



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

Well Name: ECGS # 6-16 WPD0009-2
 Location: SE/NW Sec.6,T11N,R52W Logan County, Colorado
 License Number: API # WPD009-2
 Spud Date: 09/16/2012
 Surface Coordinates: 1646' FNL, 2199' FWL
 Region: West Peetz
 Drilling Completed: 09/23/2012
 Bottom Hole Coordinates: 1646' FNL, 2199' FWL
 Ground Elevation (ft): 4555' K.B. Elevation (ft): 4567'
 Logged Interval (ft): 1234' To: 5260' Total Depth (ft): 5260'
 Formation: Dakota D Sandstone.
 Type of Drilling Fluid: WBM

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

OPERATOR

Company: East Cheyenne Gas Storage LLC.
 Address: 10901 W. Toller Dr. Suite 200
 Littleton, CO. 80127

GEOLOGIST

Name: Leo Carrasco
 Company: Decollement Consulting, Inc
 Address: 13300 Braun Rd.
 Golden, CO 80401

ROCK TYPES

| | | | |
|-------|-------|-------|--------------|
| Cmt | Congl | Salt | Sh--green |
| Anhy | Dol | Shale | Sh red-brn |
| Bent | Gyp | Shcol | Sh gy-red |
| Brec | Igne | Shgy | Shgy |
| Cht | Lmst | Sltst | Sltst--gray |
| Clyst | Meta | Ss | Sltst-gy red |
| Coal | Mrlst | Till | |

ACCESSORIES

| | | | |
|----------------|---------------|-----------------|----------------|
| MINERAL | Minxl | Crin | Gyp |
| Anhy | Nodule | Echin | Ls |
| Arggrn | Phos | Fish | Mrst |
| Arg | Pyr | Foram | Sltstrg |
| Bent | Salt | Fossil | Ssstrg |
| Bit | Sandy | Gastro | |
| Brecfrag | Silt | Oolite | TEXTURE |
| Calc | Sil | Ostra | Boundst |
| Carb | Sulphur | Pelec | Chalky |
| Chtdk | Tuff | Pellet | Cryxln |
| Chtlt | | Pisolite | Earthy |
| Dol | FOSSIL | Plant | Finexln |
| Feldspar | Algae | Strom | Grainst |
| Ferrpel | Amph | | Lithogr |
| Ferr | Belm | STRINGER | Microxln |
| Glau | Bioclst | Anhy | Mudst |
| Gyp | Brach | Arg | Packst |
| Hvmin | Bryozoa | Bent | Wackest |
| Kaol | Cephal | Coal | |
| Marl | Coral | Dol | |

OTHER SYMBOLS

POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy
- Csg shoe right

- Csg shoe left
- Cmt

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded

- Subrnd
- Subang
- Angular

OIL SHOW

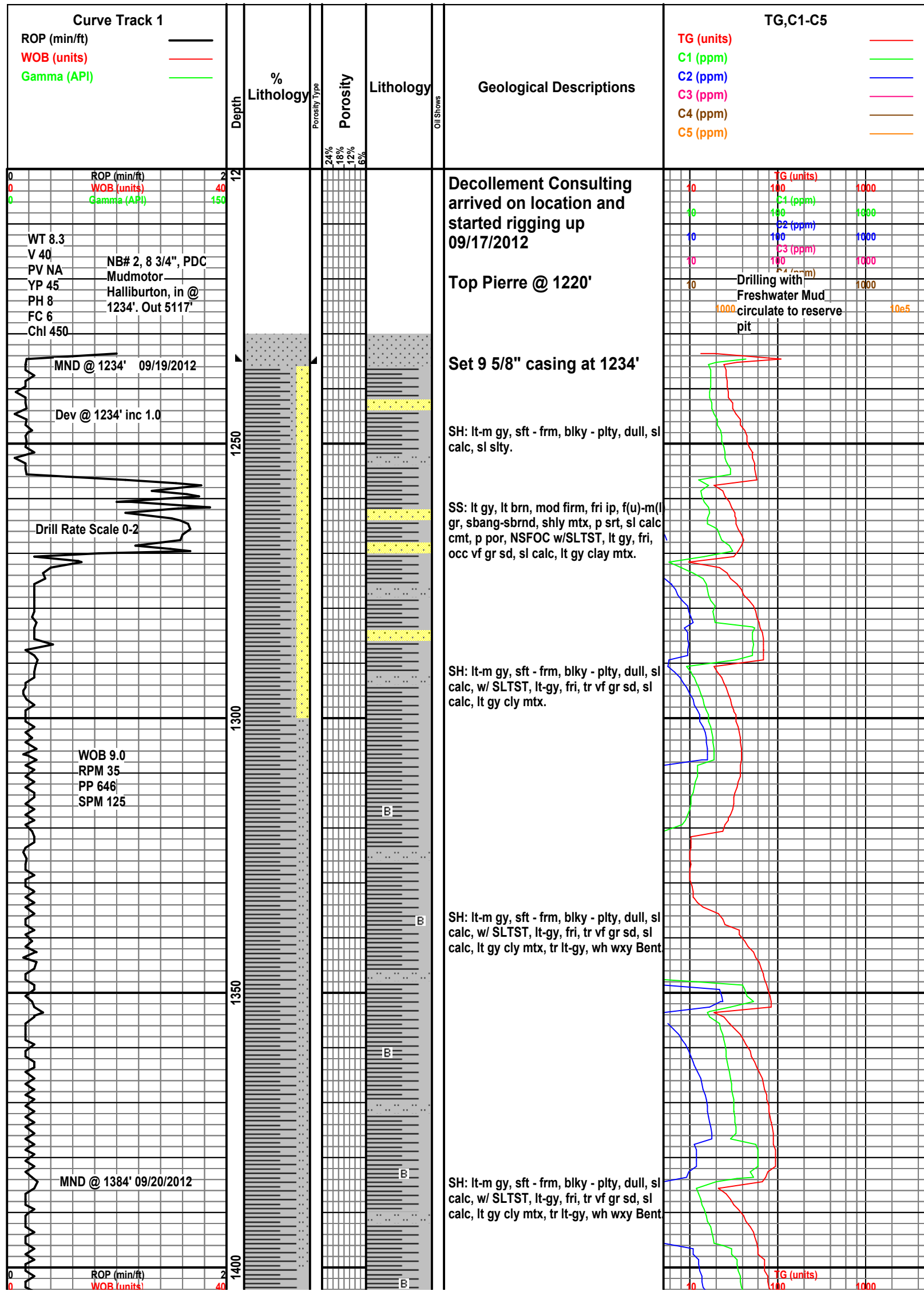
- Even
- Spotted
- Ques
- Dead

INTERVAL

- Core
- Dst

EVENT

- Csg shoe right
- Csg shoe left
- Rft
- Sidewall
- Iso-tube



Decollement Consulting arrived on location and started rigging up 09/17/2012

Top Pierre @ 1220'

