



# COLUMBINE LOGGING, INC.

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

Well Name: Fletcher Gulch 4-24  
Location: SEC 4-T1N-R100W, Rio Blanco, CO  
Licence Number: AP1#05-103-10897-0  
Spud Date: 6/27/08  
Surface Coordinates: 1904' FNL, 574' FEL

Region: Piceance Basin  
Drilling Completed: 6/29/08

Bottom Hole  
Coordinates:  
Ground Elevation (ft): 6476'                      K.B. Elevation (ft): 6487'  
Logged Interval (ft): 600'                      To: 2466'                      Total Depth (ft): 2466'  
Formation: Williams Fork, Iles Formation  
Type of Drilling Fluid: Water/ Starch based mud

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## OPERATOR

Company: Genesis Gas and Oil LLC  
Address: 106W 14th Street 7th Floor  
Kansas City MO 64105

## GEOLOGIST

Name: Charles VanHeuvelen, Pete Lessler  
Company: Columbine Logging, Inc.  
Address: 9844 Titan Court, Unit 6  
Littleton CO 80125

## Cores

## DSTs

## Rig

Elenburg Exploration Inc.  
Rig #15

### ROCK TYPES

- Anhy
- Bent
- Brec
- Cht

- Clyst
- Coal
- Congl
- Dol

- Gyp
- Igne
- Lmst
- Meta

- Mrlst
- Salt
- Shale
- Shcol

- Shgy
- Slstst
- Ss
- Till

### ACCESSORIES

#### FOSSIL

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

- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

#### 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

#### STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Slststrg

- Ssstrg

#### TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

### OTHER SYMBOLS

#### POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic

- Pinpoint
- Vuggy

#### OIL SHOW

- Even
- Spotted
- Ques

- Dead

#### SORTING

- Well
- Moderate
- Poor

#### ROUNDING

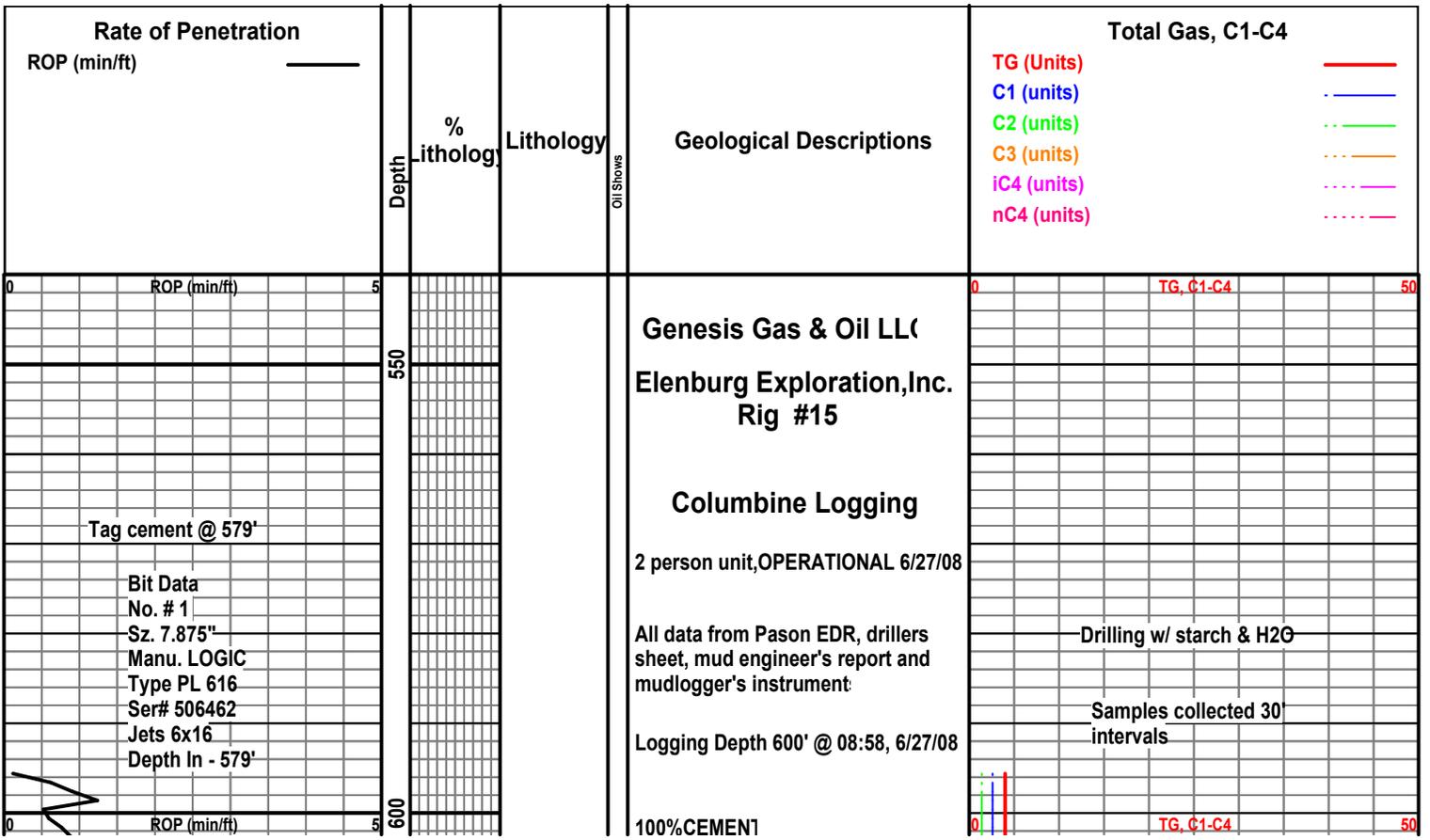
- Rounded
- Subrnd
- Subang
- Angular

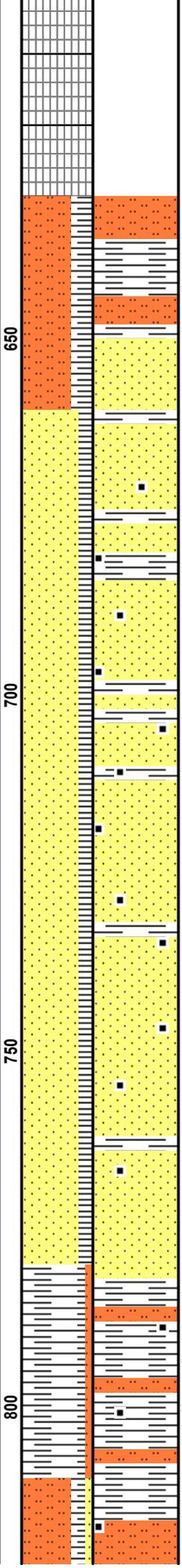
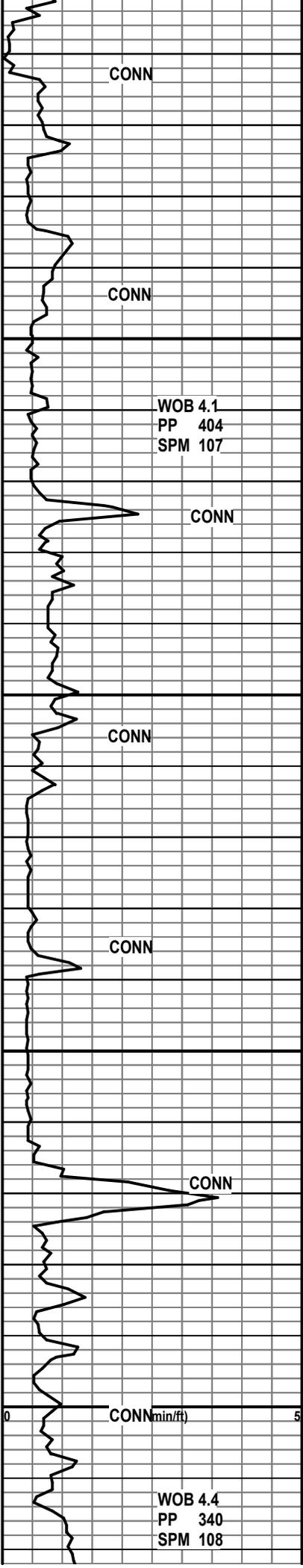
#### INTERVAL

- Core
- Dst

#### EVENT

- Rft
- Sidewall





100%CEMENT

Survey @ 644' = 0.75°

70%SLTST; dk gry, sb blkly-sb plty, grty, sndy, 30%SH; dk gry-blu gry, frm, sb blkly-sb plty, rthy, v lt calc, no fluor, no cut

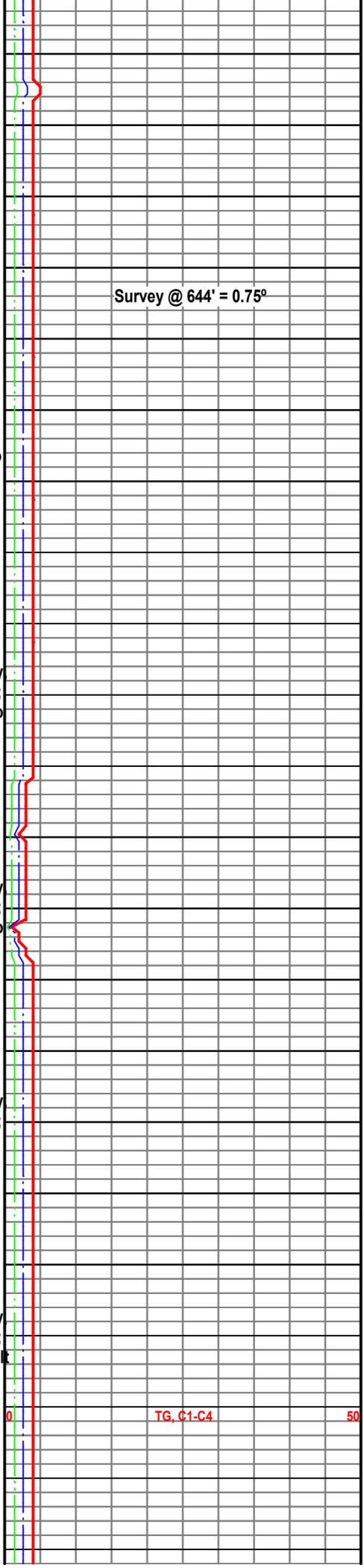
80%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 15%SH; gry, frm, sb blkly-sb plty, rthy v lt calc, 5%COAL; blk, frm, vit, tr LS; off wht-buff, sb blkly, frm, no fluor, no cut

80%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 15%SH; gry, frm, sb blkly-sb plty, rthy v lt calc, 5%COAL; blk, frm, vit, tr LS; off wht-buff, sb blkly, frm, no fluor, no cut

80%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 15%SH; gry, frm, sb blkly-sb plty, rthy v lt calc, 5%COAL; blk, frm, vit, tr LS; off wht-buff, sb blkly, frm, yel fluor, lt cut

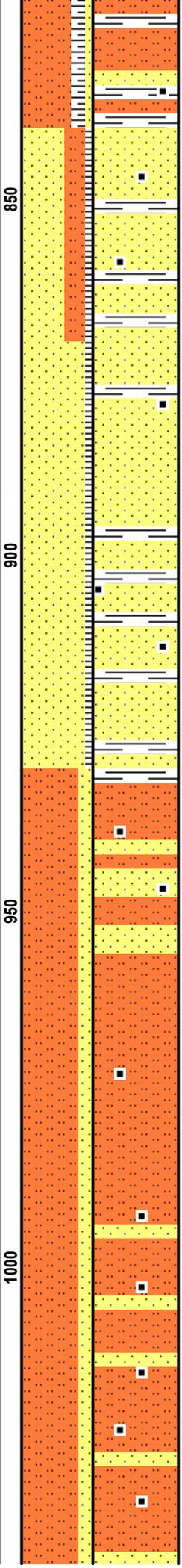
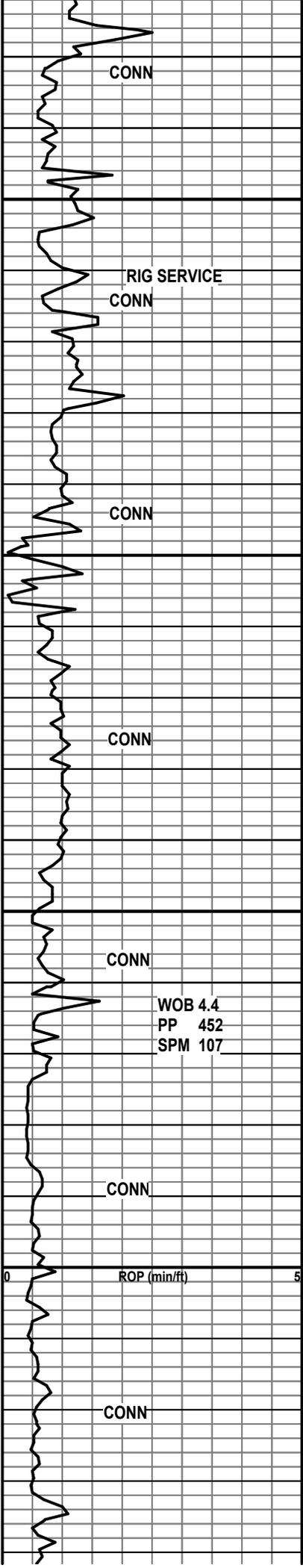
80%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 15%SH; gry, frm, sb blkly-sb plty, rthy v lt calc, 5%COAL; blk, frm, vit, tr LS; off wht-buff, sb blkly, frm, yel fluor, v lt cut

