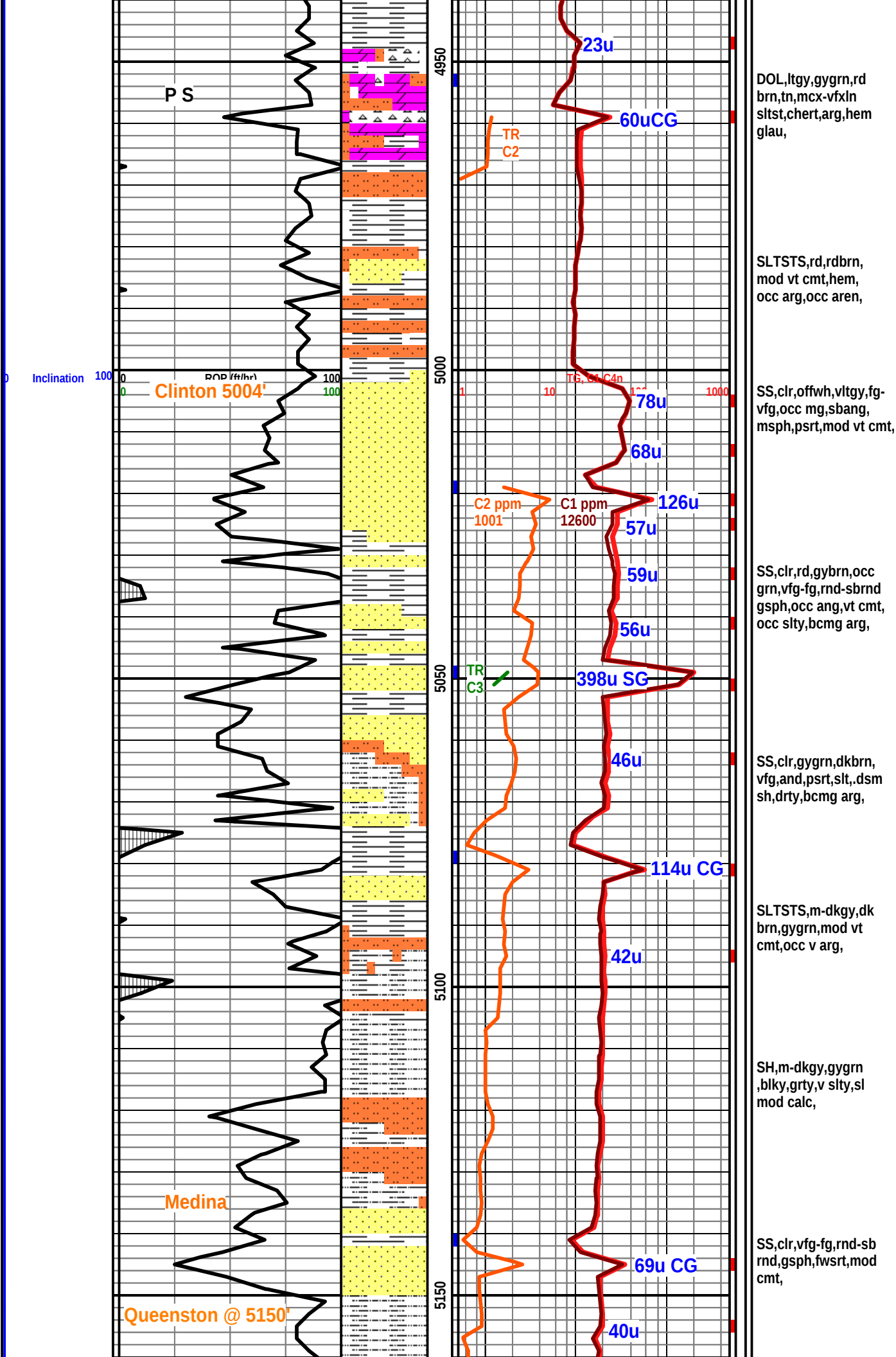
Soaping
WOB 2
PSI 450
RPM 52

Soaping
WOB 2
PSI 450
RPM 52

Soaping
WOB 2
PSI 450
RPM 52



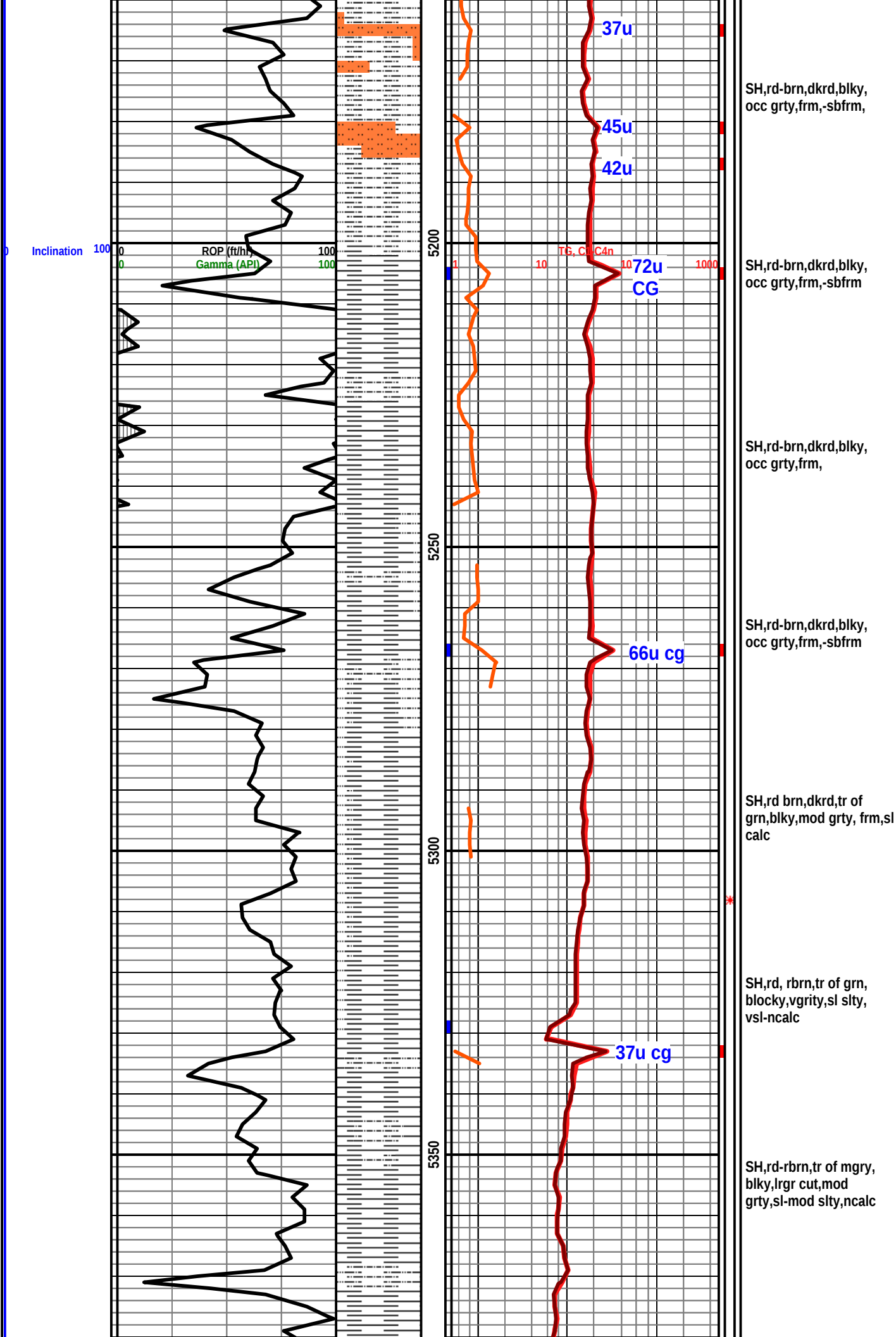
Soaping
WOB 2
PSI 440
RPM 40



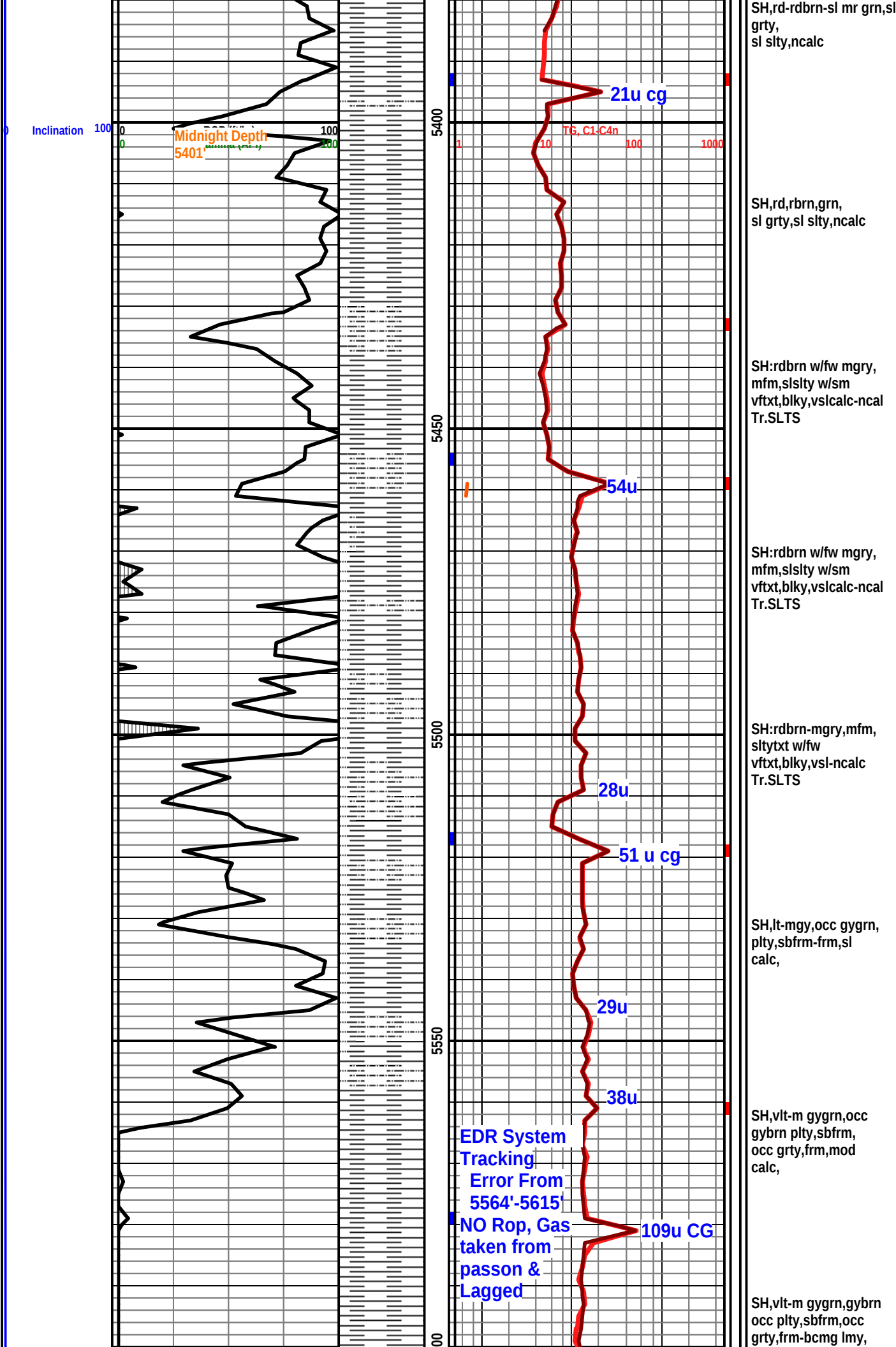
Soaping
WOB 2
PSI 435
RPM 40

Soaping
WOB 2
PSI 435
RPM 40

Soaping
WOB 2
PSI 435
RPM 40



Soaping
WOB 2
PSI 435
RPM 40

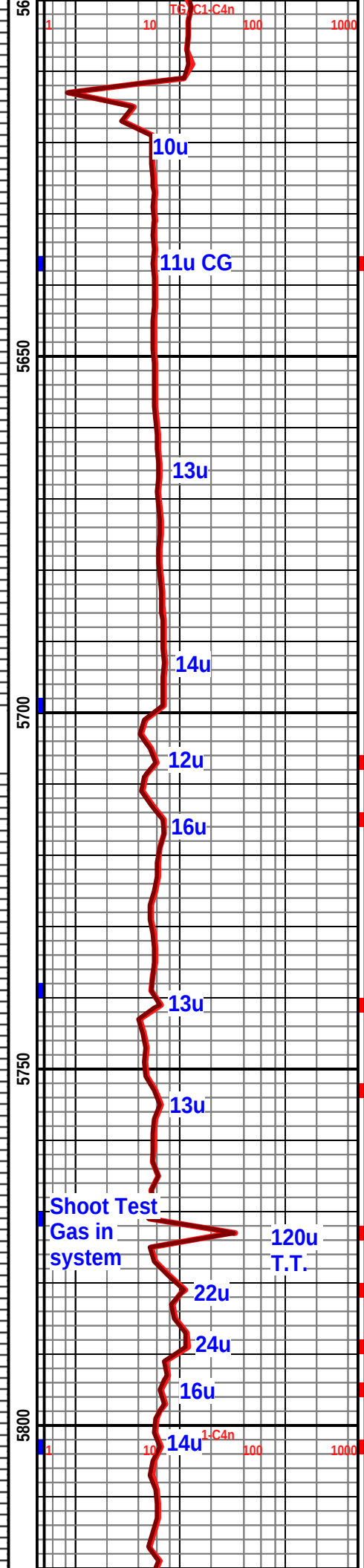
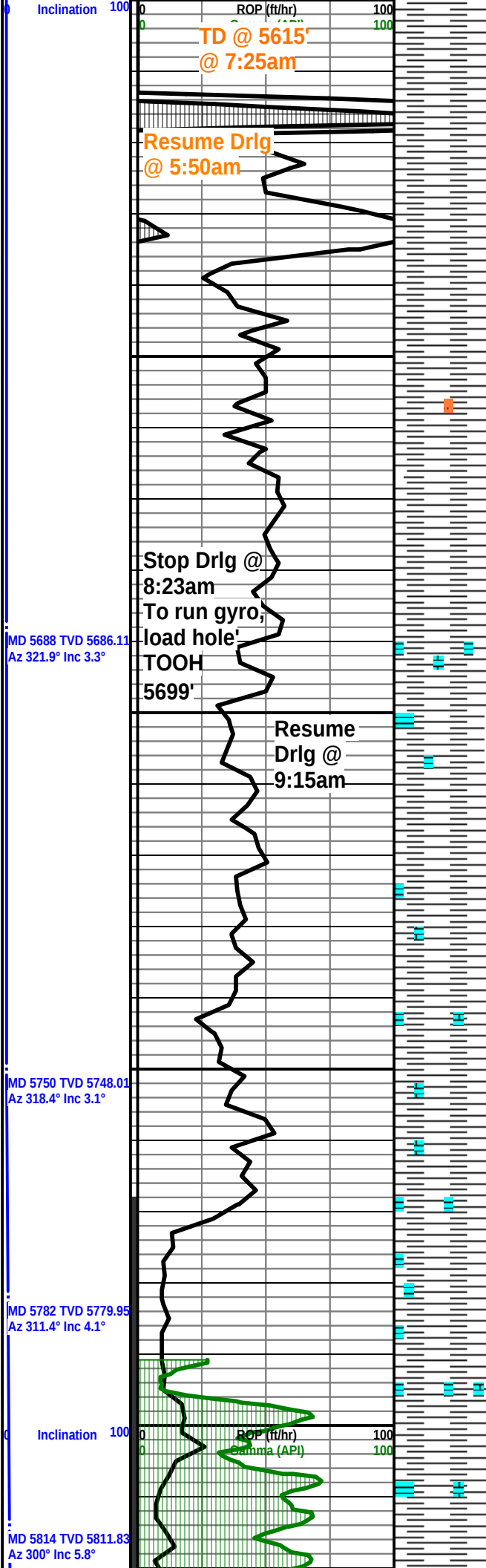


Soaping
WOB 2.3
PSI 465
RPM 45

DRLG W
Fluid
WT 10.7
Vis 73

Fluid