Set 9 5/8" casing at 1234'

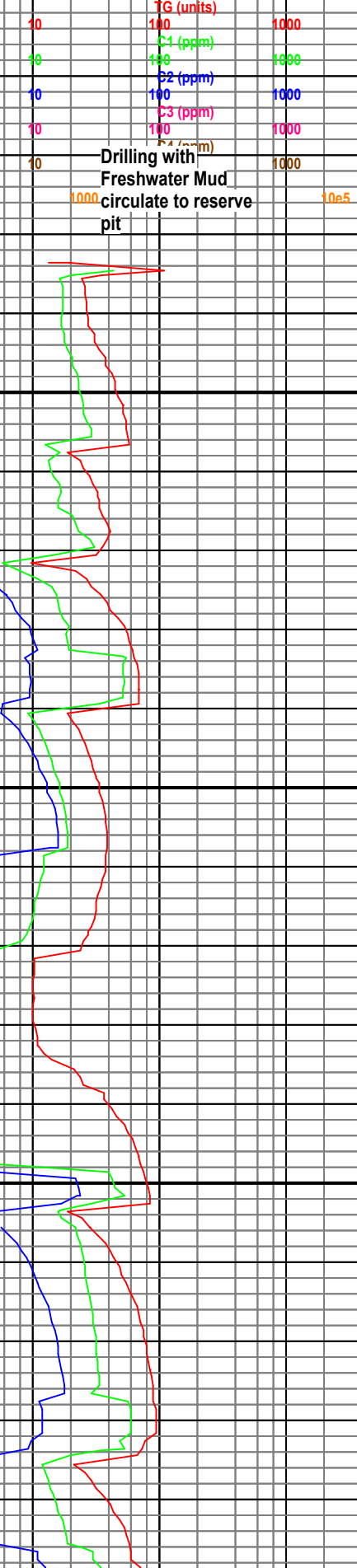
SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, sl slty.

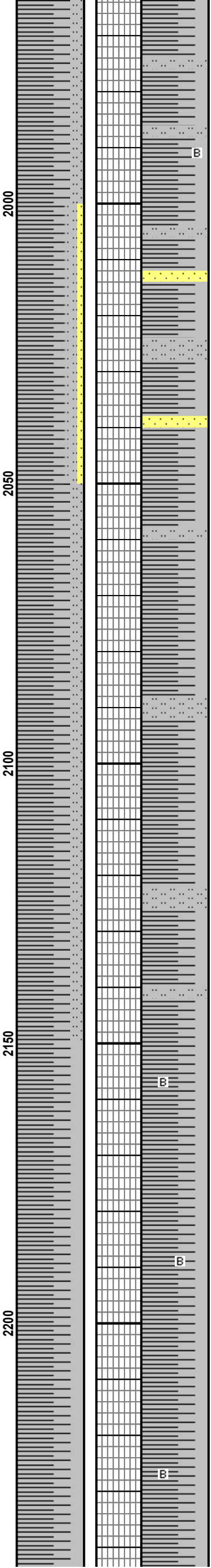
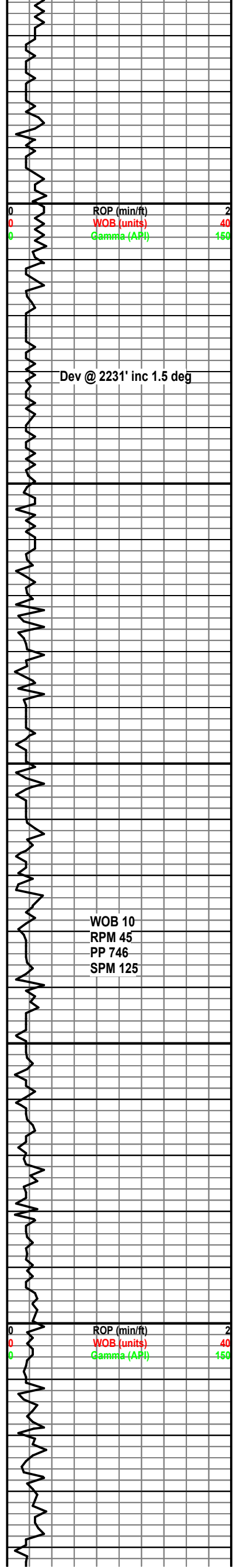
SS: lt gy, lt brn, mod firm, fri ip, f(u)-m(l) gr, sbang-sbrnd, shly mtx, p srt, sl calc cmt, p por, NSFOC w/SLTST, lt gy, fri, occ vf gr sd, sl calc, lt gy clay mtx.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent





B

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy, wh wxy Bent. SS: lt gy, lt brn, mod firm, fri ip, vf(u)- f(l) gr, sbang-sbrnd, shly mtx, p srt, sl calc cmt, p por.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx.

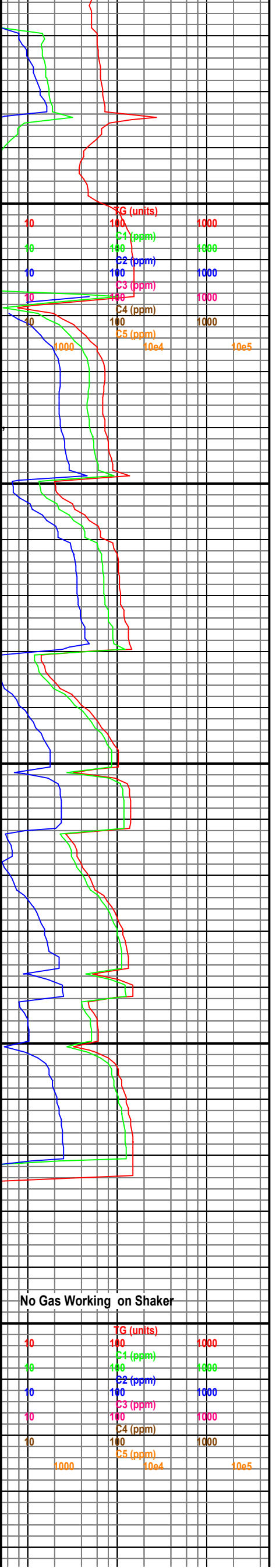
SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy, wh wxy Bent.