90%SH; dk gry, frm, sb blkly-sb plty, rthy, lt calc, 10%SLTST; gry, sb blkly-sb plty, grty, tr qtz, tr COAL, , yel fluor, v lt cut



TG, C1-C4

50



70%SLTST; gry, sb blk-y-sb plty, grty, 20%SH; dk gry, frm, sb blk-y-sb plty, rthy, lt calc, 10%SS; clr, f-m gr, ang-sb rd, mod srt, pol-fros, uncon-con, qtz, , yel fluor, lt cut

60%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, tr pyr, 25%SLTST; gry, sb blk-y-sb plty, grty, 15%SH; dk gry, frm, sb blk-y-sb plty, rthy, lt calc, tr COAL, yel fluor, v lt cut

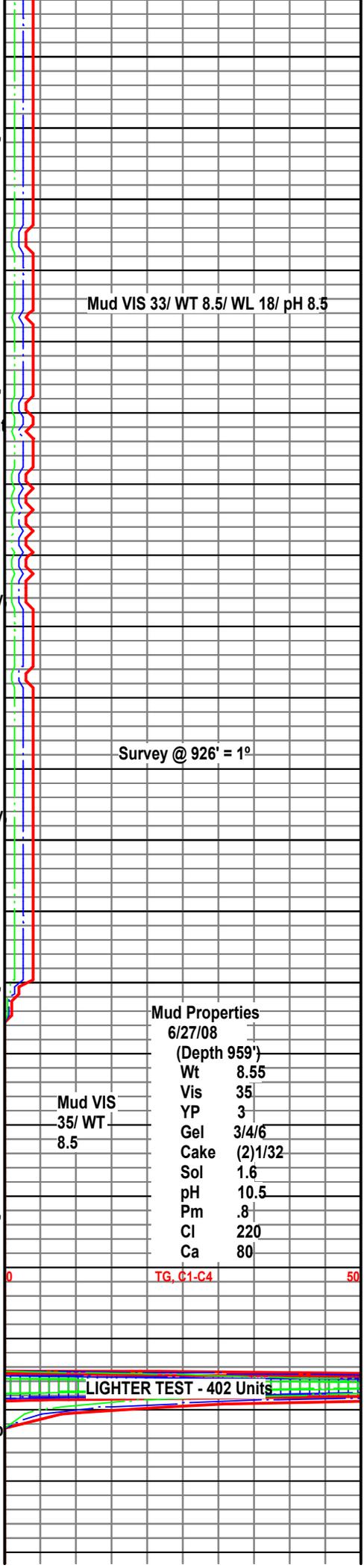
90%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 10%SH; gry, frm, sb blk-y-sb plty, rthy v lt calc, tr COAL; blk, frm, vit, tr LS; off wht-buff, sb blk-y, frm, yel fluor, lt cut

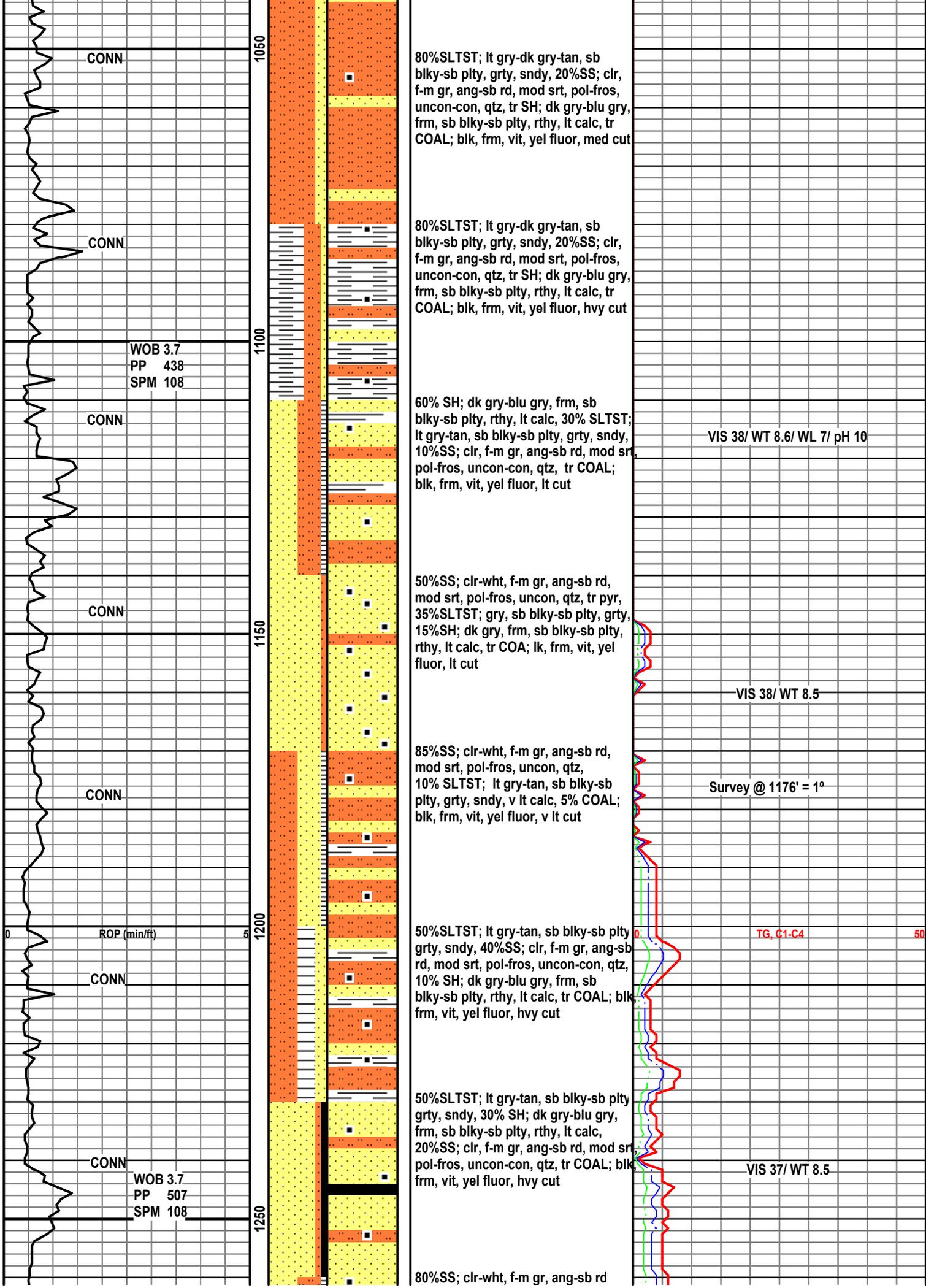
90%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 10%SH; gry, frm, sb blk-y-sb plty, rthy v lt calc, tr COAL; blk, frm, vit, tr LS; off wht-buff, sb blk-y, frm, yel fluor, med cut

