

FORMATION EVALUATION LOG

| Drilling Rate | | MD meters | TVDRT meters | Cuttings Lithology | Oil Show | Visual Inferred Porosity | Gas Data | | Chromatograph Data | | Calcmtry | Interpreted Lithology | Lithology Description | | |
|---------------|-----|-----------|--------------|--------------------|----------|--------------------------|-----------------------|-----------------|--------------------|----|----------|-----------------------|-----------------------|---|--------|
| ROP (m/hr) | | | | | | | Gas Hydrocarbon Avg % | | Methane ppm | | | | | 1 | 100000 |
| 200 | 20 | | | | | | 0.01 | 0.1 | 1 | 10 | | | | | |
| 180 | 40 | 0.001 | | 10 | | 1 | | Propane ppm | 100000 | | | | | | |
| 160 | 60 | | | | | 1 | | iso-Butane ppm | 100000 | | | | | | |
| 140 | 80 | | | | | 1 | | n-Butane ppm | 100000 | | | | | | |
| 120 | 100 | | | | | 1 | | iso-Pentane ppm | 100000 | | | | | | |
| 100 | 120 | | | | | 1 | | n-Pentane ppm | 100000 | | | | | | |
| 80 | 140 | | | | | | | | | | | | | | |
| 60 | 160 | | | | | | | | | | | | | | |
| 40 | 180 | | | | | | | | | | | | | | |
| 20 | 200 | | | | | | | | | | | | | | |
| ROP (m/hr) | | | | | | | | | | | | | | | |
| Gamma Ray | | | | | | | | | | | | | | | |
| API | | | | | | | | | | | | | | | |

NB3 311 mm (12 1/4")
Smith
Type: XP-GPS
Jets: No Jets
Depth in: 903.0 m
Depth Out: 906.0 m
Drilled 3.0 m in 0.6 hrs
Grade: XXXXX

NB4 216 mm (8 1/2")
Hughes
Type: HC6052
Jets: 2x16 3x15
Depth in: 906.0 m
Depth Out: XXXX m
Drilled XXX m in XXX hrs
Grade: XXXXX

406 mm (16") Section TD @
903.0 mMDRT on 09/04/2008

FIT @ 906.0 m, with 1.12 sg
mud, 620 psi, EMW:1.6 sg

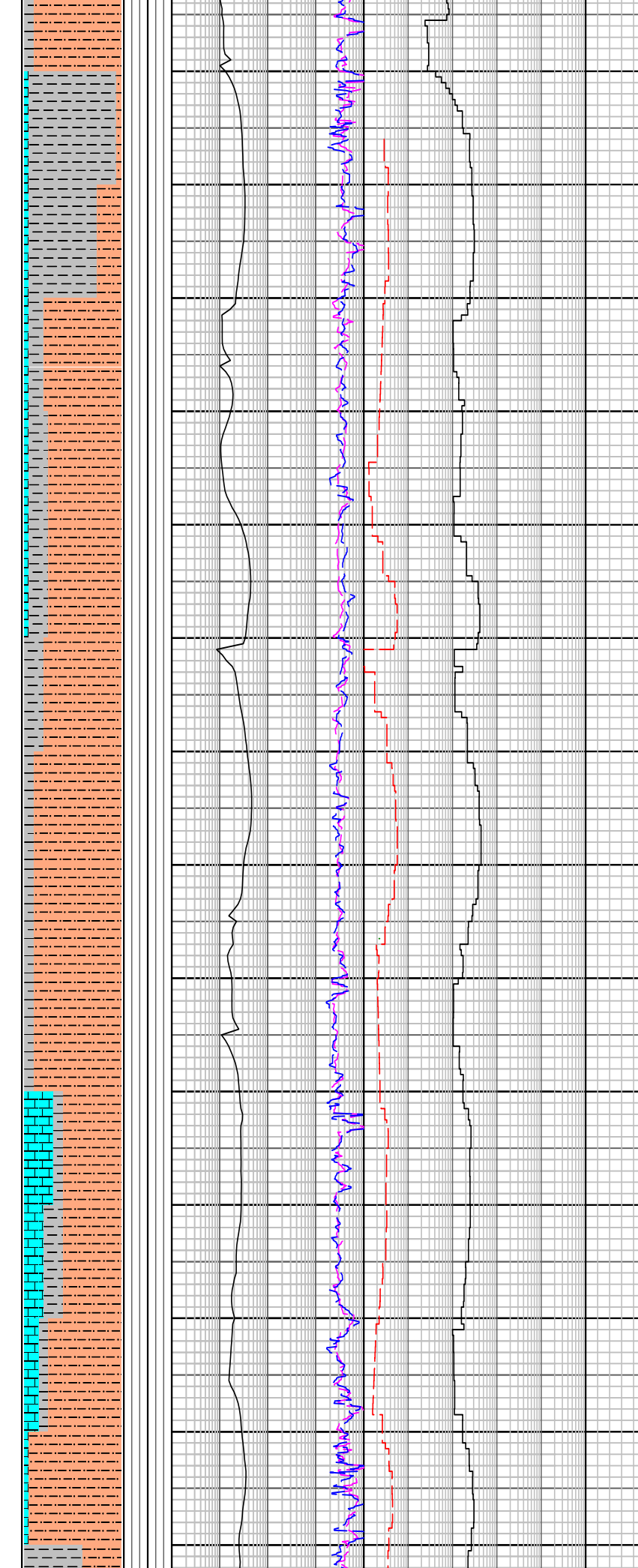
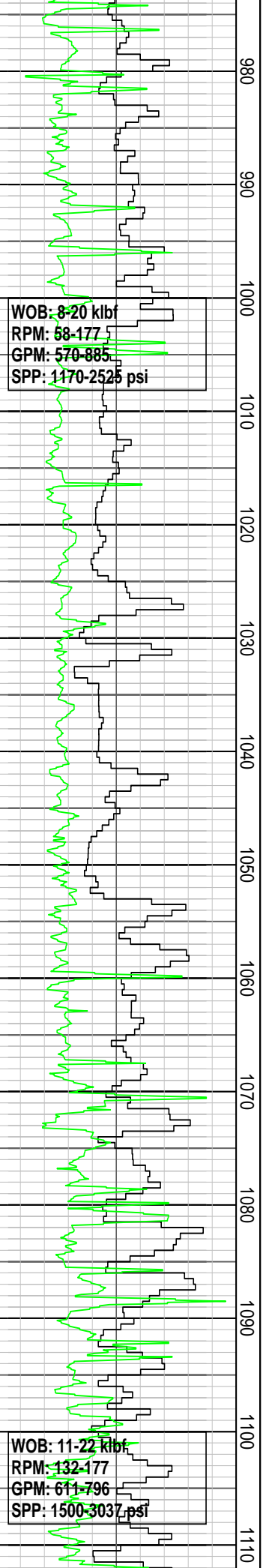
MW: 1.12 sg FV: 71
PV: 18 YP: 26
Gels: 11/13 pH: 9.1

CALCARENITE: v lt gy, sft-v
hd, sb blkly, v arg i/p, qtz gr
i/p, calc gr i/p

CALCILUTITE: dk yelsh or, v
lt gy, v arg, v f glauc spk,
occ v f qtz, tr lith, tr foram
spines, grd-ARGILLACEOUS
CALCISILTITE, hd-tr v hd,
sbbkly-blky.