WOB 6-9
PSI 2168
RPM 48

Slide
WOB 3-4
PSI 2125



SH:mgyr w/fw vltbrn
occ,mfm,vftxt,blky,
slcalc

SH:mgyr w/fw vltbrn
occ,mfm,vftxt,blky,
slcalc Tr SLTS

SH,lt-mgy,occ gybrn,
occ plty,smth imp,
occ blky,grty,lmy,

SH,lt-mgy,occ gybrn,
occ plty,smth imp,
occ blky,grty,lmy,

Bit #6 7 7/8" Smith
SD1513 in @ 5699
W/Downhole motor

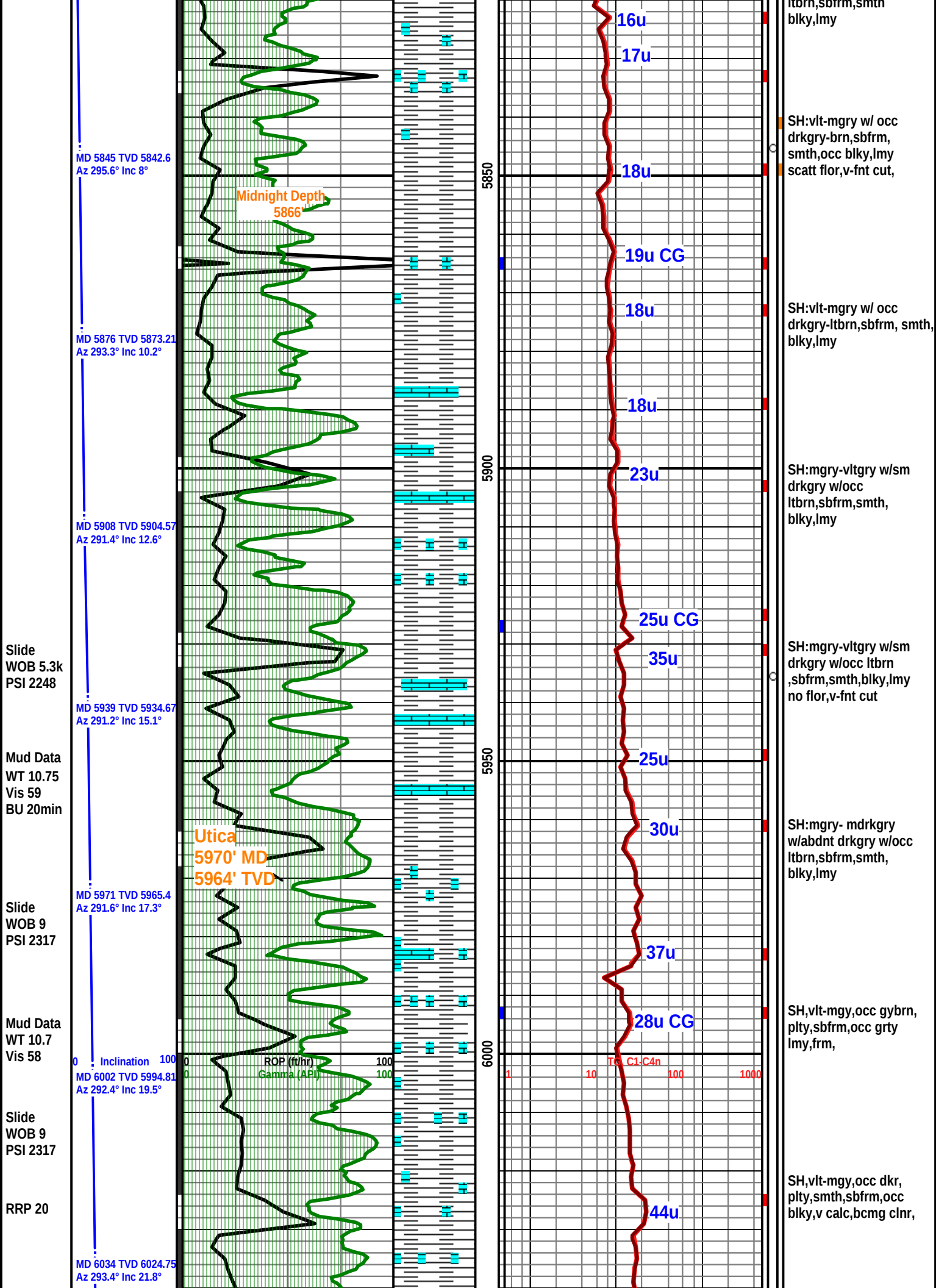
SH,lt-mgy,gybrn,occ
plty,smth imp,occ blky
lmy,

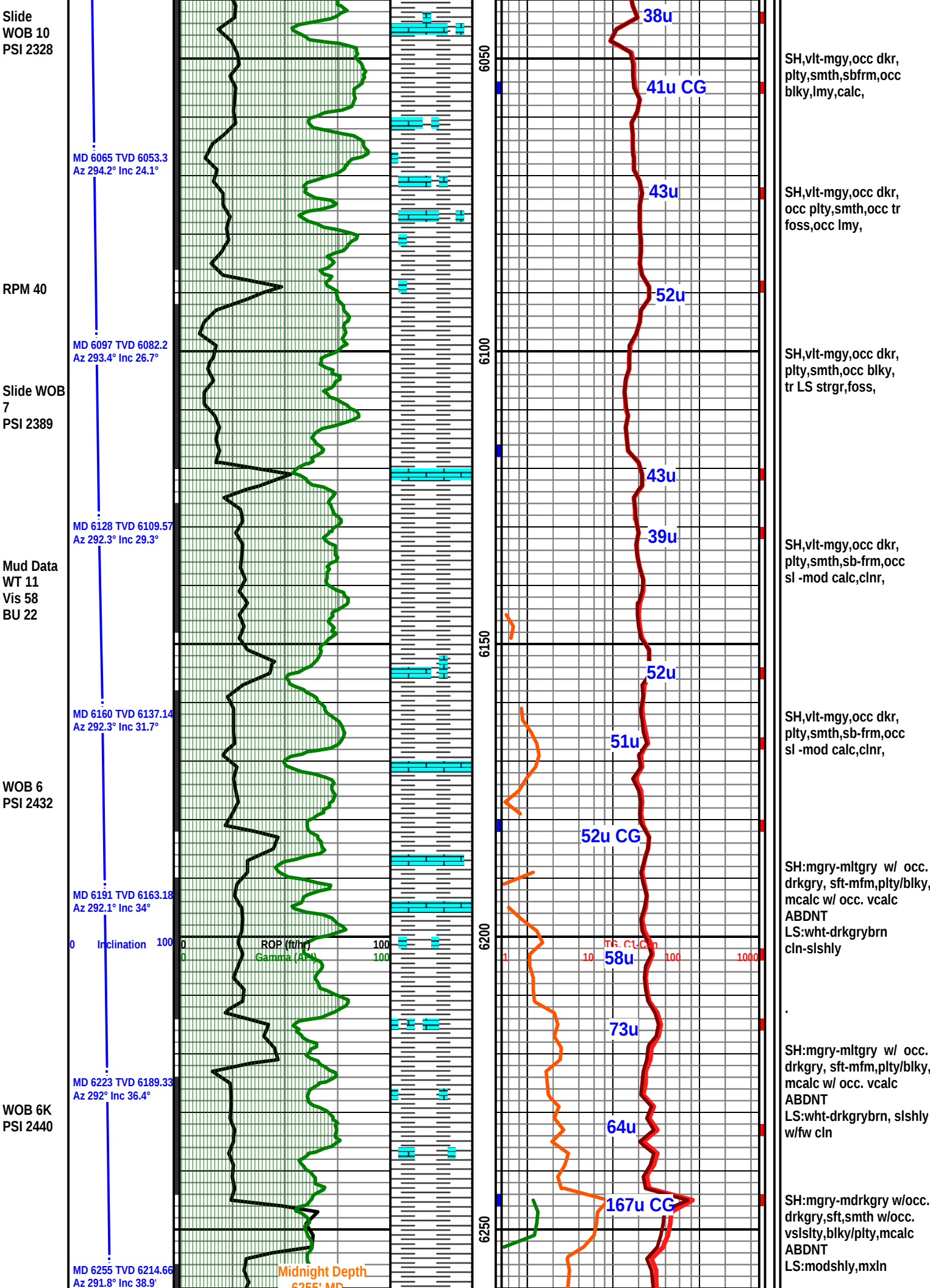
SH,vlt-mgy,occ dkr,
occ gybrn,occ plty,
smth imp,occ blky,
lmy,