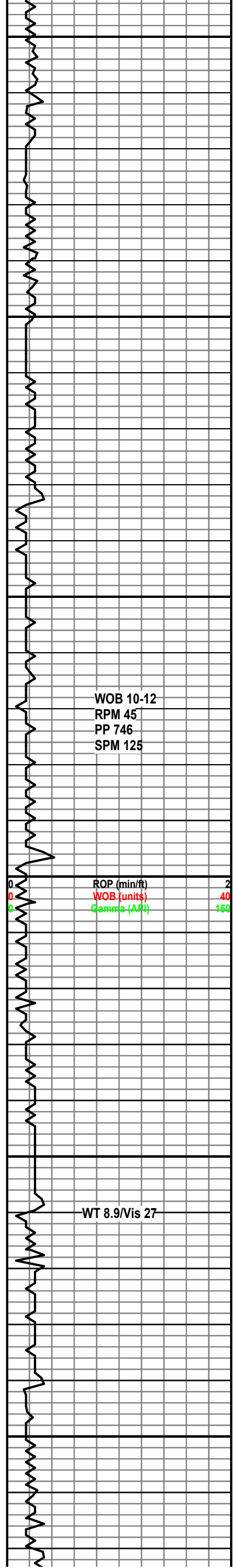
B

B

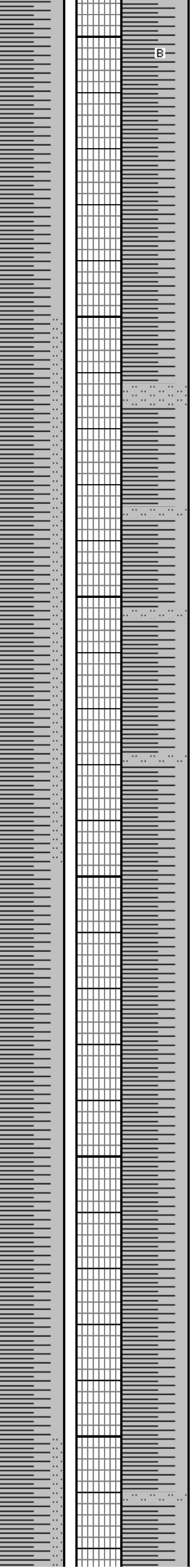
B

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy, wh wxy Bent





2250
2300
2350
2400
2450
2500



B

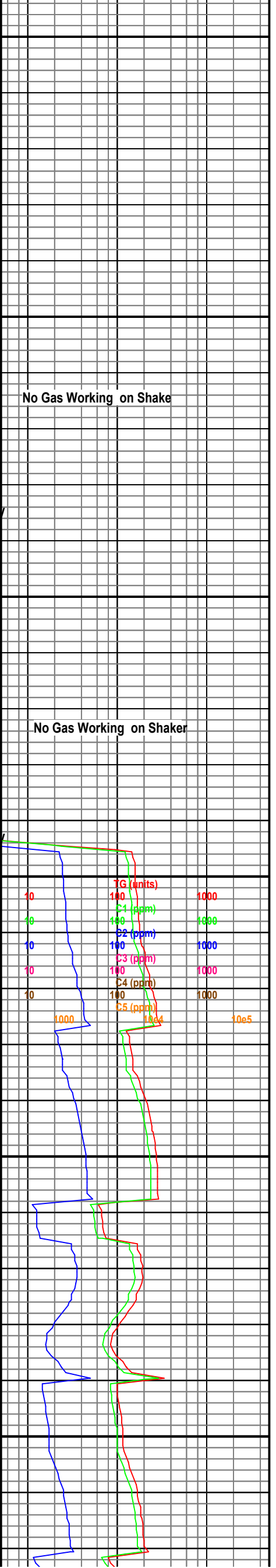
SH: lt-m gy, sft - frm, blk - plty, dull, sl calc, lt-gy, wh wxy Bent.

SH: lt-m gy, sft - frm, blk - plty, dull, sl calc, w/ SLTST, lt-gy, fri, sl calc, lt gy clay mtz.

SH: lt-m gy, sft - frm, blk - plty, dull, sl calc, w/ SLTST, lt-gy, fri, sl calc, lt gy clay mtz.

SH: lt-m gy, sft - frm, blk - plty, dull, sl calc.

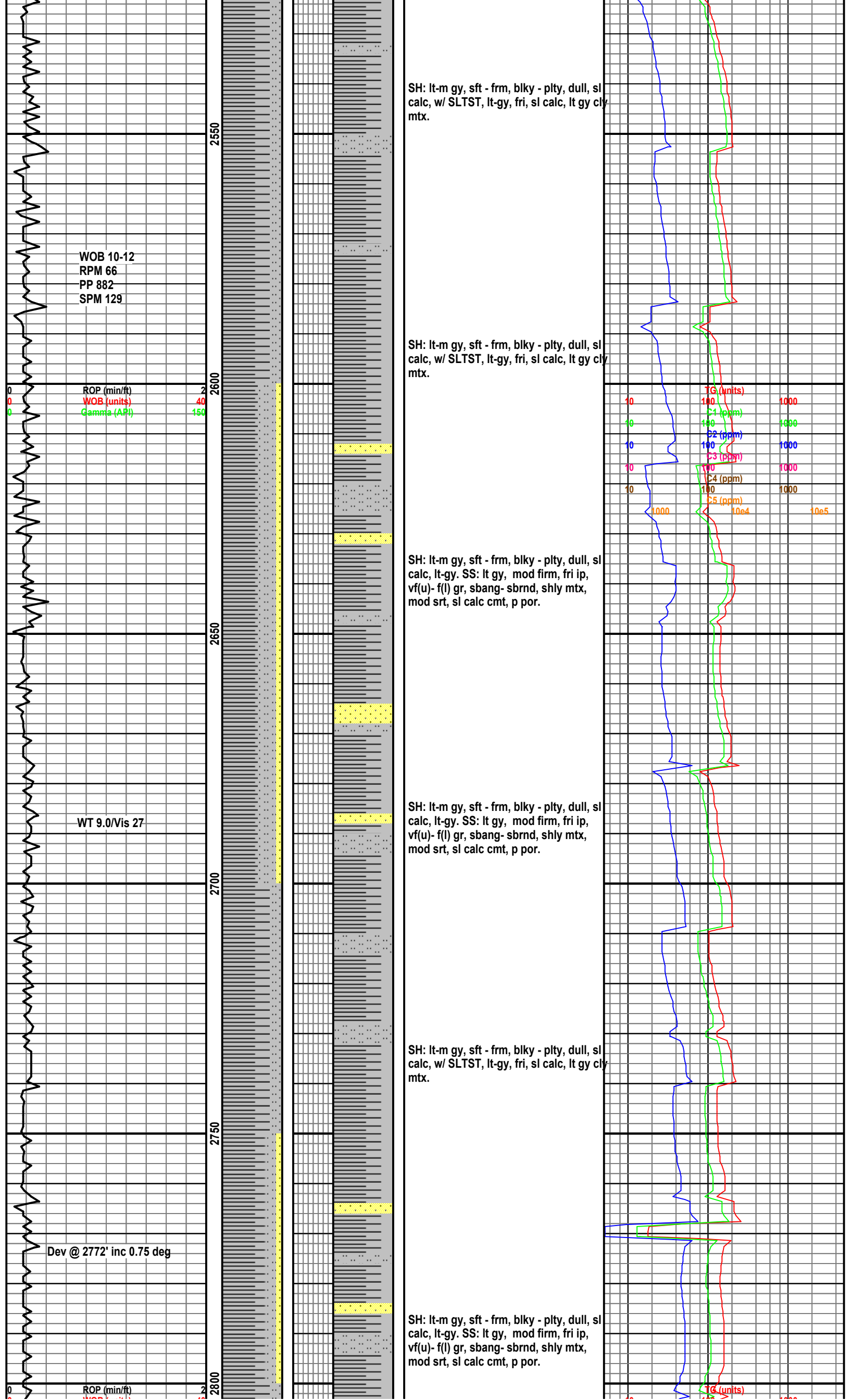
SH: lt-m gy, sft - frm, blk - plty, dull, sl calc.