CALCAREOUS SILTSTONE:
lt-m gy, v arg, v f glauc spk,
occ v f qtz grn, tr lith, tr
foram, grd-CALCAREOUS
CLAYSTONE, hd-tr v hd,
sbbkly-blky.

CALCILUTITE: yelsh gy, v lt
gy, crpxln, hd-sbbkly.
CALCAREOUS SILTSTONE:
m lt gy, v arg, v f glauc spk,
occ v f qtz grn, tr lith, tr
foram, grd-CALCAREOUS
CLAYSTONE, calc spks, v
sft- hd, sbbkly-blky



CALCAREOUS CLAYSTONE:
 m dk gy, sft frm, slty, sbblky-blky

CALCILUTITE: yelsh gy, v lt gy, crpxln, foram, hd-sbblky

CALCAREOUS SILTSTONE:
 m lt gy, v arg, v f glauc spk, occ v f qtz grn, tr lith, tr foram, grd-CALCAREOUS CLAYSTONE, calc spks, v sft- hd, sbblky-blky

CALCILUTITE: yelsh gy, v lt gy, crpxln, foram, hd-sbblky

CALCAREOUS CLAYSTONE:
 m-lt gy, spkled w kaolinitic cly, tr v f glauc, calc spks, sft-frm, slty, sbblky-blky

CALCAREOUS SILTSTONE:
 m lt gy, v arg, v f glauc spk, occ v f qtz grn, tr lith, tr foram, grd-CALCAREOUS CLAYSTONE, calc spks, v sft- hd, sbblky-blky

CALCAREOUS CLAYSTONE:
 m-lt gy, spkled w kaolinitic cly, tr v f glauc, calc spks, sft-frm, slty, sbblky-blky

CALCAREOUS SILTSTONE:
 m gy, v arg, v f glauc spk, occ v f qtz grn, tr lith, tr foram, grd-CALCAREOUS CLAYSTONE, calc spks, v sft- hd, sbblky-blky

CALCAREOUS CLAYSTONE:
 m gy, tr glauc spks, frm, sbblky

CALCAREOUS SILTSTONE:
 m gy-m dk gy, grd-CALCAREOUS CLAYSTONE, occ foss frag, com glauc spks, frm-tr hd, sbblky

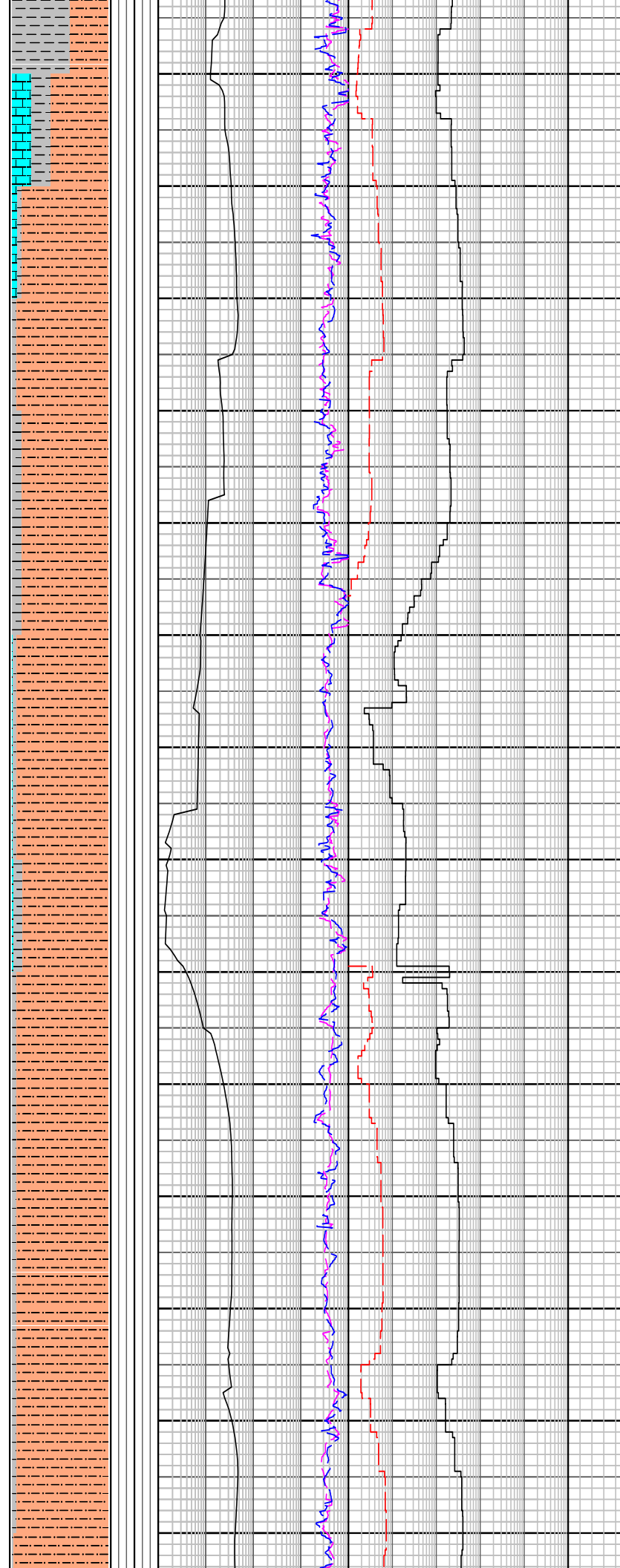
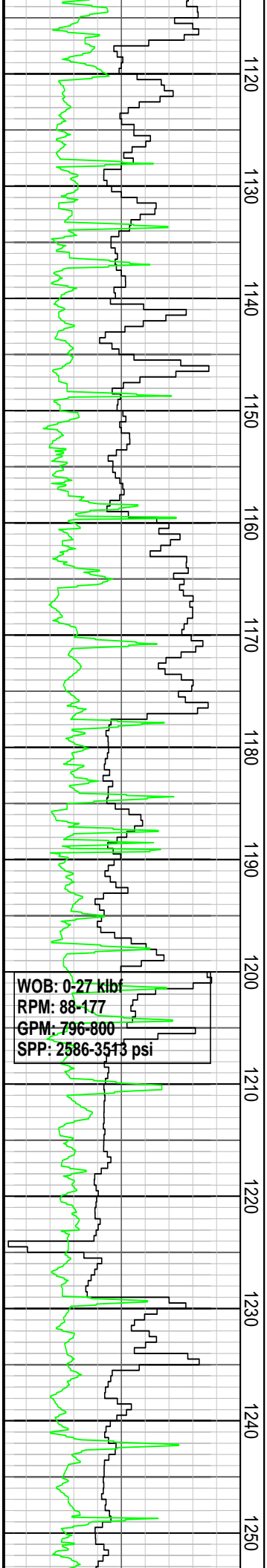
CALCILUTITE: lt gy, tr brn m gy, com foss frag, mod arg, crpxln, hd, sbblky