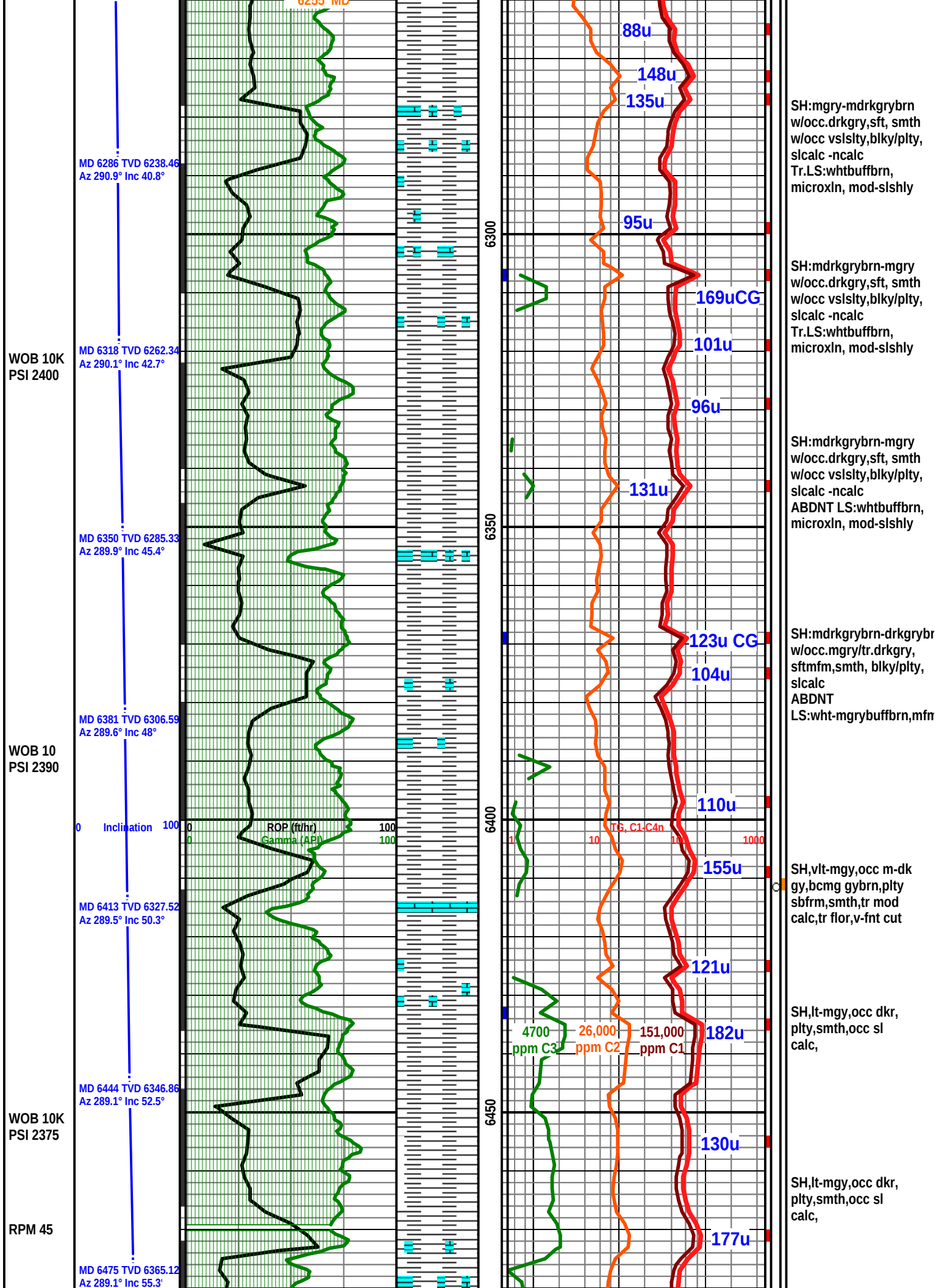
SH,vlt-mgy,occ dkgy,
occ LS incl,occ plty,
no calc,occ lmy, w/
foss

SH,vlt-mgy,occ dkgy,
occ brn,plty,sbfrm
smth,occ blky,lmy,

SH:vlt-mgyr w/occ
lmy,shfm,smth







RPM 45

WOB 9
PSI 2415

RPM 48

Mud Data
WT 11
VIS 57
BU 24min

WOB 16K
PSI 2470

MD 6507 TVD 6382.71
Az 289.1° Inc 58°

MD 6538 TVD 6398.68
Az 289.1° Inc 60°

MD 6569 TVD 6413.68
Az 289.1° Inc 62.1°

MD 6600 TVD 6427.71
Az 288.4° Inc 64.1°

MD 6632 TVD 6441.23
Az 288.2° Inc 65.9°

MD 6663 TVD 6453.39
Az 288.9° Inc 67.9°

MD 6694 TVD 6464.45
Az 288.3° Inc 70.3°

Rig Crew Service

L/ Point
Pleasant
6612' MD
6430' TVD

ROP (ft/hr)
Gamma (API)

6500

6550

6600

6650

7000

106u

136u

122u

129u

135u

261u

261u

233u

383u

380u

360u

398u

453u

395u

500u

SH,mgy,occ gybrn,
dkgy,plty,occ blk
frm,mod calc,

SH,mgy,occ gybrn,
dkgy,plty,occ blk
frm,mod calc,

SH,m-dkgy,occ gybrn
plty,smth,occ blk,
v-frm,lmy,foss,

SH,m-dkgy,dkbrn,occ
ltr,plr,sbfrm,mod-
v calc,

SH,m-dkgy,dkbrn,
occ plrft,mfrm,occ
blk,vfrm,occ lmy,

SH,dkgy,dkgybrn,plty
sbfrm-frm,mod v calc,

SH,dkgy,dkgybrn,plty
sbfrm-frm,mod v calc, tr
pyr,

SH,dkgy,dkgybrn,plty
sbfrm-frm,mod v calc,tr
calcxls,

TG-C1-C4n

12-17-11
RPM 0
WOB 12k
PSI 2466
SPM 202

WOB 16
PSI 2500

WOB 11
2630
RPM 38

MD 6726 TVD 6474.63
Az 288.4° Inc 72.6°

MD 6757 TVD 6483.41
Az 288.5° Inc 74.5°

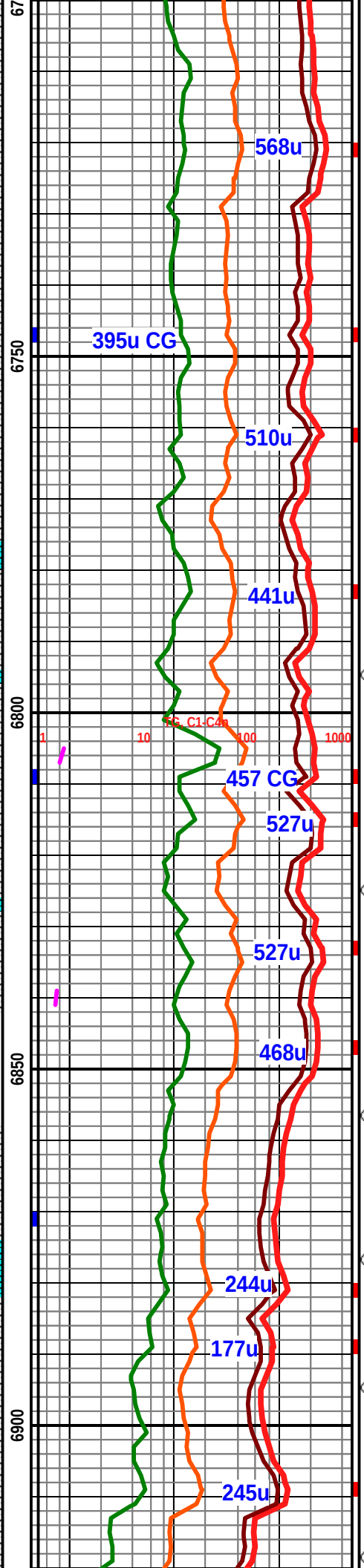
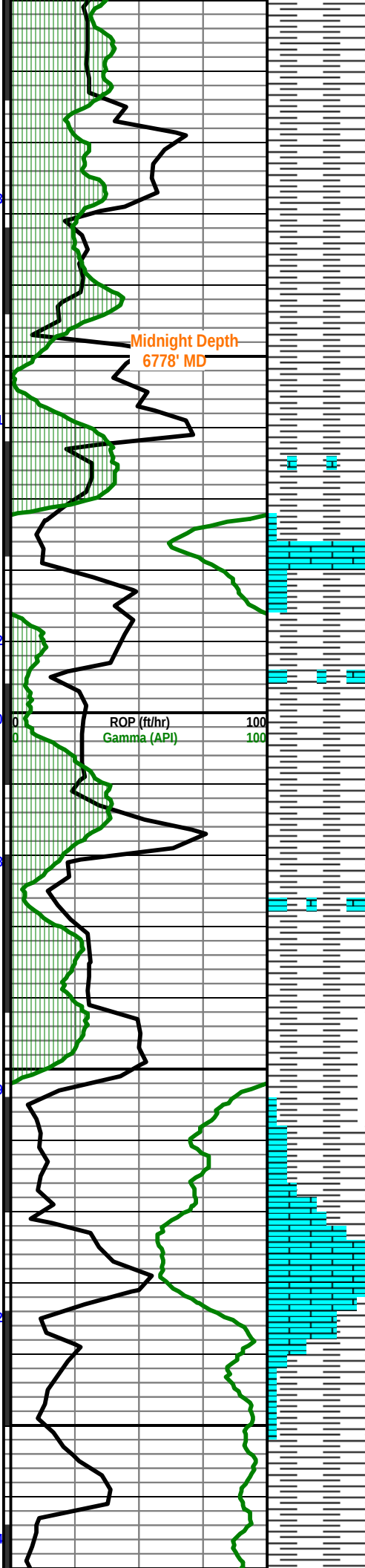
MD 6788 TVD 6491.12
Az 289.1° Inc 76.7°

MD 6819 TVD 6497.48
Az 289.8° Inc 79.6°

MD 6851 TVD 6502.49
Az 290.2° Inc 82.4°

MD 6883 TVD 6505.92
Az 290.3° Inc 85.3°

MD 6914 TVD 6507.54
Az 291.3° Inc 88.7°



SH,dkgy,dkgybrn,plty
sbfrm-frm,mod v calc,tr
calcxls,

SH,dkgy,dkgybrn,plty
sbfrm-frm,mod v calc,tr
calcxls,

SH:drkgrybrn w/limey
marl-drkgry,mfm-sft,
smth,plty/ blk, mcalc
Tr.LS:wht-
drkgrybuffbrn,
modshly-cln ip.

SH:drkgrybrn w/limey
marl-drkgry,mfm-sft,
smth,plty/ blk, mcalc
ABDNT LS:wht-
drkgrybuffbrn,
modshly-cln ip.