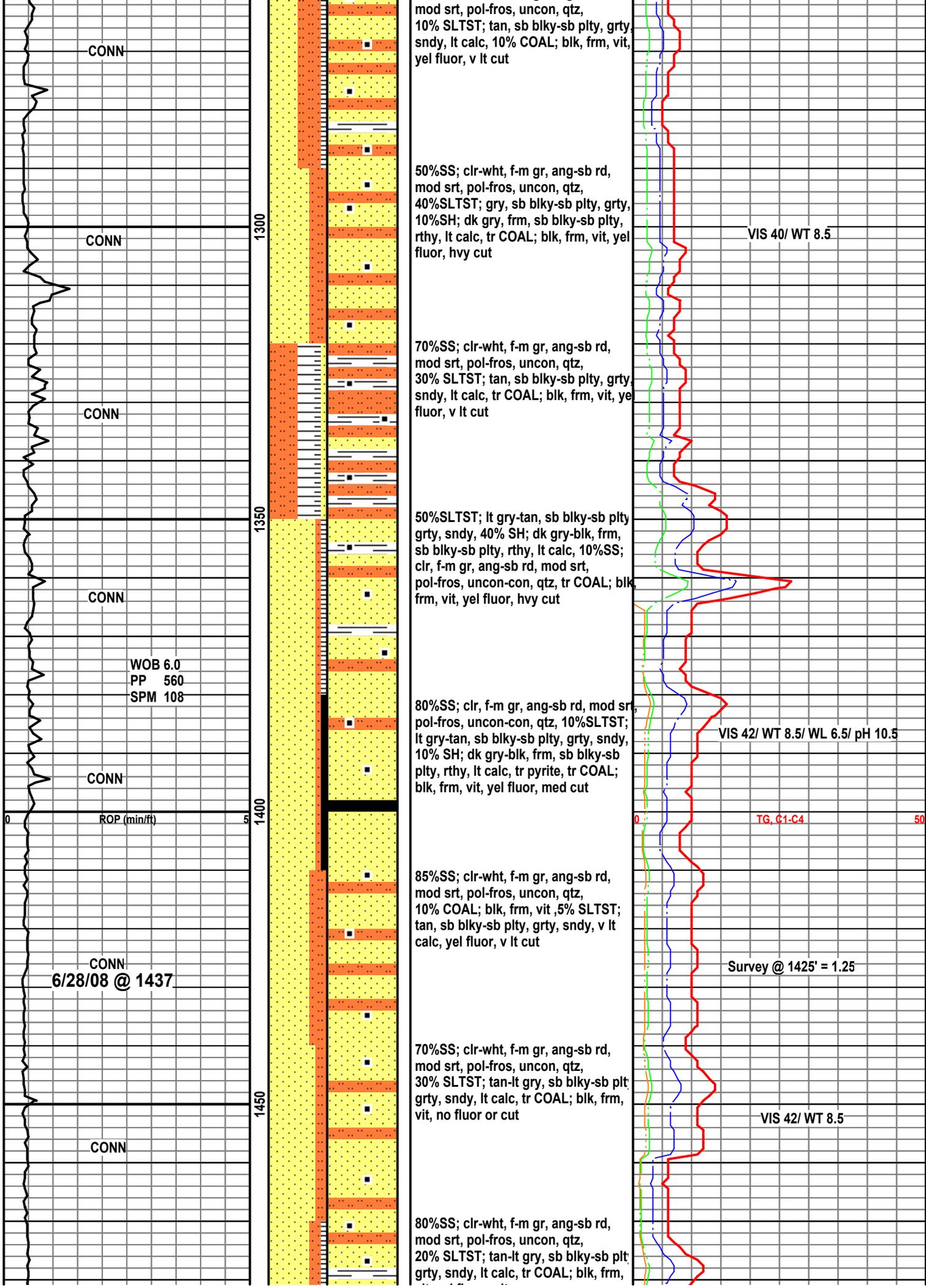
80%SLTST; gry, sb blk-y-sb plty, grty, sndy, 20%SS; clr, f-m gr, ang-sb rd, mod srt, pol-fros, uncon-con, qtz, tr SH; dk gry-blu gry, frm, sb blk-y-sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, hvy cut

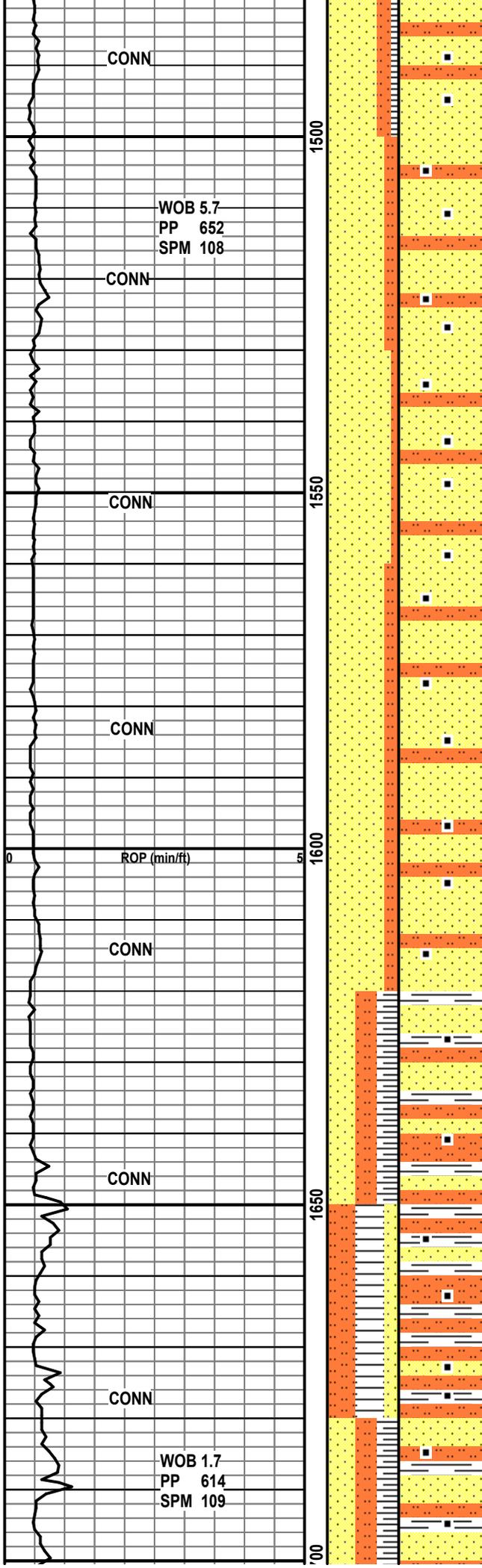
80%SLTST; gry, sb blk-y-sb plty, grty, sndy, 20%SS; clr, f-m gr, ang-sb rd, mod srt, pol-fros, uncon-con, qtz, tr SH; dk gry-blu gry, frm, sb blk-y-sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, hvy cut