CALCAREOUS CLAYSTONE:
 m gy, tr glauc spks, frm, sbblky

CALCILUTITE: lt gy, tr brnsh m gry, com foss frags, mod arg, crpxln, hd, sbblky.

CALCAREOUS SILTSTONE: lt gy - m dk gy, wh kaolinitic cly i/p, v argl, v f glauc, occ v f Qtz, frm - mod hd i/p, sbblky - blky.

CALCAREOUS SILTSTONE:
 lt gy - m dk gy, wh kaolinitic



lt gy, m dk gy, wh mod hd, v f glauc, occ v f Qtz, frm to mod hd i/p, sbbiky - blkly.

CALCILUTITE: lt gy, com foss frags, mod argl, crpxln, hd, sbbiky.

CALCAREOUS CLAYSTONE: lt gy - m lt gy, slty, foss frags, sft - mod hd, sbbiky.

CALCAREOUS CLAYSTONE: m lt gy, lt brnsh gy, v arg, com glauc spks, sft - frm, sbbiky.

CALCAREOUS CLAYSTONE: m lt gy - m dk gy, slty, com foss frags, sft to mod hd, sbbiky.

CALCAREOUS SILTSTONE: m gy, v arg, com glauc spks, tr blk carb spks, tr v f Qtz, sft - frm, sbbiky.

CALCAREOUS CLAYSTONE: m dk gy, slty, frm - mod hd, sbbiky.

CALCISILTITE: lt yelsh gy, wh, hd, fri i/p, sbang.

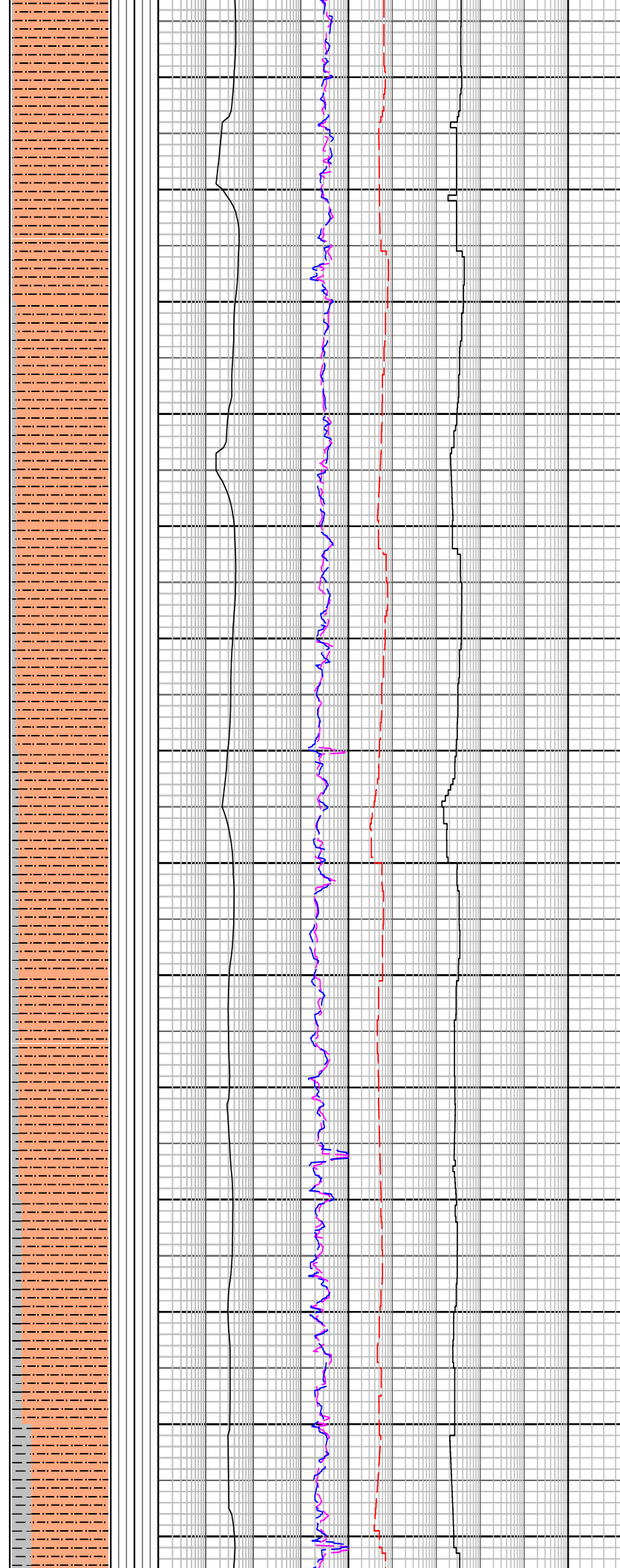
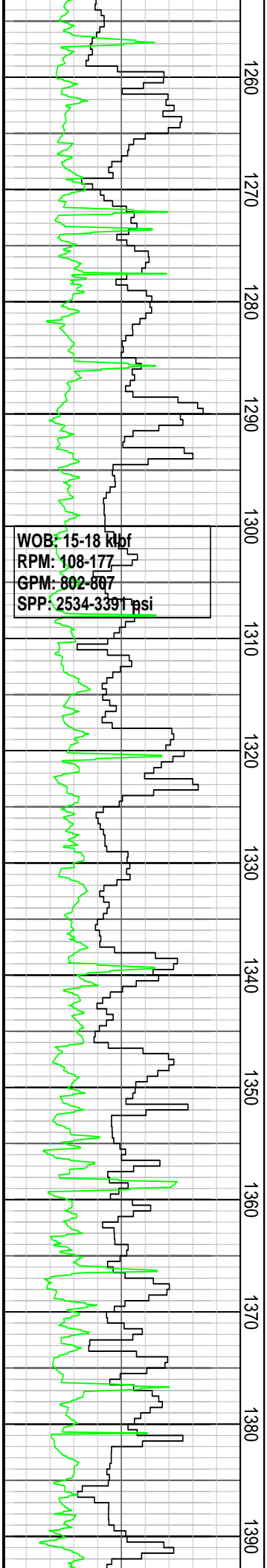
CALCAREOUS SILTSTONE: m lt gy - m dk gy, lt brnsh gy, v arg, com glauc spks, tr foram, sdy i/p grd to SILTY SANDSTONE, frm - mod hd, sbbiky - blkly.