WOB 10-12
RPM 45
PP 746
SPM 125

ROP (min/ft)
WOB (units)
Gamma (API)

WT 8.9/Vis 27



SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, sl calc, lt gy cly mtx.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, sl calc, lt gy cly mtx.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy. SS: lt gy, mod firm, fri ip, vf(u)- f(l) gr, sbang- sbrnd, shly mtx, mod srt, sl calc cmt, p por.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy. SS: lt gy, mod firm, fri ip, vf(u)- f(l) gr, sbang- sbrnd, shly mtx, mod srt, sl calc cmt, p por.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, sl calc, lt gy cly mtx.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy. SS: lt gy, mod firm, fri ip, vf(u)- f(l) gr, sbang- sbrnd, shly mtx, mod srt, sl calc cmt, p por.

WOB 10-12
RPM 66
PP 882
SPM 129

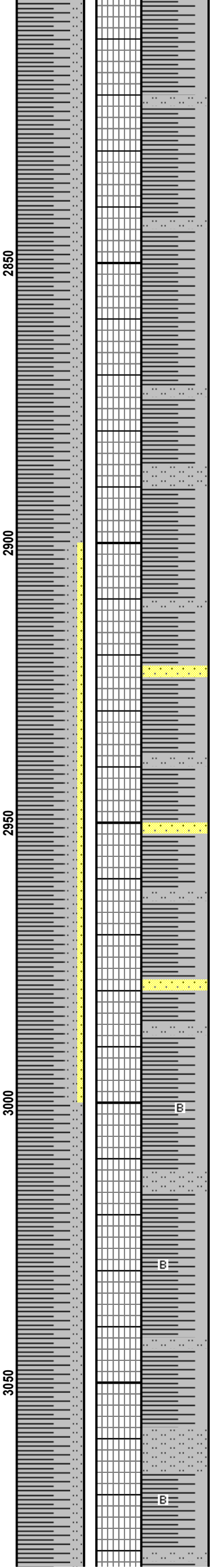
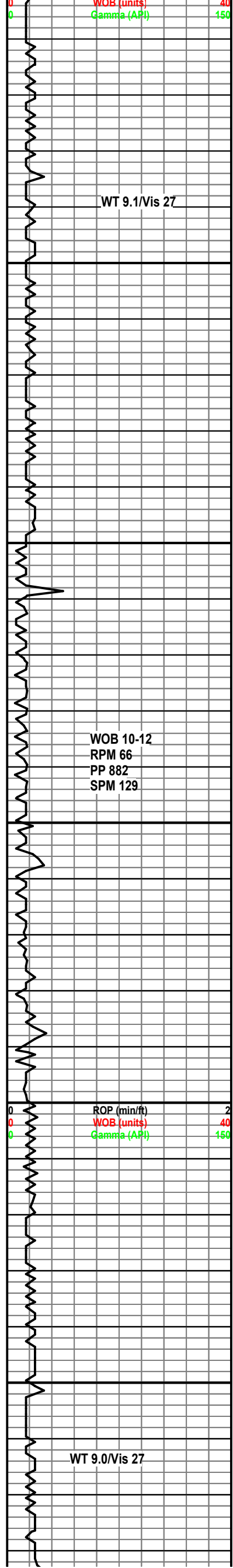
ROP (min/ft)
WOB (units)
Gamma (API)

WT 9.0/Vis 27

Dev @ 2772' inc 0.75 deg

ROP (min/ft)

TG (units) 1000
C1 (ppm) 1000
C2 (ppm) 1000
C3 (ppm) 1000
C4 (ppm) 1000
C5 (ppm) 10e5



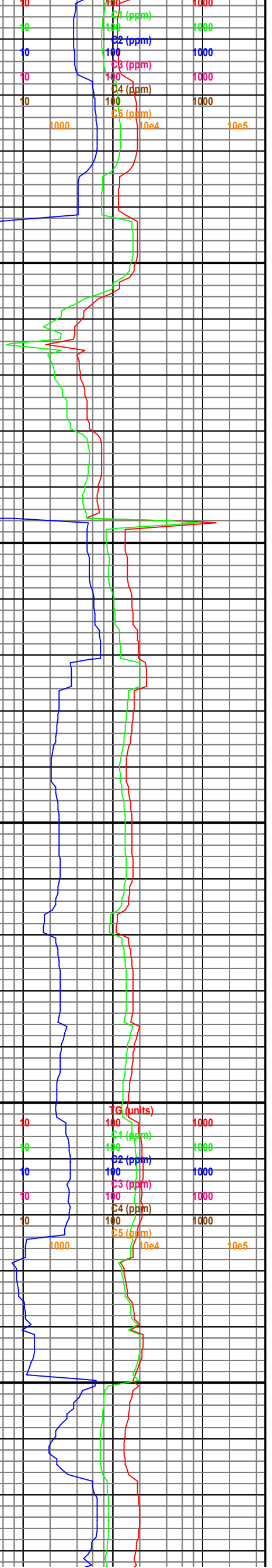
SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, sl calc, lt gy cly mtx.