80%SLTST; lt gry-tan, sb blk-y-sb plty, grty, sndy, 20%SS; clr, f-m gr, ang-sb rd, mod srt, pol-fros, uncon-con, qtz, tr SH; dk gry-blu gry, frm, sb blk-y-sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, lt cut









vit, yel fluor, v lt cu

70%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 20% SLTST; tan-lt gry, sb blk-y-sb plt grty, sndy, lt calc, 10% SH; dk gry-blk frm, sb blk-y-sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, med cut

80%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 20% SLTST; tan-lt gry, sb blk-y-sb plt grty, sndy, lt calc, tr SH; dk gry-blk, frm, sb blk-y-sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, lt cut

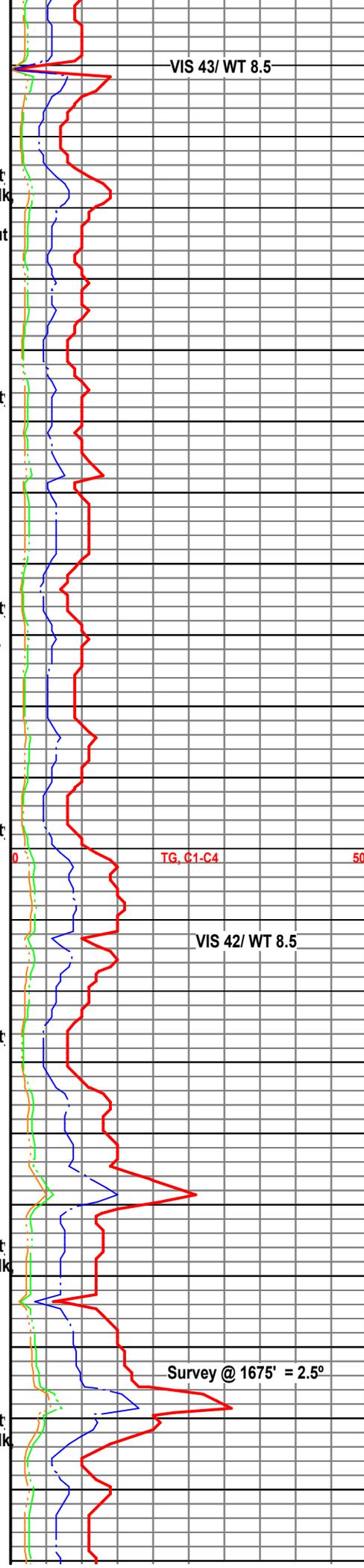
90%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 10% SLTST; tan-lt gry, sb blk-y-sb plt grty, sndy, lt calc, tr SH; dk gry-blk, frm, sb blk-y-sb plty, rthy, v lt calc, tr COAL; blk, frm, vit, yel fluor, lt cut

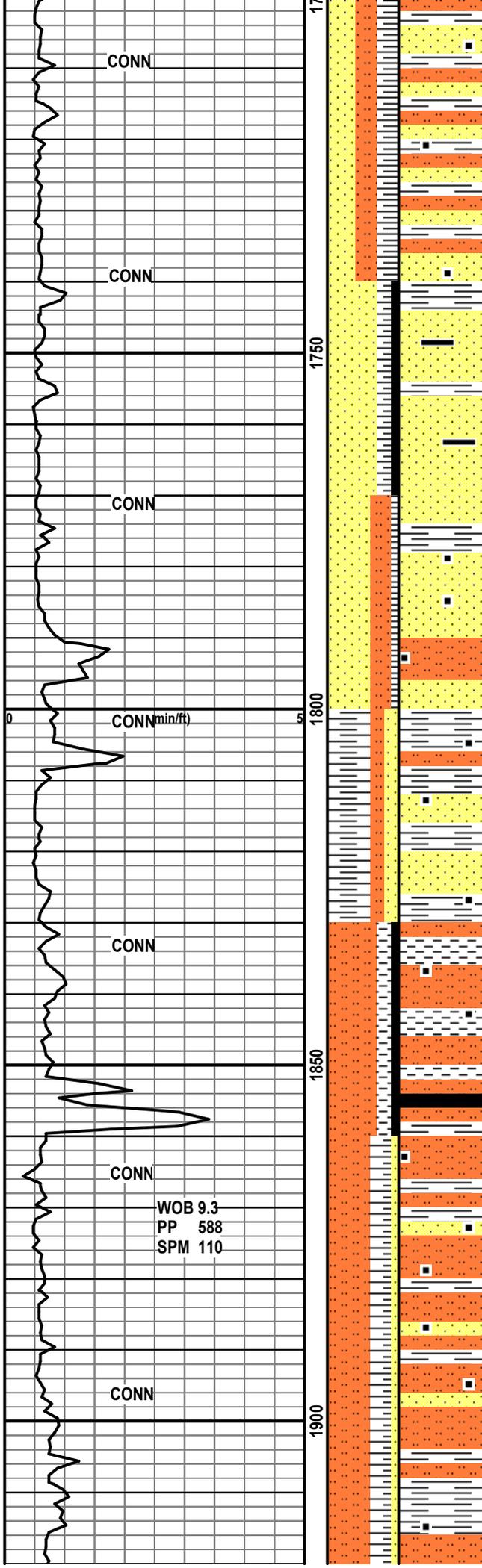
80%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 20% SLTST; tan-lt gry, sb blk-y-sb plt grty, sndy, lt calc, tr SH; dk gry-blk, frm, sb blk-y-sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, no cut

80%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 20% SLTST; tan-lt gry, sb blk-y-sb plt grty, sndy, lt calc, tr SH; dk gry-blk, frm, sb blk-y-sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, no cut

40%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 30% SLTST; tan-lt gry, sb blk-y-sb plt grty, sndy, lt calc, 30% SH; dk gry-blk, frm, sb blk-y-sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, lt cut