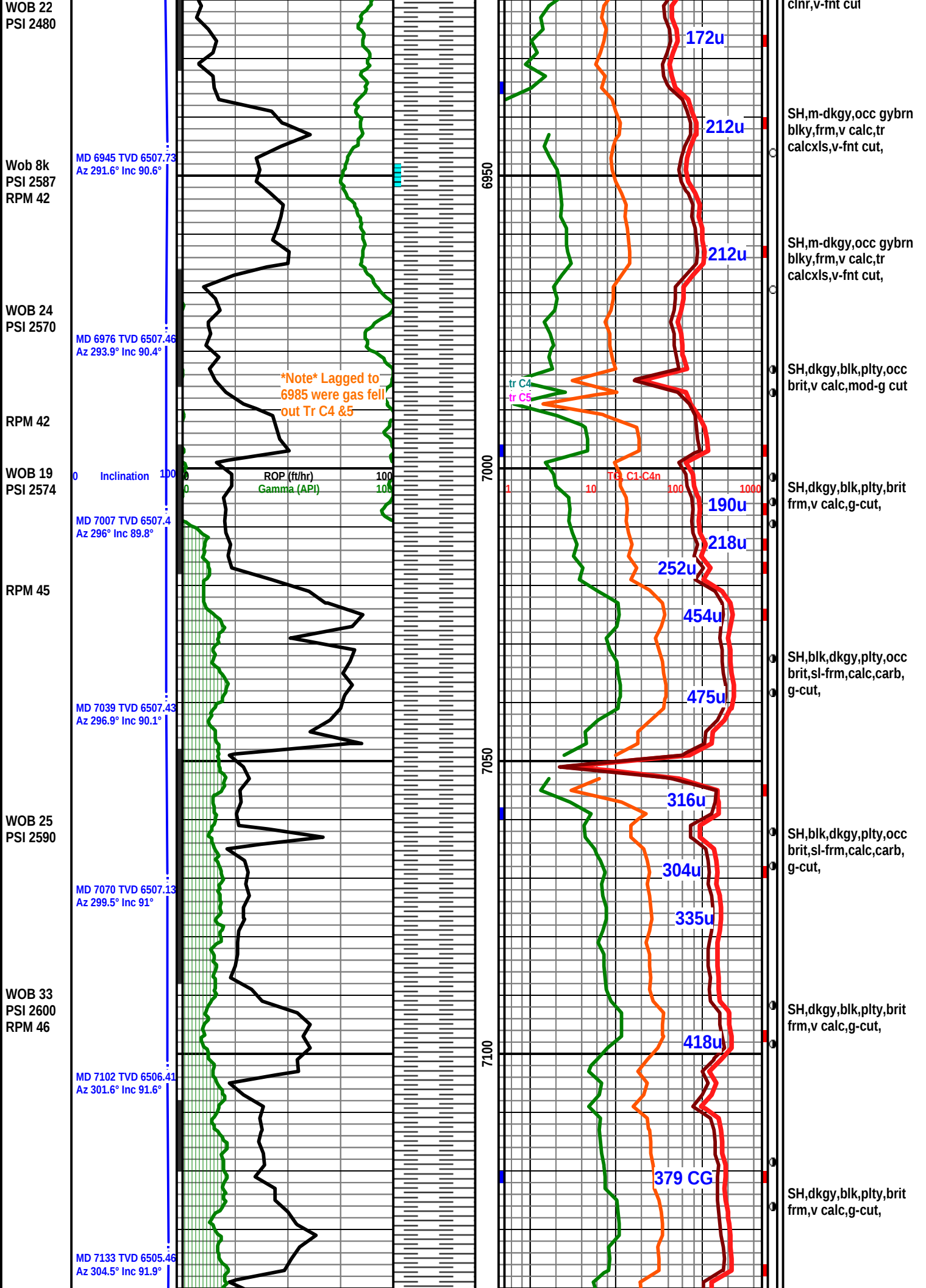
SH:drkgrybrn w/limey
marl-drkgry,mfm-sft,
smth,plty/ blk, mcalc
ABDNT LS:wht-
drkgrybuffbrn,
modshly-cln ip.

SH:mdrkgrybuff w/limey
marl-drkgry,mfm-
sft,smth,plty/blk,
mcalc
ABDNT LS:
wht-drkgrybrnbuff,
modshly

LS,vlt-mbrn,dkgy,
mcx-vfxln,hd,cln,

LS,vlt-mbrn,dkgy,
vfx-fxln,occ mcxln,
dry v-fnt cut,

SH,dkgy,blk,sbfrm-v
frm,occ lmy,bcmg



MD 7164 TVD 6504.54
Az 307° Inc 91.5°

MD 7196 TVD 6503.7
Az 309° Inc 91.5°

MD 7227 TVD 6502.89
Az 310.8° Inc 91.5°

MD 7258 TVD 6502.11
Az 313.1° Inc 91.4°

MD 7288 TVD 6501.48
Az 315.5° Inc 91°

MD 7319 TVD 6501.02
Az 317.9° Inc 90.7°

MD 7351 TVD 6500.52
Az 320.4° Inc 91.1°

ROP (mm)
Gamma (API)

ROP (mm)
Gamma (API)

7150
7200
7250
7300
7350

407 CG

471u

358u

448CG

373u

403u

411CG

404u

445u

SH: drkgry-drkgrybrn
w/limey
marl, sft-mfm, smth, blkyl/p
mcalc
Tr.LS:
drkgry-wht, cln-vslshly

SH: drkgry-drkgrybrn
w/limey
marl, sft-mfm, smth, blkyl/p
mcalc
Tr.LS:
drkgry-wht, cln-vslshly

SH: drkgry-drkgrybrn
w/limey
marl, sft-mfm, smth, blkyl/p
mcalc
Tr.LS:
drkgry-wht, cln-vslshly

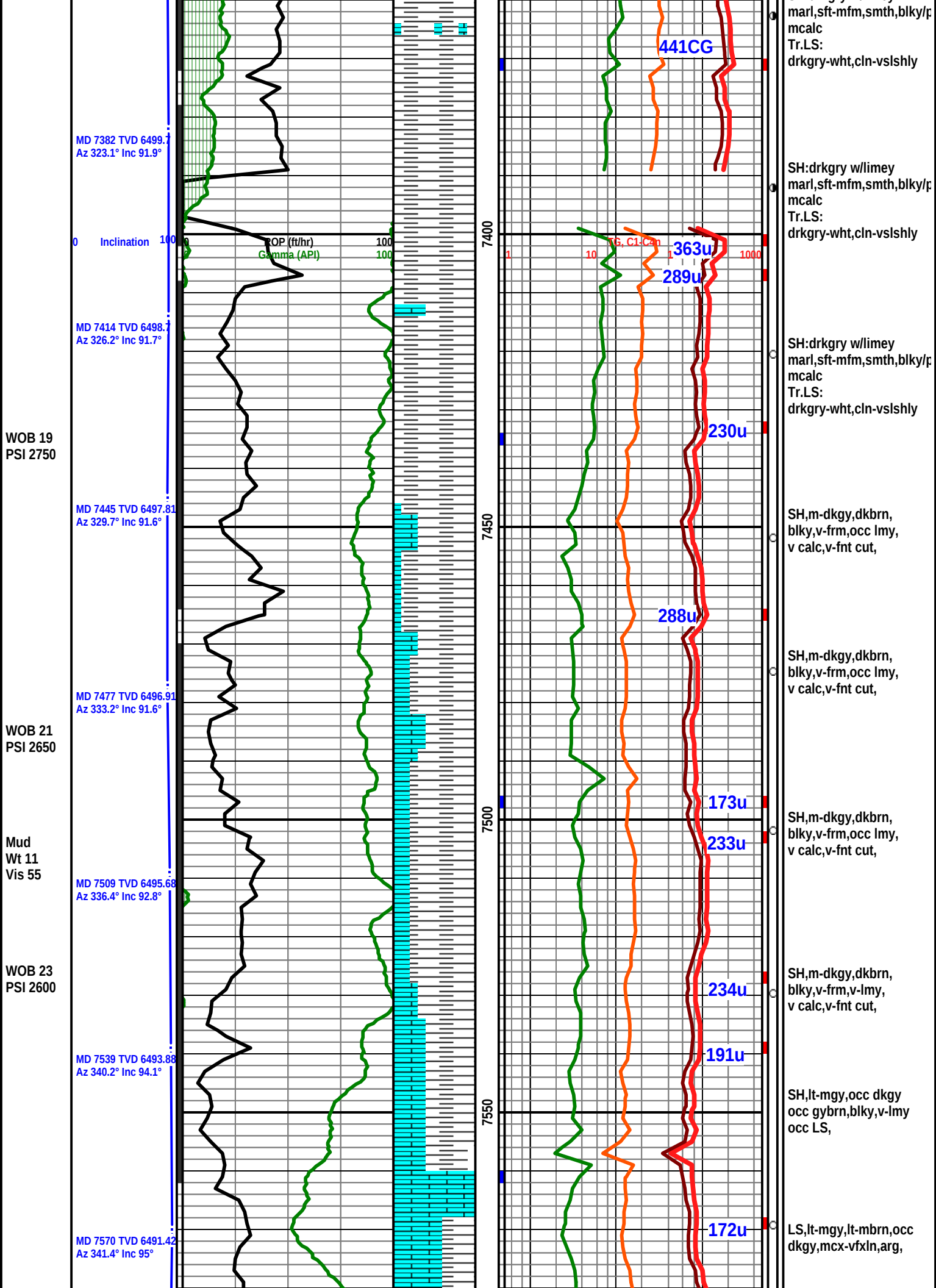
SH: drkgry-drkgrybrn
w/limey
marl, sft-mfm, smth, blkyl/p
mcalc
Tr.LS:
drkgry-wht, cln-vslshly

SH: drkgrybrn-drkgry
w/limey
marl, sft-mfm, smth, blkyl/p
mcalc
Tr.LS:
drkgry-wht, cln-vslshly

SH: drkgry-drkgrybrn
w/limey
marl, sft-mfm, smth, blkyl/p
mcalc
Tr.LS:
drkgry-wht, cln-vslshly

SH: drkgry-drkgrybrn
w/limey
marl, sft-mfm, smth, blkyl/p
mcalc
Tr.LS:
drkgry-wht, cln-vslshly

SH: drkarv w/limey



Wob 21
PSI 2655

WOB 10
PSI 2600
RPM 50

SLIDE

12-19-11
RPM 37
WOB 11k
PSI 2597
SPM 202

Inclination 100°
MD 7601 TVD 6489.07
Az 341.3° Inc 93.7°

MD 7633 TVD 6487.11
Az 340.9° Inc 93.3°

MD 7697 TVD 6483.99
Az 341.3° Inc 92.3°

MD 7759 TVD 6481.66
Az 340.8° Inc 92°

ROP (ft/hr)
Gamma (API)

Midnight Depth
7751'