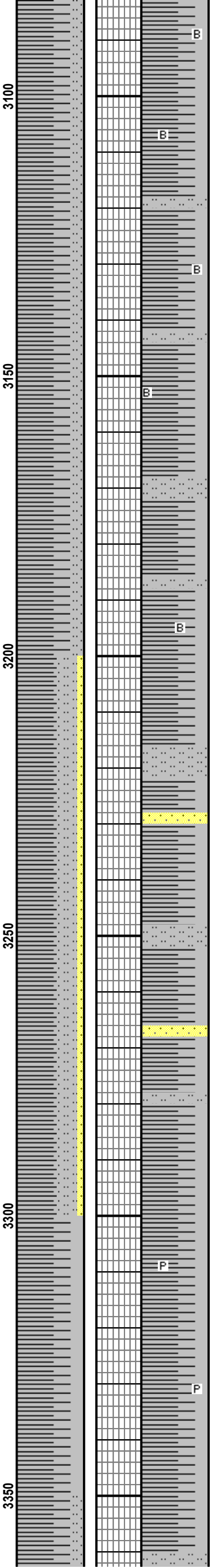
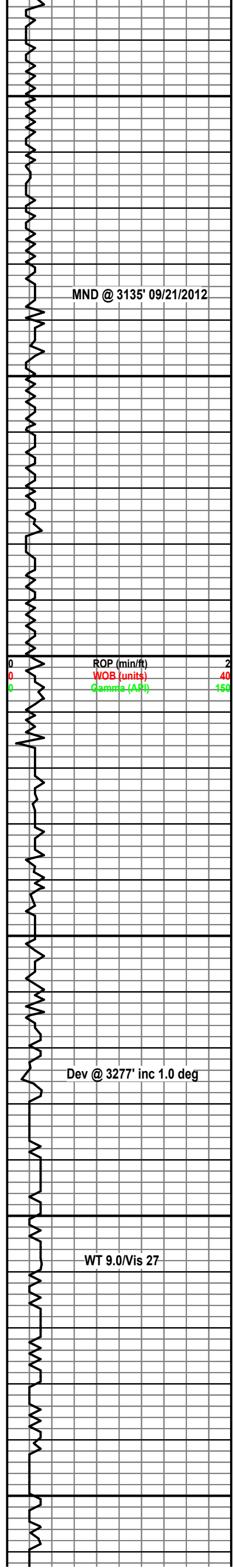
SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, sl calc, lt gy cly mtx.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy. SS: lt gy, mod firm, fri ip, vf(u)- f(l) gr, sbang- sbrnd, shly mtx, mod srt, sl calc cmt, p por.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy. SS: lt gy, mod firm, fri ip, vf(u)- f(l) gr, sbang- sbrnd, shly mtx, mod srt, sl calc cmt, p por.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent





SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent

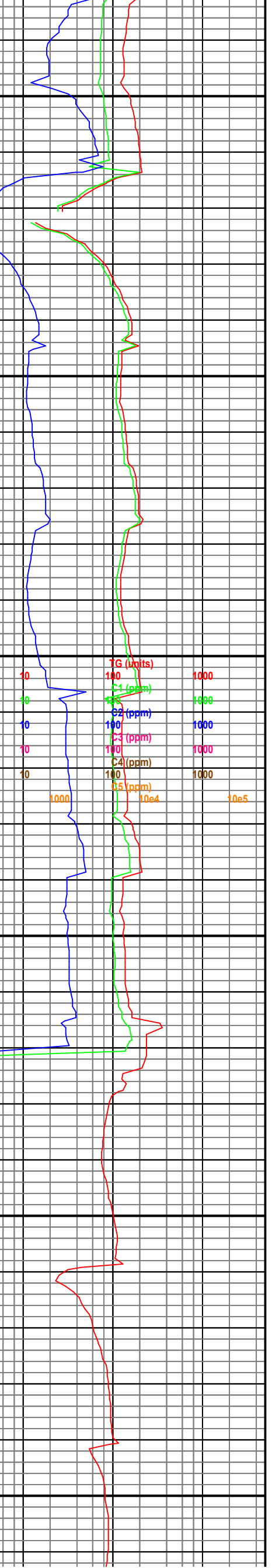
SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, lt-gy. SS: lt gy, mod firm, fri ip, vf(u)- f(l) gr, sbang- sbrnd, shly mtx, mod srt, sl calc cmt, p por.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, tr pry.



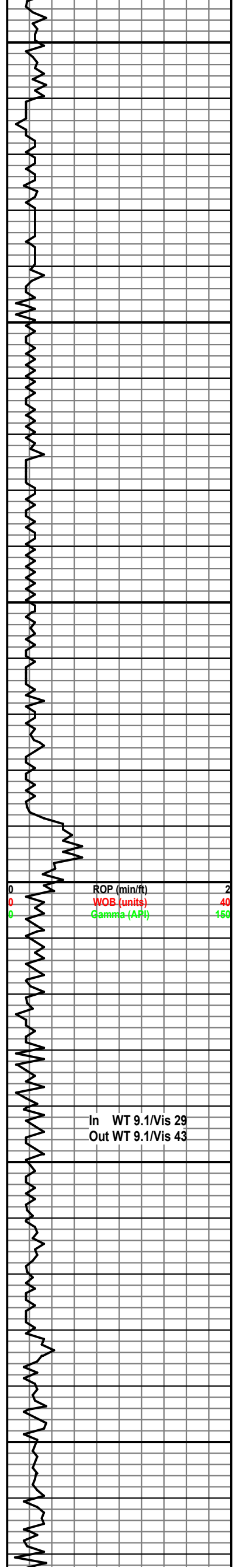
MND @ 3135' 09/21/2012

Dev @ 3277' inc 1.0 deg

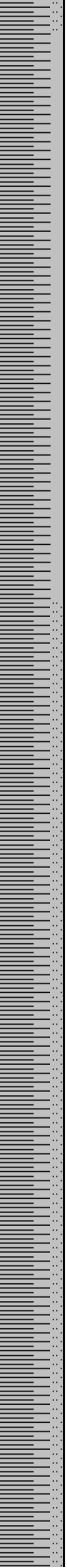
WT 9.0/Vis 27

3100
3150
3200
3250
3300
3350

| | | |
|------|------|------|
| 30 | 100 | 1000 |
| 40 | 100 | 1000 |
| 100 | 100 | 1000 |
| 10 | 100 | 1000 |
| 10 | 100 | 1000 |
| 10 | 100 | 1000 |
| 1000 | 10e4 | 10e5 |



3650
3700
3750
3800
3850
3900



P
B
P
P
B
P
B
P
B
P

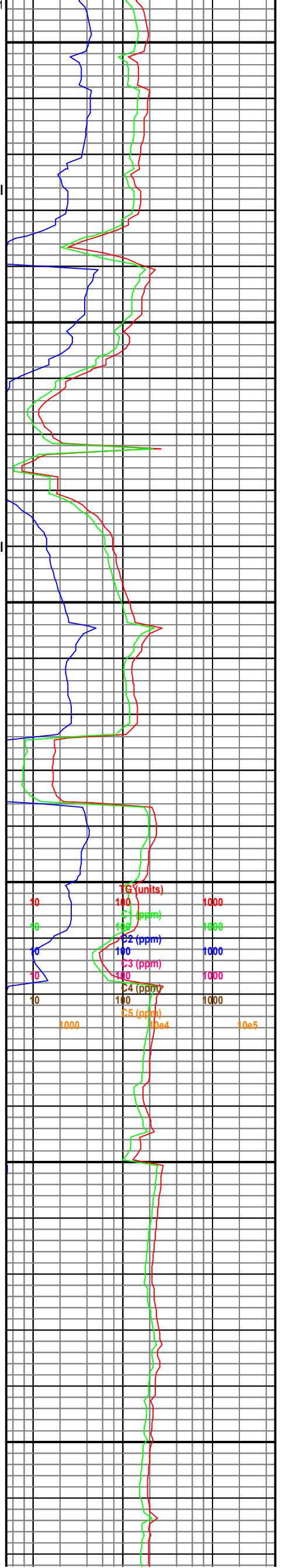
SH: lt-gy cly mtx, tr lt-gy, wh wxy Bent tr pry.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, tr pry.