40% SLTST; tan-lt gry, sb blk-y-sb plt grty, sndy, lt calc, 40% SH; dk gry-blk, frm, sb blk-y-sb plty, rthy, lt calc, 20%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, tr COAL; blk, frm, vit, yel fluor, no cut





40%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 30% SLTST; tan-lt gry, sb blk-y sb plty grty, sndy, lt calc, 30% SH; dk gry-blk frm, sb blk-y sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, no cut

34%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 33% SLTST; tan-lt gry, sb blk-y sb plty, grty, sndy, lt calc, 33% SH; dk gry-blk frm, sb blk-y sb plty, rthy, lt calc, tr COAL; blk, frm, vit, yel fluor, no cut

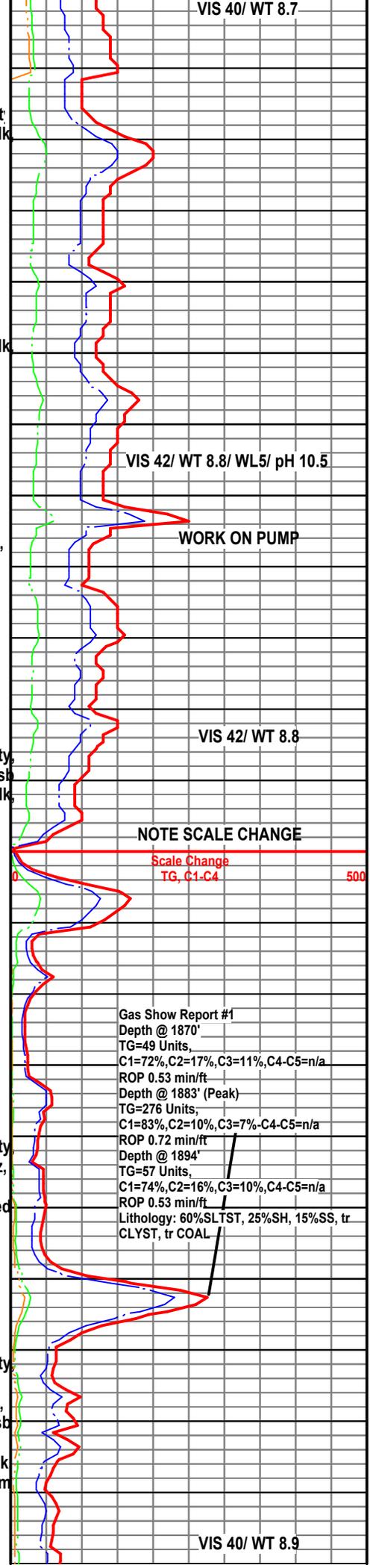
70%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, con, qtz, 20%SH; gry-dk gry, frm, sb blk-y sb plty, rthy, lt calc, 10%COAL; blk, frm, vit, yel fluor, no cut

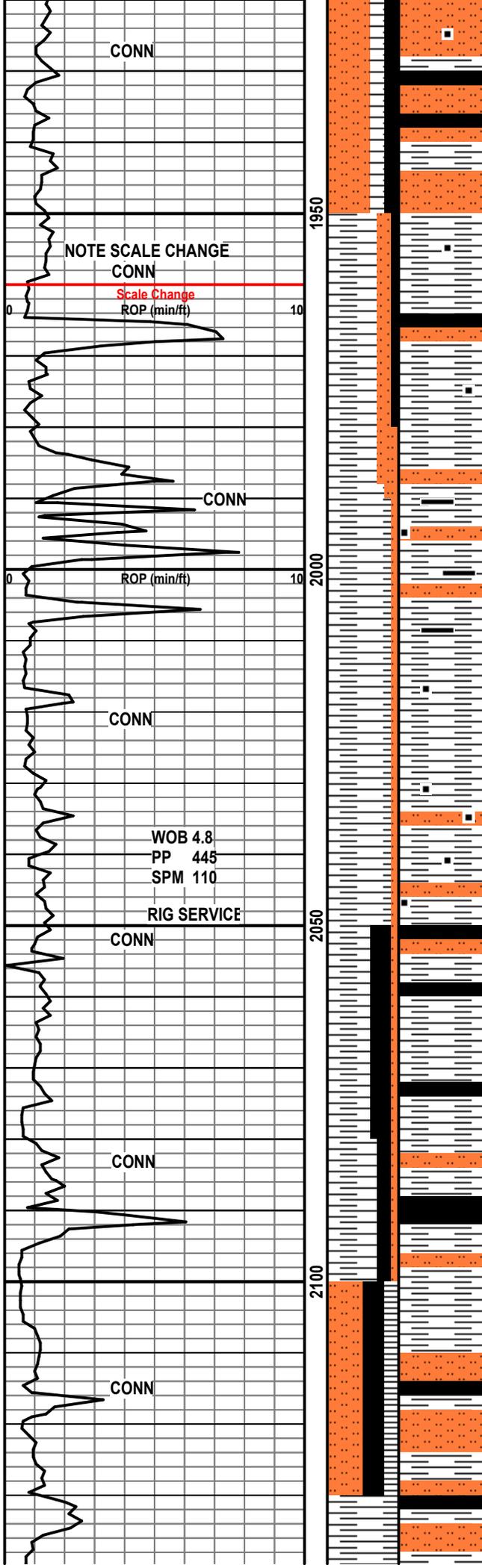
60%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, con, qtz, 35%SLTST; wht-lt gry, sb blk-y sb plty, grty, lt calc, 5%SH; gry-dk gry, frm, sb blk-y sb plty, rthy, lt calc, tr COAL; blk, frm, vit

60%SH; gry-dk gry, frm, sb blk-y sb plty, rthy, lt calc, 20%SLTST; wht-lt gry, sb blk-y sb plty, grty, lt calc, 20%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, tr COAL; blk, frm, vit

75%SLTST; wht-lt gry, sb blk-y sb plty, grty, lt calc, blk carb intbd, sndy, qtz, 15%CLYST; off wht, sft, flky, 10%COAL; blk, frm, vit, yel fluor, med cut

60%SLTST; wht-lt gry, sb blk-y sb plty, grty, lt calc, blk carb intbd, 25%SH; gry-dk gry, frm, sb blk-y sb plty, rthy, lt calc, 15%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, tr CLYST; off wht, sft, flky, tr COAL; blk, frm, vit, yel fluor, med cut,clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz,





60%SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, 30%SH; gry-dk gry, frm, sb blkly-sb plty, rthy, lt calc, 10%SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, tr COAL; blk, frm, vit, yel fluor, med cut

60%SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, 20%SH; gry-dk gry, frm, sb blkly-sb plty, rthy, lt calc, 20%COAL; blk, frm, vit, tr SS; clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, yel fluor, hvy cut