CALCAREOUS SILTSTONE: m gy - m dk gy, occ lt brnsh gy, arg, com glau, com v f to f Qtz, frm to tr mod hd, sbang - sbbiky.

CALCAREOUS CLAYSTONE: m dk gy, slty, frm - mod hd, sbbiky.

CALCAREOUS SILTSTONE: lt brnsh olv gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Silty Sst, frm to mod hd, sbbiky.

CALCAREOUS SILTSTONE: m gy - m dk gy, occ lt brnsh



m gy - m dk gy, occ lt brnsh gy, arg, com glauc, com v f - f Qtz, frm - tr mod hd, sbblky

CALCAREOUS SILTSTONE:
 lt brnsh olv gy, m lt gy i/p, arg, com glau, com v f to f Qtz, loc grd to Sltly Sst, frm to mod hd, sbblky.

CALCAREOUS CLAYSTONE:
 m dk gy, slty, tr glau spks, frm - mod hd, sbblky.

CALCAREOUS SILTSTONE:lt brnsh olv gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Sltly Sst, frm - mod hd, sbblky.

CALCAREOUS SILTSTONE:lt olv gy - gnsh gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Sltly Sst, frm - mod hd, sbblky.

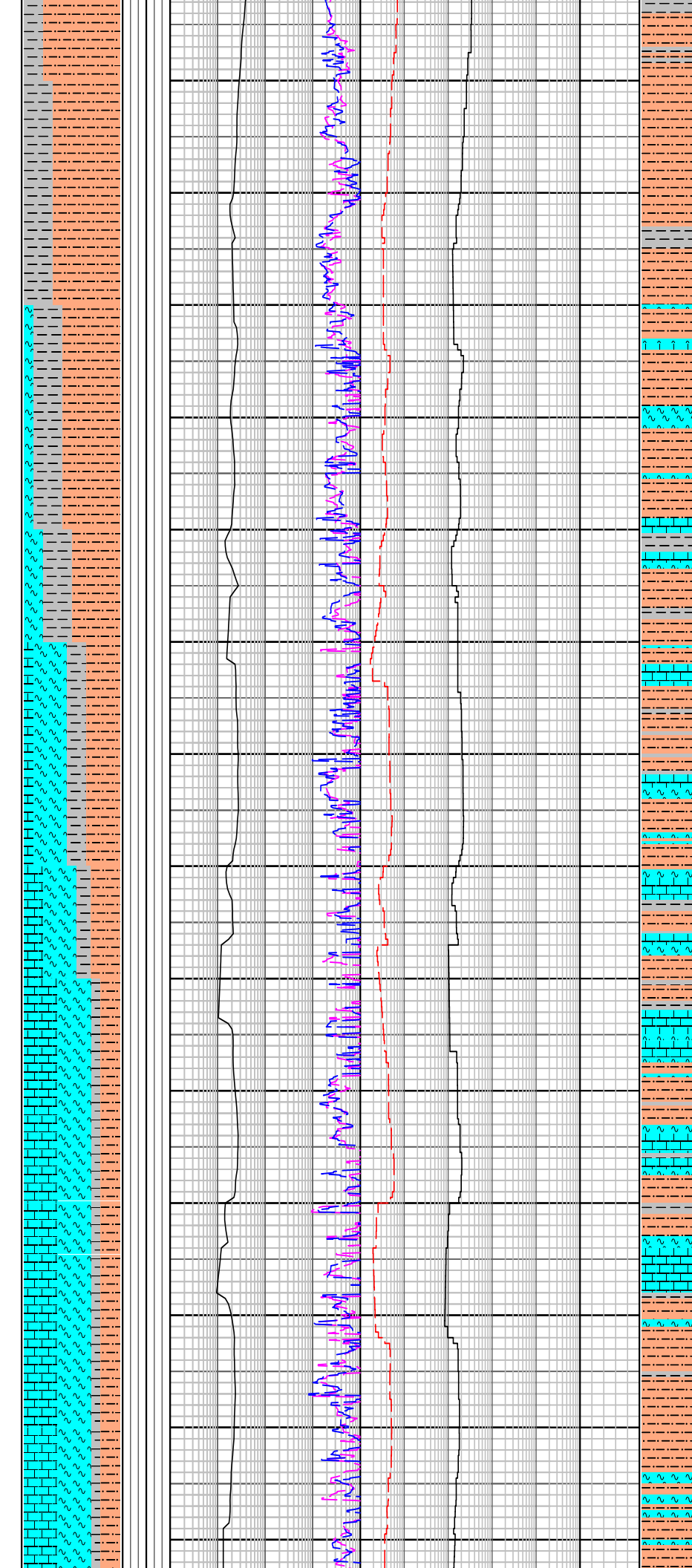
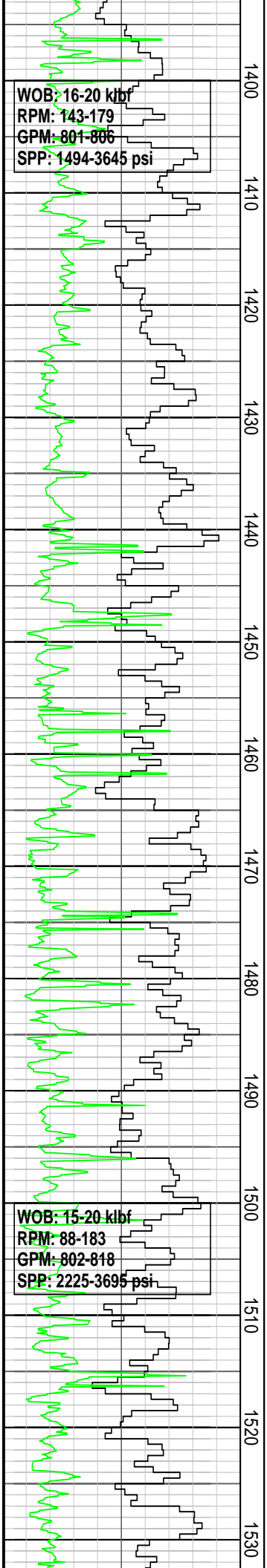
CALCAREOUS SILTSTONE:lt olv gy - gnsh gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Sltly Sst, frm - mod hd, sbblky.