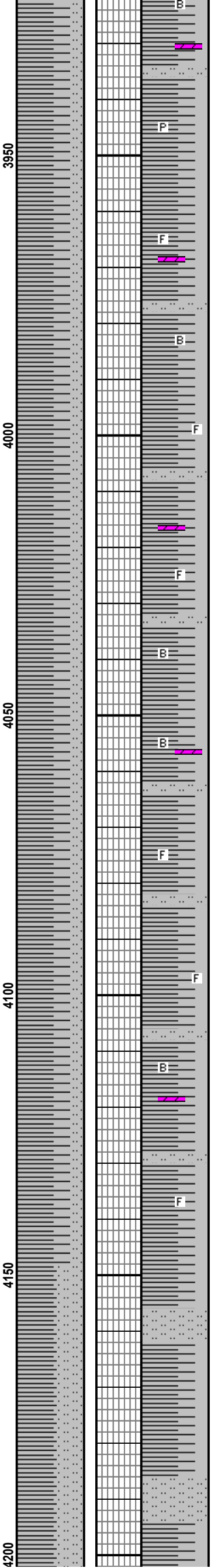
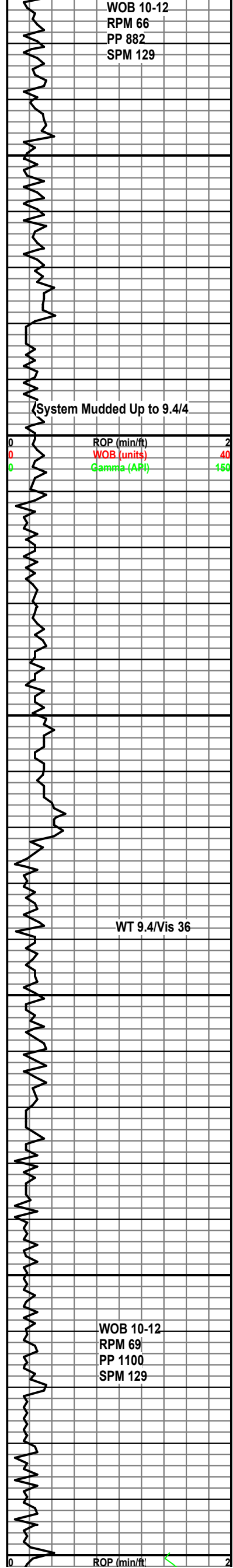
SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, tr pry.

SH: m-dk gy, frm, blkly - plty, dull, sl calc, sl silty, tr lt gy wxy Bent, tr lt brn DOL ptg, no flor.

SH: m-dk gy, frm, blkly - plty, dull, sl calc, sl silty, tr lt gy wxy Bent, tr lt brn DOL ptg, no flor.



WOB 10-12
 RPM 66
 PP 882
 SPM 129

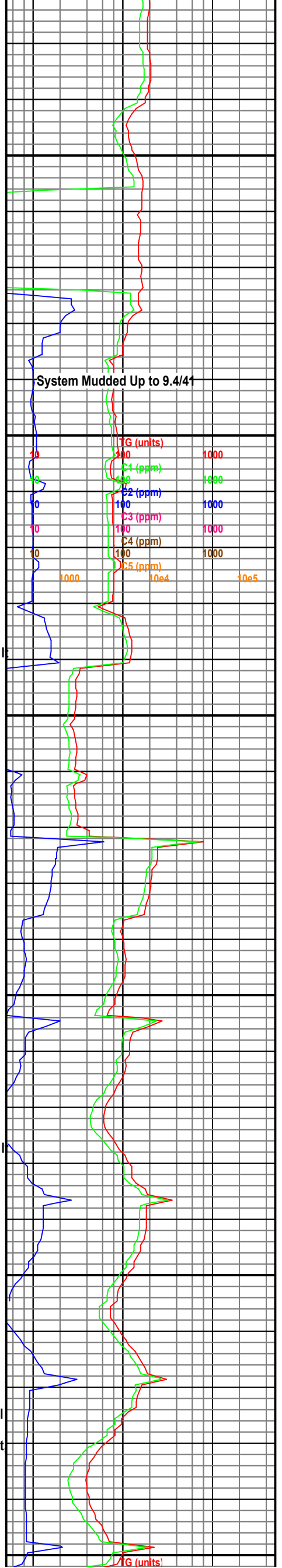


SH: m-dk gy, frm, blk - plty, dull, sl calc, sl slty, tr lt gy wxy Bent, tr lt brn DOL ptg, no flor, tr pry.

SH: m-dk gy, frm, blk - plty, dull, sl calc, sl slty, fossil, tr lt gy wxy Bent, tr lt brn DOL ptg, no flor, tr pry.

SH: m-dk gy, frm, blk - plty, dull, sl calc, sl slty, fossil, tr lt gy wxy Bent, tr lt brn DOL ptg, no flor, tr pry.

SH: lt-m gy, sft - frm, blk - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent, tr pry.



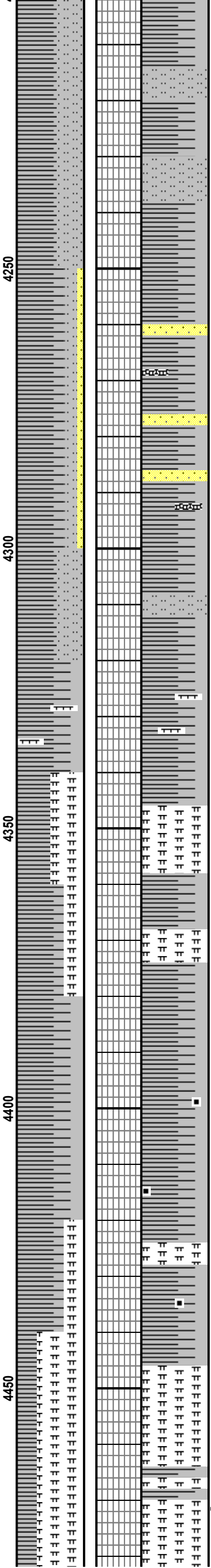
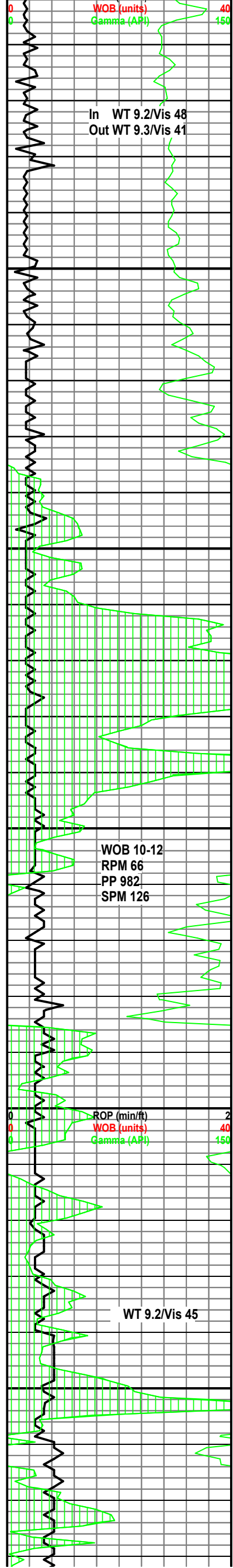
System Mudded Up to 9.4/4

WT 9.4/Vis 36

WOB 10-12
 RPM 69
 PP 1100
 SPM 129

ROP (min/ft)

TG (units)



SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx, tr lt-gy, wh wxy Bent tr pry.

