



Scale: 5" / 100'  
Measured Depth Log

**Well Name** SHOOK 3-10-1NBH Horizontal

**Location** NWSE SECTION 3 T1S R67W

**State** COLORADO

**County** ADAMS

**Country** USA

**Rig Number** ENSIGN 145

**API Number** 05-001-09970

**AFE #** 1700005

**Geographic Region** DJ BASIN

**Field** WATTENBERG

**Spud Date** 4/10/2017

**Drilling Completed** 6/2/2017

**Surface Coordinates** NWSE SECTION 3, T1S, R67W  
2058' FSL x 2259' FEL

**Bottom Hole Coordinates** Section 10, T1S, R67W  
422' FSL x 1068' FWL

**Ground Elevation** 5098'

**K.B. Elevation** 5111'

**Logged Interval** 8469' To 12902'

**Total Depth** 4433'

**Formation** NIOBRARA B CHALK

**Type of Drilling Fluid** OIL BASED MUD

## Operator

**Company** PetroShare Corporation

**Address** 7200 S Alton Way  
Englewood, CO 80112



## Geologist

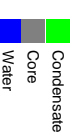
**Name** WEDGE HOWLAND, SAGE BETTS

**Company** Terra Guidance

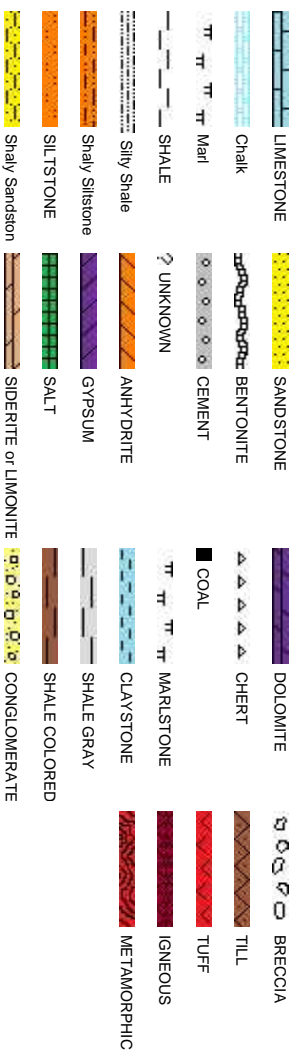
**Address** 1298 O Road  
Loma CO 81524  
(970) 260-5408



## Zone Color Coding

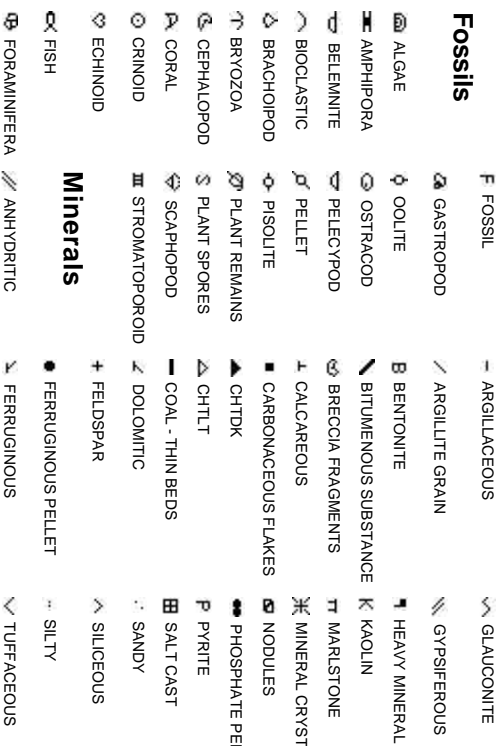


## Rock Types

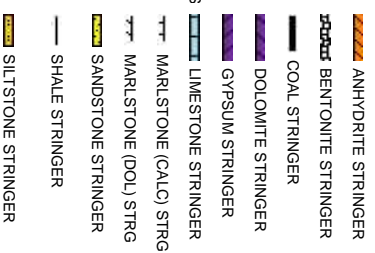


## Accessories

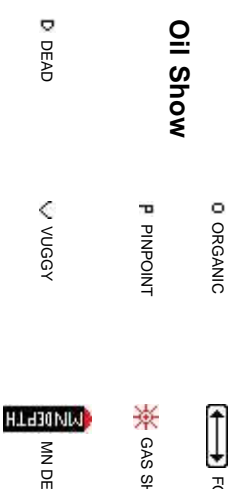
## Fossils



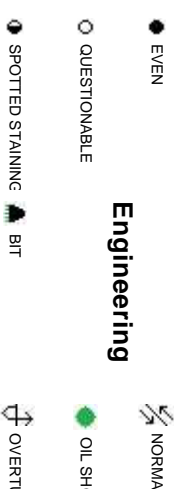
**Stringer**



## Other



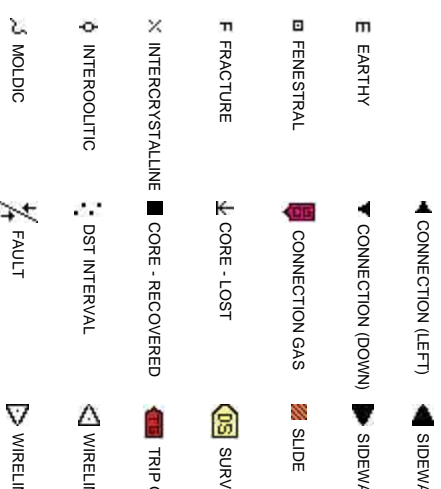
## Oil Show



# Engineering



## Porosity



# er Symbols

FORMATION TOP L LITHOGRAPHIC

## Rounding

HOW MX MICROXLN

PTH A ANGULAR MS MUDSTONE

L FAULT R ROUNDED PS PACKSTONE

LOW B SUBANG WS WACKESTONE

JURNED STRATA T SUBRND

## Sorting

SE FAULT

## Textures

ALL CORE (LEFT) M MODERATE

ALL CORE (RIGHT) BS BOUNDSTONE P POOR

C CHALKY W WELL

EY CX CRYPTOXLN

EGAS E EARTHY

NE TESTED - LEFT FX FINELYXLN

NE TESTED - RT ES GRANSTONE

## ConnectionGas(Vert)

Curve/Survey Data  
ROP  
Gamma

Gaps in Gamma Data due to Rapid Drilling Rate

Total Gas & Chromatograph

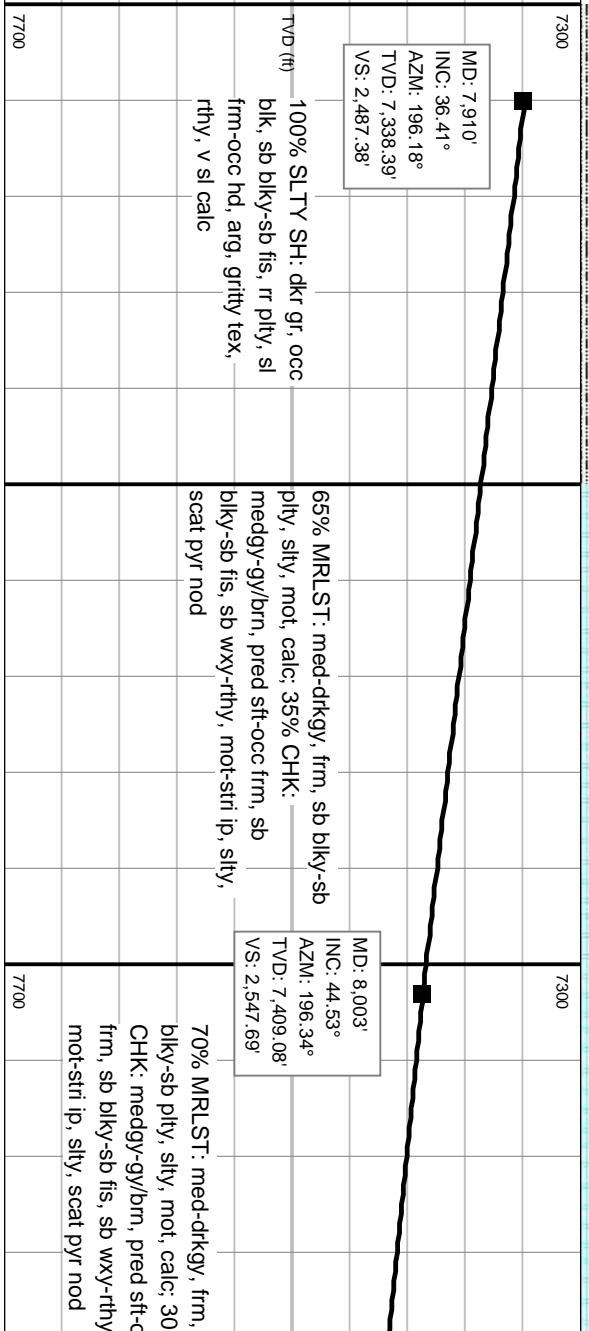
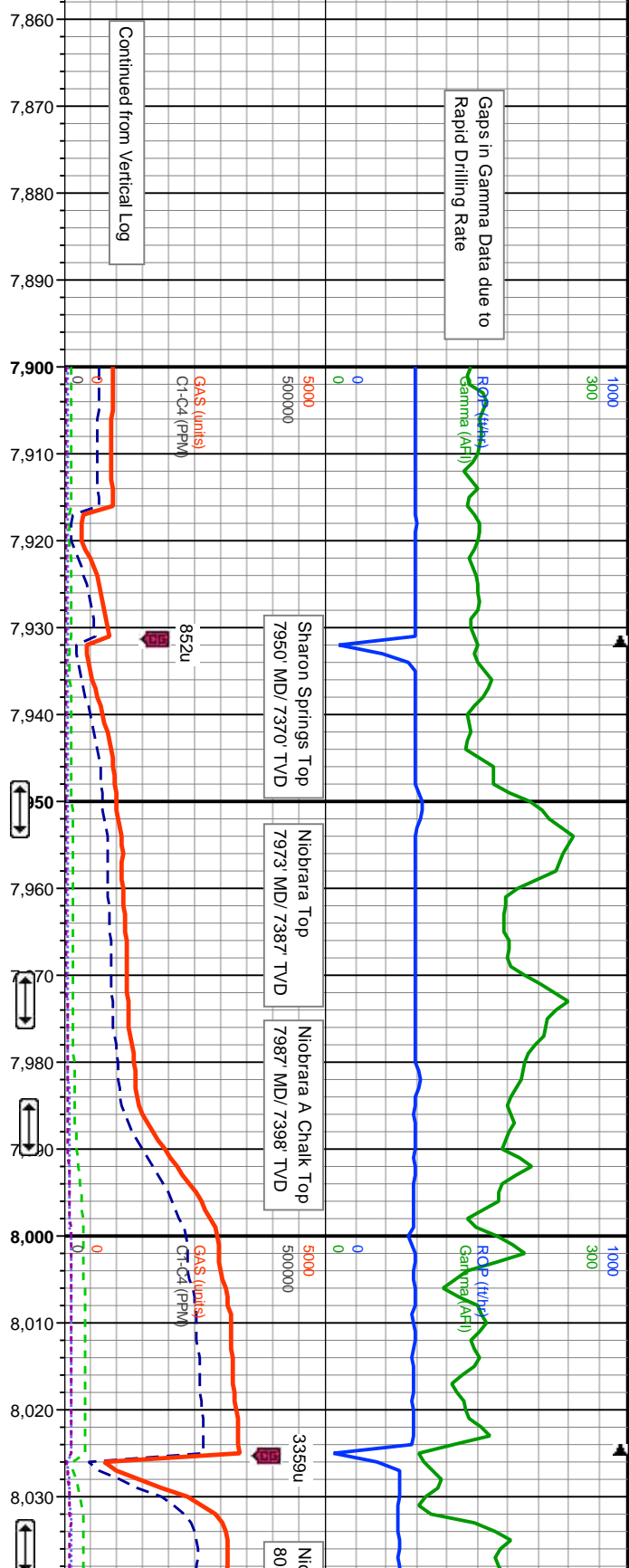
- GAS
- C1
- C2
- C3
- C4