CALCAREOUS CLAYSTONE:
 m dk gy, slty, tr glau spks, frm - mod hd, sbblky.

CALCAREOUS SILTSTONE:lt olv gy - gnsh gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Sltly Sst, frm - mod hd, sbblky.

CALCAREOUS SILTSTONE:lt olv gy - gnsh gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Sltly Sst, frm - mod hd, sbblky.

CALCAREOUS CLAYSTONE:
 m dk gy, slty, tr glau spks, frm - mod hd, sbblky.



CALCAREOUS SILTSTONE:lt olv gy - gnsh gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Sly Sst, frm - mod hd, sbblyky.

CALCAREOUS CLAYSTONE:grnsh gy - m lt gy, wh i/p, sly i/p, tr glau spks, sft amor - frm.

CALCAREOUS MARL: wh, tr blk carb streaks, tr loc w/ m grn rndd glau pel, tr loc w/ v f sbrndd sd & r grd to Cicar i/p, sft - mod hd.

CALCAREOUS SILTSTONE:lt olv gy - gnsh gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Sly Sst, frm - mod hd, sbblyky.

CALCAREOUS MARL: wh, tr blk carb streaks, tr loc w/ m grn rndd glau pel, tr loc w/ v f sbrndd sd & r grd to Cicar i/p, sft - mod hd.

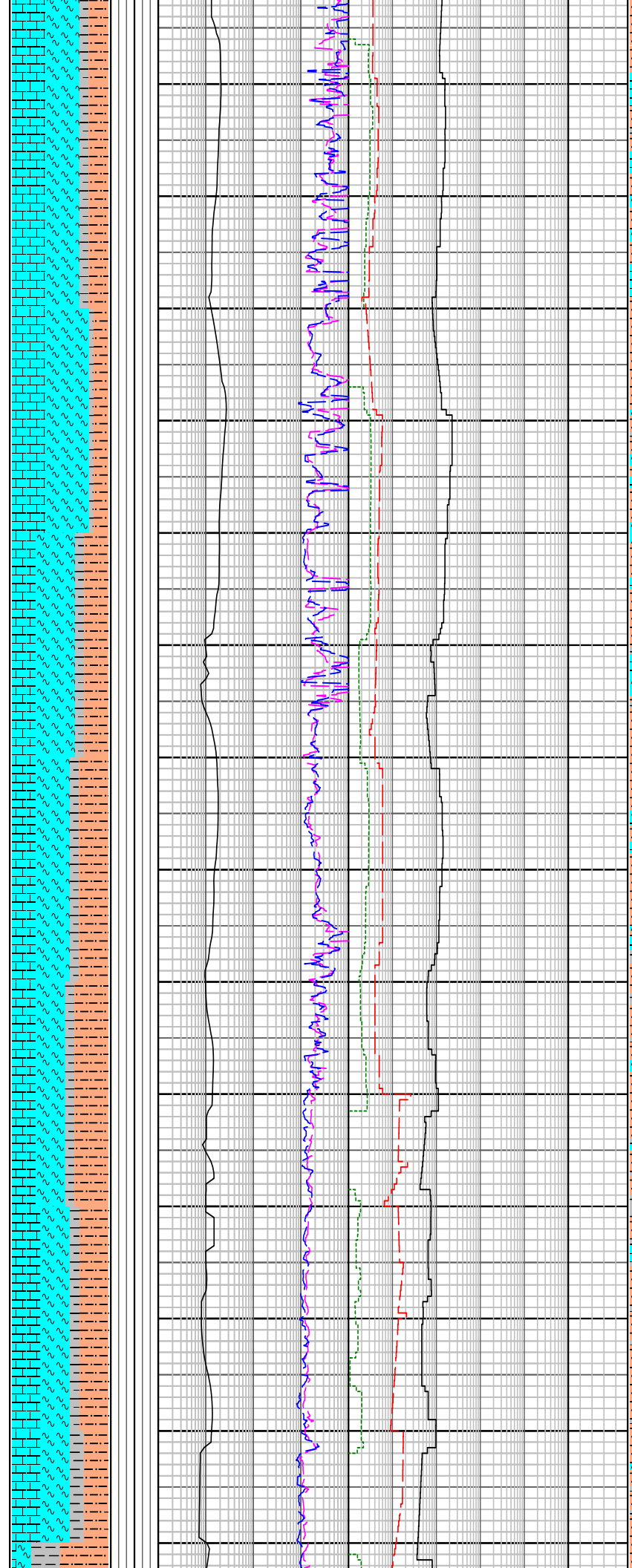
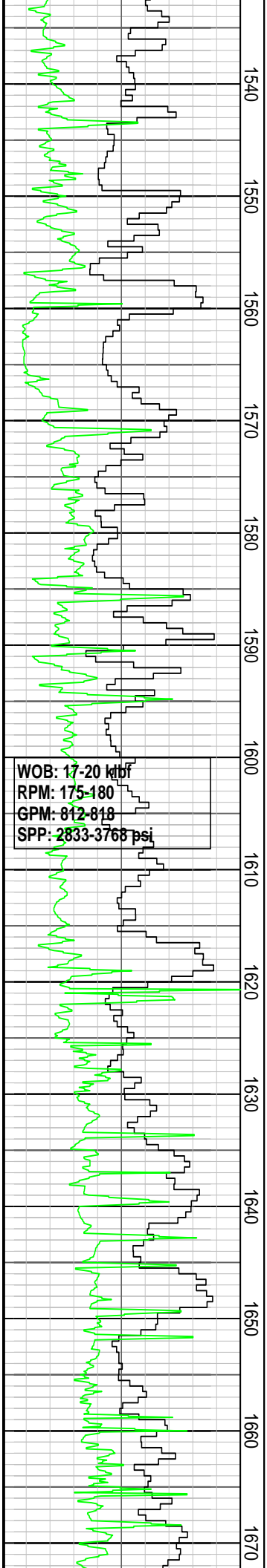
CALCAREOUS CALCARENITE:wh - yelsh gy i/p, com blk spks, tr loc w/ m grn rndd glau pels, mod hd - hd.

CALCAREOUS MARL: wh, tr blk carb streaks, tr loc w/ m grn rndd glau pel, tr loc w/ v f sbrndd sd & r grd to Cicar i/p, sft - mod hd.

CALCAREOUS SILTSTONE:lt olv gy - gnsh gy, m lt gy i/p, argl, com glau, com v f to f Qtz, loc grd to Sly Sst, frm - mod hd, sbblyky.

CALCAREOUS MARL: wh, tr blk carb streaks, tr loc w/ m grn rndd glau pel, tr loc w/ v f sbrndd sd & r grd to Cicar i/p, sft - mod hd.

