



Scale: 5" / 100'
Measured Depth Log

Well Name Johnson Trust 8

Location Sec. 13-T2N-R68W

State Colorado

County Weld

Country USA

Rig Number Patterson UTI 346

API Number 05-123-42315-00

Field Wattenberg

Geographic Region DJ Basin

Drilling Completed 2/xx/2016

Spud Date 2/4/2016

Surface Coordinates SHL: 2069' FSL, 388' FWL Sec. 13 T2N R68W

Lat: 40° 8' 13.589 N
Long: 104° 57' 34.632 W

Bottom Hole Coordinates PBHL:

Lat: 40° 7' 31.202 N
Long: 104° 57' 31.687 W

Ground Elevation 4,923'

K.B. Elevation 4,947.5'

Logged Interval 5,000' **To** 6,800'

Total Depth TBD

Formation Niobrara B Chalk

Type of Drilling Fluid Oil Based - invert

Operator

Company Extaction Oil & Gas

Address 1888 Sherman St., Suite 200
Denver, CO 80203

Geologist

Name Vivian Spiess / Jared Rouse

Zone Color Coding

Oil Condensate Gas

Name Vivian Express / Sured Road

Company Extraction Oil & Gas

Address 1888 Sherman St., Suite 200
Denver, CO 80203

Note

Error

Core

Water

Pressure

Seal

Other

Equipment ML-113

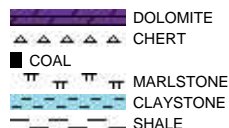
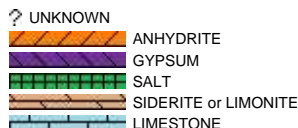
Comments Start: 2-5-16
TD: TBD
Standby: TBD

Services Provided 2-man Logging
On Site Geosteering

Logger Names Dominic Pitre / Nicholas Watkiins

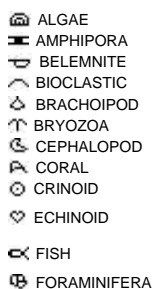
Address Empirica, LLC.
6360 W Sam Houston Pkwy N
Suite 100
Houston, TX 77041

Rock Types



Accessories

Fossils



Fossil



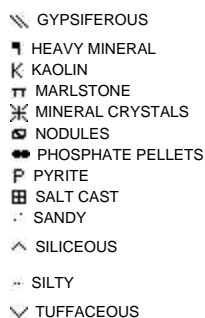
Minerals



ARGILLACEOUS



GLAUCONITE

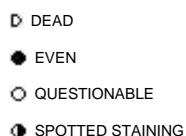


Stringer



Other Symbols

Oil Show



ORGANIC

PINPOINT

VUGGY

Engineering



FORMATION TOP

GAS SHOW

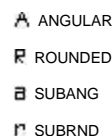
MN DEPTH

NORMAL FAULT

OIL SHOW

OVERTURNED STRATA

Rounding



LITHOGRAPHIC

MICROXLN

MUDSTONE

PACKSTONE

WACKESTONE

Sorting

Porosity

- E EARTHY
- ▣ FENESTRAL
- F FRACTURE
- ✕ INTERCRYSTALLINE
- ⊕ INTEROOLITIC
- ✂ MOLDIC

- ▬ CASING
- ◀ CONNECTION (LEFT)
- ▶ CONNECTION (RIGHT)
- ⬮ CONNECTION GAS
- ⬇ CORE - LOST
- CORE - RECOVERED
- ⋮ DST INTERVAL
- ⬇/⬆ FAULT