7600

7650

7700

7750

8000

277u
203u

427u

458u

530u

706u

527CG

687u

807u

LS,vlt-mbrn,dkgy,
mcx-vfxln,hd,cln,

SH,m-dkgy,gybrn,
blky,frm,occ lmy,
v calc,

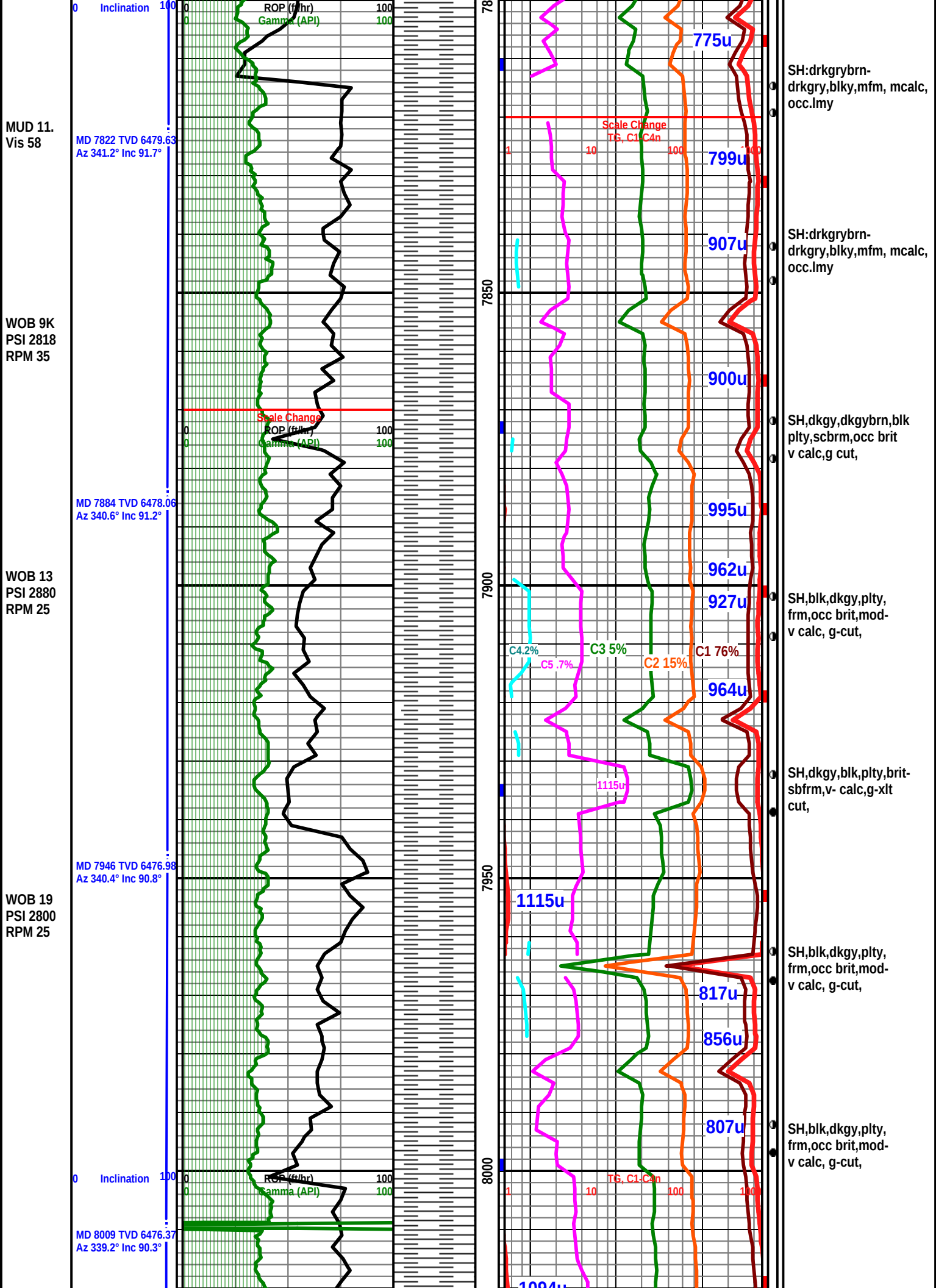
SH:mdrkgy-
drkgrybrn,blky,frm,
lmy,vcalc