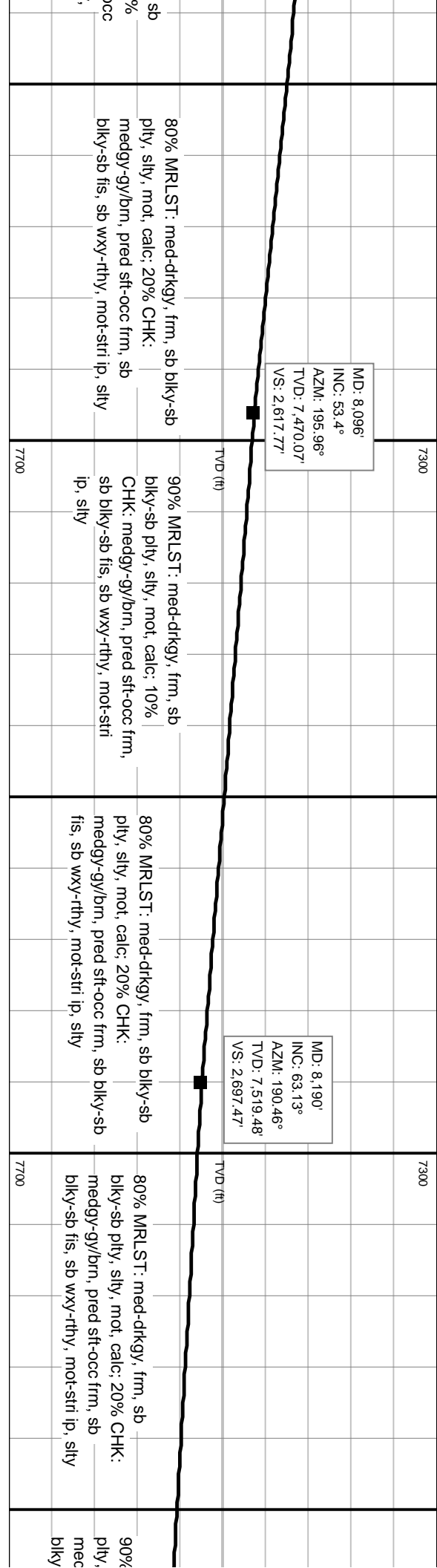
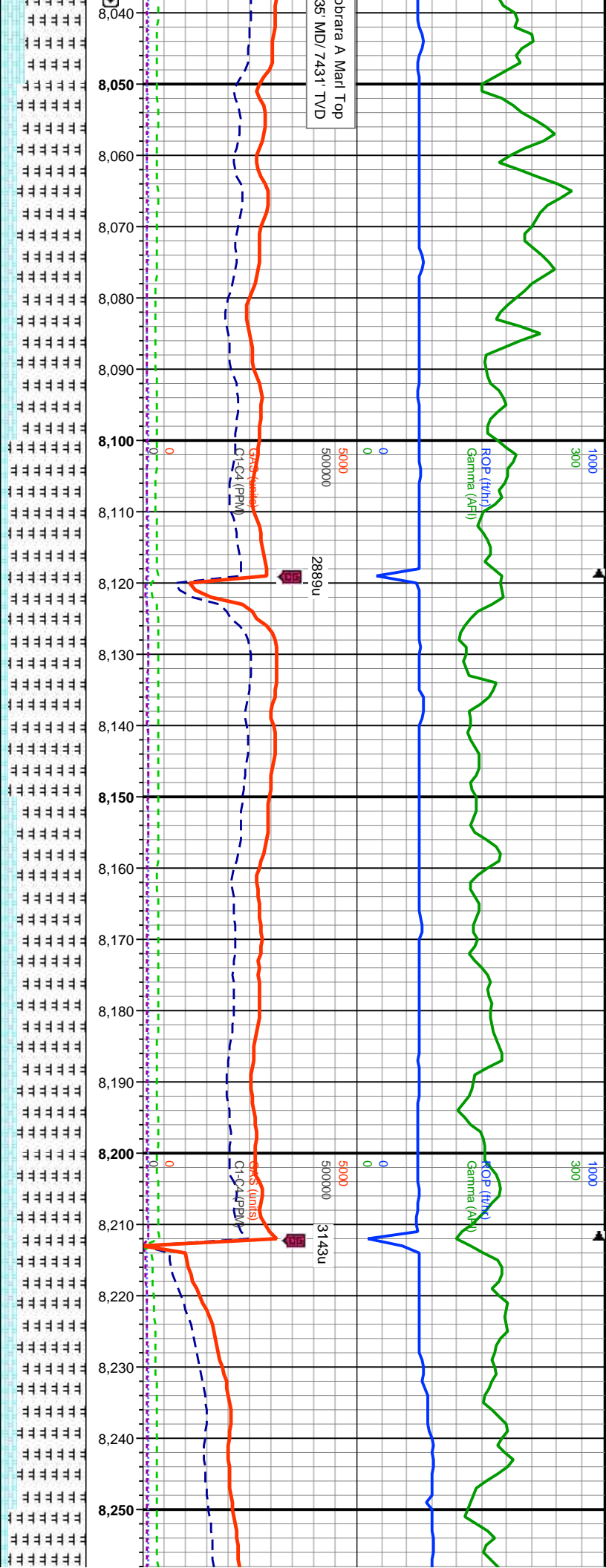
Depth