CALCAREOUS



CALCARENITE: wh - yelsh gy i/p, com to abd blk spks, tr loc w/ v f m grn rndd glau pels, tr w/ v f sd, mod hd - hd.

CALCAREOUS MARL: wh, com loc w/ abd blk carb strks, tr loc m grn rndd glau pels, tr loc w/ v f srnrd sd & sft - mod hd.

CALCAREOUS SILTSTONE: olv gy, r sdy Sltst i/p, r forams, mod hd - hd, sbblky - fiss, 1% blk, v calc, hd, sbfiss shale.

CALCAREOUS CLAYSTONE: m gy, hom to slty i/p, sft amor to frm i/p.

CALCAREOUS MARL: wh, com loc w/ abd blk carb strks, tr loc m grn rndd glau pels, tr loc w/ v f srnrd sd & sft - mod hd.

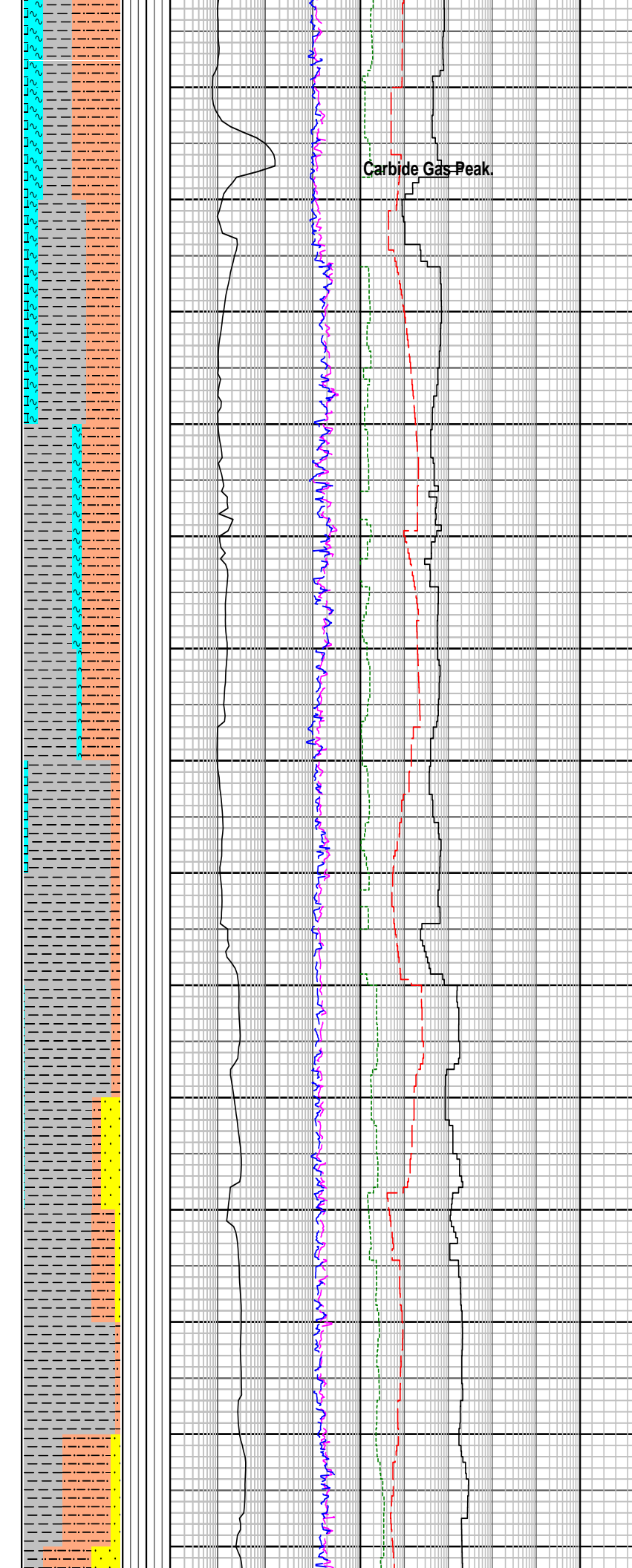
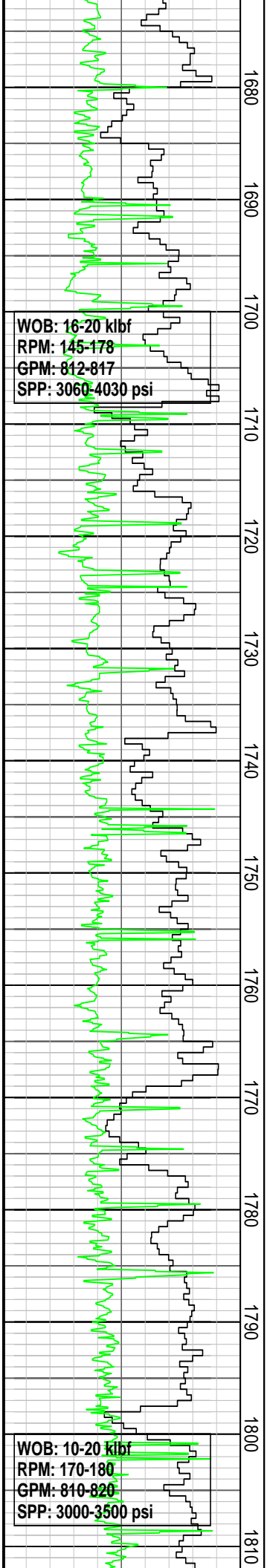
CALCAREOUS SILTSTONE: olv gy, r sdy Sltst i/p, r forams, mod hd - hd, sbblky - fiss, 1% blk, v calc, hd, sbfiss shale.

CALCAREOUS CALCARENITE: wh - yelsh gy i/p, com to abd blk spks, tr loc w/ v f m grn rndd glau pels, tr w/ v f sd, mod hd - hd.

CALCAREOUS CLAYSTONE: m gy, hom to slty i/p, sft amor to frm i/p.

CALCAREOUS MARL: wh, com loc w/ abd blk carb strks, tr loc m grn rndd glau pels, tr loc w/ v f srnrd sd & sft - mod hd.

CALCAREOUS CALCARENITE: wh - yelsh gy i/p, com to abd blk spks, tr loc w/ v f m grn rndd glau pels, tr w/ v f sd, mod hd - hd.



Carbide Run @
1677.0mMDRT
Theo: 4503 Stk
Actual: 4583 Stk
Hole Washout = 2%

CALCAREOUS SILTSTONE:
olv gy, r sdy Siltst i/p, r
forams, mod hd - hd, sbbkly -
fiss, 1% blk, v calc, hd, sbfiss
shale.

CALCAREOUS CLAYSTONE:
m gy, hom to slty i/p, sft
amor to frm i/p.