SH:mdrkgy-
drkgrybrn,blky,frm,
lmy,vcalc

SH:drkgrybrn-drkgry,
smth,blky,
mfm-frm,mcalc
Tr.LS

SH:drkgrybrn-drkgry,
smth,blky,
mfm-frm,mcalc
Tr.LS

SH:drkgrybrn-
drkgry,blky,mfm, mcalc,
occ.lmy



WOB 21
PSI 2780
RPM 25

WOB 19
Psi 2780

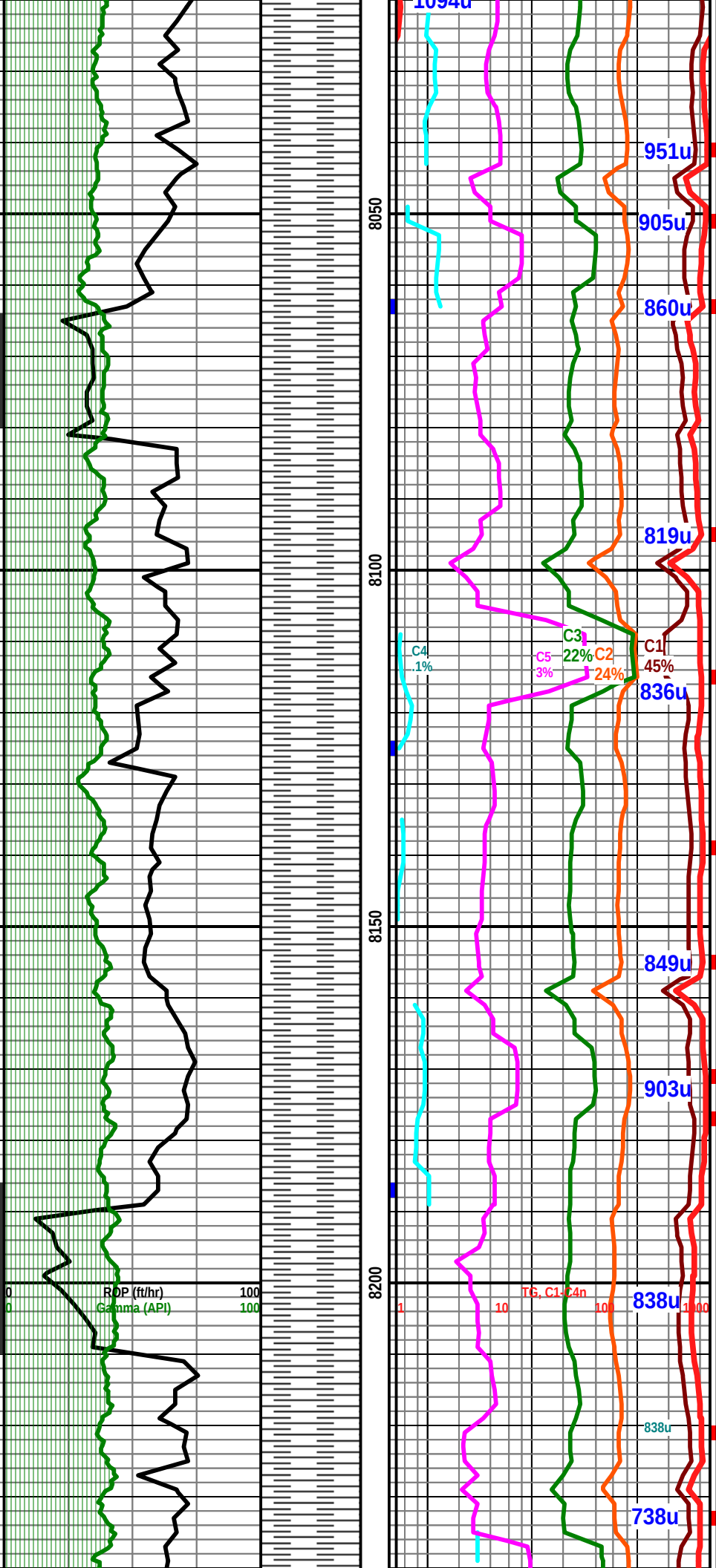
WOB 10
PSI 2811
RPM 41

WOB 10
PSI 2800
RPM 37

MD 8073 TVD 6476.09
Az 341.2° Inc 90.2°

MD 8135 TVD 6475.93
Az 340.5° Inc 90.1°

MD 8198 TVD 6475.44
Az 340.9° Inc 90.8°



SH,blk,dkg,plty,
frm,occ brit,mod-
v calc, g-cut,

SH,blk,dkg,plty,
frm,occ brit,mod-
v calc, g-cut,

SH,blk,dkg,plty,
frm,occ brit,mod-
v calc, g-cut,

SH,blk,dkg,plty,
frm,occ brit,mod-
v calc, g-cut,

SH,blk,dkg,plty,
frm,occ brit,mod-
calc,carb,g-cut,

SH,blk,dkg,plty,
frm,occ brit,mod-
calc,carb,g-cut,

SH,blk,dkg,plty,
frm,occ brit,mod-
v calc, g-cut,

SH,blk,dkg,plty,
frm,occ brit,mod-
v calc, g-cut,

WOB 21
PSI 2783

MD 8261 TVD 6474.45
Az 342° Inc 91°

SLIDE
PSI 2780

MD 8323 TVD 6472.82
Az 342.1° Inc 92°

WOB 10
PSI 2878
RPM 40

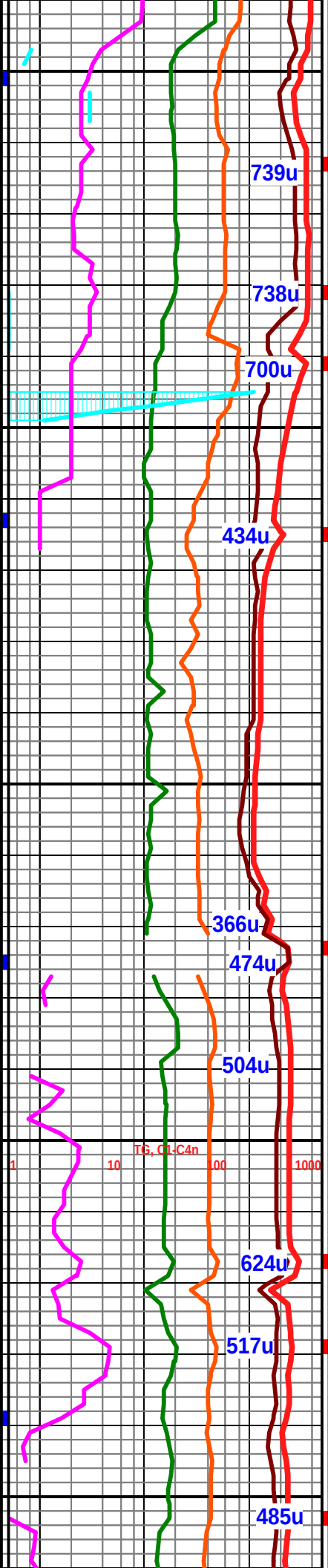
MD 8386 TVD 6470.68
Az 341.3° Inc 91.9°

WOB 10
PSI 2878
RPM 40

MD 8449 TVD 6468.81
Az 341.2° Inc 91.5°

Inclination 0 100
ROP (ft/hr) 0 100
Gamma (API) 0 100

8250
8300
8350
8400
8450



SH,blk,dkg,plty,
frm,occ brit,mod-
v calc, g-cut,

SH,blk,dkg,plty,
frm,occ brit,mod-
sl-mod, g-cut,

SH,dkg,occ blk,plty
blk,frm,v-calc,v-
frm,m-g cut,

SH,dkg,occ blk,plty
blk,v-frm,mod-v calc
g-cut,

SH,dkg,occ blk,plty
blk,v-frm,mod-v calc
g-cut,

SH,dkg,occ blk,plty
blk,v-frm,mod-v calc
g-cut,

SH,dkg,occ blk,plty
blk,v-frm,mod-v calc
mod-good cut,

SH,dkg,occ blk,plty
blk,v-frm,mod-v calc
mod cut

WOB 10
PSI 2830
RPM 40

WOB 10
PSI 2830
RPM 40

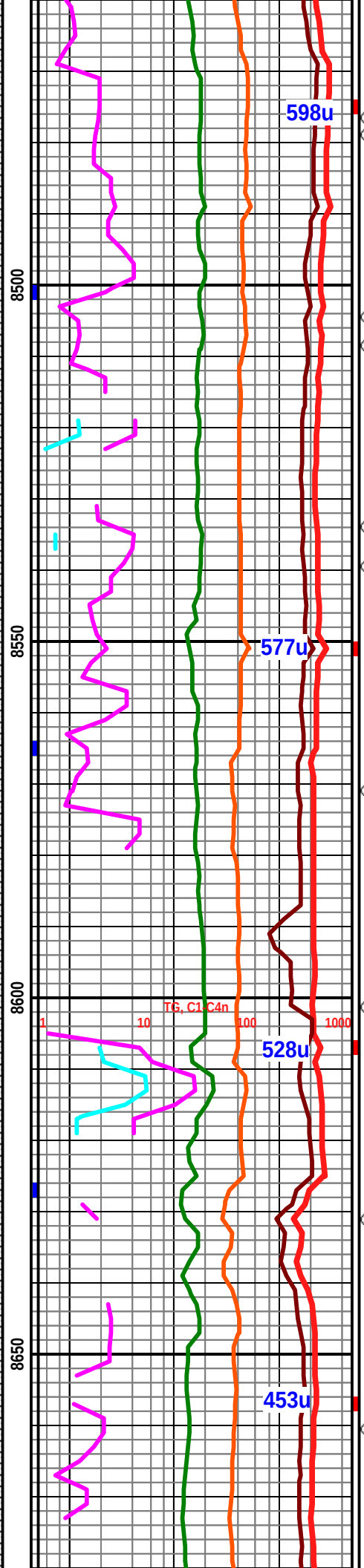
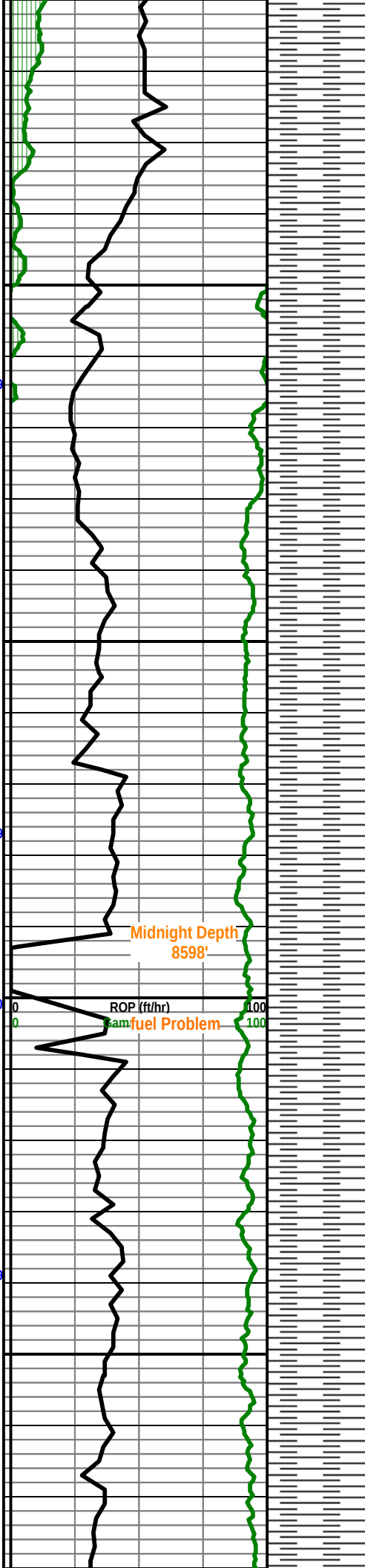
WOB 10
PSI 2830
RPM 40

MD 8512 TVD 6467.49
Az 340.5° Inc 90.9°

MD 8575 TVD 6466.89
Az 340.3° Inc 90.2°

Inclination

MD 8637 TVD 6466.99
Az 339.5° Inc 89.6°



SH,dkgy,occ blk,plty
blk,y,v-frm,mod-v calc
m-good cut,

SH,dkgy,occ
blk,plty,frm,mod
calc,good cut,

SH,dkgy,occ
blk,plty,frm,v calc,good
cut,

SH,dkgy,occ blk,plty
blk,y,v-frm,mod-v calc
mod cut

SH,dkgy,dkgybrn,plty
sbfrm-frm,mod v calc,tr
calcxls,

SH,dkgy,dkgybrn,plty
sbfrm-frm,mod v calc,tr
calcxls,

SH,dkgy,dkgybrn,plty
sbfrm-frm,v calc,tr
calcxls,mod cut

SLIDE
PSI 2875

MD 8700 TVD 6467.43
Az 341.1° Inc 89.6°

WOB 10
RPM 40
PSI 2915

MD 8763 TVD 6467.98
Az 341.1° Inc 89.4°

slide
PSI 2888

0 Inclin 100

Service pumps &
rig IP (ft/hr)
Gamma (API)

MD 8825 TVD 6467.88
Az 342.7° Inc 90.8°

WOB 5
PSI 2862
RPM 42

WOB 18
PSI 2978
RPM 14

MD 8888 TVD 6467.77
Az 343.5° Inc 89.4°

8700

8750

8800

8850

00

522u

436 u

607u

630u

730u

644u

SH,dkgy,dkgybrn,plty
sbfrm-frm,v calc,tr
calcxls,mod cut

SH,dkgy,dkgybrn,plty
sbfrm-frm,od calc,
good cut,

SH,dkgy,dkgybrn,plty
sbfrm-frm,od calc,
good cut,

SH,blk,dkgy,plty,brit
sbfrm-frm,mod calc,tr
calcxls,

SH,blk,dkgy,plty,brit
sbfrm-frm,od calc,
good cut,

SH,blk,dkgy,plty,brit
sbfrm-,mod calc,
good cut,

SH,blk,dkgy,brit,plty
sbfrm,mod calc,
good cut

C5

C4

C3

C2

C1

-9%

0%

6.8%

18%

74%

TG, C1-C4

.6%

C5

5%

16%

78%

C

WOB 8
PSI 3031
RPM 42

slide
PSI 2910

WOB 10
PSI 3030
RPM 40

WOB 10
PSI 3030
RPM 40

WOB 10
PSI 3010
RPM 40

MD 8951 TVD 6468.37
Az 344.8° Inc 89.5°

MD 9014 TVD 6468.92
Az 344° Inc 89.5°

MD 9078 TVD 6469.81
Az 343.5° Inc 88.9°

Inclination

ROP (ft/hr)
Gamma (API)

Midnight Den

8950

9000

9050

9100

690u

711u

695u

754u

779u

787u

812u

753u

SH,blk,dkgy,brit,plty
sbfrm,mod calc,
good cut

SH,blk,dkgy,brit,plty
sbfrm,mod calc,
good cut

SH,blk,dkgy,brit,plty
sbfrm,mod calc,
mod cut

SH,blk,dkgy,brit,plty
sbfrm,mod calc,
good cut

SH,dkgy,occ dkbrn,
blky,sbfrm,frm,
mod calc,good cut

SH,dkgy,occ dkbrn,
blky,sbfrm,frm,
mod calc,good cut

SH,dkgy,occ dkbrn,
plty,blky,sbfrm,frm,
mod calc,

SH,dkgy,occ dkbrn,
plty,blky,sbfrm,frm,
v-calc,lym,good cut

TG, C1-04n

slide
PSI 3000

MD 9140 TVD 6470.95
Az 345° Inc 89°

WOB 10
PSI 3100
RPM 40

0 Inclusion 100
MD 9202 TVD 6472.03
Az 344° Inc 89°

WOB 10
PSI 3100
RPM 40

slide
PSI 3000

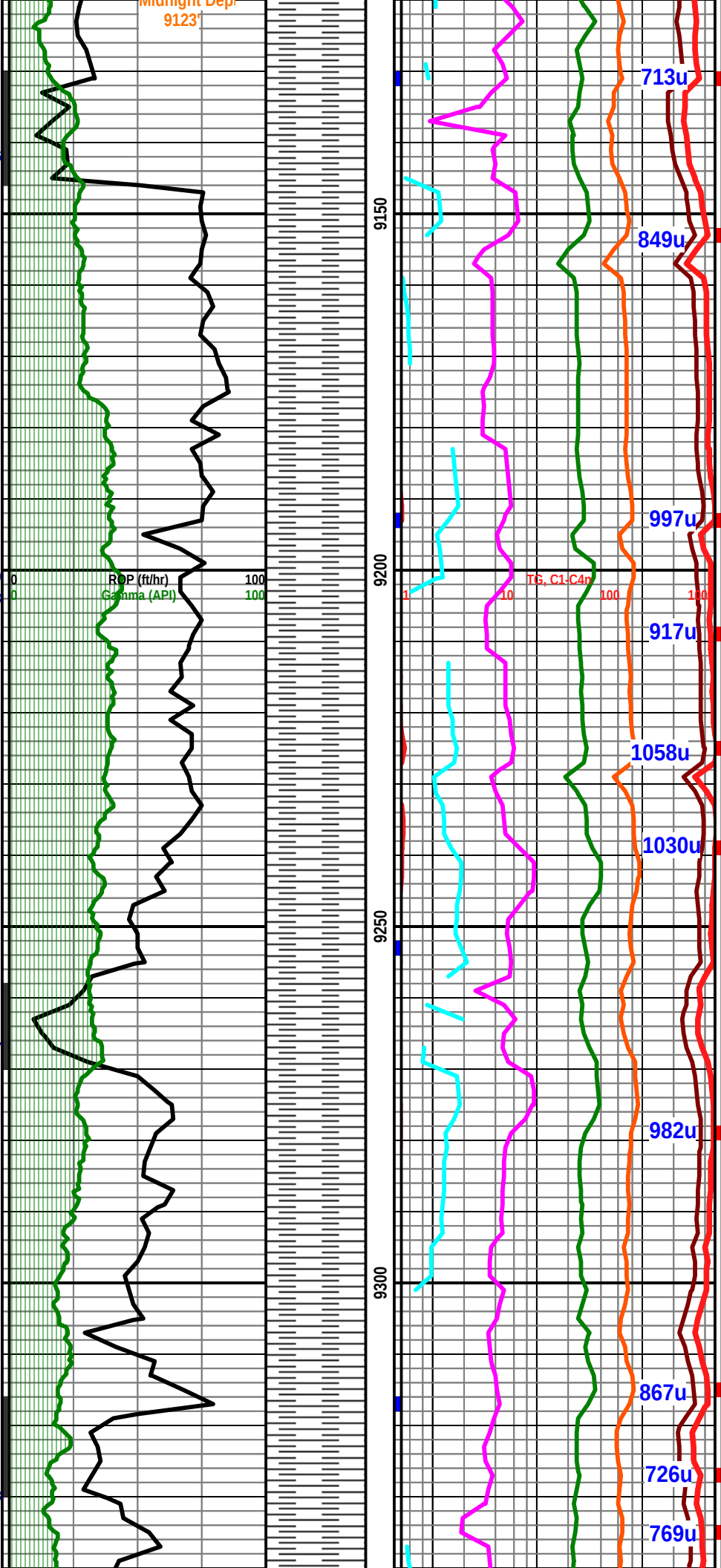
MD 9265 TVD 6472.97
Az 345° Inc 89.3°

WOB 10
PSI 3210
RPM 40

slide
PSI 3050

MD 9328 TVD 6473.13
Az 345.6° Inc 90.4°

Midnight Dep
9123'



SH,dkgy,occ dkbrn,
plty,blky,sbfrm,frm,
v-calc,lym,good cut

SH,dkgy,blk,occ dk
brn,blky,sft,sbfrm,
sl calc,good cut

SH,dkgy,blk,occ dk
brn,blky,sft,sbfrm,
sl calc,good cut

SH,dkgy,blk,occ dk
brn,blky,sft,sbfrm,
sl calc,

SH,blk,dkgy,plty,
sbfrm,frm,tr calcxln,
sl calc,

SH,blk,dkgy,plty,brit
sbfrm,carb,sl -mod
calc,good cut,

SH,blk,dkgy,plty,brit
sbfrm,carb,sl -mod
calc,good cut,

WOB 10
PSI 3080
RPM 40

WOB 10
PSI 3068
RPM 44

WOB 10
PSI 3090
RPM 46

WOB 11
PSI 3100
RPM 44

WOB 10
PSI 3060
RPM 43

MD 9391 TVD 6472.8
Az 344.9° Inc 90.2°

MD 9454 TVD 6472.58
Az 345.7° Inc 90.2°

MD 9517 TVD 6472.31
Az 346.6° Inc 90.3°

Inclination
ROP (ft/hr)
Gamma (API)