% Lithology

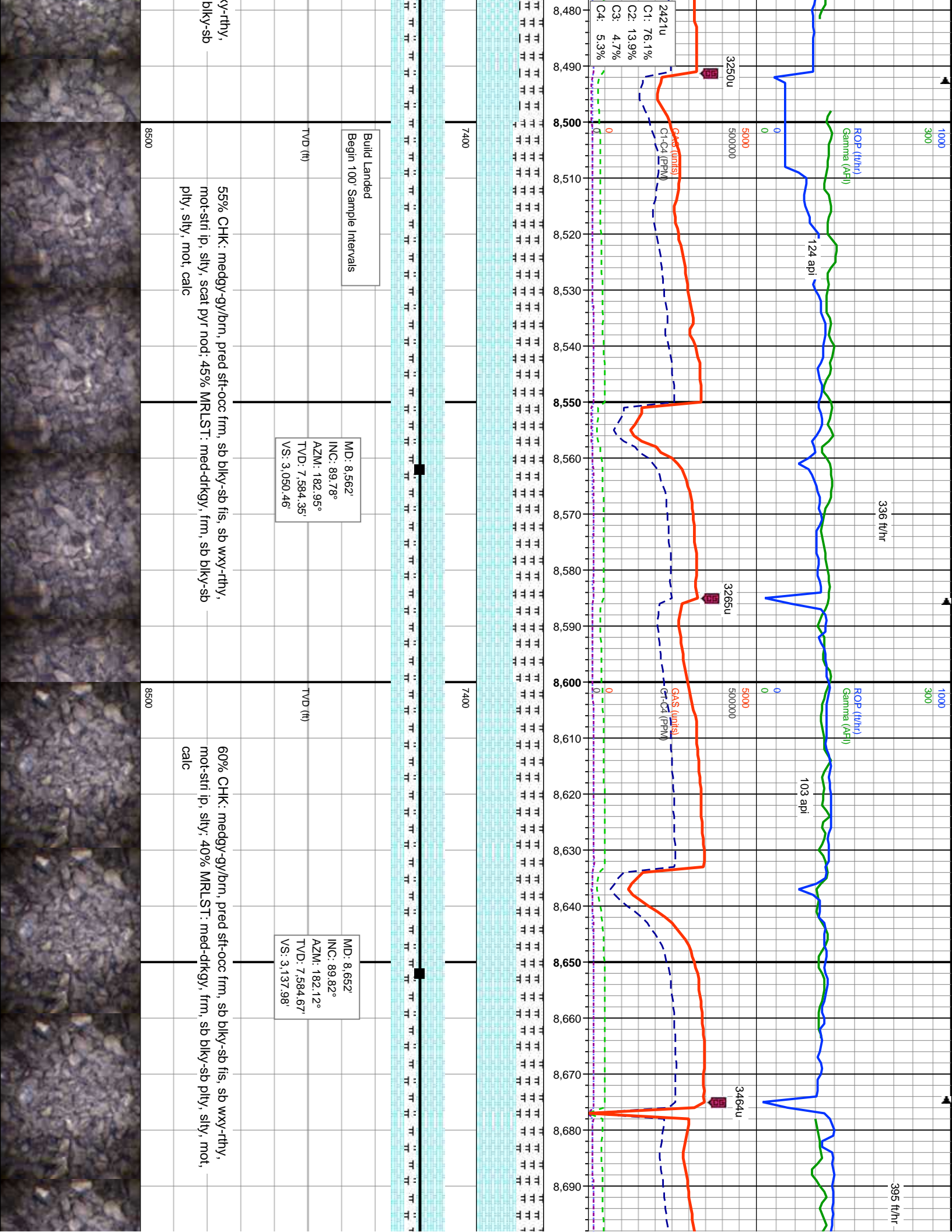
Well Bore  
TVD

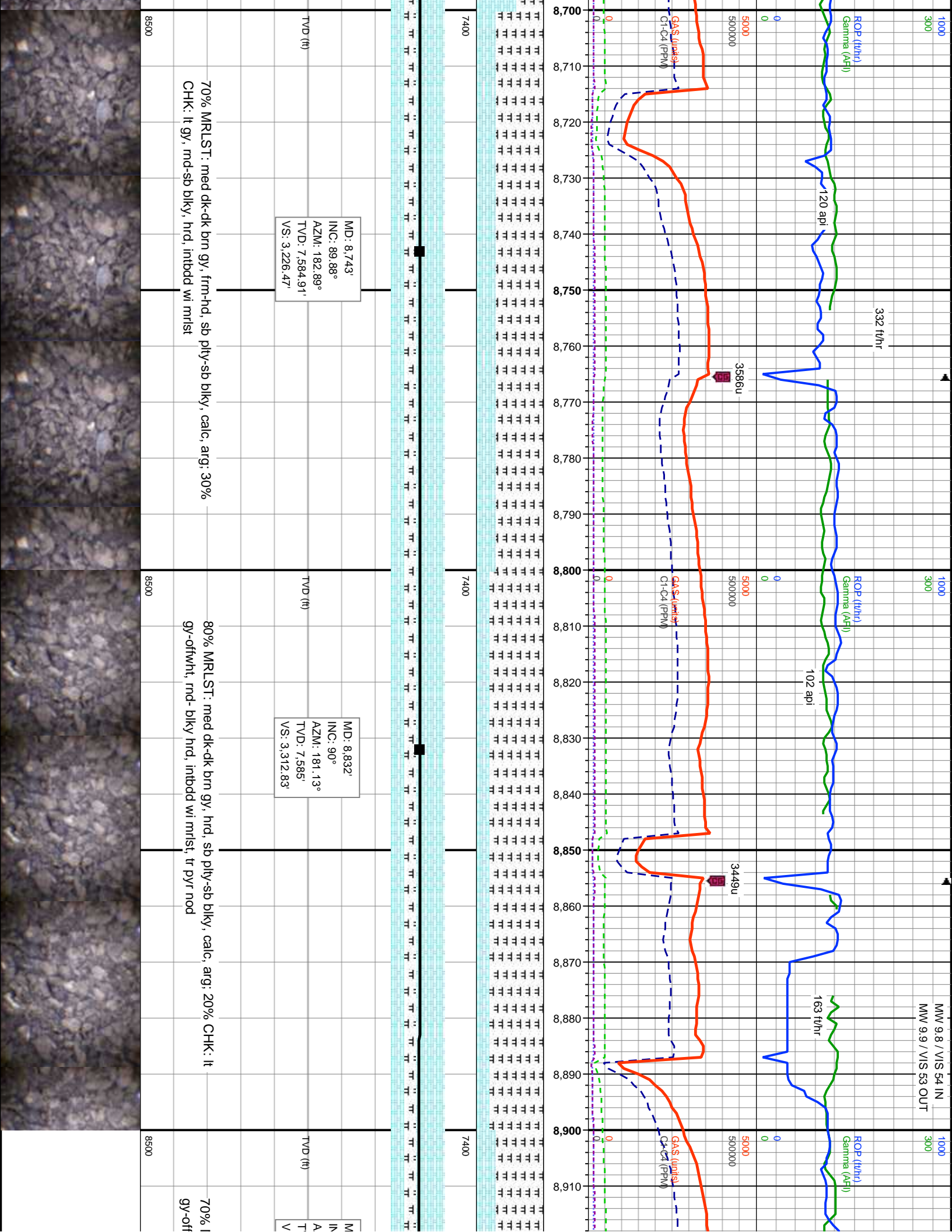
Images











Gaps in Gamma Data due to  
Rapid Drilling Rate

430 ft/hr

ROP (ft/hr)  
Gamma (API)

107 api

102 api

358 ft/hr

ROP (ft/hr)  
Gamma (API)

131 api

MW 10.0 / VIS 51 IN  
MW 9.9 / VIS 52 OUT

3836u

5000

3797u

5000

3486u

WOB: 30K  
RPM: 100  
PP: 4015PSI  
SPM: 85

GAS (units)  
Cl-24 (PPM)

GAS (units)  
Cl-24 (PPM)

7400

7400

D: 8.922'

C: 89.63°

ZM: 182.87°

/D: 7.585.29'

S: 3.400.15'

MD: 9.012'

INC: 89.48°

AZM: 183.39°

TVD: 7.585.99'

VS: 3.487.88'

MD: 9.102'

INC: 89.32°

AZM: 182.82°

TVD: 7.586.93'

VS: 3.575.61'

MRLST: med dk-dk brn gy, hrd, ang-bkly, calc, arg, 30% CHK: lt  
wht, md-bkly hrd, intbdd wi mlst, mnr lnoc foss frags

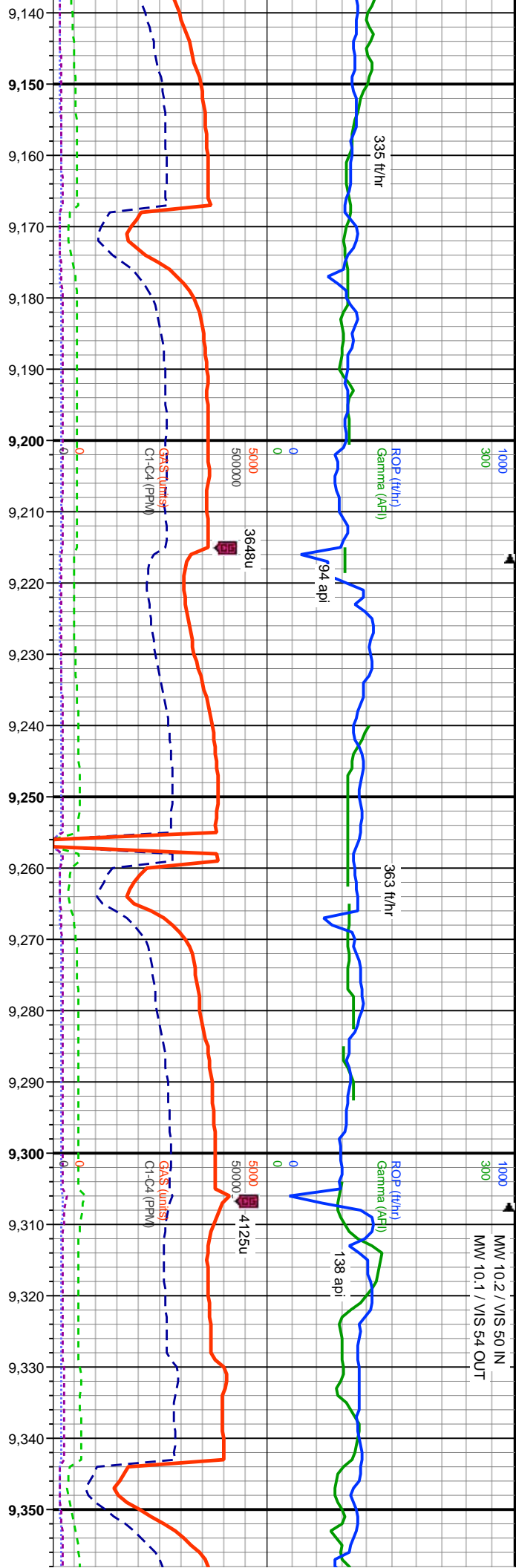
60% MRLST: dk brn gy, hrd, ang-bkly, calc, arg, 40% CHK: lt gy-offwht,  
rnd-bkly hrd, v calc, intbdd wi mlst, mnr lnoc foss frags

80% MRLST: dk brn gy, hrd, ang-bkly, calc, arg, 50% CHK: lt gy-offwht,  
rnd-bkly hrd, v calc, intbdd wi mlst, mnr lnoc foss frags