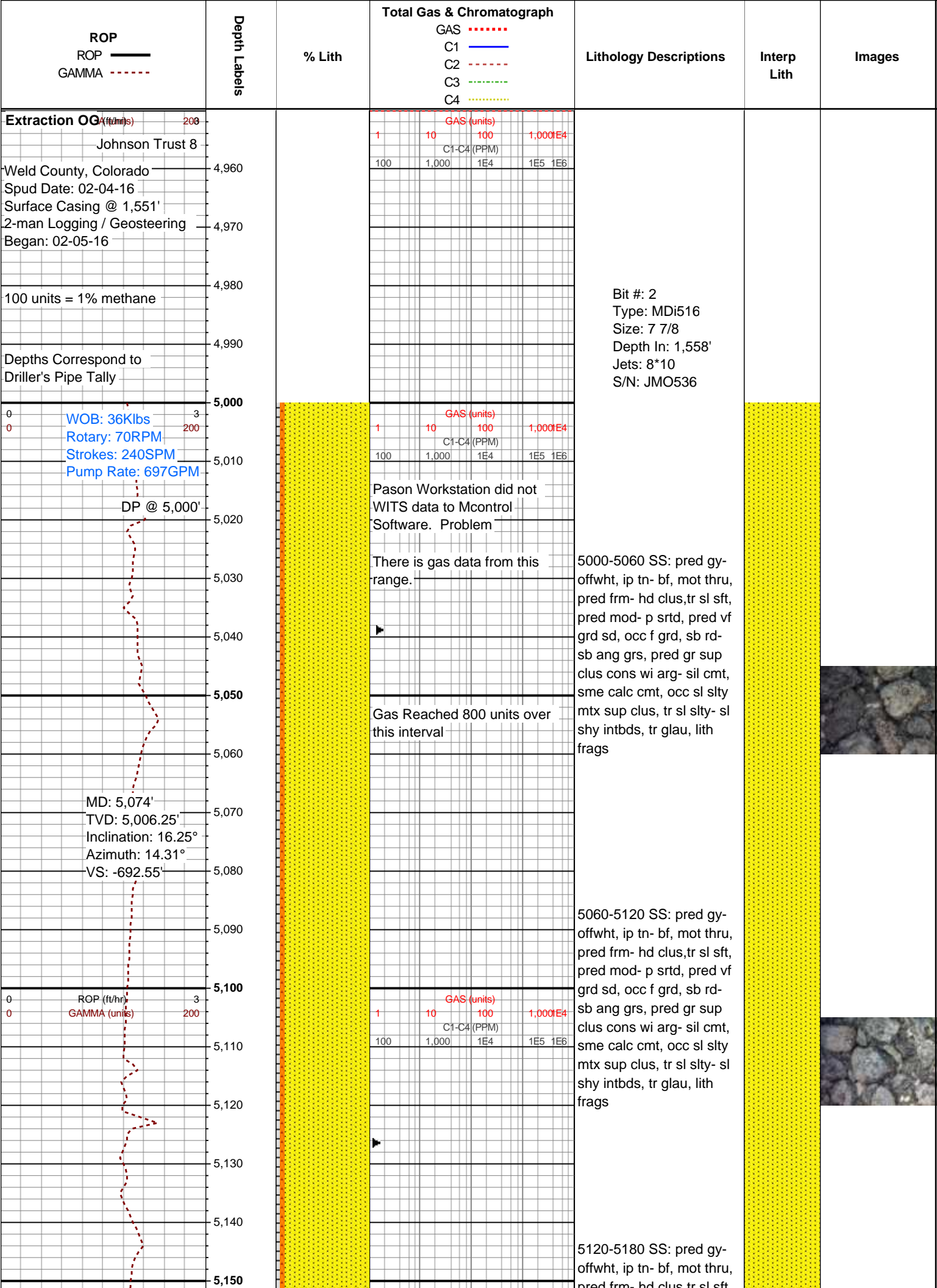
- ↗ REVERSE FAULT
- ◀ SIDEWALL CORE (LEFT)
- ▶ SIDEWALL CORE (RIGHT)
- ▨ SLIDE
- DS SURVEY
- ⬮ TRIP GAS
- ◀ WIRELINE TESTED - LEFT
- ▶ WIRELINE TESTED - RT

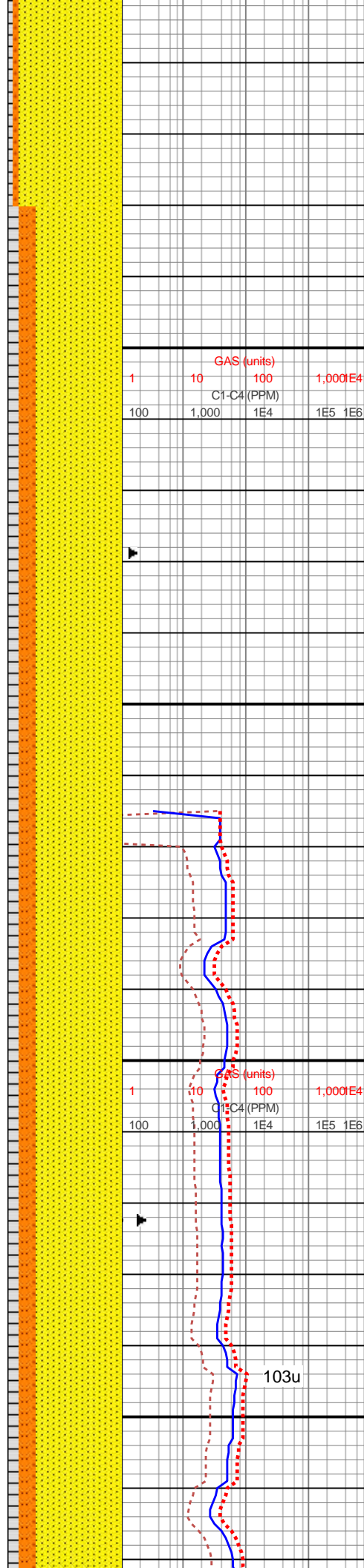
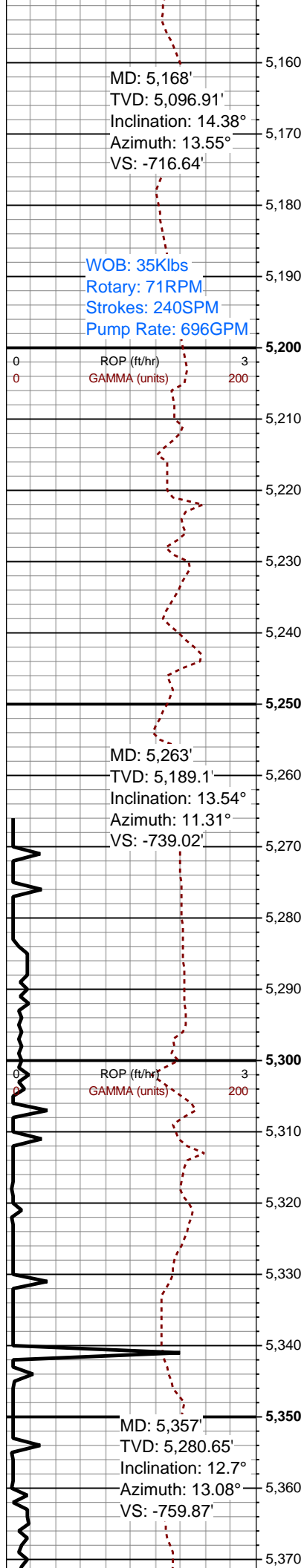
Textures