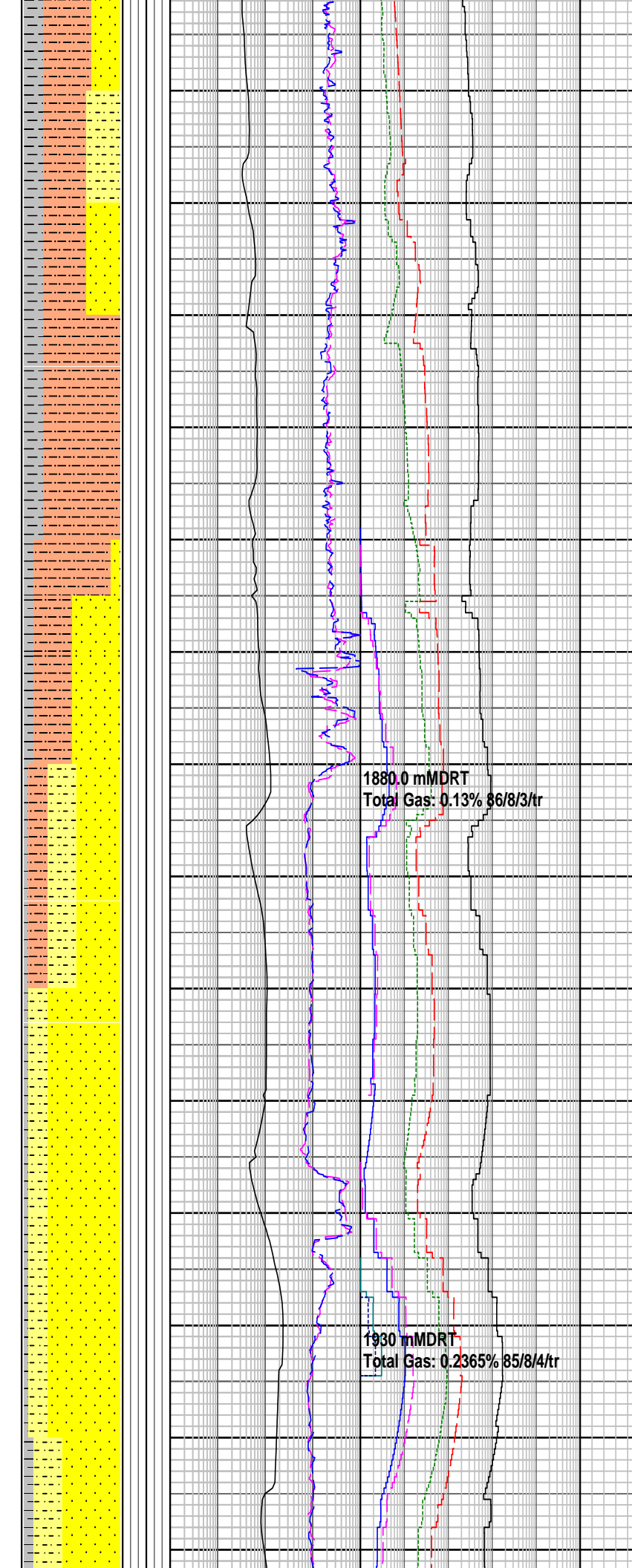
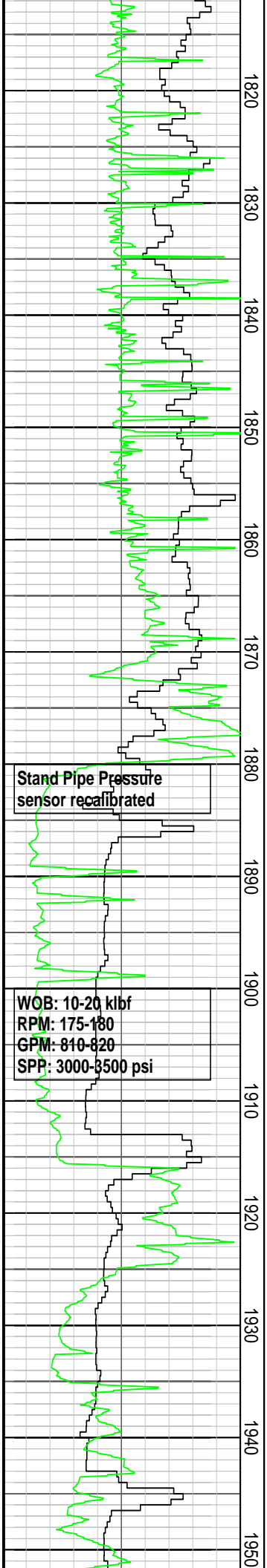
CALCAREOUS SILTSTONE:
gnsh gy-mgy, tr lseforam and
tub calc vnembd, r trnsp,
sbang qtz, mod hd-hd,
sbbkly-sbfis, r SHALE, brnsh
blk-blk, tr fis and brit

CALCAREOUS CLAYSTONE:
olv gy-lt gy, m lt - m dk gy,
occ lt brnsh gy, occ f glau gr,
tr lse foram, tr qtz, mod
hd-hd, sbbkly-sbfis

SANDSTONE: trnsp, trnsl,
varic qtz, f gr, v wl srt,
sbang-rnd, sph-sb elong,
poss arg mtrx, cl washed
out, lse, comm glau pel, occ
nod pyr, tr jasp, tr foss, p-fr
inf por, no shw

CALCAREOUS SILTSTONE:
grd from CALCAREOUS
CLAYSTONE, olv gy-gnsh gy,
lt brnsh gy, occ dissem f
glau, sbbkly-sbfiss

MW: 1.16 sg FV: 60
PV: 19 YP: 39
Gels: 15/19/21 pH: 9.1



SILTY SANDSTONE: trnsp. trnsl, or & yel qtz, f, tr m, v wl srt, sbang-rnd, sph- sb elong, slty olv gy mtrx-washed out, lse, abd glauc pel, tr nod pyr, tr foram, calc, pr inf por, n

SILTSTONE: olv gy-brnsh gy, com-abd diss f-m glauc, com-abd v f-f qtz, grd to **SILTY SANDSTONE** i/p, arg, calc, sft-frm, amor-sbbiky