8500

8500

MW 10.2 / VIS 50 IN  
MW 10.1 / VIS 54 OUT



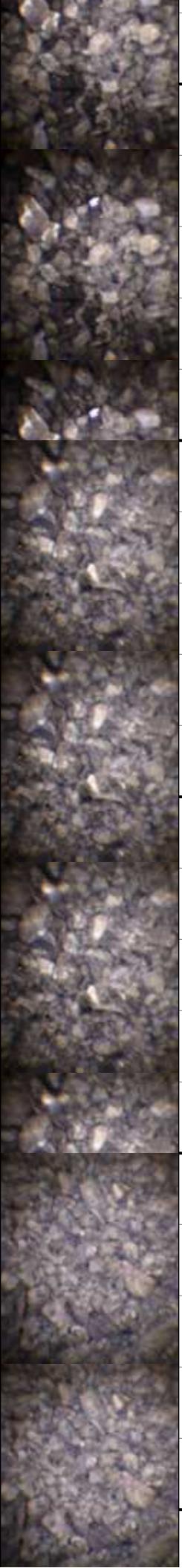
MD: 9,192'  
INC: 89.51°  
AZM: 181.94°  
TVD: 7,587.85'  
VS: 3,663.07'

MD: 9,282'  
INC: 89.63°  
AZM: 180.41°  
TVD: 7,588.52'  
VS: 3,750.07'

ang-bkly, mod calc, arg: 20% CHK; lt gy-offwht, wi mlst, tr lnoc foss frags

70% MRLST: med dk-dk brn gy, hrd, ang-bkly, calc, arg: 30% CHK; lt gy-offwht, bkly, hrd, intbdd wi mlst, mn lnoc foss frags

80% MRLST: dk brn gy, v hrd, ang-bkly, calc rmd-bkly, frm-hrd, v calc



6/2/2017  
MWDEPTH

Fault - 17' Down

NW 10.2 / VIS 54 IN  
NW 10.2 / VIS 54 OUT

Gaps in Gamma Data due to  
Rapid Drilling Rate

1000  
300

1000  
300

364 ft/hr  
Gamma (API)  
160 api  
362 ft/hr  
Gamma (API)  
163 api  
341 ft/hr

0

0

3506u  
500000

3653u  
500000

3476

Gas (units)  
C1-C4 (PPM)

Gas (units)  
C1-C4 (PPM)

C1: 72.2%  
C2: 15.9%  
C3: 6.1%  
C4: 5.8%

0

0

7400

7400

MD: 9.372'  
INC: 89.72°  
AZM: 179.27°  
TVD: 7.589.04'  
VS: 3.836.51'

MD: 9.461'  
INC: 89.57°  
AZM: 177.49°  
TVD: 7.589.59'  
VS: 3.921.33'

MD: 9.551'  
INC: 89.54°  
AZM: 175.87°  
TVD: 7.590.29'  
VS: 4.006.26'

TVD (ft)

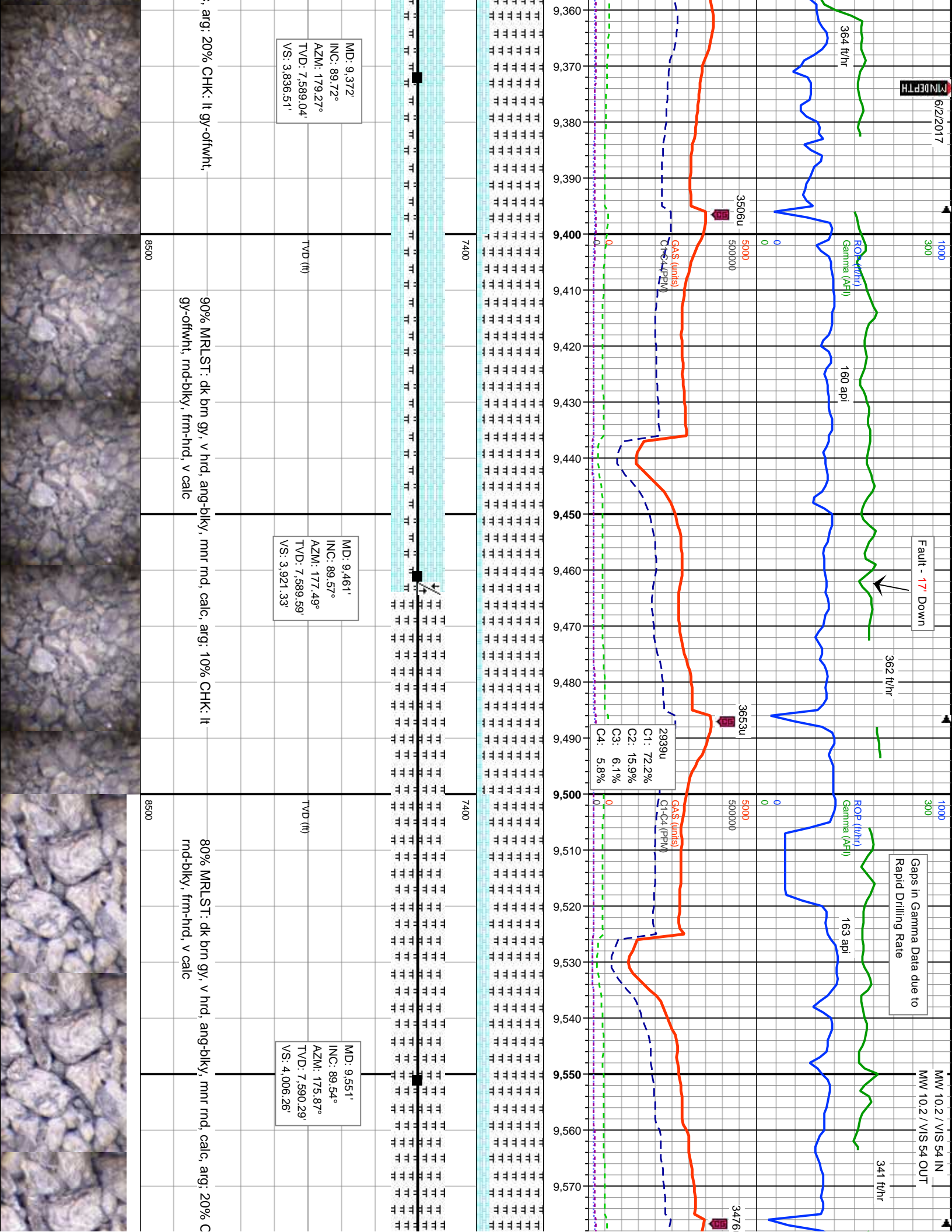
TVD (ft)