- BS BOUNDSTONE
- C CHALKY
- ✕ CRYPTOXLN
- E EARTHY
- FX FINELYXLN
- GS GRAINSTONE

Sorting

- M MODERATE
- P POOR
- W WELL





pred frm- hd clus, tr sl slt,
pred mod- p srted, pred vf
grd sd, occ f grd, sb rd-
sb ang grs, pred gr sup
clus cons wi arg- sil cmt,
sme calc cmt, occ sl slty
mtx sup clus, tr sl slty- sl
shy intbds, tr glau, lith
frags

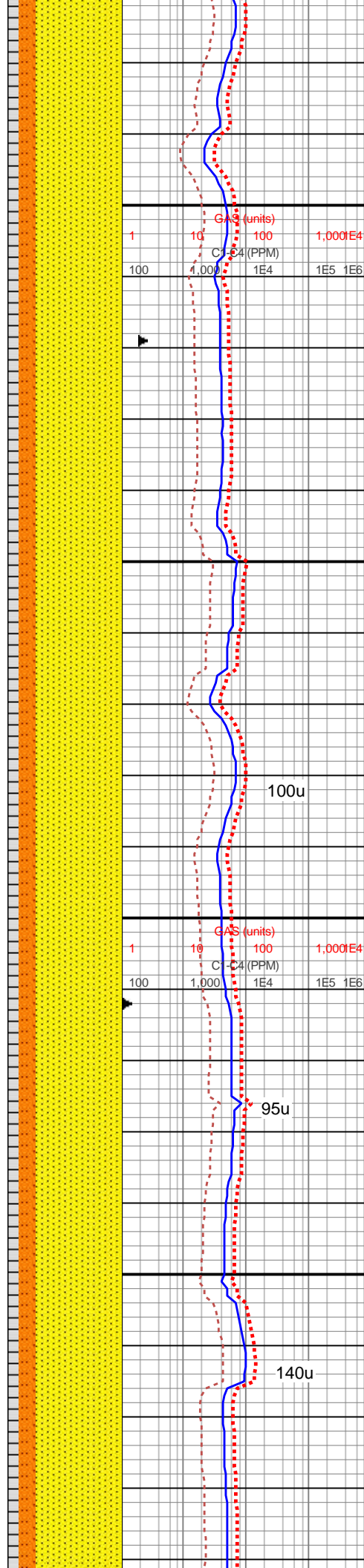
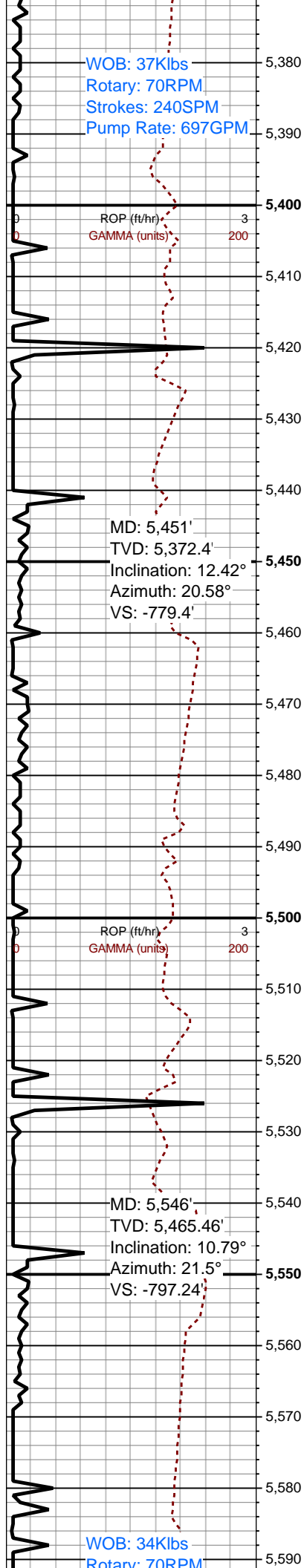
5180-5240 80% SS: med
gy, ip tn- bf, gy- offwht mot
thru, pred frm- hd clus,
occ sl sft arg clus, pred
mod- p srted, pred vf grd
sd- slt, occ f grd sd, sb
rd- sb ang grs, pred gr
sup clus cons wi arg- sil
cmt, sme calc cmt, ip slty
mtx sup clus, occ sl slty-
sl shy intbds, tr glau, lith
frags, intbdd wi 20% med
gy sltst & sh

5240-5300 80% SS: med
gy, ip tn- bf, gy- offwht mot
thru, pred frm- hd clus,
occ sl sft arg clus, pred
mod- p srted, pred vf grd
sd- slt, occ f grd sd, sb
rd- sb ang grs, pred gr
sup clus cons wi arg- sil
cmt, sme calc cmt, ip slty
mtx sup clus, occ sl slty-
sl shy intbds, sme lse
ang grs, tr glau, lith frags,
intbdd wi 20% med gy
sltst & sh

5300-5360 80% SS: med
gy, ip tn- bf, gy- offwht mot
thru, pred frm- hd clus,
occ sl sft arg clus, pred
mod- p srted, pred vf grd
sd- slt, occ f grd sd, sb
rd- sb ang grs, pred gr
sup clus cons wi arg- sil
cmt, sme calc cmt, ip slty
mtx sup clus, occ sl slty-
sl shy intbds, sme lse
ang grs, tr glau, lith frags,
intbdd wi 20% med gy
sltst & sh