BENT: ltgy-off wh, sft, plty, wxy, yel mnrl flor.

SH: gy, frm, blkly - plty, dull, n calc, sl slty, tr lt gy wxy Bent, intb w/SS: wh, clr, fri- mod firm, vf(u)-f(l) gr, sbang-sbrnd, mod srt , cly mtx , p vis por,sl calc, glau, n flor.

SH: lt-m gy, sft - frm, blkly - plty, dull, sl calc, w/ SLTST, lt-gy, fri, tr vf gr sd, sl calc, lt gy cly mtx.

Chalky Marlst: lt gybrn, wh specs, frm, sb blkly, calc, chlky tex, carb mat, pyr, no vis por, no flor, slow pale wh cut.

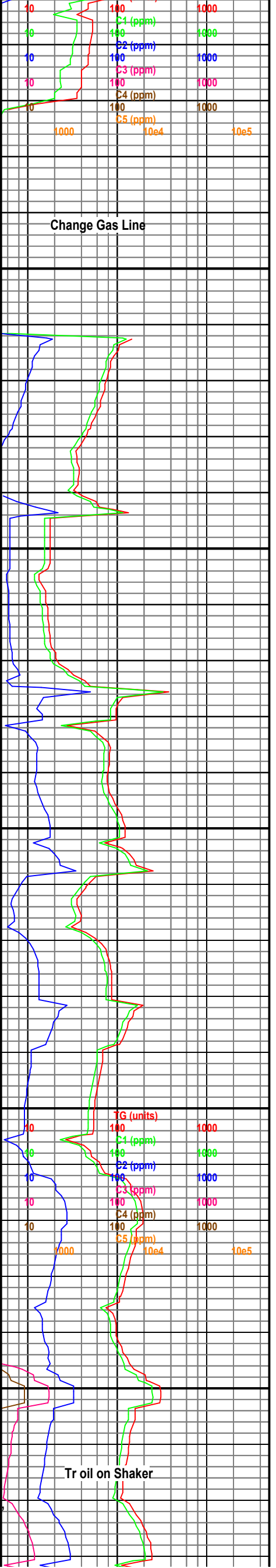
Top Niobrara @ 4340'

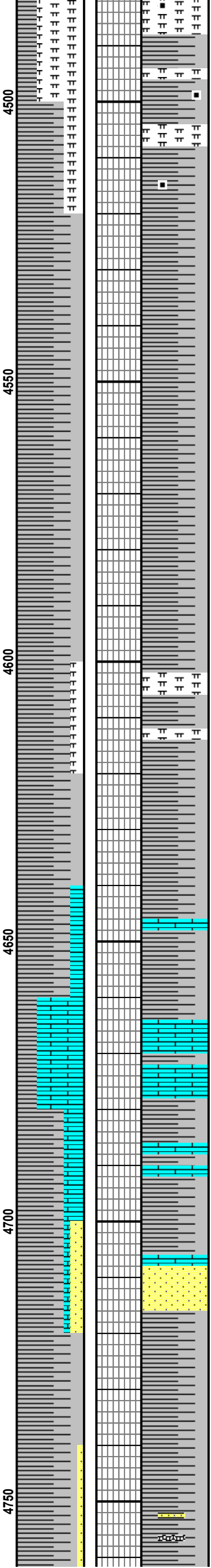
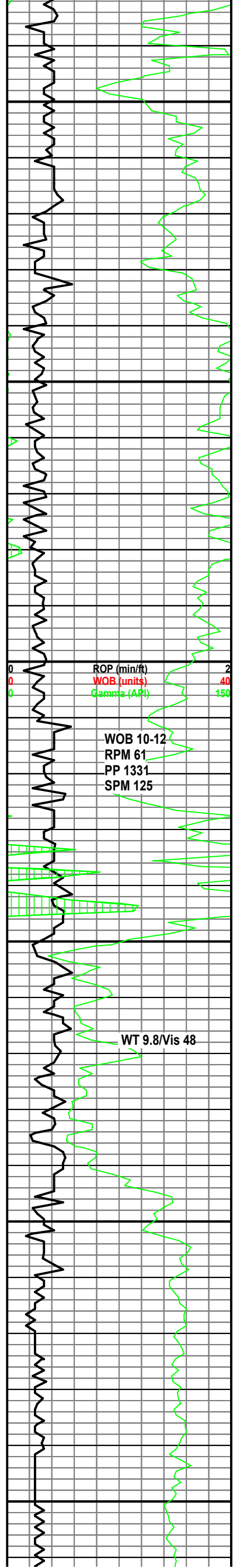
MARLST: ltgy, rnd gy specs & mot specs, frm, chlky, calc, wispy carb mat, pyr, no vis por, no flor, mod wh cut, wh resd ring.

SH: dk gy, blk, blkly-plty, mod calc, carb specs, tr pyr, tr Bent, no flor, occ fnt wl cut.

SH: dk gy, blk, blkly-plty, mod calc, carb specs, tr pyr, tr Bent, no flor, occ fnt wl cut.

MARLST: ltgy, rnd gy specs & mot specs, frm, chlky, calc, wispy carb mat, pyr, no vis por, oil stain, lt brn flor, mod wh cut, wh resd ring.





Chalky Marlst: lt gybrn, wh specs, frm, sb blk, calc, chlky tex, carb mat, pyr, no vis por, no flor, slow pale wh cut.

SH: gy-dkgy, frm, blk-pty, n-sl calc, Inoc frag, tr pyr, Bent, carb specs.

SH: gy-dkgy, frm, blk-pty, n-sl calc, Inoc frag, tr pyr, Bent, carb specs.

Chalky Marlst: lt gybrn, wh specs, frm, sb blk, calc, chlky tex, carb mat, pyr, no vis por, no flor, slow pale wh cut.

SH: gy-dkgy, frm, blk-pty, n-sl calc, Inoc frag, tr pyr, Bent, carb.

LS: wh, occ lt gy specs, crpxln, Inoc frag, tt.

Top Fort Hays @ 4652'

LS: wh, occ lt gy specs, crpxln, sl snd, Inoc frag, tt, bcmg v sdy at base, Inoc frag, tt, mnrl flor, no cut.