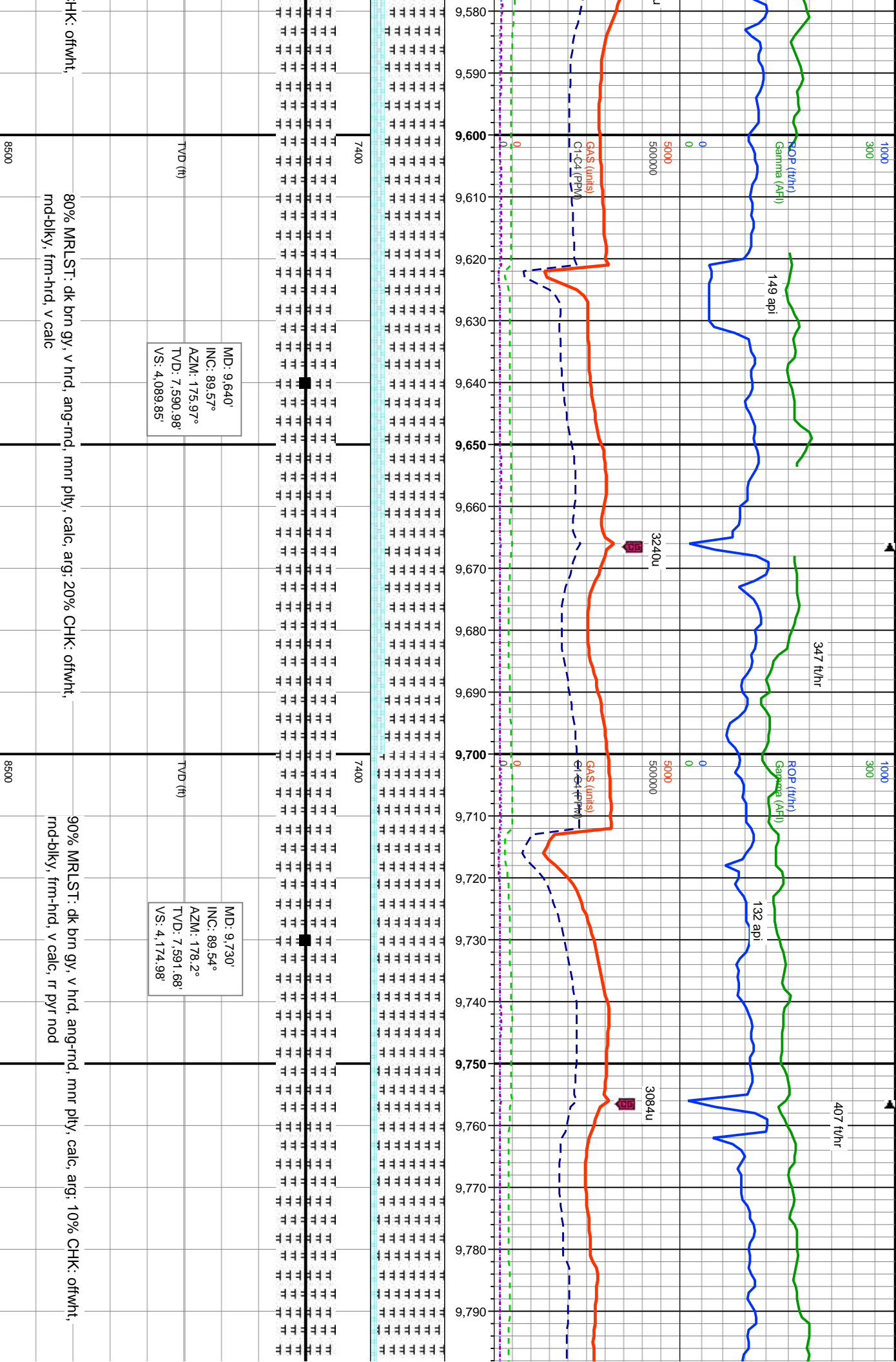
8500

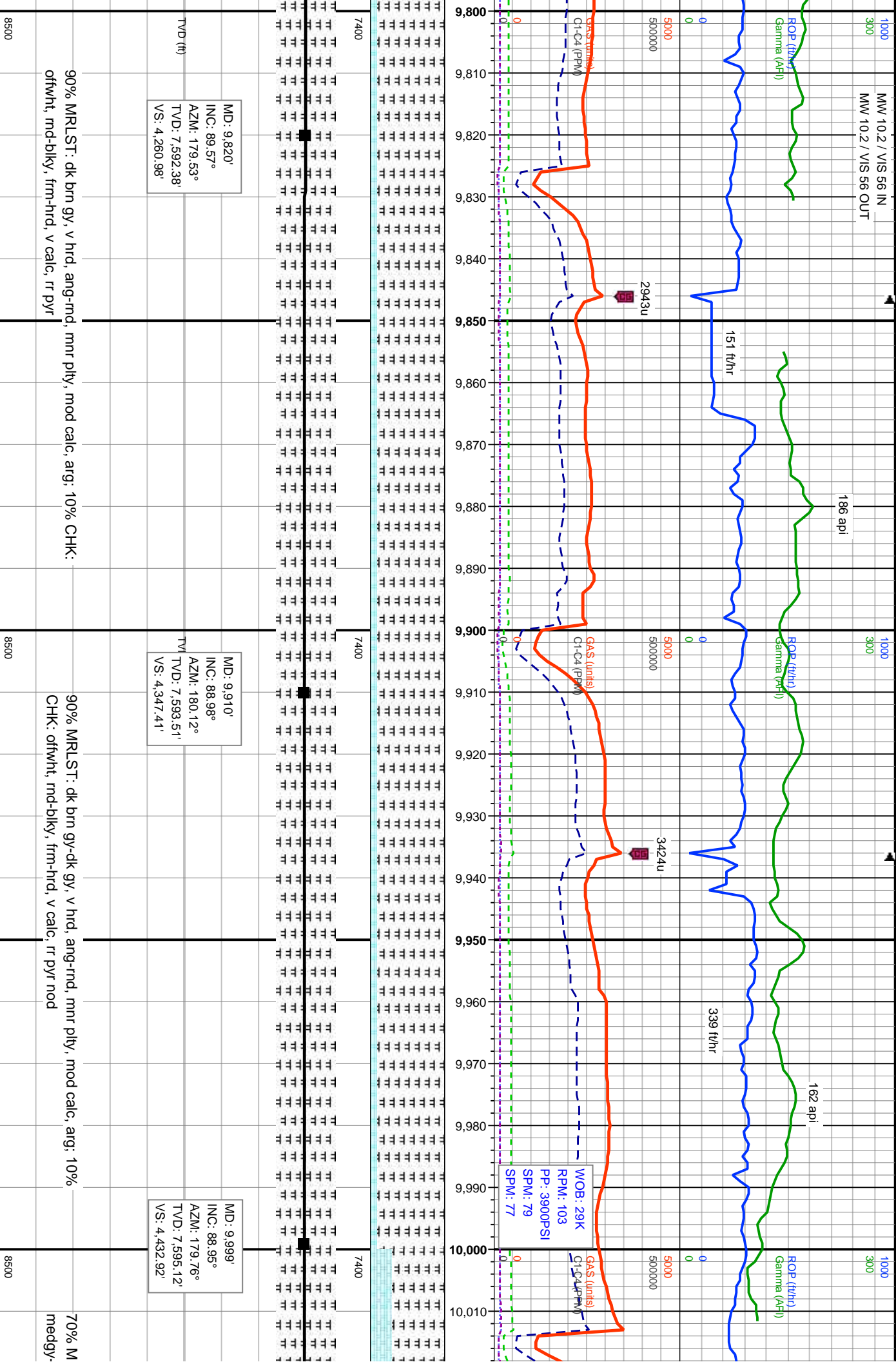
8500

90% MRLST: dk brn gy, v hrd, ang-bkly, mmr rnd, calc, arg; 10% CHK: lt  
gy-ofwht, rnd-bkly, frm-hrd, v calc

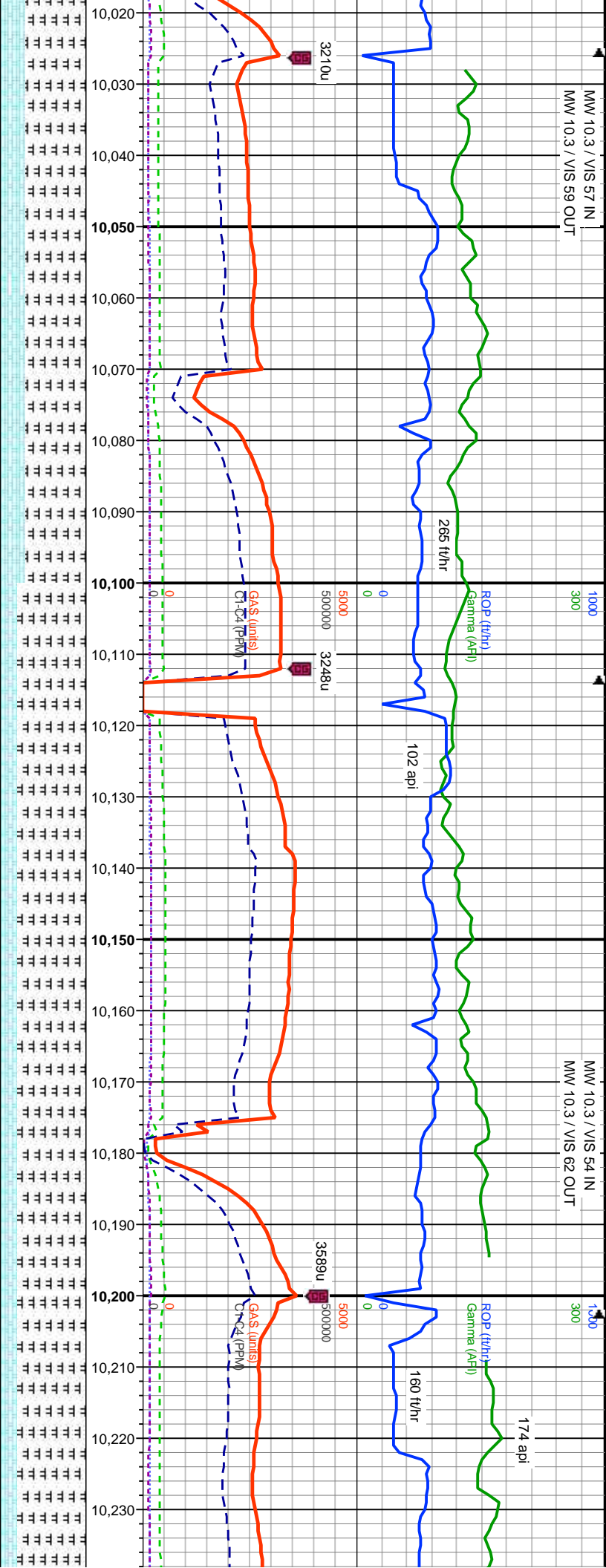
80% MRLST: dk brn gy, v hrd, ang-bkly, mmr rnd, calc, arg; 20% C  
rnd-bkly, frm-hrd, v calc



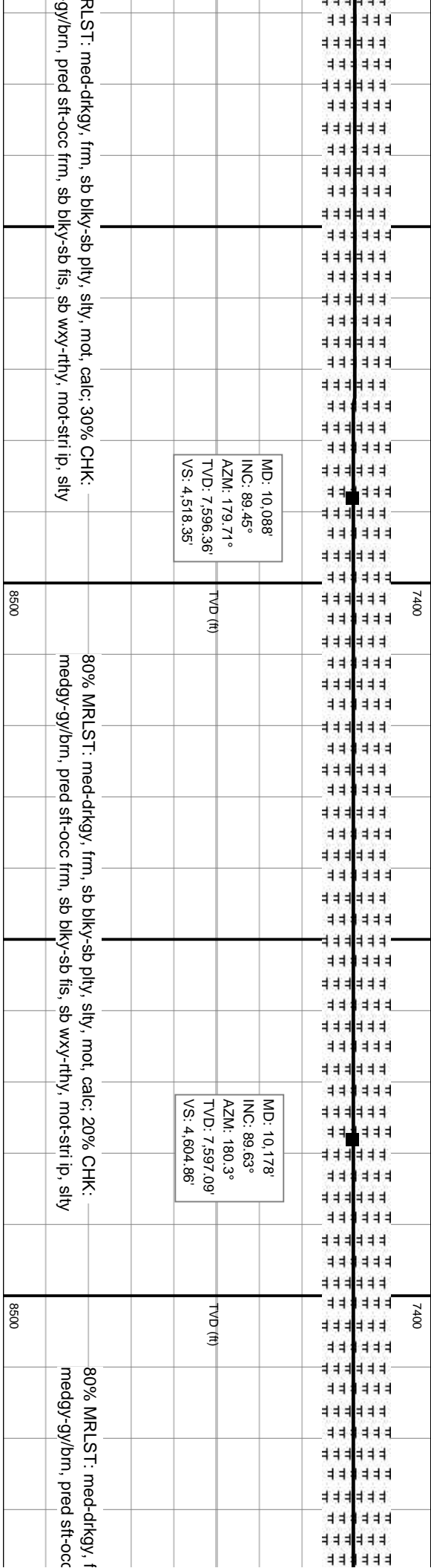




MW 10.3 / VIS 57 IN  
MW 10.3 / VIS 59 OUT



MW 10.3 / VIS 54 IN  
MW 10.3 / VIS 62 OUT



MD: 10,088'  
INC: 89.45°  
AZM: 179.71°  
TVD: 7,596.36'  
VSI: 4,518.35'