MW: 8.85
VIS: 37





5360-5420 80% SS: med gy, ip tn- bf, gy- offwht mot thru, pred frm- hd clus, occ sl sft arg clus, pred mod- p srted, pred vf grd sd- slt, occ f grd sd, sb rd- sb ang grs, pred gr sup clus cons wi arg- sil cmt, sme calc cmt, ip slty mtx sup clus, occ sl slty- sl shy intbds, sme lse ang grs, tr glau, lith frags, intbdd wi 20% med gy sltst & sh



5420-5480 80% SS: pred med gy- gy, ip tn- bf, gy- offwht mot thru, pred frm- hd clus, sme sl sft arg clus, pred p srted, pred vf grd sd- slt, occ f grd sd, sb rd- sb ang grs, pred gr sup clus cons wi arg- sil cmt, sme calc cmt, ip slty mtx sup clus, sme lse ang grs, tr glau, lith frags, intbdd wi 20% med gy sltst & sh

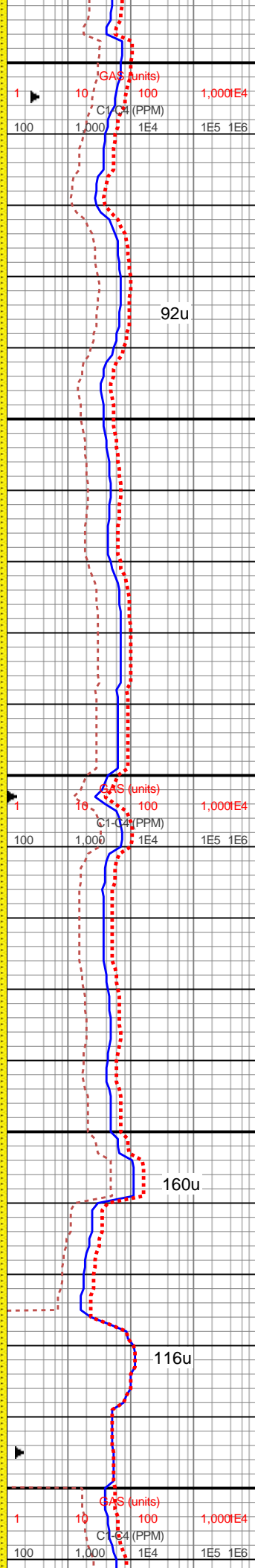
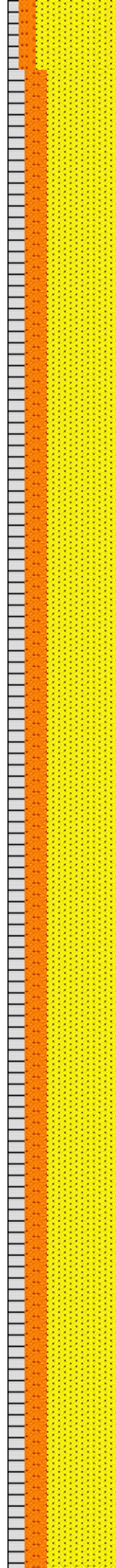
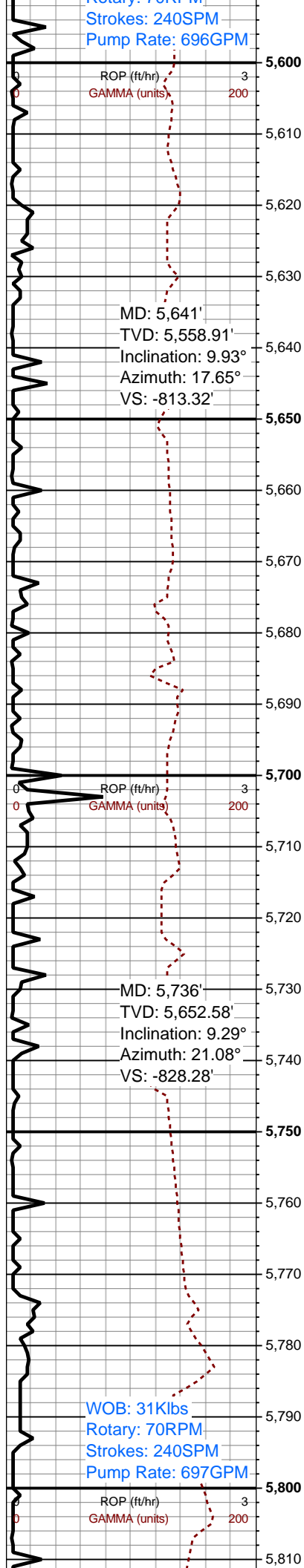


5480-5540 80% SS: pred med gy- gy, ip tn- bf, gy- offwht mot thru, pred frm- hd clus, sme sl sft arg clus, pred p srted, pred vf grd sd- slt, occ f grd sd, sb rd- sb ang grs, pred gr sup clus cons wi arg- sil cmt, sme calc cmt, ip slty mtx sup clus, sme lse ang grs, tr glau, lith frags, intbdd wi 20% med gy sltst & sh