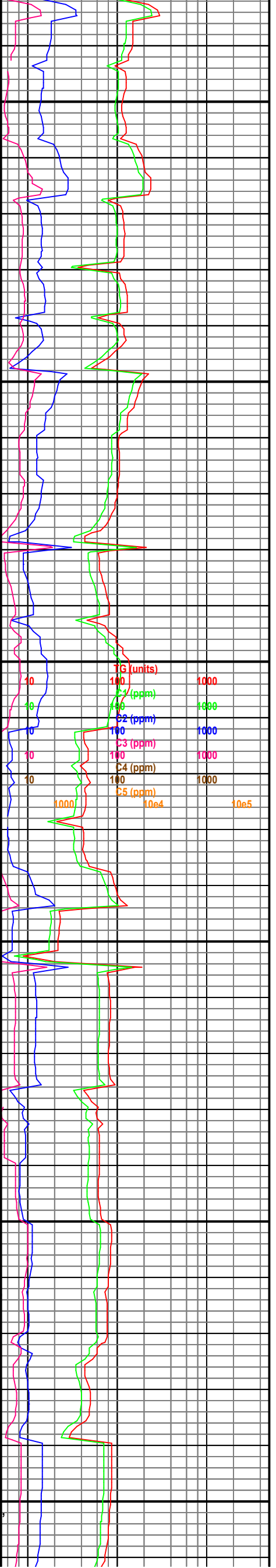
SH: gy-dkgy, frm, blk-pty, n-sl calc, Inoc frag, tr pyr, Bent, carb specs.

Top Carlile 4705'

SS: v lt gy - lt brn, fri -frm, f(l)-vf(u) gr, sb rnd, w srt, calc cmt, tr dk brn oil stn p vis por, even pale yel flor, immed blooming bri blwh cut, tr lt brn oil ring cut.

SH: dkgy, frm, blk-pty, n-sl calc, Inoc frag, tr pyr, Bent, carb specs.

SH: dkgy, firm, blk - pty, dull, sl-v calc, tr carb mat, occ sndy, abnt offwh Bent, n flor.



MND @ 4470' 09/22/2012

WOB 10
RPM 58
PP 1623
SPM 125

ROP (min/ft)
WOB (units)
Gamma (API)

WT 9.7/Vis 47

WOB 10
RPM 58
PP 1598
SPM 125

ROP (min/ft)
WOB (units)
Gamma (API)

4800

4850

4900

4950

5000

SH: dkgy, firm, blkly - plty, dull, sl-v calc, tr carb mat, occ sndy, abnt offwh Bent, n flor.

SH: dk gybrn , blkly-plty, mod calc, carb specs, tr pyr, tr Bent, no flor, occ fnt grn-wh cut.

SH: dk gy, blkly-plty, mod calc, carb specs, tr pyr, tr Bent, no flor, occ fnt grn-wh cut.

SS: lt gy, s & p, sft - fri, f(l) - vf(u) gr, rnd - sbrnd, w srt, sil cmt, pred wh clay fill, no stn, no vis por, wk lt yel flor, slow w diffuse cut.

SH: dk gy, blkly-plty, mod calc, carb specs, tr pyr, tr Bent, no flor.

Top Greenhorn-Bridge Creek Mbr. @ 4906'

SH: dkgy, firm, blkly - plty, dull, sl-v calc, tr carb mat, occ sndy, abnt offwh Bent, n flor, with mod wh cuts wh res ring.w/tr LS: brn - lt brn, - gybrn, occ lt gy specs, crpxln, inoc frag, tt.

Top Greenhorn-Harland Mbr. @ 4944'

SH: dkgy, firm, blkly - plty, dull, sl-v calc, tr carb mat, occ sndy, abnt offwh Bent, n flor, with mod wh cuts wh res ring.w/tr LS: brn - lt brn, - gybrn, occ lt gy specs, crpxln, inoc frag, tt.

Top Greenhorn-Lincoln Mbr @ 4980'

LS: brn - lt brn, - gybrn, occ lt gy specs, crpxln, inoc frag, tt.

SH: dkgy, firm, blkly - plty, dull, sl-v calc, tr carb mat, occ sndy, abnt offwh Bent, n flor, with mod wh cuts.

| | |
|------------|------|
| TG (units) | 1000 |
| C1 (ppm) | 1000 |
| C2 (ppm) | 1000 |
| C3 (ppm) | 1000 |
| C4 (ppm) | 1000 |
| C5 (ppm) | 1000 |

| | | |
|------|------|------|
| 1000 | 10e4 | 10e5 |
|------|------|------|

| | |
|------------|------|
| TG (units) | 1000 |
| C1 (ppm) | 1000 |
| C2 (ppm) | 1000 |
| C3 (ppm) | 1000 |
| C4 (ppm) | 1000 |
| C5 (ppm) | 1000 |

| | | |
|------|------|------|
| 1000 | 10e4 | 10e5 |
|------|------|------|

WT 9.8/Vis 47

5050

SH: dk gy, blk-y-pty, mod calc, carb specs, tr pyr, tr Bent, no flor.

Top Graneros Shale X-Bentonite 5055'

BENT: ltgy-off wh, sft, pty, wxy, yel mnrl flor

WT 9.8
V 50
PV 19
YP 11
PH 10
FC 7.4
Chi 750

5100

SH: dkgy, firm, blk-y-pty, dull, sl-v calc, tr carb mat, occ sndy, abnt offwh Bent.

Scale Change
ROP (min/ft) 10
WOB (units) 40
Gamma (API) 150

LEAK OF TEST

Trip Gas 714 Units

NB# 3, 8.75",
Mudmotor Hughes
GT-1,
in @ 5117'

5150

SH: dkgy, firm, blk-y-pty, dull, sl-v calc, tr carb mat, occ sndy, abnt offwh Bent.

Top Dakota D1 @ 5147'

Est Top Dakota D 5154'

Top Dakota D2 @ 5162'

SS: wh, lt brn ip, frm, f(l) gr, sbrnd, w srt, sil cmt, wh clay fill, sl calc, mod vis por, tr Bentonite, tr pry, ptchy bri yel flor, slow strmg yelwh cuts from lt brn .

By Pass Shakers

5200

Top Dakota D3 @ 5178'

WOB 30
RPM 48
PP 866
SPM 120

Top Huntsman @ 5208'

SH: dkgy, firm, blk-y-pty, dull, sl calc, tr carb mat, tr offwh Bent.

IG (units) 1000
By Pass Shakers 1000
C2 (ppm) 1000
C3 (ppm) 1000
C4 (ppm) 1000
C5 (ppm) 1000
1000 10e4 10e5

5250

SH: dkgy, firm, blk-y-pty, dull, sl calc, tr carb mat, tr offwh Bent.

4MND @ 5225' 09/23/2012

WT 9.7/Vis 43

TD @ 5260' 09/23/2012
02:30 am