MD: 10,178'  
INC: 89.63°  
AZM: 180.3°  
TVD: 7,597.09'  
VSI: 4,604.86'

80% MRST: med-drkg, frm, sb blk-y-sb pty, slty, mot, calc; 20% CHK: medgy-gy/bm, pred sft-occ frm, sb blk-y-sb fis, sb wxy-rthy, mot-stri lp, slty

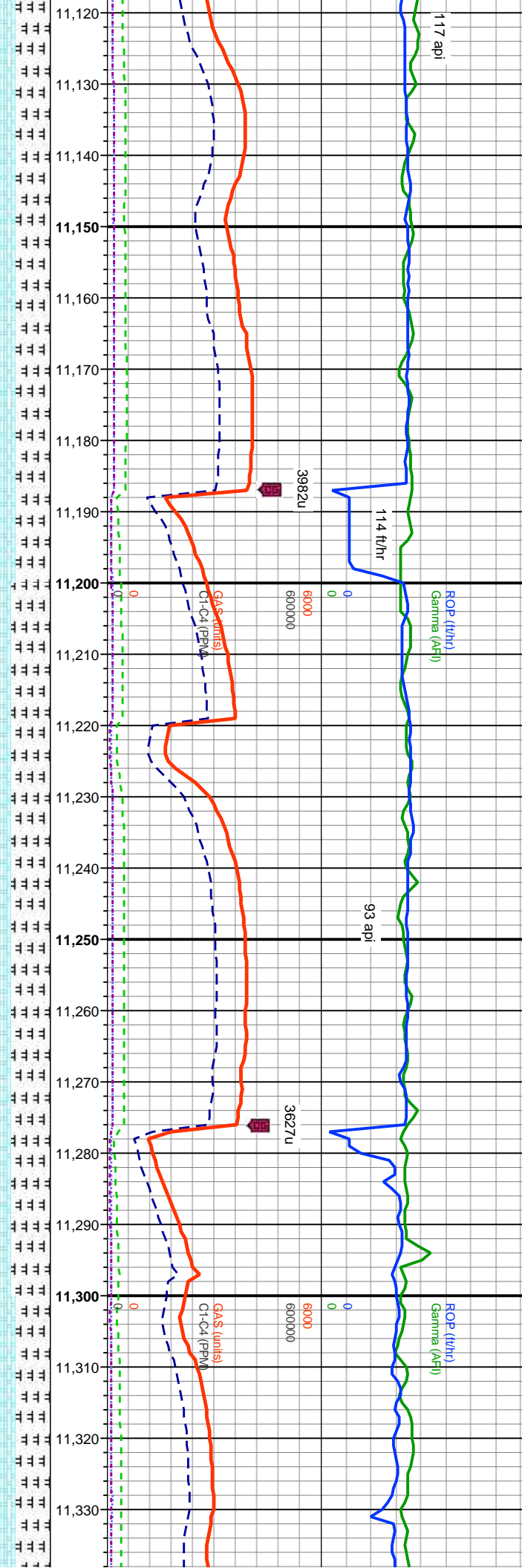
80% MRST: med-drkg, frm, sb blk-y-sb pty, slty, mot, calc; 20% CHK: medgy-gy/bm, pred sft-occ frm, sb blk-y-sb fis, sb wxy-rthy, mot-stri lp, slty





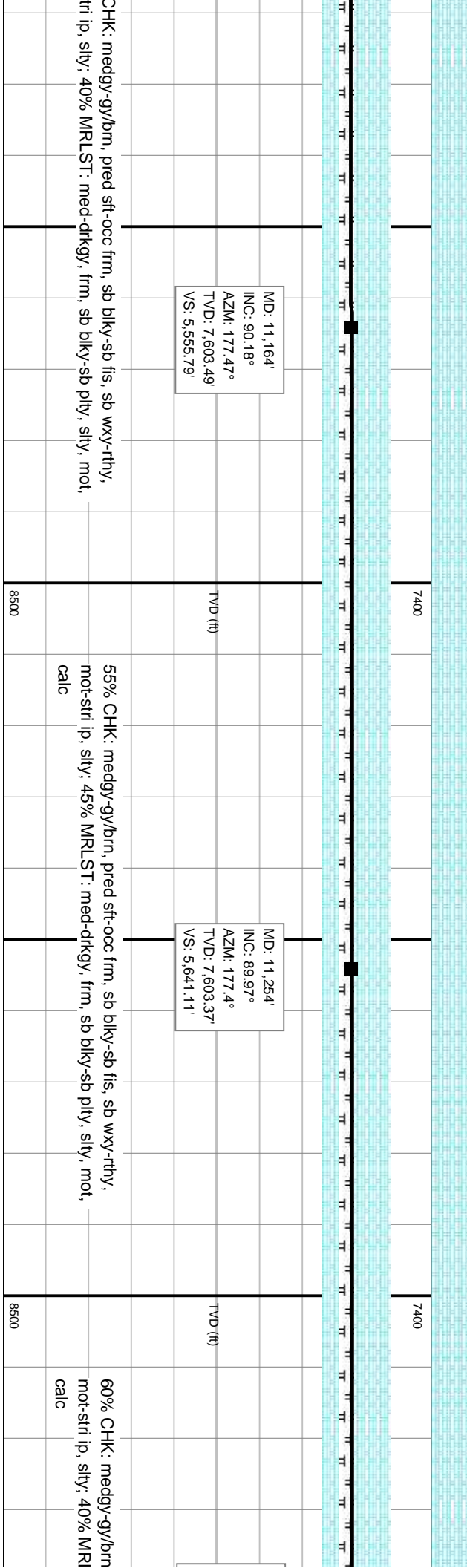






MD: 11,164'  
INC: 90.18°  
AZM: 177.47°  
TVD: 7,603.49'  
VS: 5,555.79'

MD: 11,254'  
INC: 89.97°  
AZM: 177.4°  
TVD: 7,603.37'  
VS: 5,641.11'



CHK: medgy-gy/bm, pred sft-occ frm, sb blk-sb fis, sb wxy-rthy,  
mot-stri ip, slty; 40% MRLST: med-dtkgy, frm, sb blk-sb pfty, slty, mot,

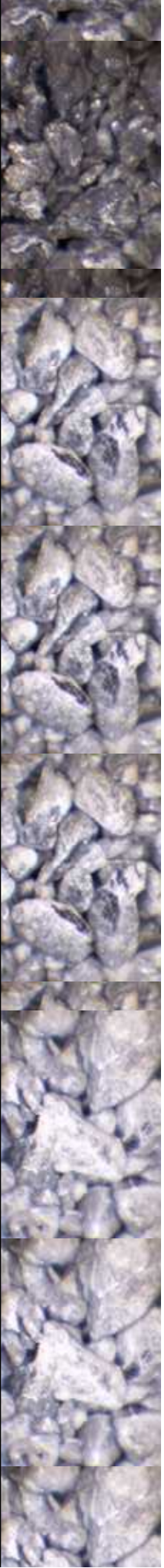
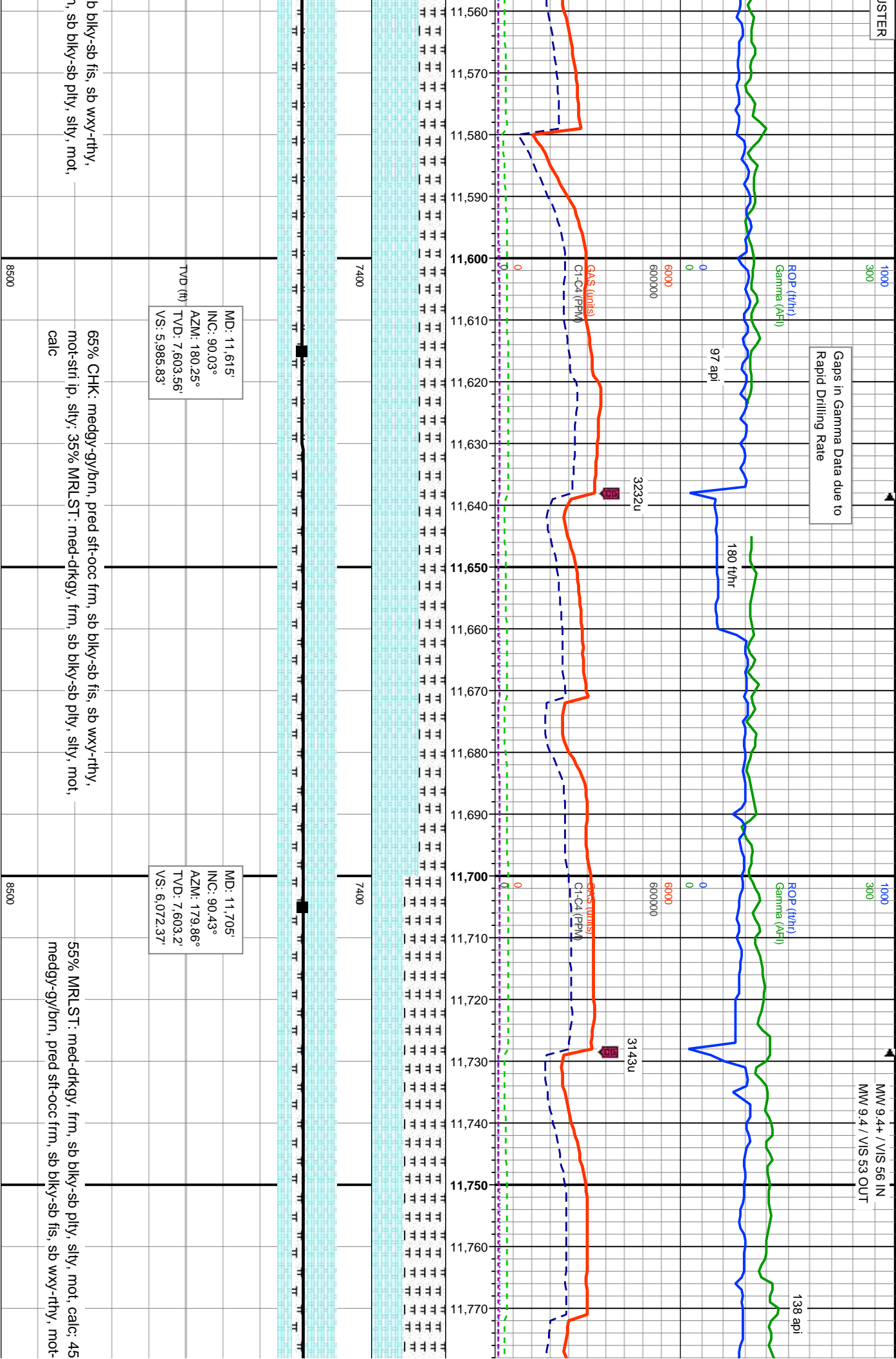
55% CHK: medgy-gy/bm, pred sft-occ frm, sb blk-sb fis, sb wxy-rthy,  
mot-stri ip, slty; 45% MRLST: med-dtkgy, frm, sb blk-sb pfty, slty, mot,  
calc