5540-5600 80% SS: pred med gy- gy, ip tn- bf, gy- offwht mot thru, pred frm- hd clus, sme sl sft arg clus, pred p srted, pred vf grd sd- slt, occ f grd sd, sb rd- sb ang grs, pred gr sup clus cons wi arg- sil cmt, sme calc cmt, ip slty mtx sup clus, sme lse





ang grs, tr glau, lith frags,
intbdd wi 20% med gy
sltst & sh

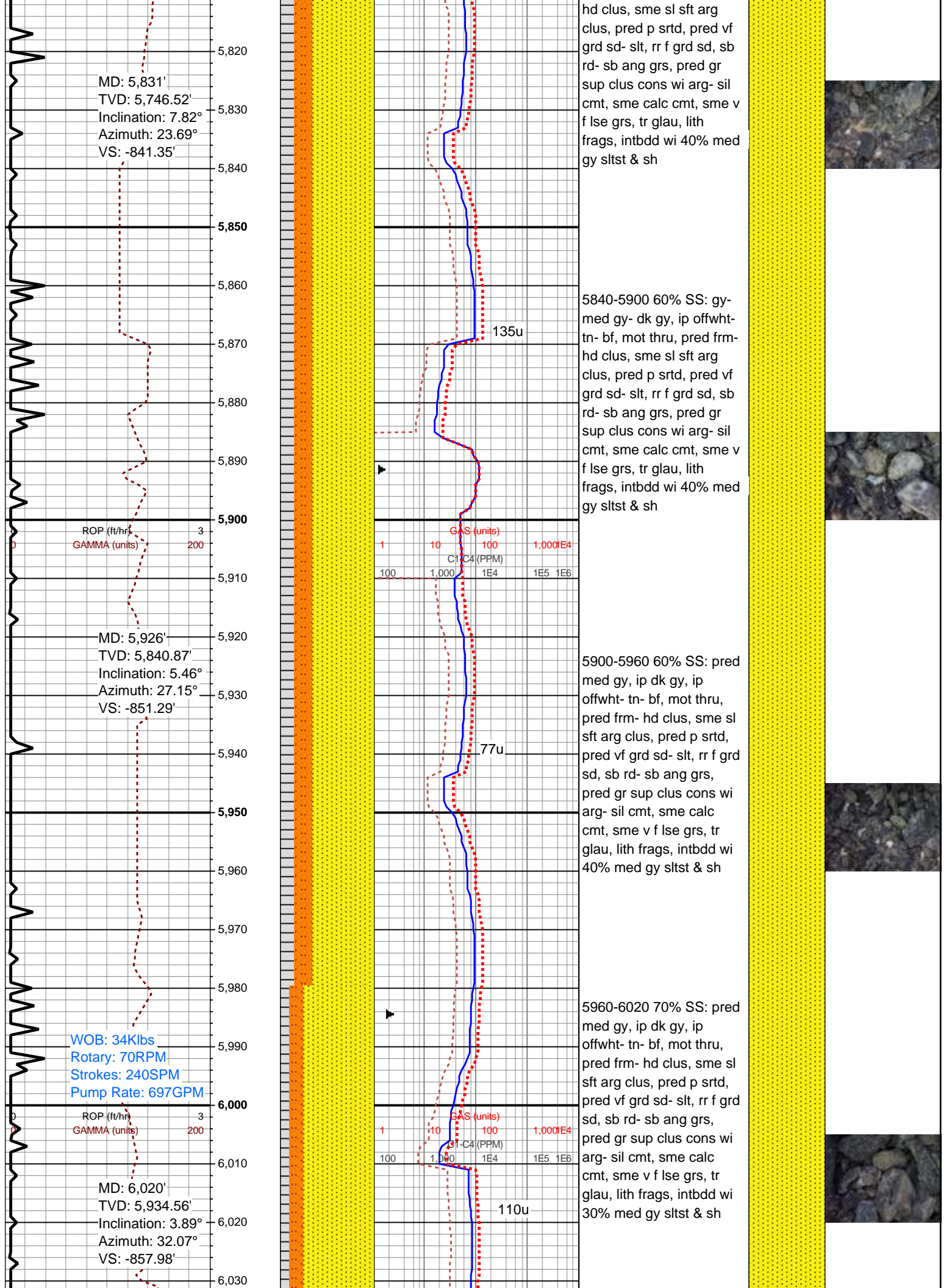
5600-5660 760% SS: gy-
med gy- dk gy, ip offwht-
tn- bf, mot thru, pred frm-
hd clus, sme sl sft arg
clus, pred p srted, pred vf
grd sd- slt, rr f grd sd, sb
rd- sb ang grs, pred gr
sup clus cons wi arg- sil
cmt, sme calc cmt, sme v
f lse grs, tr glau, lith
frags, intbdd wi 40% med
gy sltst & sh