CLAYSTONE: m lt gy-m gy, occ olv gy-gnsh gy, sft-hd, sbbiky-sbfiss, tr fiss

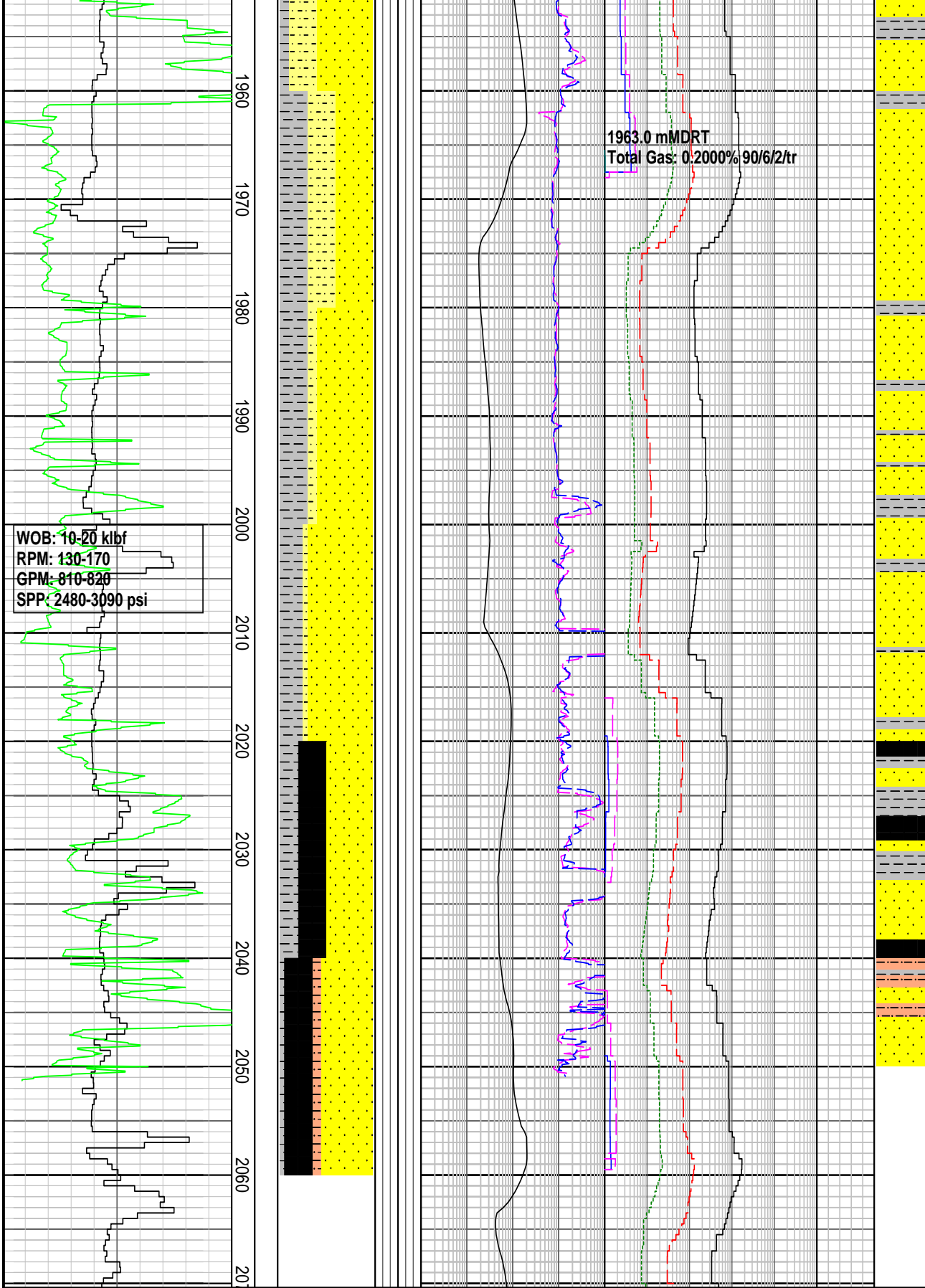
GLAUCONITIC SANDSTONE: olv gy, trnsp, trnsl, op, yel or, vf-f gr, v wl srt, sbang-rnd, sph-sb elong, calc slty mtrx, pred lse, abd f-m glauc pel, occ lith, tr pyr, p vis por, no sh

SILTSTONE: olv gy-brnsh gy, com-abd diss f-m glauc, com-abd v f-f qtz, grd to **SILTY SANDSTONE** i/p, arg, calc, sft-frm, amor-sbbiky

SANDSTONE: lt gy, trnsp, trnsl, varic qtz, f-crs, sbang-rnd, sph-sbelong, lse, vf-f glauc, r nod pyr, tr jasp, tr foss, p-fr inf por, no shw

CLAYSTONE: m lt gy, mod calc-cald, tr slit, tr dis pyr, frm, sbbiky, sbfiss-fiss

SILTY SANDSTONE: olv gy, brnsh gy, trnsp, trnsl or qtz, v f-m gr, wel srtd, sph-sbelon, calc, slty mtrx, grd-**SILTSTONE**, frm-mod hd, comm fn glauc, p-fr vis por,



no shw

SANDSTONE: lt gy, trnsl mlky qtz, f-v crs qtz, ang-sbrnd, sph-sbelong, prly srt, pred lse, rr agg w silic mtrx, occ qtz ovgth, r-com inter gran pyr, occ frac qtz, v f-f glauc, pr-

CLAYSTONE: m lt gy-dk gy, olv gy, non-mod calc, tr diss pyr, frm-hd, sbbkly, sbfiss-fiss, carb spk i/p

COAL: blk, sbvitr-vitr, antracitic, sbchonc-conch frac, blk

SANDSTONE: lt gy, trnsl mlky qtz, m-v crs qtz, ang-sbrnd, sbsph, mod-prly srt, pred lse, r silic mtrx, occ qtz ovgth, r inter gran & lse pyr, occ frac grns, pr-fr inf por, no shw.

SILTSTONE: olv gy, brn gy-brnsh blk, carb spks & lam, tr v f qtz i/p, mor arg i/p, non-v wk calc, fm-mod hd

FORMATION EVALUATION LOG

| Drilling Rate | | MD meters :1:500 | TVDRT meters | Cuttings Lithology | Oil Show | Visual Inferred Porosity | Gas Data | | Chromatograph Data | | Calcmtery | Interpreted Lithology | Lithology Description |
|---------------|------------|------------------|--------------|--------------------|----------|--------------------------|-----------------------|-------------|--------------------|-------------|-----------|-----------------------|-----------------------|
| ROP (m/hr) | ROP (m/hr) | | | | | | Gas Hydrocarbon Avg % | Methane ppm | Ethane ppm | Propane ppm | | | |
| 200 | 200 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 180 | 240 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 160 | 280 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 140 | 320 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 120 | 360 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 100 | 400 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 80 | 200 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 60 | 240 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 40 | 280 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| 20 | 320 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| | 360 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| | 400 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| | 200 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |
| | 0 | | | | | | 0.001 | 1 | 100000 | 100000 | | | |

API

PFG

1 iso-Pentane ppm 100000

1 n-Pentane ppm 100000