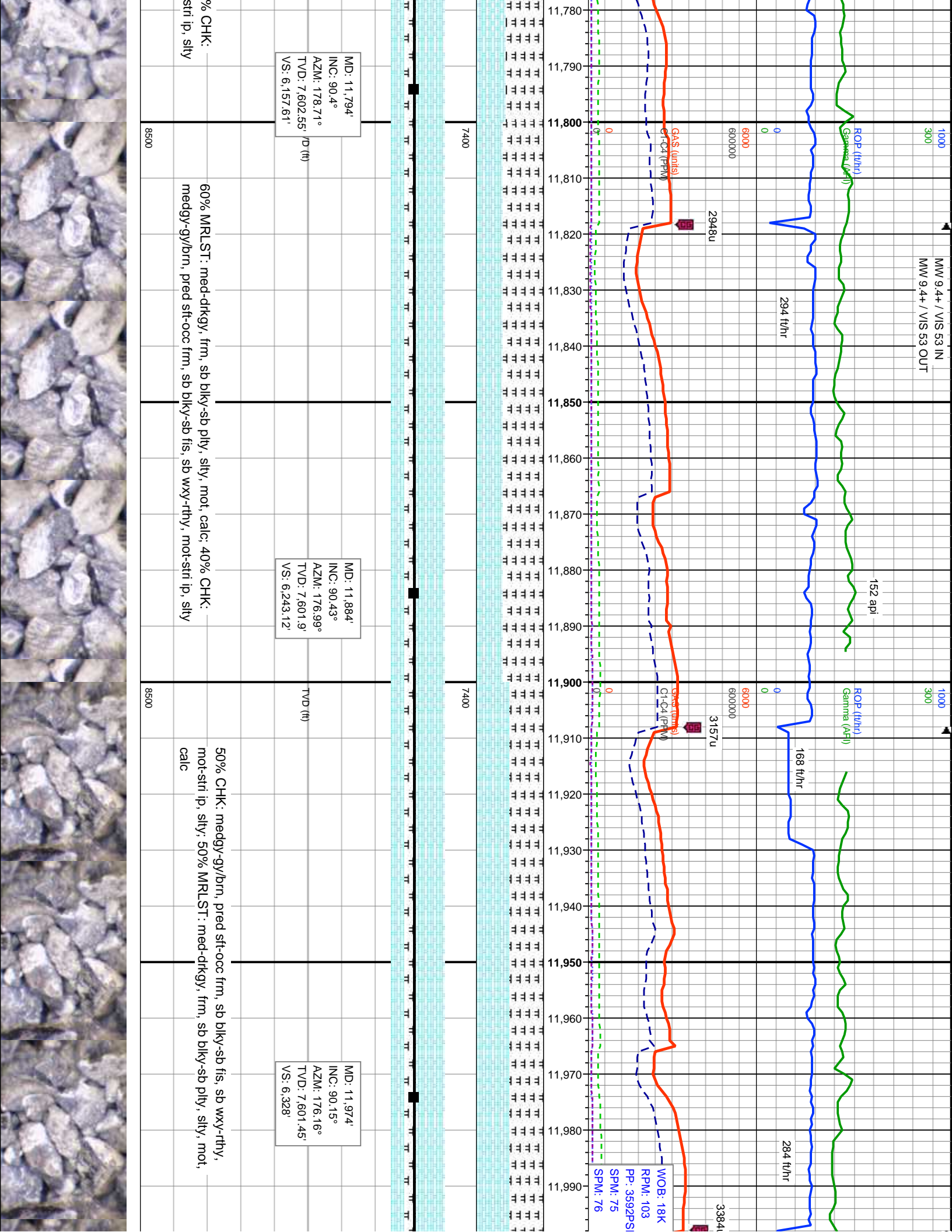
60% CHK: medgy-gy/bm  
mot-stri ip, slty; 40% MRLST: med-dtkgy, frm, sb blk-sb pfty, slty, mot,  
calc





Gaps in Gamma Data due to  
Rapid Drilling Rate

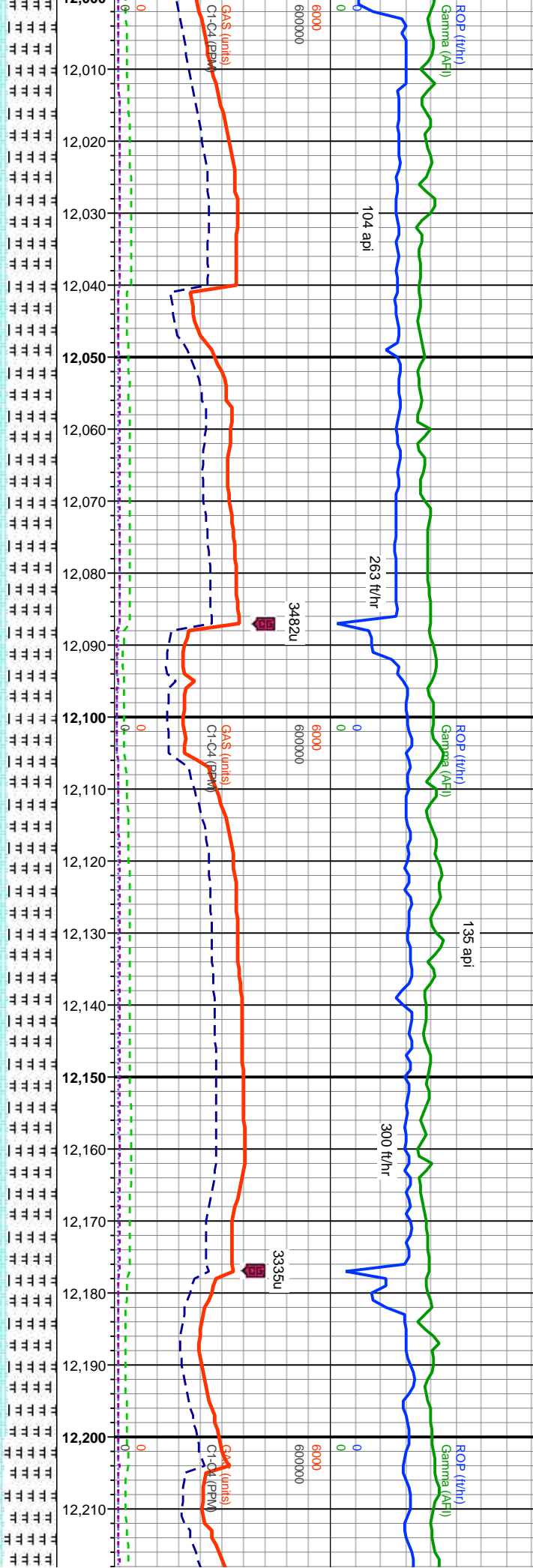




1000 MW 9.5 / VIS 54 IN  
300 MW 9.4+ / VIS 52 OUT

1000 MW 10.5 / VIS 52 IN  
300 MW 10.5 / VIS 55 OUT

1000  
300



MD: 12,064'  
INC: 90.25°  
AZM: 176.57°  
TVD: 7,601.13'  
VS: 6.412.76'