70%SH; gry-dk gry-brn, frm, sb blkly-sb plty, rthy, 20%SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, sndy, qtz, 10%COAL; blk, frm, vit, yel fluor, med cut

90%SH; dk gry, frm, sb blkly-sb plty, rthy, grty, 5%SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, sndy, qtz, 5%COAL; blk, frm, vit, yel fluor, hvy cut

90%SH; dk gry, frm, sb blkly-sb plty, rthy, grty, 5%SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, sndy, qtz, 5%COAL; blk, frm, vit, yel fluor, med cut

60%SH; dk gry, frm, sb blkly-sb plty, rthy, grty, 35%COAL; blk, frm, vit, 5%SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, sndy, qtz, yel fluor, hvy cut

70%SH; dk gry, frm, sb blkly-sb plty, rthy, grty, 20%COAL; blk, frm, vit, 10%SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, sndy, qtz, yel fluor, v lt cut

50%SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, sndy, qtz, 30%COAL; blk, frm, vit, 20%SH; dk

Survey @ 1927' = 3.75°

VIS 40/ WT 8.9/ WL6.4/ pH 10.2

VIS40/ WT 8.9

TG, C1-C4

500

VIS 41/ WT 8.7

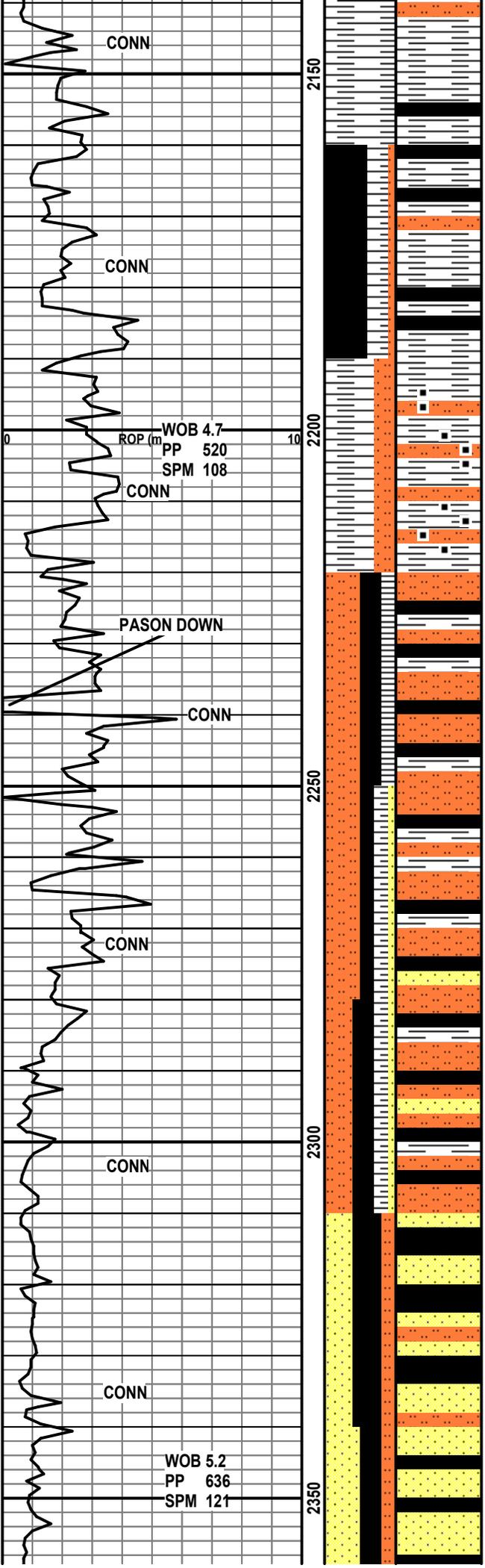
Gas Show Report #2  
Depth @ 2011'  
TG=21 Units,  
C1=56%, C2=24%, C3=20%, C4-C5=n/a  
ROP 0.87 min/ft  
Depth @ 2018' (Peak)  
TG=246 Units,  
C1=88%, C2=8%, C3=4%, C4-C5=n/a  
ROP 2.15 min/ft  
Depth @ 2025'  
TG=19 Units,  
C1=69%, C2=17%, C3=14%, C4-C5=n/a  
ROP 0.8 min/ft  
Lithology: 90%SH, 5%SLTST, 5%COAL

VIS 40/ WT 8.9/ WL6.2/ pH 10

Gas Show Report #3  
Depth @ 2100'  
TG=25 Units,  
C1=86%, C2=14%, C3-C5=n/a  
ROP 0.5 min/ft  
Depth @ 2108' (Peak)  
TG=318 Units,  
C1=96%, C2=4%, C3-C5=n/a  
ROP 1.1 min/ft  
Depth @ 2121'  
TG=44 Units,  
C1=86%, C2=14%, C3-C5=n/a  
ROP 0.57 min/ft  
Lithology: 50%SLTST, 30%COAL, 20%SH

**Iles Formation  
@ 2131' / 4356'**

VIS 41/ WT 8.9



gry, frm, sb blkly-sb plty, rthy, ye fluor, lt cut

95%SH; dk gry, frm, sb blkly-sb plty, rthy, grty, 5%COAL; blk, frm, vit, tr SLTST; wht-lt gry, sb blkly-sb plty, grty, v lt calc, blk carb intbd, sndy, qtz no fluor, no cut

65%COAL; blk, frm, vit, anth, 25%SH; dk gry-brn, frm, sb blkly-sb plty, rthy, grty, 10%SLTST; wht-lt gry, sb blkly-sb plty, grty, v lt calc, blk carb intbd, sndy, qtz, yel fluor, hvy cut