9350
9400
9450
9500
9550

TG, C1, C4n

713u
683u
619u
570u
581u
551u
600u
703u
595u

SH,blk,dkgy,plty,brit
sbfrm,carb,sl -mod
calc,good cut,
SH,blk,dkgy,plty,brit
sbfrm,carb,sl -mod
calc,good cut,
SH,blk,dkgy,plty,
sbfrm-frn,mod-v
calc,mod-good cut,
SH,blk,dkgy,plty,
sbfrm-frn,mod-v
calc,mod-good cut,
SH,blk,dk-mgy,plty,
sbfrm-frn,mod-v
calc,occ lmy,mod-
good cut,
SH,blk,dkgy,plty,sbfrm
frn,mod-v calc,mod
-good cut,
SH,blk,dkgy,plty,sbfrm
frn,mod-v calc,mod
-good cut,

WOB 11
PSI 3107
RPM 42

WOB 11
PSI 3095
RPM 52

WOB 11
PSI 3065
RPM 52

WOB 11
PSI 3065
RPM 52

slide
PSI 3050

WOB 11
PSI 3065
RPM 52

MD 9580 TVD 6472.09
Az 347.2° Inc 90.1°

MD 9642 TVD 6471.87
Az 347.9° Inc 90.3°

MD 9705 TVD 6471.65
Az 346.8° Inc 90.1°

MD 9768 TVD 6471.32
Az 346.7° Inc 90.5°

Inclination

ROP (ft/hr)
Gamma (API)

MIDnight Depth
9757'

Chromatograph calib @ 9571'

9600

9650

9700

9750

SH,blk,dkg,plty,sbfrm
frm,mod-v calc,mod
-good cut,

SH,blk,dkg,plty,sbfrm
frm,mod-v calc,mod
-good cut,

SH,blk,dkg,plty,sbfrm
frm,mod-v calc,mod
-good cut,

SH,blk,dkg,plty,
sbfrm-frm,v calc,
mod-cut,

SH,blk,dkg,plty,
sbfrm-frm,v calc,
mod-good cut, tr
pyrxln,lym,

SH,blk,dkg,plty,
sbfrm-frm,v calc,
mod-good cut, tr
pyrxln,lym,

SH,blk,dkg,plty,
sbfrm-frm,v calc,
mod-good cut, tr
pyrxln,lym

632u

423u

507u

524u

slide
PSI 2950

Inclination 100

ROP (ft/hr)
Gamma (API)

100
100

MD 9831 TVD 6470.61
Az 346° Inc 90.8°

WOB 11
PSI 3070
RPM 52

MD 9894 TVD 6470.06
Az 343.7° Inc 90.2°

WOB 11
PSI 3065
RPM 40

MD 9957 TVD 6469.89
Az 342.7° Inc 90.1°

WOB 11
RPM 41
PSI 3109

9800

9850

9900

9950

10000

716u

536u

740u

879u

742u

915u

850u

820u

test
1400

SH,blk,dkg,plty
sbfrm-frm,v calc,
mod-good cut, tr
pyrxln,lmy,

SH,dkg,dkbrn,plty,
sbfrm,mod-v calc, tr
pyrxln,good cut,

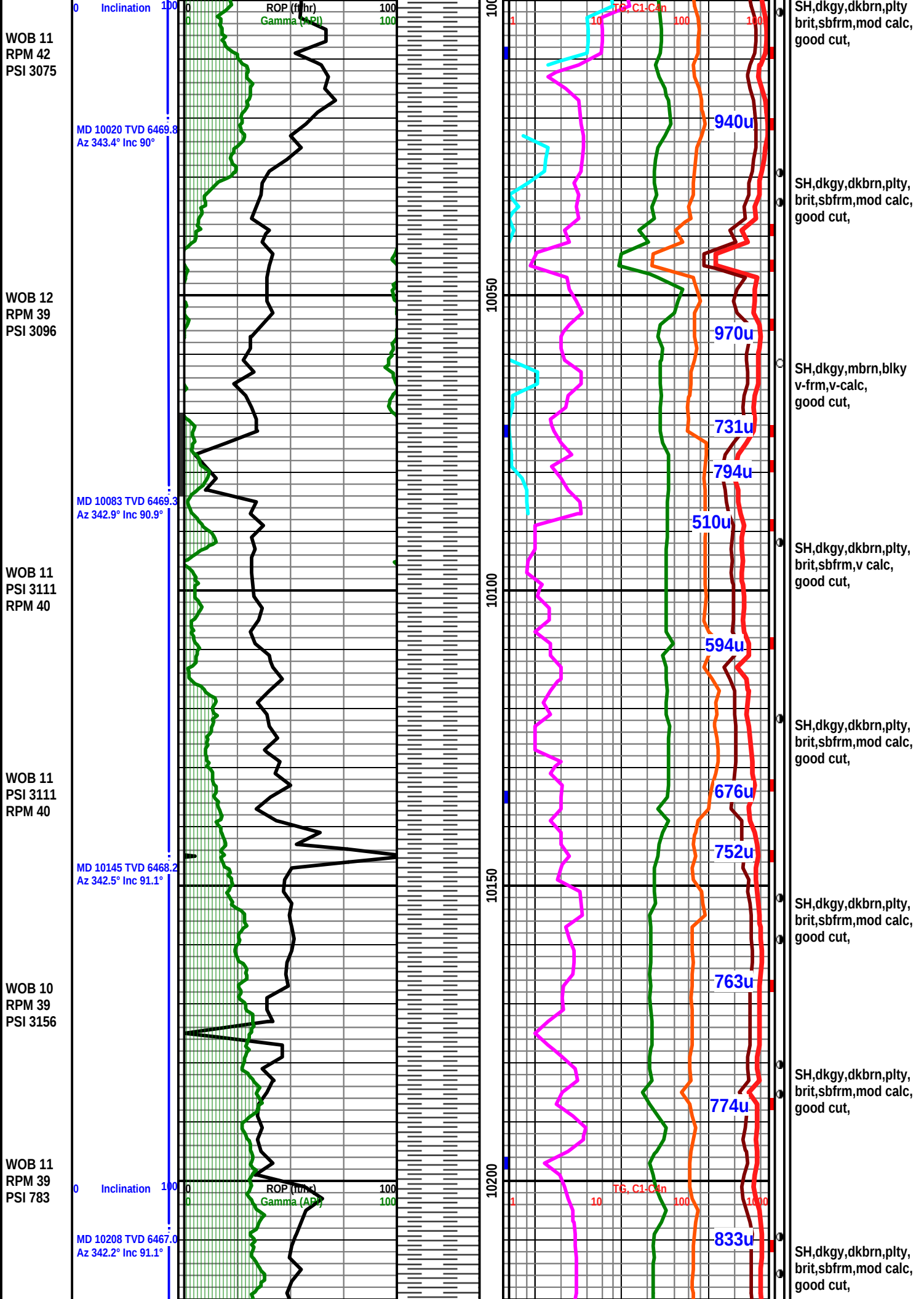
SH,dkg,dkbrn,plty,
brit,sbfrm,mod calc, tr
pyrxln,good cut,

SH,dkg,dkbrn,plty,
brit,sbfrm,mod calc,
good cut,

SH,dkg,dkbrn,plty,
brit,sbfrm,mod calc,
good cut,

SH,dkg,dkbrn,plty,
brit,sbfrm,mod calc,
good cut,

SH,dkg,dkbrn,plty,
brit,sbfrm,mod calc,
good cut,



WOB 11
RPM 38
PSI 3172

WOB 11
RPM 40
PSI 3172

WOB 11
RPM 40
PSI 3172

WOB 11
RPM 40
PSI 3155

MD 10270 TVD 6466.0
Az 341.4° Inc 90.8°

MD 10334 TVD 6465.5
Az 341° Inc 90.1°

MD 10396 TVD 6465.6
Az 341.5° Inc 89.6°

ROP (ft/hr)
Gamma (API)

Midnight Depth
10415'

10250

10300

10350

10400

SH,dkgy,dkbrn,plty,
brit,sbfrm,mod calc,
good cut,

SH,dkgy,dkbrn,plty,
brit,sbfrm,mod calc,
tr pyrxln,good cut,

SH,dkgy,dkbrn,plty,
brit,sbfrm,mod calc,
good cut,

SH,dkgy,dkbrn,plty,
brit,sbfrm,mod calc,
good cut,

SH,dkgy,dkbrn,plty,
brit,sbfrm,mod calc,
good cut,

SH,dkgy,dkbrn,plty,
Subfrm,brit,v-mod
calc,mod good cut,

SH,dkgy,brn,plty,
Subfrm,brit,v-mod
calc,good cut,

859u

769u

786u

793u

815u

333u

TG, C1-C4n

Slide
PSI 3010

MD 10458 TVD 6465.7
Az 340.5° Inc 90.2°

WOB 11
RPM 40
PSI 3155

MD 10521 TVD 6465.1
Az 340.7° Inc 90.9°

WOB 9
RPM 40
PSI 3200

MD 10583 TVD 6464.3
Az 340.8° Inc 90.6°

WOB 10
RPM 41
PSI 3205

MD 10646 TVD 6463.7
Az 340.9° Inc 90.5°

WOB 9
RPM 41
PSI 3187

WOB 10
RPM 39
PSI 3127

0 Inclusion 100

ROP (ft/hr)
Gamma (API)

100

10450
10500
10550
10600
10650

701u

855u

871u

922u

1013u

910u

1018u

1015u

1034u

SH,dkgy,dkbrn,plty,
Subfrm,brit,v-mod
calc,good cut,

SH,dkgy,dkbrn,plty,
Subfrm,brit,v-mod
calc,good cut,

SH,dkgy,dkbrn,plty,
Subfrm,brit,v-mod
calc,mod good cut,

SH,dkgy,dkbrn,plty,
Subfrm,brit,v-mod
calc,tr pyrxln,mod
good cut,

SH,dkgy,dkbrn,plty,
Subfrm,brit,v-mod
calc,tr pyrxln,mod
good cut,

SH,dkgy,plty,brit,
sbfrm,mod calc,
good cut,

SH,dkgy,plty,brit,
sbfrm,mod calc,
good cut,

TR Iso C4

TR Iso C4

TG, C1-C4

WOB 9
RPM 40
PSI 3140

WOB 10
RPM 41
PSI 3204

WOB 11
RPM 40
PSI 3217

WOB 15
RPM 23
PSI 3242

WOB 11K
PSI 3230
RPM 40

MD 10710 TVD 6463.2
Az 340° Inc 90.5°

MD 10773 TVD 6462.7
Az 340.9° Inc 90.3°

Inclination

MD 10836 TVD 6461.9
Az 341° Inc 91.2°

ROP (W/hr)
Gamma (API)