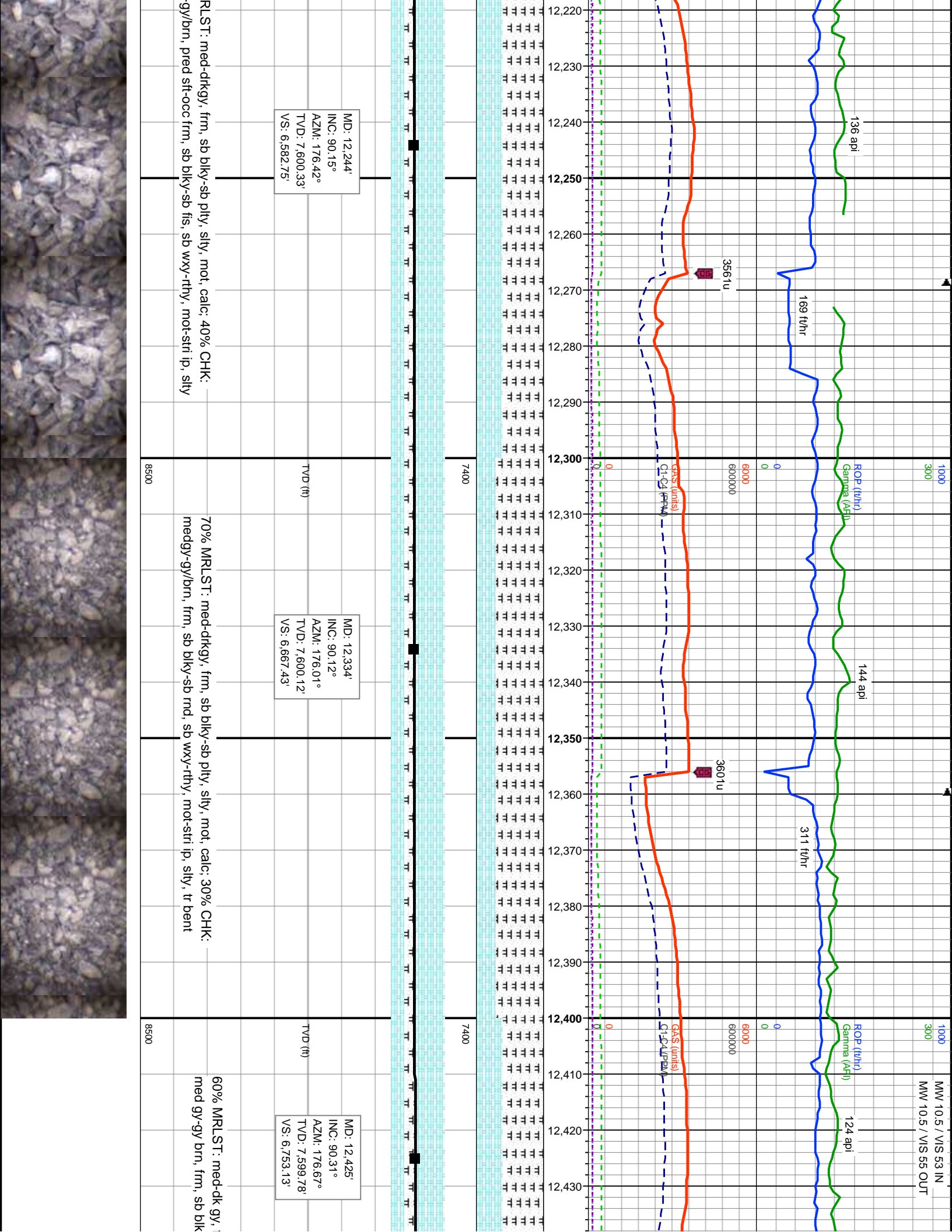
MD: 12,154'  
INC: 90.31°  
AZM: 177.1°  
TVD: 7,600.69'  
VS: 6.497.77'

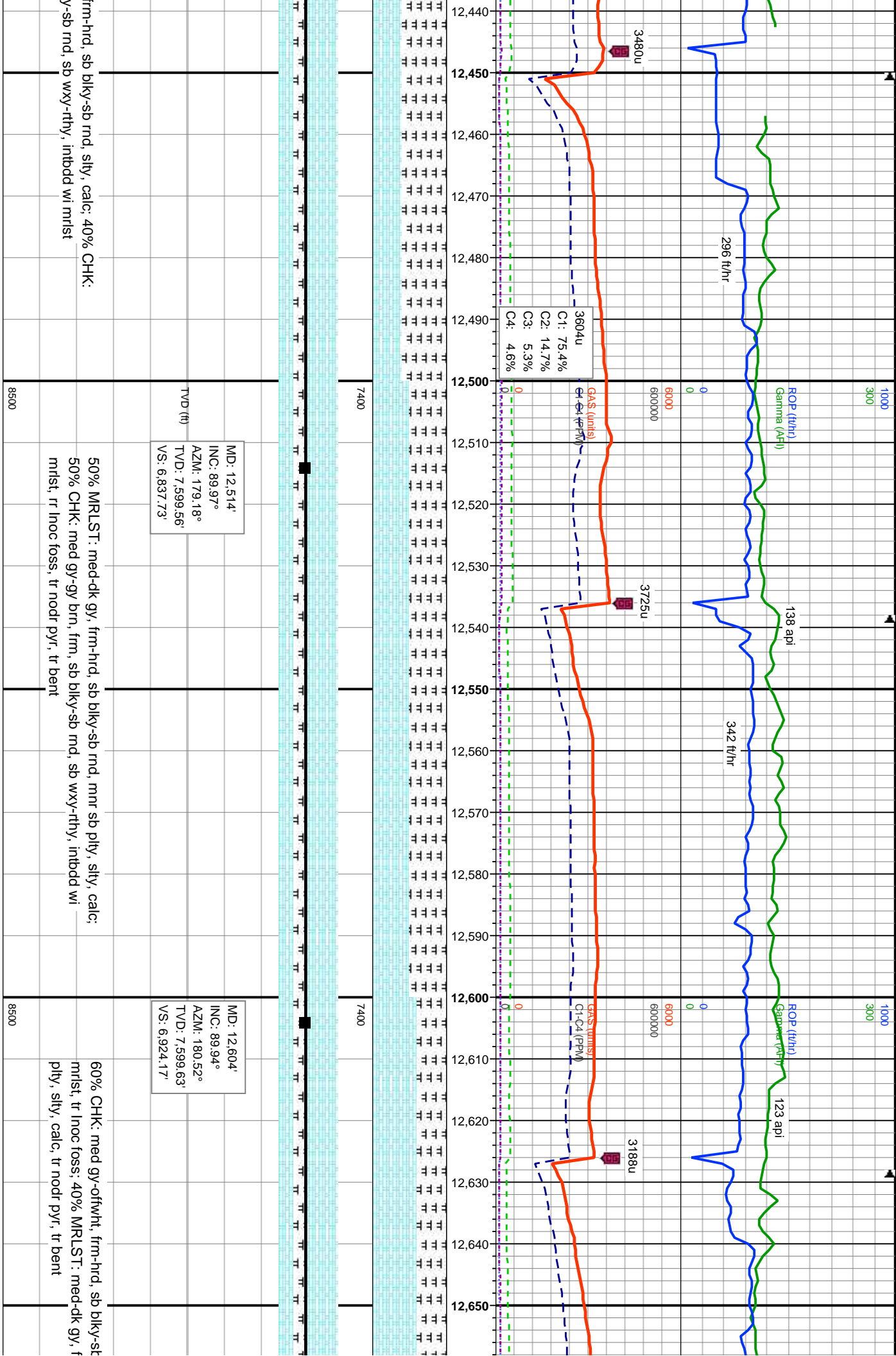
55% MRLST: med-dkgy, frm, sb blk-y-sb pty, silty, mot, calc: 45% CHK:  
medgy-gy/brn, pred sft-occ frm, sb blk-y-sb fis, sb wxy-rthy, mot-str ip, silty

55% MRLST: med-dkgy, frm, sb blk-y-sb pty, silty, mot, calc: 45% CHK:  
medgy-gy/brn, pred sft-occ frm, sb blk-y-sb fis, sb wxy-rthy, mot-str ip, silty

60% M  
medgy-







MMW 10.5 / VIS 53 IN  
MMW 10.6 / VIS 55 OUT

1000  
300

MMW 10.0  
MMW 10.0

ROP (ft/hr)  
Gamma (API)

128 api

ROP (ft/hr)  
Gamma (API)

132 api

280 ft/hr

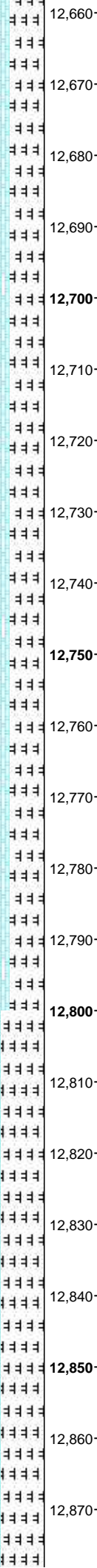
281 ft/hr

3253u

2822u

GA\$ (units)  
C1-C4 (PPM)

GA\$ (units)  
C1-C4 (PPM)



7400

7400

MD: 12,694'  
INC: 90°  
AZM: 181.69°  
TVD: 7,599.68'  
VS: 7,011.15'

MD: 12,784'  
INC: 90.03°  
AZM: 182.58°  
TVD: 7,599.65'  
VS: 7,098.53'

TVD (ft)

60% CHK: med gy-offwht, frm-hrd, sb blkly, sb wxy-rthy, intbdd wi mlst, tr  
Inoc foss; 40% MRLST: med-dk gy, frm-hrd, sb blkly-sb rnd, silty, calc, tr  
nodr pyr

50% MRLST: med-dk gy, frm-hrd, sb blkly-sb rnd, silty, calc; 50%  
gy-offwht, frm, sb blkly-sb rnd, sb wxy-rthy, intbdd wi mlst, rr Inc  
nodr pyr, tr bent

8500

8500