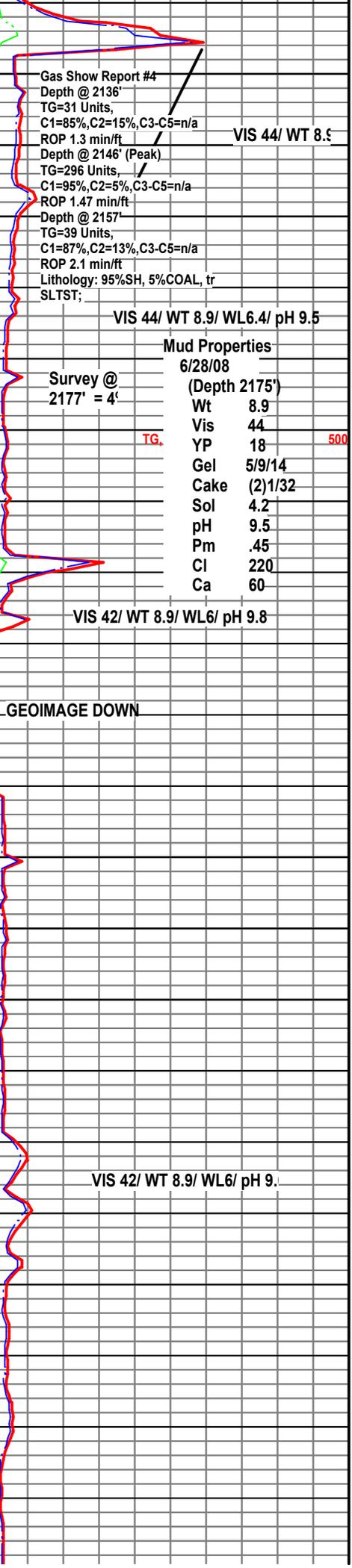
65%SH; dk gry, frm, sb blkly-sb plty, rthy, grty, 30% SLTST; wht-lt gry, sb blkly-sb plty, grty, v lt calc, blk carb intbd, sndy, qtz, 5%COAL; blk, frm, vit, yel fluor, lt cut

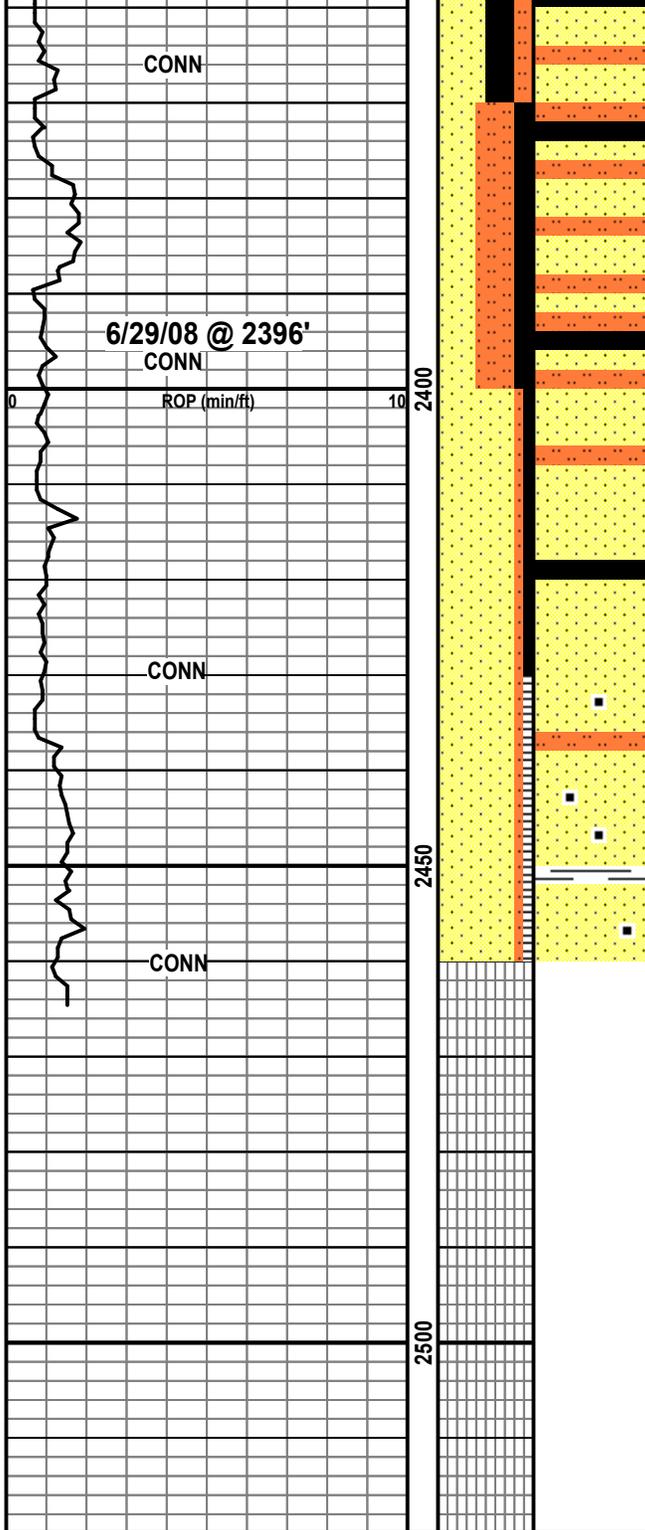
50%SLTST; wht-lt gry, sb blkly-sb plty, grty, v lt calc, blk carb intbd, sndy, qtz, 30%COAL; blk, frm, vit, 20%SH; dk gry, frm, sb blkly-sb plty, rthy, yel fluor, lt cut

50%SLTST; wht-lt gry, sb blkly-sb plty, grty, v lt calc, blk carb intbd, sndy, qtz, 20%SH; dk gry, frm, sb blkly-sb plty, rthy, 20%COAL; blk, frm, vit, 10% SS clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, no fluor, no cut

40%SLTST; wht-lt gry, sb blkly-sb plty, grty, v lt calc, blk carb intbd, sndy, qtz, 30%COAL; blk, frm, vit, 20%SH; dk gry, frm, sb blkly-sb plty, rthy, 10% SS clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, yel fluor, med cut

40% SS clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 40% COAL; blk, frm, vit, 20% SLTST; wht-lt gry, sb blkly-sb plty, grty, lt calc, blk carb intbd, sndy, qtz, LCM, yel fluor, lt cut





50% SS clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 30% COAL; blk, frm, vit, 20% SLTST; wht-lt gry, sb blk-sb pty, grty, lt calc, blk carb intbd, sndy, qtz, LCM, yel fluor, no cut

40% SS clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 40% SLTST; wht-lt gry, sb blk-sb pty, grty, lt calc, blk carb intbd, sndy, qtz, 20% COAL; blk, frm, vit, LCM, yel fluor, v lt cul

80% SS clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 10% COAL; blk, frm, vit, 10% SLTST; wht-lt gry, sb blk-sb pty, grty, lt calc, blk carb intbd, sndy, qtz, LCM, no fluor, no cut

80% SS clr-wht, f-m gr, ang-sb rd, mod srt, pol-fros, uncon, qtz, 10% SLTST; wht-lt gry, sb blk-sb pty, grty, lt calc, blk carb intbd, sndy, qtz, 10% SH; dk gry, frm, sb blk-sb pty, rthy, tr COAL; blk, frm, vit, LCM, no fluor, no cut

**TD 2466' 6/29/08 1:54 AM**

Mudloggers released 9:15, 6/29/08

TG, C1-C4

500

VIS 40/ WT 9.0

Survey @ 2458' = 4°