10700

10750

10800

10850

TR Iso C4

TG, C1-04n

910U

933U

813U

805U

793U

767U

711u

616u

572u

679u

SH,dkgy,plty,brit,
sbfrm,mod calc,
good cut,

SH,dkgy,plty,brit,sbfrm,
calc,good cut

SH,dkgy,plty,brit,sbfrm,
calc,good cut

SH,dkgy,plty,brit,sbfrm,
calc,good cut

SH,blk,dkgy,plty,sb-
frm,brit,mod calc,
mod cut,

SH,blk,dkgy,plty,sb-
frm,brit,mod calc,
mod cut,

SH,blk,dkgy,plty,sb-
frm,brit,mod calc,
mod cut,

WOB 54
PSI 3150

WOB 9K
PSI 3300
RPM 40

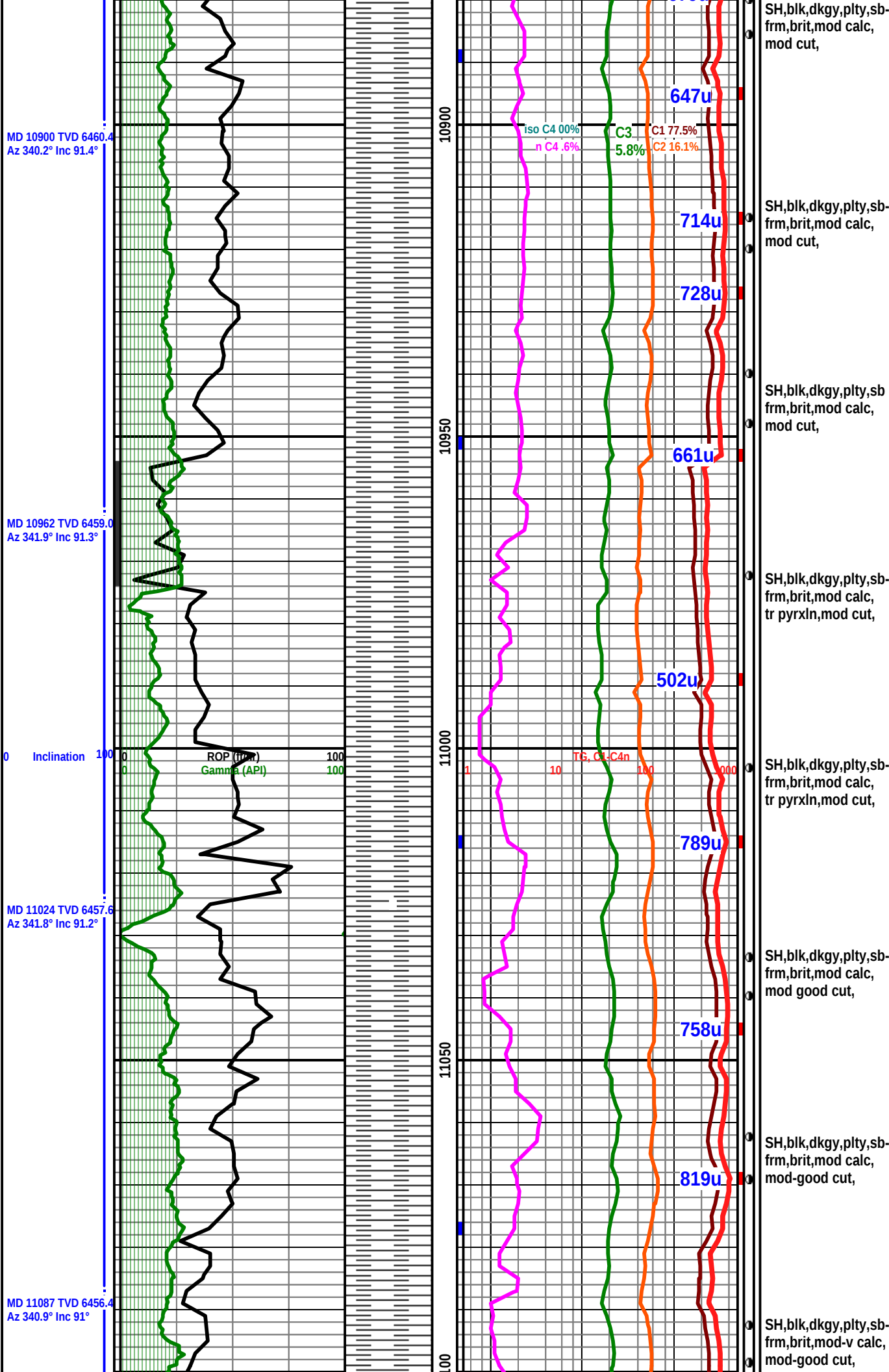
WOB 9K
PSI 3350
RPM 40

MD 10900 TVD 6460.4
Az 340.2° Inc 91.4°

MD 10962 TVD 6459.0
Az 341.9° Inc 91.3° |

MD 11024 TVD 6457.6
Az 341.8° Inc 91.2°

MD 11087 TVD 6456.4
Az 340.9° Inc 91°



WOB 10K
PSI 3330
RPM 40

WOB 10K
PSI 3420
RPM 40

WOB 54
PSI 3290

WOB 11K
PSI 3400
RPM 40

MD 11150 TVD 6455.5
Az 339.7° Inc 90.6°

MD 11213 TVD 6454.9
Az 340° Inc 90.5°

MD 11276 TVD 6454.2
Az 340.6° Inc 90.9°

Midnight Depth
11120'

Inclination

ROP (ft/hr)
Gamma (API)

TG, C1-C4n

660u

600u

803u

806u

824u

650u

700u

715u

SH,blk,dkgg,plty,sb-
frm,brit,mod-v calc,
tr pyrxln,mod cut,

SH,blk,dkgg,plty,sb-
frm,brit,mod-v calc,
tr pyrxln,mod cut,

SH,blk,dkgg,plty,sb-
frm,brit,mod-v calc,
tr pyrxln,mod cut,

SH,blk,dkgg,plty,sb-
frm,brit,mod-v calc,
tr pyrxln,mod cut,

SH,blk,dkgg,plty,sb-
frm,brit,mod-v calc,
tr pyrxln,mod cut,

SH,blk,dkgg,plty,sb-
frm,brit,mod-v calc,
tr pyrxln,mod cut,

SH,blk,dkgg,plty,sb-
frm,brit,mod-v calc,
tr pyrxln,mod cut,

WOB 26
PSI 3110

WOB 10
PSI 3306
RPM 40

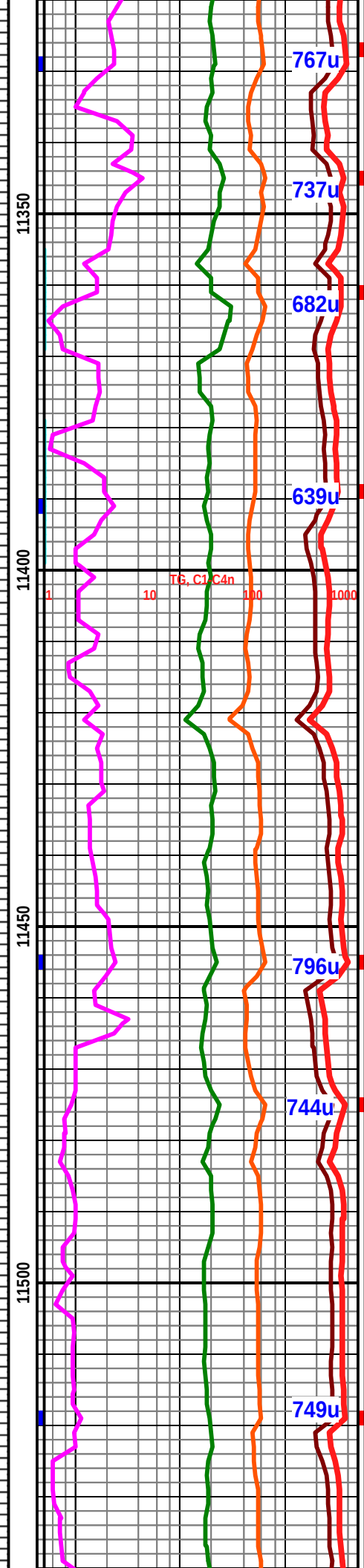
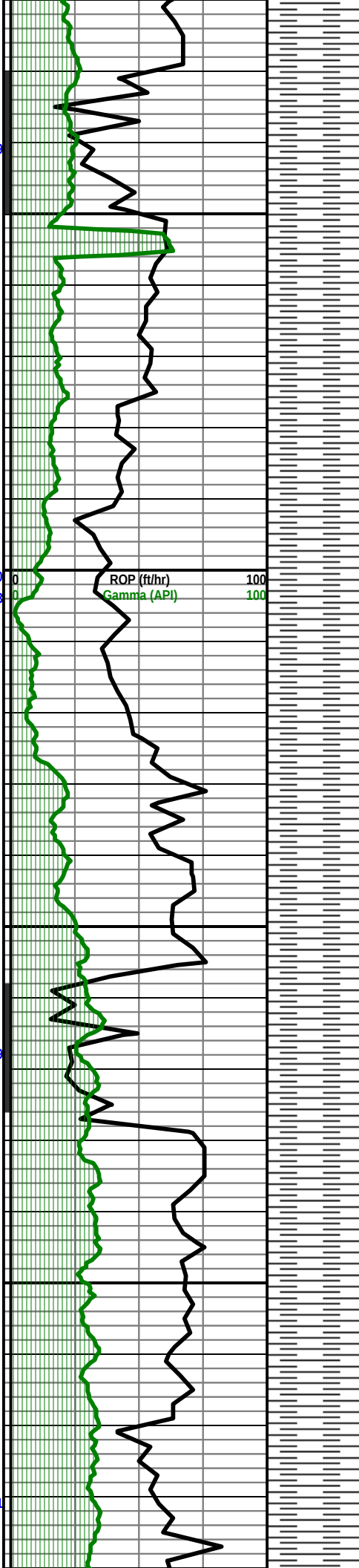
WOB 10
PSI 3306
RPM 40

MD 11339 TVD 6452.9
Az 341.7° Inc 91.4°

MD 11402 TVD 6451.3
Az 340.9° Inc 91.6°

MD 11466 TVD 6449.9
Az 343° Inc 90.8°

MD 11529 TVD 6449.1
Az 343.5° Inc 90.6°



767u SH,blk,dkgg,plty,sb-frm,brit,mod calc, good cut,

737u

682u Sh,blk,dkgg,plty,sb-frm,brit,mod calc, good cut,

639u SH,blk,dkgg,plty,sb-frm,brit,mod calc, mod cut,

796u SH,blk,dkgg,plty,sb-frm,brit,mod calc, good cut,

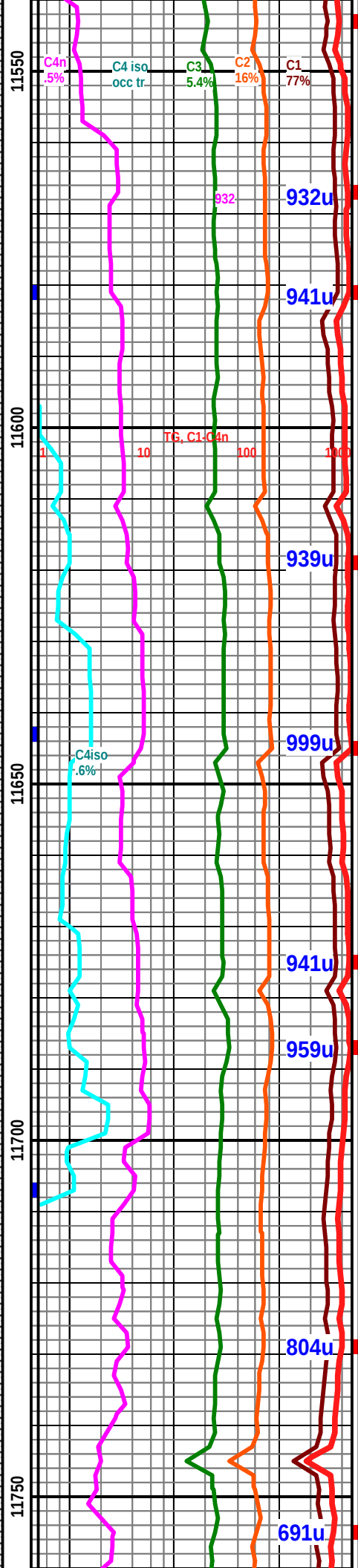
744u

749u SH,blk,dkgg,plty,sb-frm,brit,mod calc, good cut,

WOB 10
PSI 3180
RPM 40

MD 11726 TVD 6447.7
Az 343.5° Inc 90.5°

Gamma (API)



SH,blk,dkg,y,plty,
sbfrm,mod-sl calc,tr
pyrxln y good cut

WOB 12
PSI 3264
RPM 40

Drillers EST TD @ 11778' on
12/24/11 Loggers remain on
location until casing & cement
plud down on

Thank You For using
Stratagraph NE,
Your Business is
appreciated

0 Inclination 100

100
100

11800

1 10 TG, C1-C4n 100 1000

C4n
.6%

C4 iso
occ tr

C3
5.8%

C2
15.8%

C1
77.5%

544u

pyrxin,v-good cut
SH,blk,dkggy,plty,sb-
frm,brit,mod calc,
good cut,