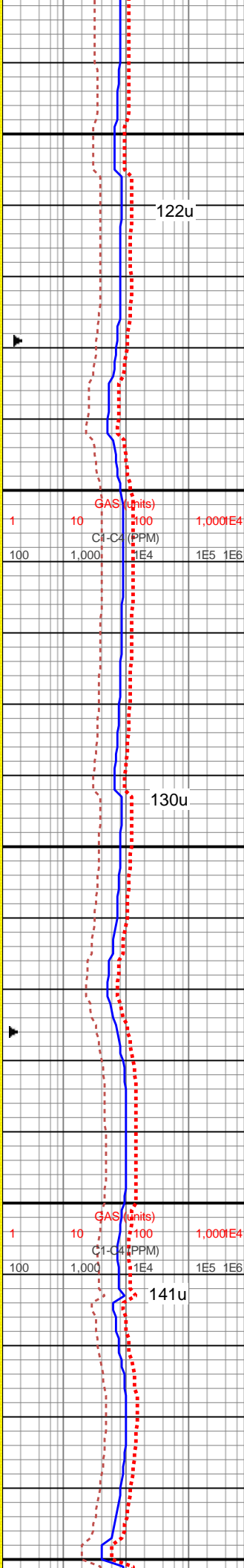
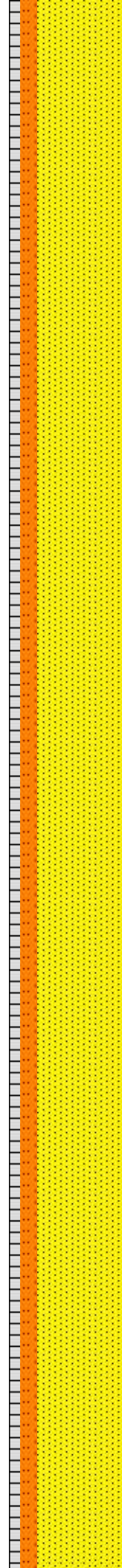
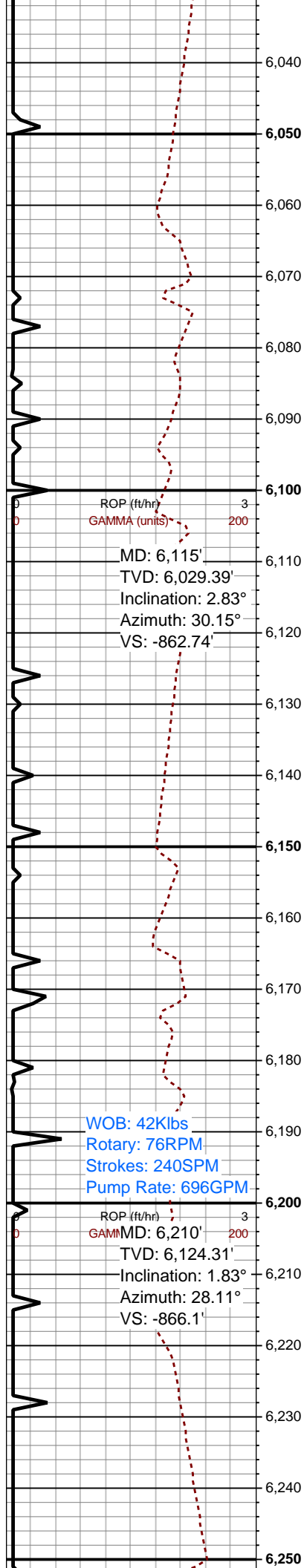
5660-5720 60% SS: gy-
med gy- dk gy, ip offwht-
tn- bf, mot thru, pred frm-
hd clus, sme sl sft arg
clus, pred p srted, pred vf
grd sd- slt, rr f grd sd, sb
rd- sb ang grs, pred gr
sup clus cons wi arg- sil
cmt, sme calc cmt, sme v
f lse grs, tr glau, lith
frags, intbdd wi 40% med
gy sltst & sh

5720-5780 60% SS: gy-
med gy- dk gy, ip offwht-
tn- bf, mot thru, pred frm-
hd clus, sme sl sft arg
clus, pred p srted, pred vf
grd sd- slt, rr f grd sd, sb
rd- sb ang grs, pred gr
sup clus cons wi arg- sil
cmt, sme calc cmt, sme v
f lse grs, tr glau, lith
frags, intbdd wi 40% med
gy sltst & sh

5780-5840 60% SS: gy-
med gy- dk gy, ip offwht-
tn- bf, mot thru, pred frm-







6020-6080 70% SS: pred
med gy, ip dk gy, ip
offwht- tn- bf, mot thru,
pred frm- hd clus, sme sl
sft arg clus, pred p srted,
pred vf grd sd- slt, rr f grd
sd, sb rd- sb ang grs,
pred gr sup clus cons wi
arg- sil cmt, sme calc
cmt, sme v f lse grs, tr
glau, lith frags, intbdd wi
30% med gy sltst & sh

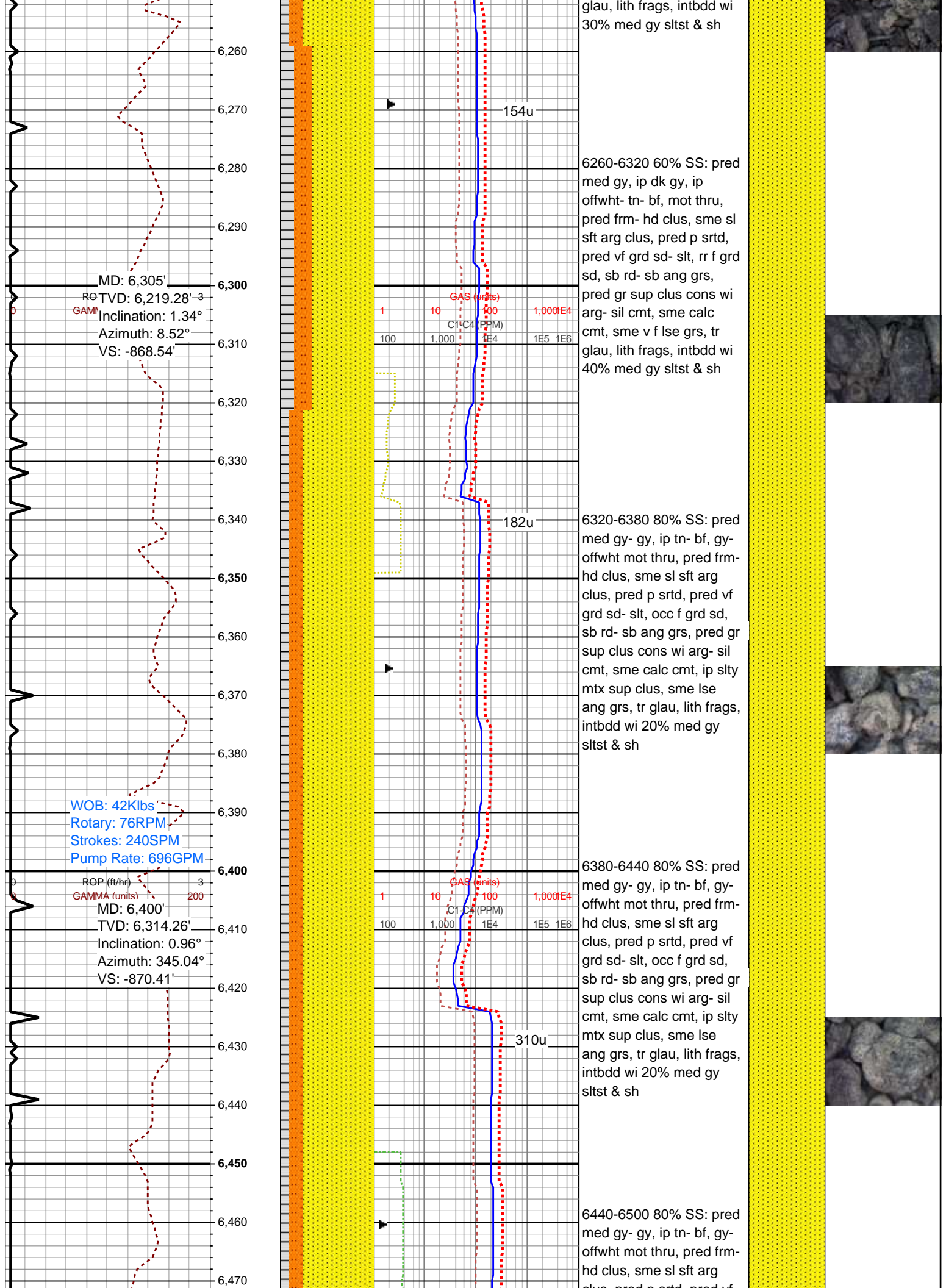
MW: 9.0
VIS: 38

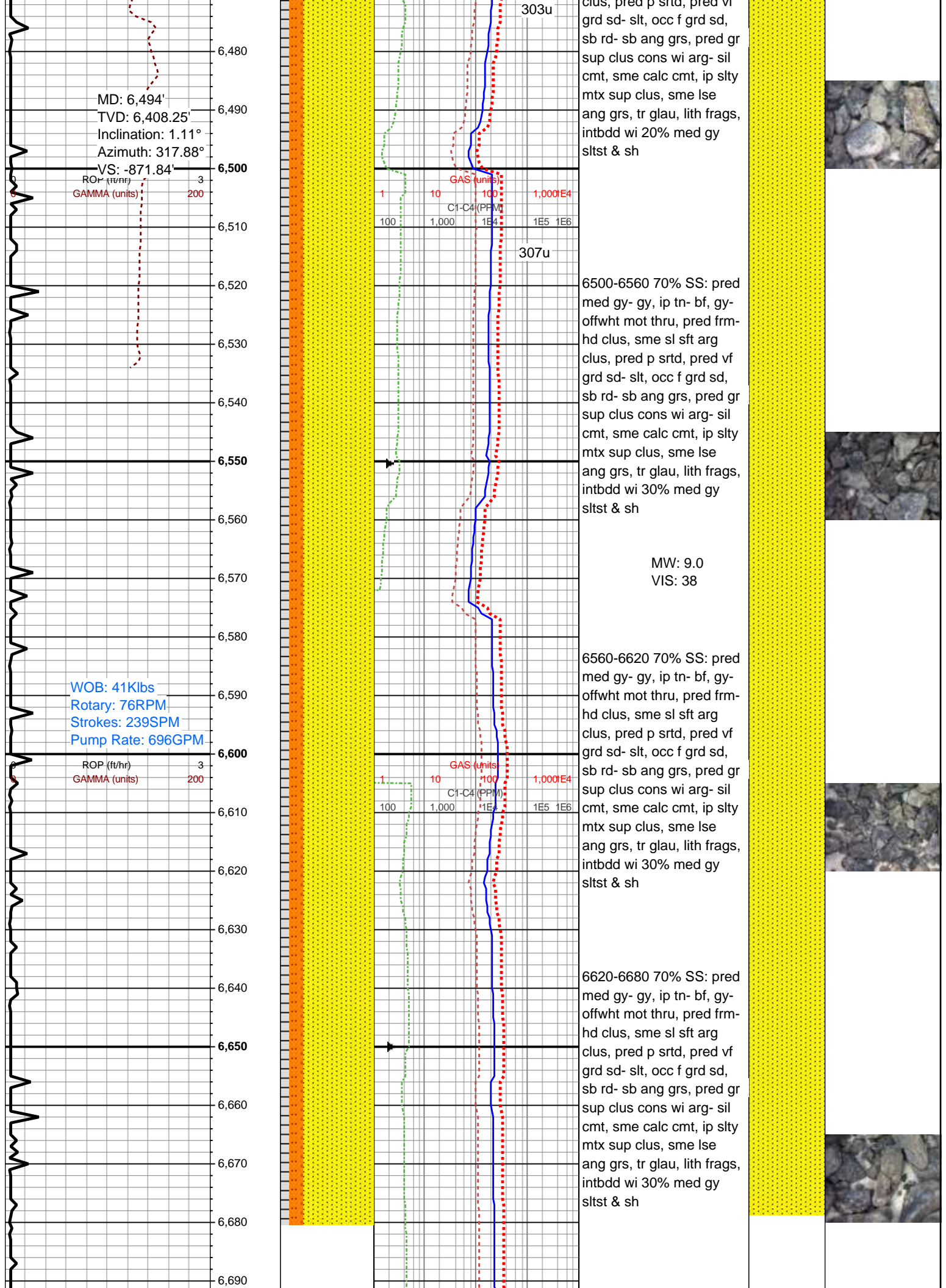
6080-6140 70% SS: pred
med gy, ip dk gy, ip
offwht- tn- bf, mot thru,
pred frm- hd clus, sme sl
sft arg clus, pred p srted,
pred vf grd sd- slt, rr f grd
sd, sb rd- sb ang grs,
pred gr sup clus cons wi
arg- sil cmt, sme calc
cmt, sme v f lse grs, tr
glau, lith frags, intbdd wi
30% med gy sltst & sh

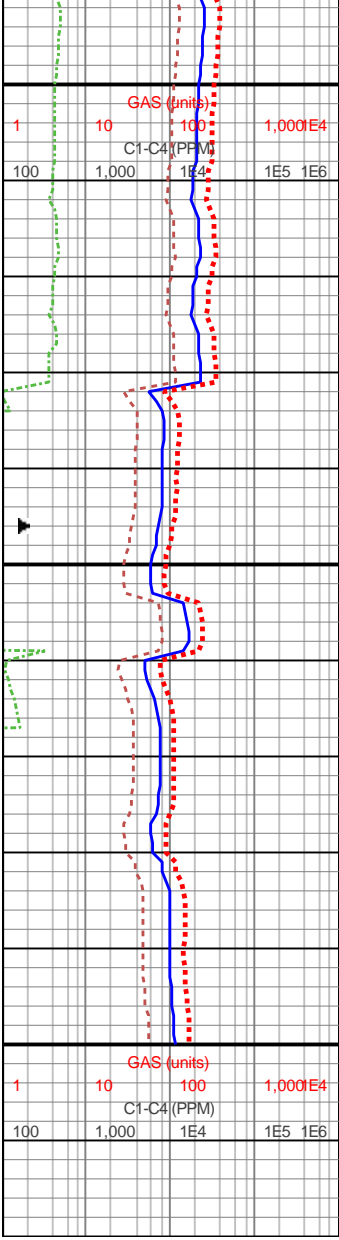
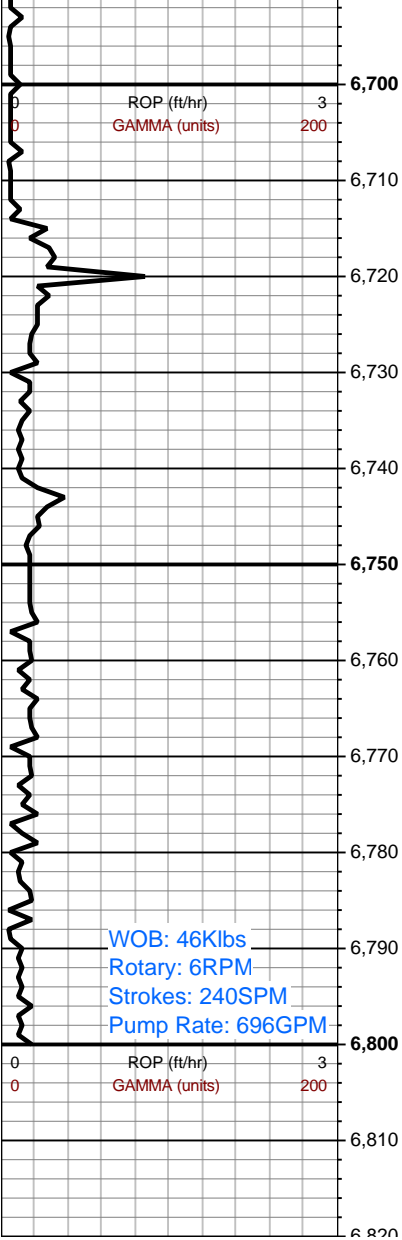
6140-6200 70% SS: pred
med gy, ip dk gy, ip
offwht- tn- bf, mot thru,
pred frm- hd clus, sme sl
sft arg clus, pred p srted,
pred vf grd sd- slt, rr f grd
sd, sb rd- sb ang grs,
pred gr sup clus cons wi
arg- sil cmt, sme calc
cmt, sme v f lse grs, tr
glau, lith frags, intbdd wi
30% med gy sltst & sh

6200-6260 70% SS: pred
med gy, ip dk gy, ip
offwht- tn- bf, mot thru,
pred frm- hd clus, sme sl
sft arg clus, pred p srted,
pred vf grd sd- slt, rr f grd
sd, sb rd- sb ang grs,
pred gr sup clus cons wi
arg- sil cmt, sme calc
cmt, sme v f lse grs, tr









6680-6740 SS (60%): gy-
bf- dk gy, ip tn, mot thru,
pred frm- hd clus, sme
sft arg clus, pred p srted,
pred vf grd sd- slt, tr f grd
sd, sb rd- sb ang grs,
pred gr sup clus cons wi
arg- sil cmt, sme v sl calc
cmt, ip slty mtx sup clus,
slty- sl shy intbds thru, tr
glau, lith frags, intbdd wi
40% med- dk gy sltst- slty
sh

6740-6800 40% SD: pred
dk- lt gy, sme med gy-
offwht, pred frm, sme sl
frm- fri shy clus, sb blk-
blk, grn sup clus, pred v
f sd- slt, arg- sil cmt thru,
occ sl calc, abnt lith
frags, tr pyr, incrg sh
intbds; 30% SLTST: pred
dk gy, sme sl blk, frm- hd,
occ sl frm, sb blk- sb
plty, ip v f sd intbds, mod
sft ltgy- tn shy lam, intbdd
wi 30% tn sh

Continued on horizontal
log

